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Report No.: 1506RSU01803
Report Version: V01
Issue Date: 07-10-2015

MEASUREMENT REPORT

EN 300 328 V1.8.1 WLAN 802.11b/g/n

Applicant: Compex Systems Pte Ltd
Address: 135 Joo Seng Road #08-01, Singapore 368363
Product: WIRELESS ACCESS POINT
Model No.: WPJ531HV, WPJ531LV, MMZ531LV, MMZ531HV,
MMJ531LV, MMJ531HV, MMS531LV, MMS531HV
Brand Name: COMPEX
Standards: ETSI EN 300 328 V1.8.1 (2012-06)
Result: Complies
Test Date: Jun. 25 ~ Jul. 08, 2015

Reviewed By : Robin Wu
(Robin Wu)
Approved By : Marlin Chen
(Marlin Chen)



The test results relate only to the samples tested.

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

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Revision History

Report No.	Version	Description	Issue Date
1506RSU01803	Rev. 01	Initial report	07-10-2015

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1. General Information

1.1. Applicant

Compex Systems Pte Ltd
135 Joo Seng Road #08-01, Singapore 368363

1.2. Manufacturer

Compex Systems Pte Ltd
135 Joo Seng Road #08-01, Singapore 368363

1.3. Testing Facility

Test Site

MRT Technology (Suzhou) Co., Ltd

Test Site Location

D8 Building, Youxin Industrial Park, 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 ACCESS POINT
Model No.	WPJ531HV, WPJ531LV, MMZ531LV, MMZ531HV, MMJ531LV, MMJ531HV, MMS531LV, MMS531HV
Brand Name	COMPEX
Wi-Fi Specification	802.11b/g/n

1.5. Product Specification Subjective to this Standard

Product Specification Subjective to this Standard	
Transmitter / Receiver Frequency Range	802.11b/g/n-HT20: 2412 ~ 2472MHz 802.11n-HT40: 2422 ~ 2462MHz
Number of Channels	Wi-Fi: 13
Channel Spacing	Wi-Fi : 5MHz
Type of Modulation	802.11b: DSSS (DBPSK / DQPSK / CCK) 802.11g/n: OFDM (BPSK / QPSK / 16QAM / 64QAM)

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

1.6. Description of Available Antennas

Antenna Type	Frequency Band (GHz)	Manufacturer	Tx Paths	Max Directional Gain (dBi)
Panel Antenna 1#	2.45	Compex Systems Pte Ltd	2	11
Panel Antenna 2#	2.45	Kenbotong Communication LTD	2	10
Panel Antenna 3#	2.45	Compex Systems Pte Ltd	2	7
Panel Antenna 4#	2.45	Smart Ant Inc	2	7
Panel Antenna 5#	2.45	Compex Systems Pte Ltd	2	5
Panel Antenna 6#	2.45	Compex Systems Pte Ltd	2	5
Dipole Antenna 1#	2.45	Kunshan Wavelink Electronic Co., Ltd.	2	2

1.7. Operation Frequency / Channel List

802.11b/g/n-HT20

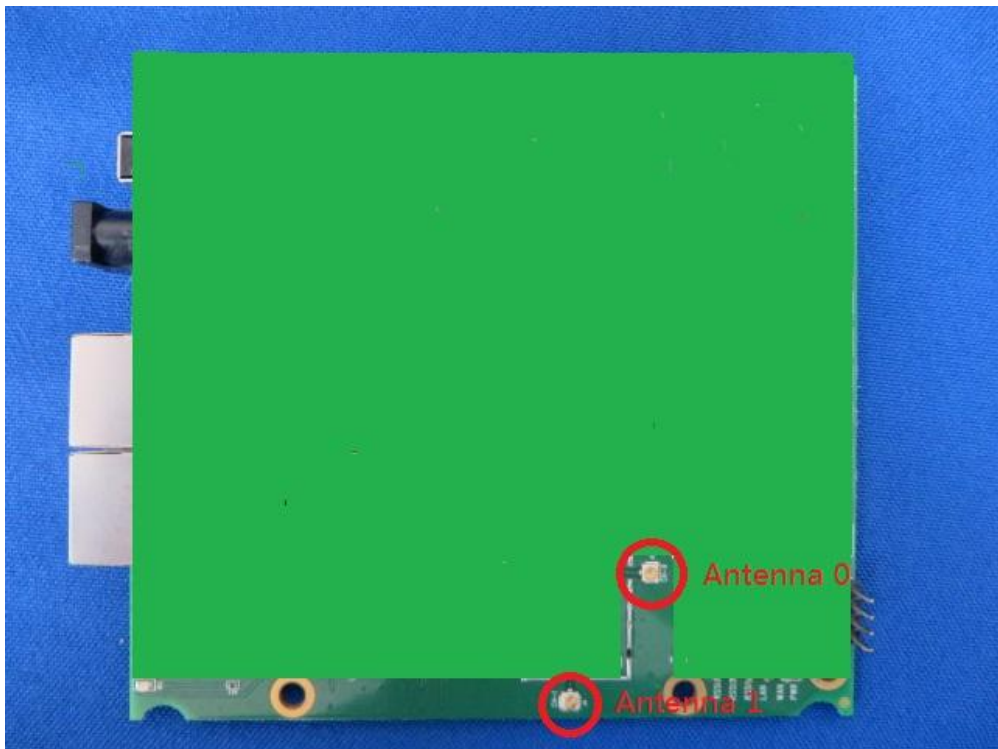
Channel	Frequency	Channel	Frequency	Channel	Frequency
01	2412 MHz	02	2417 MHz	03	2422 MHz
04	2427 MHz	05	2432 MHz	06	2437 MHz
07	2442 MHz	08	2447 MHz	09	2452 MHz
10	2457 MHz	11	2462 MHz	12	2467 MHz
13	2472 MHz	N/A	N/A	N/A	N/A

802.11n-HT40

Channel	Frequency	Channel	Frequency	Channel	Frequency
03	2422 MHz	04	2427 MHz	05	2432 MHz
06	2437 MHz	07	2442 MHz	08	2447 MHz
09	2452 MHz	10	2457 MHz	11	2462 MHz

1.8. Description of Available Antennas

RF Port				
Test Mode	Software Control Port			
2.4GHz T _x	Ant 0	Ant 1	--	--



1.9. Application Form for Testing

Modulation Type	
<input type="checkbox"/>	FHSS
<input checked="" type="checkbox"/>	other forms of modulation
Adaptivity Equipment	
<input type="checkbox"/>	Non-Adaptive Equipment:
	The maximum RF Output Power (e.i.r.p.): ... dBm
	The maximum (corresponding) Duty Cycle: ... %
<input checked="" type="checkbox"/>	Adaptive Equipment without the possibility to switch to a non-adaptive mode:
<input checked="" type="checkbox"/>	The equipment has implemented an LBT based DAA mechanism:
	<input type="checkbox"/> The equipment is Frame Based equipment
	<input type="checkbox"/> The equipment is Load Based equipment
	The CCA time implemented by the equipment: μ s
	The value q as referred to in clause 4.3.2.5.2.2.2
	<input type="checkbox"/> The equipment can switch dynamically between Frame Based and Load Based equipment
<input type="checkbox"/>	The equipment has implemented an non-LBT based DAA mechanism
<input type="checkbox"/>	The equipment can operate in more than one adaptive mode
<input type="checkbox"/>	Adaptive Equipment which can also operate in a non-adaptive mode
The Worst Case Operational Mode for Each of The Following Tests	
<input checked="" type="checkbox"/>	RF Output Power: 19.89dBm
<input checked="" type="checkbox"/>	Power Spectral Density: 9.93dBm/MHz
<input type="checkbox"/>	Duty cycle, Tx-Sequence, Tx-gap
<input type="checkbox"/>	Dwell time, Minimum Frequency Occupation & Hopping Sequence
<input type="checkbox"/>	Medium Utilisation:
<input checked="" type="checkbox"/>	Adaptivity & Receiver Blocking: 1.774ms, 332.9us
<input checked="" type="checkbox"/>	Occupied Channel Bandwidth: 35.92MHz
<input checked="" type="checkbox"/>	Transmitter unwanted emissions in the OOB domain: -14.23dBm/MHz
<input checked="" type="checkbox"/>	Transmitter unwanted emissions in the spurious domain: -45.3dBm
<input checked="" type="checkbox"/>	Receiver spurious emissions: -52.5dBm
Antenna Category	
<input checked="" type="checkbox"/>	Integral antenna (antenna permanently attached)
<input type="checkbox"/>	Temporary RF connector provided
<input checked="" type="checkbox"/>	No temporary RF connector provided

Device Type			
<input checked="" type="checkbox"/>	Stand-alone		
<input type="checkbox"/>	Combined (EUT where the radio part is fully integrated within another device) Combined Equipment - Brand Name / Model No.:		
<input type="checkbox"/>	Plug-in radio (EUT intended for a variety of host systems) Host System - Brand Name / Model No.:		
Operating Conditions			
<input checked="" type="checkbox"/>	AC Mains AC Voltage Range: 100 ~ 240 V	<input type="checkbox"/>	DC DC Voltage Range: 12 ~ 24 V
Type of DC Source <input type="checkbox"/> Internal DC supply			
<input type="checkbox"/> External DC adapter			
<input type="checkbox"/> Battery			
<input checked="" type="checkbox"/>	Temperature Range: -20 ~ 70°C		

1.10. Standards Applicable for Testing

The EUT complies with the requirements of ETSI EN 300328 V1.8.1.

2. Test Configuration of Equipment under Test

2.1. Description of Test Mode

Test Mode	Mode 1: Transmit by 802.11b
	Mode 2: Transmit by 802.11g
	Mode 3: Transmit by 802.11n-HT20
	Mode 4: Transmit by 802.11n-HT40

2.2. Description of Test Software

The test utility software used during testing was “artgui.exe”.

Power Parameter Value for 1T_x

Test Mode	Test Frequency (MHz)	Power Parameter Value	
		Ant 0	Ant 1
802.11b	2412	7.0	8.0
	2442	7.0	8.0
	2472	6.5	7.5
802.11g	2412	7.5	8.5
	2442	7.5	8.5
	2472	7.0	8.0
802.11n-HT20	2412	7.5	8.5
	2442	7.5	9.0
	2472	7.0	8.5
802.11n-HT40	2422	7.5	8.5
	2442	7.5	8.5
	2462	7.5	8.5

Power Parameter Value for 2T_x

Test Mode	Test Frequency (MHz)	Power Parameter Value
802.11n-HT20	2412	5.0
	2442	4.5
	2472	4.5
802.11n-HT40	2422	4.5
	2442	4.5
	2462	4.5

3. Test Summary

Clause (EN 300328)	Test Parameter	Result (Pass/Fail)	Remark
Transmitter Parameter			
4.3.2.1	RF Output Power	Pass	
4.3.2.2	Maximum Equivalent Isotropically Radiated Power (E.I.R.P.) Spectral Density	Pass	
4.3.2.6	Occupied Channel Bandwidth	Pass	
4.3.2.7	Transmitter Unwanted Emissions in the out-of-band Domain	Pass	
4.3.2.8	Transmitter Spurious Emissions	Pass	
Receiver Parameters			
4.3.2.9	Receiver Spurious Emissions	Pass	
Adaptive Test Item			
4.3.2.5	Adaptivity	Pass	
4.3.2.10	Receiver Blocking	Pass	
Non-Adaptive Test Item			
4.3.2.3	Duty cycle, Tx-Sequence, Tx-gap	N/A	Only applicable for non-adaptive equipment Output Power >10dBm
4.3.2.4	Medium Utilisation (MU) factor	N/A	
Note: This device belongs to adaptive equipment.			

4. RF Output Power

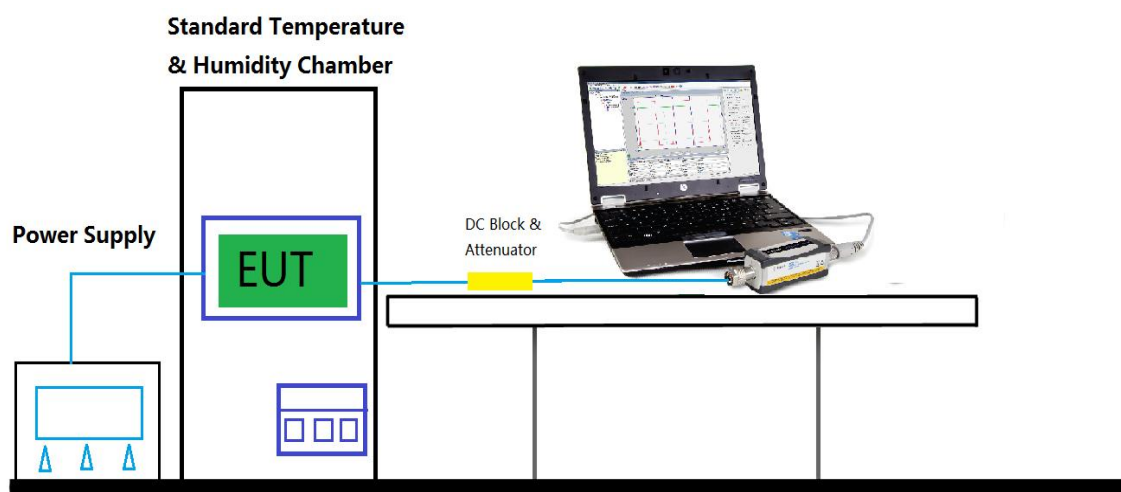
4.1. Limit

The maximum RF output power for adaptive equipment using wide band modulations other than FHSS shall be equal to or less than 20dBm.

Test Conditions	Limit
Normal and Extreme Temperature Conditions	20dBm (E.I.R.P)

4.2. Test Setup

For Conducted Measurement



4.3. Test Procedure

Refer to ETSI EN 300 328 V1.8.1 (2012-06) Clause 5.3.2.2.1.

4.4. Test Result

Test Engineer	Milo Li	Temperature	-20 ~ 70°C
Test Data	07-01-2015	Relative Humidity	52%RH

Normal Conditions Ant 0 (Temperature 25°C)

Mode	Ch. No.	Freq. (MHz)	RF Output Power (dBm)	EIRP Power (dBm)	Limit (dBm)	Result
11b	1	2412	8.05	18.05	20	Pass
11b	7	2442	8.06	18.06	20	Pass
11b	13	2472	8.09	18.09	20	Pass
11g	1	2412	8.09	19.09	20	Pass
11g	7	2442	8.13	19.13	20	Pass
11g	13	2472	8.20	19.20	20	Pass
n-HT20	1	2412	7.79	18.79	20	Pass
n-HT20	7	2442	7.87	18.87	20	Pass
n-HT20	13	2472	7.88	18.88	20	Pass
n-HT40	3	2422	8.09	19.09	20	Pass
n-HT40	7	2442	8.16	19.16	20	Pass
n-HT40	11	2462	8.18	19.18	20	Pass

Note: EIRP Power (dBm) = RF Output Power + Antenna Gain (dBm).

Normal Conditions Ant 1 (Temperature 25°C)

Mode	Ch. No.	Freq. (MHz)	RF Output Power (dBm)	EIRP Power (dBm)	Limit (dBm)	Result
11b	1	2412	8.62	18.62	20	Pass
11b	7	2442	8.47	18.47	20	Pass
11b	13	2472	8.59	18.59	20	Pass
11g	1	2412	8.33	19.33	20	Pass
11g	7	2442	8.80	19.80	20	Pass
11g	13	2472	8.57	19.57	20	Pass
n-HT20	1	2412	8.43	19.43	20	Pass
n-HT20	7	2442	8.89	19.89	20	Pass
n-HT20	13	2472	8.77	19.77	20	Pass
n-HT40	3	2422	8.70	19.70	20	Pass
n-HT40	7	2442	8.72	19.72	20	Pass
n-HT40	11	2462	8.54	19.54	20	Pass

Note: EIRP Power (dBm) = RF Output Power + Antenna Gain (dBm).

Normal Conditions Ant 0 + 1 (Temperature 25°C)

Mode	Ch. No.	Freq. (MHz)	RF Output Power (dBm)		EIRP Power (dBm)	Limit (dBm)	Result
			Ant 0	Ant 1			
n-HT20	1	2412	5.26	5.12	19.20	20	Pass
n-HT20	7	2442	5.42	4.75	19.11	20	Pass
n-HT20	13	2472	5.67	4.79	19.26	20	Pass
n-HT40	3	2422	5.45	4.88	19.18	20	Pass
n-HT40	7	2442	5.35	4.63	19.02	20	Pass
n-HT40	11	2462	5.36	4.64	19.03	20	Pass

Note: EIRP Power (dBm) = $10 \cdot \log\{10^{(\text{Ant 0 RF Output Power} + \text{Ant 0 Gain})/10} + 10^{(\text{Ant 1 RF Output Power} + \text{Ant 1 Gain})/10}\}$
(dBm).

Extreme Conditions Ant 0 (Temperature -20°C)

Mode	Ch. No.	Freq. (MHz)	RF Output Power (dBm)	EIRP Power (dBm)	Limit (dBm)	Result
11b	1	2412	8.11	18.11	20	Pass
11b	7	2442	8.33	18.33	20	Pass
11b	13	2472	8.42	18.42	20	Pass
11g	1	2412	7.91	18.91	20	Pass
11g	7	2442	8.13	19.13	20	Pass
11g	13	2472	8.31	19.31	20	Pass
n-HT20	1	2412	7.62	18.62	20	Pass
n-HT20	7	2442	7.79	18.79	20	Pass
n-HT20	13	2472	7.98	18.98	20	Pass
n-HT40	3	2422	8.11	19.11	20	Pass
n-HT40	7	2442	8.28	19.28	20	Pass
n-HT40	11	2462	8.30	19.30	20	Pass

Note: EIRP Power (dBm) = RF Output Power + Antenna Gain (dBm).

Extreme Conditions Ant 1 (Temperature -20°C)

Mode	Ch. No.	Freq. (MHz)	RF Output Power (dBm)	EIRP Power (dBm)	Limit (dBm)	Result
11b	1	2412	8.79	18.79	20	Pass
11b	7	2442	8.84	18.84	20	Pass
11b	13	2472	8.89	18.89	20	Pass
11g	1	2412	8.51	19.51	20	Pass
11g	7	2442	8.65	19.65	20	Pass
11g	13	2472	8.67	19.67	20	Pass
n-HT20	1	2412	8.19	19.19	20	Pass
n-HT20	7	2442	8.80	19.80	20	Pass
n-HT20	13	2472	8.78	19.78	20	Pass
n-HT40	3	2422	8.60	19.60	20	Pass
n-HT40	7	2442	8.67	19.67	20	Pass
n-HT40	11	2462	8.64	19.64	20	Pass

Note: EIRP Power (dBm) = RF Output Power + Antenna Gain (dBm).

Extreme Conditions Ant 0 + 1 (Temperature -20°C)

Mode	Ch. No.	Freq. (MHz)	RF Output Power (dBm)		EIRP Power (dBm)	Limit (dBm)	Result
			Ant 0	Ant 1			
n-HT20	1	2412	5.08	4.77	18.94	20	Pass
n-HT20	7	2442	4.96	4.38	18.69	20	Pass
n-HT20	13	2472	4.82	4.44	18.64	20	Pass
n-HT40	3	2422	5.07	4.70	18.90	20	Pass
n-HT40	7	2442	5.25	4.75	19.02	20	Pass
n-HT40	11	2462	5.28	4.63	18.98	20	Pass

Note: EIRP Power (dBm) = $10 \cdot \log\{10^{(\text{Ant 0 RF Output Power} + \text{Ant 0 Gain})/10} + 10^{(\text{Ant 1 RF Output Power} + \text{Ant 1 Gain})/10}\}$
(dBm).

Extreme Conditions Ant 0 (Temperature 70°C)

Mode	Ch. No.	Freq. (MHz)	RF Output Power (dBm)	EIRP Power (dBm)	Limit (dBm)	Result
11b	1	2412	7.81	17.81	20	Pass
11b	7	2442	7.82	17.82	20	Pass
11b	13	2472	7.80	17.80	20	Pass
11g	1	2412	7.55	18.55	20	Pass
11g	7	2442	7.51	18.51	20	Pass
11g	13	2472	7.40	18.40	20	Pass
n-HT20	1	2412	7.20	18.20	20	Pass
n-HT20	7	2442	7.36	18.36	20	Pass
n-HT20	13	2472	7.14	18.14	20	Pass
n-HT40	3	2422	7.35	18.35	20	Pass
n-HT40	7	2442	7.37	18.37	20	Pass
n-HT40	11	2462	7.54	18.54	20	Pass

Note: EIRP Power (dBm) = RF Output Power + Antenna Gain (dBm).

Extreme Conditions Ant 1 (Temperature 70°C)

Mode	Ch. No.	Freq. (MHz)	RF Output Power (dBm)	EIRP Power (dBm)	Limit (dBm)	Result
11b	1	2412	8.33	18.33	20	Pass
11b	7	2442	8.22	18.22	20	Pass
11b	13	2472	7.86	18.86	20	Pass
11g	1	2412	8.14	19.14	20	Pass
11g	7	2442	8.19	19.19	20	Pass
11g	13	2472	8.14	19.14	20	Pass
n-HT20	1	2412	7.91	18.91	20	Pass
n-HT20	7	2442	8.12	19.12	20	Pass
n-HT20	13	2472	7.95	18.95	20	Pass
n-HT40	3	2422	7.90	18.90	20	Pass
n-HT40	7	2442	7.82	18.82	20	Pass
n-HT40	11	2462	7.64	18.64	20	Pass

Note: EIRP Power (dBm) = RF Output Power + Antenna Gain (dBm).

Extreme Conditions Ant 0 + 1 (Temperature 70°C)

Mode	Ch. No.	Freq. (MHz)	RF Output Power (dBm)		EIRP Power (dBm)	Limit (dBm)	Result
			Ant 0	Ant 1			
n-HT20	1	2412	5.50	4.46	19.02	20	Pass
n-HT20	7	2442	4.62	3.71	18.20	20	Pass
n-HT20	13	2472	5.99	3.87	19.07	20	Pass
n-HT40	3	2422	5.38	4.63	19.03	20	Pass
n-HT40	7	2442	5.37	4.47	18.95	20	Pass
n-HT40	11	2462	5.16	4.24	18.73	20	Pass

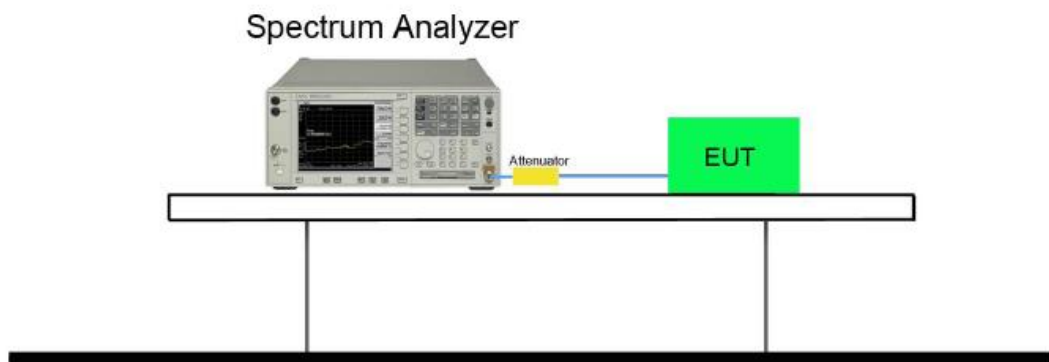
Note: EIRP Power (dBm) = $10 \cdot \log\{10^{(\text{Ant 0 RF Output Power} + \text{Ant 0 Gain})/10} + 10^{(\text{Ant 1 RF Output Power} + \text{Ant 1 Gain})/10}\}$
(dBm).

5. Power Spectral Density

5.1. Limit

The maximum Power Spectral Density is limited to 10dBm per MHz for equipment using wide band modulations other than FHSS.

5.2. Test Setup



5.3. Test Procedure

Refer to ETSI EN 300 328 V1.8.1 (2012-06) Clause 5.3.3

5.4. Test Result

Test Engineer	Milo Li	Temperature	24°C
Test Data	06-25-2015	Relative Humidity	54%

Mode	Channel	Freq. (MHz)	EIRP Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
Ant 0					
11b	1	2412	9.39	10	Pass
11b	7	2442	9.29	10	Pass
11b	13	2472	9.31	10	Pass
11g	1	2412	8.56	10	Pass
11g	7	2442	8.58	10	Pass
11g	13	2472	8.66	10	Pass
n-HT20	1	2412	7.99	10	Pass
n-HT20	7	2442	8.15	10	Pass
n-HT20	13	2472	8.05	10	Pass
n-HT40	3	2422	5.11	10	Pass
n-HT40	7	2442	5.23	10	Pass
n-HT40	11	2462	5.32	10	Pass
Ant 1					
11b	1	2412	9.93	10	Pass
11b	7	2442	9.82	10	Pass
11b	13	2472	9.86	10	Pass
11g	1	2412	8.88	10	Pass
11g	7	2442	9.21	10	Pass
11g	13	2472	8.91	10	Pass
n-HT20	1	2412	8.53	10	Pass
n-HT20	7	2442	9.12	10	Pass
n-HT20	13	2472	8.96	10	Pass
n-HT40	3	2422	5.79	10	Pass
n-HT40	7	2442	5.76	10	Pass
n-HT40	11	2462	5.52	10	Pass
Ant 0 + 1					
n-HT20	1	2412	8.41	10	Pass
n-HT20	7	2442	8.30	10	Pass

n-HT20	13	2472	8.48	10	Pass
n-HT40	3	2422	5.22	10	Pass
n-HT40	7	2442	5.06	10	Pass
n-HT40	11	2462	4.93	10	Pass

6. Duty Cycle, Tx-sequence, Tx-gap

6.1. Limit

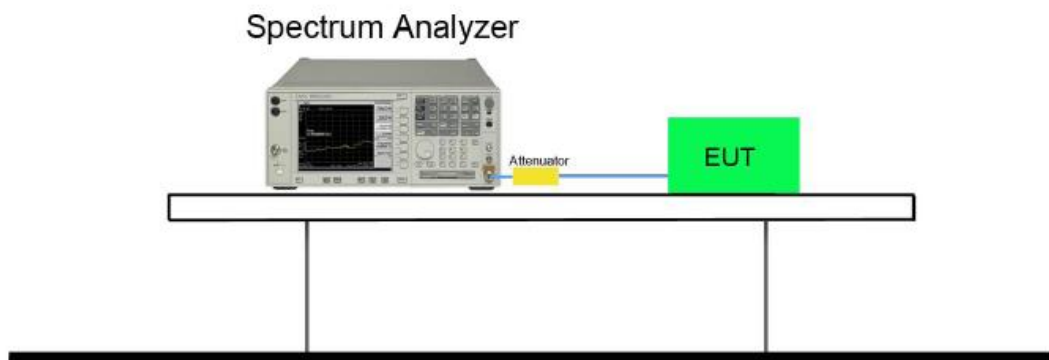
The Duty Cycle shall be equal to or less than the maximum value declared by the supplier.

The maximum Tx-sequence Time and the minimum Tx-gap Time shall be according to the formula below:

Maximum Tx-Sequence Time = Minimum Tx-gap Time = M

where M is in the range of 3,5 ms to 10 ms.

6.2. Test Setup



6.3. Test Procedure

Refer to ETSI EN 300 328 V1.8.1 (2012-06) Clause 5.3.2

6.4. Test Result

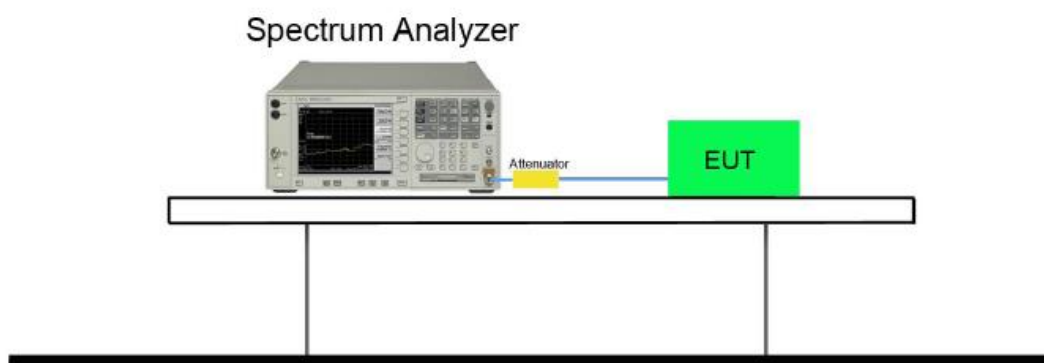
These requirements apply to non-adaptive equipment or to adaptive equipment when operating in a non-adaptive mode. So the item is not applicable.

7. Medium Utilisation (MU) factor

7.1. Limit

The maximum Medium Utilisation factor shall be 10 % for equipment using wide band modulations other than FHSS.

7.2. Test Setup



7.3. Test Procedure

Refer to ETSI EN 300 328 V1.8.1 (2012-06) Clause 5.3.2

7.4. Test Result

This requirement does not apply to adaptive equipment unless operating in a non-adaptive mode.
So the item is not applicable.

8. Adaptivity and Receiver Blocking

8.1. Limit

LBT based Detect and Avoid (Load Based Equipment may implement an LBT based spectrum sharing mechanism as described in IEEE Std. 802.11-2007 clauses 9, 15, 18 or 19, in IEEE Std. 802.11n-2009, clauses 9, 11 and 20 or in IEEE Std. 802.15.4-2011, clauses 4 and 5.)

Adaptivity Limit

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

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

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 10% within an observation period of 50ms.

Receiver Blocking Limit

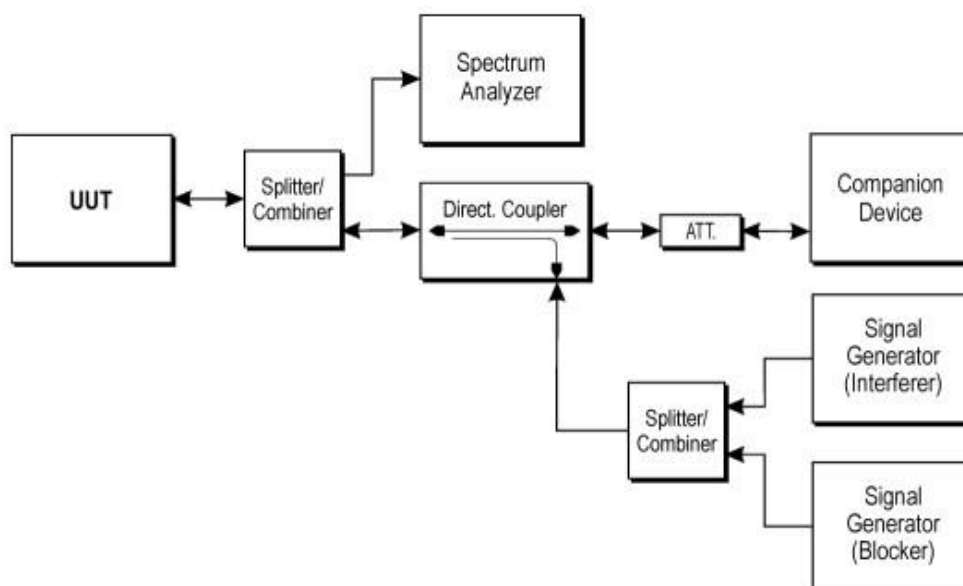
Adaptive Frequency Hopping equipment shall comply with the requirements in the presence of a blocking signal with characteristics as below.

Receiver Blocking parameters				
Equipment Type (LBT / non-LBT)	Wanted signal mean power from companion device	Blocking signal frequency [MHz]	Blocking signal power [dBm]	Type of interfering signal
LBT	Sufficient to maintain the link (see note 2)	2395 or 2488.5 (see note 1)	-30	CW
Non-LBT	-30dBm			
NOTE 1: The highest blocking frequency shall be used for testing the lowest operating channel, while the lowest blocking frequency shall be used for testing the highest operating channel.				
NOTE 2: A typical value which can be used in most cases is -50 dBm/MHz.				

With the interfering signal present, adding the blocking signal, the EUT didn't resume any normal transmissions. When removal the interference and blocking signal, the EUT was allowed to start transmissions again on this channel.

8.2. Test Setup

Conducted measurements

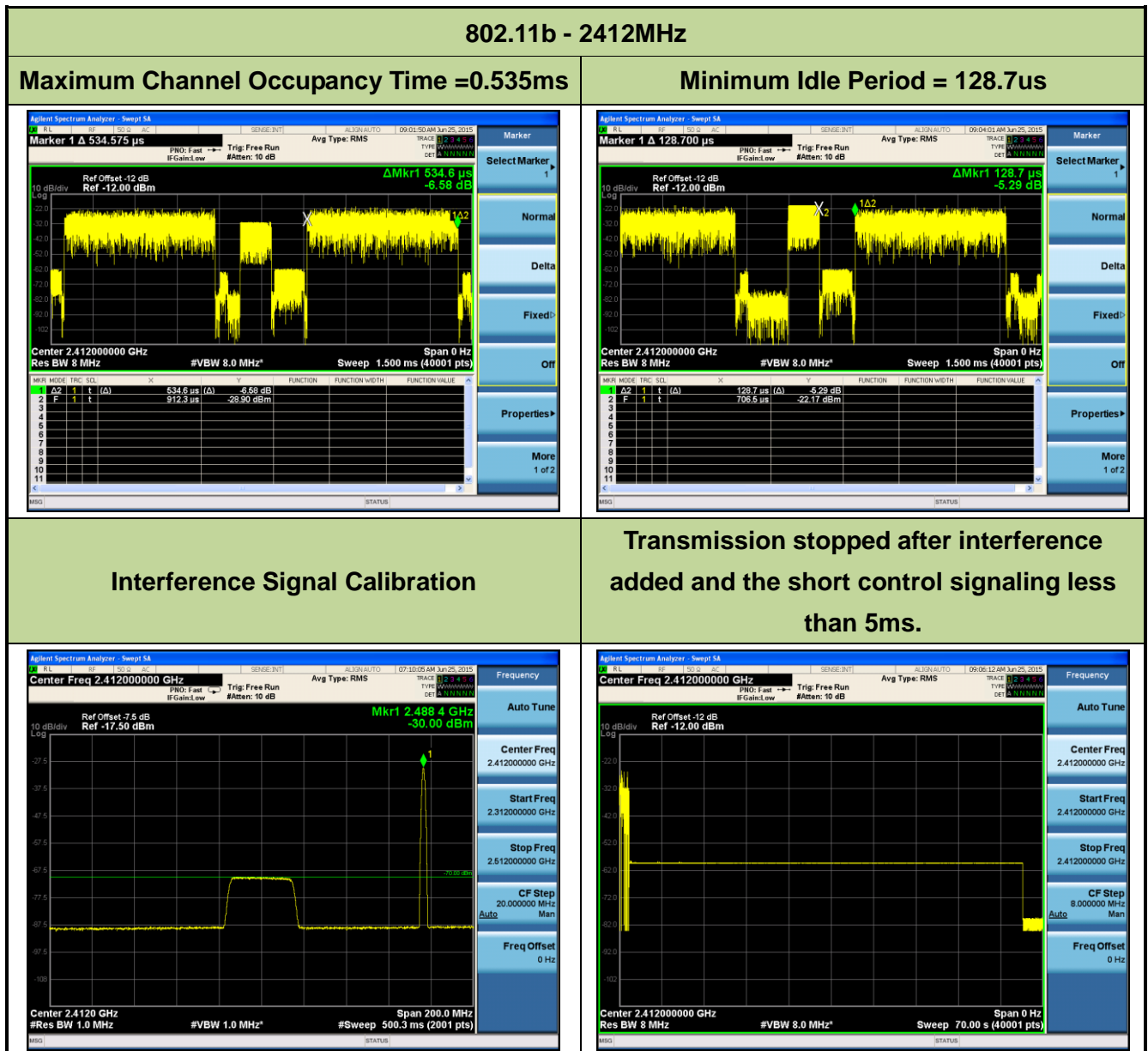


8.3. Test Procedure

Refer to ETSI EN 300 328 V1.8.1 (2012-06) Clause 5.3.7.2.1.

8.4. Test Result

Test Engineer	Andy Zhu	Temperature	24°C
Test Data	06-25-2015	Relative Humidity	54%



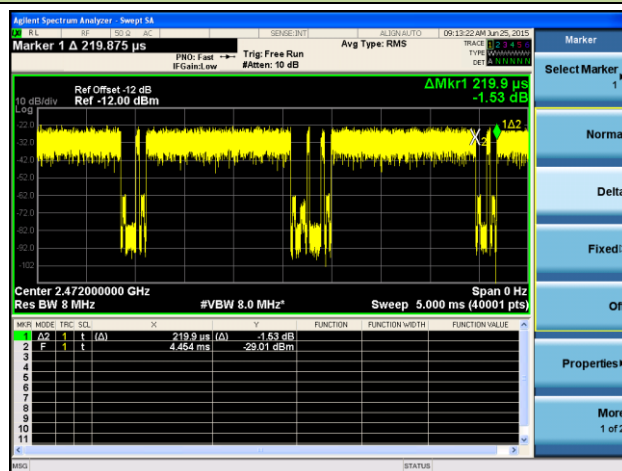
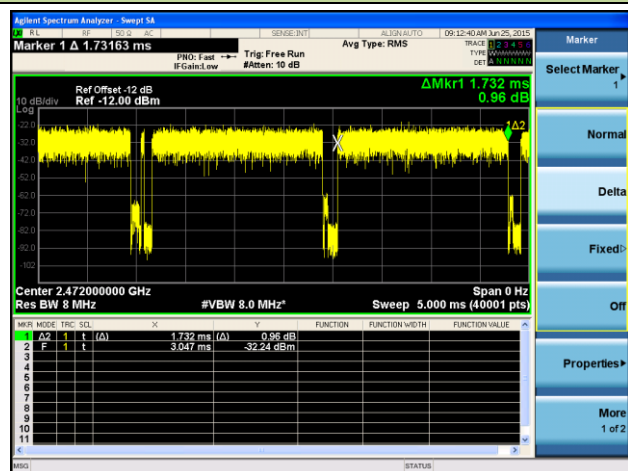
Note: Detection Level = -70 dBm/MHz + 20 - E.I.R.P. (dBm)

Test Result:	Pass
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802.11b - 2472MHz

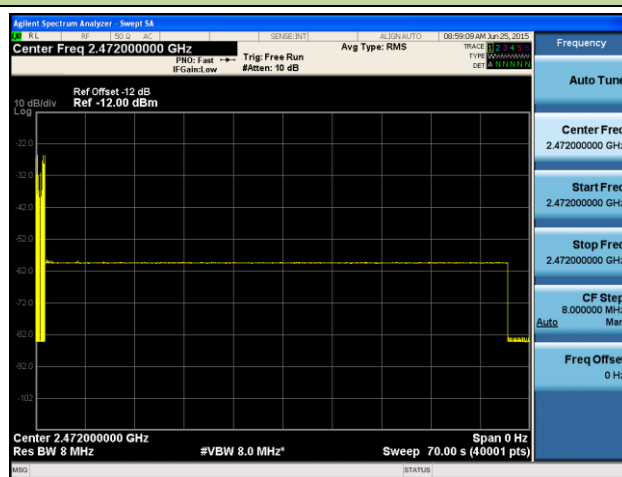
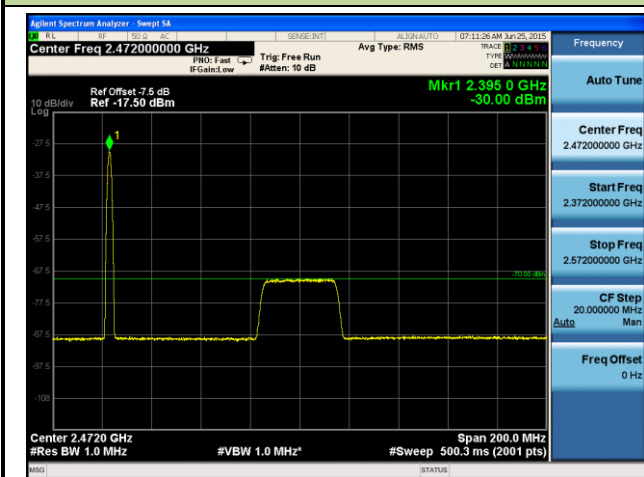
Maximum Channel Occupancy Time = 1.732ms

Minimum Idle Period = 219.9us



Interference Signal Calibration

Transmission stopped after interference added and the short control signaling less than 5ms.



Note: Detection Level = -70 dBm/MHz + 20 - E.I.R.P. (dBm)

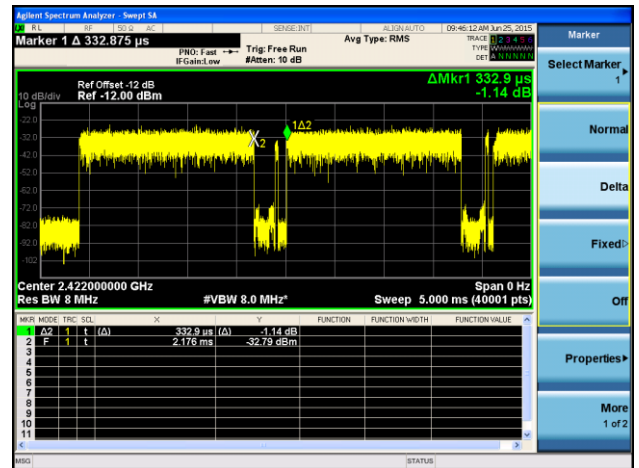
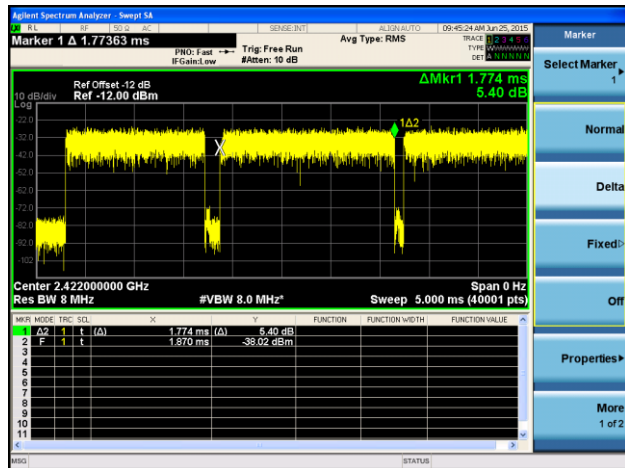
Test Result:

Pass

802.11n-HT40 - 2422MHz

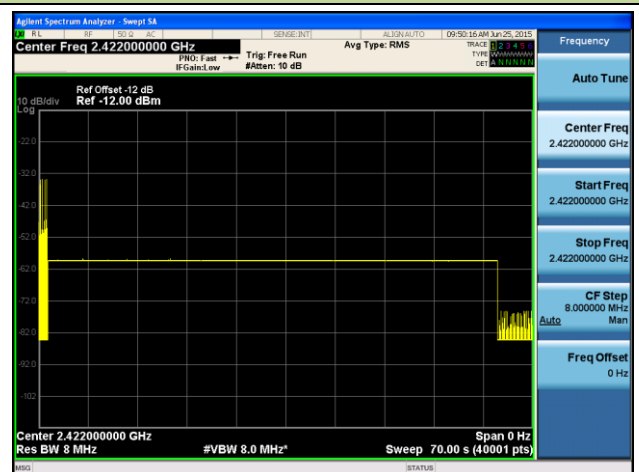
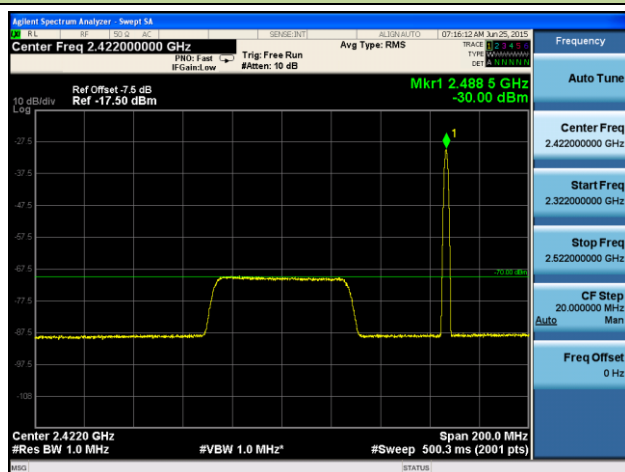
Maximum Channel Occupancy Time = 1.774ms

Minimum Idle Period = 332.9us



Interference Signal Calibration

Transmission stopped after interference added and the short control signaling less than 5ms.



Note: Detection Level = -70 dBm/MHz + 20 - E.I.R.P. (dBm)

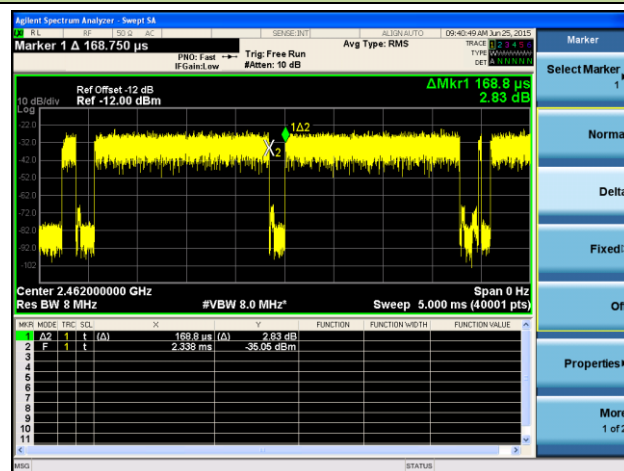
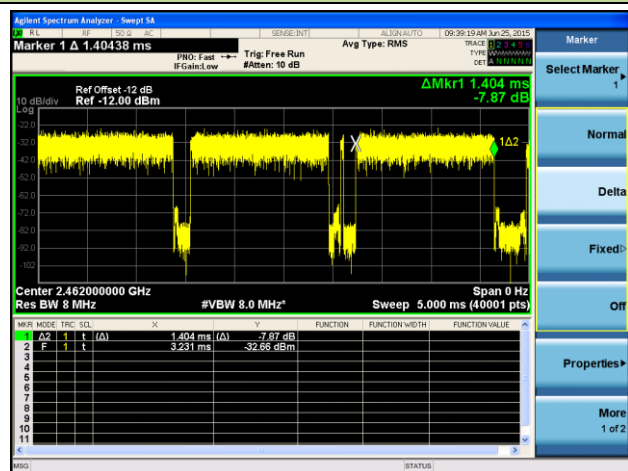
Test Result:

Pass

802.11n-HT40 - 2462MHz

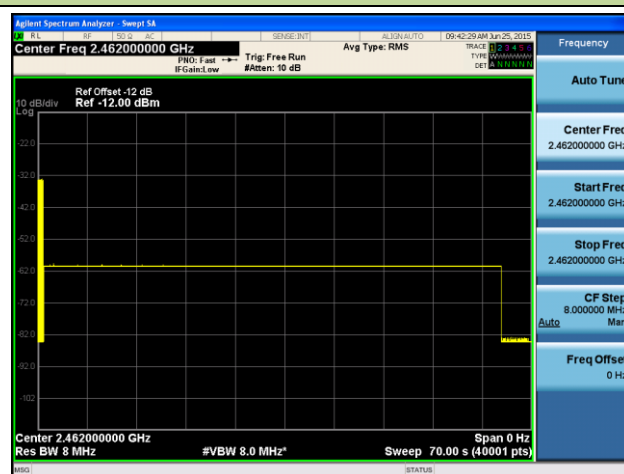
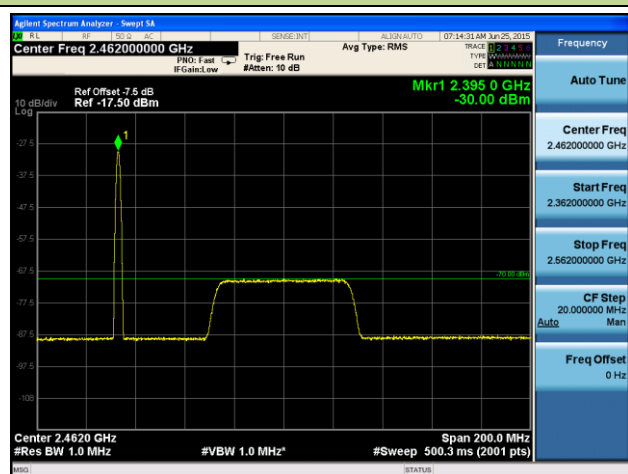
Maximum Channel Occupancy Time = 1.404ms

Minimum Idle Period = 168.8us



Interference Signal Calibration

Transmission stopped after interference added and the short control signaling less than 5ms.



Note: Detection Level = -70 dBm/MHz + 20 - E.I.R.P. (dBm)

Test Result:

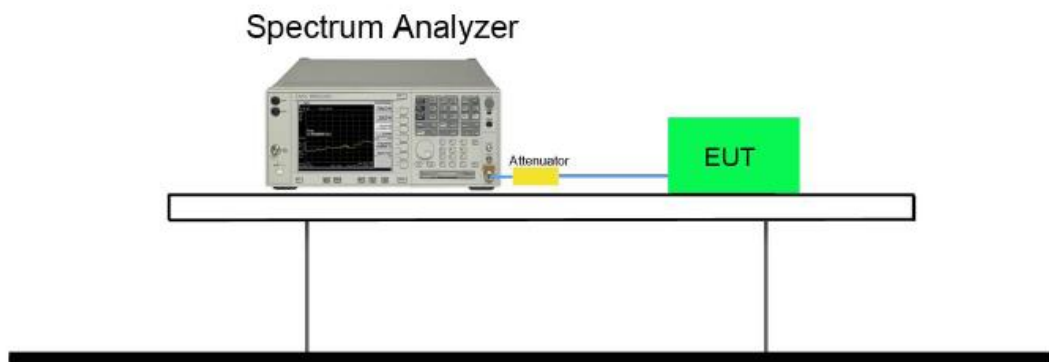
Pass

9. Occupied Channel Bandwidth

9.1. Limit

The Occupied Channel Bandwidth for each hopping frequency shall fall completely within the band given in 2.4GHz to 2.4835GHz.

9.2. Test Setup



9.3. Test Procedure

Refer to ETSI EN 300 328 V1.8.1 (2012-06) Clause 5.3.8.2.1.

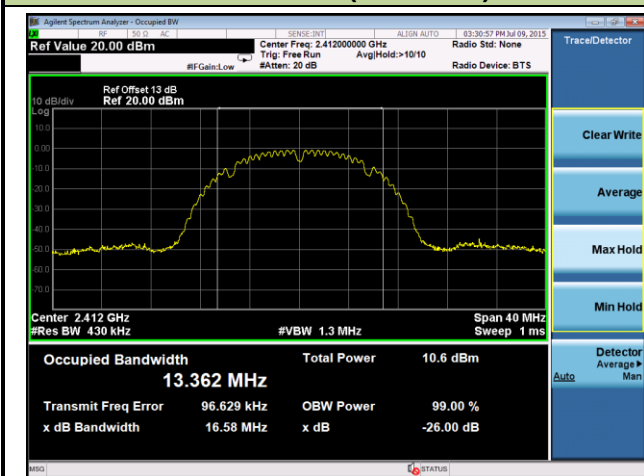
9.4. Test Result

Test Engineer	Roy Cheng	Temperature	26°C
Test Data	07-09-2015	Relative Humidity	54%

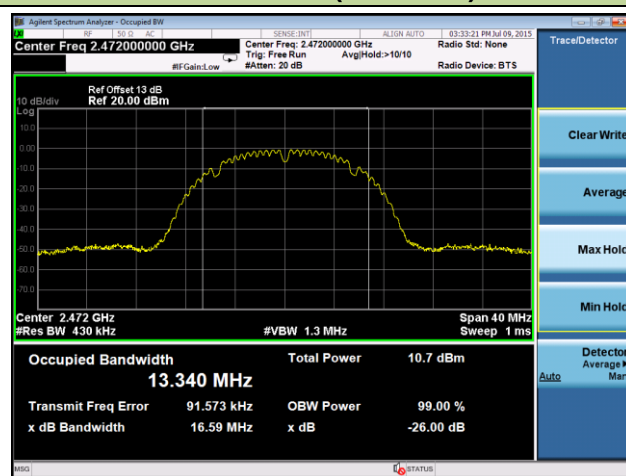
Test Mode	Channel No.	Frequency (MHz)	99% Bandwidth (MHz)	Frequency Range (MHz)	Result
Ant 0					
11b	01	2412	13.36	2405.32	Pass
11b	13	2472	13.34	2478.67	Pass
11g	01	2412	16.20	2403.90	Pass
11g	13	2472	16.20	2480.10	Pass
n-HT20	01	2412	17.24	2403.38	Pass
n-HT20	13	2472	17.26	2480.63	Pass
n-HT40	03	2422	35.92	2404.04	Pass
n-HT40	11	2462	35.88	2479.94	Pass
Ant 1					
11b	01	2412	13.39	2405.31	Pass
11b	13	2472	13.34	2478.67	Pass
11g	01	2412	16.23	2403.89	Pass
11g	13	2472	16.21	2480.11	Pass
n-HT20	01	2412	17.26	2403.37	Pass
n-HT20	13	2472	17.27	2480.64	Pass
n-HT40	03	2422	35.90	2404.05	Pass
n-HT40	11	2462	35.88	2479.94	Pass
Ant 0 / Ant 0 + 1					
n-HT20	01	2412	17.24	2403.38	Pass
n-HT20	13	2472	17.26	2480.63	Pass
n-HT40	03	2422	35.89	2404.06	Pass
n-HT40	11	2462	35.91	2479.96	Pass

802.11b Occupied Channel Bandwidth - Ant 0

Channel 01 (2412MHz)

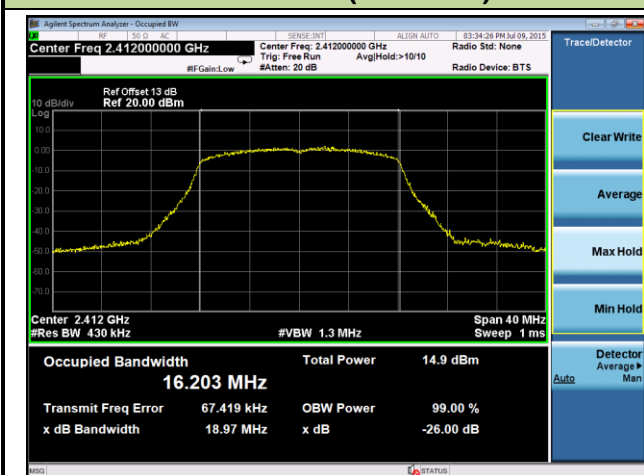


Channel 13 (2472MHz)

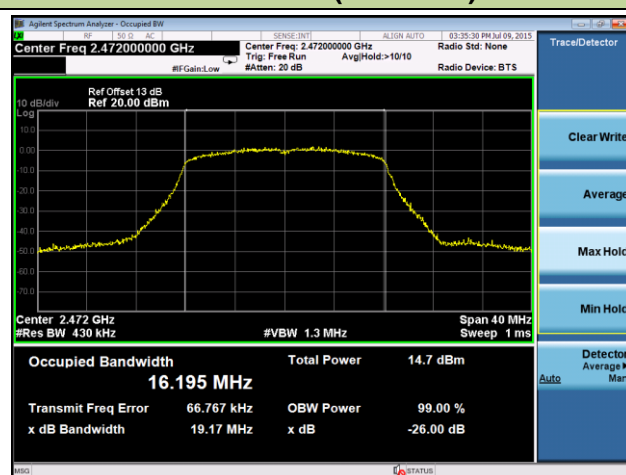


802.11g Occupied Channel Bandwidth - Ant 0

Channel 01 (2412MHz)

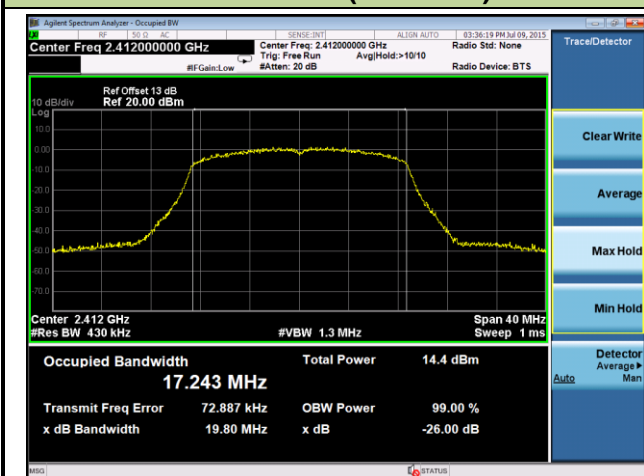


Channel 13 (2472MHz)

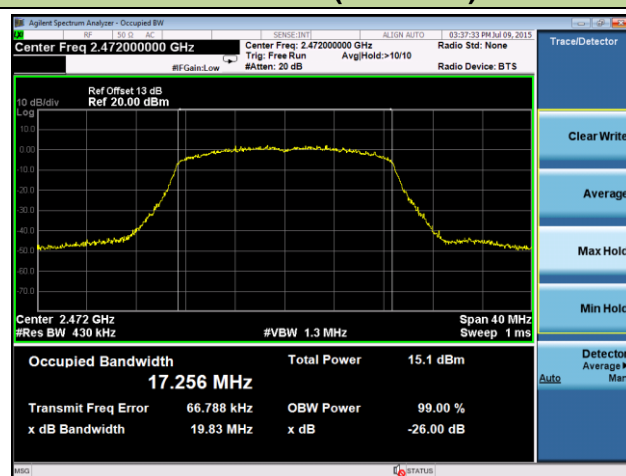


802.11n-HT20 Occupied Channel Bandwidth - Ant 0

Channel 01 (2412MHz)

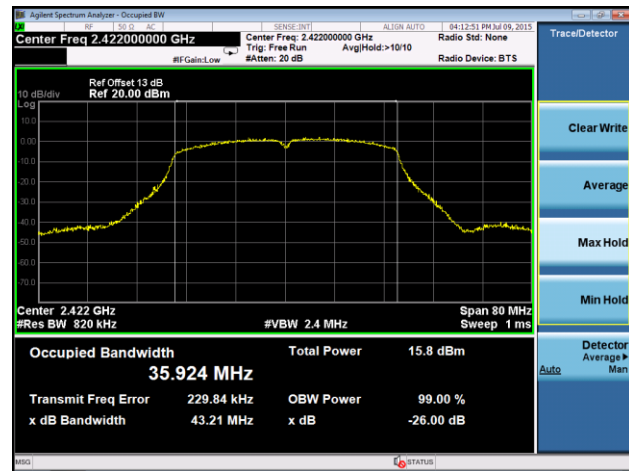


Channel 13 (2472MHz)

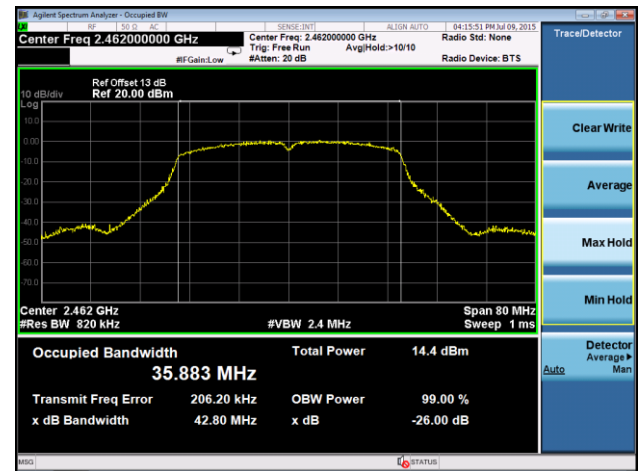


802.11n-HT40 Occupied Channel Bandwidth - Ant 0

Channel 03 (2422MHz)

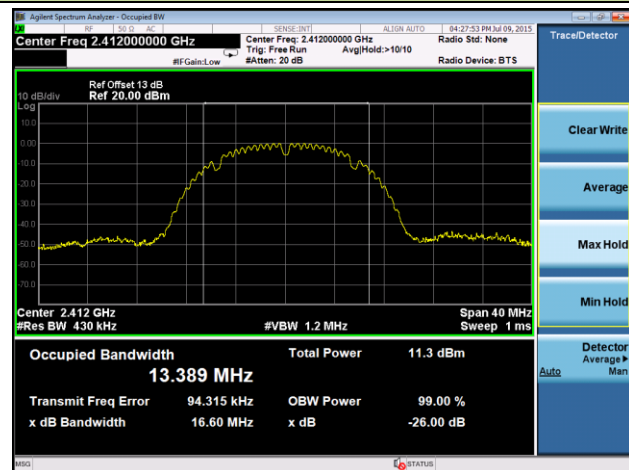


Channel 11 (2462MHz)

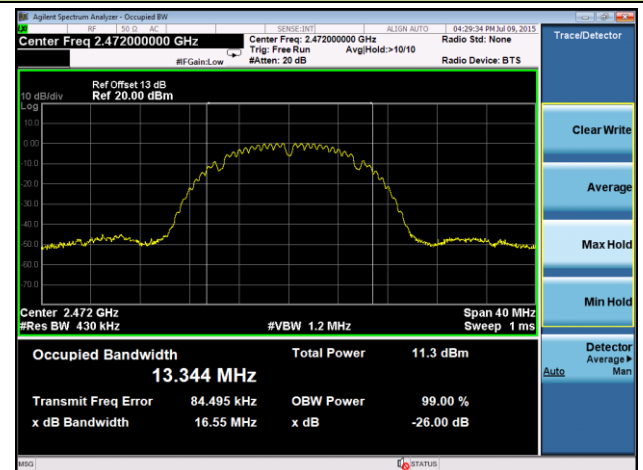


802.11b Occupied Channel Bandwidth - Ant 1

Channel 01 (2412MHz)

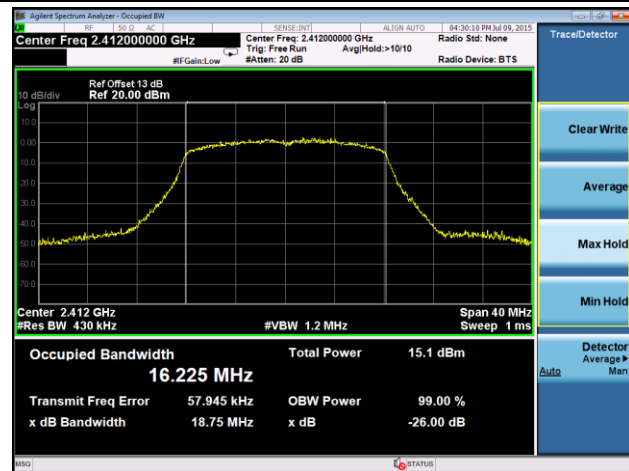


Channel 13 (2472MHz)

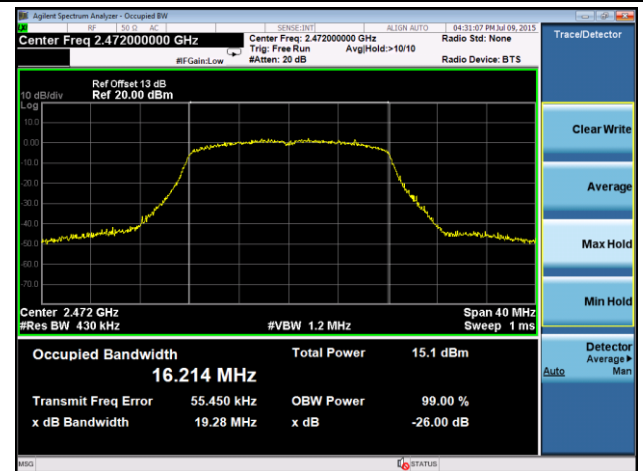


802.11g Occupied Channel Bandwidth - Ant 1

Channel 01 (2412MHz)

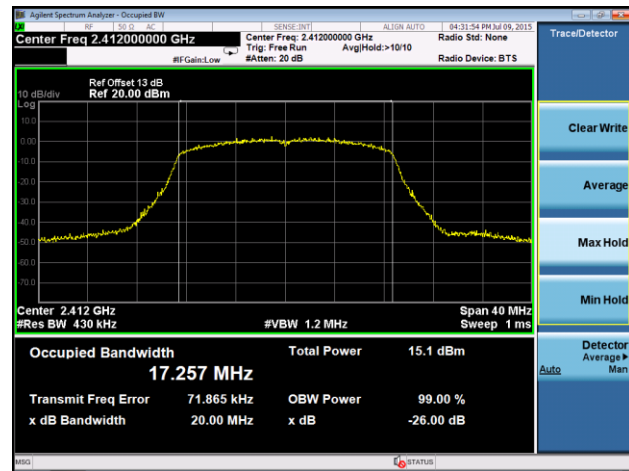


Channel 13 (2472MHz)

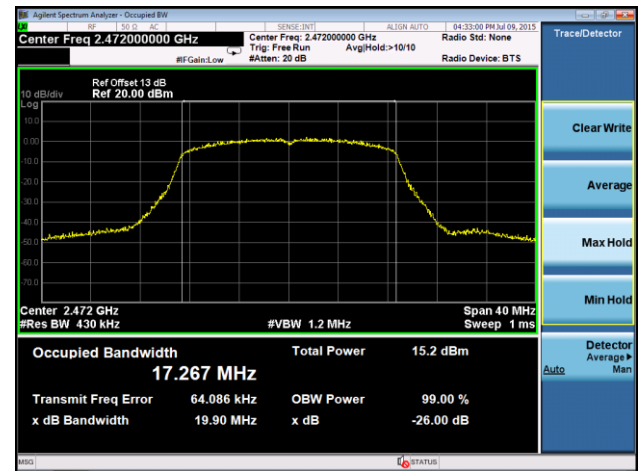


802.11n-HT20 Occupied Channel Bandwidth - Ant 1

Channel 01 (2412MHz)

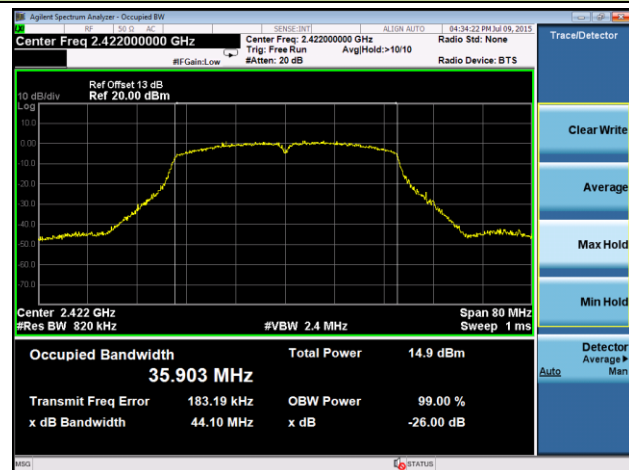


Channel 13 (2472MHz)

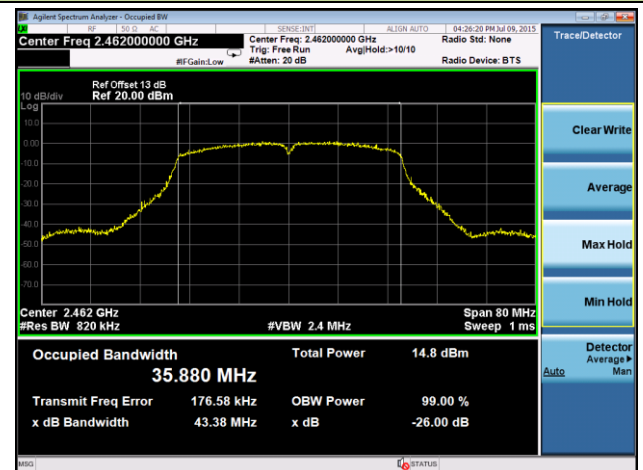


802.11n-HT40 Occupied Channel Bandwidth - Ant 1

Channel 03 (2422MHz)

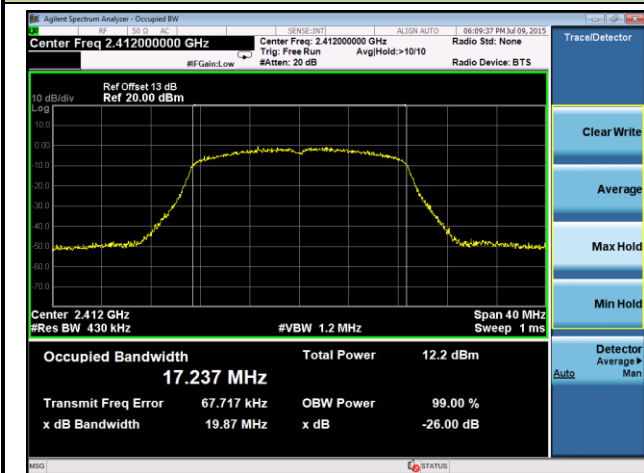


Channel 11 (2462MHz)

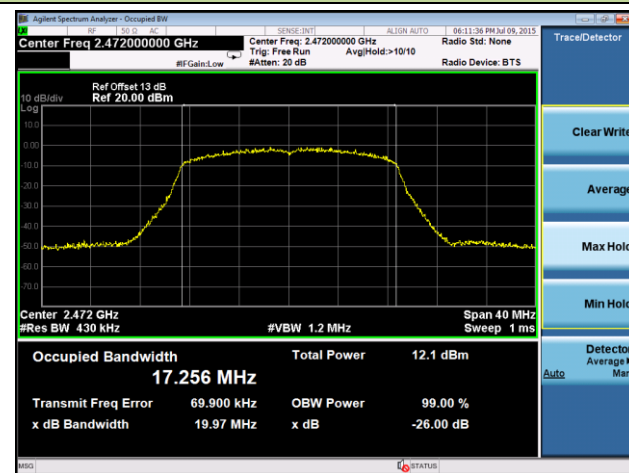


802.11n-HT20 Occupied Channel Bandwidth - Ant 0 / Ant 0 + 1

Channel 01 (2412MHz)

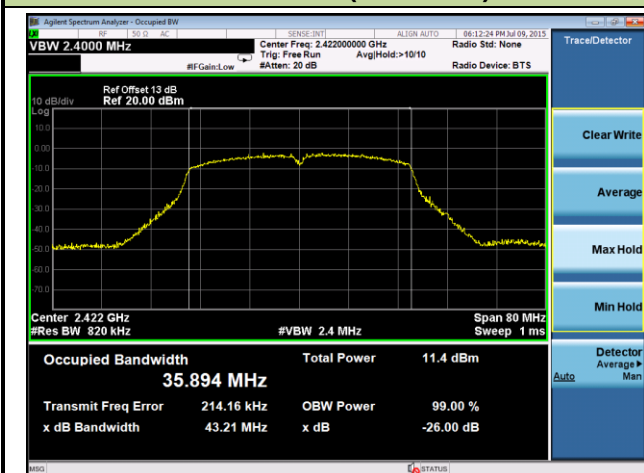


Channel 11 (2472MHz)

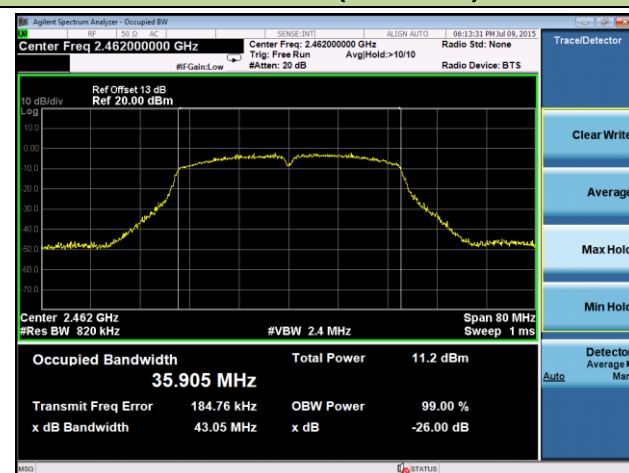


802.11n-HT40 Occupied Channel Bandwidth - Ant 0 / Ant 0 + 1

Channel 03 (2422MHz)



Channel 11 (2462MHz)



10. Transmitter unwanted emissions in the out-of-band domain

10.1. Limit

The transmitter unwanted emissions in the out-of-band domain but outside the allocated band, shall not exceed the values provided by the mask in figure 3.

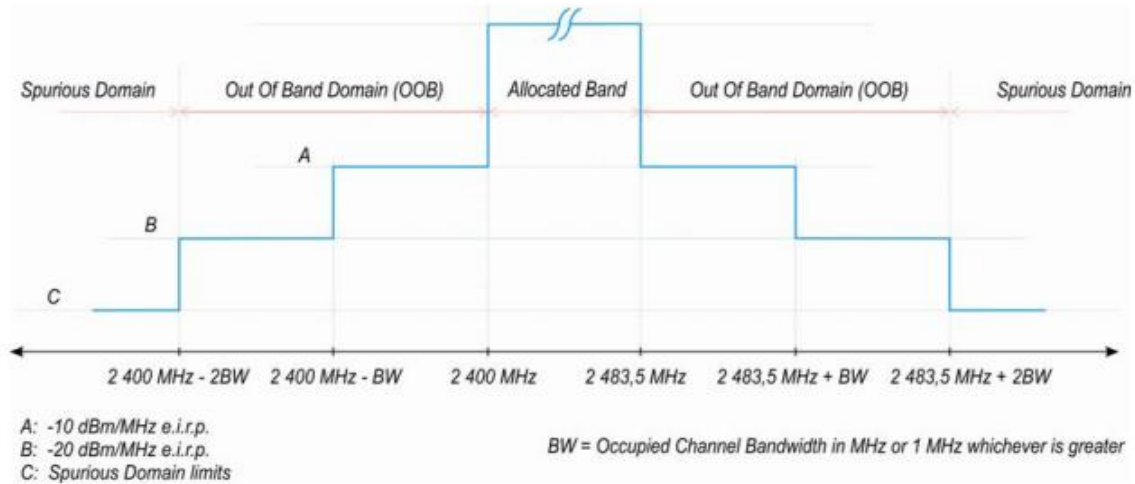
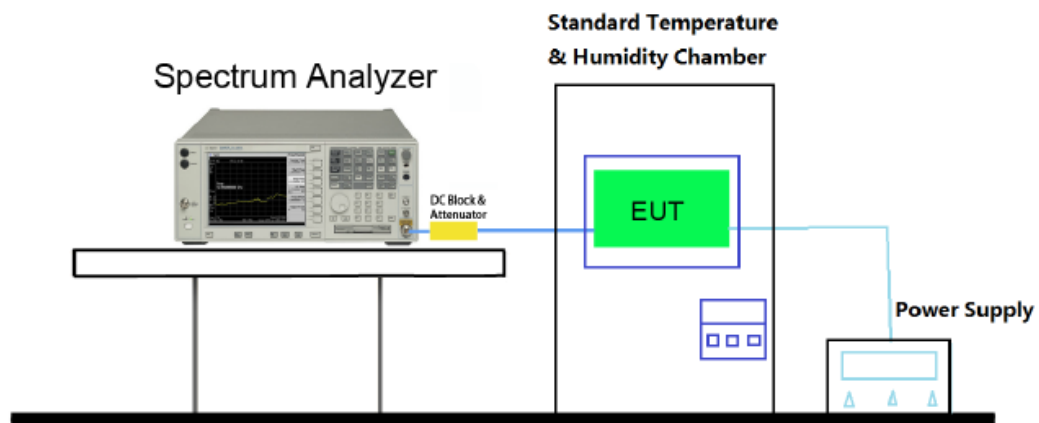


Figure 3: Transmit mask

10.2. Test Setup

For Conducted Measurement



10.3. Test Procedure

Refer to ETSI EN 300 328 V1.8.1 (2012-06) Clause 5.3.9.2.1.

10.4. Test Result

Test Engineer	Milo Li	Temperature	-20 ~ 70°C
Test Data	07-03-2015	Relative Humidity	52%

Ant 0

Test Mode	Ch. No.	Temp. Condition	Freq. Range (MHz)	Worst Level (dBm/MHz)	Limit (dBm/MHz)	Result
11b	01	T _{nom}	2400-BW~ 2400-2BW	-33.17	-20	Pass
		T _{min}		-33.49	-20	Pass
		T _{max}		-32.76	-20	Pass
		T _{nom}	2400-BW ~ 2400	-32.39	-10	Pass
		T _{min}		-32.44	-10	Pass
		T _{max}		-31.60	-10	Pass
	13	T _{nom}	2483.5+BW ~ 2483.5	-29.74	-10	Pass
		T _{min}		-30.73	-10	Pass
		T _{max}		-29.31	-10	Pass
		T _{nom}	2483.5+2BW ~ 2483.5+BW	-30.07	-20	Pass
		T _{min}		-31.32	-20	Pass
		T _{max}		-30.17	-20	Pass
11g	01	T _{nom}	2400-BW~ 2400-2BW	-33.47	-20	Pass
		T _{min}		-34.36	-20	Pass
		T _{max}		-34.01	-20	Pass
		T _{nom}	2400-BW ~ 2400	-32.14	-10	Pass
		T _{min}		-32.16	-10	Pass
		T _{max}		-32.16	-10	Pass
	13	T _{nom}	2483.5+BW ~ 2483.5	-19.09	-10	Pass
		T _{min}		-20.20	-10	Pass
		T _{max}		-18.92	-10	Pass
		T _{nom}	2483.5+2BW ~ 2483.5+BW	-31.52	-20	Pass
		T _{min}		-33.66	-20	Pass
		T _{max}		-30.83	-20	Pass

Test Mode	Ch. No.	Temp. Condition	Freq. Range (MHz)	Worst Level (dBm/MHz)	Limit (dBm/MHz)	Result
n-HT20	01	T _{nom}	2400-BW~ 2400-2BW	-33.62	-20	Pass
		T _{min}		-22.87	-20	Pass
		T _{max}		-32.74	-20	Pass
		T _{nom}	2400-BW ~ 2400	-21.84	-10	Pass
		T _{min}		-23.78	-10	Pass
		T _{max}		-22.31	-10	Pass
	13	T _{nom}	2483.5+BW ~ 2483.5	-23.47	-10	Pass
		T _{min}		-30.80	-10	Pass
		T _{max}		-23.50	-10	Pass
		T _{nom}	2483.5+2BW ~ 2483.5+BW	-30.58	-20	Pass
		T _{min}		-32.74	-20	Pass
		T _{max}		-29.45	-20	Pass
n-HT40	03	T _{nom}	2400-BW~ 2400-2BW	-31.87	-20	Pass
		T _{min}		-22.11	-20	Pass
		T _{max}		-32.21	-20	Pass
		T _{nom}	2400-BW ~ 2400	-20.67	-10	Pass
		T _{min}		-18.83	-10	Pass
		T _{max}		-21.36	-10	Pass
	11	T _{nom}	2483.5+BW ~ 2483.5	-18.66	-10	Pass
		T _{min}		-18.34	-10	Pass
		T _{max}		-17.70	-10	Pass
		T _{nom}	2483.5+2BW ~ 2483.5+BW	-28.98	-20	Pass
		T _{min}		-29.67	-20	Pass
		T _{max}		-29.28	-20	Pass

Note: Total Worst Level (dBm/MHz) = Worst Level + Ant Gain (dBm/MHz)

Ant 1

Test Mode	Ch. No.	Temp. Condition	Freq. Range (MHz)	Worst Level (dBm/MHz)	Limit (dBm/MHz)	Result
11b	01	T _{nom}	2400-BW~ 2400-2BW	-32.76	-20	Pass
		T _{min}		-32.40	-20	Pass
		T _{max}		-32.54	-20	Pass
		T _{nom}	2400-BW ~ 2400	-31.95	-10	Pass
		T _{min}		-31.05	-10	Pass
		T _{max}		-31.80	-10	Pass
	13	T _{nom}	2483.5+BW ~ 2483.5	-30.44	-10	Pass
		T _{min}		-30.17	-10	Pass
		T _{max}		-30.69	-10	Pass
		T _{nom}	2483.5+2BW ~ 2483.5+BW	-31.06	-20	Pass
		T _{min}		-31.32	-20	Pass
		T _{max}		-31.32	-20	Pass
11g	01	T _{nom}	2400-BW~ 2400-2BW	-33.50	-20	Pass
		T _{min}		-33.27	-20	Pass
		T _{max}		-33.04	-20	Pass
		T _{nom}	2400-BW ~ 2400	-32.36	-10	Pass
		T _{min}		-32.22	-10	Pass
		T _{max}		-32.11	-10	Pass
	13	T _{nom}	2483.5+BW ~ 2483.5	-20.08	-10	Pass
		T _{min}		-19.18	-10	Pass
		T _{max}		-19.30	-10	Pass
		T _{nom}	2483.5+2BW ~ 2483.5+BW	-30.94	-20	Pass
		T _{min}		-31.71	-20	Pass
		T _{max}		-31.41	-20	Pass

Test Mode	Ch. No.	Temp. Condition	Freq. Range (MHz)	Worst Level (dBm/MHz)	Limit (dBm/MHz)	Result
n-HT20	01	T _{nom}	2400-BW~ 2400-2BW	-32.42	-20	Pass
		T _{min}		-32.43	-20	Pass
		T _{max}		-32.92	-20	Pass
		T _{nom}	2400-BW ~ 2400	-22.70	-10	Pass
		T _{min}		-21.79	-10	Pass
		T _{max}		-22.23	-10	Pass
	13	T _{nom}	2483.5+BW ~ 2483.5	-22.83	-10	Pass
		T _{min}		-22.99	-10	Pass
		T _{max}		-23.58	-10	Pass
		T _{nom}	2483.5+2BW ~ 2483.5+BW	-30.40	-20	Pass
		T _{min}		-30.79	-20	Pass
		T _{max}		-30.00	-20	Pass
n-HT40	03	T _{nom}	2400-BW~ 2400-2BW	-31.79	-20	Pass
		T _{min}		-31.42	-20	Pass
		T _{max}		-32.53	-20	Pass
		T _{nom}	2400-BW ~ 2400	-20.96	-10	Pass
		T _{min}		-21.15	-10	Pass
		T _{max}		-20.95	-10	Pass
	11	T _{nom}	2483.5+BW ~ 2483.5	-17.90	-10	Pass
		T _{min}		-18.00	-10	Pass
		T _{max}		-17.65	-10	Pass
		T _{nom}	2483.5+2BW ~ 2483.5+BW	-28.87	-20	Pass
		T _{min}		-29.25	-20	Pass
		T _{max}		-29.10	-20	Pass

Note: Total Worst Level (dBm/MHz) = Worst Level + Ant Gain (dBm/MHz)

Ant 0 + 1

Test Mode	Ch. No.	Temp. Condition	Freq. Range (MHz)	Ant 0 Worst Level (dBm/MHz)	Ant 1 Worst Level (dBm/MHz)	Total Worst Level (dBm/MHz)	Limit (dBm/MHz)	Result
n-HT20	01	T _{nom}	2400-BW~ 2400-2BW	-43.35	-42.54	-28.92	-20	Pass
		T _{min}		-43.54	-43.70	-29.61	-20	Pass
		T _{max}		-43.21	-42.80	-28.99	-20	Pass
		T _{nom}	2400-BW ~ 2400	-41.36	-41.93	-27.63	-10	Pass
		T _{min}		-42.76	-42.35	-28.54	-10	Pass
		T _{max}		-42.66	-41.91	-28.26	-10	Pass
	13	T _{nom}	2483.5+BW ~ 2483.5	-42.65	-42.01	-28.31	-10	Pass
		T _{min}		-42.71	-42.22	-28.45	-10	Pass
		T _{max}		-41.14	-40.80	-26.96	-10	Pass
		T _{nom}	2483.5+2B W ~ 2483.5+BW	-42.39	-43.91	-29.07	-20	Pass
		T _{min}		-44.01	-44.35	-30.17	-20	Pass
		T _{max}		-43.76	-43.30	-29.51	-20	Pass
n-HT40	03	T _{nom}	2400-BW~ 2400-2BW	-40.59	-40.86	-26.71	-20	Pass
		T _{min}		-42.07	-41.27	-27.64	-20	Pass
		T _{max}		-41.18	-40.38	-26.75	-20	Pass
		T _{nom}	2400-BW ~ 2400	-37.92	-38.92	-24.38	-10	Pass
		T _{min}		-39.49	-40.13	-25.79	-10	Pass
		T _{max}		-39.01	-39.78	-25.37	-10	Pass
	11	T _{nom}	2483.5+BW ~ 2483.5	-28.48	-28.82	-14.63	-10	Pass
		T _{min}		-29.27	-29.27	-15.26	-10	Pass
		T _{max}		-27.61	-28.98	-14.23	-10	Pass
		T _{nom}	2483.5+2B W ~ 2483.5+BW	-38.57	-37.85	-24.18	-20	Pass
		T _{min}		-39.18	-39.02	-25.09	-20	Pass
		T _{max}		-38.74	-37.55	-24.09	-20	Pass

Note: Total Worst Level (dBm/MHz) = Worst Level + Antenna Gain (dBm/MHz)

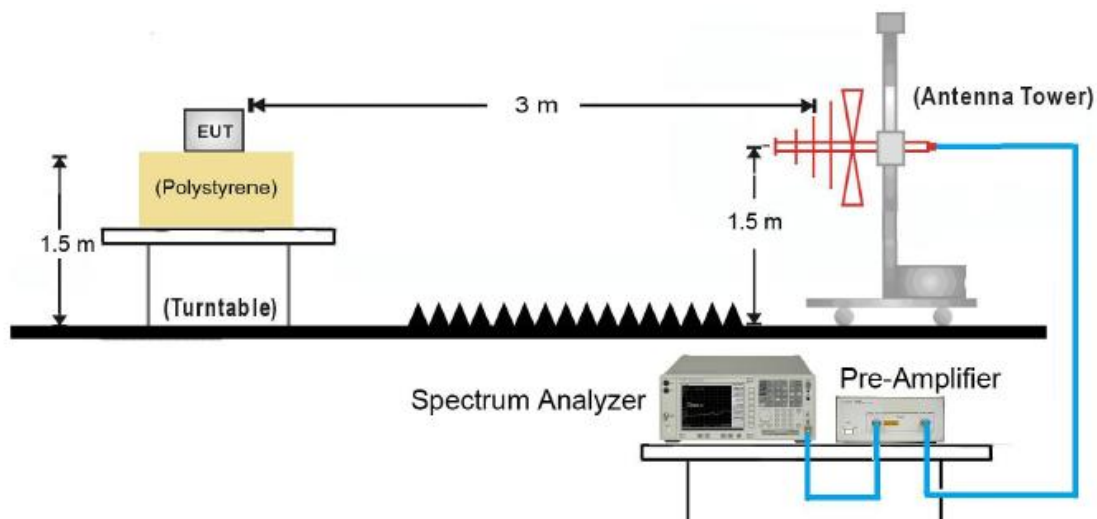
11. Transmitter unwanted emissions in the spurious domain

11.1. Limit

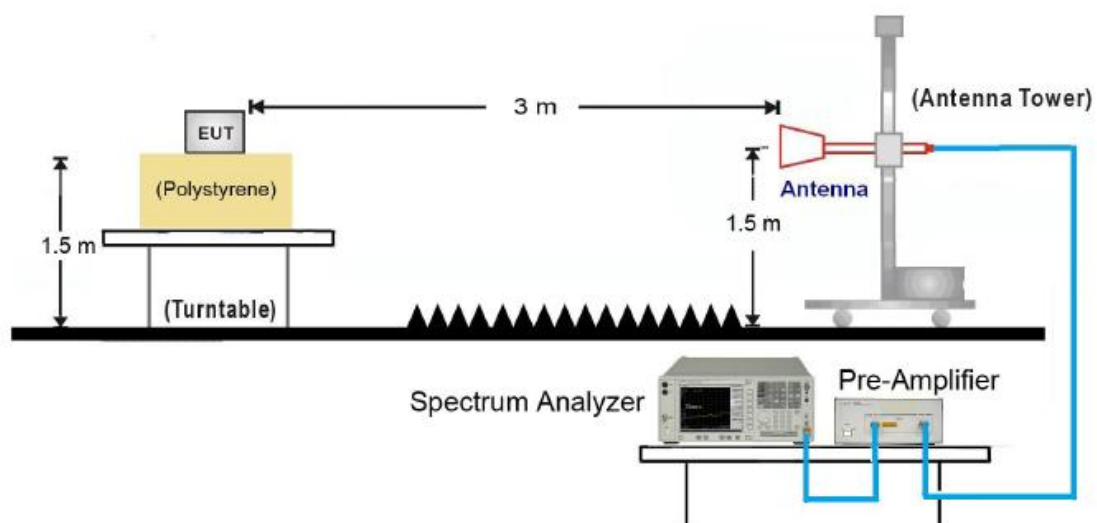
Transmitter Limits for Spurious Emissions		
Frequency Range	Maximum power E.R.P. ($\leq 1\text{GHz}$) E.I.R.P. ($> 1\text{GHz}$)	Bandwidth
30 MHz to 47 MHz	-36dBm	100 kHz
47 MHz to 74 MHz	-54dBm	100 kHz
74 MHz to 87,5 MHz	-36dBm	100 kHz
87,5 MHz to 118 MHz	-54dBm	100 kHz
118 MHz to 174 MHz	-36dBm	100 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 12,75 GHz	-30dBm	1 MHz

11.2. Test Setup

30MHz ~ 1GHz Test Setup:



1GHz ~ 12.75GHz Test Setup:



11.3. Test Procedure

Refer to ETSI EN 300 328 V1.8.1 (2012-06) Clause 5.3.10.2.2.

11.4. Test Result

Test by Dipole Antenna Gain (2dBi)

Test Engineer	Milo Li	Temperature	24°C
Test Data	07-08-2015	Relative Humidity	54%
Test Mode	802.11b - Ant 0	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
01	96.0	-61.5	-54.0	-7.5	Peak	Horizontal
	63.5	-62.9	-54.0	-8.9	Peak	Vertical
	599.9	-67.1	-54.0	-13.1	Peak	Horizontal
	599.9	-68.6	-54.0	-14.6	Peak	Vertical
	4824.6	-50.6	-30.0	-20.6	Peak	Horizontal
	4824.6	-45.3	-30.0	-15.3	Peak	Vertical
	8102.9	-50.8	-30.0	-20.8	Peak	Horizontal
	7233.4	-50.8	-30.0	-20.8	Peak	Vertical
13	96.0	-62.8	-54.0	-8.8	Peak	Horizontal
	63.5	-65.3	-54.0	-11.3	Peak	Vertical
	599.9	-68.8	-54.0	-14.8	Peak	Horizontal
	103.7	-62.7	-54.0	-8.7	Peak	Vertical
	4942.1	-52.7	-30.0	-22.7	Peak	Horizontal
	4942.1	-48.0	-30.0	-18.0	Peak	Vertical
	7309.8	-52.2	-30.0	-22.2	Peak	Horizontal
	7268.6	-51.8	-30.0	-21.8	Peak	Vertical

Test Engineer	Milo Li	Temperature	24°C
Test Data	07-08-2015	Relative Humidity	54%
Test Mode	802.11g - Ant 0	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
01	66.4	-64.5	-54.0	-10.5	Peak	Horizontal
	68.3	-61.9	-54.0	-7.9	Peak	Vertical
	96.4	-63.2	-54.0	-9.2	Peak	Horizontal
	109.1	-63.1	-54.0	-9.1	Peak	Vertical
	4818.8	-53.8	-30.0	-23.8	Peak	Horizontal
	4824.6	-48.7	-30.0	-18.7	Peak	Vertical
	7374.4	-51.9	-30.0	-21.9	Peak	Horizontal
	7245.1	-52.0	-30.0	-22.0	Peak	Vertical
13	66.4	-64.7	-54.0	-10.7	Peak	Horizontal
	66.4	-60.8	-54.0	-6.8	Peak	Vertical
	94.5	-64.1	-54.0	-10.1	Peak	Horizontal
	106.6	-61.6	-54.0	-7.6	Peak	Vertical
	4942.1	-56.1	-30.0	-26.1	Peak	Horizontal
	4948.0	-51.0	-30.0	-21.0	Peak	Vertical
	7409.6	-51.9	-30.0	-21.9	Peak	Horizontal
	7221.6	-51.7	-30.0	-21.7	Peak	Vertical

Test Engineer	Milo Li	Temperature	24°C
Test Data	07-08-2015	Relative Humidity	54%
Test Mode	802.11n-HT20 - Ant 0	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
01	66.4	-63.3	-54.0	-9.3	Peak	Horizontal
	65.9	-60.6	-54.0	-6.6	Peak	Vertical
	98.4	-62.8	-54.0	-8.8	Peak	Horizontal
	112.9	-65.1	-54.0	-11.1	Peak	Vertical
	4824.6	-54.5	-30.0	-24.5	Peak	Horizontal
	4818.8	-49.7	-30.0	-19.7	Peak	Vertical
	7227.5	-52.4	-30.0	-22.4	Peak	Horizontal
	7239.3	-51.0	-30.0	-21.0	Peak	Vertical
13	66.4	-64.8	-54.0	-10.8	Peak	Horizontal
	66.4	-60.8	-54.0	-6.8	Peak	Vertical
	101.8	-63.4	-54.0	-9.4	Peak	Horizontal
	109.1	-64.5	-54.0	-10.5	Peak	Vertical
	4948.0	-57.0	-30.0	-27.0	Peak	Horizontal
	4942.1	-49.5	-30.0	-19.5	Peak	Vertical
	6246.4	-53.5	-30.0	-23.5	Peak	Horizontal
	7415.5	-49.6	-30.0	-19.6	Peak	Vertical

Test Engineer	Milo Li	Temperature	24°C
Test Data	07-08-2015	Relative Humidity	54%
Test Mode	802.11n-HT40 - Ant 0	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
01	66.4	-63.4	-54.0	-9.4	Peak	Horizontal
	64.4	-63.1	-54.0	-9.1	Peak	Vertical
	98.4	-63.1	-54.0	-9.1	Peak	Horizontal
	111.5	-65.9	-54.0	-11.9	Peak	Vertical
	4842.3	-55.3	-30.0	-25.3	Peak	Horizontal
	4842.3	-52.8	-30.0	-22.8	Peak	Vertical
	7421.4	-52.0	-30.0	-22.0	Peak	Horizontal
	7092.4	-52.0	-30.0	-22.0	Peak	Vertical
13	51.8	-64.4	-54.0	-10.4	Peak	Horizontal
	67.8	-60.5	-54.0	-6.5	Peak	Vertical
	96.0	-63.7	-54.0	-9.7	Peak	Horizontal
	111.5	-64.9	-54.0	-10.9	Peak	Vertical
	4901.0	-56.9	-30.0	-26.9	Peak	Horizontal
	4906.9	-53.0	-30.0	-23.0	Peak	Vertical
	6875.0	-53.2	-30.0	-23.2	Peak	Horizontal
	7380.3	-52.2	-30.0	-22.2	Peak	Vertical

Test Engineer	Milo Li	Temperature	24°C
Test Data	07-08-2015	Relative Humidity	54%
Test Mode	802.11b - Ant 1	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
01	66.4	-65.8	-54.0	-11.8	Peak	Horizontal
	65.9	-60.7	-54.0	-6.7	Peak	Vertical
	95.0	-66.3	-54.0	-12.3	Peak	Horizontal
	108.1	-64.4	-54.0	-10.4	Peak	Vertical
	5388.6	-58.3	-30.0	-28.3	Peak	Horizontal
	4777.6	-57.7	-30.0	-27.7	Peak	Vertical
	7104.1	-53.0	-30.0	-23.0	Peak	Horizontal
	6522.5	-53.0	-30.0	-23.0	Peak	Vertical
13	66.4	-64.2	-54.0	-10.2	Peak	Horizontal
	61.5	-61.3	-54.0	-7.3	Peak	Vertical
	94.5	-62.9	-54.0	-8.9	Peak	Horizontal
	113.4	-65.4	-54.0	-11.4	Peak	Vertical
	4942.1	-56.3	-30.0	-26.3	Peak	Horizontal
	4942.1	-52.6	-30.0	-22.6	Peak	Vertical
	7145.3	-52.1	-30.0	-22.1	Peak	Horizontal
	7080.6	-52.7	-30.0	-22.7	Peak	Vertical

Test Engineer	Milo Li	Temperature	24°C
Test Data	07-08-2015	Relative Humidity	54%
Test Mode	802.11g - Ant 1	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
01	66.4	-64.7	-54.0	-10.7	Peak	Horizontal
	69.3	-62.1	-54.0	-8.1	Peak	Vertical
	96.0	-65.4	-54.0	-11.4	Peak	Horizontal
	108.1	-65.1	-54.0	-11.1	Peak	Vertical
	4824.6	-51.3	-30.0	-21.3	Peak	Horizontal
	4818.8	-52.1	-30.0	-22.1	Peak	Vertical
	7204.0	-52.7	-30.0	-22.7	Peak	Horizontal
	6440.3	-51.5	-30.0	-21.5	Peak	Vertical
13	66.4	-64.5	-54.0	-10.5	Peak	Horizontal
	57.2	-61.2	-54.0	-7.2	Peak	Vertical
	96.4	-64.8	-54.0	-10.8	Peak	Horizontal
	112.5	-66.6	-54.0	-12.6	Peak	Vertical
	4948.0	-53.5	-30.0	-23.5	Peak	Horizontal
	4942.1	-47.1	-30.0	-17.1	Peak	Vertical
	7021.9	-53.4	-30.0	-23.4	Peak	Horizontal
	7239.3	-52.9	-30.0	-22.9	Peak	Vertical

Test Engineer	Milo Li	Temperature	24°C
Test Data	07-08-2015	Relative Humidity	54%
Test Mode	802.11n-HT20 - Ant 1	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
01	66.4	-66.5	-54.0	-12.5	Peak	Horizontal
	69.3	-62.2	-54.0	-8.2	Peak	Vertical
	96.0	-65.7	-54.0	-11.7	Peak	Horizontal
	106.6	-63.0	-54.0	-9.0	Peak	Vertical
	4818.8	-54.1	-30.0	-24.1	Peak	Horizontal
	4824.6	-52.2	-30.0	-22.2	Peak	Vertical
	7227.5	-52.3	-30.0	-22.3	Peak	Horizontal
	7256.9	-52.7	-30.0	-22.7	Peak	Vertical
13	66.4	-65.3	-54.0	-11.3	Peak	Horizontal
	67.3	-60.3	-54.0	-6.3	Peak	Vertical
	94.5	-64.6	-54.0	-10.6	Peak	Horizontal
	112.5	-65.2	-54.0	-11.2	Peak	Vertical
	4942.1	-53.0	-30.0	-23.0	Peak	Horizontal
	4942.1	-49.7	-30.0	-19.7	Peak	Vertical
	7074.8	-52.8	-30.0	-22.8	Peak	Horizontal
	7292.1	-52.2	-30.0	-22.2	Peak	Vertical

Test Engineer	Milo Li	Temperature	24°C
Test Data	07-08-2015	Relative Humidity	54%
Test Mode	802.11n-HT40 - Ant 1	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
03	66.4	-65.0	-54.0	-11.0	Peak	Horizontal
	63.0	-61.3	-54.0	-7.3	Peak	Vertical
	98.4	-63.9	-54.0	-9.9	Peak	Horizontal
	108.1	-65.5	-54.0	-11.5	Peak	Vertical
	4848.1	-57.3	-30.0	-27.3	Peak	Horizontal
	4842.3	-53.6	-30.0	-23.6	Peak	Vertical
	7209.9	-52.0	-30.0	-22.0	Peak	Horizontal
	6828.0	-53.0	-30.0	-23.0	Peak	Vertical
11	66.4	-65.1	-54.0	-11.1	Peak	Horizontal
	62.5	-61.2	-54.0	-7.2	Peak	Vertical
	94.5	-62.7	-54.0	-8.7	Peak	Horizontal
	116.8	-64.2	-54.0	-10.2	Peak	Vertical
	4924.5	-57.9	-30.0	-27.9	Peak	Horizontal
	4936.3	-53.1	-30.0	-23.1	Peak	Vertical
	6363.9	-53.7	-30.0	-23.7	Peak	Horizontal
	6240.5	-53.6	-30.0	-23.6	Peak	Vertical

Test Engineer	Milo Li	Temperature	24°C
Test Data	07-08-2015	Relative Humidity	54%
Test Mode	802.11n-HT20 - Ant 0 + 1	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
03	66.4	-66.7	-54.0	-12.7	Peak	Horizontal
	66.4	-62.3	-54.0	-8.3	Peak	Vertical
	96.0	-63.5	-54.0	-9.5	Peak	Horizontal
	109.1	-65.1	-54.0	-11.1	Peak	Vertical
	4824.6	-53.0	-30.0	-23.0	Peak	Horizontal
	4830.5	-48.4	-30.0	-18.4	Peak	Vertical
	7239.3	-52.3	-30.0	-22.3	Peak	Horizontal
	7239.3	-48.7	-30.0	-18.7	Peak	Vertical
11	66.4	-65.4	-54.0	-11.4	Peak	Horizontal
	62.5	-61.4	-54.0	-7.4	Peak	Vertical
	94.5	-63.1	-54.0	-9.1	Peak	Horizontal
	114.9	-67.6	-54.0	-13.6	Peak	Vertical
	4942.1	-53.6	-30.0	-23.6	Peak	Horizontal
	4942.1	-50.0	-30.0	-20.0	Peak	Vertical
	6352.1	-52.9	-30.0	-22.9	Peak	Horizontal
	7415.5	-51.3	-30.0	-21.3	Peak	Vertical

Test Engineer	Milo Li	Temperature	24°C
Test Data	07-08-2015	Relative Humidity	54%
Test Mode	802.11n-HT40 - Ant 0 + 1	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
03	66.4	-65.4	-54.0	-11.4	Peak	Horizontal
	64.4	-60.8	-54.0	-6.8	Peak	Vertical
	96.0	-63.1	-54.0	-9.1	Peak	Horizontal
	112.9	-68.0	-54.0	-14.0	Peak	Vertical
	4842.3	-56.1	-30.0	-26.1	Peak	Horizontal
	4859.9	-52.1	-30.0	-22.1	Peak	Vertical
	7239.3	-52.6	-30.0	-22.6	Peak	Horizontal
	7245.1	-51.6	-30.0	-21.6	Peak	Vertical
11	66.4	-65.9	-54.0	-11.9	Peak	Horizontal
	69.8	-62.1	-54.0	-8.1	Peak	Vertical
	96.4	-64.0	-54.0	-10.0	Peak	Horizontal
	111.5	-68.6	-54.0	-14.6	Peak	Vertical
	4918.6	-56.6	-30.0	-26.6	Peak	Horizontal
	4924.5	-51.9	-30.0	-21.9	Peak	Vertical
	7215.8	-53.0	-30.0	-23.0	Peak	Horizontal
	7204.0	-52.2	-30.0	-22.2	Peak	Vertical

Test by Panel Antenna Gain (11dBi)

Test Engineer	Milo Li	Temperature	24°C
Test Data	07-08-2015	Relative Humidity	54%
Test Mode	802.11b - Ant 0	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
01	66.4	-64.1	-54.0	-10.1	Peak	Horizontal
	62.0	-60.3	-54.0	-6.3	Peak	Vertical
	94.5	-63.8	-54.0	-9.8	Peak	Horizontal
	112.0	-65.4	-54.0	-11.4	Peak	Vertical
	4824.6	-48.5	-30.0	-18.5	Peak	Horizontal
	4824.6	-55.3	-30.0	-25.3	Peak	Vertical
	7133.5	-52.8	-30.0	-22.8	Peak	Horizontal
	6528.4	-51.9	-30.0	-21.9	Peak	Vertical
13	66.4	-65.4	-54.0	-11.4	Peak	Horizontal
	68.3	-60.3	-54.0	-6.3	Peak	Vertical
	96.9	-62.8	-54.0	-8.8	Peak	Horizontal
	112.9	-63.3	-54.0	-9.3	Peak	Vertical
	4942.1	-48.4	-30.0	-18.4	Peak	Horizontal
	6440.3	-52.3	-30.0	-22.3	Peak	Vertical
	7162.9	-52.2	-30.0	-22.2	Peak	Horizontal
	7110.0	-52.2	-30.0	-22.2	Peak	Vertical

Test Engineer	Milo Li	Temperature	24°C
Test Data	07-08-2015	Relative Humidity	54%
Test Mode	802.11g - Ant 0	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
01	66.4	-65.2	-54.0	-11.2	Peak	Horizontal
	64.9	-62.9	-54.0	-8.9	Peak	Vertical
	98.4	-65.3	-54.0	-11.3	Peak	Horizontal
	108.1	-63.3	-54.0	-9.3	Peak	Vertical
	4824.6	-48.9	-30.0	-18.9	Peak	Horizontal
	4824.6	-57.4	-30.0	-27.4	Peak	Vertical
	10717.3	-45.6	-30.0	-15.6	Peak	Horizontal
	6598.9	-53.0	-30.0	-23.0	Peak	Vertical
13	66.4	-64.1	-54.0	-10.1	Peak	Horizontal
	68.3	-60.3	-54.0	-6.3	Peak	Vertical
	98.4	-63.3	-54.0	-9.3	Peak	Horizontal
	117.3	-65.5	-54.0	-11.5	Peak	Vertical
	4942.1	-49.3	-30.0	-19.3	Peak	Horizontal
	4777.6	-57.4	-30.0	-27.4	Peak	Vertical
	7092.4	-52.5	-30.0	-22.5	Peak	Horizontal
	6405.0	-52.8	-30.0	-22.8	Peak	Vertical

Test Engineer	Milo Li	Temperature	24°C
Test Data	07-08-2015	Relative Humidity	54%
Test Mode	802.11n-HT20 - Ant 0	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
01	47.9	-63.9	-54.0	-9.9	Peak	Horizontal
	64.9	-61.0	-54.0	-7.0	Peak	Vertical
	94.5	-65.6	-54.0	-11.6	Peak	Horizontal
	109.1	-63.1	-54.0	-9.1	Peak	Vertical
	4824.6	-51.1	-30.0	-21.1	Peak	Horizontal
	4818.8	-58.1	-30.0	-28.1	Peak	Vertical
	7121.8	-53.0	-30.0	-23.0	Peak	Horizontal
	7092.4	-52.1	-30.0	-22.1	Peak	Vertical
13	66.4	-63.3	-54.0	-9.3	Peak	Horizontal
	69.3	-63.0	-54.0	-9.0	Peak	Vertical
	94.5	-61.4	-54.0	-7.4	Peak	Horizontal
	112.9	-67.8	-54.0	-13.8	Peak	Vertical
	4942.1	-50.9	-30.0	-20.9	Peak	Horizontal
	4948.0	-57.2	-30.0	-27.2	Peak	Vertical
	7092.4	-52.8	-30.0	-22.8	Peak	Horizontal
	7086.5	-52.5	-30.0	-22.5	Peak	Vertical

Test Engineer	Milo Li	Temperature	24°C
Test Data	07-08-2015	Relative Humidity	54%
Test Mode	802.11n-HT40 - Ant 0	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
01	66.4	-65.7	-54.0	-11.7	Peak	Horizontal
	64.9	-61.1	-54.0	-7.1	Peak	Vertical
	101.8	-64.2	-54.0	-10.2	Peak	Horizontal
	111.5	-67.4	-54.0	-13.4	Peak	Vertical
	4842.3	-53.1	-30.0	-23.1	Peak	Horizontal
	4777.6	-58.1	-30.0	-28.1	Peak	Vertical
	7168.8	-52.0	-30.0	-22.0	Peak	Horizontal
	6510.8	-53.2	-30.0	-23.2	Peak	Vertical
13	66.4	-64.5	-54.0	-10.5	Peak	Horizontal
	61.5	-61.6	-54.0	-7.6	Peak	Vertical
	94.5	-62.6	-54.0	-8.6	Peak	Horizontal
	114.4	-65.9	-54.0	-11.9	Peak	Vertical
	4924.5	-53.4	-30.0	-23.4	Peak	Horizontal
	4707.1	-57.9	-30.0	-27.9	Peak	Vertical
	7227.5	-52.4	-30.0	-22.4	Peak	Horizontal
	6528.4	-52.8	-30.0	-22.8	Peak	Vertical

Test Engineer	Milo Li	Temperature	24°C
Test Data	07-08-2015	Relative Humidity	54%
Test Mode	802.11b - Ant 1	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
01	66.4	-65.6	-54.0	-11.6	Peak	Horizontal
	62.5	-62.2	-54.0	-8.2	Peak	Vertical
	98.4	-64.4	-54.0	-10.4	Peak	Horizontal
	106.6	-61.4	-54.0	-7.4	Peak	Vertical
	4824.6	-48.1	-30.0	-18.1	Peak	Horizontal
	4824.6	-53.2	-30.0	-23.2	Peak	Vertical
	7209.9	-53.0	-30.0	-23.0	Peak	Horizontal
	7274.5	-52.9	-30.0	-22.9	Peak	Vertical
13	66.4	-66.0	-54.0	-12.0	Peak	Horizontal
	69.3	-61.0	-54.0	-7.0	Peak	Vertical
	96.0	-63.4	-54.0	-9.4	Peak	Horizontal
	112.9	-62.0	-54.0	-8.0	Peak	Vertical
	4942.1	-54.9	-30.0	-24.9	Peak	Horizontal
	4942.1	-54.9	-30.0	-24.9	Peak	Vertical
	7268.6	-52.6	-30.0	-22.6	Peak	Horizontal
	7080.6	-52.3	-30.0	-22.3	Peak	Vertical

Test Engineer	Milo Li	Temperature	24°C
Test Data	07-08-2015	Relative Humidity	54%
Test Mode	802.11g - Ant 1	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
01	66.4	-66.0	-54.0	-12.0	Peak	Horizontal
	65.4	-60.2	-54.0	-6.2	Peak	Vertical
	94.5	-64.7	-54.0	-10.7	Peak	Horizontal
	109.5	-63.8	-54.0	-9.8	Peak	Vertical
	4824.6	-48.4	-30.0	-18.4	Peak	Horizontal
	4818.8	-54.4	-30.0	-24.4	Peak	Vertical
	8038.3	-52.4	-30.0	-22.4	Peak	Horizontal
	7298.0	-52.5	-30.0	-22.5	Peak	Vertical
13	66.4	-66.0	-54.0	-12.0	Peak	Horizontal
	62.5	-62.0	-54.0	-8.0	Peak	Vertical
	96.4	-65.0	-54.0	-11.0	Peak	Horizontal
	111.5	-66.3	-54.0	-12.3	Peak	Vertical
	4936.3	-57.2	-30.0	-27.2	Peak	Horizontal
	4942.1	-57.2	-30.0	-27.2	Peak	Vertical
	7221.6	-52.6	-30.0	-22.6	Peak	Horizontal
	8055.9	-51.8	-30.0	-21.8	Peak	Vertical

Test Engineer	Milo Li	Temperature	24°C
Test Data	07-08-2015	Relative Humidity	54%
Test Mode	802.11n-HT20 - Ant 1	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
01	66.4	-66.2	-54.0	-12.2	Peak	Horizontal
	61.0	-61.0	-54.0	-7.0	Peak	Vertical
	96.0	-63.0	-54.0	-9.0	Peak	Horizontal
	111.0	-65.3	-54.0	-11.3	Peak	Vertical
	4830.5	-51.7	-30.0	-21.7	Peak	Horizontal
	4818.8	-56.2	-30.0	-26.2	Peak	Vertical
	7439.0	-52.9	-30.0	-22.9	Peak	Horizontal
	7098.3	-52.3	-30.0	-22.3	Peak	Vertical
13	66.4	-66.9	-54.0	-12.9	Peak	Horizontal
	65.4	-61.1	-54.0	-7.1	Peak	Vertical
	98.4	-65.4	-54.0	-11.4	Peak	Horizontal
	113.4	-66.7	-54.0	-12.7	Peak	Vertical
	4948.0	-57.3	-30.0	-27.3	Peak	Horizontal
	4742.4	-57.4	-30.0	-27.4	Peak	Vertical
	7092.4	-52.7	-30.0	-22.7	Peak	Horizontal
	7409.6	-51.5	-30.0	-21.5	Peak	Vertical

Test Engineer	Milo Li	Temperature	24°C
Test Data	07-08-2015	Relative Humidity	54%
Test Mode	802.11n-HT40 - Ant 1	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
03	66.4	-65.4	-54.0	-11.4	Peak	Horizontal
	62.5	-63.1	-54.0	-9.1	Peak	Vertical
	96.4	-63.2	-54.0	-9.2	Peak	Horizontal
	107.1	-61.1	-54.0	-7.1	Peak	Vertical
	4824.6	-54.9	-30.0	-24.9	Peak	Horizontal
	5188.9	-57.9	-30.0	-27.9	Peak	Vertical
	6516.6	-53.3	-30.0	-23.3	Peak	Horizontal
	6534.3	-52.9	-30.0	-22.9	Peak	Vertical
11	66.4	-64.3	-54.0	-10.3	Peak	Horizontal
	62.5	-61.1	-54.0	-7.1	Peak	Vertical
	95.0	-63.4	-54.0	-9.4	Peak	Horizontal
	117.8	-69.3	-54.0	-15.3	Peak	Vertical
	4777.6	-57.7	-30.0	-27.7	Peak	Horizontal
	4560.3	-58.0	-30.0	-28.0	Peak	Vertical
	6551.9	-53.0	-30.0	-23.0	Peak	Horizontal
	6540.1	-53.1	-30.0	-23.1	Peak	Vertical

Test Engineer	Milo Li	Temperature	24°C
Test Data	07-08-2015	Relative Humidity	54%
Test Mode	802.11n-HT20 - Ant 0+1	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
03	66.4	-64.3	-54.0	-10.3	Peak	Horizontal
	62.5	-62.7	-54.0	-8.7	Peak	Vertical
	97.9	-64.4	-54.0	-10.4	Peak	Horizontal
	109.5	-67.1	-54.0	-13.1	Peak	Vertical
	4824.6	-47.9	-30.0	-17.9	Peak	Horizontal
	4824.6	-55.0	-30.0	-25.0	Peak	Vertical
	7215.8	-53.2	-30.0	-23.2	Peak	Horizontal
	7133.5	-53.2	-30.0	-23.2	Peak	Vertical
11	66.4	-63.4	-54.0	-9.4	Peak	Horizontal
	63.0	-60.8	-54.0	-6.8	Peak	Vertical
	96.0	-62.1	-54.0	-8.1	Peak	Horizontal
	117.8	-66.4	-54.0	-12.4	Peak	Vertical
	4948.0	-50.4	-30.0	-20.4	Peak	Horizontal
	4824.6	-57.9	-30.0	-27.9	Peak	Vertical
	7133.5	-53.0	-30.0	-23.0	Peak	Horizontal
	6546.0	-52.2	-30.0	-22.2	Peak	Vertical

Test Engineer	Milo Li	Temperature	24°C
Test Data	07-08-2015	Relative Humidity	54%
Test Mode	802.11n-HT40 - Ant 0 + 1	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
03	66.4	-64.0	-54.0	-10.0	Peak	Horizontal
	62.5	-61.3	-54.0	-7.3	Peak	Vertical
	96.0	-62.5	-54.0	-8.5	Peak	Horizontal
	111.0	-63.1	-54.0	-9.1	Peak	Vertical
	4848.1	-53.2	-30.0	-23.2	Peak	Horizontal
	4730.6	-57.6	-30.0	-27.6	Peak	Vertical
	7157.0	-52.9	-30.0	-22.9	Peak	Horizontal
	6557.8	-52.9	-30.0	-22.9	Peak	Vertical
11	66.4	-65.5	-54.0	-11.5	Peak	Horizontal
	61.5	-62.5	-54.0	-8.5	Peak	Vertical
	94.5	-63.5	-54.0	-9.5	Peak	Horizontal
	112.0	-65.2	-54.0	-11.2	Peak	Vertical
	4918.6	-54.2	-30.0	-24.2	Peak	Horizontal
	4942.1	-57.9	-30.0	-27.9	Peak	Vertical
	8044.1	-52.6	-30.0	-22.6	Peak	Horizontal
	6440.3	-53.1	-30.0	-23.1	Peak	Vertical

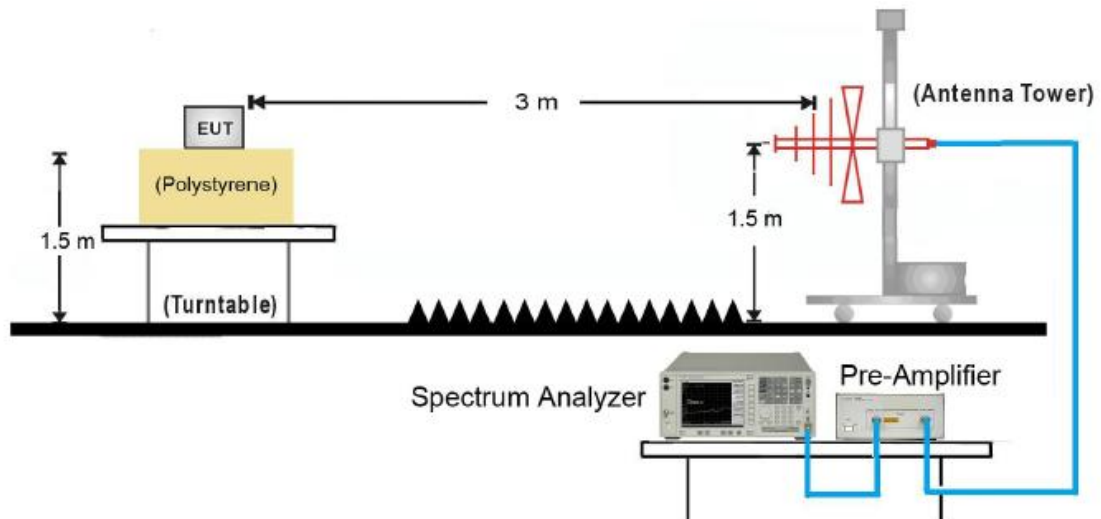
12. Receiver Spurious Emissions

12.1. Limit

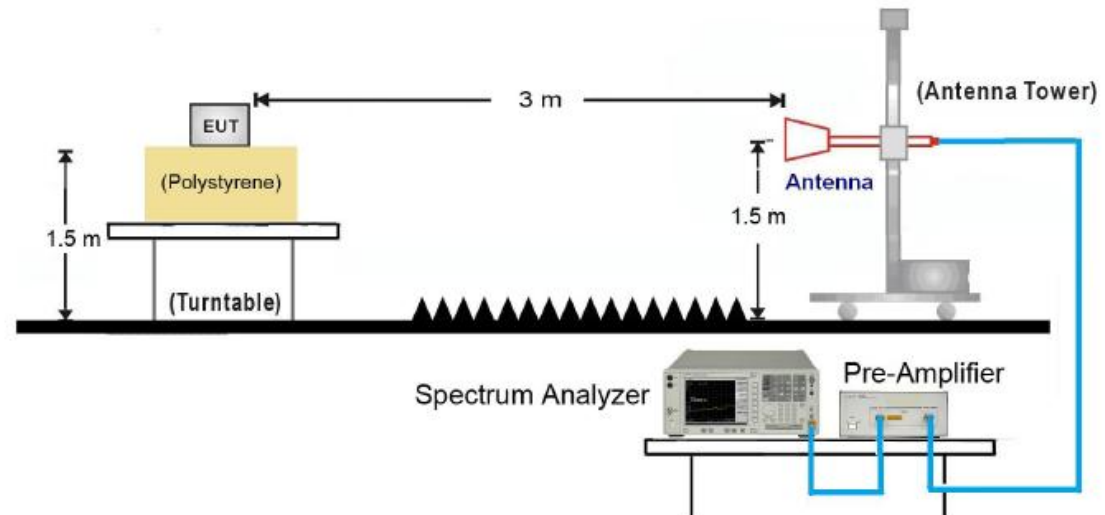
Spurious emissions limits for receivers		
Frequency Range	Maximum power E.R.P	Measurement bandwidth
30 MHz to 1 GHz	-57dBm	100 kHz
1 GHz to 12.75 GHz	-47dBm	1 MHz

12.2. Test Setup

30MHz ~ 1GHz Test Setup:



1GHz ~ 12.5GHz Test Setup:



12.3. Test Procedure

Refer to ETSI EN 300 328 V1.8.1 (2012-06) Clause 5.3.11.2.2.

12.4. Test Result

Test by Dipole Antenna Gain (2dBi)

Test Engineer	Milo Li	Temperature	24°C
Test Data	07-08-2015	Relative Humidity	54%
Test Mode	802.11b - Ant 0	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
01	145.4	-65.6	-57.0	-8.6	Peak	Horizontal
	146.9	-66.9	-57.0	-9.9	Peak	Vertical
	400.1	-66.0	-57.0	-9.0	Peak	Horizontal
	400.1	-65.5	-57.0	-8.5	Peak	Vertical
	1023.5	-55.5	-47.0	-8.5	Peak	Horizontal
	2175.0	-58.4	-47.0	-11.4	Peak	Vertical
	2216.1	-58.1	-47.0	-11.1	Peak	Horizontal
	6528.4	-53.1	-47.0	-6.1	Peak	Vertical
13	145.4	-64.4	-57.0	-7.4	Peak	Horizontal
	268.1	-70.2	-57.0	-13.2	Peak	Vertical
	400.1	-66.7	-57.0	-9.7	Peak	Horizontal
	400.1	-69.2	-57.0	-12.2	Peak	Vertical
	1023.5	-56.4	-47.0	-9.4	Peak	Horizontal
	1023.5	-58.0	-47.0	-11.0	Peak	Vertical
	6452.0	-53.9	-47.0	-6.9	Peak	Horizontal
	6375.6	-53.4	-47.0	-6.4	Peak	Vertical

Test Engineer	Milo Li	Temperature	24°C
Test Data	07-08-2015	Relative Humidity	54%
Test Mode	802.11g - Ant 0	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
01	145.4	-65.5	-57.0	-8.5	Peak	Horizontal
	268.1	-70.7	-57.0	-13.7	Peak	Vertical
	400.1	-66.5	-57.0	-9.5	Peak	Horizontal
	400.1	-66.4	-57.0	-9.4	Peak	Vertical
	1023.5	-55.3	-47.0	-8.3	Peak	Horizontal
	2192.6	-57.8	-47.0	-10.8	Peak	Vertical
	6504.9	-54.0	-47.0	-7.0	Peak	Horizontal
	6440.3	-53.9	-47.0	-6.9	Peak	Vertical
13	145.4	-65.0	-57.0	-8.0	Peak	Horizontal
	155.6	-70.0	-57.0	-13.0	Peak	Vertical
	400.1	-66.4	-57.0	-9.4	Peak	Horizontal
	400.1	-69.1	-57.0	-12.1	Peak	Vertical
	1029.4	-55.4	-47.0	-8.4	Peak	Horizontal
	2398.3	-58.1	-47.0	-11.1	Peak	Vertical
	6440.3	-54.5	-47.0	-7.5	Peak	Horizontal
	6375.6	-54.2	-47.0	-7.2	Peak	Vertical

Test Engineer	Milo Li	Temperature	24°C
Test Data	07-08-2015	Relative Humidity	54%
Test Mode	802.11n-HT20 - Ant 0	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
01	147.9	-65.9	-57.0	-8.9	Peak	Horizontal
	268.1	-68.8	-57.0	-11.8	Peak	Vertical
	400.1	-66.8	-57.0	-9.8	Peak	Horizontal
	400.1	-69.1	-57.0	-12.1	Peak	Vertical
	1029.4	-56.3	-47.0	-9.3	Peak	Horizontal
	2186.8	-57.8	-47.0	-10.8	Peak	Vertical
	6452.0	-54.5	-47.0	-7.5	Peak	Horizontal
	6440.3	-53.1	-47.0	-6.1	Peak	Vertical
13	151.7	-66.0	-57.0	-9.0	Peak	Horizontal
	155.6	-70.3	-57.0	-13.3	Peak	Vertical
	400.1	-66.7	-57.0	-9.7	Peak	Horizontal
	400.1	-69.1	-57.0	-12.1	Peak	Vertical
	1029.4	-55.5	-47.0	-8.5	Peak	Horizontal
	1240.9	-57.7	-47.0	-10.7	Peak	Vertical
	6281.6	-53.7	-47.0	-6.7	Peak	Horizontal
	2180.9	-58.0	-47.0	-11.0	Peak	Vertical

Test Engineer	Milo Li	Temperature	24°C
Test Data	07-08-2015	Relative Humidity	54%
Test Mode	802.11n-HT40 - Ant 0	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
01	148.3	-66.4	-57.0	-9.4	Peak	Horizontal
	145.4	-65.3	-57.0	-8.3	Peak	Vertical
	400.1	-66.3	-57.0	-9.3	Peak	Horizontal
	400.1	-66.0	-57.0	-9.0	Peak	Vertical
	1017.6	-55.3	-47.0	-8.3	Peak	Horizontal
	2186.8	-57.3	-47.0	-10.3	Peak	Vertical
	2286.6	-58.1	-47.0	-11.1	Peak	Horizontal
	6269.9	-53.9	-47.0	-6.9	Peak	Vertical
13	148.3	-72.0	-57.0	-15.0	Peak	Horizontal
	400.1	-63.8	-57.0	-6.8	Peak	Vertical
	400.1	-68.1	-57.0	-11.1	Peak	Horizontal
	800.2	-67.6	-57.0	-10.6	Peak	Vertical
	1017.6	-56.3	-47.0	-9.3	Peak	Horizontal
	2186.8	-58.2	-47.0	-11.2	Peak	Vertical
	3203.1	-58.3	-47.0	-11.3	Peak	Horizontal
	6410.9	-53.7	-47.0	-6.7	Peak	Vertical

Test Engineer	Milo Li	Temperature	24°C
Test Data	07-08-2015	Relative Humidity	54%
Test Mode	802.11b - Ant 1	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
01	151.7	-71.7	-57.0	-14.7	Peak	Horizontal
	148.3	-64.9	-57.0	-7.9	Peak	Vertical
	400.1	-66.5	-57.0	-9.5	Peak	Horizontal
	400.1	-64.3	-57.0	-7.3	Peak	Vertical
	1023.5	-54.7	-47.0	-7.7	Peak	Horizontal
	2151.5	-58.2	-47.0	-11.2	Peak	Vertical
	6522.5	-53.9	-47.0	-6.9	Peak	Horizontal
	7063.0	-52.5	-47.0	-5.5	RMS	Vertical
13	94.0	-69.1	-57.0	-12.1	Peak	Horizontal
	154.6	-70.1	-57.0	-13.1	Peak	Vertical
	400.1	-66.1	-57.0	-9.1	Peak	Horizontal
	400.1	-65.6	-57.0	-8.6	Peak	Vertical
	1023.5	-57.2	-47.0	-10.2	Peak	Horizontal
	2216.1	-56.4	-47.0	-9.4	Peak	Vertical
	2286.6	-58.0	-47.0	-11.0	Peak	Horizontal
	6522.5	-53.1	-47.0	-6.1	Peak	Vertical

Test Engineer	Milo Li	Temperature	24°C
Test Data	07-08-2015	Relative Humidity	54%
Test Mode	802.11g - Ant 1	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
01	95.5	-69.9	-57.0	-12.9	Peak	Horizontal
	400.1	-69.1	-57.0	-12.1	Peak	Vertical
	400.1	-65.6	-57.0	-8.6	Peak	Horizontal
	800.2	-69.3	-57.0	-12.3	Peak	Vertical
	2063.4	-57.8	-47.0	-10.8	Peak	Horizontal
	1017.6	-57.2	-47.0	-10.2	Peak	Vertical
	6522.5	-53.1	-47.0	-6.1	Peak	Horizontal
	2222.0	-57.8	-47.0	-10.8	Peak	Vertical
13	151.7	-71.7	-57.0	-14.7	Peak	Horizontal
	151.7	-70.2	-57.0	-13.2	Peak	Vertical
	400.1	-66.8	-57.0	-9.8	Peak	Horizontal
	400.1	-65.5	-57.0	-8.5	Peak	Vertical
	1023.5	-56.1	-47.0	-9.1	Peak	Horizontal
	2216.1	-58.4	-47.0	-11.4	Peak	Vertical
	2222.0	-58.0	-47.0	-11.0	Peak	Horizontal
	6457.9	-53.5	-47.0	-6.5	Peak	Vertical

Test Engineer	Milo Li	Temperature	24°C
Test Data	07-08-2015	Relative Humidity	54%
Test Mode	802.11n-HT20 - Ant 1	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
01	94.5	-69.7	-57.0	-12.7	Peak	Horizontal
	159.5	-73.3	-57.0	-16.3	Peak	Vertical
	400.1	-65.8	-57.0	-8.8	Peak	Horizontal
	400.1	-69.0	-57.0	-12.0	Peak	Vertical
	1029.4	-56.5	-47.0	-9.5	Peak	Horizontal
	2157.4	-57.6	-47.0	-10.6	Peak	Vertical
	6170.0	-54.4	-47.0	-7.4	Peak	Horizontal
	6205.3	-53.4	-47.0	-6.4	Peak	Vertical
13	159.5	-74.3	-57.0	-17.3	Peak	Horizontal
	144.0	-68.1	-57.0	-11.1	Peak	Vertical
	400.1	-70.0	-57.0	-13.0	Peak	Horizontal
	400.1	-65.4	-57.0	-8.4	Peak	Vertical
	1029.4	-56.7	-47.0	-9.7	Peak	Horizontal
	2186.8	-59.1	-47.0	-12.1	Peak	Vertical
	2198.5	-58.2	-47.0	-11.2	Peak	Horizontal
	6551.9	-53.8	-47.0	-6.8	Peak	Vertical

Test Engineer	Milo Li	Temperature	24°C
Test Data	07-08-2015	Relative Humidity	54%
Test Mode	802.11n-HT40 - Ant 1	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
03	95.5	-69.4	-57.0	-12.4	Peak	Horizontal
	144.0	-68.5	-57.0	-11.5	Peak	Vertical
	400.1	-65.8	-57.0	-8.8	Peak	Horizontal
	400.1	-68.0	-57.0	-11.0	Peak	Vertical
	1023.5	-56.6	-47.0	-9.6	Peak	Horizontal
	2198.5	-58.2	-47.0	-11.2	Peak	Vertical
	6516.6	-54.4	-47.0	-7.4	Peak	Horizontal
	6452.0	-53.4	-47.0	-6.4	Peak	Vertical
11	151.7	-70.9	-57.0	-13.9	Peak	Horizontal
	400.1	-66.3	-57.0	-9.3	Peak	Vertical
	400.1	-66.3	-57.0	-9.3	Peak	Horizontal
	800.2	-69.1	-57.0	-12.1	Peak	Vertical
	1029.4	-56.8	-47.0	-9.8	Peak	Horizontal
	1017.6	-56.9	-47.0	-9.9	Peak	Vertical
	6504.9	-53.3	-47.0	-6.3	Peak	Horizontal
	6393.3	-53.2	-47.0	-6.2	Peak	Vertical

Test Engineer	Milo Li	Temperature	24°C
Test Data	07-08-2015	Relative Humidity	54%
Test Mode	802.11n-HT20 - Ant 0+1	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
03	400.1	-65.9	-57.0	-8.9	Peak	Horizontal
	159.5	-69.5	-57.0	-12.5	Peak	Vertical
	800.2	-67.8	-57.0	-10.8	Peak	Horizontal
	400.1	-65.4	-57.0	-8.4	Peak	Vertical
	2245.5	-58.4	-47.0	-11.4	Peak	Horizontal
	2292.5	-58.0	-47.0	-11.0	Peak	Vertical
	7133.5	-52.7	-47.0	-5.7	RMS	Horizontal
	6457.9	-53.5	-47.0	-6.5	Peak	Vertical
11	151.7	-70.9	-57.0	-13.9	Peak	Horizontal
	400.1	-69.1	-57.0	-12.1	Peak	Vertical
	400.1	-66.4	-57.0	-9.4	Peak	Horizontal
	800.2	-68.9	-57.0	-11.9	Peak	Vertical
	1029.4	-56.8	-47.0	-9.8	Peak	Horizontal
	1229.1	-57.6	-47.0	-10.6	Peak	Vertical
	2233.8	-57.7	-47.0	-10.7	Peak	Horizontal
	2198.5	-57.5	-47.0	-10.5	Peak	Vertical

Test Engineer	Milo Li	Temperature	24°C
Test Data	07-08-2015	Relative Humidity	54%
Test Mode	802.11n-HT40 - Ant 0 + 1	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
03	400.1	-66.2	-57.0	-9.2	Peak	Horizontal
	151.7	-70.7	-57.0	-13.7	Peak	Vertical
	800.2	-67.5	-57.0	-10.5	Peak	Horizontal
	400.1	-67.9	-57.0	-10.9	Peak	Vertical
	1023.5	-55.8	-47.0	-8.8	Peak	Horizontal
	2192.6	-57.6	-47.0	-10.6	Peak	Vertical
	2175.0	-58.4	-47.0	-11.4	Peak	Horizontal
	6493.1	-53.3	-47.0	-6.3	Peak	Vertical
11	95.5	-69.8	-57.0	-12.8	Peak	Horizontal
	151.7	-71.6	-57.0	-14.6	Peak	Vertical
	400.1	-67.0	-57.0	-10.0	Peak	Horizontal
	400.1	-66.7	-57.0	-9.7	Peak	Vertical
	1029.4	-55.9	-47.0	-8.9	Peak	Horizontal
	2210.3	-58.3	-47.0	-11.3	Peak	Vertical
	6499.0	-53.9	-47.0	-6.9	Peak	Horizontal
	6358.0	-53.4	-47.0	-6.4	Peak	Vertical

Test by Panel Antenna Gain (11dBi)

Test Engineer	Milo Li	Temperature	24°C
Test Data	07-08-2015	Relative Humidity	54%
Test Mode	802.11b - Ant 0	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
01	98.4	-64.6	-57.0	-7.6	Peak	Horizontal
	146.9	-66.4	-57.0	-9.4	Peak	Vertical
	147.9	-65.6	-57.0	-8.6	Peak	Horizontal
	268.1	-69.9	-57.0	-12.9	Peak	Vertical
	4707.1	-57.5	-47.0	-10.5	Peak	Horizontal
	3749.5	-58.5	-47.0	-11.5	Peak	Vertical
	6493.1	-53.2	-47.0	-6.2	Peak	Horizontal
	4742.4	-57.6	-47.0	-10.6	Peak	Vertical
13	87.2	-67.6	-57.0	-10.6	Peak	Horizontal
	148.3	-67.6	-57.0	-10.6	Peak	Vertical
	145.4	-65.9	-57.0	-8.9	Peak	Horizontal
	400.1	-66.1	-57.0	-9.1	Peak	Vertical
	4160.8	-59.3	-47.0	-12.3	Peak	Horizontal
	2227.9	-58.0	-47.0	-11.0	Peak	Vertical
	7162.9	-53.3	-47.0	-6.3	Peak	Horizontal
	4771.8	-58.5	-47.0	-11.5	Peak	Vertical

Test Engineer	Milo Li	Temperature	24°C
Test Data	07-08-2015	Relative Humidity	54%
Test Mode	802.11g - Ant 0	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
01	151.7	-67.1	-57.0	-10.1	Peak	Horizontal
	268.1	-70.4	-57.0	-13.4	Peak	Vertical
	400.1	-66.6	-57.0	-9.6	Peak	Horizontal
	400.1	-69.3	-57.0	-12.3	Peak	Vertical
	1017.6	-56.1	-47.0	-9.1	Peak	Horizontal
	2357.1	-58.3	-47.0	-11.3	Peak	Vertical
	6916.1	-52.5	-47.0	-5.5	RMS	Horizontal
	6634.1	-53.4	-47.0	-6.4	Peak	Vertical
13	145.4	-66.2	-57.0	-9.2	Peak	Horizontal
	268.1	-70.6	-57.0	-13.6	Peak	Vertical
	400.1	-66.8	-57.0	-9.8	Peak	Horizontal
	400.1	-68.8	-57.0	-11.8	Peak	Vertical
	1023.5	-56.3	-47.0	-9.3	Peak	Horizontal
	2204.4	-57.5	-47.0	-10.5	Peak	Vertical
	2298.4	-58.0	-47.0	-11.0	Peak	Horizontal
	6428.5	-53.2	-47.0	-6.2	Peak	Vertical

Test Engineer	Milo Li	Temperature	24°C
Test Data	07-08-2015	Relative Humidity	54%
Test Mode	802.11n-HT20 - Ant 0	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
01	145.4	-64.8	-57.0	-7.8	Peak	Horizontal
	146.9	-65.7	-57.0	-8.7	Peak	Vertical
	400.1	-66.1	-57.0	-9.1	Peak	Horizontal
	400.1	-65.8	-57.0	-8.8	Peak	Vertical
	1017.6	-56.2	-47.0	-9.2	Peak	Horizontal
	1229.1	-57.8	-47.0	-10.8	Peak	Vertical
	7068.9	-52.7	-47.0	-5.7	RMS	Horizontal
	2216.1	-57.2	-47.0	-10.2	Peak	Vertical
13	151.7	-66.0	-57.0	-9.0	Peak	Horizontal
	268.1	-70.4	-57.0	-13.4	Peak	Vertical
	400.1	-66.3	-57.0	-9.3	Peak	Horizontal
	400.1	-69.4	-57.0	-12.4	Peak	Vertical
	1023.5	-55.9	-47.0	-8.9	Peak	Horizontal
	2216.1	-57.6	-47.0	-10.6	Peak	Vertical
	6493.1	-53.1	-47.0	-6.1	Peak	Horizontal
	6375.6	-53.2	-47.0	-6.2	Peak	Vertical

Test Engineer	Milo Li	Temperature	24°C
Test Data	07-08-2015	Relative Humidity	54%
Test Mode	802.11n-HT40 - Ant 0	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
01	145.4	-65.8	-57.0	-8.8	Peak	Horizontal
	151.7	-67.0	-57.0	-10.0	Peak	Vertical
	400.1	-66.1	-57.0	-9.1	Peak	Horizontal
	400.1	-65.6	-57.0	-8.6	Peak	Vertical
	1023.5	-55.8	-47.0	-8.8	Peak	Horizontal
	2186.8	-58.0	-47.0	-11.0	Peak	Vertical
	4666.0	-58.0	-47.0	-11.0	Peak	Horizontal
	6405.0	-52.7	-47.0	-5.7	RMS	Vertical
13	148.3	-64.6	-57.0	-7.6	Peak	Horizontal
	268.1	-71.3	-57.0	-14.3	Peak	Vertical
	400.1	-66.0	-57.0	-9.0	Peak	Horizontal
	400.1	-68.8	-57.0	-11.8	Peak	Vertical
	1023.5	-55.3	-47.0	-8.3	Peak	Horizontal
	4666.0	-57.6	-47.0	-10.6	Peak	Vertical
	3820.0	-57.9	-47.0	-10.9	Peak	Horizontal
	6522.5	-53.0	-47.0	-6.0	RMS	Vertical

Test Engineer	Milo Li	Temperature	24°C
Test Data	07-08-2015	Relative Humidity	54%
Test Mode	802.11b – Ant 1	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
01	145.4	-66.5	-57.0	-9.5	Peak	Horizontal
	268.1	-71.3	-57.0	-14.3	Peak	Vertical
	400.1	-66.7	-57.0	-9.7	Peak	Horizontal
	400.1	-69.0	-57.0	-12.0	Peak	Vertical
	1023.5	-55.8	-47.0	-8.8	Peak	Horizontal
	2204.4	-58.3	-47.0	-11.3	Peak	Vertical
	6340.4	-54.2	-47.0	-7.2	Peak	Horizontal
	7145.3	-52.7	-47.0	-5.7	RMS	Vertical
13	145.4	-65.8	-57.0	-8.8	Peak	Horizontal
	148.3	-66.3	-57.0	-9.3	Peak	Vertical
	400.1	-65.5	-57.0	-8.5	Peak	Horizontal
	400.1	-65.4	-57.0	-8.4	Peak	Vertical
	1023.5	-55.5	-47.0	-8.5	Peak	Horizontal
	2292.5	-58.5	-47.0	-11.5	Peak	Vertical
	2233.8	-56.8	-47.0	-9.8	Peak	Horizontal
	6205.3	-53.9	-47.0	-6.9	Peak	Vertical

Test Engineer	Milo Li	Temperature	24°C
Test Data	07-08-2015	Relative Humidity	54%
Test Mode	802.11g - Ant 1	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
01	147.9	-65.2	-57.0	-8.2	Peak	Horizontal
	145.4	-65.2	-57.0	-8.2	Peak	Vertical
	400.1	-66.1	-57.0	-9.1	Peak	Horizontal
	400.1	-65.3	-57.0	-8.3	Peak	Vertical
	1017.6	-55.1	-47.0	-8.1	Peak	Horizontal
	2216.1	-56.9	-47.0	-9.9	Peak	Vertical
	6540.1	-54.5	-47.0	-7.5	Peak	Horizontal
	6528.4	-53.5	-47.0	-6.5	Peak	Vertical
13	155.6	-67.6	-57.0	-10.6	Peak	Horizontal
	268.1	-70.3	-57.0	-13.3	Peak	Vertical
	400.1	-65.7	-57.0	-8.7	Peak	Horizontal
	400.1	-68.2	-57.0	-11.2	Peak	Vertical
	1023.5	-56.1	-47.0	-9.1	Peak	Horizontal
	2222.0	-57.5	-47.0	-10.5	Peak	Vertical
	7092.4	-53.5	-47.0	-6.5	Peak	Horizontal
	6534.3	-53.6	-47.0	-6.6	Peak	Vertical

Test Engineer	Milo Li	Temperature	24°C
Test Data	07-08-2015	Relative Humidity	54%
Test Mode	802.11n-HT20 - Ant 1	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
01	148.3	-65.7	-57.0	-8.7	Peak	Horizontal
	268.1	-70.9	-57.0	-13.9	Peak	Vertical
	400.1	-66.4	-57.0	-9.4	Peak	Horizontal
	400.1	-69.0	-57.0	-12.0	Peak	Vertical
	1023.5	-54.9	-47.0	-7.9	Peak	Horizontal
	1023.5	-57.4	-47.0	-10.4	Peak	Vertical
	6428.5	-53.6	-47.0	-6.6	Peak	Horizontal
	3167.9	-57.9	-47.0	-10.9	Peak	Vertical
13	155.6	-65.6	-57.0	-8.6	Peak	Horizontal
	146.9	-66.2	-57.0	-9.2	Peak	Vertical
	400.1	-66.0	-57.0	-9.0	Peak	Horizontal
	400.1	-65.3	-57.0	-8.3	Peak	Vertical
	1023.5	-56.5	-47.0	-9.5	Peak	Horizontal
	2844.8	-58.1	-47.0	-11.1	Peak	Vertical
	3115.0	-58.2	-47.0	-11.2	Peak	Horizontal
	7303.9	-52.7	-47.0	-5.7	RMS	Vertical

Test Engineer	Milo Li	Temperature	24°C
Test Data	07-08-2015	Relative Humidity	54%
Test Mode	802.11n-HT40 - Ant 1	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
03	148.3	-65.9	-57.0	-8.9	Peak	Horizontal
	146.9	-67.0	-57.0	-10.0	Peak	Vertical
	400.1	-66.5	-57.0	-9.5	Peak	Horizontal
	400.1	-64.0	-57.0	-7.0	Peak	Vertical
	1023.5	-55.0	-47.0	-8.0	Peak	Horizontal
	2192.6	-57.5	-47.0	-10.5	Peak	Vertical
	6510.8	-53.1	-47.0	-6.1	Peak	Horizontal
	6375.6	-53.5	-47.0	-6.5	Peak	Vertical
11	148.3	-65.4	-57.0	-8.4	Peak	Horizontal
	268.1	-71.3	-57.0	-14.3	Peak	Vertical
	400.1	-66.4	-57.0	-9.4	Peak	Horizontal
	400.1	-68.6	-57.0	-11.6	Peak	Vertical
	1023.5	-55.6	-47.0	-8.6	Peak	Horizontal
	2192.6	-57.9	-47.0	-10.9	Peak	Vertical
	2245.5	-58.0	-47.0	-11.0	Peak	Horizontal
	7133.5	-52.6	-47.0	-5.6	RMS	Vertical

Test Engineer	Milo Li	Temperature	24°C
Test Data	07-08-2015	Relative Humidity	54%
Test Mode	802.11n-HT20 - Ant 0+1	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
03	148.3	-65.3	-57.0	-8.3	Peak	Horizontal
	266.2	-70.6	-57.0	-13.6	Peak	Vertical
	400.1	-67.0	-57.0	-10.0	Peak	Horizontal
	400.1	-69.2	-57.0	-12.2	Peak	Vertical
	1017.6	-55.9	-47.0	-8.9	Peak	Horizontal
	1370.1	-58.3	-47.0	-11.3	Peak	Vertical
	2010.5	-57.6	-47.0	-10.6	Peak	Horizontal
	2192.6	-58.2	-47.0	-11.2	Peak	Vertical
11	145.4	-67.1	-57.0	-10.1	Peak	Horizontal
	268.1	-70.2	-57.0	-13.2	Peak	Vertical
	400.1	-68.2	-57.0	-11.2	Peak	Horizontal
	400.1	-65.7	-57.0	-8.7	Peak	Vertical
	1017.6	-58.0	-47.0	-11.0	Peak	Horizontal
	2198.5	-58.3	-47.0	-11.3	Peak	Vertical
	2216.1	-57.8	-47.0	-10.8	Peak	Horizontal
	6352.1	-53.2	-47.0	-6.2	Peak	Vertical

Test Engineer	Milo Li	Temperature	24°C
Test Data	07-08-2015	Relative Humidity	54%
Test Mode	802.11n-HT40 - Ant 0 + 1	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
03	155.6	-65.9	-57.0	-8.9	Peak	Horizontal
	268.1	-69.4	-57.0	-12.4	Peak	Vertical
	400.1	-66.1	-57.0	-9.1	Peak	Horizontal
	400.1	-65.6	-57.0	-8.6	Peak	Vertical
	1023.5	-55.6	-47.0	-8.6	Peak	Horizontal
	1017.6	-56.7	-47.0	-9.7	Peak	Vertical
	6434.4	-54.3	-47.0	-7.3	Peak	Horizontal
	6428.5	-53.6	-47.0	-6.6	Peak	Vertical
11	148.3	-66.1	-57.0	-9.1	Peak	Horizontal
	268.1	-70.6	-57.0	-13.6	Peak	Vertical
	400.1	-66.6	-57.0	-9.6	Peak	Horizontal
	400.1	-68.9	-57.0	-11.9	Peak	Vertical
	1017.6	-56.4	-47.0	-9.4	Peak	Horizontal
	1017.6	-57.3	-47.0	-10.3	Peak	Vertical
	2233.8	-57.6	-47.0	-10.6	Peak	Horizontal
	2210.3	-57.9	-47.0	-10.9	Peak	Vertical

13. Measurement Uncertainty

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

Parameter	Uncertainty
Occupied Channel Bandwidth	$\pm 5 \%$
RF output power, conducted	$\pm 1,5 \text{ dB}$
Power Spectral Density, conducted	$\pm 3 \text{ dB}$
Unwanted Emissions, conducted	$\pm 3 \text{ dB}$
All emissions, radiated	$\pm 6 \text{ dB}$
Temperature	$\pm 1 \text{ }^{\circ}\text{C}$
Humidity	$\pm 5 \%$
DC and low frequency voltages	$\pm 3 \%$
Time	$\pm 5 \%$
Duty Cycle	$\pm 5 \%$

14. Test Photograph

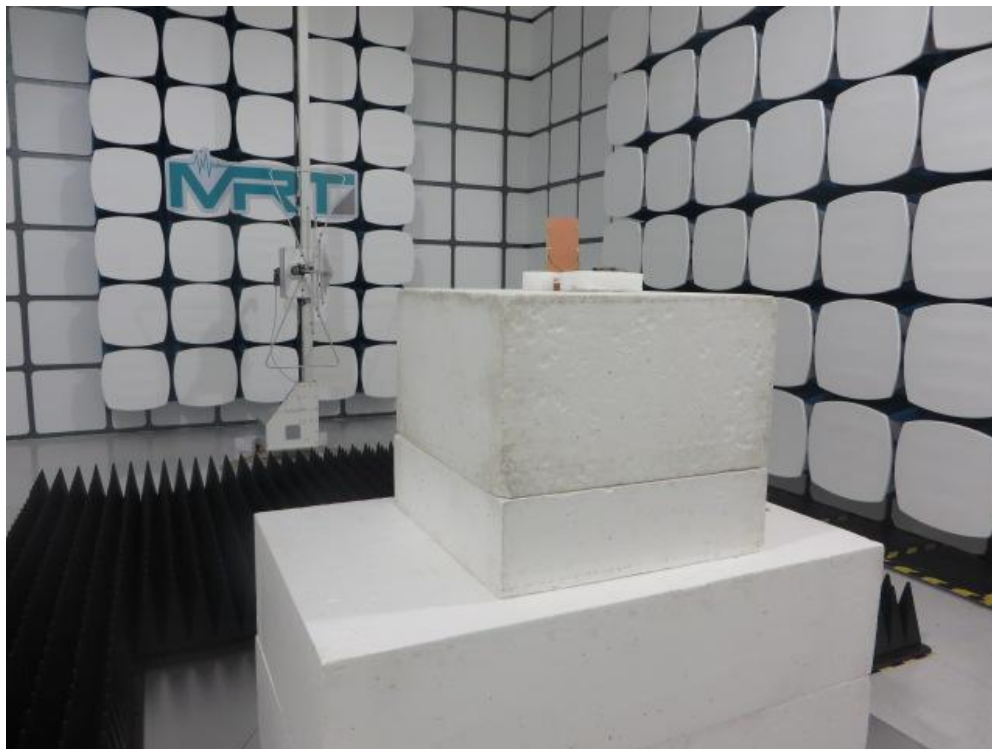
Description: Radiated Spurious Emissions Test Setup for Below 1GHz
(Dipole Antenna 1#)



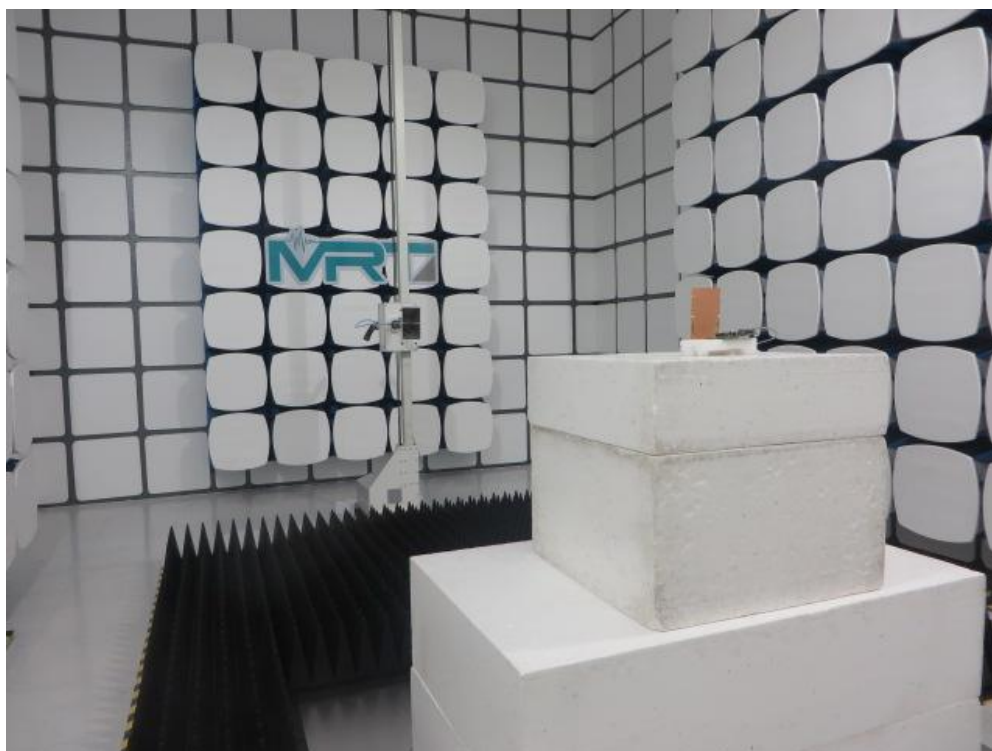
Description: Radiated Spurious Emissions Test Setup for Above 1GHz
(Dipole Antenna 1#)



Description: Radiated Spurious Emissions Test Setup for Below 1GHz
(Panel Antenna 1#)



Description: Radiated Spurious Emissions Test Setup for Above 1GHz
(Panel Antenna 1#)



15. List of Measuring Instrument

Equivalent Isotropic Radiated Power

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Power Meter	Agilent	U2021XA	MRTSUE06030	1 year	2015/12/09
Programmable Temperature & Humidity Chamber	BAOYT	BYH-1500L	MRTSUE06051	1 year	2015/12/10
Temperature/Humidity Meter	Ouleinuo	/	MRTSUE06112	1 year	2015/11/20

Power Spectral Density

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Spectrum Analyzer	Agilent	N9020A	MRTSUE06106	1 year	2016/05/08
Temperature/Humidity Meter	Ouleinuo	/	MRTSUE06112	1 year	2015/11/20

Duty Cycle, Tx-sequence, Tx-gap

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Spectrum Analyzer	Agilent	N9020A	MRTSUE06106	1 year	2016/05/08
Temperature/Humidity Meter	Ouleinuo	/	MRTSUE06112	1 year	2015/11/20

Medium Utilisation (MU) factor

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Spectrum Analyzer	Agilent	N9020A	MRTSUE06106	1 year	2016/05/08
Power Meter	Agilent	U2021XA	MRTSUE06030	1 year	2015/12/09
Temperature/Humidity Meter	Ouleinuo	/	MRTSUE06112	1 year	2015/11/20

Adaptivity and Blocking

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Spectrum Analyzer	Agilent	N9020A	MRTSUE06106	1 year	2016/05/08
Vector Signal Generator	Agilent	E4438C	MRTSUE06026	1 year	2015/12/09
Vector Signal Generator	Agilent	E4438C	MRTSUE06081	1 year	2015/12/09
Directional Coupler	Narda	4216-20	MRTSUE06065	1 year	2016/03/29
Power Splitter	Mini-Circuits	ZFRSC-123-S+	MRTSUE06122	N/A	N/A
Temperature/Humidity Meter	Ouleinuo	/	MRTSUE06112	1 year	2015/11/20

Occupied Channel Bandwidth

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Spectrum Analyzer	Agilent	N9020A	MRTSUE06106	1 year	2016/05/08
Temperature/Humidity Meter	Ouleinuo	/	MRTSUE06112	1 year	2015/11/20

Transmitter unwanted emissions in the out-of-band domain

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Spectrum Analyzer	Agilent	N9020A	MRTSUE06106	1 year	2016/05/08
Programmable Temperature & Humidity Chamber	BAOYT	BYH-1500L	MRTSUE06051	1 year	2015/12/10
Temperature/Humidity Meter	Ouleinuo	/	MRTSUE06112	1 year	2015/11/20

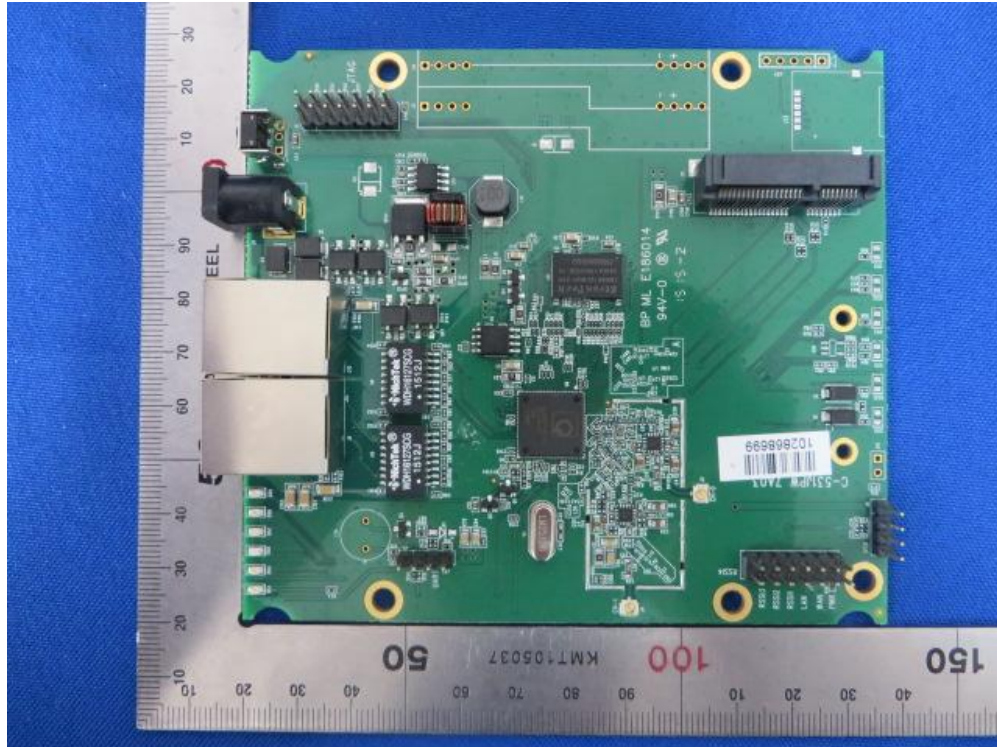
Transmitter Spurious Emissions and Receiver Spurious Emissions

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cal. Due Date
Spectrum Analyzer	Agilent	N9020A	MRTSUE06106	1 year	2016/05/08
Preamplifier	MRT	AP25M01	MRTSUE06018	1 year	2016/03/29
Microwave System Amplifier	Agilent	83017A	MRTSUE06076	1 year	2016/03/29
Bilog Period Antenna	Schwarzbeck	VULB 9162	MRTSUE06022	1 year	2015/11/08
Horn Antenna	Schwarzbeck	BBHA9120D	MRTSUE06023	1 year	2015/11/08
Temperature/Humidity Meter	Ouleinuo	/	MRTSUE06115	1 year	2015/11/20

Software	Version	Function
e3	V8.3.5	EMI Test Software

16. Appendix - EUT Photograph

(1) EUT Photo



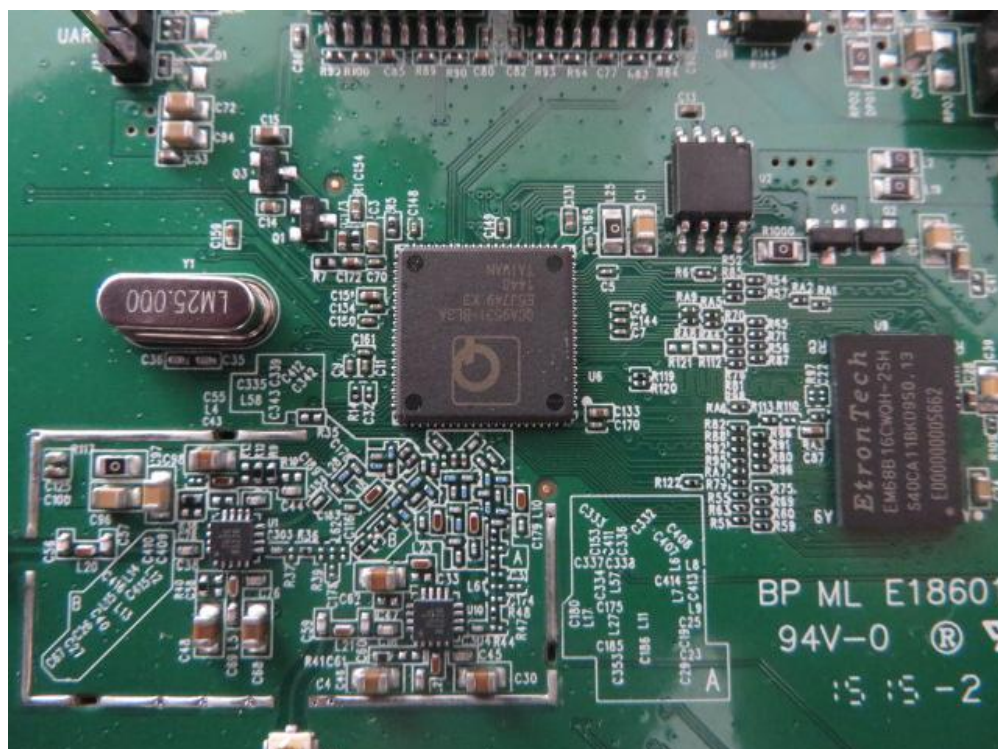
(2) EUT Photo



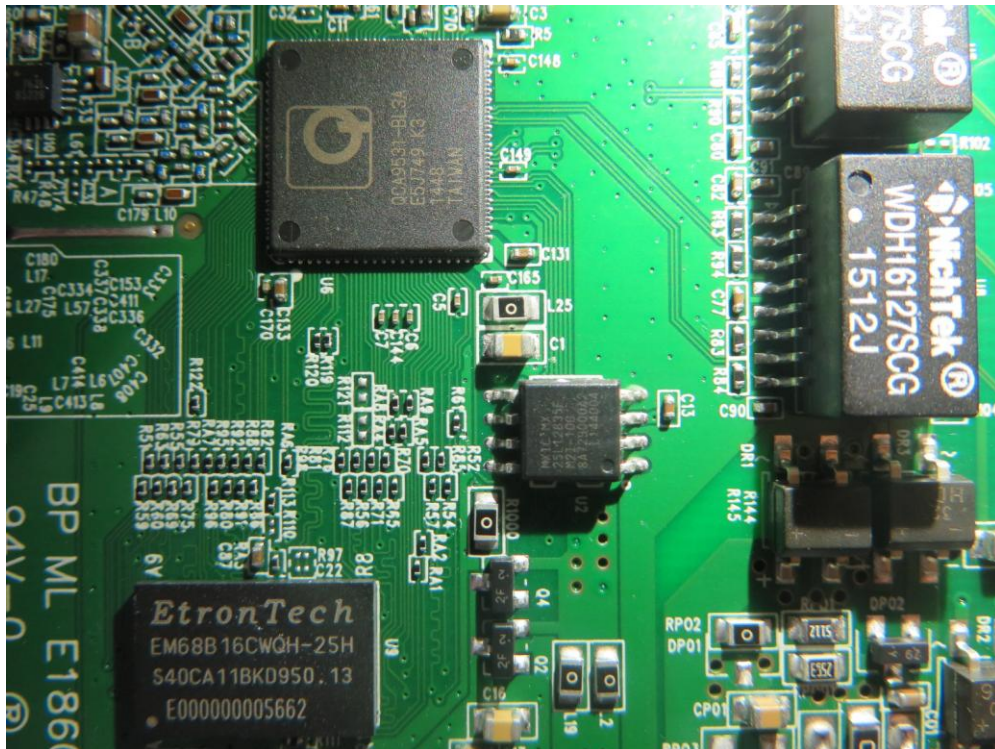
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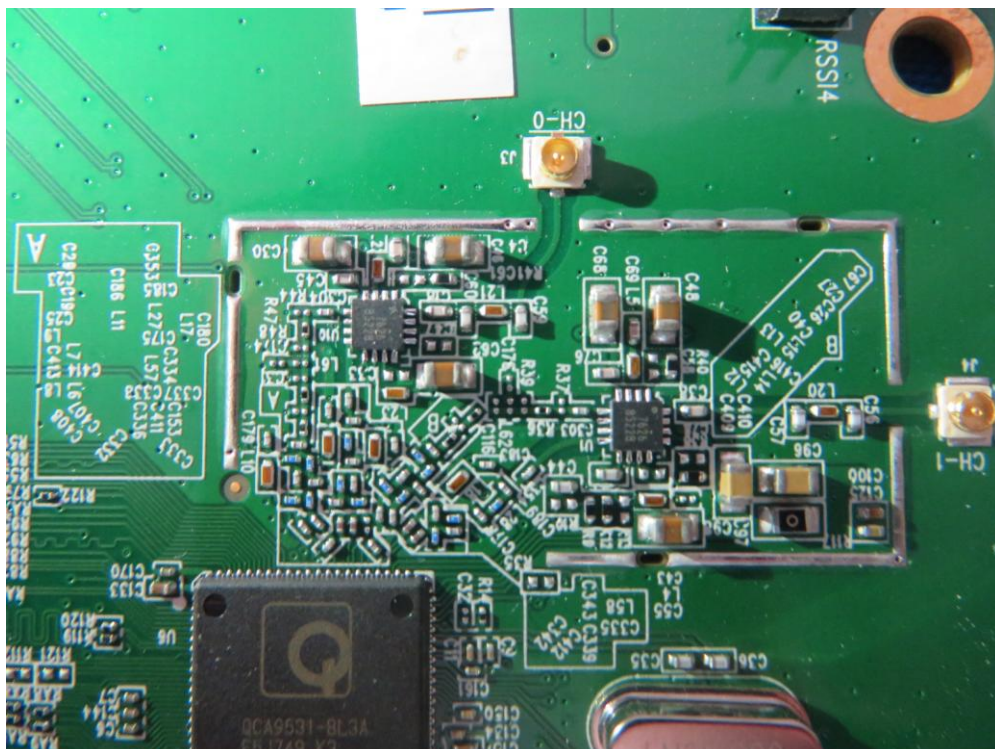
(4) EUT Photo



(5) EUT Photo



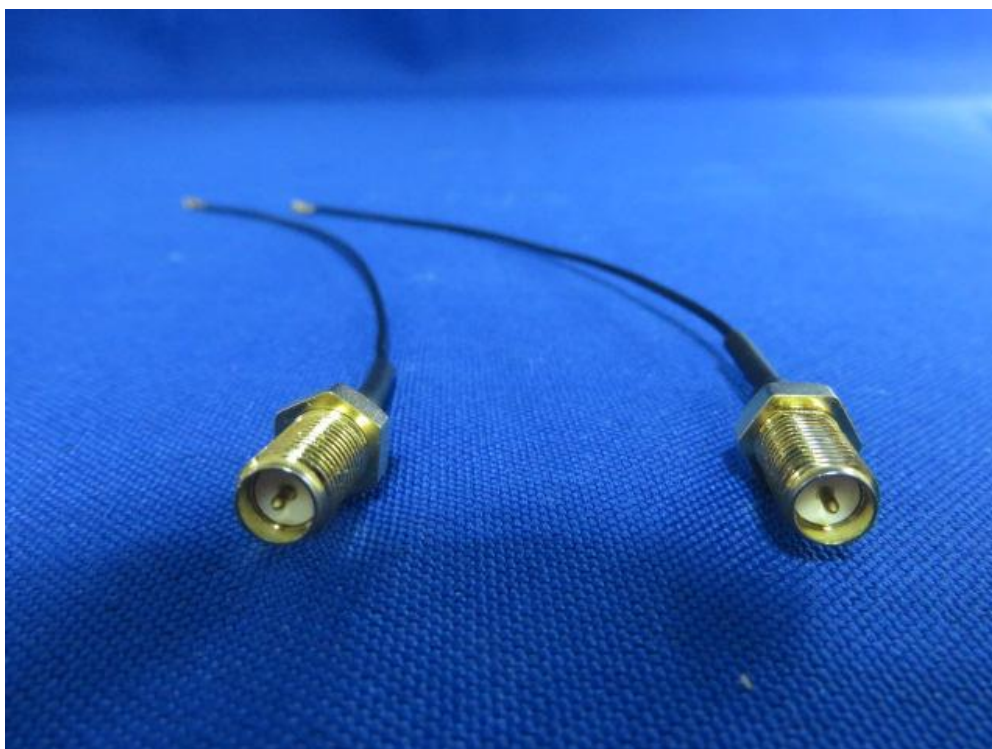
(6) EUT Photo



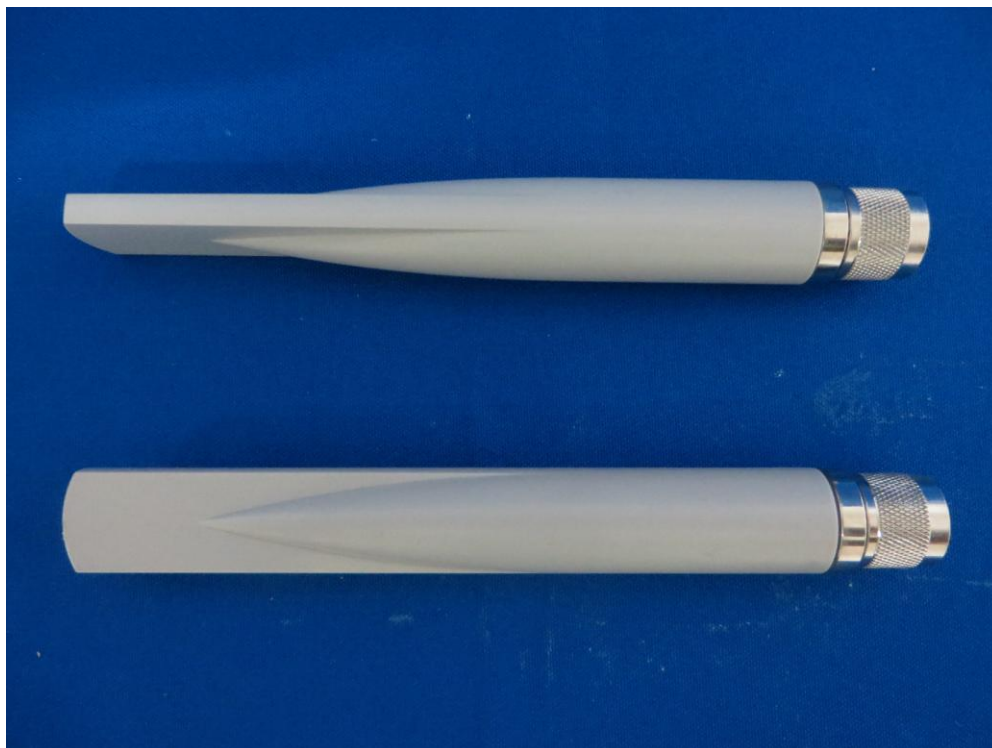
(7) EUT Photo (Dipole Antenna 1#)



(8) EUT Photo (Dipole Antenna 1#)



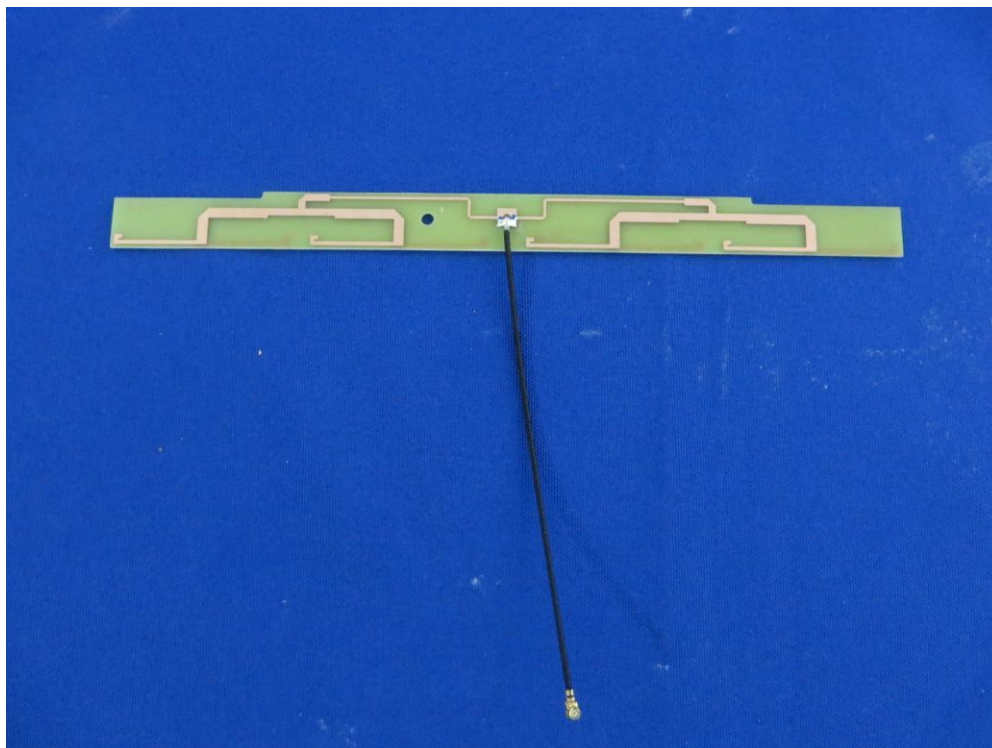
(9) EUT Photo (Panel Antenna 4#)



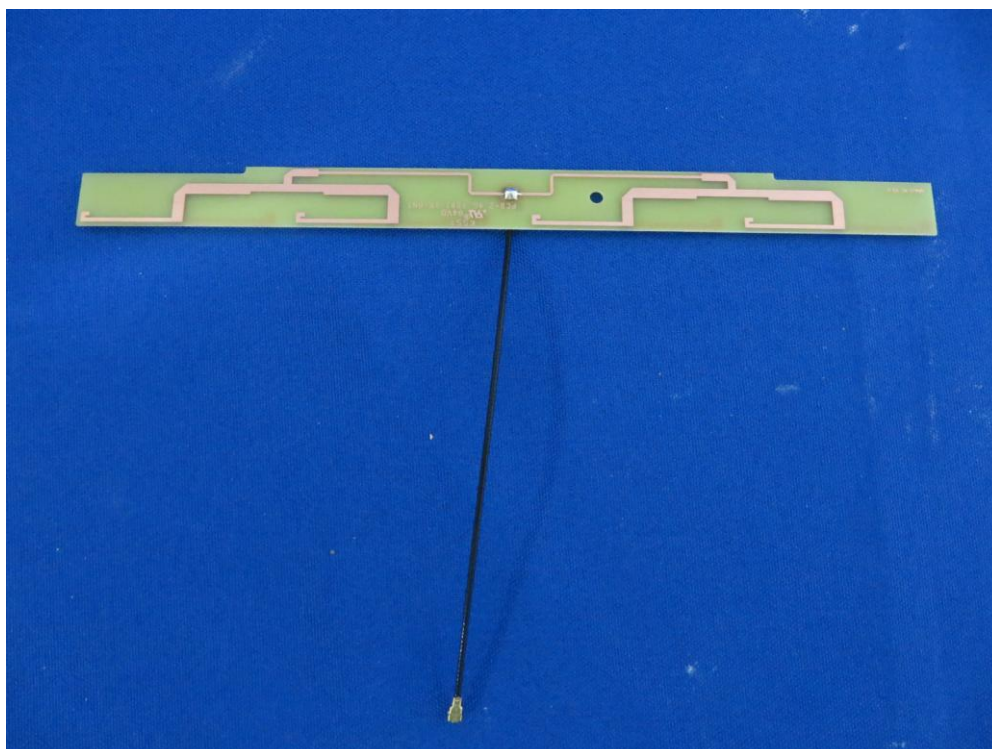
(10) EUT Photo (Panel Antenna 2#)



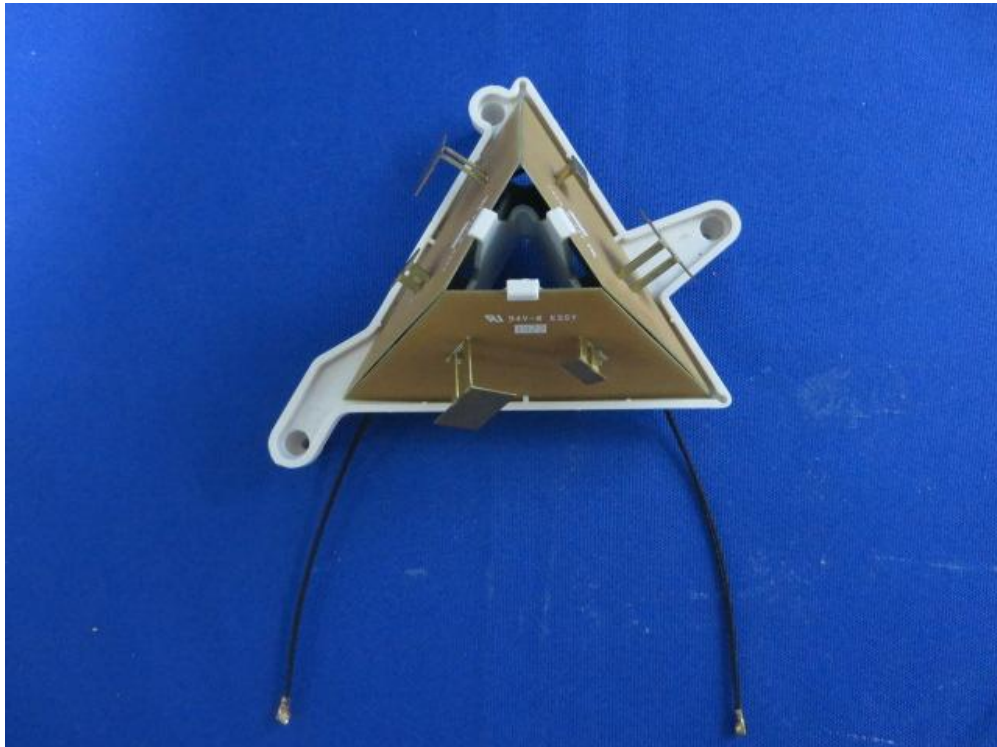
(11) EUT Photo (Panel Antenna 3#)



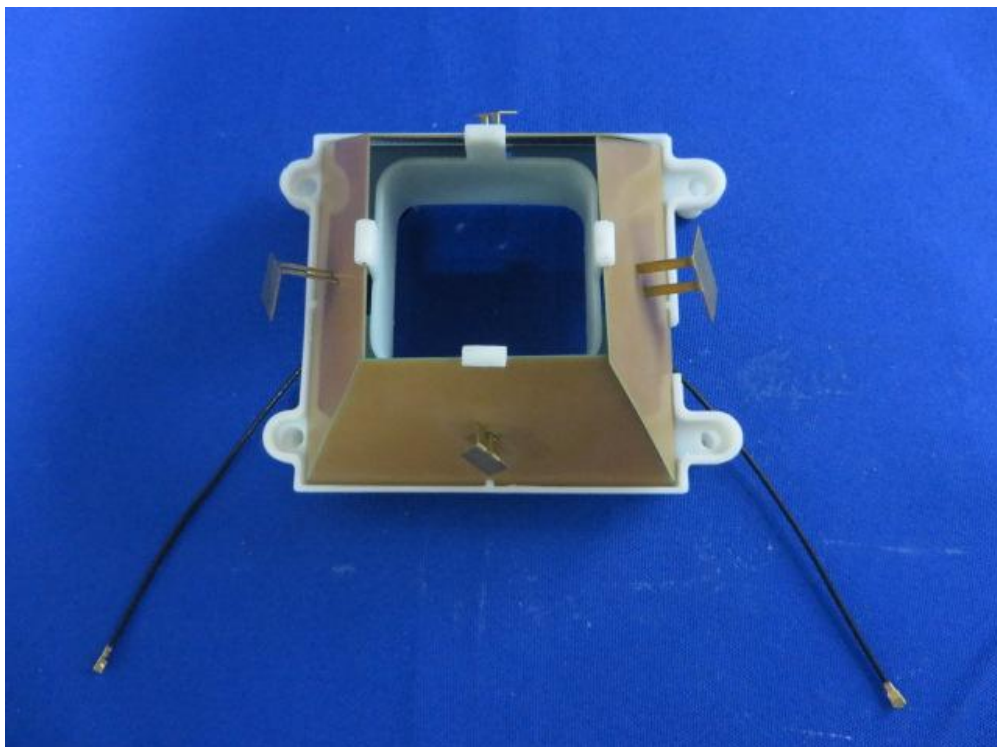
(12) EUT Photo (Panel Antenna 3#)



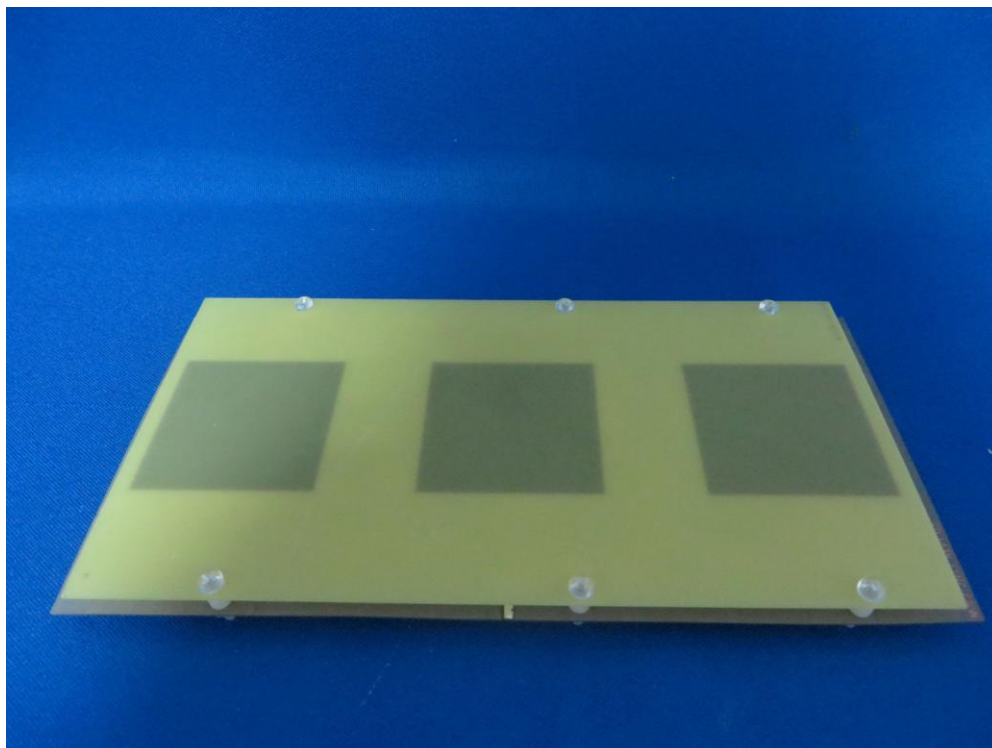
(13) EUT Photo (Panel Antenna 5#)



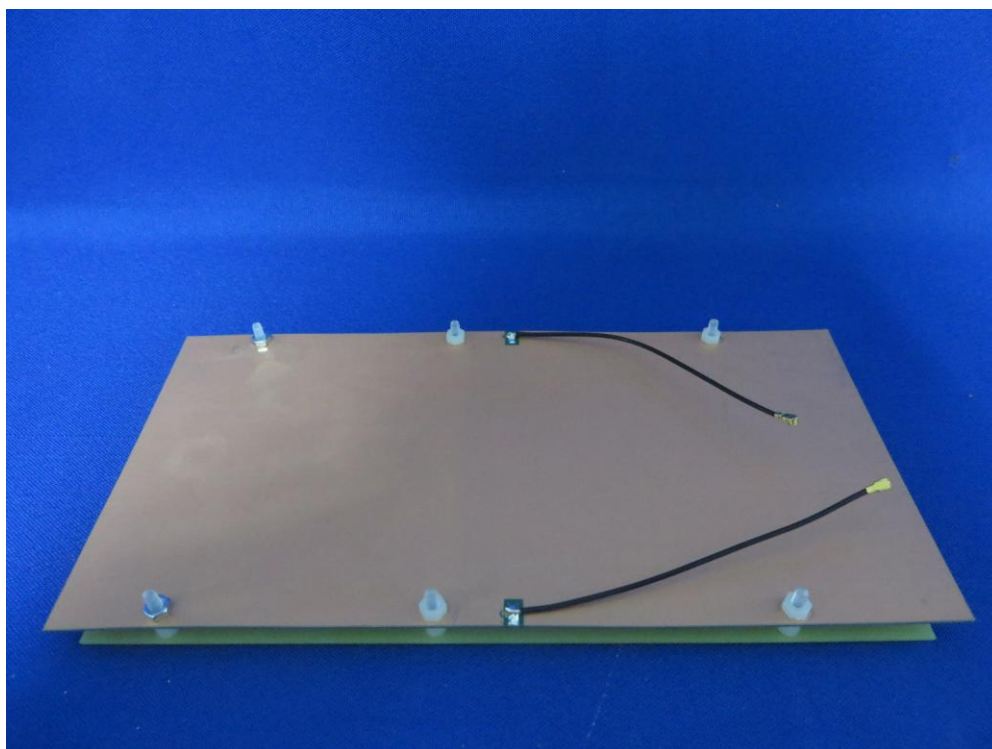
(14) EUT Photo (Panel Antenna 6#)



(15) EUT Photo (Panel Antenna 1#)



(16) EUT Photo (Panel Antenna 1#)



(17) EUT Photo



(18) EUT Photo



(19) EUT Photo



The End
