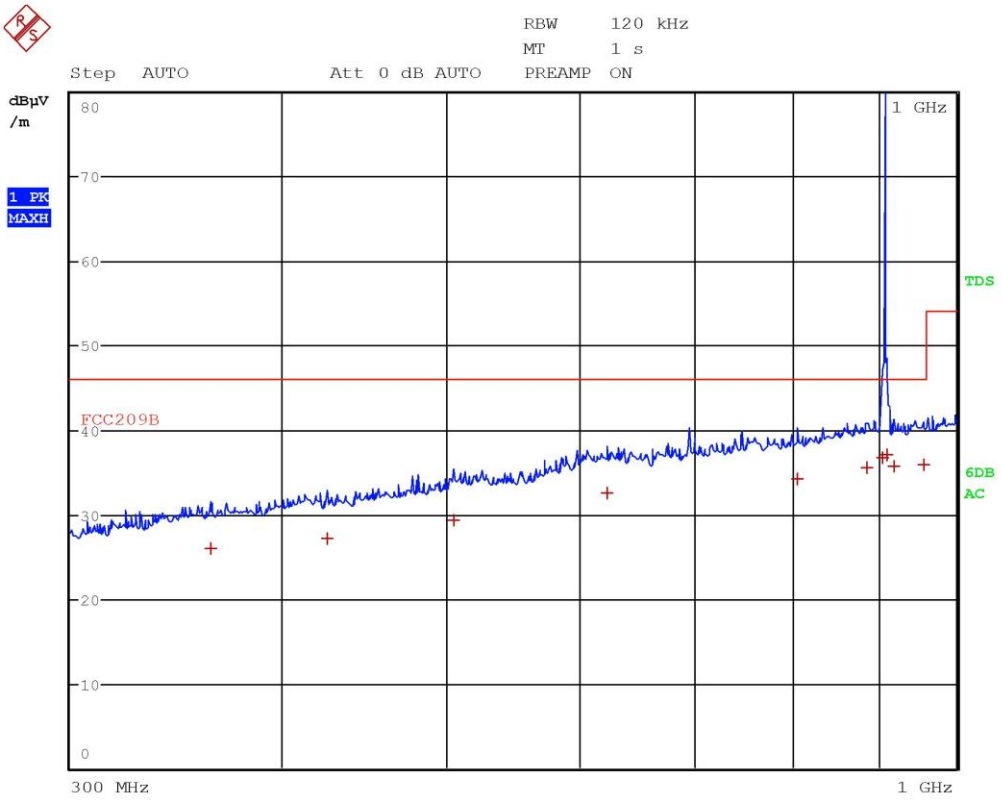
EDIT PEAK LIST (Final Measurement Results)

Trace1:	FCC209B
Trace2:	---
Trace3:	---

TRACE	FREQUENCY	LEVEL dBµV/m	DELTA LIMIT dB
1 Quasi Peak	363.6 MHz	25.88	-20.13
1 Quasi Peak	399.24 MHz	26.97	-19.04
1 Quasi Peak	543.84 MHz	29.60	-16.41
1 Quasi Peak	603.68 MHz	32.21	-13.80
1 Quasi Peak	804.64 MHz	34.08	-11.93
1 Quasi Peak	903.6 MHz	39.81	-6.20
1 Quasi Peak	912.48 MHz	38.46	-7.55
1 Quasi Peak	953.28 MHz	35.85	-10.17

Gandini 20181521

CMC Centro Misure Compatibilità S.r.l.



Gandini 20181522

CMC Centro Misure Compatibilità S.r.l.

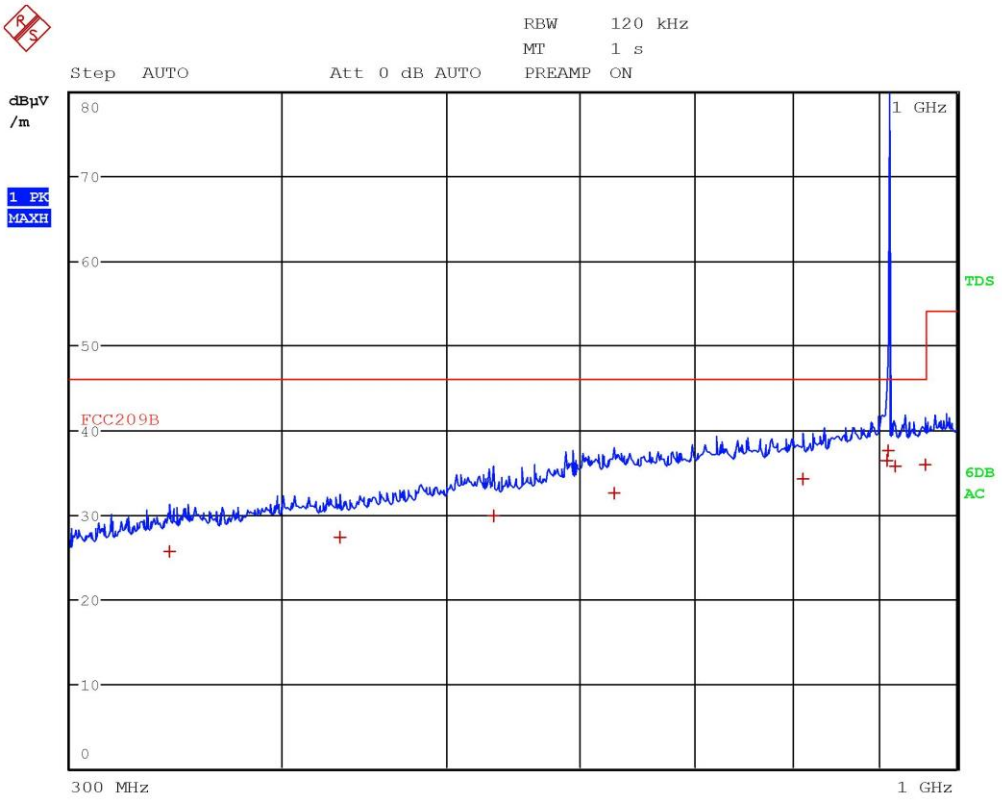
EDIT PEAK LIST (Final Measurement Results)

Trace1:	FCC209B
Trace2:	---
Trace3:	---

TRACE	FREQUENCY	LEVEL dBµV/m	DELTA LIMIT dB
1 Quasi Peak	362.92 MHz	25.89	-20.12
1 Quasi Peak	425.68 MHz	27.21	-18.80
1 Quasi Peak	505.4 MHz	29.39	-16.62
1 Quasi Peak	622 MHz	32.47	-13.54
1 Quasi Peak	806.16 MHz	34.23	-11.78
1 Quasi Peak	885.76 MHz	35.55	-10.46
1 Quasi Peak	904.6 MHz	36.64	-9.37
1 Quasi Peak	909.6 MHz	37.02	-8.99
1 Quasi Peak	918.16 MHz	35.77	-10.24
1 Quasi Peak	957 MHz	35.81	-10.20

Gandini 20181522

CMC Centro Misure Compatibilità S.r.l.



Gandini 20181523

CMC Centro Misure Compatibilità S.r.l.

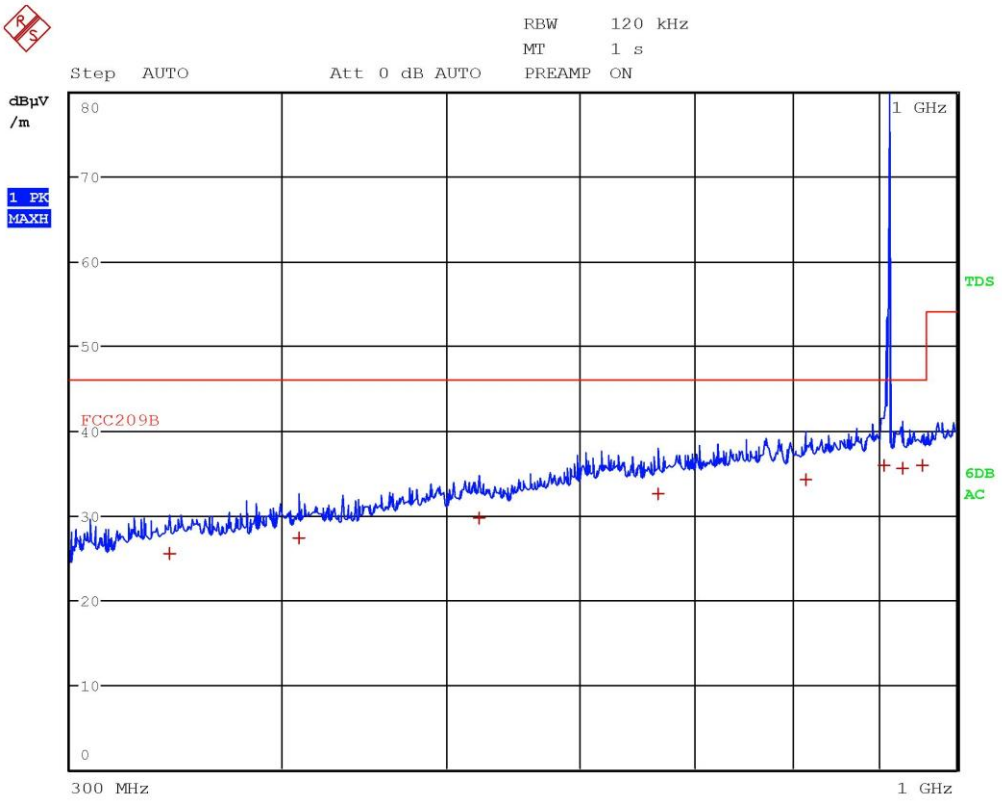
EDIT PEAK LIST (Final Measurement Results)

Trace1:	FCC209B
Trace2:	---
Trace3:	---

TRACE	FREQUENCY	LEVEL dBµV/m	DELTA LIMIT dB
1 Quasi Peak	343.6 MHz	25.56	-20.45
1 Quasi Peak	432.48 MHz	27.23	-18.78
1 Quasi Peak	533.12 MHz	29.74	-16.27
1 Quasi Peak	628.52 MHz	32.45	-13.56
1 Quasi Peak	811.56 MHz	34.11	-11.90
1 Quasi Peak	910.12 MHz	36.41	-9.60
1 Quasi Peak	912.28 MHz	37.58	-8.43
1 Quasi Peak	920.6 MHz	35.77	-10.24
1 Quasi Peak	958.4 MHz	35.82	-10.19

Gandini 20181523

CMC Centro Misure Compatibilità S.r.l.



Gandini 20181524

CMC Centro Misure Compatibilità S.r.l.

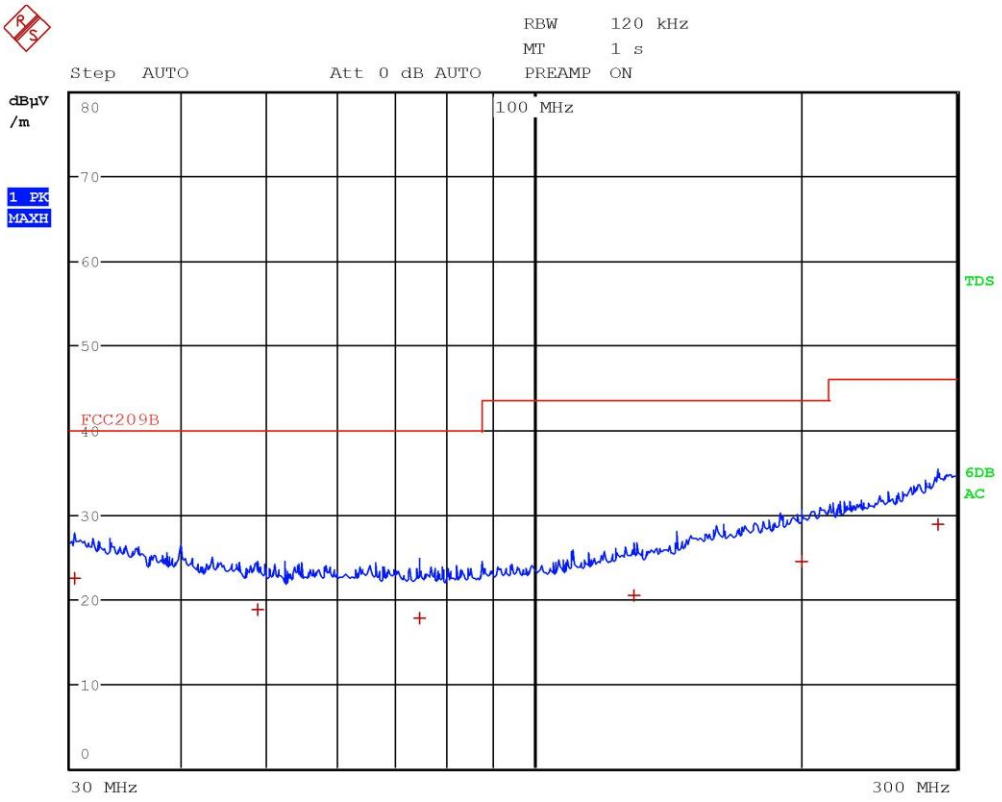
EDIT PEAK LIST (Final Measurement Results)

Trace1:	FCC209B
Trace2:	---
Trace3:	---

TRACE	FREQUENCY	LEVEL dBµV/m	DELTA LIMIT dB
1 Quasi Peak	343.16 MHz	25.53	-20.48
1 Quasi Peak	409.64 MHz	27.27	-18.74
1 Quasi Peak	523.16 MHz	29.58	-16.43
1 Quasi Peak	667.44 MHz	32.48	-13.53
1 Quasi Peak	815.64 MHz	34.19	-11.82
1 Quasi Peak	905.56 MHz	35.83	-10.18
1 Quasi Peak	929.44 MHz	35.52	-10.49
1 Quasi Peak	955.48 MHz	35.81	-10.20

Gandini 20181524

CMC Centro Misure Compatibilità S.r.l.



Gandini 20181525

CMC Centro Misure Compatibilità S.r.l.

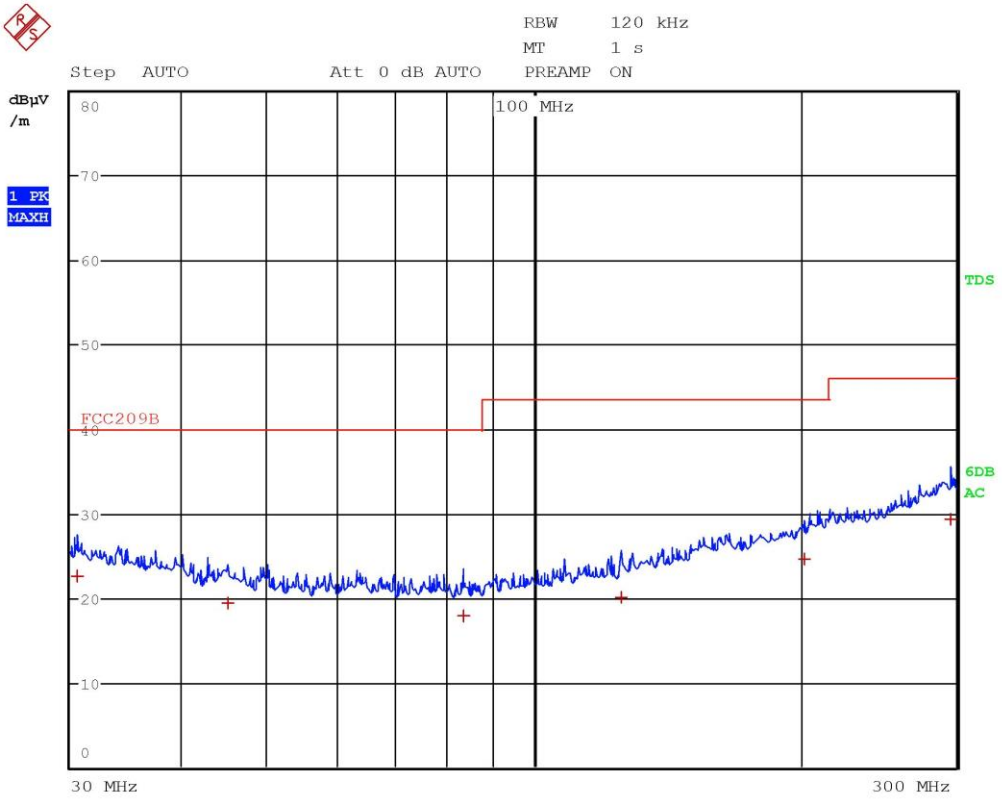
EDIT PEAK LIST (Final Measurement Results)

Trace1:	FCC209B
Trace2:	---
Trace3:	---

TRACE	FREQUENCY	LEVEL dBµV/m	DELTA LIMIT dB
1 Quasi Peak	30.32 MHz	22.52	-17.47
1 Quasi Peak	48.76 MHz	18.82	-21.17
1 Quasi Peak	74.24 MHz	17.79	-22.20
1 Quasi Peak	129.88 MHz	20.36	-23.15
1 Quasi Peak	200.64 MHz	24.43	-19.08
1 Quasi Peak	286.24 MHz	28.79	-17.22

Gandini 20181525

CMC Centro Misure Compatibilità S.r.l.



Gandini 20181526

CMC Centro Misure Compatibilità S.r.l.

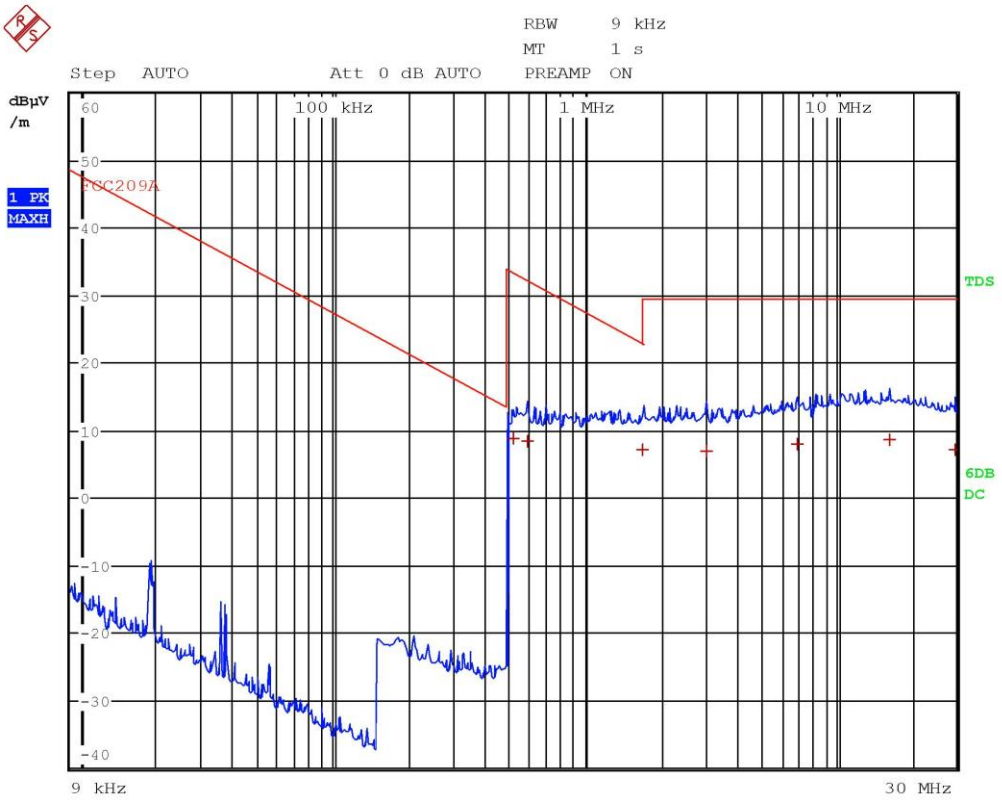
EDIT PEAK LIST (Final Measurement Results)

Trace1:	FCC209B
Trace2:	---
Trace3:	---

TRACE	FREQUENCY	LEVEL dBµV/m	DELTA LIMIT dB
1 Quasi Peak	30.48 MHz	22.52	-17.47
1 Quasi Peak	45.2 MHz	19.36	-20.63
1 Quasi Peak	83.48 MHz	17.90	-22.09
1 Quasi Peak	125.76 MHz	20.07	-23.45
1 Quasi Peak	201.96 MHz	24.55	-18.96
1 Quasi Peak	295.6 MHz	29.38	-16.63

Gandini 20181526

CMC Centro Misure Compatibilità S.r.l.



Gandini 20181530

CMC Centro Misure Compatibilità S.r.l.

EDIT PEAK LIST (Final Measurement Results)

Trace1:	FCC209A
Trace2:	---
Trace3:	---

TRACE	FREQUENCY	LEVEL dBµV/m	DELTA LIMIT dB
1 Quasi Peak	514 kHz	8.77	-24.60
1 Quasi Peak	590 kHz	8.37	-23.81
1 Quasi Peak	1.694 MHz	7.18	-15.84
1 Quasi Peak	3.022 MHz	6.94	-22.59
1 Quasi Peak	7.03 MHz	8.07	-21.46
1 Quasi Peak	16.342 MHz	8.66	-20.87
1 Quasi Peak	29.71 MHz	7.26	-22.27

Gandini 20181530

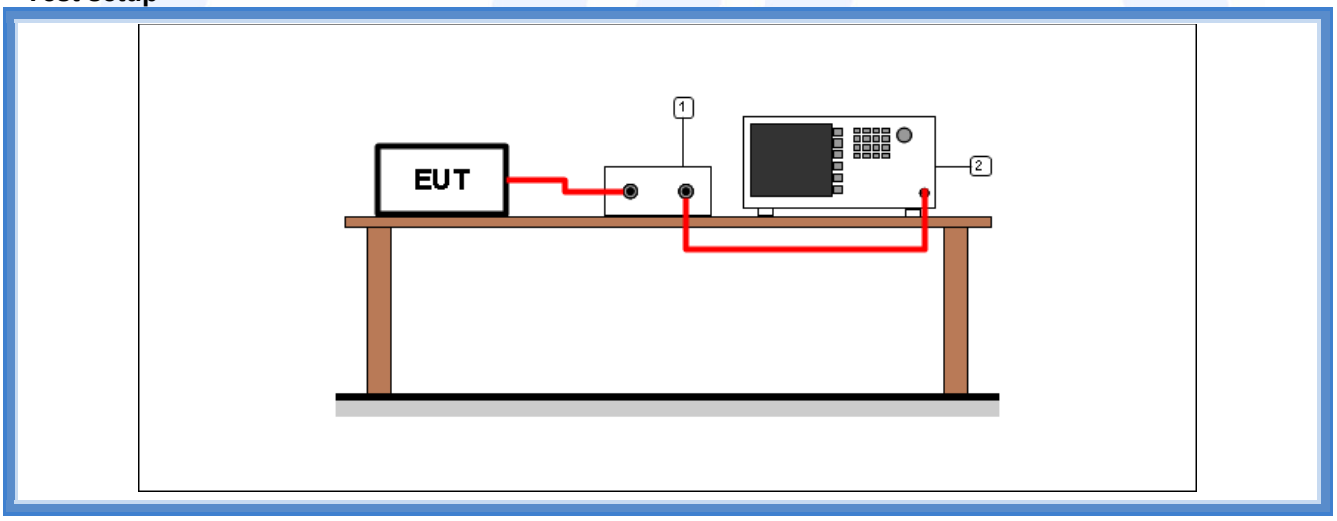
CMC Centro Misure Compatibilità S.r.l.

9.3 DTS bandwidth

Tested by ..... :	G. Gandini
Test date ..... :	08.01.2021
Test location (stand) ..... :	Laboratory
Reference standards ..... :	FCC Rules and Regulation; Titles 47 Part 15.247 (a) (2) ANSI C63.10 cl. 11.8 KDB 558074 D01 DTS Meas Guidance v05r02 cl. 8.2
Supplementary test set-up description ..... :	--
Supplementary information..... :	--

Acceptance limits
Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz

Test setup



Test setup PR002_01				
Nr.	*Id. Number*	*Manufacturer*	*Model*	*Description*
2	CMC S295	Rohde & Schwarz	FSW43	Spectrum Analyzer 43GHz
1	--	--	--	Cable + attenuator (calibrated before the test)

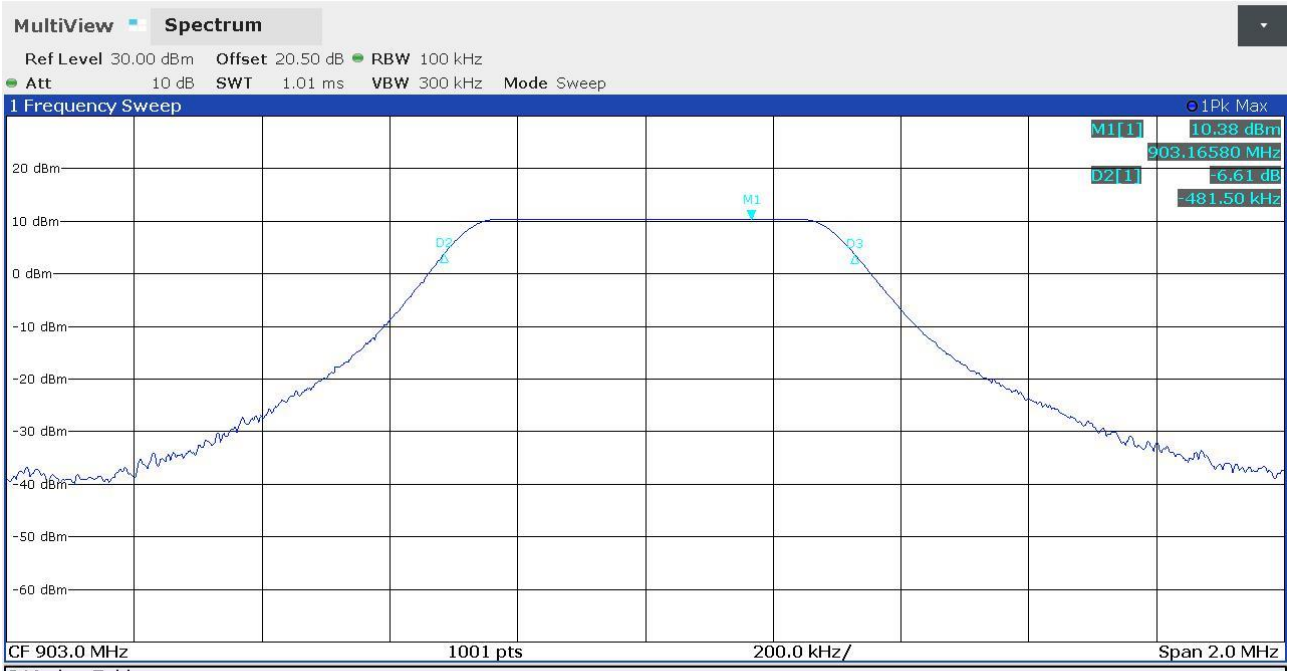
Result

Frequency (MHz)	*Graphs*	*6 dB bandwidth (kHz)*	*Minimum 6 dB bandwidth allowed (kHz)*	*Results*
903,00	G20181556	643,30	500	Complies
907,80	G20181561	643,40	500	Complies
914,20	G20181579	643,40	500	Complies

CMC Centro Misure Compatibilità S.r.l.

Graphs

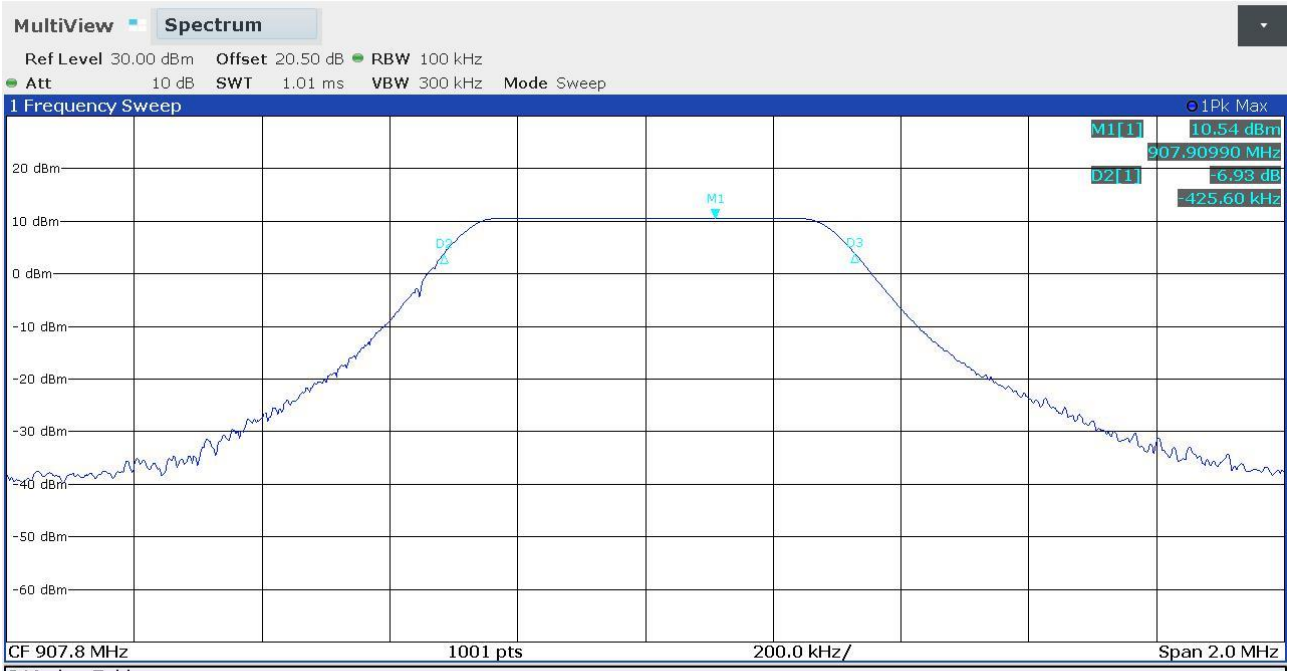
Gandini 20181556



2 Marker Table

Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1		1	**903.1658 MHz**	**10.38 dBm**		
D2	M1	1	**-481.5 kHz**	**-6.61 dB**		
D3	M1	1	**161.8 kHz**	**-6.71 dB**		

Gandini 20181561

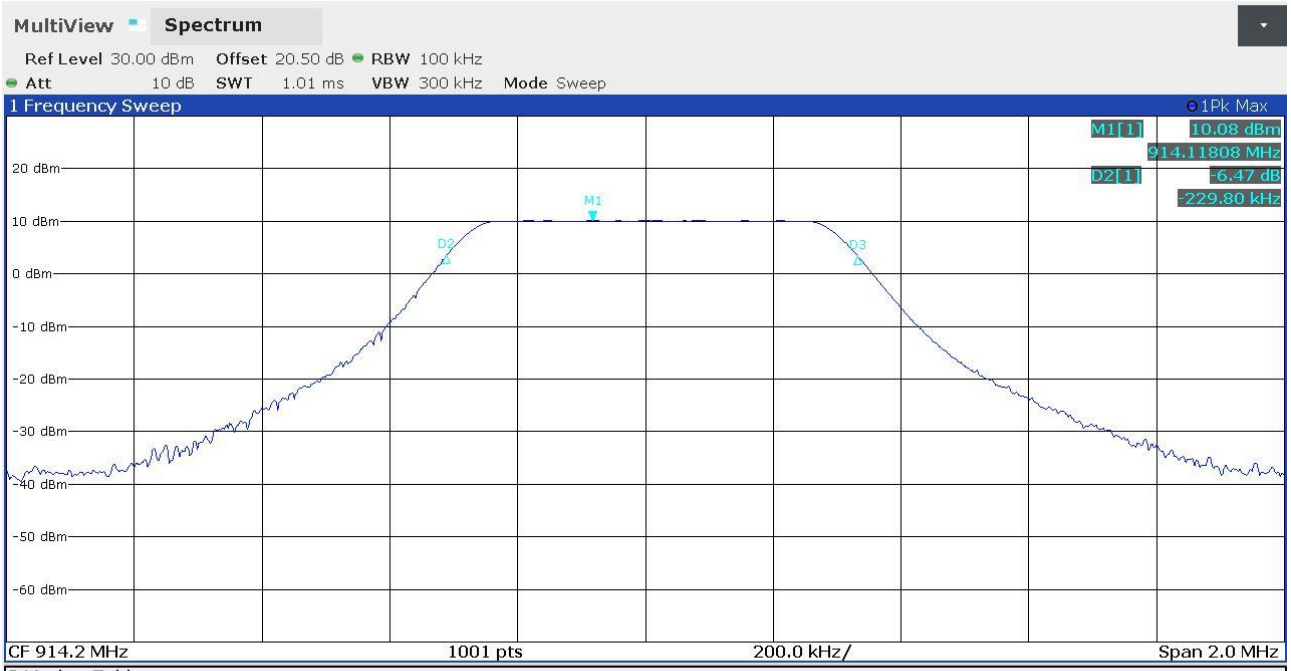


2 Marker Table

Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1		1	**907.9099 MHz**	**10.54 dBm**		
D2	M1	1	**-425.6 kHz**	**-6.93 dB**		
D3	M1	1	**217.8 kHz**	**-6.62 dB**		

CMC Centro Misure Compatibilità S.r.l.

Gandini 20181579



2 Marker Table

Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1		1	**914.11808 MHz**	**10.08 dBm**		
D2	M1	1	**-229.8 kHz**	**-6.47 dB**		
D3	M1	1	**413.6 kHz**	**-6.63 dB**		

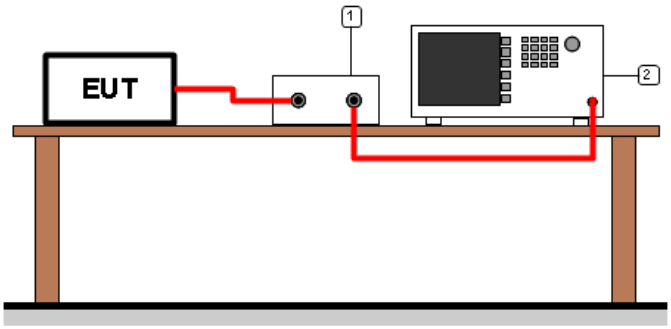
CMC Centro Misure Compatibilità S.r.l.

9.4 20 dB bandwidth

Tested by ..... :	G. Gandini
Test date ..... :	08.01.2021
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..... :	--

Acceptance limits
Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated

Test setup



Test setup PR002_01				
Nr.	*Id. Number*	*Manufacturer*	*Model*	*Description*
2	CMC S295	Rohde & Schwarz	FSW43	Spectrum Analyzer 43GHz
1	--	--	--	Cable + attenuator (calibrated before the test)

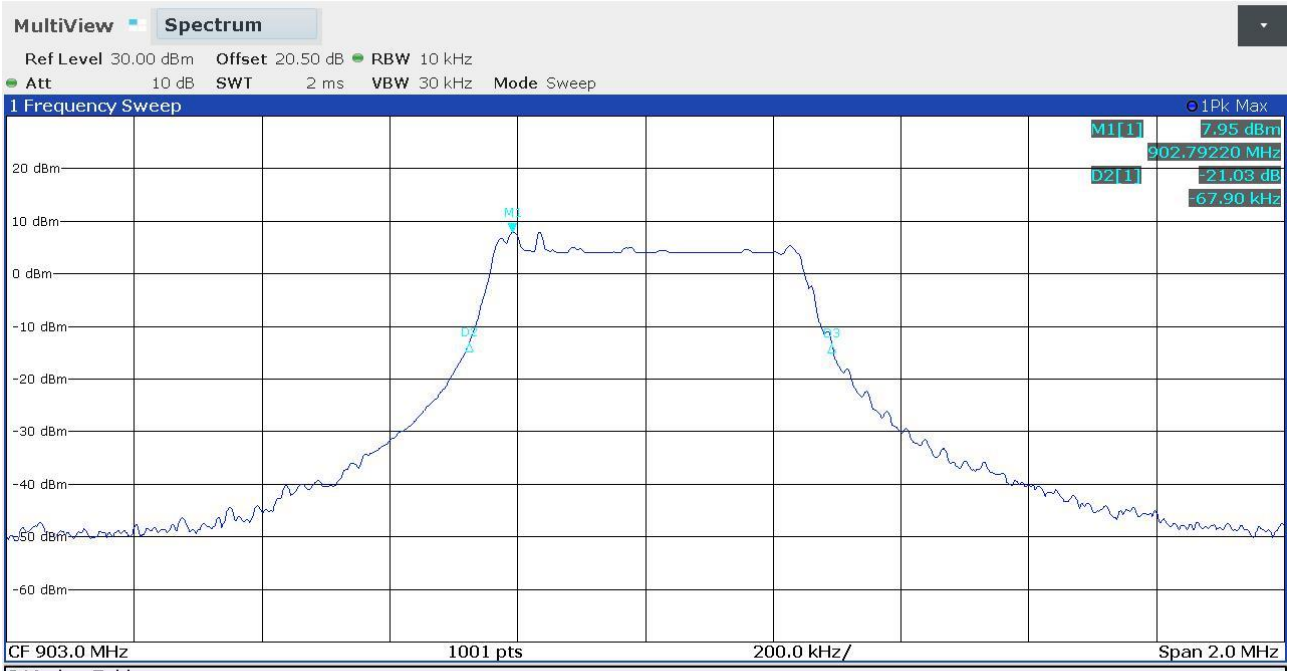
Result

Frequency (MHz)	*Graphs*	*20 dB bandwidth (kHz)*	*Results*
903,00	G20181558	567,40	Complies
907,80	G20181562	567,40	Complies
914,20	G20181577	564,60	Complies

CMC Centro Misure Compatibilità S.r.l.

Graphs

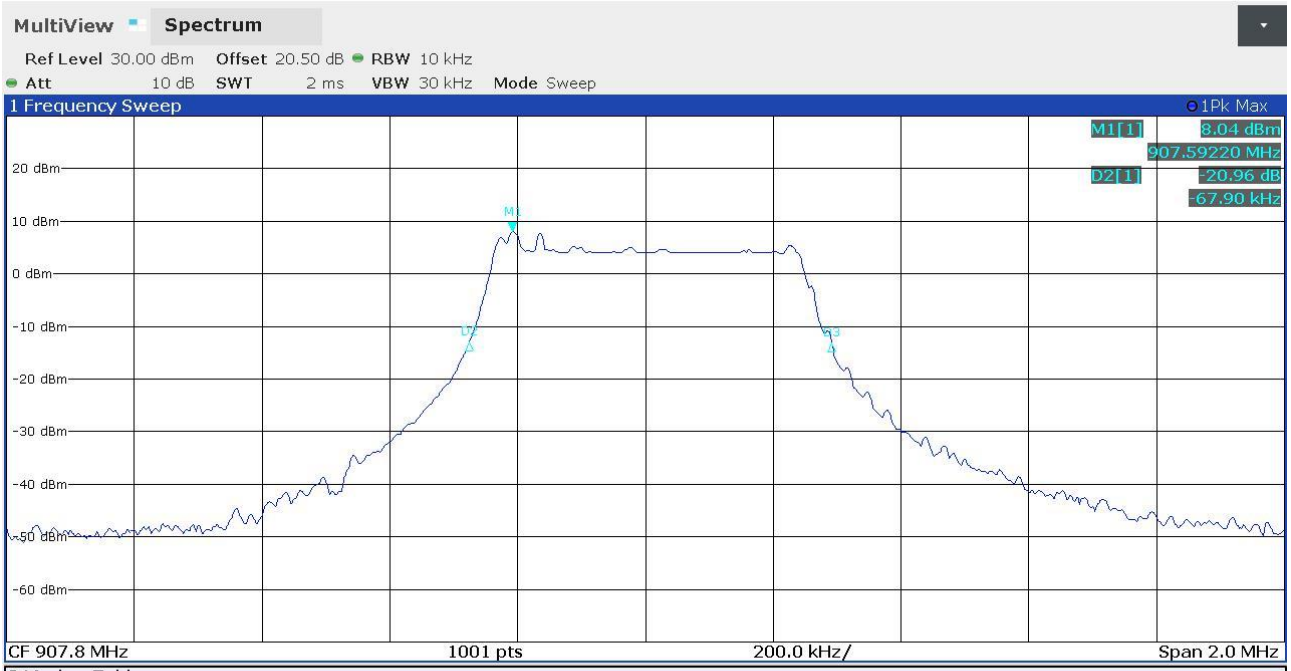
Gandini 20181558



2 Marker Table

Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1		1	**902.7922 MHz**	**7.95 dBm**		
D2	M1	1	**-67.9 kHz**	**-21.03 dB**		
D3	M1	1	**499.5 kHz**	**-21.35 dB**		

Gandini 20181562

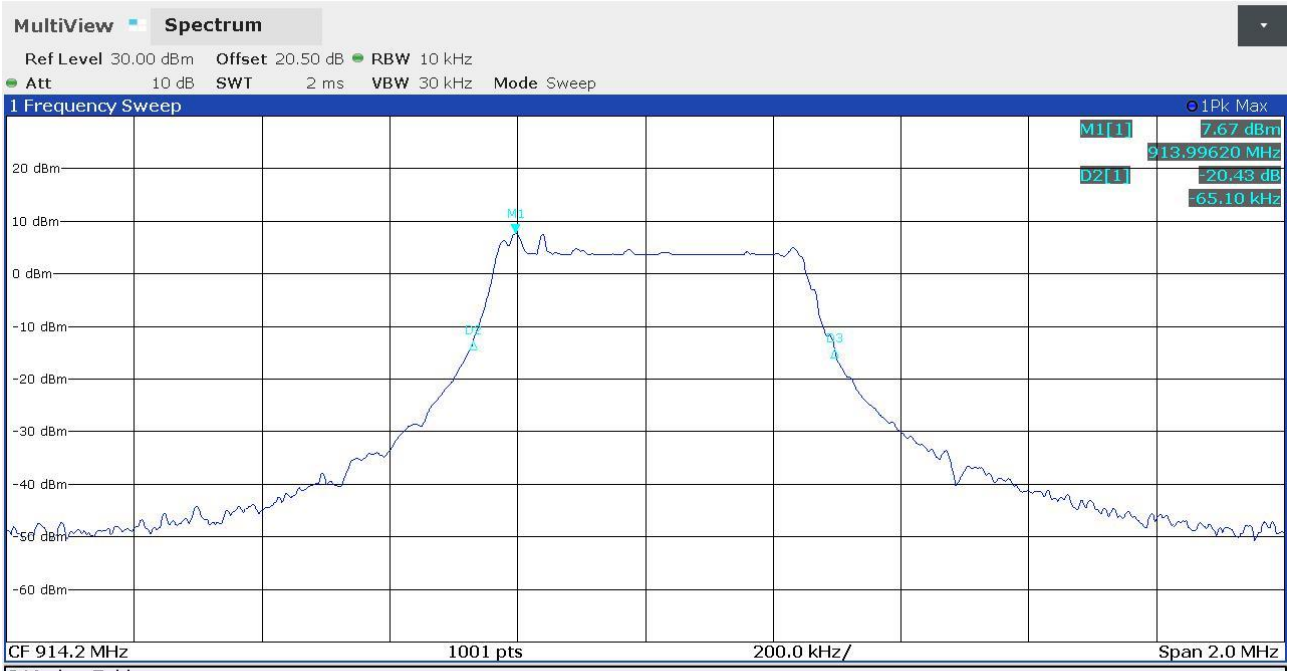


2 Marker Table

Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1		1	**907.5922 MHz**	**8.04 dBm**		
D2	M1	1	**-67.9 kHz**	**-20.96 dB**		
D3	M1	1	**499.5 kHz**	**-21.16 dB**		

CMC Centro Misure Compatibilità S.r.l.

Gandini 20181577



2 Marker Table

Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1		1	**913.9962 MHz**	**7.67 dBm**		
D2	M1	1	**-65.1 kHz**	**-20.43 dB**		
D3	M1	1	**499.5 kHz**	**-21.86 dB**		

CMC Centro Misure Compatibilità S.r.l.

9.5 Band edge

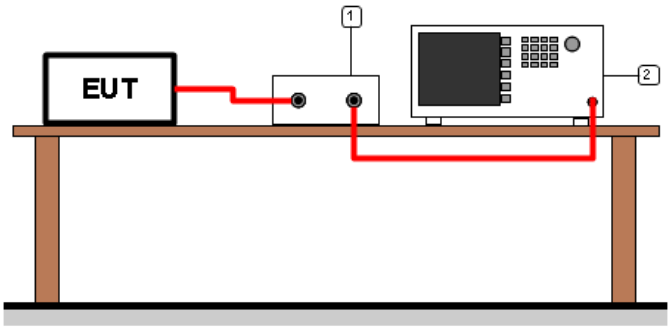
Tested by ..... :	G. Gandini
Test date ..... :	08.01.2021
Test location (stand) ..... :	Laboratory
Reference standards ..... :	FCC Rules and Regulation; Titles 47 Part 15.205, 15.209, 15.247 (d) ANSI C63.10 cl. 11.11.1 and 11.12.1 KDB 558074 D01 DTS Meas Guidance v05r02 cl. 8.7
Supplementary test set-up 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*	*Description*
2	CMC S295	Rohde & Schwarz	FSW43	Spectrum Analyzer 43GHz
1	--	--	--	Cable + attenuator (calibrated before the test)

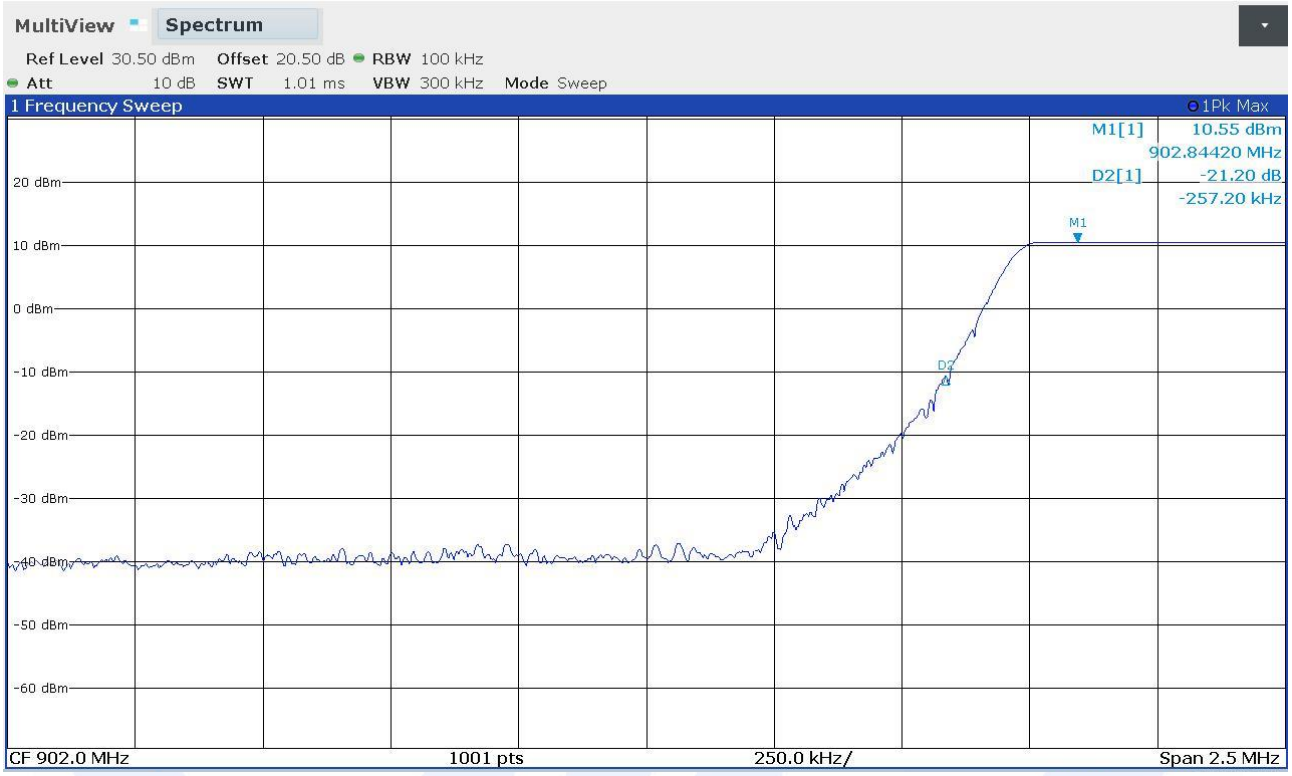
Result

Channel	*Bandwidth*	*Graph(s)*	*Results*	
Lowest	100 kHz	G20181560	902,5870 MHz	Complies
Highest	100 kHz	G20181575	--	Complies
Highest	100 kHz	G20181576	914,6323 MHz	Complies

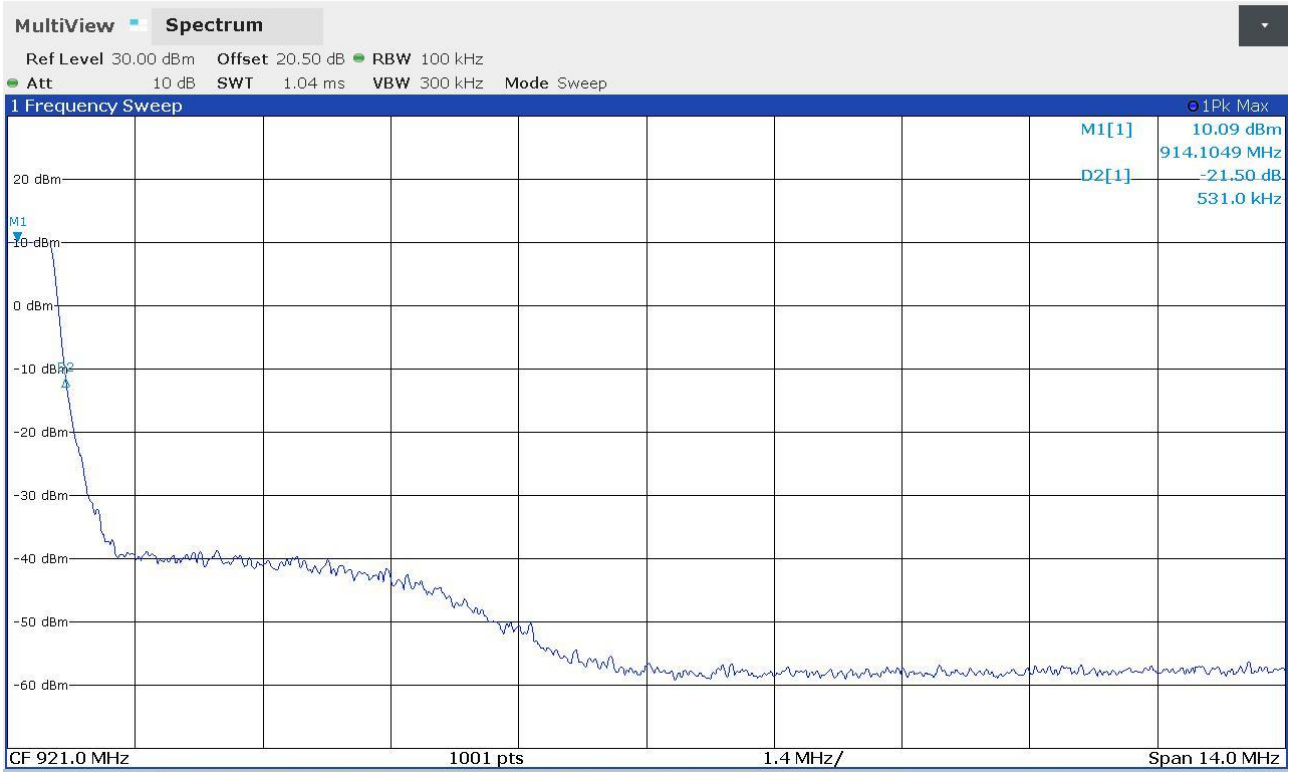
CMC Centro Misure Compatibilità S.r.l.

Graphs

Gandini 20181560

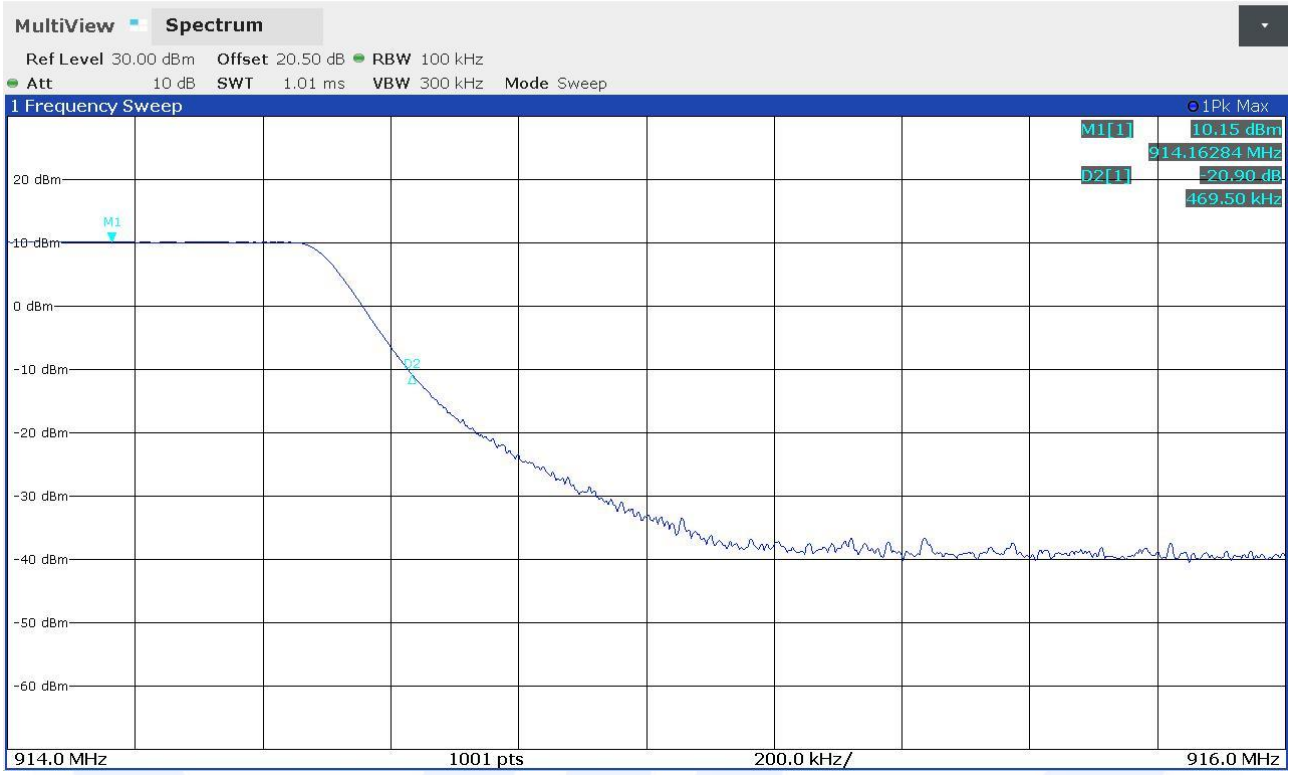


Gandini 20181575



CMC Centro Misure Compatibilità S.r.l.

Gandini 20181576

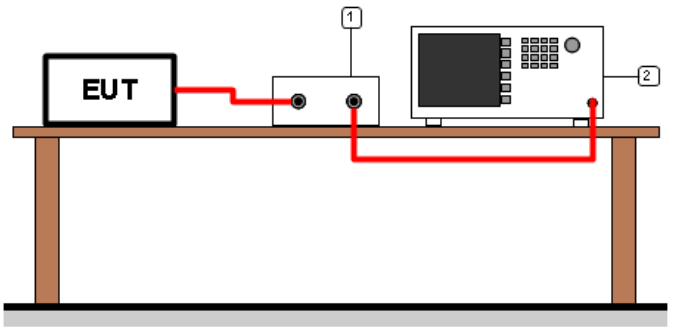


9.6 Fundamental emission output power

Tested by ..... :	G. Gandini
Test date ..... :	08.01.2021
Test location (stand) ..... :	Laboratory
Reference standards ..... :	FCC Rules and Regulation; Titles 47 Part 15.247 (b) (3) ANSI C63.10 cl. 11.9.1.1 KDB 558074 D01 DTS Meas Guidance v05r02 cl. 8.3.1.1
Supplementary information..... :	--

Acceptance limits
For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt

Test setup



Test setup PR002_01				
Nr.	*Id. Number*	*Manufacturer*	*Model*	*Description*
2	CMC S295	Rohde & Schwarz	FSW43	Spectrum Analyzer 43GHz
1	--	--	--	Cable + attenuator (calibrated before the test)

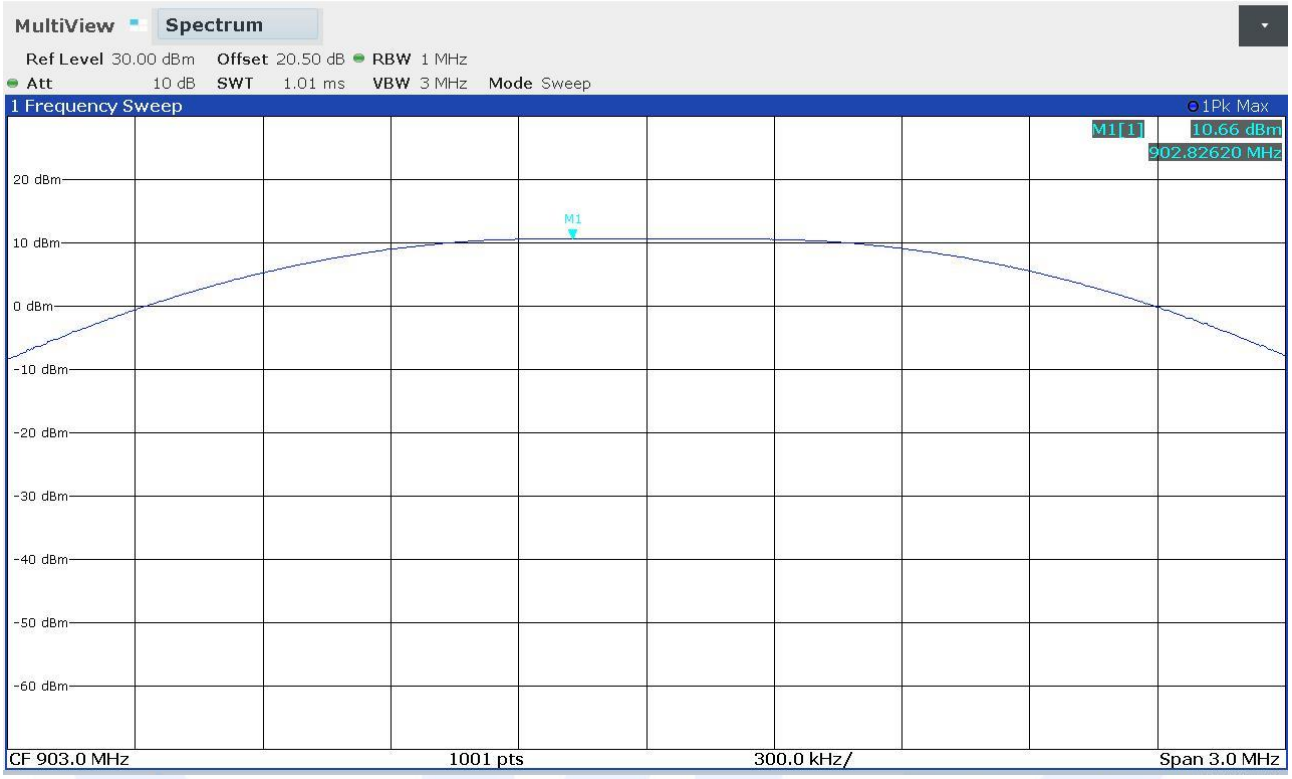
Result

Frequency (MHz)	*Graphs*	*Peak Output Power (dBm)*	*Peak Output Power (mW)*	*Limit (mW)*
903,00	G20181559	10,66	11,64	1000
907,80	G20181567	10,17	10,40	1000
914,20	G20181574	10,19	10,45	1000

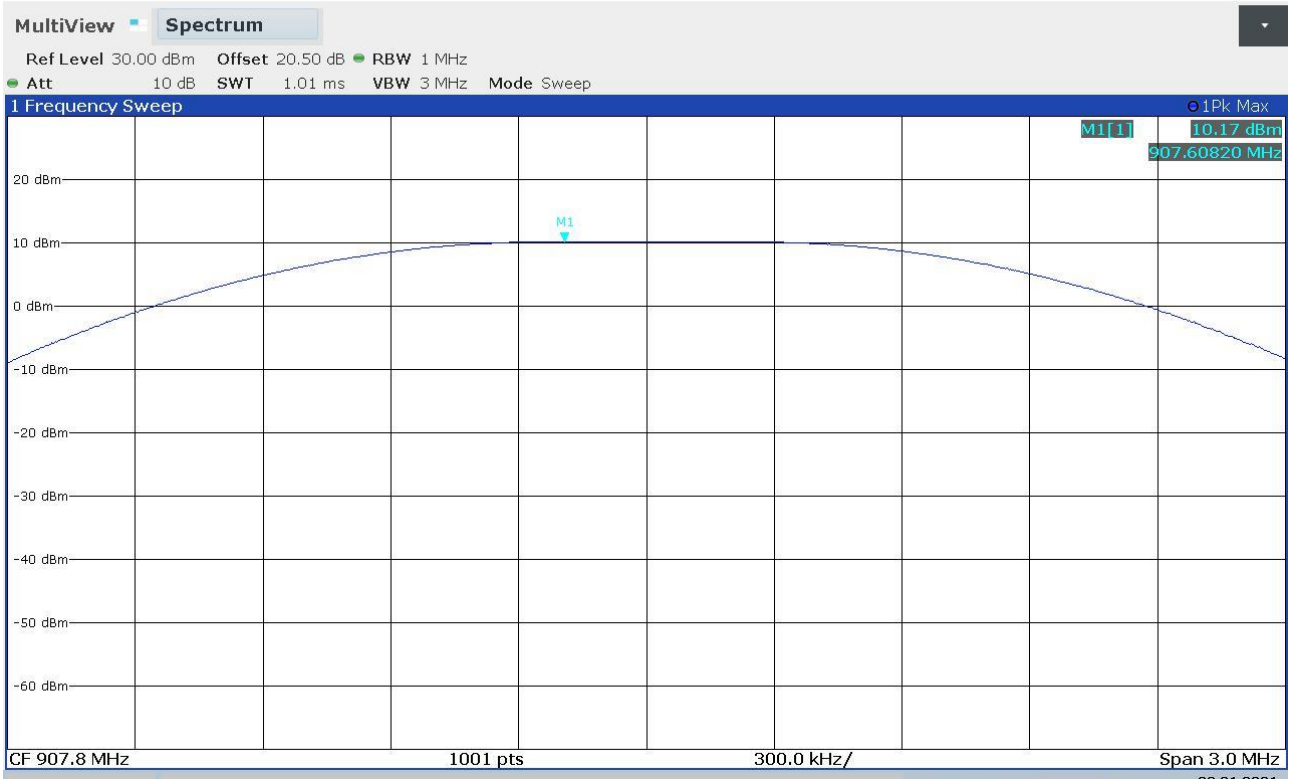
CMC Centro Misure Compatibilità S.r.l.

Graphs

Gandini 20181559

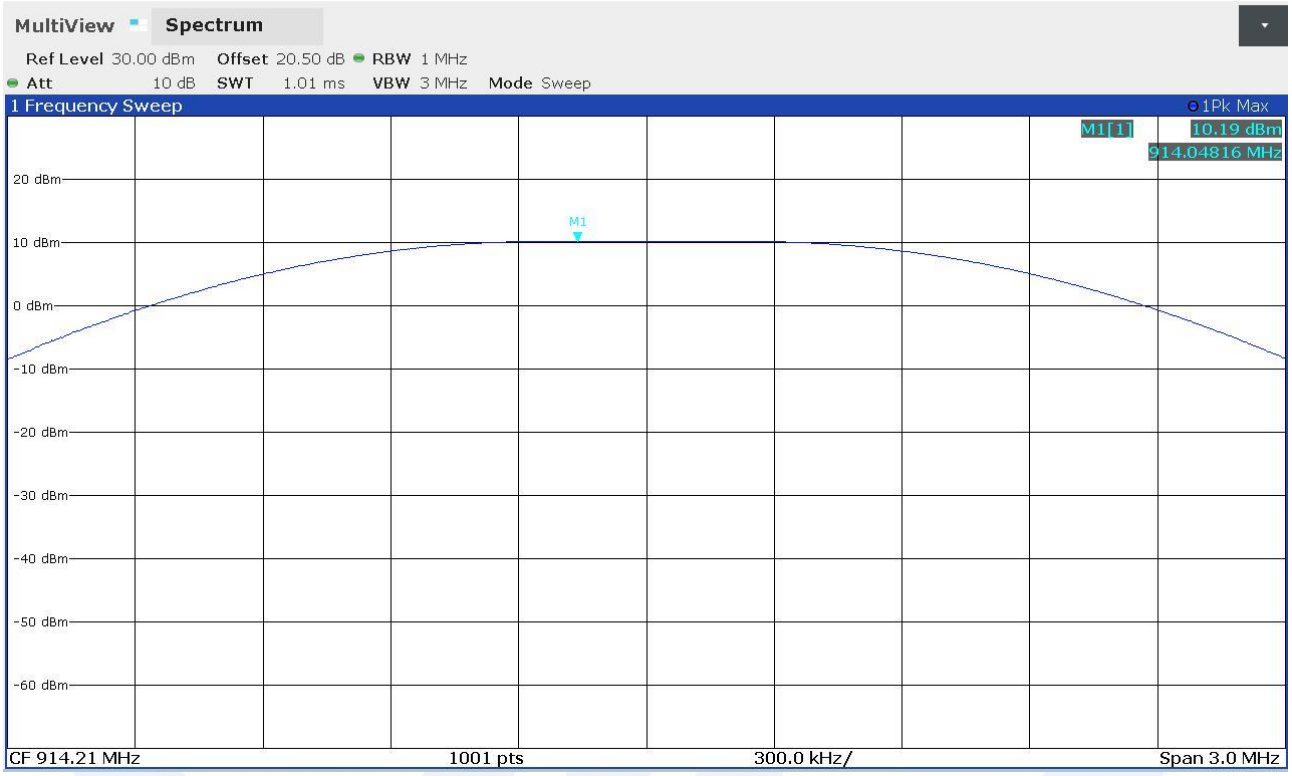


Gandini 20181567



CMC Centro Misure Compatibilità S.r.l.

Gandini 20181574



CMC Centro Misure Compatibilità S.r.l.

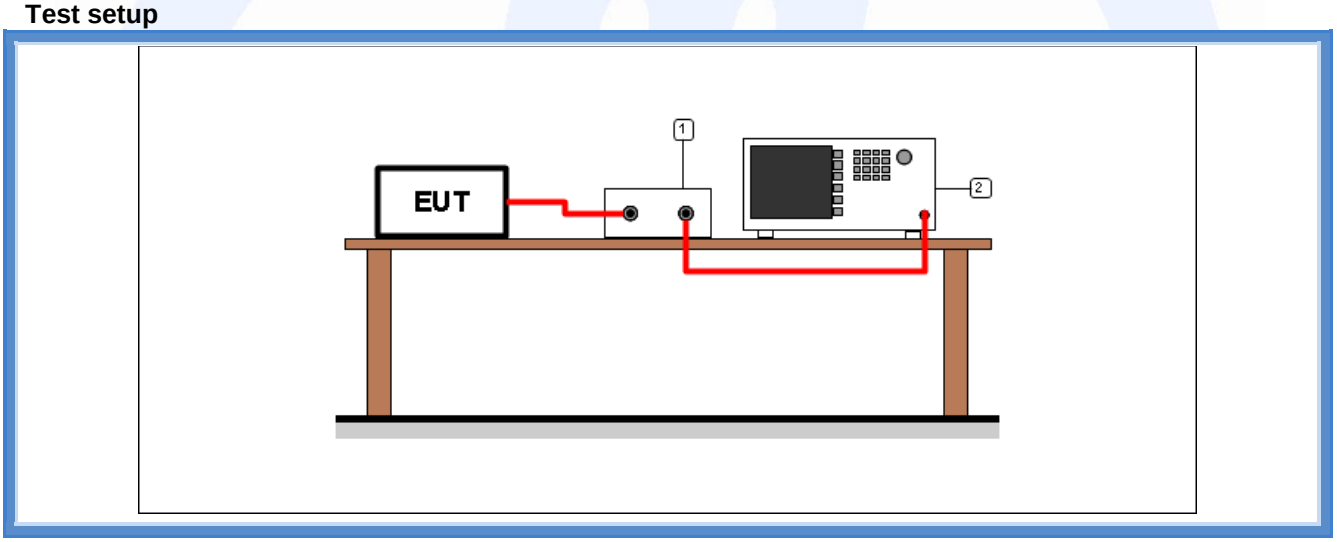
9.7 Maximum power spectral density level in the fundamental emission

Tested by ..... :	G. Gandini
Test date ..... :	08.01.2021
Test location (stand) ..... :	Laboratory
Reference standards ..... :	FCC Rules and Regulation; Titles 47 Part 15.247 (e) ANSI C63.10 cl. 11.10.2 KDB 558074 D01 DTS Meas Guidance v05r02 cl. 8.4
Supplementary information..... :	--

Acceptance limits

Frequency Range	*Power Spectral Density*
902 – 928 MHz	8 dBm/3 kHz 6,31 mW/3 kHz

Test setup



Test setup PR002_01				
Nr.	*Id. Number*	*Manufacturer*	*Model*	*Description*
2	CMC S295	Rohde & Schwarz	FSW43	Spectrum Analyzer 43GHz
1	--	--	--	Cable + attenuator (calibrated before the test)

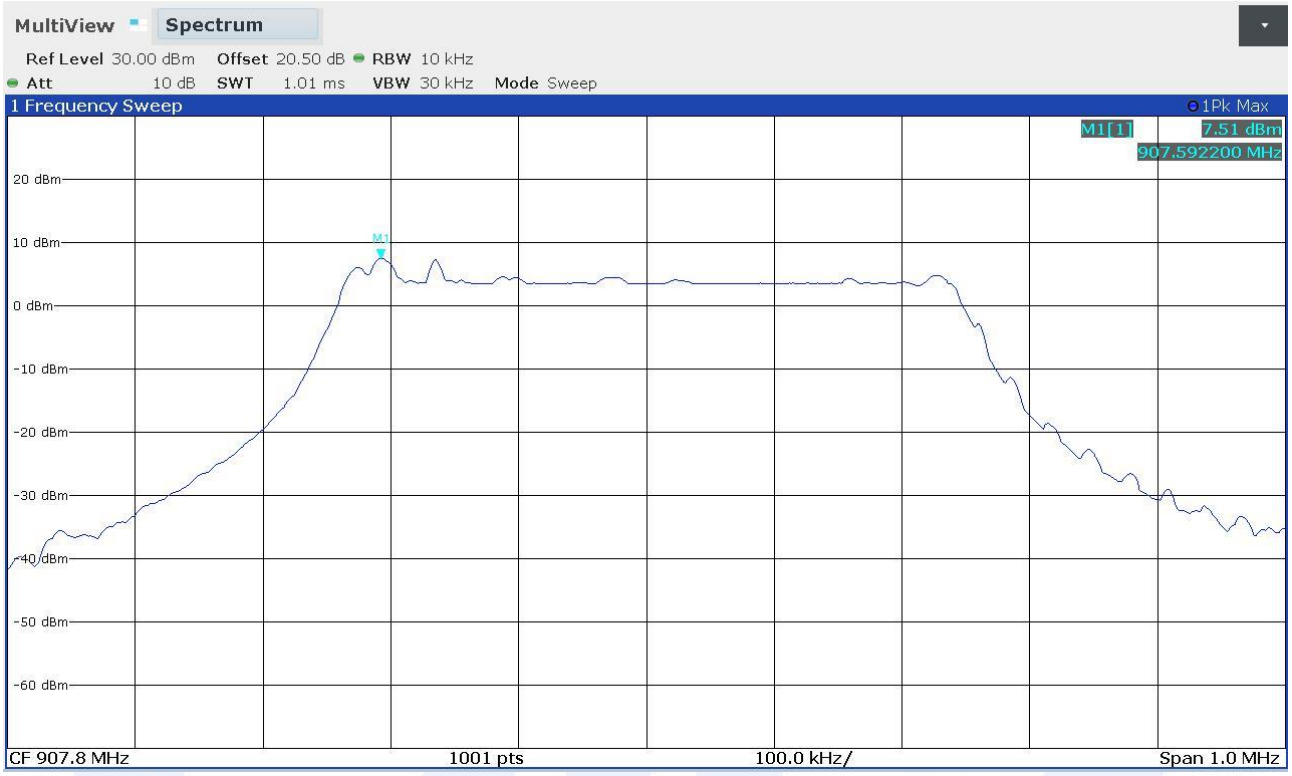
Result

Frequency (MHz)	*Graphs*	*RBW (kHz)*	*Measured level (dBm/3 kHz)*	*Limits (dBm/3 kHz)*
903,00	G20181569	10	8,44	8,00
907,80	G20181565	10	7,51	8,00
914,20	G20181572	10	7,77	8,00

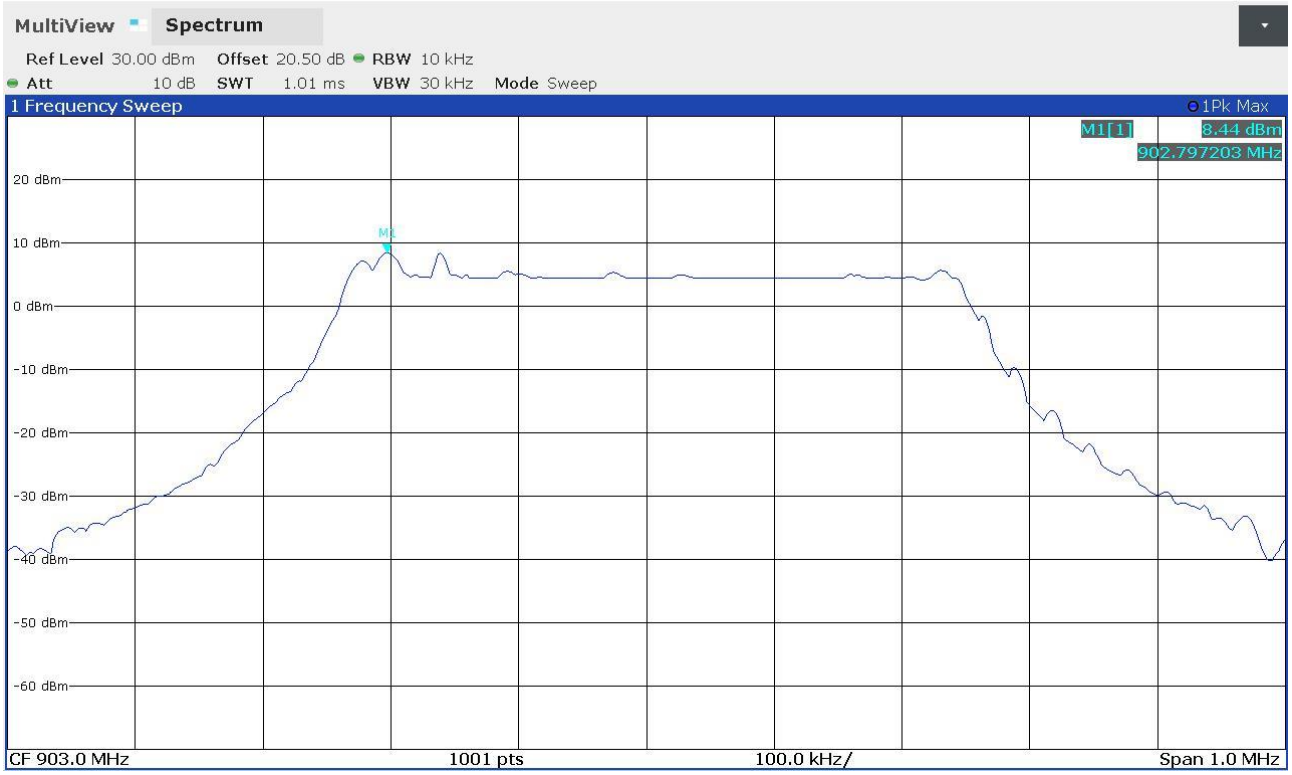
CMC Centro Misure Compatibilità S.r.l.

Graphs

Gandini 20181565



Gandini 20181569



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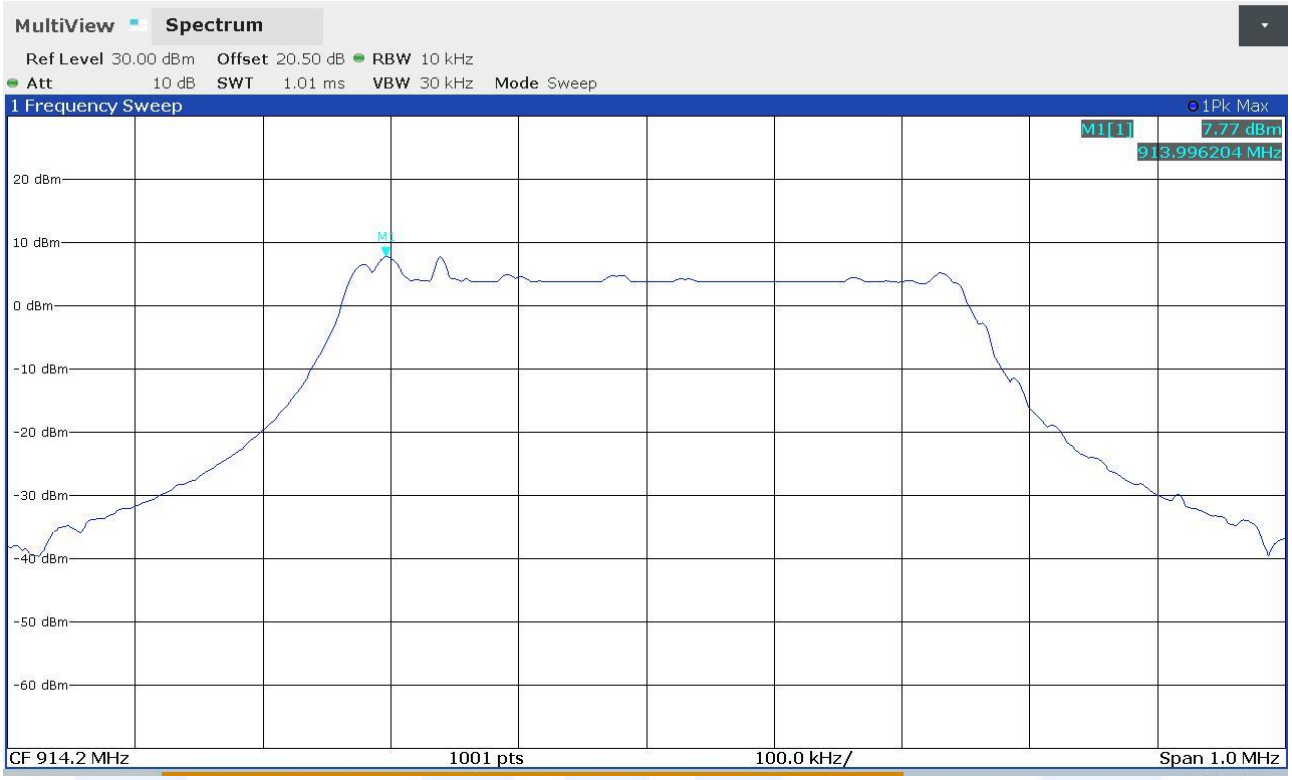
Gandini 20181572



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Attachment 1

Instruments list

Id. number	*Manufacturer*	*Model*	*Description*	*Serial number*	*Last calibration*	*Due date calibration*
CMC S010	Rohde & Schwarz	ESH3-Z2	Impulses Limiting Device	- - -	January '20	January '21
CMC S108	EMCO	3115	Horn Antenna	9811-5622	June '19	June '22
CMC S127	Schaffner	HLA6120	Loop Antenna	1191	November '18	November '23
CMC S164	Rohde & Schwarz	ESU26	EMC interference receiver	100052	January '20	January '21
CMC S200	Schwarzbeck	NSLK 8128	V-LISN	8128-273	January '20	January '21
CMC S206	Rohde & Schwarz	ESCI 7	EMC Receiver 9KHz-7GHz	100781	January '20	January '21
CMC S260	CMC	Wfr_N	Shielded Cable	Wfr_ant10-1	November '20	November '21
CMC S261	CMC	Wfr_N	Shielded Cable	Wfr_ant20-1	November '20	November '21
CMC S262	CMC	Wfr_N_fix	Shielded Cable	Wfr_fix32-1	November '20	November '21
CMC S263	CMC	Wfr_N_fix	Shielded Cable	Wfr_fix31-1	November '20	November '21
CMC S264	CMC	Wfr_N	Shielded Cable	Wfr_ext03-1	November '20	November '21
CMC S271	Schwarzbeck	BBA 9106 + VHBB 9124	Biconical Antenna (30-300MHz)	831	June '19	June '22
CMC S287	Schwarzbeck	VUSLP 9111B	Log-periodic Antenna (200 MHz-3Ghz)	9111B-203	June '19	June '22
CMC S288	CMC	W_sma_white	Joint Shielded Cable	W_001	November '20	November '21
CMC S295	Rohde & Schwarz	FSW43	Spectrum Analyzer 43GHz	104059	November '19	November '22

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Attachment 1

Measurement uncertainty

Test	*Test Setup*	*Expanded uncertainty*	*Note*
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	3,0 dB	1
Conducted emission CISPR 16 Voltage Probe 0,15-30 MHz	PE001_02	2,9 dB	1
Conducted emission CISPR 16 Current Probe 0,15-30 MHz	PE001_03	2,6 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	3,6 dB	1
Radiated Emission LAS 0,15-30 MHz	PE003_01	2,0 dB	1
Radiated Emission CISPR 16 Loop Ant. 0,15-30 MHz	PE004_01	4,0 dB	1
Radiated Emission CISPR 16 Bicon. Ant. 30-300 MHz	PE004_02	3,9 dB	1
Radiated Emission CISPR 16 LogP. Ant. 300-1000 MHz	PE004_03	3,8 dB	1
Radiated Emission CISPR 16 Horn Ant. 1-18 GHz	PE004_04	4,2 dB	1
Human Exposure to electromagnetic fields	PE005_01	23,6 %	1
Harmonics	PE006_01	10 mA + 2,6 %	1
Flicker	PE007_01	4,79 %	1
Radiated Immunity 80 MHz - 6 GHz	PE102_XX	1,95 dB 0,75 V/m a 3V/m	1
Conducted Immunity 0,15 - 230 MHz	PE105_XX	1,20 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 % 18,7 A/m a 300A/m	1
Dumped Magnetic field	PE108_01	6,25 % 1,87 A/m a 30A/m	1
Common mode conducted immunity	PE112_01	2,21 % 0,22 V a 10V	1

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Attachment 1

Test	Test Setup	Expanded uncertainty	Note
Power/Spurious 9kHz-30MHz	PR001_01	4,0 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	5,4 dB	1
Frequency error	PR002_01+02	< 1x10-7	1
Timing zero span (1001pts.)	PR002_01+02	0,2 % SWT	1
Modulation bandwidth	PR002_01+02	< 1x10-7	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 Oscillotary immunity test	PE113_01		2
Rev_20_02 date 24/02/2020			

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

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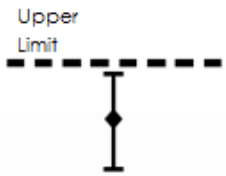
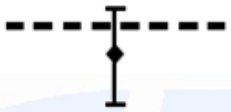
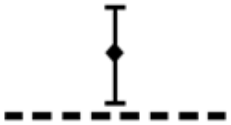
Attachment 1

Judgement of compliance

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

In agreement with ILAC-G8: 03/2009 Guidelines on the Reporting of Compliance with Specification

Quality manual references – Internal procedure

Internal Procedure PM001 rev. 3.0 (Quality Manual)	Measure procedure
Internal Procedure INC_M rev. 9.1 (Quality Manual)	Measurement uncertainty calculation

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