

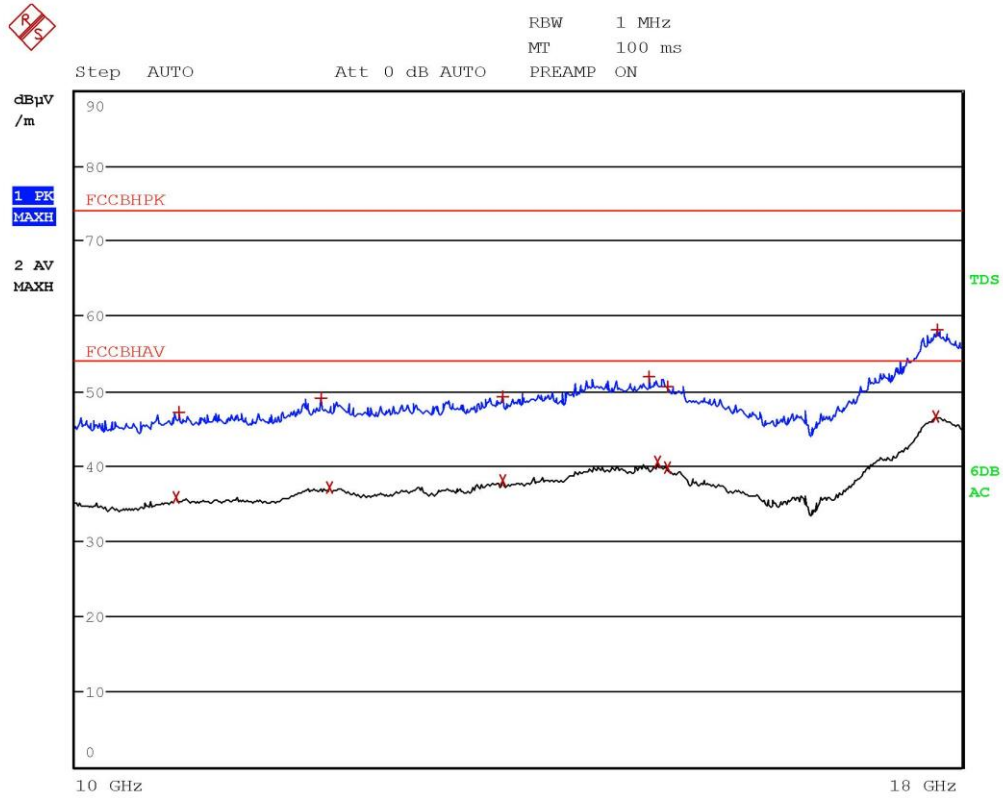
Segalla 19089817

CMC Centro Misure Compatibilità S.r.l.



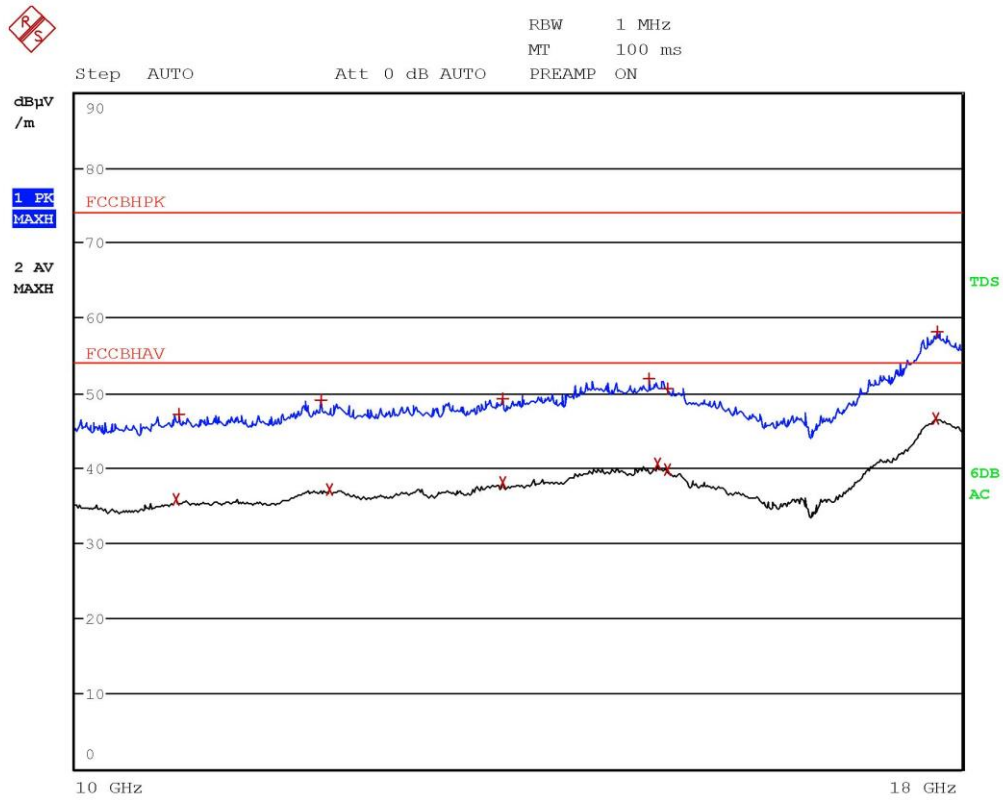
EDIT PEAK LIST (Prescan Results)			
Trace1:	FCCBHPK		
Trace2:	FCCBHAV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL d μ V/m	DELTA LIMIT dB
1 Max Peak	4.6244 GHz	45.50	-28.47
2 Average	4.6332 GHz	34.28	-19.69
2 Average	4.802 GHz	37.42	-16.56
1 Max Peak	4.8024 GHz	46.43	-27.54
1 Max Peak	5.3544 GHz	47.84	-26.13
1 Max Peak	6.1264 GHz	48.24	-25.73
2 Average	6.168 GHz	37.10	-16.87
1 Max Peak	7.2532 GHz	50.08	-23.89
2 Average	7.3428 GHz	38.77	-15.21
1 Max Peak	8.5768 GHz	53.05	-20.92
2 Average	8.5824 GHz	42.05	-11.92
1 Max Peak	9.1388 GHz	55.27	-18.70
2 Average	9.1676 GHz	43.83	-10.14

Segalla 19089817



Segalla 19089818

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Segalla 19089818

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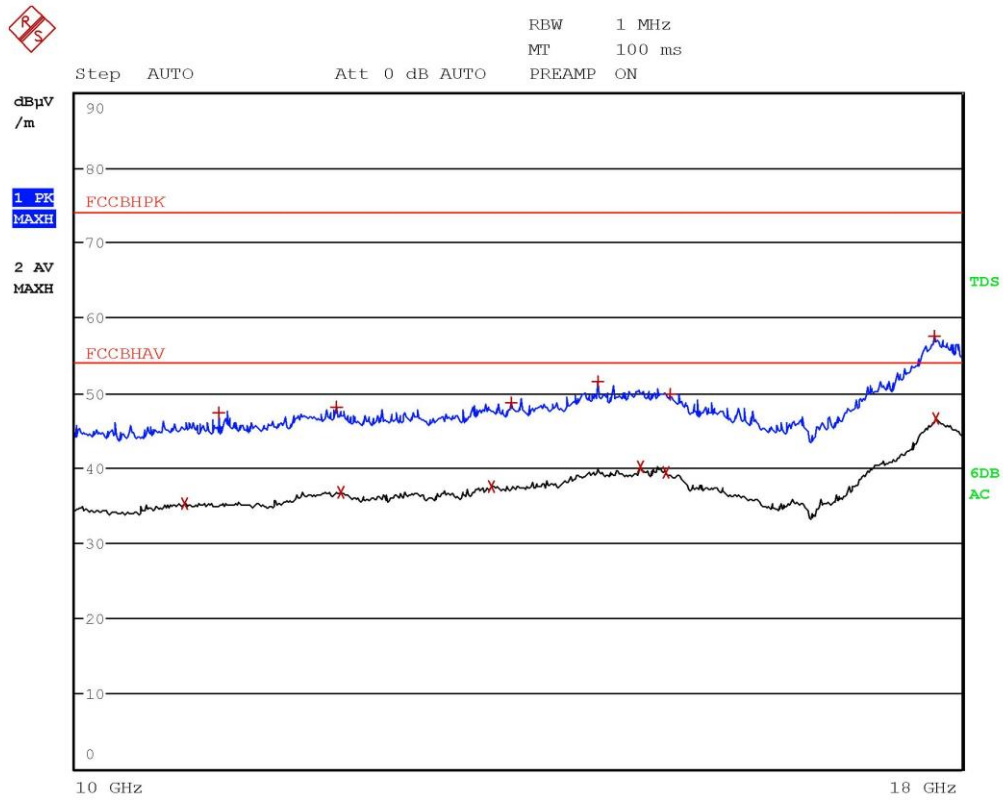
Segalla 19089819

CMC Centro Misure Compatibilità S.r.l.



EDIT PEAK LIST (Prescan Results)			
Trace1:	FCCBHPK		
Trace2:	FCCBHAV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL d μ V/m	DELTA LIMIT dB
1 Max Peak	10.7324 GHz	46.74	-27.23
2 Average	10.8004 GHz	35.52	-18.45
2 Average	11.8792 GHz	36.97	-17.00
1 Max Peak	11.9856 GHz	48.40	-25.57
1 Max Peak	13.0124 GHz	49.56	-24.41
2 Average	13.3596 GHz	37.99	-15.98
1 Max Peak	14.5876 GHz	51.96	-22.01
2 Average	14.7524 GHz	40.09	-13.88
2 Average	14.7996 GHz	39.70	-14.27
1 Max Peak	14.8184 GHz	50.80	-23.17
1 Max Peak	17.6548 GHz	57.78	-16.19
2 Average	17.706 GHz	46.69	-7.28

Segalla 19089819



Segalla 19089820

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EDIT PEAK LIST (Prescan Results)			
Trace1:	FCCBHPK		
Trace2:	FCCBHAV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV/m	DELTA LIMIT dB
2 Average	10.7552 GHz	35.35	-18.62
1 Max Peak	11.0008 GHz	47.35	-26.62
1 Max Peak	11.8968 GHz	48.05	-25.93
2 Average	11.9284 GHz	36.83	-17.15
2 Average	13.1728 GHz	37.57	-16.40
1 Max Peak	13.3588 GHz	48.73	-25.24
1 Max Peak	14.14 GHz	51.54	-22.43
2 Average	14.5504 GHz	40.18	-13.79
2 Average	14.7992 GHz	39.42	-14.55
1 Max Peak	14.8336 GHz	49.85	-24.12
1 Max Peak	17.6732 GHz	57.58	-16.39
2 Average	17.702 GHz	46.52	-7.45

Segalla 19089820



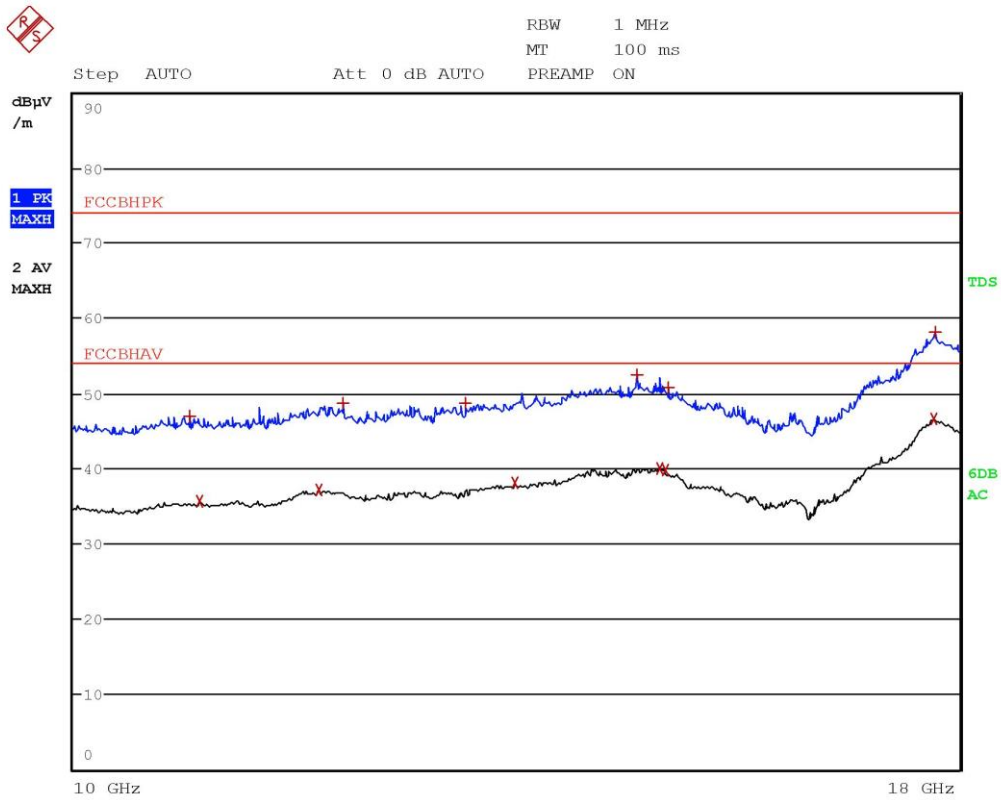
Segalla 19089821

CMC Centro Misure Compatibilità S.r.l.



EDIT PEAK LIST (Prescan Results)			
Trace1:	FCCBHPK		
Trace2:	FCCBHAV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL d μ V/m	DELTA LIMIT dB
1 Max Peak	10.7048 GHz	46.71	-27.26
2 Average	10.744 GHz	35.50	-18.48
2 Average	11.6172 GHz	36.94	-17.03
1 Max Peak	11.9508 GHz	48.44	-25.53
2 Average	13.3704 GHz	37.93	-16.04
1 Max Peak	13.392 GHz	49.43	-24.54
1 Max Peak	14.5808 GHz	51.23	-22.74
2 Average	14.7452 GHz	39.90	-14.07
2 Average	14.8 GHz	39.54	-14.43
1 Max Peak	14.8016 GHz	50.05	-23.92
1 Max Peak	17.7036 GHz	57.59	-16.38
2 Average	17.736 GHz	46.45	-7.52

Segalla 19089821



Segalla 19089822

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EDIT PEAK LIST (Prescan Results)			
Trace1:	FCCBHPK		
Trace2:	FCCBHAV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL d μ V/m	DELTA LIMIT dB
1 Max Peak	10.802 GHz	47.03	-26.94
2 Average	10.8772 GHz	35.61	-18.36
2 Average	11.7684 GHz	37.11	-16.86
1 Max Peak	11.9572 GHz	48.70	-25.27
1 Max Peak	12.9704 GHz	48.71	-25.26
2 Average	13.402 GHz	38.06	-15.91
1 Max Peak	14.54 GHz	52.55	-21.42
2 Average	14.7544 GHz	40.08	-13.89
2 Average	14.804 GHz	39.75	-14.22
1 Max Peak	14.84 GHz	50.68	-23.29
2 Average	17.7024 GHz	46.56	-7.41
1 Max Peak	17.7084 GHz	58.05	-15.92

Segalla 19089822



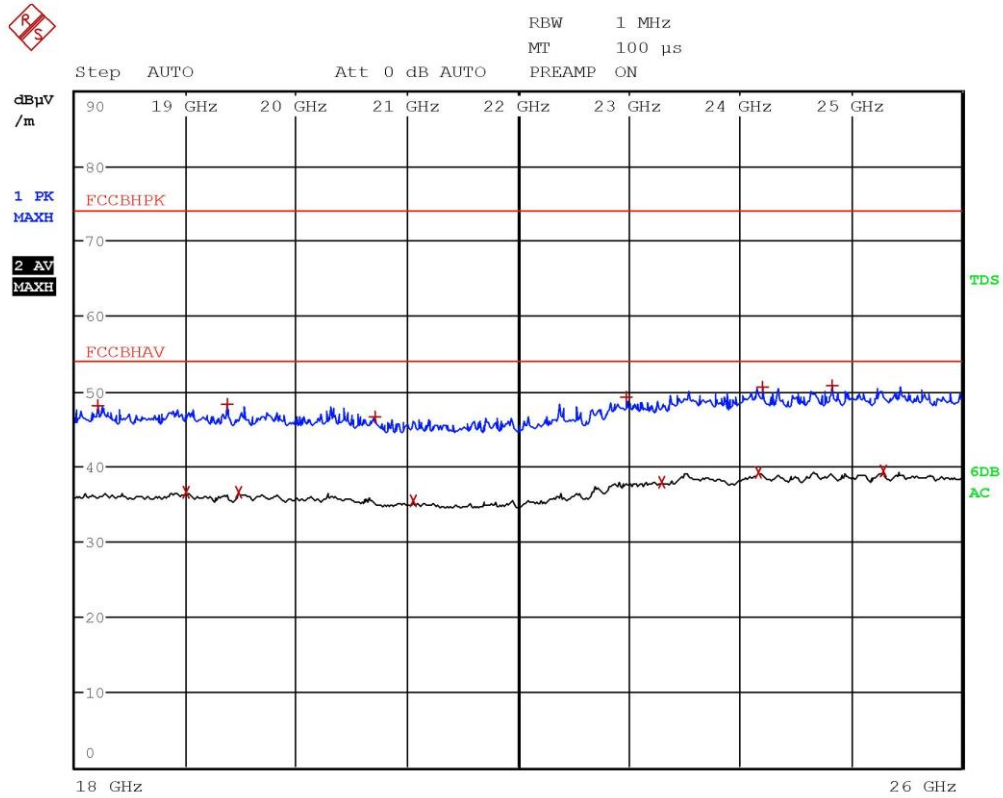
Segalla 19089823

CMC Centro Misure Compatibilità S.r.l.



EDIT PEAK LIST (Prescan Results)			
Trace1:	FCCBHPK		
Trace2:	FCCBHAV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL d μ V/m	DELTA LIMIT dB
2 Average	10.6704 GHz	35.49	-18.48
1 Max Peak	10.864 GHz	47.09	-26.88
1 Max Peak	11.6852 GHz	48.34	-25.63
2 Average	11.8808 GHz	37.08	-16.89
2 Average	13.3928 GHz	37.67	-16.30
1 Max Peak	13.4076 GHz	48.64	-25.33
2 Average	14.7516 GHz	40.01	-13.96
1 Max Peak	14.7548 GHz	51.99	-21.98
2 Average	14.7976 GHz	39.91	-14.06
1 Max Peak	14.8196 GHz	51.37	-22.60
1 Max Peak	17.694 GHz	57.80	-16.17
2 Average	17.6988 GHz	46.55	-7.42

Segalla 19089823



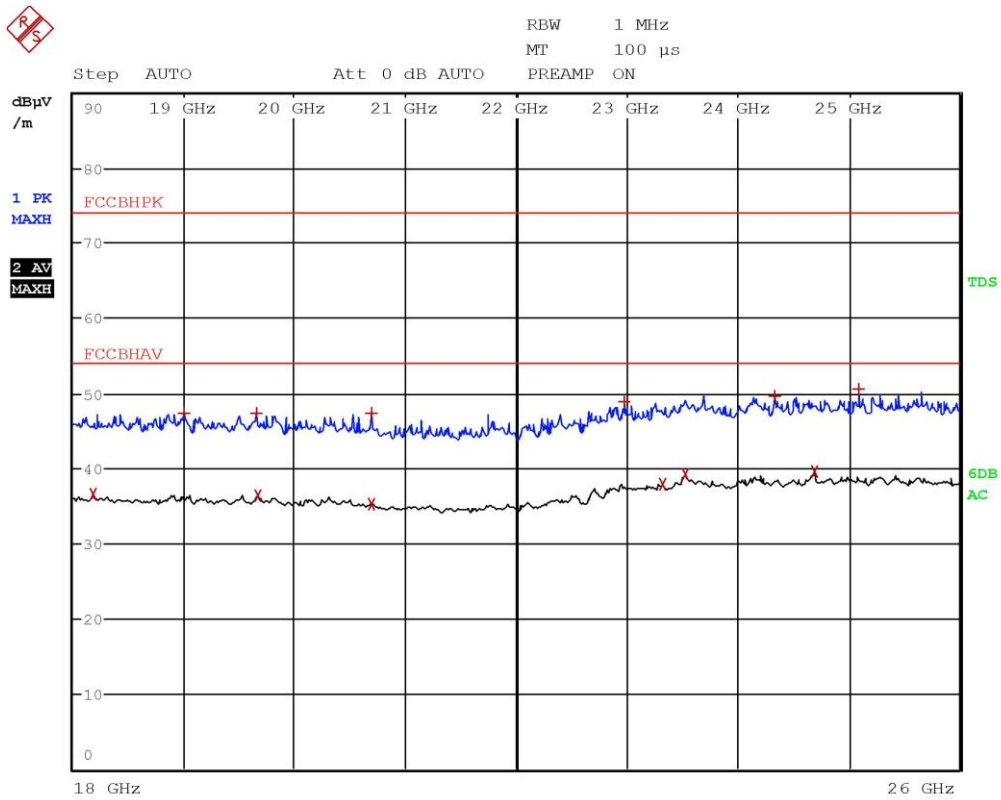
Segalla 19089824

CMC Centro Misure Compatibilità S.r.l.



EDIT PEAK LIST (Prescan Results)			
Trace1:	FCCBHPK		
Trace2:	FCCBHAV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL d μ V/m	DELTA LIMIT dB
1 Max Peak	18.1988 GHz	48.11	-25.86
2 Average	19.0044 GHz	36.50	-17.47
1 Max Peak	19.3744 GHz	48.36	-25.61
2 Average	19.472 GHz	36.56	-17.41
1 Max Peak	20.7068 GHz	46.59	-27.38
2 Average	21.0532 GHz	35.41	-18.56
1 Max Peak	22.976 GHz	49.20	-24.78
2 Average	23.2992 GHz	37.98	-15.99
2 Average	24.1656 GHz	39.15	-14.82
1 Max Peak	24.2072 GHz	50.65	-23.32
1 Max Peak	24.8272 GHz	50.70	-23.27
2 Average	25.2892 GHz	39.40	-14.57

Segalla 19089824



Segalla 19089825

CMC Centro Misure Compatibilità S.r.l.



EDIT PEAK LIST (Prescan Results)			
Trace1:	FCCBHPK		
Trace2:	FCCBHAV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL d μ V/m	DELTA LIMIT dB
2 Average	18.1784 GHz	36.52	-17.45
1 Max Peak	18.9976 GHz	47.33	-26.64
1 Max Peak	19.6528 GHz	47.30	-26.67
2 Average	19.6612 GHz	36.33	-17.64
2 Average	20.686 GHz	35.26	-18.71
1 Max Peak	20.6884 GHz	47.28	-26.69
1 Max Peak	22.9748 GHz	48.81	-25.16
2 Average	23.3204 GHz	37.86	-16.11
2 Average	23.5232 GHz	39.26	-14.71
1 Max Peak	24.3392 GHz	49.72	-24.26
2 Average	24.686 GHz	39.57	-14.40
1 Max Peak	25.0856 GHz	50.66	-23.31

Segalla 19089825

Result: The requirements are met

CMC Centro Misure Compatibilità S.r.l.



11.3 DTS bandwidth

Test set-up and execution

- FCC Rules and Regulation; Titles 47 Part 15.247 (a) (2)
- ANSI C63.10 cl. 11.8
- KDB 558074 D01 DTS Meas Guidance v05r01 cl. 8.2
- Internal procedure PM001
- See clause 4 of this test report

EUT exercising

See clause 4 of this test report

Test specification

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.

Environmental conditions

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

Test configuration and test method

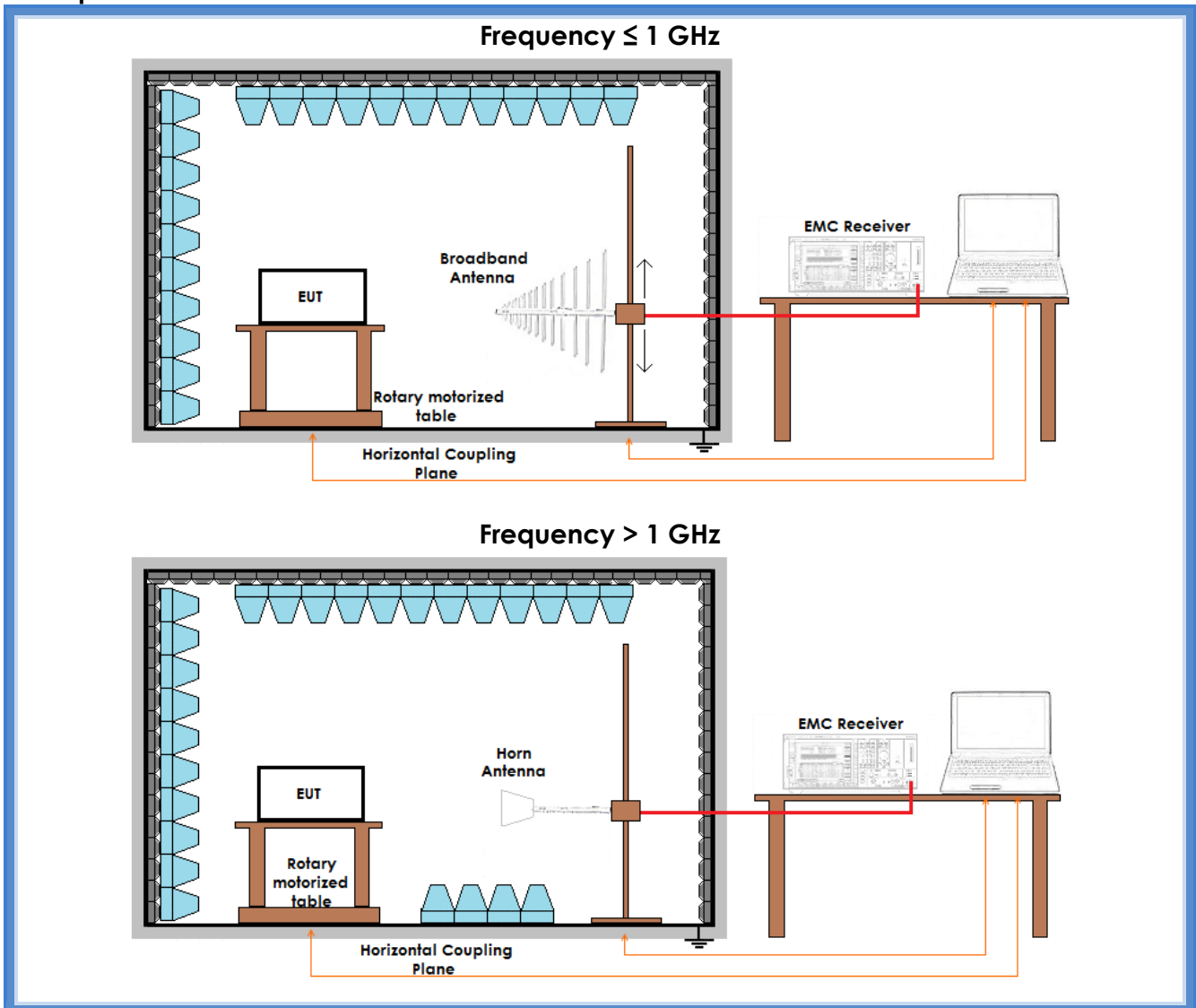
Test site:
 Semi-anechoic chamber

Auxiliary equipment:
 See clause 4 of this test report

Test equipment used

CMC S108, CMC S164, CMC S271, CMC S287
 Measurement uncertainty: See clause 7 of this test report

Setup

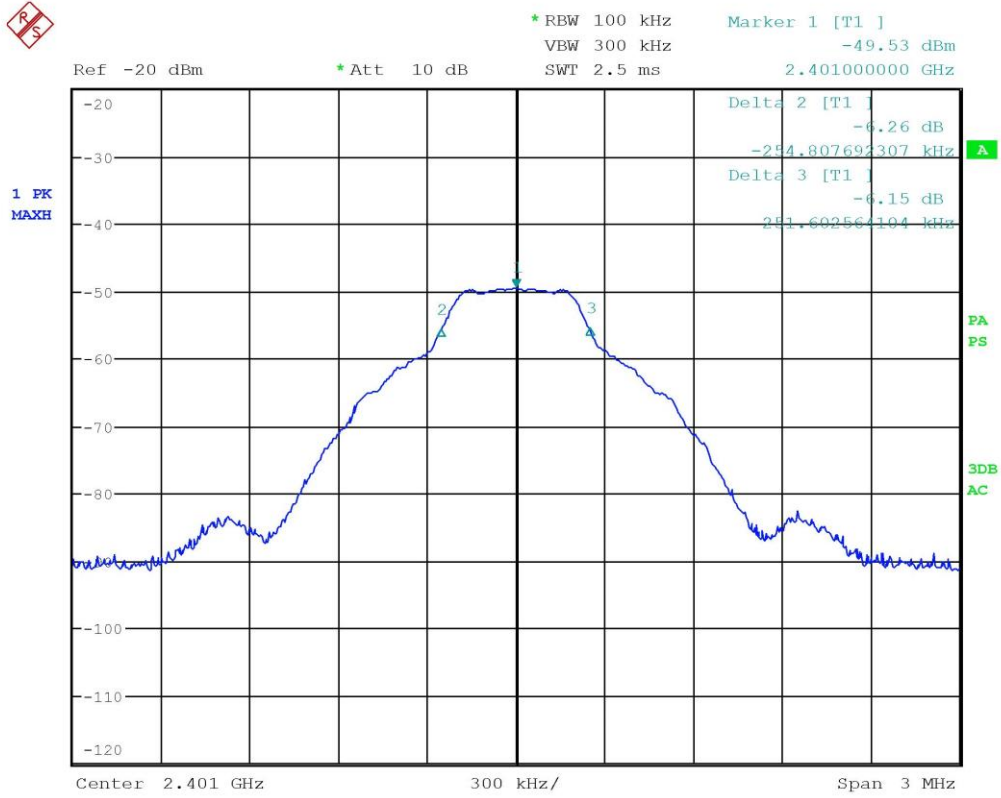


Result

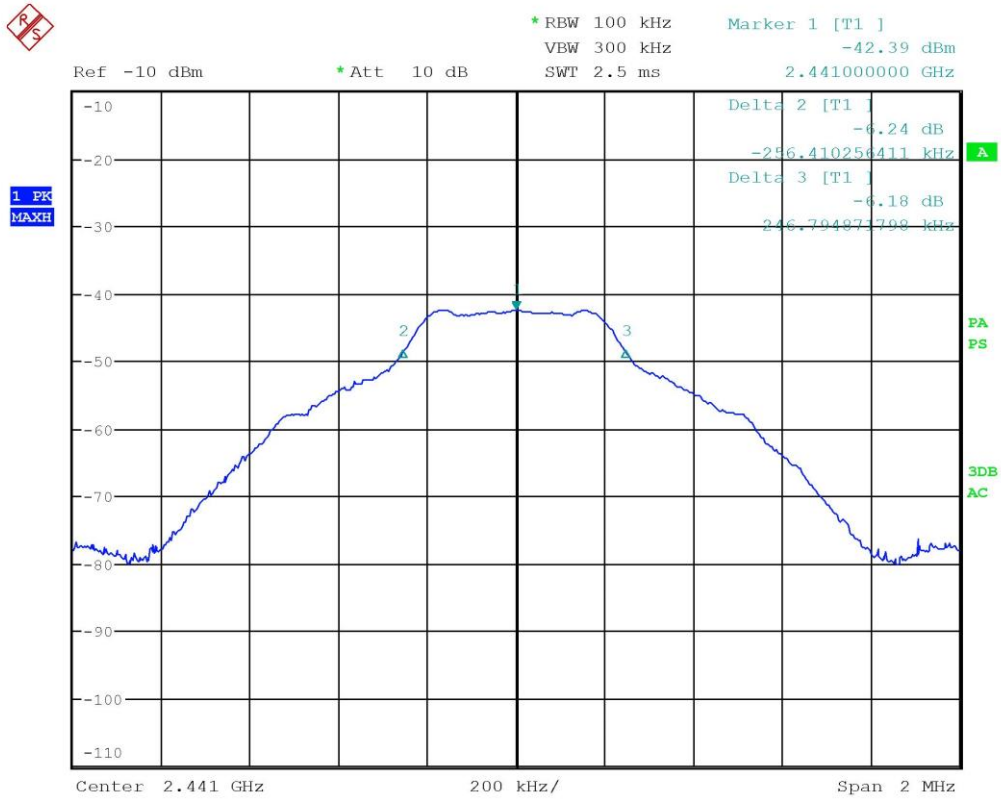
Channel	Graphs	6 dB bandwidth (kHz)	Limits (kHz)	Results
Lowest	G19089828	506,4103	At least 500	Complies
Medium	G19089835	503,2052	At least 500	Complies
Highest	G19089840	512,8206	At least 500	Complies



Graphs

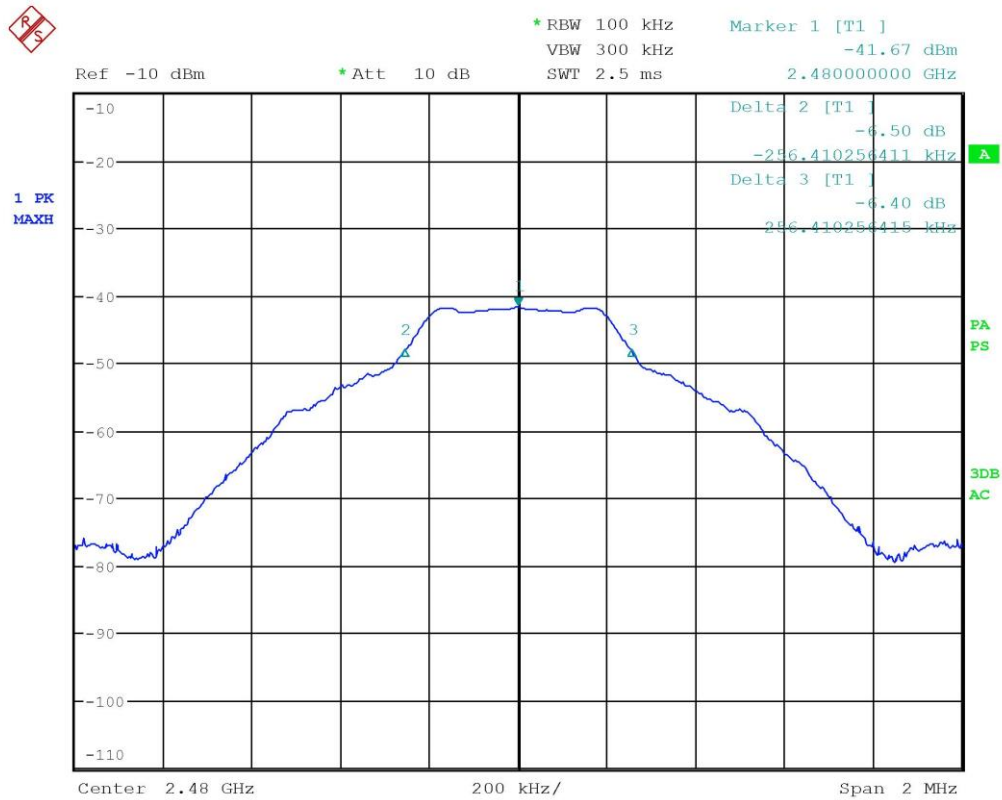


Segalla 19089828



Segalla 19089835

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Segalla 19089840

Result: The requirements are met

CMC Centro Misure Compatibilità S.r.l.



11.4 Band edge

Test set-up and execution

- 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 v05r01 cl. 8.5 and 8.6
- Internal procedure PM001
- See clause 4 of this test report

Test configuration and test method

Test site:
 Semi-anechoic chamber

Auxiliary equipment:
 See clause 4 of this test report

EUT exercising

See clause 4 of this test report

Test equipment used

CMC S108, CMC S164, CMC S271, CMC S287
 Measurement uncertainty: See clause 7 of this test report

Test specification

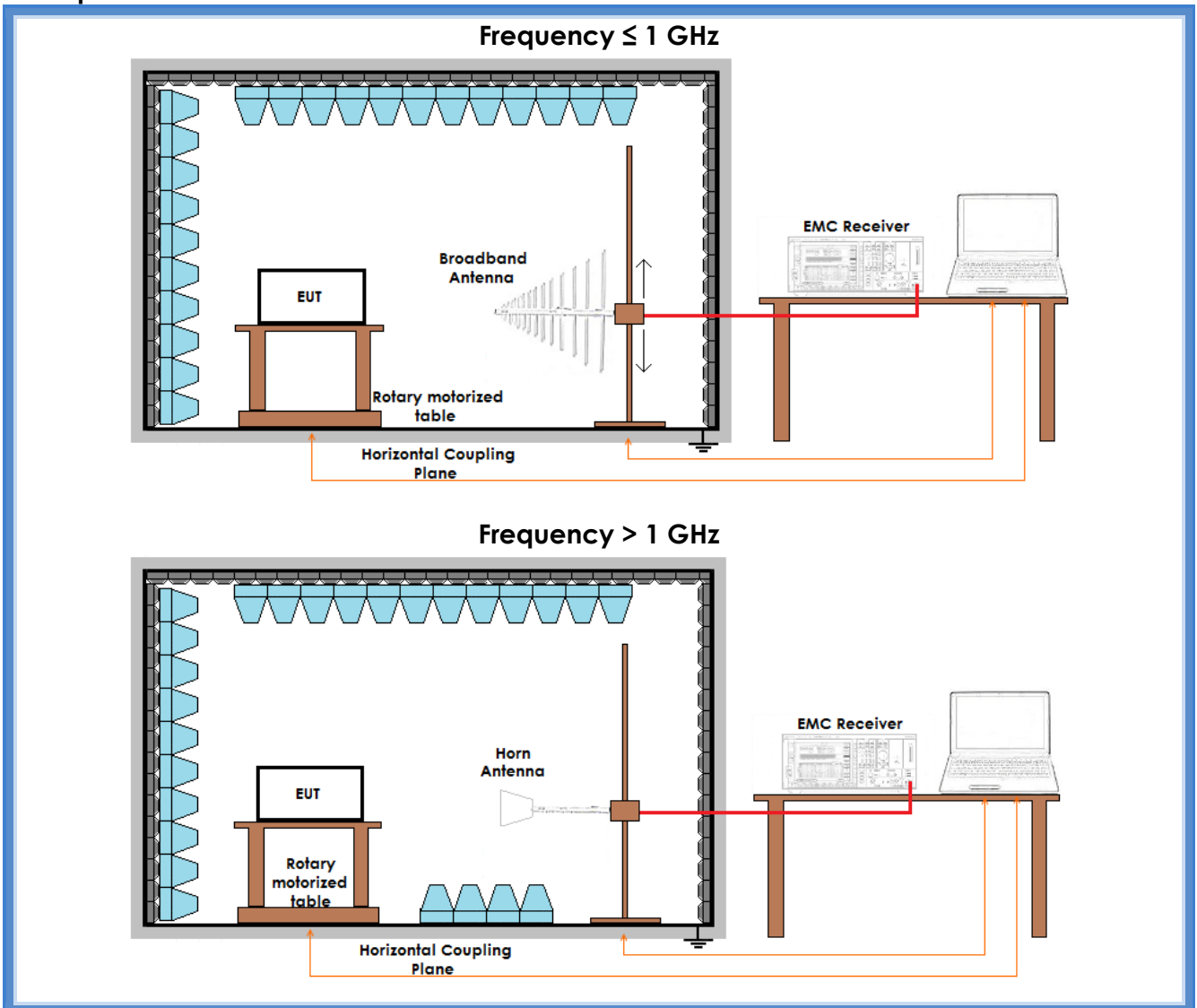
See FCC Part 15.247
 EUT height about the floor: 150 cm
 EUT – Antenna distance: 3 m

Environmental conditions

Temperature (°C)	Atmospheric pressure (kPa)	Relative humidity (%)
21	100	45

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

Setup



Result

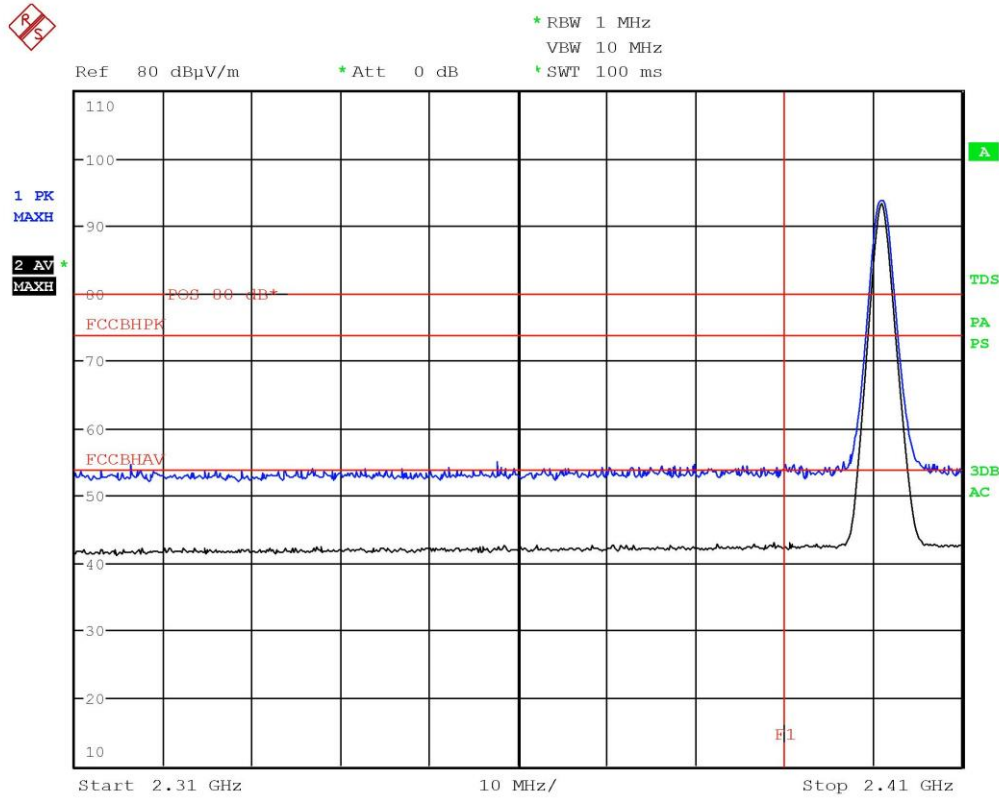
Channel	Bandwidth	Graph(s)	Results	
Lowest	1 MHz	G19089831*	--	Complies
Lowest	100 kHz	G19089832	2400,42468 MHz	Complies
Highest	1 MHz	G19089844	2483,45000 MHz	Complies
Highest	1 MHz	G19089845**	--	Complies

*: this graph shows the emissions in 2310 – 2390 MHz restricted band

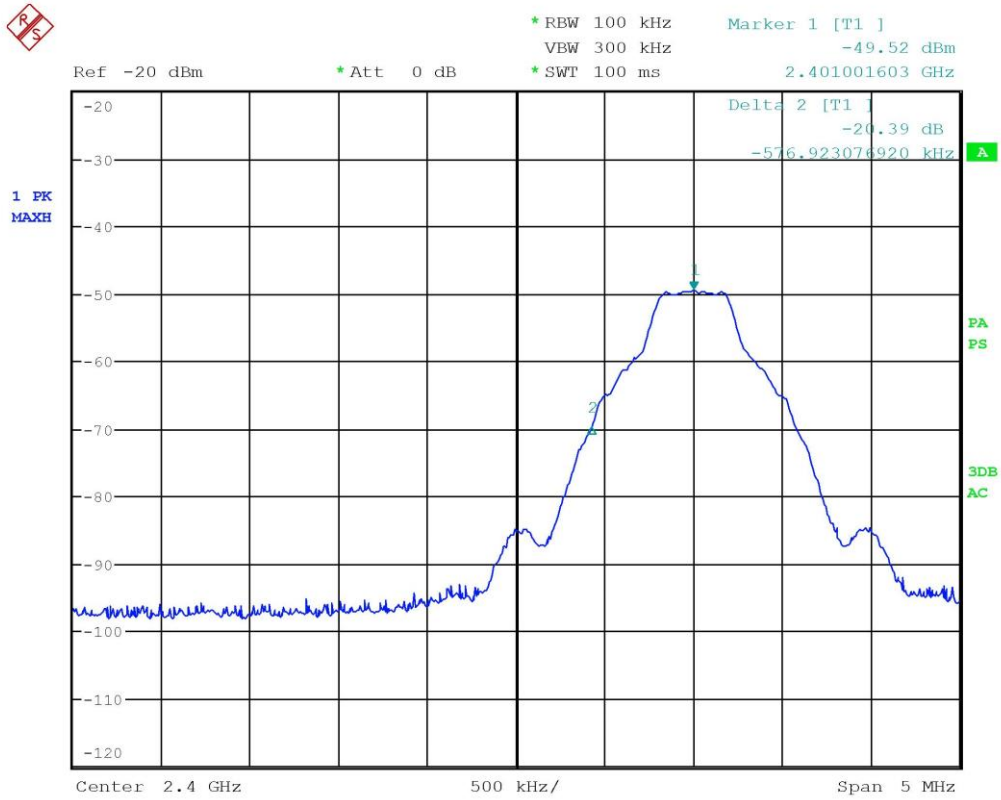
** : this graph shows the emissions in 2483,5 – 2500 MHz restricted band



Graphs

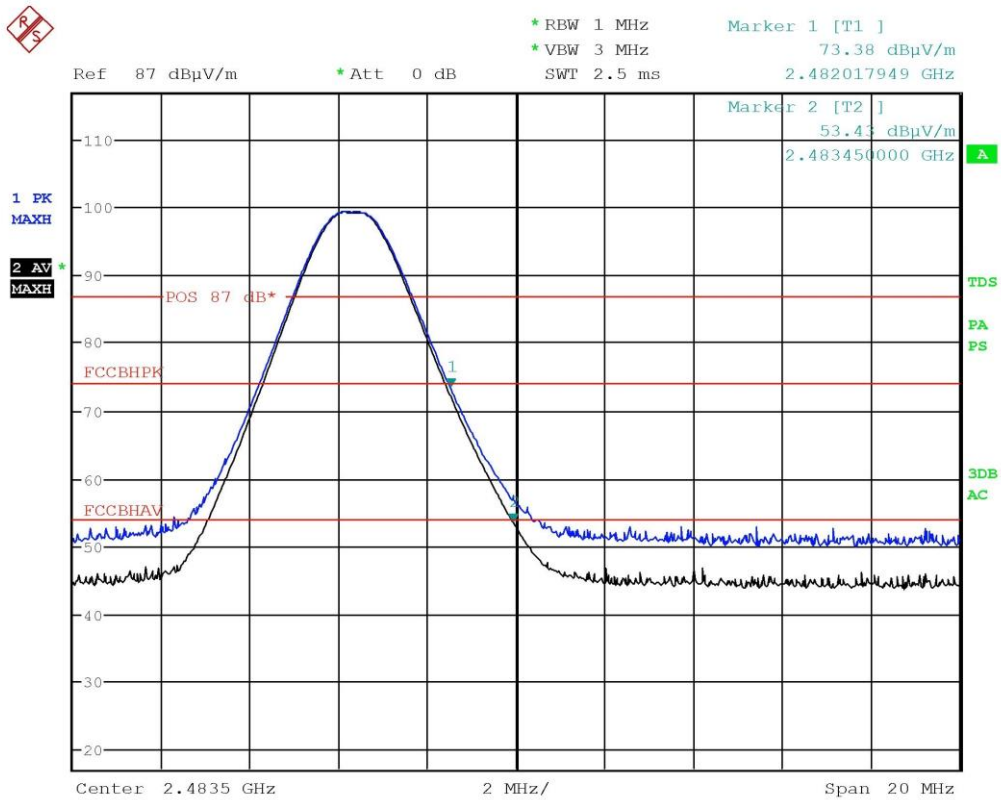


Segalla 19089831



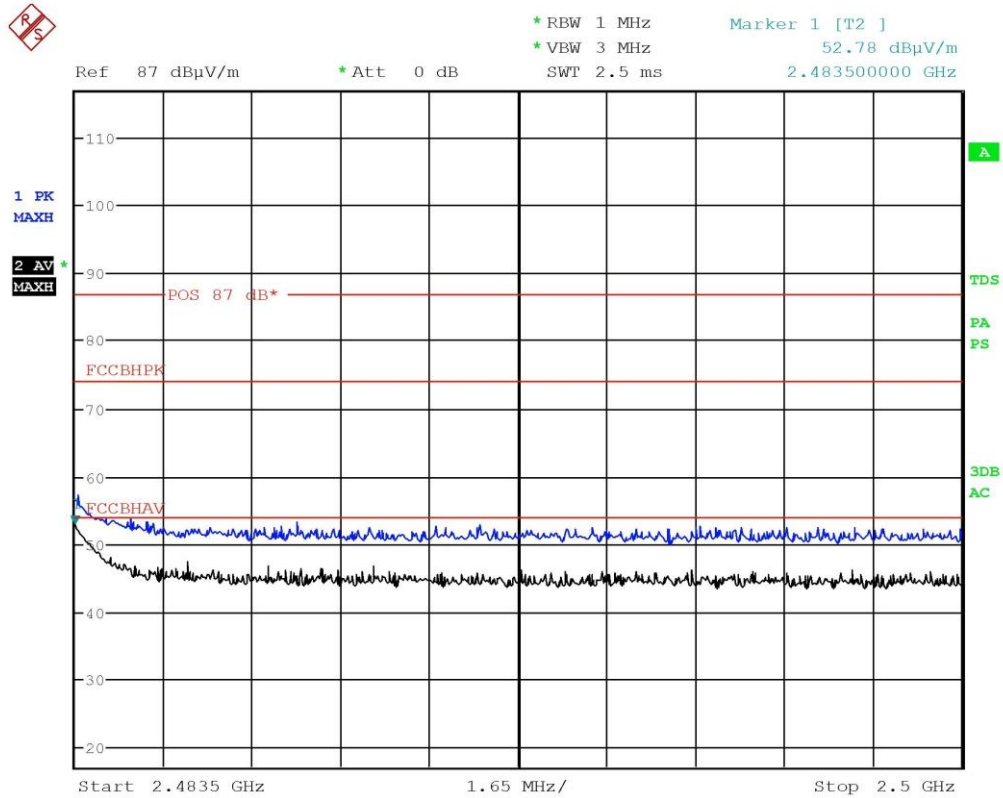
Segalla 19089832

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Segalla 19089844

CMC Centro Misure Compatibilità S.r.l.



Segalla 19089845

Result: The requirements are met

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11.5 Fundamental emission output power

Test set-up and execution

- 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 v05r01 cl. 8.3.1.1
- Internal procedure PM001
- See clause 4 of this test report

Test configuration and test method

Test site:
 Semi-anechoic chamber

Auxiliary equipment:
 See clause 4 of this test report

EUT exercising

See clause 4 of this test report

Test equipment used

CMC S108, CMC S164, CMC S271, CMC S287
 Measurement uncertainty: See clause 7 of this test report

Test specification

Port: Enclosure
 Antenna polarization: Horizontal (H) – Vertical (V)
 EUT – Antenna distance: 3 m
 EUT height about the floor: 80 cm

Environmental conditions

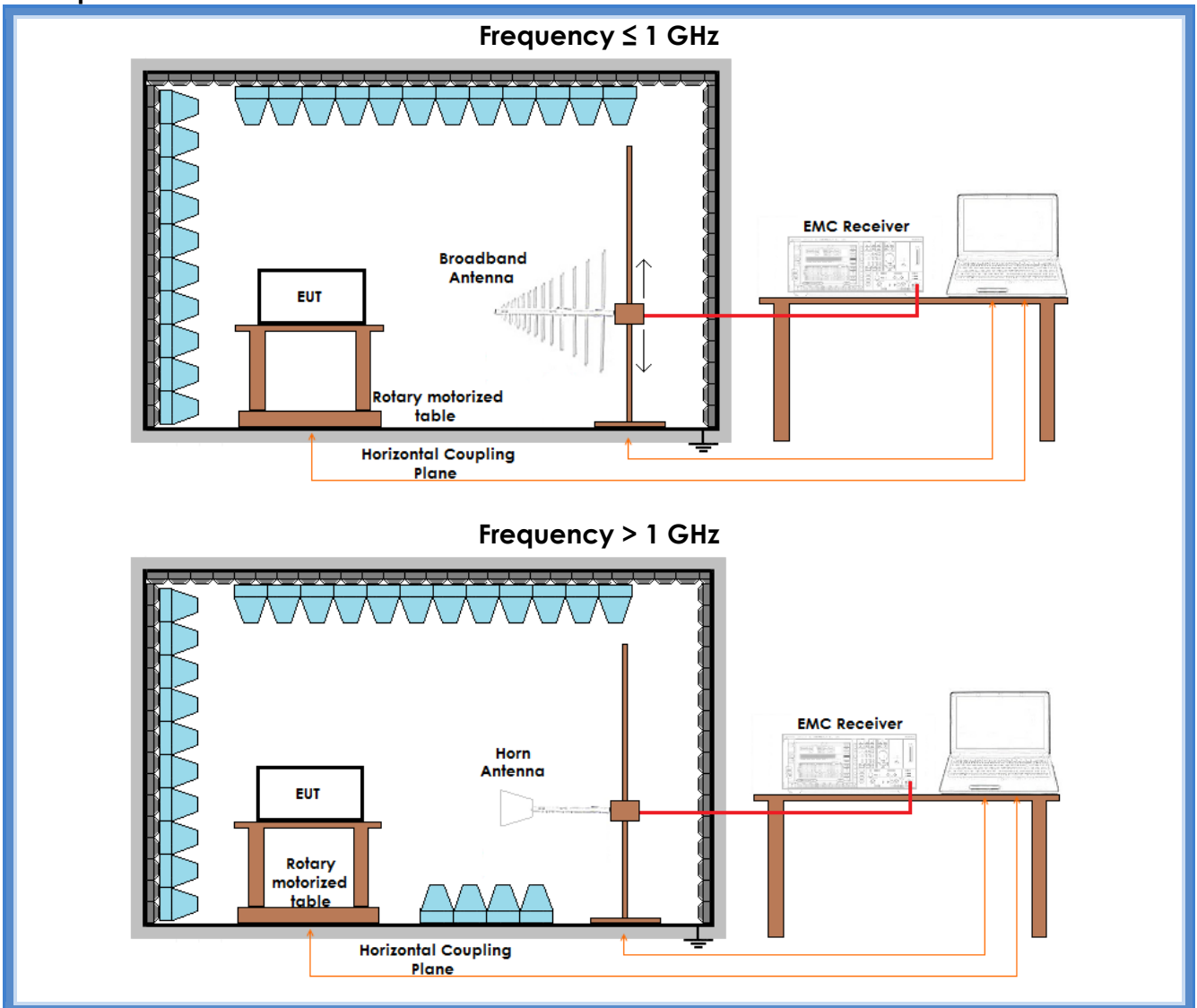
Temperature (°C)	Atmospheric pressure (kPa)	Relative humidity (%)
22	100	42

Acceptance limits:

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



Setup





Result

Channel	Polarization	Graphs	Measured PK level (dB μ V/m)	Peak Output Conducted Power (mW)	Limits (mW)
Lowest	Worst case	G19089826	94,06	0,764	1000
Medium	Worst case	G19089833	100,86	3,657	1000
Highest	Worst case	G19089838	99,25	2,524	1000

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

Where:

E = $(10^{(dB\mu V/m)/20})/1000000$, the maximum measured fundamental field strength in V/m

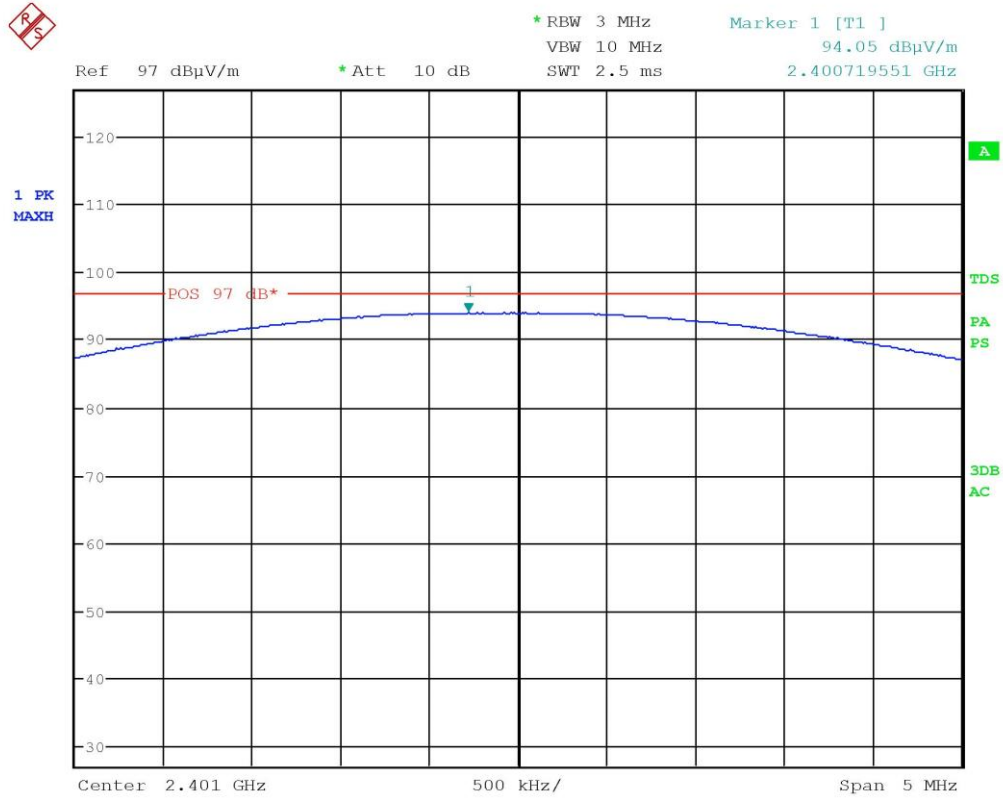
G = $10^{dBi/10}$, the numeric gain of the transmitting antenna: 1 (0 dBi)

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

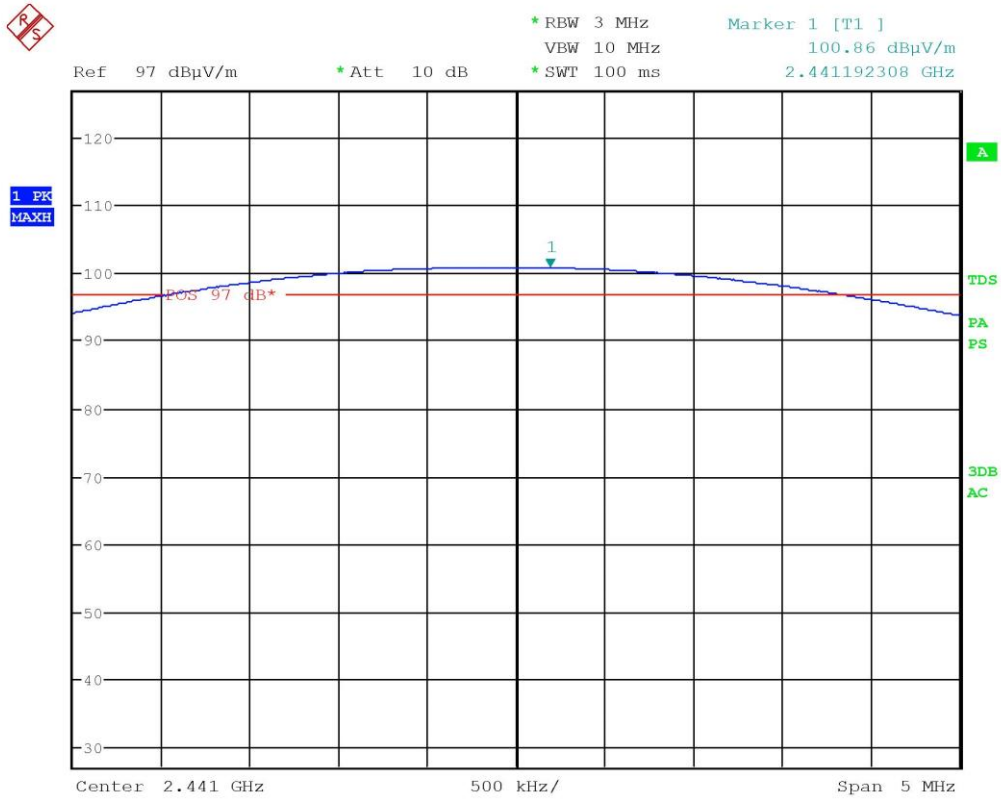
P = the power in watts



Graphs

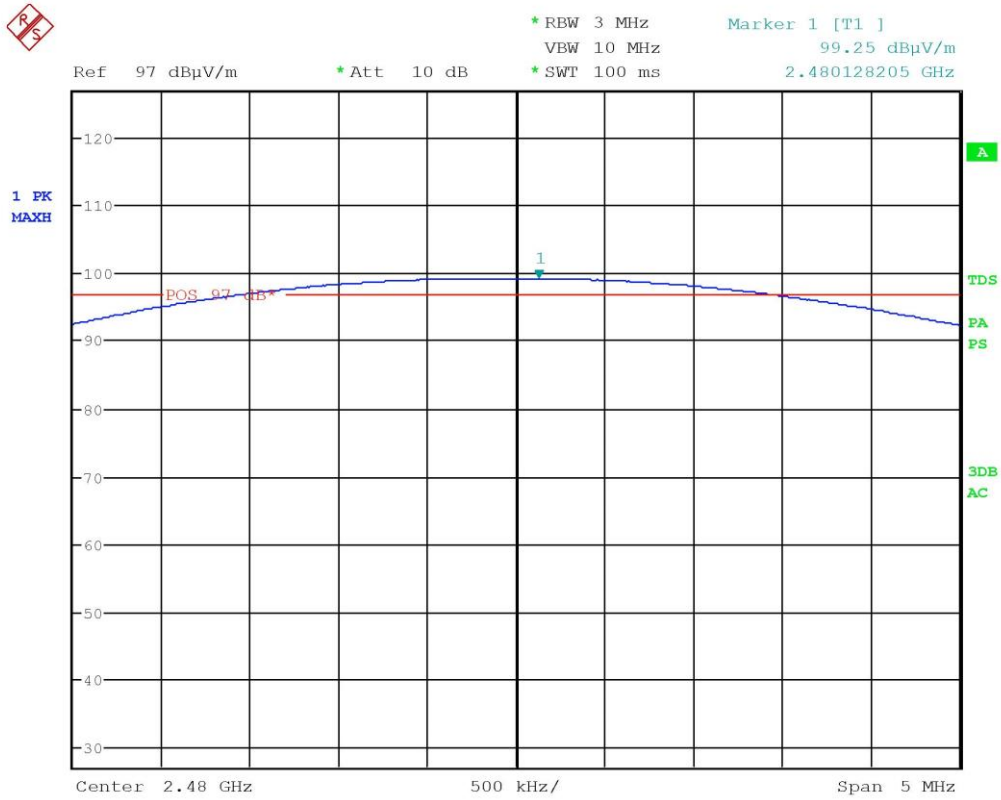


Segalla 19089826



Segalla 19089832

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Segalla 19089838

Result: The requirements are met

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11.6 Maximum power spectral density level in the fundamental emission

Test set-up and execution

- FCC Rules and Regulation; Titles 47 Part 15.247 (e)
- ANSI C63.10 cl. 11.10.2
- KDB 558074 D01 DTS Meas Guidance v05r01 cl. 8.4
- Internal procedure PM001
- See clause 4 of this test report

Test configuration and test method

Test site:
 Semi-anechoic chamber

Auxiliary equipment:
 See clause 4 of this test report

EUT exercising

See clause 4 of this test report

Test equipment used

CMC S108, CMC S164, CMC S271, CMC S287
 Measurement uncertainty: See clause 7 of this test report

Test specification

Port: Enclosure
 Antenna polarization: Horizontal (H) – Vertical (V)
 EUT – Antenna distance: 3 m
 EUT height about the floor: 80 cm

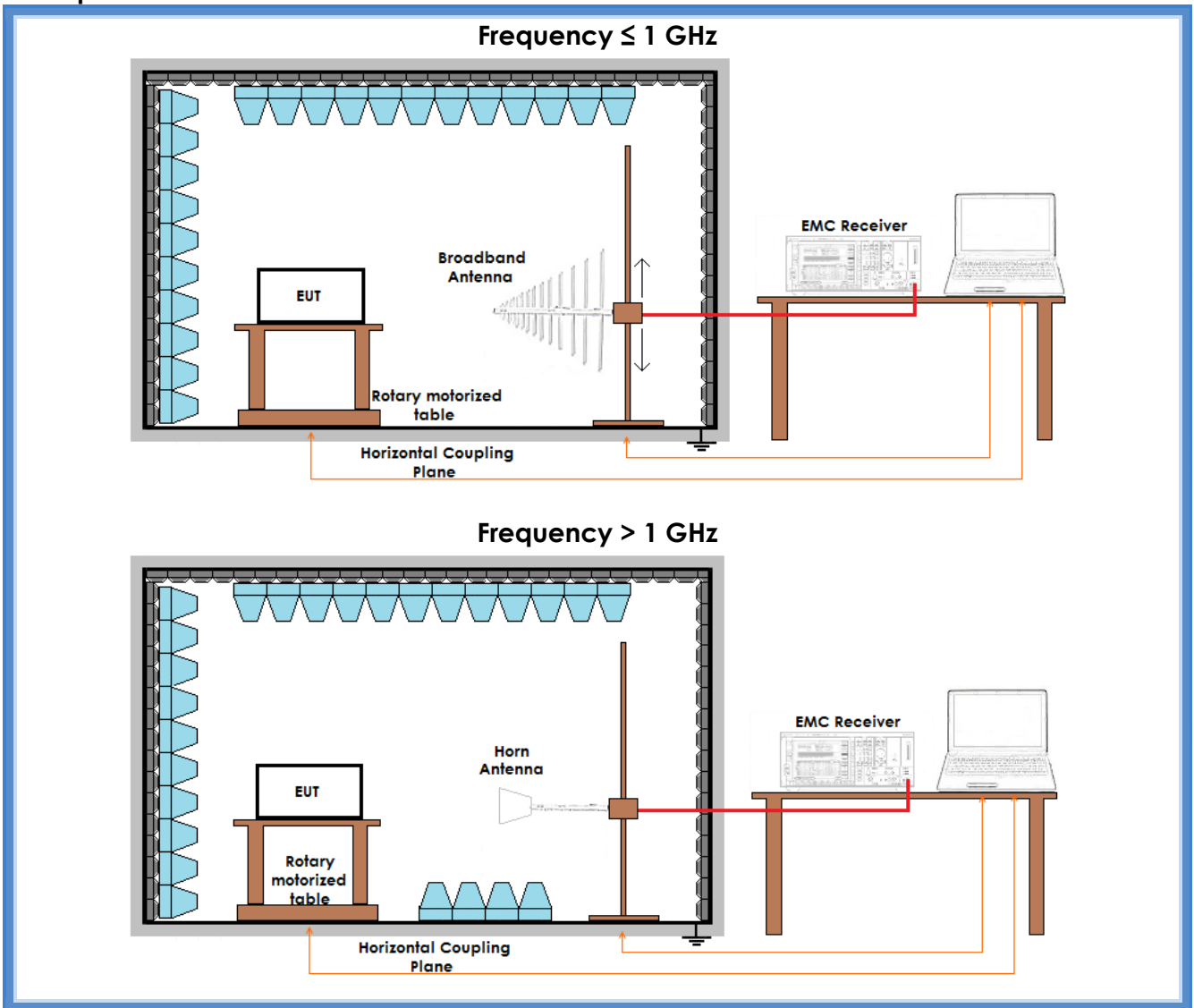
Environmental conditions

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

Acceptance limits:

Frequency Range	Power Spectral Density
2400 – 2483,5 MHz	8 dBm/3 kHz 6,31 mW/3 kHz

Setup





Result

Channel	Polarization	Graphs	Measured PK level (dBµV/m)	Power Spectral Density (mW/3 kHz)	Limits (mW/3 kHz)
Lowest	Worst case	G19089827	93,23	0,631	6,31
Medium	Worst case	G19089834	100,33	3,237	6,31
Highest	Worst case	G19089839	98,78	2,265	6,31

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

Where:

$E = (10^{(dB\mu V/m)/20})/1000000$, the maximum measured fundamental field strength in V/m

$G = 10^{dBi/10}$, the numeric gain of the transmitting antenna: 1 (0 dBi)

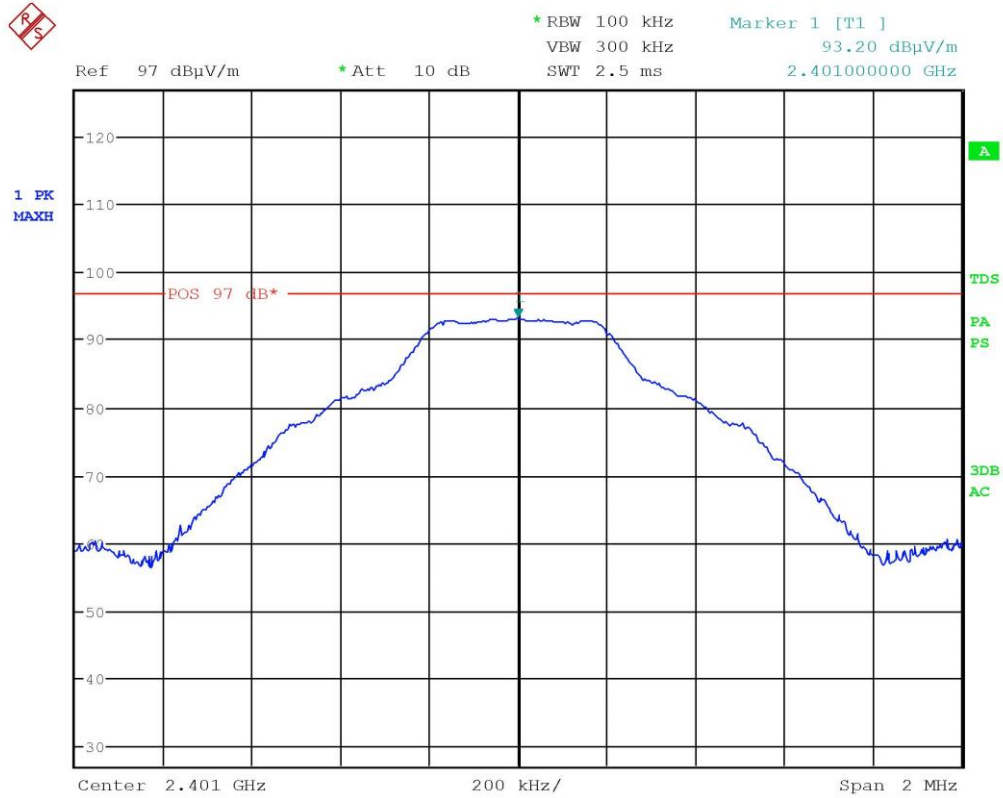
d = the distance in meters from which the field strength was measured (3 m)

P = the power in watts

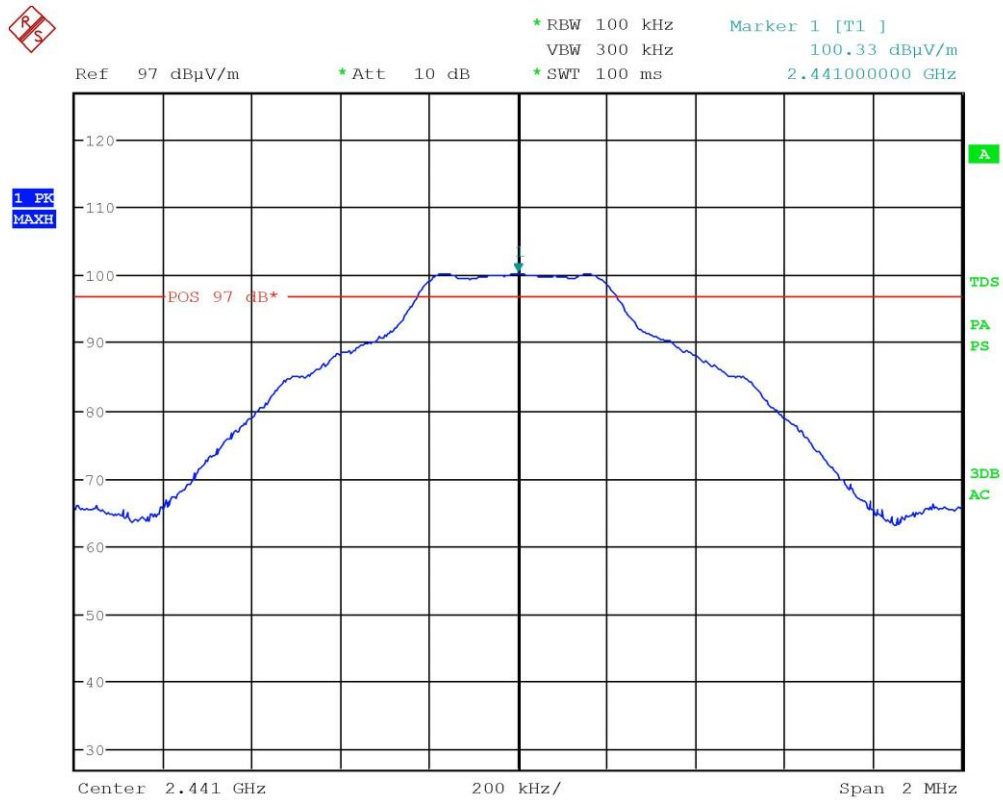




Graphs

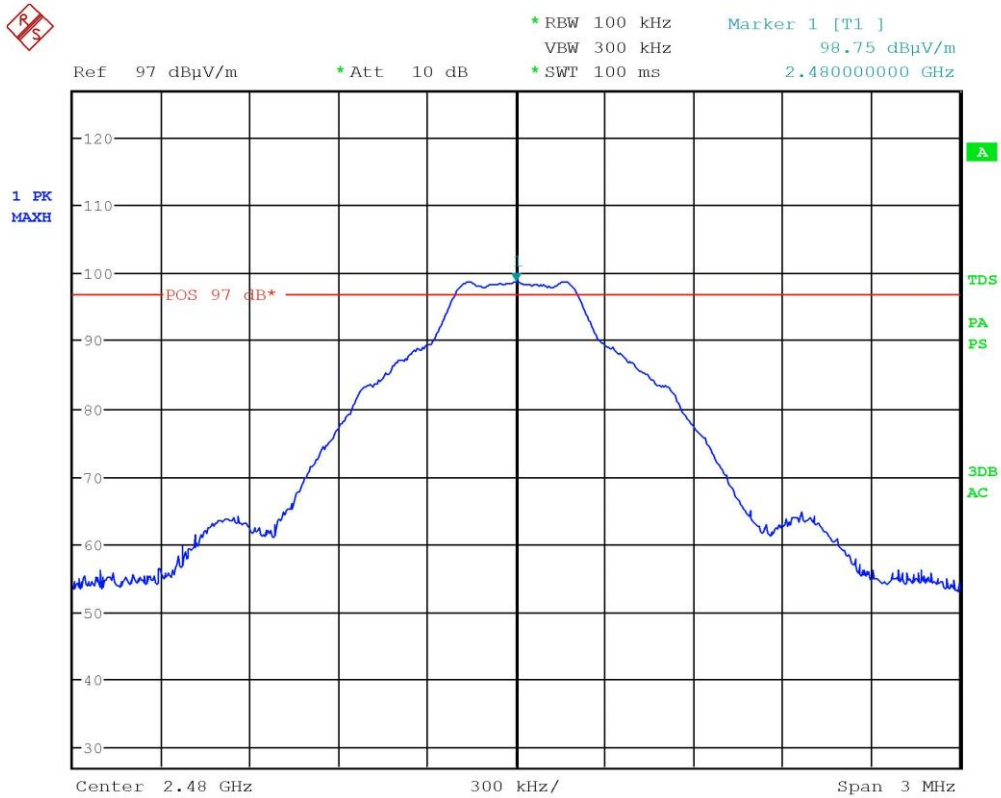


Segalla 19089827



Segalla 19089834

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Segalla 19089839

Result: The requirements are met

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11.7 Spurious Emission

Test set-up and execution

- FCC Rules and Regulation; Titles 47 Part. 15.247 (d)
- KDB 558074 D01 DTS Meas Guidance v05r01 cl. 8.5 and 8.6
- ANSI C63.10 cl. 11.11, 11.12.1
- Internal procedure PM001
- See clause 4 of this test report

Test configuration

Test site:
Semi-anechoic chamber

Auxiliary equipment:
See clause 4 of this test report

EUT exercising

See clause 4 of this test report

Test equipment used

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

Test specification

Port: Enclosure
Antenna polarization: Horizontal (H) – Vertical (V)
EUT height about the floor: 150 cm
EUT – Antenna distance: 3 m
Detector AV + Peak

Environmental conditions

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

Acceptance limits

Acceptance limits for emissions in restricted frequency bands (according FCC Part 15.209)		
Frequency (MHz)	AV limits [dB(μV/m)]	Peak limits [dB(μV/m)]
> 1000	54	74



The restricted frequency bands are listed in the following table (according to FCC Part 15.205)

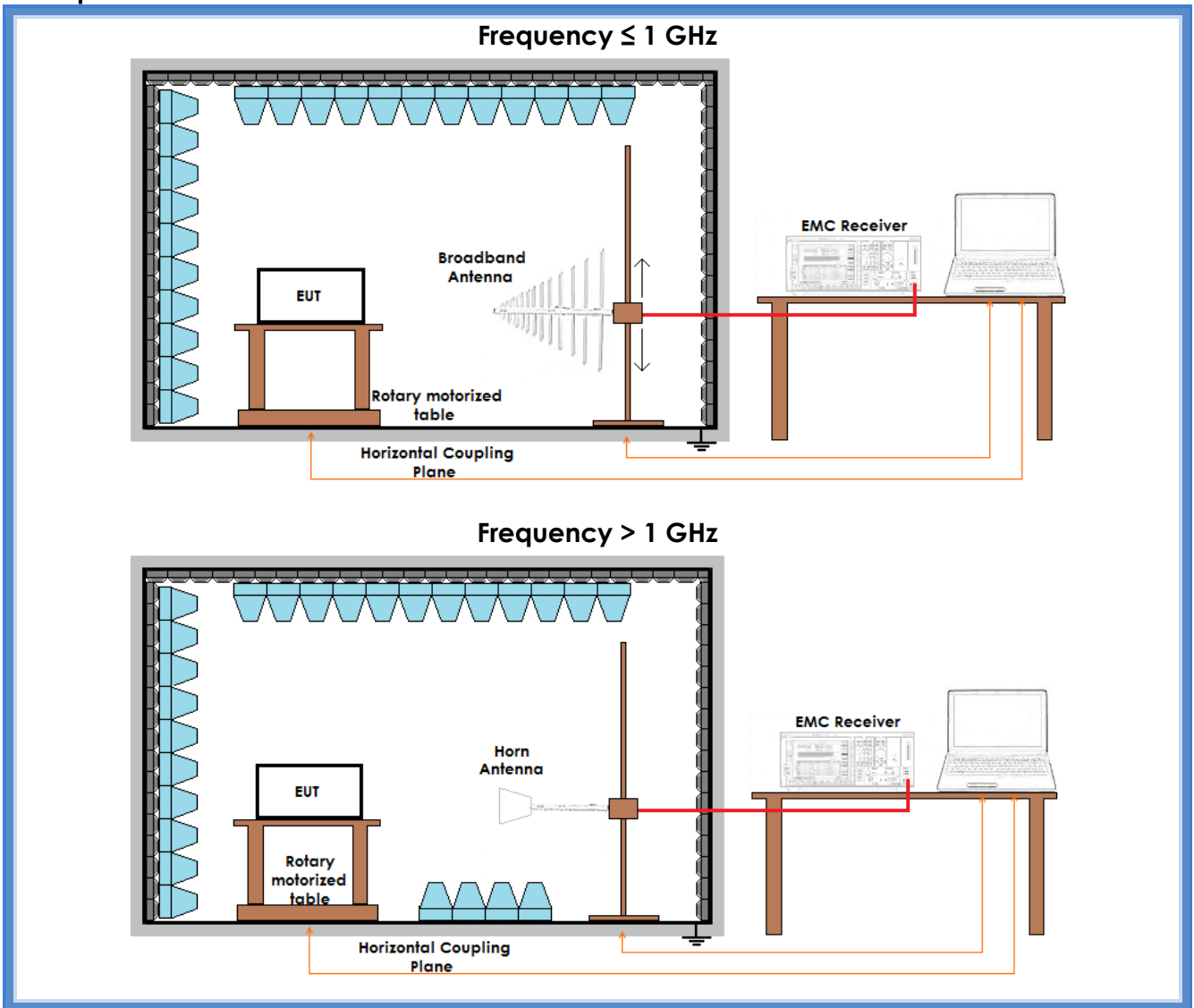
MHz	MHz	MHz	GHz
0,09 – 0,110	16,42 – 16,423	399,9 – 410	4,5 – 5,15
0,495 – 0,505	16,69475 – 16,69525	608 – 614	5,35 – 5,46
2,1735 – 2,1905	16,80425 – 16,80475	960 – 1240	7,25 – 7,75
4,125 – 4,128	25,5 – 25,67	1300 – 1427	8,025 – 8,5
4,17725 – 4,17775	37,5 – 38,25	1435 – 1626,5	9,0 – 9,2
4,20725 – 4,20775	73 – 74,6	1645,5 – 1646,5	9,3 – 9,5
6,215 – 6,218	74,8 – 75,2	1660 – 1710	10,6 – 12,7
6,26775 – 6,26825	108 – 121,94	1718,8 – 1722,2	13,25 – 13,4
6,31175 – 6,31225	123 – 138	2200 – 2300	14,47 – 14,5
8,291 – 8,294	149,9 – 150,05	2310 – 2390	15,35 – 16,2
8,362 – 8,366	156,52475 – 156,52525	2483,5 – 2500	17,7 – 21,4
8,41425 – 8,41475	162,0125 – 167,17	3260 – 3267	23,6 – 24
12,29 – 12,293	167,72 – 173,2	3332 – 3339	31,2 – 31,8
12,57675 – 12,57725	322 – 335,4	3600 – 4400	Above 38,6
13,36 – 13,41			

Acceptance limits for emissions in non-restricted frequency bands (according to ANSI C63.10 cl. 11.11.1)

The DTS rules specify that in any 100 kHz bandwidth outside of the authorized frequency band, the power shall be attenuated according to the following conditions:

- If the maximum peak conducted output power procedure was used to demonstrate compliance as described in 9.1, then the peak output power measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz
- If maximum conducted (average) output power was used to demonstrate compliance as described in 9.2, then the peak power in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum in-band peak PSD level in 100 kHz.
- In either case, attenuation to levels below the 15.209 general radiated emissions limits is not required

Setup





Result – AV detector

Harmonic	Lowest channel		Medium channel		Highest channel		Results
	Level (dB μ V/m)	Limits (dB μ V/m)	Level (dB μ V/m)	Limits (dB μ V/m)	Level (dB μ V/m)	Limits (dB μ V/m)	
II	48,33	54,00	40,69	54,00	41,15	54,00	Complies
III	39,60	54,00	46,05	54,00	40,62	54,00	Complies
IV	More than 20 dB below limit	54,00	More than 20 dB below limit	54,00	More than 20 dB below limit	54,00	Complies
V	More than 20 dB below limit	54,00	More than 20 dB below limit	54,00	More than 20 dB below limit	54,00	Complies
VI	More than 20 dB below limit	54,00	More than 20 dB below limit	54,00	More than 20 dB below limit	54,00	Complies
VII	More than 20 dB below limit	54,00	More than 20 dB below limit	54,00	More than 20 dB below limit	54,00	Complies
VIII	More than 20 dB below limit	54,00	More than 20 dB below limit	54,00	More than 20 dB below limit	54,00	Complies
IX	More than 20 dB below limit	54,00	More than 20 dB below limit	54,00	More than 20 dB below limit	54,00	Complies
X	More than 20 dB below limit	54,00	More than 20 dB below limit	54,00	More than 20 dB below limit	54,00	Complies

Remarks: EUT was tested in 3 orthogonal planes. The results in this table show the highest values. No spurious other than harmonics have been found. The results have been extrapolated to the specified distance using an extrapolation factor. For all harmonics it was considered the limit of 54 dB μ V/m as a worse case, even if some harmonics could fall in non-restricted frequency bands



Result – Peak detector

Harmonic	Lowest channel		Medium channel		Highest channel		Results
	Level (dB μ V/m)	Limits (dB μ V/m)	Level (dB μ V/m)	Limits (dB μ V/m)	Level (dB μ V/m)	Limits (dB μ V/m)	
II	52,38	74,00	46,63	74,00	48,17	74,00	Complies
III	50,00	74,00	52,50	74,00	50,14	74,00	Complies
IV	More than 20 dB below limit	74,00	More than 20 dB below limit	74,00	More than 20 dB below limit	74,00	Complies
V	More than 20 dB below limit	74,00	More than 20 dB below limit	74,00	More than 20 dB below limit	74,00	Complies
VI	More than 20 dB below limit	74,00	More than 20 dB below limit	74,00	More than 20 dB below limit	74,00	Complies
VII	More than 20 dB below limit	74,00	More than 20 dB below limit	74,00	More than 20 dB below limit	74,00	Complies
VIII	More than 20 dB below limit	74,00	More than 20 dB below limit	74,00	More than 20 dB below limit	74,00	Complies
IX	More than 20 dB below limit	74,00	More than 20 dB below limit	74,00	More than 20 dB below limit	74,00	Complies
X	More than 20 dB below limit	74,00	More than 20 dB below limit	74,00	More than 20 dB below limit	74,00	Complies

Remarks: EUT was tested in 3 orthogonal planes. The results in this table show the highest values. No spurious other than harmonics have been found. The results have been extrapolated to the specified distance using an extrapolation factor. For all harmonics it was considered the limit of 74 dB μ V/m as a worse case, even if some harmonics could fall in non-restricted frequency bands

Result: The requirements are met