Test Report No.:
FCC2021-0010RF

RF Test Report

EUT	:	**360 Robot Vacuum Cleaner**
MODEL	:	**S8，S8 MAX，S8 Pro，S8 Plus，S8+，S8 Pure，S9 Lite，S9 Pure，X80，X80 Pro，X80Plus，2S-X80V2，S8 LITE**
BRAND NAME	:	
CLIENT	:	**Suzhou 360 Robotic Technology Co.,Ltd**
Classification Of Test	:	**Commission Test**

CVC Testing Technology Co., Ltd.

Client	**Name : Suzhou 360 Robotic Technology Co.,Ltd** **Address : G3-2101, Artificial Intelligence industrial park, No. 88 Jinjihu Avenue, Suzhou Industrial Park，Suzhou，Jiangsu, China**
Manufacturer	**Name : Suzhou 360 Robotic Technology Co.,Ltd** **Address : G3-2101, Artificial Intelligence industrial park, No. 88 Jinjihu Avenue, Suzhou Industrial Park，Suzhou，Jiangsu, China**
Equipment Under Test	**Name : 360 Robot Vacuum Cleaner** **Model/Type: S8，S8 MAX，S8 Pro，S8 Plus，S8+，S8 Pure，S9 Lite，S9 Pure，X80，X80 Pro，X80Plus，2S-X80V2，S8 LITE** **Trade mark :** 360 **Serial NO.:N/A** **Sampe NO.:1-1**

Date of Receipt.	**2021.05.07**	Date of Testing	**2021.05.07～2021.05.26**

Test Specification	**Test Result**
FCC Part 15, Subpart C, Section 15.247	PASS

Evaluation of Test Result	The equipment under test was found to comply with the requirements of the standards applied. **Issue Date: 2021.05.26**

Tested by: Cheng Xiaochuan Cheng Xiao Chuan Name Signature	Reviewed by: Liu Yong Hai Liu Yong Hai Name Signature	Approved by: Dong Sanbi Dong San Bi Name Signature

Other Aspects: NONE.

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

TABLEOFCONTENTS

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FCC2021-0010RF	Original release	2021.05.26

1 GENERAL INFORMATION

1.1 GENERAL PRODUCT INFORMATION

PRODUCT	360 Robot Vacuum Cleaner
BRAND	360
MODEL	S8
ADDITIONAL MODEL	S8 MAX，S8 Pro，S8 Plus，S8+，S8 Pure，S9 Lite，S9 Pure，X80，X80 Pro，X80Plus，2S-X80V2，S8 LITE
FCC ID	2AZD5-S8
POWER SUPPLY	DC 24V From Adapter or DC 14.4V From Li-ion Battery
MODULATIONTECHNOLOGY	DSSS, OFDM
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
OPERATING FREQUENCY	2412MHz ~ 2462MHz for 11b/g/n(HT20) 2422MHz ~ 2452MHz for 11n(HT40)
NUMBER OF CHANNEL	802.11b/g/n (HT20): 11 802.11n (HT40): 7
PEAK OUTPUT POWER	WLAN: 21.57dBm (Maximum)
ANTENNA TYPE	WLAN: PCB Antenna, 3.2dBi Gain
I/O PORTS	Refer to user's manual
CABLE SUPPLIED	N/A

Remark:

1. For more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
2. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.
3. Additional models (see about table)are identical with the test model S8 except the color of the appearance and model name for trading purpose.
4. Please refer to the EUT photo document for detailed product photo.
5. The EUT have SISO function, provides 1 completed transmitter and 1 receiver.

MODULATION MODE	TX FUNCTION
802.11b	1TX/1RX
802.11g	1TX/1RX
802.11n (HT20)	1TX/1RX
802.11n (HT40)	1TX/1RX

1.2 Description of Accessories

Adapter	
BRAND	N/A
Model No.:	SK03T-2400100Z
Input:	100-240 V~50/60 Hz 0.6 A Max
Output:	24.0 V ⎓ 1 A
AC Cable:	N/A
DC Cable:	1.80 Meter, Unshielded without ferrite

1.3 OTHER INFORMATION

Operating frequency of each channel

2.4G WIFI					
802.11b/g/n (HT20)					
CHANNEL	**FREQ. (MHz)**	**CHANNEL**	**FREQ. (MHz)**	**CHANNEL**	**FREQ. (MHz)**
1	**2412**	5	2432	9	2452
2	2417	**6**	**2437**	10	2457
3	2422	7	2442	**11**	**2462**
4	2427	8	2447		
802.11n (HT40)					
3	**2422**	**6**	**2437**	**9**	**2452**
4	2427	7	2442		
5	2432	8	2447		

Note: The channels which were indicated in bold type of the above channel list were selected as representative test channel. Therefore only the data of the test channels were recorded in this report.

1.4 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

Pre-scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, xyz axis and antenna ports

EUT CONFIGURE MODE	APPLICABLE TEST ITEMS				DESCRIPTION
	RE<1G	RE≥1G	PLC	APCM	
A	√	√	√	√	2.4G WIFI Function

Where **RE<1G:** Radiated Emission below 1GHz **RE≥1G:** Radiated Emission above 1GHz
PLC: Power Line Conducted Emission **APCM:** Antenna Port Conducted Measurement

RADIATED EMISSION TEST (BELOW 1 GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, XYZ axis, antenna ports (if EUT with antenna diversity architecture) and packet type.

☒ The worst case was found when positioned on x axis for radiated emission. Following channel(s) was (were) selected for the final test as listed below:

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11b	1 to 11	6	DSSS	DBPSK	6.0

For the test results, only the worst case was shown in test report.

RADIATED EMISSION TEST (ABOVE 1 GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, XYZ axis, antenna ports (if EUT with antenna diversity architecture) and packet type.

☒ The worst case was found when positioned on x axis for radiated emission. Following channel(s) was (were) selected for the final test as listed below:

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
A	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
A	802.11n(HT20)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
A	802.11n HT40	3 to 9	3, 6, 9	OFDM	BPSK	13.5

POWER LINE CONDUCTED EMISSION TEST:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, antenna ports (if EUT with antenna diversity architecture), and packet types.

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	TESTED CONDITION
-	WIFI (2.4G) Link

ANTENNA PORT CONDUCTED MEASUREMENT:

☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, antenna ports (if EUT with antenna diversity architecture), and packet types.

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
A	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
A	802.11n(HT20)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
A	802.11n HT40	3 to 9	3, 6, 9	OFDM	BPSK	13.5

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	TEST VOLTAGE (SYSTEM)	TESTED BY
RE<1G	25deg. C, 55%RH	AC 120V/60Hz	Cheng Xiao Chuan
RE≥1G	25deg. C, 55%RH	AC 120V/60Hz	Cheng Xiao Chuan
PLC	25deg. C, 55%RH	AC 120V/60Hz	Cheng Xiao Chuan
APCM	25deg. C, 60%RH	DC 14.4V	Cheng Xiao Chuan

1.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF product, according to the specifications of the manufacturers. It must comply with the requirements of the following standards:

FCC PART 15, Subpart C. Section 15.247
KDB 558074 D01 15.247 Meas Guidance v05r02
ANSI C63.10-2013

All test items have been performed and recorded as per the above standards

1.6 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Support Equipment					
NO	Description	Brand	Model No.	Serial Number	Supplied by
N/A	N/A	N/A	N/A	N/A	N/A

Support Cable							
NO	Description	Quantity (Number)	Length (cm)	Detachable (Yes/ No)	Shielded (Yes/ No)	Cores (Number)	Supplied by
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

PPLIED STANDARD: FCC Part 15, Subpart C			
STANDARD SECTION	**TEST TYPE AND LIMIT**	**RESULT**	**REMARK**
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit.
15.247(d) 15.209	Radiated Emissions	PASS	Meet the requirement of limit.
15.247(d)	Band Edge Measurement	PASS	Meet the requirement of limit.
15.247(a)(2)	6dB bandwidth	PASS	Meet the requirement of limit.
15.247(b)	Conducted Output power	PASS	Meet the requirement of limit.
15.247(e)	Power Spectral Density	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	Meet the requirement of limit.

2.1 LIST OF TEST AND MEASUREMENT INSTRUMENTS

Refer to Appendix A.

2.2 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

No.	ITEM	FREQUENCY	UNCERTAINTY
1	Conducted emissions	9kHz~30MHz	2.7dB
2	Radiated emissions	9KHz ~ 30MHz	5.6dB
		30MHz ~ 1GMHz	4.6dB
		1GHz ~ 18GHz	4.4dB
		18GHz ~ 40GHz	4.6dB

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

2.3 TEST LOCATION

The tests and measurements refer to this report were performed by EMC testing Lab. of
CVC Testing Technology Co., Ltd.
No.3, Tiantaiyi Road, Kaitai Avenue, Science City, Guangdong, China
Test Firm Registration Number: 937273

3 TEST TYPES AND RESULTS

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 Limit

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 in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.		

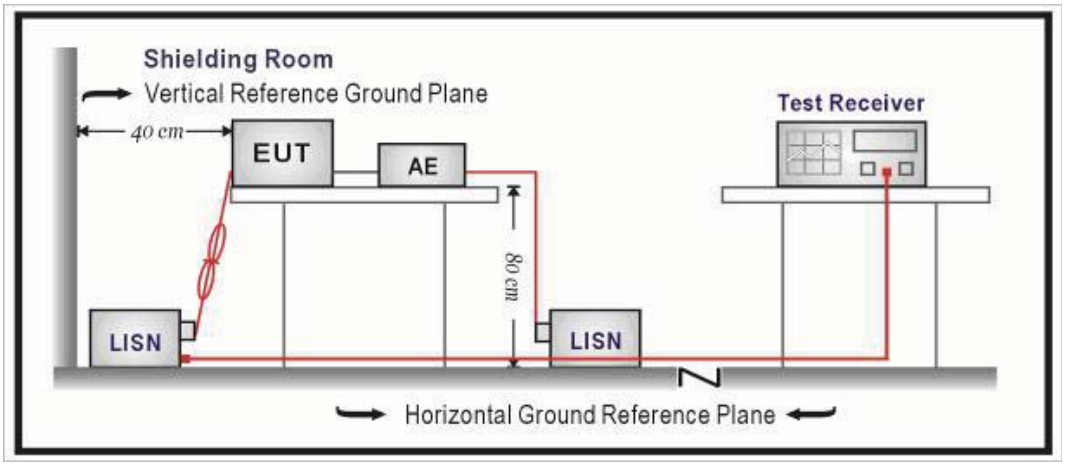
3.1.2 Measurement procedure

a. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the Test photographs) Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.The equipment under test shall be placed on a support of non-metallic material, the height of which shall be1.5m above the ground,

b. The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.

c. Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.

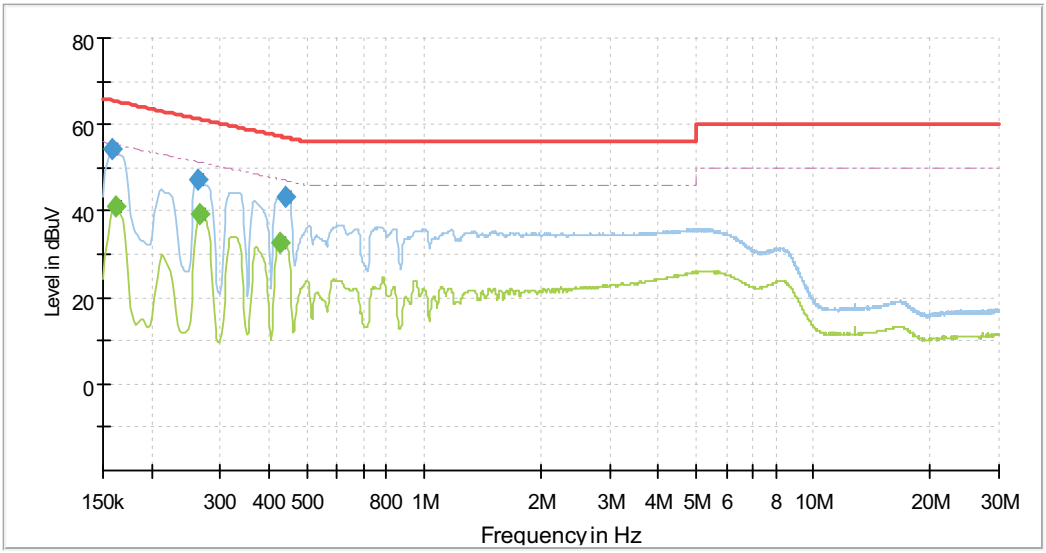
3.1.3 Test setup



3.1.4 Test results

CONDUCTED WORST-CASE DATA: Charging+ WIFI (2.4G) Link

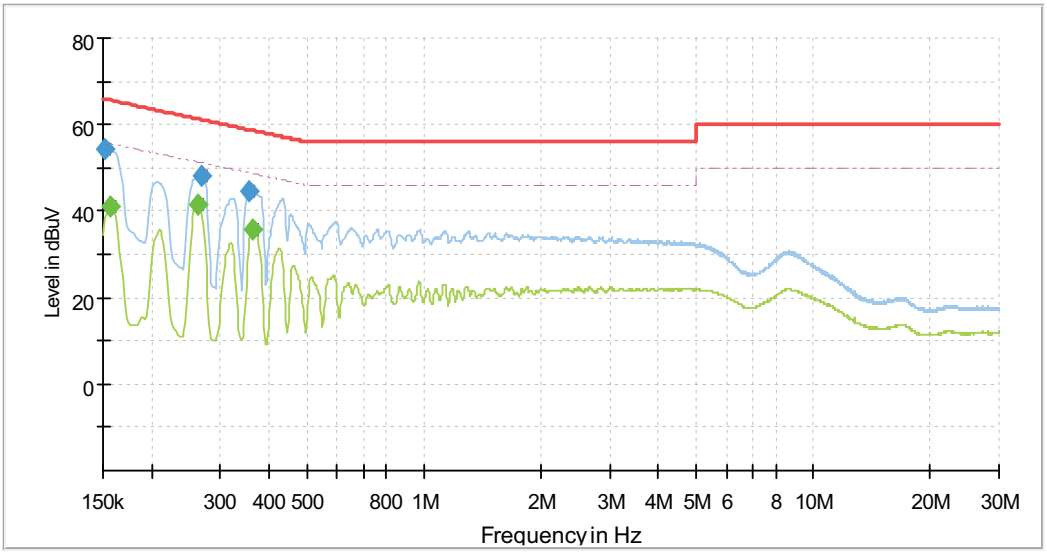
Test Mode	Charging+ WIFI (2.4G) Link		
Frequency Range	150KHz ~ 30MHz	PHASE	Line (L)



NO.	Frequency (MHz)	Reading (dBuV)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Insertion loss (dB)	Cable loss (dB)	LISN Factor (dB)	Corr. (dB)	Remark
1	0.159	34.8	54.3	65.5	11.2	9.8	0.2	9.5	19.5	QP
2	0.161	21.4	40.9	55.4	14.5	9.8	0.2	9.5	19.5	AVG
3	0.263	27.7	47.2	61.4	14.1	9.8	0.2	9.5	19.5	QP
4	0.267	19.7	39.2	51.2	12.1	9.8	0.2	9.5	19.5	AVG
5	0.427	13.1	32.6	47.3	14.7	9.8	0.2	9.5	19.5	AVG
6	0.440	23.6	43.1	57.1	14.0	9.8	0.2	9.5	19.5	QP

Remark: 1.The emission levels of other frequencies were very low against the limit.
2.Margin= Limit - Result
3. Corr.= Insertion loss + Cable loss + LISN Factor
4. Result = Corr. + Reading

Test Mode	Charging+ WIFI (2.4G) Link		
Frequency Range	150KHz ~ 30MHz	PHASE	Line (N)



NO.	Frequency (MHz)	Reading (dBuV)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Insertion loss (dB)	Cable loss (dB)	LISN Factor (dB)	Corr. (dB)	Remark
1	0.152	35	54.5	65.9	11.4	9.8	0.2	9.5	19.5	QP
2	0.157	21.6	41.1	55.6	14.6	9.8	0.2	9.5	19.5	AVG
3	0.263	22.2	41.7	51.4	9.7	9.8	0.2	9.5	19.5	AVG
4	0.269	28.5	48.0	61.1	13.2	9.8	0.2	9.5	19.5	QP
5	0.355	25.1	44.6	58.9	14.3	9.8	0.2	9.5	19.5	QP
6	0.364	16.1	35.6	48.6	13.0	9.8	0.2	9.5	19.5	AVG

Remark: 1.The emission levels of other frequencies were very low against the limit.
2.Margin= Limit - Result
3. Corr.= Insertion loss + Cable loss + LISN Factor
4. Result = Corr. + Reading

3.2 RADIATED EMISSION AND BANDEDGE MEASUREMENT

3.2.1 Limit

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

FREQUENCIES (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

NOTE: 1. The lower limit shall apply at the transition frequencies.
NOTE: 2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
NOTE: 3. As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

3.2.2 Measurement procedure

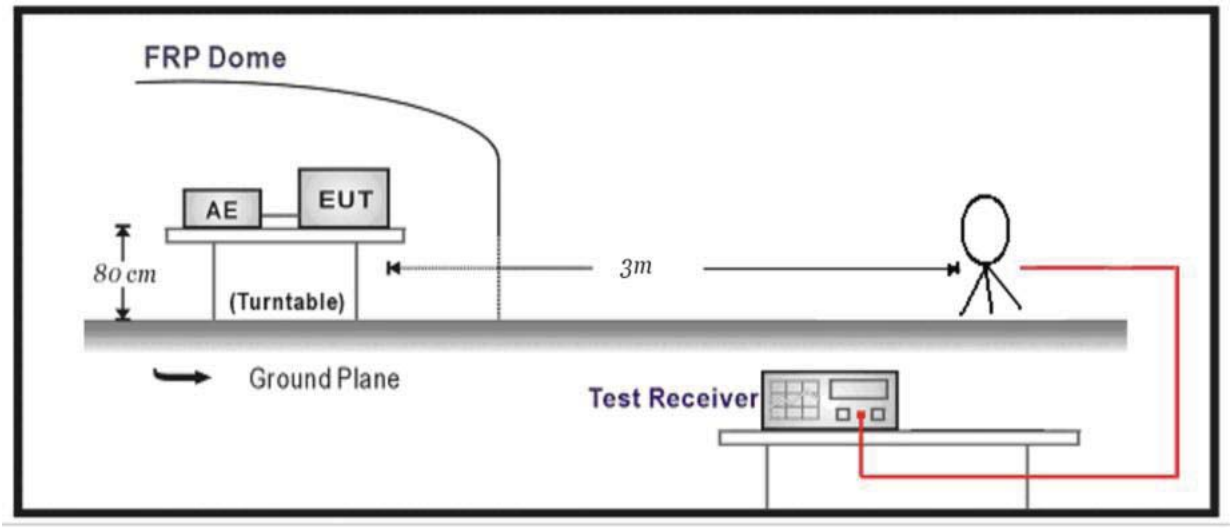
a. The EUT was placed on the top of a rotating table 1.5 meters(above 1GHz) and 0.8 meters(below 1GHz) above the ground at a 3 meters semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
c. For below 1GHz was used bilog antenna, and above 1GHz was used horn antenna, and its 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.
d. 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 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. For below 30MHz, a loop antenna with its vertical plane is place 3m from the EUT and rotated about its vertical axis for maximum response at each azimuth about the EUT. And the centre of the loop shall be 1m above the ground.
g. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, For battery operated equipment, the equipment tests shall be perform using fresh batteries. The turntable was rotated to maximize the emission level.

NOTE:

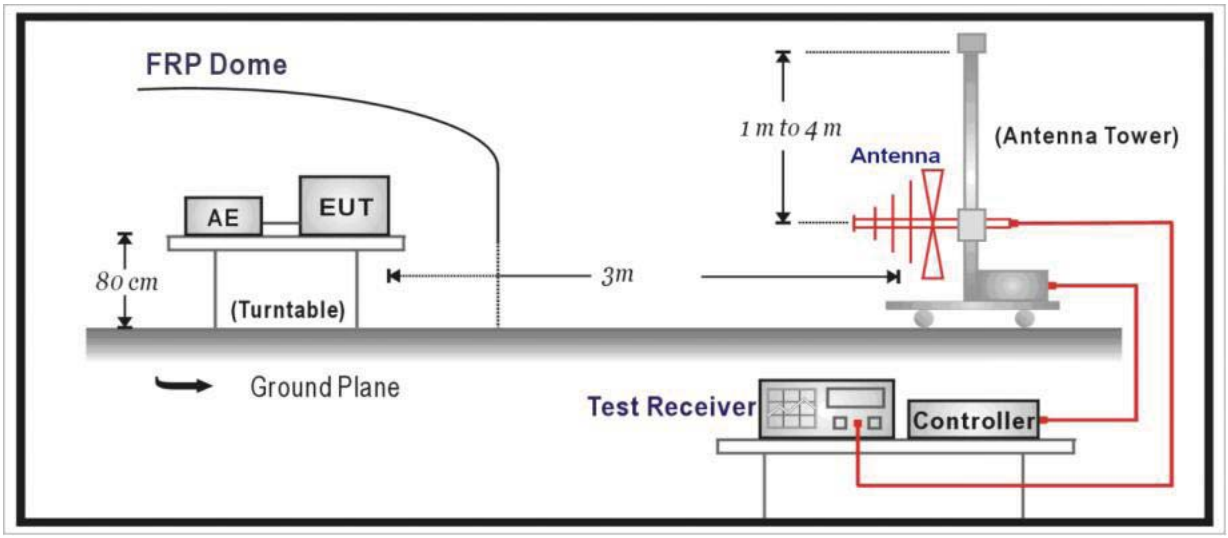
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is ⩾ 1/T (Duty cycle < 98%) or 10Hz(Duty cycle > 98%) for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.
5. The testing of the EUT was performed on all 3 orthogonal axes; the worst-case test configuration was reported on the file test setup photo.

3.2.3 Test setup

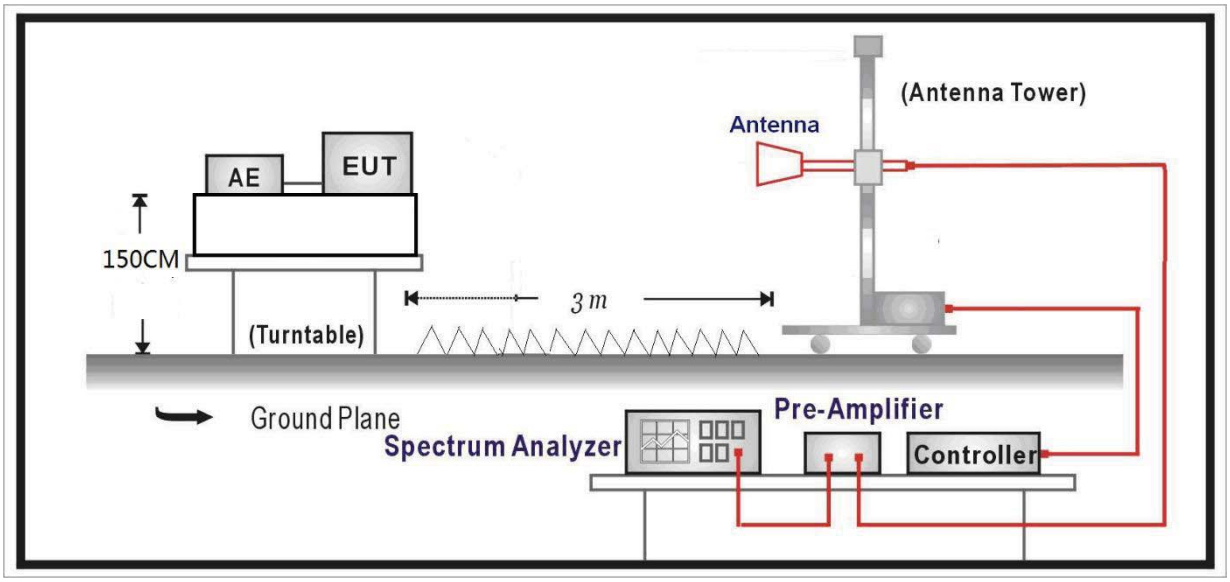
Below 30MHz Test Setup:



Below 1GHz Test Setup:



Above 1GHz Test Setup:

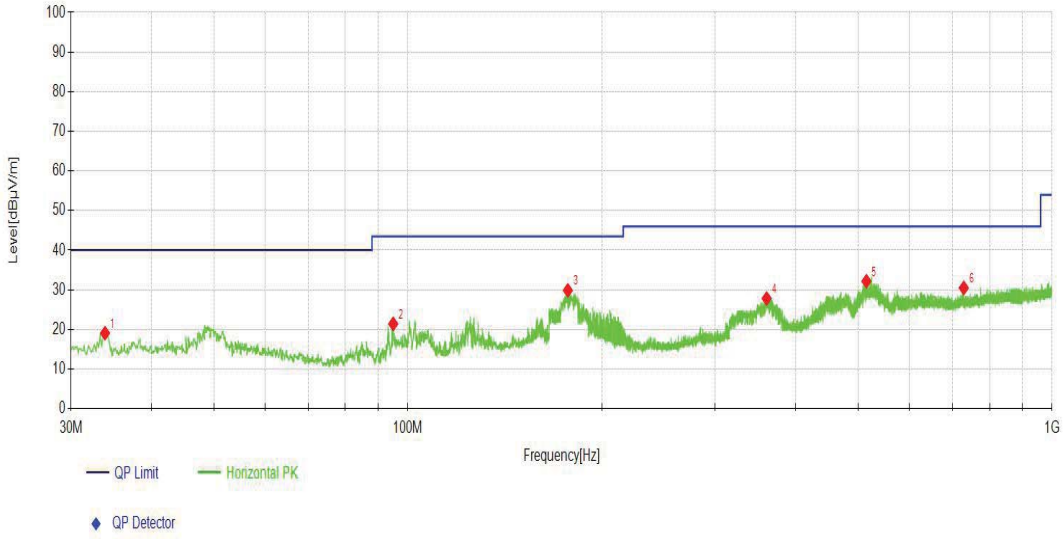


3.2.4 Test results

BELOW 1GHz WORST-CASE DATA:

Worst Test Mode	802.11b	Worst Test Channel	CH 1
Frequency Range	9KHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

Horizontal

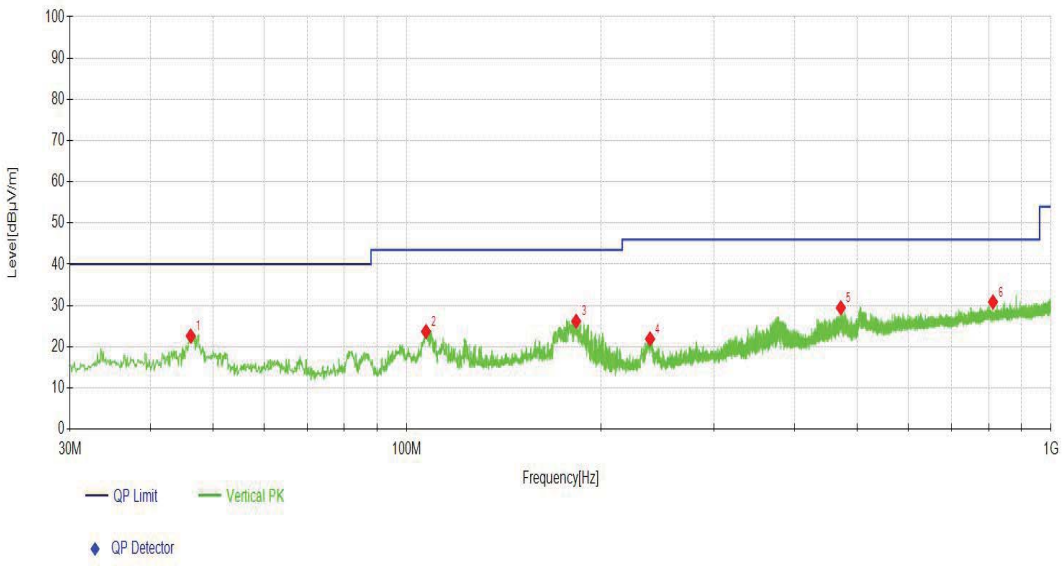


NO.	Frequency (MHz)	Antenna Factor (dB/m)	Cable Factor (dB)	Correction Factor (dB/m)	Reading (dBuV)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Azimuth (deg)	Remark
1	33.8804	13.2	1.49	14.69	4.36	19.05	40.00	20.95	200	208	QP
2	94.8995	9.8	1.74	11.54	9.86	21.40	43.50	22.10	300	248	QP
3	177.1637	12.1	2.78	14.88	14.97	29.85	43.50	13.65	300	32	QP
4	360.6091	13.7	4.27	17.97	9.84	27.81	46.00	18.19	300	122	QP
5	515.1455	16.5	4.79	21.29	10.86	32.15	46.00	13.85	300	344	QP
6	729.3429	20.2	4.56	24.76	5.71	30.47	46.00	15.53	100	331	QP

Remark: 1. 9KHz~30MHz have been test and test data more than 20dB margin.
2. The emission levels of other frequencies were greater than 20dB margin.
3. Result (dBuV/m) = Reading (dBuV) + Correction Factor (dB/m).
4. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
5. Margin = Limit - Result.

Worst Test Mode	802.11b	Worst Test Channel	CH 1
Frequency Range	9KHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

Vertical



NO.	Frequency (MHz)	Antenna Factor (dB/m)	Cable Factor (dB)	Correction Factor (dB/m)	Reading (dBuV)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Azimuth (deg)	Remark
1	46.2006	13.8	1.35	15.15	7.43	22.58	40.00	17.42	100	100	QP
2	107.1227	10.5	1.86	12.36	11.31	23.67	43.50	19.83	300	76	QP
3	183.1783	11.6	2.49	14.09	12.07	26.16	43.50	17.34	100	142	QP
4	238.5709	11.7	3.03	14.73	7.15	21.88	46.00	24.12	100	355	QP
5	471.7822	16	4.57	20.57	8.87	29.44	46.00	16.56	100	88	QP
6	812.6743	21.1	4.65	25.75	5.1	30.85	46.00	15.15	100	28	QP

Remark: 1. 9KHz~30MHz have been test and test data more than 20dB margin.
2. The emission levels of other frequencies were greater than 20dB margin.
3. Result (dBuV/m) = Reading (dBuV) + Correction Factor (dB/m).
4. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
5. Margin = Limit - Result.

ABOVE 1GHz DATA

Please refer Annex A

3.3 6dB BANDWIDTH MEASUREMENT

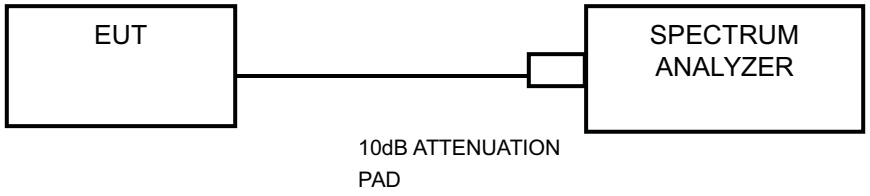
3.3.1 Limits

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

3.3.2 Measurement procedure

a. Set resolution bandwidth (RBW) = 100KHz
b. Set the video bandwidth (VBW) ≥ 3 x RBW, Detector = Peak.
c. Trace mode = max hold.
d. Sweep = auto couple.
e. Measure the maximum width of the emission that is constrained by the frequencies associatedwith the two amplitude points (upper and lower) that are attenuated by 6 dB relative to themaximum level measured in the fundamental emission.

3.3.3 Test setup



3.3.4 Test result

Please refer Annex A

3.4 CONDUCTED OUTPUT POWER

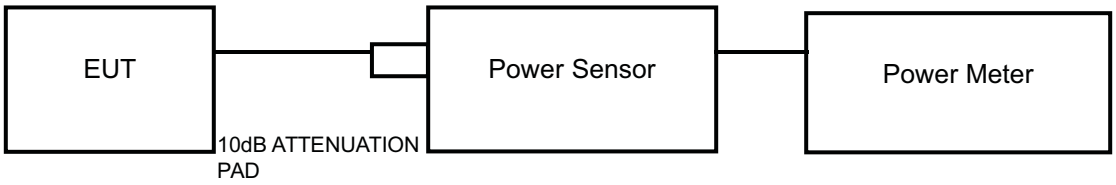
3.4.1 Limits

Forsystems using digital modulation in the 2400–2483.5 MHz band: 1 Watt (30dBm).

3.4.2 Measurement procedure

a. A peak power sensor was used on the output port of the EUT. A power meter was used to read the response of the peak power sensor and set the detector to PEAK. Record the power level.
b. Anaverage power sensor was used on the output port of the EUT. A power meter was used to read the response of the average power senso and set the detector to AVERAGE. Record the power level.

3.4.3 Test setup



3.4.4 Test result

Please refer Annex A.

3.5 POWER SPECTRAL DENSITY MEASUREMENT

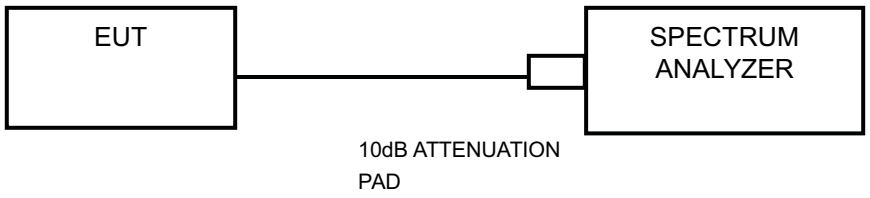
3.5.1 Limits

The Maximum of Power Spectral Density Measurement is 8dBm/3KHz.

3.5.2 Measurement procedure

a. Set instrument center frequency to DTS channel center frequency.
b. Set the span to 1.5 times the DTS bandwidth.
c. Set RBW to: 3KHz
d. Set VBW ≥3 x RBW.
e. Detector = peak
f. Ensure that the number of measurement points in the sweep ≥ 2 x span/RBW.
g. Sweep time = auto couple.
h. Use the peak marker function to determine the maximum amplitude level.

3.5.3 Test setup



3.5.4 Test result

Please refer Annex A.

3.6 OUT OF BAND EMISSION MEASUREMENT

3.6.1 Limits

Below –20dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

3.6.2 Measurement procedure

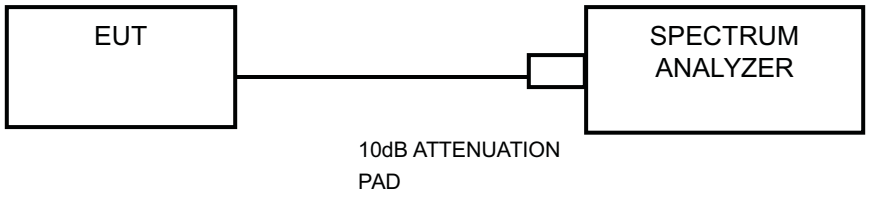
Measurement Procedure -Reference Level

a. Set the RBW = 100 kHz.
b. Set the VBW ≥ 300 kHz.
c. Detector = peak.
d. Sweep time = auto couple.
e. Trace mode = max hold.
f. Allow trace to fully stabilize.
g. Use the peak marker function to determine the maximum power level in any 100 kHzband segment within the fundamental EBW.

Measurement Procedure –Unwanted Emission Level

a. Set RBW = 100 kHz.
b. Set VBW ≥ 300 kHz.
c. Set span to encompass the spectrum to be examined
d. Detector = peak.
e. Trace Mode = max hold.
f. Sweep = auto couple.

3.6.3 Test setup



3.6.4 Test result

Please refer Annex A.

4 PHOTOGRAPHS OF TEST SETUP

Please refer to the attached file (Test Setup Photo).

,

5 Appendix A. Test Results

Please refer to the following pages for test results.

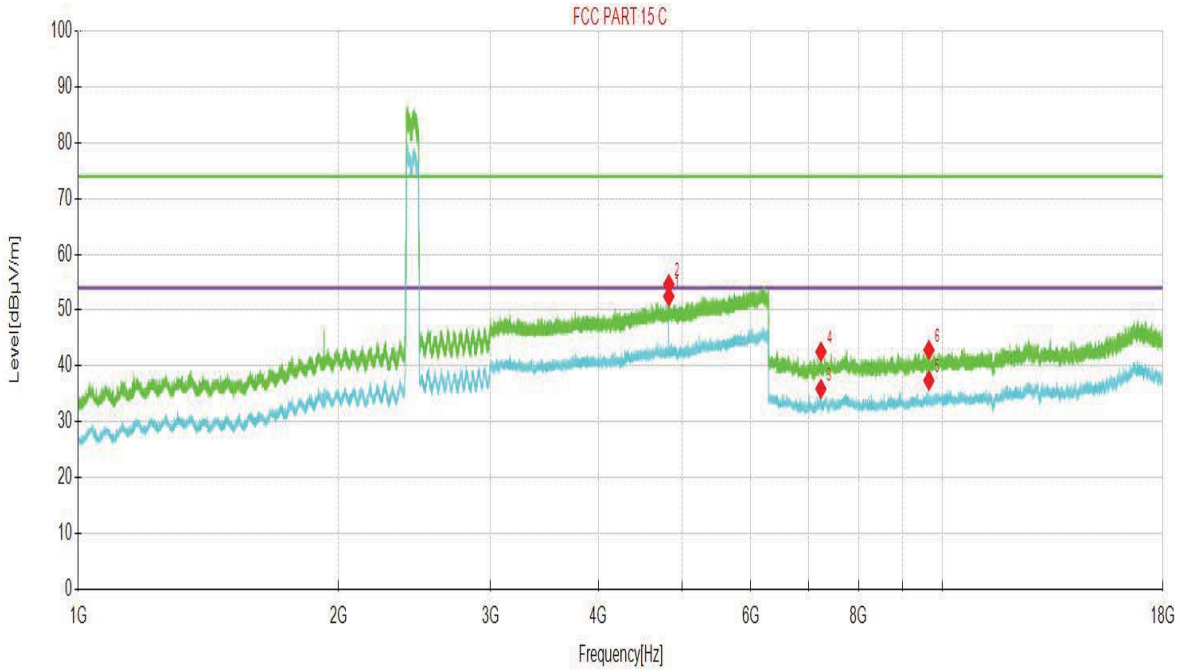
5.1 RADIATED EMISSION AND BANDEDGE MEASUREMENT

5.1.1 Test Result

ABOVE 1GHz DATA:

Mode:	11B-CH1

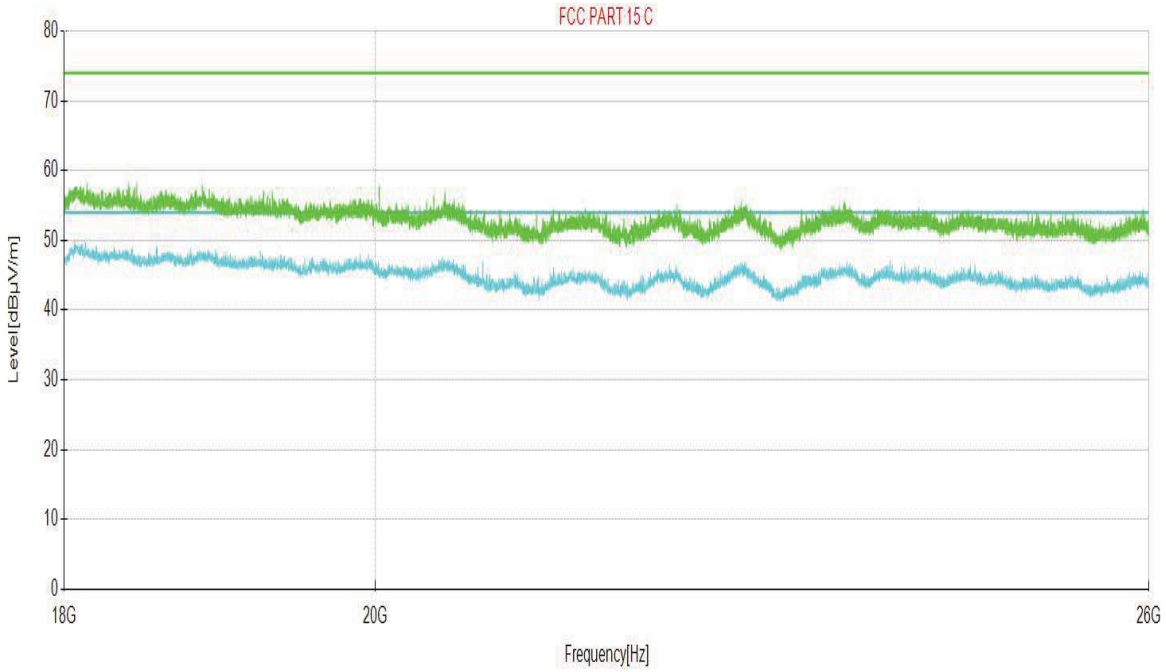
Test Graph



Suspected Data List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	4824.09	52.44	14.06	54.00	1.56	150	264	Horizontal
2	4824.09	54.63	14.06	74.00	19.37	150	264	Horizontal
3	7234.92	35.90	8.08	54.00	18.10	150	283	Horizontal
4	7236.09	42.53	8.08	74.00	31.47	150	271	Horizontal
5	9647.70	37.38	8.56	54.00	16.62	150	95	Horizontal
6	9647.70	42.85	8.56	74.00	31.15	150	95	Horizontal

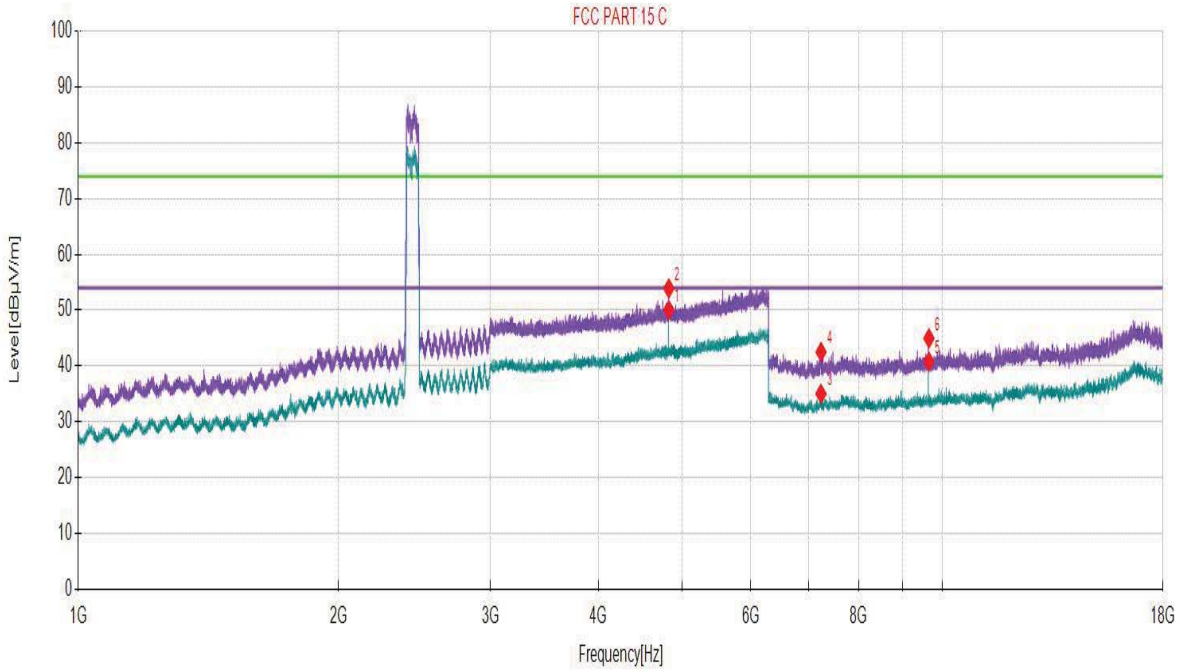
Mode:	11B-CH1

Test Graph



Mode:	11B-CH1

Test Graph

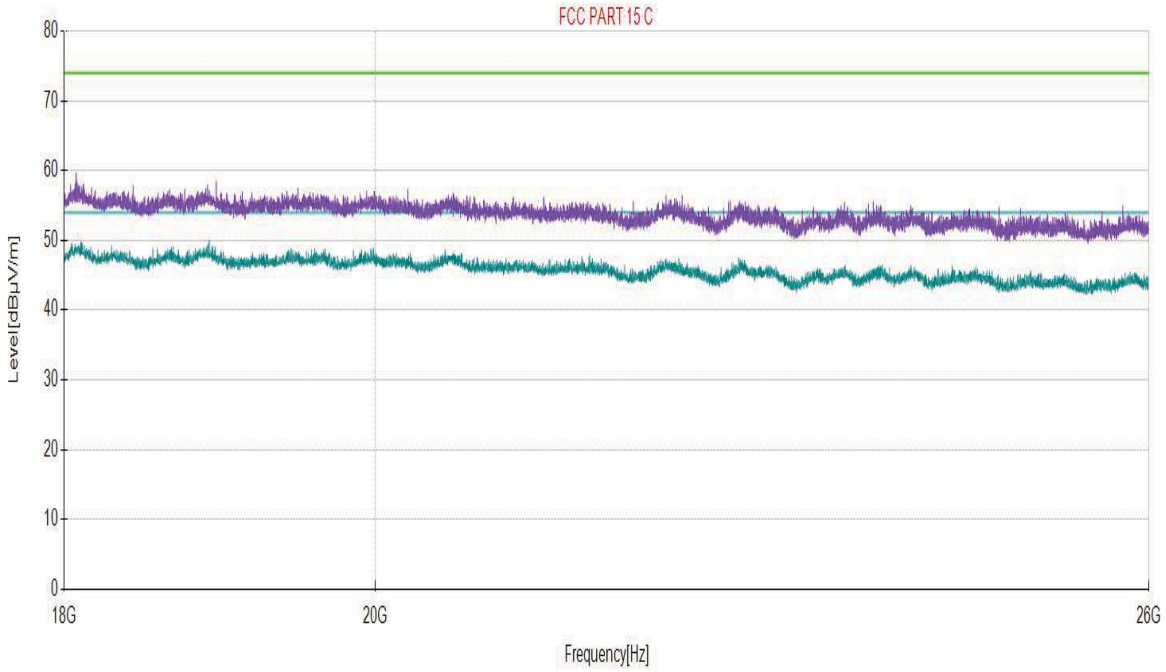


Suspected Data List

NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	4824.09	50.03	14.06	54.00	3.97	150	281	Vertical
2	4824.09	53.89	14.06	74.00	20.11	150	285	Vertical
3	7236.09	35.01	8.08	54.00	18.99	150	88	Vertical
4	7237.26	42.50	8.08	74.00	31.50	150	9	Vertical
5	9647.70	40.78	8.56	54.00	13.22	150	76	Vertical
6	9647.70	44.96	8.56	74.00	29.04	150	105	Vertical

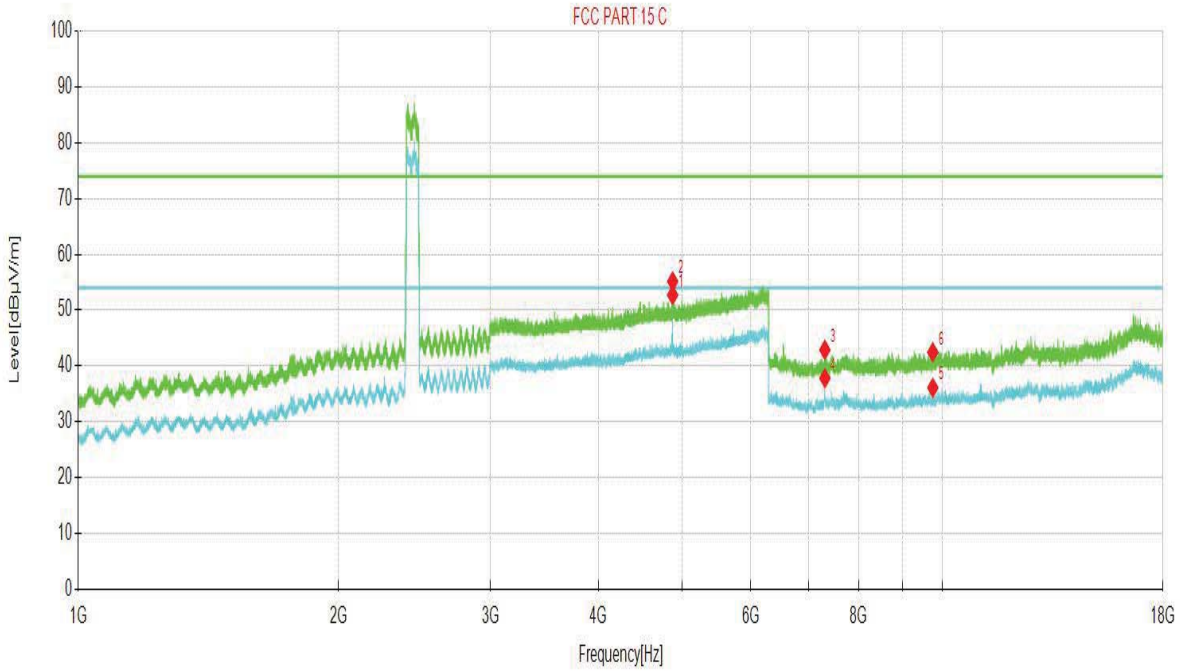
Mode:	11B-CH1

Test Graph



Mode:	11B-CH6

Test Graph

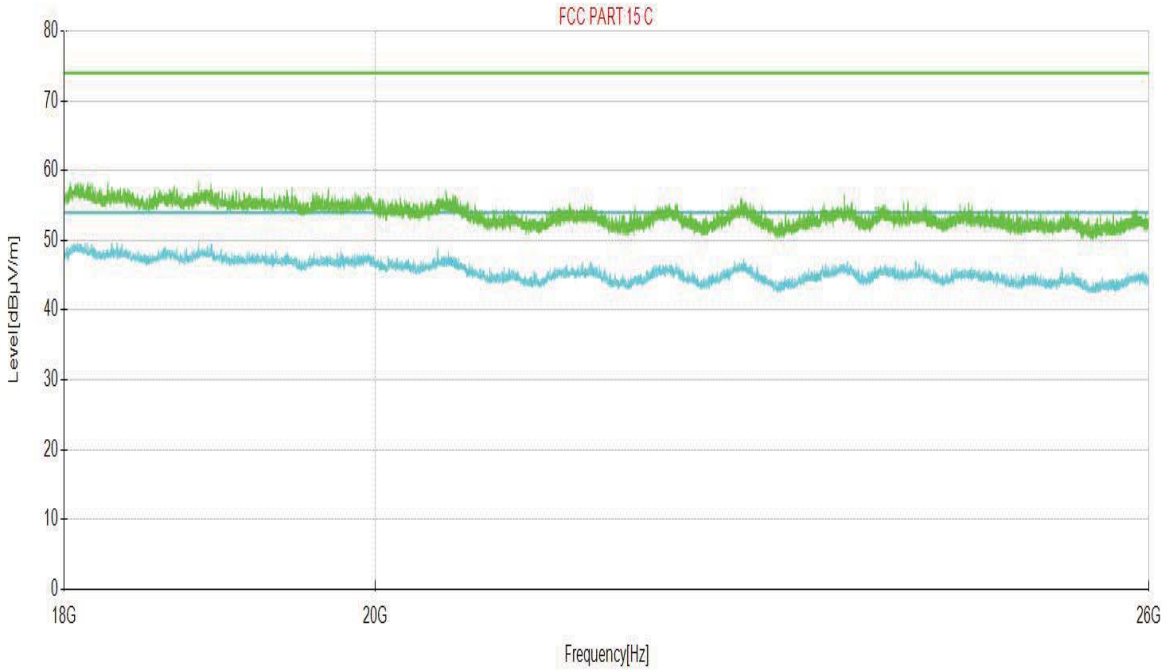


Suspected Data List

NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	4873.92	52.69	14.08	54.00	1.31	150	273	Horizontal
2	4873.92	55.14	14.08	74.00	18.86	150	264	Horizontal
3	7310.98	42.88	7.74	74.00	31.12	150	274	Horizontal
4	7312.15	37.82	7.75	54.00	16.18	150	290	Horizontal
5	9748.33	36.09	8.89	54.00	17.91	150	32	Horizontal
6	9748.33	42.45	8.89	74.00	31.55	150	53	Horizontal

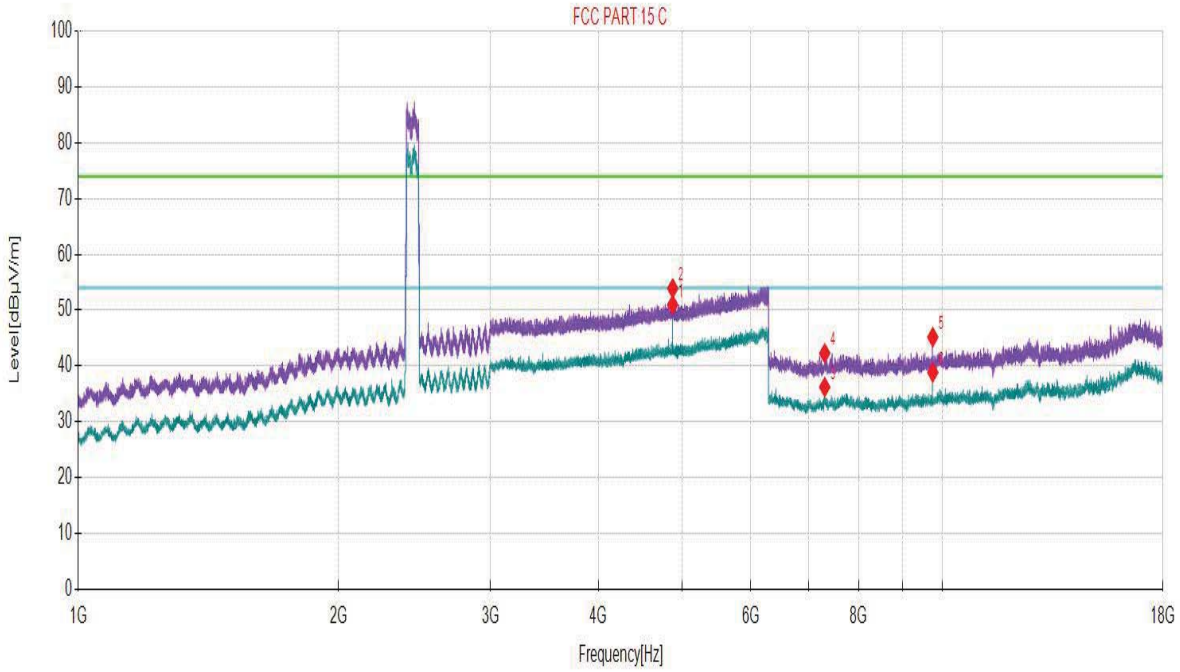
Mode:	11B-CH6

Test Graph



Mode:	11B-CH6

Test Graph

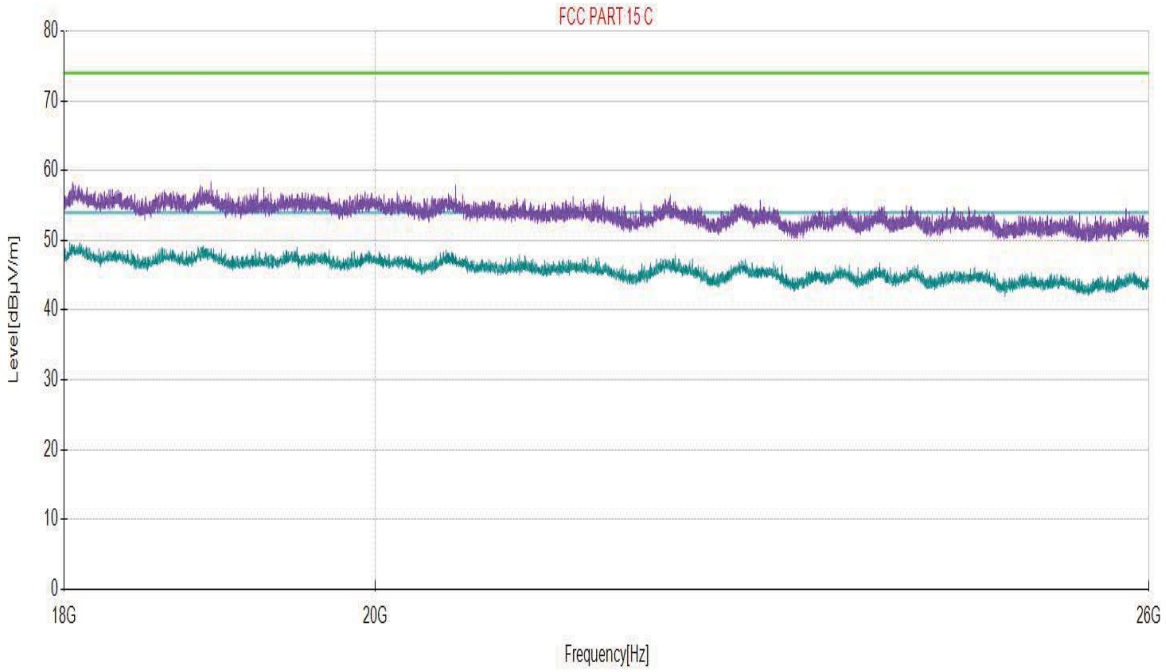


Suspected Data List

NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	4873.92	50.95	14.08	54.00	3.05	150	290	Vertical
2	4874.25	53.90	14.08	74.00	20.10	150	282	Vertical
3	7308.64	36.21	7.74	54.00	17.79	150	89	Vertical
4	7308.64	42.28	7.74	74.00	31.72	150	89	Vertical
5	9747.16	45.17	8.89	74.00	28.83	150	144	Vertical
6	9748.33	38.85	8.89	54.00	15.15	150	144	Vertical

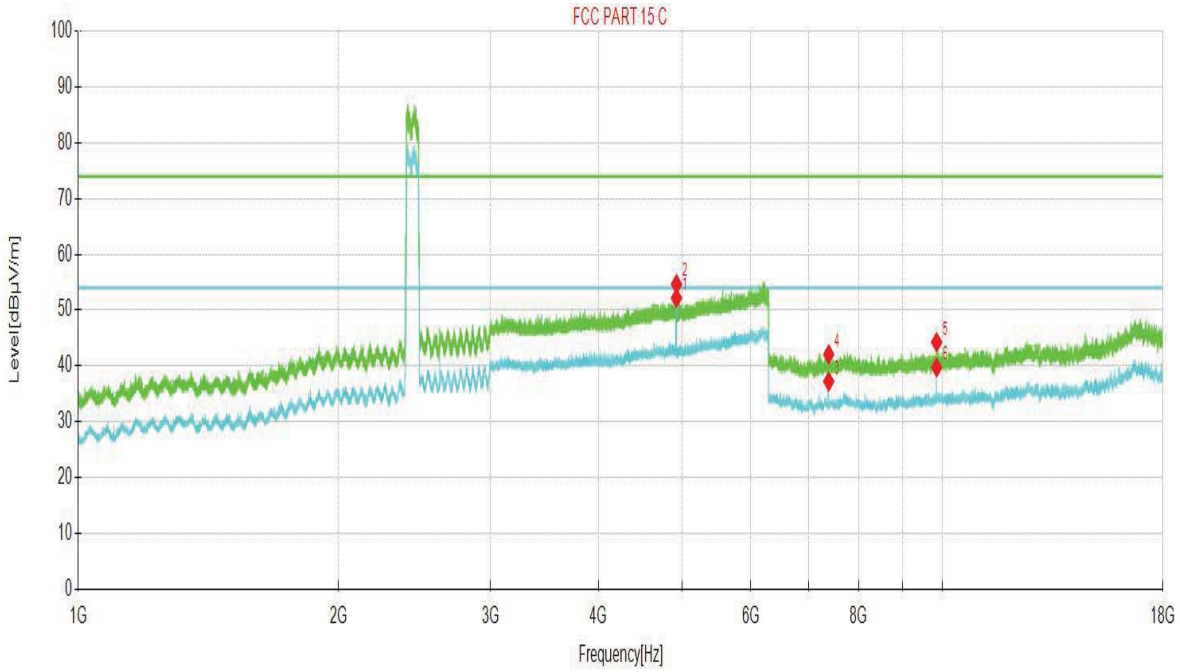
Mode:	11B-CH6

Test Graph



Mode:	11B-CH11

Test Graph

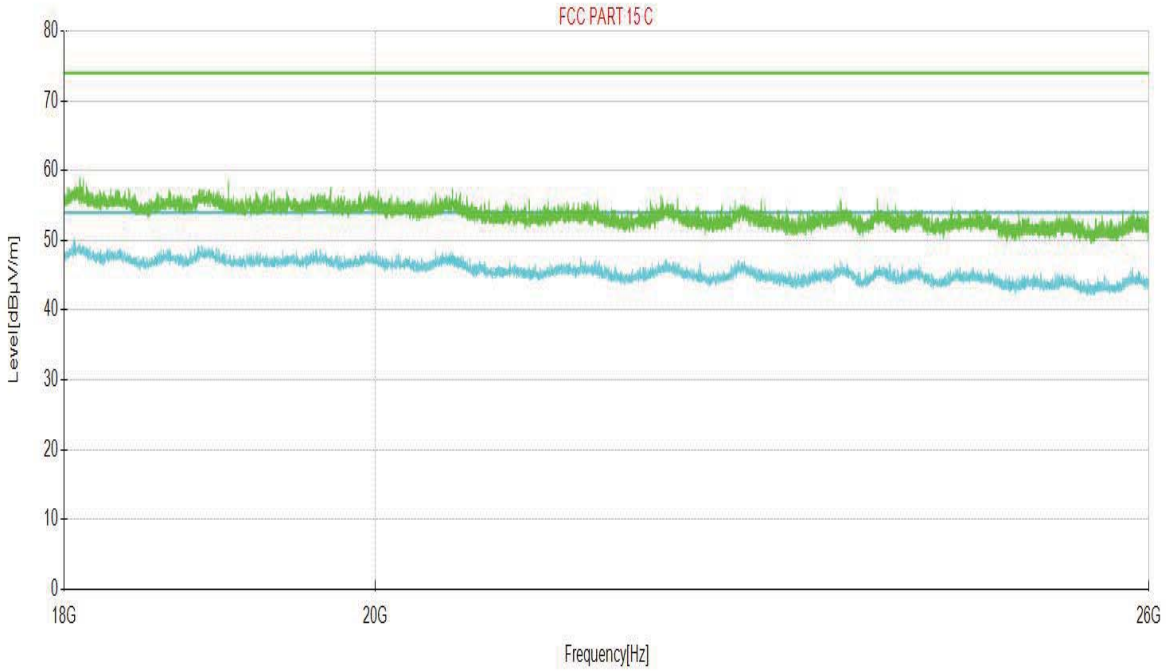


Suspected Data List

NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	4924.09	52.16	14.09	54.00	1.84	150	269	Horizontal
2	4924.09	54.65	14.09	74.00	19.35	150	264	Horizontal
3	7387.03	37.23	7.46	54.00	16.77	150	290	Horizontal
4	7387.03	42.06	7.46	74.00	31.94	150	290	Horizontal
5	9847.79	44.25	9.11	74.00	29.75	150	40	Horizontal
6	9847.79	39.75	9.11	54.00	14.25	150	36	Horizontal

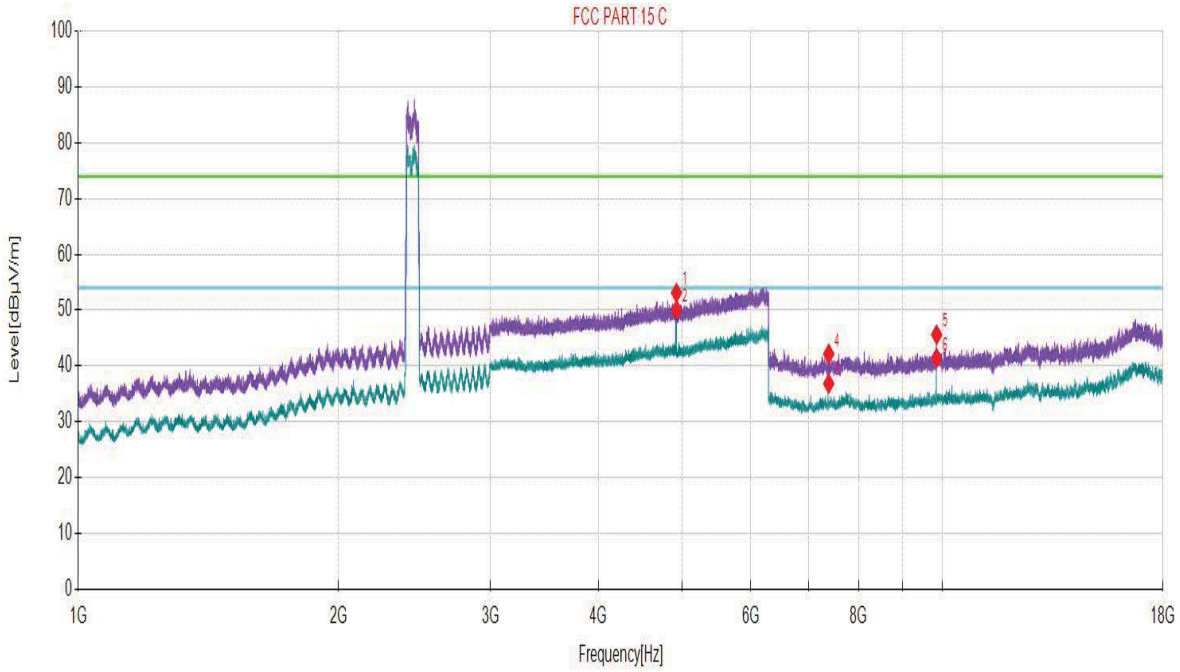
Mode:	11B-CH11

Test Graph



Mode:	11B-CH11

Test Graph

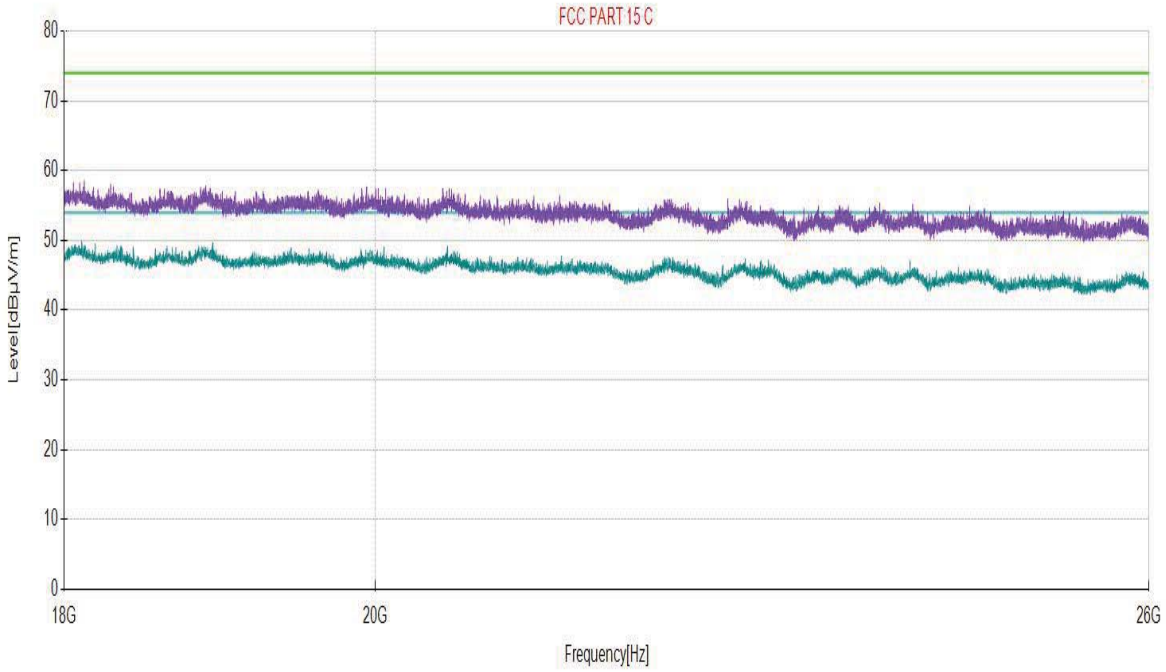


Suspected Data List

NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	4923.76	53.11	14.09	74.00	20.89	150	142	Vertical
2	4924.09	50.05	14.09	54.00	3.95	150	290	Vertical
3	7387.03	36.84	7.46	54.00	17.16	150	92	Vertical
4	7387.03	42.18	7.46	74.00	31.82	150	96	Vertical
5	9847.79	45.61	9.11	74.00	28.39	150	100	Vertical
6	9847.79	41.42	9.11	54.00	12.58	150	96	Vertical

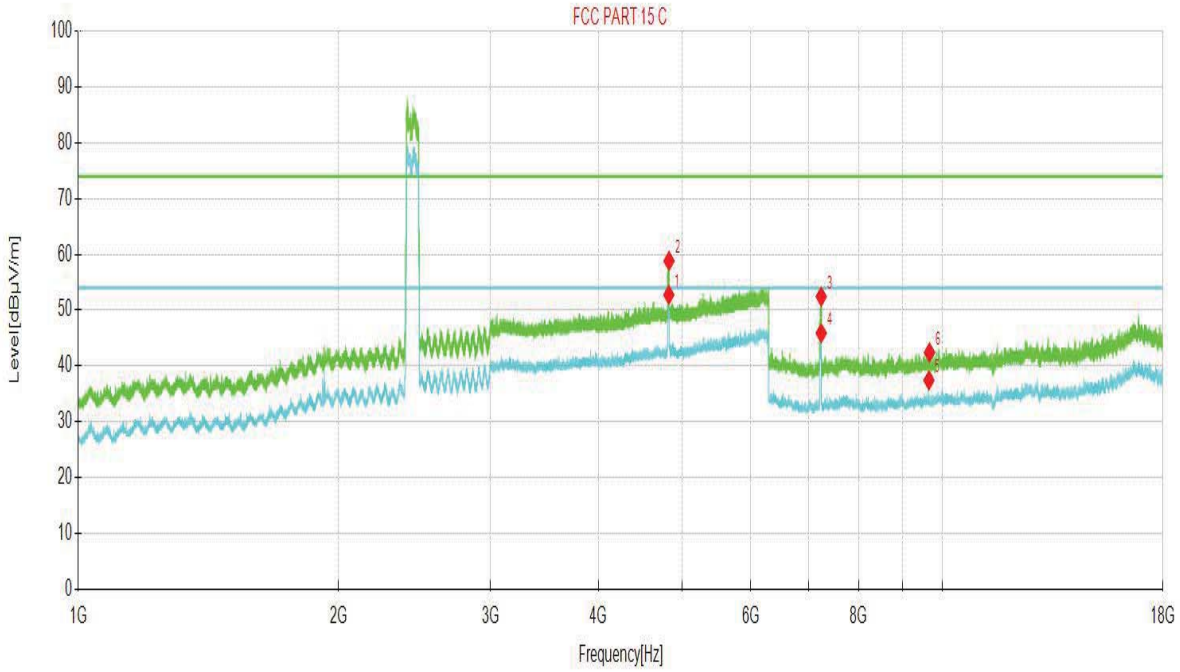
Mode:	11B-CH11

Test Graph



Mode:	11G-CH1

Test Graph

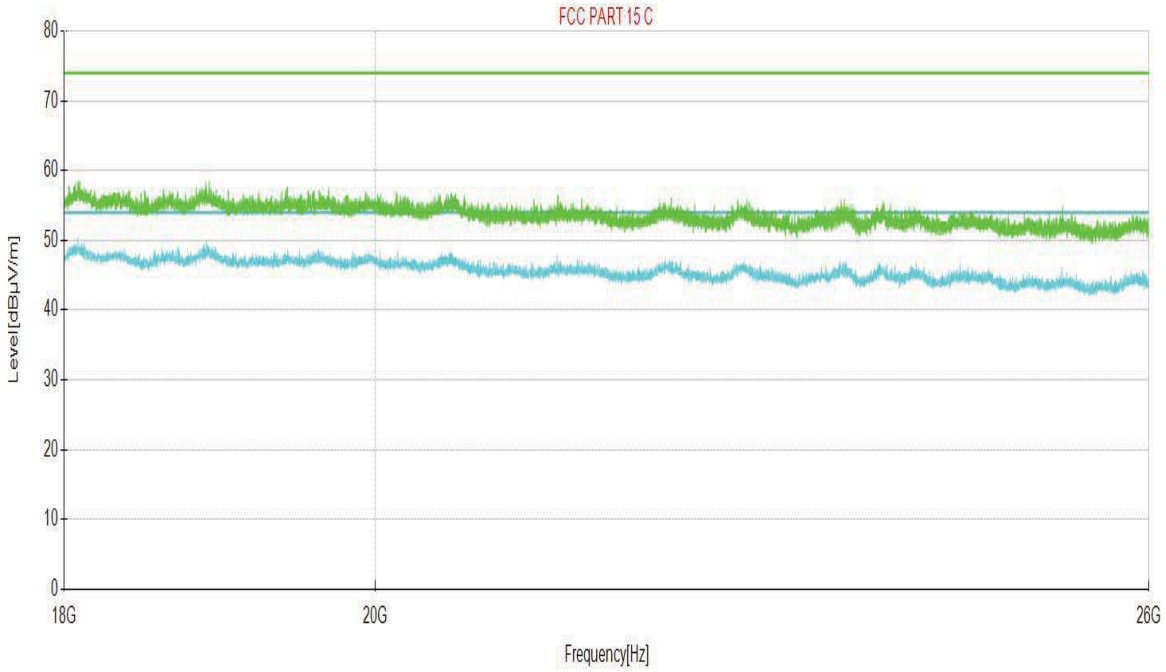


Suspected Data List

NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	4824.09	52.76	14.06	54.00	1.24	150	273	Horizontal
2	4826.73	58.83	14.06	74.00	15.17	150	273	Horizontal
3	7240.77	52.43	8.08	74.00	21.57	150	175	Horizontal
4	7240.77	45.89	8.08	54.00	8.11	150	270	Horizontal
5	9647.70	37.44	8.56	54.00	16.56	150	41	Horizontal
6	9661.74	42.40	8.62	74.00	31.60	150	337	Horizontal

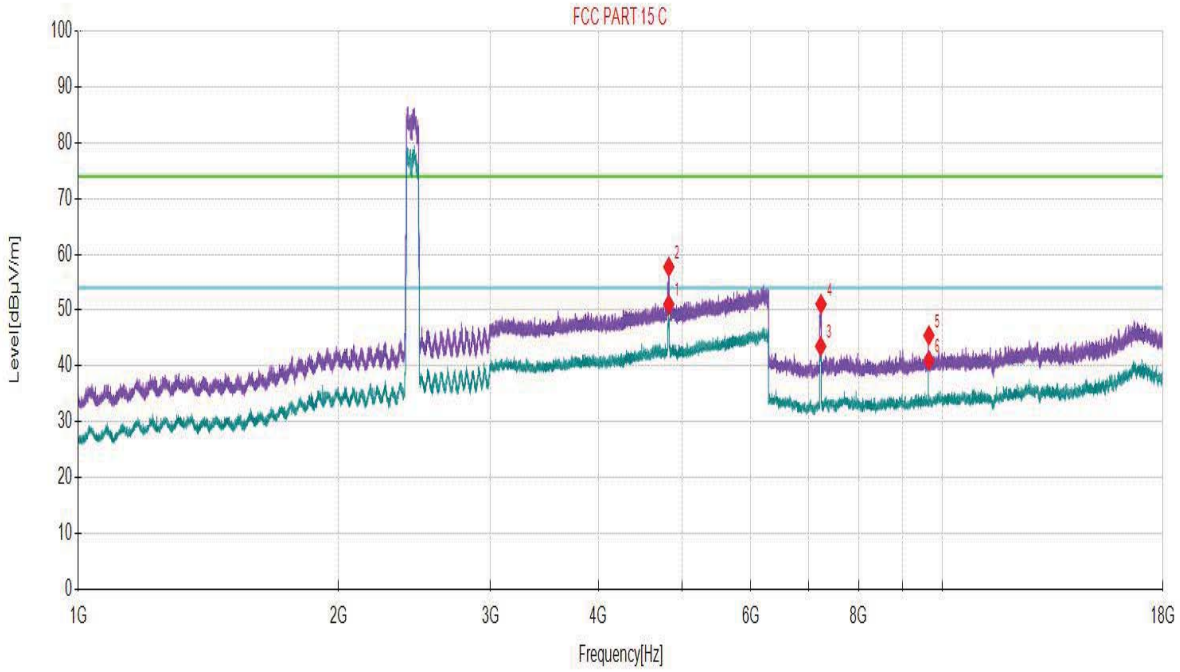
Mode:	11G-CH1

Test Graph



Mode:	11G-CH1

Test Graph

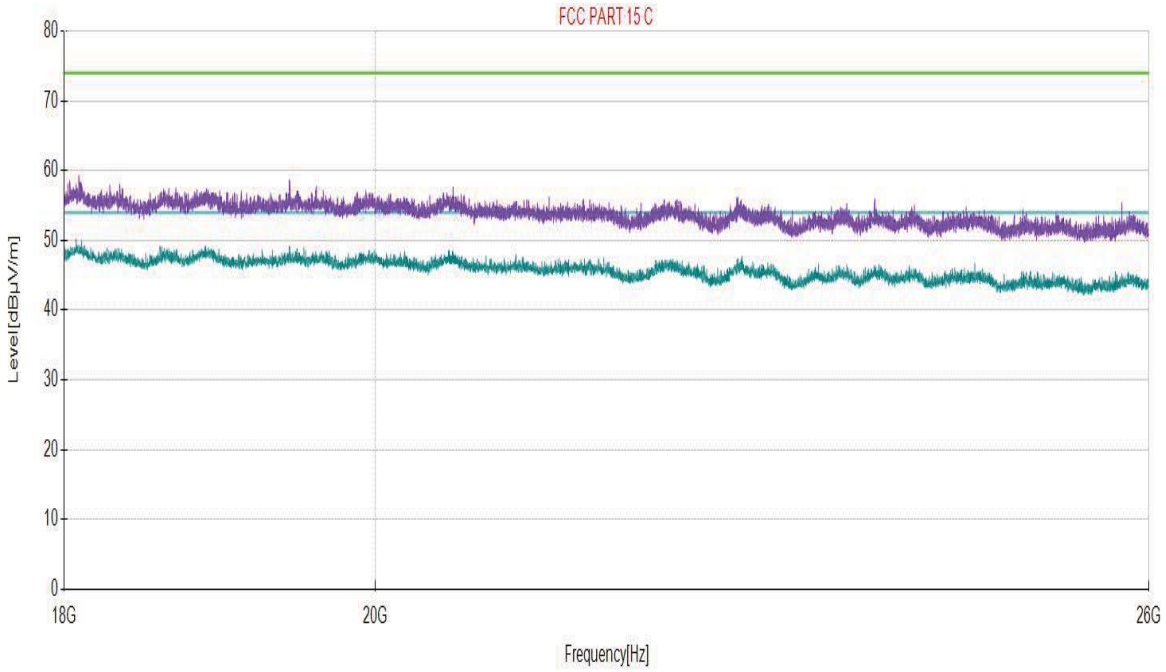


Suspected Data List

NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	4823.76	51.05	14.06	54.00	2.95	150	279	Vertical
2	4824.09	57.75	14.06	74.00	16.25	150	287	Vertical
3	7230.24	43.53	8.09	54.00	10.47	150	87	Vertical
4	7237.26	51.07	8.08	74.00	22.93	150	8	Vertical
5	9647.70	45.48	8.56	74.00	28.52	150	62	Vertical
6	9647.70	41.02	8.56	54.00	12.98	150	74	Vertical

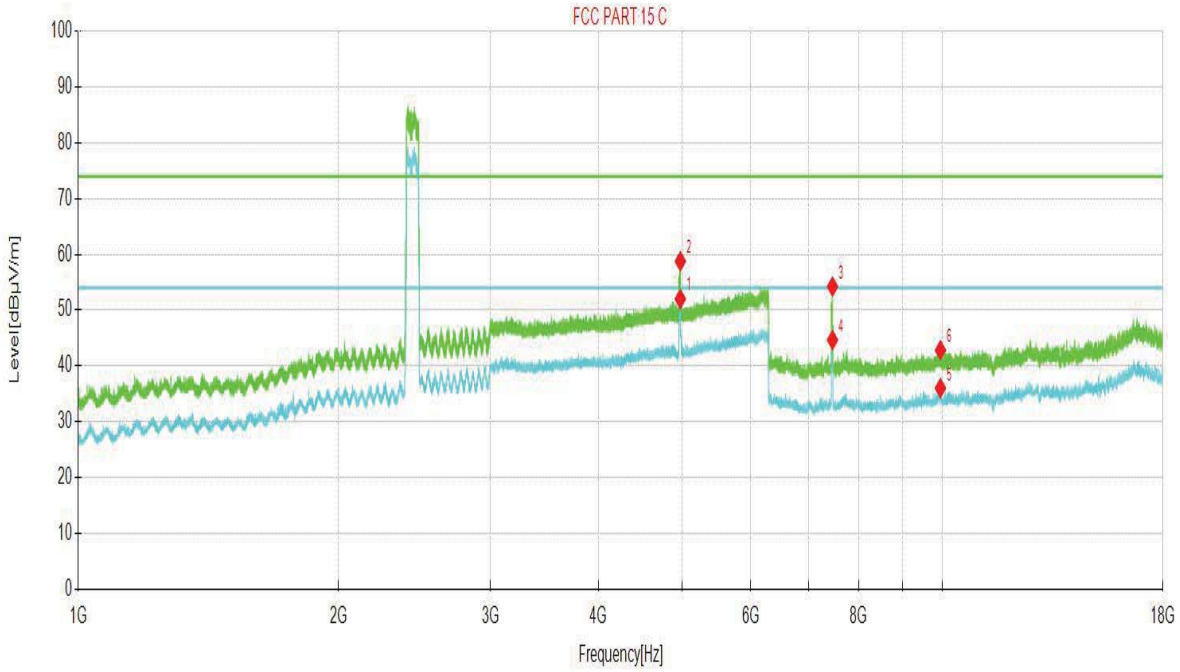
Mode:	11G-CH1

Test Graph



Mode:	11G-CH6

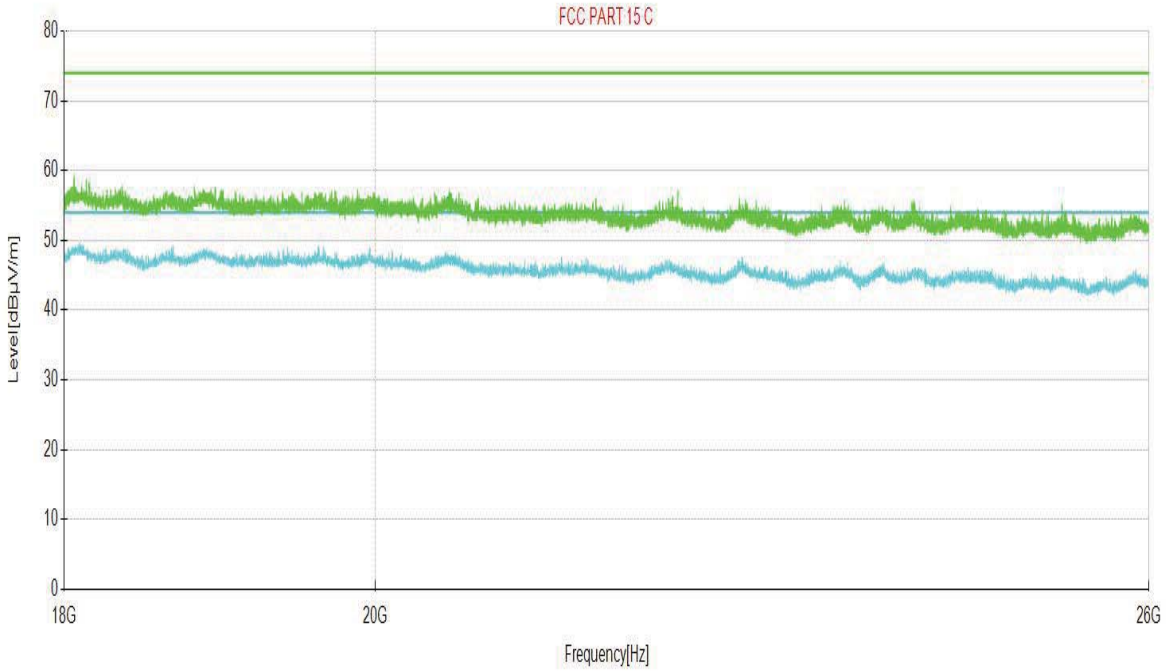
Test Graph



Suspected Data List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	4974.25	52.02	14.11	54.00	1.98	150	265	Horizontal
2	4974.58	58.75	14.11	74.00	15.25	150	340	Horizontal
3	7461.92	54.24	7.22	74.00	19.76	150	272	Horizontal
4	7461.92	44.67	7.22	54.00	9.33	150	272	Horizontal
5	9947.25	36.03	9.39	54.00	17.97	150	31	Horizontal
6	9948.42	42.80	9.38	74.00	31.20	150	48	Horizontal

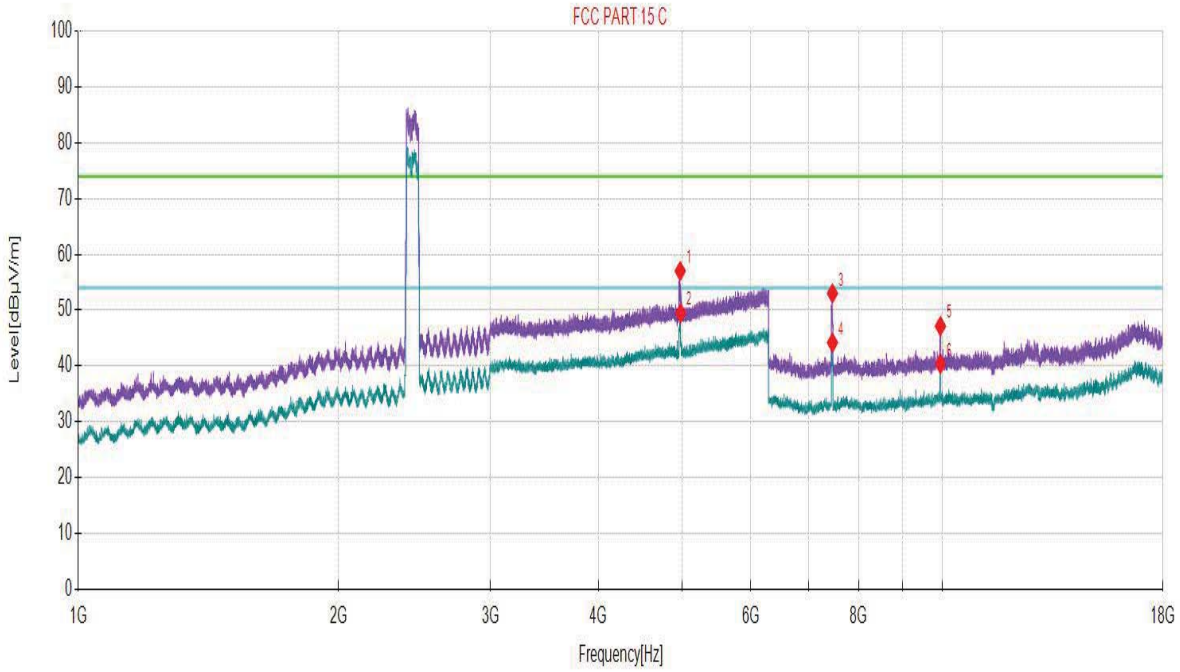
Mode:	11G-CH6

Test Graph



Mode:	11G-CH6

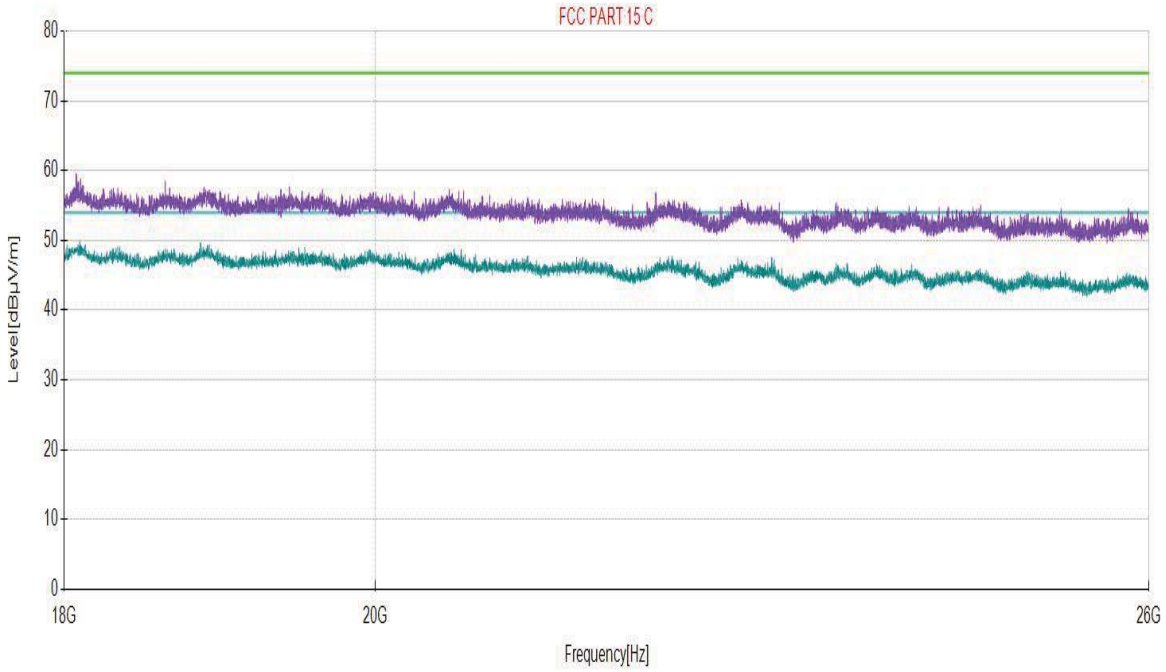
Test Graph



Suspected Data List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	4972.93	57.02	14.11	74.00	16.98	150	128	Vertical
2	4977.88	49.48	14.11	54.00	4.52	150	281	Vertical
3	7460.75	53.01	7.21	74.00	20.99	150	91	Vertical
4	7461.92	44.19	7.22	54.00	9.81	150	53	Vertical
5	9947.25	47.13	9.39	74.00	26.87	150	91	Vertical
6	9947.25	40.38	9.39	54.00	13.62	150	91	Vertical

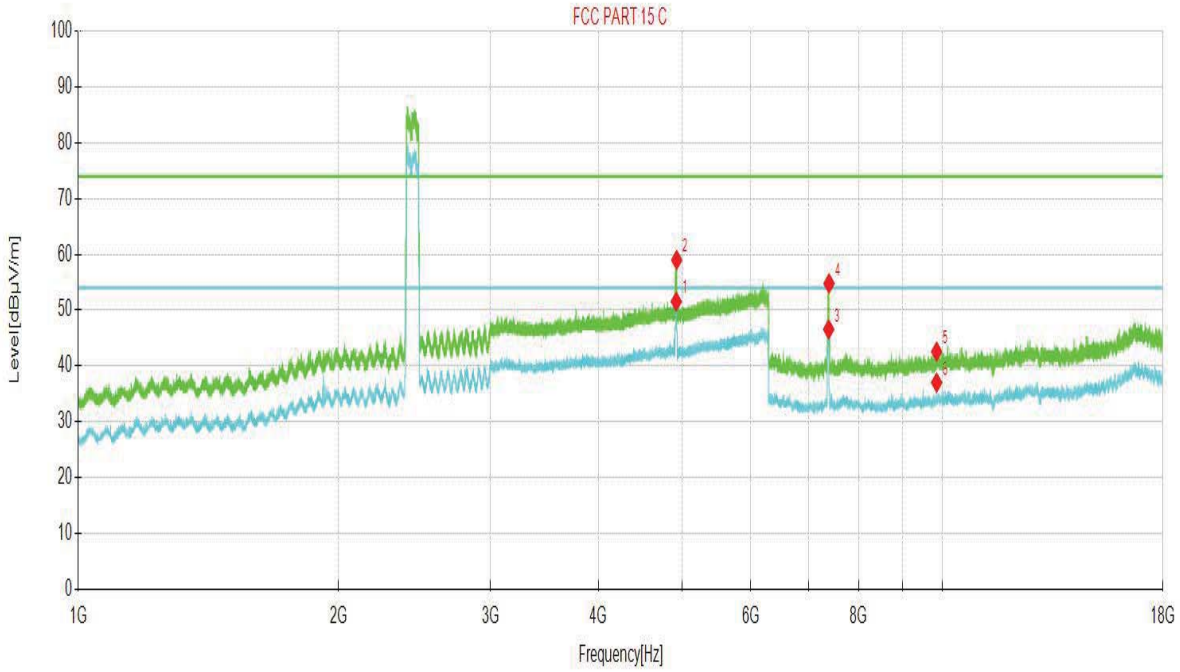
Mode:	11G-CH6

Test Graph



Mode:	11G-CH11

Test Graph

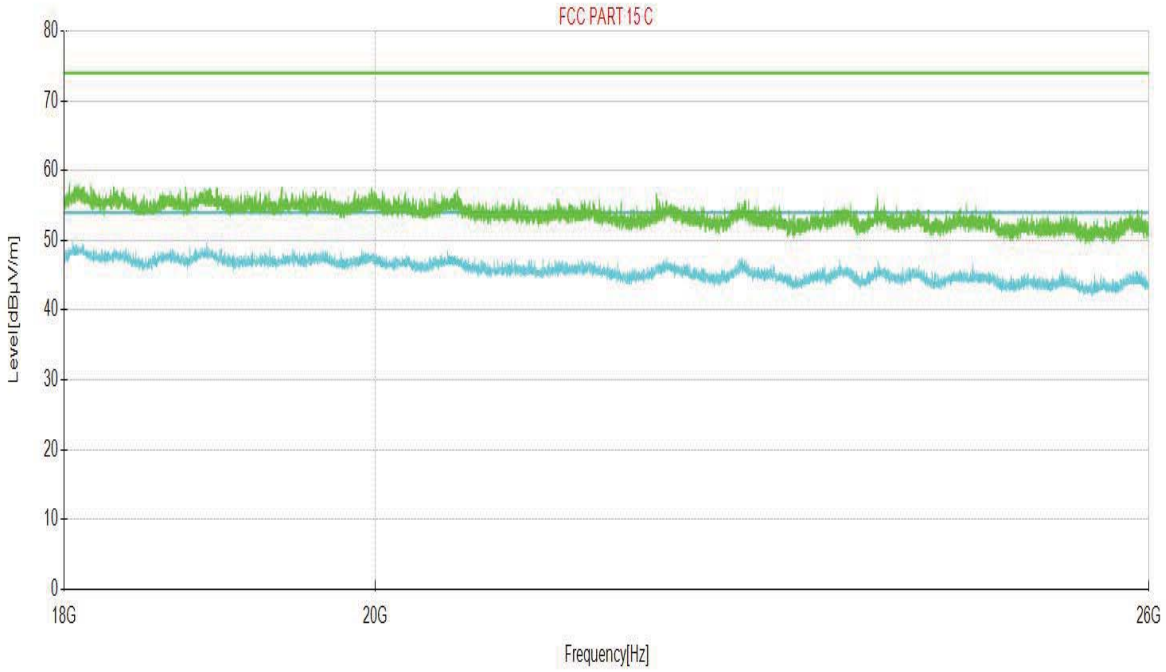


Suspected Data List

NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	4920.46	51.55	14.09	54.00	2.45	150	274	Horizontal
2	4926.40	58.99	14.09	74.00	15.01	150	266	Horizontal
3	7385.86	46.57	7.47	54.00	7.43	150	289	Horizontal
4	7392.88	54.78	7.45	74.00	19.22	150	280	Horizontal
5	9847.79	42.57	9.11	74.00	31.43	150	52	Horizontal
6	9847.79	37.02	9.11	54.00	16.98	150	35	Horizontal

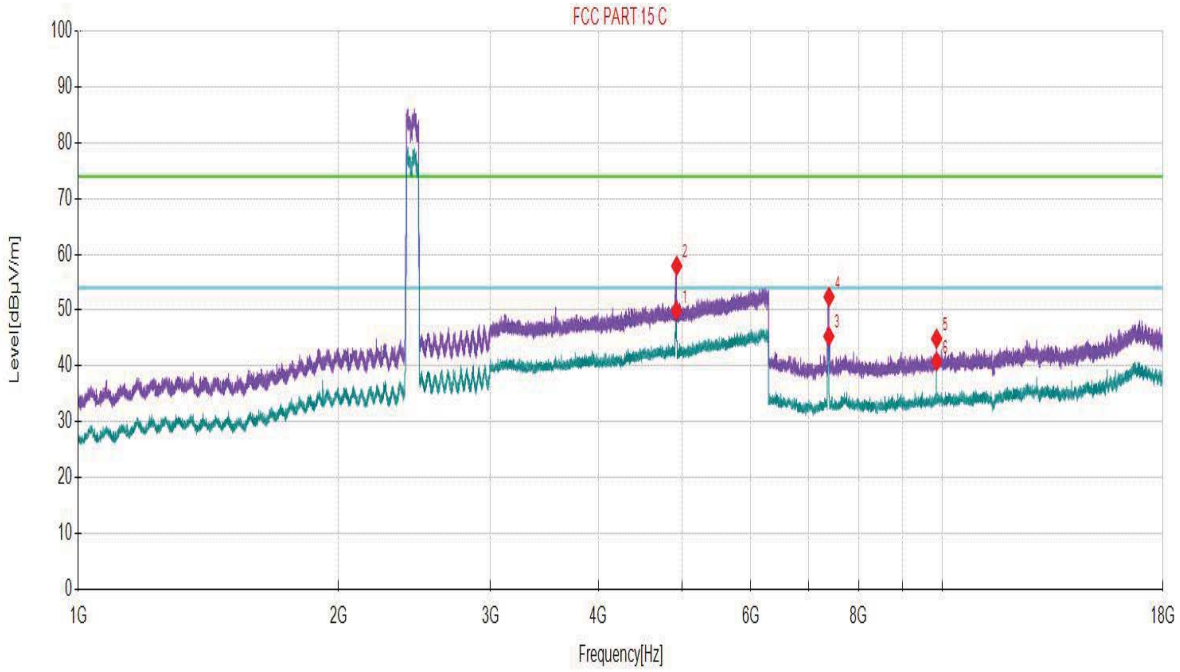
Mode:	11G-CH11

Test Graph



Mode:	11G-CH11

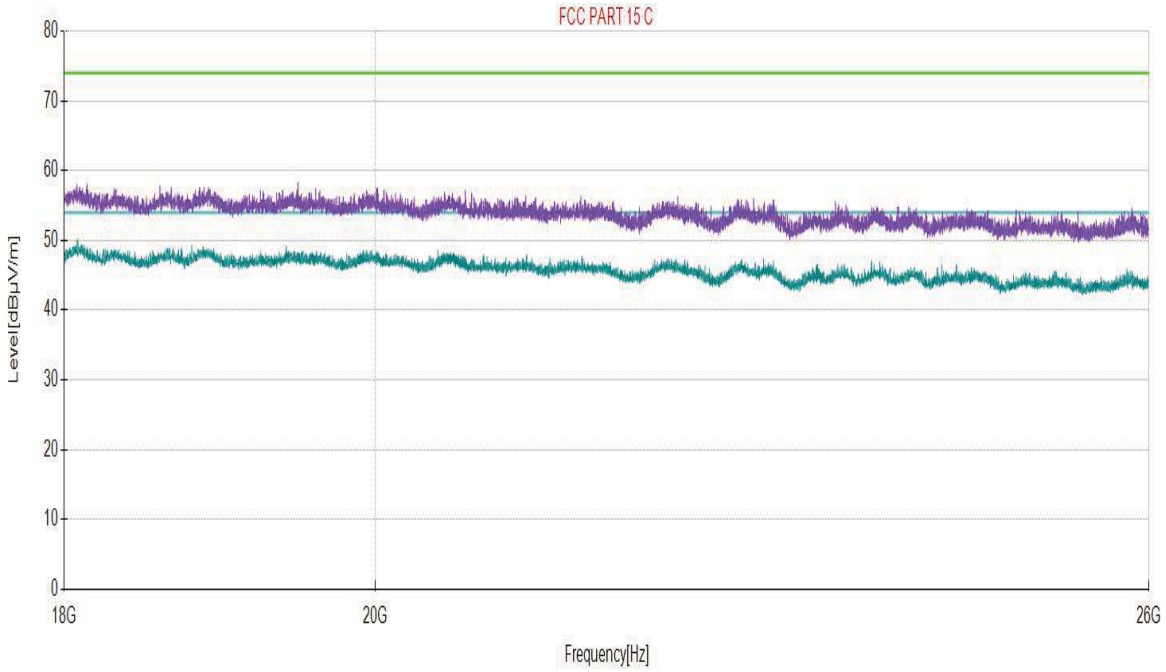
Test Graph



Suspected Data List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	4922.44	49.91	14.09	54.00	4.09	150	286	Vertical
2	4927.06	57.93	14.09	74.00	16.07	150	290	Vertical
3	7389.37	45.30	7.44	54.00	8.70	150	100	Vertical
4	7392.88	52.39	7.45	74.00	21.61	150	104	Vertical
5	9847.79	44.88	9.11	74.00	29.12	150	75	Vertical
6	9847.79	40.81	9.11	54.00	13.19	150	75	Vertical

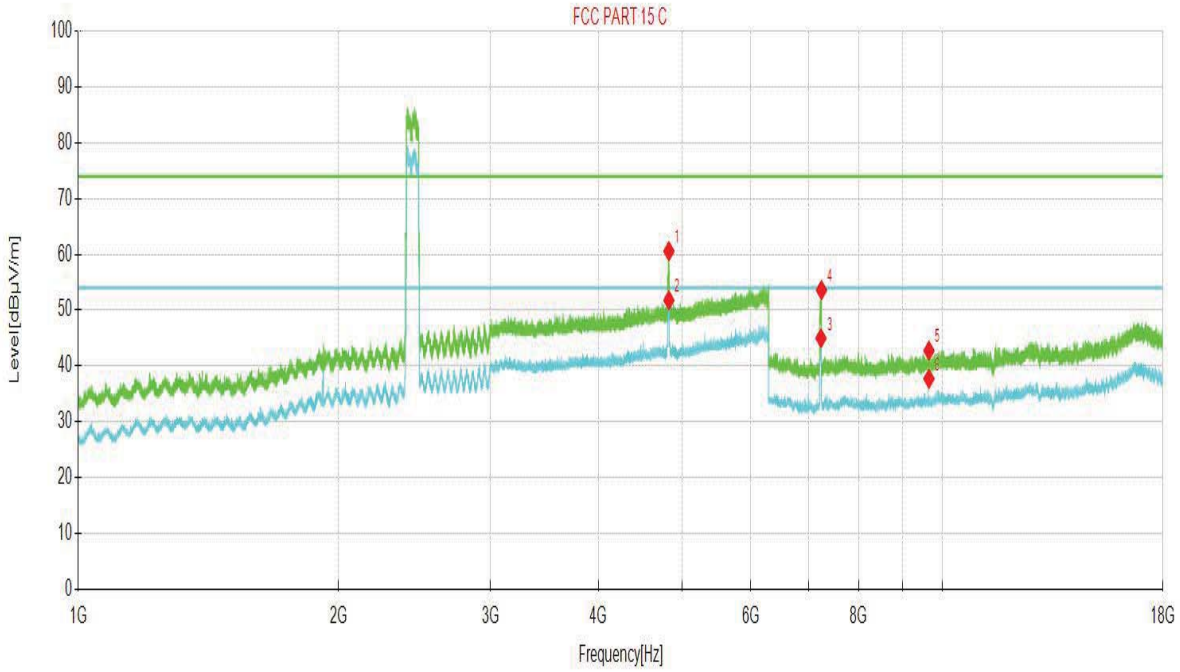
Mode:	11G-CH11

Test Graph



Mode:	11N20-CH1

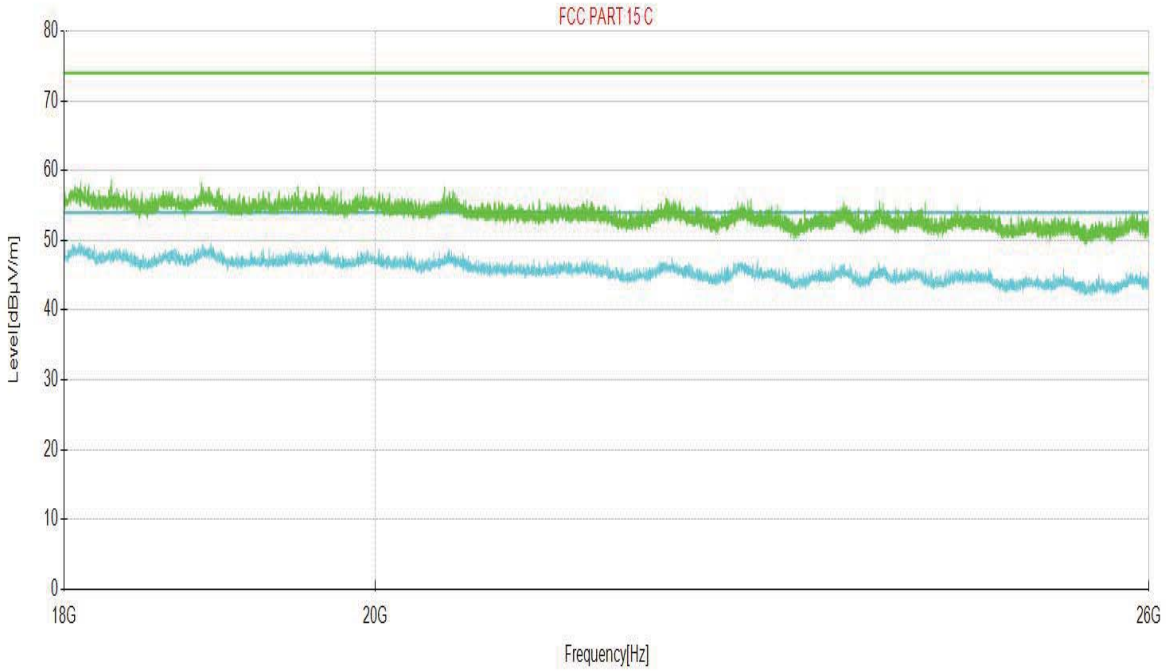
Test Graph



Suspected Data List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	4824.42	60.57	14.06	74.00	13.43	150	262	Horizontal
2	4825.08	51.76	14.06	54.00	2.24	150	258	Horizontal
3	7236.09	44.98	8.08	54.00	9.02	150	276	Horizontal
4	7245.45	53.59	8.11	74.00	20.41	150	285	Horizontal
5	9647.70	42.73	8.56	74.00	31.27	150	48	Horizontal
6	9647.70	37.72	8.56	54.00	16.28	150	36	Horizontal

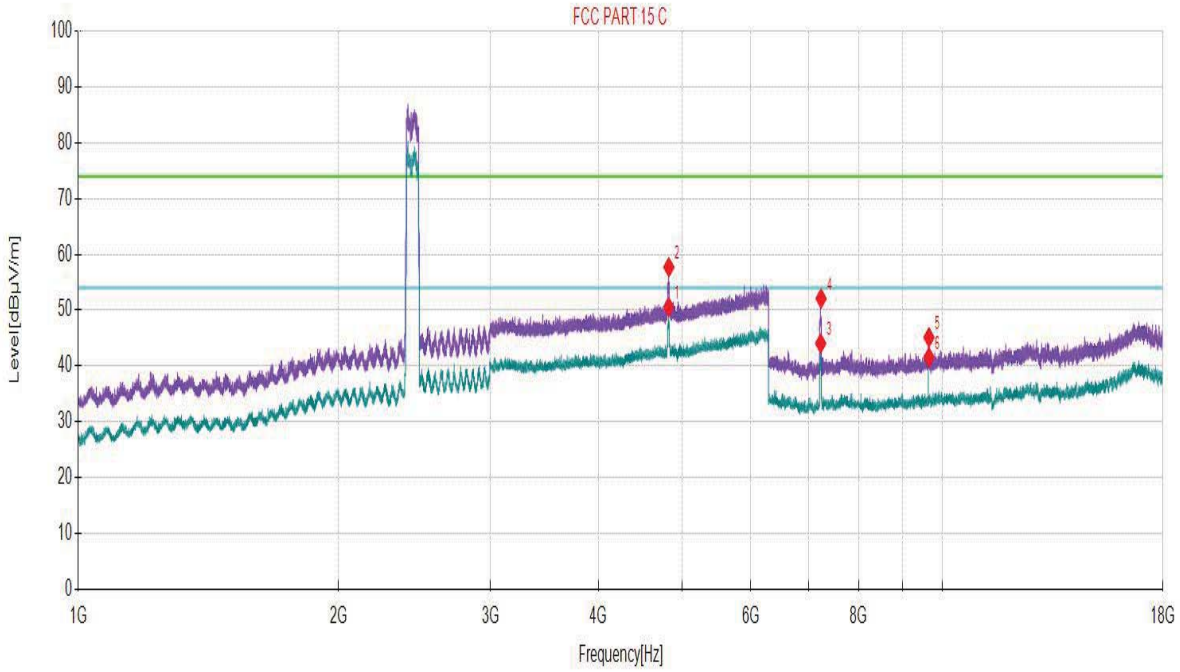
Mode:	11N20-CH1

Test Graph



Mode:	11N20-CH1

Test Graph

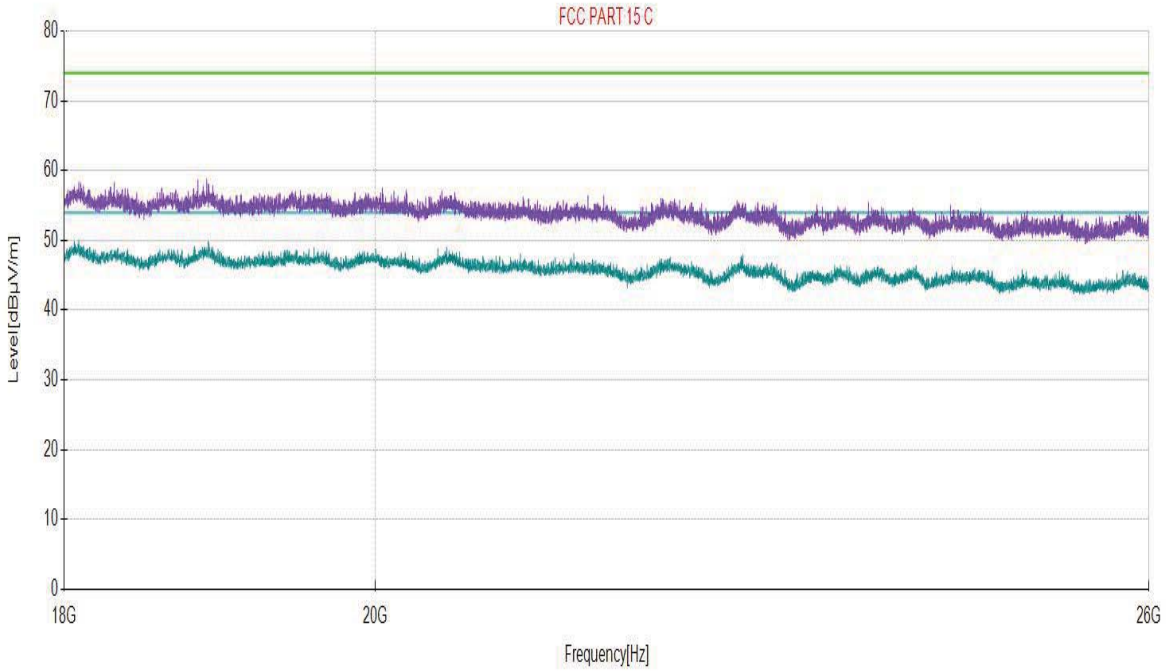


Suspected Data List

NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	4822.77	50.57	14.06	54.00	3.43	150	287	Vertical
2	4824.42	57.70	14.06	74.00	16.30	150	138	Vertical
3	7230.24	44.03	8.09	54.00	9.97	150	28	Vertical
4	7238.43	52.08	8.07	74.00	21.92	150	33	Vertical
5	9647.70	45.12	8.56	74.00	28.88	150	75	Vertical
6	9647.70	41.54	8.56	54.00	12.46	150	75	Vertical

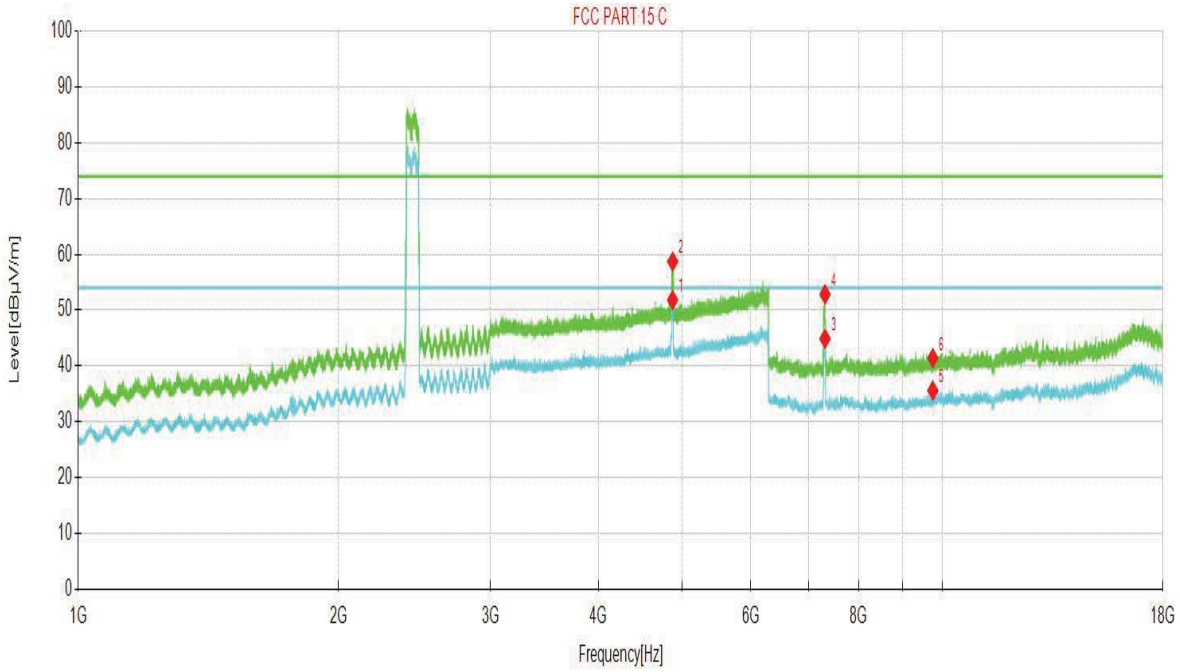
Mode:	11N20-CH1

Test Graph



Mode:	11N20-CH6

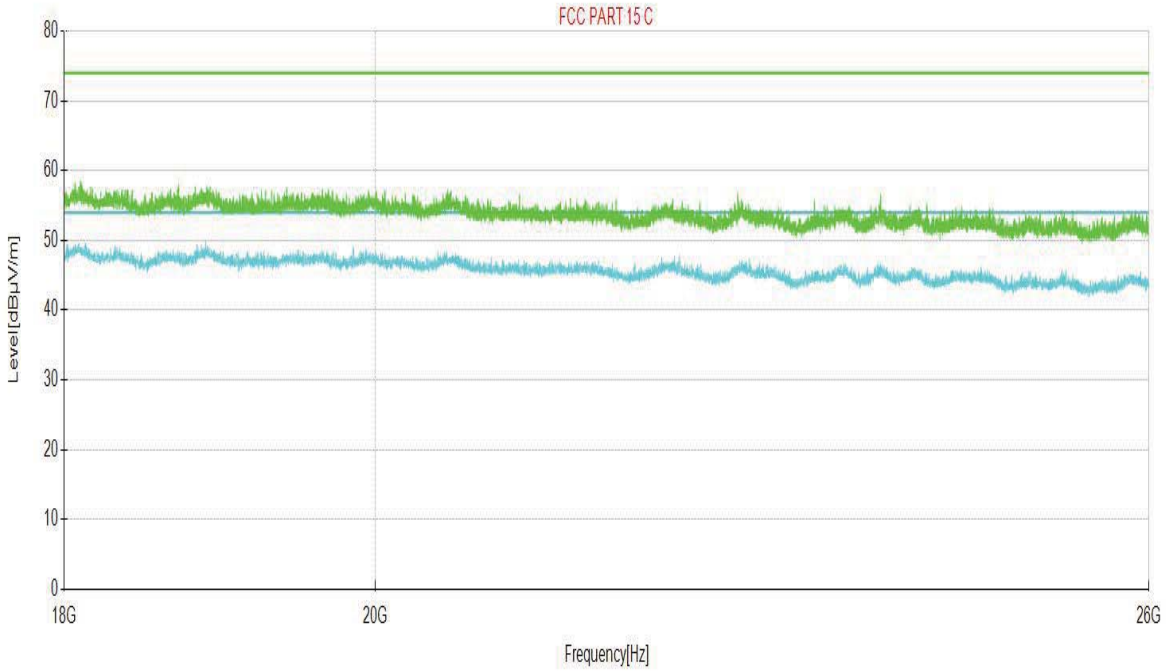
Test Graph



Suspected Data List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	4872.93	51.82	14.07	54.00	2.18	150	272	Horizontal
2	4874.25	58.71	14.08	74.00	15.29	150	268	Horizontal
3	7314.49	44.89	7.78	54.00	9.11	150	298	Horizontal
4	7314.49	52.84	7.78	74.00	21.16	150	298	Horizontal
5	9748.33	35.58	8.89	54.00	18.42	150	34	Horizontal
6	9748.33	41.39	8.89	74.00	32.61	150	69	Horizontal

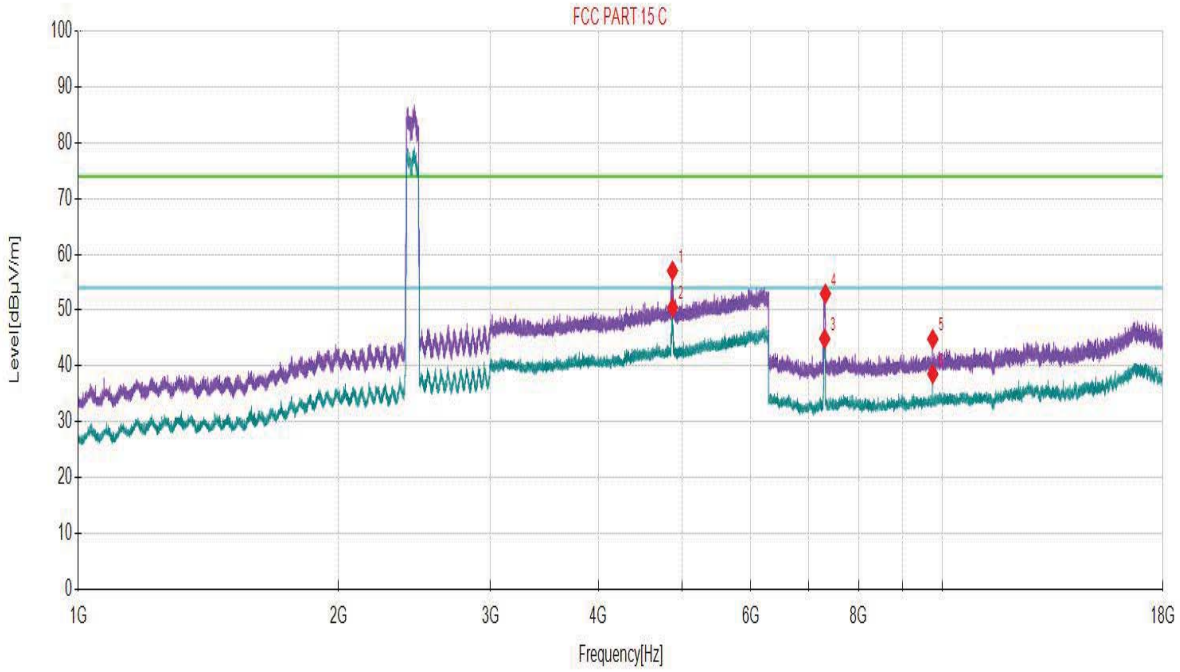
Mode:	11N20-CH6

Test Graph



Mode:	11N20-CH6

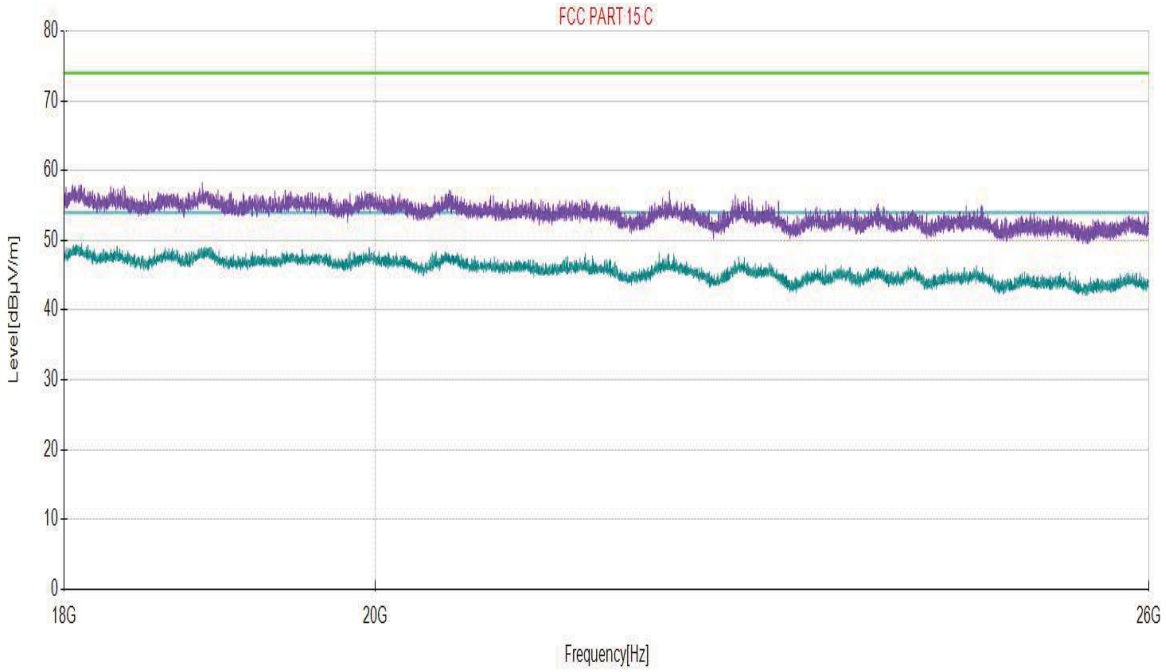
Test Graph



Suspected Data List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	4872.27	57.07	14.07	74.00	16.93	150	288	Vertical
2	4872.93	50.46	14.07	54.00	3.54	150	288	Vertical
3	7307.47	44.88	7.75	54.00	9.12	150	87	Vertical
4	7322.68	52.95	7.83	74.00	21.05	150	40	Vertical
5	9747.16	44.81	8.89	74.00	29.19	150	96	Vertical
6	9747.16	38.56	8.89	54.00	15.44	150	92	Vertical

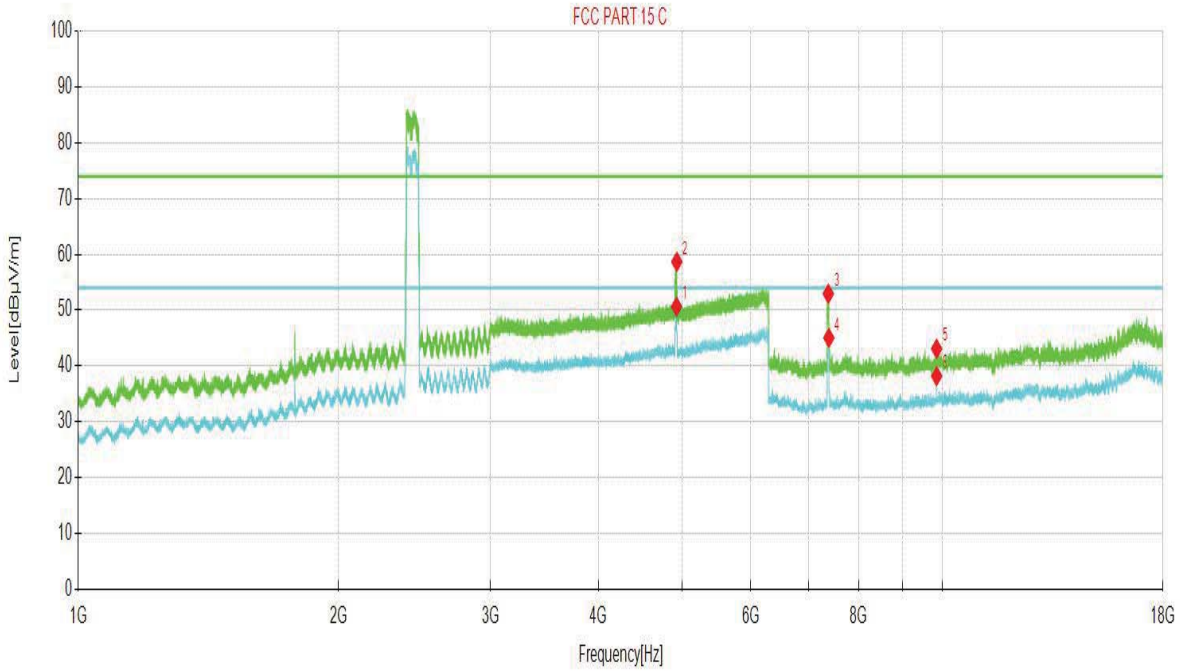
Mode:	11N20-CH6

Test Graph



Mode:	11N20-CH11

Test Graph

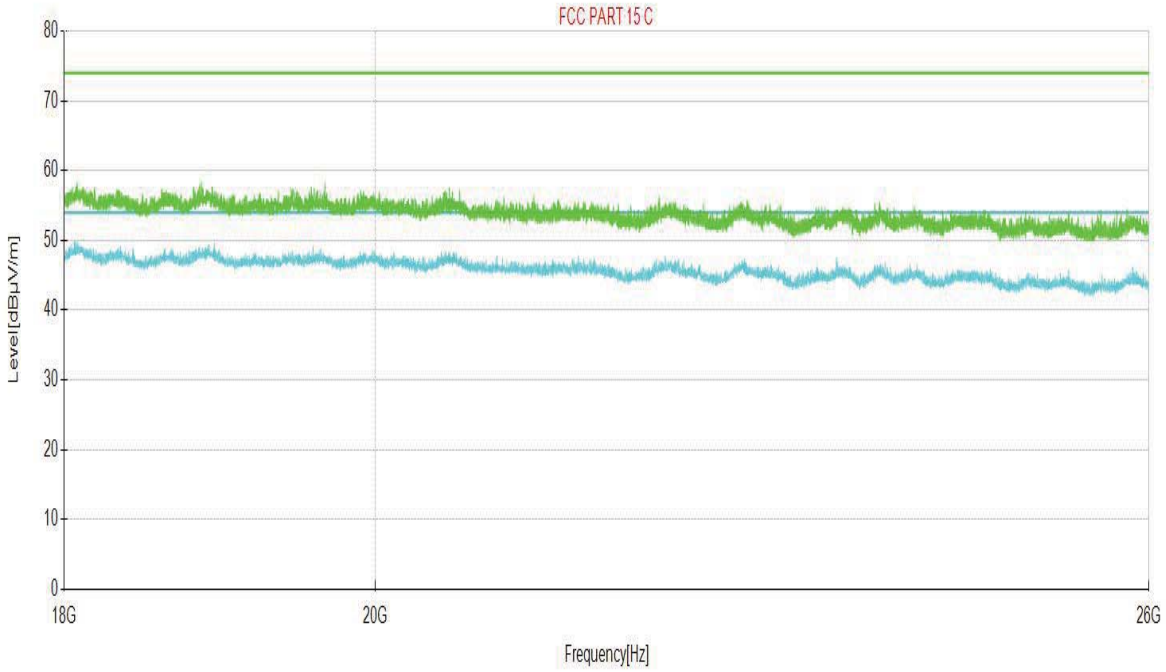


Suspected Data List

NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	4924.09	50.63	14.09	54.00	3.37	150	272	Horizontal
2	4927.72	58.67	14.09	74.00	15.33	150	280	Horizontal
3	7378.84	52.95	7.51	74.00	21.05	150	286	Horizontal
4	7389.37	45.04	7.44	54.00	8.96	150	286	Horizontal
5	9847.79	43.07	9.11	74.00	30.93	150	32	Horizontal
6	9847.79	38.19	9.11	54.00	15.81	150	36	Horizontal

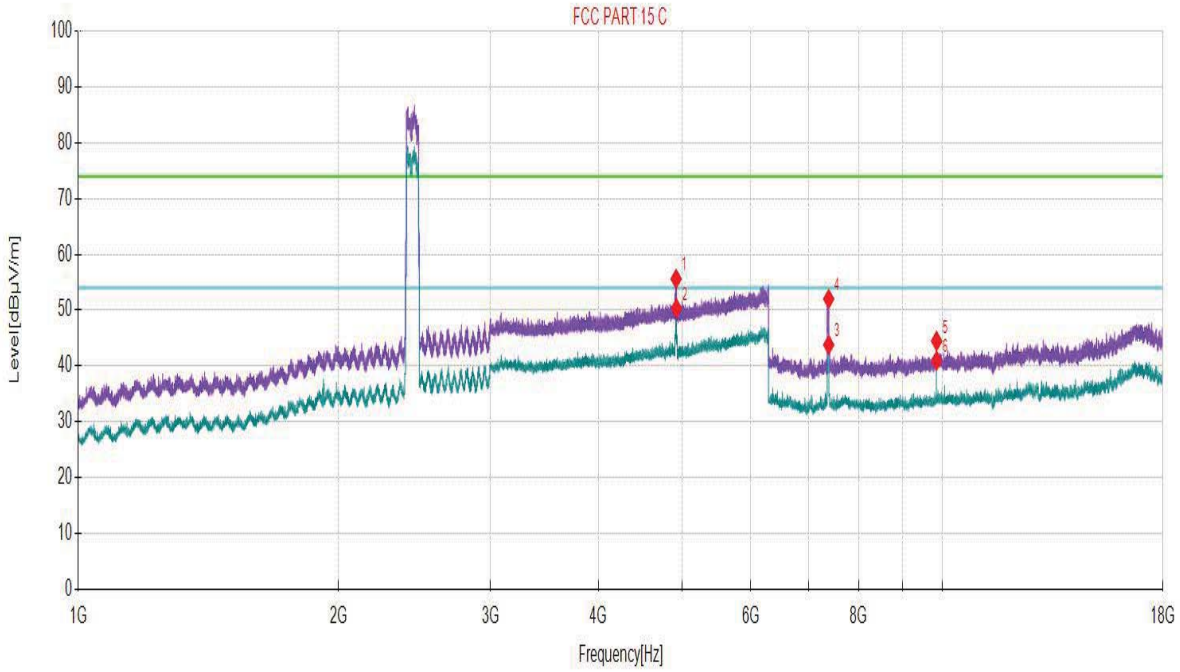
Mode:	11N20-CH11

Test Graph



Mode:	11N20-CH11

Test Graph

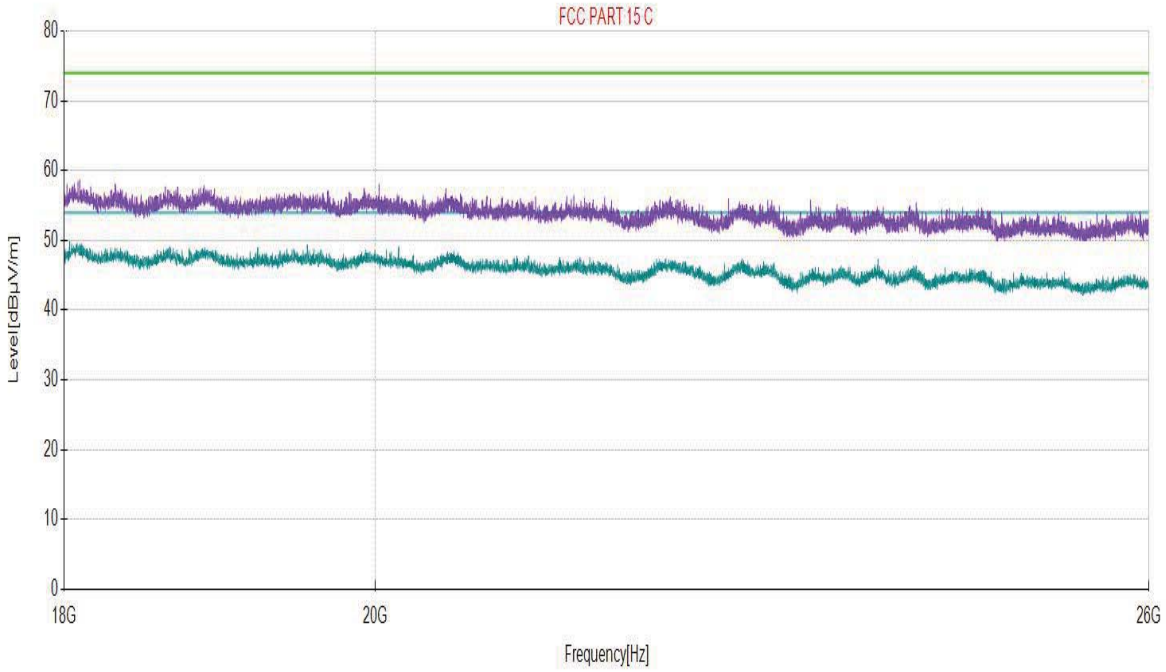


Suspected Data List

NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	4918.48	55.60	14.09	74.00	18.40	150	290	Vertical
2	4923.76	50.33	14.09	54.00	3.67	150	286	Vertical
3	7385.86	43.78	7.47	54.00	10.22	150	104	Vertical
4	7385.86	52.02	7.47	74.00	21.98	150	104	Vertical
5	9847.79	44.47	9.11	74.00	29.53	150	96	Vertical
6	9847.79	40.96	9.11	54.00	13.04	150	92	Vertical

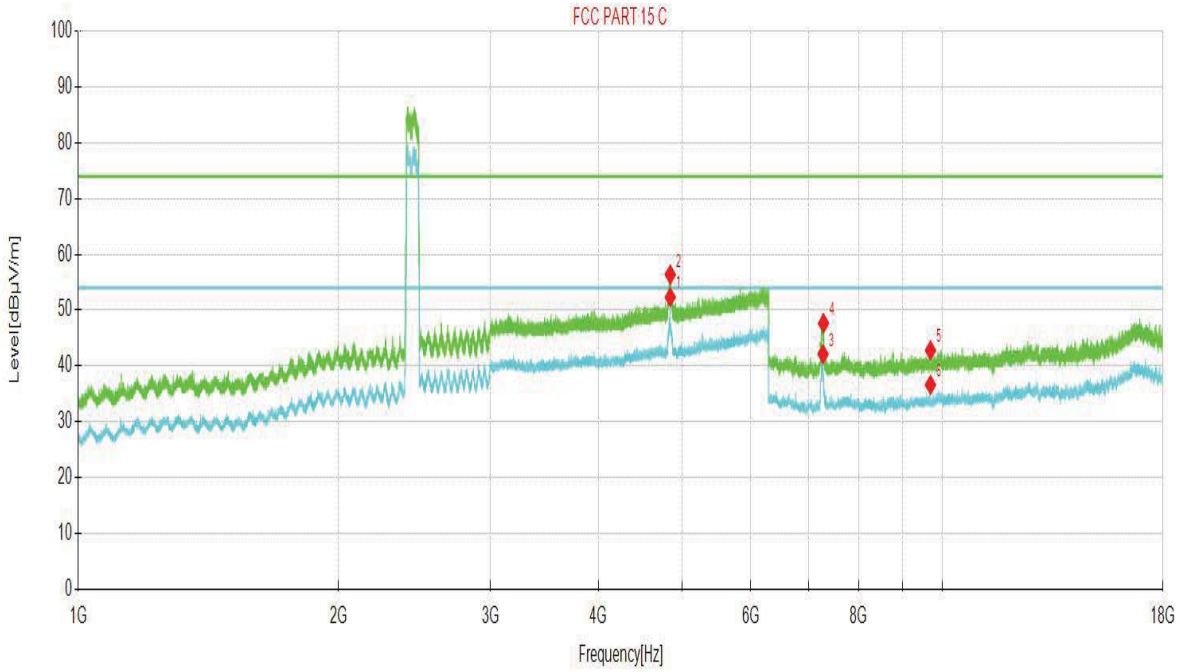
Mode:	11N20-CH11

Test Graph



Mode:	11N40-CH3

Test Graph

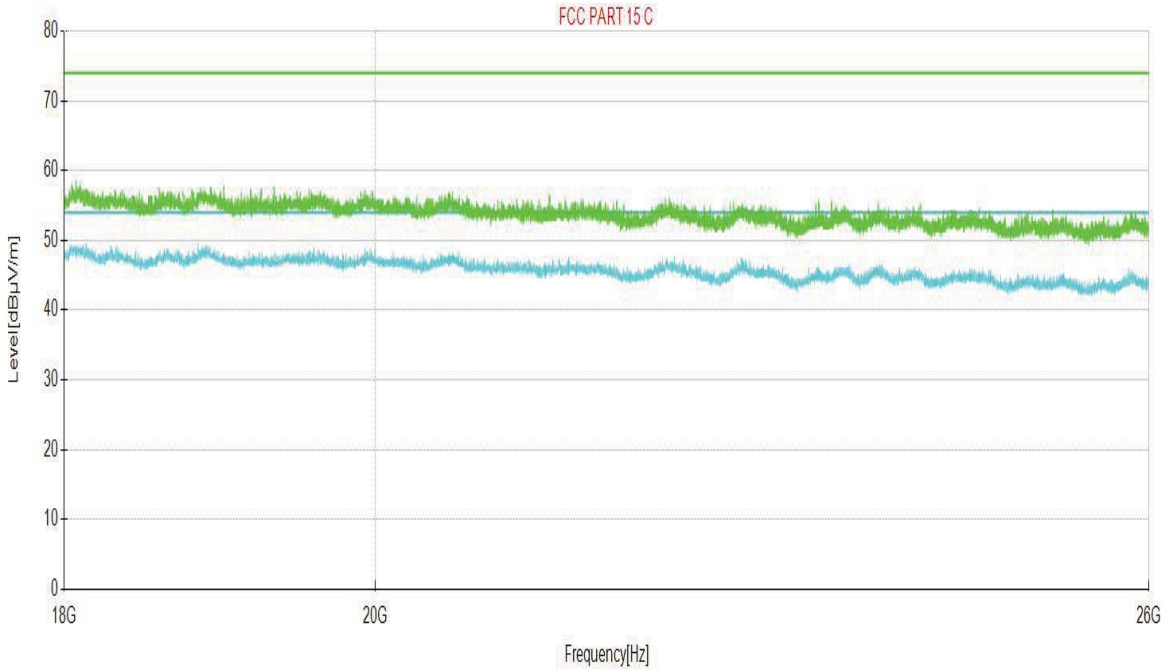


Suspected Data List

NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	4842.90	52.32	14.06	54.00	1.68	150	273	Horizontal
2	4843.23	56.36	14.06	74.00	17.64	150	273	Horizontal
3	7274.70	42.14	8.02	54.00	11.86	150	290	Horizontal
4	7285.23	47.65	7.88	74.00	26.35	150	277	Horizontal
5	9687.48	42.79	8.63	74.00	31.21	150	37	Horizontal
6	9687.48	36.62	8.63	54.00	17.38	150	41	Horizontal

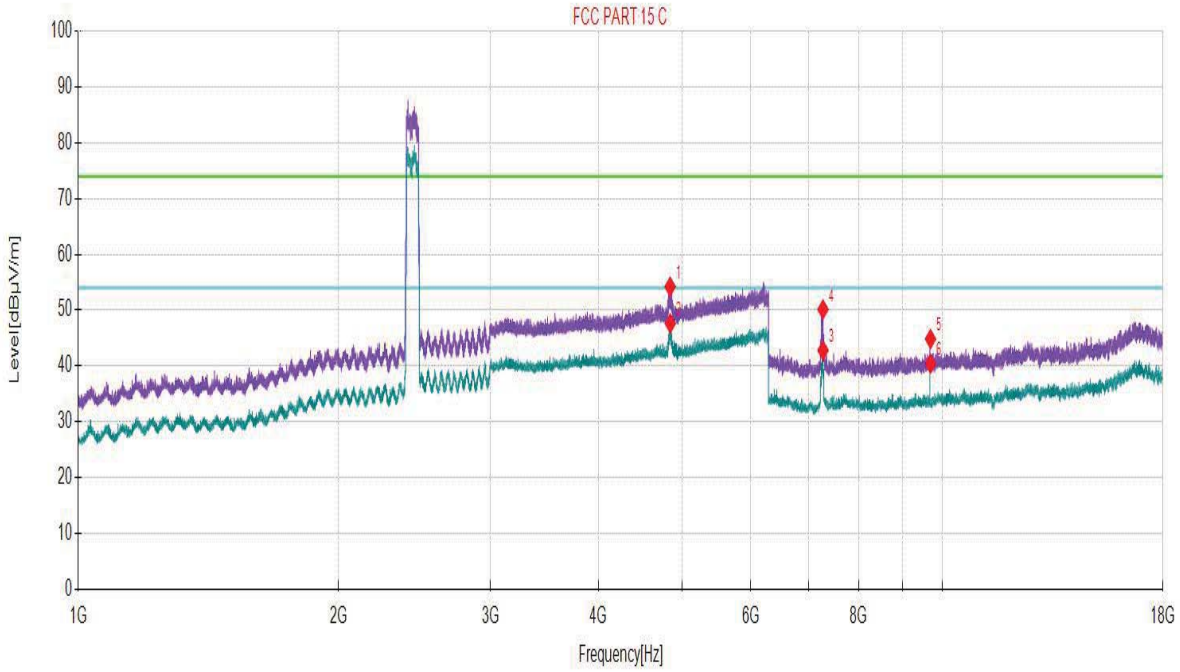
Mode:	11N40-CH3

Test Graph



Mode:	11N40-CH3

Test Graph



Suspected Data List

NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	4840.59	54.21	14.06	74.00	19.79	150	294	Vertical
2	4842.90	47.62	14.06	54.00	6.38	150	285	Vertical
3	7274.70	42.80	8.02	54.00	11.20	150	104	Vertical
4	7274.70	50.14	8.02	74.00	23.86	150	104	Vertical
5	9687.48	44.84	8.63	74.00	29.16	150	91	Vertical
6	9687.48	40.44	8.63	54.00	13.56	150	91	Vertical

Mode:	11N40-CH3

Test Graph