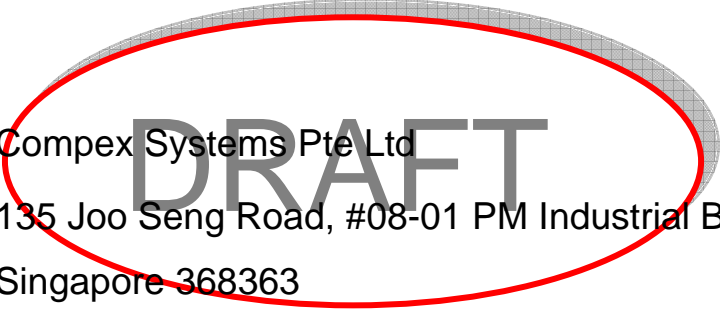


EN 301 893 Test Report

Product Name : WIRELESS ACCESS POINT
Model No. : MMS2543HVN5-23ESD

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. 25, 2010
Issued Date : Jul. 26, 2010
Report No. : 106S012R-RF-CE-P14V03
Report Version : V1.0

The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration of the equipment and evaluated measurement uncertainty herein.

This report must not be used to claim product endorsement by TAF, NVLAP or any agency of the Government.
The test report shall not be reproduced except in full without the written approval of QuieTek Corporation.

Test Report Certification

Issued Date : Jul. 26, 2010
 Report No. : 106S012R-RF-CE-P14V03



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. : MMS2543HVN5-23ESD
 EUT Voltage : AC 230V/ 50Hz
 Trade Name : COMPEX
 Applicable Standard : ETSI EN 301 893 V1.5.1 (2008-12)
 Test Result : Complied
 Performed Location : SuZhou EMC laboratory
 No.99 Hongye Rd., Suzhou Industrial Park Loufeng
 Hi-Tech Development Zone., SuZhou, China
 TEL: +86-512-6251-5088 / FAX: +86-512-6251-5098

Documented By : *Alice Ni*
 (Engineering ADM: Alice Ni)
 Reviewed By : *Marlin Chen*
 (Engineering Supervisor: Marlin Chen)
 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	: TÜV 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/emc/accreditations/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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1. General Information

1.1. EUT Description

Product Name	WIRELESS ACCESS POINT
Trade Name	COMPEX
Model No.	MMS2543HVN5-23ESD
Working Voltage	AC 230V/ 50Hz
Frequency Range	802.11a/n(20MHz): 5500 - 5700 MHz 802.11n(40MHz): 5510 - 5670 MHz
Channel Number	802.11a/n(20MHz): 11 802.11n(40MHz): 5
Type of Modulation	802.11a/n: OFDM
Data Rate	802.11a: 6/9/12/18/24/36/48/54 Mbps 802.11n: up to 300 Mbps
Channel Control	Auto
Antenna Delivery	2*Tx + 2*Rx
Antenna Type	Reference to Antenna List
Peak Antenna Gain	Reference to Antenna List
AC Adapter	Manufacturer: DVE M/N: DSA-0421S-501 Input: 100-240V~, 1.2A, 50-60Hz Output: 48V, 0.625A MAX

For 5.0GHz Band

802.11a/n(20MHz) Working Frequency of Each Channel:							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
100	5500 MHz	104	5520 MHz	108	5540 MHz	112	5560 MHz
116	5580 MHz	120	5600 MHz	124	5620 MHz	128	5640 MHz
132	5660 MHz	136	5680 MHz	140	5700 MHz	N/A	N/A

802.11n(40MHz) Working Frequency of Each Channel:							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
102	5510 MHz	110	5550 MHz	118	5590 MHz	126	5630 MHz
134	5670 MHz	N/A	N/A	N/A	N/A	N/A	N/A

802.11a/n Antenna List

Antenna	Manufacturer	Model No.	Peak Gain
Dipole Antenna	EXCELTEK	C0053-ANG0003	5GHz: 2dBi
Panel Antenna	COMPEX	MJE2-5N17	5GHz: 17dBi
Panel Antenna	COMPEX	MME2-5N19	5GHz: 19dBi

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:

Test Mode 1-2dBi
Mode 1-1: Transmit by 802.11a
Mode 1-2: Transmit by 802.11n (20MHz)
Mode 1-3: Transmit by 802.11n (40MHz)
Mode 1-4: Receive by 802.11n (20MHz)
Mode 1-5: Receive by 802.11n (40MHz)

Test Mode 2-19dBi(Note)
Mode 2-1: Transmit by 802.11a
Mode 2-2: Transmit by 802.11n (20MHz)
Mode 2-3: Transmit by 802.11n (40MHz)
Mode 2-4: Receive by 802.11n (20MHz)
Mode 2-5: Receive by 802.11n (40MHz)

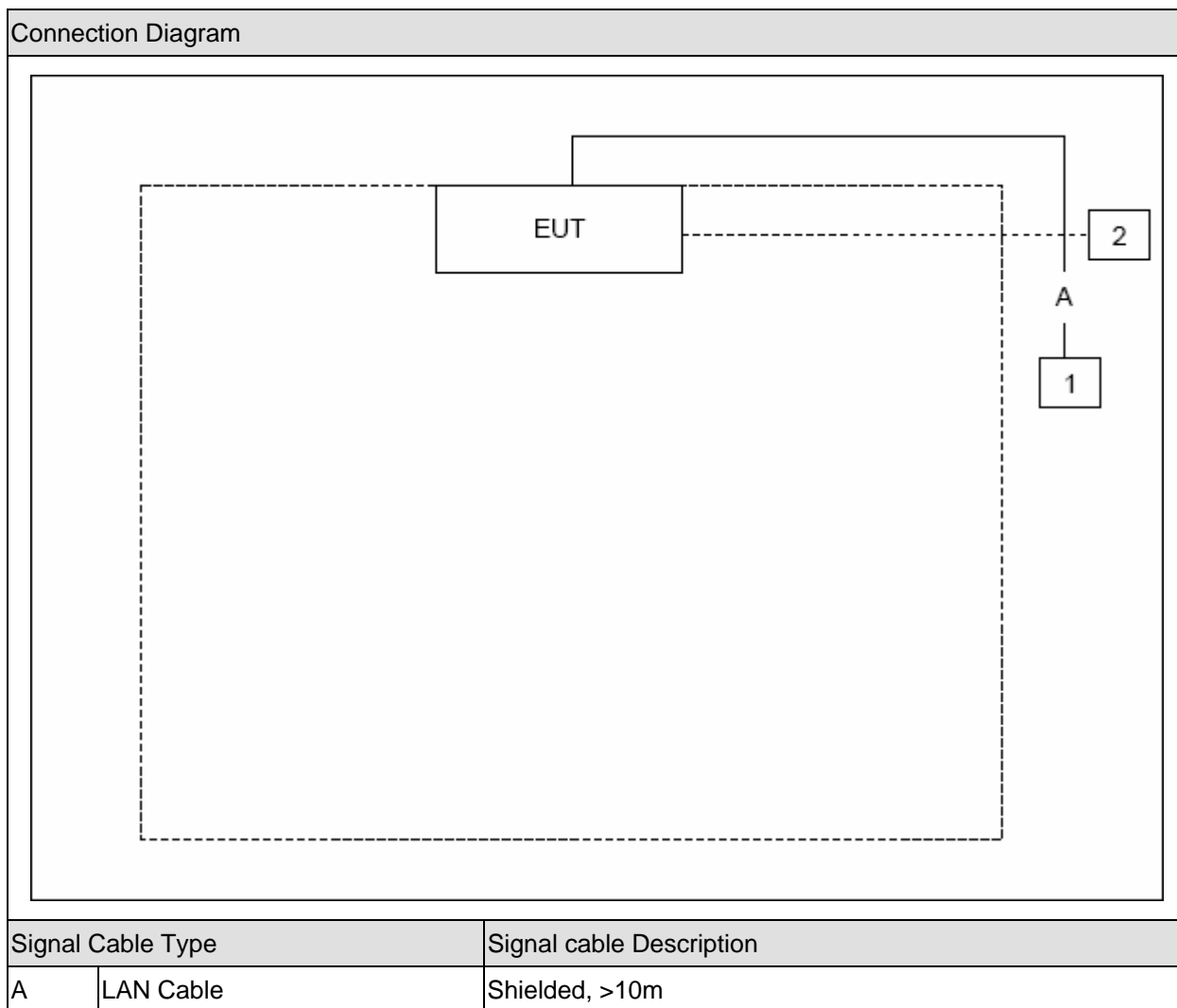
Note: for the same type antenna, we chose the antenna with higher gain for spurious emission test.

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	N/A
2	MacBook	Apple	MB061CH	W8732B4TZ5V	R33057

1.4. Configuration of Tested System



1.5. EUT Exercise Software

1	Setup the EUT and simulators as shown on above.
2	Turn on the power of equipment.
3	Run the RF test software "BRICKS", and set the test mode and channel, then press OK to start continue Transmit or receive.

2. Technical Test

2.1. Summary of Test Result

- No deviations from the test standards
- Deviations from the test standards as below description:

Performed Test Item	Normative References	Test Performed	Deviation
Carrier Frequencies	ETSI EN 301 893 V1.5.1 (2008-12)	Yes	No
Occupied Channel Bandwidth	ETSI EN 301 893 V1.5.1 (2008-12)	Yes	No
RF Output Power, Transmit Power Control (TPC) and Power Density	ETSI EN 301 893 V1.5.1 (2008-12)	Yes	No
Transmitter Unwanted Emissions Outside the 5GHz RLAN Bands	ETSI EN 301 893 V1.5.1 (2008-12)	Yes	No
Transmitter Unwanted Emissions Within the 5GHz RLAN Bands	ETSI EN 301 893 V1.5.1 (2008-12)	Yes	No
Receiver Spurious Emissions	ETSI EN 301 893 V1.5.1 (2008-12)	Yes	No
Dynamic Frequency Selection (DFS)	ETSI EN 301 893 V1.5.1 (2008-12)	Yes	No

Note: The requirement of Medium Access Protocol and User Access Restrictions for DFS Controls shall be implemented by manufacture.

2.2. Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Parameter	Uncertainty
Radio Frequency	$\pm 1 \times 10^{-7}$
RF Power Conducted	$\pm 0.7\text{dB}$
RF Power Radiated	$\pm 5.2\text{dB}$
Spurious Emissions, Conducted	$\pm 2.8\text{dB}$
Spurious Emissions, Radiated	$\pm 5.2\text{dB}$
Humidity	$\pm 1\%$
Temperature	$\pm 0.5^\circ\text{C}$
Time	$\pm 8\%$

2.3. Test Environment

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	21
Humidity (%RH)	25-75	50
Barometric pressure (mbar)	860-1060	950-1000

3. Carrier Frequencies

3.1. Test Equipment

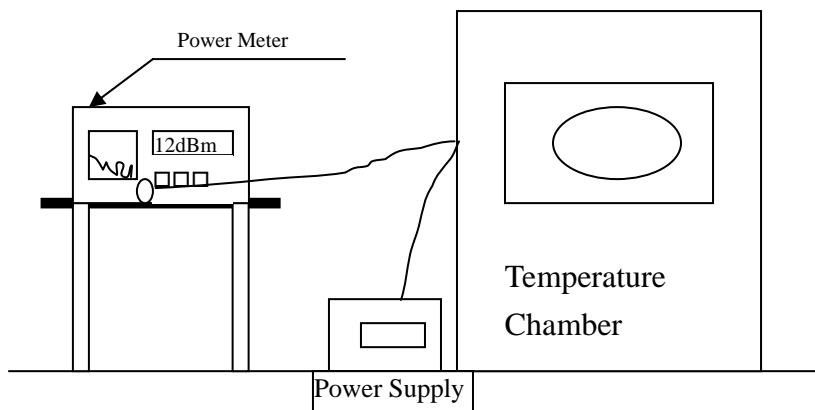
Carrier Frequencies / AC-6

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2010.04.30
AC Power Supply	IDRC	CF-500TP	979422	2009.10.21
Programmable Temperature & Humidity Chamber	Gaoyu	TH-1P-B	WIT-05121302	2010.01.19
Temperature/Humidity Meter	zhicheng	ZC1-2	AC6-TH	2010.01.14

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

3.2. Test Setup

For Conducted Measurement



3.3. Limit

The actual centre frequency for any given channel declared by the manufacturer shall be maintained within the range $f_c \pm 20$ ppm.

3.4. Test Procedure

Refer to ETSI EN 301 893 V1.5.1 (2008-12) Clause 5.3.2

3.5. Test Result

Product	:	WIRELESS ACCESS POINT
Test Item	:	Carrier Frequencies
Test Site	:	AC-6
Test Mode	:	Transmit by carrier

Test Conditions		Frequency (MHz)	Measured Carrier Frequency (MHz)	ΔF (ppm)	Limit (ppm)
Tnom (25 °C)	Vnom (AC 230V)	5500.000000	5500.017924	-3.26	±20
		5700.000000	5700.010635	-1.87	±20
Tmax (70 °C)	Vmax (AC 253V)	5500.000000	5500.017922	-3.26	±20
		5700.000000	5700.010633	-1.87	±20
Tmax (70 °C)	Vmin (AC 207V)	5500.000000	5500.017923	-3.26	±20
		5700.000000	5700.010636	-1.87	±20
Tmin (-20 °C)	Vmax (AC 253V)	5500.000000	5500.017921	-3.26	±20
		5700.000000	5700.010637	-1.87	±20
Tmin (-20 °C)	Vmin (AC 207V)	5500.000000	5500.017922	-3.26	±20
		5700.000000	5700.010633	-1.87	±20

4. Occupied Channel Bandwidth

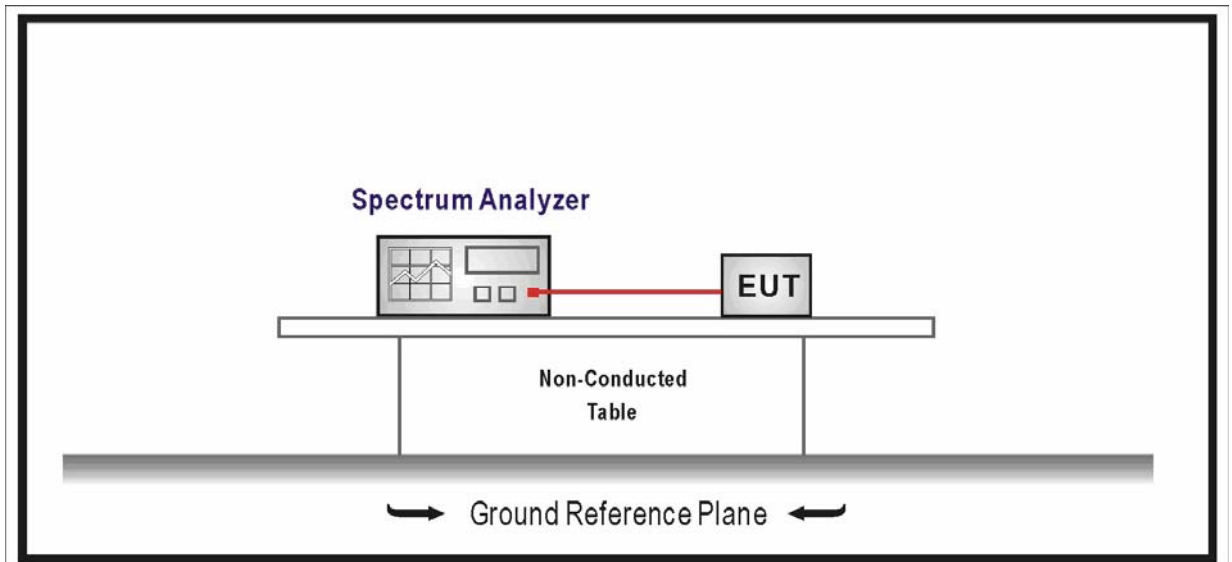
4.1. Test Equipment

Occupied Channel Bandwidth / AC-6

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2010.04.30
Temperature/Humidity Meter	zhicheng	ZC1-2	AC6-TH	2010.01.14

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

4.2. Test Setup



4.3. Limit

The nominal bandwidth shall be in the range from 10 MHz to 40 MHz.

The occupied channel bandwidth shall be between 80% and 100% of the declared nominal channel bandwidth. In case of smart antenna systems (devices with multiple transmit chains) each of the transmit chains shall meet this requirement.

Note: The limit for occupied bandwidth is not applicable for devices with a nominal bandwidth of 40 MHz when temporarily operating in a mode in which they transmit only in the upper or lower 20 MHz part of a 40 MHz channel. (e.g. to transmit a packet in the upper or lower 20 MHz part of a 40 MHz channel).

4.4. Test Procedure

Refer to ETSI EN 301 893 V1.4.1 (2007-07) Clause 5.3.3

4.5. Test Result

Product	:	WIRELESS ACCESS POINT
Test Item	:	Occupied Channel Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 100)

Frequency (MHz)	Occupied Channel Bandwidth (MHz)	Limit (MHz)	Declared Nominal Channel Bandwidth (MHz)	Occupied Channel Bandwidth (%)	Limit (%)
5500	16.37	16~20	20	81.85	80 - 100
5700	16.33	16~20	20	81.65	80 - 100

Product	:	WIRELESS ACCESS POINT
Test Item	:	Occupied Channel Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 2: Transmit by 802.11n(20MHz) (Chain 100)

Frequency (MHz)	Occupied Channel Bandwidth (MHz)	Limit (MHz)	Declared Nominal Channel Bandwidth (MHz)	Occupied Channel Bandwidth (%)	Limit (%)
5500	17.51	16~20	20	87.55	80 - 100
5700	17.43	16~20	20	87.15	80 - 100

Product	:	WIRELESS ACCESS POINT
Test Item	:	Occupied Channel Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 3: Transmit by 802.11n(40MHz) (Chain 100)

Frequency (MHz)	Occupied Channel Bandwidth (MHz)	Limit (MHz)	Declared Nominal Channel Bandwidth (MHz)	Occupied Channel Bandwidth (%)	Limit (%)
5510	36.27	32~40	40	90.67	80 - 100
5670	36.13	32~40	40	90.32	80 - 100

Product	:	WIRELESS ACCESS POINT
Test Item	:	Occupied Channel Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 010)

Frequency (MHz)	Occupied Channel Bandwidth (MHz)	Limit (MHz)	Declared Nominal Channel Bandwidth (MHz)	Occupied Channel Bandwidth (%)	Limit (%)
5500	16.37	16~20	20	81.85	80 - 100
5700	16.33	16~20	20	81.65	80 - 100

Product	:	WIRELESS ACCESS POINT
Test Item	:	Occupied Channel Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 2: Transmit by 802.11n(20MHz) (Chain 010)

Frequency (MHz)	Occupied Channel Bandwidth (MHz)	Limit (MHz)	Declared Nominal Channel Bandwidth (MHz)	Occupied Channel Bandwidth (%)	Limit (%)
5500	17.51	16~20	20	87.55	80 - 100
5700	17.43	16~20	20	87.15	80 - 100

Product	:	WIRELESS ACCESS POINT
Test Item	:	Occupied Channel Bandwidth
Test Site	:	AC-6
Test Mode	:	Mode 3: Transmit by 802.11n(40MHz) (Chain 010)

Frequency (MHz)	Occupied Channel Bandwidth (MHz)	Limit (MHz)	Declared Nominal Channel Bandwidth (MHz)	Occupied Channel Bandwidth (%)	Limit (%)
5510	36.27	32~40	40	90.67	80 - 100
5670	36.14	32~40	40	90.35	80 - 100

5. RF Output Power, Transmit Power Control (TPC) and Power Density

5.1. Test Equipment

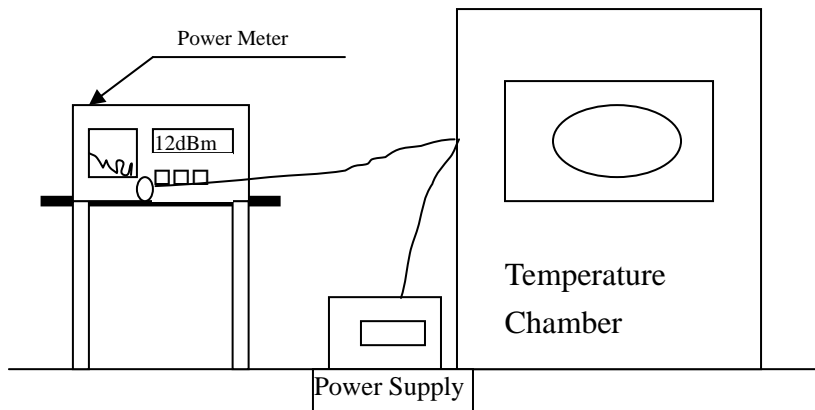
RF Output Power, Transmit Power Control (TPC) and Power Density / AC-6

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2010.04.30
AC Power Supply	IDRC	CF-500TP	979422	2009.10.21
Programmable Temperature & Humidity Chamber	Gaoyu	TH-1P-B	WIT-05121302	2010.01.19
Temperature/Humidity Meter	zhicheng	ZC1-2	AC6-TH	2010.01.14

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

5.2. Test Setup

Conducted Measurement



5.3. Limit

RF Output Power and Power density at the Highest Power Level

For devices with TPC, the RF output power and the power density when configured to operate at the highest stated power level of the TPC range shall not exceed the levels given in following table.

For devices without TPC, the limits in table shall be reduced by 3 dB, except when operating on channels whose nominal bandwidth falls completely within the band 5150 MHz to 5250 MHz.

Mean EIRP limits for RF Output Power and Power Density at the Highest Power Level		
Frequency Range	Mean EIRP Limit	Mean EIRP Density Limit
5150 MHz to 5350 MHz	23 dBm	10 dBm/MHz
5470 MHz to 5725 MHz	30 dBm (see note)	17 dBm/MHz (see note)
Note: For Slave devices without a Radar Interference Detection function the mean EIRP shall be less than 23 dBm and the mean EIRP density shall be less than 10 dBm/MHz.		

RF Output Power at the Lowest Power Level of the TPC Range

For devices using TPC, the RF output power during a transmission burst when configured to operate at the lowest stated power level of the TPC range shall not exceed the levels given in following table.

Mean EIRP Limits for RF Output Power at the Lowest Power Level of the TPC Range	
Frequency Range	Mean EIRP
5250 MHz to 5350 MHz	17 dBm
5470 MHz to 5725 MHz	24 dBm (see note)
Note: For Slave devices without a Radar Interference Detection function the mean EIRP shall be less than 17 dBm.	

5.4. Test Procedure

Refer to ETSI EN 301 893 V1.4.1 (2007-07) Clause 5.3.4

5.5. Test Result

Product	:	WIRELESS ACCESS POINT
Test Item	:	Equivalent Isotropic Radiated Power
Test Site	:	AC-6
Test Mode	:	Mode 2-1: Transmit by 802.11a(Chain 100)

Antenna Gain = 19dBi, Duty Cycle = 99%					
Test Conditions		Frequency (MHz)	Measured Power (dBm)	EIRP Level (dBm)	Limit (dBm)
T _{nom} (25 °C)	V _{nom} (AC 230V)	5500	7.79	26.83	30
		5700	8.25	27.29	30
T _{max} (70 °C)	V _{max} (AC 253V)	5500	7.72	26.76	30
		5700	8.15	27.19	30
T _{max} (70 °C)	V _{min} (AC 207V)	5500	7.73	26.77	30
		5700	8.16	27.20	30
T _{min} (-20 °C)	V _{max} (AC 253V)	5500	7.81	26.85	30
		5700	8.25	27.29	30
T _{min} (-20 °C)	V _{min} (AC 207V)	5500	7.82	26.86	30
		5700	8.25	27.29	30

EIRP = Measured Power + Antenna Gain + 10 log (1/Duty Cycle)

Product	:	WIRELESS ACCESS POINT
Test Item	:	Equivalent Isotropic Radiated Power
Test Site	:	AC-6
Test Mode	:	Mode 2-1: Transmit by 802.11a(Chain 010)

Antenna Gain = 19dBi, Duty Cycle = 99%					
Test Conditions		Frequency (MHz)	Measured Power (dBm)	EIRP Level (dBm)	Limit (dBm)
T _{nom} (25 °C)	V _{nom} (AC 230V)	5500	7.86	26.90	30
		5700	7.98	27.02	30
T _{max} (70 °C)	V _{max} (AC 253V)	5500	7.82	26.86	30
		5700	7.93	26.97	30
T _{max} (70 °C)	V _{min} (AC 207V)	5500	7.83	26.87	30
		5700	7.91	26.95	30
T _{min} (-20 °C)	V _{max} (AC 253V)	5500	7.89	26.93	30
		5700	7.99	27.03	30
T _{min} (-20 °C)	V _{min} (AC 207V)	5500	7.90	26.94	30
		5700	7.99	27.03	30

EIRP = Measured Power + Antenna Gain + 10 log (1/Duty Cycle)

Product	:	WIRELESS ACCESS POINT
Test Item	:	Equivalent Isotropic Radiated Power
Test Site	:	AC-6
Test Mode	:	Mode 2-2: Transmit by 802.11n(20MHz)(Chain 100)

Antenna Gain = 19dBi, Duty Cycle = 99%					
Test Conditions		Frequency (MHz)	Measured Power (dBm)	EIRP Level (dBm)	Limit (dBm)
T _{nom} (25 °C)	V _{nom} (AC 230V)	5500	5.27	24.31	30
		5700	5.72	24.76	30
T _{max} (70 °C)	V _{max} (AC 253V)	5500	5.22	24.26	30
		5700	5.69	24.73	30
T _{max} (70 °C)	V _{min} (AC 207V)	5500	5.21	24.25	30
		5700	5.70	24.74	30
T _{min} (-20 °C)	V _{max} (AC 253V)	5500	5.28	24.32	30
		5700	5.72	24.76	30
T _{min} (-20 °C)	V _{min} (AC 207V)	5500	5.30	24.34	30
		5700	5.73	24.77	30

EIRP = Measured Power + Antenna Gain + 10 log (1/Duty Cycle)

Product	:	WIRELESS ACCESS POINT
Test Item	:	Equivalent Isotropic Radiated Power
Test Site	:	AC-6
Test Mode	:	Mode 2-2: Transmit by 802.11n(20MHz)(Chain 010)

Antenna Gain = 19dBi, Duty Cycle = 99%					
Test Conditions		Frequency (MHz)	Measured Power (dBm)	EIRP Level (dBm)	Limit (dBm)
T _{nom} (25 °C)	V _{nom} (AC 230V)	5500	5.00	24.04	30
		5700	5.07	24.11	30
T _{max} (70 °C)	V _{max} (AC 253V)	5500	4.93	23.97	30
		5700	5.02	24.06	30
T _{max} (70 °C)	V _{min} (AC 207V)	5500	4.92	23.96	30
		5700	5.04	24.08	30
T _{min} (-20 °C)	V _{max} (AC 253V)	5500	5.02	24.06	30
		5700	5.07	24.11	30
T _{min} (-20 °C)	V _{min} (AC 207V)	5500	5.02	24.06	30
		5700	5.10	24.14	30

EIRP = Measured Power + Antenna Gain + 10 log (1/Duty Cycle)

Product	:	WIRELESS ACCESS POINT
Test Item	:	Equivalent Isotropic Radiated Power
Test Site	:	AC-6
Test Mode	:	Mode 2-2: Transmit by 802.11n(20MHz)(Chain 110)

Antenna Gain = 19dBi, Duty Cycle = 99%							
Test Conditions		Frequency (MHz)	Measured Power (Chain 100) (dBm)	Measured Power (Chain 010) (dBm)	Measured Power (Total) (dBm)	EIRP (dBm)	Limit (dBm)
T _{nom} (25 °C)	V _{nom} (AC 230V)	5500	5.48	5.36	8.43	27.47	30
		5700	5.62	5.32	8.48	27.52	30
T _{max} (70 °C)	V _{max} (AC 253V)	5500	5.42	5.32	8.38	27.42	30
		5700	5.59	5.27	8.44	27.48	30
T _{max} (70 °C)	V _{min} (AC 207V)	5500	5.41	5.31	8.37	27.41	30
		5700	5.57	5.25	8.42	27.46	30
T _{min} (-20 °C)	V _{max} (AC 253V)	5500	5.49	5.35	8.43	27.47	30
		5700	5.65	5.32	8.50	27.54	30
T _{min} (-20 °C)	V _{min} (AC 207V)	5500	5.49	5.34	8.43	27.47	30
		5700	5.64	5.31	8.49	27.53	30

EIRP = Measured Power + Antenna Gain + 10 log (1/Duty Cycle)

Product	:	WIRELESS ACCESS POINT
Test Item	:	Equivalent Isotropic Radiated Power
Test Site	:	AC-6
Test Mode	:	Mode 2-3: Transmit by 802.11n(40MHz)(Chain 100)

Antenna Gain = 19dBi, Duty Cycle = 98%					
Test Conditions		Frequency (MHz)	Measured Power (dBm)	EIRP Level (dBm)	Limit (dBm)
T _{nom} (25 °C)	V _{nom} (AC 230V)	5510	6.51	25.60	30
		5670	6.41	25.50	30
T _{max} (70 °C)	V _{max} (AC 253V)	5510	6.47	25.56	30
		5670	6.39	25.48	30
T _{max} (70 °C)	V _{min} (AC 207V)	5510	6.48	25.57	30
		5670	6.40	25.49	30
T _{min} (-20 °C)	V _{max} (AC 253V)	5510	6.52	25.61	30
		5670	6.43	25.52	30
T _{min} (-20 °C)	V _{min} (AC 207V)	5510	6.53	25.62	30
		5670	6.42	25.51	30

EIRP = Measured Power + Antenna Gain + 10 log (1/Duty Cycle)

Product	:	WIRELESS ACCESS POINT
Test Item	:	Equivalent Isotropic Radiated Power
Test Site	:	AC-6
Test Mode	:	Mode 2-3: Transmit by 802.11n(40MHz)(Chain 010)

Antenna Gain = 19dBi, Duty Cycle = 98%					
Test Conditions		Frequency (MHz)	Measured Power (dBm)	EIRP Level (dBm)	Limit (dBm)
T _{nom} (25 °C)	V _{nom} (AC 230V)	5510	6.09	25.18	30
		5670	6.41	25.50	30
T _{max} (70 °C)	V _{max} (AC 253V)	5510	6.02	25.11	30
		5670	6.35	25.44	30
T _{max} (70 °C)	V _{min} (AC 207V)	5510	6.01	25.10	30
		5670	6.33	25.42	30
T _{min} (-20 °C)	V _{max} (AC 253V)	5510	6.10	25.19	30
		5670	6.45	25.54	30
T _{min} (-20 °C)	V _{min} (AC 207V)	5510	6.12	25.21	30
		5670	6.43	25.52	30

EIRP = Measured Power + Antenna Gain + 10 log (1/Duty Cycle)

Product	:	WIRELESS ACCESS POINT
Test Item	:	Equivalent Isotropic Radiated Power
Test Site	:	AC-6
Test Mode	:	Mode 2-3: Transmit by 802.11n(40MHz)(Chain 110)

Antenna Gain = 19dBi, Duty Cycle = 98%							
Test Conditions		Frequency (MHz)	Measured Power (Chain 100) (dBm)	Measured Power (Chain 010) (dBm)	Measured Power (Total) (dBm)	EIRP (dBm)	Limit (dBm)
T _{nom} (25 °C)	V _{nom} (AC 230V)	5510	6.47	5.96	9.23	28.32	30
		5670	6.25	6.43	9.35	28.44	30
T _{max} (70 °C)	V _{max} (AC 253V)	5510	6.44	5.92	9.20	28.29	30
		5670	6.21	6.39	9.31	28.40	30
T _{max} (70 °C)	V _{min} (AC 207V)	5510	6.43	5.91	9.19	28.28	30
		5670	6.20	6.40	9.31	28.40	30
T _{min} (-20 °C)	V _{max} (AC 253V)	5510	6.48	5.99	9.25	28.34	30
		5670	6.24	6.42	9.34	28.43	30
T _{min} (-20 °C)	V _{min} (AC 207V)	5510	6.47	5.99	9.25	28.34	30
		5670	6.25	6.41	9.34	28.43	30

EIRP = Measured Power + Antenna Gain + 10 log (1/Duty Cycle)

Product	:	WIRELESS ACCESS POINT
Test Item	:	TPC
Test Site	:	AC6
Test Mode	:	Mode 1: Transmit by 802.11a(Chain 100)

Antenna Gain = 19dBi, Duty Cycle = 99%					
Test Conditions		Frequency (MHz)	Measured Power (dBm)	EIRP of TPC (dBm)	Limit (dBm)
T _{nom} (25 °C)	V _{nom} (AC 230V)	5500	-7.53	11.51	24
		5700	-8.31	10.73	24
T _{max} (70 °C)	V _{max} (AC 253V)	5500	-7.62	11.42	24
		5700	-8.44	10.60	24
T _{max} (70 °C)	V _{min} (AC 207V)	5500	-7.64	11.40	24
		5700	-8.42	10.62	24
T _{min} (-20 °C)	V _{max} (AC 253V)	5500	-7.52	11.52	24
		5700	-8.28	10.76	24
T _{min} (-20 °C)	V _{min} (AC 207V)	5500	-7.51	11.53	24
		5700	-8.30	10.74	24

EIRP = Measured Power + Antenna Gain + 10 log (1/Duty Cycle)

Product	:	WIRELESS ACCESS POINT
Test Item	:	TPC
Test Site	:	AC6
Test Mode	:	Mode 1: Transmit by 802.11a(Chain 010)

Antenna Gain = 19dBi, Duty Cycle = 99%					
Test Conditions		Frequency (MHz)	Measured Power (dBm)	EIRP of TPC (dBm)	Limit (dBm)
T _{nom} (25 °C)	V _{nom} (AC 230V)	5500	-6.86	12.18	24
		5700	-1.34	17.70	24
T _{max} (70 °C)	V _{max} (AC 253V)	5500	-6.91	12.13	24
		5700	-1.35	17.69	24
T _{max} (70 °C)	V _{min} (AC 207V)	5500	-6.90	12.14	24
		5700	-1.38	17.66	24
T _{min} (-20 °C)	V _{max} (AC 253V)	5500	-6.82	12.22	24
		5700	-1.33	17.71	24
T _{min} (-20 °C)	V _{min} (AC 207V)	5500	-6.85	12.19	24
		5700	-1.35	17.69	24

EIRP = Measured Power + Antenna Gain + 10 log (1/Duty Cycle)

Product	:	WIRELESS ACCESS POINT
Test Item	:	TPC
Test Site	:	AC6
Test Mode	:	Mode 2: Transmit by 802.11n(20MHz)(Chain 100)

Antenna Gain = 19dBi, Duty Cycle = 99%					
Test Conditions		Frequency (MHz)	Measured Power (dBm)	EIRP of TPC (dBm)	Limit (dBm)
T _{nom} (25 °C)	V _{nom} (AC 230V)	5500	-9.93	9.11	24
		5700	-12.40	6.64	24
T _{max} (70 °C)	V _{max} (AC 253V)	5500	-9.94	9.10	24
		5700	-12.52	6.52	24
T _{max} (70 °C)	V _{min} (AC 207V)	5500	-9.96	9.08	24
		5700	-12.49	6.55	24
T _{min} (-20 °C)	V _{max} (AC 253V)	5500	-9.92	9.12	24
		5700	-12.37	6.67	24
T _{min} (-20 °C)	V _{min} (AC 207V)	5500	-9.92	9.12	24
		5700	-12.42	6.62	24

EIRP = Measured Power + Antenna Gain + 10 log (1/Duty Cycle)

Product	:	WIRELESS ACCESS POINT
Test Item	:	TPC
Test Site	:	AC6
Test Mode	:	Mode 2: Transmit by 802.11n(20MHz)(Chain 010)

Antenna Gain = 19dBi, Duty Cycle = 99%					
Test Conditions		Frequency (MHz)	Measured Power (dBm)	EIRP of TPC (dBm)	Limit (dBm)
T _{nom} (25 °C)	V _{nom} (AC 230V)	5500	-8.52	10.52	24
		5700	-1.40	17.64	24
T _{max} (70 °C)	V _{max} (AC 253V)	5500	-8.55	10.49	24
		5700	-1.48	17.56	24
T _{max} (70 °C)	V _{min} (AC 207V)	5500	-8.57	10.47	24
		5700	-1.47	17.57	24
T _{min} (-20 °C)	V _{max} (AC 253V)	5500	-8.51	10.53	24
		5700	-1.38	17.66	24
T _{min} (-20 °C)	V _{min} (AC 207V)	5500	-8.53	10.51	24
		5700	-1.35	17.69	24

EIRP = Measured Power + Antenna Gain + 10 log (1/Duty Cycle)

Product	:	WIRELESS ACCESS POINT
Test Item	:	TPC
Test Site	:	AC6
Test Mode	:	Mode 2: Transmit by 802.11n(20MHz)(Chain 110)

Antenna Gain = 19dBi, Duty Cycle = 99%							
Test Conditions		Frequency (MHz)	Measured Power (Chain 100) (dBm)	Measured Power (Chain 010) (dBm)	Measured Power (Total) (dBm)	EIRP (dBm)	Limit (dBm)
T _{nom} (25 °C)	V _{nom} (AC 230V)	5500	-10.24	-9.09	-6.62	12.42	24
		5700	-12.78	-0.93	-0.66	18.38	24
T _{max} (70 °C)	V _{max} (AC 253V)	5500	-10.27	-9.12	-6.65	12.39	24
		5700	-12.84	-1.01	-0.73	18.31	24
T _{max} (70 °C)	V _{min} (AC 207V)	5500	-10.29	-9.09	-6.64	12.40	24
		5700	-12.82	-0.95	-0.68	18.36	24
T _{min} (-20 °C)	V _{max} (AC 253V)	5500	-10.22	-9.08	-6.60	12.44	24
		5700	-12.72	-0.91	-0.63	18.41	24
T _{min} (-20 °C)	V _{min} (AC 207V)	5500	-10.24	-9.05	-6.59	12.45	24
		5700	-12.74	-0.93	-0.65	18.39	24

EIRP = Measured Power + Antenna Gain + 10 log (1/Duty Cycle)

Product	:	WIRELESS ACCESS POINT
Test Item	:	TPC
Test Site	:	AC6
Test Mode	:	Mode 3: Transmit by 802.11n(40MHz)(Chain 100)

Antenna Gain = 19dBi, Duty Cycle = 99%					
Test Conditions		Frequency (MHz)	Measured Power (dBm)	EIRP of TPC (dBm)	Limit (dBm)
T _{nom} (25 °C)	V _{nom} (AC 230V)	5510	-10.13	8.95	24
		5670	-3.58	15.50	24
T _{max} (70 °C)	V _{max} (AC 253V)	5510	-10.16	8.92	24
		5670	-3.63	15.45	24
T _{max} (70 °C)	V _{min} (AC 207V)	5510	-10.14	8.94	24
		5670	-3.65	15.43	24
T _{min} (-20 °C)	V _{max} (AC 253V)	5510	-10.11	8.97	24
		5670	-3.55	15.53	24
T _{min} (-20 °C)	V _{min} (AC 207V)	5510	-10.13	8.95	24
		5670	-3.56	15.52	24

EIRP = Measured Power + Antenna Gain + 10 log (1/Duty Cycle)

Product	:	WIRELESS ACCESS POINT
Test Item	:	TPC
Test Site	:	AC6
Test Mode	:	Mode 3: Transmit by 802.11n(40MHz)(Chain 010)

Antenna Gain = 19dBi, Duty Cycle = 99%					
Test Conditions		Frequency (MHz)	Measured Power (dBm)	EIRP of TPC (dBm)	Limit (dBm)
T _{nom} (25 °C)	V _{nom} (AC 230V)	5510	-8.74	10.34	24
		5670	2.17	21.25	24
T _{max} (70 °C)	V _{max} (AC 253V)	5510	-8.77	10.31	24
		5670	2.23	21.31	24
T _{max} (70 °C)	V _{min} (AC 207V)	5510	-8.80	10.28	24
		5670	2.19	21.27	24
T _{min} (-20 °C)	V _{max} (AC 253V)	5510	-8.68	10.40	24
		5670	2.16	21.24	24
T _{min} (-20 °C)	V _{min} (AC 207V)	5510	-8.72	10.36	24
		5670	2.14	21.22	24

EIRP = Measured Power + Antenna Gain + 10 log (1/Duty Cycle)

Product	:	WIRELESS ACCESS POINT
Test Item	:	TPC
Test Site	:	AC6
Test Mode	:	Mode 3: Transmit by 802.11n(40MHz)(Chain 110)

Antenna Gain = 19dBi, Duty Cycle = 98%							
Test Conditions		Frequency (MHz)	Measured Power (Chain 100) (dBm)	Measured Power (Chain 010) (dBm)	Measured Power (Total) (dBm)	EIRP (dBm)	Limit (dBm)
T _{nom} (25 °C)	V _{nom} (AC 230V)	5510	-10.47	-9.20	-6.78	12.30	24
		5670	-3.57	1.94	3.02	22.10	24
T _{max} (70 °C)	V _{max} (AC 253V)	5510	-10.50	-9.25	-6.82	12.26	24
		5670	-3.62	1.93	3.00	22.08	24
T _{max} (70 °C)	V _{min} (AC 207V)	5510	-10.52	-9.24	-6.82	12.26	24
		5670	-3.63	1.95	3.01	22.09	24
T _{min} (-20 °C)	V _{max} (AC 253V)	5510	-10.42	-9.17	-6.74	12.34	24
		5670	-3.52	1.91	3.00	22.08	24
T _{min} (-20 °C)	V _{min} (AC 207V)	5510	-10.44	-9.20	-6.77	12.31	24
		5670	-3.52	1.95	3.03	22.11	24

EIRP = Measured Power + Antenna Gain + 10 log (1/Duty Cycle)

Product	:	WIRELESS ACCESS POINT
Test Item	:	Maximum Spectral Power Density
Test Site	:	AC-6
Test Mode	:	Mode 2-1: Transmit by 802.11a (Chain 100)

Antenna Gain = 19dBi, Duty Cycle = 99%				
Frequency (MHz)	Measurement Density (dBm/MHz)		Total Power Density (dBm/MHz)	Limit (dBm/MHz)
	Chain 100	Chain 010		
5500	-3.90	N/A	15.14	17
5700	-3.26	N/A	15.78	17

Product	:	WIRELESS ACCESS POINT
Test Item	:	Maximum Spectral Power Density
Test Site	:	AC-6
Test Mode	:	Mode 2-1: Transmit by 802.11a (Chain 010)

Antenna Gain = 19dBi, Duty Cycle = 99%				
Frequency (MHz)	Measurement Density (dBm/MHz)		Total Power Density (dBm/MHz)	Limit (dBm/MHz)
	Chain 100	Chain 010		
5500	N/A	-3.62	15.42	17
5700	N/A	-3.14	15.90	17

Product	:	WIRELESS ACCESS POINT
Test Item	:	Maximum Spectral Power Density
Test Site	:	AC-6
Test Mode	:	Mode 2-2: Transmit by 802.11n(20MHz) (Chain 100)

Antenna Gain = 19dBi, Duty Cycle = 99%				
Frequency (MHz)	Measurement Density (dBm/MHz)		Total Power Density (dBm/MHz)	Limit (dBm/MHz)
	Chain 100	Chain 010		
5500	-6.34	N/A	12.70	17
5700	-6.30	N/A	12.74	17

Product	:	WIRELESS ACCESS POINT
Test Item	:	Maximum Spectral Power Density
Test Site	:	AC-6
Test Mode	:	Mode 2-2: Transmit by 802.11n(20MHz) (Chain 010)

Antenna Gain = 19dBi, Duty Cycle = 99%				
Frequency (MHz)	Measurement Density (dBm/MHz)		Total Power Density (dBm/MHz)	Limit (dBm/MHz)
	Chain 100	Chain 010		
5500	N/A	-6.84	12.20	17
5700	N/A	-6.66	12.38	17

Product	:	WIRELESS ACCESS POINT
Test Item	:	Maximum Spectral Power Density
Test Site	:	AC-6
Test Mode	:	Mode 2-2: Transmit by 802.11n(20MHz) (Chain 110)

Antenna Gain = 19dBi, Duty Cycle = 99%				
Frequency (MHz)	Measurement Density (dBm/MHz)		Total Power Density (dBm/MHz)	Limit (dBm/MHz)
	Chain 100	Chain 010		
5500	-6.57	-6.33	15.60	17
5700	-6.01	-6.32	15.89	17

Product	:	WIRELESS ACCESS POINT
Test Item	:	Maximum Spectral Power Density
Test Site	:	AC-6
Test Mode	:	Mode 2-3: Transmit by 802.11n(40MHz) (Chain 100)

Antenna Gain = 19dBi, Duty Cycle = 98%				
Frequency (MHz)	Measurement Density (dBm/MHz)		Total Power Density (dBm/MHz)	Limit (dBm/MHz)
	Chain 100	Chain 010		
5510	-7.13	N/A	11.96	17
5670	-6.99	N/A	12.10	17

Product	:	WIRELESS ACCESS POINT
Test Item	:	Maximum Spectral Power Density
Test Site	:	AC-6
Test Mode	:	Mode 2-3: Transmit by 802.11n(40MHz) (Chain 010)

Antenna Gain = 19dBi, Duty Cycle = 98%				
Frequency (MHz)	Measurement Density (dBm/MHz)		Total Power Density (dBm/MHz)	Limit (dBm/MHz)
	Chain 100	Chain 010		
5510	N/A	-7.46	11.63	17
5670	N/A	-6.69	12.40	17

Product	:	WIRELESS ACCESS POINT
Test Item	:	Maximum Spectral Power Density
Test Site	:	AC-6
Test Mode	:	Mode 2-3: Transmit by 802.11n(40MHz) (Chain 110)

Antenna Gain = 19dBi, Duty Cycle = 98%				
Frequency (MHz)	Measurement Density (dBm/MHz)		Total Power Density (dBm/MHz)	Limit (dBm/MHz)
	Chain 100	Chain 010		
5510	-7.32	-7.56	14.66	17
5670	-6.94	-7.28	14.99	17

6. Transmitter Unwanted Emissions Outside the 5GHz RLAN Bands

6.1. Test Equipment

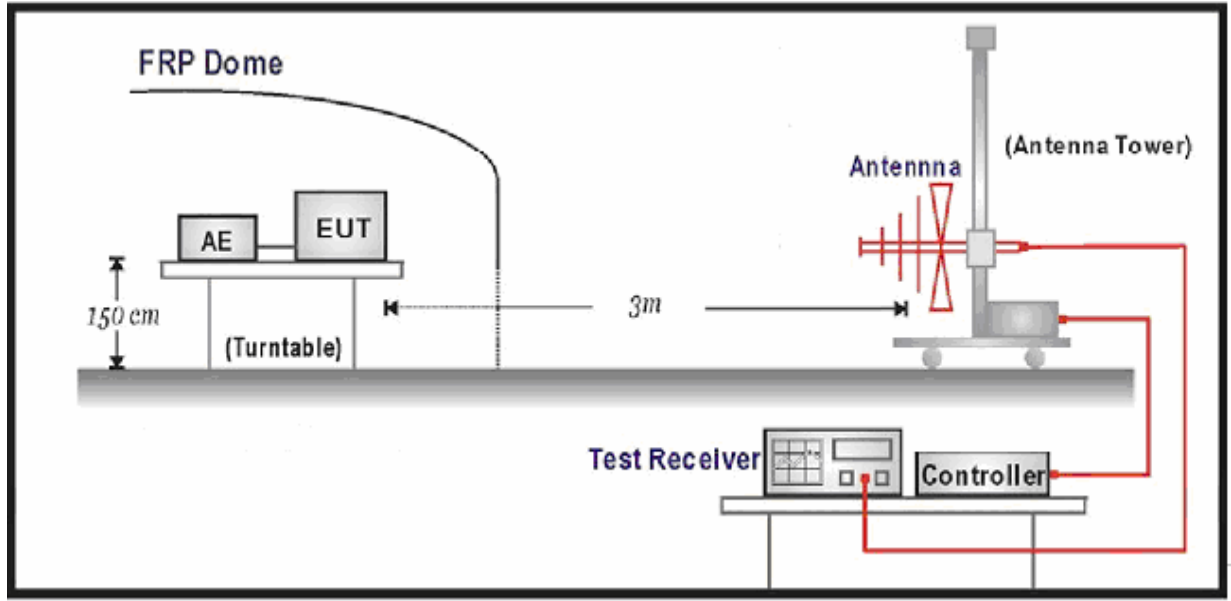
Transmitter Unwanted Emissions Outside the 5GHz RLAN Bands / AC-6

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2010.04.30
PSG Analog S.G.	Agilent	E8257D	MY44321116	2010.04.23
Preamplifier	Quietek	AP-025C	CHM-0503006	2010.05.05
Preamplifier	Quietek	AP-180C	CHM-0602013	2010.05.05
Bilog Type Antenna	Schaffner	CBL6141A	4278	NA
Half Wave Tuned Dipole Antenna	COM-POWER	AD-100	40137	2009.11.24
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	737	2009.11.24
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	499	2010.06.11
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2009.11.24
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	295	2009.11.24
High-Pass Filter	Wainwright	WHKX7.0/18G-8SS	SN16	2010.03.03
Low-Pass Filter	Wainwright	WLKS4500-9SS	SN2	2010.03.03
Temperature/Humidity Meter	zhicheng	ZC1-2	AC6-TH	2010.01.14

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

6.2. Test Setup

For Radiated Measurement



6.3. Limit

Frequency Range	Maximum Power, ERP	Bandwidth
30 MHz to 47 MHz	-36 dBm	100 kHz
47 MHz to 74 MHz	-54 dBm	100 kHz
74 MHz to 87.5 MHz	-36 dBm	100 kHz
87.5 MHz to 118 MHz	-54 dBm	100 kHz
118 MHz to 174 MHz	-36 dBm	100 kHz
174 MHz to 230 MHz	-54 dBm	100 kHz
230 MHz to 470 MHz	-36 dBm	100 kHz
470 MHz to 862 MHz	-54 dBm	100 kHz
862 MHz to 1 GHz	-36 dBm	100 kHz
1 GHz to 5.15 GHz	-30 dBm	1 MHz
5.35 GHz to 5.47 GHz	-30 dBm	1 MHz
5.725 GHz to 26.5 GHz	-30 dBm	1 MHz

6.4. Test Procedure

Refer to ETSI EN 301 893 V1.4.1 (2007-07) Clause 5.3.5

6.5. Test Result

Mode 1-1: 802.11a(Chain 100)					
Frequency (MHz)	Polarization (H/V)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector
Channel 100 (5500MHz)					
599.9	H	-67.3	-54	-13.3	PK
599.9	V	-70.0	-54	-16.0	PK
699.8	H	-65.5	-54	-11.5	PK
699.8	V	-61.9	-54	-7.9	PK
10420.0	H	-45.5	-30	-15.5	PK
10420.0	V	-39.1	-30	-9.1	PK
Channel 140 (5700MHz)					
699.8	H	-66.6	-54	-12.6	PK
699.8	V	-69.5	-54	-15.5	PK
733.2	H	-64.5	-54	-10.5	PK
733.2	V	-67.6	-54	-13.6	PK
10420.0	H	-46.1	-30	-16.1	PK
10420.0	V	-34.3	-30	-4.3	PK

Mode 1-1: 802.11a(Chain 010)					
Frequency (MHz)	Polarization (H/V)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector
Channel 100 (5500MHz)					
599.9	H	-67.3	-54	-13.3	PK
599.9	V	-70.0	-54	-16.0	PK
733.2	H	-64.5	-54	-10.5	PK
733.2	V	-67.6	-54	-13.6	PK
10420.0	H	-41.4	-30	-11.4	PK
10420.0	V	-40.5	-30	-10.5	PK
Channel 140 (5700MHz)					
599.9	H	-67.3	-54	-13.3	PK
599.9	V	-70.0	-54	-16.0	PK
699.8	H	-65.5	-54	-11.5	PK
699.8	V	-61.9	-54	-7.9	PK
10420.0	H	-41.7	-30	-11.7	PK
10420.0	V	-41.4	-30	-11.4	PK

Mode 1-2: 802.11n(20MHz) (Chain 100)					
Frequency (MHz)	Polarization (H/V)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector
Channel 100 (5500MHz)					
599.9	H	-66.6	-54	-12.6	PK
599.9	V	-70.2	-54	-16.2	PK
699.8	H	-62.2	-54	-8.2	PK
699.8	V	-66.2	-54	-12.2	PK
10420.0	H	-40.0	-30	-10.0	PK
10420.0	V	-39.4	-30	-9.4	PK
Channel 140 (5700MHz)					
599.9	H	-66.6	-54	-12.6	PK
599.9	V	-70.2	-54	-16.2	PK
666.8	H	-64.7	-54	-10.7	PK
666.8	V	-65.2	-54	-11.2	PK
10420.0	H	-43.6	-30	-13.6	PK
10420.0	V	-38.1	-30	-8.1	PK

Mode 1-2: 802.11n(20MHz) (Chain 010)					
Frequency (MHz)	Polarization (H/V)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector
Channel 100 (5500MHz)					
666.8	H	-64.7	-54	-10.7	PK
666.8	V	-65.2	-54	-11.2	PK
733.2	H	-65.2	-54	-11.2	PK
733.2	V	-67.8	-54	-13.8	PK
10420.0	H	-42.2	-30	-12.2	PK
10420.0	V	-41.7	-30	-11.7	PK
Channel 140 (5700MHz)					
599.9	H	-66.6	-54	-12.6	PK
599.9	V	-70.2	-54	-16.2	PK
733.2	H	-65.2	-54	-11.2	PK
733.2	V	-67.8	-54	-13.8	PK
10420.0	H	-41.5	-30	-11.5	PK
10420.0	V	-40.0	-30	-10.0	PK

Mode 1-2: 802.11n(20MHz) (Chain 110)					
Frequency (MHz)	Polarization (H/V)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector
Channel 100 (5500MHz)					
599.9	H	-66.6	-54	-12.6	PK
599.9	V	-70.2	-54	-16.2	PK
699.8	H	-62.2	-54	-8.2	PK
699.8	V	-66.2	-54	-12.2	PK
10420.0	H	-41.5	-30	-11.5	PK
10420.0	V	-38.6	-30	-8.6	PK
Channel 140 (5700MHz)					
599.9	H	-66.9	-54	-12.9	PK
599.9	V	-69.8	-54	-15.8	PK
699.8	H	-62.4	-54	-8.4	PK
699.8	V	-65.9	-54	-11.9	PK
10420.0	H	-39.6	-30	-9.6	PK
10420.0	V	-39.6	-30	-9.6	PK

Mode 1-3: 802.11n(40MHz) (Chain 100)					
Frequency (MHz)	Polarization (H/V)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector
Channel 102 (5510MHz)					
599.9	H	-64.3	-54	-10.3	PK
599.9	V	-67.6	-54	-13.6	PK
733.2	H	-63.7	-54	-9.7	PK
733.2	V	-66.2	-54	-12.2	PK
10420.0	H	-42.6	-30	-12.6	PK
10420.0	V	-41.2	-30	-11.2	PK
Channel 134 (5670MHz)					
666.8	H	-64.1	-54	-10.1	PK
666.8	V	-67.4	-54	-13.4	PK
699.8	H	-62.4	-54	-8.4	PK
699.8	V	-65.9	-54	-11.9	PK
10420.0	H	-40.9	-30	-10.9	PK
10420.0	V	-40.4	-30	-10.4	PK

Mode 1-3: 802.11n(40MHz) (Chain 010)					
Frequency (MHz)	Polarization (H/V)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector
Channel 102 (5510MHz)					
699.8	H	-62.4	-54	-8.4	PK
699.8	V	-65.9	-54	-11.9	PK
733.2	H	-63.7	-54	-9.7	PK
733.2	V	-66.2	-54	-12.2	PK
10420.0	H	-42.9	-30	-12.9	PK
10420.0	V	-41.9	-30	-11.9	PK
Channel 134 (5670MHz)					
599.9	H	-64.3	-54	-10.3	PK
599.9	V	-67.6	-54	-13.6	PK
666.8	H	-64.1	-54	-10.1	PK
666.8	V	-67.4	-54	-13.4	PK
10420.0	H	-42.9	-30	-12.9	PK
10420.0	V	-41.9	-30	-11.9	PK

Mode 1-3: 802.11n(40MHz) (Chain 110)					
Frequency (MHz)	Polarization (H/V)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector
Channel 102 (5510MHz)					
599.9	H	-64.3	-54	-10.3	PK
599.9	V	-67.6	-54	-13.6	PK
666.8	H	-64.1	-54	-10.1	PK
666.8	V	-67.4	-54	-13.4	PK
10420.0	H	-39.6	-30	-9.6	PK
10420.0	V	-36.9	-30	-6.9	PK
Channel 134 (5670MHz)					
699.8	H	-60.2	-54	-6.2	PK
699.8	V	-65.1	-54	-11.1	PK
733.2	H	-63.3	-54	-9.3	PK
733.2	V	-66.4	-54	-12.4	PK
10420.0	H	-41.5	-30	-11.5	PK
10420.0	V	-37.8	-30	-7.8	PK

Mode 2-1: 802.11a(Chain 100)					
Frequency (MHz)	Polarization (H/V)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector
Channel 100 (5500MHz)					
599.9	H	-67.3	-54	-13.3	PK
599.9	V	-70.0	-54	-16.0	PK
699.8	H	-65.5	-54	-11.5	PK
699.8	V	-61.9	-54	-7.9	PK
10420.0	H	-45.5	-30	-15.5	PK
10420.0	V	-39.1	-30	-9.1	PK
Channel 140 (5700MHz)					
699.8	H	-66.6	-54	-12.6	PK
699.8	V	-69.5	-54	-15.5	PK
733.2	H	-64.5	-54	-10.5	PK
733.2	V	-67.6	-54	-13.6	PK
10420.0	H	-46.1	-30	-16.1	PK
10420.0	V	-34.3	-30	-4.3	PK

Mode 2-1: 802.11a(Chain 010)					
Frequency (MHz)	Polarization (H/V)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector
Channel 100 (5500MHz)					
599.9	H	-67.3	-54	-13.3	PK
599.9	V	-70.0	-54	-16.0	PK
733.2	H	-64.5	-54	-10.5	PK
733.2	V	-67.6	-54	-13.6	PK
10420.0	H	-41.4	-30	-11.4	PK
10420.0	V	-40.5	-30	-10.5	PK
Channel 140 (5700MHz)					
599.9	H	-67.3	-54	-13.3	PK
599.9	V	-70.0	-54	-16.0	PK
699.8	H	-65.5	-54	-11.5	PK
699.8	V	-61.9	-54	-7.9	PK
10420.0	H	-41.7	-30	-11.7	PK
10420.0	V	-41.4	-30	-11.4	PK

Mode 2-2: 802.11n(20MHz) (Chain 100)					
Frequency (MHz)	Polarization (H/V)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector
Channel 100 (5500MHz)					
599.9	H	-66.6	-54	-12.6	PK
599.9	V	-70.2	-54	-16.2	PK
699.8	H	-62.2	-54	-8.2	PK
699.8	V	-66.2	-54	-12.2	PK
10420.0	H	-40.0	-30	-10.0	PK
10420.0	V	-39.4	-30	-9.4	PK
Channel 140 (5700MHz)					
599.9	H	-66.6	-54	-12.6	PK
599.9	V	-70.2	-54	-16.2	PK
666.8	H	-64.7	-54	-10.7	PK
666.8	V	-65.2	-54	-11.2	PK
10420.0	H	-43.6	-30	-13.6	PK
10420.0	V	-38.1	-30	-8.1	PK

Mode 2-2: 802.11n(20MHz) (Chain 010)					
Frequency (MHz)	Polarization (H/V)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector
Channel 100 (5500MHz)					
666.8	H	-64.7	-54	-10.7	PK
666.8	V	-65.2	-54	-11.2	PK
733.2	H	-65.2	-54	-11.2	PK
733.2	V	-67.8	-54	-13.8	PK
10420.0	H	-42.2	-30	-12.2	PK
10420.0	V	-41.7	-30	-11.7	PK
Channel 140 (5700MHz)					
599.9	H	-66.6	-54	-12.6	PK
599.9	V	-70.2	-54	-16.2	PK
733.2	H	-65.2	-54	-11.2	PK
733.2	V	-67.8	-54	-13.8	PK
10420.0	H	-41.5	-30	-11.5	PK
10420.0	V	-40.0	-30	-10.0	PK

Mode 2-2: 802.11n(20MHz) (Chain 110)					
Frequency (MHz)	Polarization (H/V)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector
Channel 100 (5500MHz)					
599.9	H	-66.6	-54	-12.6	PK
599.9	V	-70.2	-54	-16.2	PK
699.8	H	-62.2	-54	-8.2	PK
699.8	V	-66.2	-54	-12.2	PK
10420.0	H	-41.5	-30	-11.5	PK
10420.0	V	-38.6	-30	-8.6	PK
Channel 140 (5700MHz)					
599.9	H	-66.9	-54	-12.9	PK
599.9	V	-69.8	-54	-15.8	PK
699.8	H	-62.4	-54	-8.4	PK
699.8	V	-65.9	-54	-11.9	PK
10420.0	H	-39.6	-30	-9.6	PK
10420.0	V	-39.6	-30	-9.6	PK

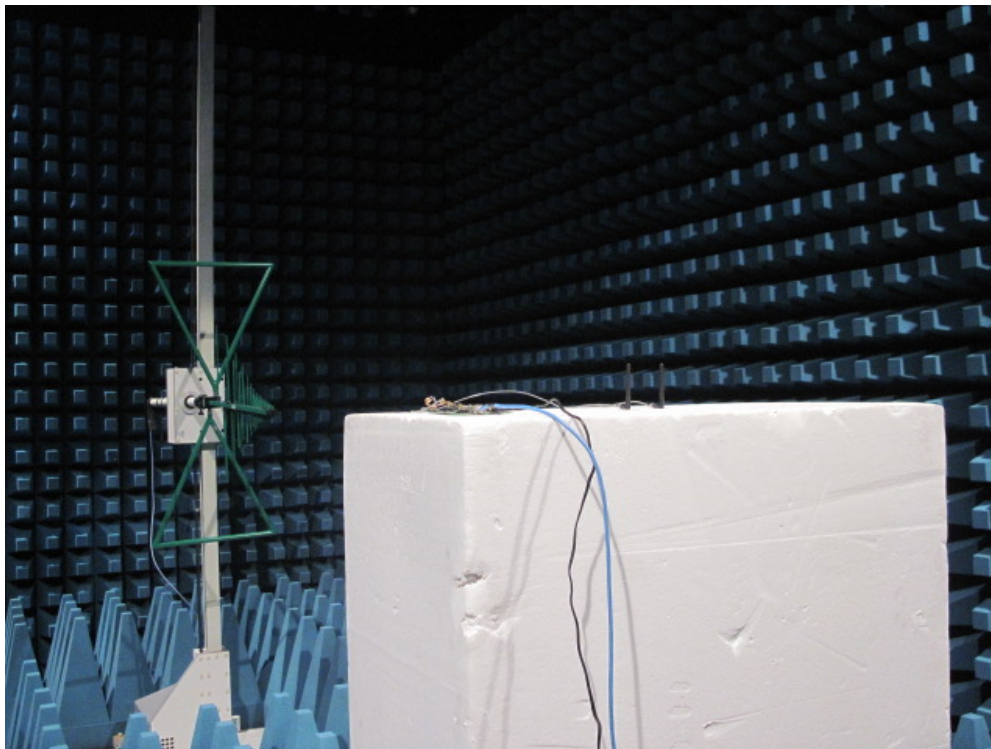
Mode 2-3: 802.11n(40MHz) (Chain 100)					
Frequency (MHz)	Polarization (H/V)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector
Channel 102 (5510MHz)					
599.9	H	-64.3	-54	-10.3	PK
599.9	V	-67.6	-54	-13.6	PK
733.2	H	-63.7	-54	-9.7	PK
733.2	V	-66.2	-54	-12.2	PK
10420.0	H	-42.6	-30	-12.6	PK
10420.0	V	-41.2	-30	-11.2	PK
Channel 134 (5670MHz)					
666.8	H	-64.1	-54	-10.1	PK
666.8	V	-67.4	-54	-13.4	PK
699.8	H	-62.4	-54	-8.4	PK
699.8	V	-65.9	-54	-11.9	PK
10420.0	H	-40.9	-30	-10.9	PK
10420.0	V	-40.4	-30	-10.4	PK

Mode 2-3: 802.11n(40MHz) (Chain 010)					
Frequency (MHz)	Polarization (H/V)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector
Channel 102 (5510MHz)					
699.8	H	-62.4	-54	-8.4	PK
699.8	V	-65.9	-54	-11.9	PK
733.2	H	-63.7	-54	-9.7	PK
733.2	V	-66.2	-54	-12.2	PK
10420.0	H	-42.9	-30	-12.9	PK
10420.0	V	-41.9	-30	-11.9	PK
Channel 134 (5670MHz)					
599.9	H	-64.3	-54	-10.3	PK
599.9	V	-67.6	-54	-13.6	PK
666.8	H	-64.1	-54	-10.1	PK
666.8	V	-67.4	-54	-13.4	PK
10420.0	H	-42.9	-30	-12.9	PK
10420.0	V	-41.9	-30	-11.9	PK

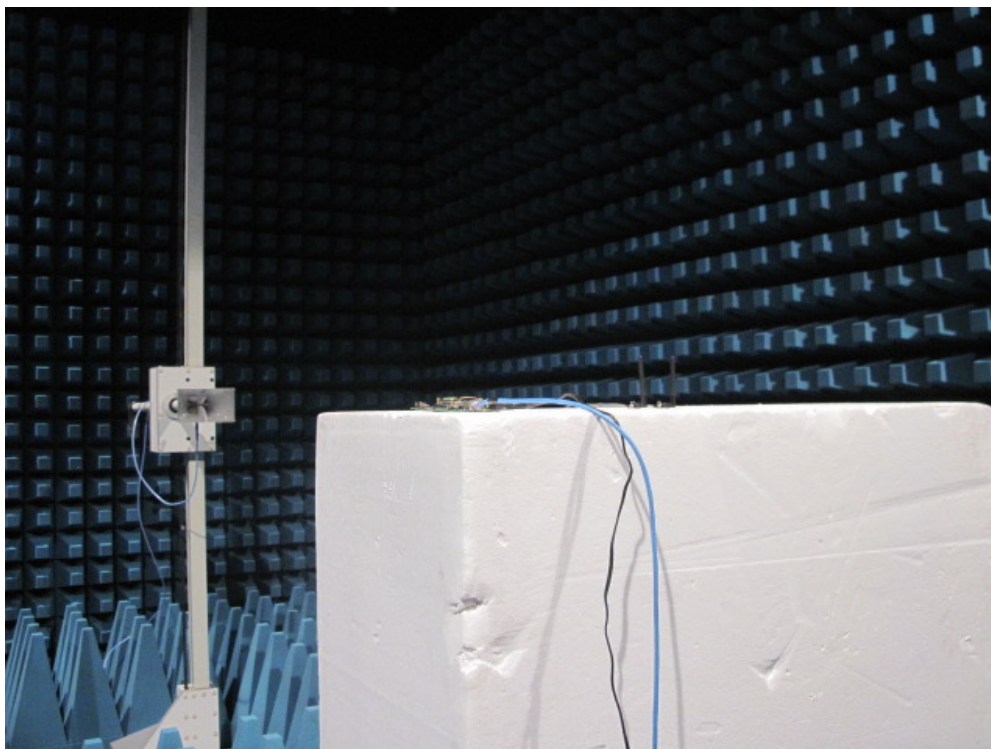
Mode 2-3: 802.11n(40MHz) (Chain 110)					
Frequency (MHz)	Polarization (H/V)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector
Channel 102 (5510MHz)					
599.9	H	-64.3	-54	-10.3	PK
599.9	V	-67.6	-54	-13.6	PK
666.8	H	-64.1	-54	-10.1	PK
666.8	V	-67.4	-54	-13.4	PK
10420.0	H	-39.6	-30	-9.6	PK
10420.0	V	-36.9	-30	-6.9	PK
Channel 134 (5670MHz)					
699.8	H	-60.2	-54	-6.2	PK
699.8	V	-65.1	-54	-11.1	PK
733.2	H	-63.3	-54	-9.3	PK
733.2	V	-66.4	-54	-12.4	PK
10420.0	H	-41.5	-30	-11.5	PK
10420.0	V	-37.8	-30	-7.8	PK

6.6. Test Photograph

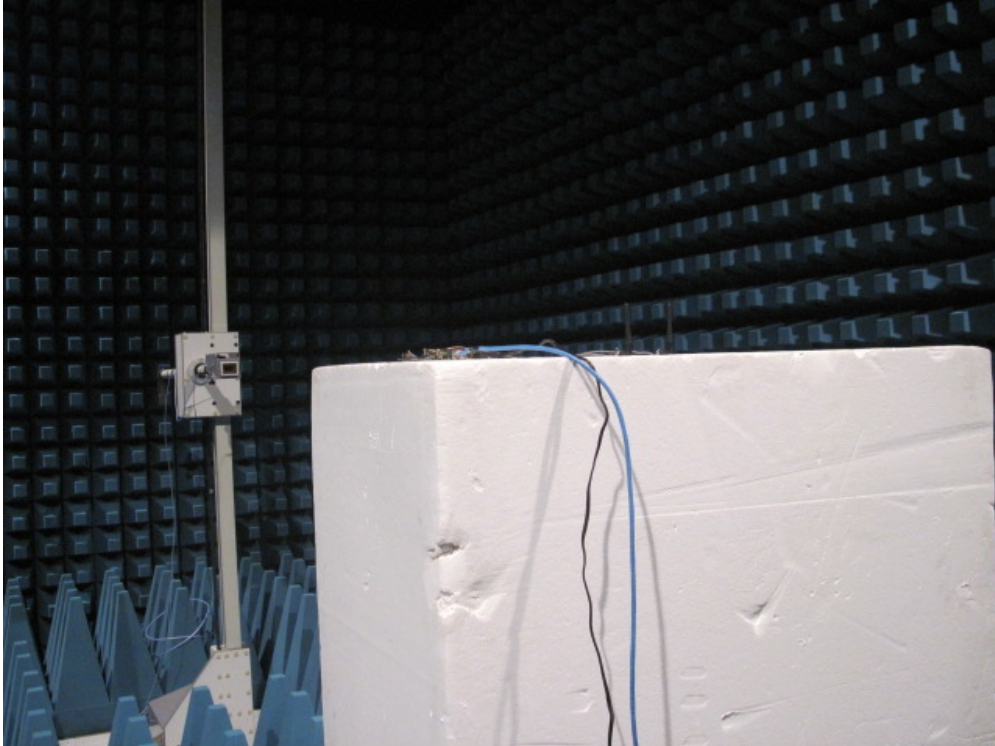
Description: Transmitter Spurious Emissions Test Setup for Below 1GHz-Mode 1



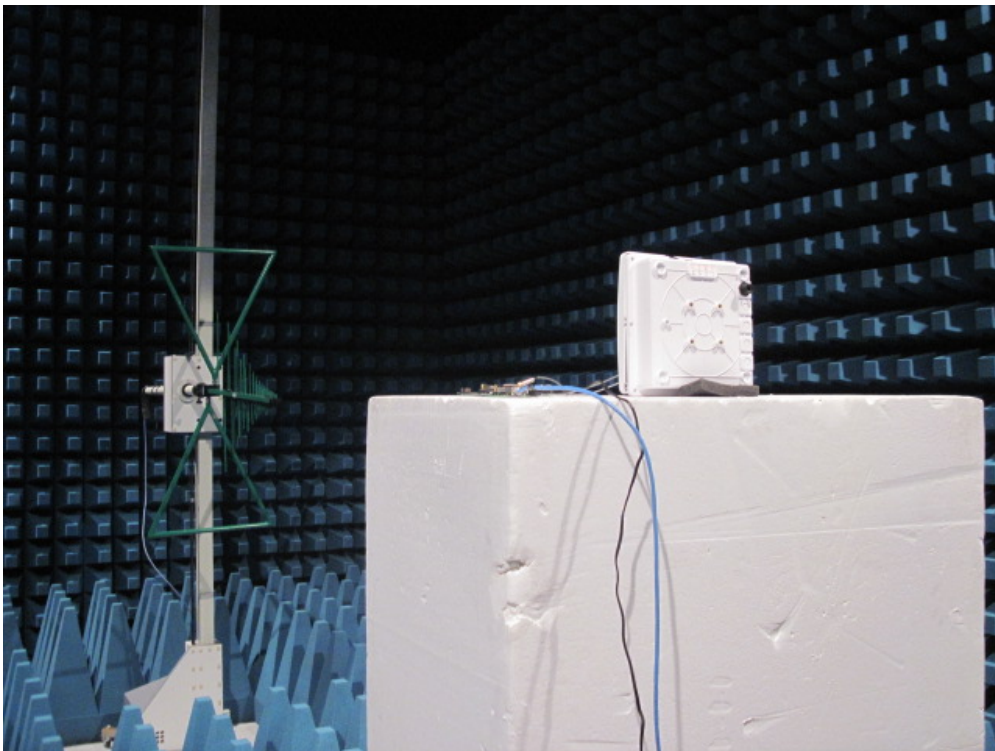
Description: Transmitter Spurious Emissions Test Setup for 1~18GHz-Mode 1



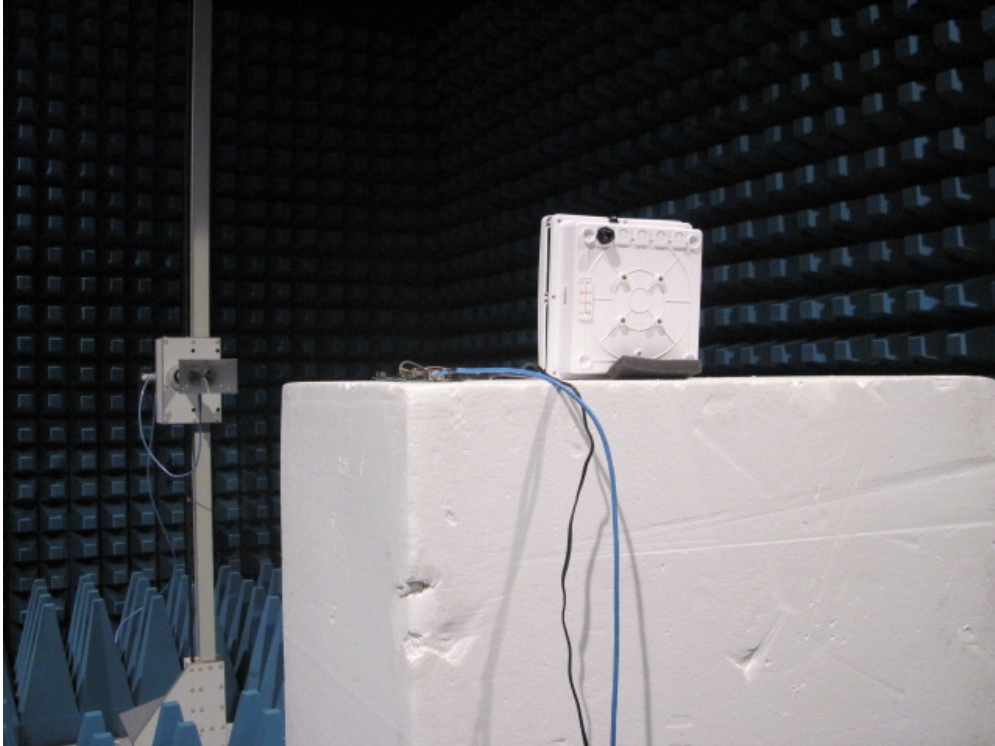
Description: Transmitter Spurious Emissions Test Setup for 18~26.5GHz-Mode 1



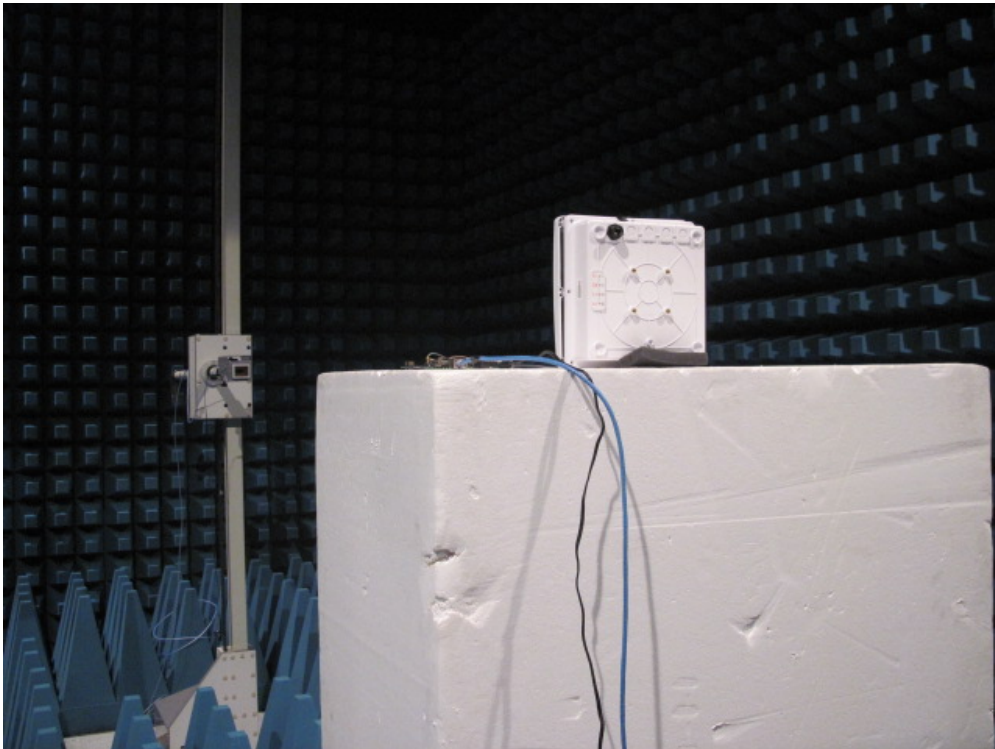
Description: Transmitter Spurious Emissions Test Setup for Below 1GHz-Mode 2



Description: Transmitter Spurious Emissions Test Setup for 1~18GHz-Mode 2



Description: Transmitter Spurious Emissions Test Setup for 18~26.5GHz-Mode 2



7. Transmitter Unwanted Emissions Within the 5GHz RLAN Bands

7.1. Test Equipment

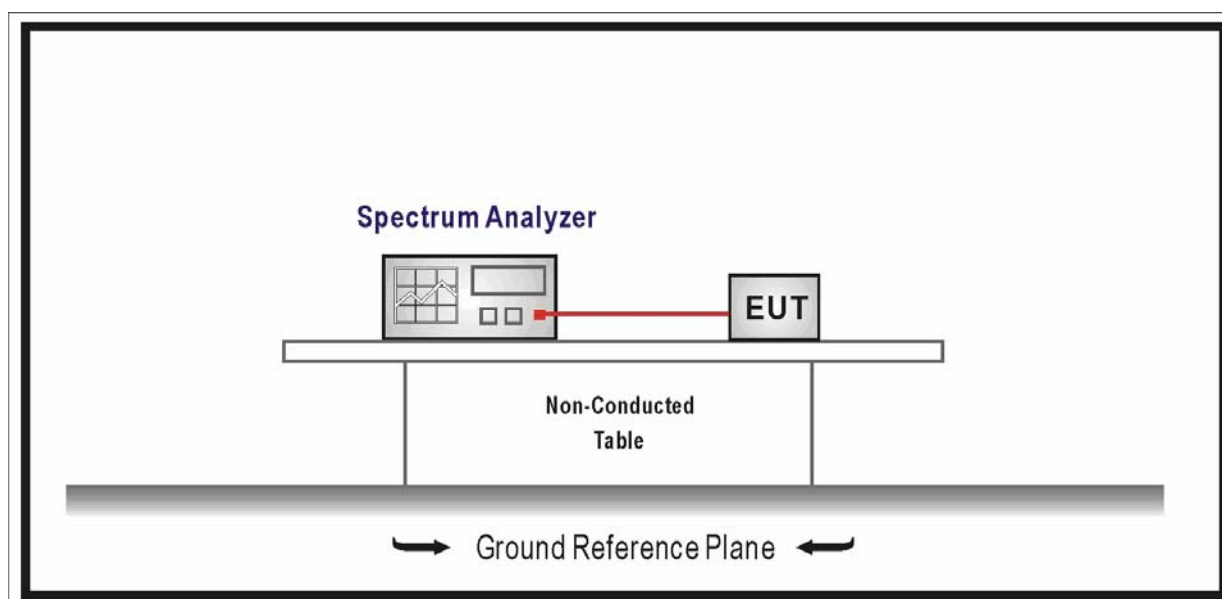
Transmitter Unwanted Emissions Within the 5GHz RLAN Bands / AC-6

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2010.04.30
Temperature/Humidity Meter	zhicheng	ZC1-2	AC6-TH	2010.01.14

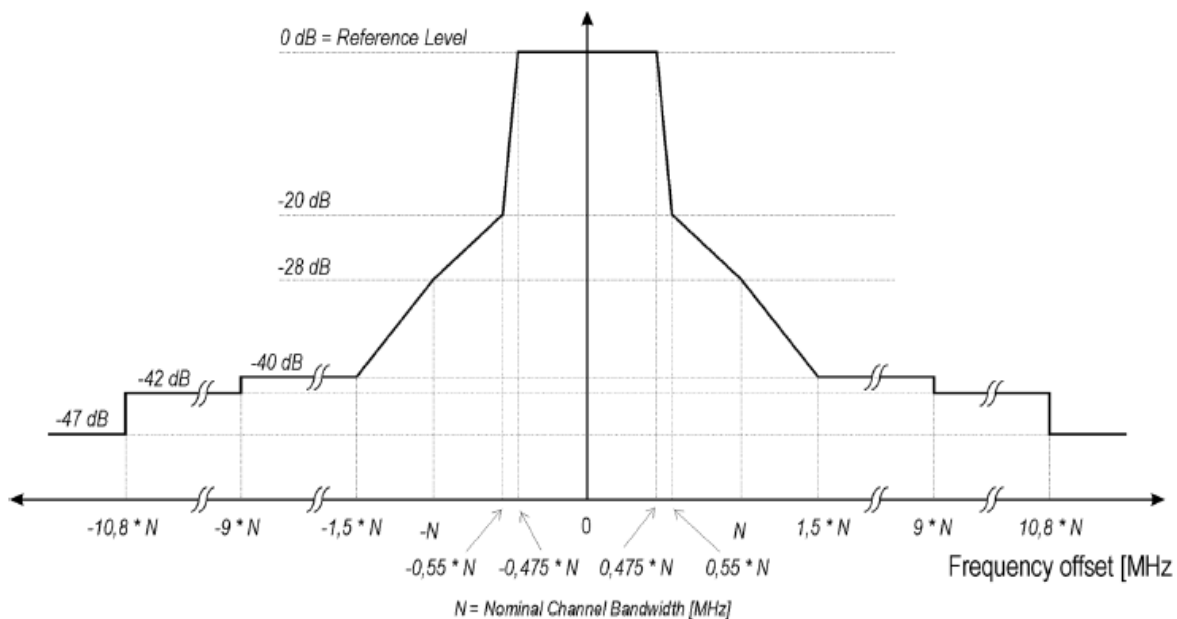
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

7.2. Test Setup

For Conducted Measurement



7.3. Limit



NOTE: dBc is the spectral density relative to the maximum spectral power density of the transmitted signal.

Figure 1: Transmit spectral power mask

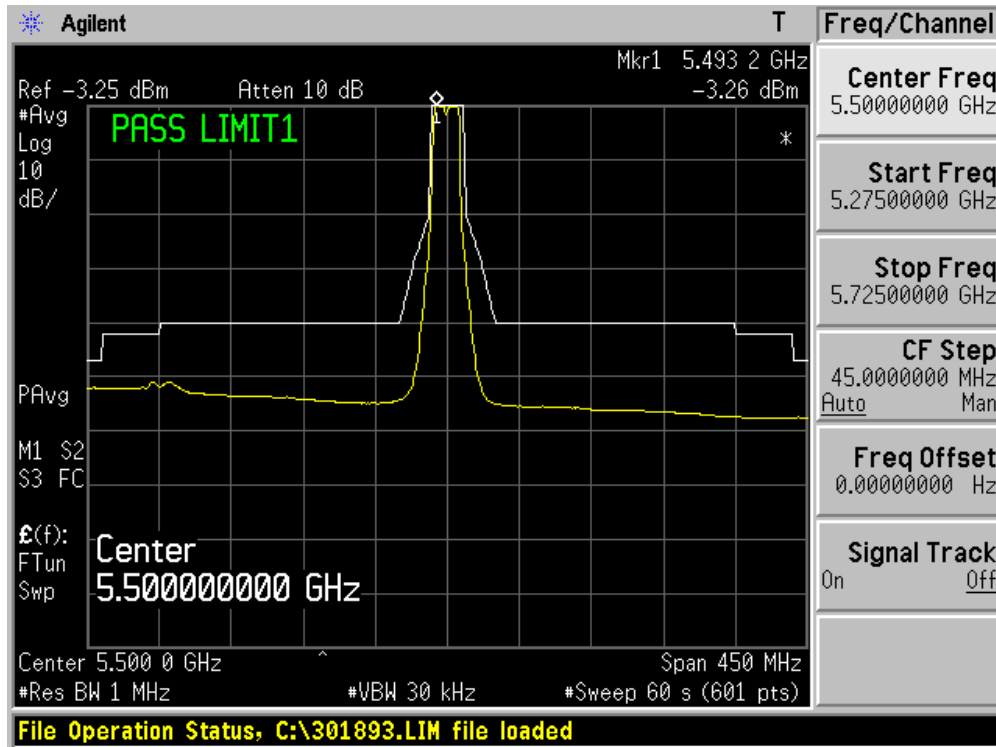
7.4. Test Procedure

Refer to ETSI EN 301 893 V1.4.1 (2007-07) Clause 5.3.6

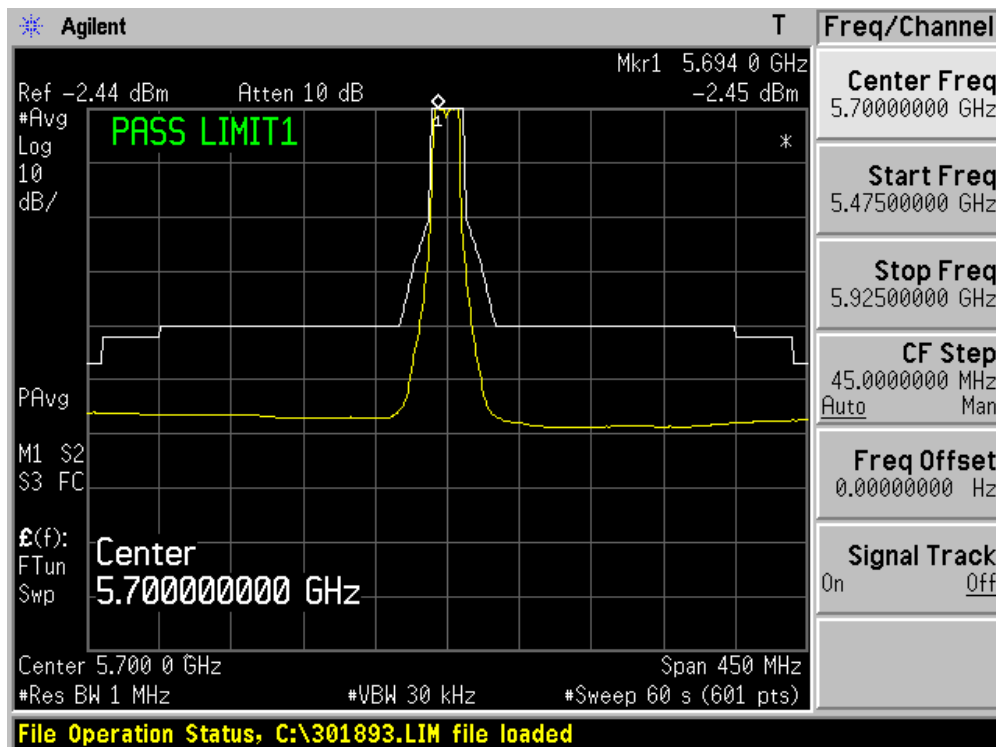
7.5. Test Result

Product	:	WIRELESS ACCESS POINT
Test Item	:	Transmitter Unwanted Emissions Within the 5GHz RLAN Bands
Test Site	:	AC-6
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 100)

Channel 100

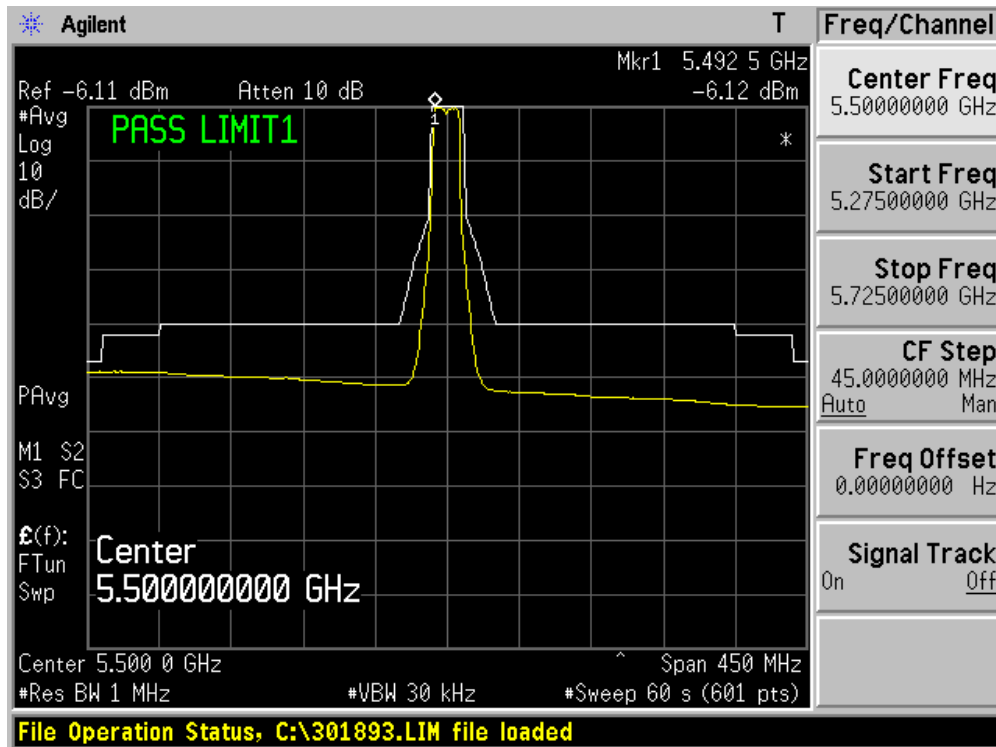


Channel 140

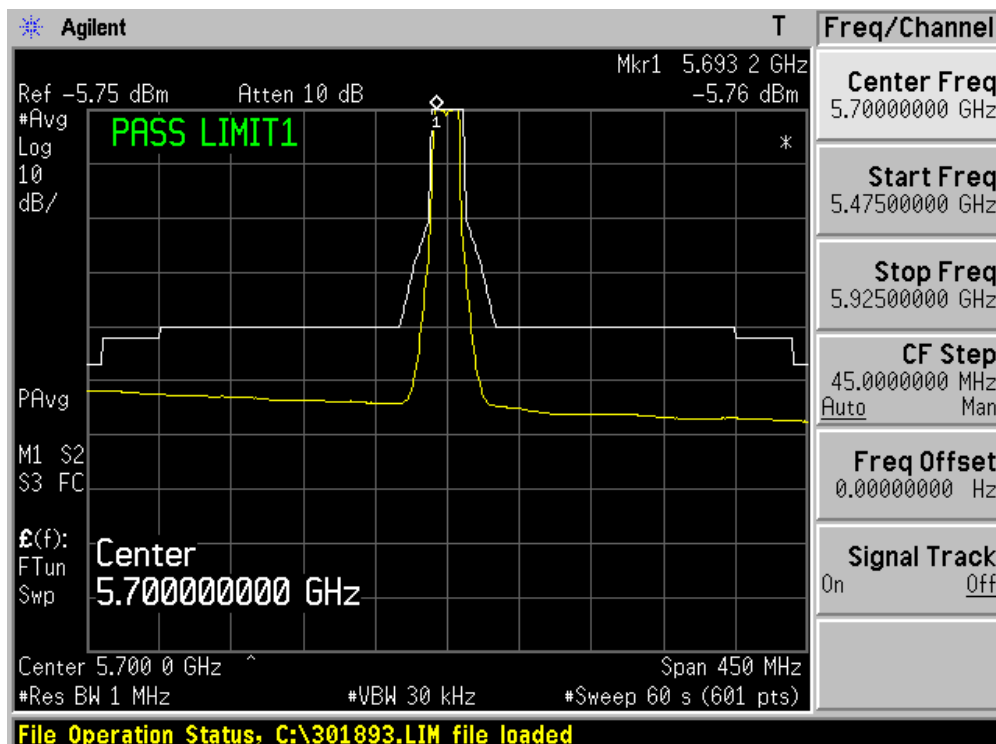


Product	: WIRELESS ACCESS POINT
Test Item	: Transmitter Unwanted Emissions Within the 5GHz RLAN Bands
Test Site	: AC-6
Test Mode	: Mode 1: Transmit by 802.11a (Chain 010)

Channel 100

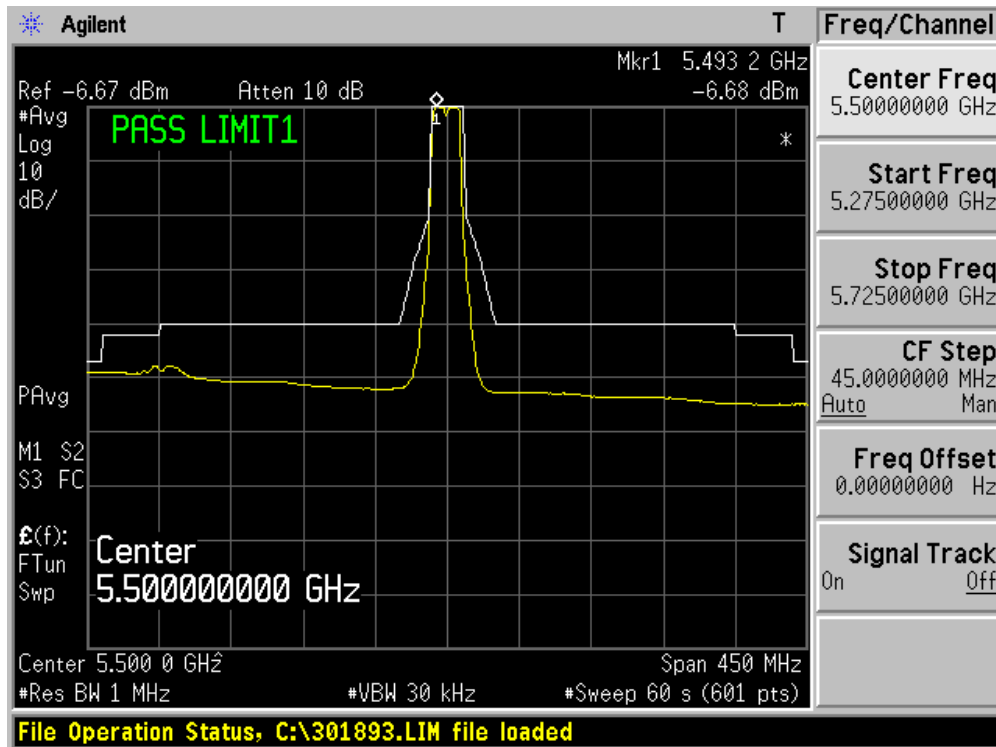


Channel 140

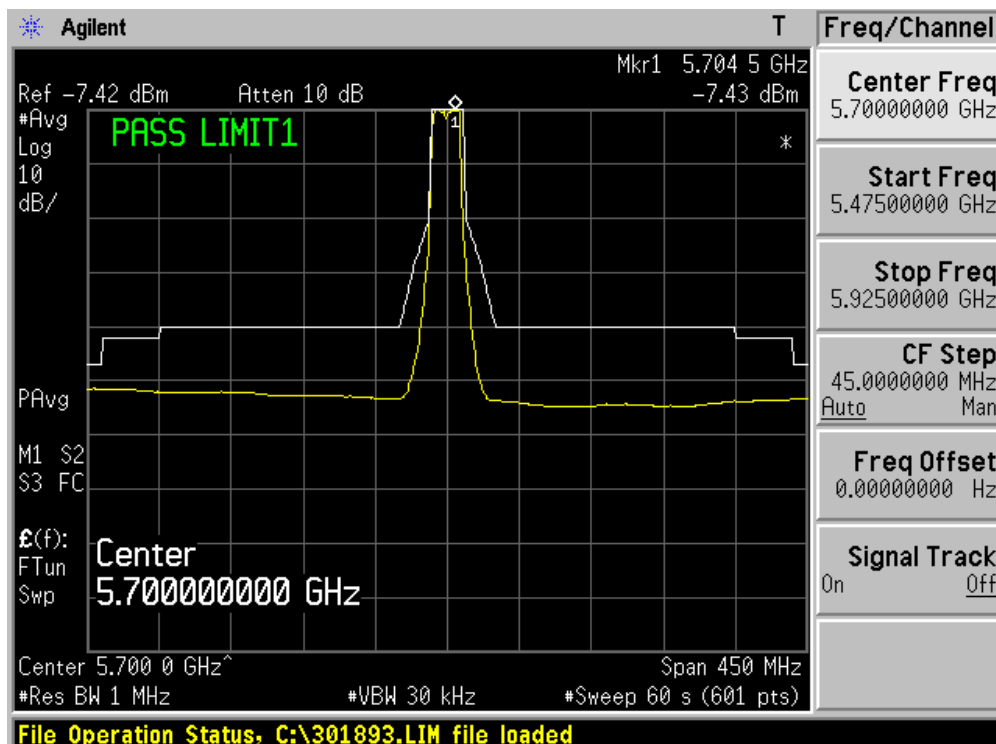


Product	: WIRELESS ACCESS POINT
Test Item	: Transmitter Unwanted Emissions Within the 5GHz RLAN Bands
Test Site	: AC-6
Test Mode	: Mode 2: Transmit by 802.11n(20MHz) (Chain 100)

Channel 100

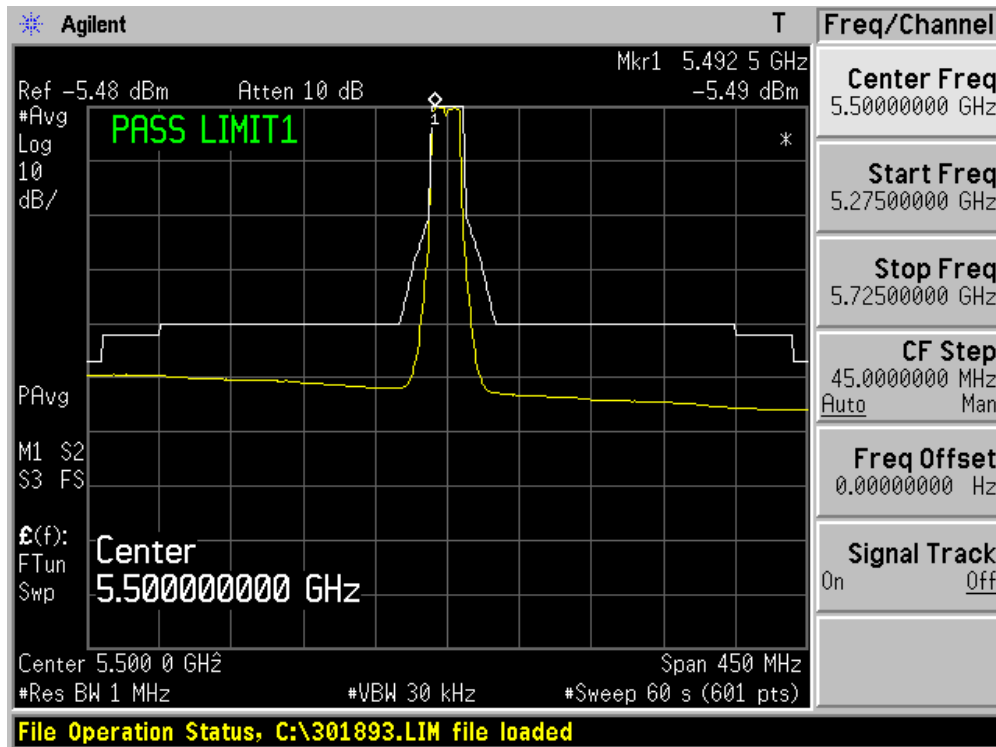


Channel 140

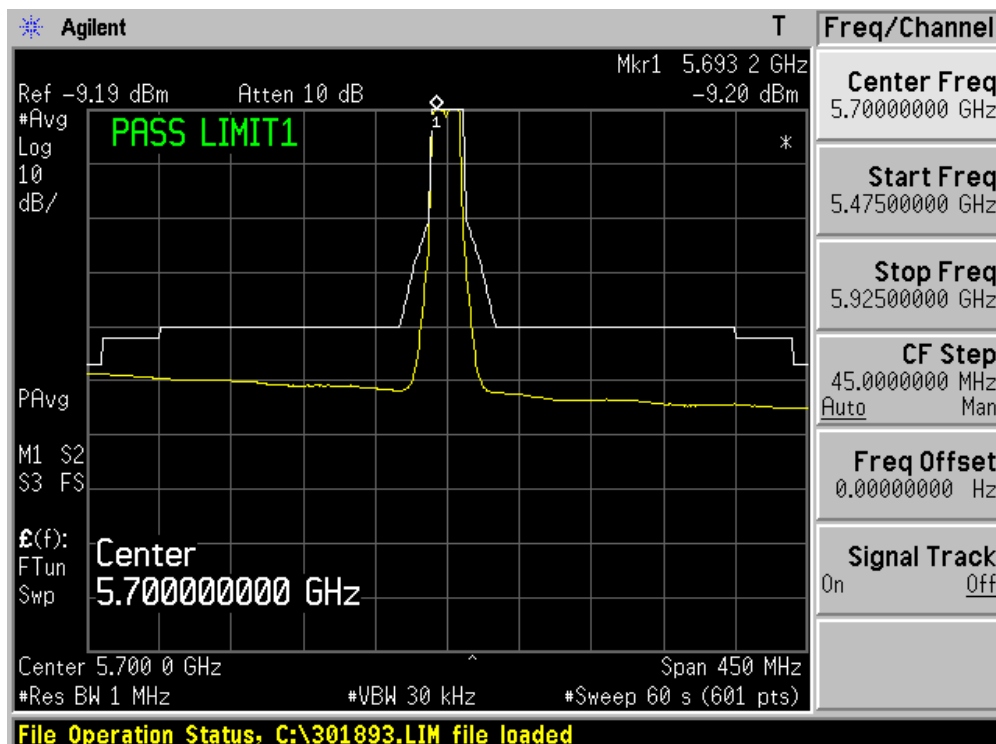


Product	: WIRELESS ACCESS POINT
Test Item	: Transmitter Unwanted Emissions Within the 5GHz RLAN Bands
Test Site	: AC-6
Test Mode	: Mode 2: Transmit by 802.11n(20MHz) (Chain 010)

Channel 100

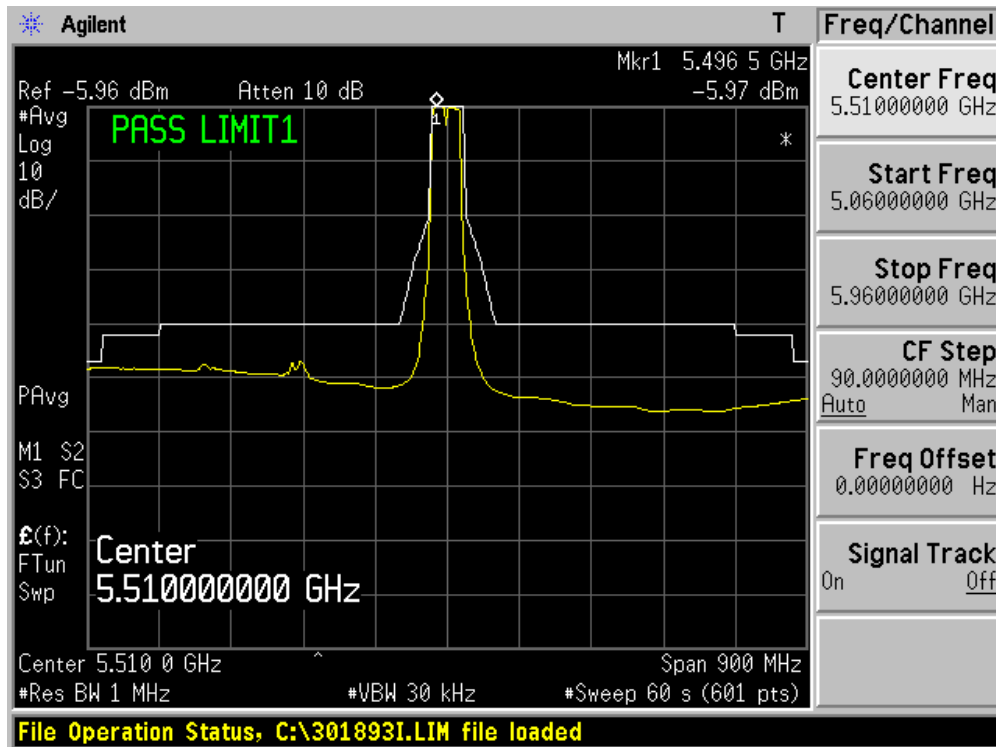


Channel 140

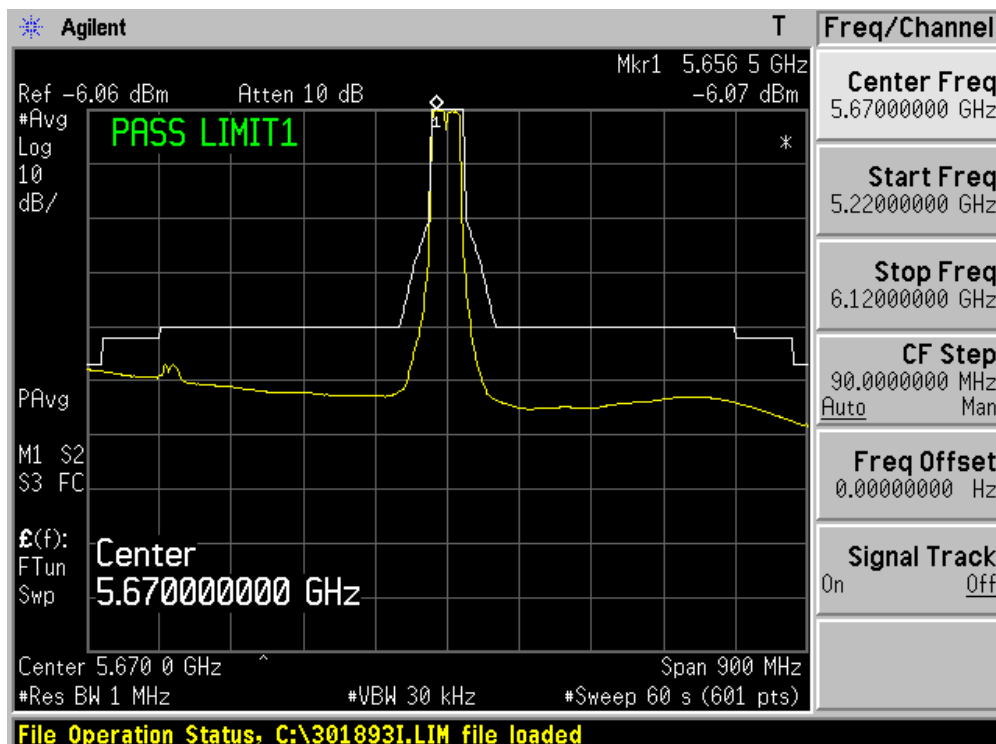


Product	: WIRELESS ACCESS POINT
Test Item	: Transmitter Unwanted Emissions Within the 5GHz RLAN Bands
Test Site	: AC-6
Test Mode	: Mode 3: Transmit by 802.11n(40MHz) (Chain 100)

Channel 102

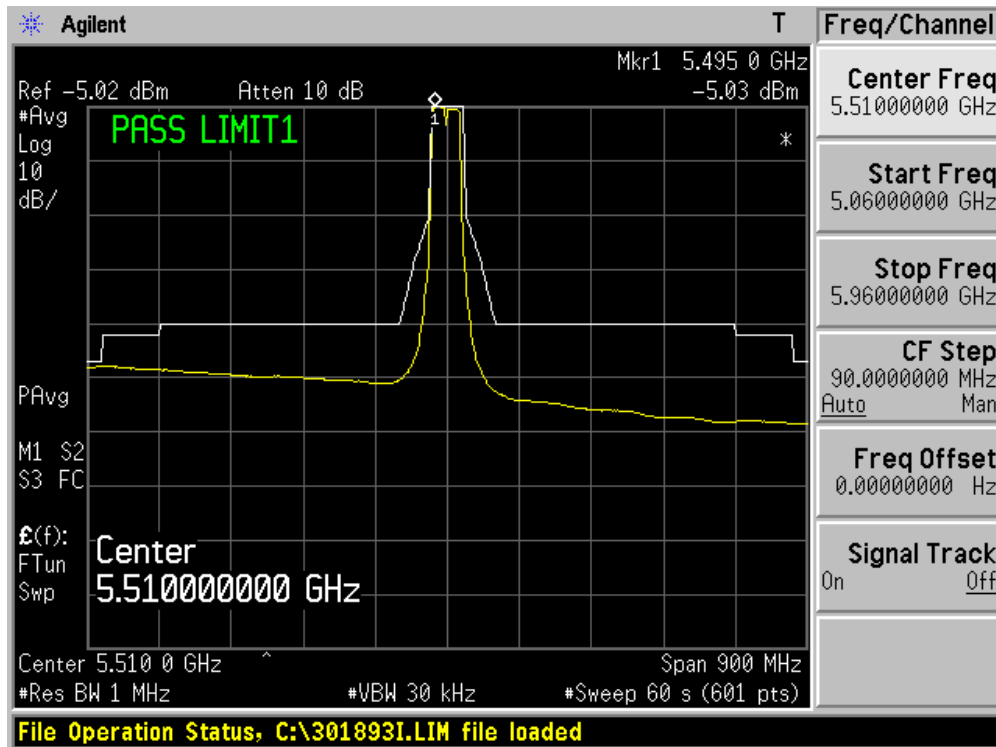


Channel 134

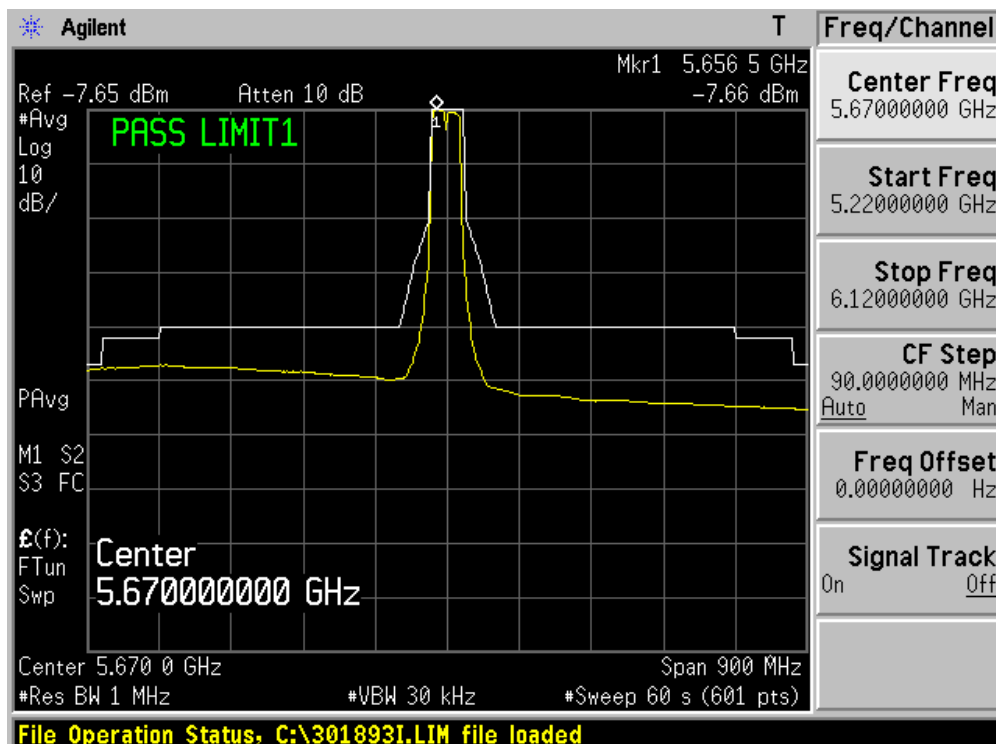


Product	: WIRELESS ACCESS POINT
Test Item	: Transmitter Unwanted Emissions Within the 5GHz RLAN Bands
Test Site	: AC-6
Test Mode	: Mode 3: Transmit by 802.11n(40MHz) (Chain 010)

Channel 102



Channel 134



8. Receiver Spurious Emissions

8.1. Test Equipment

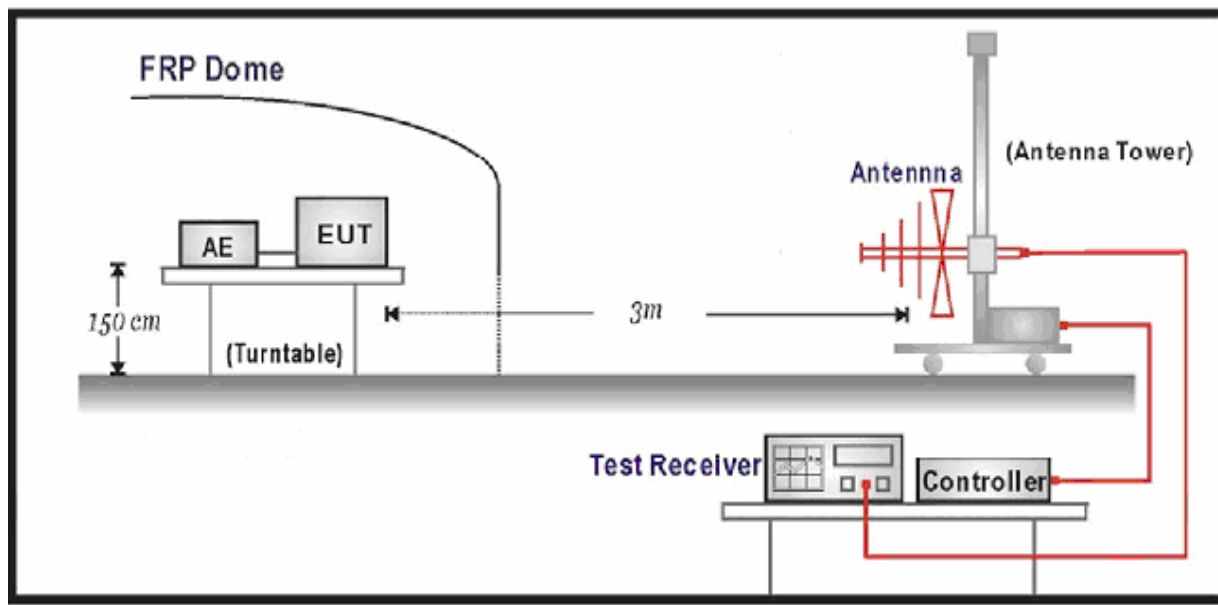
Receiver Spurious Emissions / AC-6

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2010.04.30
PSG Analog S.G.	Agilent	E8257D	MY44321116	2010.04.23
Preamplifier	Quietek	AP-025C	CHM-0503006	2010.05.05
Preamplifier	Quietek	AP-180C	CHM-0602013	2010.05.05
Bilog Type Antenna	Schaffner	CBL6141A	4278	NA
Half Wave Tuned Dipole Antenna	COM-POWER	AD-100	40137	2009.11.24
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	737	2009.11.24
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	499	2010.06.11
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2009.11.24
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	295	2009.11.24
Temperature/Humidity Meter	zhicheng	ZC1-2	AC6-TH	2010.01.14

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

8.2. Test Setup

For Radiated Measurement



8.3. Limit

Frequency Range	Maximum Power, ERP	Measurement Bandwidth
30 MHz to 1GHz	-57 dBm	100 kHz
1 GHz to 26 GHz	-47 dBm	1 MHz

8.4. Test Procedure

Refer to ETSI EN 301 893 V1.4.1 (2007-07) Clause 5.3.7

8.5. Test Result

Mode 1-4: 802.11n(20MHz) (Chain 110)					
Frequency (MHz)	Polarization (H/V)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector
Channel 100 (5500MHz)					
333.1	H	-67.4	-36	-31.4	PK
333.1	V	-72.7	-36	-36.7	PK
699.7	H	-62.8	-54	-8.8	PK
699.7	V	-66.5	-54	-12.5	PK
1204.0	H	-53.7	-47	-6.7	PK
1204.0	V	-51.3	-47	-4.3	PK
3142.0	H	-56.3	-47	-9.3	PK
3601.0	V	-53.4	-47	-6.4	PK
Channel 140 (5700MHz)					
333.1	H	-67.6	-36	-31.6	PK
333.1	V	-73.9	-36	-37.9	PK
699.7	H	-62.2	-54	-8.2	PK
699.7	V	-66.4	-54	-12.4	PK
1501.5	H	-60.1	-47	-13.1	PK
1501.5	V	-59.7	-47	-12.7	PK
2700.0	H	-57.7	-47	-10.7	PK
3601.0	V	-53.7	-47	-6.7	PK

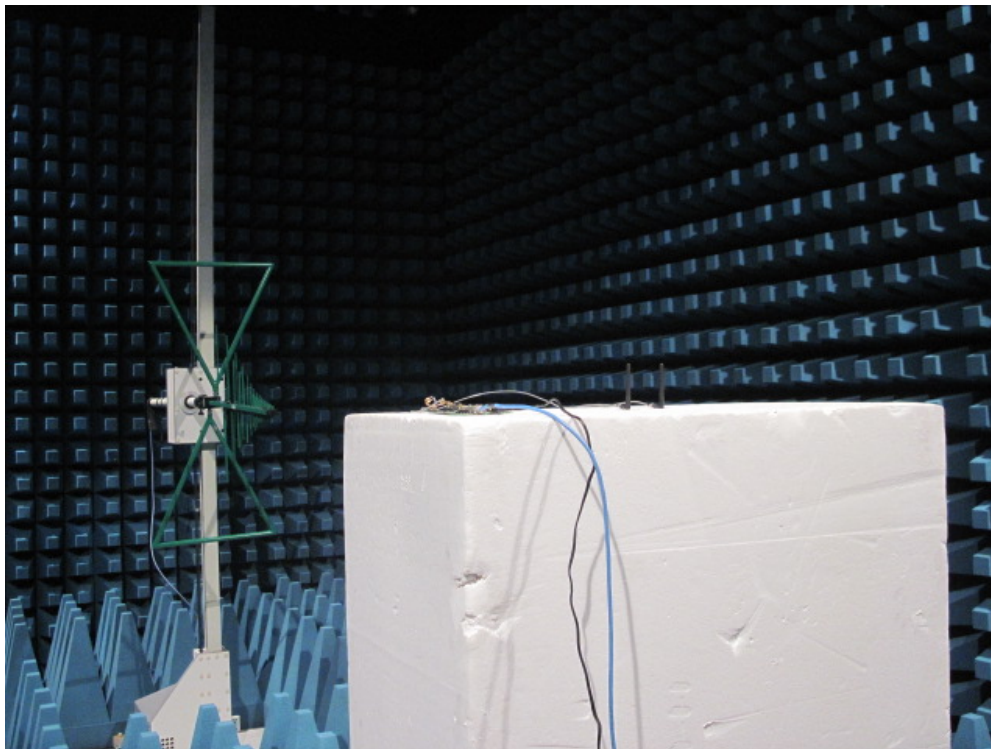
Mode 1-5: 802.11n(40MHz) (Chain 110)					
Frequency (MHz)	Polarization (H/V)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector
Channel 102 (5510MHz)					
250.2	H	-66.7	-36	-30.7	PK
250.2	V	-72.8	-36	-36.8	PK
699.7	H	-62.9	-54	-8.9	PK
699.7	V	-66.6	-54	-12.6	PK
1204.0	H	-53.7	-47	-6.7	PK
1204.0	V	-51.3	-47	-4.3	PK
1799.0	H	-58.3	-47	-11.3	PK
3601.0	V	-53.4	-47	-6.4	PK
Channel 134 (5670MHz)					
333.1	H	-67.6	-36	-31.6	PK
300.1	V	-75.1	-36	-39.1	PK
699.7	H	-62.7	-54	-8.7	PK
699.7	V	-65.8	-54	-11.8	PK
1204.0	H	-51.5	-47	-4.5	PK
1204.0	V	-52.0	-47	-5	PK
1799.0	H	-58.4	-47	-11.4	PK
1799.0	V	-57.6	-47	-10.6	PK

Mode 2-4: 802.11n(20MHz) (Chain 110)					
Frequency (MHz)	Polarization (H/V)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector
Channel 100 (5500MHz)					
333.1	H	-67.4	-36	-31.4	PK
333.1	V	-72.7	-36	-36.7	PK
699.7	H	-62.8	-54	-8.8	PK
699.7	V	-66.5	-54	-12.5	PK
1204.0	H	-53.7	-47	-6.7	PK
1204.0	V	-51.3	-47	-4.3	PK
3142.0	H	-56.3	-47	-9.3	PK
3601.0	V	-53.4	-47	-6.4	PK
Channel 140 (5700MHz)					
333.1	H	-67.6	-36	-31.6	PK
333.1	V	-73.9	-36	-37.9	PK
699.7	H	-62.2	-54	-8.2	PK
699.7	V	-66.4	-54	-12.4	PK
1501.5	H	-60.1	-47	-13.1	PK
1501.5	V	-59.7	-47	-12.7	PK
2700.0	H	-57.7	-47	-10.7	PK
3601.0	V	-53.7	-47	-6.7	PK

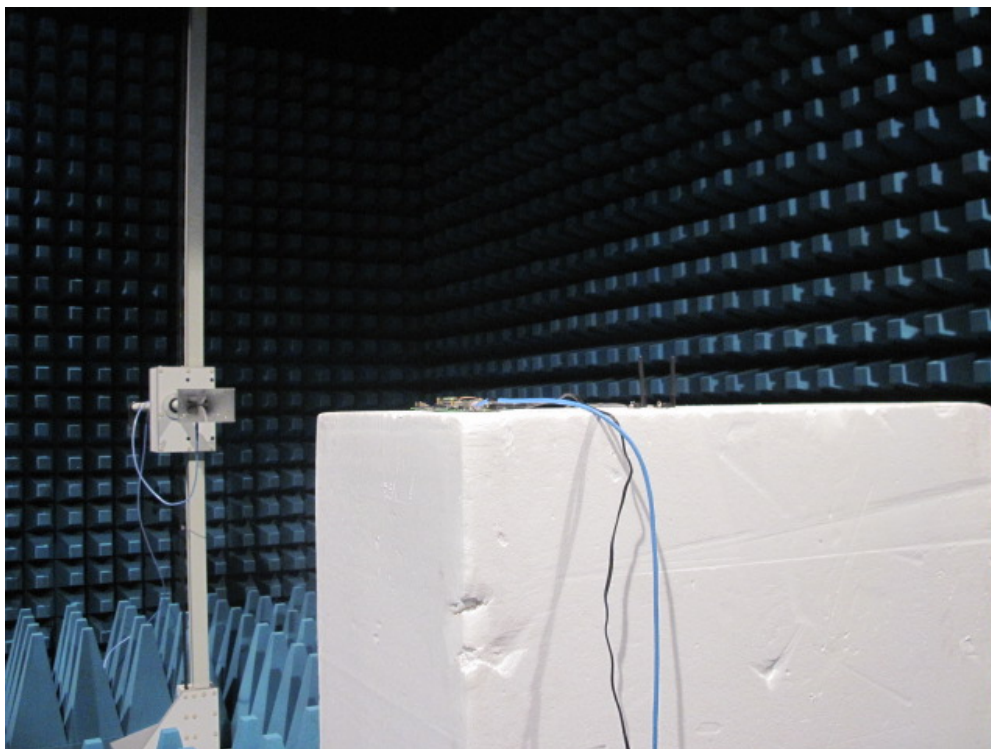
Mode 2-5: 802.11n(40MHz) (Chain 110)					
Frequency (MHz)	Polarization (H/V)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector
Channel 102 (5510MHz)					
250.2	H	-66.7	-36	-30.7	PK
250.2	V	-72.8	-36	-36.8	PK
699.7	H	-62.9	-54	-8.9	PK
699.7	V	-66.6	-54	-12.6	PK
1204.0	H	-53.7	-47	-6.7	PK
1204.0	V	-51.3	-47	-4.3	PK
1799.0	H	-58.3	-47	-11.3	PK
3601.0	V	-53.4	-47	-6.4	PK
Channel 134 (5670MHz)					
333.1	H	-67.6	-36	-31.6	PK
300.1	V	-75.1	-36	-39.1	PK
699.7	H	-62.7	-54	-8.7	PK
699.7	V	-65.8	-54	-11.8	PK
1204.0	H	-51.5	-47	-4.5	PK
1204.0	V	-52.0	-47	-5	PK
1799.0	H	-58.4	-47	-11.4	PK
1799.0	V	-57.6	-47	-10.6	PK

8.6. Test Photograph

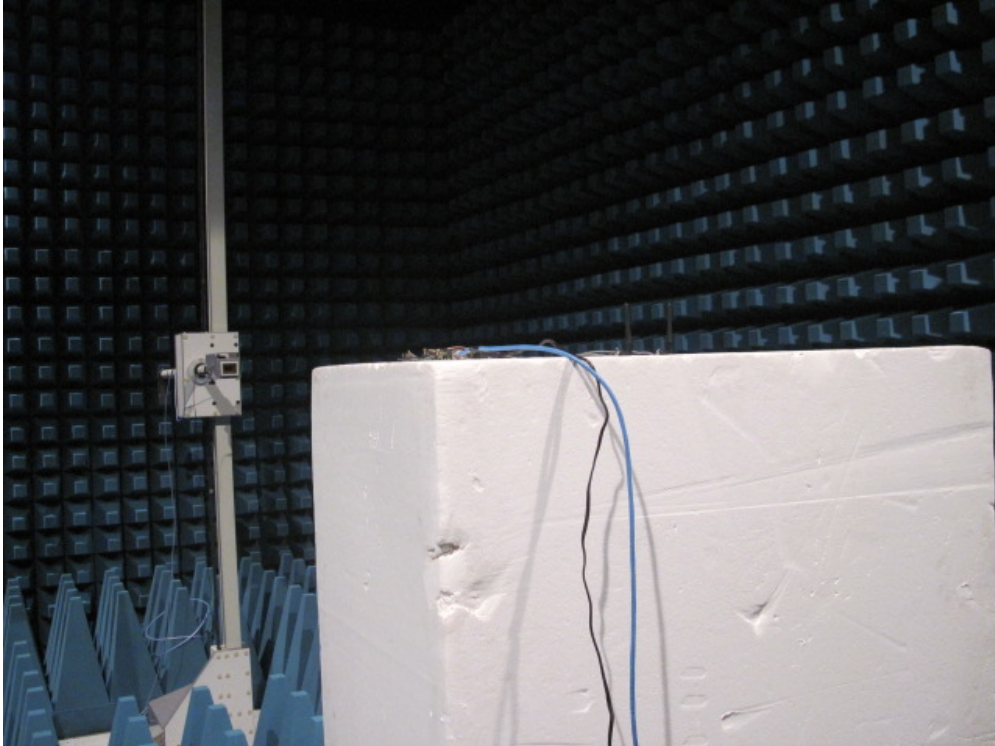
Description: Receive Spurious Emissions Test Setup for Below 1GHz-Mode 1



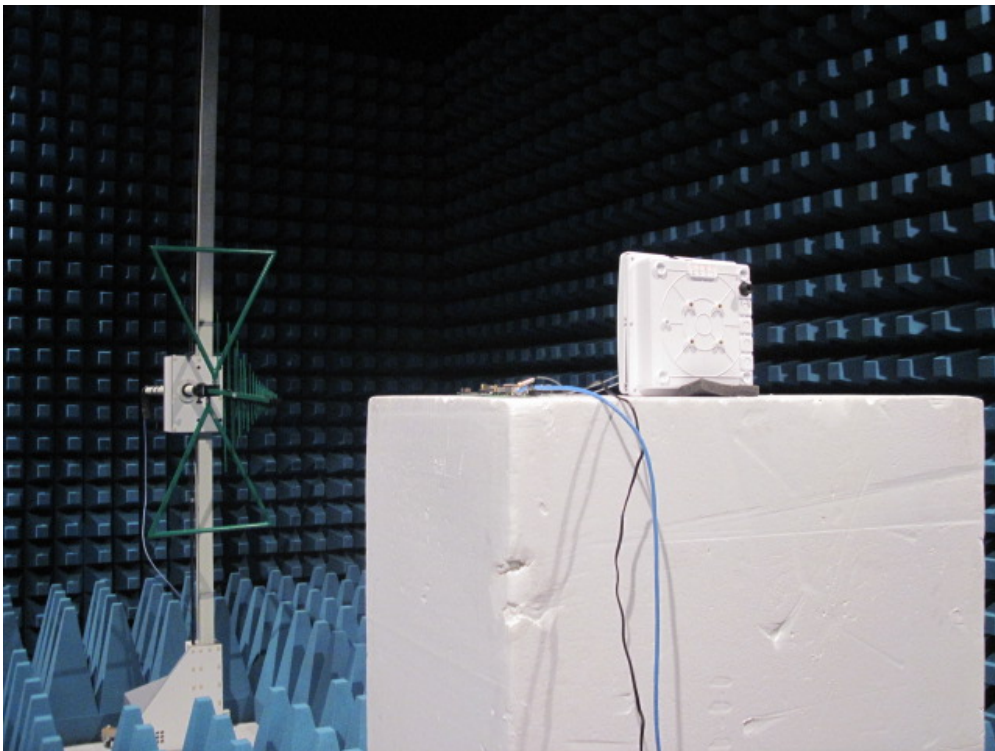
Description: Receive Spurious Emissions Test Setup for 1~18GHz-Mode 1



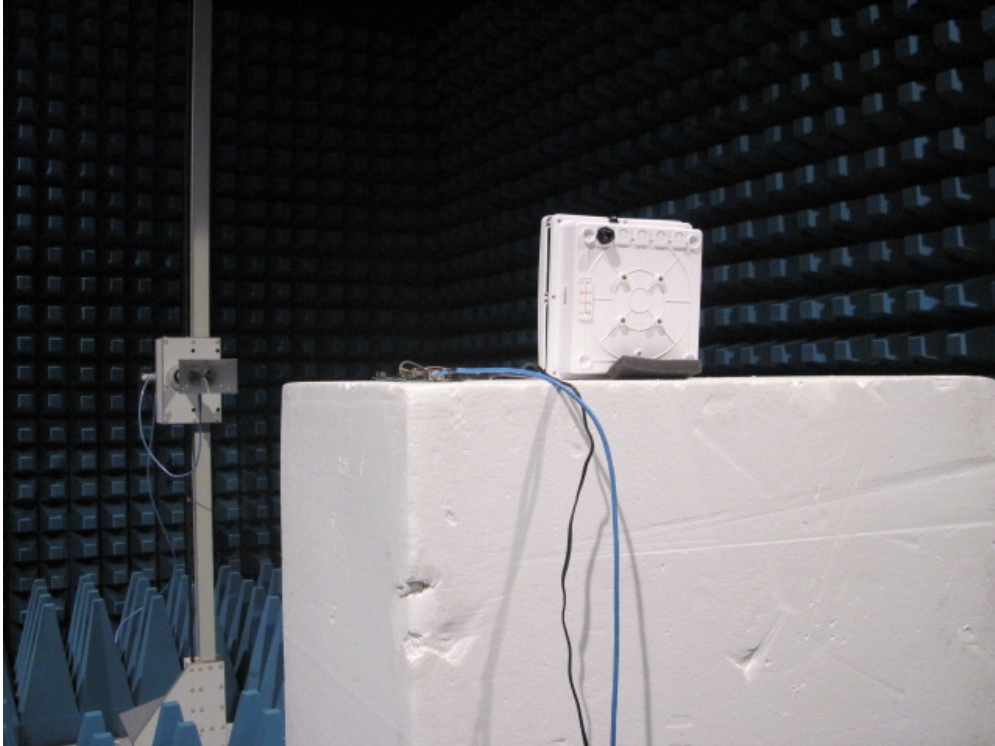
Description: Receive Spurious Emissions Test Setup for 18~26.5GHz-Mode 1



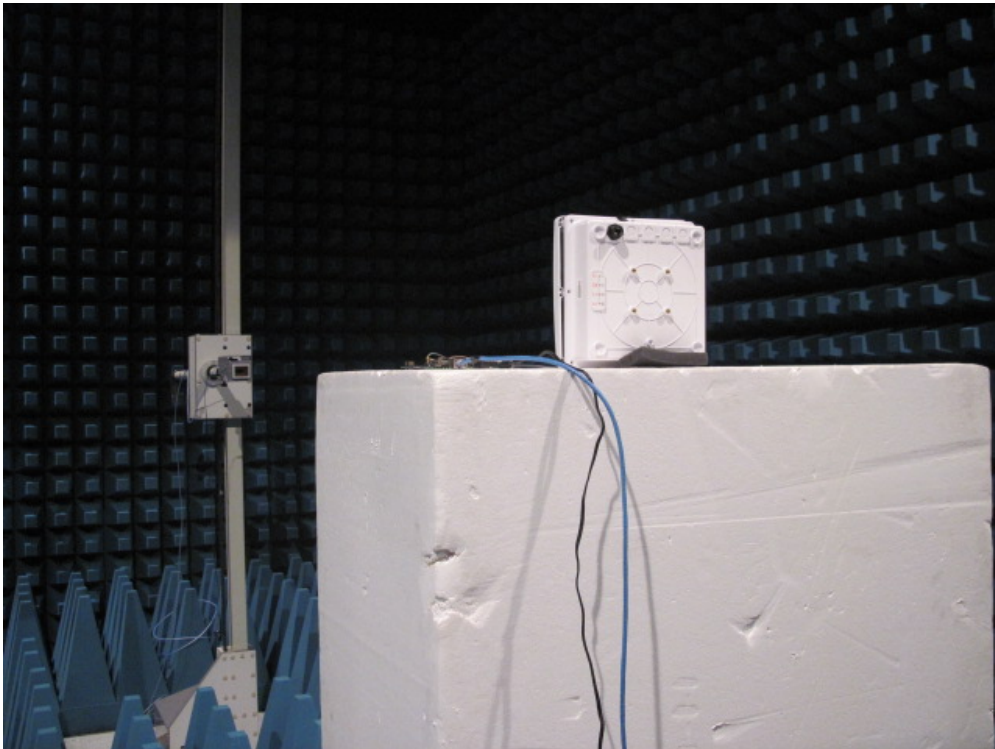
Description: Receive Spurious Emissions Test Setup for Below 1GHz-Mode 2



Description: Receive Spurious Emissions Test Setup for 1~18GHz-Mode 2



Description: Receive Spurious Emissions Test Setup for 18~26.5GHz-Mode 2



9. Dynamic Frequency Selection (DFS)

Please refer to report number [106S012R-RFCE-DFS](#).

10. Attachment

➤ EUT Photograph

(1) EUT Photo



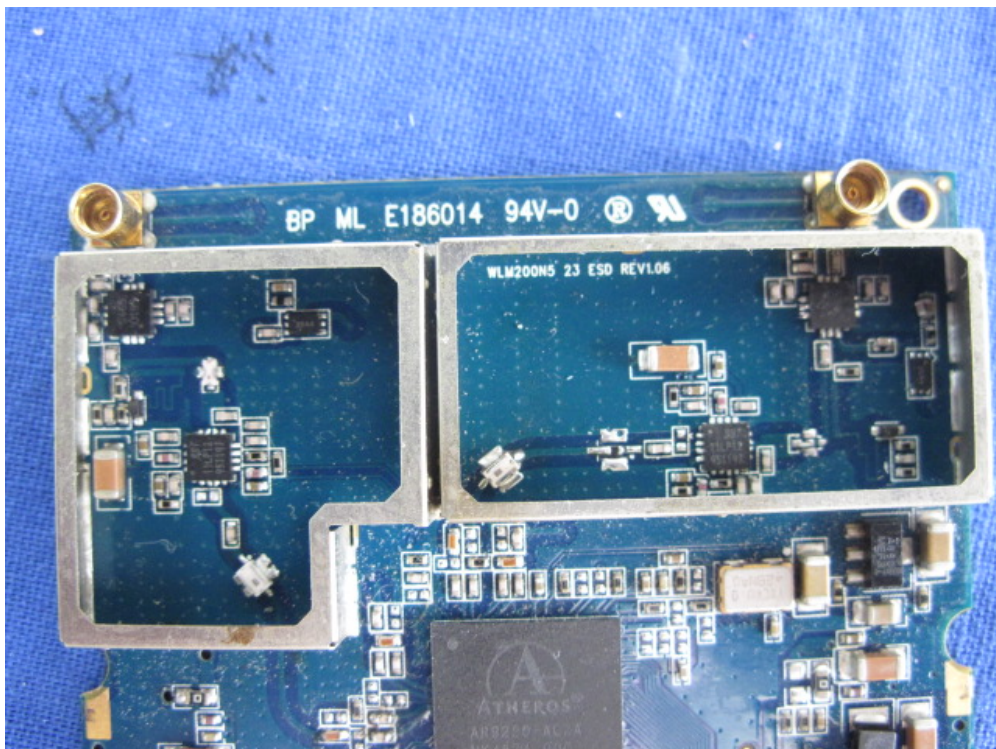
(2) EUT Photo



(3) EUT Photo



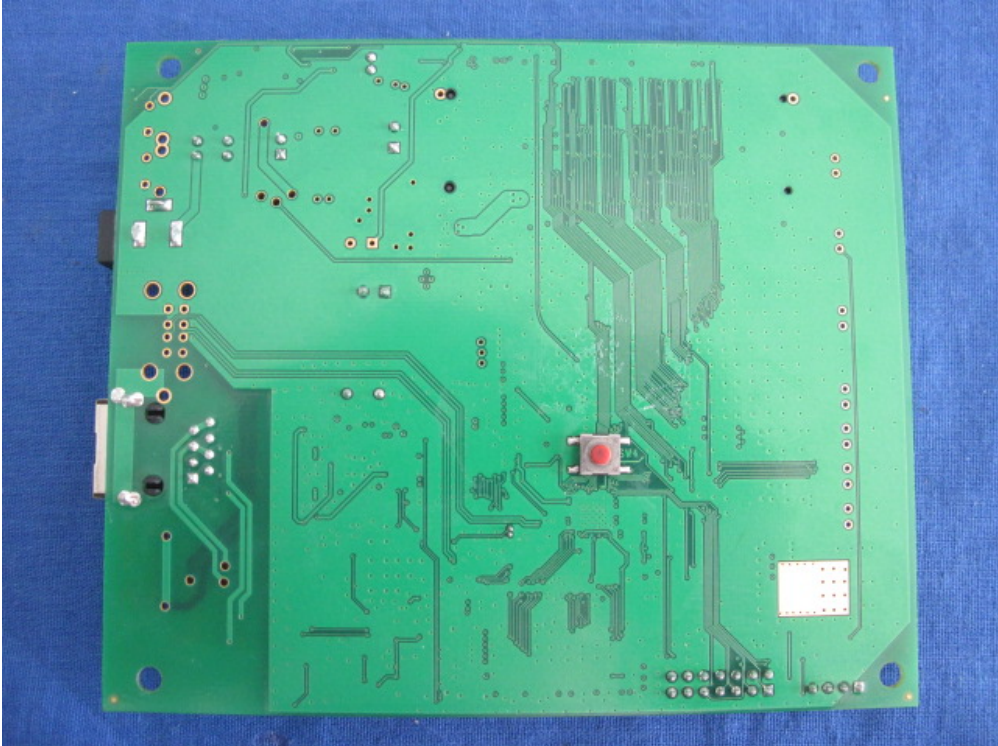
(4) EUT Photo



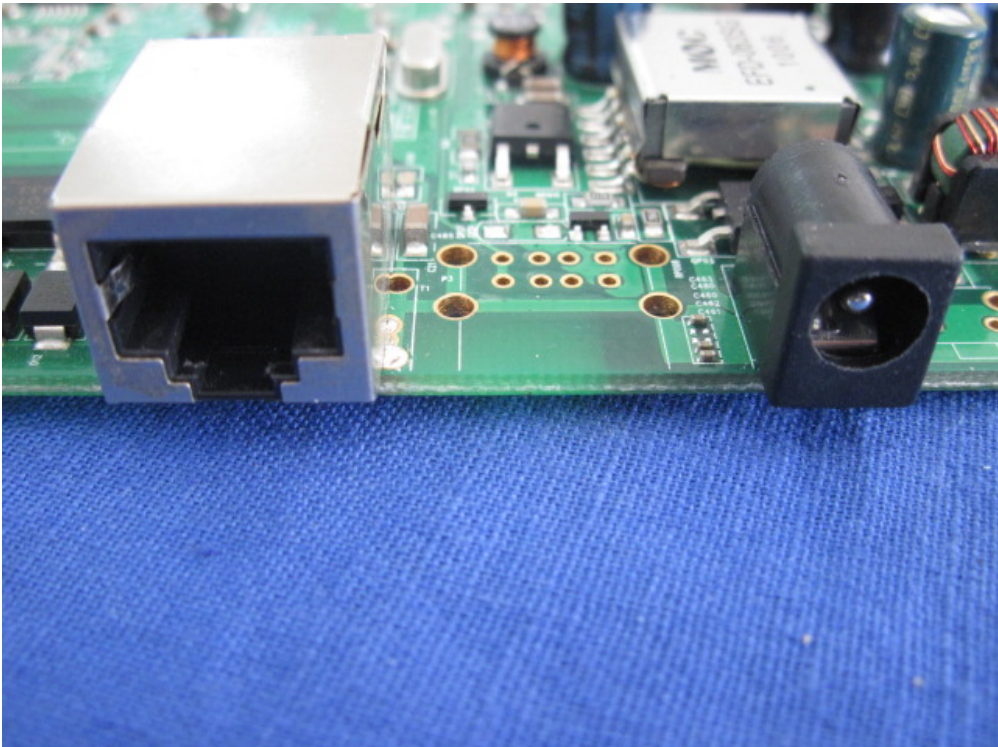
(5) EUT Photo



(6) EUT Photo



(7) EUT Photo



(8) EUT Photo



(9) EUT Photo



(10) EUT Photo



(11) EUT Photo



(12) EUT Photo



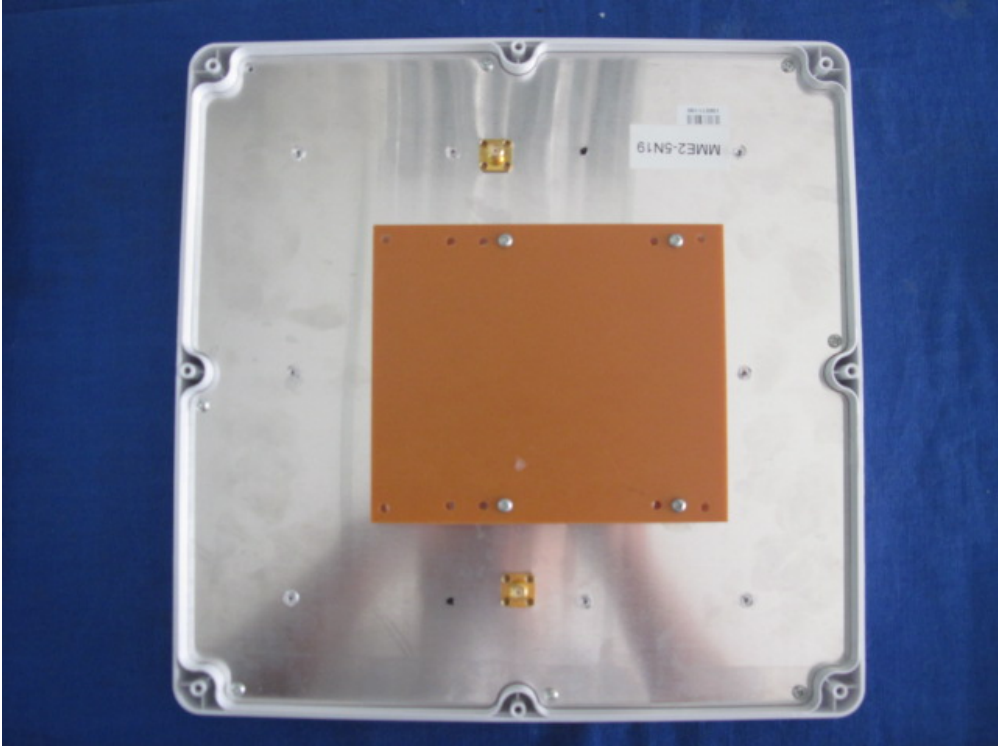
(13) EUT Photo



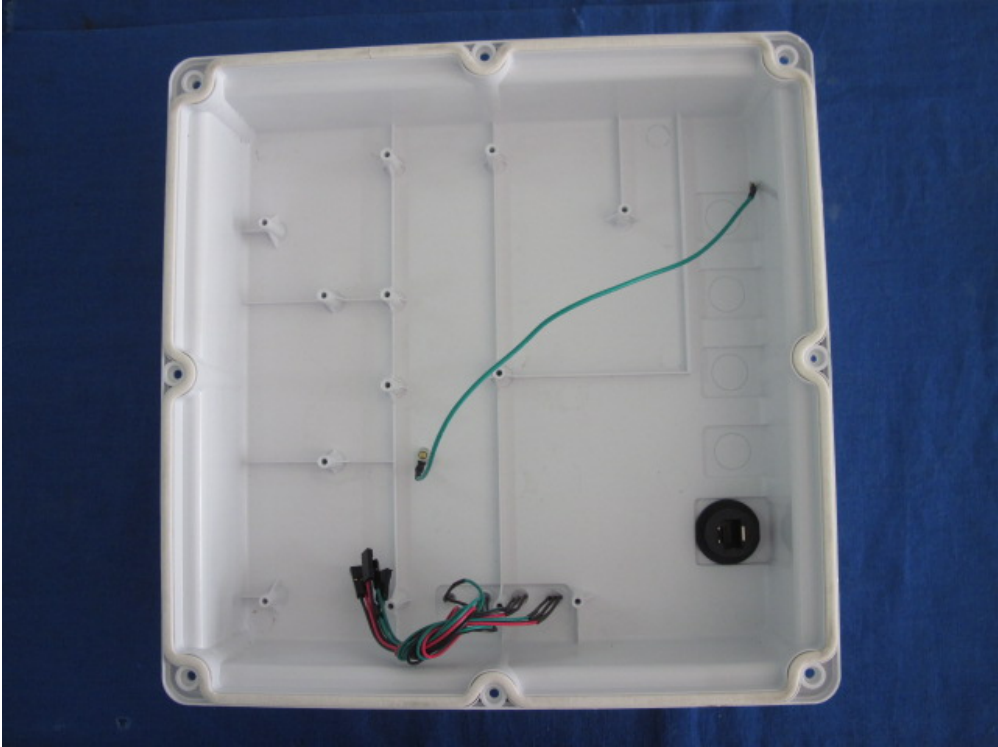
(14) EUT Photo



(15) EUT Photo



(16) EUT Photo



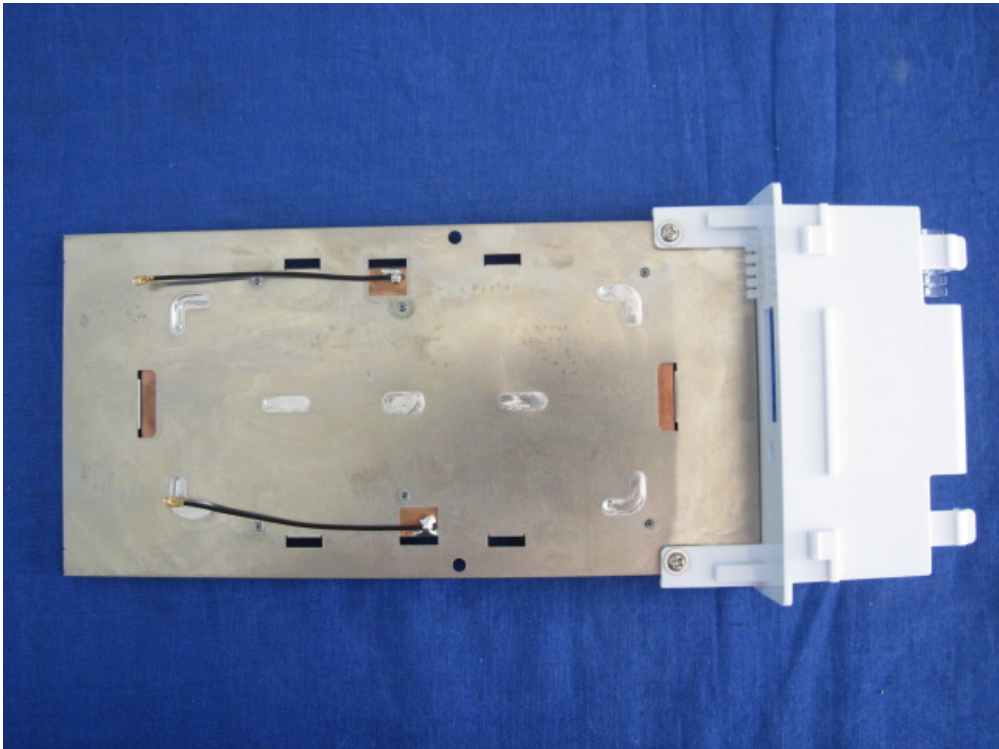
(17) EUT Photo



(18) EUT Photo



(19) EUT Photo



(20) EUT Photo

