

Test report No: 6215123.50

TEST REPORT

Radio Spectrum Matters (RF)

Identification of item tested	Bluetooth speaker
Trademark	 BOSCH
Model and /or type reference	GPB18V-1C (3601DA7010), GPB 18V-1 C (3 601 DA7 0E0), GPB 18V-1 C (3 601 DA7 080)
Features	18 Vdc (powered by external battery pack) USB Input Type C: 12 Vdc, 1.55 A or 20 W(powered by external power supply) USB Output Type C: 5 Vdc, 3 A
FCC ID	TXTGPB18V-1C
ISED Number	909H-GPB18V1C
Applicant's name / address	Robert Bosch Tool Corp 1800 W Central Rd Mount Prospect, Illinois 60056 United States
Test method requested, standard	FCC CFR Title 47 Part 15 Subpart C Section 15.247 ANSI C63.10-2020+Cor.1-2023+C63.10a-2024 RSS-Gen Issue 5 RSS-247 Issue 3
Verdict Summary	IN COMPLIANCE
Prepared by (name / position & signature)	Lei Chen Senior Project Manager 
Approved by (name / position & signature)	Adrian Shi Technical Supervisor 
Date of issue	2025-08-25
Report template No	TRF_Part15C_247_RF02 V1.0

INDEX

	page
Competences and Guarantees.....	4
General conditions	4
Uncertainty.....	4
Environmental conditions.....	5
Possible test case verdicts	5
Definition of symbols used in this test report	5
Abbreviations	5
Document History	6
Remarks and Comments	6
usage of samples.....	6
1 General Information.....	7
1.1 General Description of the Item(s)	7
1.2 Test date	8
2 Description of Test Setup	9
2.1 Operating mode(s) used for tests.....	9
2.2 Support / Auxiliary equipment / unit / software for the EUT	9
2.3 Test Configuration / Block diagram used for tests	9
3 Verdict summary section	10
3.1 Standards	10
3.2 Deviation(s) from the Standard(s) / Test Specification(s)	10
3.3 Overview of results.....	10
3.4 Test Facility	11
3.5 Measurement procedure	11
4 Test Results.....	12
4.1 AC Power Line Conducted Emission	12
4.2 Emissions in restricted frequency bands	15
4.3 20dB Bandwidth and 99% Bandwidth	39
4.4 Carrier Frequency Separation.....	47
4.5 Number of Hopping Frequencies	50
4.6 Time of Occupancy(Dwell Time).....	53
4.7 Peak Output Power	61
4.8 Emissions in non-restricted frequency band	63
4.9 Radiated Emission Band Edge	72
4.10 Antenna Requirement	91



5 Identification of the Equipment Under Test 92

Annex 1 – Measurement Uncertainty.....93

Annex 2 – Used Equipment 94

COMPETENCES AND GUARANTEES

DEKRA is a testing laboratory competent to carry out the tests described in this report.

In order to assure the traceability to other national and international laboratories, DEKRA has a calibration and maintenance program for its measurement equipment.

DEKRA guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated in the report and it is based on the knowledge and technical facilities available at DEKRA at the time of performance of the test.

DEKRA is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

IMPORTANT: No parts of this report may be reproduced or quoted out of context, in any form or by any means, except in full, without the previous written permission of DEKRA.

GENERAL CONDITIONS

1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or Competent Authorities.
3. This document is only valid if complete; no partial reproduction can be made without previous written permission of DEKRA.
4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of DEKRA.
5. The information provided by the customer in this report may affect the validity of the results, the test lab is not responsible for it.
6. This report will not be used for social proof function in China market.

UNCERTAINTY

For all measurements where guidance for the calculation of the instrumentation uncertainty of a measurement is specified in the product standard, the measurement instrumentation uncertainty has been calculated and applied in accordance with these standards.

Uncertainties have been calculated according to the Dekra internal document. The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95%. Refer to the Annex 1 for further information.

The measurement result is considered in conformance with the requirement if it is within the prescribed limit, It is not necessary to calculate the uncertainty associated with the measurement result, unless the specification, standard or customer have special requirements

ENVIRONMENTAL CONDITIONS

The climatic conditions during the tests are within the limits specified by the manufacturer for the operation of the EUT and the test equipment. The climatic conditions during the tests were within the following limits:

Ambient temperature	15 °C – 35 °C
Relative Humidity air	30% - 60%
Atmospheric pressure	86 kPa – 106 kPa

If explicitly required in the basic standard or applied product / product family standard the climatic values are recorded and documented separately in this test report.

POSSIBLE TEST CASE VERDICTS

Test case does not apply to test object	N/A
Test object does meet requirement	P (Pass) / PASS
Test object does not meet requirement	F (Fail) / FAIL
Not measured	N/M

DEFINITION OF SYMBOLS USED IN THIS TEST REPORT

☒	Indicates that the listed condition, standard or equipment is applicable for this report/test/EUT.		
☐	Indicates that the listed condition, standard or equipment is not applicable for this report/test/EUT.		
Decimal separator used in this report	☒	Comma (,)	☐ Point (.)

ABBREVIATIONS

For the purposes of the present document, the following abbreviations apply:

EUT	: Equipment Under Test
QP	: Quasi-Peak
CAV	: CISPR Average
AV	: Average
CDN	: Coupling Decoupling Network
SAC	: Semi-Anechoic Chamber
OATS	: Open Area Test Site
BW	: Bandwidth
AM	: Amplitude Modulation
PM	: Pulse Modulation
HCP	: Horizontal Coupling Plane
VCP	: Vertical Coupling Plane
U_N	: Nominal voltage
T_x	: Transmitter
R_x	: Receiver
N/A	: Not Applicable

N/M : Not Measured

DOCUMENT HISTORY

Report nr.	Date	Description
6215123.50	2025-08-25	First release.

REMARKS AND COMMENTS

The equipment under test (EUT) does meet the essential requirements of the stated standard(s)/test(s).

The test results relate only to the samples tested.

This report shall not be reproduced, except in full, without the written approval.

USAGE OF SAMPLES

Samples undergoing test have been selected by: Robert Bosch Power Tools GmbH

Samples are composed of the following elements:

Control N°	Description	Model	Serial N°	Date of reception
6215121-12	Bluetooth speaker	GPB18V-1C (3601DA7010)	432000379	2025-02-21
6215121-14	Bluetooth speaker	GPB18V-1C (3601DA7010)	432000380	2025-02-21
6215121-15	Bluetooth speaker	GPB18V-1C (3601DA7010)	432000209	2025-02-21

1 GENERAL INFORMATION

1.1 General Description of the Item(s)

Description of the item	Bluetooth speaker
Model / Type number	GPB18V-1C (3601DA7010), GPB 18V-1 C (3 601 DA7 0E0), GPB 18V-1 C (3 601 DA7 080)
Trademark	 BOSCH
FCC ID	TXTGPB18V-1C
ISED Number	909H-GPB18V1C
Test Sample Number	6215121-12, 6215121-14, 6215121-15
Manufacturer	Robert Bosch Power Tools GmbH 70538 Stuttgart, GERMANY
Factory	Dongguan Tuocheng Electronics Technology Co., Ltd. Room 101, Building 2, No.13 Jin Bei Road, Tu Tang, Changping Town, 523581 Dongguan, Guangdong, China

Mode of Operation	Bluetooth BR/EDR
Operating frequency range(s)	2402~2480 MHz
Type of Modulation	BR: GFSK; EDR: $\pi/4$ -DQPSK, 8DPSK
Antenna type	Integral antenna
Antenna gain	2.69 dBi (provided by applicant)
Number of channel	79
Operating Temperature Range	-20 to 40°C

Rated power supply	Voltage and Frequency		Reference poles				
			L1	L2	L3	N	PE
	☐	AC: 220 – 240 V, 50/60 Hz	☐	☐	☐	☐	☐
	☒	DC: 12 Vdc (powered by external power supply)					
	☒	Battery: 18 Vdc;					
Mounting position	☒	Table top equipment					
	☐	Wall/Ceiling mounted equipment					
	☐	Floor standing equipment					
	☐	Hand-held equipment					
	☐	Other:					

Intended use of the Equipment Under Test (EUT)
The product is Bluetooth speaker which supports Bluetooth BR/EDR function.

1.2 **Test date**

Test Location	DEKRA Testing and Certification (Shanghai) Ltd. No.250, Jiangchangsan Road, Jing'an District, Shanghai, China
Date of receipt of test item	2025-01-06
Date (s) of performance of tests	2025-03-10 to 2025-03-26

2 DESCRIPTION OF TEST SETUP

2.1 Operating mode(s) used for tests

During the tests the following operating mode(s) has(have) been used.

Operating mode	Operating mode description	Used for methods	
		Conducted	Radiated
1	Transmitting	☒	☒
2	Hopping	☒	☒
<u>Supplemental information:</u> 1. All above modes were tested power by 18 Vdc except AC Power Line Conducted Emission which power by USB C power supply. 2. The power of BT module was supply by internal PCB and it would not affect by different power supply mode. So different power supply mode does not affect RF performance.			

2.2 Support / Auxiliary equipment / unit / software for the EUT

The EUT has been tested with the following auxiliary equipment / unit / software:

Auxiliary equipment / unit / software	Type / Version	Serial number	Manufacturer	Supplied by
FCC_assist	v1.0.2.2	/	Jieli	Applicant
USB Transfer UART board	N/A	/	N/A	Applicant
Laptop	Latitude 3430	7XB4DS3	DELL	DEKRA
<u>Supplemental information:</u> ---				

2.3 Test Configuration / Block diagram used for tests

Refer to Annex 3.

3 VERDICT SUMMARY SECTION

This chapter presents an overview of standards and results. Refer to the next chapters for details of measured test results and applied test levels.

3.1 Standards

Standard	Year	Description
FCC CFR Title 47 Part 15 Subpart C Section 15.247	2022	Operation within the bands 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz.
ANSI C63.10	2020	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
Corrigendum 1	2023	
Amendment 1	2024	
RSS-Gen Issue 5	2018	General Requirements for Compliance of Radio Apparatus
Amendment 1	2019	
Amendment 2	2021	
RSS-247 Issue 3	2023	Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices

3.2 Deviation(s) from the Standard(s) / Test Specification(s)

The following deviation(s) was / were made from the published requirements of the listed standards: N/A.

3.3 Overview of results

FCC measurement			
Requirement – Test case	Basic standard(s)	Verdict	Remark
AC Power Line Conducted Emission	FCC 15.207	PASS	---
Emissions in restricted frequency bands	FCC 15.247(d), 15.209, 15.205	PASS	---
20dB Bandwidth	FCC 15.247(a)(1)	PASS	---
Carrier Frequency Separation	FCC 15.247(a)(1)	PASS	---
Number of Hopping Frequencies	FCC 15.247(a)(1)(iii)	PASS	---
Time of Occupancy (Dwell Time)	FCC 15.247(a)(1)(iii)	PASS	---
Peak Output Power	FCC 15.247(b)(1) , FCC 15.247 (b)(1)(2)	PASS	---
Emissions in non-restricted frequency bands	FCC 15.247(d), FCC 15.215(c)	PASS	---
Radiated Emission Band Edge	FCC 15.247(d), 15.209, 15.205	PASS	---
Antenna Requirement	FCC 15.203	PASS	---
Supplementary information: ---			

RSS measurement			
Requirement – Test case	Basic standard(s)	Verdict	Remark
AC Power Line Conducted Emission	RSS-Gen Issue 5 Section 8.8	PASS	---
Emissions in restricted frequency bands	RSS-Gen Issue 5 Section 8.9 & 8.10	PASS	---
20dB Bandwidth and 99% Bandwidth	RSS-Gen Issue 5 Section 6.7 RSS-247 Issue 3 Section 5.1(a)	PASS	---
Carrier Frequency Separation	RSS-247 Issue 3 Section 5.1(b)	PASS	---
Number of Hopping Frequencies	RSS-247 Issue 3 Section 5.1(d)	PASS	---
Time of Occupancy (Dwell Time)	RSS-247 Issue 3 Section 5.1(d)	PASS	---
Peak Output Power	RSS-247 Issue 3 Section 5.4(b)	PASS	---
Emissions in non-restricted frequency bands	RSS-247 Issue 3 Section 5.5	PASS	---
Radiated Emission Band Edge	RSS-Gen Issue 5 Section 8.9 & 8.10	PASS	---
Antenna Requirement	RSS-Gen Issue 5 Section 6.8	PASS	---
<u>Supplementary information:</u> ---			

3.4 Test Facility

FCC Designation Number	:	CN1358
ISED CAB identifier Number	:	CN0155

3.5 Measurement procedure

The EUT was controlled by USB Transfer UART board provided by applicant which connected to laptop. After connected, run the software “FCC_assist” supplied by manufacturer to control the EUT work in required test mode as below table.

Mode	Modulation	Data Rate	Channel Number	Frequency (MHz)	Power Setting
BR	GFSK	1Mbps	00	2402	10
			39	2441	10
			78	2480	10
EDR	$\pi/4$ -DQPSK	2Mbps	00	2402	10
			39	2441	10
			78	2480	10
	8-DPSK	3Mbps	00	2402	10
			39	2441	10
			78	2480	10

Note: The consistency of test results in $\pi/4$ -DQPSK and 8-DPSK is very high. So 8-DPSK mode was chosen as typical representative to show in this report. In addition, all the modes were shown in the Peak Output Power, Emissions in restricted frequency bands and Radiated Emission Band Edge test items.

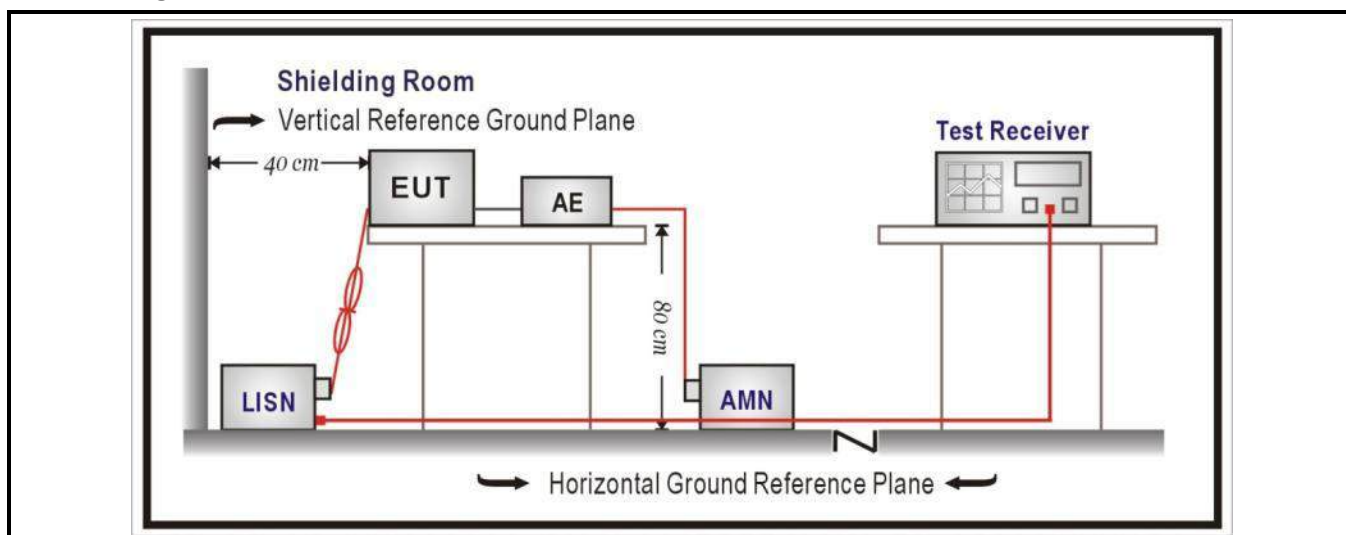
4 TEST RESULTS

4.1	AC Power Line Conducted Emission	VERDICT: PASS
-----	----------------------------------	---------------

Limit

FCC Part 15 Subpart C Paragraph 15.207 & RSS-Gen Issue 5 Section 8.8				
Frequency range [MHz]	Limit: QP [dB(μV) ¹⁾]	Limit: AV [dB(μV) ¹⁾]	IF BW	Detector(s)
0,15 - 0,50	66 - 56 ²⁾	56 - 46 ²⁾	9 KHz	QP, AV
0,50 - 5,0	56	46	9 KHz	QP, AV
5,0 - 30	60	50	9 KHz	QP, AV
¹⁾ At the transition frequency, the lower limit applies. ²⁾ The limit decreases linearly with the logarithm of the frequency.				

Test Configuration

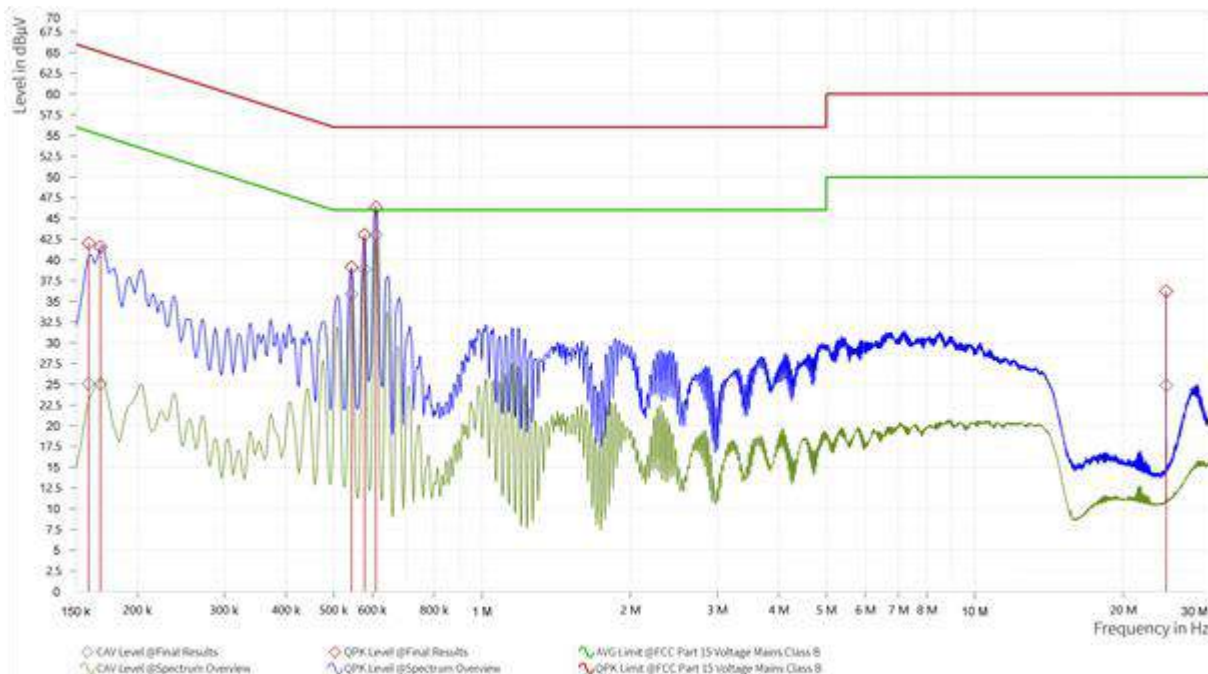


Performed measurements

Port under test		Terminal			
☒	AC mains input power	☒	N	☒	L1
☐	DC input power	☐	Positive (+)	☐	Negative (-)
Test method applied		☒	Artificial mains network		
		☐	Voltage probe		
Test setup		☒	Table top	☐	Artificial hand applied
		☐	Floor standing	☐	Other:
		Refer to the Annex 2 for test setup photo(s).			
Operating mode(s) used		Mode 1			
Remark		Powered by USB C power supply.			

See next page.

Measurement data		Port under test	AC mains input power
Operating mode / voltage / frequency used during the test			Mode 1 / 120 Vac / 60 Hz



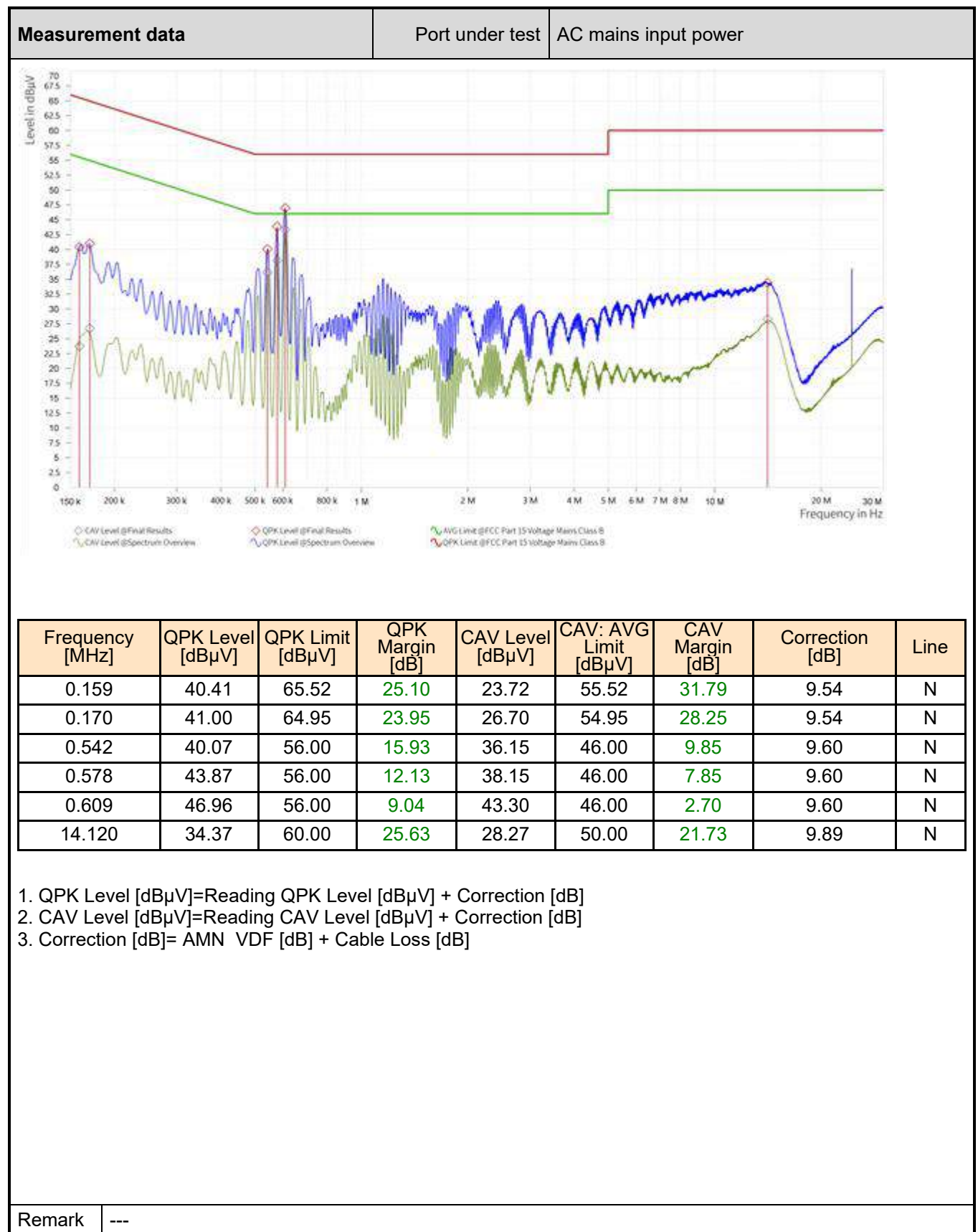
Legend:
○ CAV Level @Final Results
○ QPK Level @Final Results
○ AVG Limit @FCC Part 15 Voltage Mains Class B
○ QPK Limit @FCC Part 15 Voltage Mains Class B

Frequency [MHz]	QPK Level [dBµV]	QPK Limit [dBµV]	QPK Margin [dB]	CAV Level [dBµV]	CAV: AVG Limit [dBµV]	CAV Margin [dB]	Correction [dB]	Line
0.159	42.03	65.52	23.49	25.05	55.52	30.47	9.55	L1
0.168	41.56	65.06	23.50	25.04	55.06	30.02	9.55	L1
0.544	39.11	56.00	16.89	35.88	46.00	10.12	9.59	L1
0.578	43.05	56.00	12.95	38.88	46.00	7.12	9.60	L1
0.609	46.31	56.00	9.69	43.02	46.00	2.98	9.60	L1
24.459	36.22	60.00	23.78	24.87	50.00	25.13	9.85	L1

1. QPK Level [dBµV]=Reading QPK Level [dBµV] + Correction [dB]

2. CAV Level [dBµV]=Reading CAV Level [dBµV] + Correction [dB]

3. Correction [dB]= AMN VDF [dB] + Cable Loss [dB]



4.2	Emissions in restricted frequency bands	VERDICT: PASS
-----	---	---------------

Limit

Standard		FCC Part 15 Subpart C Paragraph 15.247(d), 15.205, 15.209 & RSS-Gen Issue 5 Section 8.9 & 8.10	
Restricted Bands of operation for FCC			
Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.81425 - 8.81475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	Above 38.6
13.36 - 13.41	--	--	--
Restricted Bands of operation for ISSED			
0.090 - 0.110	13.36 - 13.41	960 - 1427	9.0 - 9.2
0.495 - 0.505	16.42 - 16.423	1435 - 1626.5	9.3 - 9.5
2.1735 - 2.1905	16.69475 - 16.69525	1645.5 - 1646.5	10.6 - 12.7
3.020 - 3.026	16.80425 - 16.80475	1660 - 1710	13.25 - 13.4
4.125 - 4.128	25.5 - 25.67	1718.8 - 1722.2	14.47 - 14.5
4.17725 - 4.17775	37.5 - 38.25	2200 - 2300	15.35 - 16.2
4.20725 - 4.20775	73 - 74.6	2310 - 2390	17.7 - 21.4
5.677 - 5.683	74.8 - 75.2	2483.5 - 2500	22.01 - 23.12
6.215 - 6.218	108 - 138	2655 - 2900	23.6 - 24.0
6.26775 - 6.26825	149.9 - 150.05	3260 - 3267	31.2 - 31.8
6.31175 - 6.31225	156.52475 - 156.52525	3332 - 3339	36.43 - 36.5
8.291 - 8.294	156.7 - 156.9	3345.8 - 3358	Above 38.6
8.362 - 8.366	162.0125 - 167.17	3500 - 4400	--
8.37625 - 8.38675	167.72 - 173.2	4500 - 5150	--
8.41425 - 8.41475	240 - 285	5350 - 5460	--
12.29 - 12.293	322 - 335.4	7250 - 7750	--
12.51975 - 12.52025	399.9 - 410	8025 - 8500	--
12.57675 - 12.57725	608 - 614	--	--

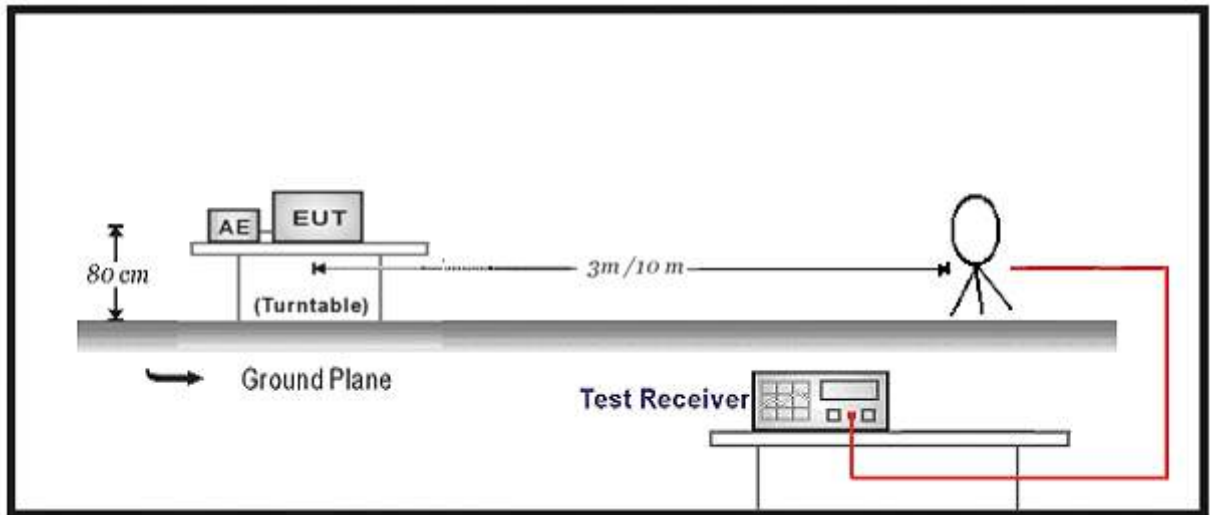
Restricted Band Emissions Limit			
Frequency (MHz)	Field strength (μ V/m)	Field strength (dB μ V/m)	Measurement distance (m)
0.009 - 0.49	2400/F(kHz)	48.5 - 13.8	300 _(Note 1)
0.49 - 1.705	24000/F(kHz)	33.8 - 23	30 _(Note 1)
1.705 - 30	30	29.5	30 _(Note 1)
30 - 88	100	40	3 _(Note 2)
88 - 216	150	43.5	3 _(Note 2)
216 - 960	200	46	3 _(Note 2)
Above 960	500	54	3 _(Note 2)

Note 1: At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed below 30 MHz, when performing measurements at a closer distance than specified, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade).

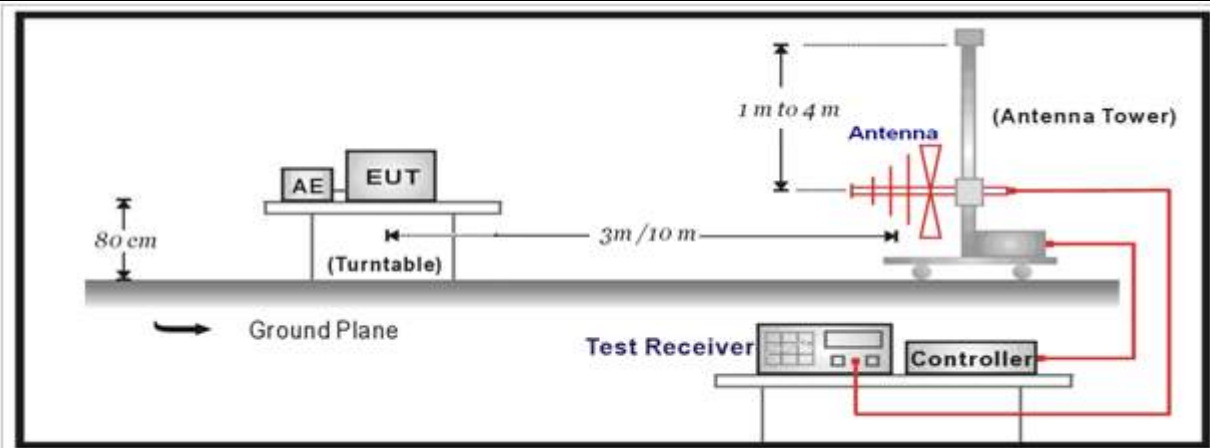
Note 2: At frequencies at or above 30 MHz, measurements may be performed at a distance other than what is specified provided: measurements are not made in the near field except where it can be shown that near field measurements are appropriate due to the characteristics of the device; and it can be demonstrated that the signal levels needed to be measured at the distance employed can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 meters unless it can be further demonstrated that measurements at a distance of 30 meters or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse linear-distance for field strength measurements; inverse-linear-distance-squared for power density measurements).

Test Configuration

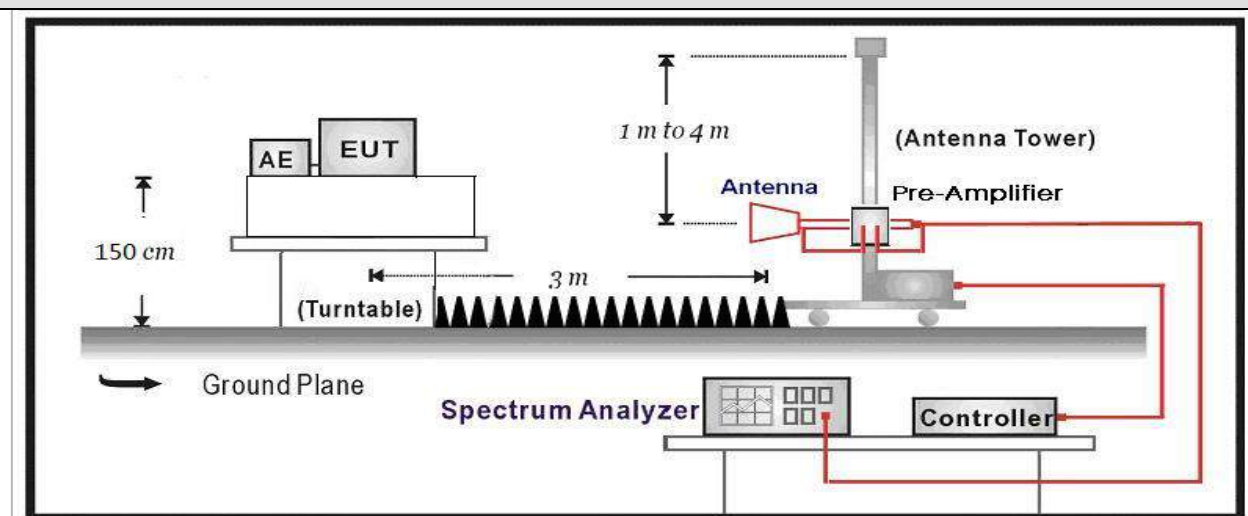
Below 30MHz Test Setup:



30MHz-1GHz Test Setup:



Above 1GHz Test Setup:



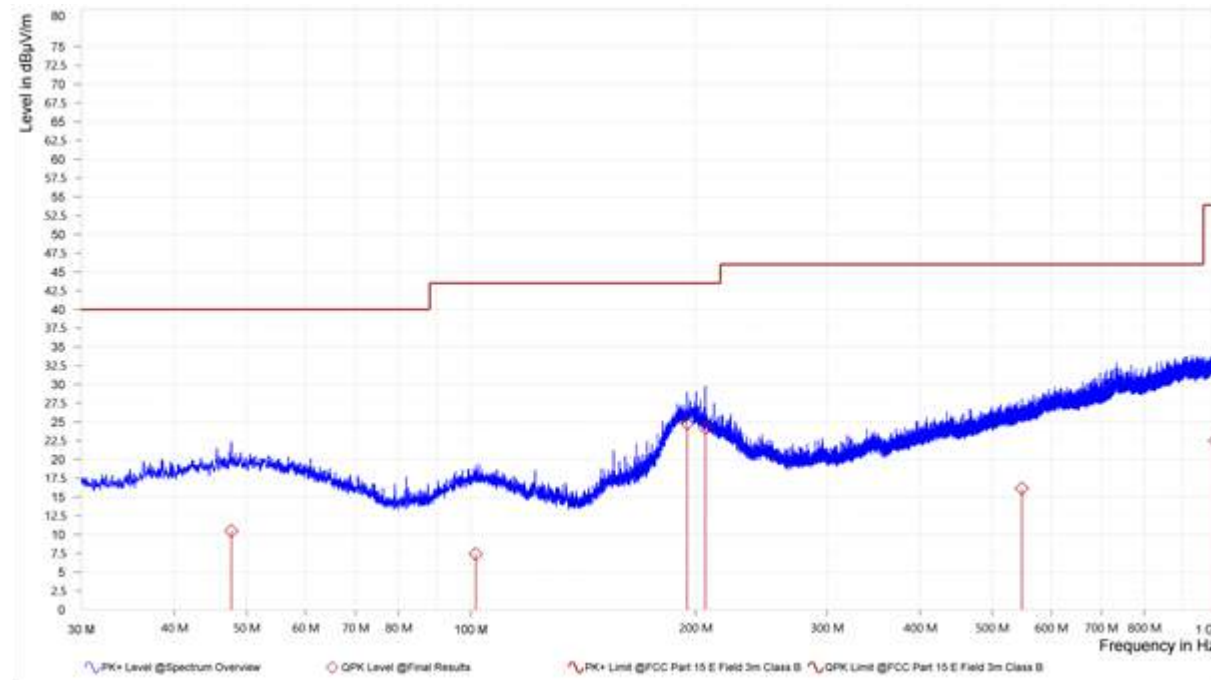
Performed measurements

Port under test	Enclosure port	
Test method applied	☐	Conducted measurement
	☒	Radiated measurement
Test setup	Refer to the Annex 3 for test setup photo(s).	
Operating mode(s) used	Mode 1, Mode 2	
Remark	1. The test frequency range, 9kHz~30MHz, 18GHz~26GHz, both of the worst case are at least 20dB below the limits, therefore no data appear in the report. 2. The EUT is working in the Normal link mode below 1 GHz.	

Results

Emissions in restricted frequency bands

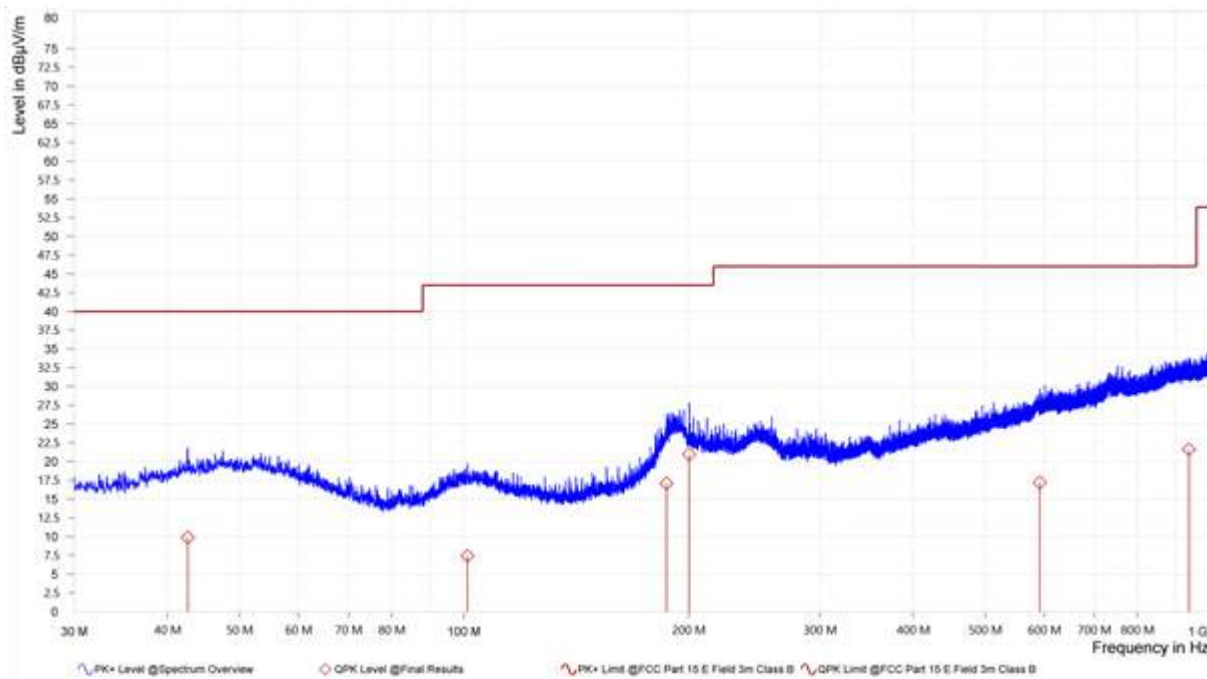
30MHz – 1GHz, Normal Mode



Rg	Frequency [MHz]	QPK Level [dBµV/m]	QPK Limit [dBµV/m]	QPK Margin [dB]	Correction [dB]	Polarization
1	47.700	10.46	40.00	29.54	21.27	V
1	101.490	7.41	43.50	36.09	19.18	V
1	194.820	24.77	43.50	18.73	19.41	V
1	206.130	24.16	43.50	19.34	18.69	V
1	548.070	16.15	46.00	29.85	26.47	V
1	996.000	22.48	53.90	31.42	32.24	V

1. QPK Level [dBµV/m]=Reading QPK Level [dBµV/m] + Correction [dB/m]

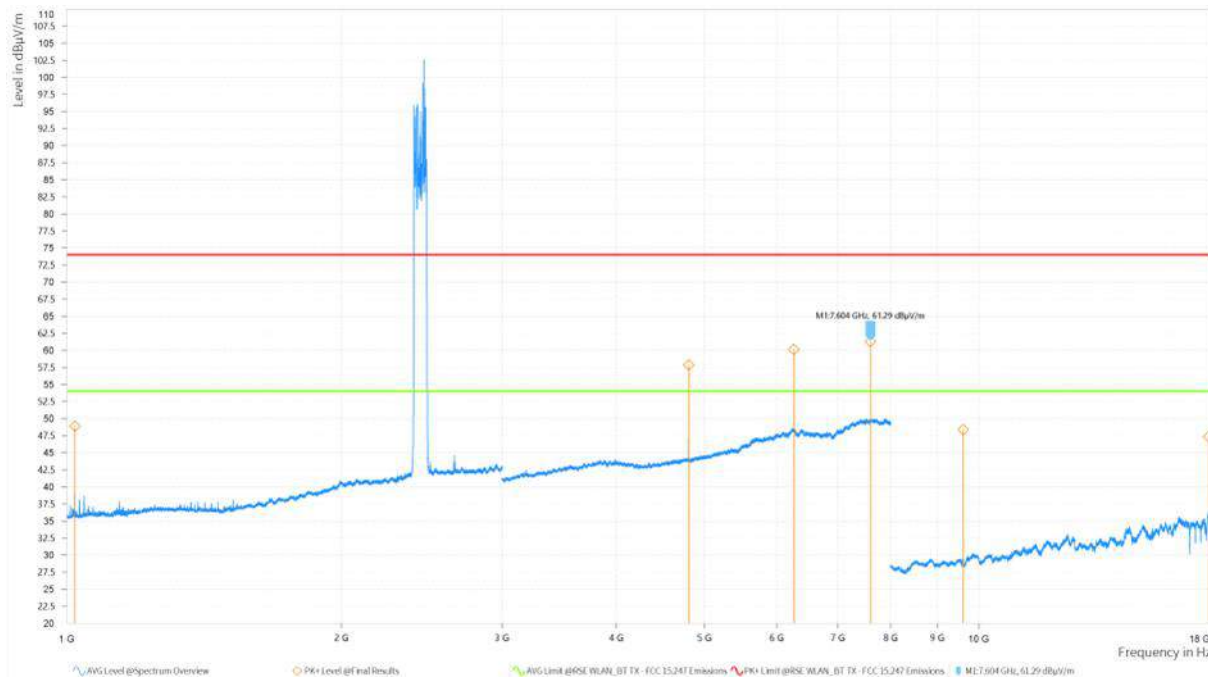
2. Correction [dB/m]=Antenna Factor [dB/m] + Cable Loss [dB]



Rg	Frequency [MHz]	QPK Level [dBμV/m]	QPK Limit [dBμV/m]	QPK Margin [dB]	Correction [dB]	Polarization
1	42.600	9.86	40.00	30.14	20.43	H
1	101.070	7.44	43.50	36.06	19.18	H
1	186.870	17.08	43.50	26.42	18.08	H
1	200.430	20.95	43.50	22.55	19.04	H
1	591.690	17.20	46.00	28.80	27.79	H
1	937.800	21.59	46.00	24.41	31.78	H

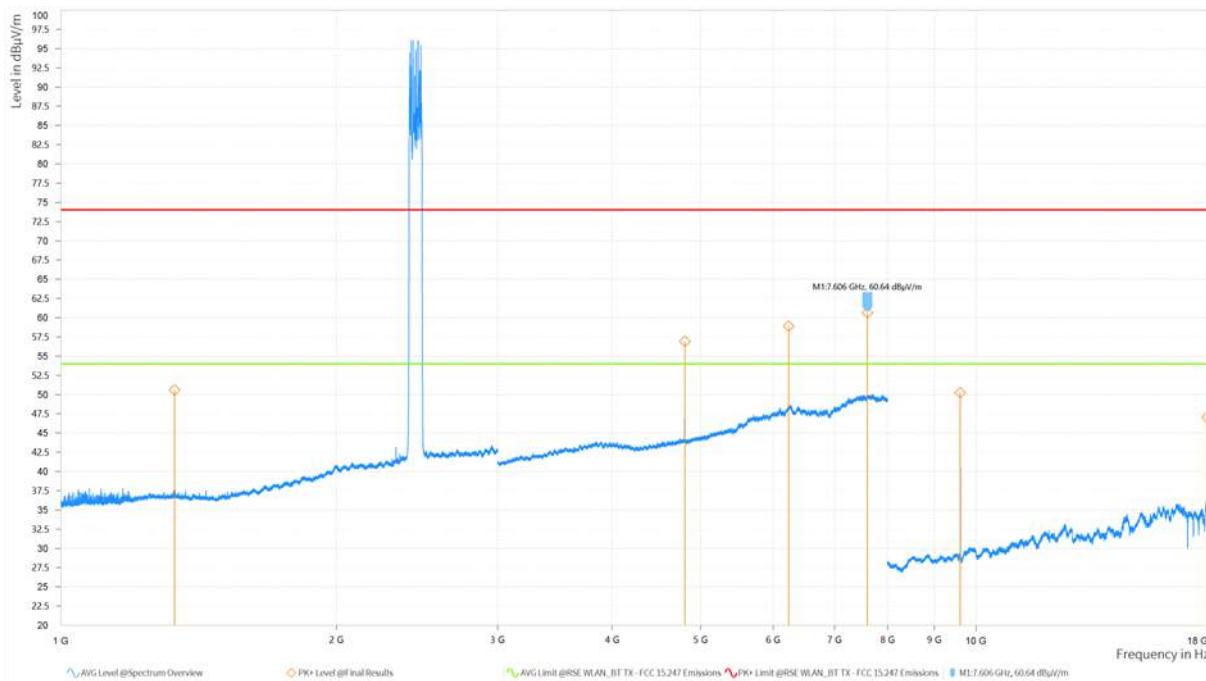
1. QPK Level [dBμV/m]=Reading QPK Level [dBμV/m] + Correction [dB/m]
2. Correction [dB/m]=Antenna Factor [dB/m] + Cable Loss [dB]

1GHz – 10th Harmonic
2402MHz, GFSK



Rg	Frequency [MHz]	AVG Level [dBµV/m]	AVG Limit [dBµV/m]	AVG Margin [dB]	Correction [dB]	Polarization
1	1,020.100	39.15	54.00	14.85	-1.43	V
2	4,804.000	47.32	54.00	6.68	9.88	V
2	6,264.250	48.84	54.00	5.16	15.05	V
2	7,604.000	50.14	54.00	3.86	16.05	V
3	9,608.000	43.84	54.00	10.16	5.51	V
3	17,859.500	36.56	54.00	17.44	15.77	V

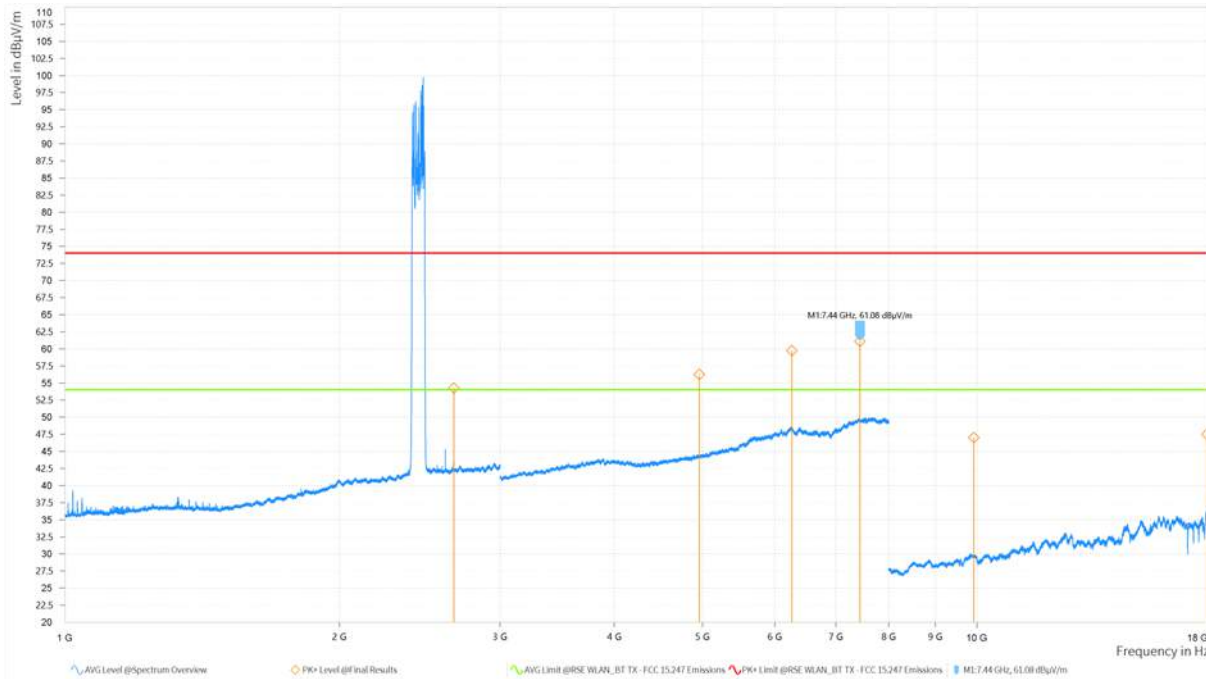
Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	Correction [dB]	Polarization
1	1,020.100	48.87	74.00	25.13	-1.43	V
2	4,804.000	57.84	74.00	16.16	9.88	V
2	6,264.250	60.12	74.00	13.88	15.05	V
2	7,604.000	61.29	74.00	12.71	16.05	V
3	9,608.000	48.37	74.00	25.63	5.51	V
3	17,859.500	47.34	74.00	26.66	15.77	V



Rg	Frequency [MHz]	AVG Level [dBµV/m]	AVG Limit [dBµV/m]	AVG Margin [dB]	Correction [dB]	Polarization
1	1,330.800	38.42	54.00	15.58	0.42	H
2	4,804.000	48.31	54.00	5.69	9.88	H
2	6,239.750	48.67	54.00	5.33	14.98	H
2	7,606.000	49.68	54.00	4.32	16.05	H
3	9,607.500	44.22	54.00	9.78	5.52	H
3	17,876.500	36.42	54.00	17.58	15.68	H

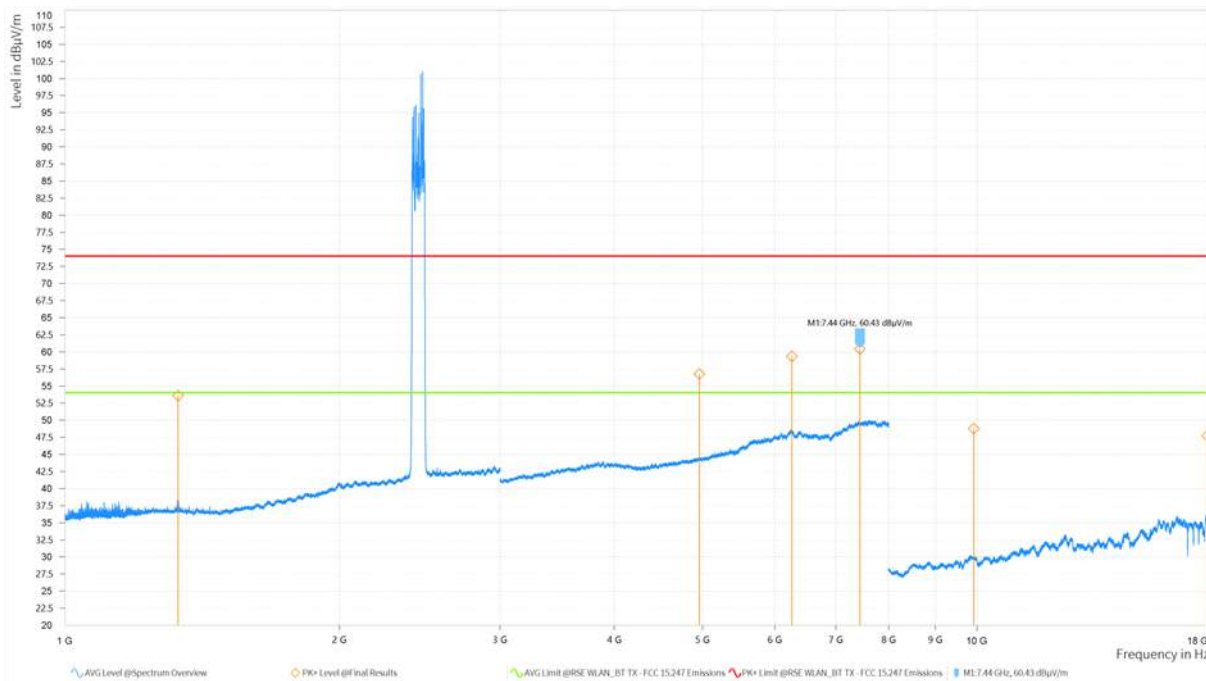
Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	Correction [dB]	Polarization
1	1,330.800	50.57	74.00	23.43	0.42	H
2	4,804.000	56.89	74.00	17.11	9.88	H
2	6,239.750	58.90	74.00	15.10	14.98	H
2	7,606.000	60.64	74.00	13.36	16.05	H
3	9,607.500	50.24	74.00	23.76	5.52	H
3	17,876.500	47.02	74.00	26.98	15.68	H

2480MHz, GFSK



Rg	Frequency [MHz]	AVG Level [dBµV/m]	AVG Limit [dBµV/m]	AVG Margin [dB]	Correction [dB]	Polarization
1	2,668.600	46.97	54.00	7.03	7.46	V
2	4,960.000	47.06	54.00	6.94	10.26	V
2	6,267.000	48.61	54.00	5.39	15.06	V
2	7,440.250	50.60	54.00	3.40	15.87	V
3	9,920.000	41.42	54.00	12.58	6.15	V
3	17,865.500	36.76	54.00	17.24	15.74	V

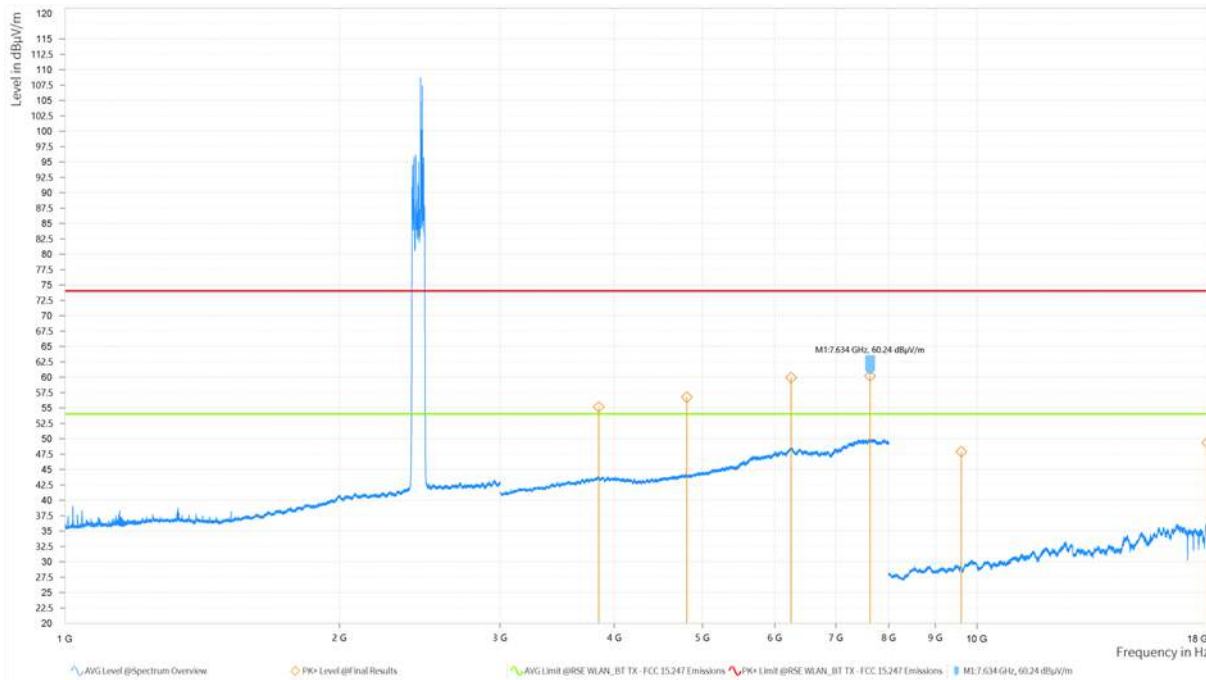
Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	Correction [dB]	Polarization
1	2,668.600	54.24	74.00	19.76	7.46	V
2	4,960.000	56.24	74.00	17.76	10.26	V
2	6,267.000	59.73	74.00	14.27	15.06	V
2	7,440.250	61.08	74.00	12.92	15.87	V
3	9,920.000	47.00	74.00	27.00	6.15	V
3	17,865.500	47.46	74.00	26.54	15.74	V



Rg	Frequency [MHz]	AVG Level [dBµV/m]	AVG Limit [dBµV/m]	AVG Margin [dB]	Correction [dB]	Polarization
1	1,330.500	38.48	54.00	15.52	0.42	H
2	4,960.250	45.54	54.00	8.46	10.26	H
2	6,266.750	48.68	54.00	5.32	15.06	H
2	7,440.250	51.92	54.00	2.08	15.87	H
3	9,920.000	46.25	54.00	7.75	6.15	H
3	17,877.000	36.56	54.00	17.44	15.68	H

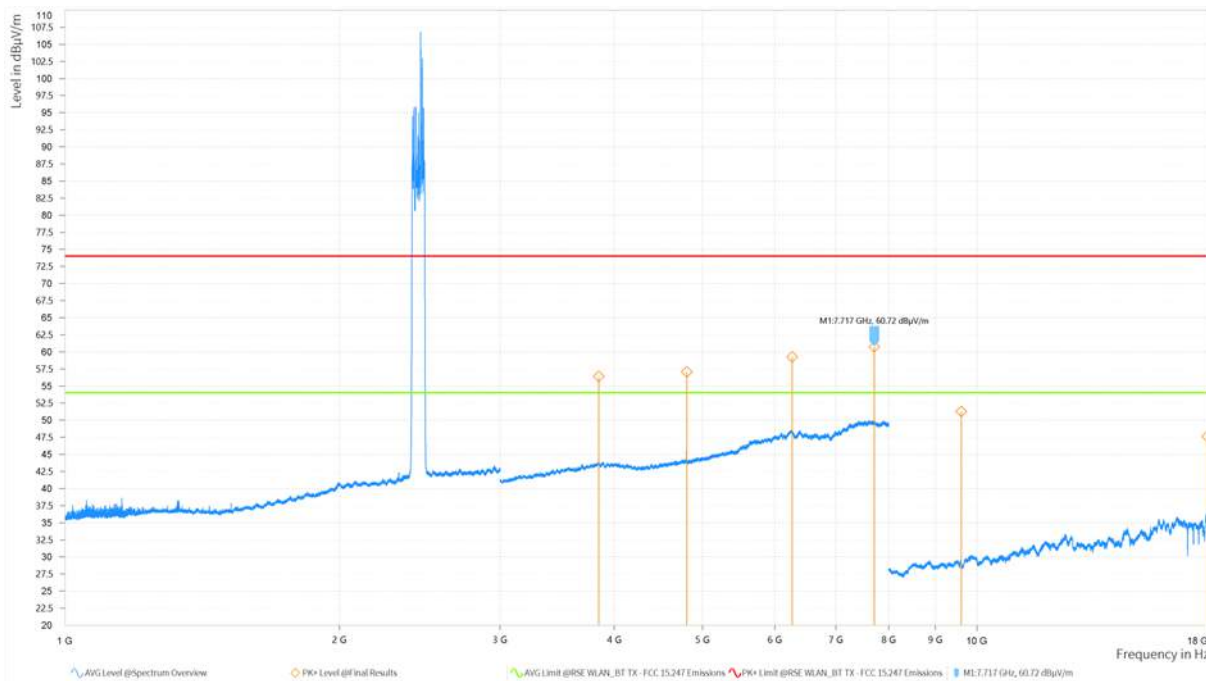
Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	Correction [dB]	Polarization
1	1,330.500	53.56	74.00	20.44	0.42	H
2	4,960.250	56.75	74.00	17.25	10.26	H
2	6,266.750	59.32	74.00	14.68	15.06	H
2	7,440.250	60.43	74.00	13.57	15.87	H
3	9,920.000	48.77	74.00	25.23	6.15	H
3	17,877.000	47.69	74.00	26.31	15.68	H

2402MHz, $\pi/4$ -DQPSK



Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization
1	3,846.750	44.11	54.00	9.89	9.04	V
2	4,804.000	44.82	54.00	9.18	9.88	V
2	6,254.500	48.61	54.00	5.39	15.02	V
2	7,634.000	50.08	54.00	3.92	16.05	V
3	9,608.000	43.18	54.00	10.82	5.51	V
3	17,878.000	36.57	54.00	17.43	15.67	V

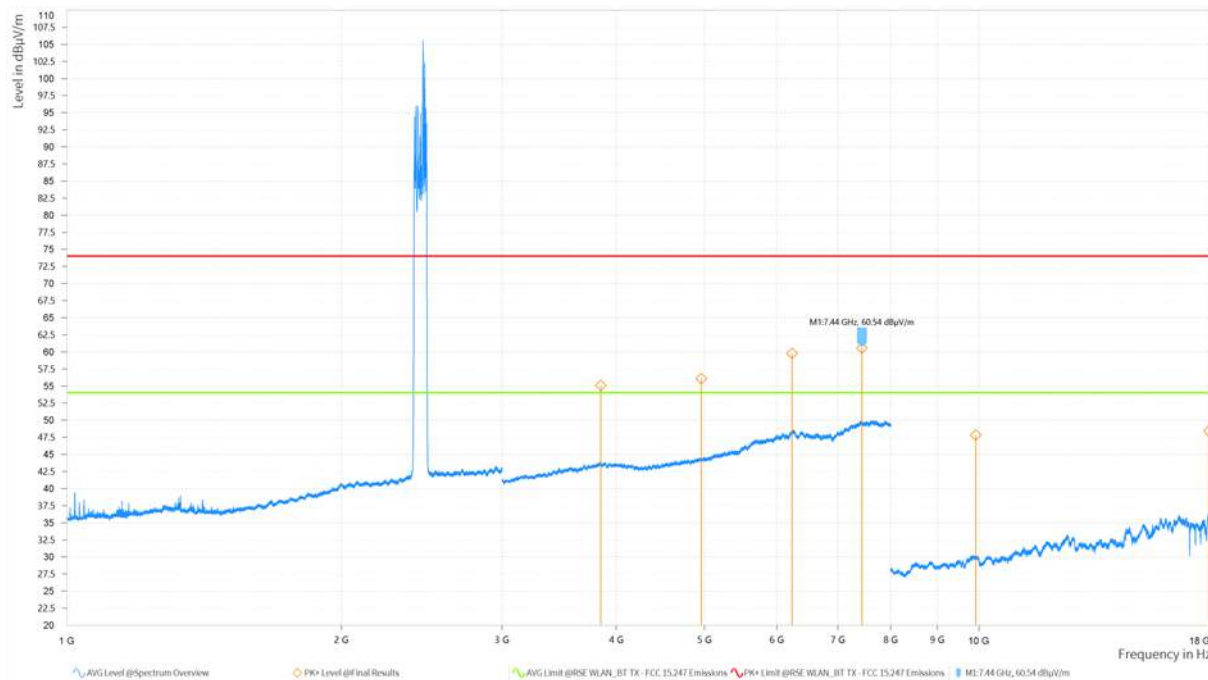
Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization
1	3,846.750	55.12	74.00	18.88	9.04	V
2	4,804.000	56.73	74.00	17.27	9.88	V
2	6,254.500	59.90	74.00	14.10	15.02	V
2	7,634.000	60.24	74.00	13.76	16.05	V
3	9,608.000	47.87	74.00	26.13	5.51	V
3	17,878.000	49.30	74.00	24.70	15.67	V



Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization
1	3,848.250	44.00	54.00	10.00	9.05	H
2	4,804.000	45.90	54.00	8.10	9.88	H
2	6,269.500	48.61	54.00	5.39	15.07	H
2	7,716.750	50.05	54.00	3.95	15.96	H
3	9,608.000	48.15	54.00	5.85	5.51	H
3	17,878.500	36.64	54.00	17.36	15.67	H

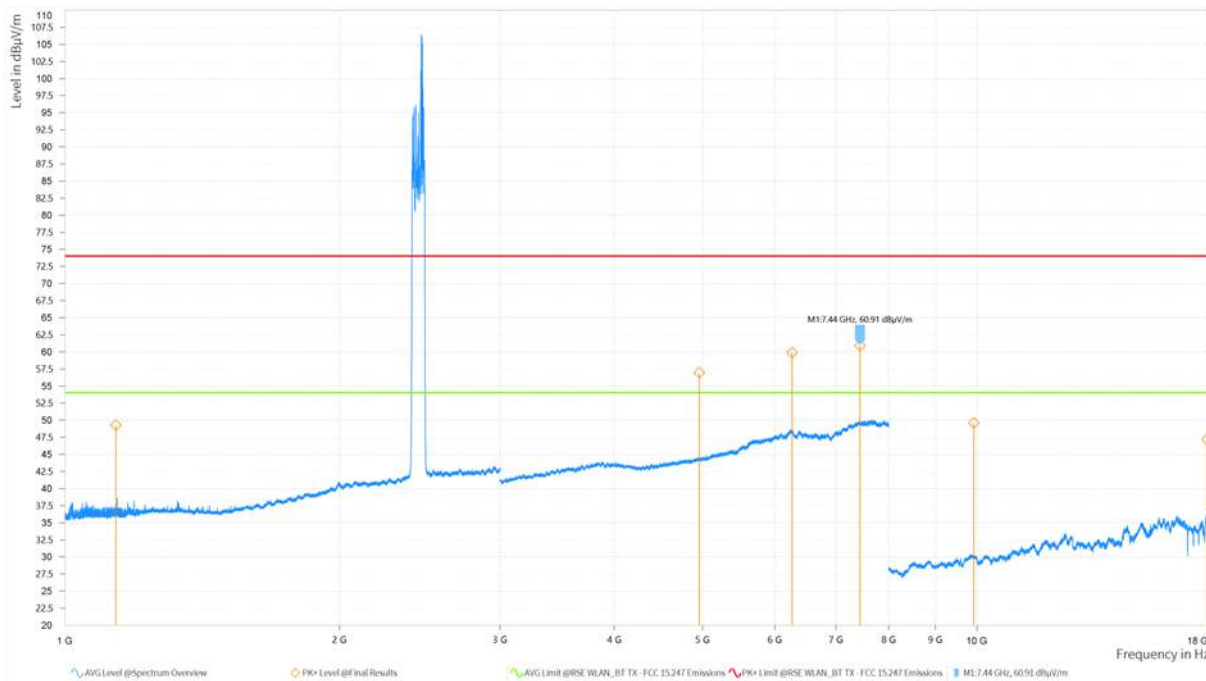
Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization
1	3,848.250	56.38	74.00	17.62	9.05	H
2	4,804.000	57.06	74.00	16.94	9.88	H
2	6,269.500	59.26	74.00	14.74	15.07	H
2	7,716.750	60.72	74.00	13.28	15.96	H
3	9,608.000	51.28	74.00	22.72	5.51	H
3	17,878.500	47.60	74.00	26.40	15.67	H

2480MHz, π /4-DQPSK



Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization
1	3,846.750	44.08	54.00	9.92	9.04	V
2	4,959.750	45.98	54.00	8.02	10.26	V
2	6,237.000	48.66	54.00	5.34	14.98	V
2	7,440.250	50.13	54.00	3.87	15.87	V
3	9,920.000	41.83	54.00	12.17	6.15	V
3	17,864.500	36.66	54.00	17.34	15.75	V

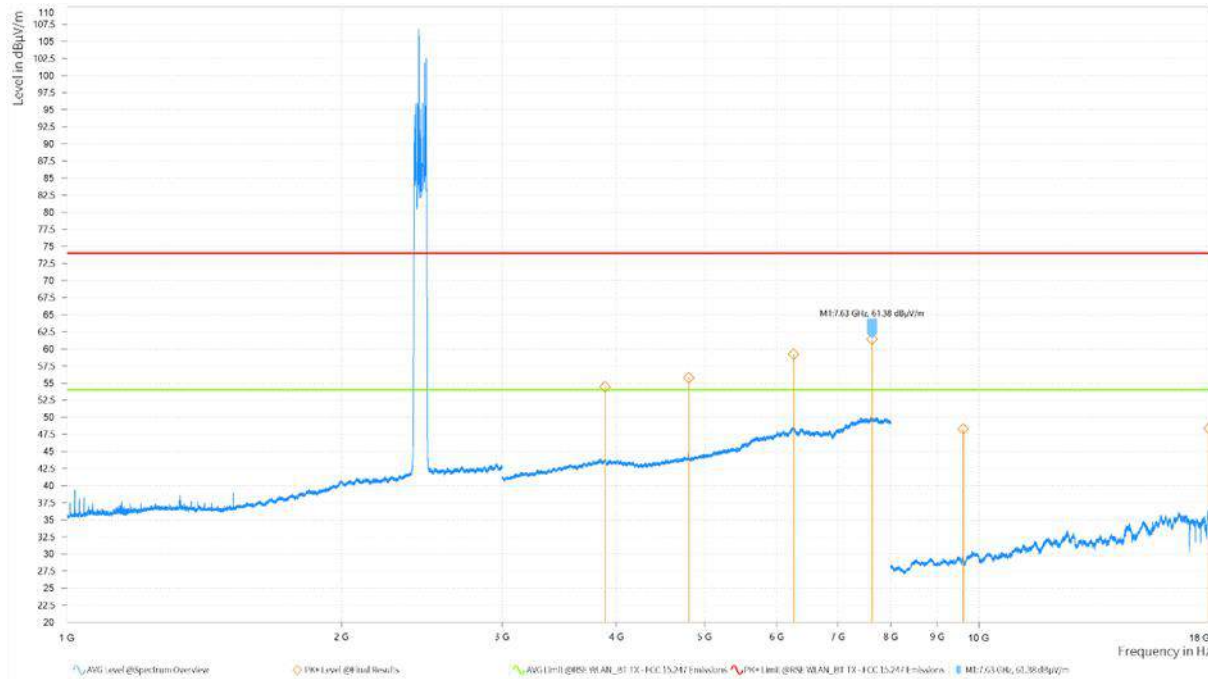
Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization
1	3,846.750	55.07	74.00	18.93	9.04	V
2	4,959.750	56.06	74.00	17.94	10.26	V
2	6,237.000	59.76	74.00	14.24	14.98	V
2	7,440.250	60.54	74.00	13.46	15.87	V
3	9,920.000	47.81	74.00	26.19	6.15	V
3	17,864.500	48.42	74.00	25.58	15.75	V



Rg	Frequency [MHz]	AVG Level [dBµV/m]	AVG Limit [dBµV/m]	AVG Margin [dB]	Correction [dB]	Polarization
1	1,137.300	38.82	54.00	15.18	-0.83	H
2	4,959.750	45.26	54.00	8.74	10.26	H
2	6,268.750	48.70	54.00	5.30	15.07	H
2	7,440.000	51.10	54.00	2.90	15.87	H
3	9,920.000	45.88	54.00	8.12	6.15	H
3	17,865.500	36.38	54.00	17.62	15.74	H

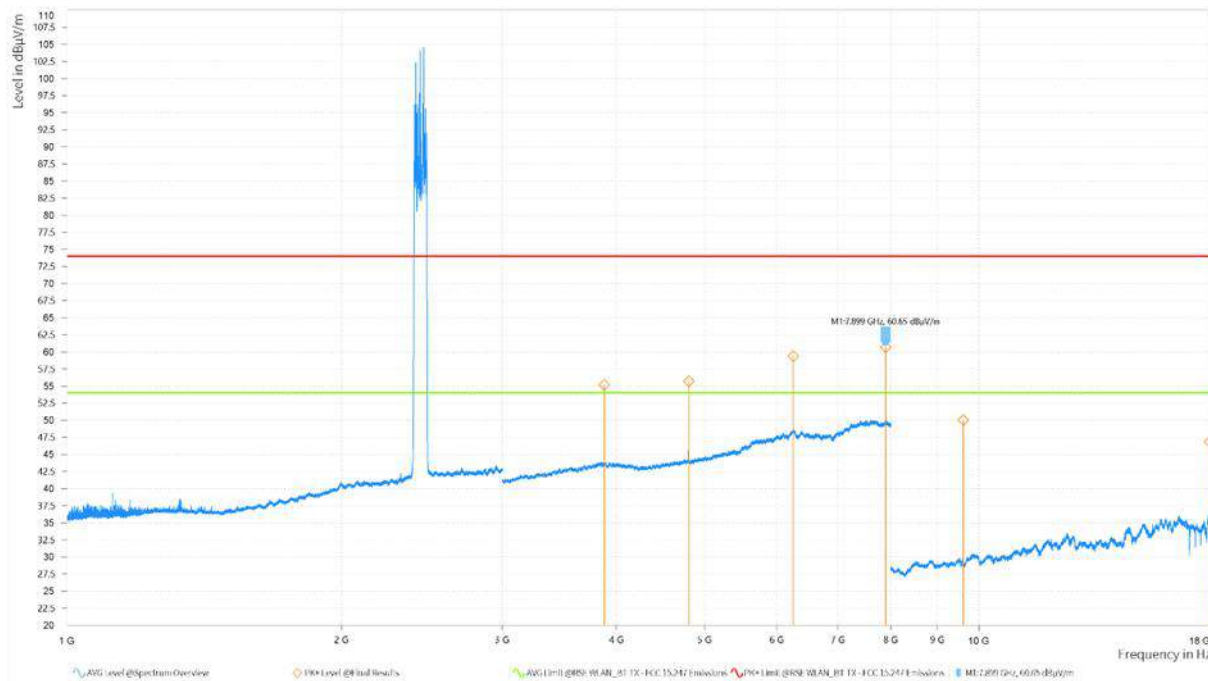
Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	Correction [dB]	Polarization
1	1,137.300	49.25	74.00	24.75	-0.83	H
2	4,959.750	56.95	74.00	17.05	10.26	H
2	6,268.750	59.87	74.00	14.13	15.07	H
2	7,440.000	60.91	74.00	13.09	15.87	H
3	9,920.000	49.60	74.00	24.40	6.15	H
3	17,865.500	47.14	74.00	26.86	15.74	H

2402MHz, 8-DPSK



Rg	Frequency [MHz]	AVG Level [dBµV/m]	AVG Limit [dBµV/m]	AVG Margin [dB]	Correction [dB]	Polarization
1	3,889.750	44.09	54.00	9.91	9.04	V
2	4,804.000	44.88	54.00	9.12	9.88	V
2	6,261.750	48.58	54.00	5.42	15.05	V
2	7,630.250	50.00	54.00	4.00	16.05	V
3	9,608.000	43.13	54.00	10.87	5.51	V
3	17,863.000	36.87	54.00	17.13	15.75	V

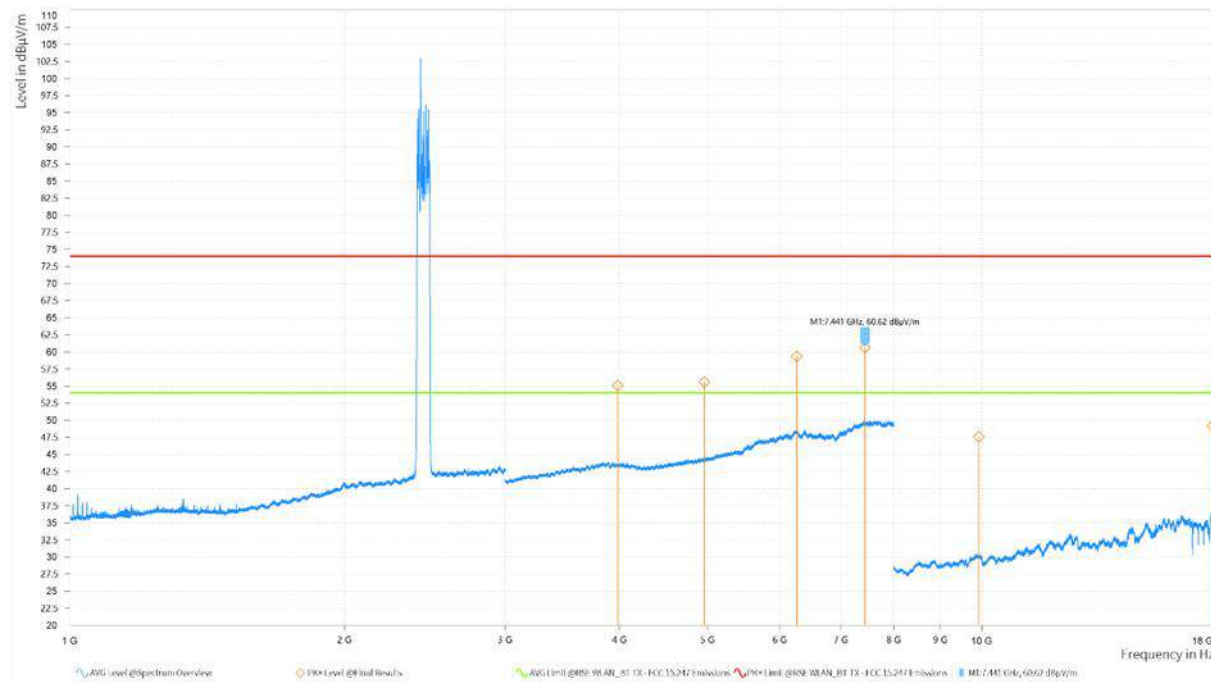
Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	Correction [dB]	Polarization
1	3,889.750	54.42	74.00	19.58	9.04	V
2	4,804.000	55.77	74.00	18.23	9.88	V
2	6,261.750	59.21	74.00	14.79	15.05	V
2	7,630.250	61.38	74.00	12.62	16.05	V
3	9,608.000	48.24	74.00	25.76	5.51	V
3	17,863.000	48.39	74.00	25.61	15.75	V



Rg	Frequency [MHz]	AVG Level [dBµV/m]	AVG Limit [dBµV/m]	AVG Margin [dB]	Correction [dB]	Polarization
1	3,882.500	44.04	54.00	9.96	9.05	H
2	4,804.000	45.91	54.00	8.09	9.88	H
2	6,259.000	48.59	54.00	5.41	15.04	H
2	7,898.500	50.01	54.00	3.99	15.80	H
3	9,607.500	47.49	54.00	6.51	5.52	H
3	17,899.000	36.37	54.00	17.63	15.56	H

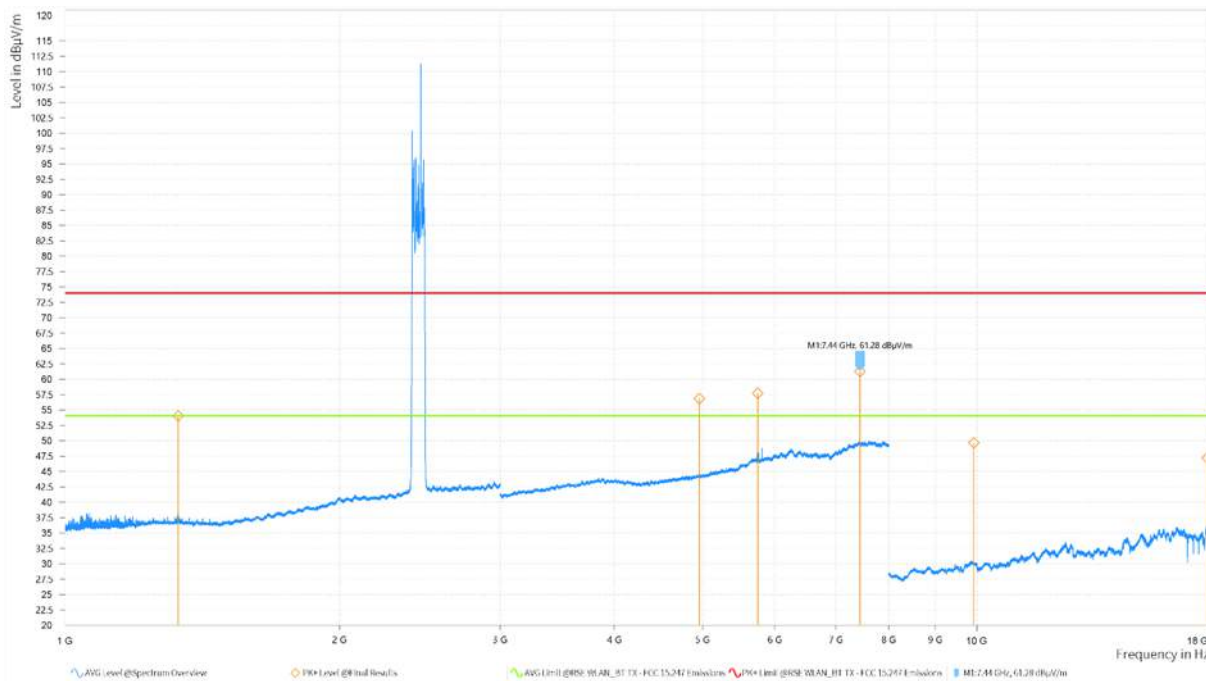
Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	Correction [dB]	Polarization
1	3,882.500	55.18	74.00	18.82	9.05	H
2	4,804.000	55.69	74.00	18.31	9.88	H
2	6,259.000	59.37	74.00	14.63	15.04	H
2	7,898.500	60.65	74.00	13.35	15.80	H
3	9,607.500	50.03	74.00	23.97	5.52	H
3	17,899.000	46.80	74.00	27.20	15.56	H

2480MHz, 8-DPSK



Rg	Frequency [MHz]	AVG Level [dBµV/m]	AVG Limit [dBµV/m]	AVG Margin [dB]	Correction [dB]	Polarization
1	3,985.500	44.05	54.00	9.95	8.96	V
2	4,959.500	45.72	54.00	8.28	10.26	V
2	6,267.250	48.70	54.00	5.30	15.06	V
2	7,440.500	50.03	54.00	3.97	15.87	V
3	9,920.000	42.22	54.00	11.78	6.15	V
3	17,878.500	36.72	54.00	17.28	15.67	V

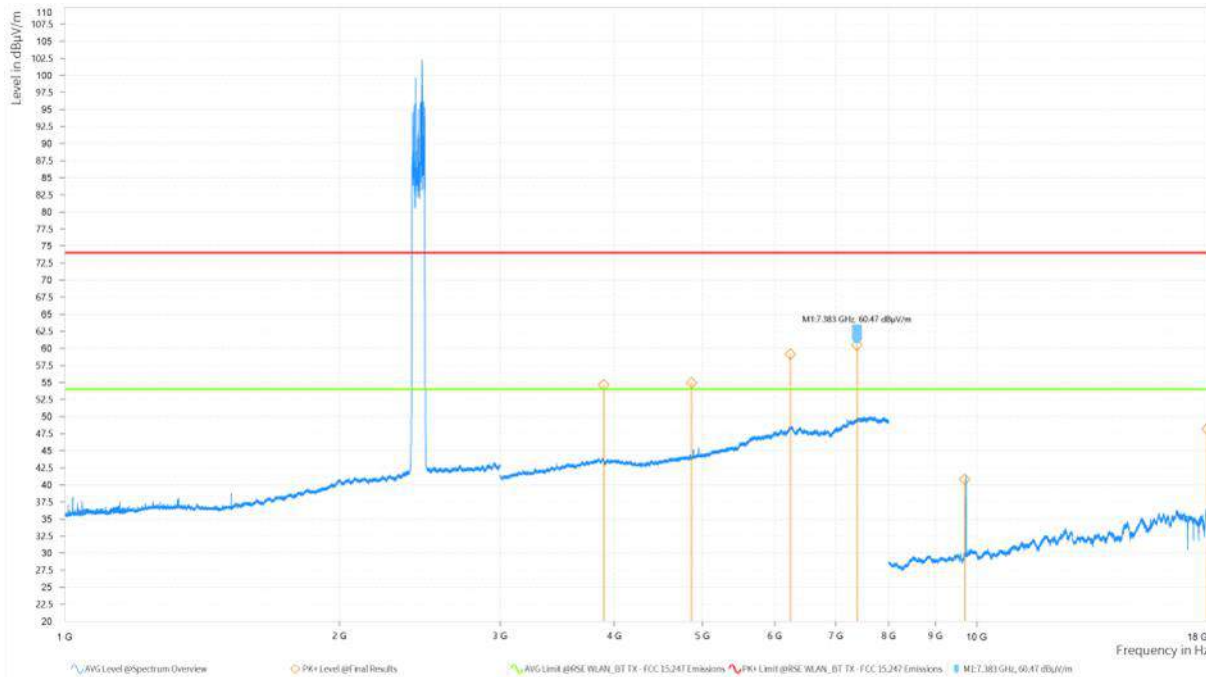
Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	Correction [dB]	Polarization
1	3,985.500	55.07	74.00	18.93	8.96	V
2	4,959.500	55.59	74.00	18.41	10.26	V
2	6,267.250	59.34	74.00	14.66	15.06	V
2	7,440.500	60.62	74.00	13.38	15.87	V
3	9,920.000	47.57	74.00	26.43	6.15	V
3	17,878.500	49.20	74.00	24.80	15.67	V



Rg	Frequency [MHz]	AVG Level [dBµV/m]	AVG Limit [dBµV/m]	AVG Margin [dB]	Correction [dB]	Polarization
1	1,331.400	38.43	54.00	15.57	0.43	H
2	4,959.750	45.13	54.00	8.87	10.26	H
2	5,749.750	48.90	54.00	5.10	13.58	H
2	7,439.750	50.57	54.00	3.43	15.87	H
3	9,920.000	46.06	54.00	7.94	6.15	H
3	17,875.500	36.32	54.00	17.68	15.69	H

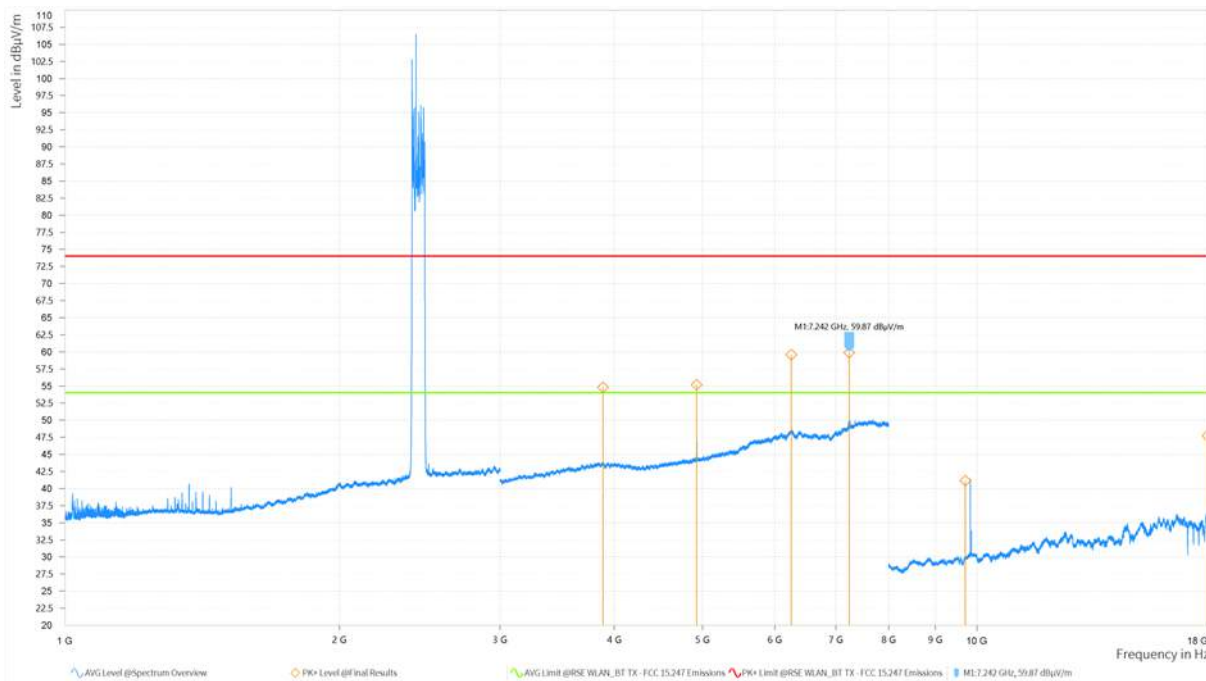
Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	Correction [dB]	Polarization
1	1,331.400	54.00	74.00	20.00	0.43	H
2	4,959.750	56.82	74.00	17.18	10.26	H
2	5,749.750	57.71	74.00	16.29	13.58	H
2	7,439.750	61.28	74.00	12.72	15.87	H
3	9,920.000	49.65	74.00	24.35	6.15	H
3	17,875.500	47.18	74.00	26.82	15.69	H

Hopping Mode, GFSK



Rg	Frequency [MHz]	AVG Level [dBµV/m]	AVG Limit [dBµV/m]	AVG Margin [dB]	Correction [dB]	Polarization
1	3,894.000	44.02	54.00	9.98	9.03	V
2	4,864.000	45.37	54.00	8.63	9.99	V
2	6,239.500	48.61	54.00	5.39	14.98	V
2	7,383.000	50.50	54.00	3.50	15.74	V
3	9,691.000	33.76	54.00	20.24	5.91	V
3	17,870.000	36.93	54.00	17.07	15.72	V

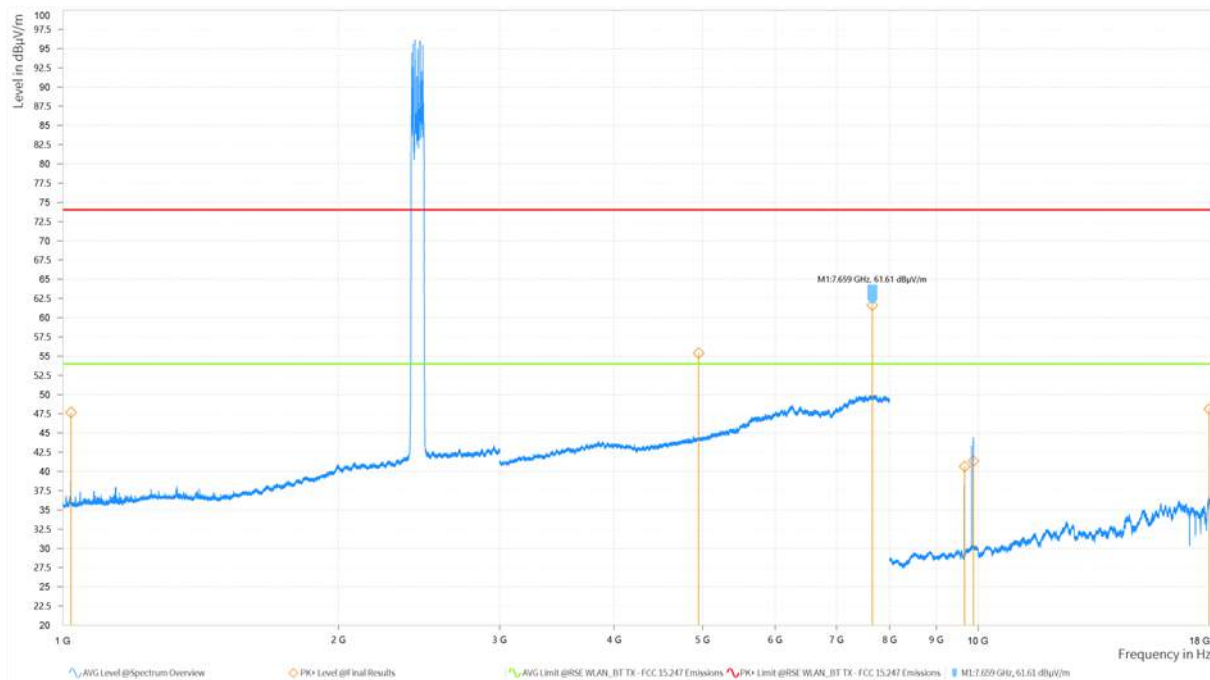
Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	Correction [dB]	Polarization
1	3,894.000	54.61	74.00	19.39	9.03	V
2	4,864.000	54.96	74.00	19.04	9.99	V
2	6,239.500	59.13	74.00	14.87	14.98	V
2	7,383.000	60.47	74.00	13.53	15.74	V
3	9,691.000	40.76	74.00	33.24	5.91	V
3	17,870.000	48.16	74.00	25.84	15.72	V



Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization
1	3,890.000	43.96	54.00	10.04	9.04	H
2	4,928.000	48.08	54.00	5.92	10.14	H
2	6,258.750	48.71	54.00	5.29	15.04	H
2	7,242.000	50.58	54.00	3.42	15.37	H
3	9,704.000	30.17	54.00	23.83	6.15	H
3	17,894.500	36.65	54.00	17.35	15.58	H

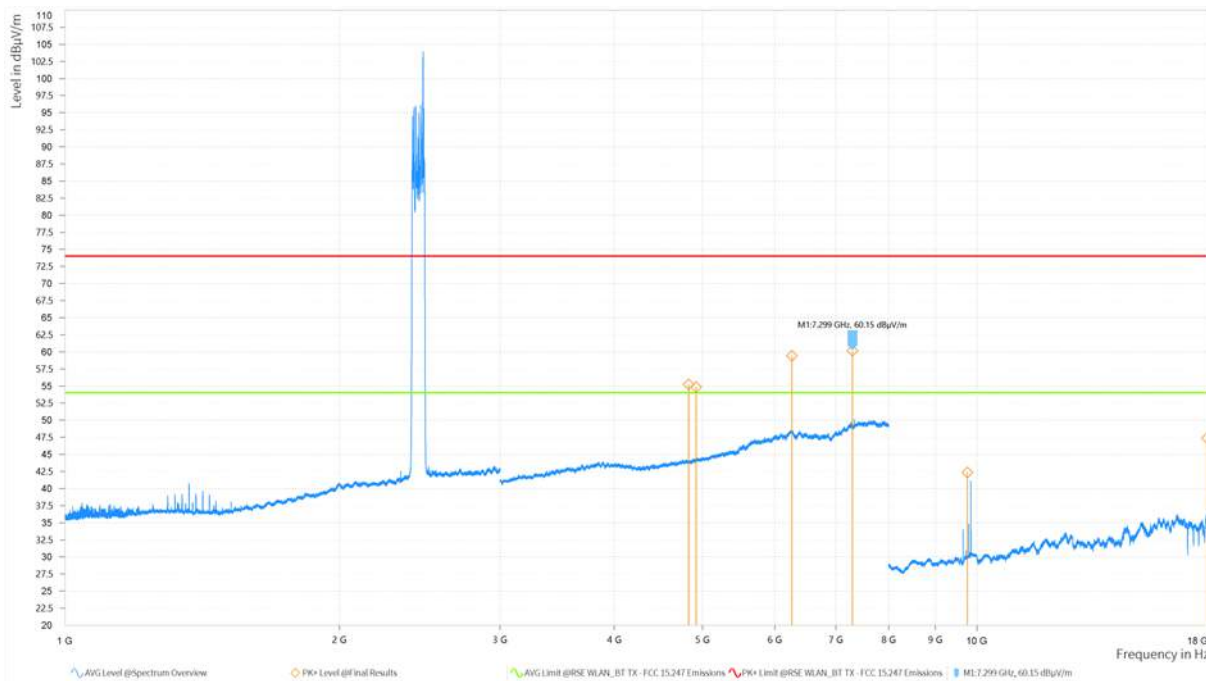
Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization
1	3,890.000	54.81	74.00	19.19	9.04	H
2	4,928.000	55.17	74.00	18.83	10.14	H
2	6,258.750	59.54	74.00	14.46	15.04	H
2	7,242.000	59.87	74.00	14.13	15.37	H
3	9,704.000	41.14	74.00	32.86	6.15	H
3	17,894.500	47.69	74.00	26.31	15.58	H

Hopping Mode, $\pi/4$ -DQPSK



Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization
1	1,020.000	38.89	54.00	15.11	-1.43	V
2	4,950.250	45.23	54.00	8.77	10.22	V
2	7,659.250	49.99	54.00	4.01	16.01	V
2	9,660.000	39.67	54.00	14.33	5.13	V
3	9,876.000	44.47	54.00	9.53	6.29	V
3	17,875.000	36.81	54.00	17.19	15.69	V

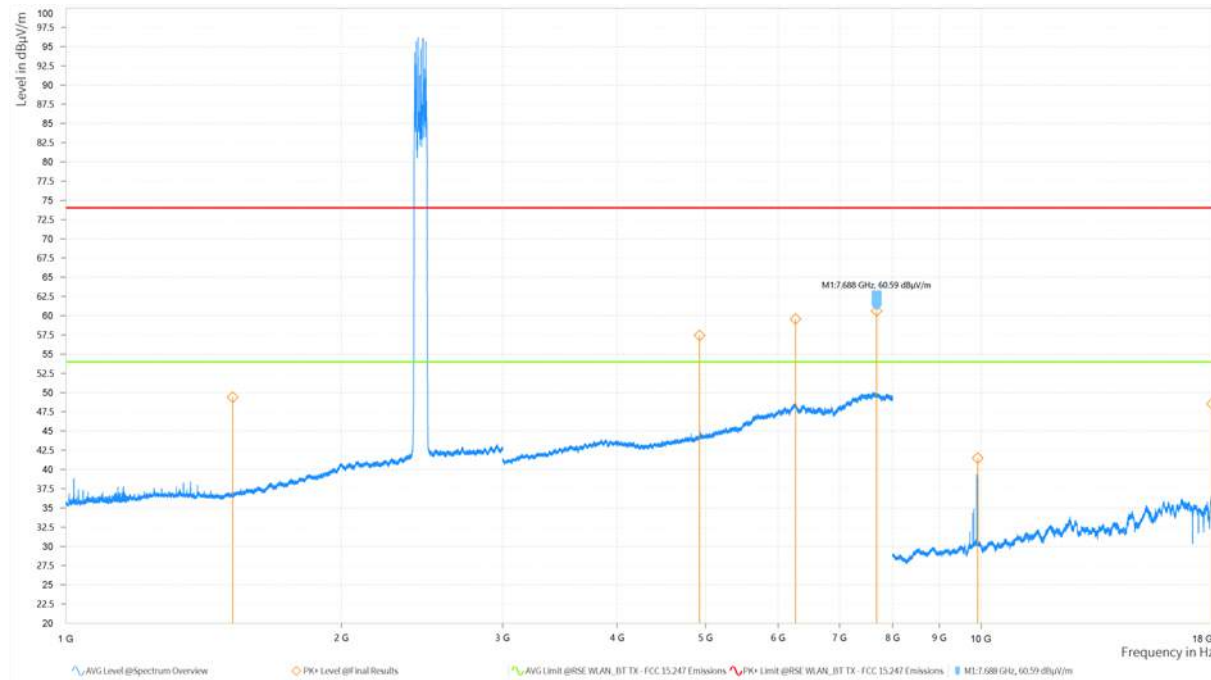
Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization
1	1,020.000	47.66	74.00	26.34	-1.43	V
2	4,950.250	55.37	74.00	18.63	10.22	V
2	7,659.250	61.61	74.00	12.39	16.01	V
2	9,660.000	40.63	74.00	33.37	5.13	V
3	9,876.000	41.36	74.00	32.64	6.29	V
3	17,875.000	48.12	74.00	25.88	15.69	V



Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization
1	4,829.500	46.12	54.00	7.88	9.93	H
2	4,919.500	46.20	54.00	7.80	10.11	H
2	6,265.000	48.68	54.00	5.32	15.05	H
2	7,299.000	50.51	54.00	3.49	15.55	H
3	9,760.000	41.26	54.00	12.74	6.39	H
3	17,871.000	36.61	54.00	17.39	15.71	H

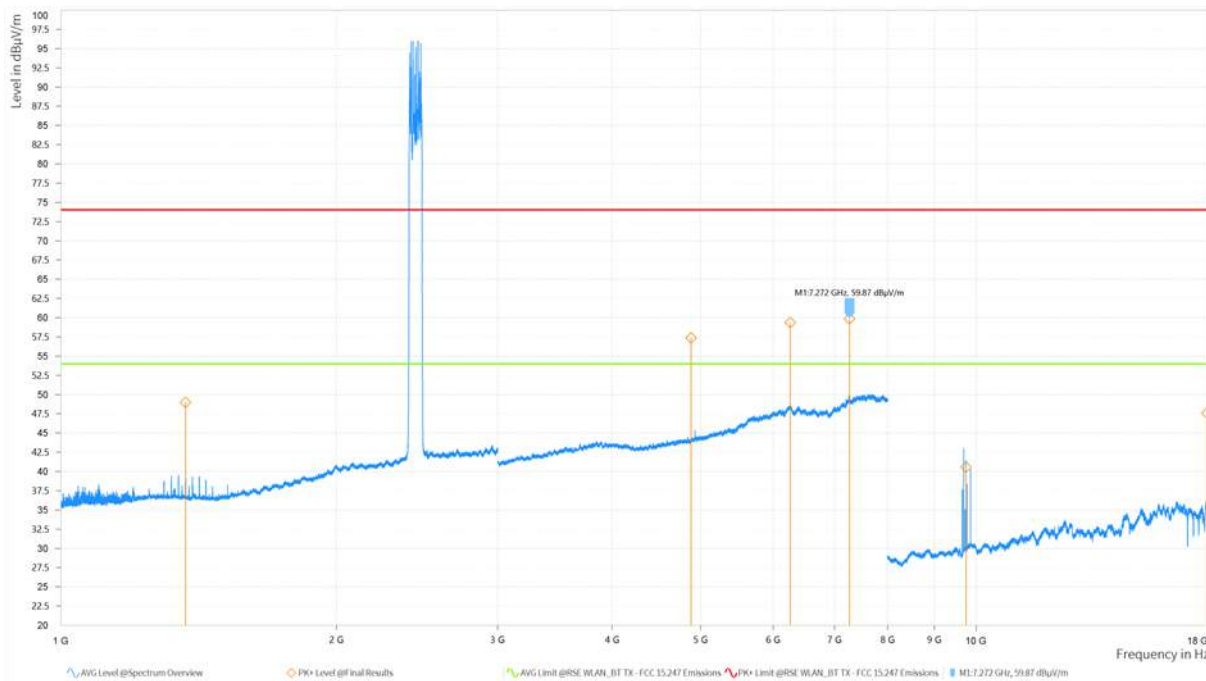
Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization
1	4,829.500	55.22	74.00	18.78	9.93	H
2	4,919.500	54.81	74.00	19.19	10.11	H
2	6,265.000	59.39	74.00	14.61	15.05	H
2	7,299.000	60.15	74.00	13.85	15.55	H
3	9,760.000	42.35	74.00	31.65	6.39	H
3	17,871.000	47.35	74.00	26.65	15.71	H

Hopping Mode, 8-DPSK



Rg	Frequency [MHz]	AVG Level [dBµV/m]	AVG Limit [dBµV/m]	AVG Margin [dB]	Correction [dB]	Polarization
1	1,521.300	39.11	54.00	14.89	0.93	V
2	4,921.750	45.25	54.00	8.75	10.12	V
2	6,268.000	48.67	54.00	5.33	15.06	V
2	7,687.750	50.09	54.00	3.91	15.98	V
3	9,915.500	41.30	54.00	12.70	6.16	V
3	17,867.500	36.72	54.00	17.28	15.73	V

Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	Correction [dB]	Polarization
1	1,521.300	49.39	74.00	24.61	0.93	V
2	4,921.750	57.43	74.00	16.57	10.12	V
2	6,268.000	59.53	74.00	14.47	15.06	V
2	7,687.750	60.59	74.00	13.41	15.98	V
3	9,915.500	41.47	74.00	32.53	6.16	V
3	17,867.500	48.51	74.00	25.49	15.73	V



Rg	Frequency [MHz]	AVG Level [dBµV/m]	AVG Limit [dBµV/m]	AVG Margin [dB]	Correction [dB]	Polarization
1	1,367.900	40.68	54.00	13.32	0.44	H
2	4,880.250	46.50	54.00	7.50	10.03	H
2	6,265.500	48.72	54.00	5.28	15.06	H
2	7,271.750	50.16	54.00	3.84	15.47	H
3	9,748.000	41.49	54.00	12.51	6.35	H
3	17,868.500	36.67	54.00	17.33	15.72	H

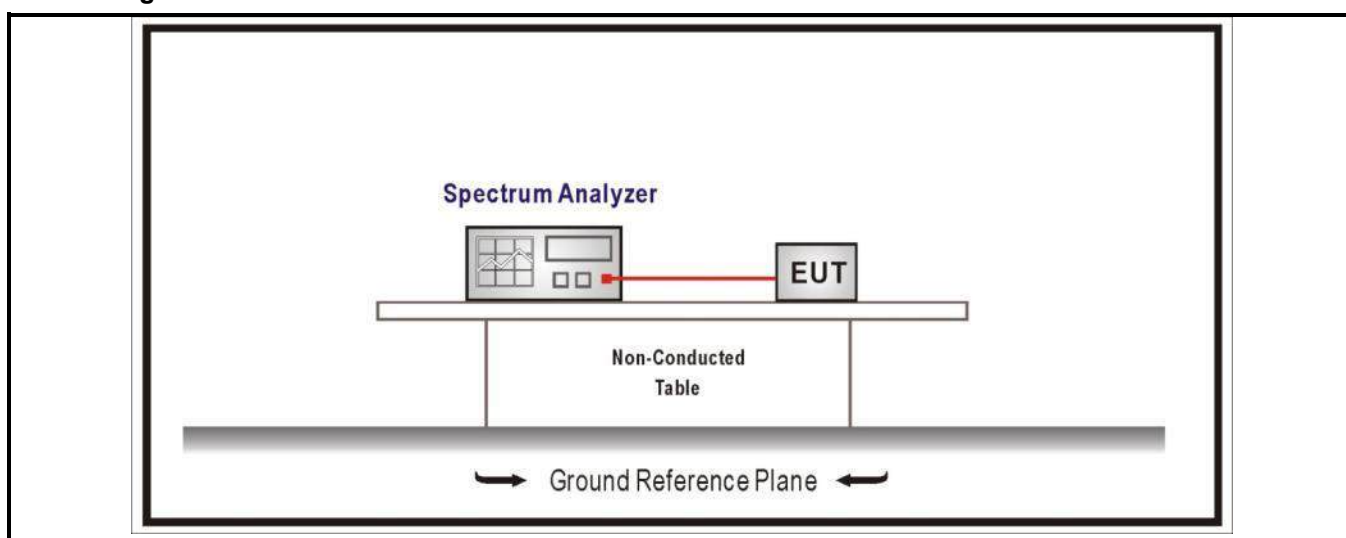
Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	Correction [dB]	Polarization
1	1,367.900	48.99	74.00	25.01	0.44	H
2	4,880.250	57.36	74.00	16.64	10.03	H
2	6,265.500	59.33	74.00	14.67	15.06	H
2	7,271.750	59.87	74.00	14.13	15.47	H
3	9,748.000	40.55	74.00	33.45	6.35	H
3	17,868.500	47.58	74.00	26.42	15.72	H

4.3	20dB Bandwidth and 99% Bandwidth	VERDICT: PASS
-----	---	----------------------

Limit

Standard	FCC Part 15 Subpart C Paragraph 15.247(a)(1)
For frequency hopping systems operating in 2400-2483.5 MHz band, within frequency range.	
Standard	RSS-Gen Issue 5 Section 6.7 & RSS-247 Issue 3 Section 5.1(a)
The occupied bandwidth or the "99% emission bandwidth" is defined as the frequency range between two points, one above and the other below the carrier frequency, within which 99% of the total transmitted power of the fundamental transmitted emission is contained. The occupied bandwidth shall be reported for all equipment in addition to the specified bandwidth required in the applicable RSSs. The occupied bandwidth should within the required frequency range.	
The bandwidth of a frequency hopping channel is the 20 dB emission bandwidth, measured with the hopping stopped.	

Test Configuration



Performed measurements

Port under test	Antenna port	
Test method applied	☒	Conducted measurement
	☐	Radiated measurement
Test setup	Refer to the Annex 3 for test setup photo(s).	
Operating mode(s) used	Mode 1	
Remark	---	

Results

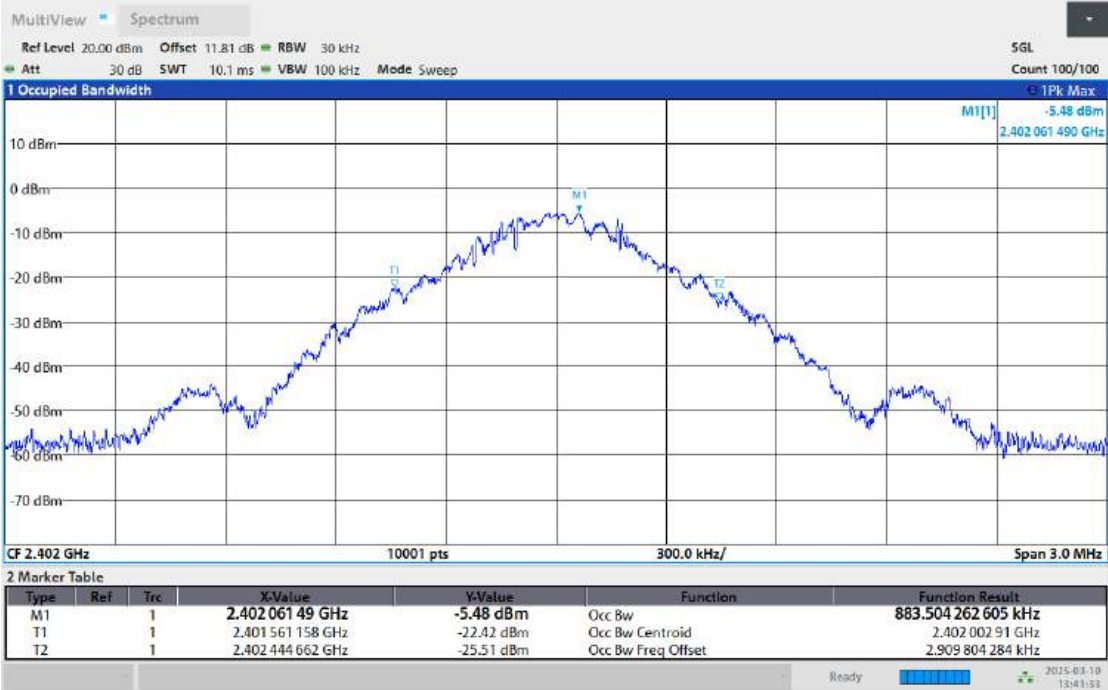
Mode	CH.	Test Freq. (MHz)	20dB Bandwidth (MHz)	99% Bandwidth (MHz)
GFSK	00	2402	0.984	0.884
	39	2441	0.984	0.890
	78	2480	0.995	0.886
8-DPSK	00	2402	1.289	1.186
	39	2441	1.291	1.184
	78	2480	1.294	1.183

20dB Bandwidth and 99% Bandwidth
2402MHz, GFSK
20dB Bandwidth



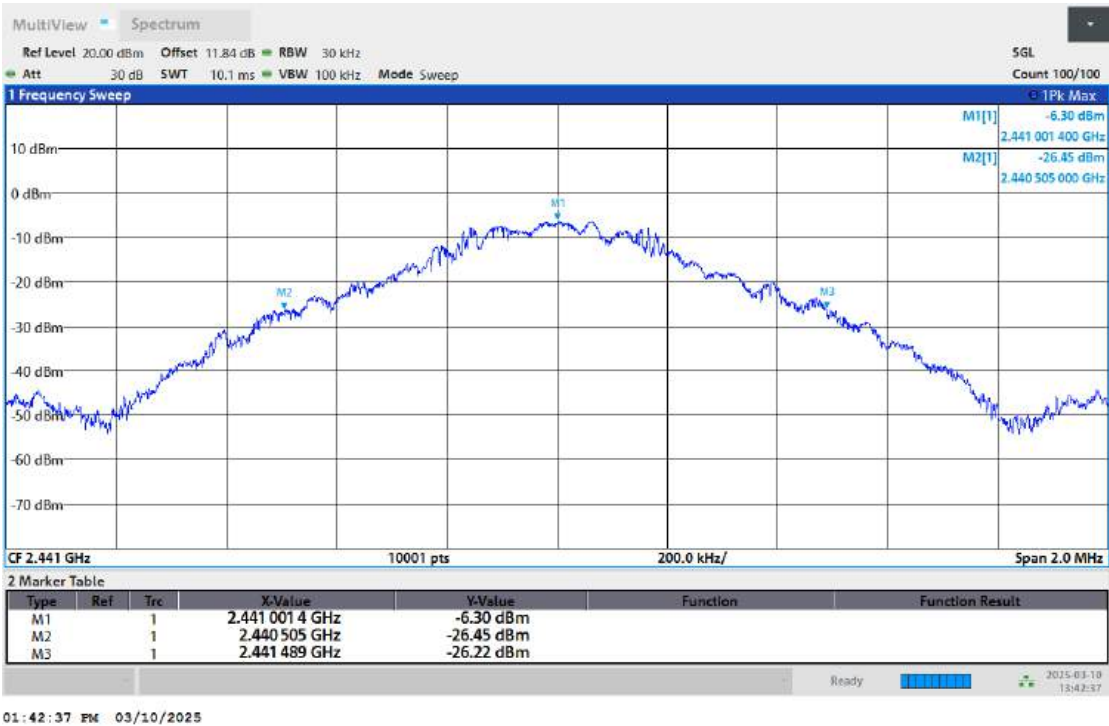
01:41:40 PM 03/10/2025

99% Bandwidth

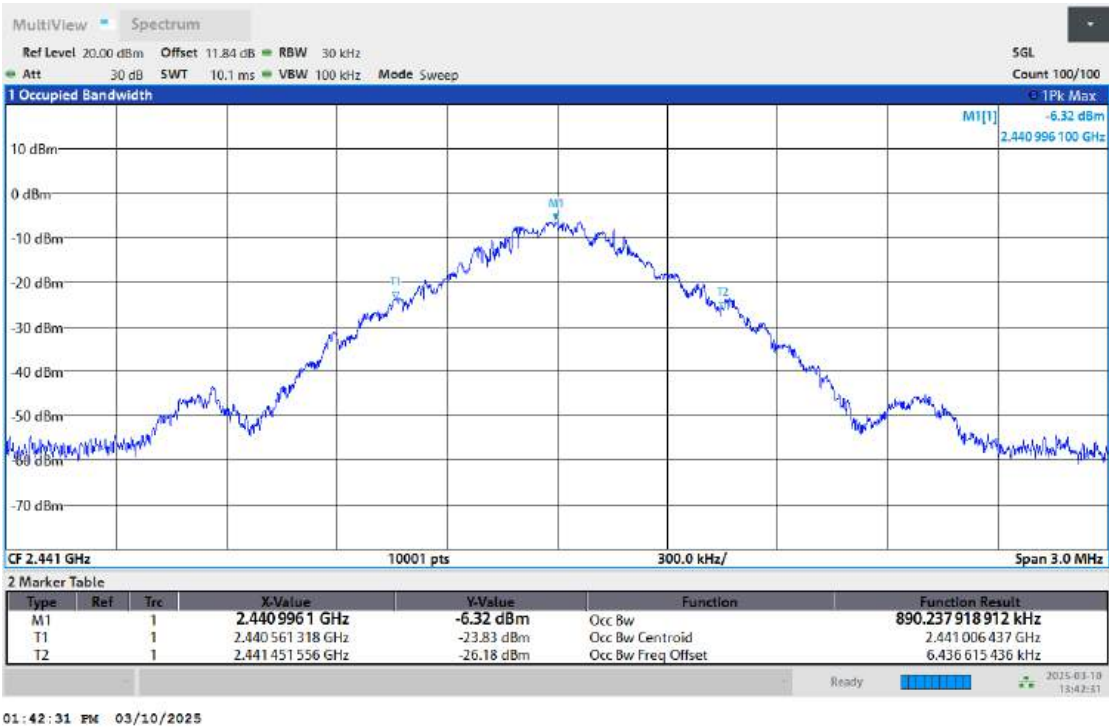


01:41:34 PM 03/10/2025

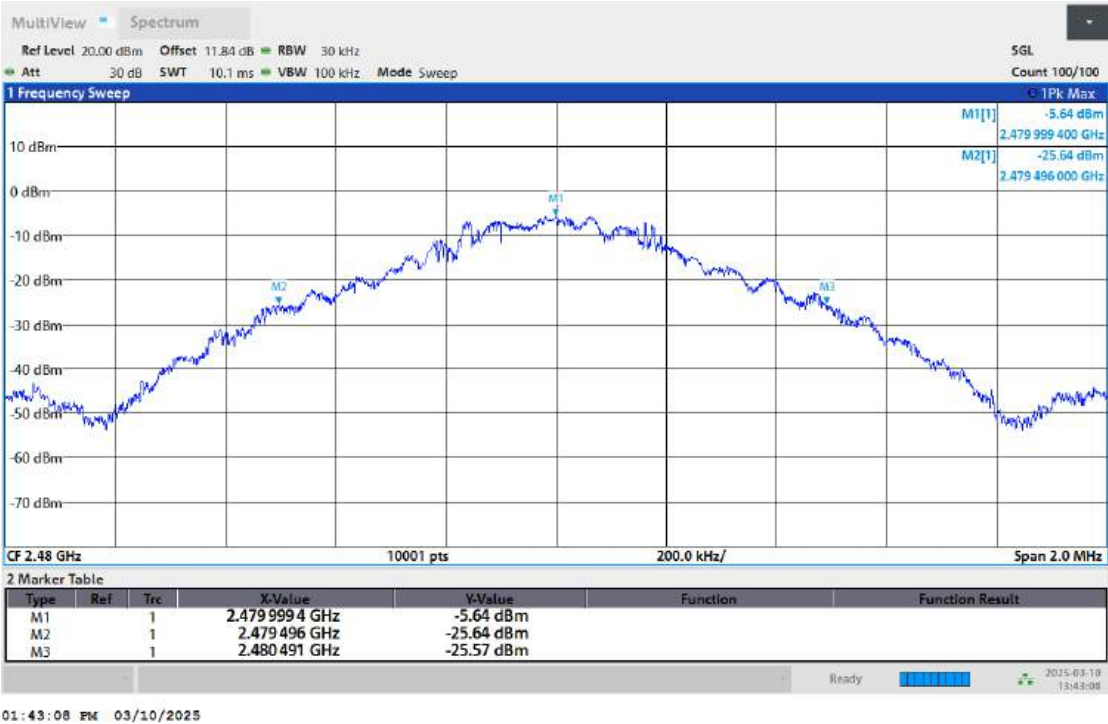
2441MHz, GFSK
20dB Bandwidth



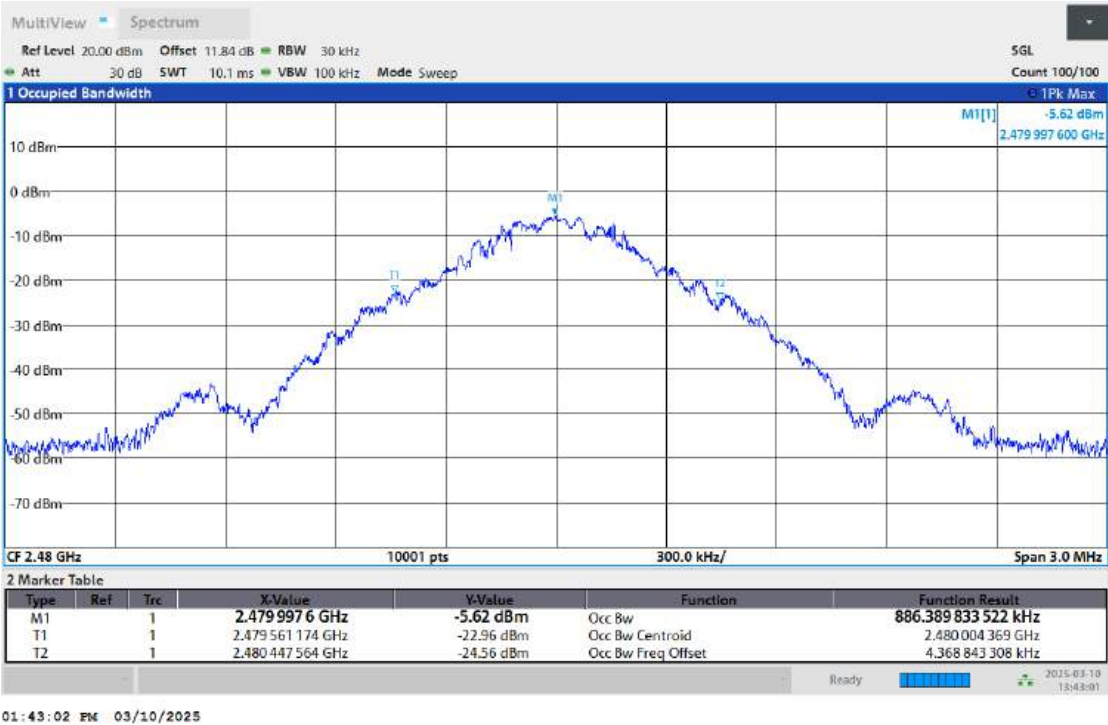
99% Bandwidth



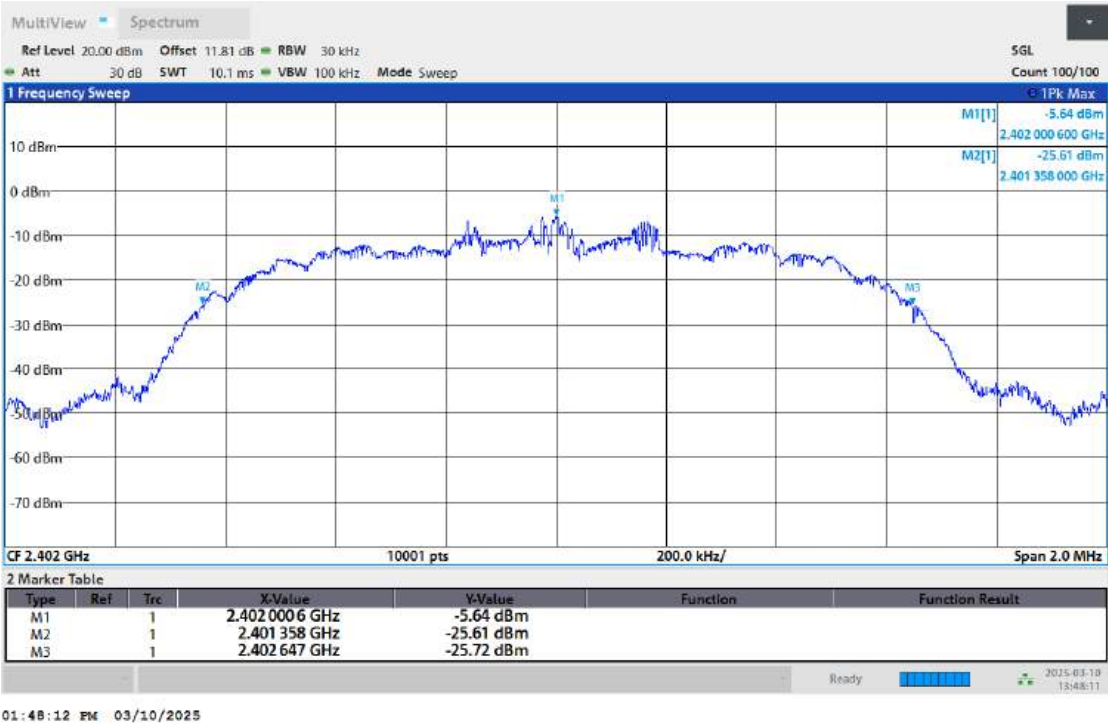
2480MHz, GFSK
20dB Bandwidth



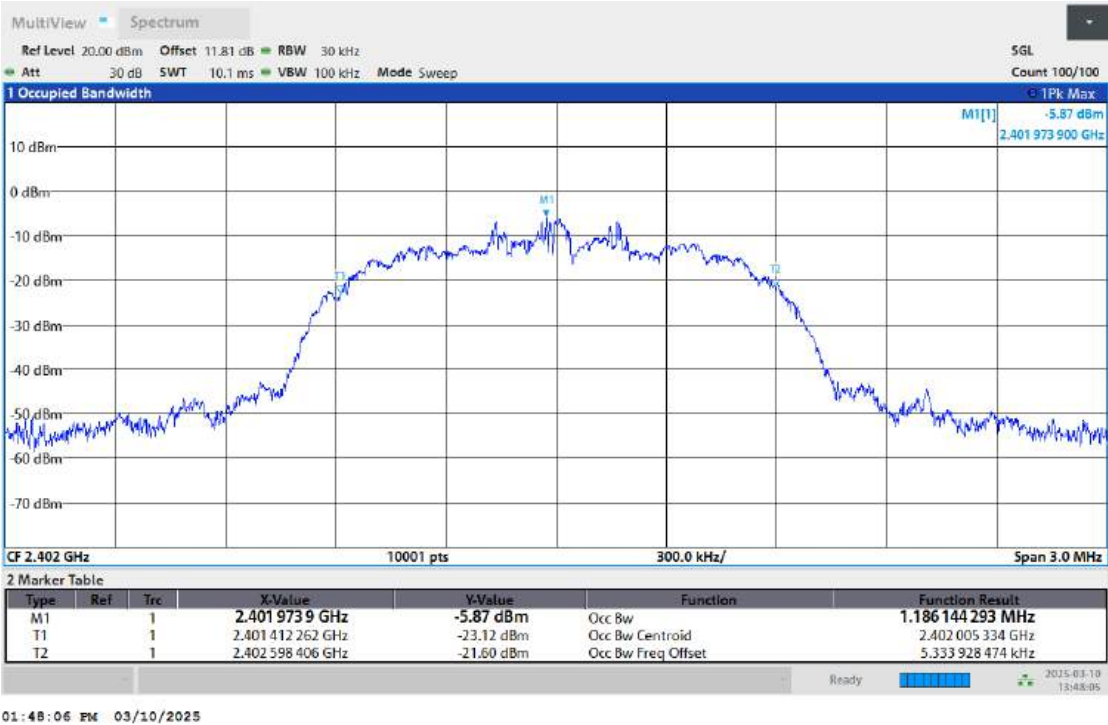
99% Bandwidth



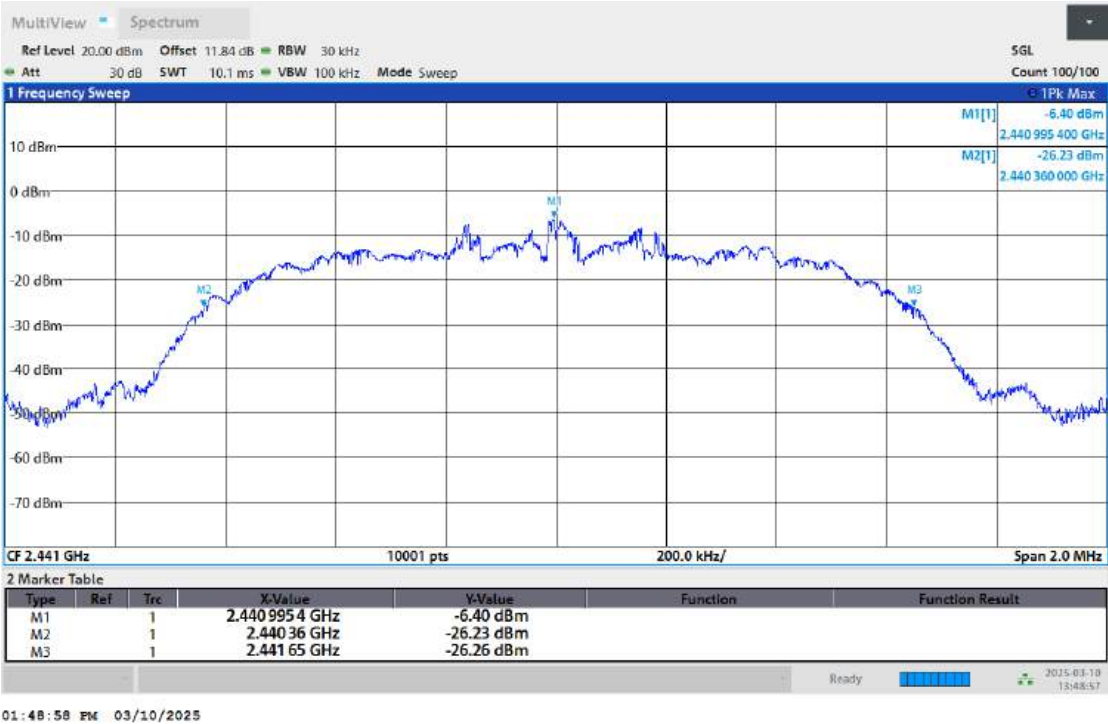
2402MHz, 8-DPSK
20dB Bandwidth



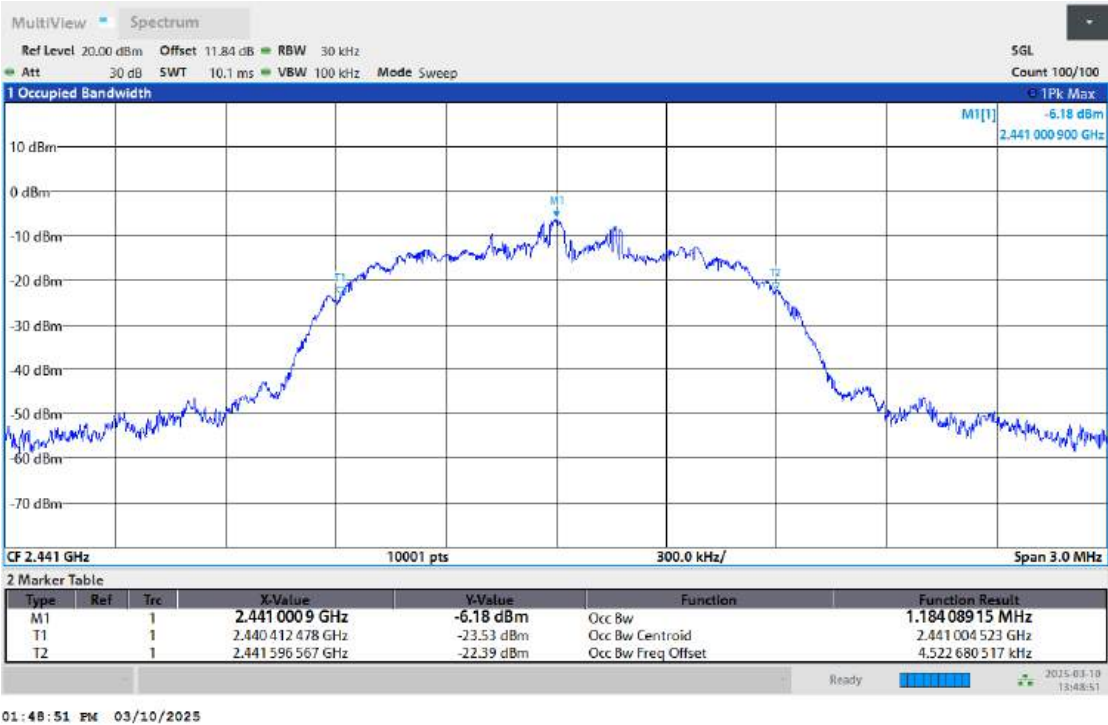
99% Bandwidth



2441MHz, 8-DPSK
20dB Bandwidth



99% Bandwidth



2480MHz, 8-DPSK
20dB Bandwidth



01:49:24 PM 03/10/2025

99% Bandwidth



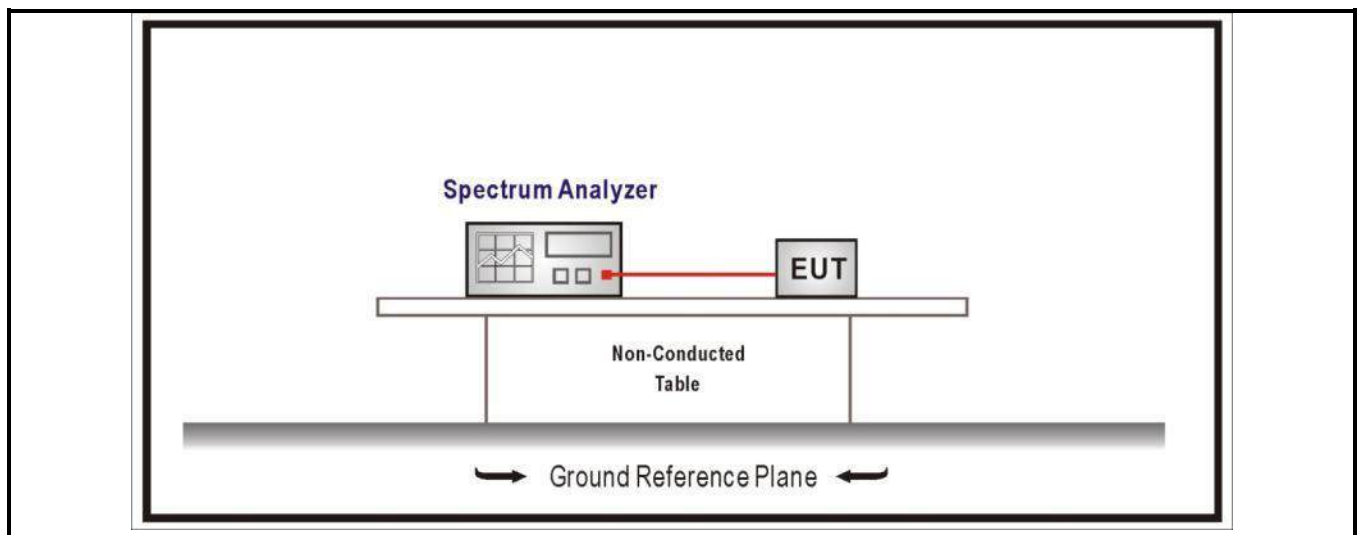
01:49:18 PM 03/10/2025

4.4	Carrier Frequency Separation	VERDICT: PASS
------------	-------------------------------------	----------------------

Limit

Standard	FCC Part 15 Subpart C Paragraph 15.247(a)(1) & RSS-247 Issue 3 Section 5.1(b)
☐	Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.
☒	Frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping

Test Configuration



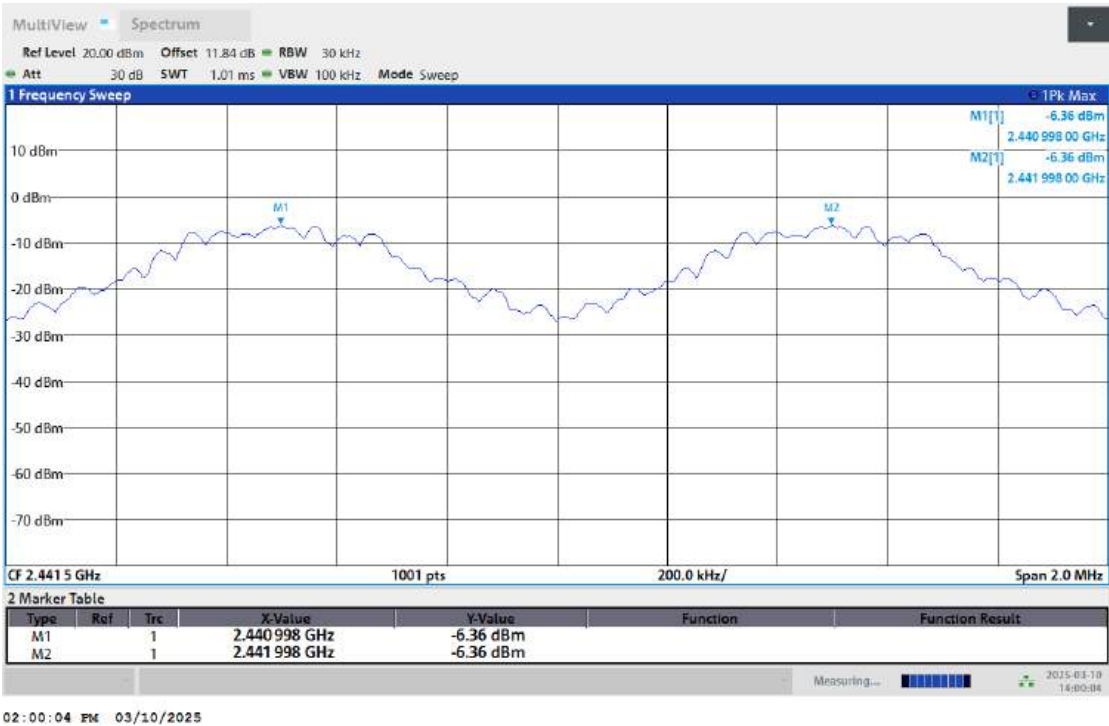
Performed measurements

Port under test	Antenna port	
Test method applied	☒	Conducted measurement
	☐	Radiated measurement
Test setup	Refer to the Annex 3 for test setup photo(s).	
Operating mode(s) used	Mode 2	
Remark	---	

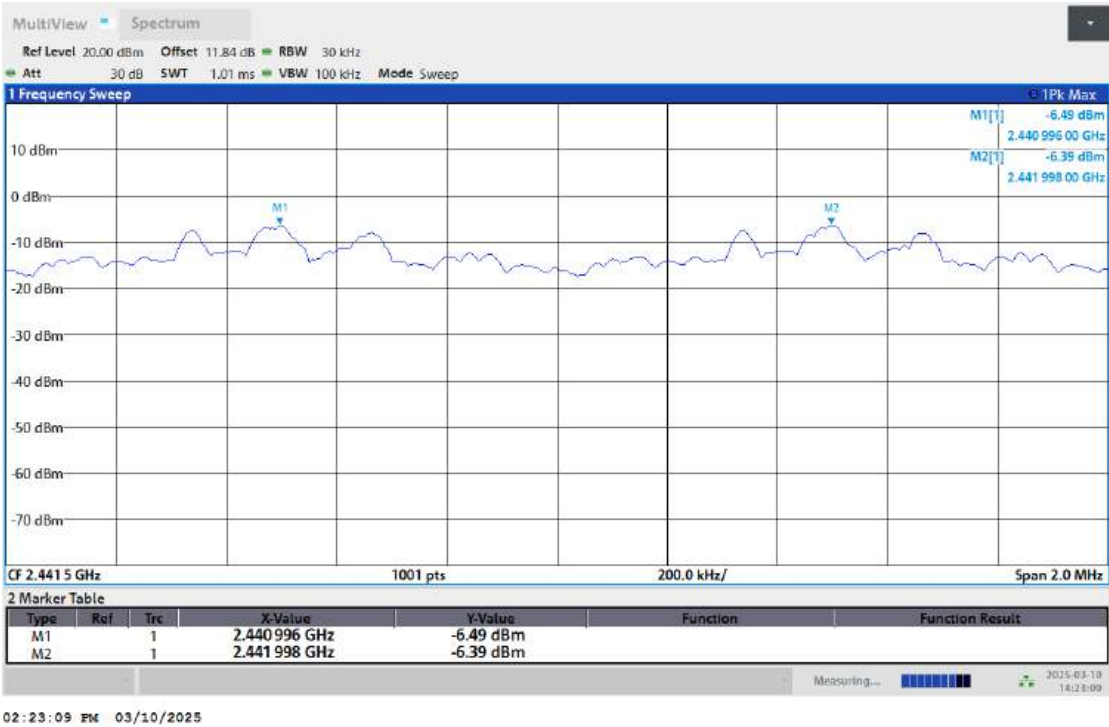
Results

Mode	CH.	Test Freq. (MHz)	Carrier Frequency Separation (MHz)	Limit (MHz)	Result
Hopping- GFSK	39	2441	1.000	≥ 25kHz or two-thirds of 20dB bandwidth	PASS
Hopping- 8-DPSK	39	2441	1.002	≥ 25kHz or two-thirds of 20dB bandwidth	PASS

Carrier Frequency Separation
Hopping Mode, GFSK



Hopping Mode, 8-DPSK

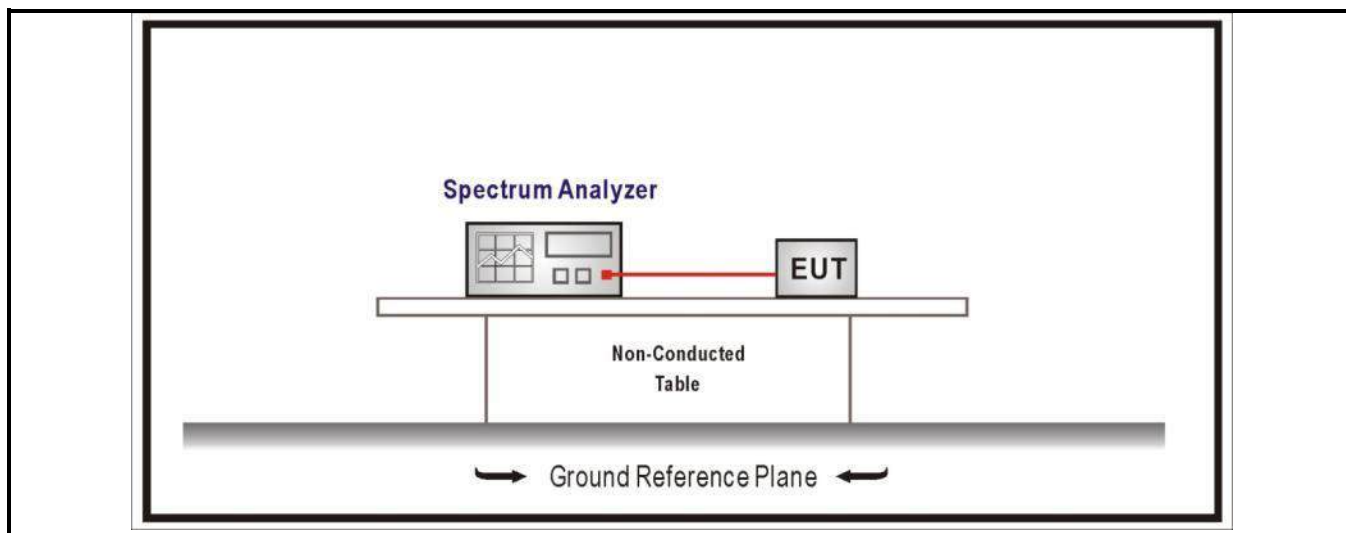


4.5	Number of Hopping Frequencies	VERDICT: PASS
------------	--------------------------------------	----------------------

Limit

Standard	FCC Part 15 Subpart C Paragraph 15.247(a)(1)(iii) & RSS-247 Issue 3 Section 5.1(d)
☒	For frequency hopping systems operating in the 2400-2483.5 MHz band shall use at least 15 hopping frequencies.
☐	For frequency hopping systems operating in 902-928 MHz band, if the 20 dB bandwidth of the hopping channel is less than 250 kHz, shall use at least 50 hopping frequencies.
☐	For frequency hopping systems operating in 902-928 MHz band, if the 20 dB bandwidth of the hopping channel is higher than 250 kHz, shall use at least 25 hopping frequencies.
☐	For frequency hopping systems operating in the 5725-5850 MHz band shall use at least 75 hopping frequencies.

Test Configuration



Performed measurements

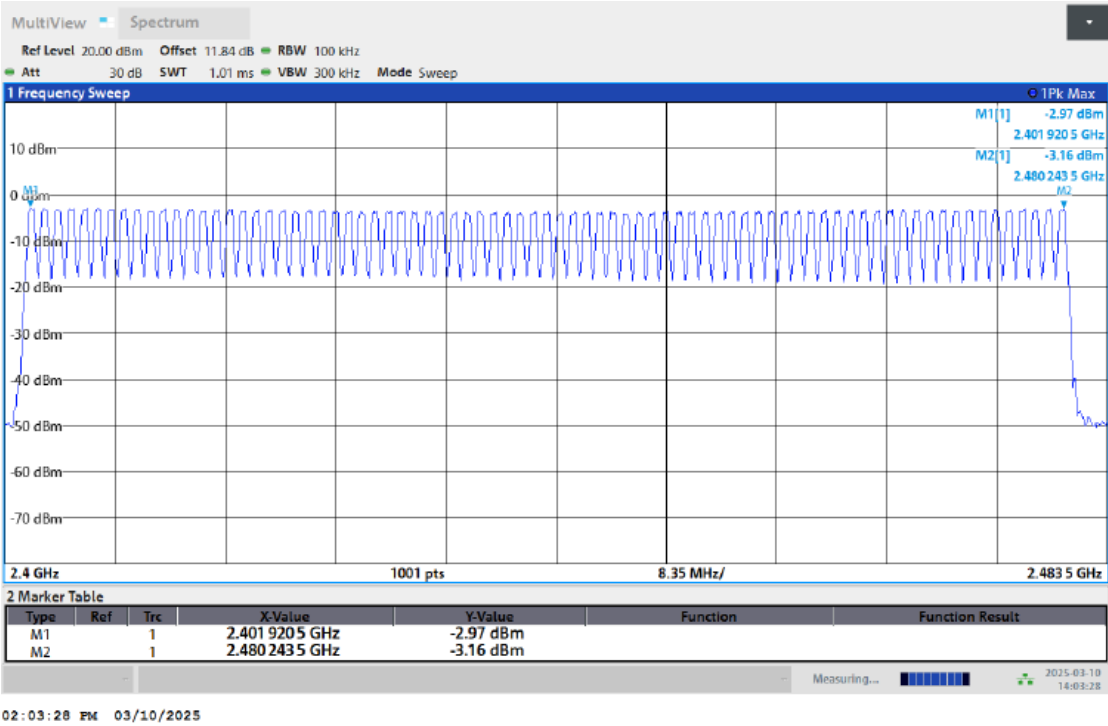
Port under test	Antenna port
Test method applied	☒ Conducted measurement
	☐ Radiated measurement
Test setup	Refer to the Annex 3 for test setup photo(s).
Operating mode(s) used	Mode 2
Remark	---



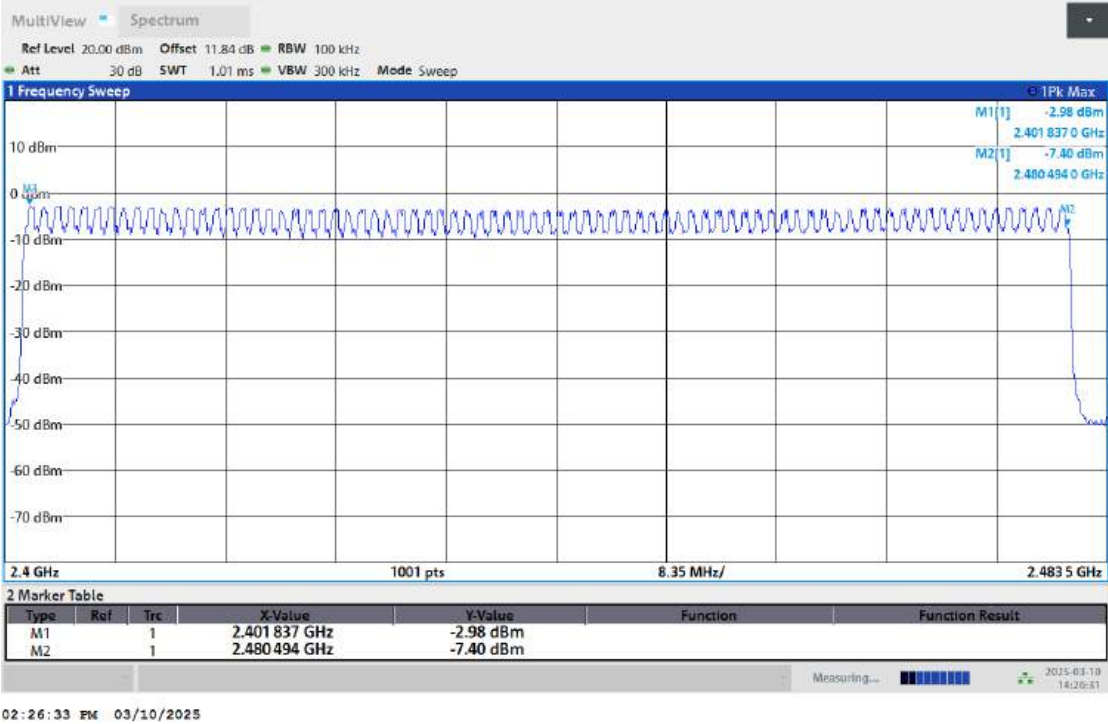
Results

Mode	Number of Hopping Frequencies	Limit	Result
Hopping-GFSK	79	>15	Pass
Hopping-8-DPSK	79	>15	Pass

Number of Hopping Frequencies
Hopping Mode, GFSK



Hopping Mode, 8-DPSK

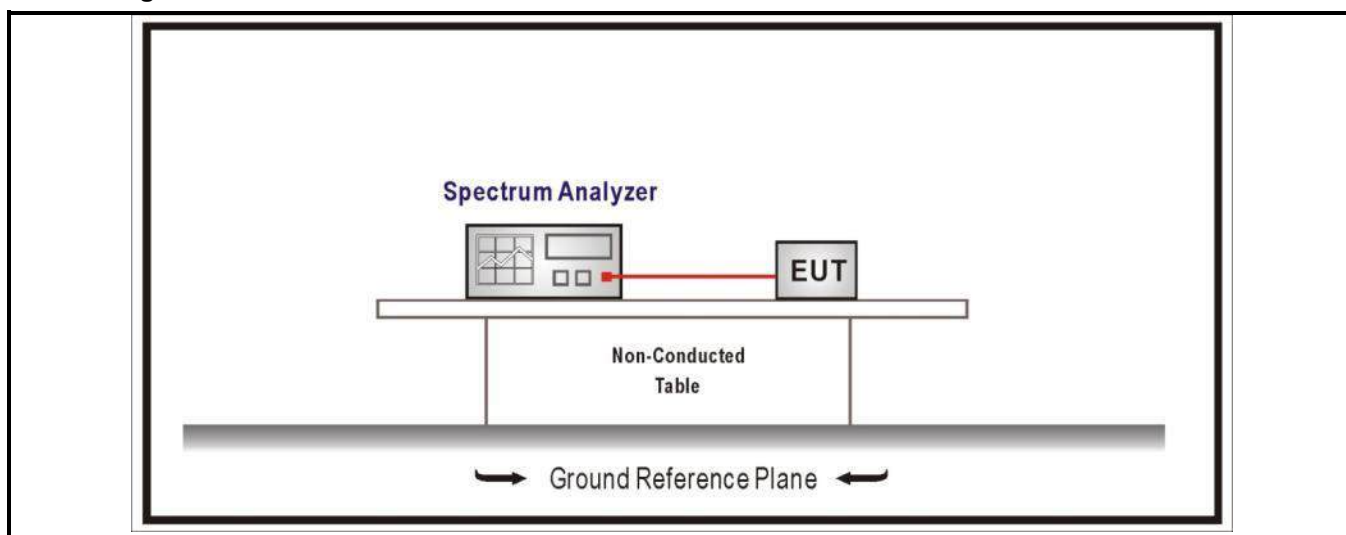


4.6	Time of Occupancy(Dwell Time)	VERDICT: PASS
-----	-------------------------------	---------------

Limit

Standard	FCC Part 15 Subpart C Paragraph 15.247(a)(1)(iii) & RSS-247 Issue 3 Section 5.1(d)
☒	Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.
☐	For frequency hopping systems operating in the 902-928 MHz band: if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 20 second
☐	For frequency hopping systems operating in the 902-928 MHz band: if the 20 dB bandwidth of the hopping channel is 250 kHz or greater, the system shall use at least 25 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 10 second
☐	Frequency hopping systems operating in the 5725-5850 MHz band shall use at least 75 hopping frequencies. The maximum 20 dB bandwidth of the hopping channel is 1 MHz. The average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 30 second period.

Test Configuration



Performed measurements

Port under test	Antenna port	
Test method applied	☒	Conducted measurement
	☐	Radiated measurement
Test setup	Refer to the Annex 3 for test setup photo(s).	
Operating mode(s) used	Mode 2	
Remark	---	

Results

Mode	Packet Type	Pulse Time (ms)	Total of Dwell (ms)	Burst Count	Limit (ms)	Result
Hopping-GFSK	DH1	0.382	121.476	318	< 400	Pass
	DH3	1.638	265.356	162	< 400	Pass
	DH5	2.886	314.574	109	< 400	Pass
Hopping-8-DPSK	DH1	0.391	124.729	319	< 400	Pass
	DH3	1.643	259.594	158	< 400	Pass
	DH5	2.893	318.23	110	< 400	Pass

Note:

For DH1 package type:

Total of Dwell = Pulse Time*(1600/2)/Number of Hopping Frequency*Period

Period = 0.4* Number of Hopping Frequency

For DH3 package type:

Total of Dwell = Pulse Time*(1600/4)/Number of Hopping Frequency*Period

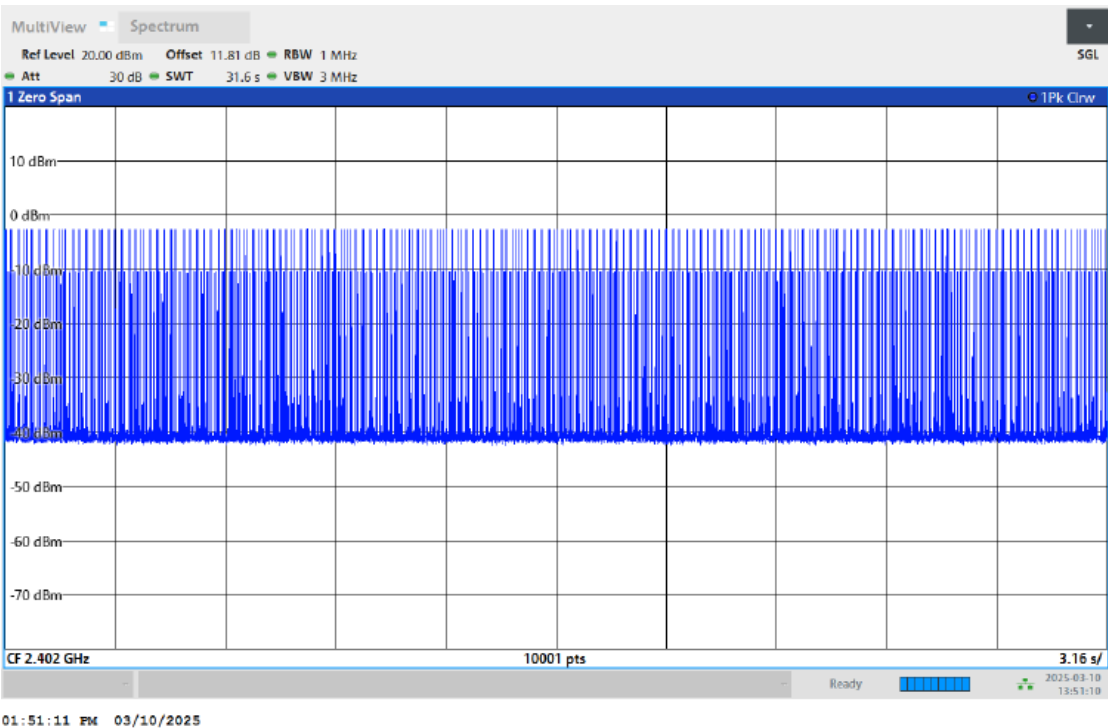
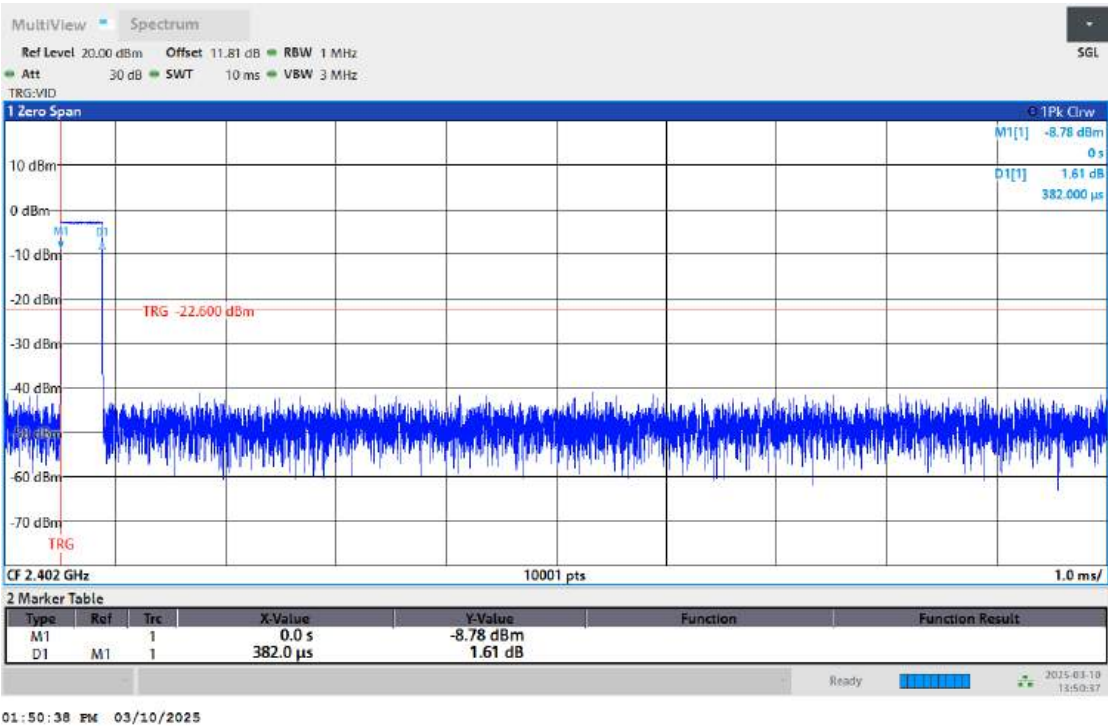
Period = 0.4* Number of Hopping Frequency

For DH5 package type:

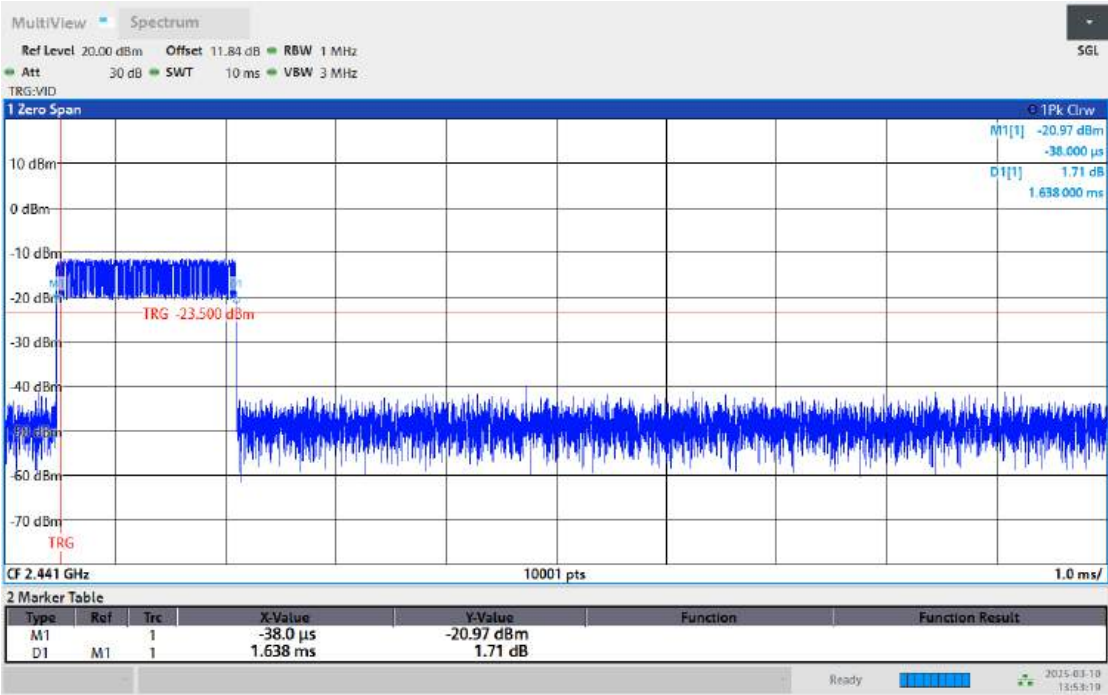
Total of Dwell = Pulse Time*(1600/6)/Number of Hopping Frequency*Period

Period = 0.4* Number of Hopping Frequency

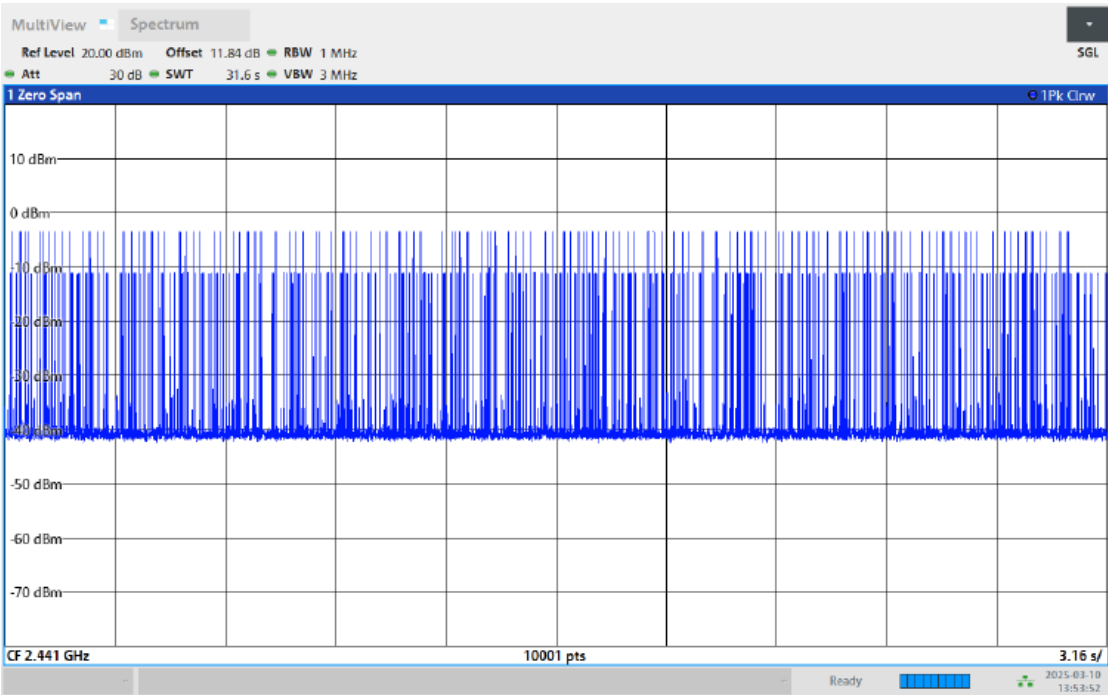
Time of Occupancy
Hopping Mode, GFSK
DH1



DH3

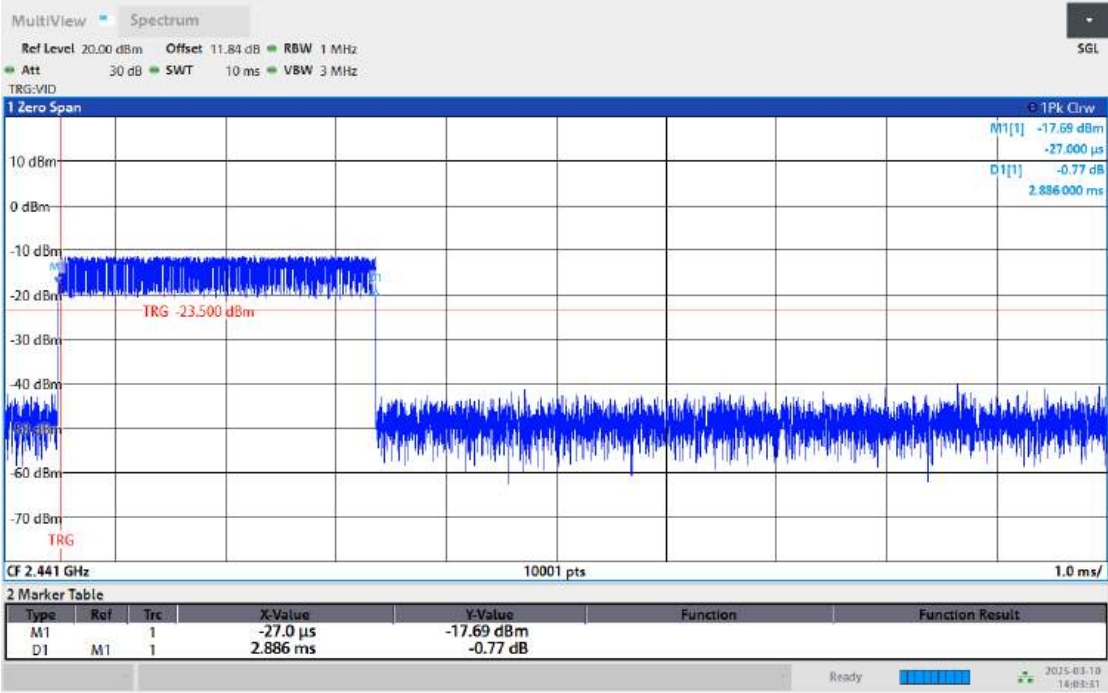


01:53:20 PM 03/10/2025

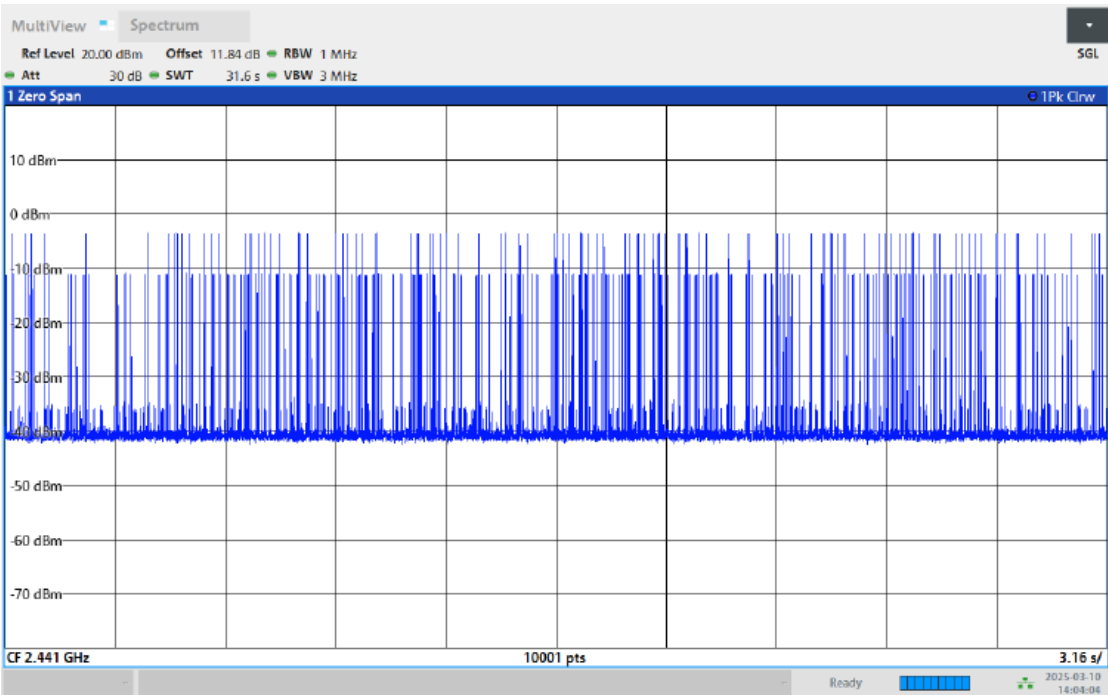


01:53:53 PM 03/10/2025

DH5

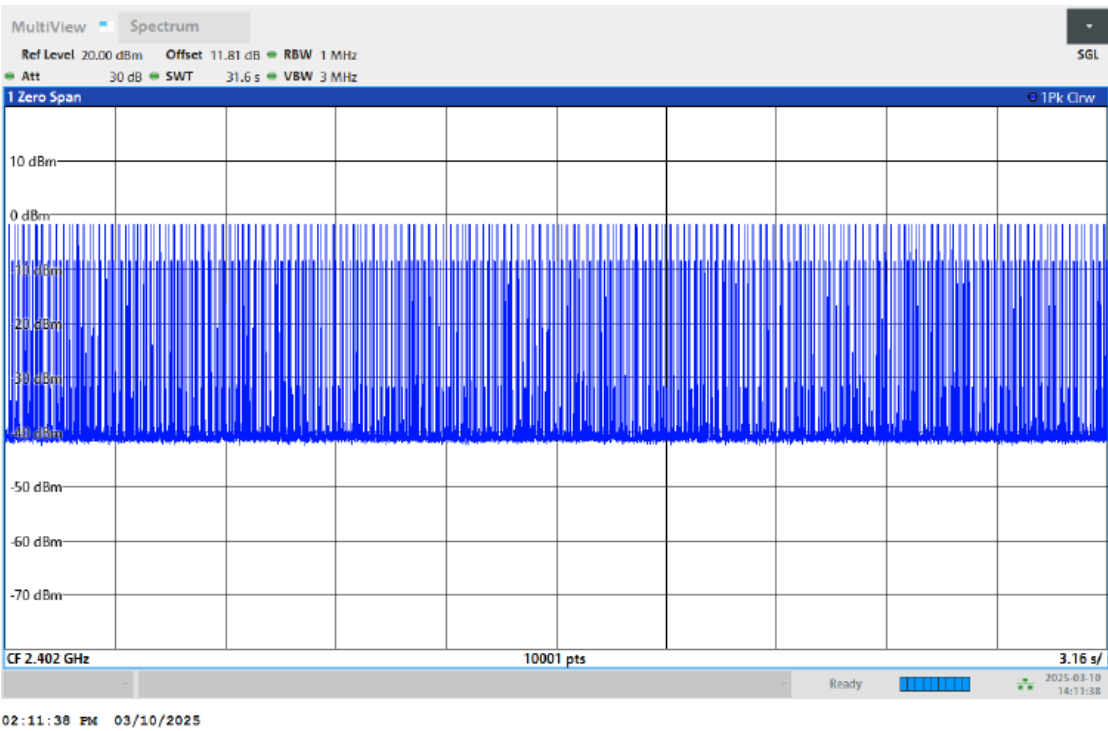
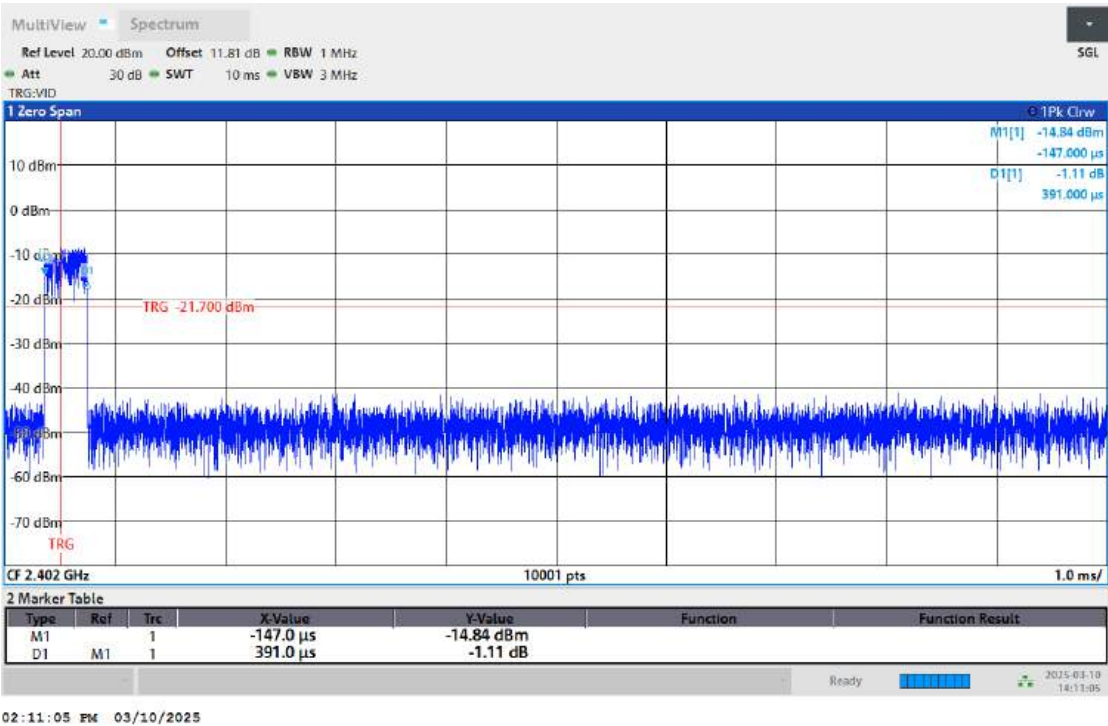


02:03:32 PM 03/10/2025

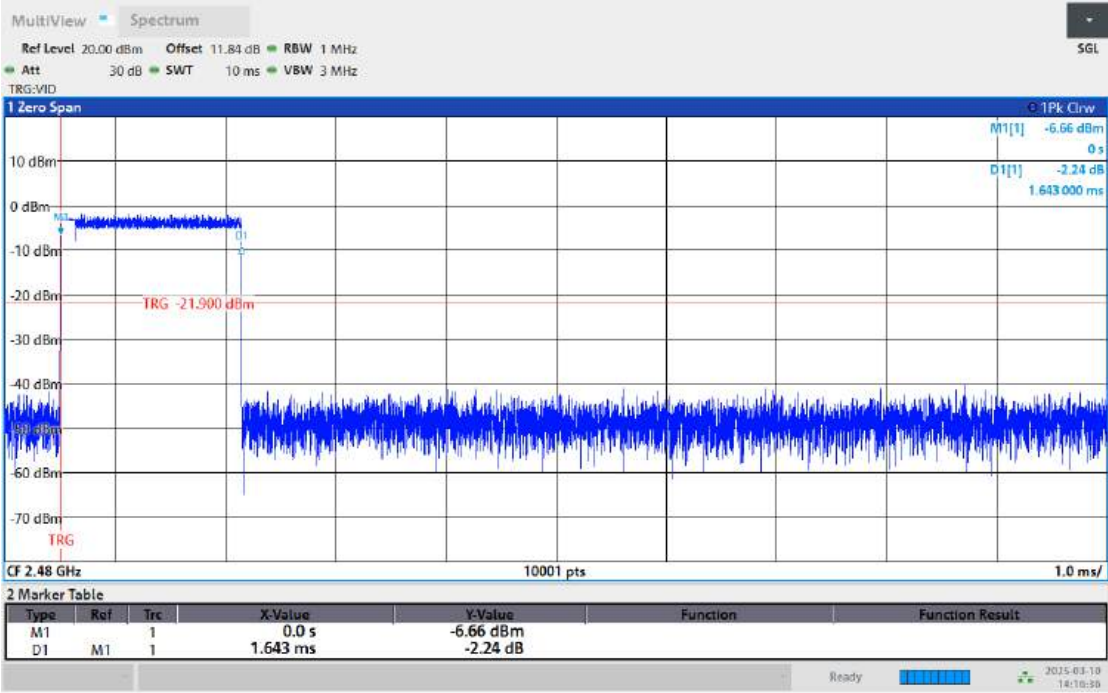


02:04:05 PM 03/10/2025

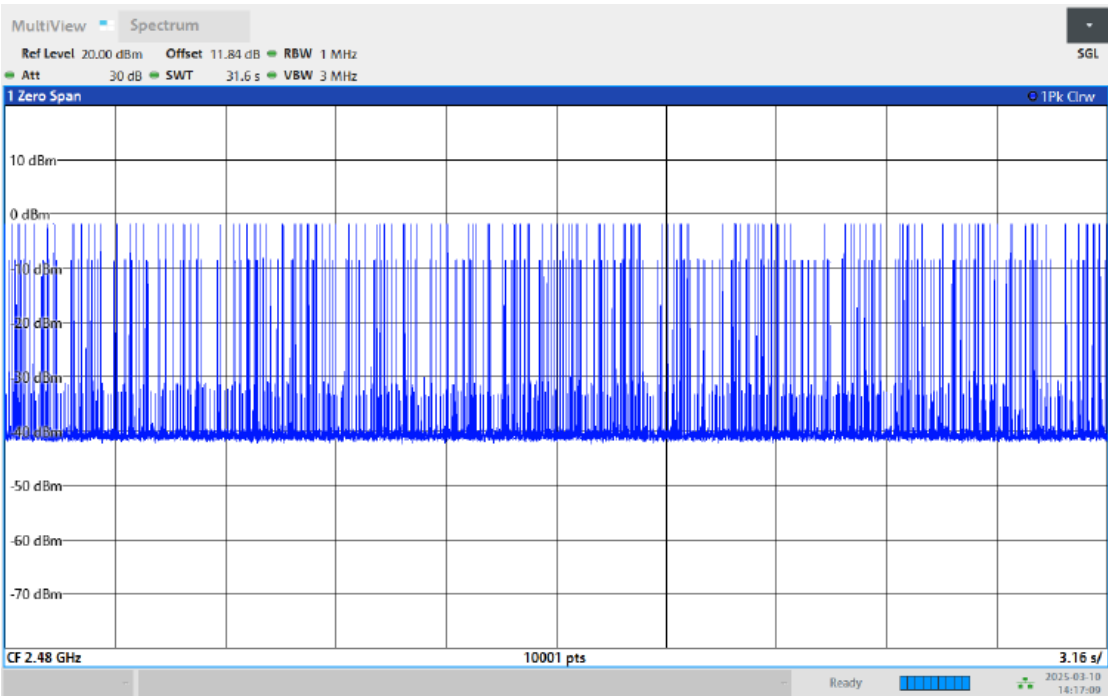
Hopping Mode, 8-DPSK
DH1



DH3

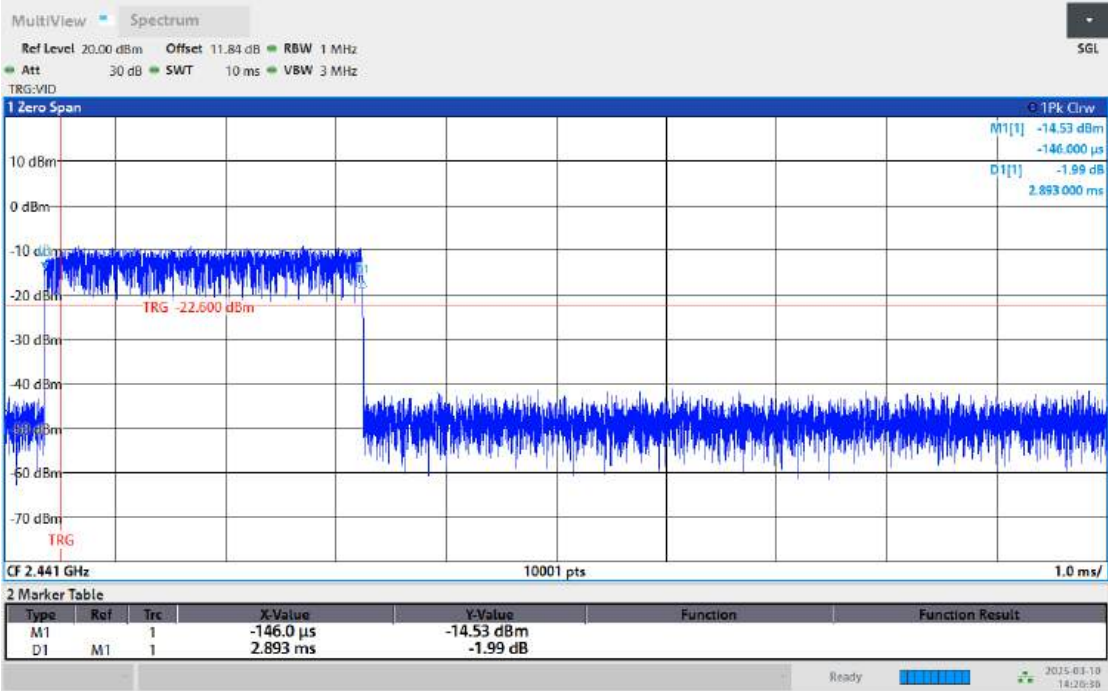


02:16:37 PM 03/10/2025

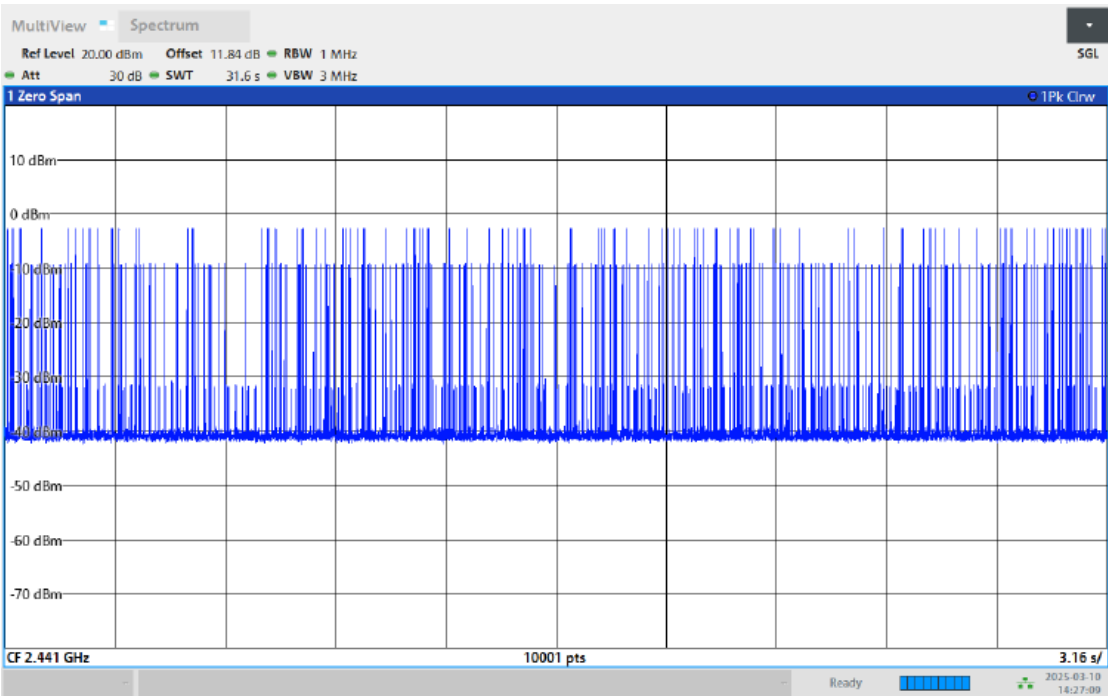


02:17:10 PM 03/10/2025

DH5



02:26:37 PM 03/10/2025



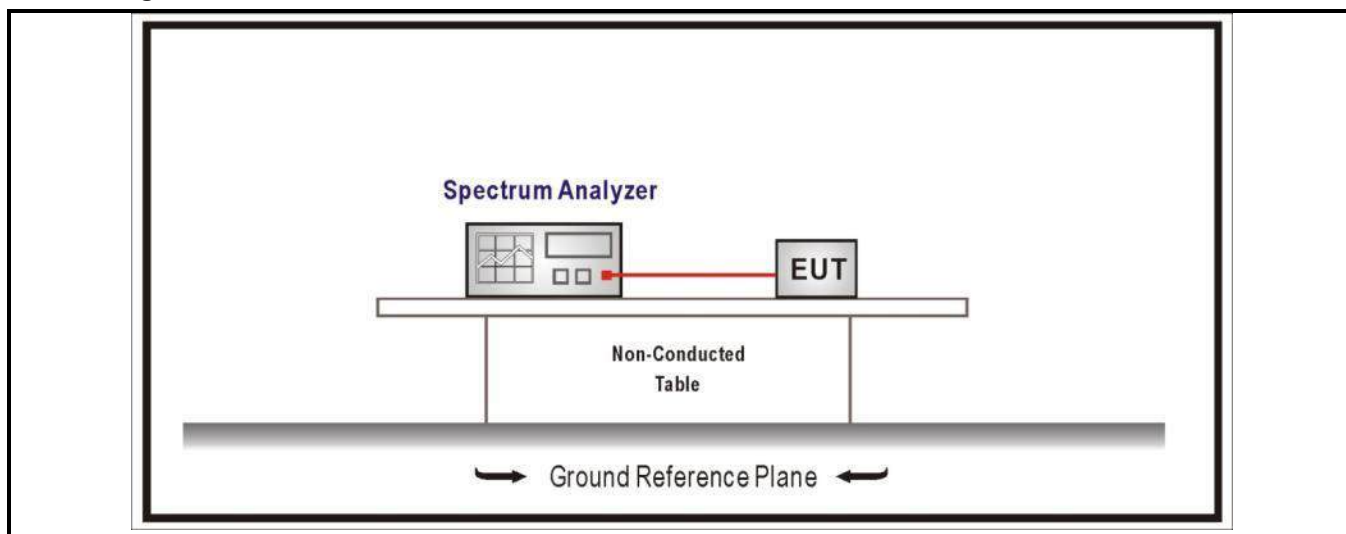
02:27:10 PM 03/10/2025

4.7	Peak Output Power	VERDICT: PASS
------------	--------------------------	----------------------

Limit

Standard	FCC Part 15 Subpart C Paragraph 15.247 (a)(1), 15.247 (b)(1)(2)
☒	Frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.
☒	Frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.
☐	For frequency hopping systems operating in the 902-928 MHz band: 1 watt for systems employing at least 50 hopping channels; and, 0.25 watts for systems employing less than 50 hopping channels, but at least 25 hopping channels
Standard	RSS-247 Issue 3 Section 5.4(b)
☐	For FHSs operating in the band 902-928 MHz, the maximum peak conducted output power shall not exceed 1.0 W, and the e.i.r.p. shall not exceed 4 W if the hopset uses 50 or more hopping channels; the maximum peak conducted output power shall not exceed 0.25 W and the e.i.r.p. shall not exceed 1 W if the hopset uses less than 50 hopping channels.
☒	For FHSs operating in the band 2400-2483.5 MHz, the maximum peak conducted output power shall not exceed 1.0 W if the hopset uses 75 or more hopping channels; the maximum peak conducted output power shall not exceed 0.125 W if the hopset uses less than 75 hopping channels. The e.i.r.p. shall not exceed 4 W, except as provided in section 5.4(e).
☐	For FHSs operating in the band 5725-5850 MHz, the maximum peak conducted output power shall not exceed 1 W, and the e.i.r.p. shall not exceed 4 W, except as provided in section 5.4(e).

Test Configuration



Performed measurements

Port under test	Antenna port	
Test method applied	☒	Conducted measurement
	☐	Radiated measurement
Test setup	Refer to the Annex 3 for test setup photo(s).	
Operating mode(s) used	Mode 1	
Remark	---	

Results

Mode	Channel	Test Frequency (MHz)	Output Power (dBm)	Output Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)	Result
GFSK	00	2402	-3.42	≤21	-0.73	≤36	Pass
	39	2441	-2.67	≤21	0.02	≤36	Pass
	78	2480	-1.81	≤21	0.88	≤36	Pass
π/4-DQPSK	00	2402	-1.70	≤21	0.99	≤36	Pass
	39	2441	-2.56	≤21	0.13	≤36	Pass
	78	2480	-1.86	≤21	0.83	≤36	Pass
8-DPSK	00	2402	-1.28	≤21	1.41	≤36	Pass
	39	2441	-2.21	≤21	0.48	≤36	Pass
	78	2480	-1.53	≤21	1.16	≤36	Pass

Note: EIRP = Output Power + Antenna Gain

4.8	Emissions in non-restricted frequency band	VERDICT: PASS
------------	---	----------------------

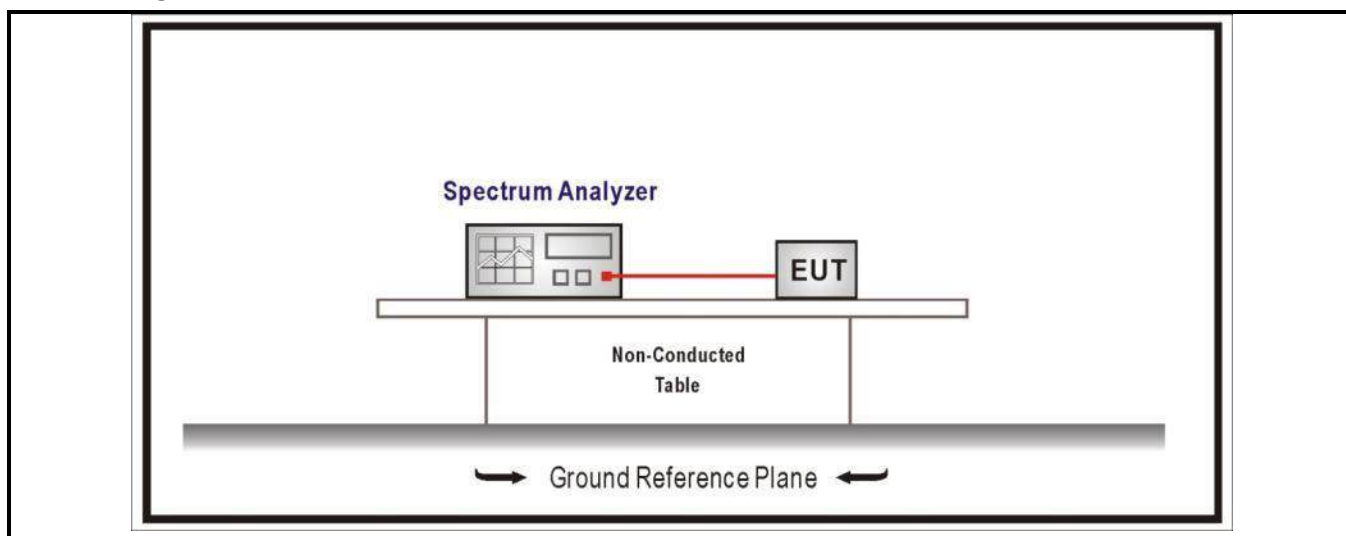
Limit

Standard	FCC Part 15 Subpart C Paragraph 15.247(d) & RSS-247 Issue 3 Section 5.5	
RF Output power (Detection methods)	Limit(dB)	
RF Output power(Average detector)	30dBc(Note1)	
RF Output power(PK detector)	20dBc(Note2)	

Note 1: If maximum conducted (average) output power was used to demonstrate compliance as described in 9.2, then the peak power in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum in-band peak PSD by Level in 100 kHz (i.e., 30 dBc).

Note 2: If the maximum peak conducted output power procedure was used, then the peak output power measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD by Level in 100 kHz (i.e., 20 dBc).

Test Configuration

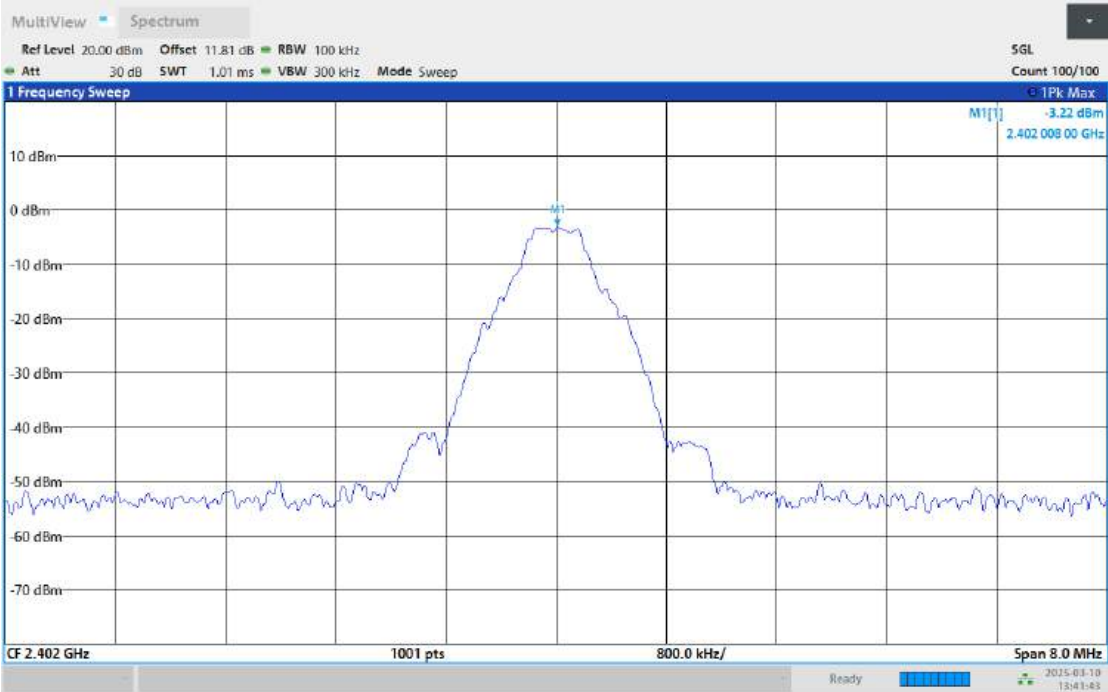


Performed measurements

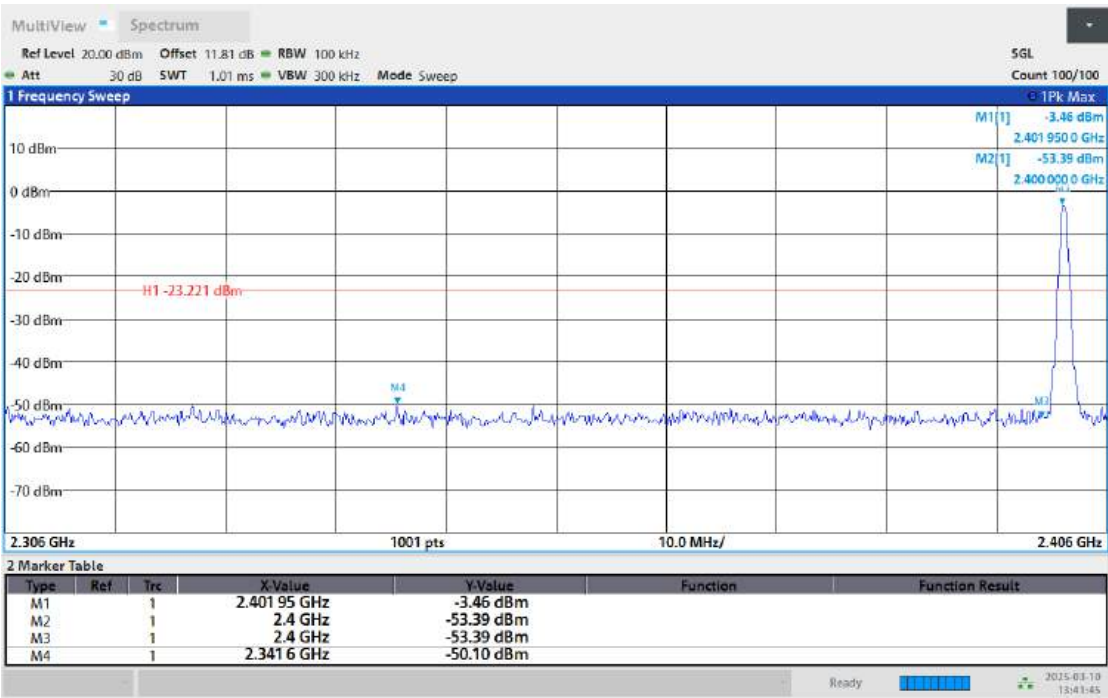
Port under test	Antenna port	
Test method applied	☒	Conducted measurement
	☐	Radiated measurement
Test setup	Refer to the Annex 3 for test setup photo(s).	
Operating mode(s) used	Mode 1	
Remark	---	

See next page

Results
Emissions in non-restricted frequency band
2402MHz, GFSK

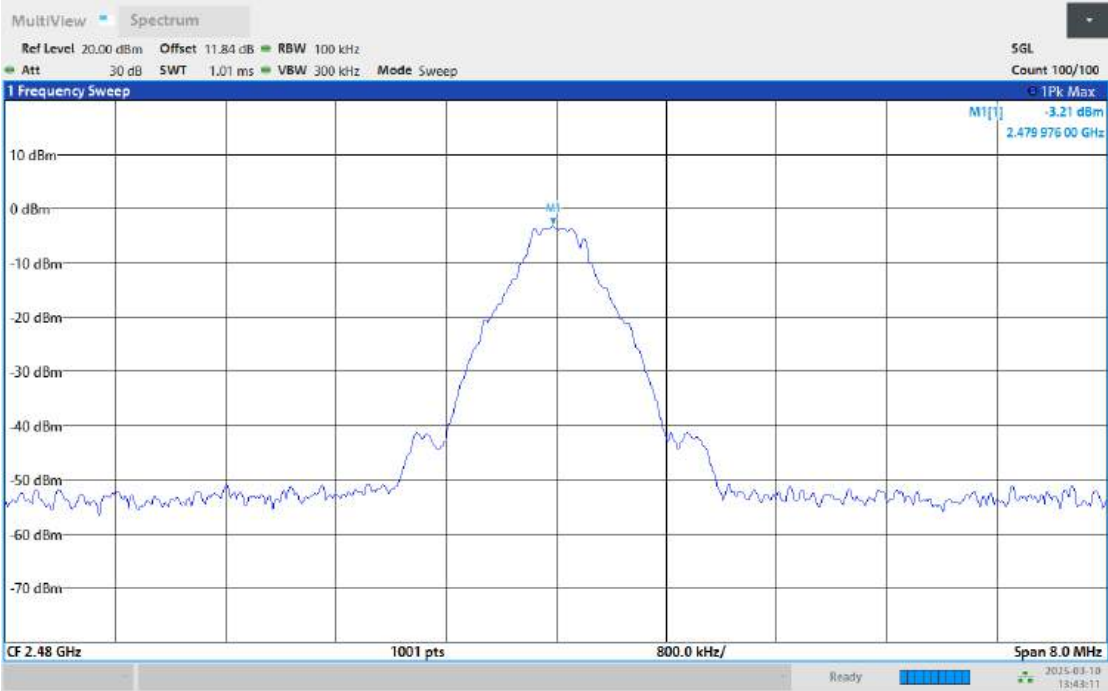


01:41:43 PM 03/10/2025

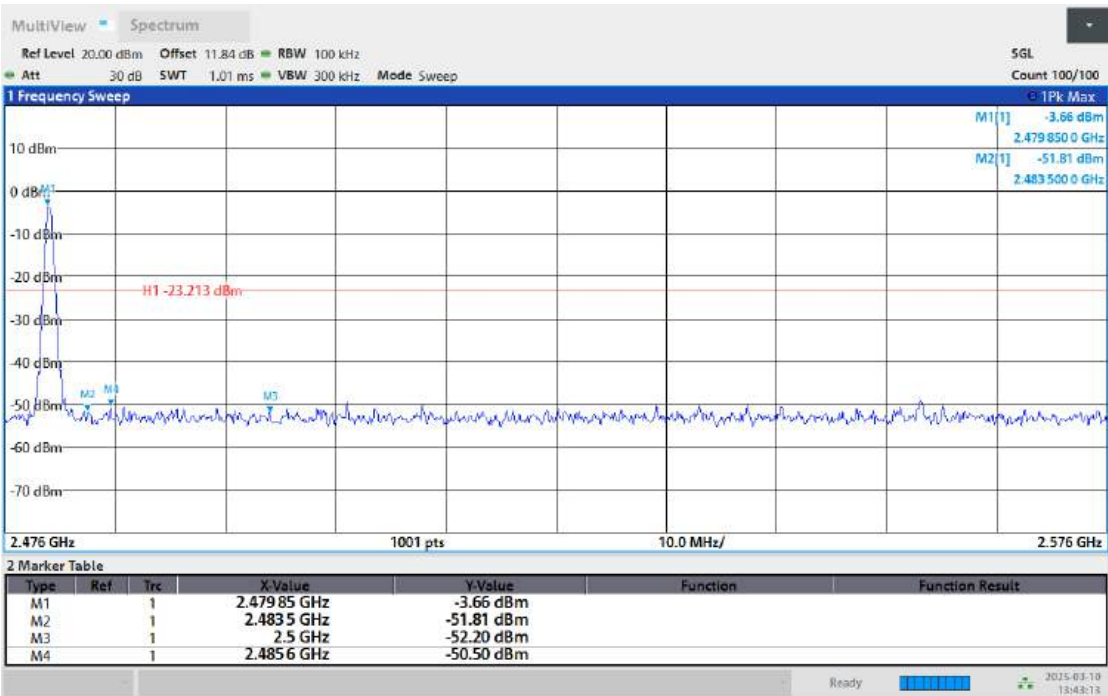


01:41:45 PM 03/10/2025

2480MHz, GFSK

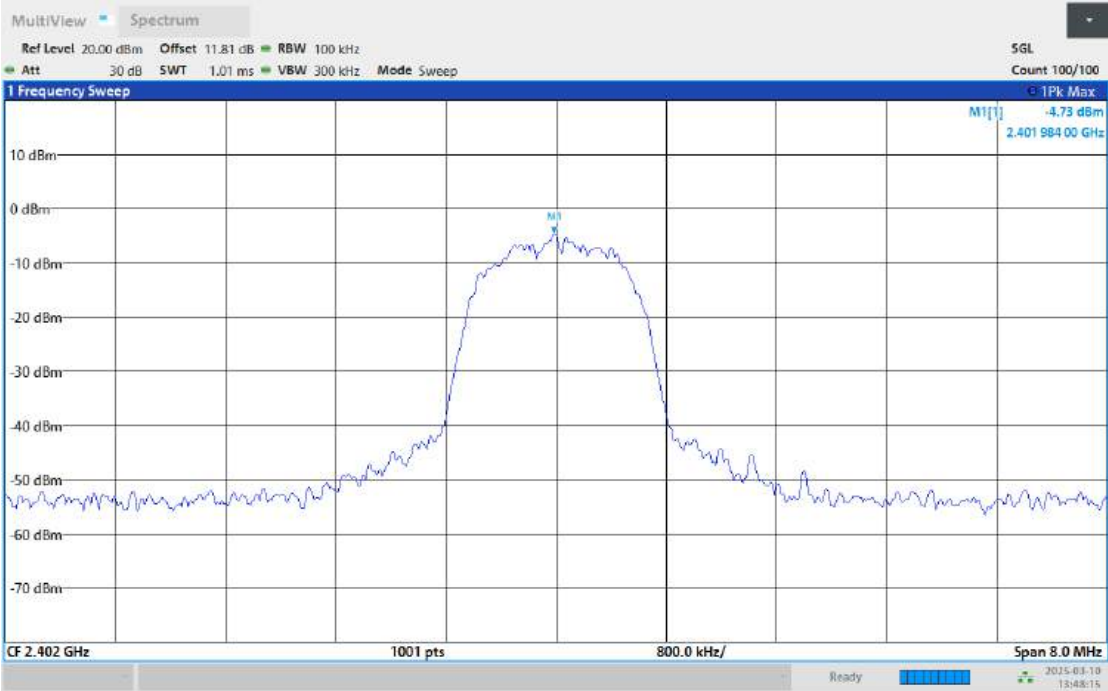


01:43:11 PM 03/10/2025

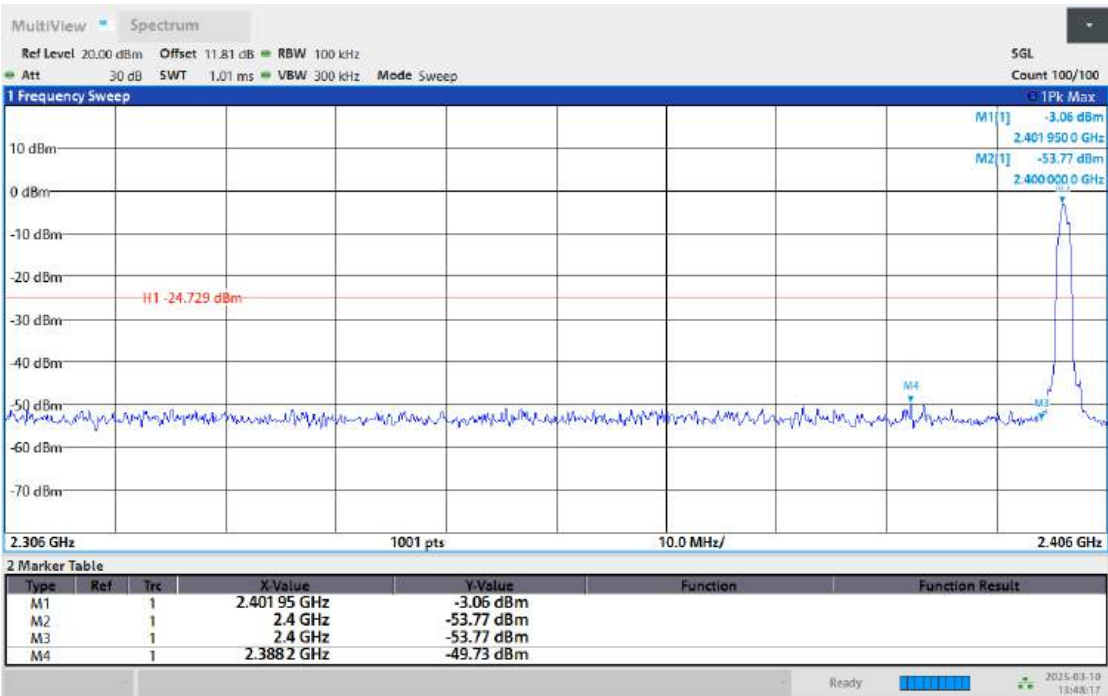


01:43:13 PM 03/10/2025

2402MHz, 8-DPSK

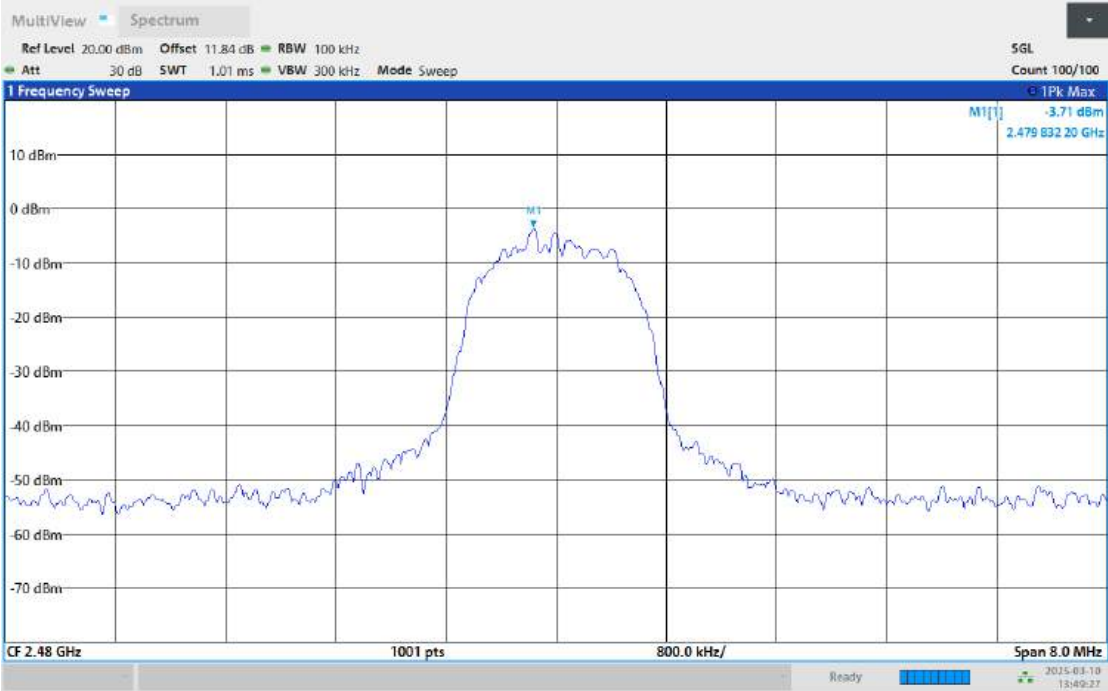


01:48:15 PM 03/10/2025

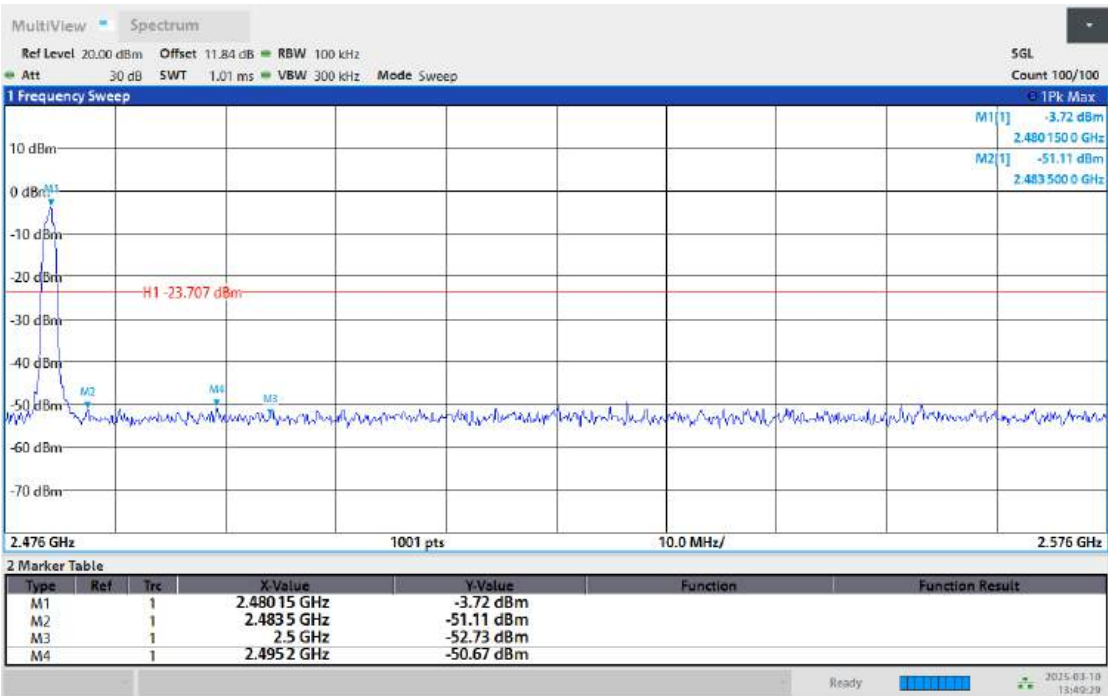


01:48:17 PM 03/10/2025

2480MHz, 8-DPSK

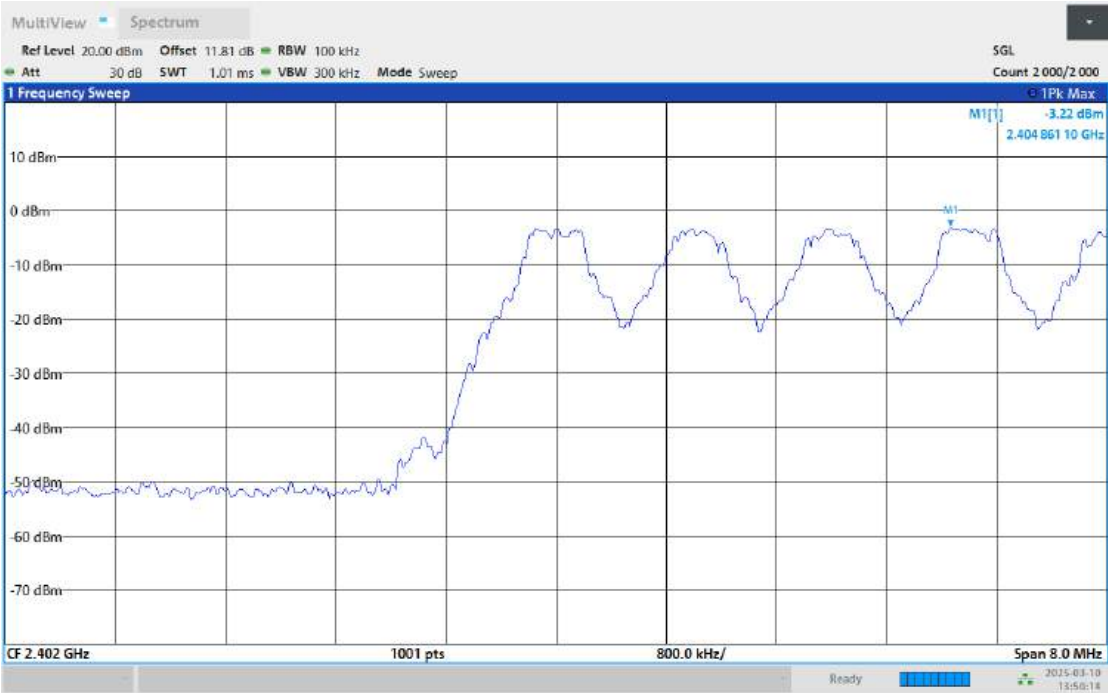


01:49:28 PM 03/10/2025

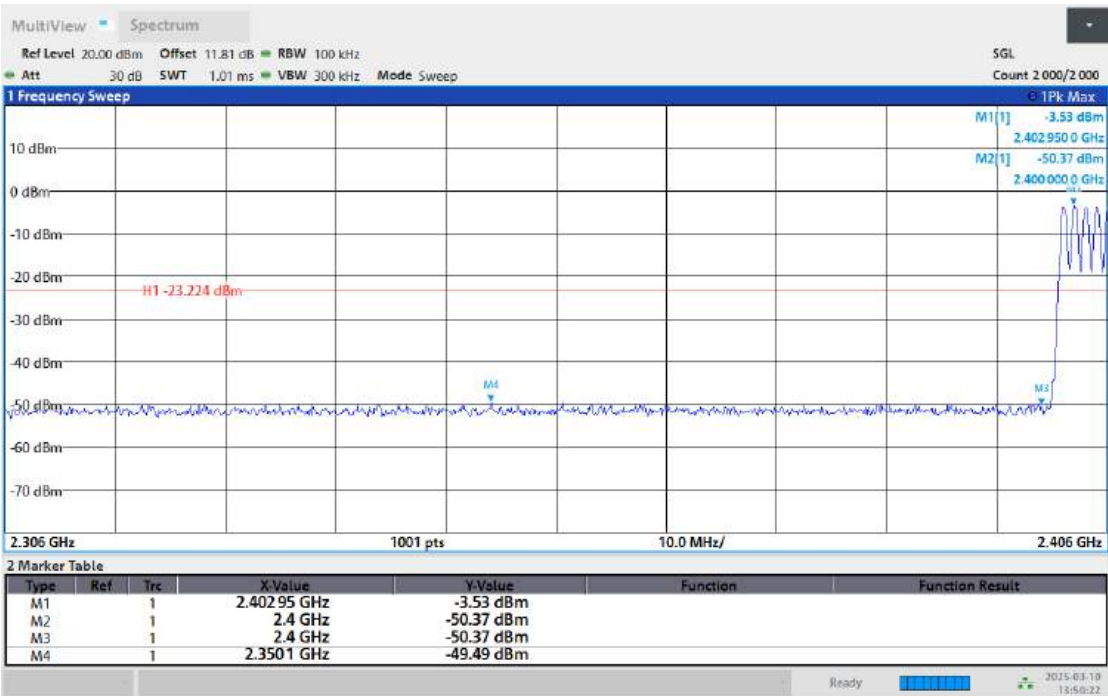


01:49:30 PM 03/10/2025

Hopping Mode, GFSK



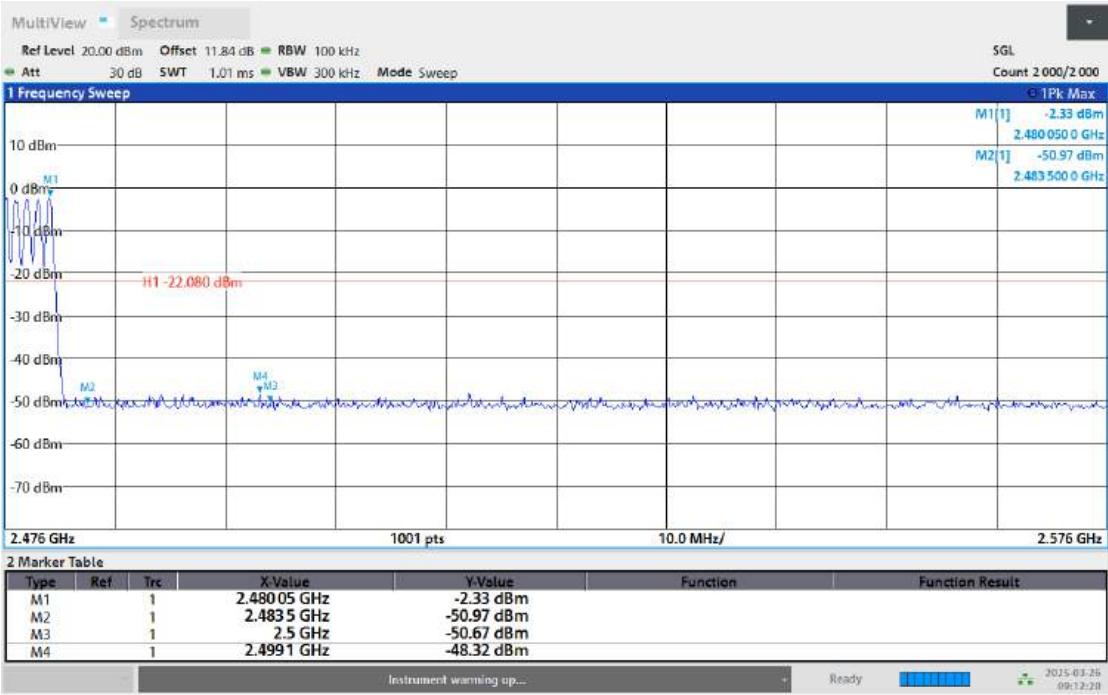
01:56:14 PM 03/10/2025



01:56:23 PM 03/10/2025

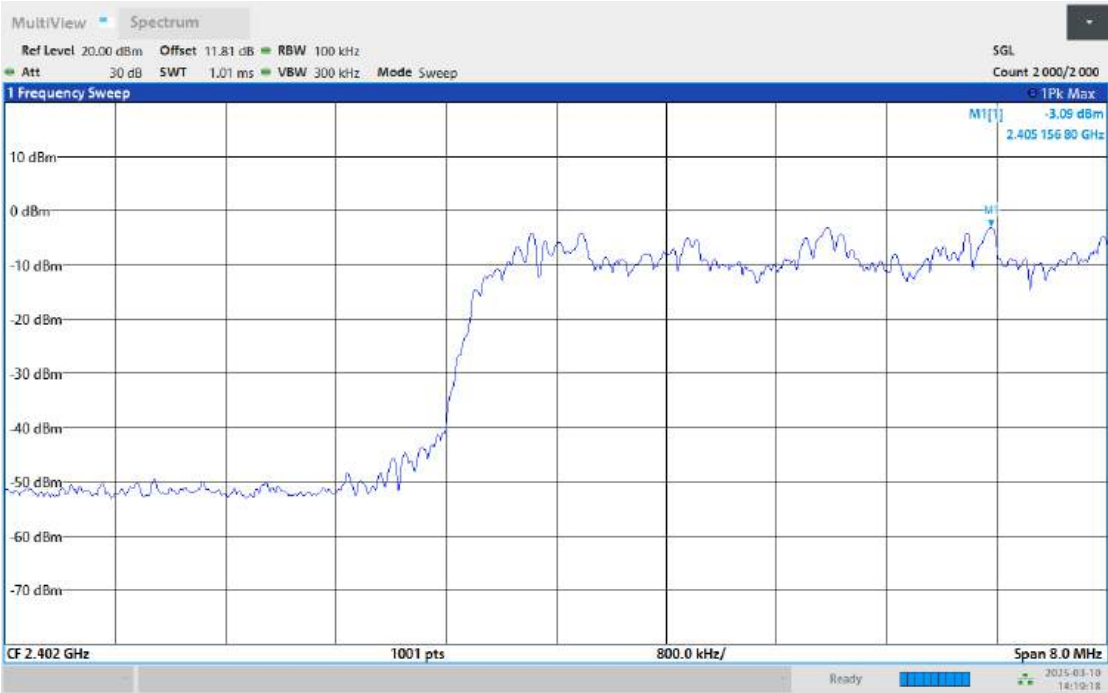


09:12:12 AM 03/26/2025

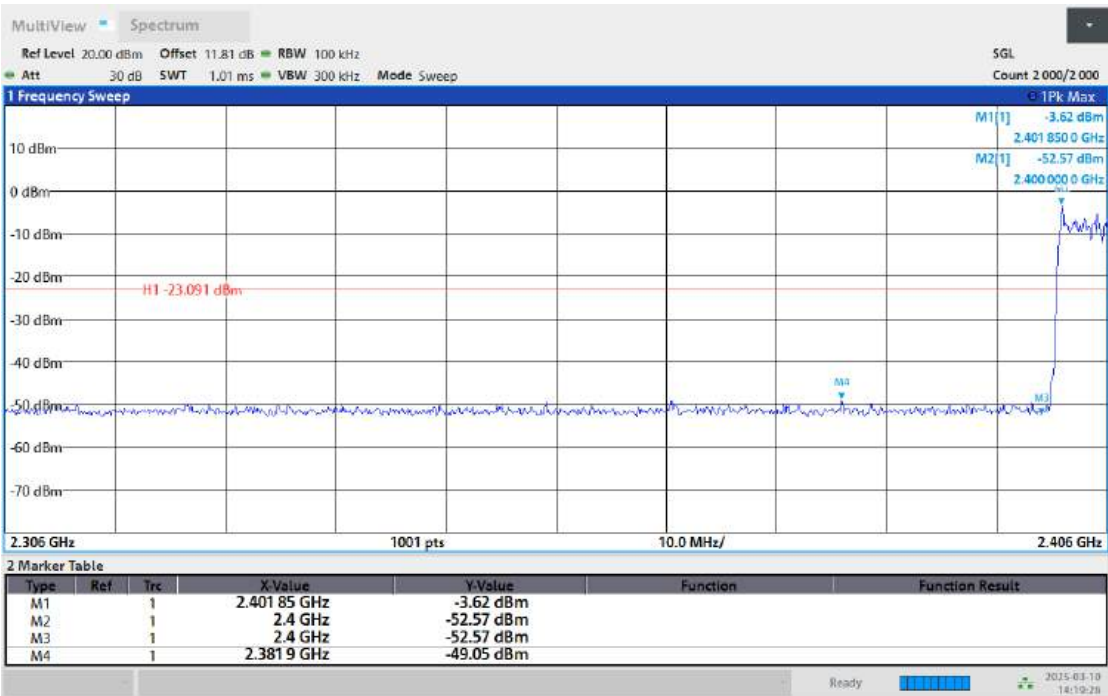


09:12:21 AM 03/26/2025

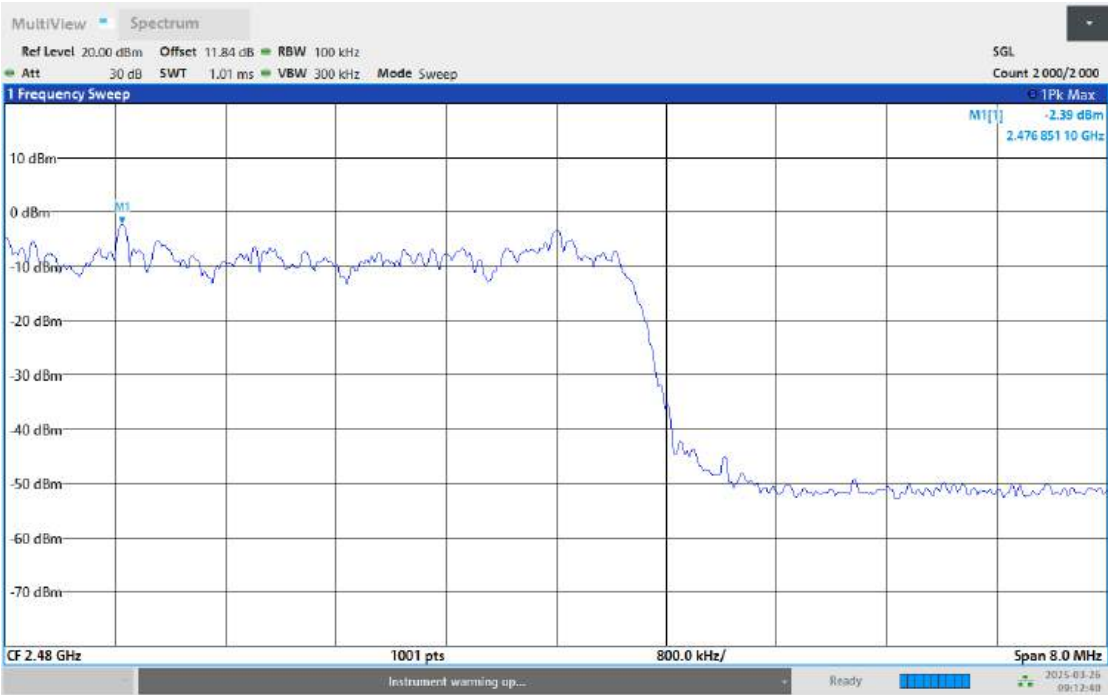
Hopping Mode, 8-DPSK



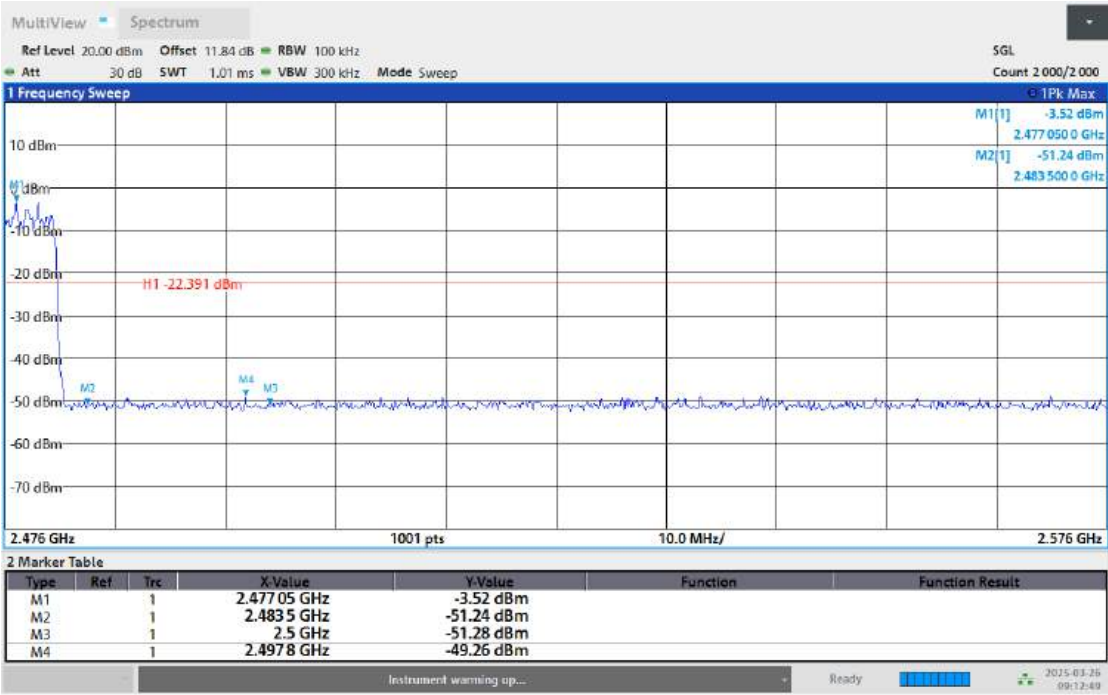
02:19:19 PM 03/10/2025



02:19:28 PM 03/10/2025



09:12:40 AM 03/26/2025



09:12:49 AM 03/26/2025

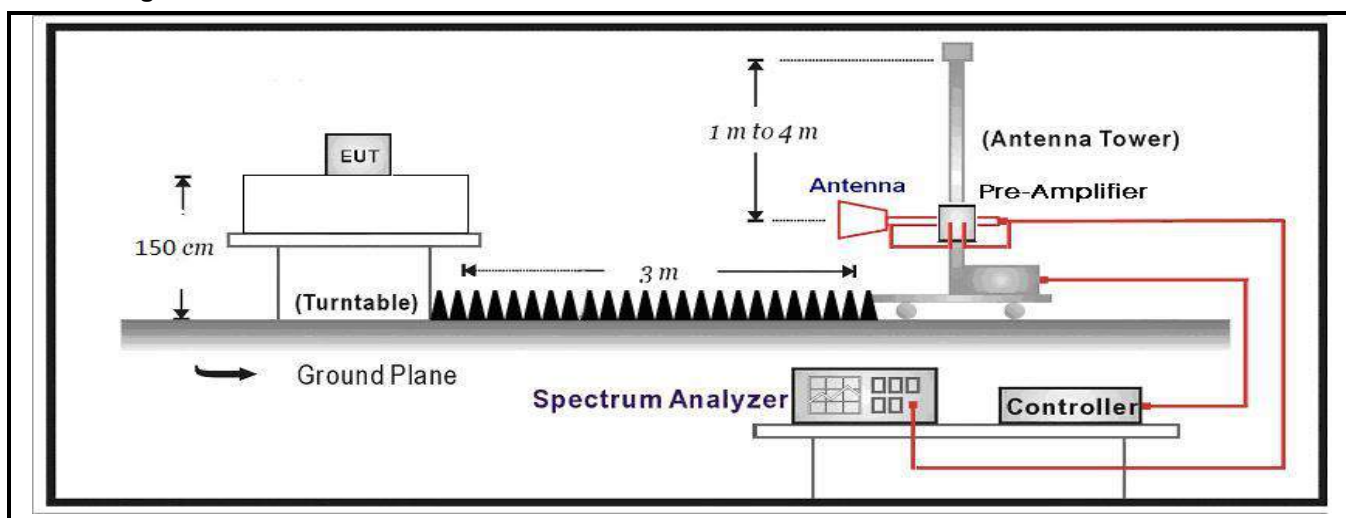
4.9	Radiated Emission Band Edge	VERDICT: PASS
-----	------------------------------------	----------------------

Limit

Standard	FCC Part 15 Subpart C Paragraph 15.247(d), 15.205, 15.209 & RSS-Gen Issue 5 Section 8.9 & 8.10			
Frequency bands (MHz)	Detector	Limit (dB μ V/m)	RBW (MHz)	Distance (m)
2310-2390	PK	74	1	3
2483.5-2500	AV	54	1	3

Note: The field strength of emissions appearing within these frequency bands shall not exceed the limits.

Test Configuration



Performed measurements

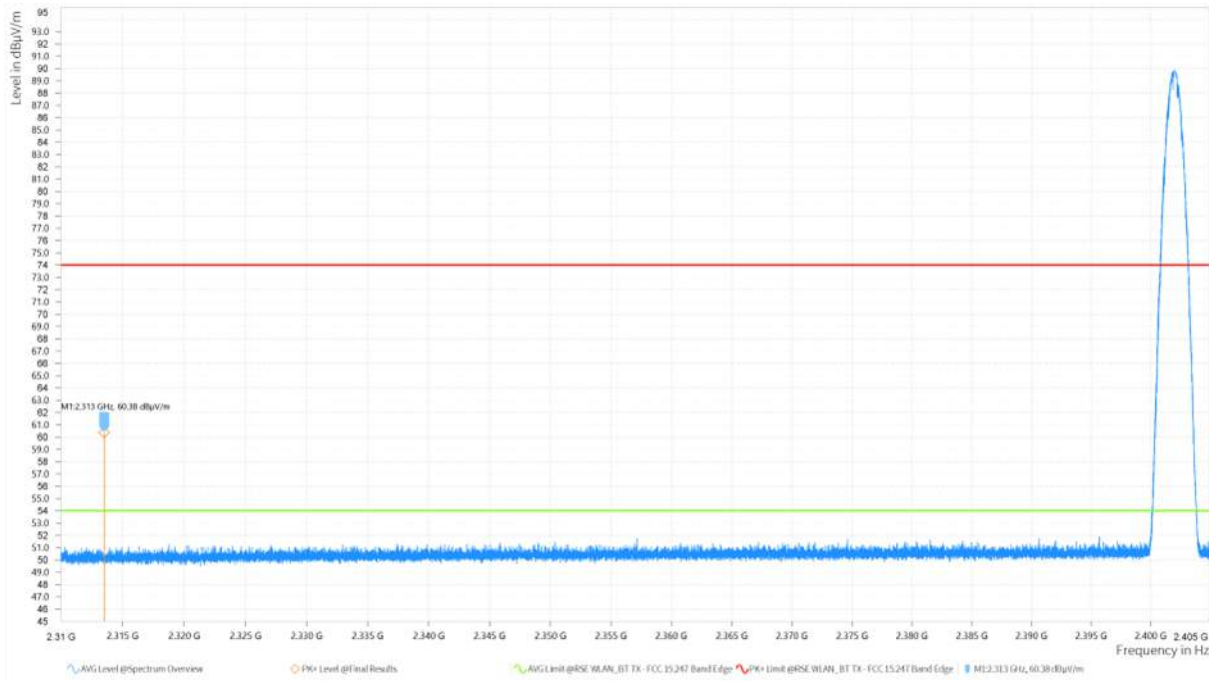
Port under test	Enclosure port	
Test method applied	☐	Conducted measurement
	☒	Radiated measurement
Test setup	Refer to the Annex 3 for test setup photo(s).	
Operating mode(s) used	Mode 1, Mode 2	
Remark	---	

See next page

Results

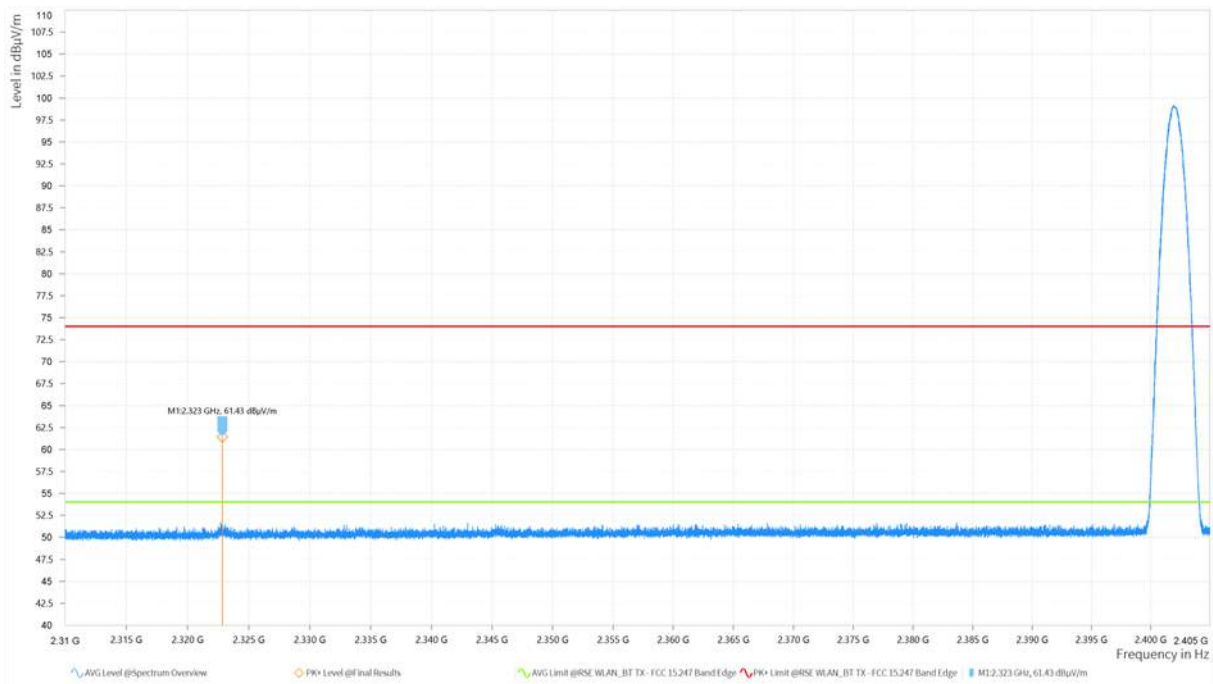
Radiated Emission Band Edge

2402MHz, GFSK



Rg	Frequency [MHz]	AVG Level [dBµV/m]	AVG Limit [dBµV/m]	AVG Margin [dB]	Correction [dB]	Polarization
1	2,313.498	48.89	54.00	5.11	5.14	V

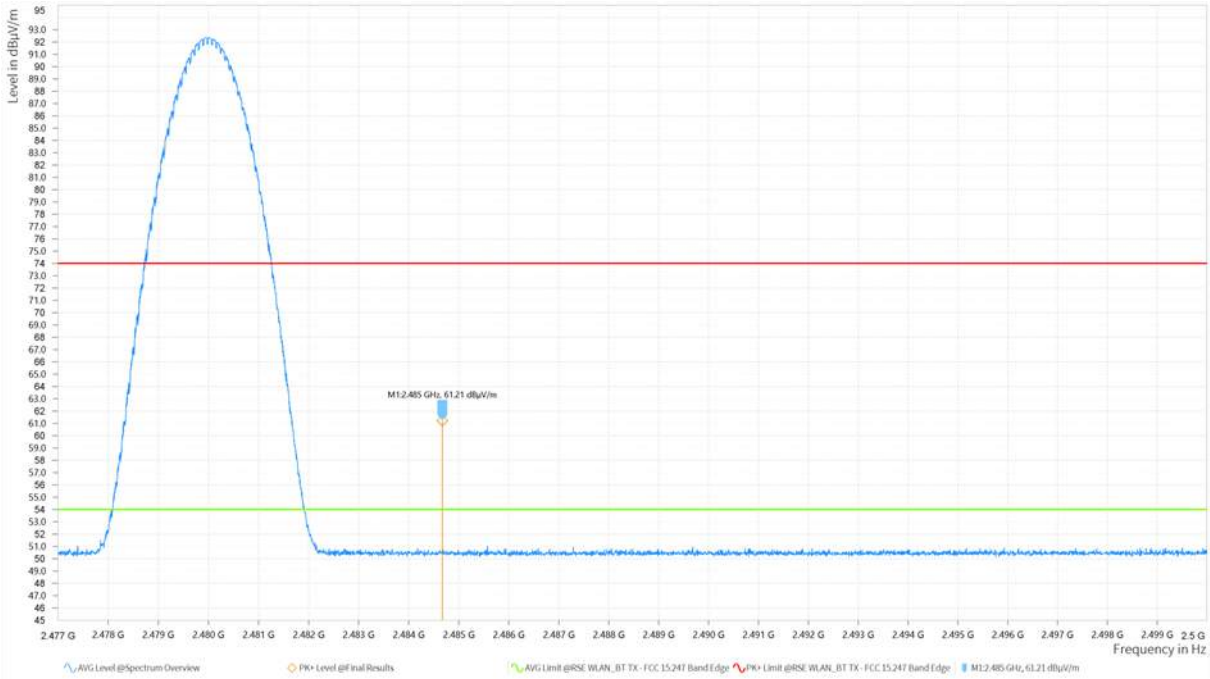
Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	Correction [dB]	Polarization
1	2,313.498	60.38	74.00	13.62	5.14	V



Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization
1	2,322.834	50.61	54.00	3.39	5.20	H

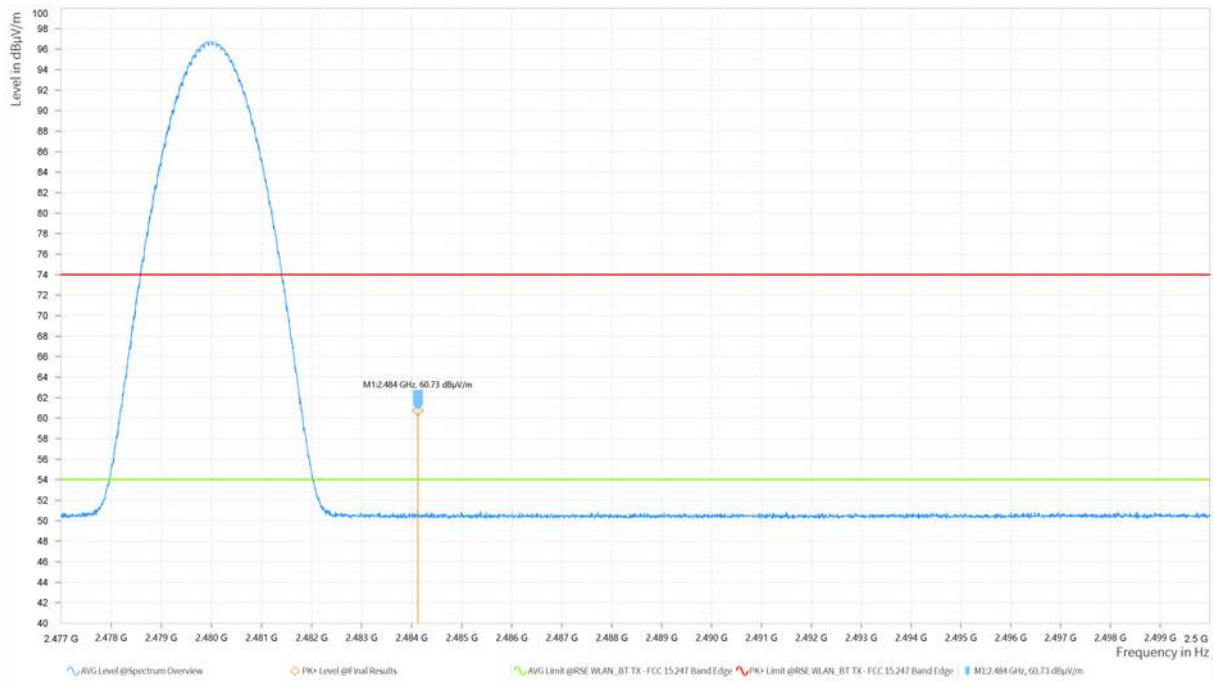
Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization
1	2,322.834	61.43	74.00	12.57	5.20	H

2480MHz, GFSK



Rg	Frequency [MHz]	AVG Level [dBµV/m]	AVG Limit [dBµV/m]	AVG Margin [dB]	Correction [dB]	Polarization
1	2,484.670	50.08	54.00	3.92	5.82	V

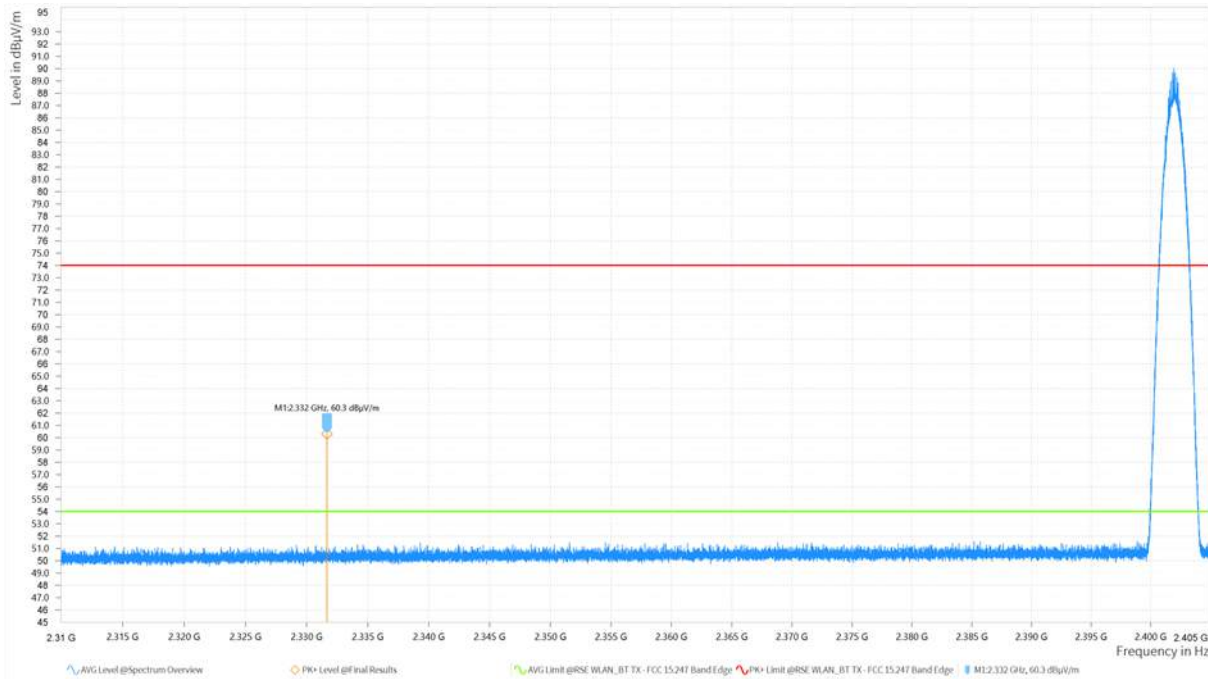
Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	Correction [dB]	Polarization
1	2,484.670	61.21	74.00	12.79	5.82	V



Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization
1	2,484.120	49.25	54.00	4.75	5.82	H

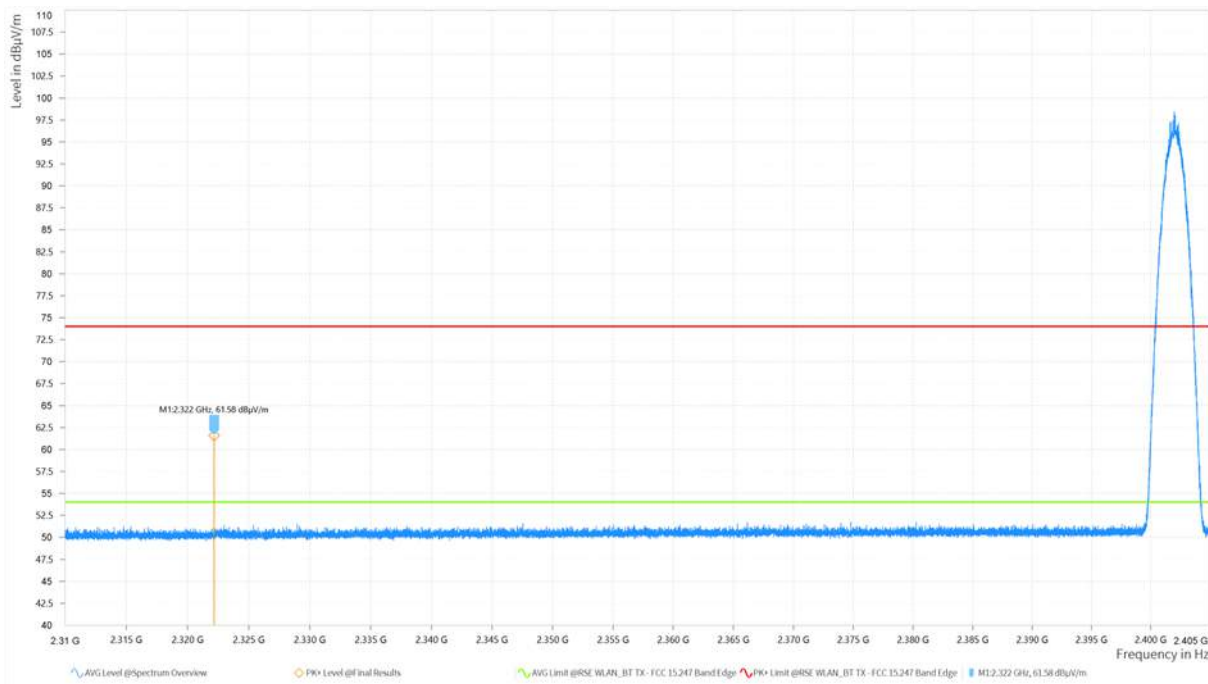
Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization
1	2,484.120	60.73	74.00	13.27	5.82	H

2402MHz, $\pi/4$ -DQPSK



Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization
1	2,331.643	49.72	54.00	4.28	5.26	V

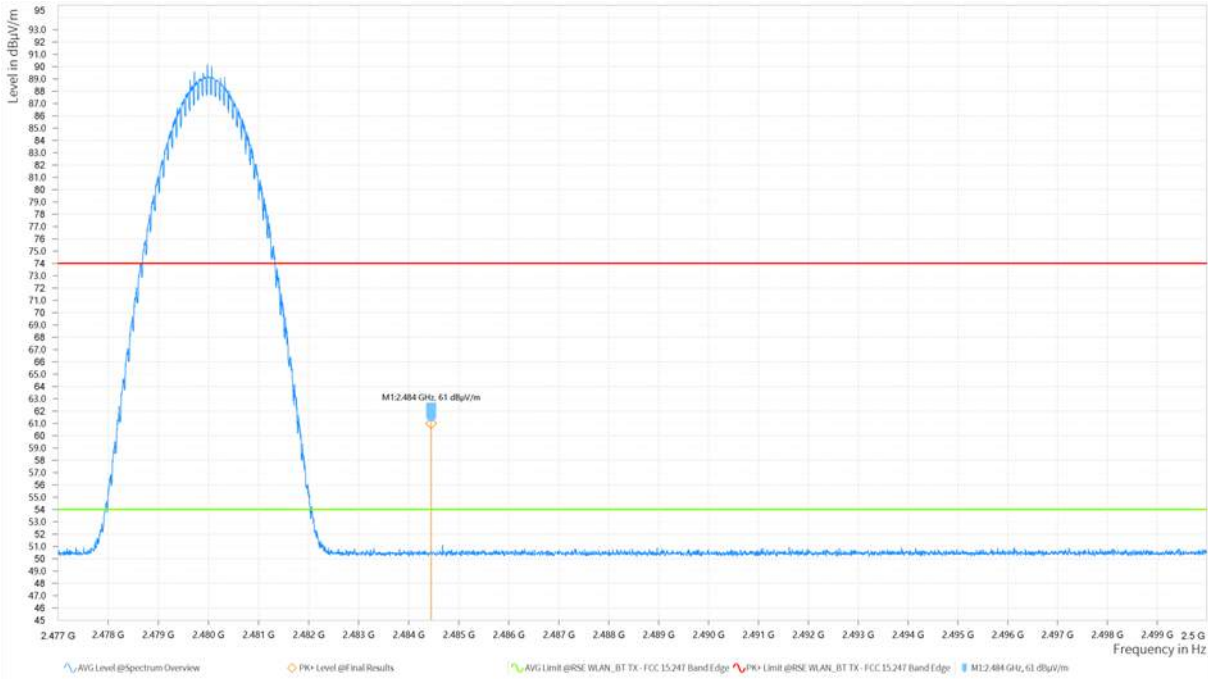
Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization
1	2,331.643	60.30	74.00	13.70	5.26	V



Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization
1	2,322.147	49.52	54.00	4.48	5.20	H

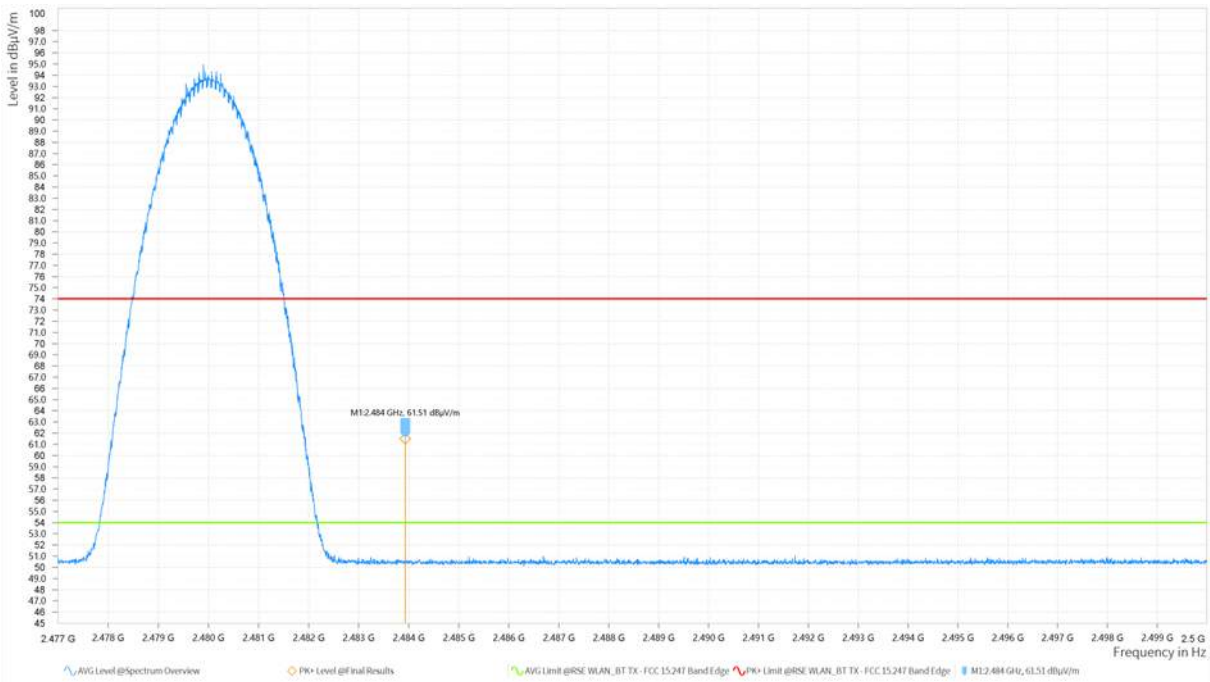
Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization
1	2,322.147	61.58	74.00	12.42	5.20	H

2480MHz, $\pi/4$ -DQPSK



Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization
1	2,484.450	50.31	54.00	3.69	5.82	V

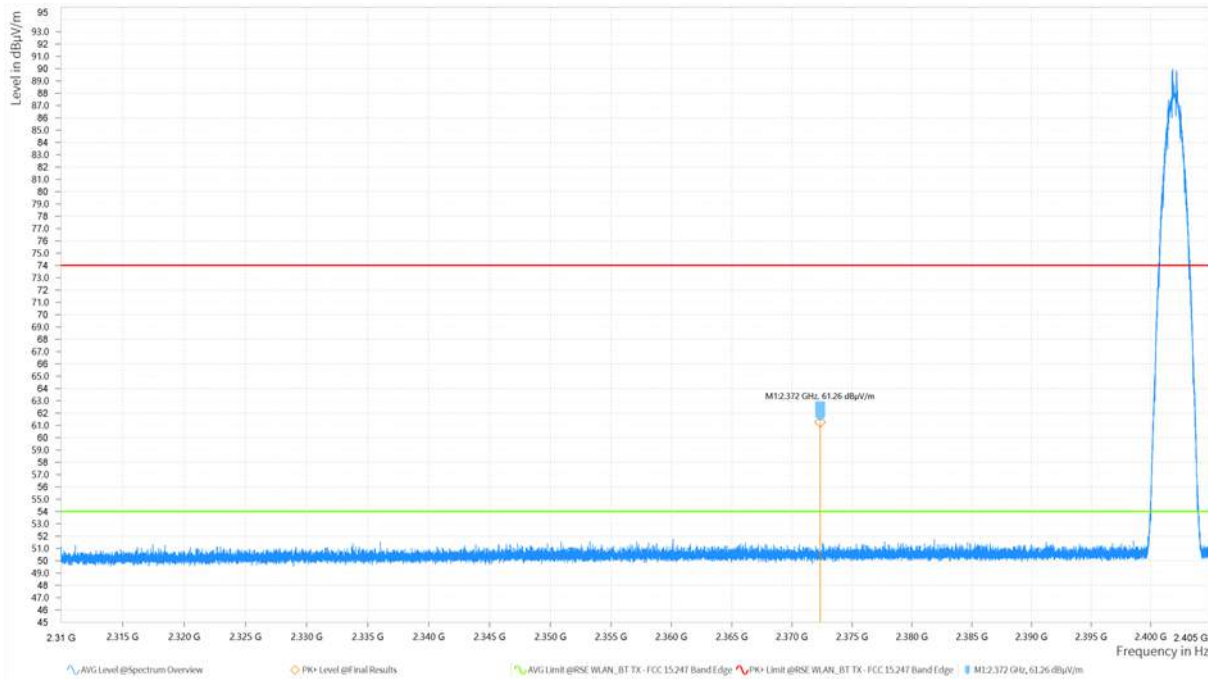
Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization
1	2,484.450	61.00	74.00	13.00	5.82	V



Rg	Frequency [MHz]	AVG Level [dBµV/m]	AVG Limit [dBµV/m]	AVG Margin [dB]	Correction [dB]	Polarization
1	2,483.930	50.34	54.00	3.66	5.82	H

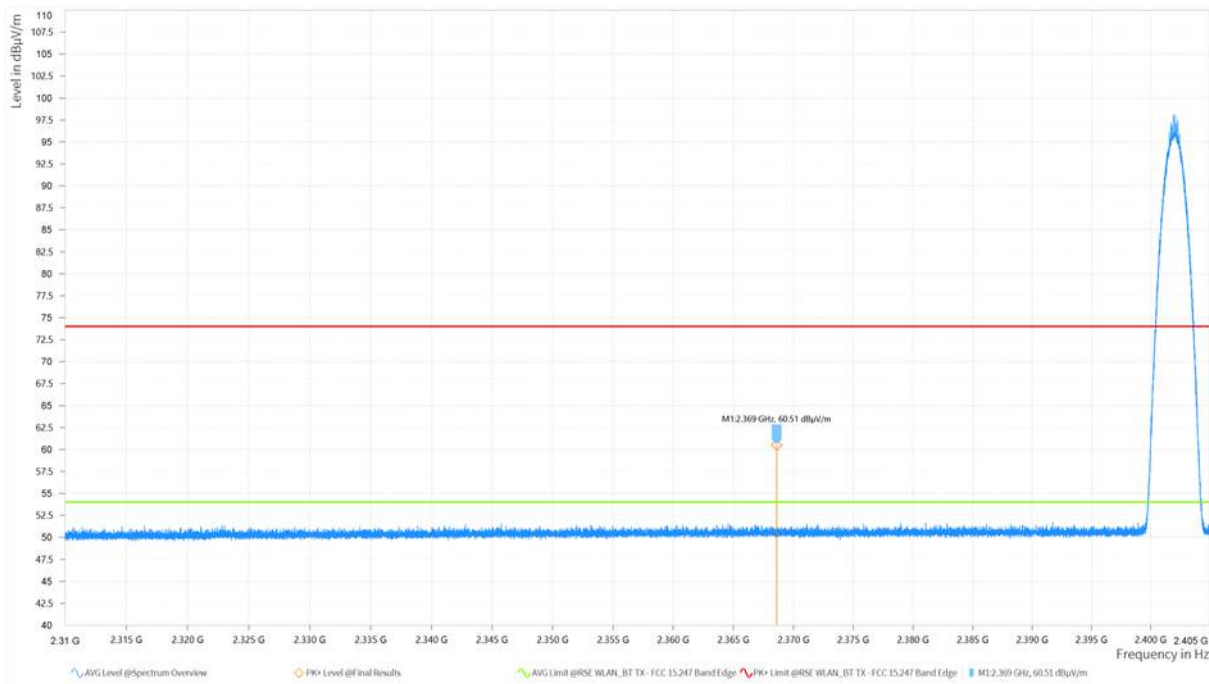
Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	Correction [dB]	Polarization
1	2,483.930	61.51	74.00	12.49	5.82	H

2402MHz, 8-DPSK



Rg	Frequency [MHz]	AVG Level [dBµV/m]	AVG Limit [dBµV/m]	AVG Margin [dB]	Correction [dB]	Polarization
1	2,372.350	48.52	54.00	5.48	5.48	V

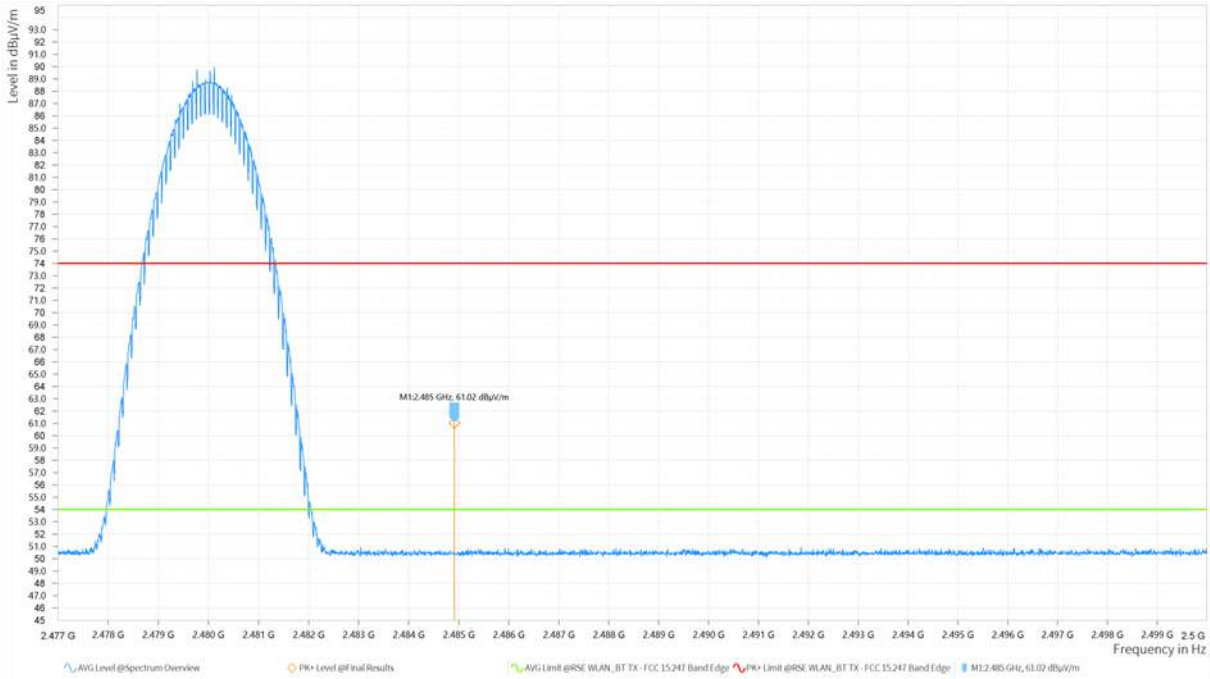
Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	Correction [dB]	Polarization
1	2,372.350	61.26	74.00	12.74	5.48	V



Rg	Frequency [MHz]	AVG Level [dBµV/m]	AVG Limit [dBµV/m]	AVG Margin [dB]	Correction [dB]	Polarization
1	2,368.593	50.19	54.00	3.81	5.47	H

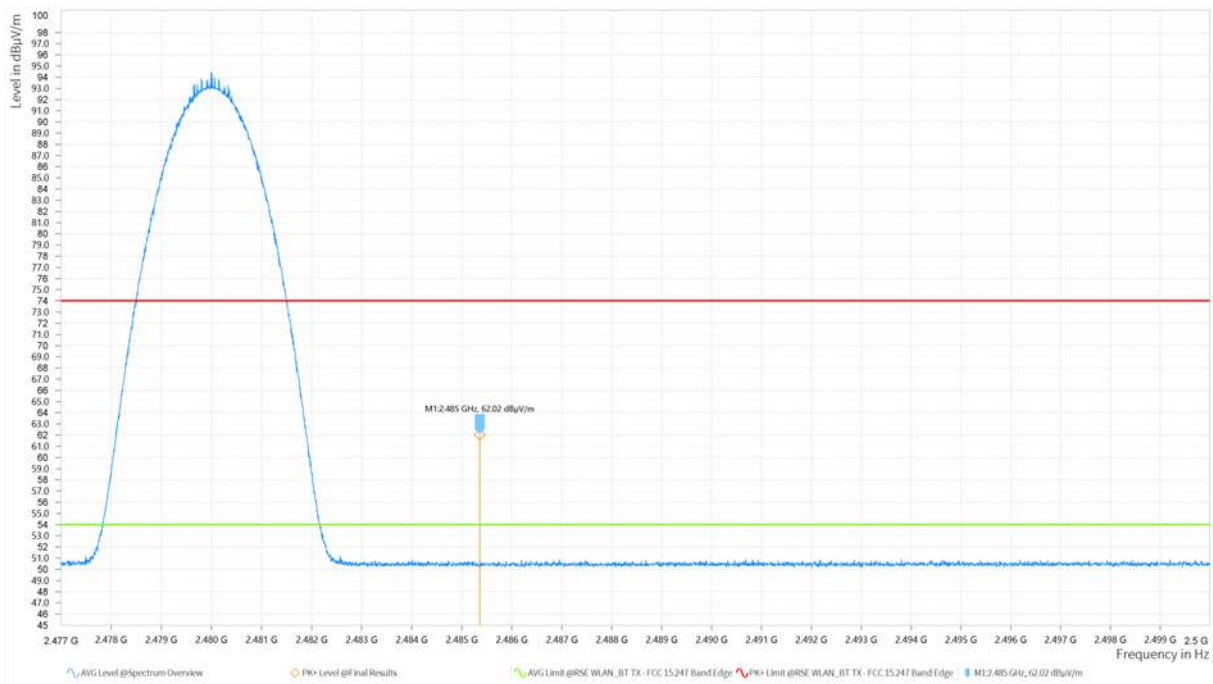
Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	Correction [dB]	Polarization
1	2,368.593	60.51	74.00	13.49	5.47	H

2480MHz, 8-DPSK



Rg	Frequency [MHz]	AVG Level [dBµV/m]	AVG Limit [dBµV/m]	AVG Margin [dB]	Correction [dB]	Polarization
1	2,484.910	49.73	54.00	4.27	5.82	V

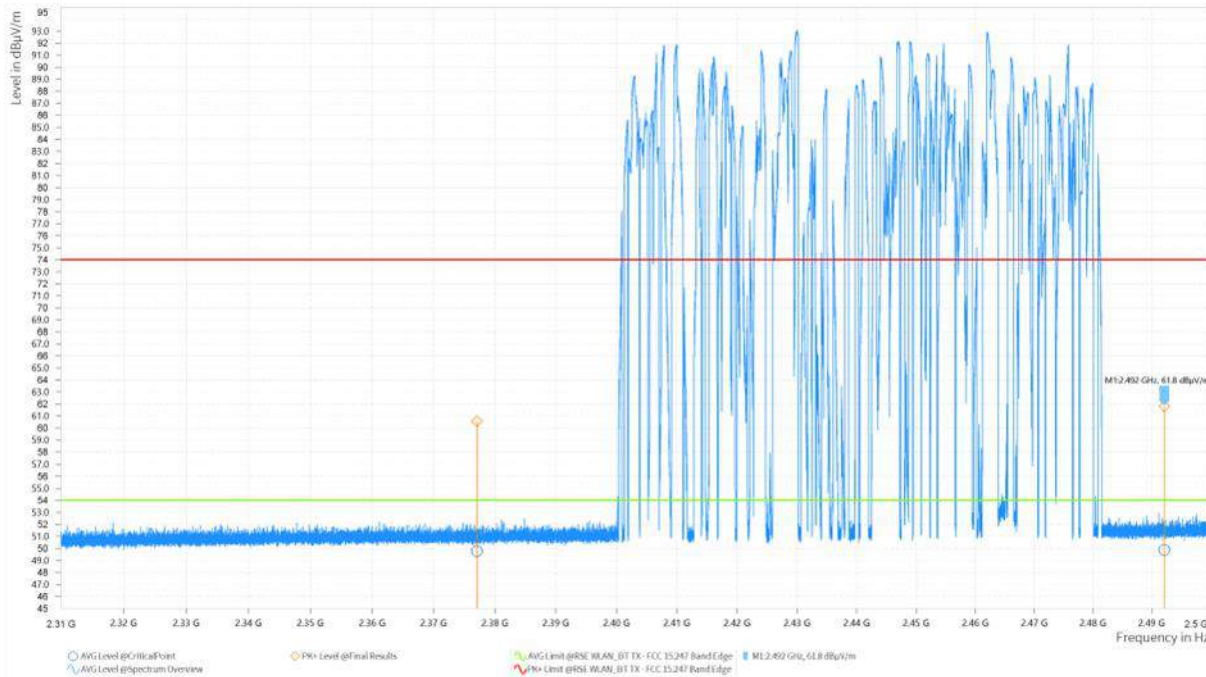
Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	Correction [dB]	Polarization
1	2,484.910	61.02	74.00	12.98	5.82	V



Rg	Frequency [MHz]	AVG Level [dBµV/m]	AVG Limit [dBµV/m]	AVG Margin [dB]	Correction [dB]	Polarization
1	2,485.360	50.48	54.00	3.52	5.83	H

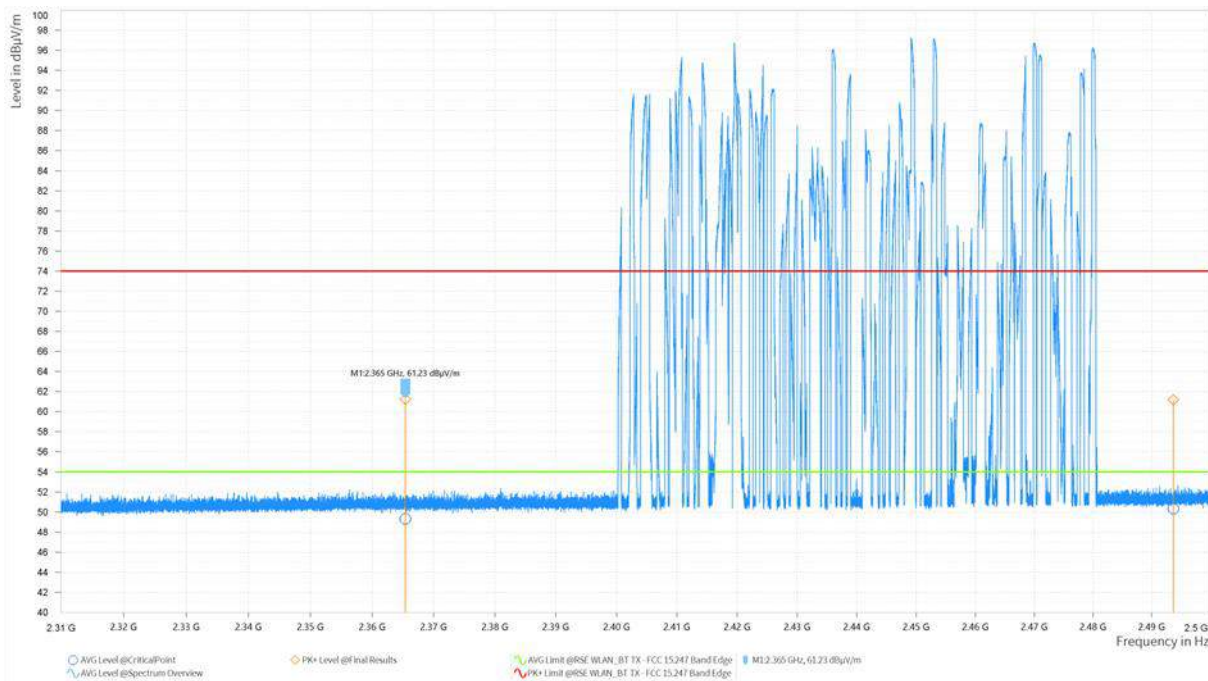
Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	Correction [dB]	Polarization
1	2,485.360	62.02	74.00	11.98	5.83	H

Hopping Mode, GFSK



Rg	Frequency [MHz]	AVG Level [dBµV/m]	AVG Limit [dBµV/m]	AVG Margin [dB]	Correction [dB]	Polarization
1	2,377.065	49.78	54.00	4.22	5.51	V
1	2,492.173	49.89	54.00	4.11	5.85	V

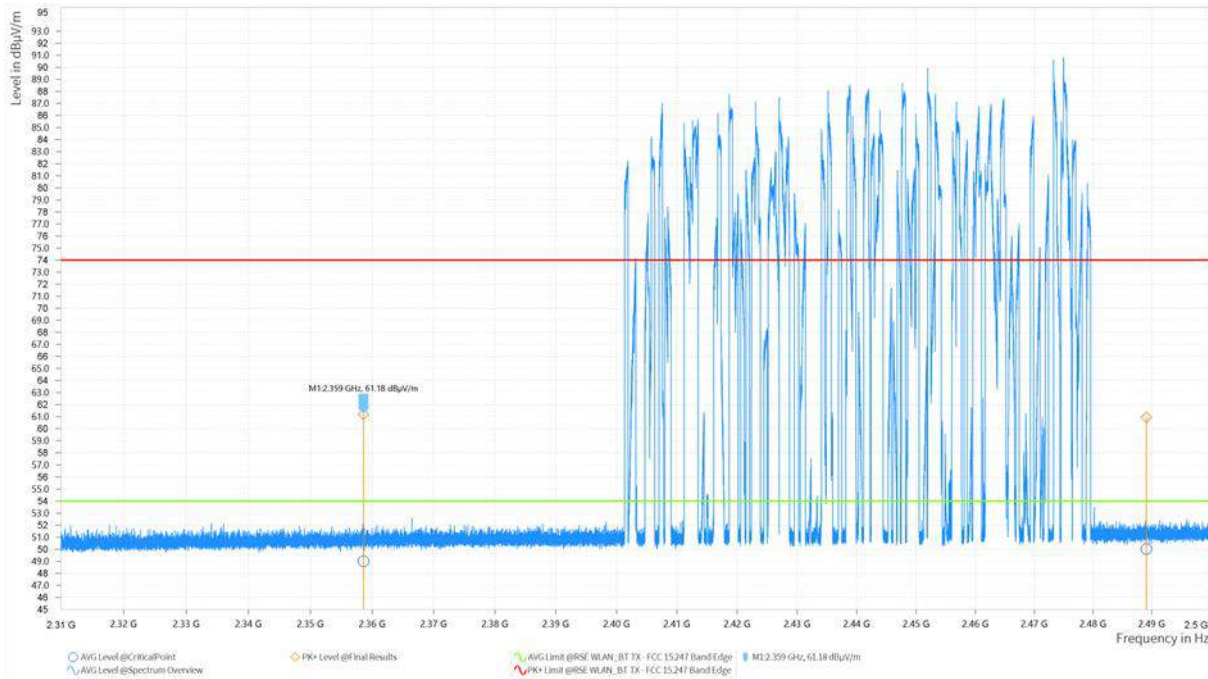
Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	Correction [dB]	Polarization
1	2,377.065	60.57	74.00	13.43	5.51	V
1	2,492.173	61.80	74.00	12.20	5.85	V



Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization
1	2,365.396	49.33	54.00	4.67	5.45	H
1	2,493.709	50.32	54.00	3.68	5.86	H

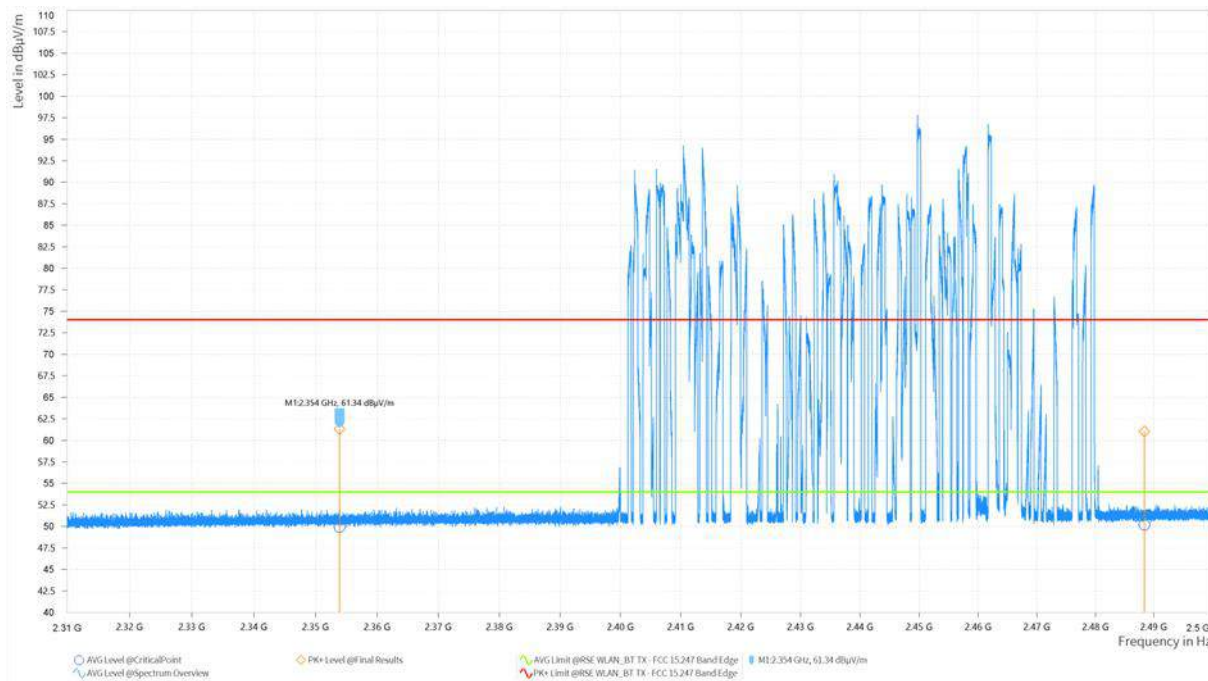
Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization
1	2,365.396	61.23	74.00	12.77	5.45	H
1	2,493.709	61.15	74.00	12.85	5.86	H

Hopping Mode, $\pi/4$ -DQPSK



Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization
1	2,358.582	49.00	54.00	5.00	5.42	V
1	2,489.101	50.01	54.00	3.99	5.84	V

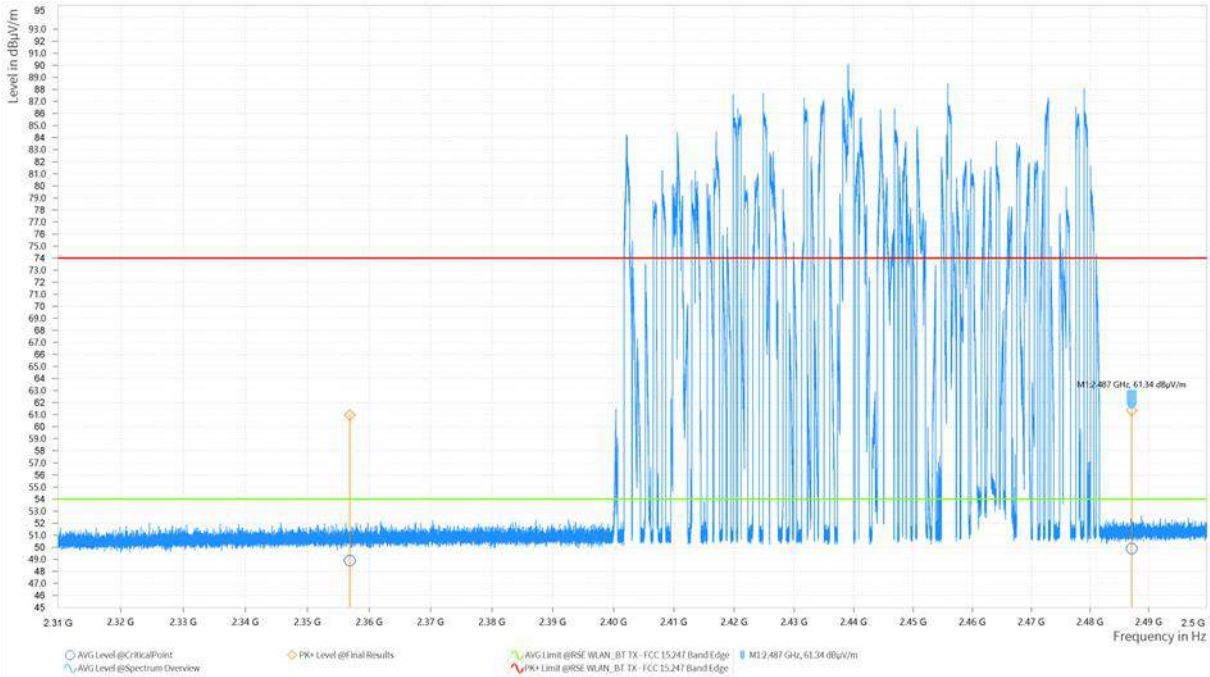
Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization
1	2,358.582	61.18	74.00	12.82	5.42	V
1	2,489.101	60.93	74.00	13.07	5.84	V



Rg	Frequency [MHz]	AVG Level [dBµV/m]	AVG Limit [dBµV/m]	AVG Margin [dB]	Correction [dB]	Polarization
1	2,353.869	49.94	54.00	4.06	5.40	H
1	2,488.373	50.19	54.00	3.81	5.84	H

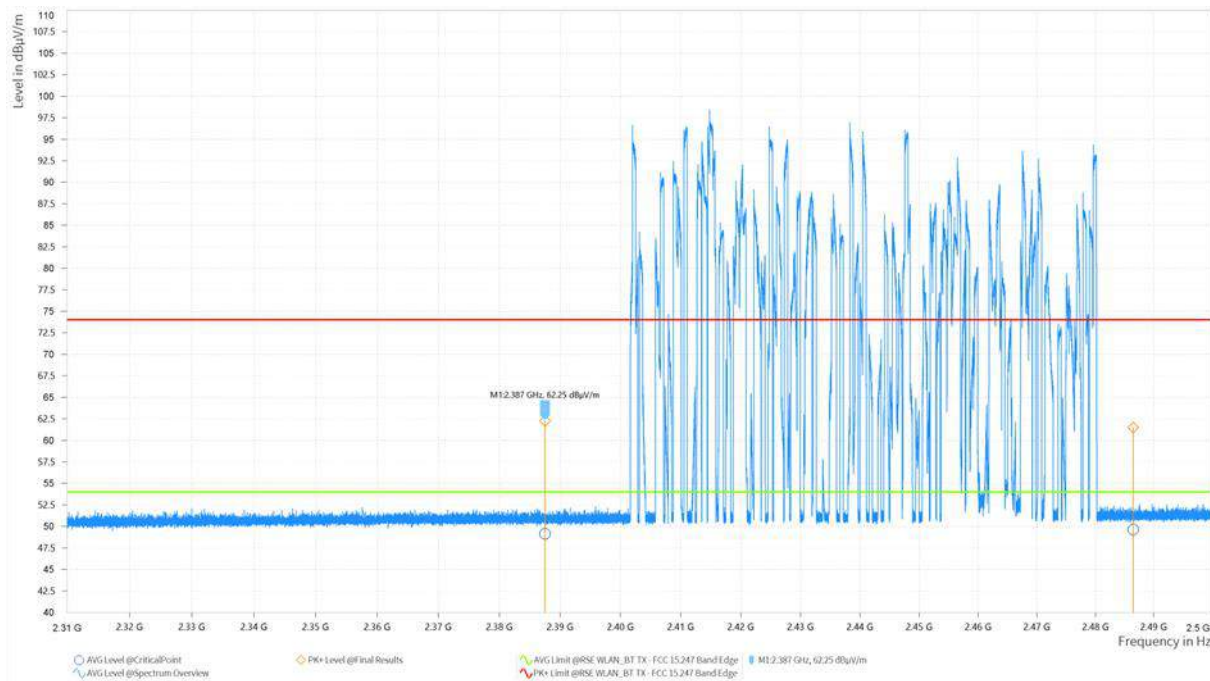
Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	Correction [dB]	Polarization
1	2,353.869	61.34	74.00	12.66	5.40	H
1	2,488.373	61.04	74.00	12.96	5.84	H

Hopping Mode, 8-DPSK



Rg	Frequency [MHz]	AVG Level [dBµV/m]	AVG Limit [dBµV/m]	AVG Margin [dB]	Correction [dB]	Polarization
1	2,356.851	48.89	54.00	5.11	5.41	V
1	2,487.085	49.89	54.00	4.11	5.83	V

Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	Correction [dB]	Polarization
1	2,356.851	60.97	74.00	13.03	5.41	V
1	2,487.085	61.34	74.00	12.66	5.83	V



Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization
1	2,387.499	49.15	54.00	4.85	5.53	H
1	2,486.441	49.63	54.00	4.37	5.83	H

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization
1	2,387.499	62.25	74.00	11.75	5.53	H
1	2,486.441	61.47	74.00	12.53	5.83	H

4.10	Antenna Requirement	VERDICT: PASS
------	----------------------------	----------------------

Limit

Standard	FCC Part 15 Subpart C Paragraph 15.203
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of § 15.211, § 15.213, § 15.217, § 15.219, or § 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with § 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.	
Standard	RSS-Gen Issue 5 Section 6.8
A transmitter can only be sold or operated with antennas with which it was certified. A transmitter may be certified with multiple antenna types. An antenna type comprises antennas having similar in-band and out-of-band radiation patterns.	

Antenna Connector Construction

☒	The use of a permanently attached antenna
☐	The antenna use of a unique coupling to the intentional radiator
☐	The use of a nonstandard antenna jack or electrical connector
Please refer to the attached document “Internal Photograph” to show the antenna connector.	

5 IDENTIFICATION OF THE EQUIPMENT UNDER TEST

Remark: The test setup photo and EUT Photo please see appendix.

ANNEX 1 – MEASUREMENT UNCERTAINTY

Uncertainties have been calculated according to the DEKRA internal document. The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95%.

Emission tests		U_{LAB}	U_{CISPR}
Conducted disturbance - Shielded Room No.1 150 kHz – 30 MHz	AMN: R&S ENV216	2.6 dB	3.4 dB
Radiated disturbance - Anechoic Chamber No.1 30 MHz – 1000 MHz	Horizontal polarization	4.8 dB	6.3 dB
	Vertical polarization	5.4 dB	

Test Item	Uncertainty	
Radio frequency	2 ppm	
RF power, conducted	0.22 dB	
Dwell Time	2.02 ms	
Spurious emissions, radiated - Anechoic Chamber No.2	(9KHz~30MHz)	2.26 dB
	(30MHz~1GHz)	Horizontal: 3.99 dB
		Vertical: 3.99 dB
	(1GHz~8GHz)	Horizontal: 4.38 dB
		Vertical: 4.14 dB
	(8GHz~12.75GHz)	Horizontal: 4.27 dB
		Vertical: 4.19 dB
	(12.75GHz~18GHz)	Horizontal: 4.69 dB
		Vertical: 4.03 dB
	(18GHz~40GHz)	Horizontal: 4.01 dB
		Vertical: 4.02 dB
Humidity	1.4 %	
Temperature	0.5 °C	

ANNEX 2 – USED EQUIPMENT

For AC Power Line Conducted Emission - Shielded Room No.1

Equipment Name	Manufacturer	Type/Model	Serial Number	Last Cal Date	Cal Due date
EMI test receiver	R&S	ESR3	102305	2024/06/14	2025/06/13
Artificial Mains Network	R&S	ENV216	102747	2024/11/06	2025/11/05
Software	R&S	ELEKTRA	4.32.0	N/A	N/A

For Radiated Emission (30 MHz to 1000 MHz) - Anechoic Chamber No.1

Equipment Name	Manufacturer	Type/Model	Serial Number	Last Cal Date	Cal Due date
EMI test receiver	R&S	ESR7	102433	2024/11/06	2025/11/05
Trilog broadband antenna+Attenuator	SCHWARZBECK	VULB9163/6dB	01514	2025/02/27	2026/02/28
Open Switch and control unit	R&S	OSP220	102232	N/A	N/A
Software	R&S	ELEKTRA	4.20.2	N/A	N/A

For Spurious Emissions Test - Anechoic Chamber No.2

Equipment Name	Manufacturer	Type/Model	Serial Number	Last Cal Date	Cal Due date
Wideband Radio Communication Tester	ROHDE & SCHWARZ	CMW500	171082	2025/01/21	2026/01/20
Signal & Spectrum Analyzer	ROHDE & SCHWARZ	FSV3044	101286	2025/01/21	2026/01/20
FILTERBANK	ROHDE & SCHWARZ	N/A	100778	N/A	N/A
Open Switch and Control Unit	ROHDE & SCHWARZ	OSP220	102454	N/A	N/A
System Controller Interface	ROHDE & SCHWARZ	SCI-200	520020123	N/A	N/A
Trilog Broadband Antenna	Schwarzbeck	VULB9163	01514	2025/03/14	2026/03/13
Wave Guide Antenna	Schwarzbeck	3117	00240298	2025/03/05	2026/03/04
Antenna	Schwarzbeck	QMS-00208	27745	2025/03/05	2026/03/04
Antenna	Schwarzbeck	QMS-00880	27646	2025/03/17	2026/03/16
Pre-Amplifier	ROHDE & SCHWARZ	SCU08F1	101136	2025/01/21	2026/01/20
Pre-Amplifier	ROHDE & SCHWARZ	SCU18F	100971	2025/02/24	2026/02/23
Pre-Amplifier	ROHDE & SCHWARZ	SCU18F	100970	2025/02/24	2026/02/23
Pre-Amplifier	ROHDE & SCHWARZ	SCU40F1	100631	2025/02/24	2026/02/23
Software	ROHDE & SCHWARZ	ELEKTRA	4.52.1	N/A	N/A

For other test items - Shielded Room (RF)

Equipment Name	Manufacturer	Type/Model	Serial Number	Last Cal Date	Cal Due date
Vector signal generator	ROHDE & SCHWARZ	SMM100A	101780	2025/01/21	2026/01/20
Open switch and control platform	ROHDE & SCHWARZ	OSP150	100856	2024/11/22	2025/11/21
Signal & Spectrum Analyzer	ROHDE & SCHWARZ	FSV3044	101287	2025/02/24	2026/02/23
Wireless Connectivity Tester	ROHDE & SCHWARZ	CMW270	102651	2025/01/21	2026/01/20
Signal Generator	ROHDE & SCHWARZ	SMB100A	183222	2025/01/21	2026/01/20
DC Power Supply	apc	ADC-0800100-15	D222120022	2024/11/22	2025/11/21
AC Power Supply	apc	KDF-11005GS	F322120041	2025/01/21	2026/01/20
Temperature & Humidity Chamber	HESON	HS-225B	CDW230301-01	2025/02/18	2026/02/17
Software	MWRFTtest	MTS 8310	2.0.0.0	N/A	N/A

--- END ---