



TESTING LABORATORY
CERTIFICATE #4820.01



FCC PART 15.407
RSS-GEN, ISSUE 5, AMENDMENT 1, MARCH 2019
RSS-247, ISSUE 2, FEBRUARY 2017
TEST REPORT

For

**YEALINK(XIAMEN) NETWORK TECHNOLOGY
CO.,LTD.**

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China (Peoples Republic Of)

FCC ID: T2C-58
IC: 10741A-58

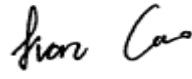
Report Type: Original Report	Product Name: Smart Business Phone
Report Number: RSZ201207003-00D	
Report Date: 2021-02-04	
Reviewed By:	Ivan Cao Assistant Manager 
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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

EUT Name:		Smart Business Phone
Test Model:		SIP-T58W
Multiple Model:		MP58
FCC Operation Frequency:		5150-5250 MHz, 5250-5350 MHz, 5470-5725MHz, 5725-5850 MHz
IC Operation Frequency:		5250-5350 MHz, 5470-5600MHz&5650-5725MHz, 5725-5850 MHz
Maximum Average Output Power (Conducted):		5150-5250 MHz:11.18 dBm 5250-5350 MHz:13.19 dBm 5470-5725 MHz:15.89 dBm 5725-5850 MHz:13.68 dBm
Modulation Type:		OFDM
Rated Input Voltage:		DC 5V from adapter
Adapter 1# Information	Model:	YLPS052000B1-US
	Input:	100-240Vac 50/60Hz 0.5A
	Output:	5.0Vdc 2.0A
Adapter 2# Information	Model:	YLPS052000C1-US
	Input:	100-240Vac 50/60Hz 0.5A
	Output:	5.0Vdc 2.0A
Serial Number:		RSZ201207003-RF-S1
EUT Received Date:		2020.12.07
EUT Received Status:		Good

Objective

This type approval report is prepared on behalf of **YEALINK(XIAMEN) NETWORK TECHNOLOGY CO.,LTD.** in accordance with Part 2-Subpart J, Part 15-Subparts A, and E of the Federal Communications Commission's rules and RSS-247, Issue 2, February 2017, RSS-Gen Issue 5, Amendment 1, March 2019 of the Innovation, Science and Economic Development Canada.

The tests were performed in order to determine compliance with FCC Rules Part 15, Subpart E, section 15.203, 15.205, 15.207, 15.209 and 15.407 rules and RSS-247, Issue 2, February 2017, RSS-Gen Issue 5, Amendment 1, March 2019 of the Innovation, Science and Economic Development Canada.

Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices. And KDB 789033 D02 General U-NII Test Procedures New Rules v02r01, and RSS-247, Issue 2, February 2017, RSS-Gen Issue 5, Amendment 1, March 2019 of the Innovation, Science and Economic Development Canada.

All emissions measurement was performed and Bay Area Compliance Laboratories Corp. (Dongguan).

Measurement Uncertainty

Parameter	Measurement Uncertainty
Occupied Channel Bandwidth	±5 %
RF output power, conducted	±0.61dB
Power Spectral Density, conducted	±0.61 dB
Unwanted Emissions, radiated	30M~200MHz: 4.55 dB, 200M~1GHz: 5.92 dB, 1G~6GHz: 4.98 dB, 6G~18GHz: 5.89 dB, 18G~26.5G: 5.47 dB, 26.5G~40G: 5.63 dB
Unwanted Emissions, conducted	±1.5 dB
Temperature	±1 °C
Humidity	±5%
DC and low frequency voltages	±0.4%
Duty Cycle	1%
AC Power Lines Conducted Emission	3.12 dB (150 kHz to 30 MHz)

Note: Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval.

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Dongguan) to collect test data is located on the No.12, Pulong East 1st Road, Tangxia Town, Dongguan, Guangdong, China.

The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 897218, the FCC Designation No. : CN1220.

The lab has been recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements, the CAB identifier: CN0022.

Declarations

BACL is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect test results are marked with a triangle symbol “▲”. Customer model name, addresses, names, trademarks etc. are not considered data.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

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SYSTEM TEST CONFIGURATION

Description of Test Configuration

The system support 802.11a/n ht20/n ht40/ac vht20/ac vht40/ac vht80, the vht20/vht40 were reduced since the identical parameters with 802.11n ht20 and ht40.

For 5150~5250 MHz band, 7 channels are provided:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	44	5220
38	5190	46	5230
40	5200	48	5240
42	5210	/	/

For 802.11a, 802.11n ht20, channel 36, 40 and 48 was tested, for 802.11n ht40, channel 38, 46 were tested, for 802.11ac vht80, channel 42 was tested.

For 5250~5350 MHz band, 7 channels are provided:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
52	5260	60	5300
54	5270	62	5310
56	5280	64	5320
58	5290	/	/

For 802.11a, 802.11n ht20, Channel 52, 56 and 64 were tested, for 802.11n ht40 Channel 54, 62 were tested, for 802.11ac vht80 channel 58 was tested.

For 5470~5725 MHz band, 21 channels are provided:

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
100	5500	116	5580	132	5660
102	5510	118	5590	134	5670
104	5520	120	5600	136	5680
106	5530	122	5610	140	5700
108	5540	124	5620	/	/
110	5550	126	5630	/	/
112	5560	128	5640	/	/

For 802.11a, 802.11n ht20 Channel 100, 120 and 140 were tested, for 802.11n ht40 Channel 102, 118 and 134 were tested, for 802.11ac vht80 channel 106,122.

Channel 144 for 802.11a and n ht20, Channel 142 for 802.11n ht40, Channel 138 for 802.11ac vht80 crossed the band U-NII 2C to U-NII 3, were chose to test for compliance requirement.

For Canada market, channels 118 to 128 were disabled by software since the frequency occupied the frequency band 5600-5650MHz.

For 5725~5850MHz band, 8 channels are provided to testing:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	157	5785
151	5755	159	5795
153	5765	161	5805
155	5775	165	5825

For 802.11a, 802.11n ht20, channel 149, 157 and 165 was tested, for 802.11n ht40, channel 151, 159 were tested, for 802.11ac vht80, channel 155 was tested.

The worst-case data rates are determined to be as follows for each mode based upon investigations by measuring the average power and PSD across all data rates, bandwidths, and modulations.

EUT Exercise Software

Software "QRCT 3" was used during test, which was provided by manufacture, the maximum output power was configured as below, which was provided by manufacturer ▲:

Frequency Band (MHz)	Mode	Frequency (MHz)	Data Rate	Power Level Setting
5150-5250	802.11 a	5180	6Mbps	15
		5200	6Mbps	15
		5240	6Mbps	15
	802.11 n20	5180	MCS0	15
		5200	MCS0	15
		5240	MCS0	15
	802.11 n40	5190	MCS0	15
		5230	MCS0	15
	802.11 ac80	5210	MCS0	15
5250-5350	802.11 a	5260	6Mbps	15
		5280	6Mbps	15
		5320	6Mbps	15
	802.11 n20	5260	MCS0	15
		5280	MCS0	15
		5320	MCS0	15
	802.11 n40	5270	MCS0	15
		5310	MCS0	15
	802.11 ac80	5290	MCS0	15
5470-5725	802.11 a	5500	6Mbps	15
		5580	6Mbps	15
		5700	6Mbps	15
	802.11 n20	5500	MCS0	15
		5580	MCS0	15
		5700	MCS0	15
	802.11 n40	5510	MCS0	15
		5550	MCS0	15
		5670	MCS0	15
	802.11 ac80	5530	MCS0	15
		5610	MCS0	15
5725-5850	802.11 a	5745	6Mbps	15
		5785	6Mbps	15
		5825	6Mbps	15
	802.11 n20	5745	MCS0	15
		5785	MCS0	15
		5825	MCS0	15
	802.11 n40	5755	MCS0	15
		5795	MCS0	15
	802.11 ac80	5775	MCS0	15

Equipment Modifications

No modification was made to the EUT.

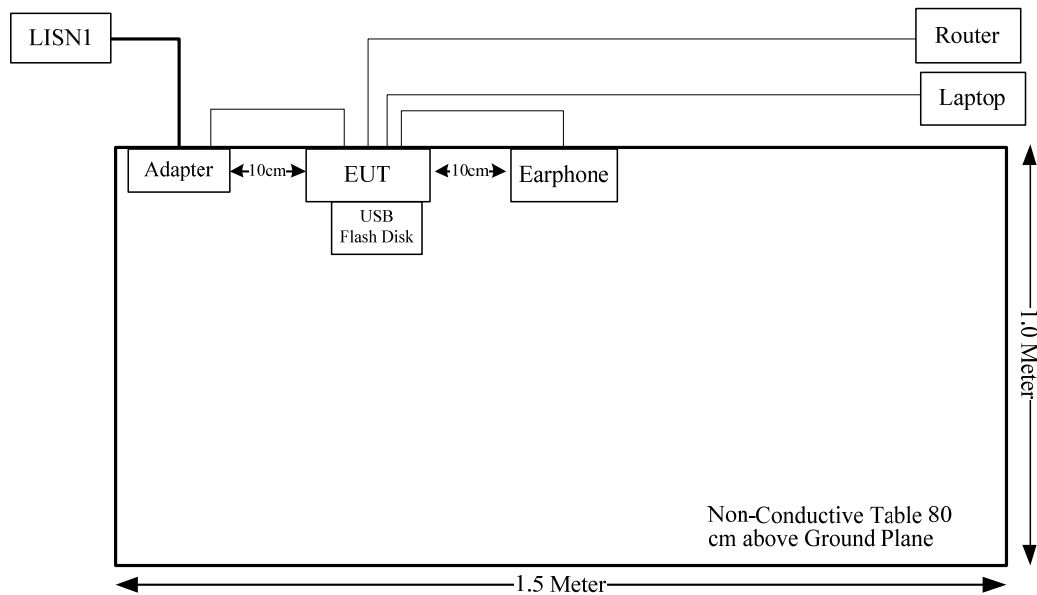
Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
Lenovo	Laptop	Legion Y7000 2019 PG0	PF21N40H
zioncom	Router	A3700R	200622002S1
Kinston	Flash Disk	4G	4G-1
Yealink	Earphone	MP58	RSZ201207003-RF-S2

Support Cable List and Details

Cable Description	Shielding Type	Ferrite Core	Length (m)	From Port	To
RJ45 Cable	No	No	10	EUT	Laptop
RJ45 Cable	No	No	10	EUT	Router
RJ11 Cable	No	No	2	EUT	Earphone

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

Rules	Description of Test	Result
§15.407 (f) & §1.1310 & §2.1091	Maximum Permissible Exposure (MPE)	Compliance
RSS-102 Clause 2.5.2	Exemption Limits For Routine Evaluation-RF Exposure Evaluation	Compliance
FCC§15.203, RSS-Gen Clause 6.8	Antenna Requirement	Compliance
FCC§15.407(b)(6)& §15.207(a), RSS-Gen Clause 8.8	Conducted Emissions	Compliance
FCC§15.205& §15.209 &§15.407(b), RSS-247 Clause 6.2	Undesirable Emission& Restricted Bands	Compliance
FCC§15.407(a) (e), RSS-247 Clause 6.2 RSS-Gen Clause 6.7	Emission Bandwidth	Compliance*
FCC§15.407(a) RSS-247 Clause 6.2	Conducted Transmitter Output Power	Compliance*
FCC§15.407 (a), RSS-247 Clause 6.2	Power Spectral Density	Compliance*
RSS-247 Clause 6.4	Additional requirements	Compliance
FCC§15.407 (a), RSS-247 Clause 6.2	DFS	Compliance**

Compliance*: The device built in a certified RF module, FCC ID: T2C-YL1023, IC: 10741A-YL1023. The RF Port conducted test please refer to the Module report: ES180426020W04 for Frequency band 5150-5250MHz and 5725-5850 MHz, which was issued on 2018-04-29 by EMTEK(SHENZHEN) CO., LTD. Report: RF180718N068-1 for FCC Band 5250-5350MHz&5470-5725 MHz, report: IC180718N068-1 for Canada band 5250-5350MHz& 5470-5600MHz & 5650-5725MHz, which was issued on 2018-08-22 by Bureau Veritas Shenzhen Co., Ltd.

Compliance**: The device built in a certified RF module, FCC ID: T2C-YL1023, IC: 10741A-YL1023. The DFS test please refer to the Module report: Report: RF180718N068-2 for FCC, report: IC180718N068-2 for Canada ISED, which was issued on 2018-08-22 by Bureau Veritas Shenzhen Co., Ltd.

FCC §15.407 (f) & §1.1310 & §2.1091- MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Applicable Standard

According to subpart 15.407(f) and subpart §1.1310, systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

Limits for Maximum Permissible Exposure (MPE) (§1.1310, §2.1091)

(B) Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Averaging Time (minutes)
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f ²)	30
30–300	27.5	0.073	0.2	30
300–1500	/	/	f/1500	30
1500–100,000	/	/	1.0	30

f = frequency in MHz; * = Plane-wave equivalent power density;

According to §1.1310 and §2.1091 RF exposure is calculated.

Calculation formula

Prediction of power density at the distance of the applicable MPE limit

$S = PG/4\pi R^2$ = power density (in appropriate units, e.g. mW/cm²);

P = power input to the antenna (in appropriate units, e.g., mW);

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

Calculated Data:

Operation Mode	Frequency (MHz)	Antenna Gain		Conducted output power including Tune-up Tolerance		Evaluation Distance (cm)	Power Density (mW/cm ²)	MPE Limit (mW/cm ²)
		(dBi)	(numeric)	(dBm)	(mW)			
Bluetooth	2402-2480	3	2.00	7	5.01	20.00	0.002	1.0
2.4G Wi-Fi	2412-2462	3	2.00	20	100.00	20.00	0.04	1.0
5G Wi-Fi	5150-5250	3	2.00	14	25.12	20.00	0.01	1.0
	5250-5350	3	2.00	15	31.62	20.00	0.01	1.0
	5470-5725	3	2.00	17	50.12	20.00	0.02	1.0
	5725-5850	3	2.00	14	25.12	20.00	0.01	1.0

Note: Non of those modes can't transmit simulteneously.

Result: The device meet FCC MPE at 20 cm distance

RSS-102 § 2.5.2 - EXEMPTION LIMITS FOR ROUTINE EVALUATION – RF EXPOSURE EVALUATION

Applicable Standard

According to RSS-102 § (2.5.2):

RF exposure evaluation is required if the separation distance between the user and/or bystander and the device's radiating element is greater than 20 cm, except when the device operates as follows:

- below 20 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 1 W (adjusted for tune-up tolerance);
- at or above 20 MHz and below 48 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than $4.49/f^{0.5}$ W (adjusted for tune-up tolerance), where f is in MHz;
- at or above 48 MHz and below 300 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 0.6 W (adjusted for tune-up tolerance);
- at or above 300 MHz and below 6 GHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than $1.31 \times 10^{-2} f^{0.6834}$ W (adjusted for tune-up tolerance), where f is in MHz;
- at or above 6 GHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 5 W (adjusted for tune-up tolerance).

In these cases, the information contained in the RF exposure technical brief may be limited to information that demonstrates how the e.i.r.p. was derived.

Calculated Data:

Operation Mode	Frequency (MHz)	Antenna Gain	Conducted output power including Tune-up Tolerance	EIRP		Exemption limits (mW)
		(dBi)	(dBm)	(dBm)	(mW)	
Bluetooth	2402-2480	3	7	10	10.00	2676
2.4G Wi-Fi	2412-2462	3	20	23	199.53	2684
5G Wi-Fi	5150-5250	3	14	17	50.12	4507
	5250-5350	3	15	18	63.10	4567
	5470-5725	3	17	20	100.00	4697
	5725-5850	3	14	17	50.12	4845

Note: Non of those modes can't transmit simultenuously.

Result: Compliance. The device is compliance exemption from Routine Evaluation Limits –RF exposure Evaluation.

FCC §15.203& RSS-GEN CLAUSE 6.8 - ANTENNA REQUIREMENT

Applicable Standard

According to FCC§ 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the user of a standard antenna jack or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine compliance with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

- a. Antenna must be permanently attached to the unit.
- b. Antenna must use a unique type of connector to attach to the EUT.
- c. Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

According to RSS-Gen Clause 6.8, The applicant for equipment certification shall provide a list of all antenna types that may be used with the transmitter, where applicable (i.e. for transmitters with detachable antenna), indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna. The test report shall demonstrate the compliance of the transmitter with the limit for maximum equivalent isotropically radiated power (e.i.r.p.) specified in the applicable RSS, when the transmitter is equipped with any antenna type, selected from this list.

For expediting the testing, measurements may be performed using only the antenna with highest gain of each combination of transmitter and antenna type, with the transmitter output power set at the maximum level. However, the transmitter shall comply with the applicable requirements under all operational conditions and when in combination with any type of antenna from the list provided in the test report (and in the notice to be included in the user manual, provided below).

When measurements at the antenna port are used to determine the RF output power, the effective gain of the device's antenna shall be stated, based on a measurement or on data from the antenna's manufacturer. The test report shall state the RF power, output power setting and spurious emission measurements with each antenna type that is used with the transmitter being tested.

For licence-exempt equipment with detachable antennas, the user manual shall also contain the following notice in a conspicuous location:

This radio transmitter [enter the device's ISED certification number] has been approved by Innovation, Science and Economic Development Canada to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

Immediately following the above notice, the manufacturer shall provide a list of all antenna types which can be used with the transmitter, indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna type.

Antenna Connector Construction

The EUT has one internal antenna arrangement, fulfill the requirement of this section. Please refer to below information and the EUT photos:

Antenna Type	input impedance (Ohm)	Antenna Gain /Frequency Range
PCB	50	3.0 dBi/5150~5850MHz

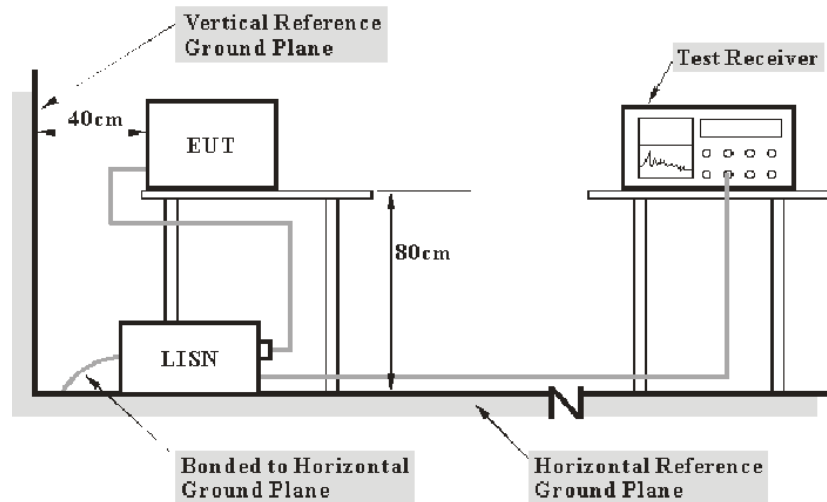
Result: Compliance.

FCC §15.207(a) RSS-GEN CLAUSE 8.8– CONDUCTED EMISSIONS

Applicable Standard

FCC §15.207(a), §15.407(b) (6), RSS-GEN CLAUSE 8.8.

EUT Setup



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.207 limits and RSS-Gen clause 8.8 limits.

The spacing between the peripherals was 10 cm.

The adapter was connected to the main lisn with a 120 V/60 Hz AC power source.

EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	IF B/W
150 kHz – 30 MHz	9 kHz

Corrected Amplitude & Margin Calculation

The basic equation is as follows:

$$V_C = V_R + A_C + VDF$$

$$C_f = A_C + VDF$$

Herein,

V_C (cord. Reading): corrected voltage amplitude

V_R : reading voltage amplitude

A_c : attenuation caused by cable loss

VDF: voltage division factor of AMN

C_f : Correction Factor

The “**Margin**” column of the following data tables indicates the degree of compliance within the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Limit} - \text{Corrected Amplitude}$$

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	LISN	ENV 216	101614	2020-09-12	2021-09-12
R&S	EMI Test Receiver	ESCI	101121	2020-07-07	2021-07-07
MICRO-COAX	Coaxial Cable	C-NJNJ-50	C-0200-01	2020-09-05	2021-09-05
R&S	Test Software	EMC32	Version 9.10.00	N/A	N/A

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Procedure

During the conducted emission test, the EUT was connected to the first LISN.

The frequency and amplitude of the six highest ac power-line conducted emissions relative to the limit, measured over all the current-carrying conductors of the EUT power cords, and the operating frequency or frequency to which the EUT is tuned (if appropriate), should be reported, unless such emissions are more than 20 dB below the limit. AC power-line conducted emissions measurements are to be separately carried out only on each of the phase (“hot”) line(s) and (if used) on the neutral line(s), but not on the ground [protective earth] line(s). If less than six emission frequencies are within 20 dB of the limit, then the noise level of the measuring instrument at representative frequencies should be reported. The specific conductor of the power-line cord for each of the reported emissions should be identified. Measure the six highest emissions with respect to the limit on each current-carrying conductor of each power cord associated with the EUT (but not the power cords of associated or peripheral equipment that are part of the test configuration). Then, report the six highest emissions with respect to the limit from among all the measurements identifying the frequency and specific current-carrying conductor identified with the emission. The six highest emissions should be reported for each of the current-carrying conductors, or the six highest emissions may be reported over all the current-carrying conductors.

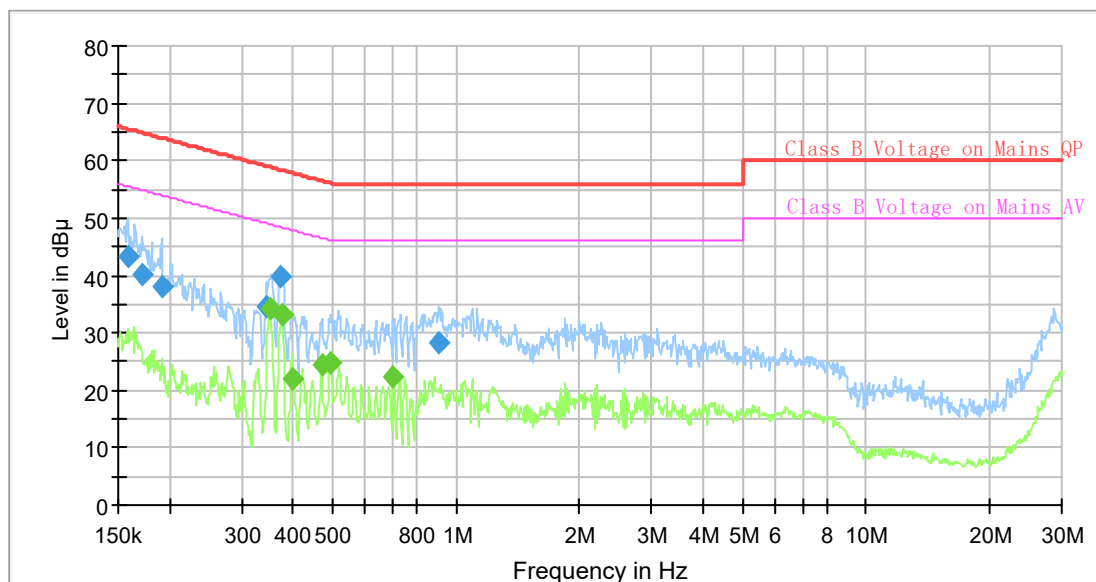
Test Data

Environmental Conditions

Temperature:	18.9°C
Relative Humidity:	39%
ATM Pressure:	101.6kPa
Tester:	Barry Yang
Test Date:	2020-12-22

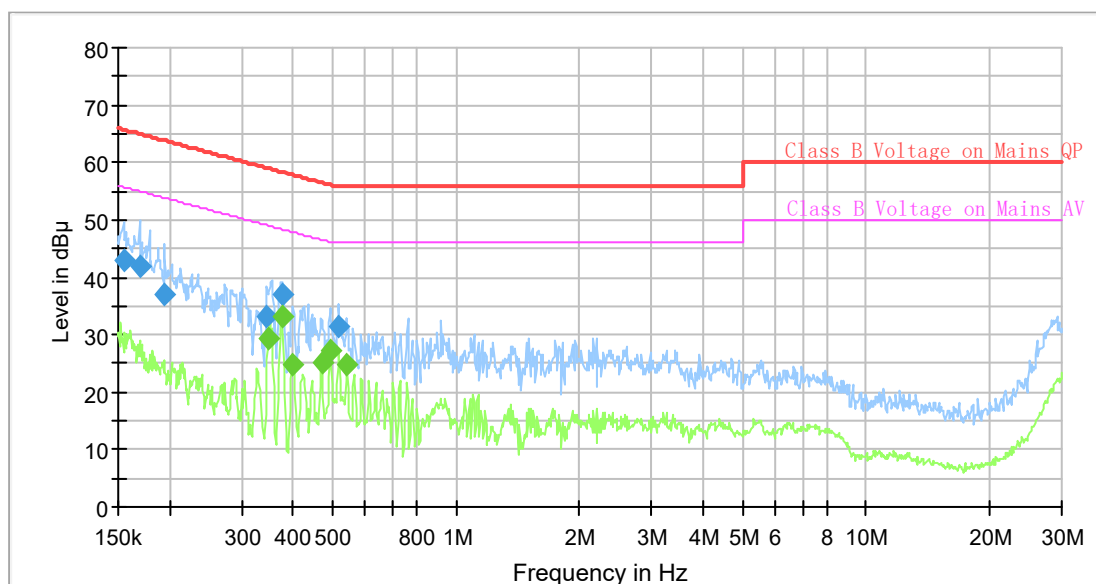
Test Mode: Transmitting (802.11a mode 5745 MHz was the worst):

AC120 V, 60 Hz, Line:



Final Result

Frequency (MHz)	QuasiPeak (dB μ V)	Average (dB μ V)	Limit (dB μ V)	Margin (dB)	Bandwidth (kHz)	Line	Corr. (dB)
0.158459	43.34	---	65.54	22.20	9.000	L1	9.6
0.170769	40.30	---	64.92	24.62	9.000	L1	9.6
0.191526	38.18	---	63.97	25.79	9.000	L1	9.6
0.345004	34.71	---	59.08	24.37	9.000	L1	9.6
0.351962	---	34.31	49.00	14.69	9.000	L1	9.6
0.373663	39.68	---	58.42	18.74	9.000	L1	9.6
0.375532	---	33.17	48.38	15.21	9.000	L1	9.6
0.398694	---	22.18	47.88	25.70	9.000	L1	9.6
0.470023	---	24.35	46.51	22.16	9.000	L1	9.6
0.494060	---	24.76	46.10	21.34	9.000	L1	9.6
0.703996	---	22.27	46.00	23.73	9.000	L1	9.7
0.907903	28.45	---	56.00	27.55	9.000	L1	9.7

AC120 V, 60 Hz, Neutral:**Final Result**

Frequency (MHz)	QuasiPeak (dB μ V)	Average (dB μ V)	Limit (dB μ V)	Margin (dB)	Bandwidth (kHz)	Line	Corr. (dB)
0.154557	43.03	---	65.75	22.72	9.000	N	9.6
0.169074	42.00	---	65.01	23.01	9.000	N	9.6
0.194414	36.98	---	63.85	26.87	9.000	N	9.6
0.346729	33.23	---	59.04	25.81	9.000	N	9.6
0.348462	---	29.42	49.00	19.58	9.000	N	9.6
0.375532	---	33.30	48.38	15.08	9.000	N	9.6
0.375532	37.11	---	58.38	21.27	9.000	N	9.6
0.400687	---	24.65	47.84	23.19	9.000	N	9.6
0.470023	---	25.14	46.51	21.37	9.000	N	9.6
0.494060	---	27.25	46.10	18.85	9.000	N	9.6
0.516743	31.56	---	56.00	24.44	9.000	N	9.6
0.543169	---	24.80	46.00	21.20	9.000	N	9.6

**FCC §15.209, §15.205 , §15.407(b) &RSS-247 CLAUSE 6.2, RSS-GEN
CLAUSE 8.10 –UNWANTED EMISSION**

Applicable Standard

FCC §15.407; §15.209; §15.205;

(b) Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

(1) For transmitters operating in the 5.15-5.25 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.

(2) For transmitters operating in the 5.25-5.35 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.

(3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

(4) For transmitters operating in the 5.725-5.85 GHz band:

(i) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

(ii) Devices certified before March 2, 2017 with antenna gain greater than 10 dBi may demonstrate compliance with the emission limits in §15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease by March 2, 2018. Devices certified before March 2, 2018 with antenna gain of 10 dBi or less may demonstrate compliance with the emission limits in §15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease before March 2, 2020.

(5) The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.

(6) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in §15.207.

(7) The provisions of §15.205 apply to intentional radiators operating under this section.

According to RSS-247 Clause 6.2

Frequency band 5150-5250 MHz

6.2.1.2 Unwanted emission limits

For transmitters with operating frequencies in the band 5150-5250 MHz, all emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. Any unwanted emissions that fall into the band 5250-5350 MHz shall be attenuated below the channel power by at least 26 dB, when measured using a resolution bandwidth between 1 and 5% of the occupied bandwidth (i.e. 99% bandwidth), above 5250 MHz. The 26 dB bandwidth may fall into the 5250-5350 MHz band; however, if the occupied bandwidth also falls within the 5250-5350 MHz band, the transmission is considered as intentional and the devices shall comply with all requirements in the band 5250-5350 MHz including implementing dynamic frequency selection (DFS) and TPC, on the portion of the emission that resides in the 5250-5350 MHz band.

Frequency band 5250-5350 MHz

6.2.2.2 Unwanted emission limits

Devices shall comply with the following:

- a) All emissions outside the band 5250-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p.; or
- b) All emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. and its power shall comply with the spectral power density for operation within the band 5150-5250 MHz. The device, except devices installed in vehicles, shall be labelled or include in the user manual the following text “for indoor use only.”

Frequency bands 5470-5600 MHz and 5650-5725 MHz:

6.2.3.2 Unwanted emission limits

Emissions outside the band 5470-5600 MHz and 5650-5725 MHz shall not exceed -27 dBm/MHz e.i.r.p. However, devices with bandwidth overlapping the band edge of 5725 MHz can meet the emission limit of -27 dBm/MHz e.i.r.p. at 5850 MHz instead of 5725 MHz.

Frequency band 5725-5850 MHz

6.2.4.2 Unwanted emission limits

Devices operating in the band 5725-5850 MHz with antenna gain greater than 10 dBi can have unwanted emissions that comply with either the limits in this section or in section 5.5 until six (6) months after the publication date of this standard for certification. Certified devices that do not comply with emission limits in this section shall not be manufactured, imported, distributed, leased, offered for sale or sold after April 1, 2018.

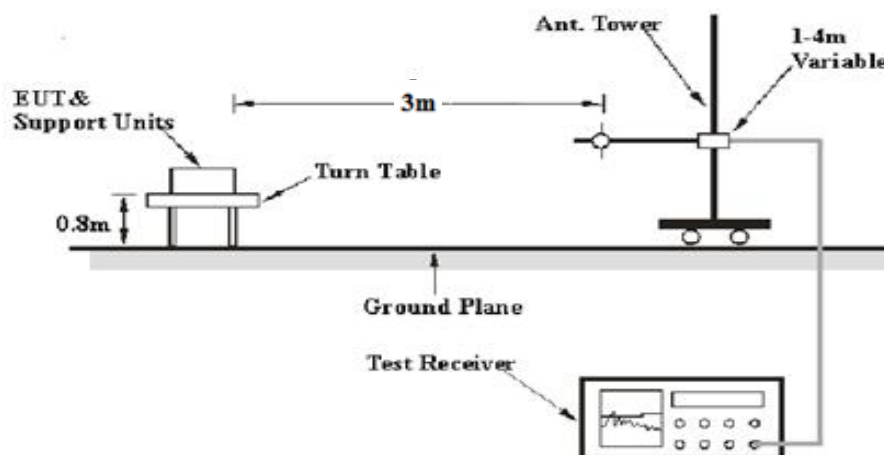
Devices operating in the band 5725-5850 MHz with antenna gain of 10 dBi or less can have unwanted emissions that comply with either the limits in this section or in section 5.5 until April 1, 2018 for certification. Certified devices that do not comply with emission limits in this section shall not be manufactured, imported, distributed, leased, offered for sale or sold after April 1, 2020.

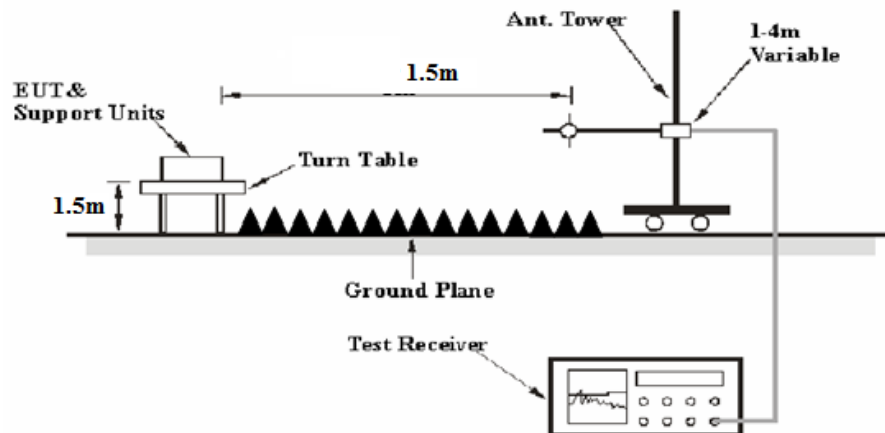
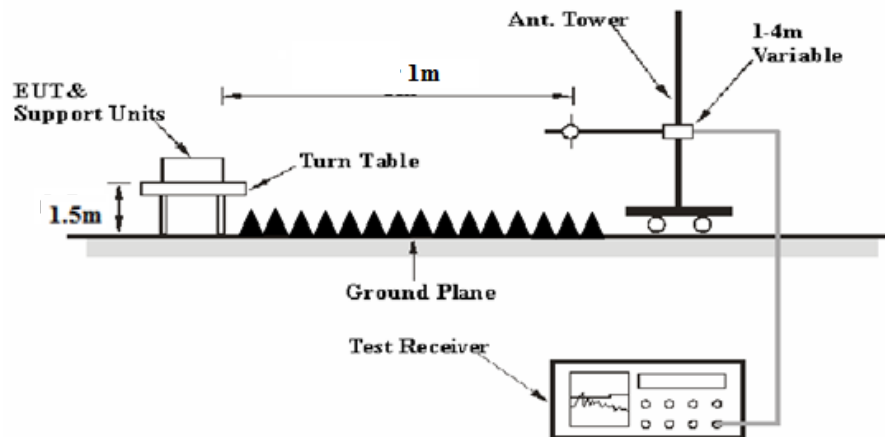
Devices operating in the band 5725-5850 MHz shall have e.i.r.p. of unwanted emissions comply with the following:

- 27 dBm/MHz at frequencies from the band edges decreasing linearly to 15.6 dBm/MHz at 5 MHz above or below the band edges;
- 15.6 dBm/MHz at 5 MHz above or below the band edges decreasing linearly to 10 dBm/MHz at 25 MHz above or below the band edges;
- 10 dBm/MHz at 25 MHz above or below the band edges decreasing linearly to -27 dBm/MHz at 75 MHz above or below the band edges; and
- 27 dBm/MHz at frequencies more than 75 MHz above or below the band edges.

EUT Setup

Below 1 GHz:



1-26.5 GHz:**26.5-40 GHz:**

The radiated emission Below 1GHz tests were performed in the 3 meters chamber test site A , above 1GHz tests were performed in the 3 meters chamber test site B, using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC 15.209, and FCC 15.407 limits and RSS-247, RSS-Gen limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.

EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 30 MHz to 40 GHz.

During the radiated emission test, the EMI test receiver & Spectrum Analyzer Setup were set with the following configurations:

30-1000MHz:

Measurement	RBW	Video B/W	IF B/W
QP	120 kHz	300 kHz	120kHz

1GHz- 40GHz:

Measurement	Duty cycle	RBW	Video B/W
PK	Any	1MHz	3 MHz
Ave.	>98%	1MHz	10 Hz
	<98%	1MHz	1/T

If the maximized peak measured value complies with under the QP/Average limit more than 6dB, then it is unnecessary to perform an QP/Average measurement.

Test Procedure

During the radiated emission test, the adapter was connected to the first AC floor outlet.

Data was recorded in Quasi-peak detection mode for frequency range of 30 MHz-1GHz, peak and Average detection modes for frequencies above 1GHz.

According to KDB 789033 D02 General UNII Test Procedures New Rules v02r01, emission shall be computed as: $E [dB\mu V/m] = EIRP[dBm] + 95.2$, for $d = 3$ meters.

According to C63.10, the above 1G test result shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade from 3m to 1.5m or 1m

Distance extrapolation factor = $20 \log (\text{specific distance } [3m] / \text{test distance } [1.5m])$ dB= 6.02 dB

or

Distance extrapolation factor = $20 \log (\text{specific distance } [3m] / \text{test distance } [1m])$ dB= 9.54 dB

All emissions under the average limit and under the noise floor have not recorded in the report.

Corrected Amplitude & Margin Calculation

For the range 30MHz-1GHz, the Corrected Amplitude is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

$$\text{Corrected Amplitude} = \text{Meter Reading} + \text{Antenna Factor} + \text{Cable Loss} - \text{Amplifier Gain}$$

The “**Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Limit} - \text{Corrected Amplitude}$$

For the range 1GHz-40GHz, Test performed at 1.5m or 1m, the Corrected Amplitude is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading and the Distance extrapolation factor. The basic equation is as follows:

$$\begin{aligned} &\text{Corrected Amplitude} \\ &= \text{Meter Reading} + \text{Antenna Factor} + \text{Cable Loss} - \text{Amplifier Gain} - \text{Distance extrapolation factor} \end{aligned}$$

The “**Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Limit} - \text{Corrected Amplitude}$$

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Radiation Below 1GHz					
Sunol Sciences	Antenna	JB3	A060611-2	2020-08-25	2023-08-25
R&S	EMI Test Receiver	ESCI	100224	2020-09-12	2021-09-12
Unknown	Coaxial Cable	C-NJNJ-50	C-1000-01	2020-09-05	2021-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-0400-02	2020-09-05	2021-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-0530-01	2020-09-24	2021-09-24
Sonoma	Amplifier	310N	185914	2020-10-13	2021-10-13
Farad	Test Software	EZ-EMC	V1.1.4.2	N/A	N/A
Radiation Above 1GHz					
ETS-Lindgren	Horn Antenna	3115	000 527 35	2018-10-12	2021-10-12
Ducommun Technologies	Horn Antenna	ARH-4223-02	1007726-01 1304	2020-12-05	2023-12-04
Ducommun Technologies	Horn Antenna	ARH-2823-02	1007726-01 1302	2020-12-05	2023-12-04
R&S	Spectrum Analyzer	FSP 38	100478	2020-07-07	2021-07-07
Agilent	Spectrum Analyzer	E4440A	SG43360054	2020-07-07	2021-07-07
Unknown	Coaxial Cable	C-SJSJ-50	C-0800-01	2020-09-05	2021-09-05
Unknown	Coaxial Cable	C-2.4J2.4J-50	C-0700-02	2020-06-27	2021-06-27
Mini-Circuit	Amplifier	ZVA-213-S+	54201245	2020-09-05	2021-09-05
Quinstar	Amplifier	QLW-18405536-JO	15964001001	2020-06-27	2021-06-27
Farad	Test Software	EZ-EMC	V1.1.4.2	N/A	N/A
Sinoscite	Bandstop Filters	BSF5150-5850MN-0899-003	0899003	2020-05-06	2021-05-06
Mini Circuits	High Pass Filter	VHF-6010+	31118	2020-06-16	2021-06-16

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data

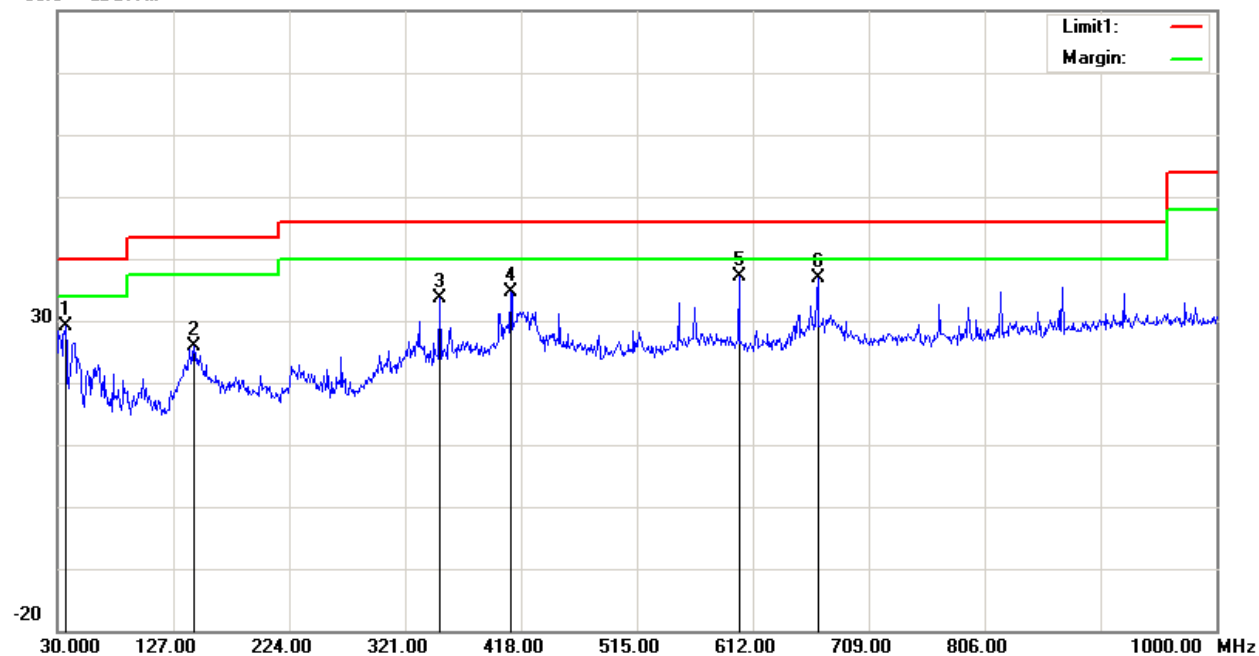
Environmental Conditions

Test Items	Radiation Below 1GHz	Radiation Above 1GHz
Temperature:	18.1°C	22.8 °C
Relative Humidity:	29%	54 %
ATM Pressure:	101.3 kPa	101 kPa
Tester:	Jalon Liu	Lee Li
Test Date:	2021-01-27	2020-12-29

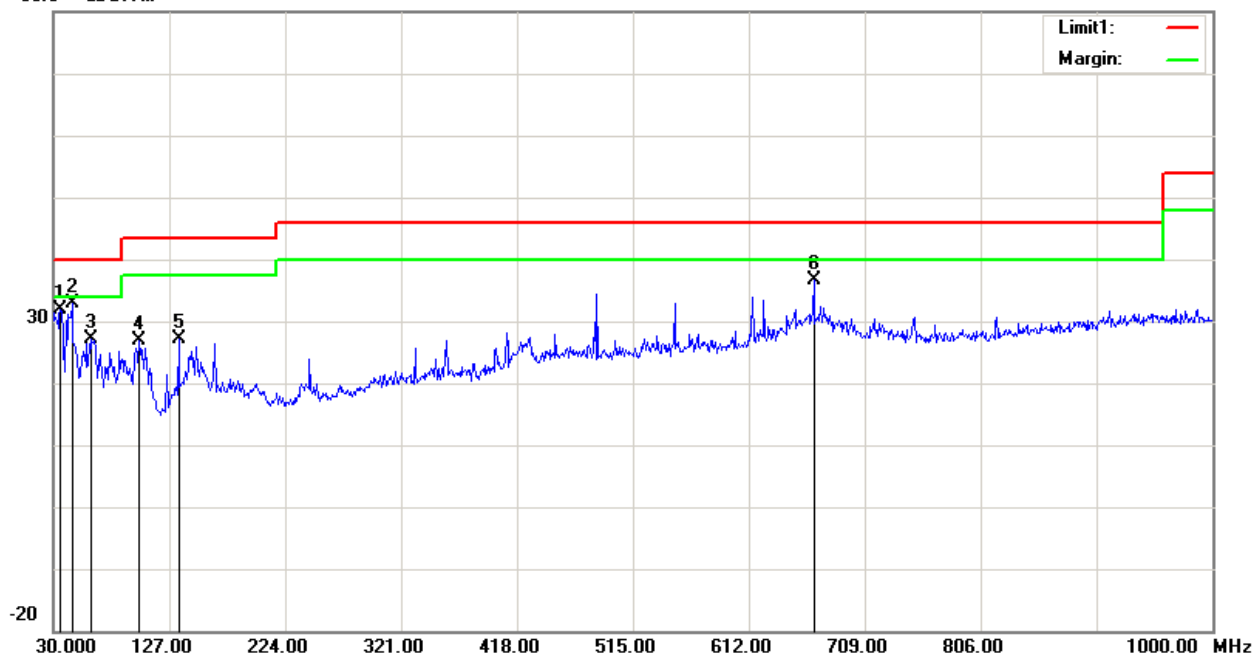
Test Mode: Transmitting

1) Below 1GHz

Horizontal:

80.0 dB μ V/m

Frequency (MHz)	Receiver Reading (dB μ V)	Detector	Correction Factor (dB/m)	Cord. Amp. (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
36.7900	36.87	peak	-7.63	29.24	40.00	10.76
144.4600	34.81	peak	-9.03	25.78	43.50	17.72
350.1000	40.05	peak	-6.37	33.68	46.00	12.32
409.2700	39.65	peak	-4.91	34.74	46.00	11.26
600.3600	38.53	peak	-1.39	37.14	46.00	8.86
666.3200	37.05	peak	-0.12	36.93	46.00	9.07

Vertical:80.0 dB μ V/m

Frequency (MHz)	Receiver Reading (dB μ V)	Detector	Correction Factor (dB/m)	Cord. Amp. (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
35.8200	38.96	peak	-7.15	31.81	40.00	8.19
45.5200	46.07	peak	-13.12	32.95	40.00	7.05
62.0100	43.45	peak	-16.40	27.05	40.00	12.95
101.7800	40.81	peak	-13.83	26.98	43.50	16.52
134.7600	36.61	peak	-9.50	27.11	43.50	16.39
666.3200	36.82	peak	-0.12	36.70	46.00	9.30

2) 1GHz-40GHz:**5150-5250MHz:**

802.11a:

Frequency	Receiver		Rx Antenna		Cable loss	Amplifier Gain	Corrected Amplitude	Extrapolation result	Limit	Margin
	Reading	Detector	Polar	Factor						
MHz	dBμV	PK/QP/AV	H/V	dB/m	dB	dB	dBμV/m	dBμV/m	dBμV/m	dB
Low Channel: 5180 MHz										
5180.00	69.43	PK	H	33.59	3.58	0.00	106.60	100.58	N/A	N/A
5180.00	60.39	AV	H	33.59	3.58	0.00	97.56	91.54	N/A	N/A
5180.00	70.13	PK	V	33.59	3.58	0.00	107.30	101.28	N/A	N/A
5180.00	60.92	AV	V	33.59	3.58	0.00	98.09	92.07	N/A	N/A
5150.00	33.88	PK	V	33.54	3.56	0.00	70.98	64.96	74.00	9.04
5150.00	15.83	AV	V	33.54	3.56	0.00	52.93	46.91	54.00	7.09
10360.00	39.12	PK	V	38.17	6.29	25.46	58.12	52.1	68.20	16.10
15540.00	36.65	PK	V	38.06	8.85	24.27	59.29	53.27	74.00	20.73
15540.00	24.45	AV	V	38.06	8.85	24.27	47.09	41.07	54.00	12.93
Middle Channel: 5200 MHz										
5200.00	69.11	PK	H	33.62	3.60	0.00	106.33	100.31	N/A	N/A
5200.00	60.05	AV	H	33.62	3.60	0.00	97.27	91.25	N/A	N/A
5200.00	70.48	PK	V	33.62	3.60	0.00	107.70	101.68	N/A	N/A
5200.00	61.25	AV	V	33.62	3.60	0.00	98.47	92.45	N/A	N/A
10400.00	38.76	PK	V	38.18	6.32	25.46	57.80	51.78	68.20	16.42
15600.00	36.45	PK	V	38.00	8.83	24.31	58.97	52.95	74.00	21.05
15600.00	24.33	AV	V	38.00	8.83	24.31	46.85	40.83	54.00	13.17
High Channel: 5240 MHz										
5240.00	68.87	PK	H	33.68	3.52	0.00	106.07	100.05	N/A	N/A
5240.00	59.56	AV	H	33.68	3.52	0.00	96.76	90.74	N/A	N/A
5240.00	69.59	PK	V	33.68	3.52	0.00	106.79	100.77	N/A	N/A
5240.00	60.13	AV	V	33.68	3.52	0.00	97.33	91.31	N/A	N/A
5350.00	27.72	PK	V	33.86	3.52	0.00	65.10	59.08	74.00	14.92
5350.00	15.22	AV	V	33.86	3.52	0.00	52.60	46.58	54.00	7.42
10480.00	37.99	PK	V	38.20	6.37	25.47	57.09	51.07	68.20	17.13
15720.00	36.78	PK	V	37.88	8.79	24.39	59.06	53.04	74.00	20.96
15720.00	24.65	AV	V	37.88	8.79	24.39	46.93	40.91	54.00	13.09

802.11n ht20:

Frequency	Receiver		Rx Antenna		Cable loss	Amplifier Gain	Corrected Amplitude	Extrapolation result	Limit	Margin
	Reading	Detector	Polar	Factor						
MHz	dBμV	PK/QP/AV	H/V	dB/m	dB	dB	dBμV/m	dBμV/m	dBμV/m	dB
Low Channel: 5180 MHz										
5180.00	69.23	PK	H	33.59	3.58	0.00	106.40	100.38	N/A	N/A
5180.00	60.16	AV	H	33.59	3.58	0.00	97.33	91.31	N/A	N/A
5180.00	70.05	PK	V	33.59	3.58	0.00	107.22	101.2	N/A	N/A
5180.00	61.05	AV	V	33.59	3.58	0.00	98.22	92.2	N/A	N/A
5150.00	33.15	PK	V	33.54	3.56	0.00	70.25	64.23	74.00	9.77
5150.00	15.87	AV	V	33.54	3.56	0.00	52.97	46.95	54.00	7.05
10360.00	35.66	PK	V	38.17	6.29	25.46	54.66	48.64	68.20	19.56
15540.00	36.03	PK	V	38.06	8.85	24.27	58.67	52.65	74.00	21.35
15540.00	23.92	AV	V	38.06	8.85	24.27	46.56	40.54	54.00	13.46
Middle Channel: 5200 MHz										
5200.00	68.89	PK	H	33.62	3.60	0.00	106.11	100.09	N/A	N/A
5200.00	59.73	AV	H	33.62	3.60	0.00	96.95	90.93	N/A	N/A
5200.00	69.70	PK	V	33.62	3.60	0.00	106.92	100.9	N/A	N/A
5200.00	60.71	AV	V	33.62	3.60	0.00	97.93	91.91	N/A	N/A
10400.00	37.57	PK	V	38.18	6.32	25.46	56.61	50.59	68.20	17.61
15600.00	36.46	PK	V	38.00	8.83	24.31	58.98	52.96	74.00	21.04
15600.00	24.29	AV	V	38.00	8.83	24.31	46.81	40.79	54.00	13.21
High Channel: 5240 MHz										
5240.00	67.29	PK	H	33.68	3.52	0.00	104.49	98.47	N/A	N/A
5240.00	58.36	AV	H	33.68	3.52	0.00	95.56	89.54	N/A	N/A
5240.00	68.05	PK	V	33.68	3.52	0.00	105.25	99.23	N/A	N/A
5240.00	58.97	AV	V	33.68	3.52	0.00	96.17	90.15	N/A	N/A
5350.00	27.69	PK	V	33.86	3.52	0.00	65.07	59.05	74.00	14.95
5350.00	15.55	AV	V	33.86	3.52	0.00	52.93	46.91	54.00	7.09
10480.00	36.77	PK	V	38.20	6.37	25.47	55.87	49.85	68.20	18.35
15720.00	36.40	PK	V	37.88	8.79	24.39	58.68	52.66	74.00	21.34
15720.00	24.23	AV	V	37.88	8.79	24.39	46.51	40.49	54.00	13.51

802.11n ht40:

Frequency	Receiver		Rx Antenna		Cable loss	Amplifier Gain	Corrected Amplitude	Extrapolation result	Limit	Margin
	Reading	Detector	Polar	Factor						
MHz	dBμV	PK/QP/AV	H/V	dB/m	dB	dB	dBμV/m	dBμV/m	dBμV/m	dB
Low Channel: 5190 MHz										
5190.00	65.23	PK	H	33.60	3.59	0.00	102.42	96.4	N/A	N/A
5190.00	56.41	AV	H	33.60	3.59	0.00	93.60	87.58	N/A	N/A
5190.00	65.60	PK	V	33.60	3.59	0.00	102.79	96.77	N/A	N/A
5190.00	56.90	AV	V	33.60	3.59	0.00	94.09	88.07	N/A	N/A
5150.00	33.69	PK	V	33.54	3.56	0.00	70.79	64.77	74.00	9.23
5150.00	19.21	AV	V	33.54	3.56	0.00	56.31	50.29	54.00	3.71
10380.00	35.64	PK	V	38.18	6.31	25.46	54.67	48.65	68.20	19.55
15570.00	36.66	PK	V	38.03	8.84	24.29	59.24	53.22	74.00	20.78
15570.00	24.52	AV	V	38.03	8.84	24.29	47.10	41.08	54.00	12.92
High Channel: 5240 MHz										
5230.00	66.62	PK	H	33.67	3.54	0.00	103.83	97.81	N/A	N/A
5230.00	57.47	AV	H	33.67	3.54	0.00	94.68	88.66	N/A	N/A
5230.00	66.90	PK	V	33.67	3.54	0.00	104.11	98.09	N/A	N/A
5230.00	57.76	AV	V	33.67	3.54	0.00	94.97	88.95	N/A	N/A
5350.00	27.70	PK	V	33.86	3.52	0.00	65.08	59.06	74.00	14.94
5350.00	15.73	AV	V	33.86	3.52	0.00	53.11	47.09	54.00	6.91
10460.00	36.06	PK	V	38.19	6.36	25.47	55.14	49.12	68.20	19.08
15690.00	36.48	PK	V	37.91	8.80	24.37	58.82	52.8	74.00	21.20
15690.00	24.35	AV	V	37.91	8.80	24.37	46.69	40.67	54.00	13.33

802.11ac vht80:

Frequency	Receiver		Rx Antenna		Cable loss	Amplifier Gain	Corrected Amplitude	Extrapolation result	Limit	Margin
	Reading	Detector	Polar	Factor						
MHz	dBμV	PK/QP/AV	H/V	dB/m	dB	dB	dBμV/m	dBμV/m	dBμV/m	dB
Low Channel: 5210 MHz										
5210.00	65.31	PK	H	33.64	3.58	0.00	102.53	96.51	N/A	N/A
5210.00	53.18	AV	H	33.64	3.58	0.00	90.40	84.38	N/A	N/A
5210.00	67.20	PK	V	33.64	3.58	0.00	104.42	98.4	N/A	N/A
5210.00	55.07	AV	V	33.64	3.58	0.00	92.29	86.27	N/A	N/A
5150.00	34.05	PK	V	33.54	3.56	0.00	71.15	65.13	74.00	8.87
5150.00	21.10	AV	V	33.54	3.56	0.00	58.20	52.18	54.00	1.82
5350.00	27.62	PK	V	33.86	3.52	0.00	65.00	58.98	74.00	15.02
5350.00	16.15	AV	V	33.86	3.52	0.00	53.53	47.51	54.00	6.49
10420.00	35.48	PK	V	38.18	6.33	25.47	54.52	48.5	68.20	19.70
15630.00	36.43	PK	V	37.97	8.82	24.33	58.89	52.87	74.00	21.13
15630.00	24.28	AV	V	37.97	8.82	24.33	46.74	40.72	54.00	13.28

5250-5350MHz:

802.11a:

Frequency	Receiver		Rx Antenna		Cable loss	Amplifier Gain	Corrected Amplitude	Extrapolation result	Limit	Margin
	Reading	Detector	Polar	Factor						
MHz	dBμV	PK/QP/AV	H/V	dB/m	dB	dB	dBμV/m	dBμV/m	dBμV/m	dB
Low Channel: 5260 MHz										
5260.00	68.93	PK	H	33.72	3.49	0.00	106.14	100.12	N/A	N/A
5260.00	59.87	AV	H	33.72	3.49	0.00	97.08	91.06	N/A	N/A
5260.00	70.12	PK	V	33.72	3.49	0.00	107.33	101.31	N/A	N/A
5260.00	61.15	AV	V	33.72	3.49	0.00	98.36	92.34	N/A	N/A
5150.00	28.08	PK	V	33.54	3.56	0.00	65.18	59.16	74.00	14.84
5150.00	15.36	AV	V	33.54	3.56	0.00	52.46	46.44	54.00	7.56
10520.00	36.84	PK	V	38.21	6.39	25.47	55.97	49.95	68.20	18.25
15780.00	36.47	PK	V	37.82	8.76	24.42	58.63	52.61	74.00	21.39
15780.00	24.29	AV	V	37.82	8.76	24.42	46.45	40.43	54.00	13.57
Middle Channel: 5280 MHz										
5280.00	68.76	PK	H	33.75	3.45	0.00	105.96	99.94	N/A	N/A
5280.00	59.55	AV	H	33.75	3.45	0.00	96.75	90.73	N/A	N/A
5280.00	69.93	PK	V	33.75	3.45	0.00	107.13	101.11	N/A	N/A
5280.00	60.87	AV	V	33.75	3.45	0.00	98.07	92.05	N/A	N/A
10560.00	35.90	PK	V	38.24	6.40	25.47	55.07	49.05	68.20	19.15
15840.00	36.42	PK	V	37.76	8.74	24.46	58.46	52.44	74.00	21.56
15840.00	24.35	AV	V	37.76	8.74	24.46	46.39	40.37	54.00	13.63
High Channel: 5320 MHz										
5320.00	69.32	PK	H	33.81	3.45	0.00	106.58	100.56	N/A	N/A
5320.00	60.51	AV	H	33.81	3.45	0.00	97.77	91.75	N/A	N/A
5320.00	70.53	PK	V	33.81	3.45	0.00	107.79	101.77	N/A	N/A
5320.00	61.76	AV	V	33.81	3.45	0.00	99.02	93	N/A	N/A
5350.00	33.11	PK	V	33.86	3.52	0.00	70.49	64.47	74.00	9.53
5350.00	15.61	AV	V	33.86	3.52	0.00	52.99	46.97	54.00	7.03
10640.00	35.86	PK	V	38.28	6.43	25.46	55.11	49.09	74.00	24.91
15960.00	36.84	PK	V	37.64	8.70	24.54	58.64	52.62	74.00	21.38
15960.00	24.75	AV	V	37.64	8.70	24.54	46.55	40.53	54.00	13.47

802.11n ht20:

Frequency	Receiver		Rx Antenna		Cable loss	Amplifier Gain	Corrected Amplitude	Extrapolation result	Limit	Margin
	Reading	Detector	Polar	Factor						
MHz	dBμV	PK/QP/AV	H/V	dB/m	dB	dB	dBμV/m	dBμV/m	dBμV/m	dB
Low Channel: 5260 MHz										
5260.00	68.76	PK	H	33.72	3.49	0.00	105.97	99.95	N/A	N/A
5260.00	59.82	AV	H	33.72	3.49	0.00	97.03	91.01	N/A	N/A
5260.00	69.15	PK	V	33.72	3.49	0.00	106.36	100.34	N/A	N/A
5260.00	60.34	AV	V	33.72	3.49	0.00	97.55	91.53	N/A	N/A
5150.00	28.13	PK	V	33.54	3.56	0.00	65.23	59.21	74.00	14.79
5150.00	15.38	AV	V	33.54	3.56	0.00	52.48	46.46	54.00	7.54
10520.00	36.49	PK	V	38.21	6.39	25.47	55.62	49.6	68.20	18.60
15780.00	36.02	PK	V	37.82	8.76	24.42	58.18	52.16	74.00	21.84
15780.00	23.96	AV	V	37.82	8.76	24.42	46.12	40.1	54.00	13.90
Middle Channel: 5280 MHz										
5280.00	70.33	PK	H	33.75	3.45	0.00	107.53	101.51	N/A	N/A
5280.00	60.78	AV	H	33.75	3.45	0.00	97.98	91.96	N/A	N/A
5280.00	70.82	PK	V	33.75	3.45	0.00	108.02	102	N/A	N/A
5280.00	61.23	AV	V	33.75	3.45	0.00	98.43	92.41	N/A	N/A
10560.00	35.59	PK	V	38.24	6.40	25.47	54.76	48.74	68.20	19.46
15840.00	36.02	PK	V	37.76	8.74	24.46	58.06	52.04	74.00	21.96
15840.00	23.85	AV	V	37.76	8.74	24.46	45.89	39.87	54.00	14.13
High Channel: 5320 MHz										
5320.00	69.91	PK	H	33.81	3.45	0.00	107.17	101.15	N/A	N/A
5320.00	60.89	AV	H	33.81	3.45	0.00	98.15	92.13	N/A	N/A
5320.00	70.42	PK	V	33.81	3.45	0.00	107.68	101.66	N/A	N/A
5320.00	61.37	AV	V	33.81	3.45	0.00	98.63	92.61	N/A	N/A
5350.00	32.02	PK	V	33.86	3.52	0.00	69.40	63.38	74.00	10.62
5350.00	15.86	AV	V	33.86	3.52	0.00	53.24	47.22	54.00	6.78
10640.00	35.59	PK	V	38.28	6.43	25.46	54.84	48.82	74.00	25.18
15960.00	36.36	PK	V	37.64	8.70	24.54	58.16	52.14	74.00	21.86
15960.00	24.25	AV	V	37.64	8.70	24.54	46.05	40.03	54.00	13.97

802.11n ht40:

Frequency	Receiver		Rx Antenna		Cable loss	Amplifier Gain	Corrected Amplitude	Extrapolation result	Limit	Margin
	Reading	Detector	Polar	Factor						
MHz	dBμV	PK/QP/AV	H/V	dB/m	dB	dB	dBμV/m	dBμV/m	dBμV/m	dB
Low Channel: 5270 MHz										
5270.00	65.51	PK	H	33.73	3.47	0.00	102.71	96.69	N/A	N/A
5270.00	56.73	AV	H	33.73	3.47	0.00	93.93	87.91	N/A	N/A
5270.00	65.63	PK	V	33.73	3.47	0.00	102.83	96.81	N/A	N/A
5270.00	56.82	AV	V	33.73	3.47	0.00	94.02	88	N/A	N/A
5150.00	27.29	PK	V	33.54	3.56	0.00	64.39	58.37	74.00	15.63
5150.00	15.57	AV	V	33.54	3.56	0.00	52.67	46.65	54.00	7.35
10540.00	35.58	PK	V	38.22	6.40	25.47	54.73	48.71	74.00	25.29
15810.00	36.31	PK	V	37.79	8.75	24.44	58.41	52.39	74.00	21.61
15810.00	24.22	AV	V	37.79	8.75	24.44	46.32	40.3	54.00	13.70
High Channel: 5310 MHz										
5310.00	66.75	PK	H	33.80	3.43	0.00	103.98	97.96	N/A	N/A
5310.00	57.66	AV	H	33.80	3.43	0.00	94.89	88.87	N/A	N/A
5310.00	66.92	PK	V	33.80	3.43	0.00	104.15	98.13	N/A	N/A
5310.00	57.89	AV	V	33.80	3.43	0.00	95.12	89.1	N/A	N/A
5350.00	34.05	PK	V	33.86	3.52	0.00	71.43	65.41	74.00	8.59
5350.00	18.77	AV	V	33.86	3.52	0.00	56.15	50.13	54.00	3.87
10620.00	35.58	PK	V	38.27	6.43	25.47	54.81	48.79	74.00	25.21
15930.00	37.07	PK	V	37.67	8.71	24.52	58.93	52.91	74.00	21.09
15930.00	25.02	AV	V	37.67	8.71	24.52	46.88	40.86	54.00	13.14

802.11ac vht80:

Frequency	Receiver		Rx Antenna		Cable loss	Amplifier Gain	Corrected Amplitude	Extrapolation result	Limit	Margin
	Reading	Detector	Polar	Factor						
MHz	dBμV	PK/QP/AV	H/V	dB/m	dB	dB	dBμV/m	dBμV/m	dBμV/m	dB
Low Channel: 5290 MHz										
5290.00	66.48	PK	H	33.76	3.43	0.00	103.67	97.65	N/A	N/A
5290.00	53.93	AV	H	33.76	3.43	0.00	91.12	85.1	N/A	N/A
5290.00	68.09	PK	V	33.76	3.43	0.00	105.28	99.26	N/A	N/A
5290.00	55.86	AV	V	33.76	3.43	0.00	93.05	87.03	N/A	N/A
5150.00	28.11	PK	V	33.54	3.56	0.00	65.21	59.19	74.00	14.81
5150.00	16.37	AV	V	33.54	3.56	0.00	53.47	47.45	54.00	6.55
5350.00	33.60	PK	V	33.86	3.52	0.00	70.98	64.96	74.00	9.04
5350.00	21.39	AV	V	33.86	3.52	0.00	58.77	52.75	54.00	1.25
10580.00	35.46	PK	V	38.25	6.41	25.47	54.65	48.63	74.00	25.37
15870.00	35.94	PK	V	37.73	8.73	24.48	57.92	51.9	74.00	22.10
15870.00	23.87	AV	V	37.73	8.73	24.48	45.85	39.83	54.00	14.17

5470-5725MHz:

802.11a:

Frequency	Receiver		Rx Antenna		Cable loss	Amplifier Gain	Corrected Amplitude	Extrapolation result	Limit	Margin
	Reading	Detector	Polar	Factor						
MHz	dBμV	PK/QP/AV	H/V	dB/m	dB	dB	dBμV/m	dBμV/m	dBμV/m	dB
Low Channel: 5500 MHz										
5500.00	66.62	PK	H	34.10	3.54	0.00	104.26	98.24	N/A	N/A
5500.00	56.53	AV	H	34.10	3.54	0.00	94.17	88.15	N/A	N/A
5500.00	66.86	PK	V	34.10	3.54	0.00	104.50	98.48	N/A	N/A
5500.00	56.81	AV	V	34.10	3.54	0.00	94.45	88.43	N/A	N/A
5470.00	33.66	PK	V	34.05	3.56	0.00	71.27	65.25	68.20	2.95
11000.00	36.25	PK	V	38.50	6.57	25.45	55.87	49.85	74.00	24.15
11000.00	23.19	AV	V	38.50	6.57	25.45	42.81	36.79	54.00	17.21
16500.00	36.01	PK	V	38.20	8.63	24.27	58.57	52.55	74.00	21.45
Middle Channel: 5600 MHz										
5600.00	67.66	PK	H	34.14	3.57	0.00	105.37	99.35	N/A	N/A
5600.00	57.82	AV	H	34.14	3.57	0.00	95.53	89.51	N/A	N/A
5600.00	68.11	PK	V	34.14	3.57	0.00	105.82	99.8	N/A	N/A
5600.00	58.71	AV	V	34.14	3.57	0.00	96.42	90.4	N/A	N/A
11200.00	36.76	PK	V	38.70	6.58	25.47	56.57	50.55	74.00	23.45
11200.00	23.98	AV	V	38.70	6.58	25.47	43.79	37.77	54.00	16.23
16800.00	36.24	PK	V	39.40	8.68	24.08	60.24	54.22	74.00	19.78
High Channel: 5700 MHz										
5700.00	68.63	PK	H	34.18	3.68	0.00	106.49	100.47	N/A	N/A
5700.00	58.91	AV	H	34.18	3.68	0.00	96.77	90.75	N/A	N/A
5700.00	70.26	PK	V	34.18	3.68	0.00	108.12	102.1	N/A	N/A
5700.00	59.92	AV	V	34.18	3.68	0.00	97.78	91.76	N/A	N/A
5725.00	32.73	PK	V	34.19	3.69	0.00	70.61	64.59	68.20	3.61
11400.00	35.42	PK	V	38.90	6.59	25.50	55.41	49.39	74.00	24.61
11400.00	22.13	AV	V	38.90	6.59	25.50	42.12	36.1	54.00	17.90
17100.00	35.96	PK	V	40.78	8.75	23.85	61.64	55.62	74.00	18.38

802.11n ht20:

Frequency	Receiver		Rx Antenna		Cable loss	Amplifier Gain	Corrected Amplitude	Extrapolation result	Limit	Margin
	Reading	Detector	Polar	Factor						
MHz	dB μ V	PK/QP/AV	H/V	dB/m	dB	dB	dB μ V/m	dB μ V/m	dB μ V/m	dB
Low Channel: 5500 MHz										
5500.00	67.39	PK	H	34.10	3.54	0.00	105.03	99.01	N/A	N/A
5500.00	57.62	AV	H	34.10	3.54	0.00	95.26	89.24	N/A	N/A
5500.00	67.47	PK	V	34.10	3.54	0.00	105.11	99.09	N/A	N/A
5500.00	57.70	AV	V	34.10	3.54	0.00	95.34	89.32	N/A	N/A
5470.00	33.37	PK	V	34.05	3.56	0.00	70.98	64.96	68.20	3.24
11000.00	35.86	PK	V	38.50	6.57	25.45	55.48	49.46	74.00	24.54
11000.00	22.54	AV	V	38.50	6.57	25.45	42.16	36.14	54.00	17.86
16500.00	36.12	PK	V	38.20	8.63	24.27	58.68	52.66	74.00	21.34
7333.00	40.40	PK	V	36.07	4.60	25.74	55.33	49.31	74.00	24.69
7333.00	34.04	AV	V	36.07	4.60	25.74	48.97	42.95	54.00	11.05
Middle Channel: 5600 MHz										
5600.00	68.26	PK	H	34.14	3.57	0.00	105.97	99.95	N/A	N/A
5600.00	58.62	AV	H	34.14	3.57	0.00	96.33	90.31	N/A	N/A
5600.00	68.39	PK	V	34.14	3.57	0.00	106.10	100.08	N/A	N/A
5600.00	58.66	AV	V	34.14	3.57	0.00	96.37	90.35	N/A	N/A
11200.00	36.42	PK	V	38.70	6.58	25.47	56.23	50.21	74.00	23.79
11200.00	22.89	AV	V	38.70	6.58	25.47	42.70	36.68	54.00	17.32
16800.00	36.72	PK	V	39.40	8.68	24.08	60.72	54.7	74.00	19.30
High Channel: 5700 MHz										
5700.00	68.48	PK	H	34.18	3.68	0.00	106.34	100.32	N/A	N/A
5700.00	57.82	AV	H	34.18	3.68	0.00	95.68	89.66	N/A	N/A
5700.00	68.73	PK	V	34.18	3.68	0.00	106.59	100.57	N/A	N/A
5700.00	58.04	AV	V	34.18	3.68	0.00	95.90	89.88	N/A	N/A
5725.00	34.36	PK	V	34.19	3.69	0.00	72.24	66.22	68.20	1.98
11400.00	36.12	PK	V	38.90	6.59	25.50	56.11	50.09	74.00	23.91
11400.00	22.68	AV	V	38.90	6.59	25.50	42.67	36.65	54.00	17.35
17100.00	35.86	PK	V	40.78	8.75	23.85	61.54	55.52	74.00	18.48

802.11n ht40:

Frequency	Receiver		Rx Antenna		Cable loss	Amplifier Gain	Corrected Amplitude	Extrapolation result	Limit	Margin
	Reading	Detector	Polar	Factor						
MHz	dBμV	PK/QP/AV	H/V	dB/m	dB	dB	dBμV/m	dBμV/m	dBμV/m	dB
Low Channel: 5510 MHz										
5510.00	64.84	PK	H	34.10	3.54	0.00	102.48	96.46	N/A	N/A
5510.00	54.96	AV	H	34.10	3.54	0.00	92.60	86.58	N/A	N/A
5510.00	63.81	PK	V	34.10	3.54	0.00	101.45	95.43	N/A	N/A
5510.00	53.39	AV	V	34.10	3.54	0.00	91.03	85.01	N/A	N/A
5470.00	33.50	PK	V	34.05	3.56	0.00	71.11	65.09	68.20	3.11
5470.00	15.53	AV	V	34.05	3.56	0.00	53.14	47.12	54.00	6.88
11020.00	36.24	PK	V	38.52	6.57	25.45	55.88	49.86	74.00	24.14
11020.00	22.59	AV	V	38.52	6.57	25.45	42.23	36.21	54.00	17.79
16530.00	36.45	PK	V	38.32	8.64	24.25	59.16	53.14	74.00	20.86
7346.00	41.40	PK	V	36.10	4.58	25.75	56.33	50.31	74.00	23.69
7346.00	35.62	AV	V	36.10	4.58	25.75	50.55	44.53	54.00	9.47
Middle Channel: 5550 MHz										
5590.00	63.81	PK	H	34.14	3.57	0.00	101.52	95.5	N/A	N/A
5590.00	53.48	AV	H	34.14	3.57	0.00	91.19	85.17	N/A	N/A
5590.00	64.35	PK	V	34.14	3.57	0.00	102.06	96.04	N/A	N/A
5590.00	53.39	AV	V	34.14	3.57	0.00	91.10	85.08	N/A	N/A
11180.00	36.06	PK	V	38.68	6.58	25.47	55.85	49.83	74.00	24.17
11180.00	24.18	AV	V	38.68	6.58	25.47	43.97	37.95	54.00	16.05
16770.00	36.26	PK	V	39.28	8.68	24.10	60.12	54.1	74.00	19.90
High Channel: 5670 MHz										
5670.00	64.46	PK	H	34.17	3.65	0.00	102.28	96.26	N/A	N/A
5670.00	54.25	AV	H	34.17	3.65	0.00	92.07	86.05	N/A	N/A
5670.00	64.53	PK	V	34.17	3.65	0.00	102.35	96.33	N/A	N/A
5670.00	54.43	AV	V	34.17	3.65	0.00	92.25	86.23	N/A	N/A
5725.00	29.19	PK	V	34.19	3.69	0.00	67.07	61.05	62.80	1.75
11340.00	36.01	PK	V	38.84	6.58	25.49	55.94	49.92	74.00	24.08
11340.00	22.76	AV	V	38.84	6.58	25.49	42.69	36.67	54.00	17.33
17010.00	35.63	PK	V	40.26	8.72	23.94	60.67	54.65	74.00	19.35

802.11ac vht80:

Frequency	Receiver		Rx Antenna		Cable loss	Amplifier Gain	Corrected Amplitude	Extrapolation result	Limit	Margin
	Reading	Detector	Polar	Factor						
MHz	dBμV	PK/QP/AV	H/V	dB/m	dB	dB	dBμV/m	dBμV/m	dBμV/m	dB
Low Channel: 5530 MHz										
5530.00	65.24	PK	H	34.11	3.55	0.00	102.90	96.88	N/A	N/A
5530.00	51.63	AV	H	34.11	3.55	0.00	89.29	83.27	N/A	N/A
5530.00	65.54	PK	V	34.11	3.55	0.00	103.20	97.18	N/A	N/A
5530.00	51.86	AV	V	34.11	3.55	0.00	89.52	83.5	N/A	N/A
5470.00	29.22	PK	V	34.05	3.56	0.00	66.83	60.81	68.20	7.39
11060.00	36.38	PK	V	38.56	6.57	25.46	56.05	50.03	74.00	23.97
11060.00	22.59	AV	V	38.56	6.57	25.46	42.26	36.24	54.00	17.76
16590.00	36.82	PK	V	38.56	8.65	24.21	59.82	53.8	74.00	20.20
High Channel: 5610 MHz										
5610.00	63.15	PK	H	34.14	3.58	0.00	100.87	94.85	N/A	N/A
5610.00	48.86	AV	H	34.14	3.58	0.00	86.58	80.56	N/A	N/A
5610.00	63.74	PK	V	34.14	3.58	0.00	101.46	95.44	N/A	N/A
5610.00	49.15	AV	V	34.14	3.58	0.00	86.87	80.85	N/A	N/A
5725.00	25.48	PK	V	34.19	3.69	0.00	63.36	57.34	68.20	10.86
11220.00	33.95	PK	V	38.72	6.58	25.48	53.77	47.75	74.00	26.25
11220.00	20.54	AV	V	38.72	6.58	25.48	40.36	34.34	54.00	19.66
16830.00	33.98	PK	V	39.52	8.69	24.06	58.13	52.11	74.00	21.89

5725-5850MHz:

802.11a:

Frequency	Receiver		Rx Antenna		Cable loss	Amplifier Gain	Corrected Amplitude	Extrapolation result	Limit	Margin
	Reading	Detector	Polar	Factor						
MHz	dBμV	PK/QP/AV	H/V	dB/m	dB	dB	dBμV/m	dBμV/m	dBμV/m	dB
Low Channel: 5745MHz										
5745.00	70.03	PK	H	34.20	3.69	0.00	107.92	101.9	N/A	N/A
5745.00	60.19	AV	H	34.20	3.69	0.00	98.08	92.06	N/A	N/A
5745.00	70.05	PK	V	34.20	3.69	0.00	107.94	101.92	N/A	N/A
5745.00	60.22	AV	V	34.20	3.69	0.00	98.11	92.09	N/A	N/A
5725.00	37.82	PK	V	34.19	3.69	0.00	75.70	69.68	122.20	52.52
5720.00	35.62	PK	V	34.19	3.69	0.00	73.50	67.48	110.80	43.32
5700.00	28.13	PK	V	34.18	3.68	0.00	65.99	59.97	105.20	45.23
5650.00	27.43	PK	V	34.16	3.63	0.00	65.22	59.2	68.20	9.00
11490.00	35.16	PK	V	38.99	6.59	25.51	55.23	49.21	74.00	24.79
11490.00	23.06	AV	V	38.99	6.59	25.51	43.13	37.11	54.00	16.89
17235.00	35.46	PK	V	41.56	8.78	23.72	62.08	56.06	68.20	12.14
Middle Channel: 5785 MHz										
5785.00	69.32	PK	H	34.21	3.71	0.00	107.24	101.22	N/A	N/A
5785.00	59.36	AV	H	34.21	3.71	0.00	97.28	91.26	N/A	N/A
5785.00	69.46	PK	V	34.21	3.71	0.00	107.38	101.36	N/A	N/A
5785.00	59.57	AV	V	34.21	3.71	0.00	97.49	91.47	N/A	N/A
11570.00	35.69	PK	V	39.00	6.61	25.46	55.84	49.82	74.00	24.18
11570.00	22.58	AV	V	39.00	6.61	25.46	42.73	36.71	54.00	17.29
17355.00	35.65	PK	V	42.26	8.81	23.60	63.12	57.1	68.20	11.10
High Channel: 5825 MHz										
5825.00	67.29	PK	H	34.23	3.73	0.00	105.25	99.23	N/A	N/A
5825.00	58.03	AV	H	34.23	3.73	0.00	95.99	89.97	N/A	N/A
5825.00	67.34	PK	V	34.23	3.73	0.00	105.30	99.28	N/A	N/A
5825.00	58.02	AV	V	34.23	3.73	0.00	95.98	89.96	N/A	N/A
5850.00	34.05	PK	V	34.24	3.75	0.00	72.04	66.02	122.20	56.18
5855.00	31.54	PK	V	34.24	3.75	0.00	69.53	63.51	110.80	47.29
5875.00	27.71	PK	V	34.25	3.77	0.00	65.73	59.71	105.20	45.49
5925.00	27.36	PK	V	34.27	3.80	0.00	65.43	59.41	68.20	8.79
11650.00	37.05	PK	V	39.00	6.64	25.41	57.28	51.26	74.00	22.74
11650.00	22.27	AV	V	39.00	6.64	25.41	42.50	36.48	54.00	17.52
17475.00	35.47	PK	V	42.96	8.84	23.48	63.79	57.77	68.20	10.43

802.11n ht20:

Frequency	Receiver		Rx Antenna		Cable loss	Amplifier Gain	Corrected Amplitude	Extrapolation result	Limit	Margin
	Reading	Detector	Polar	Factor						
MHz	dBμV	PK/QP/AV	H/V	dB/m	dB	dB	dBμV/m	dBμV/m	dBμV/m	dB
Low Channel: 5745MHz										
5745.00	70.01	PK	H	34.20	3.69	0.00	107.90	101.88	N/A	N/A
5745.00	60.78	AV	H	34.20	3.69	0.00	98.67	92.65	N/A	N/A
5745.00	70.26	PK	V	34.20	3.69	0.00	108.15	102.13	N/A	N/A
5745.00	60.82	AV	V	34.20	3.69	0.00	98.71	92.69	N/A	N/A
5725.00	37.22	PK	V	34.19	3.69	0.00	75.10	69.08	122.20	53.12
5720.00	35.65	PK	V	34.19	3.69	0.00	73.53	67.51	110.80	43.29
5700.00	29.31	PK	V	34.18	3.68	0.00	67.17	61.15	105.20	44.05
5650.00	27.65	PK	V	34.16	3.63	0.00	65.44	59.42	68.20	8.78
11490.00	35.36	PK	V	38.99	6.59	25.51	55.43	49.41	74.00	24.59
11490.00	22.76	AV	V	38.99	6.59	25.51	42.83	36.81	54.00	17.19
17235.00	35.60	PK	V	41.56	8.78	23.72	62.22	56.2	68.20	12.00
Middle Channel: 5785 MHz										
5785.00	68.42	PK	H	34.21	3.71	0.00	106.34	100.32	N/A	N/A
5785.00	58.43	AV	H	34.21	3.71	0.00	96.35	90.33	N/A	N/A
5785.00	69.54	PK	V	34.21	3.71	0.00	107.46	101.44	N/A	N/A
5785.00	59.28	AV	V	34.21	3.71	0.00	97.20	91.18	N/A	N/A
11570.00	35.19	PK	V	39.00	6.61	25.46	55.34	49.32	74.00	24.68
11570.00	22.74	AV	V	39.00	6.61	25.46	42.89	36.87	54.00	17.13
17355.00	35.87	PK	V	42.26	8.81	23.60	63.34	57.32	68.20	10.88
High Channel: 5825 MHz										
5825.00	68.12	PK	H	34.23	3.73	0.00	106.08	100.06	N/A	N/A
5825.00	58.42	AV	H	34.23	3.73	0.00	96.38	90.36	N/A	N/A
5825.00	68.51	PK	V	34.23	3.73	0.00	106.47	100.45	N/A	N/A
5825.00	58.83	AV	V	34.23	3.73	0.00	96.79	90.77	N/A	N/A
5850.00	31.23	PK	V	34.24	3.75	0.00	69.22	63.2	122.20	59.00
5855.00	30.10	PK	V	34.24	3.75	0.00	68.09	62.07	110.80	48.73
5875.00	28.49	PK	V	34.25	3.77	0.00	66.51	60.49	105.20	44.71
5925.00	28.06	PK	V	34.27	3.80	0.00	66.13	60.11	68.20	8.09
11650.00	35.97	PK	V	39.00	6.64	25.41	56.20	50.18	74.00	23.82
11650.00	22.54	AV	V	39.00	6.64	25.41	42.77	36.75	54.00	17.25
17475.00	35.09	PK	V	42.96	8.84	23.48	63.41	57.39	68.20	10.81

802.11n ht40:

Frequency	Receiver		Rx Antenna		Cable loss	Amplifier Gain	Corrected Amplitude	Extrapolation result	Limit	Margin
	Reading	Detector	Polar	Factor						
MHz	dBμV	PK/QP/AV	H/V	dB/m	dB	dB	dBμV/m	dBμV/m	dBμV/m	dB
Low Channel: 5755 MHz										
5755.00	67.32	PK	H	34.20	3.70	0.00	105.22	99.2	N/A	N/A
5755.00	56.58	AV	H	34.20	3.70	0.00	94.48	88.46	N/A	N/A
5755.00	67.65	PK	V	34.20	3.70	0.00	105.55	99.53	N/A	N/A
5755.00	56.72	AV	V	34.20	3.70	0.00	94.62	88.6	N/A	N/A
5725.00	39.12	PK	V	34.19	3.69	0.00	77.00	70.98	122.20	51.22
5720.00	35.96	PK	V	34.19	3.69	0.00	73.84	67.82	110.80	42.98
5700.00	31.69	PK	V	34.18	3.68	0.00	69.55	63.53	105.20	41.67
5650.00	28.11	PK	V	34.16	3.63	0.00	65.90	59.88	68.20	8.32
11510.00	35.33	PK	V	39.00	6.59	25.50	55.42	49.4	74.00	24.60
11510.00	23.15	AV	V	39.00	6.59	25.50	43.24	37.22	54.00	16.78
17265.00	35.90	PK	V	41.74	8.79	23.69	62.74	56.72	68.20	11.48
High Channel: 5795 MHz										
5795.00	66.77	PK	H	34.22	3.71	0.00	104.70	98.68	N/A	N/A
5795.00	56.26	AV	H	34.22	3.71	0.00	94.19	88.17	N/A	N/A
5795.00	66.84	PK	V	34.22	3.71	0.00	104.77	98.75	N/A	N/A
5795.00	56.58	AV	V	34.22	3.71	0.00	94.51	88.49	N/A	N/A
5850.00	30.06	PK	V	34.24	3.75	0.00	68.05	62.03	122.20	60.17
5855.00	28.87	PK	V	34.24	3.75	0.00	66.86	60.84	110.80	49.96
5875.00	28.65	PK	V	34.25	3.77	0.00	66.67	60.65	105.20	44.55
5925.00	28.46	PK	V	34.27	3.80	0.00	66.53	60.51	68.20	7.69
11590.00	35.09	PK	V	39.00	6.62	25.45	55.26	49.24	74.00	24.76
11590.00	22.70	AV	V	39.00	6.62	25.45	42.87	36.85	54.00	17.15
17385.00	35.87	PK	V	42.43	8.82	23.57	63.55	57.53	68.20	10.67

802.11ac vht80:

Frequency	Receiver		Rx Antenna		Cable loss	Amplifier Gain	Corrected Amplitude	Extrapolation result	Limit	Margin
	Reading	Detector	Polar	Factor						
MHz	dBμV	PK/QP/AV	H/V	dB/m	dB	dB	dBμV/m	dBμV/m	dBμV/m	dB
5775 MHz										
5775.00	65.76	PK	H	34.21	3.70	0.00	103.67	97.65	N/A	N/A
5775.00	52.01	AV	H	34.21	3.70	0.00	89.92	83.9	N/A	N/A
5775.00	66.74	PK	V	34.21	3.70	0.00	104.65	98.63	N/A	N/A
5775.00	52.16	AV	V	34.21	3.70	0.00	90.07	84.05	N/A	N/A
5725.00	34.21	PK	V	34.19	3.69	0.00	72.09	66.07	122.20	56.13
5720.00	33.29	PK	V	34.19	3.69	0.00	71.17	65.15	110.80	45.65
5700.00	31.30	PK	V	34.18	3.68	0.00	69.16	63.14	105.20	42.06
5650.00	28.09	PK	V	34.16	3.63	0.00	65.88	59.86	68.20	8.34
5850.00	29.56	PK	V	34.24	3.75	0.00	67.55	61.53	122.20	60.67
5855.00	29.36	PK	V	34.24	3.75	0.00	67.35	61.33	110.80	49.47
5875.00	29.29	PK	V	34.25	3.77	0.00	67.31	61.29	105.20	43.91
5925.00	28.13	PK	V	34.27	3.80	0.00	66.20	60.18	68.20	8.02
11550.00	35.45	PK	V	39.00	6.61	25.48	55.58	49.56	74.00	24.44
11550.00	22.59	AV	V	39.00	6.61	25.48	42.72	36.7	54.00	17.30
17325.00	35.92	PK	V	42.09	8.80	23.63	63.18	57.16	68.20	11.04

RSS-247 CLAUSE 6.4- ADDITIONAL REQUIREMENT

Applicable Standard

According to RSS-247 Clause 6.4 Additional requirement

The following requirements shall apply:

- a) The device shall automatically discontinue transmission in cases of absence of information to transmit, or operational failure. A description on how this is done shall accompany the application for equipment certification. Note that this is not intended to prohibit transmission of control or signalling information or the use of repetitive codes where required by the technology.
- b) All LE-LAN devices must contain security features to protect against modification of software by unauthorized parties.

Manufacturers must implement security features in any digitally modulated devices capable of operating in any of the frequency ranges within the 5 GHz band, so that third parties are not able to reprogram the device to operate outside the parameters for which the device was certified. The software must prevent the user from operating the transmitter with operating frequencies, output power, modulation types or other radio frequency parameters outside those that were approved for the device. Manufacturers may use various means, including the use of a private network that allows only authenticated users to download software, electronic signatures in software or coding in hardware that is decoded by software to verify that new software can be legally loaded into a device to meet these requirements and must describe the methods in their application for equipment certification.

Manufacturers must take steps to ensure that DFS functionality cannot be disabled by the operator of the LE-LAN device.

- c) The user manual for LE-LAN devices shall contain instructions related to the restrictions mentioned in the above sections, namely that:
 - i. the device for operation in the band 5150–5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems;⁴
 - ii. for devices with detachable antenna(s), the maximum antenna gain permitted for devices in the bands 5250-5350 MHz and 5470-5725 MHz shall be such that the equipment still complies with the e.i.r.p. limit;
 - iii. for devices with detachable antenna(s), the maximum antenna gain permitted for devices in the band 5725-5850 MHz shall be such that the equipment still complies with the e.i.r.p. limits as appropriate; and
 - iv. where applicable, antenna type(s), antenna models(s), and worst-case tilt angle(s) necessary to remain compliant with the e.i.r.p. elevation mask requirement set forth in section 6.2.2.3 shall be clearly indicated.

Result

Compliance.

RSS-247 Clause 6.4 a):

The device shall automatically discontinue transmission in cases of absence of information to transmit, or operational failure. Please refer to the declaration

RSS-247 Clause 6.4 b):

The devices must contain security features to protect against modification of software by unauthorized parties. Please refer to the declaration

RSS-247 Clause 6.4 c):

The device operates on 5150-5250MHz, 5250-5350MHz, 5470-5600MHz & 5650-5725MHz and 5725-5850MHz, the antennas is internal antenna, all the EIPR compliance with RSS-247 requirement.

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