Annex 1: Measurement diagrams to
T E S T R E P O R T
No.: 16-1-0219301T12a

According to:
FCC Regulations
Part 22, Part 24, Part 27

ISED-Regulations
RSS-132 Issue 3, RSS-133 Issue 6,
RSS-139 Issue 2, RSS-Gen Issue 4
RSS-130 Issue 1

for

Actia Nordic

TEM4G Telematics

FCC-ID: 2AGKKTEM4G
ISED: 20839- TEM4G
PMN: TEM4G
HVIN: TEM4G
FVIN: 13

Laboratory Accreditation and Listings			
DAkkS Deutsche Akkreditierungsstelle D-PL-12047-01-01	MRA US-EU 0003	Industry Canada Reg. No.: 3462D-1 Reg. No.: 3462D-2 Reg. No.: 3462D-3	Voluntary Controls for Electromagnetic Emissions Reg. No.: R-2666 C-2914, T-1967, G-301
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accredited according to DIN EN ISO/IEC 17025

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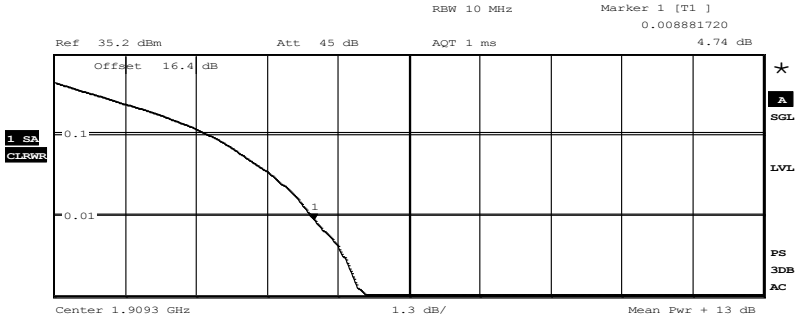
1. Measurement diagrams LTE-mode

1.1. PAPR-Value (CCDF plots)

1.1.1. LTE Band 2

Worst-Case of each maximum Peak to Average power value was tested with the CCDF method

1.1.1.1. 1.4MHz signal bandwidth

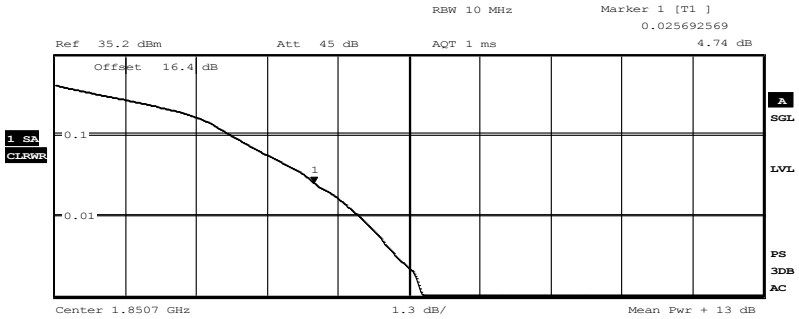


Complementary Cumulative Distribution Function
NOF samples: 16000, Usable BW: 11.2MHz

	Trace 1
Mean	17.67 dBm
Peak	23.86 dBm
Crest	6.18 dB
10 %	2.81 dB
1 %	4.69 dB
.1 %	5.71 dB
.01 %	6.13 dB

Date: 8.JUN.2017 13:36:38

Diagram: QPSK 1.4 MHz CH19193, 100% RB

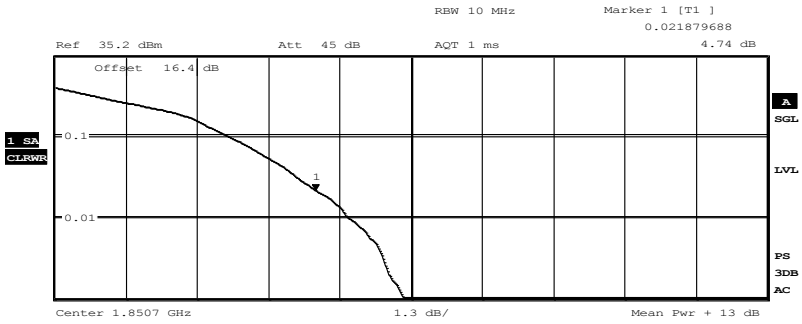


Complementary Cumulative Distribution Function
NOF samples: 16000, Usable BW: 11.2MHz

	Trace 1
Mean	17.19 dBm
Peak	24.89 dBm
Crest	7.70 dB
10 %	3.23 dB
1 %	5.58 dB
.1 %	6.75 dB
.01 %	7.69 dB

Date: 8.JUN.2017 13:39:15

Diagram: QAM 1.4 MHz CH18607, 100% RB



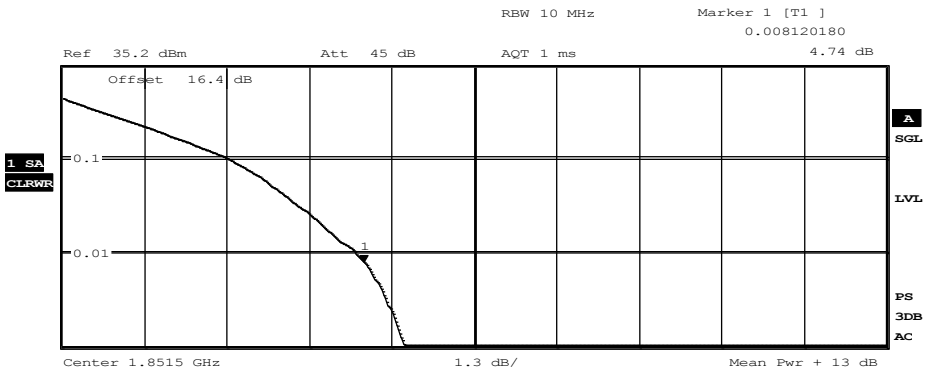
Complementary Cumulative Distribution Function
NOF samples: 16000, Usable BW: 11.2MHz

	Trace 1
Mean	18.31 dBm
Peak	25.24 dBm
Crest	6.94 dB
10 %	3.19 dB
1 %	5.35 dB
.1 %	6.35 dB
.01 %	6.88 dB

Date: 8.JUN.2017 13:40:54

Diagram: QAM 1.4 MHz CH18607, 50% RB

1.1.1.2. 3MHz signal bandwidth

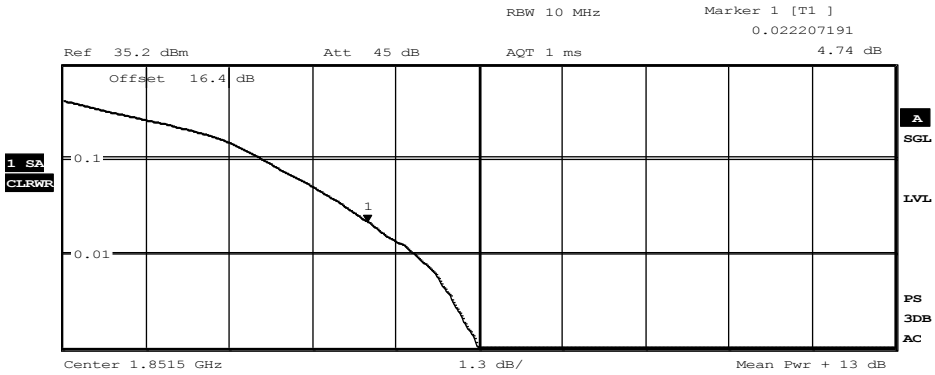


Complementary Cumulative Distribution Function
NOF samples: 16000, Usable BW: 11.2MHz

	Trace 1
Mean	18.28 dBm
Peak	24.75 dBm
Crest	6.47 dB
10 %	2.63 dB
1 %	4.63 dB
.1 %	5.42 dB
.01 %	6.29 dB

Date: 8.JUN.2017 13:43:36

Diagram: QPSK 3 MHz CH18615, 100% RB



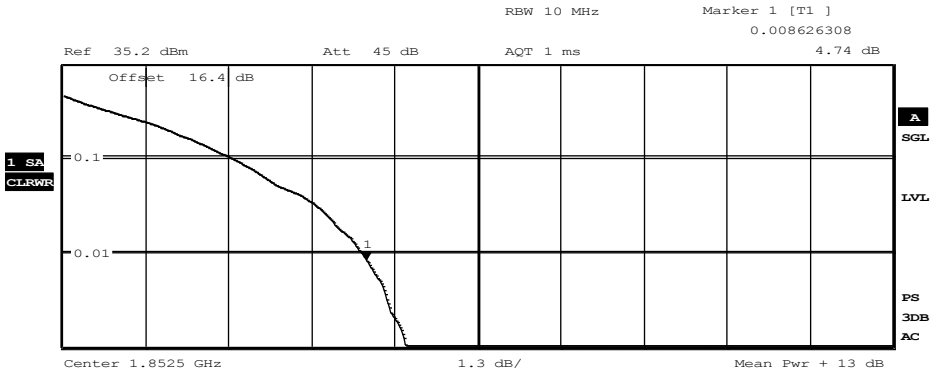
Complementary Cumulative Distribution Function
NOF samples: 16000, Usable BW: 11.2MHz

	Trace 1
Mean	17.29 dBm
Peak	24.75 dBm
Crest	7.46 dB
10 %	3.10 dB
1 %	5.50 dB
.1 %	6.50 dB
.01 %	7.38 dB

Date: 8.JUN.2017 13:44:43

Diagram: QAM 3 MHz CH18615, 100% RB

1.1.1.3. 5MHz signal bandwidth

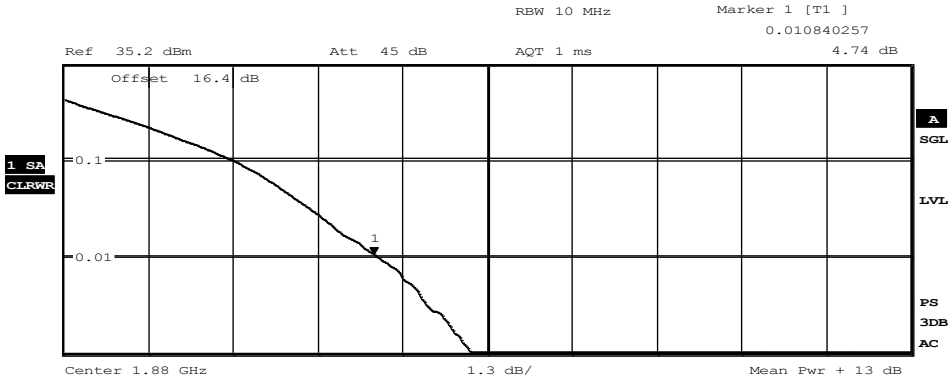


Complementary Cumulative Distribution Function
NOF samples: 16000, Usable BW: 11.2MHz

	Trace 1
Mean	19.62 dBm
Peak	25.11 dBm
Crest	5.50 dB
10 %	2.67 dB
1 %	4.67 dB
.1 %	5.38 dB
.01 %	5.48 dB

Date: 8.JUN.2017 13:53:11

Diagram: QPSK 5 MHz CH18625, 1 RB high

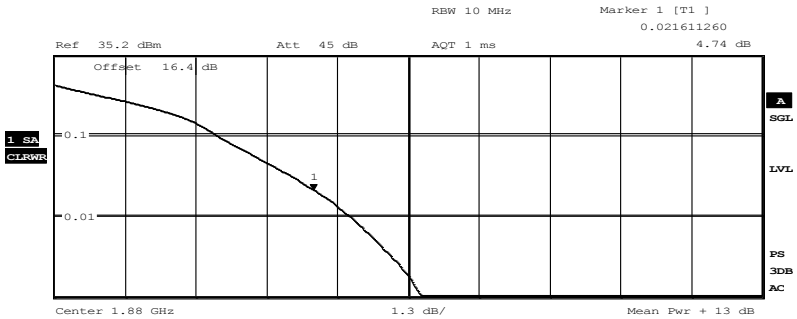


Complementary Cumulative Distribution Function
NOF samples: 16000, Usable BW: 11.2MHz

	Trace 1
Mean	18.73 dBm
Peak	25.91 dBm
Crest	7.19 dB
10 %	2.60 dB
1 %	4.81 dB
.1 %	6.25 dB
.01 %	6.94 dB

Date: 8.JUN.2017 13:55:27

Diagram: QPSK 5 MHz CH18900, 50% RB



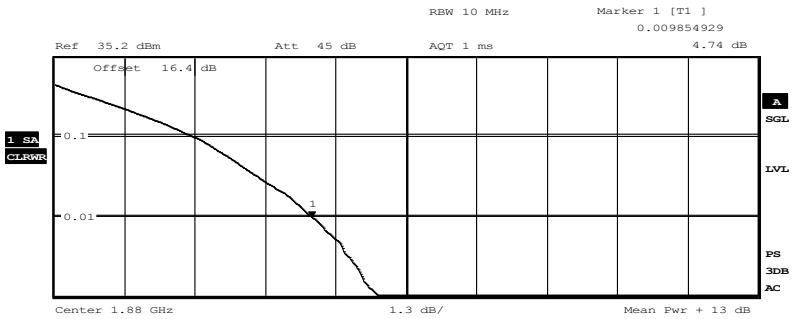
Complementary Cumulative Distribution Function
NOF samples: 16000, Usable BW: 11.2MHz

	Trace 1
Mean	17.67 dBm
Peak	25.91 dBm
Crest	8.24 dB
10 %	2.98 dB
1 %	5.42 dB
.1 %	6.73 dB
.01 %	7.79 dB

Date: 8.JUN.2017 13:56:59

Diagram: QAM 5 MHz CH18900, 100% RB

1.1.1.4. 10MHz signal bandwidth

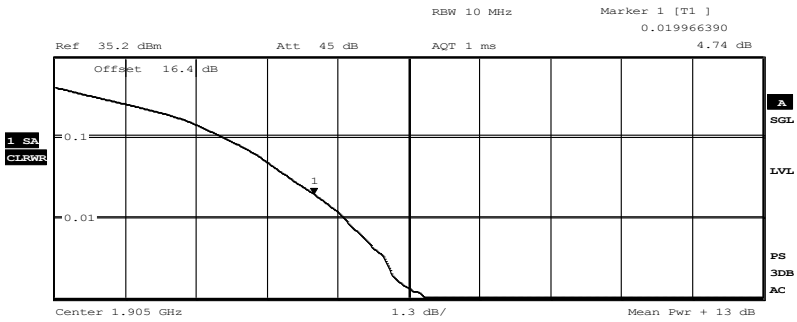


Complementary Cumulative Distribution Function
NOF samples: 16000, Usable BW: 11.2MHz

	Trace 1
Mean	18.50 dBm
Peak	25.28 dBm
Crest	6.78 dB
10 %	2.56 dB
1 %	4.73 dB
.1 %	5.96 dB
.01 %	6.60 dB

Date: 8.JUN.2017 13:59:21

Diagram: QPSK 10 MHz CH18900, 50% RB



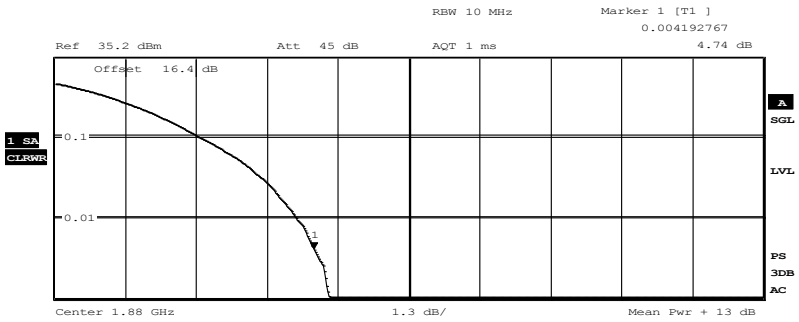
Complementary Cumulative Distribution Function
NOF samples: 16000, Usable BW: 11.2MHz

	Trace 1
Mean	16.87 dBm
Peak	24.40 dBm
Crest	7.53 dB
10 %	3.08 dB
1 %	5.31 dB
.1 %	6.79 dB
.01 %	7.44 dB

Date: 8.JUN.2017 14:00:58

Diagram: QAM 10 MHz CH19150, 100% RB

1.1.1.5. 15MHz signal bandwidth

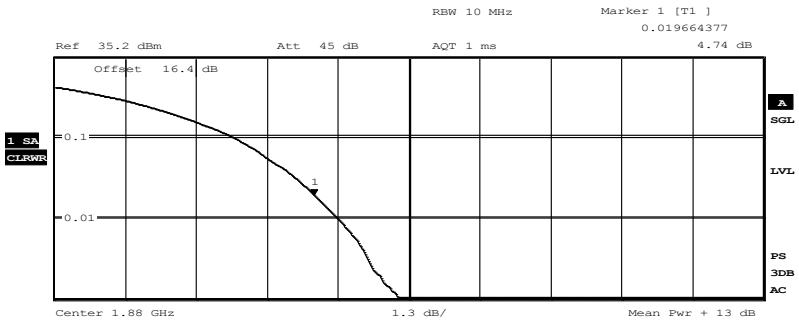


Complementary Cumulative Distribution Function
NOF samples: 16000, Usable BW: 11.2MHz

	Trace 1
Mean	17.59 dBm
Peak	23.09 dBm
Crest	5.50 dB
10 %	2.67 dB
1 %	4.44 dB
.1 %	5.04 dB
.01 %	5.44 dB

Date: 8.JUN.2017 14:03:19

Diagram: QPSK 15 MHz CH18900, 100% RB



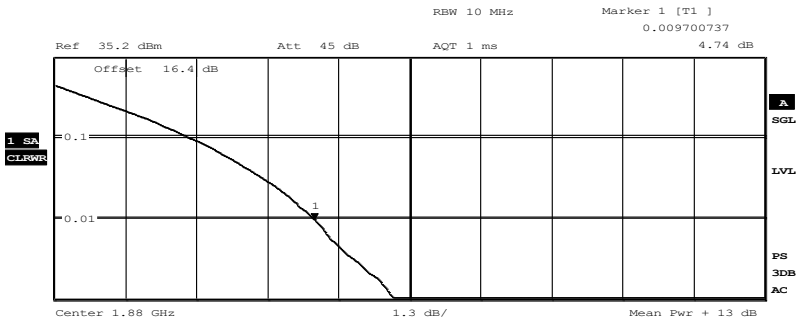
Complementary Cumulative Distribution Function
NOF samples: 16000, Usable BW: 11.2MHz

	Trace 1
Mean	16.56 dBm
Peak	23.51 dBm
Crest	6.95 dB
10 %	3.27 dB
1 %	5.19 dB
.1 %	6.29 dB
.01 %	6.79 dB

Date: 8.JUN.2017 14:04:31

Diagram: QAM 15 MHz CH18900, 100% RB

1.1.1.6. 20MHz signal bandwidth

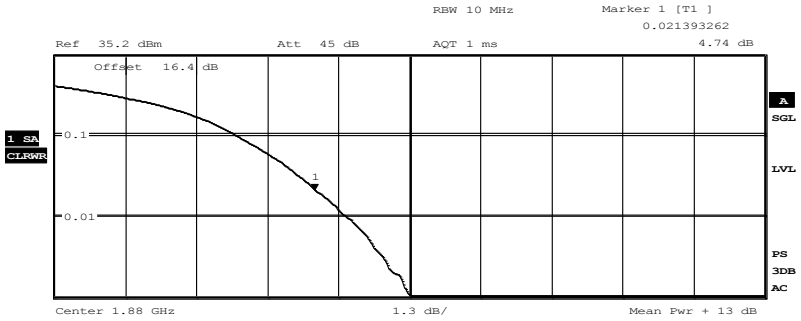


Complementary Cumulative Distribution Function
NOF samples: 16000, Usable BW: 11.2MHz

	Trace 1
Mean	18.41 dBm
Peak	25.98 dBm
Crest	7.57 dB
10 %	2.46 dB
1 %	4.73 dB
.1 %	6.19 dB
.01 %	7.13 dB

Date: 8.JUN.2017 14:08:02

Diagram: QPSK 20 MHz CH18900, 50% RB



Complementary Cumulative Distribution Function
NOF samples: 16000, Usable BW: 11.2MHz

	Trace 1
Mean	15.49 dBm
Peak	22.81 dBm
Crest	7.32 dB
10 %	3.31 dB
1 %	5.33 dB
.1 %	6.54 dB
.01 %	7.17 dB

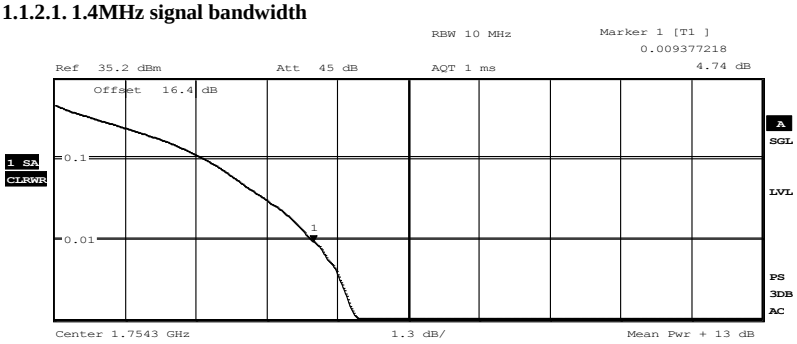
Date: 8.JUN.2017 14:09:51

Diagram: QAM 20 MHz CH19100, 100% RB

1.1.2. LTE Band 4

Worst-Case of each maximum Peak to Average power value was tested with the CCDF method

1.1.2.1. 1.4MHz signal bandwidth

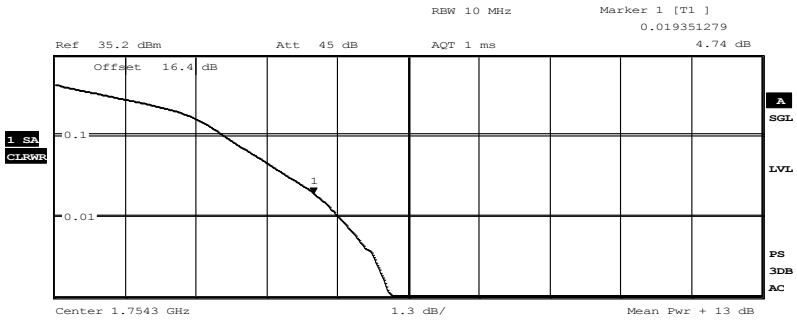


Complementary Cumulative Distribution Function
NOF samples: 16000, Usable BW: 11.2MHz

	Trace 1
Mean	19.46 dBm
Peak	25.75 dBm
Crest	6.29 dB
10 %	2.75 dB
1 %	4.71 dB
.1 %	5.56 dB
.01 %	6.25 dB

Date: 8.JUN.2017 14:14:36

Diagram: QPSK 1.4 MHz CH20393, 100% RB



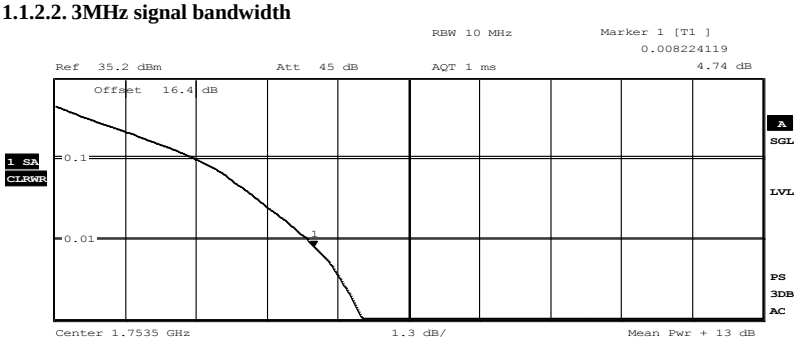
Complementary Cumulative Distribution Function
NOF samples: 16000, Usable BW: 11.2MHz

	Trace 1
Mean	18.43 dBm
Peak	25.12 dBm
Crest	6.69 dB
10 %	3.10 dB
1 %	5.21 dB
.1 %	6.21 dB
.01 %	6.65 dB

Date: 8.JUN.2017 14:15:30

Diagram: QAM 1.4 MHz CH20393, 100% RB

1.1.2.2. 3MHz signal bandwidth

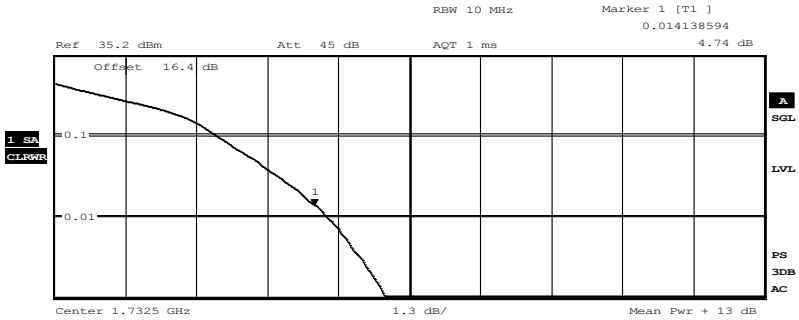


Complementary Cumulative Distribution Function
NOF samples: 16000, Usable BW: 11.2MHz

	Trace 1
Mean	19.53 dBm
Peak	25.61 dBm
Crest	6.08 dB
10 %	2.56 dB
1 %	4.63 dB
.1 %	5.65 dB
.01 %	6.04 dB

Date: 8.JUN.2017 14:17:30

Diagram: QPSK 3 MHz CH20385, 100% RB



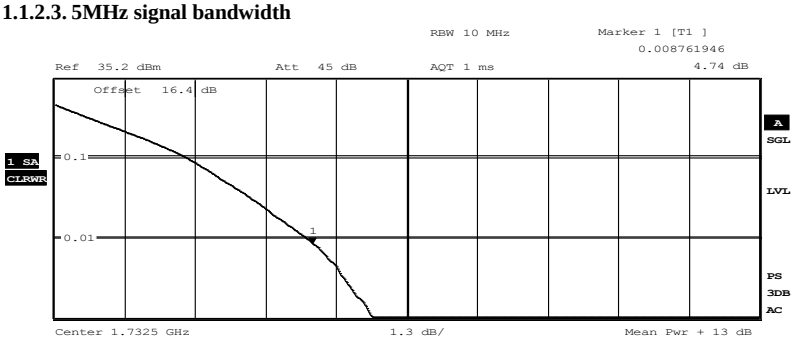
Complementary Cumulative Distribution Function
NOF samples: 16000, Usable BW: 11.2MHz

	Trace 1
Mean	17.96 dBm
Peak	24.57 dBm
Crest	6.61 dB
10 %	2.96 dB
1 %	4.96 dB
.1 %	6.06 dB
.01 %	6.46 dB

Date: 8.JUN.2017 14:19:03

Diagram: QAM 3 MHz CH20175, 100% RB

1.1.2.3. 5MHz signal bandwidth

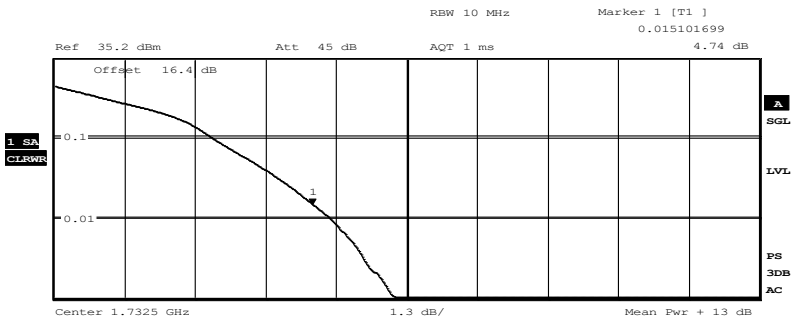


Complementary Cumulative Distribution Function
NOF samples: 16000, Usable BW: 11.2MHz

	Trace 1
Mean	18.88 dBm
Peak	25.91 dBm
Crest	7.03 dB
10 %	2.44 dB
1 %	4.65 dB
.1 %	5.94 dB
.01 %	6.79 dB

Date: 8.JUN.2017 14:20:13

Diagram: QPSK 5 MHz CH20175, 100% RB



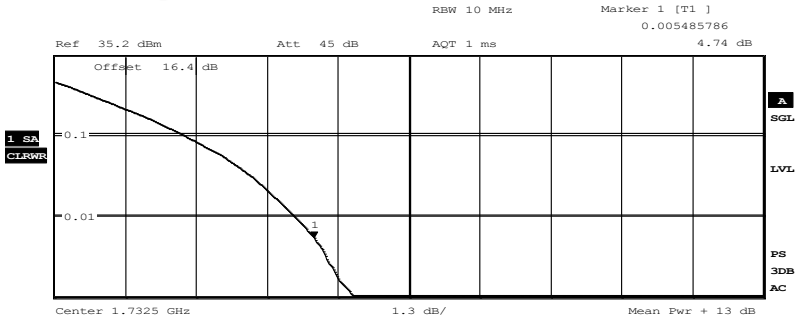
Complementary Cumulative Distribution Function
NOF samples: 16000, Usable BW: 11.2MHz

	Trace 1
Mean	17.89 dBm
Peak	24.64 dBm
Crest	6.76 dB
10 %	2.92 dB
1 %	5.08 dB
.1 %	6.29 dB
.01 %	6.58 dB

Date: 8.JUN.2017 14:20:50

Diagram: QAM 5 MHz CH20175, 100% RB

1.1.2.4. 10MHz signal bandwidth

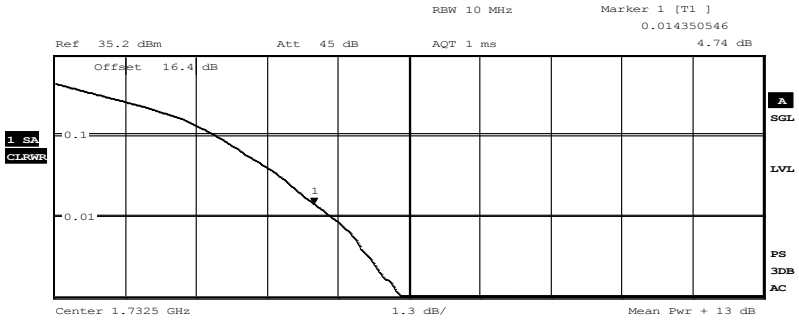


Complementary Cumulative Distribution Function
NOF samples: 16000, Usable BW: 11.2MHz

	Trace 1
Mean	18.71 dBm
Peak	25.49 dBm
Crest	6.78 dB
10 %	2.38 dB
1 %	4.38 dB
.1 %	5.46 dB
.01 %	6.40 dB

Date: 8.JUN.2017 14:22:33

Diagram: QPSK 10 MHz CH20175, 100% RB

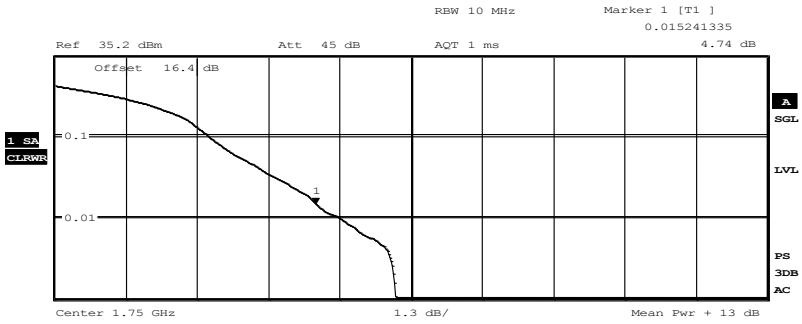


Complementary Cumulative Distribution Function
NOF samples: 16000, Usable BW: 11.2MHz

	Trace 1
Mean	17.68 dBm
Peak	25.42 dBm
Crest	7.73 dB
10 %	2.96 dB
1 %	5.06 dB
.1 %	6.38 dB
.01 %	7.56 dB

Date: 8.JUN.2017 14:23:06

Diagram: QAM 10 MHz CH20175, 100% RB



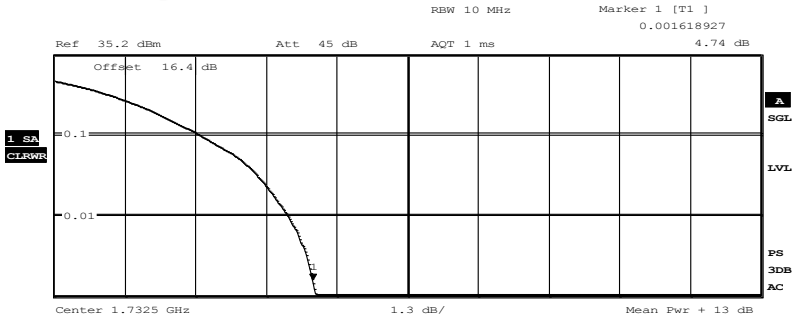
Complementary Cumulative Distribution Function
NOF samples: 16000, Usable BW: 11.2MHz

	Trace 1
Mean	19.31 dBm
Peak	25.60 dBm
Crest	6.29 dB
10 %	2.81 dB
1 %	5.19 dB
.1 %	6.23 dB
.01 %	6.29 dB

Date: 8.JUN.2017 14:24:47

Diagram: QAM 10 MHz CH20375, 1 RB high

1.1.2.5. 15MHz signal bandwidth

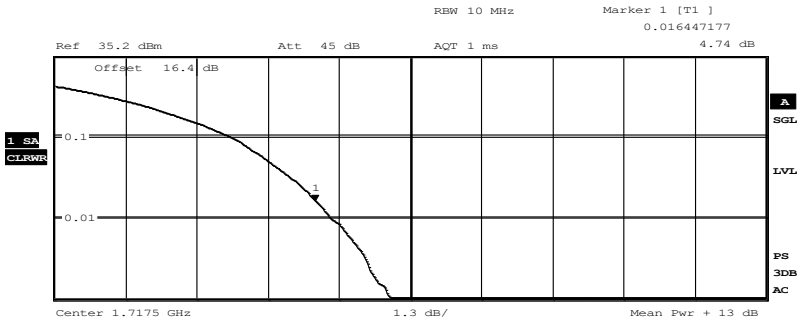


Complementary Cumulative Distribution Function
NOF samples: 16000, Usable BW: 11.2MHz

	Trace 1
Mean	18.07 dBm
Peak	23.58 dBm
Crest	5.52 dB
10 %	2.67 dB
1 %	4.29 dB
.1 %	4.81 dB
.01 %	5.21 dB

Date: 8.JUN.2017 14:36:40

Diagram: QPSK 15 MHz CH20175, 100% RB



Complementary Cumulative Distribution Function
NOF samples: 16000, Usable BW: 11.2MHz

	Trace 1
Mean	16.93 dBm
Peak	23.96 dBm
Crest	7.03 dB
10 %	3.21 dB
1 %	5.04 dB
.1 %	6.19 dB
.01 %	6.85 dB

Date: 8.JUN.2017 14:39:26

Diagram: QAM 15 MHz CH20025, 100% RB

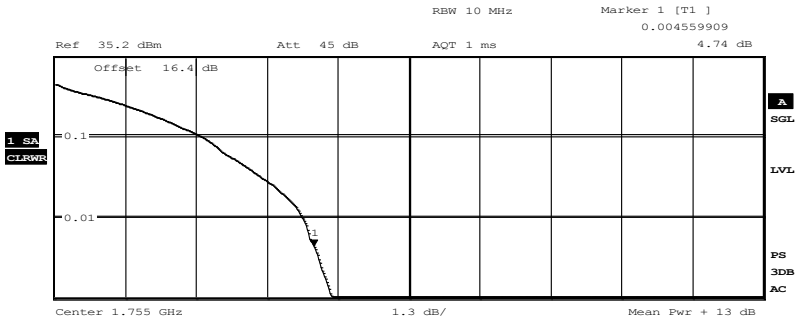
1.1.2.6. 20MHz signal bandwidth

Complementary Cumulative Distribution Function
NOF samples: 16000, Usable BW: 11.2MHz

	Trace 1
Mean	18.65 dBm
Peak	25.38 dBm
Crest	6.73 dB
10 %	2.44 dB
1 %	4.67 dB
.1 %	5.79 dB
.01 %	6.44 dB

Date: 8.JUN.2017 14:41:46

Diagram: QPSK 20 MHz CH20050, 50% RB

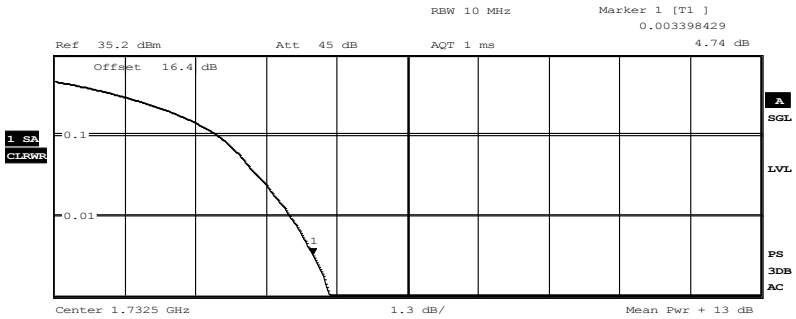


Complementary Cumulative Distribution Function
NOF samples: 16000, Usable BW: 11.2MHz

	Trace 1
Mean	20.58 dBm
Peak	25.76 dBm
Crest	5.18 dB
10 %	2.69 dB
1 %	4.54 dB
.1 %	5.08 dB
.01 %	5.17 dB

Date: 8.JUN.2017 14:43:35

Diagram: QPSK 20 MHz CH20300, 1 RB high



Complementary Cumulative Distribution Function
NOF samples: 16000, Usable BW: 11.2MHz

	Trace 1
Mean	17.02 dBm
Peak	22.81 dBm
Crest	5.79 dB
10 %	3.00 dB
1 %	4.31 dB
.1 %	5.06 dB
.01 %	5.48 dB

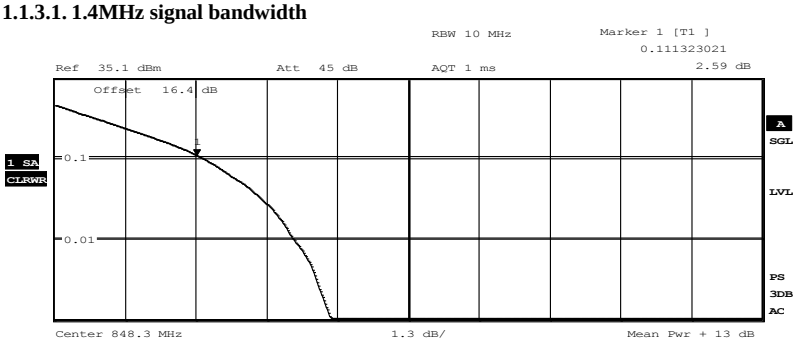
Date: 8.JUN.2017 14:46:34

Diagram: QAM 20 MHz CH20175, 100% RB

1.1.3. LTE Band 5

Worst-Case of each maximum Peak to Average power value was tested with the CCDF method

1.1.3.1. 1.4MHz signal bandwidth

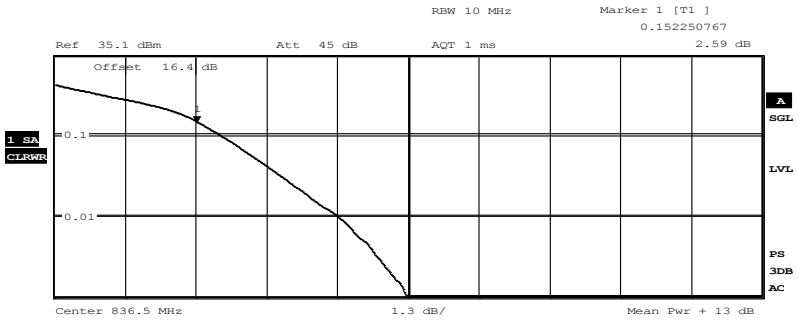


Complementary Cumulative Distribution Function
NOF samples: 16000, Usable BW: 11.2MHz

	Trace 1
Mean	5.83 dBm
Peak	11.23 dBm
Crest	5.40 dB
10 %	2.73 dB
1 %	4.40 dB
.1 %	5.08 dB
.01 %	5.35 dB

Date: 8.JUN.2017 10:57:00

Diagram: QPSK 1.4 MHz CH20643, 100% RB



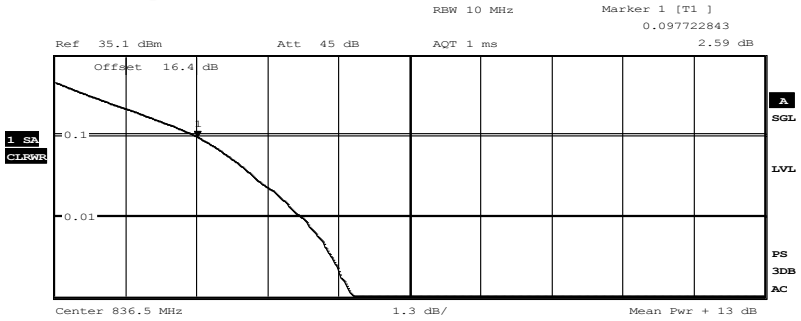
Complementary Cumulative Distribution Function
NOF samples: 16000, Usable BW: 11.2MHz

	Trace 1
Mean	4.56 dBm
Peak	11.66 dBm
Crest	7.10 dB
10 %	3.06 dB
1 %	5.19 dB
.1 %	6.46 dB
.01 %	6.96 dB

Date: 8.JUN.2017 11:42:48

Diagram: QAM 1.4 MHz CH20525, 100% RB

1.1.3.2. 3MHz signal bandwidth

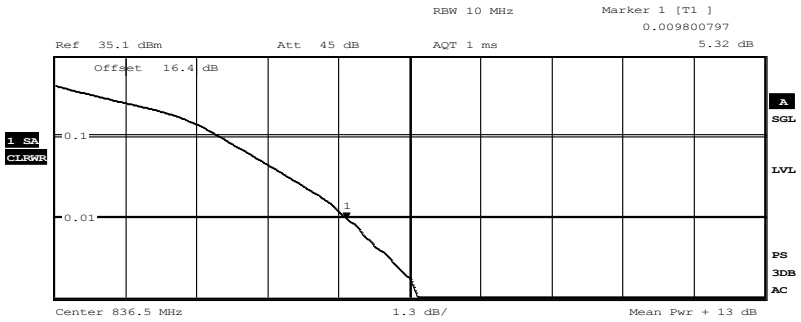


Complementary Cumulative Distribution Function
NOF samples: 16000, Usable BW: 11.2MHz

	Trace 1
Mean	5.08 dBm
Peak	11.17 dBm
Crest	6.09 dB
10 %	2.58 dB
1 %	4.50 dB
.1 %	5.46 dB
.01 %	5.92 dB

Date: 8.JUN.2017 11:02:17

Diagram: QPSK 3 MHz CH20525, 100% RB



Complementary Cumulative Distribution Function
NOF samples: 16000, Usable BW: 11.2MHz

	Trace 1
Mean	4.39 dBm
Peak	11.74 dBm
Crest	7.34 dB
10 %	3.02 dB
1 %	5.31 dB
.1 %	6.71 dB
.01 %	7.17 dB

Date: 8.JUN.2017 11:45:14

Diagram: QAM 3 MHz CH20525, 100% RB

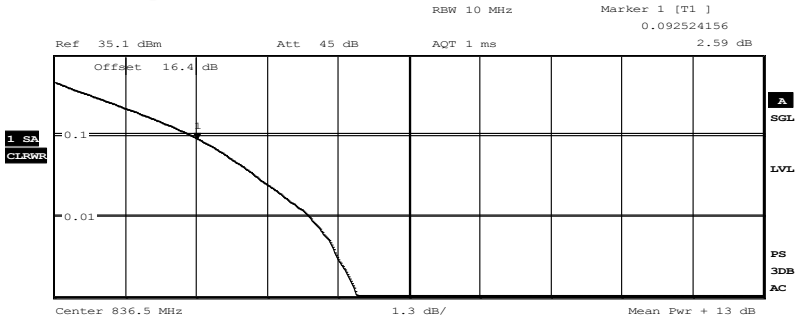
Complementary Cumulative Distribution Function
NOF samples: 16000, Usable BW: 11.2MHz

	Trace 1
Mean	5.97 dBm
Peak	11.65 dBm
Crest	5.68 dB
10 %	3.06 dB
1 %	4.65 dB
.1 %	5.44 dB
.01 %	5.63 dB

Date: 8.JUN.2017 11:47:25

Diagram: QAM 3 MHz CH20635, 1 RB low

1.1.3.3. 5MHz signal bandwidth

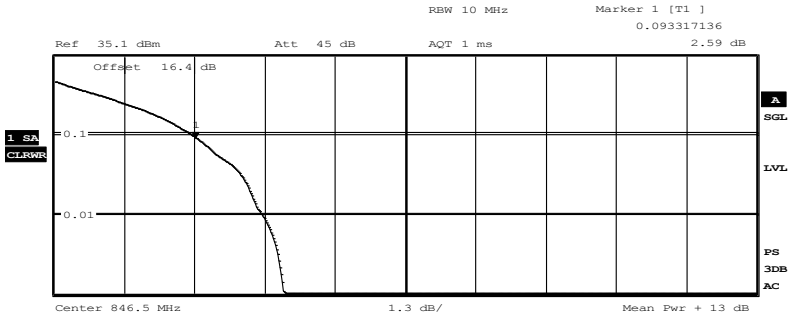


Complementary Cumulative Distribution Function
NOF samples: 16000, Usable BW: 11.2MHz

	Trace 1
Mean	5.46 dBm
Peak	11.45 dBm
Crest	5.99 dB
10 %	2.50 dB
1 %	4.67 dB
.1 %	5.54 dB
.01 %	5.94 dB

Date: 8.JUN.2017 11:31:58

Diagram: QPSK 5 MHz CH20525, 50% RB

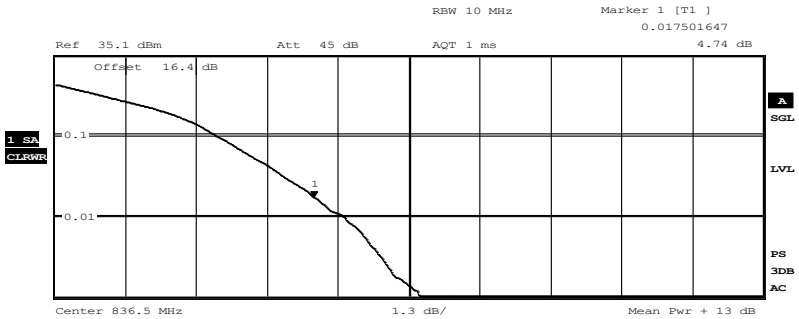


Complementary Cumulative Distribution Function
NOF samples: 16000, Usable BW: 11.2MHz

	Trace 1
Mean	6.97 dBm
Peak	11.43 dBm
Crest	4.47 dB
10 %	2.54 dB
1 %	3.85 dB
.1 %	4.25 dB
.01 %	4.40 dB

Date: 8.JUN.2017 11:34:37

Diagram: QPSK 5 MHz CH20625, 1 RB low



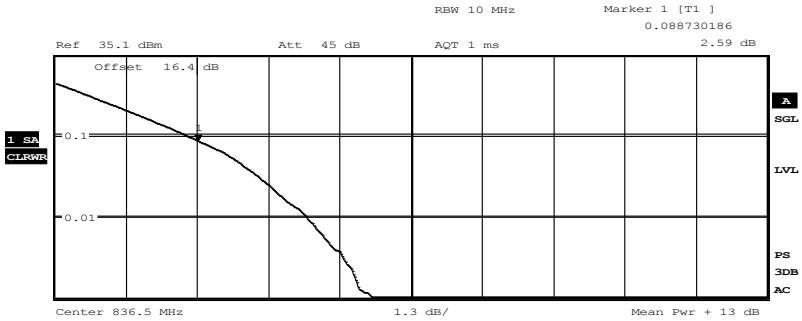
Complementary Cumulative Distribution Function
NOF samples: 16000, Usable BW: 11.2MHz

	Trace 1
Mean	4.32 dBm
Peak	11.81 dBm
Crest	7.49 dB
10 %	2.98 dB
1 %	5.29 dB
.1 %	6.69 dB
.01 %	7.38 dB

Date: 8.JUN.2017 11:50:04

Diagram: QAM 5 MHz CH20525, 100% RB

1.1.3.4. 10MHz signal bandwidth

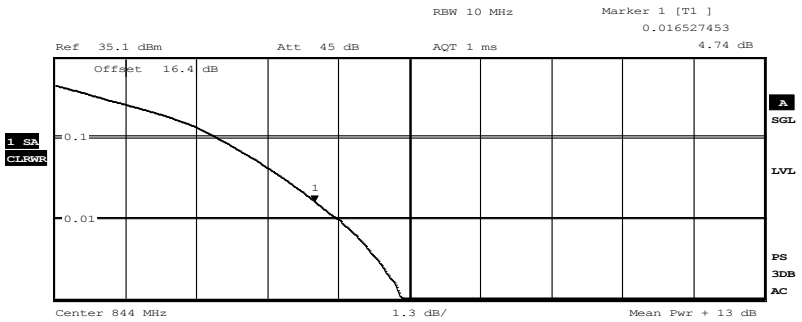


Complementary Cumulative Distribution Function
NOF samples: 16000, Usable BW: 11.2MHz

	Trace 1
Mean	5.13 dBm
Peak	11.59 dBm
Crest	6.46 dB
10 %	2.44 dB
1 %	4.58 dB
.1 %	5.77 dB
.01 %	6.29 dB

Date: 8.JUN.2017 11:40:40

Diagram: QPSK 10 MHz CH20525, 100% RB



Complementary Cumulative Distribution Function
NOF samples: 16000, Usable BW: 11.2MHz

	Trace 1
Mean	4.81 dBm
Peak	11.99 dBm
Crest	7.18 dB
10 %	2.98 dB
1 %	5.19 dB
.1 %	6.35 dB
.01 %	7.08 dB

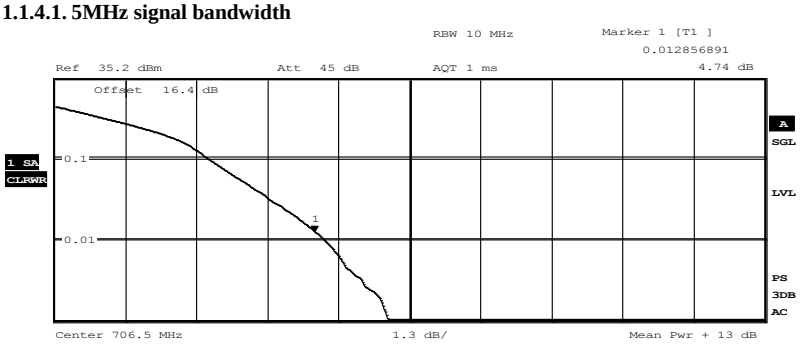
Date: 8.JUN.2017 11:51:57

Diagram: QAM 10 MHz CH20600, 100% RB

1.1.4. LTE Band 17

Worst-Case of each maximum Peak to Average power value was tested with the CCDF method

1.1.4.1. 5MHz signal bandwidth

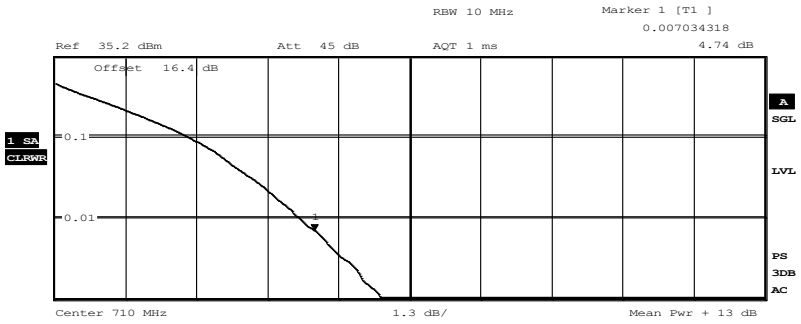


Complementary Cumulative Distribution Function
NOF samples: 16000, Usable BW: 11.2MHz

	Trace 1
Mean	18.67 dBm
Peak	26.40 dBm
Crest	7.72 dB
10 %	2.81 dB
1 %	4.94 dB
.1 %	6.10 dB
.01 %	7.13 dB

Date: 8.JUN.2017 13:19:18

Diagram: QAM 5 MHz CH23755, 100% RB



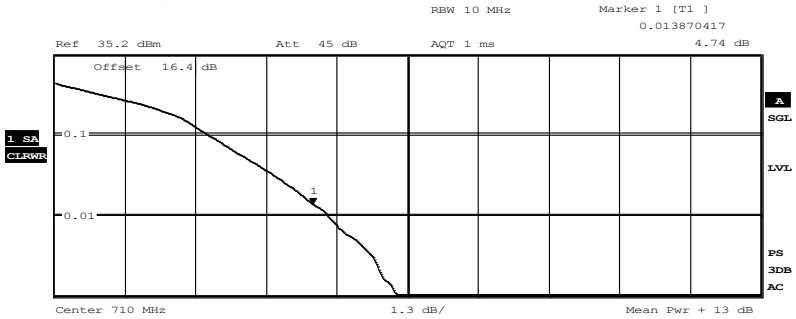
Complementary Cumulative Distribution Function
NOF samples: 16000, Usable BW: 11.2MHz

	Trace 1
Mean	19.69 dBm
Peak	26.39 dBm
Crest	6.70 dB
10 %	2.44 dB
1 %	4.46 dB
.1 %	5.98 dB
.01 %	6.67 dB

Date: 8.JUN.2017 13:07:14

Diagram: QPSK 5 MHz CH23790, 50% RB

1.1.4.2. 10MHz signal bandwidth

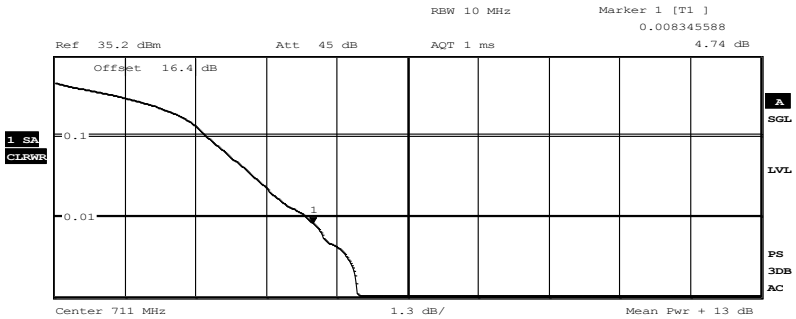


Complementary Cumulative Distribution Function
NOF samples: 16000, Usable BW: 11.2MHz

	Trace 1
Mean	18.50 dBm
Peak	25.97 dBm
Crest	7.47 dB
10 %	2.83 dB
1 %	5.02 dB
.1 %	6.31 dB
.01 %	7.38 dB

Date: 8.JUN.2017 13:30:44

Diagram: QAM 10 MHz CH23790, 50% RB

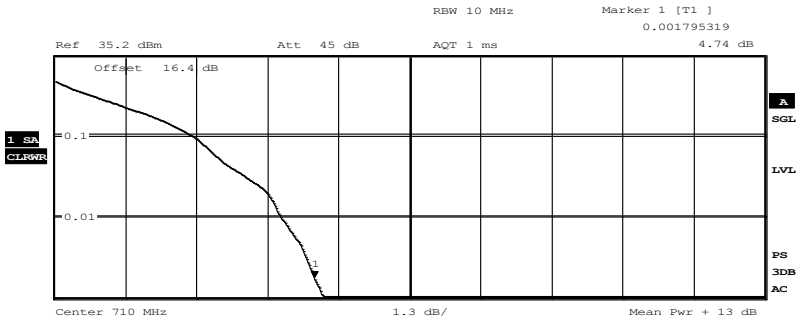


Complementary Cumulative Distribution Function
NOF samples: 16000, Usable BW: 11.2MHz

	Trace 1
Mean	19.17 dBm
Peak	24.91 dBm
Crest	5.73 dB
10 %	2.79 dB
1 %	4.60 dB
.1 %	5.58 dB
.01 %	5.71 dB

Date: 8.JUN.2017 13:32:43

Diagram: QAM 10 MHz CH23800, 1 RB high

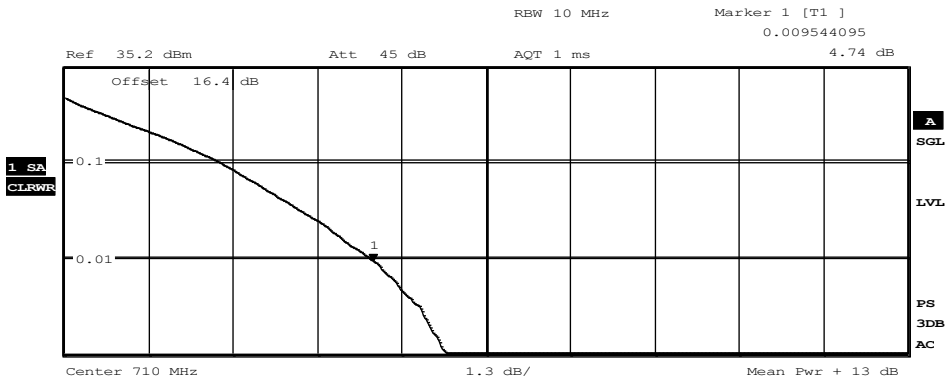


Complementary Cumulative Distribution Function
NOF samples: 16000, Usable BW: 11.2MHz

	Trace 1
Mean	20.61 dBm
Peak	25.68 dBm
Crest	5.07 dB
10 %	2.52 dB
1 %	4.15 dB
.1 %	4.92 dB
.01 %	5.06 dB

Date: 8.JUN.2017 13:14:14

Diagram: QPSK 10 MHz CH23790, 1 RB high



Complementary Cumulative Distribution Function
NOF samples: 16000, Usable BW: 11.2MHz

	Trace 1
Mean	19.52 dBm
Peak	26.46 dBm
Crest	6.95 dB
10 %	2.40 dB
1 %	4.71 dB
.1 %	5.90 dB
.01 %	6.77 dB

Date: 8.JUN.2017 13:10:40

Diagram: QPSK 10 MHz CH23790, 50% RB

1.2. Spurious emissions radiated (LTE Band 2)

1.2.1. Magnetic field strength radiated (LTE Band 2)

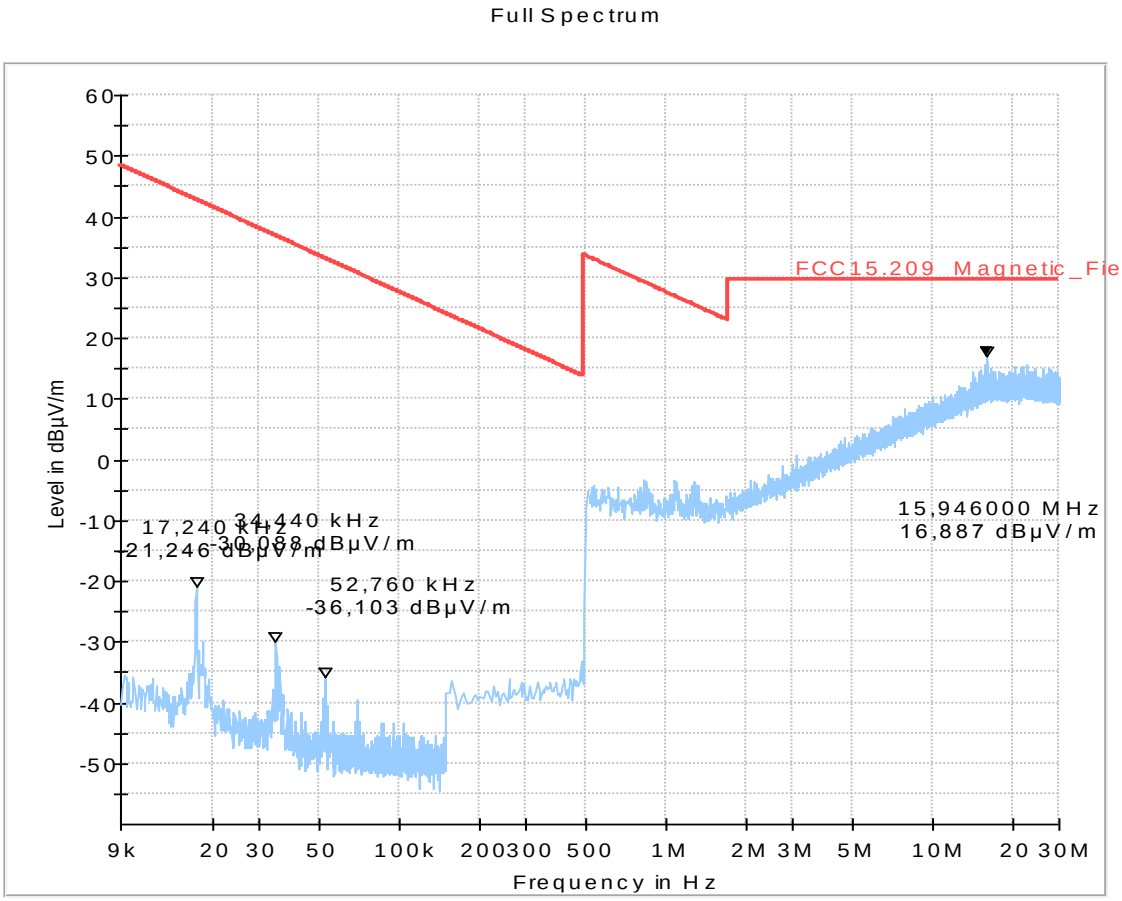
2.16_FDD2_Ch18607_BW5_50Mid_16QAM_IntAnt_RMC

Date: 07.06.2017 Page 1 of 1

Test description:	Magnetic Field Strength Measurement related to 30/300 m distance
Test site and distance:	Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance
Version of Testsoftware:	EMC32 V9.25.0
Distance correction:	used accord. table, pls. see test report
Technical Data:	Please see page 2 for detailed data of measurement setup
Rec. antenna (pre-scan):	height 1.00 m, parallel and 90° to EUT polarisation
Used filter:	bypass
Test specification:	FCC 15.205 § 15.209; RSS-Gen: Issue 4
Operator:	DLe
Operating mode:	LTE FDD4 Ch19965 BW3 QPSK, internal Antenna
Operating conditions:	Humidity: 50%rH; Temperature: 21°C
Power during tests:	12V DC
DUT Position:	Standing

EUT Information

Manufacturer:	ACTIA NORDIC AB
Model:	TEM4G
Type:	TELEMATICS MODULE
---	---
EUT:	TELEMATICS MODULE
Serial number:	20071090035
HW:	H1
Power Supply:	12VDC
Comments:	-



2.17_FDD2_Ch19175_BW5_1RBlow_QPSK_ExtAnt_RMC

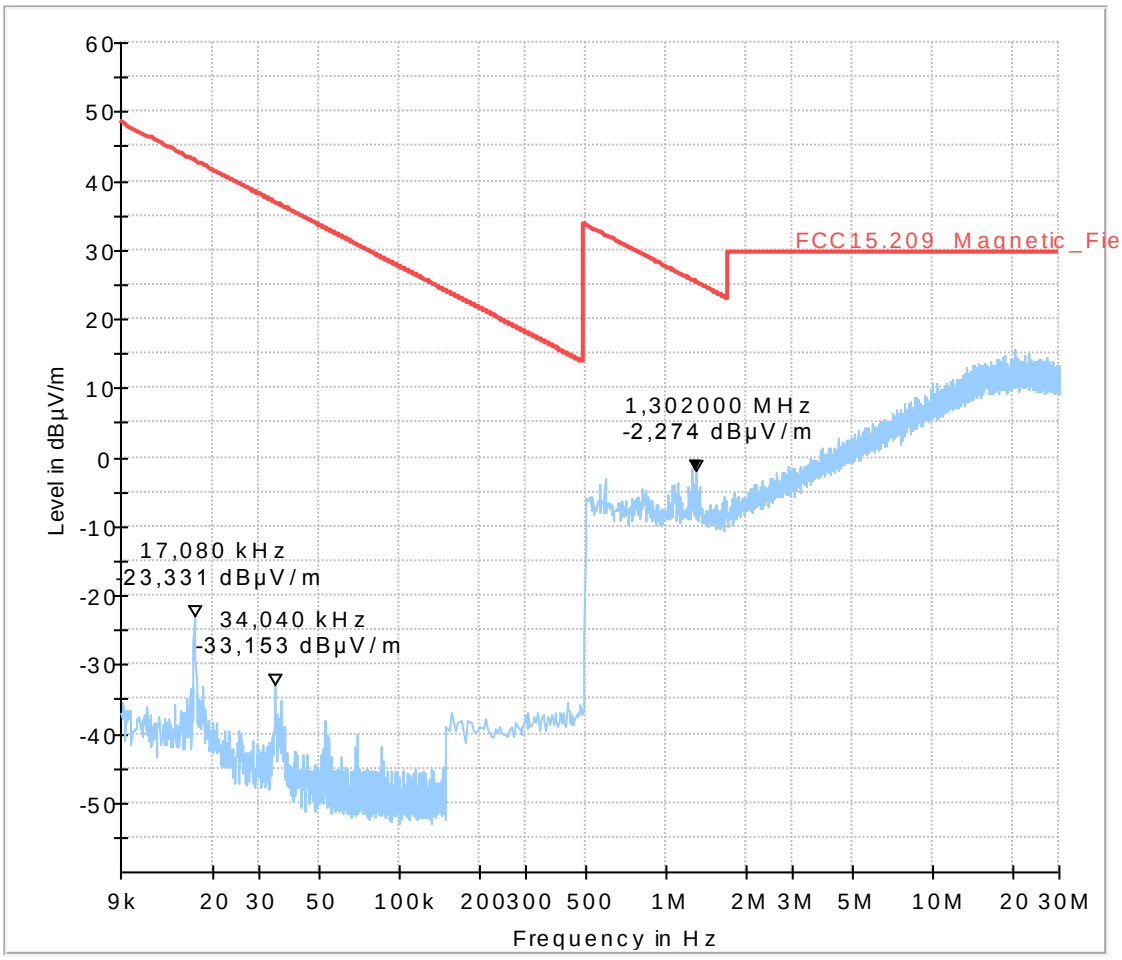
Date: 05.06.2017 Page 1 of 1

Test description:	Magnetic Field Strength Measurement related to 30/300 m distance
Test site and distance:	Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance
Version of Testsoftware:	EMC32 V9.25.0
Distance correction:	used accord. table, pls. see test report
Technical Data:	Please see page 2 for detailed data of measurement setup
Rec. antenna (pre-scan):	height 1.00 m, parallel and 90° to EUT polarisation
Used filter:	bypass
Test specification:	FCC 15.205 § 15.209; RSS-Gen: Issue 4
Operator:	AFr
Operating mode:	LTE FDD2 Ch19175 BW5 QPSK, External Antenna
Operating conditions:	Humidity: 50%rH; Temperature: 21°C
Power during tests:	12V DC
DUT Position:	Standing

EUT Information

Manufacturer:	ACTIA NORDIC AB
Model:	TEM4G
Type:	TELEMATICS MODULE
---	---
EUT:	TELEMATICS MODULE
Serial number:	20071090035
HW:	H1
Power Supply:	12VDC
Comments:	-

Full Spectrum



1.2.2. Emissions above 30MHz (LTE Band 2)

8.20_RSE_ R_Ch18607_BW_5_16QAM_Laying_ext-antenna

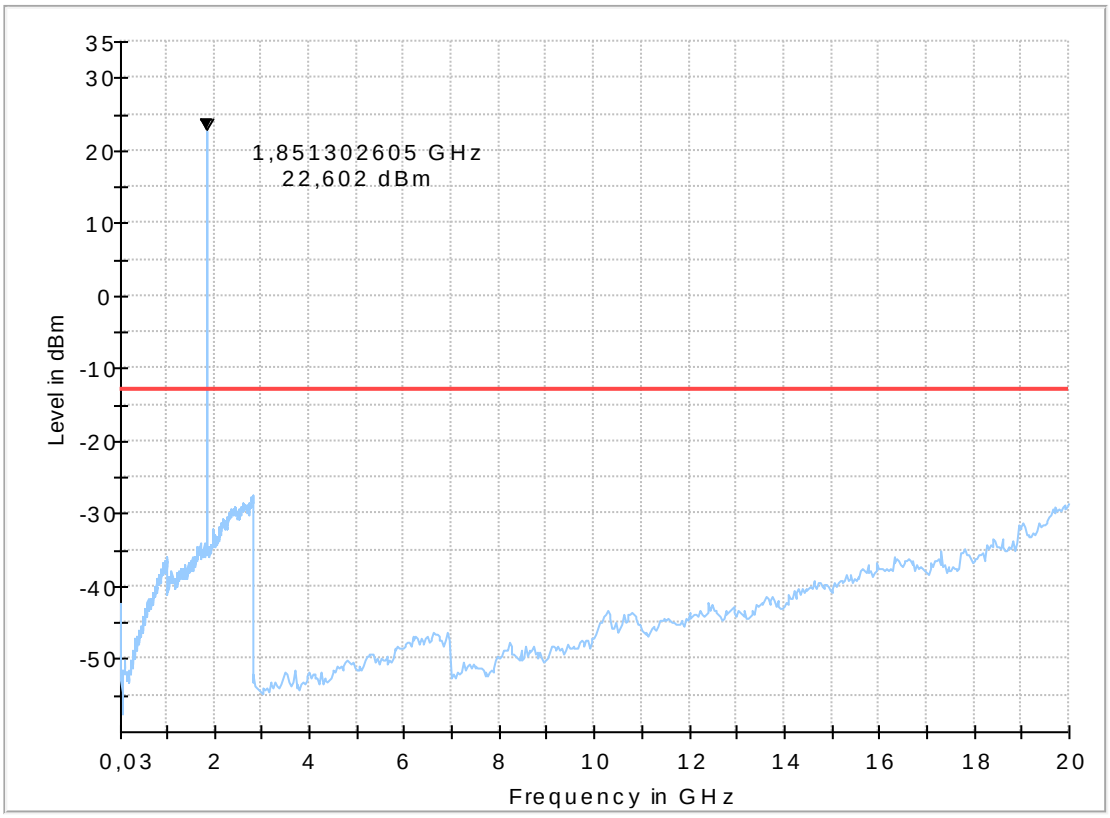
Common Information

Test Description:	Radiated Spurious Emissions LTE Band 2I
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 24 / RSS-133
Operating Mode:	UE allocated channel 18607
Environmental Conditions:	Humidity: 50%rH; Temperature: 19°C
Operator:	TFr
	Laying + ext.-antenna

EUT Information

Manufacturer:	ACTIA NORDIC AB
Model:	TEM4G
Type:	TELEMATICS MODULE
---	---
EUT:	TELEMATICS MODULE
Serial number:	20071090026
HW:	H1
Power Supply:	12VDC
Comments:	-

Full Spectrum



8.20_RSE_ R_Ch18607_BW_5_16QAM_Laying_int-antenna

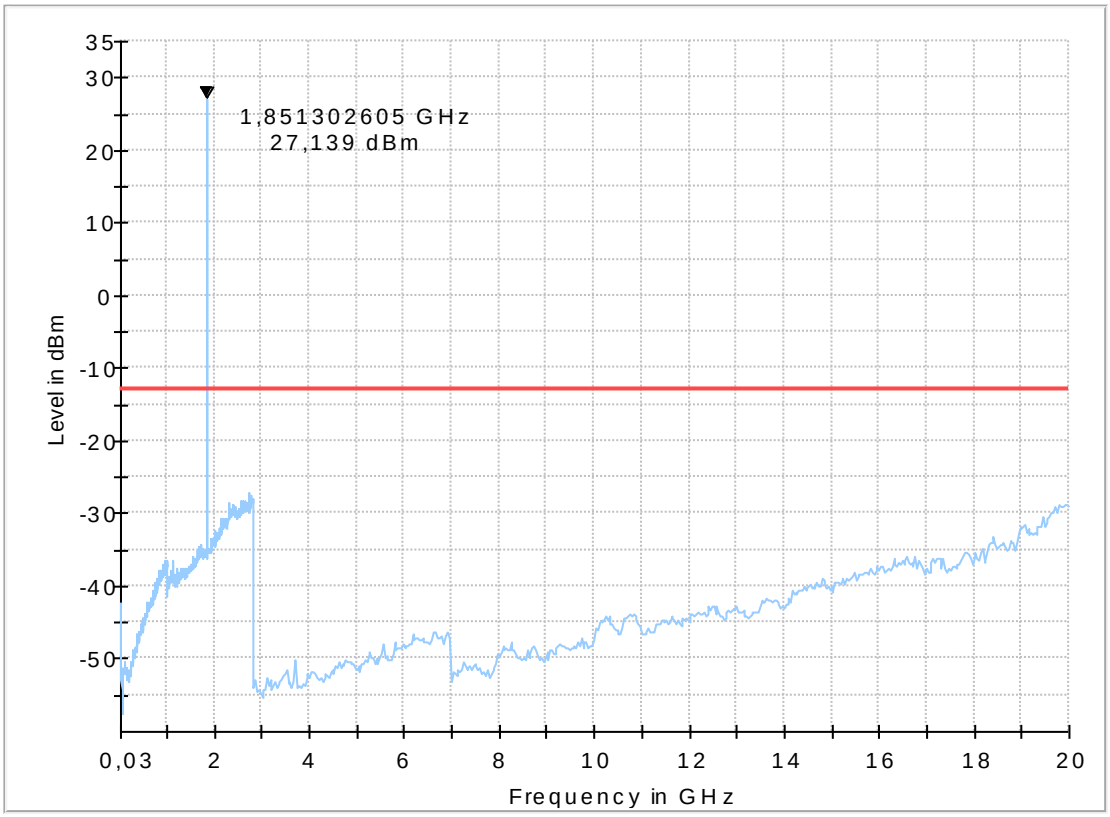
Common Information

Test Description:	Radiated Spurious Emissions LTE Band 2I
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 24 / RSS-133
Operating Mode:	UE allocated channel 18607
Environmental Conditions:	Humidity: 50%rH; Temperature: 19°C
Operator:	TFr
	Laying + Int.-antenna

EUT Information

Manufacturer:	ACTIA NORDIC AB
Model:	TEM4G
Type:	TELEMATICS MODULE
---	---
EUT:	TELEMATICS MODULE
Serial number:	20071090026
HW:	H1
Power Supply:	12VDC
Comments:	-

Full Spectrum



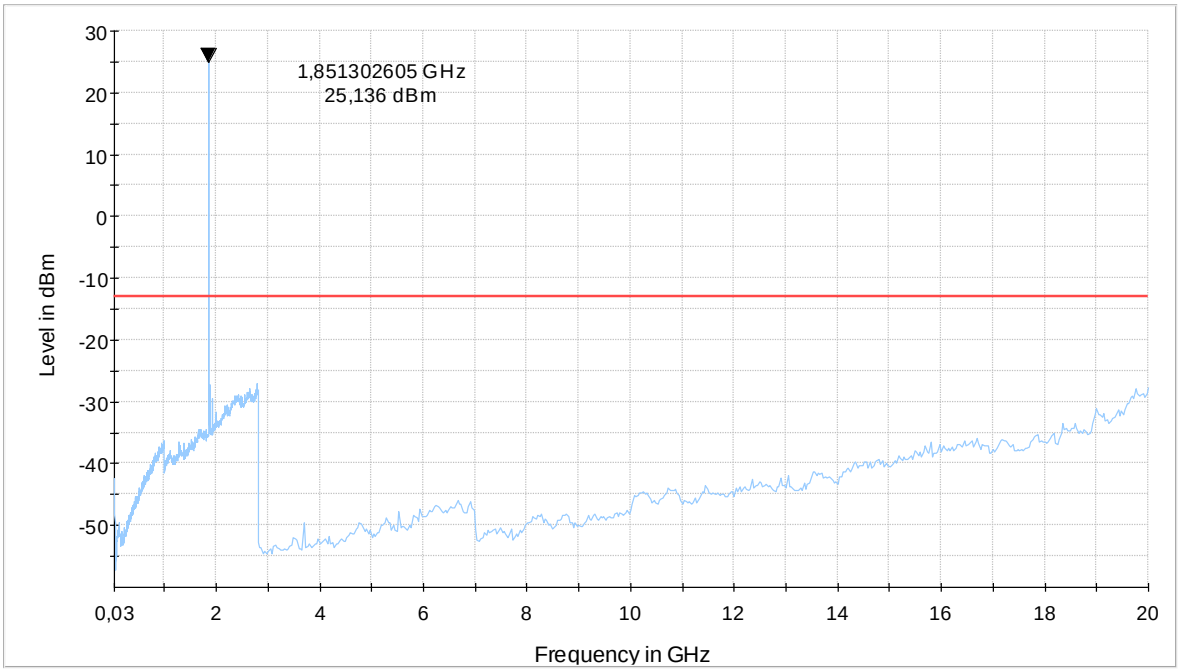
8.20_RSE_ R_Ch18607_BW_5_16QAM_Standing_ext-antenna

Common Information

Test Description:	Radiated Spurious Emissions LTE Band 2I
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 24 / RSS-133
Operating Mode:	UE allocated channel 18607
Environmental Conditions:	Humidity: 50%rH; Temperature: 19°C
Operating name:	TFr
Comment:	Standing + ext.-antenna

EUT Information

Manufacturer:	ACTIA NORDIC AB
Model:	TEM4G
Type:	TELEMATICS MODULE
---	---
EUT:	TELEMATICS MODULE
Serial number:	20071090026
HW:	H1
Power Supply:	12VDC
Comments:	-



8.20_RSE_ R_Ch18607_BW_5_16QAM_Standing_int-antenna

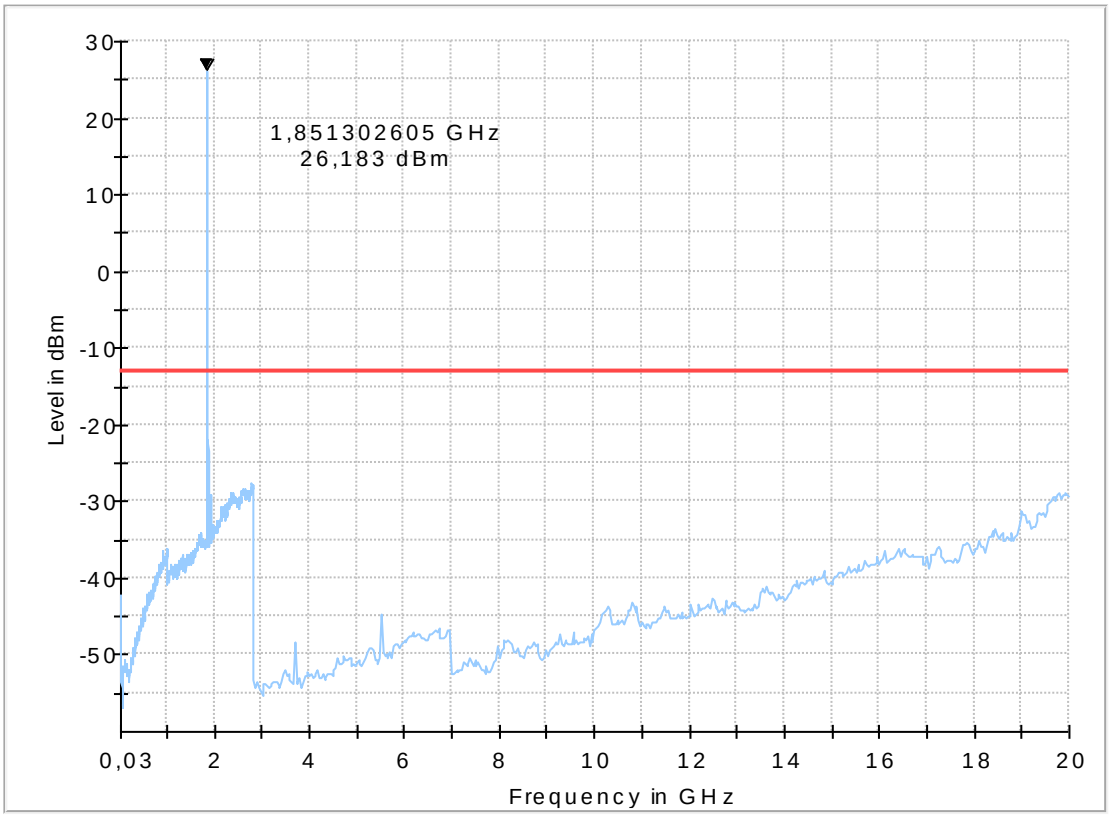
Common Information

Test Description:	Radiated Spurious Emissions LTE Band 2
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 24 / RSS-133
Operating Mode:	UE allocated channel 18607
Environmental Conditions:	Humidity: 50%rH; Temperature: 19°C
Operating name:	TFr
Comment:	Standing + int.-antenna

EUT Information

Manufacturer:	ACTIA NORDIC AB
Model:	TEM4G
Type:	TELEMATICS MODULE
---	---
EUT:	TELEMATICS MODULE
Serial number:	20071090026
HW:	H1
Power Supply:	12VDC
Comments:	-

Full Spectrum



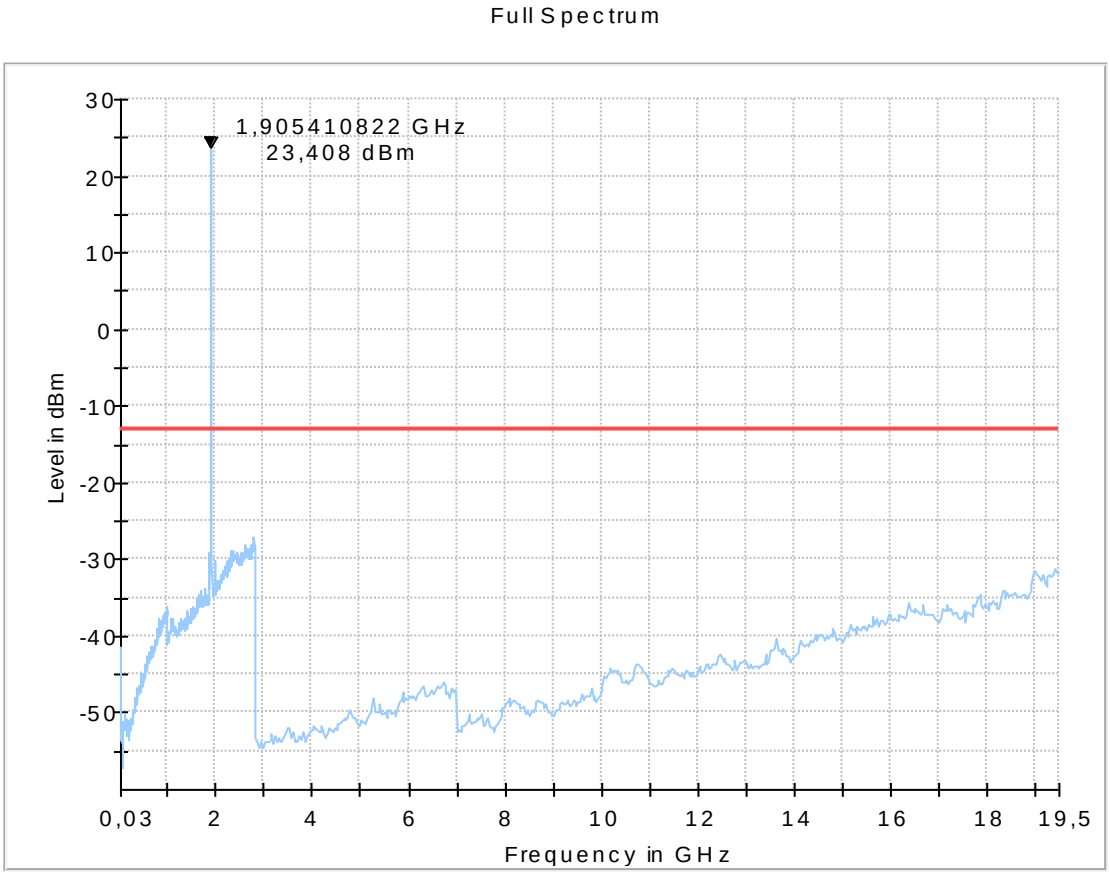
8.22_RSE_ R_Ch19175_BW_5_QPSK_Laying_ext-antenna

Common Information

Test Description:	Radiated Spurious Emissions LTE Band 2
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 24 / RSS-133
Operating Mode:	UE allocated channel 19175
Environmental Conditions:	Humidity: 50%rH; Temperature: 19°C
Operator:	TFr
Comment	Laying + ext.-antenna

EUT Information

Manufacturer:	ACTIA NORDIC AB
Model:	TEM4G
Type:	TELEMATICS MODULE
---	---
EUT:	TELEMATICS MODULE
Serial number:	20071090026
HW:	H1
Power Supply:	12VDC
Comments:	-



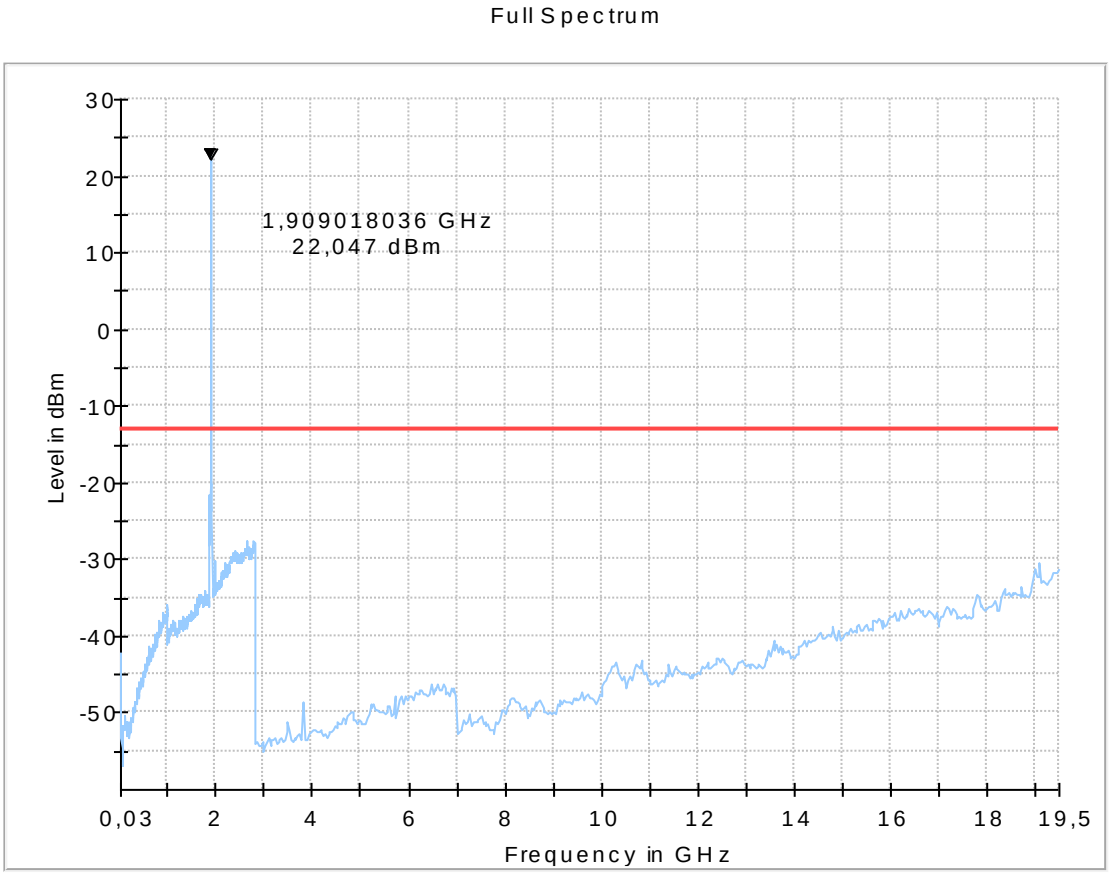
8.22_RSE_ R_Ch19175_BW_5_QPSK_Laying_int-antenna

Common Information

Test Description:	Radiated Spurious Emissions LTE Band 2
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 24 / RSS-133
Operating Mode:	UE allocated channel 19175
Environmental Conditions:	Humidity: 50%rH; Temperature: 19°C
Operator:	TFr
Comment	laying + int.-antenna

EUT Information

Manufacturer:	ACTIA NORDIC AB
Model:	TEM4G
Type:	TELEMATICS MODULE
---	---
EUT:	TELEMATICS MODULE
Serial number:	20071090026
HW:	H1
Power Supply:	12VDC
Comments:	-



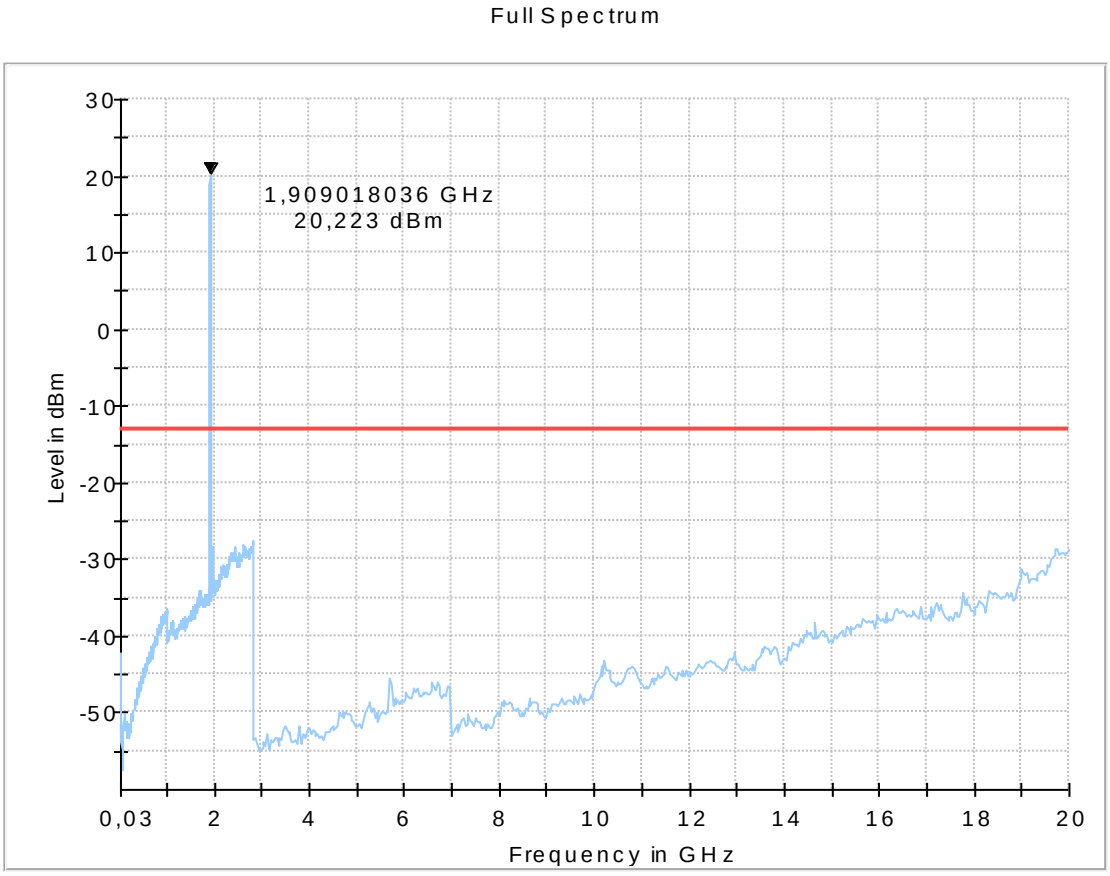
8.22_RSE_ R_Ch19175_BW_5_QPSK_Standing_int-antenna

Common Information

Test Description:	Radiated Spurious Emissions LTE Band 2
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 24 / RSS-133
Operating Mode:	UE allocated channel 19175
Environmental Conditions:	Humidity: 50%rH; Temperature: 19°C
Operating name:	TFr
Comment:	Standing + int.-antenna

EUT Information

Manufacturer:	ACTIA NORDIC AB
Model:	TEM4G
Type:	TELEMATICS MODULE
---	---
EUT:	TELEMATICS MODULE
Serial number:	20071090026
HW:	H1
Power Supply:	12VDC
Comments:	-



8.22_RSE_ R_Ch19175_BW_5_QPSK_Standing_ext-antenna

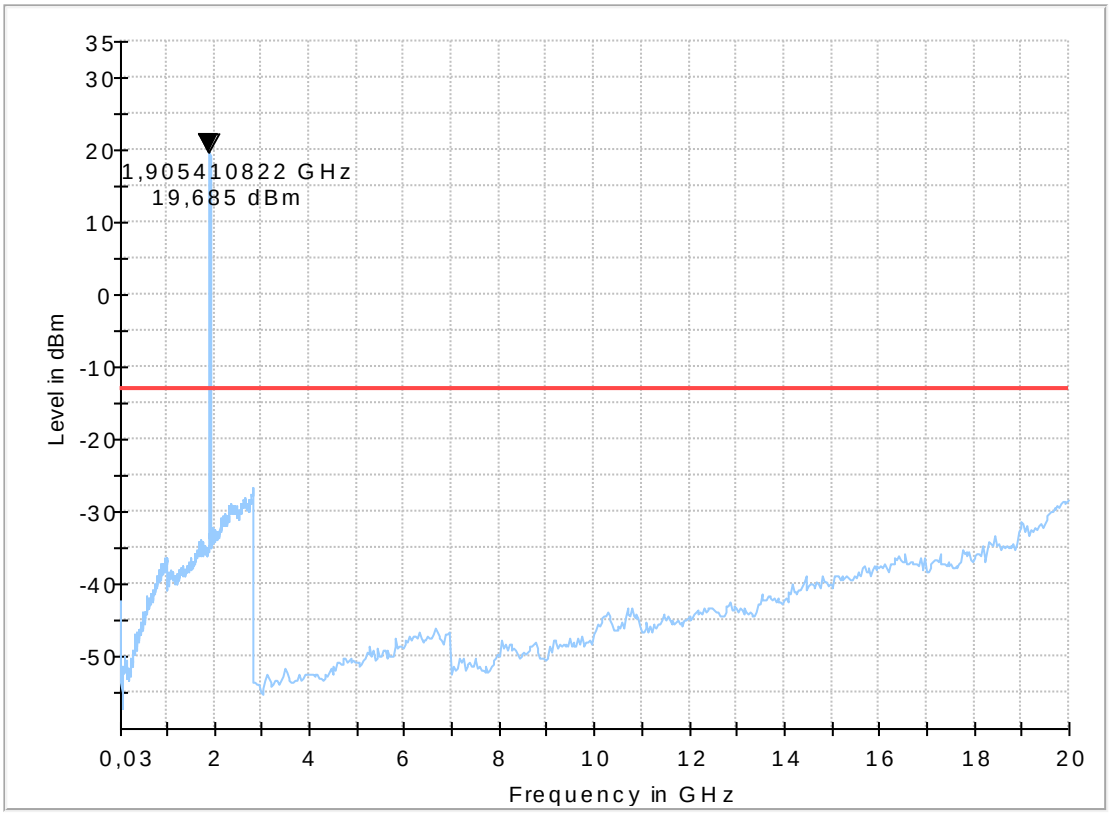
Common Information

Test Description:	Radiated Spurious Emissions LTE Band 2I
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 24 / RSS-133
Operating Mode:	UE allocated channel 19175
Environmental Conditions:	Humidity: 50%rH; Temperature: 19°C
Operator:	TFr
	Standing + ext.-antenna

EUT Information

Manufacturer:	ACTIA NORDIC AB
Model:	TEM4G
Type:	TELEMATICS MODULE
---	---
EUT:	TELEMATICS MODULE
Serial number:	20071090026
HW:	H1
Power Supply:	12VDC
Comments:	-

Full Spectrum



1.3. Spurious emissions radiated (LTE Band 4)

1.3.1. Magnetic field strength radiated (LTE Band 4)

2.14_FDD4_Ch19965_BW3_1RBhigh_QPSK_IntAnt_RMC

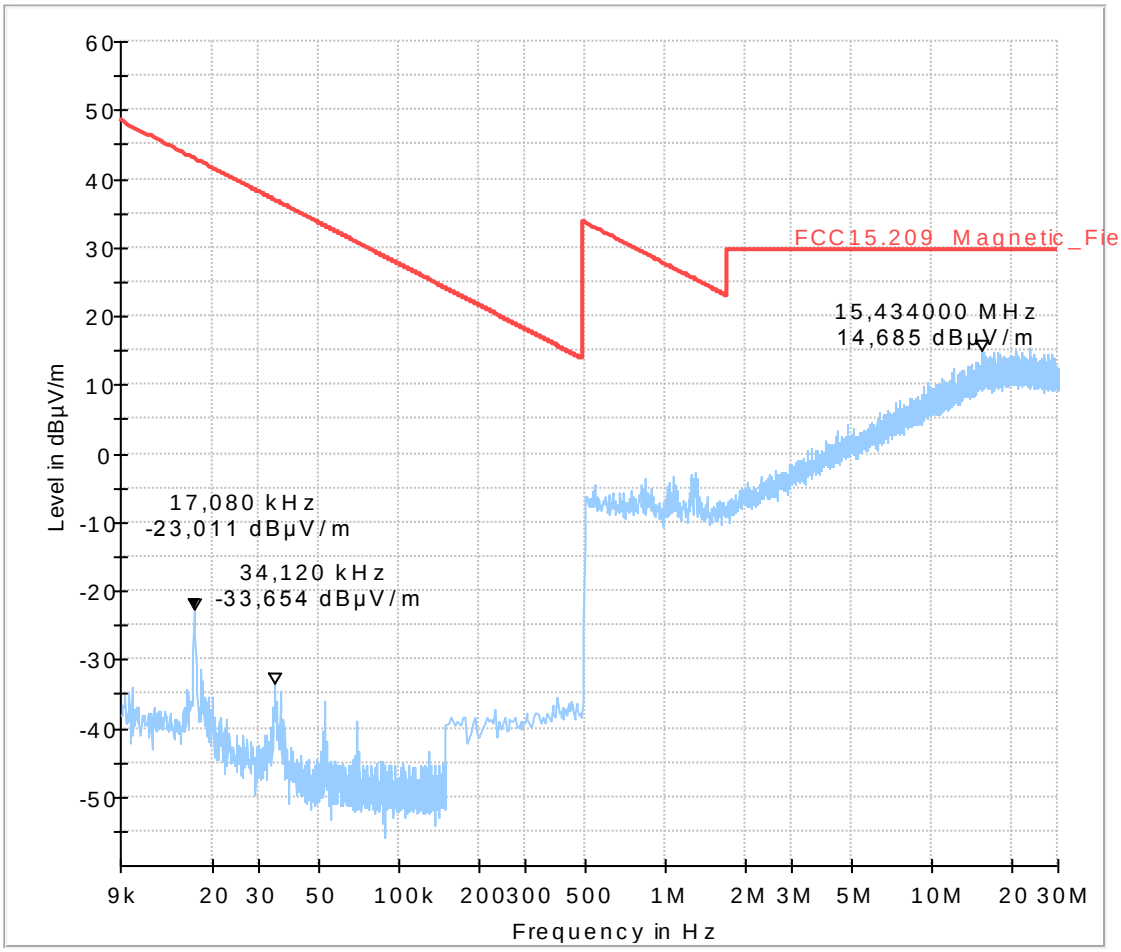
Date: 05.06.2017 Page 1 of 1

Test description:	Magnetic Field Strength Measurement related to 30/300 m distance
Test site and distance:	Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance
Version of Testsoftware:	EMC32 V9.25.0
Distance correction:	used accord. table, pls. see test report
Technical Data:	Please see page 2 for detailed data of measurement setup
Rec. antenna (pre-scan):	height 1.00 m, parallel and 90° to EUT polarisation
Used filter:	bypass
Test specification:	FCC 15.205 § 15.209; RSS-Gen: Issue 4
Operator:	SLo
Operating mode:	LTE FDD4 Ch19965 BW3 QPSK, internal Antenna
Operating conditions:	Humidity: 50%rH; Temperature: 21°C
Power during tests:	12V DC
DUT Position:	Standing

EUT Information

Manufacturer:	ACTIA NORDIC AB
Model:	TEM4G
Type:	TELEMATICS MODULE
---	---
EUT:	TELEMATICS MODULE
Serial number:	20071090035
HW:	H1
Power Supply:	12VDC
Comments:	-

Full Spectrum



2.15_FDD4_Ch20300_BW20_1RBhigh_QPSK_ExtAnt_RMC

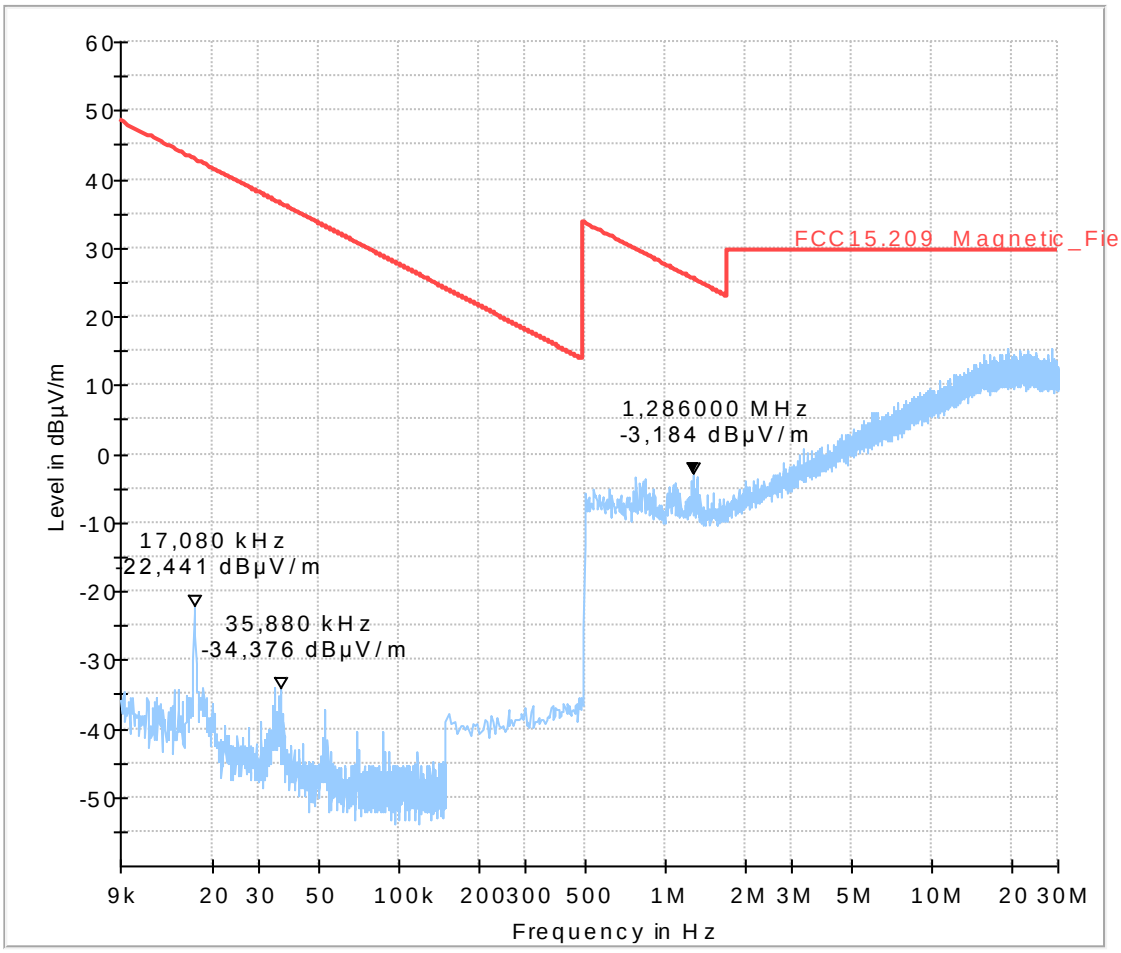
Date: 05.06.2017 Page 1 of 1

Test description:	Magnetic Field Strength Measurement related to 30/300 m distance
Test site and distance:	Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance
Version of Testsoftware:	EMC32 V9.25.0
Distance correction:	used accord. table, pls. see test report
Technical Data:	Please see page 2 for detailed data of measurement setup
Rec. antenna (pre-scan):	height 1.00 m, parallel and 90° to EUT polarisation
Used filter:	bypass
Test specification:	FCC 15.205 § 15.209; RSS-Gen: Issue 4
Operator:	AFr
Operating mode:	LTE FDD4 Ch20300 BW20 QPSK, External Antenna
Operating conditions:	Humidity: 50%rH; Temperature: 21°C
Power during tests:	12V DC
DUT Position:	Standing

EUT Information

Manufacturer:	ACTIA NORDIC AB
Model:	TEM4G
Type:	TELEMATICS MODULE
---	---
EUT:	TELEMATICS MODULE
Serial number:	20071090035
HW:	H1
Power Supply:	12VDC
Comments:	-

Full Spectrum



1.3.2. Emissions above 30MHz (LTE Band 4)

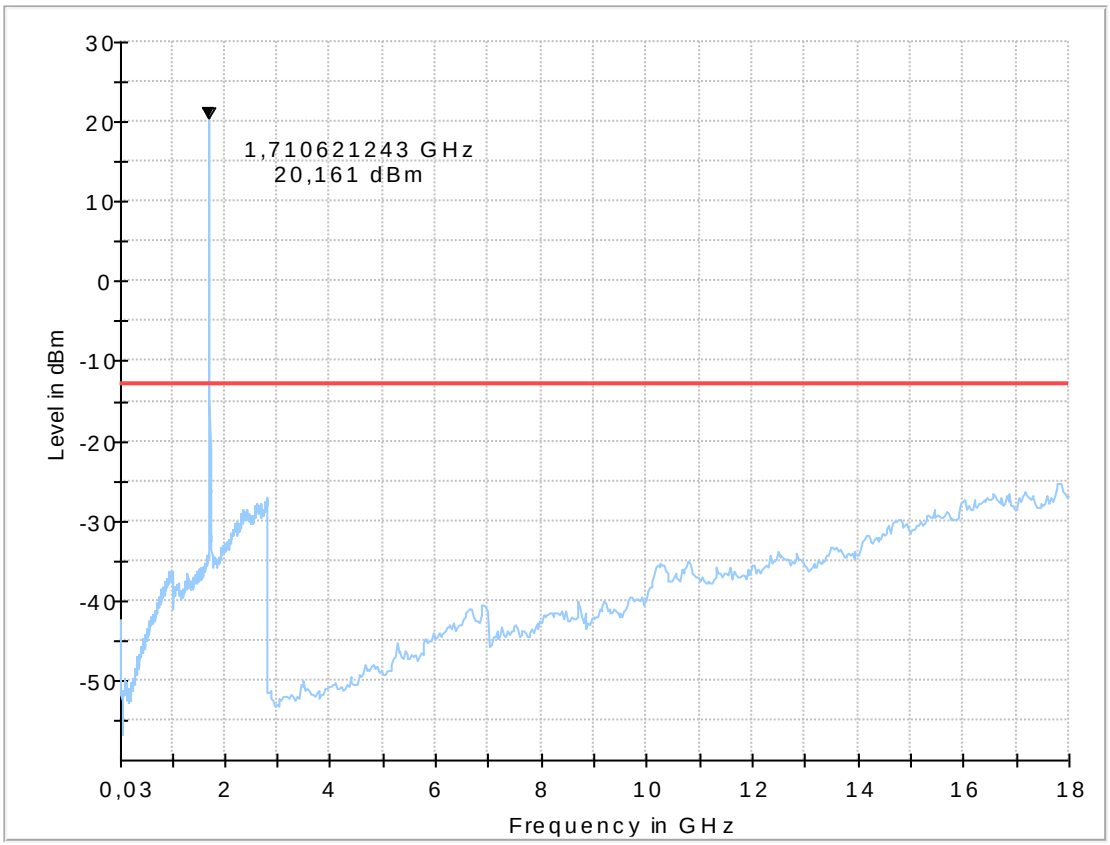
8.40_RSE_R_Ch19965_BW_3_Laying_ext-antenna

Common Information

Test Description:	Radiated Spurious Emissions UMTS FDDIV
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 27
Operating Conditions:	UE allocated channel 9262/9400/9538 (fc = 1852.4/1880.0/1907.6 MHz)
Operator Name:	TFr
Environmental Conditions:	Humidity: 50%rH; Temperature: 19°C
Comment:	Laying + ext.-antenna

EUT Information

Manufacturer:	ACTIA NORDIC AB
Model:	TEM4G
Type:	TELEMATICS MODULE
---	---
EUT:	TELEMATICS MODULE
Serial number:	20071090026
HW:	H1
Power Supply:	12VDC
Comments:	-



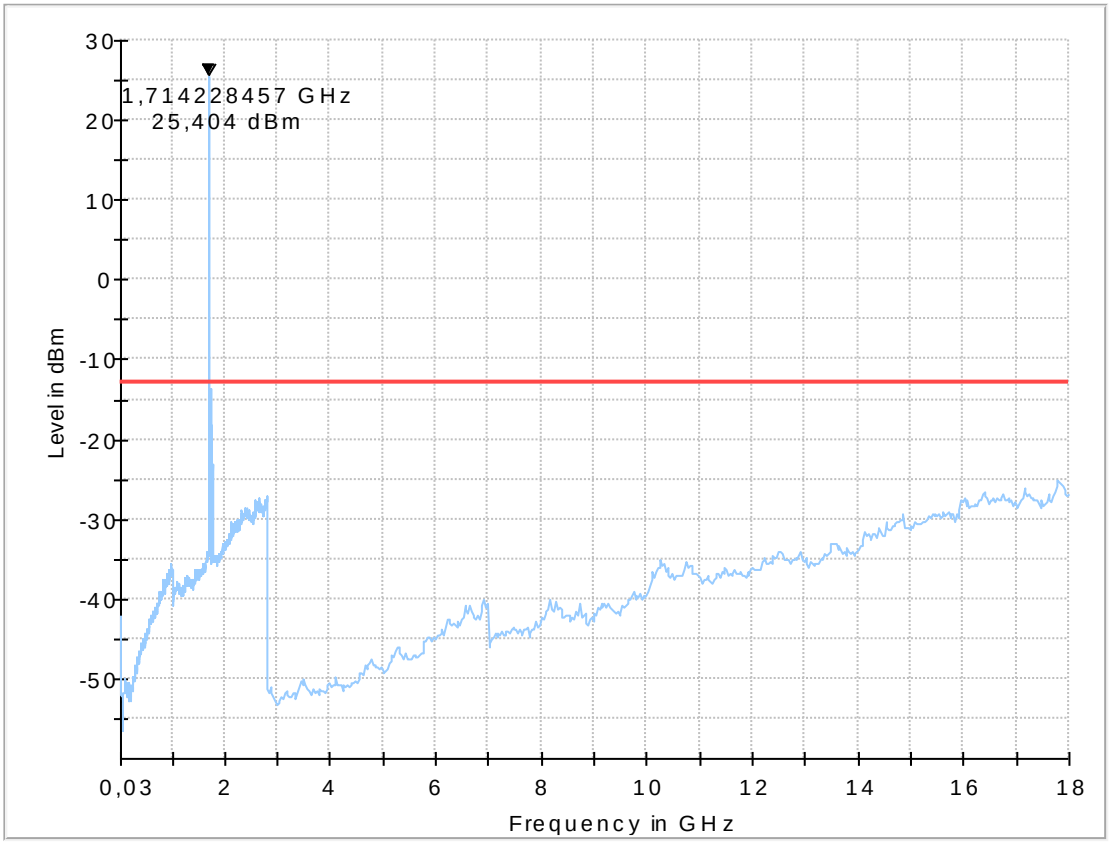
8.40_RSE_R_Ch19965_BW_3_Laying_internal-antenna

Common Information

Test Description:	Radiated Spurious Emissions UMTS FDDIV
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 27
Operating Conditions:	UE allocated channel 19965 (fc = 1711.5 MHz)
Operator Name:	KIv
Environmental Conditions:	Humidity: 50%rH; Temperature: 19°C
Comment:	Laying + int.-antenna

EUT Information

Manufacturer:	ACTIA NORDIC AB
Model:	TEM4G
Type:	TELEMATICS MODULE
---	---
EUT:	TELEMATICS MODULE
Serial number:	20071090026
HW:	H1
Power Supply:	12VDC
Comments:	-



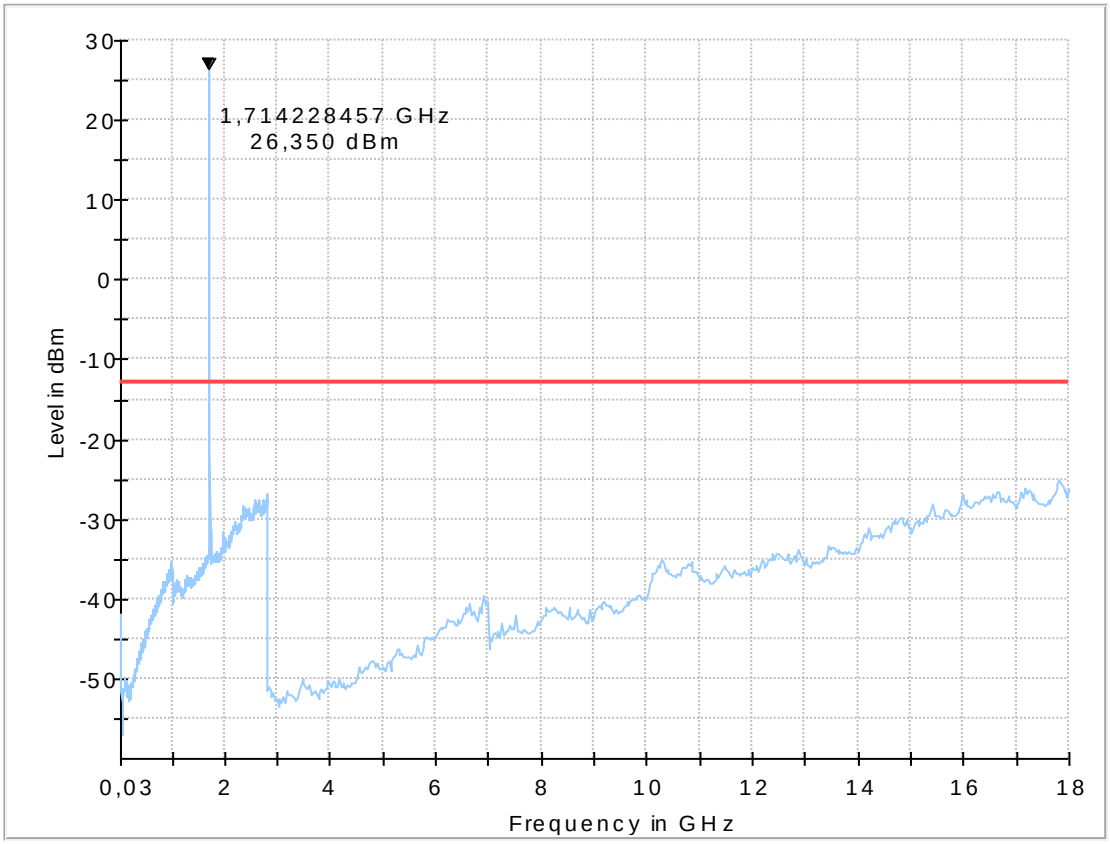
8.40_RSE_R_Ch19965_BW_3_Standing_ext-antenna

Common Information

Test Description:	Radiated Spurious Emissions UMTS FDDIV
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 27
Operating Conditions:	UE allocated channel 19965 (fc = 1711.5 MHz)
Operator Name:	KIv
Environmental Conditions:	Humidity: 50%rH; Temperature: 19°C
Comment:	Standing + ext.-antenna

EUT Information

Manufacturer:	ACTIA NORDIC AB
Model:	TEM4G
Type:	TELEMATICS MODULE
---	---
EUT:	TELEMATICS MODULE
Serial number:	20071090026
HW:	H1
Power Supply:	12VDC
Comments:	-



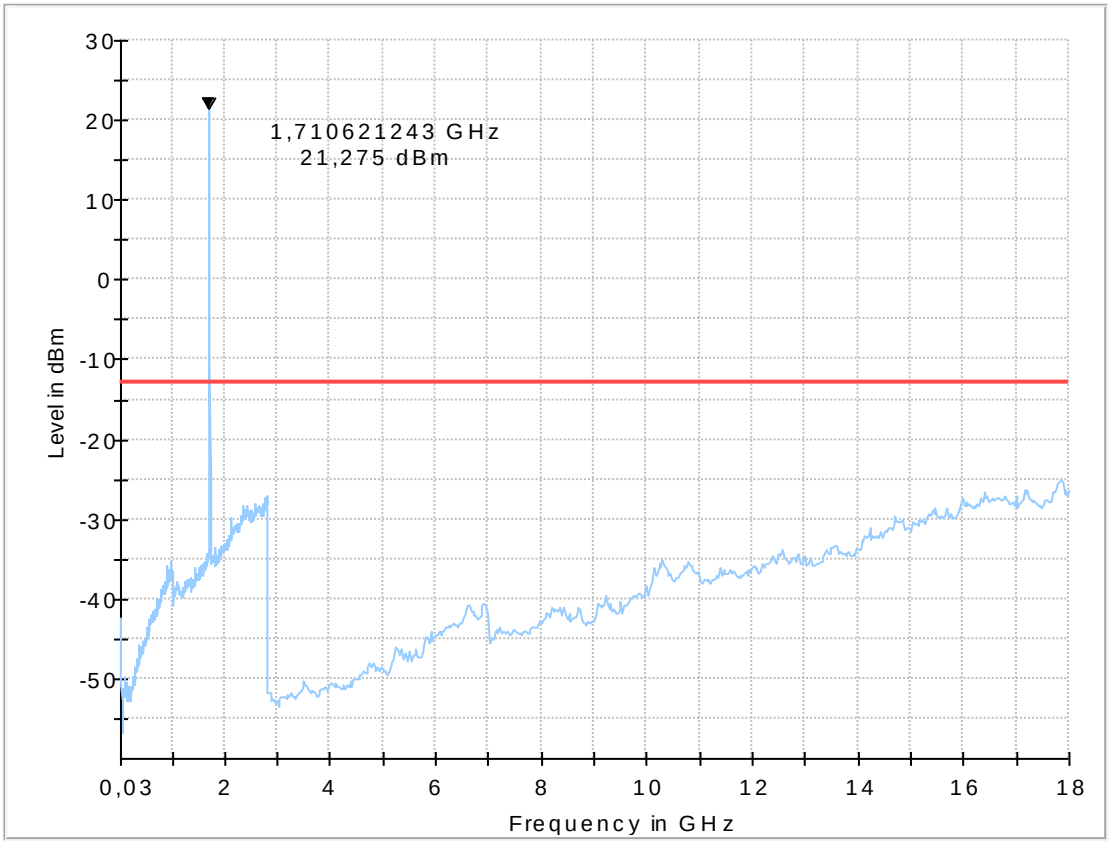
8.40_RSE_R_Ch19965_BW_3_Standing_int-antenna

Common Information

Test Description:	Radiated Spurious Emissions UMTS FDDIV
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 27
Operating Conditions:	UE allocated channel 19965 (fc = 1711.5 MHz)
Operator Name:	TFr
Environmental Conditions:	Humidity: 50%rH; Temperature: 19°C
Comment:	Standing + int.-antenna

EUT Information

Manufacturer:	ACTIA NORDIC AB
Model:	TEM4G
Type:	TELEMATICS MODULE
---	---
EUT:	TELEMATICS MODULE
Serial number:	20071090026
HW:	H1
Power Supply:	12VDC
Comments:	-



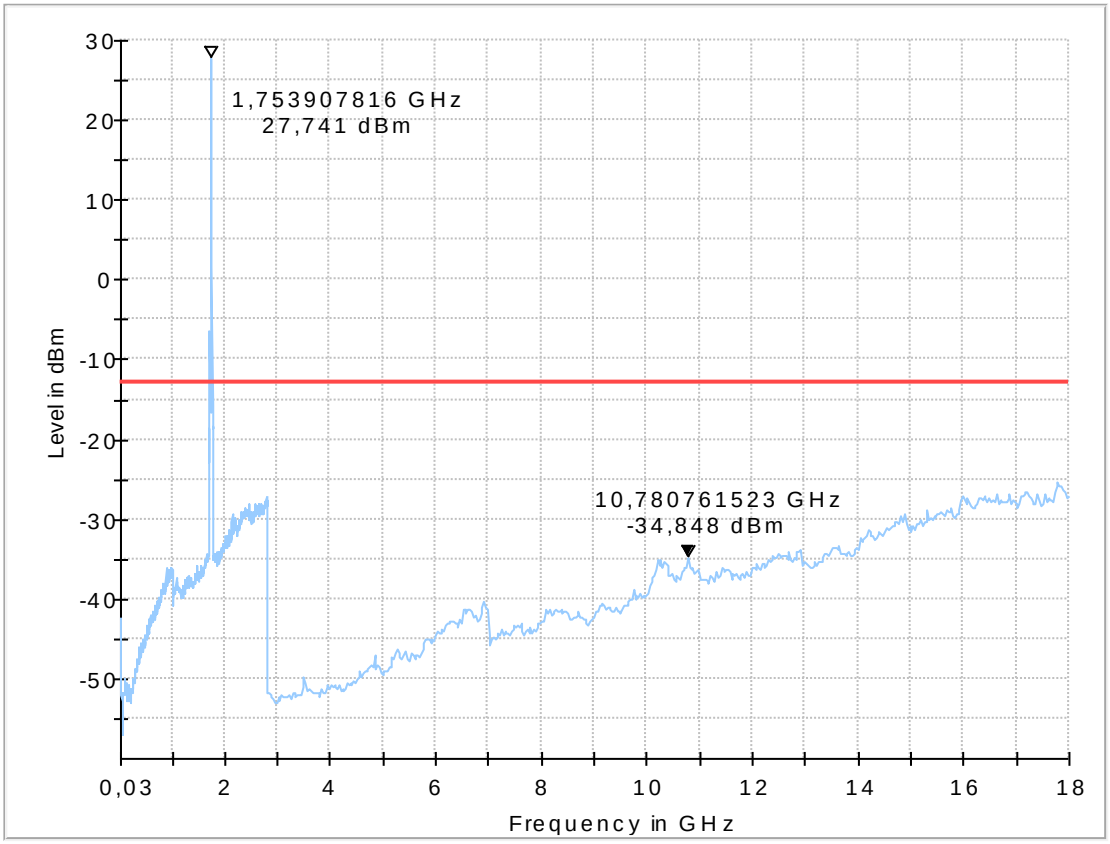
8.42_RSE_R_Ch20300_BW_20_Laying_int-antenna

Common Information

Test Description:	Radiated Spurious Emissions LTE FDDIV
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 27
Operating Conditions:	UE allocated channel 20300 (fc = 1745.0 MHz)
Operator Name:	RIs
Environmental Conditions:	Humidity: 50%rH; Temperature: 19°C
Comment:	Laying + int.-antenna

EUT Information

Manufacturer:	ACTIA NORDIC AB
Model:	TEM4G
Type:	TELEMATICS MODULE
---	---
EUT:	TELEMATICS MODULE
Serial number:	20071090026
HW:	H1
Power Supply:	12VDC
Comments:	-



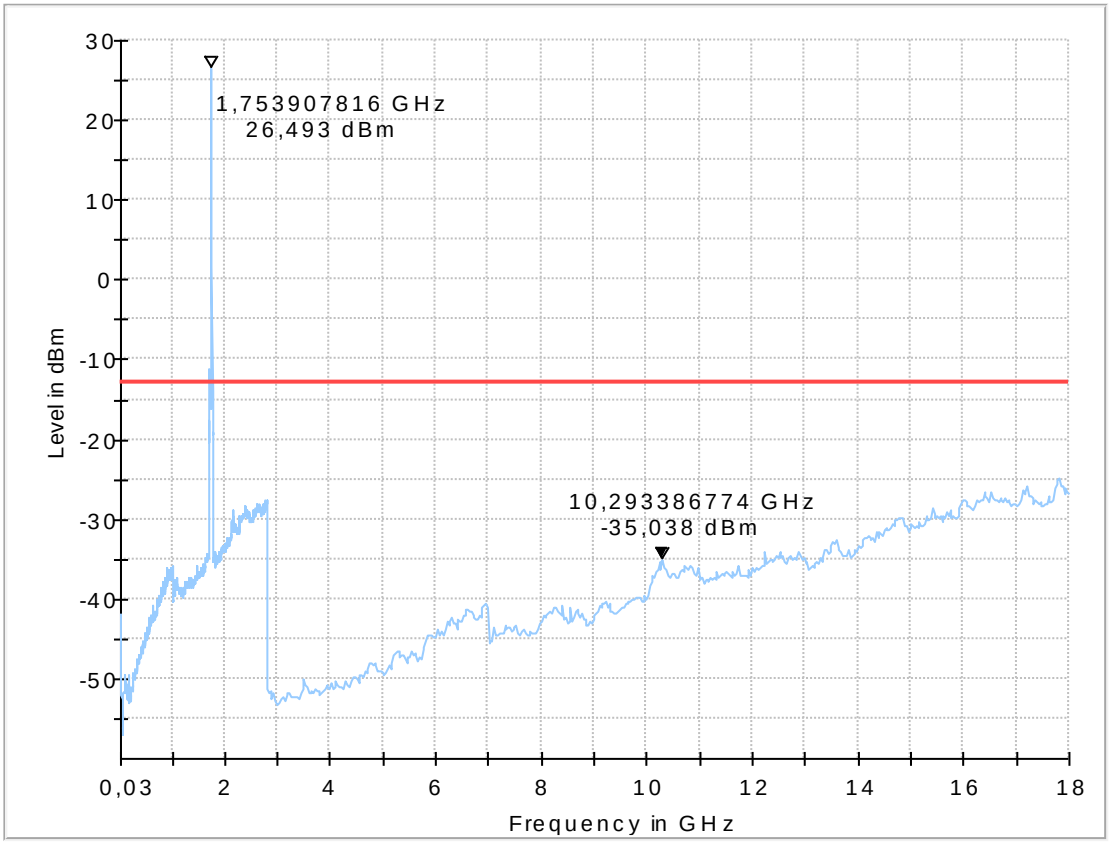
8.42_RSE_R_Ch20300_BW_20_Standing_int-antenna

Common Information

Test Description:	Radiated Spurious Emissions LTE FDDIV
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 27
Operating Conditions:	UE allocated channel 20300 (fc = 1745.0 MHz)
Operator Name:	RIs
Environmental Conditions:	Humidity: 50%rH; Temperature: 19°C
Comment:	Standing + int.-antenna

EUT Information

Manufacturer:	ACTIA NORDIC AB
Model:	TEM4G
Type:	TELEMATICS MODULE
---	---
EUT:	TELEMATICS MODULE
Serial number:	20071090026
HW:	H1
Power Supply:	12VDC
Comments:	-



8.42_RSE_R_Ch20300_BW20_QPSK_Laying_ext-antenna

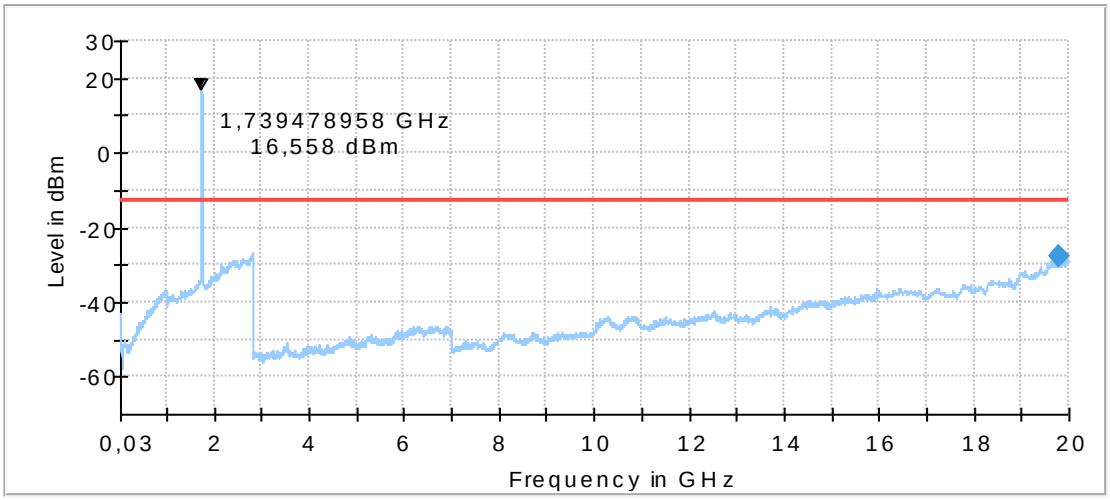
Common Information

Test Description:	Radiated Spurious Emissions LTE Band 4
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 27.53 / RSS-139
Comm. Link:	LTE Band 4
Operating Mode:	MS allocated channel 20300
Exclusionband:	1745 MHz
Environmental Conditions:	Humidity: 40%rH; Temperature: 20°C
Operator:	KIv
Comment:	EUT Laying

EUT Information

Manufacturer:	ACTIA NORDIC AB
Model:	TEM4G
Type:	TELEMATICS MODULE
---	---
EUT:	TELEMATICS MODULE
Serial number:	20071090026
HW:	H1
Power Supply:	12VDC
Comments:	-

Full Spectrum



Final_Result

Frequency (MHz)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)	Comment
19806.112224	-13.00	15.01	10000.0	155.0	V	113.0	0.0	-60.6	18:12:37 - 09.05.2017

8.42_RSE_R_Ch20300_BW20_QPSK_Standing_ext-antenna

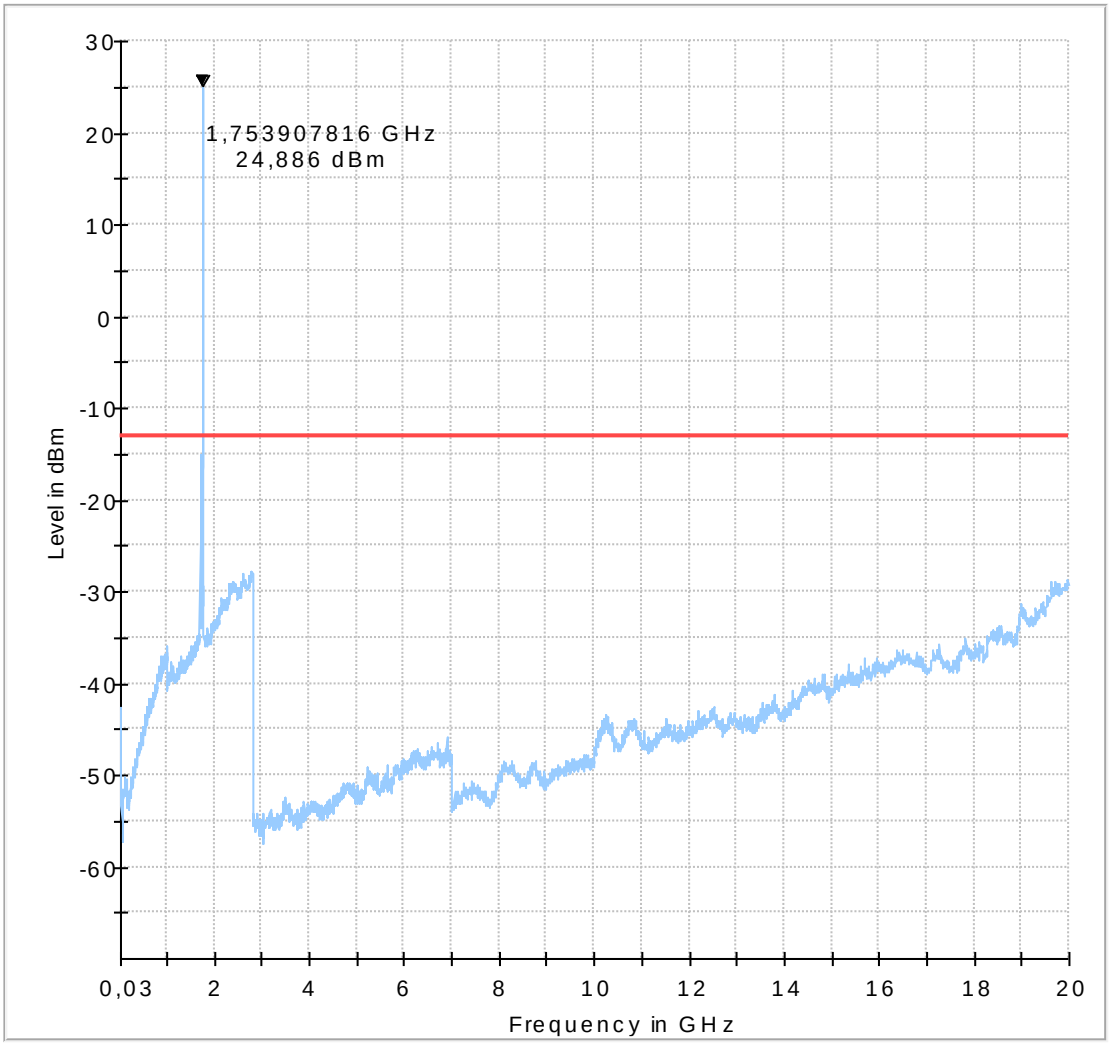
Common Information

Test Description:	Radiated Spurious Emissions LTE Band 4
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 27.53 / RSS-139
Comm. Link:	LTE Band 4
Operating Mode:	MS allocated channel 20300
Exclusionband:	1745 MHz
Environmental Conditions:	Humidity: 40%rH; Temperature: 20°C
Operator:	KIv
Comment:	EUT Standing

EUT Information

Manufacturer:	ACTIA NORDIC AB
Model:	TEM4G
Type:	TELEMATICS MODULE
---	---
EUT:	TELEMATICS MODULE
Serial number:	20071090026
HW:	H1
Power Supply:	12VDC
Comments:	-

Full Spectrum



1.4. Spurious emissions radiated (LTE Band 5)

1.4.1. Magnetic field strength radiated (LTE Band 5)

2.12_FDD5_Ch20425_BW5_1RBhigh_QPSK_IntAnt_RMC

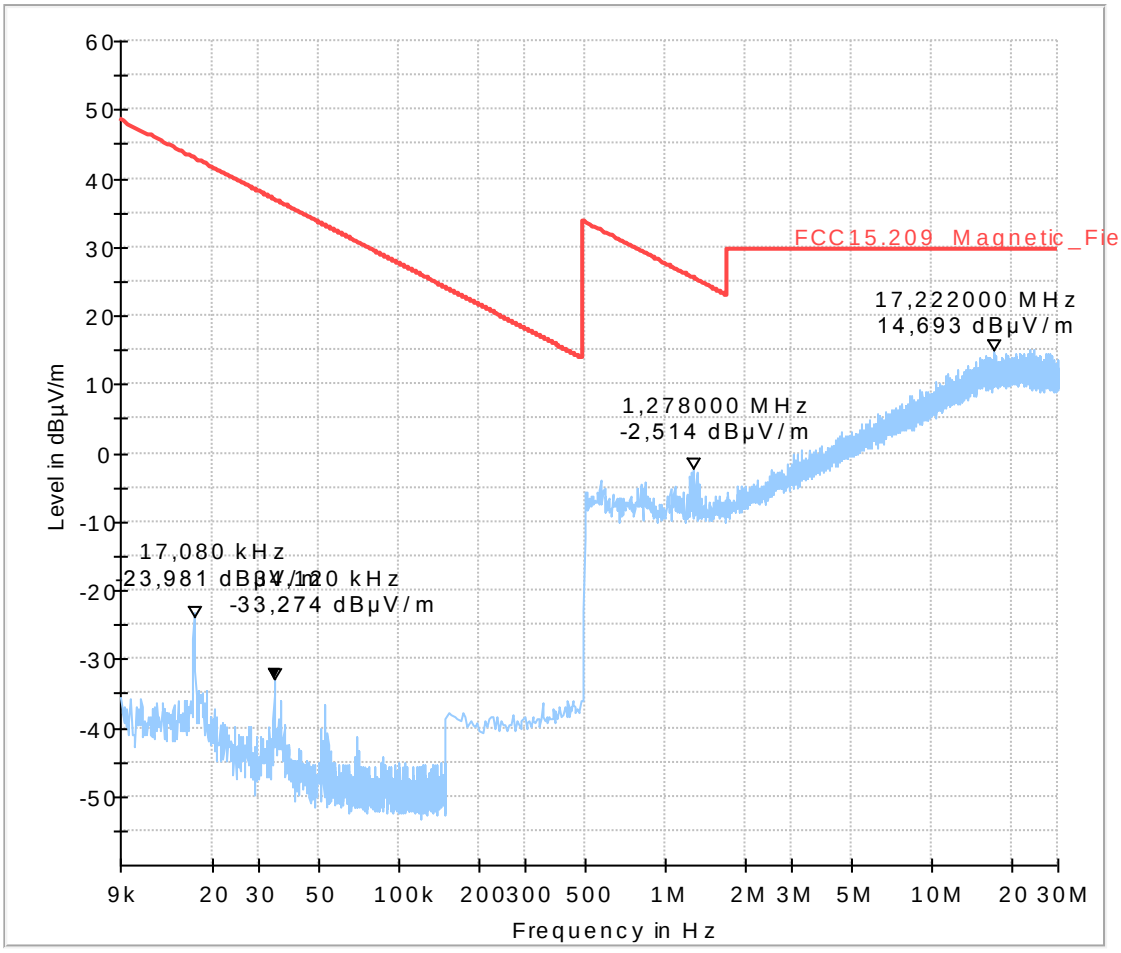
Date: 05.06.2017 Page 1 of 1

Test description:	Magnetic Field Strength Measurement related to 30/300 m distance
Test site and distance:	Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance
Version of Testsoftware:	EMC32 V9.25.0
Distance correction:	used accord. table, pls. see test report
Technical Data:	Please see page 2 for detailed data of measurement setup
Rec. antenna (pre-scan):	height 1.00 m, parallel and 90° to EUT polarisation
Used filter:	bypass
Test specification:	FCC 15.205 § 15.209; RSS-Gen: Issue 4
Operator:	SLo
Operating mode:	LTE FDD5 Ch20425 BW5 QPSK, internal Antenna
Operating conditions:	Humidity: 50%rH; Temperature: 21°C
Power during tests:	12V DC
DUT Position:	Standing

EUT Information

Manufacturer:	ACTIA NORDIC AB
Model:	TEM4G
Type:	TELEMATICS MODULE
---	---
EUT:	TELEMATICS MODULE
Serial number:	20071090035
HW:	H1
Power Supply:	12VDC
Comments:	-

Full Spectrum



2.13_FDD5_Ch20625_BW5_1RBlow_QPSK_ExtAnt_RMC

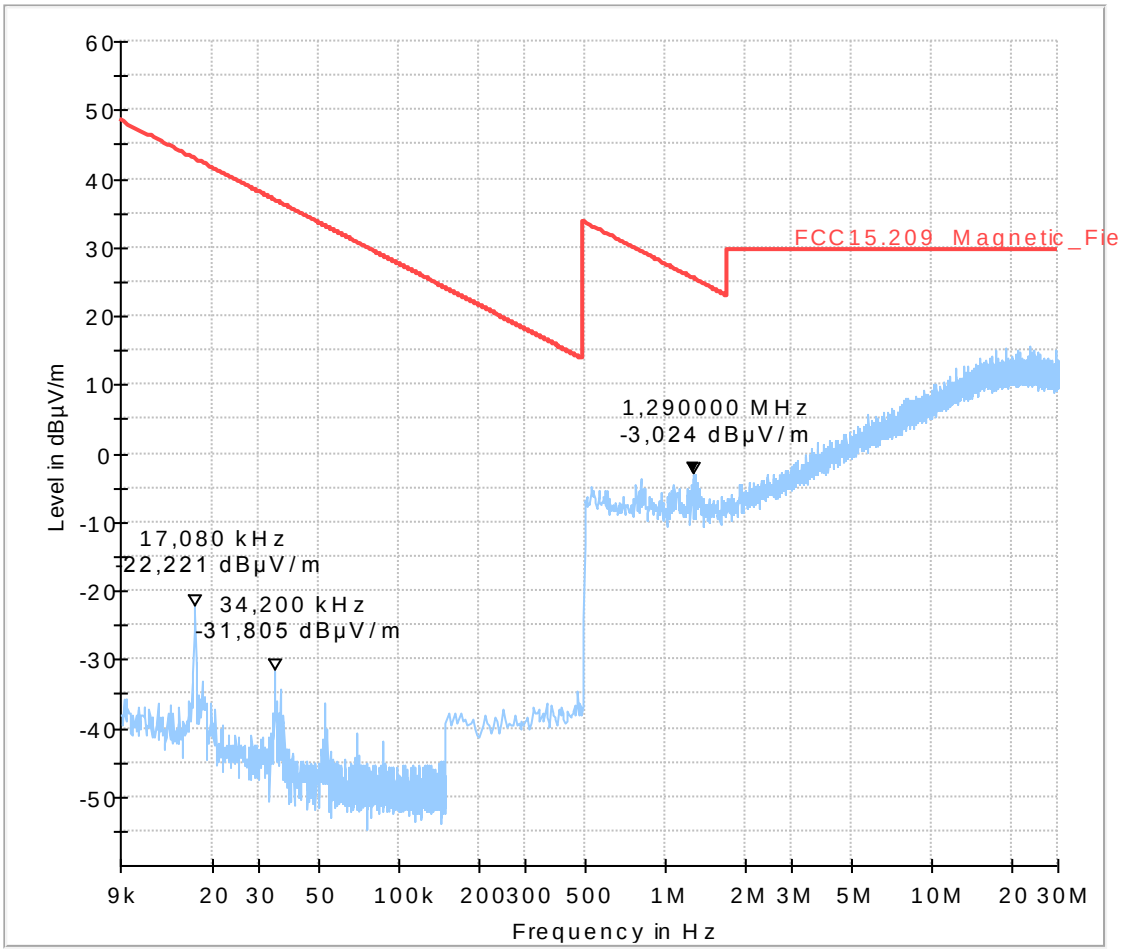
Date: 05.06.2017 Page 1 of 1

Test description:	Magnetic Field Strength Measurement related to 30/300 m distance
Test site and distance:	Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance
Version of Testsoftware:	EMC32 V9.25.0
Distance correction:	used accord. table, pls. see test report
Technical Data:	Please see page 2 for detailed data of measurement setup
Rec. antenna (pre-scan):	height 1.00 m, parallel and 90° to EUT polarisation
Used filter:	bypass
Test specification:	FCC 15.205 § 15.209; RSS-Gen: Issue 4
Operator:	AFr
Operating mode:	LTE FDD5 Ch20625 BW5 QPSK, External Antenna
Operating conditions:	Humidity: 50%rH; Temperature: 21°C
Power during tests:	12V DC
DUT Position:	Standing

EUT Information

Manufacturer:	ACTIA NORDIC AB
Model:	TEM4G
Type:	TELEMATICS MODULE
---	---
EUT:	TELEMATICS MODULE
Serial number:	20071090035
HW:	H1
Power Supply:	12VDC
Comments:	-

Full Spectrum



1.4.2. Emissions above 30MHz (LTE Band 5)

8.50_RSE_R_Ch20425_BW5_QPSK_Laying_ext-antenna

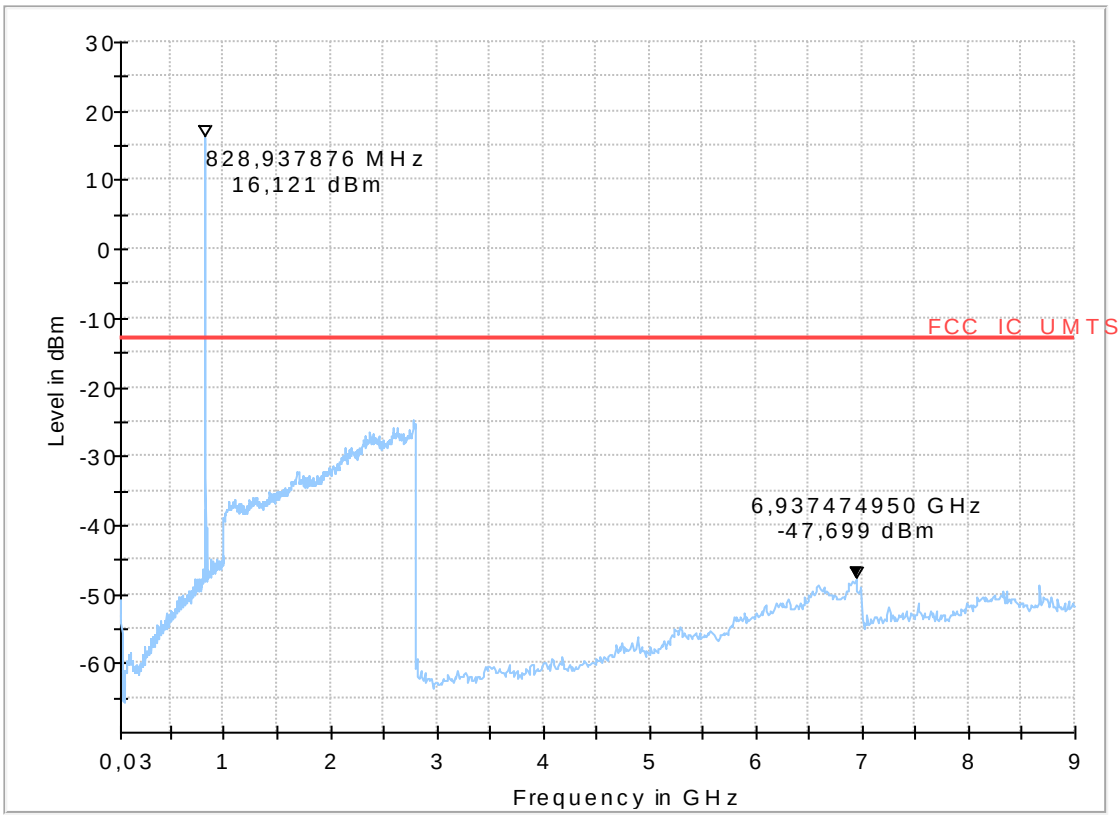
Common Information

Test Description:	Radiated Spurious Emissions LTE FDDV
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 22.917(a)
Operating Mode:	UE allocated channel 20425 (fc = 826.5 MHz)
Environmental Conditions:	Humidity: 40%rH; Temperature: 20°C
Operator:	Rls
Comment:	EUT Laying

EUT Information

Manufacturer:	ACTIA NORDIC AB
Model:	TEM4G
Type:	TELEMATICS MODULE
---	---
EUT:	TELEMATICS MODULE
Serial number:	20071090026
HW:	H1
Power Supply:	12VDC
Comments:	-

Full Spectrum



8.50_RSE_R_Ch20425_BW5_QPSK_Laying_int-antenna

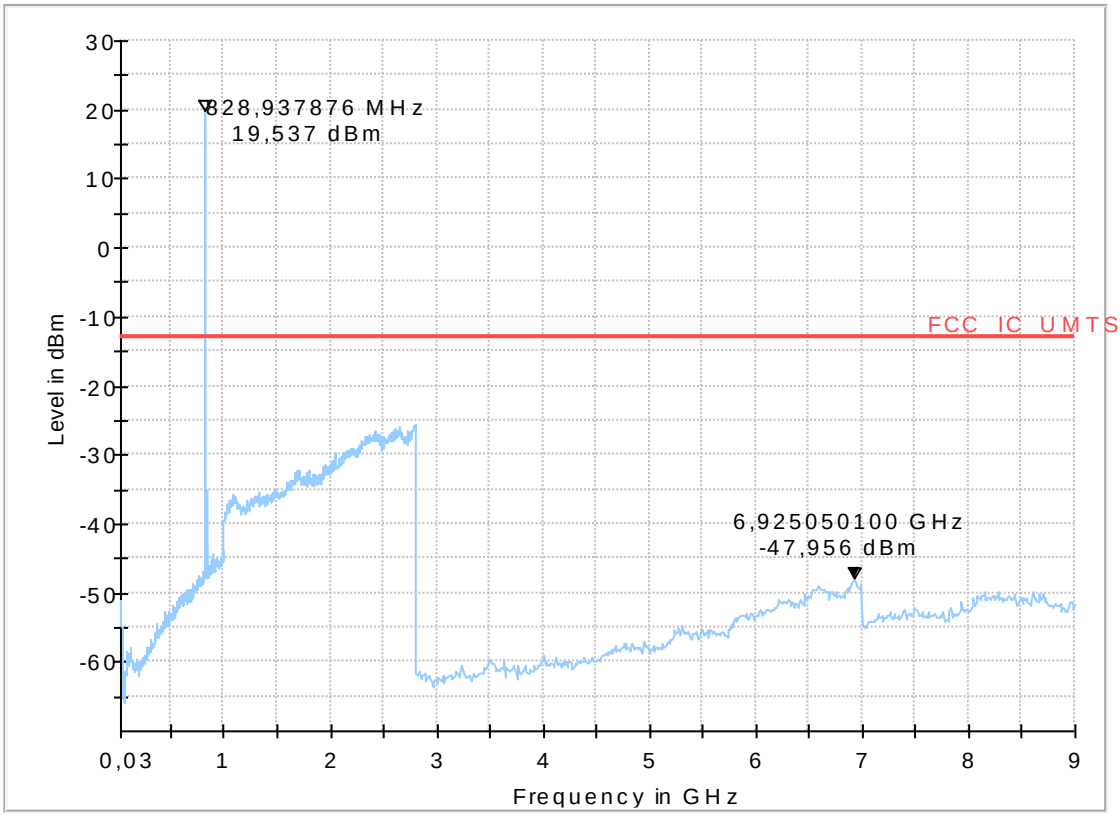
Common Information

Test Description:	Radiated Spurious Emissions LTE FDDV
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 22.917(a)
Operating Mode:	UE allocated channel 20425 (fc = 826.5 MHz)
Environmental Conditions:	Humidity: 40%rH; Temperature: 20°C
Operator:	Rls
Comment:	EUT Laying

EUT Information

Manufacturer:	ACTIA NORDIC AB
Model:	TEM4G
Type:	TELEMATICS MODULE
---	---
EUT:	TELEMATICS MODULE
Serial number:	20071090026
HW:	H1
Power Supply:	12VDC
Comments:	-

Full Spectrum



8.50_RSE_R_Ch20425_BW5_QPSK_Standing_ext-antenna

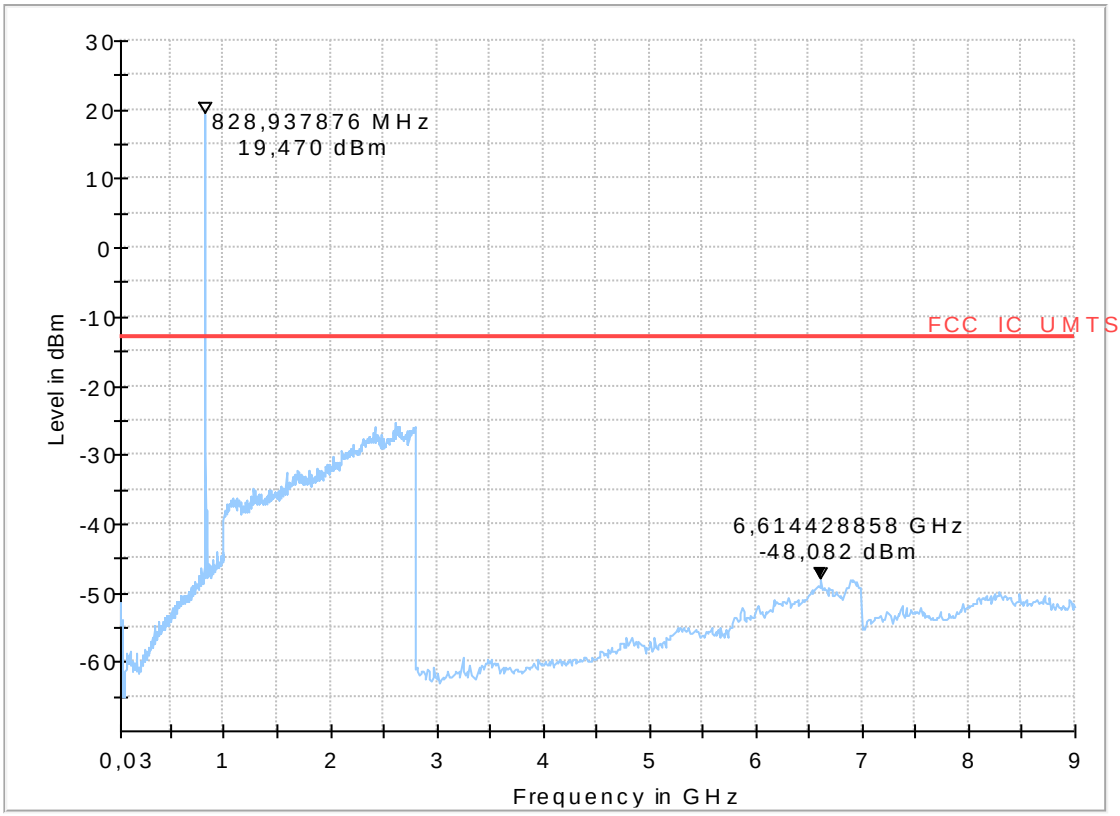
Common Information

Test Description:	Radiated Spurious Emissions LTE FDDV
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 22.917(a)
Operating Mode:	UE allocated channel 20425 (fc = 826.5 MHz)
Environmental Conditions:	Humidity: 40%rH; Temperature: 20°C
Operator:	Rls
Comment:	EUT Standing

EUT Information

Manufacturer:	ACTIA NORDIC AB
Model:	TEM4G
Type:	TELEMATICS MODULE
---	---
EUT:	TELEMATICS MODULE
Serial number:	20071090026
HW:	H1
Power Supply:	12VDC
Comments:	-

Full Spectrum



8.51_RSE_R_Ch20525_BW5_QPSK_Laying_ext-antenna

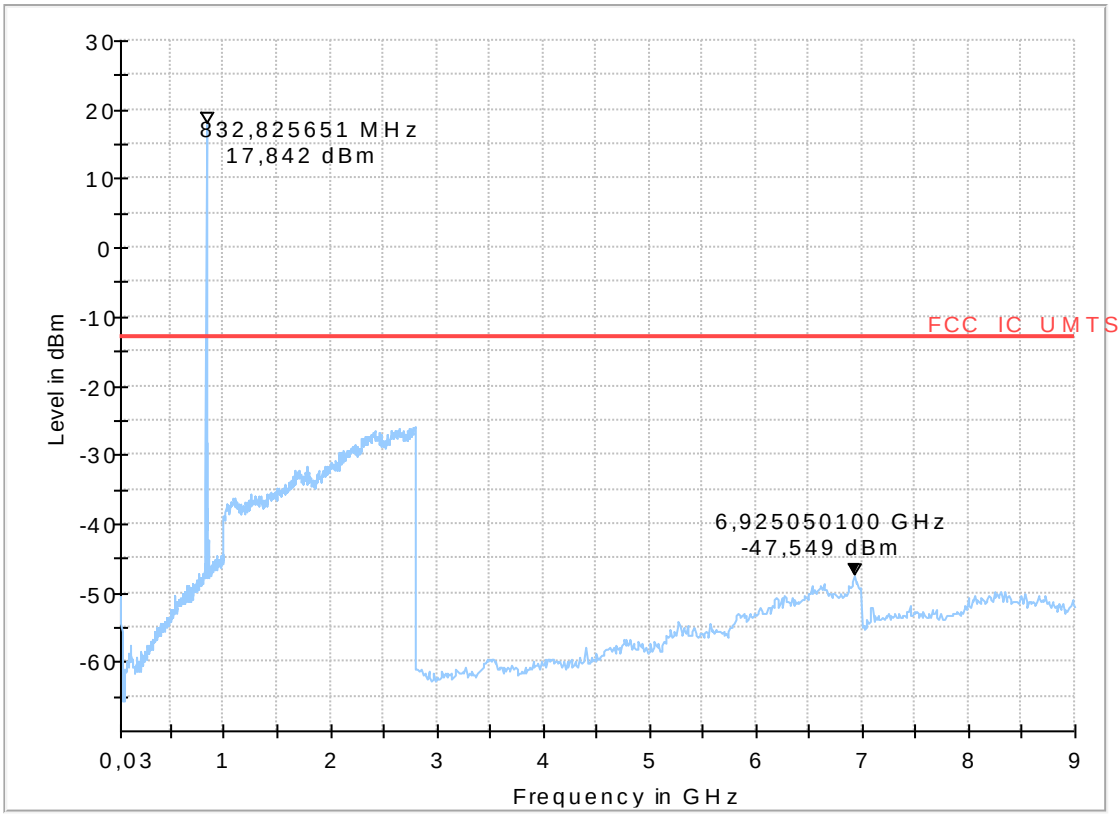
Common Information

Test Description:	Radiated Spurious Emissions LTE FDDV
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 22.917(a)
Operating Mode:	UE allocated channel 20525 (fc = 836.5 MHz)
Environmental Conditions:	Humidity: 40%rH; Temperature: 20°C
Operator:	Rls
Comment:	EUT Laying

EUT Information

Manufacturer:	ACTIA NORDIC AB
Model:	TEM4G
Type:	TELEMATICS MODULE
---	---
EUT:	TELEMATICS MODULE
Serial number:	20071090026
HW:	H1
Power Supply:	12VDC
Comments:	-

Full Spectrum



8.51_RSE_R_Ch20525_BW10_QPSK_Standing_ext-antenna

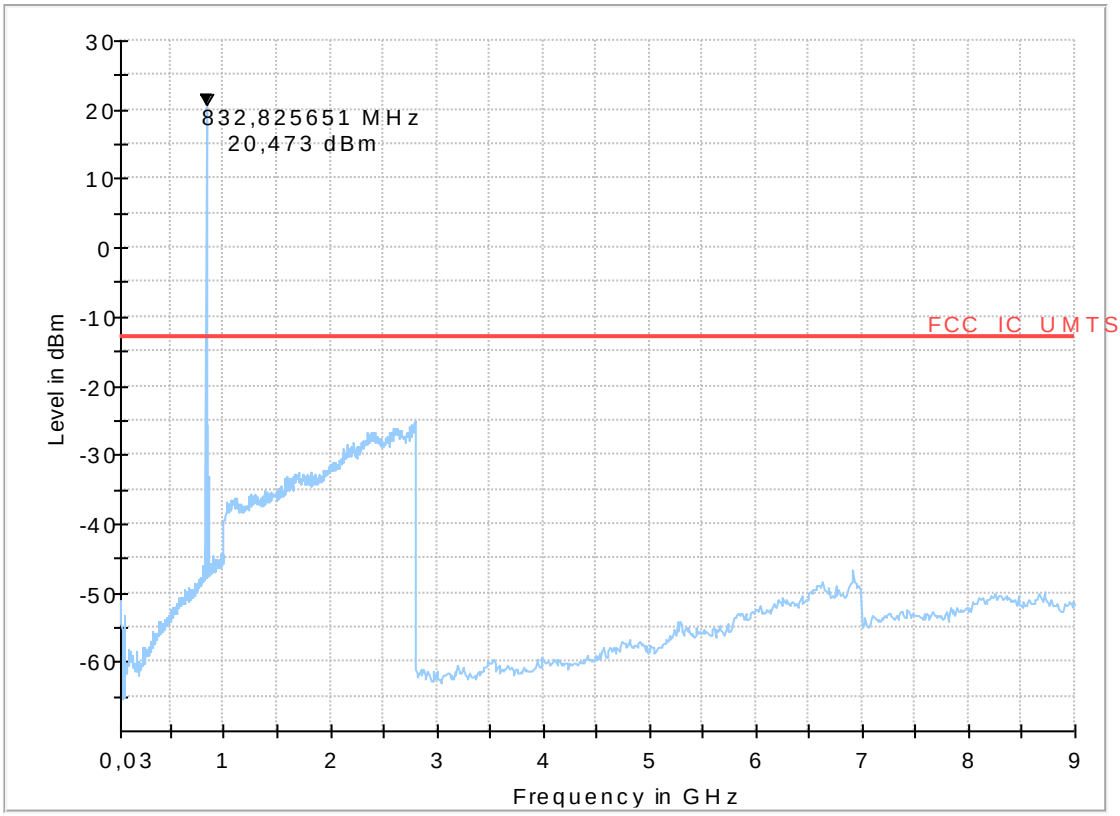
Common Information

Test Description:	Radiated Spurious Emissions UMTS FDDV
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 22.917(a)
Operating Mode:	UE allocated channel 20525 (fc = 836.5 MHz)
Environmental Conditions:	Humidity: 40%rH; Temperature: 20°C
Operator:	Rls
Comment:	EUT Standing

EUT Information

Manufacturer:	ACTIA NORDIC AB
Model:	TEM4G
Type:	TELEMATICS MODULE
---	---
EUT:	TELEMATICS MODULE
Serial number:	20071090026
HW:	H1
Power Supply:	12VDC
Comments:	-

Full Spectrum



8.52_RSE_R_Ch20625_BW5_QPSK_Laying_ext-antenna

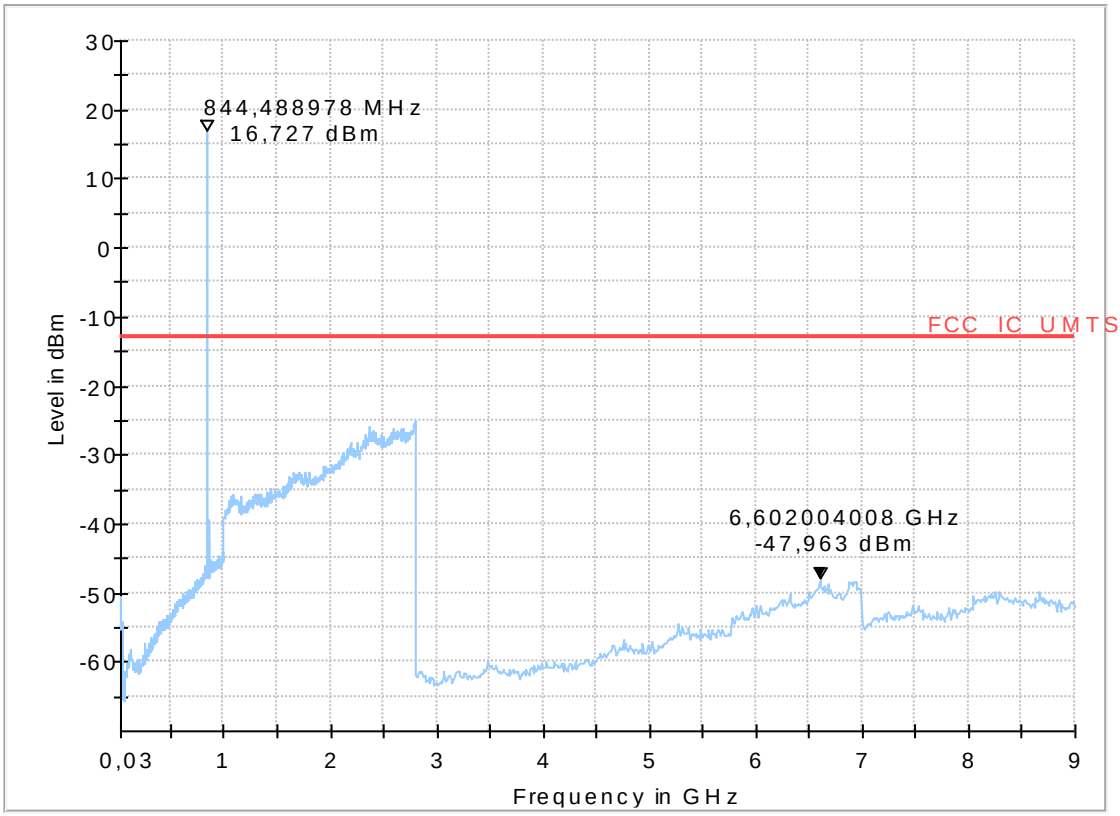
Common Information

Test Description:	Radiated Spurious Emissions LTE FDDV
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 22.917(a)
Operating Mode:	UE allocated channel 20625 (fc = 846.5 MHz)
Environmental Conditions:	Humidity: 40%rH; Temperature: 20°C
Operator:	Rls
Comment:	EUT Laying

EUT Information

Manufacturer:	ACTIA NORDIC AB
Model:	TEM4G
Type:	TELEMATICS MODULE
---	---
EUT:	TELEMATICS MODULE
Serial number:	20071090026
HW:	H1
Power Supply:	12VDC
Comments:	-

Full Spectrum



8.52_RSE_R_Ch20625_BW5_QPSK_Standing_ext-antenna

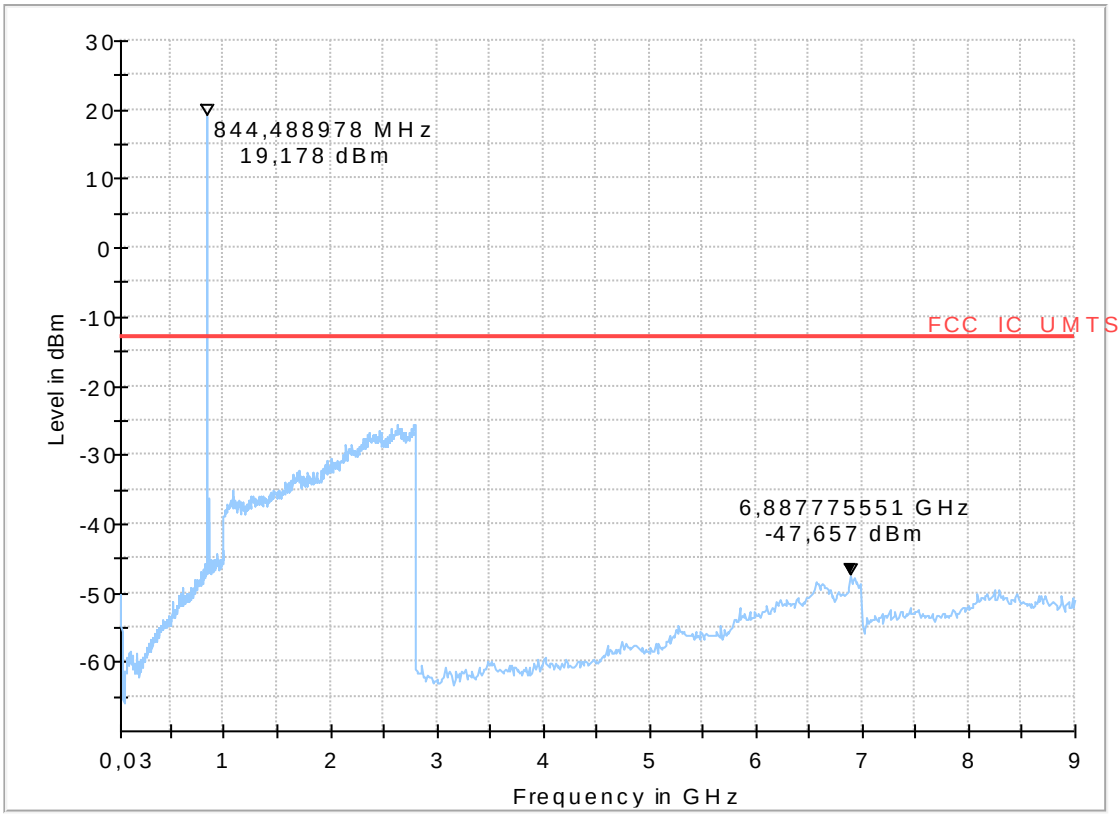
Common Information

Test Description:	Radiated Spurious Emissions LTE FDDV
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 22.917(a)
Operating Mode:	UE allocated channel 20625 (fc = 846.5 MHz)
Environmental Conditions:	Humidity: 40%rH; Temperature: 20°C
Operator:	Rls
Comment:	EUT Standing

EUT Information

Manufacturer:	ACTIA NORDIC AB
Model:	TEM4G
Type:	TELEMATICS MODULE
---	---
EUT:	TELEMATICS MODULE
Serial number:	20071090026
HW:	H1
Power Supply:	12VDC
Comments:	-

Full Spectrum



1.5. Spurious emissions radiated (LTE Band 17)

1.5.1. Magnetic field strength radiated (LTE Band 17)

2.10_FDD17_Ch23755_BW5_1RBlow_QPSK_ExtAnt_RMC

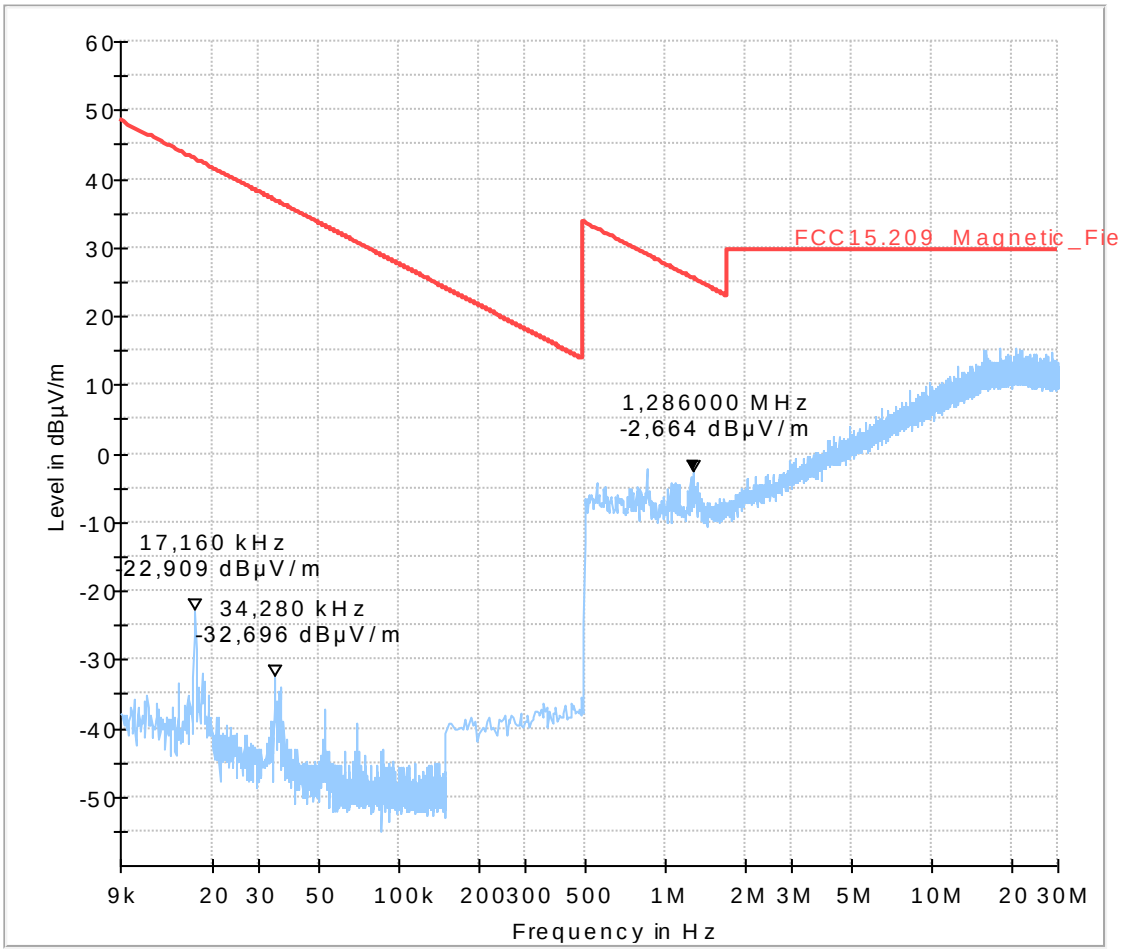
Date: 05.06.2017 Page 1 of 1

Test description:	Magnetic Field Strength Measurement related to 30/300 m distance
Test site and distance:	Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance
Version of Testsoftware:	EMC32 V9.25.0
Distance correction:	used accord. table, pls. see test report
Technical Data:	Please see page 2 for detailed data of measurement setup
Rec. antenna (pre-scan):	height 1.00 m, parallel and 90° to EUT polarisation
Used filter:	bypass
Test specification:	FCC 15.205 § 15.209; RSS-Gen: Issue 4
Operator:	AFr
Operating mode:	LTE FDD17 Ch23755 BW5 QPSK, External Antenna
Operating conditions:	Humidity: 50%rH; Temperature: 21°C
Power during tests:	12V DC
DUT Position:	Standing

EUT Information

Manufacturer:	ACTIA NORDIC AB
Model:	TEM4G
Type:	TELEMATICS MODULE
---	---
EUT:	TELEMATICS MODULE
Serial number:	20071090035
HW:	H1
Power Supply:	12VDC
Comments:	-

Full Spectrum



2.11_FDD17_Ch23800_BW10_1RBlow_QPSK_IntAnt_RMC

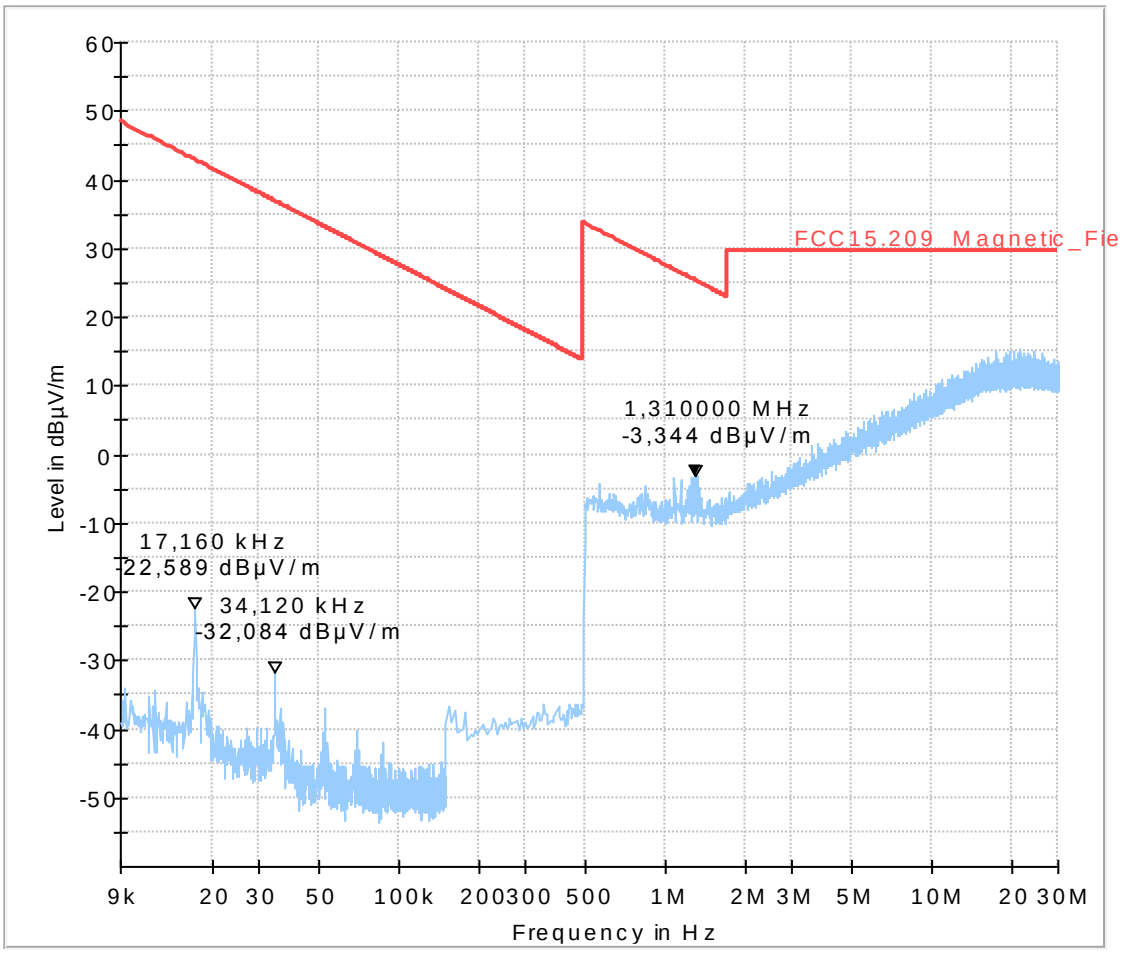
Date: 05.06.2017 Page 1 of 1

Test description:	Magnetic Field Strength Measurement related to 30/300 m distance
Test site and distance:	Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance
Version of Testsoftware:	EMC32 V9.25.0
Distance correction:	used accord. table, pls. see test report
Technical Data:	Please see page 2 for detailed data of measurement setup
Rec. antenna (pre-scan):	height 1.00 m, parallel and 90° to EUT polarisation
Used filter:	bypass
Test specification:	FCC 15.205 § 15.209; RSS-Gen: Issue 4
Operator:	AFr
Operating mode:	LTE FDD17 Ch23800 BW10 QPSK, Internal Antenna
Operating conditions:	Humidity: 50%rH; Temperature: 21°C
Power during tests:	12V DC
DUT Position:	Standing

EUT Information

Manufacturer:	ACTIA NORDIC AB
Model:	TEM4G
Type:	TELEMATICS MODULE
---	---
EUT:	TELEMATICS MODULE
Serial number:	20071090035
HW:	H1
Power Supply:	12VDC
Comments:	-

Full Spectrum



1.5.2. Emissions above 30MHz (LTE Band 17)

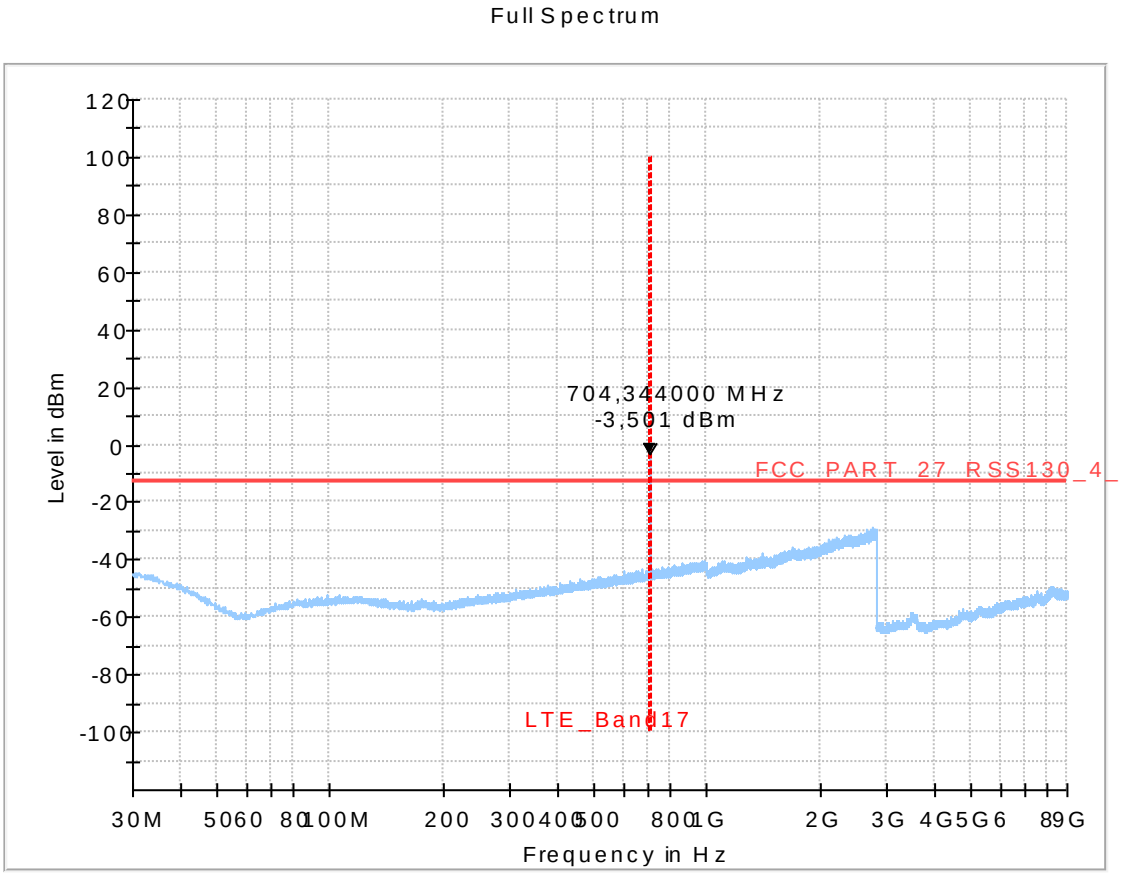
Diagram No.: 8.01_CH23755_BW5_1RBLow_QPSK_External_Laying

Common Information

Test Description:	Radiated emission in 3m distance
Test Site:	Fully-Anechoic-Room (Essen)
Test Standard:	FCC FCC Part 27 / RSS130, Chapter 4.6.1
Antenna polarisation:	vertical / horizontal
Test software	#Ver
Operation mode:	TX LTE17, Ch23755, BW=5, 1 RBs, QPSK
Operator Name:	SRa
Comment:	EUT laying

EUT Information

Manufacturer:	ACTIA NORDIC AB
Model:	TEM4G
Type:	TELEMATICS MODULE
---	---
EUT:	TELEMATICS MODULE
Serial number:	2007109002
HW:	H1
Power Supply:	12VDC
Comments:	-



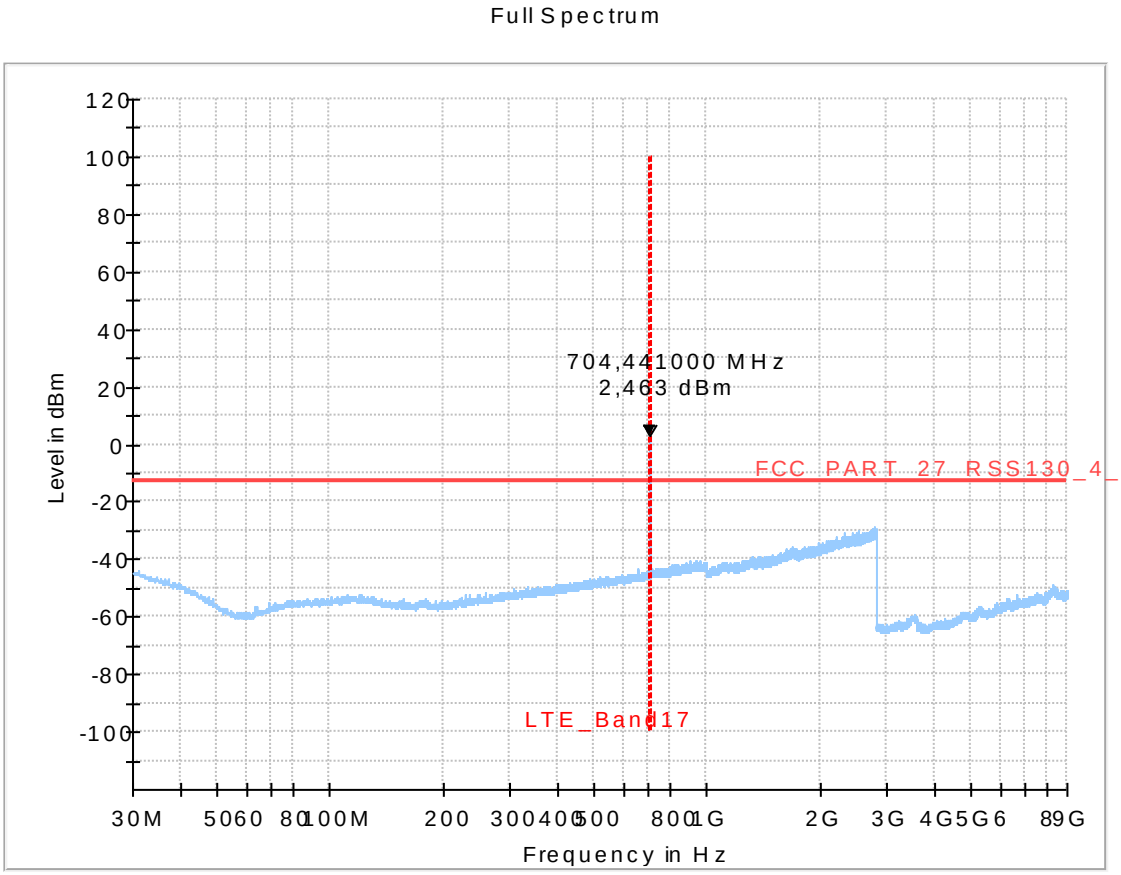
8.02_Ch_23755_5BW_1RB_Low_QPSK_External_Standing

Common Information

Test Description:	Radiated emission in 3m distance
Test Site:	Fully-Anechoic-Room (Essen)
Test Standard:	FCC FCC Part 27 / RSS130, Chapter 4.6.1
Antenna polarisation:	vertical / horizontal
Test software	#Ver
Operation mode:	TX LTE17, Ch23755, BW=5, 1RBs, QPSK
Operator Name:	SRa
Comment:	EUT standing

EUT Information

Manufacturer:	ACTIA NORDIC AB
Model:	TEM4G
Type:	TELEMATICS MODULE
---	---
EUT:	TELEMATICS MODULE
Serial number:	20071090035
HW:	H1
Power Supply:	12VDC
Comments:	-



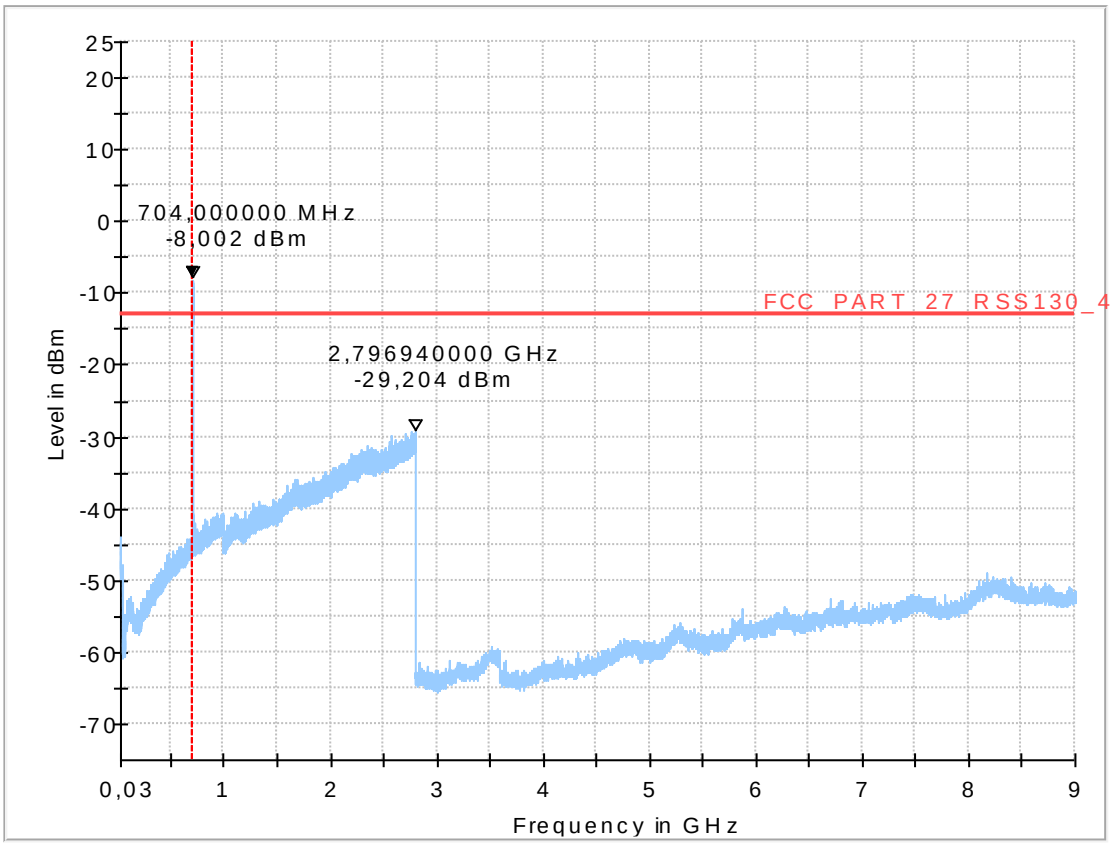
8.03_23800_BW10_1RBHigh_QPSK_internal_laying

Common Information

Test Description:	Radiated emission in 3m distance
Test Site:	Fully-Anechoic-Room (Essen)
Test Standard:	FCC FCC Part 27 / RSS130, Chapter 4.6.1
Test software	EMC32 V 9.26.00
Operation mode:	TX LTE17, Ch 23800, BW=10, 1 RB High, QPSK/
Operator Name:	SLo
Comment:	EUT laying

EUT Information

Manufacturer:	ACTIA NORDIC AB
Model:	TEM4G
Type:	TELEMATICS MODULE
---	---
EUT:	TELEMATICS MODULE
Serial number:	20071090035
HW:	H1
Power Supply:	12VDC
Comments:	-



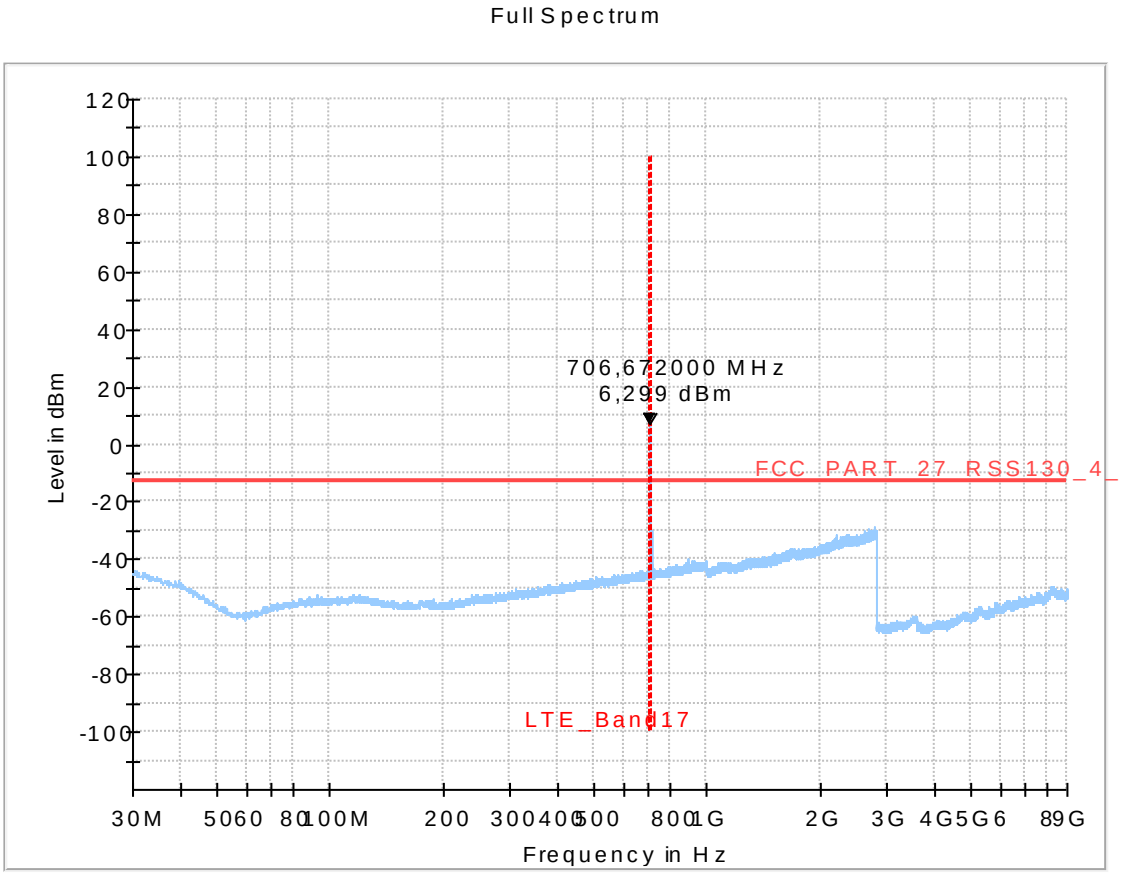
8.04_Ch_23800_10BW_1RB_Low_QPSK_Internal_Standing

Common Information

Test Description:	Radiated emission in 3m distance
Test Site:	Fully-Anechoic-Room (Essen)
Test Standard:	FCC FCC Part 27 / RSS130, Chapter 4.6.1
Antenna polarisation:	vertical / horizontal
Test software	#Ver
Operation mode:	TX LTE17, Ch23800, BW=10, 1RBs, QPSK
Operator Name:	SRa
Comment:	EUT standing

EUT Information

Manufacturer:	ACTIA NORDIC AB
Model:	TEM4G
Type:	TELEMATICS MODULE
---	---
EUT:	TELEMATICS MODULE
Serial number:	20071090035
HW:	H1
Power Supply:	12VDC
Comments:	-



1.6. Radiated emissions – band-edge (LTE Band 2)

1.6.1. Low band-edge

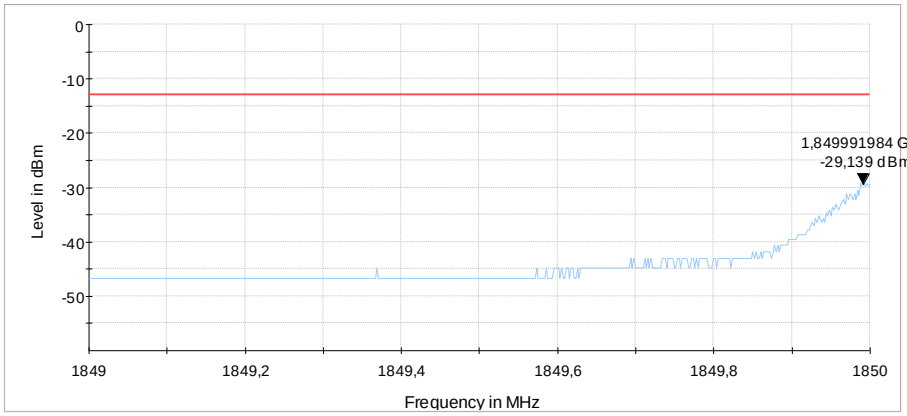


Diagram 1: 9.33_CH18625_BW5_1RB_low_QPSK_Ext_Ant_laying

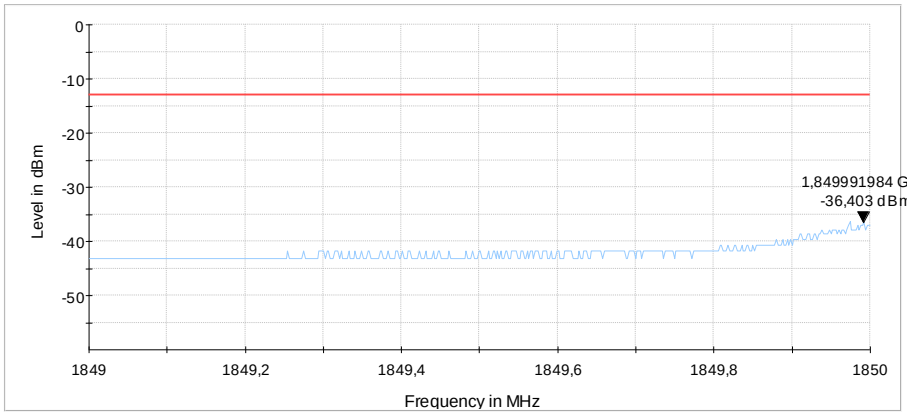


Diagram 2: 9.34_CH18265_BW5_25RB_QPSK_Ext_Ant_laying

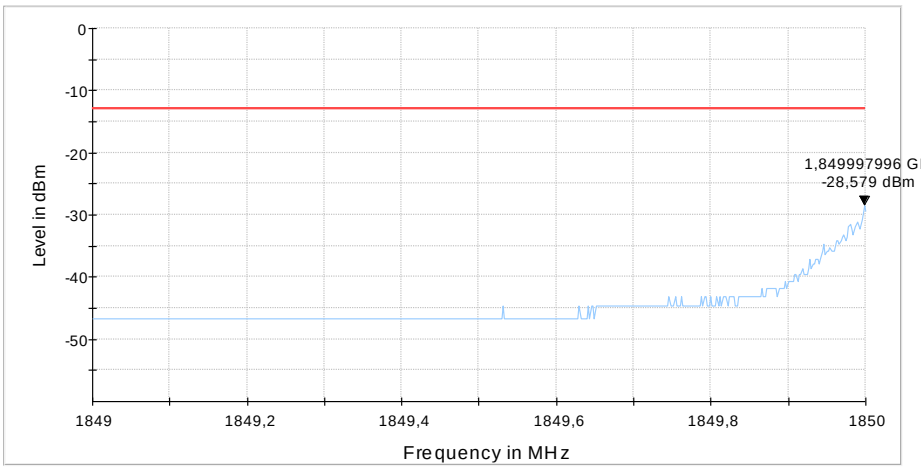


Diagram 3: 9.35_CH18625_BW5_1RB_low_QAM_Ext_Ant_laying

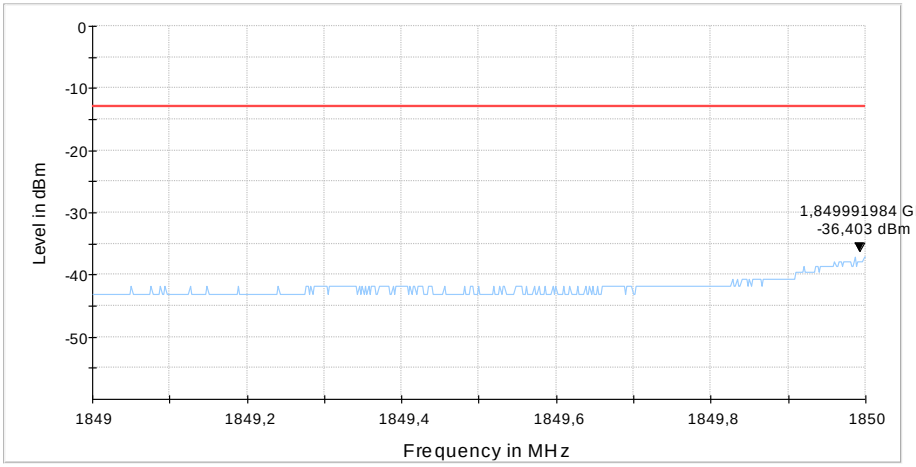


Diagram 4: 9.36_CH18625_BW5_25RB_QAM_Ext_Ant_Laying

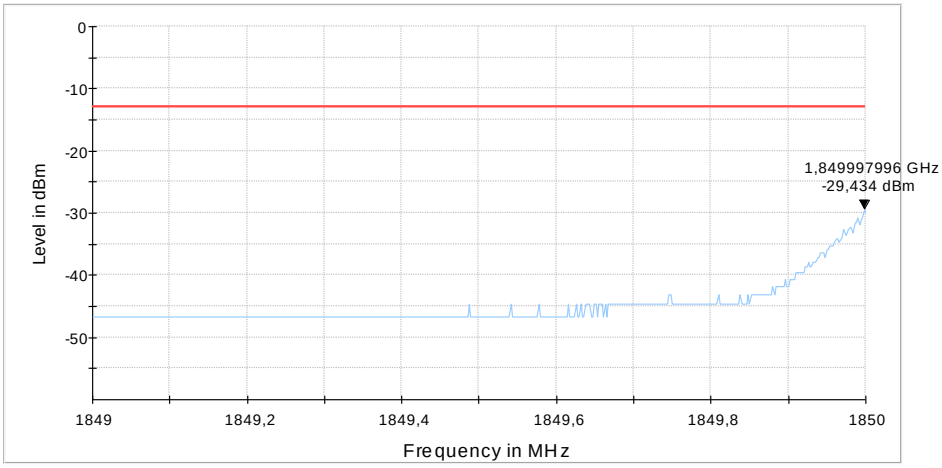


Diagram 5: 9.37_CH18625_BW5_1RB_Low_QPSK_Ext_Ant_standing

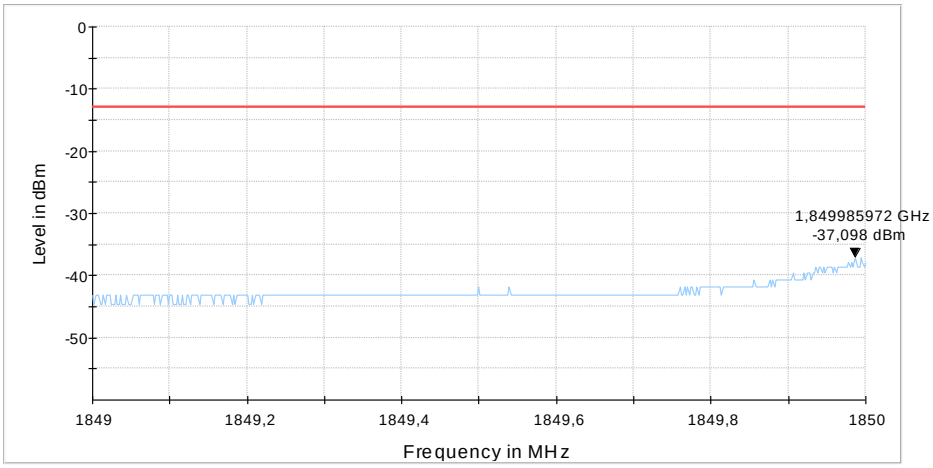


Diagram 6: 9.38_CH18625_BW5_25RB_QPSK_Ext_Ant_stan ding

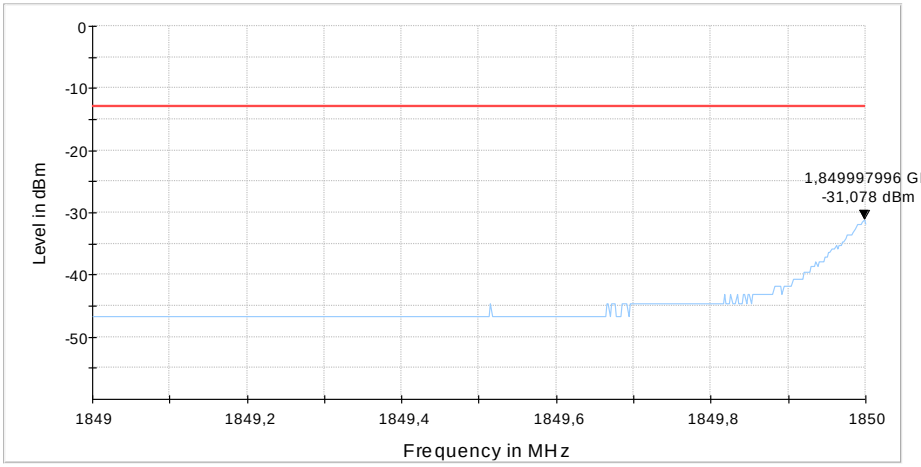


Diagram 7: 9.39_CH18625_BW5_1RB_Low_QAM_Ext_Ant_standing

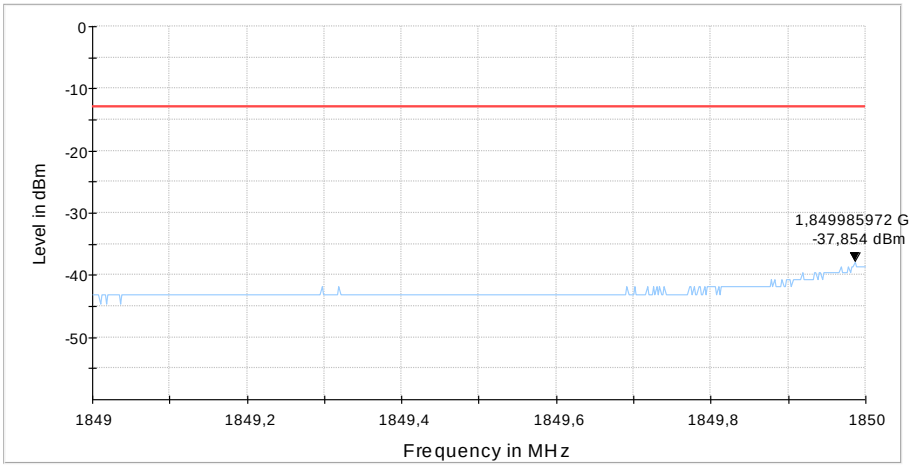


Diagram 8: 9.40_CH18625_BW5_25RB_QAM_Ext_Ant_standing

1.6.2. High band-edge

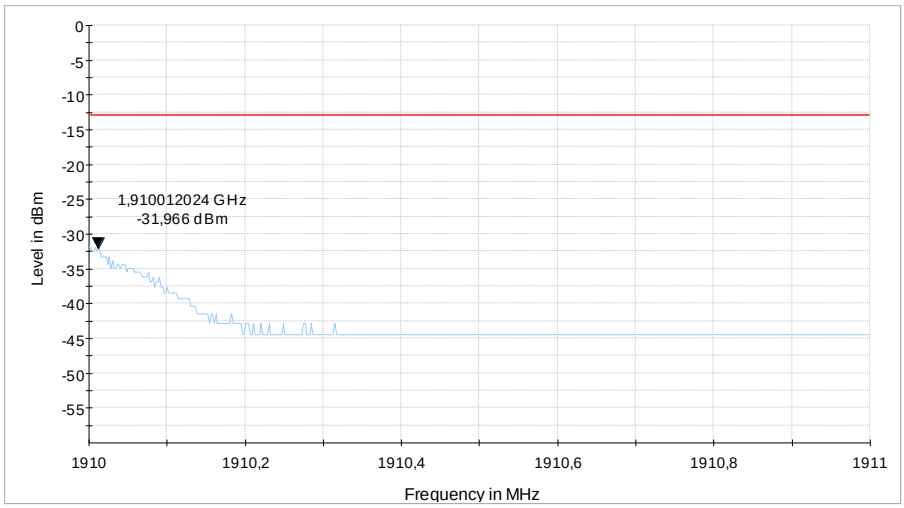


***Diagram* 9:** 9.41_CH19175_BW5_1RB_high_QPSK_Int_Ant_Hor

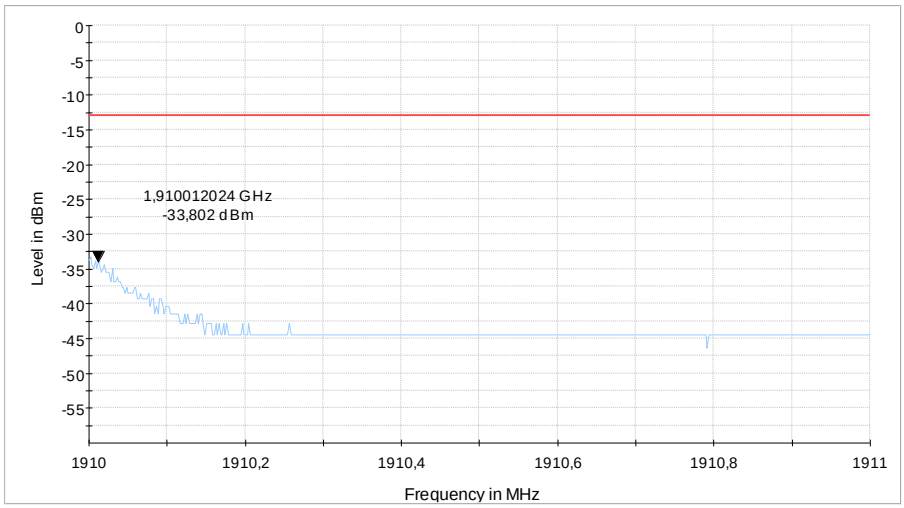


***Diagram* 10:** 9.42_CH19175_BW5_1RB_high_QAM_Int_Ant_Hor

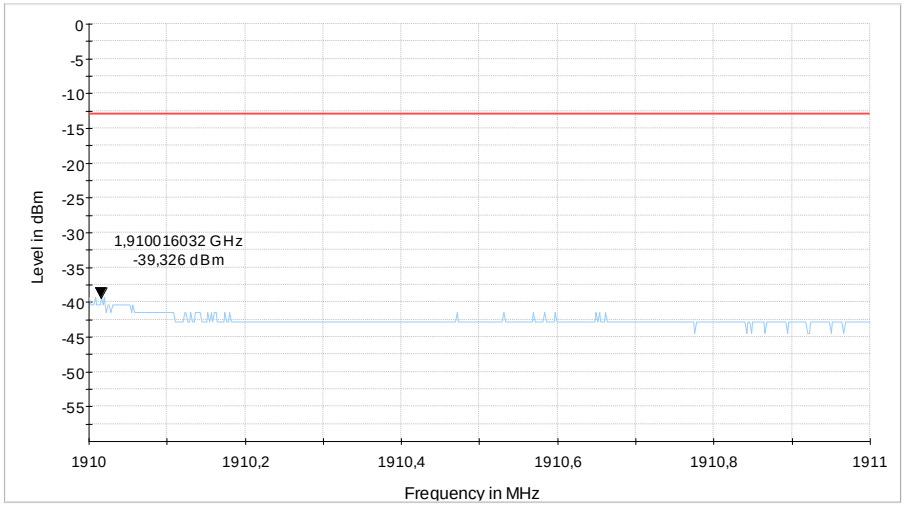


Diagram 11: 9.43_CH19175_BW5_25RB_high_QPSK_Int_Ant_Hor

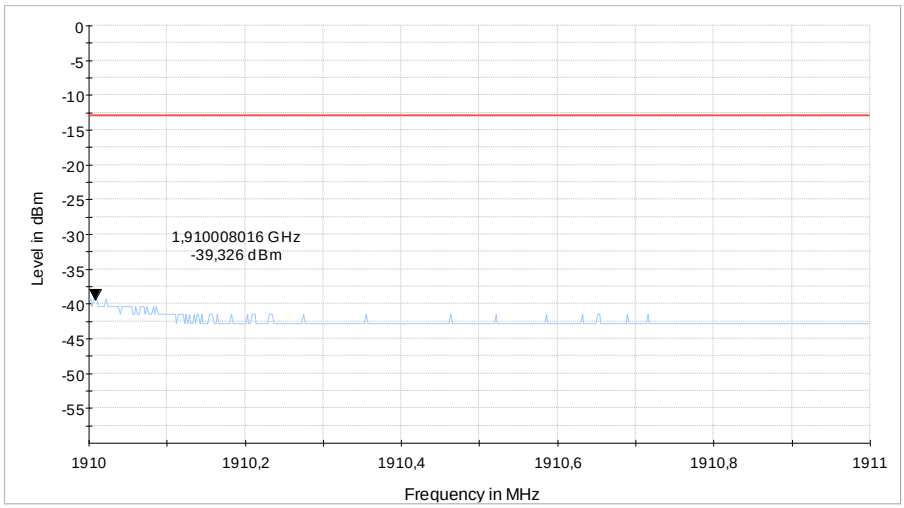


Diagram 12: 9.44_CH19175_BW5_25RB_high_QAM_Int_Ant_Hor

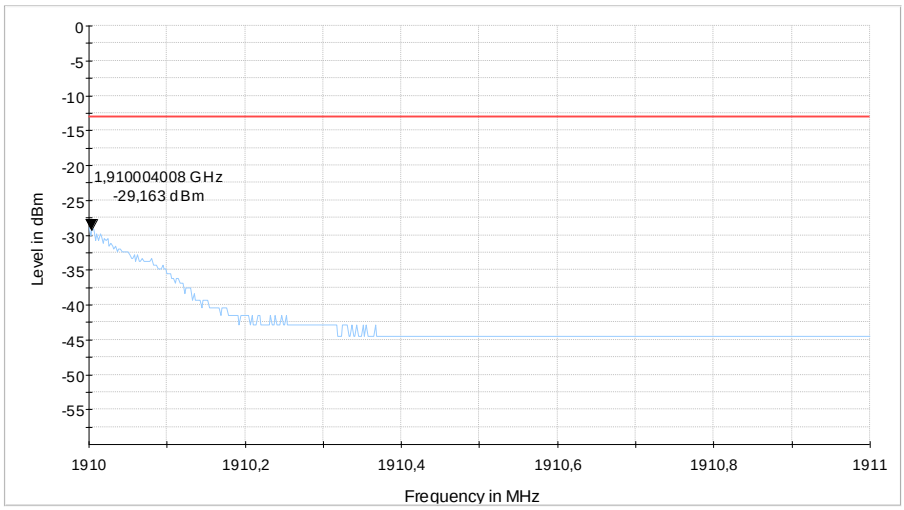


Diagram 13: 9.45_CH19175_BW5_1RB_high_QPSK_Int_Ant_Ver

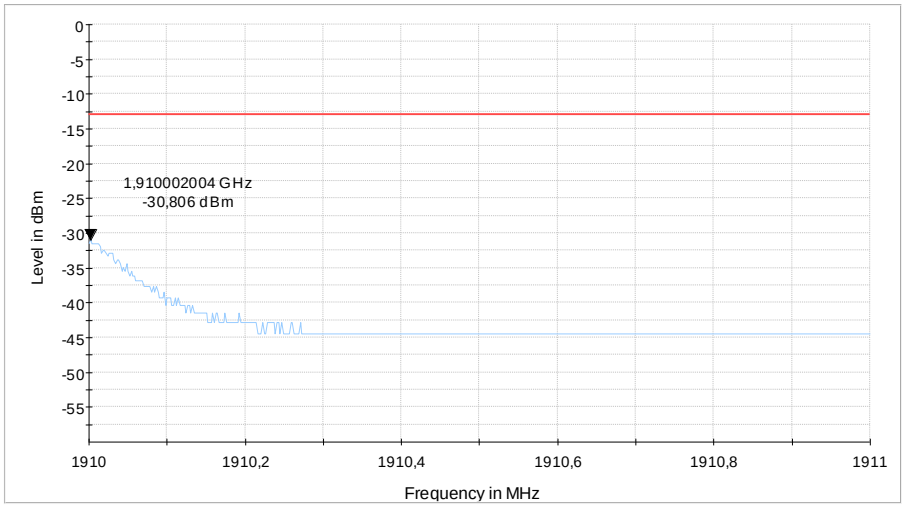


Diagram 14: 9.46_CH19175_BW5_1RB_high_QAM_Int_Ant_Ver

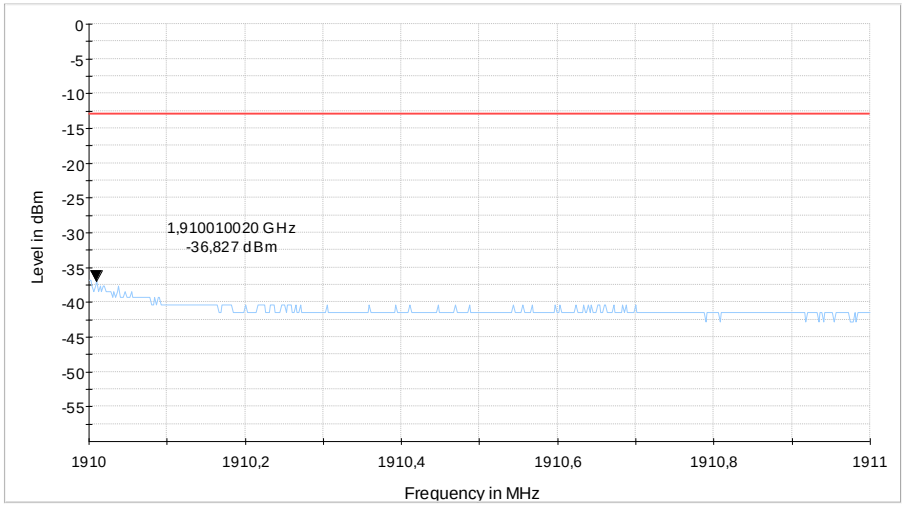


Diagram 15: 9.47_CH19175_BW5_25RB_high_QPSK_Int_Ant_Ver

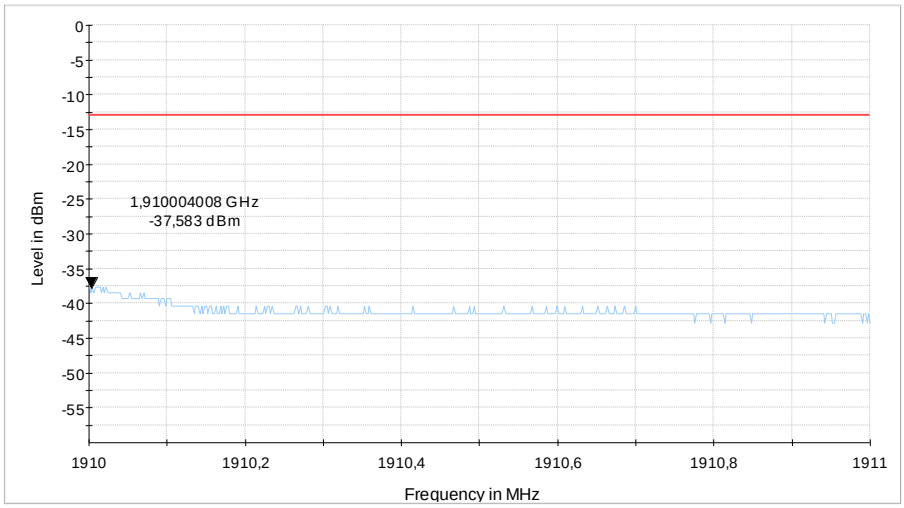


Diagram 16: 9.48_CH19175_BW5_25RB_high_QAM_Int_Ant_Ver

1.7. Radiated emissions – band-edge (LTE Band 4)

1.7.1. Low Band-Edge

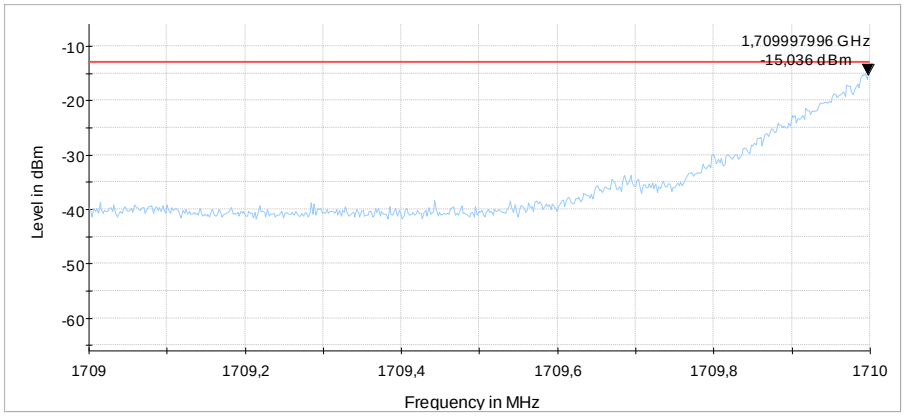


Diagram 17: 9.01_CH19965_BW3_1RB_low_QPSK_Ext_Ant_Hor

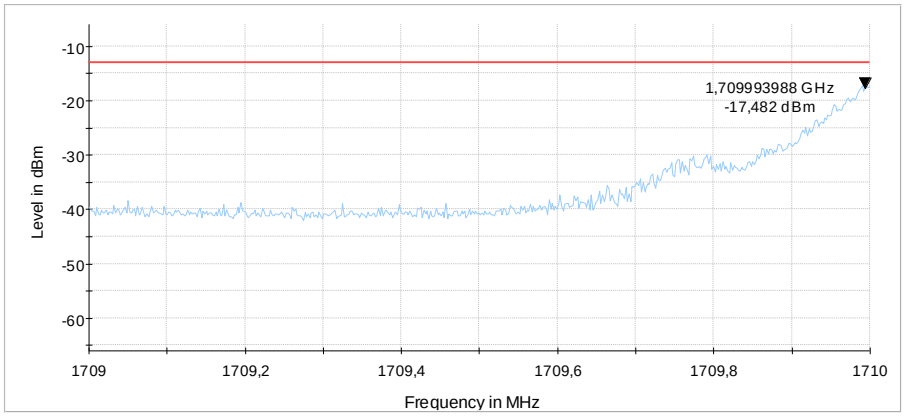


Diagram 18: 9.02_CH19965_BW3_1RB_low_QAM_Ext_Ant_Hor

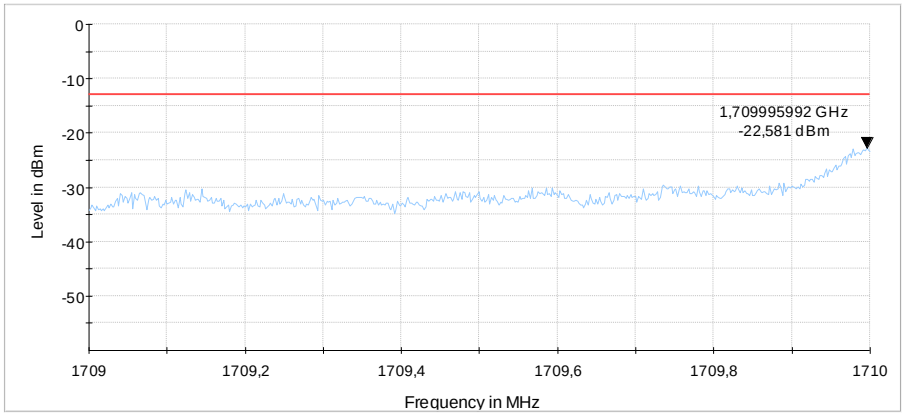


Diagram 19: 9.03_CH19965_BW3_15RB_low_QPSK_Ext_Ant_Hor

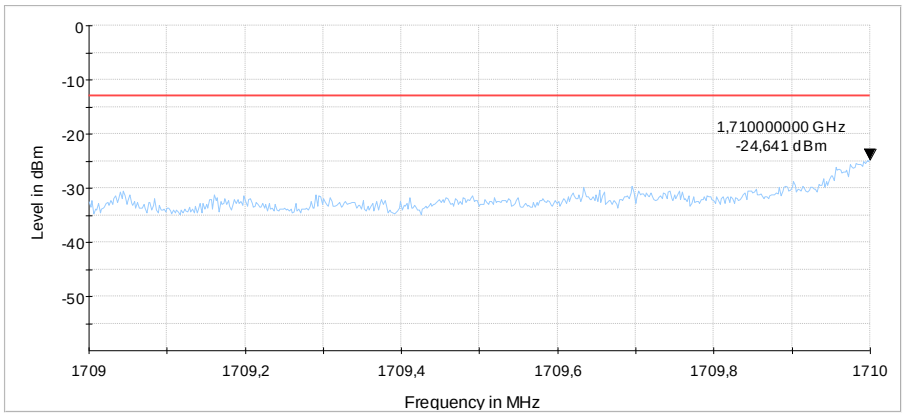


Diagram 20: 9.04_CH19965_BW3_15RB_low_QAM_Ext_Ant_Hor

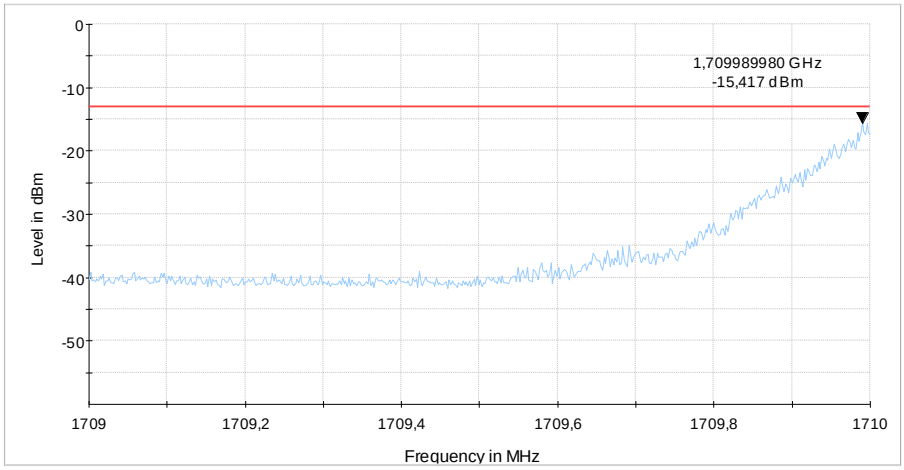


Diagram 21: 9.05_CH19965_BW3_1RB_low_QPSK_Ext_Ant_Ver

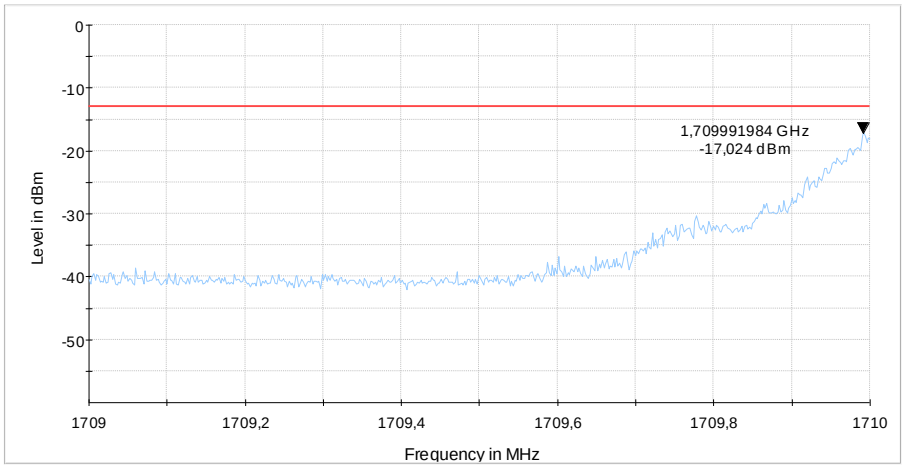


Diagram 22: 9.06_CH19965_BW3_1RB_low_QAM_Ext_Ant_Ver

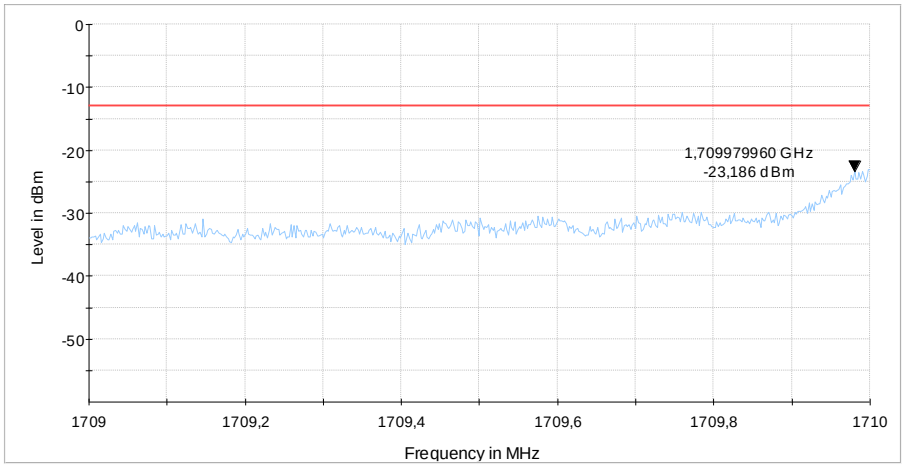


Diagram 23: 9.07_CH19965_BW3_15RB_low_QPSK_Ext_Ant_Ver

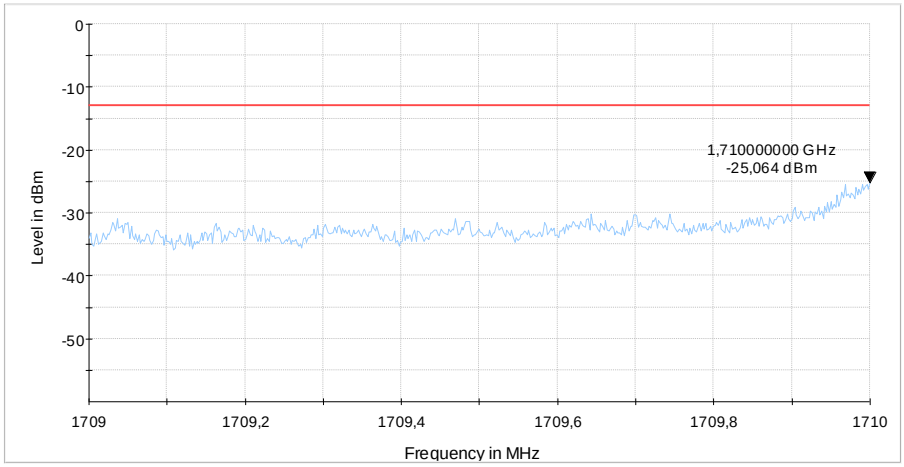


Diagram 24: 9.08_CH19965_BW3_15RB_low_QAM_Ext_Ant_Ver

1.7.2. High Band-Edge

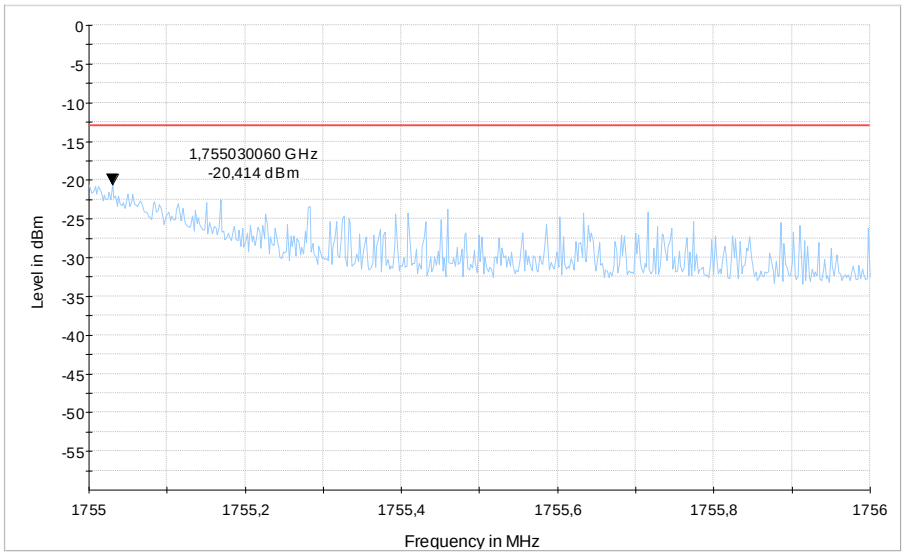


Diagram 25: 9.09_CH20300_BW20_1RB_high_QPSK_Int_Ant_Hor

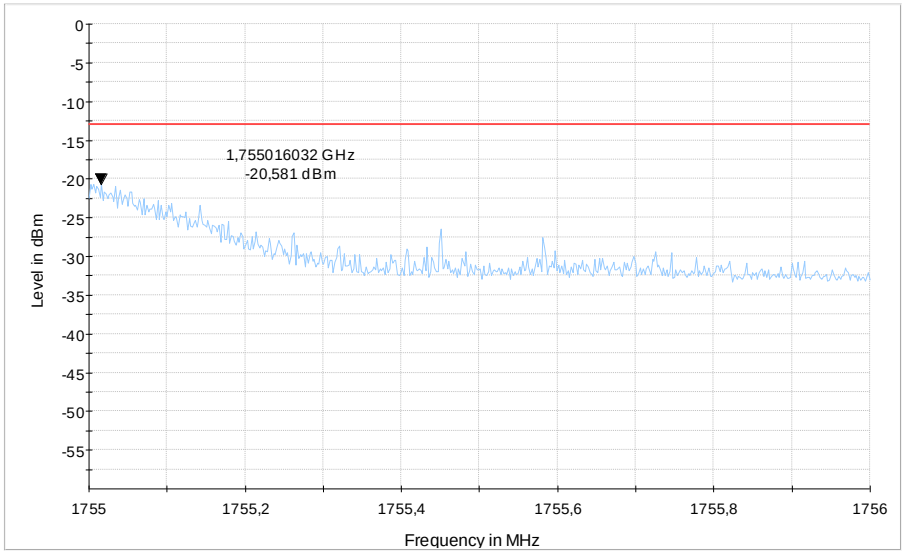


Diagram 26: 9.10_CH20300_BW20_1RB_high_QAM_Int_Ant_Hor

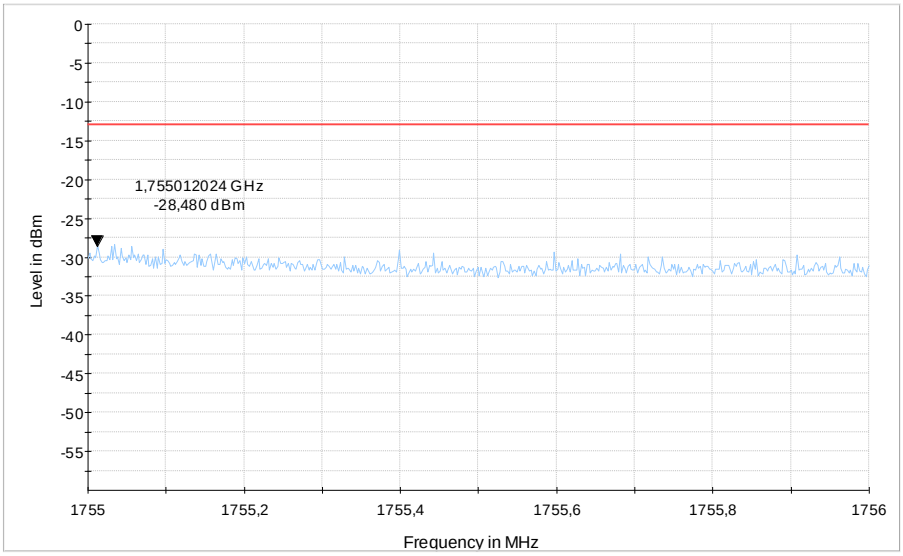


Diagram 27: 9.11_CH20300_BW20_100RB_high_QPSK_Int_Ant_Hor

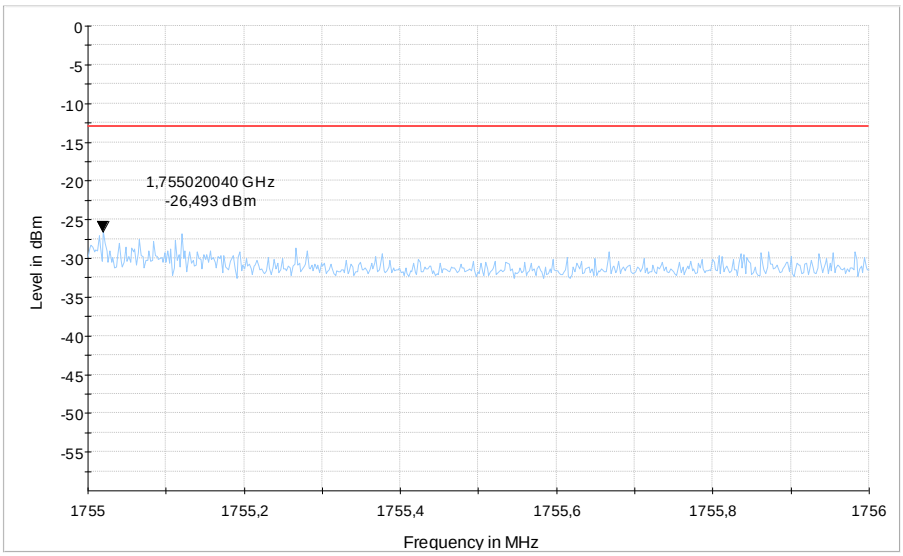


Diagram 28: 9.12_CH20300_BW20_100RB_high_QAM_Int_Ant_Hor

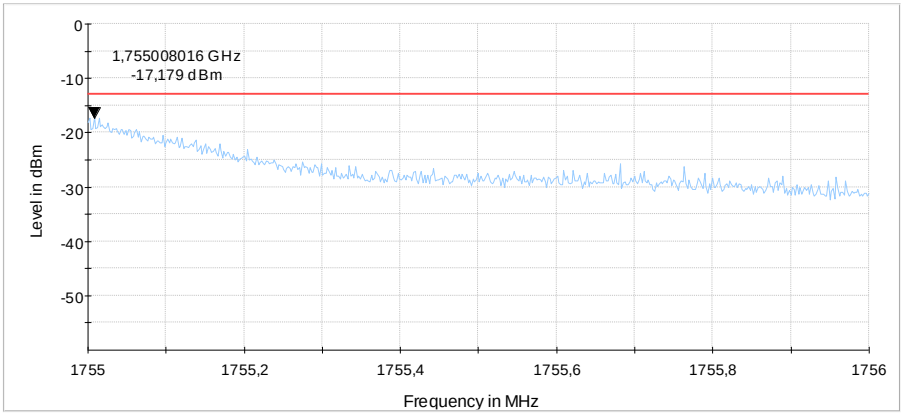


Diagram 29: 9.13_CH20300_BW20_1RB_high_QPSK_Int_Ant_Ver

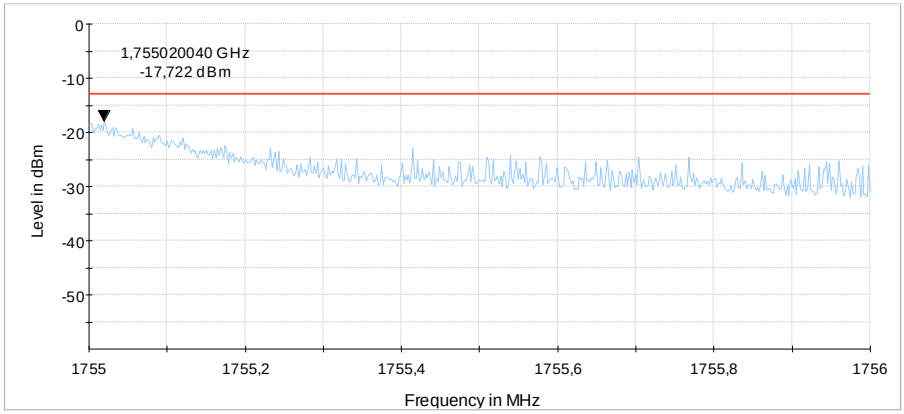


Diagram 30: 9.14_CH20300_BW20_1RB_high_QAM_Int_Ant_Ver

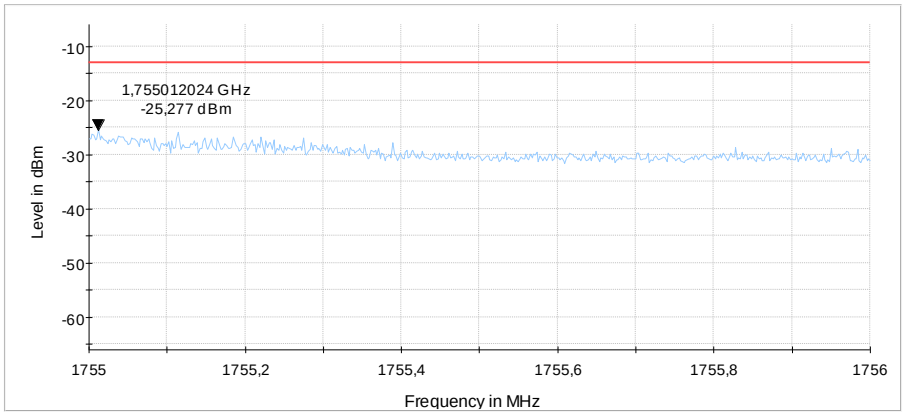


Diagram 31: 9.15_CH20300_BW20_100RB_high_QPSK_Int_Ant_Ver

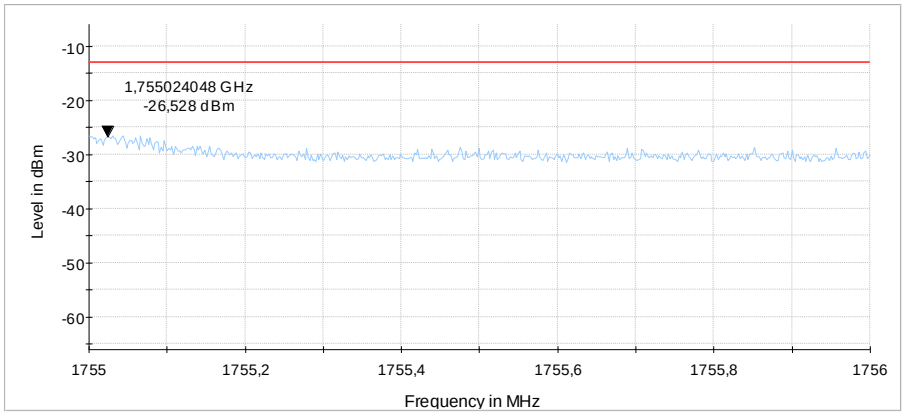


Diagram 32: 9.16_CH20300_BW20_100RB_high_QAM_Int_Ant_Ver

1.8. Radiated emissions – band-edge (LTE Band 5)

1.8.1. Low Band-Edge

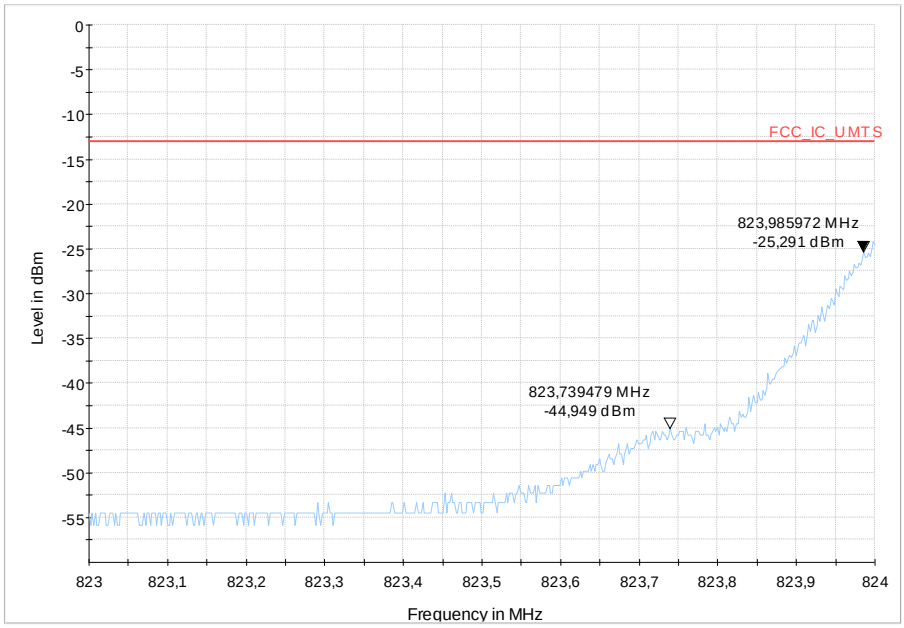


Diagram 33: 9.508a_BE_R_Ch20425_1RB_BW5_QAM_Laying_ExtAntenna

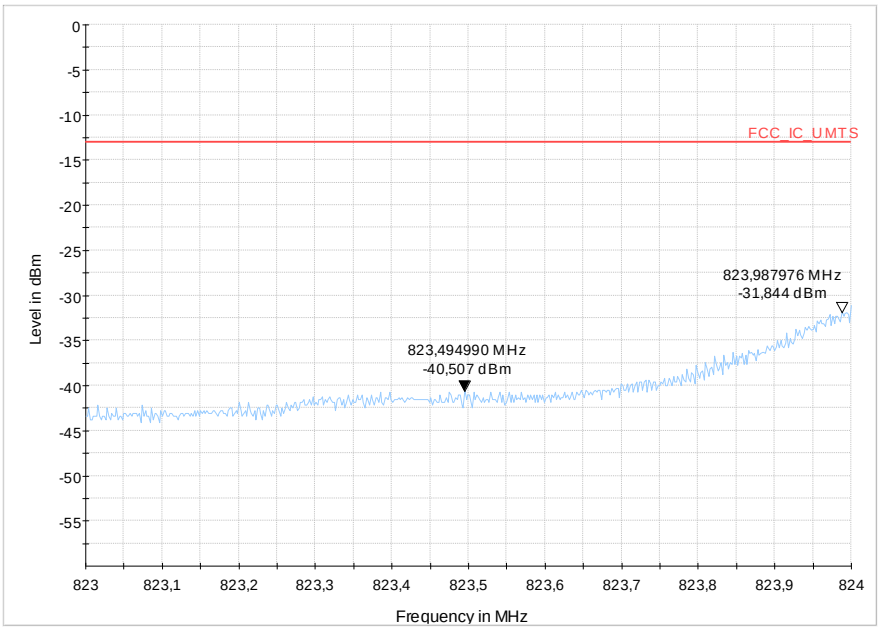


Diagram 34: 9.508b_BE_R_Ch20425_1RB_BW5_QAM_Standing_IntAntenna

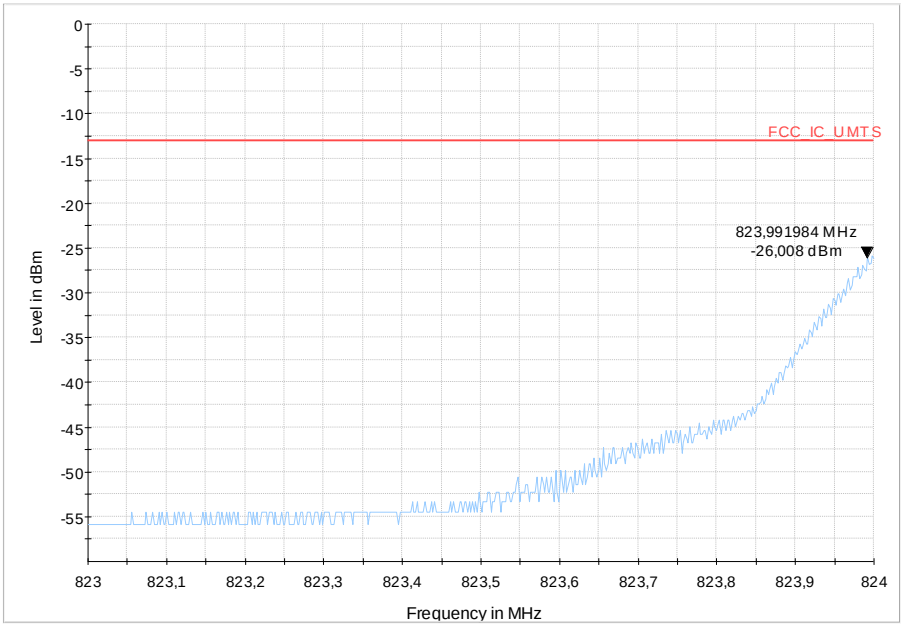


Diagram 35: 9.508a_BE_R_Ch20425_1RB_BW5_QPSK_Laying_ExtAntenna

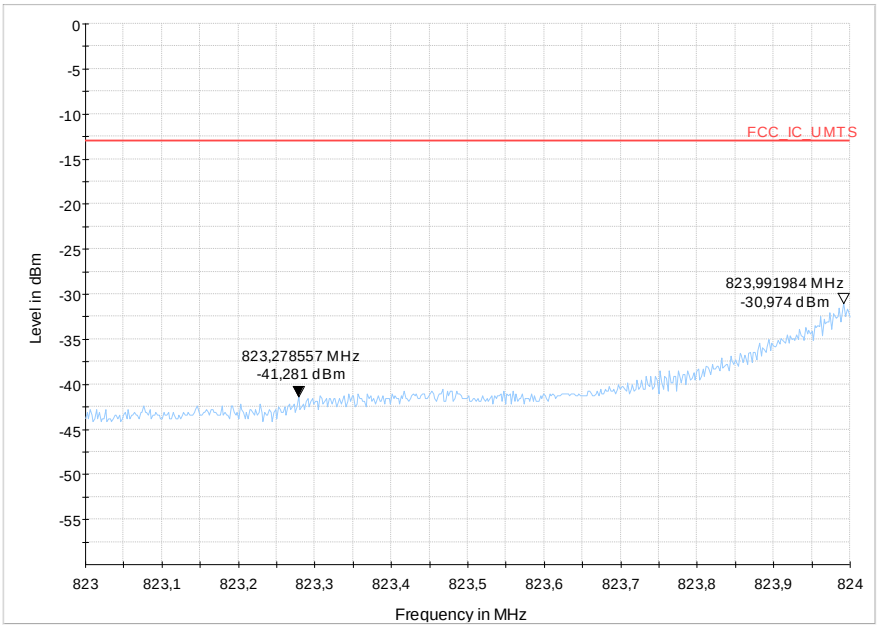


Diagram 36: 9.508b_BE_R_Ch20425_1RB_BW5_QPSK_Standing_ExtAntenna

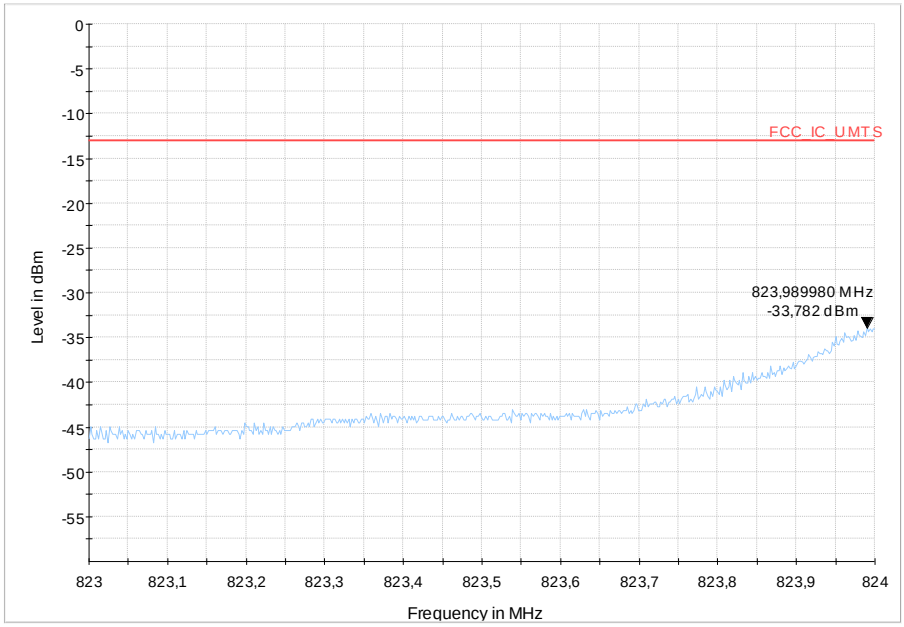


Diagram 37: 9.510a_BE_R_Ch20425_25RB_BW5_QAM_Laying_ExtAntenna

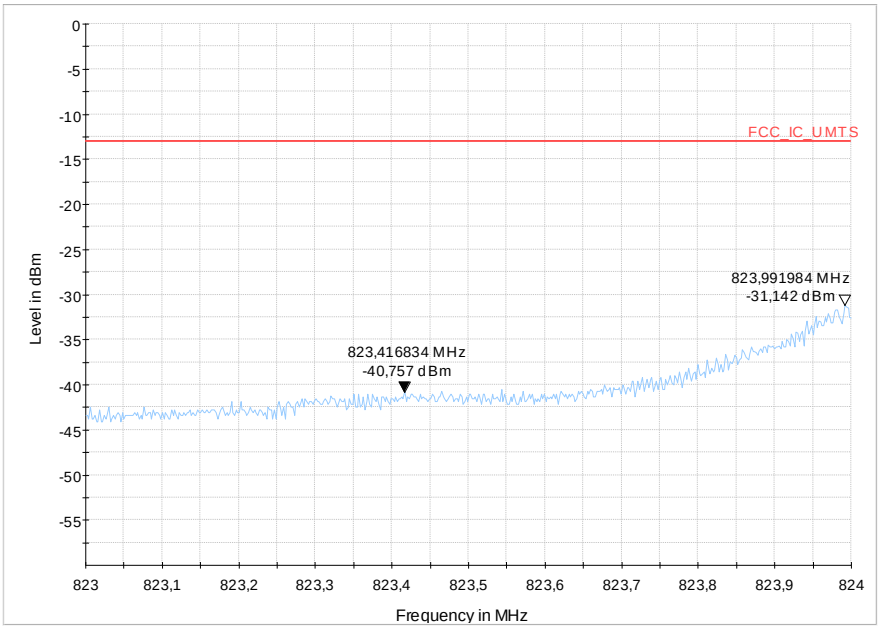


Diagram 38: 9.510b_BE_R_Ch20425_25RB_BW5_QAM_Standing_ExtAntenna

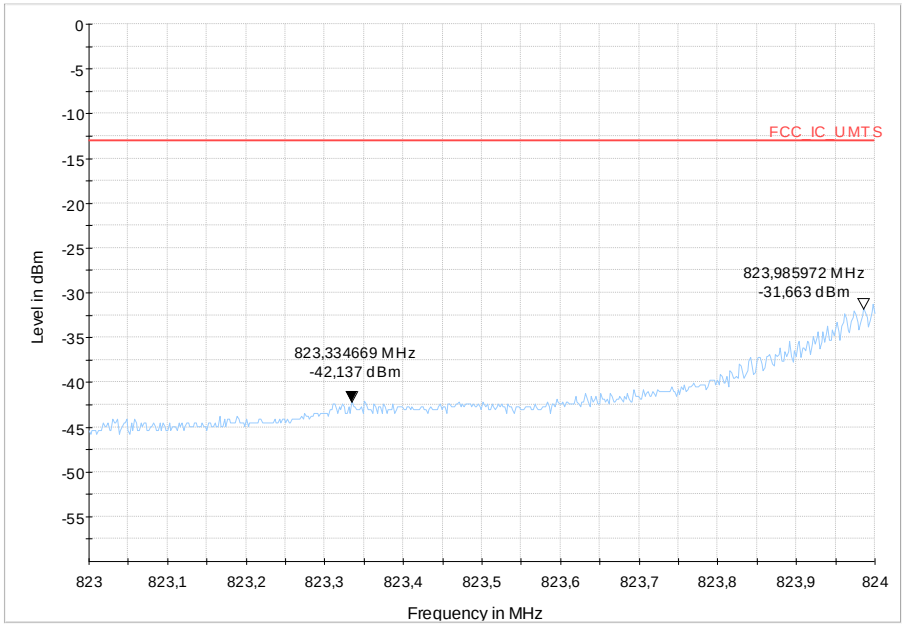


Diagram 39: 9.510a_BE_R_Ch20425_25RB_BW5_QPSK_Laying_ExtAntenna

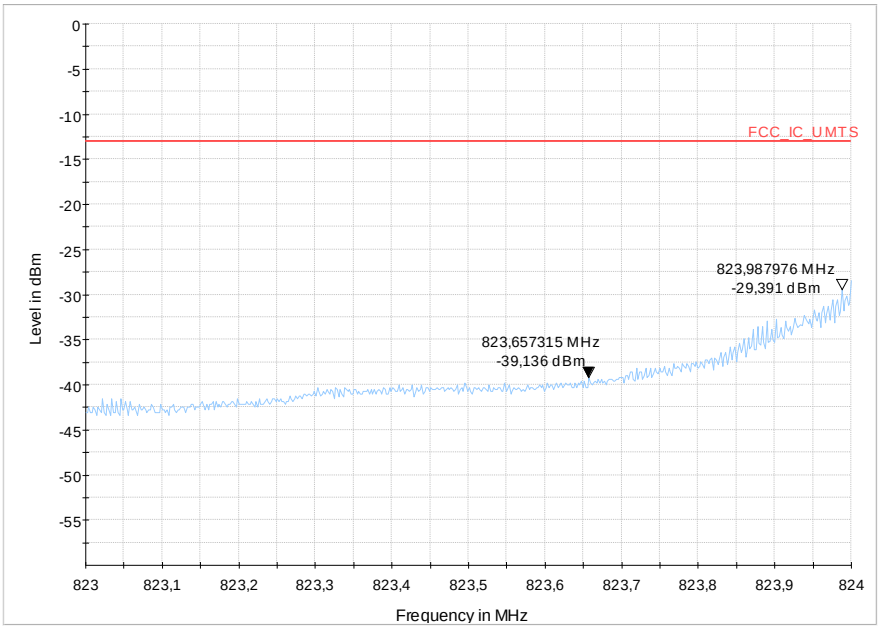


Diagram 40: 9.510b_BE_R_Ch20425_25RB_BW5_QPSK_Standing_ExtAntenna

1.8.2. High Band-Edge

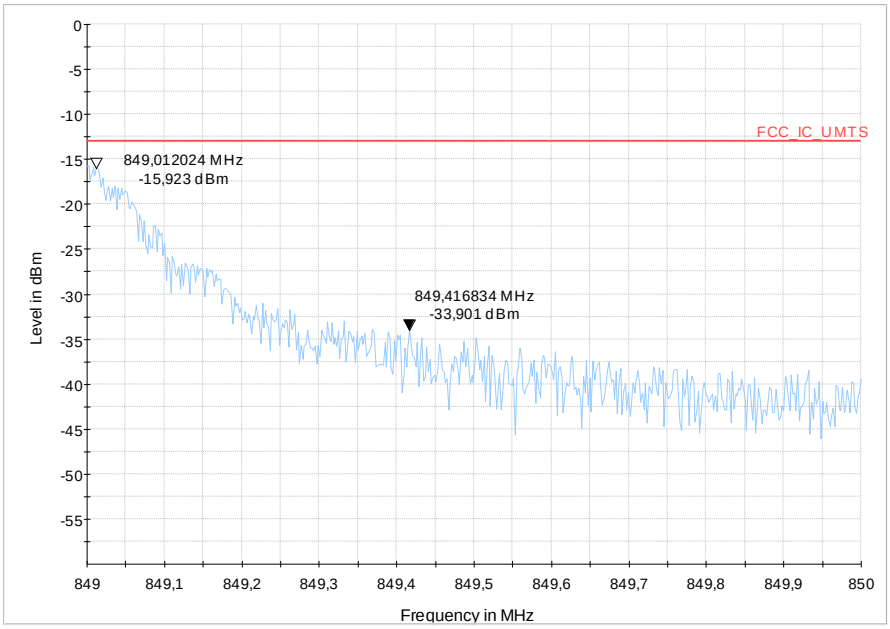


Diagram 41: 9.502a_BE_R_Ch20643_1RB_BW_1_4_QPSK_Laying_ExtAntenna

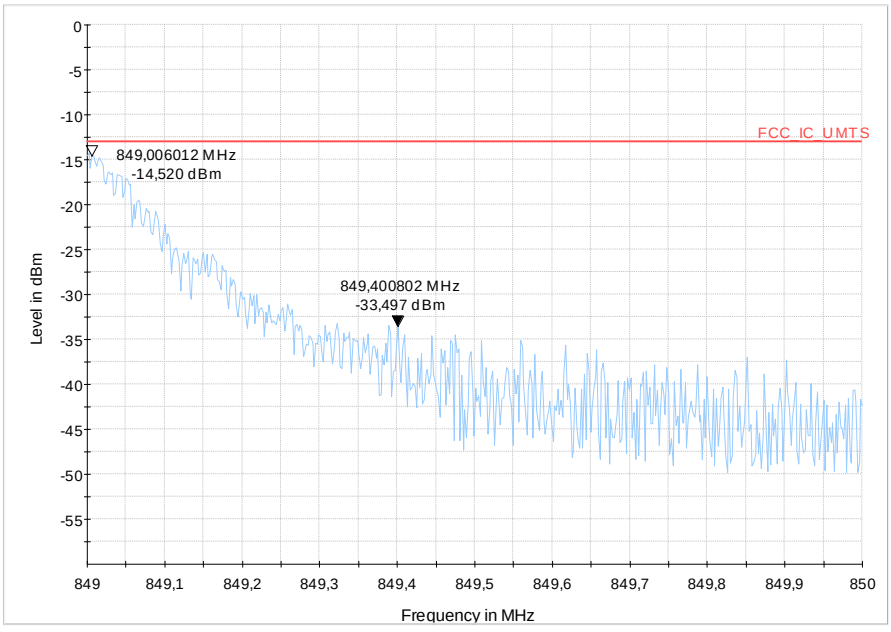


Diagram 42: 9.502b_BE_R_Ch20643_1RB_BW_1_4_QPSK_Standing_ExtAntenna

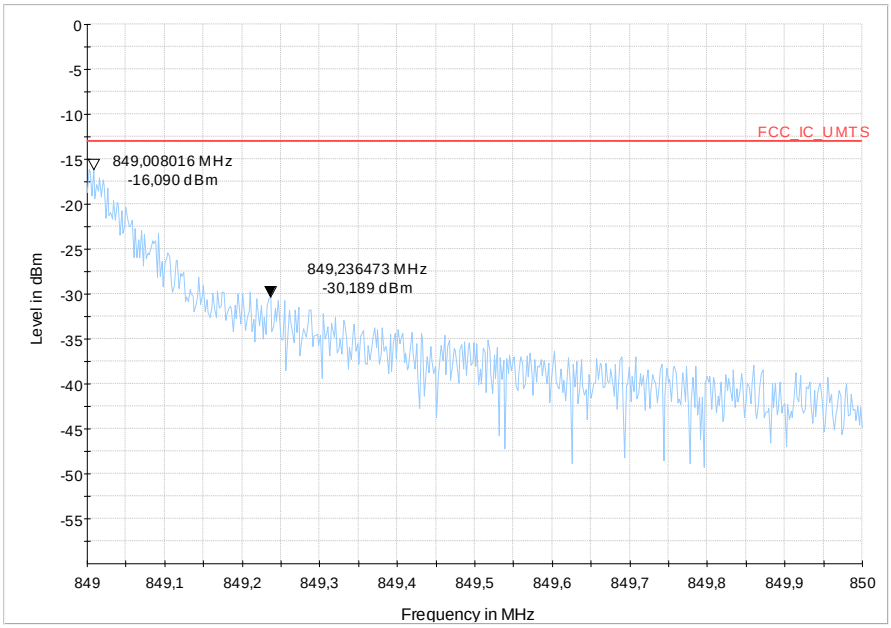


Diagram 43: 9.502a_BE_R_Ch20643_1RB_BW_1_4_QAM_Laying_ExtAntenna

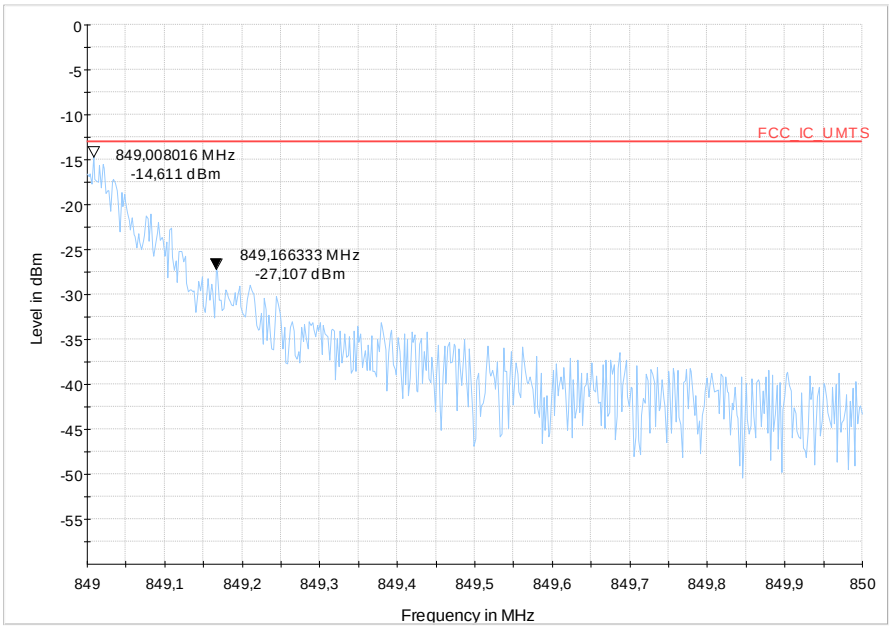


Diagram 44: 9.502b_BE_R_Ch20643_1RB_BW_1_4_QAM_Standing_ExtAntenna

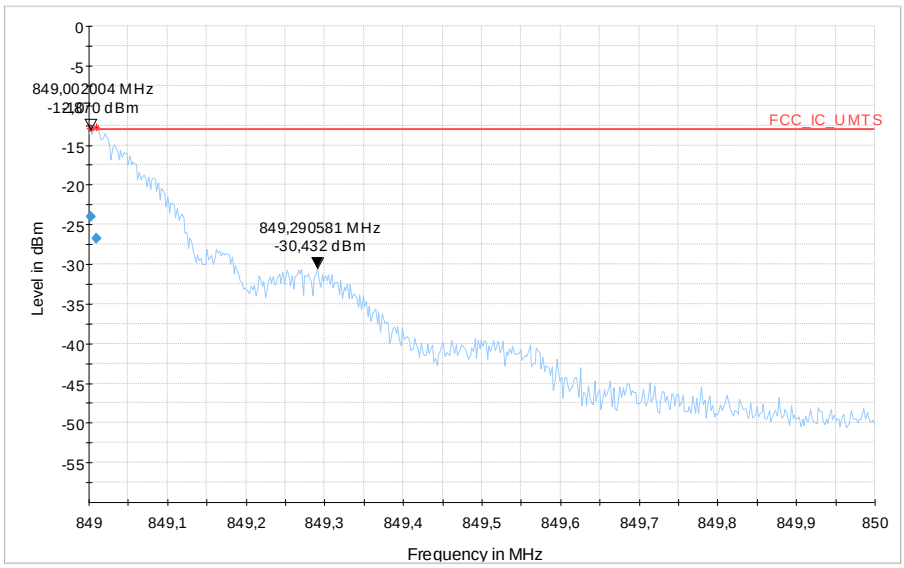


Diagram 45: **9.502b_BE_R_Ch20643_1RB_BW_1_4_QAM_Standing_IntAntenna**

Pre-Measurement: Pk- detector
Final: RMS detector

Frequency MHz	Process	Stat	RMS dBm	Limit dBm	Margin dB	Meas. Time ms	Bandwidth kHz	Pol	Azimuth deg	Elevation deg	Corr. dB	Comment
849,002004	FINAL		-24,02	-13,00	11,02	100,0	20,000	V	167,0	0,0	-75,9	06:54:00 - 10.05.2017
849,010020	FINAL		-26,75	-13,00	13,75	100,0	20,000	V	-42,0	0,0	-75,9	07:43:03 - 10.05.2017

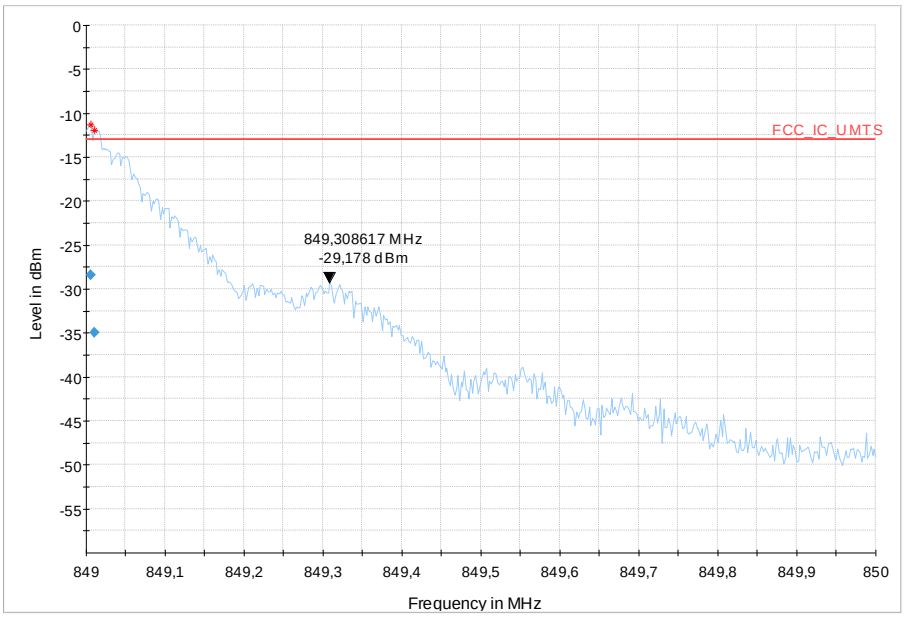


Diagram 46: **9.502b_BE_R_Ch20643_1RB_BW_1_4_QPSK_Standing_IntAntenna**

Pre-Measurement: Pk- detector
Final: RMS detector

Frequency MHz	Process State	RMS dBm	Limit dBm	Margin dB	Meas. Time ms	Bandwidth kHz	Pol	Azimuth deg	Elevation deg	Corr. dB	Comment
849,006012	FINAL	-28,41	-13,00	15,41	100,0	20,000	V	-45,0	0,0	-75,9	06:39:33 - 10.05.2017
849,010020	FINAL	-34,99	-13,00	21,99	100,0	20,000	V	279,0	0,0	-75,9	06:36:08 - 10.05.2017

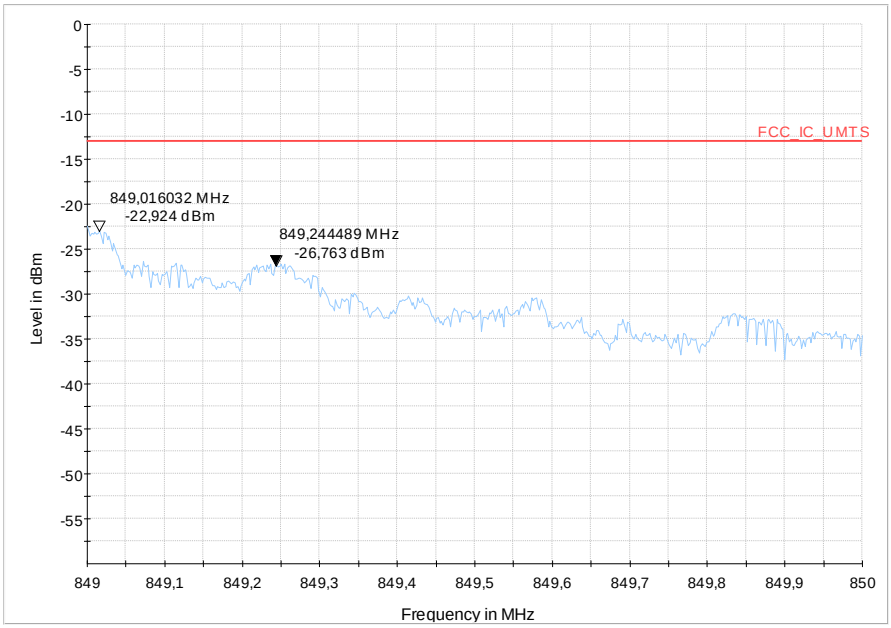


Diagram 47: 9.503a_BE_R_Ch20643_6RB_1_4_QPSK_Laying_ExtAntenna

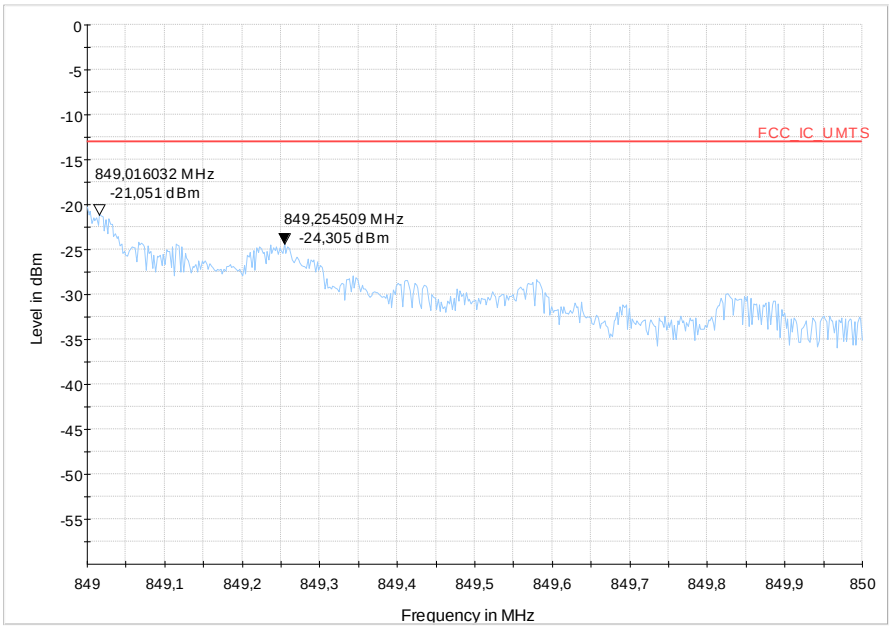


Diagram 48: 9.503b_BE_R_Ch20643_6RB_1_4_QPSK_Standing_ExtAntenna

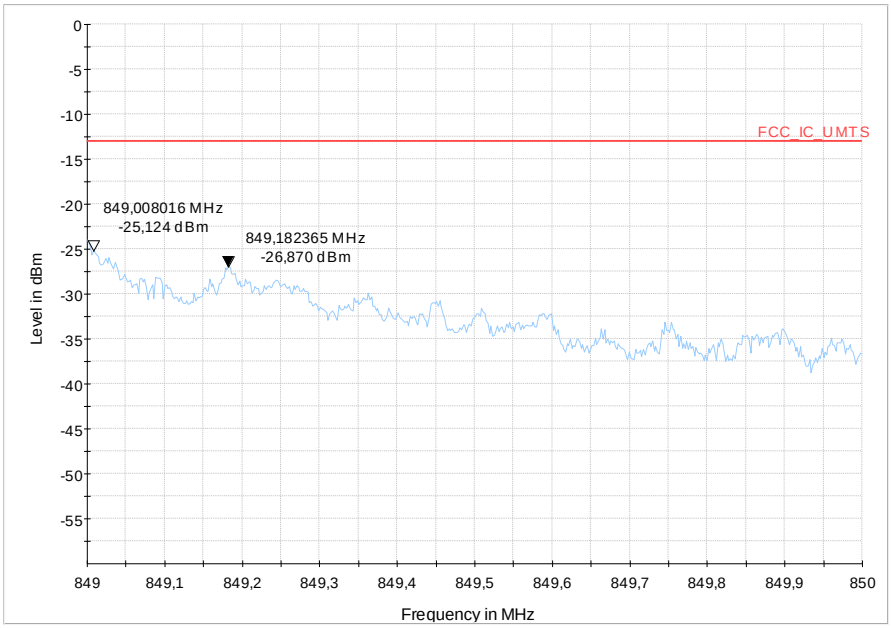


Diagram 49: 9.503a_BE_R_Ch20643_6RB_1_4_QAM_Laying_ExtAntenna

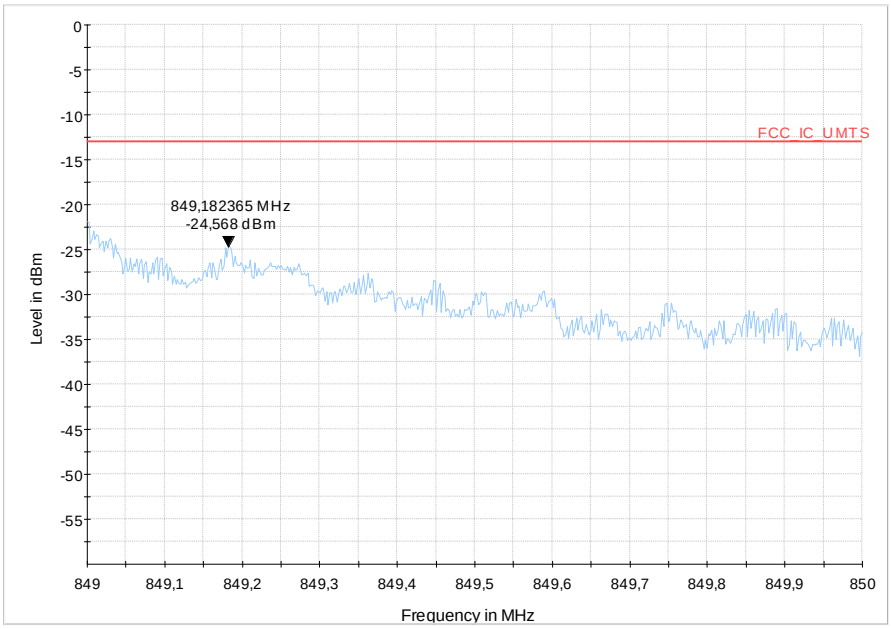


Diagram 50: 9.503b_BE_R_Ch20643_6RB_1_4_QAM_Standing_ExtAntenna

1.9. Radiated emissions – band-edge (LTE Band 17)

1.9.1. Low Band-Edge

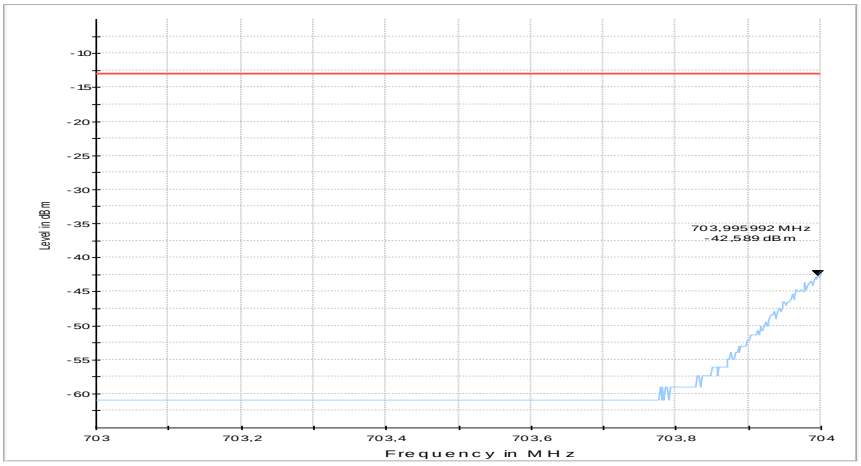


Diagram 51: 9.17_CH23755_BW5_1RB_low_QPSK_Ext_Ant_Hor

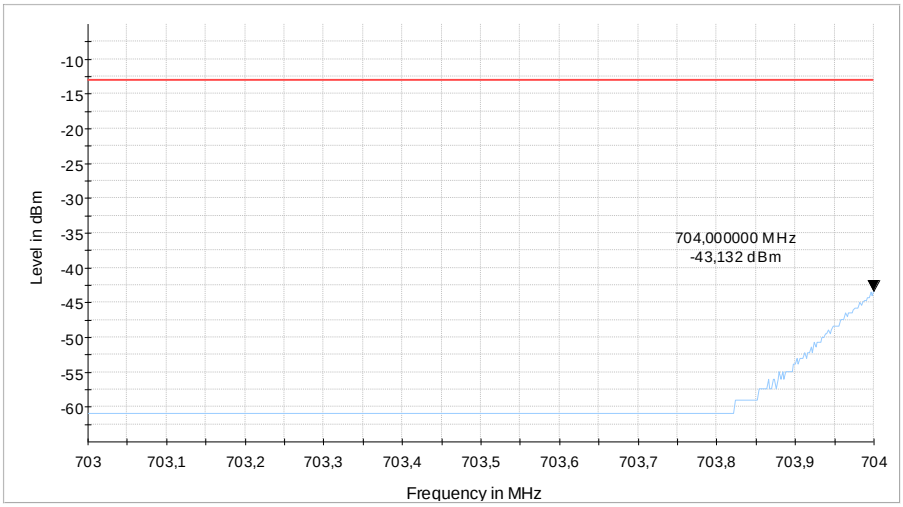


Diagram 52: 9.18_CH23755_BW5_1RB_low_QAM_Ext_Ant_Hor

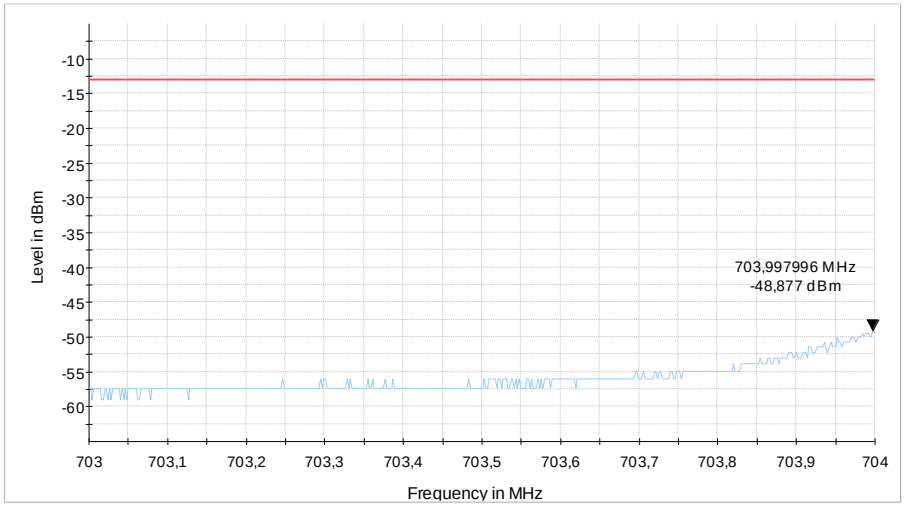


Diagram 53: 9.19_CH23755_BW5_25RB_low_QPSK_Ext_Ant_Hor

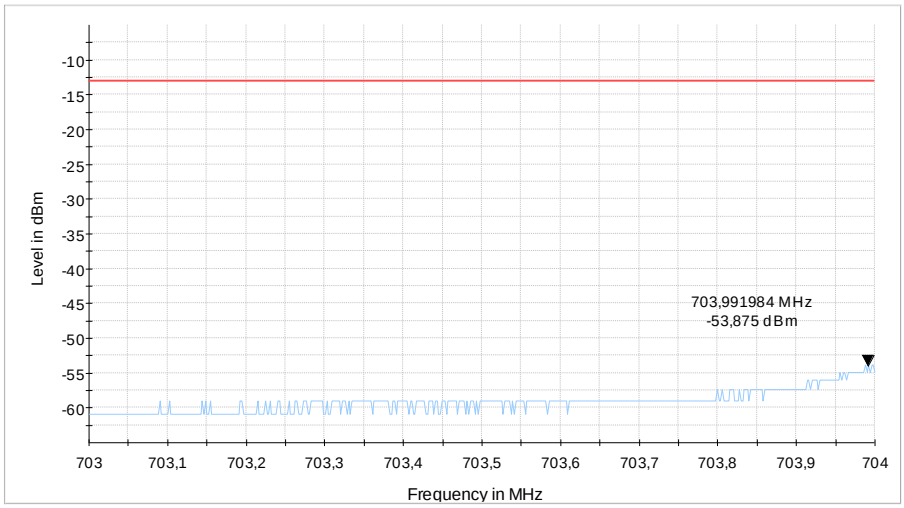


Diagram 54: 9.20_CH23755_BW25_25RB_low_QAM_Ext_Ant_Hor

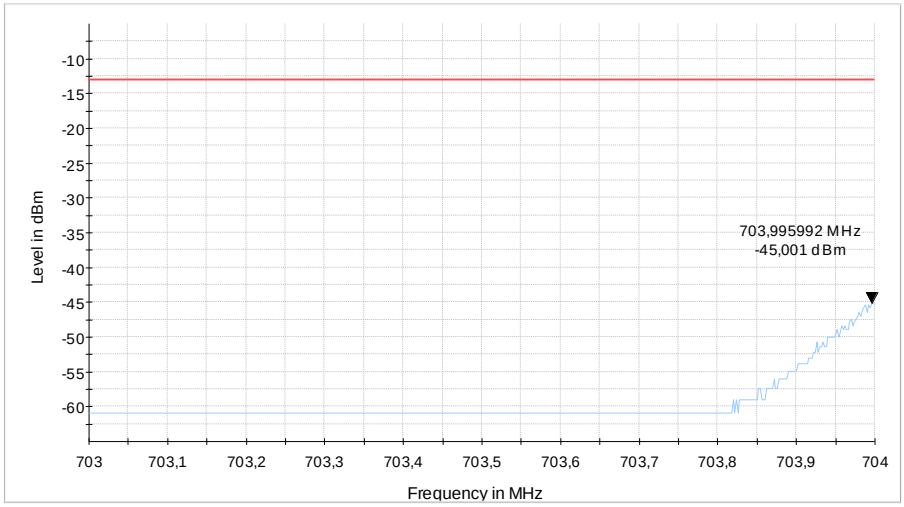


Diagram 55: Front side view 9.21_CH23755_BW5_1RB_low_QPSK_Ext_Ant_Ver

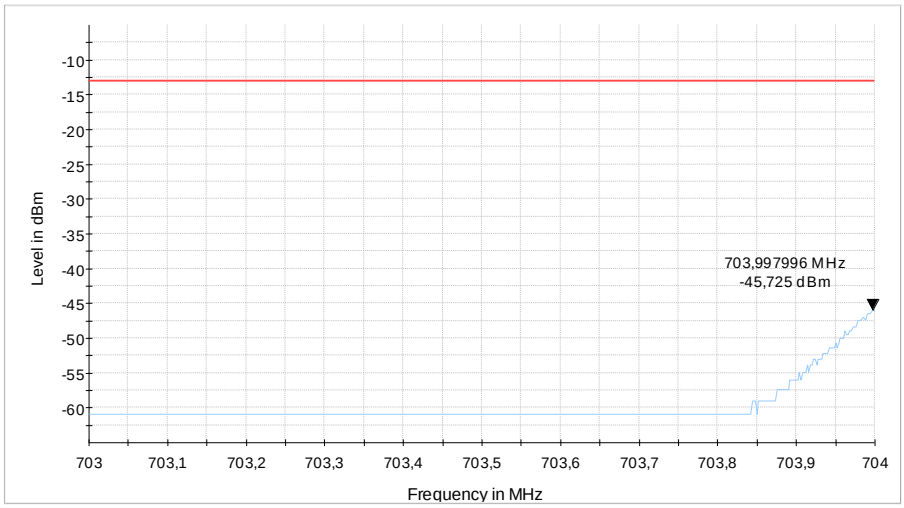


Diagram 56: 9.22_CH23755_BW5_1RB_low_QAM_Ext_Ant_Ver

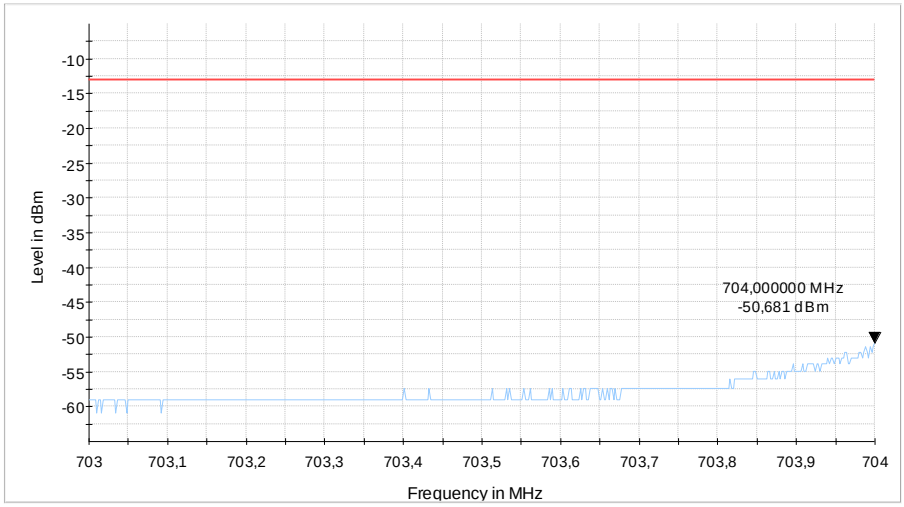


Diagram 57: 9.23_CH23755_BW5_25RB_low_QPSK_Ext_Ant_Ver

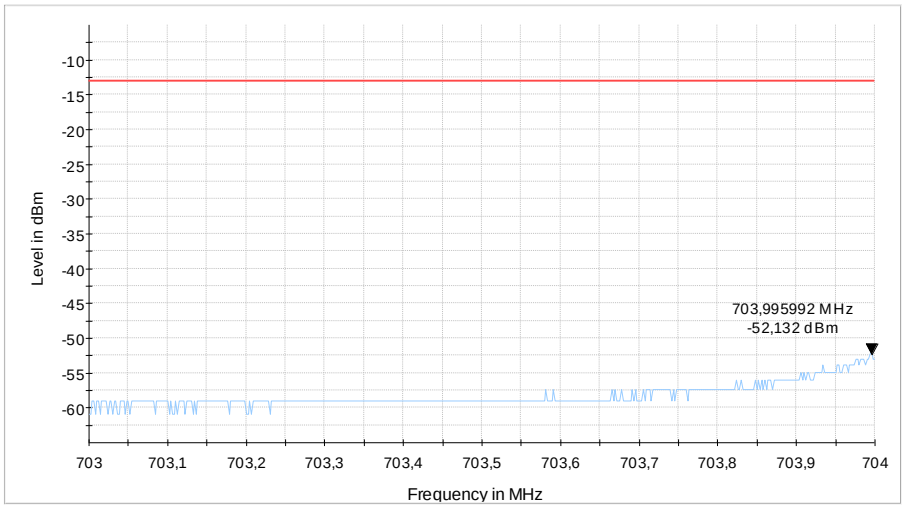


Diagram 58: 9.24_CH23755_BW5_25RB_low_QAM_Ext_Ant_Ver

1.9.2. High Band-Edge

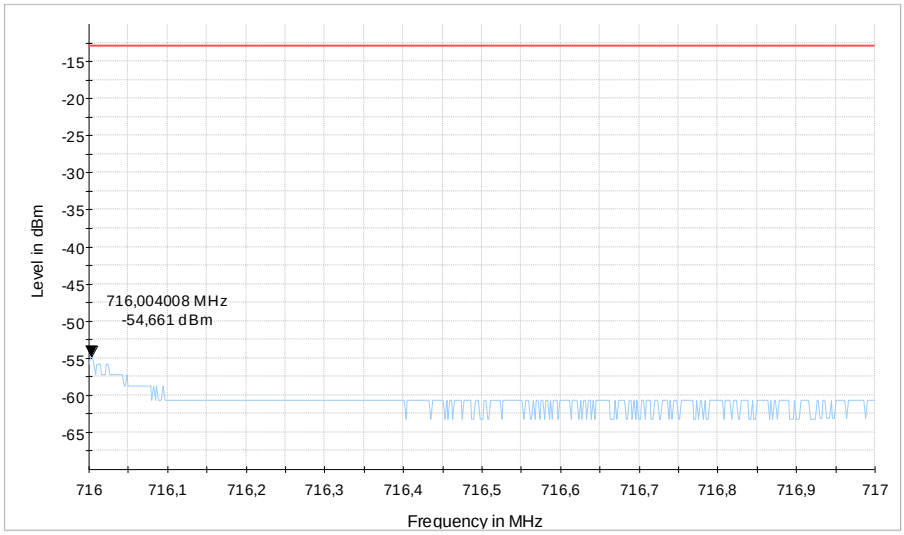


Diagram 59: 9.25_CH23800_BW10_1RB_high_QPSK_Int_Ant_Hor

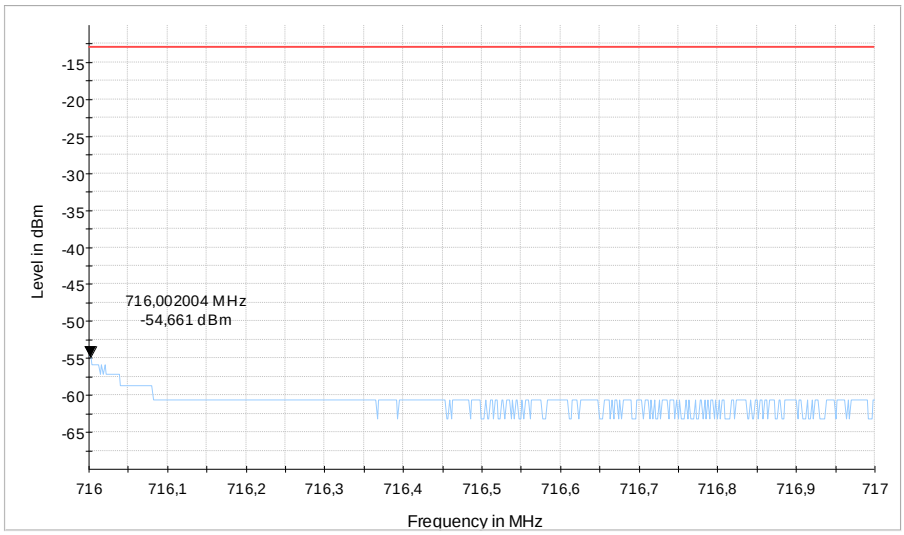


Diagram 60: 9.26_CH23755_BW10_1RB_high_QAM_Int_Ant_Hor

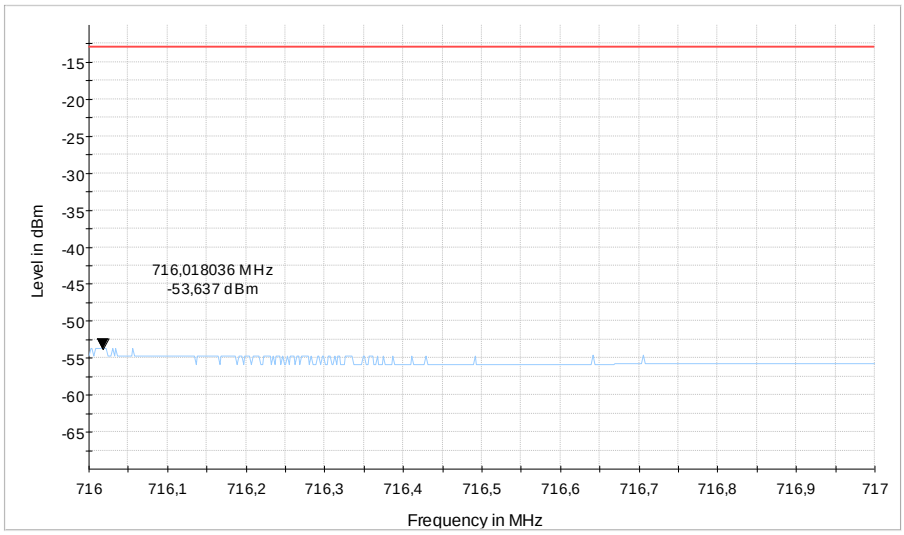


Diagram 61: 9.27_CH23800_BW10_50RB_high_QPSK_Int_Ant_Hor

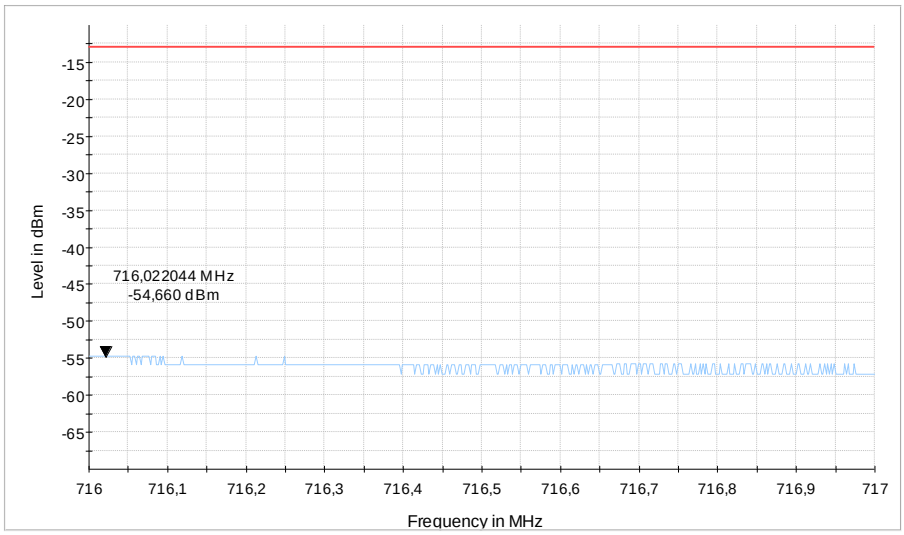


Diagram 62: 9.28_CH23800_BW10_50RB_high_QAM_Int_Ant_Hor

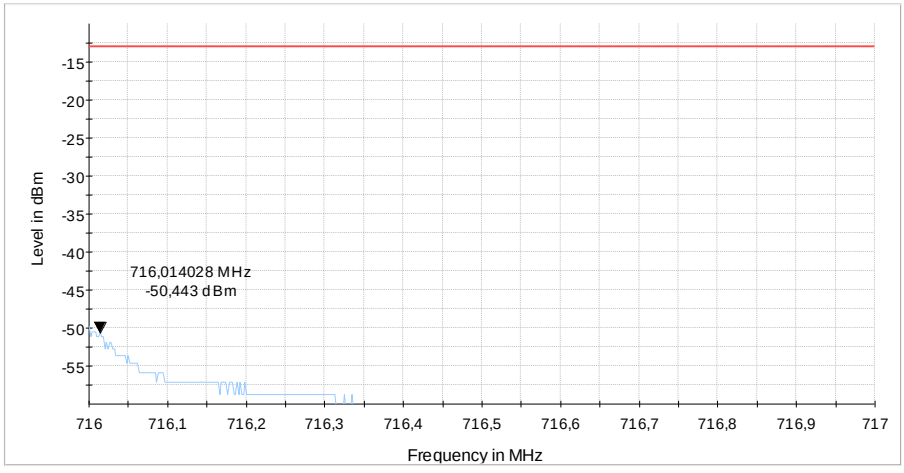


Diagram 63: 9.29_CH23800_BW10_1RB_high_QPSK_Int_Ant_Ver

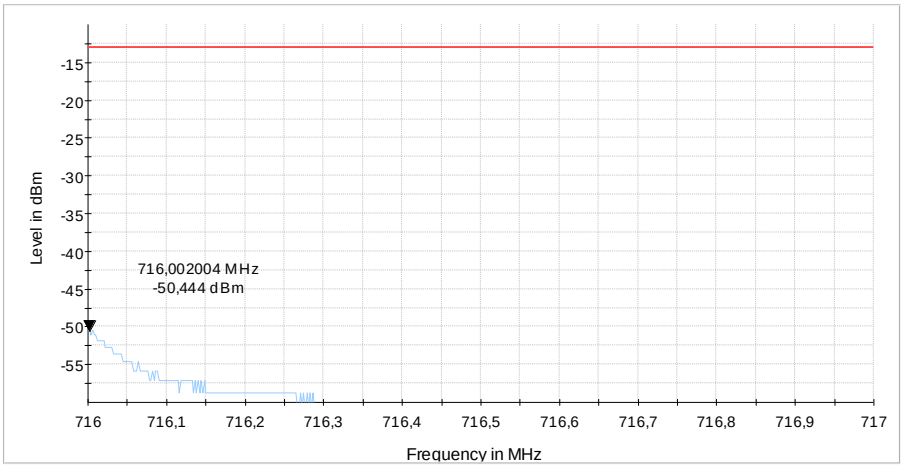


Diagram 64: 9.30_CH23800_BW10_1RB_high_QAM_Int_Ant_Ver

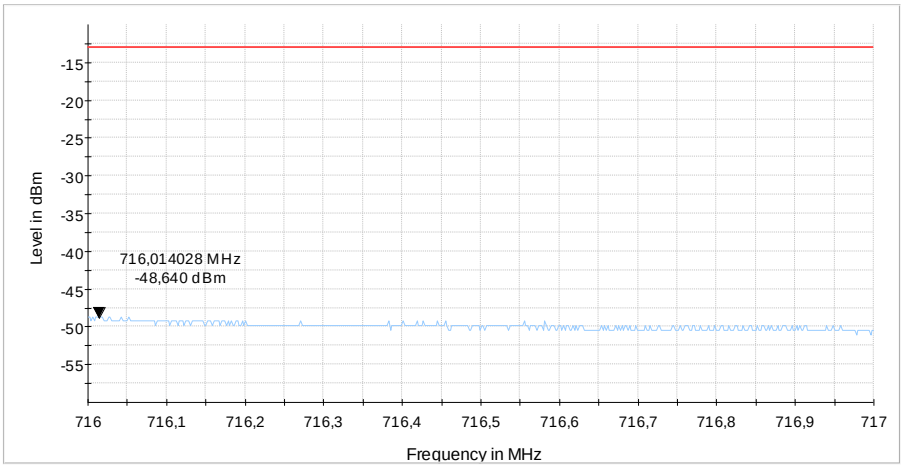


Diagram 65: 9.31_CH23800_BW10_50RB_high_QPSK_Int_Ant_Ver

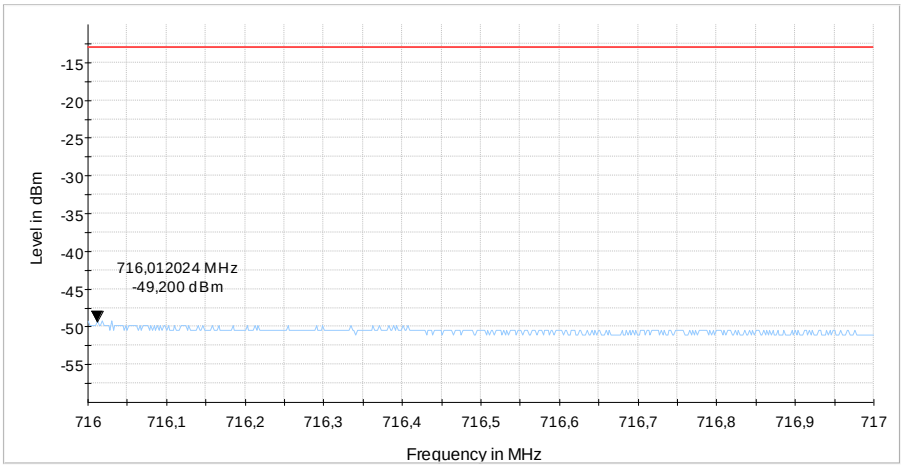


Diagram 66: 9.32_CH23800_BW10_50RB_high_QAM_Int_Ant_Ver