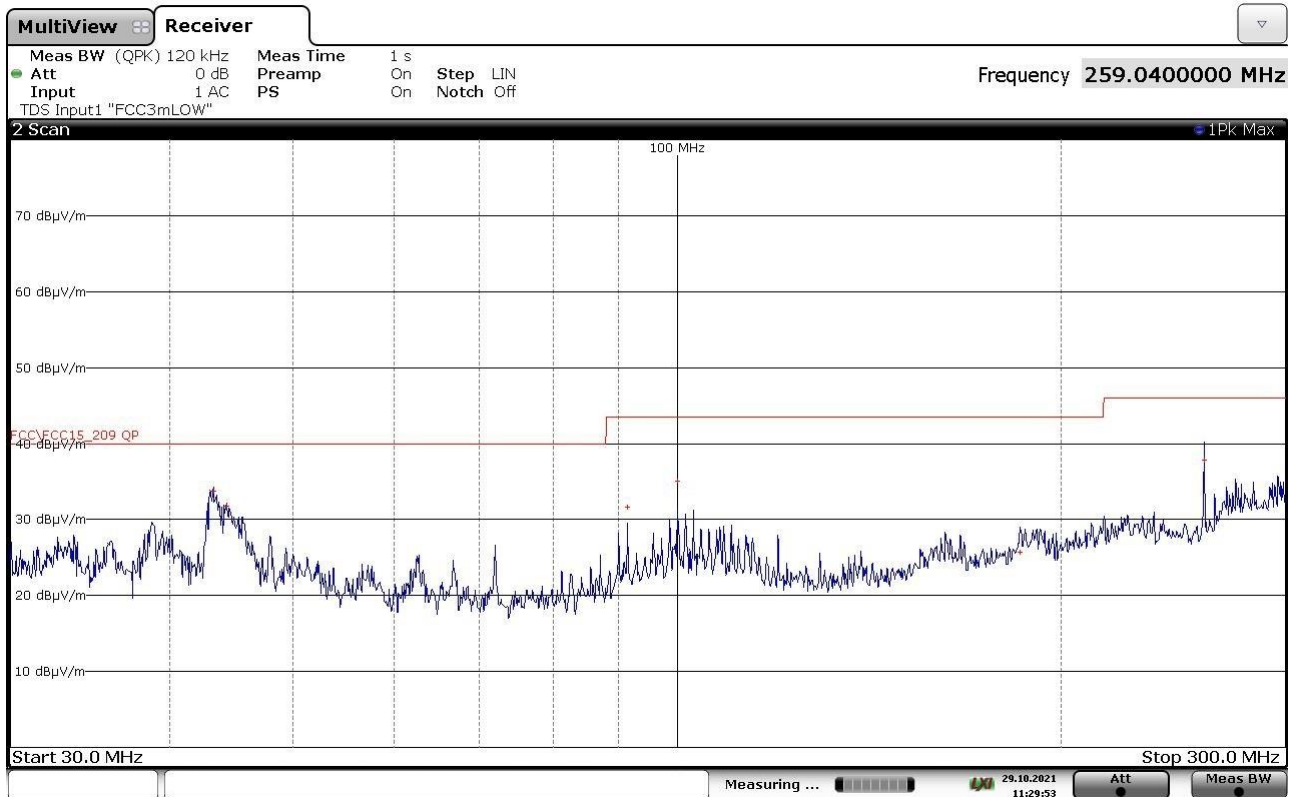


Segalla 21247027

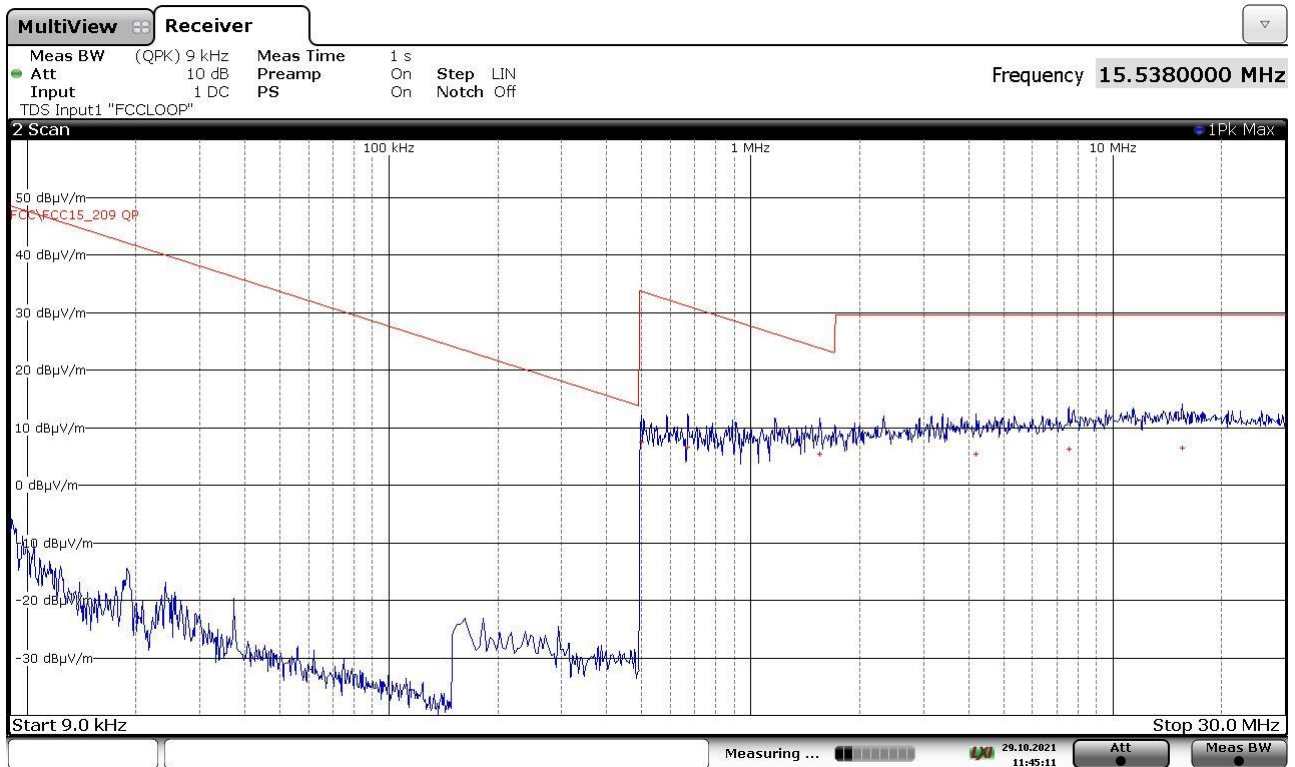


FINAL RESULT TABLE

QUASI PEAK		
Freq Hz	Lev dBuV/m	Margin dB
43280000	+33,69	-6,31
44320000	+31,78	-8,22
91400000	+31,67	-11,85
100080000	+35,00	-8,52
185680000	+25,72	-17,80
259040000	+37,79	-8,23

21247027_2

Segalla 21247028

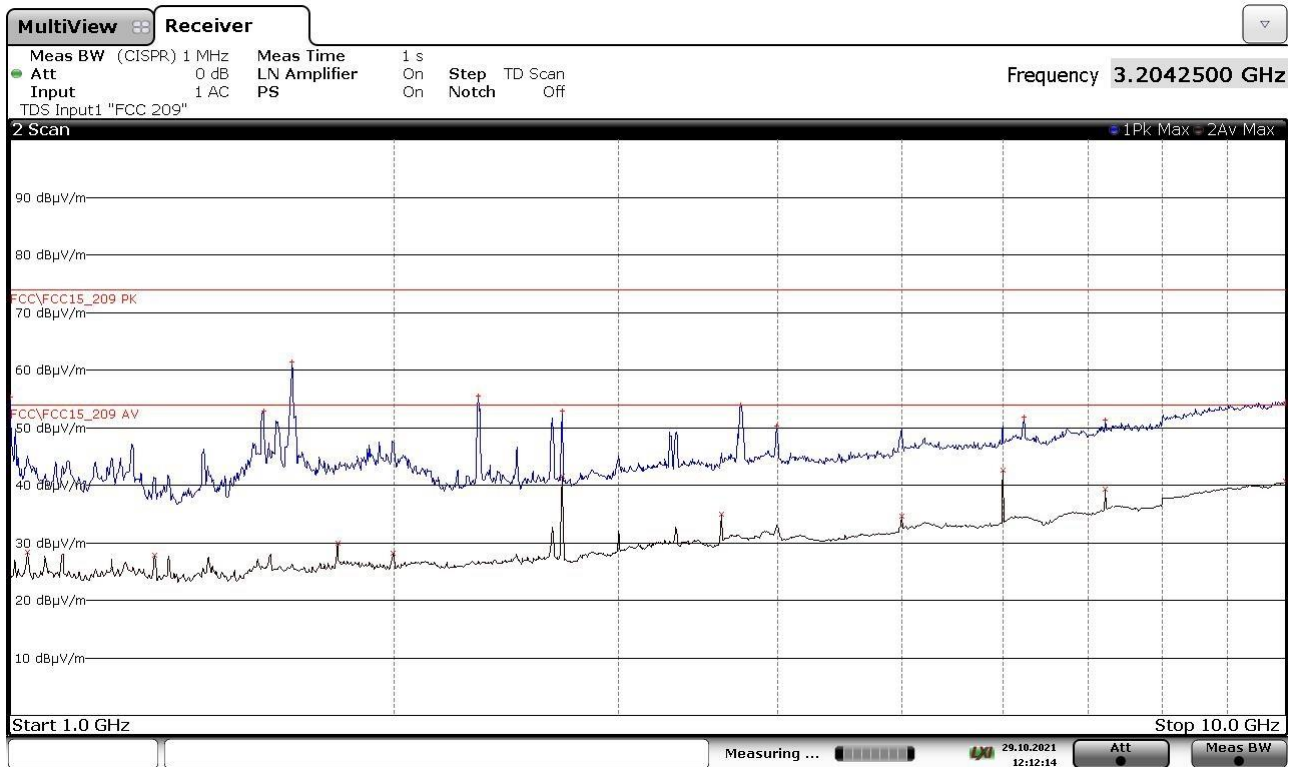


FINAL RESULT TABLE

QUASI PEAK		
Freq Hz	Lev dBuV/m	Margin dB
498000	+7,48	-26,18
670000	+6,56	-24,52
1550000	+5,43	-18,37
4190000	+5,37	-24,17
7554000	+6,27	-23,27
15538000	+6,39	-23,15

21247028_2

Segalla 21247029

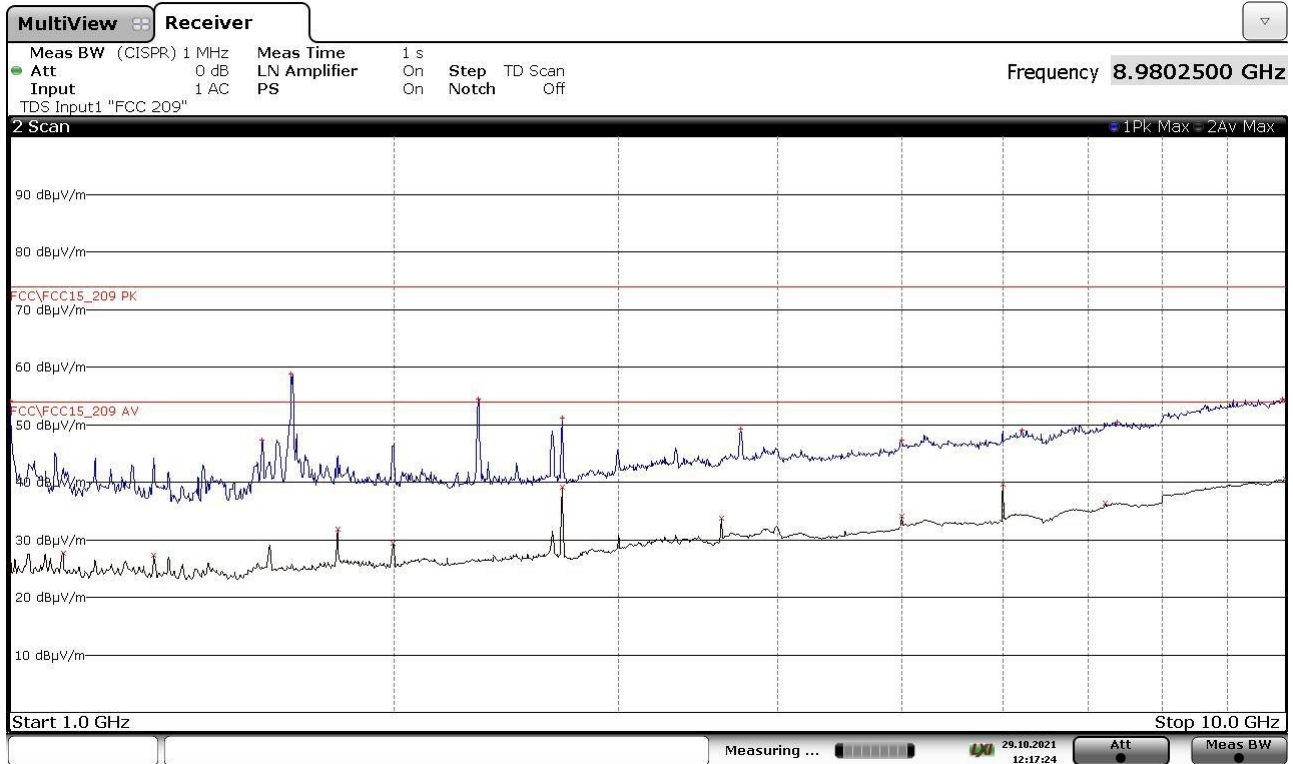


FINAL RESULT TABLE

MAX PEAK			AVERAGE		
Freq Hz	Lev dBuV/m	Margin dB	Freq Hz	Lev dBuV/m	Margin dB
1000000000	+55,34	-18,64	1031250000	+28,38	-25,60
1579500000	+52,90	-21,08	1297000000	+27,78	-26,20
1663250000	+61,44	-12,54	1805500000	+29,90	-24,08
2327250000	+55,40	-18,58	1996750000	+28,24	-25,74
2708250000	+52,94	-21,04	2708250000	+41,62	-12,36
3735250000	+53,96	-20,02	3611000000	+34,91	-19,07
3988250000	+50,24	-23,74	4999750000	+34,54	-19,44
6238000000	+51,90	-22,08	6000000000	+42,53	-11,45
7222250000	+51,23	-22,75	7222000000	+39,32	-14,66
9997500000	+54,47	-19,51	9997500000	+40,61	-13,37

21247029_2

Segalla 21247030

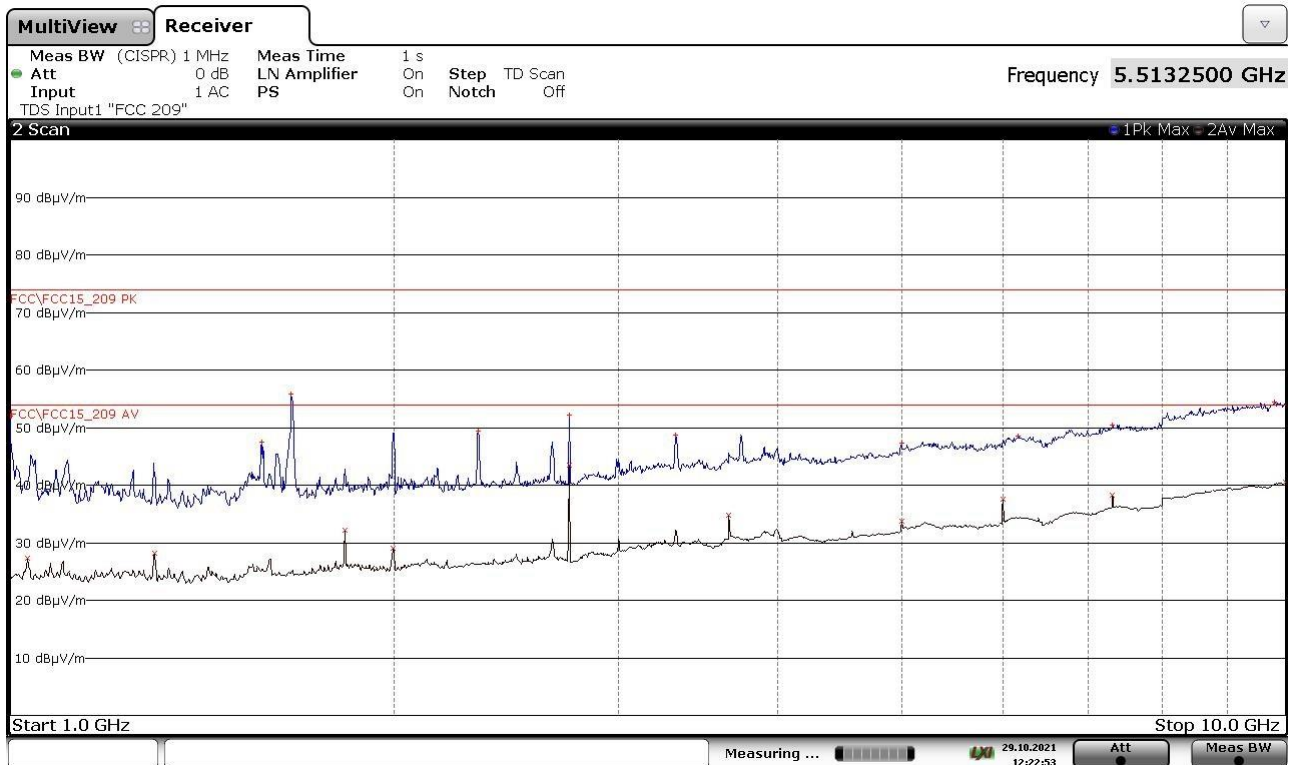


FINAL RESULT TABLE

MAX PEAK			AVERAGE		
Freq Hz	Lev dBuV/m	Margin dB	Freq Hz	Lev dBuV/m	Margin dB
1000000000	+54,01	-19,97	1099750000	+27,62	-26,36
1575750000	+47,30	-26,68	1295000000	+27,34	-26,64
1660250000	+58,80	-15,18	1805500000	+31,75	-22,23
2327750000	+54,37	-19,61	1996500000	+29,34	-24,64
2708250000	+51,08	-22,90	2708250000	+39,10	-14,88
3736500000	+49,25	-24,73	3611000000	+33,72	-20,26
4999500000	+47,36	-26,62	4999750000	+34,01	-19,97
6210000000	+49,06	-24,92	6000000000	+39,58	-14,40
7374250000	+50,37	-23,61	7220000000	+36,40	-17,58
9948000000	+54,42	-19,56	9998000000	+40,55	-13,43

21247030_2

Segalla 21247031

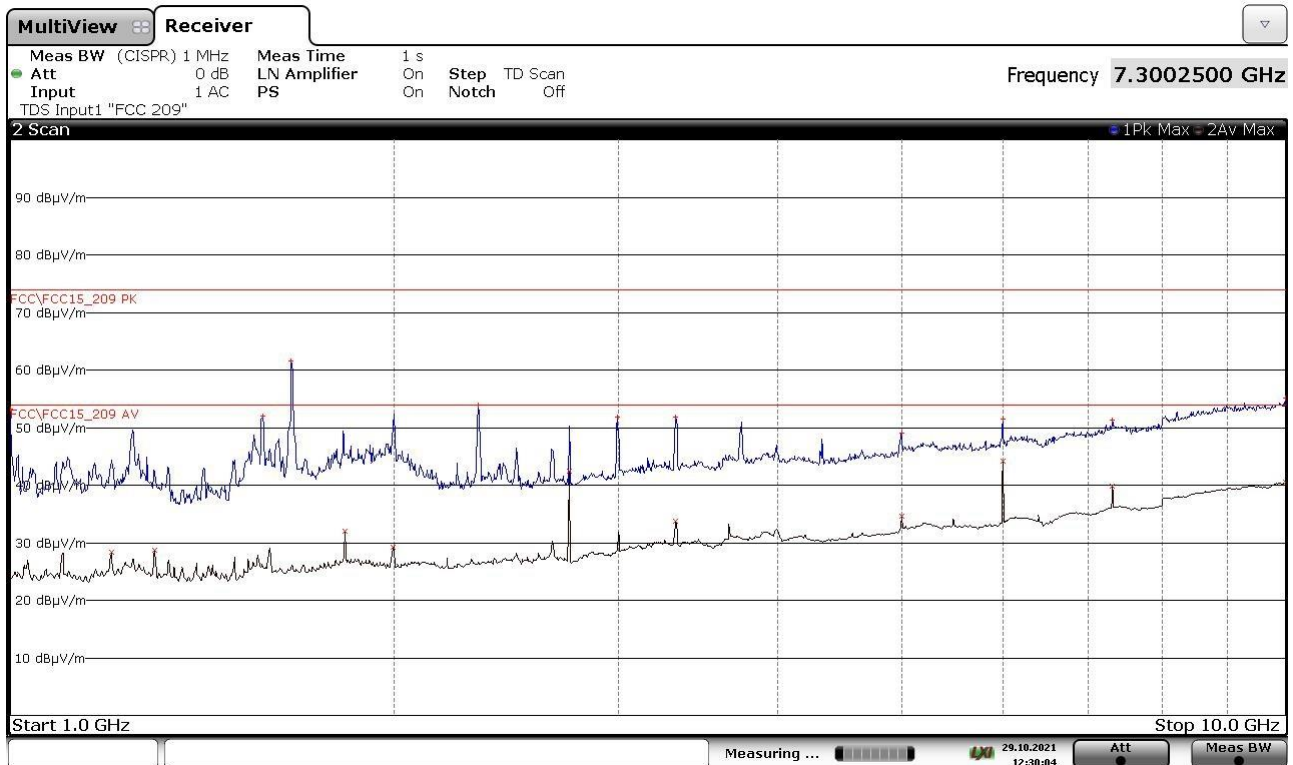


FINAL RESULT TABLE

MAX PEAK			AVERAGE		
Freq Hz	Lev dBuV/m	Margin dB	Freq Hz	Lev dBuV/m	Margin dB
1000000000	+51,94	-22,04	1031500000	+27,30	-26,68
1573500000	+47,42	-26,56	1296750000	+28,23	-25,75
1660000000	+55,74	-18,24	1829500000	+32,25	-21,73
2325250000	+49,41	-24,57	1996500000	+29,05	-24,93
2744250000	+52,21	-21,77	2744250000	+43,41	-10,57
3324750000	+48,68	-25,30	3659000000	+34,70	-19,28
4998500000	+47,25	-26,73	4999750000	+33,74	-20,24
6174250000	+48,52	-25,46	6000000000	+37,59	-16,39
7318000000	+50,50	-23,48	7318000000	+38,31	-15,67
9797500000	+54,46	-19,52	9997250000	+40,53	-13,45

21247031_2

Segalla 21247032

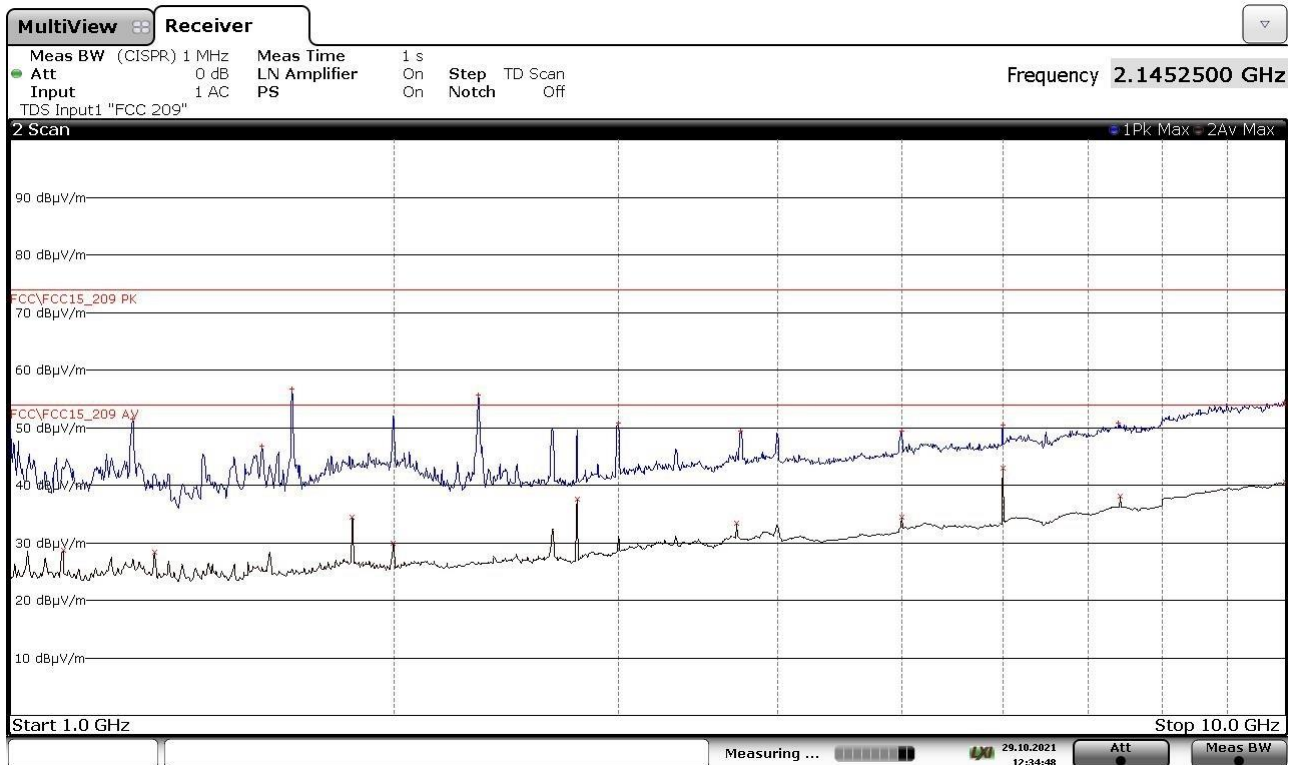


FINAL RESULT TABLE

MAX PEAK			AVERAGE		
Freq Hz	Lev dBuV/m	Margin dB	Freq Hz	Lev dBuV/m	Margin dB
1000000000	+53,30	-20,68	1200000000	+28,28	-25,70
1577000000	+51,93	-22,05	1297000000	+28,74	-25,24
1659250000	+61,52	-12,46	1829500000	+32,03	-21,95
2327000000	+53,99	-19,99	1996500000	+29,30	-24,68
2990500000	+51,88	-22,10	2744250000	+42,51	-11,47
3325250000	+51,79	-22,19	3325000000	+33,72	-20,26
4998250000	+49,11	-24,87	4999750000	+34,54	-19,44
6000250000	+51,55	-22,43	6000000000	+44,12	-9,86
7318000000	+51,27	-22,71	7318000000	+39,91	-14,07
10000000000	+55,17	-18,81	9996250000	+40,54	-13,44

21247032_2

Segalla 21247033

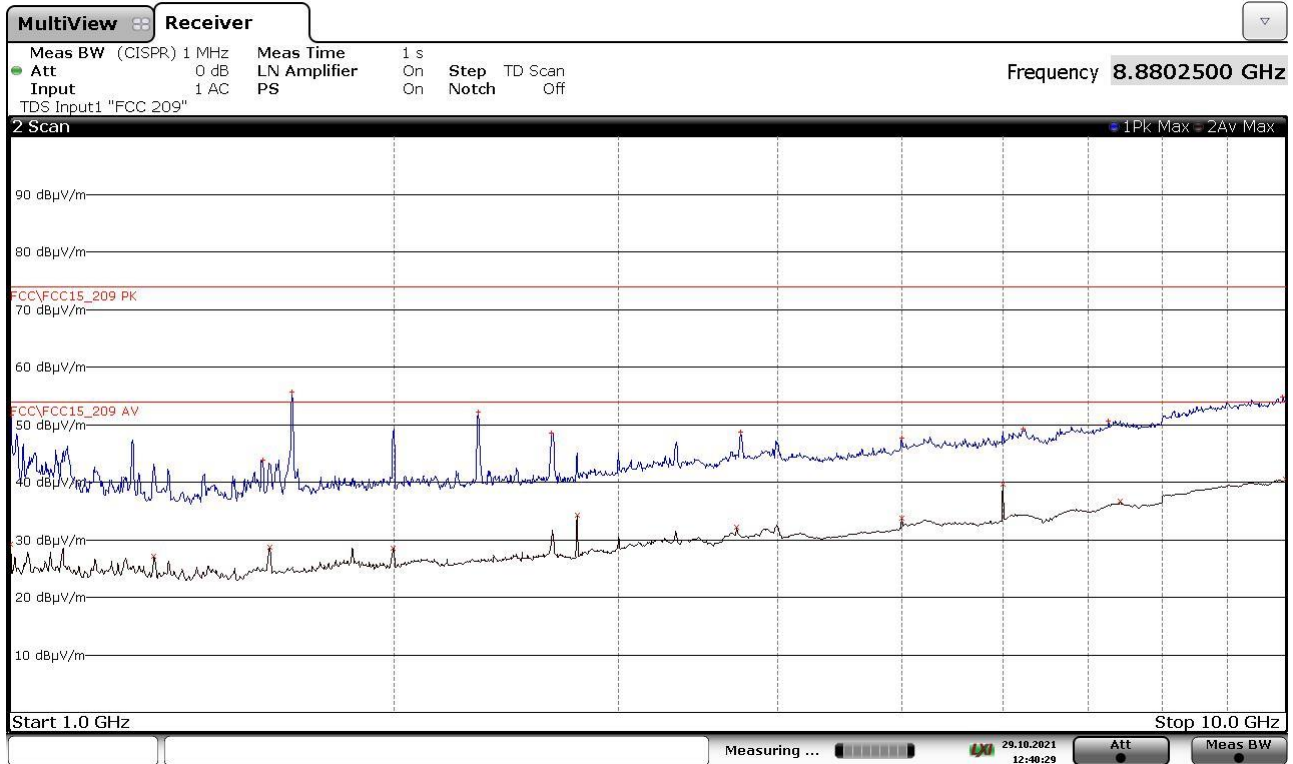


FINAL RESULT TABLE

MAX PEAK			AVERAGE		
Freq Hz	Lev dBuV/m	Margin dB	Freq Hz	Lev dBuV/m	Margin dB
1246250000	+51,40	-22,58	1099750000	+28,75	-25,23
1575250000	+46,81	-27,17	1297000000	+28,30	-25,68
1662250000	+56,78	-17,20	1854500000	+34,38	-19,60
2329000000	+55,58	-18,40	1996500000	+29,87	-24,11
2999750000	+50,77	-23,21	2781750000	+37,60	-16,38
3738750000	+49,37	-24,61	3709000000	+33,37	-20,61
4998500000	+49,46	-24,52	4999750000	+34,44	-19,54
5999750000	+50,44	-23,54	6000000000	+42,91	-11,07
7396250000	+50,76	-23,22	7418000000	+38,17	-15,81
9976750000	+54,49	-19,49	9998000000	+40,58	-13,40

21247033_2

Segalla 21247034



FINAL RESULT TABLE

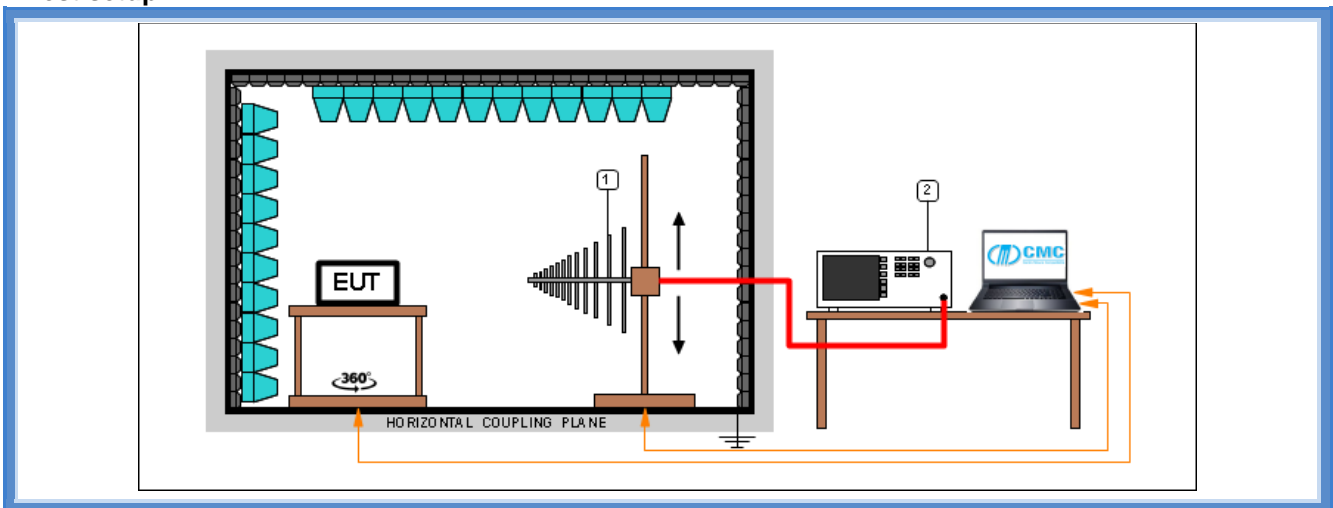
MAX PEAK			AVERAGE		
Freq Hz	Lev dBuV/m	Margin dB	Freq Hz	Lev dBuV/m	Margin dB
1001250000	+51,58	-22,40	1000000000	+29,21	-24,77
1578000000	+43,86	-30,12	1295000000	+27,19	-26,79
1661500000	+55,62	-18,36	1597000000	+28,71	-25,27
2325750000	+52,14	-21,84	1996500000	+28,57	-25,41
2656000000	+48,54	-25,44	2781750000	+34,21	-19,77
3739000000	+48,63	-25,35	3709000000	+32,25	-21,73
4998750000	+47,72	-26,26	4999750000	+33,81	-20,17
6224000000	+49,25	-24,73	6000000000	+39,59	-14,39
7261750000	+50,62	-23,36	7418000000	+36,77	-17,21
9951000000	+54,76	-19,22	9996750000	+40,51	-13,47

21247034_2

9.4 20 dB bandwidth

Tested by	M. Segalla
Test date	29.10.2021
Test location (stand)	Semi-anechoic chamber (CMC A070)
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 PE004_03

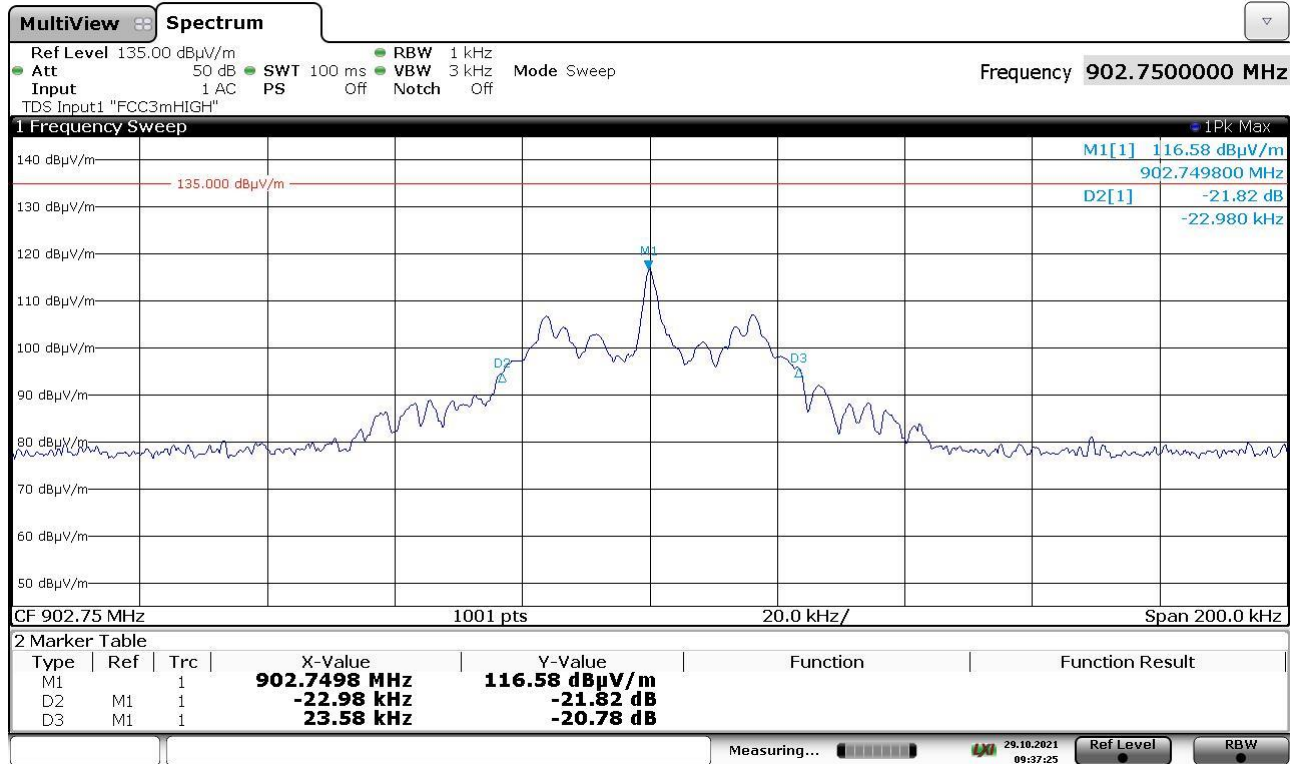
Nr.	Id. Number	Manufacturer	Model	Description
2	CMC S353	Rohde & Schwarz	ESW26	EMI Test Receiver 1 Hz - 26.5 GHz
1	CMC S287	Schwarzbeck	VUSLP 9111B	Broadband Antenna

Result

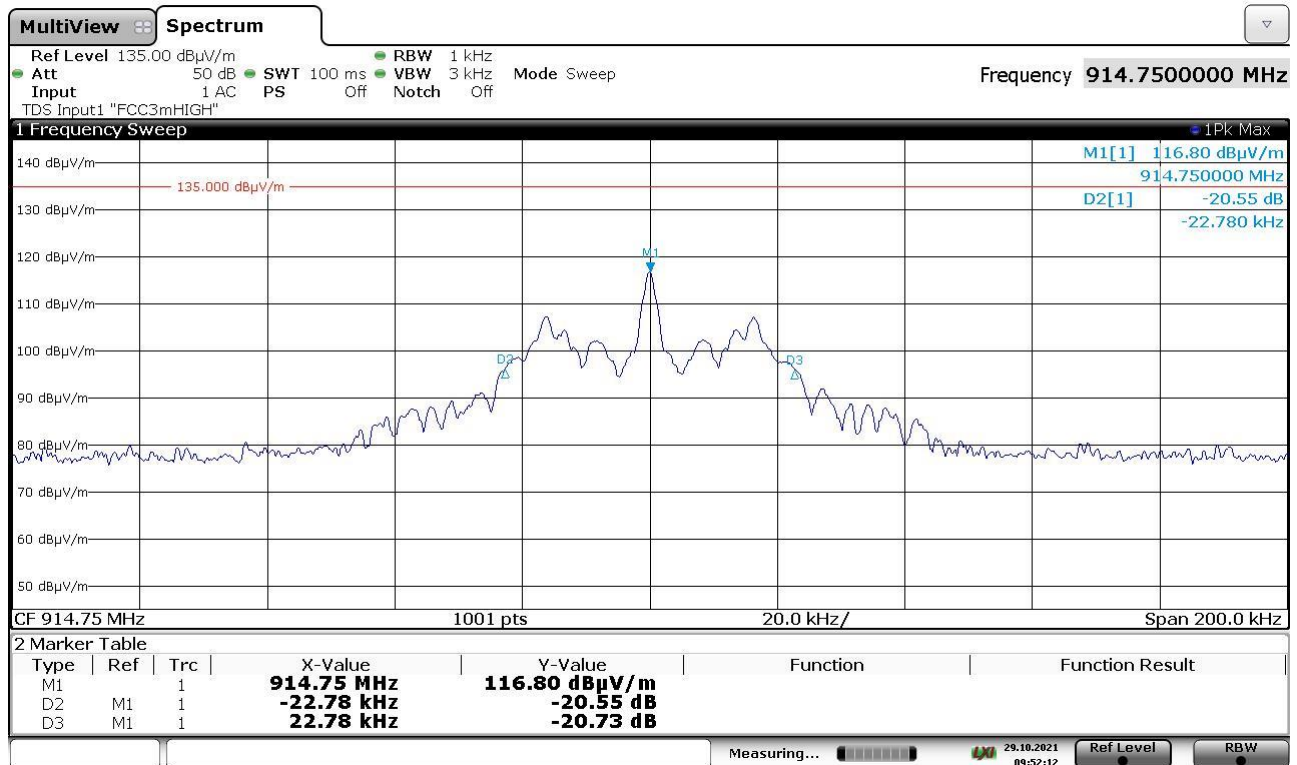
Frequency (MHz)	Graphs	20 dB bandwidth (kHz)
902,75	G21247001	46,56
914,75	G21247005	45,56
927,25	G21247008	45,76

Graphs

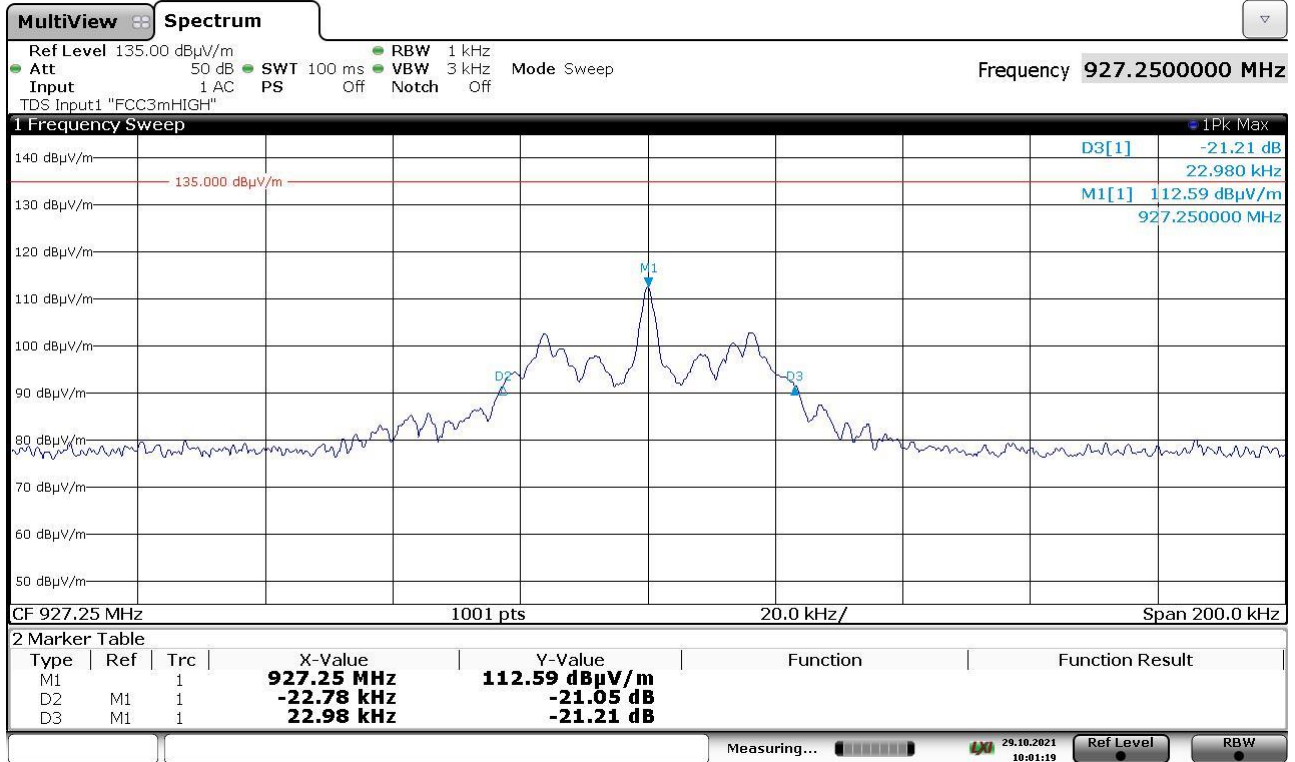
Segalla 21247001



Segalla 21247005



Sega11a 21247008



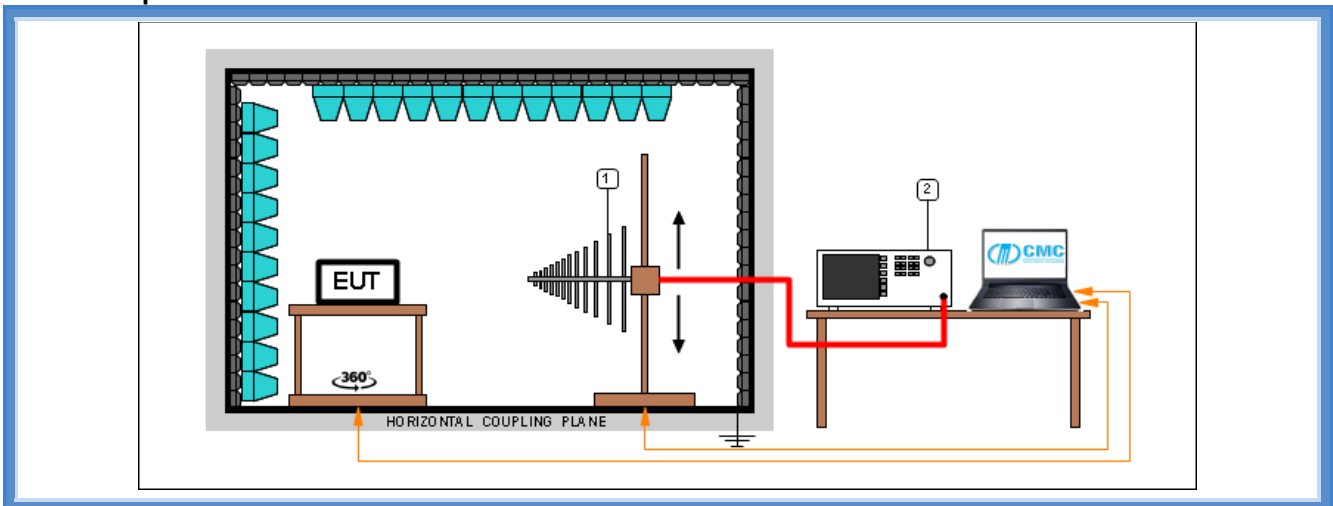
9.5 Channel separation

Tested by	M. Segalla
Test date	29.10.2021
Test location (stand)	Semi-anechoic chamber (CMC A070)
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 PE004_03

Nr.	Id. Number	Manufacturer	Model	Description
2	CMC S353	Rohde & Schwarz	ESW26	EMI Test Receiver 1 Hz - 26.5 GHz
1	CMC S287	Schwarzbeck	VUSLP 9111B	Broadband Antenna

Result

Frequency band (MHz)	Graphs	Channel separation (kHz)	Minimum channel separation required (kHz)	Results
902 – 928	G21247014	499,50	25	Complies

Graphs

Sega11a 21247014



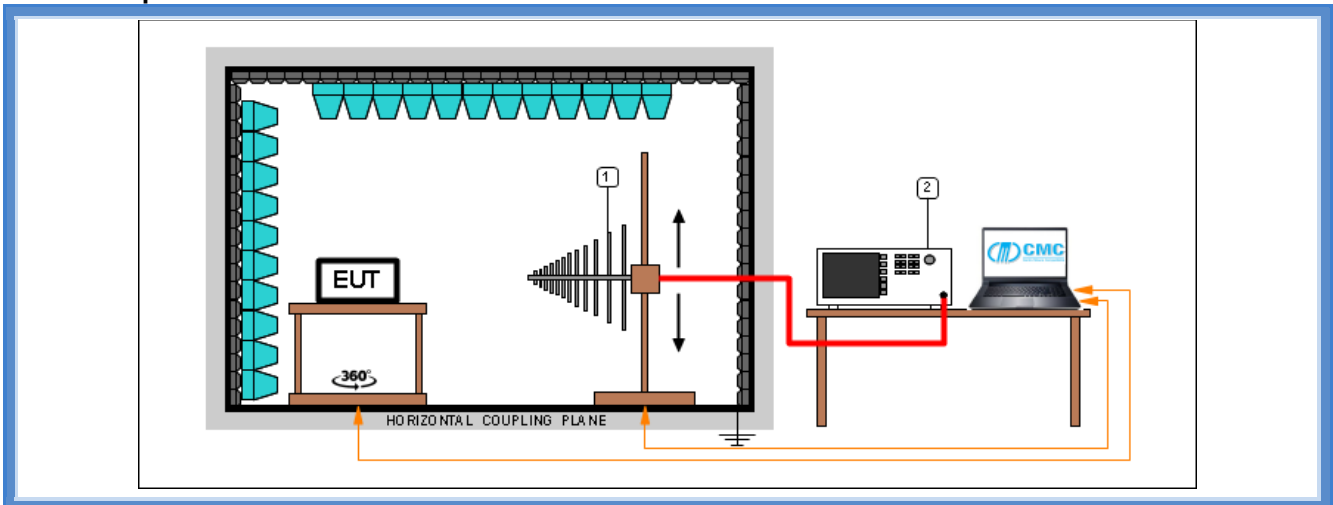
9.6 Number of hopping channels

Tested by	M. Segalla
Test date	29.10.2021
Test location (stand)	Semi-anechoic chamber (CMC A070)
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 PE004_03

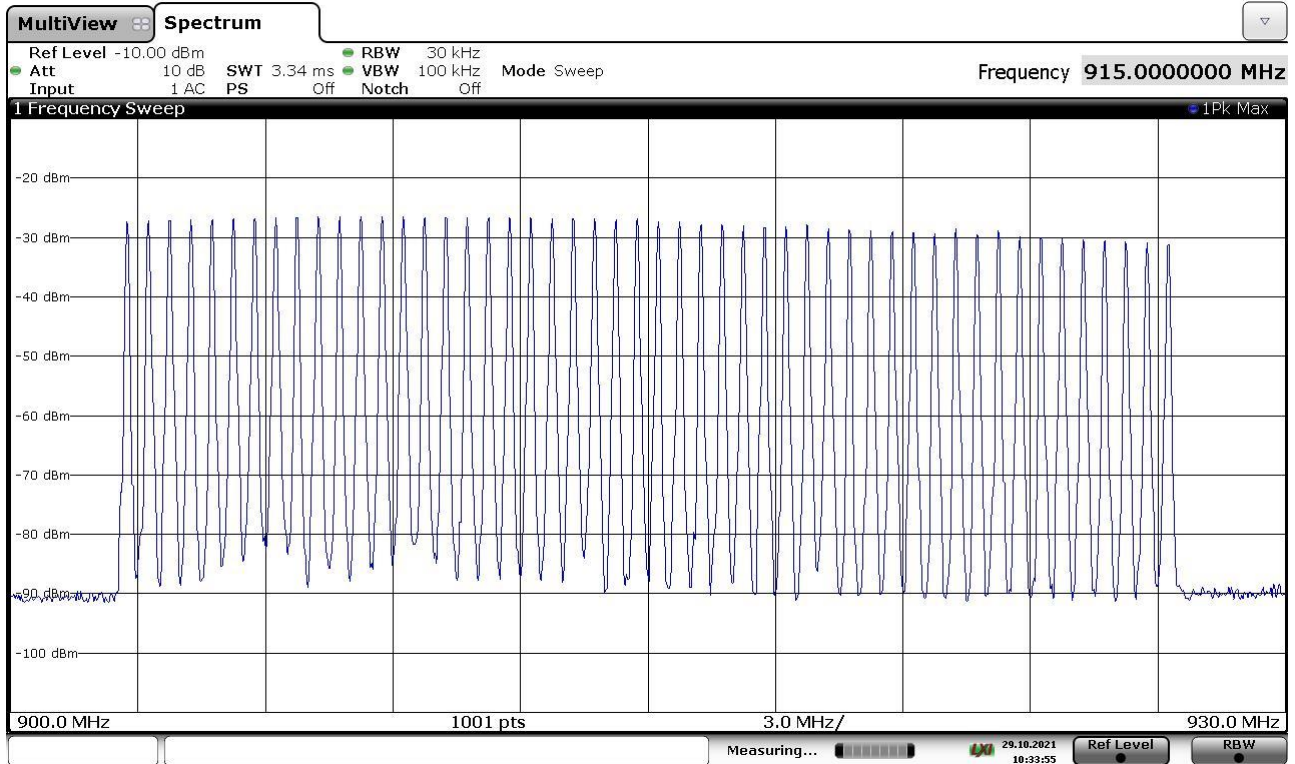
Nr.	Id. Number	Manufacturer	Model	Description
2	CMC S353	Rohde & Schwarz	ESW26	EMI Test Receiver 1 Hz - 26.5 GHz
1	CMC S287	Schwarzbeck	VUSLP 9111B	Broadband Antenna

Result

Frequency band (MHz)	Graphs	Number of hopping channels	Minimum number of hopping channels required	Results
902 – 928	G21247015	50	50	Complies

Graphs

Sega11a 21247015



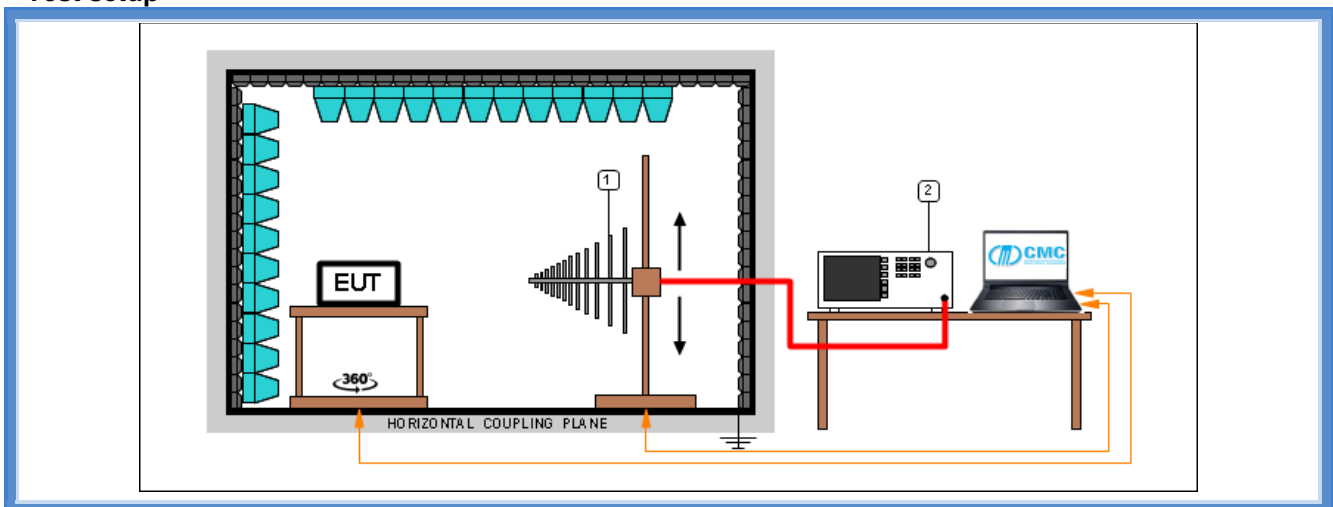
9.7 Time of occupancy

Tested by	M. Segalla
Test date	29.10.2021
Test location (stand)	Semi-anechoic chamber (CMC A070)
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 PE004_03

Nr.	Id. Number	Manufacturer	Model	Description
2	CMC S353	Rohde & Schwarz	ESW26	EMI Test Receiver 1 Hz - 26.5 GHz
1	CMC S287	Schwarzbeck	VUSLP 9111B	Broadband Antenna

Result

<i>Frequency (MHz)</i>	<i>Graphs</i>	<i>Dwell time (ms)</i>
914,75	G21247018	53,40

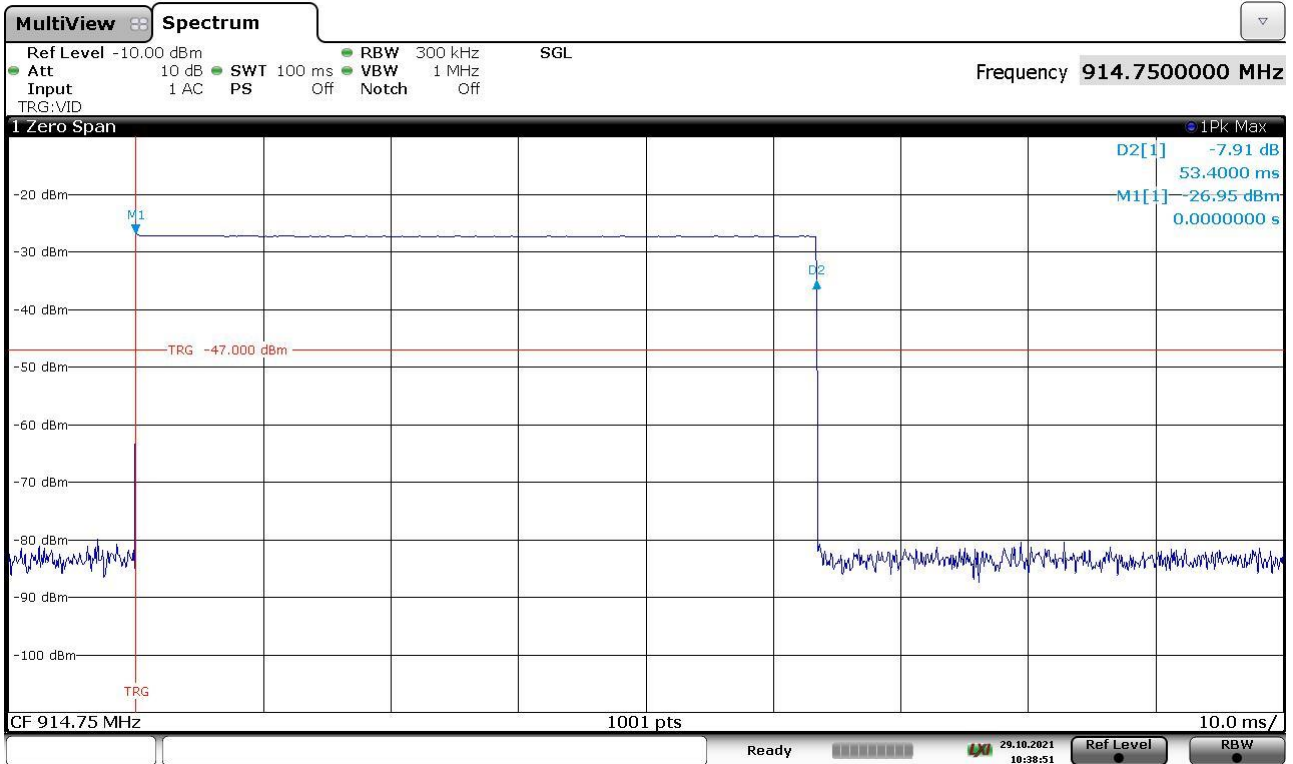
<i>Frequency (MHz)</i>	<i>Graphs</i>	<i>Number of transmissions</i>	<i>Period</i>
914,75	G21247019	5	20 s

Remarks: only the highest peaks have been considered. The lowest peaks are due to the auxiliary receiver unit

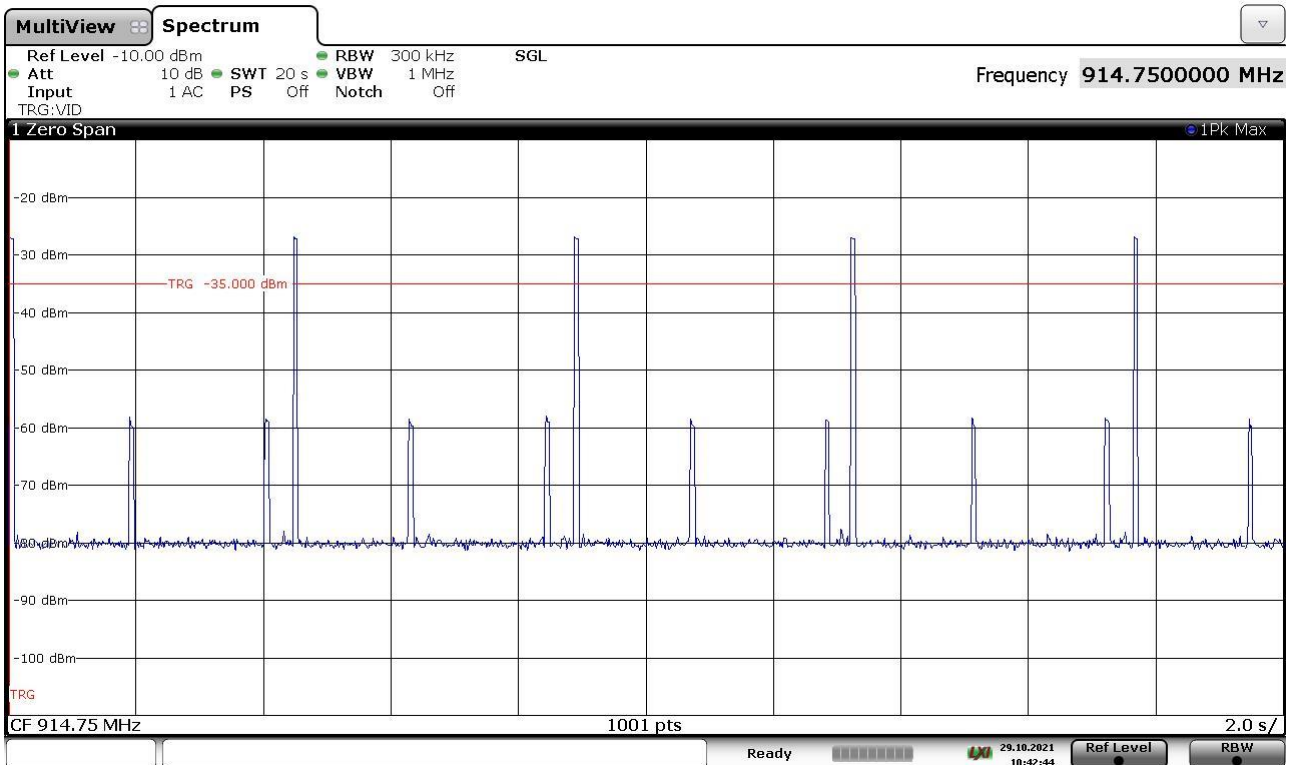
<i>Time of occupancy (Dwell time x Nr. transmissions)</i>	<i>Maximum allowed time of occupancy</i>	<i>Results</i>
267 ms	400 ms	Complies

Graphs

Segalla 21247018



Segalla 21247019



9.8 Band edge

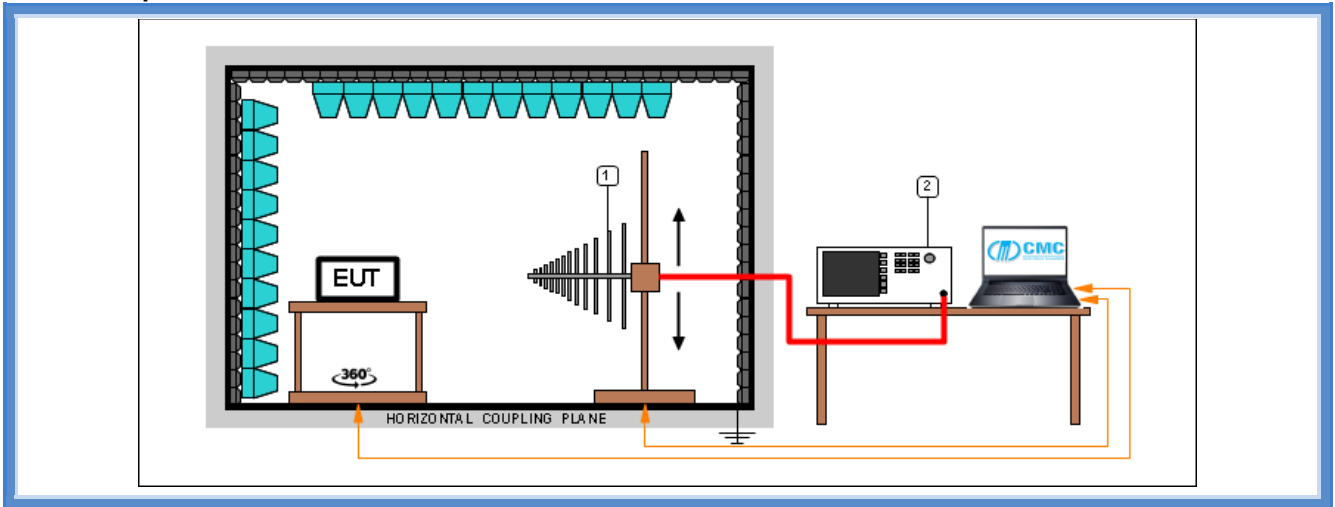
Tested by	M. Segalla
Test date	29.10.2021
Test location (stand)	Semi-anechoic chamber (CMC A070)
Reference standards	FCC Rules and Regulation; Titles 47 Part. 15.247 ANSI C63.10 cl. 7.8.6
Supplementary test set-up description	--
Supplementary information.....	--

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 PE004_03

Nr.	Id. Number	Manufacturer	Model	Description
2	CMC S353	Rohde & Schwarz	ESW26	EMI Test Receiver 1 Hz - 26.5 GHz
1	CMC S287	Schwarzbeck	VUSLP 9111B	Broadband Antenna

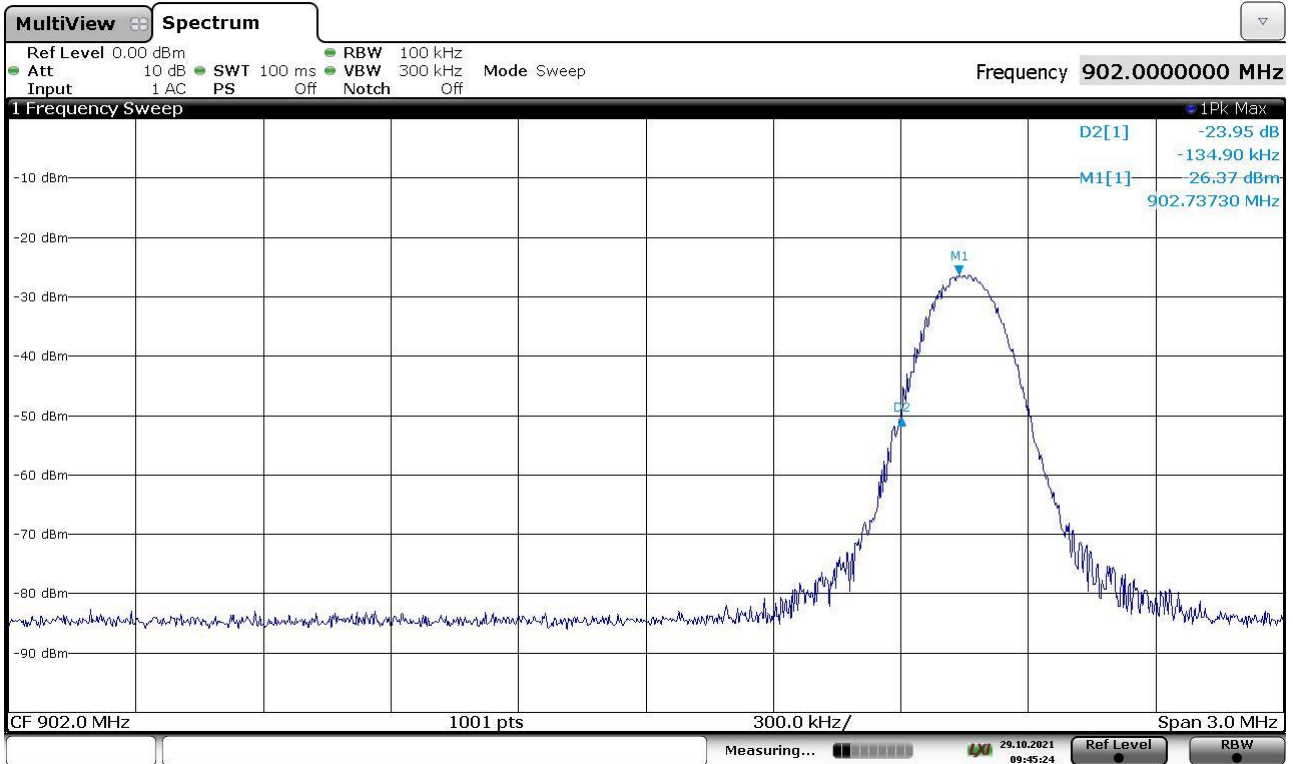
Result

Frequency (MHz)	Bandwidth	Graph(s) – Hopping	Results	
902,75	100 kHz	G21247013	FL: 902,6094 MHz	Complies
927,25	100 kHz	G21247012	FH: 927,3866 MHz	Complies

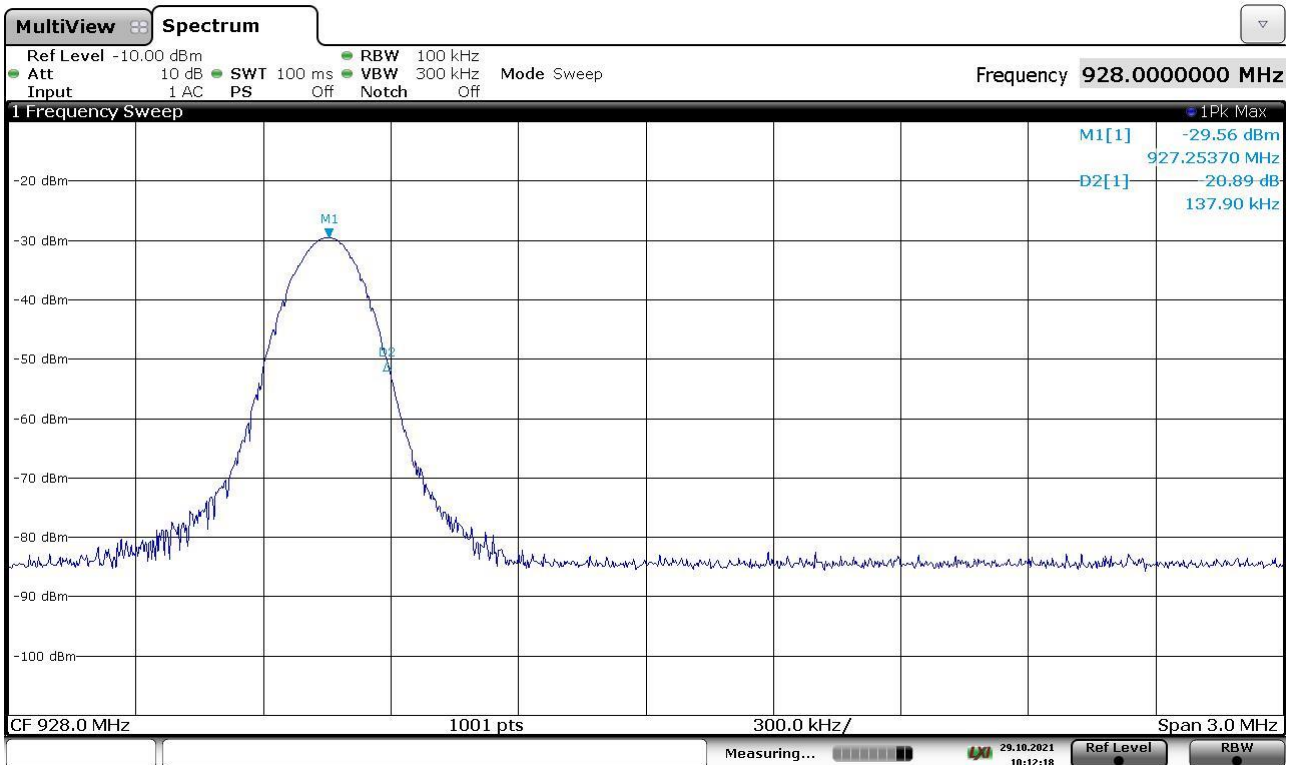
Frequency (MHz)	Bandwidth	Graph(s) – No hopping	Results	
902,75	100 kHz	G21247004	FL: 902,6024 MHz	Complies
927,25	100 kHz	G21247011	FH: 927,3916 MHz	Complies

Graphs

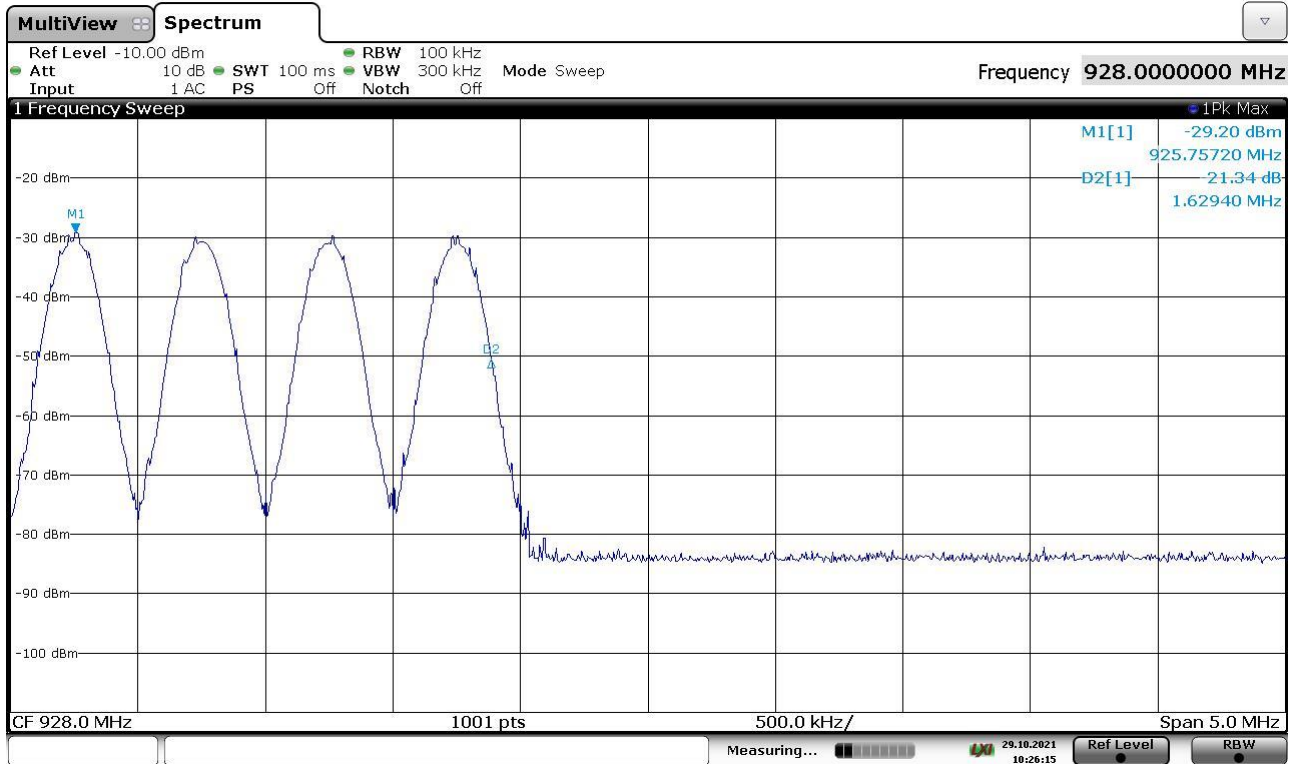
Segalla 21247004



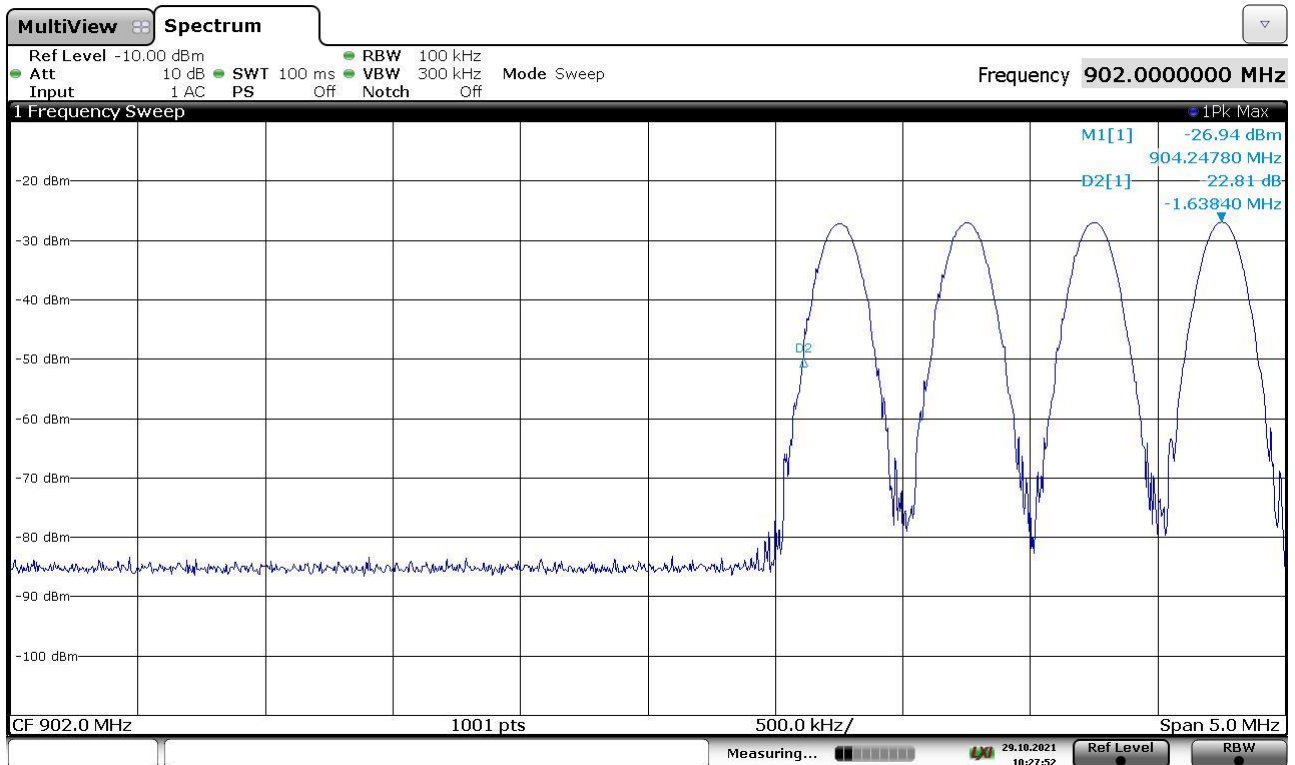
Segalla 21247011



Segalla 21247012



Segalla 21247013



9.9 Peak Output Power

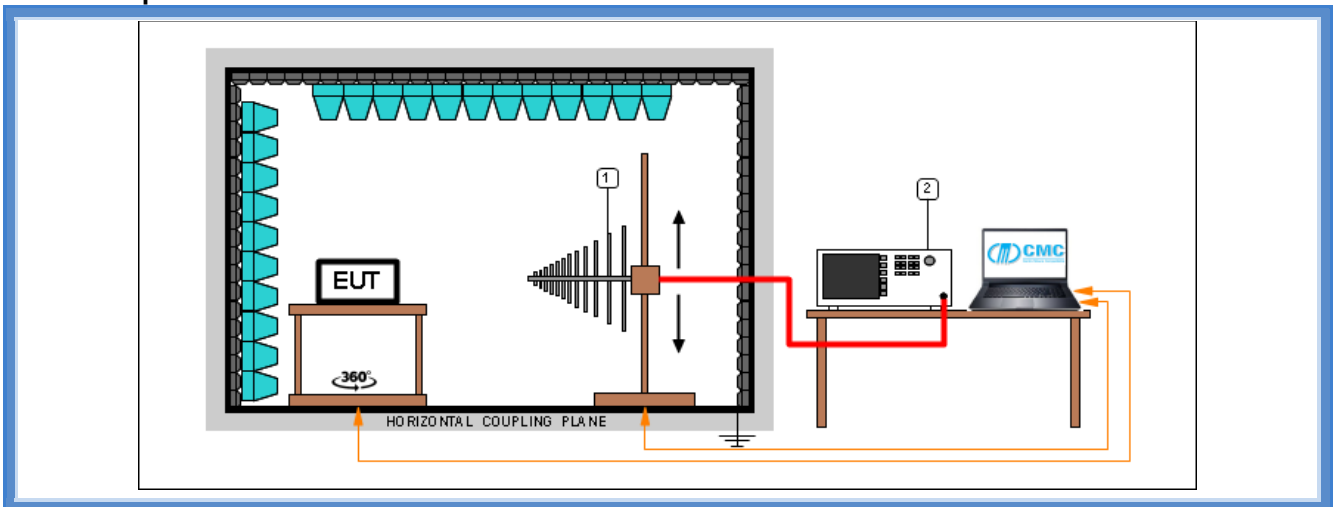
Tested by	M. Segalla
Test date	29.10.2021
Test location (stand)	Semi-anechoic chamber (CMC A070)
Reference standards	FCC Rules and Regulation; Titles 47 Part. 15.247 KDB 558074 D01 15.247 Meas Guidance v05r02 cl. 2.2 ANSI C63.10 cl. 7.8.5
Supplementary test set-up description	EUT – antenna distance: 3 m
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 PE004_03

Nr.	Id. Number	Manufacturer	Model	Description
2	CMC S353	Rohde & Schwarz	ESW26	EMI Test Receiver 1 Hz - 26.5 GHz
1	CMC S287	Schwarzbeck	VUSLP 9111B	Broadband Antenna

Result

<i>Frequency (MHz)</i>	<i>Polarization</i>	<i>Graphs</i>	<i>Measured level (dBμV/m)</i>	<i>Peak Output Power (mW)</i>	<i>Limit (mW)</i>
902,75	Worst case	G21247003	118,15	492,177	1000
914,75	Worst case	G21247007	117,55	428,668	1000
927,25	Worst case	G21247010	114,50	212,384	1000

Remarks

$$P = (E \times d)^2 / (30 \times G)$$

Where:

E = the measured maximum fundamental field strength in V/m

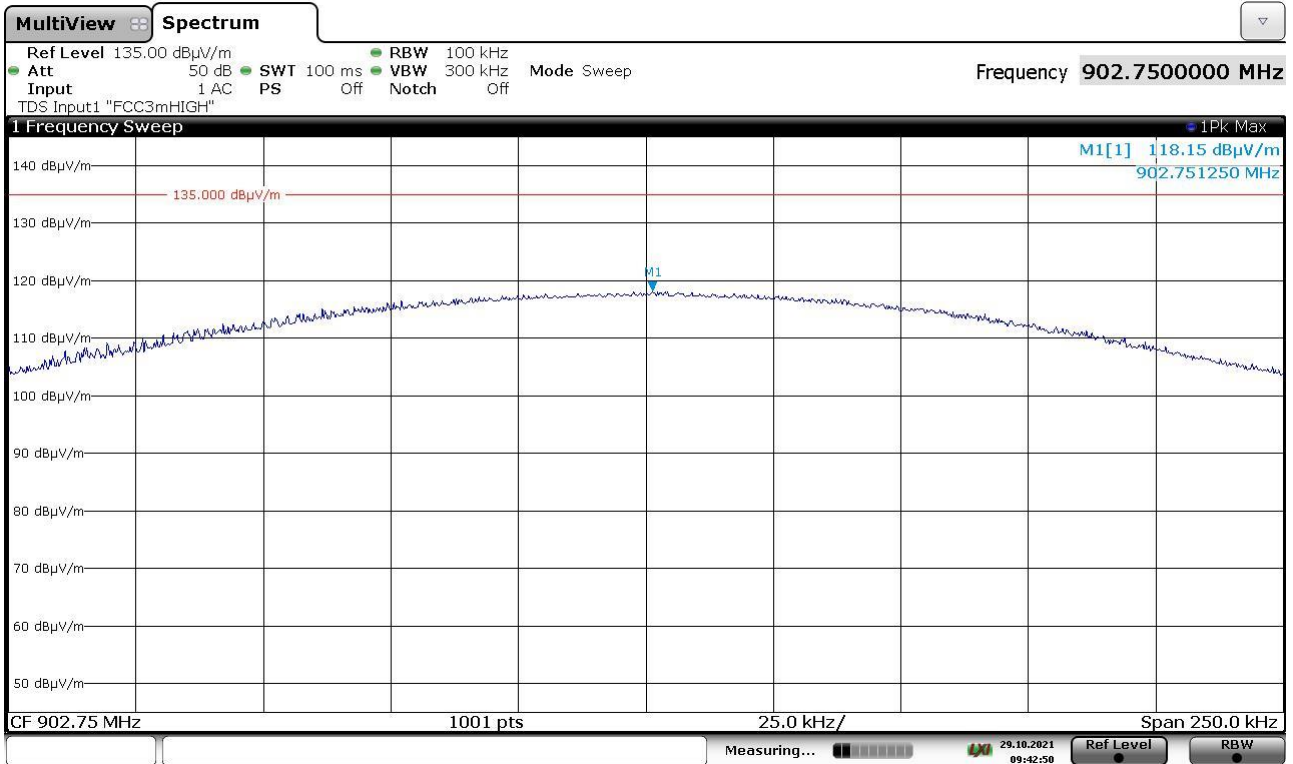
G = the numeric gain of the transmitting antenna: 0,398 (-4 dBi)

d = the distance in meters from which the field strength was measured (3 m)

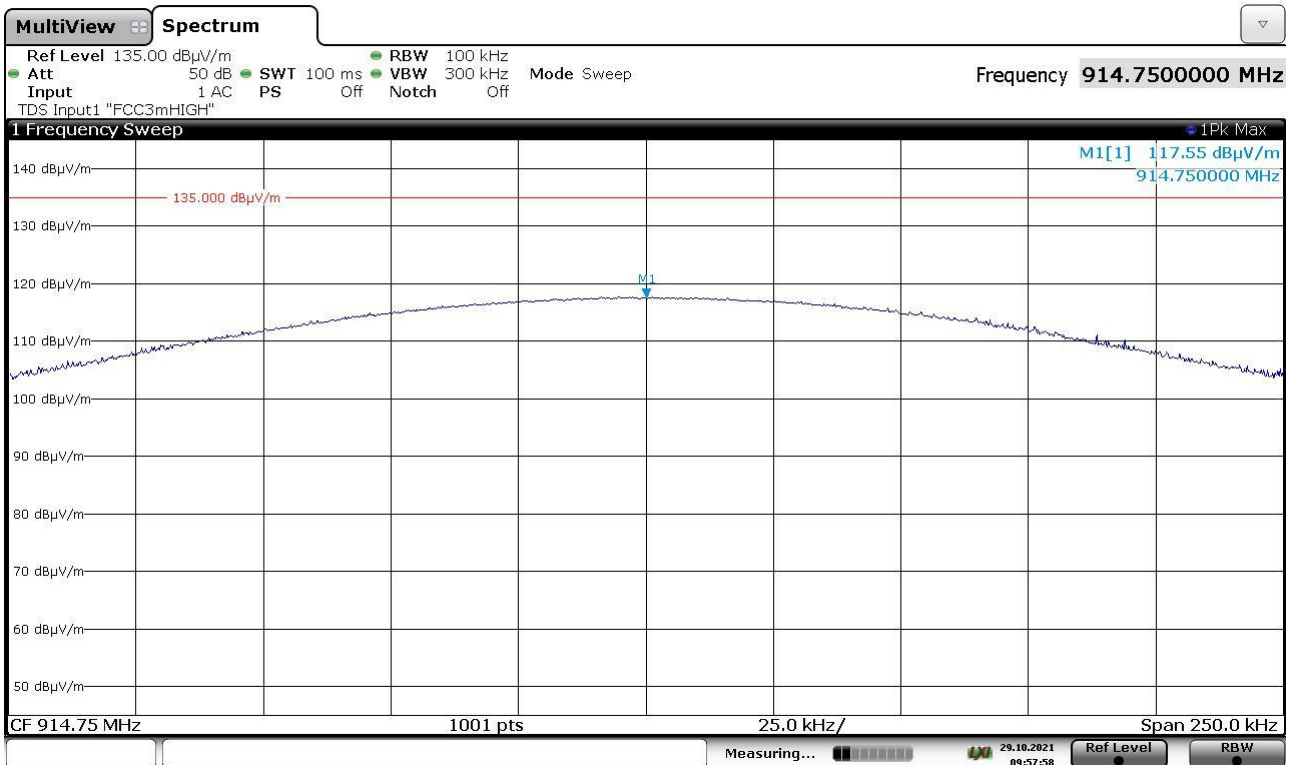
P = the power in watts

Graphs

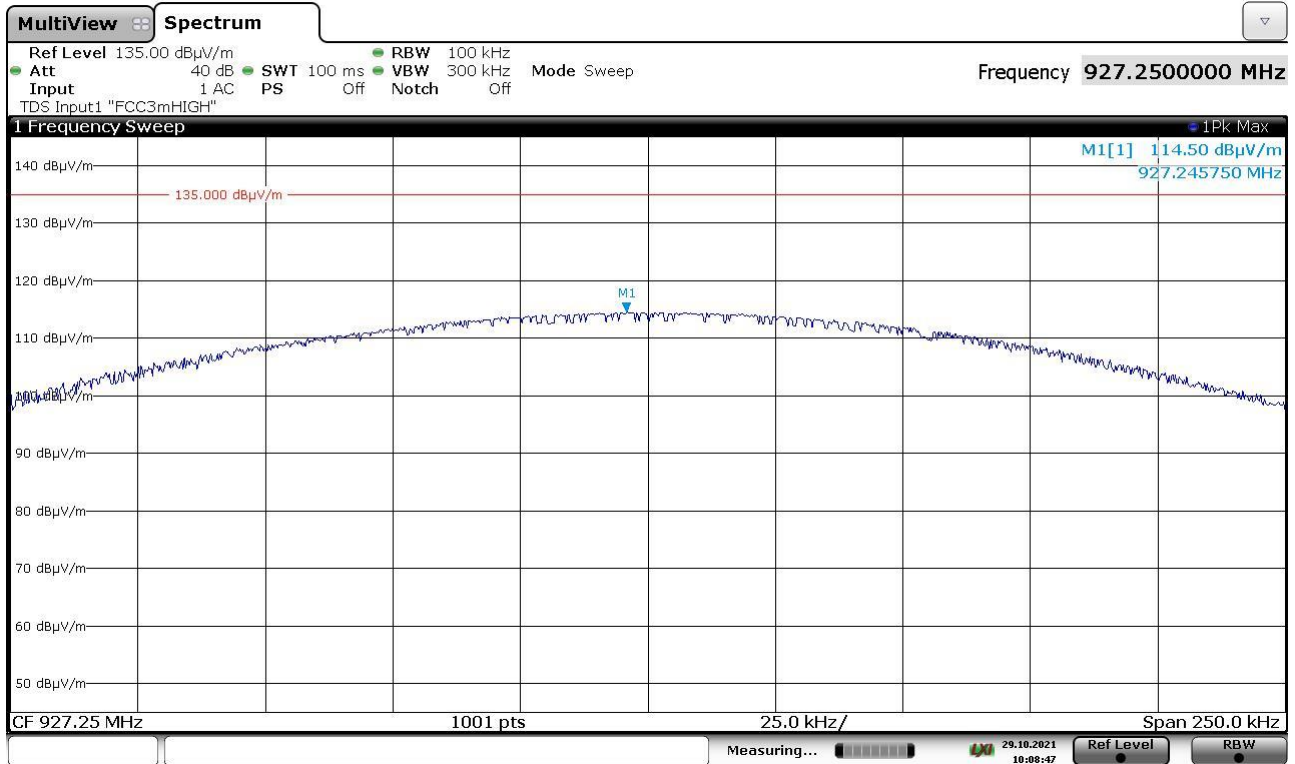
Segalla 21247003



Segalla 21247007



Sega11a 21247010



Attachment 1
Instruments list

<i>Id. number</i>	<i>Manufacturer</i>	<i>Model</i>	<i>Description</i>	<i>Serial number</i>	<i>Last calibration</i>	<i>Due date calibration</i>
CMC S010	Rohde & Schwarz	ESH3-Z2	Impulses Limiting Device	- - -	January '21	January '22
CMC S108	EMCO	3115	Horn Antenna	9811-5622	June '19	June '22
CMC S127	Schaffner	HLA6120	Loop Antenna	1191	November '18	November '23
CMC S200	Schwarzbeck	NSLK 8128	V-LISN	8128-273	January '21	January '22
CMC S206	Rohde & Schwarz	ESCI 7	EMC Receiver 9KHz-7GHz	100781	January '21	January '22
CMC S260	CMC	Wfr_N	Shielded Cable	Wfr_ant10-1	November '21	November '22
CMC S261	CMC	Wfr_N	Shielded Cable	Wfr_ant20-1	November '21	November '22
CMC S262	CMC	Wfr_N_fix	Shielded Cable	Wfr_fix32-1	November '21	November '22
CMC S263	CMC	Wfr_N_fix	Shielded Cable	Wfr_fix31-1	November '21	November '22
CMC S264	CMC	Wfr_N	Shielded Cable	Wfr_ext03-1	November '21	November '22
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 '21	November '22
CMC S295	Rohde & Schwarz	FSW43	Spectrum Analyzer 43GHz	104059	November '19	November '22
CMC S353	Rohde & Schwarz	ESW26	Emi Test Receiver 1 Hz - 26.5 GHz	101492	September '20	September '22

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	3,0 dB	1
Conducted emission CISPR 16 Voltage Probe 0,15-30 MHz	PE001_02	2,3 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	3,8 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	4,2 dB	1
Radiated Emission CISPR 16 Bicon. Ant. 30-300 MHz	PE004_02	4,1 dB	1
Radiated Emission CISPR 16 LogP. Ant. 300-1000 MHz	PE004_03	3,9 dB	1
Radiated Emission CISPR 16 Horn Ant. 1-18 GHz	PE004_04	4,1 dB	1
Human Exposure to electromagnetic fields	PE005_01	16,7 %	1
Harmonics	PE006_01	10 mA + 2,9 %	1
Flicker	PE007_01	4,36 %	1
Radiated Immunity 80 MHz - 6 GHz	PE102_XX	2,20 dB 0,87 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	6,23 % 18,7 A/m a 300A/m	1
Dumped Magnetic field	PE108_01	6,23 % 1,87 A/m a 30A/m	1
Common mode conducted immunity	PE112_01	2,16 % 0,22 V a 10V	1

Attachment 1

<i>Test</i>	<i>Test Setup</i>	<i>Expanded uncertainty</i>	<i>Note</i>
Power/Spurious 9kHz-30MHz	PR001_01	4,2 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	$< 1 \times 10^{-7}$	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

<i>Test</i>	<i>Test Setup</i>	<i>Expanded uncertainty</i>	<i>Note</i>
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
<i>Rev_21_01 date 23/02/2021</i>			

Note 1:

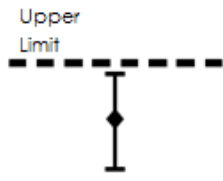
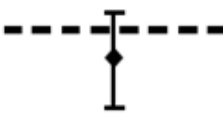

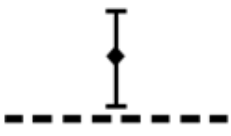
The expanded uncertainty reported according to the document EA-4-02 is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of $p = 95\%$

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. 3.1 (Quality Manual)	Measure procedure
Internal Procedure INC_M rev. 9.5 (Quality Manual)	Measurement uncertainty calculation