



Shenzhen Huaxin Information Technology Service Co., Ltd

101, R & D Building, No.3 guansheng 4th Road, Luhuhu Community, Guanhu Street, Longhua District, Shenzhen, Guangdong, China

Tel: +86-755-21018313 Http: //www.tecovo.net

TEST REPORT

Report No.: **HX260508R003**
FCC ID.....: **2ASV2-ECBTA1B**
Applicant.....: **New Sensor Corporation**
Address.....: 47-50 33rd Street, Long Island City, NY 11101, USA
Manufacturer.....: **New Sensor Corporation**
Address.....: 47-50 33rd Street, Long Island City, NY 11101, USA
Product Name.....: **Bluetooth Speaker**
Trade Mark.....: Electro-Harmonix
Model/Type reference.....: EC-BTA1 With Battery
Listed Model(s): /
Standard.....: **FCC CFR Title 47 Part 15 Subpart C Section 15.247**
Date of receipt of test sample...: May. 06, 2026
Date of testing.....: May. 06, 2026 ~ May. 13, 2026
Date of issue.....: May. 14, 2026
Result.....: **PASS**

Compiled by:

(Printed name + signature)

Terry Su



Approved by:

(Printed name + signature)

Amy Zhai

Testing Laboratory Name.....: **Shenzhen Huaxin Information Technology Service Co., Ltd**

Address.....: 101, R & D Building, No.3 guansheng 4th Road, Luhuhu Community,
Guanhu Street, Longhua District, Shenzhen, Guangdong, China

This test report shall not be copied in any form except with the written approval of our laboratory. The customer shall not claim that the product has been endorsed by Shenzhen Huaxin Information Technology Service Co., Ltd. based on this report, The test results in the report are only applicable to the samples tested. Without the signatures of the compiled engineer and the approver, the test report will be invalid. Any objection shall be submitted to Shenzhen Huaxin Information Technology Service Co., Ltd. within 15 days from the date of receiving the report. After this period, it will not be considered. The test report only corresponds to the test sample.



Table of Contents

Page

1. TEST SUMMARY	3
1.1. TEST STANDARDS	3
1.2. REPORT VERSION	3
1.3. TEST DESCRIPTION	4
1.4. TEST FACILITY	5
1.5. MEASUREMENT UNCERTAINTY	5
1.6. ENVIRONMENTAL CONDITIONS	6
2. GENERAL INFORMATION	7
2.1. CLIENT INFORMATION	7
2.2. GENERAL DESCRIPTION OF EUT	7
2.3. ACCESSORY EQUIPMENT INFORMATION	8
2.4. OPERATION STATE	9
2.5. MEASUREMENT INSTRUMENTS LIST	10
3. TEST ITEM AND RESULTS	12
3.1. CONDUCTED EMISSION	12
3.2. RADIATED EMISSION	15
3.3. RADIATED EMISSIONS RESTRICTED BAND	31
3.4. BAND EDGE AND SPURIOUS EMISSIONS (CONDUCTED)	44
3.5. 20DB BANDWIDTH	56
3.6. CHANNEL SEPARATION	63
3.7. NUMBER OF HOPPING CHANNEL	65
3.8. DWELL TIME	67
3.9. PEAK OUTPUT POWER	72
3.10. DUTY CYCLE	76
3.11. ANTENNA REQUIREMENT	80



1. TEST SUMMARY

1.1. Test Standards

The tests were performed according to following standards:

[FCC Rules Part 15.247](#): Operation within the bands of 902-928MHz, 2400-2483.5MHz, and 5725-5850MHz.

[RSS-247 Issue 4](#): Standard Specifications for Frequency Hopping Systems (FHSs) and Digital Transmission Systems (DTSS) Operating in the Bands 902-928MHz, 2400-2483.5MHz and 5725-5850MHz.

[ANSI C63.10-2020](#): American National Standard for Testing Unlicensed Wireless Devices.

[RSS-Gen Issue 5](#): General Requirements for Compliance of Radio Apparatus.

1.2. Report version

Revised No.	Date of issue	Description
01	May. 10, 2026	Original



1.3. Test Description

FCC Part 15 Subpart C (15.247)			
Test Item	Standard Section	Result	Test Engineer
Antenna Requirement	15.203& 15.247(b)(4)	Pass	Sain Liao
Conducted Emission	15.207	Pass	Ann Lu
Hopping Channel Separation	15.247(a)(1)	Pass	Sain Liao
Dwell Time	15.247(a)(1)(iii)	Pass	Sain Liao
Peak Output Power	15.247(b)(1)	Pass	Sain Liao
Number of Hopping Frequency	15.247(a)(1)(iii)	Pass	Sain Liao
Conducted Band Edge and Spurious Emissions	15.247(d)	Pass	Sain Liao
Radiated Emissions Restricted Band and Radiated Spurious Emissions	15.205&15.209& 15.247(d)	Pass	Sain Liao
20dB Bandwidth	15.247(a)(1)	Pass	Sain Liao
Occupied Bandwidth	/	Pass	Sain Liao

Note: The measurement uncertainty is not included in the test result.



1.4. Test Facility

Shenzhen Huaxin Information Technology Service Co., Ltd

Add: 101, R & D Building, No.3 guansheng 4th Road, Luhuhu Community, Guanhu Street, Longhua District, Shenzhen, Guangdong, China

Laboratory accreditation

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

A2LA-Lab Cert. No.: 6855.01

Shenzhen Huaxin Information Technology Service Co., Ltd EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

Industry Canada (Company Number: 31786, CAB Identifier: CN0147)

Shenzhen Huaxin Information Technology Service Co., Ltd EMC Laboratory has been registered by Certification and Engineer Bureau of Industry Canada for the performance of with Registration NO.: 31786.

FCC (Registration No.: 932271, Designation Number CN1344)

Shenzhen Huaxin Information Technology Service Co., Ltd EMC Laboratory has been registered and fully described in a report filed with the (FCC)Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration NO.: 932271.

1.5. Measurement Uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to TR-100028-01 "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 1" and TR-100028-02 "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 2 " and is documented in the Shenzhen Huaxin Information Technology Service Co., Ltd quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Below is the best measurement capability for Shenzhen Huaxin Information Technology Service Co., Ltd



Test Items	Measurement Uncertainty	Notes
20dB Emission Bandwidth	$\pm 3.70\%$	(1)
Carrier Frequency Separation	$\pm 1.9\%$	(1)
Number of Hopping Channel	$\pm 1.9\%$	(1)
Time of Occupancy	$\pm 0.028\%$	(1)
Max Peak Conducted Output Power	$\pm 0.60\text{dB}$	(1)
Band-edge Spurious Emission	$\pm 1.40\text{dB}$	(1)
Conducted Spurious Emissions	$\pm 1.40\text{dB}$	(1)
Conducted Emissions 9kHz~30MHz	$\pm 3.10\text{dB}$	(1)
Radiated Emissions 9kHz~30MHz	$\pm 3.62\text{dB}$	(1)
Radiated Emissions 30~1000MHz	$\pm 4.63\text{dB}$	(1)
Radiated Emissions 1~18GHz	$\pm 4.40\text{dB}$	(1)
Radiated Emissions 18~40GHz	$\pm 4.40\text{dB}$	(1)

Note (1): This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

1.6. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	21°C ~ 27°C
Relative Humidity:	40% ~ 60%
Air Pressure:	101kPa



2. GENERAL INFORMATION

2.1. Client Information

Applicant:	New Sensor Corporation
Address:	47-50 33rd Street, Long Island City, NY 11101, USA
Manufacturer:	New Sensor Corporation
Address:	47-50 33rd Street, Long Island City, NY 11101, USA

2.2. General Description of EUT

Product Name:	Bluetooth Speaker
Trade Mark:	Electro-Harmonix
Model/Type reference:	EC-BTA1 With Battery
Listed Model(s):	/
Power supply:	120Vac/60Hz 7.4Vdc from Li-ion Battery
Hardware version:	/
Software version:	/
RF Specification	
Modulation:	GFSK, $\pi/4$ -DQPSK, 8-DPSK
Operation frequency:	2402MHz~2480MHz
Channel number:	79
Channel separation:	1MHz
Antenna type:	PCB Antenna
Antenna gain:	2.77dBi



2.3. Accessory Equipment information

Equipment Information			
Name	Model	S/N	Manufacturer
Notebook	BRN-H56	ABBXBB4716801177	HONOR
Cable Information			
Name	Shielded Type	Ferrite Core	Length
AC In Cable	Without	Without	1M
Test Software Information			
Name	Versions	/	/
BlueTest3	V3.3.18.2017	/	/



2.4. Operation state

Operation Frequency List: The EUT has been tested under typical operating condition. The Applicant provides communication tools software to control the EUT for staying in continuous transmitting and receiving mode for testing. BT EDR, 79 channels are provided to the EUT. Channels 00/39/78 were selected for testing.

Operation Frequency List:

Channel	Frequency (MHz)
00	2402
01	2403
:	:
38	2440
39	2441
40	2442
:	:
77	2479
78	2480

Note: The display in grey were the channel selected for testing.

Test mode

For RF test items:
The engineering test program was provided and enabled to make EUT continuous transmit
For AC power line conducted emissions:
The EUT was set to connect with the Bluetooth instrument under large package sizes transmission.
For Radiated spurious emissions test item:
The engineering test program was provided and enabled to make EUT continuous transmit. The EUT in each of three orthogonal axis emissions had been tested, but only the worst case (X axis) data recorded in the report.



2.5. Measurement Instruments List

RF Test System - SRD					
Item	Test Equipment	Manufacturer	Model No.	Versions/ Serial No.	Calibrated until
1	Spectrum Analyzer	Agilent	N9020A	MY51280803	Apr. 08, 2027
2	Wideband Radio Communication Tester	R&S	CMW500	157763	Apr. 08, 2027
3	MXG Vector Signal Generator	Agilent	N5182A	101795	Apr. 08, 2027
4	EXG Analog Signal Generator	Agilent	N5181A	MY47421151	Apr. 08, 2027
5	RF Sensor Unit	Techy	TR1029-2	20220428P009	Apr. 08, 2027
6	High and low temperature test chamber	Asprey	LX-225L	2020091401	Apr. 08, 2027
7	SRD Test Software	TACHOY	RTS	V1.0.0	/
8	2G/3G/4G Test Software	TST	TST-PASS	V2.0	/

Radiated emission					
Item	Test Equipment	Manufacturer	Model No.	Versions/ Serial No.	Calibrated until
1	EMI spectrum receiver	R&S	ESR7	102543	Apr. 09, 2027
2	9*6*6 anechoic chamber	Mao Rui	9*6*6	/	Apr. 09, 2028
3	Spectrum analyzer	R&S	FSV40-N	101795	Apr. 09, 2027
4	Preamplifier	Agilent	8449B	3008A00551	Apr. 08, 2027
5	Preamplifier	HP	8447D	1616A02061	Apr. 09, 2027
6	Preamplifier	SKET	LNPA1840G-50	SK2019040302	Apr. 09, 2027
7	Horn Antenna	SCHWARZBEC K	BBHA9170	00369	Apr. 10, 2028
8	Horn Antenna	A. H. System, Inc	SAS-571	915	Apr. 10, 2028
9	Trilog-Broadband Antenna	SCHWARZBEC K	VULB 9168	01318	Apr. 10, 2028
10	Loop Antenna	SCHWARZBEC K	FMZB1519B	00128	Apr. 08, 2027
11	6dB Fixed Attenuator	SKET	AP_DC01G-2W-N-6 dB	SK2021012803	Apr. 08, 2027
12	RF Cable 0.009~1000MHz	Langjingkeji	N/J-NJ-RG58(1G) 9m	/	Apr. 09, 2027
13	RF Cable 1000~18000MHz	Langjingkeji	N/J-SMAAJ-406(18G) 9m	/	Apr. 09, 2027
14	RF Cable	Langjingkeji	2.92/M-2.92/M-0.5M	/	Apr. 12, 2027
15	RF Cable 18000~40000MHz	Langjingkeji	2.92/M-2.92/M-3M	/	Apr. 12, 2027
16	Test Software	SKET	EMC-I	V1.4.0.1	/
17	Test Software	FARA	EZ-EMC	FA-03A3	/

Conducted emission					
Item	Test Equipment	Manufacturer	Model No.	Versions/ Serial No.	Calibrated until
1	LISN	R&S	ENV216	101291	Apr. 09, 2027
2	LISN	R&S	ESH3-Z5	894981/024	Apr. 09, 2027



3	EMI Test Receiver	R&S	ESR7	102543	Apr. 09, 2027
5	RF Cable	Langjingkeji	N/J-NJ-RG58(1G) 10m	/	Apr. 09, 2027
6	Test Software	SKET	EMC-I	V1.4.0.1	/

Note: 1. The Cal. Interval was one year.

2. The cable loss has calculated in test result which connection between each test instruments.

3. TEST ITEM AND RESULTS

3.1. Conducted Emission

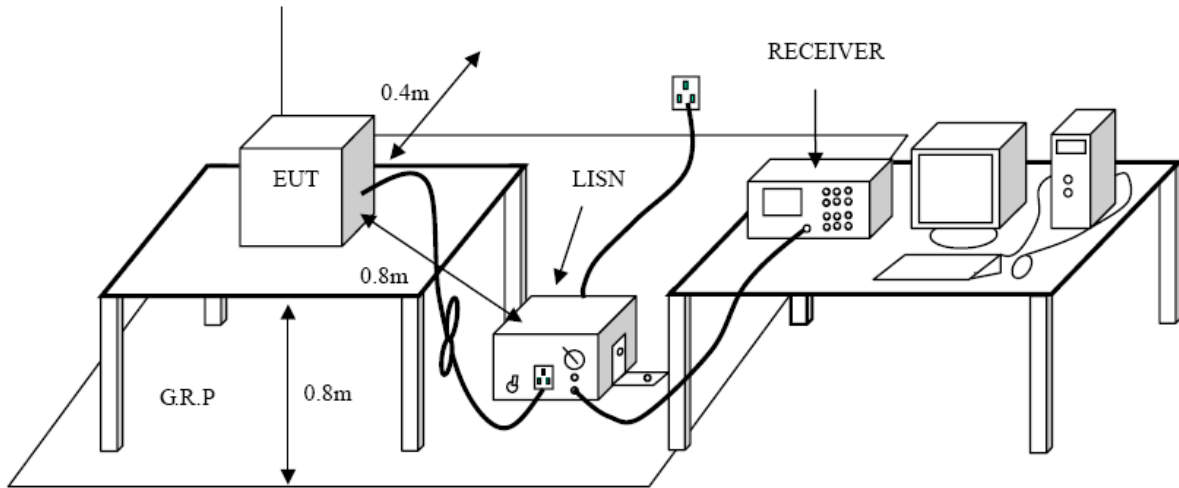
Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.207

Frequency range (MHz)	Limit (dBuV)	
	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.

Test Configuration

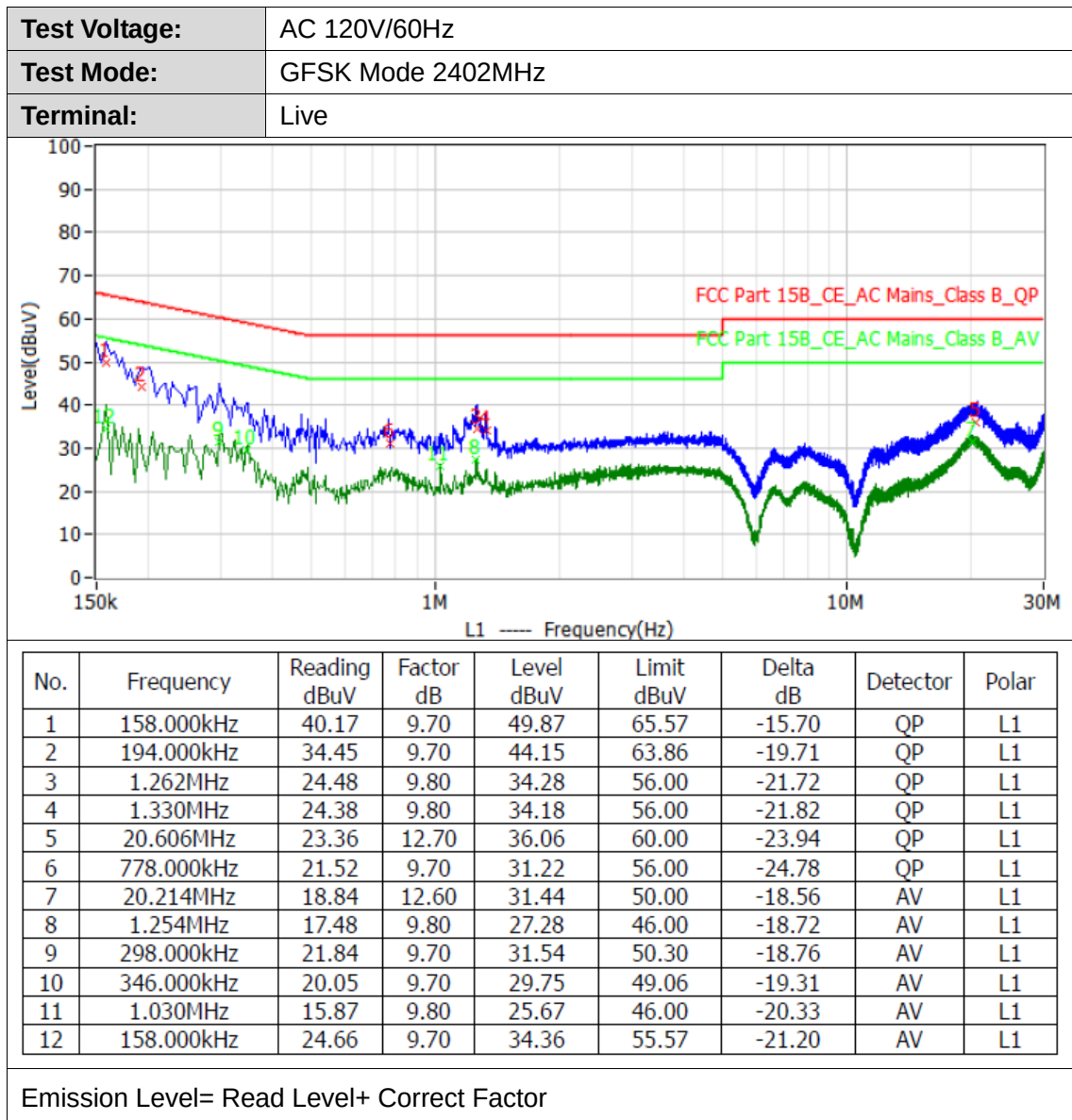


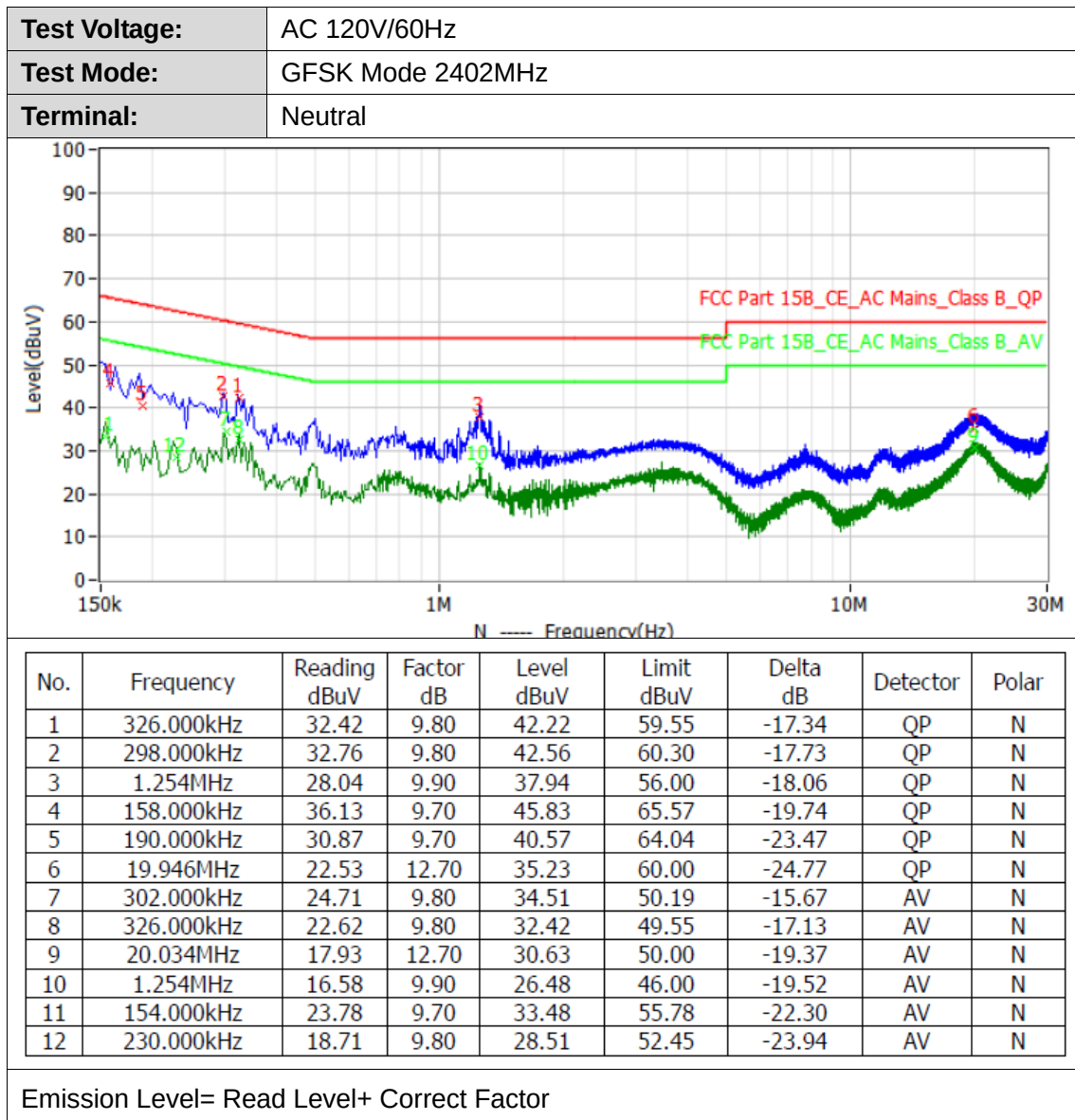
Test Procedure

1. The EUT was setup according to ANSI C63.10: 2020 requirements.
2. 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.
3. The EUT and simulators are connected to the main power through a line impedances stabilization network (LISN). The LISN provides a 50ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs)
4. 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.
5. 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.
6. Conducted Emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.
7. During the above scans, the emissions were maximized by cable manipulation.

Test Mode

Please refer to the clause 2.4.

**Test Results**





3.2. Radiated Emission

Limit

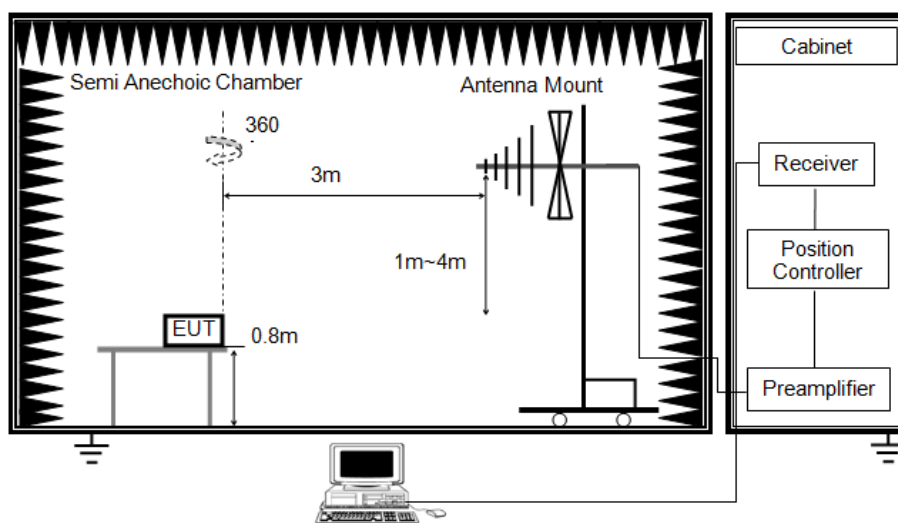
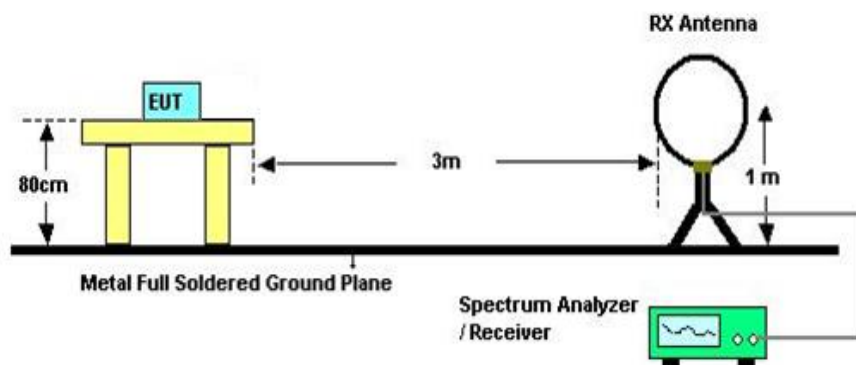
FCC CFR Title 47 Part 15 Subpart C Section 15.209

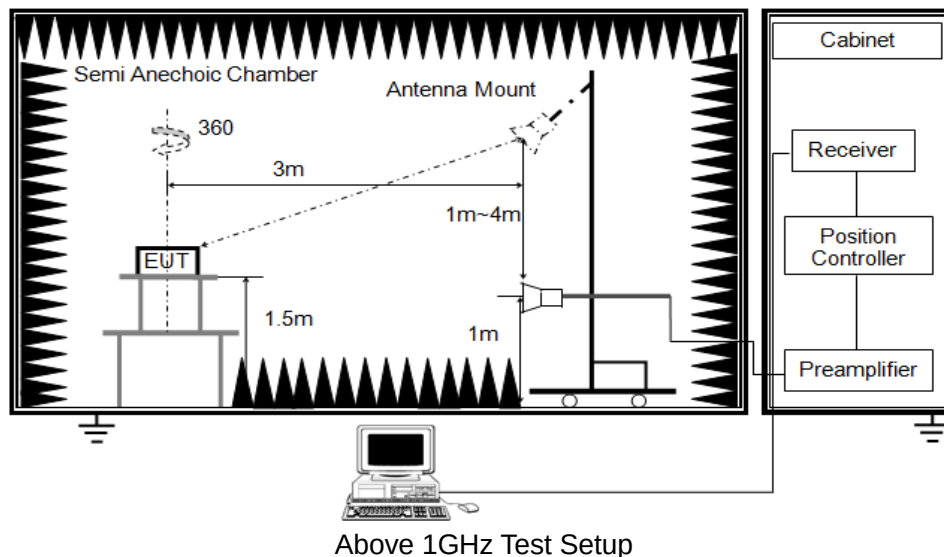
Frequency	Limit (dBuV/m @3m)	Value
30 MHz ~ 88 MHz	40.00	Quasi-peak
88 MHz ~ 216 MHz	43.50	Quasi-peak
216 MHz ~ 960 MHz	46.00	Quasi-peak
960 MHz ~ 1 GHz	54.00	Quasi-peak
Above 1 GHz	54.00	Average
	74.00	Peak

Note:

- (1) The tighter limit applies at the band edges.
- (2) Emission Level (dBuV/m)=20log Emission Level (uV/m).

Test Configuration





Test Procedure

1. The EUT was setup and tested according to ANSI C63.10: 2020
 2. The EUT is placed on a turn table which is 0.8 meter above ground for below 1 GHz, and 1.5 m for above 1 GHz. The turn table is rotated 360 degrees to determine the position of the maximum emission level.
 3. The EUT was set 3 meters from the receiving antenna, which was mounted on the top of a variable height antenna tower.
 4. For each suspected emission, the EUT was arranged to its worst case and then tune the Antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level to comply with the guidelines.
 5. Set to the maximum power setting and enable the EUT transmit continuously.
 6. Use the following spectrum analyzer settings
 - (1) Span shall wide enough to fully capture the emission being measured;
 - (2) Below 30 MHz:
9kHz – 150kHz, RBW=200Hz, VBW $\geq$ RBW, Sweep=auto, Detector function=peak, Trace=max hold;
150kHz – 30MHz, RBW=9kHz, VBW $\geq$ RBW, Sweep=auto, Detector function=peak, Trace=max hold; If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
 - (3) 30 MHz - 1 GHz:
RBW=120 kHz, VBW=300 kHz, Sweep=auto, Detector function=peak, Trace=max hold;
If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
 - (4) From 1 GHz to 10th harmonic:
RBW=1MHz, VBW=3MHz Peak detector for Peak value.
RBW=1MHz, VBW $\geq$ 1/T Peak detector for Average value.
- Note 1: For the 1/T & Duty Cycle please refer to clause 3.10 Duty Cycle.

Test Mode

Please refer to the clause 2.4.

Test Result

9 KHz~30 MHz

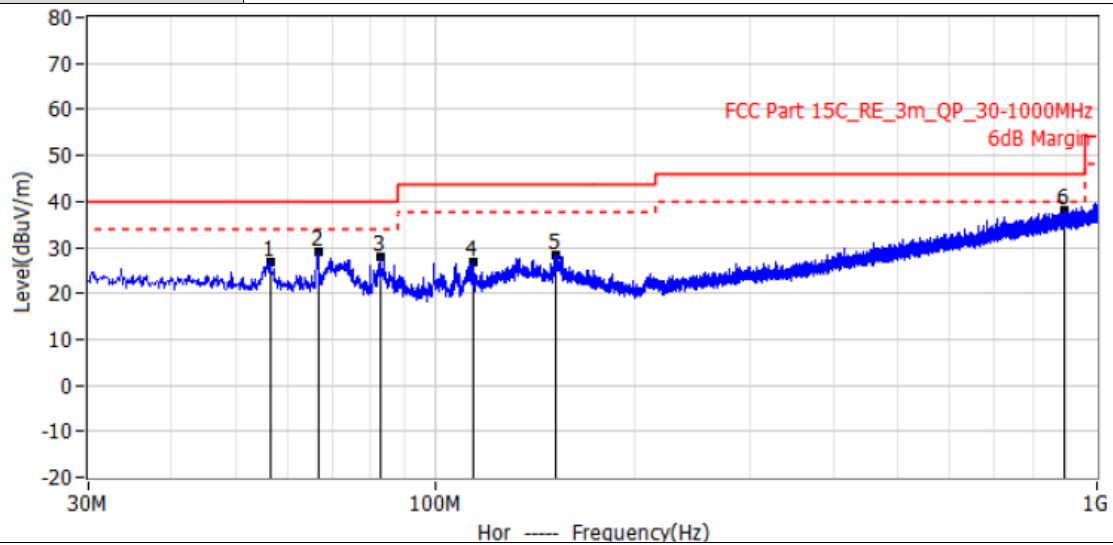
From 9 KHz to 30 MHz Conclusion: PASS

Note: The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.



30MHz-1GHz

Ant. Pol.	Horizontal
Test Mode:	GFSK Mode 2402MHz
Remark:	Only worse case is reported



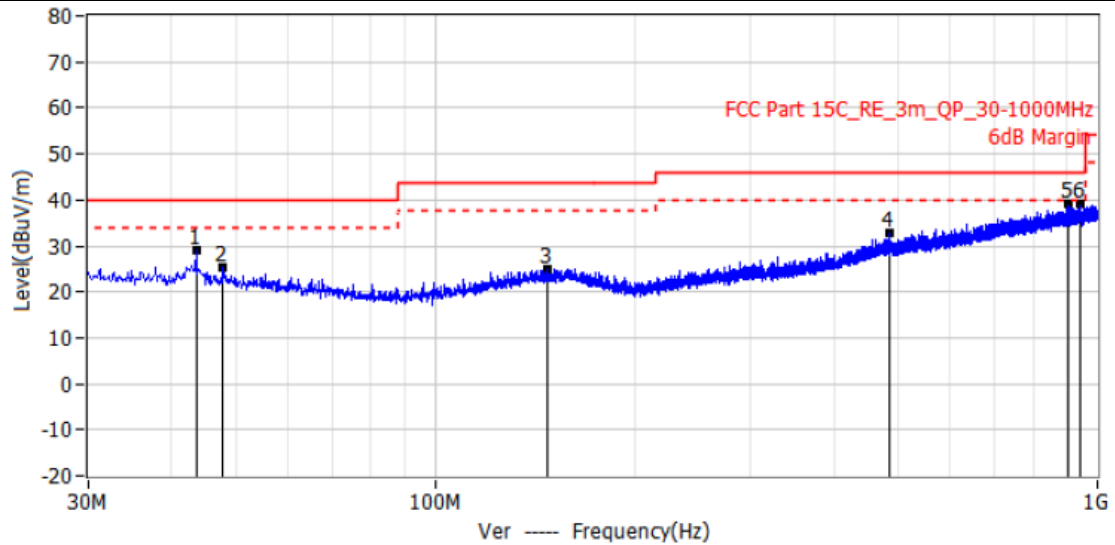
No.	Frequency	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Delta dB	Detector	Polar
1*	56.433MHz	12.5	14.5	27.0	40.0	-13.0	QP	Hor
2*	66.618MHz	15.8	13.1	28.9	40.0	-11.1	QP	Hor
3*	82.865MHz	16.2	11.7	27.9	40.0	-12.1	QP	Hor
4*	114.511MHz	13.2	13.7	26.9	43.5	-16.6	QP	Hor
5*	152.705MHz	12.4	16.1	28.5	43.5	-15.0	QP	Hor
6*	894.634MHz	11.3	26.9	38.2	46.0	-7.8	QP	Hor

Remarks:

1. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Factor
2. Margin value = Level - Limit value



Ant. Pol.	Vertical
Test Mode:	GFSK Mode 2402MHz
Remark:	Only worse case is reported



No.	Frequency	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Delta dB	Detector	Polar
1*	43.580MHz	13.7	15.3	29.0	40.0	-11.0	QP	Ver
2*	47.945MHz	10.1	15.2	25.3	40.0	-14.7	QP	Ver
3*	147.613MHz	9.1	16.0	25.1	43.5	-18.4	QP	Ver
4*	484.809MHz	12.4	20.3	32.7	46.0	-13.3	QP	Ver
5*	904.455MHz	12.0	27.0	39.0	46.0	-7.0	QP	Ver
6*	943.498MHz	11.7	27.3	39.0	46.0	-7.0	QP	Ver

Remarks:

- Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
- Margin value = Level -Limit value

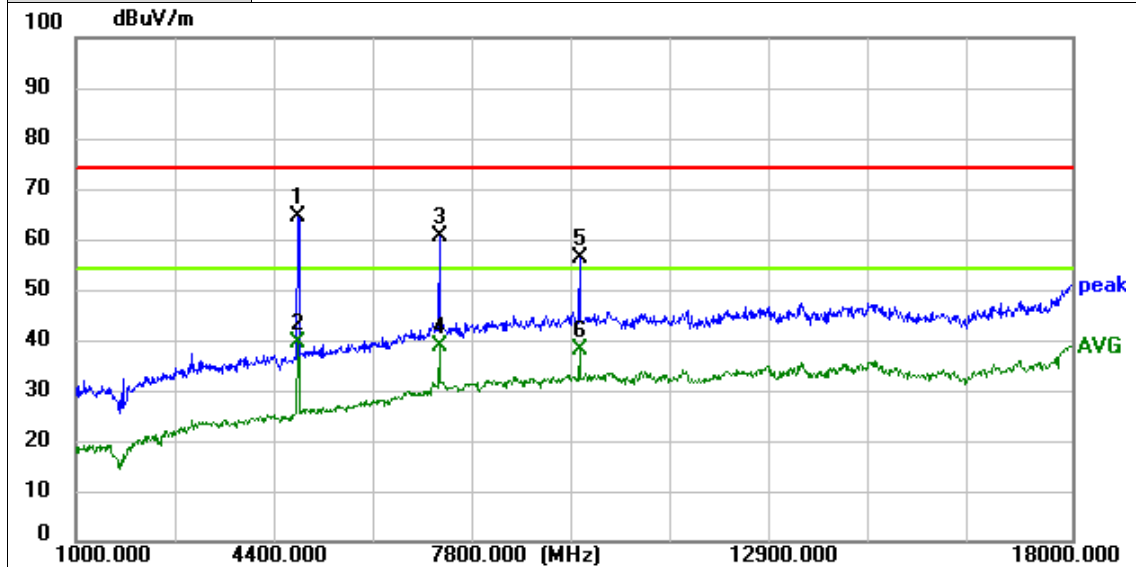


Above 1GHz

Worst case mode

1-18GHz

Ant. Pol.	Horizontal
Test Mode:	8-DPSK Mode 2402MHz
Remark:	No report for the emission which more than 10 dB below the pre-scribed limit.



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	4791.0000	74.04	-9.59	64.45	74.00	-9.55	peak
2	4791.0000	48.97	-9.59	39.38	54.00	-14.62	AVG
3	7205.0000	64.55	-4.15	60.40	74.00	-13.60	peak
4	7205.0000	43.05	-4.15	38.90	54.00	-15.10	AVG
5	9602.0000	57.42	-1.12	56.30	74.00	-17.70	peak
6	9602.0000	39.19	-1.12	38.07	54.00	-15.93	AVG

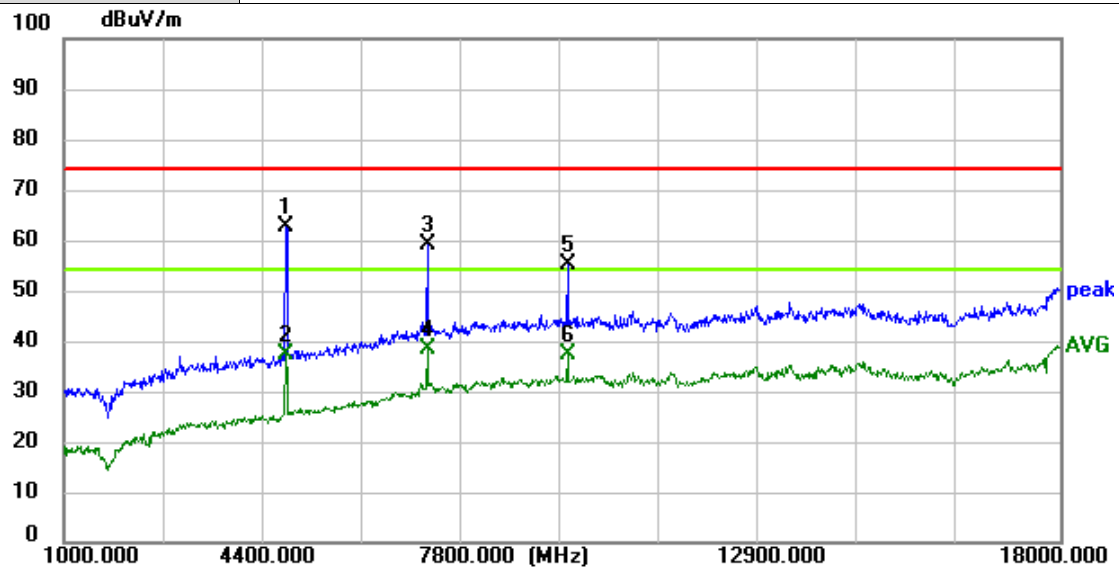
Remarks:

1. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Factor

2. Margin value = Level - Limit value



Ant. Pol.	Vertical
Test Mode:	8-DPSK Mode 2402MHz
Remark:	No report for the emission which more than 10 dB below the pre-scribed limit.



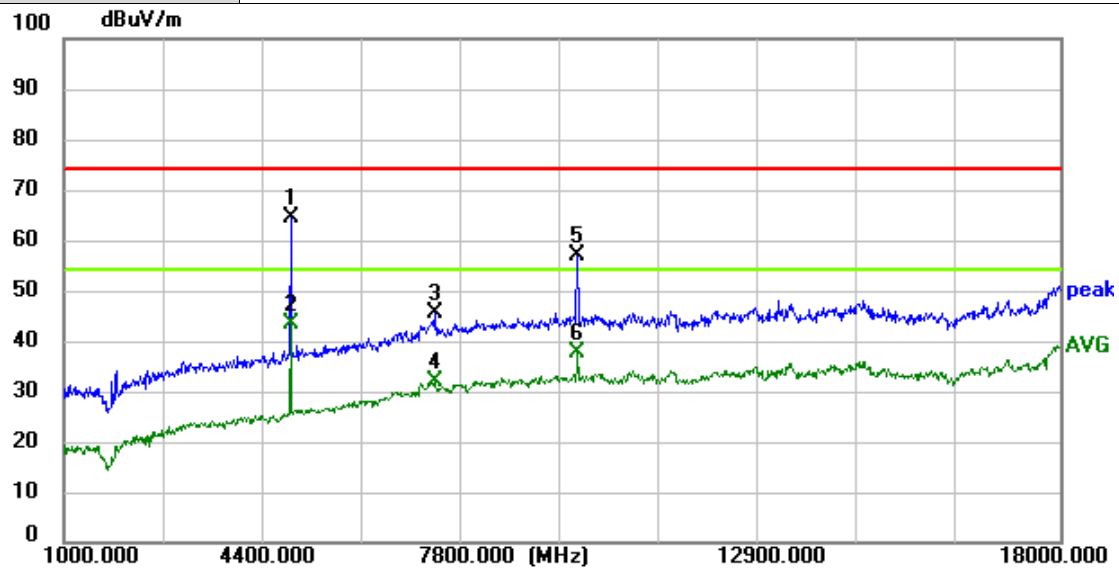
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	4791.0000	72.31	-9.59	62.72	74.00	-11.28	peak
2	4791.0000	46.85	-9.59	37.26	54.00	-16.74	AVG
3	7205.0000	63.35	-4.15	59.20	74.00	-14.80	peak
4	7205.0000	42.55	-4.15	38.40	54.00	-15.60	AVG
5	9602.0000	56.37	-1.12	55.25	74.00	-18.75	peak
6	9602.0000	38.57	-1.12	37.45	54.00	-16.55	AVG

Remarks:

1. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Factor
2. Margin value = Level - Limit value



Ant. Pol.	Horizontal
Test Mode:	8-DPSK Mode 2441MHz
Remark:	No report for the emission which more than 10 dB below the pre-scribed limit.



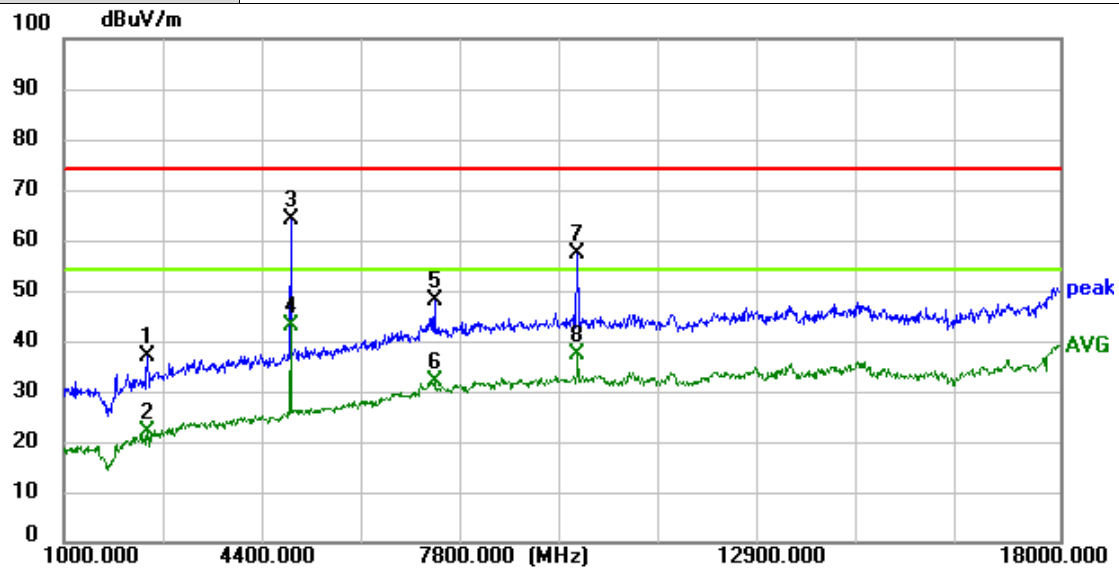
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	4876.0000	73.28	-8.86	64.42	74.00	-9.58	peak
2	4876.0000	52.13	-8.86	43.27	54.00	-10.73	AVG
3	7324.0000	49.09	-3.42	45.67	74.00	-28.33	peak
4	7324.0000	35.22	-3.42	31.80	54.00	-22.20	AVG
5	9755.0000	58.17	-1.18	56.99	74.00	-17.01	peak
6	9772.0000	38.90	-1.10	37.80	54.00	-16.20	AVG

Remarks:

1. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Factor
2. Margin value = Level - Limit value



Ant. Pol.	Vertical
Test Mode:	8-DPSK Mode 2441MHz
Remark:	No report for the emission which more than 10 dB below the pre-scribed limit.



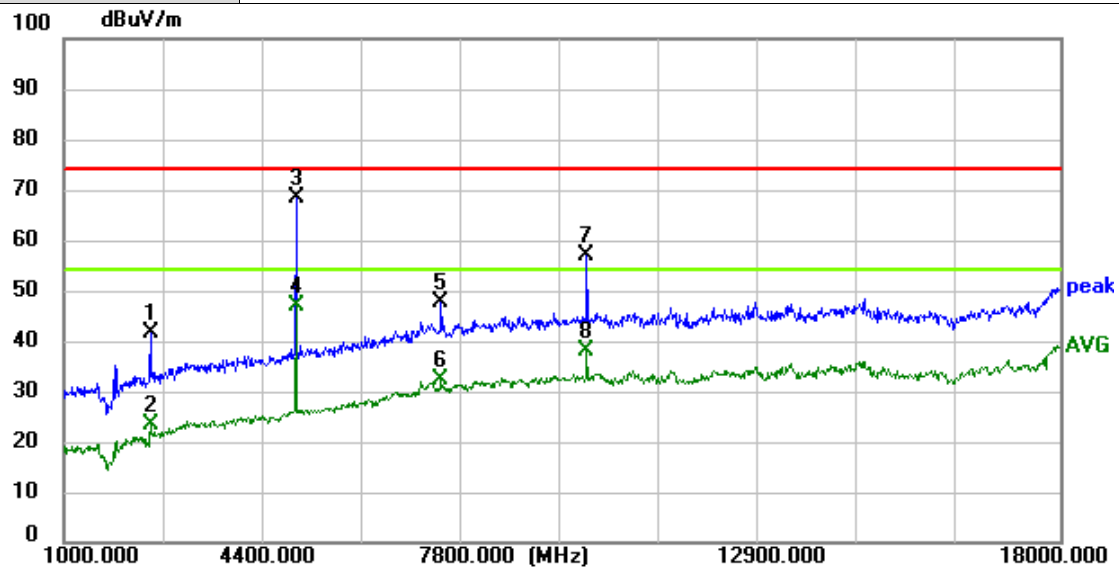
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2428.0000	54.14	-17.33	36.81	74.00	-37.19	peak
2	2428.0000	39.23	-17.33	21.90	54.00	-32.10	AVG
3 *	4876.0000	73.08	-8.86	64.22	74.00	-9.78	peak
4	4876.0000	52.01	-8.86	43.15	54.00	-10.85	AVG
5	7324.0000	51.34	-3.42	47.92	74.00	-26.08	peak
6	7324.0000	35.35	-3.42	31.93	54.00	-22.07	AVG
7	9772.0000	58.55	-1.10	57.45	74.00	-16.55	peak
8	9772.0000	38.44	-1.10	37.34	54.00	-16.66	AVG

Remarks:

1. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Factor
2. Margin value = Level - Limit value



Ant. Pol.	Horizontal
Test Mode:	8-DPSK Mode 2480MHz
Remark:	No report for the emission which more than 10 dB below the pre-scribed limit.



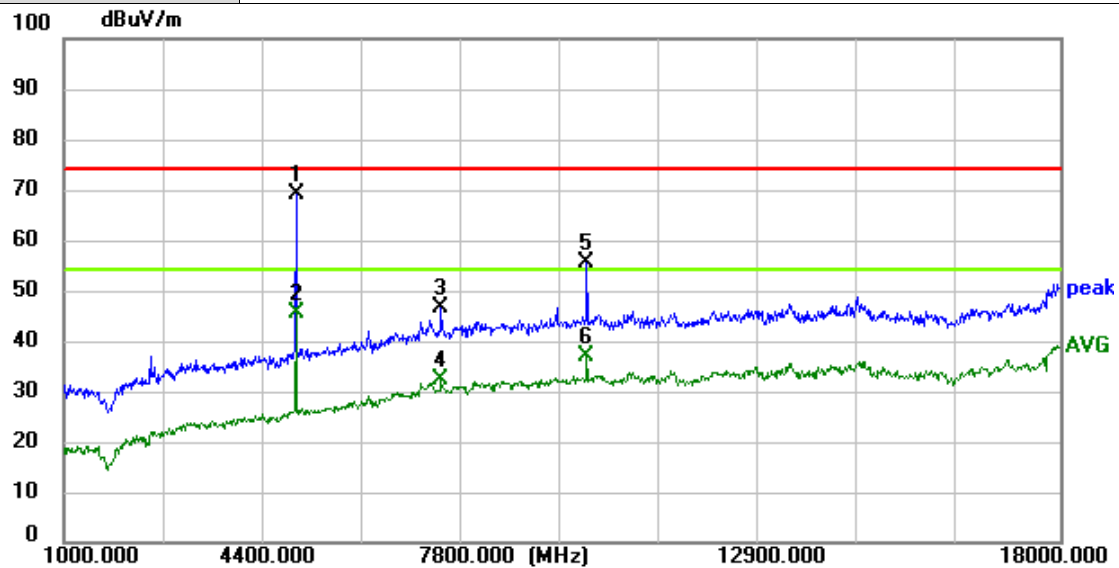
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2479.0000	58.54	-17.04	41.50	74.00	-32.50	peak
2	2479.0000	40.41	-17.04	23.37	54.00	-30.63	AVG
3 *	4961.0000	76.99	-8.65	68.34	74.00	-5.66	peak
4	4961.0000	55.57	-8.65	46.92	54.00	-7.08	AVG
5	7443.0000	51.04	-3.38	47.66	74.00	-26.34	peak
6	7443.0000	35.53	-3.38	32.15	54.00	-21.85	AVG
7	9925.0000	57.72	-0.77	56.95	74.00	-17.05	peak
8	9925.0000	38.77	-0.77	38.00	54.00	-16.00	AVG

Remarks:

1. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Factor
2. Margin value = Level - Limit value



Ant. Pol.	Vertical
Test Mode:	8-DPSK Mode 2480MHz
Remark:	No report for the emission which more than 10 dB below the pre-scribed limit.



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	4961.0000	77.79	-8.65	69.14	74.00	-4.86	peak
2	4961.0000	54.29	-8.65	45.64	54.00	-8.36	AVG
3	7443.0000	49.87	-3.38	46.49	74.00	-27.51	peak
4	7443.0000	35.82	-3.38	32.44	54.00	-21.56	AVG
5	9925.0000	56.17	-0.77	55.40	74.00	-18.60	peak
6	9925.0000	37.86	-0.77	37.09	54.00	-16.91	AVG

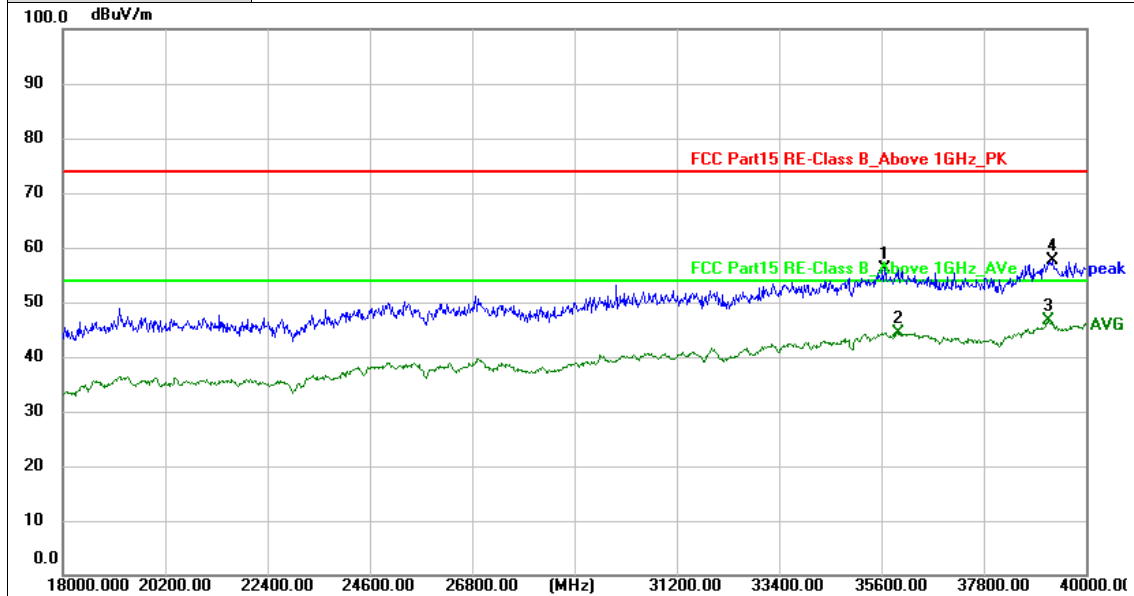
Remarks:

1. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Factor
2. Margin value = Level - Limit value



18-40GHz

Ant. Pol.	Horizontal
Test Mode:	8-DPSK Mode 2402MHz
Remark:	No report for the emission which more than 10 dB below the pre-scribed limit.



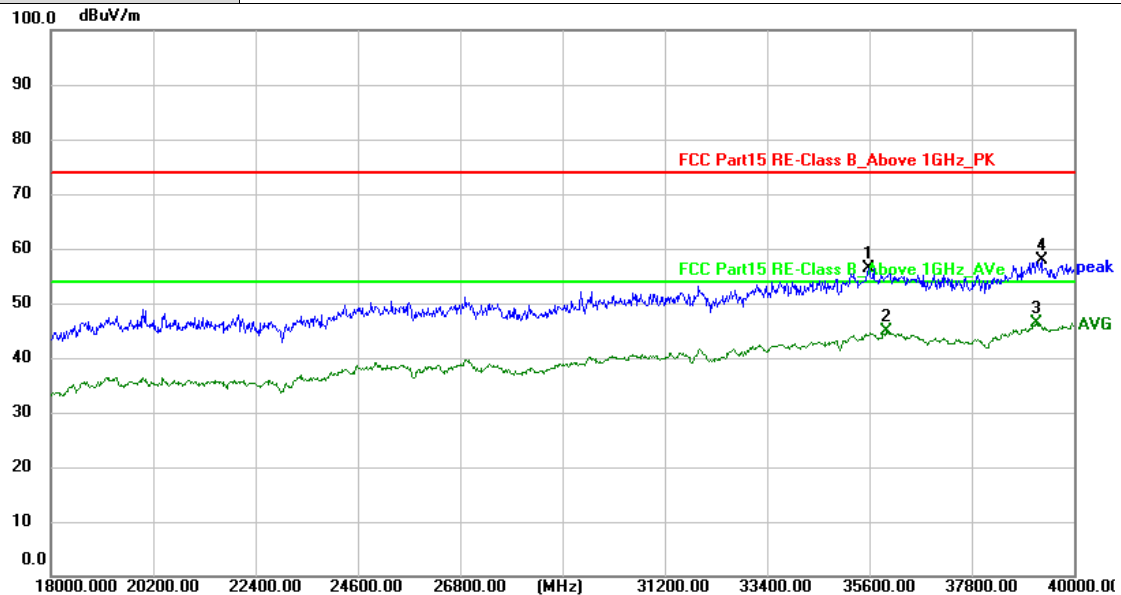
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	35666.000	57.82	-1.67	56.15	74.00	-17.85	peak
2	35974.000	45.75	-1.32	44.43	54.00	-9.57	AVG
3 *	39186.000	46.81	-0.23	46.58	54.00	-7.42	AVG
4	39274.000	57.64	-0.07	57.57	74.00	-16.43	peak

Remarks:

1. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Factor
2. Margin value = Level - Limit value



Ant. Pol.	Vertical
Test Mode:	8-DPSK Mode 2402MHz
Remark:	No report for the emission which more than 10 dB below the pre-scribed limit.



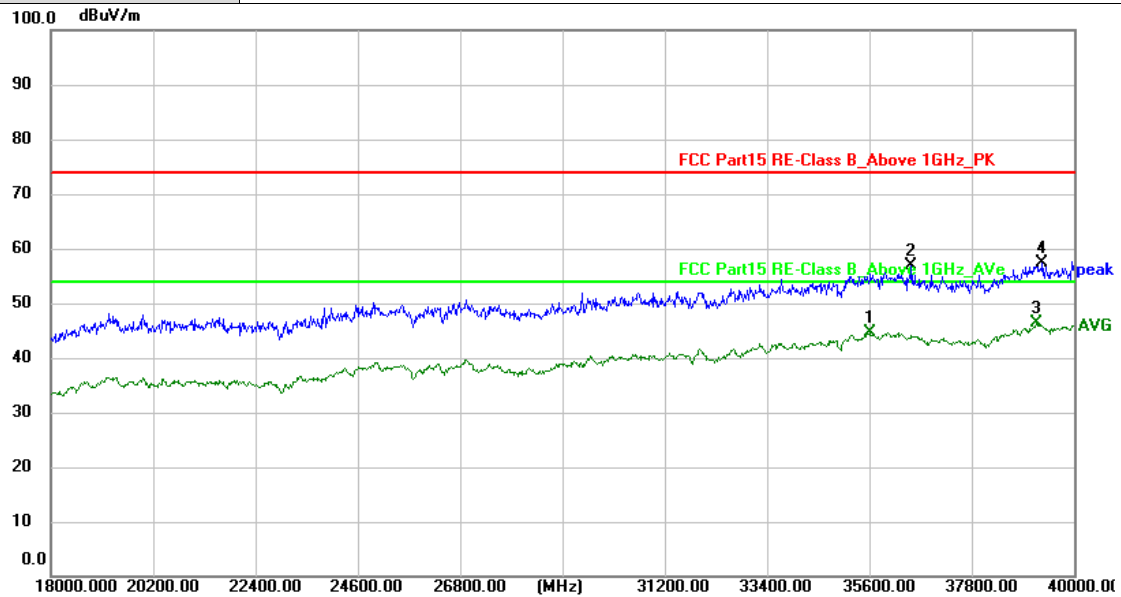
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	35578.000	58.08	-1.74	56.34	74.00	-17.66	peak
2	35952.000	46.11	-1.34	44.77	54.00	-9.23	AVG
3 *	39186.000	46.59	-0.23	46.36	54.00	-7.64	AVG
4	39296.000	58.05	-0.08	57.97	74.00	-16.03	peak

Remarks:

1. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Factor
2. Margin value = Level - Limit value



Ant. Pol.	Horizontal
Test Mode:	8-DPSK Mode 2441MHz
Remark:	No report for the emission which more than 10 dB below the pre-scribed limit.



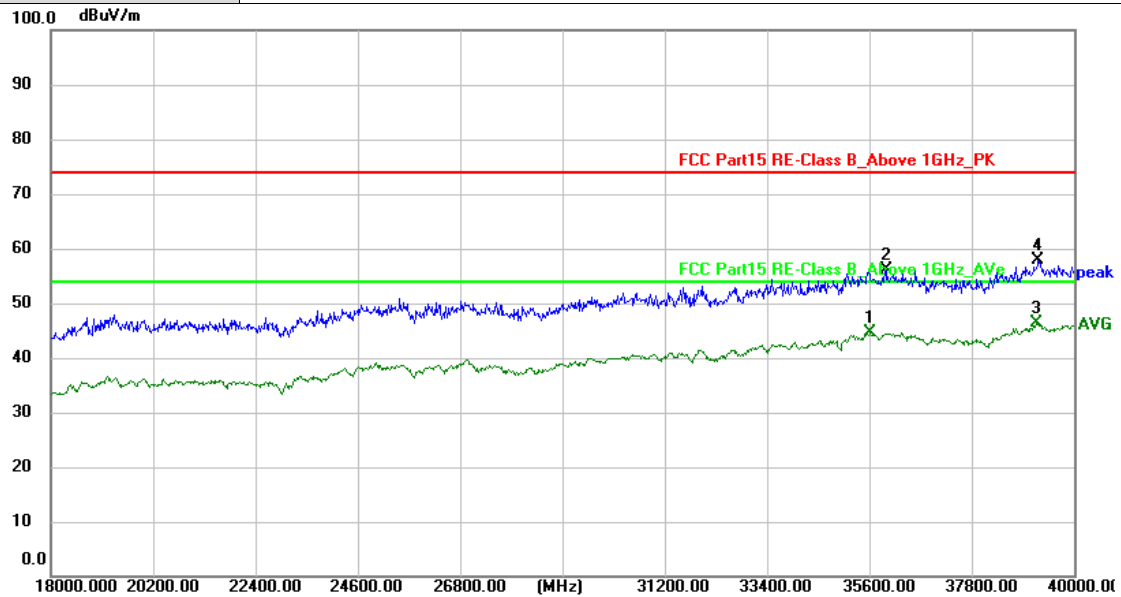
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	35600.000	46.46	-1.73	44.73	54.00	-9.27	AVG
2	36502.000	58.99	-2.10	56.89	74.00	-17.11	peak
3 *	39186.000	46.64	-0.23	46.41	54.00	-7.59	AVG
4	39318.000	57.47	-0.07	57.40	74.00	-16.60	peak

Remarks:

1. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Factor
2. Margin value = Level - Limit value



Ant. Pol.	Vertical
Test Mode:	8-DPSK Mode 2441MHz
Remark:	No report for the emission which more than 10 dB below the pre-scribed limit.



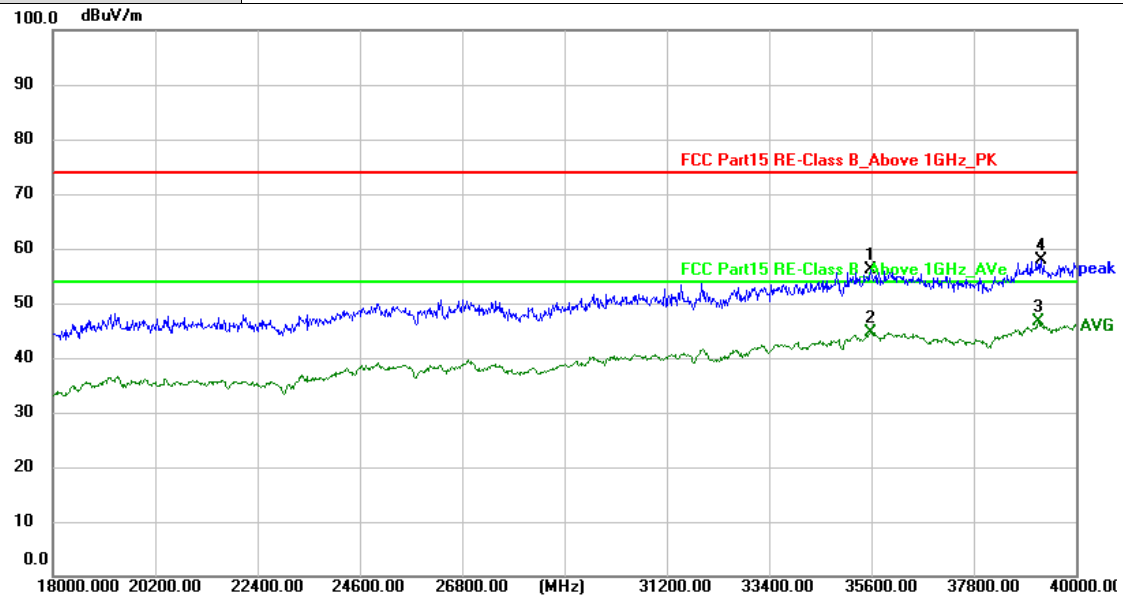
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	35622.000	46.40	-1.71	44.69	54.00	-9.31	AVG
2	35952.000	57.55	-1.34	56.21	74.00	-17.79	peak
3 *	39186.000	46.57	-0.23	46.34	54.00	-7.66	AVG
4	39230.000	58.06	-0.12	57.94	74.00	-16.06	peak

Remarks:

1. Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2. Margin value = Level -Limit value



Ant. Pol.	Horizontal
Test Mode:	8-DPSK Mode 2480MHz
Remark:	No report for the emission which more than 10 dB below the pre-scribed limit.



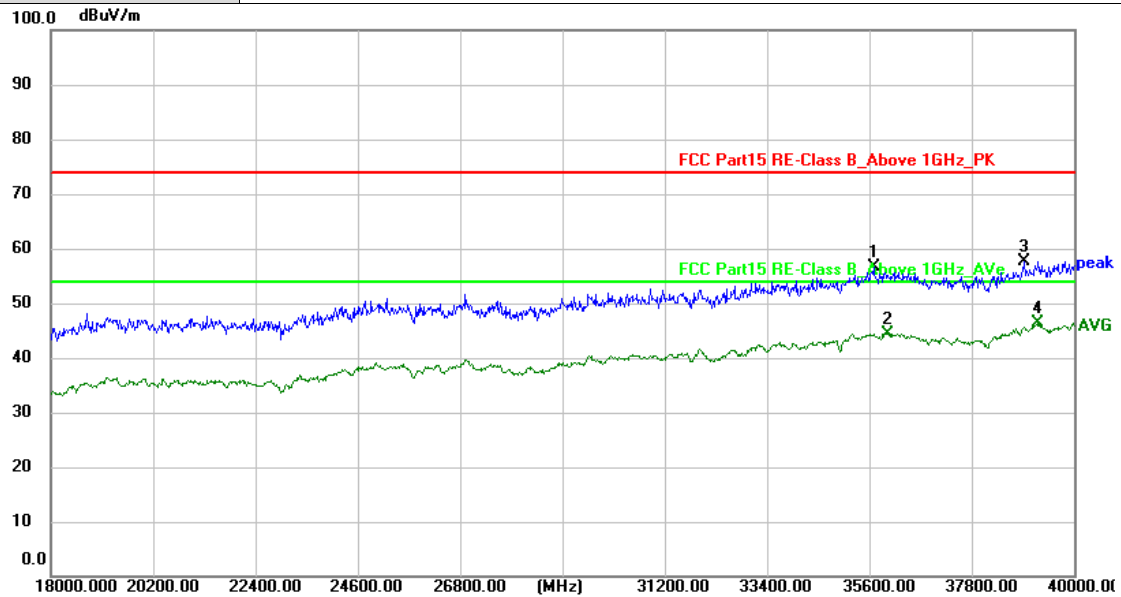
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	35578.000	57.99	-1.74	56.25	74.00	-17.75	peak
2	35578.000	46.47	-1.74	44.73	54.00	-9.27	AVG
3 *	39186.000	46.85	-0.23	46.62	54.00	-7.38	AVG
4	39252.000	57.90	-0.07	57.83	74.00	-16.17	peak

Remarks:

1. Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
2. Margin value = Level -Limit value



Ant. Pol.	Vertical
Test Mode:	8-DPSK Mode 2480MHz
Remark:	No report for the emission which more than 10 dB below the pre-scribed limit.



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	35688.000	58.19	-1.64	56.55	74.00	-17.45	peak
2	35996.000	45.69	-1.28	44.41	54.00	-9.59	AVG
3	38922.000	58.73	-0.99	57.74	74.00	-16.26	peak
4 *	39230.000	46.39	-0.12	46.27	54.00	-7.73	AVG

Remarks:

1. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Factor
2. Margin value = Level - Limit value

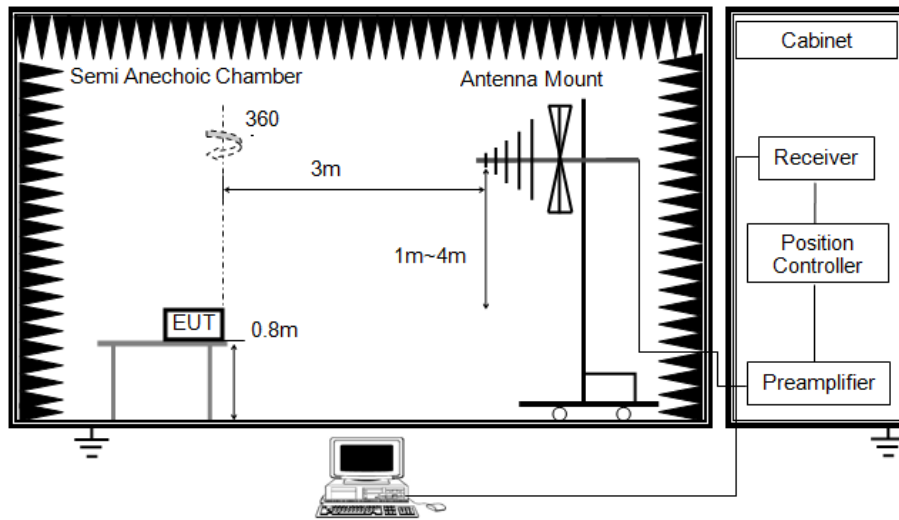
3.3. Radiated Emissions Restricted Band

Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (d)

Restricted Frequency Band (MHz)	(dBuV/m)(at 3m)	
	Peak	Average
2310 ~ 2390	74	54
2483.5 ~ 2500	74	54

Test Configuration



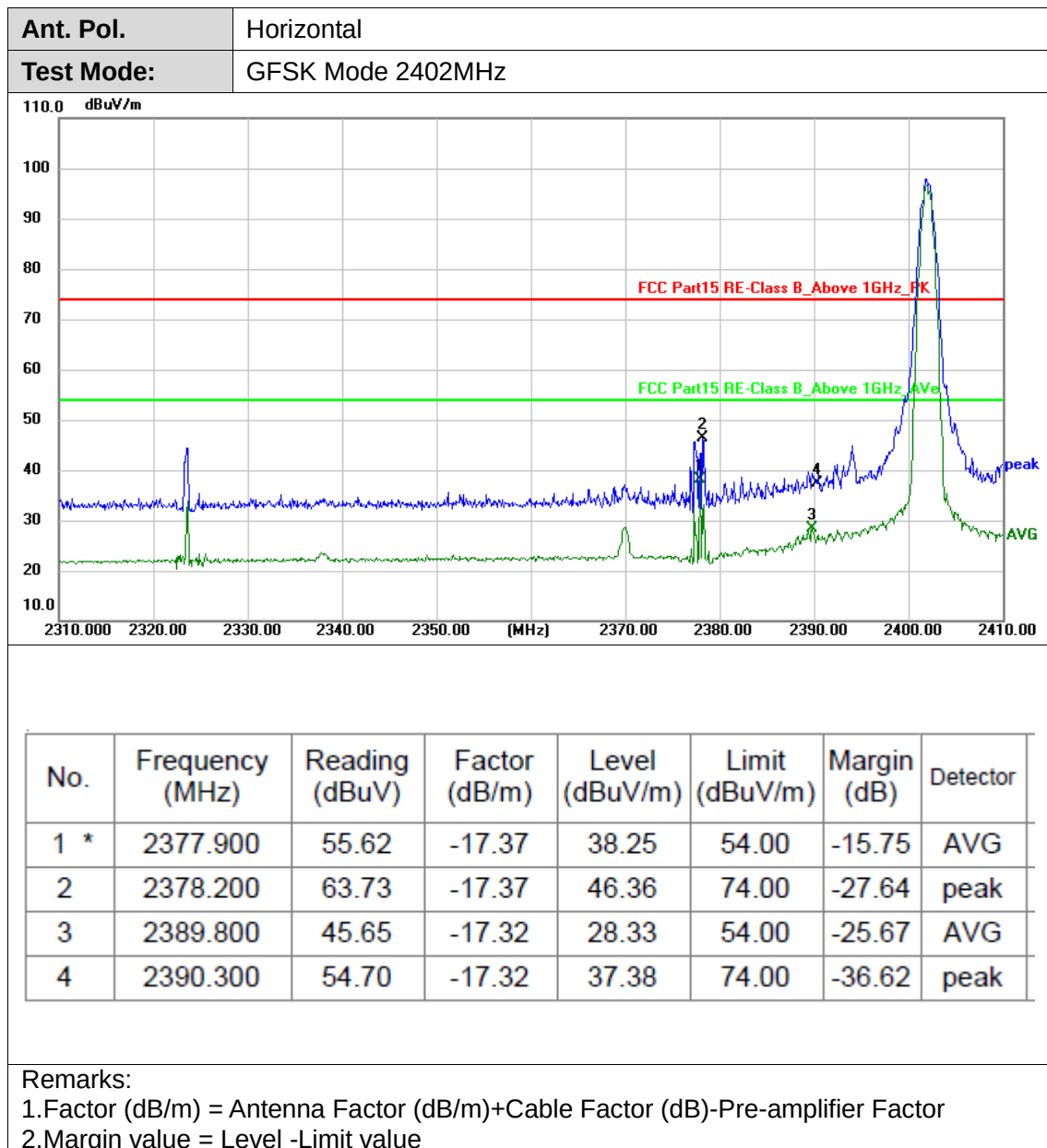
Test Procedure

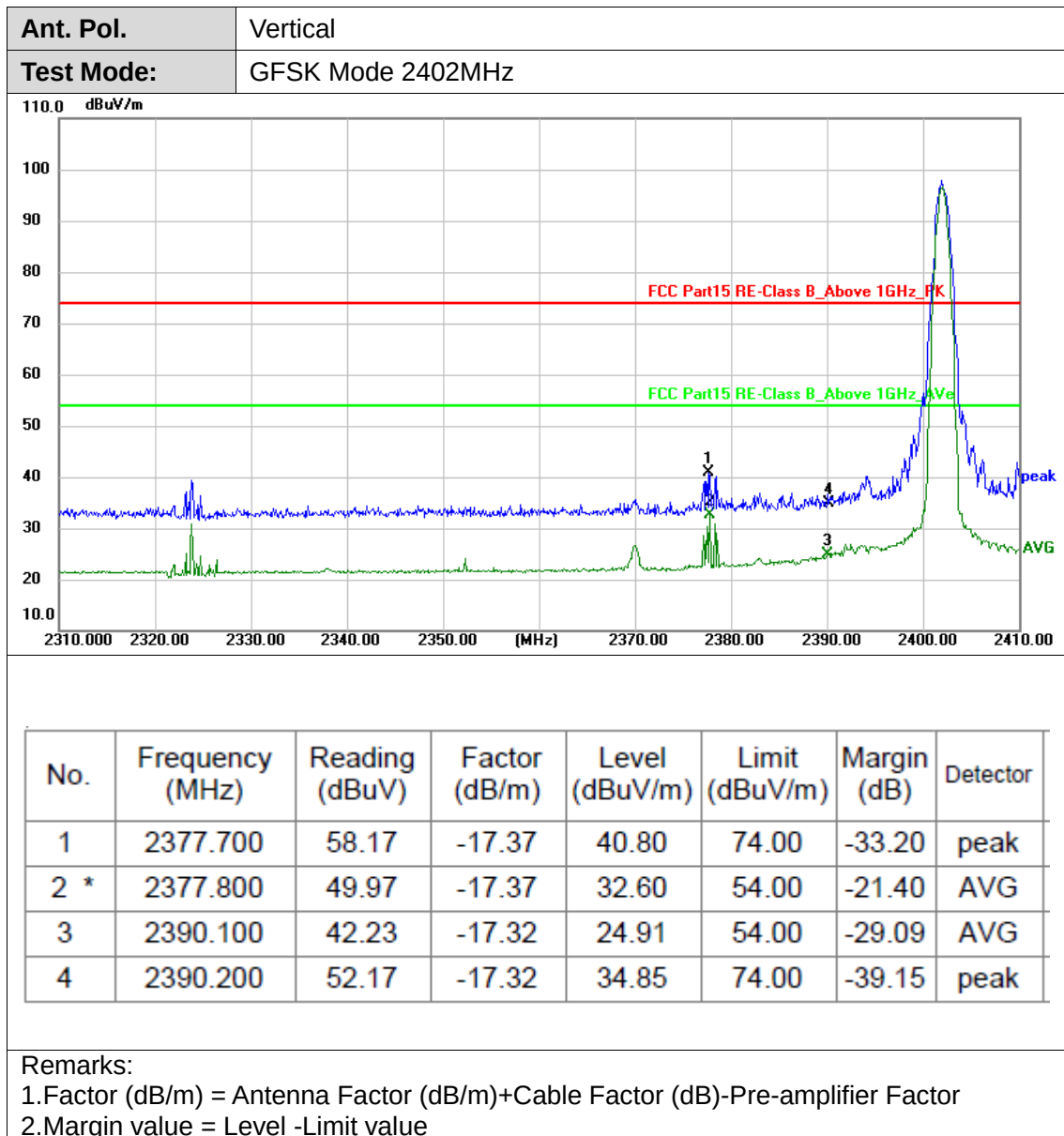
1. The EUT was setup and tested according to ANSI C63.10: 2020 requirements.
2. The EUT is placed on a turn table which is 1.5 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level.
3. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.
4. The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10: 2020 on radiated measurement.
5. The receiver set as follow:
RBW=1MHz, VBW=3MHz Peak detector for Peak value.
RBW=1MHz, VBW see note 1 with Peak Detector for Average Value.

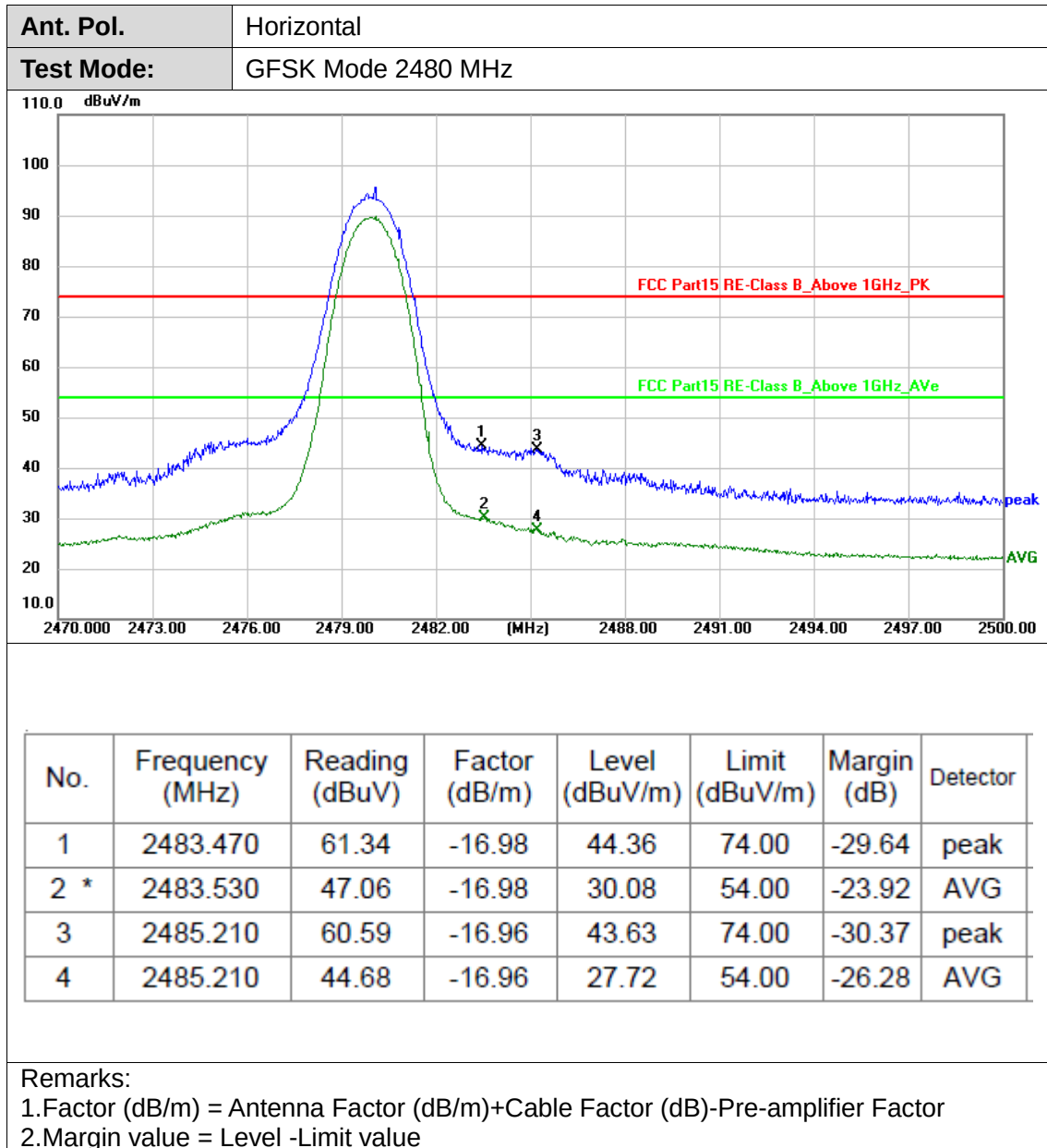
Note 1: For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and 1 MHz resolution bandwidth with 1/T video bandwidth with peak detector for average measurements. For the Duty Cycle please refer to clause 3.10 Duty Cycle.

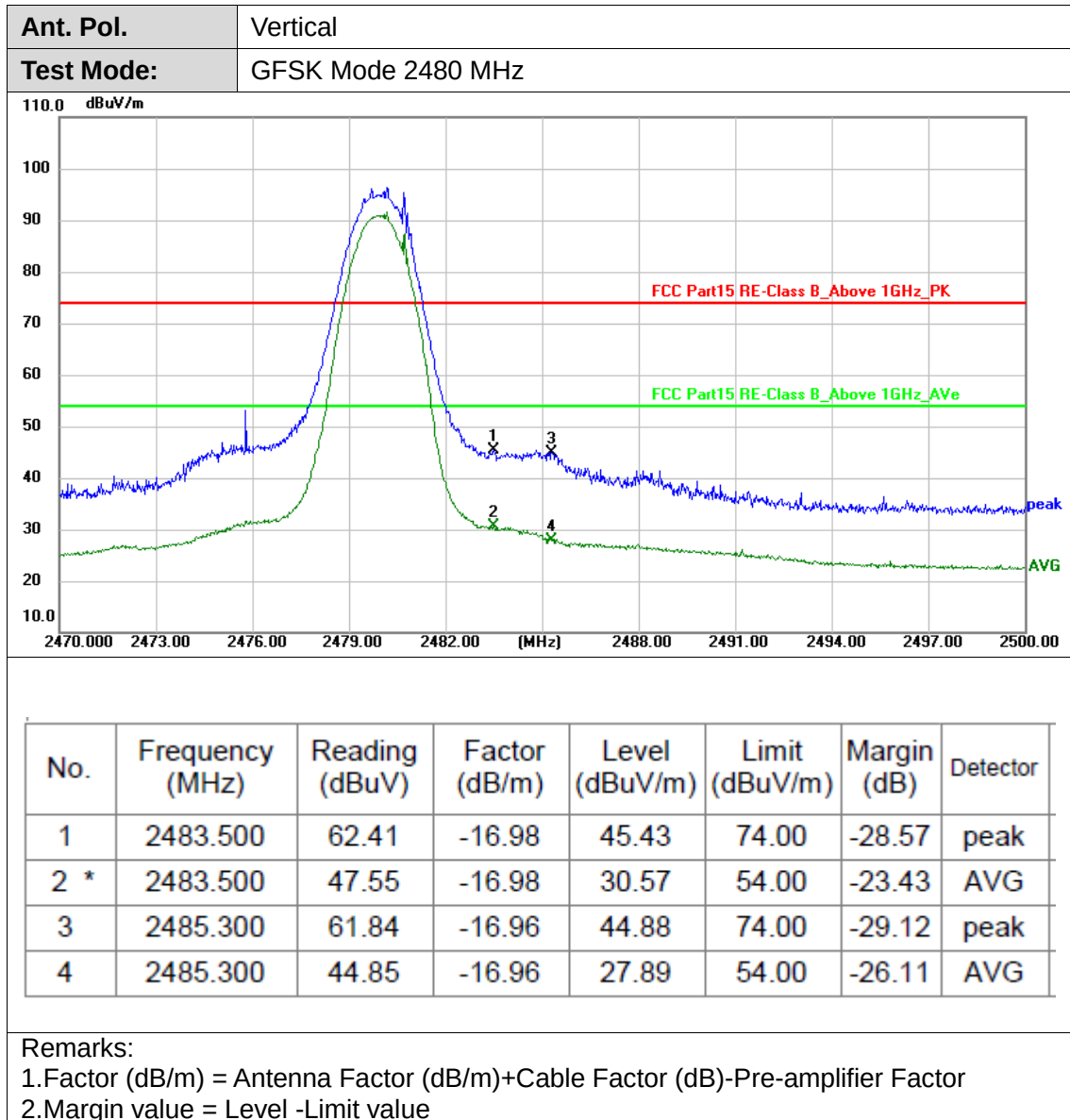
Test Mode

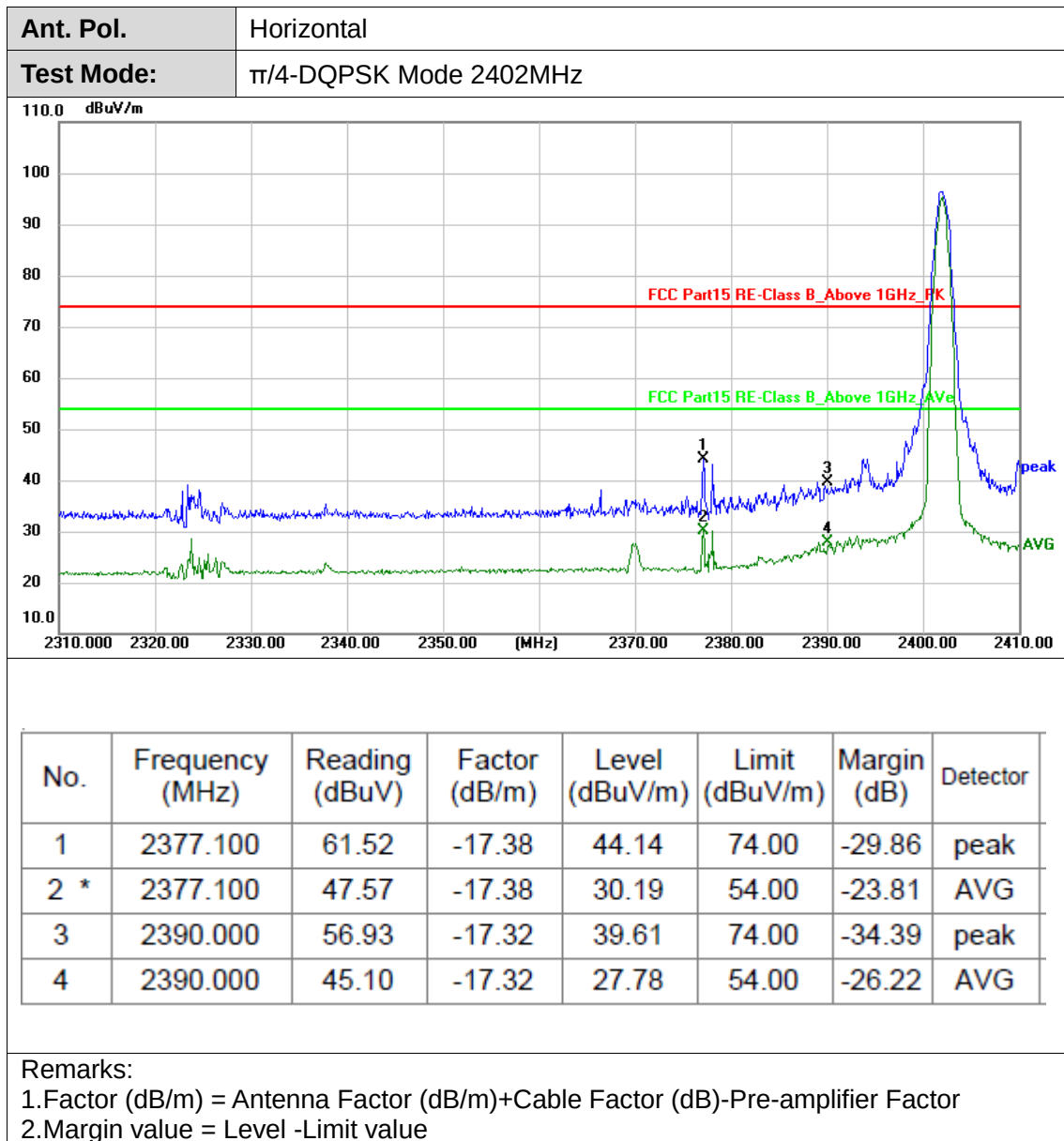
Please refer to the clause 2.4.

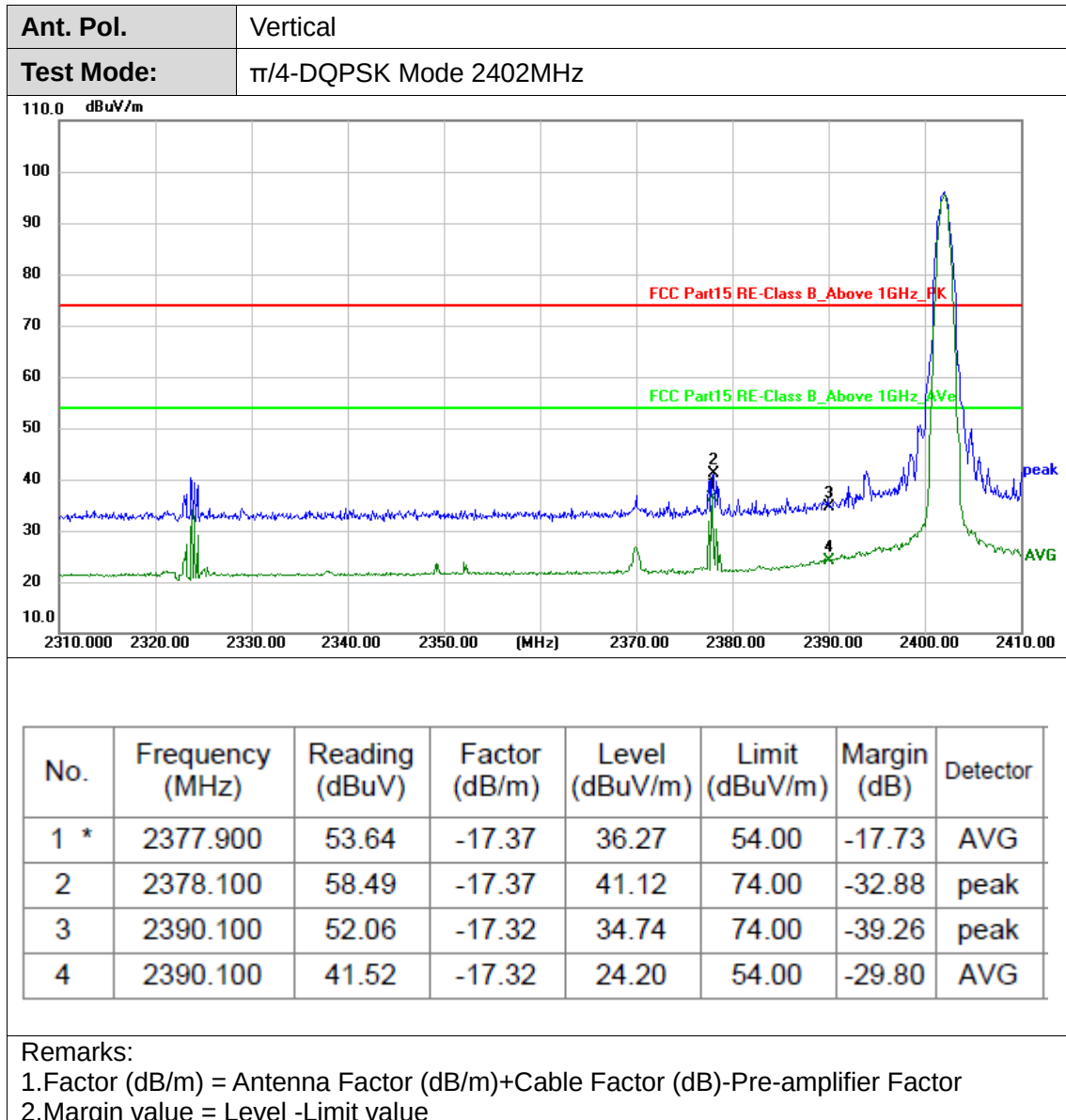
**Test Results**

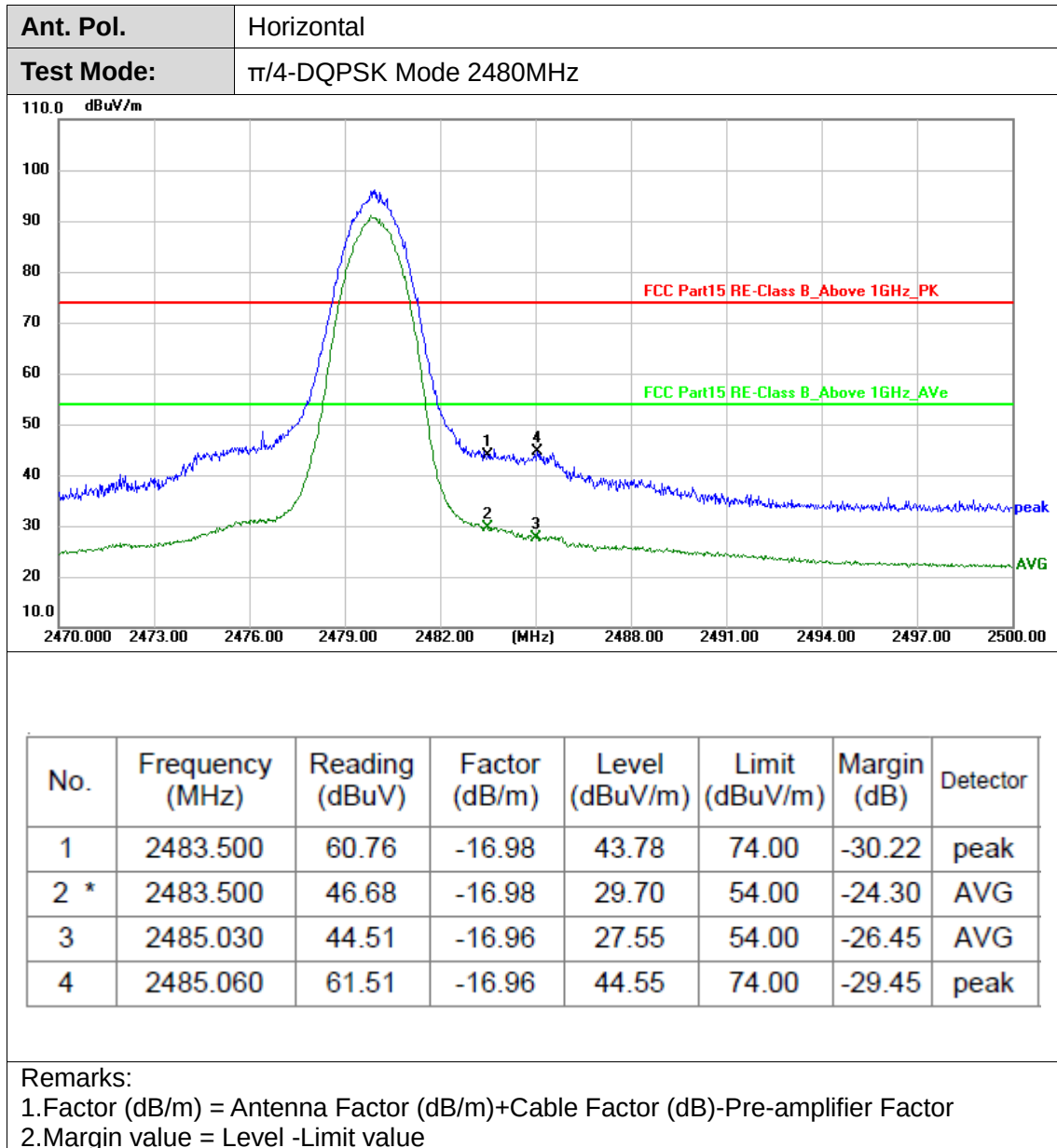


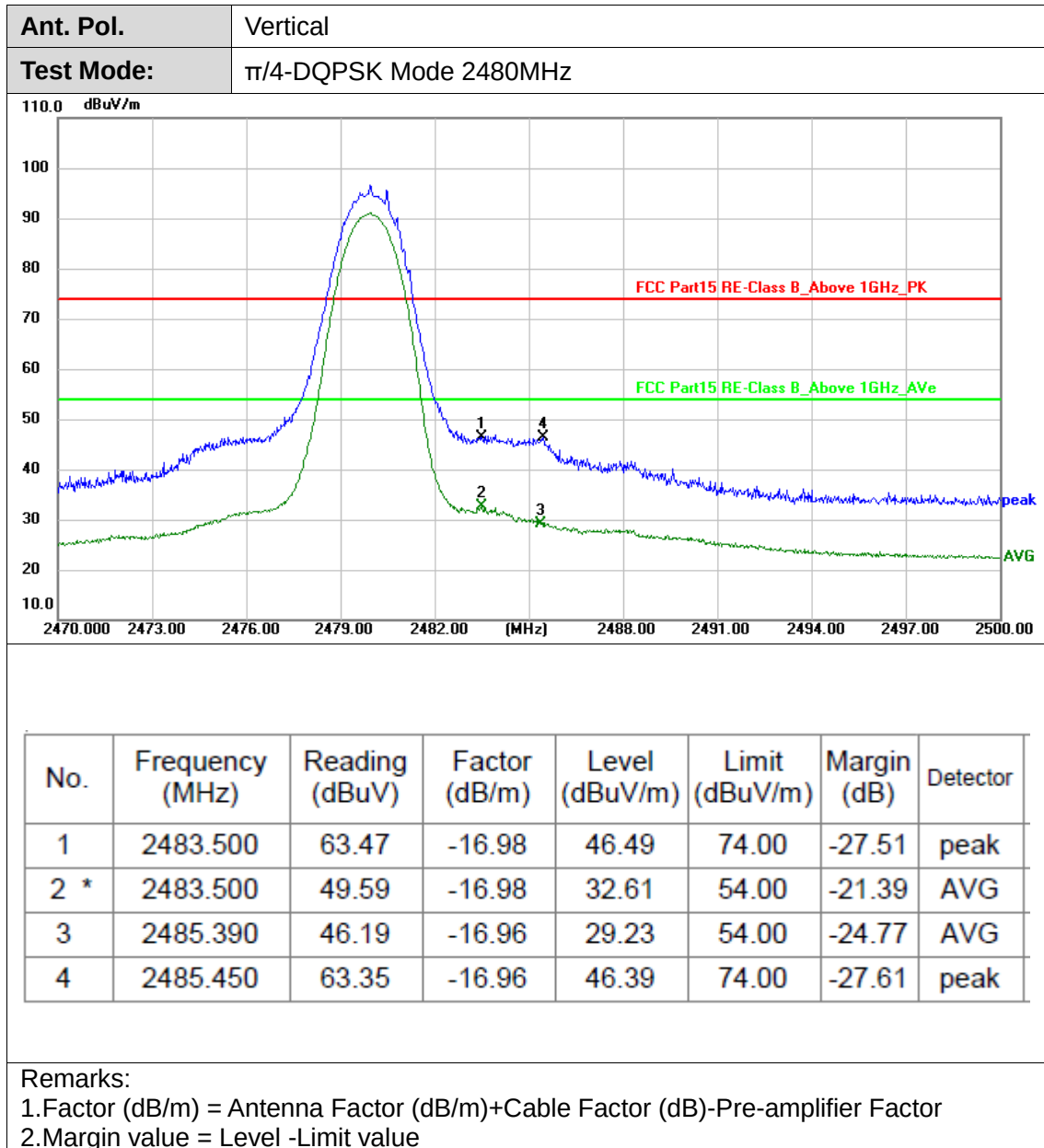


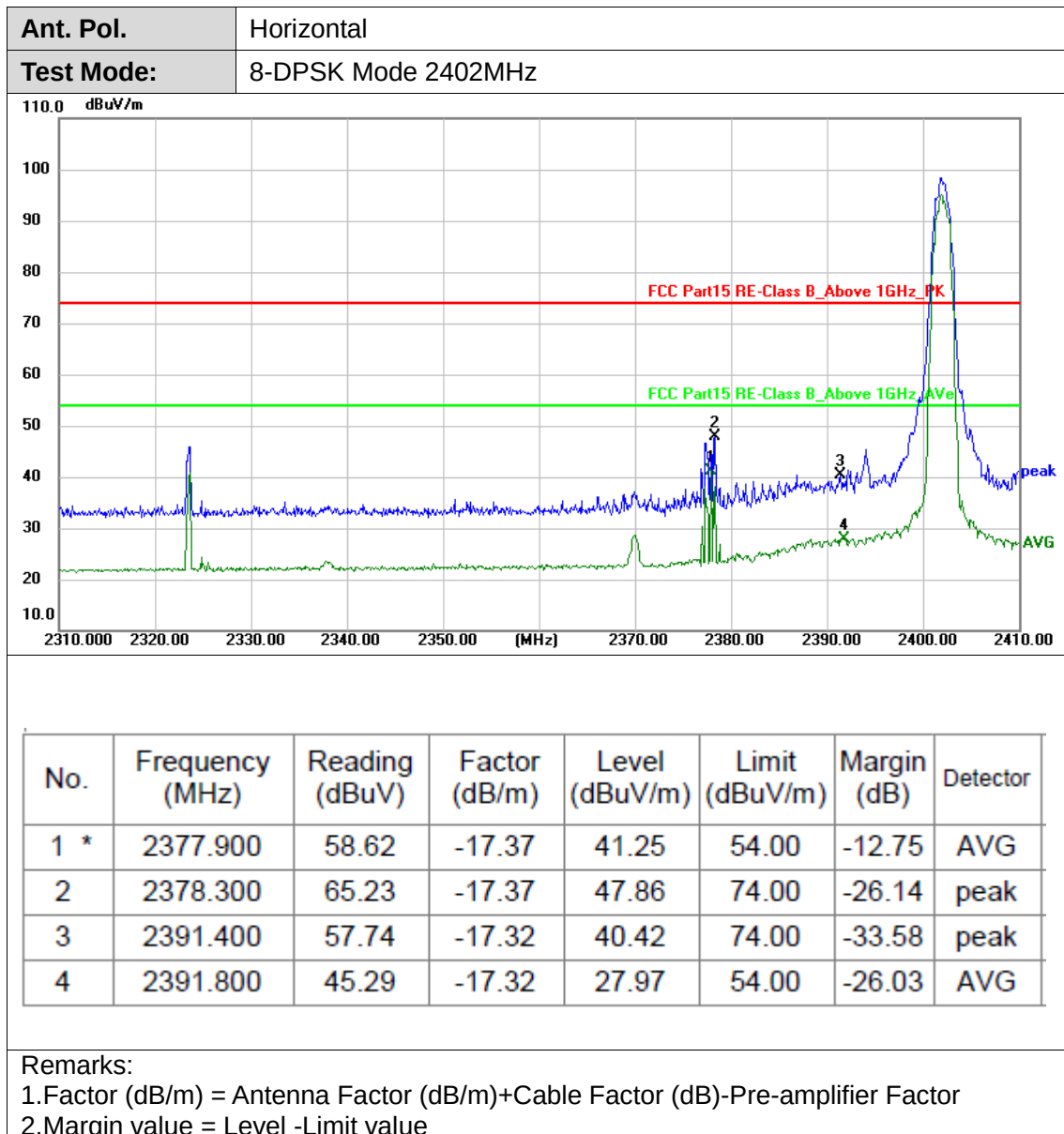


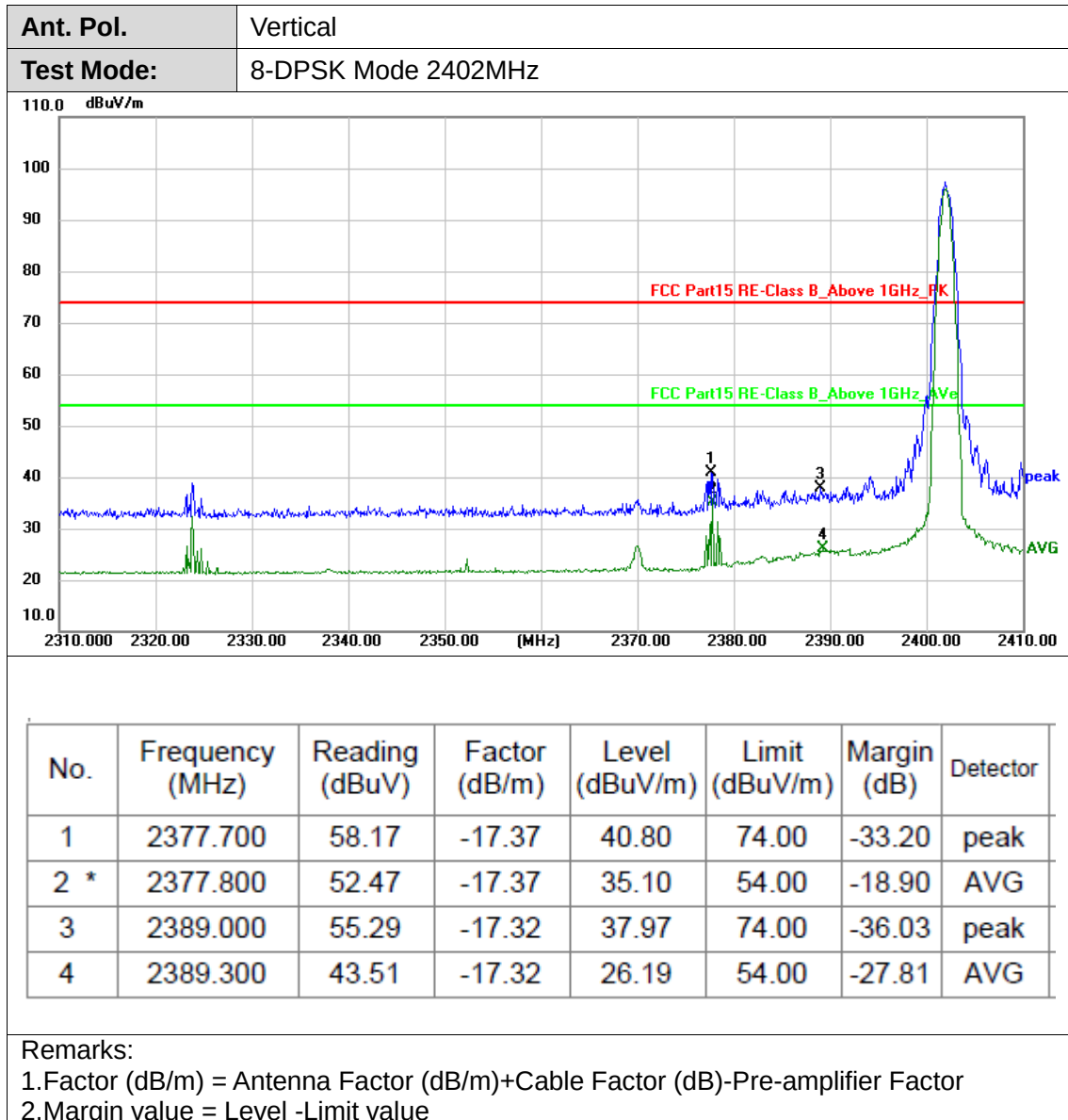


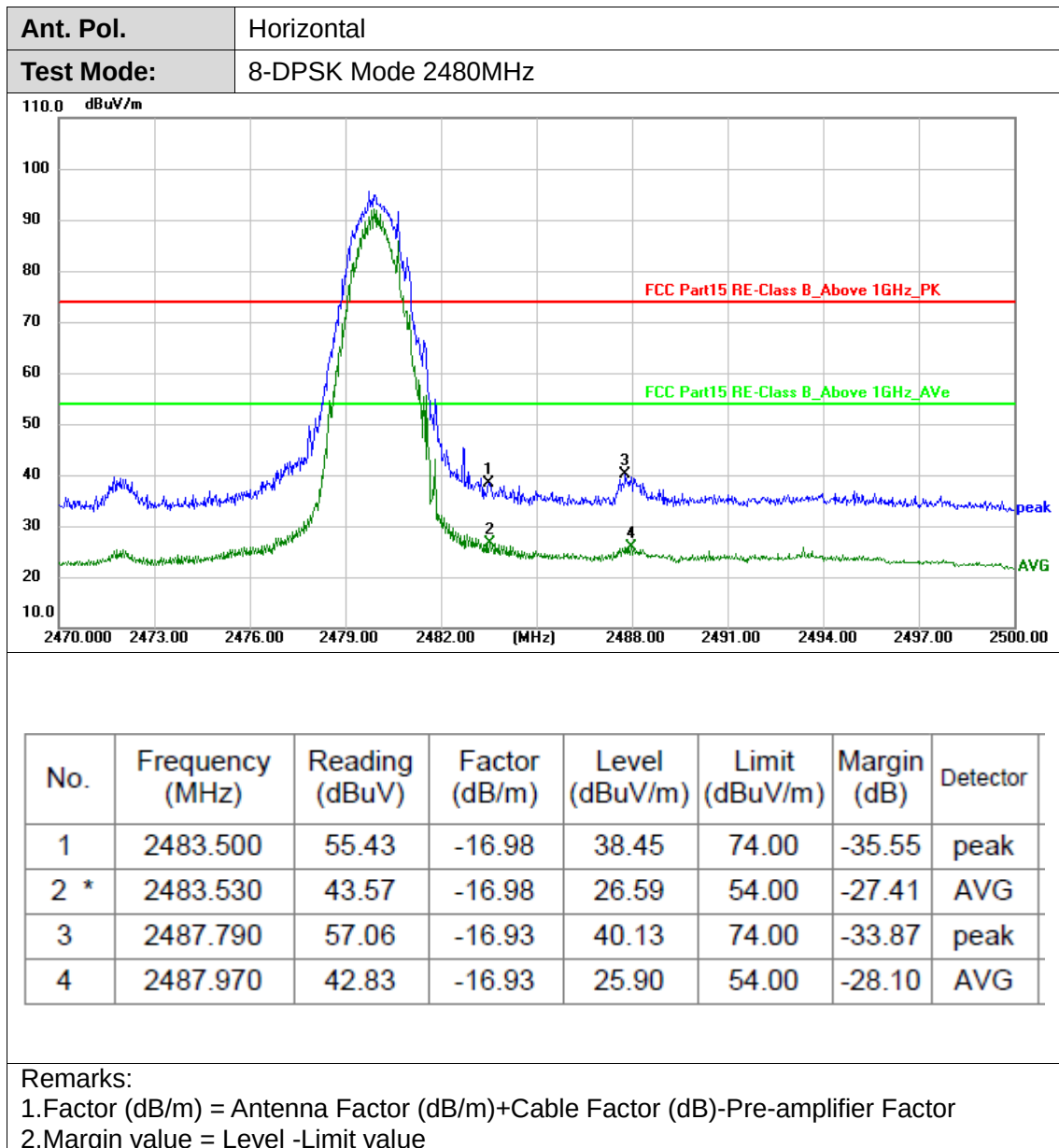


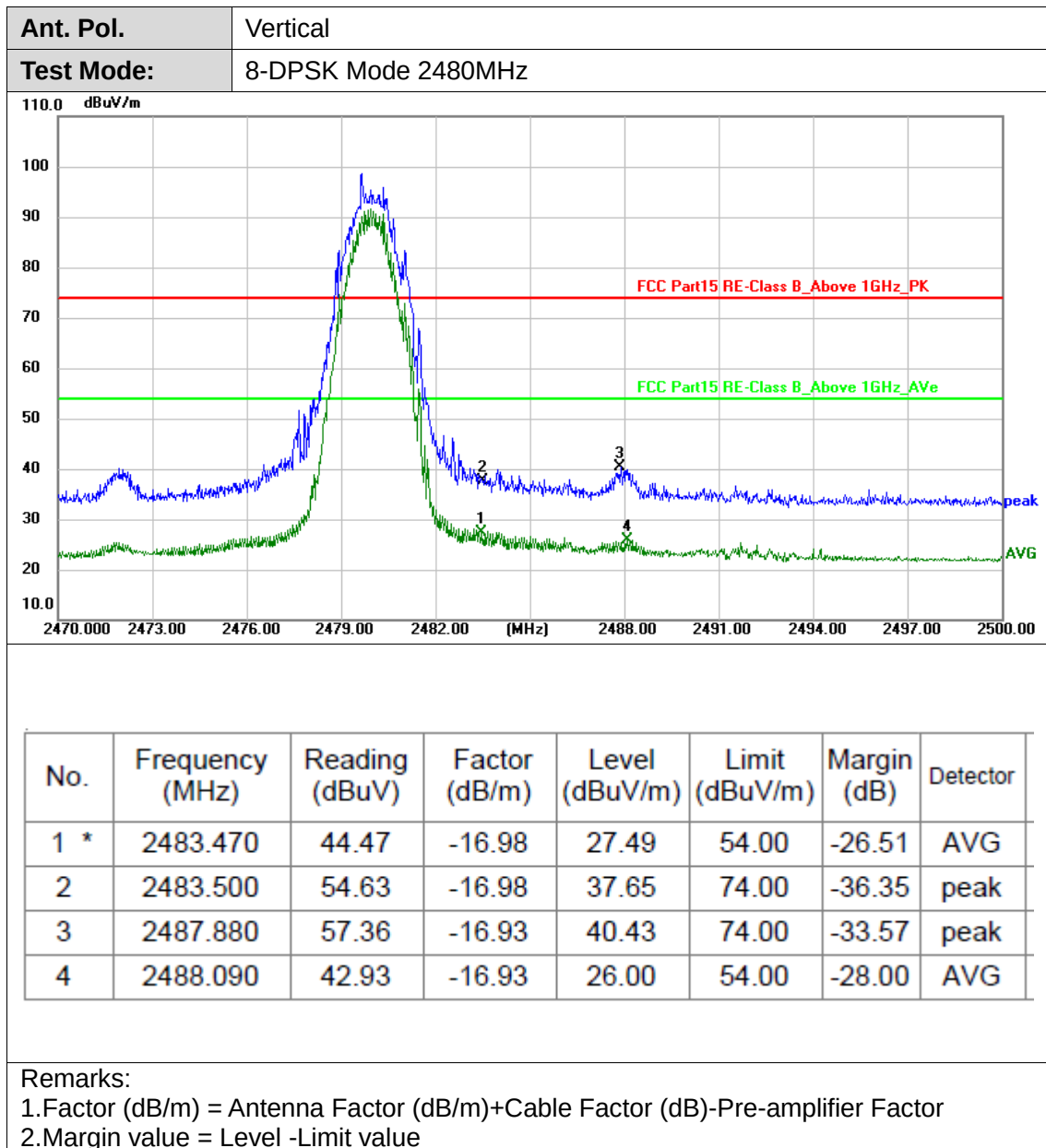












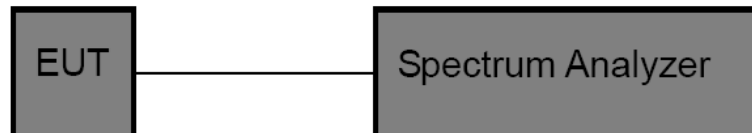


3.4. Band edge and Spurious Emissions (Conducted)

Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (d) & RSS-247 6.6: In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

Test Configuration



Test Procedure

1. The transmitter output was connected to the spectrum analyzer through an attenuator, the path loss was compensated to the results for each measurement.
2. Set to the maximum power setting and enable the EUT transmit continuously
3. Use the following spectrum analyzer settings:
RBW = 100 kHz, VBW ≥ RBW, scan up through 10th harmonic.
Sweep = auto, Detector function = peak, Trace = max hold
4. Measure and record the results in the test report.

Test Mode

Please refer to the clause 2.4.

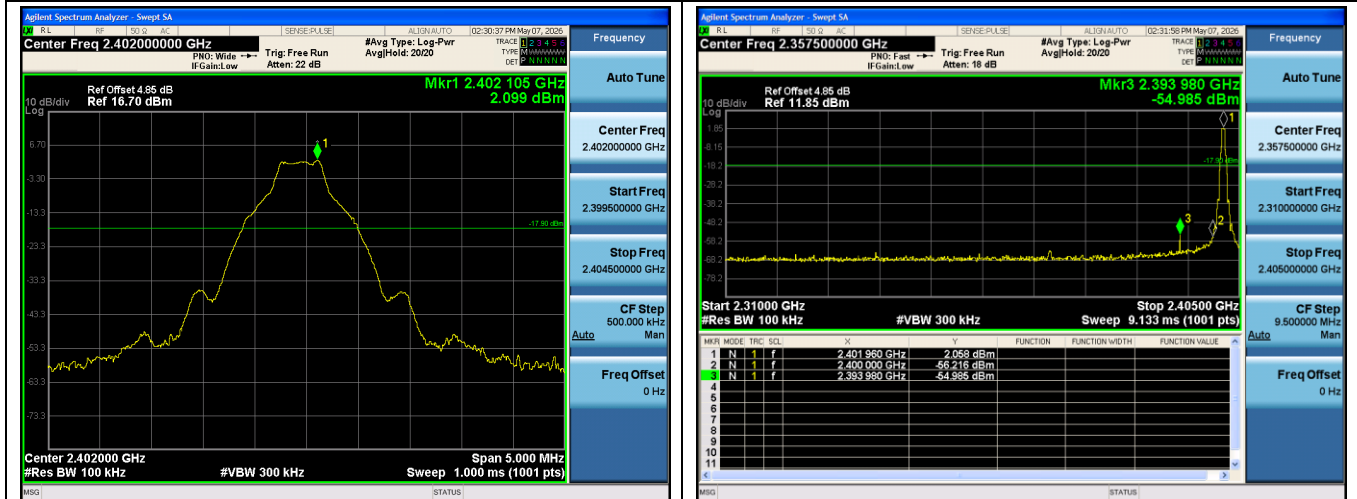
Test Results

(1) Band edge Conducted Test

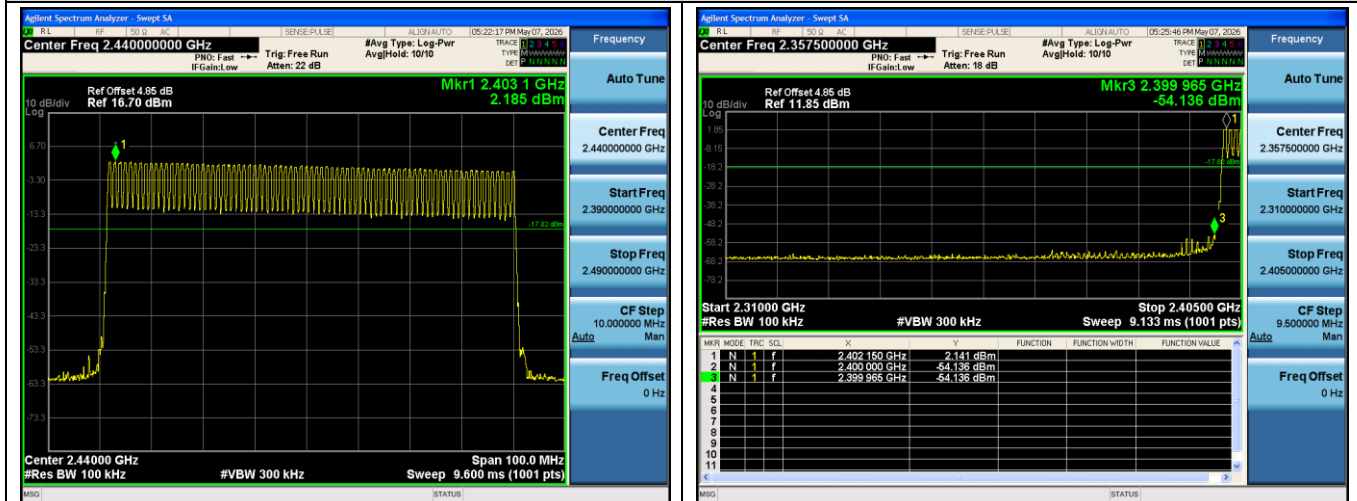
Test Mode	Frequency[MHz]	Ref Level[dBm]	Result[dBm]	Limit[dBm]	Verdict
GFSK	2402	2.099	-54.985	-17.901	PASS
	Hop_2402	2.185	-54.136	-17.815	PASS
	2480	-0.823	-57.268	-20.823	PASS
	Hop_2480	2.189	-57.081	-17.811	PASS
π/4-DQPSK	2402	2.064	-51.617	-17.936	PASS
	Hop_2402	2.085	-52.859	-17.915	PASS
	2480	-0.804	-58.326	-20.804	PASS
	Hop_2480	2.087	-56.556	-17.913	PASS
8-DPSK	2402	2.157	-50.662	-17.843	PASS
	Hop_2402	2.217	-51.003	-17.783	PASS
	2480	-0.636	-56.252	-20.636	PASS
	Hop_2480	2.083	-57.794	-17.917	PASS



GFSK_Low_2402



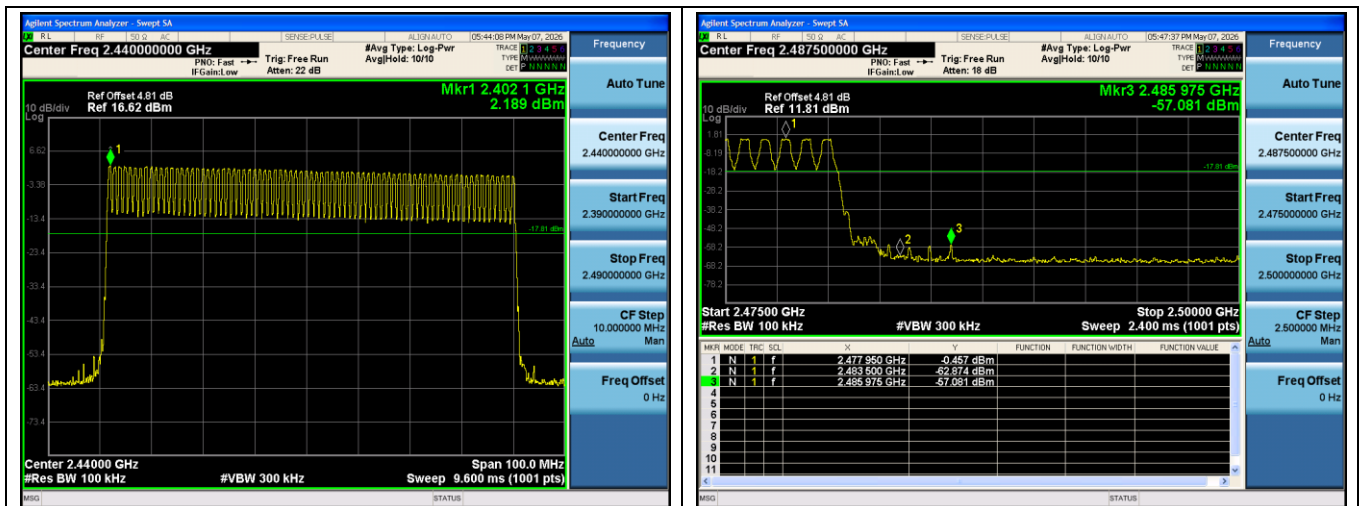
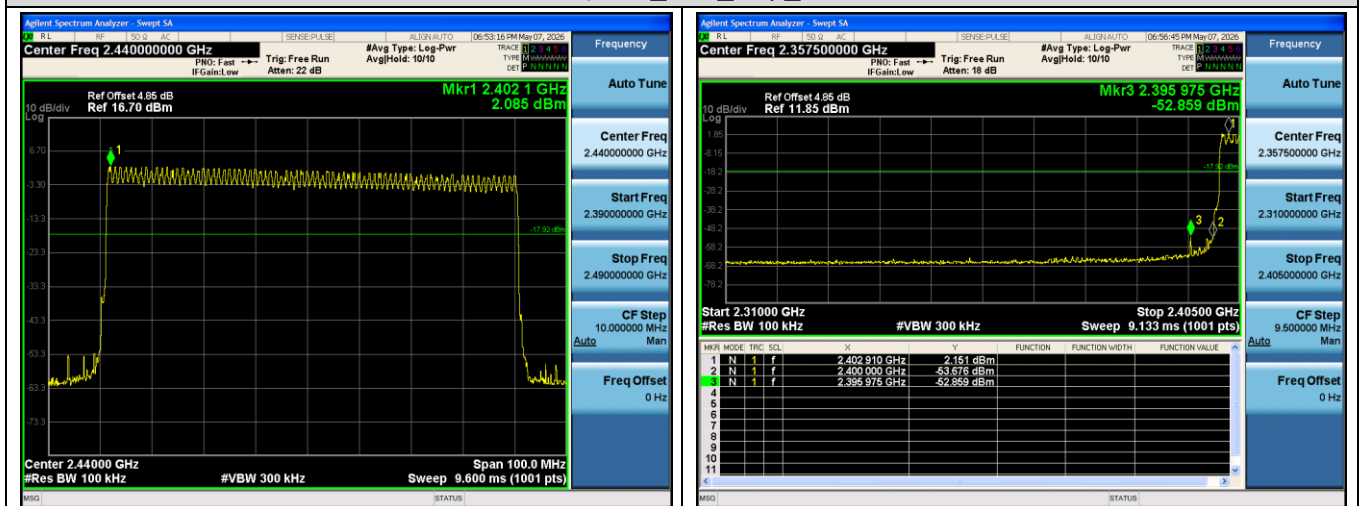
GFSK_Low_Hop_2402

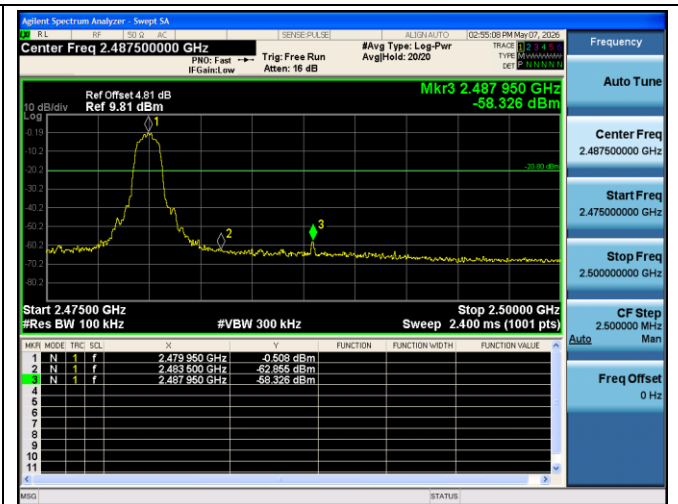


GFSK_High_2480

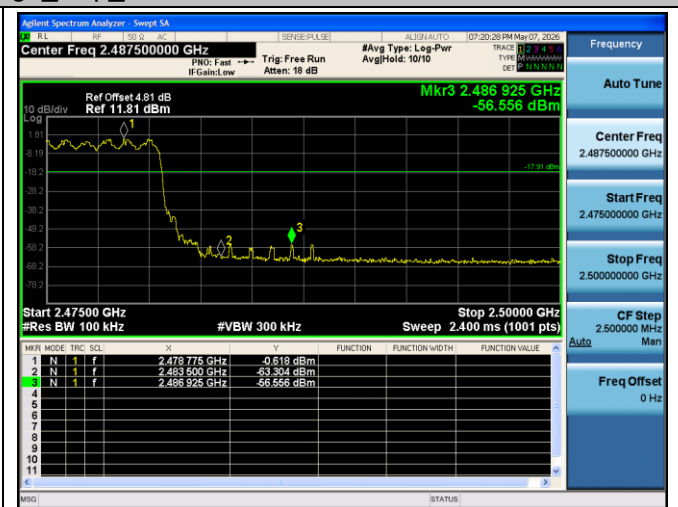
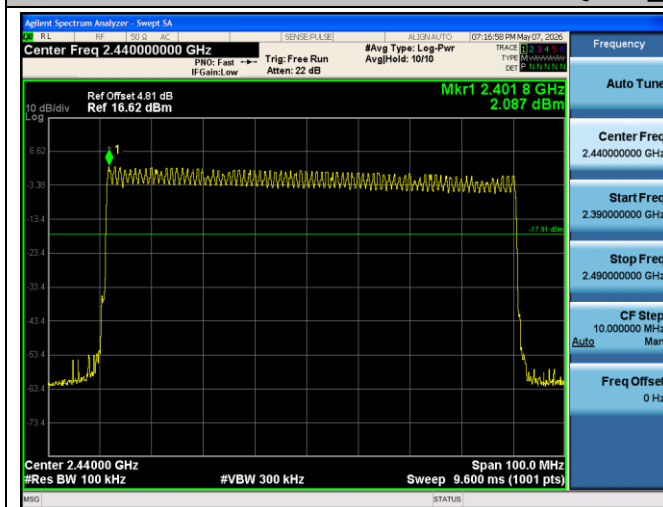


GFSK_High_Hop_2480

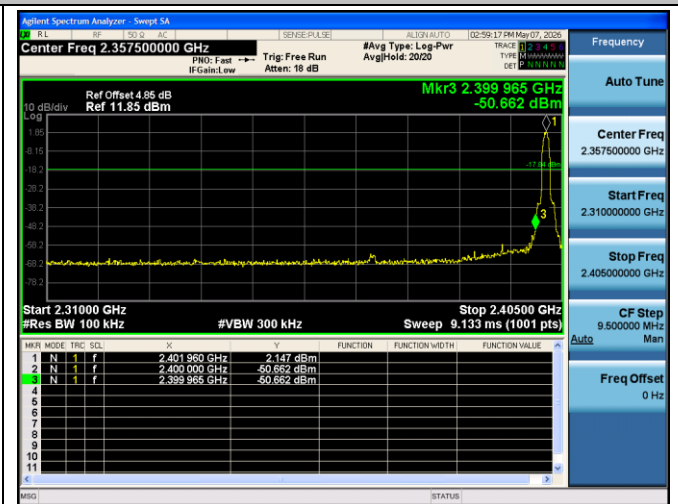
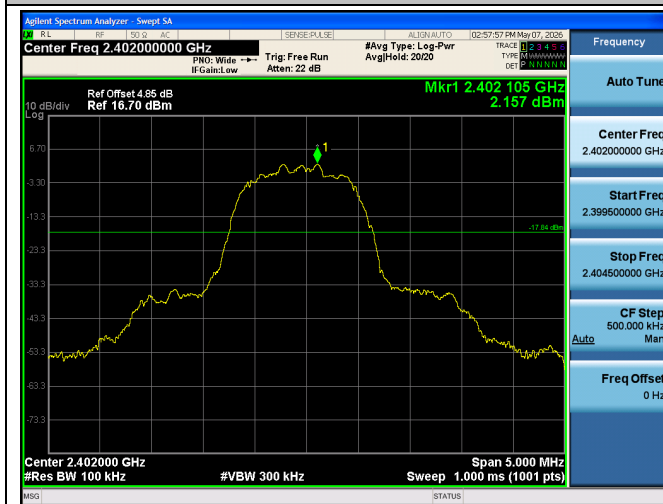
 $\pi/4$ -DQPSK_Low_2402 $\pi/4$ -DQPSK_Low_Hop_2402 $\pi/4$ -DQPSK_High_2480



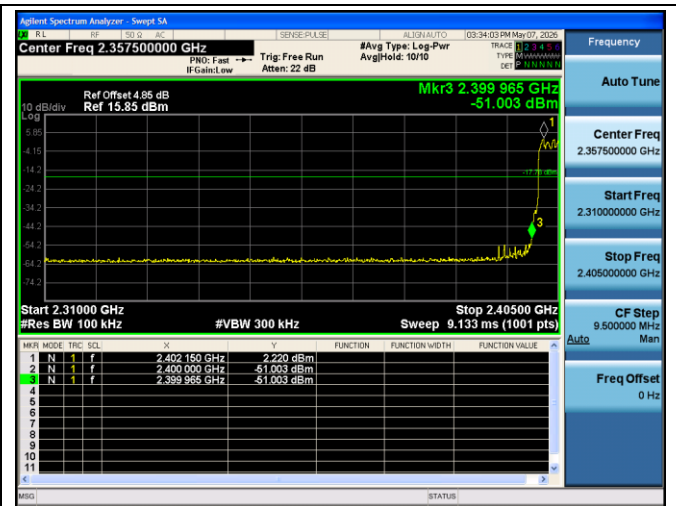
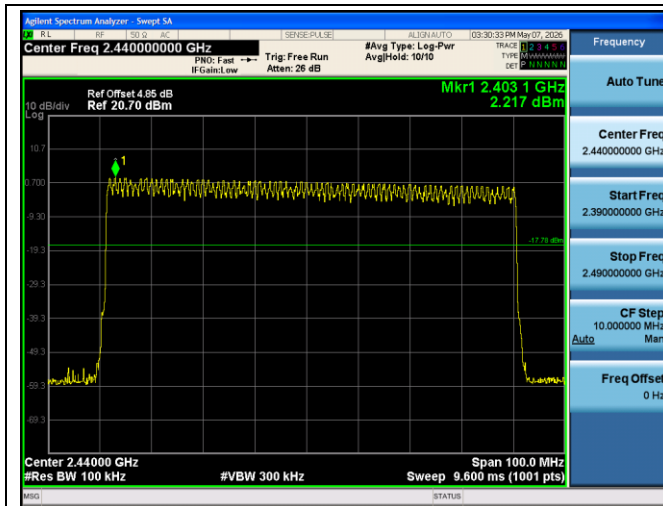
π/4-DQPSK_High_Hop_2480



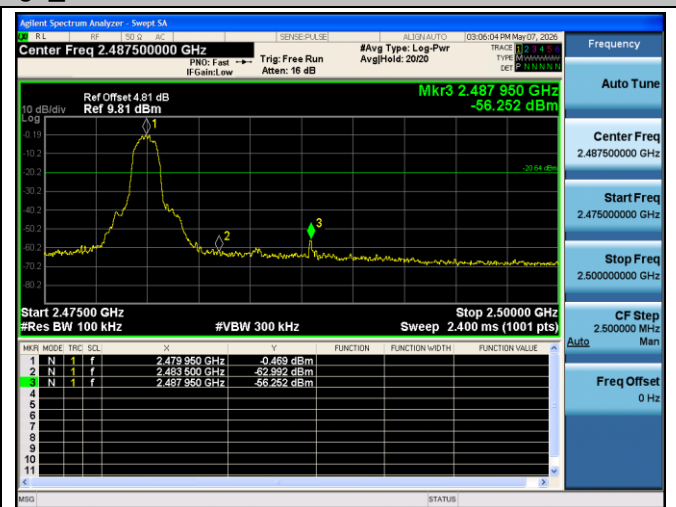
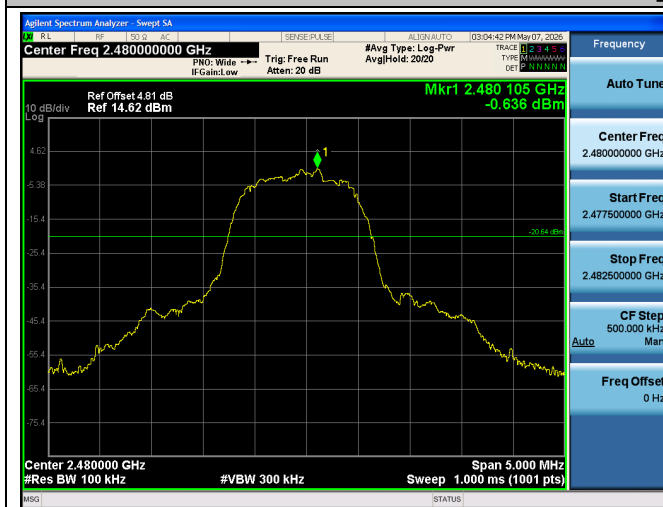
8-DPSK_Low 2402



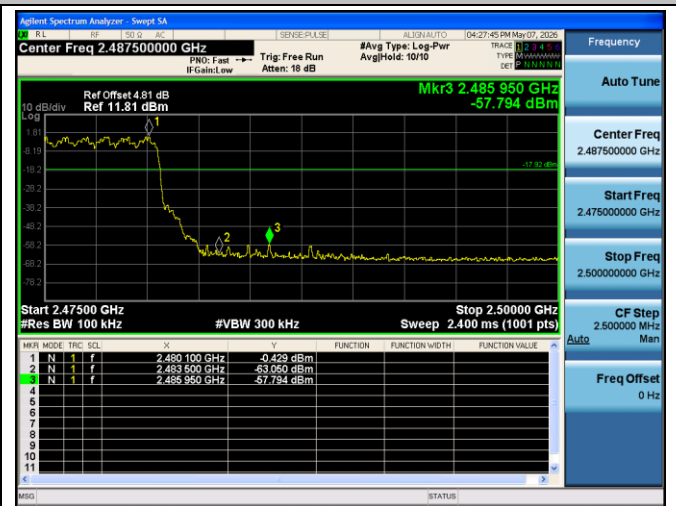
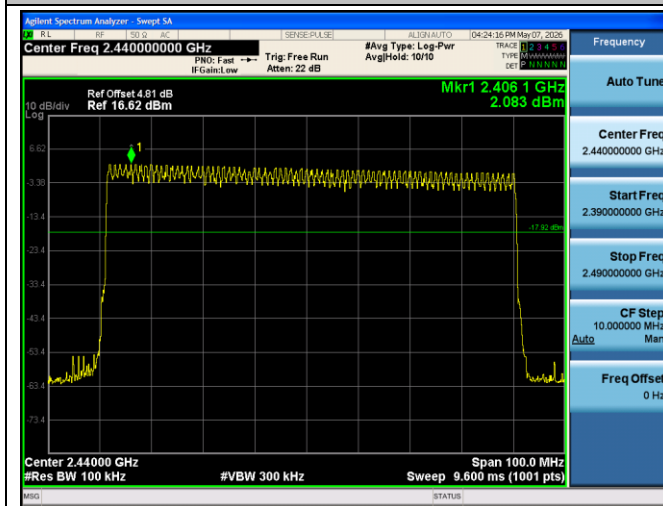
8-DPSK_Low_Hop_2402



8-DPSK_High_2480



8-DPSK_High_Hop_2480



**(2) Conducted Spurious Emissions Test**

Test Mode	Frequency[MHz]	Ref Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
GFSK	2402	2.099	-31.891	-17.901	PASS
	2441	0.505	-28.674	-19.495	PASS
	2480	-0.823	-28.571	-20.823	PASS
$\pi/4$ -DQPSK	2402	2.064	-29.451	-17.936	PASS
	2441	0.733	-32.008	-19.267	PASS
	2480	-0.804	-29.376	-20.804	PASS
8-DPSK	2402	2.157	-32.129	-17.843	PASS
	2441	0.774	-30.803	-19.226	PASS
	2480	-0.636	-30.480	-20.636	PASS