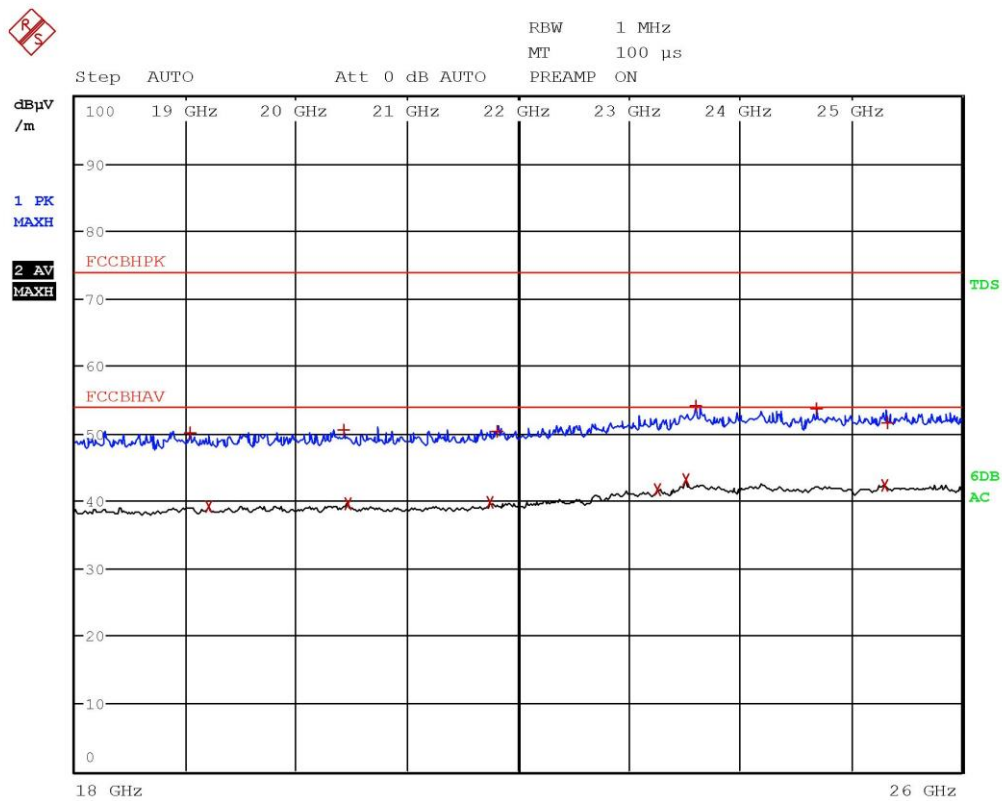




EDIT PEAK LIST (Prescan Results)			
Trace1:	FCCBHPK		
Trace2:	FCCBHAV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV/m	DELTA LIMIT dB
2 Average	3.2027 GHz	39.62	-14.35
1 Max Peak	3.2027 GHz	44.81	-29.16
1 Max Peak	3.5259 GHz	42.42	-31.55
2 Average	3.5259 GHz	32.42	-21.56
1 Max Peak	3.9983 GHz	42.35	-31.62
2 Average	4.0631 GHz	29.25	-24.72
2 Average	4.8043 GHz	38.51	-15.46
1 Max Peak	4.8043 GHz	44.20	-29.77
2 Average	11.7739 GHz	36.94	-17.03
1 Max Peak	14.0739 GHz	51.79	-22.18
2 Average	17.7555 GHz	43.85	-10.12
1 Max Peak	17.8347 GHz	55.19	-18.78

Gandini 17199417-Vert-Tx Fmin

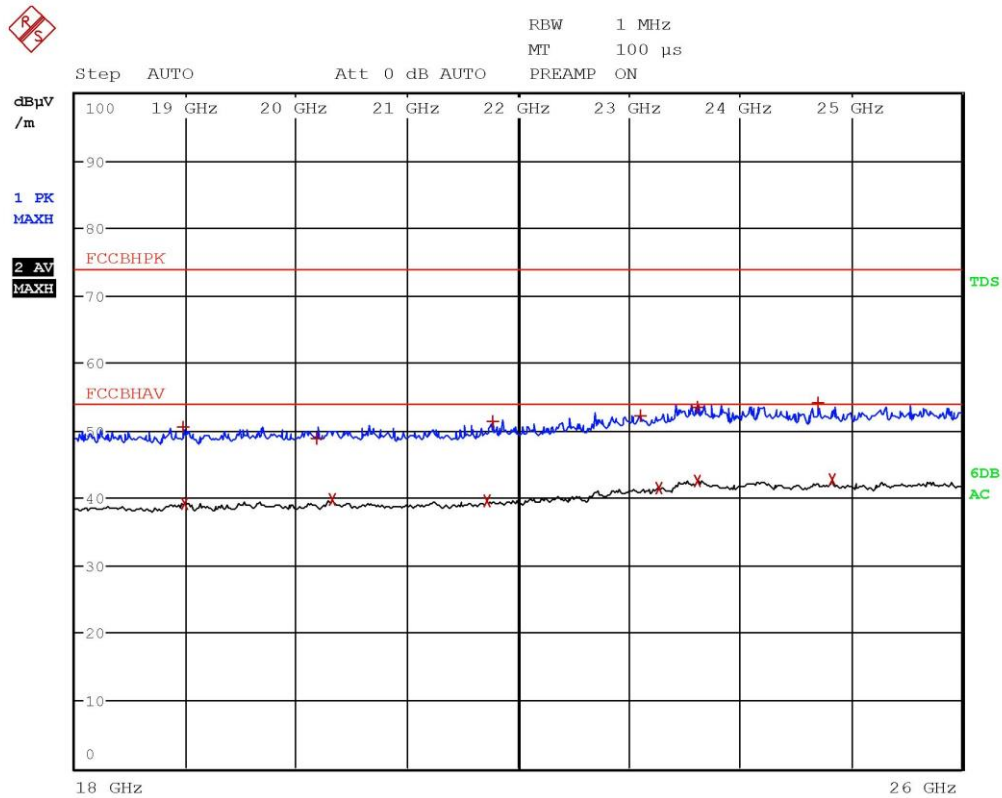


Gandini 17199418-Horiz-Tx Fmin



EDIT PEAK LIST (Prescan Results)			
Trace1:	FCCBHPK		
Trace2:	FCCBHAV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV/m	DELTA LIMIT dB
1 Max Peak	19.042 GHz	50.12	-23.85
2 Average	19.1996 GHz	39.24	-14.73
1 Max Peak	20.4216 GHz	50.50	-23.47
2 Average	20.4548 GHz	39.64	-14.33
2 Average	21.7428 GHz	39.72	-14.25
1 Max Peak	21.8016 GHz	50.32	-23.65
2 Average	23.2596 GHz	41.67	-12.30
2 Average	23.5136 GHz	43.08	-10.89
1 Max Peak	23.6064 GHz	54.10	-19.87
1 Max Peak	24.694 GHz	53.63	-20.34
2 Average	25.3016 GHz	42.35	-11.62
1 Max Peak	25.328 GHz	51.67	-22.30

Gandini 17199418-Horiz-Tx Fmin

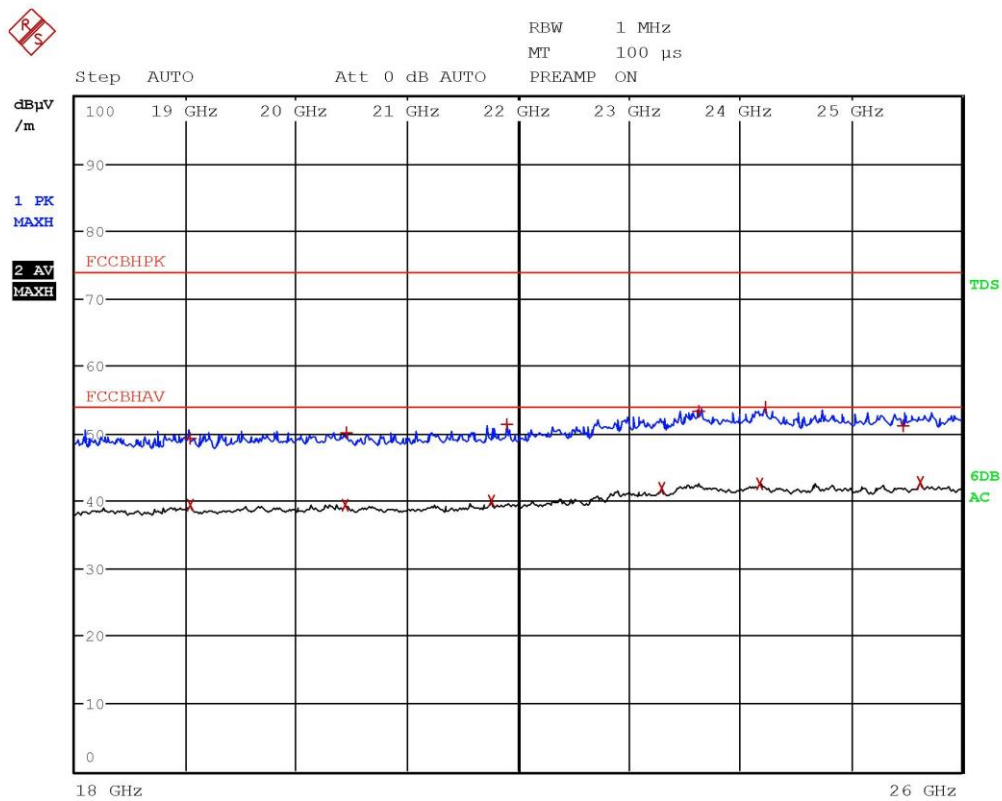


Gandini 17199419-Vert-Tx Fmin



EDIT PEAK LIST (Prescan Results)			
Trace1:	FCCBHPK		
Trace2:	FCCBHAV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV/m	DELTA LIMIT dB
1 Max Peak	18.9728 GHz	50.53	-23.44
2 Average	18.9892 GHz	39.23	-14.75
1 Max Peak	20.1792 GHz	48.74	-25.23
2 Average	20.3188 GHz	39.88	-14.09
2 Average	21.7176 GHz	39.57	-14.40
1 Max Peak	21.7628 GHz	51.45	-22.52
1 Max Peak	23.1024 GHz	52.20	-21.77
2 Average	23.2684 GHz	41.53	-12.44
1 Max Peak	23.612 GHz	53.50	-20.47
2 Average	23.6204 GHz	42.56	-11.41
1 Max Peak	24.702 GHz	54.08	-19.89
2 Average	24.8268 GHz	42.71	-11.26

Gandini 17199419-Vert-Tx Fmin

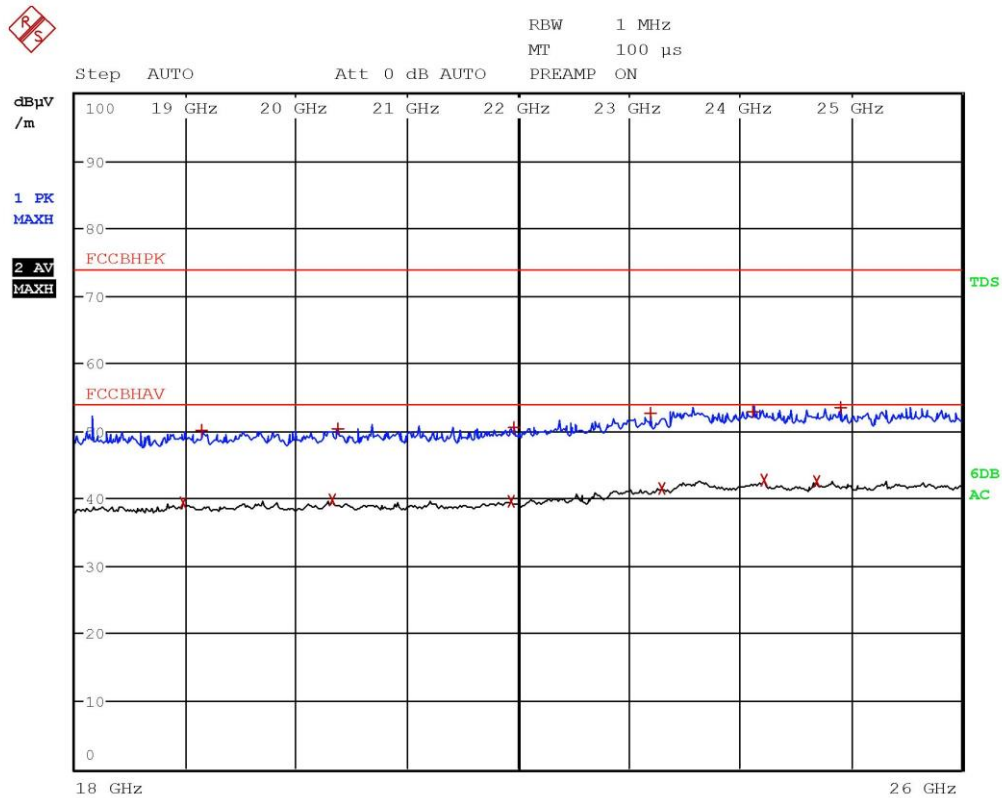


Gandini 17199420-Vert-Tx Fmid



EDIT PEAK LIST (Prescan Results)			
Trace1:	FCCBHPK		
Trace2:	FCCBHAV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV/m	DELTA LIMIT dB
2 Average	19.036 GHz	39.30	-14.67
1 Max Peak	19.0368 GHz	49.34	-24.63
2 Average	20.438 GHz	39.41	-14.56
1 Max Peak	20.4432 GHz	50.06	-23.91
2 Average	21.7536 GHz	39.94	-14.03
1 Max Peak	21.892 GHz	51.40	-22.57
2 Average	23.2936 GHz	41.94	-12.04
1 Max Peak	23.6272 GHz	53.21	-20.76
2 Average	24.1788 GHz	42.61	-11.36
1 Max Peak	24.2296 GHz	53.81	-20.16
1 Max Peak	25.478 GHz	51.09	-22.88
2 Average	25.6308 GHz	42.74	-11.23

Gandini 17199420-Vert-Tx Fmid

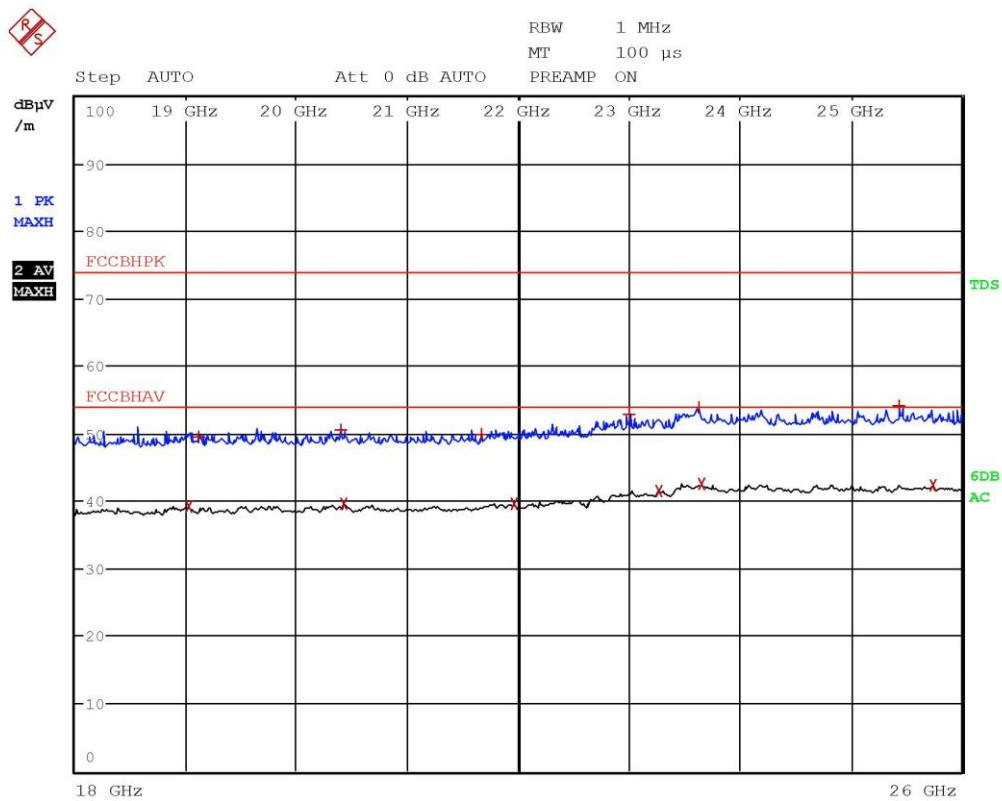


Gandini 17199421-Horiz-Tx Fmid



EDIT PEAK LIST (Prescan Results)			
Trace1:	FCCBHPK		
Trace2:	FCCBHAV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV/m	DELTA LIMIT dB
2 Average	18.9676 GHz	39.39	-14.58
1 Max Peak	19.1356 GHz	50.06	-23.91
2 Average	20.3224 GHz	39.89	-14.08
1 Max Peak	20.3668 GHz	50.34	-23.63
2 Average	21.9392 GHz	39.50	-14.47
1 Max Peak	21.9552 GHz	50.47	-23.50
1 Max Peak	23.1896 GHz	52.62	-21.35
2 Average	23.298 GHz	41.41	-12.56
1 Max Peak	24.1144 GHz	52.82	-21.15
2 Average	24.2192 GHz	42.68	-11.29
2 Average	24.6876 GHz	42.53	-11.44
1 Max Peak	24.9056 GHz	53.41	-20.56

Gandini 17199421-Horiz-Tx Fmid

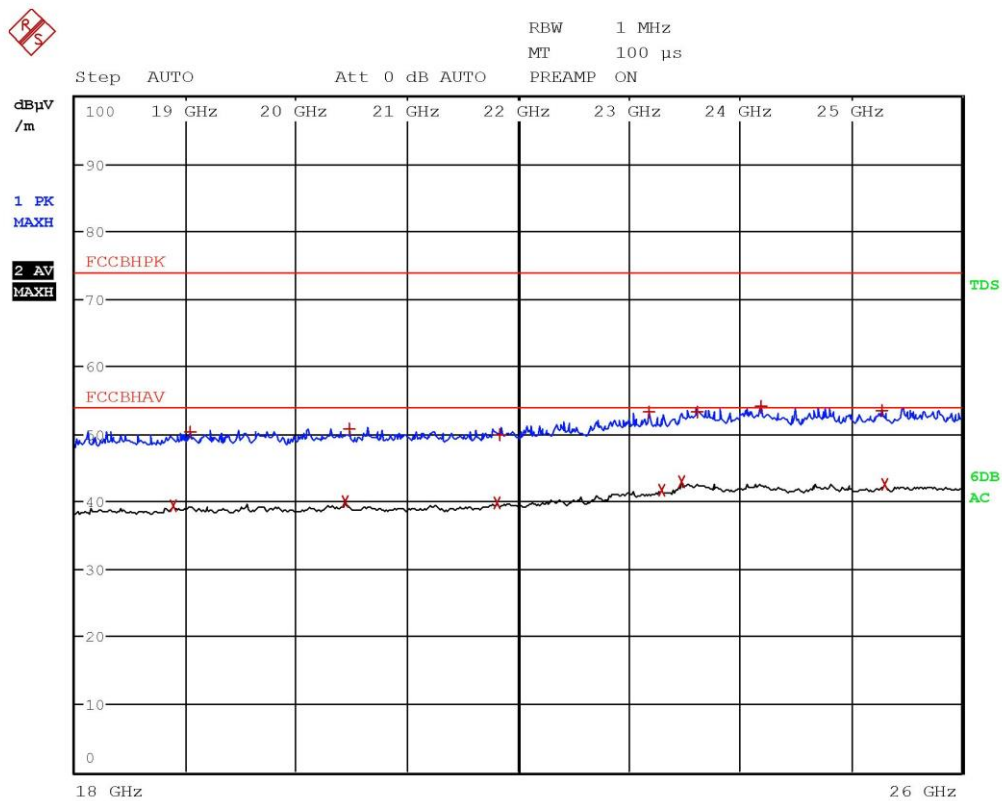


Gandini 17199422-Horiz-Tx Fmax



EDIT PEAK LIST (Prescan Results)			
Trace1:	FCCBHPK		
Trace2:	FCCBHAV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV/m	DELTA LIMIT dB
2 Average	19.0192 GHz	39.24	-14.73
1 Max Peak	19.1096 GHz	49.38	-24.60
1 Max Peak	20.3912 GHz	50.56	-23.41
2 Average	20.4268 GHz	39.50	-14.47
1 Max Peak	21.6672 GHz	49.85	-24.12
2 Average	21.9632 GHz	39.53	-14.44
1 Max Peak	22.9948 GHz	52.74	-21.23
2 Average	23.268 GHz	41.59	-12.38
1 Max Peak	23.63 GHz	53.93	-20.04
2 Average	23.6488 GHz	42.51	-11.46
1 Max Peak	25.4388 GHz	54.03	-19.94
2 Average	25.744 GHz	42.36	-11.61

Gandini 17199422-Horiz-Tx Fmax



Gandini 17199423-Vert-Tx Fmax



EDIT PEAK LIST (Prescan Results)			
Trace1:	FCCBHPK		
Trace2:	FCCBHAV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV/m	DELTA LIMIT dB
2 Average	18.8844 GHz	39.43	-14.54
1 Max Peak	19.0444 GHz	50.38	-23.59
2 Average	20.4364 GHz	40.01	-13.96
1 Max Peak	20.476 GHz	50.76	-23.21
2 Average	21.808 GHz	39.85	-14.12
1 Max Peak	21.8344 GHz	49.95	-24.02
1 Max Peak	23.1832 GHz	53.33	-20.64
2 Average	23.2968 GHz	41.61	-12.36
2 Average	23.478 GHz	43.00	-10.97
1 Max Peak	23.6188 GHz	53.29	-20.68
1 Max Peak	24.188 GHz	54.11	-19.86
1 Max Peak	25.2808 GHz	53.44	-20.53
2 Average	25.3096 GHz	42.64	-11.33

Gandini 17199423-Vert-Tx Fmax

Result: The requirements are met



11.4 20 dB bandwidth

Test set-up and execution

- FCC Rules and Regulation; Titles 47 Part 15.247
- DA 00-705
- Internal procedure PM001
- See clause 4 of this test report

Test configuration and test method

Test site:
Laboratory

Auxiliary equipment:
See clause 4 of this test report

EUT exercising

See clause 4 of this test report

Test equipment used

CMC S108, CMC S136, CMC S227
Measurement uncertainty: See clause 7 of this test report

Test specification

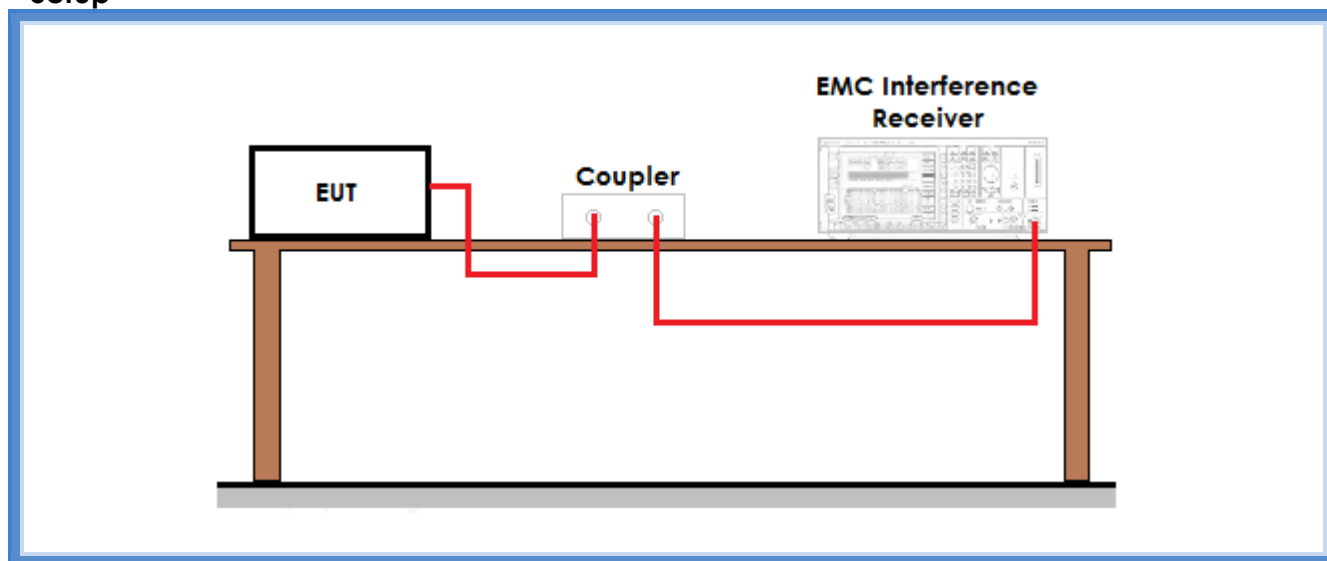
See FCC Part 15.247

Environmental conditions

Temperature (°C)	Atmospheric pressure (kPa)	Relative humidity (%)
22	100	45



Setup



Result

Frequency (MHz)	Graphs	20 dB bandwidth (kHz)	Results
2402	G17199405	1258,7	Complies
2441	G17199412	1253,1	Complies
2480	G17199416	1253,1	Complies

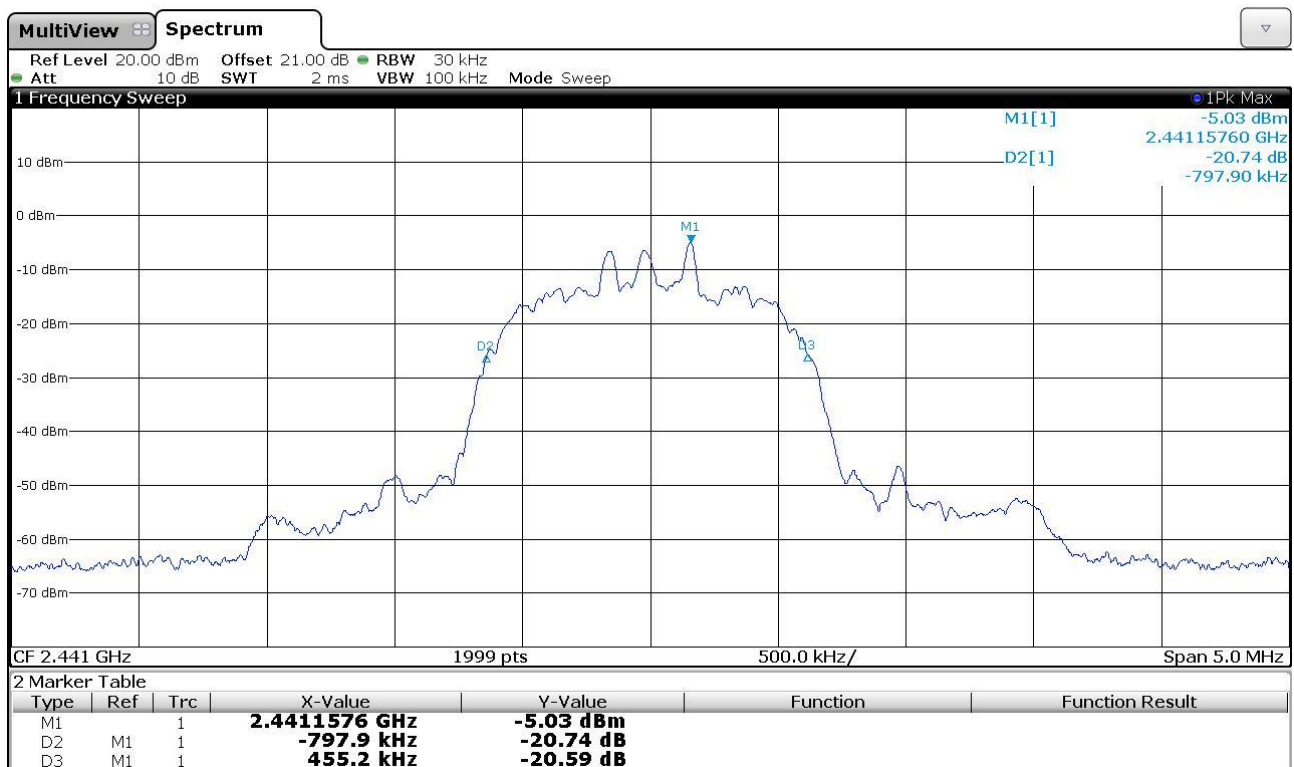


Graphs

Gandini 17199405

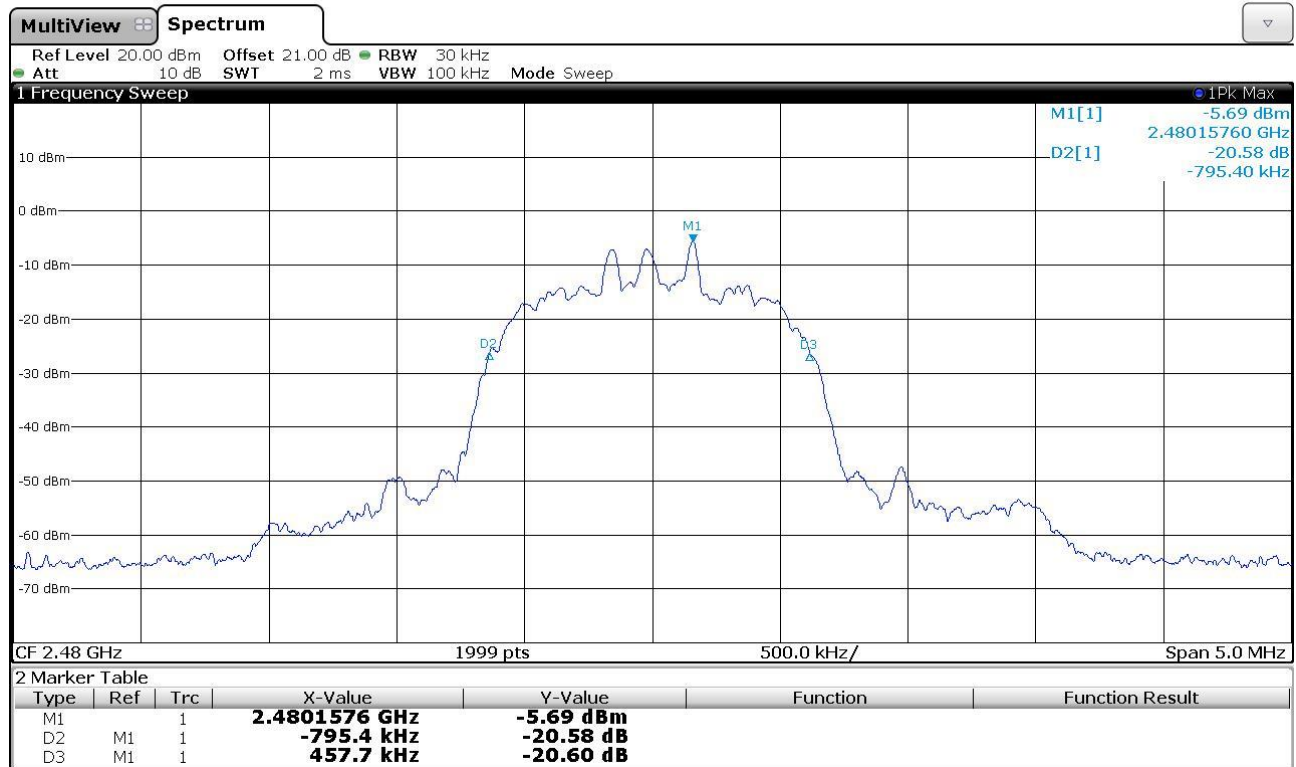


Gandini 17199412





Gandini 17199416



Result: The requirements are met



11.5 Channel separation

Test set-up and execution

- FCC Rules and Regulation; Titles 47 Part 15.247
- DA 00-705
- Internal procedure PM001
- See clause 4 of this test report

Test configuration and test method

Test site:
Laboratory

Auxiliary equipment:
See clause 4 of this test report

EUT exercising

See clause 4 of this test report

Test equipment used

CMC S108, CMC S136, CMC S227
Measurement uncertainty: See clause 7 of this test report

Test specification

See FCC Part 15.247

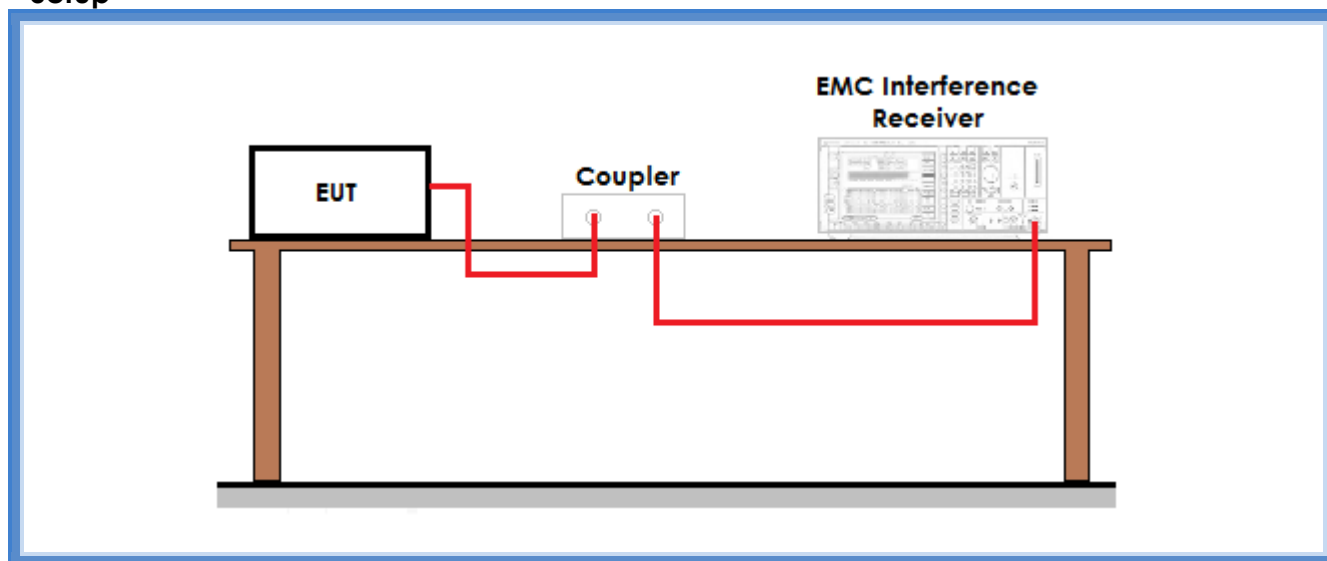
Environmental conditions

Temperature (°C)	Atmospheric pressure (kPa)	Relative humidity (%)
20	100	42

Acceptance limits: 839,1 kHz (two-thirds of the 20 dB bandwidth) – 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.



Setup



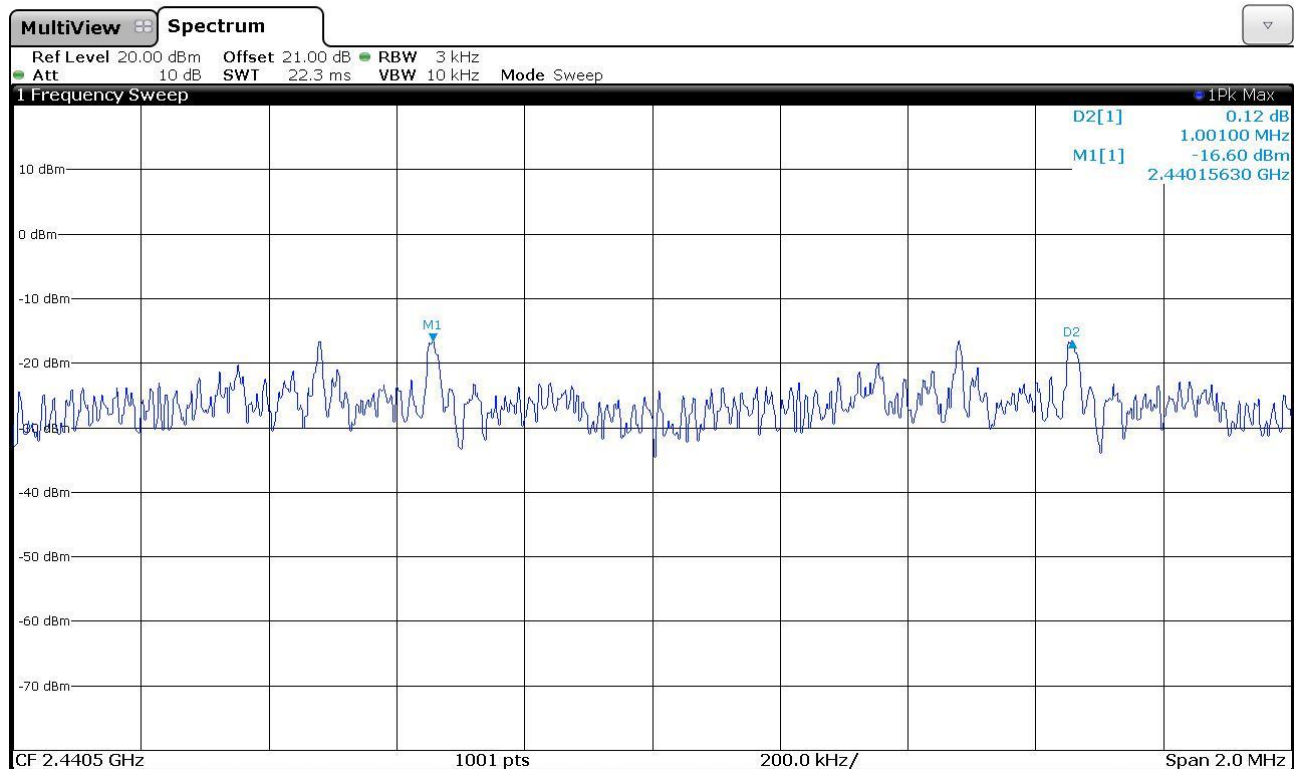
Result

Frequency band (MHz)	Graphs	Channel separation (kHz)	Minimum channel separation required (kHz)	Results
2400 – 2483,5	G17199402	1001	839,1	Complies



Graphs

Gandini 17199402



Result: The requirements are met



11.6 Number of hopping channels

Test set-up and execution

- FCC Rules and Regulation; Titles 47 Part 15.247
- DA 00-705
- Internal procedure PM001
- See clause 4 of this test report

Test configuration and test method

Test site:
Laboratory

Auxiliary equipment:
See clause 4 of this test report

EUT exercising

See clause 4 of this test report

Test equipment used

CMC S108, CMC S136, CMC S227
Measurement uncertainty: See clause 7 of this test report

Test specification

See FCC Part 15.247

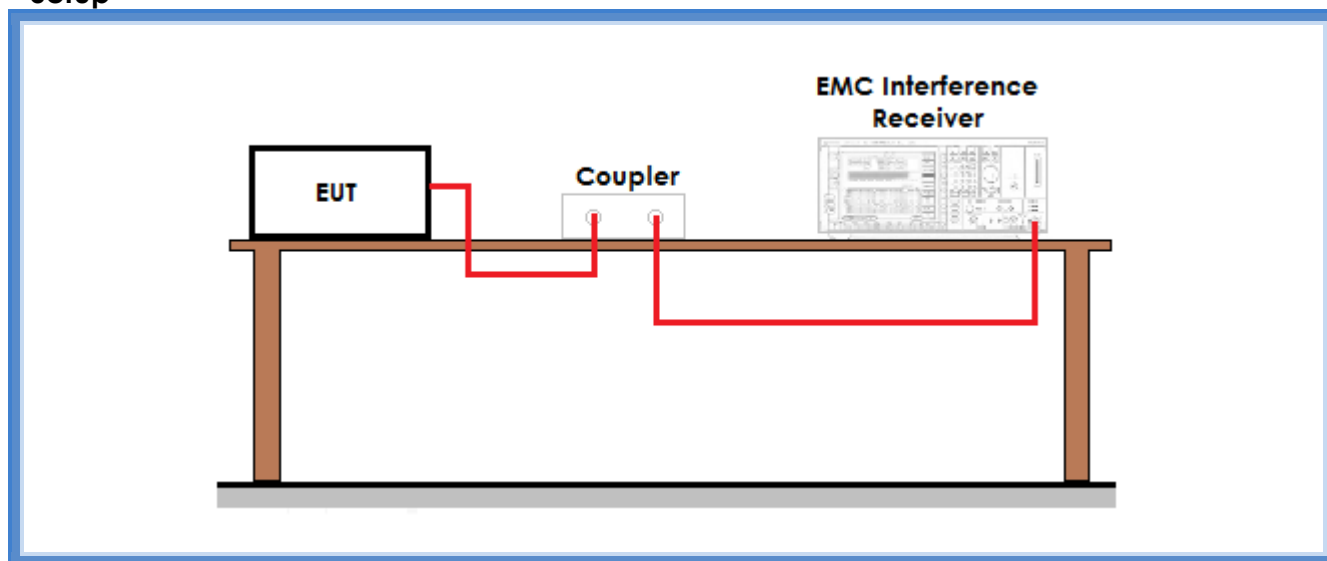
Environmental conditions

Temperature (°C)	Atmospheric pressure (kPa)	Relative humidity (%)
20	100	42

Acceptance limits: frequency hopping systems in the 2400–2483.5 MHz band shall use at least 15 channels.



Setup



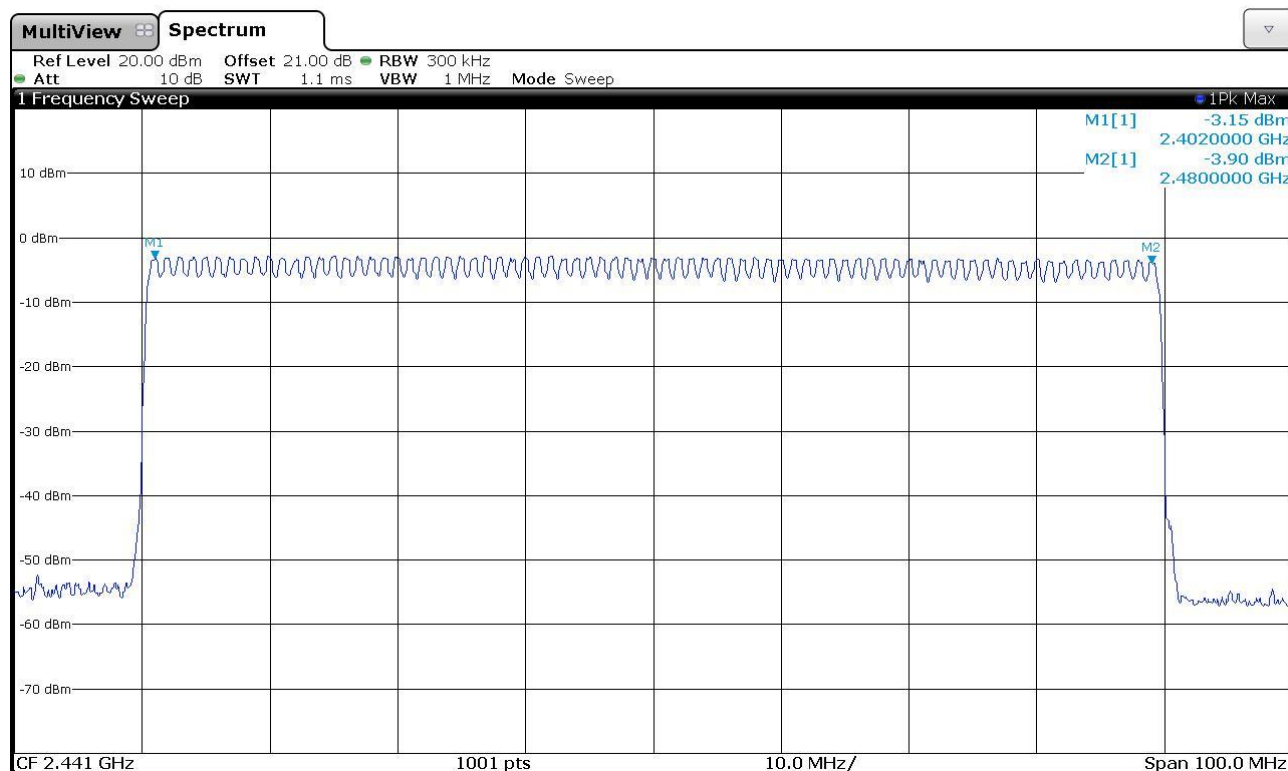
Result

Frequency band (MHz)	Graphs	Number of hopping channels	Minimum number of hopping channels required	Results
2400 – 2483,5	G17199401	79	15	Complies



Graphs

Gandini 17199401



Result: The requirements are met



11.7 Time of occupancy

Test set-up and execution

- FCC Rules and Regulation; Titles 47 Part 15.247
- DA 00-705
- Internal procedure PM001
- See clause 4 of this test report

Test configuration and test method

Test site:
Laboratory

Auxiliary equipment:
See clause 4 of this test report

EUT exercising

See clause 4 of this test report

Test equipment used

CMC S108, CMC S136, CMC S227
Measurement uncertainty: See clause 7 of this test report

Test specification

See FCC Part 15.247

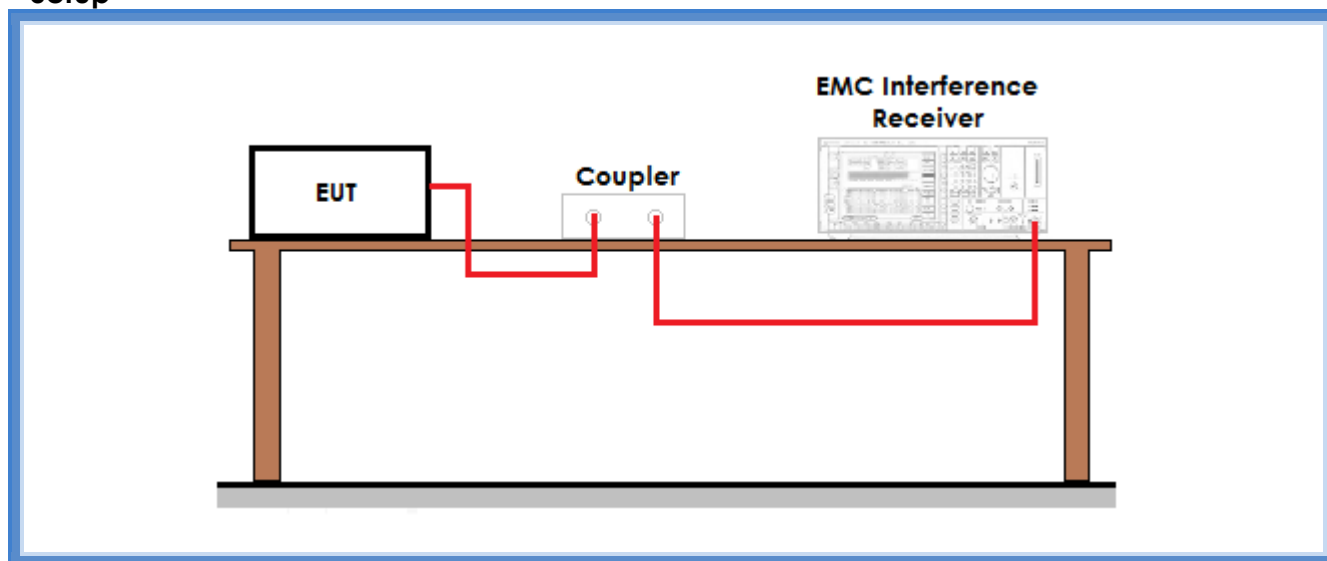
Environmental conditions

Temperature (°C)	Atmospheric pressure (kPa)	Relative humidity (%)
22	100	42

Acceptance limits: 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.



Setup



Result

Dwell time DH1

Frequency (MHz)	Graphs	Dwell time (ms)
2441	G17199490	0,391

Frequency (MHz)	Time between 2 transmission on different channels		Number of transmissions on a period of 31,6 s
2441	G17199491	1,25 ms	$31,6 \text{ s} / 1,25 \text{ ms} / 79 = 320$

Remarks: transmission period = 0,4 seconds multiplied by the number of hopping channels = 31,6 s

Time of occupancy (Dwell time x Nr. transmissions)	Maximum allowed time of occupancy	Results
125,12 ms	400 ms	Complies



Dwell time DH3

Frequency (MHz)	Graphs	Dwell time (ms)
2441	G17199492	1,643

Frequency (MHz)	Time between 2 transmission on different channels		Number of transmissions on a period of 31,6 s
2441	G17199493	2,50 ms	31,6 s / 2,50 ms / 79 = 160
Remarks: transmission period = 0,4 seconds multiplied by the number of hopping channels = 31,6 s			

Time of occupancy (Dwell time x Nr. transmissions)	Maximum allowed time of occupancy	Results
262,88 ms	400 ms	Complies

Dwell time DH5

Frequency (MHz)	Graphs	Dwell time (ms)
2441	G17199494	2,895

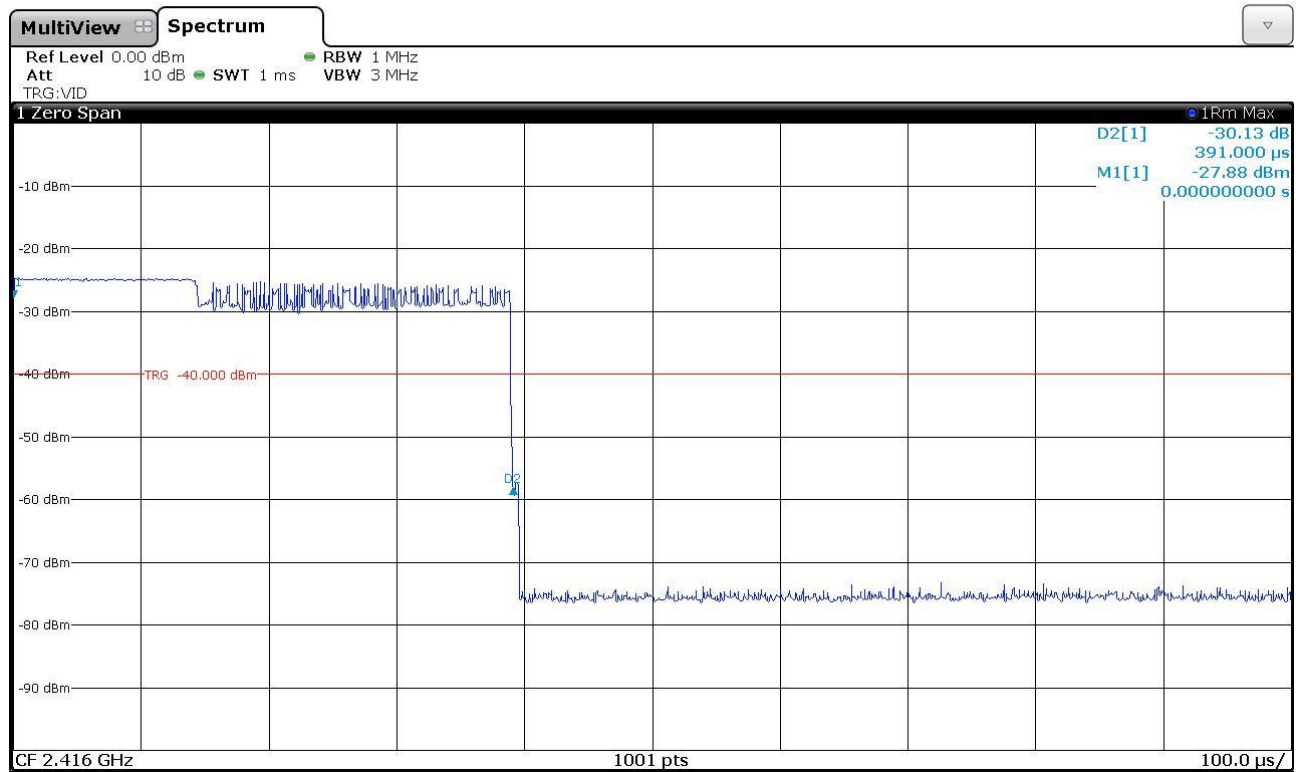
Frequency (MHz)	Time between 2 transmission on different channels		Number of transmissions on a period of 31,6 s
2441	G17199494	3,75 ms	31,6 s / 3,75 ms / 79 = 106,67
Remarks: transmission period = 0,4 seconds multiplied by the number of hopping channels = 31,6 s			

Time of occupancy (Dwell time x Nr. transmissions)	Maximum allowed time of occupancy	Results
308,8 ms	400 ms	Complies



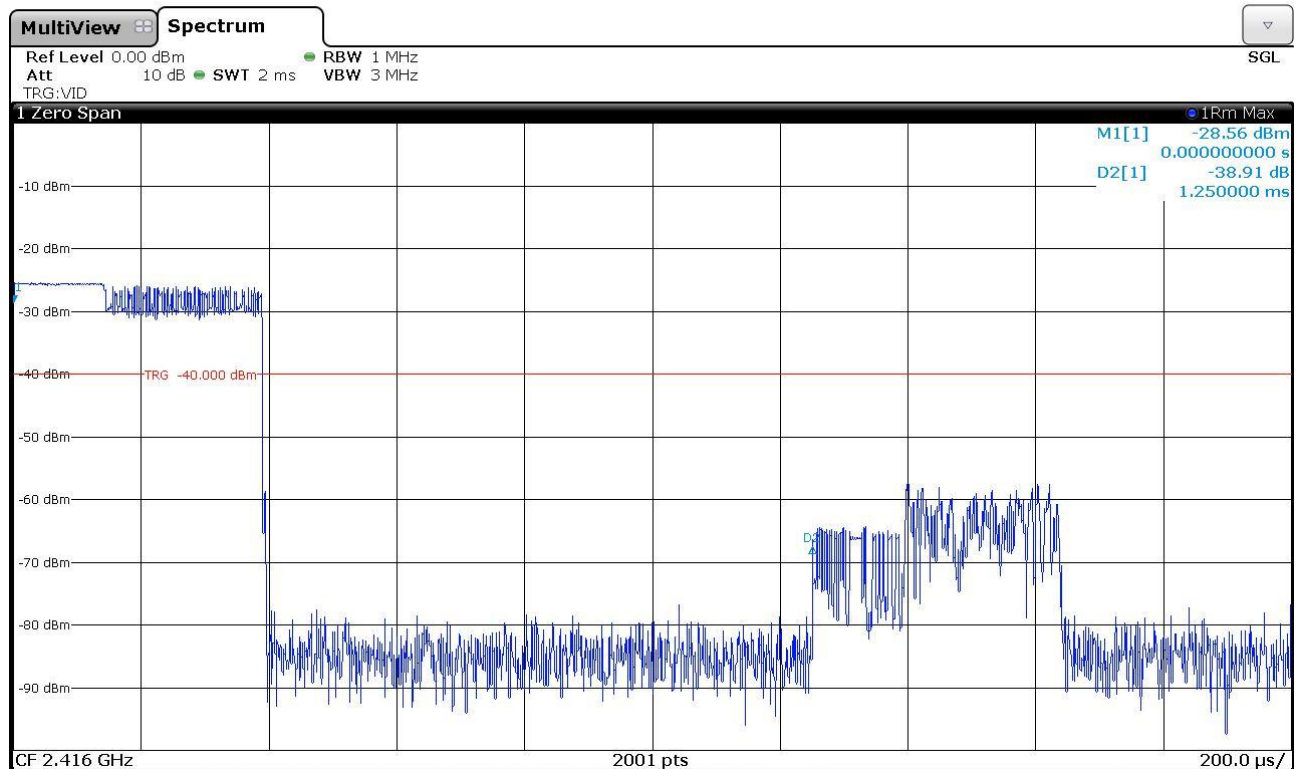
Graphs

Gandini 17199490



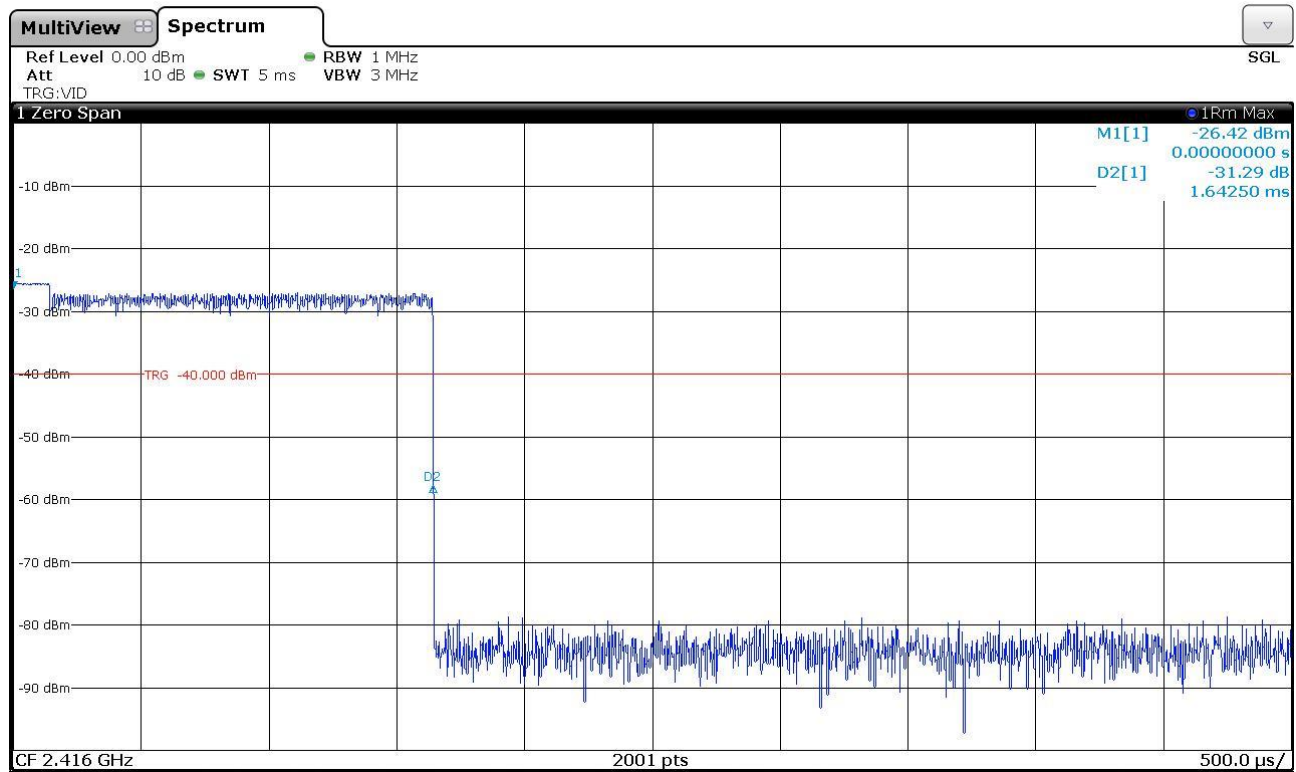


Gandini 17199491



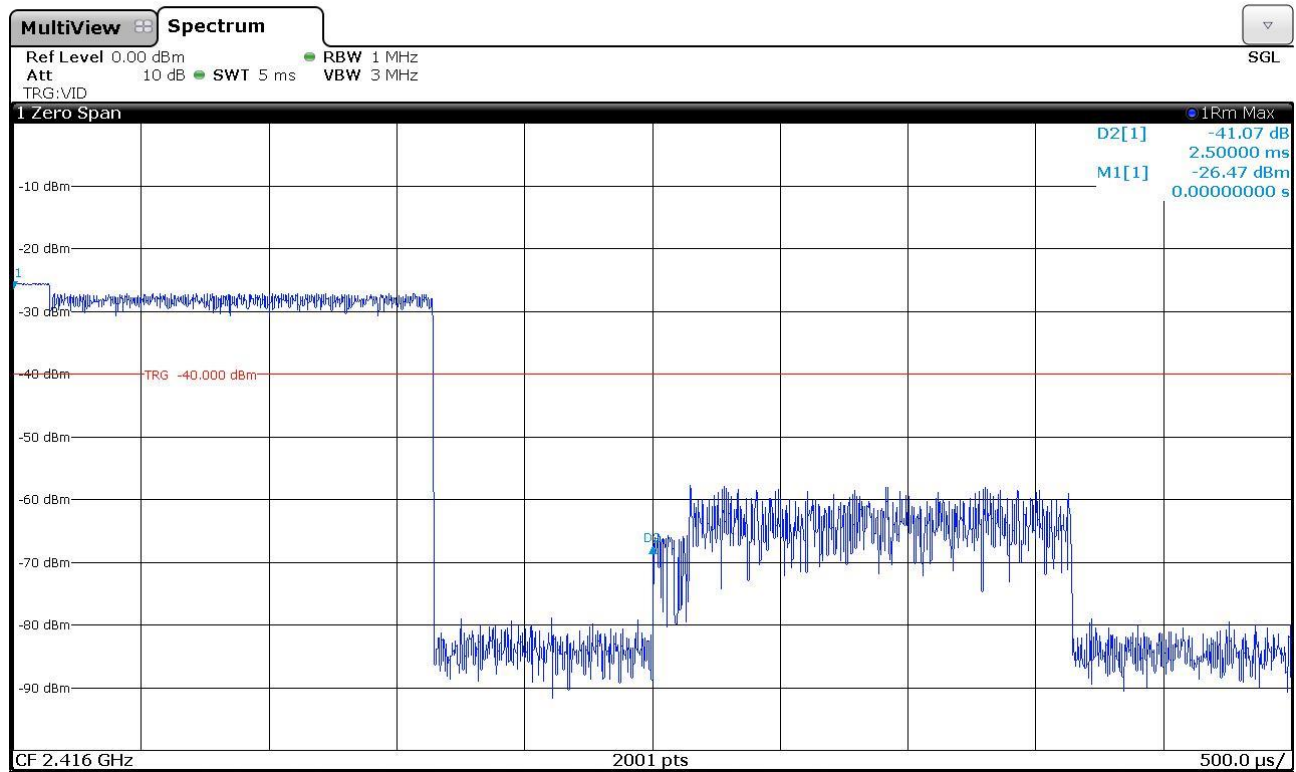


Gandini 17199492



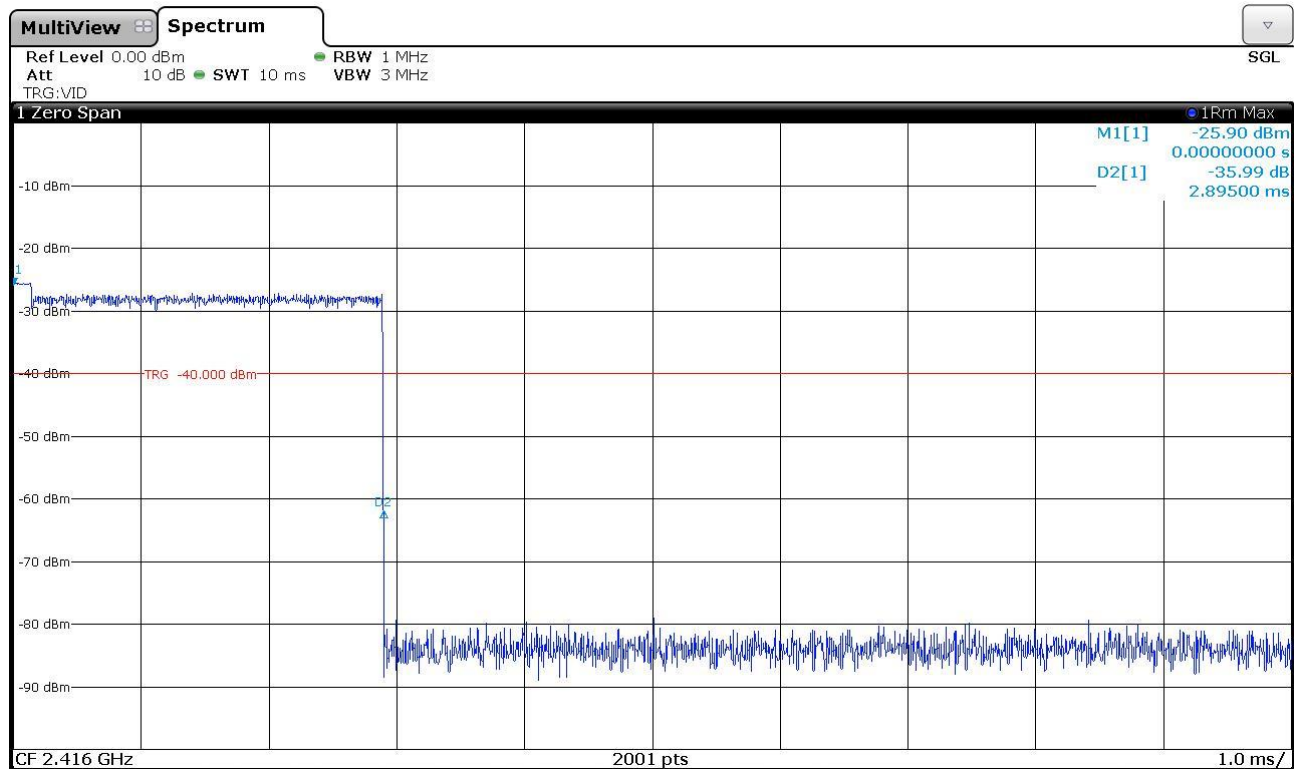


Gandini 17199493



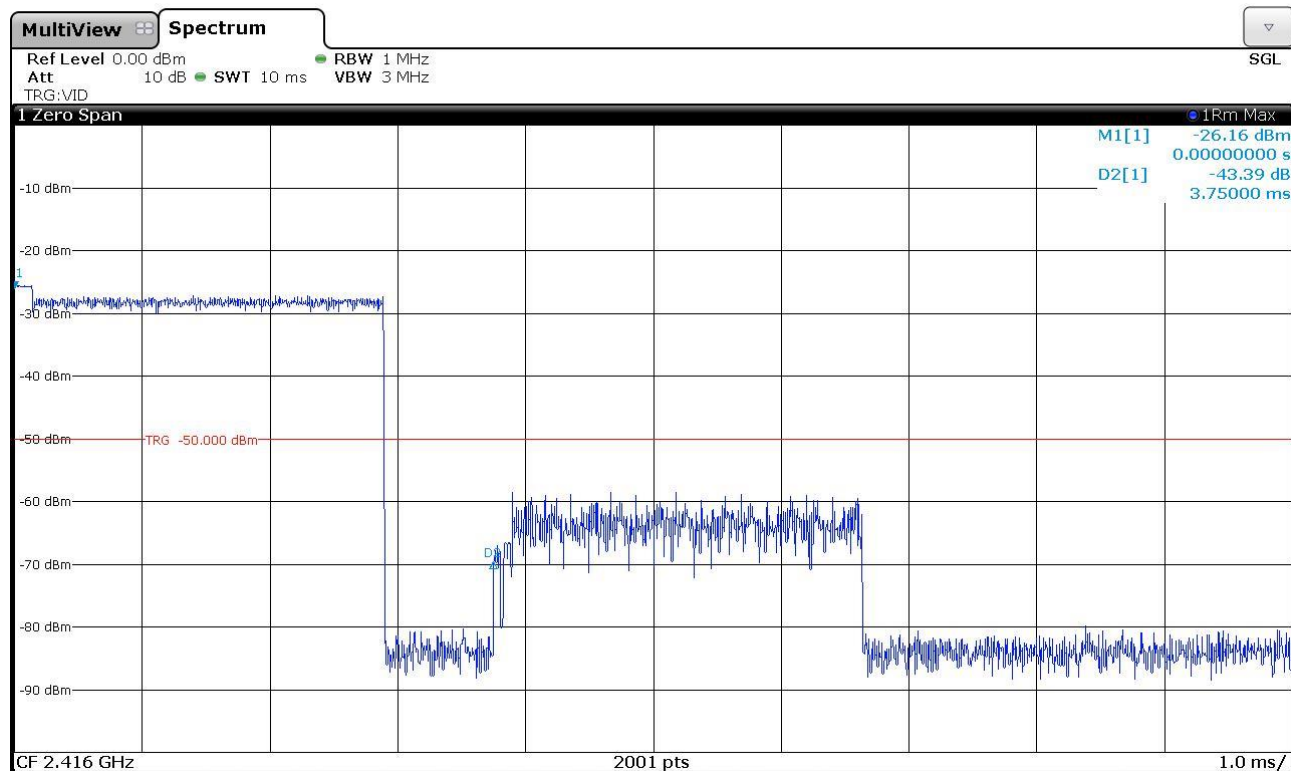


Gandini 17199494





Gandini 17199495



Result: The requirements are met



11.8 Band edge

Test set-up and execution

- FCC Rules and Regulation; Titles 47 Part 15.247
- DA 00-705
- Internal procedure PM001
- See clause 4 of this test report

Test configuration and test method

Test site:
Laboratory

Auxiliary equipment:
See clause 4 of this test report

EUT exercising

See clause 4 of this test report

Test equipment used

CMC S108, CMC S136, CMC S227
Measurement uncertainty: See clause 7 of this test report

Test specification

See FCC Part 15.247

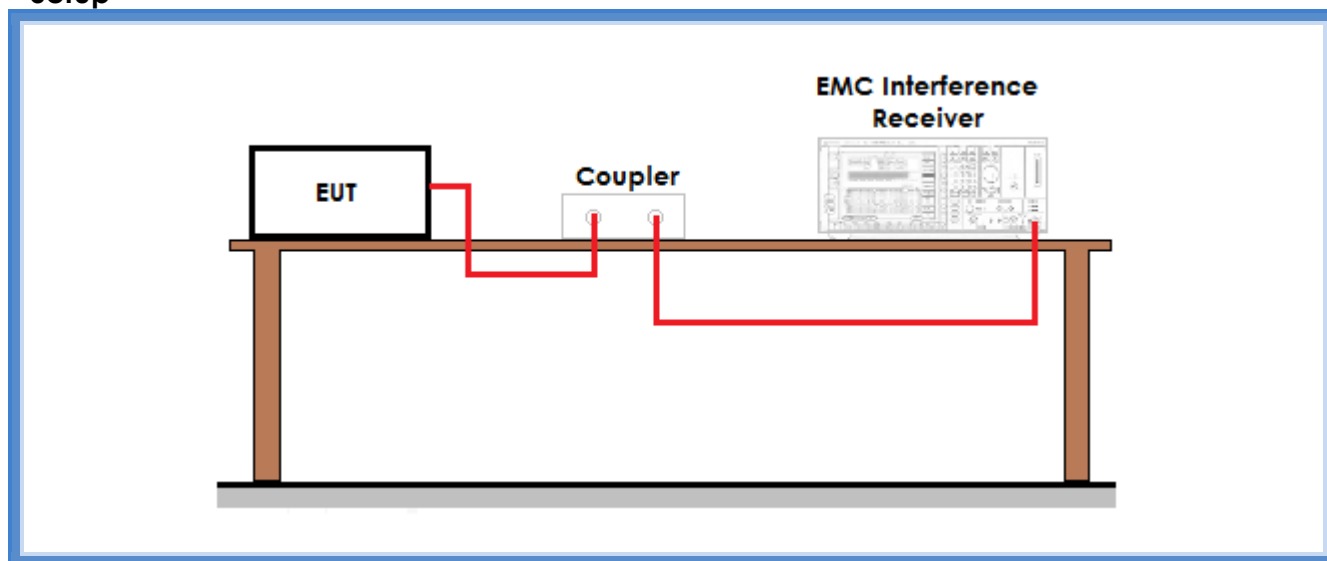
Environmental conditions

Temperature (°C)	Atmospheric pressure (kPa)	Relative humidity (%)
22	100	45

Acceptance limits: operation within the band 2400 – 2483,5 MHz



Setup



Result

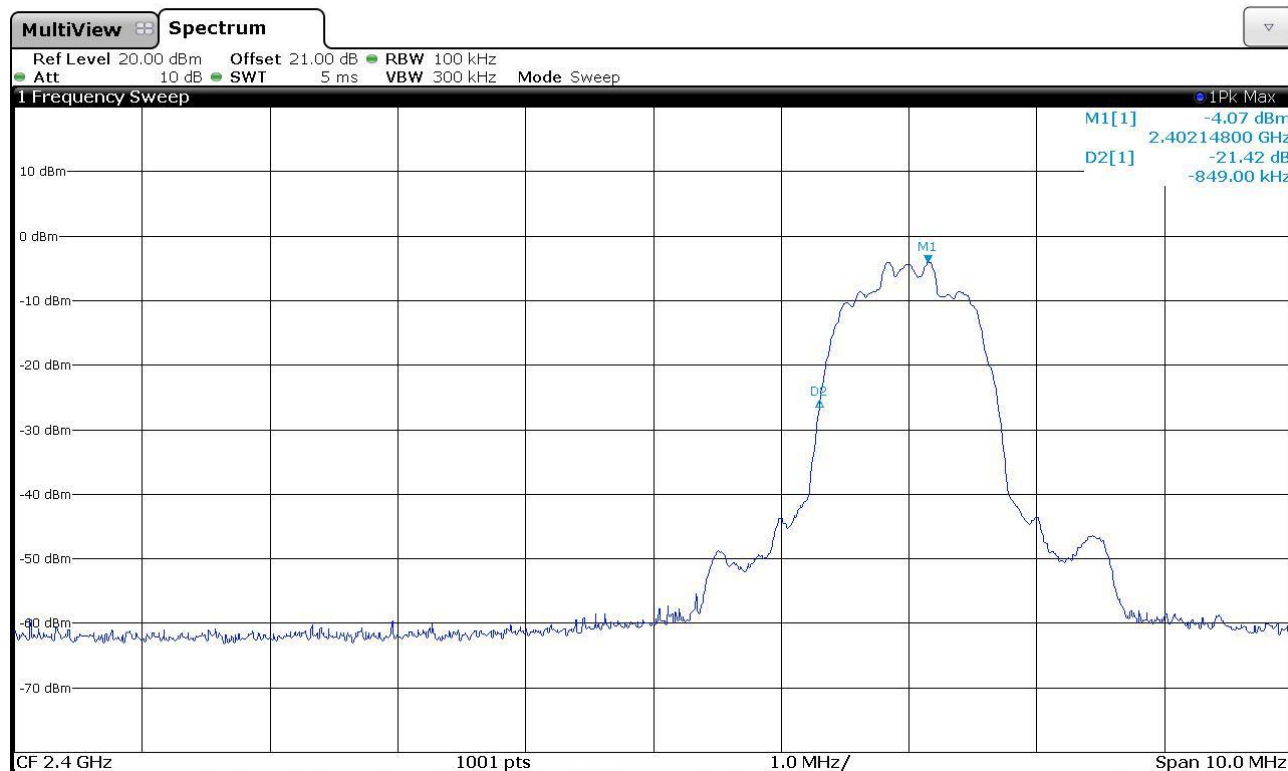
Frequency (MHz)	Graph(s) – Hopping	Results	
2402	G17199411	F _L : 2401,3087 MHz	Complies
	G17199410		
2480	G17199421	F _H : 2480,6836 MHz	Complies
	G17199420		

Frequency (MHz)	Graph(s) – No hopping	Results	
2402	G17199408	F _L : 2401,2990 MHz	Complies
	G17199409		
2480	G17199418	F _H : 2480,6886 MHz	Complies
	G17199419		



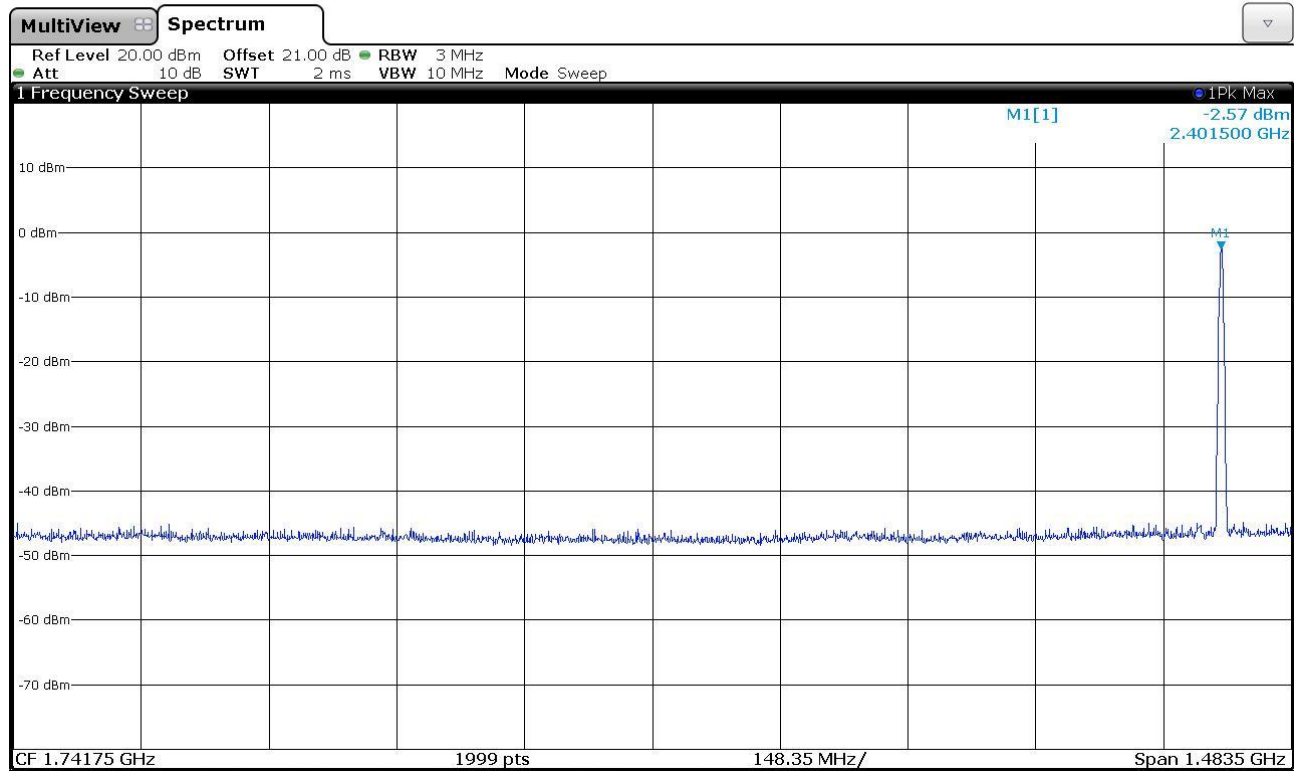
Graphs

Gandini 17199408



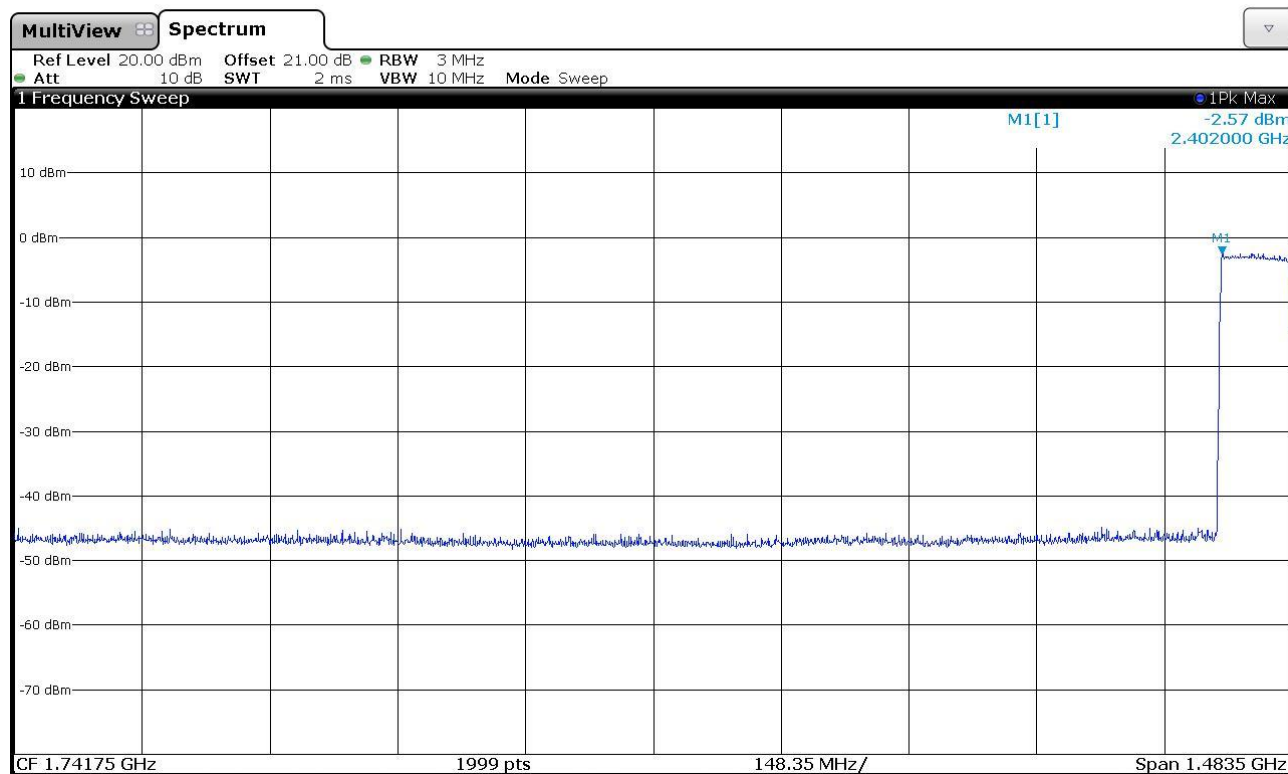


Gandini 17199409



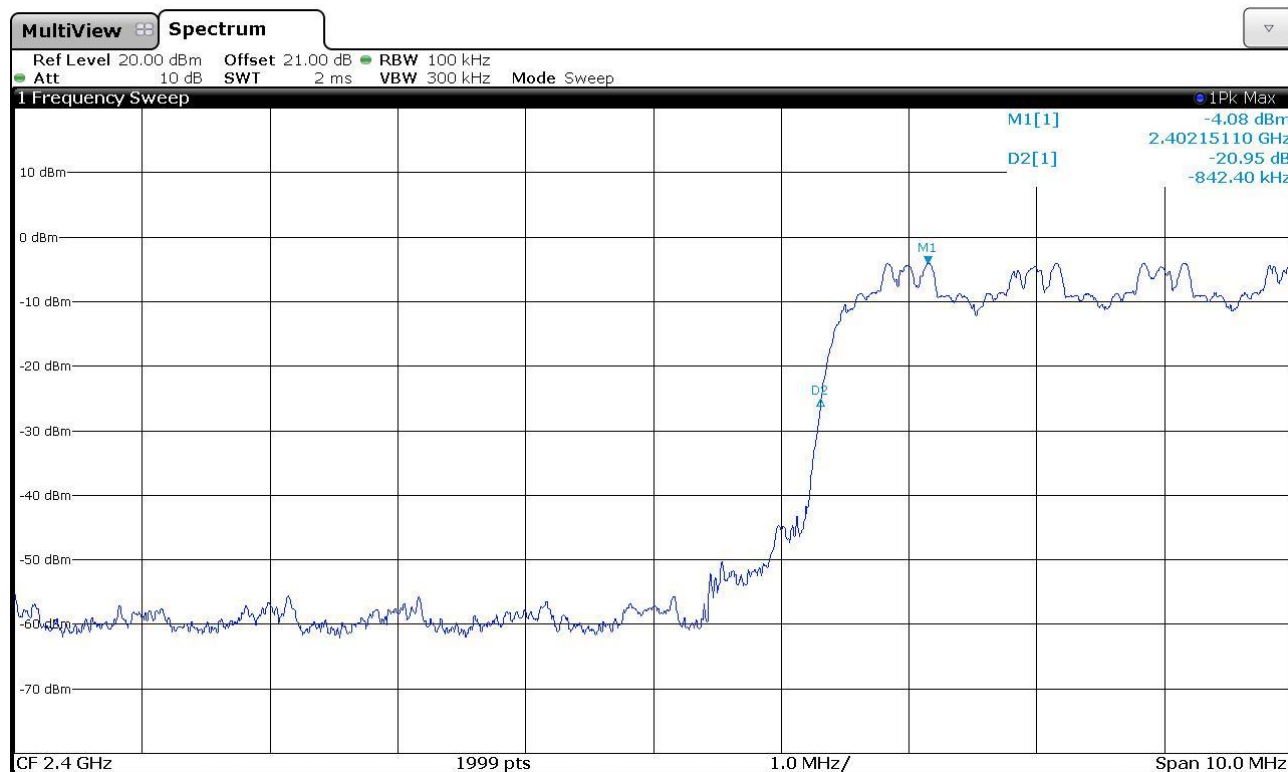


Gandini 17199410



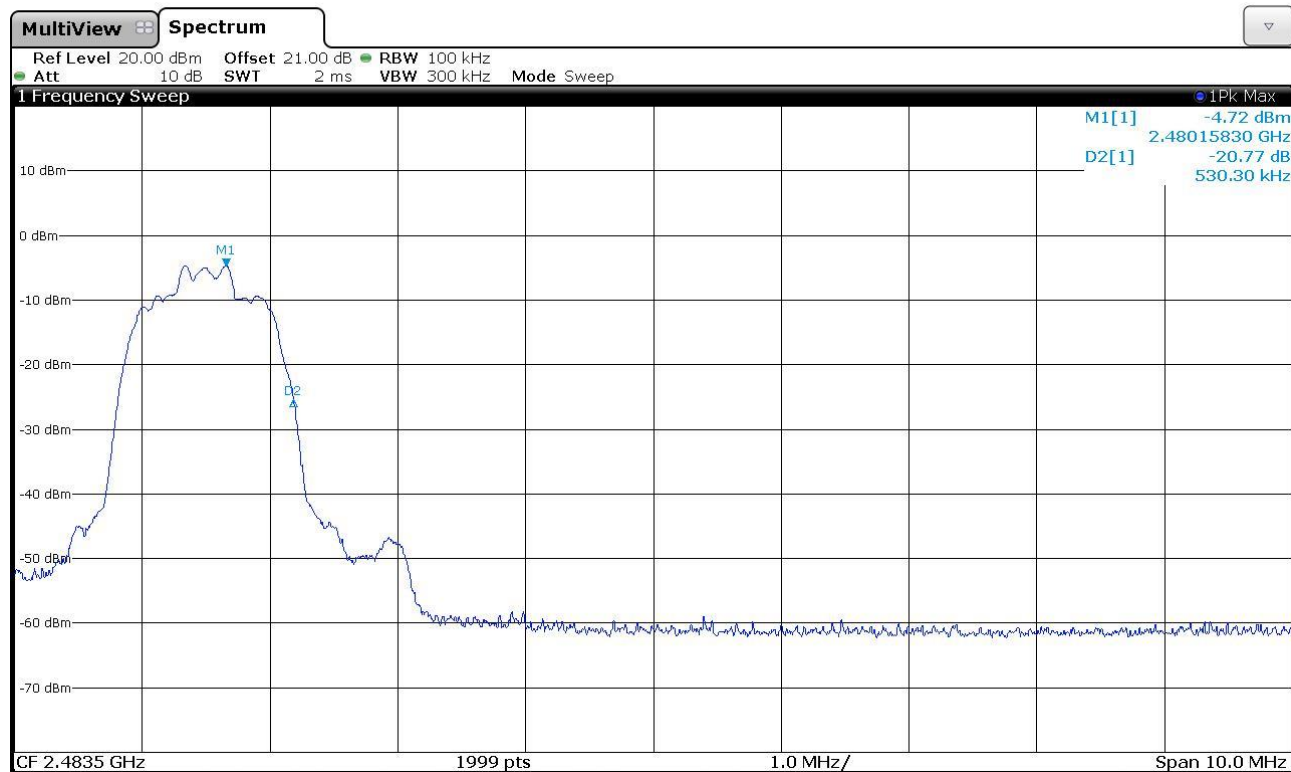


Gandini 17199411



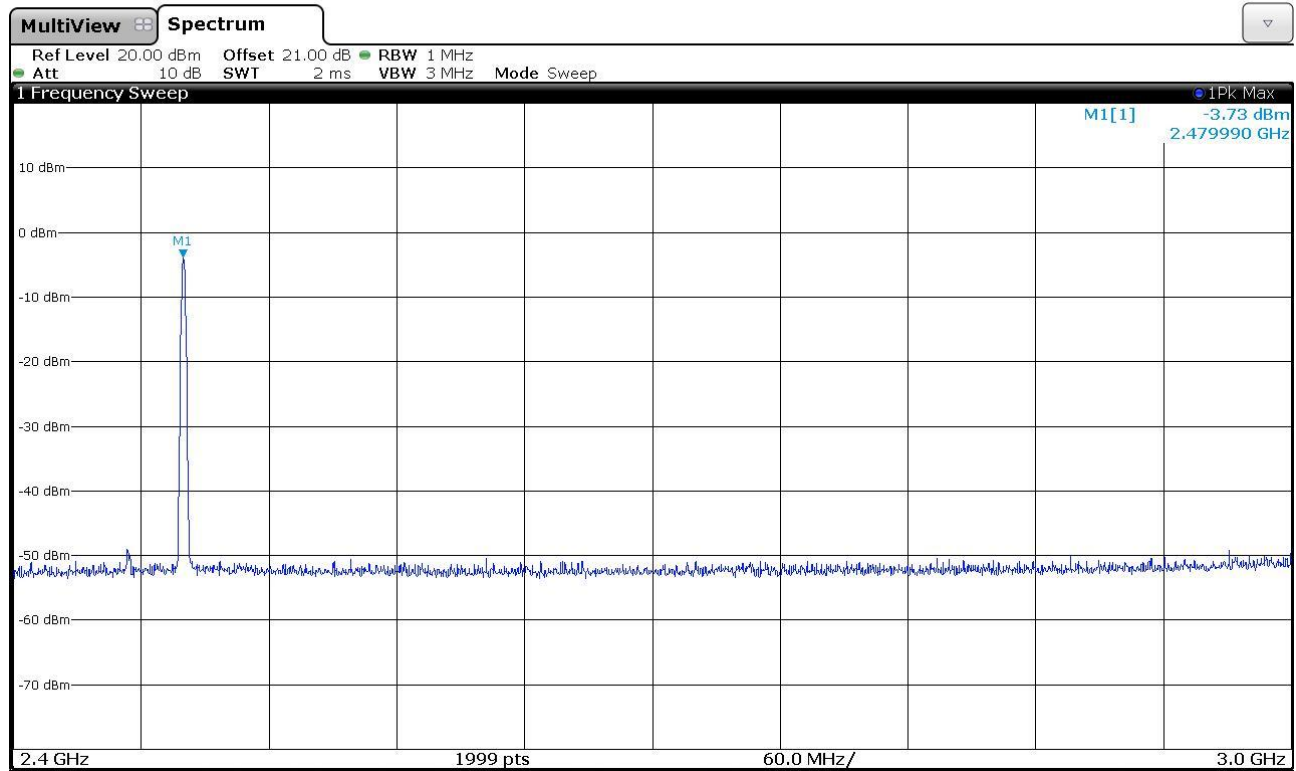


Gandini 17199418



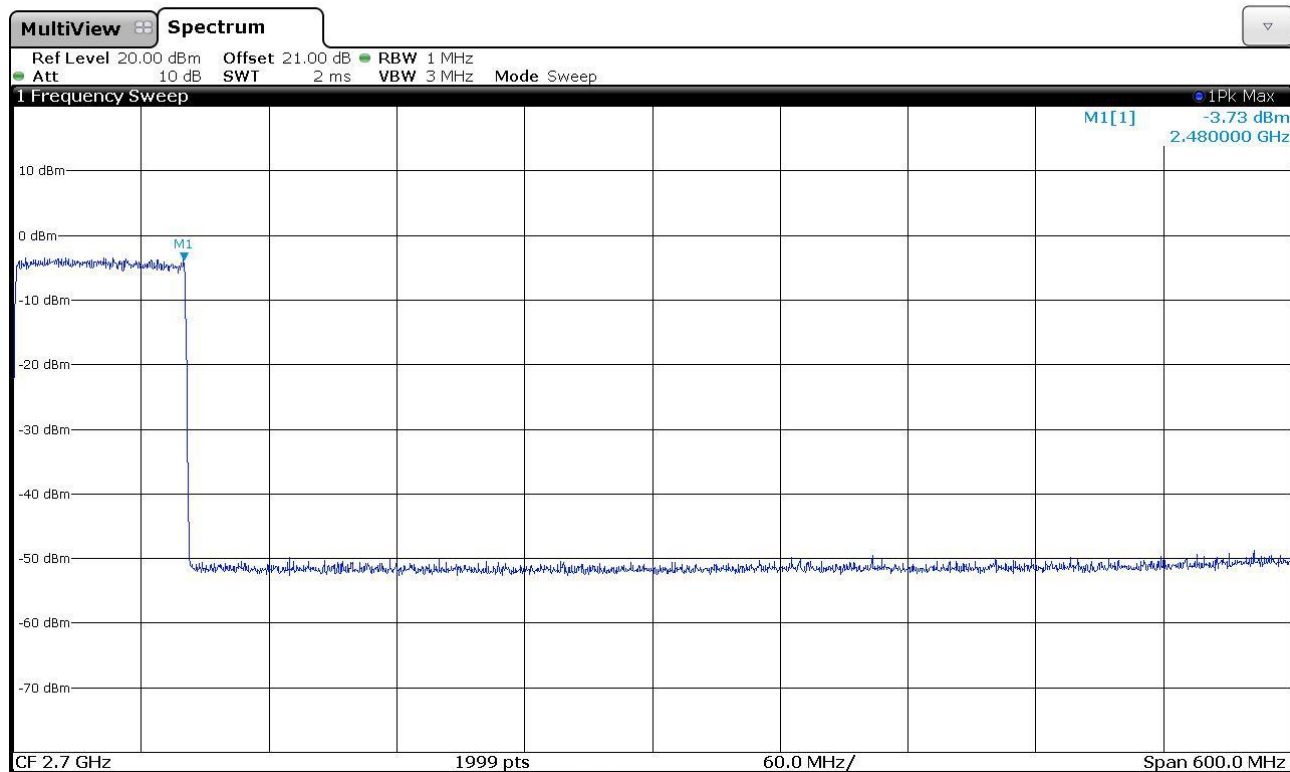


Gandini 17199419



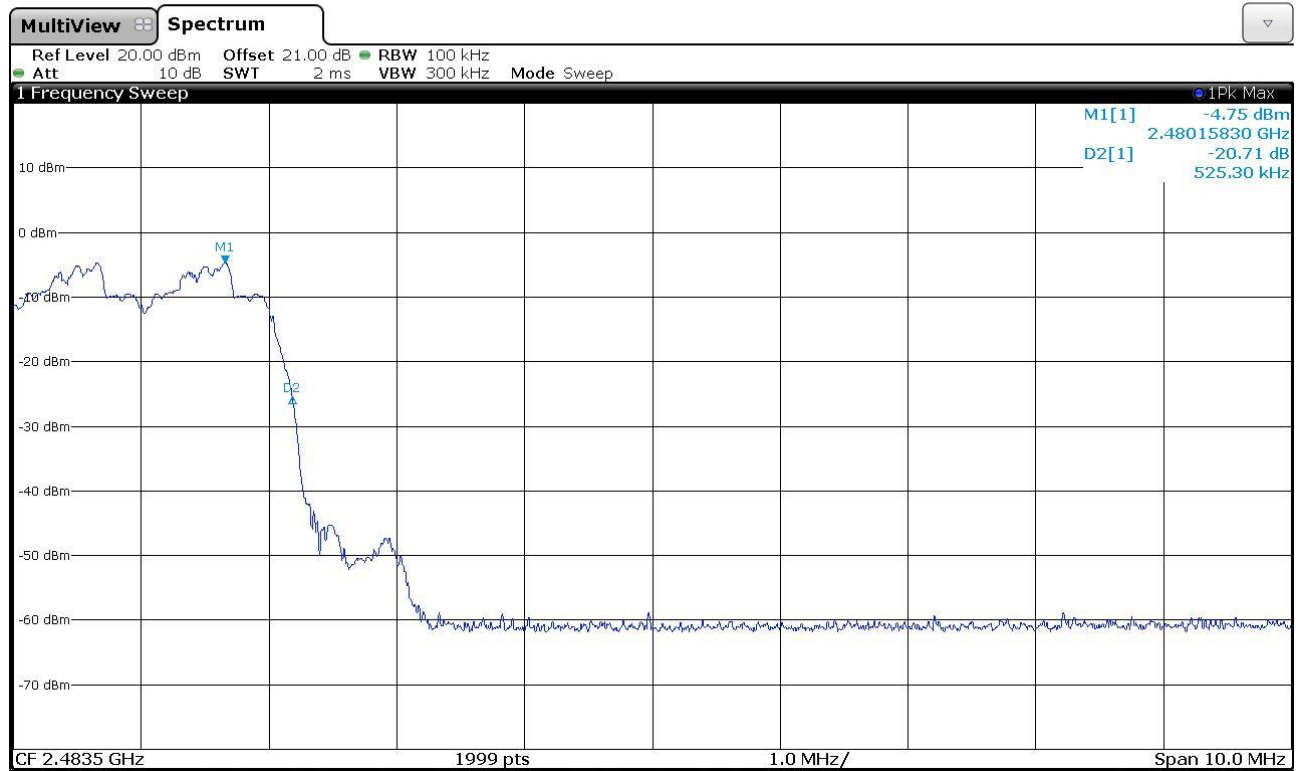


Gandini 17199420





Gandini 17199421



Result: The requirements are met



11.9 Peak Output Power

Test set-up and execution

- FCC Rules and Regulation; Titles 47 Part 15.247
- DA 00-705
- Internal procedure PM001
- See clause 4 of this test report

Test configuration and test method

Test site:
Laboratory

Auxiliary equipment:
See clause 4 of this test report

EUT exercising

See clause 4 of this test report

Test equipment used

CMC S108, CMC S136, CMC S164
Measurement uncertainty: See clause 7 of this test report

Test specification

Port: Antenna

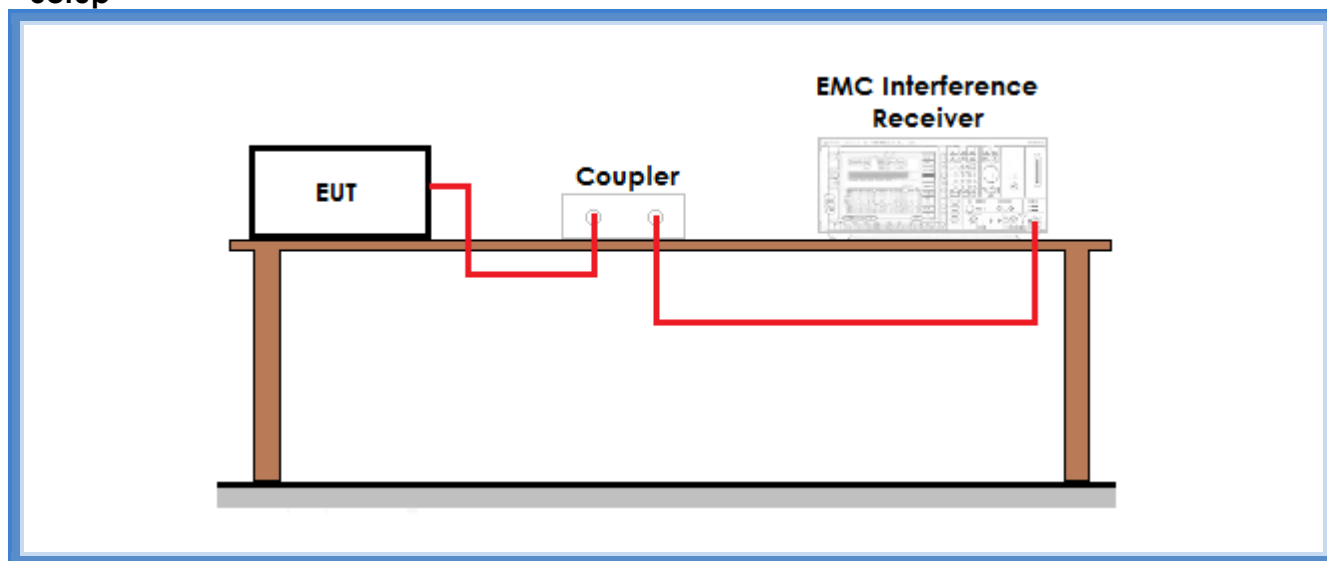
Environmental conditions

Temperature (°C)	Atmospheric pressure (kPa)	Relative humidity (%)
20	100	45

For 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. 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.



Setup



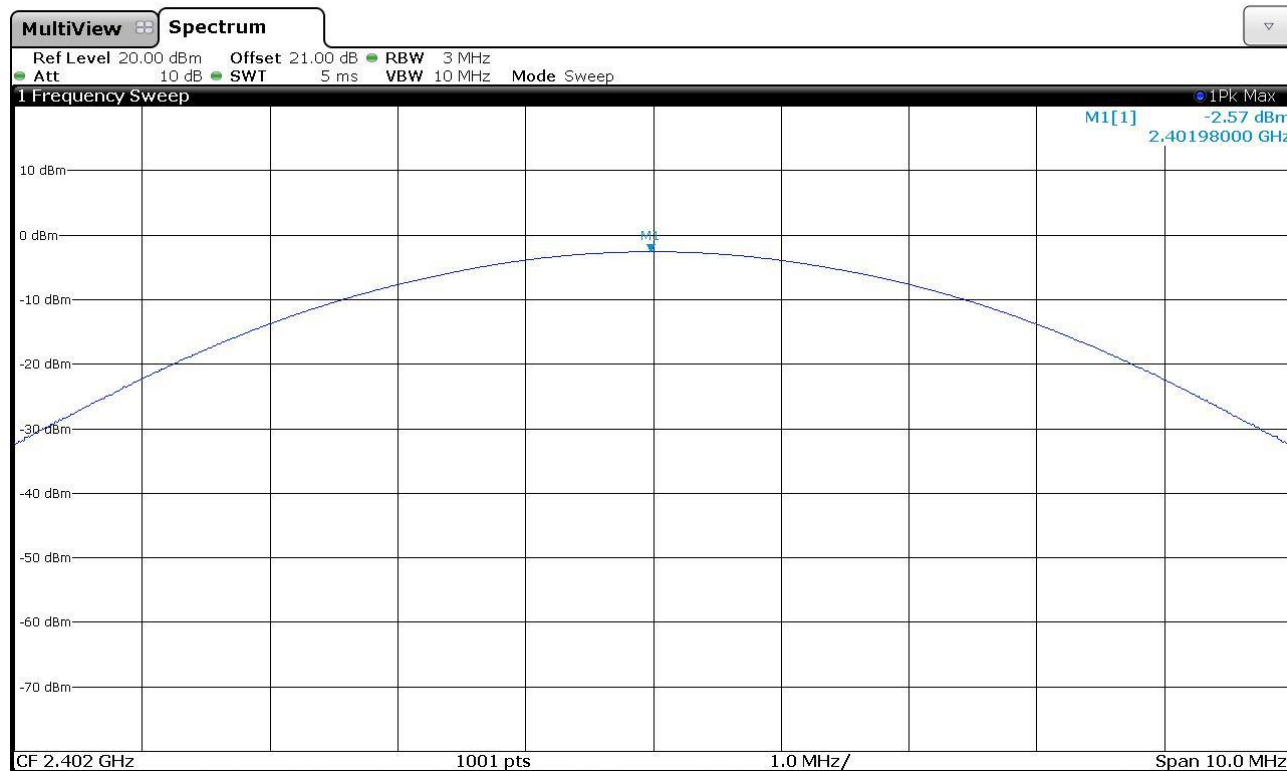
Result

Frequency (MHz)	Graphs	Conducted measured level (dBm)	Conducted power level (mW)	Calculated radiated level (dB μ V/m)
2401,9800	G17199407	-2,57	0,55	91,36
2440,9900	G17199414	-2,57	0,55	91,36
2479,9750	G17199415	-3,15	0,48	90,78

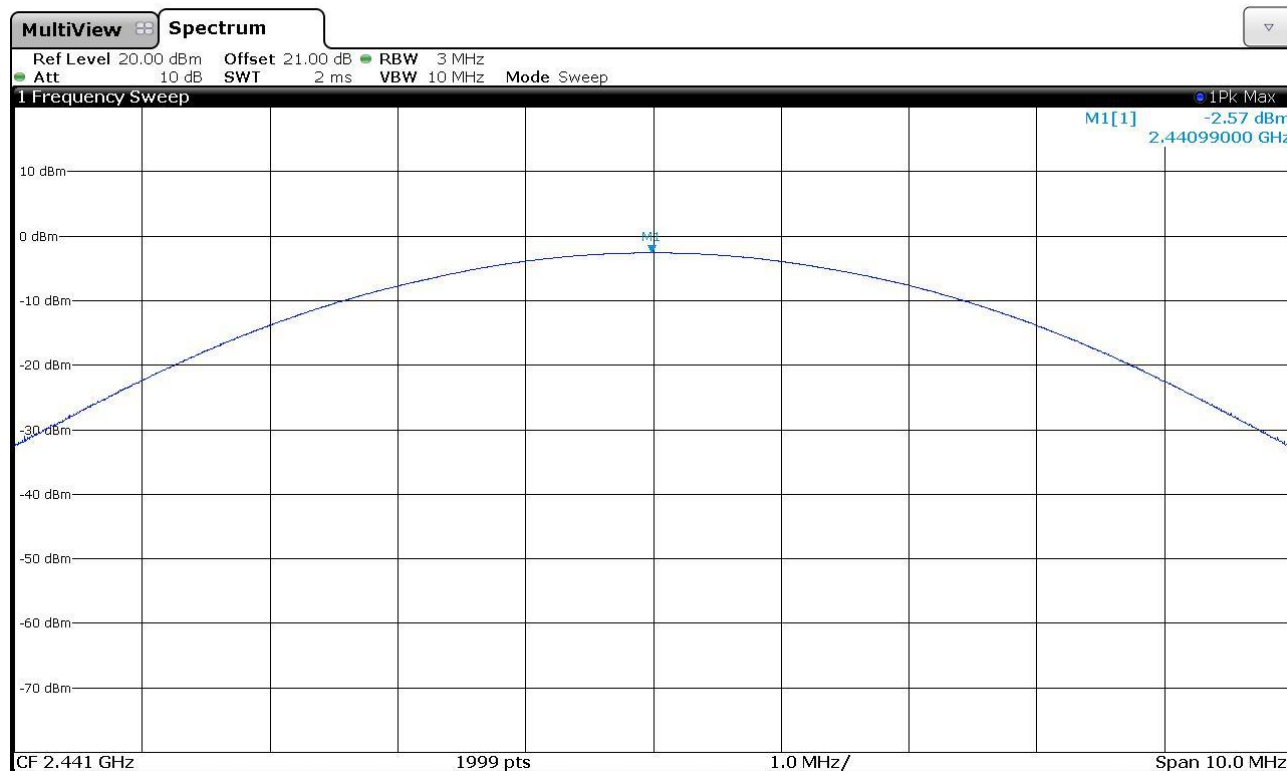


Graphs

Gandini 17199407

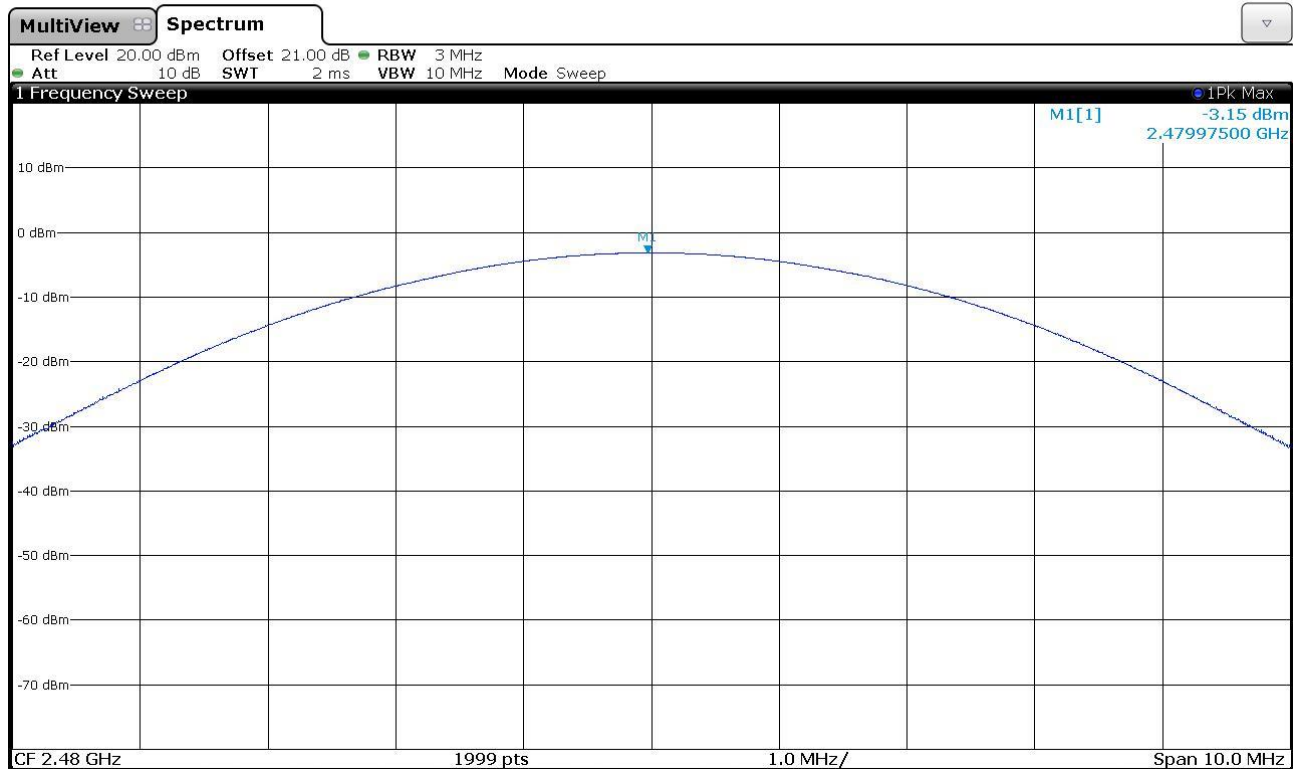


Gandini 17199414





Gandini 17199415



Result: The requirements are met



11.10 Spurious Emission

Test set-up and execution

- FCC Rules and Regulation; Titles 47 Part 15.209
- DA 00-705
- Internal procedure PM001
- See clause 4 of this test report

Test configuration and test method

Test site:
Semi-anechoic chamber

Auxiliary equipment:
See clause 4 of this test report

EUT exercising

See clause 4 of this test report

Test equipment used

CMC S108, CMC S136, CMC S164
Measurement uncertainty: See clause 7 of this test report

Test specification

Port: Enclosure
Frequency range: 0,009 MHz – 10000 MHz
Antenna polarization: Horizontal (H) – Vertical (V)
10 m for frequencies ≤ 30 MHz
3 m for frequencies > 30 MHz

Environmental conditions

Temperature (°C)	Atmospheric pressure (kPa)	Relative humidity (%)
22	100	45

Acceptance limits

Acceptance limits for emissions in restricted frequency bands		
Frequency (MHz)	AV limits [dB(μ V/m)]	Peak limits [dB(μ V/m)]
> 1000	54	74



The restricted frequency bands are listed in the following table

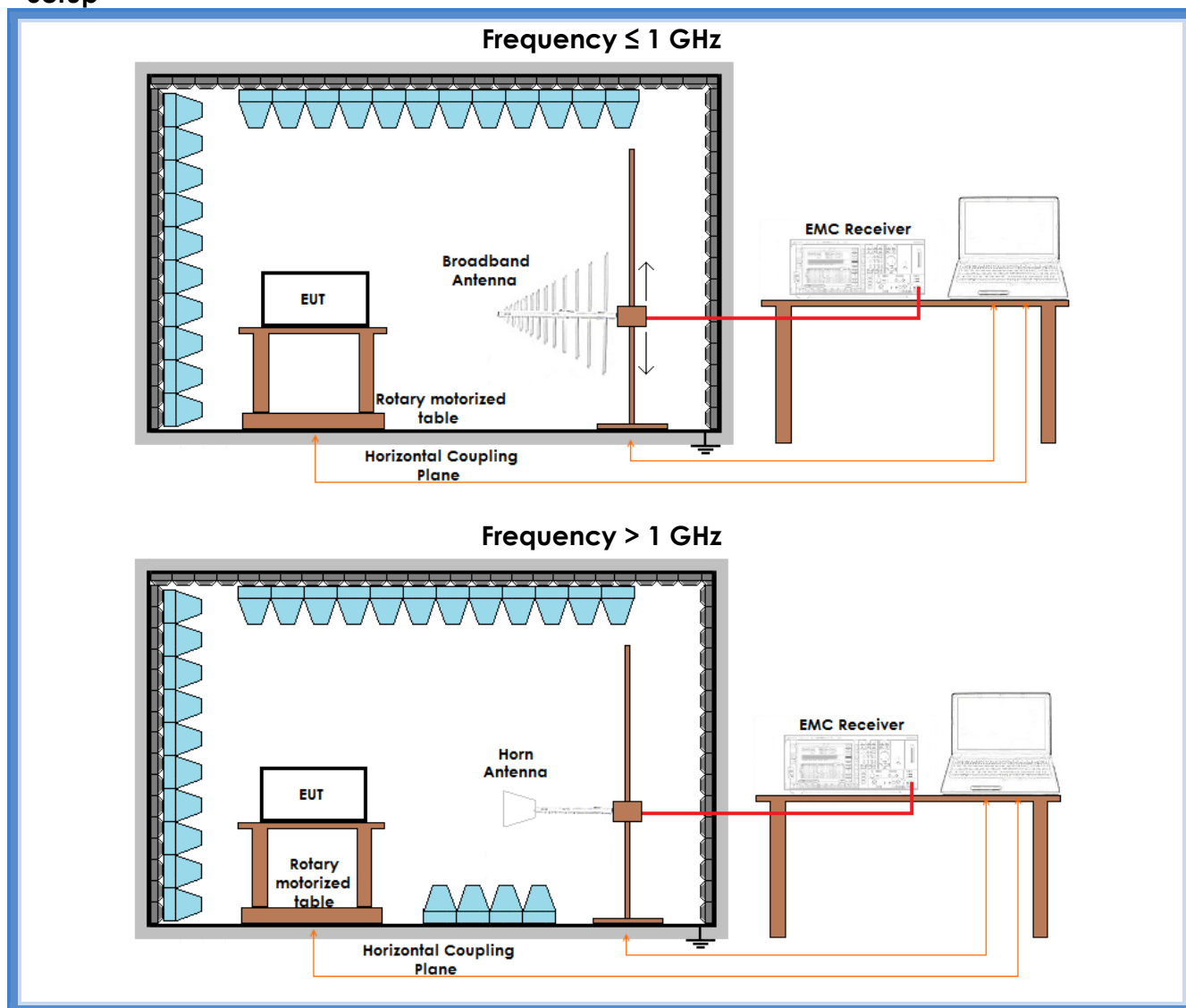
MHz	MHz	MHz	GHz
0,090 – 0,110	16,42 – 16,423	399,9 – 410	4,5 – 5,15
0,495 – 0,505	16,69475 – 16,69525	608 – 614	5,35 – 5,46
2,1735 – 2,1905	16,80425 – 16,80475	960 – 1240	7,25 – 7,75
4,125 – 4,128	25,5 – 25,67	1300 – 1427	8,025 – 8,5
4,17725 – 4,17775	37,5 – 38,25	1435 – 1626,5	9,0 – 9,2
4,20725 – 4,20775	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
8,41425 – 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	Above 38,6
13,36 – 13,41			

Acceptance limits for emissions in non-restricted frequency bands

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.



Setup





Result – AV detector

Harmonic	Lowest channel		Medium channel		Highest channel		Results
	Level (dB μ V/m)	Limits (dB μ V/m)	Level (dB μ V/m)	Limits (dB μ V/m)	Level (dB μ V/m)	Limits (dB μ V/m)	
II	38,51	54,00	37,40	54,00	34,60	54,00	Complies
III	More than 20 dB below limit	54,00	More than 20 dB below limit	54,00	More than 20 dB below limit	54,00	Complies
IV	More than 20 dB below limit	54,00	More than 20 dB below limit	54,00	More than 20 dB below limit	54,00	Complies
V	More than 20 dB below limit	54,00	More than 20 dB below limit	54,00	More than 20 dB below limit	54,00	Complies
VI	More than 20 dB below limit	54,00	More than 20 dB below limit	54,00	More than 20 dB below limit	54,00	Complies
VII	More than 20 dB below limit	54,00	More than 20 dB below limit	54,00	More than 20 dB below limit	54,00	Complies
VIII	More than 20 dB below limit	54,00	More than 20 dB below limit	54,00	More than 20 dB below limit	54,00	Complies
IX	More than 20 dB below limit	54,00	More than 20 dB below limit	54,00	More than 20 dB below limit	54,00	Complies
X	More than 20 dB below limit	54,00	More than 20 dB below limit	54,00	More than 20 dB below limit	54,00	Complies
Remarks: EUT was tested in 3 orthogonal planes. The results in this table show the highest values. No spurious other than harmonics have been found. The results have been extrapolated to the specified distance using an extrapolation factor. For all harmonics it was considered the limit of 54 dB μ V/m as a worse case.							



Result – Peak detector

Harmonic	Lowest channel		Medium channel		Highest channel		Results
	Level (dB μ V/m)	Limits (dB μ V/m)	Level (dB μ V/m)	Limits (dB μ V/m)	Level (dB μ V/m)	Limits (dB μ V/m)	
II	44,20	74,00	44,20	74,00	42,57	74,00	Complies
III	More than 20 dB below limit	74,00	More than 20 dB below limit	74,00	More than 20 dB below limit	74,00	Complies
IV	More than 20 dB below limit	74,00	More than 20 dB below limit	74,00	More than 20 dB below limit	74,00	Complies
V	More than 20 dB below limit	74,00	More than 20 dB below limit	74,00	More than 20 dB below limit	74,00	Complies
VI	More than 20 dB below limit	74,00	More than 20 dB below limit	74,00	More than 20 dB below limit	74,00	Complies
VII	More than 20 dB below limit	74,00	More than 20 dB below limit	74,00	More than 20 dB below limit	74,00	Complies
VIII	More than 20 dB below limit	74,00	More than 20 dB below limit	74,00	More than 20 dB below limit	74,00	Complies
IX	More than 20 dB below limit	74,00	More than 20 dB below limit	74,00	More than 20 dB below limit	74,00	Complies
X	More than 20 dB below limit	74,00	More than 20 dB below limit	74,00	More than 20 dB below limit	74,00	Complies
Remarks: EUT was tested in 3 orthogonal planes. The results in this table show the highest values. No spurious other than harmonics have been found. The results have been extrapolated to the specified distance using an extrapolation factor. For all harmonics it was considered the limit of 74 dB μ V/m as a worse case.							

Result: The requirements are met