TEST REPORT

성적서 번호 Report No.		ICRT-TR-E231965-0A
신청자 Client	기관명 Name	Healingsound co.,ltd
	주 소 Address	217, Yeoksam-ro, Gangnam-gu, Seoul, Republic of Korea
시험대상품목 Product name		Healingstone
모델명 Model name		HS-01
정 격 Ratings		DC 3.7 V
시험장소 Place of test		■ 고정시험(Inside test) □ 현장시험(Field test) 주소지(Address): 112, 113 Hwanggeum 3-ro 7beon-gil, Hagun-ri, Yangchon-eup, Gimpo-si, Gyeonggi-do, Korea
시험기간 Date of test		21. Jul. 2023 ~ 01. Aug. 2023
시험방법/항목 Test Method/Item		FCC Part 15 Subpart C
시험결과 Test Results		Refer to 3. Test Summary
확 인 Affirmation	작성자 Tested by 성명 Name: Si-Yeon, Hwang (서명) (Signature)	기술책임자 Technical Manager 성명 Name: Tae-Yang, Yoon (서명) (Signature)

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☐ The above test report is certified that the above mentioned products have been tested for the sample.

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☐ The above test report is not related to accreditation by KS Q ISO/IEC 17025 and Korea Laboratory Accreditation scheme.

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2023. 08. 10

주식회사 아이씨알 대표이사

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112, Hwanggeum3-ro 7beon-gil, Yangchon-eup, Gimpo-si, Gyeonggi-do, Korea / Tel: 02-6351-9001 ~ 6

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Revision History

Issued Report No.	Issued Date	Revisions	Effect Section
ICRT-TR-E231965-0A	2023. 08. 10	Initial Issue	All

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1. Applicant & Manufacturer & Test Laboratory Information

1.1 Applicant information

Applicant	Healingsound co.,ltd
Address	217, Yeoksam-ro, Gangnam-gu, Seoul, Republic of Korea

1.2 Manufacturer Information

Applicant	Healingsound co.,ltd
Address	217, Yeoksam-ro, Gangnam-gu, Seoul, Republic of Korea

1.3 Test Laboratory Information

Laboratory	ICR Co., Ltd.
Address	112, Hwanggeum 3-ro 7beon-gil, Hagun-ri, Yangchon-eup, Gimpo-si, Gyeonggi-do, Korea
Telephone No.	+82-2-6351-9002
Fax No.	+82-2-6351-9007
KOLAS No.	KT652
KC & FCC	KR0165

1.4 Measurement Uncertainty

Parameter	Uncertainty	Limit
Occupied Channel Bandwidth	2.75%	±5 %
RF output power, conducted	1.39 dB	±1.5 dB
Power Spectral Density, conducted	1.65 dB	±3 dB
Unwanted Emissions, conducted	1.82 dB	±3 dB
Supply voltages	0.06%	±3 %
Time	1.17%	±5 %
All emissions, radiated (Under the 1 ㎓)	3.22 dB	±6 dB
All emissions, radiated (Above the 1 ㎓)	3.67 dB	±6 dB

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2. Equipment under Test(EUT) Information

2.1 General Information

Product Name	Healingstone
Model Name	HS-01
Additional Model Name	COZYSTONE, CS-01
FCC ID	2BCI5-HW-HS-01
Power Supply	DC 3.7 V

2.2 Additional Information

Equipment Class	DSS - Direct Sequence Spread spectrum	
Device Type	Stand-alone	
Temperature Range	-20 °C ~ 55 °C	
Adaptive/Non-Adaptive	Non-Adaptive Equipment	
Operating Frequency	Bluetooth BDR, EDR	2 402 ㎒ ~ 2 480 ㎒
RF Output Power	Bluetooth BDR (Earphone Right)	4.10 ㏈m
	Bluetooth EDR (Earphone Right)	6.62 ㏈m
	Bluetooth BDR (Earphone Left)	3.34 ㏈m
	Bluetooth EDR (Earphone Left)	5.52 ㏈m
Number of Channel	Bluetooth BDR, EDR	79
Modulation Type	GFSK / 8DPSK / 2DH5 modulation	
Antenna Type	Chip Antenna	
Antenna Gain	4.34 ㏈i	
Hopping mode	pseudorandom	
Note	In the case of Bluetooth EDR, it was tested in 2DH5, which is the worst case.	

2.3 Reason of Additional Model Name

NO	Family Model Name	Difference
1	COZYSTONE, CS-01	Model name change

3. Test Summary

3.1 Test standards and results

FCC Part 15 Subpart C			
Clause	Test items	Applied	Results
§15.247 (a)(1)	20 ㏈ Bandwidth	■	PASS
§15.247 (a)(1)	Carrier Frequency Separation	■	PASS
§15.247 (a)(1) (iii)	Number of Hopping Frequencies	■	PASS
§15.247 (a)(1) (iii)	Time of Occupancy (dwell Time)	■	PASS
§15.247 (b)(1)	Maximum Conducted Output Power	■	PASS
§15.247 (d)	Conducted Spurious Emission & Band edge	■	PASS
§15.247 (d) & §15.209 & §15.205	Radiated Spurious Emission & Band edge	■	PASS
§15.207	Power Line Conducted Emission	■	PASS

3.2 Test Methodology

- Both conducted and radiated testing was performed according to the procedures in ANSI C63.10: 2013. Radiated testing was performed at a distance of 3 m from EUT to the antenna.

3.3 Configuration of Test System

- Both conducted and radiated testing was performed according to the procedures in ANSI C63.10: 2013. Radiated testing was performed at a distance of 3 m from EUT to the antenna.

3.3.1 Radiated emission test

- Preliminary radiated emissions test were conducted using the procedure in ANSI C63.10: 2013 to determine the worse operating conditions. Final radiated emission tests were conducted at 3 m Semi Anechoic Chamber.
The turntable was rotated through 360 degrees and the EUT was tested by positioned three orthogonal planes to obtain the highest reading on the field strength meter. Once maximum reading was determined, the search antenna was raised and lowered in both vertical and horizontal polarization.

3.4 Antenna requirement

- According to §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.
And according to §15.247(b)(4), the conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi.
Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Result: Pass

The transmitter has a **Chip Antenna**. The directional gain of the antenna is **4.34dBi**.

4. Test Result (Earphone Right)

4.1. 20 dB Bandwidth

4.1.1 Test procedure

ANSI C63.10-2013 Clause 6.9.2

4.1.2 Limit

§15.247 (a)(1)

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. Alternatively, 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. The system shall hop to channel frequencies that are selected at the system hopping rate from a pseudo randomly ordered list of hopping frequencies. Each frequency must be used equally on the average by each transmitter. The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.

4.1.3 Test data

Result : Pass

Mode	Frequency (MHz)	Measured Value (kHz)
Bluetooth BDR	2 402	941.10
	2 441	941.10
	2 480	939.10
Bluetooth EDR	2 402	1324.70
	2 441	1324.70
	2 480	1324.70

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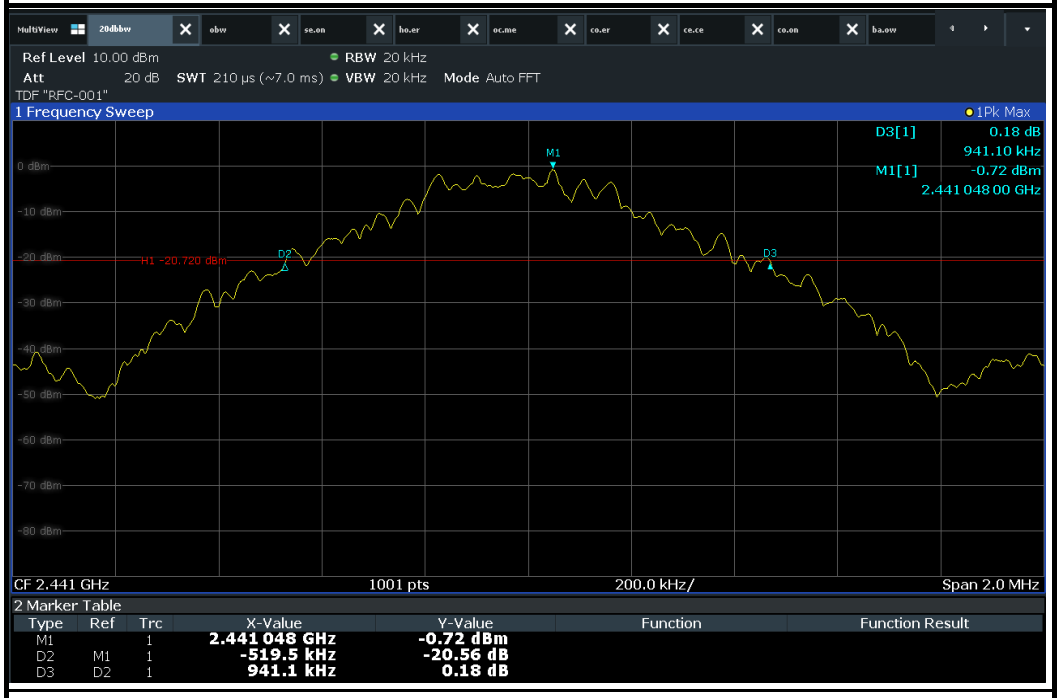
BDR_Low ch_20 dB Bandwidth



BDR_Mid ch_20 dB Bandwidth

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BDR_High ch_20 dB Bandwidth

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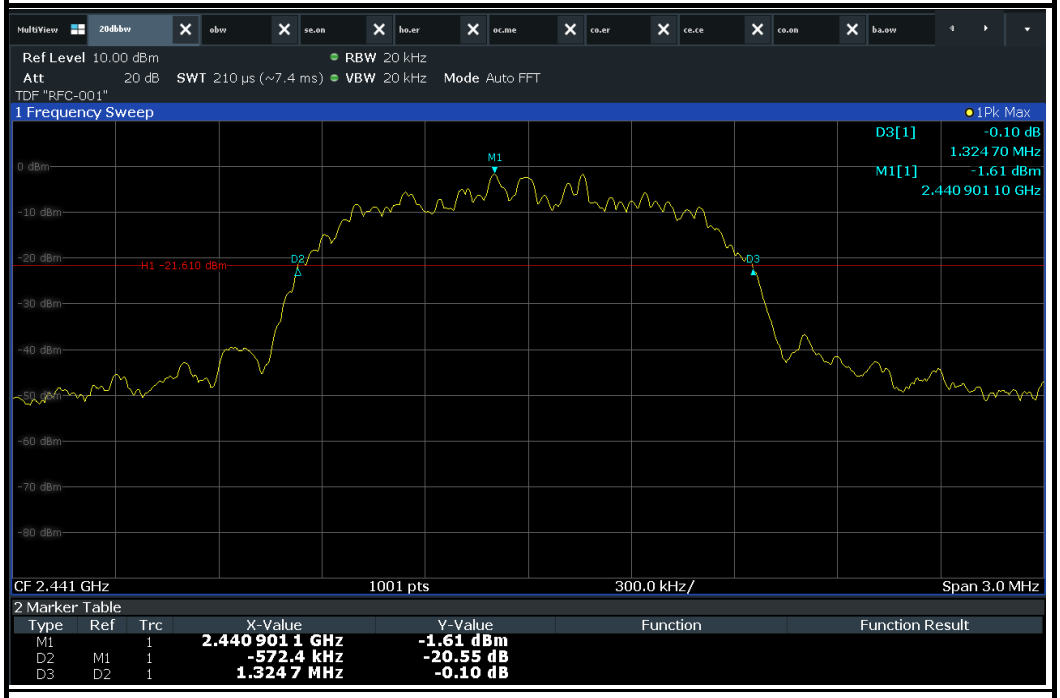
EDR_Low ch_20 dB Bandwidth



EDR_Mid ch_20 dB Bandwidth

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EDR_High ch_20 dB Bandwidth

4.2 Carrier Frequency Separation

4.2.1 Test procedure

ANSI C63.10-2013 Clause 7.8.2

4.2.2 Limit

§15.247 (a)(1)

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. Alternatively, 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. The system shall hop to channel frequencies that are selected at the system hopping rate from a pseudo randomly ordered list of hopping frequencies. Each frequency must be used equally on the average by each transmitter. The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.

4.2.3 Test data

Result : Pass

Mode	Frequency (MHz)	Measured Value (kHz)	Two-third 20 dB bandwidth of the hopping channel (kHz)	Limit
Bluetooth BDR	2 402	1 001.0	627.40	25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater
	2 441	1 001.0	627.40	
	2 480	1 001.0	626.07	
Bluetooth EDR	2 402	999.0	883.13	
	2 441	1 009.0	883.13	
	2 480	1 009.0	883.13	

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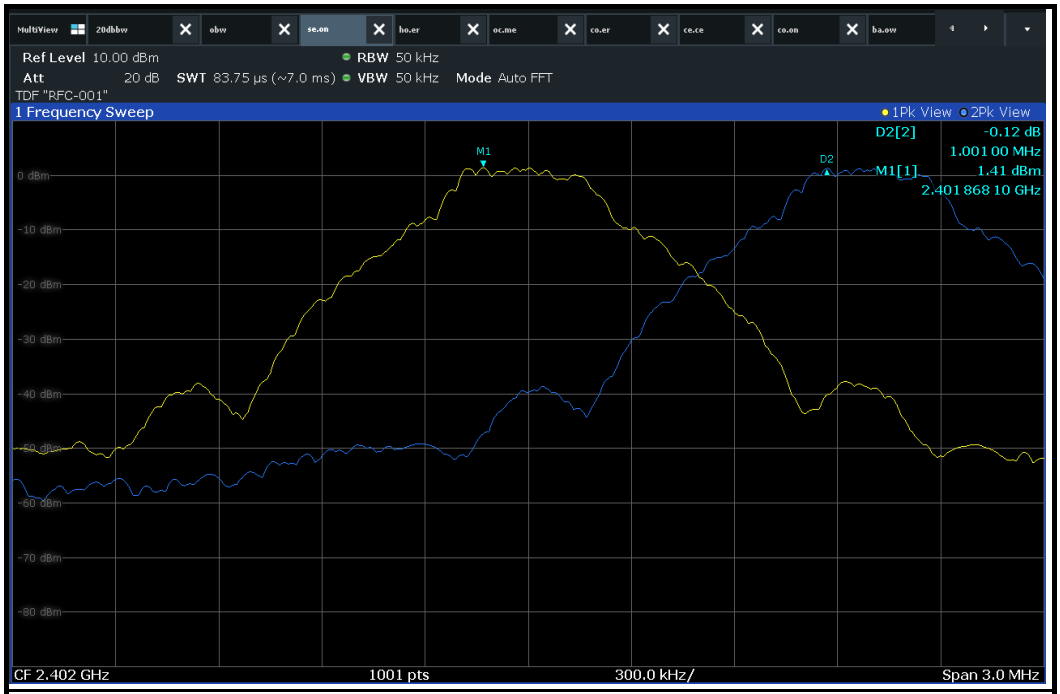
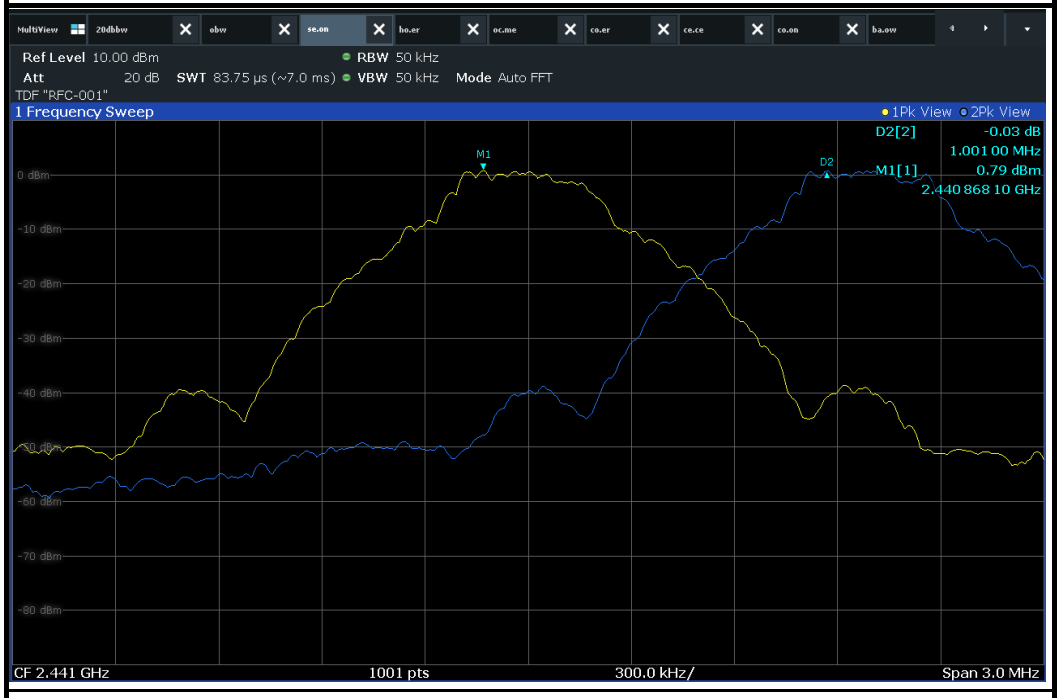
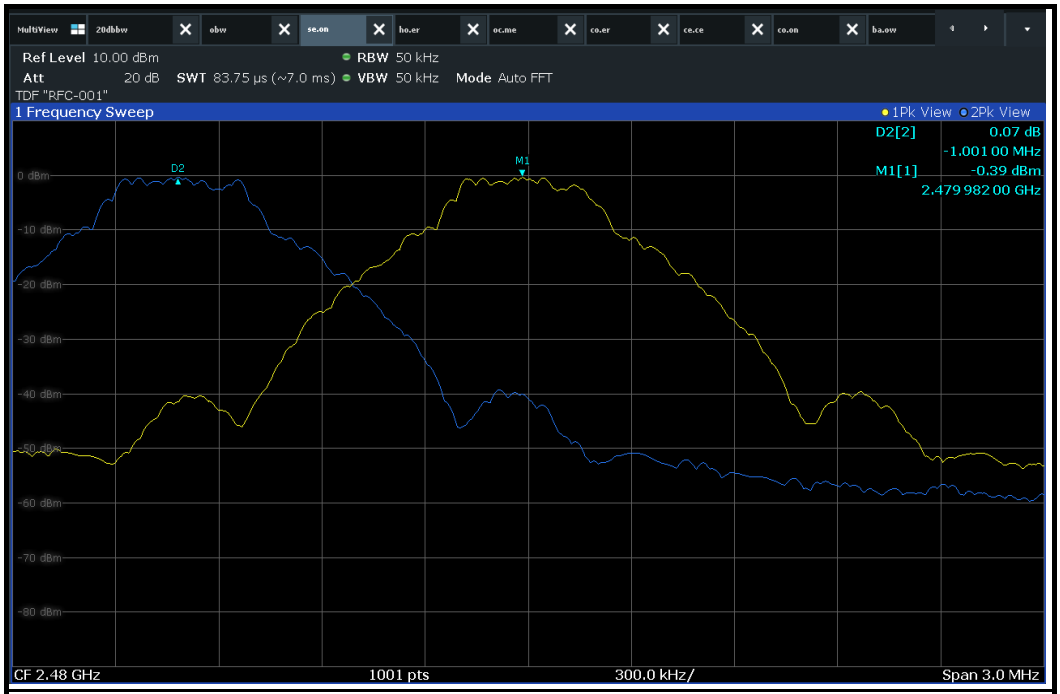


BDR_Low ch_Carrier Frequency Separation



BDR_Mid ch_Carrier Frequency Separation

TEST REPORT



BDR_High ch_Carrier Frequency Separation

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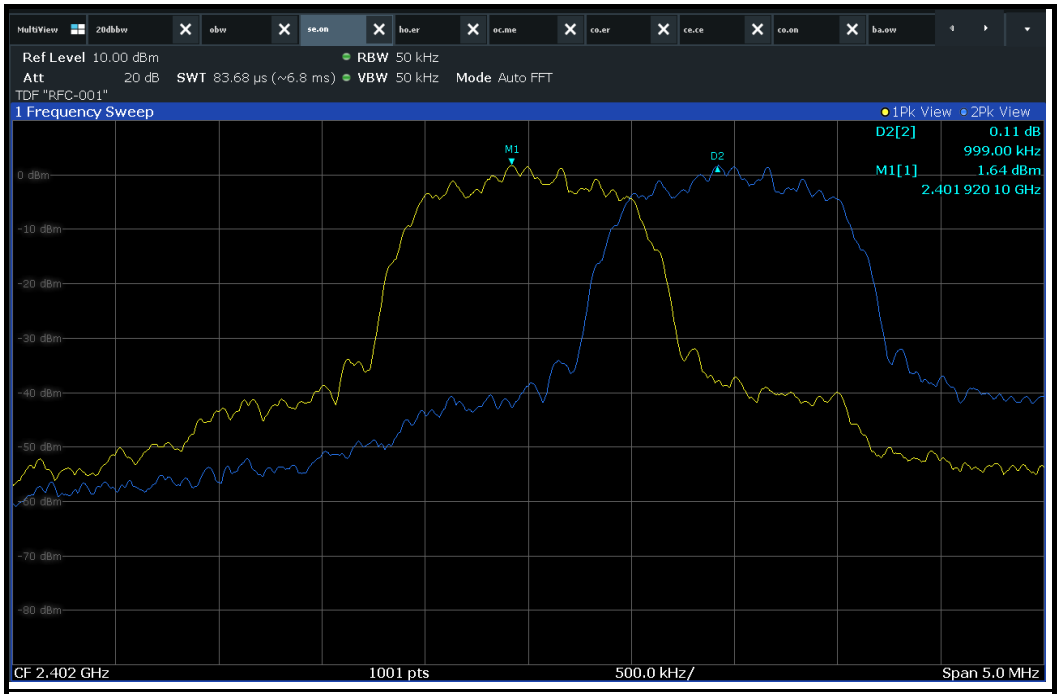
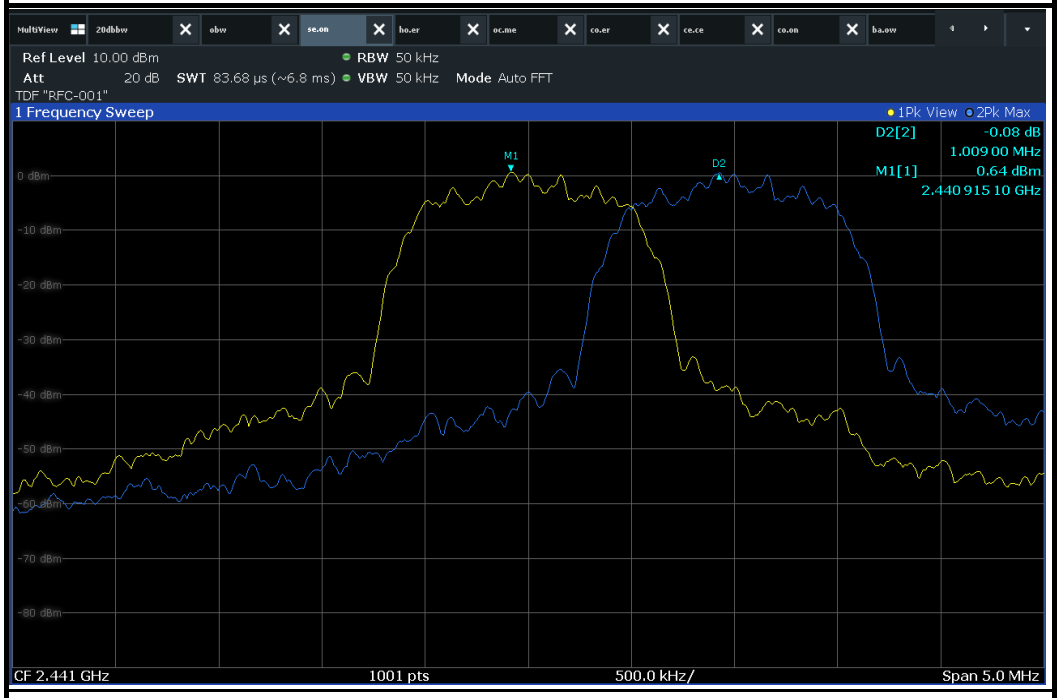


EDR_Low ch_Carrier Frequency Separation



EDR_Mid ch_Carrier Frequency Separation

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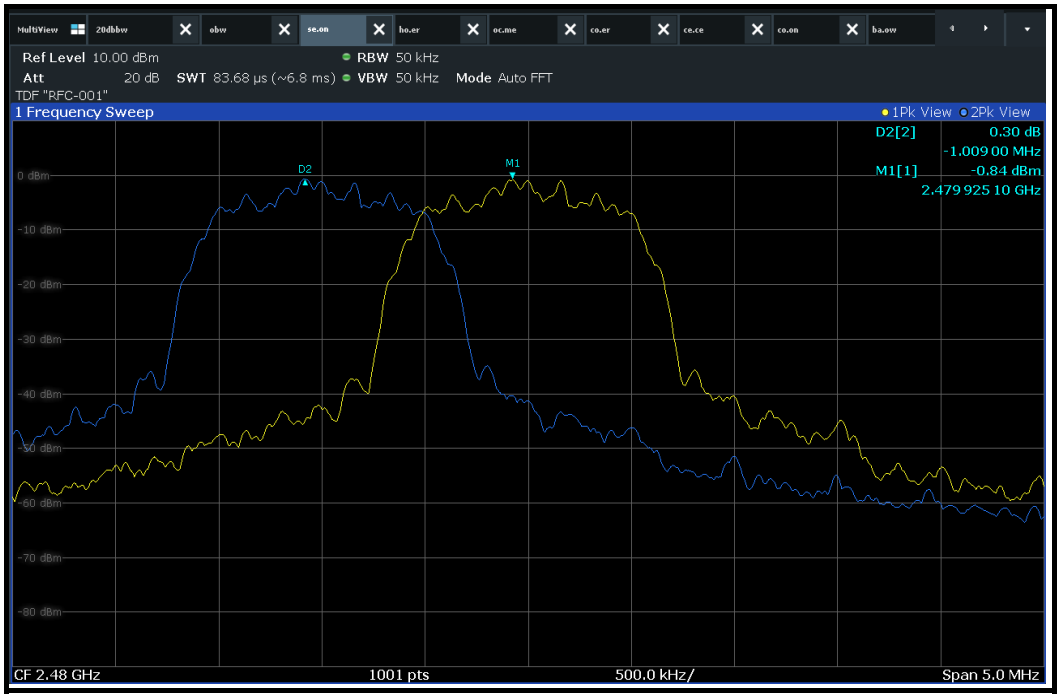

EDR_High ch_Carrier Frequency Separation

4.3 Number of Hopping Frequency

4.3.1 Test procedure

ANSI C63.10-2013 Clause 7.8.3

4.3.2 Limit

15.247 (a)(1)(iii)

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. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

4.3.3 Test data

Result : Pass

Mode	Hopping Channel	Limit
Bluetooth BDR	79	> 15
Bluetooth EDR	79	

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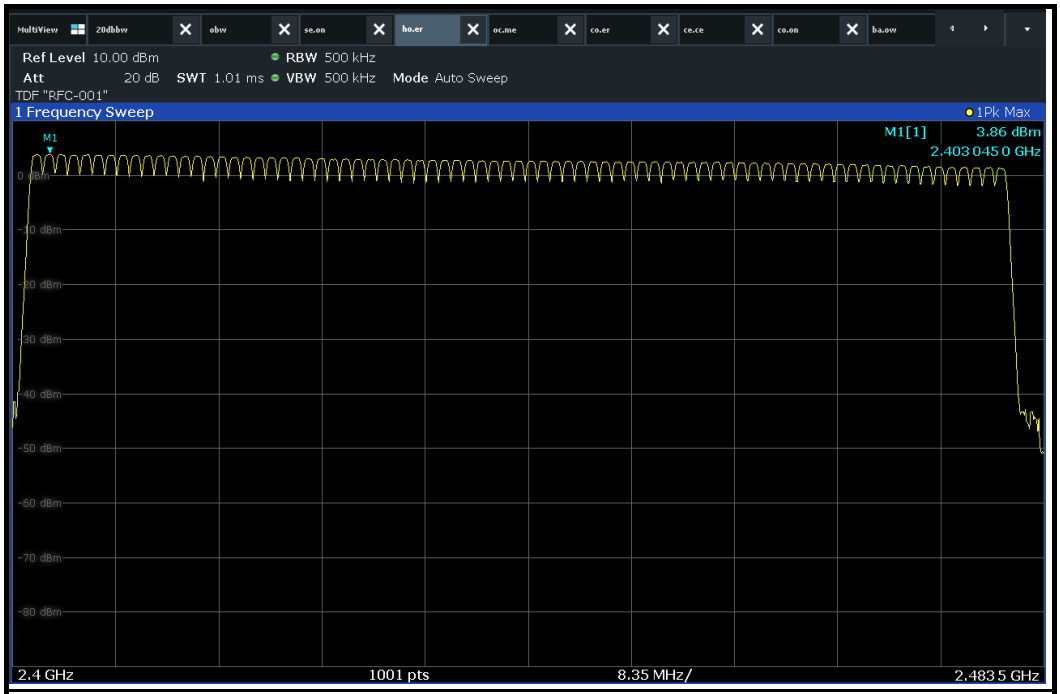
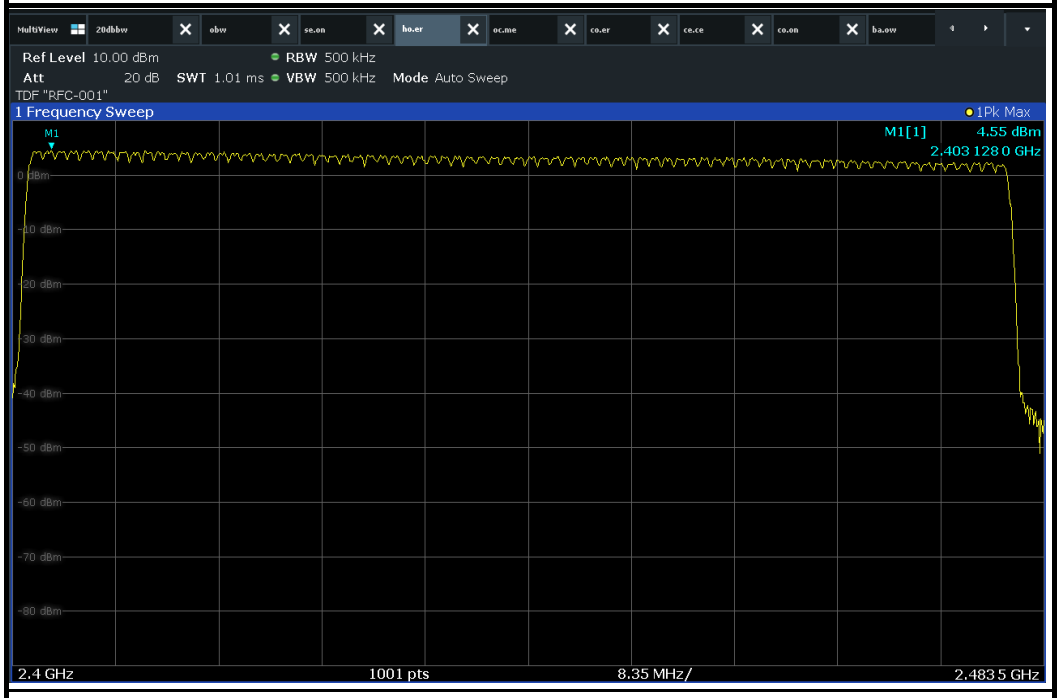


BDR_Hopping Channel



EDR_Hopping Channel

4.4 Time of Occupancy (dwell Time)

4.4.1 Test procedure

ANSI C63.10-2013 Clause 7.8.4

4.4.2 Limit

§15.247 (a)(1)(iii)

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. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

4.4.3 Test data

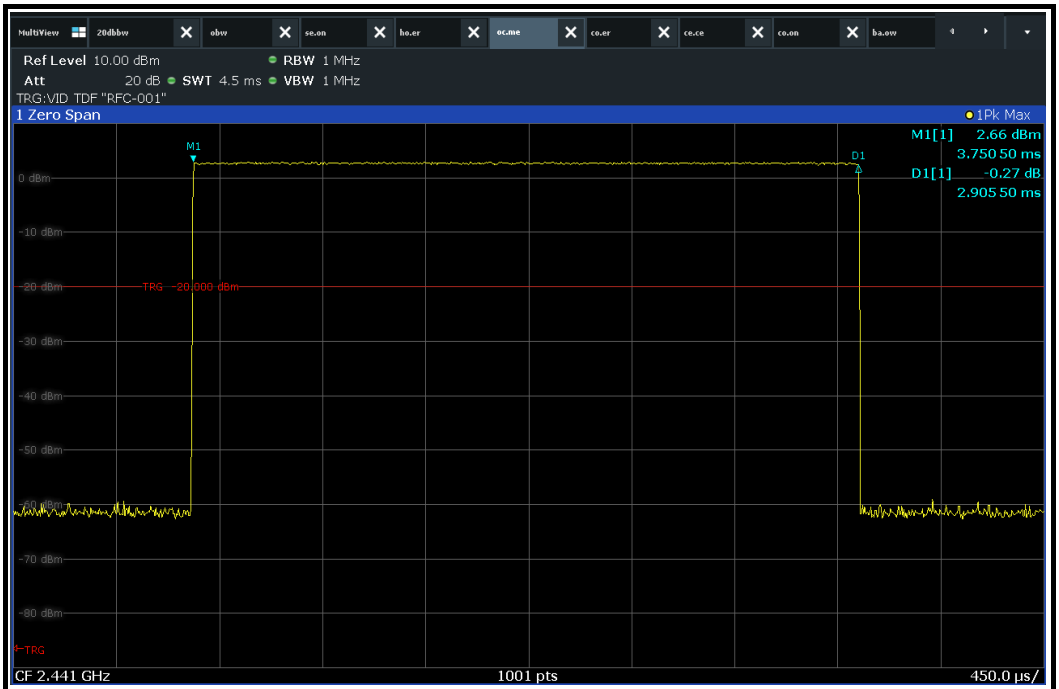
Result : Pass

Mode	number of hops on spectrum analyzer	Hops Over Occupancy Time (ms/hops)	transmit time per hop (ms)	Time of Occupancy (s)	Limit (s)
BDR	79	106.67	2.91	0.31	0.4
EDR	79	106.67	2.91	0.31	0.4

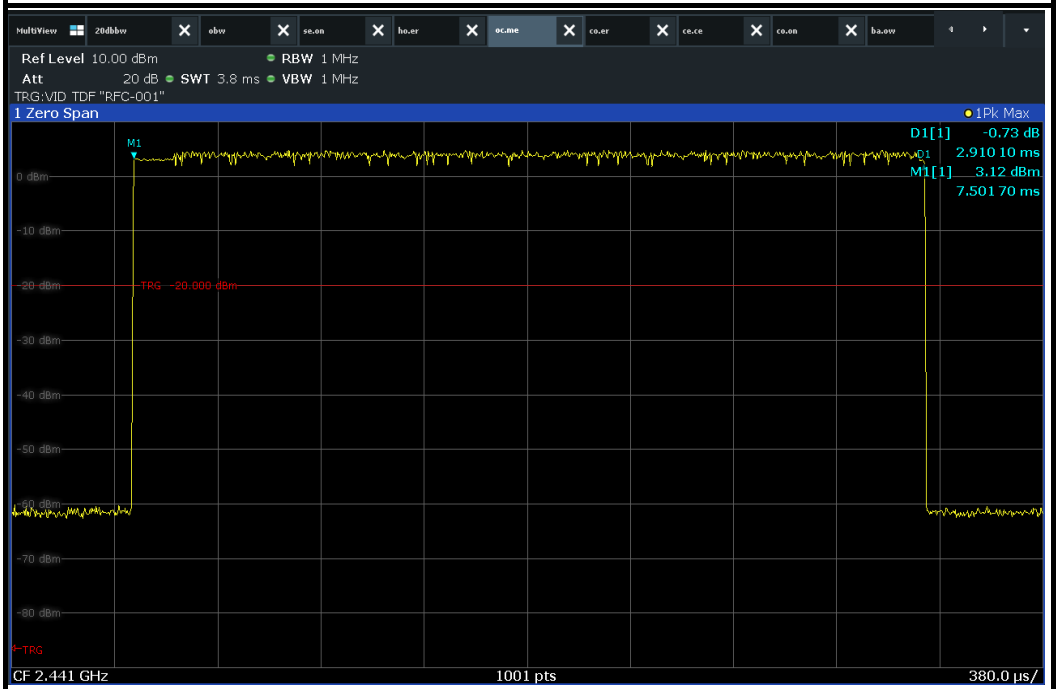
※ Hops Over Occupancy Time = (1 600 / 6 / 79) x (0.4 x 79)

※ Time of Occupancy = Hops Over Occupancy Time (hops) x Package Transfer Time (ms)

TEST REPORT



BDR_transmit time per hop



EDR_transmit time per hop

4.5 Maximum Conducted Output Power

4.5.1 Test procedure

ANSI C63.10-2013 Clause 7.8.5

4.5.2 Limit

§15.247 (a)(1)

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. Alternatively, 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. The system shall hop to channel frequencies that are selected at the system hopping rate from a pseudo randomly ordered list of hopping frequencies. Each frequency must be used equally on the average by each transmitter. The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.

4.5.3 Test data

Result : Pass

Mode	Frequency (MHz)	Measured Value (dBm)	Limit (dBm)
Bluetooth BDR	2 402	4.10	20.97 (0.125 Watt)
	2 441	2.90	
	2 480	1.52	
Bluetooth EDR	2 402	6.62	
	2 441	5.53	
	2 480	4.15	

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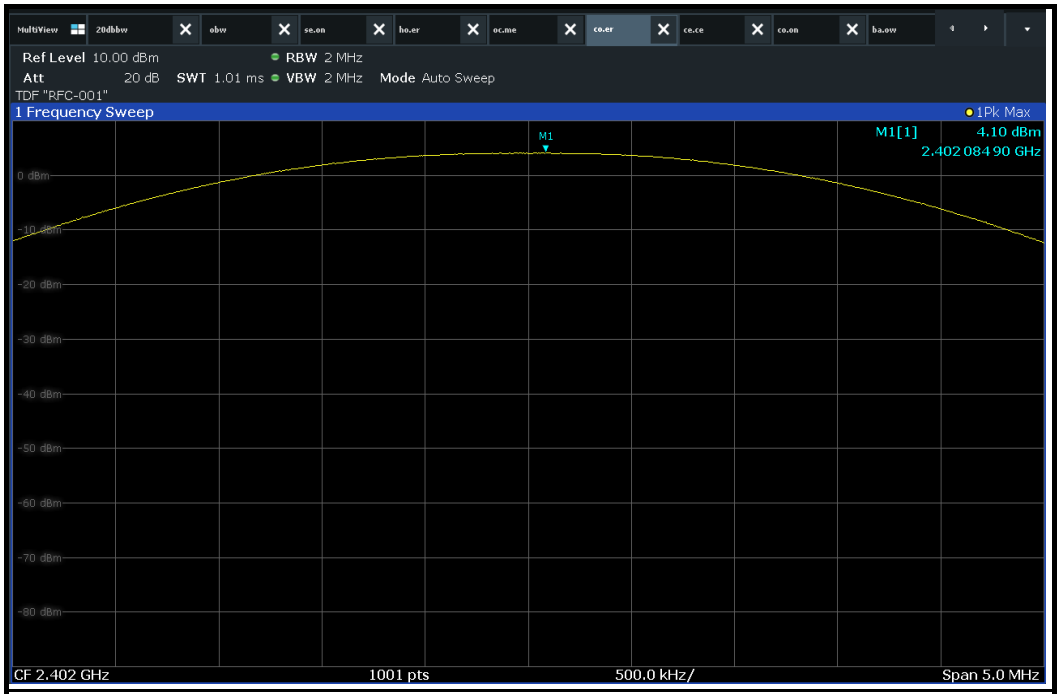
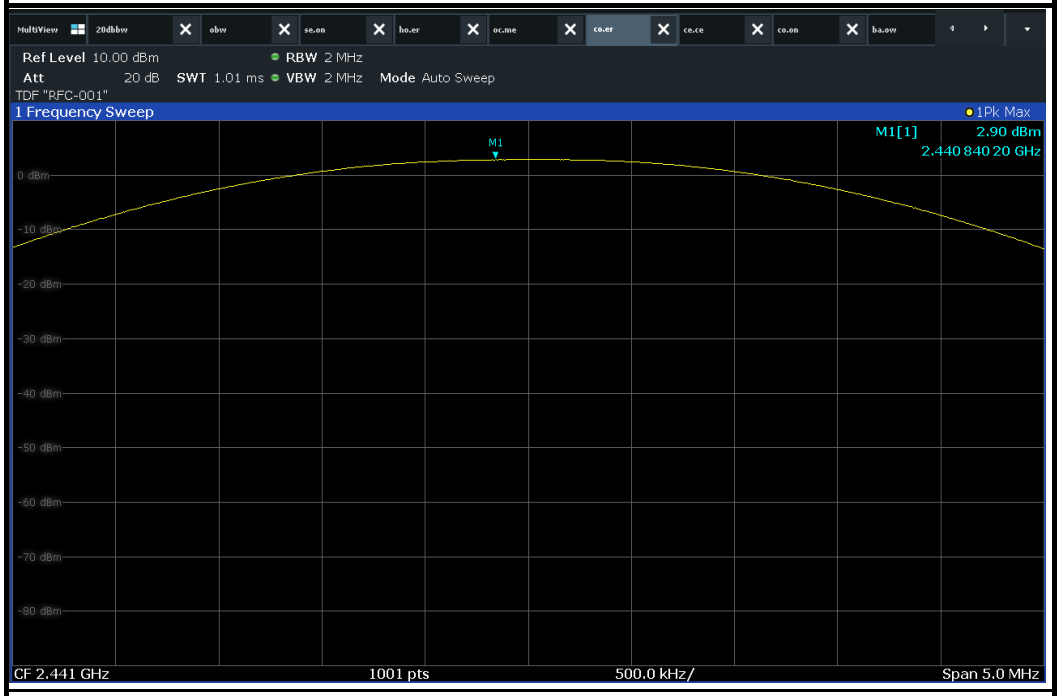
BDR_Low ch_Maximum Conducted Output Power

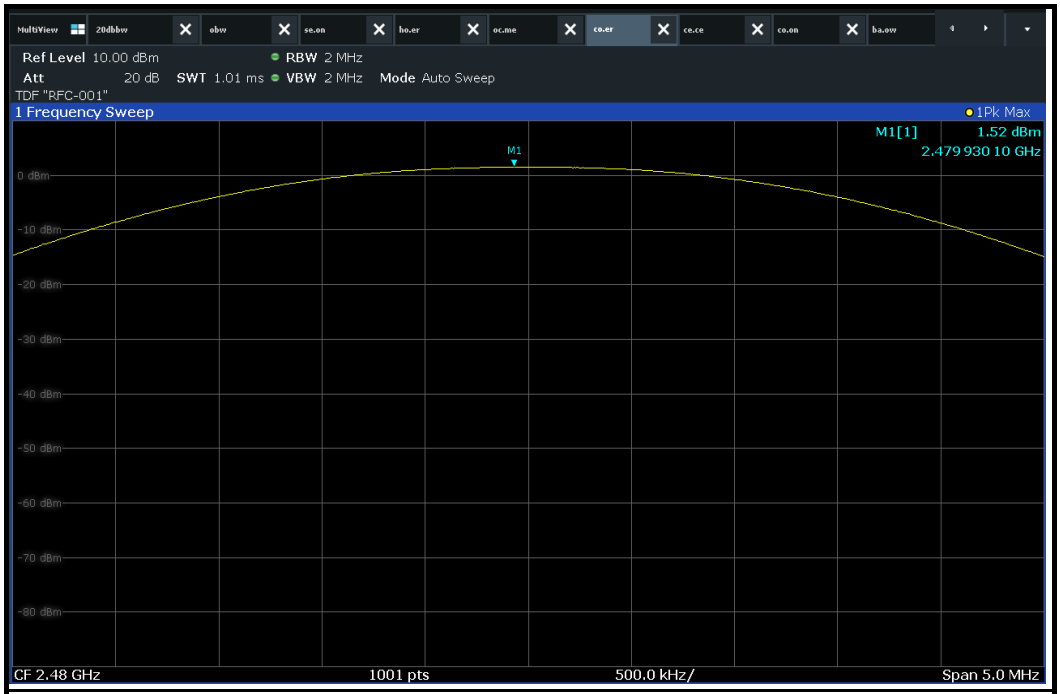


BDR_Low ch_Maximum Conducted Output Power



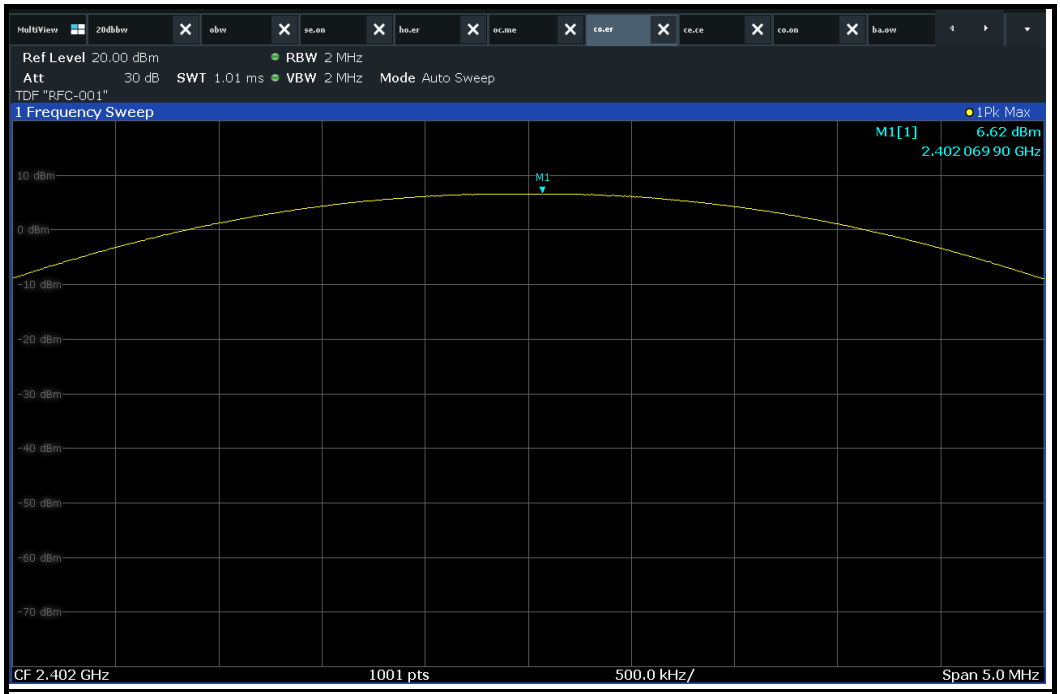
BDR_Mid ch_Maximum Conducted Output Power

TEST REPORT

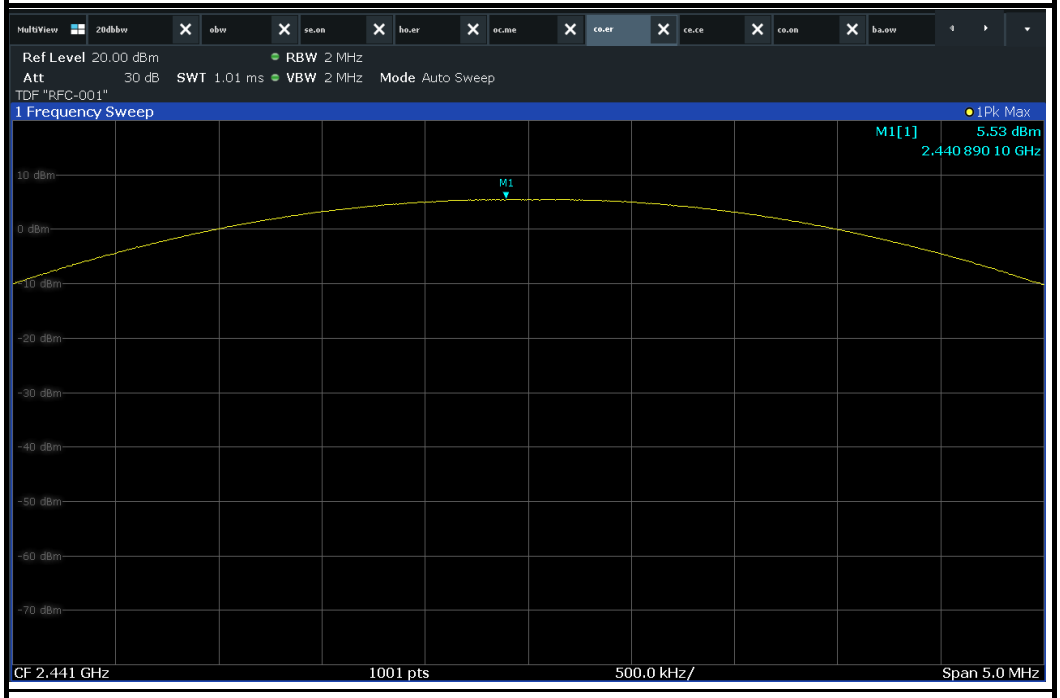


BDR_High ch_Maximum Conducted Output Power

TEST REPORT

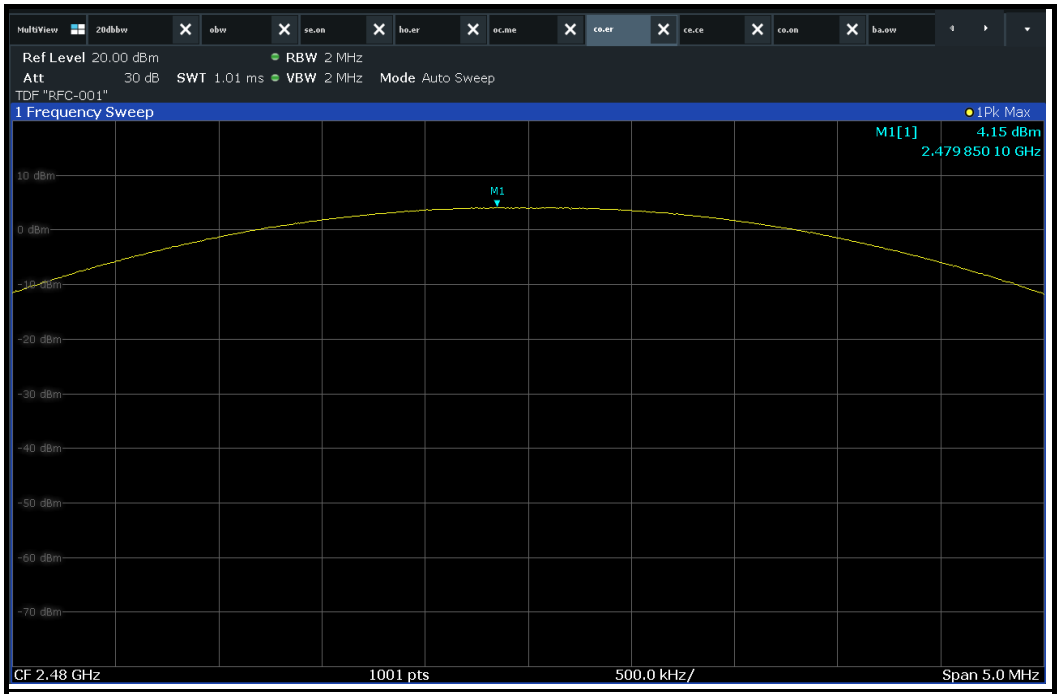


EDR_Low ch_Maximum Conducted Output Power



EDR_Mid ch_Maximum Conducted Output Power

TEST REPORT



EDR_High ch_Maximum Conducted Output Power

4.6 Conducted Spurious Emission

4.6.1 Test procedure

ANSI C63.10-2013 Clause 7.8.8, 6.10.4

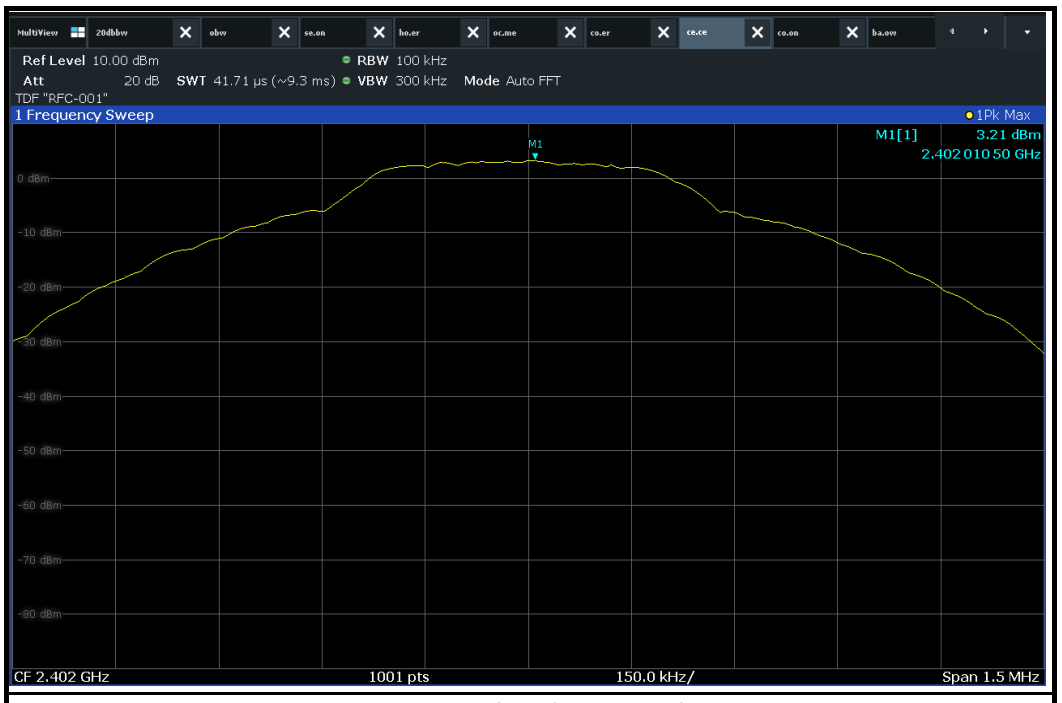
4.6.2 Limit

§15.247 (d)

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated 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, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in § 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).

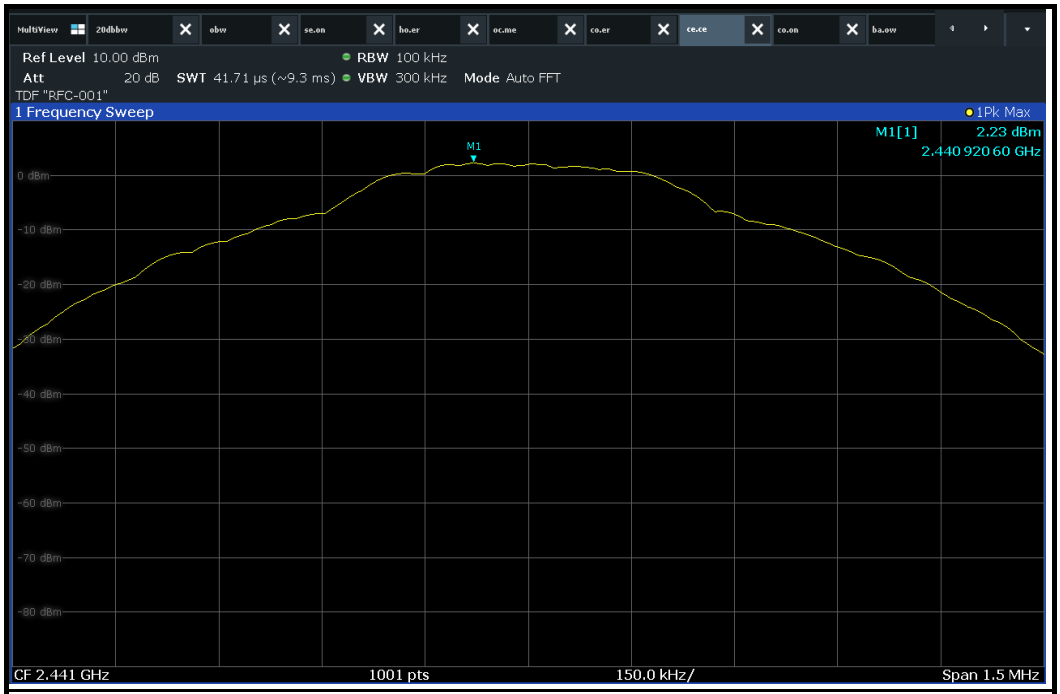
4.6.3 Test data

Result : Pass

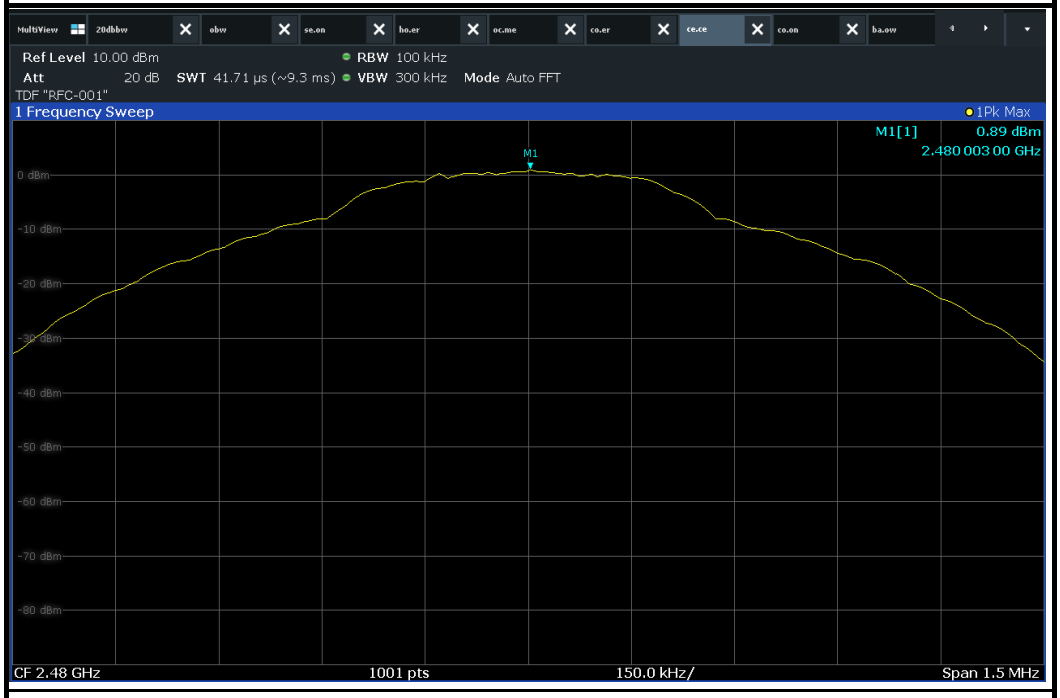


BDR_Low ch_Reference Level

TEST REPORT

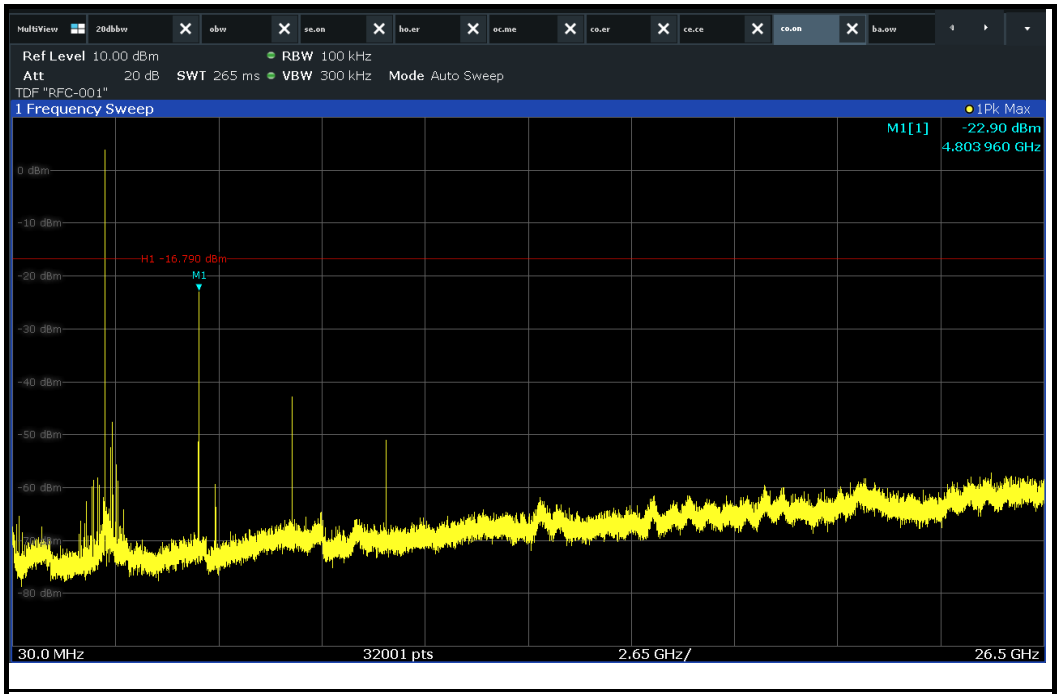


BDR_Mid ch_Reference Level

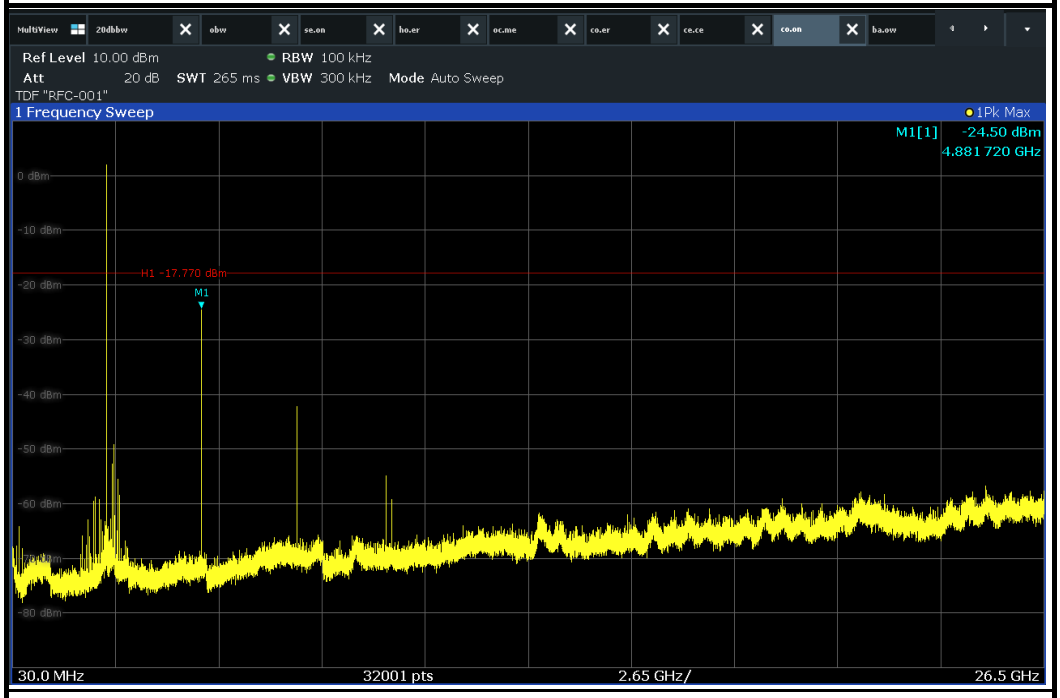


BDR_High ch_Reference Level

TEST REPORT



BDR_Low ch_Conducted Spurious Emission



BDR_Mid ch_Conducted Spurious Emission

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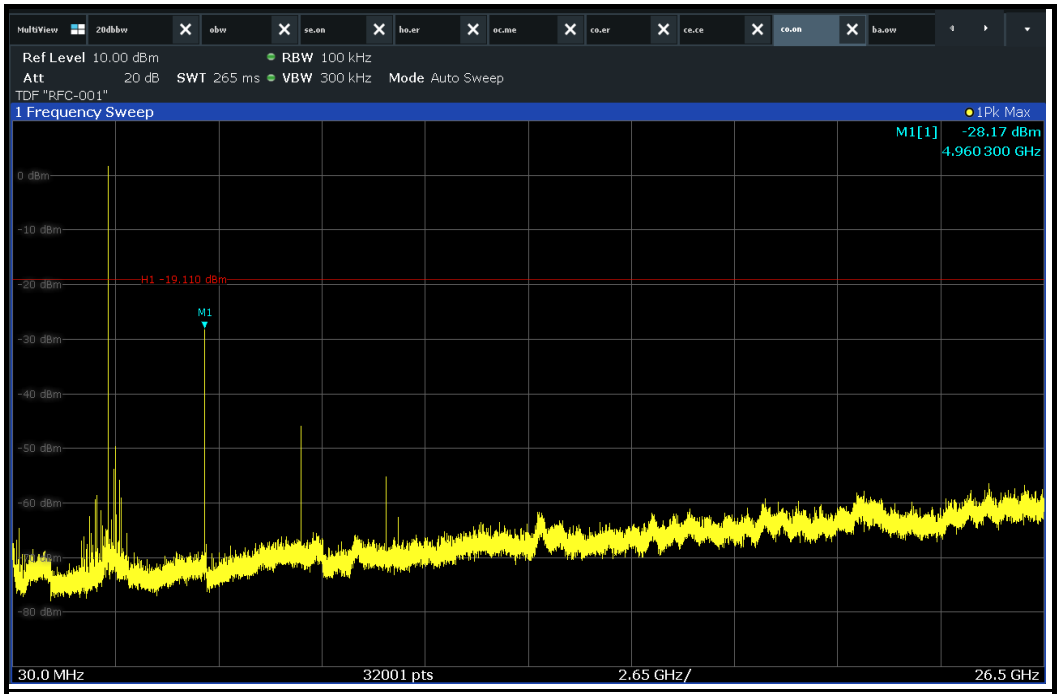
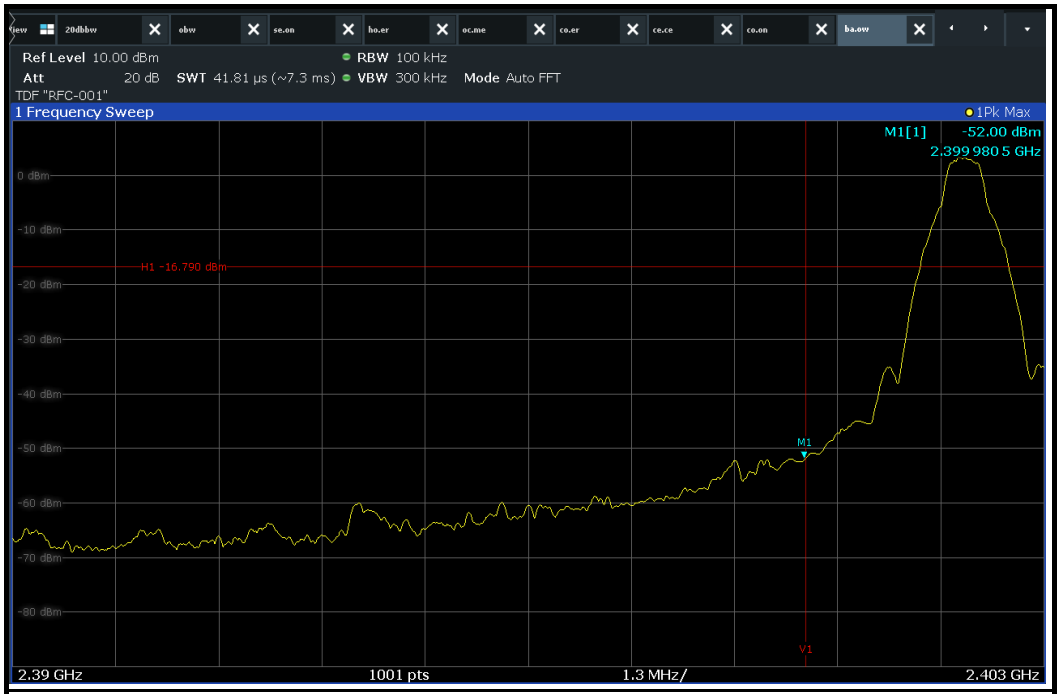
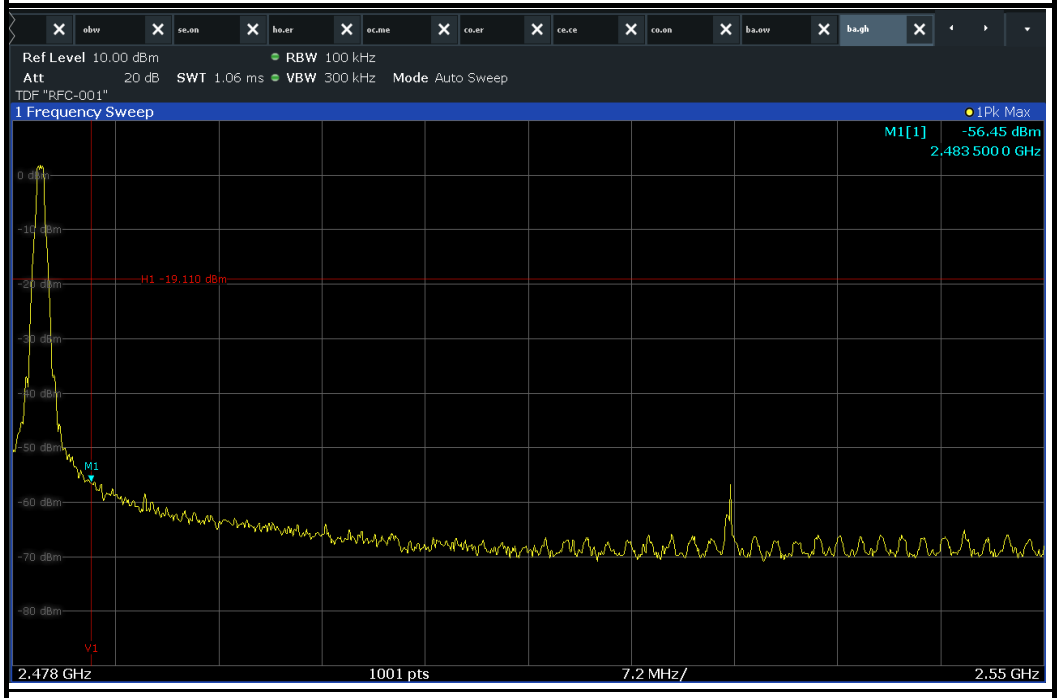


BDR_High ch_Conducted Spurious Emission

TEST REPORT

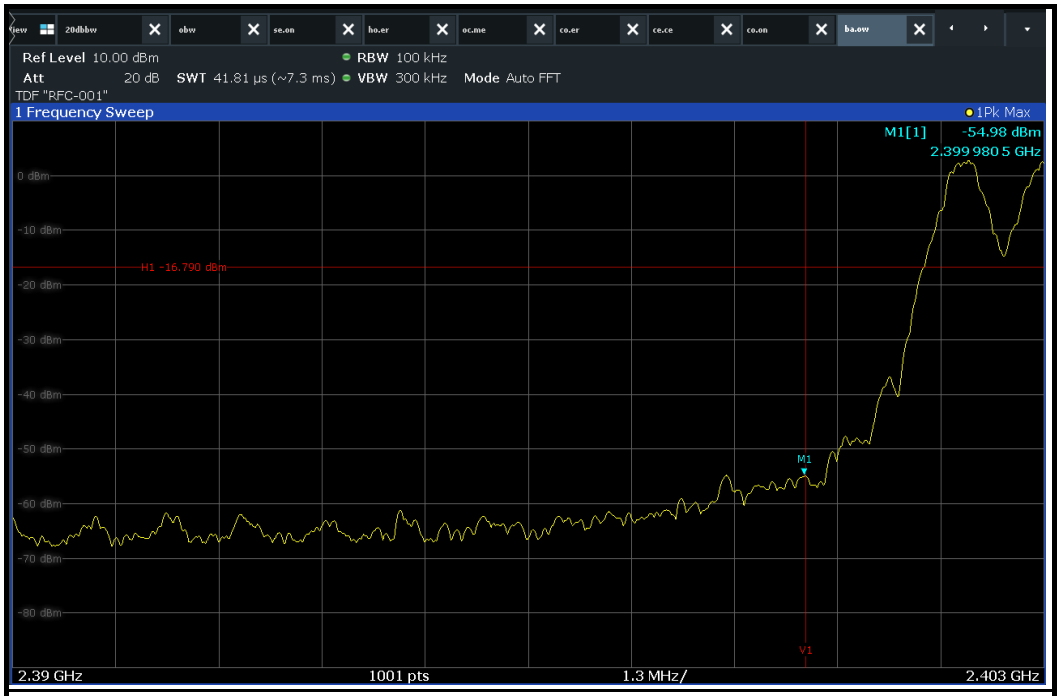


BDR_Low ch_Band Edge

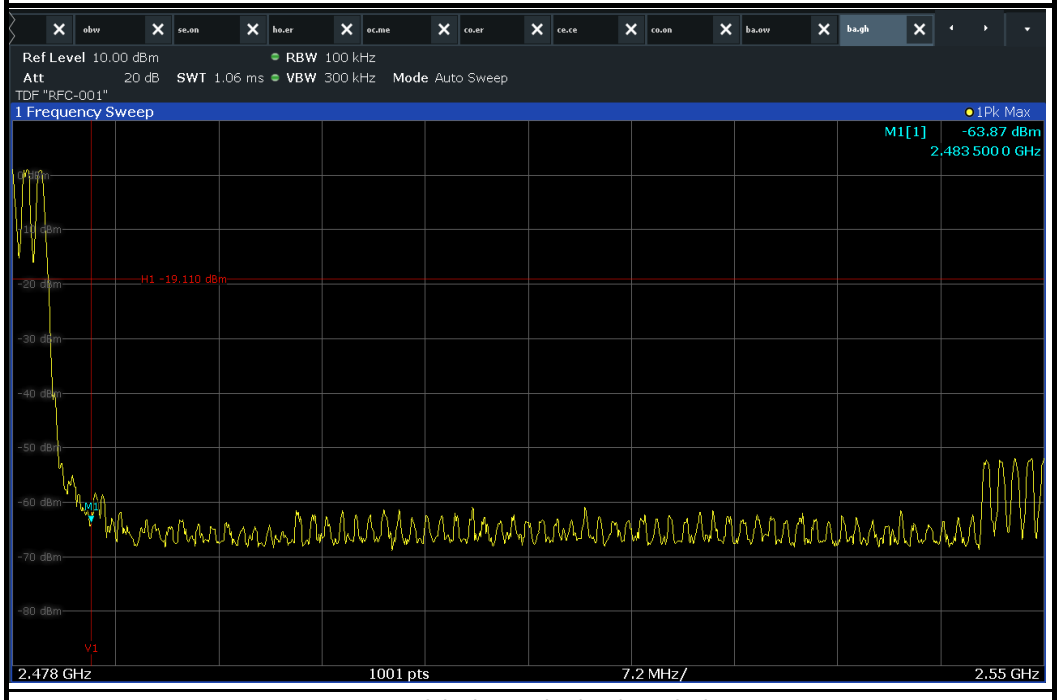


BDR_High ch_Band Edge

TEST REPORT

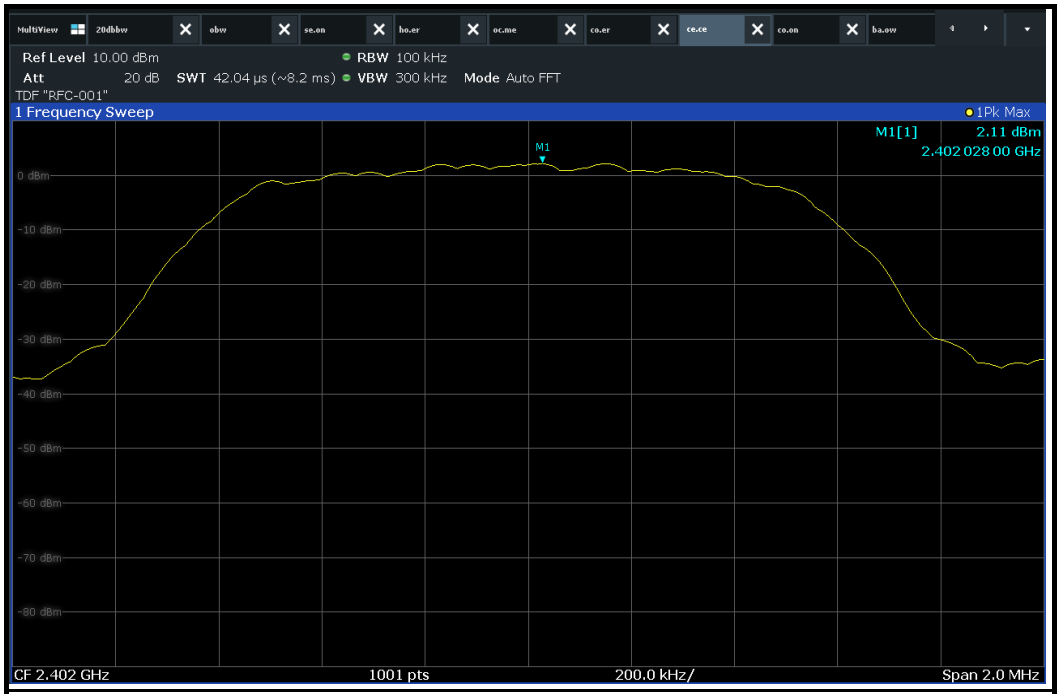


BDR_Low ch_Band Edge (Hopping)

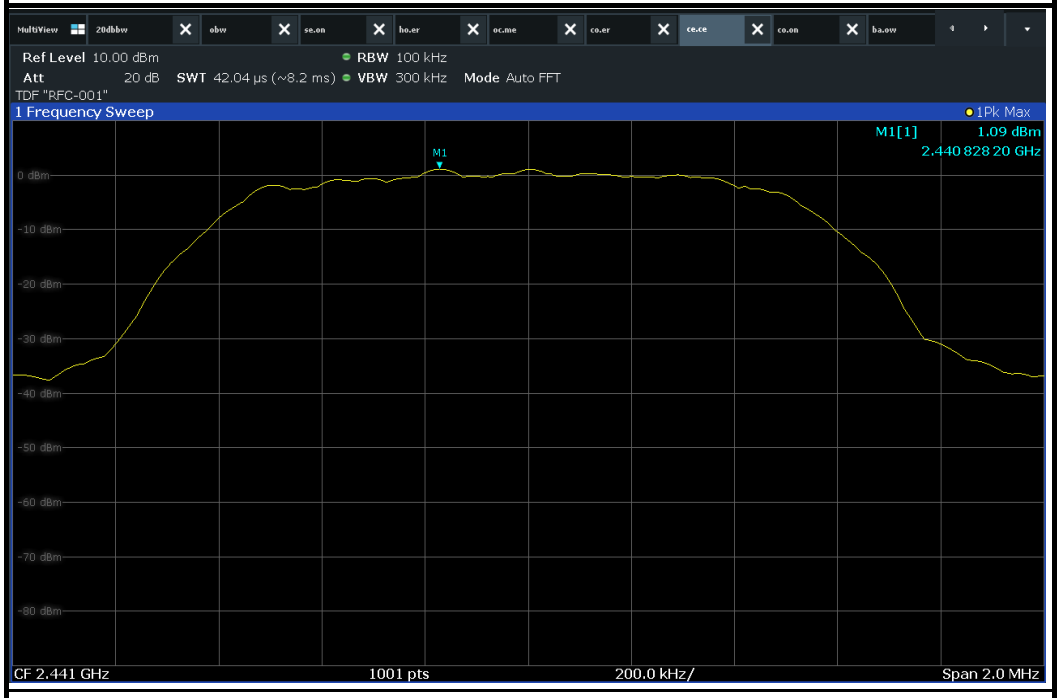


BDR_High ch_Band Edge (Hopping)

TEST REPORT

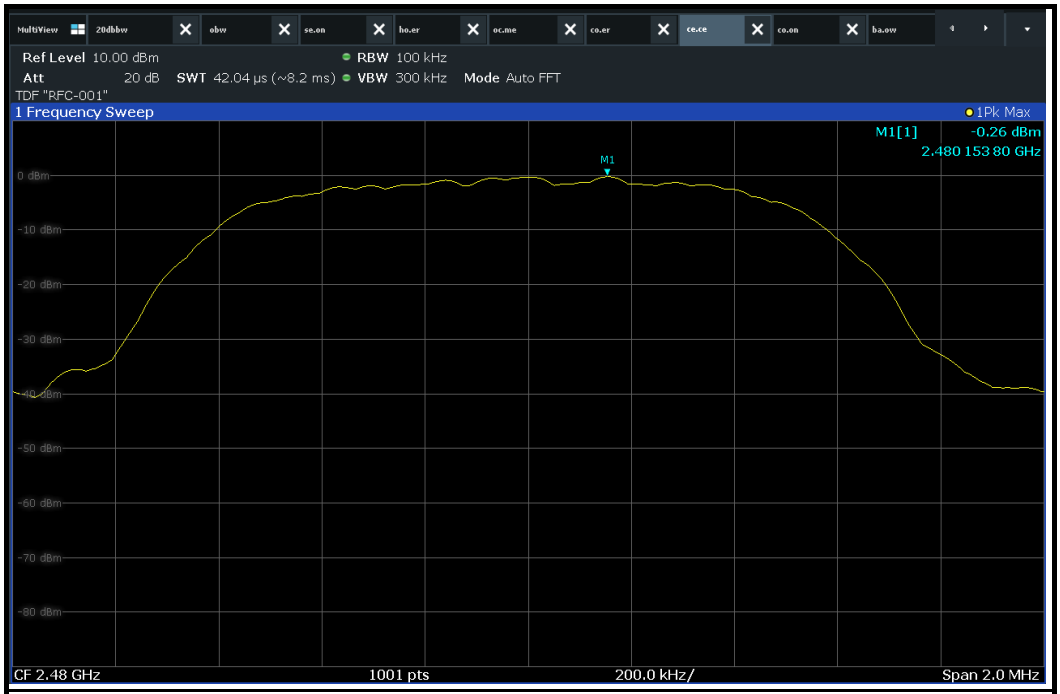


EDR_Low ch_Reference Level

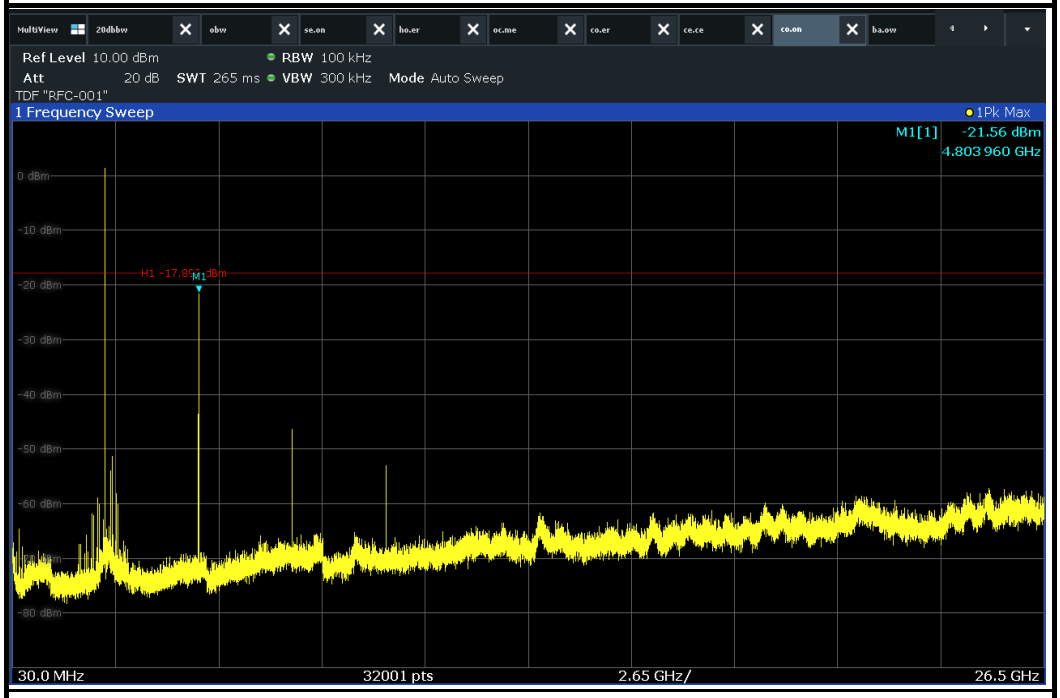


EDR_Mid ch_Reference Level

TEST REPORT

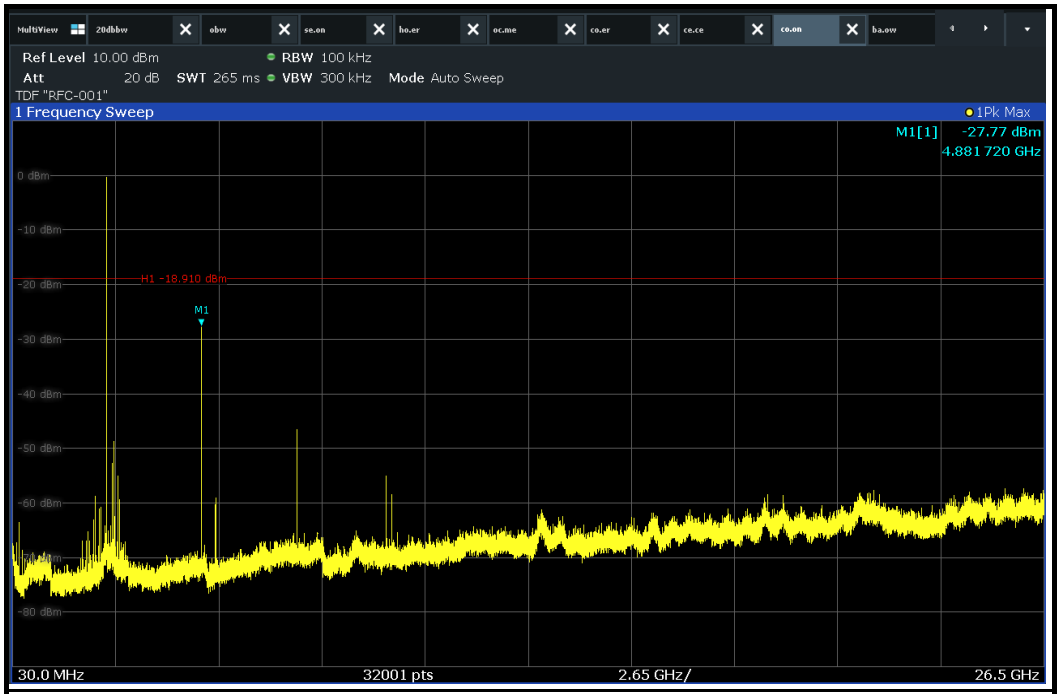


EDR_High ch_Reference Level

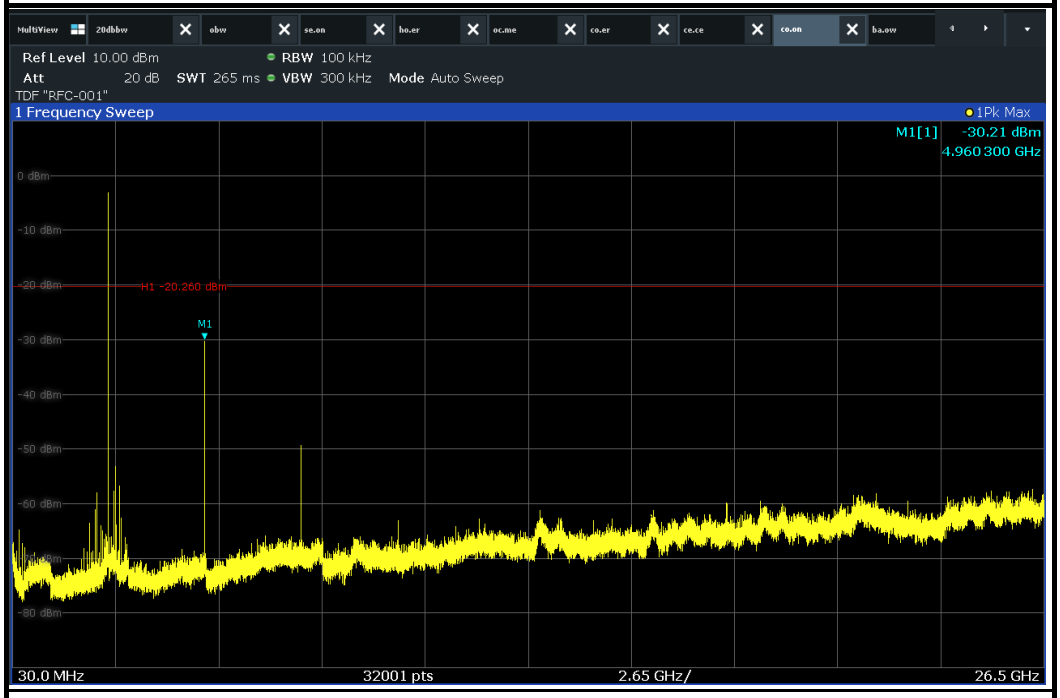


EDR_Low ch_Conducted Spurious Emission

TEST REPORT



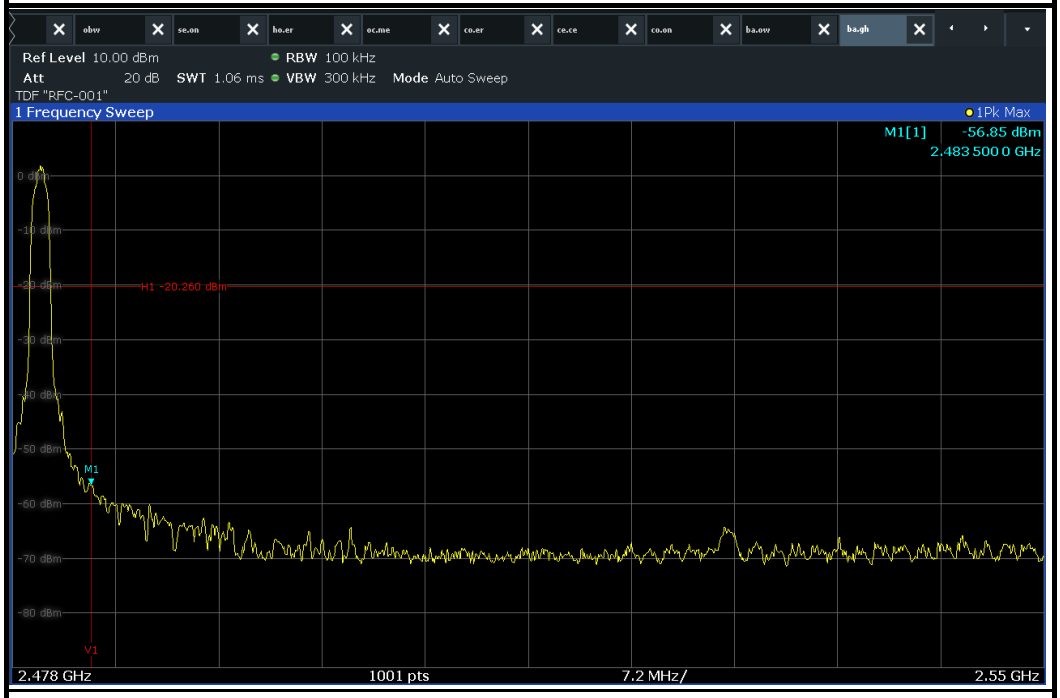
EDR_Mid ch_Conducted Spurious Emission



EDR_High ch_Conducted Spurious Emission

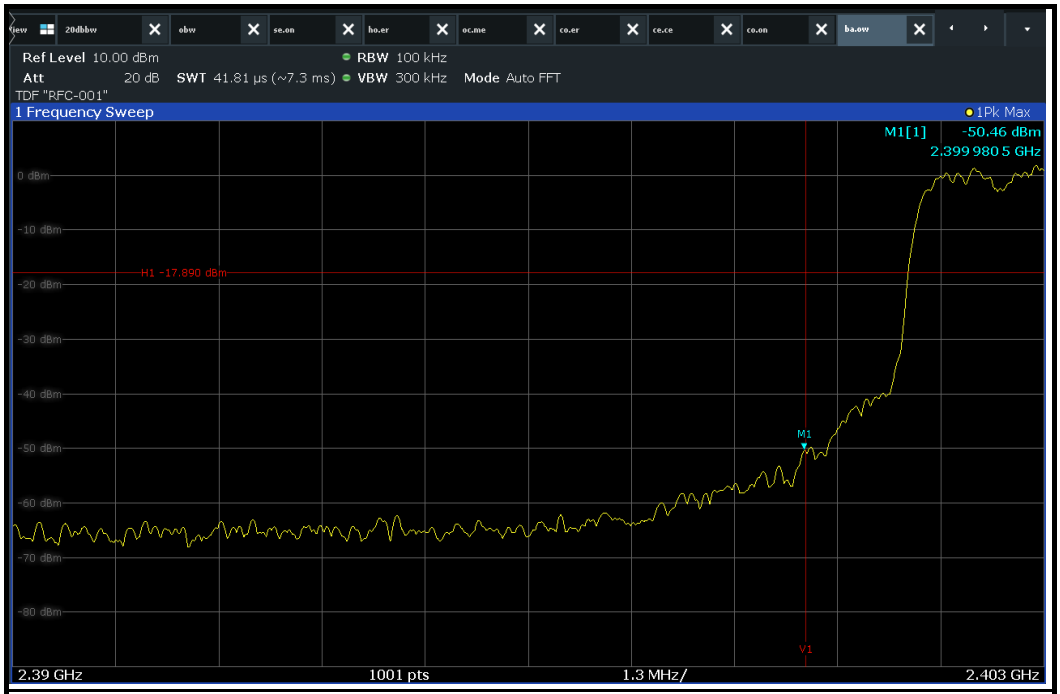
TEST REPORT

EDR_Low ch_Band Edge

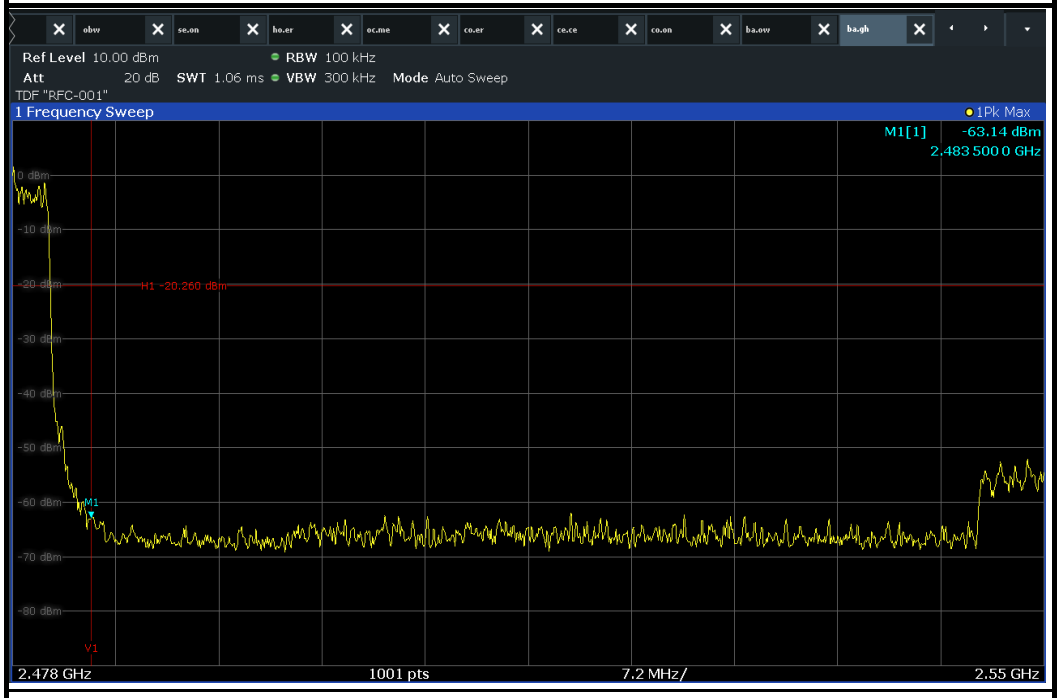


EDR_High ch_Band Edge

TEST REPORT



EDR_Low ch_Band Edge (Hopping)



EDR_High ch_Band Edge (Hopping)

4.7 Radiated Spurious Emission

4.7.1 Test procedure

ANSI C63.10-2013 Clause 6.4, 6.5, 6.6

4.7.2 Limit

§15.247 (d)

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated 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, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in § 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).

§15.209 Radiated emission limits; general requirements.(a)

Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009–0.490	2400/F(kHz)	300
0.490–1.705	24000/F(kHz)	30
1.705–30.0	30	30
30–88	100 **	3
88–216	150 **	3
216–960	200 **	3
Above 960	500	3

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54–72 MHz, 76–88 MHz, 174–216 MHz or 470–806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.

§15.205 Restricted bands of operation.(a),(b)

MHz	MHz	MHz	GHz
0.090–0.110	16.42–16.423	399.9–410	4.5–5.15
[1] 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
8.41425–8.41475	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	([2])
13.36–13.41			

[1] Until February 1, 1999, this restricted band shall be 0.490–0.510 MHz.

[2] Above 38.6

Except as provided in paragraphs (d) and (e) of this section, the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in § 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in § 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in § 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in § 15.35 apply to these measurements.

4.7.3 Test data

Result : Pass

- Below 30 MHz_Low ch BDR, EDR

Frequency (MHz)	Reading (dBuV/m)	Detector	Pol.	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dBuV/m)	note
It was not found any emissions peaks found from the EUT.								

- Below 30 MHz_Mid ch BDR, EDR

Frequency (MHz)	Reading (dBuV/m)	Detector	Pol.	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dBuV/m)	note
It was not found any emissions peaks found from the EUT.								

- Below 30 MHz_High ch BDR, EDR

Frequency (MHz)	Reading (dBuV/m)	Detector	Pol.	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dBuV/m)	note
It was not found any emissions peaks found from the EUT.								

TEST REPORT

- 30 MHz ~ 1 GHz_Low ch BDR

Frequency (MHz)	Reading (dBuV/m)	Detector	Pol.	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dBuV/m)	note
252.033	57.92	QP	H	-22.6	35.32	46.0	10.68	
372.022	58.21	QP	H	-19.5	38.71	46.0	7.29	
396.078	55.25	QP	H	-18.6	36.65	46.0	9.35	
420.037	55.71	QP	H	-18.1	37.61	46.0	8.39	

- 30 MHz ~ 1 GHz_Mid ch BDR

Frequency (MHz)	Reading (dBuV/m)	Detector	Pol.	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dBuV/m)	note
372.022	58.87	QP	H	-19.5	39.37	46.0	6.63	
396.078	56.06	QP	H	-18.6	37.46	46.0	8.54	
420.037	56.14	QP	H	-18.1	38.04	46.0	7.96	
443.996	52.73	QP	H	-17.9	34.83	46.0	11.17	

- 30 MHz ~ 1 GHz_High ch BDR

Frequency (MHz)	Reading (dBuV/m)	Detector	Pol.	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dBuV/m)	note
41.058	55.45	QP	V	-23.9	31.55	40.0	8.45	
372.022	58.30	QP	H	-19.5	38.80	46.0	7.20	
396.078	56.05	QP	H	-18.6	37.45	46.0	8.55	
420.037	56.20	QP	H	-18.1	38.10	46.0	7.90	

TEST REPORT

- 30 MHz ~ 1 GHz_Low ch EDR

Frequency (MHz)	Reading (dBuV/m)	Detector	Pol.	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dBuV/m)	note
372.02	56.95	QP	H	-19.5	37.45	46.0	8.55	
396.08	55.57	QP	H	-18.6	36.97	46.0	9.03	
408.01	55.97	QP	H	-18.4	37.57	46.0	8.43	
420.04	56.26	QP	H	-18.1	38.16	46.0	7.84	

- 30 MHz ~ 1 GHz_Mid ch EDR

Frequency (MHz)	Reading (dBuV/m)	Detector	Pol.	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dBuV/m)	note
120.02	62.47	QP	V	-26.6	35.87	43.5	7.63	
372.02	57.71	QP	H	-19.5	38.21	46.0	7.79	
396.08	54.94	QP	H	-18.6	36.34	46.0	9.66	
408.01	54.92	QP	H	-18.4	36.52	46.0	9.48	

- 30 MHz ~ 1 GHz_High ch EDR

Frequency (MHz)	Reading (dBuV/m)	Detector	Pol.	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dBuV/m)	note
372.02	57.64	QP	H	-19.5	38.14	46.0	7.86	
396.08	54.98	QP	H	-18.6	36.38	46.0	9.62	
408.01	54.92	QP	H	-18.4	36.52	46.0	9.48	
420.04	55.93	QP	H	-18.1	37.83	46.0	8.17	

TEST REPORT

- 1 GHz Above_Low ch BDR

Frequency (MHz)	Reading (dBuV/m)	Detector	Pol.	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dBuV/m)	note
2 382.19	43.42	PK	V	-10.3	33.12	74.0	40.88	Restricted band
	29.91	AVG	V		19.61	54.0	34.39	
4 804.50	44.10	PK	H	-1.2	42.90	74.0	31.10	2nd Harmonic
	31.92	AVG	H		30.72	54.0	23.28	
7 206.00	42.60	PK	H	3.4	46.00	74.0	28.00	3nd Harmonic
	32.16	AVG	H		35.56	54.0	18.44	
9 608.40	38.28	PK	V	5.7	43.98	74.0	30.02	4nd Harmonic
	25.11	AVG	V		30.81	54.0	23.19	
12 009.60	45.43	PK	V	8.1	53.53	74.0	20.47	5nd Harmonic
	34.71	AVG	V		42.81	54.0	11.19	

- 1 GHz Above_Mid ch BDR

Frequency (MHz)	Reading (dBuV/m)	Detector	Pol.	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dBuV/m)	note
4 882.50	44.11	PK	H	-1.1	43.01	74.0	30.99	2nd Harmonic
	32.77	AVG	H		31.67	54.0	22.33	
7 323.60	38.26	PK	V	3.0	41.26	74.0	32.74	3nd Harmonic
	25.07	AVG	V		28.07	54.0	25.93	
9 765.60	36.86	PK	H	6.7	43.56	74.0	30.44	4nd Harmonic
	23.36	AVG	H		30.06	54.0	23.94	

- 1 GHz Above_High ch BDR

Frequency (MHz)	Reading (dBuV/m)	Detector	Pol.	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dBuV/m)	note
2 498.48	44.76	PK	V	-9.8	34.96	74.0	39.04	Restricted band
	31.38	AVG	V		21.58	54.0	32.42	
4 960.50	40.79	PK	H	-1.0	39.79	74.0	34.21	2nd Harmonic
	26.65	AVG	H		25.65	54.0	28.35	
7 441.20	38.83	PK	H	2.8	41.63	74.0	32.37	3nd Harmonic
	25.37	AVG	H		28.17	54.0	25.83	
9 922.80	36.41	PK	H	6.2	42.61	74.0	31.39	4nd Harmonic
	23.14	AVG	H		29.34	54.0	24.66	

TEST REPORT

- 1 GHz Above_Low ch EDR

Frequency (MHz)	Reading (dBuV/m)	Detector	Pol.	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dBuV/m)	note
2 359.68	43.47	PK	V	-10.4	33.07	74.0	40.93	Restricted band
	29.98	AVG	V		19.58	54.0	34.42	
4 804.50	45.46	PK	H	-1.2	44.26	74.0	29.74	2nd Harmonic
	34.54	AVG	H		33.34	54.0	20.66	
7 206.00	48.26	PK	H	3.4	51.66	74.0	22.34	3nd Harmonic
	36.94	AVG	H		40.34	54.0	13.66	
9 608.40	37.79	PK	V	5.7	43.49	74.0	30.51	4nd Harmonic
	23.89	AVG	V		29.59	54.0	24.41	

- 1 GHz Above_Mid ch EDR

Frequency (MHz)	Reading (dBuV/m)	Detector	Pol.	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dBuV/m)	note
4 882.00	44.95	PK	H	-1.1	43.85	74.0	30.15	2nd Harmonic
	34.93	AVG	H		33.83	54.0	20.17	
7 323.60	39.71	PK	H	3.0	42.71	74.0	31.29	3nd Harmonic
	25.49	AVG	H		28.49	54.0	25.51	
9 764.40	40.08	PK	V	6.7	46.78	74.0	27.22	4nd Harmonic
	25.24	AVG	V		31.94	54.0	22.06	

- 1 GHz Above_High ch EDR

Frequency (MHz)	Reading (dBuV/m)	Detector	Pol.	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dBuV/m)	note
2 487.97	45.02	PK	H	-9.8	35.22	74.0	38.78	Restricted band
	31.19	AVG	H		21.39	54.0	32.61	
4 960.50	39.34	PK	V	-1.0	38.34	74.0	35.66	2nd Harmonic
	25.94	AVG	V		24.94	54.0	29.06	
7 440.00	38.73	PK	H	2.8	41.53	74.0	32.47	3nd Harmonic
	25.41	AVG	H		28.21	54.0	25.79	
9 921.60	37.14	PK	H	6.2	43.34	74.0	30.66	4nd Harmonic
	23.16	AVG	H		29.36	54.0	24.64	

5. Test Result (Earphone Left)

5.1. 20 dB Bandwidth

5.1.1 Test procedure

ANSI C63.10-2013 Clause 6.9.2

5.1.2 Limit

§15.247 (a)(1)

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. Alternatively, 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. The system shall hop to channel frequencies that are selected at the system hopping rate from a pseudo randomly ordered list of hopping frequencies. Each frequency must be used equally on the average by each transmitter. The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.

5.1.3 Test data

Result : Pass

Mode	Frequency (MHz)	Measured Value (kHz)
Bluetooth BDR	2 402	939.1
	2 441	941.1
	2 480	941.1
Bluetooth EDR	2 402	1 324.7
	2 441	1 321.7
	2 480	1 321.7

TEST REPORT

BDR_Low ch_20 dB Bandwidth

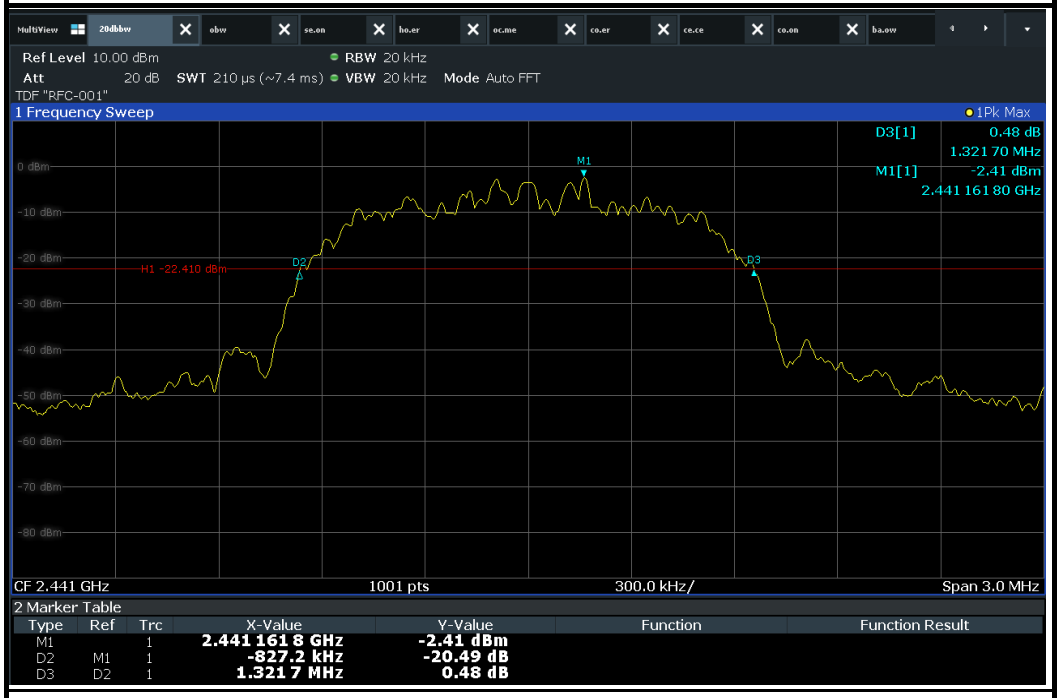
BDR_Mid ch_20 dB Bandwidth

TEST REPORT

BDR_High ch_20 dB Bandwidth

TEST REPORT

EDR_Low ch_20 dB Bandwidth



EDR_Mid ch_20 dB Bandwidth

TEST REPORT

EDR_High ch_20 dB Bandwidth

5.2 Carrier Frequency Separation

5.2.1 Test procedure

ANSI C63.10-2013 Clause 7.8.2

5.2.2 Limit

§15.247 (a)(1)

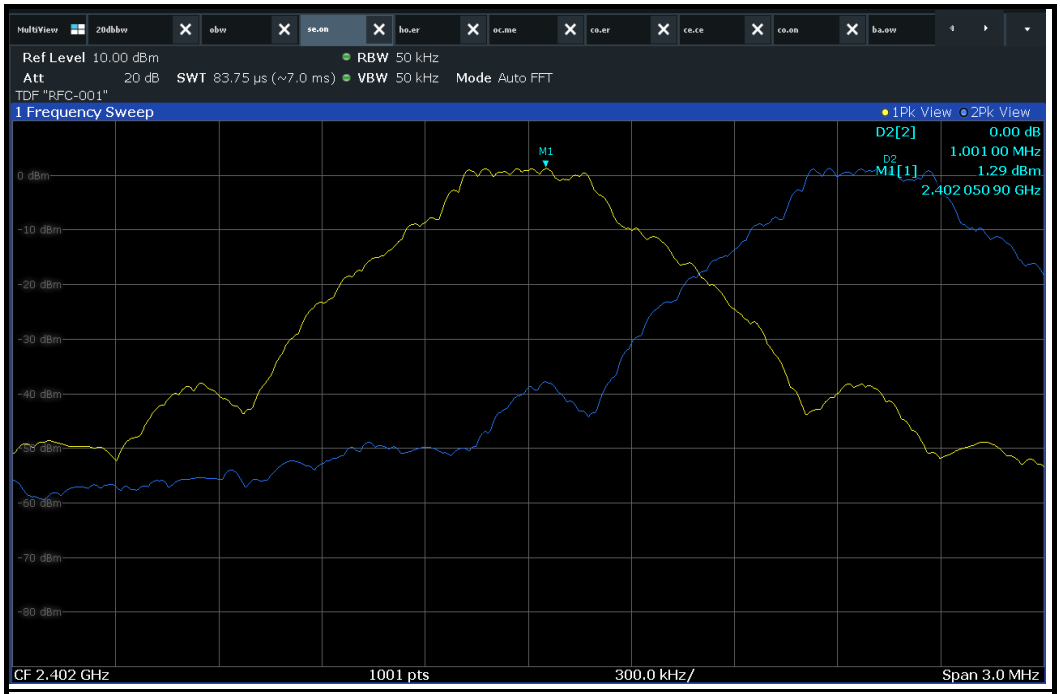
Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400–2483.5 MHz band may have hopping channel carrier frequencies that 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. The system shall hop to channel frequencies that are selected at the system hopping rate from a pseudo randomly ordered list of hopping frequencies. Each frequency must be used equally on the average by each transmitter. The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.

5.2.3 Test data

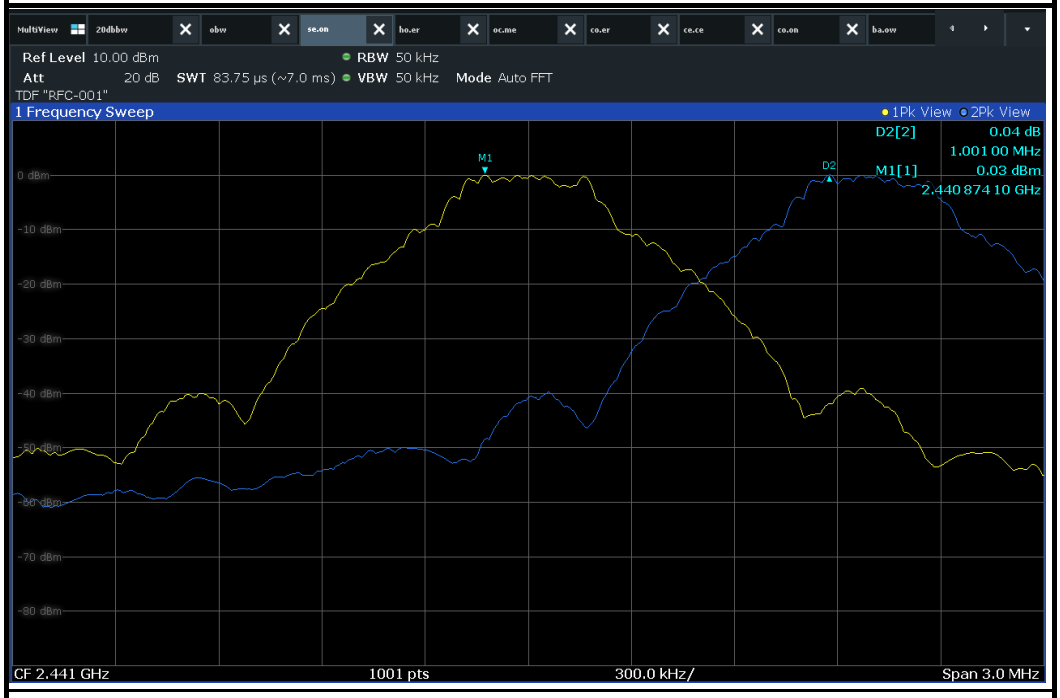
Result : Pass

Mode	Frequency (MHz)	Measured Value (kHz)	Two-third 20 dB bandwidth of the hopping channel (kHz)	Limit
Bluetooth BDR	2 402	1 001.0	626.07	25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater
	2 441	1 001.0	627.40	
	2 480	1 001.0	627.40	
Bluetooth EDR	2 402	999.0	883.13	
	2 441	994.0	881.13	
	2 480	999.0	881.13	

TEST REPORT

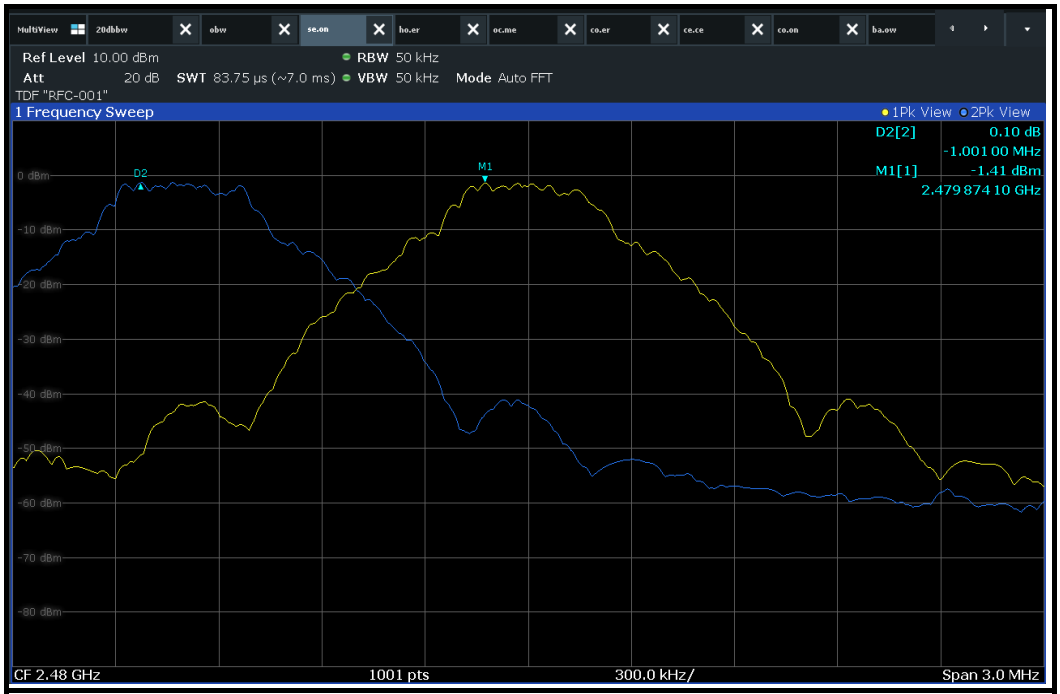


BDR_Low ch_Carrier Frequency Separation



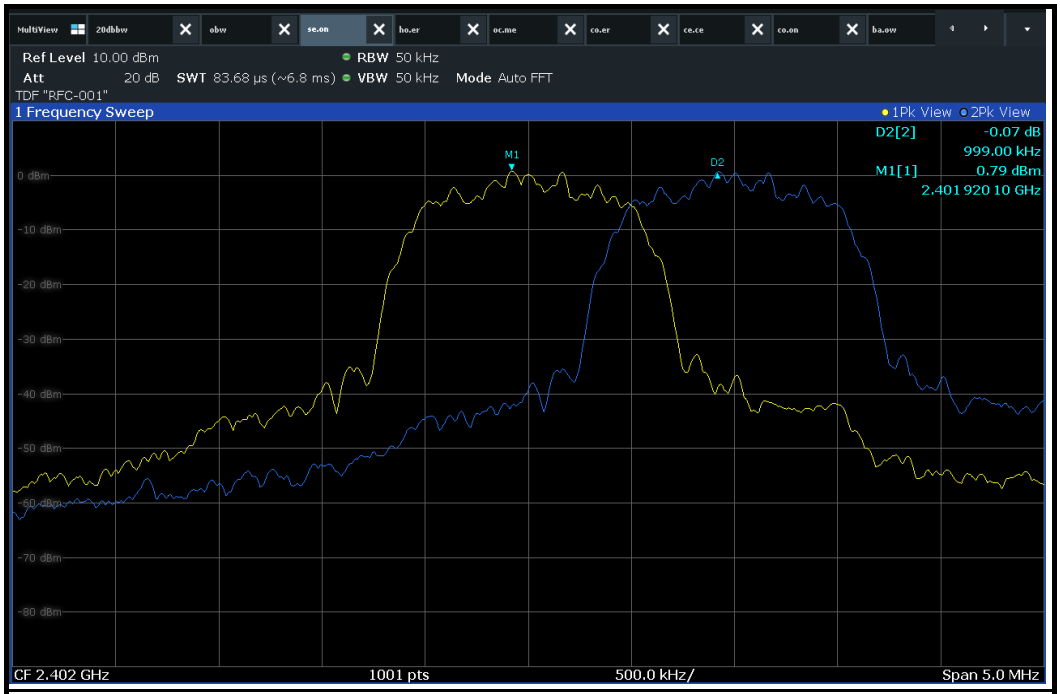
BDR_Mid ch_Carrier Frequency Separation

TEST REPORT

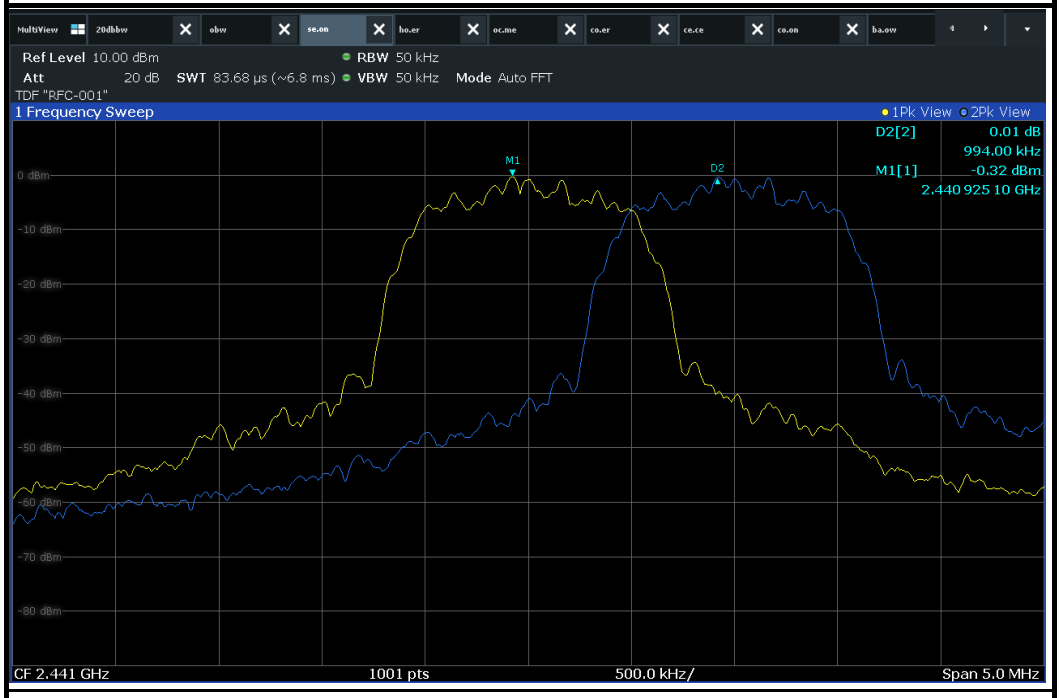


BDR_High ch_Carrier Frequency Separation

TEST REPORT



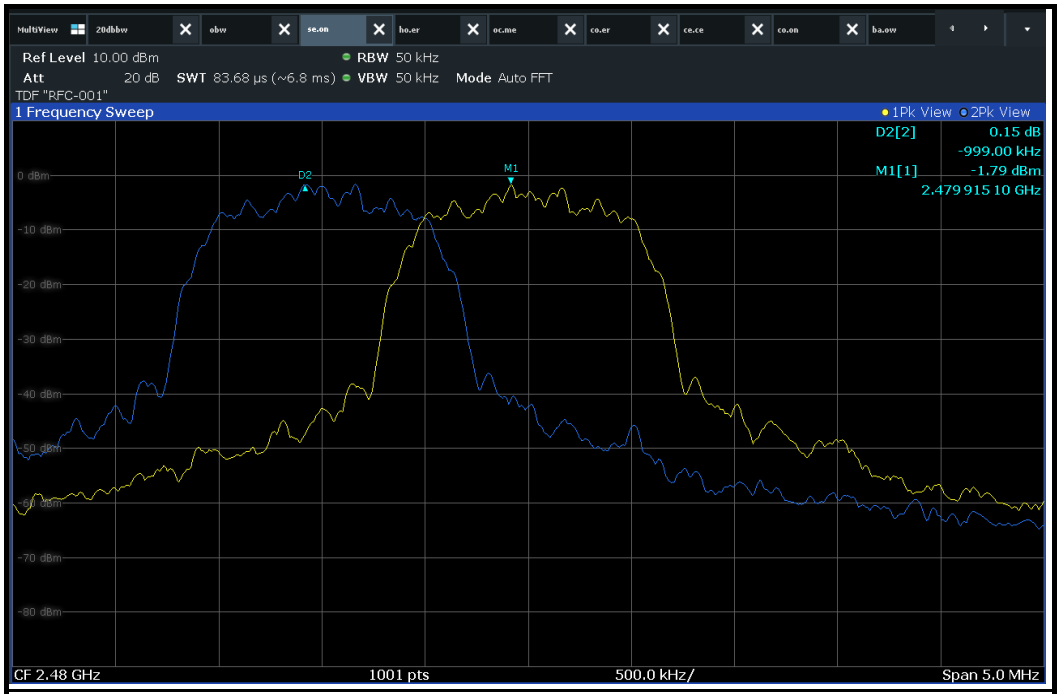
EDR_Low ch_Carrier Frequency Separation



EDR_Mid ch_Carrier Frequency Separation

TEST REPORT

EDR_High ch_Carrier Frequency Separation



EDR_High ch_Carrier Frequency Separation

5.3 Number of Hopping Frequency

5.3.1 Test procedure

ANSI C63.10-2013 Clause 7.8.3

5.3.2 Limit

15.247 (a)(1)(iii)

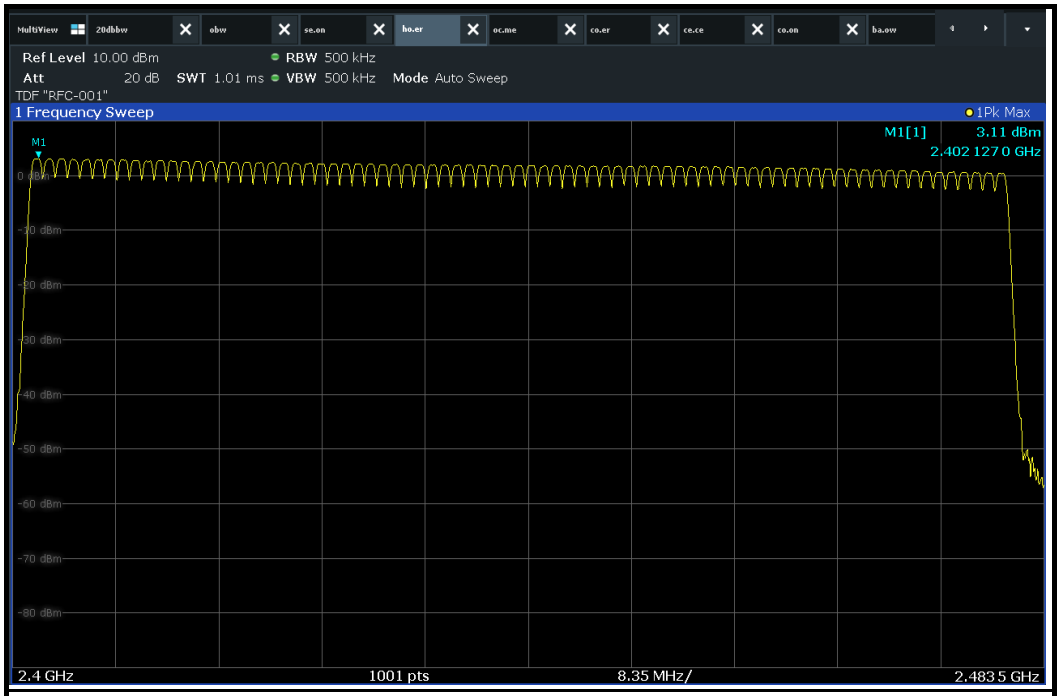
Frequency hopping systems in the 2400–2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

5.3.3 Test data

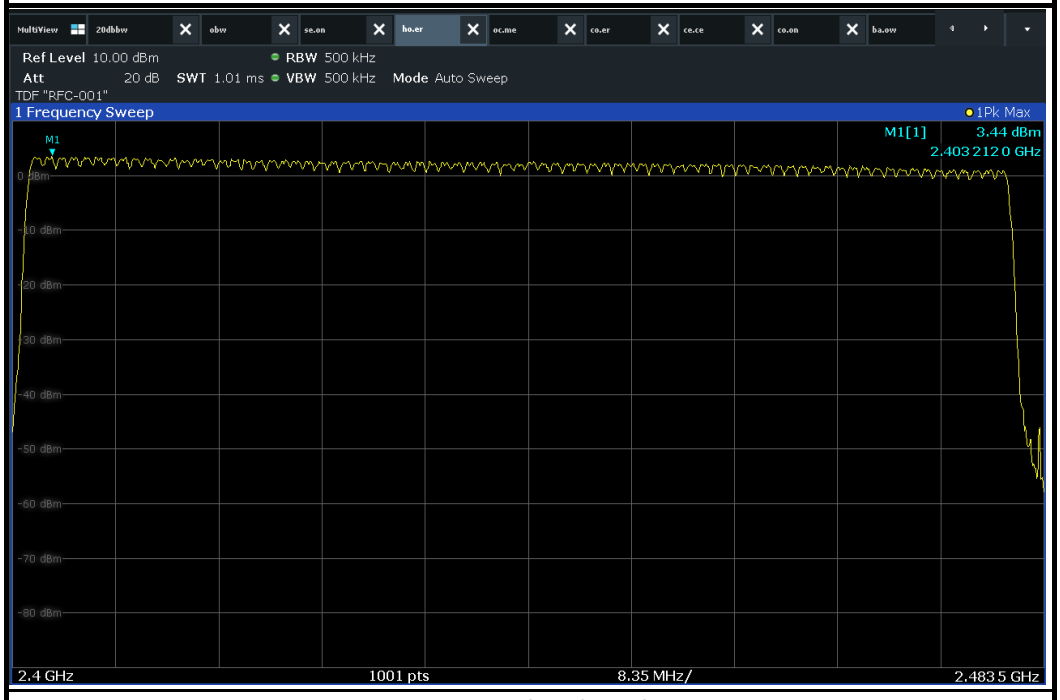
Result : Pass

Mode	Hopping Channel	Limit
Bluetooth BDR	79	> 15
Bluetooth EDR	79	

TEST REPORT



BDR_Hopping Channel



EDR_Hopping Channel

5.4 Time of Occupancy (dwell Time)

5.4.1 Test procedure

ANSI C63.10-2013 Clause 7.8.4

5.4.2 Limit

§15.247 (a)(1)(iii)

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. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

5.4.3 Test data

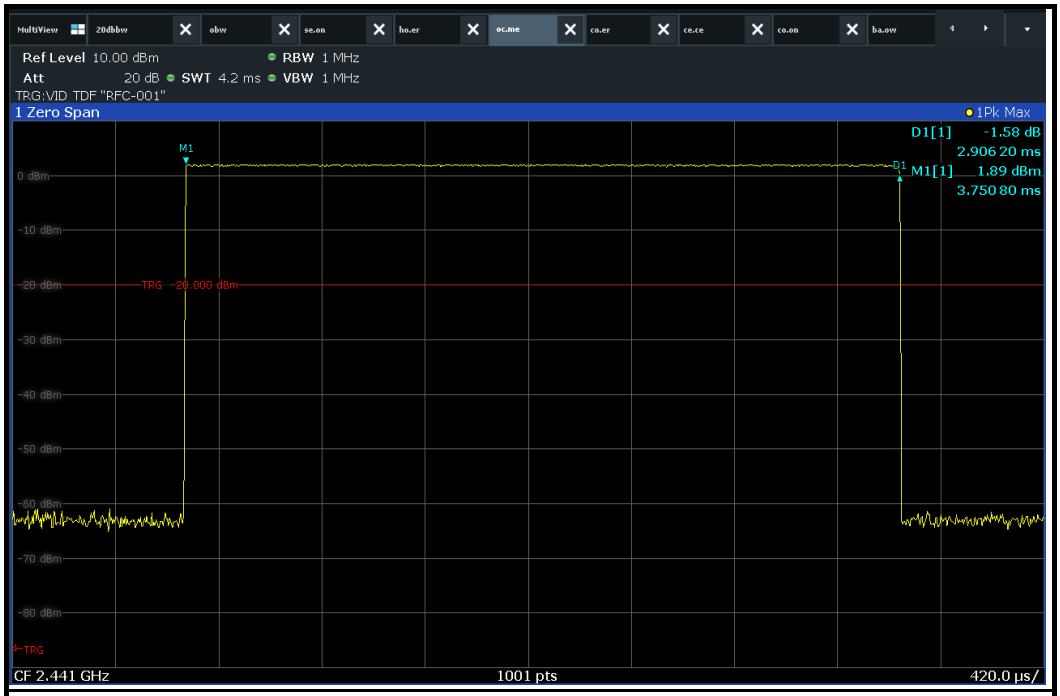
Result : Pass

Mode	number of hops on spectrum analyzer	Hops Over Occupancy Time (ms/hops)	transmit time per hop (ms)	Time of Occupancy (s)	Limit (s)
BDR	79	106.67	2.91	0.31	0.4
EDR	79	106.67	2.91	0.31	0.4

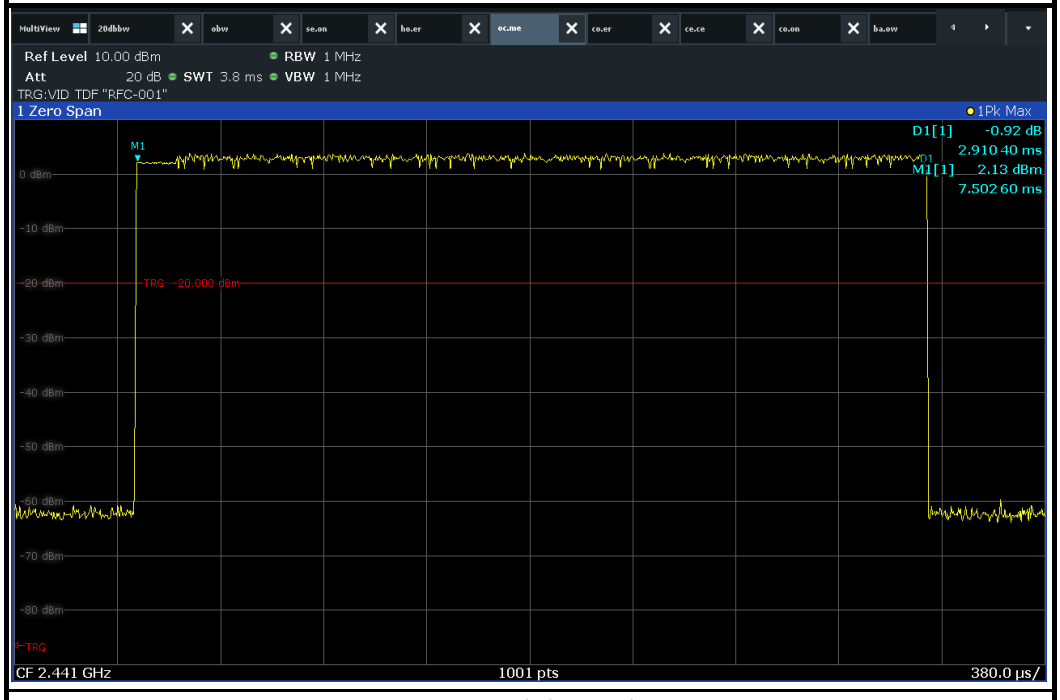
※ Hops Over Occupancy Time = (1 600 / 6 / 79) x (0.4 x 79)

※ Time of Occupancy = Hops Over Occupancy Time (hops) x Package Transfer Time (ms)

TEST REPORT



BDR_transmit time per hop



EDR_transmit time per hop

5.5 Maximum Conducted Output Power

5.5.1 Test procedure

ANSI C63.10-2013 Clause 7.8.5

5.5.2 Limit

§15.247 (a)(1)

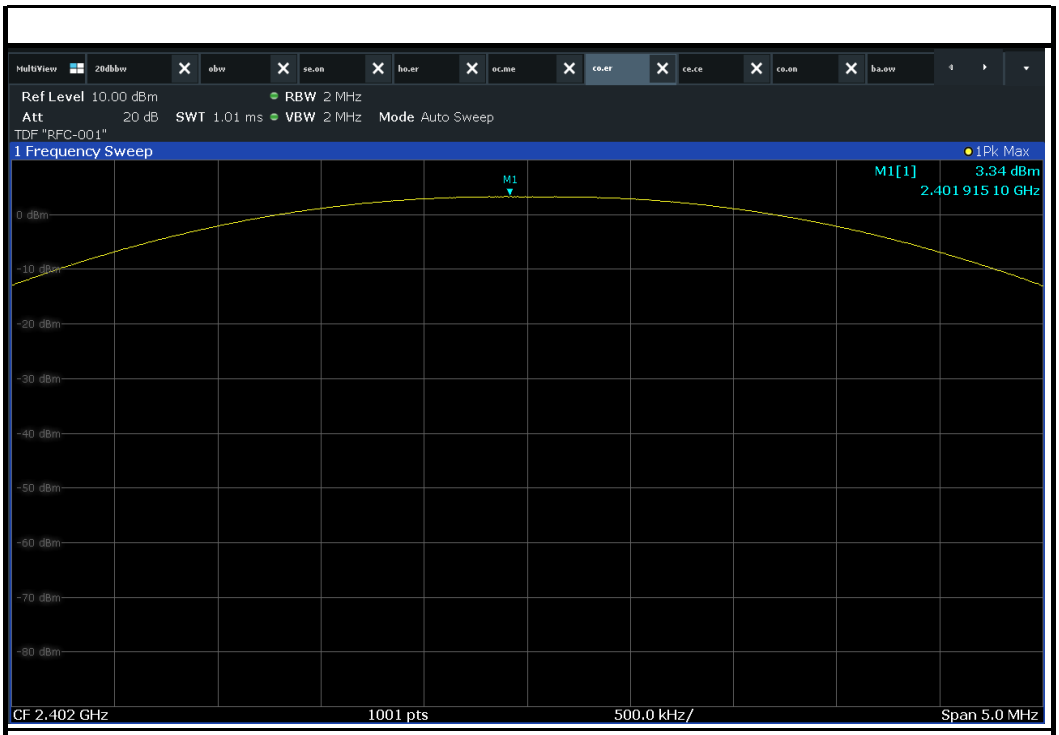
Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400–2483.5 MHz band may have hopping channel carrier frequencies that 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. The system shall hop to channel frequencies that are selected at the system hopping rate from a pseudo randomly ordered list of hopping frequencies. Each frequency must be used equally on the average by each transmitter. The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.

5.5.3 Test data

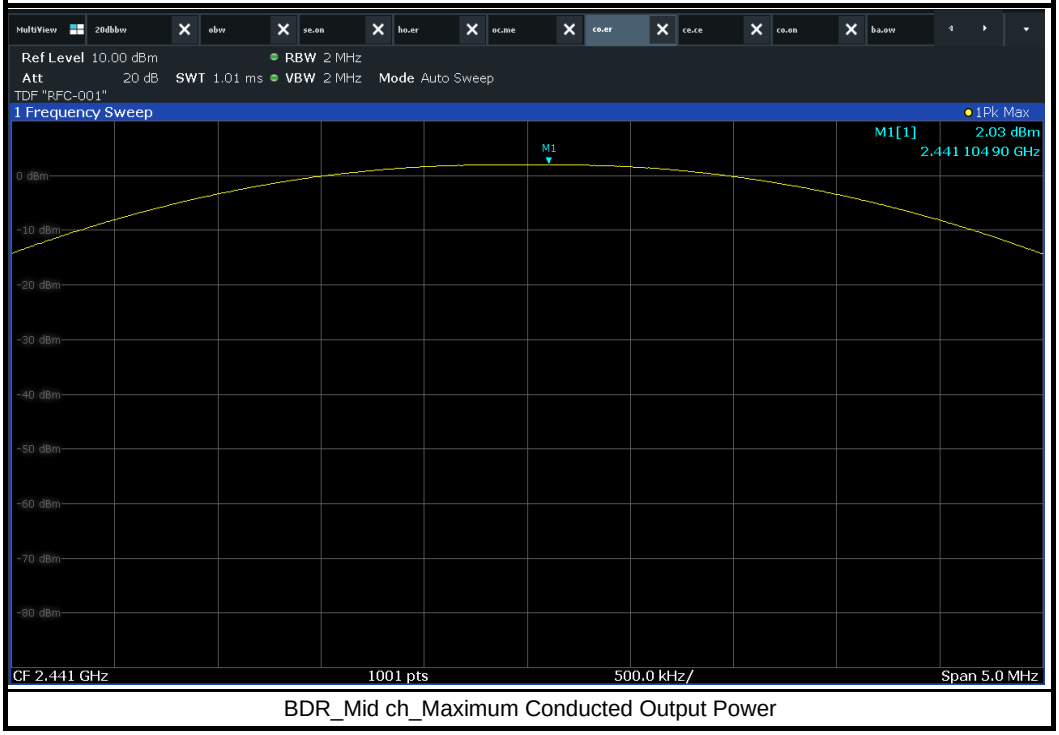
Result : Pass

Mode	Frequency (MHz)	Measured Value (dBm)	Limit (dBm)
Bluetooth BDR	2 402	3.34	20.97 (0.125 Watt)
	2 441	2.03	
	2 480	0.61	
Bluetooth EDR	2 402	5.52	
	2 441	4.50	
	2 480	3.00	

TEST REPORT

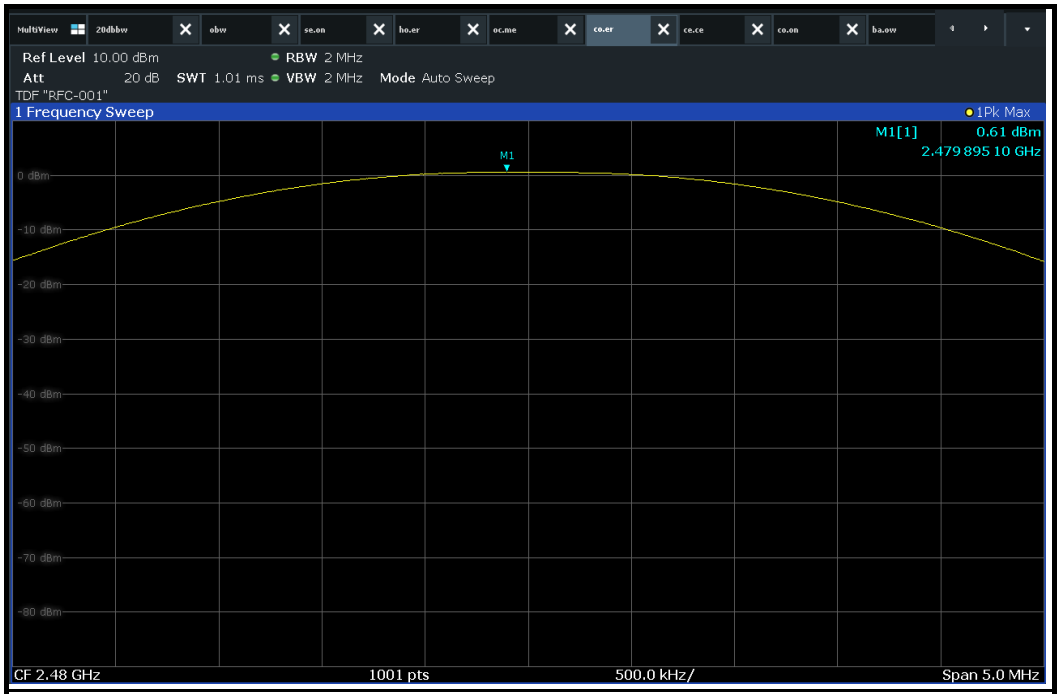


BDR_Low ch_Maximum Conducted Output Power



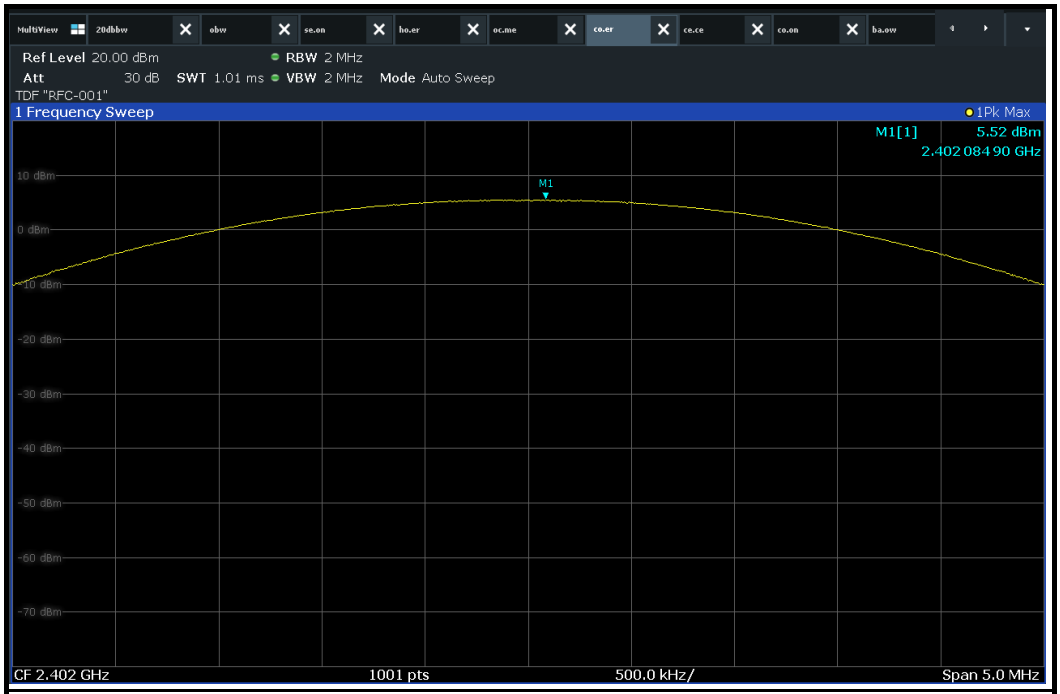
BDR_Mid ch_Maximum Conducted Output Power

TEST REPORT

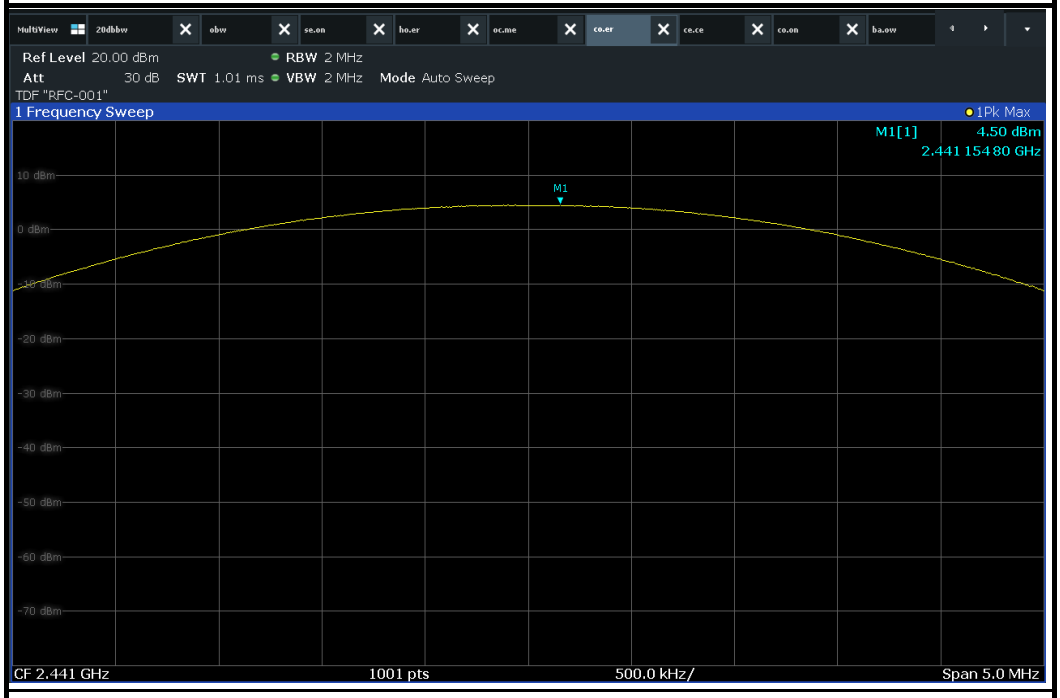


BDR_High ch_Maximum Conducted Output Power

TEST REPORT

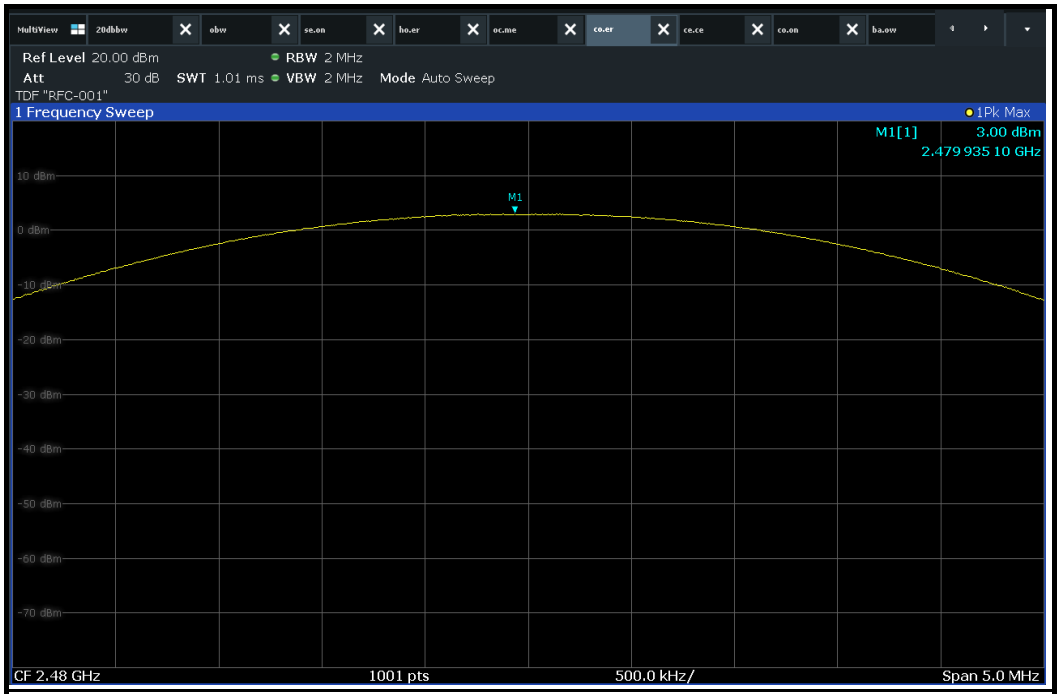


EDR_Low ch_Maximum Conducted Output Power



EDR_Mid ch_Maximum Conducted Output Power

TEST REPORT



EDR_High ch_Maximum Conducted Output Power

5.6 Conducted Spurious Emission

5.6.1 Test procedure

ANSI C63.10-2013 Clause 7.8.8, 6.10.4

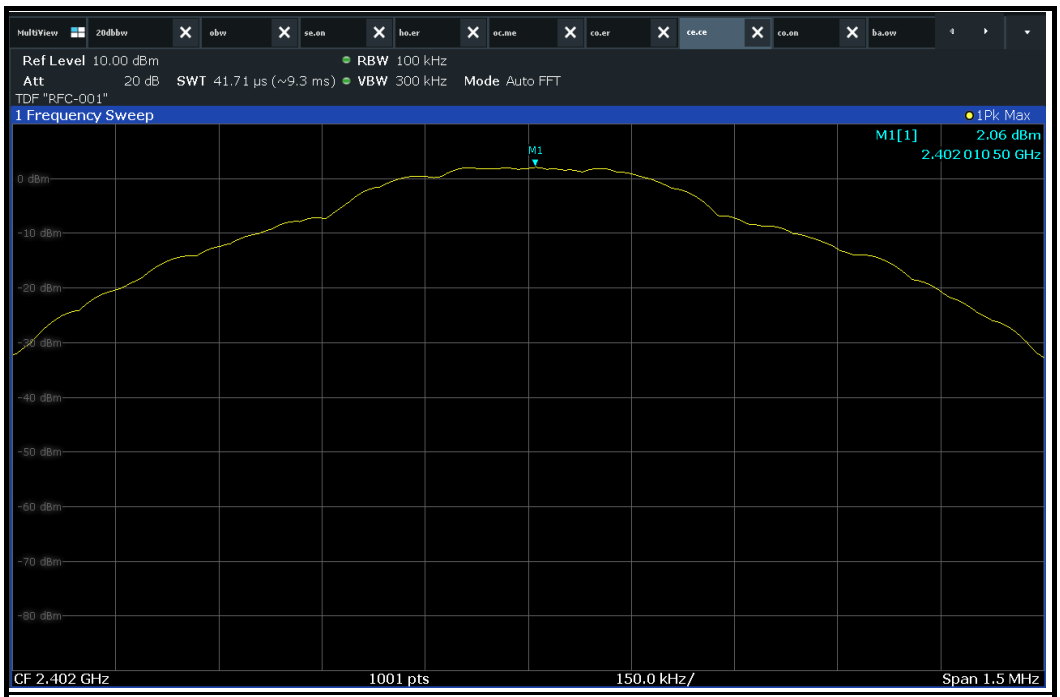
5.6.2 Limit

§15.247 (d)

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated 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, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in § 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).

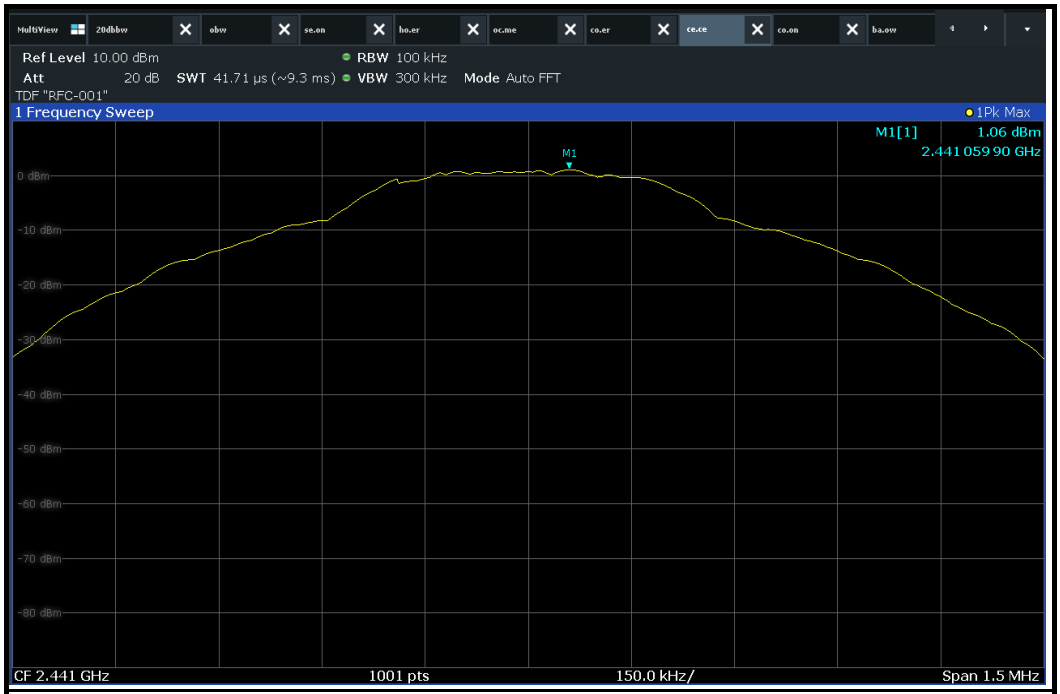
5.6.3 Test data

Result : Pass

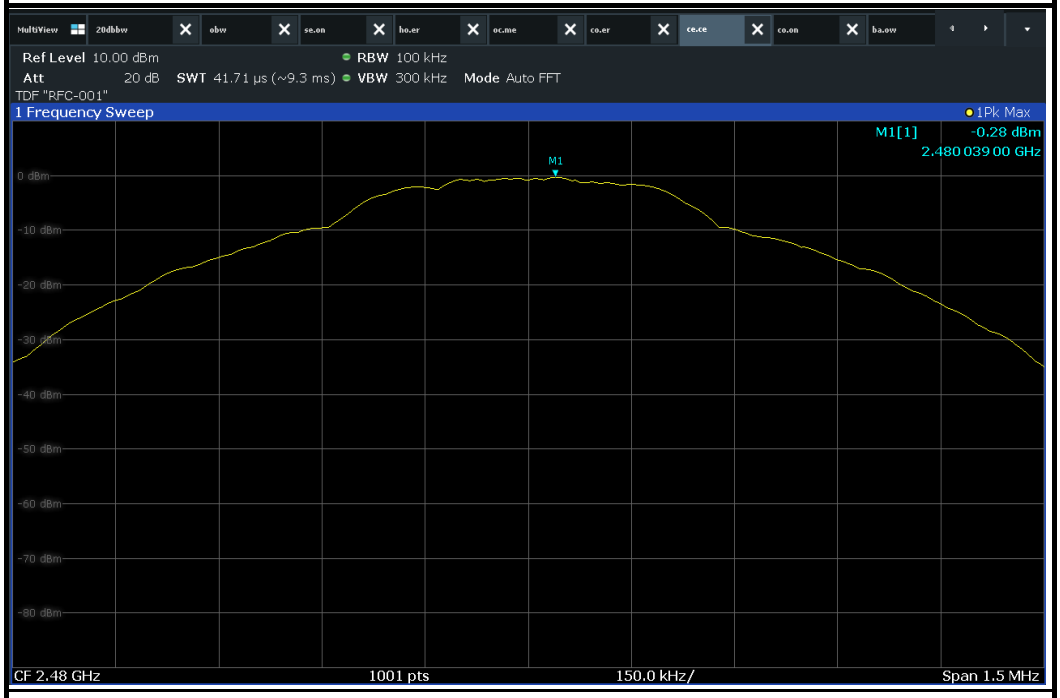


BDR_Low ch_Reference Level

TEST REPORT

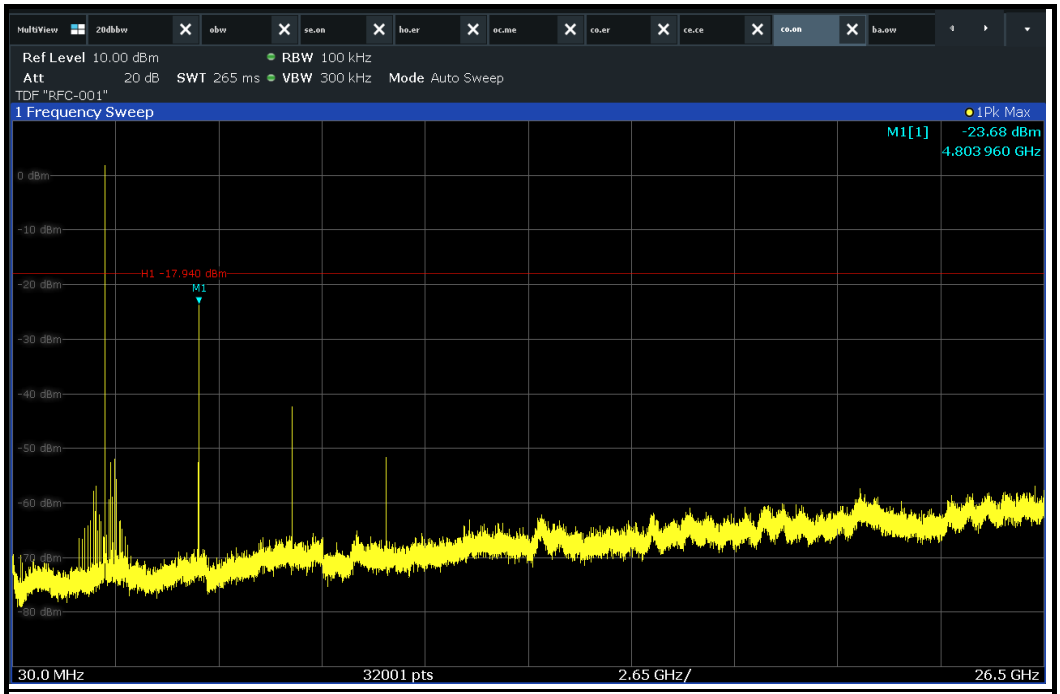


BDR_Mid ch_Reference Level

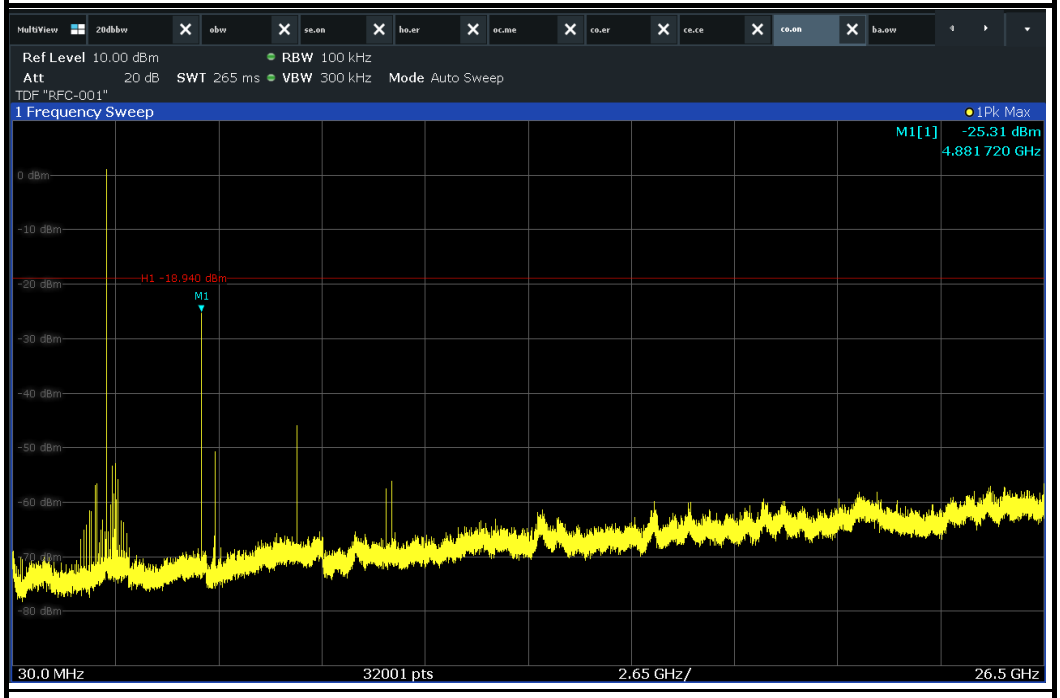


BDR_High ch_Reference Level

TEST REPORT

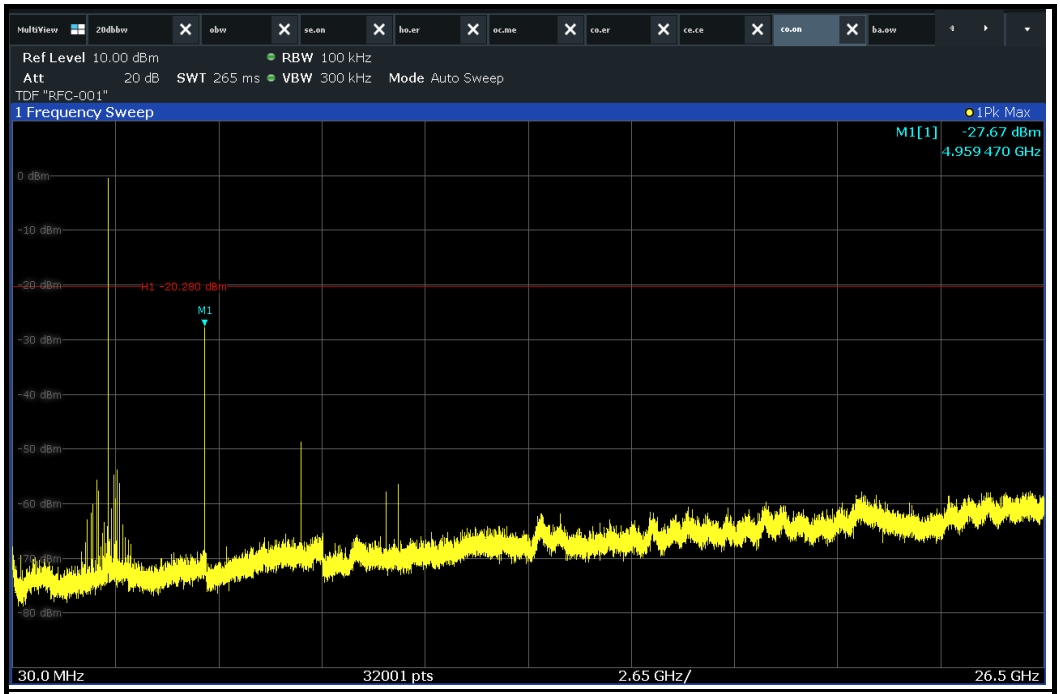


BDR_Low ch_Conducted Spurious Emission



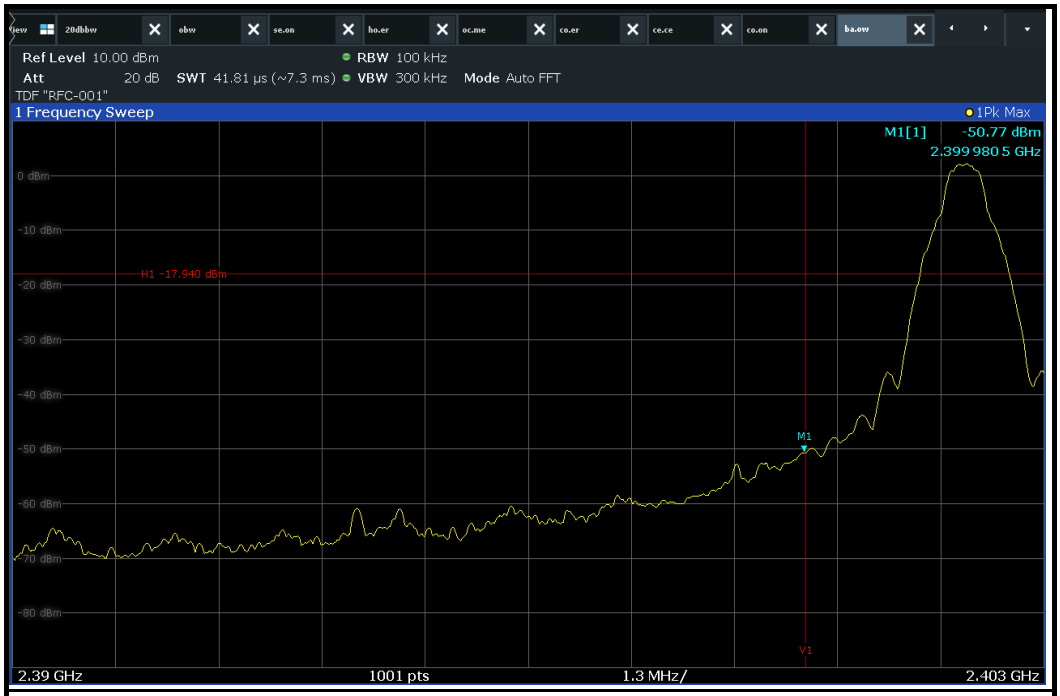
BDR_Mid ch_Conducted Spurious Emission

TEST REPORT

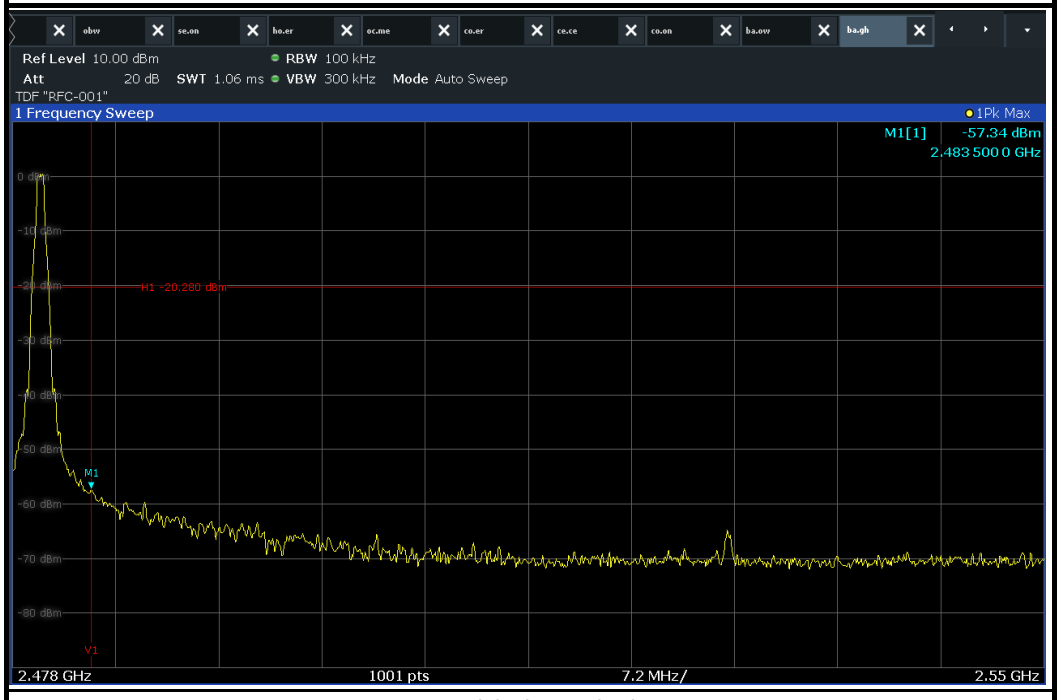


BDR_High ch_Conducted Spurious Emission

TEST REPORT



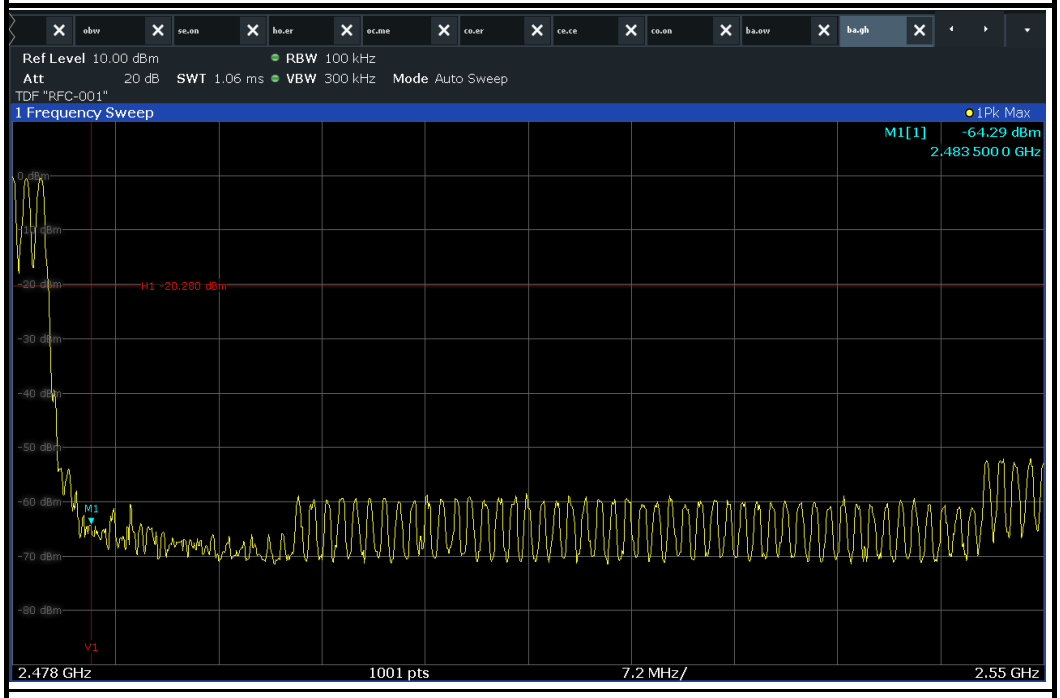
BDR_Low ch_Band Edge



BDR_High ch_Band Edge

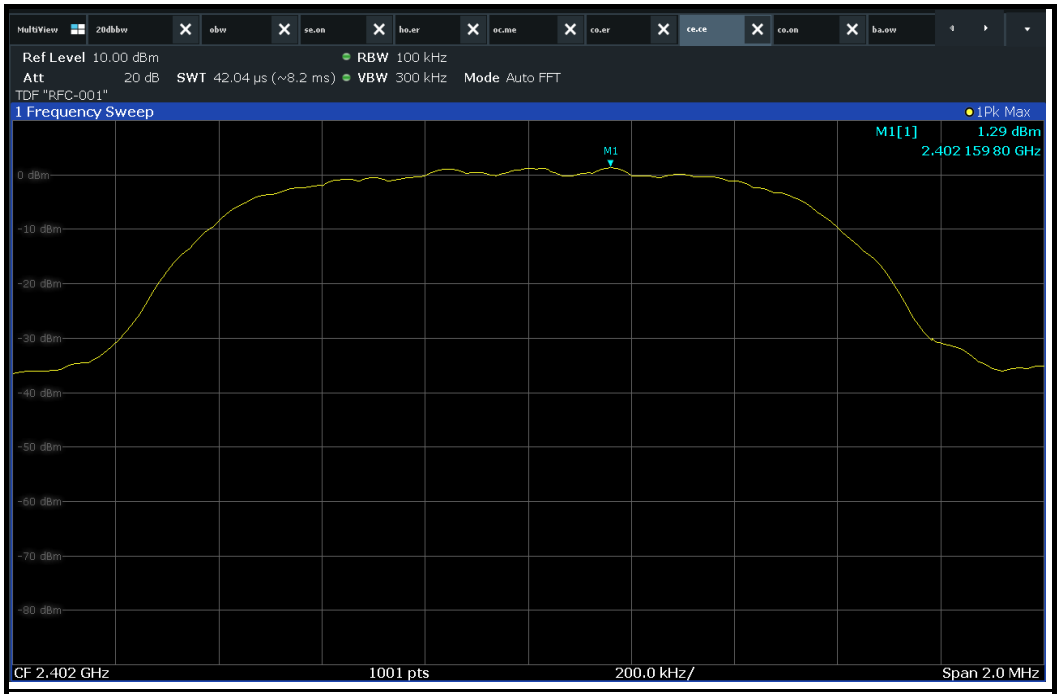
TEST REPORT

BDR_Low ch_Band Edge (Hopping)

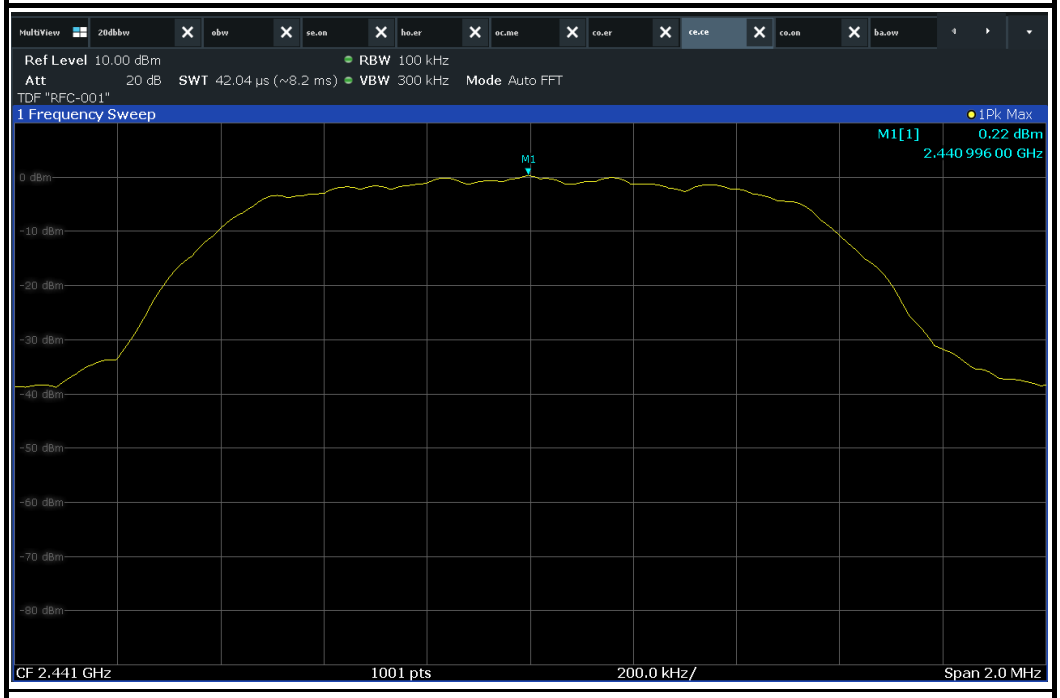


BDR_High ch_Band Edge (Hopping)

TEST REPORT

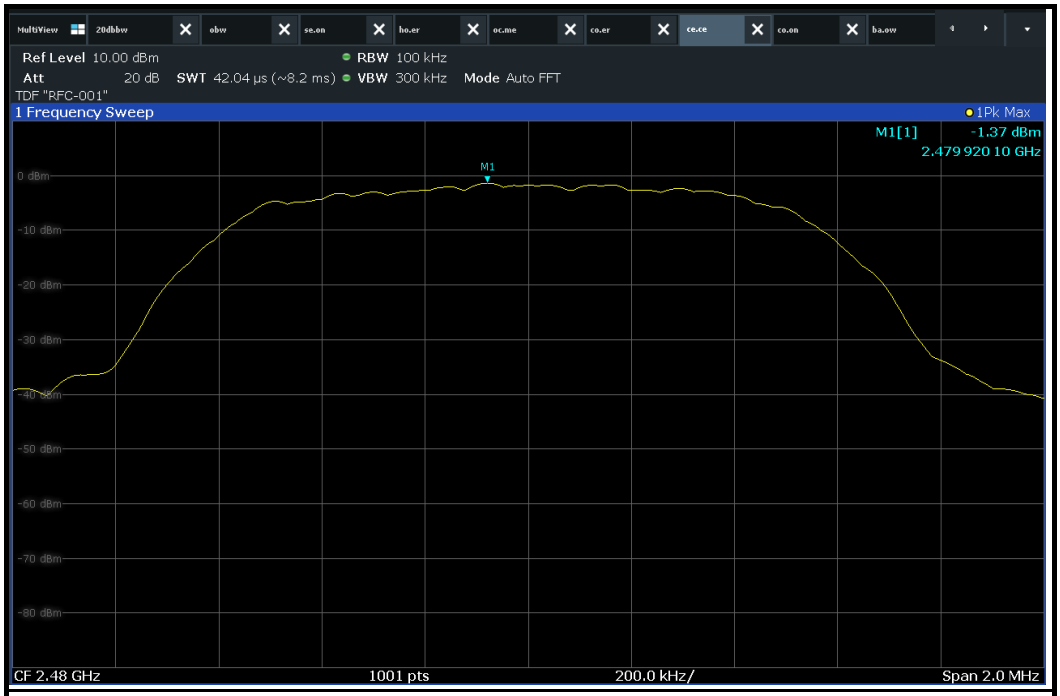


EDR_Low ch_Reference Level

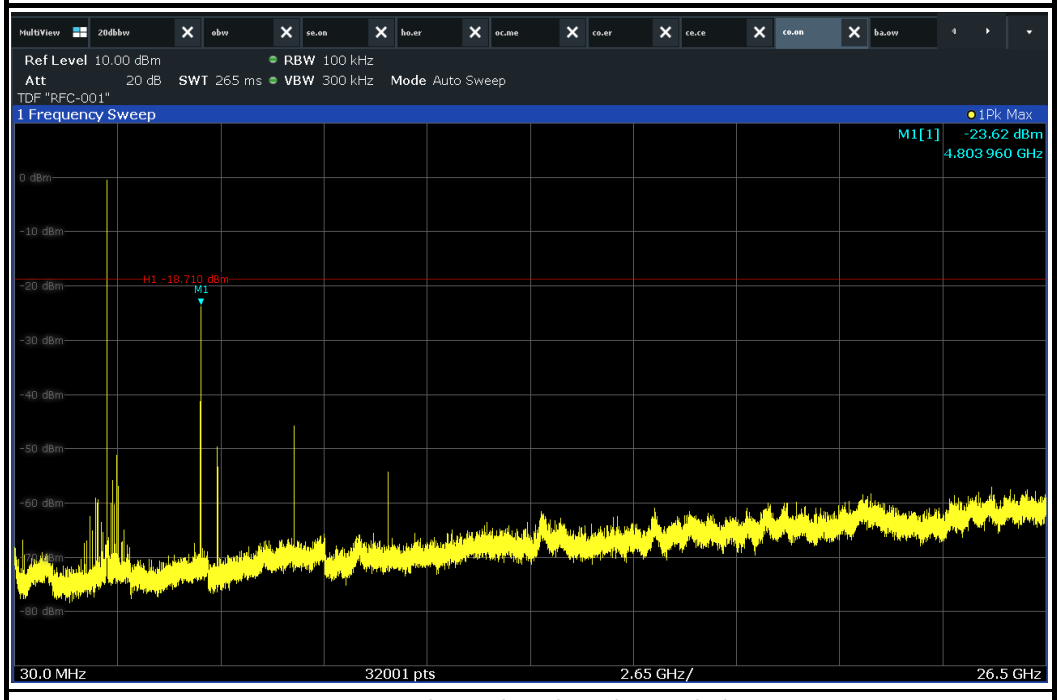


EDR_Mid ch_Reference Level

TEST REPORT

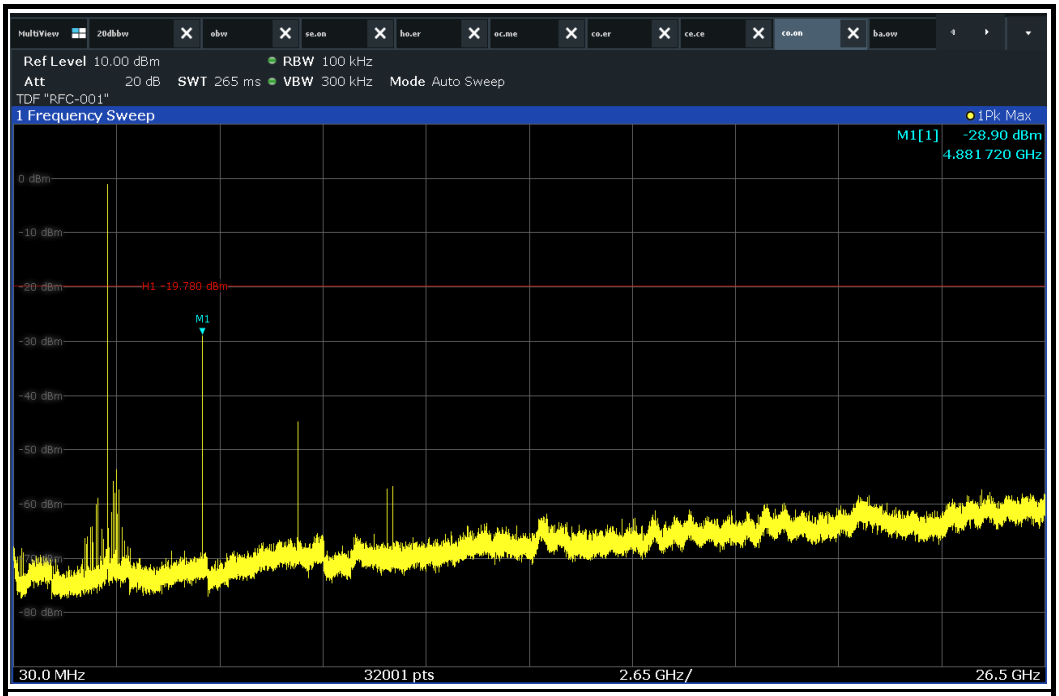


EDR_High ch_Reference Level

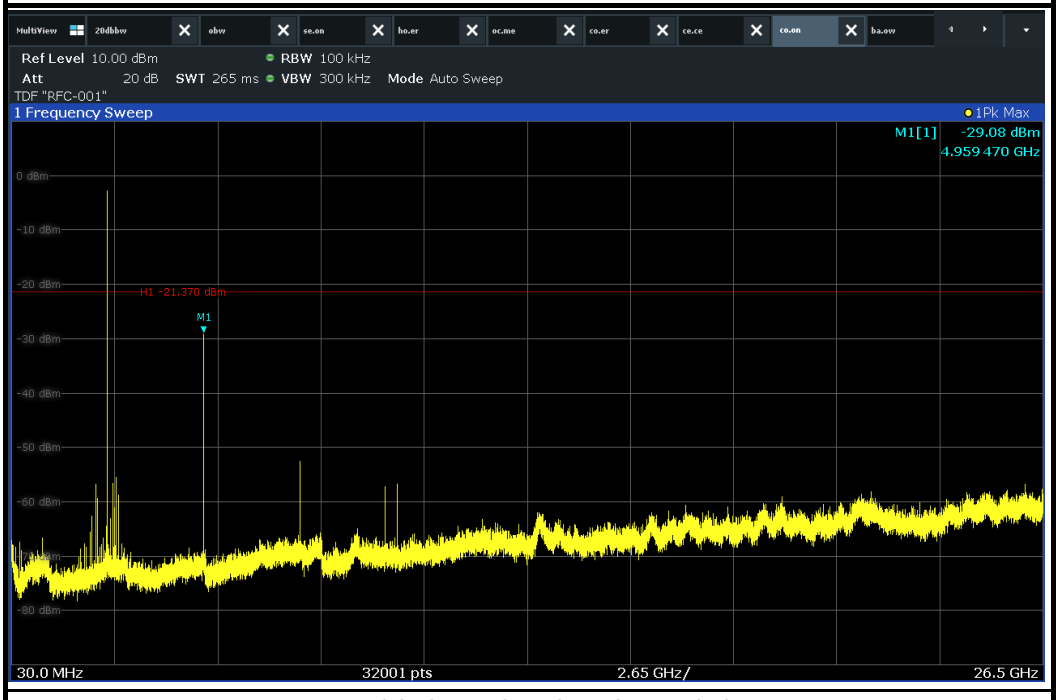


EDR_Low ch_Conducted Spurious Emission

TEST REPORT

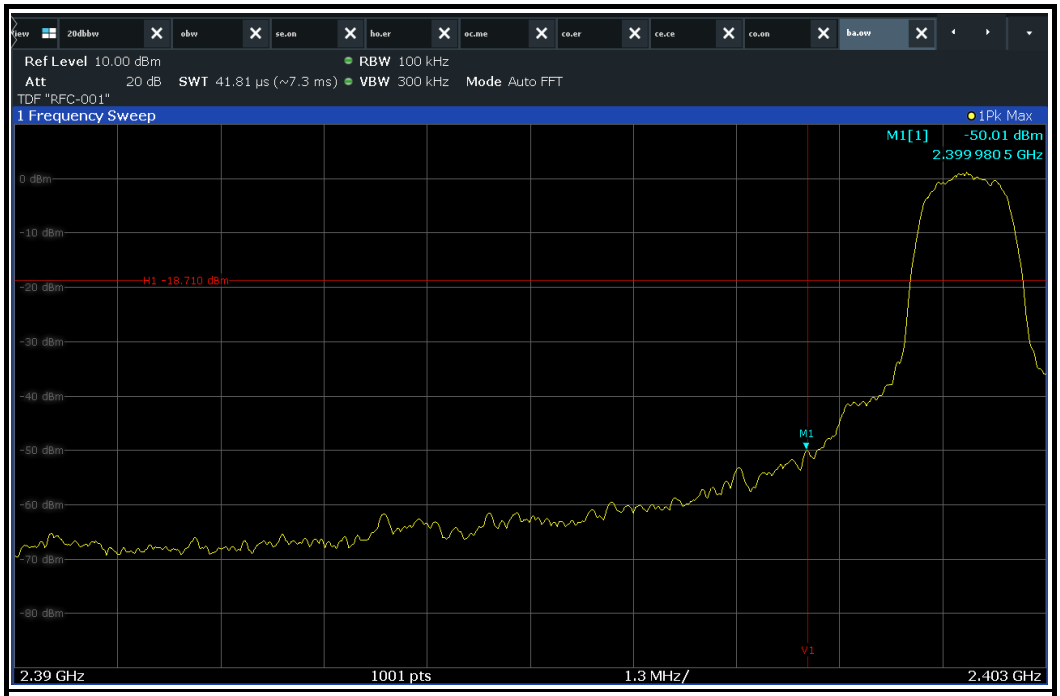


EDR_Mid ch_Conducted Spurious Emission

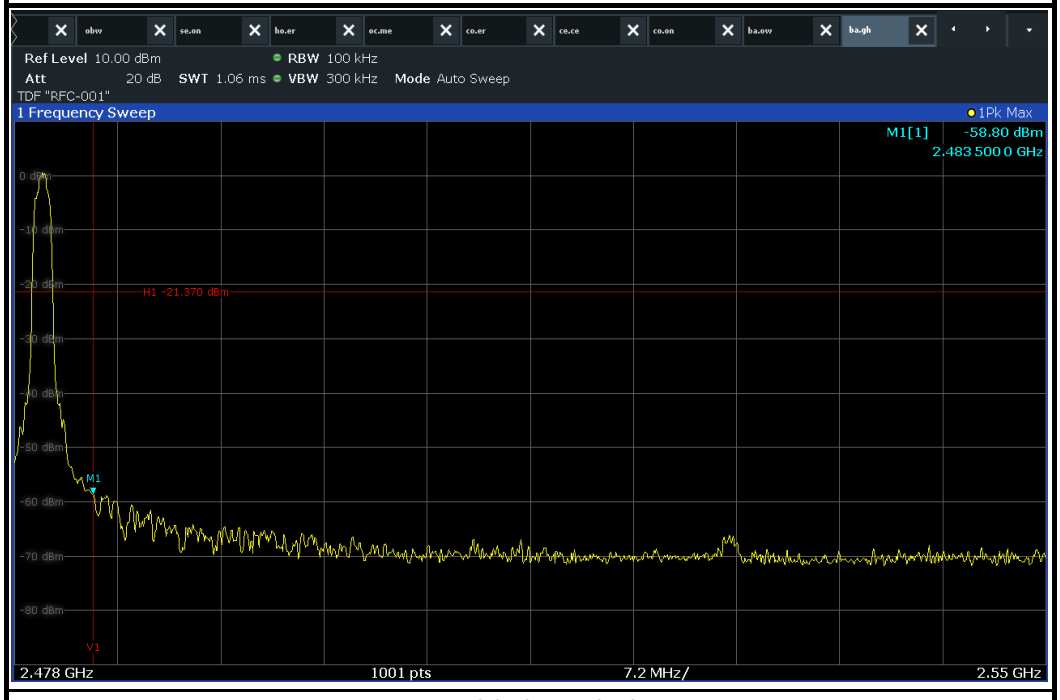


EDR_High ch_Conducted Spurious Emission

TEST REPORT

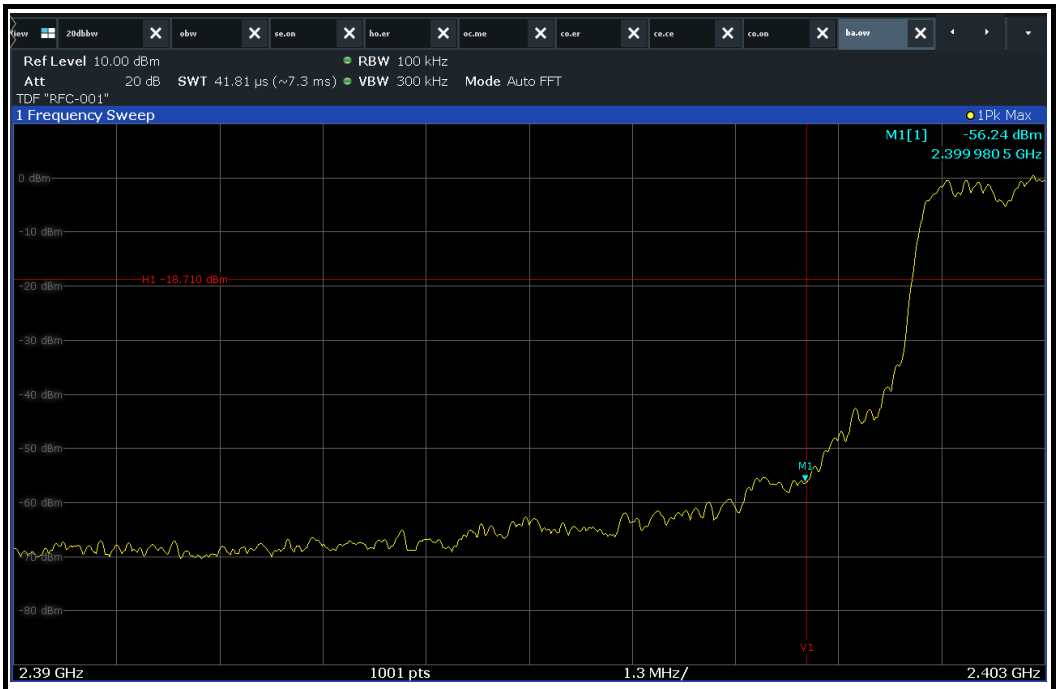


EDR_Low ch_Band Edge

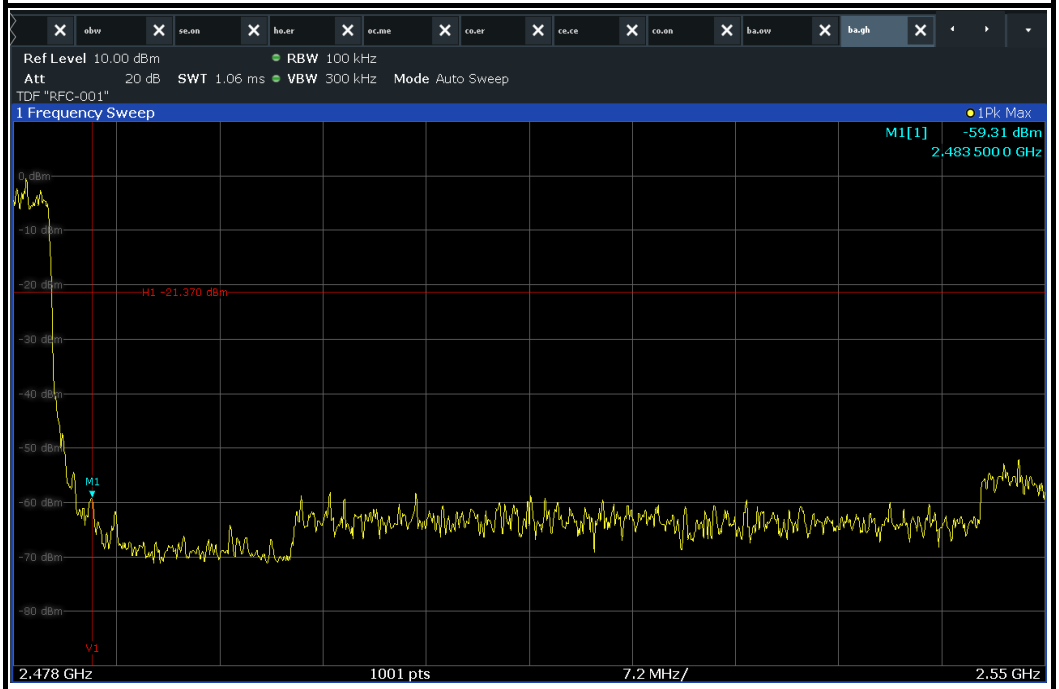


EDR_High ch_Band Edge

TEST REPORT



EDR_Low ch_Band Edge (Hopping)



EDR_High ch_Band Edge (Hopping)

5.7 Radiated Spurious Emission

5.7.1 Test procedure

ANSI C63.10-2013 Clause 6.4, 6.5, 6.6

5.7.2 Limit

§15.247 (d)

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated 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, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in § 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).

§15.209 Radiated emission limits; general requirements.(a)

Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009–0.490	2400/F(kHz)	300
0.490–1.705	24000/F(kHz)	30
1.705–30.0	30	30
30–88	100 **	3
88–216	150 **	3
216–960	200 **	3
Above 960	500	3

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54–72 MHz, 76–88 MHz, 174–216 MHz or 470–806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.

§15.205 Restricted bands of operation.(a),(b)

MHz	MHz	MHz	GHz
0.090–0.110	16.42–16.423	399.9–410	4.5–5.15
[1] 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
8.41425–8.41475	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	([2])
13.36–13.41			

[1] Until February 1, 1999, this restricted band shall be 0.490–0.510 MHz.

[2] Above 38.6

Except as provided in paragraphs (d) and (e) of this section, the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in § 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in § 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in § 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in § 15.35 apply to these measurements.

5.7.3 Test data

Result : Pass

- Below 30 MHz_Low ch BDR, EDR

Frequency (MHz)	Reading (dBuV/m)	Detector	Pol.	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dBuV/m)	note
It was not found any emissions peaks found from the EUT.								

- Below 30 MHz_Mid ch BDR, EDR

Frequency (MHz)	Reading (dBuV/m)	Detector	Pol.	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dBuV/m)	note
It was not found any emissions peaks found from the EUT.								

- Below 30 MHz_High ch BDR, EDR

Frequency (MHz)	Reading (dBuV/m)	Detector	Pol.	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dBuV/m)	note
It was not found any emissions peaks found from the EUT.								

TEST REPORT

- 30 MHz ~ 1 GHz_Low ch BDR

Frequency (MHz)	Reading (dBuV/m)	Detector	Pol.	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dBuV/m)	note
252.03	58.97	QP	H	-22.6	36.37	46.0	9.63	
384.05	58.02	QP	H	-18.9	39.12	46.0	6.88	
408.01	58.47	QP	H	-18.4	40.07	46.0	5.93	
432.07	53.50	QP	H	-18.0	35.50	46.0	10.50	

- 30 MHz ~ 1 GHz_Mid ch BDR

Frequency (MHz)	Reading (dBuV/m)	Detector	Pol.	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dBuV/m)	note
242.03	59.10	QP	H	-22.6	36.50	46.0	9.50	
348.06	54.59	QP	H	-19.8	34.79	46.0	11.21	
384.05	57.39	QP	H	-18.9	38.49	46.0	7.51	
408.01	56.68	QP	H	-18.4	38.28	46.0	7.72	

- 30 MHz ~ 1 GHz_High ch BDR

Frequency (MHz)	Reading (dBuV/m)	Detector	Pol.	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dBuV/m)	note
252.03	58.86	QP	H	-22.6	36.26	46.0	9.74	
384.05	57.45	QP	H	-18.9	38.55	46.0	7.45	
408.01	57.97	QP	H	-18.4	39.57	46.0	6.43	
444.00	53.59	QP	H	-17.9	35.69	46.0	10.31	

TEST REPORT

- 30 MHz ~ 1 GHz_Low ch EDR

Frequency (MHz)	Reading (dBuV/m)	Detector	Pol.	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dBuV/m)	note
348.06	54.18	QP	H	-19.8	34.38	46.0	11.62	
384.05	58.57	QP	H	-18.9	39.67	46.0	6.33	
408.01	54.15	QP	H	-18.4	35.75	46.0	10.25	
432.07	54.73	QP	H	-18.0	36.73	46.0	9.27	

- 30 MHz ~ 1 GHz_Mid ch EDR

Frequency (MHz)	Reading (dBuV/m)	Detector	Pol.	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dBuV/m)	note
252.03	59.15	QP	H	-22.6	36.55	46.0	9.45	
384.05	58.76	QP	H	-18.9	39.86	46.0	6.14	
408.01	57.48	QP	H	-18.4	39.08	46.0	6.92	
444.00	50.90	QP	H	-17.9	33.00	46.0	13.00	

- 30 MHz ~ 1 GHz_High ch EDR

Frequency (MHz)	Reading (dBuV/m)	Detector	Pol.	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dBuV/m)	note
252.03	59.15	QP	H	-22.6	36.55	46	9.45	
275.99	56.01	QP	H	-22.3	33.71	46	12.29	
384.05	57.83	QP	H	-18.9	38.93	46	7.07	
408.01	57.83	QP	H	-18.4	39.43	46	6.57	

TEST REPORT

- 1 GHz Above_Low ch BDR

Frequency (MHz)	Reading (dBuV/m)	Detector	Pol.	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dBuV/m)	note
2 329.91	42.99	PK	V	-10.5	32.49	74.0	41.51	Restricted band
	29.53	AVG	V		19.03	54.0	34.97	
4 803.50	45.90	PK	H	-1.2	44.70	74.0	29.30	2nd Harmonic
	34.59	AVG	H		33.39	54.0	20.61	
7 204.80	43.17	PK	V	3.4	46.57	74.0	27.43	3nd Harmonic
	28.18	AVG	V		31.58	54.0	22.42	
9 609.60	37.54	PK	H	5.7	43.24	74.0	30.76	4nd Harmonic
	23.86	AVG	H		29.56	54.0	24.44	

- 1 GHz Above_Mid ch BDR

Frequency (MHz)	Reading (dBuV/m)	Detector	Pol.	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dBuV/m)	note
4 882.00	44.85	PK	H	-1.1	43.75	74.0	30.25	2nd Harmonic
	36.57	AVG	H		35.47	54.0	18.53	
7 322.40	39.29	PK	V	3.0	42.29	74.0	31.71	3nd Harmonic
	25.65	AVG	V		28.65	54.0	25.35	
9 765.60	36.72	PK	H	6.7	43.42	74.0	30.58	4nd Harmonic
	23.30	AVG	H		30.00	54.0	24.00	

- 1 GHz Above_High ch BDR

Frequency (MHz)	Reading (dBuV/m)	Detector	Pol.	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dBuV/m)	note
2 486.78	44.69	PK	H	-9.8	34.89	74.0	39.11	Restricted band
	31.12	AVG	H		21.32	54.0	32.68	
4 961.00	40.53	PK	H	-1.0	39.53	74.0	34.47	2nd Harmonic
	27.08	AVG	H		26.08	54.0	27.92	
7 441.20	39.06	PK	V	2.8	41.86	74.0	32.14	3nd Harmonic
	25.34	AVG	V		28.14	54.0	25.86	
9 919.20	37.35	PK	V	6.2	43.55	74.0	30.45	4nd Harmonic
	23.12	AVG	V		29.32	54.0	24.68	

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- 1 GHz Above_Low ch EDR

Frequency (MHz)	Reading (dBuV/m)	Detector	Pol.	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dBuV/m)	note
2 345.34	43.34	PK	V	-10.4	32.94	74.0	41.06	Restricted band
	29.74	AVG	V		19.34	54.0	34.66	
4 804.50	45.44	PK	H	-1.2	44.24	74.0	29.76	2nd Harmonic
	33.58	AVG	H		32.38	54.0	21.62	
7 204.80	46.63	PK	V	3.4	50.03	74.0	23.97	3nd Harmonic
	32.19	AVG	V		35.59	54.0	18.41	
9 606.00	37.40	PK	V	5.6	43.00	74.0	31.00	4nd Harmonic
	24.03	AVG	V		29.63	54.0	24.37	
12 010.80	48.93	PK	V	8.1	57.03	74.0	16.97	5nd Harmonic
	36.75	AVG	V		44.85	54.0	9.15	

- 1 GHz Above_Mid ch EDR

Frequency (MHz)	Reading (dBuV/m)	Detector	Pol.	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dBuV/m)	note
4 882.50	43.45	PK	H	-1.1	42.35	74.0	31.65	2nd Harmonic
	31.87	AVG	H		30.77	54.0	23.23	
7 323.60	41.80	PK	H	3	44.80	74.0	29.20	3nd Harmonic
	26.94	AVG	H		29.94	54.0	24.06	
9 764.40	37.40	PK	V	6.7	44.10	74.0	29.90	4nd Harmonic
	23.98	AVG	V		30.68	54.0	23.32	

- 1 GHz Above_High ch EDR

Frequency (MHz)	Reading (dBuV/m)	Detector	Pol.	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dBuV/m)	note
2 497.69	45.25	PK	V	-9.8	35.45	74.0	38.55	Restricted band
	31.33	AVG	V		21.53	54.0	32.47	
4 960.50	43.40	PK	H	-1.0	42.40	74.0	31.60	2nd Harmonic
	31.07	AVG	H		30.07	54.0	23.93	
7 440.00	38.93	PK	V	2.8	41.73	74.0	32.27	3nd Harmonic
	25.41	AVG	V		28.21	54.0	25.79	
9 921.60	36.89	PK	H	6.2	43.09	74.0	30.91	4nd Harmonic
	23.17	AVG	H		29.37	54.0	24.63	

4.8 Power Line Conducted Emission

4.8.1 Test procedure

ANSI C63.10-2013 Clause 6.2

4.8.2 Limit

§15.207 (a)

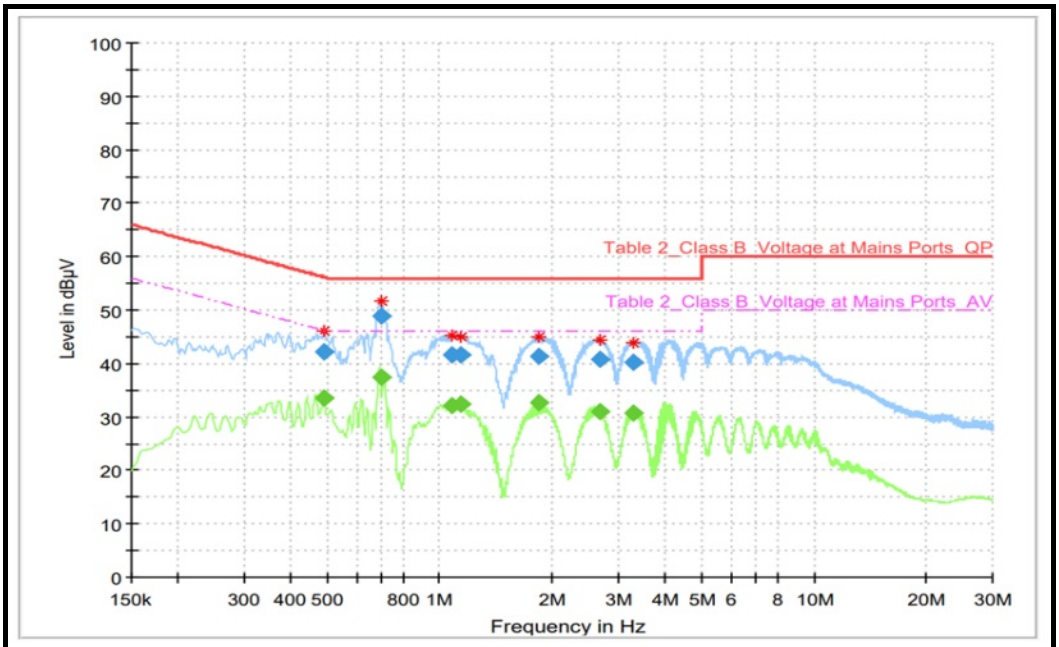
Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

Frequency of emission (MHz)	Conducted limit (dBμV)	
	Quasi-peak	Average
0.15–0.5	66 to 56*	56 to 46*
0.5–5	56	46
5–30	60	50

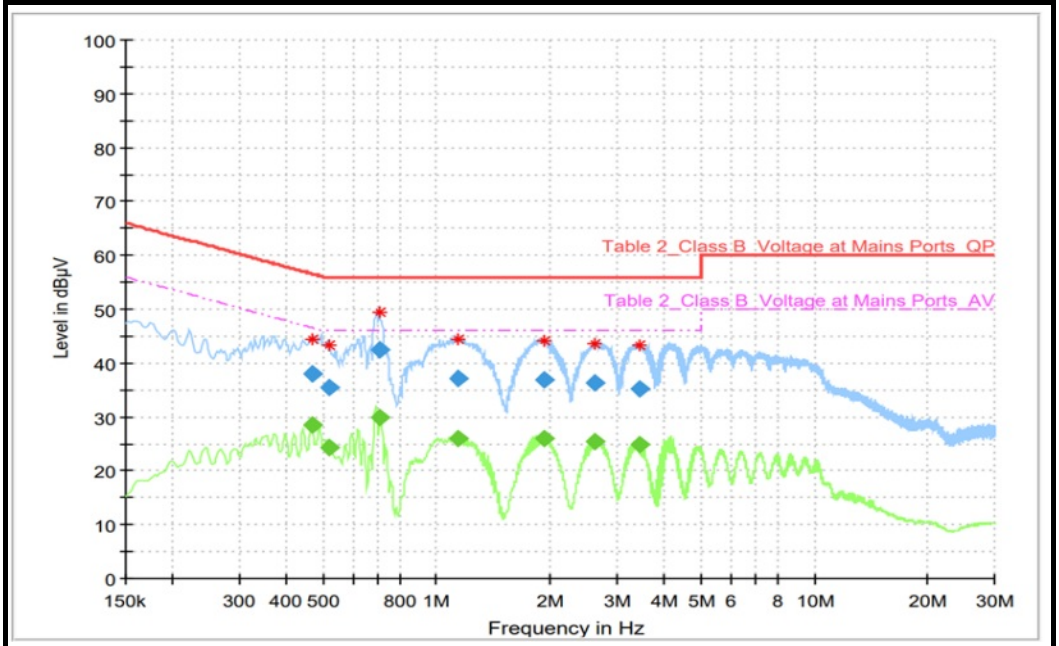
*Decreases with the logarithm of the frequency.

4.8.3 Test data

Result : Pass



L-Line Conducted Emission



N-Line Conducted Emission

6. Used equipment

	Description	Model Name	Manufacturer	Serial Number	Calibration	Next Cal
■	SIGNAL GENERATOR	SMB100A	R&S	180607	2023-03-02	2024-03-02
■	SIGNAL & SPECTRUM ANALYZER	FSW85	R&S	101306	2023-03-03	2024-03-03
■	ATTENUATOR	PFA40K2-10	PSATEK	-	2023-03-07	2024-03-07
■	DC BLOCK	PDCB-00012650 -SMSF-3	PSATEK INC.	-	2023-05-02	2024-05-02
■	DC POWER SUPPLY	E3632A	AGILANT	MY51300069	2023-03-03	2024-03-03
■	LOOP ANTENNA	HFH2-Z2	R&S	100271	2023-03-08	2025-03-08
■	BI-Log ANTENNA	VULB 9162	SCHWARZBECK	120	2022-12-26	2024-12-26
■	SIGNAL CONDITIONING UNIT	SCU 08	R&S	100746	2023-04-03	2024-04-03
■	EMI TEST RECEIVER	ESR26	R&S	101462	2023-04-04	2024-04-04
■	DOUBLE RIDGED HORN ANTENNA	HF907	R&S	102556	2023-08-04	2024-08-04
■	SIGNAL CONDITIONING UNIT	SCU18	R&S	102342	2023-04-03	2024-04-03
■	EMI TEST RECEIVER	ESR26	R&S	101461	2023-04-04	2024-04-04
■	HORN ANTENNA	LB-42-10-C-KF	A-INFOMW	J202024625	2023-03-07	2024-03-07
■	PREAMPLIFIER	AMF-4F-18265-35-8P-1	MITEQ	-	2023-03-07	2024-03-07

- END OF REPORT.