



Graphs

Meas Type

Equipment under Test

Manufacturer

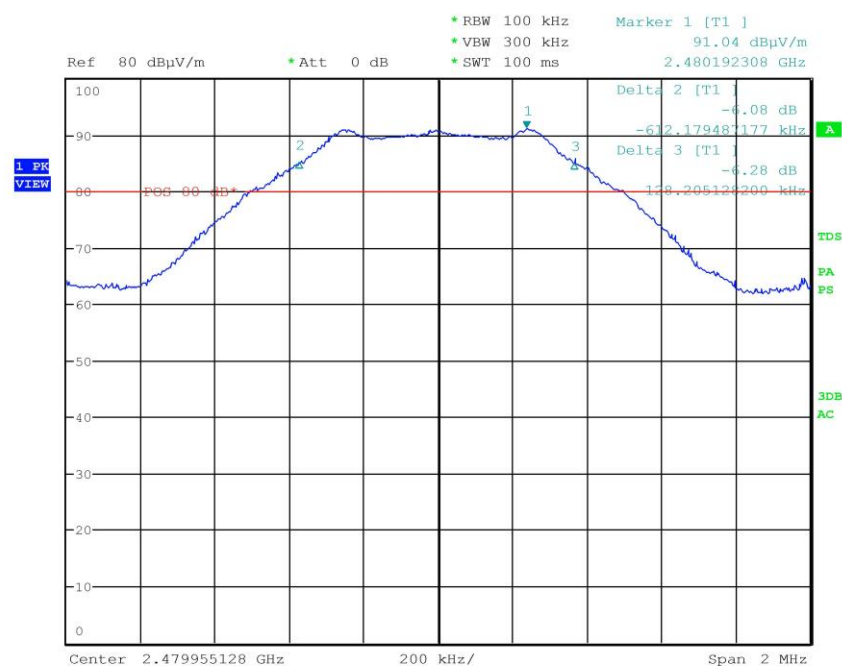
OP Condition

Fmax

Operator

Bertezzo 14235901

Test Spec





Meas Type

Equipment under Test

Manufacturer

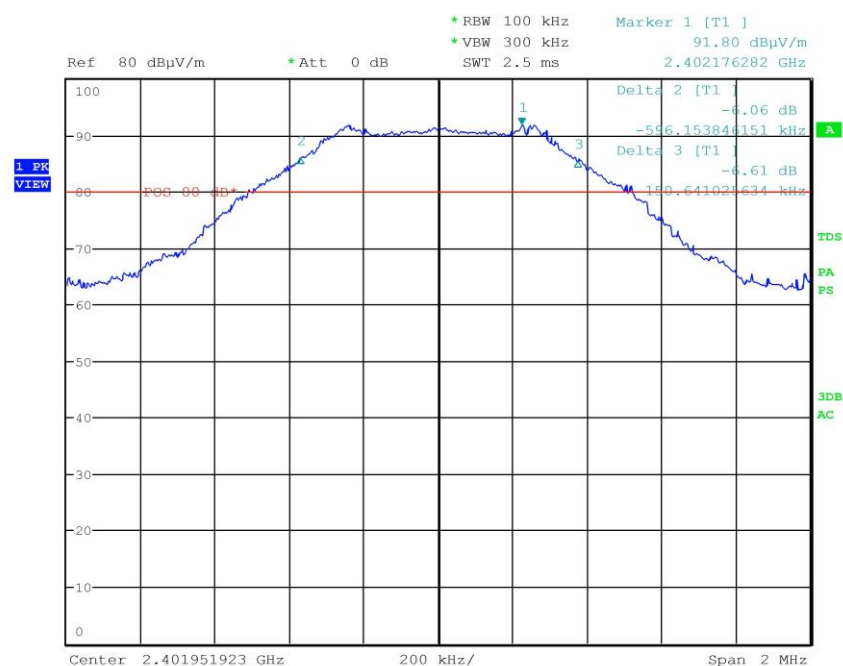
OP Condition

Fmin

Operator

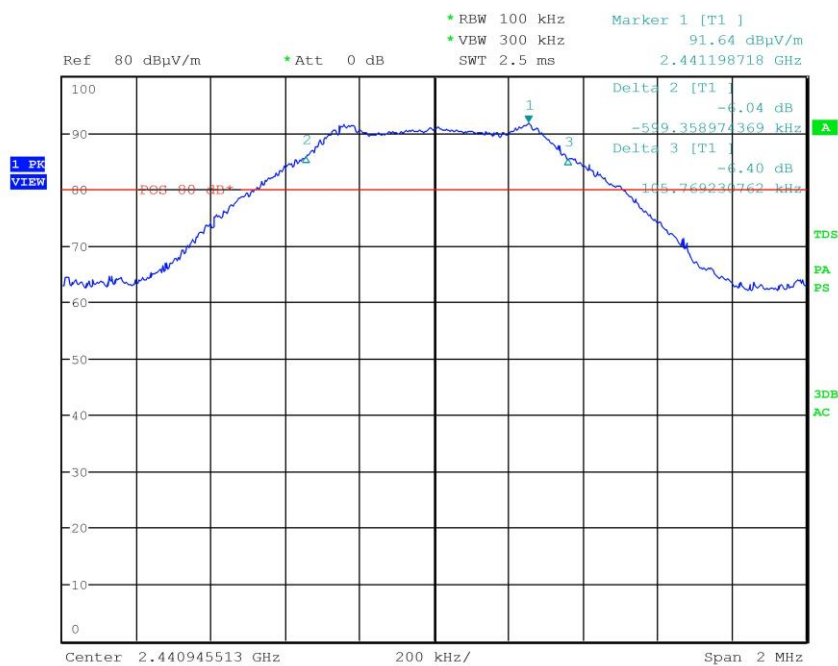
Bertezzo 14235906

Test Spec





Meas Type
Equipment under Test
Manufacturer
OP Condition Fmed
Operator Bertezolo 14235912
Test Spec



Result: The requirements are met



11.4 Band edge

Test set-up and execution

- FCC Rules and Regulation; Titles 47 Part 15.247 (d)
- KDB 558074 D01 DTS Meas Guidance v03r02 cl. 11.1(a) and 12.1
- Internal procedure PM001
- See clause 4 of this test report
- Test date: 23 December 2014
- Technician: A. Bertezolo

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

See FCC Part 15.247

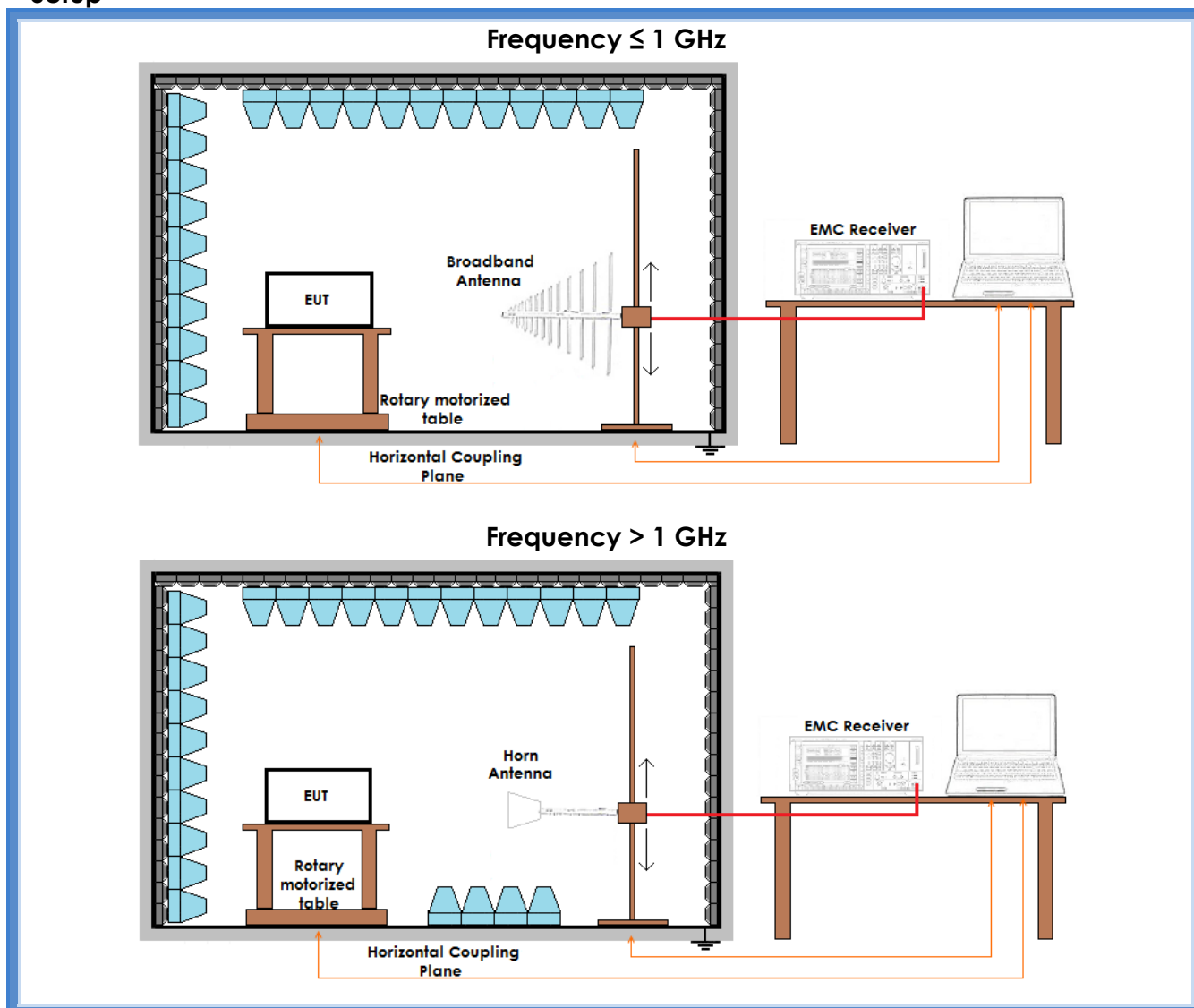
Environmental conditions

Temperature (°C)	Atmospheric pressure (kPa)	Relative humidity (%)
21	98	49

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



Setup



Result

Channel	Detector	Graph(s)	Results	
Lowest	Peak	G14235910	F _L : 2401,304 MHz *	Complies
		G14235911		
Highest	Peak	G14235905	F _H : < 2483,5 MHz	Complies
Highest	Average	G14235905	F _H : < 2483,5 MHz	Complies

*: 20 dBc limit, F_L > 2400 MHz



Graphs

Meas Type

Equipment under Test

Manufacturer

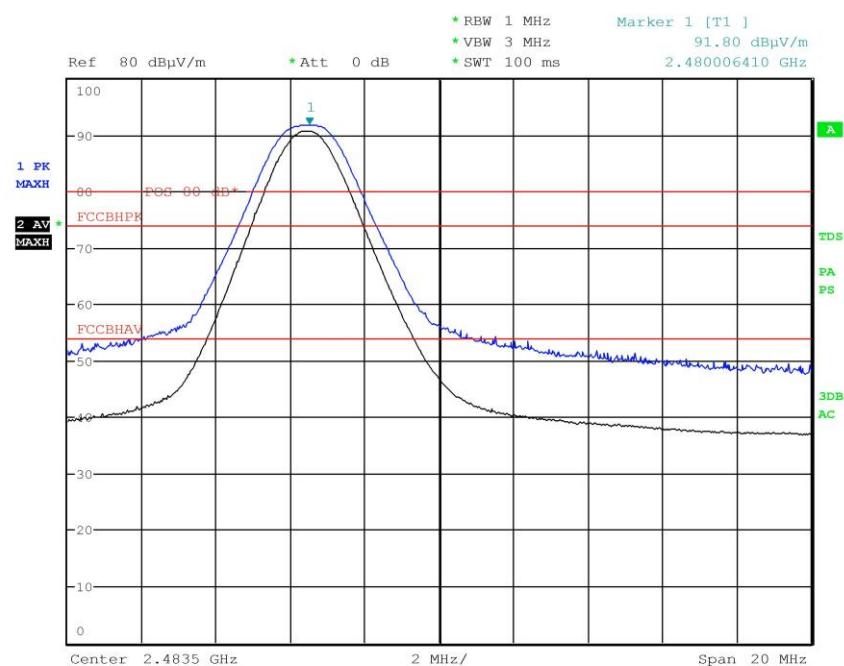
OP Condition

Fmax

Operator

Bertezzolo 14235905

Test Spec





Meas Type

Equipment under Test

Manufacturer

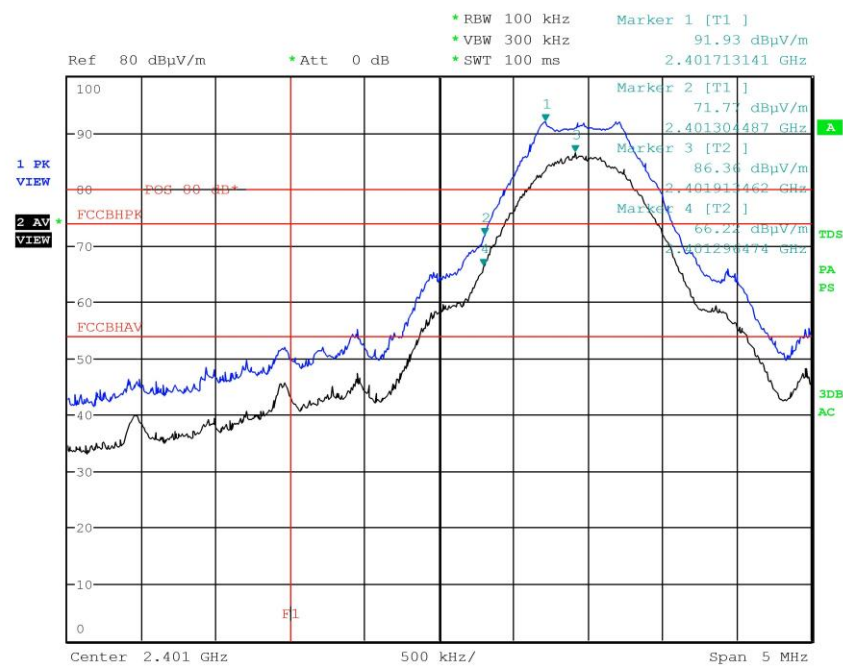
OP Condition

Fmin

Operator

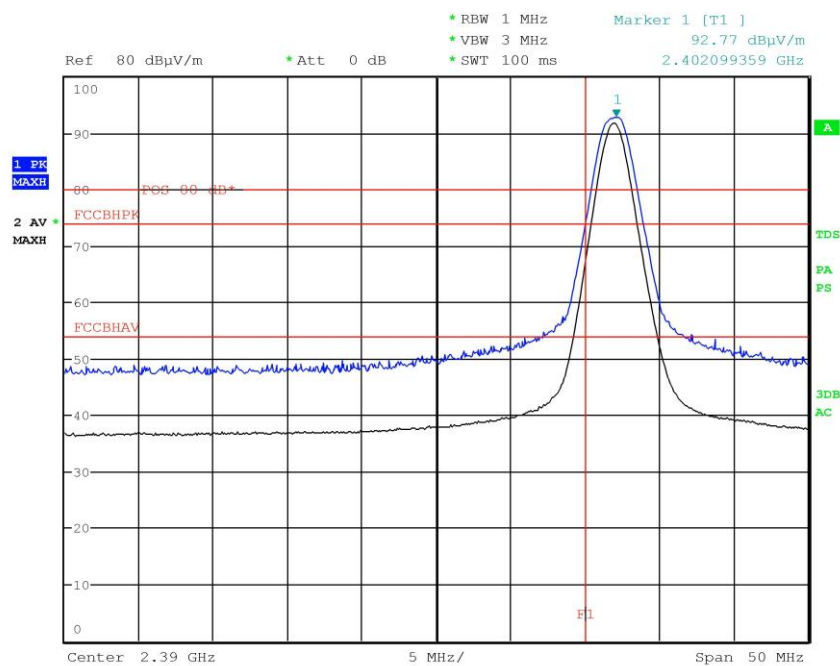
Bertezolo 14235910

Test Spec





Meas Type
Equipment under Test
Manufacturer
OP Condition Fmin
Operator Bertezolo 14235911
Test Spec



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
- KDB 558074 D01 DTS Meas Guidance v03r02 cl. 3.0 and 9.1.1
- Internal procedure PM001
- See clause 4 of this test report
- Test date: 23 December 2014
- Technician: A. Bertezolo

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 (conducted measurements are not applicable because the antenna connector is not available, see also cl. 3.0 of KDB 558074 D01 DTS Meas Guidance v03r02)
Antenna polarization: Horizontal (H) – Vertical (V)
EUT – Antenna distance: 3 m
EUT height about the floor: 80 cm

Environmental conditions

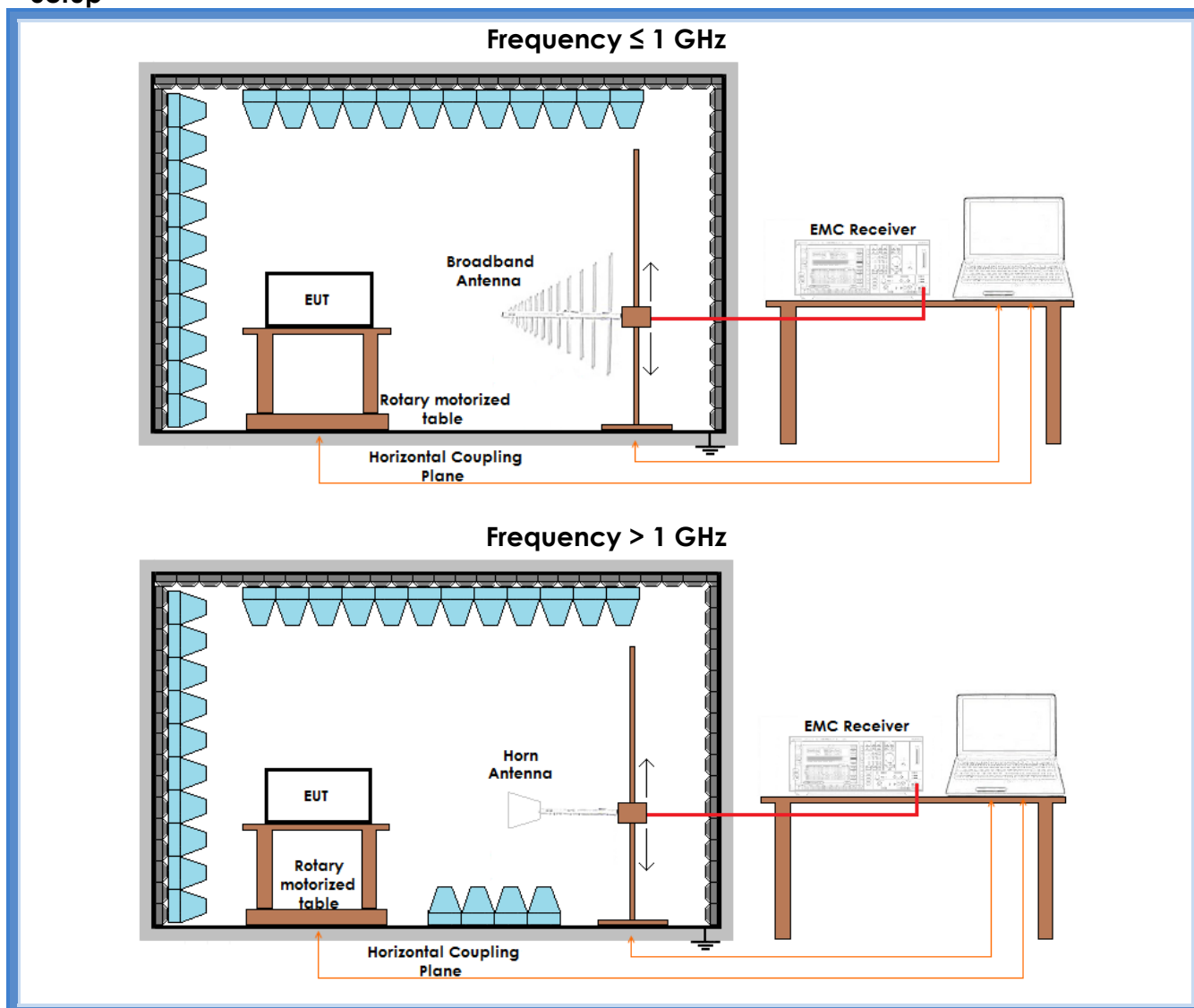
Temperature (°C)	Atmospheric pressure (kPa)	Relative humidity (%)
22	98	50

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 (dBμV/m)	Peak Output Conducted Power (mW)	Remarks
Lowest	Worst case	G14235907	92,8	0,169	--
Medium	Worst case	G14235913	92,5	0,157	--
Highest	Worst case	G14235902	91,9	0,137	--

Remarks: the above table shows the results of radiated measurements, in agreement with cl. 3.0 of KDB 558074 D01 DTS Meas Guidance v03r02.

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: 3,39 (5,3 dBi)

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

P = the power in watts



Graphs

Meas Type

Equipment under Test

Manufacturer

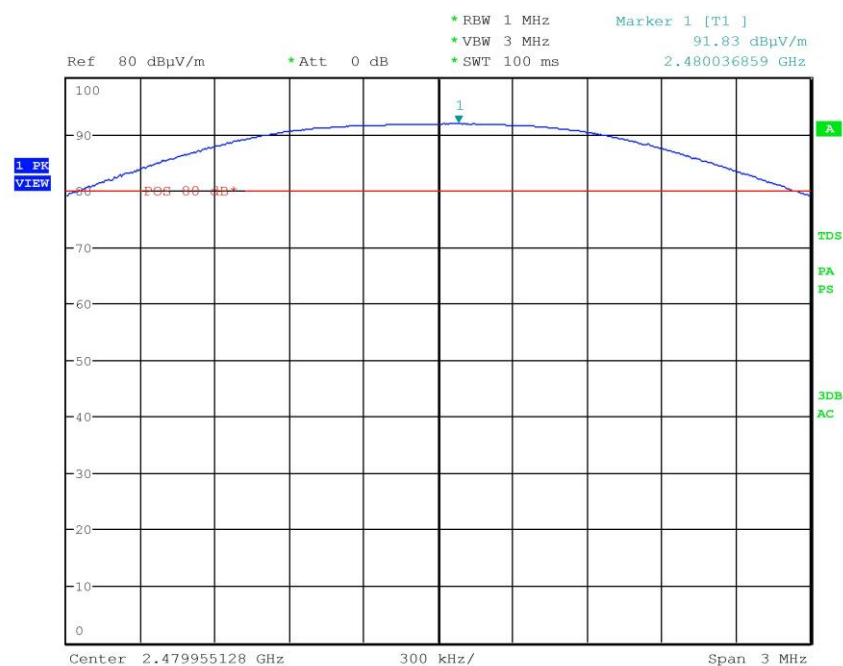
OP Condition

Fmax

Operator

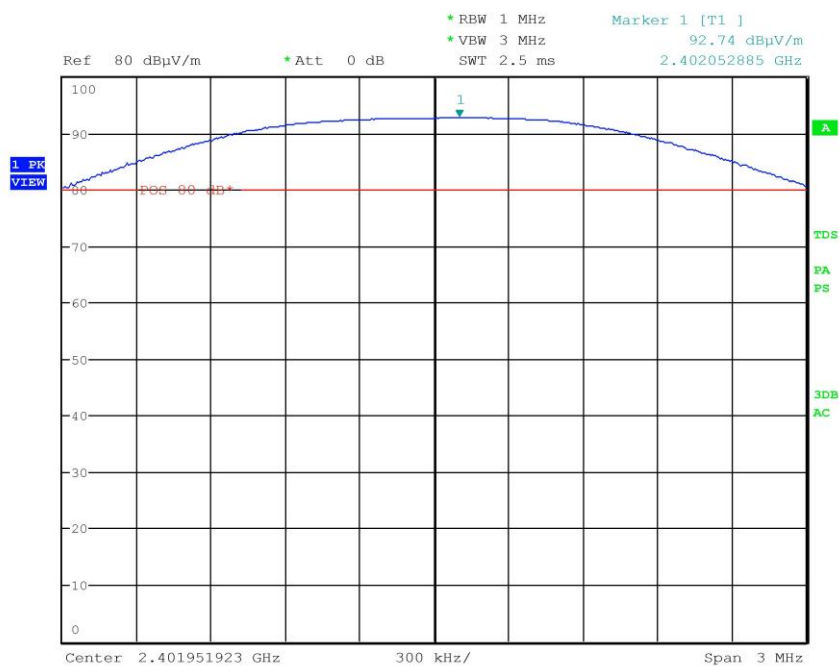
Bertezzo 14235902

Test Spec



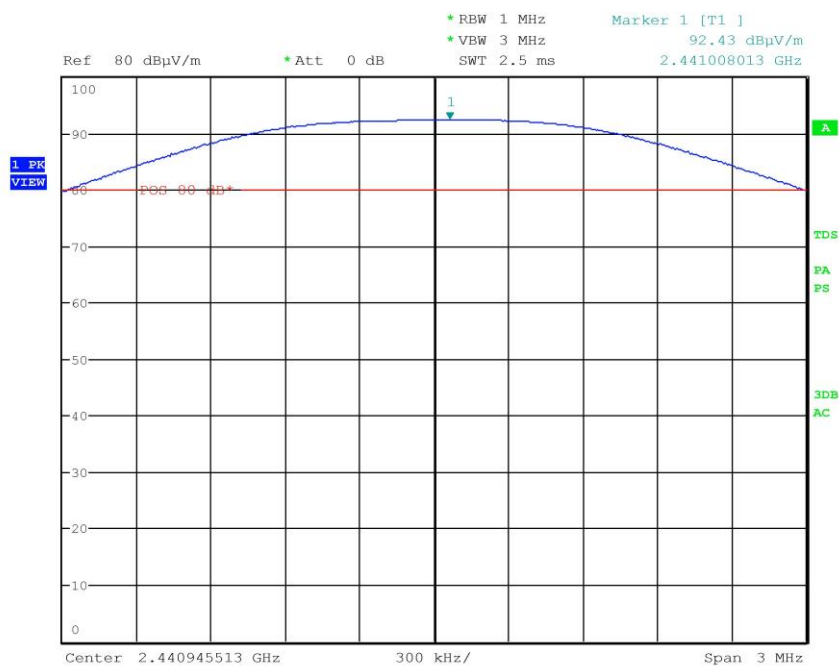


Meas Type
Equipment under Test
Manufacturer
OP Condition Fmin
Operator Bertezolo 14235907
Test Spec





Meas Type
Equipment under Test
Manufacturer
OP Condition Fmed
Operator Bertezolo 14235913
Test Spec



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
- KDB 558074 D01 DTS Meas Guidance v03r02 cl. 10.2
- Internal procedure PM001
- See clause 4 of this test report
- Test date: 23 December 2014
- Technician: A. Bertezolo

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 – Antenna distance: 3 m

Environmental conditions

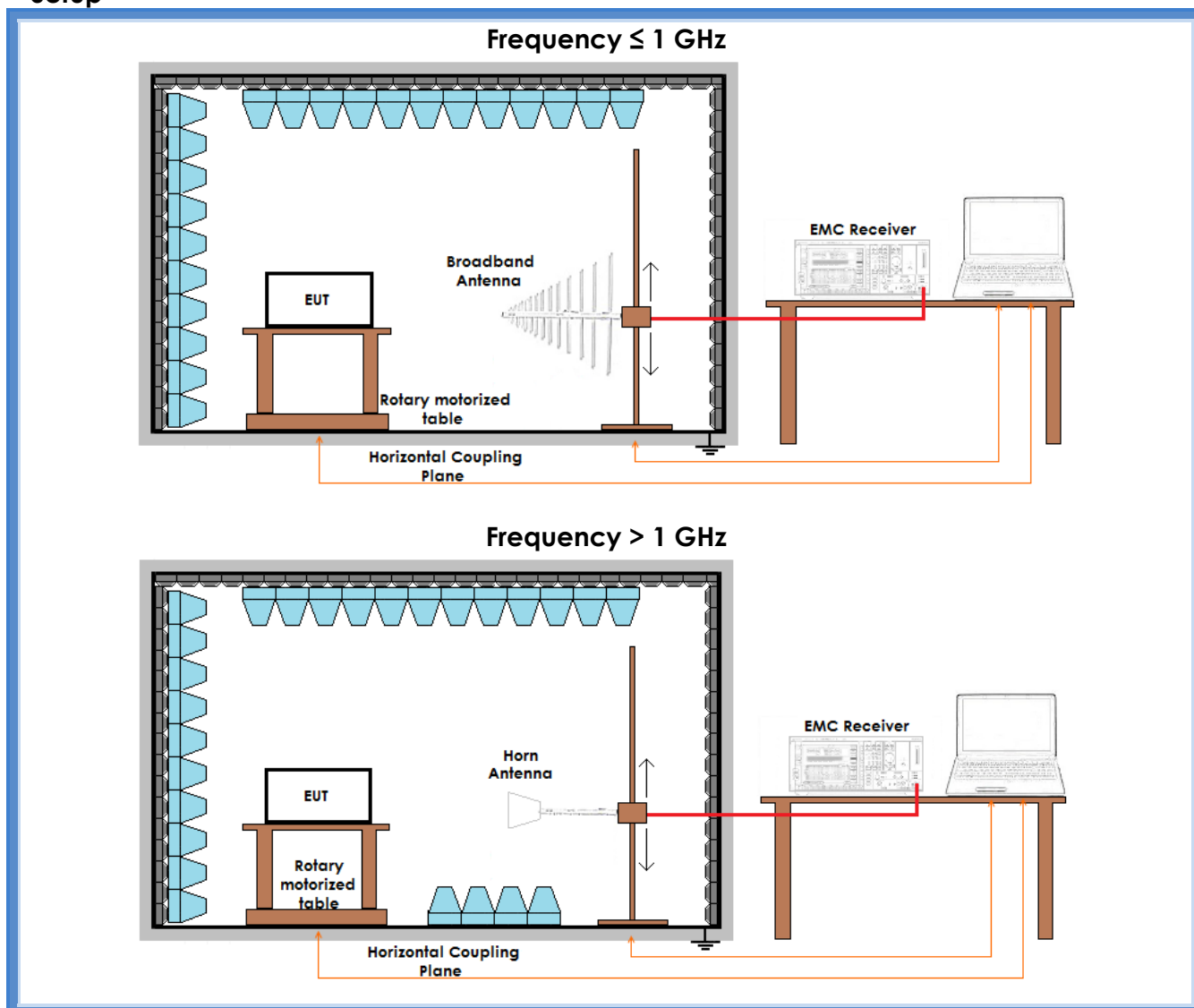
Temperature (°C)	Atmospheric pressure (kPa)	Relative humidity (%)
22	98	50

Acceptance limits:

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



Setup





Result

Channel	Polarization	Graphs	Measured PK level (dB μ V/m)	Power Spectral Density (mW)	Remarks
Lowest	Worst case	G14235909	92,0	0,140	--
Medium	Worst case	G14235915	91,5	0,125	--
Highest	Worst case	G14235904	91,0	0,111	--

Remarks: the above table shows the results of radiated measurements, in agreement with cl. 3.0 of KDB 558074 D01 DTS Meas Guidance v03r02.

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: 3,39 (5,3 dBi)

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

P = the power in watts



Graphs

Meas Type

Equipment under Test

Manufacturer

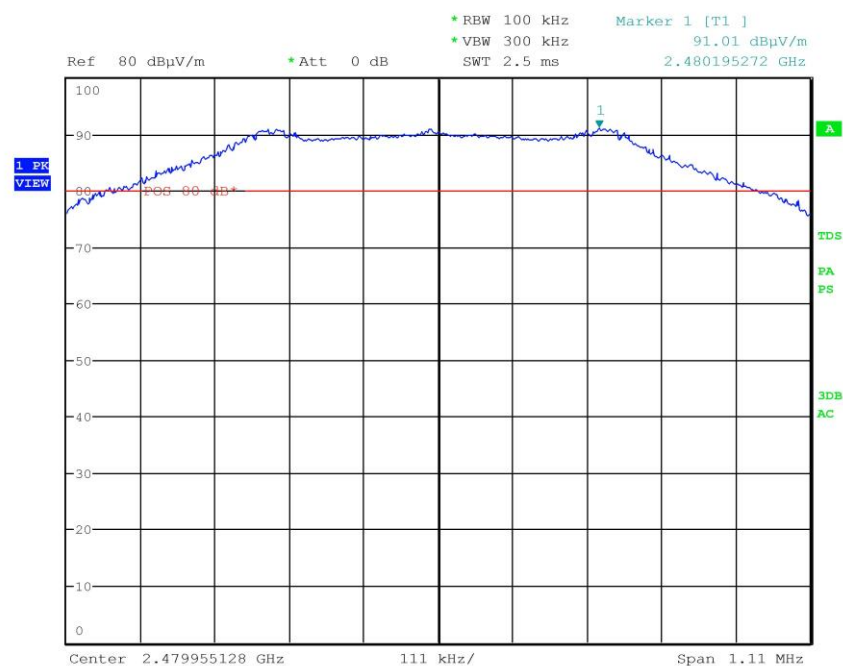
OP Condition

Fmax

Operator

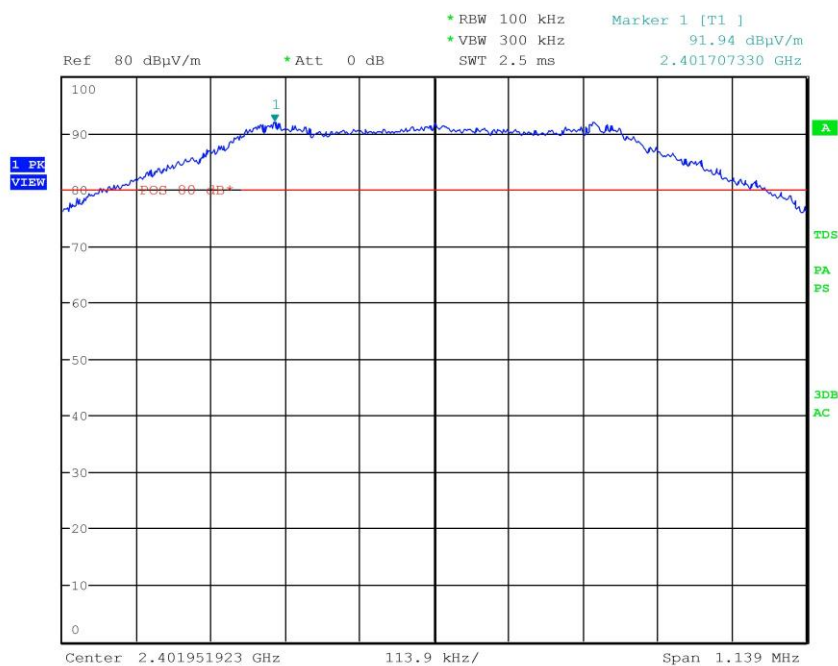
Bertezzo 14235904

Test Spec



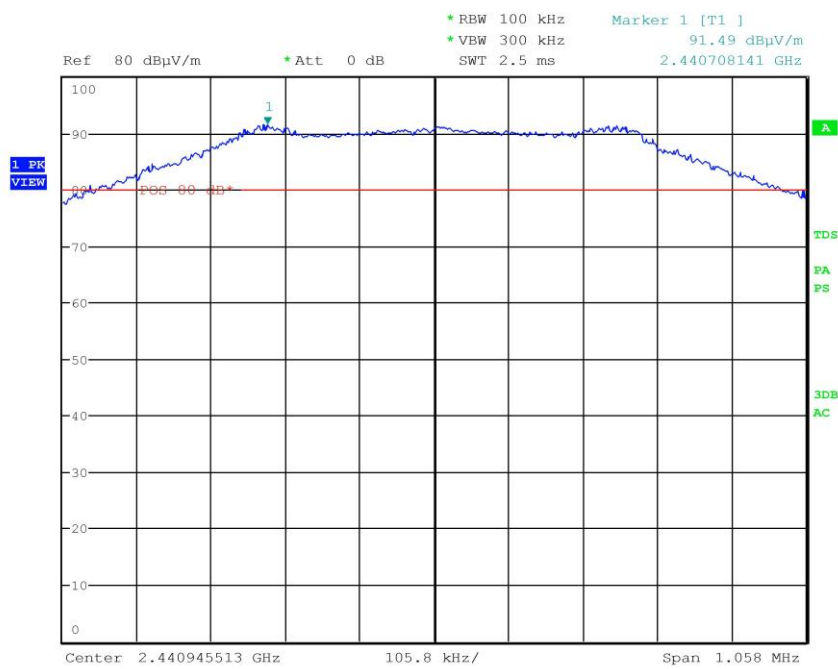


Meas Type
Equipment under Test
Manufacturer
OP Condition Fmin
Operator Bertezolo 14235909
Test Spec





Meas Type
Equipment under Test
Manufacturer
OP Condition Fmed
Operator Bertezolo 14235915
Test Spec



Result: The requirements are met



11.7 Spurious Emission

Test set-up and execution

- FCC Rules and Regulation; Titles 47 Part 15.209
- Internal procedure PM001
- See clause 4 of this test report
- Test date: 07 January 2015
- Technician: A. Bertezolo

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 – Antenna distance: 3 m
Detector AV + Peak

Environmental conditions

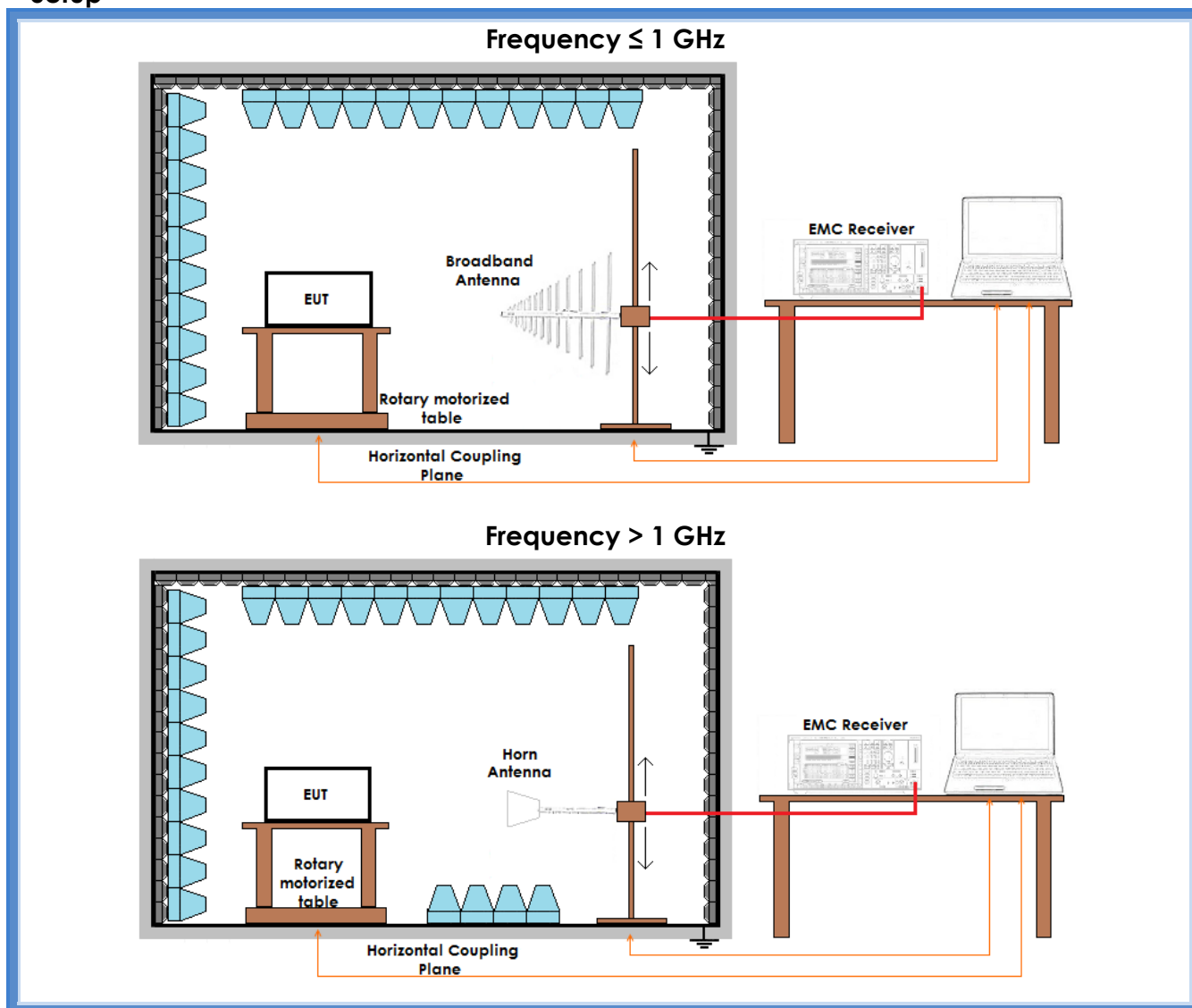
Temperature (°C)	Atmospheric pressure (kPa)	Relative humidity (%)
21	99	59

Acceptance limits

Frequency (MHz)	AV limits [dB(μV/m)]	Peak limits [dB(μV/m)]
> 1000	54	74



Setup





Result – AV detector

Harmonic	Limits (dB μ V/m)	Level (dB μ V/m)			Results
		Lowest channel	Medium channel	Highest channel	
II	54	41,6	45,1	45,1	Complies
III	54	< 41,5	< 41,5	< 41,5	Complies
IV	54	More than 15 dB below limit	More than 15 dB below limit	More than 15 dB below limit	Complies
V	54	More than 15 dB below limit	More than 15 dB below limit	More than 15 dB below limit	Complies
VI	54	More than 15 dB below limit	More than 15 dB below limit	More than 15 dB below limit	Complies
VII	54	More than 15 dB below limit	More than 15 dB below limit	More than 15 dB below limit	Complies
VIII	54	More than 15 dB below limit	More than 15 dB below limit	More than 15 dB below limit	Complies
IX	54	More than 15 dB below limit	More than 15 dB below limit	More than 15 dB below limit	Complies
X	54	More than 15 dB below limit	More than 15 dB below limit	More than 15 dB below limit	Complies

Remarks: EUT was tested in 3 orthogonal planes. The results in this table show the highest values

Result – Peak detector

Harmonic	Limits (dB μ V/m)	Level (dB μ V/m)			Results
		Lowest channel	Medium channel	Highest channel	
II	74	54,3	53,9	53,8	Complies
III	74	< 53,5	< 53,5	< 53,5	Complies
IV	74	More than 15 dB below limit	More than 15 dB below limit	More than 15 dB below limit	Complies
V	74	More than 15 dB below limit	More than 15 dB below limit	More than 15 dB below limit	Complies
VI	74	More than 15 dB below limit	More than 15 dB below limit	More than 15 dB below limit	Complies
VII	74	More than 15 dB below limit	More than 15 dB below limit	More than 15 dB below limit	Complies
VIII	74	More than 15 dB below limit	More than 15 dB below limit	More than 15 dB below limit	Complies
IX	74	More than 15 dB below limit	More than 15 dB below limit	More than 15 dB below limit	Complies
X	74	More than 15 dB below limit	More than 15 dB below limit	More than 15 dB below limit	Complies

Remarks: EUT was tested in 3 orthogonal planes. The results in this table show the highest values

Result: The requirements are met