



MRT Technology (Suzhou) Co., Ltd
Phone: +86-512-66308358
Fax: +86-512-66308368
Web: www.mrt-cert.com

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MEASUREMENT REPORT

EN 302 502 V1.2.1 WLAN 802.11a/n

Applicant: Compex Systems Pte Ltd

Address: 135, Joo Seng Road, #08-01 Singapore 368363

Product: WIRELESS ACCESS POINT

Model No.: WPJ342LV, WPJ342HV, MML342LV, MML342HV,
MMJ342LV, MMJ342HV, MMS342LV, MMS342HV

Brand Name: COMPEX

Standards: ETSI EN 302 502 V1.2.1 (2008-07)

Result: Complies

Test Date: Aug. 03 ~ 21, 2014

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.

The test report shall not be reproduced except in full without the written approval of MRT Technology (Suzhou) Co., Ltd.

Revision History

Report No.	Version	Description	Issue Date
1407RSU04203	Rev. 01	Initial report	08-22-2014
1407RSU04203	Rev. 02	Added the test antenna information	08-28-2014

CONTENTS

Description	Page
1. General Information	5
1.1. Applicant.....	5
1.2. Manufacturer	5
1.3. Testing Facility	5
1.4. Feature of Product	6
1.5. Frequency / Channel Operation.....	6
1.6. Description of Available Antennas.....	7
1.7. Standards Applicable for Testing	7
2. Test Configuration of Equipment under Test	8
2.1. Description of Test Mode	8
2.2. Description of Test Software	8
3. Test Summary.....	9
4. Carrier Frequencies	10
4.1. Limit.....	10
4.2. Test Setup	10
4.3. Test Procedure	10
4.4. Test Result.....	11
5. Transmitter RF Output Power, EIRP, TPC and EIRP Spectral Density	12
5.1. Limit.....	12
5.2. Test Setup	12
5.3. Test Procedure	12
5.4. Test Result.....	13
6. Transmitter Unwanted Emissions Outside the 5725 MHz to 5875 MHz Band.....	16
6.1. Limit.....	16
6.2. Test Setup	16
6.3. Test Procedure	17
6.4. Test Result.....	18
7. Transmitter Unwanted Emissions Within the 5725 MHz to 5875 MHz Band.....	28
7.1. Limit.....	28
7.2. Test Setup	28
7.3. Test Procedure	29
7.4. Test Result.....	30
8. Receiver Spurious Emissions	33
8.1. Limit.....	33
8.2. Test Setup	33

8.3. Test Procedure	33
8.4. Test Result.....	34
9. Dynamic Frequency Selection (DFS)	44
10. Measurement Uncertainty	45
11. Test Photograph	46
12. List of Measuring Instrument	49
EUT Photograph.....	50

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 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.
- 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 and Industry Canada (11384A-1).
- MRT facility is an IC registered (11384A-1) test laboratory with the site description on file at Industry Canada.



1.4. Feature of Product

Product Name	WIRELESS ACCESS POINT
Model No.	WPJ342LV, WPJ342HV, MML342LV, MML342HV, MMJ342LV, MMJ342HV, MMS342LV, MMS342HV
Brand Name	COMPEX
Frequency Range	802.11a/n-HT20: 5745 ~ 5825MHz
Channel Number	802.11a/n-HT20: 5
Type of Modulation	802.11a/n: OFDM
Data Rate	802.11a: 6/9/12/18/24/36/48/54Mbps 802.11n: up to 130Mbps

Note: The difference of models is for different marketing requirement.

1.5. Frequency / Channel Operation

Channel List for 802.11a/n-HT20

Channel	Frequency	Channel	Frequency	Channel	Frequency
149	5745 MHz	153	5765 MHz	157	5785 MHz
161	5805 MHz	165	5825 MHz	--	--

1.6. Description of Available Antennas

Antenna Type	Frequency Band (GHz)	Manufacturer	Tx Paths	Max Directional Gain (dBi)
Panel Antenna 1#	5.1 ~ 5.8	Lanbowan Communications Ltd.	2	25
Panel Antenna 2#	5.1 ~ 5.8	Kenbotong Communication LTD	2	19
Panel Antenna 3#	5.1 ~ 5.8	Compex Systems Pte Ltd	2	17
Panel Antenna 4#	5.1 ~ 5.8	Kenbotong Communication LTD	2	10
Panel Antenna 5#	5.1 ~ 5.8	Smart Ant Inc	2	7
Panel Antenna 6#	5.1 ~ 5.8	Compex Systems Pte Ltd	2	5
Panel Antenna 7#	5.1 ~ 5.8	Compex Systems Pte Ltd	2	5
Dipole Antenna 1#	5.1 ~ 5.8	Kunshan Wavelink Electronic Co., Ltd.	2	2

Note: We selected the panel antenna 1# and dipole antenna 1# for all radiated emission testing.

1.7. Standards Applicable for Testing

The EUT complies with the requirements of ETSI EN 302 502 V1.2.1.

2. Test Configuration of Equipment under Test

2.1. Description of Test Mode

Pre-Test RF Output Power at various data rates.

Test Mode	Bandwidth (MHz)	Channel No.	Frequency (MHz)	Data Rate (Mbps)	RF Output Power (dBm)
11a	20	157	5785	6	9.95
				24	9.78
				54	9.53
11n	20	157	5785	13	9.90
				52	9.74
				130	9.42

Note: All modes of operation and data rates were investigated, so all RF test requirements shall be executed at low data rates.

Test Mode	Duty Cycle
11a	100%
11n-HT20	100%

2.2. Description of Test Software

The test utility software used during testing was “ART2-GUI Version: 2.3”.

Final Power Parameter Value of the test software.

Test Mode	Frequency (MHz)	Power Parameter Value		
		Ant 0	Ant 1	Ant 0 + 1
802.11a	5745	11.0	10.5	Not Support
	5785	10.5	11.0	
	5825	10.5	10.5	
802.11n-HT20	5745	11.0	10.5	7.0
	5785	10.5	10.5	7.5
	5825	10.0	10.5	7.5

3. Test Summary

Clause EN 302 502	Test Parameter	Result (Pass/Fail)	Remark
4.1	Frequency Error	Pass	--
4.2&4.4	Transmitter RF Output Power, EIRP, TPC and EIRP Spectral Density	Pass	--
4.3.1	Transmitter Unwanted Emissions Outside the 5725 MHz to 5875 MHz Band	Pass	--
4.3.2	Transmitter Unwanted Emissions Within the 5725 MHz to 5875 MHz Band	Pass	--
4.5	Receiver Spurious Emissions	Pass	--
4.6	Dynamic Frequency Selection (DFS)	Pass	Refer to DFS report

4. Carrier Frequencies

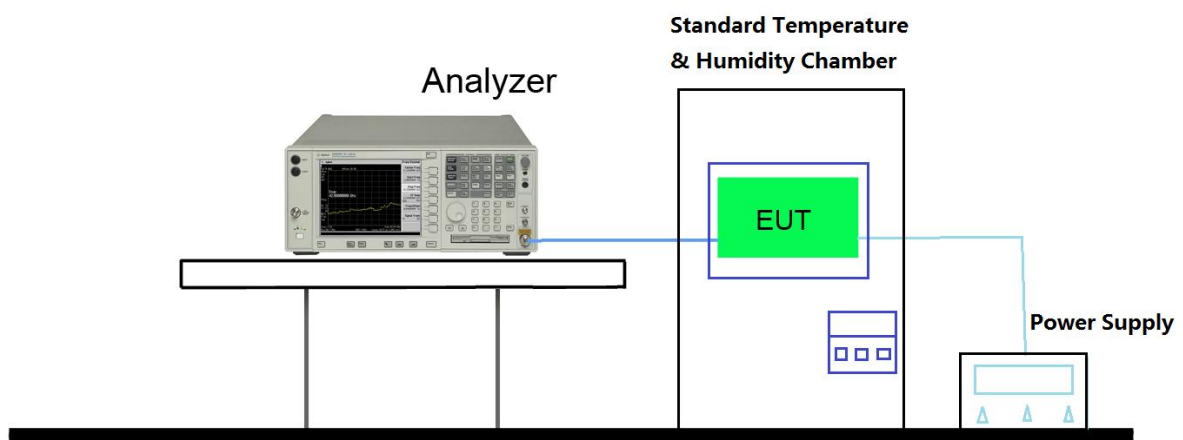
4.1. Limit

The manufacturer shall declare the centre frequencies on which the equipment can operate. The equipment shall only operate in channels centred on any of those frequencies identified in clause 4.1.1 of standard.

The actual carrier centre frequency shall be maintained within the range $f_c \pm 20$ ppm of the nominal channel centre frequency.

4.2. Test Setup

For Conducted Measurement



4.3. Test Procedure

Refer to ETSI EN 302 502 V1.2.1 (2008-07) Clause 5.3.2.

4.4. Test Result

Test Engineer	Milo Li	Temperature	26°C
Test Date	08-05-2014	Relative Humidity	59%

Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)	Limit (ppm)	Result
5745	5745.024185	4.18	≤ 20	Pass
5825	5824.993232	-1.17	≤ 20	Pass

5. Transmitter RF Output Power, EIRP, TPC and EIRP Spectral Density

5.1. Limit

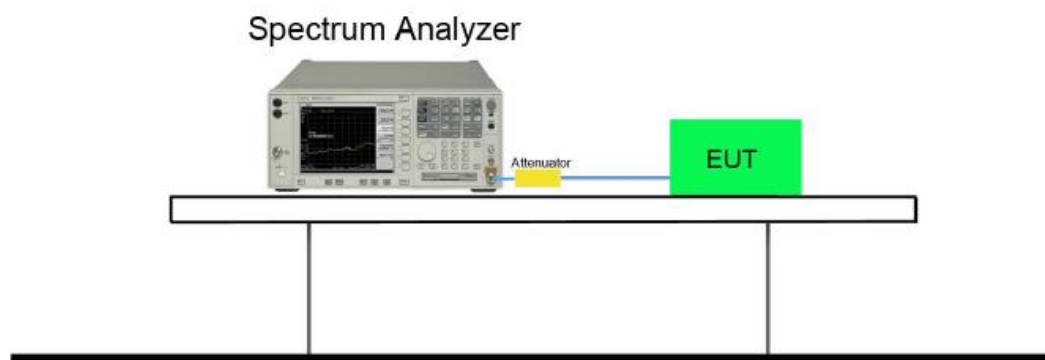
The mean EIRP, RF power and EIRP spectral density when configured to operate at the highest stated power level (Pcond_1) shall not exceed the limit in following table.

Mean RF output power, EIRP and power density limits at the highest power level			
Channel Width ChS	Mean RF power into antenna(dBm)	Mean EIRP (dBm)	Mean EIRP spectral density(dBm/MHz)
10 MHz	27	33	23
20 MHz	30	36	23

The FWA device shall have the capability to reduce the operating mean EIRP level to level not exceeding 24 dBm for ChS = 20 MHz and 21 dBm for ChS = 10 MHz.

Note: The mean EIRP and the mean EIRP spectral density limits apply to a device and not to each radio of a device.

5.2. Test Setup



5.3. Test Procedure

Refer to ETSI EN 302 502 V1.2.1 (2008-07) Clause 5.3.3.

5.4. Test Result

Test Date	08-05-2014	Temperature	0 ~ 50°C
Test Engineer	Milo Li	Relative Humidity	50 ~ 54%

RF Output Power - Ant 0 / Ant 1

Mode	N _{Tx}	Ch. No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Average Power Limit (dBm)	Gain (dBi)	Ant 0 Max EIRP Power (dBm)	Ant 1 Max EIRP Power (dBm)	Limit (dBm)	Result
11a	1	149	5745	10.37	9.99	≤30	25	35.37	34.99	≤36	Pass
11a	1	157	5785	9.95	10.26	≤30	25	34.95	35.26	≤36	Pass
11a	1	165	5825	9.95	9.63	≤30	25	34.95	34.63	≤36	Pass
n-HT20	1	149	5745	10.35	10.01	≤30	25	35.35	35.01	≤36	Pass
n-HT20	1	157	5785	9.90	10.10	≤30	25	34.90	35.10	≤36	Pass
n-HT20	1	165	5825	9.79	10.05	≤30	25	34.79	35.05	≤36	Pass

Note: Max EIRP Power(dBm) = Average Power(dBm) + Antenna Gain(dBi) + 10*log(1/Duty Cycle).

Duty Cycle = 100%.

RF Output Power - Ant 0 + 1

Mode	N _{Tx}	Ch. No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Gain (dBi)	Max EIRP Power (dBm)	Limit (dBm)	Result
n-HT20	2	149	5745	7.25	6.51	9.91	≤30	25	34.91	≤36	Pass
n-HT20	2	157	5785	7.40	7.02	10.22	≤30	25	35.22	≤36	Pass
n-HT20	2	165	5825	7.08	6.58	9.85	≤30	25	34.85	≤36	Pass

Note: Max EIRP Power(dBm) = Average Power(dBm) + Antenna Gain(dBi) + 10*log(1/Duty Cycle).

Duty Cycle = 100%.

Transmit Power Control (TPC) – Ant 0 / Ant 1

Mode	N _{Tx}	Channel	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Gain (dBi)	EIRP of TPC (dBm)	EIRP of TPC (dBm)	Limit (dBm)	Result
11a	1	149	5745	-1.81	-1.97	25	23.19	23.03	≤24	Pass
11a	1	157	5785	-2.02	-1.84	25	22.98	23.16	≤24	Pass
11a	1	165	5825	-1.86	-1.86	25	23.14	23.14	≤24	Pass
n-HT20	1	149	5745	-2.15	-1.60	25	22.85	23.40	≤24	Pass
n-HT20	1	157	5785	-1.92	-1.81	25	23.08	23.19	≤24	Pass
n-HT20	1	165	5825	-1.64	-1.78	25	23.36	23.22	≤24	Pass

Note: EIRP of TPC (dBm) = Average Power (dBm) + Antenna Gain (dBi) + 10*log(1/Duty Cycle).

Duty Cycle = 100%.

Transmit Power Control (TPC) – Ant 0 + 1

Mode	N _{Tx}	Channel	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Total Average Power (dBm)	Gain (dBi)	EIRP of TPC (dBm)	Limit (dBm)	Result
n-HT20	2	149	5745	-4.23	-4.39	-1.30	25	23.70	≤24	Pass
n-HT20	2	157	5785	-4.27	-4.14	-1.19	25	23.81	≤24	Pass
n-HT20	2	165	5825	-4.44	-4.20	-1.31	25	23.69	≤24	Pass

Note: EIRP of TPC (dBm) = Average Power(dBm) + Antenna Gain(dBi) + 10*log(1/Duty Cycle).

Duty Cycle = 100%.

Power Density – Ant 0 / Ant 1

Mode	N _{Tx}	Channel	Freq. (MHz)	Ant 0 Spectral Power Density (dBm/M Hz)	Ant 1 Spectral Power Density (dBm/M Hz)	Gain (dBi)	Ant 0 EIRP Spectral Power Density (dBm/MHz)	Ant 1 EIRP Spectral Power Density (dBm/MHz)	Limit (dBm)	Result
11a	1	149	5745	-12.641	-14.428	25	12.359	10.572	≤23	Pass
11a	1	157	5785	-12.296	-13.210	25	12.704	11.79	≤23	Pass
11a	1	165	5825	-11.742	-13.039	25	13.258	11.961	≤23	Pass
n-HT20	1	149	5745	-13.065	-14.354	25	11.935	10.646	≤23	Pass
n-HT20	1	157	5785	-13.311	-13.404	25	11.689	11.596	≤23	Pass
n-HT20	1	165	5825	-12.361	-13.485	25	12.639	11.515	≤23	Pass

Note: EIRP Spectral Power Density (dBm/MHz) = Spectral Power Density (dBm/MHz) + Antenna Gain(dBi) + 10*log(1/Duty Cycle), Duty Cycle = 100%.

Power Density – Ant 0 + 1

Mode	N _{Tx}	Channel	Freq. (MHz)	Ant 0 Spectral Power Density (dBm/MH z)	Ant 1 Spectral Power Density (dBm/MH z)	Total Spectral Power Density (dBm/MH z)	Gain (dBi)	EIRP Spectral Power Density (dBm/MHz)	Limit (dBm)	Result
n-HT20	2	149	5745	-12.280	-14.426	-10.211	25	14.789	≤23	Pass
n-HT20	2	157	5785	-12.353	-12.977	-9.644	25	15.356	≤23	Pass
n-HT20	2	165	5825	-11.502	-12.278	-8.862	25	16.138	≤23	Pass

Note: EIRP Spectral Power Density (dBm/MHz) = Spectral Power Density (dBm/MHz) + Antenna Gain(dBi) + 10*log(1/Duty Cycle), Duty Cycle = 100%.

6. Transmitter Unwanted Emissions Outside the 5725 MHz to 5875 MHz Band

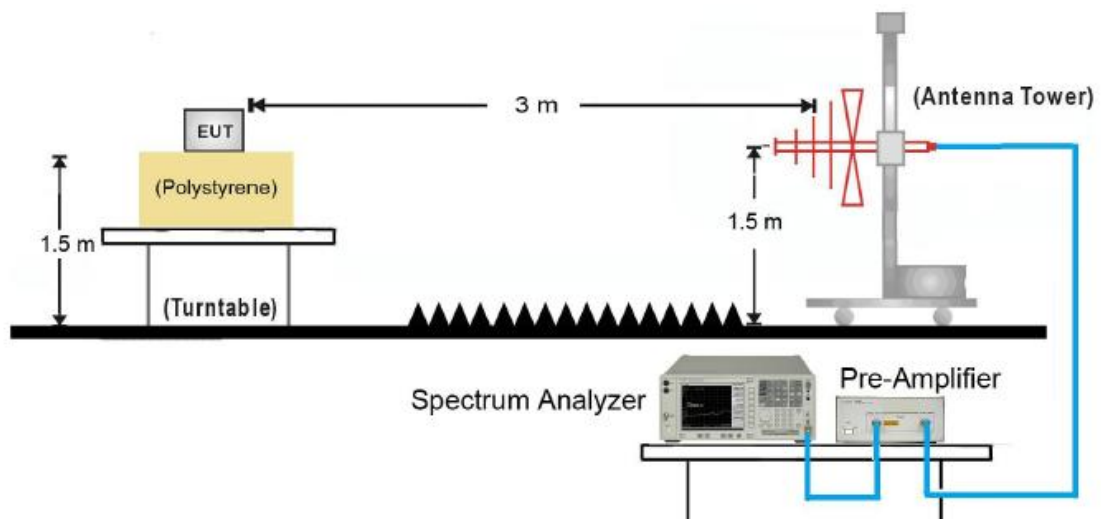
6.1. Limit

Frequency Range (MHz)	Limit (dBm)	Bandwidth (kHz) (see note)
30 to 1000	-36	100
1000 to 5725	-30	1000
5875 to 26500	-30	1000

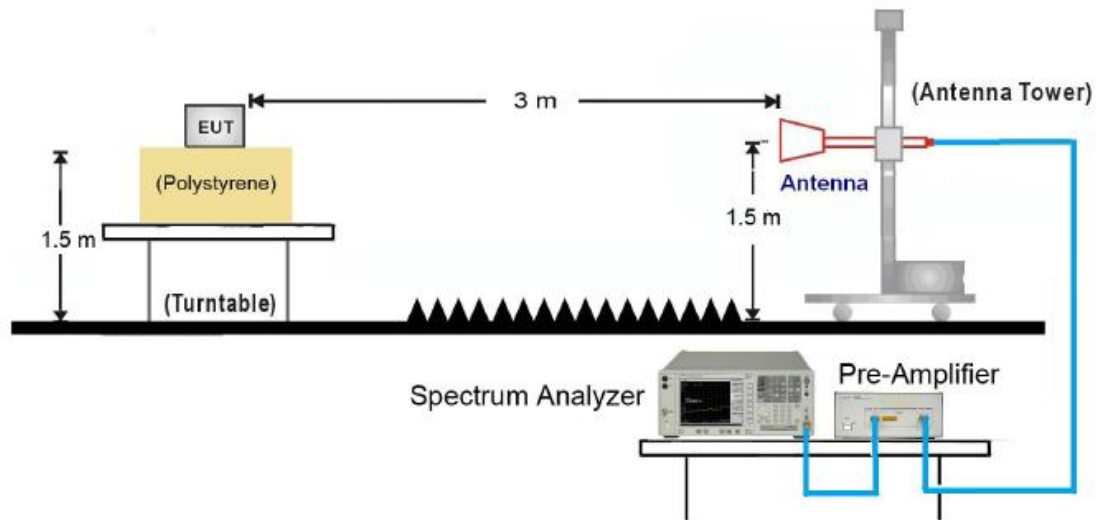
Note: At frequencies just below 5725 MHz or just above 5875 MHz, account shall be taken of the spacing between the emission centre frequency and the measurement centre frequency to evaluate the appropriate reference bandwidth given in annex 2 of CEPT/ERC Recommendation 74-01 [10].

6.2. Test Setup

Below 1GHz Test Setup:



Above 1GHz Test Setup:



6.3. Test Procedure

Refer to ETSI EN 302 502 V1.2.1 (2008-07) Clause 5.3.4.1.

6.4. Test Result

Test by Panel Antenna – 25dBi

Test Engineer	Milo Li	Temperature	26°C
Test Date	08-10-2014	Relative Humidity	54%
Test Mode	802.11a – Ant 0	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
149	687.4	-66.17	-36	-30.17	Peak	Horizontal
	593.1	-69.04	-36	-33.04	Peak	Vertical
	828.8	-69.87	-36	-33.87	Peak	Horizontal
	579.5	-67.66	-36	-31.66	Peak	Vertical
	11490.0	-42.36	-30	-12.36	Peak	Horizontal
	11490.0	-44.51	-30	-14.51	Peak	Vertical
	17235.0	-37.02	-30	-7.02	Peak	Horizontal
	17235.0	-38.77	-30	-8.77	Peak	Vertical
165	704.8	-71.21	-36	-35.21	Peak	Horizontal
	437.5	-72.86	-36	-36.86	Peak	Vertical
	800.6	-70.51	-36	-34.51	Peak	Horizontal
	652.6	-67.82	-36	-31.82	Peak	Vertical
	11650.0	-37.35	-30	-7.35	Peak	Horizontal
	11650.0	-38.74	-30	-8.74	Peak	Vertical
	17475.0	-32.96	-30	-2.96	Peak	Horizontal
	17475.0	-37.69	-30	-7.69	Peak	Vertical

Test Engineer	Milo Li	Temperature	26°C
Test Date	08-10-2014	Relative Humidity	54%
Test Mode	802.11a – Ant 1	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
149	750.1	-68.12	-36	-32.12	Peak	Horizontal
	821.8	-65.19	-36	-29.19	Peak	Vertical
	502.4	-66.03	-36	-30.03	Peak	Horizontal
	748.9	-73.92	-36	-37.92	Peak	Vertical
	11490.0	-45.87	-30	-15.87	Peak	Horizontal
	11490.0	-42.68	-30	-12.68	Peak	Vertical
	17235.0	-39.81	-30	-9.81	Peak	Horizontal
	17235.0	-38.16	-30	-8.16	Peak	Vertical
165	478.4	-62.42	-36	-26.42	Peak	Horizontal
	574.9	-64.60	-36	-28.60	Peak	Vertical
	720.7	-58.44	-36	-22.44	Peak	Horizontal
	652.9	-67.03	-36	-31.03	Peak	Vertical
	11650.0	-35.32	-30	-5.32	Peak	Horizontal
	11650.0	-38.65	-30	-8.65	Peak	Vertical
	17475.0	-36.63	-30	-6.63	Peak	Horizontal
	17475.0	-37.22	-30	-7.22	Peak	Vertical

Test Engineer	Milo Li	Temperature	26°C
Test Date	08-10-2014	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
149	694.3	-61.56	-36	-25.56	Peak	Horizontal
	655.7	-63.91	-36	-27.91	Peak	Vertical
	731.5	-59.30	-36	-23.30	Peak	Horizontal
	704.6	-69.32	-36	-33.32	Peak	Vertical
	11490.0	-42.15	-30	-12.15	Peak	Horizontal
	11490.0	-43.00	-30	-13.00	Peak	Vertical
	17235.0	-36.88	-30	-6.88	Peak	Horizontal
	17235.0	-40.19	-30	-10.19	Peak	Vertical
165	698.3	-64.47	-36	-28.47	Peak	Horizontal
	600.1	-69.42	-36	-33.42	Peak	Vertical
	687.2	-70.83	-36	-34.83	Peak	Horizontal
	700.5	-64.22	-36	-28.22	Peak	Vertical
	11650.0	-34.60	-30	-4.60	Peak	Horizontal
	11650.0	-37.05	-30	-7.05	Peak	Vertical
	17475.0	-36.76	-30	-6.76	Peak	Horizontal
	17475.0	-36.43	-30	-6.43	Peak	Vertical

Test Engineer	Milo Li	Temperature	26°C
Test Date	08-10-2014	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
149	772.8	-73.15	-36	-37.15	Peak	Horizontal
	680.4	-66.11	-36	-30.11	Peak	Vertical
	740.3	-59.89	-36	-23.89	Peak	Horizontal
	713.7	-70.75	-36	-34.75	Peak	Vertical
	11490.0	-41.94	-30	-11.94	Peak	Horizontal
	11490.0	-44.73	-30	-14.73	Peak	Vertical
	17235.0	-38.41	-30	-8.41	Peak	Horizontal
	17235.0	-39.00	-30	-9.00	Peak	Vertical
165	682.8	-65.53	-36	-29.53	Peak	Horizontal
	635.8	-68.44	-36	-32.44	Peak	Vertical
	853.3	-69.75	-36	-33.75	Peak	Horizontal
	706.1	-64.05	-36	-28.05	Peak	Vertical
	11650.0	-36.90	-30	-6.90	Peak	Horizontal
	11650.0	-38.19	-30	-8.19	Peak	Vertical
	17475.0	-33.41	-30	-3.41	Peak	Horizontal
	17475.0	-36.58	-30	-6.58	Peak	Vertical

Test Engineer	Milo Li	Temperature	26°C
Test Date	08-10-2014	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
149	518.9	-67.03	-36	-31.03	Peak	Horizontal
	725.4	-63.59	-36	-27.59	Peak	Vertical
	696.2	-67.53	-36	-31.53	Peak	Horizontal
	797.3	-70.23	-36	-34.23	Peak	Vertical
	11490.0	-42.71	-30	-12.71	Peak	Horizontal
	11490.0	-44.98	-30	-14.98	Peak	Vertical
	17235.0	-35.54	-30	-5.54	Peak	Horizontal
	17235.0	-39.27	-30	-9.27	Peak	Vertical
165	590.4	-65.94	-36	-29.94	Peak	Horizontal
	695.9	-63.85	-36	-27.85	Peak	Vertical
	617.8	-68.52	-36	-32.52	Peak	Horizontal
	800.4	-70.60	-36	-34.60	Peak	Vertical
	11650.0	-37.42	-30	-7.42	Peak	Horizontal
	11650.0	-39.23	-30	-9.23	Peak	Vertical
	17475.0	-34.98	-30	-4.98	Peak	Horizontal
	17475.0	-37.73	-30	-7.73	Peak	Vertical

Test by Dipole Antenna – 2dBi

Test Engineer	Milo Li	Temperature	26°C
Test Date	08-10-2014	Relative Humidity	54%
Test Mode	802.11a – Ant 0	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
149	251.9	-64.96	-36	-28.96	Peak	Horizontal
	304.7	-65.08	-36	-29.08	Peak	Vertical
	428.5	-60.89	-36	-24.89	Peak	Horizontal
	433.1	-62.11	-36	-26.11	Peak	Vertical
	11490.0	-46.14	-30	-16.14	Peak	Horizontal
	11490.0	-43.25	-30	-13.25	Peak	Vertical
	17235.0	-37.23	-30	-7.23	Peak	Horizontal
	17235.0	-38.42	-30	-8.42	Peak	Vertical
165	217.9	-64.65	-36	-28.65	Peak	Horizontal
	448.5	-55.62	-36	-19.62	Peak	Vertical
	413.6	-54.70	-36	-18.70	Peak	Horizontal
	436.4	-58.57	-36	-22.57	Peak	Vertical
	11650.0	-40.90	-30	-10.90	Peak	Horizontal
	11650.0	-38.63	-30	-8.63	Peak	Vertical
	17475.0	-37.55	-30	-7.55	Peak	Horizontal
	17475.0	-35.89	-30	-5.89	Peak	Vertical

Test Engineer	Milo Li	Temperature	26°C
Test Date	08-10-2014	Relative Humidity	54%
Test Mode	802.11a – Ant 1	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
149	308.1	-53.52	-36	-17.52	Peak	Horizontal
	220.7	-57.55	-36	-21.55	Peak	Vertical
	391.2	-61.97	-36	-25.97	Peak	Horizontal
	441.3	-56.76	-36	-20.76	Peak	Vertical
	11490.0	-44.22	-30	-14.22	Peak	Horizontal
	11490.0	-45.73	-30	-15.73	Peak	Vertical
	17235.0	-35.47	-30	-5.47	Peak	Horizontal
	17235.0	-38.72	-30	-8.72	Peak	Vertical
165	295.3	-64.79	-36	-28.79	Peak	Horizontal
	423.3	-61.01	-36	-25.01	Peak	Vertical
	197.2	-52.65	-36	-16.65	Peak	Horizontal
	391.9	-58.22	-36	-22.22	Peak	Vertical
	11650.0	-41.10	-30	-11.10	Peak	Horizontal
	11650.0	-39.06	-30	-9.06	Peak	Vertical
	17475.0	-36.47	-30	-6.47	Peak	Horizontal
	17475.0	-39.15	-30	-9.15	Peak	Vertical

Test Engineer	Milo Li	Temperature	26°C
Test Date	08-10-2014	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
149	153.9	-64.28	-36	-28.28	Peak	Horizontal
	103.3	-62.98	-36	-26.98	Peak	Vertical
	442.7	-63.50	-36	-27.50	Peak	Horizontal
	445.3	-62.97	-36	-26.97	Peak	Vertical
	11490.0	-43.71	-30	-13.71	Peak	Horizontal
	11490.0	-44.61	-30	-14.61	Peak	Vertical
	17235.0	-37.43	-30	-7.43	Peak	Horizontal
	17235.0	-39.41	-30	-9.41	Peak	Vertical
165	148.0	-67.58	-36	-31.58	Peak	Horizontal
	347.6	-63.81	-36	-27.81	Peak	Vertical
	298.3	-53.15	-36	-17.15	Peak	Horizontal
	347.2	-53.54	-36	-17.54	Peak	Vertical
	11650.0	-41.11	-30	-11.11	Peak	Horizontal
	11650.0	-39.22	-30	-9.22	Peak	Vertical
	17475.0	-33.04	-30	-3.04	Peak	Horizontal
	17475.0	-36.80	-30	-6.80	Peak	Vertical

Test Engineer	Milo Li	Temperature	26°C
Test Date	08-10-2014	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
149	258.0	-63.01	-36	-27.01	Peak	Horizontal
	180.4	-65.35	-36	-29.35	Peak	Vertical
	421.0	-67.45	-36	-31.45	Peak	Horizontal
	286.2	-66.47	-36	-30.47	Peak	Vertical
	11490.0	-46.61	-30	-16.61	Peak	Horizontal
	11490.0	-45.39	-30	-15.39	Peak	Vertical
	17235.0	-38.60	-30	-8.60	Peak	Horizontal
	17235.0	-38.09	-30	-8.09	Peak	Vertical
165	61.8	-64.37	-36	-28.37	Peak	Horizontal
	268.2	-61.84	-36	-25.84	Peak	Vertical
	338.0	-64.09	-36	-28.09	Peak	Horizontal
	407.3	-67.20	-36	-31.20	Peak	Vertical
	11650.0	-41.70	-30	-11.70	Peak	Horizontal
	11650.0	-39.54	-30	-9.54	Peak	Vertical
	17475.0	-36.74	-30	-6.74	Peak	Horizontal
	17475.0	-38.81	-30	-8.81	Peak	Vertical

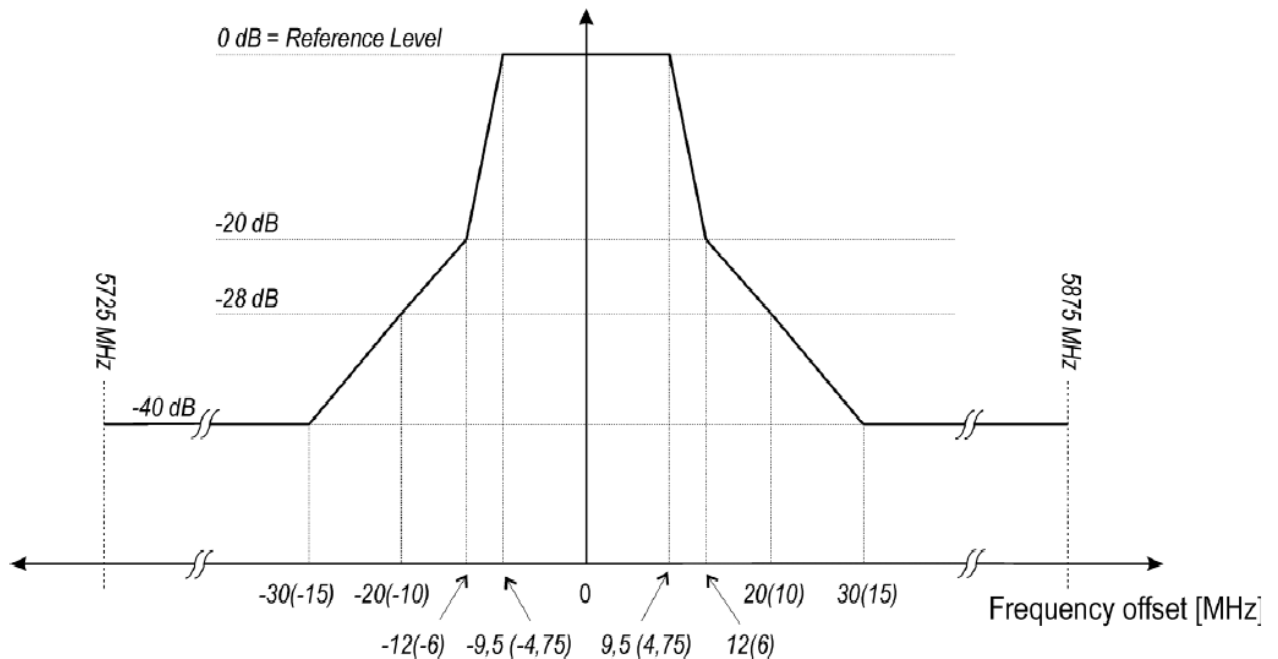
Test Engineer	Milo Li	Temperature	26°C
Test Date	08-10-2014	Relative Humidity	54%
Test Mode	802.11n-HT20 – Ant 0+1	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
149	231.2	-67.21	-36	-31.21	Peak	Horizontal
	213.9	-65.09	-36	-29.09	Peak	Vertical
	408.2	-62.52	-36	-26.52	Peak	Horizontal
	443.7	-66.50	-36	-30.50	Peak	Vertical
	11490.0	-42.96	-30	-12.96	Peak	Horizontal
	11490.0	-44.28	-30	-14.28	Peak	Vertical
	17235.0	-38.95	-30	-8.95	Peak	Horizontal
	17235.0	-39.72	-30	-9.72	Peak	Vertical
165	322.0	-66.61	-36	-30.61	Peak	Horizontal
	317.7	-65.09	-36	-29.09	Peak	Vertical
	341.6	-68.91	-36	-32.91	Peak	Horizontal
	260.2	-63.29	-36	-27.29	Peak	Vertical
	11650.0	-39.03	-30	-9.03	Peak	Horizontal
	11650.0	-41.07	-30	-11.07	Peak	Vertical
	17475.0	-35.78	-30	-5.78	Peak	Horizontal
	17475.0	-39.28	-30	-9.28	Peak	Vertical

7. Transmitter Unwanted Emissions Within the 5725 MHz to 5875 MHz Band

7.1. Limit

The average level of the transmitted spectrum based on the declared ChS shall not exceed the limits given in figure 1 when operating under highest output power conditions.

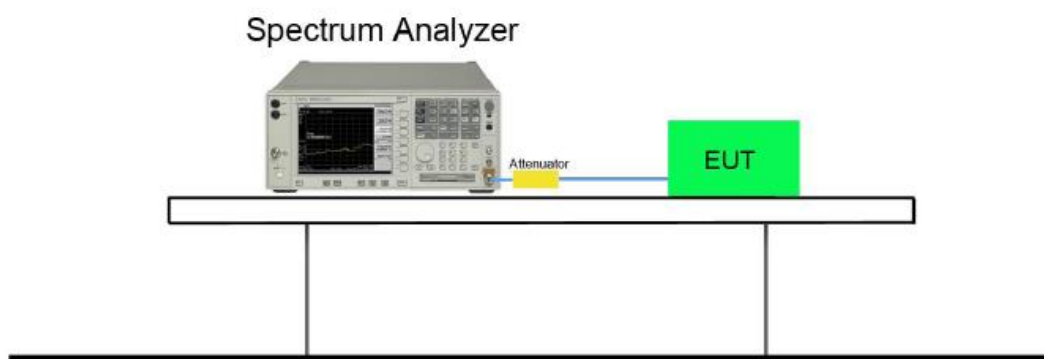


NOTE 1: 0 dB Reference Level is the spectral density relative to the maximum spectral power density of the transmitted signal.

NOTE 2: On the Frequency Offset axis, the figures apply to ChS = 20 MHz whereas the figures in parentheses apply to ChS = 10 MHz.

NOTE 3: Emissions that fall outside the lower and upper band frequency limits of 5 725 MHz and 5 875 MHz respectively shall instead meet the unwanted emission limits of clause 4.3.1.

7.2. Test Setup



7.3. Test Procedure

Refer to ETSI EN 302 502 V1.2.1 (2008-07) Clause 5.3.4.2.

7.4. Test Result

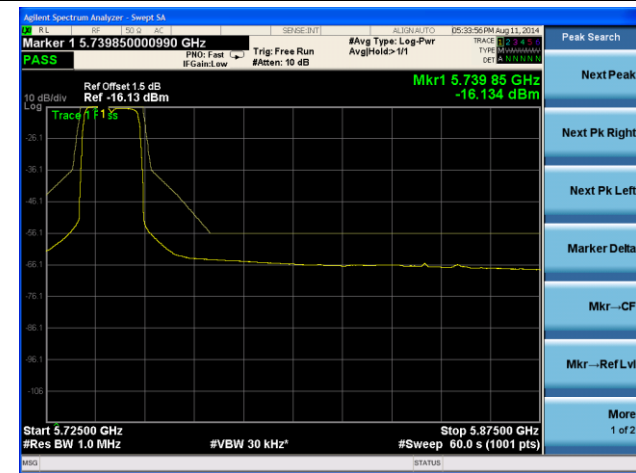
Product	WIRELESS ACCESS POINT	Temperature	26°C
Test Engineer	Milo Li	Relative Humidity	54%

Test Mode	Channel No.	Frequency (MHz)	Result
Ant 0			
802.11a	149	5745	Pass
802.11a	165	5825	Pass
802.11n-HT20	149	5745	Pass
802.11n-HT20	165	5825	Pass
Ant 1			
802.11a	149	5745	Pass
802.11a	165	5825	Pass
802.11n-HT20	149	5745	Pass
802.11n-HT20	165	5825	Pass
Ant 0 / Ant 0 + 1			
802.11n-HT20	149	5745	Pass
802.11n-HT20	165	5825	Pass
Ant 1 / Ant 0 + 1			
802.11n-HT20	149	5745	Pass
802.11n-HT20	165	5825	Pass

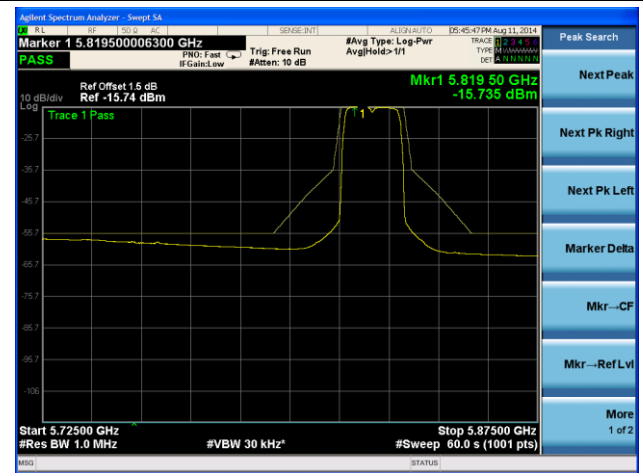
Transmitter Unwanted Emissions Within the 5GHz RLAN Bands

802.11a Ant 0

Channel 149 (5745MHz)



Channel 165 (5825MHz)

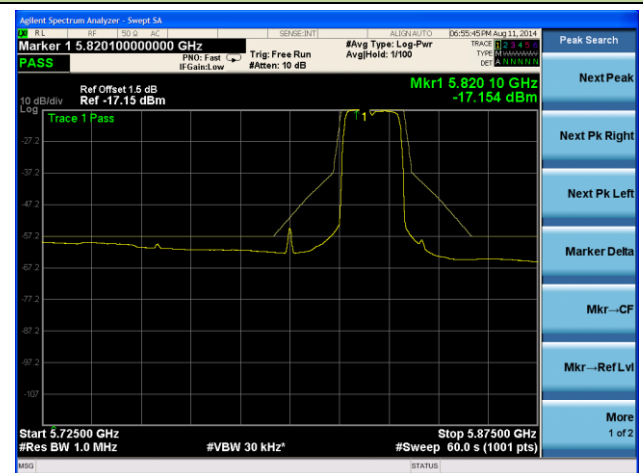


802.11a Ant 1

Channel 149 (5745MHz)



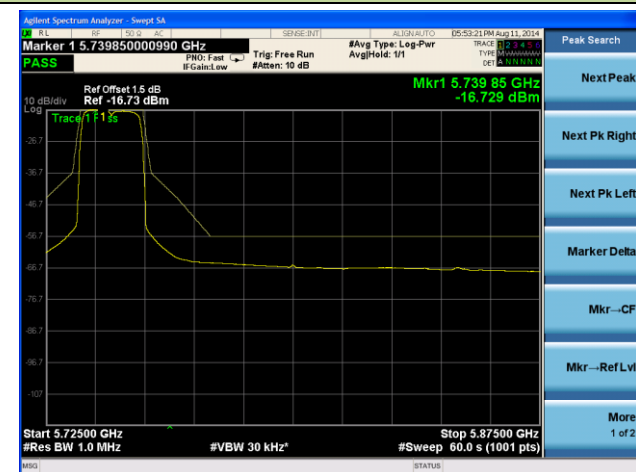
Channel 165 (5825MHz)



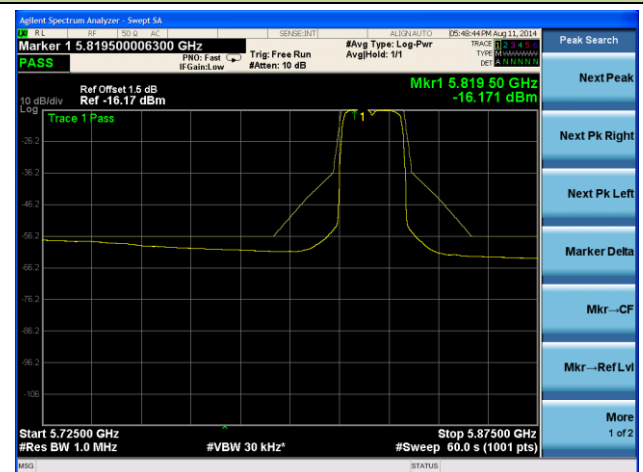
Transmitter Unwanted Emissions Within the 5GHz RLAN Bands

802.11n-HT20 Ant 0

Channel 149 (5745MHz)



Channel 165 (5825MHz)

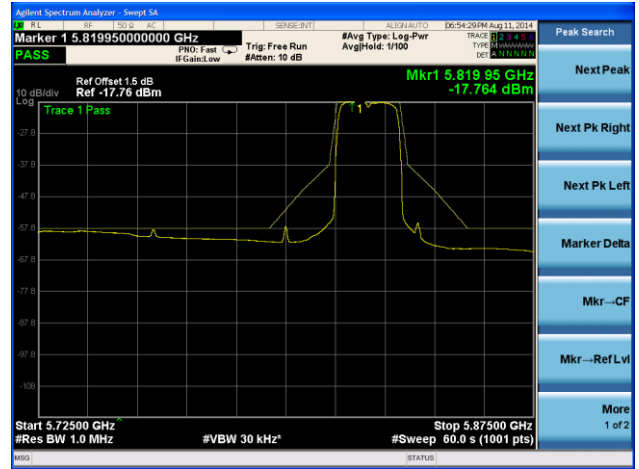


802.11n-HT20 Ant 1

Channel 149 (5745MHz)



Channel 165 (5825MHz)

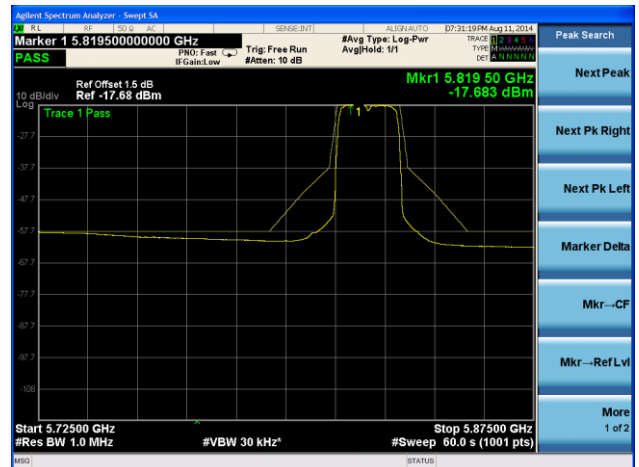


802.11n-HT20 Ant 0 /Ant 0 + 1

Channel 149 (5745MHz)



Channel 165 (5825MHz)

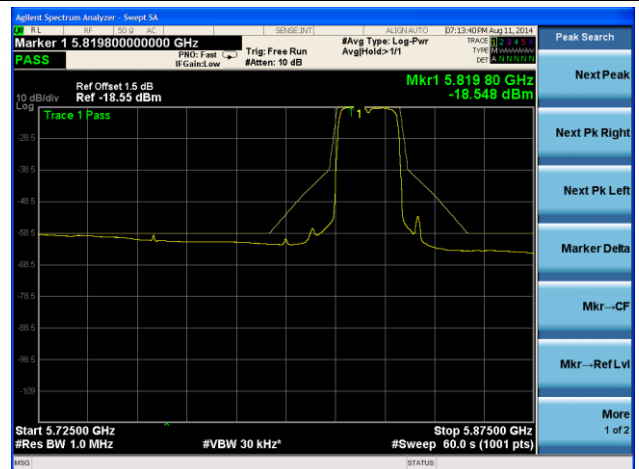


802.11n-HT20 Ant 1 /Ant 0 + 1

Channel 149 (5745MHz)



Channel 165 (5825MHz)



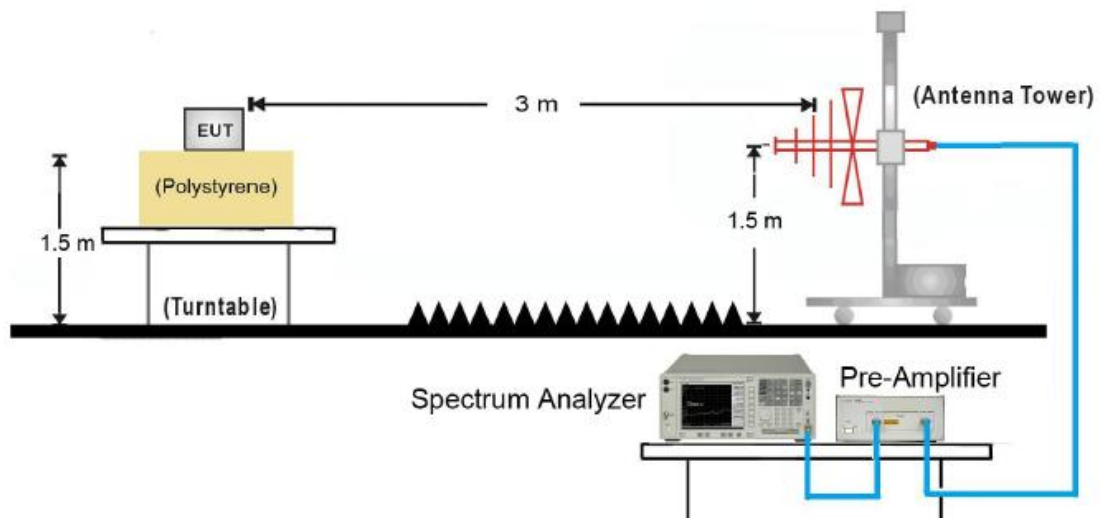
8. Receiver Spurious Emissions

8.1. Limit

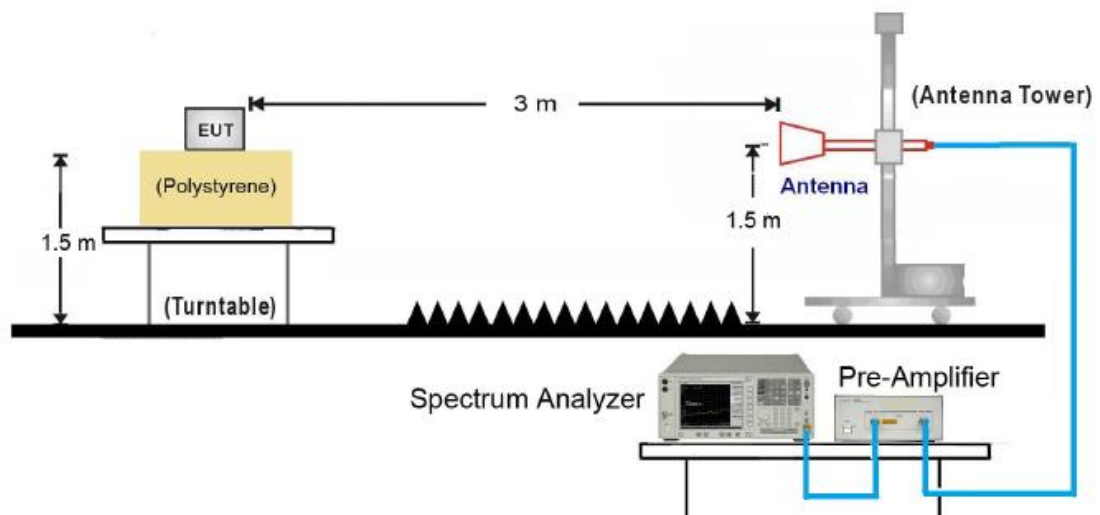
Frequency Range	Maximum Power, ERP	Measurement Bandwidth
30 MHz to 1GHz	-57 dBm	100 kHz
1 GHz to 26.5 GHz	-47 dBm	1 MHz

8.2. Test Setup

Below 1GHz Test Setup:



Above 1GHz Test Setup:



8.3. Test Procedure

Refer to ETSI EN 302 502 V1.2.1 (2008-07) Clause 5.3.5.

8.4. Test Result

Test by Panel Antenna – 25dBi

Test Engineer	Milo Li	Temperature	26°C
Test Date	08-10-2014	Relative Humidity	54%
Test Mode	802.11a – Ant 0	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
149	86.4	-73.98	-57	-16.98	Peak	Horizontal
	110.8	-67.51	-57	-10.51	Peak	Vertical
	387.8	-70.70	-57	-13.70	Peak	Horizontal
	202.6	-63.66	-57	-6.66	Peak	Vertical
	2172.8	-56.09	-47	-9.09	Peak	Horizontal
	1412.0	-54.42	-47	-7.42	Peak	Vertical
	2843.6	-54.16	-47	-7.16	Peak	Horizontal
	2068.6	-53.86	-47	-6.86	Peak	Vertical
165	437.4	-68.51	-57	-11.51	Peak	Horizontal
	342.1	-60.72	-57	-3.72	Peak	Vertical
	695.0	-71.88	-57	-14.88	Peak	Horizontal
	573.4	-66.98	-57	-9.98	Peak	Vertical
	2197.8	-55.28	-47	-8.28	Peak	Horizontal
	2282.4	-50.51	-47	-3.51	Peak	Vertical
	3811.9	-53.38	-47	-6.38	Peak	Horizontal
	2674.7	-53.51	-47	-6.51	Peak	Vertical

Test Engineer	Milo Li	Temperature	26°C
Test Date	08-10-2014	Relative Humidity	54%
Test Mode	802.11a – Ant 1	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
149	357.1	-69.06	-57	-12.06	Peak	Horizontal
	237.8	-62.57	-57	-5.57	Peak	Vertical
	691.6	-70.78	-57	-13.78	Peak	Horizontal
	606.6	-66.74	-57	-9.74	Peak	Vertical
	2117.1	-54.90	-47	-7.90	Peak	Horizontal
	1977.0	-54.64	-47	-7.64	Peak	Vertical
	3057.0	-55.62	-47	-8.62	Peak	Horizontal
	3020.0	-49.18	-47	-2.18	Peak	Vertical
165	476.2	-68.88	-57	-11.88	Peak	Horizontal
	232.3	-61.88	-57	-4.88	Peak	Vertical
	699.8	-67.20	-57	-10.20	Peak	Horizontal
	486.4	-62.34	-57	-5.34	Peak	Vertical
	2152.1	-52.89	-47	-5.89	Peak	Horizontal
	1577.6	-56.43	-47	-9.43	Peak	Vertical
	2883.1	-55.69	-47	-8.69	Peak	Horizontal
	2022.7	-52.78	-47	-5.78	Peak	Vertical

Test Engineer	Milo Li	Temperature	26°C
Test Date	08-10-2014	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
149	43.2	-71.83	-57	-14.83	Peak	Horizontal
	323.0	-63.96	-57	-6.96	Peak	Vertical
	315.3	-69.25	-57	-12.25	Peak	Horizontal
	575.7	-63.48	-57	-6.48	Peak	Vertical
	2110.5	-55.63	-47	-8.63	Peak	Horizontal
	1488.4	-52.47	-47	-5.47	Peak	Vertical
	2962.1	-55.56	-47	-8.56	Peak	Horizontal
	3082.8	-53.48	-47	-6.48	Peak	Vertical
165	344.3	-69.20	-57	-12.20	Peak	Horizontal
	242.6	-65.94	-57	-8.94	Peak	Vertical
	717.8	-69.62	-57	-12.62	Peak	Horizontal
	589.3	-63.76	-57	-6.76	Peak	Vertical
	1216.3	-51.37	-47	-4.37	Peak	Horizontal
	1498.9	-53.85	-47	-6.85	Peak	Vertical
	2118.7	-54.38	-47	-7.38	Peak	Horizontal
	1968.4	-53.17	-47	-6.17	Peak	Vertical

Test Engineer	Milo Li	Temperature	26°C
Test Date	08-10-2014	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
149	56.3	-69.95	-57	-12.95	Peak	Horizontal
	380.4	-63.42	-57	-6.42	Peak	Vertical
	397.7	-69.80	-57	-12.80	Peak	Horizontal
	441.7	-62.50	-57	-5.50	Peak	Vertical
	2025.2	-51.37	-47	-4.37	Peak	Horizontal
	1466.8	-55.67	-47	-8.67	Peak	Vertical
	2976.4	-52.05	-47	-5.05	Peak	Horizontal
	3040.0	-50.32	-47	-3.32	Peak	Vertical
165	358.2	-67.79	-57	-10.79	Peak	Horizontal
	332.8	-63.66	-57	-6.66	Peak	Vertical
	642.2	-68.46	-57	-11.46	Peak	Horizontal
	460.3	-66.37	-57	-9.37	Peak	Vertical
	1196.2	-55.07	-47	-8.07	Peak	Horizontal
	1502.6	-52.43	-47	-5.43	Peak	Vertical
	2089.8	-56.41	-47	-9.41	Peak	Horizontal
	2113.0	-54.46	-47	-7.46	Peak	Vertical

Test Engineer	Milo Li	Temperature	26°C
Test Date	08-10-2014	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
149	150.8	-73.37	-57	-16.37	Peak	Horizontal
	279.9	-62.39	-57	-5.39	Peak	Vertical
	401.5	-71.77	-57	-14.77	Peak	Horizontal
	488.6	-66.59	-57	-9.59	Peak	Vertical
	2044.5	-54.49	-47	-7.49	Peak	Horizontal
	1548.0	-54.11	-47	-7.11	Peak	Vertical
	3040.2	-50.15	-47	-3.15	Peak	Horizontal
	3144.1	-54.08	-47	-7.08	Peak	Vertical
165	318.4	-67.59	-57	-10.59	Peak	Horizontal
	354.4	-66.16	-57	-9.16	Peak	Vertical
	716.3	-65.97	-57	-8.97	Peak	Horizontal
	458.9	-64.44	-57	-7.44	Peak	Vertical
	1201.8	-53.61	-47	-6.61	Peak	Horizontal
	1555.1	-55.20	-47	-8.20	Peak	Vertical
	2076.0	-52.48	-47	-5.48	Peak	Horizontal
	1950.8	-54.62	-47	-7.62	Peak	Vertical

Test by Dipole Antenna – 2dBi

Test Engineer	Milo Li	Temperature	26°C
Test Date	08-10-2014	Relative Humidity	54%
Test Mode	802.11a – Ant 0	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
149	212.0	-71.33	-57	-14.33	Peak	Horizontal
	27.2	-68.76	-57	-11.76	Peak	Vertical
	395.8	-67.75	-57	-10.75	Peak	Horizontal
	269.6	-61.59	-57	-4.59	Peak	Vertical
	2066.3	-53.75	-47	-6.75	Peak	Horizontal
	1407.8	-56.03	-47	-9.03	Peak	Vertical
	2876.4	-53.05	-47	-6.05	Peak	Horizontal
	2117.1	-51.36	-47	-4.36	Peak	Vertical
165	350.9	-72.98	-57	-15.98	Peak	Horizontal
	187.1	-67.34	-57	-10.34	Peak	Vertical
	615.3	-73.09	-57	-16.09	Peak	Horizontal
	461.1	-68.57	-57	-11.57	Peak	Vertical
	2130.5	-55.34	-47	-8.34	Peak	Horizontal
	2231.5	-53.72	-47	-6.72	Peak	Vertical
	3854.1	-49.72	-47	-2.72	Peak	Horizontal
	2595.9	-51.81	-47	-4.81	Peak	Vertical

Test Engineer	Milo Li	Temperature	26°C
Test Date	08-10-2014	Relative Humidity	54%
Test Mode	802.11a – Ant 1	Test Site	AC1

Channel	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
149	331.1	-71.63	-57	-14.63	Peak	Horizontal
	372.1	-65.32	-57	-8.32	Peak	Vertical
	661.9	-70.32	-57	-13.32	Peak	Horizontal
	541.5	-64.59	-57	-7.59	Peak	Vertical
	2173.1	-52.98	-47	-5.98	Peak	Horizontal
	2124.3	-57.30	-47	-10.30	Peak	Vertical
	2937.4	-55.66	-47	-8.66	Peak	Horizontal
	3146.3	-50.85	-47	-3.85	Peak	Vertical
165	311.5	-69.77	-57	-12.77	Peak	Horizontal
	235.6	-65.79	-57	-8.79	Peak	Vertical
	645.8	-68.77	-57	-11.77	Peak	Horizontal
	589.8	-65.98	-57	-8.98	Peak	Vertical
	2036.0	-53.30	-47	-6.30	Peak	Horizontal
	1470.4	-58.45	-47	-11.45	Peak	Vertical
	2974.7	-54.93	-47	-7.93	Peak	Horizontal
	2165.8	-56.43	-47	-9.43	Peak	Vertical

Test Engineer	Milo Li	Temperature	26°C
Test Date	08-10-2014	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
149	161.8	-70.79	-57	-13.79	Peak	Horizontal
	200.6	-67.31	-57	-10.31	Peak	Vertical
	365.6	-68.05	-57	-11.05	Peak	Horizontal
	594.6	-64.44	-57	-7.44	Peak	Vertical
	2009.2	-57.18	-47	-10.18	Peak	Horizontal
	1416.9	-55.30	-47	-8.30	Peak	Vertical
	3084.1	-54.17	-47	-7.17	Peak	Horizontal
	3047.6	-52.62	-47	-5.62	Peak	Vertical
165	479.3	-72.28	-57	-15.28	Peak	Horizontal
	379.9	-65.39	-57	-8.39	Peak	Vertical
	687.3	-73.26	-57	-16.26	Peak	Horizontal
	498.9	-66.29	-57	-9.29	Peak	Vertical
	1088.0	-56.73	-47	-9.73	Peak	Horizontal
	1465.8	-51.39	-47	-4.39	Peak	Vertical
	2075.5	-54.61	-47	-7.61	Peak	Horizontal
	1998.4	-55.94	-47	-8.94	Peak	Vertical

Test Engineer	Milo Li	Temperature	26°C
Test Date	08-10-2014	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
149	129.2	-76.00	-57	-19.00	Peak	Horizontal
	270.3	-63.94	-57	-6.94	Peak	Vertical
	463.3	-67.48	-57	-10.48	Peak	Horizontal
	446.0	-64.23	-57	-7.23	Peak	Vertical
	1958.8	-56.93	-47	-9.93	Peak	Horizontal
	1596.4	-54.18	-47	-7.18	Peak	Vertical
	3013.4	-51.18	-47	-4.18	Peak	Horizontal
	3185.4	-54.73	-47	-7.73	Peak	Vertical
165	422.9	-68.50	-57	-11.50	Peak	Horizontal
	320.0	-63.97	-57	-6.97	Peak	Vertical
	589.6	-67.50	-57	-10.50	Peak	Horizontal
	537.2	-68.22	-57	-11.22	Peak	Vertical
	1175.7	-54.19	-47	-7.19	Peak	Horizontal
	1420.7	-54.70	-47	-7.70	Peak	Vertical
	2117.6	-55.85	-47	-8.85	Peak	Horizontal
	2095.3	-56.60	-47	-9.60	Peak	Vertical

Test Engineer	Milo Li	Temperature	26°C
Test Date	08-10-2014	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
149	191.0	-72.09	-57	-15.09	Peak	Horizontal
	247.3	-67.42	-57	-10.42	Peak	Vertical
	378.9	-67.24	-57	-10.24	Peak	Horizontal
	586.8	-63.92	-57	-6.92	Peak	Vertical
	2119.6	-53.42	-47	-6.42	Peak	Horizontal
	1417.9	-57.19	-47	-10.19	Peak	Vertical
	2971.2	-53.80	-47	-6.80	Peak	Horizontal
	2993.7	-55.55	-47	-8.55	Peak	Vertical
165	351.3	-69.19	-57	-12.19	Peak	Horizontal
	344.0	-65.00	-57	-8.00	Peak	Vertical
	735.8	-69.23	-57	-12.23	Peak	Horizontal
	526.6	-64.79	-57	-7.79	Peak	Vertical
	1128.2	-53.77	-47	-6.77	Peak	Horizontal
	1399.9	-51.95	-47	-4.95	Peak	Vertical
	2133.6	-52.03	-47	-5.03	Peak	Horizontal
	2123.4	-52.05	-47	-5.05	Peak	Vertical

9. Dynamic Frequency Selection (DFS)

Please refer to report number 1407RSU04204-CE-EN302 502 DFS Report.

10. Measurement Uncertainty

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

Parameter	Uncertainty
Radio Frequency	$\pm 1 \times 10^{-5}$
RF output power, conducted	± 1.5 dB
Power Spectral Density, conducted	± 3 dB
Temperature	± 1 °C
Humidity	± 5 %
DC and low frequency voltages	± 3 %
Time	± 5 %
Duty Cycle	± 5 %

11. Test Photograph

Description: Radiated Spurious Emissions Test Setup for Below 1GHz (Panel Antenna 25dBi)



Description: Radiated Spurious Emissions Test Setup for Above 1GHz (Panel Antenna 25dBi)



Description: Radiated Spurious Emissions Test Setup for Above 18GHz (Panel Antenna 25dBi)



Description: Radiated Spurious Emissions Test Setup for Below 1GHz (Dipole Antenna 2dBi)



Description: Radiated Spurious Emissions Test Setup for Above 1GHz (Dipole Antenna 2dBi)



Description: Radiated Spurious Emissions Test Setup for Above 18GHz (Dipole Antenna 2dBi)



12. List of Measuring Instrument

Carrier Frequencies

Instrument	Manufacturer	Type No.	Cali. Interval	Cali. Due Date
Spectrum Analyzer	Agilent	E4447A	1 year	2014/11/08
DC Power Supply	GWINSTEK	GPS-3030D	1 year	2014/11/14
Programmable Temperature & Humidity Chamber	BAOYT	BYH-1500L	1 year	2014/11/20
Temperature/Humidity Meter	Anymetre	TH101B	1 year	2014/11/15

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

Instrument	Manufacturer	Type No.	Cali. Interval	Cali. Due Date
Power Meter	Agilent	U2021XA	1 year	2014/12/14
DC Power Supply	GWINSTEK	GPS-3030D	1 year	2014/11/14
Programmable Temperature & Humidity Chamber	BAOYT	BYH-1500L	1 year	2014/11/20
Temperature/Humidity Meter	Anymetre	TH101B	1 year	2014/11/15

Transmitter Unwanted Emissions Within the 5GHz RLAN Bands

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

Transmitter Spurious Emissions and Receiver Spurious Emissions

Instrument	Manufacturer	Type No.	Cali. Interval	Cal. Due Date
Spectrum Analyzer	Agilent	E4447A	1 year	2014/11/08
Preamplifier	MRT	AP25M01	1 year	2014/10/07
Preamplifier	MRT	AP01G18	1 year	2014/12/14
Bilog Period Antenna	Schwarzbeck	VULB 9162	1 year	2014/11/24
Horn Antenna	Schwarzbeck	BBHA9120D	1 year	2014/11/24
Broadband Horn Antenna	Schwarzbeck	BBHA9170	1 year	2014/12/11
Temperature/Humidity Meter	Anymetre	TH101B	1 year	2014/11/15

Appendix

EUT Photograph

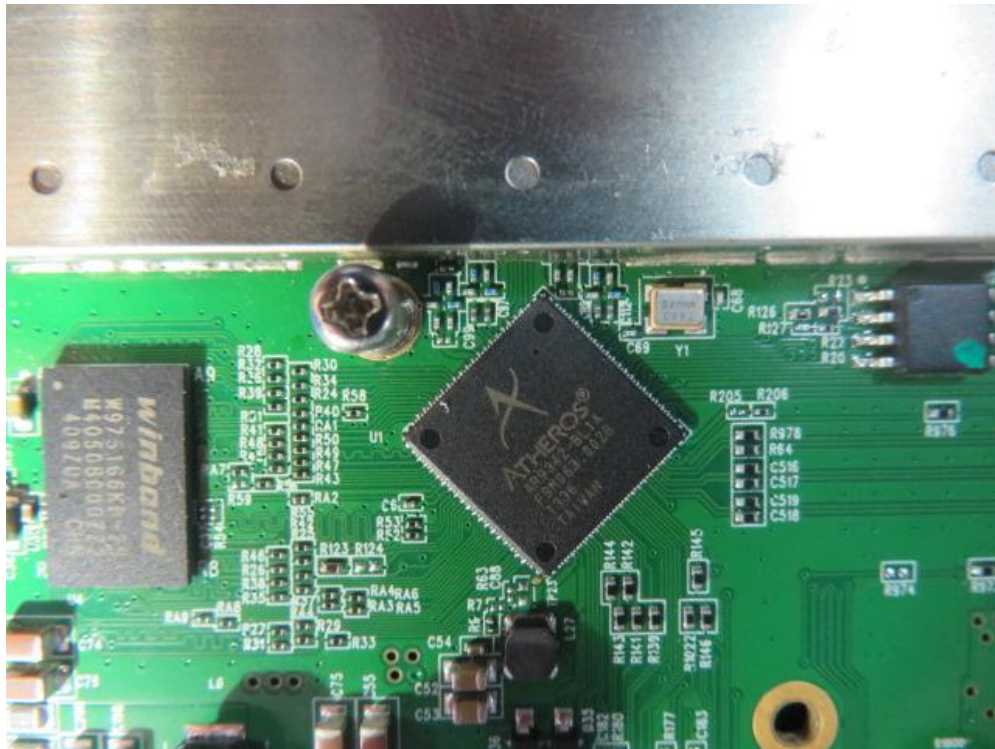
(1) EUT Photo



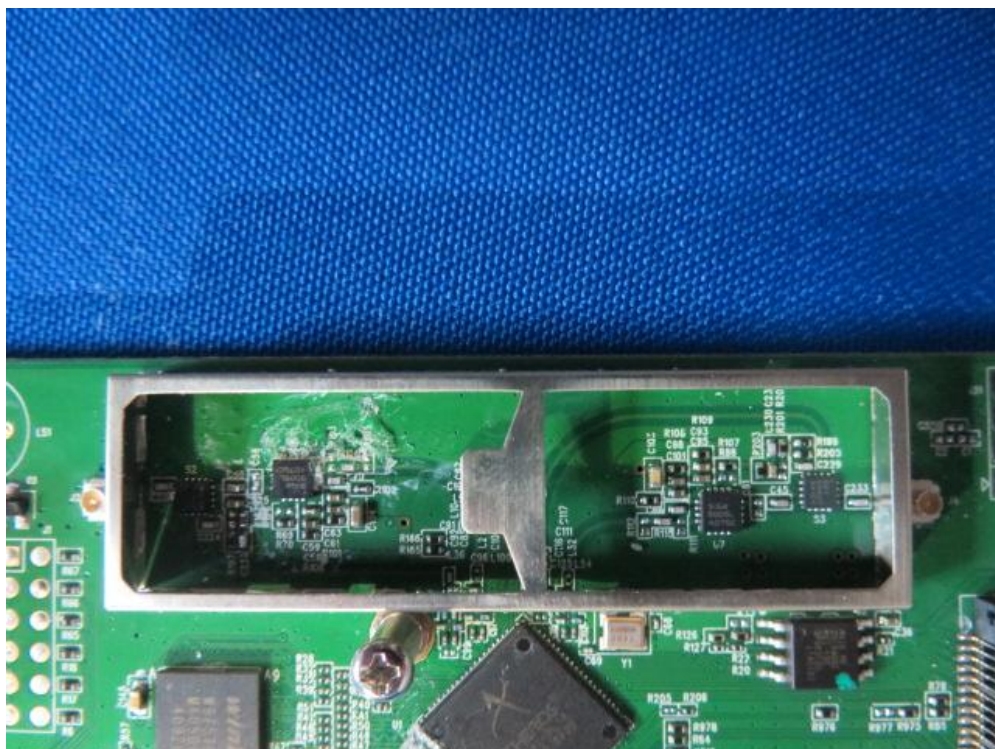
(2) EUT Photo



(3) EUT Photo



(4) EUT Photo



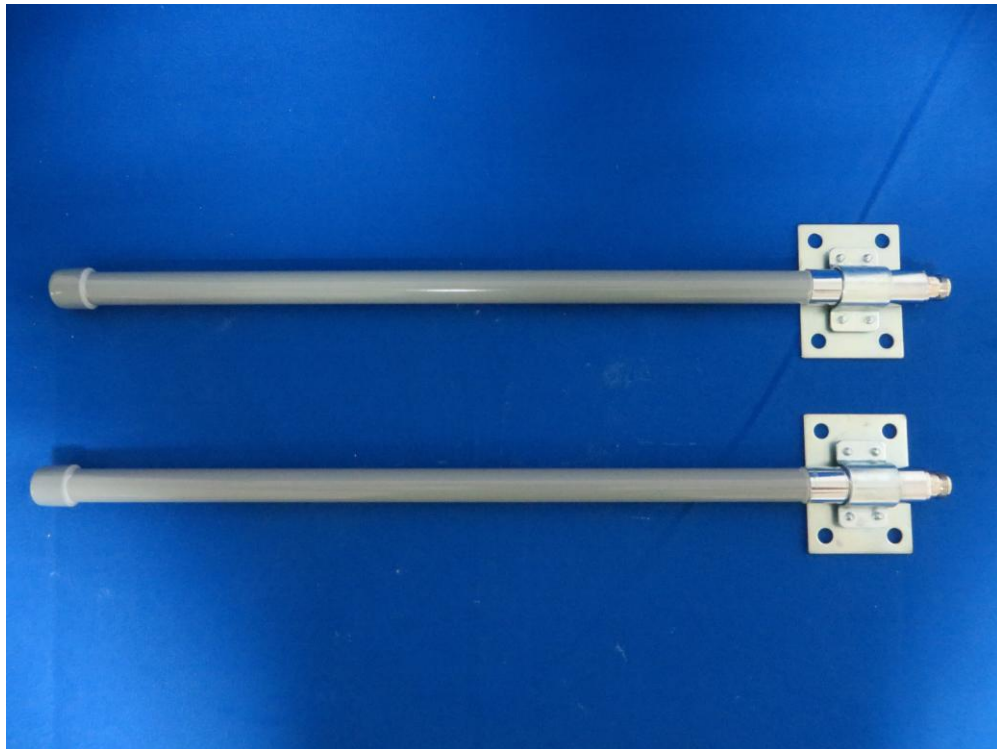
(5) EUT Photo (Dipole Antenna 1#)



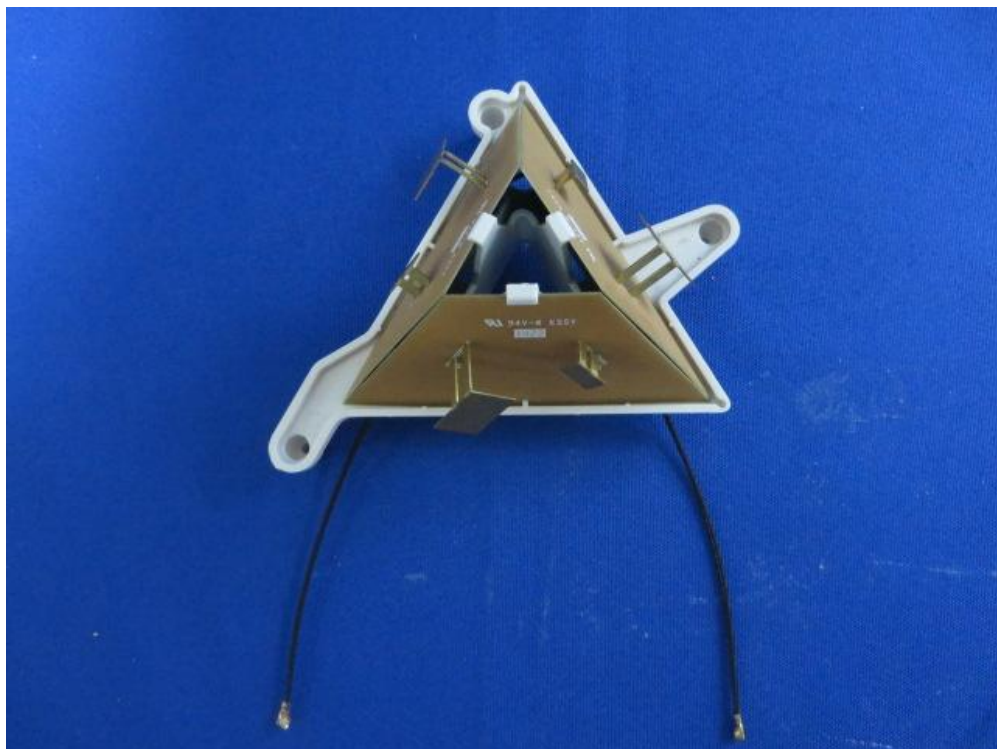
(6) EUT Photo (Panel Antenna 5#)



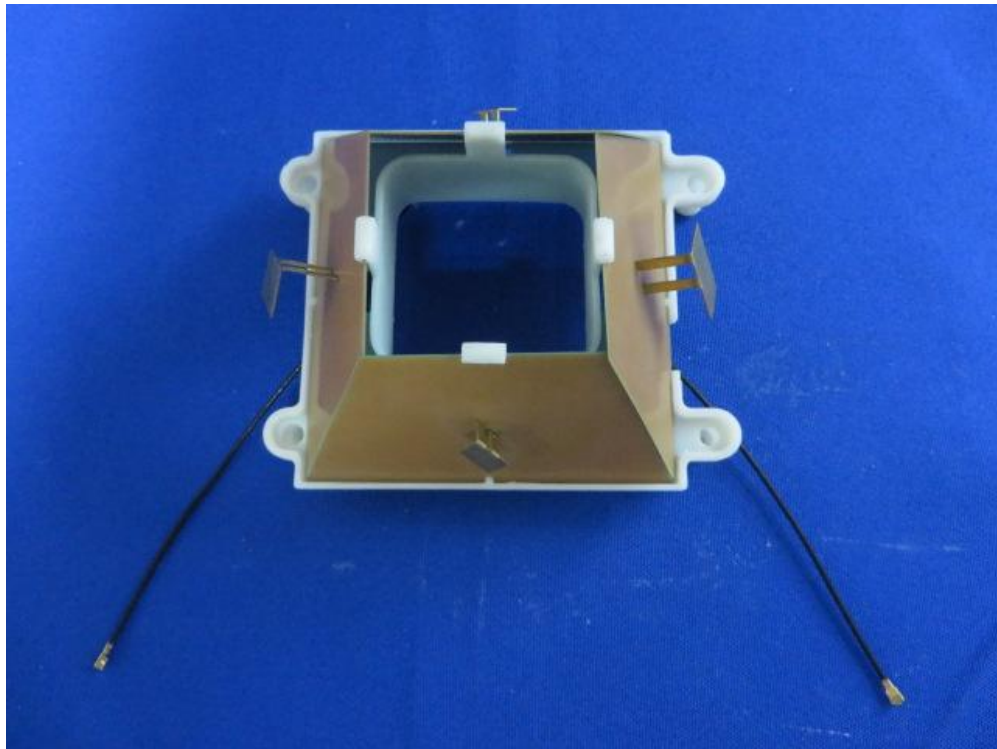
(7) EUT Photo (Panel Antenna 4#)



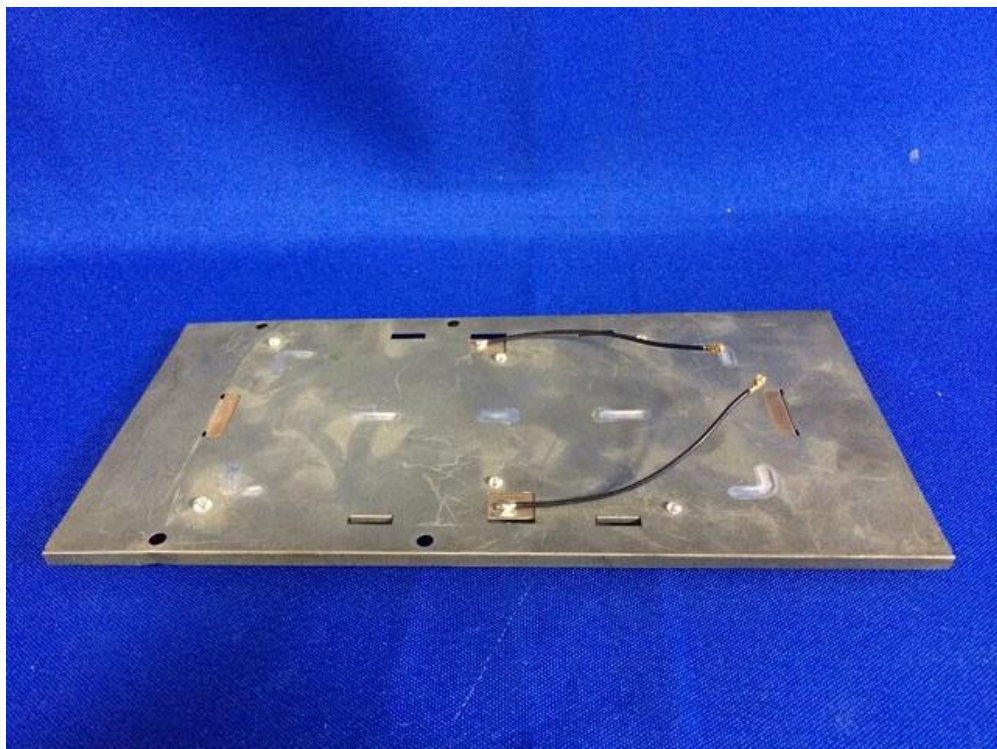
(8) EUT Photo (Panel Antenna 6#)



(9) EUT Photo (Panel Antenna 7#)



(10) EUT Photo (Panel Antenna 3#)



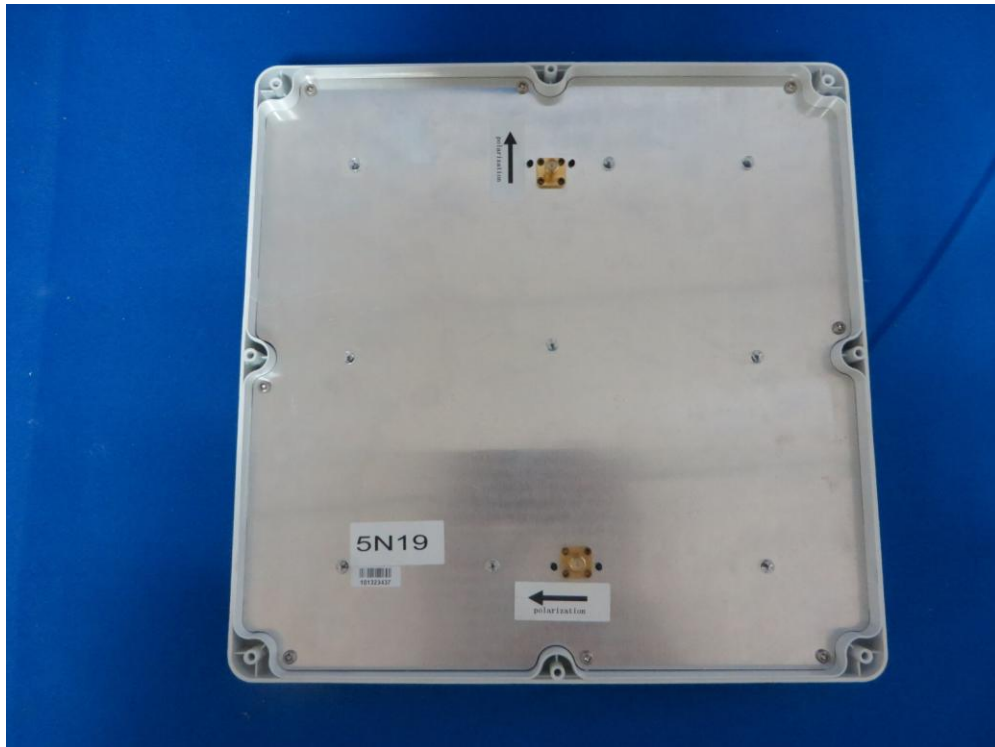
(11) EUT Photo (Panel Antenna 3#)



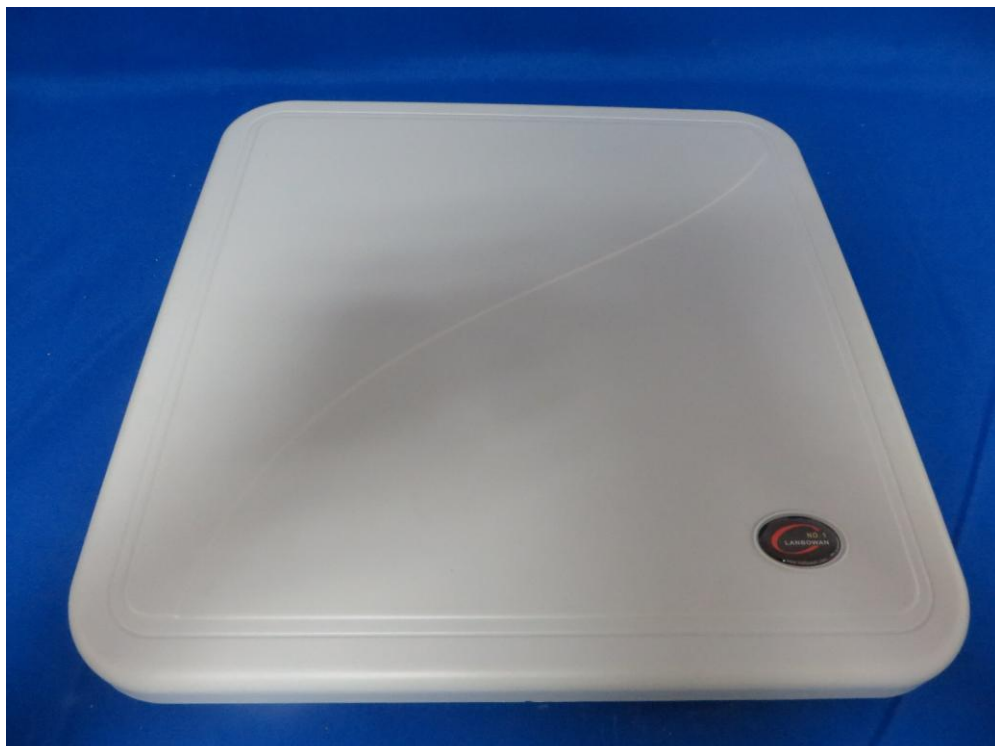
(12) EUT Photo (Panel Antenna 2#)



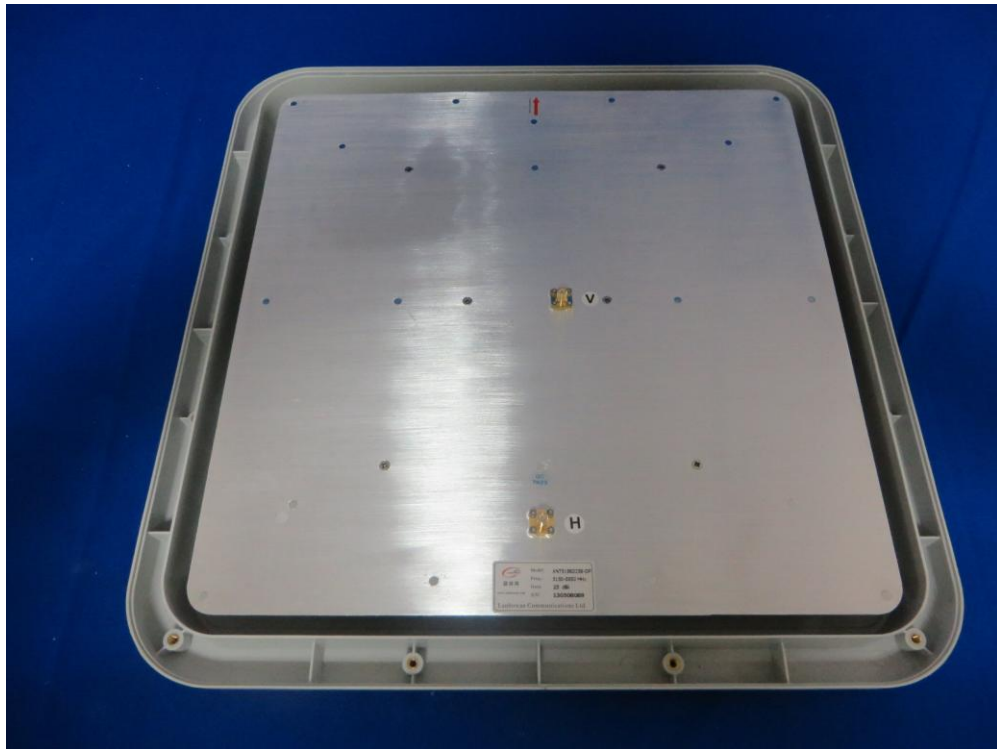
(13) EUT Photo (Panel Antenna 2#)



(14) EUT Photo (Panel Antenna 1#)



(15) EUT Photo (Panel Antenna 1#)



(16) EUT Photo (Adapter 1#)



(17) EUT Photo (Adapter 1#)



(18) EUT Photo (Adapter 1#)



(19) EUT Photo (Adapter 2#)



(20) EUT Photo (Adapter 2#)



(21) EUT Photo (Adapter 2#)



(22) EUT Photo (Adapter 2#)



The End
