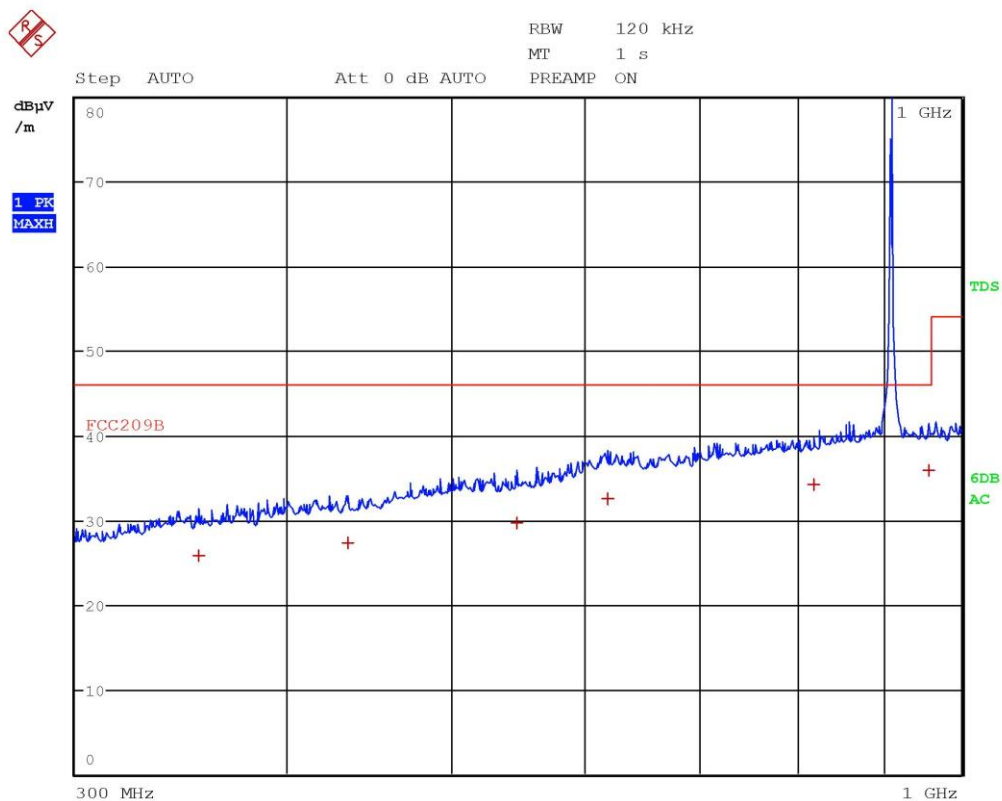


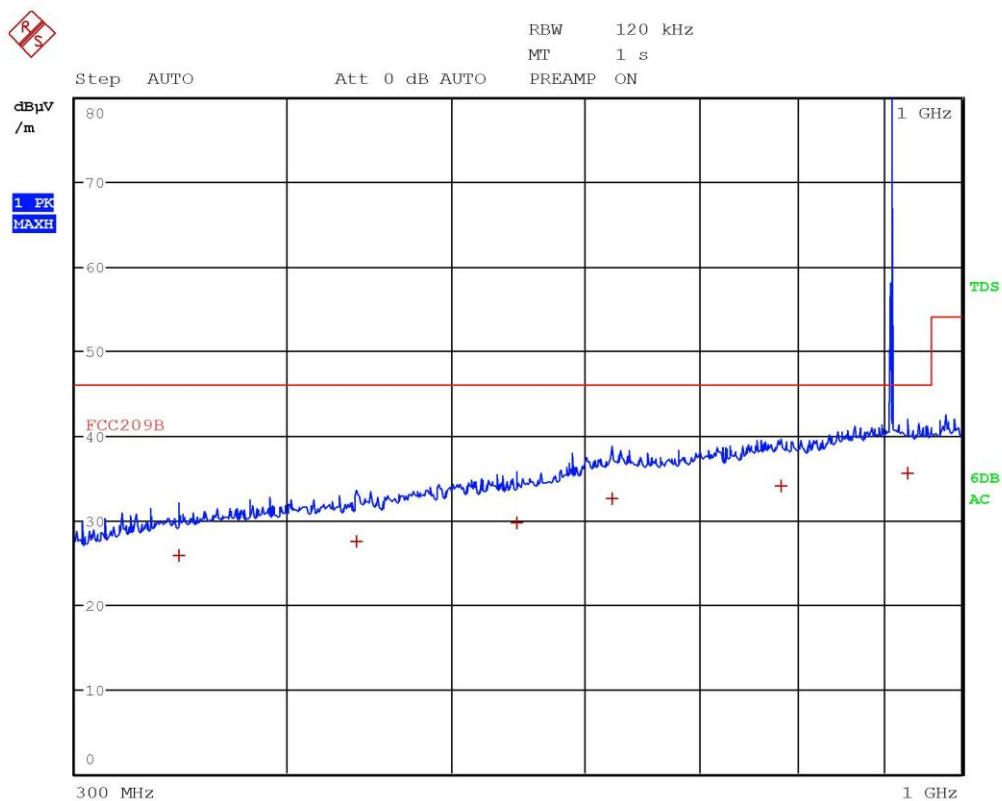


Segalla 200400A60



EDIT PEAK LIST (Final Measurement Results)			
Trace1:	FCC209B		
Trace2:	---		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV/m	DELTA LIMIT dB
1 Quasi Peak	354.72 MHz	25.87	-20.14
1 Quasi Peak	434.32 MHz	27.29	-18.72
1 Quasi Peak	546.64 MHz	29.66	-16.35
1 Quasi Peak	618.88 MHz	32.49	-13.52
1 Quasi Peak	817.48 MHz	34.20	-11.81
1 Quasi Peak	957.04 MHz	35.91	-10.10

Segalla 200400A60

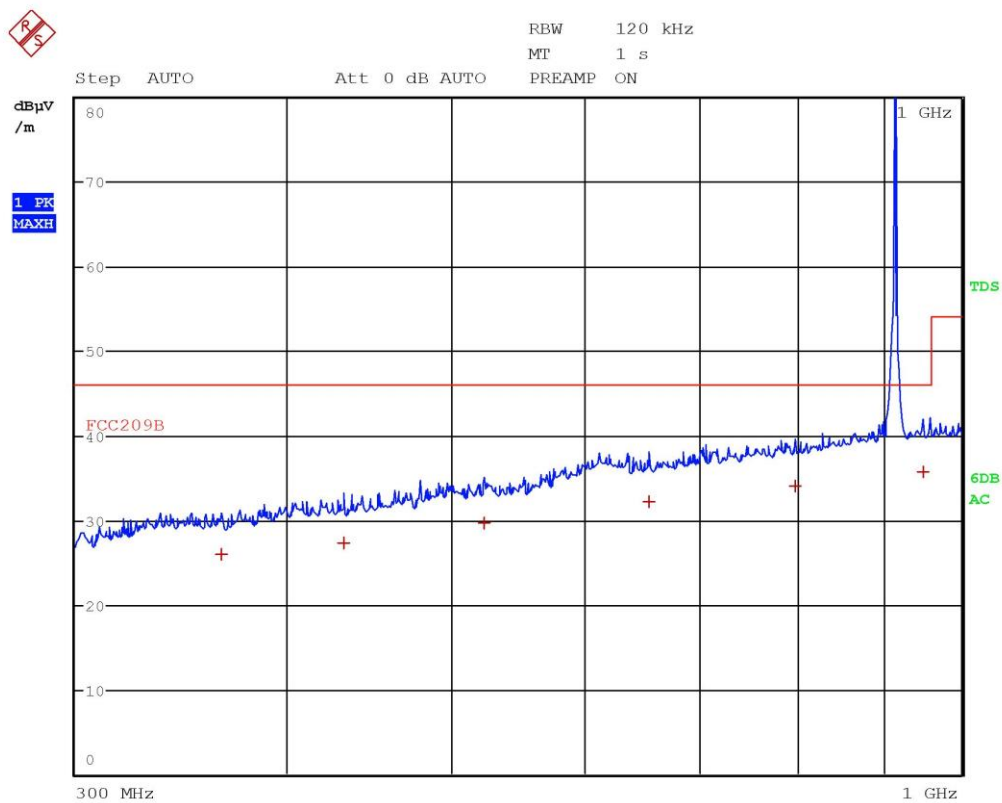


Segalla 200400A61



EDIT PEAK LIST (Final Measurement Results)			
Trace1:	FCC209B		
Trace2:	---		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV/m	DELTA LIMIT dB
1 Quasi Peak	345.32 MHz	25.73	-20.29
1 Quasi Peak	439.52 MHz	27.48	-18.53
1 Quasi Peak	546.64 MHz	29.69	-16.32
1 Quasi Peak	622 MHz	32.47	-13.54
1 Quasi Peak	782.2 MHz	33.99	-12.02
1 Quasi Peak	930.16 MHz	35.59	-10.42

Segalla 200400A61

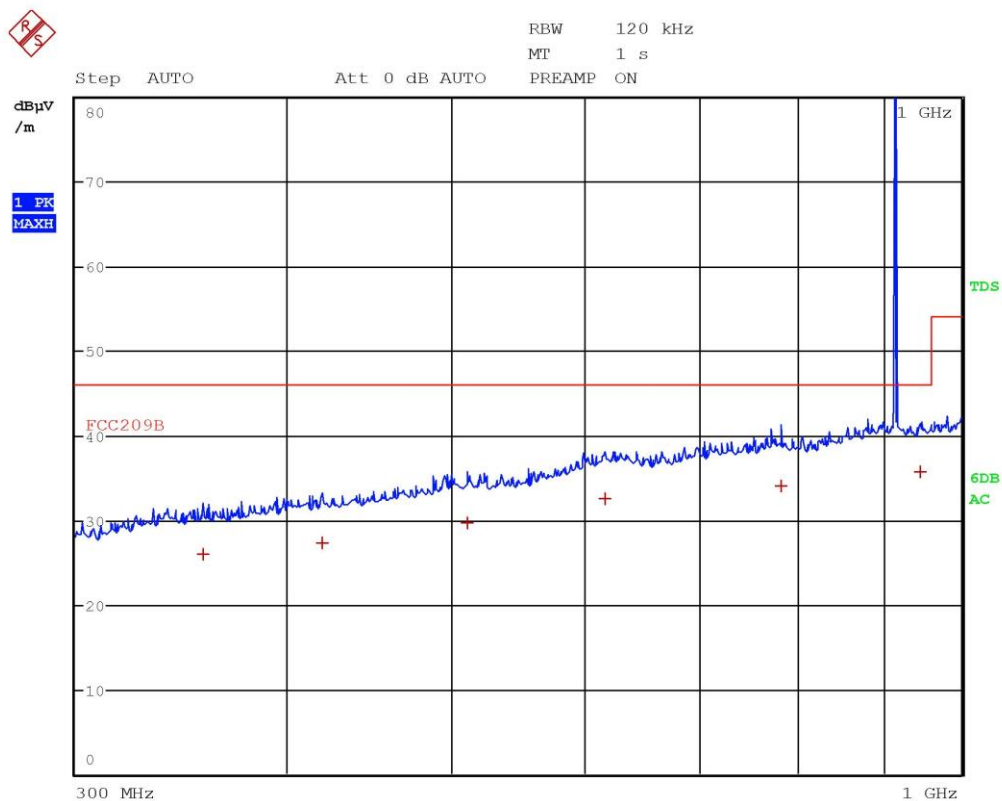


Segalla 200400A63



EDIT PEAK LIST (Final Measurement Results)			
Trace1:	FCC209B		
Trace2:	---		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBµV/m	DELTA LIMIT dB
1 Quasi Peak	366.12 MHz	25.99	-20.02
1 Quasi Peak	432.12 MHz	27.23	-18.79
1 Quasi Peak	522.44 MHz	29.65	-16.36
1 Quasi Peak	654.44 MHz	32.22	-13.79
1 Quasi Peak	798.08 MHz	34.10	-11.91
1 Quasi Peak	948.92 MHz	35.72	-10.29

Segalla 200400A63

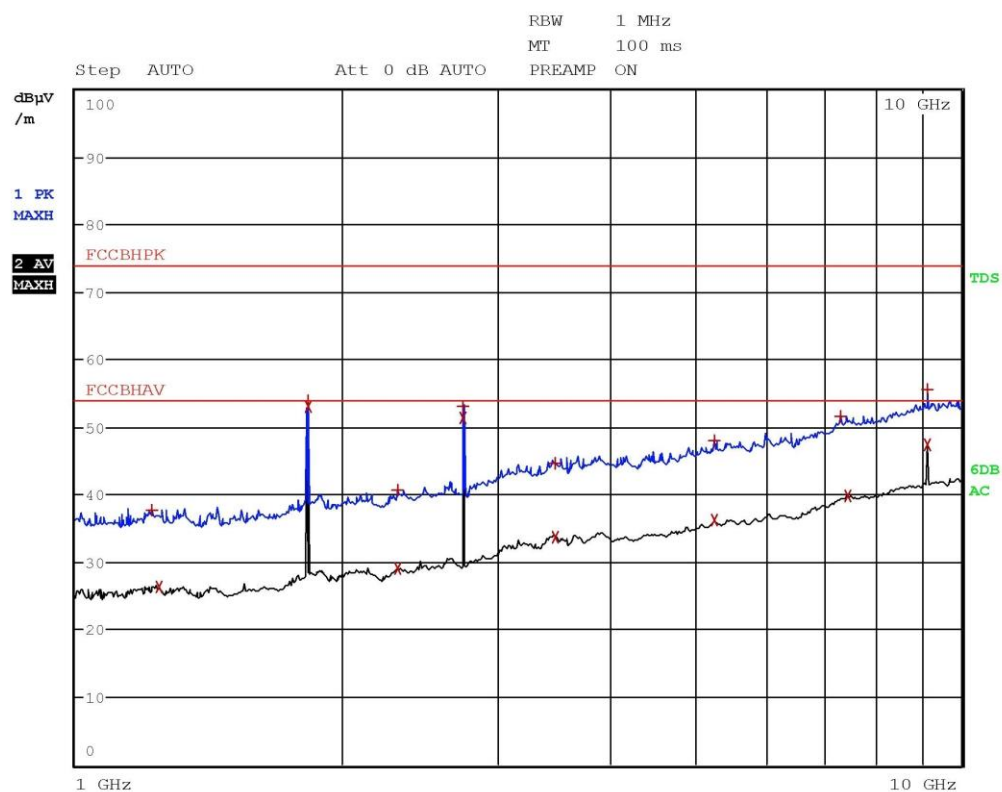


Segalla 200400A64



EDIT PEAK LIST (Final Measurement Results)			
Trace1:	FCC209B		
Trace2:	---		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV/m	DELTA LIMIT dB
1 Quasi Peak	356.68 MHz	25.88	-20.13
1 Quasi Peak	419.84 MHz	27.37	-18.64
1 Quasi Peak	511.04 MHz	29.60	-16.41
1 Quasi Peak	616.64 MHz	32.50	-13.51
1 Quasi Peak	783.2 MHz	34.00	-12.02
1 Quasi Peak	945.48 MHz	35.64	-10.37

Segalla 200400A64

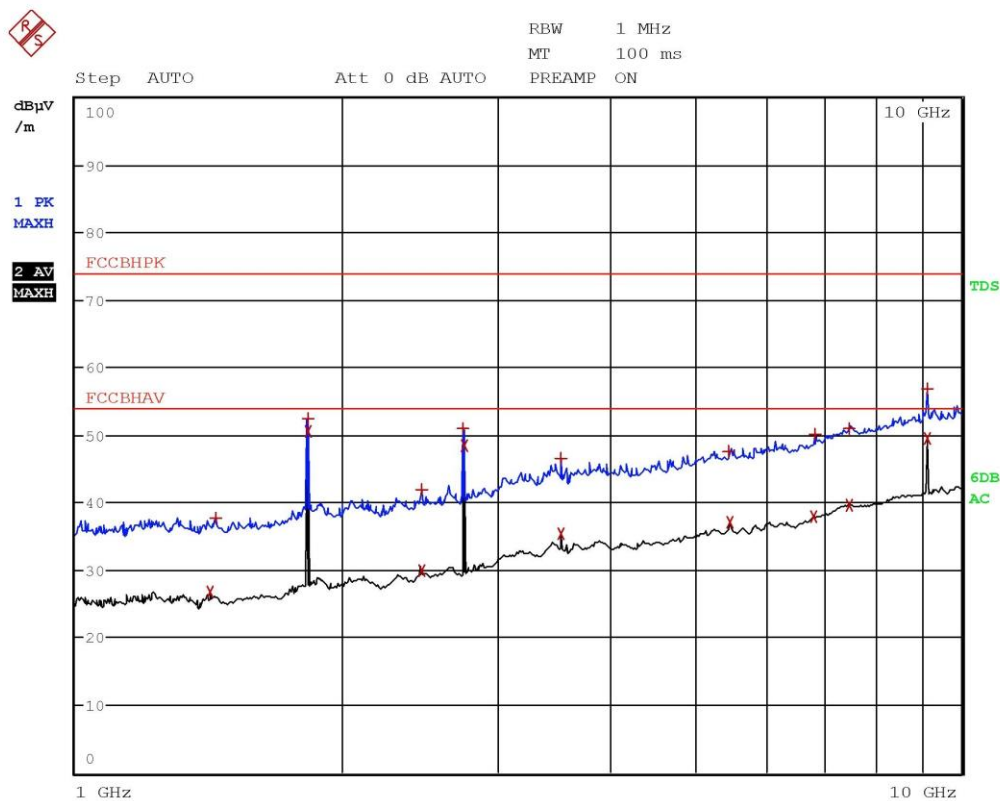


Segalla 200400A65



EDIT PEAK LIST (Prescan Results)			
Trace1:	FCCBHPK		
Trace2:	FCCBHAV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL, dBμV/m	DELTA LIMIT dB
1 Max Peak	1.2196 GHz	37.77	-36.20
2 Average	1.244 GHz	26.26	-27.71
1 Max Peak	1.8284 GHz	53.93	-20.04
2 Average	1.8284 GHz	52.98	-0.99
1 Max Peak	2.3068 GHz	40.61	-33.37
2 Average	2.3112 GHz	29.00	-24.97
1 Max Peak	2.742 GHz	52.99	-20.98
2 Average	2.7428 GHz	51.41	-2.56
1 Max Peak	3.4812 GHz	44.68	-29.29
2 Average	3.4828 GHz	33.82	-20.15
1 Max Peak	5.2592 GHz	47.90	-26.07
2 Average	5.2692 GHz	36.21	-17.77
1 Max Peak	7.3184 GHz	51.58	-22.40
2 Average	7.4532 GHz	39.70	-14.27
2 Average	9.1428 GHz	47.33	-6.64
1 Max Peak	9.1436 GHz	55.55	-18.42

Segalla 200400A65

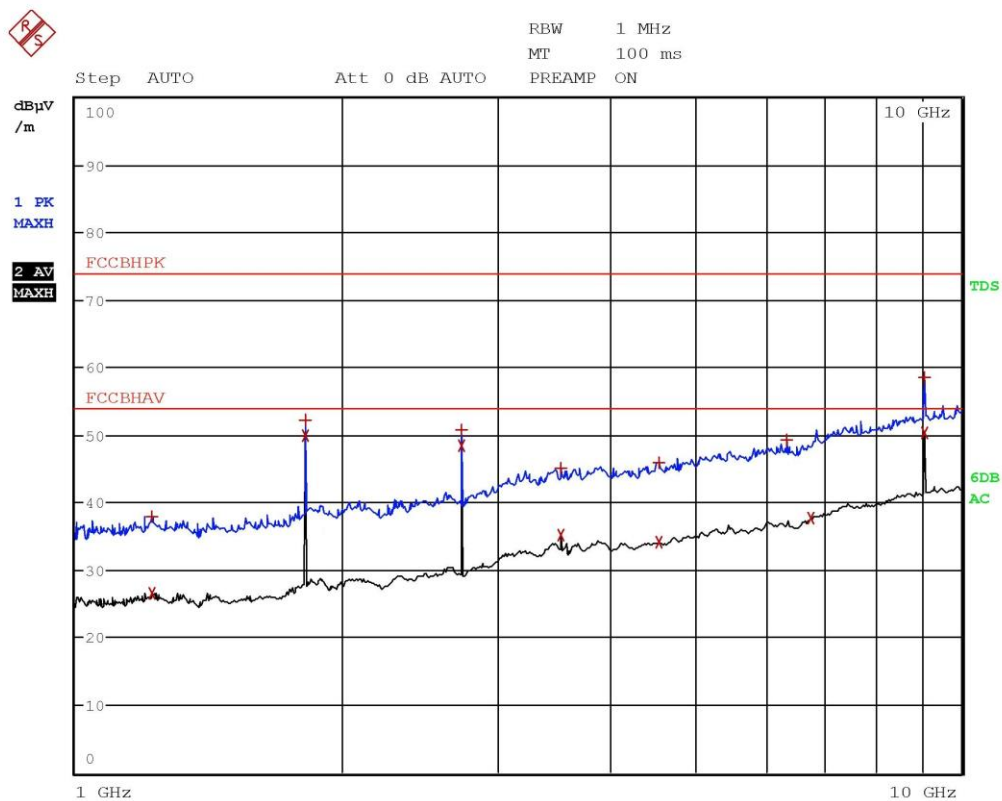


Segalla 200400A66



EDIT PEAK LIST (Prescan Results)			
Trace1:	FCCBHPK		
Trace2:	FCCBHAV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL, dBμV/m	DELTA LIMIT dB
2 Average	1.4192 GHz	26.83	-27.14
1 Max Peak	1.4388 GHz	37.65	-36.32
1 Max Peak	1.8288 GHz	52.46	-21.51
2 Average	1.8288 GHz	50.46	-3.52
2 Average	2.4584 GHz	29.96	-24.01
1 Max Peak	2.4584 GHz	42.00	-31.97
1 Max Peak	2.7424 GHz	51.00	-22.97
2 Average	2.7432 GHz	48.32	-5.65
1 Max Peak	3.5356 GHz	46.57	-27.40
2 Average	3.5356 GHz	35.46	-18.51
1 Max Peak	5.4504 GHz	47.55	-26.42
2 Average	5.4844 GHz	36.98	-16.99
2 Average	6.804 GHz	37.84	-16.13
1 Max Peak	6.834 GHz	50.08	-23.89
1 Max Peak	7.4736 GHz	50.89	-23.08
2 Average	7.4744 GHz	39.65	-14.32
1 Max Peak	9.1412 GHz	56.75	-17.22
2 Average	9.1416 GHz	49.41	-4.56

Segalla 200400A66

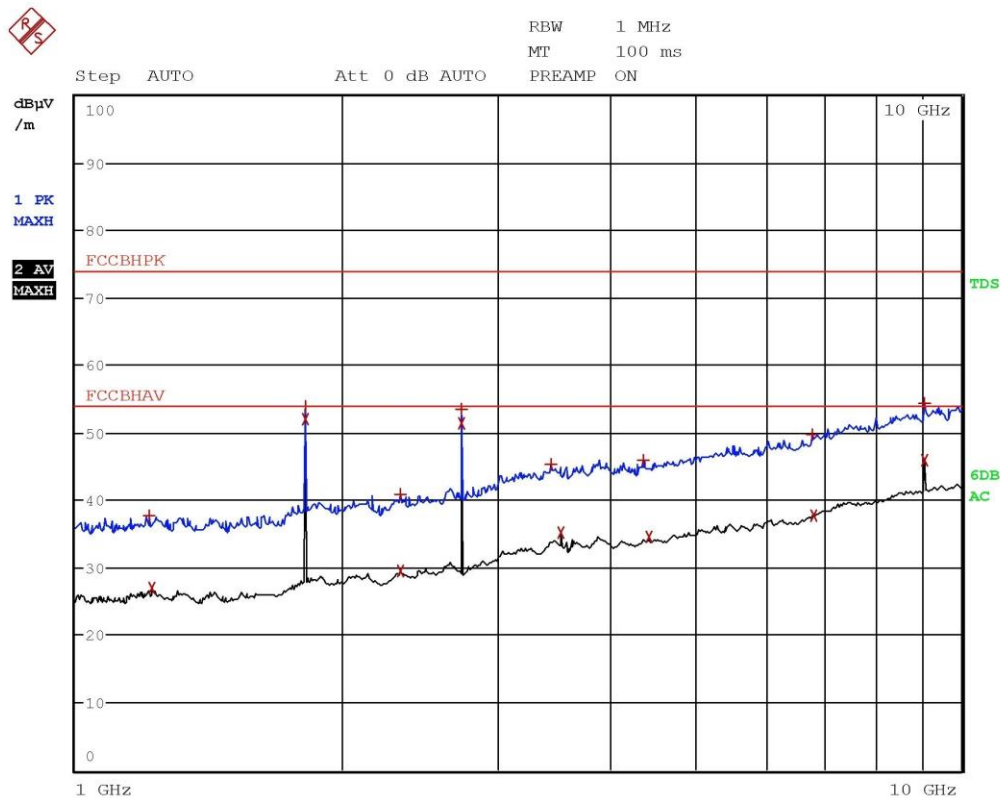


Segalla 200400A67



EDIT PEAK LIST (Prescan Results)			
Trace1:	FCCBHPK		
Trace2:	FCCBHAV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV/m	DELTA LIMIT dB
1 Max Peak	1.2192 GHz	37.87	-36.10
2 Average	1.22 GHz	26.65	-27.32
1 Max Peak	1.8184 GHz	52.17	-21.80
2 Average	1.8188 GHz	49.83	-4.14
1 Max Peak	2.7288 GHz	50.82	-23.15
2 Average	2.7288 GHz	48.36	-5.61
1 Max Peak	3.5356 GHz	45.10	-28.87
2 Average	3.5356 GHz	35.10	-18.87
2 Average	4.5524 GHz	34.06	-19.91
1 Max Peak	4.5604 GHz	45.94	-28.03
1 Max Peak	6.3408 GHz	49.22	-24.75
2 Average	6.7588 GHz	37.62	-16.35
2 Average	9.094 GHz	50.37	-3.60
1 Max Peak	9.0956 GHz	58.61	-15.37

Segalla 200400A67

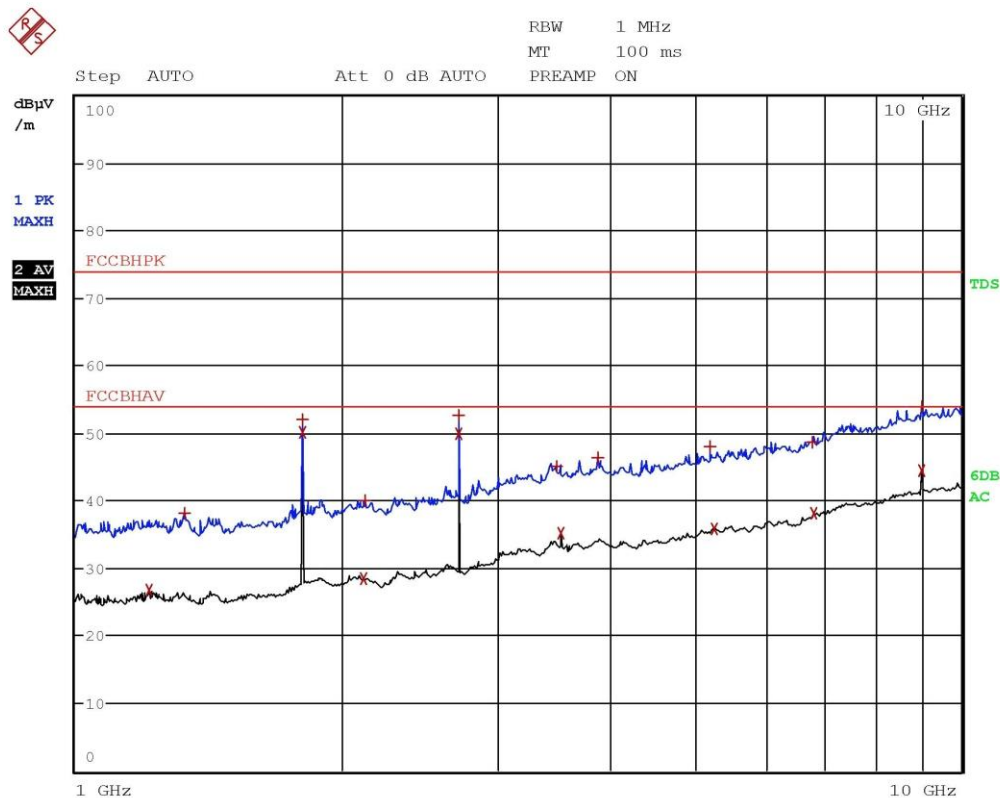


Segalla 200400A68



EDIT PEAK LIST (Prescan Results)			
Trace1:	FCCBHPK		
Trace2:	FCCBHAV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV/m	DELTA LIMIT dB
1 Max Peak	1.2108 GHz	37.80	-36.17
2 Average	1.2212 GHz	26.93	-27.04
1 Max Peak	1.8184 GHz	53.95	-20.02
2 Average	1.8188 GHz	52.02	-1.95
1 Max Peak	2.3248 GHz	40.77	-33.20
2 Average	2.3248 GHz	29.44	-24.53
1 Max Peak	2.7276 GHz	53.52	-20.45
2 Average	2.728 GHz	51.33	-2.64
1 Max Peak	3.4444 GHz	45.31	-28.66
2 Average	3.5356 GHz	35.10	-18.87
1 Max Peak	4.3704 GHz	45.99	-27.99
2 Average	4.4324 GHz	34.46	-19.51
1 Max Peak	6.7952 GHz	49.65	-24.32
2 Average	6.8096 GHz	37.79	-16.19
2 Average	9.0928 GHz	45.81	-8.17
1 Max Peak	9.094 GHz	54.40	-19.57

Segalla 200400A68

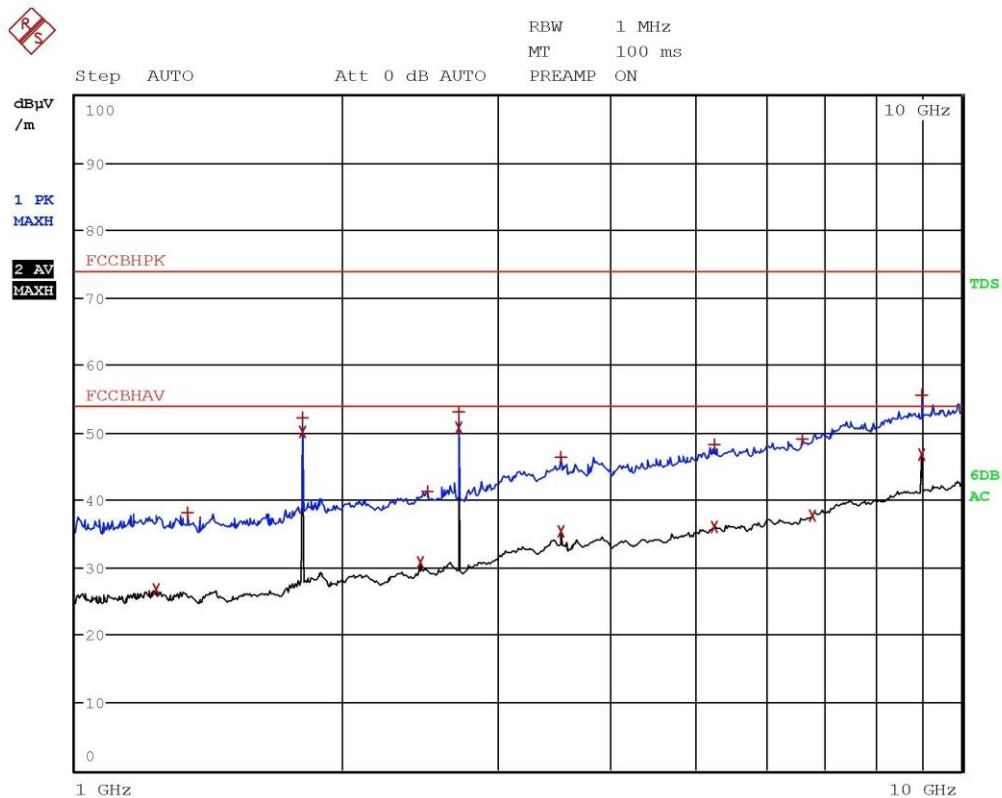


Segalla 200400A69



EDIT PEAK LIST (Prescan Results)			
Trace1:	FCCBHPK		
Trace2:	FCCBHAV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV/m	DELTA LIMIT dB
2 Average	1.2108 GHz	26.77	-27.20
1 Max Peak	1.3264 GHz	38.13	-35.84
1 Max Peak	1.806 GHz	52.07	-21.90
2 Average	1.806 GHz	50.21	-3.77
2 Average	2.1124 GHz	28.49	-25.48
1 Max Peak	2.1228 GHz	40.08	-33.89
2 Average	2.7092 GHz	49.99	-3.98
1 Max Peak	2.7096 GHz	52.61	-21.36
1 Max Peak	3.4872 GHz	45.11	-28.86
2 Average	3.5356 GHz	35.15	-18.82
1 Max Peak	3.8844 GHz	46.41	-27.56
1 Max Peak	5.1968 GHz	48.04	-25.93
2 Average	5.2524 GHz	35.82	-18.15
1 Max Peak	6.7836 GHz	48.70	-25.27
2 Average	6.8128 GHz	38.04	-15.93
1 Max Peak	9.026 GHz	53.78	-20.19
2 Average	9.0296 GHz	44.46	-9.51

Segalla 200400A69

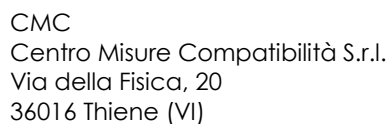


Segalla 200400A70

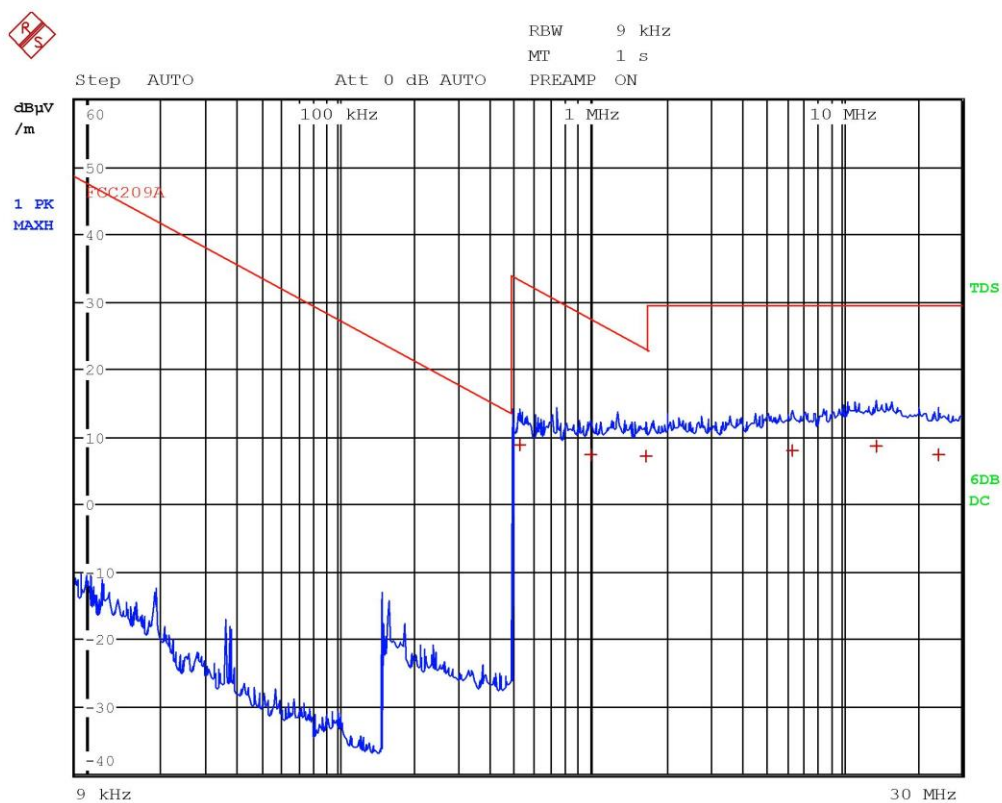


EDIT PEAK LIST (Prescan Results)			
Trace1:	FCCBHPK		
Trace2:	FCCBHAV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV/m	DELTA LIMIT dB
2 Average	1.2316 GHz	26.73	-27.24
1 Max Peak	1.338 GHz	38.13	-35.84
1 Max Peak	1.8064 GHz	52.20	-21.77
2 Average	1.8064 GHz	50.12	-3.85
2 Average	2.4536 GHz	30.81	-23.17
1 Max Peak	2.496 GHz	41.25	-32.72
1 Max Peak	2.708 GHz	53.07	-20.90
2 Average	2.7092 GHz	50.80	-3.17
1 Max Peak	3.5356 GHz	46.38	-27.59
2 Average	3.5356 GHz	35.39	-18.58
2 Average	5.258 GHz	35.96	-18.01
1 Max Peak	5.2592 GHz	48.12	-25.85
1 Max Peak	6.6148 GHz	49.12	-24.85
2 Average	6.8076 GHz	37.62	-16.35
1 Max Peak	9.0288 GHz	55.54	-18.43
2 Average	9.0308 GHz	46.74	-7.23

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LAB N° 0168 L



Segalla 200400A71



EDIT PEAK LIST (Final Measurement Results)			
Trace1:	FCC209A		
Trace2:	---		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV/m	DELTA LIMIT dB
1 Quasi Peak	522 kHz	8.76	-24.48
1 Quasi Peak	1.006 MHz	7.47	-20.07
1 Quasi Peak	1.678 MHz	7.22	-15.88
1 Quasi Peak	6.414 MHz	8.02	-21.51
1 Quasi Peak	13.718 MHz	8.57	-20.96
1 Quasi Peak	24.298 MHz	7.45	-22.08

Segalla 200400A71



9.3 Peak Output Power

Tested by	M. Segalla
Test date	05.05.2020
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 information.....	--

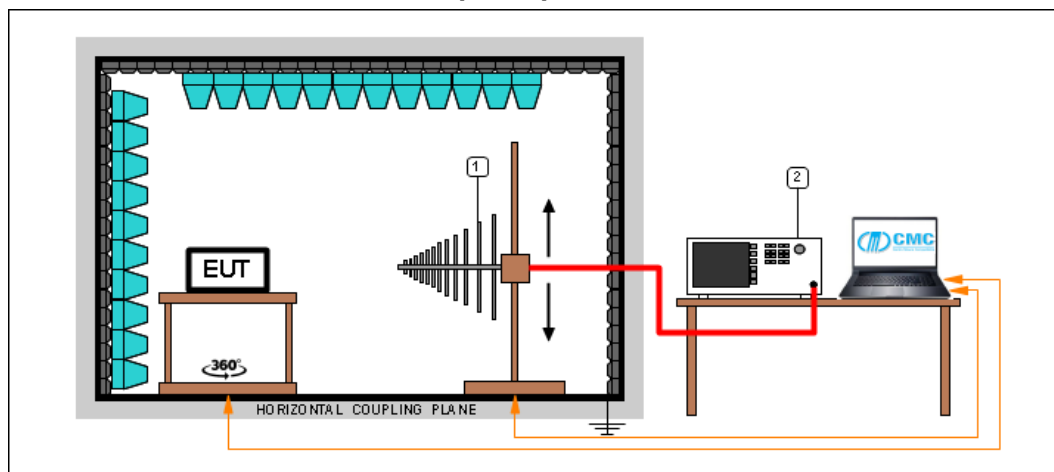
Acceptance limits

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

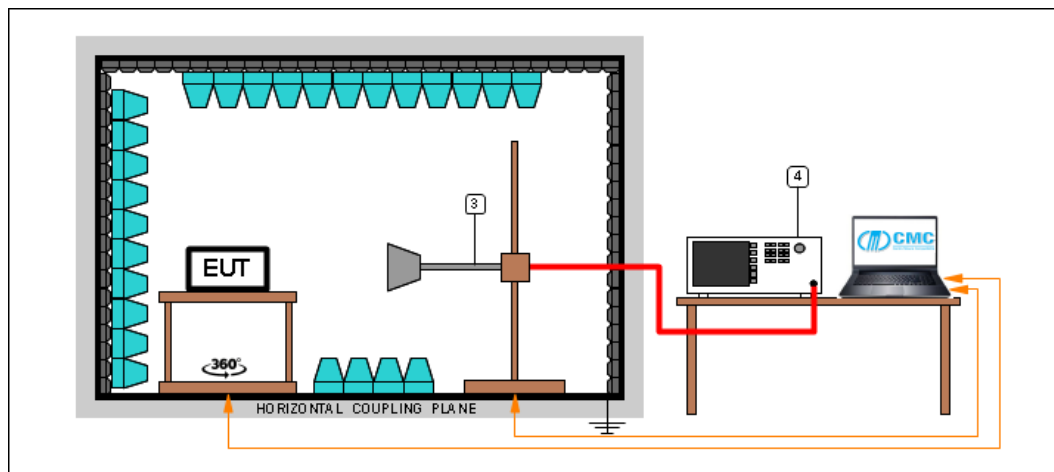
Frequency ≤ 1 GHz



Test setup PE004_03

Nr.	Id. Number	Manufacturer	Model	Description
2	CMC S164	Rohde & Schwarz	ESU26	Receiver 20 Hz - 26.5 GHz
1	CMC S287	Schwarzbeck	VUSLP 9111B	Broadband Antenna

Frequency > 1 GHz



Test setup PE004_04

Nr.	Id. Number	Manufacturer	Model	Description
4	CMC S164	Rohde & Schwarz	ESU26	Receiver 20 Hz - 26.5 GHz
3	CMC S108	Emco	3115	Waveguide antenna



Result – LoRa 125 kHz modulation

Frequency (MHz)	Polarization	Graphs	Measured level (dBμV/m)	Peak Output Power (mW)	Limit (mW)
902,30	Worst case	G200400A01	112,88	58,227	1000
908,70	Worst case	G200400A04	113,28	63,844	1000
914,90	Worst case	G200400A07	113,13	61,677	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: 1 (0 dBi)

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

P = the power in watts

Result – LoRa 500 kHz modulation

Frequency (MHz)	Polarization	Graphs	Measured level (dBμV/m)	Peak Output Power (mW)	Limit (mW)
903,00	Worst case	G200400A56	112,43	52,495	1000
909,40	Worst case	G200400A59	113,06	60,691	1000
914,20	Worst case	G200400A62	112,74	56,380	1000

Remarks

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

Where:

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

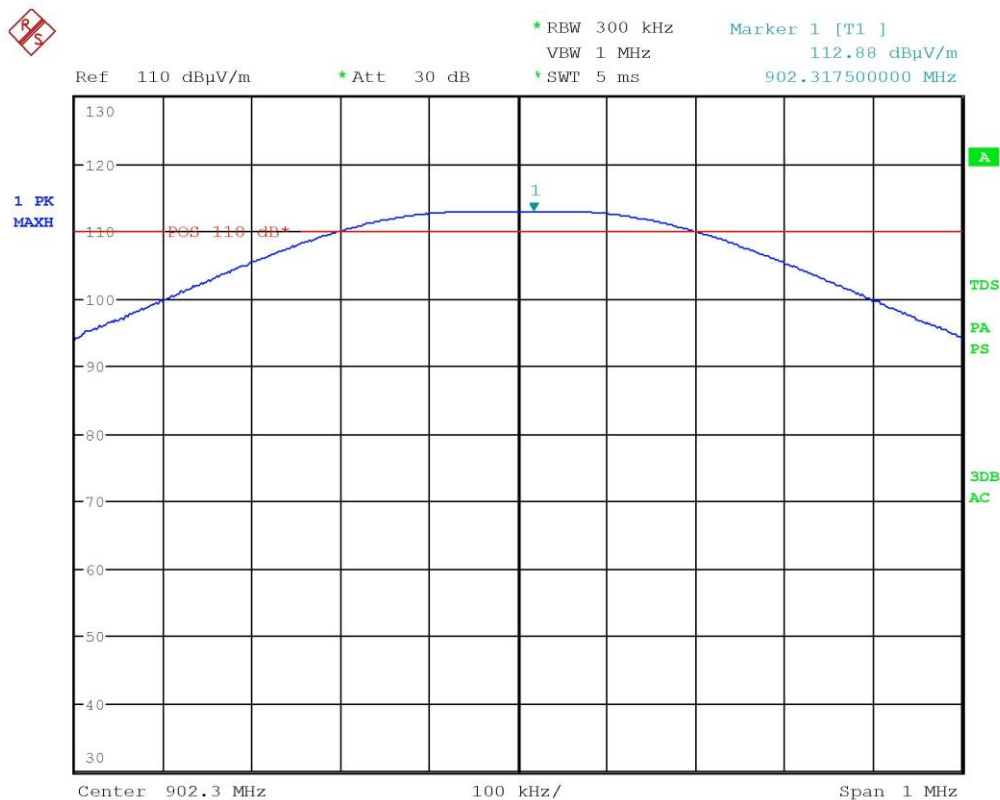
G = the numeric gain of the transmitting antenna: 1 (0 dBi)

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

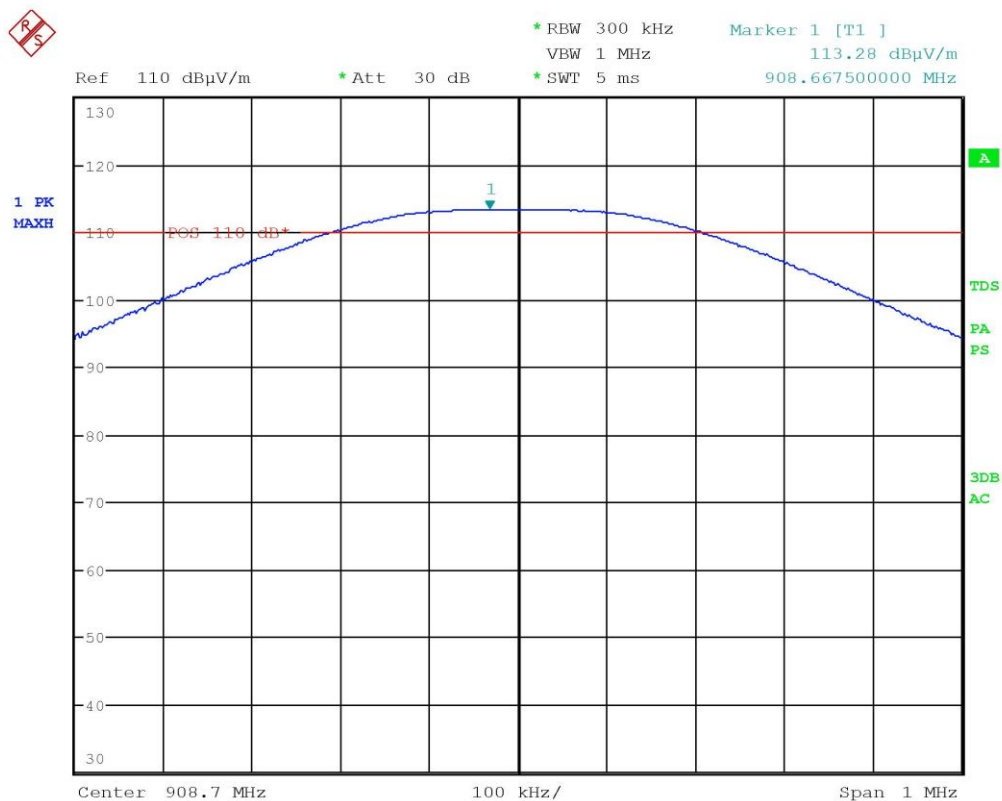
P = the power in watts



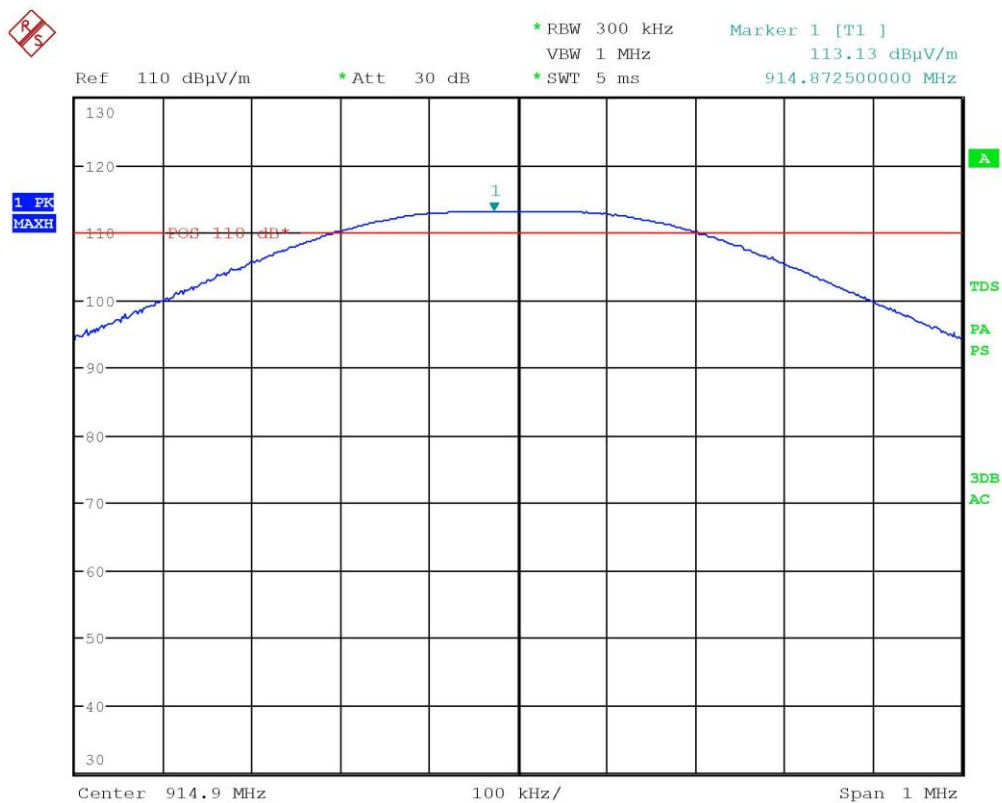
Graphs



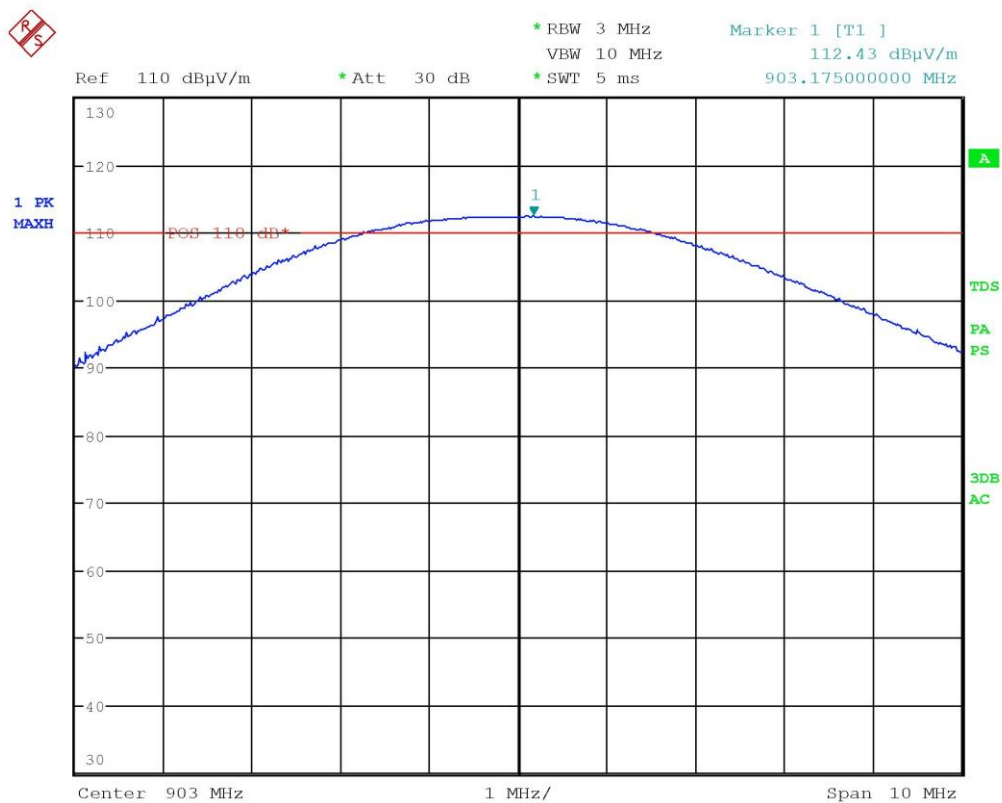
Segalla 200400A01



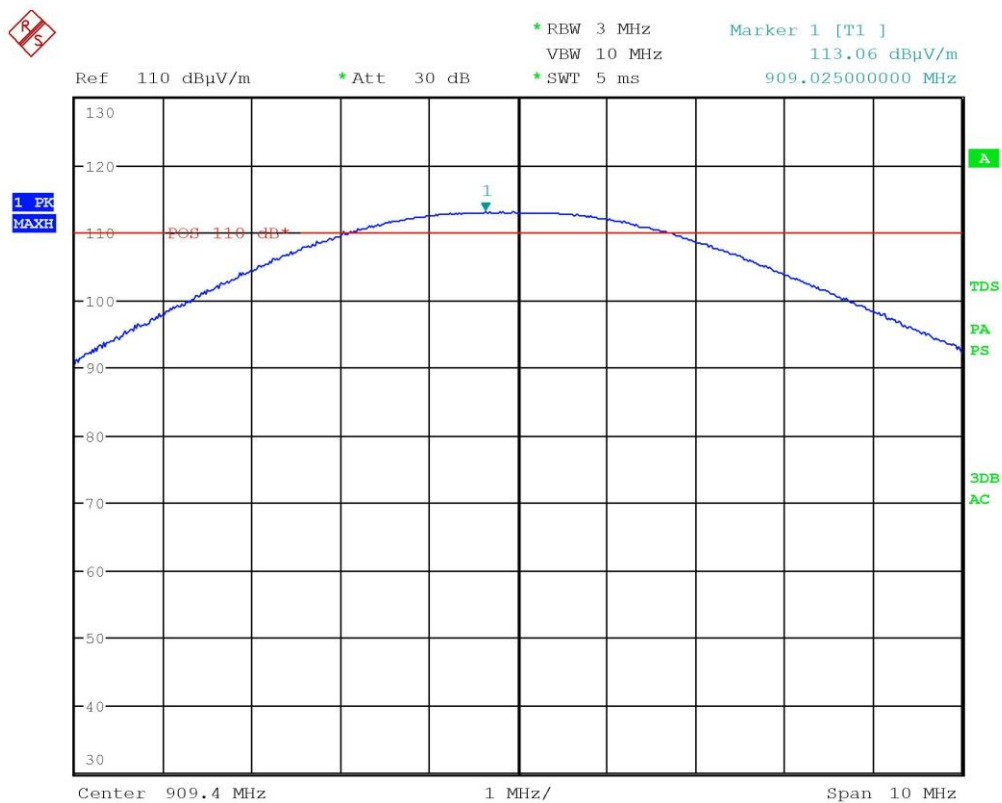
Segalla 200400A04



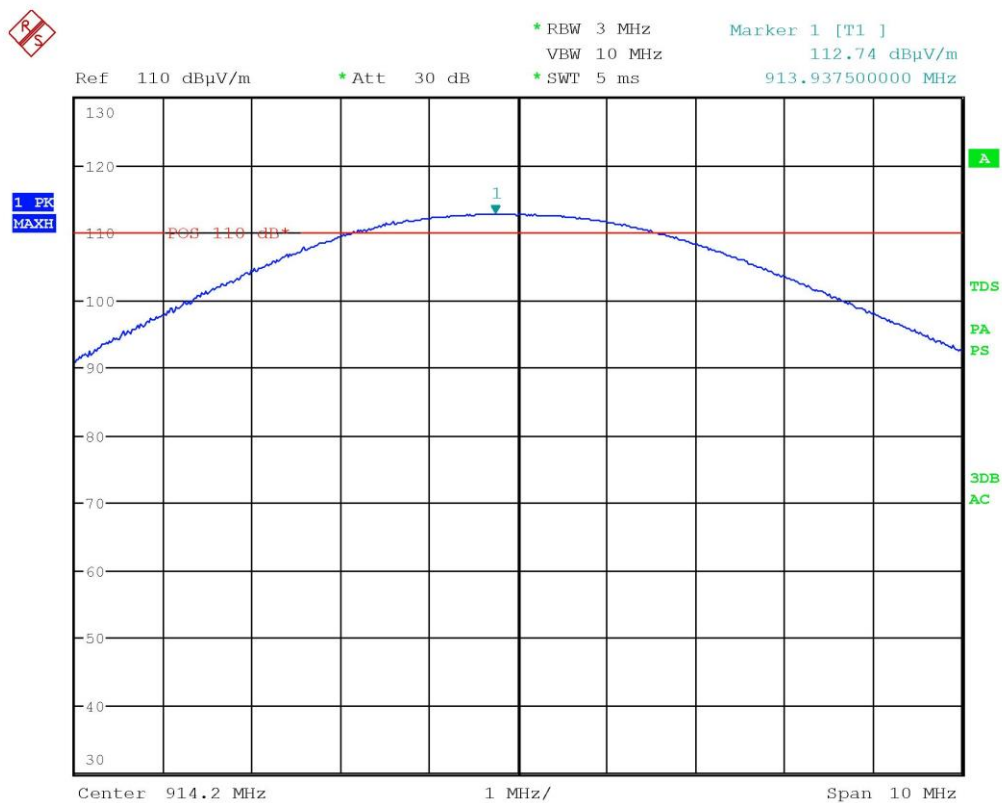
Segalla 200400A07



Segalla 200400A56



Segalla 200400A59



Segalla 200400A62



Attachment 1

<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 '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 '19	November '20
CMC S261	CMC	Wfr_N	Shielded Cable	Wfr_ant20-1	November '19	November '20
CMC S262	CMC	Wfr_N_fix	Shielded Cable	Wfr_fix32-1	November '19	November '20
CMC S263	CMC	Wfr_N_fix	Shielded Cable	Wfr_fix31-1	November '19	November '20
CMC S264	CMC	Wfr_N	Shielded Cable	Wfr_ext03-1	November '19	November '20
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 '19	November '20
CMC S295	Rohde & Schwarz	FSW43	Spectrum Analyzer 43GHz	104059	November '19	November '22



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



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	$< 1 \times 10^{-7}$	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. 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 $k=2$



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