

RF TEST REPORT

Applicant ID TECH

FCC ID WQJ-IDCL-51

Brand ID TECH

Product AC100

Model IDCL-51

Report No. RXA1604-0066RF03

Issue Date May 27, 2016

TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC CFR47 Part 15E (2015)**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Preformed by: Lingling Kang

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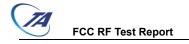
TABLE OF CONTENT

1.	. Tes	st Laboratory	
	1.1.	Notes of the test report	
	1.2.	Test facility	
	1.3.	Testing Location	
2.	. Ge	eneral Description of Equipment under Test	6
3.		st Information	
4.		st Configuration	
5.		st Case Results	
	5.1.	Peak Power Output –Conducted	
	5.2.	Occupied Bandwidth	11
	5.3.	Frequency Stability	14
	5.4.	Power Spectral Density	18
	5.5.	Unwanted Emission	22
	5.6.	Conducted Emission	51
6.	. Ma	ain Test Instruments	56
Α	NNEX	(A: EUT Appearance and Test Setup	57
		EUT Appearance	
	A.2 T	est Setup	58



Summary of measurement results

Number	Summary of measurements of results	Clause in FCC rules	Verdict			
1	Maximum peak conducted output power	15.407(a)	PASS			
2	Occupied bandwidth	15.407(e)	PASS			
3	Frequency stability	15.407(g)	PASS			
4	Maximum power spectral density	15.407(a)	PASS			
5	Unwanted Emissions	15.407(b)	PASS			
6	Conducted Emissions	15.207	PASS			
	Date of Testing: April 22, 2016~ May 4, 2016					



1. Test Laboratory

1.1. Notes of the test report

This report shall not be reproduced in full or partial, without the written approval of TA technology (shanghai) co., Ltd). The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein . Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of the applicable standards stated above. This report must not be used by the client to claim product certification, approval, or endorsement by CNAS or any government agencies.

1.2. Test facility

CNAS (accreditation number:L2264)

TA Technology (Shanghai) Co., Ltd. has obtained the accreditation of China National Accreditation Service for Conformity Assessment (CNAS).

FCC (recognition number is 428261)

TA Technology (Shanghai) Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

IC (recognition number is 8510A)

TA Technology (Shanghai) Co., Ltd. has been listed by industry Canada to perform electromagnetic emission measurement.

VCCI (recognition number is C-4595, T-2154, R-4113, G-766)

TA Technology (Shanghai) Co., Ltd. has been listed by industry Japan to perform electromagnetic emission measurement.

A2LA (Certificate Number: 3857.01)

TA Technology (Shanghai) Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform electromagnetic emission measurement.

Report No: RXA1604-0066RF03

FCC RF Test Report No: RXA1604-0066RF03

1.3. Testing Location

Company: TA Technology (Shanghai) Co., Ltd.

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FCC RF Test Report No: RXA1604-0066RF03

2. General Description of Equipment under Test

Client Information

Applicant	ID TECH	
Applicant address	10721 Walker Street, Cypress, CA, 90630	
Manufacturer	ID TECH	
Manufacturer address	10721 Walker Street, Cypress, CA, 90630	

General information

	EUT Description				
Model:	IDCL-51				
SN:	617T000007				
Hardware Version:	80144301				
Software Version:	ID TECH AC100 V1.00				
Power Supply:	AC Power Supply				
Antenna Type:	Internal Antenna				
Antenna Gain:	3.3dBi				
Test Mode:	U-NII-1(5150MHz-5250MHz) U-NII-3(5725MHz-5850MHz)				
Modulation Type:	802.11a: OFDM				
Max. Conducted Power	802.11a: 12.73 dBm				
Operating Frequency Range(s)	U-NII-1: 5150-5250MHz U-NII-3: 5725MHz-5850MHz				
	EUT Accessory				
Adapter	Manufacture:BSY Model: BSYH050200UU Input: 100-240Vac 50/60Hz 0.4A Output: 5.0Vdc 2.0A				
	the EUT is declared by the manufacturer. e specifications or user manual for details.				

3. Test Information

According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC CFR47 Part 15E (2015) Unlicensed National Information Infrastructure Devices

ANSI C63.10 (2013)

KDB789033 D02 General UNII Test Procedures New Rules v01r02

KDB 662911 D01 Multiple Transmitter Output v02r01

Report No: RXA1604-0066RF03

CC RF Test Report No: RXA1604-0066RF03

4. Test Configuration

Test Mode

The EUT was programmed to be in continuously transmitting mode and the transmit duty cycle is not less than 98%.

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

The radiated emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in stand-up position (Z axis) and the worst case was recorded.

In order to find the worst case condition, Pre-tests are needed at the presence of different data rate. Preliminary tests have been done on the all configuration for confirming worst case. Data rate below means worst-case rate of each test item.

Worst-case data rates are shown as following table.

Band		Data Rate
802.11a	U-NII-1	6 Mbps
	U-NII-3	54 Mbps

C RF Test Report No: RXA1604-0066RF03

5. Test Case Results

5.1. Peak Power Output -Conducted

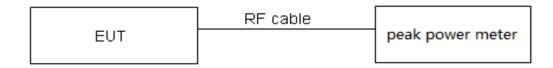
Ambient condition

Temperature Relative humidity		Pressure	
23°C ~25°C	45%~50%	101.5kPa	

Methods of Measurement

During the process of the testing, The EUT was connected to the peak power meter through an external attenuator and a known loss cable. The EUT is max power transmission with proper modulation. We use Maximum Peak Conducted Output Power Level Method in KDB789033 for this test

Test Setup



Limits

Rule FCC Part 15.407(a)

For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi.

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz.

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2, U = 0.44 dB.

Test Results

Network	Channel/	Peak Output Power (dBm)			
Standards	Frequency (MHz)	6M	54M	Limit(dBm)	Conclusion
LLAULA	36/5180	11.63	11.01	30.00	PASS
U-NII-1 802.11a	40/5200	11.51	10.87	30.00	PASS
002.11a	48/5240	11.19	10.58	30.00	PASS
11 111 0	149/5745	12.13	11.39	30.00	PASS
U-NII-3 802.11a	157/5785	12.35	11.92	30.00	PASS
002.11a	161/5805	12.11	12.73	30.00	PASS

CC RF Test Report No: RXA1604-0066RF03

5.2. Occupied Bandwidth

Ambient condition

Temperature Relative humidity		Pressure	
23°C ~25°C	45%~50%	101.5kPa	

Method of Measurement

The EUT was connected to the spectrum analyzer through an external attenuator (20dB) and a known loss cable.

Set RBW \approx 1% OCB kHz, VBW \geq 3 × RBW, measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 26 dB relative to the maximum level measured in the fundamental emission.

Note: The automatic bandwidth measurement capability of a spectrum analyzer or EMI receiver may be employed if it implements the functionality described above.

Use the 99 % power bandwidth function of the instrument

Test Setup



Limits

Rule FCC Part 15.407(e)

Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

Measurement Uncertainty

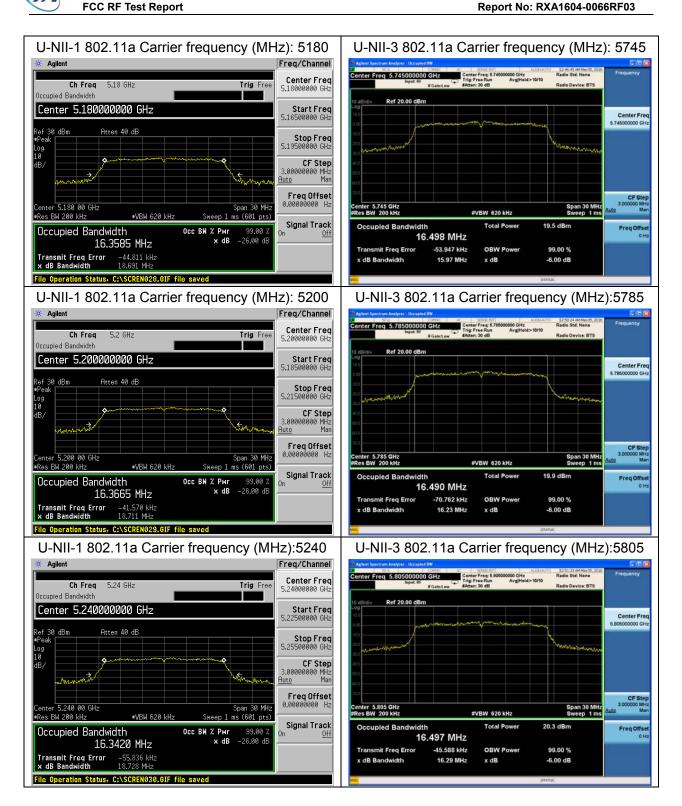
The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2, U = 936 Hz.

Test Results:

Network Standards	Carrier frequency (MHz)	99% bandwidth (MHz)	Minimum 26 dB bandwidth (MHz)	Conclusion
11 NIII 4	5180	16.3585	18.691	PASS
U-NII-1 802.11a	5200	16.3665	18.711	PASS
002.11a	5240	16.3420	18.728	PASS

Network Standards	Carrier frequency (MHz)	99% bandwidth (MHz)	Minimum 6 dB bandwidth (MHz)	Limit(kHz)	Conclusion
LI NIII 2	5745	16.498	15.97	500	PASS
U-NII-3 802.11a	5785	16.490	16.23	500	PASS
002.11d	5805	16.497	16.29	500	PASS





CC RF Test Report No: RXA1604-0066RF03

5.3. Frequency Stability

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

- 1. Frequency stability with respect to ambient temperature
- a) Supply the EUT with a nominal ac voltage or install a new or fully charged battery in the EUT. If possible, a dummy load shall be connected to the EUT because an antenna near the metallic walls of an environmental test chamber could affect the output frequency of the EUT. If the EUT is equipped with a permanently attached, adjustable-length antenna, then the EUT shall be placed in the center of the chamber with the antenna adjusted to the shortest length possible. Turn ON the EUT and tune it to one of the number of frequencies shown in 5.6.
- b) Couple the unlicensed wireless device output to the measuring instrument by connecting an antenna to the measuring instrument with a suitable length of coaxial cable and placing the measuring antenna near the EUT (e.g., 15 cm away), or by connecting a dummy load to the measuring instrument, through an attenuator if necessary.
- c) Adjust the location of the measurement antenna and the controls on the measurement instrument to obtain a suitable signal level (i.e., a level that will not overload the measurement instrument but is strong enough to allow measurement of the operating or fundamental frequency of the EUT).
- d) Turn the EUT OFF and place it inside the environmental temperature chamber. For devices that have oscillator heaters, energize only the heater circuit.
- e) Set the temperature control on the chamber to the highest specified in the regulatory requirements for the type of device and allow the oscillator heater and the chamber temperature to stabilize.
- f) While maintaining a constant temperature inside the environmental chamber, turn the EUT ON and record the operating frequency at startup, and at 2 minutes, 5 minutes, and 10 minutes after the EUT is energized. Four measurements in total are made.
- g) Measure the frequency at each of frequencies specified in 5.6.
- h) Switch OFF the EUT but do not switch OFF the oscillator heater.
- i) Lower the chamber temperature by not more that 10 C, and allow the temperature inside the chamber to stabilize.
- j) Repeat step f) through step i) down to the lowest specified temperature.
- 2. Frequency stability when varying supply voltage
- Unless otherwise specified, these tests shall be made at ambient room temperature (+15 C to +25 C). An antenna shall be connected to the antenna output terminals of the EUT if possible. If the EUT is equipped with or uses an adjustable-length antenna, then it shall be fully extended.
- a) Supply the EUT with nominal voltage or install a new or fully charged battery in the EUT. Turn ON the EUT and couple its output to a frequency counter or other frequency-measuring instrument.



FCC RF Test Report Report Report No: RXA1604-0066RF03

b) Tune the EUT to one of the number of frequencies required in 5.6. Adjust the location of the measurement antenna and the controls on the measurement instrument to obtain a suitable signal level (i.e., a level that will not overload the measurement instrument but is strong enough to allow measurement of the operating or fundamental frequency of the EUT).

- c) Measure the frequency at each of the frequencies specified in 5.6.
- d) Repeat the above procedure at 85% and 115% of the nominal supply voltage.

Limit

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the users manual.

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2, U = 936Hz



Test Results

	Test Results / 5 V Power supply				
Temperature (°C)	5200MHz				
	1min	2min	5min	10min	
-20	5199.970	5199.965	5199.953	5199.950	
-10	5199.970	5199.965	5199.952	5199.950	
0	5199.969	5199.965	5199.952	5199.948	
10	5199.968	5199.964	5199.952	5199.948	
20	5199.967	5199.954	5199.951	5199.947	
30	5199.967	5199.954	5199.951	5199.946	
40	5199.966	5199.953	5199.951	5199.945	
50	5199.966	5199.953	5199.95	5199.944	
MHz	0.0345	0.0472	0.0497	0.0556	
PPM	6.63	9.07	9.55	10.69	

Voltage (V)	Test Results / 20°C					
	5200MHz					
	1min	2min	5min	10min		
4.5	5199.963	5199.962	5199.961	5199.959		
5	5199.962	5199.961	5199.959	5199.957		
5.5	5199.961	5199.96	5199.959	5199.957		
MHz	0.0392	0.0401 0.0415		0.0433		
PPM	7.54	7.71	7.98	8.33		

	Test Results / 5V Power supply					
Temperature (°C)		578	5MHz			
, ,	1min	2min	5min	10min		
-20	5784.9541	5784.9555	5784.9511	5784.9517		
-10	5784.9526	5784.9541	5784.9498	5784.9506		
0	5784.9512	5784.9525	5784.9479	5784.9484		
10	5784.9499	5784.9513	5784.9471	5784.948		
20	5784.9487	5784.9501	5784.9458	5784.9466		
30	5784.9473	5784.9489	5784.9448	5784.9459		
40	5784.9458	5784.9472	5784.9429	5784.9437		
50	5784.9441	5784.9471	5784.9426	5784.952		
MHz	-0.0559	0.0574	0.0589	-0.0563		
PPM	9.66	9.92	10.18	9.73		

Voltage (V)	Test Results / 20°C					
	5785MHz					
	1min	2min	5min	10min		
4.5	5784.9516	5784.9505	5784.949	5784.947		
5	5784.9504	5784.9491	5784.9475	5784.9456		
5.5	5784.949	5784.9481	5784.9467	5784.9449		
MHz	-0.051	-0.0519	-0.0533	-0.0551		
PPM	8.81	8.97	9.21	9.52		

CC RF Test Report Report No: RXA1604-0066RF03

5.4. Power Spectral Density

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

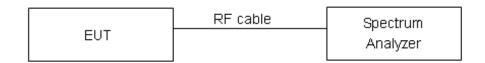
The EUT was connected to the spectrum analyzer through an external attenuator (20dB) and a known loss cable.

Set RBW = 1 MHz, VBW =3MHz on spectrum analyzer for U-NII-1

Set RBW = 510 MHz, VBW =1.5MHz on spectrum analyzer for U-NII-3

The conducted PSD is measured at each antenna port. The measured results at the various antenna ports are then summed mathematically.

Test setup



Limits

Rule FCC Part 15.407(a)(3)/ Part 15.407(a)(1)

For an indoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the band 5.725-5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmittingantennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum powerspectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Frequency Bands/MHz	Limits
U-NII-1	17dBm/MHz
U-NII-3	30dBm/500kHz

Measurement Uncertainty

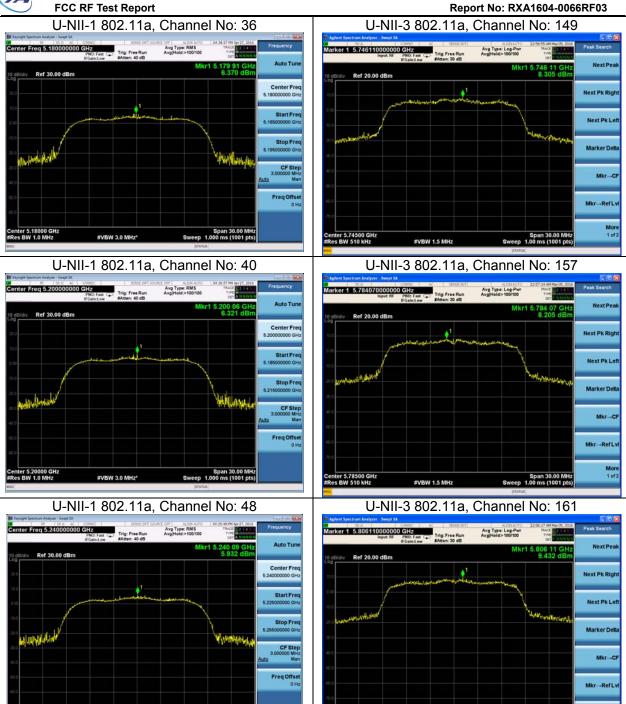
The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2, U = 0.75dB.



Test Results:

Network Standards	Channel Number	Power Spectral Density (dBm / MHz)	Limit (dBm / MHz)	Conclusion
	36	6.370	17	PASS
U-NII-1 802.11a	40	6.321	17	PASS
502.11a	48	5.932	17	PASS

Network Standards	Channel Number	Power Spectral Density Limit (dBm / 500kHz) (dBm / 500kHz)		Conclusion
	149	8.305	30	PASS
U-NII-3 802.11a	157	8.205	30	PASS
002.11d	161	9.432	30	PASS



5.5. Unwanted Emission

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Report No: RXA1604-0066RF03

Method of Measurement

The test set-up was made in accordance to the general provisions of ANSI C63.10-2013. The Equipment Under Test (EUT) was set up on a non-conductive table in the semi-anechoic chamber. The test was performed at the distance of 3 m between the EUT and the receiving antenna. The radiated emissions measurements were made in a typical installation configuration. Sweep the whole frequency band range from 9kHz to the 10th harmonic of the carrier, and the emissions less than 20 dB below the permissible value are reported.

During the test, the height of receive antenna shall be moved from 1 to 4 meters, and the antenna shall be performed under horizontal and vertical polarization. The turntable shall be rotated from 0 to 360 degrees for detecting the maximum of radiated spurious signal level. The measurements shall be repeated with orthogonal polarization of the test antenna. The data of cable loss and antenna factor has been calibrated in full testing frequency range before the testing.

Set the spectrum analyzer in the following:

Below 1GHz (detector: Peak and Quasi-Peak) RBW=100kHz / VBW=300kHz / Sweep=AUTO

Above 1GHz (detector: Peak):

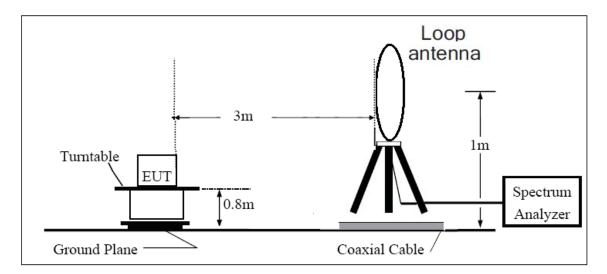
(a) PEAK: RBW=1MHz VBW=3MHz/ Sweep=AUTO

(b) AVERAGE: RBW=1MHz / VBW=3MHz / Sweep=AUTO

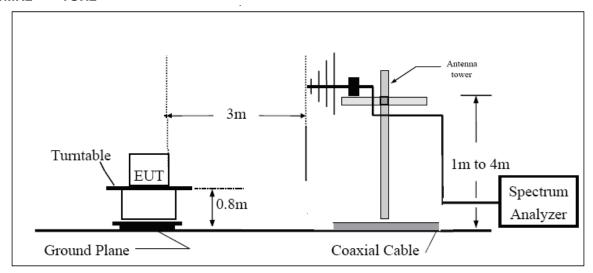
The radiated emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in stand-up position (Z axis) and the worst case was recorded.

The test is in transmitting mode.

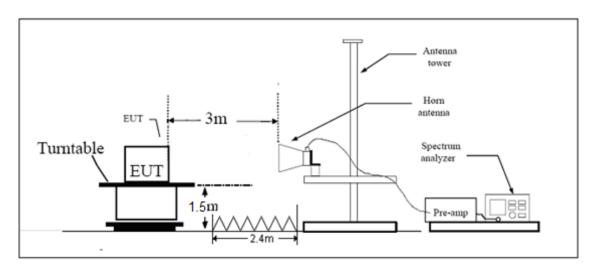
9KHz~~~30MHz



30MHz~~~ 1GHz



Above 1GHz



Note: Area side:2.4mX3.6m

(1) For transmitters operating in the 5725-5850 MHz band: all emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an EIRP of -17dBm/MHz (78.3dBµV/m); for frequencies 10MHz or greater above or below the band edge, emissions shall not exceed an EIRP of -27dBm/MHz(68.3dBµV/m).

Note: The following formula is used to convert the EIRP to field strength.

$$E = \frac{1000000\sqrt{30P}}{3}$$
 µV/m, where P is the eirp (Watts)

EIRP (dBm)	Field Strength at 3m (dBμV/m)
-17	78.3
- 27	68.3

- (2) For transmitters operating in the 5.15-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz(68.3dBµV/m).
- (3) Unwanted spurious emissions fallen in restricted bands per FCC Part15.205 shall comply with the general field strength limits set forth in § 15.209 as below table.

Frequency of emission (MHz)	Field strength(uV/m)	Field strength(dBuV/m)
0.009–0.490	2400/F(kHz)	I
0.490–1.705	24000/F(kHz)	I
1.705–30.0	30	I
30-88	100	40
88-216	150	43.5
216-960	200	46
Above960	500	54

(4) Spurious Radiated Emissions are permitted in any of the frequency bands listed below:



MHz MHz MHz GHz 0.090 - 0.110 16.42 - 16.423 399.9 - 410 4.5 - 5.15 10.495 - 0.505 16.69475 - 16.69525 608 - 614 5.35 - 5.46 2.1735 - 2.1905 16.80425 - 16.80475 7.25 - 7.75 960 - 1240 4.125 - 4.128 25.5 - 25.67 1300 - 1427 8.025 - 8.5 37.5 - 38.25 4.17725 - 4.17775 9.0 - 9.21435 - 1626.5 73 - 74.6 9.3 - 9.54.20725 - 4.20775 1645.5 - 1646.5 6.215 - 6.218 74.8 - 75.2 1660 - 1710 10.6 - 12.7 6.26775 - 6.26825 108 - 121.94 1718.8 - 1722.2 13.25 - 13.4 6.31175 - 6.31225 123 - 138 2200 - 2300 14.47 - 14.5 8.291 - 8.294 149.9 - 150.05 2310 - 2390 15.35 - 16.2 8.362 - 8.366 156.52475 - 156.52525 2483.5 - 2500 17.7 - 21.4 8.37625 - 8.38675 2690 - 2900 22.01 - 23.12 156.7 - 156.9 23.6 - 24.0 8.41425 - 8.41475 162.0125 - 167.17 3260 - 3267 12.29 - 12.293 167.72 - 173.2 3332 - 3339 31.2 - 31.8 36.43 - 36.5 12.51975 - 12.52025 240 - 285 3345.8 - 3358 12.57675 - 12.57725 322 - 335.4 3600 - 4400 (²) 13.36 - 13.41

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 1.96.

Frequency	Uncertainty		
9KHz-30MHz	3.55 dB		
30MHz-200MHz	4.19 dB		
200MHz-1GHz	3.63 dB		
1GHz-26.5G	3.68 dB		
26.5G-40GHz	4.76dB		

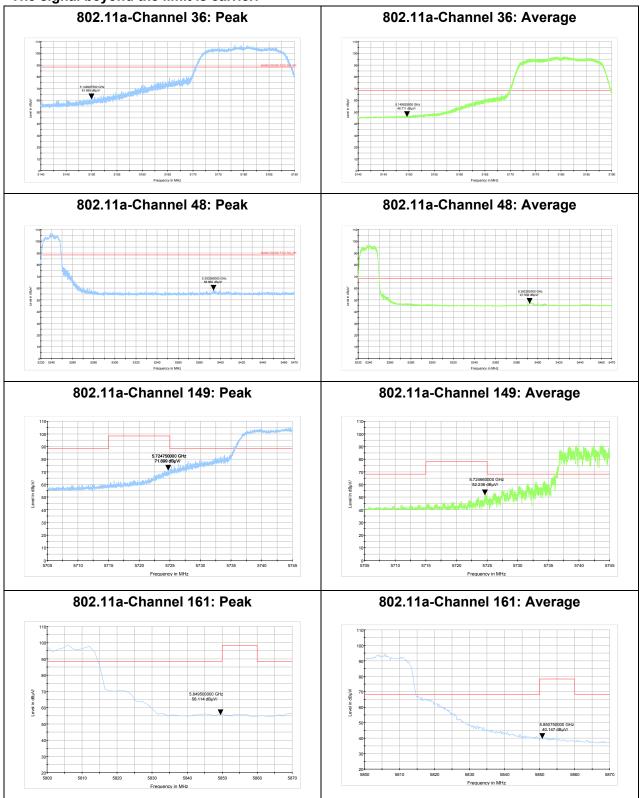
Report No: RXA1604-0066RF03

FCC RF Test Report Report Report Report Report Report No: RXA1604-0066RF03

Test Results:

PASS

The signal beyond the limit is carrier.





Result of RE

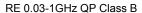
Test result

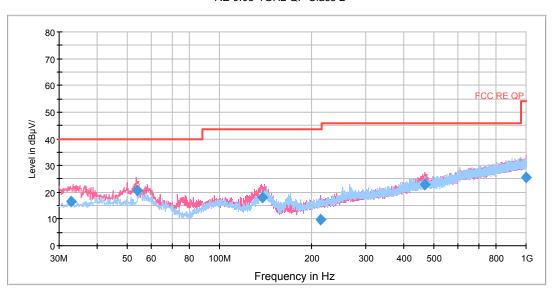
Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier, and 9KHz-30MHz, the emissions more than 20 dB below the permissible value are not reported.

Report No: RXA1604-0066RF03

U-NII-1

802.11a CH36



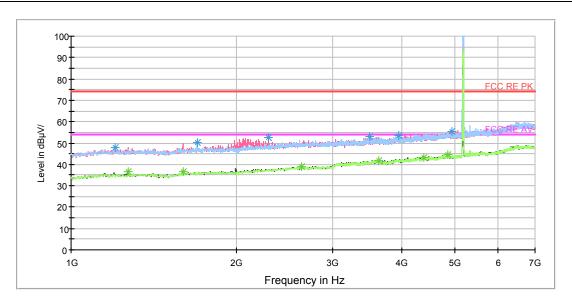


Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
32.793750	16.5	100.0	V	318.0	28.4	11.9	23.5	40.0
53.847500	20.8	100.0	V	238.0	33.6	12.8	19.2	40.0
137.705000	17.9	125.0	V	324.0	26.9	9.0	25.6	43.5
213.855000	9.7	125.0	V	84.0	22.3	12.6	33.8	43.5
468.922500	23.0	100.0	V	353.0	42.3	19.3	23.0	46.0
997.498750	25.7	100.0	V	22.0	52.2	26.5	20.3	46.0

Remark: 1. Quasi-Peak = Reading value + Correction factor

- 2. Correction Factor = Antenna factor+ Insertion loss(cable loss+amplifier gain)
- 3. Margin = Limit Quasi-Peak



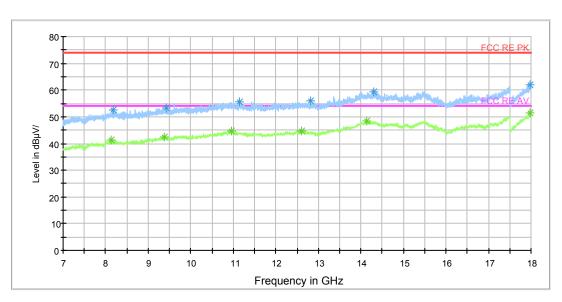
Radiates Emission from 1GHz to 7GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1201.000000	47.9	100.0	V	300.0	48.6	-0.7	26.1	74
1696.000000	50.0	100.0	Н	8.0	51.3	-1.3	24.0	74
2288.500000	52.6	100.0	V	248.0	56.5	-3.9	21.4	74
3497.500000	53.2	100.0	Н	176.0	60.5	-7.3	20.8	74
3947.500000	53.7	100.0	V	290.0	61.6	-7.9	20.3	74
4946.500000	55.4	100.0	V	344.0	65.0	-9.6	18.6	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

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Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1271.500000	36.4	100.0	V	164.0	36.7	-0.3	17.6	54
1598.500000	36.6	100.0	V	349.0	37.6	-1.0	17.4	54
2630.500000	38.8	100.0	V	357.0	44.2	-5.4	15.2	54
3638.500000	42.0	100.0	V	353.0	49.4	-7.4	12.0	54
4385.500000	43.4	100.0	Н	12.0	52.4	-9.0	10.6	54
4847.500000	44.5	100.0	Н	12.0	54.0	-9.5	9.5	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)



Radiates Emission from 7GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
8179.200000	52.7	100.0	Н	137.0	60.6	-7.9	21.3	74
9426.600000	53.3	100.0	V	0.0	63.6	-10.3	20.7	74
11153.600000	55.7	100.0	Н	264.0	70.4	-14.7	18.3	74
12810.200000	55.9	100.0	Н	87.0	72.8	-16.9	18.1	74
14312.800000	59.2	100.0	V	231.0	79.6	-20.4	14.8	74
17984.600000	62.1	100.0	V	306.0	87.8	-25.7	11.9	74

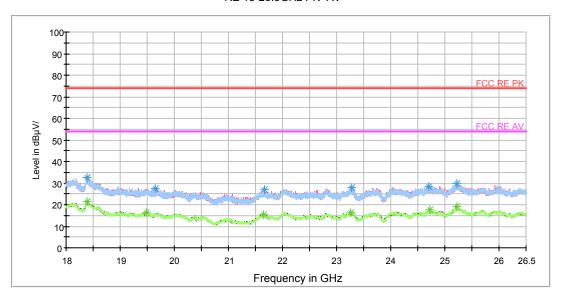
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
8126.400000	41.5	100.0	V	281.0	49.3	-7.8	12.5	54
9387.000000	42.3	100.0	Н	37.0	52.5	-10.2	11.7	54
10946.800000	44.5	100.0	Н	26.0	59.1	-14.6	9.5	54
12594.600000	44.6	100.0	Н	201.0	60.6	-16.0	9.4	54
14139.000000	48.3	100.0	Н	137.0	68.8	-20.5	5.7	54
17982.400000	51.6	100.0	Н	11.0	77.2	-25.6	2.4	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

C RF Test Report Report Report No: RXA1604-0066RF03

RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

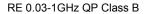
Frequency (MHz)	Peak (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18389.937500	32.5	Н	162.0	37.4	-4.9	41.5	74
19650.062500	27.6	Н	0.0	35.2	-7.6	46.4	74
21664.562500	26.8	V	4.0	36.1	-9.3	47.2	74
23287.000000	28.1	Н	194.0	35.2	-7.1	45.9	74
24707.562500	28.4	V	300.0	35.1	-6.7	45.6	74
25230.312500	29.8	V	191.0	35.7	-5.9	44.2	74

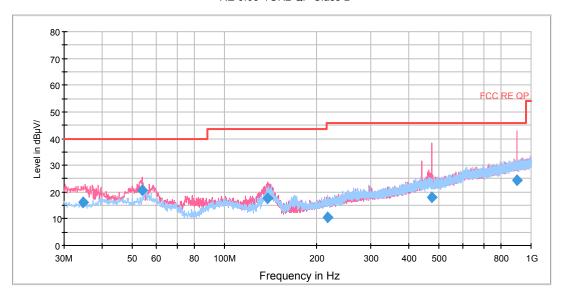
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18396.312500	21.4	V	282.0	26.3	-4.9	32.6	54
19488.562500	16.5	V	297.0	24.2	-7.7	37.5	54
21647.562500	15.1	V	80.0	24.3	-9.2	38.9	54
23266.812500	16.4	V	259.0	23.7	-7.3	37.6	54
24718.187500	17.5	V	282.0	23.9	-6.4	36.5	54
25230.312500	19.0	Н	210.0	24.9	-5.9	35.0	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11a CH40





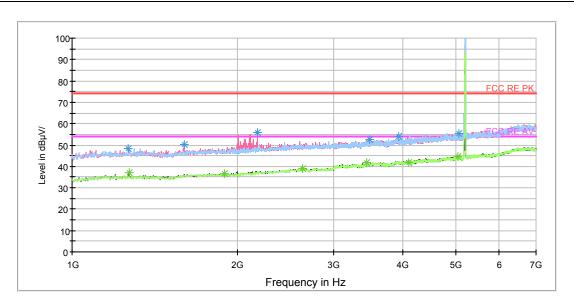
Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
34.653750	16.0	100.0	V	298.0	27.9	-11.9	24.0	40.0
53.886250	20.7	100.0	V	225.0	33.5	-12.8	19.3	40.0
138.358750	17.6	125.0	V	343.0	26.5	-8.9	25.9	43.5
217.131250	10.6	125.0	Н	317.0	23.3	-12.7	35.4	46.0
475.066250	18.2	100.0	V	132.0	37.6	-19.4	27.8	46.0
898.467500	24.5	100.0	V	72.0	50.1	-25.6	21.5	46.0

Remark: 1. Quasi-Peak = Reading value + Correction factor

- 2. Correction Factor = Antenna factor+ Insertion loss(cable loss+amplifier gain)
- 3. Margin = Limit Quasi-Peak





Radiates Emission from 1GHz to 7GHz

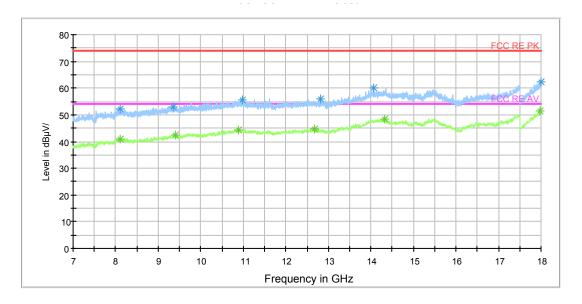
Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1267.000000	48.6	100.0	V	185.0	48.9	-0.3	25.4	74
1598.500000	50.2	100.0	V	235.0	51.2	-1.0	23.8	74
2174.500000	55.7	100.0	V	164.0	59.0	-3.3	18.3	74
3481.000000	52.6	100.0	Н	1.0	59.9	-7.3	21.4	74
3928.000000	53.9	100.0	Н	46.0	61.8	-7.9	20.1	74
5060.500000	55.4	100.0	V	129.0	65.1	-9.7	18.6	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

		Correction 1 deter Antenna lactor insertion 1000 (caste 1000 annipinior gain)						
Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1270.000000	37.1	100.0	V	185.0	37.4	-0.3	16.9	54
1891.000000	36.7	100.0	Н	4.0	38.6	-1.9	17.3	54
2632.000000	39.0	100.0	Н	76.0	44.4	-5.4	15.0	54
3446.500000	41.8	100.0	V	359.0	49.0	-7.2	12.2	54
4102.000000	41.9	100.0	V	0.0	50.2	-8.3	12.1	54
5047.000000	44.6	100.0	Н	220.0	54.3	-9.7	9.4	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)





Radiates Emission from 7GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
8113.200000	52.3	100.0	Н	238.0	60.1	-7.8	21.7	74
9365.000000	53.1	100.0	Н	48.0	63.3	-10.2	20.9	74
10979.800000	55.6	100.0	V	39.0	70.2	-14.6	18.4	74
12821.200000	55.9	100.0	Н	162.0	72.8	-16.9	18.1	74
14062.000000	60.2	100.0	Н	86.0	80.6	-20.4	13.8	74
17995.600000	62.3	100.0	Н	35.0	88.1	-25.8	11.7	74

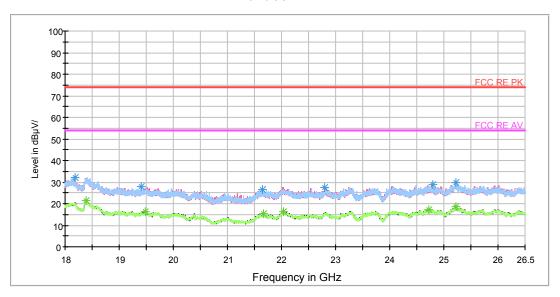
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
8106.600000	41.0	100.0	V	294.0	48.8	-7.8	13.0	54
9393.600000	42.4	100.0	V	218.0	52.6	-10.2	11.6	54
10891.800000	44.4	100.0	Н	16.0	58.9	-14.5	9.6	54
12671.600000	44.7	100.0	Н	175.0	61.1	-16.4	9.3	54
14315.000000	48.6	100.0	V	0.0	69.0	-20.4	5.4	54
17982.400000	51.6	100.0	V	307.0	77.2	-25.6	2.4	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Report Report No: RXA1604-0066RF03

RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

Frequency (MHz)	Peak (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18187.000000	32.1	Н	50.0	37.0	-4.9	41.9	74
19402.500000	27.7	V	180.0	35.4	-7.7	46.3	74
21643.312500	26.4	Н	18.0	35.5	-9.1	47.6	74
22799.312500	27.7	V	171.0	35.1	-7.4	46.3	74
24788.312500	28.7	Н	18.0	35.5	-6.8	45.3	74
25220.750000	29.7	V	106.0	35.7	-6.0	44.3	74

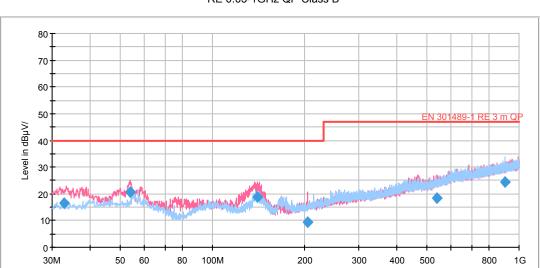
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18381.437500	21.3	V	129.0	26.1	-4.8	32.7	54
19473.687500	16.3	V	171.0	24.2	-7.9	37.7	54
21660.312500	15.3	V	106.0	24.5	-9.2	38.7	54
22040.687500	16.3	V	180.0	24.3	-8.0	37.7	54
24730.937500	17.4	Н	18.0	23.6	-6.2	36.6	54
25229.250000	18.7	Н	10.0	24.6	-5.9	35.3	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)



802.11a CH48



RE 0.03-1GHz QP Class B

Radiates Emission from 30MHz to 1GHz

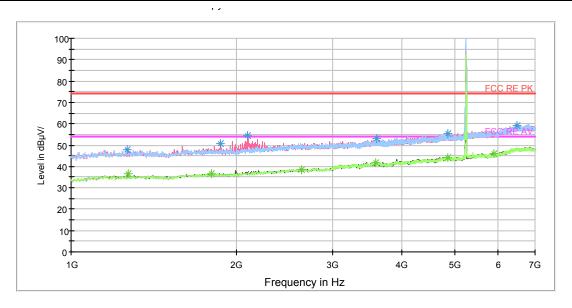
Frequency in Hz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
32.795000	16.5	100.0	V	304.0	28.4	-11.9	23.5	40.0
53.885000	20.7	100.0	V	257.0	33.5	-12.8	19.3	40.0
140.496250	18.8	100.0	V	295.0	27.7	-8.9	24.7	43.5
204.960000	9.5	100.0	V	281.0	21.7	-12.2	34.0	43.5
540.708750	18.6	125.0	V	0.0	39.4	-20.8	27.4	46.0
903.040000	24.5	125.0	Н	22.0	50.2	-25.7	21.5	46.0

Remark: 1. Quasi-Peak = Reading value + Correction factor

- 2. Correction Factor = Antenna factor+ Insertion loss(cable loss+amplifier gain)
- 3. Margin = Limit Quasi-Peak

F Test Report Report No: RXA1604-0066RF03



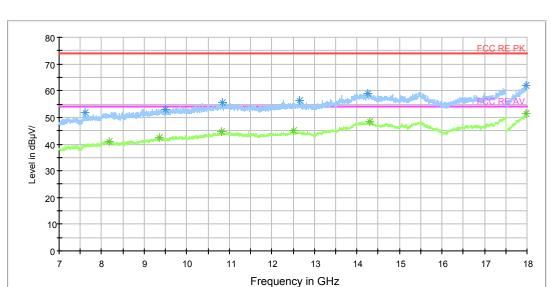
Radiates Emission from 1GHz to 7GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1267.000000	47.8	100.0	V	356.0	48.1	-0.3	26.2	74
1873.000000	50.7	100.0	V	356.0	52.5	-1.8	23.3	74
2099.500000	54.4	100.0	V	108.0	57.3	-2.9	19.6	74
3608.500000	52.9	100.0	Н	252.0	60.3	-7.4	21.1	74
4850.500000	55.6	100.0	V	0.0	65.1	-9.5	18.4	74
6496.000000	59.3	100.0	Н	17.0	74.7	-15.4	14.7	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

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Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1270.000000	36.6	100.0	V	0.0	36.9	-0.3	17.4	54
1798.000000	36.6	100.0	V	261.0	38.3	-1.7	17.4	54
2632.000000	38.7	100.0	Н	294.0	44.1	-5.4	15.3	54
3583.000000	41.9	100.0	Н	107.0	49.3	-7.4	12.1	54
4859.500000	44.3	100.0	V	313.0	53.8	-9.5	9.7	54
5897.500000	45.8	100.0	V	0.0	58.3	-12.5	8.2	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)



Radiates Emission from 7GHz to 18GHz

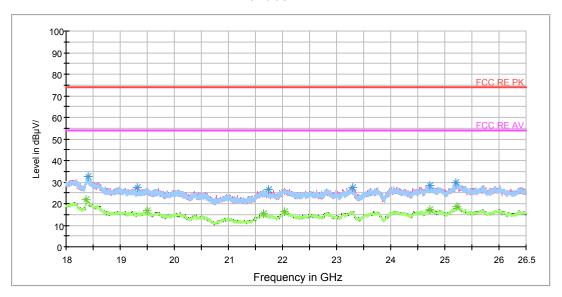
Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
7609.400000	51.7	100.0	V	357.0	58.2	-6.5	22.3	74
9492.600000	53.1	100.0	V	278.0	63.4	-10.3	20.9	74
10834.600000	55.5	100.0	Н	9.0	69.9	-14.4	18.5	74
12662.800000	56.2	100.0	V	227.0	72.6	-16.4	17.8	74
14244.600000	59.1	100.0	V	134.0	79.6	-20.5	14.9	74
17967.000000	61.9	100.0	V	289.0	87.3	-25.4	12.1	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
8181.400000	41.1	100.0	Н	22.0	49.0	-7.9	12.9	54
9362.800000	42.4	100.0	Н	2.0	52.5	-10.1	11.6	54
10814.800000	44.7	100.0	Н	183.0	59.0	-14.3	9.3	54
12504.400000	44.9	100.0	Н	119.0	60.9	-16.0	9.1	54
14297.400000	48.3	100.0	Н	246.0	68.8	-20.5	5.7	54
17978.000000	51.4	100.0	V	0.0	77.0	-25.6	2.6	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

C RF Test Report Report Report No: RXA1604-0066RF03



Radiates Emission from 18GHz to 26.5GHz

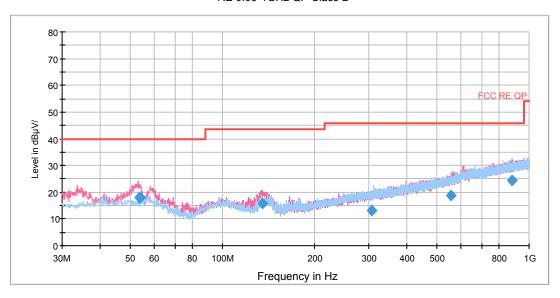
Frequency (MHz)	Peak (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18403.750000	32.4	V	161.0	37.3	-4.9	41.6	74
19314.312500	27.5	Н	131.0	35.0	-7.5	46.5	74
21733.625000	26.4	Н	0.0	35.8	-9.4	47.6	74
23292.312500	27.4	V	123.0	34.4	-7.0	46.6	74
24718.187500	28.6	Н	122.0	35.0	-6.4	45.4	74
25209.062500	29.6	V	99.0	35.9	-6.3	44.4	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18377.187500	21.6	Н	0.0	26.4	-4.8	32.4	54
19493.875000	16.5	V	50.0	24.1	-7.6	37.5	54
21648.625000	15.3	V	67.0	24.5	-9.2	38.7	54
22029.000000	16.5	V	137.0	24.5	-8.0	37.5	54
24726.687500	17.2	Н	88.0	23.4	-6.2	36.8	54
25221.812500	18.7	V	176.0	24.6	-5.9	35.3	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

RE 0.03-1GHz QP Class B

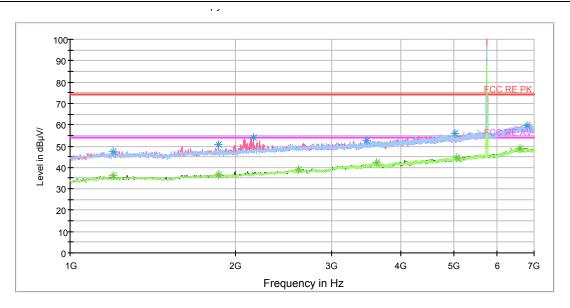


Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
53.478750	18.1	100.0	V	252.0	30.9	-12.8	21.9	40.0
53.846250	18.2	100.0	V	262.0	31.0	-12.8	21.8	43.5
134.875000	15.8	100.0	V	321.0	24.9	-9.1	27.7	43.5
306.051250	13.1	100.0	Н	304.0	28.7	-15.6	32.9	46.0
555.900000	18.7	100.0	V	2.0	39.9	-21.2	27.3	46.0
877.542500	24.3	100.0	V	22.0	49.6	-25.3	21.7	46.0

Remark: 1. Quasi-Peak = Reading value + Correction factor

- 2. Correction Factor = Antenna factor+ Insertion loss(cable loss+amplifier gain)
- 3. Margin = Limit Quasi-Peak



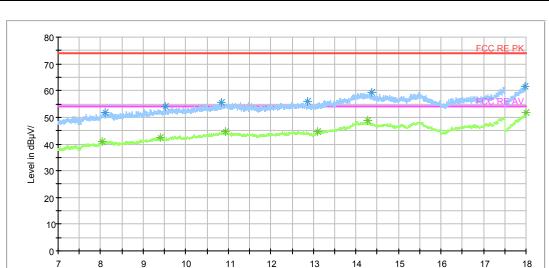
Radiates Emission from 1GHz to 7GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1199.500000	47.6	100.0	V	293.0	48.3	-0.7	26.4	74
1864.000000	50.8	100.0	V	343.0	52.6	-1.8	23.2	74
2156.500000	53.9	100.0	V	108.0	57.1	-3.2	20.1	74
3464.500000	52.4	100.0	Н	251.0	59.6	-7.2	21.6	74
5021.500000	55.7	100.0	V	221.0	65.4	-9.7	18.3	74
6793.000000	59.7	100.0	V	357.0	74.7	-15.0	14.3	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

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Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1198.000000	36.0	100.0	V	35.0	36.7	-0.7	18.0	54
1865.500000	36.5	100.0	V	317.0	38.3	-1.8	17.5	54
2603.500000	38.7	100.0	V	211.0	44.1	-5.4	15.3	54
3617.500000	42.0	100.0	Н	5.0	49.4	-7.4	12.0	54
5060.500000	44.5	100.0	Н	3.0	54.2	-9.7	9.5	54
6610.000000	48.9	100.0	V	149.0	64.0	-15.1	5.1	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)



Radiates Emission from 7GHz to 18GHz

Frequency in GHz

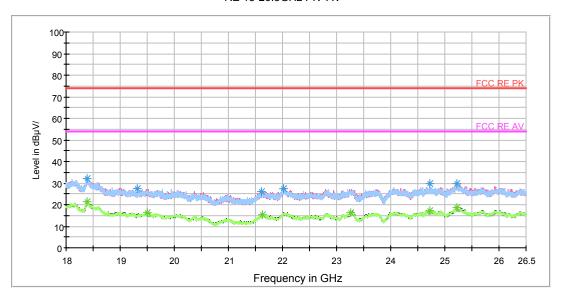
Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
8104.400000	51.9	100.0	V	326.0	59.7	-7.8	22.1	74
9527.800000	53.9	100.0	V	345.0	64.3	-10.4	20.1	74
10845.600000	55.8	100.0	Н	174.0	70.2	-14.4	18.2	74
12865.200000	55.8	100.0	V	185.0	72.7	-16.9	18.2	74
14363.400000	59.2	100.0	V	302.0	79.4	-20.2	14.8	74
17982.400000	61.6	100.0	Н	0.0	87.2	-25.6	12.4	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
8031.800000	41.1	100.0	Н	269.0	48.8	-7.7	12.9	54
9413.400000	42.5	100.0	V	290.0	52.8	-10.3	11.5	54
10933.600000	44.6	100.0	V	222.0	59.1	-14.5	9.4	54
13091.800000	44.8	100.0	Н	25.0	61.6	-16.8	9.2	54
14286.400000	48.7	100.0	Н	2.0	69.2	-20.5	5.3	54
17991.200000	51.7	100.0	V	355.0	77.4	-25.7	2.3	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

C RF Test Report Report Report No: RXA1604-0066RF03



Radiates Emission from 18GHz to 26.5GHz

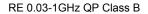
Frequency (MHz)	Peak (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18396.312500	32.0	V	157.0	36.9	-4.9	42.0	74
19311.125000	27.3	Н	0.0	34.8	-7.5	46.7	74
21610.375000	26.2	Н	0.0	35.1	-8.9	47.8	74
22014.125000	27.6	Н	29.0	35.7	-8.1	46.4	74
24727.750000	29.7	V	111.0	35.9	-6.2	44.3	74
25222.875000	29.7	V	149.0	35.6	-5.9	44.3	74

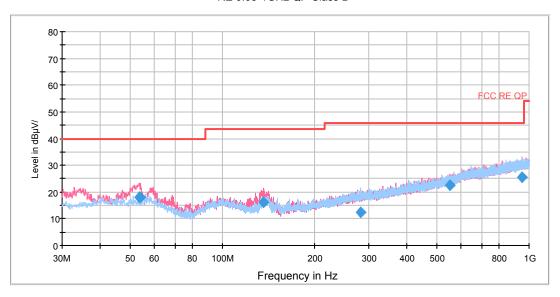
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18391.000000	21.5	Н	20.0	26.4	-4.9	32.5	54
19500.250000	16.4	Н	175.0	23.9	-7.5	37.6	54
21629.500000	15.2	V	172.0	24.3	-9.1	38.8	54
23266.812500	16.3	Н	0.0	23.6	-7.3	37.7	54
24715.000000	17.2	Н	98.0	23.7	-6.5	36.8	54
25222.875000	18.7	V	149.0	24.6	-5.9	35.3	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11a CH157





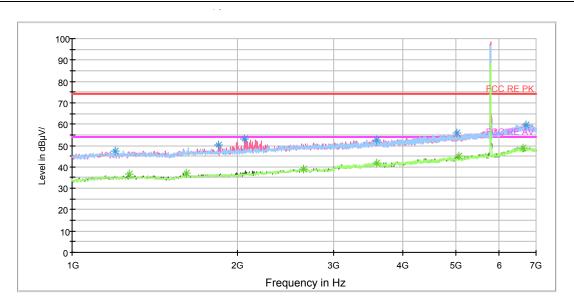
Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
53.482500	18.1	100.0	V	286.0	30.9	-12.8	21.9	40.0
53.968750	18.2	100.0	V	262.0	31.0	-12.8	21.8	40.0
136.178750	16.1	125.0	V	330.0	25.2	-9.1	27.4	43.5
282.488750	12.6	100.0	Н	162.0	27.5	-14.9	33.4	46.0
550.001250	22.4	100.0	V	2.0	43.4	-21.0	23.6	46.0
950.003750	25.6	114.0	V	260.0	51.6	-26.0	20.4	46.0

Remark: 1. Quasi-Peak = Reading value + Correction factor

- 2. Correction Factor = Antenna factor+ Insertion loss(cable loss+amplifier gain)
- 3. Margin = Limit Quasi-Peak





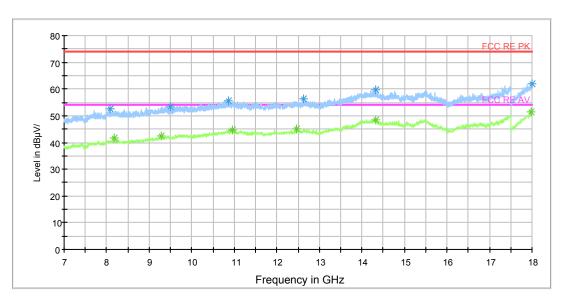
Radiates Emission from 1GHz to 7GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1199.500000	47.6	100.0	V	191.0	48.3	-0.7	26.4	74
1850.500000	50.2	100.0	V	333.0	52.0	-1.8	23.8	74
2063.500000	53.2	100.0	V	0.0	55.8	-2.6	20.8	74
3593.500000	52.7	100.0	V	355.0	60.1	-7.4	21.3	74
5030.500000	55.9	100.0	Н	92.0	65.6	-9.7	18.1	74
6703.000000	59.7	100.0	V	333.0	74.7	-15.0	14.3	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

								-/
Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1268.500000	36.7	100.0	V	191.0	37.0	-0.3	17.3	54
1615.000000	37.0	100.0	V	358.0	38.1	-1.1	17.0	54
2636.500000	38.7	100.0	Н	262.0	44.1	-5.4	15.3	54
3584.500000	42.0	100.0	Н	168.0	49.4	-7.4	12.0	54
5060.500000	44.9	100.0	V	242.0	54.6	-9.7	9.1	54
6622.000000	49.0	100.0	V	314.0	64.1	-15.1	5.0	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)



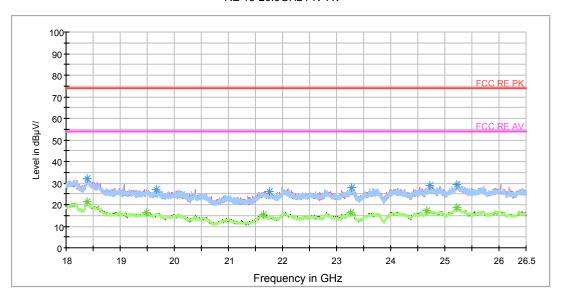
Note: The signal beyond the limit is carrier.
Radiates Emission from 7GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
8084.600000	52.4	100.0	Н	153.0	60.1	-7.7	21.6	74
9486.000000	53.5	100.0	Н	19.0	63.8	-10.3	20.5	74
10863.200000	55.4	100.0	V	44.0	69.8	-14.4	18.6	74
12634.200000	56.2	100.0	Н	19.0	72.4	-16.2	17.8	74
14326.000000	59.6	100.0	V	286.0	80.0	-20.4	14.4	74
17997.800000	61.8	100.0	V	334.0	87.6	-25.8	12.2	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
8170.400000	41.6	100.0	Н	166.0	49.5	-7.9	12.4	54
9274.800000	42.3	100.0	V	358.0	52.3	-10.0	11.7	54
10946.800000	44.5	100.0	Н	2.0	59.1	-14.6	9.5	54
12475.800000	45.0	100.0	Н	216.0	60.9	-15.9	9.0	54
14315.000000	48.5	100.0	Н	19.0	68.9	-20.4	5.5	54
17980.200000	51.4	100.0	Н	268.0	77.0	-25.6	2.6	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)



Radiates Emission from 18GHz to 26.5GHz

Frequency (MHz)	Peak (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18385.687500	31.9	V	82.0	36.7	-4.8	42.1	74
19673.437500	27.1	Н	92.0	34.8	-7.7	46.9	74
21755.937500	26.1	V	153.0	35.5	-9.4	47.9	74
23283.812500	28.0	V	180.0	35.1	-7.1	46.0	74
24727.750000	28.7	V	145.0	34.9	-6.2	45.3	74
25228.187500	29.3	V	180.0	35.2	-5.9	44.7	74

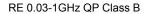
Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

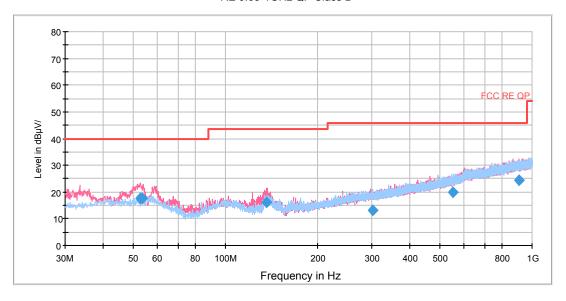
Frequency (MHz)	Average (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18382.500000	21.3	V	82.0	26.1	-4.8	32.7	54
19490.687500	16.4	V	113.0	24.0	-7.6	37.6	54
21646.500000	15.4	Н	115.0	24.6	-9.2	38.6	54
23265.750000	16.4	V	180.0	23.7	-7.3	37.6	54
24657.625000	17.1	Н	108.0	24.1	-7.0	36.9	54
25230.312500	18.8	Н	69.0	24.7	-5.9	35.2	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)



802.11a CH161



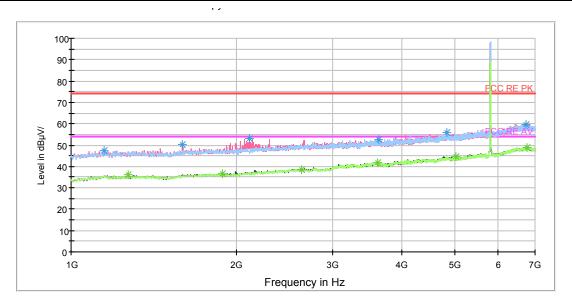


Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
52.715000	17.7	100.0	V	202.0	30.6	12.9	22.3	40.0
53.607500	17.7	100.0	V	194.0	30.5	12.8	22.3	40.0
136.340000	16.2	125.0	V	320.0	25.3	9.1	27.3	43.5
301.763750	13.0	100.0	Н	304.0	28.5	15.5	33.0	46.0
549.995000	19.7	100.0	Н	250.0	40.7	21.0	26.3	46.0
908.212500	24.4	114.0	V	264.0	50.1	25.7	21.6	46.0

Remark: 1. Quasi-Peak = Reading value + Correction factor

- 2. Correction Factor = Antenna factor+ Insertion loss(cable loss+amplifier gain)
- 3. Margin = Limit Quasi-Peak



Radiates Emission from 1GHz to 7GHz

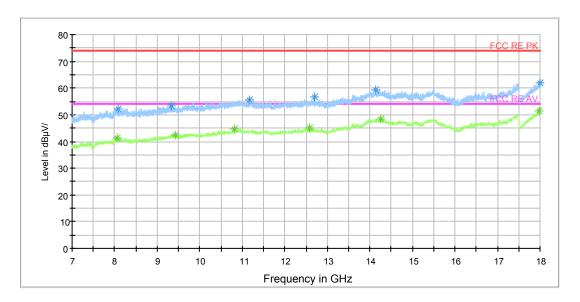
Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1150.000000	47.5	100.0	V	0.0	48.3	-0.8	26.5	74
1594.000000	50.2	100.0	V	350.0	51.1	-0.9	23.8	74
2113.000000	53.2	100.0	V	359.0	56.2	-3.0	20.8	74
3629.500000	52.8	100.0	Н	241.0	60.2	-7.4	21.2	74
4838.500000	55.9	100.0	Н	241.0	65.4	-9.5	18.1	74
6751.000000	59.8	100.0	Н	107.0	74.8	-15.0	14.2	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

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Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1270.000000	35.9	100.0	V	190.0	36.2	-0.3	18.1	54
1889.500000	36.6	100.0	Н	52.0	38.5	-1.9	17.4	54
2630.500000	38.7	100.0	Н	92.0	44.1	-5.4	15.3	54
3614.500000	41.8	100.0	Н	118.0	49.2	-7.4	12.2	54
5030.500000	44.7	100.0	V	0.0	54.4	-9.7	9.3	54
6779.500000	48.7	100.0	Н	82.0	63.7	-15.0	5.3	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)





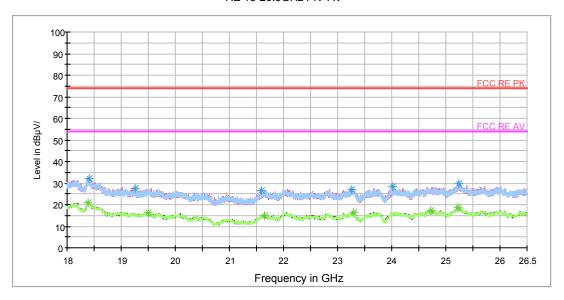
Radiates Emission from 7GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
8086.800000	52.1	100.0	Н	19.0	59.8	-7.7	21.9	74
9334.200000	53.2	100.0	Н	230.0	63.3	-10.1	20.8	74
11173.400000	55.5	100.0	V	231.0	70.2	-14.7	18.5	74
12700.200000	56.8	100.0	Н	116.0	73.4	-16.6	17.2	74
14128.000000	59.4	100.0	V	105.0	79.9	-20.5	14.6	74
18000.000000	62.1	100.0	Н	116.0	88.0	-25.9	11.9	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
8051.600000	41.1	100.0	V	331.0	48.8	-7.7	12.9	54
9433.200000	42.5	100.0	Н	116.0	52.8	-10.3	11.5	54
10814.800000	44.6	100.0	Н	0.0	58.9	-14.3	9.4	54
12583.600000	45.1	100.0	Н	90.0	61.1	-16.0	8.9	54
14246.800000	48.5	100.0	Н	1.0	69.0	-20.5	5.5	54
17982.400000	51.4	100.0	V	117.0	77.0	-25.6	2.6	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)



Radiates Emission from 18GHz to 26.5GHz

Frequency (MHz)	Peak (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18412.250000	32.2	Н	144.0	37.2	-5.0	41.8	74
19252.687500	27.7	Н	2.0	34.5	-6.8	46.3	74
21597.625000	26.3	Н	17.0	35.0	-8.7	47.7	74
23255.125000	27.1	Н	47.0	34.5	-7.4	46.9	74
24021.187500	28.2	Н	2.0	36.0	-7.8	45.8	74
25247.312500	29.7	Н	25.0	36.2	-6.5	44.3	74

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

Frequency (MHz)	Average (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18388.875000	21.1	V	115.0	26.0	-4.9	32.9	54
19493.875000	16.4	V	145.0	24.0	-7.6	37.6	54
21650.750000	15.1	Н	47.0	24.3	-9.2	38.9	54
23292.312500	16.3	V	131.0	23.3	-7.0	37.7	54
24728.812500	17.3	Н	144.0	23.5	-6.2	36.7	54
25230.312500	18.7	V	91.0	24.6	-5.9	35.3	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

5.6. Conducted Emission

Ambient condition

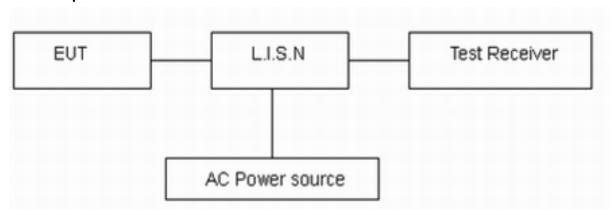
Temperature	Relative humidity	Pressure		
23°C ~25°C	45%~50%	101.5kPa		

Methods of Measurement

The EUT IS placed on a non-metallic table of 80cm height above the horizontal metal reference ground plane. During the test, the EUT was operating in its typical mode. The test method is according to ANSI C63.10-2013.Connect the AC power line of the EUT to the LISN Use EMI receiver to detect the average and Quasi-peak value. RBW is set to 9kHz, VBW is set to 30kHz The measurement result should include both L line and N line.

The test is in transmitting mode.

Test Setup



Note: AC Power source is used to change the voltage 110V/60Hz.

Limits

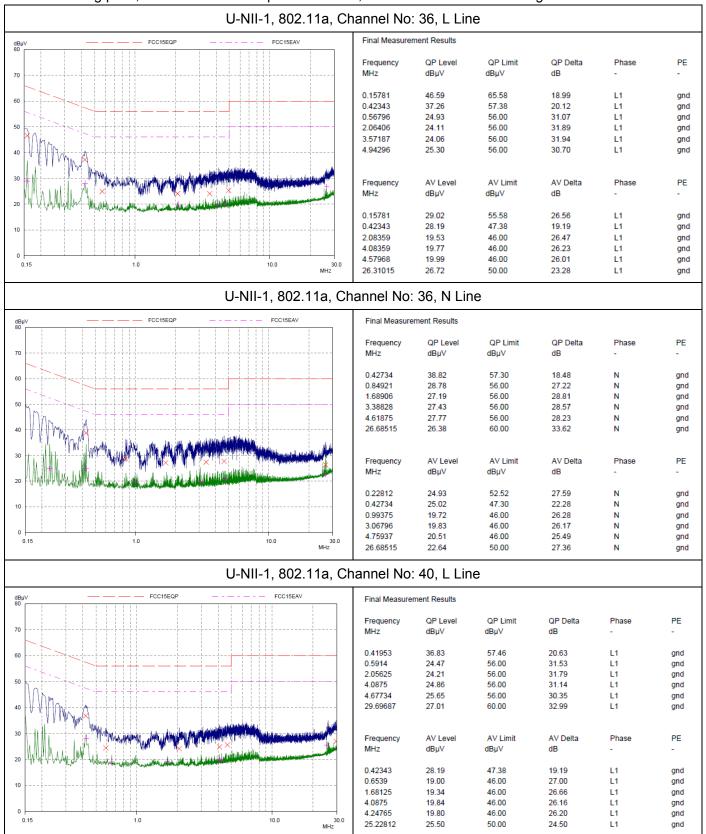
Frequency	Conducted Limits(dBµV)				
(MHz)	Quasi-peak	Average			
0.15 - 0.5	66 to 56 *	56 to 46 [*]			
0.5 - 5	56	46			
5 - 30	60	50			
* Decreases with the logarithm of the frequency.					

Measurement Uncertainty

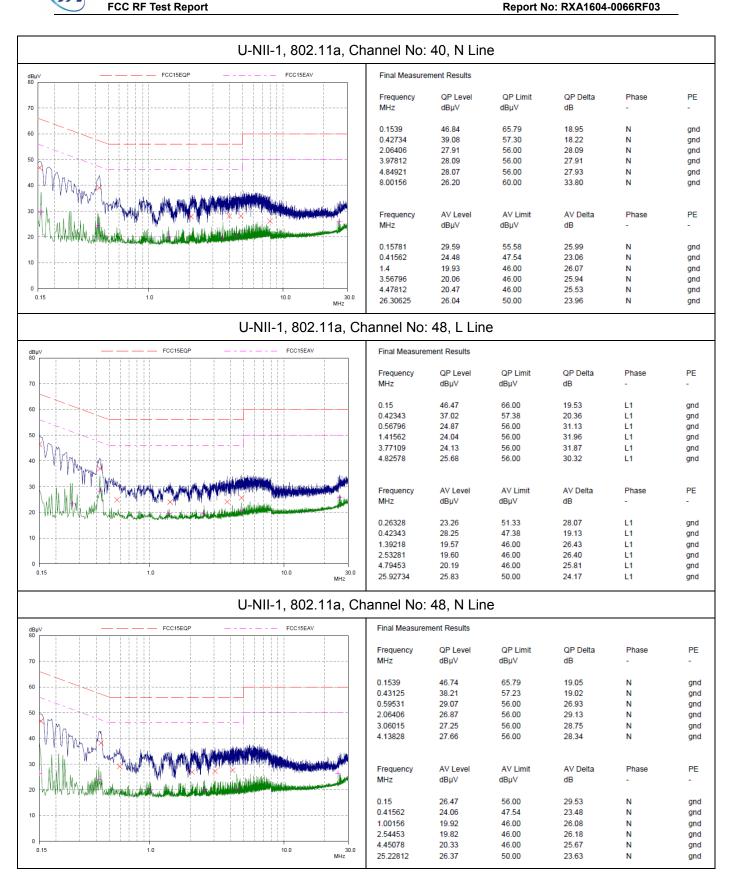
The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 1.96, U = 2.69 dB.

Test Results:

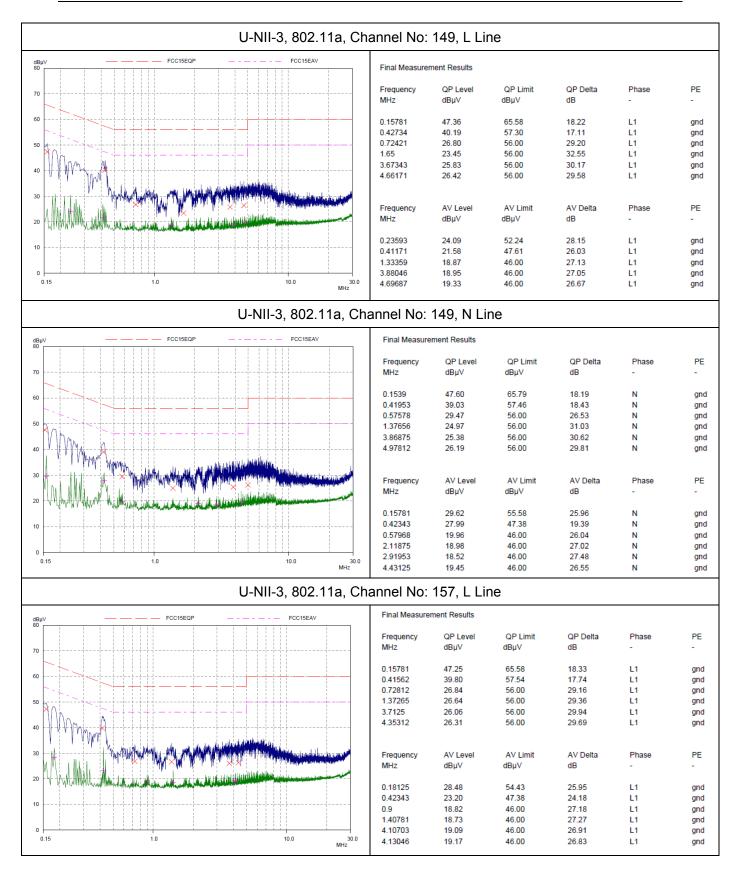
Following plots, Blue trace uses the peak detection, Green trace uses the average detection.









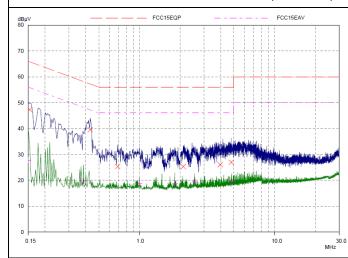


FCC RF Test Report Report No: RXA1604-0066RF03 U-NII-3, 802.11a, Channel No: 157, N Line

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Final Measureme	ent Results				
Frequency	QP Level	QP Limit	QP Delta	Phase	PE
MHz	dΒμV	dΒμV	dB	-	-
0.16171	44.53	65.38	20.85	N	gnd
0.41953	38.67	57.46	18.79	N	gnd
0.56796	29.08	56.00	26.92	N	gnd
2.04062	24.52	56.00	31.48	N	gnd
3.43906	26.26	56.00	29.74	N	gnd
4.5289	26.02	56.00	29.98	N	gnd
Frequency	AV Level	AV Limit	AV Delta	Phase	PE
MHz	dΒμV	dΒμV	dB	-	-
0.20468	26.50	53.42	26.92	N	gnd
0.42343	28.05	47.38	19.33	N	gnd
0.61093	19.46	46.00	26.54	N	gnd
2.07578	18.91	46.00	27.09	N	gnd
4.10703	19.23	46.00	26.77	N	gnd
4.60312	19.47	46.00	26.53	N	and

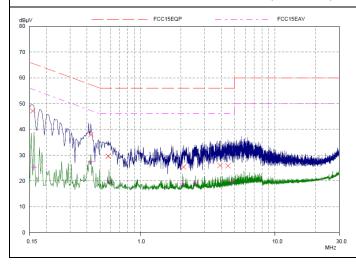
U-NII-3, 802.11a, Channel No: 161, L Line



Final Measureme	nt Results				
Frequency	QP Level	QP Limit	QP Delta	Phase	PE
MHz	dΒμV	dΒμV	dB	-	-
0.1539	47.32	65.79	18.47	L1	gnd
0.43125	39.61	57.23	17.62	L1	gnd
0.68906	25.33	56.00	30.67	L1	gnd
2.10703	25.31	56.00	30.69	L1	gnd
3.95859	26.07	56.00	29.93	L1	gnd
4.7789	26.97	56.00	29.03	L1	gnd
Frequency	AV Level	AV Limit	AV Delta	Phase	PE
MHz	dΒμV	dΒμV	dB	-	-
0.15	27.78	56.00	28.22	L1	gnd
0.38437	19.76	48.18	28.42	L1	gnd
0.99765	18.65	46.00	27.35	L1	gnd
1.82578	18.73	46.00	27.27	L1	gnd
2.54843	19.29	46.00	26.71	L1	gnd
4.81406	19.61	46.00	26.39	L1	gnd

U-NII-3, 802.11a, Channel No: 161, N Line

Final Measurement Results

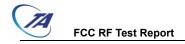


Frequency	QP Level	QP Limit	QP Delta	Phase	PE
MHz	dΒμV	dΒμV	dB	-	-
0.15781	47.15	65.58	18.43	N	gnd
0.42734	37.92	57.30	19.38	N	gnd
0.57578	29.57	56.00	26.43	N	gnd
2.0914	25.40	56.00	30.60	N	gnd
3.9	25.99	56.00	30.01	N	gnd
4.4664	25.90	56.00	30.10	N	gnd
Frequency	AV Level	AV Limit	AV Delta	Phase	PE
MHz	dΒμV	dΒμV	dB	-	-
0.16171	25.32	55.38	30.06	N	gnd
0.42734	27.49	47.30	19.81	N	gnd
0.58359	20.02	46.00	25.98	N	gnd
2.04843	18.82	46.00	27.18	N	gnd
2.56015	19.20	46.00	26.80	N	gnd
4.7789	19.74	46.00	26.26	N	gnd

6. Main Test Instruments

Name	Туре	Manufacturer	Serial Number	Calibration Date	Expiration Time
EMI Test Receiver	ESCI	R&S	100948	2015-05-22	2016-05-21
Loop Antenna	FMZB1519	SCHWARZBE CK	1519-047	2014-02-29	2017-02-28
TRILOG Broadband Antenna	VULB 9163	Schwarzbeck	9163-201	2014-12-06	2017-12-05
Double Ridged Waveguide Horn Antenna	HF907	R&S	100126	2014-12-06	2017-12-05
Standard Gain Horn	3160-09	ETS-Lindgren	00102644	2015-01-30	2018-01-29
EMI Test Receiver	ESCS30	R&S	100138	2015-12-17	2016-12-16
LISN	ENV216	R&S	101171	2013-12-18	2016-12-17
Spectrum Analyzer	E4445A	Agilent	MY46181146	2015-05-22	2016-05-21
Spectrum Analyzer	N9010A	Agilent	MY47191109	2015-05-22	2016-05-21
MOB COMMS DC SUPPLY	66319D	Agilent	MY43004105	2015-05-22	2016-05-21
Peak Power Meter	8990B	Agilent	51000109	2016-04-25	2017-04-24
Wideband Power Sensors	N1923A	Agilent	MY51220004	2016-04-25	2017-04-24
Spectrum Analyzer	FSV30	R&S	100815	2015-12-17	2016-12-16
RF Cable	SMA 15cm	Agilent	0001	2016-03-07	2016-06-06
Spectrum Analyzer	E4447A	Agilent	MRTSUE06028	2015-10-09	2016-10-08
Broadband Horn Antenna	BBHA9170	Schwarzbeck	MRTSUE06024	2016-01-05	2017-01-04

*****END OF REPORT *****



ANNEX A: EUT Appearance and Test Setup

A.1 EUT Appearance



Front Side

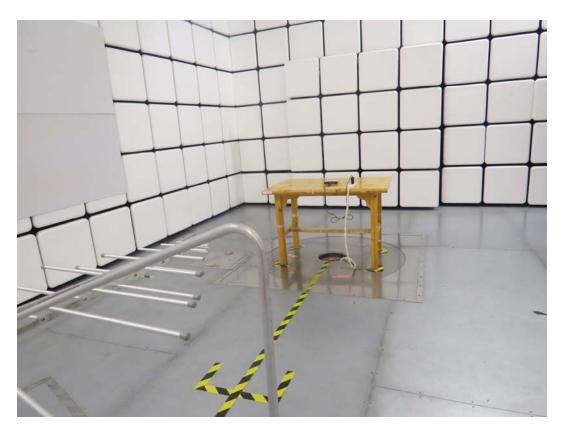


Back Side

a: EUT

Picture 1 EUT

A.2 Test Setup



30MHz-1GHz



Above 1GHz

Picture 2 Radiated Emission Test Setup





Picture 3 Conducted Emission Test Setup