



Test Report No.:
FCC2023-0014-RF2

TEST REPORT

FCC ID	:	P53-EMC3290
Applicant	:	Shanghai MXCHIP Information Technology Co., Ltd
Product Name	:	Embedded Wi-Fi/BLE Module
Model No.	:	EMC3290-S, EMC3290-D

CVC Testing Technology Co., Ltd.

Applicant		Name: Shanghai MXCHIP Information Technology Co., Ltd	
		Address: 9th Floor, No.5, Lane2145, JinshaJiang Road, PutuoDistrict, Shanghai(200333)	
Manufacturer		Name: Shanghai MXCHIP Information Technology Co., Ltd	
		Address: 9th Floor, No.5, Lane2145, JinshaJiang Road, PutuoDistrict, Shanghai(200333)	
Equipment Under Test		Product Name : Embedded Wi-Fi/BLE Module Model No. : EMC3290-S, EMC3290-D Trade mark : MXCHIP® Serial no. : — Sampling : 2-1, 2-2	
Date of Receipt.	2023.3.24	Date of Testing	2023.6.13
Test Specification		Test Result	
FCC CFR47 Part 15E ANSI C63.10-2020 KDB 789033 D02 General UNII Test Procedures New Rules v01r04 KDB905462 D02 UNII DFS Compliance Procedures New Rules v02 KDB 905462 D03 UNII Clients Without Radar Detection New Rules v01r02		PASS	
Evaluation of Test Result		The equipment under test was found to comply with the requirements of the standards applied. Seal of CVC Date of issue: July 12, 2023, Correction 1: July 26, 2023	
Approved by: Chen HuaWen 		Reviewed by: Xu Zhenfei 	
		Tested by: Lu WeiJi 	
Other Aspects: NONE.			
Abbreviations: OK, Pass= passed Fail = failed N/A= not applicable EUT= equipment, sample(s) under tested			
Note 1: This test report relates only to the EUT, and shall not be reproduced except in full, without written approval of CVC. Note 2: The original Test Report No.FCC2023-0014-RF2 was issued dated on July 12, 2023. Correction 1 to Report No. FCC2023-0014-RF2 was made dated on July 26, 2023 due to some editorial mistakes and detailed on P109.			

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1. General Product Information

1.1 General information

Product Name	Embedded Wi-Fi/BLE Module
Model No.	EMC3290-S
Additional model	EMC3290-D
Power Supply	DC 3.3V
Serial Number(SN)	849DC28C6725, B0F893018639
HVIN	EMC3290-S ,EMC3290-D
firmware	v1.0
software	0000.0000.A245
specific power settings	U-NII-1: default U-NII-2A: default U-NII-3:100
Antenna Type	External Antenna
Antenna Connector	A detachable antenna
Antenna Gain	U-NII-1: -0.43 dBi (provided by client) U-NII-2A: -0.39 dBi (provided by client) U-NII-3: -0.36 dBi (provided by client)
Beamforming gain	Unsupported
Frequency Range	U-NII-1: 5150-5250MHz U-NII-2A:5250-5350MHz U-NII-3: 5725-5850MHz
Modulation Type	802.11a/n (HT20/HT40) : OFDM
Max. Conducted Power	U-NII-1: 14.29 dBm U-NII-2A: 15.31 dBm U-NII-3: 12.94 dBm
DFS device type	☐ Master ☒ Slave
TPC Function	☐ Support ☒ Not support
TDWR Band	☐ Support ☒ Not support
Operate Temp.Range	-20 ~ 85℃

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.
3. The product models of this application are: EMC3290-S, EMC3290-D. The material difference between the parts and the parts in the product model for inspection is shown in the table below:

No	Model	Antenna type	Difference	Remarks
1	EMC3290-S	External Antenna	They are share with the same PCB board, same schematic, same PCB layout, but only different is antenna type	Inspection model
2	EMC3290-D	PCB Antenna		Coverage model

All the tests carried out on model EMC3290-S, only the antenna type is different, so EMC3290-D only adds Radiated Emissions.

2. Test Sites

2.1 Test Facilities

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

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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 A**.

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
IEEE 802.11A	1TX / 1RX	36,44,48,52,60,64,149,157,165
IEEE 802.11N 20 SISO	1TX / 1RX	36,44,48,52,60,64,149,157,165
IEEE 802.11N 40 SISO	1TX / 1RX	38,46,54,62,151,159

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 and different channels.. Preliminary tests have been done on all the configurations for confirming worst case. Data rate below means worst-case rate of each test item.

Worst-case data rates and channels are shown as following table.

Test Mode	Antenna Delivery	Data Rate		
		Antenna 1	Antenna 2	MIMO
IEEE 802.11A	1TX / 1RX	6	/	/
IEEE 802.11N 20MHz	1TX / 1RX	MCS 0	/	/
IEEE 802.11N 40MHz	1TX / 1RX	MCS 0	/	/

Test Items	Test Antennas	Test Modes	Test Channels
Maximum conducted output power	Antenna 1	IEEE 802.11A/ IEEE 802.11N 20/ IEEE 802.11N 40	36,44,48,52,60,64,149,157,165/ 36,44,48,52,60,64,149,157,165/ 38,46,54,62,151,159
Maximum Power spectral density	Antenna 1	IEEE 802.11A/ IEEE 802.11N 20/ IEEE 802.11N 40	36,44,48,52,60,64,149,157,165/ 36,44,48,52,60,64,149,157,165/ 38,46,54,62,151,159
Unwanted Emissions (Band Edge Measurement)	Antenna 1	IEEE 802.11N 20	36,64,149,165
Unwanted Emissions (Spurious Emissions)	Antenna 1	IEEE 802.11N 20	36,64,149
Min Emission Bandwidth and Emission Bandwidth and Occupied Bandwidth	Antenna 1	IEEE 802.11A/ IEEE 802.11N 20/ IEEE 802.11N 40	36,44,48,52,60,64,149,157,165/ 36,44,48,52,60,64,149,157,165/ 38,46,54,62,151,159
Frequency stability	Antenna 1	IEEE 802.11A/ IEEE 802.11N 20/ IEEE 802.11N 40	36,44,48,52,60,64,149,157,165/ 36,44,48,52,60,64,149,157,165/ 38,46,54,62,151,159
Dynamic Frequency Selection (DFS)	Antenna 1	IEEE 802.11N 40	38,62

3.2 Duty cycle

TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Limit	Verdict
11A	Ant1	5180	2.05	2.19	93.61	---	---
		5220	2.06	2.19	94.06	---	---
		5240	2.06	2.19	94.06	---	---
		5260	2.07	2.20	94.09	---	---
		5300	2.06	2.19	94.06	---	---
		5320	2.06	2.19	94.06	---	---
		5745	2.06	2.20	93.64	---	---
		5785	2.06	2.19	94.06	---	---
		5825	2.06	2.19	94.06	---	---
11N20SISO	Ant1	5180	1.92	2.05	93.66	---	---
		5220	1.92	2.06	93.20	---	---
		5240	1.91	2.05	93.17	---	---
		5260	1.92	2.05	93.66	---	---
		5300	1.92	2.05	93.66	---	---
		5320	1.92	2.06	93.20	---	---
		5745	1.92	2.05	93.66	---	---
		5785	1.92	2.05	93.66	---	---
		5825	1.92	2.05	93.66	---	---
11N40SISO	Ant1	5190	0.94	1.07	87.85	---	---
		5230	0.95	1.08	87.96	---	---
		5270	0.94	1.07	87.85	---	---
		5310	0.95	1.08	87.96	---	---
		5755	0.95	1.08	87.96	---	---
		5795	0.94	1.07	87.85	---	---

4. Summary of measurement results

Summary of measurements of results	Clause in FCC rules	Verdict	Note
Conducted Emissions	15.207	N/A	See note 1
Maximum conducted output power	15.407(a)	PASS	Appendix F of FCC-2023-0014-5GWIFI-2
Maximum Power spectral density	15.407(a)	PASS	Appendix G of FCC-2023-0014-5GWIFI-3
Unwanted Emissions	15.407(b)	PASS	/
Min Emission Bandwidth and Emission Bandwidth and Occupied Bandwidth	15.407(e)	PASS	Appendix B,C,D of FCC-2023-0014-5GWIFI-1
Frequency stability	15.407(g)	PASS	Appendix H of FCC-2023-0014-5GWIFI-3
Dynamic Frequency Selection (DFS)	15.407(h)	PASS	/
Antenna Requirement	15.203	PASS	See note 2

Note1: The device is not connected to the AC power line.

Note2: According to 15.203, it is considered sufficient to comply with the provisions of this section.

5. Measurement procedure

5.1 Conducted Emission

Ambient condition:

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.3kPa

Method of Measurement:

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

The test is in transmitting mode.

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 Results:

Conducted Emission applies to an intentional radiator that is designed to be connected to the public utility (AC) power line. Measurements to demonstrate compliance with the conducted limits are not required for devices which only employ battery power for operation and which do not operate from the AC power lines or contain provisions for operation while connected to the AC power lines.

5.2 Unwanted Emission

Ambient condition:

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.3kPa

Method of Measurement:

The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable was turned from 0 degrees to 360 degrees to find the maximum reading.

The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

Above 1GHz test procedure as below:

Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber and change form table 0.8 meter to 1.5 meter(Above 18GHz the distance is 1 meter and table is 1.5 meter).

Test the EUT in the lowest channel, the middle channel, the highest channel.

The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is worse case.

Repeat above procedures until all frequencies measured was complete.

Limits:

1. For transmitters operating in the 5725-5850 MHz band: 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.
2. 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(68.2dBμV/m).
3. 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(68.2dBμV/m).
4. 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(68.2dBμV/m).

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

§1、 $E[\text{dB}\mu\text{V/m}] = \text{EIRP}[\text{dBm}] - 20 \log(d[\text{meters}]) + 104.77$, where E = field strength and

d = distance at which field strength limit is specified in the rules;

§2、 $E[\text{dB}\mu\text{V/m}] = \text{EIRP}[\text{dBm}] + 95.2$, for d = 3 meters

5. Unwanted spurious emissions fallen in restricted bands per FCC Part15.205 shall comply with the general field strength limits set forth in § 15.209 as below table.

Frequency	Limit (μV/m)	Limit (dBμV/m @3m)	Remark
0.009MHz-0.490MHz	2400/F(kHz)@300m	$20\lg(240000/F(\text{kHz}))$	Quasi-peak Level
0.490MHz~1.705MHz	24000/F(kHz)@30m	$20\lg(240000/F(\text{kHz}))$	Quasi-peak Level
1.705MHz~30.0MHz	30@30m	49.54	Quasi-peak Level
30MHz-88MHz	100@3m	40.0	Quasi-peak Level
88MHz-216MHz	150@3m	43.5	Quasi-peak Level
216MHz-960MHz	200@3m	46.0	Quasi-peak Level
960MHz-1GHz	500@3m	54.0	Quasi-peak Level
Above 1GHz	500@3m	54.0	Average Level
	5000@3m	74.0	Peak Level

Measurement Data

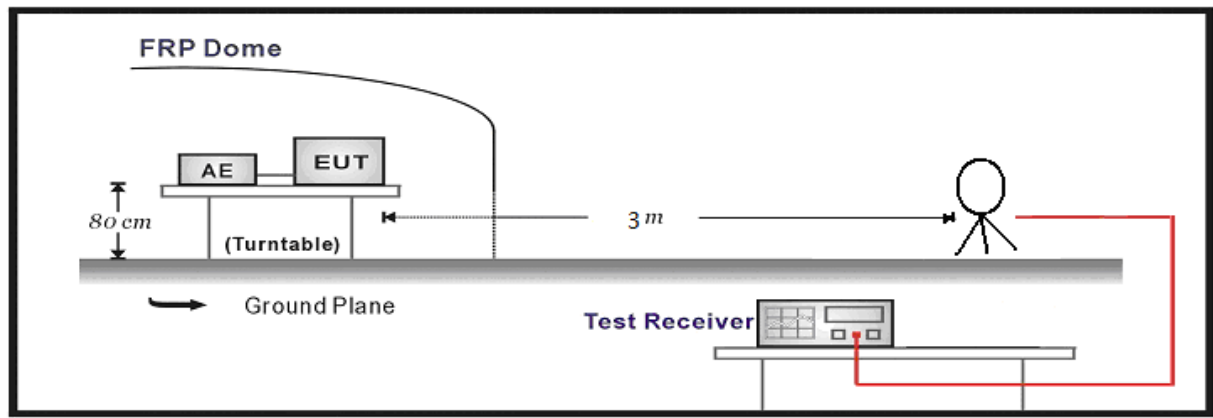
The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading - Correct Factor

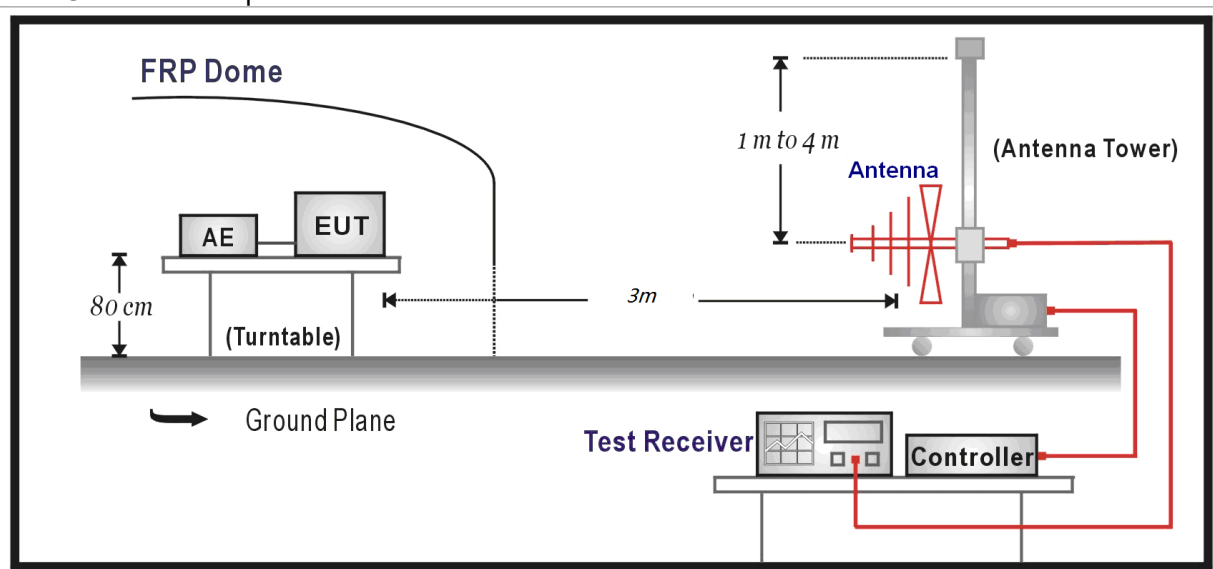
Correct Factor = Preamplifier Factor– Antenna Factor–Cable Factor

Test Setup:

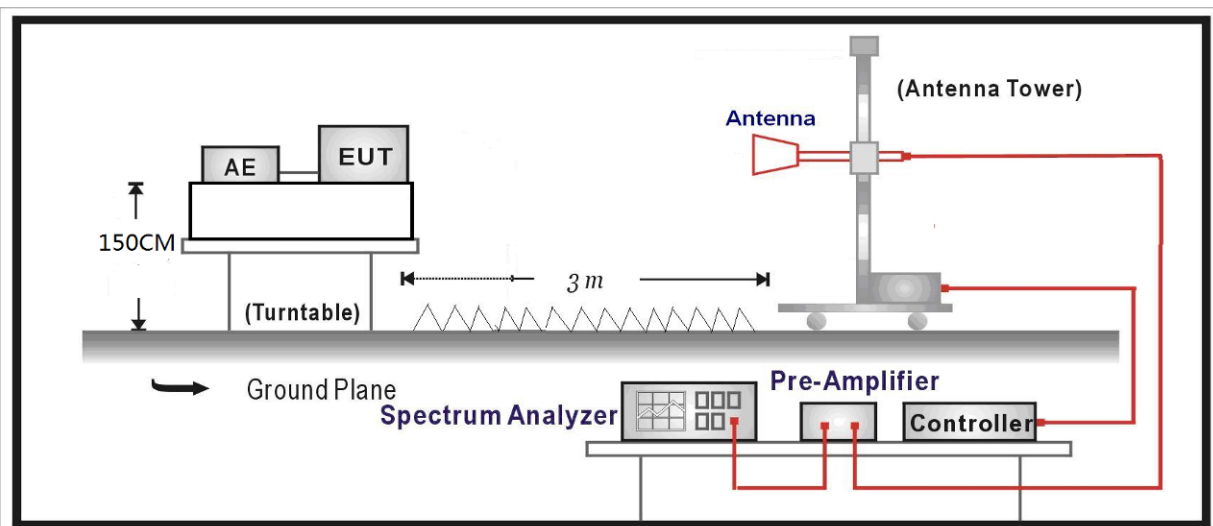
Below 30MHz Test Setup:



Below 1GHz Test Setup:



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

5.2.1 SPURIOUS EMISSIONS:

5.2.1.1 Model: EMC3290-S

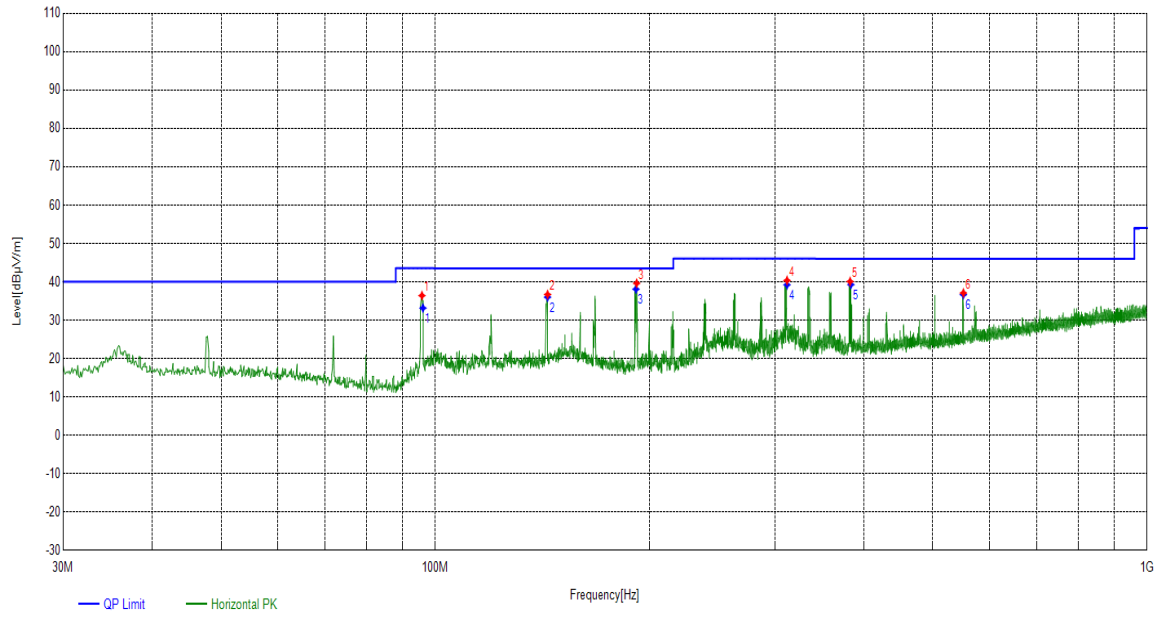
5.2.1.1.1 9kHz~1GHz:

During the test, the Radiates Emission from 9kHz to 1GHz was performed in all modes with all channels and all antennas, 802.11n20, Channel 36, Antenna1 are selected as the worst condition. The test data of the worst-case condition was recorded in this report.

Radiates Emission		9kHz~1GHz							
Test channel		Worst-Case							
Polarity		Horizontal							
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Height [cm]	Angle deg	Pass/Fail
95.7726	15.42	20.98	36.40	43.52	7.12	PK	100	178	PASS
143.7924	20.32	16.37	36.69	43.51	6.82	PK	100	145	PASS
191.8122	17.76	21.85	39.61	43.50	3.89	PK	100	152	PASS
312.0072	21.73	18.62	40.35	46.02	5.67	PK	100	250	PASS
382.6303	23.51	16.56	40.07	46.01	5.94	PK	100	73	PASS
552.0092	27.74	9.35	37.09	46.01	8.92	PK	100	100	PASS

Note: 9kHz~30MHz have been test and test data more than 20dB margin.

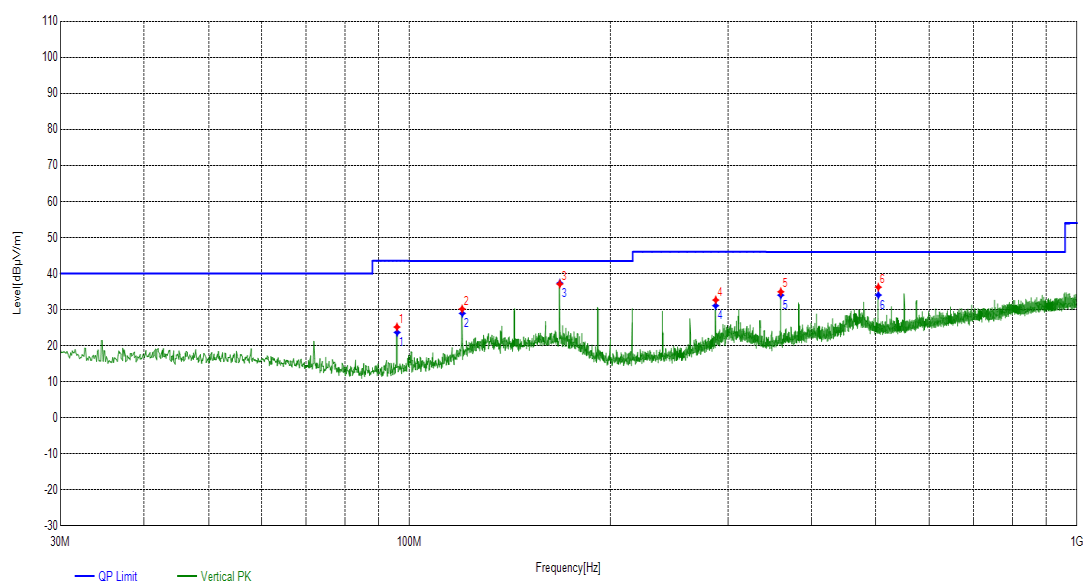
Final Data List							
Frequency [MHz]	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Pass/Fail
96.0844	15.42	33.16	43.52	10.36	220	178	PASS
143.782	20.32	35.99	43.51	7.52	290	145	PASS
191.4235	17.76	38.09	43.50	5.41	160	152	PASS
311.9937	21.73	39.21	46.02	6.81	200	250	PASS
383.6491	23.51	39.26	46.01	6.75	390	73	PASS
551.9853	27.74	36.64	46.01	9.37	240	100	PASS



Radiates Emission		9kHz~1GHz							
Test channel		Worst-Case							
Polarity		Vertical							
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Height [cm]	Angle deg	Pass/Fail
95.7726	15.42	9.75	25.17	43.52	18.35	PK	100	92	PASS
119.928	18.35	11.82	30.17	43.51	13.34	PK	100	79	PASS
167.9478	20.58	16.52	37.10	43.51	6.41	PK	100	138	PASS
287.6578	20.92	11.74	32.66	46.02	13.36	PK	100	53	PASS
360.027	22.94	12.00	34.94	46.01	11.07	PK	100	46	PASS
503.9894	26.72	9.50	36.22	46.01	9.79	PK	100	185	PASS

Note: 9kHz~30MHz have been test and test data more than 20dB margin.

Final Data List							
Frequency [MHz]	Factor [dB]	QP Value [dB μ V/m]	QP Limit [dB μ V/m]	QP Margin [dB]	Height [cm]	Angle [°]	Pass/Fail
95.8391	15.42	23.68	43.52	19.84	240	92	PASS
119.9905	18.35	28.95	43.51	14.56	340	79	PASS
167.9892	20.58	37.34	43.51	6.17	340	138	PASS
287.5246	20.92	31.10	46.02	14.92	340	53	PASS
359.9906	22.94	34.01	46.01	12.00	350	46	PASS
503.9967	26.72	34.04	46.01	11.97	300	185	PASS

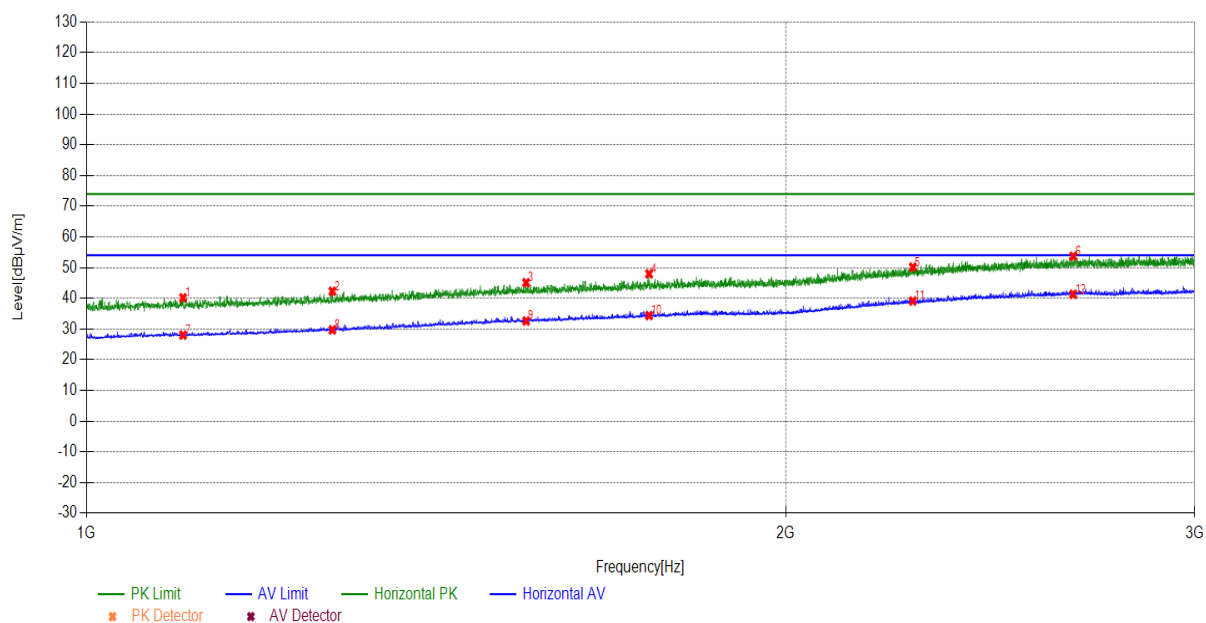


5.2.1.1.2 Above 1GHz:

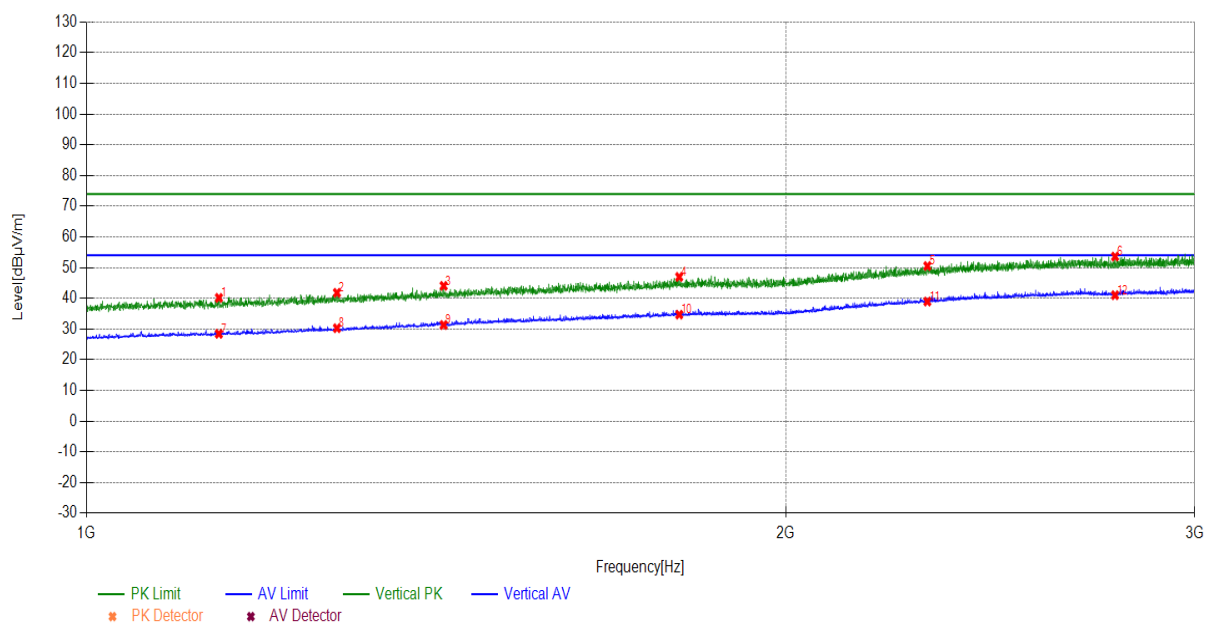
(1) U-NII-1:

During the test, the Radiates Emission from 1GHz to 40GHz was performed in all modes with all channels and all antennas, 802.11n20, Channel 36, Antenna1 are selected as the worst condition. The test data of the worst-case condition was recorded in this report.

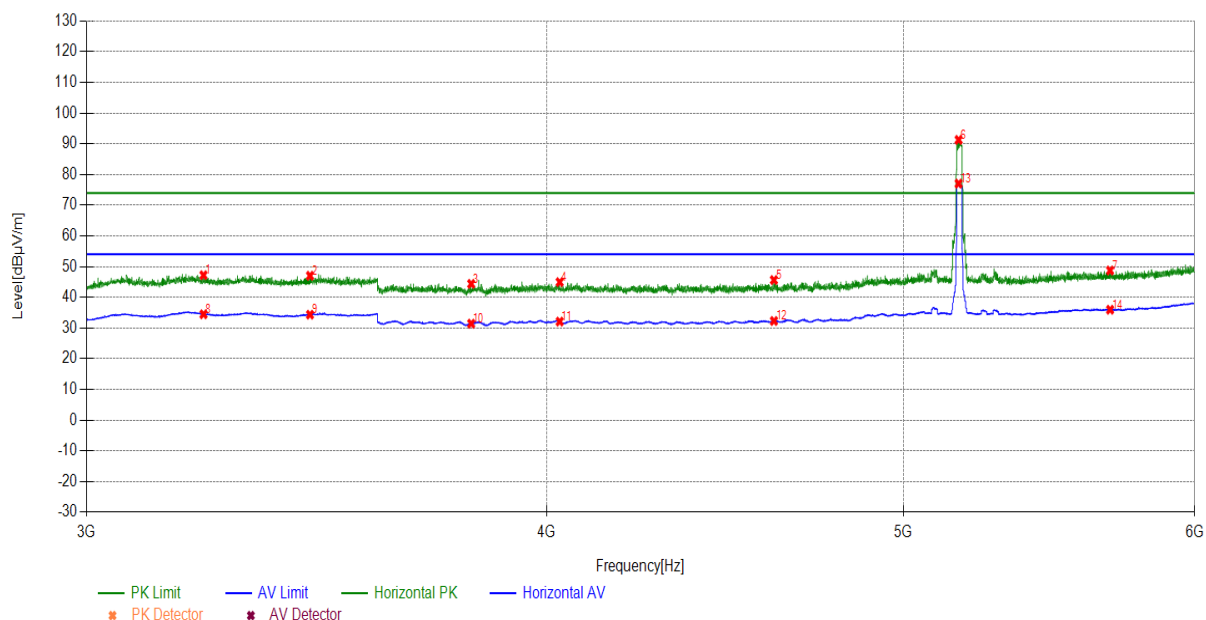
Radiates Emission		1G~3G							
Test channel		Worst-Case							
polarization		Horizontal							
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
1100.41	27.04	13.12	40.16	74.00	33.84	PK	150	100	PASS
1276.0276	28.64	13.66	42.30	74.00	31.70	PK	150	250	PASS
1546.2546	31.20	13.91	45.11	74.00	28.89	PK	150	260	PASS
1746.6747	32.62	15.34	47.96	74.00	26.04	PK	150	60	PASS
2268.7269	36.16	13.99	50.15	74.00	23.85	PK	150	240	PASS
2659.766	38.37	15.32	53.69	74.00	20.31	PK	150	30	PASS
1100.41	27.04	0.98	28.02	54.00	25.98	AV	150	230	PASS
1276.0276	28.64	1.09	29.73	54.00	24.27	AV	150	350	PASS
1546.2546	31.20	1.43	32.63	54.00	21.37	AV	150	260	PASS
1746.6747	32.62	1.77	34.39	54.00	19.61	AV	150	60	PASS
2268.7269	36.16	2.96	39.12	54.00	14.88	AV	150	50	PASS
2659.766	38.37	2.95	41.32	54.00	12.68	AV	150	320	PASS



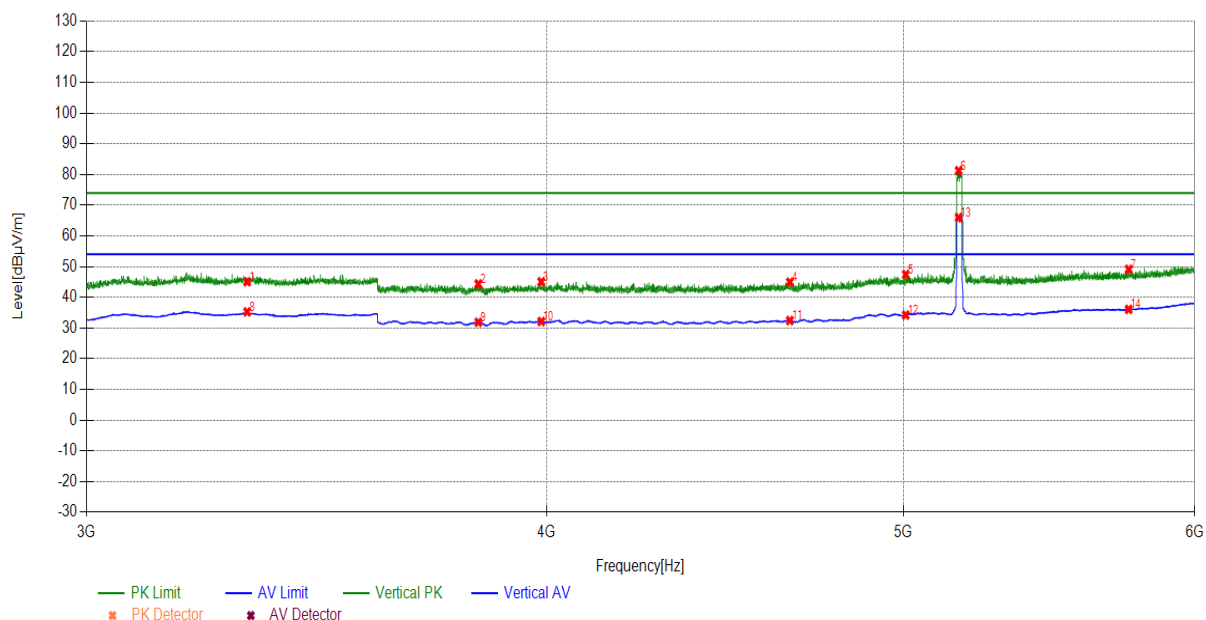
Radiates Emission		1G~3G							
Test channel		Worst-Case							
polarization		Vertical							
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/ m]	Limit [dBμV/ m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
1140.214	27.39	12.75	40.14	74.00	33.86	PK	150	60	PASS
1281.8282	28.69	13.12	41.81	74.00	32.19	PK	150	70	PASS
1424.8425	30.10	13.96	44.06	74.00	29.94	PK	150	140	PASS
1799.68	33.02	13.95	46.97	74.00	27.03	PK	150	120	PASS
2301.7302	36.45	14.07	50.52	74.00	23.48	PK	150	350	PASS
2772.3772	38.71	14.90	53.61	74.00	20.39	PK	150	260	PASS
1140.214	27.39	1.04	28.43	54.00	25.57	AV	150	10	PASS
1281.8282	28.69	1.58	30.27	54.00	23.73	AV	150	280	PASS
1424.8425	30.10	1.22	31.32	54.00	22.68	AV	150	260	PASS
1799.68	33.02	1.67	34.69	54.00	19.31	AV	150	210	PASS
2301.7302	36.45	2.51	38.96	54.00	15.04	AV	150	290	PASS
2772.3772	38.71	2.32	41.03	54.00	12.97	AV	150	360	PASS



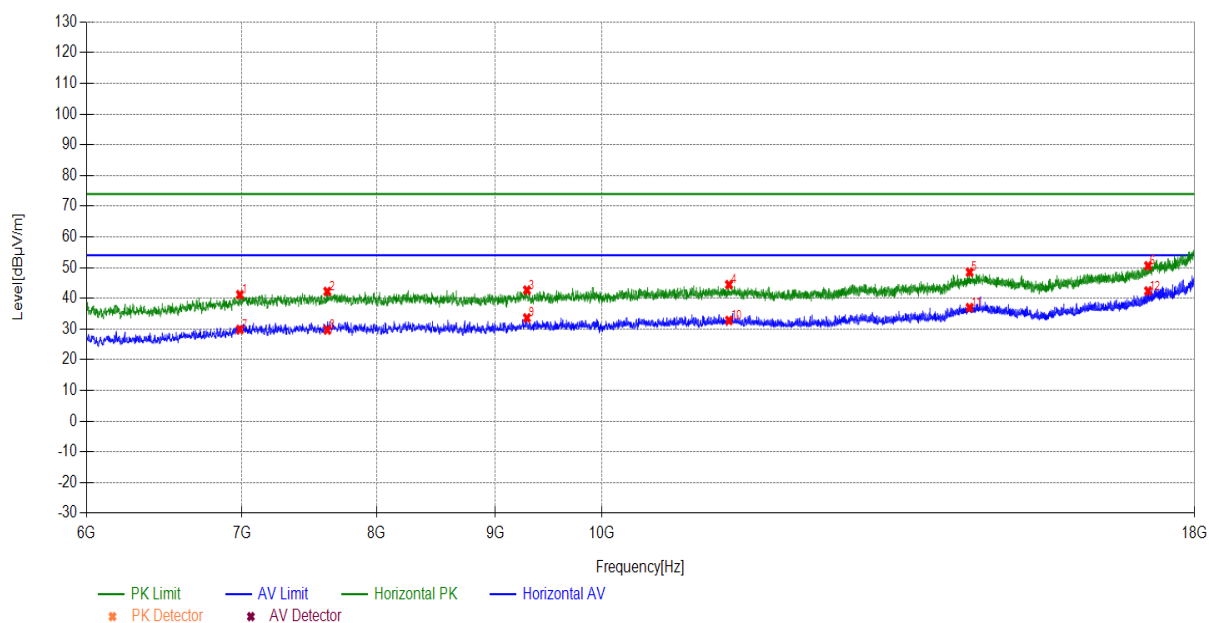
Radiates Emission		3G~6G							
Test channel		Worst-Case							
polarization		Horizontal							
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
3227.7228	-2.22	49.43	47.21	74.00	26.79	PK	150	18	PASS
3450.045	-1.28	48.30	47.02	74.00	26.98	PK	150	137	PASS
3816.0816	-0.51	44.91	44.40	74.00	29.60	PK	150	359	PASS
4033.3033	-0.17	45.12	44.95	74.00	29.05	PK	150	42	PASS
4611.7612	-0.17	45.79	45.62	74.00	28.38	PK	150	317	PASS
5176.4176	2.02	89.26	91.28	74.00	-17.28	PK	150	269	---
5690.9691	3.61	45.13	48.74	74.00	25.26	PK	150	114	PASS
3227.7228	-2.22	36.70	34.48	54.00	19.52	AV	150	78	PASS
3450.045	-1.28	35.63	34.35	54.00	19.65	AV	150	31	PASS
3816.0816	-0.51	31.93	31.42	54.00	22.58	AV	150	352	PASS
4033.3033	-0.17	32.26	32.09	54.00	21.91	AV	150	54	PASS
4611.7612	-0.17	32.48	32.31	54.00	21.69	AV	150	102	PASS
5176.4176	2.02	75.02	77.04	54.00	-23.04	AV	150	245	---
5690.9691	3.61	32.34	35.95	54.00	18.05	AV	150	352	PASS



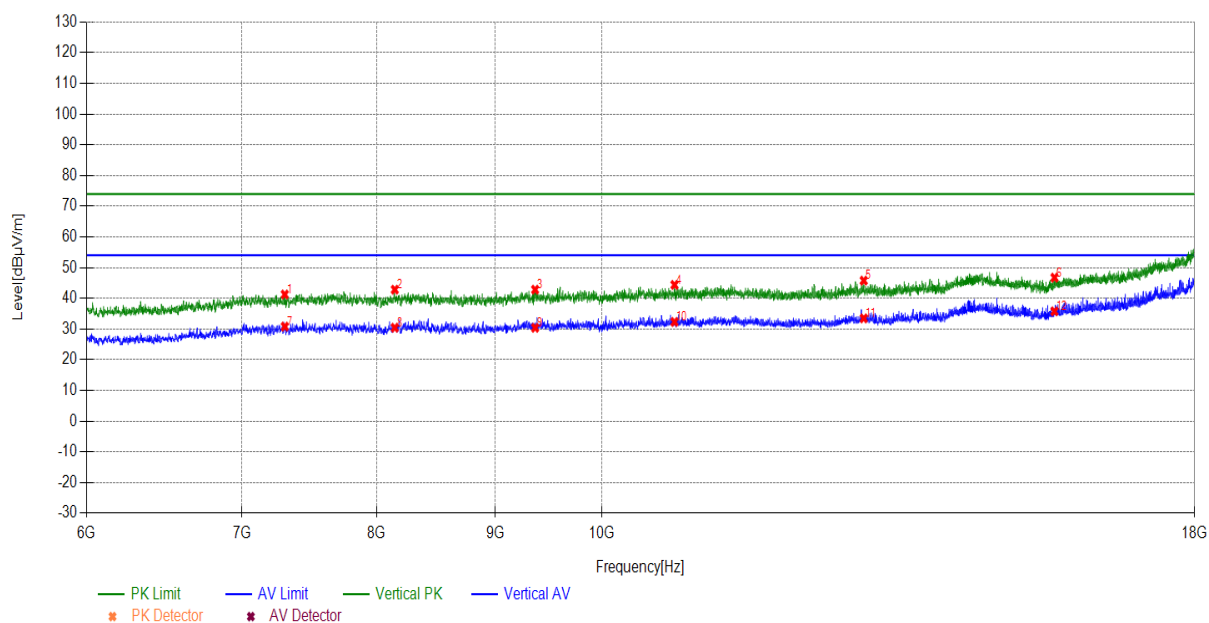
Radiates Emission		3G~6G							
Test channel		Worst-Case							
polarization		Vertical							
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
3317.1317	-1.85	46.93	45.08	74.00	28.92	PK	150	216	PASS
3833.1833	-0.48	44.83	44.35	74.00	29.65	PK	150	324	PASS
3987.0987	-0.16	45.23	45.07	74.00	28.93	PK	150	264	PASS
4657.9658	0.02	44.91	44.93	74.00	29.07	PK	150	276	PASS
5008.1008	1.49	45.96	47.45	74.00	26.55	PK	150	288	PASS
5176.7177	2.02	79.22	81.24	74.00	-7.24	PK	150	204	---
5757.8758	3.92	45.21	49.13	74.00	24.87	PK	150	193	PASS
3317.1317	-1.85	37.09	35.24	54.00	18.76	AV	150	4	PASS
3833.1833	-0.48	32.36	31.88	54.00	22.12	AV	150	311	PASS
3987.0987	-0.16	32.29	32.13	54.00	21.87	AV	150	157	PASS
4657.9658	0.02	32.42	32.44	54.00	21.56	AV	150	4	PASS
5008.1008	1.49	32.73	34.22	54.00	19.78	AV	150	299	PASS
5176.7177	2.02	63.98	66.00	54.00	-12.00	AV	150	264	---
5757.8758	3.92	32.16	36.08	54.00	17.92	AV	150	50	PASS



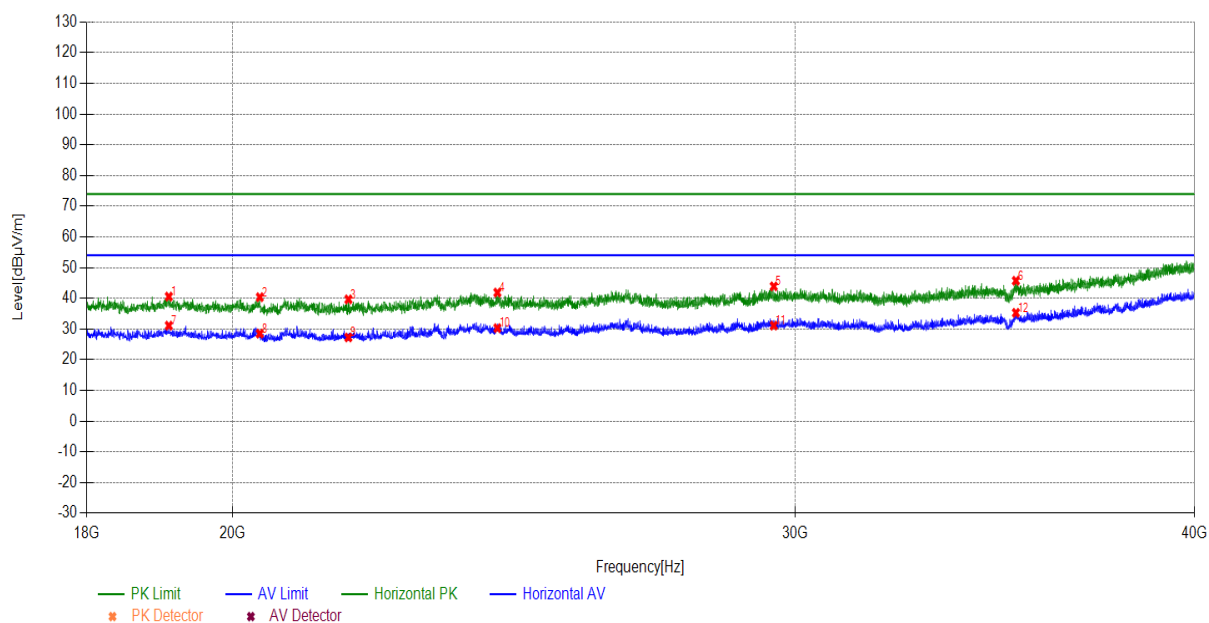
Radiates Emission		6G~18G							
Test channel		Worst-Case							
polarization		Horizontal							
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
6985.2985	7.93	33.26	41.19	74.00	32.81	PK	150	280	PASS
7617.7618	8.36	33.86	42.22	74.00	31.78	PK	150	60	PASS
9284.7285	10.61	32.06	42.67	74.00	31.33	PK	150	110	PASS
11344.1344	11.38	33.08	44.46	74.00	29.54	PK	150	200	PASS
14400.8401	16.93	31.57	48.50	74.00	25.50	PK	150	300	PASS
17188.7189	21.66	28.93	50.59	74.00	23.41	PK	150	220	PASS
6985.2985	7.93	21.91	29.84	54.00	24.16	AV	150	10	PASS
7617.7618	8.36	21.33	29.69	54.00	24.31	AV	150	170	PASS
9284.7285	10.61	23.01	33.62	54.00	20.38	AV	150	10	PASS
11344.1344	11.38	21.39	32.77	54.00	21.23	AV	150	90	PASS
14400.8401	16.93	20.04	36.97	54.00	17.03	AV	150	20	PASS
17188.7189	21.66	20.73	42.39	54.00	11.61	AV	150	10	PASS



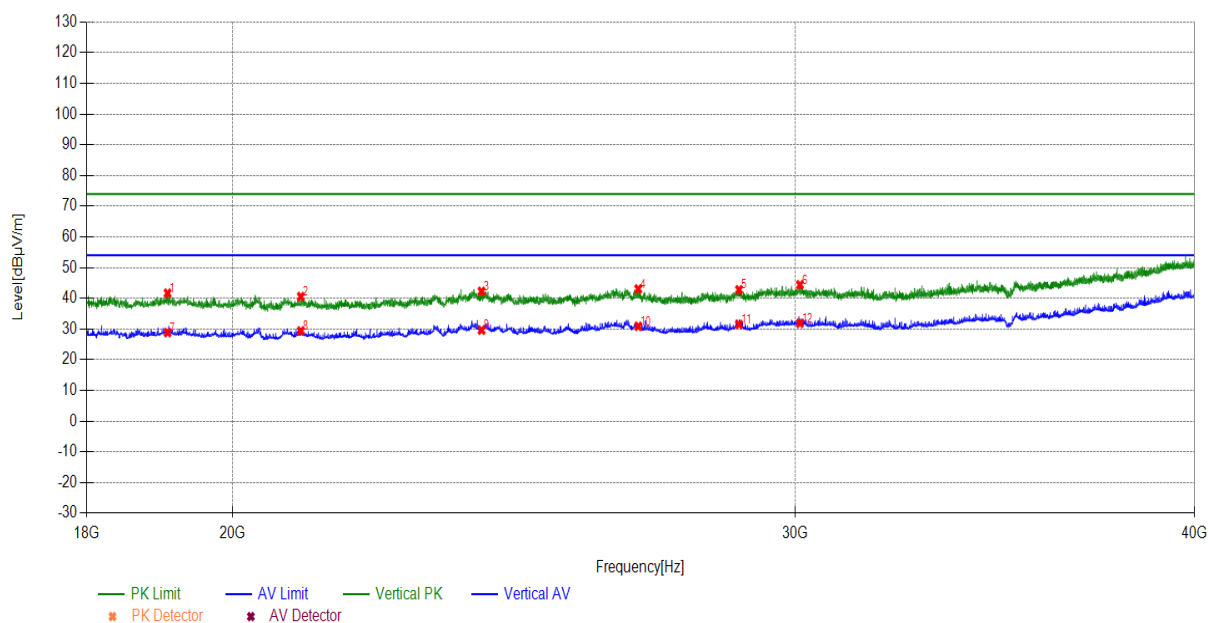
Radiates Emission		6G~18G							
Test channel		Worst-Case							
polarization		Vertical							
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
7303.3303	8.17	33.08	41.25	74.00	32.75	PK	150	40	PASS
8144.6145	8.69	34.13	42.82	74.00	31.18	PK	150	320	PASS
9360.336	10.87	31.96	42.83	74.00	31.17	PK	150	300	PASS
10747.6748	11.82	32.56	44.38	74.00	29.62	PK	150	250	PASS
12965.4966	13.21	32.57	45.78	74.00	28.22	PK	150	100	PASS
15664.5665	15.59	31.14	46.73	74.00	27.27	PK	150	300	PASS
7303.3303	8.17	22.62	30.79	54.00	23.21	AV	150	20	PASS
8144.6145	8.69	21.73	30.42	54.00	23.58	AV	150	360	PASS
9360.336	10.87	19.53	30.40	54.00	23.60	AV	150	300	PASS
10747.6748	11.82	20.50	32.32	54.00	21.68	AV	150	20	PASS
12965.4966	13.21	20.26	33.47	54.00	20.53	AV	150	120	PASS
15664.5665	15.59	20.18	35.77	54.00	18.23	AV	150	10	PASS



Radiates Emission		18G~40G							
Test channel		Worst-Case							
polarization		Horizontal							
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
19100.11	1.34	39.22	40.56	74.00	33.44	PK	150	10	PASS
20393.8394	1.44	38.92	40.36	74.00	33.64	PK	150	20	PASS
21738.1738	1.83	37.82	39.65	74.00	34.35	PK	150	60	PASS
24202.4202	3.78	38.09	41.87	74.00	32.13	PK	150	20	PASS
29535.7536	6.38	37.50	43.88	74.00	30.12	PK	150	50	PASS
35166.1166	6.93	38.79	45.72	74.00	28.28	PK	150	30	PASS
19100.11	1.34	29.76	31.10	54.00	22.90	AV	150	10	PASS
20393.8394	1.44	27.07	28.51	54.00	25.49	AV	150	20	PASS
21738.1738	1.83	25.43	27.26	54.00	26.74	AV	150	60	PASS
24202.4202	3.78	26.51	30.29	54.00	23.71	AV	150	20	PASS
29535.7536	6.38	24.75	31.13	54.00	22.87	AV	150	60	PASS
35166.1166	6.93	28.34	35.27	54.00	18.73	AV	150	10	PASS



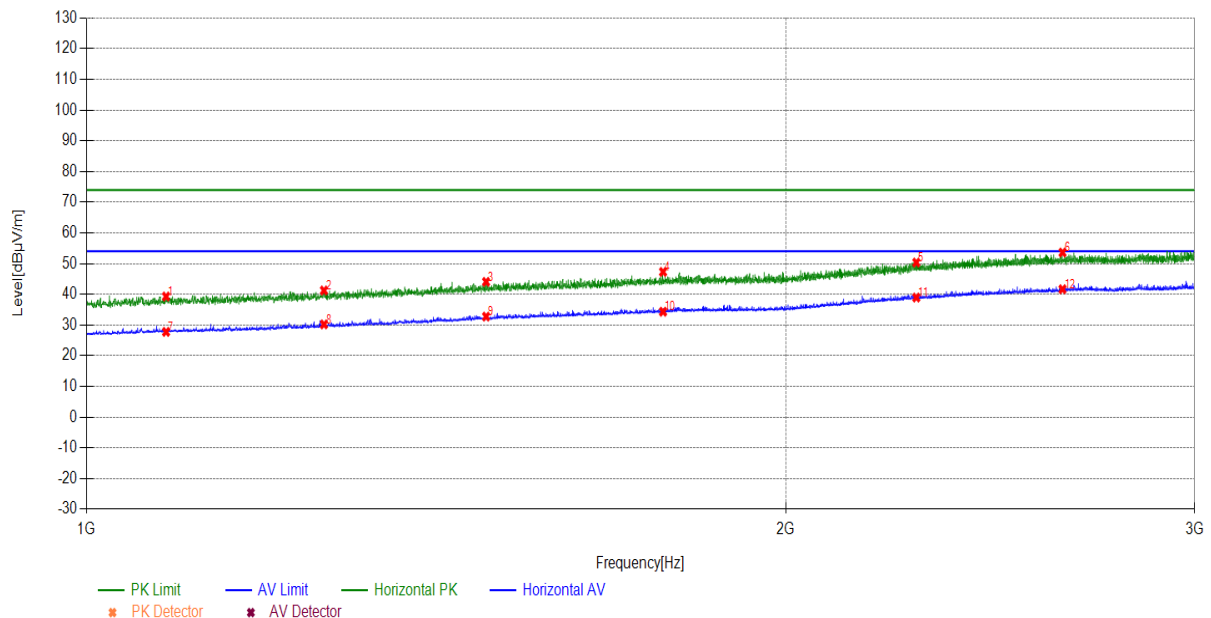
Radiates Emission		18G~40G							
Test channel		Worst-Case							
polarization		Vertical							
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
19082.5083	1.35	40.31	41.66	74.00	32.34	PK	150	60	PASS
21005.5006	1.65	38.90	40.55	74.00	33.45	PK	150	30	PASS
23927.3927	3.64	38.63	42.27	74.00	31.73	PK	150	310	PASS
26787.6788	4.82	38.22	43.04	74.00	30.96	PK	150	280	PASS
28805.2805	5.88	36.90	42.78	74.00	31.22	PK	150	260	PASS
30099.0099	6.66	37.74	44.40	74.00	29.60	PK	150	280	PASS
19082.5083	1.35	27.50	28.85	54.00	25.15	AV	150	260	PASS
21005.5006	1.65	27.72	29.37	54.00	24.63	AV	150	10	PASS
23927.3927	3.64	26.00	29.64	54.00	24.36	AV	150	150	PASS
26787.6788	4.82	26.06	30.88	54.00	23.12	AV	150	340	PASS
28805.2805	5.88	25.62	31.50	54.00	22.50	AV	150	150	PASS
30099.0099	6.66	25.22	31.88	54.00	22.12	AV	150	20	PASS



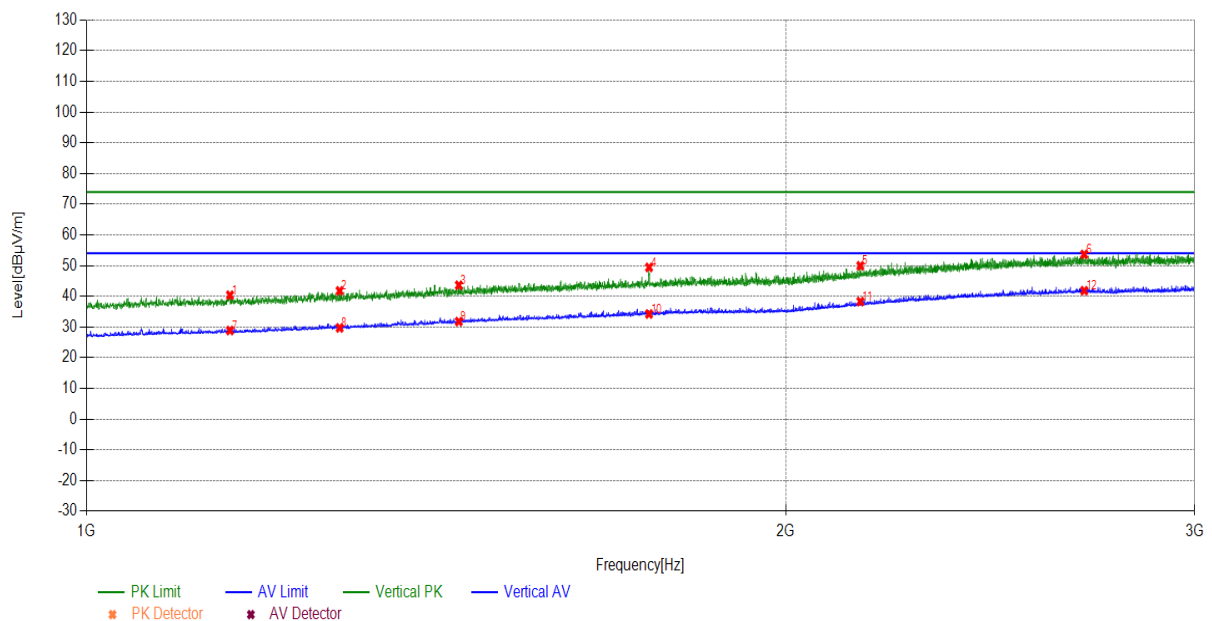
(2) U-NII-2A:

During the test, the Radiates Emission from 1GHz to 40GHz was performed in all modes with all channels and all antennas, 802.11n20, Channel 64, Antenna1 are selected as the worst condition. The test data of the worst-case condition was recorded in this report.

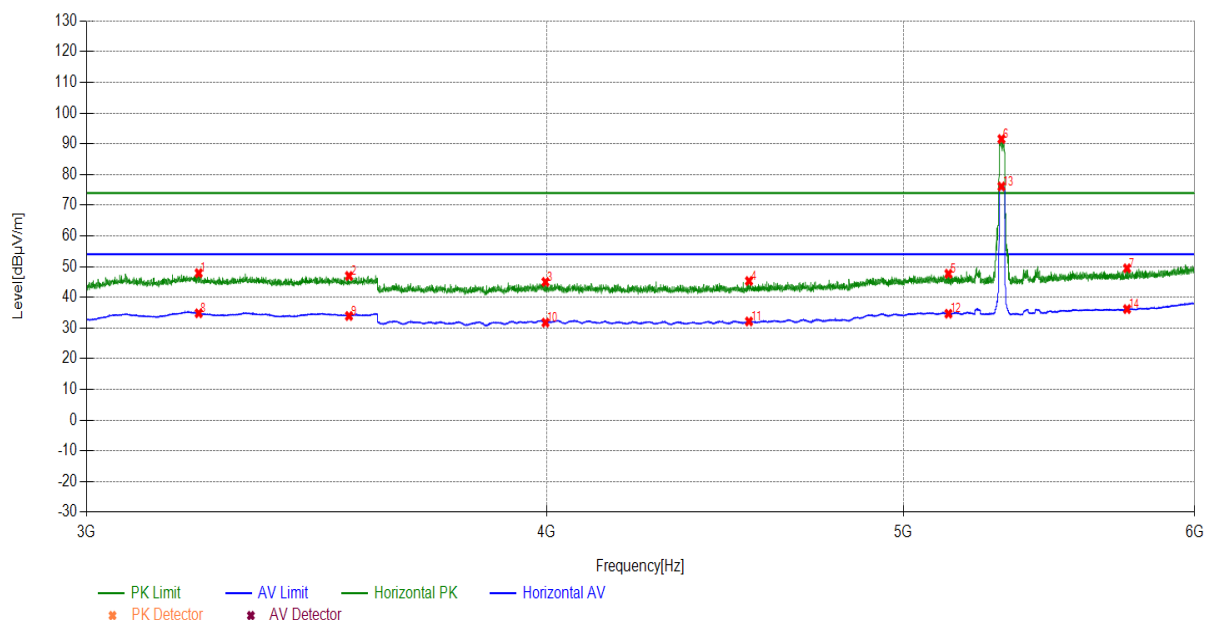
Radiates Emission		1G~3G							
Test channel		Worst-Case							
polarization		Horizontal							
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
1082.0082	26.88	12.42	39.30	74.00	34.70	PK	150	30	PASS
1265.4265	28.54	12.71	41.25	74.00	32.75	PK	150	10	PASS
1486.0486	30.79	13.27	44.06	74.00	29.94	PK	150	200	PASS
1771.0771	32.80	14.50	47.30	74.00	26.70	PK	150	30	PASS
2276.5277	36.23	14.12	50.35	74.00	23.65	PK	150	60	PASS
2631.7632	38.29	15.33	53.62	74.00	20.38	PK	150	200	PASS
1082.0082	26.88	0.88	27.76	54.00	26.24	AV	150	360	PASS
1265.4265	28.54	1.67	30.21	54.00	23.79	AV	150	10	PASS
1486.0486	30.79	1.96	32.75	54.00	21.25	AV	150	10	PASS
1771.0771	32.80	1.54	34.34	54.00	19.66	AV	150	270	PASS
2276.5277	36.23	2.73	38.96	54.00	15.04	AV	150	20	PASS
2631.7632	38.29	3.36	41.65	54.00	12.35	AV	150	10	PASS



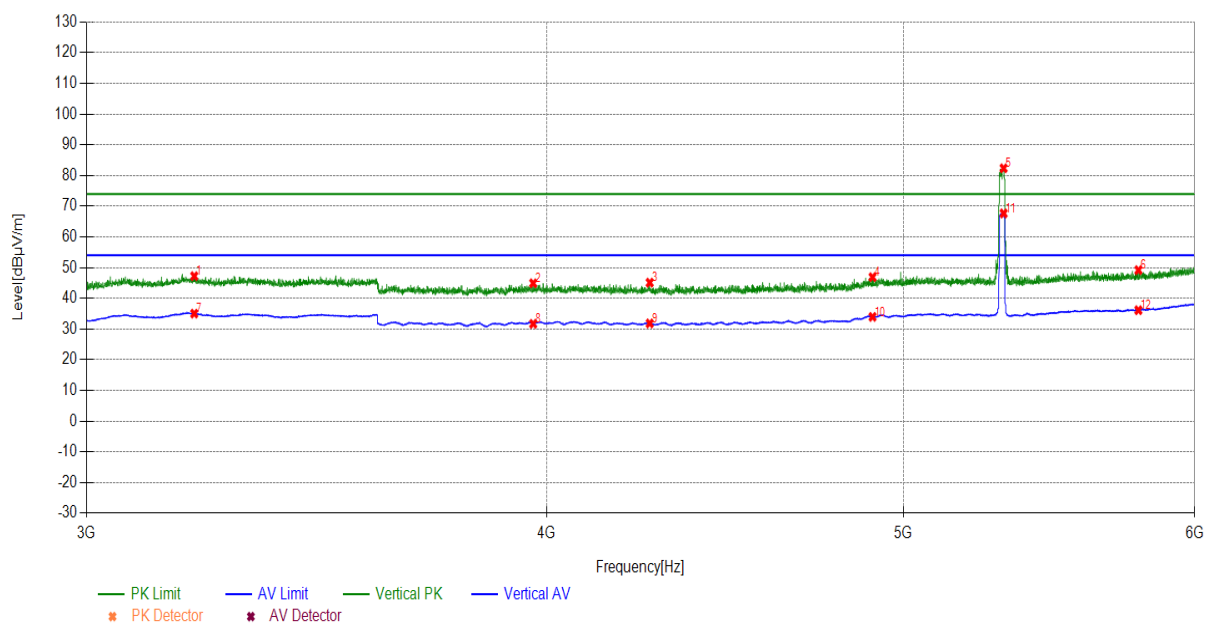
Radiates Emission		1G~3G							
Test channel		Worst-Case							
polarization		Vertical							
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
1152.8153	27.50	12.87	40.37	74.00	33.63	PK	150	190	PASS
1285.2285	28.73	13.05	41.78	74.00	32.22	PK	150	310	PASS
1446.4446	30.34	13.27	43.61	74.00	30.39	PK	150	290	PASS
1746.6747	32.62	16.79	49.41	74.00	24.59	PK	150	360	PASS
2153.7154	34.98	14.97	49.95	74.00	24.05	PK	150	240	PASS
2688.7689	38.46	15.19	53.65	74.00	20.35	PK	150	40	PASS
1152.8153	27.50	1.36	28.86	54.00	25.14	AV	150	200	PASS
1285.2285	28.73	0.97	29.70	54.00	24.30	AV	150	100	PASS
1446.4446	30.34	1.43	31.77	54.00	22.23	AV	150	360	PASS
1746.6747	32.62	1.62	34.24	54.00	19.76	AV	150	360	PASS
2153.7154	34.98	3.32	38.30	54.00	15.70	AV	150	10	PASS
2688.9689	38.46	3.38	41.84	54.00	12.16	AV	150	10	PASS



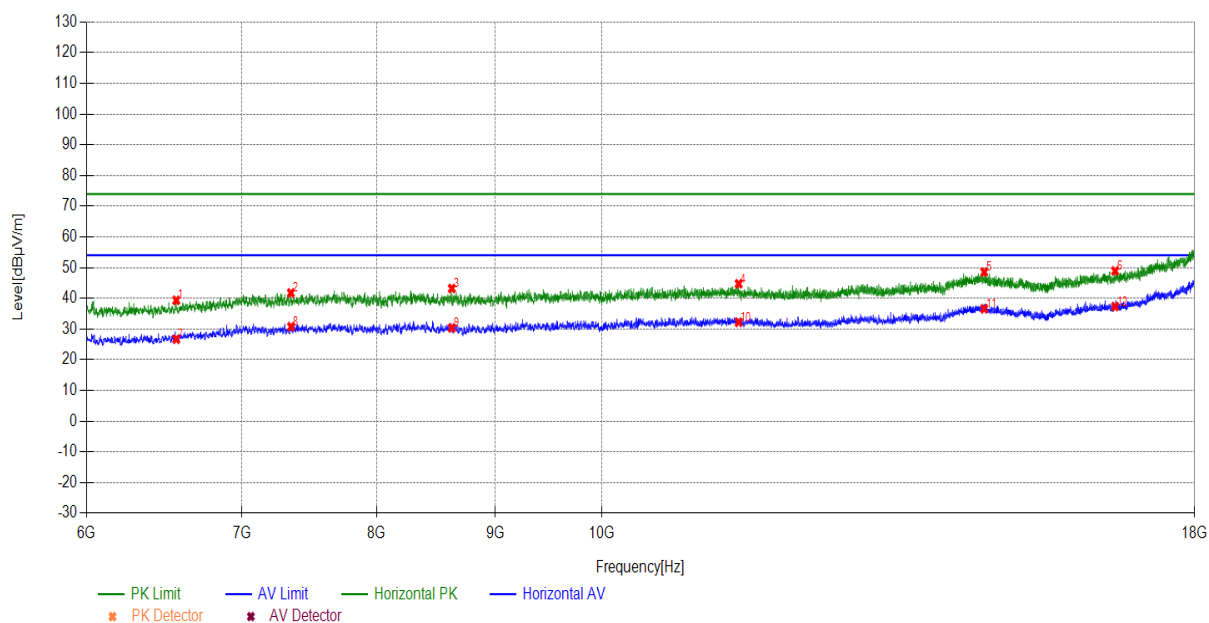
Radiates Emission		3G~6G							
Test channel		Worst-Case							
polarization		Horizontal							
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
3218.1218	-2.26	50.14	47.88	74.00	26.12	PK	150	280	PASS
3535.2535	-0.98	47.94	46.96	74.00	27.04	PK	150	243	PASS
3997.5998	-0.13	45.14	45.01	74.00	28.99	PK	150	220	PASS
4540.354	-0.47	45.78	45.31	74.00	28.69	PK	150	113	PASS
5143.7144	1.91	45.76	47.67	74.00	26.33	PK	150	280	PASS
5317.1317	2.33	89.22	91.55	74.00	-17.55	PK	150	280	---
5751.5752	3.89	45.56	49.45	74.00	24.55	PK	150	291	PASS
3218.1218	-2.26	37.05	34.79	54.00	19.21	AV	150	196	PASS
3535.2535	-0.98	34.90	33.92	54.00	20.08	AV	150	196	PASS
3997.5998	-0.13	31.89	31.76	54.00	22.24	AV	150	256	PASS
4540.354	-0.47	32.60	32.13	54.00	21.87	AV	150	148	PASS
5143.7144	1.91	32.74	34.65	54.00	19.35	AV	150	17	PASS
5317.1317	2.33	73.78	76.11	54.00	-22.11	AV	150	17	---
5751.5752	3.89	32.27	36.16	54.00	17.84	AV	150	41	PASS



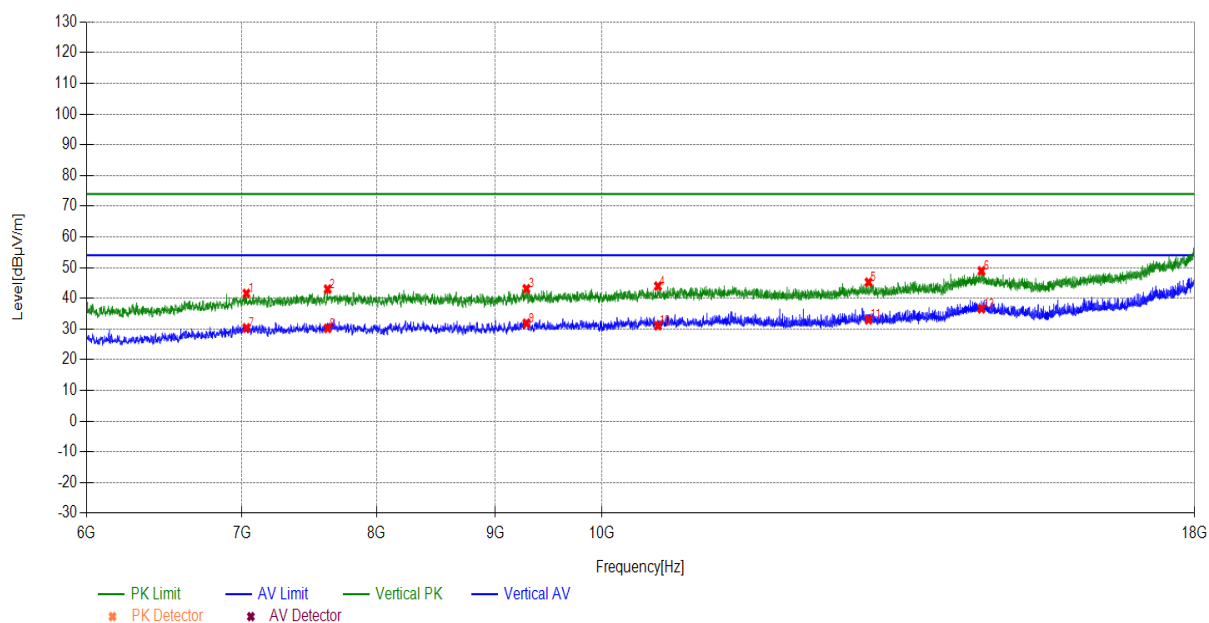
Radiates Emission		3G~6G							
Test channel		Worst-Case							
polarization		Vertical							
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
3209.1209	-2.29	49.52	47.23	74.00	26.77	PK	150	154	PASS
3966.9967	-0.20	45.11	44.91	74.00	29.09	PK	150	178	PASS
4267.0267	-0.43	45.54	45.11	74.00	28.89	PK	150	3	PASS
4905.1905	1.05	45.85	46.90	74.00	27.10	PK	150	355	PASS
5324.3324	2.35	80.02	82.37	74.00	-8.37	PK	150	333	---
5792.6793	4.07	45.11	49.18	74.00	24.82	PK	150	321	PASS
3209.1209	-2.29	37.30	35.01	54.00	18.99	AV	150	36	PASS
3966.9967	-0.20	31.90	31.70	54.00	22.30	AV	150	143	PASS
4267.0267	-0.43	32.27	31.84	54.00	22.16	AV	150	12	PASS
4905.1905	1.05	32.90	33.95	54.00	20.05	AV	150	23	PASS
5324.3324	2.35	65.31	67.66	54.00	-13.66	AV	150	345	---
5792.6793	4.07	32.07	36.14	54.00	17.86	AV	150	12	PASS



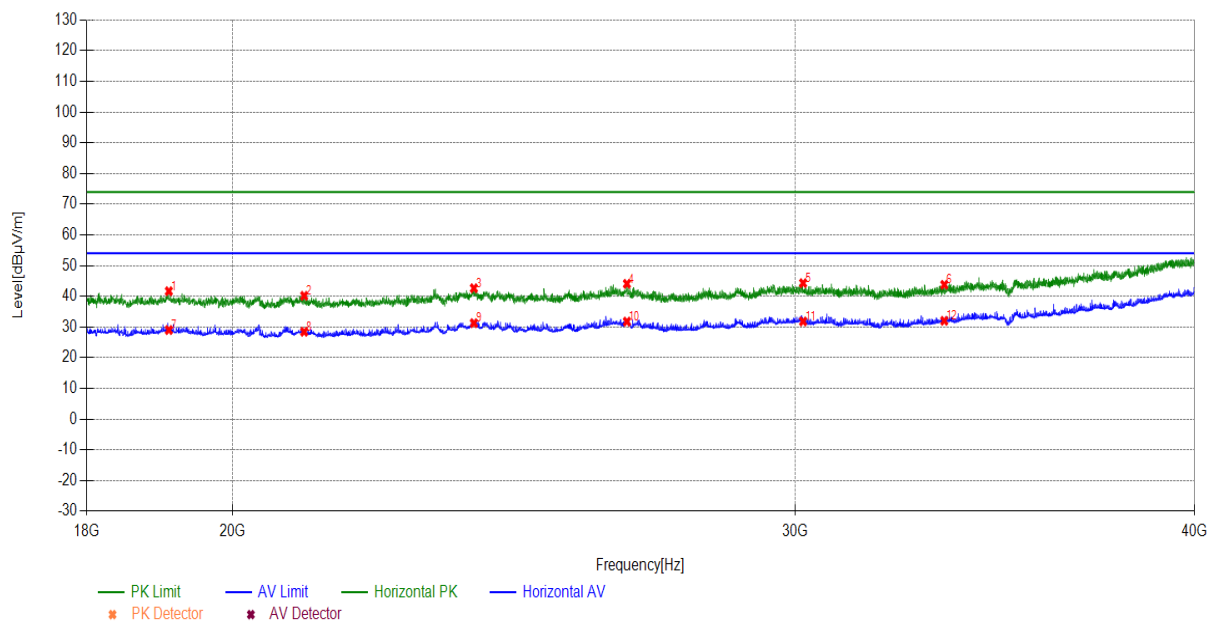
Radiates Emission		6G~18G							
Test channel		Worst-Case							
polarization		Horizontal							
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
6558.0558	5.75	33.61	39.36	74.00	34.64	PK	150	70	PASS
7347.7348	8.21	33.54	41.75	74.00	32.25	PK	150	180	PASS
8618.6619	9.20	34.00	43.20	74.00	30.80	PK	150	50	PASS
11453.3453	11.25	33.49	44.74	74.00	29.26	PK	150	330	PASS
14610.8611	17.11	31.45	48.56	74.00	25.44	PK	150	280	PASS
16635.4635	18.34	30.58	48.92	74.00	25.08	PK	150	170	PASS
6558.0558	5.75	20.94	26.69	54.00	27.31	AV	150	350	PASS
7348.9349	8.21	22.56	30.77	54.00	23.23	AV	150	10	PASS
8618.6619	9.20	21.19	30.39	54.00	23.61	AV	150	210	PASS
11453.3453	11.25	20.94	32.19	54.00	21.81	AV	150	160	PASS
14610.8611	17.11	19.48	36.59	54.00	17.41	AV	150	90	PASS
16635.4635	18.34	18.98	37.32	54.00	16.68	AV	150	30	PASS



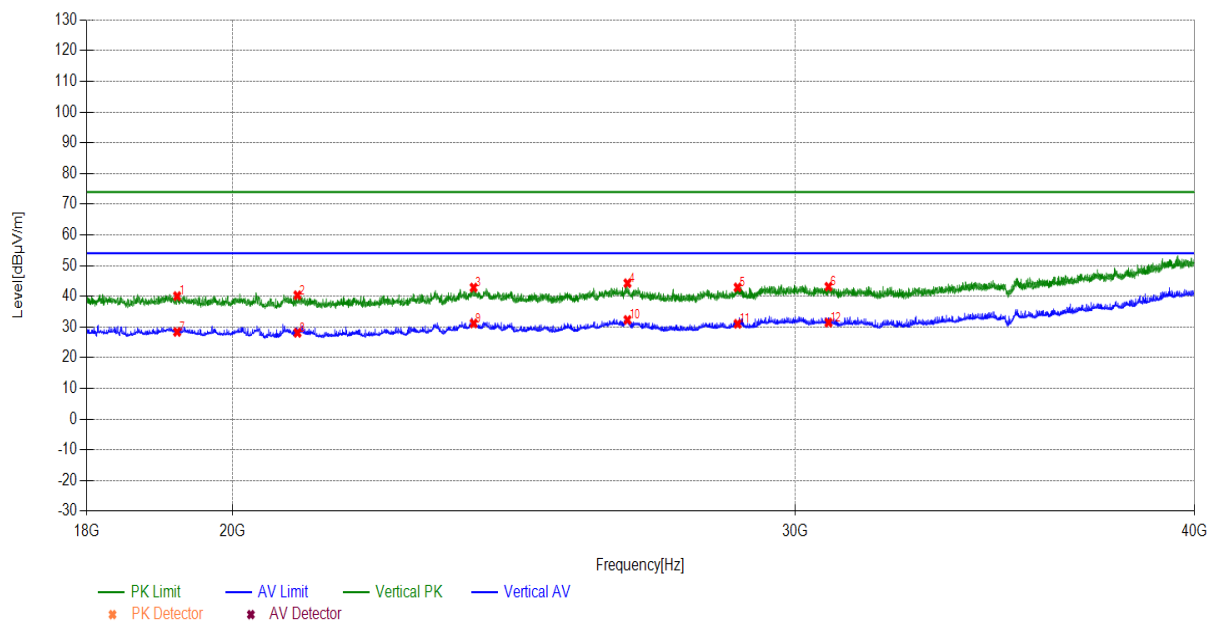
Radiates Emission		6G~18G							
Test channel		Worst-Case							
polarization		Vertical							
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
7030.9031	8.02	33.56	41.58	74.00	32.42	PK	150	70	PASS
7620.162	8.36	34.62	42.98	74.00	31.02	PK	150	250	PASS
9279.928	10.59	32.52	43.11	74.00	30.89	PK	150	360	PASS
10572.4572	11.88	32.10	43.98	74.00	30.02	PK	150	340	PASS
13027.9028	13.29	31.96	45.25	74.00	28.75	PK	150	30	PASS
14571.2571	17.20	31.71	48.91	74.00	25.09	PK	150	330	PASS
7030.9031	8.02	22.33	30.35	54.00	23.65	AV	150	20	PASS
7620.162	8.36	21.86	30.22	54.00	23.78	AV	150	50	PASS
9279.928	10.59	21.28	31.87	54.00	22.13	AV	150	10	PASS
10572.4572	11.88	19.21	31.09	54.00	22.91	AV	150	360	PASS
13027.9028	13.29	19.72	33.01	54.00	20.99	AV	150	20	PASS
14571.2571	17.20	19.39	36.59	54.00	17.41	AV	150	20	PASS



Radiates Emission		18G~40G							
Test channel		Worst-Case							
polarization		Horizontal							
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/ m]	Limit [dBμV/ m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
19100.11	1.34	40.34	41.68	74.00	32.32	PK	150	210	PASS
21056.1056	1.66	38.52	40.18	74.00	33.82	PK	150	20	PASS
23795.3795	3.54	39.10	42.64	74.00	31.36	PK	150	310	PASS
26569.857	4.73	39.35	44.08	74.00	29.92	PK	150	290	PASS
30167.2167	6.62	37.67	44.29	74.00	29.71	PK	150	210	PASS
33397.1397	6.42	37.33	43.75	74.00	30.25	PK	150	240	PASS
19100.11	1.34	27.68	29.02	54.00	24.98	AV	150	270	PASS
21056.1056	1.66	26.80	28.46	54.00	25.54	AV	150	200	PASS
23795.3795	3.54	27.72	31.26	54.00	22.74	AV	150	30	PASS
26569.857	4.73	27.04	31.77	54.00	22.23	AV	150	250	PASS
30167.2167	6.62	25.19	31.81	54.00	22.19	AV	150	220	PASS
33397.1397	6.42	25.60	32.02	54.00	21.98	AV	150	200	PASS



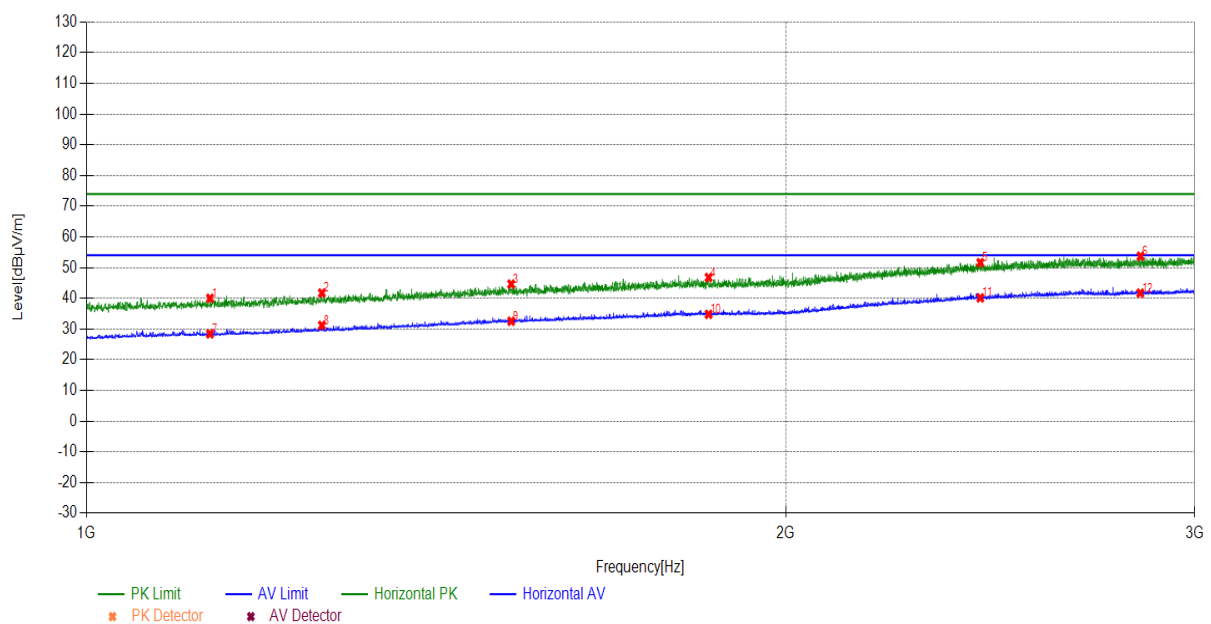
Radiates Emission		18G~40G							
Test channel		Worst-Case							
polarization		Vertical							
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/ m]	Limit [dBμV/ m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
19214.5215	1.34	38.74	40.08	74.00	33.92	PK	150	220	PASS
20954.8955	1.63	38.71	40.34	74.00	33.66	PK	150	150	PASS
23790.9791	3.53	39.32	42.85	74.00	31.15	PK	150	200	PASS
26580.8581	4.73	39.53	44.26	74.00	29.74	PK	150	130	PASS
28776.6777	5.87	37.05	42.92	74.00	31.08	PK	150	150	PASS
30723.8724	6.37	36.77	43.14	74.00	30.86	PK	150	90	PASS
19214.5215	1.34	27.06	28.40	54.00	25.60	AV	150	340	PASS
20954.8955	1.63	26.48	28.11	54.00	25.89	AV	150	300	PASS
23790.9791	3.53	27.66	31.19	54.00	22.81	AV	150	10	PASS
26580.8581	4.73	27.58	32.31	54.00	21.69	AV	150	10	PASS
28776.6777	5.87	25.17	31.04	54.00	22.96	AV	150	160	PASS
30723.8724	6.37	25.09	31.46	54.00	22.54	AV	150	350	PASS



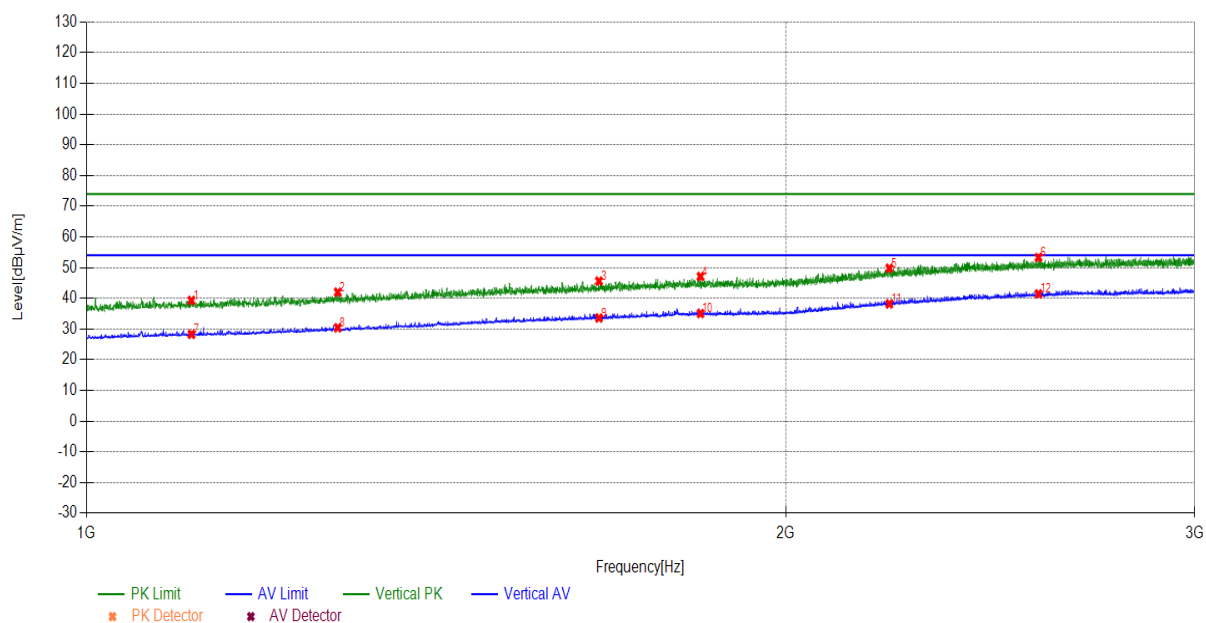
(3) U-NII-3:

During the test, the Radiates Emission from 1GHz to 40GHz was performed in all modes with all channels and all antennas, 802.11n20, Channel 149, Antenna1 are selected as the worst condition. The test data of the worst-case condition was recorded in this report.

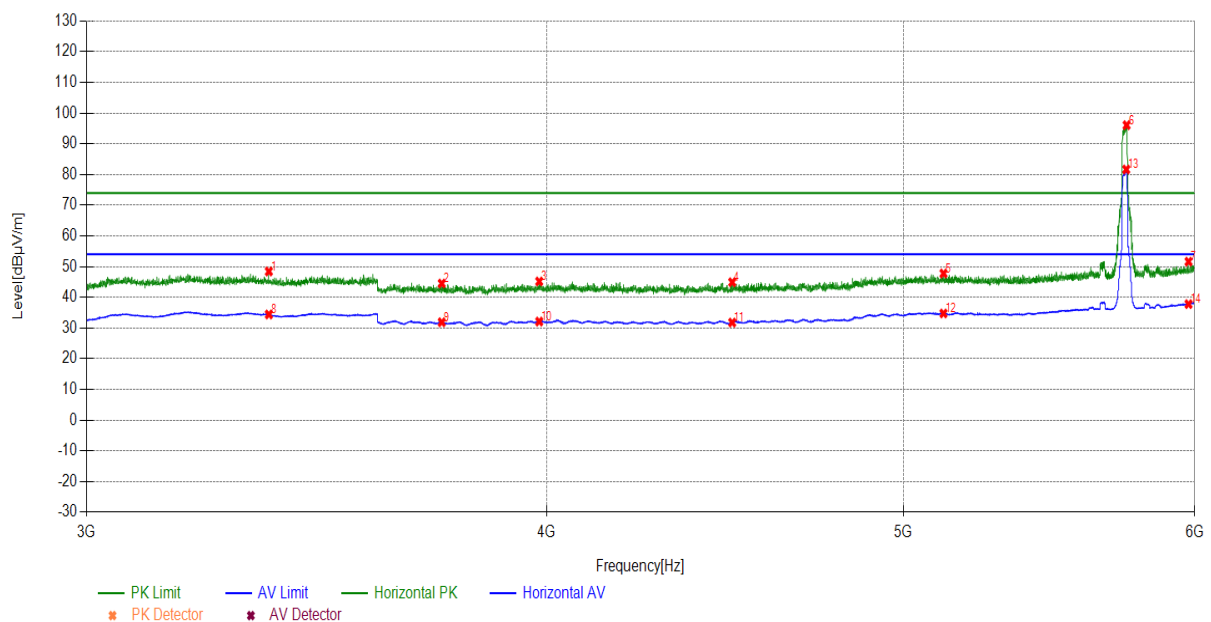
Radiates Emission		1G~3G							
Test channel		Worst-Case							
polarization		Horizontal							
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/ m]	Limit [dBμV/ m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
1130.213	27.30	12.70	40.00	74.00	34.00	PK	150	270	PASS
1262.8263	28.51	13.23	41.74	74.00	32.26	PK	150	60	PASS
1523.4523	31.08	13.56	44.64	74.00	29.36	PK	150	160	PASS
1852.8853	33.05	13.73	46.78	74.00	27.22	PK	150	160	PASS
2425.7426	37.45	14.16	51.61	74.00	22.39	PK	150	20	PASS
2843.1843	38.93	14.79	53.72	74.00	20.28	PK	150	270	PASS
1130.213	27.30	1.14	28.44	54.00	25.56	AV	150	10	PASS
1262.8263	28.51	2.69	31.20	54.00	22.80	AV	150	10	PASS
1523.4523	31.08	1.47	32.55	54.00	21.45	AV	150	350	PASS
1852.8853	33.05	1.74	34.79	54.00	19.21	AV	150	260	PASS
2425.7426	37.45	2.70	40.15	54.00	13.85	AV	150	40	PASS
2842.7843	38.93	2.77	41.70	54.00	12.30	AV	150	310	PASS



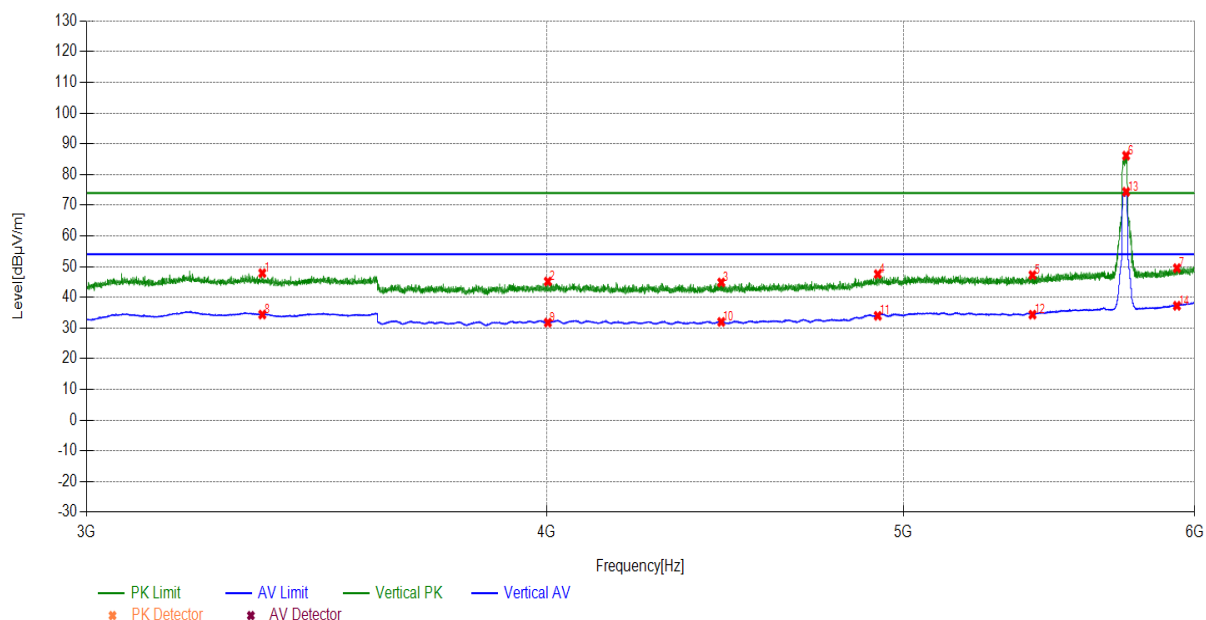
Radiates Emission		1G~3G							
Test channel		Worst-Case							
polarization		Vertical							
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/ m]	Limit [dBμV/ m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
1109.611	27.12	12.19	39.31	74.00	34.69	PK	150	200	PASS
1282.8283	28.70	13.30	42.00	74.00	32.00	PK	150	290	PASS
1662.0662	31.97	13.64	45.61	74.00	28.39	PK	150	130	PASS
1838.0838	33.04	14.06	47.10	74.00	26.90	PK	150	350	PASS
2216.5217	35.69	14.09	49.78	74.00	24.22	PK	150	290	PASS
2569.757	38.07	15.23	53.30	74.00	20.70	PK	150	210	PASS
1109.611	27.12	1.15	28.27	54.00	25.73	AV	150	10	PASS
1282.8283	28.70	1.70	30.40	54.00	23.60	AV	150	10	PASS
1662.0662	31.97	1.64	33.61	54.00	20.39	AV	150	300	PASS
1838.0838	33.04	2.00	35.04	54.00	18.96	AV	150	110	PASS
2216.5217	35.69	2.50	38.19	54.00	15.81	AV	150	70	PASS
2569.757	38.07	3.40	41.47	54.00	12.53	AV	150	10	PASS



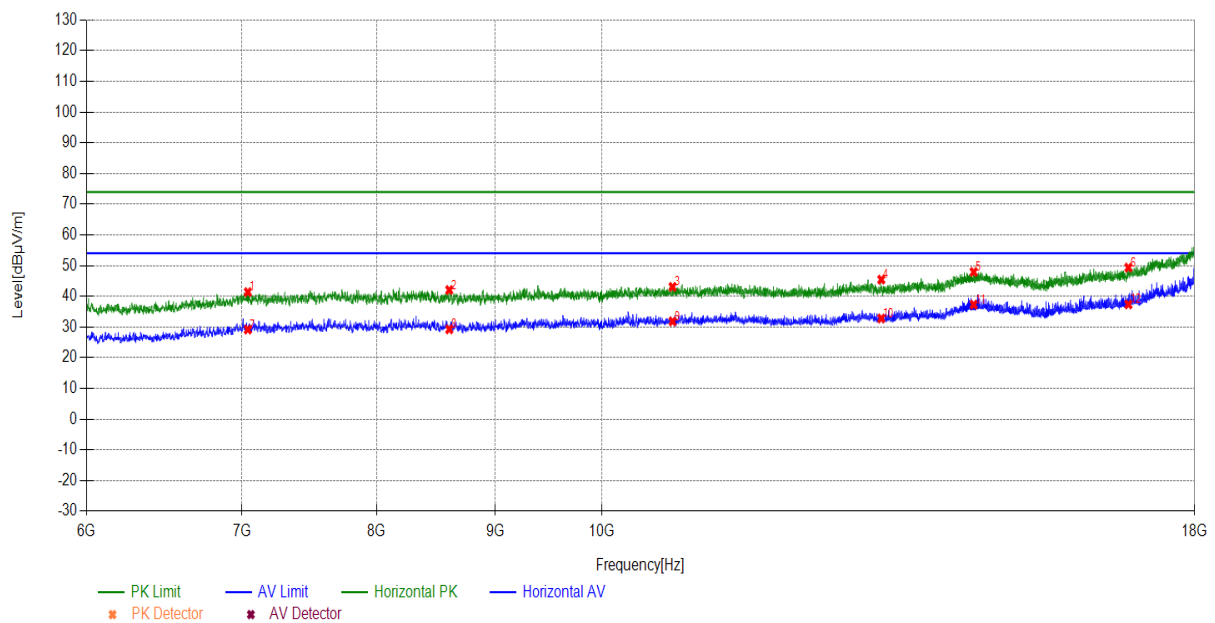
Radiates Emission		3G~6G							
Test channel		Worst-Case							
polarization		Horizontal							
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
3362.4362	-1.66	50.09	48.43	74.00	25.57	PK	150	78	PASS
3746.4746	-0.62	45.12	44.50	74.00	29.50	PK	150	137	PASS
3981.9982	-0.17	45.36	45.19	74.00	28.81	PK	150	137	PASS
4492.9493	-0.64	45.55	44.91	74.00	29.09	PK	150	256	PASS
5127.8128	1.86	45.90	47.76	74.00	26.24	PK	150	66	PASS
5750.075	3.88	92.20	96.08	74.00	-22.08	PK	150	280	---
5977.1977	4.86	46.77	51.63	74.00	22.37	PK	150	66	PASS
3362.4362	-1.66	36.07	34.41	54.00	19.59	AV	150	54	PASS
3746.4746	-0.62	32.50	31.88	54.00	22.12	AV	150	7	PASS
3981.9982	-0.17	32.29	32.12	54.00	21.88	AV	150	360	PASS
4492.9493	-0.64	32.42	31.78	54.00	22.22	AV	150	161	PASS
5127.8128	1.86	32.89	34.75	54.00	19.25	AV	150	113	PASS
5748.8749	3.87	77.77	81.64	54.00	-27.64	AV	150	327	---
5977.1977	4.86	32.93	37.79	54.00	16.21	AV	150	66	PASS



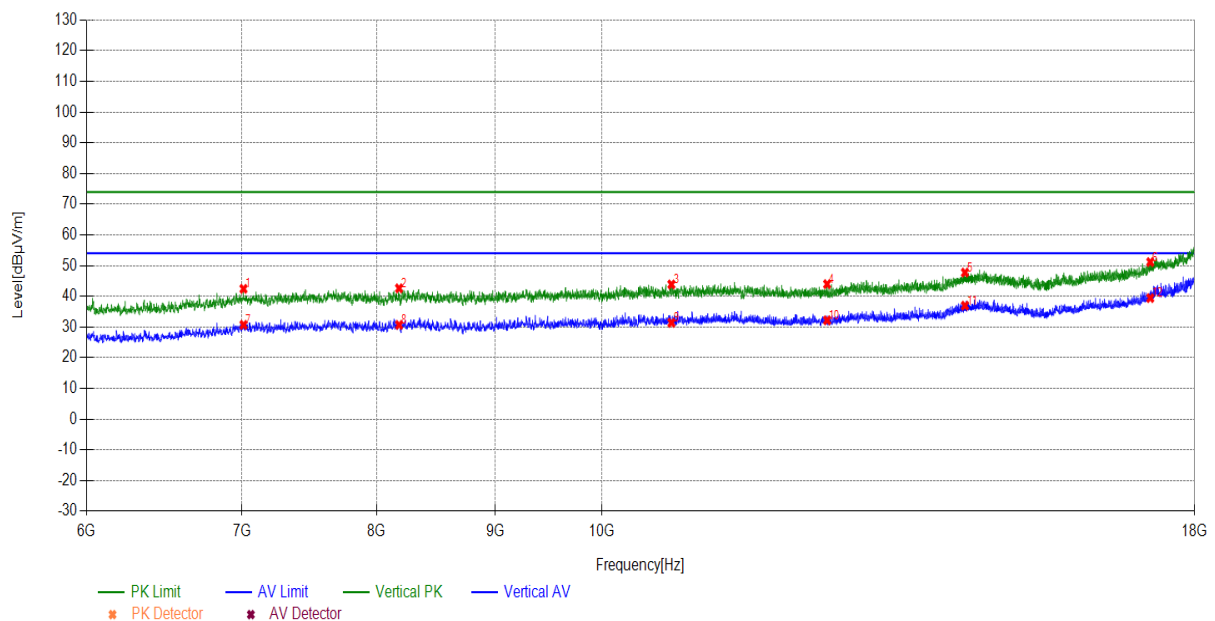
Radiates Emission		3G~6G							
Test channel		Worst-Case							
polarization		Vertical							
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
3348.6349	-1.72	49.59	47.87	74.00	26.13	PK	150	26	PASS
4003.6004	-0.13	45.29	45.16	74.00	28.84	PK	150	14	PASS
4462.3462	-0.61	45.45	44.84	74.00	29.16	PK	150	300	PASS
4921.3921	1.12	46.42	47.54	74.00	26.46	PK	150	205	PASS
5421.2421	2.56	44.67	47.23	74.00	26.77	PK	150	121	PASS
5748.2748	3.87	82.28	86.15	74.00	-12.15	PK	150	312	---
5933.9934	4.68	44.82	49.50	74.00	24.50	PK	150	323	PASS
3348.6349	-1.72	36.11	34.39	54.00	19.61	AV	150	0	PASS
4003.6004	-0.13	31.88	31.75	54.00	22.25	AV	150	0	PASS
4462.3462	-0.61	32.60	31.99	54.00	22.01	AV	150	357	PASS
4921.3921	1.12	32.85	33.97	54.00	20.03	AV	150	145	PASS
5421.2421	2.56	31.80	34.36	54.00	19.64	AV	150	97	PASS
5748.2748	3.87	70.48	74.35	54.00	-20.35	AV	150	300	---
5933.9934	4.68	32.57	37.25	54.00	16.75	AV	150	14	PASS



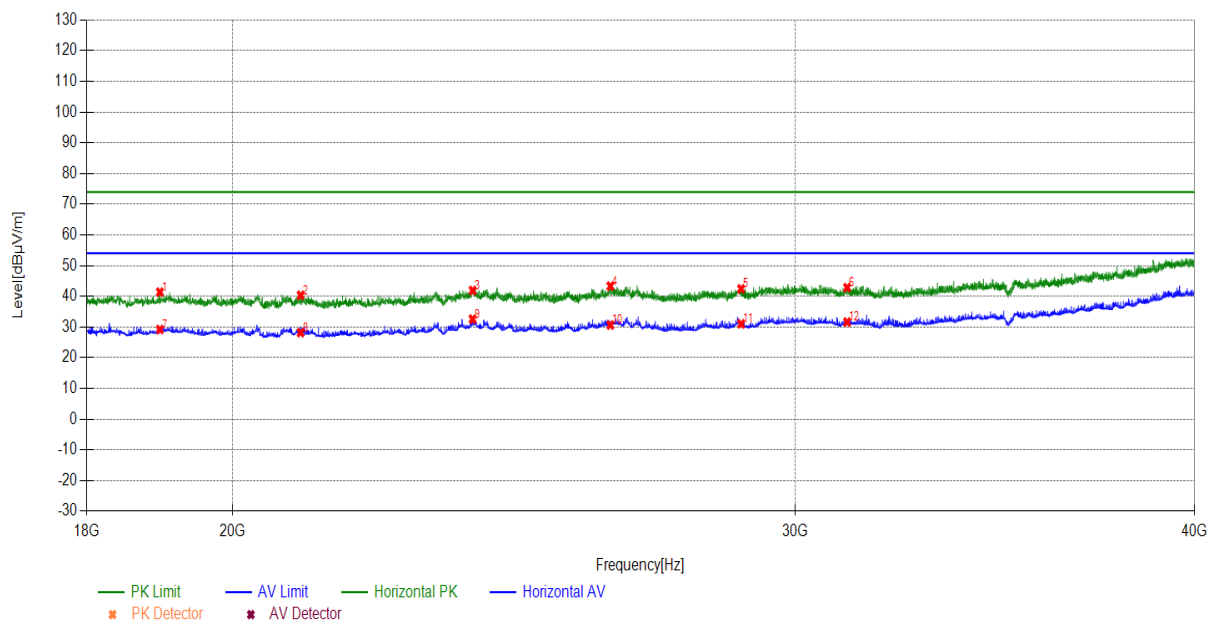
Radiates Emission		6G~18G							
Test channel		Worst-Case							
polarization		Horizontal							
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/ m]	Limit [dBμV/ m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
7040.504	8.02	33.37	41.39	74.00	32.61	PK	150	60	PASS
8597.0597	9.18	32.87	42.05	74.00	31.95	PK	150	160	PASS
10727.2727	11.82	31.26	43.08	74.00	30.92	PK	150	70	PASS
13193.5194	13.22	32.23	45.45	74.00	28.55	PK	150	100	PASS
14458.4458	17.20	30.74	47.94	74.00	26.06	PK	150	230	PASS
16856.2856	19.78	29.57	49.35	74.00	24.65	PK	150	330	PASS
7040.504	8.02	21.16	29.18	54.00	24.82	AV	150	40	PASS
8597.0597	9.18	20.06	29.24	54.00	24.76	AV	150	210	PASS
10727.2727	11.82	20.02	31.84	54.00	22.16	AV	150	30	PASS
13193.5194	13.22	19.56	32.78	54.00	21.22	AV	150	10	PASS
14458.4458	17.20	20.08	37.28	54.00	16.72	AV	150	10	PASS
16856.2856	19.78	17.57	37.35	54.00	16.65	AV	150	50	PASS



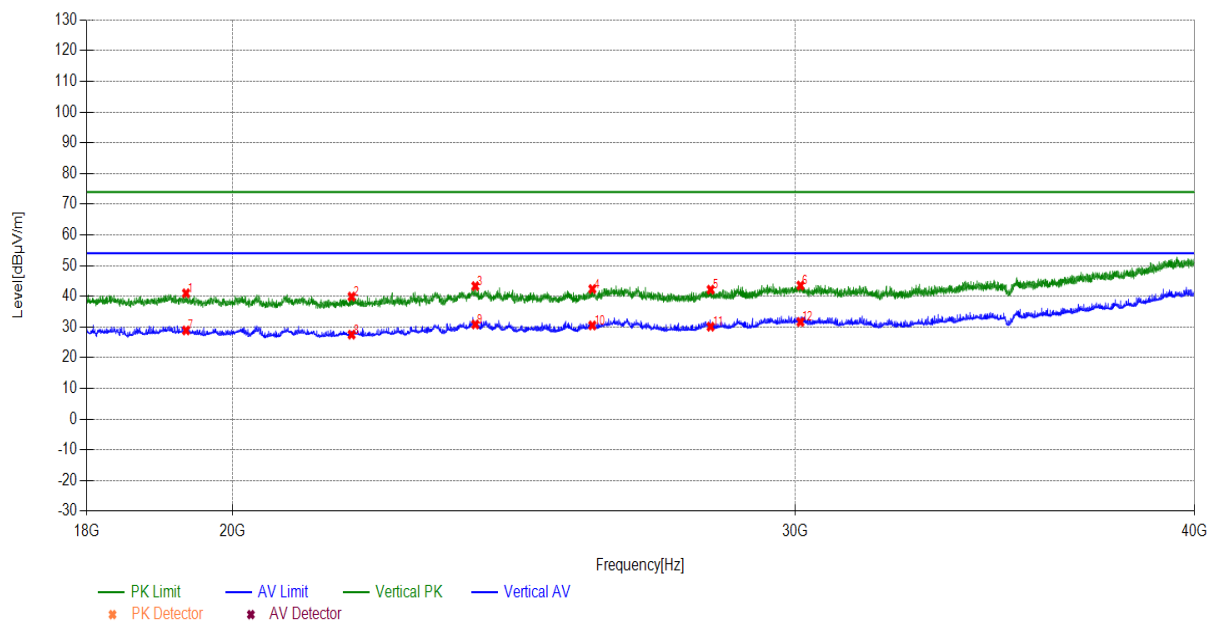
Radiates Emission		6G~18G							
Test channel		Worst-Case							
polarization		Vertical							
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/ m]	Limit [dBμV/ m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
7010.501	8.01	34.42	42.43	74.00	31.57	PK	150	190	PASS
8179.4179	8.74	33.87	42.61	74.00	31.39	PK	150	330	PASS
10715.2715	11.83	32.04	43.87	74.00	30.13	PK	150	340	PASS
12503.4503	11.88	32.09	43.97	74.00	30.03	PK	150	130	PASS
14334.8335	16.55	31.19	47.74	74.00	26.26	PK	150	260	PASS
17225.9226	21.92	29.22	51.14	74.00	22.86	PK	150	360	PASS
7010.501	8.01	22.69	30.70	54.00	23.30	AV	150	10	PASS
8179.4179	8.74	21.96	30.70	54.00	23.30	AV	150	10	PASS
10715.2715	11.83	19.54	31.37	54.00	22.63	AV	150	330	PASS
12503.4503	11.88	20.32	32.20	54.00	21.80	AV	150	30	PASS
14334.8335	16.55	20.42	36.97	54.00	17.03	AV	150	10	PASS
17225.9226	21.92	17.50	39.42	54.00	14.58	AV	150	350	PASS



Radiates Emission		18G~40G							
Test channel		Worst-Case							
polarization		Horizontal							
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/ m]	Limit [dBμV/ m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
18976.8977	1.34	40.01	41.35	74.00	32.65	PK	150	360	PASS
21003.3003	1.65	38.70	40.35	74.00	33.65	PK	150	150	PASS
23773.3773	3.52	38.40	41.92	74.00	32.08	PK	150	10	PASS
26255.2255	4.60	38.72	43.32	74.00	30.68	PK	150	280	PASS
28849.2849	5.91	36.50	42.41	74.00	31.59	PK	150	30	PASS
31139.714	6.20	36.62	42.82	74.00	31.18	PK	150	140	PASS
18976.8977	1.34	27.83	29.17	54.00	24.83	AV	150	10	PASS
21003.3003	1.65	26.54	28.19	54.00	25.81	AV	150	210	PASS
23773.3773	3.52	29.05	32.57	54.00	21.43	AV	150	10	PASS
26255.2255	4.60	26.06	30.66	54.00	23.34	AV	150	140	PASS
28849.2849	5.91	25.13	31.04	54.00	22.96	AV	150	10	PASS
31139.714	6.20	25.43	31.63	54.00	22.37	AV	150	10	PASS



Radiates Emission		18G~40G							
Test channel		Worst-Case							
polarization		Vertical							
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/ m]	Limit [dBμV/ m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
19337.7338	1.33	39.66	40.99	74.00	33.01	PK	150	170	PASS
21788.7789	1.85	38.06	39.91	74.00	34.09	PK	150	100	PASS
23819.582	3.56	39.77	43.33	74.00	30.67	PK	150	310	PASS
25916.3916	4.47	37.90	42.37	74.00	31.63	PK	150	60	PASS
28222.2222	5.53	36.64	42.17	74.00	31.83	PK	150	210	PASS
30110.011	6.65	36.87	43.52	74.00	30.48	PK	150	260	PASS
19337.7338	1.33	27.56	28.89	54.00	25.11	AV	150	200	PASS
21788.7789	1.85	25.66	27.51	54.00	26.49	AV	150	120	PASS
23819.582	3.56	27.28	30.84	54.00	23.16	AV	150	150	PASS
25916.3916	4.47	26.05	30.52	54.00	23.48	AV	150	30	PASS
28222.2222	5.53	24.57	30.10	54.00	23.90	AV	150	200	PASS
30110.011	6.65	25.00	31.65	54.00	22.35	AV	150	190	PASS



5.2.1.2 Model: EMC3290-D

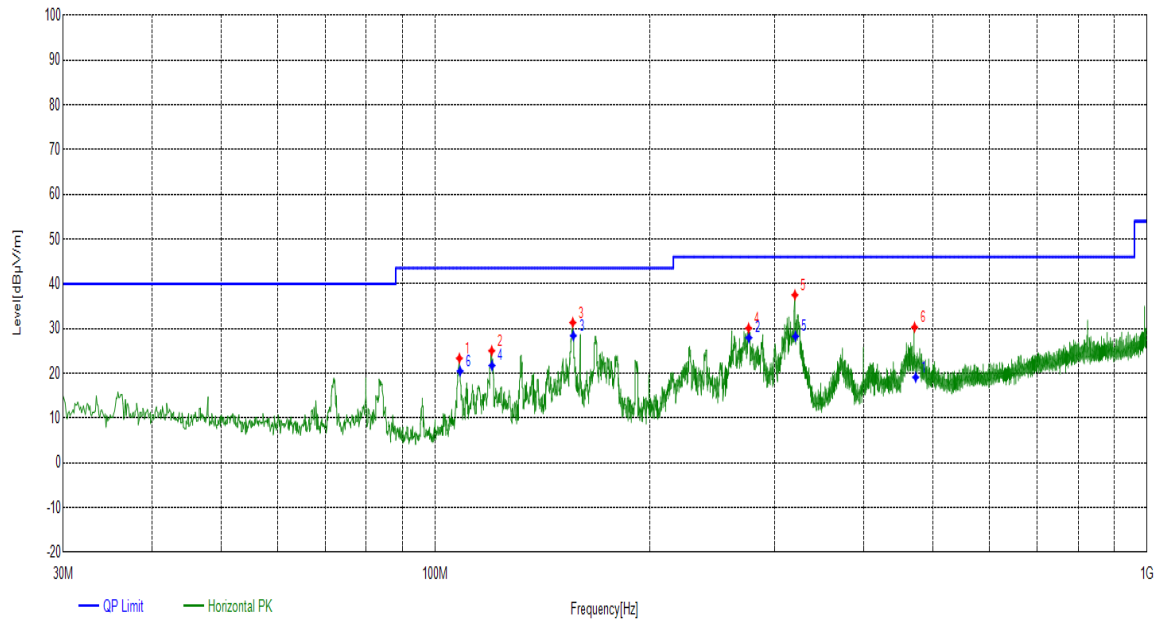
5.2.1.2.1 9kHz~1GHz:

During the test, the Radiates Emission from 9kHz to 1GHz was performed in all modes with all channels and all antennas, 802.11n20, Channel 36, Antenna1 are selected as the worst condition. The test data of the worst-case condition was recorded in this report.

Radiates Emission		9kHz~1GHz							
Test channel		Worst-Case							
Polarity		Horizontal							
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Height [cm]	Angle deg	Pass/Fail
108.0928	11.29	12.06	23.35	43.52	20.17	PK	100	350	PASS
120.0250	12.38	12.65	25.03	43.51	18.48	PK	100	210	PASS
156.0156	14.71	16.62	31.33	43.51	12.18	PK	100	190	PASS
275.5316	14.15	15.93	30.08	46.02	15.94	PK	100	110	PASS
320.0590	15.59	21.92	37.51	46.01	8.50	PK	100	300	PASS
471.3941	19.47	10.83	30.30	46.01	15.71	PK	100	70	PASS

Note: 9kHz~30MHz have been test and test data more than 20dB margin.

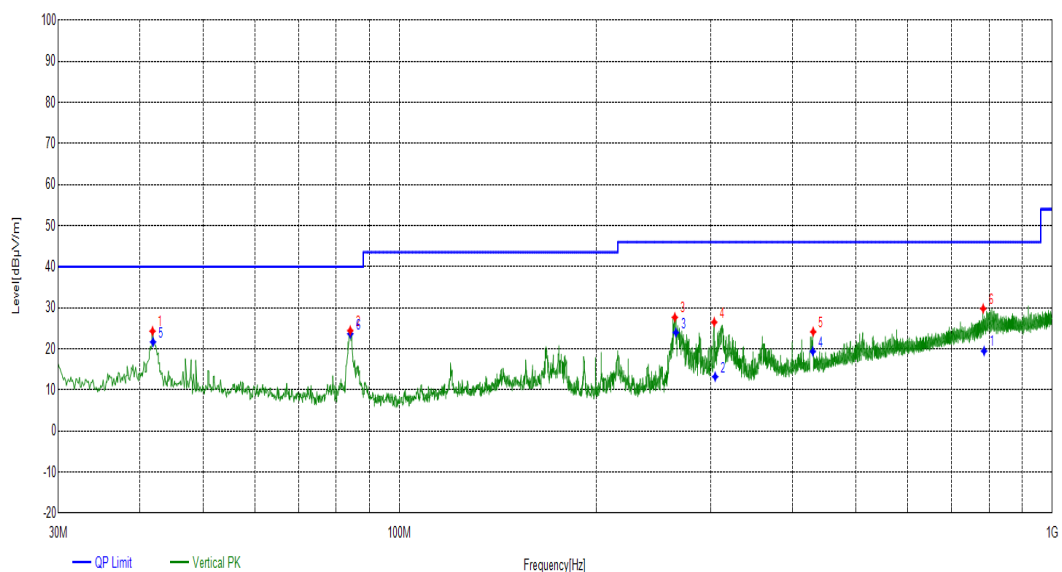
Final Data List							
Frequency [MHz]	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Pass/Fail
473.0313	19.47	19.12	46.01	26.89	110	70	PASS
275.7469	14.15	27.96	46.02	18.06	130	110	PASS
156.2820	14.71	28.42	43.51	15.09	140	190	PASS
120.1223	12.38	21.74	43.51	21.77	130	210	PASS
320.6658	15.59	28.27	46.01	17.74	130	300	PASS
108.3524	11.29	20.49	43.52	23.03	360	350	PASS



Radiates Emission		9kHz~1GHz							
Test channel		Worst-Case							
Polarity		Vertical							
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Height [cm]	Angle deg	Pass/Fail
41.8352	14.64	9.67	24.31	40.00	15.69	PK	100	98	PASS
84.0344	9.81	14.65	24.46	40.00	15.54	PK	100	72	PASS
264.0844	13.75	13.92	27.67	46.02	18.35	PK	100	139	PASS
303.4703	15.11	11.38	26.49	46.02	19.53	PK	100	217	PASS
430.2620	18.56	5.60	24.16	46.01	21.85	PK	100	113	PASS
783.7654	26.41	3.38	29.79	46.00	16.21	PK	100	301	PASS

Note: 9kHz~30MHz have been test and test data more than 20dB margin.

Final Data List							
Frequency [MHz]	Factor [dB]	QP Value [dB μ V/m]	QP Limit [dB μ V/m]	QP Margin [dB]	Height [cm]	Angle [°]	Pass/Fail
786.1926	26.42	19.47	46.00	26.53	350	301	PASS
304.4584	15.11	13.23	46.02	32.79	360	217	PASS
265.0399	13.76	23.97	46.02	22.05	190	139	PASS
429.6892	18.55	19.38	46.01	26.63	180	113	PASS
41.9103	14.65	21.67	40.00	18.33	130	98	PASS
84.0575	9.81	23.65	40.00	16.35	150	72	PASS

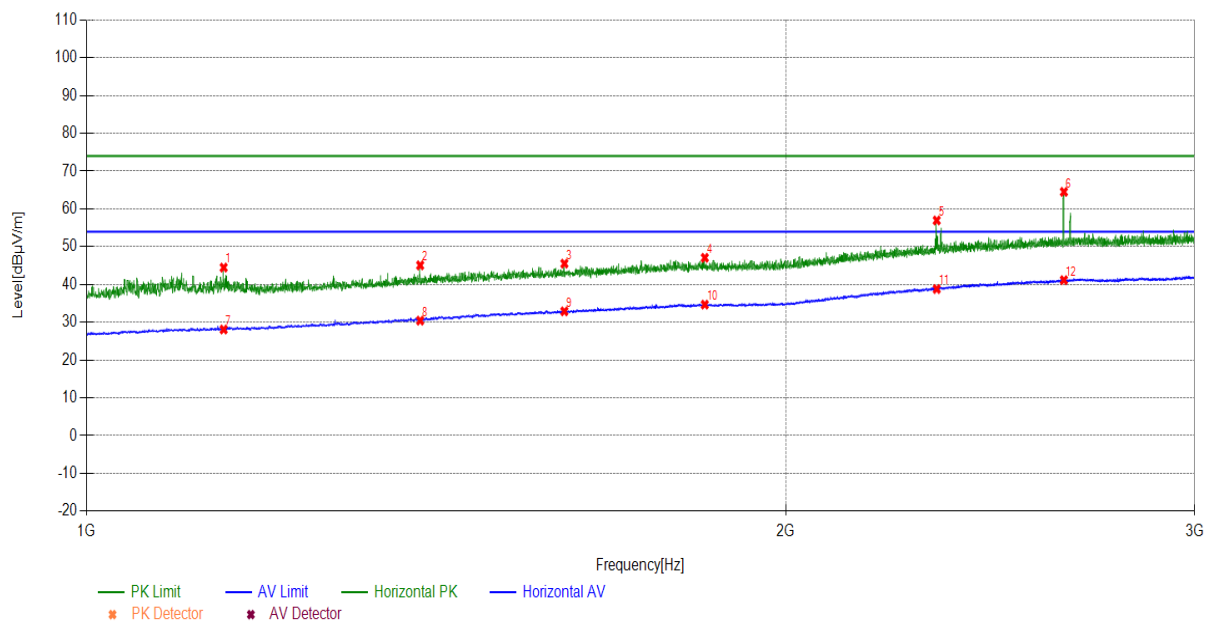


5.2.1.2.2 Above 1GHz:

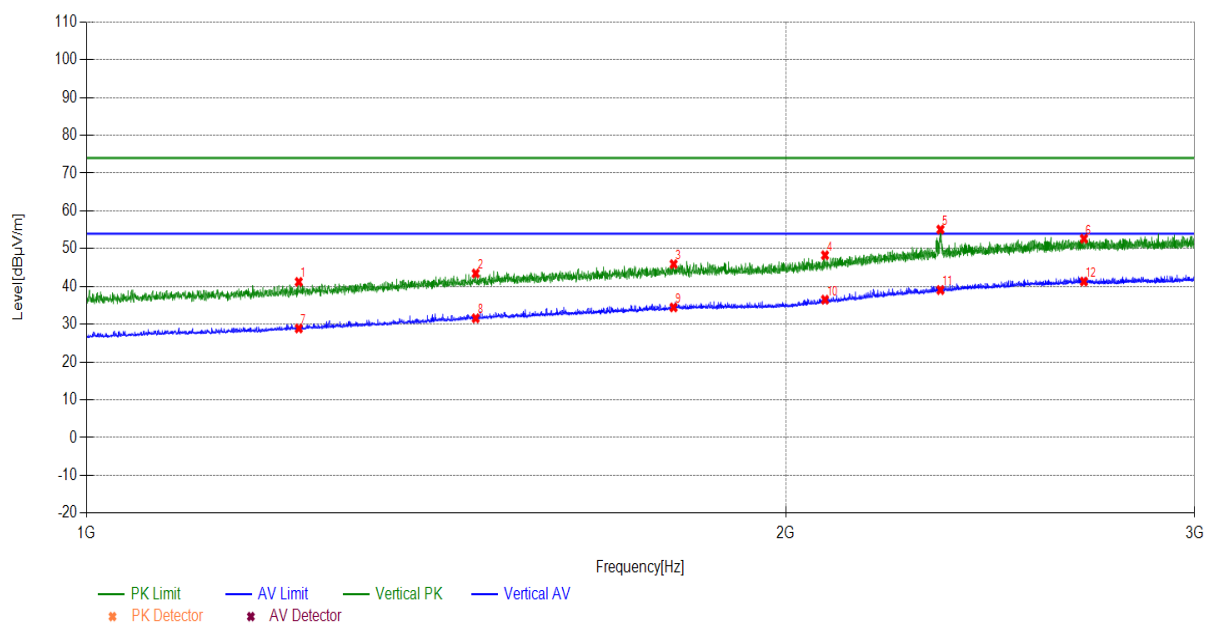
(4) U-NII-1:

During the test, the Radiates Emission from 1GHz to 40GHz was performed in all modes with all channels and all antennas, 802.11n20, Channel 36, Antenna1 are selected as the worst condition. The test data of the worst-case condition was recorded in this report.

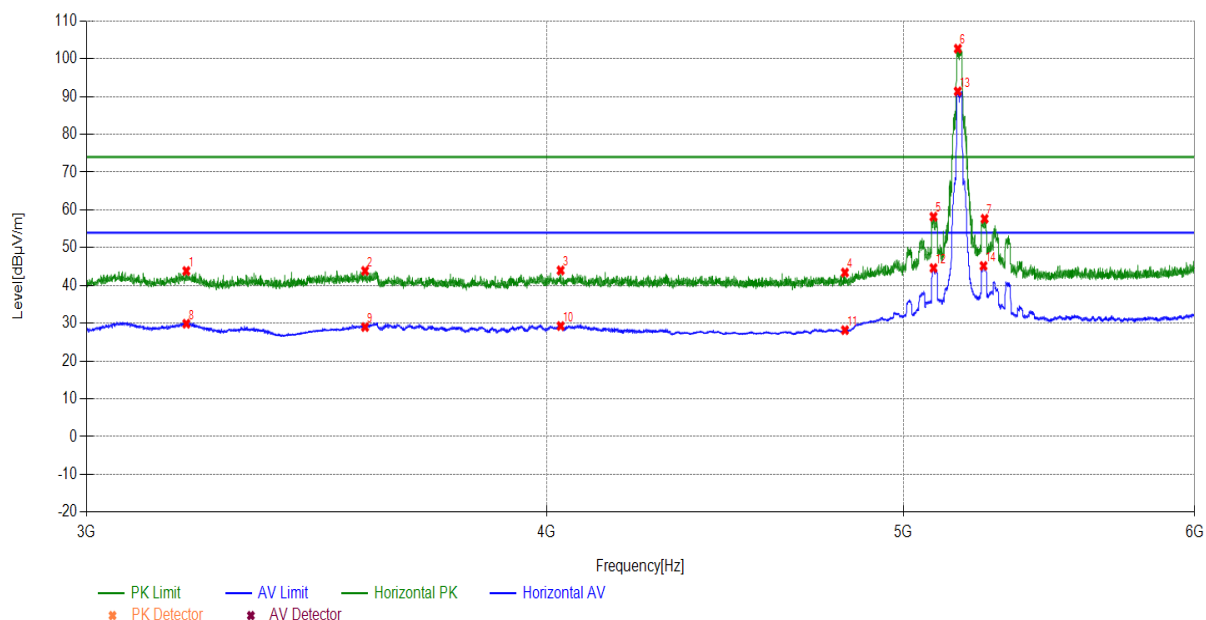
Radiates Emission		1G~3G							
Test channel		Worst-Case							
polarization		Horizontal							
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/ m]	Limit [dBμV/ m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
1145.6146	27.44	17.04	44.48	74.00	29.52	PK	150	136	PASS
1392.0392	29.74	15.34	45.08	74.00	28.92	PK	150	80	PASS
1606.0606	31.54	13.99	45.53	74.00	28.47	PK	150	293	PASS
1845.8846	33.04	14.04	47.08	74.00	26.92	PK	150	66	PASS
2323.1323	36.65	20.31	56.96	74.00	17.04	PK	150	23	PASS
2635.3635	38.30	26.21	64.51	74.00	9.49	PK	150	136	PASS
1145.6146	27.44	0.66	28.10	54.00	25.90	AV	150	66	PASS
1392.0392	29.74	0.71	30.45	54.00	23.55	AV	150	179	PASS
1606.0606	31.54	1.36	32.90	54.00	21.10	AV	150	51	PASS
1845.8846	33.04	1.64	34.68	54.00	19.32	AV	150	193	PASS
2323.1323	36.65	2.15	38.80	54.00	15.20	AV	150	23	PASS
2635.3635	38.30	2.86	41.16	54.00	12.84	AV	150	136	PASS



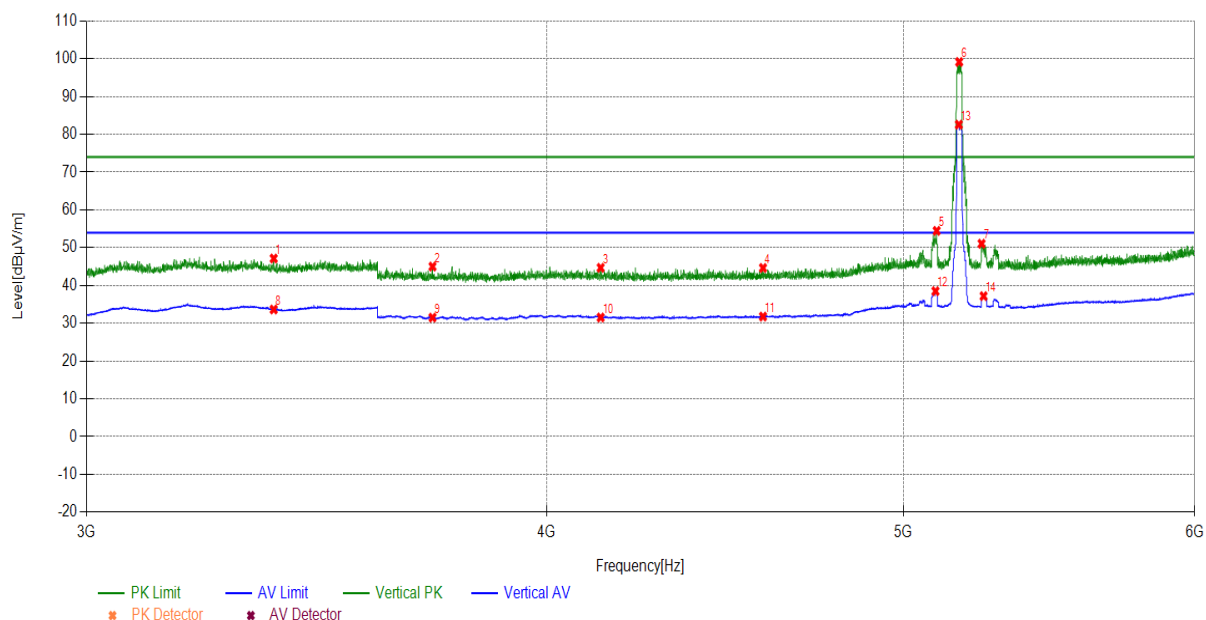
Radiates Emission		1G~3G							
Test channel		Worst-Case							
polarization		Vertical							
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
1234.2234	28.24	12.99	41.23	74.00	32.77	PK	150	50	PASS
1470.8471	30.62	12.84	43.46	74.00	30.54	PK	150	10	PASS
1789.679	32.95	12.96	45.91	74.00	28.09	PK	150	170	PASS
2079.508	34.07	14.22	48.29	74.00	25.71	PK	150	160	PASS
2331.7332	36.72	18.36	55.08	74.00	18.92	PK	150	340	PASS
2688.1688	38.45	14.19	52.64	74.00	21.36	PK	150	60	PASS
1234.2234	28.24	0.67	28.91	54.00	25.09	AV	150	260	PASS
1470.8471	30.62	0.98	31.60	54.00	22.40	AV	150	50	PASS
1789.679	32.95	1.52	34.47	54.00	19.53	AV	150	20	PASS
2079.508	34.07	2.44	36.51	54.00	17.49	AV	150	10	PASS
2331.7332	36.72	2.35	39.07	54.00	14.93	AV	150	270	PASS
2688.1688	38.45	2.88	41.33	54.00	12.67	AV	150	340	PASS



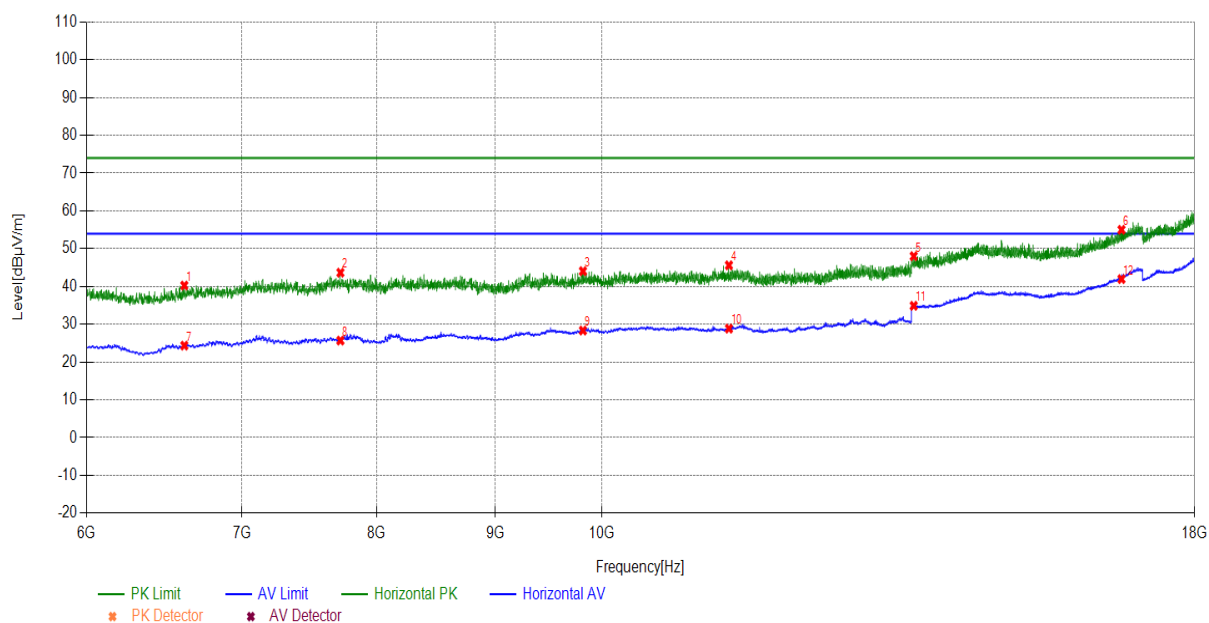
Radiates Emission		3G~6G							
Test channel		Worst-Case							
polarization		Horizontal							
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
3193.2193	-2.36	46.20	43.84	74.00	30.16	PK	150	359	PASS
3570.9571	-0.90	44.79	43.89	74.00	30.11	PK	150	10	PASS
4035.7036	-0.17	44.16	43.99	74.00	30.01	PK	150	22	PASS
4821.1821	0.69	42.74	43.43	74.00	30.57	PK	150	34	PASS
5095.7096	1.76	56.44	58.20	74.00	15.80	PK	150	319	PASS
5174.0174	2.01	100.67	102.68	74.00	-28.68	PK	150	353	---
5261.3261	2.22	55.44	57.66	74.00	16.34	PK	150	359	PASS
3193.2193	-2.36	32.24	29.88	54.00	24.12	AV	150	359	PASS
3570.9571	-0.90	29.91	29.01	54.00	24.99	AV	150	353	PASS
4035.7036	-0.17	29.44	29.27	54.00	24.73	AV	150	359	PASS
4821.1821	0.69	27.49	28.18	54.00	25.82	AV	150	176	PASS
5095.7096	1.76	42.86	44.62	54.00	9.38	AV	150	353	PASS
5173.7174	2.01	89.38	91.39	54.00	-37.39	AV	150	353	---
5257.7258	2.21	42.97	45.18	54.00	8.82	AV	150	359	PASS



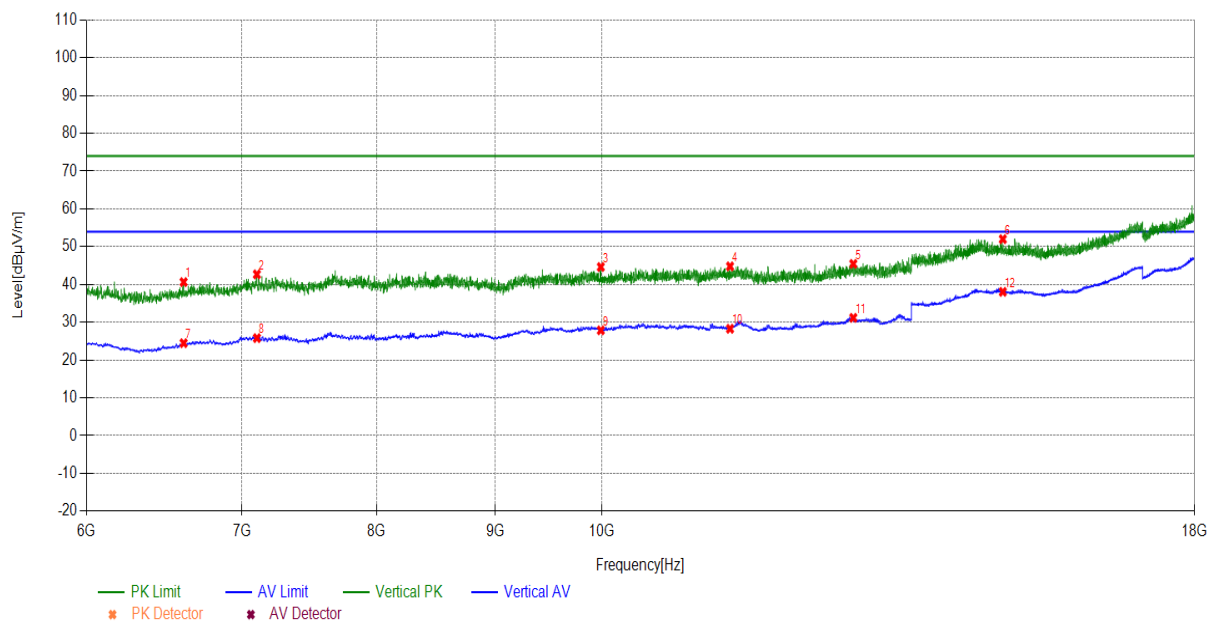
Radiates Emission		3G~6G							
Test channel		Worst-Case							
polarization		Vertical							
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
3372.6373	-1.62	48.77	47.15	74.00	26.85	PK	150	335	PASS
3724.8725	-0.65	45.67	45.02	74.00	28.98	PK	150	299	PASS
4138.0138	-0.29	44.98	44.69	74.00	29.31	PK	150	156	PASS
4580.258	-0.30	44.95	44.65	74.00	29.35	PK	150	251	PASS
5105.9106	1.79	52.67	54.46	74.00	19.54	PK	150	73	PASS
5178.5179	2.02	97.14	99.16	74.00	-25.16	PK	150	73	---
5251.4251	2.20	48.87	51.07	74.00	22.93	PK	150	73	PASS
3372.6373	-1.62	35.27	33.65	54.00	20.35	AV	150	73	PASS
3724.8725	-0.65	32.16	31.51	54.00	22.49	AV	150	85	PASS
4138.0138	-0.29	31.83	31.54	54.00	22.46	AV	150	49	PASS
4580.258	-0.30	32.08	31.78	54.00	22.22	AV	150	323	PASS
5102.0102	1.78	36.72	38.50	54.00	15.50	AV	150	356	PASS
5177.3177	2.02	80.55	82.57	54.00	-28.57	AV	150	13	---
5258.0258	2.21	34.98	37.19	54.00	16.81	AV	150	13	PASS



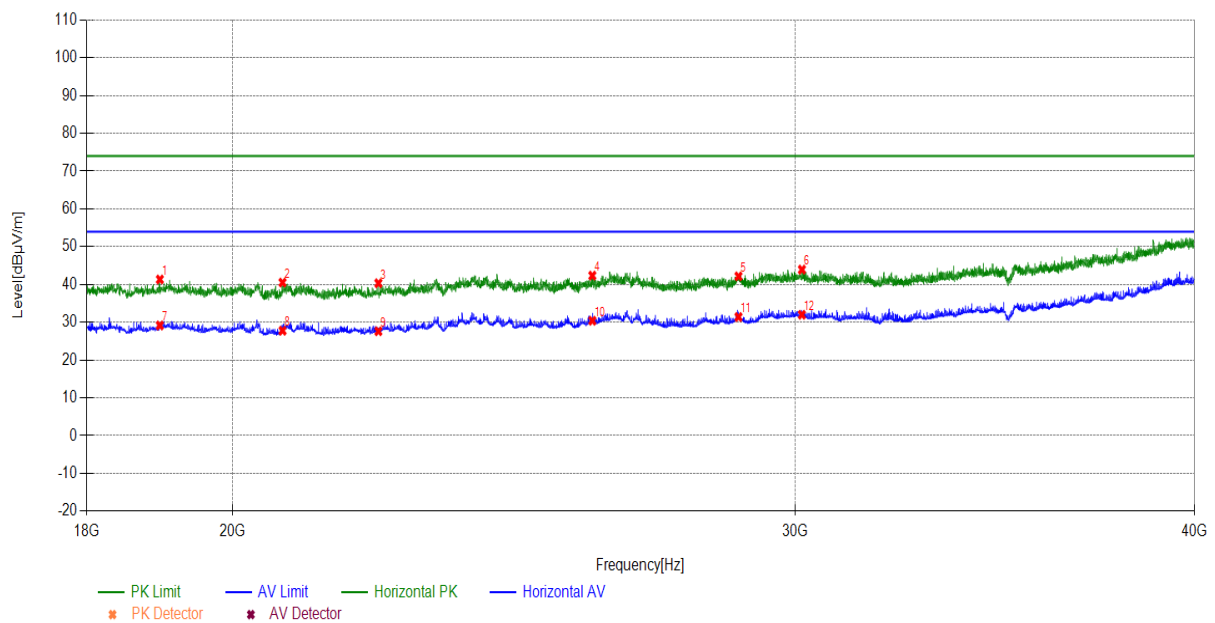
Radiates Emission		6G~18G							
Test channel		Worst-Case							
polarization		Horizontal							
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
6610.8611	6.06	34.20	40.26	74.00	33.74	PK	150	46	PASS
7717.3717	8.39	35.27	43.66	74.00	30.34	PK	150	248	PASS
9815.1815	11.56	32.51	44.07	74.00	29.93	PK	150	3	PASS
11344.1344	11.38	34.23	45.61	74.00	28.39	PK	150	34	PASS
13624.3624	13.77	34.26	48.03	74.00	25.97	PK	150	3	PASS
16741.0741	19.04	35.98	55.02	74.00	18.98	PK	150	22	PASS
6610.8611	6.06	18.30	24.36	54.00	29.64	AV	150	319	PASS
7717.3717	8.39	17.31	25.70	54.00	28.30	AV	150	307	PASS
9815.1815	11.56	16.80	28.36	54.00	25.64	AV	150	319	PASS
11344.1344	11.38	17.48	28.86	54.00	25.14	AV	150	3	PASS
13624.3624	13.77	21.13	34.90	54.00	19.10	AV	150	22	PASS
16741.0741	19.04	22.92	41.96	54.00	12.04	AV	150	212	PASS



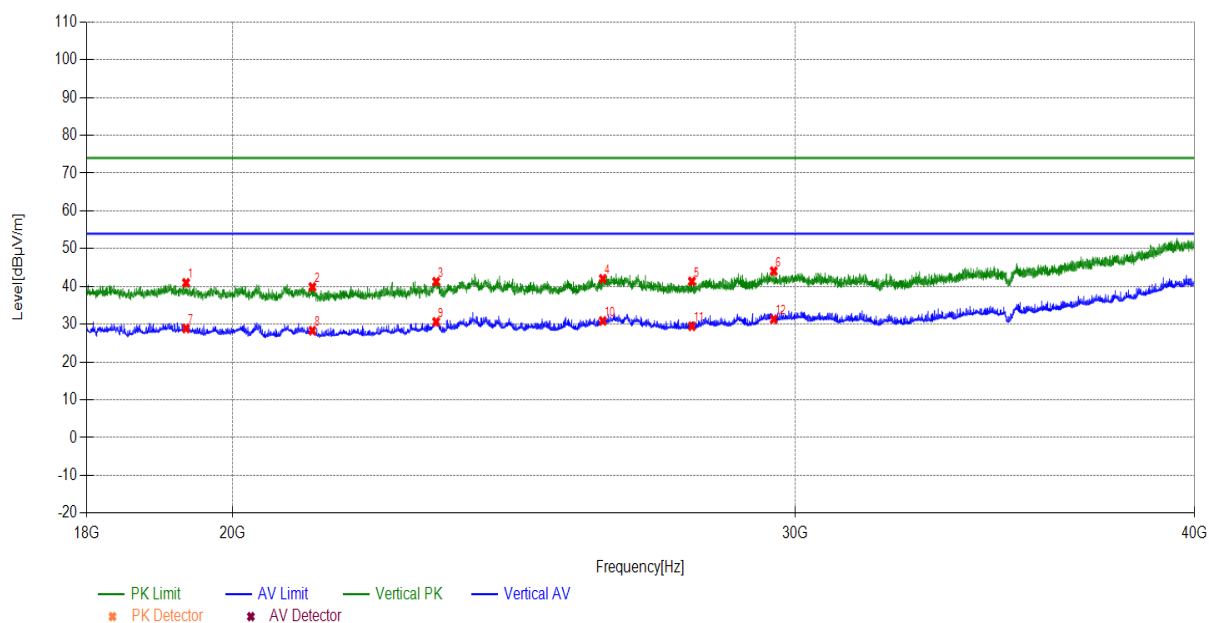
Radiates Emission		6G~18G							
Test channel		Worst-Case							
polarization		Vertical							
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/ m]	Limit [dBμV/ m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
6606.0606	6.03	34.61	40.64	74.00	33.36	PK	150	358	PASS
7104.1104	8.04	34.65	42.69	74.00	31.31	PK	150	315	PASS
9990.399	11.51	33.13	44.64	74.00	29.36	PK	150	1	PASS
11356.1356	11.37	33.42	44.79	74.00	29.21	PK	150	197	PASS
12832.2832	12.86	32.60	45.46	74.00	28.54	PK	150	327	PASS
14883.2883	16.76	35.24	52.00	74.00	22.00	PK	150	327	PASS
6606.0606	6.03	18.45	24.48	54.00	29.52	AV	150	358	PASS
7104.1104	8.04	17.77	25.81	54.00	28.19	AV	150	138	PASS
9990.399	11.51	16.37	27.88	54.00	26.12	AV	150	1	PASS
11356.1356	11.37	16.92	28.29	54.00	25.71	AV	150	31	PASS
12832.2832	12.86	18.33	31.19	54.00	22.81	AV	150	358	PASS
14883.2883	16.76	21.30	38.06	54.00	15.94	AV	150	280	PASS



Radiates Emission		18G~40G							
Test channel		Worst-Case							
polarization		Horizontal							
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/ m]	Limit [dBμV/ m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
18976.8977	1.34	40.01	41.35	74.00	32.65	PK	150	360	PASS
20730.473	1.56	38.96	40.52	74.00	33.48	PK	150	80	PASS
22213.4213	2.11	38.23	40.34	74.00	33.66	PK	150	340	PASS
25916.3916	4.47	37.88	42.35	74.00	31.65	PK	150	230	PASS
28794.2794	5.88	36.29	42.17	74.00	31.83	PK	150	360	PASS
30140.8141	6.64	37.31	43.95	74.00	30.05	PK	150	180	PASS
18976.8977	1.34	27.83	29.17	54.00	24.83	AV	150	10	PASS
20730.473	1.56	26.21	27.77	54.00	26.23	AV	150	270	PASS
22213.4213	2.11	25.51	27.62	54.00	26.38	AV	150	300	PASS
25916.3916	4.47	25.94	30.41	54.00	23.59	AV	150	250	PASS
28794.2794	5.88	25.52	31.40	54.00	22.60	AV	150	190	PASS
30140.8141	6.64	25.35	31.99	54.00	22.01	AV	150	30	PASS



Radiates Emission		18G~40G							
Test channel		Worst-Case							
polarization		Vertical							
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
19337.7338	1.33	39.66	40.99	74.00	33.01	PK	150	170	PASS
21181.5182	1.70	38.17	39.87	74.00	34.13	PK	150	210	PASS
23157.3157	3.03	38.25	41.28	74.00	32.72	PK	150	250	PASS
26112.2112	4.54	37.52	42.06	74.00	31.94	PK	150	240	PASS
27843.7844	5.32	36.05	41.37	74.00	32.63	PK	150	20	PASS
29535.7536	6.38	37.70	44.08	74.00	29.92	PK	150	190	PASS
19337.7338	1.33	27.56	28.89	54.00	25.11	AV	150	200	PASS
21181.5182	1.70	26.63	28.33	54.00	25.67	AV	150	60	PASS
23157.3157	3.03	27.62	30.65	54.00	23.35	AV	150	340	PASS
26112.2112	4.54	26.35	30.89	54.00	23.11	AV	150	270	PASS
27843.7844	5.32	24.16	29.48	54.00	24.52	AV	150	240	PASS
29535.7536	6.38	24.96	31.34	54.00	22.66	AV	150	90	PASS



(5) U-NII-2A:

During the test, the Radiates Emission from 1GHz to 40GHz was performed in all modes with all channels and all antennas, 802.11n20, Channel 64, Antenna1 are selected as the worst condition. The test data of the worst-case condition was recorded in this report.

Radiates Emission		1G~3G							
Test channel		Worst-Case							
polarization		Horizontal							
Suspected List									
Frequency [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detect or	Height [cm]	Angle deg	Pass/ Fail
1096.2096	27.00	15.76	42.76	74.00	31.24	PK	150	346	PASS
1329.633	29.15	12.83	41.98	74.00	32.02	PK	150	357	PASS
1757.0757	32.70	14.03	46.73	74.00	27.27	PK	150	118	PASS
2323.1323	36.65	22.88	59.53	74.00	14.47	PK	150	175	PASS
2336.3336	36.76	23.25	60.01	74.00	13.99	PK	150	62	PASS
2693.3693	38.47	15.12	53.59	74.00	20.41	PK	150	62	PASS
1096.2096	27.00	1.10	28.10	54.00	25.90	AV	150	346	PASS
1329.633	29.15	0.83	29.98	54.00	24.02	AV	150	147	PASS
1757.0757	32.70	1.35	34.05	54.00	19.95	AV	150	276	PASS
2323.1323	36.65	2.84	39.49	54.00	14.51	AV	150	175	PASS
2336.3336	36.76	2.76	39.52	54.00	14.48	AV	150	62	PASS
2693.3693	38.47	2.79	41.26	54.00	12.74	AV	150	147	PASS

