EN 55022/24 Test Report

Product Name	:	WIRELESS ACCESS POINT
Model No.	:	WP543HV
Series Model	:	WP543AHV, MMC543HV, MMC543AHV, MMS2543HV, MMS2543AHV

Applicant	:	Compex Systems Pte Ltd
Address	:	135 Joo Seng Road, #08-01 PM Industrial Building Singapore 368363

Date of Receipt	:	Jun. 07, 2010
Test Date	:	Jun. 07, 2010 ~ Jul. 28, 2010
Issued Date	:	Jul. 29, 2010
Report No.	:	106S012R-IT-CE-P01V01
Report Version	:	V1.1

Test Report Certification

Issued Date ： Jul. 29, 2010
Report No. ： 106S012R-IT-CE-P01V01

QuieTek

Product Name	:	WIRELESS ACCESS POINT
Applicant	:	Compex Systems Pte Ltd
Address	:	135 Joo Seng Road, #08-01 PM Industrial Building Singapore 368363
Manufacturer	:	Compex Systems Pte Ltd
Address	:	135 Joo Seng Road, #08-01 PM Industrial Building Singapore 368363
Model No.	:	WP543HV
Series Model	:	WP543AHV, MMC543HV, MMC543AHV, MMS2543HV, MMS2543AHV
Brand Name	:	COMPEX
EUT Voltage	:	AC 230 V / 50 Hz
Applicable Standard	:	EN 55022: 2006+A1: 2007 AS/NZS CISPR 22: 2009 EN 61000-3-2: 2006 EN 61000-3-3: 2008 EN 55024: 1998+A1: 2001+A2: 2003
Test Result	:	Complied
Performed Location	:	Suzhou EMC Laboratory No.99 Hongye Rd., Suzhou Industrial Park Loufeng Hi-Tech Development Zone., Suzhou, China TEL: +86-512-62515088 / FAX: +86-512-62515098

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Approved By : Dream Cao
(Engineering Manager: Dream Cao)

Laboratory Information

We, **QuieTek Corporation**, are an independent EMC and safety consultancy that was established the whole facility in our laboratories. The test facility has been accredited/accepted(audited or listed) by the following related bodies in compliance with ISO 17025, EN 45001 and specified testing scope:

Taiwan R.O.C.	**:**	**BSMI, NCC, TAF**
Germany	**:**	**TUV Rheinland**
Norway	**:**	**Nemko, DNV**
USA	**:**	**FCC, NVLAP**
Japan	**:**	**VCCI**

The related certificate for our laboratories about the test site and management system can be downloaded from QuieTek Corporation's Web Site :http://www.quietek.com/tw/ctg/cts/accreditations.htm
The address and introduction of QuieTek Corporation's laboratories can be founded in our Web site : http://www.quietek.com/
If you have any comments, Please don't hesitate to contact us. Our contact information is as below:

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1313

LinKou Testing Laboratory :
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NVLAP Lab Code: 200533-0
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NVLAP Lab Code : 200743-0
1596

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1. General Information

1.1. EUT Description

Product Name	WIRELESS ACCESS POINT
Model No.	WP543HV
Series Model	WP543AHV, MMC543HV, MMC543AHV, MMS2543HV, MMS2543AHV
Brand Name	COMPEX

Note: The EUT includes six models, they are only difference between the plastic shells.

Component	
AC Adapter	Manufacturer: DVE M/N: DSA-0421S-501 Input: 100-240V~, 1.2A, 50-60Hz Output: 48V, 0.625A MAX

1.2. Mode of Operation

QuieTek has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

Pre Test Mode	
Emission	Mode 1: Transmit Data With Adapter DSA-0421S-50 1
	Mode 2: Transmit Data With Adapter PSA16U-480(POE)
	Mode 3: Mode 3: Transmit Data With Adapter DSA012W-20FEU
Final Test Mode	
Emission	Mode 1: Transmit Data With Adapter DSA-0421S-50 1
	Mode 2: Transmit Data With Adapter PSA16U-480(POE)
	Mode 3: Mode 3: Transmit Data With Adapter DSA012W-20FEU
Immunity	Mode 1: Transmit Data With Adapter DSA-0421S-50 1
	Mode 2: Transmit Data With Adapter PSA16U-480(POE)
	Mode 3: Mode 3: Transmit Data With Adapter DSA012W-20FEU

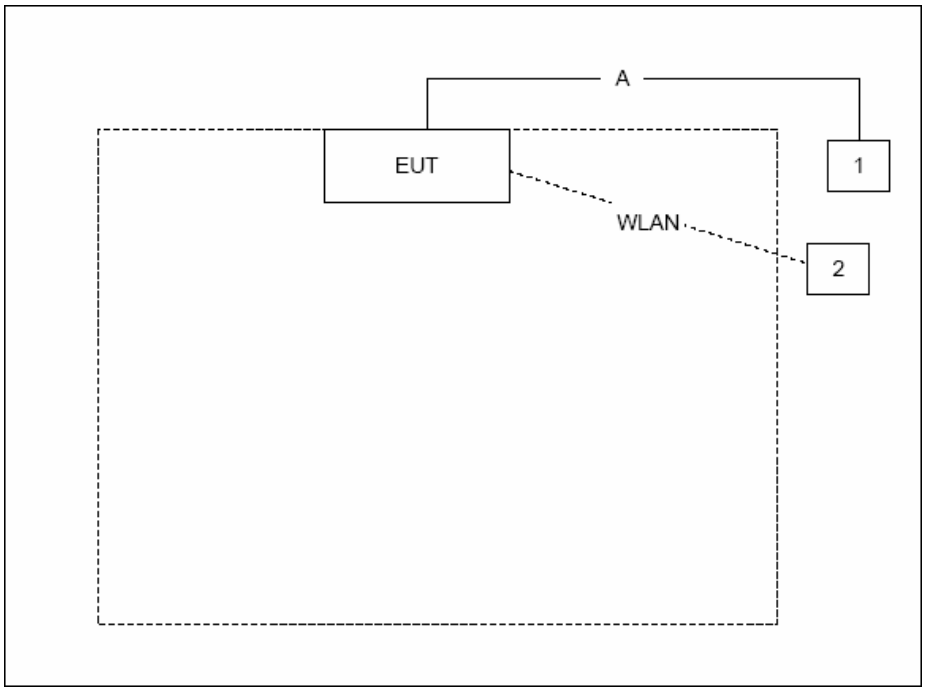
1.3. Tested System Details

The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

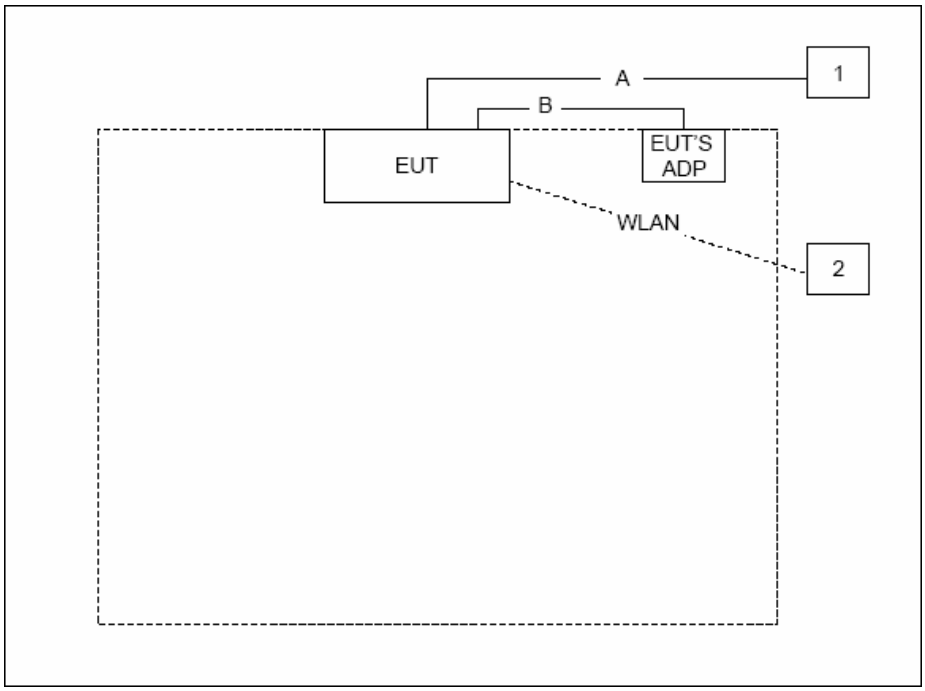
Product		Manufacturer	Model No.	Serial No.	Power Cord
1	Notebook	DELL	PP19L	JH097 A01	Power by adapter
2	MacBook	Apple	MB061CH	W8732B4TZ5V	Power by adapter

1.4. Configuration of Tested System

Connection Diagram (Mode1,3)



Connection Diagram (Mode 2)



Signal Cable Type		Signal cable Description
A	LAN Cable	Non-Shielded, >10m
B	LAN Cable	Non-Shielded, 10cm

1.5. EUT Exercise Software

1	Setup the EUT and simulators as shown on above.
2	Turn on the power of all equipment.
3	EUT transmit data by wlan and lan cable with notebook
4	Start to test

2. Technical Test

2.1. Summary of Test Result

☒ No deviations from the test standards

☐ Deviations from the test standards as below description:

Emission			
Performed Test Item	Normative References	Test Performed	Deviation
Conducted disturbance at mains terminals and telecommunication ports	EN 55022: 2006+A1: 2007 AS/NZS CISPR 22: 2009	Yes	No
Radiated disturbance	EN 55022: 2006+A1: 2007 AS/NZS CISPR 22: 2009	Yes	No
Harmonic current emissions	EN 61000-3-2: 2006	Yes	No
Voltage fluctuations and flicker	EN 61000-3-3: 2008	Yes	No

Immunity			
Performed Test Item	Normative References	Test Performed	Deviation
Electrostatic discharge	IEC 61000-4-2: 2008	Yes	No
Radio-frequency electromagnetic field	IEC 61000-4-3: 2008	Yes	No
Fast transients	IEC 61000-4-4: 2004	Yes	No
Surges	IEC 61000-4-5: 2005	Yes	No
Radio-frequency continuous conducted	IEC 61000-4-6: 2008	Yes	No
Power-frequency magnetic field	IEC 61000-4-8: 2009	Yes	No
Voltage dips and interruptions	IEC 61000-4-11: 2004	Yes	No

2.2. List of Test Equipment

Conducted disturbance at mains terminals and telecommunication ports / TR-1

Instrument	Manufacturer	Model No.	Serial No.	Calibrated Date
EMI Test Receiver	R&S	ESCI	100906	2010.01.15
Two-Line V-Network	R&S	ENV216	101043	2010.06.18
Two-Line V-Network	R&S	ENV216	101044	2009.09.07
Balanced Telecom ISN	Fischer	FCC-TLISN-T2-02	20352	2010.01.15
Balanced Telecom ISN	Fischer	FCC-TLISN-T4-02	20353	2010.01.15
Balanced Telecom ISN	Fischer	FCC-TLISN-T8-02	20354	2010.01.15
Current Probe	R&S	EZ-17	100255	2010.04.18
50ohm Termination	SHX	TF2	07081401	2009.09.29
50ohm Termination	SHX	TF2	07081402	2009.09.29
50ohm Termination	SHX	TF2	07081403	2009.09.29
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	2010.05.05
Coaxial Cable	Suhner	RG 223	TR1-C1	2010.05.05
Temperature/Humidity Meter	zhicheng	ZC1-2	TR1-TH	2010.01.14

Radiated disturbance / AC-1

Instrument	Manufacturer	Model No.	Serial No.	Calibrated Date
EMI Test Receiver	R&S	ESCI	100175	2009.11.11
EMI Test Receiver	R&S	ESCI	100726	2010.04.23
Spectrum Analyzer	Agilent	N9010A	MY48030494	2010.04.23
Preamplifier	Quietek	AP-025C	CHM-0511006	2010.05.05
Preamplifier	Quietek	AP-025C	CHM-0609028	2010.05.05
Preamplifier	Quietek	AP-180C	CHM-0602013	2010.05.05
Bilog Antenna	Schaffner	CBL6112B	2931	2009.11.12
Bilog Antenna	Schaffner	CBL6112B	2933	2009.11.12
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	499	2010.06.11
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC1-L	2010.05.05
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC1-R	2010.05.05
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC1-C	2010.05.05
Temperature/Humidity Meter	zhicheng	ZC1-2	AC1-TH	2010.01.14

Radiated disturbance / AC-2

Instrument	Manufacturer	Model No.	Serial No.	Calibrated Date
EMI Test Receiver	R&S	ESCI	100573	2010.04.23
Bilog Antenna	Teseq GmbH	CBL6112D	27611	2009.11.12
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC2-C	2010.05.05
Temperature/Humidity Meter	zhicheng	ZC1-2	AC2-TH	2010.01.14

Radiated disturbance / AC-3

Instrument	Manufacturer	Model No.	Serial No.	Calibrated Date
EMI Test Receiver	R&S	ESCI	100176	2009.11.11
Bilog Antenna	Teseq GmbH	CBL6112D	27613	2009.11.12
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC3-C	2010.05.05
Temperature/Humidity Meter	zhicheng	ZC1-2	AC3-TH	2010.01.14

Radiated disturbance / AC-5

Instrument	Manufacturer	Model No.	Serial No.	Calibrated Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2010.04.23
Preamplifier	Quietek	AP-180C	CHM-0602013	2010.05.05
Bilog Antenna	Teseq GmbH	CBL6112D	27612	2009.11.12
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	499	2010.06.11
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2010.05.05
Temperature/Humidity Meter	zhicheng	ZC1-2	AC5-TH	2010.01.14

Harmonic current emissions / TR-1

Instrument	Manufacturer	Model No.	Serial No.	Calibrated Date
Power Analyzer	California	PACS-1	72419	2009.11.11
AC Power Source	California	5001iX-208	56741	2009.11.11
Temperature/Humidity Meter	zhicheng	ZC1-2	TR1-TH	2010.01.14

Voltage fluctuation and flicker / TR-1

Instrument	Manufacturer	Model No.	Serial No.	Calibrated Date
Power Analyzer	California	PACS-1	72419	2009.11.11
AC Power Source	California	5001iX-208	56741	2009.11.11
Temperature/Humidity Meter	zhicheng	ZC1-2	TR1-TH	2010.01.14

Electrostatic discharge / TR-3

Instrument	Manufacturer	Model No.	Serial No.	Calibrated Date
ESD Simulator	EM TEST	Dito	V0616101367	2010.07.26
ESD Simulator	EMC PARTNER	ESD3000DN1	140	2010.05.05
Barometer	Fengyun	DYM3	0506048	2009.12.03
Temperature/Humidity Meter	zhicheng	ZC1-2	TR3-TH	2010.01.14

Radio-frequency electromagnetic field / AC-4

Instrument	Manufacturer	Model No.	Serial No.	Calibrated Date
Signal Generator	R&S	SML03	102324	2009.10.21
Power Meter	Boonton	4231A	144502	2009.10.21
Power Sensor	Boonton	51011-EMC	33859	2009.10.21
Power Meter	Agilent	E4416A	GB41293844	2009.10.21
Power Sensor	Agilent	E9304A	MY41497198	2009.10.21
RF Switch	MF	SW1072	RFSW980005	N/A
Power Amplifier	Schaffner	CBA9413B	43526	NA
Power Amplifier	Schaffner	CBA9428	43516	NA
Directional Coupler	Schaffner	CHA 9652B	0121	N/A
Directional Coupler	A&R	DC7144A	312249	N/A
E-Field Probe Type 8.3	Narda	2244/90.21	AZ-0030	2010.06.11
EMR-20C Radiation Meter	Narda	BN 2244/70	AW-0074	2010.06.11
Bilog Antenna	Schaffner	CBL6141A	4278	N/A
Horn Antenna	A&R	AT4002A	312312	N/A
Temperature/Humidity Meter	Zhicheng	ZC1-2	AC4-TH	2010.01.14

Fast transients / TR-2

Instrument	Manufacturer	Model No.	Serial No.	Calibrated Date
Immunity Test System	KeyTek	EMCpro PLUS	508273	2010.04.23
CCL	KeyTek	CCL	0510181	2010.04.23
Temperature/Humidity Meter	zhicheng	ZC1-2	TR2-TH	2010.01.14

Surges / TR-2

Instrument	Manufacturer	Model No.	Serial No.	Calibrated Date
Immunity Test System	KeyTek	EMCpro PLUS	508273	2010.04.23
Coupler/Decoupler Telecom Line	KeyTek	CM-TELCD	0506277	N/A
Coupler/Decoupler Signal Line	KeyTek	CM-I/OCD	0508206	N/A
Temperature/Humidity Meter	zhicheng	ZC1-2	TR2-TH	2010.01.14

Radio-frequency continuous conducted / TR-2

Instrument	Manufacturer	Model No.	Serial No.	Calibrated Date
RF-Generator	Schaffner	NSG2070	1120	2009.11.11
Attenuator	Schaffner	INA2070-1	2120	2009.11.11
Coupling / Decoupling Network	Schaffner	CDN M016	21249	2009.11.11
Coupling / Decoupling Network	Teseq GmbH	CDN M016	24484	2009.09.01
Coupling / Decoupling Network	Schaffner	CDN T400	19083	2009.11.11
Coupling / Decoupling Network	Teseq GmbH	CDN T400	22461	2009.09.01
Coupling / Decoupling Network	Teseq GmbH	CDN T800	26167	2010.01.15
Temperature/Humidity Meter	zhicheng	ZC1-2	TR2-TH	2010.01.14

Power-frequency magnetic field / TR-2

Instrument	Manufacturer	Model No.	Serial No.	Calibrated Date
Immunity Test System	KeyTek	EMCpro PLUS	508273	2010.04.23
CM-HCOIL H-Field Loop	KeyTek	F-1000-4-8/9/10-L-1M	05016	2010.04.23
Temperature/Humidity Meter	zhicheng	ZC1-2	TR2-TH	2010.01.14

Voltage dips and interruptions / TR-2

Instrument	Manufacturer	Model No.	Serial No.	Calibrated Date
Immunity Test System	KeyTek	EMCpro PLUS	508273	2010.04.23
Temperature/Humidity Meter	zhicheng	ZC1-2	TR2-TH	2010.01.14

2.3. Measurement Uncertainty

Conducted disturbance at mains terminals and telecommunication ports
The maximum measurement uncertainty is evaluated as ± 3.48dB.
Radiated disturbance
The maximum measurement uncertainty is evaluated as ± 4.28dB.
Harmonic current emissions
The maximum measurement uncertainty is evaluated as ± 0.2%.
Voltage fluctuation and flicker
The maximum measurement uncertainty is evaluated as d_c and d_{max}: ± 0.095%, P_{st} and P_{lt}: ± 4%, $d_{(t)}$: ± 1.5%
Electrostatic discharge
The maximum measurement uncertainty is evaluated as Voltage: ± 1.63%, Time: ± 2.76%.
Radio-frequency electromagnetic field
The maximum measurement uncertainty is evaluated as ± 2.72dB.
Fast transients
The maximum measurement uncertainty is evaluated as Voltage: ± 1.63%, Frequency: ± 2.8 x 10^{-10}, Time: ± 2.76%.
Surges
The maximum measurement uncertainty is evaluated as Voltage: ± 1.63%, Time: ± 2.76%.
Radio-frequency continuous conducted
The maximum measurement uncertainty is evaluated as ± 3.72dB.
Power-frequency magnetic field
The maximum measurement uncertainty is evaluated as ± 2.0%.
Voltage dips and interruptions
The maximum measurement uncertainty is evaluated as Voltage: ± 1.63%, Time: ± 2.76%.

2.4. Performance Criteria

Performance Criterion A

The equipment shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.

Performance Criterion B

After the test, the equipment shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed, after the application of the phenomena below a performance level specified by the manufacturer, when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance.
During the test, degradation of performance is allowed. However, no change of operating state or stored data is allowed to persist after the test.
If the minimum performance level (or the permissible performance loss) is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.

Performance Criterion C

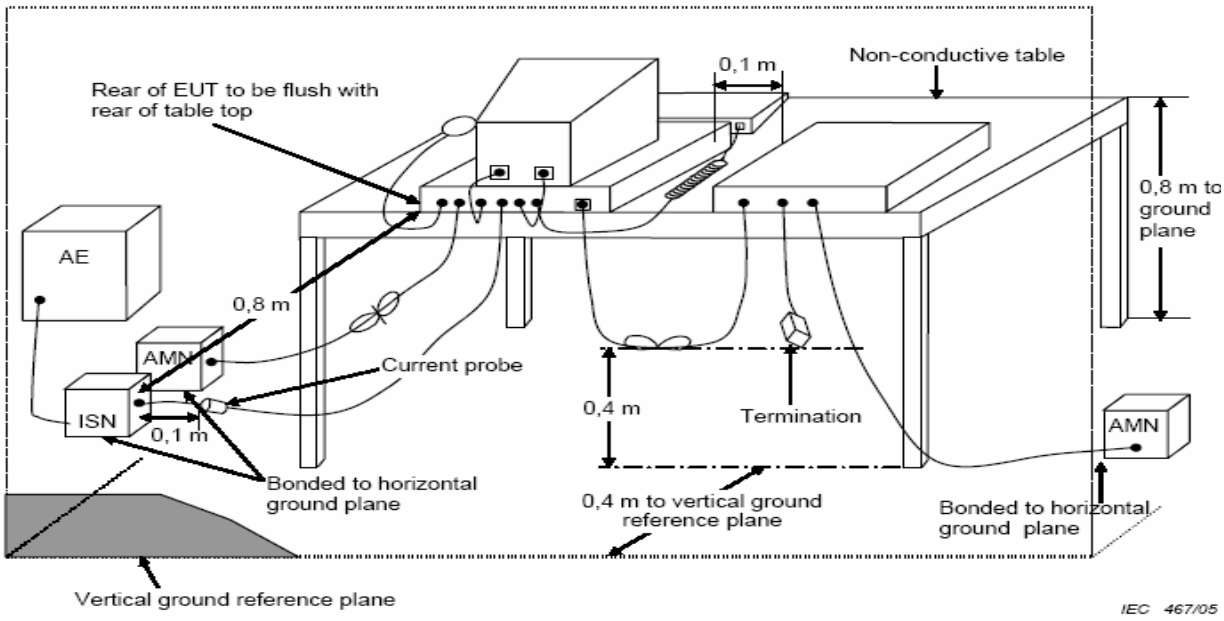
Loss of function is allowed, provided the function is self-recoverable, or can be restored by the operation of the controls by the user in accordance with the manufacturer’s instructions.
Functions, and/or information stored in non-volatile memory, or protected by a battery backup, shall not be lost.

3. Conducted disturbance at mains terminals and telecommunication ports

3.1. Test Specification

According to EMC Standard: EN 55022 and AS/NZS CISPR 22 Class B

3.2. Test Setup



3.3. Limit

Limits of mains terminal disturbance voltage

Limits for conducted disturbance at the mains ports of class A ITE		
Frequency range MHz	Limits dB(μV)	
	Quasi-peak	Average
0.15 to 0.50	79	66
0.50 to 30	73	60
NOTE: The lower limit shall apply at the transition frequency.		

Limits for conducted disturbance at the mains ports of class B ITE		
Frequency range MHz	Limits dB(μV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50
NOTE 1: The lower limit shall apply at the transition frequencies. NOTE 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.50MHz.		

Limits of conducted common mode (asymmetric mode) disturbance at telecommunication ports

Limits of conducted common mode (asymmetric mode) disturbance at telecommunication ports in the frequency range 0.15MHz to 30 MHz for class A equipment				
Frequency range MHz	Voltage Limits dB(μV)		Current limits dB(μA)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 to 0.50	97 to 87	84 to 74	53 to 43	40 to 30
0.50 to 30	87	74	43	30
NOTE 1: The limits decrease linearly with the logarithm of the frequency in the range 0.15MHz to 0.5MHz. NOTE 2: The current and voltage disturbance limits are derived for use with an impedance stabilization network (ISN) which presents a common mode (asymmetric mode) impedance of 150Ω to the telecommunication port under test (conversion factor is 20 $\log_{10}$150 / I = 44dB).				

Limits of conducted common mode (asymmetric mode) disturbance at telecommunication ports in the frequency range 0.15MHz to 30 MHz for class B equipment				
Frequency range MHz	Voltage Limits dB(μV)		Current limits dB(μA)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 to 0.50	84 to 74	74 to 64	40 to 30	30 to 20
0.50 to 30	74	64	30	20
NOTE 1: The limits decrease linearly with the logarithm of the frequency in the range 0.15MHz to 0.5MHz. NOTE 2: The current and voltage disturbance limits are derived for use with an impedance stabilization network (ISN) which presents a common mode (asymmetric mode) impedance of 150Ω to the telecommunication port under test (conversion factor is 20 $\log_{10}$150 / I = 44dB).				

3.4. Test Procedure

For Main Ports:

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50Ω / 50μH or 50Ω / 50μH + 5Ω coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50Ω / 50μH or 50Ω / 50μH + 5Ω coupling impedance with 50Ω termination.

Both sides of A.C. line are checked for maximum conducted interference.

Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

For Telecommunication Ports:

The mains voltage shall be supplied to the EUT via the LISN when the measurement of telecommunication port is performed. The common mode disturbances at the telecommunication port shall be connected to the ISN, which is 150Ω impedance.

Both alternative cables are tested related to the LCL requested.

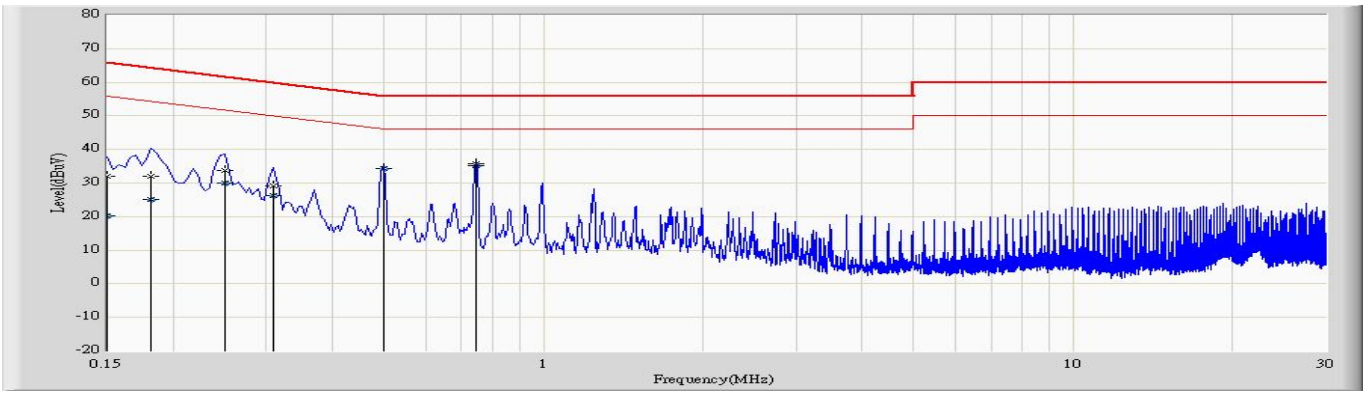
Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

3.5. Deviation from Test Standard

No deviation.

3.6. Test Result

Engineer: Sunny	
Site: TR1	Time: 2010/07/14 - 10:39
Limit: EN55022_CE_Mains_ClassB	Margin: 0
Probe: ENV216_101043(0.009-30MHz)	Polarity: Line
EUT: WIRELESS ACCESS POINT	Power: AC 230V/50Hz
Note: Mode 1	

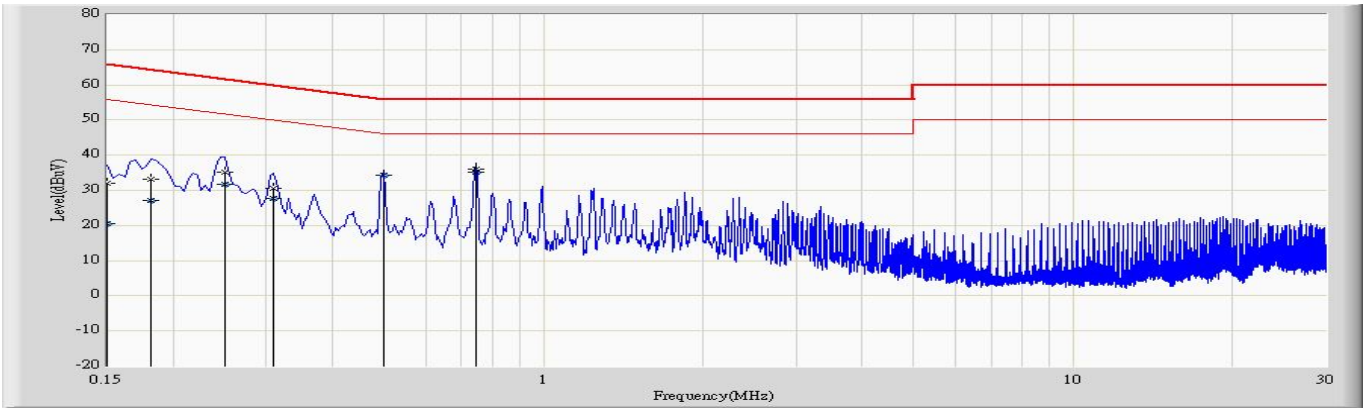


No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1		0.150	32.088	22.500	-33.912	66.000	9.588	QP
2		0.150	20.105	10.517	-35.895	56.000	9.588	AV
3		0.182	31.912	22.275	-32.482	64.394	9.637	QP
4		0.182	25.241	15.605	-29.153	54.394	9.637	AV
5		0.250	33.599	23.919	-28.158	61.757	9.680	QP
6		0.250	29.874	20.194	-21.883	51.757	9.680	AV
7		0.310	29.023	19.343	-30.947	59.970	9.680	QP
8		0.310	26.373	16.693	-23.597	49.970	9.680	AV
9		0.498	34.424	24.744	-21.610	56.033	9.680	QP
10		0.498	34.347	24.667	-11.686	46.033	9.680	AV
11		0.746	35.626	25.949	-20.374	56.000	9.677	QP
12	*	0.746	35.270	25.593	-10.730	46.000	9.677	AV

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Engineer: Sunny	
Site: TR1	Time: 2010/07/14 - 10:42
Limit: EN55022_CE_Mains_ClassB	Margin: 0
Probe: ENV216_101043(0.009-30MHz)	Polarity: Neutral
EUT: WIRELESS ACCESS POINT	Power: AC 230V/50Hz
Note: Mode 1	



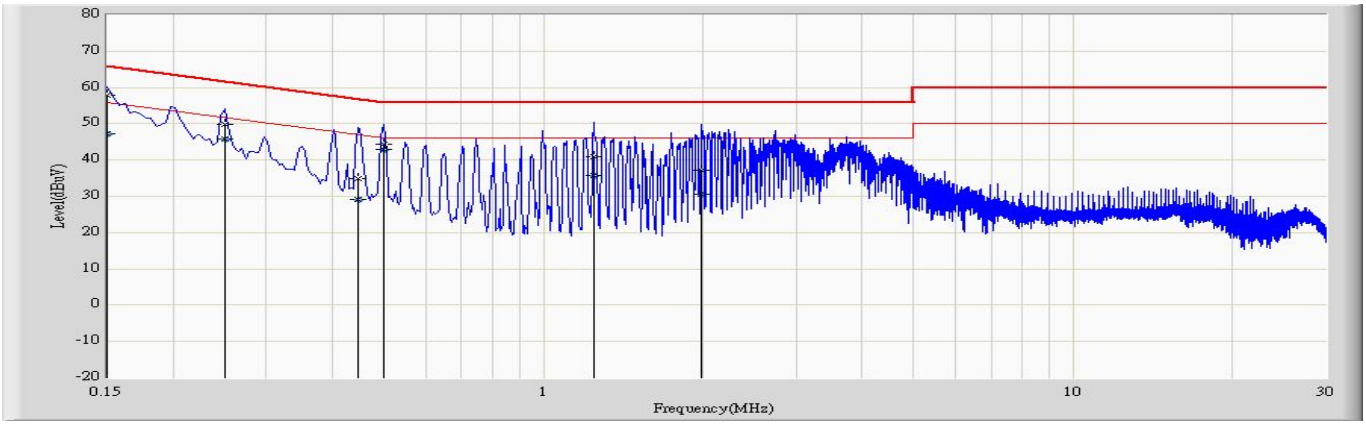
No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1		0.150	32.120	22.379	-33.880	66.000	9.741	QP
2		0.150	20.473	10.732	-35.527	56.000	9.741	AV
3		0.182	33.200	23.507	-31.194	64.394	9.693	QP
4		0.182	27.070	17.377	-27.324	54.394	9.693	AV
5		0.250	35.299	25.647	-26.458	61.757	9.652	QP
6		0.250	31.739	22.088	-20.018	51.757	9.652	AV
7		0.310	30.692	21.038	-29.278	59.970	9.654	QP
8		0.310	27.748	18.095	-22.222	49.970	9.654	AV
9		0.498	34.347	24.687	-21.686	56.033	9.660	QP
10		0.498	34.211	24.550	-11.823	46.033	9.660	AV
11		0.746	36.034	26.351	-19.966	56.000	9.683	QP
12	*	0.746	35.135	25.452	-10.865	46.000	9.683	AV

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Engineer: Sunny	
Site: TR1	Time: 2010/07/12 - 20:12

Limit: EN55022_CE_Mains_ClassB	Margin: 0
Probe: ENV216_101043(0.009-30MHz)	Polarity: Line
EUT: WIRELESS ACCESS POINT	Power: AC 230V/50Hz
Note: Mode 2	

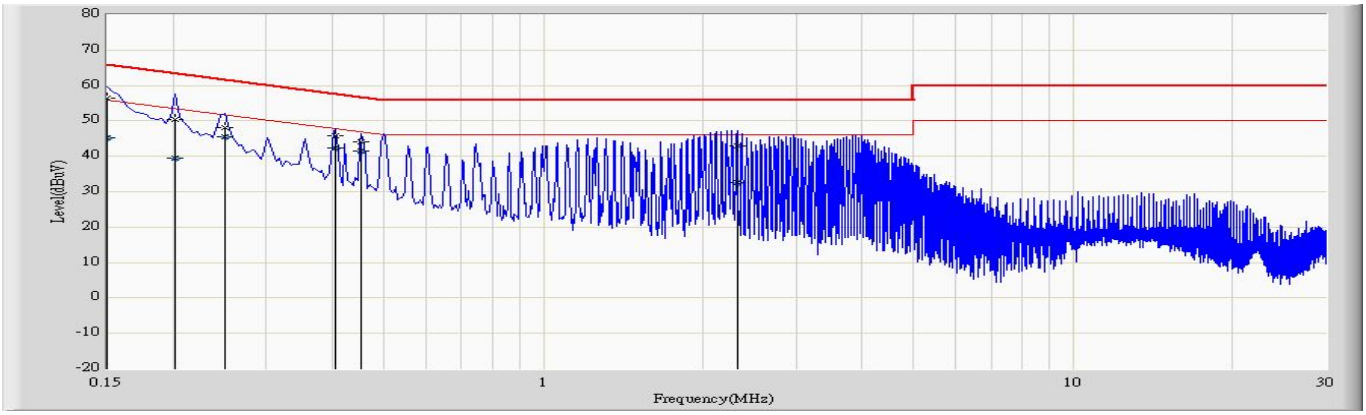


No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1		0.150	58.011	48.423	-7.989	66.000	9.588	QP
2		0.150	47.155	37.567	-8.845	56.000	9.588	AV
3		0.250	49.905	40.225	-11.852	61.757	9.680	QP
4		0.250	45.779	36.099	-5.978	51.757	9.680	AV
5		0.446	34.768	25.088	-22.181	56.949	9.680	QP
6		0.446	29.084	19.404	-17.866	46.949	9.680	AV
7		0.498	44.411	34.731	-11.622	56.033	9.680	QP
8	*	0.498	42.851	33.171	-3.182	46.033	9.680	AV
9		1.242	41.050	31.382	-14.950	56.000	9.667	QP
10		1.242	35.637	25.970	-10.363	46.000	9.667	AV
11		1.990	37.047	27.358	-18.953	56.000	9.690	QP
12		1.990	30.550	20.861	-15.450	46.000	9.690	AV

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Engineer: Sunny	
Site: TR1	Time: 2010/07/12 - 20:24
Limit: EN55022_CE_Mains_ClassB	Margin: 0
Probe: ENV216_101043(0.009-30MHz)	Polarity: Neutral
EUT: WIRELESS ACCESS POINT	Power: AC 230V/50Hz
Note: Mode 2	

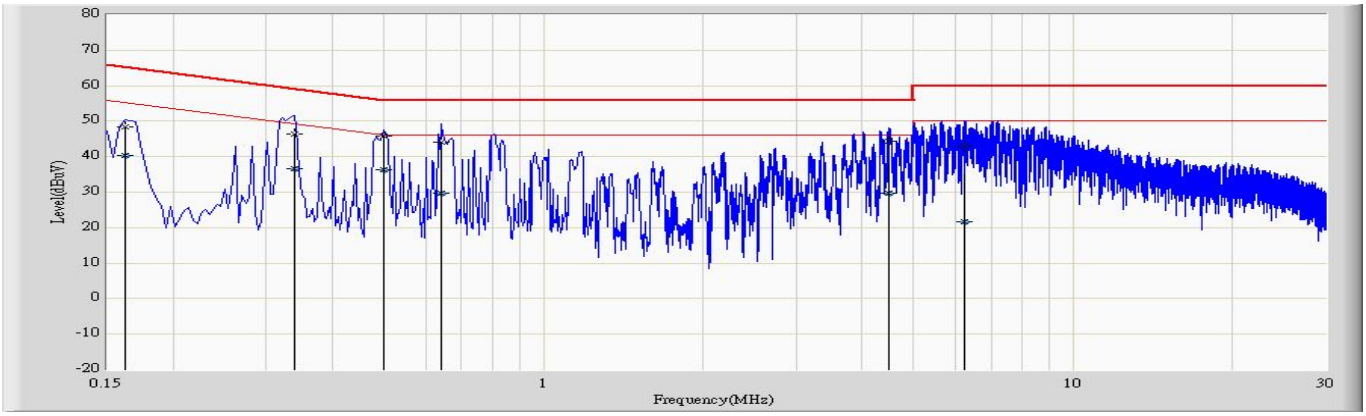


No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1		0.150	56.475	46.734	-9.525	66.000	9.741	QP
2		0.150	45.145	35.404	-10.855	56.000	9.741	AV
3		0.202	50.452	40.787	-13.076	63.528	9.665	QP
4		0.202	39.488	29.823	-14.040	53.528	9.665	AV
5		0.250	48.203	38.552	-13.554	61.757	9.652	QP
6		0.250	45.481	35.829	-6.276	51.757	9.652	AV
7		0.406	45.817	36.160	-11.913	57.730	9.657	QP
8		0.406	42.346	32.689	-5.384	47.730	9.657	AV
9		0.454	44.182	34.523	-12.620	56.802	9.658	QP
10	*	0.454	41.607	31.948	-5.195	46.802	9.658	AV
11		2.322	42.966	33.273	-13.034	56.000	9.693	QP
12		2.322	32.614	22.920	-13.386	46.000	9.693	AV

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Engineer: Sunny	
Site: TR1	Time: 2010/07/25 - 10:59
Limit: EN55022_CE_Mains_ClassB	Margin: 0
Probe: ENV216_101043(0.009-30MHz)	Polarity: Line
EUT: WIRELESS ACCESS POINT	Power: AC 230V/50Hz
Note: Mode 3	

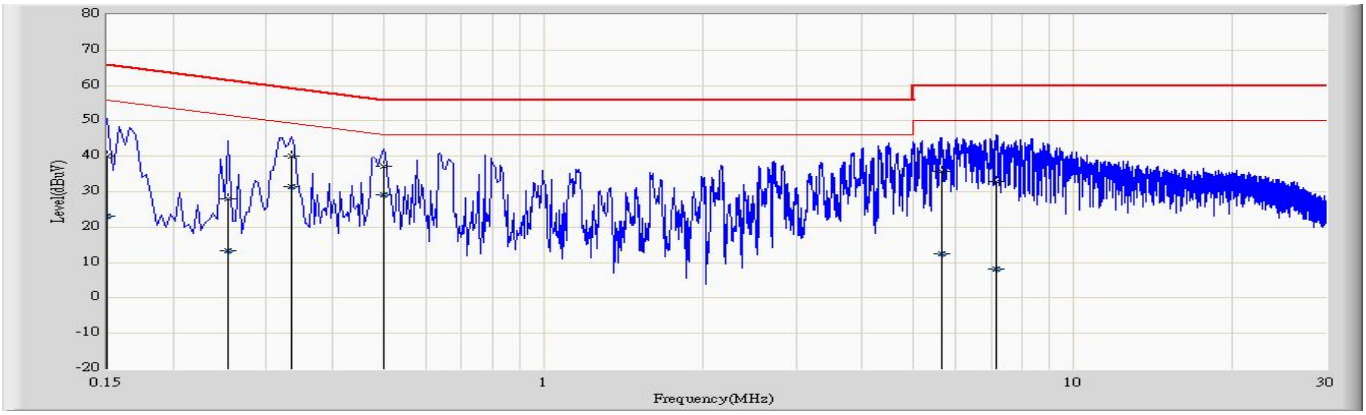


No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1		0.162	48.390	38.801	-16.971	65.361	9.589	QP
2		0.162	40.289	30.700	-15.072	55.361	9.589	AV
3		0.338	46.364	36.684	-12.889	59.252	9.680	QP
4		0.338	36.504	26.824	-12.749	49.252	9.680	AV
5		0.498	45.672	35.982	-10.361	56.033	9.690	QP
6	*	0.498	36.318	26.628	-9.715	46.033	9.690	AV
7		0.642	44.154	34.464	-11.846	56.000	9.690	QP
8		0.642	29.786	20.096	-16.214	46.000	9.690	AV
9		4.486	44.406	34.601	-11.594	56.000	9.805	QP
10		4.486	29.577	19.772	-16.423	46.000	9.805	AV
11		6.254	42.891	33.029	-17.109	60.000	9.863	QP
12		6.254	21.543	11.681	-28.457	50.000	9.863	AV

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Engineer: Sunny	
Site: TR1	Time: 2010/07/25 - 11:02
Limit: EN55022_CE_Mains_ClassB	Margin: 0
Probe: ENV216_101043(0.009-30MHz)	Polarity: Neutral
EUT: WIRELESS ACCESS POINT	Power: AC 230V/50Hz
Note: Mode 3	

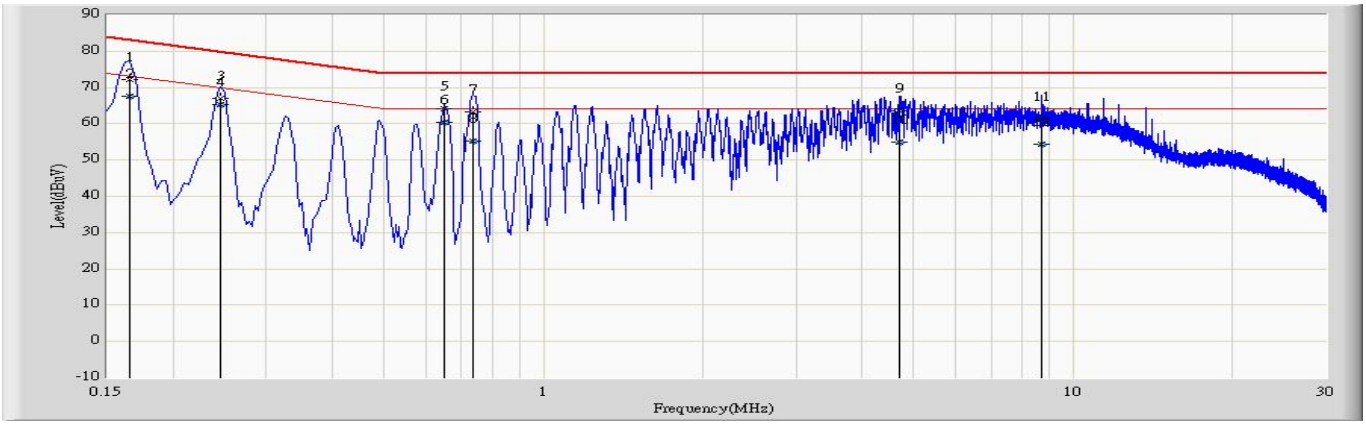


No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1		0.150	40.023	30.282	-25.977	66.000	9.741	QP
2		0.150	23.164	13.423	-32.836	56.000	9.741	AV
3		0.254	28.034	18.382	-33.591	61.625	9.652	QP
4		0.254	13.206	3.555	-38.419	51.625	9.652	AV
5		0.334	40.091	30.437	-19.260	59.351	9.654	QP
6		0.334	31.314	21.659	-18.037	49.351	9.654	AV
7		0.498	37.148	27.478	-18.885	56.033	9.670	QP
8	*	0.498	29.018	19.347	-17.016	46.033	9.670	AV
9		5.638	35.727	25.881	-24.273	60.000	9.846	QP
10		5.638	12.337	2.491	-37.663	50.000	9.846	AV
11		7.178	32.828	22.907	-27.172	60.000	9.921	QP
12		7.178	8.063	-1.858	-41.937	50.000	9.921	AV

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Engineer: Sunny	
Site: TR1	Time: 2010/07/21 - 02:08
Limit: EN55022_CE_ISN(Voltage)_ClassB	Margin: 0
Probe: FCC-TLISN-T4_20353(0.15-30MHz)	Polarity:
EUT: WIRELESS ACCESS POINT	Power: AC 230V/50Hz
Note: Mode 1-10Mbps	



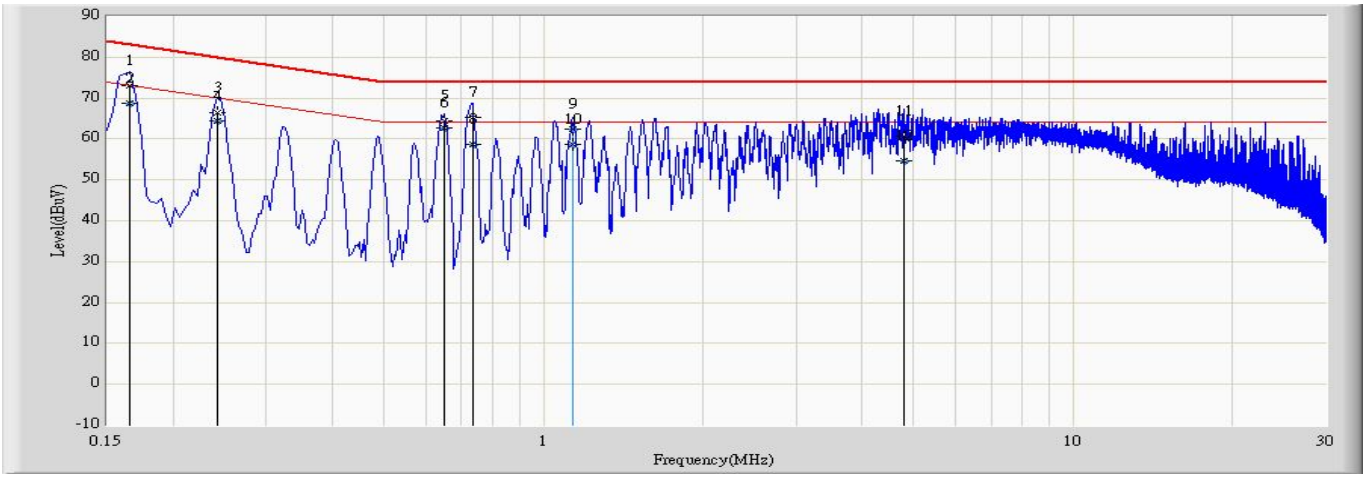
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1			0.166	72.220	62.300	-10.938	83.158	9.860	0.060	0.000	QP
2			0.166	67.520	57.600	-5.638	73.158	9.860	0.060	0.000	AV
3			0.246	67.128	57.200	-12.763	79.891	9.868	0.060	0.000	QP
4			0.246	65.228	55.300	-4.663	69.891	9.868	0.060	0.000	AV
5			0.650	64.103	54.100	-9.897	74.000	9.933	0.070	0.000	QP
6		*	0.650	60.303	50.300	-3.697	64.000	9.933	0.070	0.000	AV
7			0.738	63.221	53.200	-10.779	74.000	9.951	0.070	0.000	QP
8			0.738	55.321	45.300	-8.679	64.000	9.951	0.070	0.000	AV
9			4.714	63.439	53.226	-10.561	74.000	10.063	0.150	0.000	QP
10			4.714	54.829	44.616	-9.171	64.000	10.063	0.150	0.000	AV
11			8.746	61.382	51.153	-12.618	74.000	9.989	0.240	0.000	QP
12			8.746	54.367	44.138	-9.633	64.000	9.989	0.240	0.000	AV

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Engineer: Sunny

Site: TR1	Time: 2010/07/21 - 02:21
Limit: EN55022_CE_ISN(Voltage)_ClassB	Margin: 0
Probe: FCC-TLISN-T4_20353(0.15-30MHz)	Polarity:
EUT: WIRELESS ACCESS POINT	Power: AC 230V/50Hz
Note: Mode 1-100M	



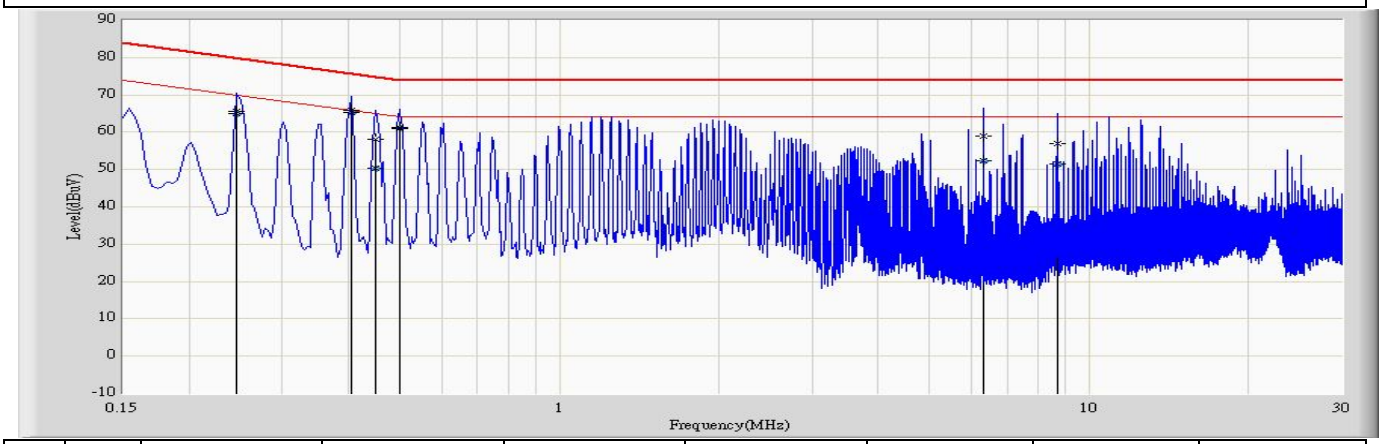
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1			0.166	72.903	62.983	-10.256	83.158	9.860	0.060	0.000	QP
2			0.166	68.668	58.748	-4.490	73.158	9.860	0.060	0.000	AV
3			0.242	66.527	56.600	-13.500	80.027	9.867	0.060	0.000	QP
4			0.242	64.527	54.600	-5.500	70.027	9.867	0.060	0.000	AV
5			0.650	64.403	54.400	-9.597	74.000	9.933	0.070	0.000	QP
6		*	0.650	62.593	52.590	-1.407	64.000	9.933	0.070	0.000	AV
7			0.734	65.230	55.210	-8.770	74.000	9.950	0.070	0.000	QP
8			0.734	58.580	48.560	-5.420	64.000	9.950	0.070	0.000	AV
9			1.134	62.418	52.300	-1.582	64.000	10.038	0.080	0.000	AV
10			1.134	58.718	48.600	-5.282	64.000	10.038	0.080	0.000	AV
11			4.790	60.775	50.553	-13.225	74.000	10.062	0.160	0.000	QP
12			4.790	54.550	44.328	-9.450	64.000	10.062	0.160	0.000	AV

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Engineer: Sunny	
Site: TR1	Time: 2010/07/14 - 15:06

Limit: EN55022_CE_ISN(Voltage)_ClassB	Margin: 0
Probe: FCC-TLISN-T4_20353(0.15-30MHz)	Polarity:
EUT: WIRELESS ACCESS POINT	Power: AC 230V/50MHz
Note: Mode 2-10Mbps	

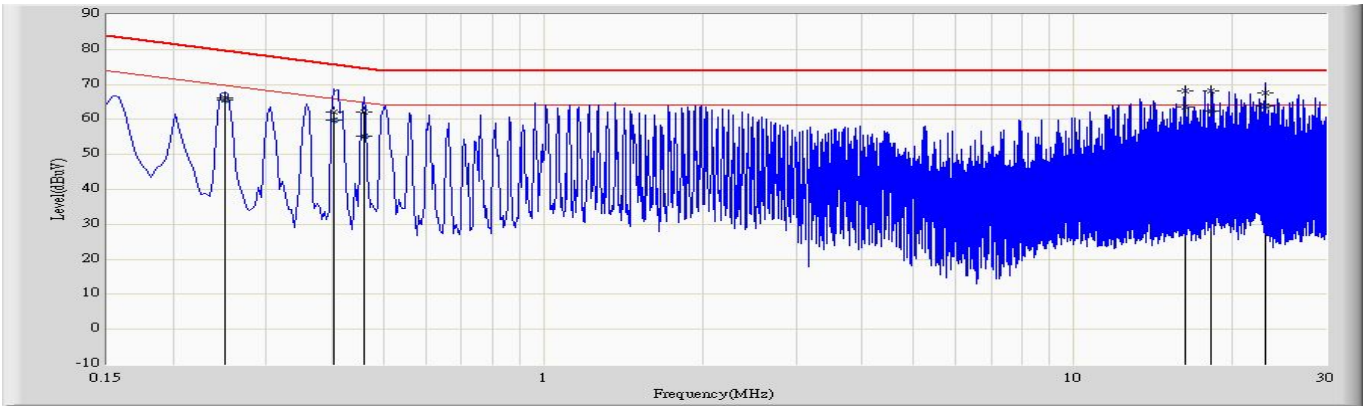


No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1		0.246	65.554	55.625	-14.338	79.891	9.928	QP
2		0.246	65.095	55.167	-4.797	69.891	9.928	AV
3		0.406	65.976	56.016	-9.754	75.730	9.960	QP
4	*	0.406	65.364	55.404	-0.366	65.730	9.960	AV
5		0.450	58.201	48.230	-16.674	74.875	9.971	QP
6		0.450	50.277	40.306	-14.598	64.875	9.971	AV
7		0.498	61.100	51.121	-12.933	74.033	9.979	QP
8		0.498	61.366	51.387	-2.667	64.033	9.979	AV
9		6.306	58.975	48.744	-15.025	74.000	10.231	QP
10		6.306	52.447	42.216	-11.553	64.000	10.231	AV
11		8.746	57.015	46.786	-16.985	74.000	10.229	QP
12		8.746	51.562	41.333	-12.438	64.000	10.229	AV

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Engineer: Sunny	
Site: TR1	Time: 2010/07/14 - 15:11
Limit: EN55022_CE_ISN(Voltage)_ClassB	Margin: 0
Probe: FCC-TLISN-T4_20353(0.15-30MHz)	Polarity:
EUT: WIRELESS ACCESS POINT	Power: AC 230V/50MHz
Note: Mode 2-100Mbps	

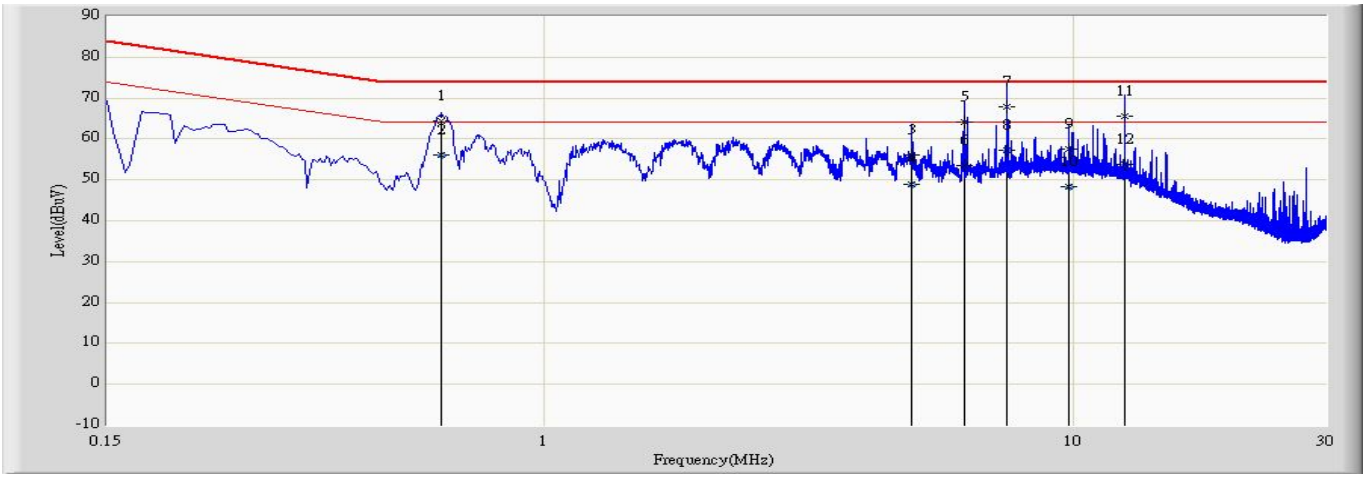


No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1		0.250	66.137	56.208	-13.621	79.757	9.929	QP
2		0.250	65.686	55.757	-4.071	69.757	9.929	AV
3		0.402	62.117	52.159	-13.695	75.812	9.957	QP
4		0.402	59.687	49.729	-6.125	65.812	9.957	AV
5		0.458	62.192	52.220	-12.536	74.729	9.973	QP
6		0.458	55.331	45.358	-9.398	64.729	9.973	AV
7		16.230	63.473	53.200	-10.527	74.000	10.273	QP
8		16.230	68.163	57.890	-5.837	74.000	10.273	QP
9		18.246	68.081	57.770	-5.919	74.000	10.311	QP
10		18.246	62.491	52.180	-1.509	64.000	10.311	AV
11		23.130	67.595	57.170	-6.405	74.000	10.425	QP
12	*	23.130	63.935	53.510	-0.065	64.000	10.425	AV

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Engineer: Sunny	
Site: SR1	Time: 2010/07/24 - 06:48
Limit: EN55022_CE_ISN(Voltage)_ClassB	Margin: 0
Probe: FCC-TLISN-T4_20353(0.15-30MHz)	Polarity:
EUT: WIRELESS ACCESS POINT	Power: AC 230V/50MHz
Note: Mode 3-10Mbps	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1			0.642	64.51	54.695	-9.49	74	9.745	0.07	0	QP
2			0.642	56.021	46.206	-7.979	64	9.745	0.07	0	AV
3			4.942	55.979	46.139	-18.021	74	9.68	0.16	0	QP
4			4.942	48.897	39.057	-15.103	64	9.68	0.16	0	AV
5			6.25	64.009	54.129	-9.991	74	9.69	0.19	0	QP
6			6.25	53.516	43.636	-10.484	64	9.69	0.19	0	AV
7		*	7.502	67.835	57.922	-6.165	74	9.703	0.21	0	QP
8			7.502	57.149	47.236	-6.851	64	9.703	0.21	0	AV
9			9.838	57.549	47.579	-16.451	74	9.71	0.26	0	QP
10			9.838	48.243	38.273	-15.757	64	9.71	0.26	0	AV
11			12.502	65.479	55.449	-8.521	74	9.71	0.32	0	QP
12			12.502	53.711	43.681	-10.289	64	9.71	0.32	0	AV

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Engineer: Sunny

Site: SR1	Time: 2010/07/24 - 06:52
Limit: EN55022_CE_ISN(Voltage)_ClassB	Margin: 0
Probe: FCC-TLISN-T4_20353(0.15-30MHz)	Polarity:
EUT: WIRELESS ACCESS POINT	Power: AC 230V/50MHz
Note: Mode 3-100Mbps	

No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1		*	0.154	66.929	57.06	-16.853	83.781	9.809	0.06	0	QP
2			0.154	50.776	40.907	-23.006	73.781	9.809	0.06	0	AV
3			0.626	63.238	53.418	-10.762	74	9.75	0.07	0	QP
4			0.626	55.069	45.249	-8.931	64	9.75	0.07	0	AV
5			13.358	60.432	50.392	-13.568	74	9.71	0.33	0	QP
6			13.358	57.581	47.541	-6.419	64	9.71	0.33	0	AV
7			16.23	61.016	50.906	-12.984	74	9.72	0.39	0	QP
8			16.23	58.347	48.237	-5.653	64	9.72	0.39	0	AV
9			18.242	62.431	52.271	-11.569	74	9.72	0.44	0	QP
10			18.242	60.056	49.896	-3.944	64	9.72	0.44	0	AV
11			23.13	62.172	51.892	-11.828	74	9.74	0.54	0	QP
12			23.13	59.74	49.46	-4.26	64	9.74	0.54	0	AV

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

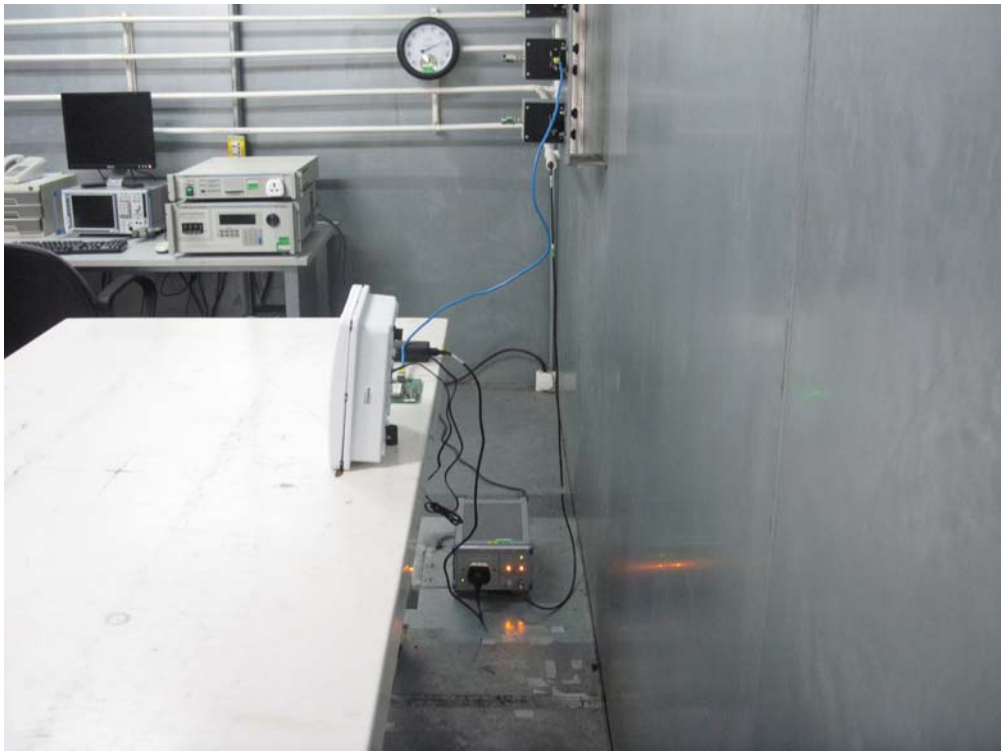
3.7. Test Photograph

Test Mode: Mode 1

Description: Front View of Conducted disturbance at mains terminals Test Setup

Test Mode: Mode 1

Description: Side View of Conducted disturbance at mains terminals Test Setup

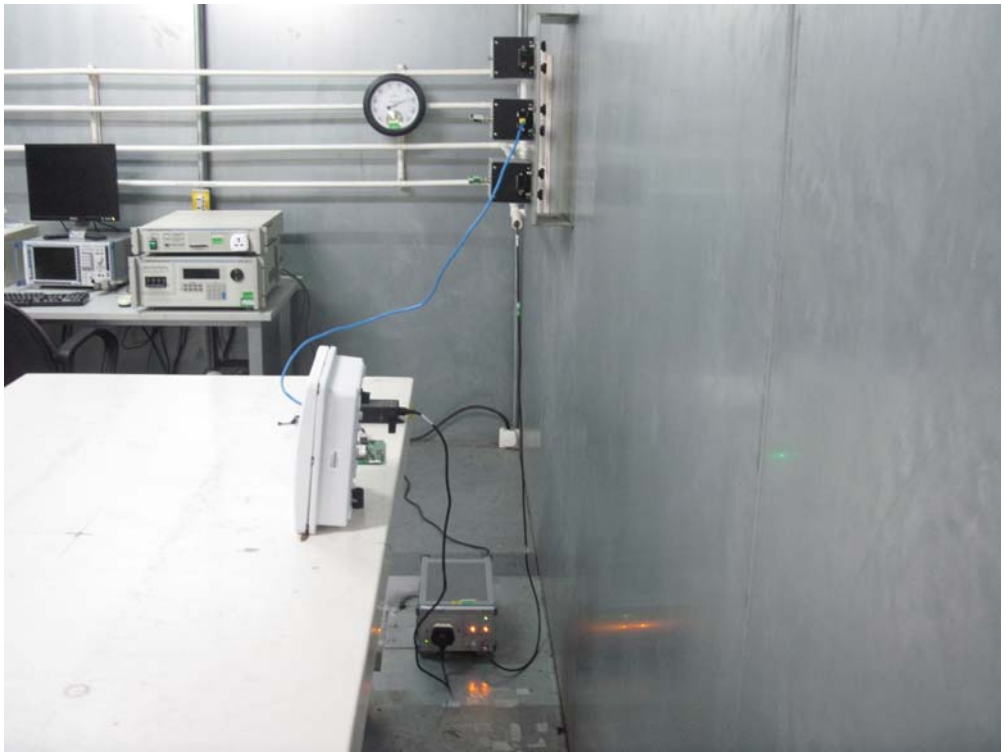


Test Mode: Mode 2

Description: Front View of Conducted disturbance at mains terminals Test Setup

Test Mode: Mode 2

Description: Side View of Conducted disturbance at mains terminals Test Setup

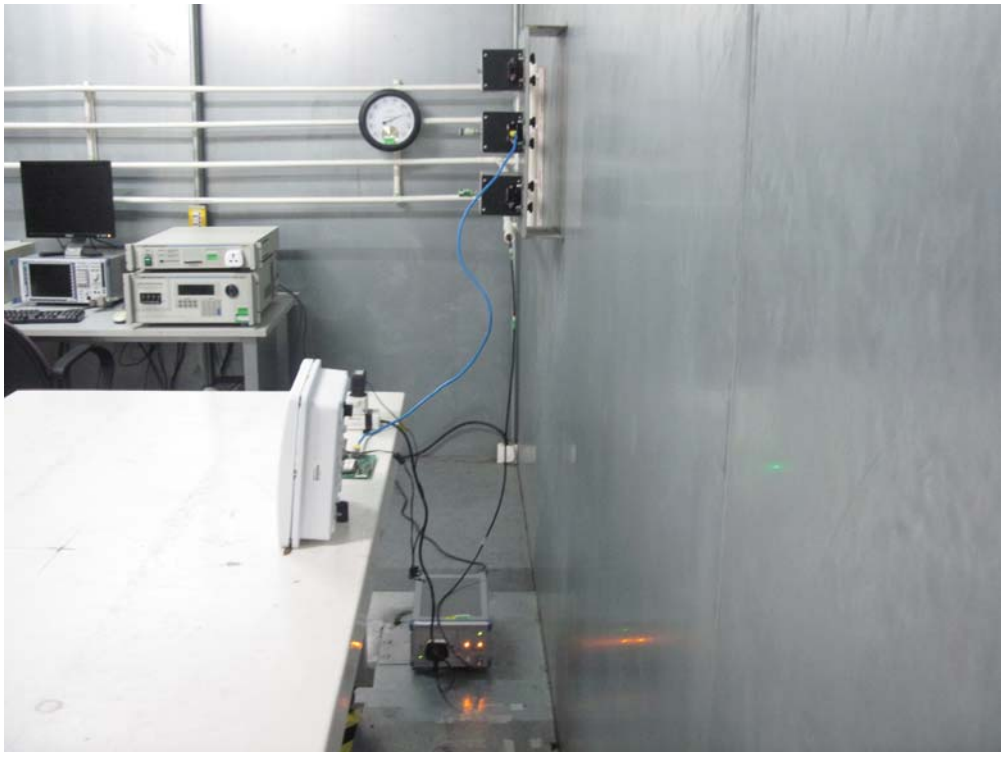


Test Mode: Mode 3

Description: Front View of Conducted disturbance at mains terminals Test Setup

Test Mode: Mode 3

Description: Side View of Conducted disturbance at mains terminals Test Setup

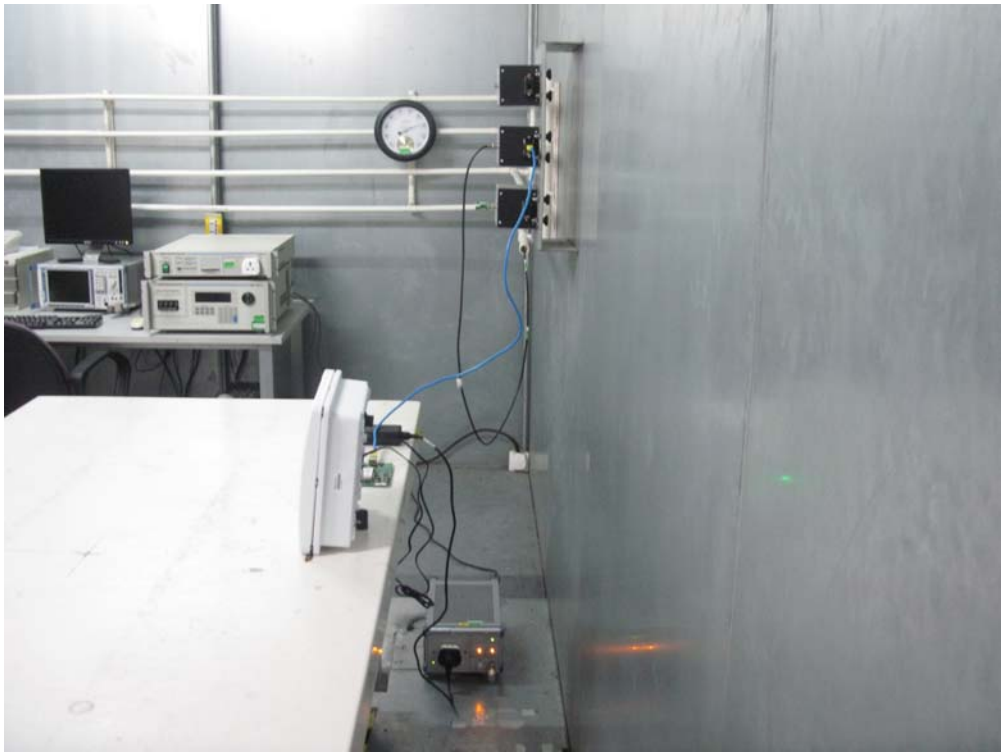


Test Mode: Mode 1

Description: Front View of Conducted disturbance at telecommunication ports Test Setup (LAN)

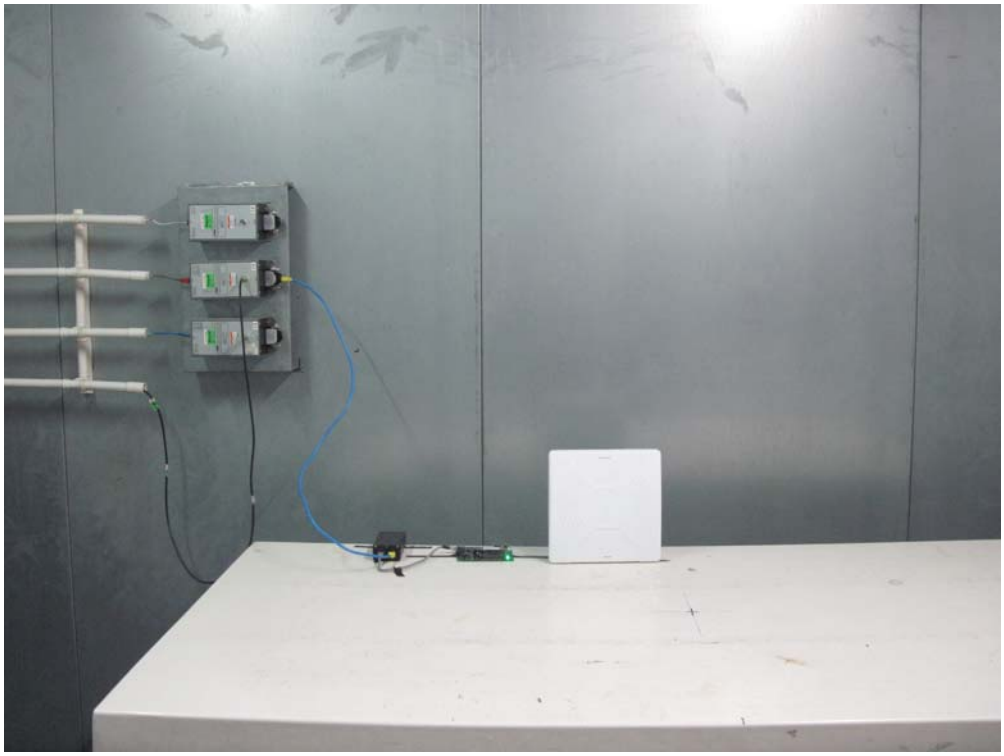
Test Mode: Mode 1

Description: Side View of Conducted disturbance at telecommunication ports Test Setup (LAN)



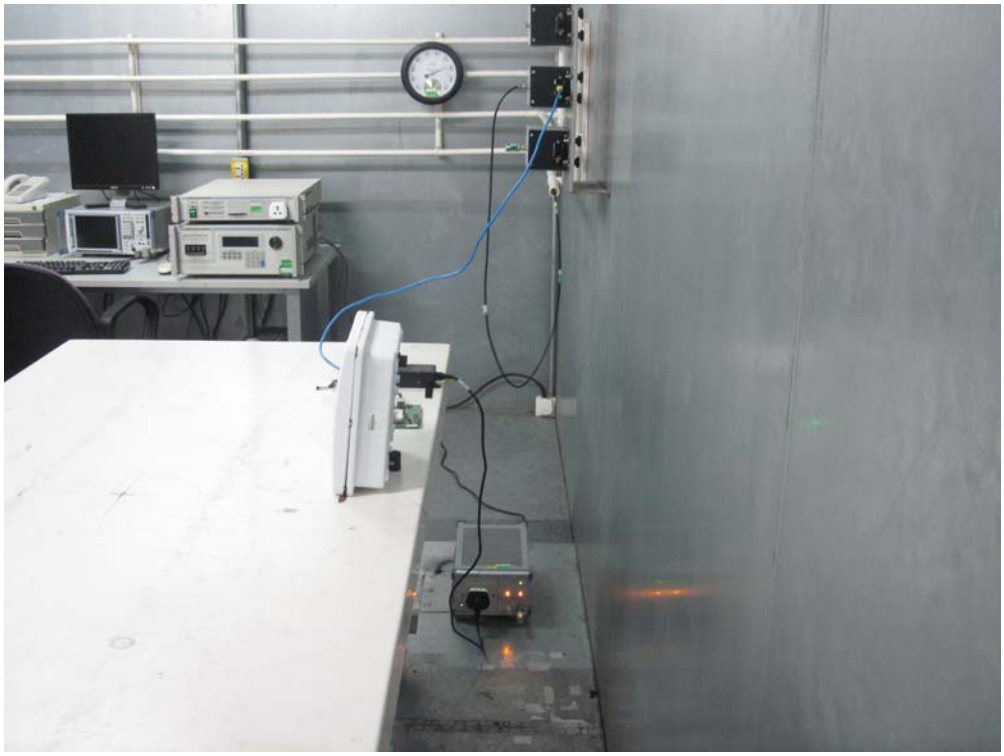
Test Mode: Mode 2

Description: Front View of Conducted disturbance at telecommunication ports Test Setup (LAN)



Test Mode: Mode 2

Description: Side View of Conducted disturbance at telecommunication ports Test Setup (LAN)

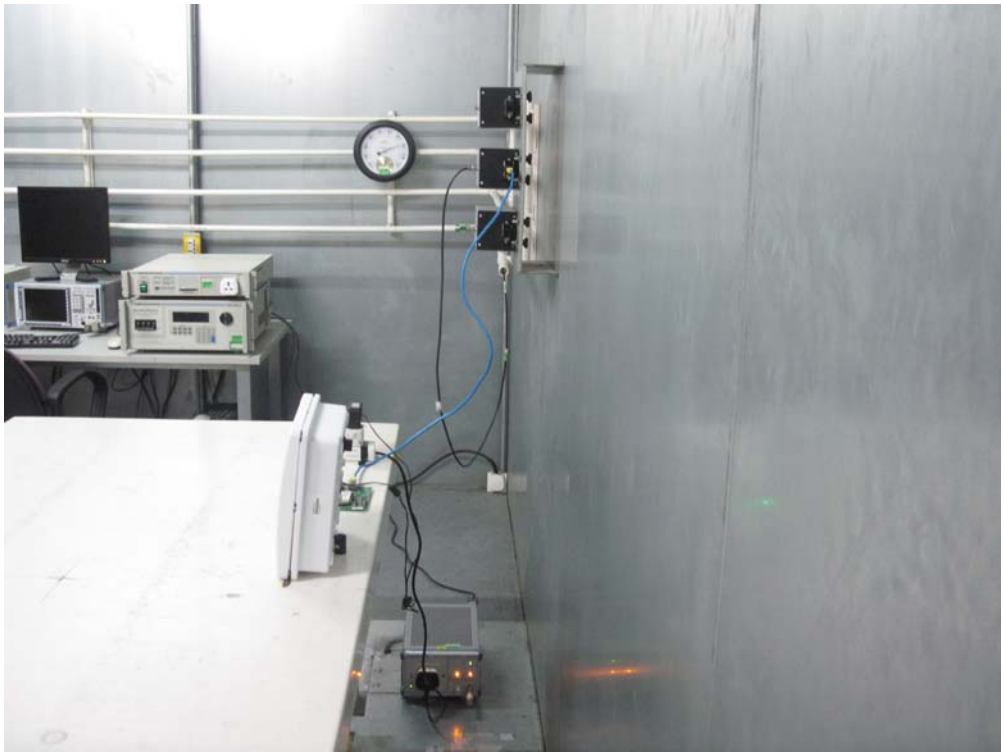


Test Mode: Mode 3

Description: Front View of Conducted disturbance at telecommunication ports Test Setup (LAN)

Test Mode: Mode 3

Description: Side View of Conducted disturbance at telecommunication ports Test Setup (LAN)



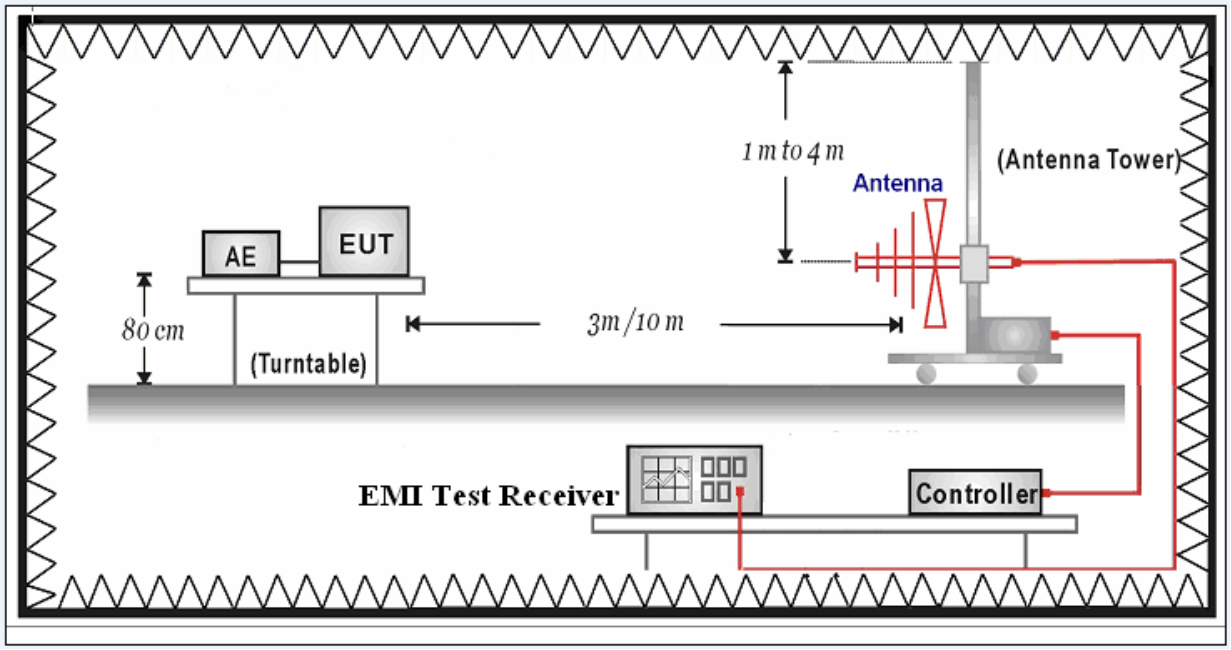
4. Radiated disturbance

4.1. Test Specification

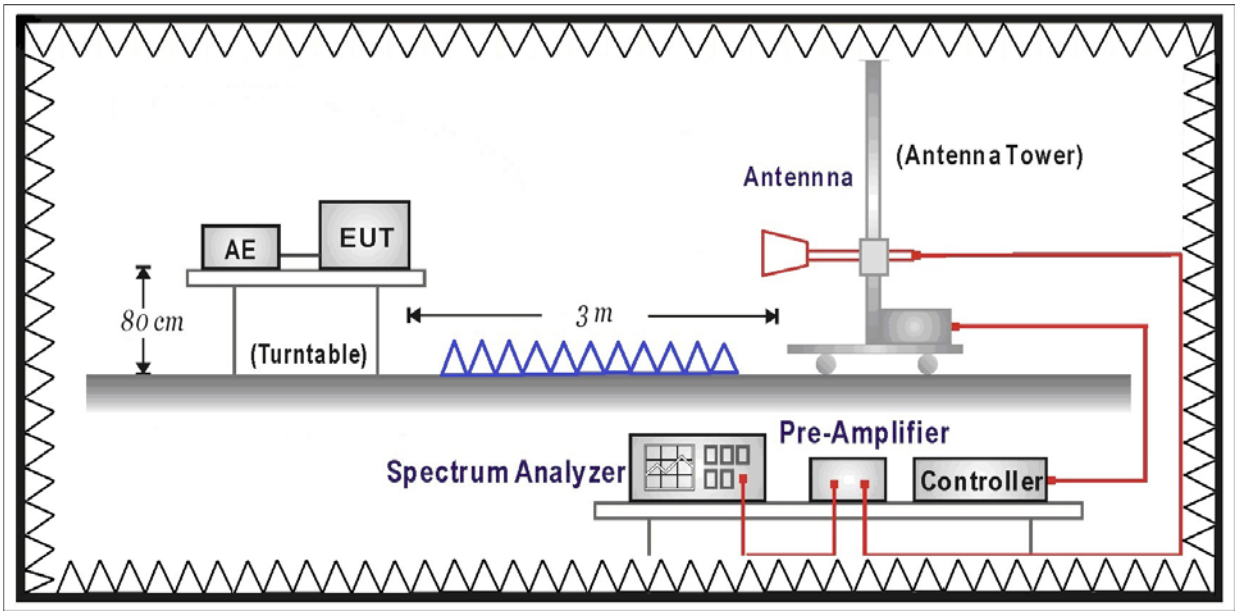
According to EMC Standard: EN 55022 and AS/NZS CISPR 22 Class B

4.2. Test Setup

Below 1GHz Test Setup



Above 1GHz Test Setup



4.3. Limit

Limits below 1GHz

Limits for radiated disturbance of class A ITE at a measuring distance of 10m	
Frequency range MHz	Quasi-peak limits dB(μV/m)
30 to 230	40
230 to 1000	47
NOTE 1: The lower limit shall apply at the transition frequency. NOTE 2: Additional provisions may be required for cases where interference occurs.	

Limits for radiated disturbance of class B ITE at a measuring distance of 10m	
Frequency range MHz	Quasi-peak limits dB(μV/m)
30 to 230	30
230 to 1000	37
NOTE 1: The lower limit shall apply at the transition frequency. NOTE 2: Additional provisions may be required for cases where interference occurs.	

Limits above 1GHz

Limits for radiated disturbance of class A ITE at a measuring distance of 3m		
Frequency range GHz	Average limit dB(μV/m)	Peak-peak dB(μV/m)
1 to 3	56	76
3 to 6	60	80
NOTE: The lower limit applies at transition frequency.		

Limits for radiated disturbance of class B ITE at a measuring distance of 3m		
Frequency range GHz	Average limit dB(μV/m)	Peak-peak dB(μV/m)
1 to 3	50	70
3 to 6	54	74
NOTE: The lower limit applies at transition frequency.		

4.4. Test Procedure

The EUT and its simulators are placed on a turntable which is 0.8 meter above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 10 meters for below 1GHz and 3 meters for above 1GHz.
The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.
Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be changed during radiated measurement.
The bandwidth below 1GHz setting on the receiver is 120kHz and above 1GHz is 1MHz.

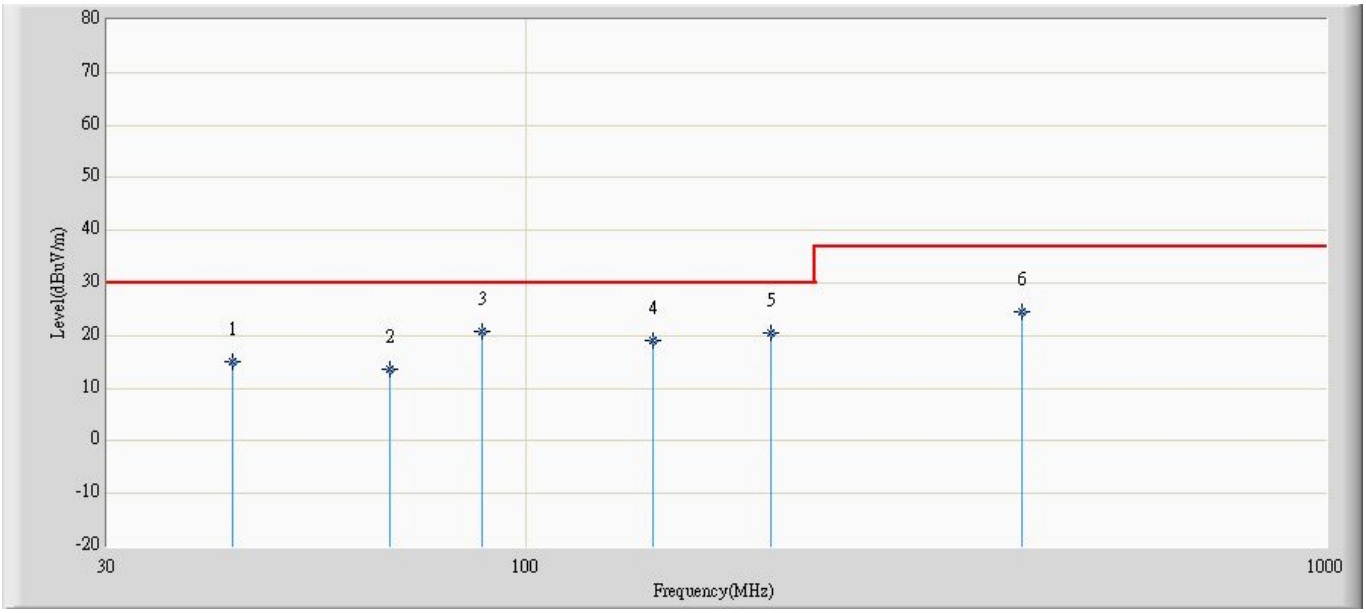
Conditional testing procedure:
The highest internal source of an EUT is defined as the highest frequency generated or used within the EUT or on which the EUT operates or tunes.
If the highest frequency of the internal sources of the EUT is less than 108 MHz, the measurement shall only be made up to 1 GHz.
If the highest frequency of the internal sources of the EUT is between 108 MHz and 500 MHz, the measurement shall only be made up to 2 GHz.
If the highest frequency of the internal sources of the EUT is between 500 MHz and 1 GHz, the measurement shall only be made up to 5 GHz.
If the highest frequency of the internal sources of the EUT is above 1 GHz, the measurement shall be made up to 5 times the highest frequency or 6 GHz, whichever is less.

4.5. Deviation from Test Standard

No deviation.

4.6. Test Result

Engineer: Sunny	
Site: AC1	Time: 2010/07/26 - 21:28
Limit: EN55022_RE(10m)_ClassB	Margin: 0
Probe: CBL6112B_2931(30-1000MHz)	Polarity: Horizontal
EUT: WIRELESS ACCESS POINT	Power: AC 230V/50MHz
Note: Mode 1	

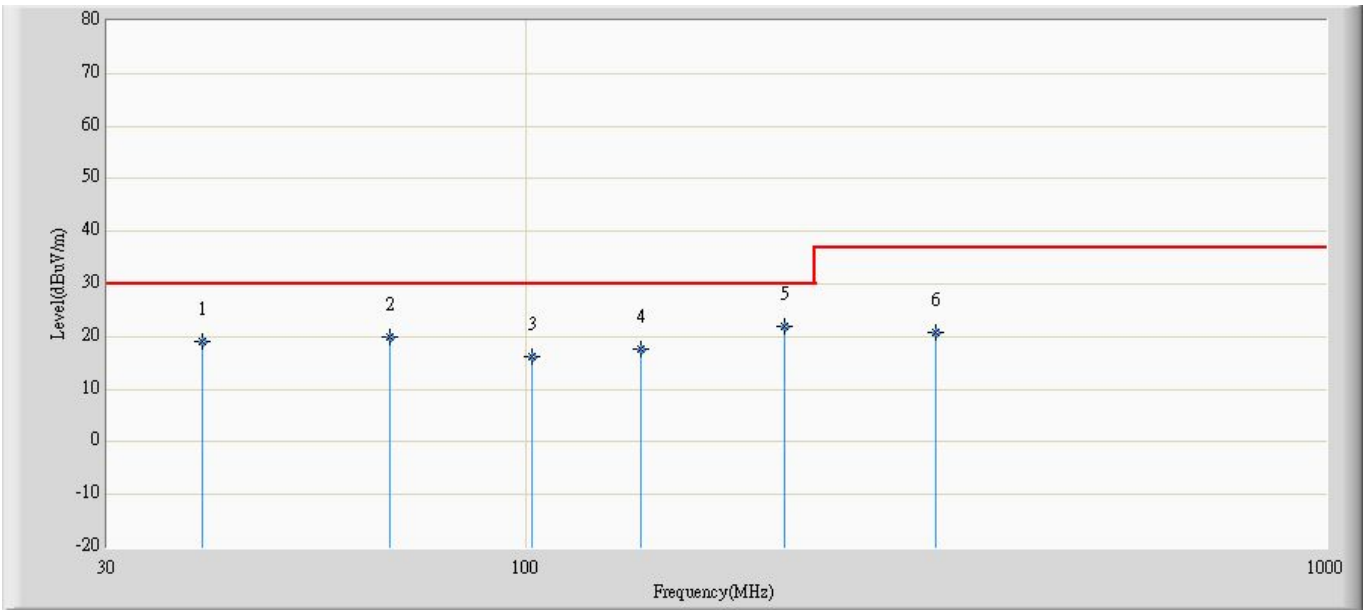


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1			43.013	15.127	36.195	-14.873	30	10.991	1.114	33.172	400	260	QP
2			67.575	13.676	40.656	-16.324	30	5.077	1.28	33.337	200	129	QP
3			88.062	20.932	44.712	-9.068	30	8.313	1.434	33.527	300	158	QP
4			144	18.952	40.114	-11.048	30	10.578	1.825	33.565	400	312	QP
5			202.75	20.448	43.156	-9.552	30	8.631	2.223	33.562	400	265	QP
6		*	417.375	24.647	37.437	-12.353	37	16.547	3.256	32.594	200	33	QP

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Engineer: Sunny	
Site: AC1	Time: 2010/07/26 - 21:29
Limit: EN55022_RE(10m)_ClassB	Margin: 0
Probe: CBL6112B_2933(30-1000MHz)	Polarity: Vertical
EUT: WIRELESS ACCESS POINT	Power: AC 230V/50MHz
Note: Mode 1	

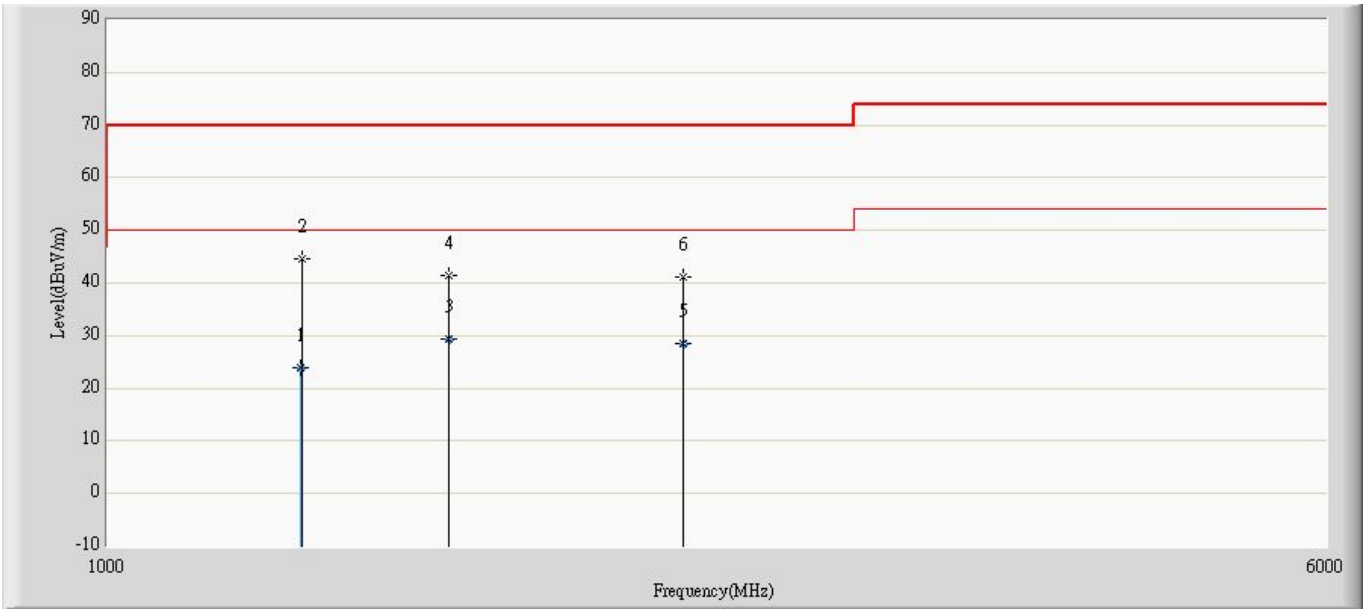


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1			39.487	19.051	38.155	-10.949	30	12.855	1.158	33.117	141	360	QP
2			67.575	19.934	46.76	-10.066	30	5.077	1.365	33.267	202	0	QP
3			101.9	16.202	37.349	-13.798	30	10.612	1.69	33.449	200	221	QP
4			139.225	17.524	37.969	-12.476	30	10.958	2.01	33.412	100	90	QP
5		*	210.963	21.96	44.371	-8.04	30	8.531	2.476	33.418	100	90	QP
6			325	20.87	37.081	-16.13	37	13.724	3.309	33.244	100	297	QP

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Engineer: Sunny	
Site: AC5	Time: 2010/07/21 - 02:39
Limit: EN55022_RE(3m)_ClassB	Margin: 0
Probe: BBHA9120D_499(1-18GHz)	Polarity: Horizontal
EUT: WIRELESS ACCESS POINT	Power: AC 230V/50MHz
Note: Mode 1	

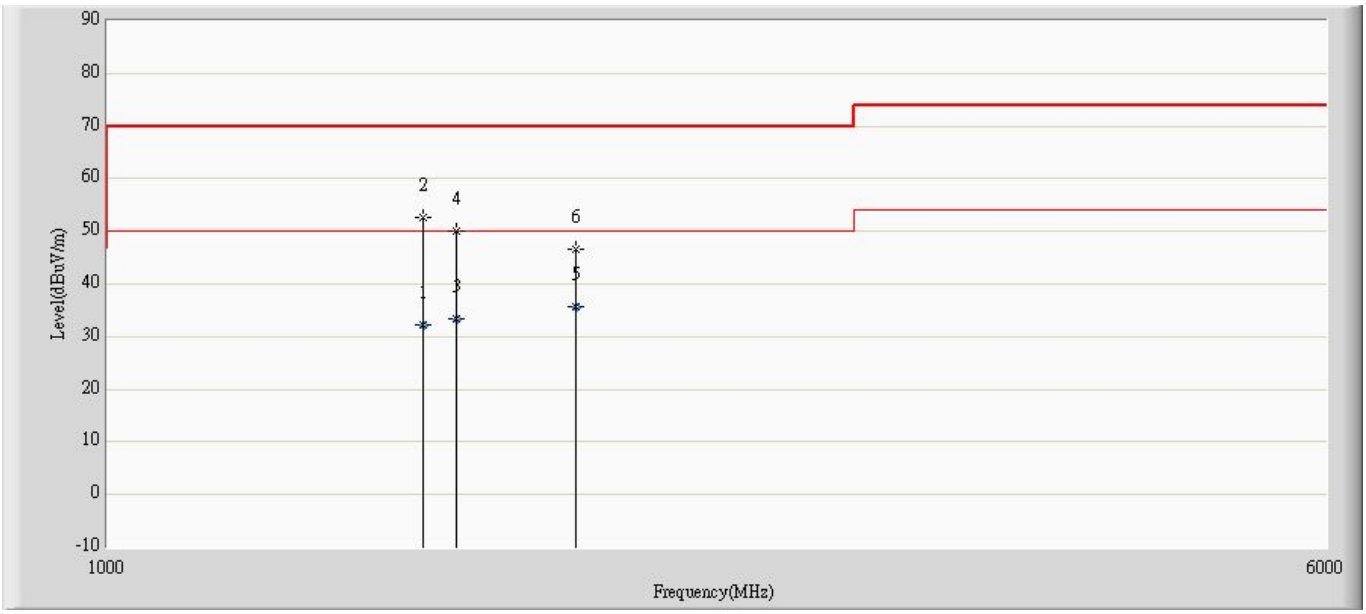


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1			1330.025	23.835	33.1	-26.165	50	25.064	2.317	36.646	132.2	32.2	AV
2		*	1330.661	44.584	53.849	-25.416	70	25.065	2.315	36.645	0	0	PK
3			1650.95	29.301	38.4	-20.699	50	24.771	2.723	36.593	116.2	165.2	AV
4			1651.303	41.495	50.593	-28.505	70	24.771	2.723	36.592	0	0	PK
5			2331.95	28.413	34.2	-21.587	50	27.739	3.231	36.758	106.5	216.5	AV
6			2332.665	41.27	47.056	-28.73	70	27.738	3.231	36.755	0	0	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Engineer: Sunny	
Site: AC5	Time: 2010/07/21 - 02:39
Limit: EN55022_RE(3m)_ClassB	Margin: 0
Probe: BBHA9120D_499(1-18GHz)	Polarity: Vertical
EUT: WIRELESS ACCESS POINT	Power: AC 230V/50MHz
Note: Mode 1	

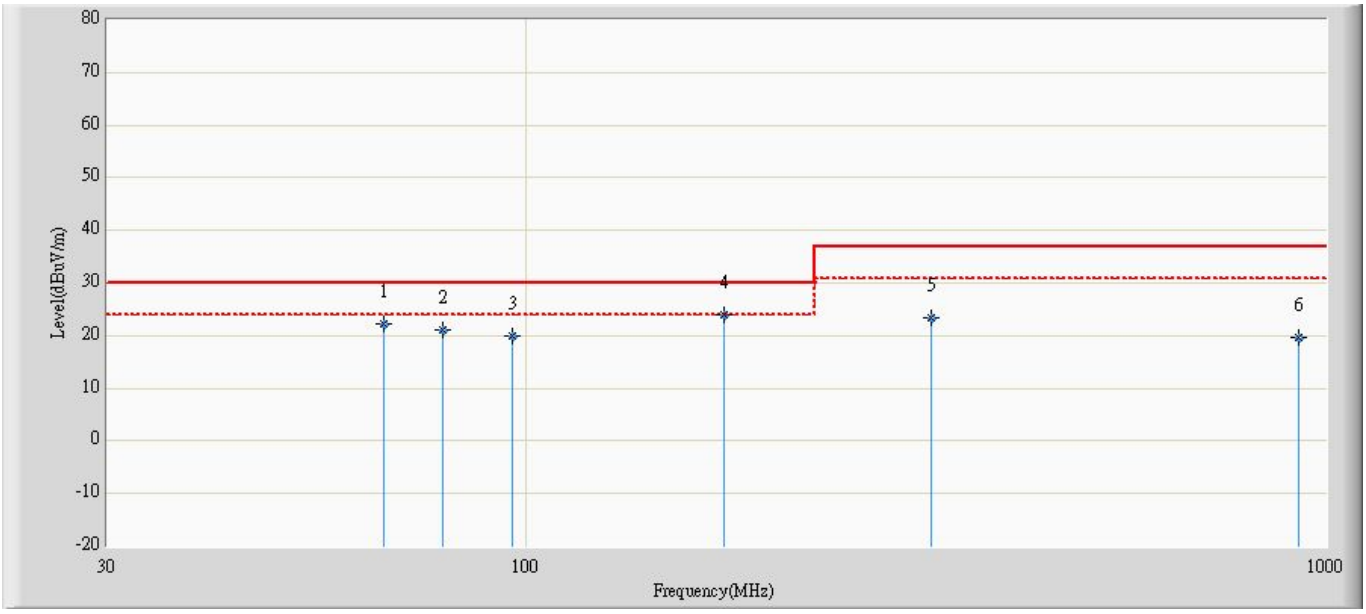


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1			1590.95	32.145	41.2	-17.855	50	24.862	2.625	36.542	100	360	AV
2		*	1591.182	52.714	61.768	-17.286	70	24.862	2.626	36.542	0	0	PK
3			1670.35	33.31	42.4	-16.69	50	24.737	2.742	36.569	142.1	332.1	AV
4			1671.343	50.05	59.139	-19.95	70	24.735	2.743	36.568	0	0	PK
5			1990.85	35.696	43.8	-14.304	50	25.844	2.839	36.787	126.1	216	AV
6			1991.984	46.701	54.801	-23.299	70	25.852	2.833	36.786	0	0	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Engineer: Sunny	
Site: AC1	Time: 2010/07/23 - 03:54
Limit: EN55022_RE(10m)_ClassB	Margin: 6
Probe: CBL6112B_2931(30-1000MHz)	Polarity: Horizontal
EUT: WIRELESS ACCESS POINT	Power: AC 230V/50MHz
Note: Mode 2	

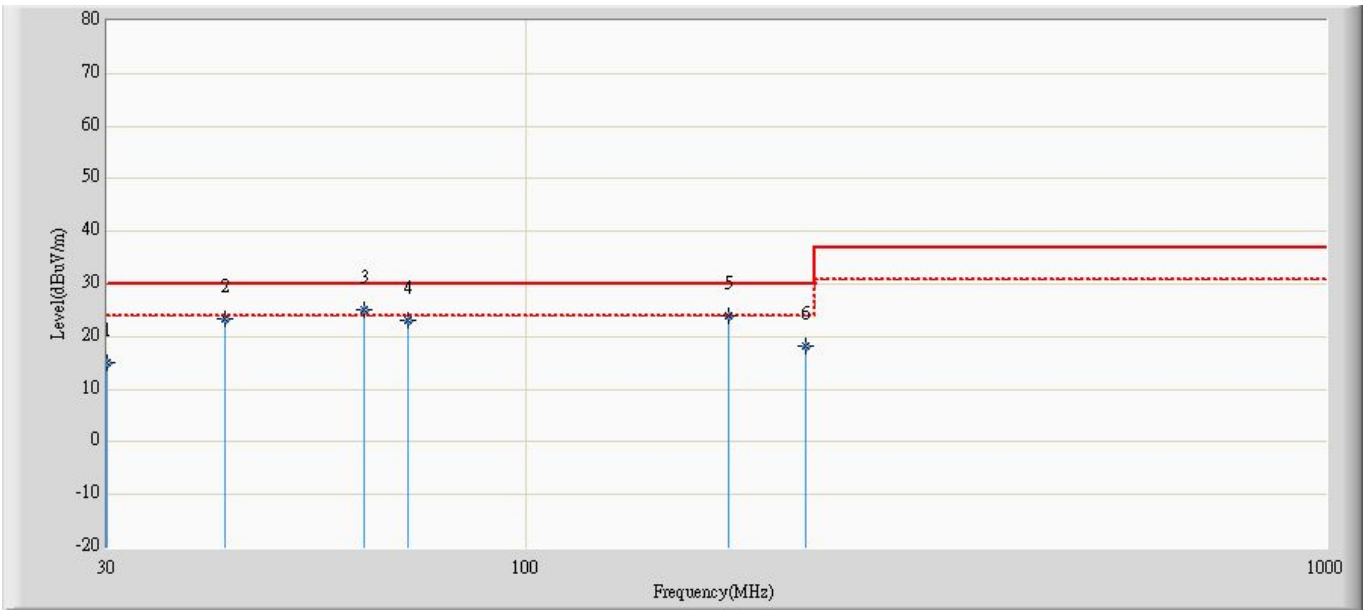


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1			66.569	22.222	49.25	-7.778	30	5.025	1.274	33.327	400	297	QP
2			78.874	21.176	46.821	-8.824	30	6.528	1.334	33.506	200	291	QP
3			96.259	19.997	42.309	-10.003	30	9.752	1.493	33.557	400	297	QP
4		*	177.146	23.828	46.322	-6.172	30	8.502	2.073	33.069	400	41	QP
5			320.601	23.502	40.327	-13.498	37	13.612	2.954	33.39	300	33	QP
6			925.162	19.63	25.267	-17.37	37	20.668	4.896	31.202	303	360	QP

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Engineer: Sunny	
Site: AC1	Time: 2010/07/23 - 03:54
Limit: EN55022_RE(10m)_ClassB	Margin: 6
Probe: CBL6112B_2933(30-1000MHz)	Polarity: Vertical
EUT: WIRELESS ACCESS POINT	Power: AC 230V/50MHz
Note: Mode 2	

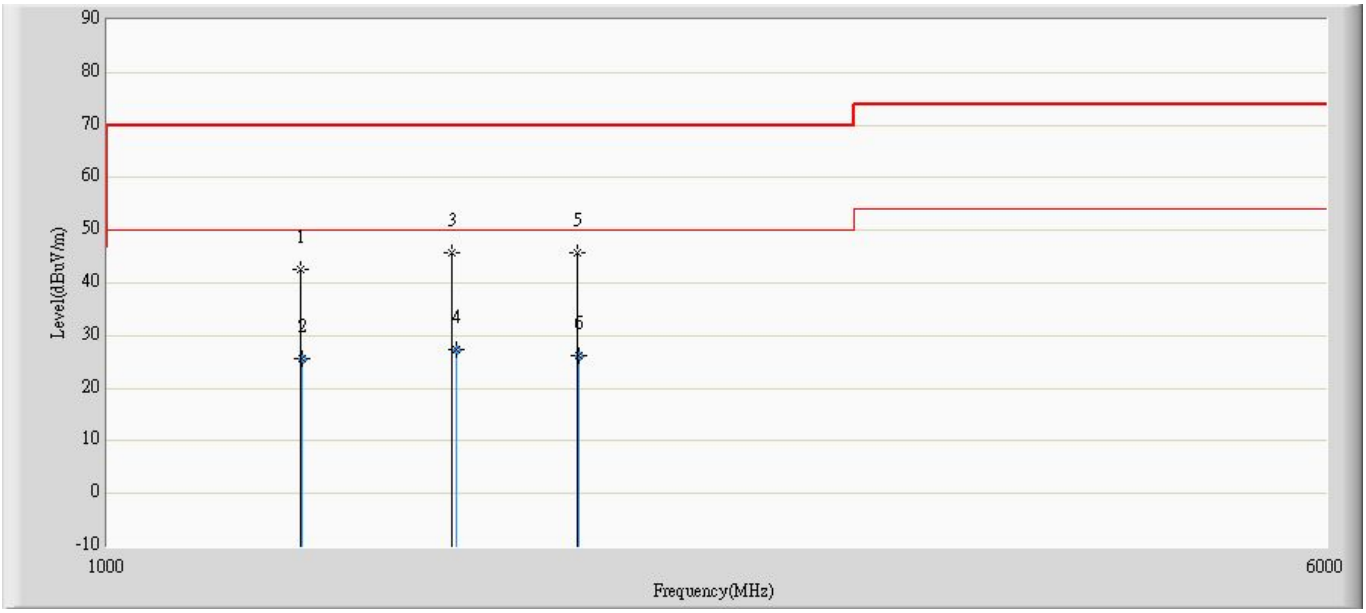


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1			30	15.145	28.845	-14.855	30	18	1.12	32.82	100	341	QP
2			42.15	23.501	44.024	-6.499	30	11.432	1.175	33.13	200	5	QP
3	!	*	62.978	25.152	52.042	-4.848	30	5	1.32	33.21	300	318	QP
4			71.174	23.179	49.737	-6.821	30	5.362	1.424	33.344	200	300	QP
5			179.206	23.942	46.357	-6.058	30	8.264	2.29	32.97	100	41	QP
6			224.282	18.117	39.784	-11.883	30	8.829	2.577	33.073	300	65	QP

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Engineer: Sunny	
Site: AC5	Time: 2010/07/22 - 22:08
Limit: EN55022_RE(3m)_ClassB	Margin: 0
Probe: BBHA9120D_499(1-18GHz)	Polarity: Horizontal
EUT: WIRELESS ACCESS POINT	Power: AC 230V/50MHz
Note: Mode 2	

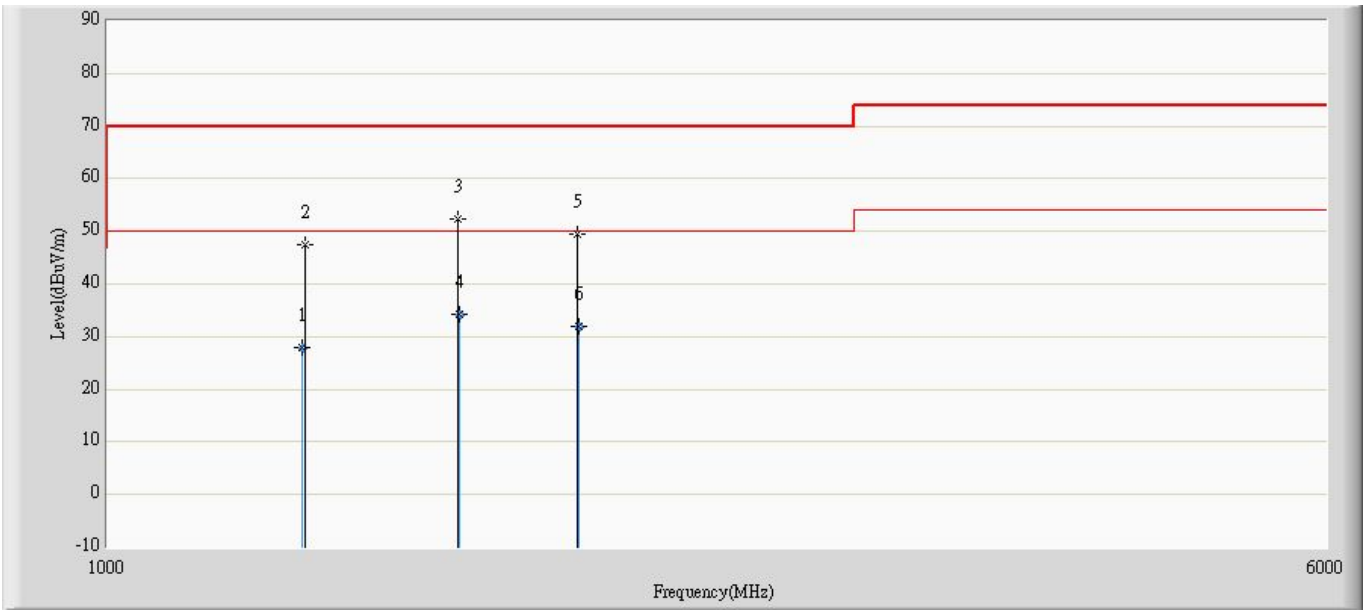


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1			1330	42.482	51.747	-27.518	70	25.064	2.317	36.646	100	0	PK
2			1331.497	25.517	34.782	-24.483	50	25.065	2.314	36.643	100	0	AV
3			1660	45.781	54.878	-24.219	70	24.755	2.732	36.585	100	231	PK
4			1670.067	27.381	36.471	-22.619	50	24.738	2.742	36.57	100	231	AV
5		*	1997.5	45.813	53.894	-24.187	70	25.891	2.807	36.779	100	293	PK
6			2002.795	26.105	34.167	-23.895	50	25.929	2.782	36.773	100	293	AV

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Engineer: Sunny	
Site: AC5	Time: 2010/07/22 - 22:09
Limit: EN55022_RE(3m)_ClassB	Margin: 0
Probe: BBHA9120D_499(1-18GHz)	Polarity: Vertical
EUT: WIRELESS ACCESS POINT	Power: AC 230V/50MHz
Note: Mode 2	

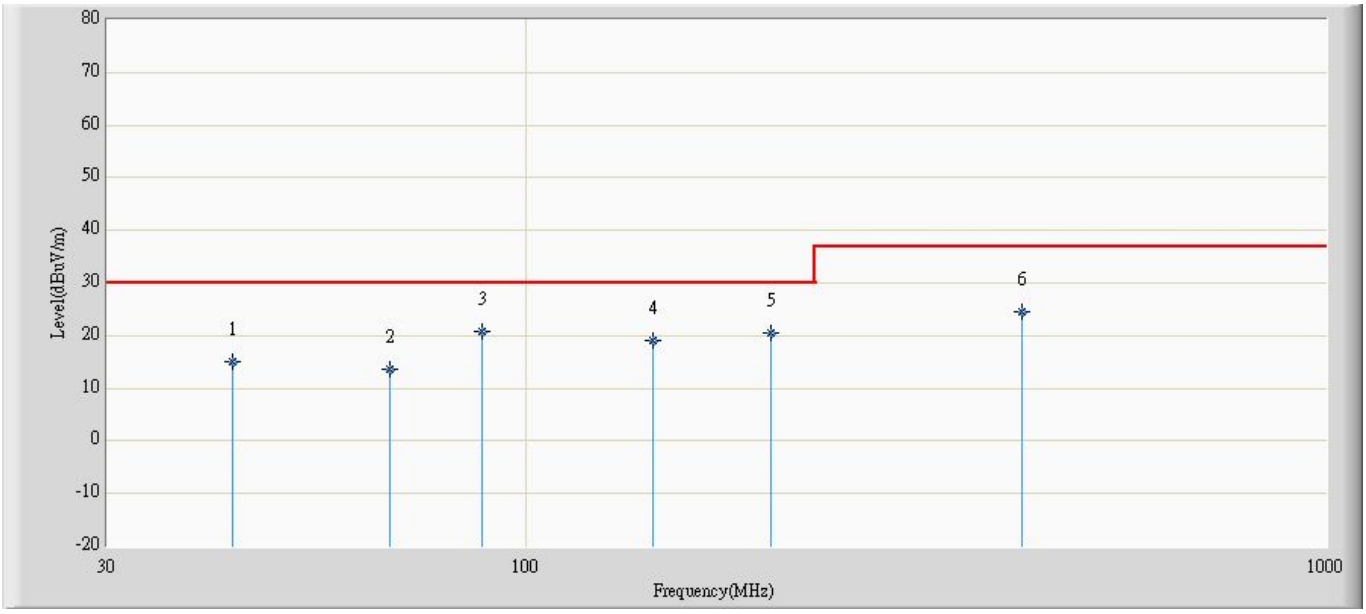


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1			1332.261	27.902	37.167	-22.098	50	25.065	2.312	36.642	100	146	AV
2			1337.5	47.569	56.834	-22.431	70	25.069	2.3	36.633	100	146	PK
3		*	1675	52.334	61.42	-17.666	70	24.729	2.747	36.561	100	288	PK
4			1677.932	34.178	43.261	-15.822	50	24.724	2.75	36.557	100	288	AV
5			1995	49.59	57.68	-20.41	70	25.874	2.819	36.782	100	360	PK
6			2002.743	32.044	40.106	-17.956	50	25.928	2.782	36.773	100	360	AV

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Engineer: Sunny	
Site: AC1	Time: 2010/07/23 - 01:28
Limit: EN55022_RE(10m)_ClassB	Margin: 0
Probe: CBL6112B_2931(30-1000MHz)	Polarity: Horizontal
EUT: WIRELESS ACCESS POINT	Power: AC 230V/50MHz
Note: Mode 3	

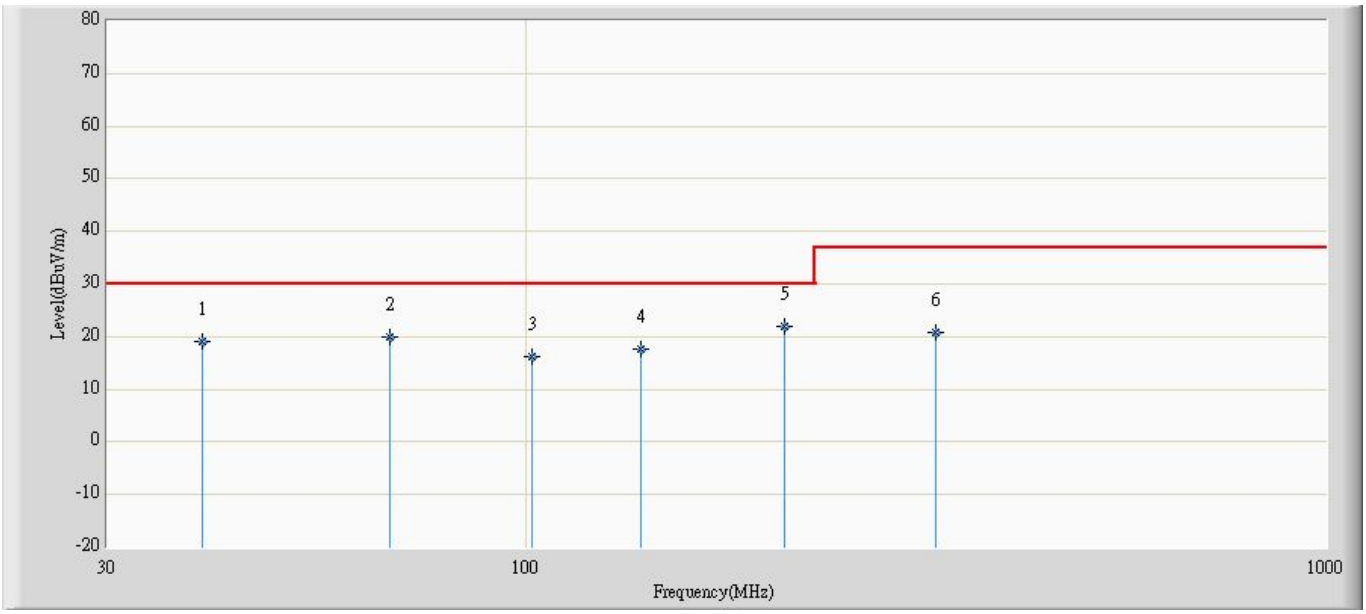


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1			43.013	15.127	36.195	-14.873	30	10.991	1.114	33.172	400	260	QP
2			67.575	13.676	40.656	-16.324	30	5.077	1.28	33.337	200	129	QP
3			88.062	20.932	44.712	-9.068	30	8.313	1.434	33.527	300	158	QP
4			144	18.952	40.114	-11.048	30	10.578	1.825	33.565	400	312	QP
5			202.75	20.448	43.156	-9.552	30	8.631	2.223	33.562	400	265	QP
6		*	417.375	24.647	37.437	-12.353	37	16.547	3.256	32.594	200	33	QP

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Engineer: Sunny	
Site: AC1	Time: 2010/07/23 - 01:29
Limit: EN55022_RE(10m)_ClassB	Margin: 0
Probe: CBL6112B_2933(30-1000MHz)	Polarity: Vertical
EUT: WIRELESS ACCESS POINT	Power: AC 230V/50MHz
Note: Mode 3	

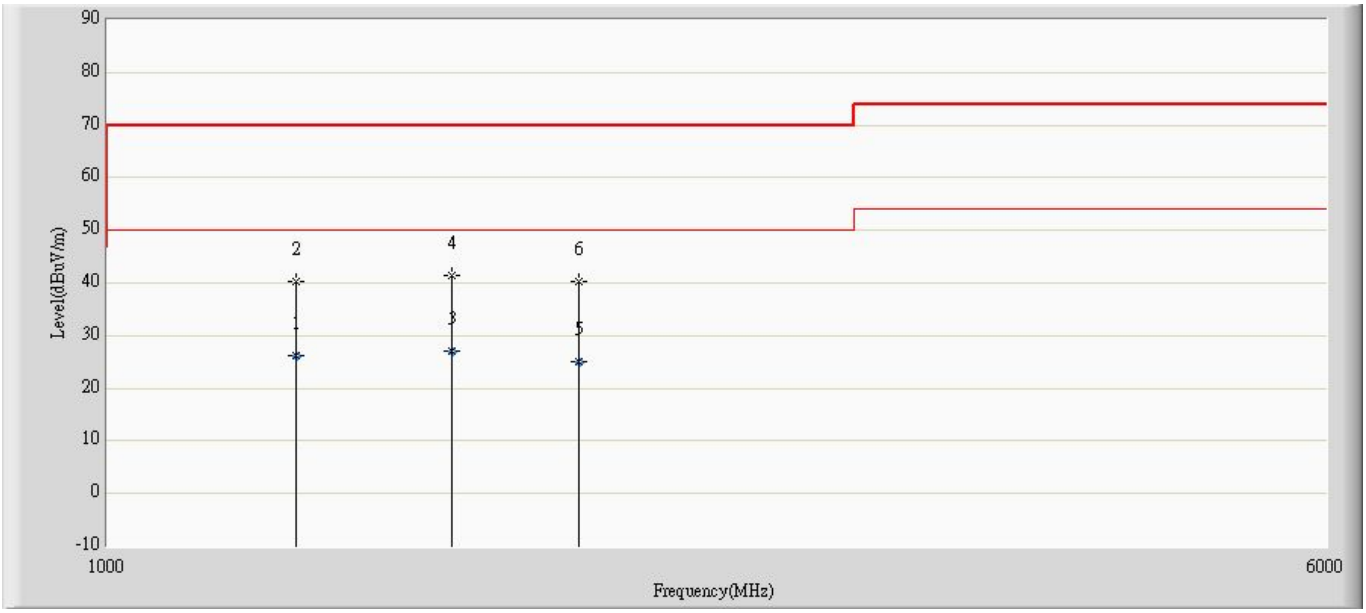


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1			39.487	19.051	38.155	-10.949	30	12.855	1.158	33.117	141	360	QP
2			67.575	19.934	46.76	-10.066	30	5.077	1.365	33.267	202	0	QP
3			101.9	16.202	37.349	-13.798	30	10.612	1.69	33.449	200	221	QP
4			139.225	17.524	37.969	-12.476	30	10.958	2.01	33.412	100	90	QP
5		*	210.963	21.96	44.371	-8.04	30	8.531	2.476	33.418	100	90	QP
6			325	20.87	37.081	-16.13	37	13.724	3.309	33.244	100	297	QP

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Engineer: Sunny	
Site: AC5	Time: 2010/07/23 - 02:41
Limit: EN55022_RE(3m)_ClassB	Margin: 0
Probe: BBHA9120D_499(1-18GHz)	Polarity: Horizontal
EUT: WIRELESS ACCESS POINT	Power: AC 230V/50MHz
Note: Mode 3	

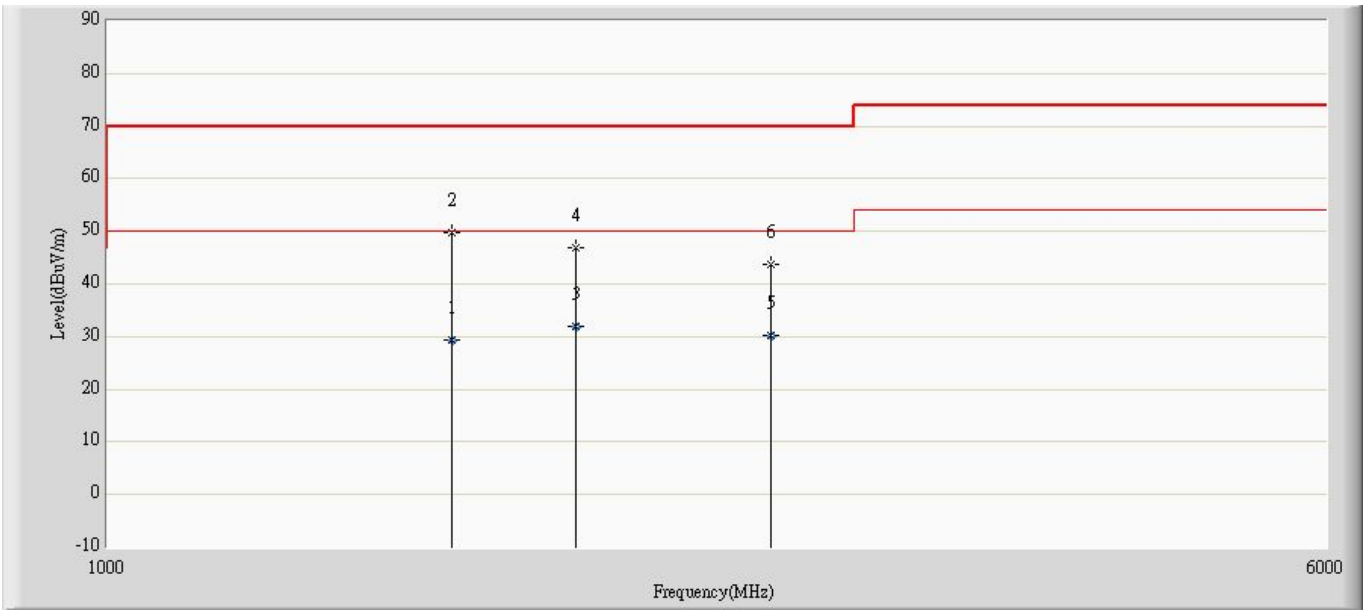


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1			1320.35	26.133	35.4	-23.867	50	25.057	2.339	36.663	100	360	AV
2			1320.641	40.346	49.613	-29.654	70	25.057	2.338	36.662	0	0	PK
3			1660.65	27.003	36.1	-22.997	50	24.754	2.733	36.584	116	321	AV
4		*	1661.323	41.419	50.516	-28.581	70	24.753	2.733	36.583	0	0	PK
5			2001.85	25.035	33.1	-24.965	50	25.922	2.786	36.774	103	216	AV
6			2002.004	40.175	48.24	-29.825	70	25.923	2.786	36.774	0	0	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Engineer: Sunny	
Site: AC5	Time: 2010/07/23 - 02:41
Limit: EN55022_RE(3m)_ClassB	Margin: 0
Probe: BBHA9120D_499(1-18GHz)	Polarity: Vertical
EUT: WIRELESS ACCESS POINT	Power: AC 230V/50MHz
Note: Mode 3	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1			1660.25	29.303	38.4	-20.697	50	24.755	2.732	36.584	114.2	211	AV
2		*	1661.323	49.789	58.886	-20.211	70	24.753	2.733	36.583	0	0	PK
3			1990.35	31.994	40.1	-18.006	50	25.841	2.841	36.788	126	249	AV
4			1991.984	46.776	54.876	-23.224	70	25.852	2.833	36.786	0	0	PK
5			2653.025	30.13	35.4	-19.87	50	27.817	3.538	36.625	164.2	144	AV
6			2653.307	43.683	48.954	-26.317	70	27.818	3.538	36.626	0	0	PK

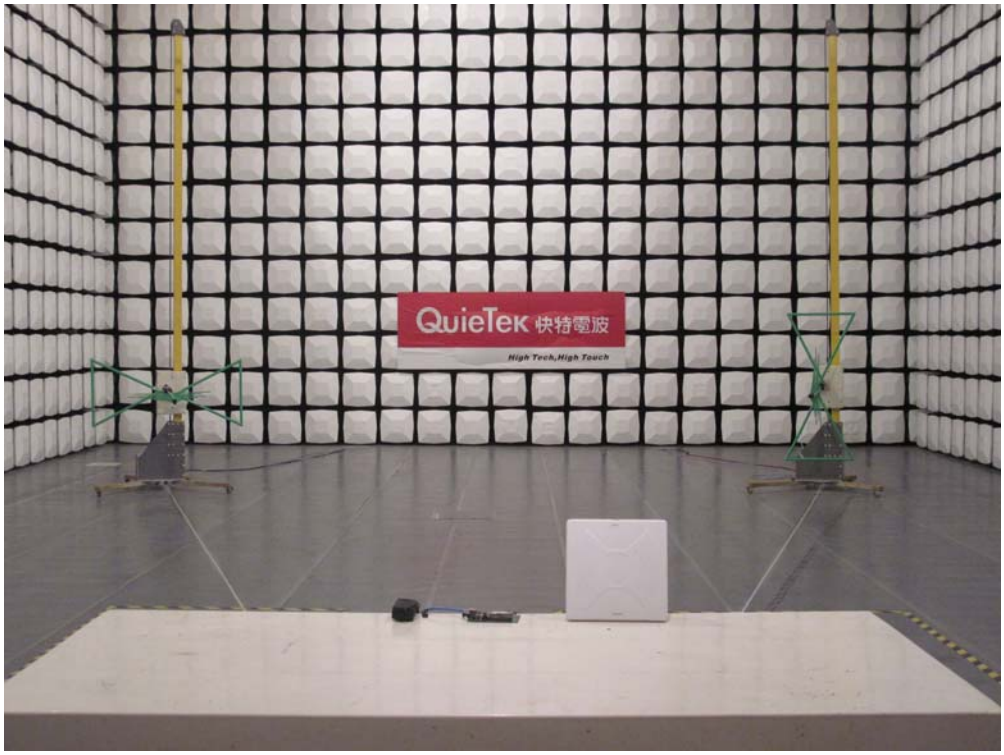
Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

4.7. Test Photograph

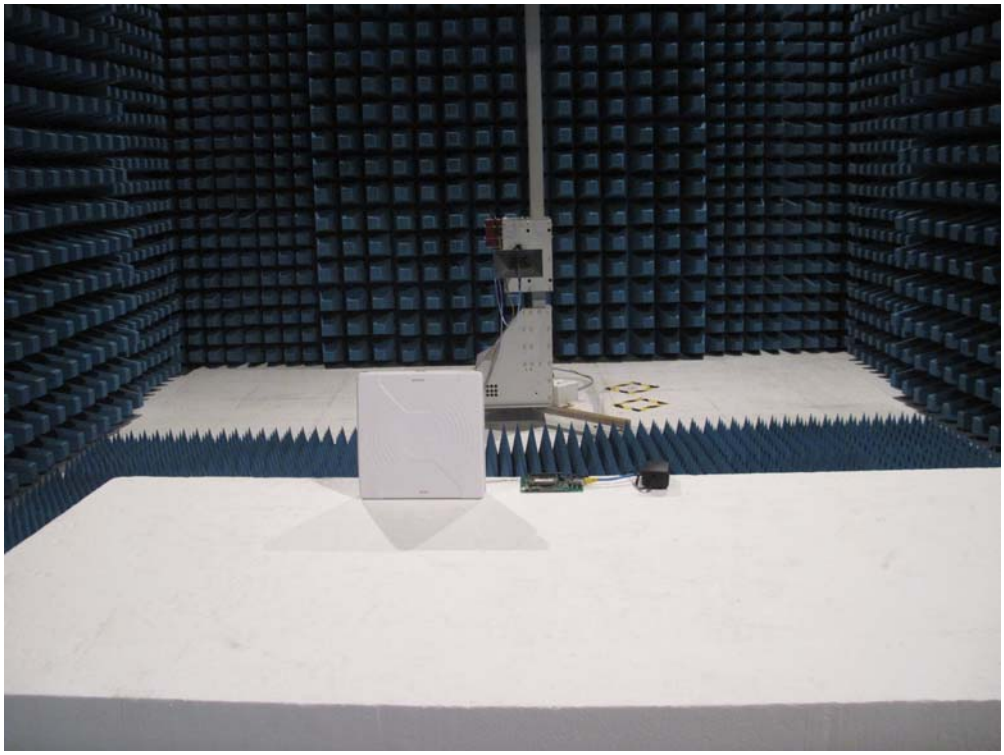
Test Mode: Mode 1

Description: Front View of Radiated disturbance Test Setup (Below 1GHz)



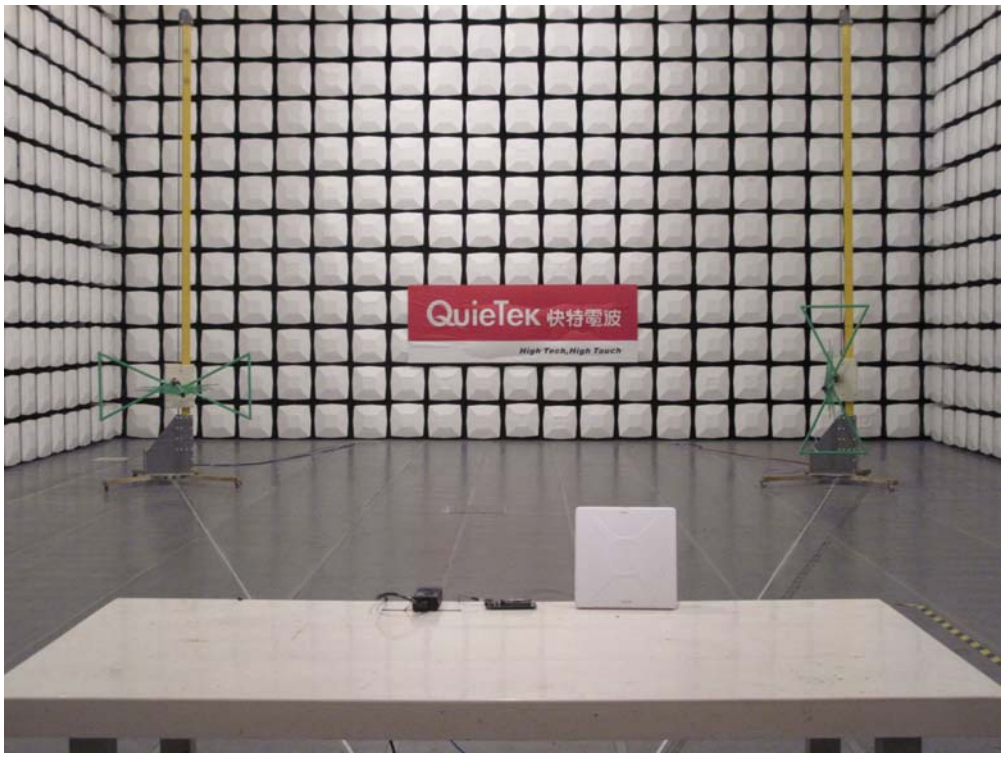
Test Mode: Mode 1

Description: Rear View of Radiated disturbance Test Setup (Below 1GHz)



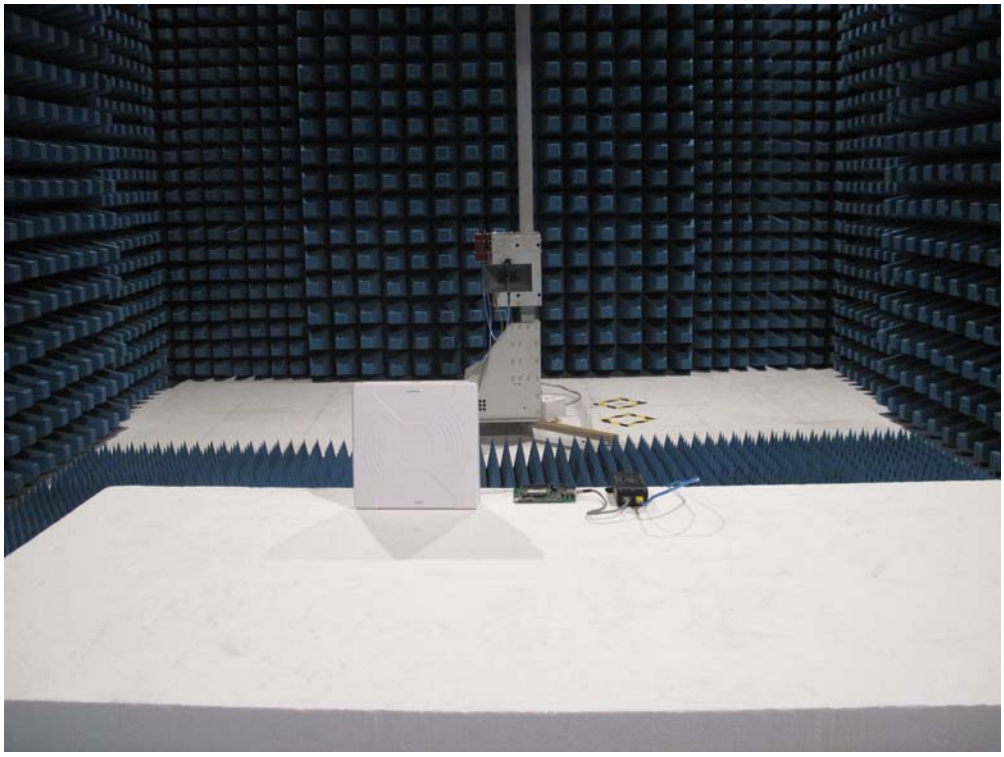
Test Mode: Mode 2

Description: Front View of Radiated disturbance Test Setup (Below 1GHz)



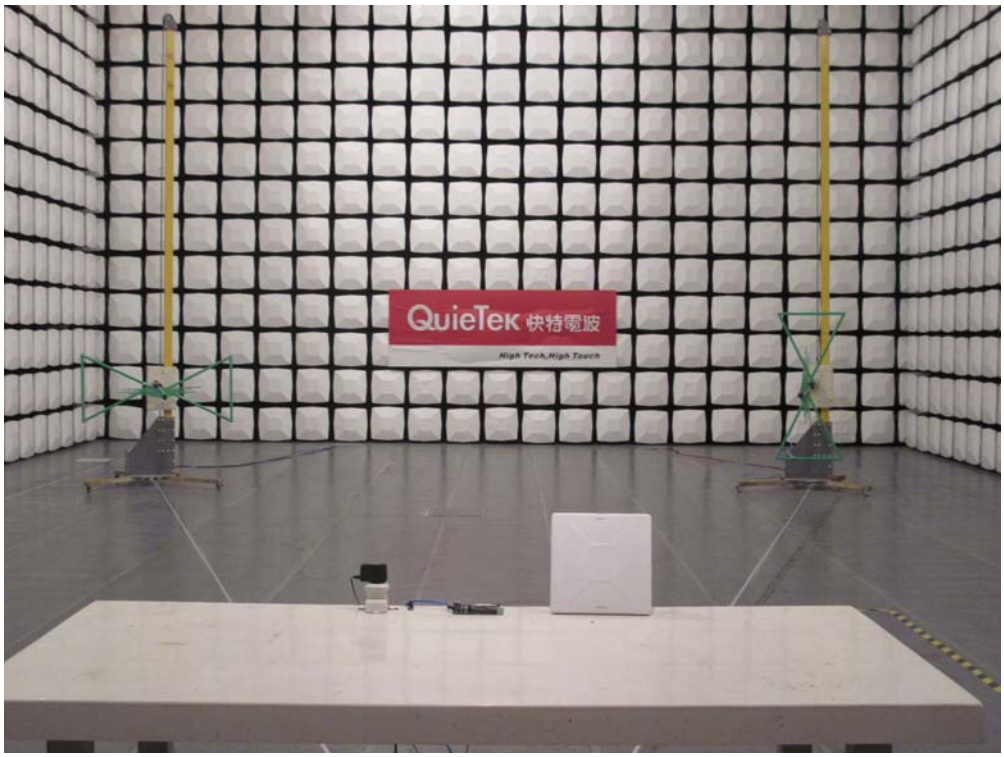
Test Mode: Mode 2

Description: Rear View of Radiated disturbance Test Setup (Below 1GHz)



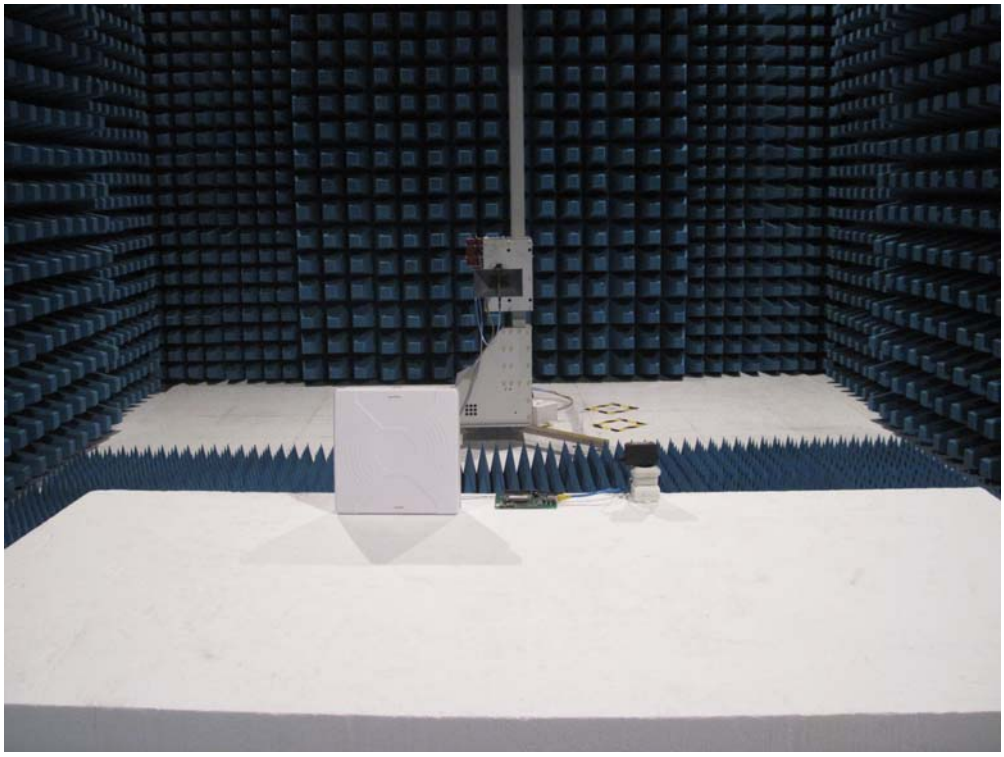
Test Mode: Mode 3

Description: Front View of Radiated disturbance Test Setup (Below 1GHz)



Test Mode: Mode 3

Description: Rear View of Radiated disturbance Test Setup (Below 1GHz)

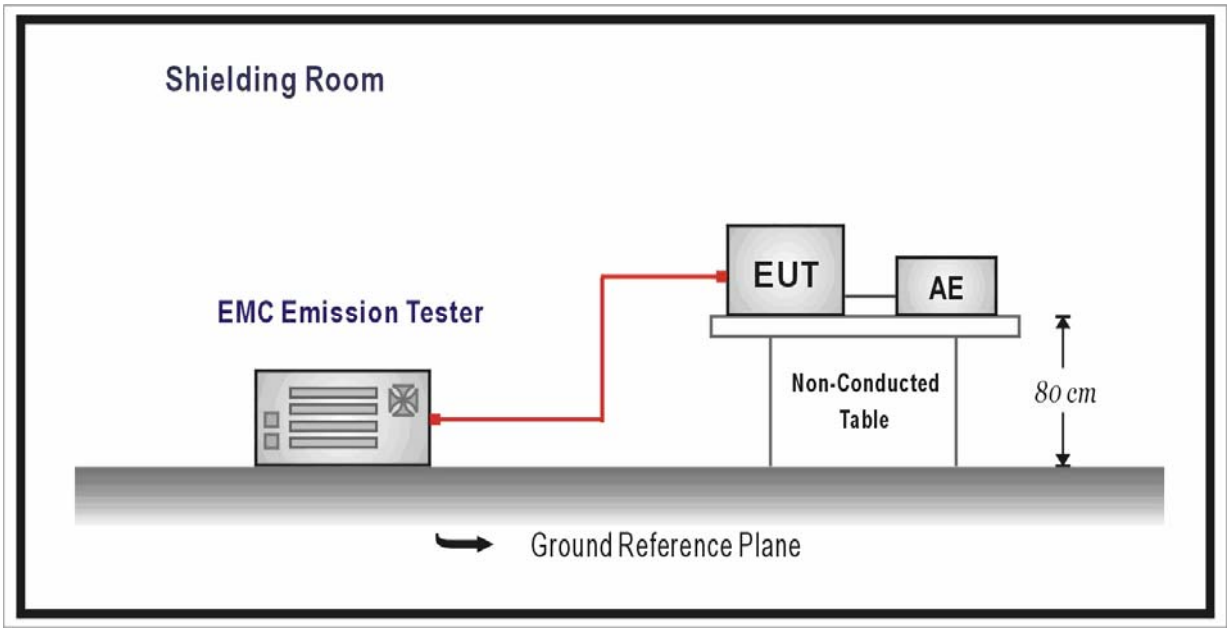


5. Harmonic current emissions

5.1. Test Specification

According to EMC Standard: EN 61000-3-2

5.2. Test Setup



5.3. Limit

(a) Limits of Class A Harmonics Currents

Harmonics Order n	Maximum Permissible harmonic current A	Harmonics Order n	Maximum Permissible harmonic current A
Odd harmonics		Even harmonics	
3	2.30	2	1.08
5	1.14	4	0.43
7	0.77	6	0.30
9	0.40	8 ≤ n ≤ 40	0.23 * 8/n
11	0.33		
13	0.21		
15 ≤ n ≤ 39	0.15 * 15/n		

(b) Limits of Class B Harmonics Currents

For Class B equipment, the harmonic of the input current shall not exceed the maximum permissible values given in table that is the limit of Class A multiplied by a factor of 1.5.

(c) Limits of Class C Harmonics Currents

Harmonics Order n	Maximum Permissible harmonic current Expressed as a percentage of the input current at the fundamental frequency %
2	2
3	30 · λ*
5	10
7	7
9	5
11 ≤ n ≤ 39 (odd harmonics only)	3
∗λ is the circuit power factor	

(d) Limits of Class D Harmonics Currents

Harmonics Order n	Maximum Permissible harmonic current per watt mA/W	Maximum Permissible harmonic current A
3	3.4	2.30
5	1.9	1.14
7	1.0	0.77
9	0.5	0.40
11	0.35	0.33
11 ≤ n ≤ 39 (odd harmonics only)	3.85/n	See limit of Class A

5.4. Test Procedure

The EUT is supplied in series with power analyzer from a power source having the same normal voltage and frequency as the rated supply voltage and the equipment under test. And the rated voltage at the supply voltage of EUT of 0.94 times and 1.06 times shall be performed.

5.5. Deviation from Test Standard

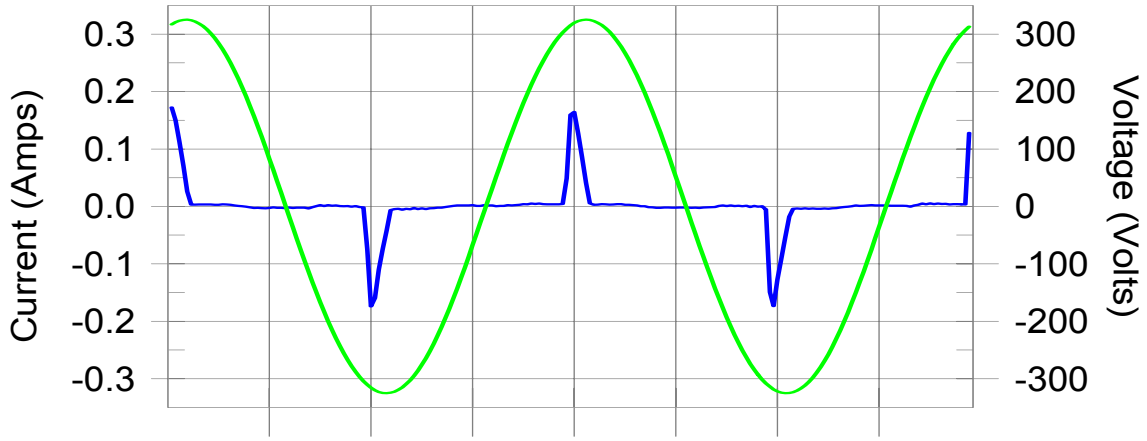
No deviation.

5.6. Test Result

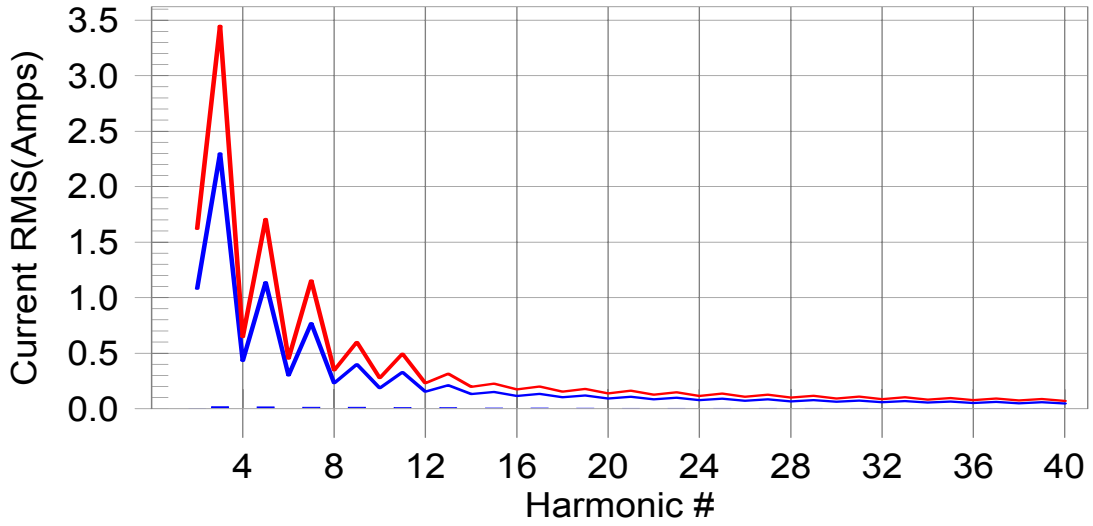
Product	WIRELESS ACCESS POINT		
Test Item	Harmonic Current Emission		
Test Mode	Mode 1		
Date of Test	2010/07/22	Test Site	TR-1

Test Result: Pass **Source qualification: Normal**

Current & voltage waveforms



Harmonics and Class A limit line **European Limits**



Test result: Pass

Test Result: Pass **Source qualification: Normal**
THC(A): 0.03 **I-THD(%): 193.63** **POHC(A): 0.007** **POHC Limit(A): 0.251**
Highest parameter values during test:

V_RMS (Volts):	**230.03**	**Frequency(Hz):**	**50.00**
I_Peak (Amps):	**0.185**	**I_RMS (Amps):**	**0.040**
I_Fund (Amps):	**0.019**	**Crest Factor:**	**12.238**
Power (Watts):	**4.3**	**Power Factor:**	**0.621**

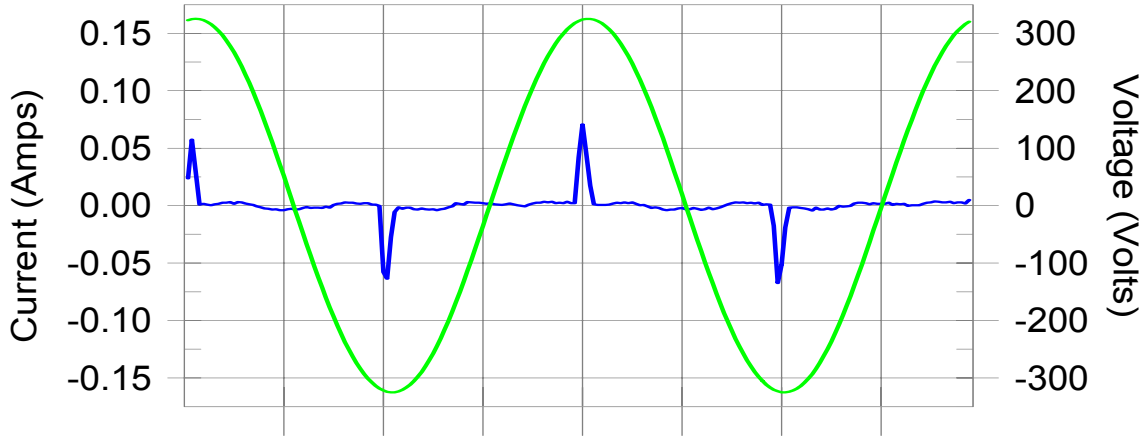
Harm#	Harms(avg)	100%Limit	%of Limit	Harms(max)	150%Limit	%of Limit	Status
2	0.001	1.080	0.1	0.001	1.620	0.07	Pass
3	0.015	2.300	0.6	0.017	3.450	0.50	Pass
4	0.001	0.430	0.1	0.001	0.645	0.11	Pass
5	0.014	1.140	1.2	0.016	1.710	0.92	Pass
6	0.000	0.300	0.1	0.000	0.450	0.06	Pass
7	0.013	0.770	1.6	0.014	1.155	1.24	Pass
8	0.000	0.230	0.1	0.000	0.345	0.07	Pass
9	0.011	0.400	2.8	0.013	0.600	2.10	Pass
10	0.000	0.184	0.1	0.000	0.276	0.11	Pass
11	0.010	0.330	2.9	0.011	0.495	2.18	Pass
12	0.000	0.153	0.1	0.000	0.230	0.09	Pass
13	0.008	0.210	3.8	0.009	0.315	2.84	Pass
14	0.000	0.131	0.0	0.000	0.197	0.07	Pass
15	0.006	0.150	4.3	0.007	0.225	3.20	Pass
16	0.000	0.115	0.1	0.000	0.173	0.09	Pass
17	0.005	0.132	3.8	0.006	0.199	2.82	Pass
18	0.000	0.102	0.1	0.000	0.153	0.09	Pass
19	0.004	0.118	3.3	0.004	0.178	2.44	Pass
20	0.000	0.092	0.1	0.000	0.138	0.07	Pass
21	0.003	0.107	2.9	0.003	0.161	2.15	Pass
22	0.000	0.084	0.1	0.000	0.125	0.09	Pass
23	0.003	0.098	2.8	0.003	0.147	2.05	Pass
24	0.000	0.077	0.1	0.000	0.115	0.10	Pass
25	0.003	0.090	2.8	0.003	0.135	2.08	Pass
26	0.000	0.071	0.1	0.000	0.106	0.08	Pass
27	0.002	0.083	2.9	0.003	0.125	2.16	Pass
28	0.000	0.066	0.1	0.000	0.099	0.08	Pass
29	0.002	0.078	3.0	0.003	0.116	2.20	Pass
30	0.000	0.061	0.1	0.000	0.092	0.07	Pass
31	0.002	0.073	2.9	0.002	0.109	2.14	Pass
32	0.000	0.058	0.1	0.000	0.086	0.07	Pass
33	0.002	0.068	2.7	0.002	0.102	1.99	Pass
34	0.000	0.054	0.1	0.000	0.081	0.06	Pass
35	0.002	0.064	2.4	0.002	0.096	1.76	Pass
36	0.000	0.051	0.1	0.000	0.077	0.06	Pass
37	0.001	0.061	2.1	0.001	0.091	1.51	Pass
38	0.000	0.048	0.1	0.000	0.073	0.06	Pass
39	0.001	0.058	1.8	0.001	0.087	1.30	Pass
40	0.000	0.046	0.1	0.000	0.069	0.07	Pass

1. **Dynamic limits were applied for this test. The highest harmonics values in the above table may not occur at the same window as the maximum harmonics/limit ratio.**
2. **According to EN61000-3-2 paragraph 7 the note 1 and 2 are valid for all applications having an active input power >75W. Others the result should be pass.**

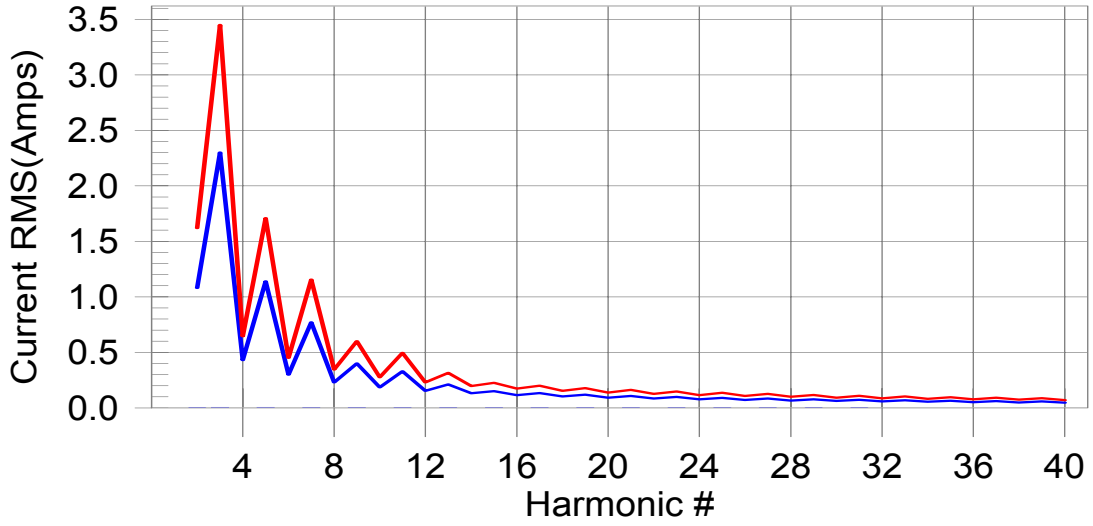
Product	WIRELESS ACCESS POINT		
Test Item	Harmonic Current Emission		
Test Mode	Mode 2		
Date of Test	2010/07/22	Test Site	TR-1

Test Result: Pass **Source qualification: Normal**

Current & voltage waveforms



Harmonics and Class A limit line **European Limits**



Test result: Pass

Test Result: Pass **Source qualification: Normal**
THC(A): 0.01 **I-THD(%): 313.40** **POHC(A): 0.004** **POHC Limit(A): 0.251**
Highest parameter values during test:

V_RMS (Volts):	**230.03**	**Frequency(Hz):**	**50.00**
I_Peak (Amps):	**0.184**	**I_RMS (Amps):**	**0.113**
I_Fund (Amps):	**0.105**	**Crest Factor:**	**9.574**
Power (Watts):	**10.1**	**Power Factor:**	**0.426**

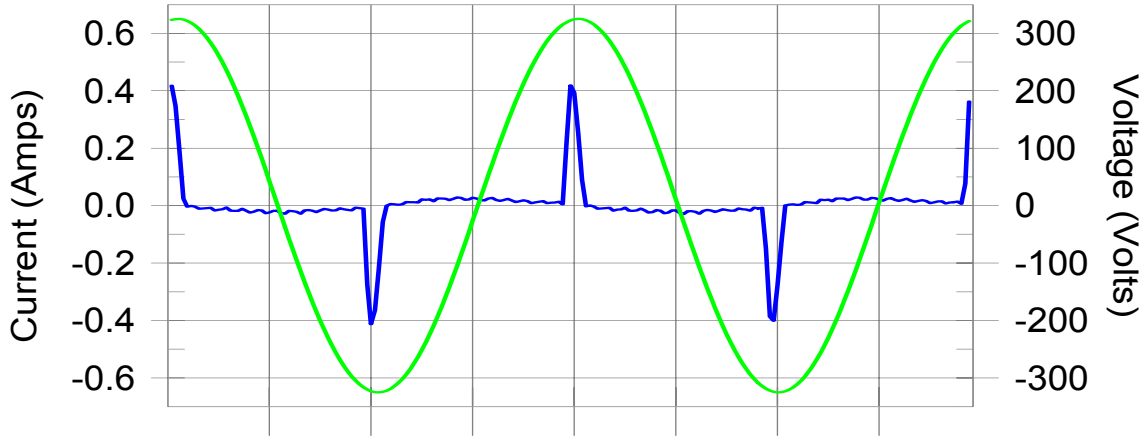
Harm#	Harms(avg)	100%Limit	%of Limit	Harms(max)	150%Limit	%of Limit	Status
2	0.001	1.080	0.1	0.001	1.620	0.08	Pass
3	0.003	2.300	0.1	0.005	3.450	0.14	Pass
4	0.001	0.430	0.2	0.001	0.645	0.14	Pass
5	0.003	1.140	0.3	0.004	1.710	0.25	Pass
6	0.000	0.300	0.1	0.001	0.450	0.12	Pass
7	0.003	0.770	0.4	0.004	1.155	0.34	Pass
8	0.000	0.230	0.2	0.000	0.345	0.13	Pass
9	0.003	0.400	0.8	0.004	0.600	0.61	Pass
10	0.000	0.184	0.2	0.001	0.276	0.19	Pass
11	0.003	0.330	0.9	0.003	0.495	0.70	Pass
12	0.000	0.153	0.2	0.000	0.230	0.20	Pass
13	0.003	0.210	1.3	0.003	0.315	1.04	Pass
14	0.000	0.131	0.2	0.000	0.197	0.20	Pass
15	0.003	0.150	1.7	0.003	0.225	1.35	Pass
16	0.000	0.115	0.3	0.000	0.173	0.23	Pass
17	0.002	0.132	1.8	0.003	0.199	1.40	Pass
18	0.000	0.102	0.3	0.000	0.153	0.25	Pass
19	0.002	0.118	1.8	0.003	0.178	1.43	Pass
20	0.000	0.092	0.3	0.000	0.138	0.25	Pass
21	0.002	0.107	1.8	0.002	0.161	1.42	Pass
22	0.000	0.084	0.3	0.000	0.125	0.27	Pass
23	0.002	0.098	1.8	0.002	0.147	1.40	Pass
24	0.000	0.077	0.3	0.000	0.115	0.29	Pass
25	0.002	0.090	1.7	0.002	0.135	1.34	Pass
26	0.000	0.071	0.3	0.000	0.106	0.30	Pass
27	0.001	0.083	1.6	0.002	0.125	1.27	Pass
28	0.000	0.066	0.4	0.000	0.099	0.31	Pass
29	0.001	0.078	1.6	0.001	0.116	1.17	Pass
30	0.000	0.061	0.4	0.000	0.092	0.33	Pass
31	0.001	0.073	1.5	0.001	0.109	1.07	Pass
32	0.000	0.058	0.4	0.000	0.086	0.35	Pass
33	0.001	0.068	1.4	0.001	0.102	0.99	Pass
34	0.000	0.054	0.4	0.000	0.081	0.35	Pass
35	0.001	0.064	1.3	0.001	0.096	0.90	Pass
36	0.000	0.051	0.4	0.000	0.077	0.36	Pass
37	0.001	0.061	1.2	0.001	0.091	0.84	Pass
38	0.000	0.048	0.4	0.000	0.073	0.37	Pass
39	0.001	0.058	1.1	0.001	0.087	0.77	Pass
40	0.000	0.046	0.4	0.000	0.069	0.32	Pass

1. **Dynamic limits were applied for this test. The highest harmonics values in the above table may not occur at the same window as the maximum harmonics/limit ratio.**
2. **According to EN61000-3-2 paragraph 7 the note 1 and 2 are valid for all applications having an active input power >75W. Others the result should be pass.**

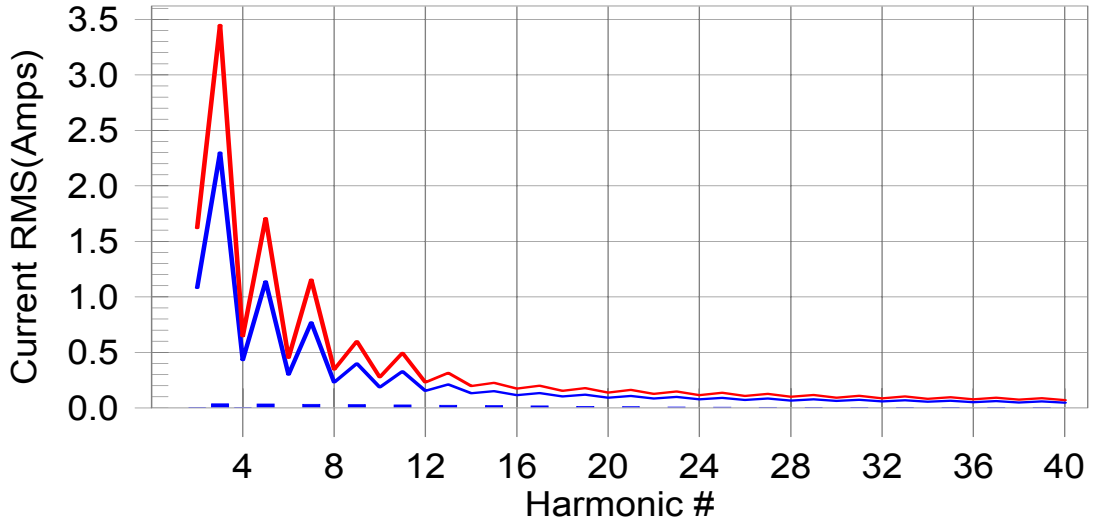
Product	WIRELESS ACCESS POINT		
Test Item	Harmonic Current Emission		
Test Mode	Mode 3		
Date of Test	2010/07/22	Test Site	TR-1

Test Result: Pass **Source qualification: Normal**

Current & voltage waveforms



Harmonics and Class A limit line **European Limits**



Test result: Pass

Test Result: Pass **Source qualification: Normal**
THC(A): 0.08 **I-THD(%): 200.69** **POHC(A): 0.017** **POHC Limit(A): 0.251**
Highest parameter values during test:

V_RMS (Volts):	**229.94**	**Frequency(Hz):**	**50.00**
I_Peak (Amps):	**0.432**	**I_RMS (Amps):**	**0.093**
I_Fund (Amps):	**0.041**	**Crest Factor:**	**4.810**
Power (Watts):	**8.5**	**Power Factor:**	**0.401**

Harm#	Harms(avg)	100%Limit	%of Limit	Harms(max)	150%Limit	%of Limit	Status
2	0.001	1.080	0.1	0.001	1.620	0.09	Pass
3	0.033	2.300	1.4	0.036	3.450	1.05	Pass
4	0.001	0.430	0.2	0.001	0.645	0.17	Pass
5	0.032	1.140	2.8	0.034	1.710	2.01	Pass
6	0.000	0.300	0.2	0.001	0.450	0.13	Pass
7	0.030	0.770	3.9	0.032	1.155	2.79	Pass
8	0.000	0.230	0.2	0.001	0.345	0.16	Pass
9	0.028	0.400	7.0	0.030	0.600	4.95	Pass
10	0.000	0.184	0.2	0.001	0.276	0.21	Pass
11	0.025	0.330	7.7	0.027	0.495	5.45	Pass
12	0.000	0.153	0.2	0.001	0.230	0.22	Pass
13	0.022	0.210	10.7	0.024	0.315	7.56	Pass
14	0.000	0.131	0.2	0.000	0.197	0.19	Pass
15	0.020	0.150	13.0	0.021	0.225	9.14	Pass
16	0.000	0.115	0.3	0.000	0.173	0.23	Pass
17	0.016	0.132	12.5	0.017	0.199	8.65	Pass
18	0.000	0.102	0.3	0.000	0.153	0.24	Pass
19	0.013	0.118	11.4	0.014	0.178	7.84	Pass
20	0.000	0.092	0.3	0.000	0.138	0.22	Pass
21	0.011	0.107	10.0	0.011	0.161	6.76	Pass
22	0.000	0.084	0.3	0.000	0.125	0.22	Pass
23	0.008	0.098	8.3	0.008	0.147	5.61	Pass
24	0.000	0.077	0.3	0.000	0.115	0.26	Pass
25	0.006	0.090	6.5	0.006	0.135	4.45	Pass
26	0.000	0.071	0.3	0.000	0.106	0.24	Pass
27	0.004	0.083	4.9	0.004	0.125	3.39	Pass
28	0.000	0.066	0.4	0.000	0.099	0.28	Pass
29	0.003	0.078	3.8	0.003	0.116	2.67	Pass
30	0.000	0.061	0.3	0.000	0.092	0.28	Pass
31	0.003	0.073	3.5	0.003	0.109	2.63	Pass
32	0.000	0.058	0.4	0.000	0.086	0.30	Pass
33	0.003	0.068	3.9	0.003	0.102	2.98	Pass
34	0.000	0.054	0.3	0.000	0.081	0.30	Pass
35	0.003	0.064	4.5	0.003	0.096	3.34	Pass
36	0.000	0.051	0.3	0.000	0.077	0.28	Pass
37	0.003	0.061	4.9	0.003	0.091	3.53	Pass
38	0.000	0.048	0.3	0.000	0.073	0.28	Pass
39	0.003	0.058	5.0	0.003	0.087	3.48	Pass
40	0.000	0.046	0.3	0.000	0.069	0.25	Pass

1. **Dynamic limits were applied for this test. The highest harmonics values in the above table may not occur at the same window as the maximum harmonics/limit ratio.**
2. **According to EN61000-3-2 paragraph 7 the note 1 and 2 are valid for all applications having an active input power >75W. Others the result should be pass.**

5.7. Test Photograph

Test Mode: Mode 1

Description: Harmonic current emissions Test Setup

Test Mode: Mode 2

Description: Harmonic current emissions Test Setup

Test Mode: Mode 3

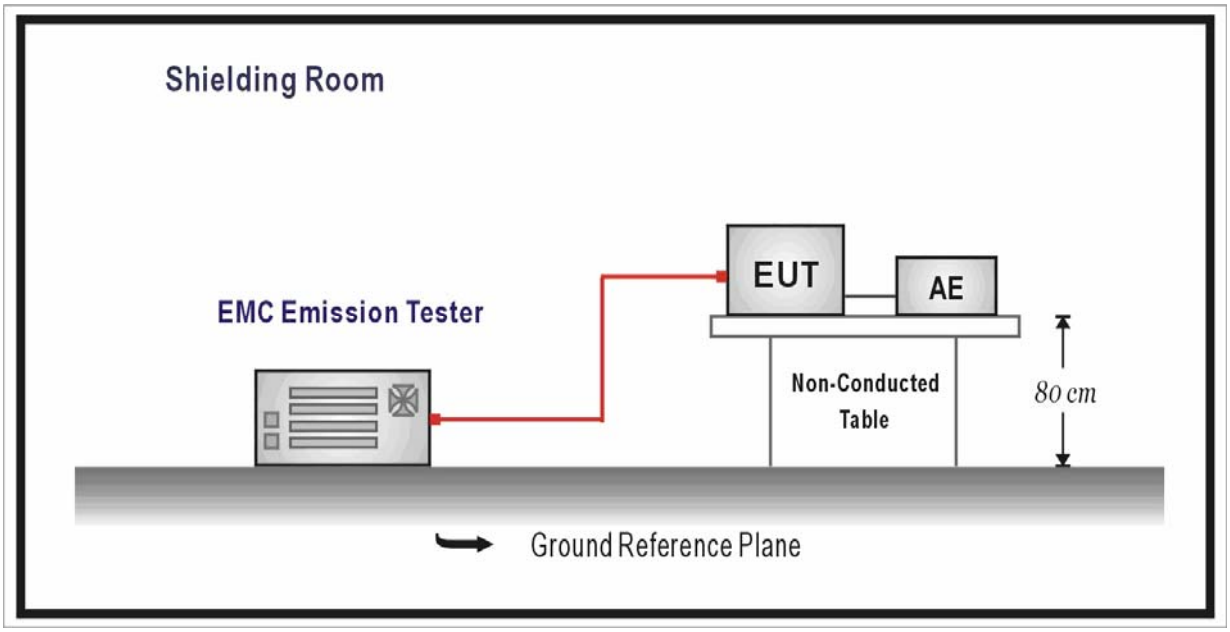
Description: Harmonic current emissions Test Setup

6. Voltage fluctuations and flicker

6.1. Test Specification

According to EMC Standard: EN 61000-3-3

6.2. Test Setup



6.3. Limit

The following limits apply:

- the value of P_{st} shall not be greater than 1.0;
- the value of Plt shall not be greater than 0.65;
- the value of d(t) during a voltage change shall not exceed 3.3% for more than 500ms;
- the relative steady-state voltage change, dc, shall not exceed 3.3%;
- the maximum relative voltage change, dmax, shall not exceed;

a) 4% without additional conditions;

b) 6% for equipment which is:

- switched manually, or
- switched automatically more frequently than twice per day, and also has either a delayed restart (the delay being not less than a few tens of seconds), or manual restart, after a power supply interruption.

NOTE: The cycling frequency will be further limited by the Pst and P1t limit.

For example: a dmax of 6% producing a rectangular voltage change characteristic twice per hour will give a P1t of about 0.65.

c) 7% for equipment which is:

- attended whilst in use (for example: hair dryers, vacuum cleaners, kitchen equipment such as mixers, garden equipment such as lawn mowers, portable tools such as electric drills), or
- switched on automatically, or is intended to be switched on manually, no more than twice per day, and also has either a delayed restart (the delay being not less than a few tens of seconds) or manual restart, after a power supply interruption.

P_{st} and P_{1t} requirements shall not be applied to voltage changes caused by manual switching.

6.4. Test Procedure

The EUT is supplied in series with power analyzer from a power source having the same normal voltage and frequency as the rated supply voltage and the equipment under test. And the rated voltage at the supply voltage of EUT of 0.94 times and 1.06 times shall be performed.

6.5. Deviation from Test Standard

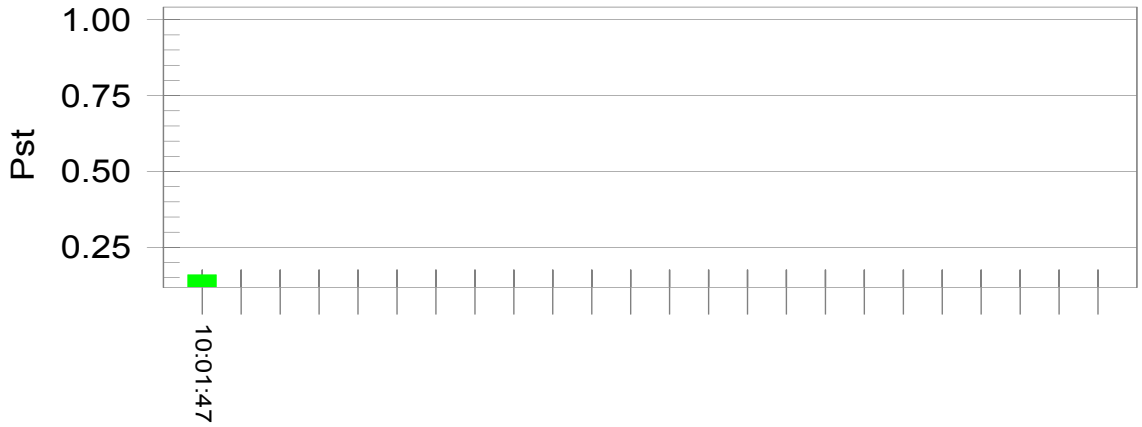
No deviation.

6.6. Test Result

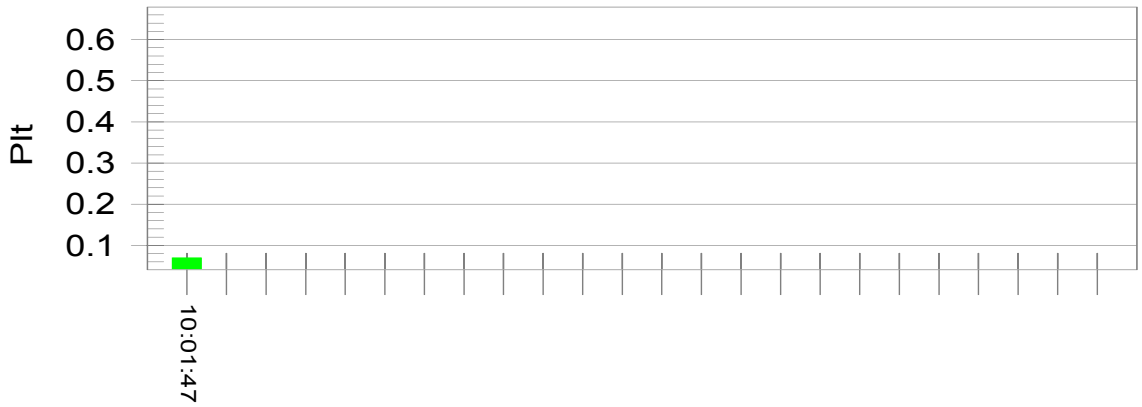
Product	WIRELESS ACCESS POINT		
Test Item	Voltage Fluctuations and Flicker		
Test Mode	Mode 1		
Date of Test	2010/07/22	Test Site	TR-1

Test Result: Pass **Status: Test Completed**

Pst_i and limit line **European Limits**



Plt and limit line



Parameter values recorded during the test:

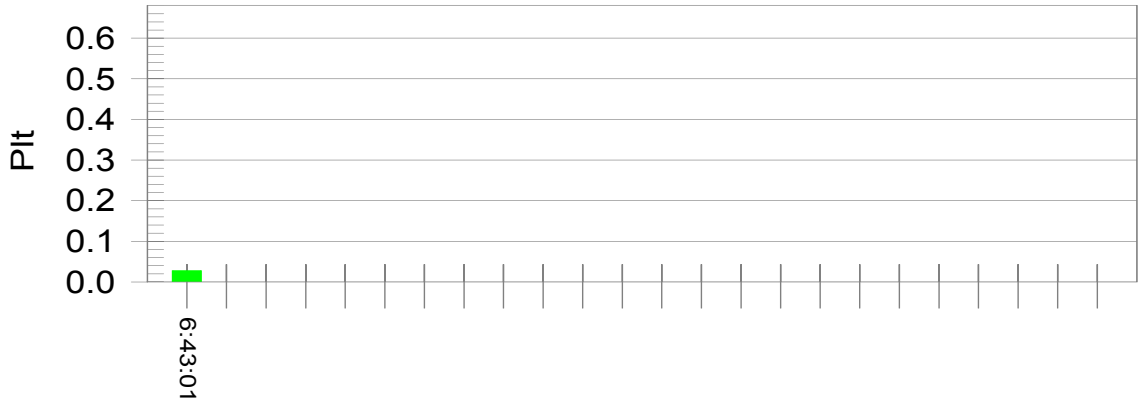
Vrms at the end of test (Volt):	**229.95**			
Highest dt (%):	**0.00**	**Test limit (%):**	**3.30**	**Pass**
Time(mS) > dt:	**0.0**	**Test limit (mS):**	**500.0**	**Pass**
Highest dc (%):	**0.00**	**Test limit (%):**	**3.30**	**Pass**
Highest dmax (%):	**0.00**	**Test limit (%):**	**4.00**	**Pass**
Highest Pst (10 min. period):	**0.160**	**Test limit:**	**1.000**	**Pass**
Highest Plt (2 hr. period):	**0.070**	**Test limit:**	**0.650**	**Pass**

Product	WIRELESS ACCESS POINT		
Test Item	Voltage Fluctuations and Flicker		
Test Mode	Mode 2		
Date of Test	2010/07/22	Test Site	TR-1

Test Result: Pass **Status: Test Completed**

Pst_i and limit line **European Limits**

Plt and limit line



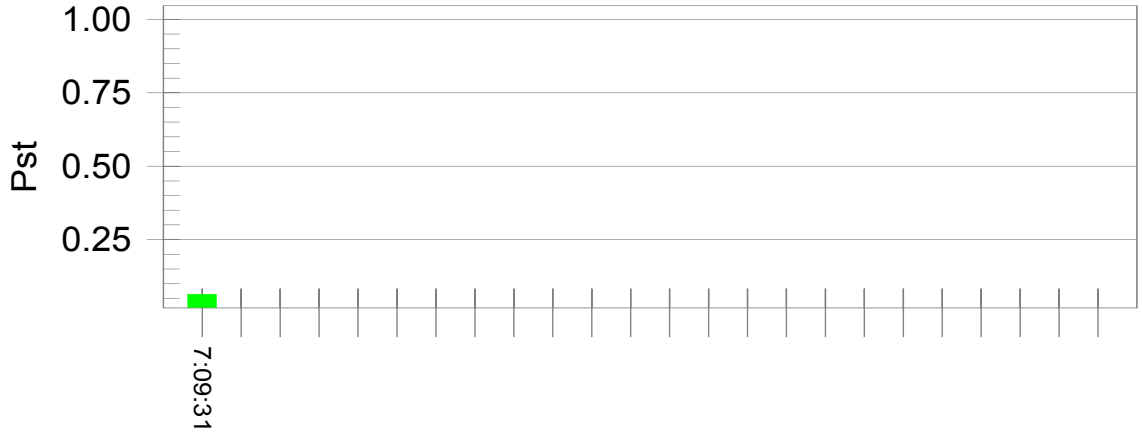
Parameter values recorded during the test:

Vrms at the end of test (Volt):	**229.82**			
Highest dt (%):	**0.00**	**Test limit (%):**	**3.30**	**Pass**
Time(mS) > dt:	**0.0**	**Test limit (mS):**	**0.0**	**Pass**
Highest dc (%):	**0.00**	**Test limit (%):**	**3.30**	**Pass**
Highest dmax (%):	**0.00**	**Test limit (%):**	**4.00**	**Pass**
Highest Pst (10 min. period):	**0.064**	**Test limit:**	**1.000**	**Pass**
Highest Plt (2 hr. period):	**0.028**	**Test limit:**	**0.650**	**Pass**

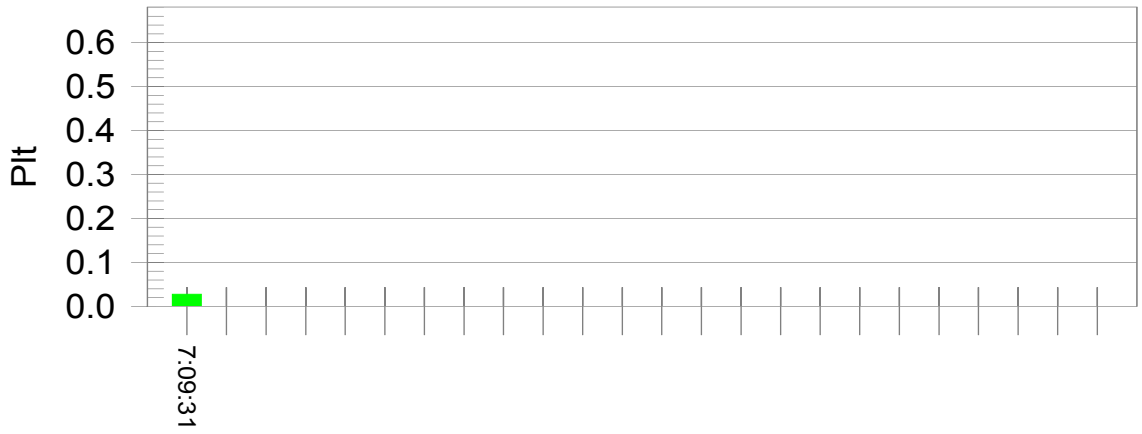
Product	WIRELESS ACCESS POINT		
Test Item	Voltage Fluctuations and Flicker		
Test Mode	Mode 3		
Date of Test	2010/07/22	Test Site	TR-1

Test Result: Pass **Status: Test Completed**

Pst_j and limit line **European Limits**



Plt and limit line



Parameter values recorded during the test:

Vrms at the end of test (Volt):	**229.88**			
Highest dt (%):	**0.00**	**Test limit (%):**	**3.30**	**Pass**
Time(mS) > dt:	**0.0**	**Test limit (mS):**	**0.0**	**Pass**
Highest dc (%):	**0.00**	**Test limit (%):**	**3.30**	**Pass**
Highest dmax (%):	**0.00**	**Test limit (%):**	**4.00**	**Pass**
Highest Pst (10 min. period):	**0.064**	**Test limit:**	**1.000**	**Pass**
Highest Plt (2 hr. period):	**0.028**	**Test limit:**	**0.650**	**Pass**

6.7. Test Photograph

Test Mode: Mode 1

Description: Voltage fluctuations and flicker Test Setup

Test Mode: Mode 2

Description: Voltage fluctuations and flicker Test Setup

Test Mode: Mode 3

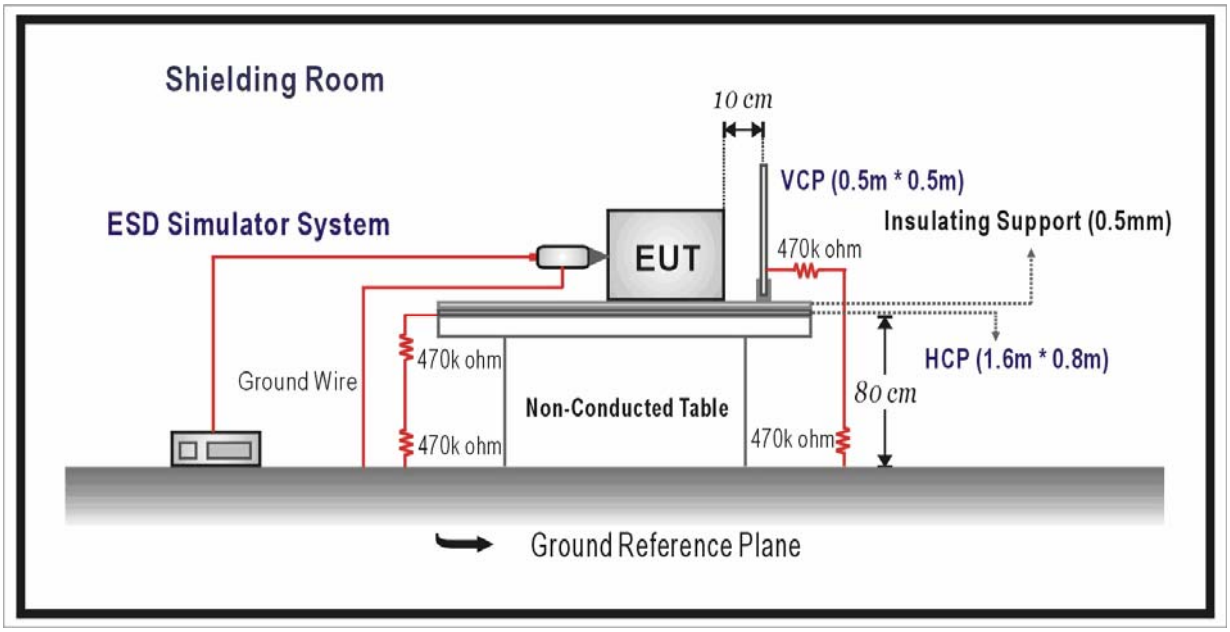
Description: Voltage fluctuations and flicker Test Setup

7. Electrostatic discharge

7.1. Test Specification

According to EMC Standard: IEC 61000-4-2

7.2. Test Setup



7.3. Limit

Environmental phenomenon	Test specification	Units	Performance criterion
Enclosure port			
Electrostatic discharge	±4 (Contact discharge) ±8 (Air discharge)	kV (Charge voltage) kV (Charge voltage)	B

7.4. Test Procedure

Direct application of discharges to the EUT:

Contact discharge was applied only to conductive surfaces of the EUT.

Air discharges were applied only to non-conductive surfaces of the EUT.

During the test, it was performed with single discharges. For the single discharge time between successive single discharges will be keep longer 1 second. It was at least ten single discharges with positive and negative at the same selected point.

The selected point, which was performed with electrostatic discharge, was marked on the red label of the EUT.

Indirect application of discharges to the EUT:

Vertical Coupling Plane (VCP):

The coupling plane, of dimensions 0.5m x 0.5m, is placed parallel to, and positioned at a distance 0.1m from the EUT, with the Discharge Electrode touching the coupling plane.

The four faces of the EUT will be performed with electrostatic discharge. It was at least ten single discharges with positive and negative at the same selected point.

Horizontal Coupling Plane (HCP):

The coupling plane is placed under to the EUT. The generator shall be positioned vertically at a distance of 0.1m from the EUT, with the Discharge Electrode touching the coupling plane.

The four faces of the EUT will be performed with electrostatic discharge. It was at least ten single discharges with positive and negative at the same selected point.

7.5. Deviation from Test Standard

No deviation.

7.6. Test Result

Test Mode	Mode 1		
Test Site	TR-3	Date of Test	2010/07/17
Temperature	22°C	Humidity	43%RH
Barometric Pressure	101kPa	Test Engineer	Sunny

Air Discharge			
Test Location	Test Level	Observation	Result
No applicable discharge point	± 2, ± 4, ± 8	Note 1	Pass

Contact Discharge			
Test Location	Test Level	Observation	Result
No applicable discharge point	± 2, ± 4	Note 1	Pass

Horizontal Coupling			
Test Location	Test Level	Observation	Result
Front	± 2, ± 4	Note 1	Pass
Rear	± 2, ± 4	Note 1	Pass
Left	± 2, ± 4	Note 1	Pass
Right	± 2, ± 4	Note 1	Pass

Vertical Coupling			
Test Location	Test Level	Observation	Result
Front	± 2, ± 4	Note 1	Pass
Rear	± 2, ± 4	Note 1	Pass
Left	± 2, ± 4	Note 1	Pass
Right	± 2, ± 4	Note 1	Pass

Note: There is no any degradation of performance and function.

Test Mode	Mode 2		
Test Site	TR-3	Date of Test	2010/07/17
Temperature	22°C	Humidity	43%RH
Barometric Pressure	101kPa	Test Engineer	Sunny

Air Discharge			
Test Location	Test Level	Observation	Result
No applicable discharge point	± 2, ± 4, ± 8	Note 1	Pass

Contact Discharge			
Test Location	Test Level	Observation	Result
No applicable discharge point	± 2, ± 4	Note 1	Pass

Horizontal Coupling			
Test Location	Test Level	Observation	Result
Front	± 2, ± 4	Note 1	Pass
Rear	± 2, ± 4	Note 1	Pass
Left	± 2, ± 4	Note 1	Pass
Right	± 2, ± 4	Note 1	Pass

Vertical Coupling			
Test Location	Test Level	Observation	Result
Front	± 2, ± 4	Note 1	Pass
Rear	± 2, ± 4	Note 1	Pass
Left	± 2, ± 4	Note 1	Pass
Right	± 2, ± 4	Note 1	Pass

Note: There is no any degradation of performance and function.

Test Mode	Mode 3		
Test Site	TR-3	Date of Test	2010/07/17
Temperature	22°C	Humidity	43%RH
Barometric Pressure	101kPa	Test Engineer	Sunny

Air Discharge			
Test Location	Test Level	Observation	Result
No applicable discharge point	± 2, ± 4, ± 8	Note 1	Pass

Contact Discharge			
Test Location	Test Level	Observation	Result
No applicable discharge point	± 2, ± 4	Note 1	Pass

Horizontal Coupling			
Test Location	Test Level	Observation	Result
Front	± 2, ± 4	Note 1	Pass
Rear	± 2, ± 4	Note 1	Pass
Left	± 2, ± 4	Note 1	Pass
Right	± 2, ± 4	Note 1	Pass

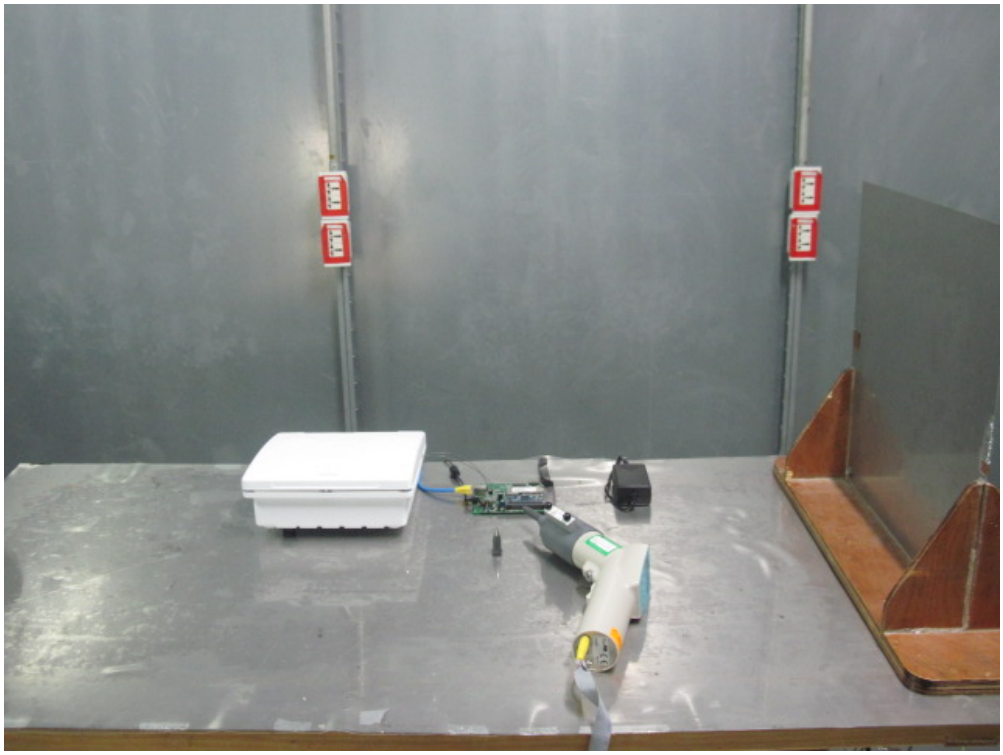
Vertical Coupling			
Test Location	Test Level	Observation	Result
Front	± 2, ± 4	Note 1	Pass
Rear	± 2, ± 4	Note 1	Pass
Left	± 2, ± 4	Note 1	Pass
Right	± 2, ± 4	Note 1	Pass

NOTE: There was no change compared with initial operation during the test.

7.7. Test Photograph

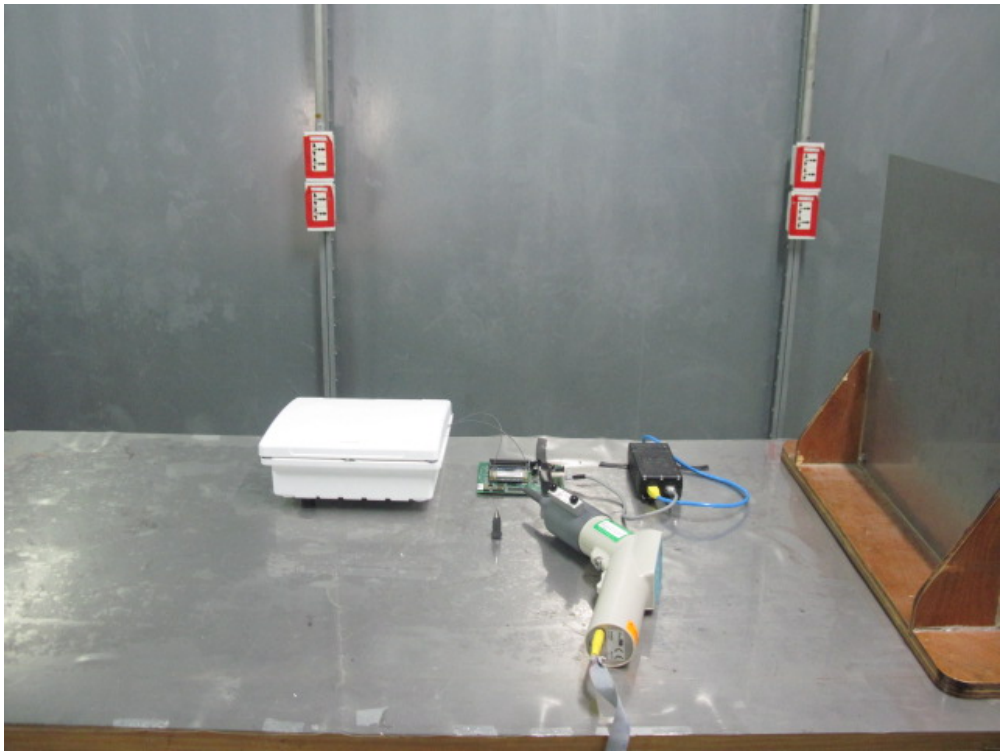
Test Mode: Mode 1

Description: Electrostatic discharge Test Setup



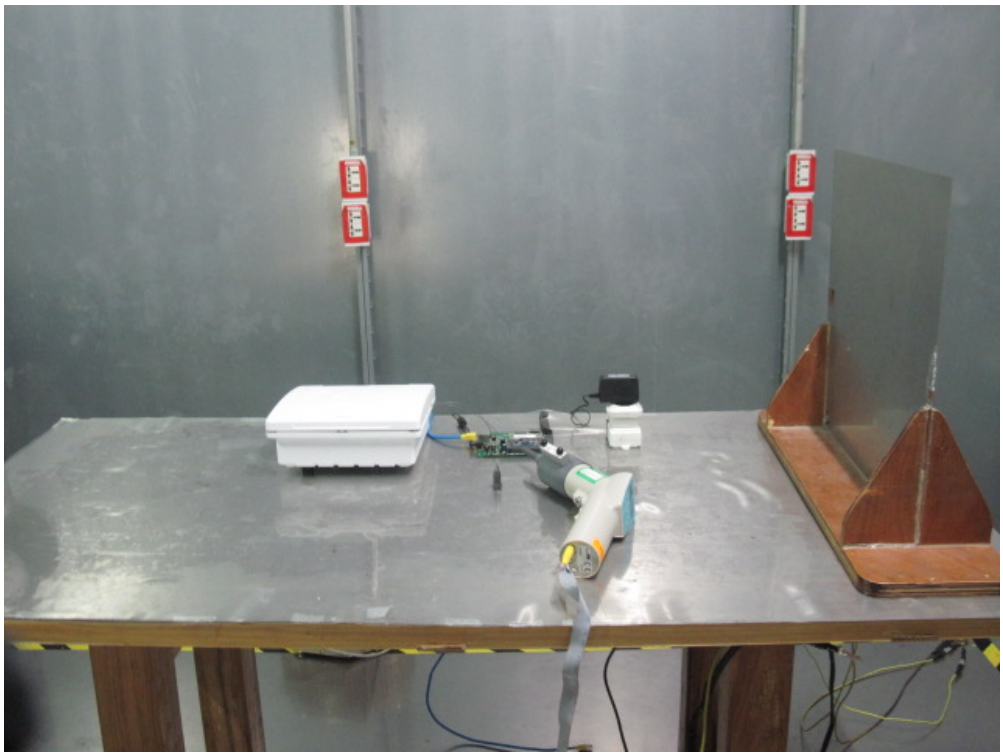
Test Mode: Mode 2

Description: Electrostatic discharge Test Setup



Test Mode: Mode 3

Description: Electrostatic discharge Test Setup

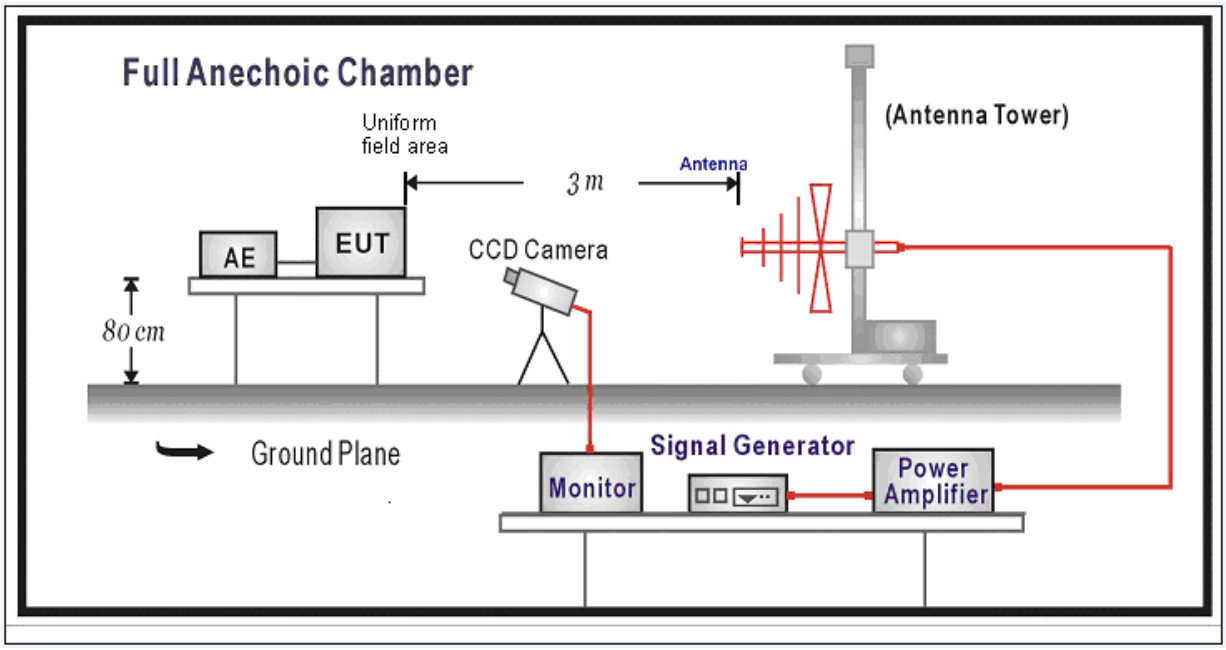


8. Radio-frequency electromagnetic field

8.1. Test Specification

According to EMC Standard: IEC 61000-4-3

8.2. Test Setup



8.3. Limit

Environmental phenomenon	Test specification	Units	Performance criterion
Enclosure port			
Radio-frequency electromagnetic field	80 - 1000 3 80	MHz V/m (unmodulated, r.m.s) % AM (1kHz)	A
NOTE: The frequency range is scanned as specified. However, when specified in Annex A, an additional comprehensive functional test shall be carried out at a limited number of frequencies. The selected frequencies are: 80, 120, 160, 230, 434, 460, 600, 863 and 900MHz (±1%).			

8.4. Test Procedure

The EUT and load, which are placed on a table that is 0.8 meter above ground, are placed with one coincident with the calibration plane such that the distance from antenna to the EUT was 3 meters.

Both horizontal and vertical polarization of the antenna and four sides of the EUT are set on measurement.

In order to judge the EUT performance, a CCD camera is used to monitor EUT screen.

All the scanning conditions are as follows:

	Condition of Test	Remarks
1.	Field Strength	3V/m
2.	Radiated Signal	AM 80% Modulated with 1kHz
3.	Scanning Frequency	80 - 1000MHz
4	Dwell Time	3 Seconds
5.	Frequency Step Size Δf	1%

8.5. Deviation from Test Standard

No deviation.

8.6. Test Result

Test Mode	Mode 1		
Test Site	AC-4	Date of Test	2010/07/20
Temperature	22°C	Humidity	43%RH
Barometric Pressure	101kPa	Test Engineer	Sunny

Frequency (MHz)	Polarity	Position	Field Strength (V/m)	Observation	Result
80-1000 1400-2700	Horizontal	Front	3	Note	Pass
80-1000 1400-2700	Vertical	Front	3	Note	Pass
80-1000 1400-2700	Horizontal	Rear	3	Note	Pass
80-1000 1400-2700	Vertical	Rear	3	Note	Pass
80-1000 1400-2700	Horizontal	Left	3	Note	Pass
80-1000 1400-2700	Vertical	Left	3	Note	Pass
80-1000 1400-2700	Horizontal	Right	3	Note	Pass
80-1000 1400-2700	Vertical	Right	3	Note	Pass

Note: There is no any degradation of performance and function.

Test Mode	Mode 2		
Test Site	AC-4	Date of Test	2010/07/20
Temperature	22°C	Humidity	43%RH
Barometric Pressure	101kPa	Test Engineer	Sunny

Frequency (MHz)	Polarity	Position	Field Strength (V/m)	Observation	Result
80-1000 1400-2700	Horizontal	Front	3	Note	Pass
80-1000 1400-2700	Vertical	Front	3	Note	Pass
80-1000 1400-2700	Horizontal	Rear	3	Note	Pass
80-1000 1400-2700	Vertical	Rear	3	Note	Pass
80-1000 1400-2700	Horizontal	Left	3	Note	Pass
80-1000 1400-2700	Vertical	Left	3	Note	Pass
80-1000 1400-2700	Horizontal	Right	3	Note	Pass
80-1000 1400-2700	Vertical	Right	3	Note	Pass

Note: There is no any degradation of performance and function.

Test Mode	Mode 3		
Test Site	AC-4	Date of Test	2010/07/20
Temperature	22°C	Humidity	43%RH
Barometric Pressure	101kPa	Test Engineer	Sunny

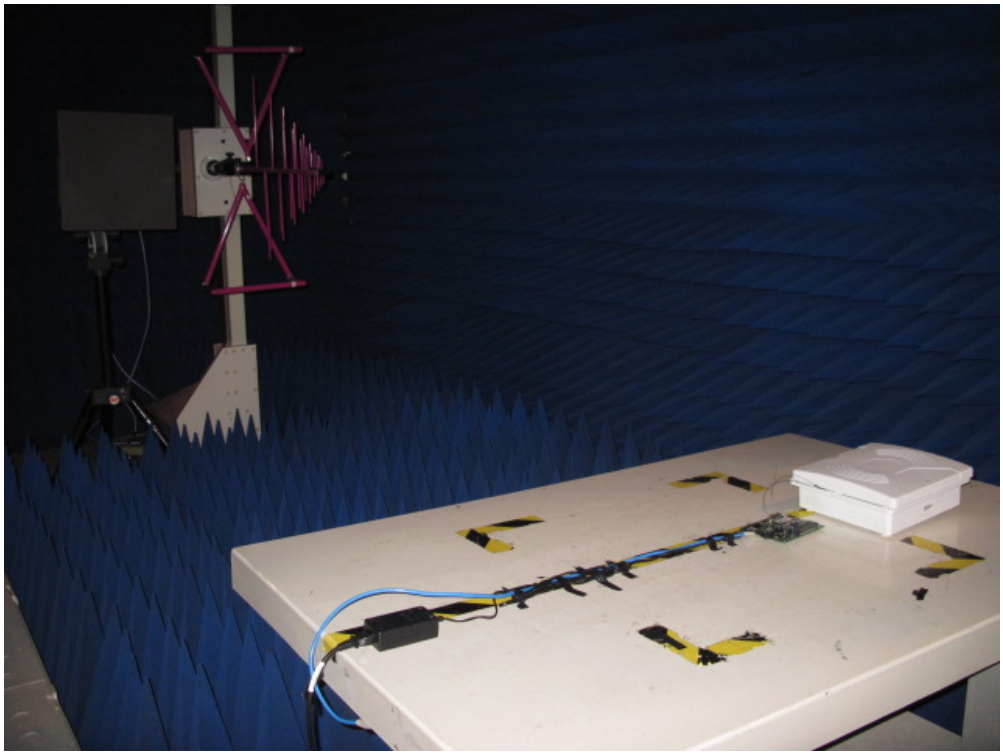
Frequency (MHz)	Polarity	Position	Field Strength (V/m)	Observation	Result
80-1000 1400-2700	Horizontal	Front	3	Note	Pass
80-1000 1400-2700	Vertical	Front	3	Note	Pass
80-1000 1400-2700	Horizontal	Rear	3	Note	Pass
80-1000 1400-2700	Vertical	Rear	3	Note	Pass
80-1000 1400-2700	Horizontal	Left	3	Note	Pass
80-1000 1400-2700	Vertical	Left	3	Note	Pass
80-1000 1400-2700	Horizontal	Right	3	Note	Pass
80-1000 1400-2700	Vertical	Right	3	Note	Pass

NOTE: There was no change compared with initial operation during the test.

8.7. Test Photograph

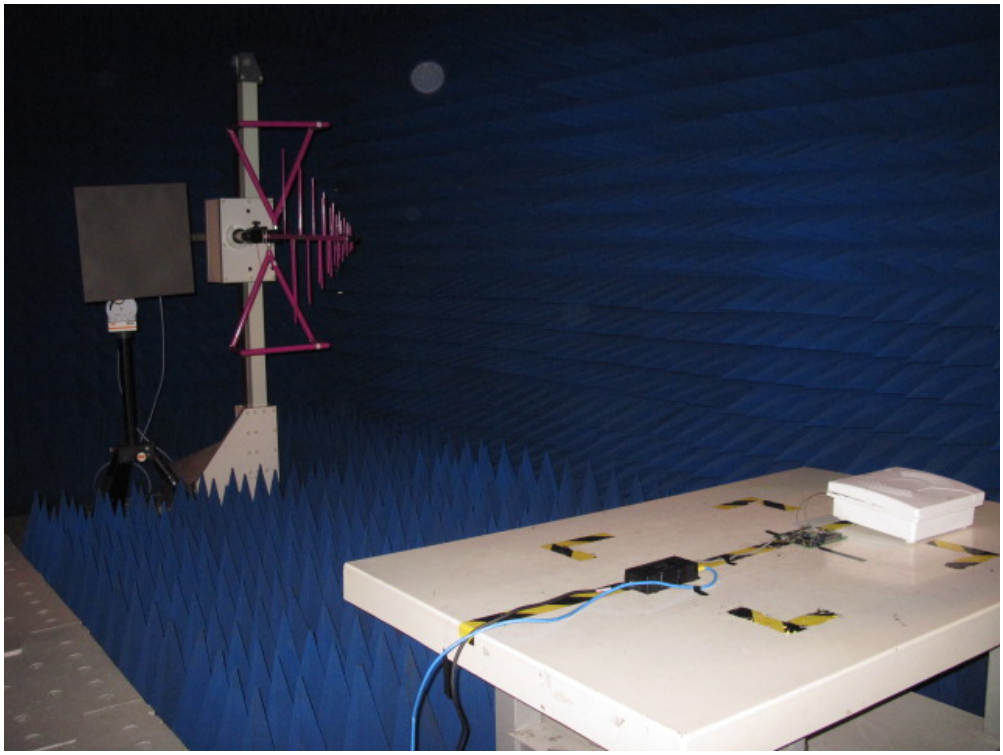
Test Mode: Mode 1

Description: Radio-frequency electromagnetic field Test Setup



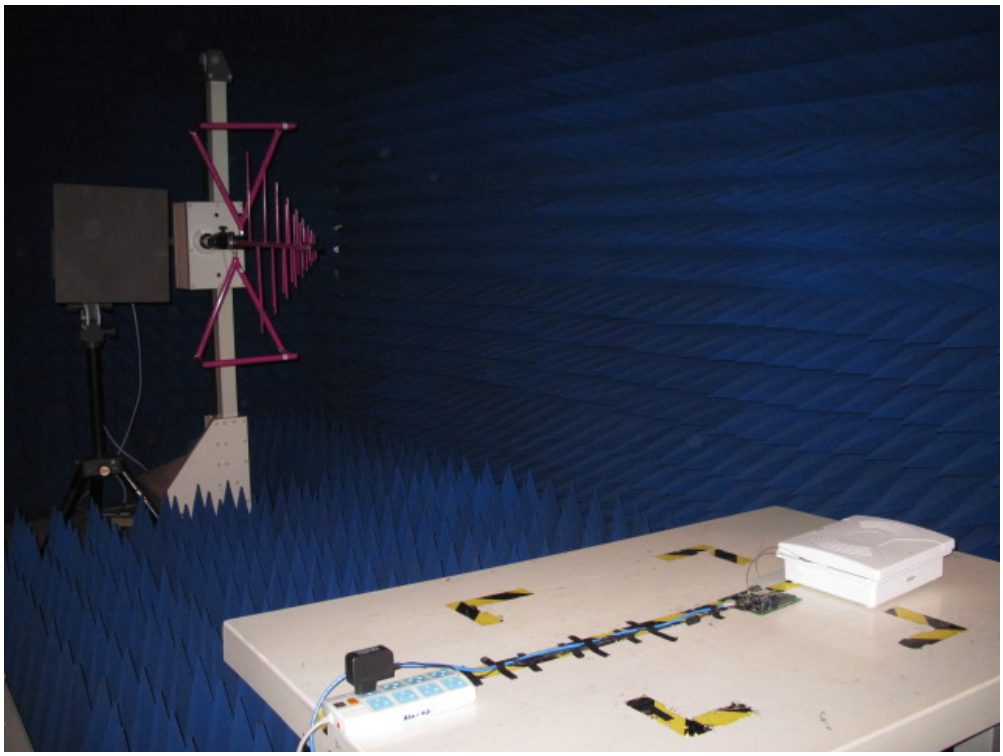
Test Mode: Mode 2

Description: Radio-frequency electromagnetic field Test Setup



Test Mode: Mode 3

Description: Radio-frequency electromagnetic field Test Setup

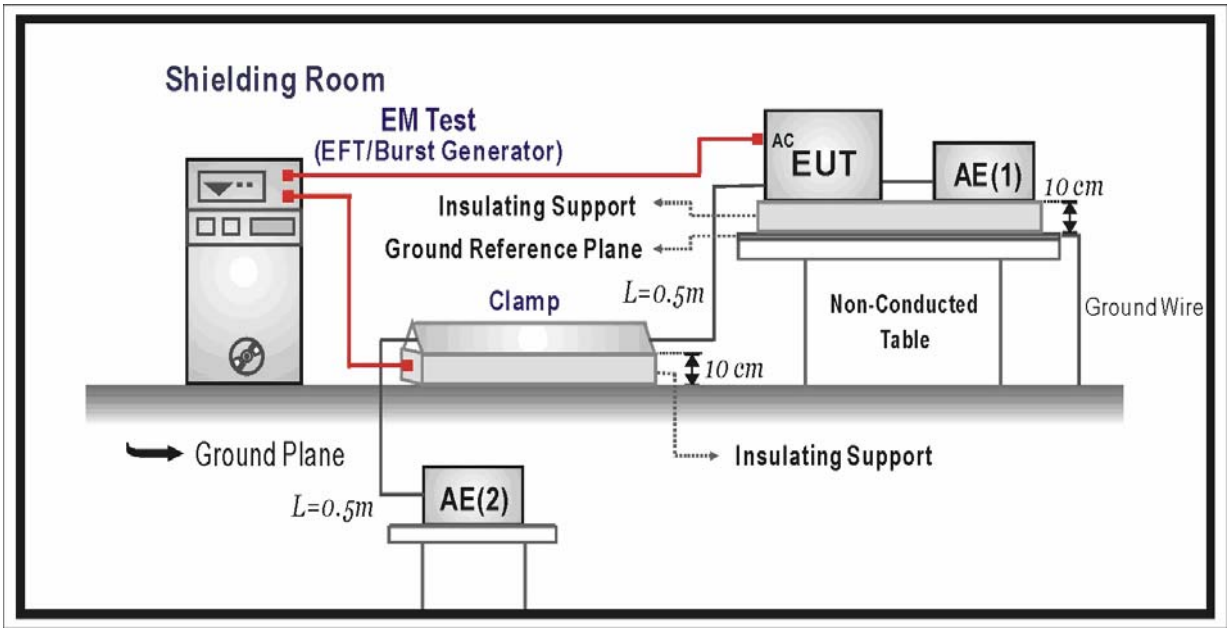


9. Fast transients

9.1. Test Specification

According to EMC Standard: IEC 61000-4-4

9.2. Test Setup



9.3. Limit

Environmental phenomenon	Test specification	Units	Performance criterion
Input a.c. power ports			
Fast transients	±1.0 5/50 5	kV (Peak) Tr/Th (ns) Repetition frequency (kHz)	B
Input d.c. power ports			
Fast transients	±0.5 5/50 5	kV (peak) Tr/Th (ns) Repetition frequency (kHz)	B
Signal ports and telecommunication ports (See Note)			
Fast transients	±0.5 5/50 5	kV (peak) Tr/Th (ns) Repetition frequency (kHz)	B
NOTE: Applicable only to cables which according to the manufacturer's specification supports communication on cable lengths greater than 3m.			

9.4. Test Procedure

The EUT is placed on a table that is 0.8 meter height. A ground reference plane is placed on the table, and uses a 0.1m insulation between the EUT and ground reference plane.

The minimum area of the ground reference plane is 1m*1m, and 0.65mm thick min, and projected beyond the EUT by at least 0.1m on all sides.

For input a.c. and d.c. power ports:

The EUT is connected to the power mains through a coupling device that directly couples the EFT/B interference signal.

Each of the line conductors is impressed with burst noise for 1 minute.

The length of the power lines between the coupling device and the EUT is 0.5m.

For signal and telecommunication ports:

The EFT interference signal is through a coupling clamp device couples to the signal of the EUT with burst noise for 1 minute.

The length of the signal lines between the coupling device and the EUT is 0.5m.

9.5. Deviation from Test Standard

No deviation.

9.6. Test Result

Test Mode	Mode 1		
Test Site	TR-2	Date of Test	2010/07/24
Temperature	22°C	Humidity	43%RH
Barometric Pressure	101kPa	Test Engineer	Sunny

Inject Line	Polarity	Test Level (kV)	Test Duration (second)	Inject Method	Observation	Result
L	+	1	60	Direct	Note	Pass
L	-	1	60	Direct	Note	Pass
N	+	1	60	Direct	Note	Pass
N	-	1	60	Direct	Note	Pass
L+N	+	1	60	Direct	Note	Pass
L+N	-	1	60	Direct	Note	Pass
L+N+PE	+	1	60	Direct	Note	Pass
L+N+PE	-	1	60	Direct	Note	Pass
LAN	+	0.5	60	Direct	Note	Pass
LAN	-	0.5	60	Direct	Note	Pass

Note: There was no change compared with initial operation during the test.

Test Mode	Mode 2		
Test Site	TR-2	Date of Test	2010/07/24
Temperature	22°C	Humidity	43%RH
Barometric Pressure	101kPa	Test Engineer	Sunny

Inject Line	Polarity	Test Level (kV)	Test Duration (second)	Inject Method	Observation	Result
L	+	1	60	Direct	Note	Pass
L	-	1	60	Direct	Note	Pass
N	+	1	60	Direct	Note	Pass
N	-	1	60	Direct	Note	Pass
L+N	+	1	60	Direct	Note	Pass
L+N	-	1	60	Direct	Note	Pass
L+N+PE	+	1	60	Direct	Note	Pass
L+N+PE	-	1	60	Direct	Note	Pass
LAN	+	0.5	60	Direct	Note	Pass
LAN	-	0.5	60	Direct	Note	Pass

NOTE: There was no change compared with initial operation during the test.

Test Mode	Mode 3		
Test Site	TR-2	Date of Test	2010/07/24
Temperature	22°C	Humidity	43%RH
Barometric Pressure	101kPa	Test Engineer	Sunny

Inject Line	Polarity	Test Level (kV)	Test Duration (second)	Inject Method	Observation	Result
L	+	1	60	Direct	Note	Pass
L	-	1	60	Direct	Note	Pass
N	+	1	60	Direct	Note	Pass
N	-	1	60	Direct	Note	Pass
L+N	+	1	60	Direct	Note	Pass
L+N	-	1	60	Direct	Note	Pass
LAN	+	0.5	60	Direct	Note	Pass
LAN	-	0.5	60	Direct	Note	Pass

NOTE: There was no change compared with initial operation during the test.

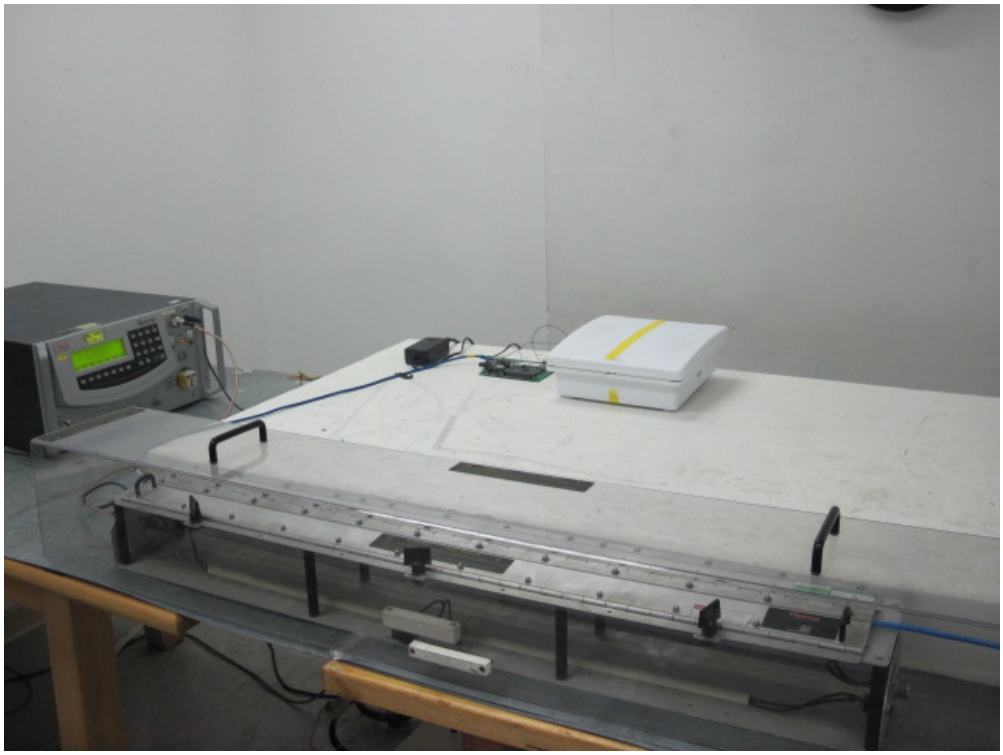
9.7. Test Photograph

Test Mode: Mode 1

Description: Fast transients Test Setup (Input a.c. power ports)

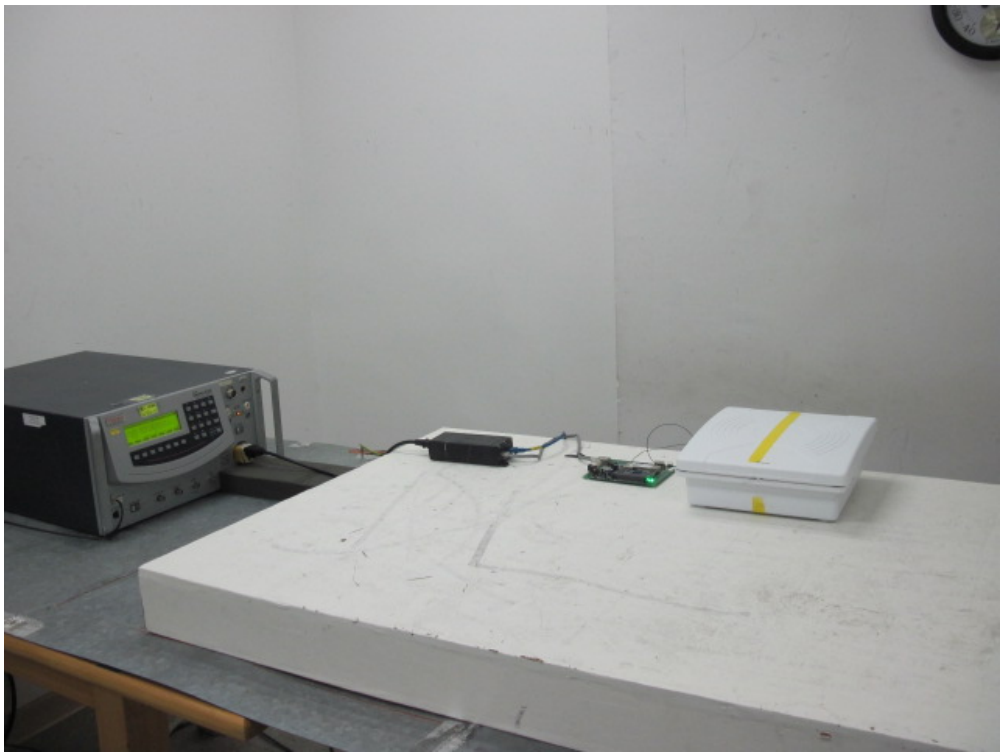
Test Mode: Mode 1

Description: Fast transients Test Setup (LAN)



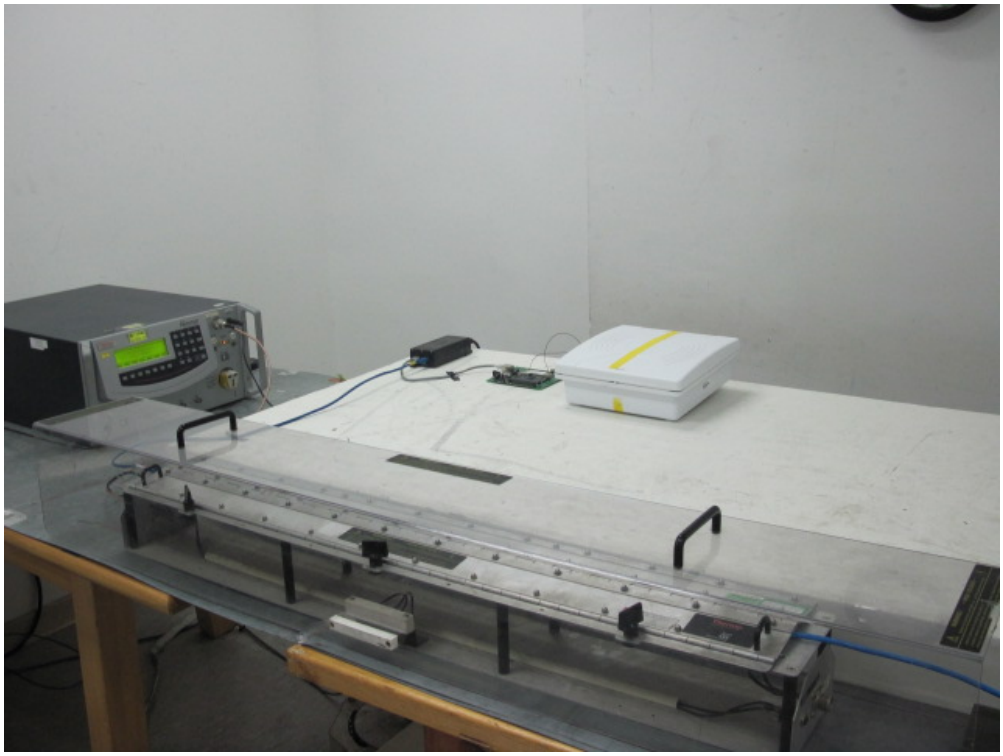
Test Mode: Mode 2

Description: Fast transients Test Setup (Input a.c. power ports)



Test Mode: Mode 2

Description: Fast transients Test Setup (LAN)

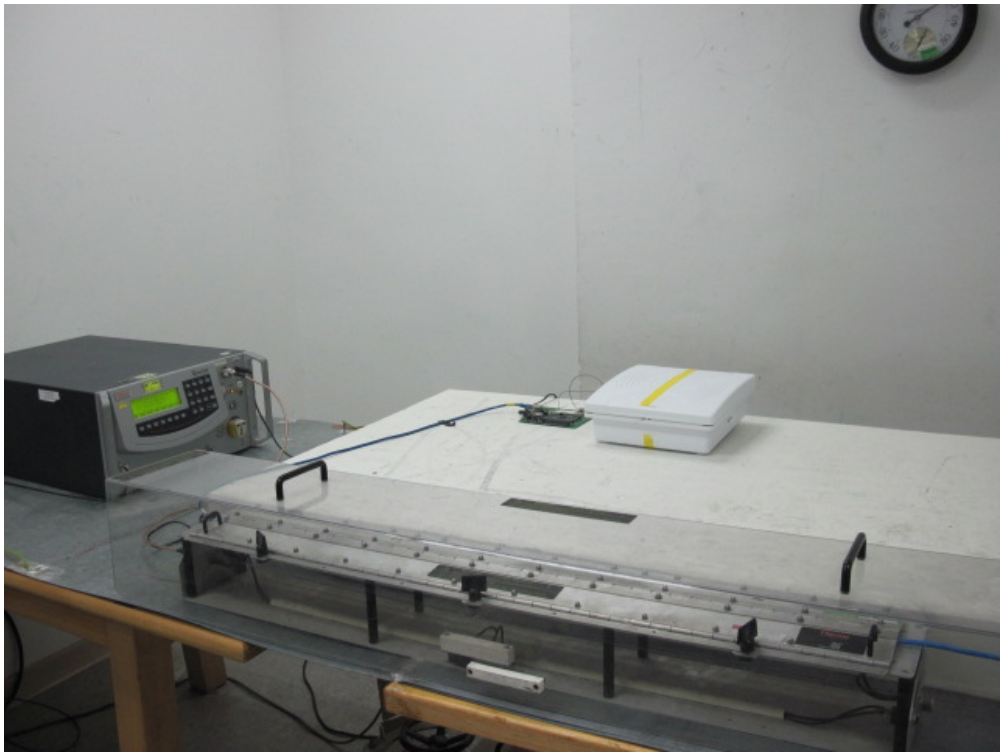


Test Mode: Mode 3

Description: Fast transients Test Setup (Input a.c. power ports)

Test Mode: Mode 3

Description: Fast transients Test Setup (LAN)

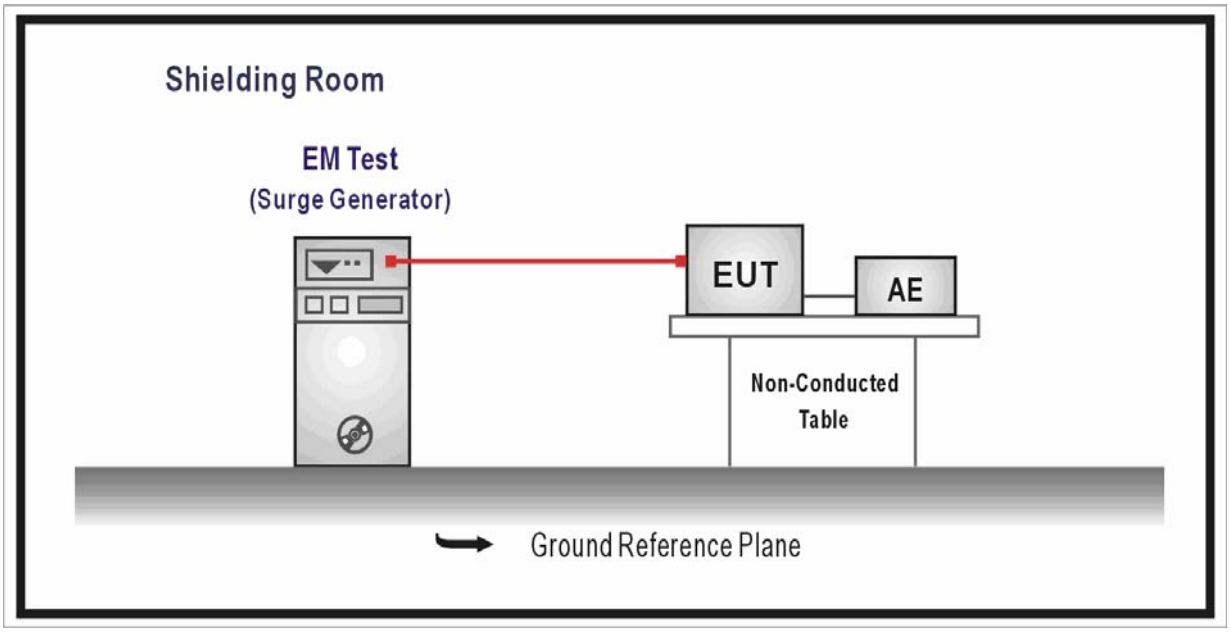


10. Surges

10.1. Test Specification

According to EMC Standard: IEC 61000-4-5

10.2. Test Setup



10.3. Limit

Environmental phenomenon	Test specification	Units	Performance criterion
Input a.c. power ports (See Note 1)			
Surges	1.2/50 (8/20) 1 line to line 2 line to earth (ground)	Tr/Th (us) kV (Peak) kV (Peak)	B
Input d.c. power ports (See Note 2)			
Surges	1.2/50 (8/20) 0.5	Tr/Th (us) kV (Peak)	B
Signal ports and telecommunication ports (See Note 2 and 3)			
Surges Line to Ground	1.2/50 (8/20) 1	Tr/Th (us) kV (peak)	B
NOTE 1: When the manufacturer specifies protection measures and it is impractical to simulate these measures during the tests, then the applied test levels shall be reduced to 0.5kV and 1kV. NOTE 2: Applicable only to ports which according to the manufacturer's specification may connect directly to outdoor cables. NOTE 3: Where normal functioning cannot be achieved because of the impact of the CDN on the EUT, no test shall be required.			

10.4. Test Procedure

The EUT is placed on a table that is 0.8 meter above a metal ground plane measured 1m*1m minimum and 0.65mm thick minimum and projected beyond the EUT by at least 0.1m on all sides. The length of power cord between the coupling device and the EUT shall be 2m or less.

For input a.c. and d.c. power ports:
The EUT is connected to the power mains through a coupling device that directly couples the surge interference signal.
The surge noise shall be applied synchronized to the voltage phase at 0^0, 90^0, 180^0, 270^0 and the peak value of the a.c. voltage wave. (Positive and negative)
Each of Line to Earth and Line to Line is impressed with a sequence of five surge voltages with interval of 1 minute.

For signal and telecommunication ports:
The signal line of EUT is connected to coupling and decoupling network that directly couples the surge interference signal.
Only Line to ground is impressed with a sequence of five surge voltages with interval of 1 minute.

10.5. Deviation from Test Standard

No deviation.

10.6. Test Result

Test Mode	Mode 1		
Test Site	TR-2	Date of Test	2010/07/24
Temperature	22°C	Humidity	43%RH
Barometric Pressure	101kPa	Test Engineer	Sunny

Inject Line	Polarity	Angle (degree)	Test Level (kV)	Test Interval (second)	Observation	Result
L+N	+	0	1	60	Note	Pass
L+N	-	0	1	60	Note	Pass
L+N	+	90	1	60	Note	Pass
L+N	-	90	1	60	Note	Pass
L+N	+	180	1	60	Note	Pass
L+N	-	180	1	60	Note	Pass
L+N	+	270	1	60	Note	Pass
L+N	-	270	1	60	Note	Pass
L+PE	+	0	2	60	Note	Pass
L+PE	-	0	2	60	Note	Pass
L+PE	+	90	2	60	Note	Pass
L+PE	-	90	2	60	Note	Pass
L+PE	+	180	2	60	Note	Pass
L+PE	-	180	2	60	Note	Pass
L+PE	+	270	2	60	Note	Pass
L+PE	-	270	2	60	Note	Pass
N+PE	+	0	2	60	Note	Pass
N+PE	-	0	2	60	Note	Pass
N+PE	+	90	2	60	Note	Pass
N+PE	-	90	2	60	Note	Pass
N+PE	+	180	2	60	Note	Pass
N+PE	-	180	2	60	Note	Pass
N+PE	+	270	2	60	Note	Pass
N+PE	-	270	2	60	Note	Pass

Note: There was no change compared with initial operation during the test.

Test Mode	Mode 2		
Test Site	TR-2	Date of Test	2010/07/24
Temperature	22°C	Humidity	43%RH
Barometric Pressure	101kPa	Test Engineer	Sunny

Inject Line	Polarity	Angle (degree)	Test Level (kV)	Test Interval (second)	Observation	Result
L+N	+	0	1	60	Note	Pass
L+N	-	0	1	60	Note	Pass
L+N	+	90	1	60	Note	Pass
L+N	-	90	1	60	Note	Pass
L+N	+	180	1	60	Note	Pass
L+N	-	180	1	60	Note	Pass
L+N	+	270	1	60	Note	Pass
L+N	-	270	1	60	Note	Pass
L+PE	+	0	2	60	Note	Pass
L+PE	-	0	2	60	Note	Pass
L+PE	+	90	2	60	Note	Pass
L+PE	-	90	2	60	Note	Pass
L+PE	+	180	2	60	Note	Pass
L+PE	-	180	2	60	Note	Pass
L+PE	+	270	2	60	Note	Pass
L+PE	-	270	2	60	Note	Pass
N+PE	+	0	2	60	Note	Pass
N+PE	-	0	2	60	Note	Pass
N+PE	+	90	2	60	Note	Pass
N+PE	-	90	2	60	Note	Pass
N+PE	+	180	2	60	Note	Pass
N+PE	-	180	2	60	Note	Pass
N+PE	+	270	2	60	Note	Pass
N+PE	-	270	2	60	Note	Pass

Note: There was no change compared with initial operation during the test.

Test Mode	Mode 3		
Test Site	TR-2	Date of Test	2010/07/24
Temperature	22°C	Humidity	43%RH
Barometric Pressure	101kPa	Test Engineer	Sunny

Inject Line	Polarity	Angle (degree)	Test Level (kV)	Test Interval (second)	Observation	Result
L+N	+	0	1	60	Note	Pass
L+N	-	0	1	60	Note	Pass
L+N	+	90	1	60	Note	Pass
L+N	-	90	1	60	Note	Pass
L+N	+	180	1	60	Note	Pass
L+N	-	180	1	60	Note	Pass
L+N	+	270	1	60	Note	Pass
L+N	-	270	1	60	Note	Pass

Note: There was no change compared with initial operation during the test.

10.7. Test Photograph

Test Mode: Mode 1

Description: Surges Test Setup (Input a.c. power ports)

Test Mode: Mode 2

Description: Surges Test Setup (Input a.c. power ports)

Test Mode: Mode 3

Description: Surges Test Setup (Input a.c. power ports)

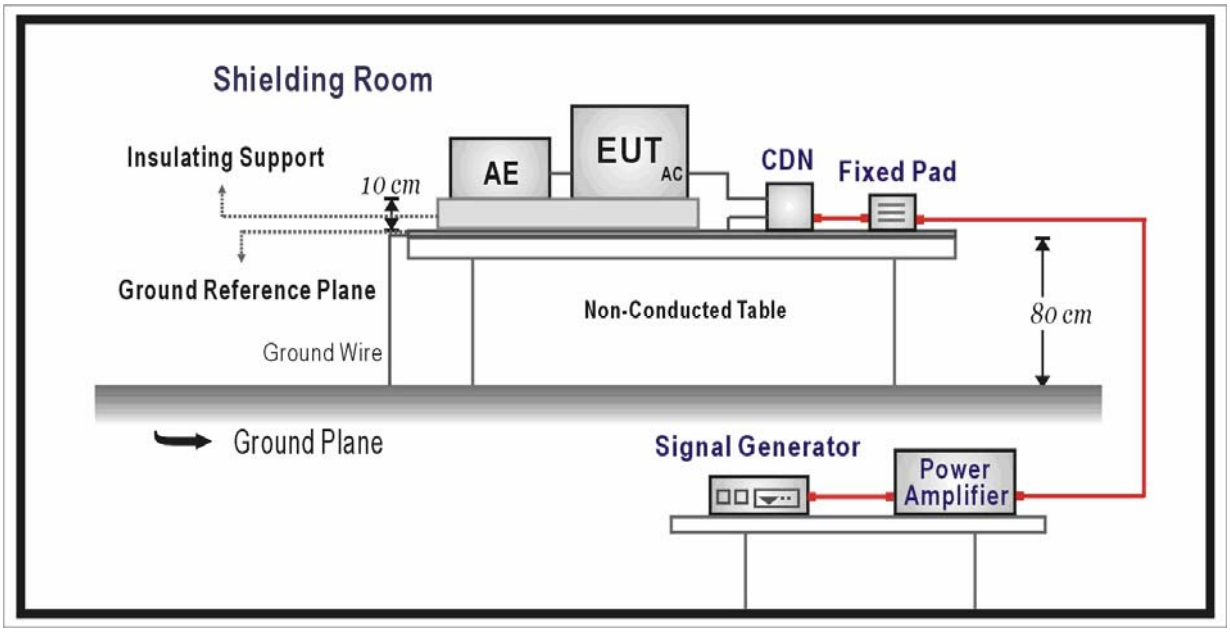
11. Radio-frequency continuous conducted

11.1. Test Specification

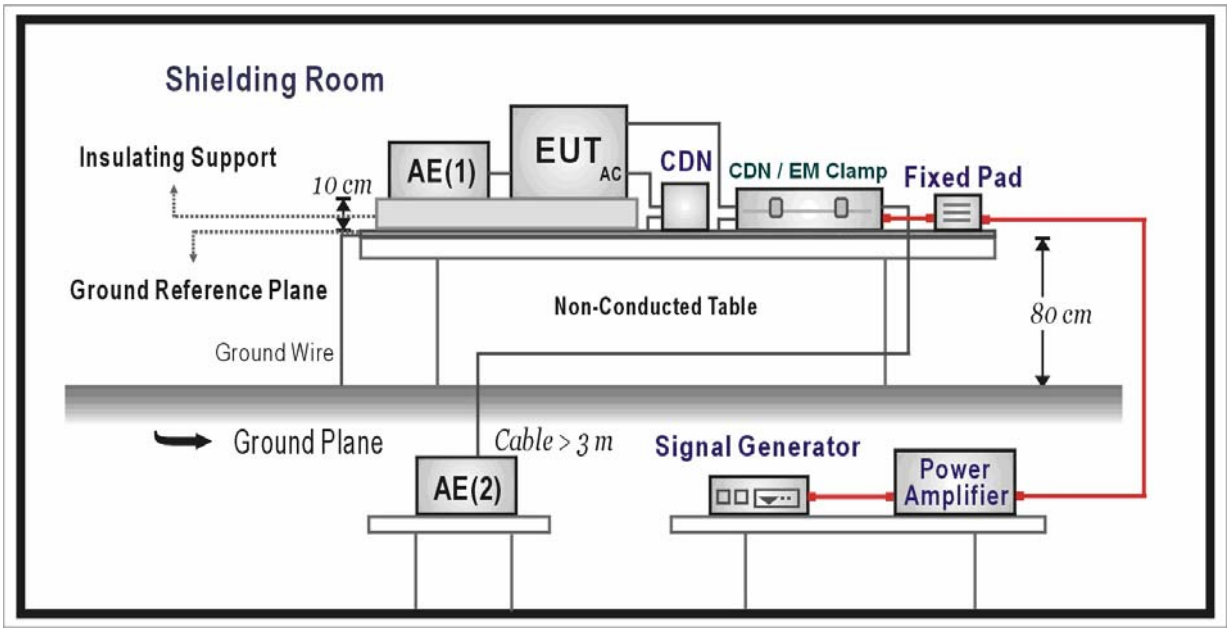
According to EMC Standard: IEC 61000-4-6

11.2. Test Setup

CDN Test Setup



EM Clamp Test Setup



11.3. Limit

Environmental phenomenon	Test specification	Units	Performance criterion
Input a.c. power ports (See Note 1)			
Radio-frequency continuous conducted	0.15 - 80 3 80	MHz V (unmodulated, r.m.s) % AM (1kHz)	A
Input d.c. power ports (See Note 1)			
Radio-frequency continuous conducted	0.15 - 80 3 80	MHz V (unmodulated, r.m.s) % AM (1kHz)	A
Signal ports and telecommunication ports (See Note 1 and 3)			
Radio-frequency continuous conducted	0.15 - 80 3 80	MHz V (unmodulated, r.m.s) % AM (1kHz)	A
NOTE 1: The frequency range is scanned as specified. However, when specified in Annex A, an additional comprehensive functional test shall be carried out at a limited number of frequencies. The selected frequencies for conducted test are: 0.2; 1; 7.1; 13.56; 21; 27.12 and 40.68MHz (±1%). NOTE 2: Applicable only to cables which according to the manufacturer's specification supports communication on cable lengths greater than 3m.			

11.4. Test Procedure

The EUT is placed on a table that is 0.8 meter height, and a ground reference plane on the table, EUT is placed upon table and use a 0.1m insulation between the EUT and ground reference plane.

For input a.c. and d.c. power ports:
The EUT is connected to the power mains through a coupling and decoupling networks for power supply lines. And directly couples the disturbances signal into EUT.
Used CDN-M2 for two wires or CDN-M3 for three wires.

For signal and telecommunication ports:
The disturbance signal is through a coupling and decoupling networks (CDN) or EM-clamp device couples to the signal and telecommunication lines of the EUT.

	Condition of Test	Remarks
1.	Field Strength	3V
2.	Radiated Signal	AM 80% Modulated with 1kHz
3.	Scanning Frequency	0.15 - 80MHz
4	Dwell Time	3 Seconds
5.	Frequency Step Size Δf	1%

11.5. Deviation from Test Standard

No deviation.

11.6. Test Result

Test Mode	Mode 1		
Test Site	TR-2	Date of Test	2010/07/24
Temperature	22°C	Humidity	43%RH
Barometric Pressure	101kPa	Test Engineer	Sunny

Frequency (MHz)	Inject Voltage (V)	Inject Ports	Inject Method	Observation	Result
0.15-80	3	AC Mains	CDN M016-M3	Note	Pass
0.15-80	3	Lan Port	CDN T400-LAN	Note	Pass

Note: There was no change compared with initial operation during the test.

Test Mode	Mode 2		
Test Site	TR-2	Date of Test	2010/07/24
Temperature	22°C	Humidity	43%RH
Barometric Pressure	101kPa	Test Engineer	Sunny

Frequency (MHz)	Inject Voltage (V)	Inject Ports	Inject Method	Observation	Result
0.15-80	3	AC Mains	CDN M016-M3	Note	Pass
0.15-80	3	Lan Port	CDN T400-LAN	Note	Pass

NOTE: There was no change compared with initial operation during the test.

Test Mode	Mode 3		
Test Site	TR-2	Date of Test	2010/07/24
Temperature	22°C	Humidity	43%RH
Barometric Pressure	101kPa	Test Engineer	Sunny

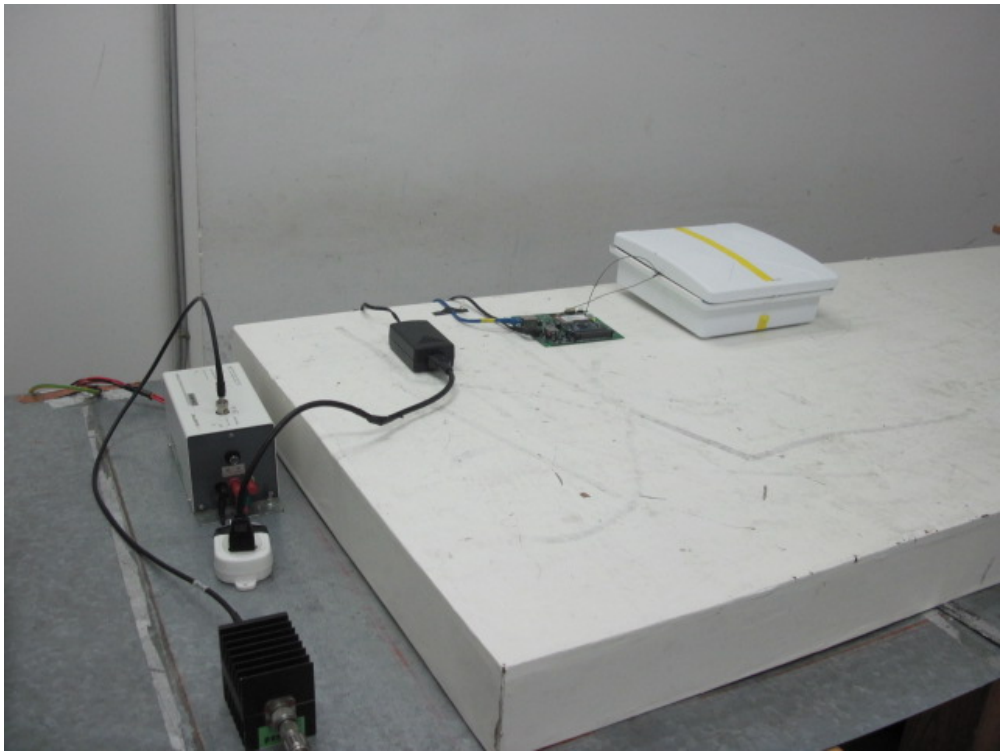
Frequency (MHz)	Inject Voltage (V)	Inject Ports	Inject Method	Observation	Result
0.15-80	3	AC Mains	CDN M016-M2	Note	Pass
0.15-80	3	Lan Port	CDN T400-LAN	Note	Pass

NOTE: There was no change compared with initial operation during the test.

11.7. Test Photograph

Test Mode: Mode 1

Description: Radio-frequency continuous conducted Test Setup (Input a.c. power ports)

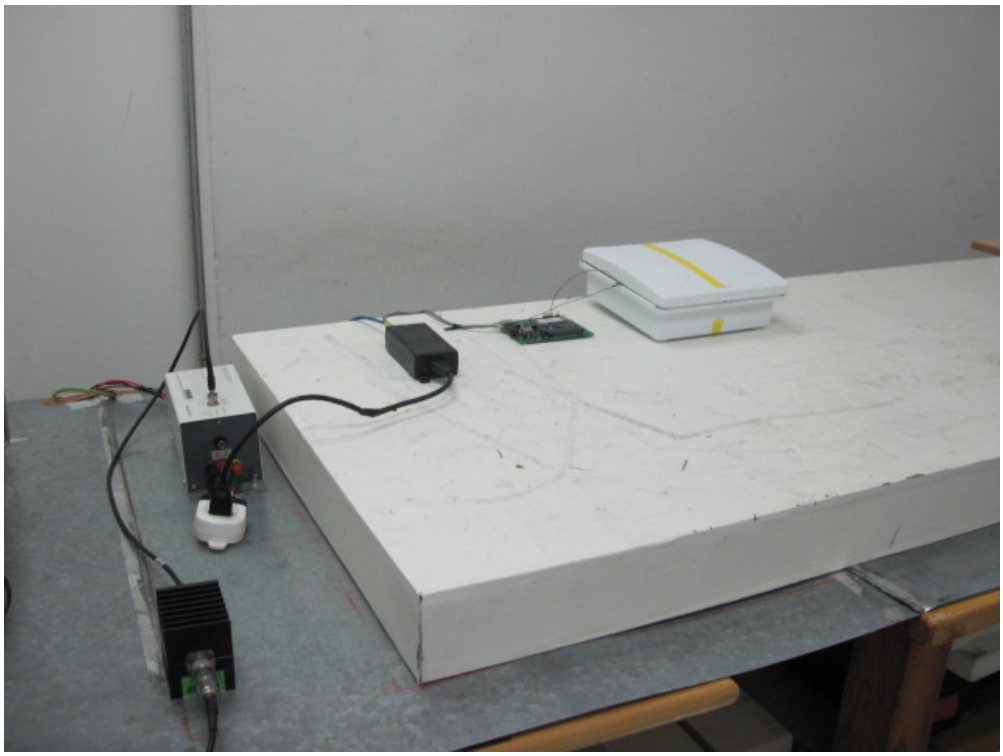


Test Mode: Mode 1

Description: Radio-frequency continuous conducted Test Setup (LAN)

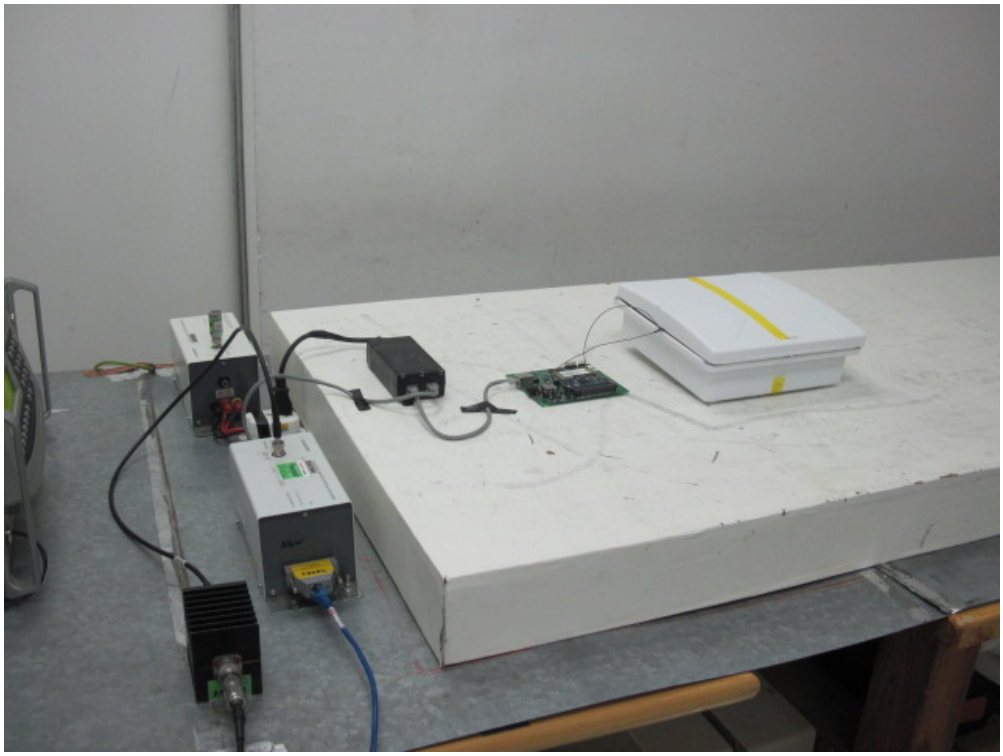
Test Mode: Mode 2

Description: Radio-frequency continuous conducted Test Setup (Input a.c. power ports)



Test Mode: Mode 2

Description: Radio-frequency continuous conducted Test Setup (LAN)



Test Mode: Mode 3

Description: Radio-frequency continuous conducted Test Setup (Input a.c. power ports)

Test Mode: Mode 3

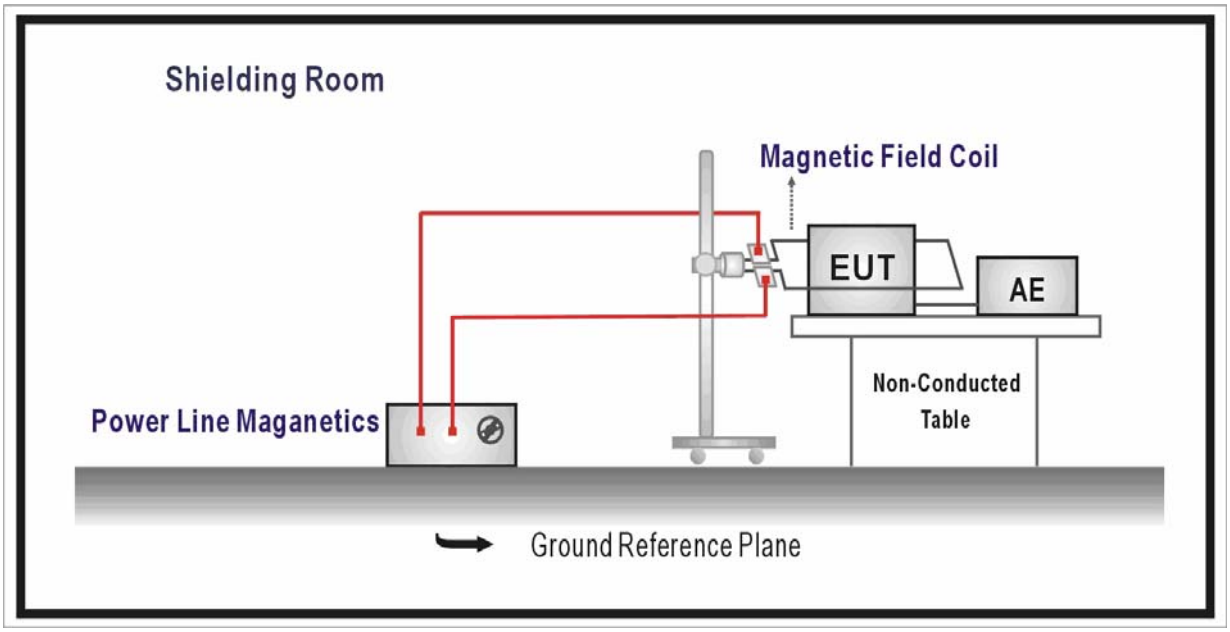
Description: Radio-frequency continuous conducted Test Setup (LAN)

12. Power-frequency magnetic field

12.1. Test Specification

According to EMC Standard: IEC 61000-4-8

12.2. Test Setup



12.3. Limit

Environmental phenomenon	Test specification	Units	Performance criterion
Enclosure port			
Power-frequency magnetic field	50 1	Hz A/m (r.m.s)	A
NOTE: Applicable only to equipment containing devices susceptible to magnetic fields, such as CRT monitors, Hall elements, electrodynamic microphones, magnetic field sensors, etc.			

12.4. Test Procedure

The EUT is placed on a table which is 0.8 meter above a metal ground plane measured at least 1m*1m minimum. The test magnetic field shall be placed at central of the induction coil.
The test magnetic Field shall be applied 10 minutes by the immersion method to the EUT, and the induction coil shall be rotated by 90° in order to expose the EUT to the test field with different orientation (X, Y, Z Orientations).

12.5. Deviation from Test Standard

No deviation.

12.6. Test Result

Test Site	TR-2	Date of Test	2010.07.24
EUT	WIRELESS ACCESS POINT	Test Voltage	AC 230V / 50Hz
Temperature	25°C	Humidity	48%RH
Barometric Pressure	101kPa	Test Engineer	Sunny
Test Mode	Mode 1		

Test Coil Position	Frequency (Hz)	Magnetic Strength (A/m)	Test Result Criterion	Observation	Result
X Axis	50	1	A	Note	Pass
Y Axis	50	1	A	Note	Pass
Z Axis	50	1	A	Note	Pass

NOTE: There was no change compared with initial operation during the test.

Test Site	TR-2	Date of Test	2010.07.24
EUT	WIRELESS ACCESS POINT	Test Voltage	AC 230V / 50Hz
Temperature	25°C	Humidity	48%RH
Barometric Pressure	101kPa	Test Engineer	Sunny
Test Mode	Mode 2		

Test Coil Position	Frequency (Hz)	Magnetic Strength (A/m)	Test Result Criterion	Observation	Result
X Axis	50	1	A	Note	Pass
Y Axis	50	1	A	Note	Pass
Z Axis	50	1	A	Note	Pass

NOTE: There was no change compared with initial operation during the test.

Test Site	TR-2	Date of Test	2010.07.24
EUT	WIRELESS ACCESS POINT	Test Voltage	AC 230V / 50Hz
Temperature	25°C	Humidity	48%RH
Barometric Pressure	101kPa	Test Engineer	Sunny
Test Mode	Mode 3		

Test Coil Position	Frequency (Hz)	Magnetic Strength (A/m)	Test Result Criterion	Observation	Result
X Axis	50	1	A	Note	Pass
Y Axis	50	1	A	Note	Pass
Z Axis	50	1	A	Note	Pass

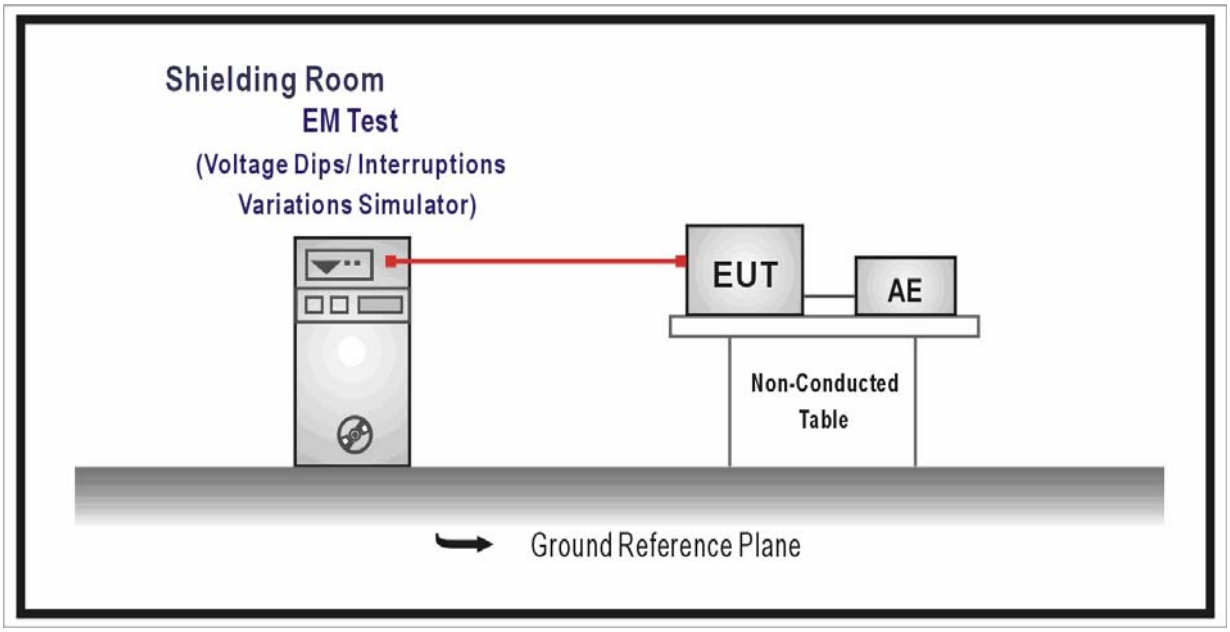
NOTE: There was no change compared with initial operation during the test.

13. Voltage dips and interruptions

13.1. Test Specification

According to EMC Standard: IEC 61000-4-11

13.2. Test Setup



13.3. Limit

Environmental phenomenon	Test specification	Units	Performance criterion
Input a.c. power ports			
Voltage dips	>95 0.5	% reduction period	B
	30 25	% reduction periods	C
Voltage interruptions	>95 250	% reduction periods	C
NOTE: Changes to occur at 0 degree crossover point of the voltage waveform.			

13.4. Test Procedure

The EUT is placed on a table which is 0.8 meter above a metal ground plane measured 1m*1m minimum, and 0.65mm thick minimum, and projected beyond the EUT by at least 0.1m on all sides. The power cord shall be used the shortest power cord as specified by the manufacturer.
For Voltage dips and interruptions test:
The selection of test voltage is based on the rated power range. If the operation range is large than 20% of lower power range, both end of specified voltage shall be tested. Otherwise, the typical voltage specification is selected as test voltage.
The EUT is connected to the power mains through a coupling device that directly couples to the voltage dips and interruption generator.

13.5. Deviation from Test Standard

No deviation.

13.6. Test Result

Test Mode	Mode 1		
Test Site	TR-2	Date of Test	2010.07.24
Temperature	23°C	Humidity	46%RH
Barometric Pressure	101kPa	Test Engineer	Sunny

Voltage % Residual	Test Duration (ms)	Observation	Result
0	10	Note 1	Pass
0	20	Note 1	Pass
70	500	Note 1	Pass
0	5000	Note 1, 2	Pass

NOTE 1: There was no change compared with initial operation during the test.

NOTE 2: The power of EUT has been shut down during the test, but recoverable by user after the test.

Test Mode	Mode 2		
Test Site	TR-2	Date of Test	2010.07.24
Temperature	23°C	Humidity	46%RH
Barometric Pressure	101kPa	Test Engineer	Sunny

Voltage % Residual	Test Duration (ms)	Observation	Result
0	10	Note 1	Pass
0	20	Note 1	Pass
70	10	Note 1	Pass
70	500	Note 1	Pass
0	5000	Note 1, 2	Pass

NOTE 1: There was no change compared with initial operation during the test.

NOTE 2: The power of EUT has been shut down during the test, but recoverable by user after the test.

Test Mode	Mode 3		
Test Site	TR-2	Date of Test	2010.07.24
Temperature	23°C	Humidity	46%RH
Barometric Pressure	101kPa	Test Engineer	Sunny

Voltage % Residual	Test Duration (ms)	Observation	Result
0	10	Note 1	Pass
0	20	Note 1	Pass
70	10	Note 1	Pass
70	500	Note 1	Pass
0	5000	Note 1, 2	Pass

NOTE 1: There was no change compared with initial operation during the test.

NOTE 2: The power of EUT has been shut down during the test, but recoverable by user after the test.

13.7. Test Photograph

Test Mode: Mode 1

Description: Voltage dips and interruptions Test Setup

Test Mode: Mode 2

Description: Voltage dips and interruptions Test Setup

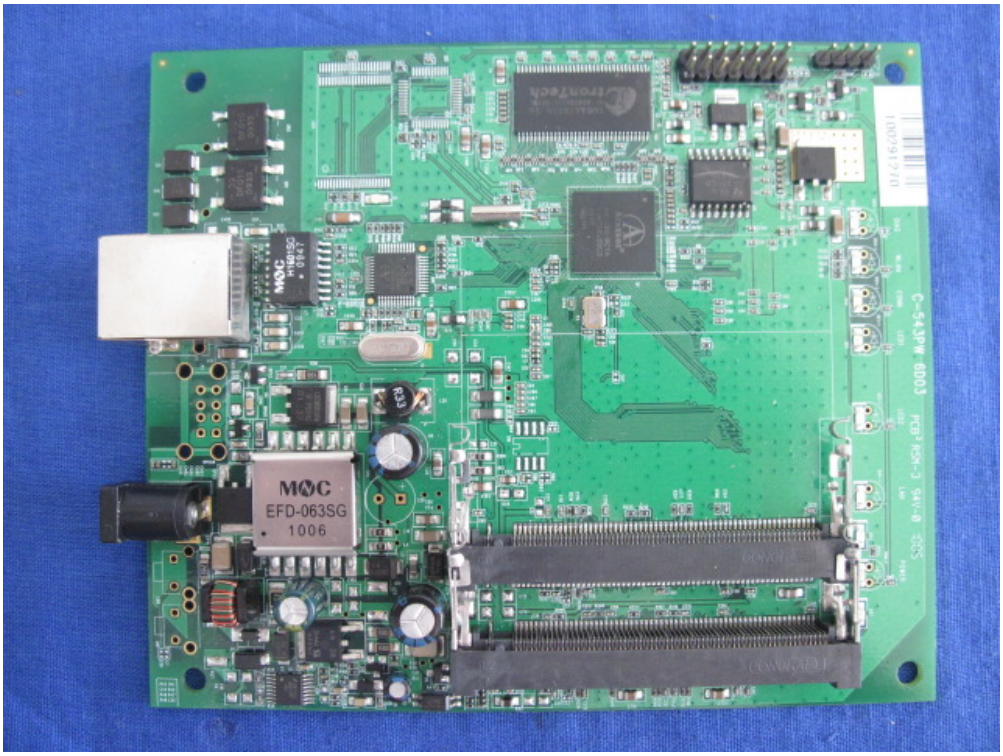
Test Mode: Mode 3

Description: Voltage dips and interruptions Test Setup

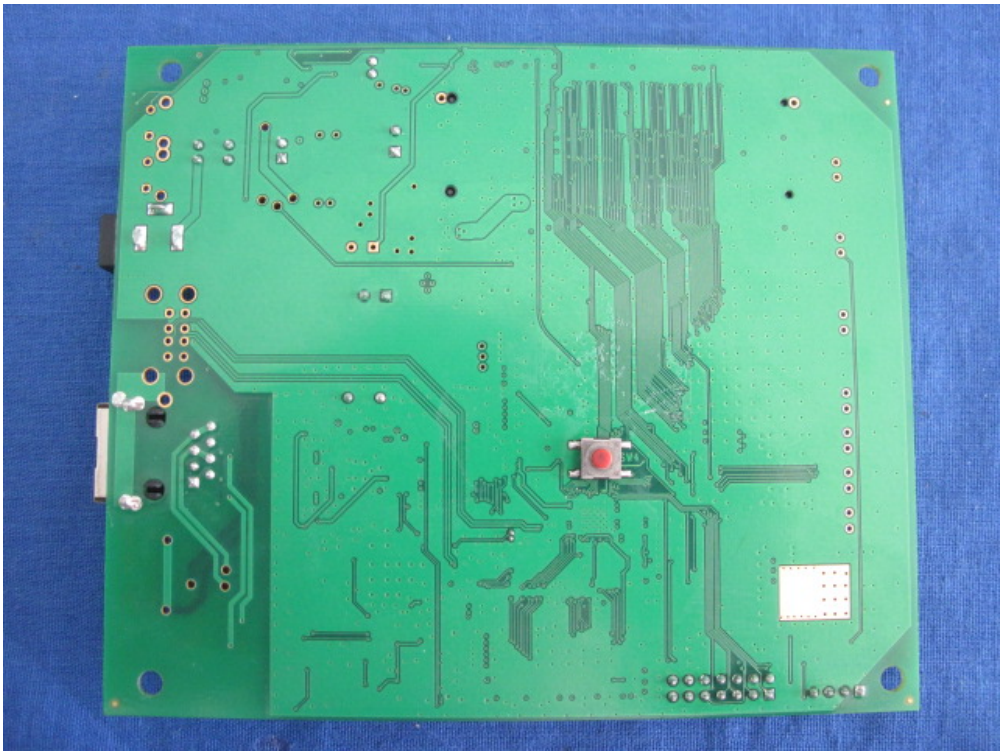
14. Attachment

EUT Photograph

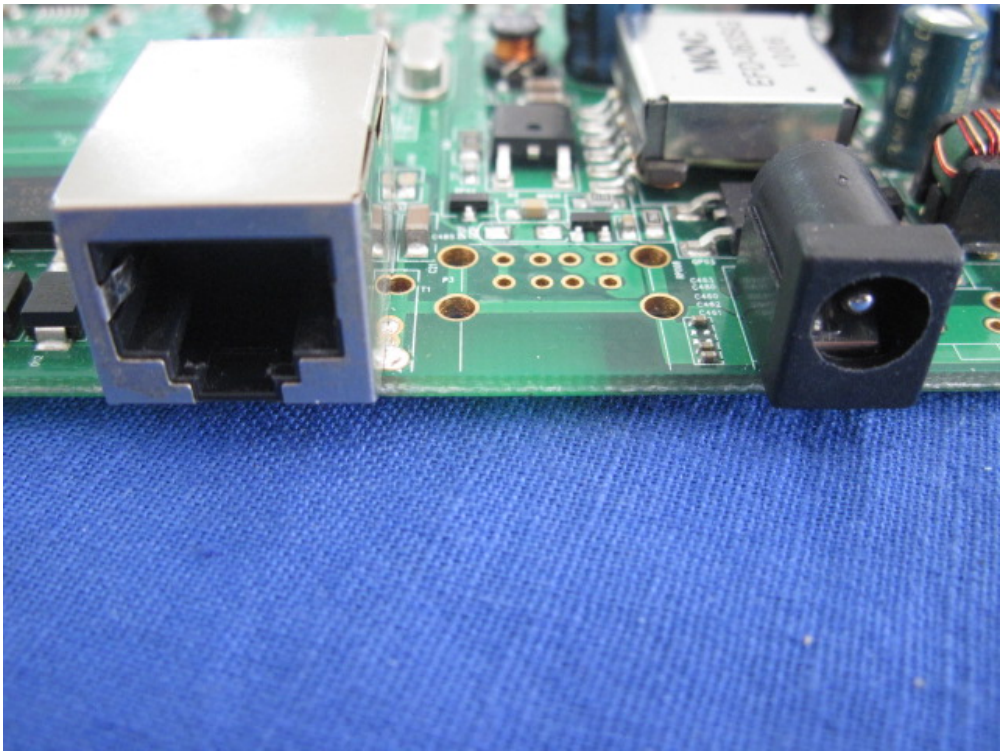
(1) EUT Photo



(2) EUT Photo



(3) EUT Photo



(4) EUT Photo

(5) EUT Photo

(6) EUT Photo

(7) EUT Photo

(8) EUT Photo

(9) EUT Photo

(10) EUT Photo

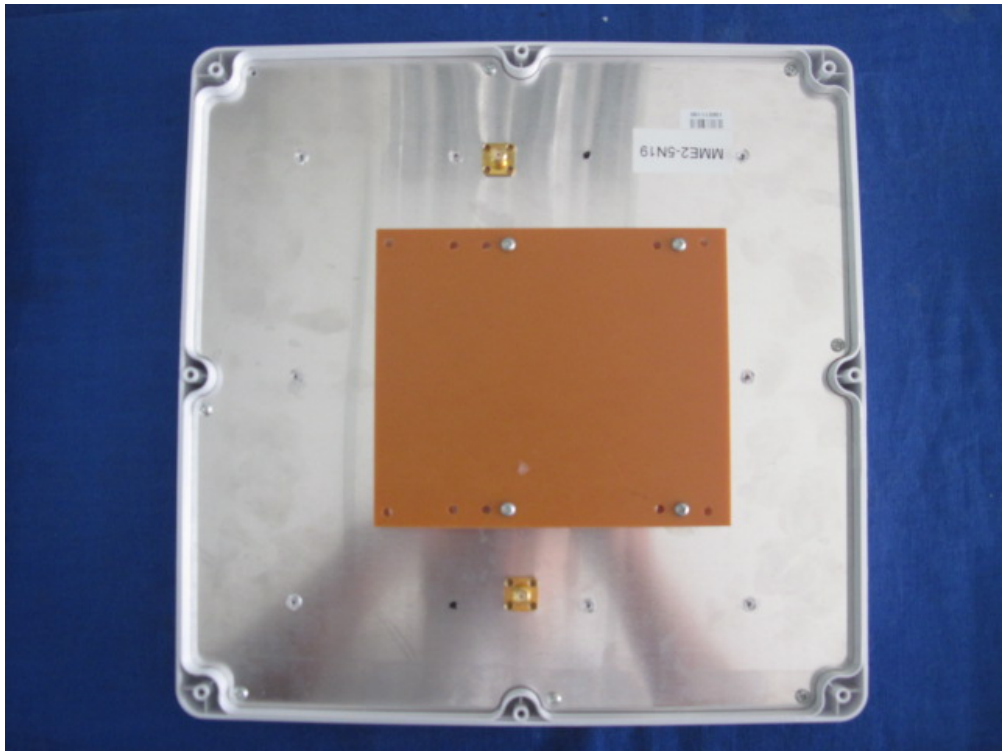
(11) EUT Photo

(12) EUT Photo

(13) EUT Photo

(14) EUT Photo

(15) EUT Photo



(16) EUT Photo