TEST REPORT

Application No.:	KSCR2603000566HS
FCC ID:	2BVO9DJ2419
Applicant:	Chuangqian Mingjing (Suzhou) Technology Ltd.
Address of Applicant:	Room 1001, 10th Floor, Zhihui Valley Park Taihu Software Park 1451 Wuzhong Avenue Yuexi Street, Wuzhong Economic and Technological Development Zone Suzhou, Jiangsu Province China
Manufacturer:	Chuangqian Mingjing (Suzhou) Technology Ltd.
Address of Manufacturer:	Room 1001, 10th Floor, Zhihui Valley Park Taihu Software Park 1451 Wuzhong Avenue Yuexi Street, Wuzhong Economic and Technological Development Zone Suzhou, Jiangsu Province China
Factory:	Huzhou Luxshare Precision Industry Co.,Ltd.
Address of Factory:	No. 399, Shengxun Road, Zhili Town, Wuxing District, Huzhou City, Zhejiang Province
Equipment Under Test (EUT):	
EUT Name:	Window Cleaning Robot
Model No.:	GCDJ2419
Trade Mark:	DREAME
Standard(s) :	47 CFR Part 15, Subpart C 15.247
Date of Receipt:	2026-03-18
Date of Test:	2026-04-01 to 2026-04-09
Date of Issue:	2026-04-10
Test Result:	**Pass***

* In the configuration tested, the EUT complied with the standards specified above.

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Compliance Certification Services (Kunshan) Inc.
程智电子科技（昆山）有限公司
No.10 Weiye Road, Development Zone, Kunshan, Jiangsu, China
中国・江苏省昆山开发区伟业路 10 号 215301
t (86-512)57355888
f (86-512)57370818
www.sgsgroup.com.cn
sgs.china@sgs.com
Member of the SGS Group （SGS SA）

Revision Record			
Version	**Description**	***Date***	***Remark***
00	Original	2026-04-10	/

Authorized for issue by:				
Tested By		Maker Qi **Maker_Qi/Project Engineer**		
Approved By		Terry Hou **Terry Hou /Reviewer**		

2 Test Summary

Radio Spectrum Matter Part				
Item	**Standard**	**Method**	**Requirement**	**Result**
Conducted Emissions at AC Power Line (150kHz-30MHz)	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2020) Section 6.2	47 CFR Part 15, Subpart C 15.207	Pass
Radiated Emissions which fall in the restricted bands		ANSI C63.10 (2020) Section 6.10.5 & 11.12	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass
Radiated Spurious Emissions Below 1GHz		ANSI C63.10 (2020) Section 6.4,6.5	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass
Radiated Spurious Emissions Above 1GHz		ANSI C63.10 (2020) Section 6.6 & 11.12	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass

Note1: This host product using a certified module(FCC ID: 2AC7Z-ESP8684M1).

The host integrator declares that they have followed the integration instructions provided by the module manufacturer and ensure that the end product complies with the FCC requirements by a technical evaluation to the FCC rules and to KDB Publication 996369.

In this report, the testing is performed with the host product configured in typical operational modes to check the spurious emissions for compliance with all the applicable rules, other test data please refer to original module test report no. FR251806B.

Note2: Conducted Power Output Data is validated and tested in agreement with the original project, so it is a direct reference to the original project data.

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4 General Information

4.1 Details of E.U.T.

Power supply:	AC/DC Adapter: Model: DJSPQ2419US Input: 110~240V~,50-60Hz,2.5A Output: 24V/3.75A 90W
Test Voltage:	AC 120V/60Hz
Operation Frequency:	802.11b/g/n(HT20): 2412MHz to 2462MHz
Modulation Type:	802.11b: DSSS (DBPSK, DQPSK, CCK); 802.11g/n: OFDM (BPSK, QPSK, 16QAM, 64QAM)
Number of Channels:	802.11b/g/n(HT20):11
Channel Spacing:	5MHz
Antenna Type:	PCB Antenna
Antenna Gain:	3.96dBi (Provided by the manufacturer)

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
Notebook	LENOVO	K27	EB24537645

4.3 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Radio Frequency	8.4×10^{-8}
2	Timeout	2s
3	Duty Cycle	0.37%
4	Occupied Bandwidth	3%
5	RF Conducted Power	0.6dB
6	RF Power Density	2.9dB
7	Conducted Spurious Emissions	0.75dB
8	RF Radiated Power	5.2dB (Below 1GHz)
		5.9dB (Above 1GHz)
9	Radiated Spurious Emission Test	4.2dB (Below 30MHz)
		4.5dB (30MHz-1GHz)
		5.1dB (1GHz-18GHz)
		5.4dB (Above 18GHz)
10	Temperature Test	1°C
11	Humidity Test	3%
12	Supply Voltages	1.5%
13	Time	3%
Note: The measurement uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.		

4.4 Test Location

All tests were performed at:
Compliance Certification Services (Kunshan) Inc.

No.10 Weiye Rd, Innovation park, Eco&Tec, Development Zone, Kunshan City, Jiangsu, China.

Tel: +86 512 5735 5888 Fax: +86 512 5737 0818

No tests were sub-contracted.
Note:

1. SGS is not responsible for wrong test results due to incorrect information (e.g., max. internal working frequency, antenna gain, cable loss, etc) is provided by the applicant. (If applicable).
2. SGS is not responsible for the authenticity, integrity and the validity of the conclusion based on results of the data provided by applicant. (If applicable).
3. Sample source: sent by customer.

4.5 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

• A2LA (Certificate No. 2541.01)

Compliance Certification Services (Kunshan) Inc. is accredited by the American Association for Laboratory Accreditation (A2LA).

• FCC (Designation Number: CN1172)

Compliance Certification Services (Kunshan) Inc. has been recognized as an accredited testing laboratory.

• ISED (CAB Identifier: CN0072)

Compliance Certification Services (Kunshan) Inc. has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory.

Company Number: 2324E

• VCCI (Member No:1938)

The 3m and 10m Semi-anechoic chamber and Shielded Room of Compliance Certification Services (Kunshan) Inc. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-20134, R-11600, C-11707, T-11499, G-10216 respectively.

4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

None

5 Equipment List

Item	Equipment	Manufacturer	Model	Inventory No	Cal Date	Cal. Due Date
Conducted Emission at Mains Terminals						
1	EMI Test Receive	R&S	ESCI	KS301196	07/09/2025	07/08/2026
2	LISN	R&S	ENV216	KS301197	01/08/2026	01/07/2027
3	LISN	Schwarzbeck	NNLK 8129	KS301091	01/08/2026	01/07/2027
4	Pulse Limiter	R&S	ESH3-Z2	KUS1902E001	12/18/2025	12/17/2026
5	CE test Cable	Thermax	/	CZ301102	12/18/2025	12/17/2026
6	Software	Faratronic	E3	/	N.C.R	N.C.R
RF Radiated Test						
1	Spectrum Analyzer	R&S	FSV40	KUS1806E003	07/09/2025	07/08/2026
2	Universal Radio Communication Tester	R&S	CMW500	KSEM009-1	12/17/2025	12/16/2026
3	Signal Generator	Agilent	E8257C	KS301066	07/22/2025	07/21/2026
4	Loop Antenna（9KHz-30MHz）	COM-POWER	AL-130R	KUS1806E001	07/11/2025	07/10/2026
5	Bilog Antenna（30MHz-1GHz）	TESEQ	CBL 6112D	KUS1806E005	07/12/2025	07/11/2026
6	Horn-antenna(1-18GHz)	Schwarzbeck	BBHA9120D	KS301079	01/11/2026	01/10/2028
7	Horn Antenna(18-40GHz)	Schwarzbeck	BBHA9170	CZ301058	01/11/2026	01/10/2028
8	Amplifier(30MHz~1GHz)	TST	LNA009100G30	KSEM061	12/18/2025	12/17/2026
9	Amplifier(400MHz~8GHz)	TST	LNA004080G30	KSEM062	12/18/2025	12/17/2026
10	Amplifier(1GHz~18GHz)	TST	LNA010180G45	KSEM039	07/09/2025	07/08/2026
11	Amplifier(18~40GHz)	TST	LNA180400G40	KSEM038	07/09/2025	07/08/2026
12	Temperature & Humidity Recorder	Renke Control	RS-WS-N01-6J	KSEM024-4	12/30/2025	12/29/2026
13	Software	ESE	E3_V 6.111221a	/	NCR	NCR
14	Measurement Software	Tonscend	JS32-RE V5.0.0.1	/	NCR	NCR
15	Measurement Software	Tonscend	JS32-RSE V5.0.0.0	/	NCR	NCR

6 Radio Spectrum Matter Test Results

6.1 Conducted Emissions at AC Power Line (150kHz-30MHz)

Test Requirement 47 CFR Part 15, Subpart C 15.207
Test Method: ANSI C63.10 (2020) Section 6.2

Limit:

Frequency of emission(MHz)	Conducted limit(dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50
*Decreases with the logarithm of the frequency.		
Detector: Peak for pre-scan (9kHz resolution bandwidth) 0.15M to 30MHz		

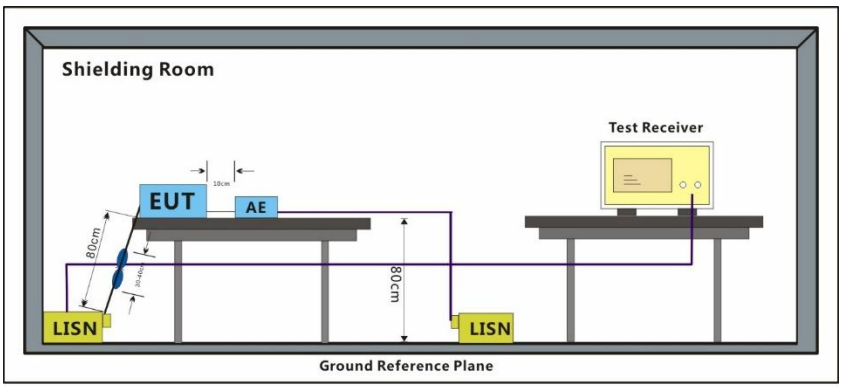
6.1.1 E.U.T. Operation

Operating Environment:
Temperature: 23.5 °C Humidity: 45.2 % RH Atmospheric Pressure: 1010 mbar

6.1.1 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	02	TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested, final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report.

6.1.2 Test Setup Diagram



6.1.3 Measurement Procedure and Data

1) The mains terminal disturbance voltage test was conducted in a shielded room.

2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50ohm/50μH + 5ohm linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.

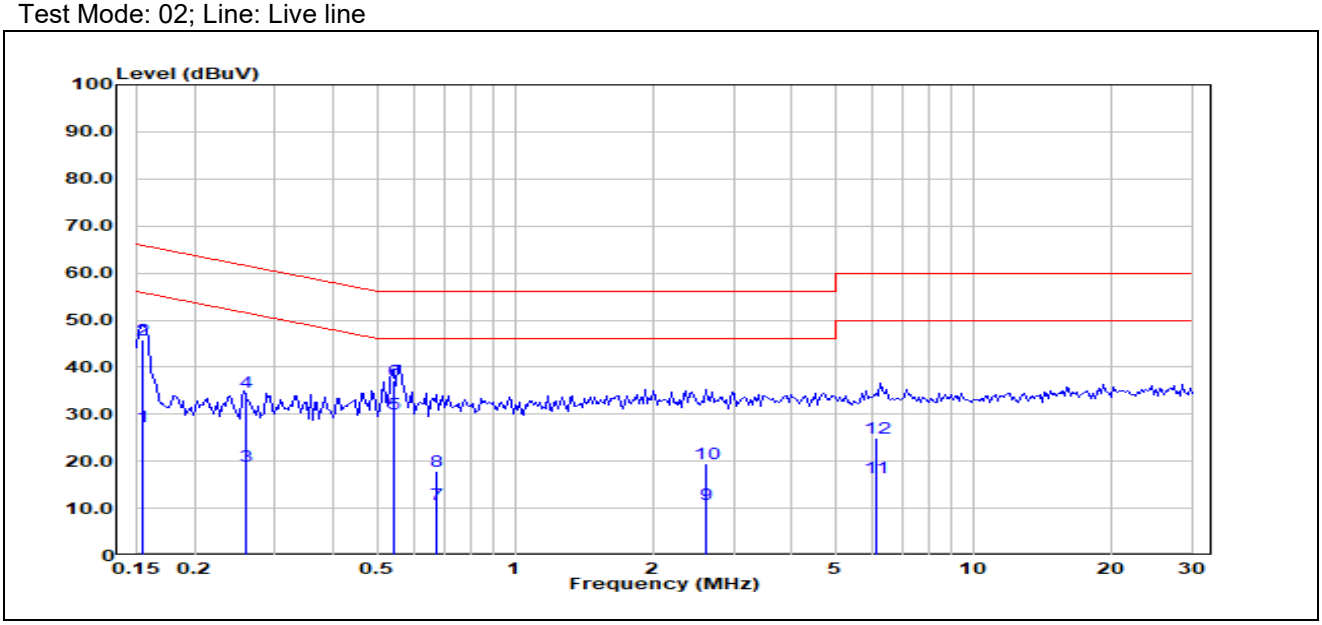
3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane.

4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.

5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.

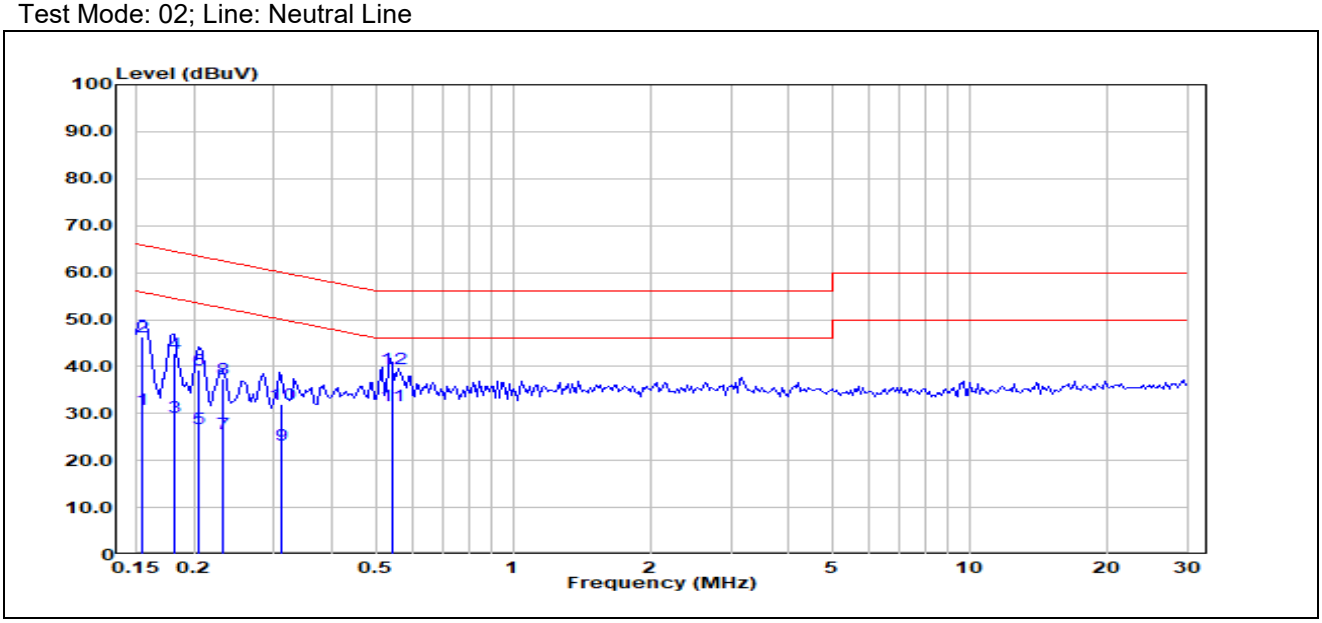
Remark: Level=Read Level+ Cable Loss+ LISN Factor

Test Mode: 02; Line: Live line



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1543	7.08	20.37	27.44	55.77	-28.32	Average
2	0.1543	25.48	20.37	45.85	65.77	-19.92	QP
3	0.2579	-1.09	20.09	19.00	51.50	-32.50	Average
4	0.2579	14.62	20.09	34.72	61.50	-26.78	QP
5	0.5439	9.75	20.21	29.96	46.00	-16.04	Average
6	0.5439	16.93	20.21	37.14	56.00	-18.86	QP
7	0.6760	-9.47	20.19	10.72	46.00	-35.28	Average
8	0.6760	-2.34	20.19	17.85	56.00	-38.15	QP
9	2.6249	-9.26	20.14	10.87	46.00	-35.13	Average
10	2.6249	-0.68	20.14	19.45	56.00	-36.55	QP
11	6.1552	-3.21	19.87	16.66	50.00	-33.34	Average
12	6.1552	4.93	19.87	24.80	60.00	-35.20	QP

Test Mode: 02; Line: Neutral Line



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1537	10.53	20.43	30.97	55.79	-24.83	Average
2	0.1537	25.78	20.43	46.21	65.79	-19.58	QP
3	0.1806	9.04	20.34	29.37	54.46	-25.08	Average
4	0.1806	22.55	20.34	42.88	64.46	-21.57	QP
5	0.2043	6.52	20.23	26.75	53.43	-26.68	Average
6	0.2043	18.99	20.23	39.22	63.43	-24.21	QP
7	0.2310	5.65	20.18	25.82	52.42	-26.59	Average
8	0.2310	17.25	20.18	37.43	62.42	-24.99	QP
9	0.3110	3.11	20.08	23.19	49.94	-26.75	Average
10	0.3110	11.89	20.08	31.97	59.94	-27.97	QP
11	0.5424	11.46	20.19	31.65	46.00	-14.35	Average
12	0.5424	19.26	20.19	39.45	56.00	-16.55	QP

6.2 Radiated Emissions which fall in the restricted bands

Test Requirement 47 CFR Part 15, Subpart C 15.205 & 15.209
Test Method: ANSI C63.10 (2020) Section 6.10.5 & 11.12
Measurement Distance: 3M

Limit:

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3
Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.		

6.2.1 E.U.T. Operation

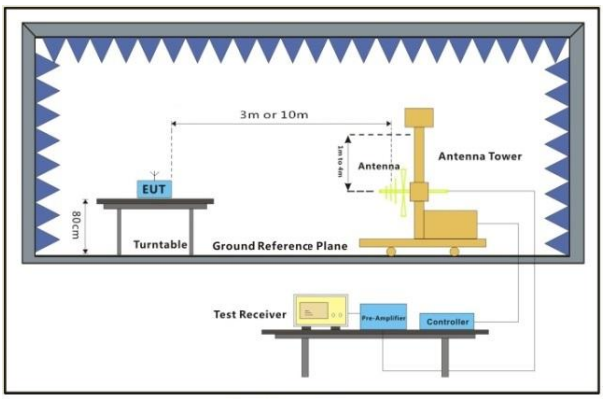
Operating Environment:

Temperature: 23.5 °C Humidity: 45.2 % RH Atmospheric Pressure: 1010 mbar

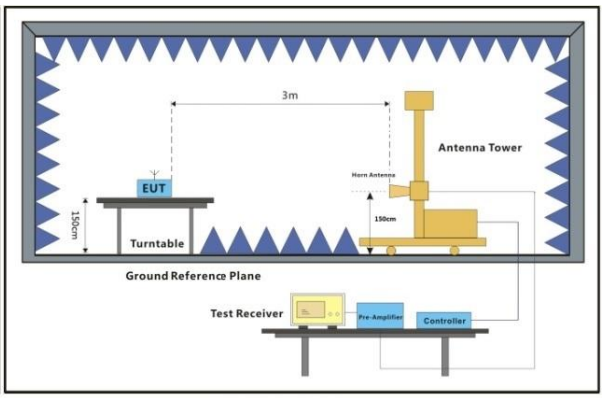
6.2.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	02	TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20), final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report.

6.2.3 Test Setup Diagram



30MHz-1GHz



Above 1GHz

6.2.4 Measurement Procedure and Data

a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

d. 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.

e. 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 table was turned from 0 degrees to 360 degrees to find the maximum reading.

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

g. 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.

h. Test the EUT in the lowest channel, the middle channel, the Highest channel.

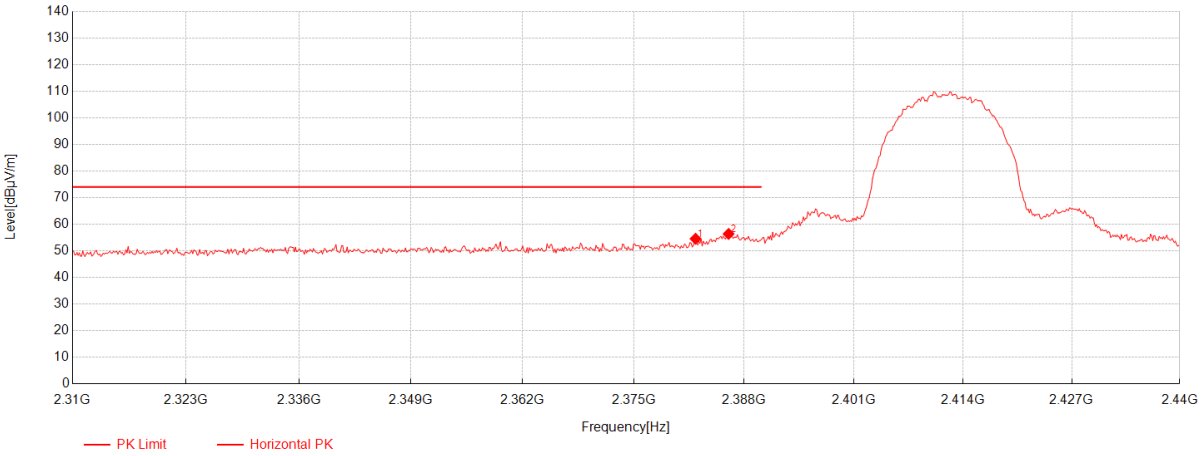
i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

j. Repeat above procedures until all frequencies measured was complete.

Remark 1: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

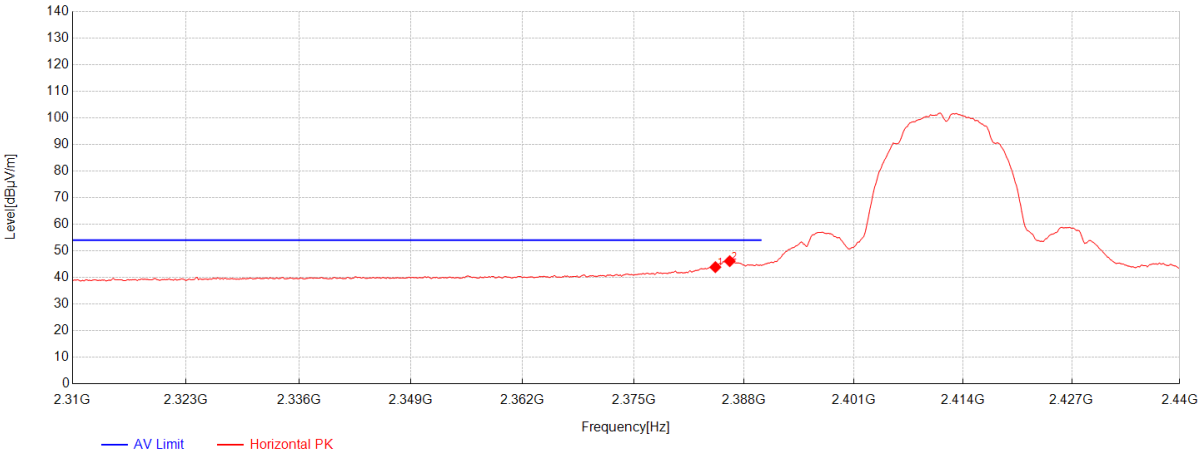
Remark 2: For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.

11b_TX_CH_01_Horizontal_Peak



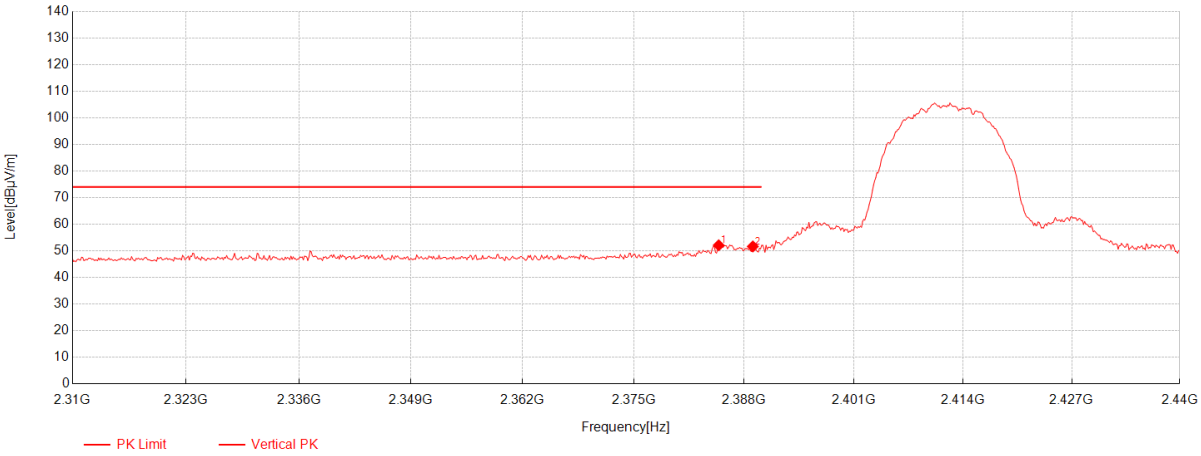
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2382.28	54.06	26.62	-26.16	54.52	74.00	19.48	Horizontal
2	2386.18	55.82	26.66	-26.14	56.34	74.00	17.66	Horizontal

11b_TX_CH_01_Horizontal_Average



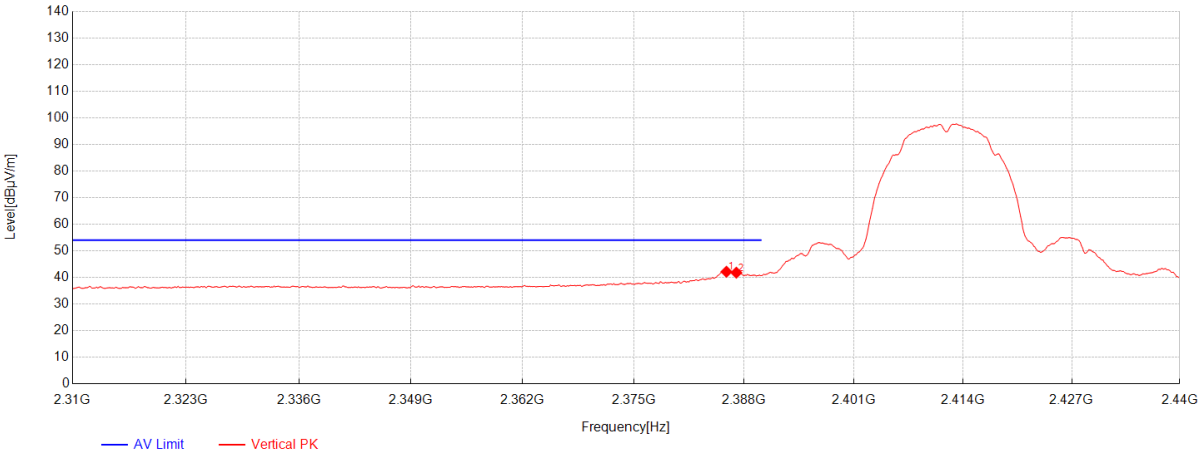
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2384.62	43.36	26.65	-26.15	43.86	54.00	10.14	Horizontal
2	2386.31	45.58	26.66	-26.14	46.10	54.00	7.90	Horizontal

11b_TX_CH_01_Vertical_Peak



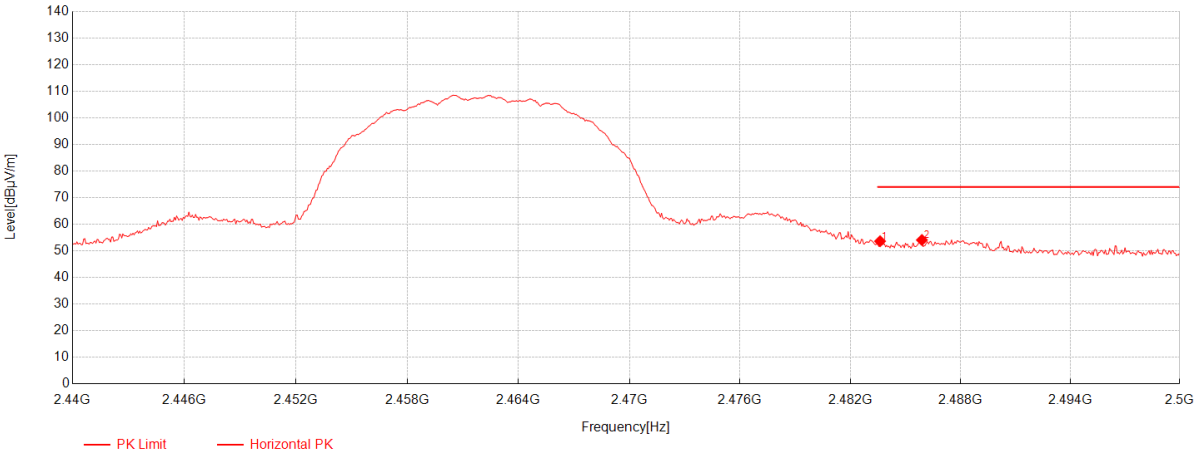
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2385.01	51.58	26.65	-26.15	52.08	74.00	21.92	Vertical
2	2389.04	51.07	26.69	-26.13	51.63	74.00	22.37	Vertical

11b_TX_CH_01_Vertical_Average



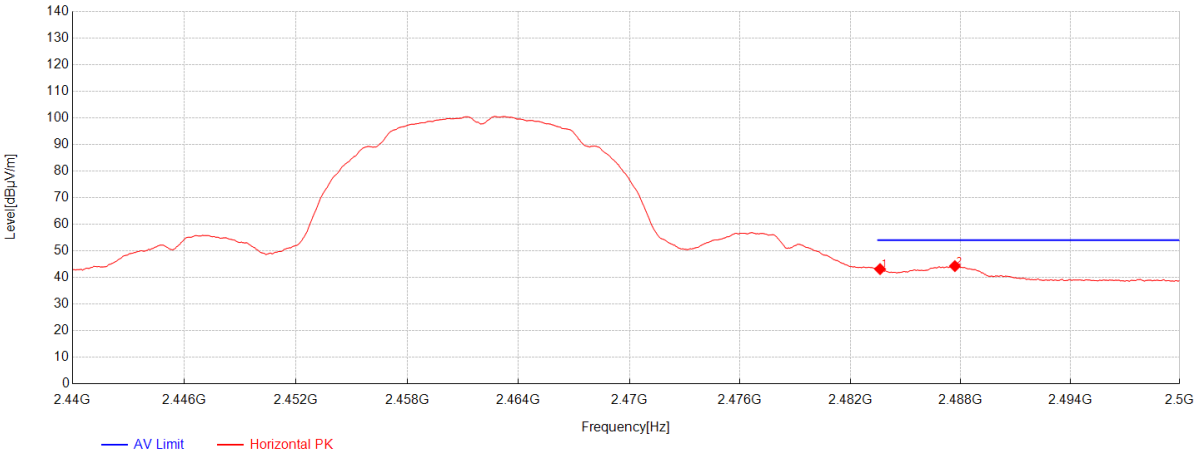
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2385.92	41.62	26.66	-26.15	42.13	54.00	11.87	Vertical
2	2387.09	41.25	26.67	-26.14	41.78	54.00	12.22	Vertical

11b_TX_CH_11_Horizontal_Peak



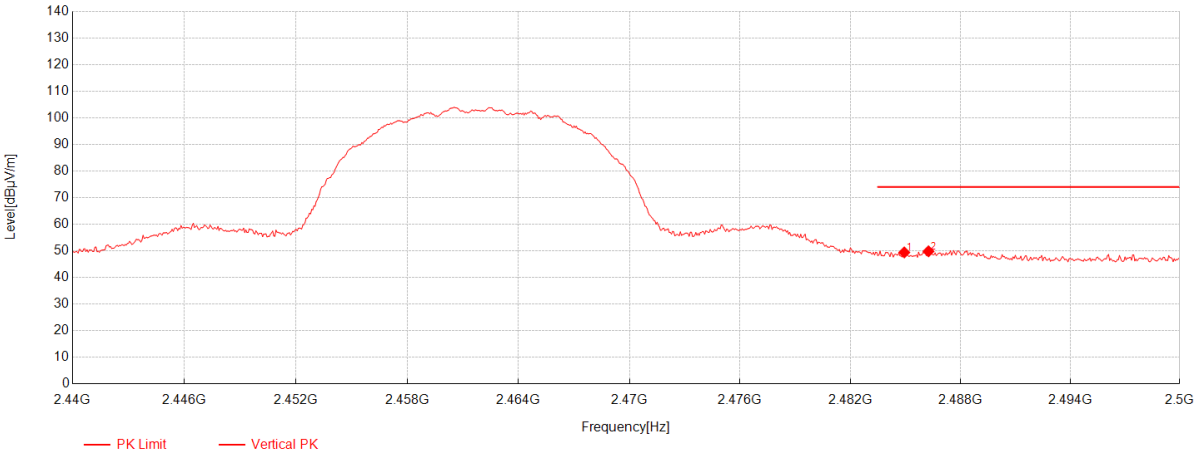
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2483.62	52.68	27.16	-26.24	53.60	74.00	20.40	Horizontal
2	2485.9	53.16	27.14	-26.24	54.06	74.00	19.94	Horizontal

11b_TX_CH_11_Horizontal_Average



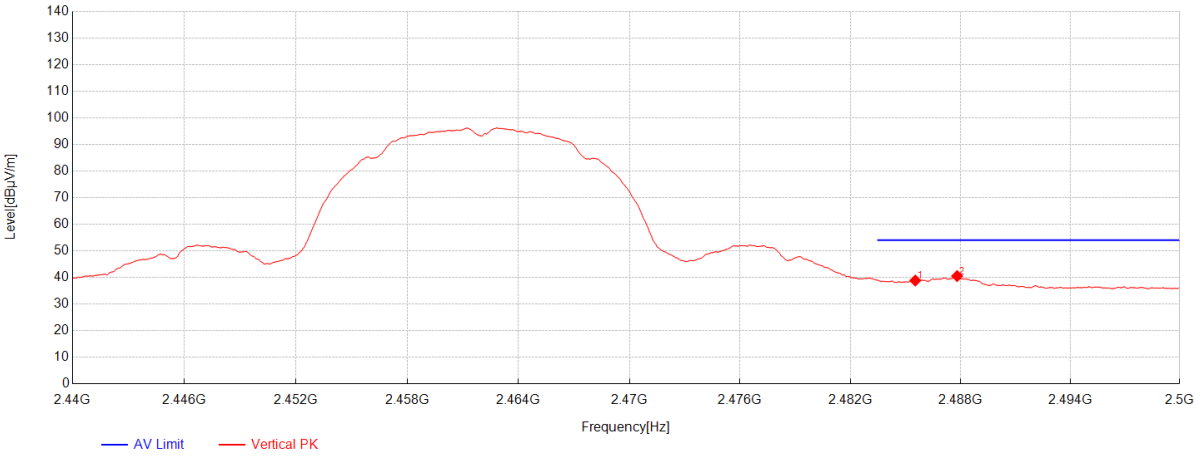
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2483.62	42.20	27.16	-26.24	43.12	54.00	10.88	Horizontal
2	2487.7	43.38	27.12	-26.25	44.25	54.00	9.75	Horizontal

11b_TX_CH_11_Vertical_Peak



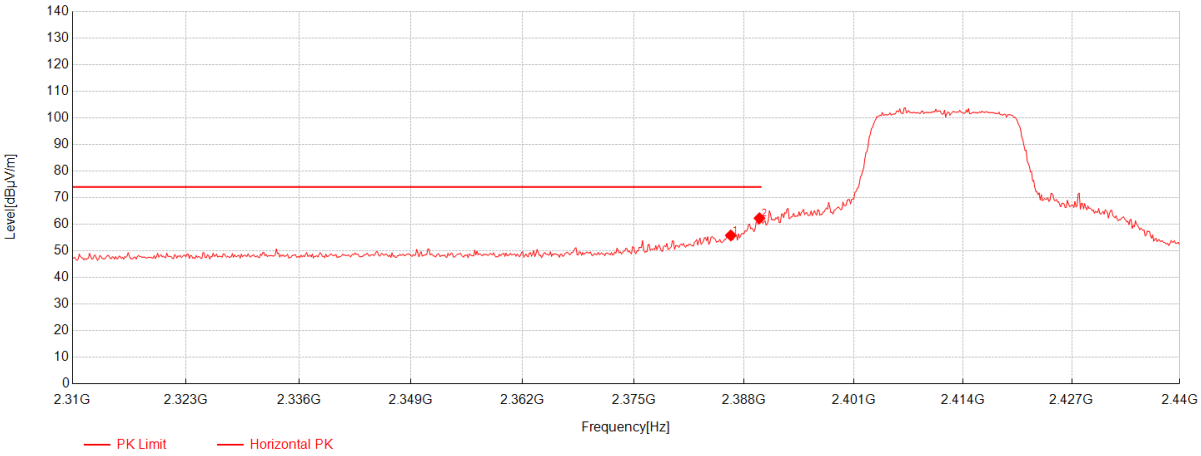
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2484.94	48.48	27.15	-26.24	49.39	74.00	24.61	Vertical
2	2486.26	48.91	27.14	-26.24	49.81	74.00	24.19	Vertical

11b_TX_CH_11_Vertical_Average



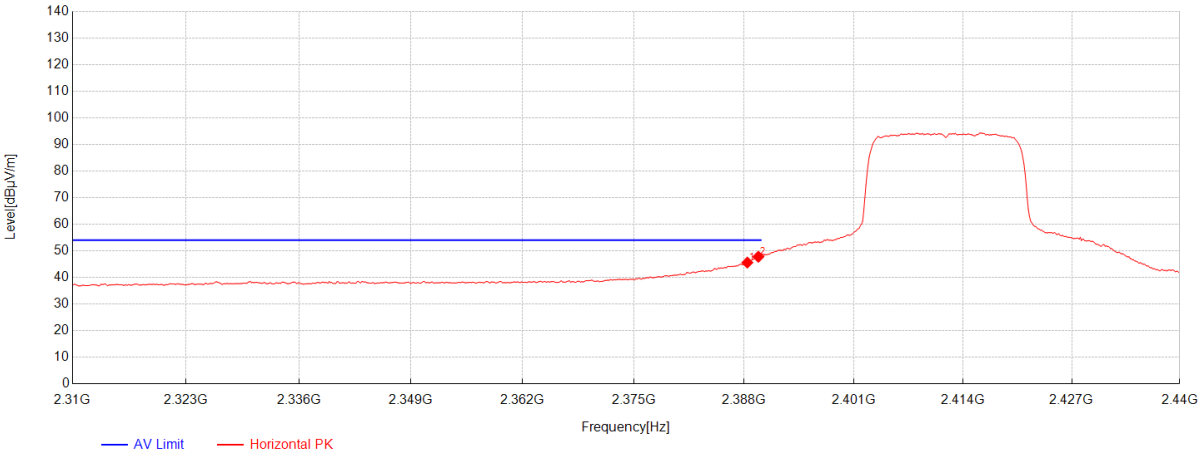
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2485.54	37.93	27.14	-26.24	38.83	54.00	15.17	Vertical
2	2487.82	39.64	27.12	-26.25	40.51	54.00	13.49	Vertical

11n(HT20)_TX_CH_01_Horizontal_Peak



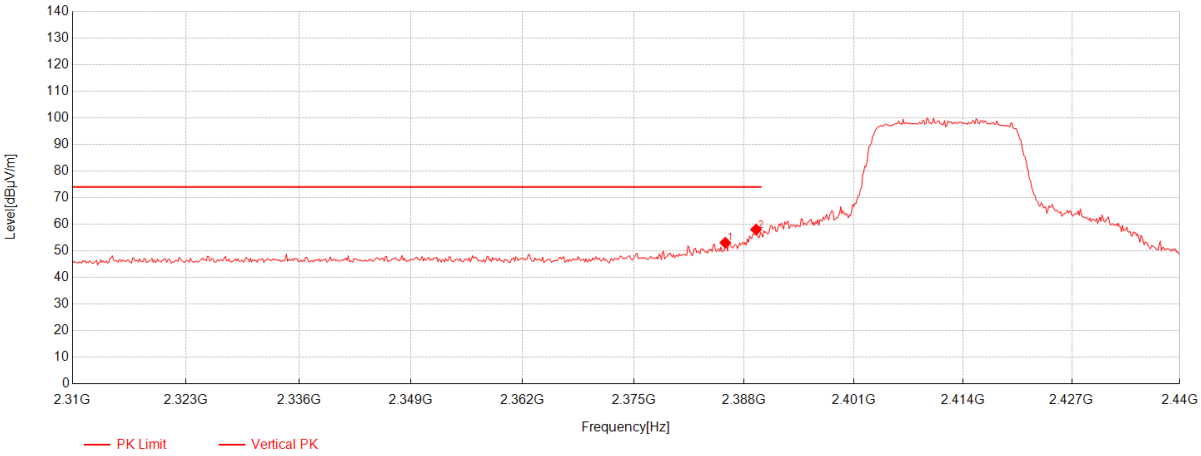
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2386.44	55.26	26.66	-26.14	55.78	74.00	18.22	Horizontal
2	2389.82	61.66	26.70	-26.13	62.23	74.00	11.77	Horizontal

11n(HT20)_TX_CH_01_Horizontal_Average



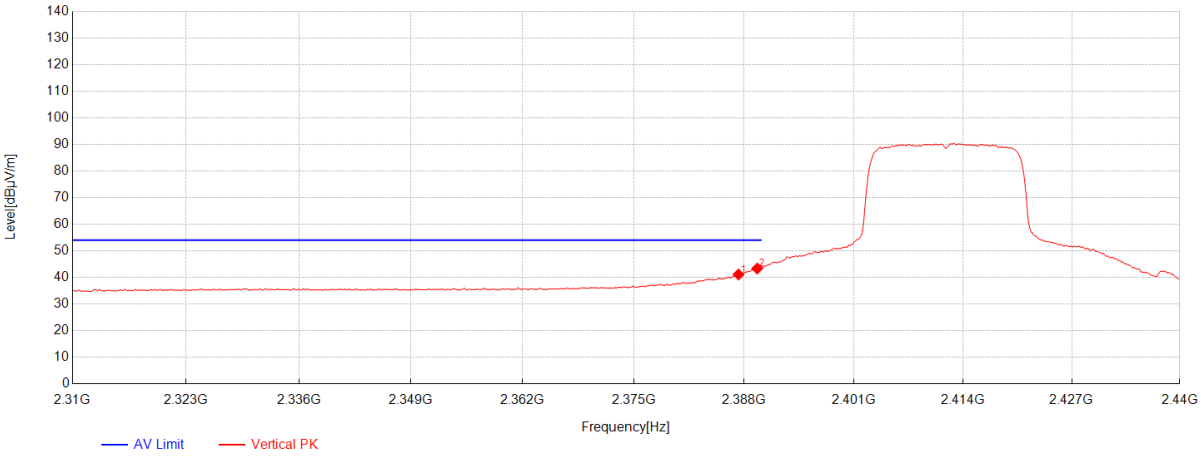
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2388.39	45.03	26.68	-26.13	45.58	54.00	8.42	Horizontal
2	2389.69	47.20	26.70	-26.13	47.77	54.00	6.23	Horizontal

11n(HT20)_TX_CH_01_Vertical_Peak



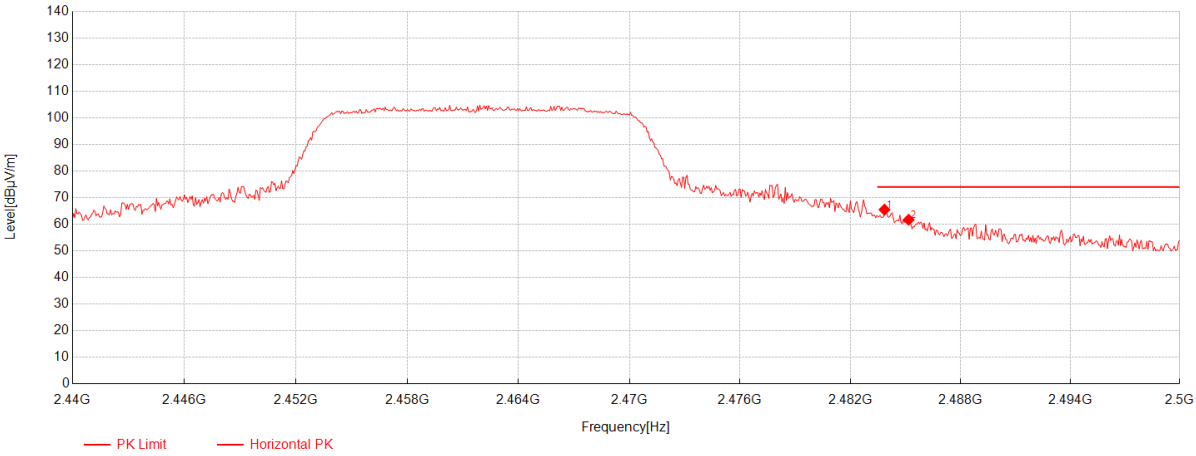
Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2385.79	52.52	26.66	-26.15	53.03	74.00	20.97	Vertical
2	2389.43	57.41	26.69	-26.13	57.97	74.00	16.03	Vertical

11n(HT20)_TX_CH_01_Vertical_Average



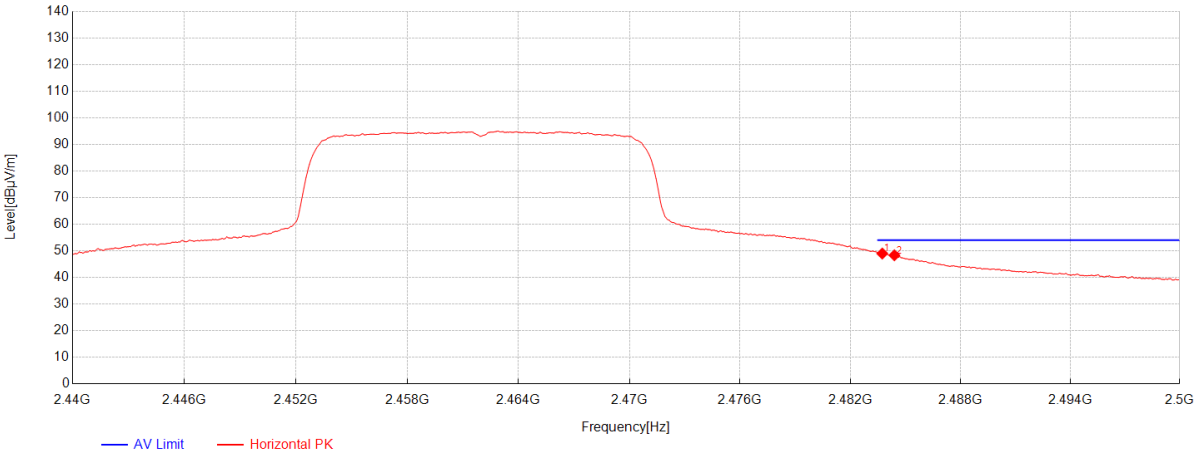
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2387.35	40.56	26.67	-26.14	41.09	54.00	12.91	Vertical
2	2389.56	42.78	26.70	-26.13	43.35	54.00	10.65	Vertical

11n(HT20)_TX_CH_11_Horizontal_Peak



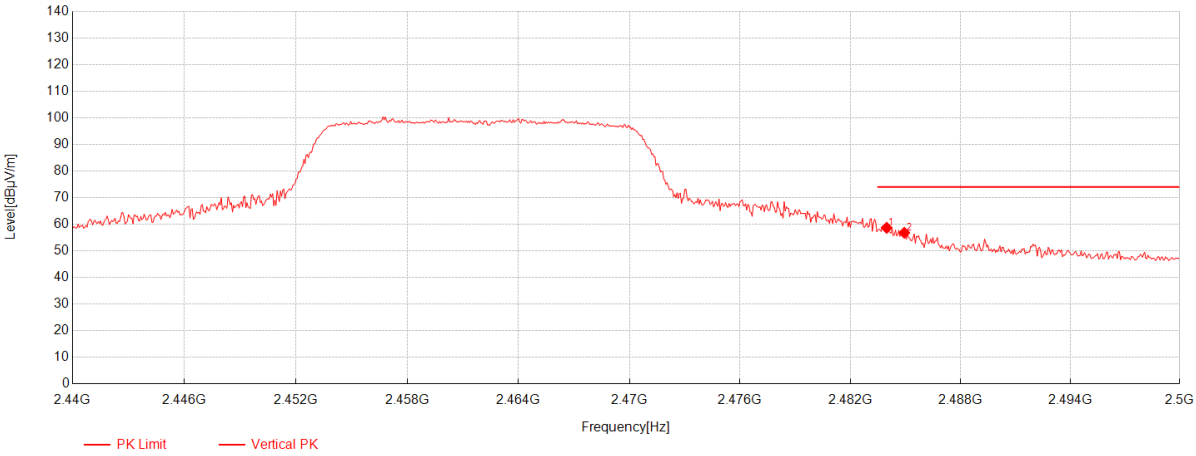
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2483.86	64.53	27.16	-26.24	65.45	74.00	8.55	Horizontal
2	2485.18	60.77	27.15	-26.24	61.68	74.00	12.32	Horizontal

11n(HT20)_TX_CH_11_Horizontal_Average



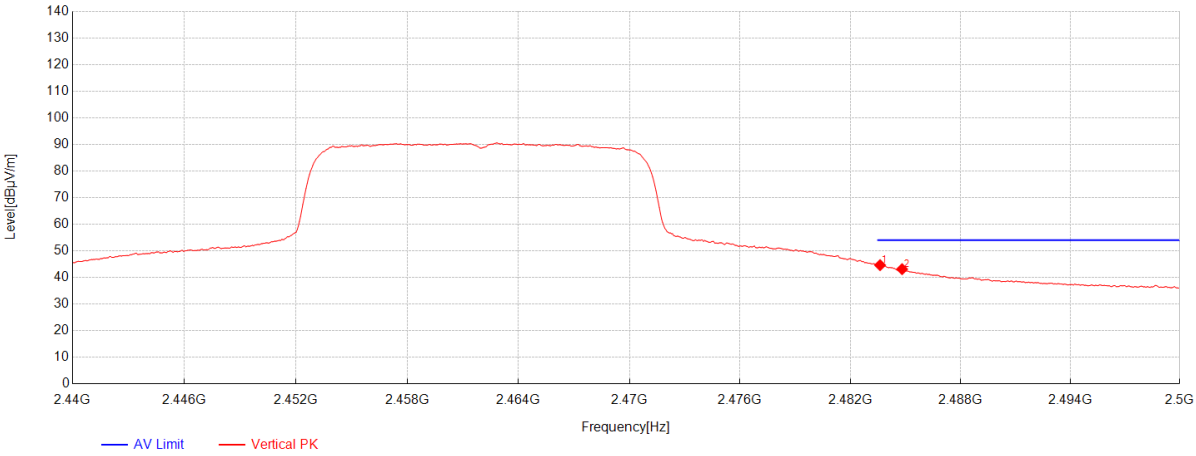
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2483.74	48.04	27.16	-26.24	48.96	54.00	5.04	Horizontal
2	2484.4	47.40	27.16	-26.24	48.32	54.00	5.68	Horizontal

11n(HT20)_TX_CH_11_Vertical_Peak



Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2483.98	57.71	27.16	-26.24	58.63	74.00	15.37	Vertical
2	2484.94	55.86	27.15	-26.24	56.77	74.00	17.23	Vertical

11n(HT20)_TX_CH_11_Vertical_Average



Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2483.62	43.69	27.16	-26.24	44.61	54.00	9.39	Vertical
2	2484.82	42.19	27.15	-26.24	43.10	54.00	10.90	Vertical

6.3 Radiated Spurious Emissions Below 1GHz

Test Requirement 47 CFR Part 15, Subpart C 15.205 & 15.209
Test Method: ANSI C63.10 (2020) Section 6.4,6.5
Measurement Distance: 3M

Limit:

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)	Field strength (dBµV/m@3m)
0.009-0.490	2400/F(kHz)	300	128.5 to 93.8
0.490-1.705	24000/F(kHz)	30	73.8 to 62.9
1.705-30.0	30	30	69.60
30-88	100	3	40.0
88-216	150	3	43.5
216-960	200	3	46.0
960-1000	500	3	54.0

Note : The above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz. Radiated emission limits in these two bands are based on measurements employing an average detector.

6.3.1 E.U.T. Operation

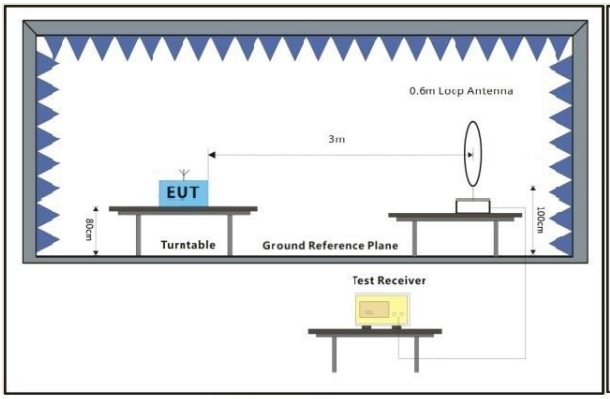
Operating Environment:

Temperature: 23.5 °C Humidity: 45.2 % RH Atmospheric Pressure: 1010 mbar

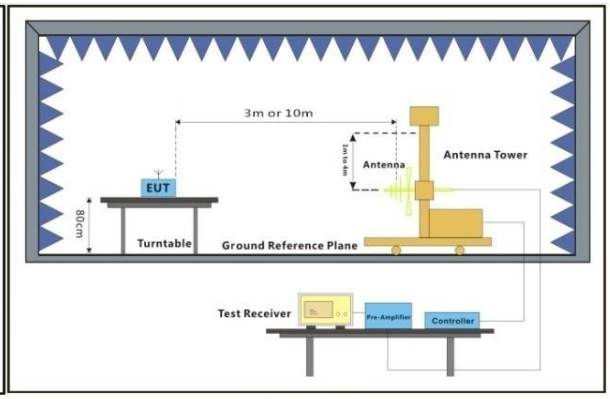
6.3.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	02	TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested, final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report.

6.3.3 Test Setup Diagram



Below 30MHz



30MHz-1GHz

6.3.4 Measurement Procedure and Data

a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8m above the ground at a semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3m or 10m away from the interference-receiving antenna, which was mounted on the variable-height antenna tower.

c. The antenna height is varied from 1m to 4m 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.

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

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

f. 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 quasi-peak method as specified and then reported in a data sheet.

g. Test the EUT in the lowest channel, the middle channel, the Highest channel.

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

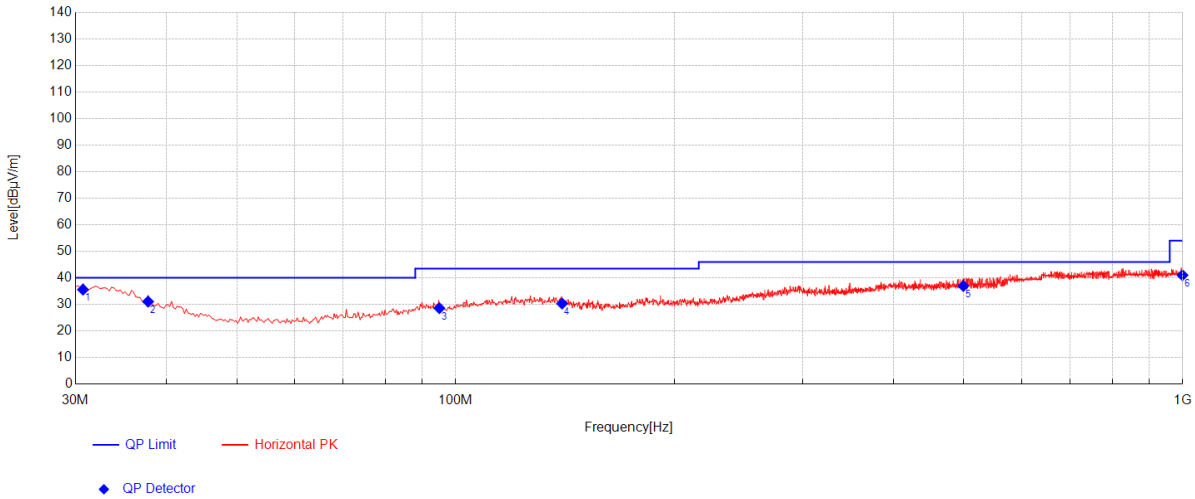
i. Repeat above procedures until all frequencies measured was complete.

Remark:

1. Scan from 9kHz to 30MHz, the disturbance below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only below points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.

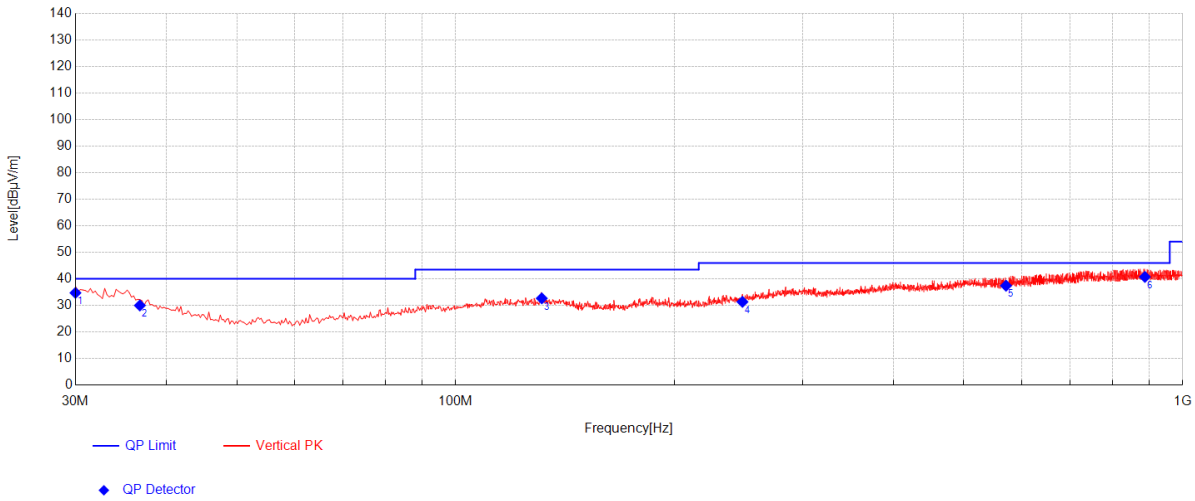
2. The disturbance below 1GHz was very low and the harmonics were the highest point could be found when testing, so only the worst-case test curve is displayed.

Test Mode: 02; Polarity: Horizontal



Final Data List									
NO.	Frequency [MHz]	AF [dB/m]	Factor [dB]	QP Value [dBµV/m]	QP Limit [dBµV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	30.7275	18.42	-32.53	35.58	40.00	4.42	255	360	Horizontal
2	37.76	12.72	-32.44	31.07	40.00	8.93	255	345	Horizontal
3	94.99	11.80	-31.88	28.57	43.50	14.93	255	360	Horizontal
4	140.095	13.85	-31.53	30.31	43.50	13.19	255	134	Horizontal
5	499.2375	18.65	-30.27	36.95	46.00	9.05	255	254	Horizontal
6	999.2725	23.46	-28.94	41.00	54.00	13.00	255	345	Horizontal

Test Mode: 02; Polarity: Vertical



Final Data List									
NO.	Frequency [MHz]	AF [dB/m]	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	30	19.00	-32.54	34.72	40.00	5.28	255	82	Vertical
2	36.79	13.76	-32.45	29.99	40.00	10.01	255	53	Vertical
3	131.365	13.76	-31.63	32.66	43.50	10.84	255	242	Vertical
4	248.0075	13.34	-31.16	31.35	46.00	14.65	255	214	Vertical
5	571.5025	20.16	-29.99	37.44	46.00	8.56	255	252	Vertical
6	887.2375	23.30	-29.08	40.73	46.00	5.27	255	66	Vertical

6.4 Radiated Spurious Emissions Above 1GHz

Test Requirement 47 CFR Part 15, Subpart C 15.205 & 15.209
Test Method: ANSI C63.10 (2020) Section 6.6 & 11.12
Measurement Distance: 3M

Limit:

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance(meters)
Above 1000	500	3

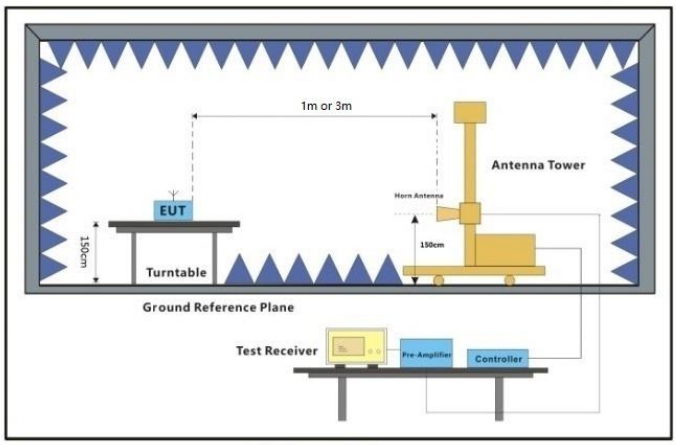
6.4.1 E.U.T. Operation

Operating Environment:
Temperature: 23.5 °C Humidity: 45.2 % RH Atmospheric Pressure: 1010 mbar

6.4.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	02	TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20), final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report.

6.4.3 Test Setup Diagram



Above 1GHz

6.4.4 Measurement Procedure and Data

a. For above 1GHz, the EUT was placed on the top of a rotating table 1.5m above the ground at a 3m fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. The EUT was set 3m away from the interference-receiving antenna from 1GHz to 18GHz, and 3m away from the interference-receiving antenna above 18GHz.

b. The interference-receiving antenna was mounted on the variable-height antenna tower, with its boresight facing the EUT throughout the test.

c. The antenna height is varied from 1m to 4m 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.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1m to 4m and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

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

f. Test the EUT in the lowest channel, the middle channel, the Highest channel.

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

h. Repeat above procedures until all frequencies measured was complete.

Remark:

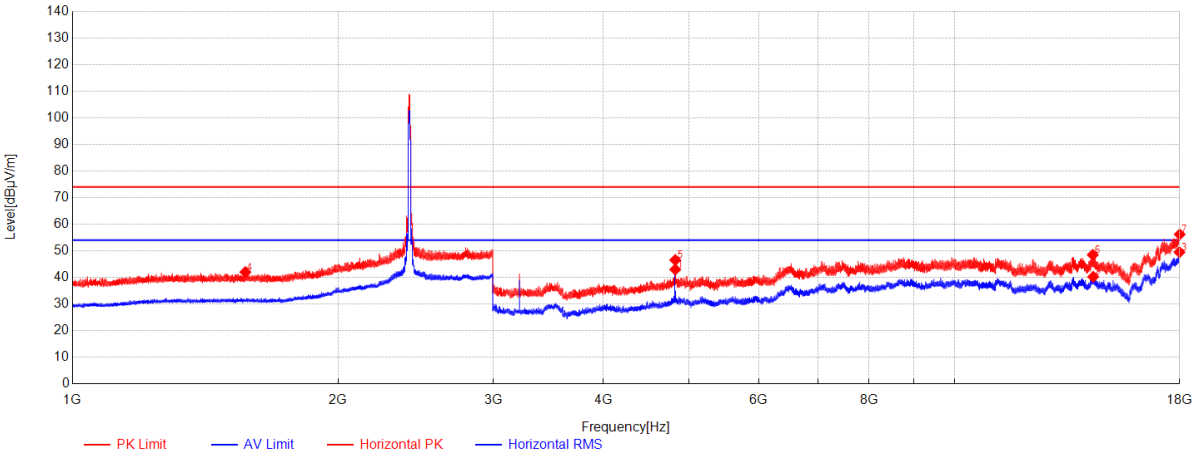
1. Scan from 1GHz to 10th harmonic of the highest frequency or 40 GHz, whichever is lower.

2. As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.

3. Scan from 1GHz to 25GHz, the disturbance above 18GHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.

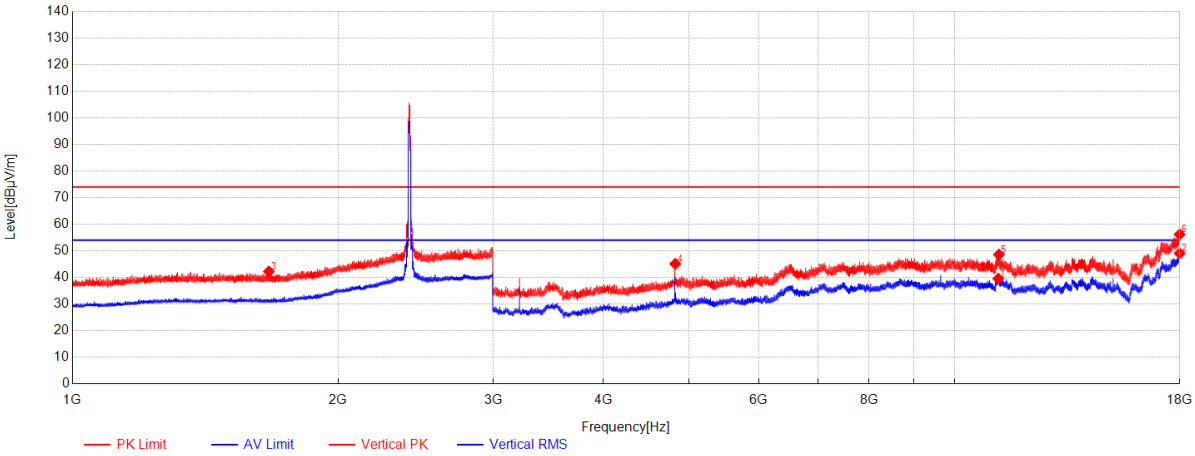
4. For devices with multiple operating modes, measurements on the middle channel is used to determine the worst-case mode(s). Only the worst-case mode with the highest output power and the mode with the highest output power spectral density for each modulation family (e.g., OFDM and direct sequence spread spectrum) is recorded in the test report.

11b_TX_CH_01_Horizontal



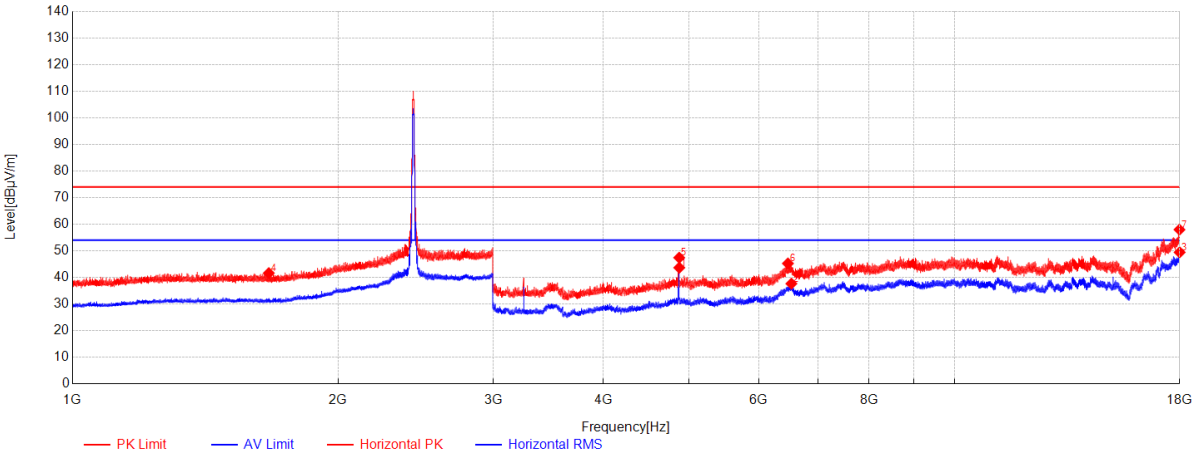
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	4824.5	61.71	31.45	-50.19	42.97	54.00	11.03	Horizontal
2	14363	42.17	40.27	-42.21	40.23	54.00	13.77	Horizontal
3	17990	47.60	43.20	-41.33	49.47	54.00	4.53	Horizontal
4	1570.5	46.30	23.80	-28.12	41.98	74.00	32.02	Horizontal
5	4824	65.26	31.45	-50.19	46.52	74.00	27.48	Horizontal
6	14345	50.55	40.29	-42.37	48.47	74.00	25.53	Horizontal
7	17999	54.14	43.20	-41.18	56.16	74.00	17.84	Horizontal

11b_TX_CH_01_Vertical



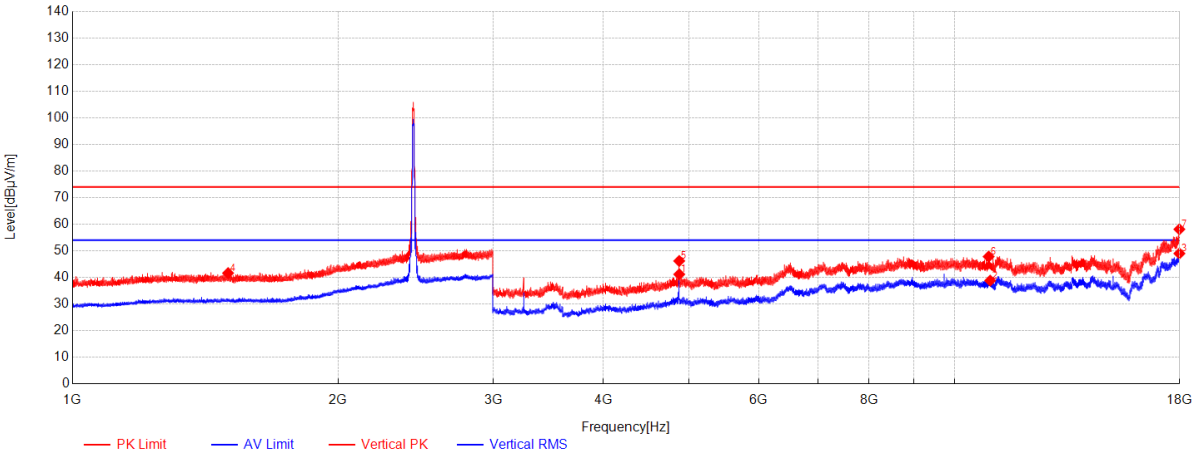
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	11211	44.25	39.52	-44.23	39.54	54.00	14.46	Vertical
2	17999	46.99	43.20	-41.18	49.01	54.00	4.99	Vertical
3	1670	46.59	23.70	-28.08	42.21	74.00	31.79	Vertical
4	4824	63.82	31.45	-50.19	45.08	74.00	28.92	Vertical
5	11229.5	53.29	39.56	-44.26	48.59	74.00	25.41	Vertical
6	17998.5	54.16	43.20	-41.19	56.17	74.00	17.83	Vertical

11b_TX_CH_06_Horizontal



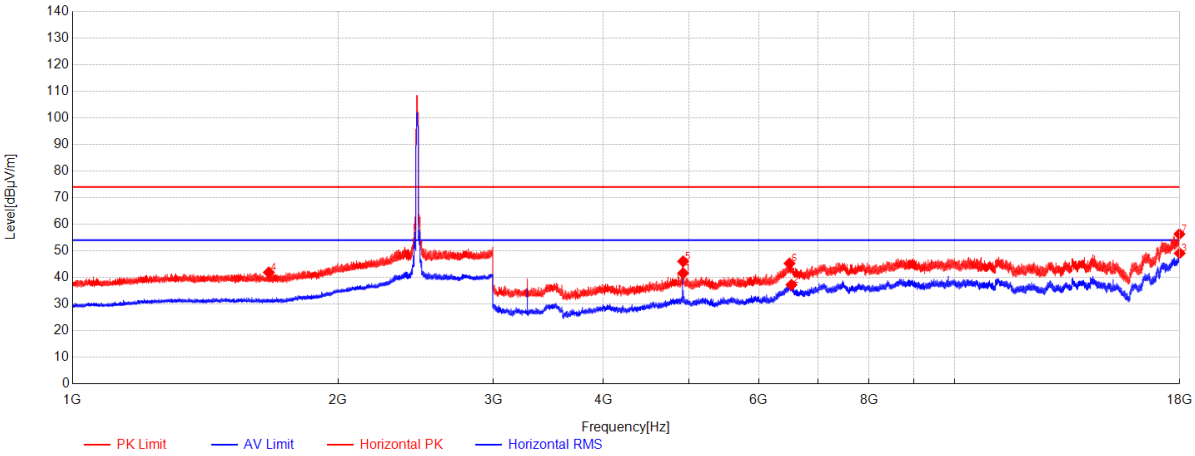
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	4874.5	62.76	31.45	-50.56	43.65	54.00	10.35	Horizontal
2	6532	50.15	34.52	-47.01	37.66	54.00	16.34	Horizontal
3	17998	47.42	43.20	-41.19	49.43	54.00	4.57	Horizontal
4	1669.5	46.00	23.70	-28.08	41.62	74.00	32.38	Horizontal
5	4874	66.51	31.45	-50.56	47.40	74.00	26.60	Horizontal
6	6473.5	57.64	34.20	-46.60	45.24	74.00	28.76	Horizontal
7	17990	56.07	43.20	-41.33	57.94	74.00	16.06	Horizontal

11b_TX_CH_06_Vertical



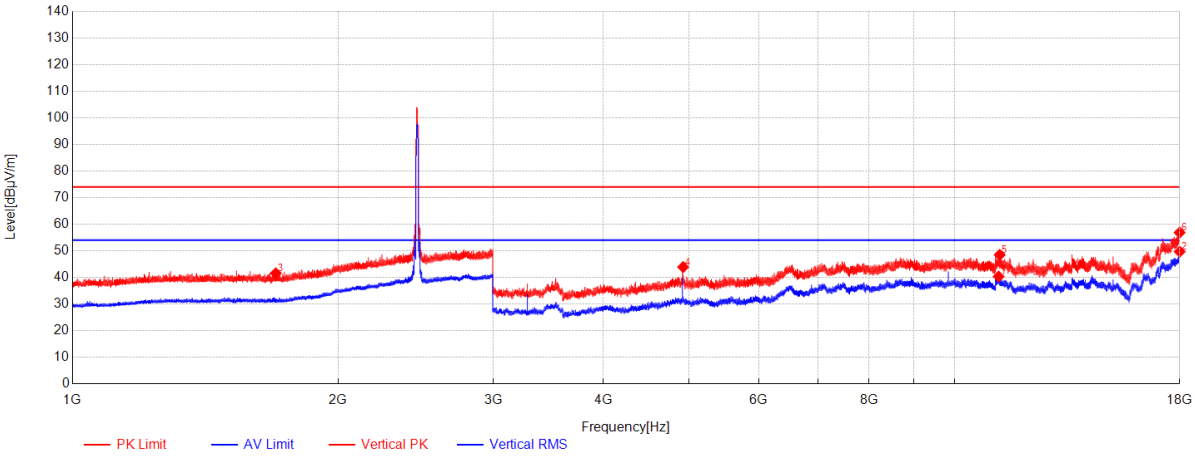
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	4874.5	60.28	31.45	-50.56	41.17	54.00	12.83	Vertical
2	10975.5	43.85	39.65	-44.71	38.79	54.00	15.21	Vertical
3	17986	47.17	43.20	-41.40	48.97	54.00	5.03	Vertical
4	1501.1667	45.60	24.08	-28.07	41.61	74.00	32.39	Vertical
5	4874	65.29	31.45	-50.56	46.18	74.00	27.82	Vertical
6	10931	53.27	39.66	-45.12	47.81	74.00	26.19	Vertical
7	17985	56.29	43.20	-41.42	58.07	74.00	15.93	Vertical

11b_TX_CH_11_Horizontal



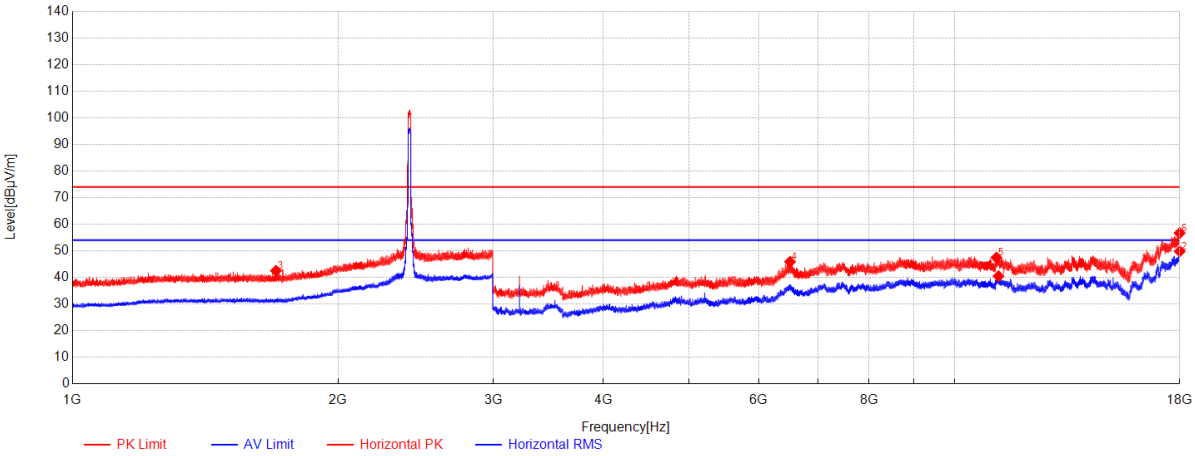
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	4924.5	60.82	31.50	-50.73	41.59	54.00	12.41	Horizontal
2	6533	49.72	34.53	-47.04	37.21	54.00	16.79	Horizontal
3	17999	47.05	43.20	-41.18	49.07	54.00	4.93	Horizontal
4	1669.5	46.27	23.70	-28.08	41.89	74.00	32.11	Horizontal
5	4924	65.25	31.50	-50.73	46.02	74.00	27.98	Horizontal
6	6500.5	57.21	34.21	-46.18	45.24	74.00	28.76	Horizontal
7	17985	54.49	43.20	-41.42	56.27	74.00	17.73	Horizontal

11b_TX_CH_11_Vertical



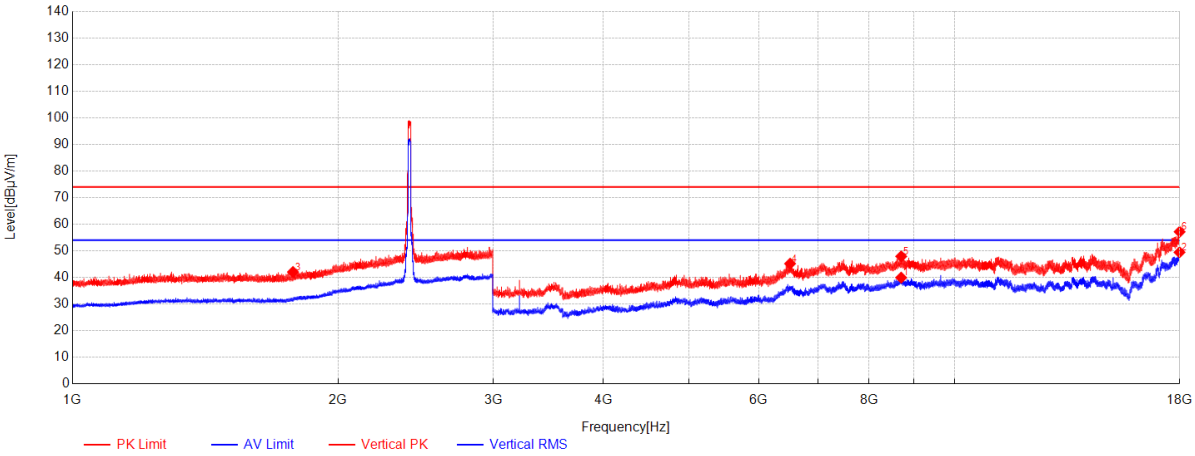
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	11220.5	45.04	39.54	-44.24	40.34	54.00	13.66	Vertical
2	17999.5	47.65	43.20	-41.17	49.68	54.00	4.32	Vertical
3	1700.1667	45.92	23.70	-28.06	41.56	74.00	32.44	Vertical
4	4924	63.12	31.50	-50.73	43.89	74.00	30.11	Vertical
5	11251.5	53.17	39.59	-44.30	48.46	74.00	25.54	Vertical
6	17995.5	54.87	43.20	-41.24	56.83	74.00	17.17	Vertical

11n(HT20)_TX_CH_01_Horizontal



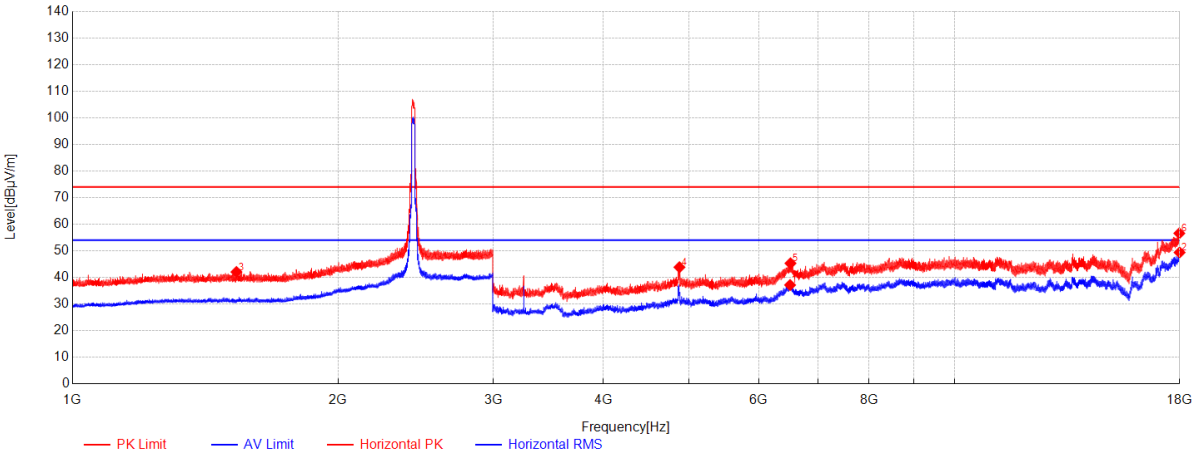
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	11216.5	45.19	39.53	-44.24	40.48	54.00	13.52	Horizontal
2	18000	47.75	43.20	-41.16	49.79	54.00	4.21	Horizontal
3	1701	46.86	23.70	-28.06	42.50	74.00	31.50	Horizontal
4	6509	57.99	34.29	-46.41	45.87	74.00	28.13	Horizontal
5	11156	52.73	39.32	-44.60	47.45	74.00	26.55	Horizontal
6	17997	54.64	43.20	-41.21	56.63	74.00	17.37	Horizontal

11n(HT20)_TX_CH_01_Vertical



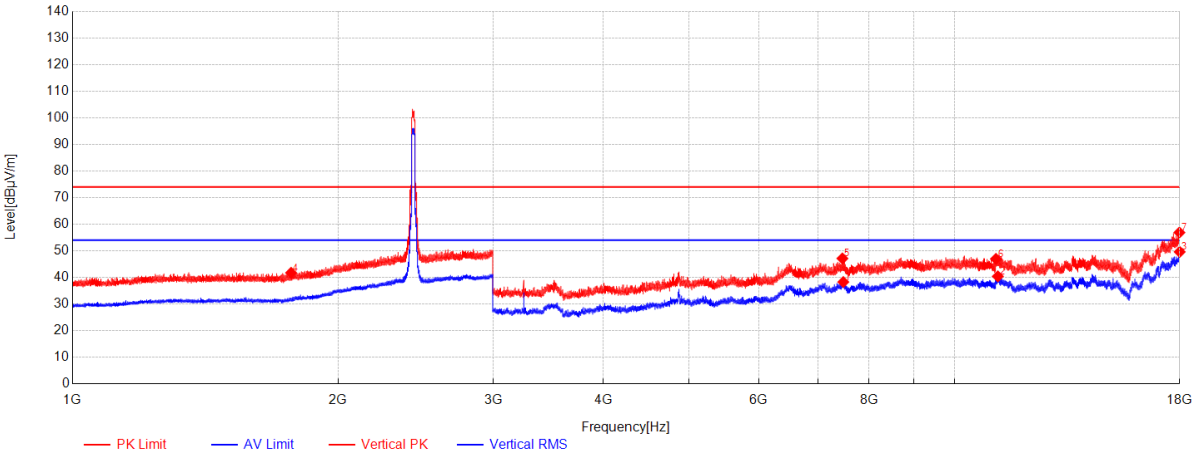
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	8700	48.18	37.50	-45.76	39.92	54.00	14.08	Vertical
2	17993	47.52	43.20	-41.28	49.44	54.00	4.56	Vertical
3	1778.3333	46.06	23.70	-27.72	42.04	74.00	31.96	Vertical
4	6510	57.29	34.30	-46.43	45.16	74.00	28.84	Vertical
5	8701	56.16	37.50	-45.77	47.89	74.00	26.11	Vertical
6	17997	55.15	43.20	-41.21	57.14	74.00	16.86	Vertical

11n(HT20)_TX_CH_06_Horizontal



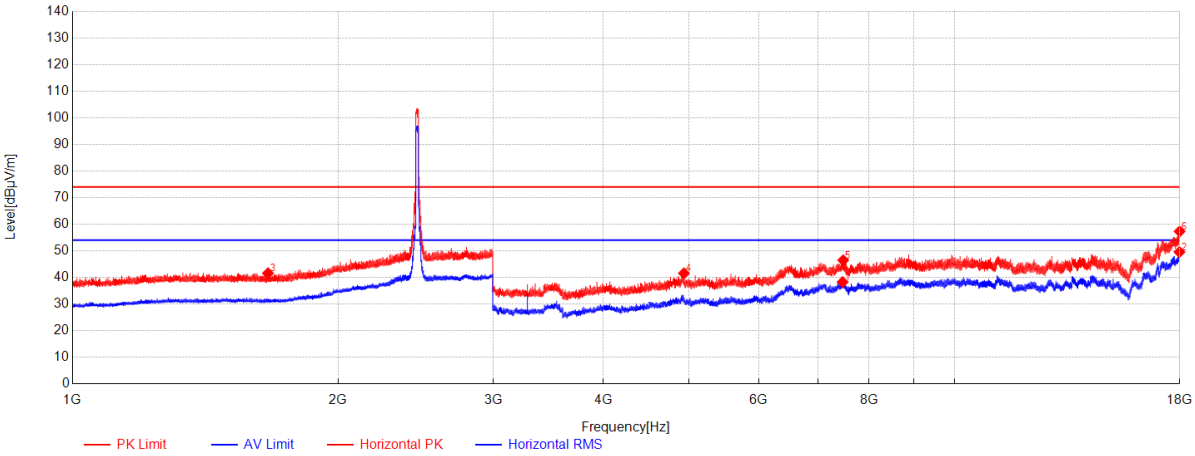
Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	6510	49.28	34.30	-46.43	37.15	54.00	16.85	Horizontal
2	17996	47.39	43.20	-41.23	49.36	54.00	4.64	Horizontal
3	1534.1667	46.40	23.73	-28.09	42.04	74.00	31.96	Horizontal
4	4877	62.96	31.45	-50.58	43.83	74.00	30.17	Horizontal
5	6516.5	57.52	34.37	-46.60	45.29	74.00	28.71	Horizontal
6	17982.5	54.81	43.20	-41.46	56.55	74.00	17.45	Horizontal

11n(HT20)_TX_CH_06_Vertical



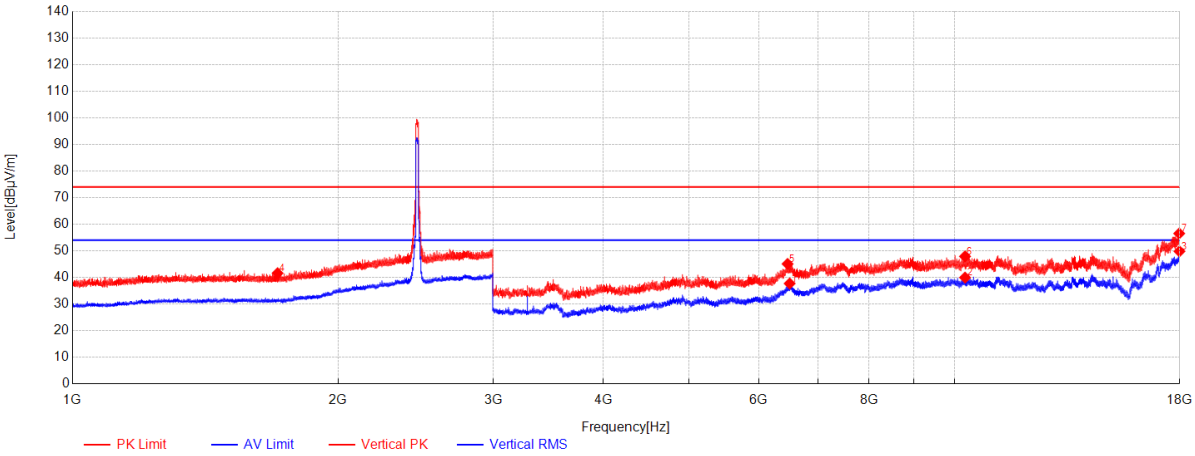
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	7480.5	48.87	36.44	-47.05	38.26	54.00	15.74	Vertical
2	11197	45.14	39.49	-44.24	40.39	54.00	13.61	Vertical
3	17999	47.58	43.20	-41.18	49.60	54.00	4.40	Vertical
4	1769.6667	45.77	23.70	-27.75	41.72	74.00	32.28	Vertical
5	7463	58.04	36.30	-47.23	47.11	74.00	26.89	Vertical
6	11141	52.33	39.35	-44.73	46.95	74.00	27.05	Vertical
7	17987	55.04	43.20	-41.38	56.86	74.00	17.14	Vertical

11n(HT20)_TX_CH_11_Horizontal



Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	7466.5	49.13	36.33	-47.19	38.27	54.00	15.73	Horizontal
2	17987.5	47.71	43.20	-41.38	49.53	54.00	4.47	Horizontal
3	1666	45.95	23.70	-28.09	41.56	74.00	32.44	Horizontal
4	4934.5	60.77	31.50	-50.73	41.54	74.00	32.46	Horizontal
5	7477.5	57.10	36.42	-47.08	46.44	74.00	27.56	Horizontal
6	17995	55.32	43.20	-41.25	57.27	74.00	16.73	Horizontal

11n(HT20)_TX_CH_11_Vertical



Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	6503	49.73	34.23	-46.25	37.71	54.00	16.29	Vertical
2	10278.5	46.27	39.40	-45.74	39.93	54.00	14.07	Vertical
3	17990.5	47.93	43.20	-41.32	49.81	54.00	4.19	Vertical
4	1708.1667	45.90	23.70	-28.02	41.58	74.00	32.42	Vertical
5	6467.5	57.56	34.20	-46.69	45.07	74.00	28.93	Vertical
6	10278	54.23	39.40	-45.74	47.89	74.00	26.11	Vertical
7	17977.5	54.85	43.20	-41.55	56.50	74.00	17.50	Vertical

7 Test Setup Photo

Refer to Appendix - Test Setup Photo for KSCR2603000566HS

8 EUT Constructional Details (EUT Photos)

Refer to Appendix_Photographs of EUT Constructional Details for KSCR2603000566HS

- End of the Report -