ACCREDITED
CERTIFICATE #5473.01

Test Report No.:
FCC2021-0003-2

TEST REPORT

FCC ID	:	2AR82-SKIWB921AU1
IC	:	24728-SKIWB921AU1
Applicant	:	Guangzhou Shikun Electronics Co., Ltd
Product Name	:	Module
Mode No.	:	SKI.WB921AU.1

CVC Testing Technology Co., Ltd.

Applicant	**Name:** Guangzhou Shikun Electronics Co., Ltd **Address:** NO.6 Liankun Road,Huangpu District,Guangzhou,China
Manufacturer	**Name:** Guangzhou Shikun Electronics Co., Ltd **Address:** NO.6 Liankun Road,Huangpu District,Guangzhou,China
Equipment Under Test	**Product Name :** Module **Model No. :** SKI.WB921AU.1 **Trade mark :** / **Serial no. :** — **Sampling :** —

Date of Receipt.	**2021.02.25**	Date of Testing	**2021.02.25~2021.05.26**

Test Specification	**Test Result**
FCC CFR47 Part 15C (2020) Radio Frequency Devices RSS-247 Issue 2 RSS-Gen Issue 5 ANSI C63.10 (2013) KDB 558074 D01 DTS Meas Guidance v05 KDB 66911 D01 Multiple Transmitter Output v02r01	PASS
Evaluation of Test Result	The equipment under test was found to comply with the requirements of the standards applied. **Seal of CVC** **Issue Date: 2021.05.26**

Tested by: **Xu Zhenfei** Xu Zhenfei

Reviewed by: **Liu YongHai** Liu yonghai

Approved by: **Chen HuaWen** Chenhuawen

Other Aspects: NONE.

Abbreviations:OK, Pass= passed Fail = failed N/A= not applicable EUT= equipment, sample(s) under tested

This test report relates only to the EUT, and shall not be reproduced except in full, without written approval of **CVC**.
Note: The report was originally issued on April 20, 2021, and was modified for the first time on May 17, 2021. The modification contents are as follows: Add the description of the worst case; the corresponding revised pages are marked with (XG1) after the original test report number, that is, FCC2021-0003-2(XG1).And was modified for the second time on May 26, 2021. The modification contents are as follows: Add a result of converting dBm / 10kHz to dBm / 3kHz; Add a column of EIRP results; the corresponding revised pages are marked with (XG2) after the original test report number, that is,FCC2021-0003-2(XG2).

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1. General Product Information

1.1 General information

Product Name	Module	
Model No.	SKI.WB921AU.1	
Power Supply	DC 3.3V	
Serial Number(SN)	B4ADA3CE77D8	
Power Supply	Adapter	/
	Battery	/
Antenna Type	External Antenna	
Antenna Connector	A permanently attached antenna (meet with the standard FCC Part 15.203 requirement)	
Antenna Gain	WIFI Antenna 1: 1.5 dBi (provided by client) WIFI Antenna 2: 1.5 dBi (provided by client) Bluetooth(Low Energy) Antenna 1: 1.5 dBi (provided by client) Bluetooth(Low Energy) Antenna 2: 1.5 dBi (provided by client)	
Beamforming gain	0 dBi (provided by client)	
Frequency Range	Bluetooth(Low Energy): 2402~2480MHz IEEE 802.11b/g/n/ax(20MHz): 2412~2462MHz IEEE 802.11n/ax(40MHz): 2422~2452MHz	
Channel Number	Bluetooth(Low Energy):40 Channels IEEE 802.11b/g/n/ax(20MHz): 11 Channels IEEE 802.11n/ax(40MHz): 7 Channels	
Type of Modulation	Bluetooth(Low Energy):GFSK IEEE 802.11b: DSSS (CCK,DQPSK,DBPSK); IEEE 802.11g: OFDM (64QAM, 16QAM, QPSK, BPSK); IEEE 802.11n(HT20 and HT40) : OFDM (1024QAM,256QAM,64QAM, 16QAM,QPSK,BPSK); IEEE 802.11ax(HE20 and HE40) : OFDM (1024QAM,256QAM,64QAM, 16QAM,QPSK,BPSK).	
Max. Conducted Power	Bluetooth(Low Energy):16.36 dBm IEEE 802.11b: 17.25 dBm IEEE 802.11g: 17.20 dBm IEEE 802.11n(20MHz): 17.10 dBm IEEE 802.11n(40MHz): 17.36 dBm IEEE 802.11ax(20MHz): 17.51 dBm IEEE 802.11ax(40MHz): 17.30 dBm	
Operate Temp.Range	-40°C to +125°C	

Note：
1. The information of the EUT is declared by the manufacturer.
2. The laboratory is not responsible for the product technical specification provided by the client.

2. Test Sites

2.1 Test Facilities

The tests and measurements refer to this report were performed by EMC testing Lab. of CVC Testing Technology Co., Ltd.

Add.: No.3, Tiantaiyi Road, Kaitai Avenue, Science City, Guangzhou,Guangdong,510663, People's Republic of China

Telephone : +86-20-32293888

Fax : +86-20-32293889

FCC(Test firm designation number：CN1282)

IC(Test firm CAB identifier number：CN0103)

2.2 Description of Non-standard Method and Deviations

The testing and measurement methods used in this report are applied by all standard methods. Not any non-standard method or deviation from the used standards was used.

2.3 List of Test and Measurement Instruments

Refer to **Appendix E**.

3. Test Configuration

3.1 Test Mode

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

Test Mode	Antenna Delivery	Test Channel
Bluetooth(Low Energy)	2TX / 2RX	0,19,39
IEEE 802.11b TX mode	2TX / 2RX	1,6,11
IEEE 802.11g TX mode	2TX / 2RX	1,6,11
IEEE 802.11n 2.4GHz 20MHz TX mode	2TX / 2RX	1,6,11
IEEE 802.11n 2.4GHz 40MHz TX mode	2TX / 2RX	3,6,9
IEEE 802.11ax 2.4GHz 20MHz TX mode	2TX / 2RX	3,6,9
IEEE 802.11ax 2.4GHz 40MHz TX mode	2TX / 2RX	3,6,9

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 lie-down position (X 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 all the 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.

Test Mode	Data Rate		
	Antenna 1	Antenna 2	MIMO
Bluetooth(Low Energy)	1	1	/
IEEE 802.11b TX mode	1	1	/
IEEE 802.11g TX mode	6	6	/
IEEE 802.11n 2.4GHz 20MHz TX mode	MCS 0	MCS 0	MCS 8
IEEE 802.11n 2.4GHz 40MHz TX mode	MCS 0	MCS 0	MCS 8
IEEE 802.11ax 2.4GHz 20MHz TX mode	MCS 0	MCS 0	MCS 8
IEEE 802.11ax 2.4GHz 40MHz TX mode	MCS 0	MCS 0	MCS 8

3.2 Duty cycle

TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Limit	Verdict
11B	Ant1	2412	8.35	8.74	95.54	---	PASS
	Ant2	2412	8.35	8.73	95.65	---	PASS
	Ant1	2437	8.35	8.74	95.54	---	PASS
	Ant2	2437	8.35	8.74	95.54	---	PASS
	Ant1	2462	8.35	8.74	95.54	---	PASS
	Ant2	2462	8.35	8.73	95.65	---	PASS
11G	Ant1	2412	1.38	1.76	78.41	---	PASS
	Ant2	2412	1.38	1.76	78.41	---	PASS
	Ant1	2437	1.38	1.76	78.41	---	PASS
	Ant2	2437	1.38	1.76	78.41	---	PASS
	Ant1	2462	1.38	1.76	78.41	---	PASS
	Ant2	2462	1.38	1.76	78.41	---	PASS
11N20SISO	Ant1	2412	1.29	1.68	76.79	---	PASS
	Ant2	2412	1.29	1.67	77.25	---	PASS
	Ant1	2437	1.29	1.67	77.25	---	PASS
	Ant2	2437	1.29	1.67	77.25	---	PASS
	Ant1	2462	1.29	1.67	77.25	---	PASS
	Ant2	2462	1.29	1.67	77.25	---	PASS
11N40SISO	Ant1	2422	0.64	1.03	62.14	---	PASS
	Ant2	2422	0.64	1.03	62.14	---	PASS
	Ant1	2437	0.64	0.89	71.91	---	PASS
	Ant2	2437	0.64	1.04	61.54	---	PASS
	Ant1	2452	0.64	1.03	62.14	---	PASS
	Ant2	2452	0.64	1.03	62.14	---	PASS
11AX20SISO	Ant1	2412	0.31	0.67	46.27	---	PASS
	Ant2	2412	0.31	0.67	46.27	---	PASS
	Ant1	2437	0.31	0.67	46.27	---	PASS
	Ant2	2437	0.31	0.67	46.27	---	PASS
	Ant1	2462	0.31	0.67	46.27	---	PASS
	Ant2	2462	0.31	0.67	46.27	---	PASS
11AX40SISO	Ant1	2422	0.31	0.67	46.27	---	PASS
	Ant2	2422	0.31	0.67	46.27	---	PASS
	Ant1	2437	0.31	0.67	46.27	---	PASS
	Ant2	2437	0.31	0.67	46.27	---	PASS
	Ant1	2452	0.31	0.66	46.97	---	PASS
	Ant2	2452	0.31	0.67	46.27	---	PASS
11N20MIMO	Ant1	2412	8.35	8.73	95.65	---	PASS
	Ant2	2412	8.35	8.74	95.54	---	PASS
	Ant1	2437	8.33	8.71	95.64	---	PASS
	Ant2	2437	8.36	8.74	95.65	---	PASS
	Ant1	2462	8.35	8.72	95.76	---	PASS
	Ant2	2462	8.35	8.74	95.54	---	PASS
11N40MIMO	Ant1	2422	0.34	0.73	46.58	---	PASS
	Ant2	2422	0.34	0.73	46.58	---	PASS
	Ant1	2437	0.34	0.73	46.58	---	PASS
	Ant2	2437	0.34	0.73	46.58	---	PASS
	Ant1	2452	0.34	0.73	46.58	---	PASS
	Ant2	2452	0.34	0.73	46.58	---	PASS
11AX20MIMO	Ant1	2412	0.20	0.55	36.36	---	PASS
	Ant2	2412	0.20	0.55	36.36	---	PASS
	Ant1	2437	0.20	0.55	36.36	---	PASS
	Ant2	2437	0.20	0.54	37.04	---	PASS
	Ant1	2462	0.20	0.54	37.04	---	PASS
	Ant2	2462	0.20	0.54	37.04	---	PASS
11AX40MIMO	Ant1	2422	0.20	0.58	34.48	---	PASS
	Ant2	2422	0.20	0.58	34.48	---	PASS
	Ant1	2437	0.20	0.58	34.48	---	PASS
	Ant2	2437	0.20	0.59	33.90	---	PASS
	Ant1	2452	0.20	0.58	34.48	---	PASS

	Ant2	2452	0.20	0.58	34.48	---	PASS

TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Limit	Verdict
BLE_1M	Ant1	2402	0.38	0.62	61.29	---	PASS
		2440	0.38	0.62	61.29	---	PASS
		2480	0.38	0.62	61.29	---	PASS
BLE_2M	Ant1	2402	1.06	1.85	57.30	---	PASS
		2440	1.06	1.85	57.30	---	PASS
		2480	1.06	1.85	57.30	---	PASS
BLE_1M	Ant2	2402	0.38	0.62	61.29	---	PASS
		2440	0.38	0.62	61.29	---	PASS
		2480	0.38	0.62	61.29	---	PASS
BLE_2M	Ant2	2402	1.06	1.85	57.30	---	PASS
		2440	1.06	1.85	57.30	---	PASS
		2480	1.06	1.85	57.30	---	PASS

4. Summary of measurement results

Summary of measurements of results	Clause in FCC rules	Clause in IC rules	Verdict	Note
Conducted Emissions	15.207	RSS-Gen 8.8	PASS	/
Radiated Emissions	15.247(d),15.205 ,15.209	RSS-Gen 8.9	PASS	/
Maximum conducted output power	15.247(b)(3)	RSS-247-5.4(4)	PASS	/
Minimum 6 dB bandwidth	15.247(a)(2)	RSS-247-5.2(1)	PASS	/
Occupied Channel Bandwidth	15.247(a)(2)	RSS-247-5.2(1)	PASS	/
Band Edge Measurement	15.247(d)	RSS-247-5.5	PASS	/
Maximum Power spectral density	15.247(e)	RSS-247-5.2(2)	PASS	/
Spurious RF Conducted Emissions	15.247(d)	RSS-247-5.5	PASS	/

5. Measurement procedure

5.1 Conducted Emission

Ambient condition:

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

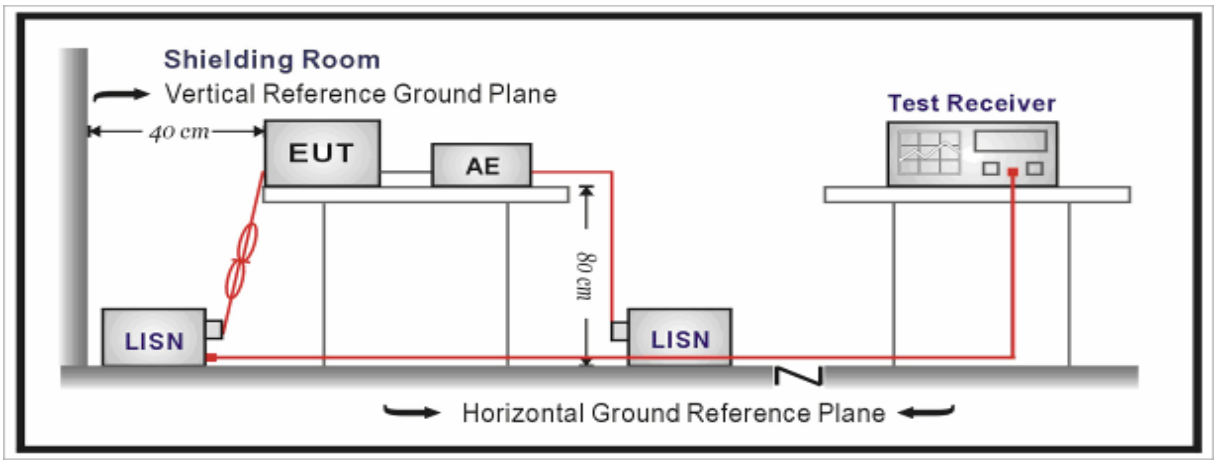
Method of Measurement:

The EUT was setup according to ANSI C63.10, 2013 for compliance to FCC 47CFR 15.247 requirements. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs) Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.
The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.
Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.

Limits:

Frequency (MHz)	Conducted Limits(dBμV)	
	Quasi-peak	Average
0.15 - 0.5	66 to 56 *	56 to 46*
0.5 - 5	56	46
5 - 30	60	50
Note 1: The lower limit shall apply at the transition frequencies. Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.		

Test Setup:



Note: AC Power source is used to change the voltage 120V/60Hz.

Measurement Data

An initial pre-scan was performed on the live and neutral lines with peak detector.

Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

Notes:

1. *The following Quasi-Peak and Average measurements were performed on the EUT:*
2. *Final Level =Reading + Factor.*

Measurement Uncertainty：

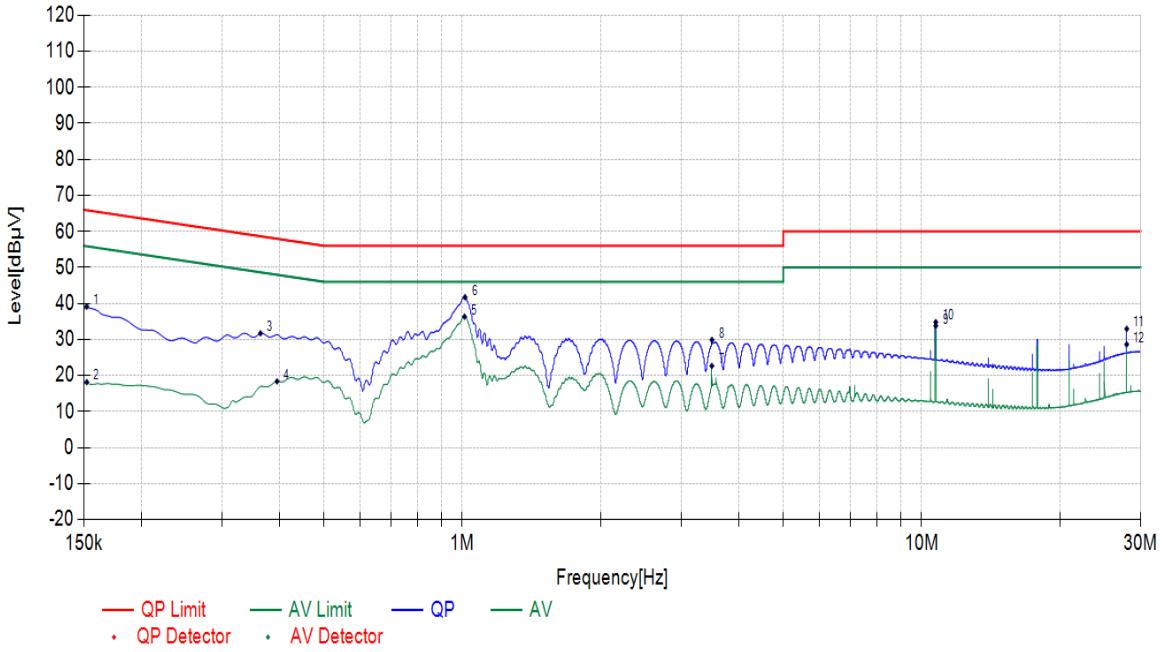
The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 1.96. U= 3.12 dB.

Test Results:

During the test, the Conducted Emission from 150KHz to 30MHz was performed in all modes with all channels, and all antenna. 802.11ax20, Channel 1, MIMO are selected as the worst condition. The test data of the worst-case condition was recorded in this report.

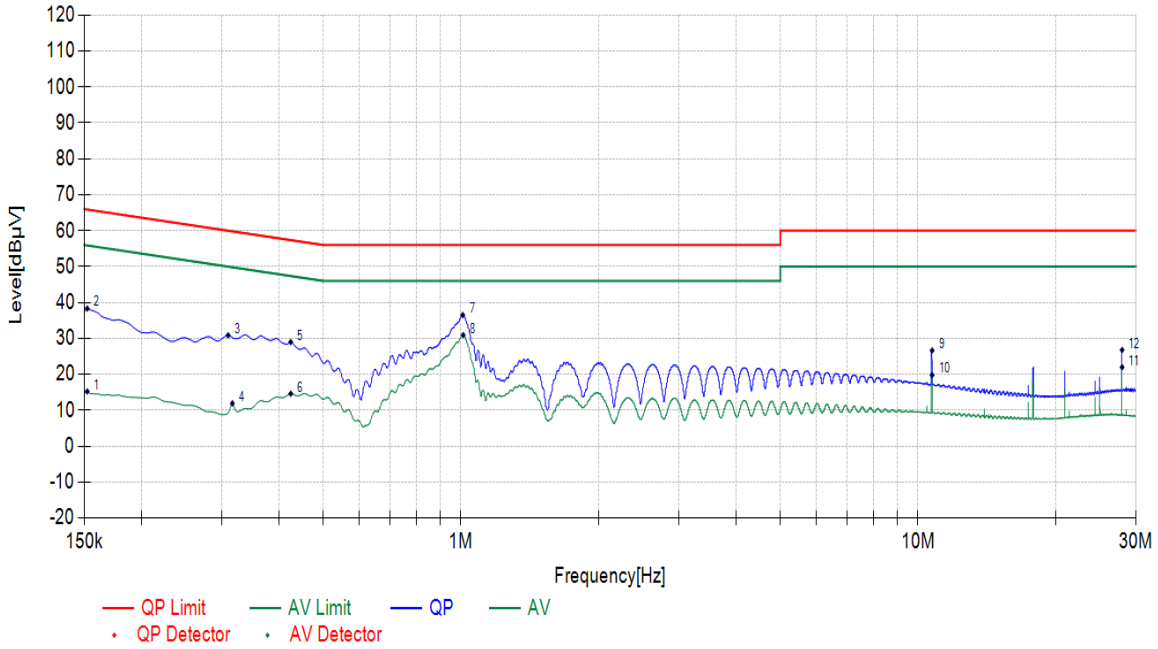
Power Line	L
Test channel	Worst-Case

Suspected List								
NO.	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV]	Limit [dBμV]	Margin [dB]	Detector	Pass/Fail
1	0.1523	10.16	28.96	39.12	65.88	26.76	QP	PASS
10	10.7385	10.36	24.45	34.81	60.00	25.19	QP	PASS
11	27.9645	10.59	22.36	32.95	60.00	27.05	QP	PASS
8	3.4958	10.21	19.66	29.87	56.00	26.13	QP	PASS
6	1.0140	10.17	31.54	41.71	56.00	14.29	QP	PASS
3	0.3638	10.15	21.57	31.72	58.64	26.92	QP	PASS
9	10.7385	10.36	23.42	33.78	50.00	16.22	AV	PASS
2	0.1523	10.16	7.99	18.15	55.88	37.73	AV	PASS
4	0.3953	10.15	8.19	18.34	47.95	29.61	AV	PASS
5	1.0118	10.17	26.17	36.34	46.00	9.66	AV	PASS
7	3.4958	10.21	12.43	22.64	46.00	23.36	AV	PASS
12	27.9645	10.59	18.02	28.61	50.00	21.39	AV	PASS



Power Line	N
Test channel	Worst-Case

Suspected List								
NO.	Freq. [MHz]	Factor [dB]	Reading [dBμV]	Level [dBμV]	Limit [dBμV]	Margin [dB]	Detector	Pass/Fail
12	27.9645	10.67	16.60	26.77	60.00	33.23	QP	PASS
3	0.3098	10.14	21.22	30.86	59.98	29.12	QP	PASS
7	1.0095	10.17	26.85	36.52	56.00	19.48	QP	PASS
2	0.1523	10.15	28.66	38.31	65.88	27.57	QP	PASS
9	10.7385	10.37	16.76	26.63	60.00	33.37	QP	PASS
5	0.4245	10.15	19.33	28.98	57.36	28.38	QP	PASS
4	0.3165	10.14	1.76	11.90	49.80	37.90	AV	PASS
6	0.4245	10.15	4.45	14.60	47.36	32.76	AV	PASS
10	10.7385	10.37	9.41	19.78	50.00	30.22	AV	PASS
11	27.9645	10.67	11.30	21.97	50.00	28.03	AV	PASS
8	1.0118	10.17	20.74	30.91	46.00	15.09	AV	PASS
1	0.1523	10.15	5.07	15.22	55.88	40.66	AV	PASS



5.2 Radiated Emission

Ambient condition:

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

Method of Measurement:

The EUT was setup and tested according to ANSI C63.10, 2013.

The EUT is placed on a turn table which is 1.5 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from Antenna to the EUT was 3 meters.

The Antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the Antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10:2013 on radiated measurement.

The resolution bandwidth below 1GHz setting on the field strength meter is 120 kHz and above 1GHz is 1MHz.

The frequency range from 30MHz to 10th harmonic is checked.

Note: When doing emission measurement above 1GHz, the horn Antenna will be bended down a little (as horn

Antenna has the narrow beamwidth) in order to keeping the Antenna in the “cone of radiation” of EUT. The 3dB beamwidth is 10~60 degrees for H-plane and 10~90 degrees for E-plane.

Limits:

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a) of FCC part 15, must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

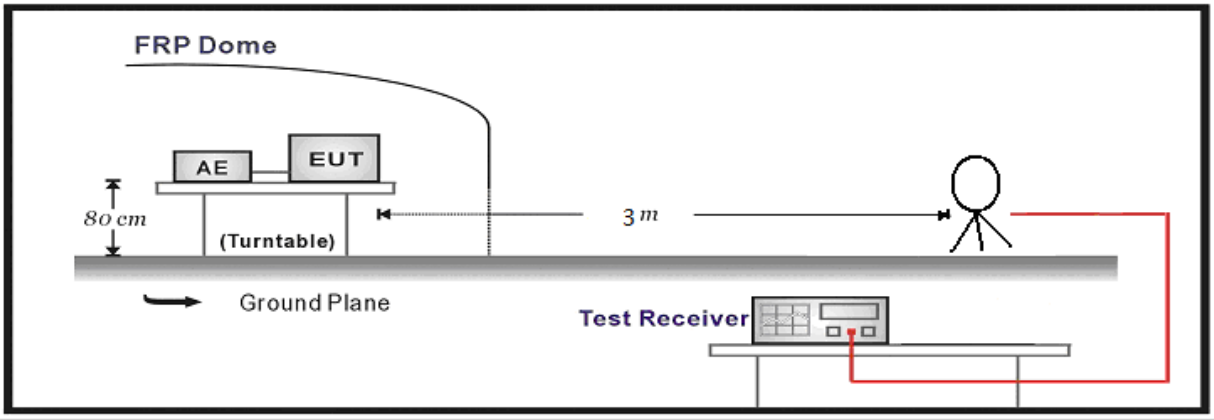
Frequency	Limit (dBµV/m @3m)	Remark
30MHz-88MHz	40.0	Quasi-peak Level
88MHz-216MHz	43.5	Quasi-peak Level
216MHz-960MHz	46.0	Quasi-peak Level
960MHz-1GHz	54.0	Quasi-peak Level
Above 1GHz	54.0	Average Level
	74.0	Peak Level

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

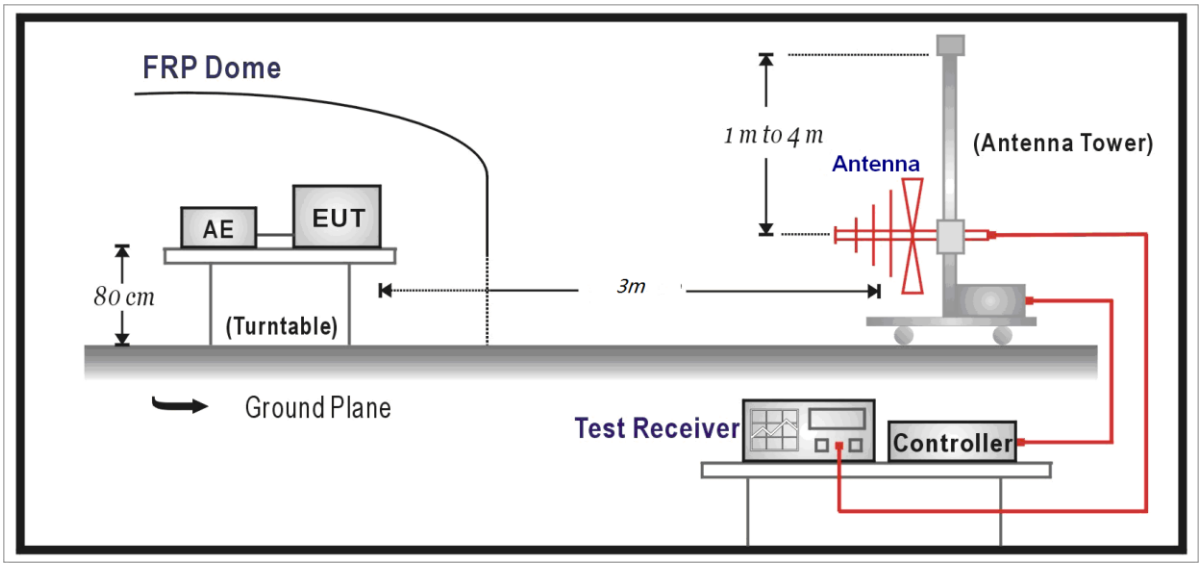
MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	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	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.
12.57675-12.57725	322-335.4	3600-4400	/
13.36-13.41	/	/	/

Test Setup:

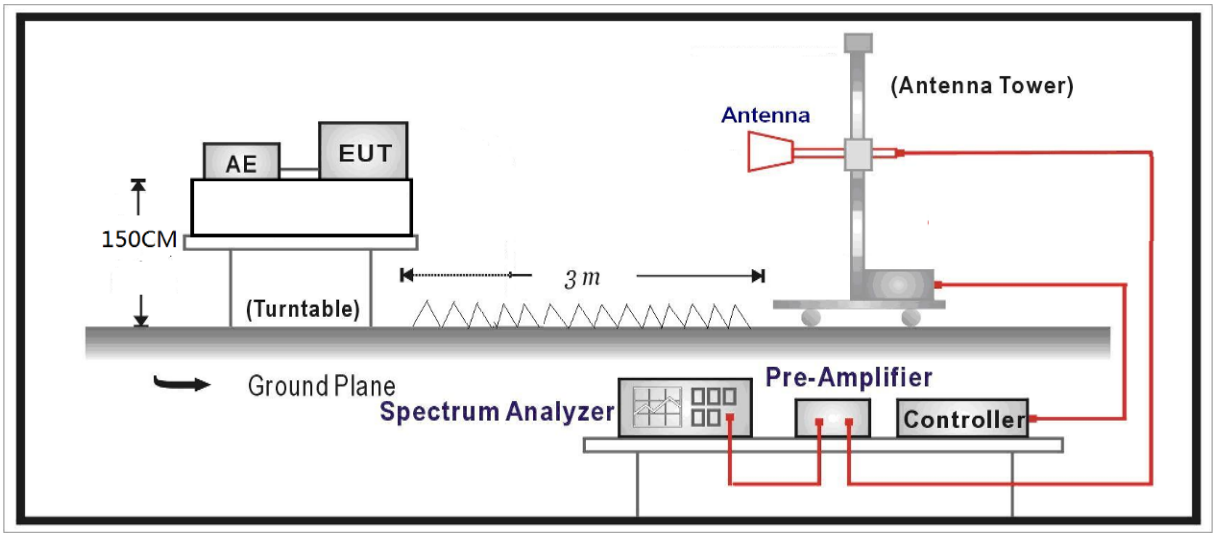
Below 30MHz Test Setup:



Below 1GHz Test Setup:



Above 1GHz Test Setup:



Measurement Data：

The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Level =Reading - Factor

Factor = Preamplifier Factor – Antenna Factor–Cable Loss

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
Above 1GHz	3.68 dB

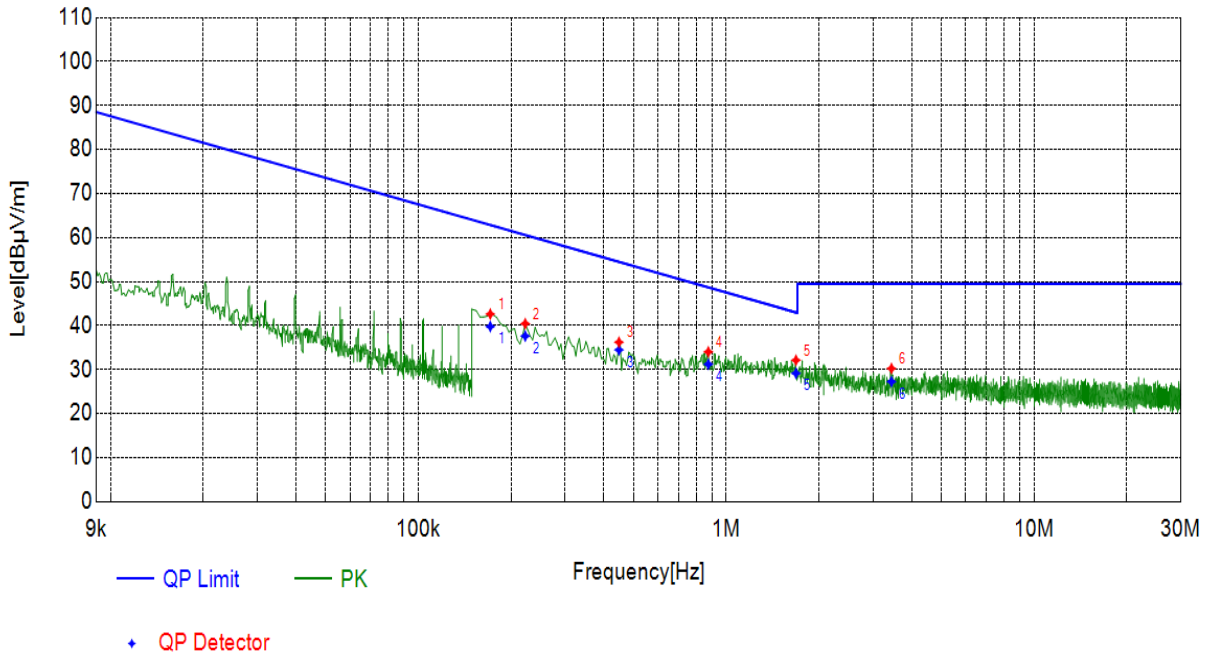
Test Results:

SPURIOUS EMISSIONS：

During the test, the Radiates Emission from 9KHz to 30MHz was performed in all modes with all channels and all antenna. 802.11ax20, Channel 1,MIMO are selected as the worst condition. The test data of the worst-case condition was recorded in this report.

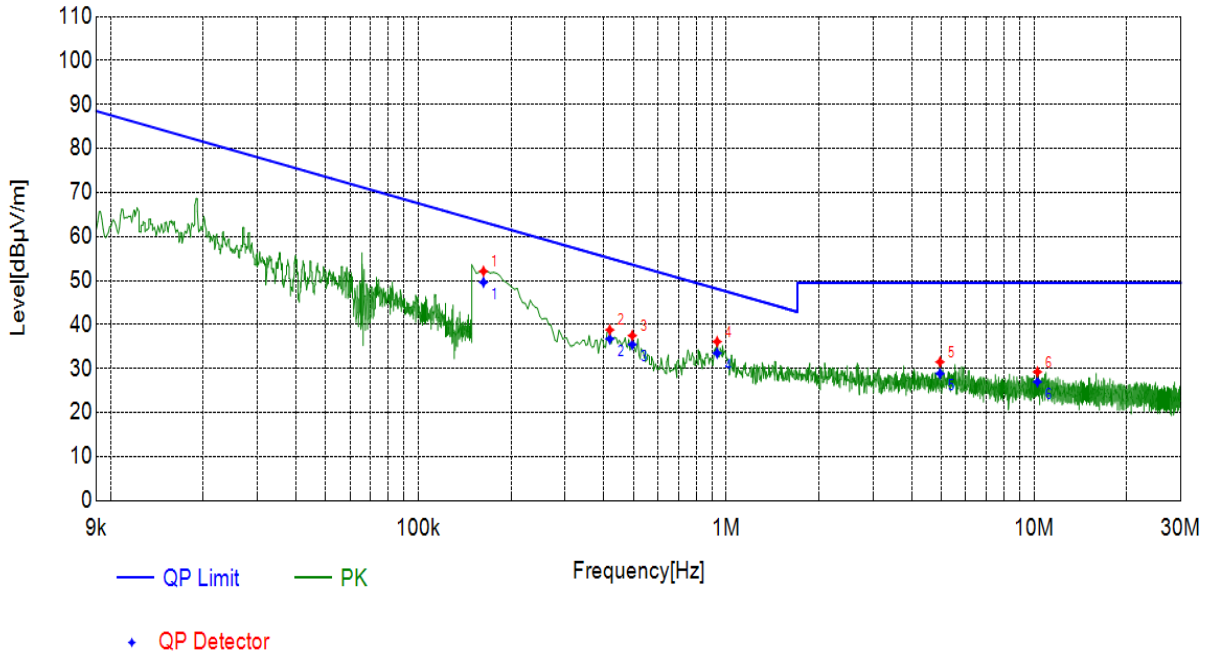
Radiated Emission	9KHz-30MHz
Polarity	X axis
Test channel	Worst-Case

Final Data List								
Frequency [MHz]	Polarity	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Pass/Fail
0.1713	X axis	20.40	39.78	62.85	23.07	100	150	PASS
0.2225	X axis	20.37	37.61	60.57	22.96	100	90	PASS
0.4485	X axis	20.41	34.47	54.47	20.00	100	250	PASS
0.8750	X axis	20.59	31.21	48.68	17.47	100	320	PASS
1.6854	X axis	20.73	29.14	43.00	13.86	100	40	PASS
3.4425	X axis	20.99	27.26	49.50	22.24	100	0	PASS



Radiated Emission	9KHz-30MHz
Polarity	Y axis
Test channel	Worst-Case

Final Data List								
Frequency [MHz]	Polarity	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Pass/Fail
0.1628	Y axis	20.41	49.61	63.29	13.68	100	270	PASS
0.4187	Y axis	20.32	36.75	55.07	18.32	100	300	PASS
0.4955	Y axis	20.56	35.47	53.60	18.13	100	320	PASS
0.9347	Y axis	20.56	33.49	48.11	14.62	100	90	PASS
4.9480	Y axis	21.13	28.87	49.50	20.63	100	270	PASS
10.2578	Y axis	20.95	26.98	49.50	22.52	100	230	PASS



WIFI:

During the test, the Radiates Emission from 30MHz to 40GHz was performed in WIFI all modes with all channels and all antenna. 802.11ax20, Channel 1,MIMO are selected as the worst condition. The test data of the worst-case condition was recorded in this report.

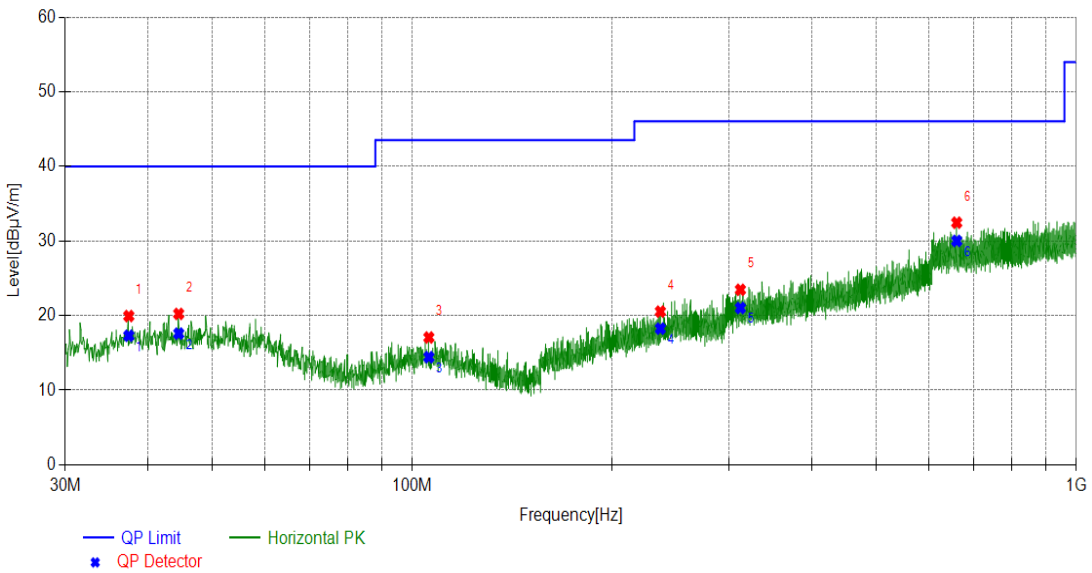
Radiates Emission	30M~1G
Test channel	Worst-Case

Suspected List

Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Height [cm]	Angle deg	Pass/Fail
37.4181	Horizontal	13.39	6.55	19.94	40.00	20.06	PK	100	20	PASS
44.4938	Horizontal	14.21	6.02	20.23	40.00	19.77	PK	100	20	PASS
105.9498	Horizontal	12.43	4.64	17.07	43.52	26.45	PK	100	40	PASS
236.4510	Horizontal	14.28	6.26	20.54	46.02	25.48	PK	100	30	PASS
312.1154	Horizontal	15.54	7.92	23.46	46.02	22.56	PK	100	40	PASS
660.9365	Horizontal	21.78	10.67	32.45	46.02	13.57	PK	100	20	PASS

Final Data List

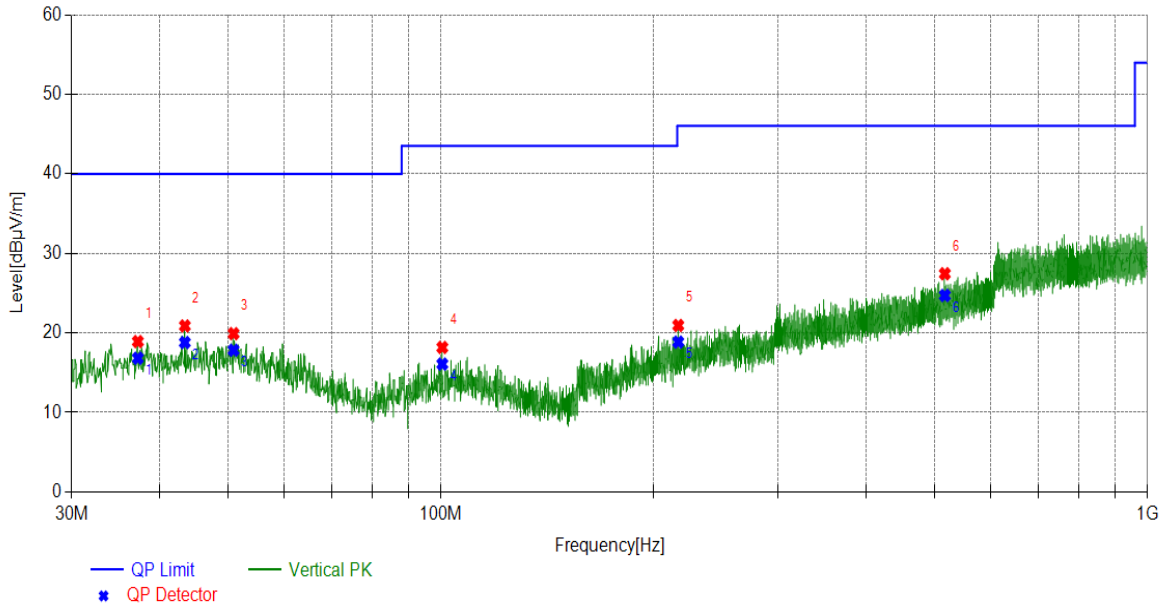
Frequency [MHz]	Polarity	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Pass/Fail
37.4181	Horizontal	13.39	17.30	40.00	22.70	130	20	PASS
44.4938	Horizontal	14.21	17.59	40.00	22.41	170	20	PASS
105.9498	Horizontal	12.43	14.43	43.52	29.09	190	40	PASS
236.4510	Horizontal	14.28	18.26	46.02	27.76	220	30	PASS
312.1154	Horizontal	15.54	21.02	46.02	25.00	240	40	PASS
660.9365	Horizontal	21.78	30.01	46.02	16.01	320	20	PASS



Radiates Emission	30M~1G
Test channel	Worst-Case

Suspected List										
Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Height [cm]	Angle deg	Pass/Fail
37.2469	Vertical	13.35	5.56	18.91	40.00	21.09	PK	100	30	PASS
43.4096	Vertical	14.15	6.73	20.88	40.00	19.12	PK	100	30	PASS
50.8848	Vertical	14.42	5.49	19.91	40.00	20.09	PK	100	30	PASS
100.4718	Vertical	12.42	5.75	18.17	43.52	25.35	PK	100	20	PASS
216.7645	Vertical	13.33	7.61	20.94	46.02	25.08	PK	100	30	PASS
516.7975	Vertical	19.48	7.96	27.44	46.02	18.58	PK	100	30	PASS

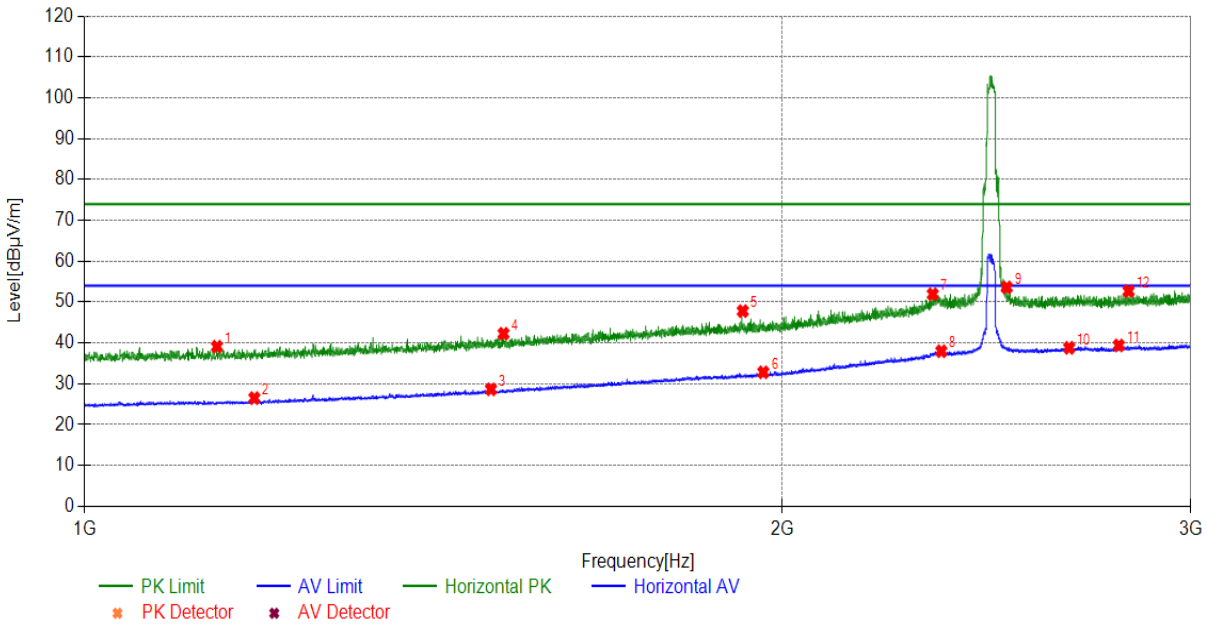
Final Data List								
Frequency [MHz]	Polarity	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Pass/Fail
37.2469	Vertical	13.35	16.82	40.00	23.18	114	30	PASS
43.4096	Vertical	14.15	18.79	40.00	21.21	156	30	PASS
50.8848	Vertical	14.42	17.82	40.00	22.18	190	30	PASS
100.4718	Vertical	12.42	16.08	43.52	27.44	222	20	PASS
216.7645	Vertical	13.33	18.85	46.02	27.17	260	30	PASS
516.7975	Vertical	19.48	24.71	46.02	21.31	338	30	PASS



Radiates Emission	1G~3G
Test channel	Worst-Case

Suspected List

Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Height [cm]	Angle deg	Pass/Fail
2820.58	Horizont	37.38	15.29	52.67	74.00	21.33	PK	100	150	PASS
1922.89	Horizont	31.56	16.23	47.79	74.00	26.21	PK	100	40	PASS
1140.61	Horizont	25.97	13.12	39.09	74.00	34.91	PK	100	190	PASS
2322.13	Horizont	35.25	16.67	51.92	74.00	22.08	PK	100	130	PASS
2499.14	Horizont	36.27	17.33	53.60	74.00	20.40	PK	100	180	PASS
1516.25	Horizont	28.33	13.93	42.26	74.00	31.74	PK	100	240	PASS
2659.16	Horizont	36.87	1.94	38.81	54.00	15.19	AV	100	10	PASS
1183.81	Horizont	26.15	0.36	26.51	54.00	27.49	AV	100	10	PASS
1497.44	Horizont	28.17	0.48	28.65	54.00	25.35	AV	100	10	PASS
2793.37	Horizont	37.30	2.09	39.39	54.00	14.61	AV	100	10	PASS
2342.13	Horizont	35.41	2.56	37.97	54.00	16.03	AV	100	10	PASS
1962.49	Horizont	31.77	1.05	32.82	54.00	21.18	AV	100	10	PASS

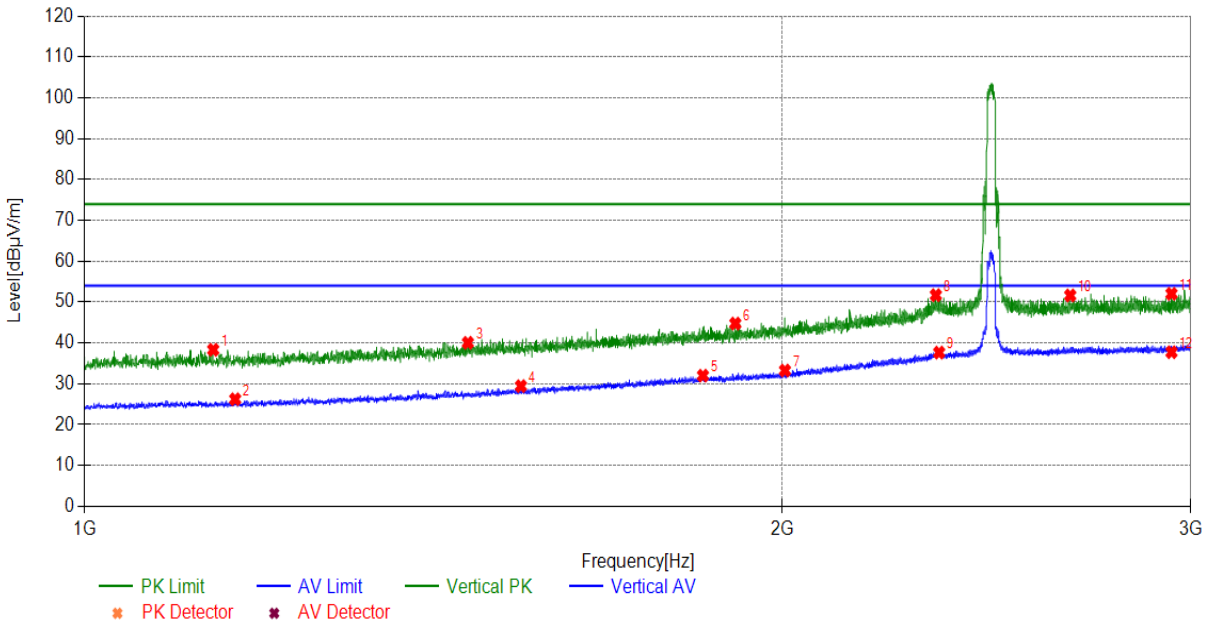


Note: The signal beyond the limit is carrier

Radiates Emission	1G~3G
Test channel	Worst-Case

Suspected List

Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Height [cm]	Angle deg	Pass/Fail
1136.41	Vertical	25.96	12.36	38.32	74.00	35.68	PK	100	20	PASS
2661.96	Vertical	36.88	14.74	51.62	74.00	22.38	PK	100	30	PASS
2943.59	Vertical	37.77	14.25	52.02	74.00	21.98	PK	100	30	PASS
2329.33	Vertical	35.30	16.39	51.69	74.00	22.31	PK	100	20	PASS
1908.69	Vertical	31.49	13.25	44.74	74.00	29.26	PK	100	20	PASS
1463.44	Vertical	27.91	12.13	40.04	74.00	33.96	PK	100	20	PASS
2336.93	Vertical	35.37	2.28	37.65	54.00	16.35	AV	100	20	PASS
1161.41	Vertical	26.06	0.17	26.23	54.00	27.77	AV	100	10	PASS
1542.65	Vertical	28.56	0.88	29.44	54.00	24.56	AV	100	10	PASS
1848.28	Vertical	31.17	0.83	32.00	54.00	22.00	AV	100	10	PASS
2005.10	Vertical	32.03	1.23	33.26	54.00	20.74	AV	100	10	PASS
2943.59	Vertical	37.77	-0.04	37.73	54.00	16.27	AV	100	30	PASS

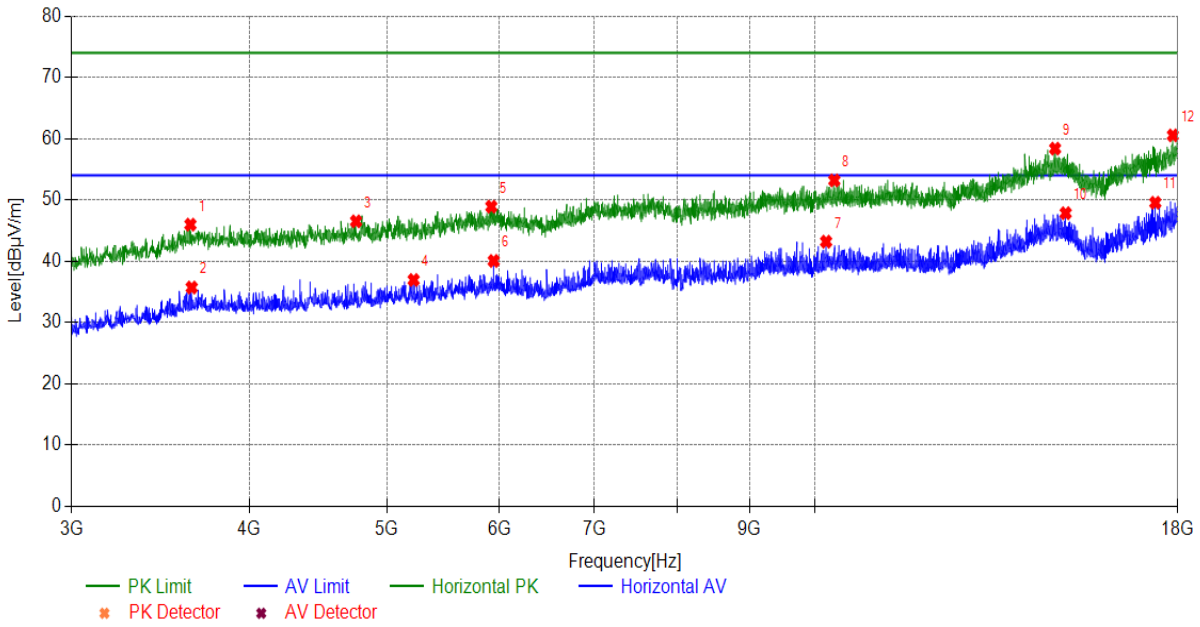


Note: The signal beyond the limit is carrier

Radiates Emission	3G~18G
Test channel	Worst-Case

Suspected List

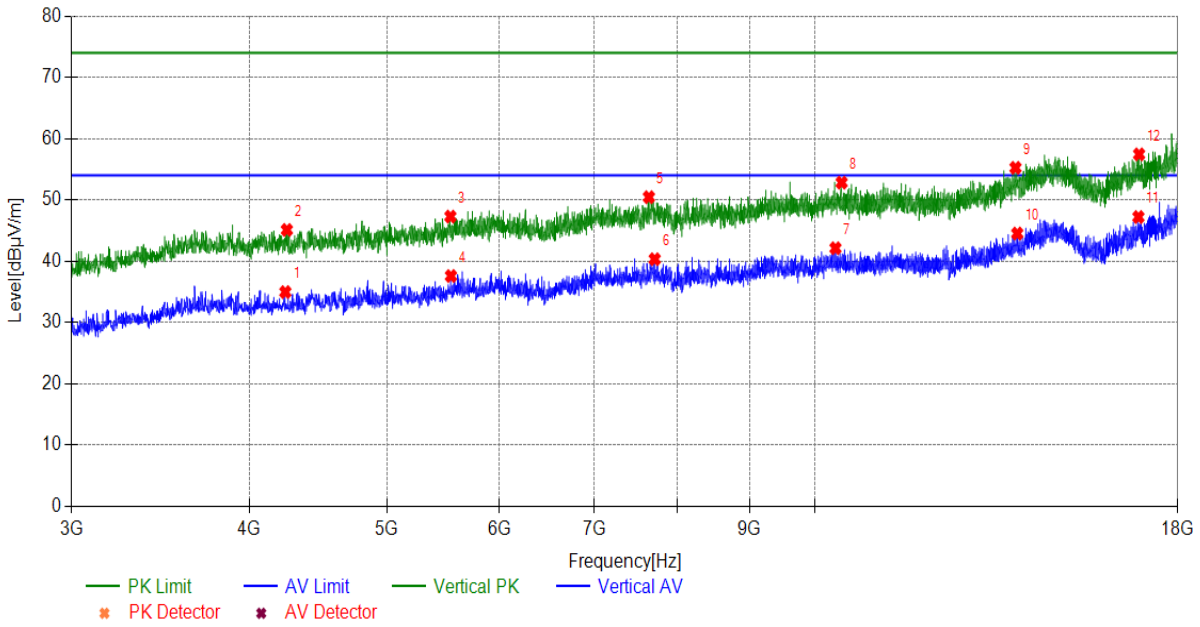
Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Height [cm]	Angle deg	Pass/Fail
17861.9	Horizont	14.73	45.80	60.53	74.00	13.47	PK	100	290	PASS
5922.29	Horizont	-4.27	53.17	48.90	74.00	25.10	PK	100	100	PASS
3637.56	Horizont	-7.20	53.17	45.97	74.00	28.03	PK	100	100	PASS
10322.2	Horizont	4.38	48.80	53.18	74.00	20.82	PK	100	190	PASS
14759.6	Horizont	8.63	49.74	58.37	74.00	15.63	PK	100	20	PASS
4756.67	Horizont	-5.87	52.38	46.51	74.00	27.49	PK	100	110	PASS
5221.72	Horizont	-5.61	42.55	36.94	54.00	17.06	AV	100	10	PASS
3645.06	Horizont	-7.19	42.90	35.71	54.00	18.29	AV	100	10	PASS
15014.7	Horizont	8.60	39.24	47.84	54.00	6.16	AV	100	10	PASS
10185.7	Horizont	4.04	39.15	43.19	54.00	10.81	AV	100	10	PASS
17360.9	Horizont	12.10	37.44	49.54	54.00	4.46	AV	100	10	PASS
5944.79	Horizont	-4.20	44.25	40.05	54.00	13.95	AV	100	10	PASS



Radiates Emission	3G~18G
Test channel	Worst-Case

Suspected List

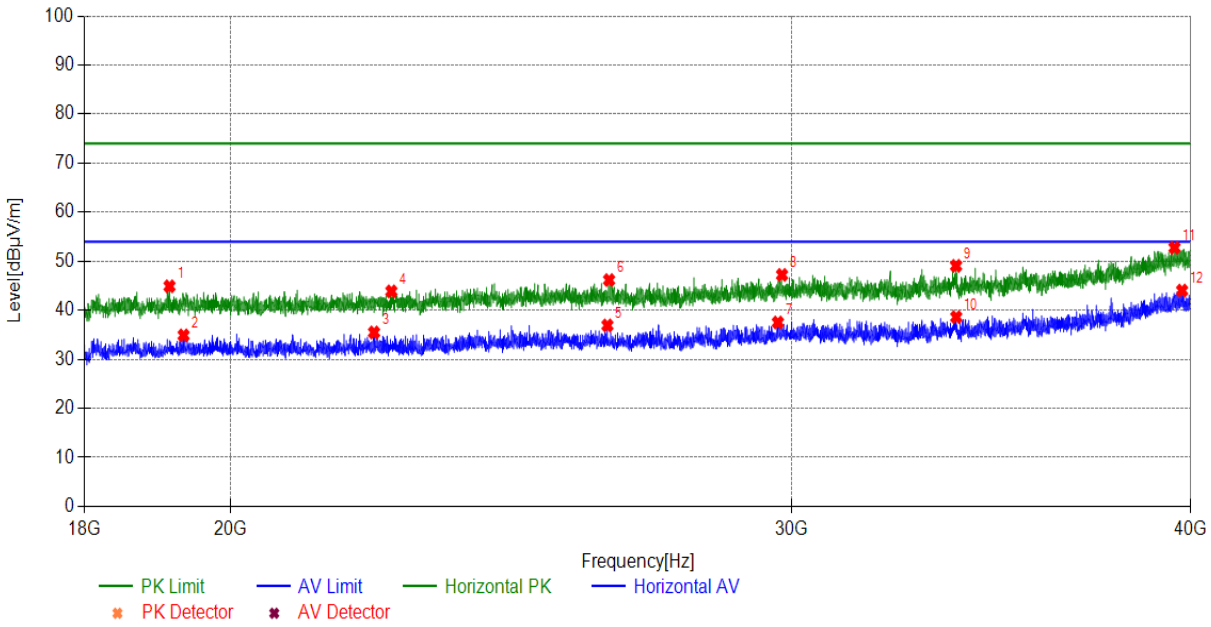
Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Height [cm]	Angle deg	Pass/Fail
16912.3	Vertical	9.91	47.53	57.44	74.00	16.56	PK	100	60	PASS
4252.62	Vertical	-6.36	51.47	45.11	74.00	28.89	PK	100	80	PASS
5542.75	Vertical	-5.51	52.79	47.28	74.00	26.72	PK	100	30	PASS
10445.2	Vertical	4.68	48.14	52.82	74.00	21.18	PK	100	50	PASS
13843.0	Vertical	6.75	48.49	55.24	74.00	18.76	PK	100	70	PASS
7644.46	Vertical	-0.28	50.73	50.45	74.00	23.55	PK	100	20	PASS
5547.25	Vertical	-5.50	43.09	37.59	54.00	16.41	AV	100	20	PASS
7716.47	Vertical	-0.26	40.59	40.33	54.00	13.67	AV	100	10	PASS
10341.7	Vertical	4.43	37.69	42.12	54.00	11.88	AV	100	10	PASS
13882.0	Vertical	6.84	37.68	44.52	54.00	9.48	AV	100	10	PASS
16892.8	Vertical	9.87	37.34	47.21	54.00	6.79	AV	100	10	PASS
4242.12	Vertical	-6.37	41.34	34.97	54.00	19.03	AV	100	10	PASS



Radiates Emission	18G~40G
Test channel	Worst-Case

Suspected List

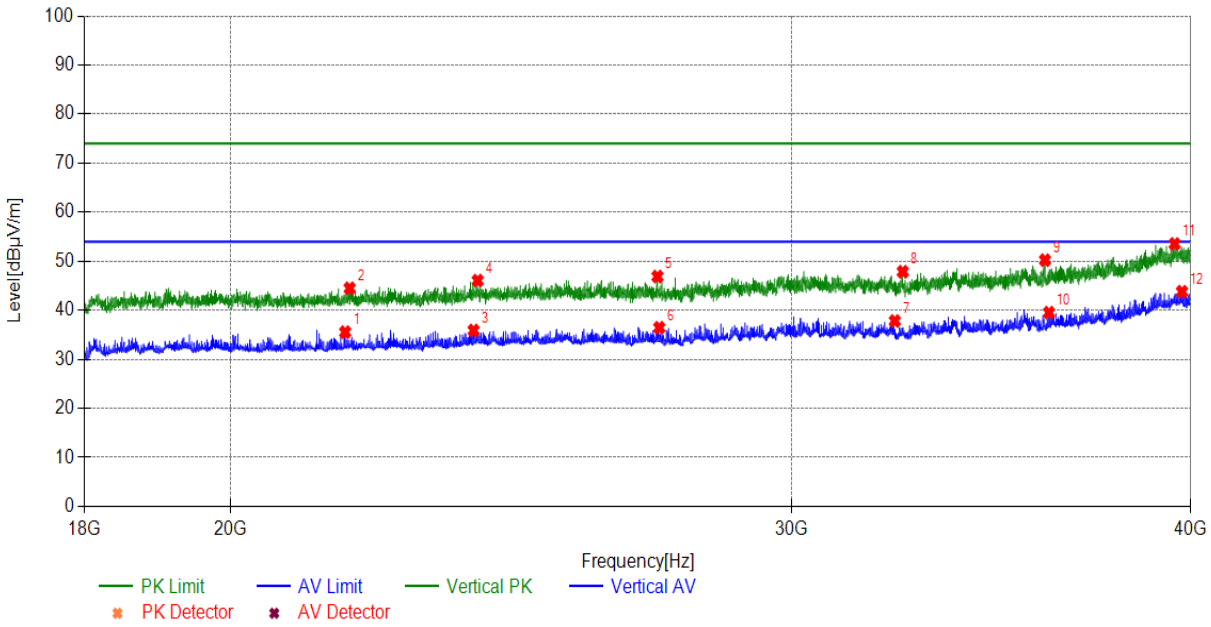
Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Height [cm]	Angle deg	Pass/Fail
19139.7	Horizont	1.34	43.55	44.89	74.00	29.11	PK	100	90	PASS
26288.2	Horizont	4.62	41.54	46.16	74.00	27.84	PK	100	50	PASS
39537.9	Horizont	10.78	41.97	52.75	74.00	21.25	PK	100	30	PASS
29782.1	Horizont	6.55	40.66	47.21	74.00	26.79	PK	100	20	PASS
33768.9	Horizont	6.53	42.52	49.05	74.00	24.95	PK	100	20	PASS
22464.2	Horizont	2.36	41.49	43.85	74.00	30.15	PK	100	90	PASS
26255.2	Horizont	4.60	32.30	36.90	54.00	17.10	AV	100	10	PASS
19335.5	Horizont	1.33	33.55	34.88	54.00	19.12	AV	100	10	PASS
22184.8	Horizont	2.08	33.39	35.47	54.00	18.53	AV	100	10	PASS
29694.1	Horizont	6.49	31.01	37.50	54.00	16.50	AV	100	10	PASS
33773.3	Horizont	6.53	32.07	38.60	54.00	15.40	AV	100	10	PASS
39753.5	Horizont	10.79	33.22	44.01	54.00	9.99	AV	100	10	PASS



Radiates Emission	18G~40G
Test channel	Worst-Case

Suspected List

Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Height [cm]	Angle deg	Pass/Fail
27221.1	Vertical	5.01	41.86	46.87	74.00	27.13	PK	100	270	PASS
32495.0	Vertical	6.10	41.75	47.85	74.00	26.15	PK	100	320	PASS
39540.1	Vertical	10.78	42.75	53.53	74.00	20.47	PK	100	320	PASS
23907.5	Vertical	3.63	42.42	46.05	74.00	27.95	PK	100	60	PASS
36008.8	Vertical	7.16	43.06	50.22	74.00	23.78	PK	100	220	PASS
21797.5	Vertical	1.85	42.63	44.48	74.00	29.52	PK	100	90	PASS
32308.0	Vertical	6.02	31.79	37.81	54.00	16.19	AV	100	10	PASS
27256.3	Vertical	5.03	31.40	36.43	54.00	17.57	AV	100	10	PASS
23837.1	Vertical	3.57	32.31	35.88	54.00	18.12	AV	100	10	PASS
39751.3	Vertical	10.79	33.00	43.79	54.00	10.21	AV	100	10	PASS
36112.2	Vertical	7.23	32.28	39.51	54.00	14.49	AV	100	10	PASS
21727.1	Vertical	1.83	33.70	35.53	54.00	18.47	AV	100	10	PASS



Bluetooth(Low Energy):

During the test, the Radiates Emission from 30MHz to 40GHz was performed in Bluetooth(Low Energy) all modes with all channels and all antenna. BLE(1Mbps), Channel 39, antenna 1 are selected as the worst condition. The test data of the worst-case condition was recorded in this report.

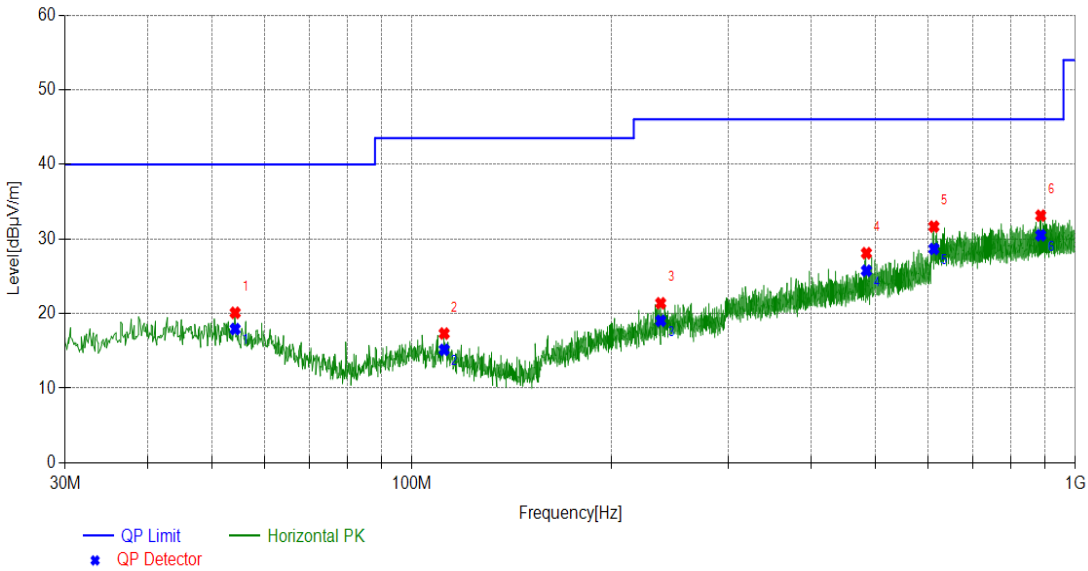
Radiates Emission	30M~1G
Test channel	Worst-Case

Suspected List

Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Height [cm]	Angle deg	Pass/Fail
54.1554	Horizontal	14.03	6.08	20.11	40.00	19.89	PK	100	60	PASS
111.8762	Horizontal	12.25	5.08	17.33	43.52	26.19	PK	100	30	PASS
237.2127	Horizontal	14.32	7.07	21.39	46.02	24.63	PK	100	30	PASS
484.4904	Horizontal	18.90	9.20	28.10	46.02	17.92	PK	100	70	PASS
612.3492	Horizontal	21.21	10.45	31.66	46.02	14.36	PK	100	20	PASS
887.1777	Horizontal	24.39	8.74	33.13	46.02	12.89	PK	100	40	PASS

Final Data List

Frequency [MHz]	Polarity	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Pass/Fail
54.1554	Horizontal	14.03	17.93	40.00	22.07	102	60	PASS
111.8762	Horizontal	12.25	15.15	43.52	28.37	130	30	PASS
237.2127	Horizontal	14.32	19.04	46.02	26.98	160	30	PASS
484.4904	Horizontal	18.90	25.75	46.02	20.27	230	70	PASS
612.3492	Horizontal	21.21	28.67	46.02	17.35	140	20	PASS
887.1777	Horizontal	24.39	30.50	46.02	15.52	302	40	PASS



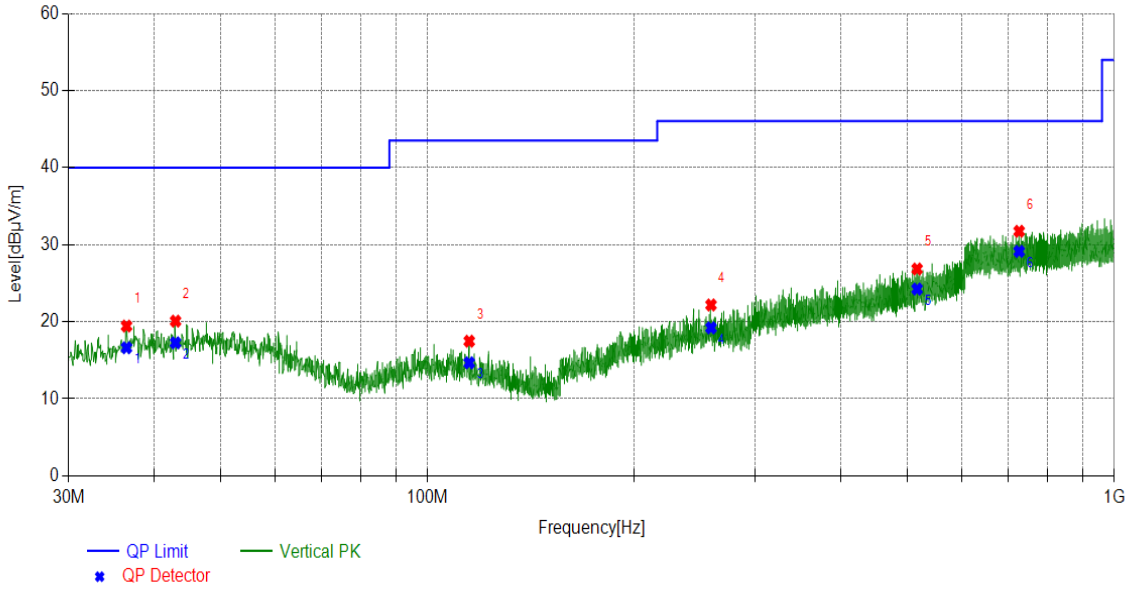
Radiates Emission	30M~1G
Test channel	Worst-Case

Suspected List

Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Height [cm]	Angle deg	Pass/Fail
36.4480	Vertical	13.18	6.26	19.44	40.00	20.56	PK	100	30	PASS
42.9531	Vertical	14.13	5.95	20.08	40.00	19.92	PK	100	30	PASS
115.0226	Vertical	11.94	5.54	17.48	43.52	26.04	PK	100	40	PASS
258.7623	Vertical	15.00	7.18	22.18	46.02	23.84	PK	100	30	PASS
516.3980	Vertical	19.48	7.37	26.85	46.02	19.17	PK	100	40	PASS
727.1857	Vertical	22.56	9.18	31.74	46.02	14.28	PK	100	30	PASS

Final Data List

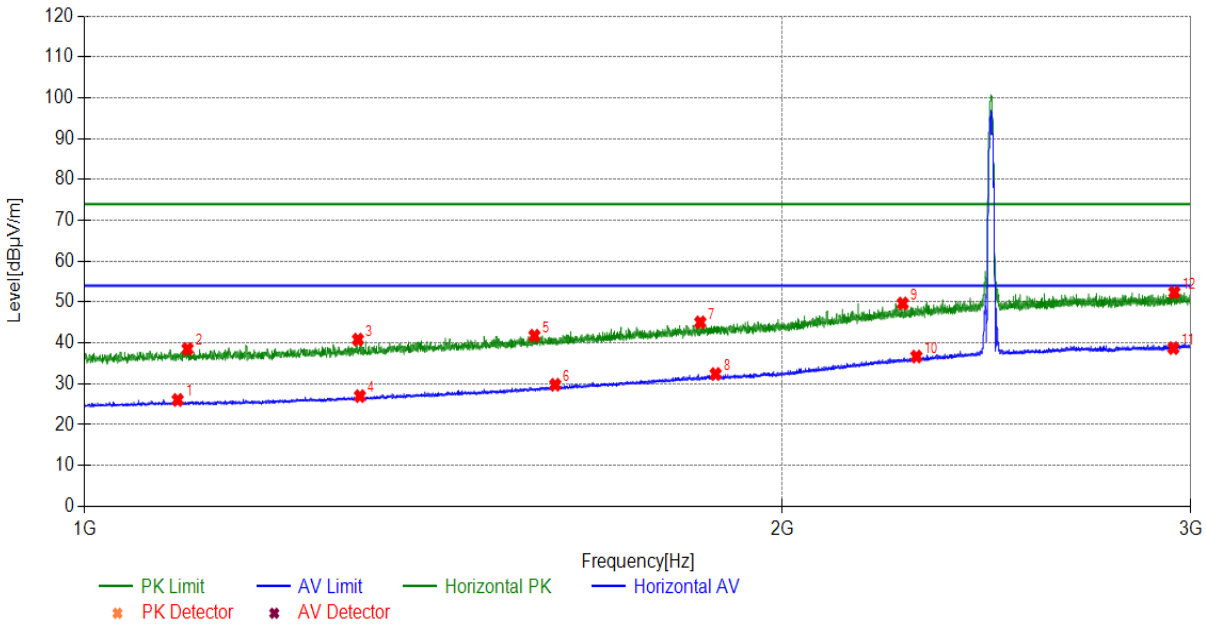
Frequency [MHz]	Polarity	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Pass/Fail
36.4480	Vertical	13.18	16.63	40.00	23.37	110	30	PASS
42.9531	Vertical	14.13	17.27	40.00	22.73	146	30	PASS
115.0226	Vertical	11.94	14.67	43.52	28.85	182	40	PASS
258.7623	Vertical	15.00	19.21	46.02	26.81	204	30	PASS
516.3980	Vertical	19.48	24.24	46.02	21.78	256	40	PASS
727.1857	Vertical	22.56	29.13	46.02	16.89	310	30	PASS



Radiates Emission	1G~3G
Test channel	Worst-Case

Suspected List

Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Height [cm]	Angle deg	Pass/Fail
2976.59	Horizont	37.88	14.81	52.69	74.00	21.31	PK	100	297	PASS
2720.97	Horizont	37.07	16.05	53.12	74.00	20.88	PK	100	360	PASS
1914.09	Horizont	31.52	15.28	46.80	74.00	27.20	PK	100	120	PASS
2154.71	Horizont	33.75	15.17	48.92	74.00	25.08	PK	100	164	PASS
1045.00	Horizont	25.58	12.55	38.13	74.00	35.87	PK	100	275	PASS
1478.44	Horizont	28.03	13.14	41.17	74.00	32.83	PK	100	360	PASS
2964.79	Horizont	37.84	1.66	39.50	54.00	14.50	AV	100	186	PASS
1912.49	Horizont	31.51	0.62	32.13	54.00	21.87	AV	100	31	PASS
1476.84	Horizont	28.01	0.04	28.05	54.00	25.95	AV	100	186	PASS
2152.11	Horizont	33.72	1.11	34.83	54.00	19.17	AV	100	275	PASS
2702.77	Horizont	37.01	1.90	38.91	54.00	15.09	AV	100	120	PASS
1035.60	Horizont	25.55	-0.17	25.38	54.00	28.62	AV	100	75	PASS

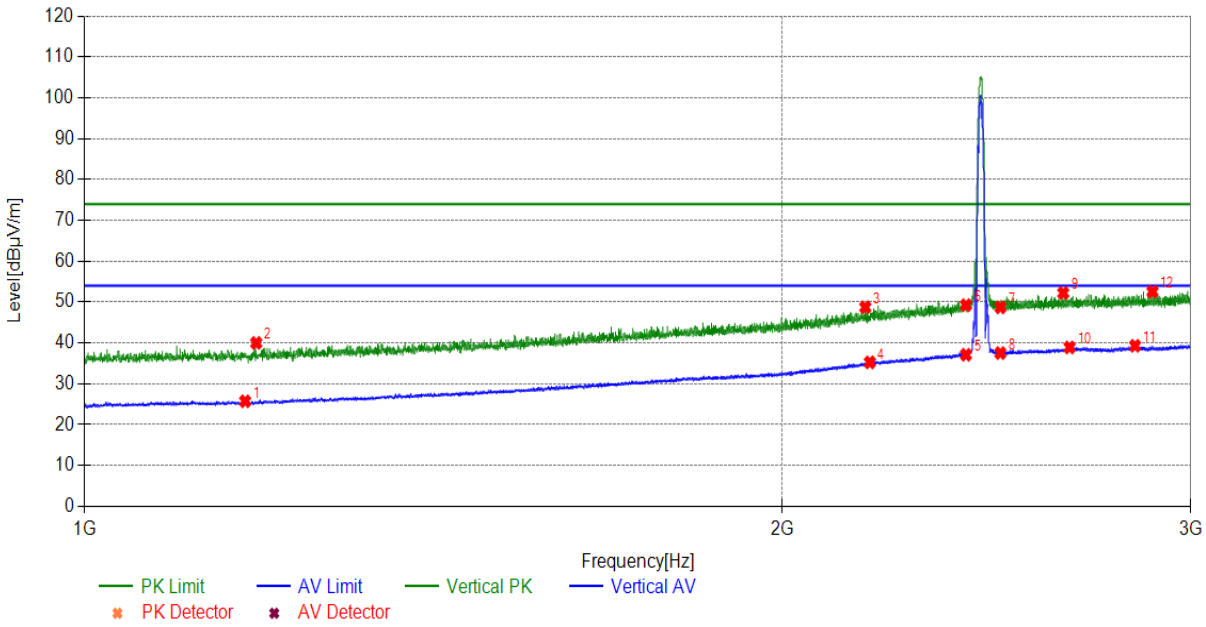


Note: The signal beyond the limit is carrier

Radiates Emission	1G~3G
Test channel	Worst-Case

Suspected List

Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Height [cm]	Angle deg	Pass/Fail
2888.58	Vertical	37.60	14.94	52.54	74.00	21.46	PK	100	326	PASS
2171.71	Vertical	33.94	14.78	48.72	74.00	25.28	PK	100	145	PASS
2400.14	Vertical	35.87	13.38	49.25	74.00	24.75	PK	100	190	PASS
1186.01	Vertical	26.16	13.85	40.01	74.00	33.99	PK	100	98	PASS
2643.56	Vertical	36.82	15.39	52.21	74.00	21.79	PK	100	349	PASS
2483.54	Vertical	36.20	12.51	48.71	74.00	25.29	PK	100	235	PASS
2181.51	Vertical	34.06	1.19	35.25	54.00	18.75	AV	100	53	PASS
2400.14	Vertical	35.87	1.25	37.12	54.00	16.88	AV	100	8	PASS
2838.98	Vertical	37.44	1.87	39.31	54.00	14.69	AV	100	75	PASS
2660.16	Vertical	36.88	2.02	38.90	54.00	15.10	AV	100	280	PASS
2483.54	Vertical	36.20	1.33	37.53	54.00	16.47	AV	100	190	PASS
1173.01	Vertical	26.11	-0.38	25.73	54.00	28.27	AV	100	303	PASS

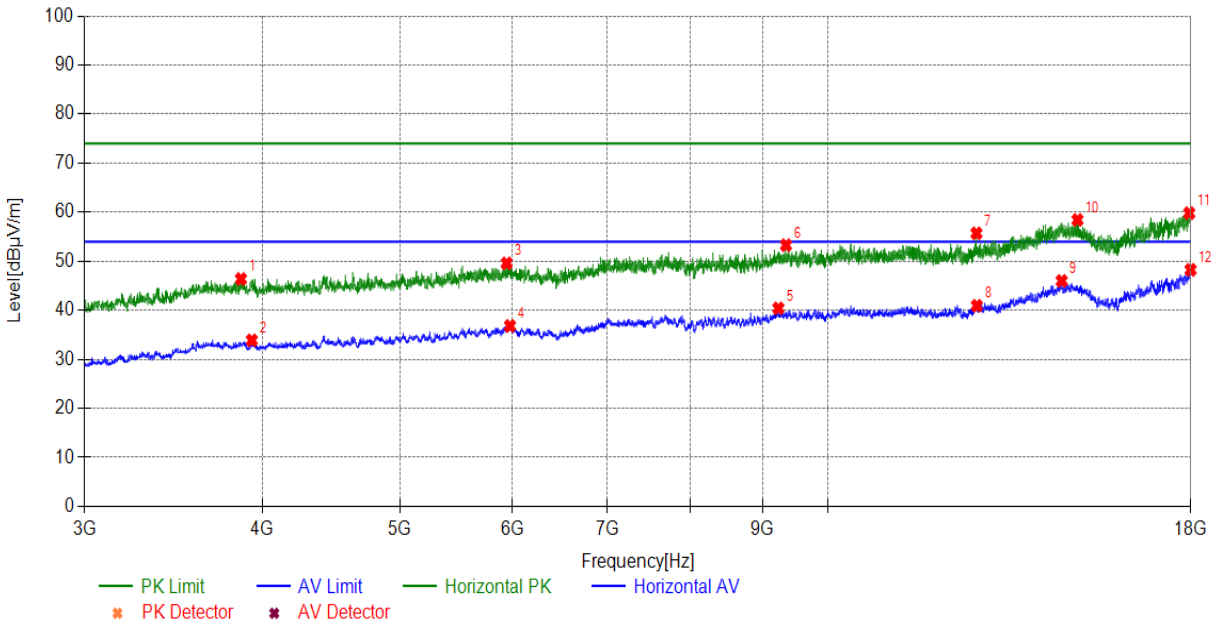


Note: The signal beyond the limit is carrier

Radiates Emission	3G~18G
Test channel	Worst-Case

Suspected List

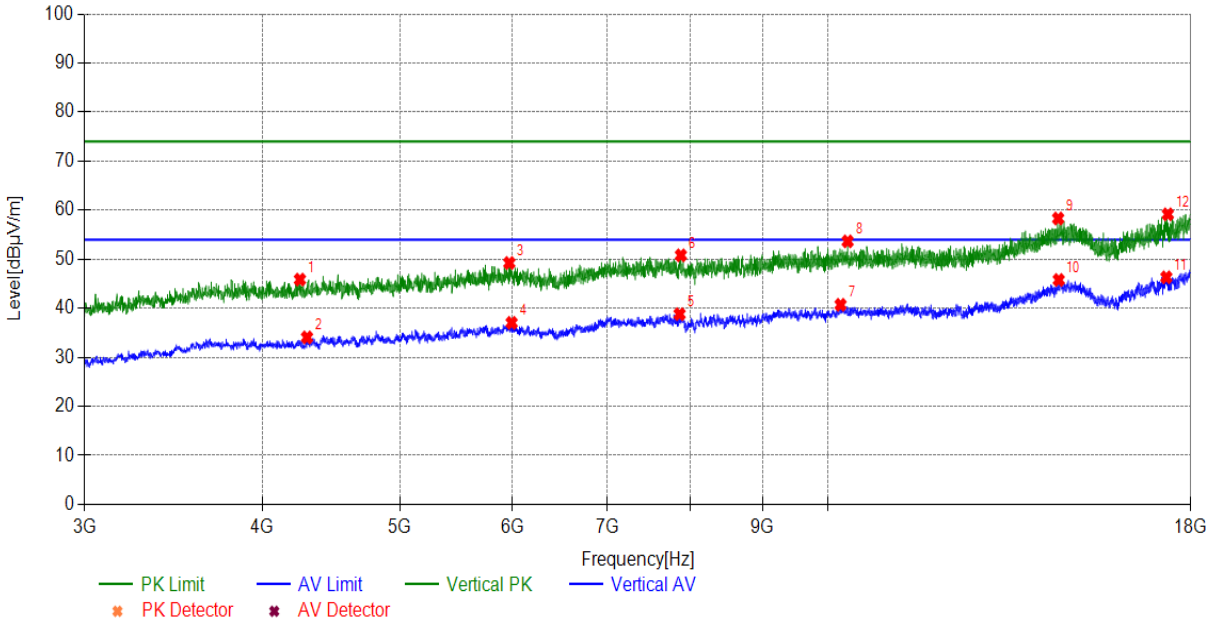
Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Height [cm]	Angle deg	Pass/Fail
3865.58	Horizont	-6.79	53.16	46.37	74.00	27.63	PK	100	194	PASS
14986.1	Horizont	8.64	49.78	58.42	74.00	15.58	PK	100	298	PASS
17959.4	Horizont	15.23	44.57	59.80	74.00	14.20	PK	100	55	PASS
5944.79	Horizont	-4.20	53.77	49.57	74.00	24.43	PK	100	31	PASS
9347.13	Horizont	2.32	50.95	53.27	74.00	20.73	PK	100	352	PASS
12723.9	Horizont	4.85	50.84	55.69	74.00	18.31	PK	100	220	PASS
14608.1	Horizont	8.62	37.37	45.99	54.00	8.01	AV	100	352	PASS
3934.59	Horizont	-6.67	40.54	33.87	54.00	20.13	AV	100	352	PASS
5976.29	Horizont	-4.10	40.91	36.81	54.00	17.19	AV	100	352	PASS
9231.62	Horizont	2.06	38.33	40.39	54.00	13.61	AV	100	352	PASS
12731.4	Horizont	4.86	36.06	40.92	54.00	13.08	AV	100	352	PASS
18000.0	Horizont	15.44	32.80	48.24	54.00	5.76	AV	100	352	PASS



Radiates Emission	3G~18G
Test channel	Worst-Case

Suspected List

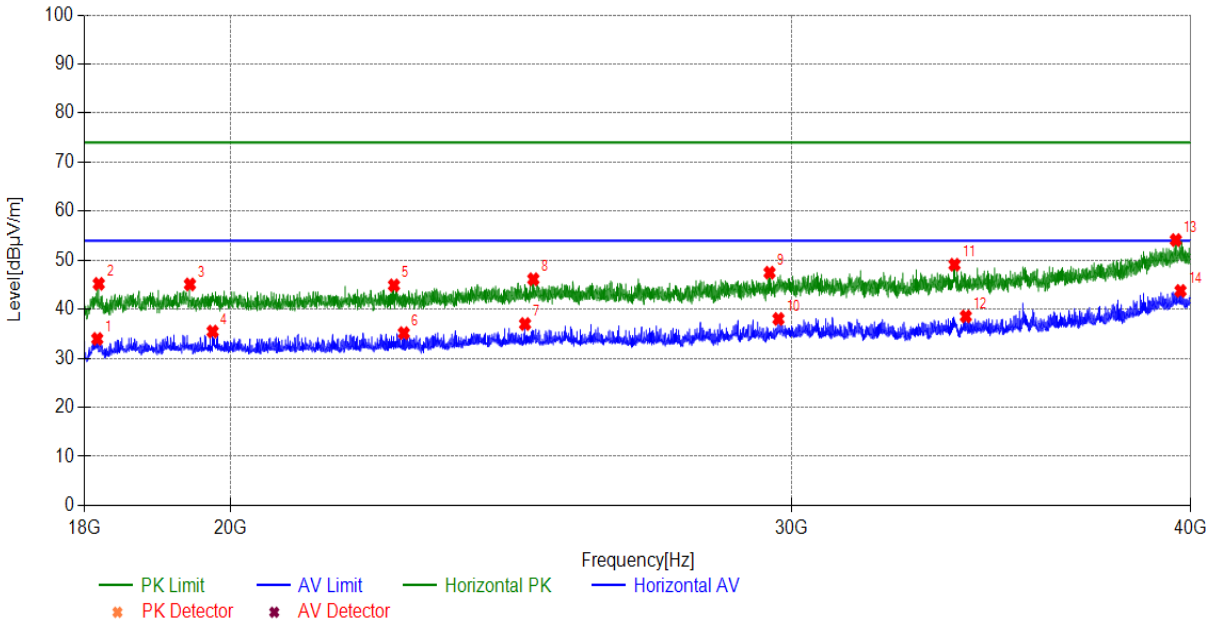
Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Height [cm]	Angle deg	Pass/Fail
17347.4	Vertical	12.02	47.14	59.16	74.00	14.84	PK	100	27	PASS
4252.62	Vertical	-6.36	52.21	45.85	74.00	28.15	PK	100	37	PASS
7882.98	Vertical	-0.21	51.01	50.80	74.00	23.20	PK	100	22	PASS
10328.2	Vertical	4.39	49.25	53.64	74.00	20.36	PK	100	12	PASS
14524.1	Vertical	8.61	49.69	58.30	74.00	15.70	PK	100	17	PASS
5970.29	Vertical	-4.12	53.35	49.23	74.00	24.77	PK	100	17	PASS
5992.79	Vertical	-4.04	41.06	37.02	54.00	16.98	AV	100	12	PASS
4302.13	Vertical	-6.33	40.38	34.05	54.00	19.95	AV	100	12	PASS
14537.6	Vertical	8.61	37.16	45.77	54.00	8.23	AV	100	12	PASS
10209.7	Vertical	4.10	36.60	40.70	54.00	13.30	AV	100	12	PASS
17305.4	Vertical	11.79	34.52	46.31	54.00	7.69	AV	100	12	PASS
7866.48	Vertical	-0.21	39.00	38.79	54.00	15.21	AV	100	12	PASS



Radiates Emission	18G~40G
Test channel	Worst-Case

Suspected List

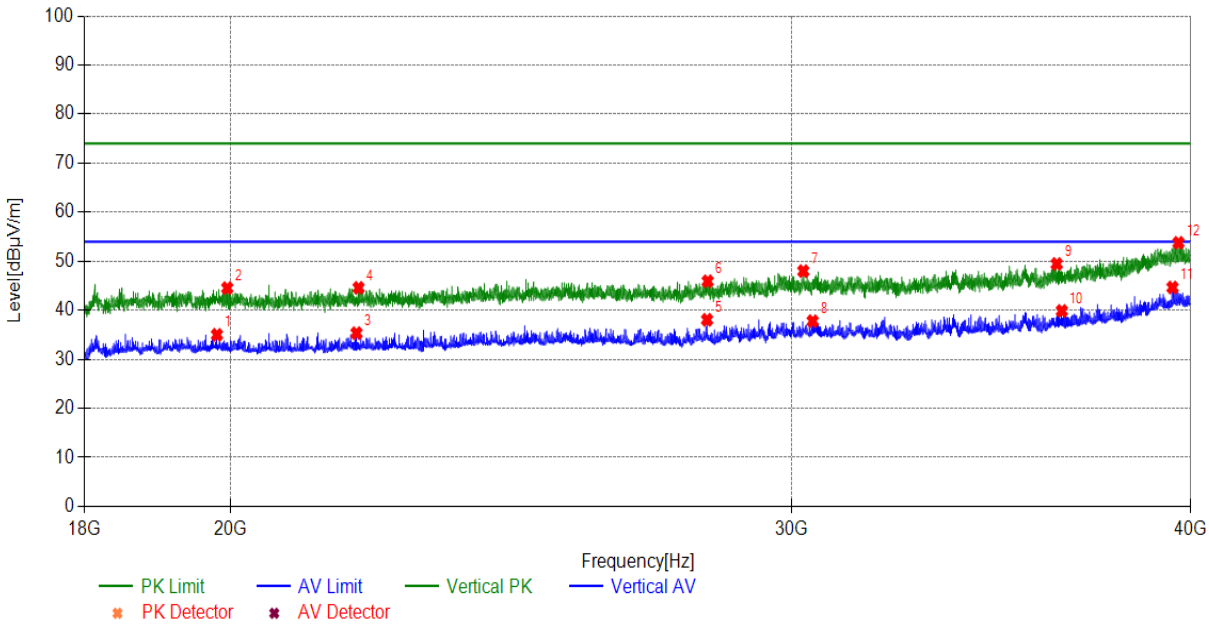
Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Height [cm]	Angle deg	Pass/Fail
19423.5	Horizont	1.33	43.74	45.07	74.00	28.93	PK	100	100	PASS
24888.8	Horizont	4.06	42.06	46.12	74.00	27.88	PK	100	60	PASS
39575.3	Horizont	10.78	43.33	54.11	74.00	19.89	PK	100	150	PASS
18187.0	Horizont	1.15	44.03	45.18	74.00	28.82	PK	100	60	PASS
33731.5	Horizont	6.52	42.56	49.08	74.00	24.92	PK	100	180	PASS
22506.0	Horizont	2.41	42.47	44.88	74.00	29.12	PK	100	90	PASS
29515.9	Horizont	6.36	41.10	47.46	74.00	26.54	PK	100	170	PASS
19744.7	Horizont	1.31	34.14	35.45	54.00	18.55	AV	100	10	PASS
22666.6	Horizont	2.57	32.56	35.13	54.00	18.87	AV	100	10	PASS
24739.2	Horizont	4.00	32.99	36.99	54.00	17.01	AV	100	10	PASS
39709.5	Horizont	10.79	32.95	43.74	54.00	10.26	AV	100	10	PASS
29705.1	Horizont	6.49	31.53	38.02	54.00	15.98	AV	100	10	PASS
34008.8	Horizont	6.60	31.94	38.54	54.00	15.46	AV	100	10	PASS
18167.2	Horizont	1.14	32.82	33.96	54.00	20.04	AV	100	10	PASS



Radiates Emission	18G~40G
Test channel	Worst-Case

Suspected List

Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Height [cm]	Angle deg	Pass/Fail
39650.1	Vertical	10.78	42.97	53.75	74.00	20.25	PK	100	230	PASS
19953.7	Vertical	1.30	43.22	44.52	74.00	29.48	PK	100	150	PASS
28226.6	Vertical	5.54	40.37	45.91	74.00	28.09	PK	100	190	PASS
30244.2	Vertical	6.59	41.39	47.98	74.00	26.02	PK	100	200	PASS
36314.6	Vertical	7.38	42.06	49.44	74.00	24.56	PK	100	30	PASS
21938.3	Vertical	1.88	42.69	44.57	74.00	29.43	PK	100	270	PASS
39480.7	Vertical	10.77	33.87	44.64	54.00	9.36	AV	100	10	PASS
28213.4	Vertical	5.53	32.52	38.05	54.00	15.95	AV	100	10	PASS
21905.3	Vertical	1.88	33.45	35.33	54.00	18.67	AV	100	10	PASS
36448.8	Vertical	7.48	32.39	39.87	54.00	14.13	AV	100	10	PASS
30448.8	Vertical	6.50	31.27	37.77	54.00	16.23	AV	100	10	PASS
19806.3	Vertical	1.31	33.68	34.99	54.00	19.01	AV	100	10	PASS



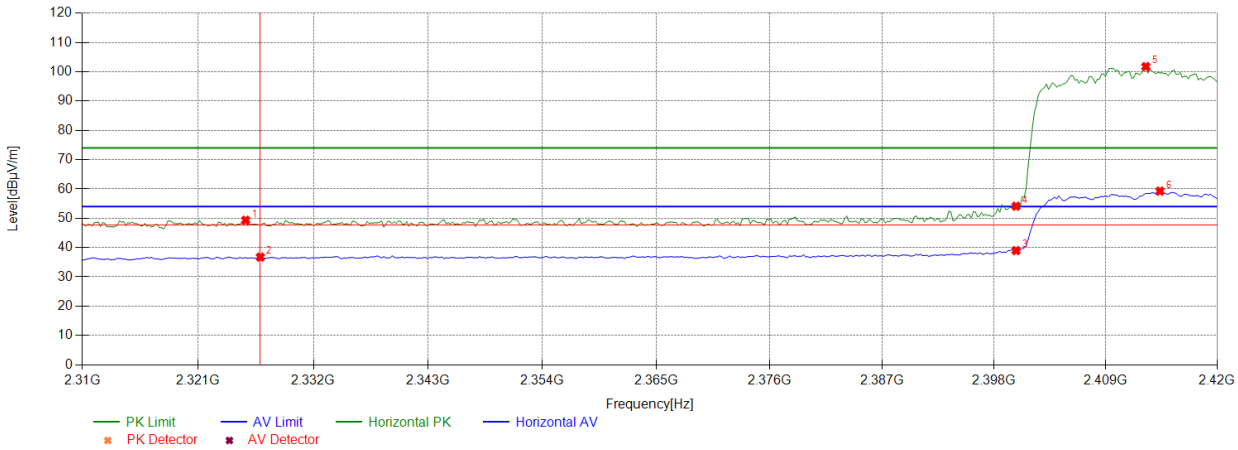
Band Edge：

During the test, the Band Edge was performed in WIFI all modes with all channels and all antenna. 802.11ax20, MIMO are selected as the worst condition. The test data of the worst-case condition was recorded in this report.

Test mode	802.11AX(HE20)
Test channel	LOW channel

Suspected List

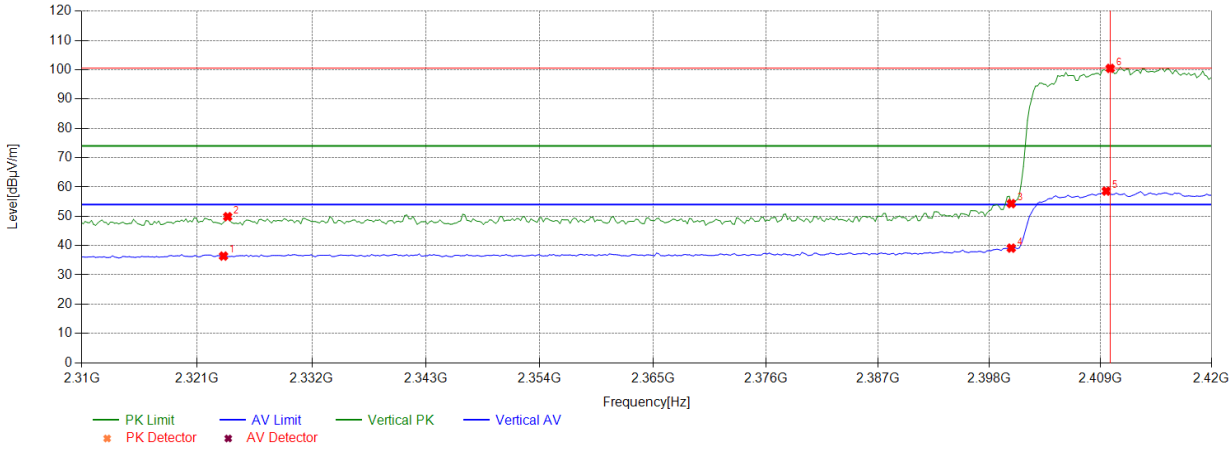
Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Height [cm]	Angle deg	Pass/Fail
2325.53	Horizont	35.27	14.05	49.32	74.00	24.68	PK	100	98	PASS
2390.14	Horizont	35.87	18.26	54.13	74.00	19.87	PK	100	340	PASS
2412.94	Horizont	35.92	65.86	101.78	74.00	-27.78	PK	100	340	-
2326.93	Horizont	35.29	1.45	36.74	54.00	17.26	AV	100	297	PASS
2414.34	Horizont	35.93	23.34	59.27	54.00	-5.27	AV	100	319	-
2390.14	Horizont	35.87	3.09	38.96	54.00	15.04	AV	100	319	PASS



Test mode	802.11AX(HE20)
Test channel	LOW channel

Suspected List

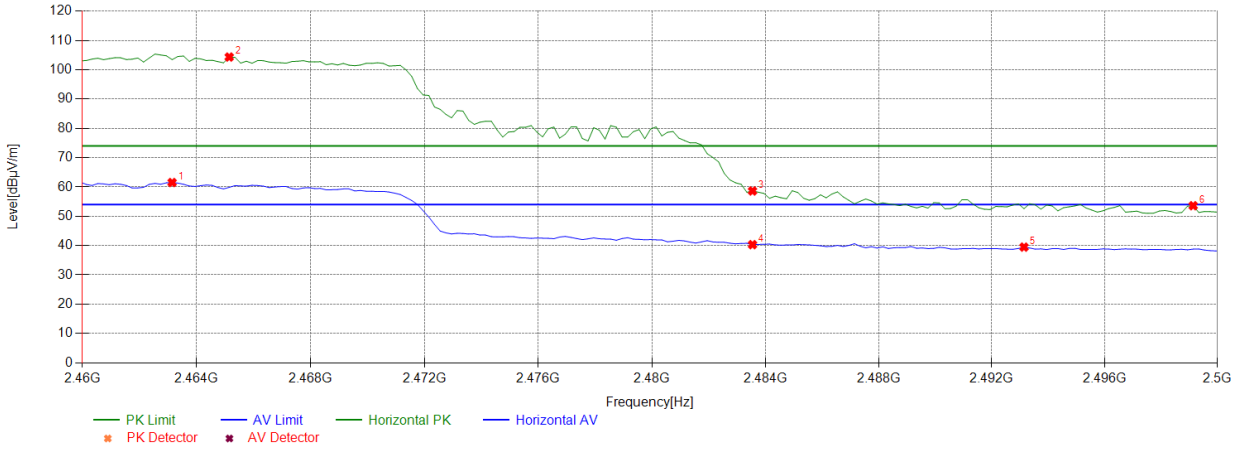
Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Height [cm]	Angle deg	Pass/Fail
2409.94	Vertical	35.91	64.59	100.50	74.00	-26.50	PK	100	345	-
2323.93	Vertical	35.26	14.61	49.87	74.00	24.13	PK	100	33	PASS
2390.14	Vertical	35.87	18.45	54.32	74.00	19.68	PK	100	345	PASS
2390.14	Vertical	35.87	3.25	39.12	54.00	14.88	AV	100	301	PASS
2409.54	Vertical	35.91	22.68	58.59	54.00	-4.59	AV	100	301	-
2323.53	Vertical	35.26	1.15	36.41	54.00	17.59	AV	100	190	PASS



Test mode	802.11AX(HE20)
Test channel	HIGH channel

Suspected List

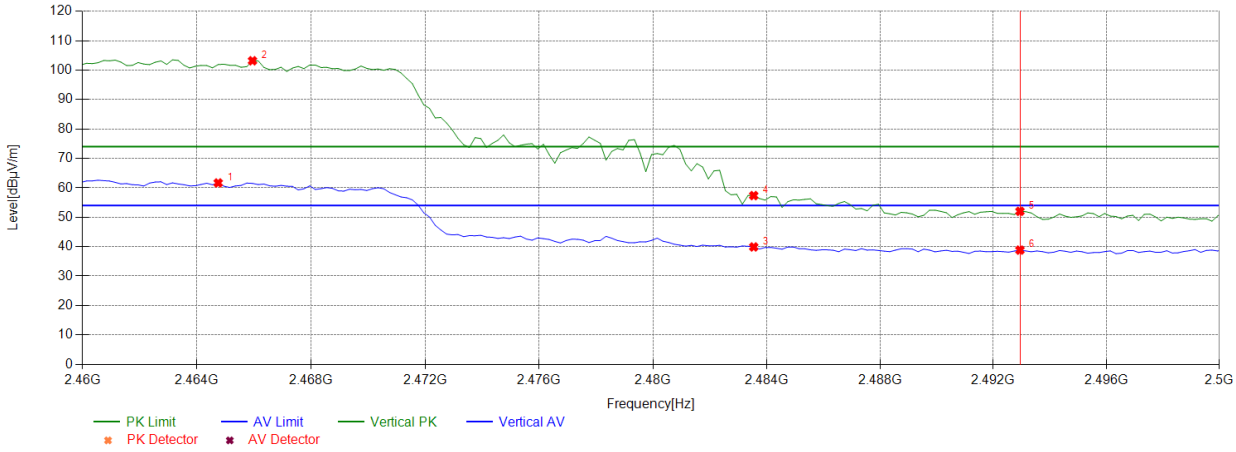
Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Height [cm]	Angle deg	Pass/Fail
2499.14	Horizont	36.27	17.33	53.60	74.00	20.40	PK	100	180	PASS
2465.14	Horizont	36.13	68.24	104.37	74.00	-30.37	PK	100	210	-
2483.54	Horizont	36.20	22.44	58.64	74.00	15.36	PK	100	160	PASS
2483.54	Horizont	36.20	4.11	40.31	54.00	13.69	AV	100	70	PASS
2493.14	Horizont	36.24	3.23	39.47	54.00	14.53	AV	100	160	PASS
2463.14	Horizont	36.12	25.41	61.53	54.00	-7.53	AV	100	240	-



Test mode	802.11AX(HE20)
Test channel	HIGH channel

Suspected List

Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Height [cm]	Angle deg	Pass/Fail
2465.94	Vertical	36.13	67.08	103.21	74.00	-29.21	PK	100	30	-
2483.54	Vertical	36.20	21.17	57.37	74.00	16.63	PK	100	30	PASS
2492.94	Vertical	36.24	15.78	52.02	74.00	21.98	PK	100	30	PASS
2483.54	Vertical	36.20	3.71	39.91	54.00	14.09	AV	100	30	PASS
2492.94	Vertical	36.24	2.60	38.84	54.00	15.16	AV	100	10	PASS
2464.74	Vertical	36.13	25.55	61.68	54.00	-7.68	AV	100	10	-

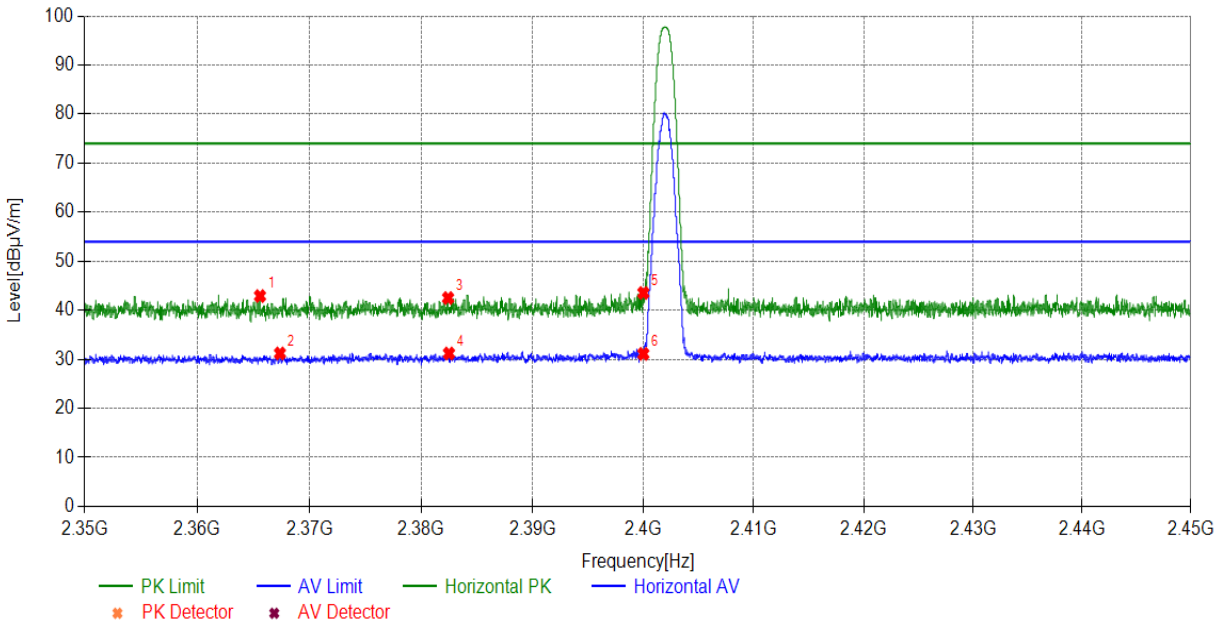


During the test, the Band Edge was performed in BLE all modes with all channels and all antenna. BLE(1Mbps), Channel 0, Antenna 1 are selected as the worst condition. The test data of the worst-case condition was recorded in this report.

Test mode	BLE(1Mbps)
Test channel	Channel 0

Suspected List

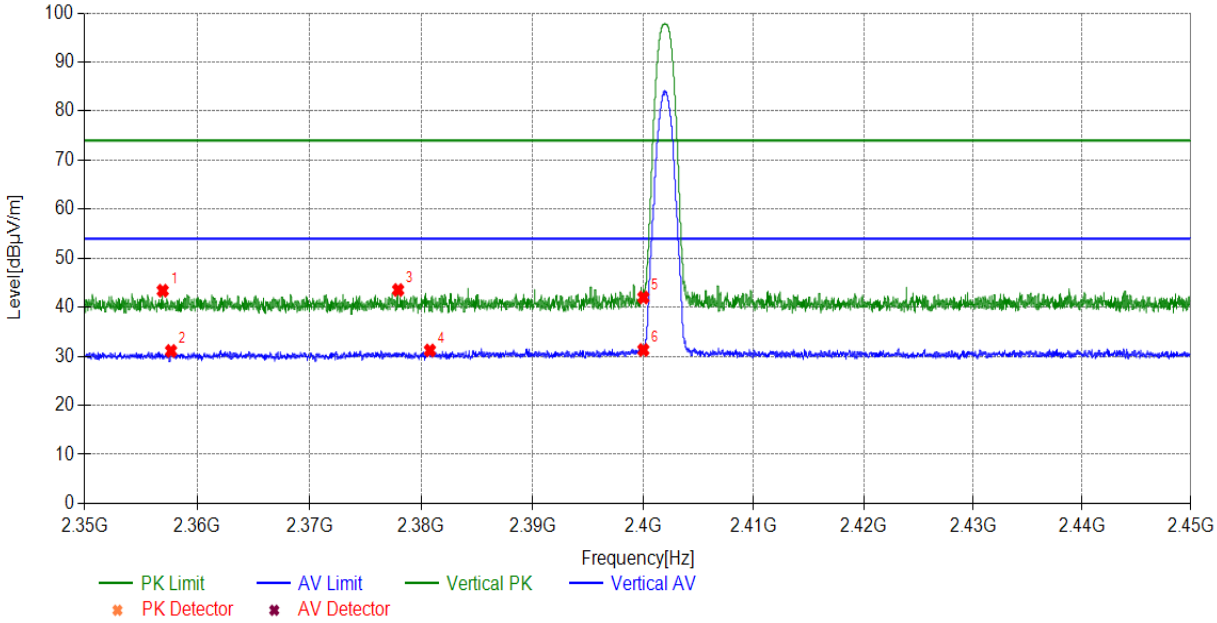
Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Height [cm]	Angle deg	Pass/Fail
2365.59	Horizont	29.58	13.32	42.90	74.00	31.10	PK	100	10	PASS
2382.41	Horizont	29.62	12.88	42.50	74.00	31.50	PK	100	20	PASS
2400.00	Horizont	29.67	13.86	43.53	74.00	30.47	PK	100	20	PASS
2367.37	Horizont	29.58	1.62	31.20	54.00	22.80	AV	100	10	PASS
2382.49	Horizont	29.62	1.57	31.19	54.00	22.81	AV	100	10	PASS
2400.00	Horizont	29.67	1.43	31.10	54.00	22.90	AV	100	20	PASS



Test mode	BLE(1Mbps)
Test channel	LOW channel

Suspected List

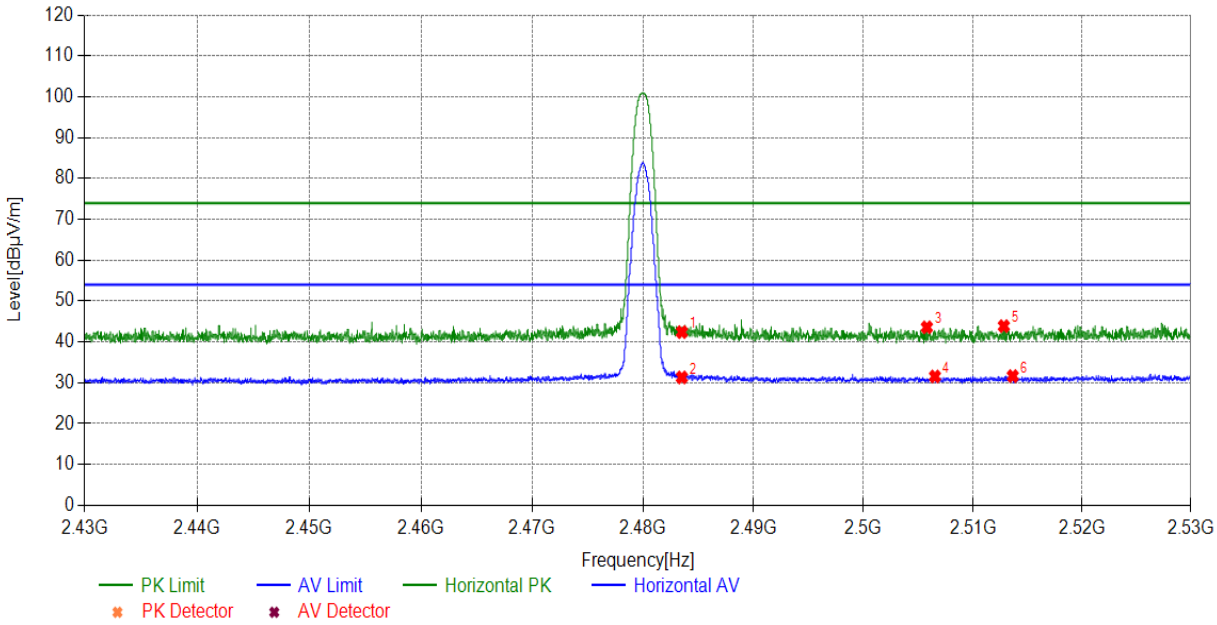
Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Height [cm]	Angle deg	Pass/Fail
2356.94	Vertical	29.55	13.83	43.38	74.00	30.62	PK	100	30	PASS
2377.93	Vertical	29.61	13.91	43.52	74.00	30.48	PK	100	20	PASS
2400.00	Vertical	29.67	12.32	41.99	74.00	32.01	PK	100	20	PASS
2357.68	Vertical	29.55	1.54	31.09	54.00	22.91	AV	100	20	PASS
2380.78	Vertical	29.62	1.58	31.20	54.00	22.80	AV	100	20	PASS
2400.00	Vertical	29.67	1.62	31.29	54.00	22.71	AV	100	20	PASS



Test mode	BLE(1Mbps)
Test channel	HIGH channel

Suspected List

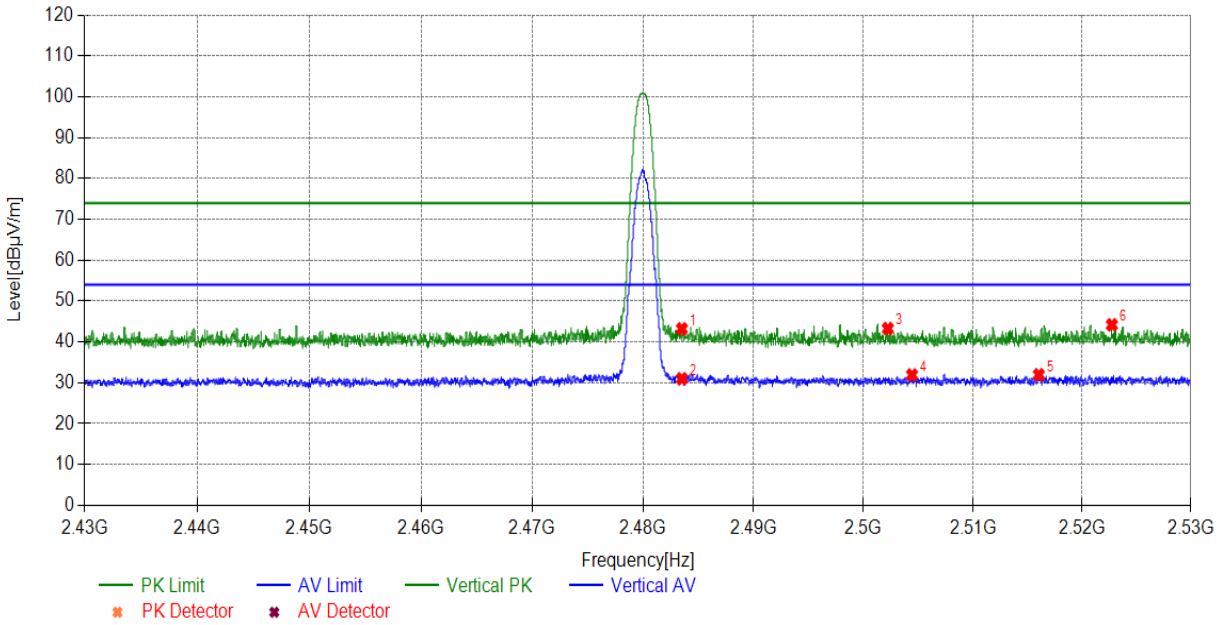
Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Height [cm]	Angle deg	Pass/Fail
2483.50	Horizont	29.91	12.50	42.41	74.00	31.59	PK	100	30	PASS
2505.78	Horizont	29.98	13.60	43.58	74.00	30.42	PK	100	50	PASS
2512.82	Horizont	30.01	13.86	43.87	74.00	30.13	PK	100	20	PASS
2483.50	Horizont	29.91	1.41	31.32	54.00	22.68	AV	100	40	PASS
2506.52	Horizont	29.99	1.57	31.56	54.00	22.44	AV	100	30	PASS
2513.64	Horizont	30.02	1.63	31.65	54.00	22.35	AV	100	20	PASS



Test mode	BLE(1Mbps)
Test channel	HIGH channel

Suspected List

Frequency [MHz]	Polarity	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Height [cm]	Angle deg	Pass/Fail
2522.74	Vertical	30.05	14.14	44.19	74.00	29.81	PK	100	20	PASS
2483.50	Vertical	29.91	13.28	43.19	74.00	30.81	PK	100	20	PASS
2502.22	Vertical	29.97	13.30	43.27	74.00	30.73	PK	100	20	PASS
2504.43	Vertical	29.98	1.93	31.91	54.00	22.09	AV	100	10	PASS
2516.03	Vertical	30.03	1.93	31.96	54.00	22.04	AV	100	10	PASS
2483.50	Vertical	29.91	1.08	30.99	54.00	23.01	AV	100	10	PASS



5.3 Maximum conducted output power

Ambient condition:

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

Method of Measurement:

The EUT was tested according to DTS test procedure of ANSI C63.10 for compliance to FCC 47CFR 15.247 requirements. The maximum conducted output power using ANSI C63.10 section 11.9.2.3 AVGPM Average power meter method.

1. Power meter and sensor's minimum video bandwidth is 50MHz, larger than 802.11n(40MHz) bandwidth;
2. Fast responding diode sensors respond immediately to changes in power level to reduce total test time.
3. Use average detector to test.

During the process of the testing, The EUT was connected to Spectrum Analyzer with a known loss. The EUT is max power transmission with proper modulation. The Average detector is used. We use Maximum Average Conducted Output Power Level Method AVGSA-2 in KDB 558074 D01 /KDB662911 D01 for this test.

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

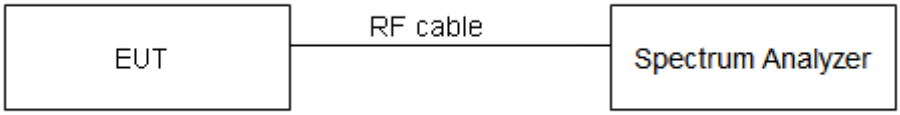
Limits:

Average Output Power	≤ 1W (30dBm)

Note: the conducted output power limit specified above is based on the use the antennas with directional gains that do not exceed 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated Levels above, as appropriate, by the amount in dB that the directional gain of antenna exceeds 6 dBi.

Systems operating in the 2400-2483.5 MHz band that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

Test Setup:



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:

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	2412	17.07	<=30	PASS
	Ant2	2412	17.04	<=30	PASS
	Ant1	2437	17.11	<=30	PASS
	Ant2	2437	16.92	<=30	PASS
	Ant1	2462	17.25	<=30	PASS
	Ant2	2462	16.90	<=30	PASS
11G	Ant1	2412	16.93	<=30	PASS
	Ant2	2412	16.41	<=30	PASS
	Ant1	2437	17.03	<=30	PASS
	Ant2	2437	16.10	<=30	PASS
	Ant1	2462	17.20	<=30	PASS
	Ant2	2462	16.07	<=30	PASS
11N20SISO	Ant1	2412	16.84	<=30	PASS
	Ant2	2412	16.20	<=30	PASS
	Ant1	2437	16.93	<=30	PASS
	Ant2	2437	15.94	<=30	PASS
	Ant1	2462	17.10	<=30	PASS
	Ant2	2462	15.96	<=30	PASS
11N40SISO	Ant1	2422	16.49	<=30	PASS
	Ant2	2422	15.79	<=30	PASS
	Ant1	2437	16.10	<=30	PASS
	Ant2	2437	15.51	<=30	PASS
	Ant1	2452	17.36	<=30	PASS
	Ant2	2452	15.75	<=30	PASS
11AX20SISO	Ant1	2412	17.08	<=30	PASS
	Ant2	2412	16.13	<=30	PASS
	Ant1	2437	17.51	<=30	PASS
	Ant2	2437	15.86	<=30	PASS
	Ant1	2462	17.22	<=30	PASS
	Ant2	2462	16.14	<=30	PASS
11AX40SISO	Ant1	2422	17.02	<=30	PASS
	Ant2	2422	15.76	<=30	PASS
	Ant1	2437	17.30	<=30	PASS
	Ant2	2437	15.50	<=30	PASS
	Ant1	2452	17.10	<=30	PASS
	Ant2	2452	15.71	<=30	PASS
11N20MIMO	Ant1	2412	16.79	<=30	PASS
	Ant2	2412	16.91	<=30	PASS

	total	2412	19.9	<=30	PASS
	Ant1	2437	13.81	<=30	PASS
	Ant2	2437	14.07	<=30	PASS
	total	2437	17.0	<=30	PASS
	Ant1	2462	14.21	<=30	PASS
	Ant2	2462	14.32	<=30	PASS
	total	2462	17.3	<=30	PASS
11N40MIMO	Ant1	2422	15.50	<=30	PASS
	Ant2	2422	15.56	<=30	PASS
	total	2422	18.5	<=30	PASS
	Ant1	2437	15.32	<=30	PASS
	Ant2	2437	15.48	<=30	PASS
	total	2437	18.4	<=30	PASS
	Ant1	2452	15.62	<=30	PASS
	Ant2	2452	15.49	<=30	PASS
	total	2452	18.6	<=30	PASS
11AX20MIMO	Ant1	2412	16.96	<=30	PASS
	Ant2	2412	17.10	<=30	PASS
	total	2412	20.0	<=30	PASS
	Ant1	2437	17.10	<=30	PASS
	Ant2	2437	17.03	<=30	PASS
	total	2437	20.1	<=30	PASS
	Ant1	2462	17.27	<=30	PASS
	Ant2	2462	16.81	<=30	PASS
	total	2462	20.1	<=30	PASS
11AX40MIMO	Ant1	2422	16.92	<=30	PASS
	Ant2	2422	17.06	<=30	PASS
	total	2422	20.0	<=30	PASS
	Ant1	2437	17.02	<=30	PASS
	Ant2	2437	17.06	<=30	PASS
	total	2437	20.1	<=30	PASS
	Ant1	2452	17.07	<=30	PASS
	Ant2	2452	16.74	<=30	PASS
	total	2452	19.9	<=30	PASS

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	14.10	<=30	PASS
		2440	14.32	<=30	PASS
		2480	13.95	<=30	PASS
BLE_2M	Ant1	2402	16.36	<=30	PASS
		2440	16.23	<=30	PASS
		2480	15.87	<=30	PASS
BLE_1M	Ant2	2402	14.07	<=30	PASS
		2440	14.30	<=30	PASS
		2480	13.92	<=30	PASS
BLE_2M	Ant2	2402	16.32	<=30	PASS
		2440	16.24	<=30	PASS
		2480	15.88	<=30	PASS

5.4 Minimum 6 dB Bandwidth

Ambient condition:

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

Method of Measurement:

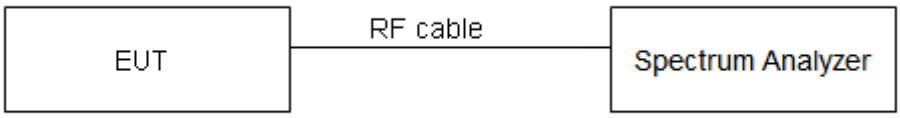
The EUT was connected to the spectrum analyzer through an external attenuator (20dB) and a known loss cable. RBW is set to 100 kHz; VBW is set to 300 kHz on spectrum analyzer.
Detector=Peak, Trace mode=Max hold.

Limits:

Rule Part 15.247 (a) (2) specifies that “Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.”

Minimum 6dB Bandwidth	≥ 500 kHz

Test Setup:



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:

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	7.200	2408.400	2415.600	0.5	PASS
	Ant2	2412	7.200	2408.400	2415.600	0.5	PASS
	Ant1	2437	7.160	2433.400	2440.560	0.5	PASS
	Ant2	2437	7.160	2433.400	2440.560	0.5	PASS
	Ant1	2462	7.200	2458.400	2465.600	0.5	PASS
	Ant2	2462	7.200	2458.400	2465.600	0.5	PASS
11G	Ant1	2412	15.200	2404.400	2419.600	0.5	PASS
	Ant2	2412	15.200	2404.400	2419.600	0.5	PASS
	Ant1	2437	15.200	2429.400	2444.600	0.5	PASS
	Ant2	2437	15.440	2429.160	2444.600	0.5	PASS
	Ant1	2462	15.560	2454.040	2469.600	0.5	PASS
	Ant2	2462	15.840	2454.080	2469.920	0.5	PASS
11N20SISO	Ant1	2412	15.160	2404.440	2419.600	0.5	PASS
	Ant2	2412	15.200	2404.400	2419.600	0.5	PASS
	Ant1	2437	16.160	2429.400	2445.560	0.5	PASS
	Ant2	2437	16.120	2428.800	2444.920	0.5	PASS
	Ant1	2462	17.640	2453.160	2470.800	0.5	PASS
	Ant2	2462	16.040	2454.400	2470.440	0.5	PASS
11N40SISO	Ant1	2422	35.280	2404.400	2439.680	0.5	PASS
	Ant2	2422	35.280	2404.400	2439.680	0.5	PASS
	Ant1	2437	35.280	2419.400	2454.680	0.5	PASS
	Ant2	2437	35.280	2419.400	2454.680	0.5	PASS
	Ant1	2452	35.280	2419.360	2454.640	0.5	PASS
	Ant2	2452	35.280	2434.400	2469.680	0.5	PASS
11AX20SISO	Ant1	2412	17.120	2403.960	2421.080	0.5	PASS
	Ant2	2412	18.040	2402.840	2420.880	0.5	PASS
	Ant1	2437	17.480	2428.360	2445.840	0.5	PASS
	Ant2	2437	17.800	2428.400	2446.200	0.5	PASS
	Ant1	2462	18.400	2452.720	2471.120	0.5	PASS
	Ant2	2462	18.360	2452.720	2471.080	0.5	PASS
11AX40SISO	Ant1	2422	36.720	2404.160	2440.880	0.5	PASS
	Ant2	2422	37.520	2403.360	2440.880	0.5	PASS
	Ant1	2437	37.520	2418.120	2455.640	0.5	PASS
	Ant2	2437	37.440	2418.120	2455.560	0.5	PASS
	Ant1	2452	37.760	2433.120	2470.880	0.5	PASS
	Ant2	2452	37.680	2433.120	2470.800	0.5	PASS
11N20MIMO	Ant1	2412	7.160	2408.400	2415.560	0.5	PASS
	Ant2	2412	7.160	2408.400	2415.560	0.5	PASS
	Ant1	2437	7.160	2433.400	2440.560	0.5	PASS
	Ant2	2437	7.640	2433.400	2441.040	0.5	PASS
	Ant1	2462	7.160	2458.400	2465.560	0.5	PASS
	Ant2	2462	7.160	2458.400	2465.560	0.5	PASS
11N40MIMO	Ant1	2422	35.280	2404.400	2439.680	0.5	PASS
	Ant2	2422	35.280	2404.400	2439.680	0.5	PASS
	Ant1	2437	35.280	2419.400	2454.680	0.5	PASS
	Ant2	2437	35.280	2419.400	2454.680	0.5	PASS
	Ant1	2452	35.280	2434.400	2469.680	0.5	PASS
	Ant2	2452	35.280	2434.400	2469.680	0.5	PASS
11AX20MIMO	Ant1	2412	17.320	2403.560	2420.880	0.5	PASS
	Ant2	2412	15.240	2404.360	2419.600	0.5	PASS
	Ant1	2437	16.720	2429.360	2446.080	0.5	PASS
	Ant2	2437	16.720	2428.560	2445.280	0.5	PASS
	Ant1	2462	16.920	2452.960	2469.880	0.5	PASS
	Ant2	2462	17.720	2452.720	2470.440	0.5	PASS
11AX40MIMO	Ant1	2422	38.000	2403.040	2441.040	0.5	PASS
	Ant2	2422	37.280	2403.600	2440.880	0.5	PASS
	Ant1	2437	36.560	2418.120	2454.680	0.5	PASS
	Ant2	2437	36.480	2419.400	2455.880	0.5	PASS
	Ant1	2452	37.040	2433.120	2470.160	0.5	PASS
	Ant2	2452	36.480	2434.400	2470.880	0.5	PASS

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.716	2401.668	2402.384	0.5	PASS
		2440	0.720	2439.664	2440.384	0.5	PASS
		2480	0.720	2479.664	2480.384	0.5	PASS
BLE_2M	Ant1	2402	1.232	2401.384	2402.616	0.5	PASS
		2440	1.180	2439.436	2440.616	0.5	PASS
		2480	1.184	2479.432	2480.616	0.5	PASS
BLE_1M	Ant2	2402	0.709	2401.664	2402.384	0.5	PASS
		2440	0.714	2439.665	2440.384	0.5	PASS
		2480	0.714	2479.665	2480.384	0.5	PASS
BLE_2M	Ant2	2402	1.235	2401.384	2402.616	0.5	PASS
		2440	1.179	2439.436	2440.616	0.5	PASS
		2480	1.181	2479.432	2480.616	0.5	PASS

5.5 Occupied Channel Bandwidth

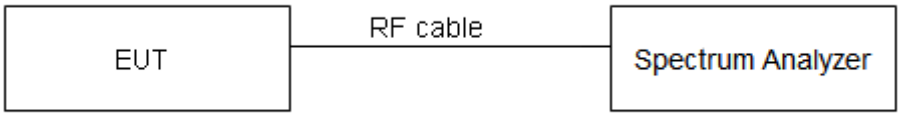
Ambient condition:

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. RBW is set to 50 kHz; VBW is set to 200 kHz on spectrum analyzer.
Detector=Peak, Trace mode=Max hold.

Test Setup:



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:

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	12.947	2405.566	2418.513	---	PASS
	Ant2	2412	12.867	2405.606	2418.474	---	PASS
	Ant1	2437	13.067	2430.487	2443.553	---	PASS
	Ant2	2437	13.147	2430.447	2443.593	---	PASS
	Ant1	2462	13.067	2455.487	2468.553	---	PASS
	Ant2	2462	13.147	2455.447	2468.593	---	PASS
11G	Ant1	2412	17.183	2403.409	2420.591	---	PASS
	Ant2	2412	17.183	2403.449	2420.631	---	PASS
	Ant1	2437	19.221	2427.370	2446.590	---	PASS
	Ant2	2437	19.141	2427.370	2446.510	---	PASS
	Ant1	2462	19.181	2452.370	2471.550	---	PASS
	Ant2	2462	19.141	2452.410	2471.550	---	PASS
11N20SISO	Ant1	2412	18.022	2403.009	2421.031	---	PASS
	Ant2	2412	18.022	2403.009	2421.031	---	PASS
	Ant1	2437	20.06	2426.970	2447.030	---	PASS
	Ant2	2437	20.02	2426.970	2446.990	---	PASS
	Ant1	2462	19.86	2452.090	2471.950	---	PASS
	Ant2	2462	19.98	2452.010	2471.990	---	PASS
11N40SISO	Ant1	2422	36.603	2403.778	2440.382	---	PASS
	Ant2	2422	36.523	2403.858	2440.382	---	PASS
	Ant1	2437	36.523	2418.778	2455.302	---	PASS
	Ant2	2437	36.683	2418.698	2455.382	---	PASS
	Ant1	2452	36.603	2433.778	2470.382	---	PASS
	Ant2	2452	36.603	2433.778	2470.382	---	PASS
11AX20SISO	Ant1	2412	18.861	2402.609	2421.471	---	PASS
	Ant2	2412	18.861	2402.609	2421.471	---	PASS
	Ant1	2437	19.341	2427.330	2446.670	---	PASS
	Ant2	2437	19.381	2427.330	2446.710	---	PASS
	Ant1	2462	19.381	2452.330	2471.710	---	PASS
	Ant2	2462	19.381	2452.330	2471.710	---	PASS
11AX40SISO	Ant1	2422	37.802	2403.139	2440.941	---	PASS
	Ant2	2422	37.722	2403.219	2440.941	---	PASS
	Ant1	2437	37.882	2418.139	2456.021	---	PASS
	Ant2	2437	37.802	2418.139	2455.941	---	PASS
	Ant1	2452	37.722	2433.219	2470.941	---	PASS
	Ant2	2452	37.882	2433.139	2471.021	---	PASS
11N20MIMO	Ant1	2412	18.022	2403.009	2421.031	---	PASS
	Ant2	2412	17.742	2403.169	2420.911	---	PASS
	Ant1	2437	19.86	2427.130	2446.990	---	PASS
	Ant2	2437	18.741	2427.649	2446.391	---	PASS
	Ant1	2462	19.9	2452.090	2471.990	---	PASS
	Ant2	2462	18.701	2452.729	2471.431	---	PASS
11N40MIMO	Ant1	2422	36.603	2403.778	2440.382	---	PASS
	Ant2	2422	36.444	2403.778	2440.222	---	PASS
	Ant1	2437	36.523	2418.778	2455.302	---	PASS
	Ant2	2437	36.364	2418.858	2455.222	---	PASS
	Ant1	2452	36.444	2433.858	2470.302	---	PASS
	Ant2	2452	36.364	2433.938	2470.302	---	PASS
11AX20MIMO	Ant1	2412	18.861	2402.609	2421.471	---	PASS
	Ant2	2412	18.901	2402.569	2421.471	---	PASS
	Ant1	2437	19.461	2427.290	2446.750	---	PASS
	Ant2	2437	19.381	2427.330	2446.710	---	PASS
	Ant1	2462	19.5	2452.290	2471.790	---	PASS
	Ant2	2462	19.421	2452.370	2471.790	---	PASS
11AX40MIMO	Ant1	2422	37.882	2403.139	2441.021	---	PASS
	Ant2	2422	37.802	2403.059	2440.861	---	PASS
	Ant1	2437	37.882	2418.059	2455.941	---	PASS
	Ant2	2437	37.882	2418.139	2456.021	---	PASS
	Ant1	2452	37.962	2433.059	2471.021	---	PASS
	Ant2	2452	37.802	2433.139	2470.941	---	PASS

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.039	2401.516	2402.555	---	PASS
		2440	1.039	2439.516	2440.555	---	PASS
		2480	1.039	2479.516	2480.555	---	PASS
BLE_2M	Ant1	2402	2.058	2401.013	2403.071	---	PASS
		2440	2.062	2439.013	2441.075	---	PASS
		2480	2.058	2479.013	2481.071	---	PASS
BLE_1M	Ant2	2402	1.038	2401.516	2402.555	---	PASS
		2440	1.038	2439.516	2440.555	---	PASS
		2480	1.038	2479.516	2480.555	---	PASS
BLE_2M	Ant2	2402	2.057	2401.013	2403.071	---	PASS
		2440	2.061	2439.013	2441.075	---	PASS
		2480	2.057	2479.013	2481.071	---	PASS

5.6 Band Edge Measurement

Ambient condition:

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

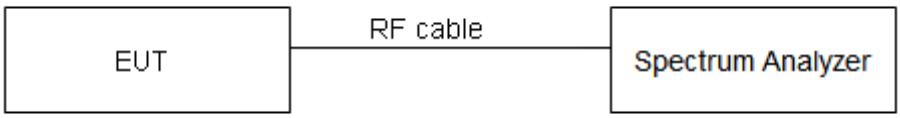
Method of Measurement:

The EUT was connected to the spectrum analyzer through an external attenuator (20dB) and a known loss cable the band edge of the lowest and highest channels were measured. The peak detector is used and RBW is set to 100 kHz and VBW is set to 300 kHz on spectrum analyzer.

Limits:

Rule Part 15.247(d) specifies that “In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

Test Setup:



Measurement Uncertainty：

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 1.96, U= 936 Hz, 2 GHz-3 GHz = 1.407 dB.

Test Results:

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	8.02	-35.74	<=-21.98	PASS
	Ant2	Low	2412	8.31	-32.85	<=-21.69	PASS
	Ant1	High	2462	9.13	-38.95	<=-20.87	PASS
	Ant2	High	2462	8.51	-38.08	<=-21.49	PASS
11G	Ant1	Low	2412	6.10	-34.35	<=-23.9	PASS
	Ant2	Low	2412	5.79	-36.38	<=-24.21	PASS
	Ant1	High	2462	4.96	-38.73	<=-25.04	PASS
	Ant2	High	2462	5.75	-38.77	<=-24.25	PASS
11N20SISO	Ant1	Low	2412	6.14	-34.6	<=-23.86	PASS
	Ant2	Low	2412	5.27	-36.14	<=-24.73	PASS
	Ant1	High	2462	4.61	-38.4	<=-25.39	PASS
	Ant2	High	2462	6.31	-38.75	<=-23.69	PASS
11N40SISO	Ant1	Low	2422	3.61	-34.37	<=-26.39	PASS
	Ant2	Low	2422	3.75	-33.23	<=-26.25	PASS
	Ant1	High	2452	3.47	-38.44	<=-26.53	PASS
	Ant2	High	2452	2.91	-38.57	<=-27.09	PASS
11AX20SISO	Ant1	Low	2412	5.51	-37.09	<=-24.49	PASS
	Ant2	Low	2412	6.10	-38.24	<=-23.9	PASS
	Ant1	High	2462	5.93	-38.67	<=-24.07	PASS
	Ant2	High	2462	6.01	-38.69	<=-23.99	PASS
11AX40SISO	Ant1	Low	2422	3.13	-37.53	<=-26.87	PASS
	Ant2	Low	2422	3.48	-36.51	<=-26.52	PASS
	Ant1	High	2452	3.51	-36.47	<=-26.49	PASS
	Ant2	High	2452	3.44	-38.08	<=-26.56	PASS
11N20MIMO	Ant1	Low	2412	7.87	-35.91	<=-22.13	PASS
	Ant2	Low	2412	8.40	-32.1	<=-21.6	PASS
	Ant1	High	2462	8.48	-38.64	<=-21.52	PASS
	Ant2	High	2462	8.23	-38.6	<=-21.77	PASS
11N40MIMO	Ant1	Low	2422	3.69	-32.57	<=-26.31	PASS
	Ant2	Low	2422	3.81	-34.43	<=-26.19	PASS
	Ant1	High	2452	3.86	-35.45	<=-26.14	PASS
	Ant2	High	2452	4.07	-37.62	<=-25.93	PASS
11AX20MIMO	Ant1	Low	2412	5.84	-37.43	<=-24.16	PASS
	Ant2	Low	2412	5.59	-37.56	<=-24.41	PASS
	Ant1	High	2462	5.49	-38.42	<=-24.51	PASS
	Ant2	High	2462	5.27	-38.57	<=-24.73	PASS
11AX40MIMO	Ant1	Low	2422	3.04	-36.66	<=-26.96	PASS
	Ant2	Low	2422	3.36	-37.75	<=-26.64	PASS
	Ant1	High	2452	3.31	-32.97	<=-26.69	PASS
	Ant2	High	2452	3.37	-36.83	<=-26.63	PASS

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	15.14	-39.7	<=-4.86	PASS
		High	2480	15.02	-37.97	<=-4.98	PASS
BLE_2M	Ant1	Low	2402	14.92	-18.36	<=-5.08	PASS
		High	2480	14.76	-37.43	<=-5.24	PASS
BLE_1M	Ant2	Low	2402	15.13	-39.6	<=-4.86	PASS
		High	2480	15.01	-37.96	<=-4.98	PASS
BLE_2M	Ant2	Low	2402	14.90	-18.35	<=-5.08	PASS
		High	2480	14.77	-37.42	<=-5.24	PASS

5.7 Maximum Power Spectral Density

Ambient condition:

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

Method of Measurement:

During the process of the testing, The EUT was connected to Spectrum Analyzer with a known loss. The EUT is max power transmission with proper modulation. The Average detector is used. We use Method AVGPSD-2 in KDB 558074 D01 for this test.

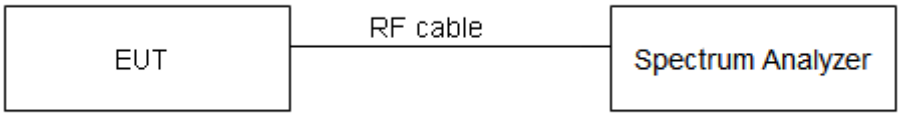
The conducted Power is measured at each antenna port. The measured results at the various antenna ports are then summed mathematically.

Limits:

Rule Part 15.247(e) specifies that" For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

Maximum Power Spectral Density	≤ 8 dBm / 3kHz

Test Setup:



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:

TestMode	Antenna	Channel	Result[dBm/10kHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-9.07	-14.30	<=8	PASS
	Ant2	2412	-9.44	-14.67	<=8	PASS
	Ant1	2437	-9.23	-14.46	<=8	PASS
	Ant2	2437	-9.52	-14.75	<=8	PASS
	Ant1	2462	-9.29	-14.52	<=8	PASS
	Ant2	2462	-9.53	-14.76	<=8	PASS
11G	Ant1	2412	-11.27	-16.50	<=8	PASS
	Ant2	2412	-11.24	-16.47	<=8	PASS
	Ant1	2437	-11.68	-16.91	<=8	PASS
	Ant2	2437	-11.98	-17.21	<=8	PASS
	Ant1	2462	-10.6	-15.83	<=8	PASS
	Ant2	2462	-11.32	-16.55	<=8	PASS
11N20SISO	Ant1	2412	-11.29	-16.52	<=8	PASS
	Ant2	2412	-10.67	-15.90	<=8	PASS
	Ant1	2437	-12.13	-17.36	<=8	PASS
	Ant2	2437	-11.25	-16.48	<=8	PASS
	Ant1	2462	-11.36	-16.59	<=8	PASS
	Ant2	2462	-11.08	-16.31	<=8	PASS
11N40SISO	Ant1	2422	-13.32	-18.55	<=8	PASS
	Ant2	2422	-13.25	-18.48	<=8	PASS
	Ant1	2437	-14.23	-19.46	<=8	PASS
	Ant2	2437	-13.86	-19.09	<=8	PASS
	Ant1	2452	-13.58	-18.81	<=8	PASS
	Ant2	2452	-13.69	-18.92	<=8	PASS
11AX20SISO	Ant1	2412	-9.91	-15.14	<=8	PASS
	Ant2	2412	-9.13	-14.36	<=8	PASS
	Ant1	2437	-8.9	-14.13	<=8	PASS
	Ant2	2437	-9.71	-14.94	<=8	PASS
	Ant1	2462	-9.86	-15.09	<=8	PASS
	Ant2	2462	-8.28	-13.51	<=8	PASS
11AX40SISO	Ant1	2422	-13.05	-18.28	<=8	PASS
	Ant2	2422	-12.29	-17.52	<=8	PASS
	Ant1	2437	-12.35	-17.58	<=8	PASS
	Ant2	2437	-12.27	-17.50	<=8	PASS
	Ant1	2452	-12.71	-17.94	<=8	PASS
	Ant2	2452	-11.23	-16.46	<=8	PASS
11N20MIMO	Ant1	2412	-9.26	-14.49	<=8	PASS
	Ant2	2412	-9.31	-14.54	<=8	PASS
	total	2412	-6.27	-11.50	<=8	PASS
	Ant1	2437	-9.37	-14.60	<=8	PASS
	Ant2	2437	-9.51	-14.74	<=8	PASS
	total	2437	-6.43	-11.66	<=8	PASS
	Ant1	2462	-9.22	-14.45	<=8	PASS
	Ant2	2462	-9.92	-15.15	<=8	PASS
	total	2462	-6.55	-11.78	<=8	PASS
11N40MIMO	Ant1	2422	-12.62	-17.85	<=8	PASS
	Ant2	2422	-12.01	-17.24	<=8	PASS
	total	2422	-9.29	-14.52	<=8	PASS
	Ant1	2437	-11.13	-16.36	<=8	PASS
	Ant2	2437	-12.04	-17.27	<=8	PASS
	total	2437	-8.55	-13.78	<=8	PASS
	Ant1	2452	-10.43	-15.66	<=8	PASS
	Ant2	2452	-11.76	-16.99	<=8	PASS
	total	2452	-8.03	-13.26	<=8	PASS
11AX20MIMO	Ant1	2412	-7.69	-12.92	<=8	PASS
	Ant2	2412	-10.09	-15.32	<=8	PASS
	total	2412	-5.72	-10.95	<=8	PASS
	Ant1	2437	-8.35	-13.58	<=8	PASS
	Ant2	2437	-9.36	-14.59	<=8	PASS
	total	2437	-5.82	-11.05	<=8	PASS
	Ant1	2462	-9.99	-15.22	<=8	PASS
	Ant2	2462	-10.06	-15.29	<=8	PASS
	total	2462	-7.01	-12.24	<=8	PASS

11AX40MIMO	Ant1	2422	-11.05	-16.28	<=8	PASS
	Ant2	2422	-11.65	-16.88	<=8	PASS
	total	2422	-8.33	-13.56	<=8	PASS
	Ant1	2437	-11.5	-16.73	<=8	PASS
	Ant2	2437	-10.74	-15.97	<=8	PASS
	total	2437	-8.09	-13.32	<=8	PASS
	Ant1	2452	-11.02	-16.25	<=8	PASS
	Ant2	2452	-8.94	-14.17	<=8	PASS
	total	2452	-6.85	-12.08	<=8	PASS

TestMode	Antenna	Channel	Result[dBm/10kHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	5.72	0.49	<=8	PASS
		2440	6.02	0.79	<=8	PASS
		2480	5.58	0.35	<=8	PASS
BLE_2M	Ant1	2402	2.61	-2.62	<=8	PASS
		2440	2.87	-2.36	<=8	PASS
		2480	2.44	-2.79	<=8	PASS
BLE_1M	Ant2	2402	5.70	0.47	<=8	PASS
		2440	6.00	0.77	<=8	PASS
		2480	5.57	0.34	<=8	PASS
BLE_2M	Ant2	2402	2.60	-2.63	<=8	PASS
		2440	2.82	-2.41	<=8	PASS
		2480	2.41	-2.82	<=8	PASS

5.8 Spurious RF Conducted Emissions

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 with a known loss. The spectrum analyzer scans from 30MHz to the 10th harmonic of the carrier. The peak detector is used. Set RBW to100kHz and VBW to 300 kHz, Sweep is set to AUTO .The test is in transmitting mode.

Limits:

Rule Part 15.247(d) pacifies that “In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.

Test Setup:

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
100kHz-2GHz	0.684 dB
2GHz-26GHz	1.407 dB

Test Results:

TestMode	Antenna	Channel	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	8.55	8.55	---	PASS
			30~1000	8.55	-49.85	<=-21.45	PASS
			1000~26500	8.55	-39.61	<=-21.45	PASS
	Ant2	2412	Reference	8.76	8.76	---	PASS
			30~1000	8.76	-50.16	<=-21.24	PASS
			1000~26500	8.76	-39.5	<=-21.24	PASS
	Ant1	2437	Reference	8.72	8.72	---	PASS
			30~1000	8.72	-50.42	<=-21.28	PASS
			1000~26500	8.72	-40.22	<=-21.28	PASS
	Ant2	2437	Reference	8.73	8.73	---	PASS
			30~1000	8.73	-50.18	<=-21.27	PASS
			1000~26500	8.73	-39.34	<=-21.27	PASS
	Ant1	2462	Reference	8.86	8.86	---	PASS
			30~1000	8.86	-49.81	<=-21.14	PASS
			1000~26500	8.86	-39.39	<=-21.14	PASS
	Ant2	2462	Reference	8.21	8.21	---	PASS
			30~1000	8.21	-49.58	<=-21.79	PASS
			1000~26500	8.21	-39.33	<=-21.79	PASS
11G	Ant1	2412	Reference	6.24	6.24	---	PASS
			30~1000	6.24	-50.39	<=-23.76	PASS
			1000~26500	6.24	-40.21	<=-23.76	PASS
	Ant2	2412	Reference	6.41	6.41	---	PASS
			30~1000	6.41	-50.52	<=-23.59	PASS
			1000~26500	6.41	-39.51	<=-23.59	PASS
	Ant1	2437	Reference	6.19	6.19	---	PASS
			30~1000	6.19	-50.32	<=-23.81	PASS
			1000~26500	6.19	-39.7	<=-23.81	PASS
	Ant2	2437	Reference	5.90	5.90	---	PASS
			30~1000	5.90	-50.03	<=-24.1	PASS
			1000~26500	5.90	-39.41	<=-24.1	PASS
	Ant1	2462	Reference	6.38	6.38	---	PASS
			30~1000	6.38	-49.86	<=-23.62	PASS
			1000~26500	6.38	-39.99	<=-23.62	PASS
	Ant2	2462	Reference	6.19	6.19	---	PASS
			30~1000	6.19	-50.37	<=-23.81	PASS
			1000~26500	6.19	-39.41	<=-23.81	PASS
11N20SISO	Ant1	2412	Reference	6.16	6.16	---	PASS
			30~1000	6.16	-50.4	<=-23.84	PASS
			1000~26500	6.16	-39.94	<=-23.84	PASS
	Ant2	2412	Reference	6.40	6.40	---	PASS
			30~1000	6.40	-48.85	<=-23.6	PASS
			1000~26500	6.40	-39.22	<=-23.6	PASS
	Ant1	2437	Reference	6.18	6.18	---	PASS
			30~1000	6.18	-50.26	<=-23.82	PASS
			1000~26500	6.18	-38.68	<=-23.82	PASS
	Ant2	2437	Reference	6.03	6.03	---	PASS
			30~1000	6.03	-49.79	<=-23.97	PASS
			1000~26500	6.03	-39.46	<=-23.97	PASS
	Ant1	2462	Reference	6.21	6.21	---	PASS
			30~1000	6.21	-49.77	<=-23.79	PASS
			1000~26500	6.21	-40.26	<=-23.79	PASS
	Ant2	2462	Reference	6.11	6.11	---	PASS
			30~1000	6.11	-50.27	<=-23.89	PASS
			1000~26500	6.11	-39.53	<=-23.89	PASS
11N40SISO	Ant1	2422	Reference	3.59	3.59	---	PASS
			30~1000	3.59	-50.27	<=-26.41	PASS

			1000~26500	3.59	-39.95	<=-26.41	PASS
	Ant2	2422	Reference	3.45	3.45	---	PASS
			30~1000	3.45	-50.19	<=-26.55	PASS
			1000~26500	3.45	-38.58	<=-26.55	PASS
	Ant1	2437	Reference	3.68	3.68	---	PASS
			30~1000	3.68	-50.51	<=-26.32	PASS
			1000~26500	3.68	-39.36	<=-26.32	PASS
	Ant2	2437	Reference	3.20	3.20	---	PASS
			30~1000	3.20	-50.49	<=-26.8	PASS
			1000~26500	3.20	-39.04	<=-26.8	PASS
	Ant1	2452	Reference	3.48	3.48	---	PASS
			30~1000	3.48	-50.28	<=-26.52	PASS
			1000~26500	3.48	-38.38	<=-26.52	PASS
	Ant2	2452	Reference	3.35	3.35	---	PASS
			30~1000	3.35	-50.55	<=-26.65	PASS
			1000~26500	3.35	-39.06	<=-26.65	PASS
11AX20SISO	Ant1	2412	Reference	5.88	5.88	---	PASS
			30~1000	5.88	-50.35	<=-24.12	PASS
			1000~26500	5.88	-39.01	<=-24.12	PASS
	Ant2	2412	Reference	6.01	6.01	---	PASS
			30~1000	6.01	-50.38	<=-23.99	PASS
			1000~26500	6.01	-39.37	<=-23.99	PASS
	Ant1	2437	Reference	5.94	5.94	---	PASS
			30~1000	5.94	-50.44	<=-24.06	PASS
			1000~26500	5.94	-39.75	<=-24.06	PASS
	Ant2	2437	Reference	5.93	5.93	---	PASS
			30~1000	5.93	-49.97	<=-24.07	PASS
			1000~26500	5.93	-39.2	<=-24.07	PASS
	Ant1	2462	Reference	5.90	5.90	---	PASS
			30~1000	5.90	-50.23	<=-24.1	PASS
			1000~26500	5.90	-39.55	<=-24.1	PASS
	Ant2	2462	Reference	5.95	5.95	---	PASS
			30~1000	5.95	-50.43	<=-24.05	PASS
			1000~26500	5.95	-39.01	<=-24.05	PASS
11AX40SISO	Ant1	2422	Reference	2.88	2.88	---	PASS
			30~1000	2.88	-50.29	<=-27.12	PASS
			1000~26500	2.88	-39.06	<=-27.12	PASS
	Ant2	2422	Reference	3.45	3.45	---	PASS
			30~1000	3.45	-50.22	<=-26.55	PASS
			1000~26500	3.45	-37.16	<=-26.55	PASS
	Ant1	2437	Reference	3.42	3.42	---	PASS
			30~1000	3.42	-49.78	<=-26.58	PASS
			1000~26500	3.42	-39.35	<=-26.58	PASS
	Ant2	2437	Reference	3.36	3.36	---	PASS
			30~1000	3.36	-49.65	<=-26.64	PASS
			1000~26500	3.36	-39.33	<=-26.64	PASS
	Ant1	2452	Reference	3.52	3.52	---	PASS
			30~1000	3.52	-50.55	<=-26.48	PASS
			1000~26500	3.52	-39.04	<=-26.48	PASS
	Ant2	2452	Reference	3.42	3.42	---	PASS
			30~1000	3.42	-50.19	<=-26.58	PASS
			1000~26500	3.42	-37.67	<=-26.58	PASS
11N20MIMO	Ant1	2412	Reference	8.64	8.64	---	PASS
			30~1000	8.64	-50.17	<=-21.36	PASS
			1000~26500	8.64	-39.49	<=-21.36	PASS
	Ant2	2412	Reference	8.67	8.67	---	PASS
			30~1000	8.67	-49.9	<=-21.33	PASS
			1000~26500	8.67	-38.02	<=-21.33	PASS
	Ant1	2437	Reference	8.85	8.85	---	PASS
			30~1000	8.85	-50.43	<=-21.15	PASS
			1000~26500	8.85	-39.78	<=-21.15	PASS
	Ant2	2437	Reference	8.76	8.76	---	PASS
			30~1000	8.76	-50.08	<=-21.24	PASS
			1000~26500	8.76	-39.85	<=-21.24	PASS

	Ant1	2462	Reference	8.88	8.88	---	PASS
			30~1000	8.88	-50.51	<=-21.12	PASS
			1000~26500	8.88	-39.77	<=-21.12	PASS
	Ant2	2462	Reference	8.44	8.44	---	PASS
			30~1000	8.44	-50	<=-21.56	PASS
			1000~26500	8.44	-39.81	<=-21.56	PASS
11N40MIMO	Ant1	2422	Reference	3.57	3.57	---	PASS
			30~1000	3.57	-49.8	<=-26.43	PASS
			1000~26500	3.57	-38.89	<=-26.43	PASS
	Ant2	2422	Reference	3.66	3.66	---	PASS
			30~1000	3.66	-50.32	<=-26.34	PASS
			1000~26500	3.66	-39.05	<=-26.34	PASS
	Ant1	2437	Reference	4.22	4.22	---	PASS
			30~1000	4.22	-50.72	<=-25.78	PASS
			1000~26500	4.22	-39.63	<=-25.78	PASS
	Ant2	2437	Reference	3.53	3.53	---	PASS
			30~1000	3.53	-49.81	<=-26.47	PASS
			1000~26500	3.53	-39.17	<=-26.47	PASS
	Ant1	2452	Reference	3.62	3.62	---	PASS
			30~1000	3.62	-50.47	<=-26.38	PASS
			1000~26500	3.62	-39.22	<=-26.38	PASS
	Ant2	2452	Reference	4.08	4.08	---	PASS
			30~1000	4.08	-50.51	<=-25.92	PASS
			1000~26500	4.08	-39.53	<=-25.92	PASS
11AX20MIMO	Ant1	2412	Reference	5.84	5.84	---	PASS
			30~1000	5.84	-50.22	<=-24.16	PASS
			1000~26500	5.84	-38.99	<=-24.16	PASS
	Ant2	2412	Reference	5.83	5.83	---	PASS
			30~1000	5.83	-49.75	<=-24.17	PASS
			1000~26500	5.83	-39.29	<=-24.17	PASS
	Ant1	2437	Reference	6.32	6.32	---	PASS
			30~1000	6.32	-49.56	<=-23.68	PASS
			1000~26500	6.32	-39.98	<=-23.68	PASS
	Ant2	2437	Reference	5.64	5.64	---	PASS
			30~1000	5.64	-50.41	<=-24.36	PASS
			1000~26500	5.64	-39.58	<=-24.36	PASS
	Ant1	2462	Reference	5.55	5.55	---	PASS
			30~1000	5.55	-50.46	<=-24.45	PASS
			1000~26500	5.55	-39.71	<=-24.45	PASS
	Ant2	2462	Reference	5.23	5.23	---	PASS
			30~1000	5.23	-49.88	<=-24.77	PASS
			1000~26500	5.23	-39.86	<=-24.77	PASS
11AX40MIMO	Ant1	2422	Reference	2.96	2.96	---	PASS
			30~1000	2.96	-50.4	<=-27.04	PASS
			1000~26500	2.96	-39.03	<=-27.04	PASS
	Ant2	2422	Reference	3.06	3.06	---	PASS
			30~1000	3.06	-50.27	<=-26.94	PASS
			1000~26500	3.06	-39.51	<=-26.94	PASS
	Ant1	2437	Reference	3.22	3.22	---	PASS
			30~1000	3.22	-50.43	<=-26.78	PASS
			1000~26500	3.22	-39.73	<=-26.78	PASS
	Ant2	2437	Reference	3.27	3.27	---	PASS
			30~1000	3.27	-50.16	<=-26.73	PASS
			1000~26500	3.27	-39.6	<=-26.73	PASS
	Ant1	2452	Reference	3.70	3.70	---	PASS
			30~1000	3.70	-50.52	<=-26.3	PASS
			1000~26500	3.70	-39.65	<=-26.3	PASS
	Ant2	2452	Reference	3.34	3.34	---	PASS
			30~1000	3.34	-50.21	<=-26.66	PASS
			1000~26500	3.34	-39.44	<=-26.66	PASS

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	15.35	15.35	---	PASS
			30~1000	15.35	-50.53	<=-4.65	PASS
			1000~26500	15.35	-39.63	<=-4.65	PASS
		2440	Reference	15.40	15.40	---	PASS
			30~1000	15.40	-50.27	<=-4.6	PASS
			1000~26500	15.40	-39.2	<=-4.6	PASS
		2480	Reference	14.95	14.95	---	PASS
			30~1000	14.95	-48.99	<=-5.05	PASS
			1000~26500	14.95	-39.88	<=-5.05	PASS
BLE_2M	Ant1	2402	Reference	15.09	15.09	---	PASS
			30~1000	15.09	-50.64	<=-4.91	PASS
			1000~26500	15.09	-39.53	<=-4.91	PASS
		2440	Reference	15.17	15.17	---	PASS
			30~1000	15.17	-49.85	<=-4.83	PASS
			1000~26500	15.17	-39.7	<=-4.83	PASS
		2480	Reference	14.69	14.69	---	PASS
			30~1000	14.69	-50.29	<=-5.31	PASS
			1000~26500	14.69	-39.76	<=-5.31	PASS
BLE_1M	Ant2	2402	Reference	15.35	15.32	---	PASS
			30~1000	15.35	-50.56	<=-4.65	PASS
			1000~26500	15.35	-39.66	<=-4.65	PASS
		2440	Reference	15.40	15.37	---	PASS
			30~1000	15.40	-50.3	<=-4.6	PASS
			1000~26500	15.40	-39.23	<=-4.6	PASS
		2480	Reference	14.95	14.92	---	PASS
			30~1000	14.95	-49.02	<=-5.05	PASS
			1000~26500	14.95	-39.91	<=-5.05	PASS
BLE_2M	Ant2	2402	Reference	15.09	15.06	---	PASS
			30~1000	15.09	-50.67	<=-4.91	PASS
			1000~26500	15.09	-39.56	<=-4.91	PASS
		2440	Reference	15.17	15.14	---	PASS
			30~1000	15.17	-49.88	<=-4.83	PASS
			1000~26500	15.17	-39.73	<=-4.83	PASS
		2480	Reference	14.69	14.66	---	PASS
			30~1000	14.69	-50.32	<=-5.31	PASS
			1000~26500	14.69	-39.79	<=-5.31	PASS

6. Appendix E

Test Equipment	Type/Mode	SERIAL NO.	Equipment No.	Manufacturer	Cal. Due
Spectrum Analyzer	FSV40	101580	DZ-000238-3	R&S	2021/07/20
Comprehensive Test Instrument	CMW270	100304	DZ-000240-1	R&S	2021/12/08
Analog Signal Generator	SMB100A	181858	DZ-000238-2	R&S	2021/07/20
Vector Signal Generator	SGT100A	111661	DZ-000238-1	R&S	2021/07/20
RF Radio Frequency Switch	JS0806-2	19H9080187	DZ-000241	Tonscend	2021/07/20
Programmable DC Power Supply	E3644A	MY58036222	DZ-000178	KEYSIGHT	2022/04/24
3m Semi-Anechoic Chamber	FACT-4	ST08035	WKNA-0024	ETS	2024/12/12
Spectrum Analyzer	N9010B	MY57470323	DZ-000174	KEYSIGHT	2022/03/05
EMI Test Receiver	N9038A-508	MY532290079	EM-000397	Agilent	2022/03/05
Broadband Antenna	VULB 9163	9163-530	EM-000342	SCHWARZBECK	2021/07/11
Waveguide Horn Antenna	HF906	360306/008	WKNA-0024-8	R&S	2022/03/05
Waveguide Horn Antenna	BBHA9170	00949	EM-000383	SCHWARZBECK	2021/07/24
Bandstop Filters	SW-BSF-2400-100-7-A1	/	EM-000495	/	2021/09/04
5G Bandstop Filters	WRCJV12-4900-5100-5900-6100-50EE	1	DZ-000186	WI	2021/12/16

The End