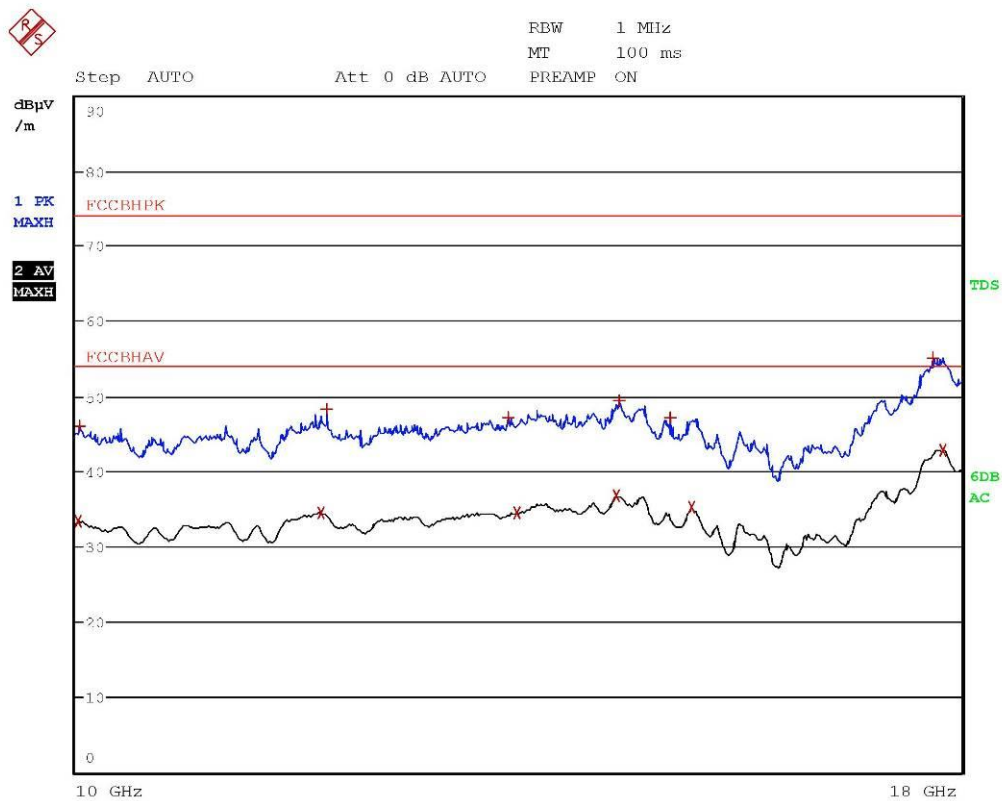




EDIT PEAK LIST (Prescan Results)			
Trace1:	FCCBHPK		
Trace2:	FCCBHAV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV/m	DELTA LIMIT dB
2 Average	10.018 GHz	33.50	-20.47
1 Max Peak	10.0188 GHz	46.16	-27.81
1 Max Peak	11.7532 GHz	47.65	-26.32
2 Average	11.7552 GHz	34.69	-19.28
2 Average	13.354 GHz	34.84	-19.13
1 Max Peak	13.3644 GHz	48.00	-25.97
1 Max Peak	14.3612 GHz	49.86	-24.11
2 Average	14.5792 GHz	36.97	-17.00
1 Max Peak	15.05 GHz	48.10	-25.87
2 Average	15.0652 GHz	35.30	-18.67
1 Max Peak	17.712 GHz	56.59	-17.38
2 Average	17.7804 GHz	42.96	-11.01

Segalla 17197213

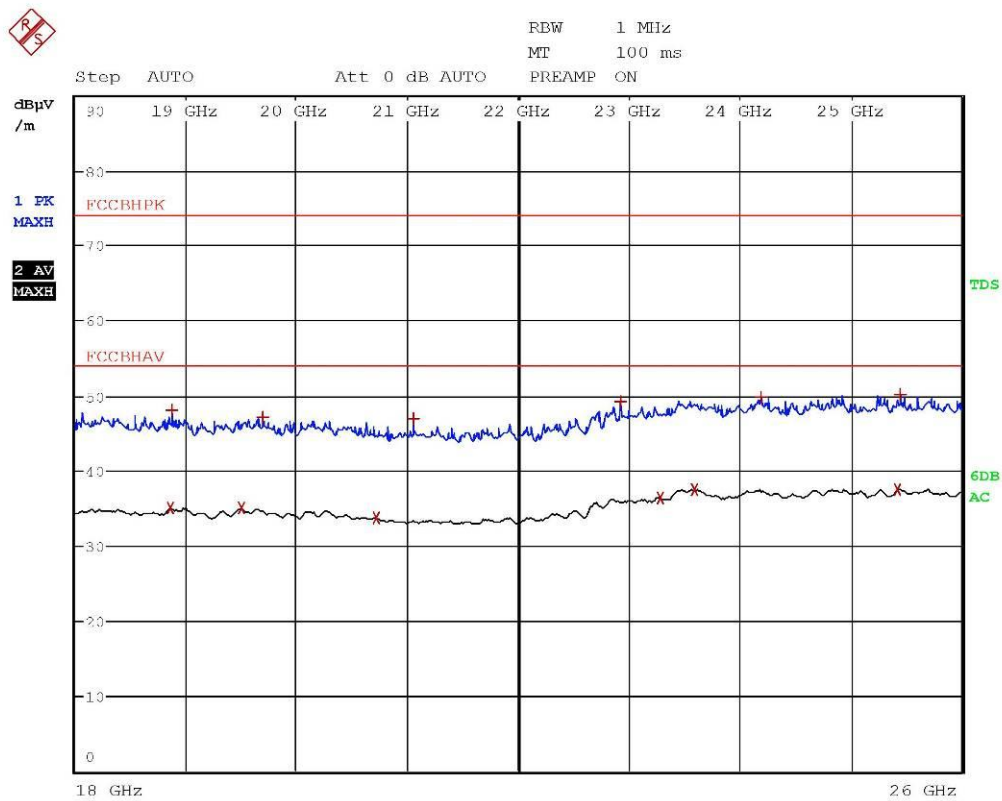


Segalla 17197214



EDIT PEAK LIST (Prescan Results)			
Trace1:	FCCBHPK		
Trace2:	FCCBHAV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV/m	DELTA LIMIT dB
2 Average	10.0184 GHz	33.43	-20.55
1 Max Peak	10.0244 GHz	46.08	-27.89
2 Average	11.7708 GHz	34.47	-19.50
1 Max Peak	11.812 GHz	48.29	-25.68
1 Max Peak	13.3228 GHz	47.14	-26.83
2 Average	13.4072 GHz	34.50	-19.47
2 Average	14.3172 GHz	36.69	-17.28
1 Max Peak	14.3448 GHz	49.38	-24.59
1 Max Peak	14.832 GHz	47.19	-26.78
2 Average	15.0504 GHz	35.17	-18.80
1 Max Peak	17.6664 GHz	55.02	-18.95
2 Average	17.7796 GHz	42.84	-11.13

Segalla 17197214

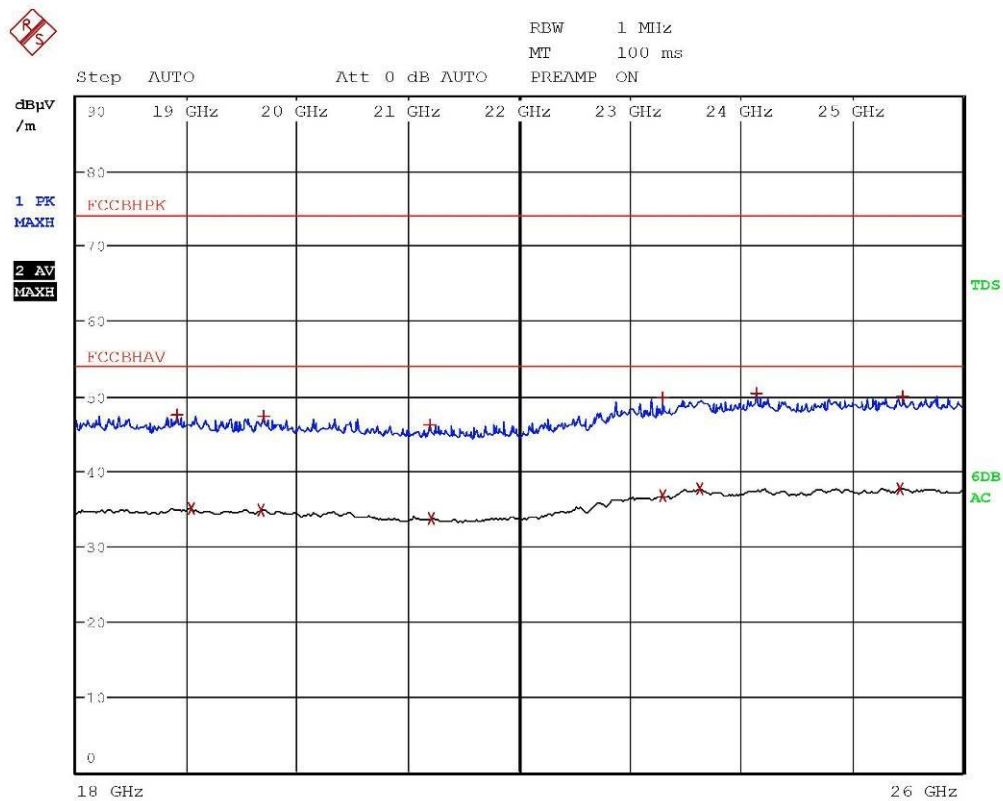


Segalla 17197215



EDIT PEAK LIST (Prescan Results)			
Trace1:	FCCBHPK		
Trace2:	FCCBHAV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV/m	DELTA LIMIT dB
2 Average	18.8648 GHz	35.03	-18.94
1 Max Peak	18.872 GHz	48.04	-25.93
2 Average	19.498 GHz	34.98	-18.99
1 Max Peak	19.6912 GHz	47.19	-26.78
2 Average	20.7148 GHz	33.77	-20.20
1 Max Peak	21.052 GHz	46.98	-26.99
1 Max Peak	22.9164 GHz	49.29	-24.68
2 Average	23.2808 GHz	36.43	-17.54
2 Average	23.5832 GHz	37.50	-16.47
1 Max Peak	24.1916 GHz	49.86	-24.11
2 Average	25.426 GHz	37.59	-16.38
1 Max Peak	25.4488 GHz	50.24	-23.73

Segalla 17197215

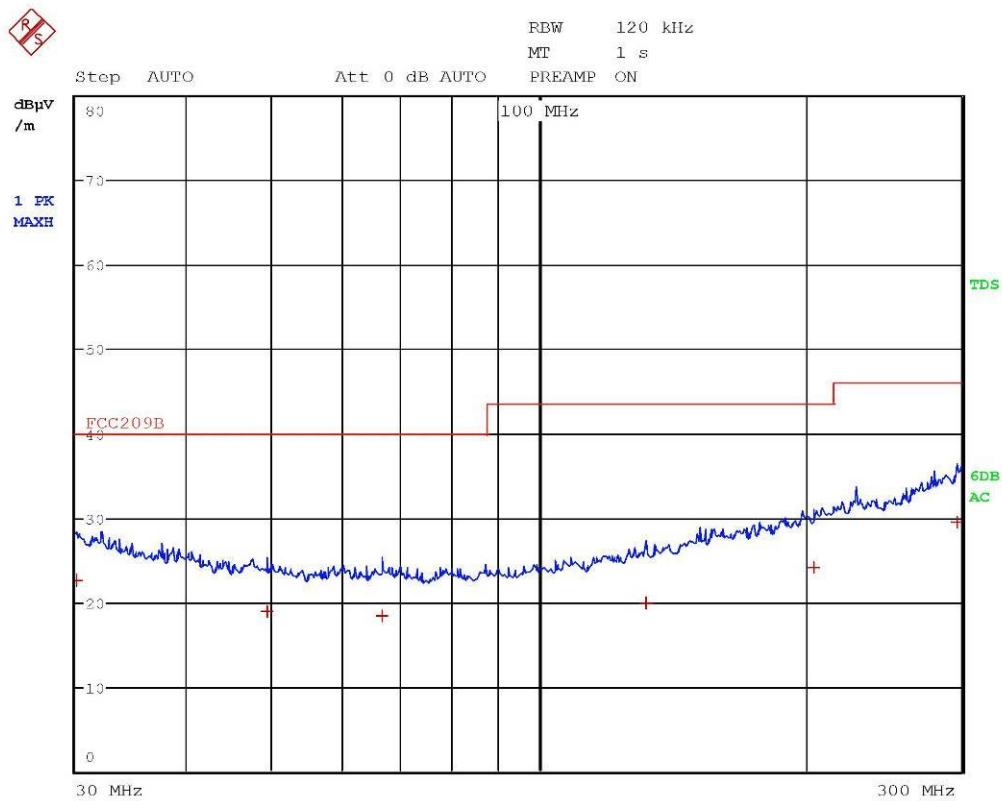


Segalla 17197216



EDIT PEAK LIST (Prescan Results)			
Trace1:	FCCBHPK		
Trace2:	FCCBHAV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV/m	DELTA LIMIT dB
1 Max Peak	18.9072 GHz	47.54	-26.43
2 Average	19.0368 GHz	35.12	-18.85
2 Average	19.6716 GHz	34.93	-19.04
1 Max Peak	19.6888 GHz	47.27	-26.70
1 Max Peak	21.1952 GHz	46.24	-27.74
2 Average	21.2016 GHz	33.71	-20.26
2 Average	23.2928 GHz	36.72	-17.25
1 Max Peak	23.3004 GHz	49.78	-24.19
2 Average	23.6304 GHz	37.66	-16.31
1 Max Peak	24.1348 GHz	50.30	-23.67
2 Average	25.4304 GHz	37.75	-16.22
1 Max Peak	25.4628 GHz	50.01	-23.96

Segalla 17197216

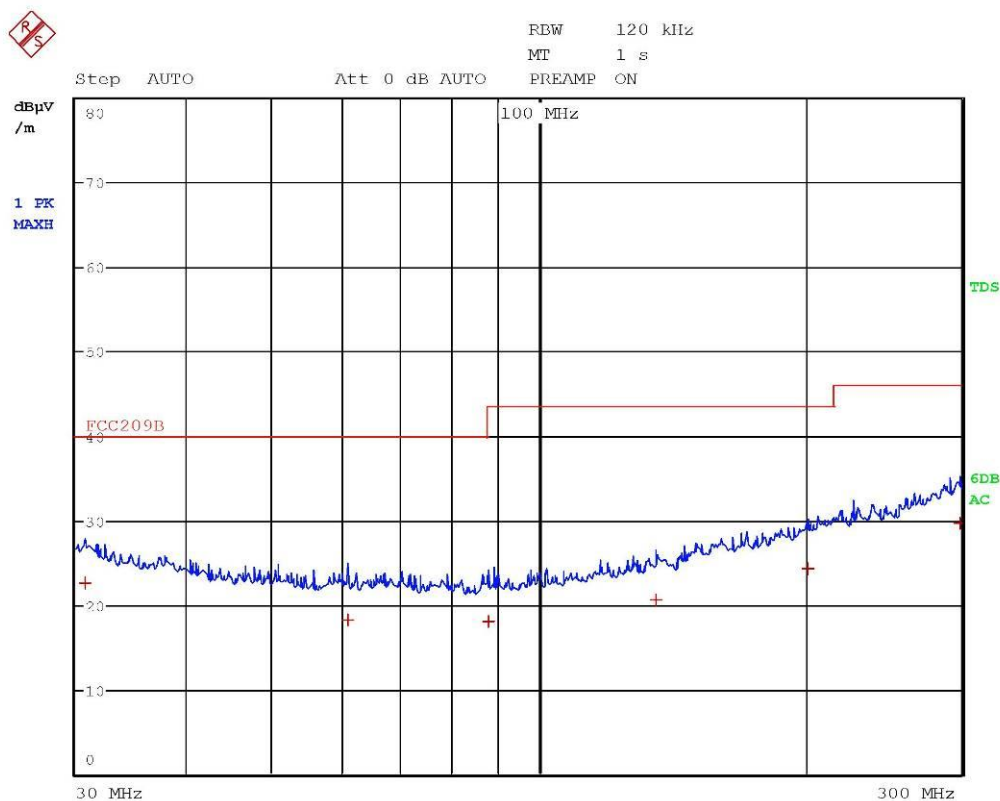


Segalla 17197217



EDIT PEAK LIST (Final Measurement Results)			
Trace1:	FCC209B		
Trace2:	---		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV/m	DELTA LIMIT dB
1 Quasi Peak	30.08 MHz	22.62	-17.37
1 Quasi Peak	49.4 MHz	18.97	-21.03
1 Quasi Peak	66.52 MHz	18.32	-21.67
1 Quasi Peak	132.2 MHz	19.95	-23.56
1 Quasi Peak	204.08 MHz	24.18	-19.33
1 Quasi Peak	296.68 MHz	29.55	-16.46

Segalla 17197217

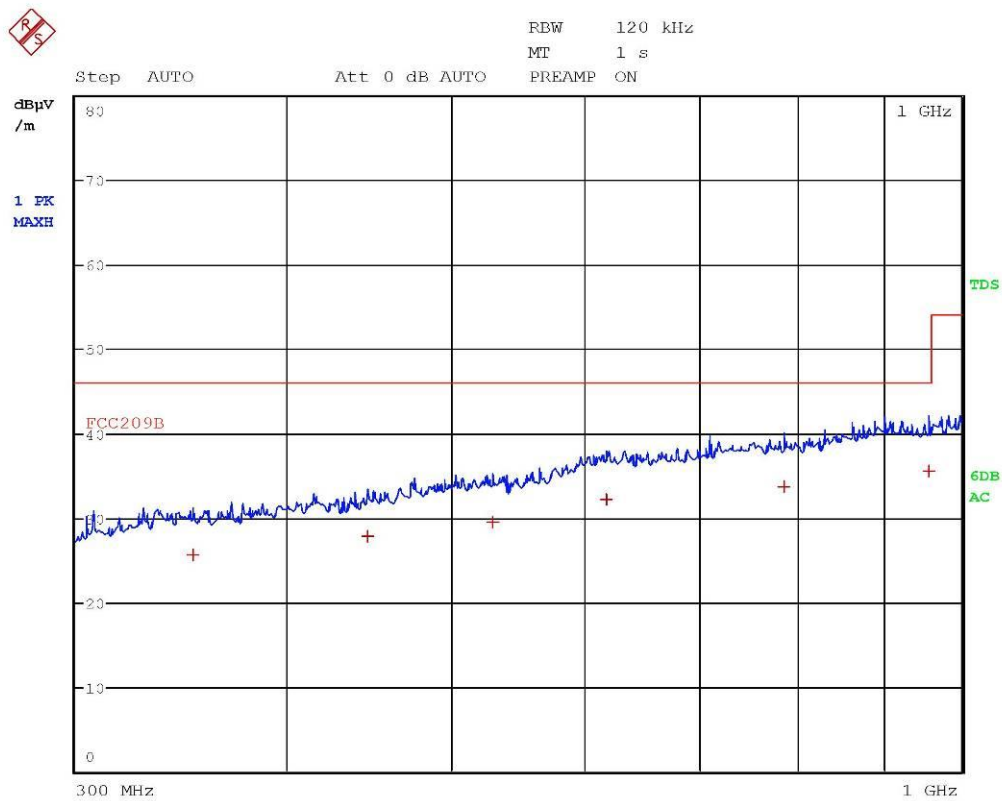


Segalla 17197218



EDIT PEAK LIST (Final Measurement Results)			
Trace1:	FCC209B		
Trace2:	---		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV/m	DELTA LIMIT dB
1 Quasi Peak	30.8 MHz	22.53	-17.46
1 Quasi Peak	60.84 MHz	18.24	-21.75
1 Quasi Peak	87.8 MHz	18.12	-21.88
1 Quasi Peak	135.84 MHz	20.58	-22.93
1 Quasi Peak	201.6 MHz	24.36	-19.15
1 Quasi Peak	298.44 MHz	29.72	-16.29

Segalla 17197218

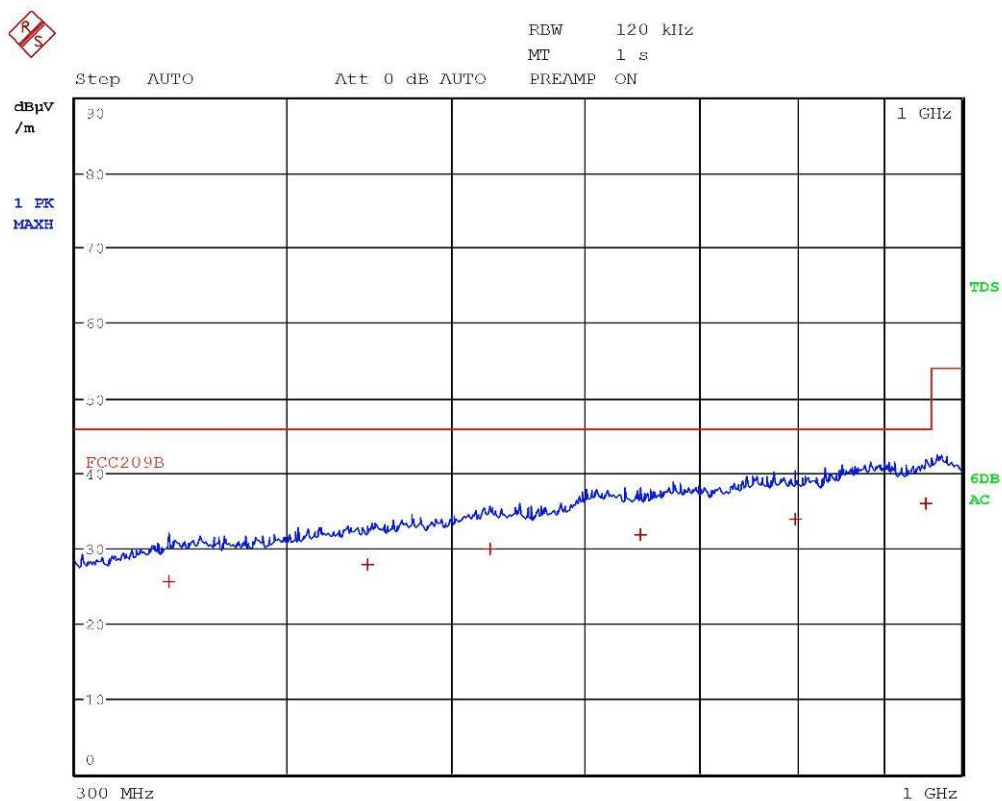


Segalla 17197219



EDIT PEAK LIST (Final Measurement Results)			
Trace1:	FCC209B		
Trace2:	---		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV/m	DELTA LIMIT dB
1 Quasi Peak	352.2 MHz	25.64	-20.37
1 Quasi Peak	446.4 MHz	27.77	-18.24
1 Quasi Peak	528.84 MHz	29.50	-16.51
1 Quasi Peak	616.92 MHz	32.20	-13.81
1 Quasi Peak	785.8 MHz	33.62	-12.39
1 Quasi Peak	956.76 MHz	35.52	-10.49

Segalla 17197219

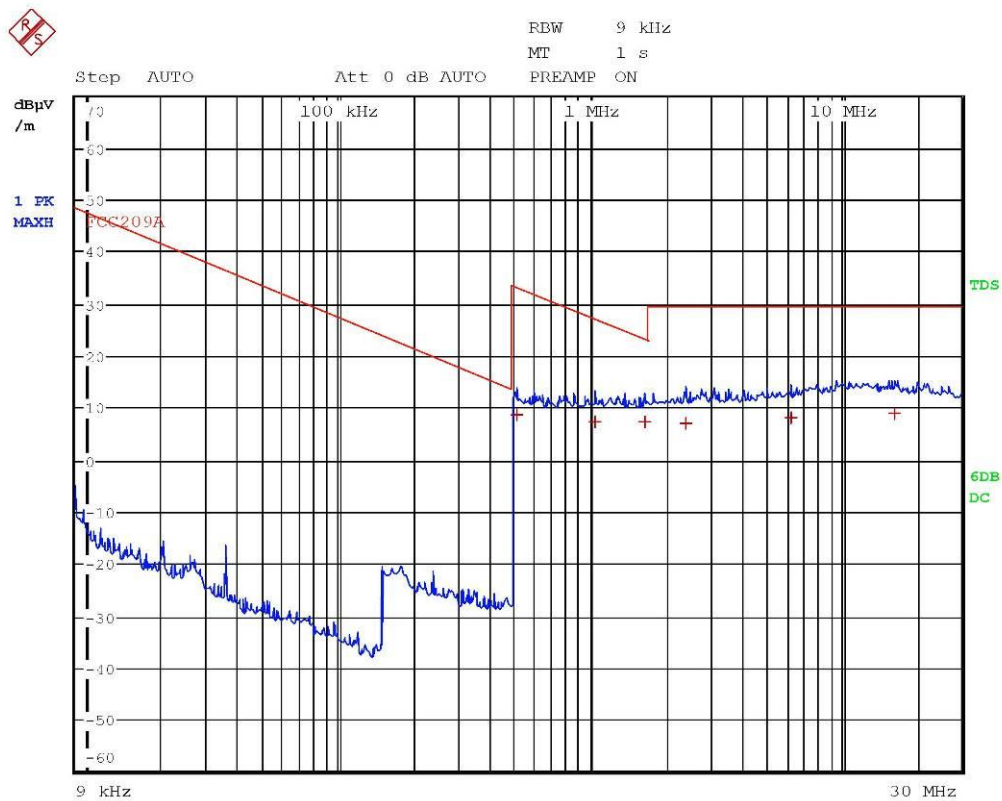


Segalla 17197220



EDIT PEAK LIST (Final Measurement Results)			
Trace1:	FCC209B		
Trace2:	---		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV/m	DELTA LIMIT dB
1 Quasi Peak	340.68 MHz	25.62	-20.39
1 Quasi Peak	446.52 MHz	27.82	-18.19
1 Quasi Peak	526.72 MHz	29.93	-16.08
1 Quasi Peak	646.96 MHz	31.90	-14.12
1 Quasi Peak	798.36 MHz	33.94	-12.07
1 Quasi Peak	953.64 MHz	36.06	-9.95

Segalla 17197220



Segalla 17197221



EDIT PEAK LIST (Final Measurement Results)			
Trace1:	FCC209A		
Trace2:	---		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV/m	DELTA LIMIT dB
1 Quasi Peak	506 kHz	8.66	-24.85
1 Quasi Peak	1.042 MHz	7.36	-19.87
1 Quasi Peak	1.65 MHz	7.24	-16.00
1 Quasi Peak	2.402 MHz	7.15	-22.38
1 Quasi Peak	6.29 MHz	8.22	-21.31
1 Quasi Peak	16.21 MHz	8.93	-20.60

Segalla 17197221

Result: The requirements are met



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
- Test date: June 11th, 2018
- Technician: M. Segalla

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.

EUT height about the floor: 150 cm

EUT – Antenna distance: 3 m

Test configuration

Test site:

Semi-anechoic chamber

Auxiliary equipment:

See clause 4 of this test report

Test equipment used

CMC S108, CMC S164

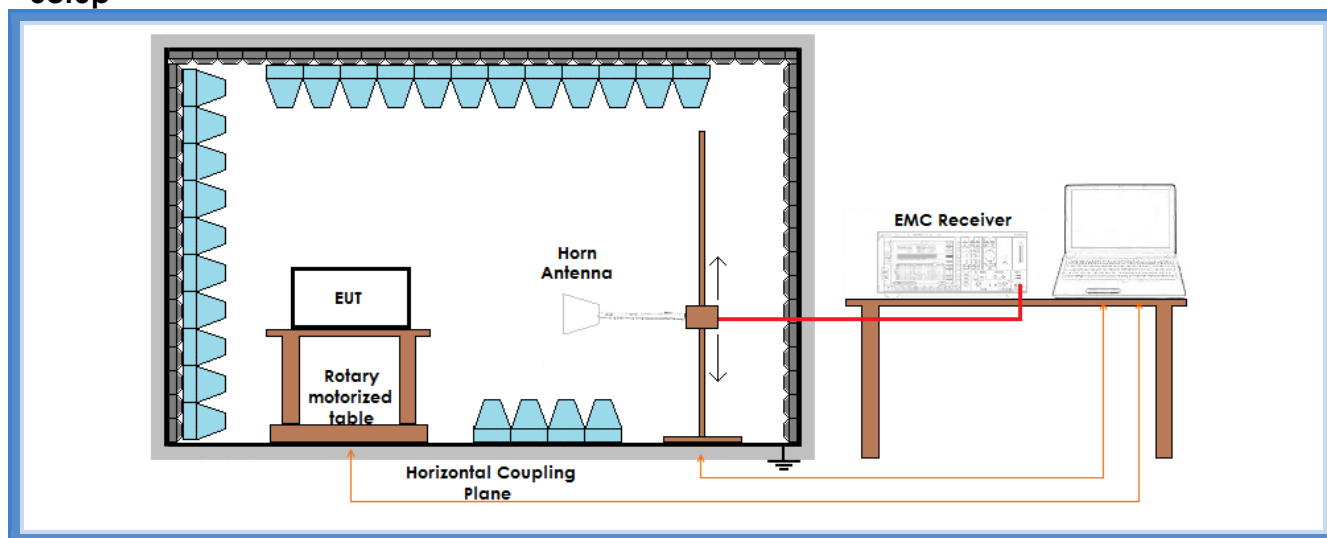
Measurement uncertainty: See clause 7 of this test report

Environmental conditions

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



Setup

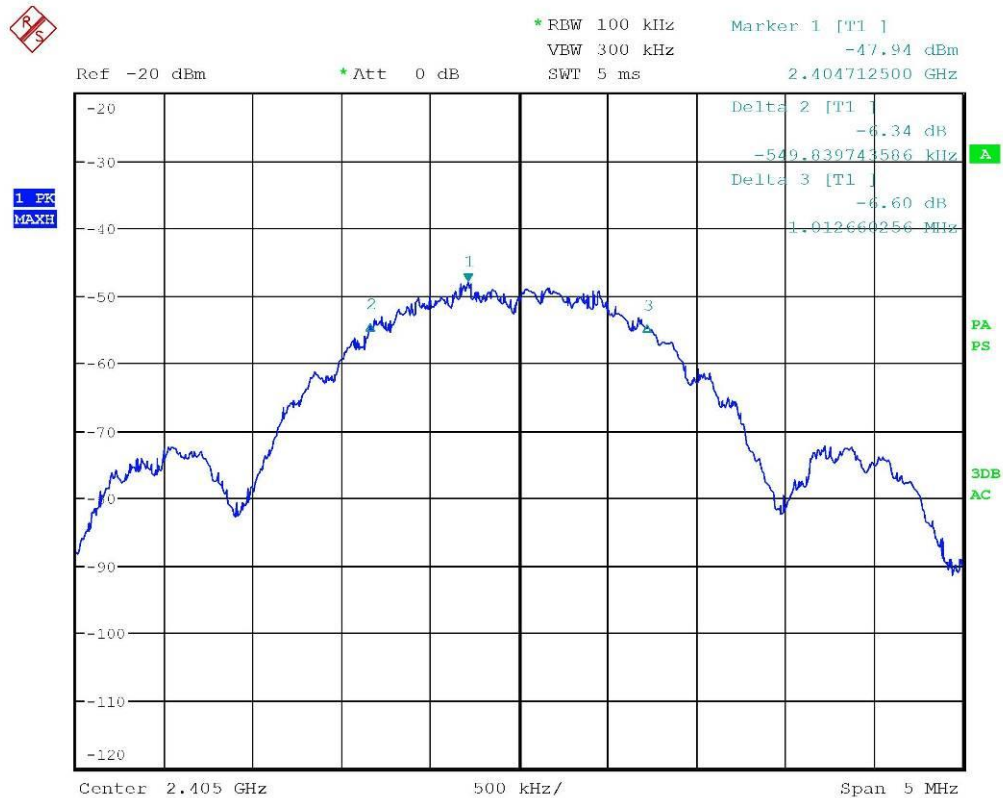


Result

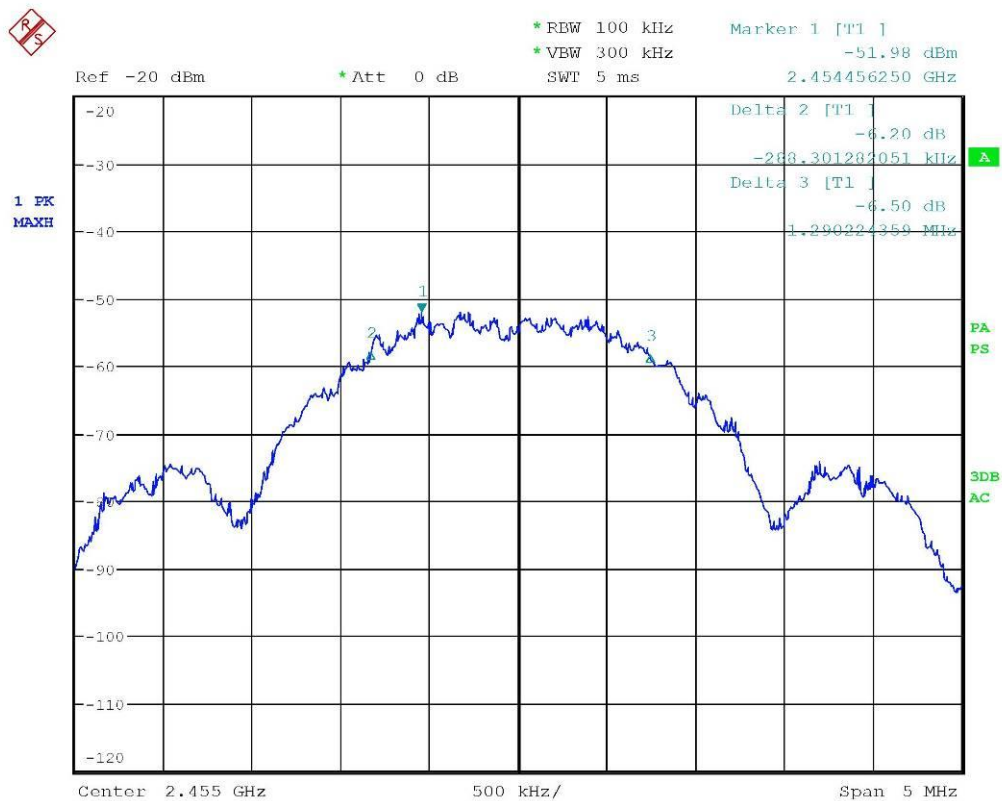
Sample	Channel	Graphs	6 dB bandwidth (kHz)	Limits (kHz)	Results
Kit #1	Lowest	G17197222	1562,50	At least 500	Complies
Kit #2	Medium	G17197231	1578,50	At least 500	Complies
Kit #3	Highest	G17197236	1594,50	At least 500	Complies



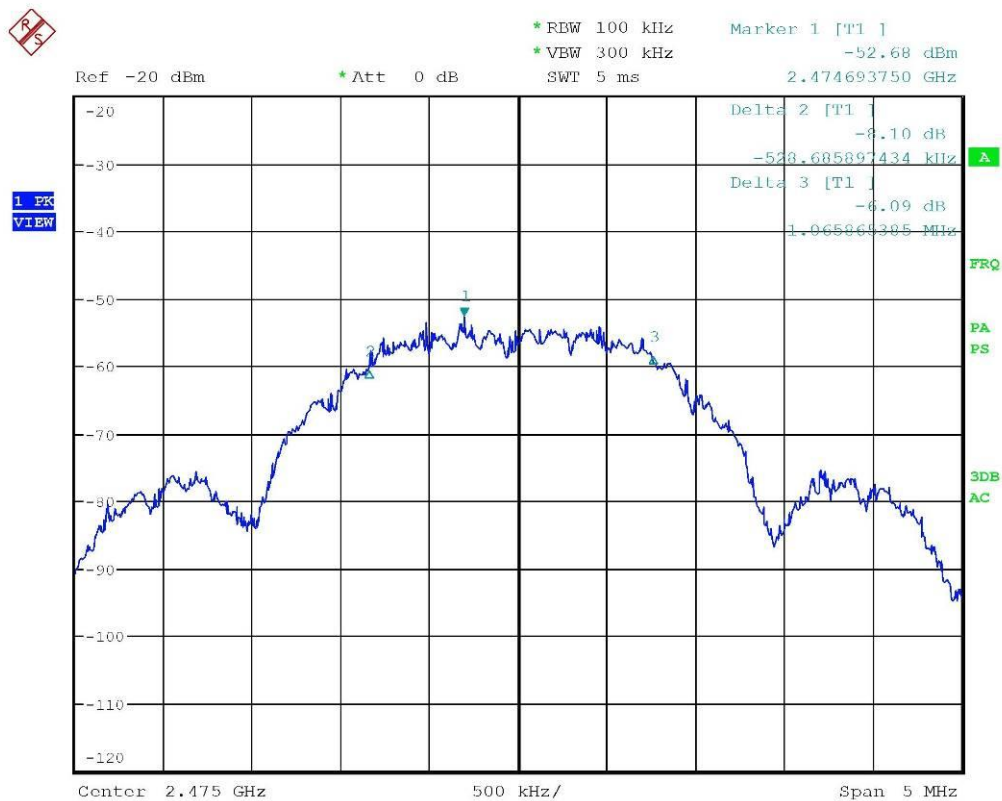
Graphs



Segalla 17197222



Segalla 17197231



Segalla 17197236

Result: The requirements are met



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 date: March 26th, 2019
- Technician: M. Segalla

EUT exercising

See clause 4 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

Test configuration

Test site:
Semi-anechoic chamber

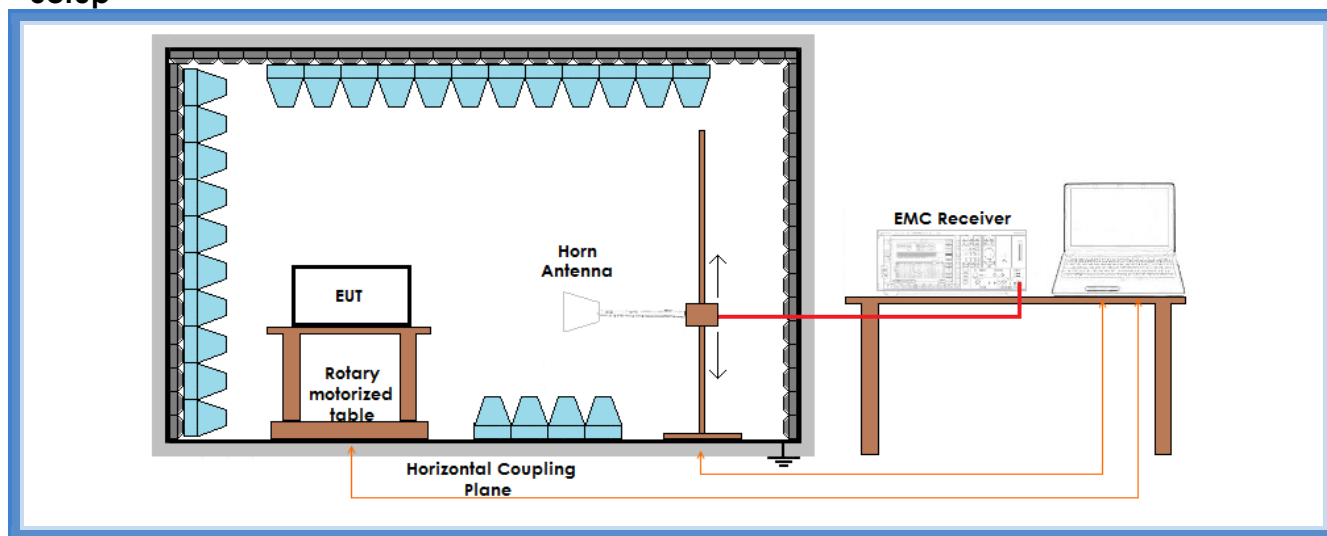
Auxiliary equipment:
See clause 4 of this test report

Test equipment used

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



Setup



Result

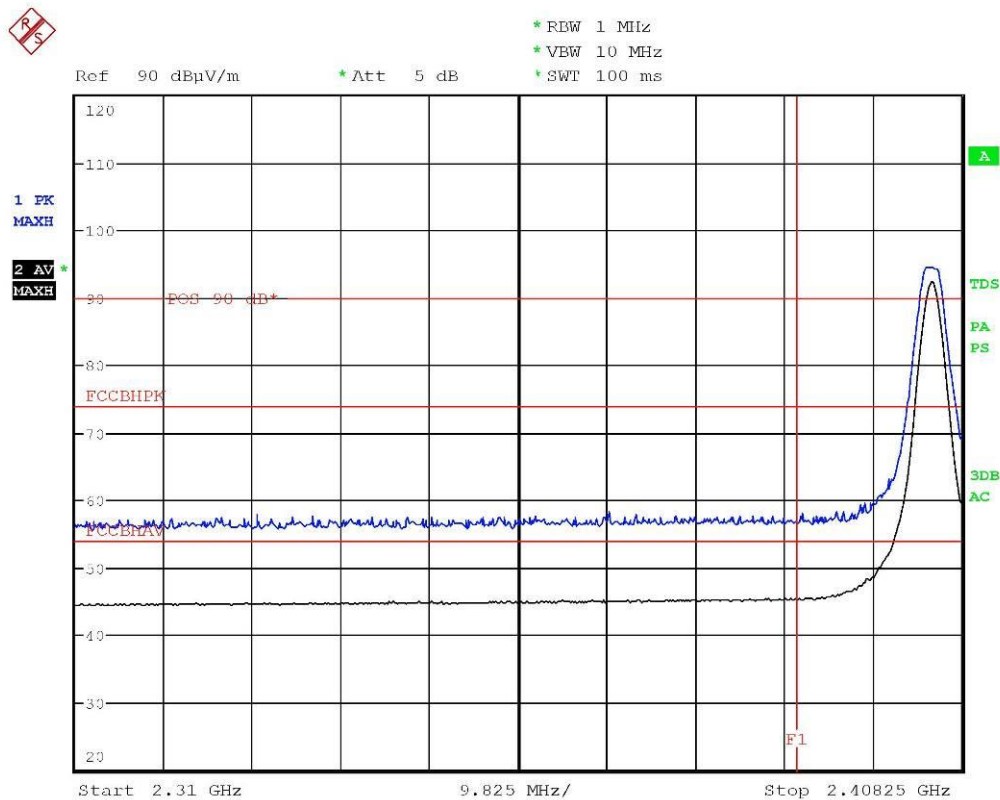
Sample	Channel	Bandwidth	Graph(s)	Results	
Kit #1	Lowest	1 MHz	G17197250*	--	Complies
Kit #1	Lowest	100 kHz	G17197251	2403,6539 MHz	Complies
Kit #3	Highest	1 MHz	G17197252	2478,4679 MHz	Complies
Kit #3	Highest	1 MHz	G17197253**	--	Complies

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

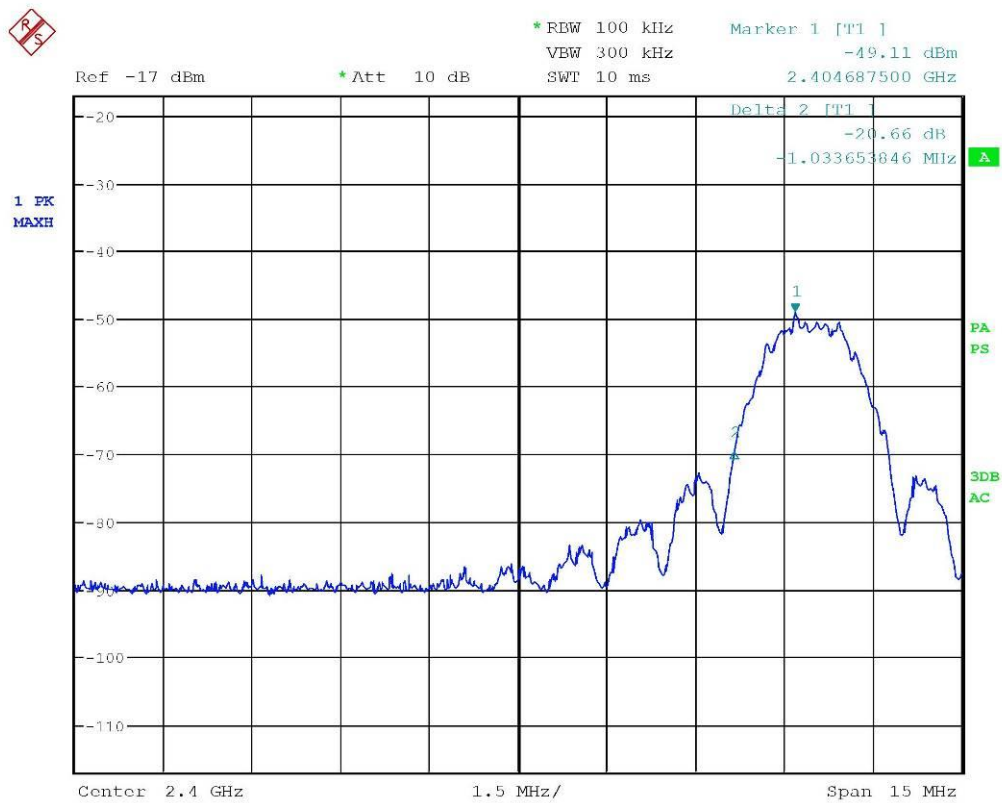
** : this graph shows the emissions in 2483,5 – 2500 MHz restricted band



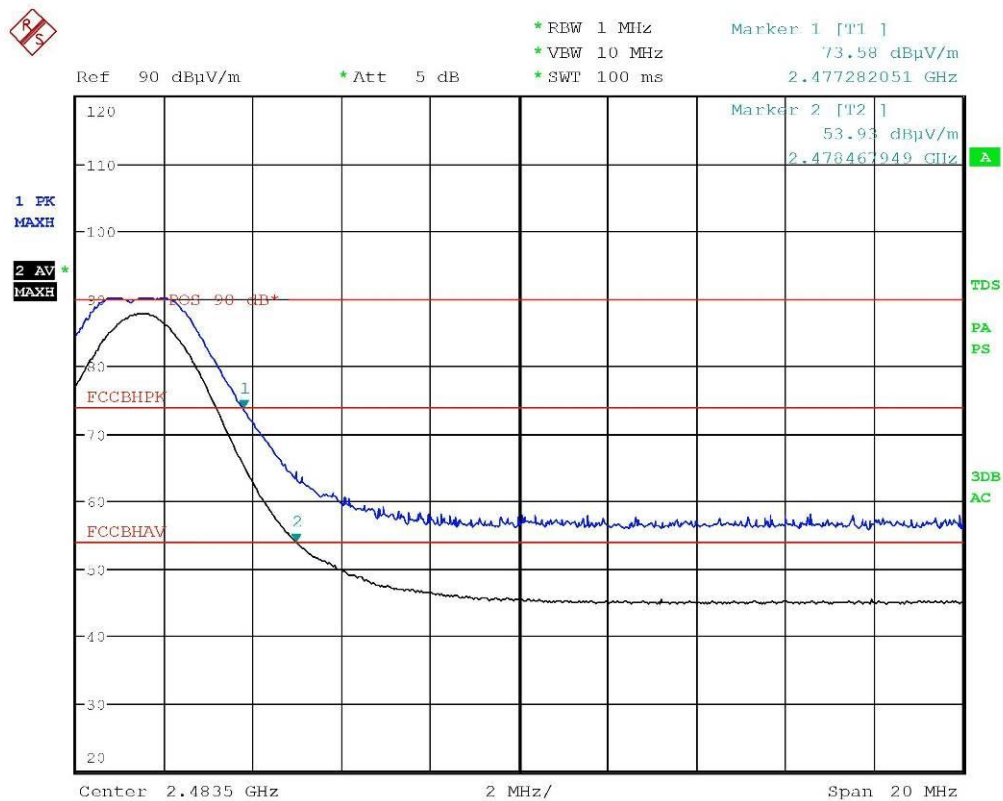
Graphs



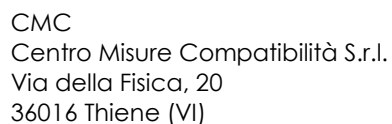
Segalla 17197250



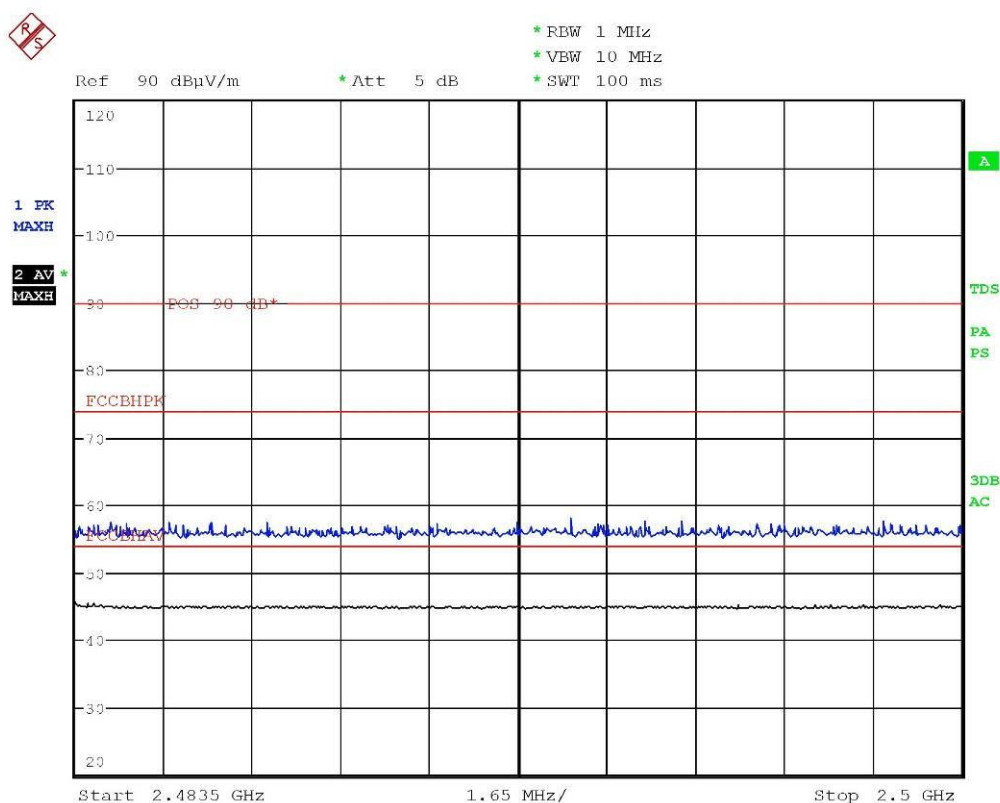
Segalla 17197251



Segalla 17197252



LAB N° 0168



Segalla 17197253

Result: The requirements are met



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 date: June 11th, 2018
- Technician: M. Segalla

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 S164
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: 150 cm

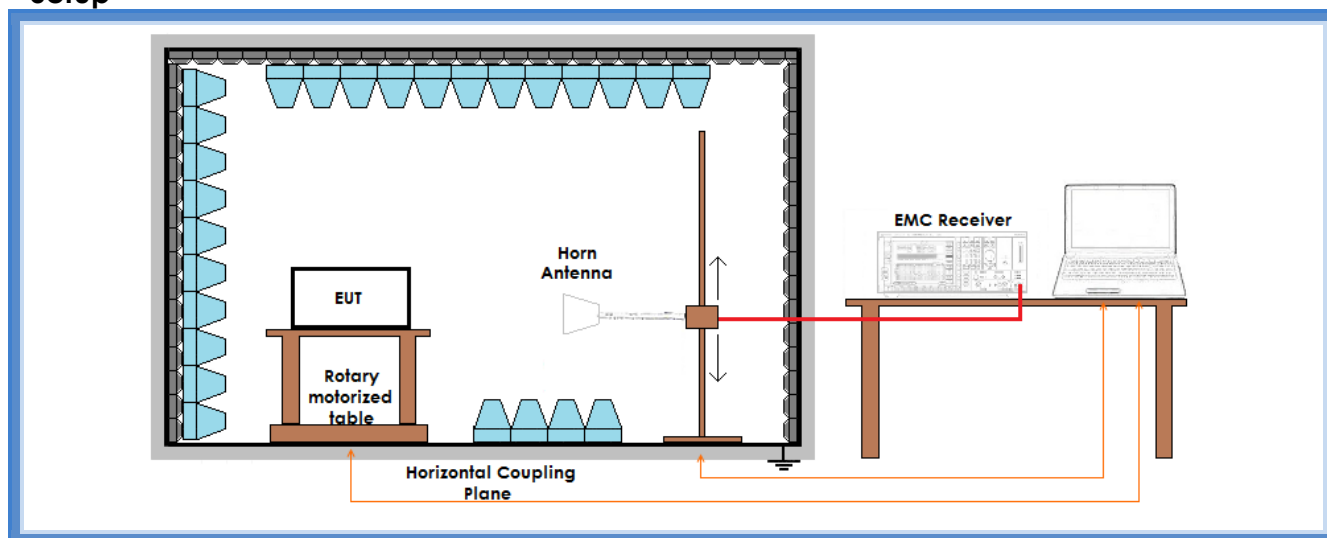
Environmental conditions

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

Sample	Channel	Polarization	Graphs	Measured PK level (dBμV/m)	Peak Output Conducted Power (mW)
Kit #1	Lowest	Worst case	G17197225	95,83	2,042
Kit #2	Medium	Worst case	G17197234	92,52	0,953
Kit #3	Highest	Worst case	G17197239	91,48	0,750

Remarks: the above table shows the results of radiated measurements, in agreement with cl. 3.0 of KDB 558074 D01 DTS Meas Guidance v04.
Conducted measurements are not applicable because the antenna connector is not available.
The following formula, provided in document DA 00-705, has been used for the conversion between radiated to conducted values:

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

Where:

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

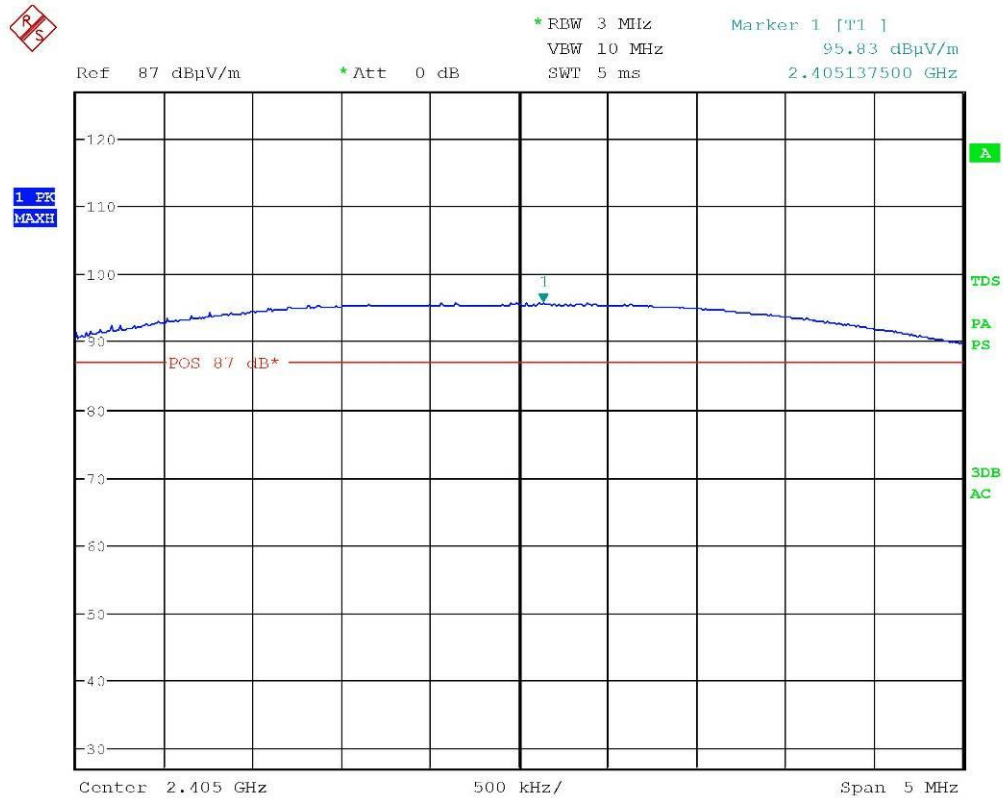
$G = 10^{\text{dBi}/10}$, the numeric gain of the transmitting antenna: 0,562 (-2,5 dBi)

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

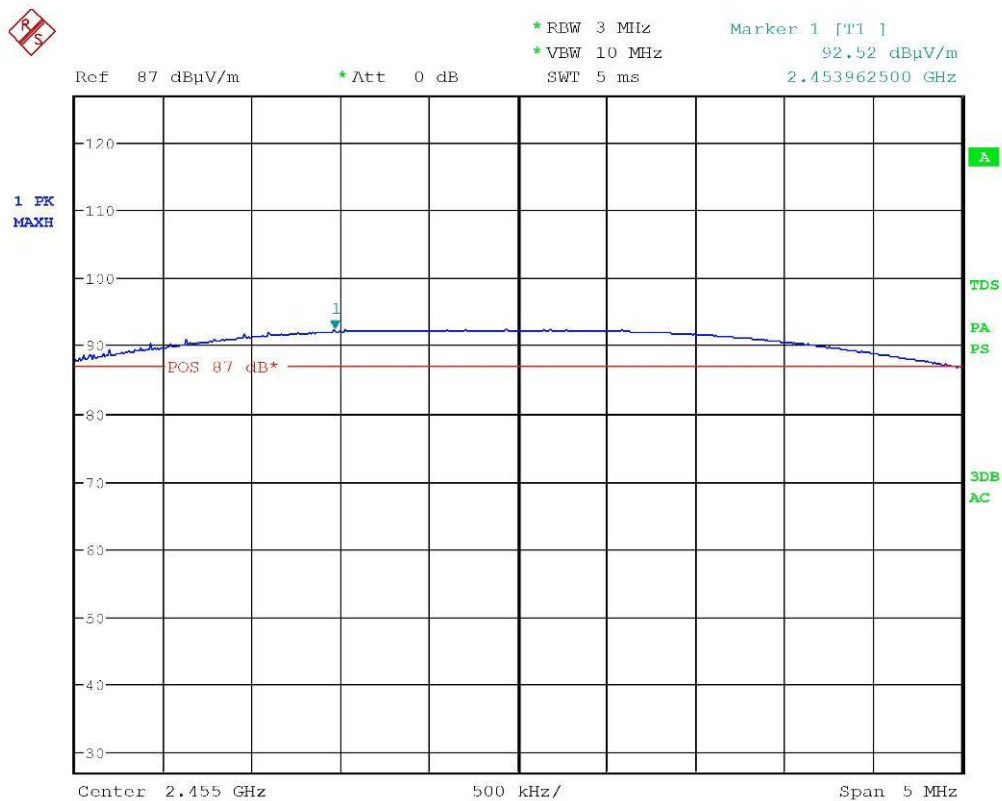
P = the power in watts



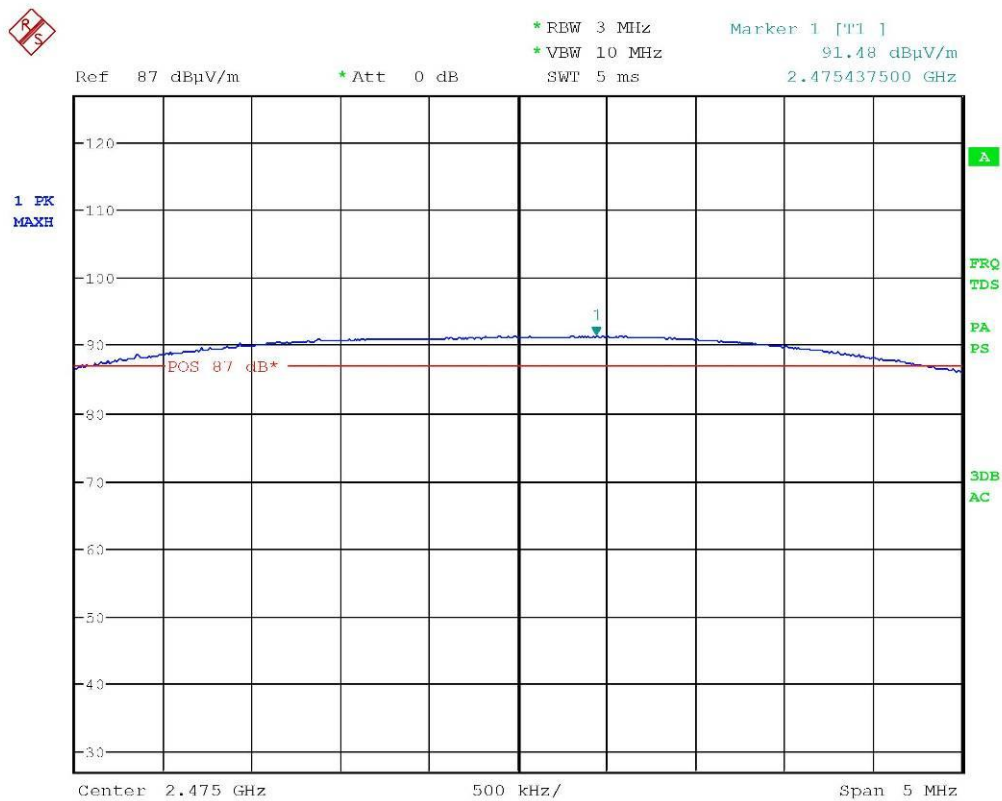
Graphs



Segalla 17197225



Segalla 17197234



Segalla 17197239

Result: The requirements are met



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 date: June 11th, 2018
- Technician: M. Segalla

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 S164
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: 150 cm

Environmental conditions

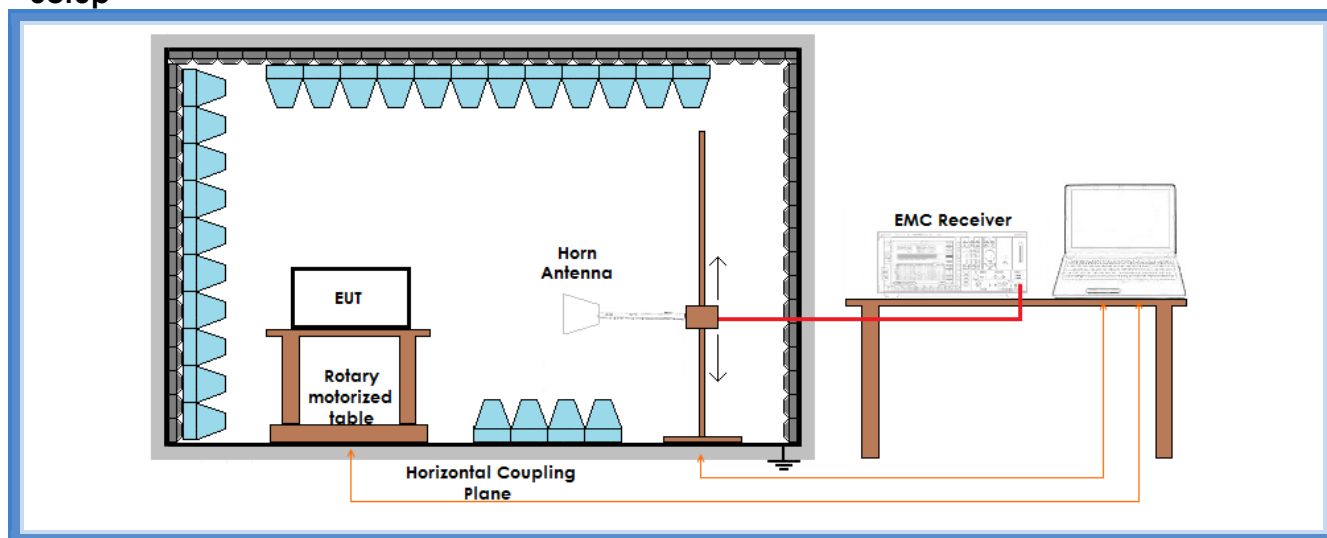
Temperature (°C)	Atmospheric pressure (kPa)	Relative humidity (%)
22	100	42

Acceptance limits:

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



Setup



Result

Sample	Channel	Polarization	Graphs	Measured PK level (dBμV/m)	Power Spectral Density (mW)
Kit #1	Lowest	Worst case	G17197226	92,50	0,949
Kit #2	Medium	Worst case	G17197235	88,52	0,379
Kit #3	Highest	Worst case	G17197240	86,34	0,230

Remarks: the above table shows the results of radiated measurements, in agreement with cl. 3.0 of KDB 558074 D01 DTS Meas Guidance v04.

Conducted measurements are not applicable because the antenna connector is not available.

The following formula, provided in document DA 00-705, has been used for the conversion between radiated to conducted values:

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

Where:

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

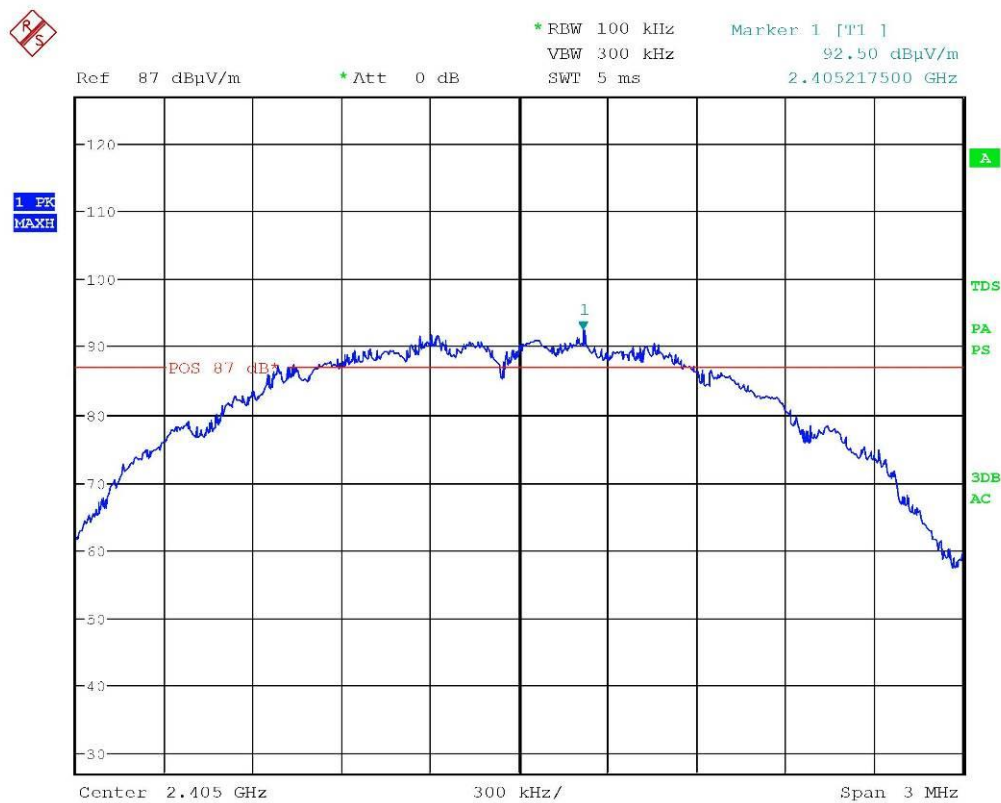
$G = 10^{\text{dBi}/10}$, the numeric gain of the transmitting antenna: 0,562 (-2,5 dBi)

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

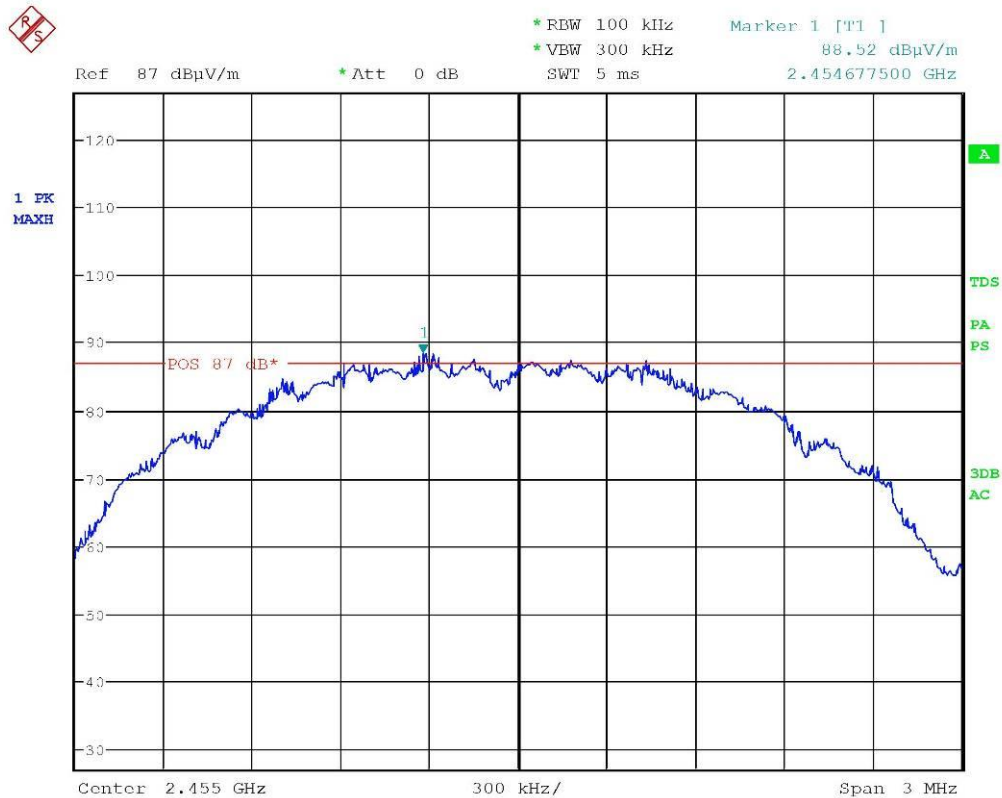
P = the power in watts



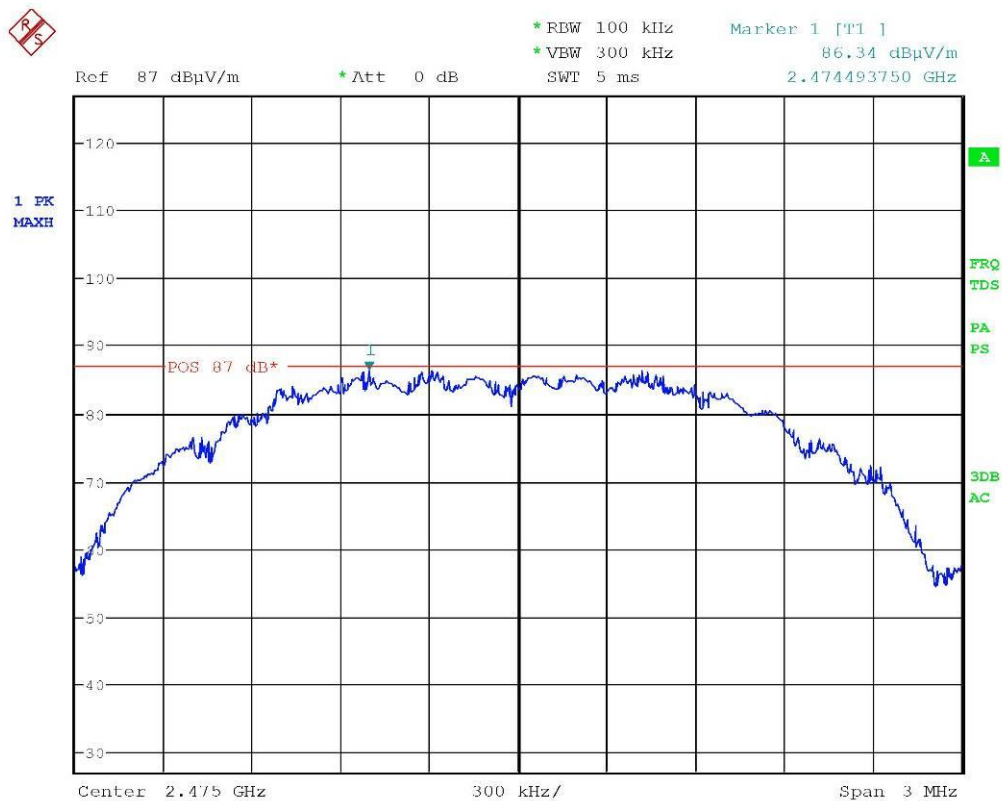
Graphs



Segalla 17197226



Segalla 17197235



Segalla 17197240

Result: The requirements are met



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 date: June 11th, 2018
- Technician: M. Segalla

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, CMC S290
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)

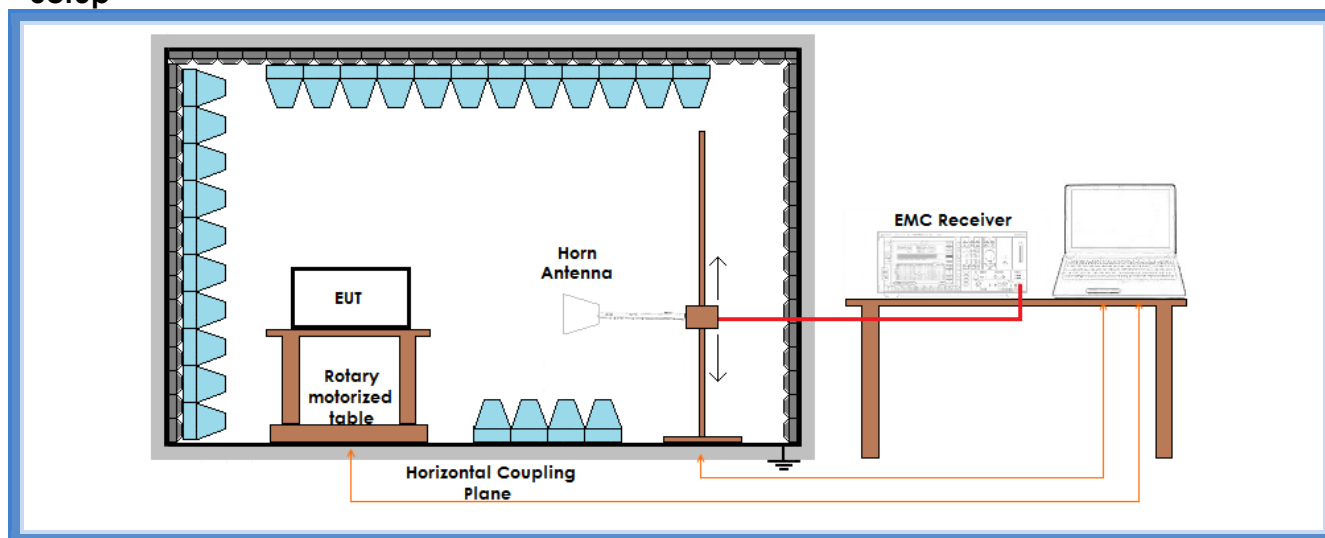
MHz	MHz	MHz	GHz
0,09 – 0,110	16,42 – 16,423	399,9 – 410	4,5 – 5,15
0,495 – 0,505	16,69475 – 16,69525	608 – 614	5,35 – 5,46
2,1735 – 2,1905	16,80425 – 16,80475	960 – 1240	7,25 – 7,75
4,125 – 4,128	25,5 – 25,67	1300 – 1427	8,025 – 8,5
4,17725 – 4,17775	37,5 – 38,25	1435 – 1626,5	9,0 – 9,2
4,20725 – 4,20775	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



Remarks: reference graphs are reported on cl. 11.3 of this Test Report

Result – AV detector

Harmonic	Lowest channel (Kit #1)		Medium channel (Kit #2)		Highest channel (Kit #3)		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	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
III	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
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



Result – Peak detector

Harmonic	Lowest channel (Kit #1)		Medium channel (Kit #2)		Highest channel (Kit #3)		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	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
III	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
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

Result: The requirements are met