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Report No.: 1608RSU02006
Report Version: V01
Issue Date: 09-16-2016

MEASUREMENT REPORT
EN 301 893 V1.8.1 WLAN 802.11a/n

Applicant: Compex Systems Pte Ltd

Address: No:9 Harrison Road, Harrison Industrial Building, #05-01, Singapore 369651

Product: WIRELESS-ABGN 2X2 NETWORK MINIPCIE ADAPTER

Model No.: WLE200NX, WLE200NX-I

Brand Name: COMPEX

Standards: ETSI EN 301 893 V1.8.1 (2015-03)

Result: Complies

Test Date: July 05 ~ Sep 16, 2016

Reviewed By : Robin Wu
(Robin Wu)

Approved By : Marlin Chen
(Marlin Chen)

ACCREDITED
TESTING LABORATORY
CERTIFICATE #3628.01

Revision History

Report No.	Version	Description	Issue Date	Note
1608RSU02006	Rev. 01	Initial report	09-16-2016	Valid

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Description Page

1. General Information

1.1. Applicant

Compex Systems Pte Ltd

No:9 Harrison Road, Harrison Industrial Building, #05-01, Singapore 369651

1.2. Manufacturer

Compex Systems Pte Ltd

No:9 Harrison Road, Harrison Industrial Building, #05-01, Singapore 369651

1.3. Testing Facility

Test Site

MRT Technology (Suzhou) Co., Ltd

Test Site Location

D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China

Test Facility / Accreditations

Measurements were performed at MRT Laboratory located in Tian'edang Rd., Suzhou, China

- **MRT facility is a FCC registered (MRT Reg. No. 809388) test facility with the site description report on file and has met all the requirements specified in Section 2.948 of the FCC Rules.**
- **MRT facility is an IC registered (MRT Reg. No. 11384A-1) test laboratory with the site description on file at Industry Canada.**
- **MRT facility is a VCCI registered (R-4179, G-814, C-4664, T-2206) test laboratory with the site description on file at VCCI Council.**
- **MRT Lab is accredited to ISO 17025 by the American Association for Laboratory Accreditation (A2LA) under the American Association for Laboratory Accreditation Program (A2LA Cert. No. 3628.01) in EMC, Telecommunications and Radio testing for FCC, Industry Canada, EU and TELEC Rules.**

1.4. Feature of Equipment under Test

Product Name:	WIRELESS-ABGN 2X2 NETWORK MINIPCIE ADAPTER
Model No.:	WLE200NX, WLE200NX-I
Brand Name:	COMPEX
Wi-Fi Specification:	802.11a/b/g/n

1.5. Product Specification Subjective to this Report

Frequency Range	802.11a /n-HT20: 5180~5240 MHz, 5260~5320 MHz, 5500~5700 MHz; 802.11n-HT40: 5190~5230 MHz, 5270~5310 MHz, 5510~5670 MHz;
Channel Number	802.11a/n-HT20: 19 802.11n-HT40: 9
Type of Modulation	802.11a/n: OFDM
Data Rate	802.11a: 6/9/12/18/24/36/48/54Mbps 802.11n: up to 300Mbps
Antenna Gain	2.6dBi

Note: For other features of this EUT, test report will be issued separately.

1.6. Operation Frequency / Channel List

802.11a/n-HT20

Channel	Frequency	Channel	Frequency	Channel	Frequency
36	5180 MHz	40	5200 MHz	44	5220 MHz
48	5240 MHz	52	5260 MHz	56	5280 MHz
60	5300 MHz	64	5320 MHz	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	--	--	--	--

802.11n-HT40

Channel	Frequency	Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz	54	5270 MHz
62	5310 MHz	102	5510 MHz	110	5550 MHz
118	5590 MHz	126	5630 MHz	134	5670 MHz

1.7. Standards Applicable for Testing

The EUT complies with the requirements of ETSI EN 301 893 V1.8.1.

2. Test Configuration of Equipment under Test

2.1. Description of Test Mode

Test Mode	Mode 1: Transmit by 802.11a
	Mode 2: Transmit by 802.11n-HT20
	Mode 3: Transmit by 802.11n-HT40
	Mode 4: Receive by 802.11a
	Mode 5: Receive by 802.11n-HT20
	Mode 6: Receive by 802.11n-HT40

Test Mode	Duty Cycle
802.11a	97.36%
802.11n-HT20	98.13%
802.11n-HT40	93.03%

2.2. Description of Test Software

The test utility software used during testing were “ART V09 v27”.

3. Test Summary

Clause EN301893	Test Parameter	Result (Pass/Fail)	Remark
4.2	Carrier Frequencies	Pass	--
4.3	Occupied Channel Bandwidth	Pass	--
4.4	RF Output Power, Transmit Power Control (TPC) and Power Density	Pass	--
4.5.1	Transmitter Unwanted Emissions Outside the 5GHz RLAN Bands	Pass	--
4.5.2	Transmitter Unwanted Emissions Within the 5GHz RLAN Bands	Pass	--
4.6	Receiver Spurious Emissions	Pass	--
4.7	Dynamic Frequency Selection (DFS)	Pass	Refer to DFS report
4.8	Adaptivity	Pass	--
4.9	User Access Restrictions	Pass	--
4.10	Geo-location Capability	N/A	--

Note 1: For Radiated spurious emission test, every axis (X, Y, Z) was also verified. The test results shown in the following sections represent the worst case emissions.

Note 2: This device doesn't have Geo-location Capability which is declared by the manufacturer.

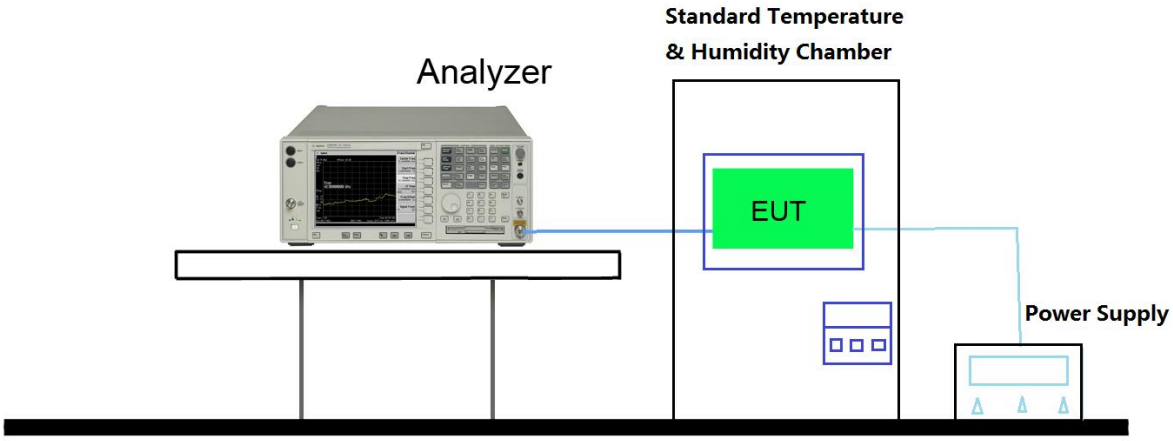
4. Carrier Frequencies

4.1. Limit

The actual centre frequency for any given channel declared by the manufacturer shall be maintained within the range fc ± 20ppm.

4.2. Test Setup

For Conducted Measurement



4.3. Test Procedure

Refer to ETSI EN 301 893 V1.8.1 (2015-03) Clause 5.3.2.2.1.

4.4. Test Result

Test Engineer	Roy Cheng	Temperature	0°C ~ 40°C
Test Time	2016/08/02	Relative Humidity	50 ~ 54%

Test Conditions		Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)	Limit (ppm)	Result
T_{nom} (25°C)	V_{nom} (AC 230V)	5320	5319.991743	-0.90	≤ 20	Pass
		5500	5499.989341	-1.76	≤ 20	Pass
T_{min} (0°C)	V_{min} (AC 207V)	5320	5319.988923	-1.55	≤ 20	Pass
		5500	5499.990234	-2.23	≤ 20	Pass
	V_{max} (AC 253V)	5320	5319.989235	-1.82	≤ 20	Pass
		5500	5499.985653	-1.78	≤ 20	Pass
T_{max} (40°C)	V_{min} (AC 207V)	5320	5319.993421	-2.84	≤ 20	Pass
		5500	5499.987343	-1.45	≤ 20	Pass
	V_{max} (AC 253V)	5320	5319.982353	-1.81	≤ 20	Pass
		5500	5499.994653	-2.23	≤ 20	Pass

5. Occupied Channel Bandwidth

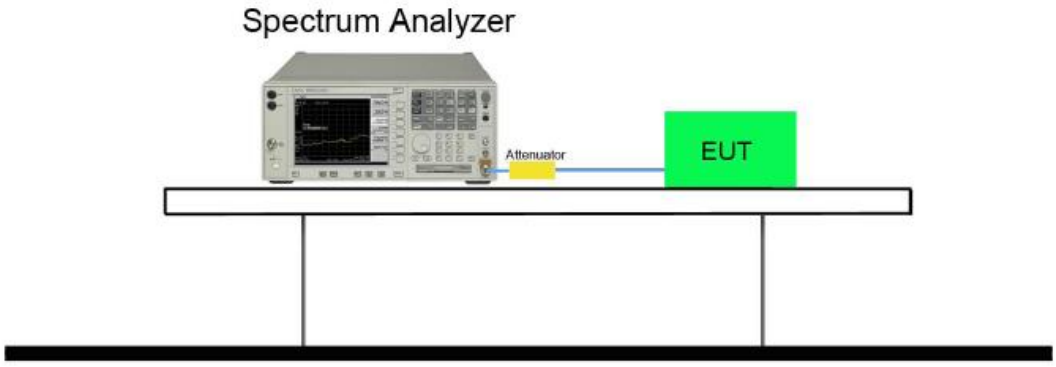
5.1. Limit

The Nominal Channel Bandwidth shall be at least 5 MHz at all times.

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.

During an established communication, a device is allowed to operate temporarily with an Occupied Channel Bandwidth below 80 % of its Nominal Channel Bandwidth with a minimum of 4 MHz.

5.2. Test Setup



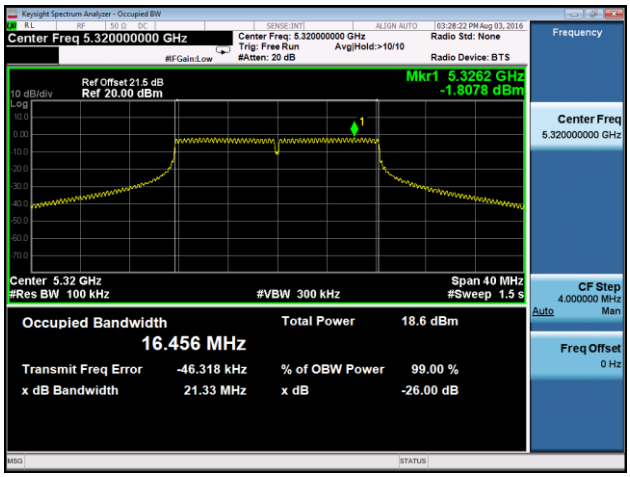
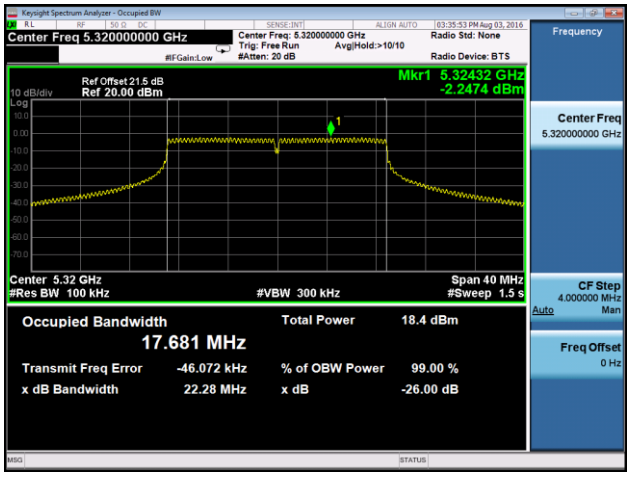
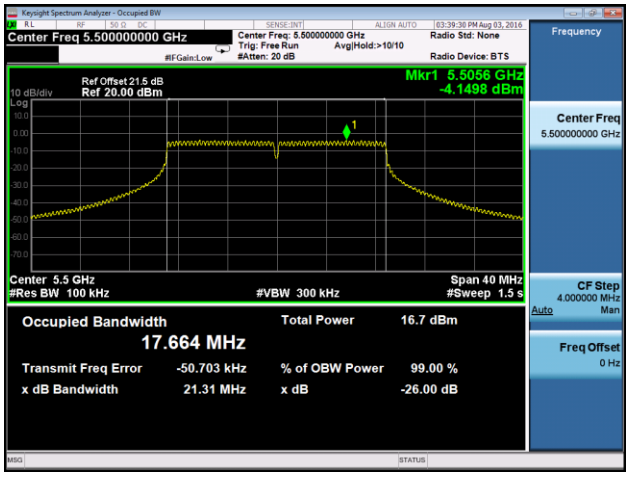
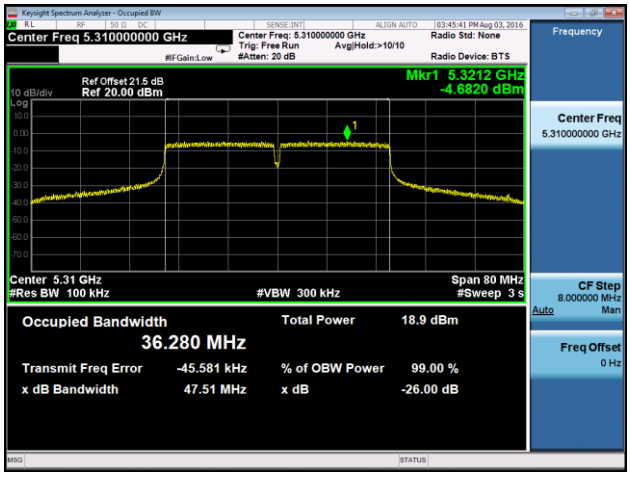
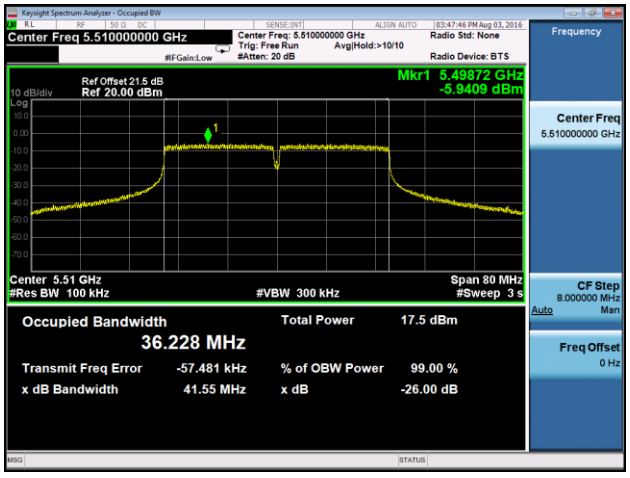
5.3. Test Procedure

Refer to ETSI EN 301 893 V1.8.1 (2015-03) Clause 5.3.3.2.1.

5.4. Test Result

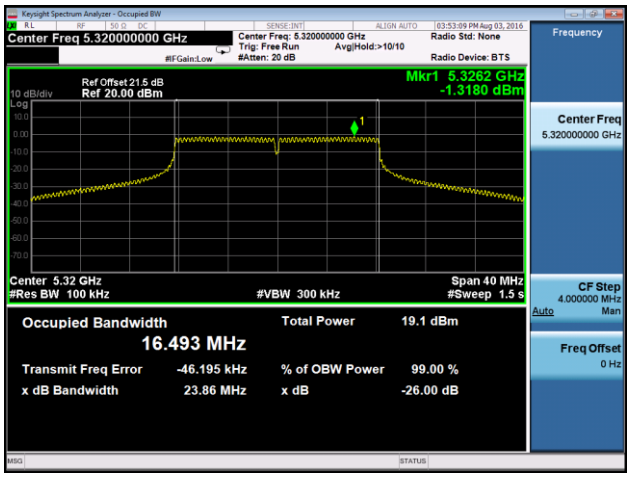
Test Engineer	Roy Cheng	Temperature	25°C
Test Time	2016/08/03	Relative Humidity	52%

Test Mode	Channel No.	Frequency (MHz)	99% Bandwidth (MHz)	Declared Nominal Channel Bandwidth (MHz)	Occupied Bandwidth (%)	Limit (%)	Result
Ant 0							
11a	64	5320	16.46	20	82.30	80 - 100	Pass
11a	100	5500	16.44	20	82.20	80 - 100	Pass
11nHT20	64	5320	17.68	20	88.40	80 - 100	Pass
11n-HT20	100	5500	17.66	20	88.30	80 - 100	Pass
11n-HT40	62	5310	36.28	40	90.70	80 - 100	Pass
11n-HT40	102	5510	36.23	40	90.58	80 - 100	Pass
Ant 1							
11a	64	5320	16.49	20	82.45	80 - 100	Pass
11a	100	5500	16.53	20	82.65	80 - 100	Pass
11nHT20	64	5320	17.71	20	88.55	80 - 100	Pass
11n-HT20	100	5500	17.73	20	88.65	80 - 100	Pass
11n-HT40	62	5310	36.30	40	90.75	80 - 100	Pass
11n-HT40	102	5510	36.31	40	90.78	80 - 100	Pass
Ant 0 / Ant 0 + 1							
11nHT20	64	5320	17.68	20	88.40	80 - 100	Pass
11n-HT20	100	5500	17.63	20	88.15	80 - 100	Pass
11n-HT40	62	5310	36.34	40	90.85	80 - 100	Pass
11n-HT40	102	5510	36.26	40	90.65	80 - 100	Pass

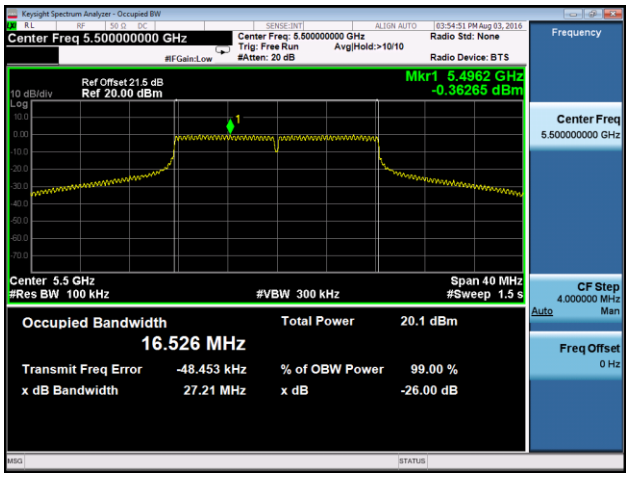
802.11a - Ant 0	
Channel 64 (5320MHz)	**Channel 100 (5500MHz)**
	
802.11n-HT20 - Ant 0	
Channel 64 (5320MHz)	**Channel 100 (5500MHz)**
	
802.11n-HT40 - Ant 0	
Channel 62 (5310MHz)	**Channel 102 (5510MHz)**
	

802.11a - Ant 1

Channel 64 (5320MHz)

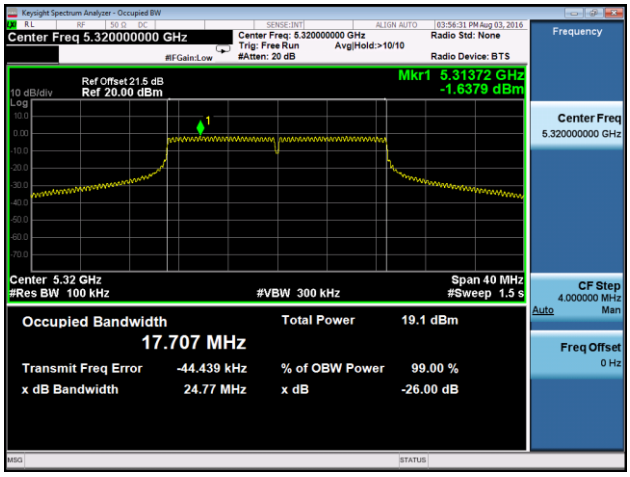


Channel 100 (5500MHz)

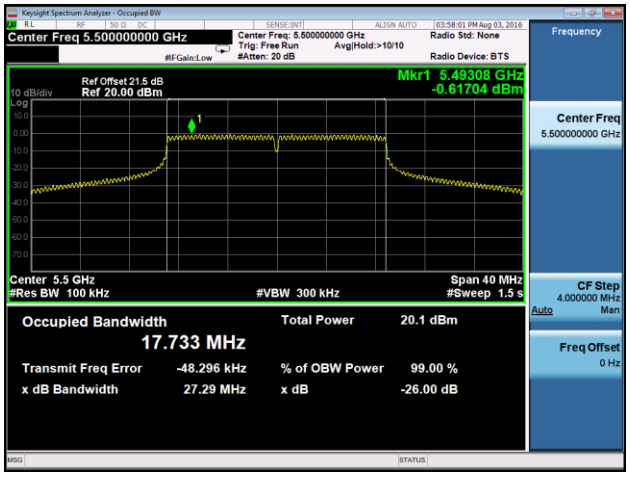


802.11n-HT20 - Ant 1

Channel 64 (5320MHz)

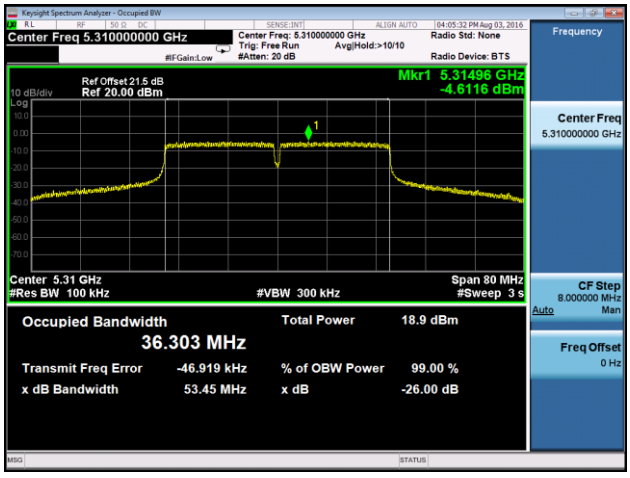


Channel 100 (5500MHz)

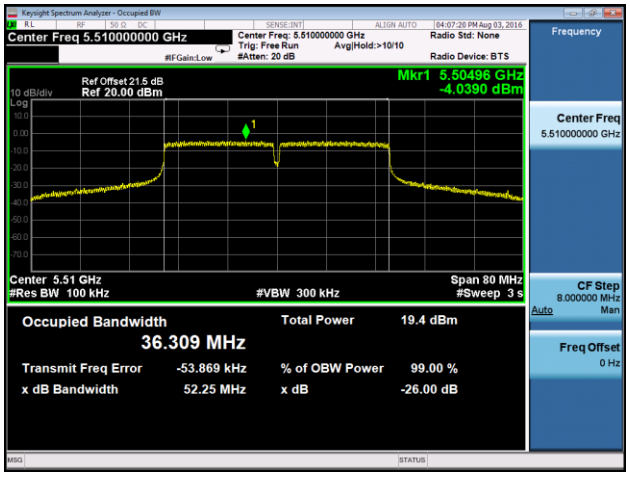


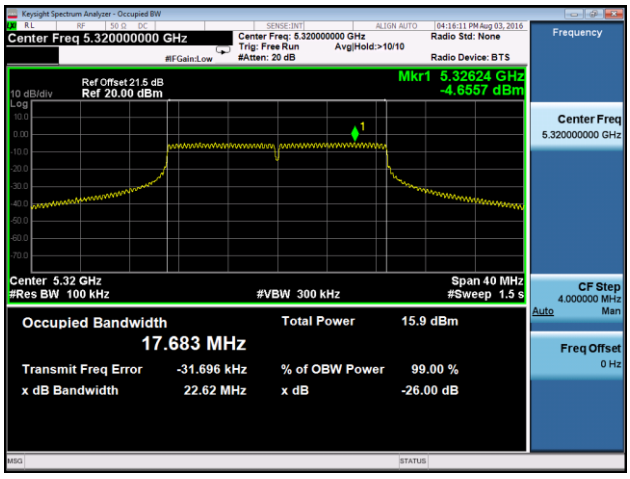
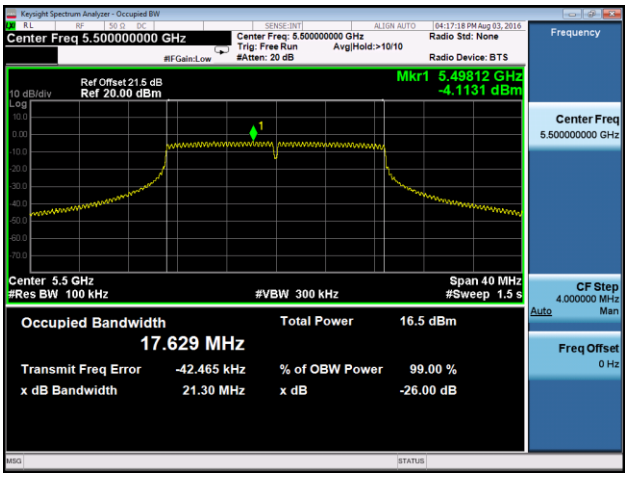
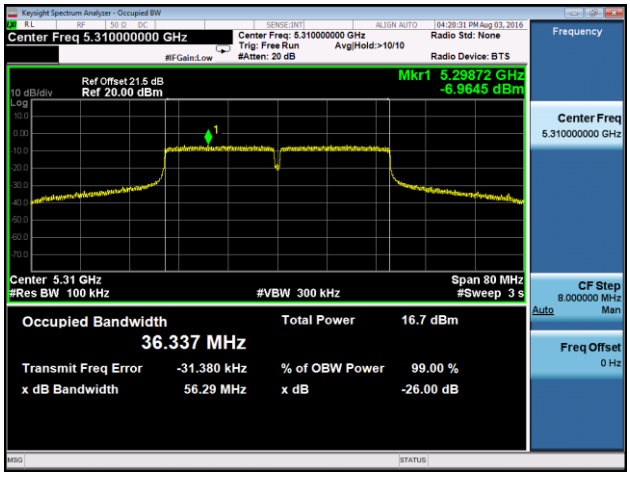
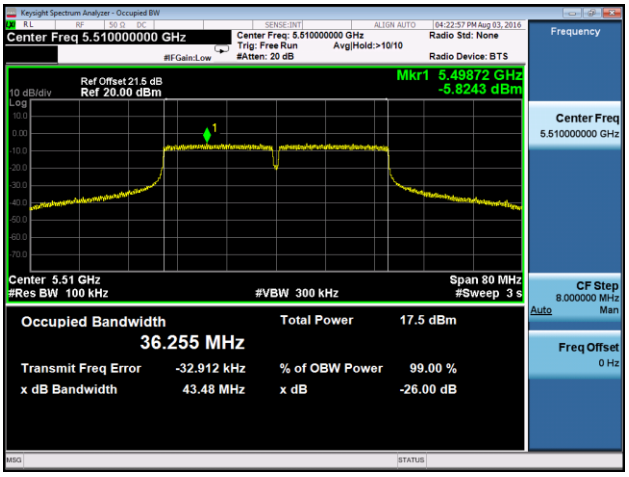
802.11n-HT40 - Ant 1

Channel 62 (5310MHz)



Channel 102 (5510MHz)



802.11n-HT20 - Ant 0 / Ant 0 + 1	
Channel 64 (5320MHz)	**Channel 100 (5500MHz)**
	
802.11n-HT40 - Ant 0 / Ant 0 + 1	
Channel 62 (5310MHz)	**Channel 102 (5510MHz)**
	

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

6.1. Limit

RF Output Power and Power Density at the Highest Power Level

TPC is not required for channels whose nominal bandwidth falls completely within the band 5150 MHz to 5250 MHz.

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.

Devices are allowed to operate without TPC. See table for applicable limits in this case.

Mean EIRP limits for RF Output Power and Power Density at the Highest Power Level				
Frequency Range	Mean EIRP Limit [dBm]		Mean EIRP Density Limit [dBm/MHz]	
	with TPC	without TPC	with TPC	without TPC
5150 MHz to 5350 MHz	23	20/23 (see note 1)	10	7/10 (see note 2)
5470 MHz to 5725 MHz	30 (see note 3)	27 (see note 3)	17 (see note 3)	14 (see note 3)
NOTE 1: The applicable limit is 20 dBm, except for transmissions whose nominal bandwidth falls completely within the band 5150 MHz to 5250 MHz, in which case the applicable limit is 23 dBm.				
NOTE 2: The applicable limit is 7 dBm/MHz, except for transmissions whose nominal bandwidth falls completely within the band 5150 MHz to 5250 MHz, in which case the applicable limit is 10 dBm/MHz.				
NOTE 3: Slave devices without a Radar Interference Detection function shall comply with the limits for the band 5250 MHz to 5350 MHz.				

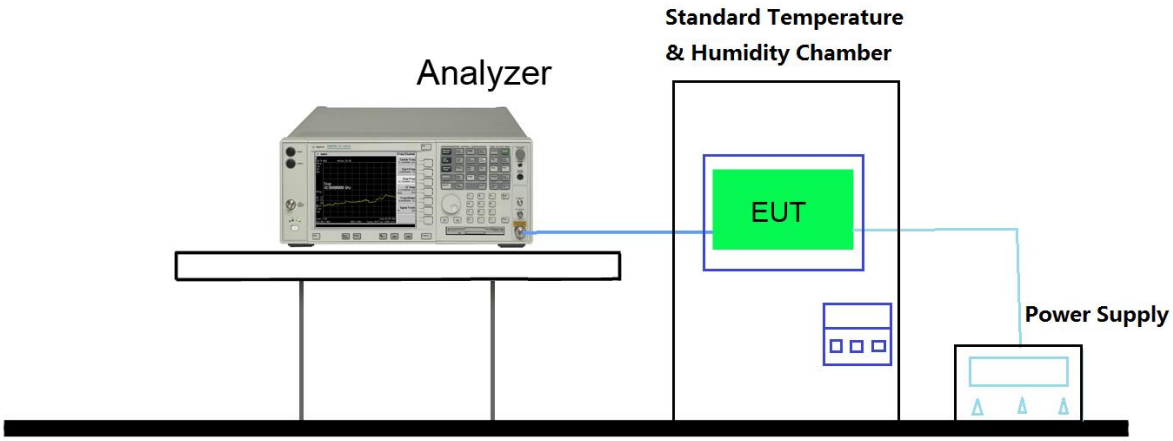
RF Output Power at the Lowest Power Level of the TPC Range

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.

For devices without TPC, the limits in table do not apply.

Mean EIRP Limits for RF Output Power at the Lowest Power Level of the TPC Range	
Frequency Range	Mean EIRP [dBm]
5250 MHz to 5350 MHz	17
5470 MHz to 5725 MHz	24 (see note)
Note: Slave devices without a Radar Interference Detection function shall comply with the limits for the band 5250 MHz to 5350 MHz.	

6.2. Test Setup



6.3. Test Procedure

Refer to ETSI EN 301 893 V1.8.1 (2015-03) Clause 5.3.4.2.1.

6.4. Test Result

Test Engineer	Roy Cheng	Temperature	25°C
Test Time	2016/08/02	Relative Humidity	50 ~ 54%
Test Item	RF Output Power		

Normal Conditions - 1Tx (Temperature 25°C)

Mode	Ch. No.	Freq. (MHz)	RF Output Power (dBm)		Max EIRP Power (dBm)	Limit (dBm)	Result
			Ant 0	Ant 1			
11a	36	5180	17.72	17.70	20.44	23	Pass
11a	64	5320	16.23	16.37	19.09	23	Pass
11a	100	5500	17.44	16.97	20.16	30	Pass
11a	140	5700	16.69	17.52	20.24	30	Pass
11n-HT20	36	5180	17.87	17.74	20.55	23	Pass
11n-HT20	64	5320	16.75	16.53	19.43	23	Pass
11n-HT20	100	5500	17.29	16.89	19.97	30	Pass
11n-HT20	140	5700	16.94	16.91	19.62	30	Pass
11n-HT40	38	5190	17.71	17.66	20.62	23	Pass
11n-HT40	62	5310	16.83	16.54	19.74	23	Pass
11n-HT40	102	5510	16.69	16.71	19.62	30	Pass
11n-HT40	134	5670	16.90	16.82	19.81	30	Pass

Note: Max EIRP Power (dBm) =Max(Ant 0 RF Output Power: Ant 1 RF Output Power) + Antenna Gain(dBi) + 10*Log(1/Duty Cycle).

Normal Conditions - 2Tx (Temperature 25°C)

Mode	Ch. No.	Freq. (MHz)	RF Output Power (dBm)		Total EIRP Power (dBm)	Limit (dBm)	Result
			Ant 0	Ant 1			
11n-HT20	36	5180	15.43	15.43	21.12	23	Pass
11n-HT20	64	5320	13.48	13.61	19.24	23	Pass
11n-HT20	100	5500	14.02	14.25	19.83	30	Pass
11n-HT20	140	5700	14.23	13.89	19.76	30	Pass
11n-HT40	38	5190	15.40	15.38	21.31	23	Pass
11n-HT40	62	5310	13.60	14.27	19.87	23	Pass
11n-HT40	102	5510	13.31	13.39	19.27	30	Pass
11n-HT40	134	5670	14.37	13.33	19.81	30	Pass

Note: Total EIRP Power (dBm) = $10*\log\{10^{(\text{Ant 0 RF Output Power }/10)}+10^{(\text{Ant 1 RF Output Power }/10)}\}$ + Antenna Gain (dBi) + 10*Log(1/Duty Cycle).

Test Engineer	Roy Cheng	Temperature	0°C
Test Time	2016/08/02	Relative Humidity	50 ~ 54%
Test Item	RF Output Power		

Extreme Conditions - 1Tx (Temperature 0°C)

Mode	Ch. No.	Freq. (MHz)	RF Output Power (dBm)		Max EIRP Power (dBm)	Limit (dBm)	Result
			Ant 0	Ant 1			
11a	36	5180	18.23	17.68	20.95	23	Pass
11a	64	5320	16.34	16.73	19.45	23	Pass
11a	100	5500	17.66	17.24	20.38	30	Pass
11a	140	5700	17.09	17.67	20.39	30	Pass
11n-HT20	36	5180	17.89	17.89	20.57	23	Pass
11n-HT20	64	5320	16.88	16.71	19.56	23	Pass
11n-HT20	100	5500	17.64	17.29	20.32	30	Pass
11n-HT20	140	5700	17.53	17.30	20.21	30	Pass
11n-HT40	38	5190	17.89	17.58	20.80	23	Pass
11n-HT40	62	5310	16.79	16.94	19.85	23	Pass
11n-HT40	102	5510	16.82	16.85	19.76	30	Pass
11n-HT40	134	5670	16.79	16.90	19.81	30	Pass

Note: Max EIRP Power(dBm) =Max(Ant 0 RF Output Power: Ant 1 RF Output Power) + Antenna Gain(dBi) + 10*Log(1/Duty Cycle).

Normal Conditions - 2Tx (Temperature 0°C)

Mode	Ch. No.	Freq. (MHz)	RF Output Power (dBm)		Total EIRP Power (dBm)	Limit (dBm)	Result
			Ant 0	Ant 1			
11n-HT20	36	5180	15.39	15.61	21.19	23	Pass
11n-HT20	64	5320	13.58	13.79	19.38	23	Pass
11n-HT20	100	5500	14.34	14.55	20.14	30	Pass
11n-HT20	140	5700	14.62	14.23	20.12	30	Pass
11n-HT40	38	5190	15.52	15.49	21.43	23	Pass
11n-HT40	62	5310	13.81	14.61	20.15	23	Pass
11n-HT40	102	5510	13.62	13.70	19.58	30	Pass
11n-HT40	134	5670	14.63	13.29	19.94	30	Pass

Note: Total EIRP Power(dBm) = $10*\log\{10^{(\text{Ant 0 RF Output Power }/10)}+10^{(\text{Ant 1 RF Output Power }/10)}\}$ + Antenna Gain(dBi) + 10*Log(1/Duty Cycle).

Test Engineer	Roy Cheng	Temperature	40°C
Test Time	2016/08/02	Relative Humidity	50 ~ 54%
Test Item	RF Output Power		

Extreme Conditions - 1Tx (Temperature 40°C)

Mode	Ch. No.	Freq. (MHz)	RF Output Power (dBm)		Max EIRP Power (dBm)	Limit (dBm)	Result
			Ant 0	Ant 1			
11a	36	5180	17.71	17.54	20.43	23	Pass
11a	64	5320	16.20	16.61	19.33	23	Pass
11a	100	5500	17.34	16.82	20.06	30	Pass
11a	140	5700	16.81	17.31	20.03	30	Pass
11n-HT20	36	5180	17.44	17.83	20.51	23	Pass
11n-HT20	64	5320	16.61	16.30	19.29	23	Pass
11n-HT20	100	5500	17.30	16.67	19.98	30	Pass
11n-HT20	140	5700	16.59	16.69	19.37	30	Pass
11n-HT40	38	5190	17.61	17.52	20.52	23	Pass
11n-HT40	62	5310	16.70	16.37	19.61	23	Pass
11n-HT40	102	5510	16.55	16.51	19.46	30	Pass
11n-HT40	134	5670	16.41	16.37	19.32	30	Pass

Note: Max EIRP Power(dBm) =Max(Ant 0 RF Output Power: Ant 1 RF Output Power) + Antenna Gain(dBi) + 10*Log(1/Duty Cycle).

Normal Conditions - 2Tx (Temperature 40°C)

Mode	Ch. No.	Freq. (MHz)	RF Output Power (dBm)		Total EIRP Power (dBm)	Limit (dBm)	Result
			Ant 0	Ant 1			
11n-HT20	36	5180	15.35	15.23	20.98	23	Pass
11n-HT20	64	5320	13.26	13.49	19.07	23	Pass
11n-HT20	100	5500	13.79	14.21	19.70	30	Pass
11n-HT20	140	5700	14.34	13.69	19.72	30	Pass
11n-HT40	38	5190	15.33	15.40	21.29	23	Pass
11n-HT40	62	5310	13.29	14.21	19.70	23	Pass
11n-HT40	102	5510	13.30	13.31	19.23	30	Pass
11n-HT40	134	5670	14.24	13.23	19.69	30	Pass

Note: Total EIRP Power (dBm) = $10*\log\{10^{(\text{Ant 0 RF Output Power }/10)}+10^{(\text{Ant 1 RF Output Power }/10)}\}$ + Antenna Gain (dBi) + 10*Log(1/Duty Cycle).

Test Engineer	Roy Cheng	Temperature	25°C
Test Time	2016/08/02	Relative Humidity	50 ~ 54%
Test Item	TPC		

Normal Conditions - 1Tx (Temperature 25°C)

Mode	Ch. No.	Freq. (MHz)	TPC (dBm)		Max TPC (dBm)	Limit (dBm)	Result
			Ant 0	Ant 1			
11a	64	5320	16.23	16.37	11.94	17	Pass
11n-HT20	64	5320	16.75	16.53	12.32	17	Pass
11n-HT40	62	5310	16.83	16.54	12.70	17	Pass

Note: Max EIRP Power (dBm) =Max(Ant 0 RF Output Power: Ant 1 RF Output Power) + Antenna Gain (dBi) + 10*Log(1/Duty Cycle).

Normal Conditions - 2Tx (Temperature 25°C)

Mode	Ch. No.	Freq. (MHz)	TPC (dBm)		Max TPC (dBm)	Limit (dBm)	Result
			Ant 0	Ant 1			
11n-HT20	64	5320	7.32	7.56	13.13	17	Pass
11n-HT40	62	5310	7.46	8.12	13.73	17	Pass

Note: Total EIRP Power (dBm) = $10*\log\{10^{(\text{Ant 0 RF Output Power }/10)}+10^{(\text{Ant 1 RF Output Power }/10)}\}$ + Antenna Gain (dBi) + 10*Log(1/Duty Cycle).

Caution: The frequency band 5470 – 5725MHz EIRP is less than 24dBm, it can satisfy the TPC requirement.

Test Engineer	Roy Cheng	Temperature	0°C
Test Time	2016/08/02	Relative Humidity	50 ~ 54%
Test Item	TPC		

Extreme Conditions - 1Tx (Temperature 0°C)

Mode	Ch. No.	Freq. (MHz)	TPC (dBm)		Max TPC (dBm)	Limit (dBm)	Result
			Ant 0	Ant 1			
11a	64	5320	9.82	9.64	12.54	17	Pass
11n-HT20	64	5320	9.76	9.79	12.47	17	Pass
11n-HT40	62	5310	9.84	9.84	12.75	17	Pass

Note: Max EIRP Power (dBm) = Max(Ant 0 RF Output Power: Ant 1 RF Output Power) + Antenna Gain (dBi) + 10*Log(1/Duty Cycle).

Normal Conditions - 2Tx (Temperature 0°C)

Mode	Ch. No.	Freq. (MHz)	TPC (dBm)		Max TPC (dBm)	Limit (dBm)	Result
			Ant 0	Ant 1			
11n-HT20	64	5320	7.52	7.74	13.32	17	Pass
11n-HT40	62	5310	7.55	8.41	13.93	17	Pass

Note: Total EIRP Power (dBm) = $10*\log\{10^{(\text{Ant 0 RF Output Power }/10)}+10^{(\text{Ant 1 RF Output Power }/10)}\}$ + Antenna Gain (dBi) + 10*Log(1/Duty Cycle).

Test Engineer	Roy Cheng	Temperature	40°C
Test Time	2016/08/02	Relative Humidity	50 ~ 54%
Test Item	TPC		

Extreme Conditions - 1Tx (Temperature 40°C)

Mode	Ch. No.	Freq. (MHz)	TPC (dBm)		Max TPC (dBm)	Limit (dBm)	Result
			Ant 0	Ant 1			
11a	64	5320	9.93	9.76	12.65	17	Pass
11n-HT20	64	5320	9.69	9.69	12.37	17	Pass
11n-HT40	62	5310	9.87	9.86	12.78	17	Pass

Note: Max EIRP Power (dBm) =Max(Ant 0 RF Output Power: Ant 1 RF Output Power) + Antenna Gain (dBi) + 10*Log(1/Duty Cycle).

Normal Conditions - 2Tx (Temperature 40°C)

Mode	Ch. No.	Freq. (MHz)	TPC (dBm)		Max TPC (dBm)	Limit (dBm)	Result
			Ant 0	Ant 1			
11n-HT20	64	5320	7.12	7.32	12.91	17	Pass
11n-HT40	62	5310	7.23	8.12	13.62	17	Pass

Note: Total EIRP Power (dBm) = $10*\log\{10^{(\text{Ant 0 RF Output Power }/10)}+10^{(\text{Ant 1 RF Output Power }/10)}\}$ + Antenna Gain (dBi) + 10*Log(1/Duty Cycle).

Test Engineer	Roy Cheng	Temperature	25°C
Test Time	2016/08/02	Relative Humidity	50 ~ 54%
Test Item	Power Density		

1Tx

Mode	Ch. No.	Freq. (MHz)	Power Density (dBm/MHz)		Max Power Density (dBm/MHz)	Limit (dBm/MHz)	Result
			Ant 0	Ant 1			
11a	36	5180	6.55	6.50	9.27	10	Pass
11a	64	5320	4.65	5.30	8.02	10	Pass
11a	100	5500	5.70	5.51	8.42	10	Pass
11a	140	5700	4.89	6.73	9.45	10	Pass
11n-HT20	36	5180	6.33	6.62	9.30	10	Pass
11n-HT20	64	5320	4.88	4.83	7.56	10	Pass
11n-HT20	100	5500	5.21	5.24	7.92	10	Pass
11n-HT20	140	5700	4.90	5.67	8.35	10	Pass
11n-HT40	38	5190	3.30	3.51	6.42	10	Pass
11n-HT40	62	5310	2.51	2.34	5.42	10	Pass
11n-HT40	102	5510	1.39	1.78	4.69	10	Pass
11n-HT40	134	5670	1.89	2.31	5.22	10	Pass

Note: Max Power Density (dBm/MHz) =Max(Ant 0 Power Density: Ant 1 Power Density) + Antenna Gain(dBi) + 10*Log(1/Duty Cycle).

2Tx

Mode	Ch. No.	Freq. (MHz)	Power Density (dBm/MHz)		Total Power Density (dBm/MHz)	Limit (dBm/MHz)	Result
			Ant 0	Ant 1			
11n-HT20	36	5180	4.23	4.11	9.86	10	Pass
11n-HT20	64	5320	1.88	2.50	7.89	10	Pass
11n-HT20	100	5500	2.66	2.40	8.22	10	Pass
11n-HT20	140	5700	3.79	2.32	8.81	10	Pass
11n-HT40	38	5190	1.27	1.24	7.18	10	Pass
11n-HT40	62	5310	-1.23	-0.34	5.16	10	Pass
11n-HT40	102	5510	-0.68	-1.45	4.88	10	Pass
11n-HT40	134	5670	0.63	-0.78	5.91	10	Pass

Note: Total Power Density (dBm/MHz) = $10*\log\{10^{(\text{Ant 0 Power Density }/10)}+10^{(\text{Ant 1 Power Density }/10)}\}$ + Antenna Gain (dBi) + 10*Log(1/Duty Cycle).

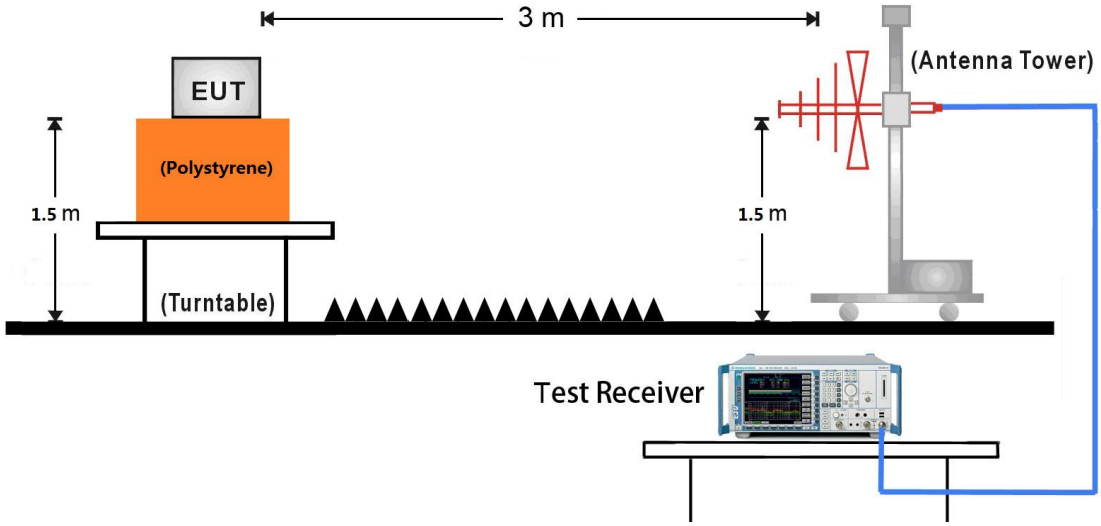
7. Transmitter Unwanted Emissions Outside the 5GHz RLAN Bands

7.1. Limit

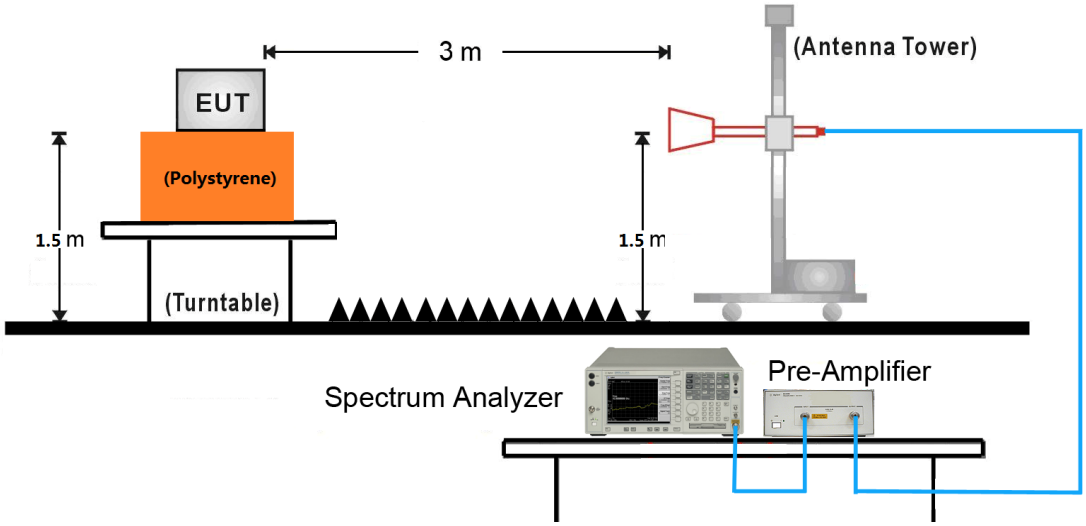
Frequency Range	Maximum Power	Bandwidth
30 MHz to 47 MHz	-36dBm	100 kHz
47 MHz to 74 MHz	-54dBm	100 kHz
74 MHz to 87.5 MHz	-36dBm	100 kHz
87.5 MHz to 118 MHz	-54dBm	100 kHz
118 MHz to 174 MHz	-36dBm	100 kHz
174 MHz to 230 MHz	-54dBm	100 kHz
230 MHz to 470 MHz	-36dBm	100 kHz
470 MHz to 862 MHz	-54dBm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

7.2. Test Setup

Below 1GHz Test Setup:



Above 1GHz Test Setup:



7.3. Test Procedure

Refer to ETSI EN 301 893 V1.8.1 (2015-03) Clause 5.3.5.2.2.

7.4. Test Result

Test Engineer	Lewis Huang	Temperature	24°C
Test Time	08-05-2016	Relative Humidity	52%
Test Mode	802.11a -1Tx	Test Site	AC2

Channel	Frequency (MHz)	Reading Level (dBm)	Substitution Factor (dB)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
60	91.4	-80.2	17.3	-62.9	-54.0	-8.9	Peak	Horizontal
	90.5	-95.2	32.4	-62.8	-54.0	-8.8	Peak	Vertical
	203.0	-86.6	24.7	-61.9	-54.0	-7.9	Peak	Horizontal
	218.0	-85.1	22.5	-62.6	-54.0	-8.6	Peak	Vertical
	7092.4	-62.4	24.3	-38.1	-30.0	-8.1	Peak	Horizontal
	7092.4	-61.7	23.5	-38.2	-30.0	-8.2	Peak	Vertical
	10687.9	-73.3	31.4	-41.9	-30.0	-11.9	Peak	Horizontal
	11019.4	-74.1	31.8	-42.3	-30.0	-12.3	Peak	Vertical
100	91.9	-79.5	17.3	-62.2	-54.0	-8.2	Peak	Horizontal
	90.0	-93.1	31.6	-61.5	-54.0	-7.5	Peak	Vertical
	748.1	-95.7	34.4	-61.3	-54.0	-7.3	Peak	Horizontal
	203.0	-84.1	21.2	-62.9	-54.0	-8.9	Peak	Vertical
	7330.4	-69.6	24.7	-44.9	-30.0	-14.9	Peak	Horizontal
	7330.4	-66.9	24.3	-42.6	-30.0	-12.6	Peak	Vertical
	10959.9	-74.5	31.7	-42.8	-30.0	-12.8	Peak	Horizontal
	91.4	-80.2	17.3	-62.9	-54.0	-8.9	Peak	Vertical

Note 1: Measure Level (dBm) = Reading Level (dBm) + Substitution Factor (dB)

Note 2: Substitution Factor (dB) = Cable Loss (dB) + Space Attenuation (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Test Engineer	Lewis Huang	Temperature	24°C
Test Time	08-05-2016	Relative Humidity	52%
Test Mode	802.11n-HT20 – 2Tx	Test Site	AC2

Channel	Frequency (MHz)	Reading Level (dBm)	Substitution Factor (dB)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
60	91.9	-80.1	17.3	-62.8	-54.0	-8.8	Peak	Horizontal
	90.0	-93.5	31.6	-61.9	-54.0	-7.9	Peak	Vertical
	673.0	-97.5	32.1	-65.4	-54.0	-11.4	Peak	Horizontal
	218.0	-84.4	22.5	-61.9	-54.0	-7.9	Peak	Vertical
	7092.4	-63.5	24.3	-39.2	-30.0	-9.2	Peak	Horizontal
	7092.4	-60.7	23.5	-37.2	-30.0	-7.2	RMS	Vertical
	10687.9	-74.6	31.4	-43.2	-30.0	-13.2	Peak	Horizontal
	10993.9	-74.0	31.7	-42.3	-30.0	-12.3	Peak	Vertical
100	91.4	-79.0	17.3	-61.7	-54.0	-7.7	Peak	Horizontal
	89.5	-92.3	30.7	-61.6	-54.0	-7.6	Peak	Vertical
	673.0	-96.7	32.1	-64.6	-54.0	-10.6	Peak	Horizontal
	623.0	-92.8	31.3	-61.5	-54.0	-7.5	Peak	Vertical
	7330.4	-61.2	24.7	-36.5	-30.0	-6.5	RMS	Horizontal
	7330.4	-59.5	24.3	-35.2	-30.0	-5.2	RMS	Vertical
	10993.9	-73.2	31.6	-41.6	-30.0	-11.6	Peak	Horizontal
	91.9	-80.1	17.3	-62.8	-54.0	-8.8	Peak	Vertical

Note 1: Measure Level (dBm) = Reading Level (dBm) + Substitution Factor (dB)

Note 2: Substitution Factor (dB) = Cable Loss (dB) + Space Attenuation (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Test Engineer	Lewis Huang	Temperature	24°C
Test Time	08-05-2016	Relative Humidity	52%
Test Mode	802.11n-HT40 – 2Tx	Test Site	AC2

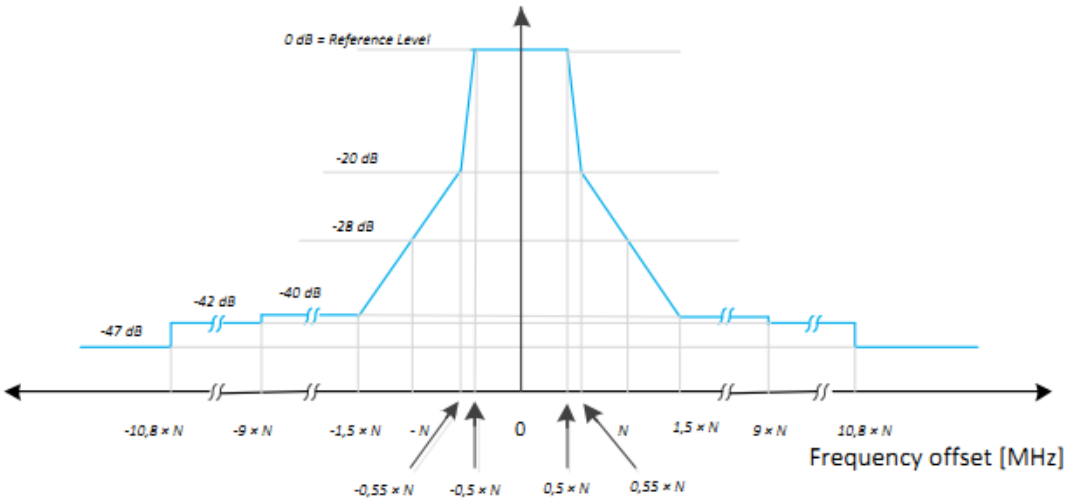
Channel	Frequency (MHz)	Reading Level (dBm)	Substitution Factor (dB)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
62	91.4	-80.3	17.3	-63.0	-54.0	-9.0	Peak	Horizontal
	90.0	-93.6	31.6	-62.0	-54.0	-8.0	Peak	Vertical
	203.0	-86.5	24.7	-61.8	-54.0	-7.8	Peak	Horizontal
	218.0	-84.0	22.5	-61.5	-54.0	-7.5	Peak	Vertical
	7075.4	-61.1	24.2	-36.9	-30.0	-6.9	RMS	Horizontal
	7100.9	-64.7	23.8	-40.9	-30.0	-10.9	Peak	Vertical
	11061.9	-74.8	31.9	-42.9	-30.0	-12.9	Peak	Horizontal
	11588.9	-74.8	32.7	-42.1	-30.0	-12.1	Peak	Vertical
102	91.4	-79.4	17.3	-62.1	-54.0	-8.1	Peak	Horizontal
	89.0	-92.0	30.6	-61.4	-54.0	-7.4	Peak	Vertical
	673.0	-97.7	32.1	-65.6	-54.0	-11.6	Peak	Horizontal
	623.0	-93.6	31.3	-62.3	-54.0	-8.3	Peak	Vertical
	7372.9	-69.3	24.7	-44.6	-30.0	-14.6	Peak	Horizontal
	7372.9	-65.6	24.8	-40.8	-30.0	-10.8	Peak	Vertical
	10687.9	-74.6	31.4	-43.2	-30.0	-13.2	Peak	Horizontal
	91.4	-80.3	17.3	-63.0	-54.0	-9.0	Peak	Vertical

Note 1: Measure Level (dBm) = Reading Level (dBm) + Substitution Factor (dB)

Note 2: Substitution Factor (dB) = Cable Loss (dB) + Space Attenuation (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

8. Transmitter Unwanted Emissions Within the 5GHz RLAN Bands

8.1. Limit

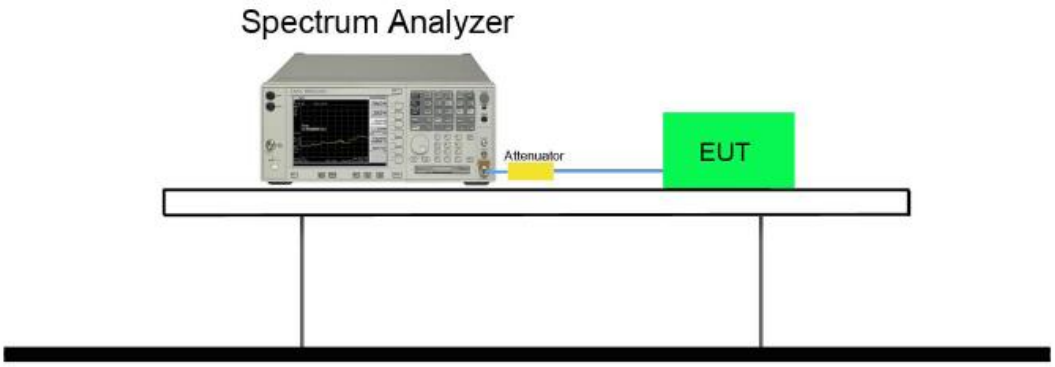


NOTE: dBc is the spectral density relative to the maximum spectral power density of the transmitted signal.

Figure : Transmit spectral power mask

8.2. Test Setup

Conducted measurements



8.3. Test Procedure

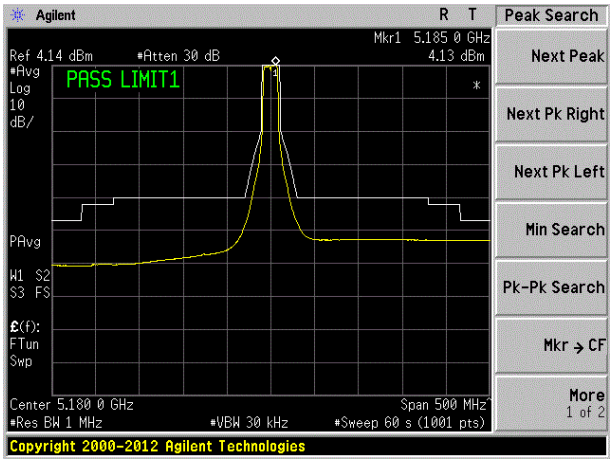
Refer to ETSI EN 301 893 V1.8.1 (2015-03) Clause 5.3.6.2.1.

8.4. Test Result

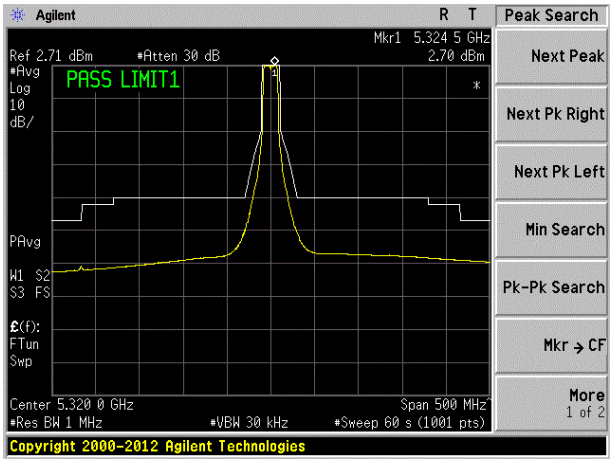
Test Mode	Channel No.	Frequency (MHz)	Result
Ant 0			
11a	64	5320	Pass
11a	100	5500	Pass
11n-HT20	64	5320	Pass
11n-HT20	100	5500	Pass
11n-HT40	62	5310	Pass
11n-HT40	102	5510	Pass
Ant 1			
11a	64	5320	Pass
11a	100	5500	Pass
11n-HT20	64	5320	Pass
11n-HT20	100	5500	Pass
11n-HT40	62	5310	Pass
11n-HT40	102	5510	Pass
Ant 0 / Ant 0 + 1			
11n-HT20	64	5320	Pass
11n-HT20	100	5500	Pass
11n-HT40	62	5310	Pass
11n-HT40	102	5510	Pass

802.11a Transmitter Unwanted Emissions Within the 5GHz RLAN Bands Chain 0

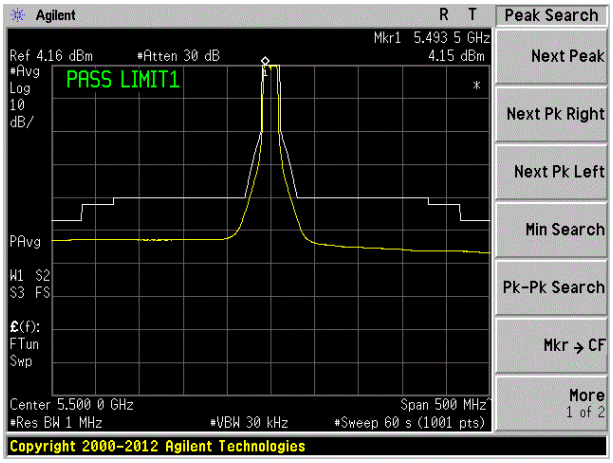
Channel 36 (5180MHz)



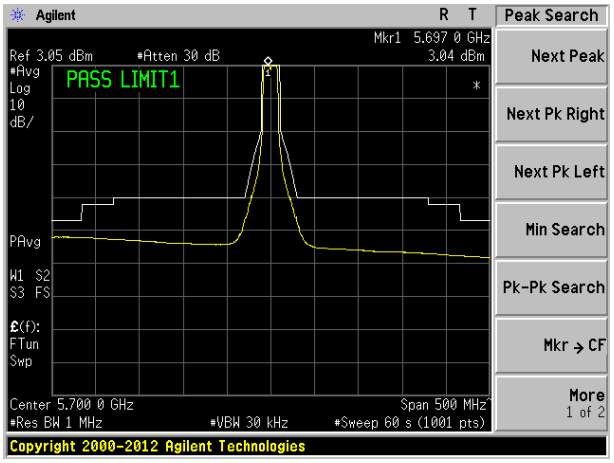
Channel 64 (5320MHz)

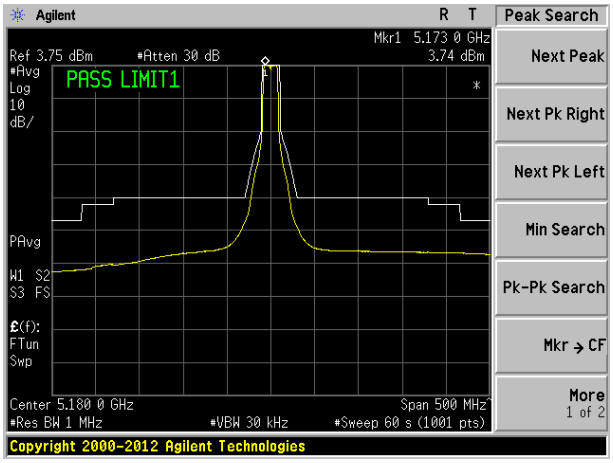
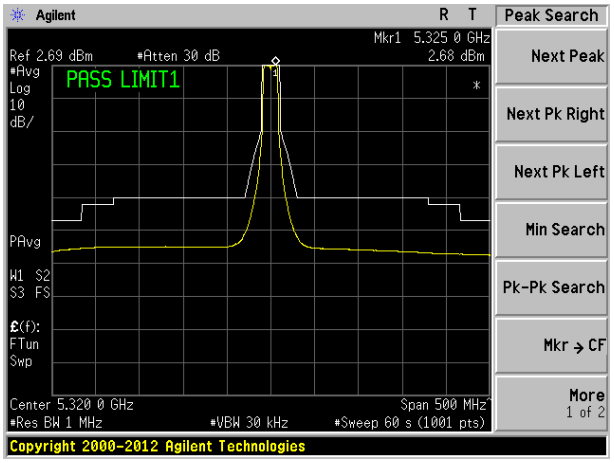
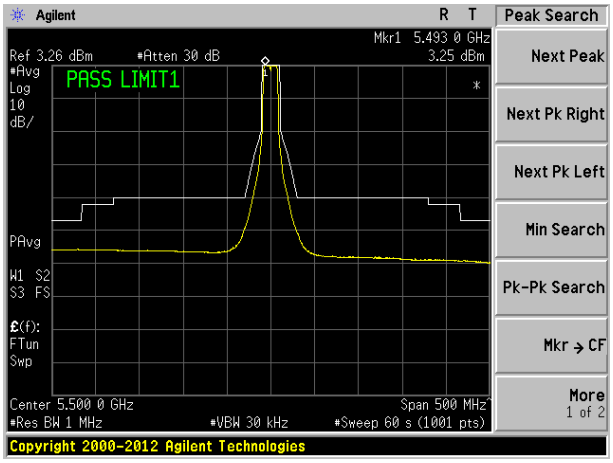
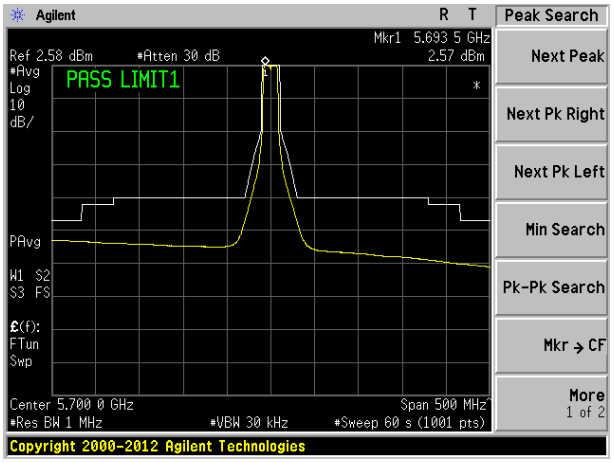


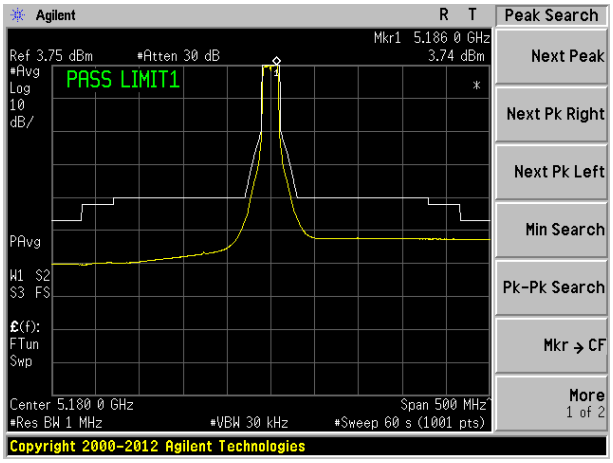
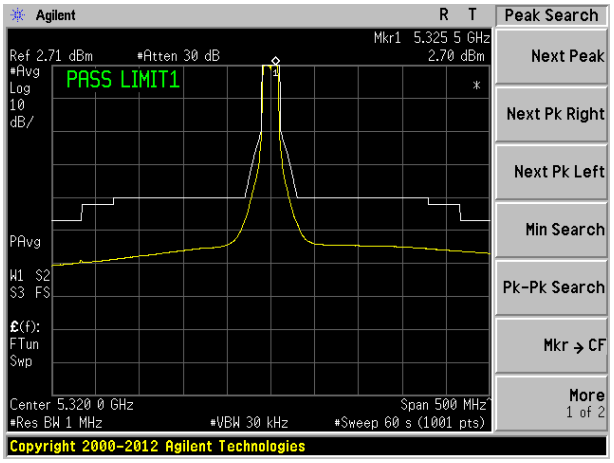
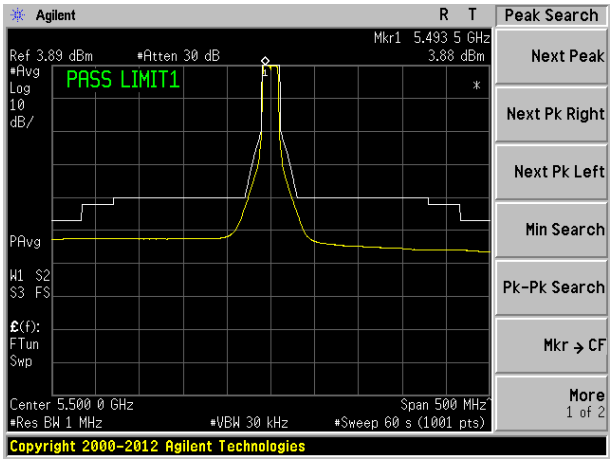
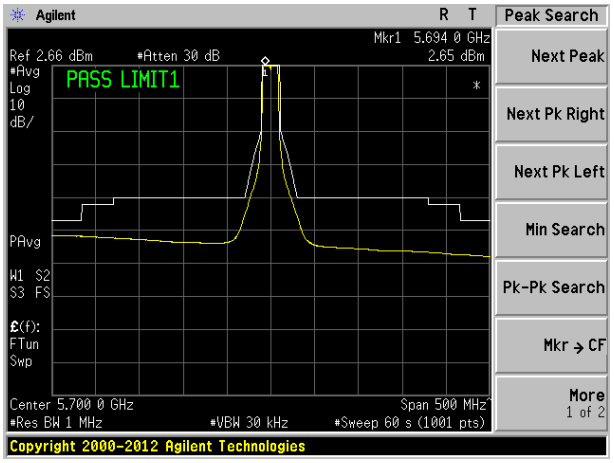
Channel 100 (5500MHz)

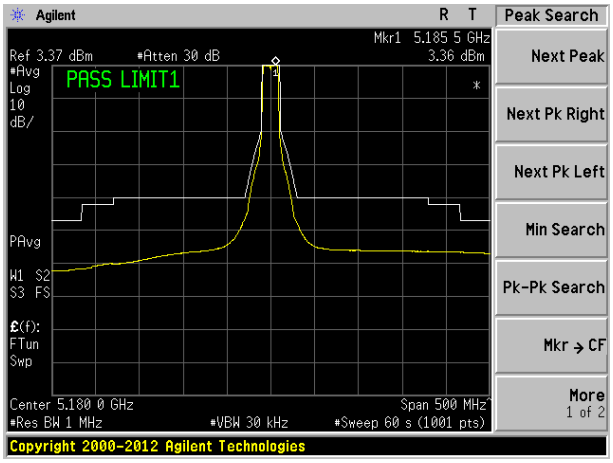
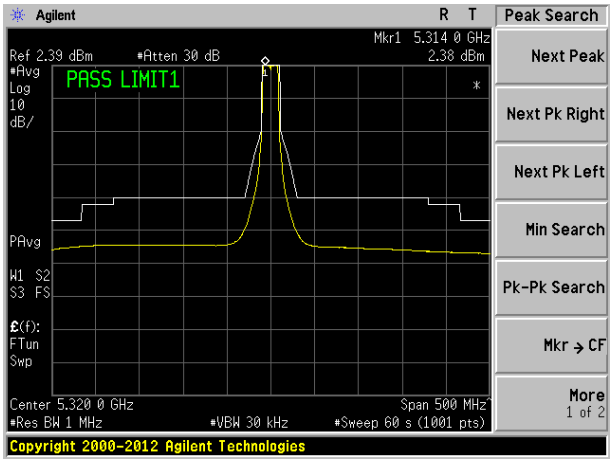
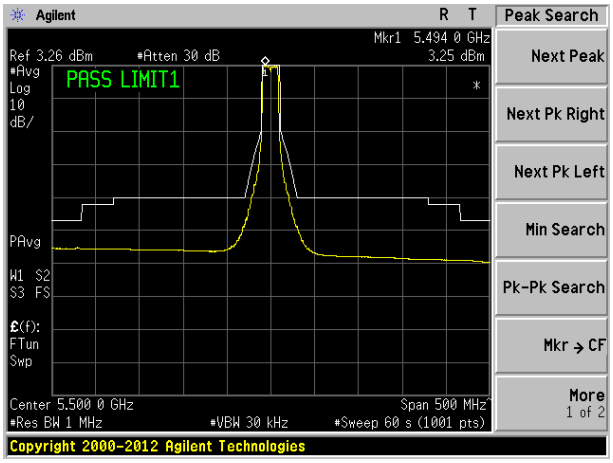
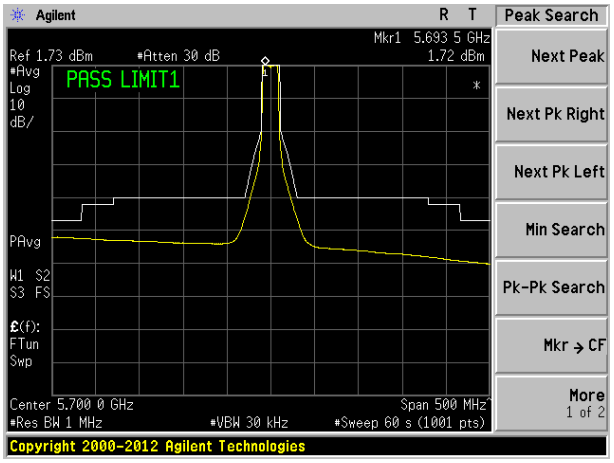


Channel 140 (5700MHz)



802.11a Transmitter Unwanted Emissions Within the 5GHz RLAN Bands Chain 1	
Channel 36 (5180MHz)	**Channel 64 (5320MHz)**
	
Channel 100 (5500MHz)	**Channel 140 (5700MHz)**
	

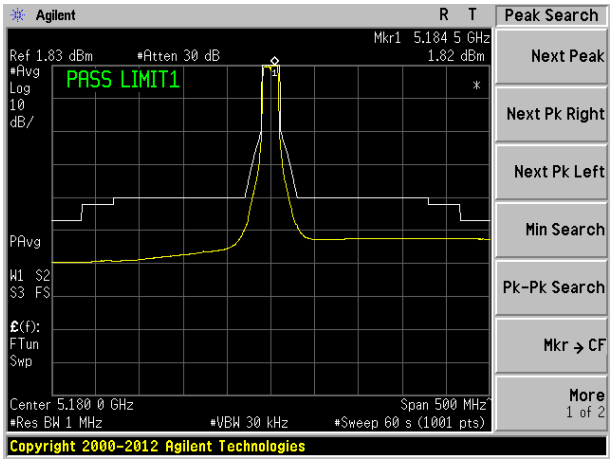
802.11n(20MHz) Transmitter Unwanted Emissions Within the 5GHz RLAN Bands Chain 0	
Channel 36 (5180MHz)	**Channel 64 (5320MHz)**
	
Channel 100 (5500MHz)	**Channel 140 (5700MHz)**
	

802.11n(20MHz) Transmitter Unwanted Emissions Within the 5GHz RLAN Bands Chain 1	
Channel 36 (5180MHz)	**Channel 64 (5320MHz)**
	
Channel 100 (5500MHz)	**Channel 140 (5700MHz)**
	

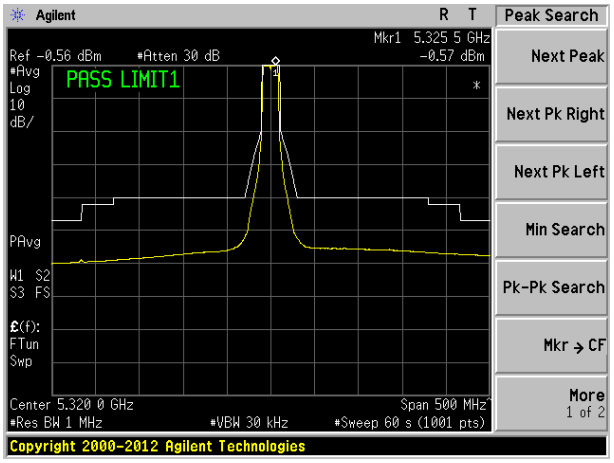
802.11n(20MHz) Transmitter Unwanted Emissions Within the 5GHz RLAN Bands

Chain 0/Chain 0 +1

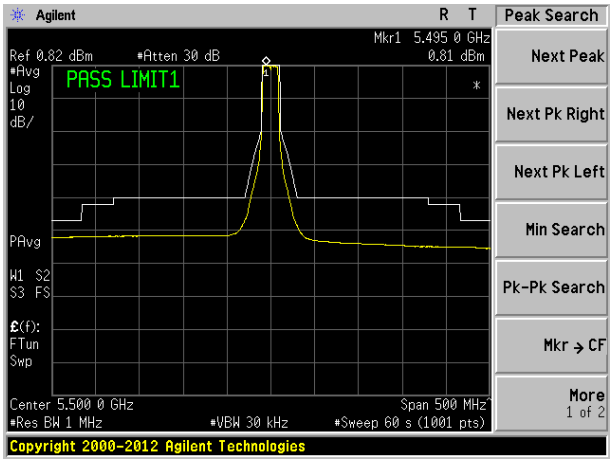
Channel 36 (5180MHz)



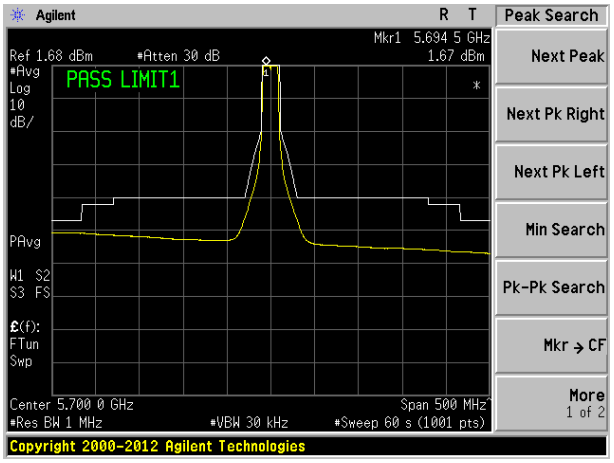
Channel 64 (5320MHz)

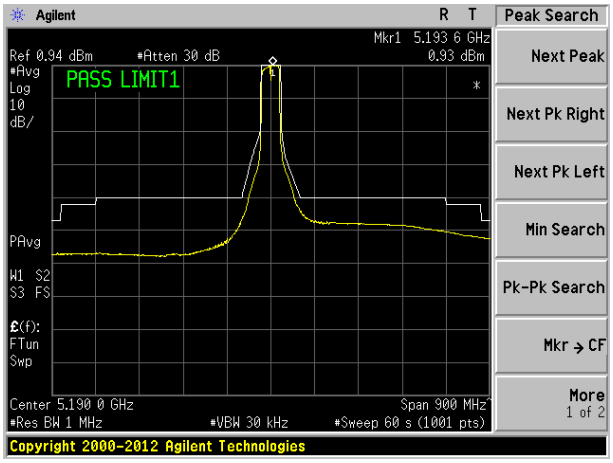
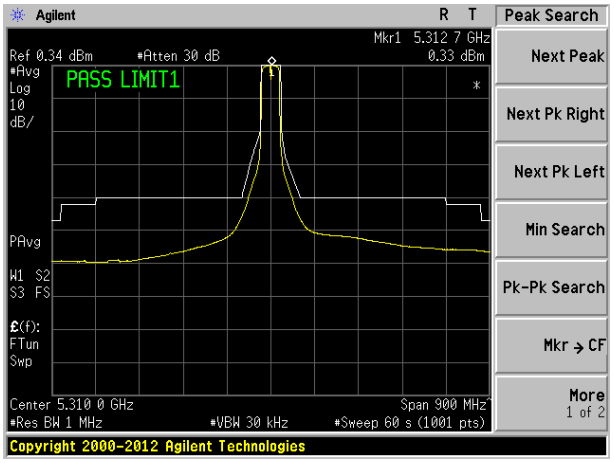
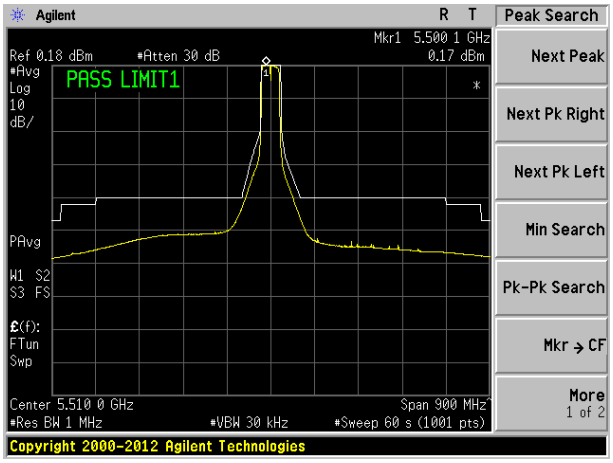
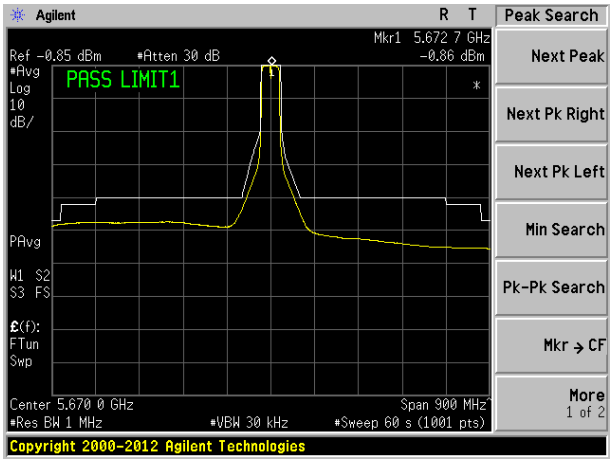


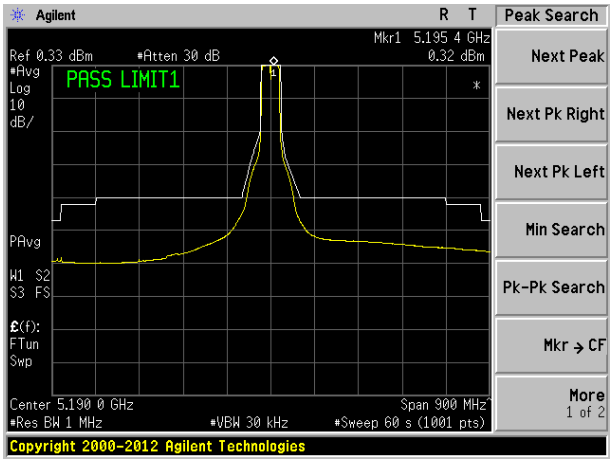
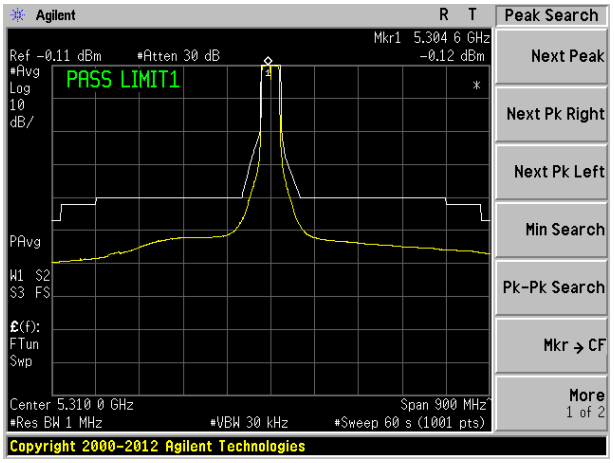
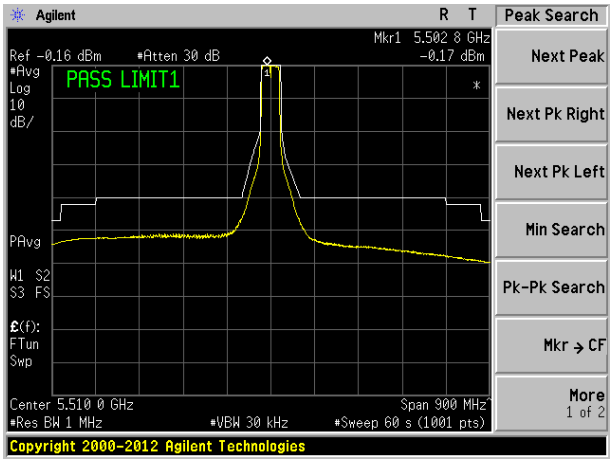
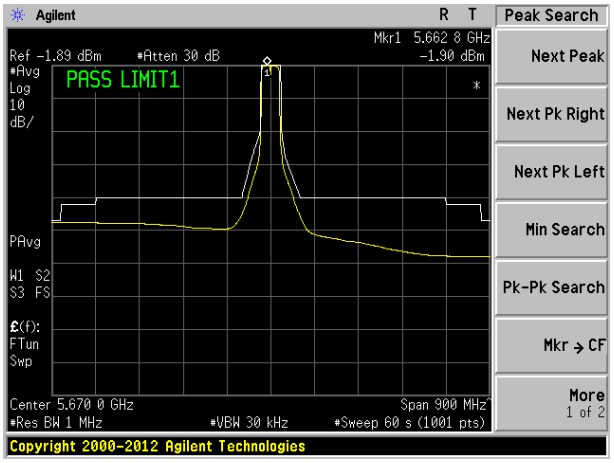
Channel 100 (5500MHz)



Channel 140 (5700MHz)



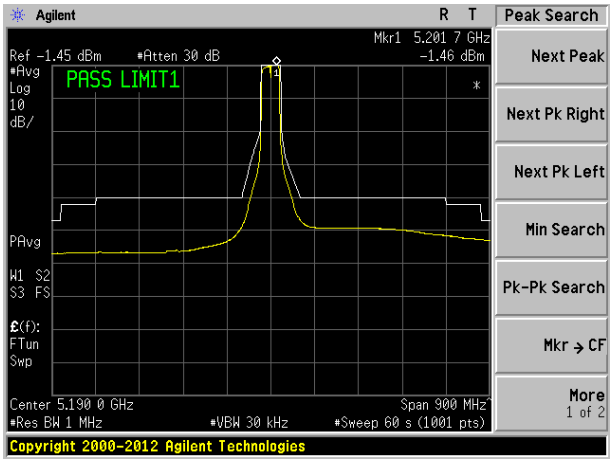
802.11n(40MHz) Transmitter Unwanted Emissions Within the 5GHz RLAN Bands Chain 0	
Channel 38 (5190MHz)	**Channel 62 (5310MHz)**
	
Channel 102 (5510MHz)	**Channel 138 (5670MHz)**
	

802.11n(40MHz) Transmitter Unwanted Emissions Within the 5GHz RLAN Bands Chain 1	
Channel 38 (5190MHz)	**Channel 62 (5310MHz)**
	
Channel 102 (5510MHz)	**Channel 138 (5670MHz)**
	

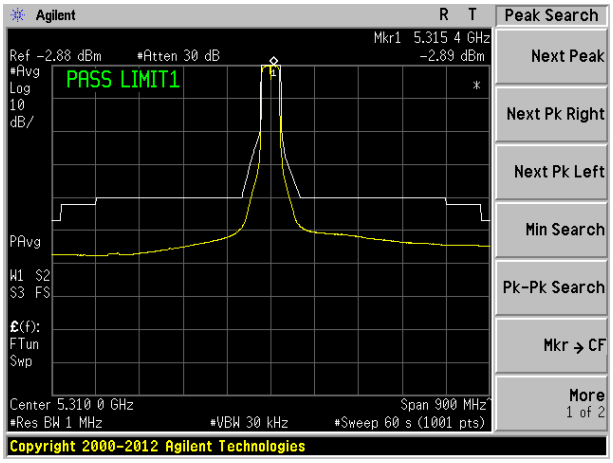
802.11n(40MHz) Transmitter Unwanted Emissions Within the 5GHz RLAN Bands

Chain 0/Chain 0 +1

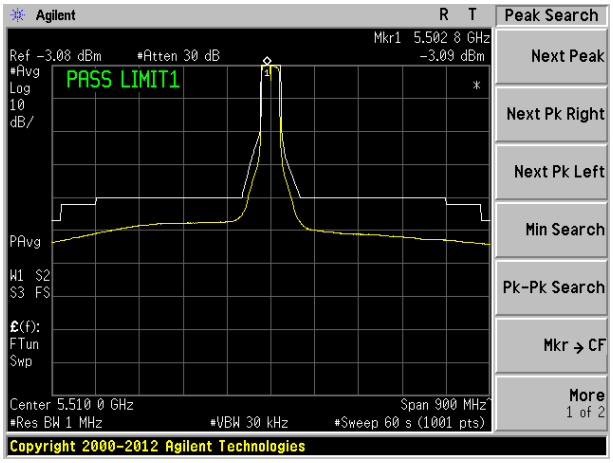
Channel 38 (5190MHz)



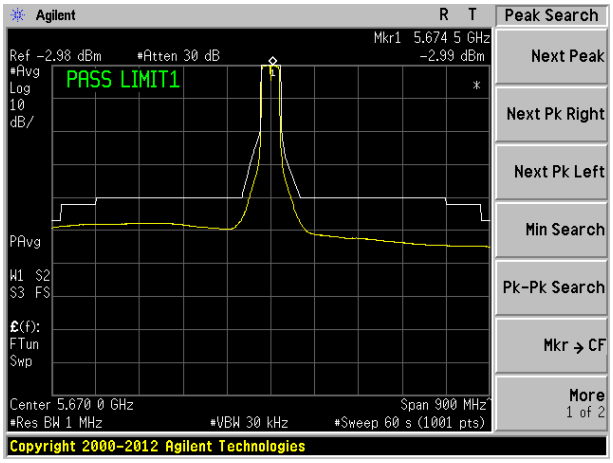
Channel 62 (5310MHz)



Channel 102 (5510MHz)



Channel 138 (5670MHz)



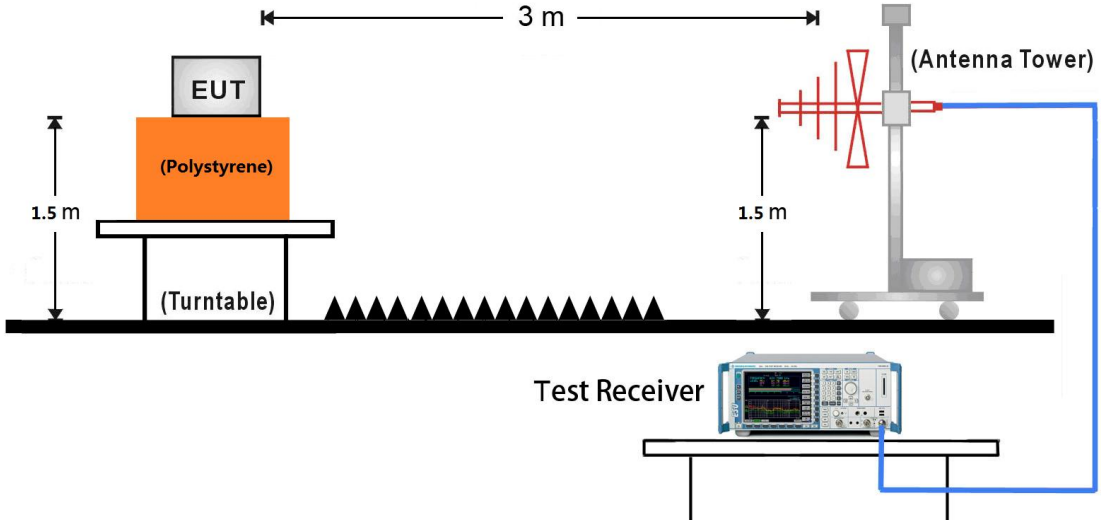
9. Receiver Spurious Emissions

9.1. Limit

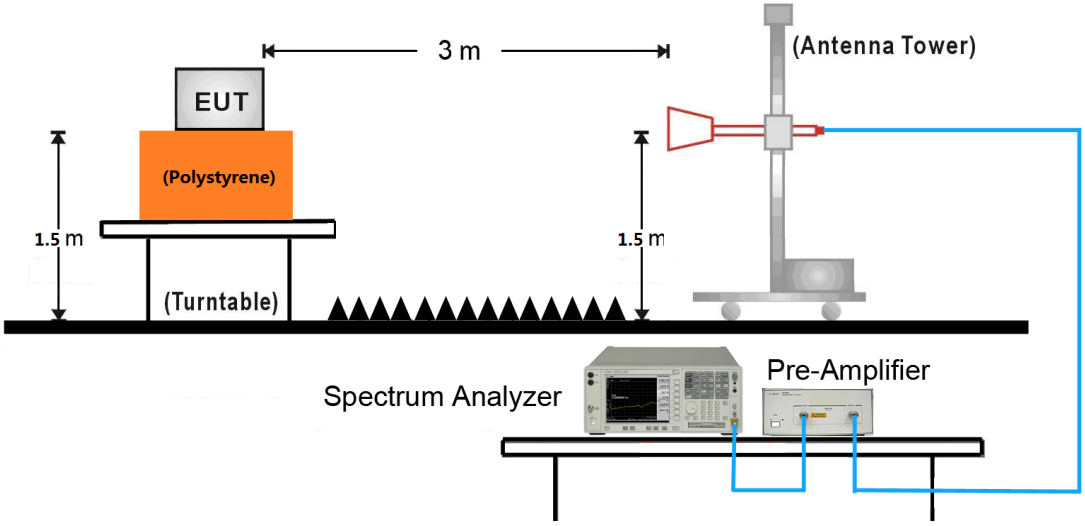
Frequency Range	Maximum Power	Bandwidth
30 MHz to 1GHz	-57dBm	100 kHz
1 GHz to 26 GHz	-47dBm	1 MHz

9.2. Test Setup

Below 1GHz Test Setup:



Above 1GHz Test Setup:



9.3. Test Procedure

Refer to ETSI EN 301 893 V1.8.1 (2015-03) Clause 5.3.7.2.2.

9.4. Test Result

Test Engineer	Lewis Huang	Temperature	24°C
Test Time	08-05-2016	Relative Humidity	52%
Test Mode	802.11a -1Tx	Test Site	AC2

Channel	Frequency (MHz)	Reading Level (dBm)	Substitution Factor (dB)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
60	43.9	-87.1	21.2	-65.9	-57.0	-8.9	Peak	Horizontal
	43.9	-87.1	21.2	-65.9	-57.0	-8.9	Peak	Vertical
	498.9	-96.8	32.1	-64.7	-57.0	-7.7	Peak	Horizontal
	498.9	-95.4	19.9	-75.5	-57.0	-18.5	Peak	Vertical
	1372.9	-64.7	10.3	-54.4	-47.0	-7.4	Peak	Horizontal
	1194.4	-63.9	8.6	-55.3	-47.0	-8.3	Peak	Vertical
	3659.4	-70.7	13.7	-57.0	-47.0	-10.0	Peak	Horizontal
	3310.9	-69.5	15.3	-54.2	-47.0	-7.2	Peak	Vertical
100	74.0	-85.5	18.1	-67.4	-57.0	-10.4	Peak	Horizontal
	43.5	-86.3	21.2	-65.1	-57.0	-8.1	Peak	Vertical
	498.9	-96.5	33.1	-63.4	-57.0	-6.4	Peak	Horizontal
	498.9	-95.3	19.9	-75.4	-57.0	-18.4	Peak	Vertical
	1797.9	-63.6	8.6	-55.0	-47.0	-8.0	Peak	Horizontal
	1797.9	-63.4	8.6	-54.8	-47.0	-7.8	Peak	Vertical
	3803.9	-70.7	13.9	-56.8	-47.0	-9.8	Peak	Horizontal
	4500.9	-72.0	13.8	-58.2	-47.0	-11.2	Peak	Vertical

Note 1: Measure Level (dBm) = Reading Level (dBm) + Substitution Factor (dB)

Note 2: Substitution Factor (dB) = Cable Loss (dB) + Space Attenuation (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Test Engineer	Lewis Huang	Temperature	24°C
Test Time	08-05-2016	Relative Humidity	52%
Test Mode	802.11n-HT20 – 2Tx	Test Site	AC2

Channel	Frequency (MHz)	Reading Level (dBm)	Substitution Factor (dB)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
60	74.0	-86.3	15.6	-70.7	-57.0	-13.7	Peak	Horizontal
	43.9	-87.2	21.2	-66.0	-57.0	-9.0	Peak	Vertical
	498.9	-96.1	32.1	-64.0	-57.0	-7.0	Peak	Horizontal
	498.9	-95.3	19.9	-75.4	-57.0	-18.4	Peak	Vertical
	1797.9	-64.3	10.3	-54.0	-47.0	-7.0	Peak	Horizontal
	1194.4	-63.3	8.6	-54.7	-47.0	-7.7	Peak	Vertical
	3803.9	-70.5	13.7	-56.8	-47.0	-9.8	Peak	Horizontal
	3591.4	-69.8	15.3	-54.5	-47.0	-7.5	Peak	Vertical
100	74.0	-86.0	18.1	-67.9	-57.0	-10.9	Peak	Horizontal
	43.5	-86.3	21.2	-65.1	-57.0	-8.1	Peak	Vertical
	498.9	-96.5	33.1	-63.4	-57.0	-6.4	Peak	Horizontal
	498.9	-95.7	19.9	-75.8	-57.0	-18.8	Peak	Vertical
	1194.4	-62.8	8.6	-54.2	-47.0	-7.2	Peak	Horizontal
	1797.9	-64.5	8.6	-55.9	-47.0	-8.9	Peak	Vertical
	3472.4	-68.8	13.9	-54.9	-47.0	-7.9	Peak	Horizontal
	74.0	-86.3	15.6	-70.7	-57.0	-13.7	Peak	Vertical

Note 1: Measure Level (dBm) = Reading Level (dBm) + Substitution Factor (dB)

Note 2: Substitution Factor (dB) = Cable Loss (dB) + Space Attenuation (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Test Engineer	Lewis Huang	Temperature	24°C
Test Time	08-05-2016	Relative Humidity	52%
Test Mode	802.11n-HT40 – 2Tx	Test Site	AC2

Channel	Frequency (MHz)	Reading Level (dBm)	Substitution Factor (dB)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
62	134.1	-83.1	15.6	-67.5	-57.0	-10.5	Peak	Horizontal
	43.5	-86.4	21.2	-65.2	-57.0	-8.2	Peak	Vertical
	674.0	-98.8	32.1	-66.7	-57.0	-9.7	Peak	Horizontal
	178.8	-86.5	19.9	-66.6	-57.0	-9.6	Peak	Vertical
	1347.4	-66.4	10.3	-56.1	-47.0	-9.1	Peak	Horizontal
	1797.9	-65.2	8.6	-56.6	-47.0	-9.6	Peak	Vertical
	3574.4	-70.4	13.7	-56.7	-47.0	-9.7	Peak	Horizontal
	4492.4	-71.4	15.3	-56.1	-47.0	-9.1	Peak	Vertical
102	98.7	-85.4	18.1	-67.3	-57.0	-10.3	Peak	Horizontal
	43.5	-86.2	21.2	-65.0	-57.0	-8.0	Peak	Vertical
	713.7	-100.1	33.1	-67.0	-57.0	-10.0	Peak	Horizontal
	178.8	-87.0	19.9	-67.1	-57.0	-10.1	Peak	Vertical
	1797.9	-64.7	8.6	-56.1	-47.0	-9.1	Peak	Horizontal
	1797.9	-64.5	8.6	-55.9	-47.0	-8.9	Peak	Vertical
	3718.9	-70.2	13.9	-56.3	-47.0	-9.3	Peak	Horizontal
	134.1	-83.1	15.6	-67.5	-57.0	-10.5	Peak	Vertical

Note 1: Measure Level (dBm) = Reading Level (dBm) + Substitution Factor (dB)

Note 2: Substitution Factor (dB) = Cable Loss (dB) + Space Attenuation (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

10. Adaptivity (Channel Access Mechanism)

10.1. Limit

LBT based Detect and Avoid (Load based Equipment may implement an LBT based spectrum sharing mechanism as described in IEEE 802.11-2012, clauses 9, clauses 10, clauses 18 and 20 or as described in IEEE 802.11ac-2013, clauses 8, clauses 9, clause 10 and 22)

Adaptivity Limit (Option B)

The CCA observation time shall be not less than 20 us, and the CCA time used by the equipment shall be declared by the manufacturer.

The Channel Occupancy Time shall be less than (13 / 32) * q ms, q = [4~32].

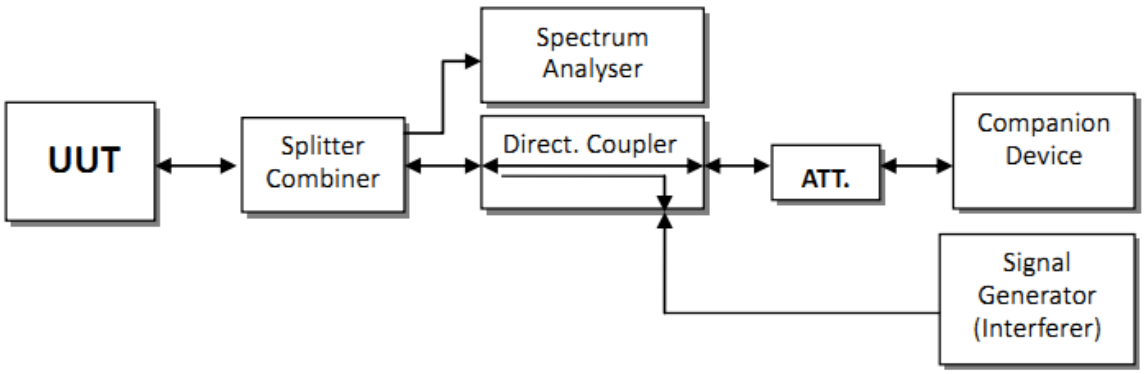
The minimum idle period varied between CCA and q*CCA.

When adding the interference signal, the EUT shall stop transmissions on the current operating channel.

Short Control Signalling Transmissions Limit

Short Control Signalling Transmissions shall have a maximum duty cycle of 5% within an observation period of 50ms.

10.2. Test Setup



10.3. Test Procedure

Refer to ETSI EN 301 893 V1.8.1 (2015-03) Clause 5.3.9.2.1.

10.4. Test Result

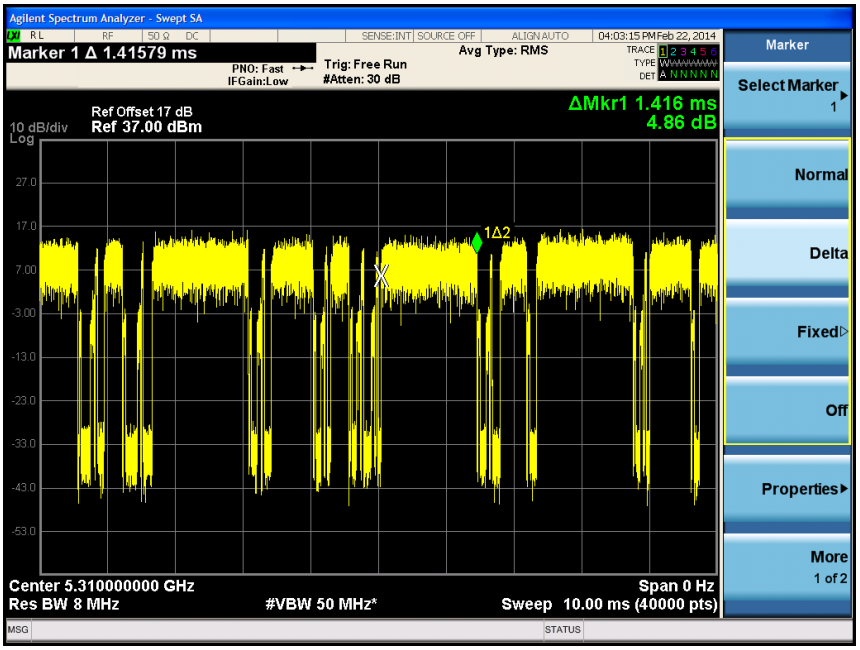
Product	WIRELESS-ABGN 2X2 NETWORK MINIPCIE ADAPTER
Test Item	Adaptivity
Test Mode	Normal Operation(5310MHz)

Idle Period

Verified: Idle Period varies between CCA and q*CCA.

Channel Occupancy Time

Test plot



Channel Occupancy Time: 1.416ms.

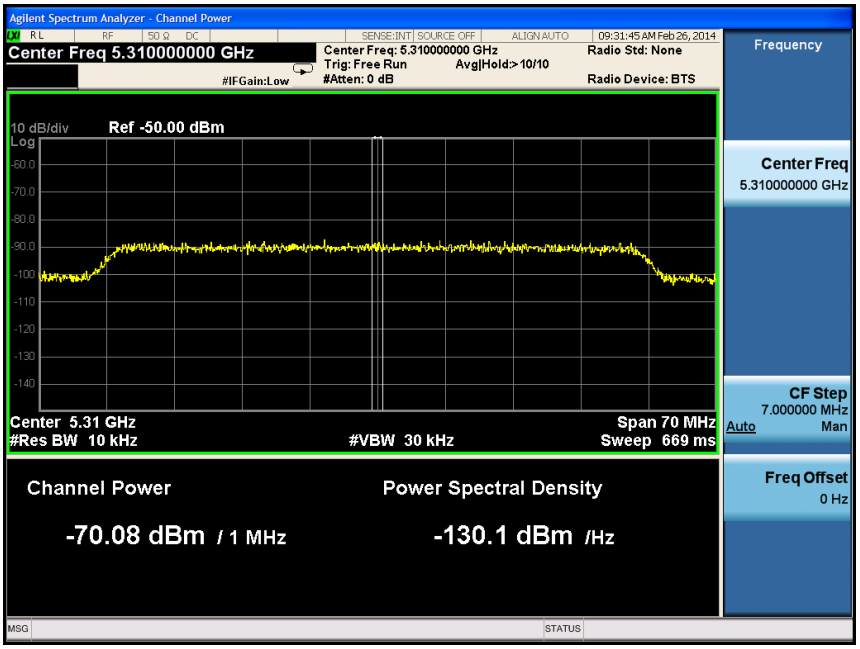
Maximum factor of q: 32.

Related limit: (13 / 32) * q (ms) = (13 / 32) * 32 = < 13ms.

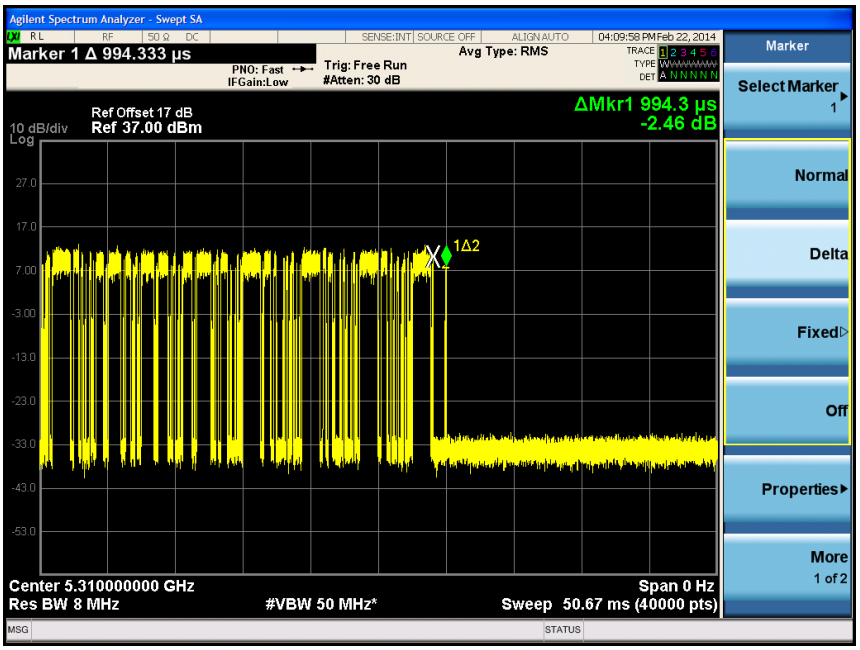
Result: Pass

Interference Signal

Interference Signal Channel 01 Calibration Plot



Verification of reaction to the interference signal



Stop transmission time: 0.994ms

Factor of q: (The minimum value of q is declared by the applicant)

Related limit: (13 / 32) * q (ms) = (13 / 32) * 4 = < 1.625ms

Result: Pass

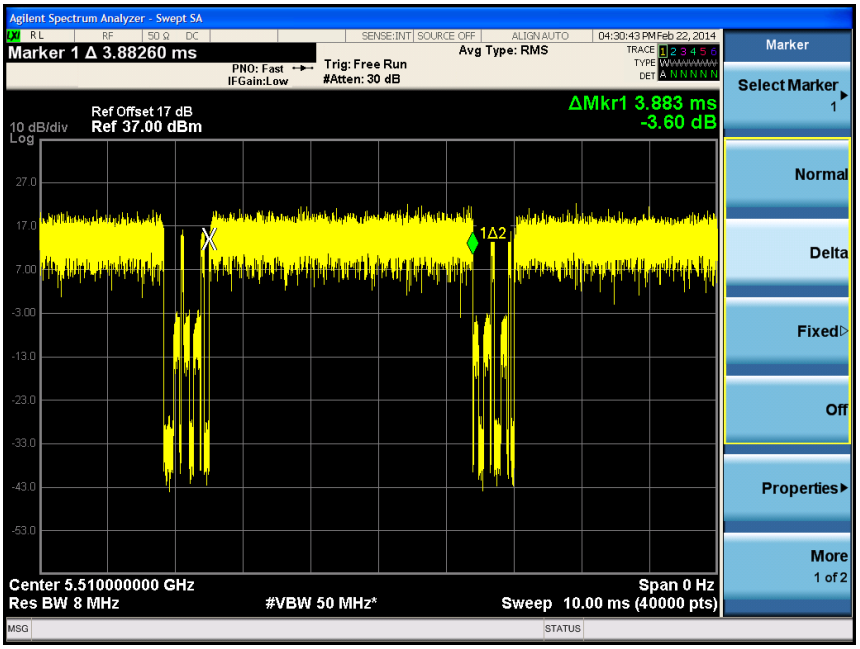
Product	WIRELESS-ABGN 2X2 NETWORK MINIPCIE ADAPTER
Test Item	Adaptivity
Test Mode	Normal Operation(5510MHz)

Idle Period

Verified: Idle Period varies between CCA and q*CCA.

Channel Occupancy Time

Test plot



Channel Occupancy Time: 3.883ms.

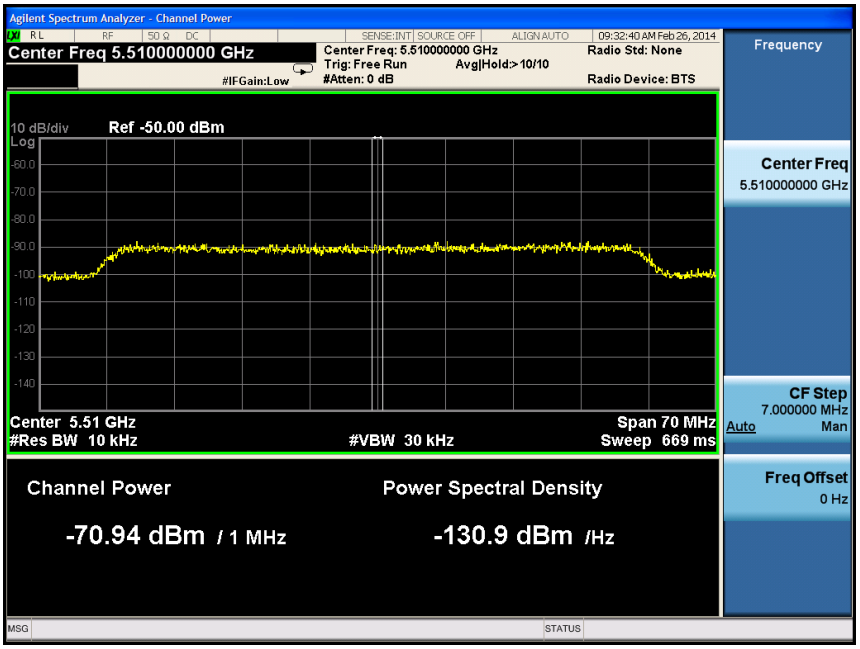
Maximum factor of q: 32.

Related limit: (13 / 32) * q (ms) = (13 / 32) * 32 = < 13ms.

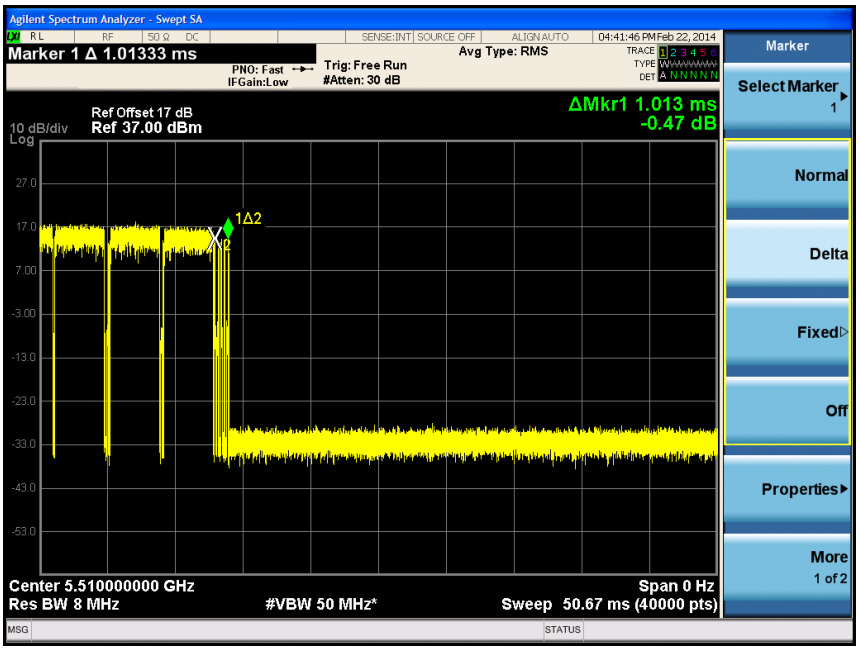
Result: Pass

Interference Signal

Interference Signal Channel 01 Calibration Plot



Verification of reaction to the interference signal



Stop transmission time: 1.013ms

Factor of q: (The minimum value of q is declared by the applicant)

Related limit: (13 / 32) * q (ms) = (13 / 32) * 4 = < 1.625ms

Result: Pass

11. User Access Restrictions

11.1. Requirement

DFS controls (hardware or software) related to radar detection shall not be accessible to the user so that the DFS requirements described in clauses 4.7.2.1 to 4.7.2.6 can neither be disabled nor altered.

11.2. Test Result

In the hardware, there is no switch or button to modify the DFS function or parameter for the user.
In the software, there is no options to modify the DFS function or parameter for the user.
The user access restrictions mechanism shall be implemented by the equipment which was declared by the manufacturer.

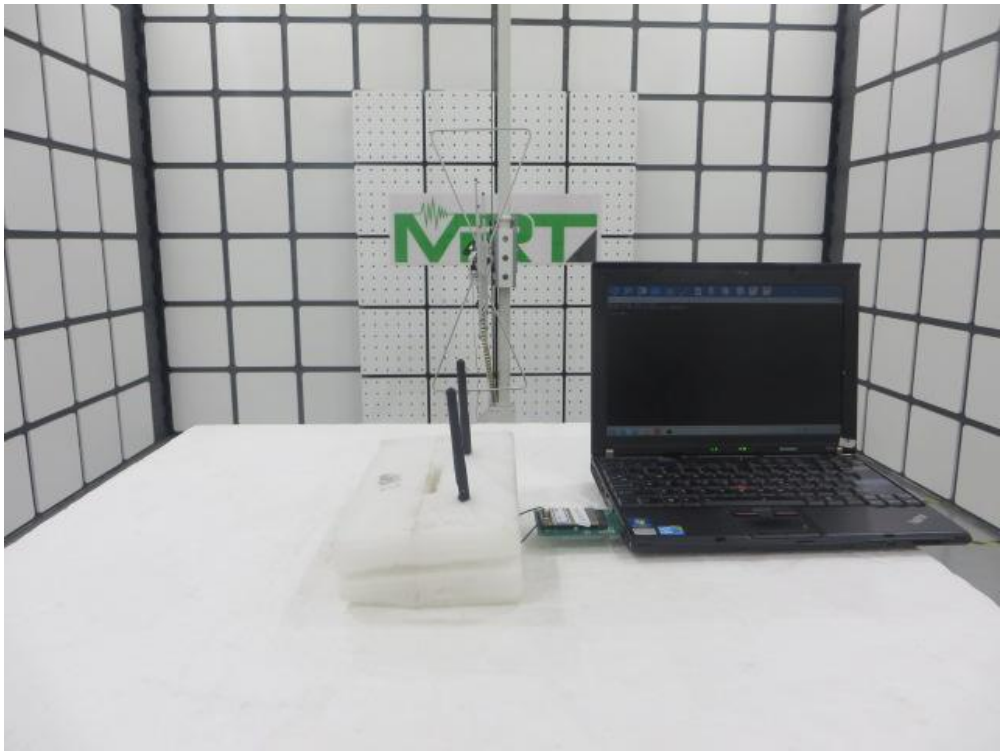
12. Measurement Uncertainty

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

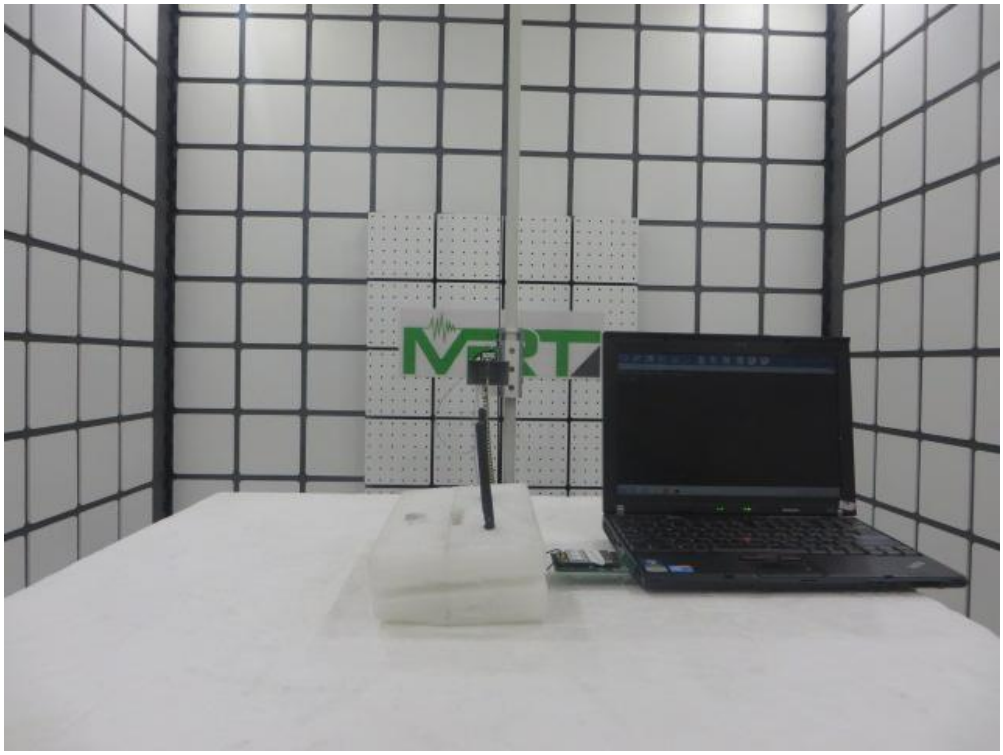
Parameter	Uncertainty
Radio Frequency	±1 x 10^{-5}
RF Power Conducted	±1.5dB
RF Power Radiated	±6dB
Spurious Emissions, Conducted	±3dB
Spurious Emissions, Radiated	±6dB
Humidity	±5%
Temperature	±1℃
Time	±10%

13. Test Photograph

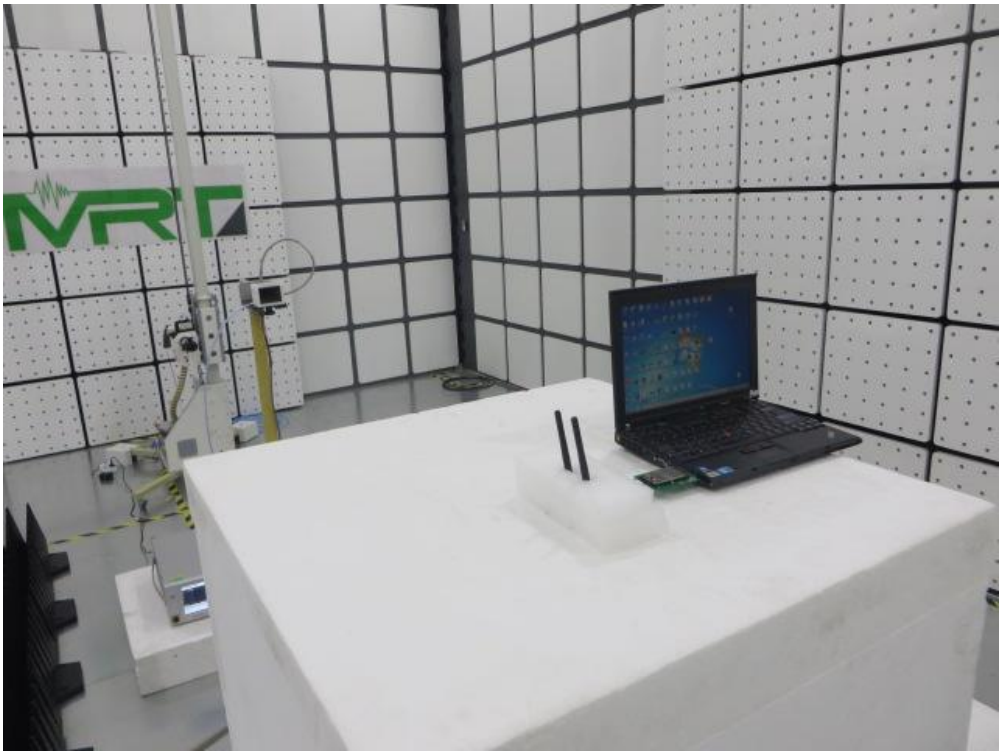
Description: Radiated Spurious Emissions Test Setup for Below 1GHz



Description: Radiated Spurious Emissions Test Setup for Above 1GHz



Description: Radiated Spurious Emissions Test Setup for 18 - 40GHz



14. List of Measuring Instrument

Carrier Frequencies - TR3

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Spectrum Analyzer	Agilent	N9020A	MRTSUE06106	1 year	2017/05/08
Programmable Temperature & Humidity Chamber	BAOYT	BYH-1500L	MRTSUE06051	1 year	2016/12/08
Temperature/Humidity Meter	Ouleinuo	N/A	MRTSUE06112	1 year	2016/11/20

Occupied Channel Bandwidth - TR3

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Spectrum Analyzer	Agilent	N9020A	MRTSUE06106	1 year	2017/05/08
Temperature/Humidity Meter	Ouleinuo	N/A	MRTSUE06112	1 year	2016/11/20

RF Output Power, Transmit Power Control (TPC) and Power Density - TR3

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Power Meter	Agilent	U2021XA	MRTSUE06030	1 year	2016/12/08
Programmable Temperature & Humidity Chamber	BAOYT	BYH-1500L	MRTSUE06051	1 year	2016/12/08
Temperature/Humidity Meter	Ouleinuo	N/A	MRTSUE06112	1 year	2016/11/20

Transmitter Unwanted Emissions Within the 5GHz RLAN Bands - TR3

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Spectrum Analyzer	Agilent	E4447A	MRTSUE06028	1 year	2014/11/08
Temperature/Humidity Meter	Anymetre	TH101B	MRTSUE06118	1 year	2014/11/15

Transmitter Spurious Emissions and Receiver Spurious Emissions – AC2

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cal. Due Date
Spectrum Analyzer	Agilent	N9010A	MRTSUE06124	1 year	2017/06/23
Broadband Coaxial Preamplifier	Schwarzbeck	BBV 9718	MRTSUE06176	1 year	2016/12/11
Preamplifier	Schwarzbeck	BBV 9721	MRTSUE06121	1 year	2017/04/16
TRILOG Antenna	Schwarzbeck	VULB9162	MRTSUE06022	1 year	2016/11/07
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	MRTSUE06023	1 year	2016/11/07
Broadband Horn Antenna	Schwarzbeck	BBHA9170	MRTSUE06024	1 year	2017/01/05
Digital Thermometer & Hygrometer	Minggao	ETH529	MRTSUE06170	1 year	2016/11/30

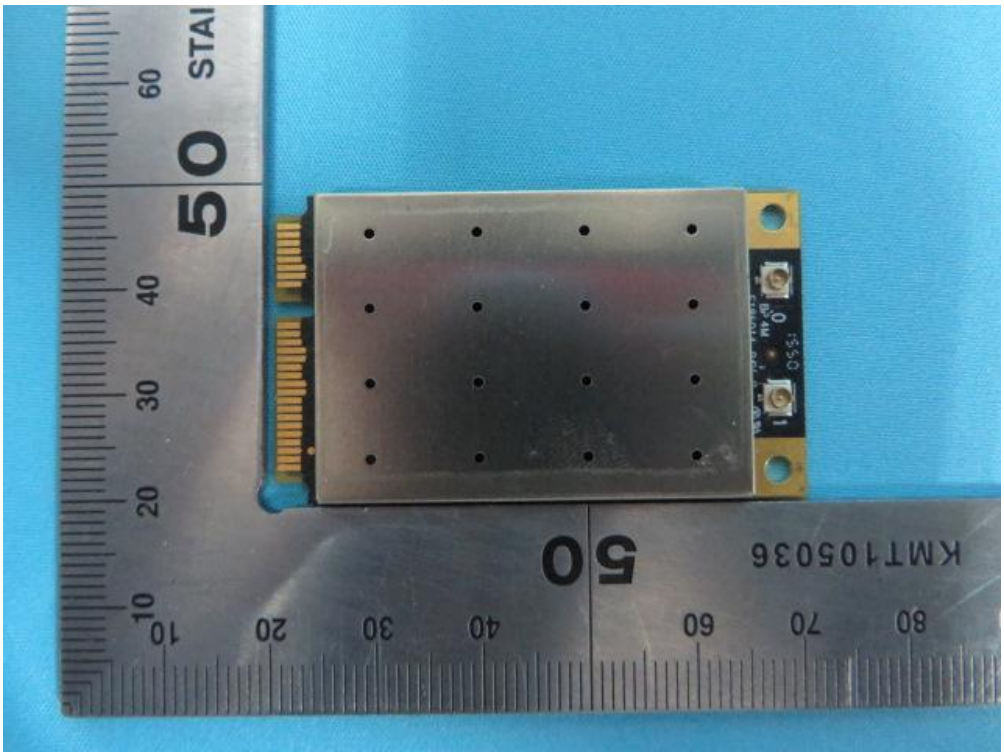
Adaptivity (Channel Access Mechanism) - TR3

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Spectrum Analyzer	Agilent	N9020A	MRTSUE06106	1 year	2014/05/08
Vector Signal Generator	Agilent	E4438C	MRTSUE06026	1 year	2014/12/08
Directional Coupler	Narda	4216-20	MRTSUE06065	1 year	2014/03/29
Power Splitter	Mini-Circuits	ZFRSC-123-S+	MRTSUE06122	N/A	N/A
Temperature/Humidity Meter	Ouleinuo	N/A	MRTSUE06112	1 year	2014/11/20

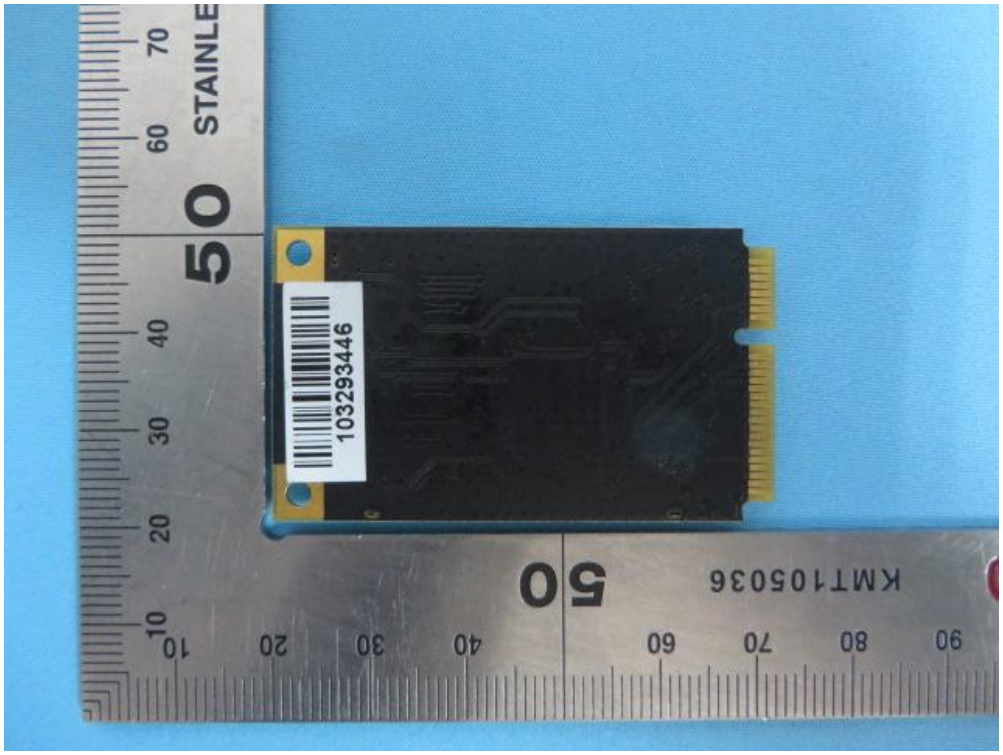
Software	Version	Function
e3	V8.3.5	EMI Test Software

15. Appendix - EUT Photograph

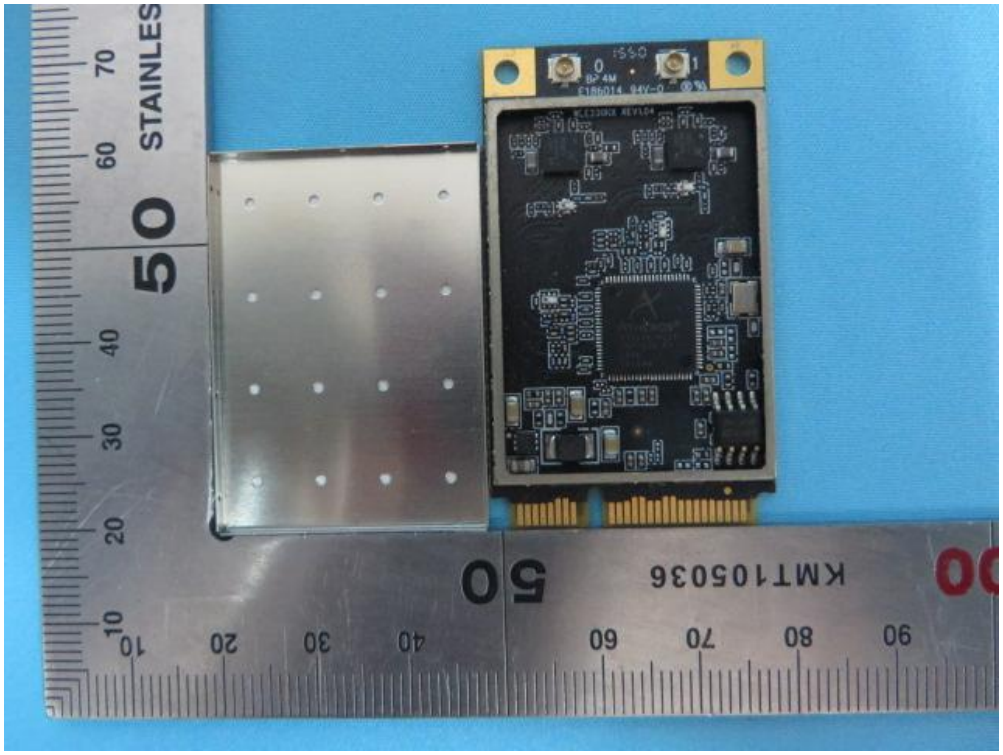
(1) EUT Photo



(2) EUT Photo



(3) EUT Photo



(4) EUT Photo

(5) EUT Photo

The End