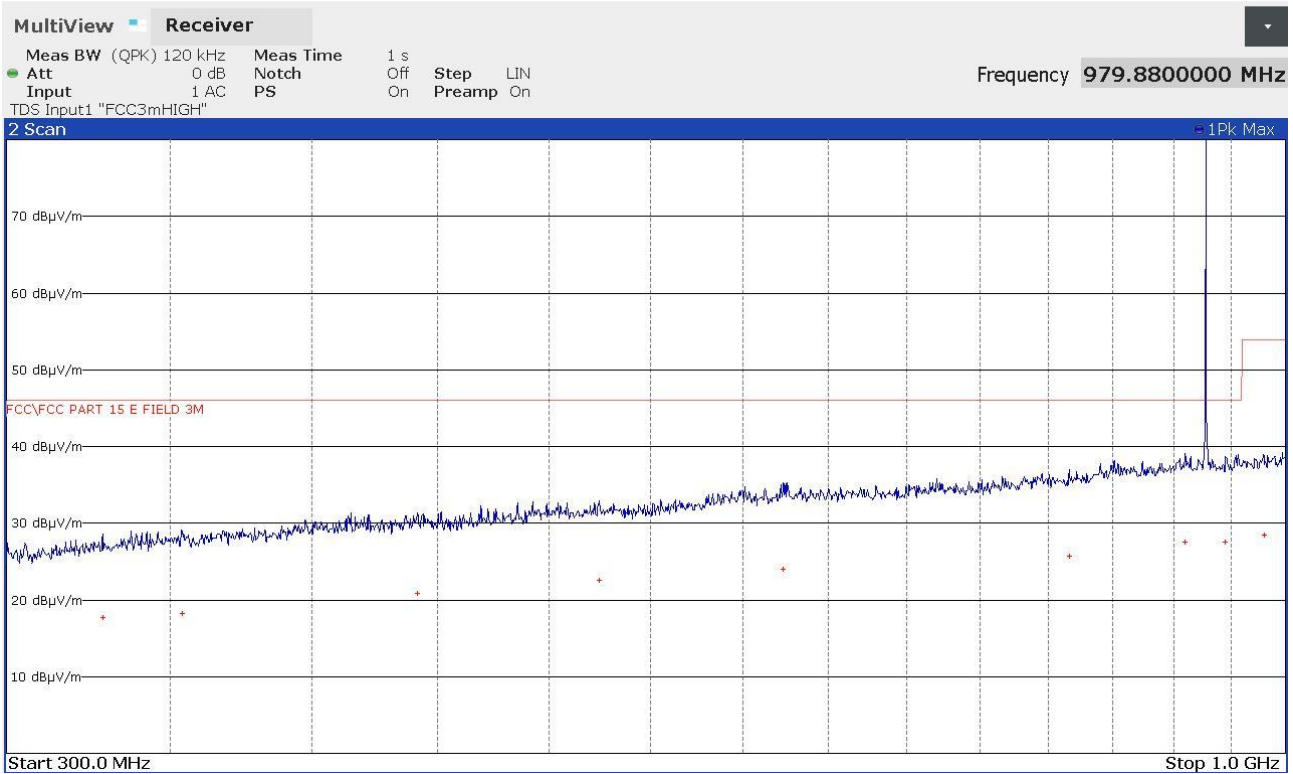


Gandini 23154877

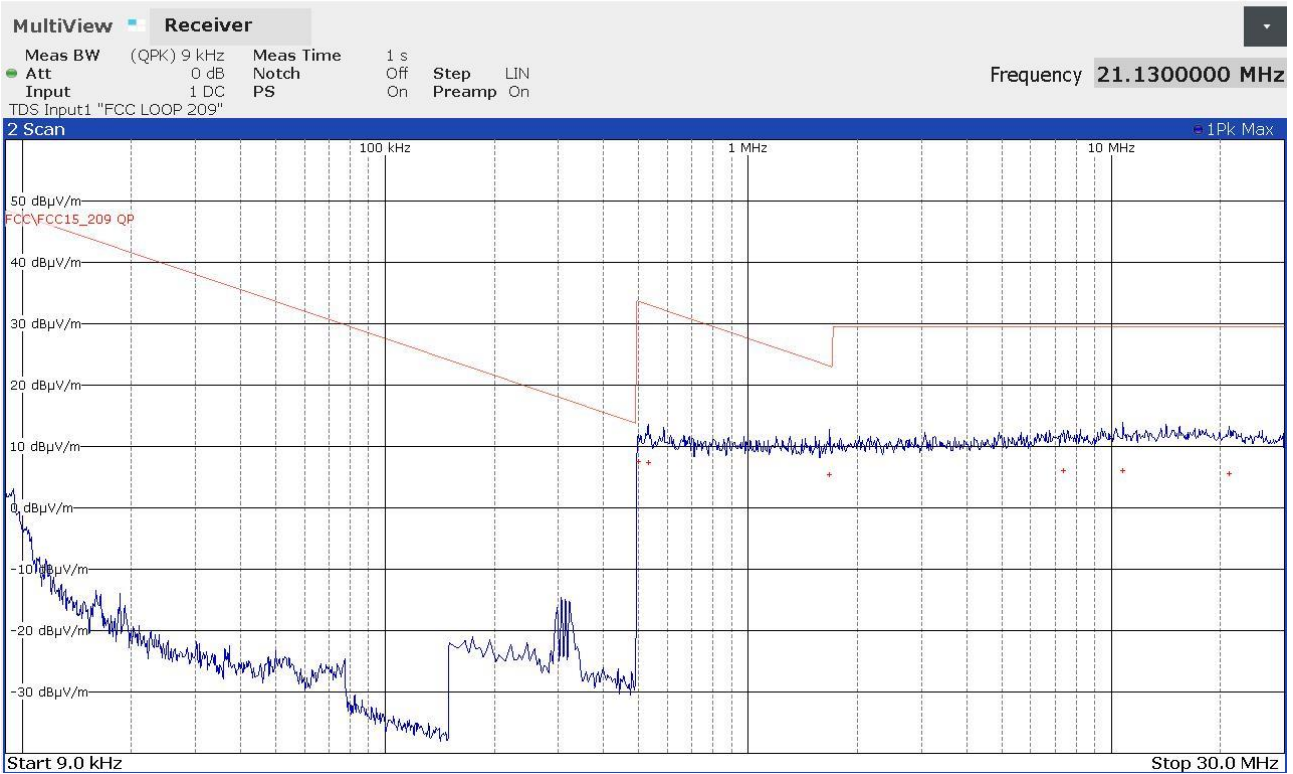


FINAL RESULT TABLE

QUASI PEAK		
Freq Hz	Lev dBuV/m	Margin dB
328400000	+17,74	-28,26
353840000	+18,28	-27,72
441720000	+20,80	-25,20
524240000	+22,61	-23,39
623480000	+23,98	-22,02
815800000	+25,71	-20,29
910040000	+27,52	-18,48
945080000	+27,52	-18,48
979880000	+28,43	-25,47

23154877_2

Gandini 23154878

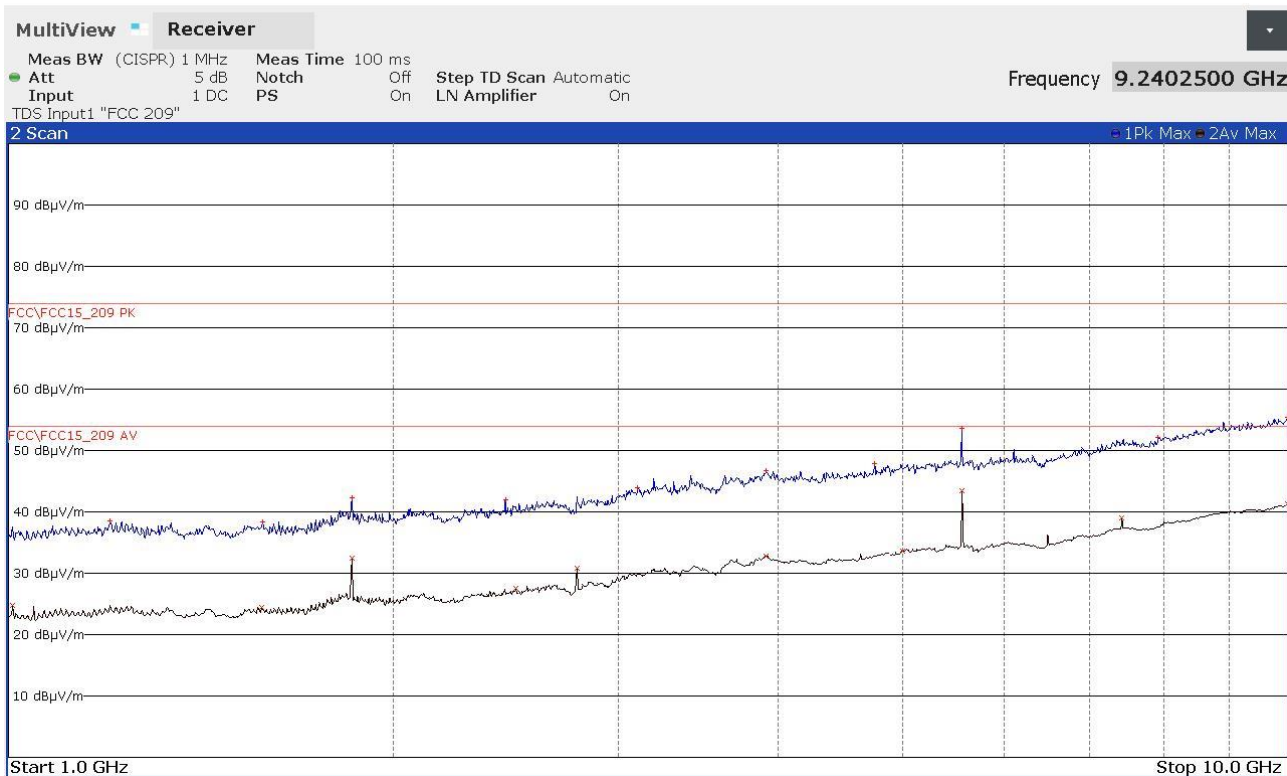


FINAL RESULT TABLE

QUASI PEAK		
Freq Hz	Lev dBuV/m	Margin dB
498000	+7,53	-26,13
530000	+7,43	-25,69
1674000	+5,40	-17,73
7390000	+6,07	-23,47
10762000	+6,02	-23,52
21130000	+5,55	-23,99

23154878_2

Gandini 23154879

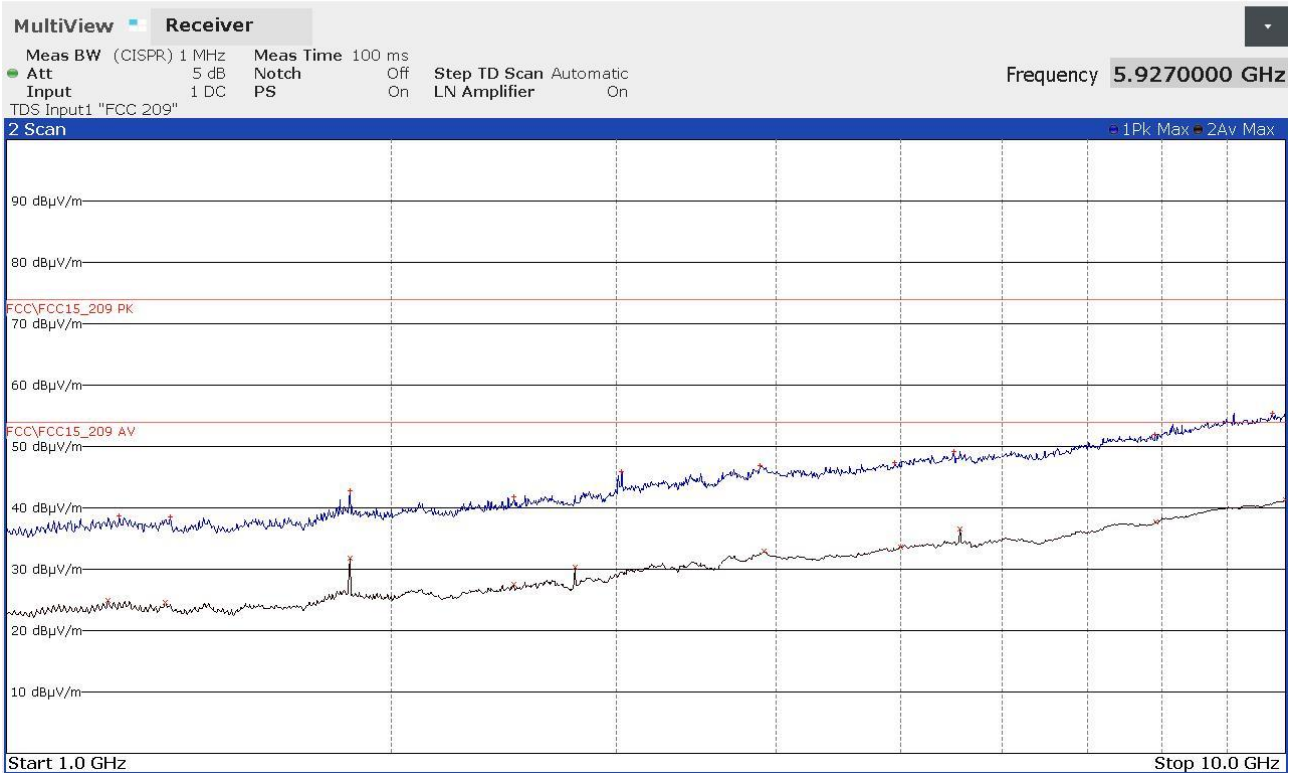


FINAL RESULT TABLE

MAX PEAK			AVERAGE		
Freq Hz	Lev dBuV/m	Margin dB	Freq Hz	Lev dBuV/m	Margin dB
1200500000	+38,58	-35,40	1007000000	+24,80	-29,18
1579750000	+38,44	-35,54	1578250000	+24,50	-29,48
1855750000	+42,36	-31,62	1855750000	+32,53	-21,45
2446000000	+41,94	-32,04	2493750000	+27,51	-26,47
3105500000	+43,88	-30,10	2783500000	+30,81	-23,17
3912500000	+46,64	-27,34	3913000000	+32,86	-21,12
4758000000	+47,80	-26,18	4999000000	+33,65	-20,33
5567250000	+53,62	-20,36	5567250000	+43,46	-10,52
7921250000	+52,11	-21,87	7423000000	+38,94	-15,04
9995000000	+55,34	-18,64	9996750000	+41,37	-12,61

23154879_2

Gandini 23154880

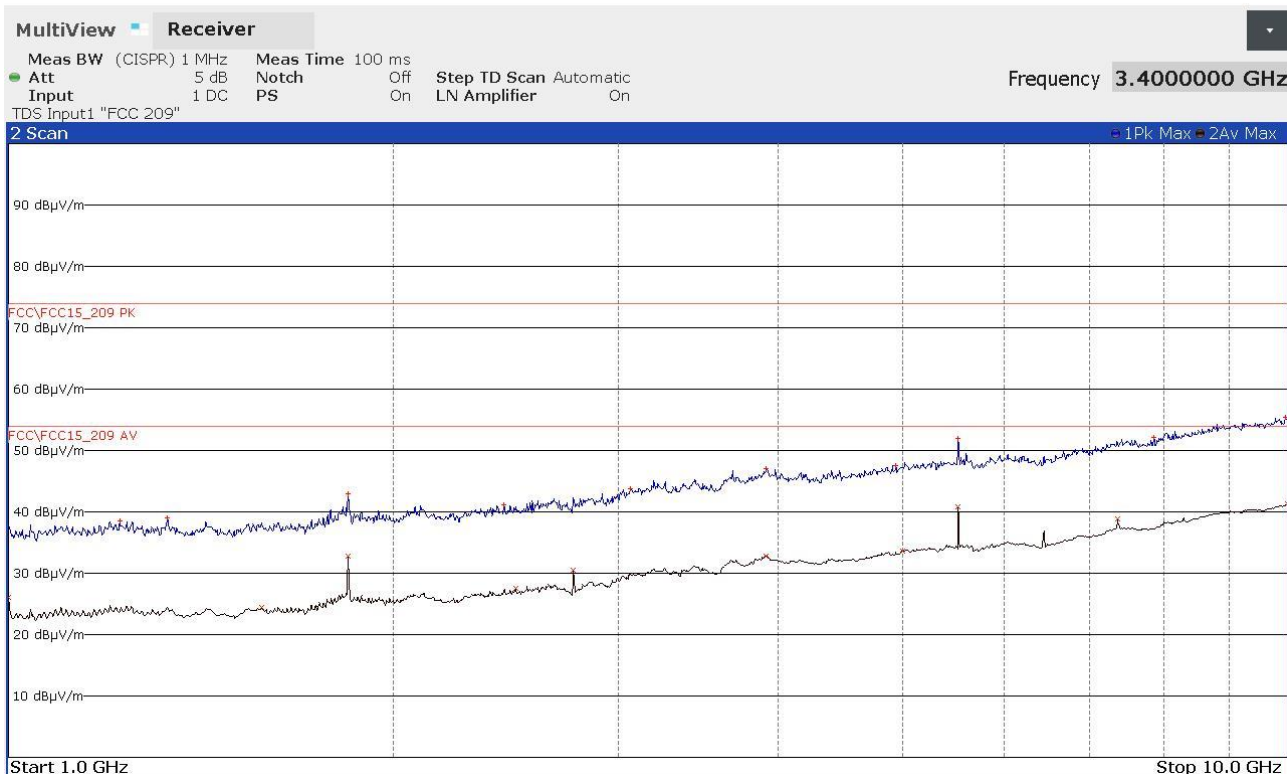


FINAL RESULT TABLE

MAX PEAK			AVERAGE		
Freq Hz	Lev dBuV/m	Margin dB	Freq Hz	Lev dBuV/m	Margin dB
1224500000	+38,63	-35,35	1201000000	+24,91	-29,07
1342500000	+38,57	-35,41	1330500000	+24,67	-29,31
1855750000	+42,80	-31,18	1855750000	+31,80	-22,18
2492000000	+41,83	-32,15	2493000000	+27,52	-26,46
3027750000	+45,96	-28,02	2783500000	+30,30	-23,68
3884500000	+46,95	-27,03	3912500000	+32,88	-21,10
4945250000	+47,44	-26,54	4998250000	+33,66	-20,32
5502250000	+49,19	-24,79	5567250000	+36,55	-17,43
7903250000	+51,99	-21,99	7925000000	+37,64	-16,34
9772750000	+55,44	-18,54	9994750000	+41,39	-12,59

23154880_2

Gandini 23154881

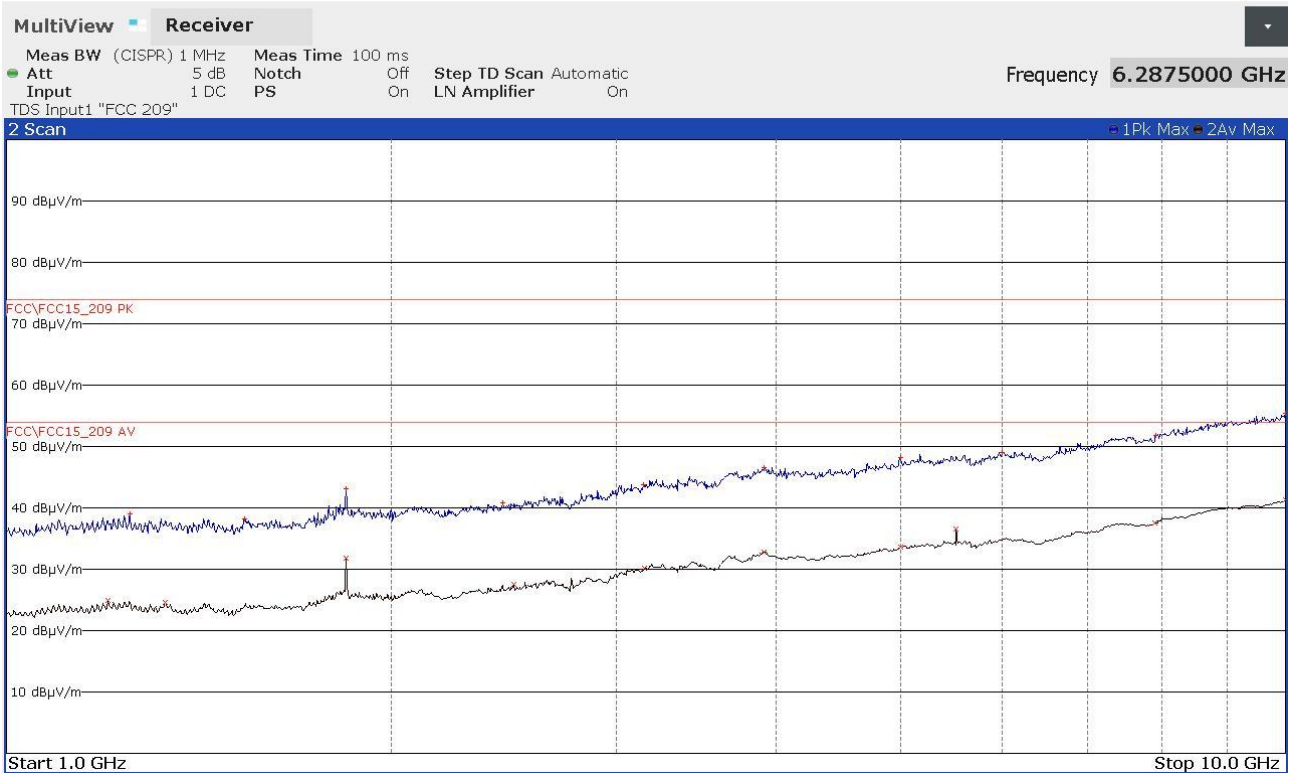


FINAL RESULT TABLE

MAX PEAK			AVERAGE		
Freq Hz	Lev dBuV/m	Margin dB	Freq Hz	Lev dBuV/m	Margin dB
1222000000	+38,60	-35,38	1000750000	+26,05	-27,93
1331500000	+38,94	-35,04	1578000000	+24,49	-29,49
1843000000	+42,98	-31,00	1842750000	+32,73	-21,25
2440250000	+41,13	-32,85	2492750000	+27,49	-26,49
3066250000	+43,85	-30,13	2764250000	+30,51	-23,47
3913250000	+47,03	-26,95	3912500000	+32,86	-21,12
4942750000	+47,53	-26,45	4998500000	+33,66	-20,32
5528500000	+51,95	-22,03	5528500000	+40,87	-13,11
7865250000	+52,18	-21,80	7371500000	+38,84	-15,14
9965500000	+55,35	-18,63	9995250000	+41,37	-12,61

23154881_2

Gandini 23154882

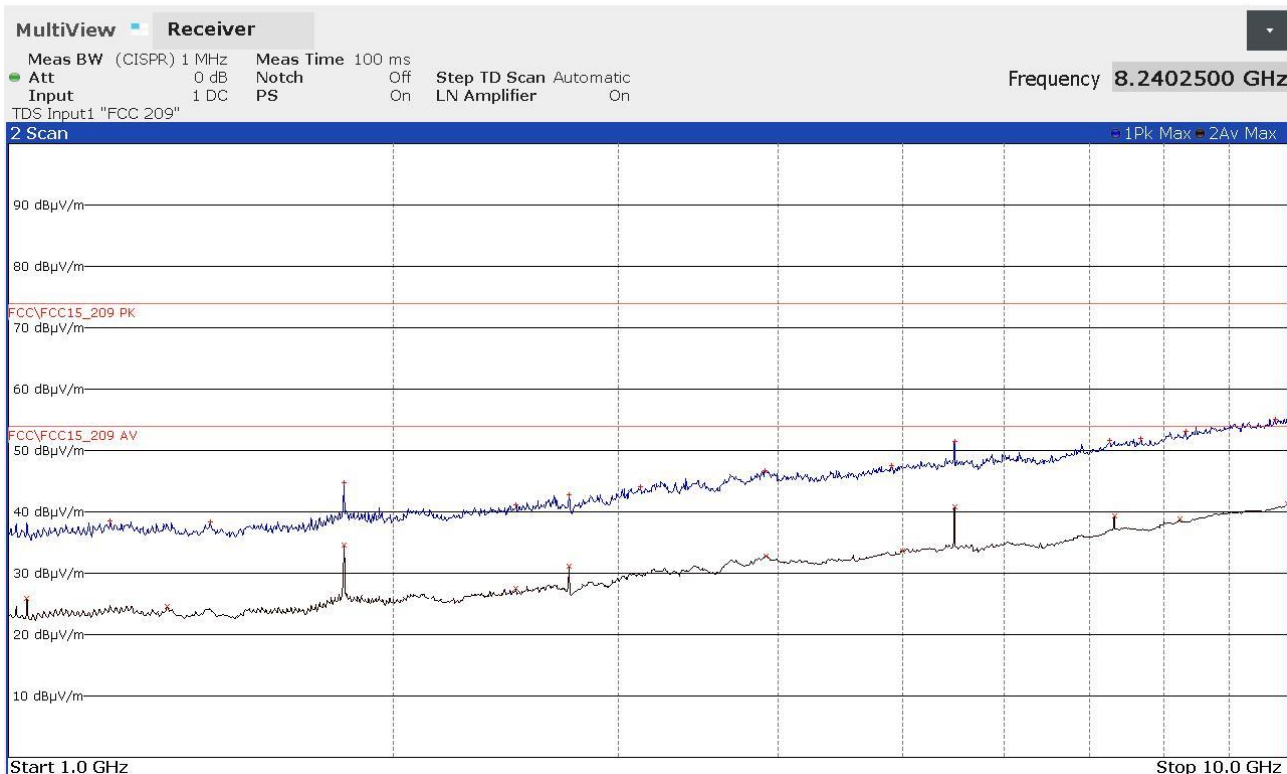


FINAL RESULT TABLE

MAX PEAK			AVERAGE		
Freq Hz	Lev dBuV/m	Margin dB	Freq Hz	Lev dBuV/m	Margin dB
1248250000	+38,99	-34,99	1201000000	+24,87	-29,11
1534000000	+38,22	-35,76	1330500000	+24,65	-29,33
1842750000	+43,15	-30,83	1842750000	+31,87	-22,11
2444750000	+40,77	-33,21	2493000000	+27,49	-26,49
3147750000	+43,77	-30,21	3156250000	+30,23	-23,75
3912500000	+46,57	-27,41	3912750000	+32,86	-21,12
4998000000	+48,27	-25,71	4998750000	+33,63	-20,35
6003500000	+49,09	-24,89	5528500000	+36,50	-17,48
7926000000	+51,73	-22,25	7900250000	+37,62	-16,36
9991750000	+55,33	-18,65	9994500000	+41,36	-12,62

23154882_2

Gandini 23154883

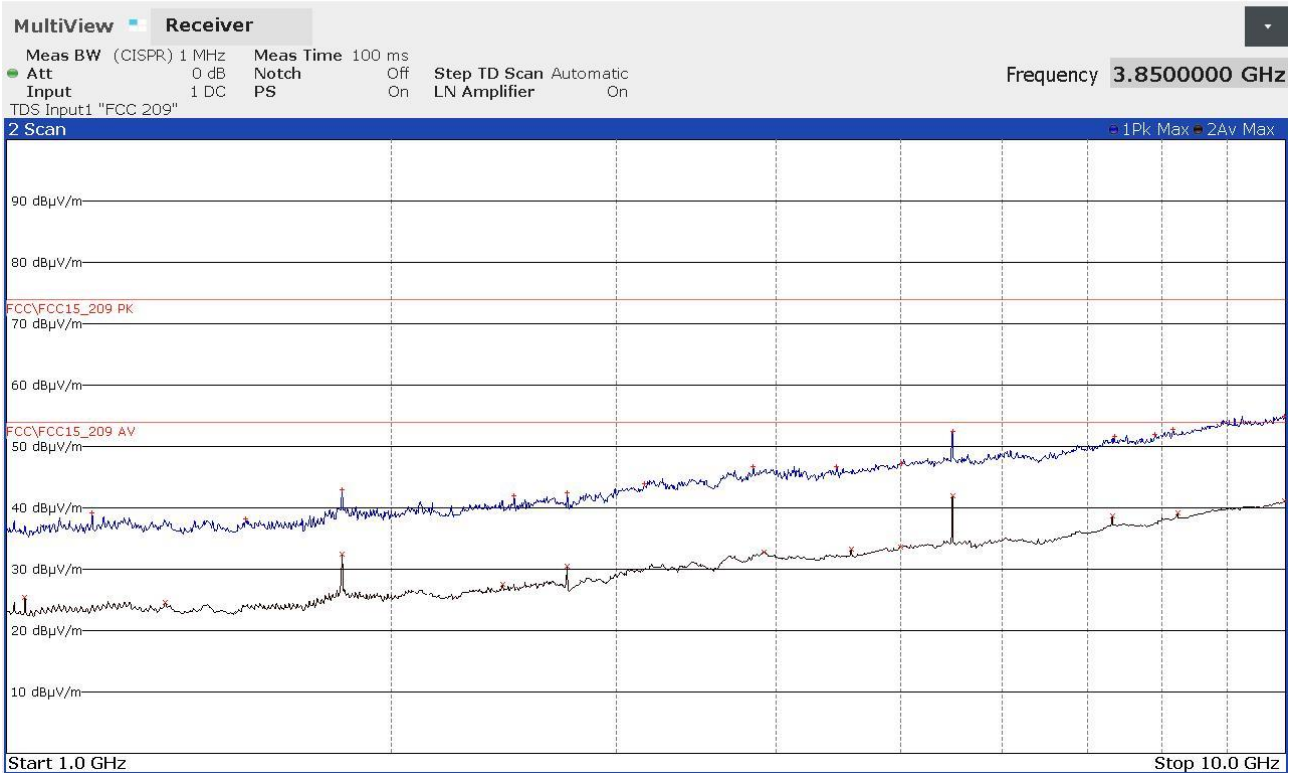


FINAL RESULT TABLE

MAX PEAK			AVERAGE		
Freq Hz	Lev dBuV/m	Margin dB	Freq Hz	Lev dBuV/m	Margin dB
1200500000	+38,57	-35,41	1034000000	+25,84	-28,14
1437500000	+38,31	-35,67	1330000000	+24,52	-29,46
1830250000	+44,72	-29,26	1830250000	+34,53	-19,45
2494500000	+41,14	-32,84	2493250000	+27,47	-26,51
2745250000	+42,74	-31,24	2745250000	+31,17	-22,81
3118750000	+44,15	-29,83	3913000000	+32,86	-21,12
3900750000	+46,68	-27,30	4998500000	+33,68	-20,30
4900000000	+47,51	-26,47	5490500000	+40,89	-13,09
5490500000	+51,54	-22,44	7320500000	+39,39	-14,59
7258250000	+51,60	-22,38	8235750000	+38,85	-15,13
7683750000	+51,94	-22,04	9998500000	+41,25	-12,73
8323500000	+53,13	-20,85			
9779500000	+55,14	-18,84			

23154883_2

Gandini 23154884



FINAL RESULT TABLE

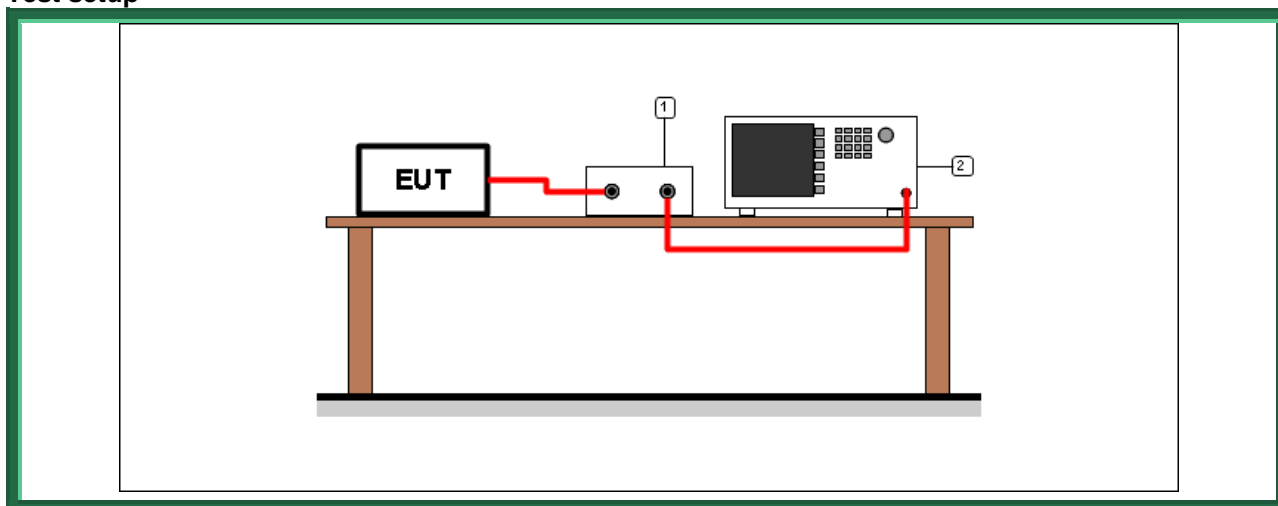
MAX PEAK			AVERAGE		
Freq Hz	Lev dBuV/m	Margin dB	Freq Hz	Lev dBuV/m	Margin dB
1167000000	+39,21	-34,77	1034000000	+25,37	-28,61
1538250000	+38,27	-35,71	1330250000	+24,52	-29,46
1830250000	+43,00	-30,98	1830250000	+32,39	-21,59
2493500000	+42,02	-31,96	2443750000	+27,47	-26,51
2745250000	+42,49	-31,49	2745250000	+30,42	-23,56
3154000000	+44,00	-29,98	3913000000	+32,85	-21,13
3835500000	+46,77	-27,21	4575250000	+33,25	-20,73
4459000000	+46,72	-27,26	4998750000	+33,66	-20,32
5011750000	+47,25	-26,73	5490500000	+42,04	-11,94
5490500000	+52,49	-21,49	7320500000	+38,77	-15,21
7349750000	+51,62	-22,36	8235750000	+39,10	-14,88
7909500000	+51,99	-21,99	9990000000	+41,22	-12,76
8169500000	+52,81	-21,17			
9985500000	+54,91	-19,07			

23154884_2

9.4 20 dB bandwidth

Tested by	G. Gandini
Test date	08.11.2023
Test location (stand)	Laboratory
Reference standards.....	FCC Rules and Regulation; Titles 47 Part. 15.215 (c) ANSI C63.10 cl. 7.8.7
Supplementary test set-up description.....	--
Supplementary information	--

Test setup



Test setup PR002_01

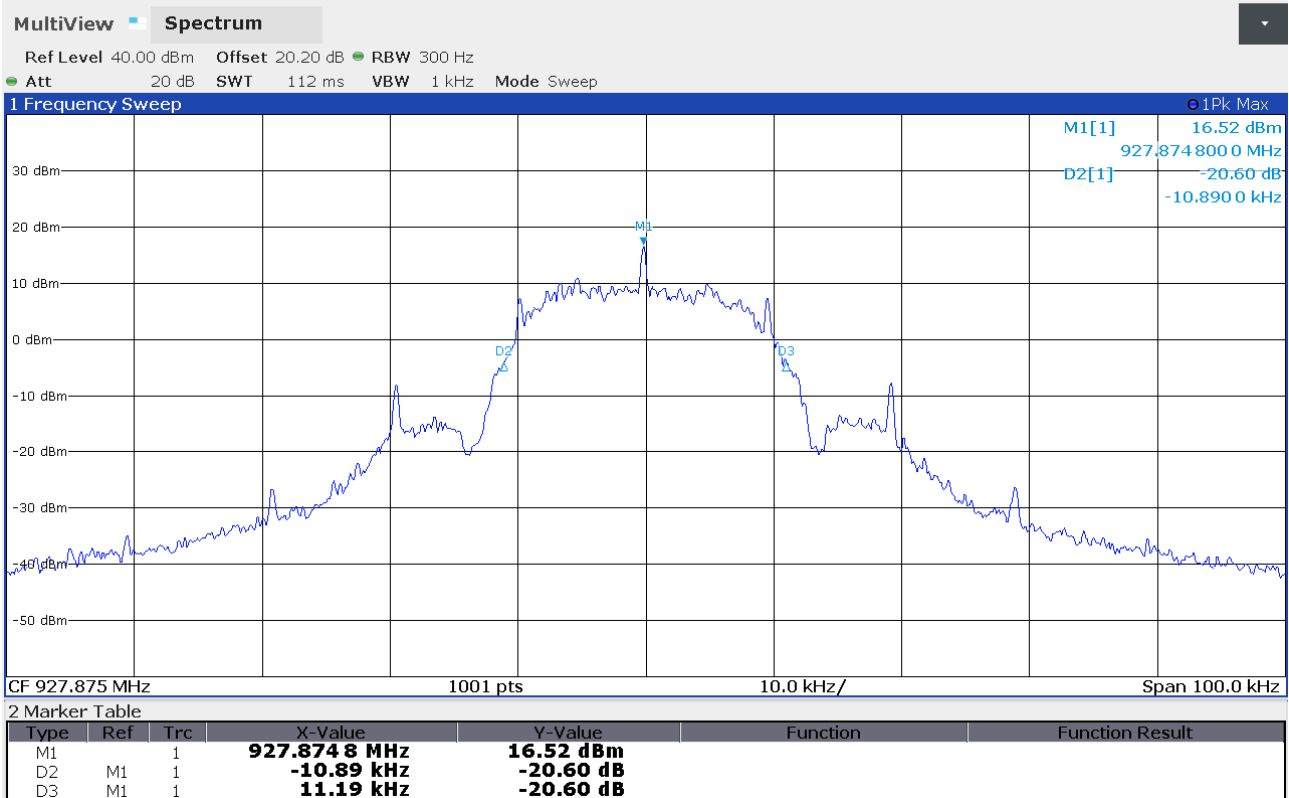
Nr.	Id. Number	Manufacturer	Model	Serial number	Description	Last calibration date	Calibration expiration
2	CMC S295	Rohde & Schwarz	FSW43	104059	Spectrum Analyzer 43GHz	January 2023	January 2026
1	--	--	--	--	Cable + attenuator	Calibrated before the test	Calibrated before the test

Result

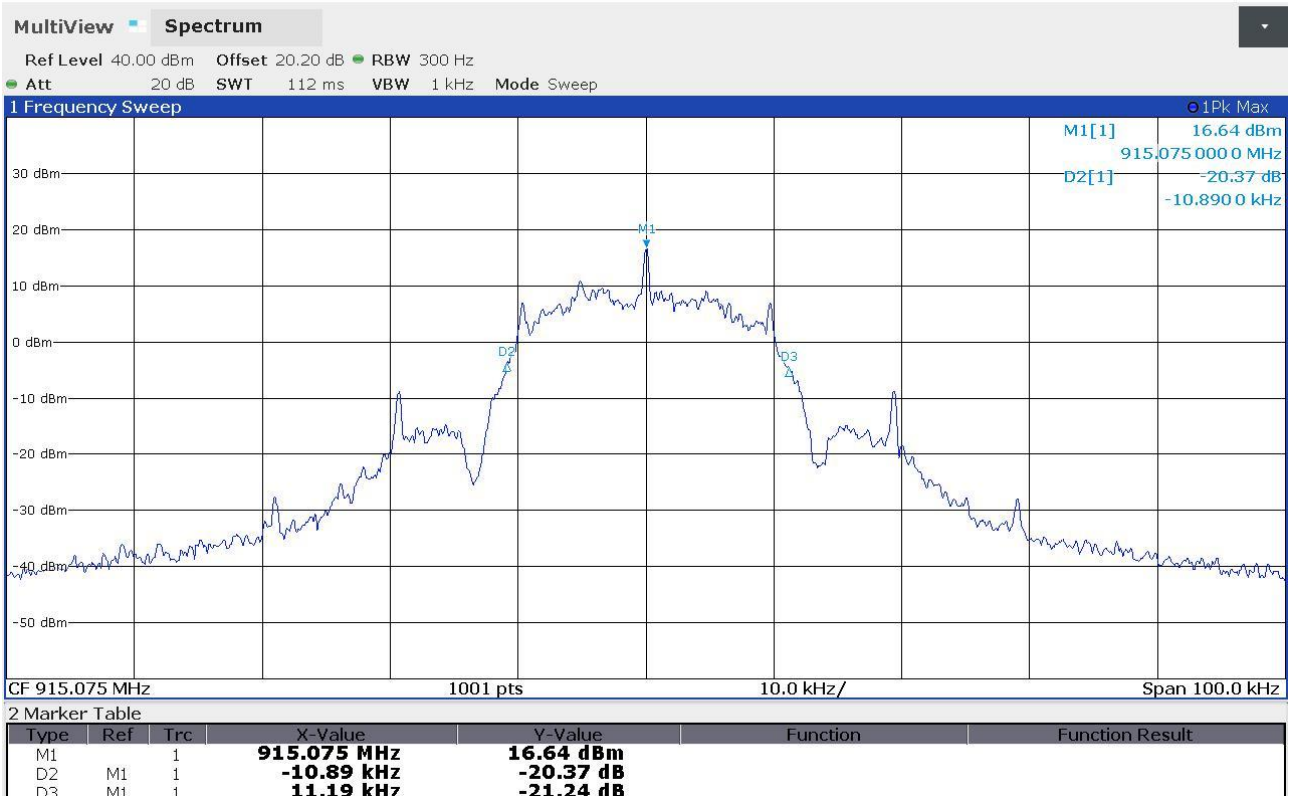
Frequency (MHz)	Graphs	20 dB bandwidth (kHz)
915,075	G23154820	22,08
921,425	G23154824	21,68
927,875	G23154816	22,08

Graphs

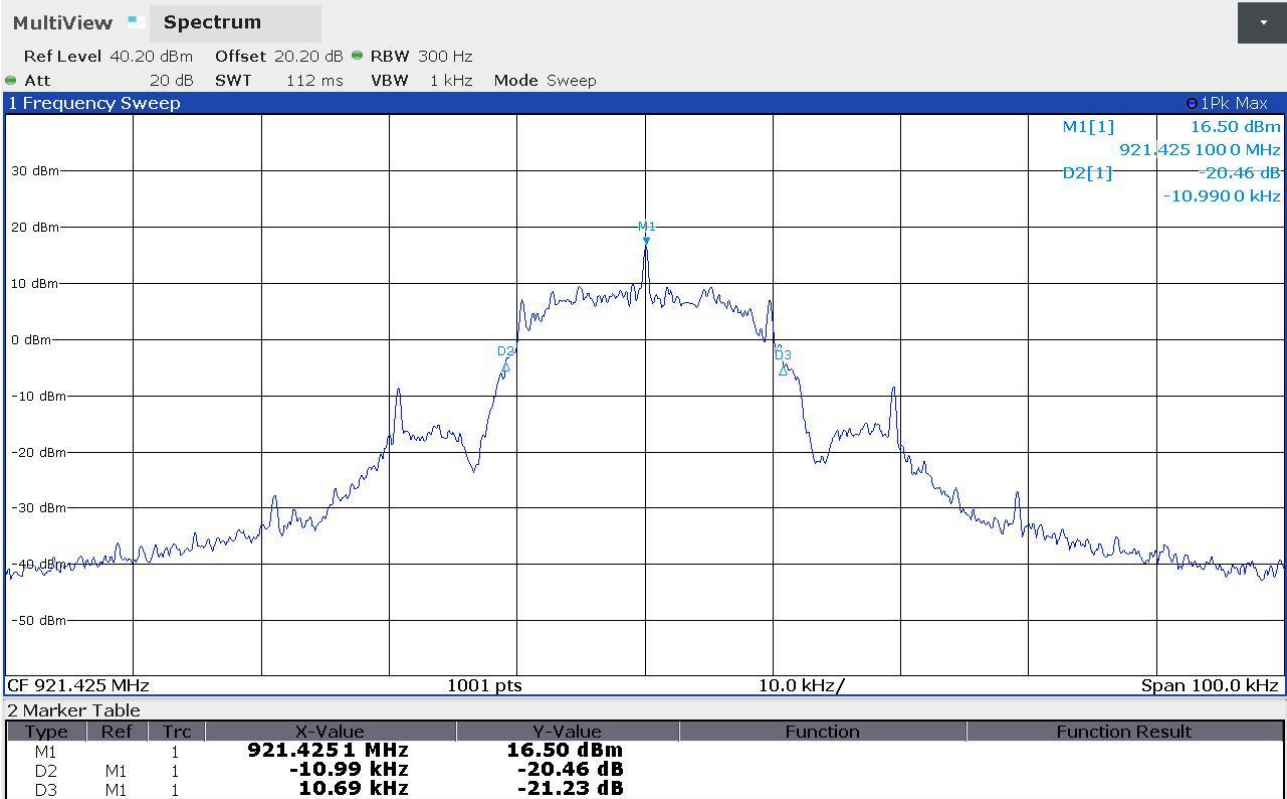
Gandini 23154816



Gandini 23154820



Gandini 23154824



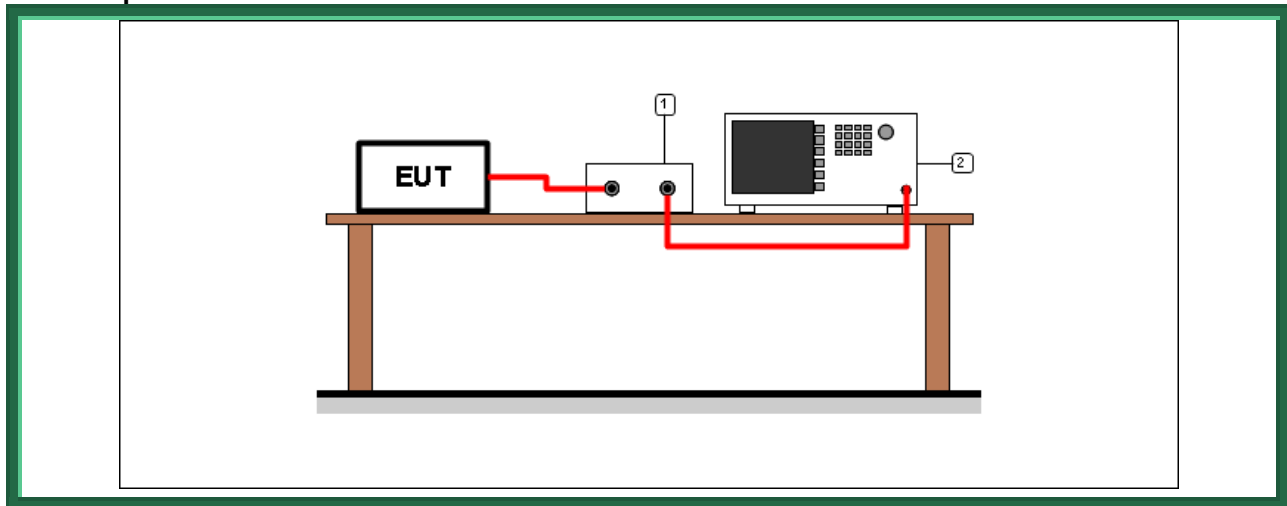
9.5 Channel separation

Tested by	G. Gandini
Test date	08.11.2023
Test location (stand)	Laboratory
Reference standards.....	FCC Rules and Regulation; Titles 47 Part. 15.247 KDB 558074 D01 15.247 Meas Guidance v05r02 cl. 9 b) ANSI C63.10 cl. 7.8.2
Supplementary test set-up description.....	--
Supplementary information	--

Acceptance limits

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.

Test setup



Test setup PR002_01

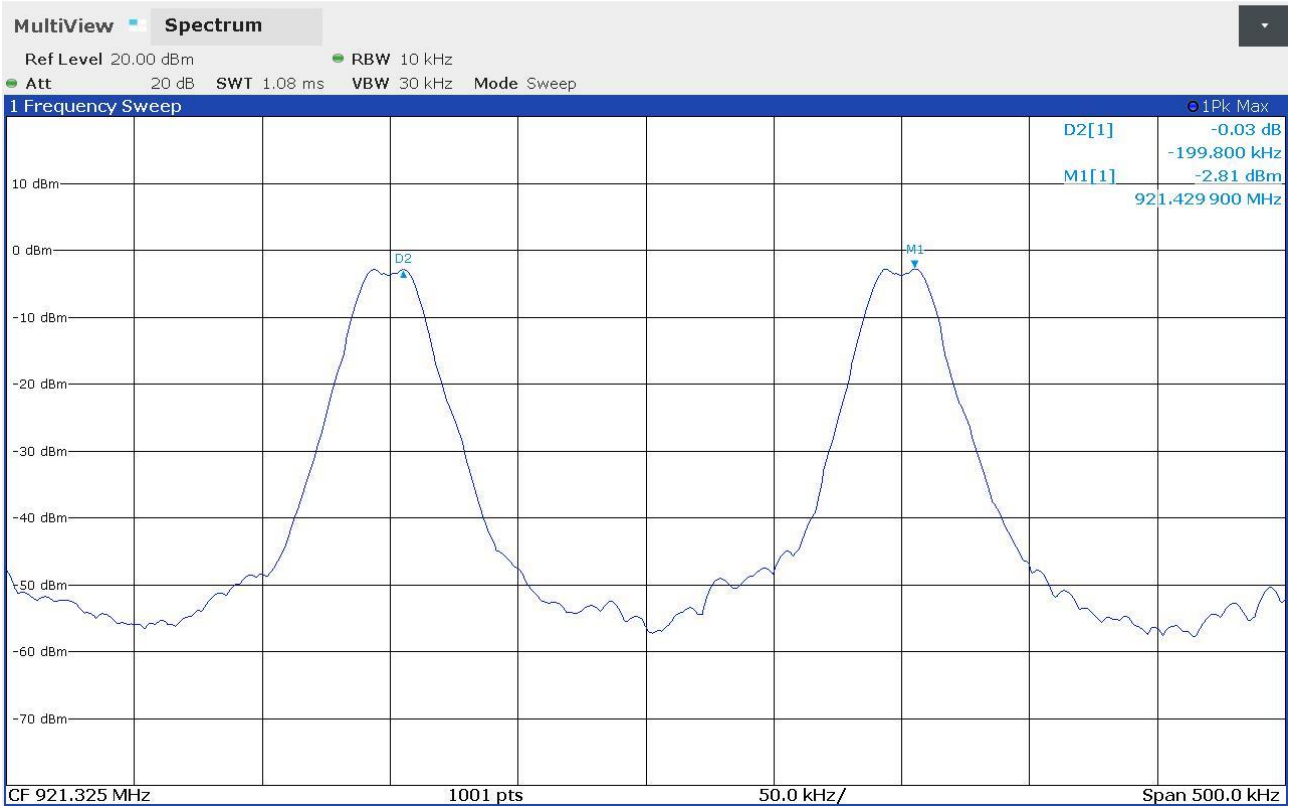
Nr.	Id. Number	Manufacturer	Model	Serial number	Description	Last calibration date	Calibration expiration
2	CMC S295	Rohde & Schwarz	FSW43	104059	Spectrum Analyzer 43GHz	January 2023	January 2026
1	--	--	--	--	Cable + attenuator	Calibrated before the test	Calibrated before the test

Result

<i>Frequency band (MHz)</i>	<i>Graphs</i>	<i>Channel separation (kHz)</i>	<i>Minimum channel separation required (kHz)</i>	<i>Results</i>
902 – 928	G23154828	199,8	25	Complies

Graphs

Gandini 23154828



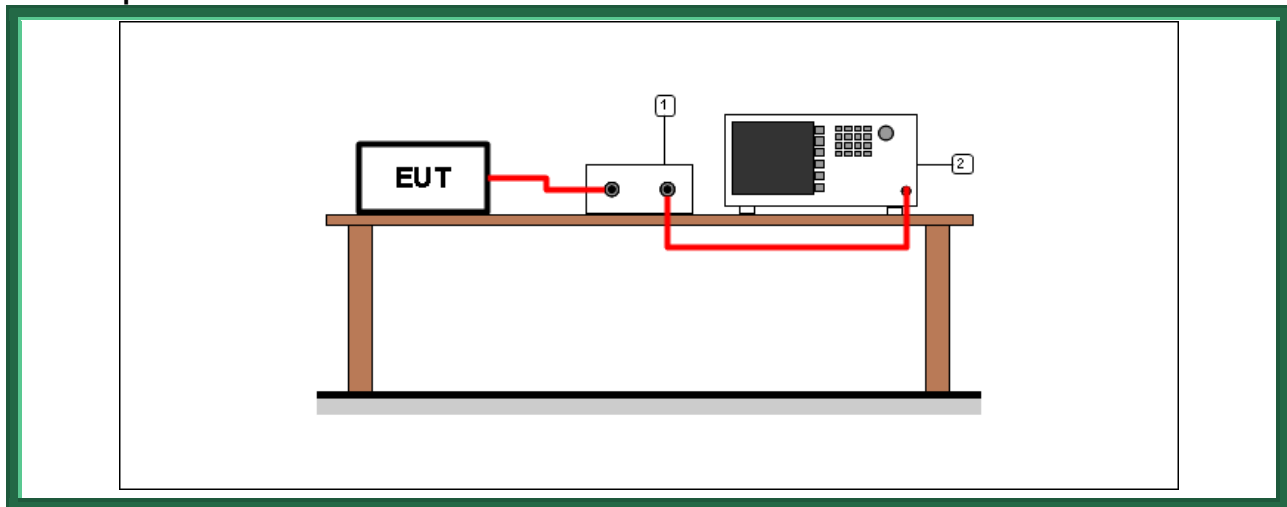
9.6 Number of hopping channels

Tested by	G. Gandini
Test date	08.11.2023
Test location (stand)	Laboratory
Reference standards.....	FCC Rules and Regulation; Titles 47 Part. 15.247 KDB 558074 D01 15.247 Meas Guidance v05r02 cl. 9 b) ANSI C63.10 cl. 7.8.3
Supplementary test set-up description.....	--
Supplementary information	--

Acceptance limits

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 period; 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 period. The maximum allowed 20 dB bandwidth of the hopping channel is 500 kHz.

Test setup

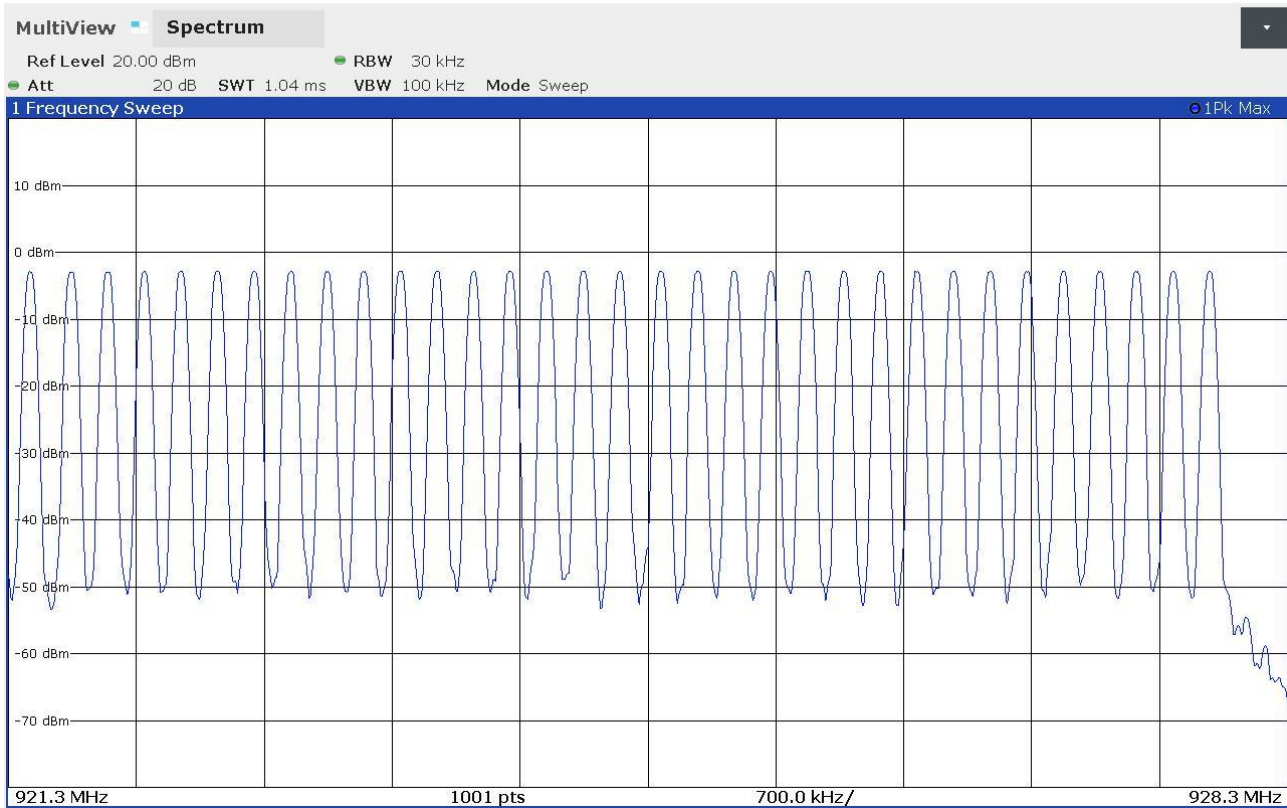


Test setup PR002_01							
Nr.	Id. Number	Manufacturer	Model	Serial number	Description	Last calibration date	Calibration expiration
2	CMC S295	Rohde & Schwarz	FSW43	104059	Spectrum Analyzer 43GHz	January 2023	January 2026
1	--	--	--	--	Cable + attenuator	Calibrated before the test	Calibrated before the test

Result

<i>Frequency band (MHz)</i>	<i>Graphs</i>	<i>Number of hopping channels</i>	<i>Minimum number of hopping channels required</i>	<i>Results</i>
902 – 928	G23154829 G23154830 G23154831	64	50	Complies

Gandini 23154831



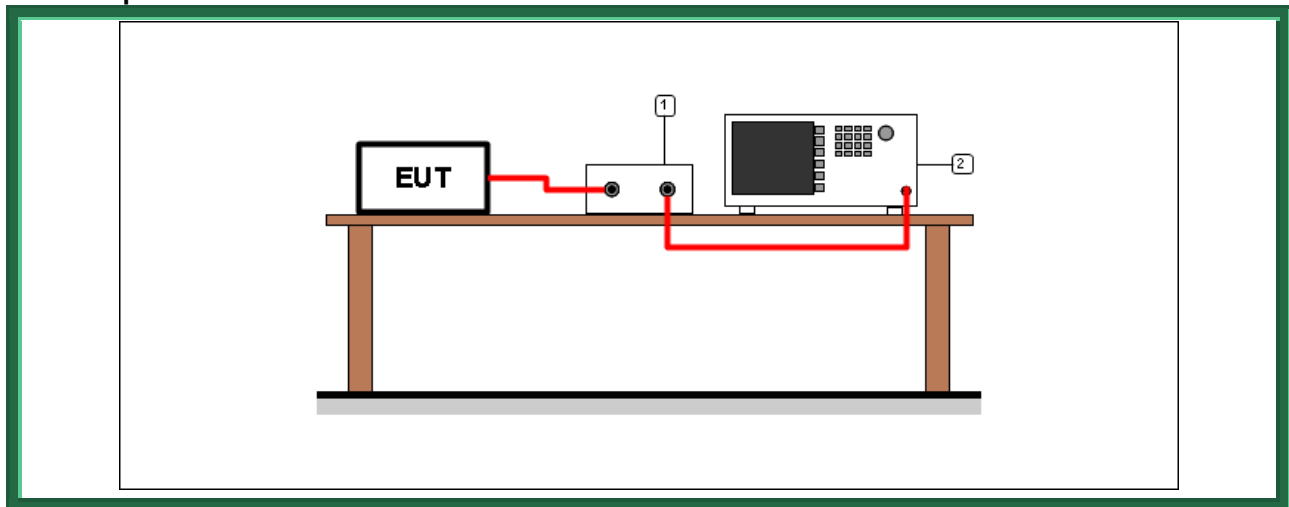
9.7 Time of occupancy

Tested by	G. Gandini
Test date	08.11.2023
Test location (stand)	Laboratory
Reference standards.....	FCC Rules and Regulation; Titles 47 Part. 15.247 KDB 558074 D01 15.247 Meas Guidance v05r02 cl. 9 b) ANSI C63.10 cl. 7.8.4
Supplementary test set-up description.....	--
Supplementary information	--

Acceptance limits

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 period; 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 period. The maximum allowed 20 dB bandwidth of the hopping channel is 500 kHz.

Test setup



Test setup PR002_01							
Nr.	Id. Number	Manufacturer	Model	Serial number	Description	Last calibration date	Calibration expiration
2	CMC S295	Rohde & Schwarz	FSW43	104059	Spectrum Analyzer 43GHz	January 2023	January 2026
1	--	--	--	--	Cable + attenuator	Calibrated before the test	Calibrated before the test

Result

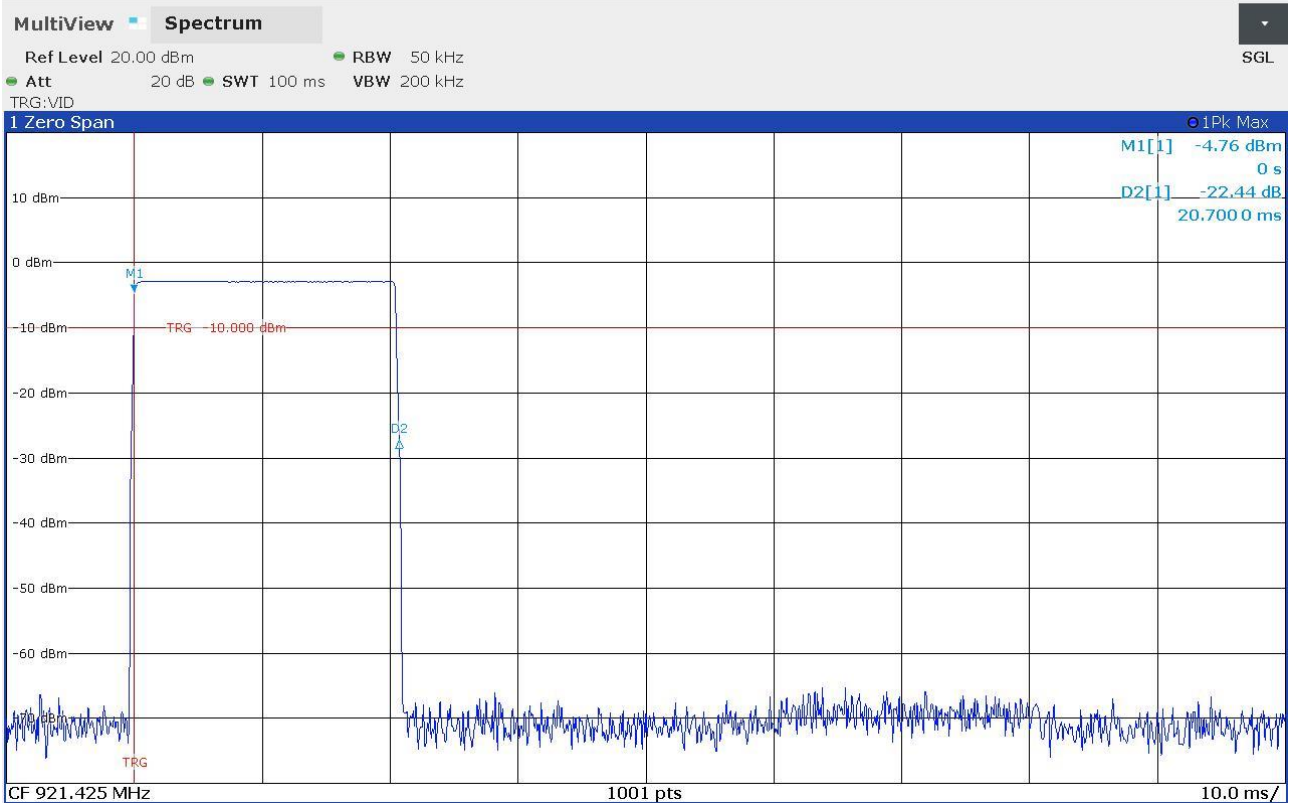
<i>Frequency (MHz)</i>	<i>Graphs</i>	<i>Dwell time (ms)</i>
921,425	G23154832	20,70

<i>Frequency (MHz)</i>	<i>Graphs</i>	<i>Number of transmissions</i>	<i>Period</i>
921,425	G23154833	7	20 s

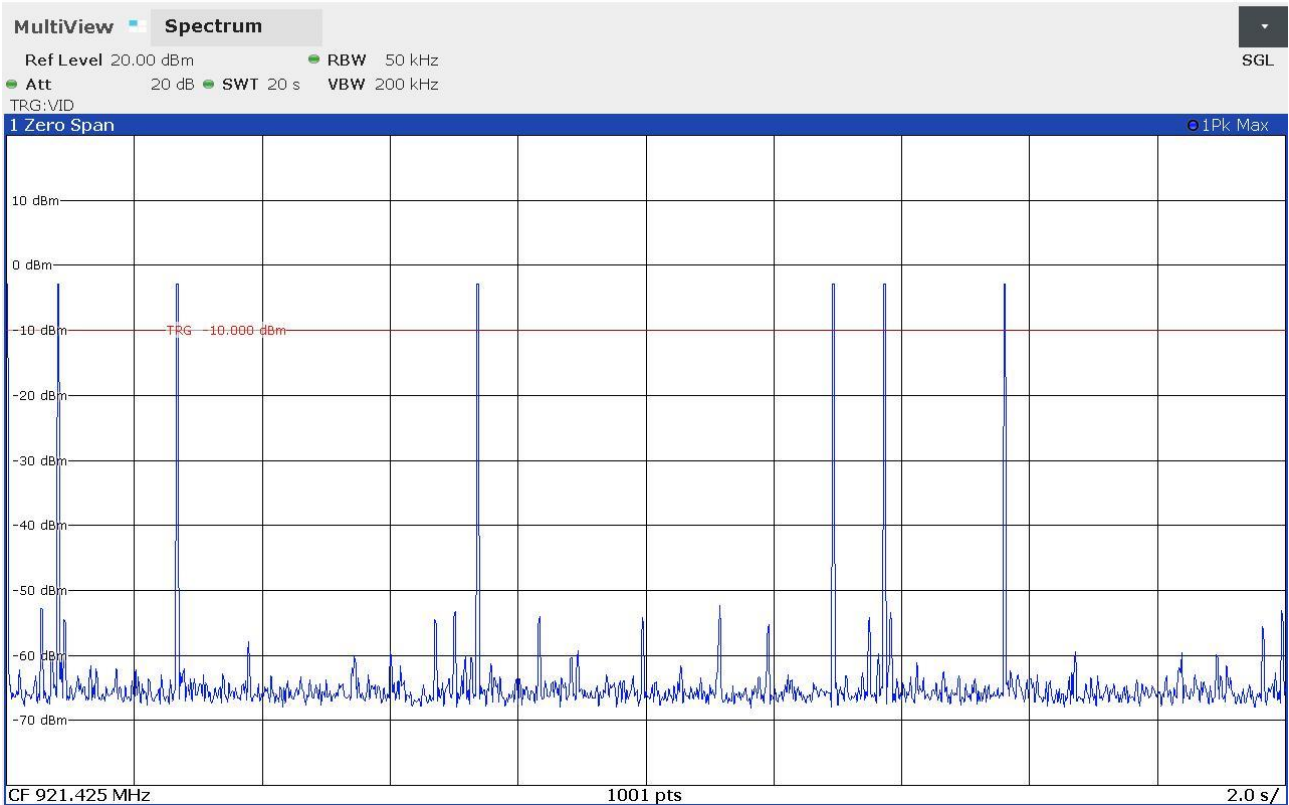
<i>Time of occupancy (Dwell time x Nr. transmissions)</i>	<i>Maximum allowed time of occupancy</i>	<i>Results</i>
144,9 ms	400 ms	Complies

Graphs

Gandini 23154832



Gandini 23154833



9.8 Band edge

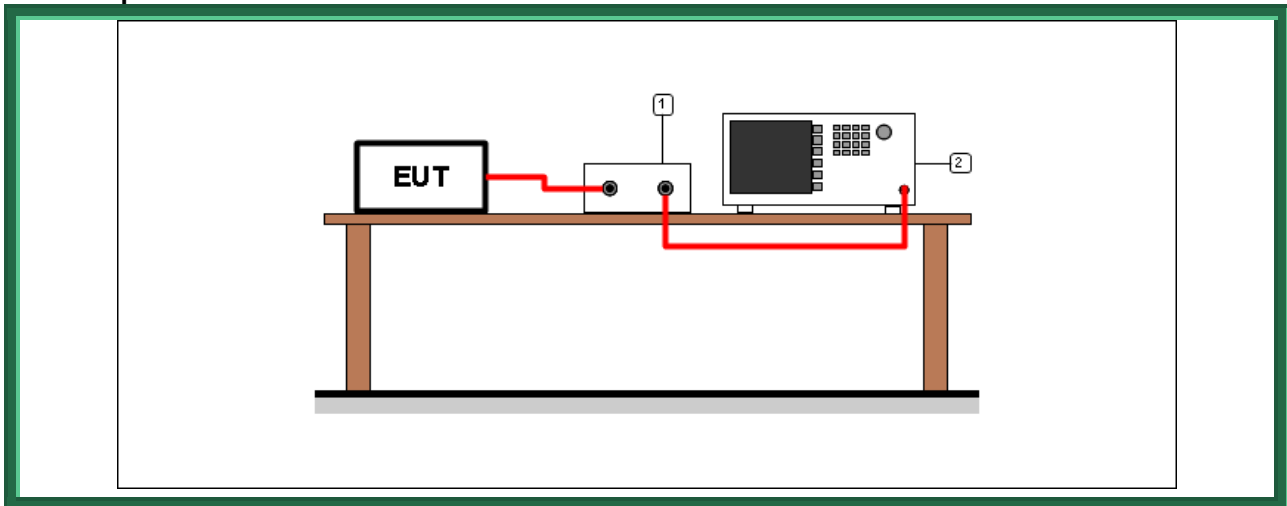
Tested by	G. Gandini
Test date	08.11.2023
Test location (stand)	Laboratory
Reference standards.....	FCC Rules and Regulation; Titles 47 Part. 15.247 ANSI C63.10 cl. 7.8.6
Supplementary test set-up description.....	--
Supplementary information	--

Acceptance limits

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)).

Operation within the band 902 – 928 MHz

Test setup



Test setup PR002_01							
Nr.	Id. Number	Manufacturer	Model	Serial number	Description	Last calibration date	Calibration expiration
2	CMC S295	Rohde & Schwarz	FSW43	104059	Spectrum Analyzer 43GHz	January 2023	January 2026
1	--	--	--	--	Cable + attenuator	Calibrated before the test	Calibrated before the test

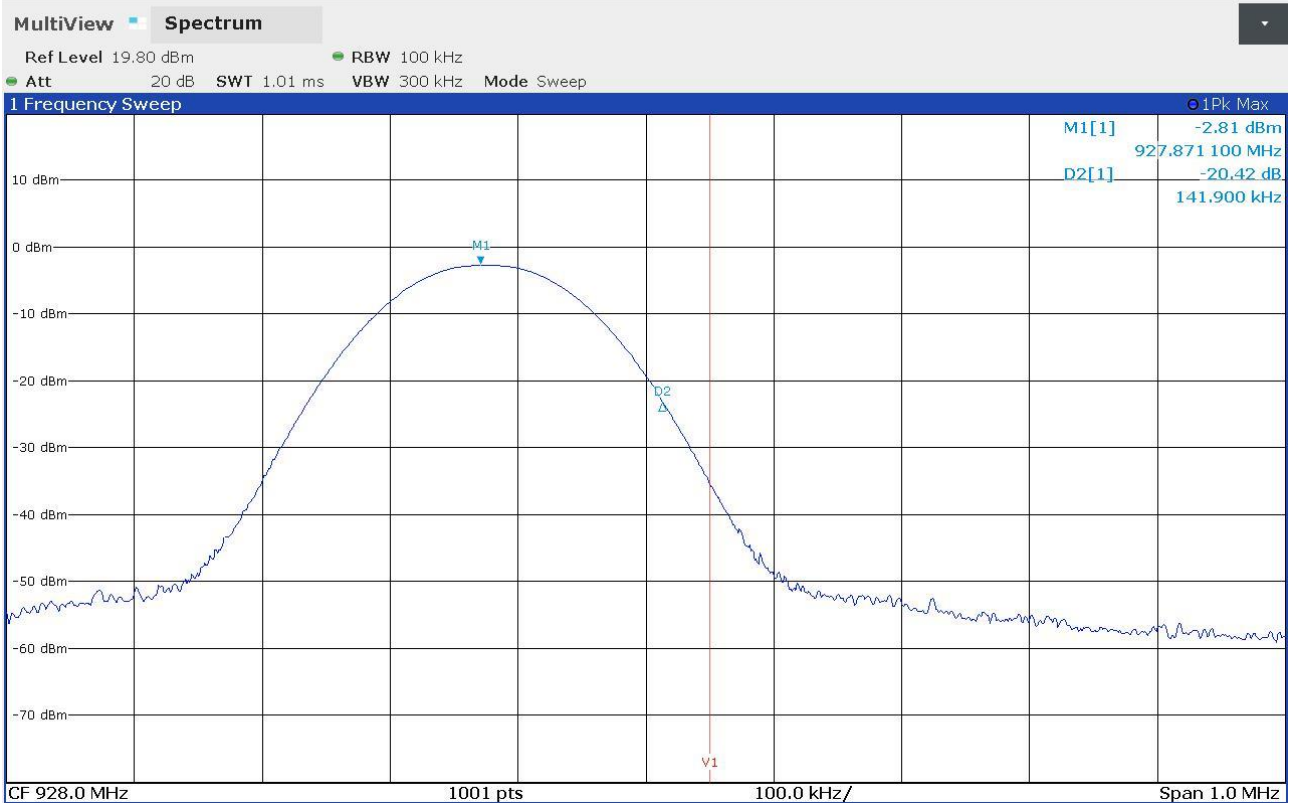
Result

<i>Frequency (MHz)</i>	<i>Bandwidth</i>	<i>Graph(s) – Hopping</i>	<i>Results</i>	
915,075	100 kHz	G23154834	FL: 914,918 MHz	Complies
927,875	100 kHz	G23154827	FH: 928,013 MHz	Complies

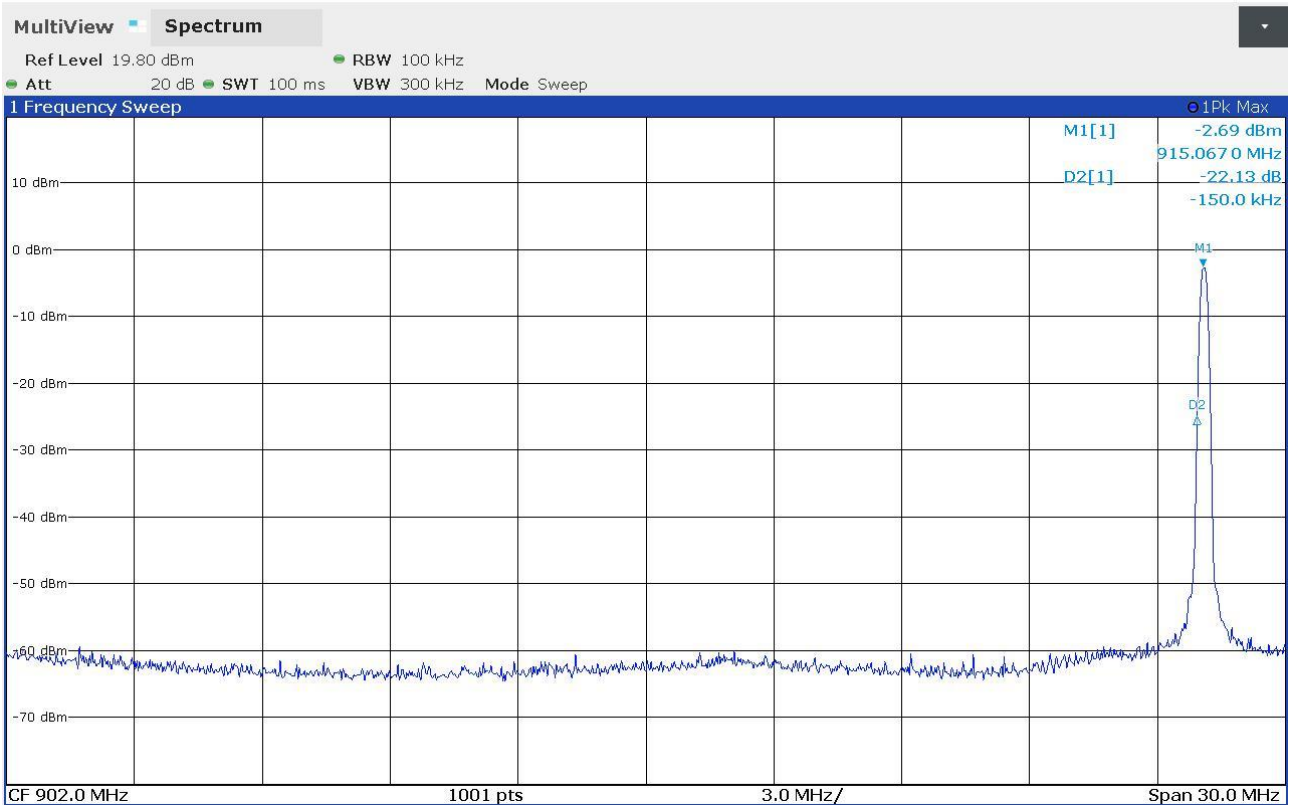
<i>Frequency (MHz)</i>	<i>Bandwidth</i>	<i>Graph(s) – No hopping</i>	<i>Results</i>	
915,075	100 kHz	G23154823	FL: 914,917 MHz	Complies
927,875	100 kHz	G23154819	FH: 928,015 MHz	Complies

Graphs

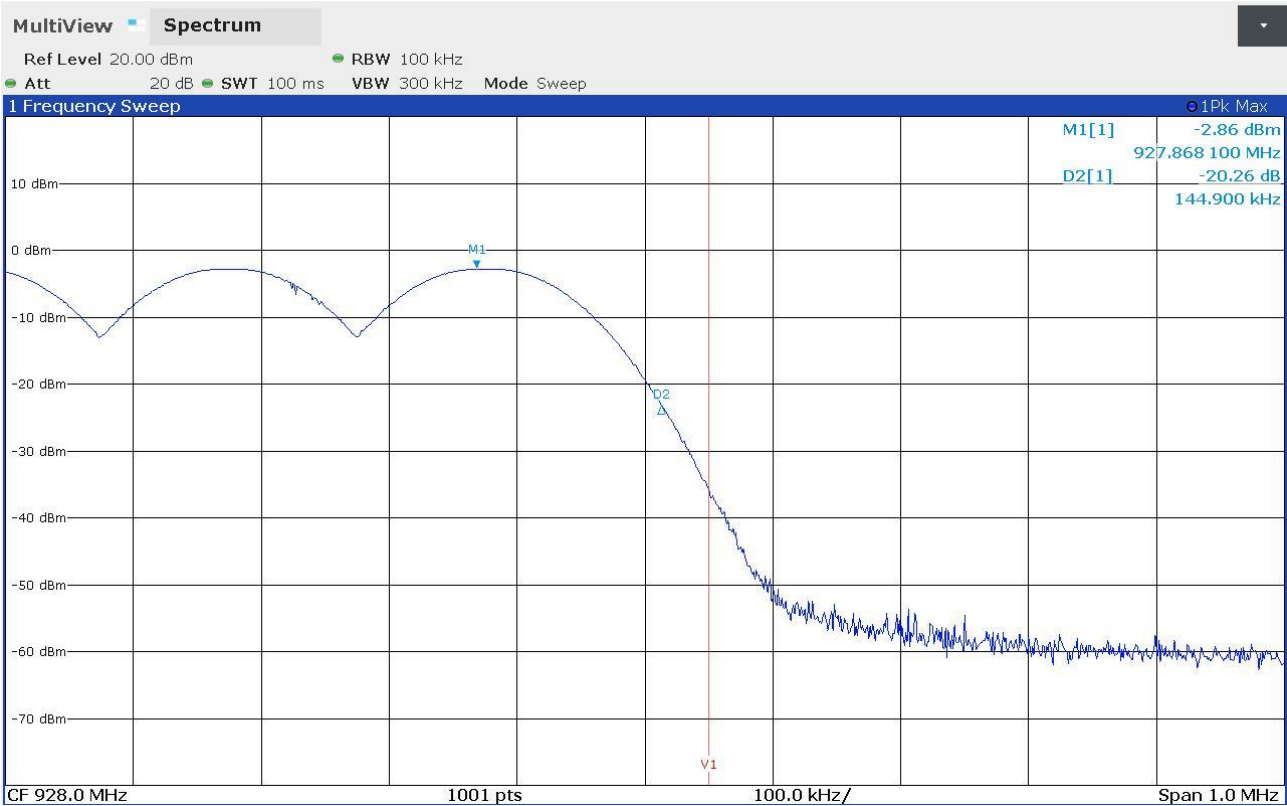
Gandini 23154819



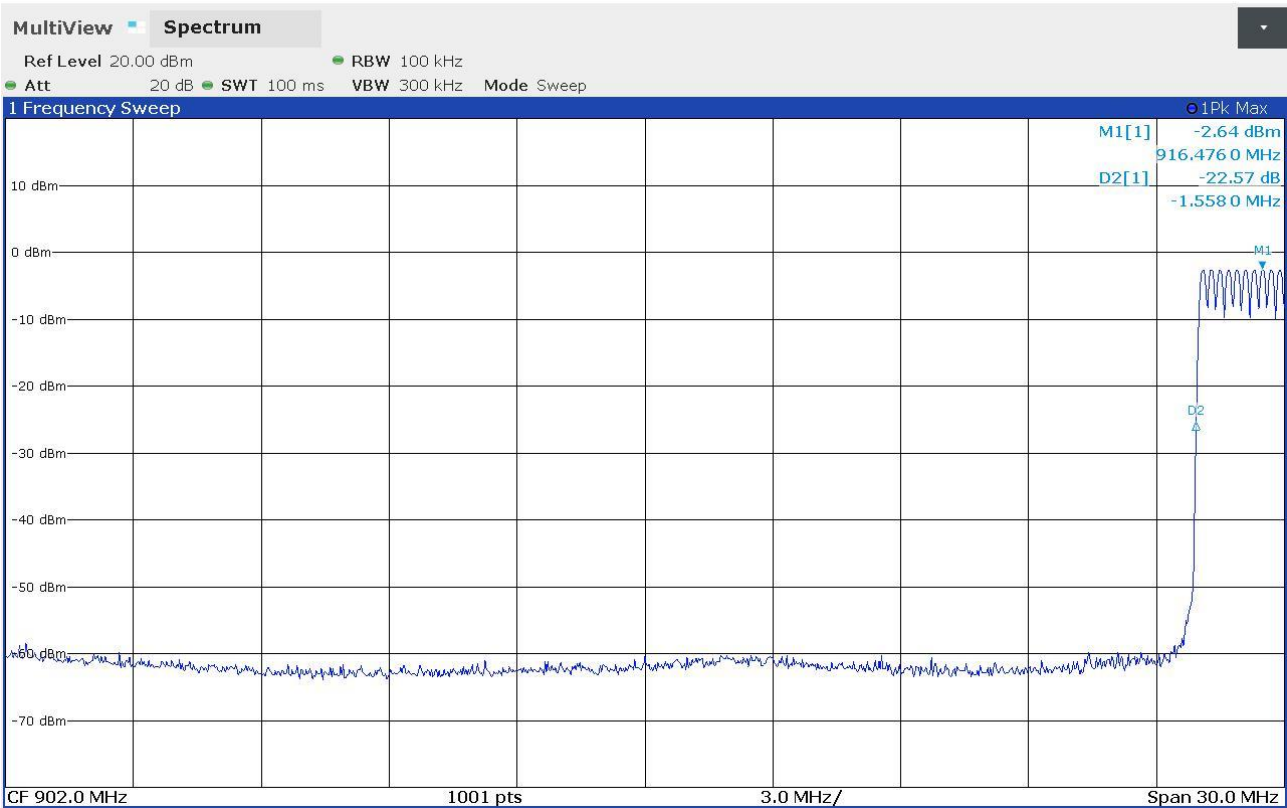
Gandini 23154823



Gandini 23154827



Gandini 23154834



9.9 Peak Output Power

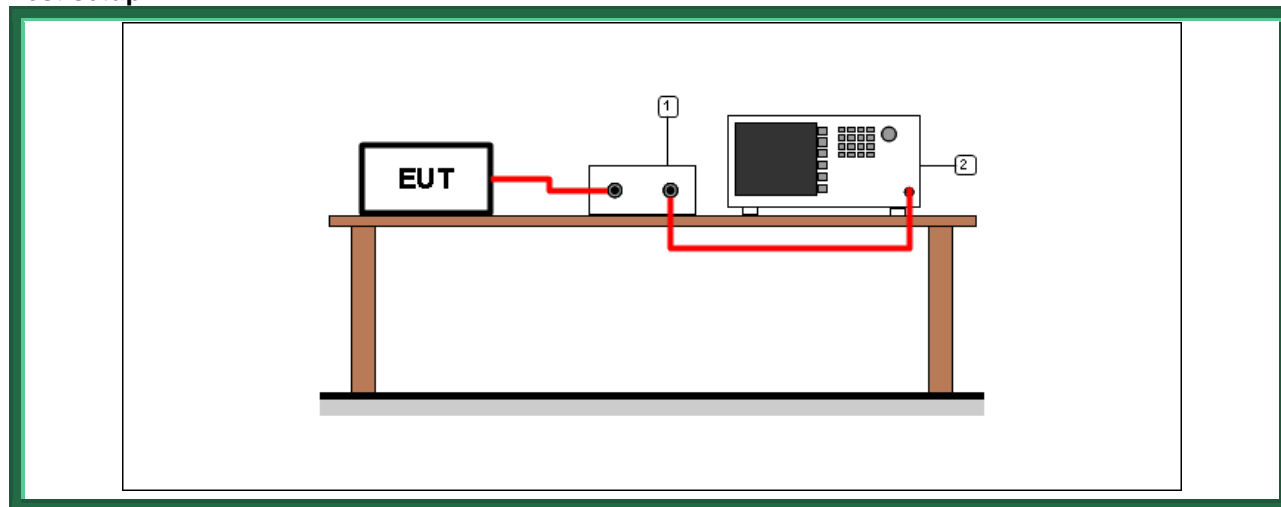
Tested by	G. Gandini
Test date	08.11.2023
Test location (stand)	Laboratory
Reference standards.....	FCC Rules and Regulation; Titles 47 Part. 15.247 KDB 558074 D01 15.247 Meas Guidance v05r02 cl. 2.2 ANSI C63.10 cl. 7.8.5
Supplementary test set-up description.....	--
Supplementary information	--

Acceptance limits

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.

Test setup



Test setup PR002_01

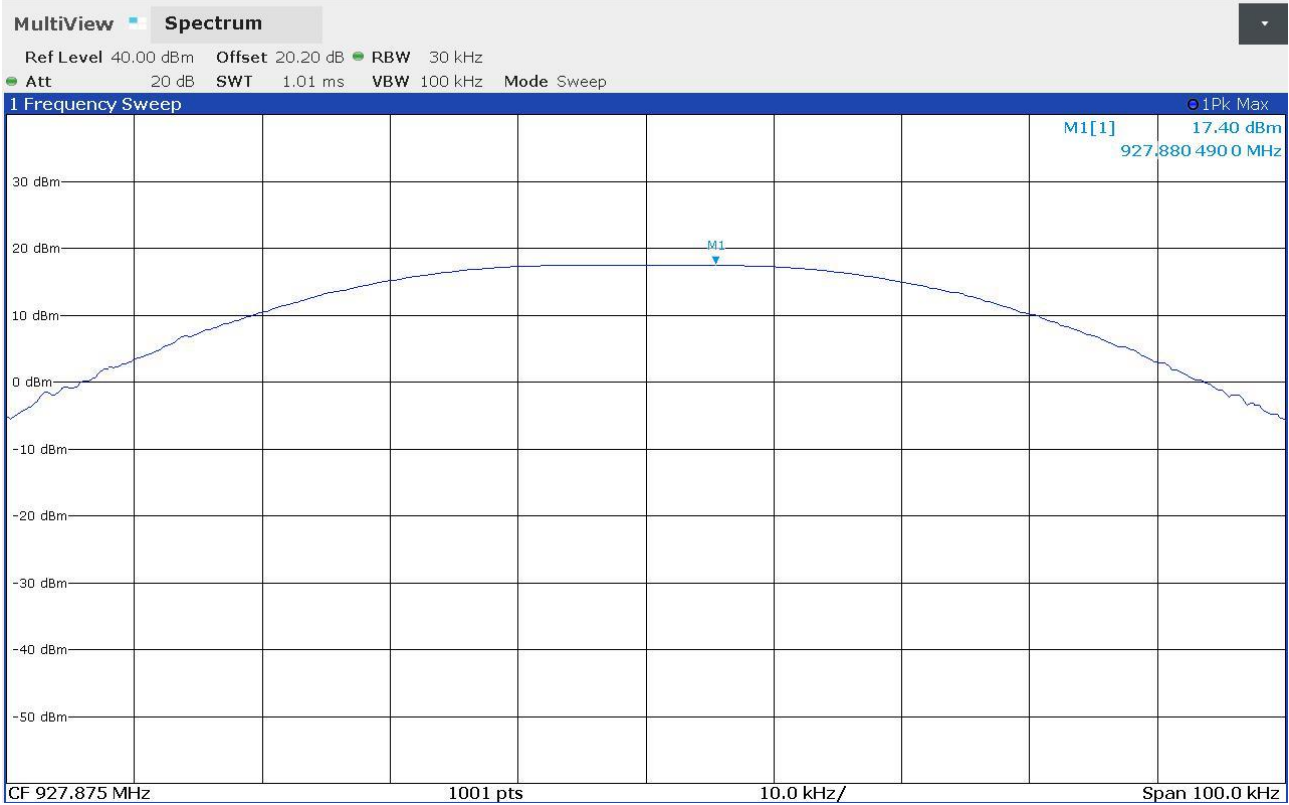
Nr.	Id. Number	Manufacturer	Model	Serial number	Description	Last calibration date	Calibration expiration
2	CMC S295	Rohde & Schwarz	FSW43	104059	Spectrum Analyzer 43GHz	January 2023	January 2026
1	--	--	--	--	Cable + attenuator	Calibrated before the test	Calibrated before the test

Result

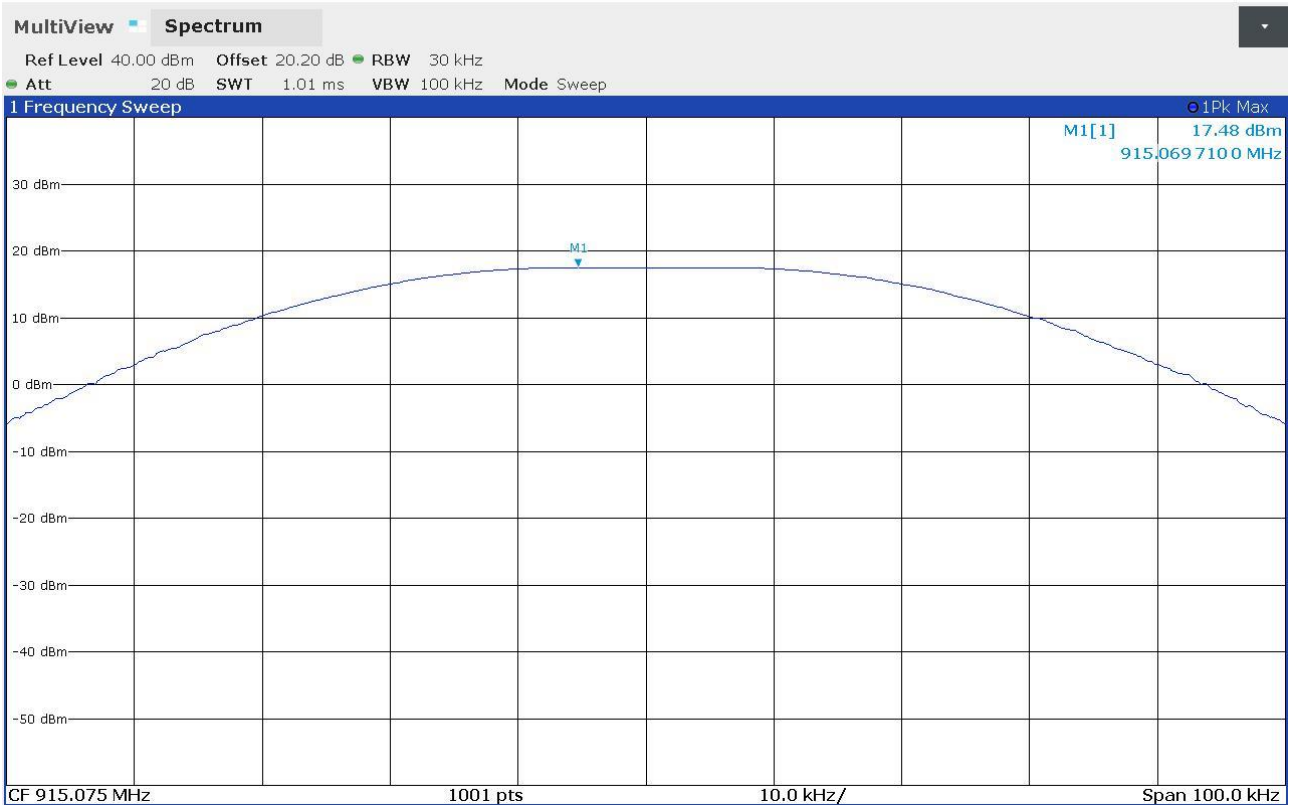
<i>Frequency (MHz)</i>	<i>Graphs</i>	<i>Peak Output Power (dBm)</i>	<i>Peak Output Power (mW)</i>	<i>Limit (mW)</i>
915,075	G23154822	17,48	55,98	1000
921,425	G23154826	17,37	54,58	1000
927,875	G23154818	17,40	54,95	1000

Graphs

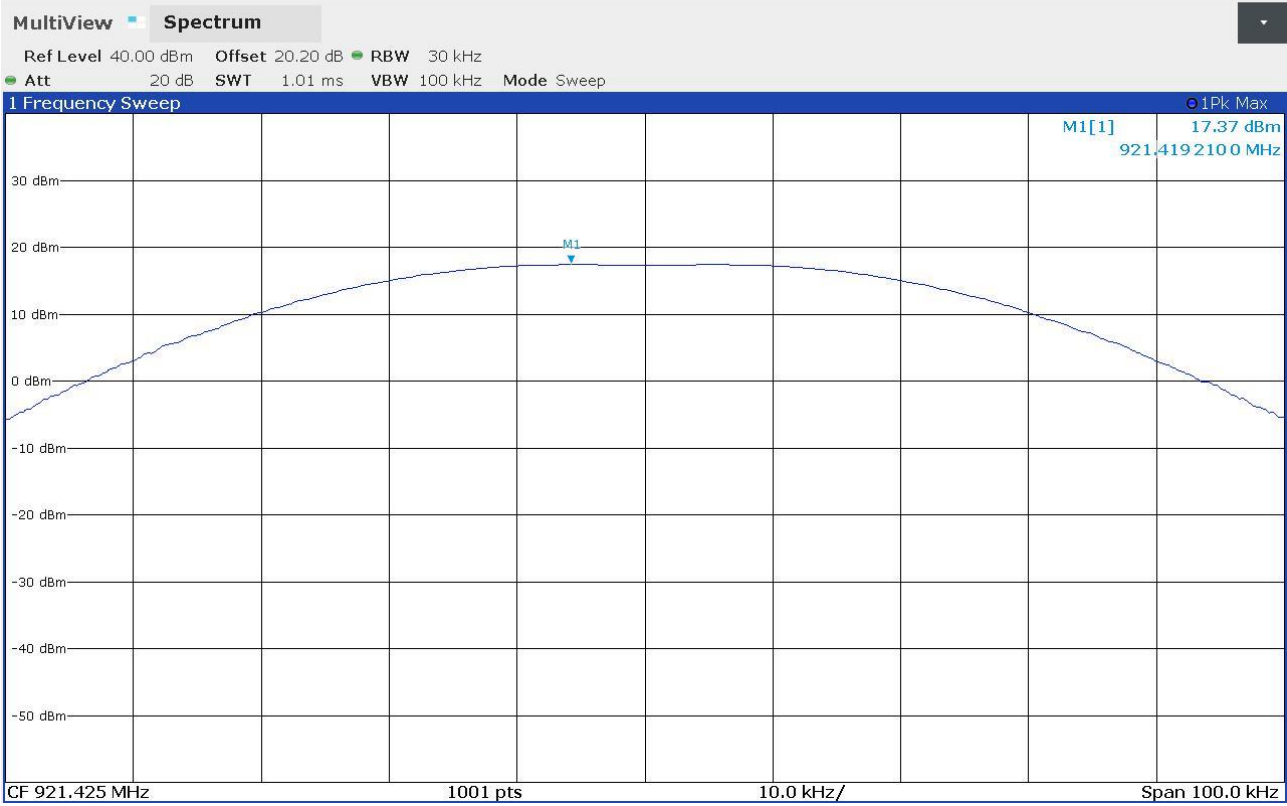
Gandini 23154818



Gandini 23154822



Gandini 23154826



Attachment 1
Measurement uncertainty

<i>Test</i>	<i>Test Setup</i>	<i>Expanded uncertainty</i>	<i>Note</i>
Conducted emission CISPR 16 LISN 50uH 0,009-0,0150 MHz	PE001_01	3,4 dB	1
Conducted emission CISPR 16 LISN 50uH 0,150-30,0 MHz	PE001_01	2,9 dB	1
Conducted emission CISPR 16 Voltage Probe 0,15-30 MHz	PE001_02	2,1 dB	1
Conducted emission CISPR 16 Current Probe 0,15-30 MHz	PE001_03	2,5 dB	1
Conducted emission CISPR 16 ISN 0,15-30 MHz	PE001_04	4,7 dB	1
Clic CISPR 16 LISN 50uH 0,150-30,0 MHz	PE001_05	2,9 dB	1
Radiated Emission CDNE 30-300 MHz	PE001_06	3,3 dB	1
Disturbance Power 30-300 MHz	PE002_01	3,7 dB	1
Radiated Emission LAS 0,15-30 MHz	PE003_01	1,9 dB	1
Radiated Emission CISPR 16 Loop Ant. 0,15-30 MHz	PE004_01	4,1 dB	1
Radiated Emission CISPR 16 Bicon. Ant. 30-300 MHz	PE004_02	4,6 dB	1
Radiated Emission CISPR 16 LogP. Ant. 300-1000 MHz	PE004_03	4,5 dB	1
Radiated Emission CISPR 16 Horn Ant. 1-18 GHz	PE004_04	4,7 dB	1
Human Exposure to electromagnetic fields	PE005_01	14,2 %	1
Harmonics	PE006_01	10 mA + 2,9 %	1
Flicker	PE007_01	4,20 %	1
Radiated Immunity 80 MHz - 6 GHz	PE102_XX	2,25 dB 0,89 V/m a 3V/m	1
Conducted Immunity 0,15 - 230 MHz	PE105_XX	1,19 dB 0,44 V a 3V	1
AC Magnetic field	PE106_01	1,55 % 0,15 A/m a 10A/m	1
Pulse Magnetic field	PE107_01	6,25 % 18,8 A/m a 300A/m	1
Dumped Magnetic field	PE108_01	6,25 % 1,88 A/m a 30A/m	1
Common mode conducted immunity	PE112_01	2,22 % 0,22 V a 10V	1

Attachment 1

Test	Test Setup	Expanded uncertainty	Note
Power/Spurious 9kHz-30MHz	PR001_01	4,1 dB	1
Power/Spurious ERP 30-1000MHz d=10m	PR001_02+03	4,7 dB	1
Misura della potenza EIRP 1-18GHz d=3m	PR001_04+05	4,7 dB	1
Misura della potenza EIRP 18-40GHz d=3m	PR001_06	5,1 dB	1
Frequency error	PR002_01+02	$< 1 \times 10^{-7}$	1
Timing zero span (1001pts.)	PR002_01+02	0,2 % SWT	1
Modulation bandwidth	PR002_01+02	$< 1 \times 10^{-7}$	1
Conducted RF power and spurious emission	PR002_01+02	1,1 dB	1
Adjacent channel power	PR002_01+02	1,1 dB	1
Blocking	PR002_01+02	1,1 dB	1

Test	Test Setup	Expanded uncertainty	Note
Electrostatic discharge immunity test	PE101_0X		2
Electrical fast transients / burst immunity test	PE103_0X		2
Surge immunity test	PE104_0X		2
Short interruption immunity test	PE109_01		2
Ring Wave immunity test	PE110_01		2
Low frequency immunity test	PE111_01		2
Dumped Oscillatory immunity test	PE113_01		2
Rev_23_01 date 20/03/2023			

Note 1:

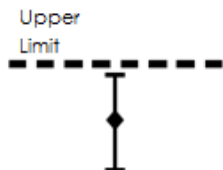
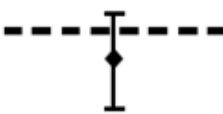

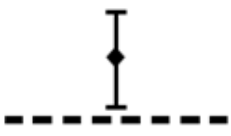
The expanded uncertainty reported according to the document EA-4-02 is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of $p = 95\%$

Note 2:

It has been demonstrated that the used test equipment meets the specified requirements in the standard with at least a 95% confidence, covering factor $k=2$

Attachment 1

Judgement of compliance

Case 1	Case 2	Case 3	Case 4
 <p>The sample complies with the requirements.</p> <p>The measurement results is within the specification limit when the measurement uncertainty is taken into account.</p>	 <p>The sample complies with the requirements.</p> <p>It is not possible to state compliance using a 95% coverage probability for the expanded uncertainty although the measurement result is below the limit.</p>	 <p>The sample does not comply with the requirements.</p> <p>It is not possible to state compliance using a 95% coverage probability for the expanded uncertainty also the measurement result is upper the limit.</p>	 <p>The sample does not comply with the requirements.</p> <p>The measurement results is outside the specification limit when the measurement uncertainty is taken into account.</p>

In agreement with ILAC-G8:09/2019 cl.4.2.1 Guidelines on Decision Rules and Statements of Conformity

Quality manual references – Internal procedure

Internal Procedure PM001 rev. 4.0 (Quality Manual)	Measure procedure
Internal Procedure INC_M rev. 10.0 (Quality Manual)	Measurement uncertainty calculation