

Annex 1: Measurement diagrams 22-1-0030601T043a-C01-A1

Number of pages:	49	Date of Report:	2023-Mar-31
Testing company:	cetecom advanced GmbH Im Teelbruch 116 45219 Essen Germany Tel. + 49 (0) 20 54 / 95 19-0 Fax: + 49 (0) 20 54 / 95 19-150	Applicant:	Continental Automotive Technologies GmbH
Product: Model:	Telematic Control Unit BSRF_EA_RW0		
FCC ID:	KR5-BSRFEARW0	IC:	--
Testing has been carried out in accordance with:	FCC Regulations Title 47 CFR, Chapter I, Subchapter A Part 15, Subpart C Intentional Radiators; § 15.209 Radiated emission limits; general requirements Title 47 CFR, Chapter I, Subchapter B Part 22, Subpart H Cellular Radiotelephone Service Part 24, Subpart E Paging and Radiotelephone Service Part 27, Subpart C Miscellaneous Wireless Communications Services Title 47 CFR, Chapter I, Subchapter D Part 90, Subpart I, General technical standards; Subpart S Private Land Mobile Radio Services ISED-Regulations, Radio Standards Specification RSS-Gen, Issue 5 General Requirements for Compliance of Radio Apparatus RSS-132, Issue 3 Cellular Telephone Systems Operating in the Bands 824-849 MHz and 869-894 MHz RSS-133, Issue 6, Amendment 1 2 GHz Personal Communications Services RSS-139, Issue 3 Advanced Wireless Services (AWS) Equipment Operating in the Bands 1710-1780 MHz and 2110-2180 MHz		

Table of Contents

1 Measurement diagrams.....3

1 Measurement diagrams

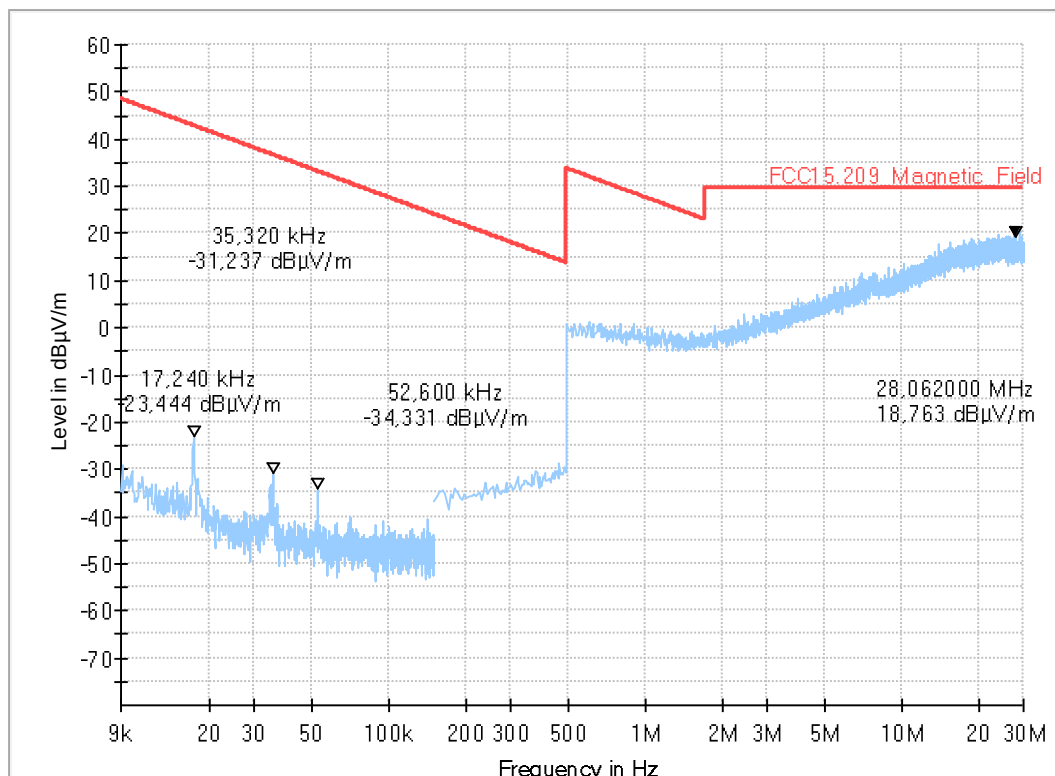
2.201_Traffic_mode_LTE_FDD_B02_CH_19100_laying

Common Information

Test description:	Magnetic Field Strength Measurement related to 30/300 m distance
Test Site Location:	Ref.-Nr. 441 Semi Anechoic Chamber (SAC1) with 3 m measurement distance
Version of Testsoftware:	EMC32 V10.50.0
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 Standard:	FCC 15.205 § 15.209; RSS-Gen: Issue 5
Operator:	npe
Operating Mode:	LTE B02 ch19100 1RB@0 BW20MHz QPSK
Environmental Conditions:	Humidity : 50%rH; Temperature: 21°C
EUT Setup:	1
Verdict:	Passed

EUT Information

PMT number	22-1-00306S58_C01
	Full Spectrum



2.401_Traffic_mode_LTE_FDD_B04_CH_20300_laying

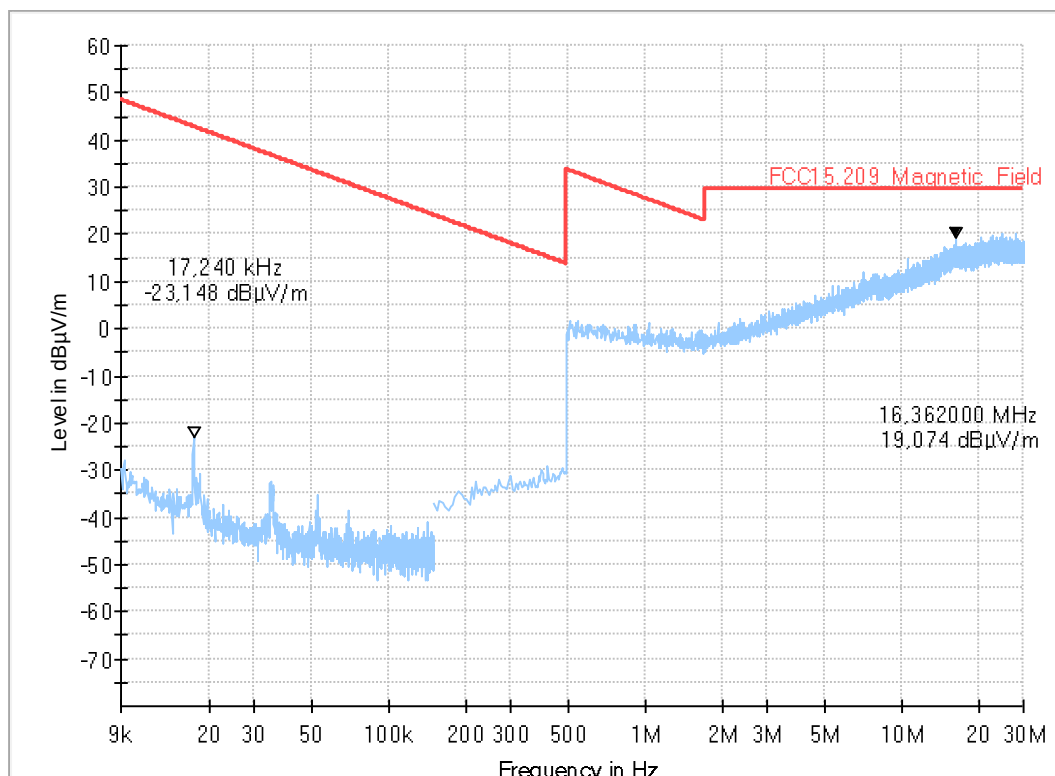
Common Information

Test description:	Magnetic Field Strength Measurement related to 30/300 m distance
Test Site Location:	Ref.-Nr. 441 Semi Anechoic Chamber (SAC1) with 3 m measurement distance
Version of Testsoftware:	EMC32 V10.50.0
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 Standard:	FCC 15.205 § 15.209; RSS-Gen: Issue 5
Operator:	npe
Operating Mode:	LTE B04 ch20300 1RB@0 BW20MHz QPSK
Power during tests:	12V DC
Environmental Conditions:	Humidity : 50%rH; Temperature: 21°C
EUT Setup:	1
Verdict:	Passed

EUT Information

PMT number	22-1-00306558_C01
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Full Spectrum



2.501a_Traffic_mode_LTE_FDD_B05_CH_20450_laying

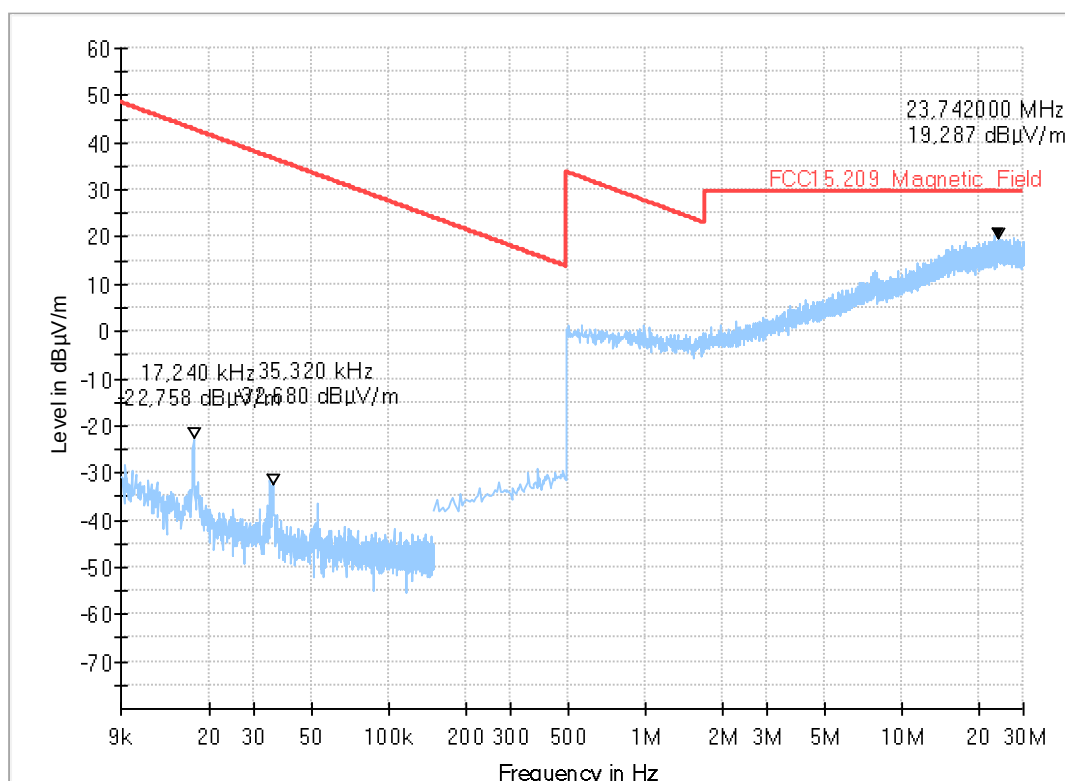
Common Information

Test Description:	Magnetic Field Strength Measurement related to 30/300 m distance
Test Site Location:	Ref.-Nr. 441 Semi Anechoic Chamber (SAC1) with 3 m measurement distance
Version of Testsoftware:	EMC32 V10.50.0
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 Standard:	FCC 15.205 § 15.209; RSS-Gen: Issue 5
Operator:	npe
Operating Mode:	LTE B05 BW10 QPSK 1RB@0 ch20450
Power during tests:	12 V DC, 110V/60Hz, full loaded batteries
Comment 1:	Channel low/middle/high
Environmental Conditions:	Humidity : 60%rH; Temperature: 21°C
EUT Setup:	1
Verdict:	Passed

EUT Information

PMT number 22-1-00306558_C01

Full Spectrum



2.501b_Traffic_mode_LTE_FDD_B05_CH_20450_ standing

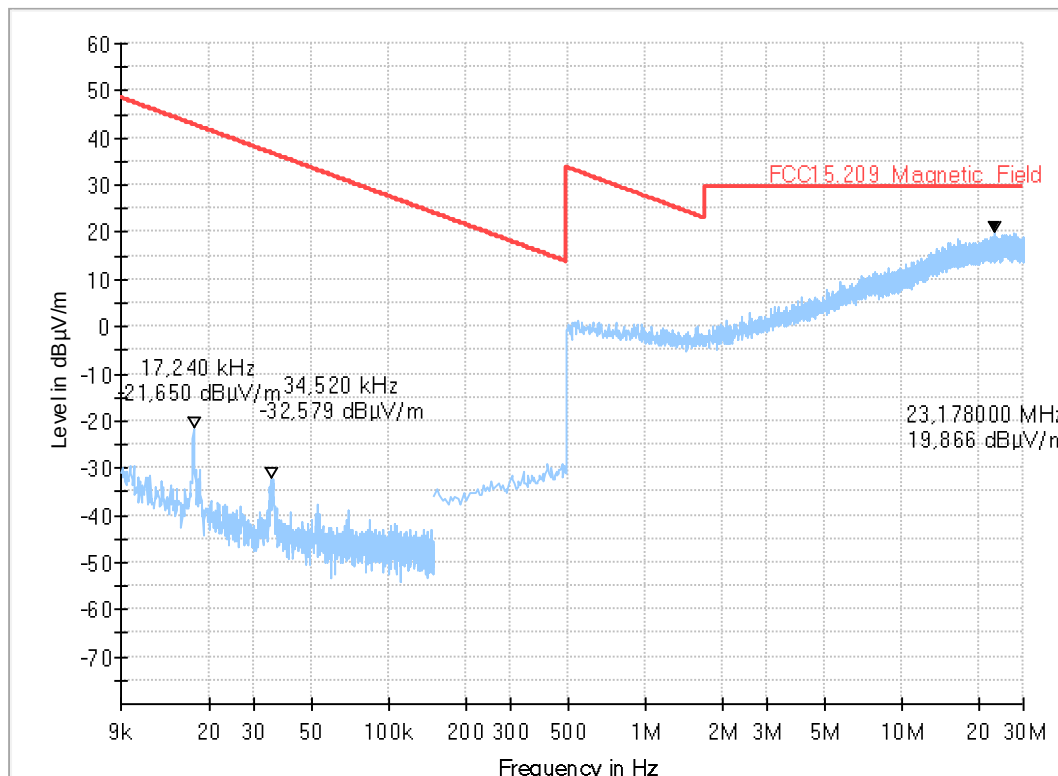
Common Information

Test description:	Magnetic Field Strength Measurement related to 30/300 m distance
Test Site Location:	Ref.-Nr. 441 Semi Anechoic Chamber (SAC1) with 3 m measurement distance
Version of Testsoftware:	EMC32 V10.50.0
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 Standard:	FCC 15.205 § 15.209; RSS-Gen: Issue 5
Operator:	npe
Operating Mode:	LTE B05 ch20450 1RB@0 BW10MHz QPSK
Power during tests:	12 V DC
Environmental Conditions:	Humidity : 50%rH; Temperature: 21°C
EUT Setup:	1
Verdict:	Passed

EUT Information

PMT number	22-1-00306S138_C01
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Full Spectrum



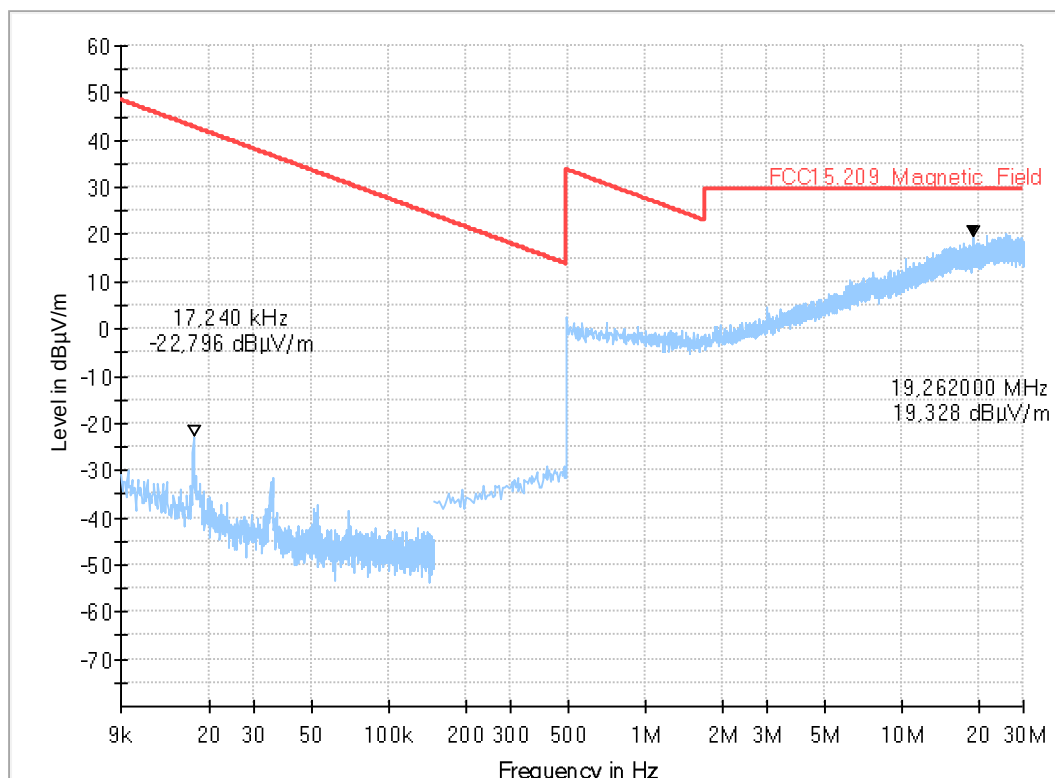
2.701_Traffic_mode_LTE_FDD_B07_CH_20850_laying

Common Information

Test description:	Magnetic Field Strength Measurement related to 30/300 m distance
Test Site Location:	Ref.-Nr. 441 Semi Anechoic Chamber (SAC1) with 3 m measurement distance
Version of Testsoftware:	EMC32 V10.50.0
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 Standard:	FCC 15.205 § 15.209; RSS-Gen: Issue 5
Operator:	npe
Operating Mode:	LTE B07 ch20850 1RB@50 BW20MHz QPSK
Power during tests:	12 V DC
Environmental Conditions:	Humidity : 50%rH; Temperature: 21°C
EUT Setup:	1
Verdict:	Passed

EUT Information

PMT number	22-1-00306558_C01
	Full Spectrum



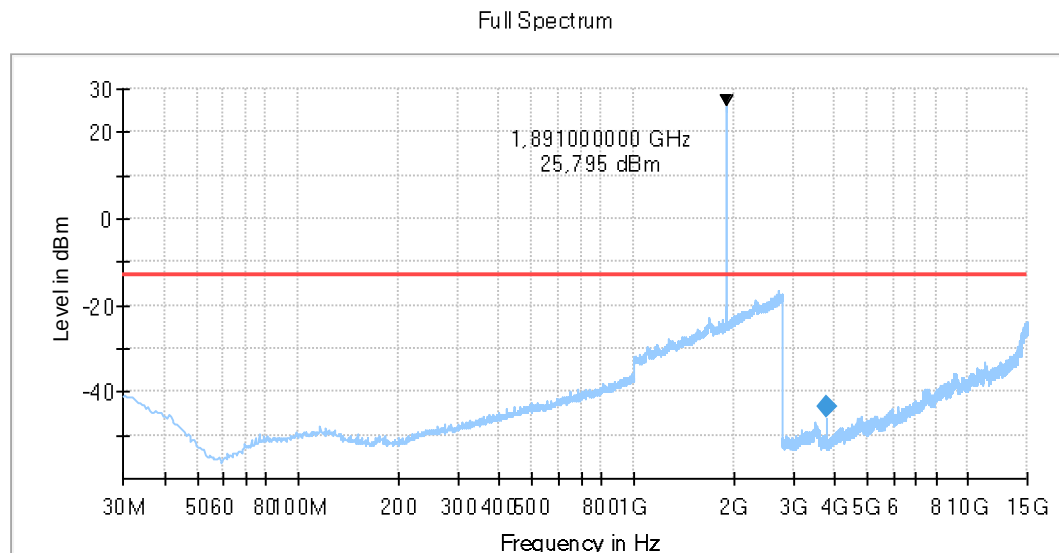
8.02a_Traffic_mode_LTE_FDD_B02_CH_19100_standing

Common Information

Test Description:	Radiated emission
Test Site:	Fully-Anechoic Chamber
Test Standard:	FCC FCC Part 27.53(h) AWS emission limits / RSS-139, Issue 3
Antenna polarisation:	vertical / horizontal
Measurement software version:	EMC32 V10.60.20
Operating Mode:	LTE FDD2 ch_19100 BW20MHz 1RB/low
Operator:	TFra
EUT Setup:	1
Verdict:	Passed

EUT Information

PMT number:	22-1-00306S58_C01
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Remark: Emission at 1.891 GHz is uplink frequency of LTE FDD 2 and not related to result.

Final_Result

Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margin	Meas. Time (ms)	Bandwidth (h)	Height	Pol	Azimuth (h)	Elevation (n)	Correction
3782.091667	-43.56	-13.00	30.56	100.0	1000.000	155.0	V	314.0	0.0	-89

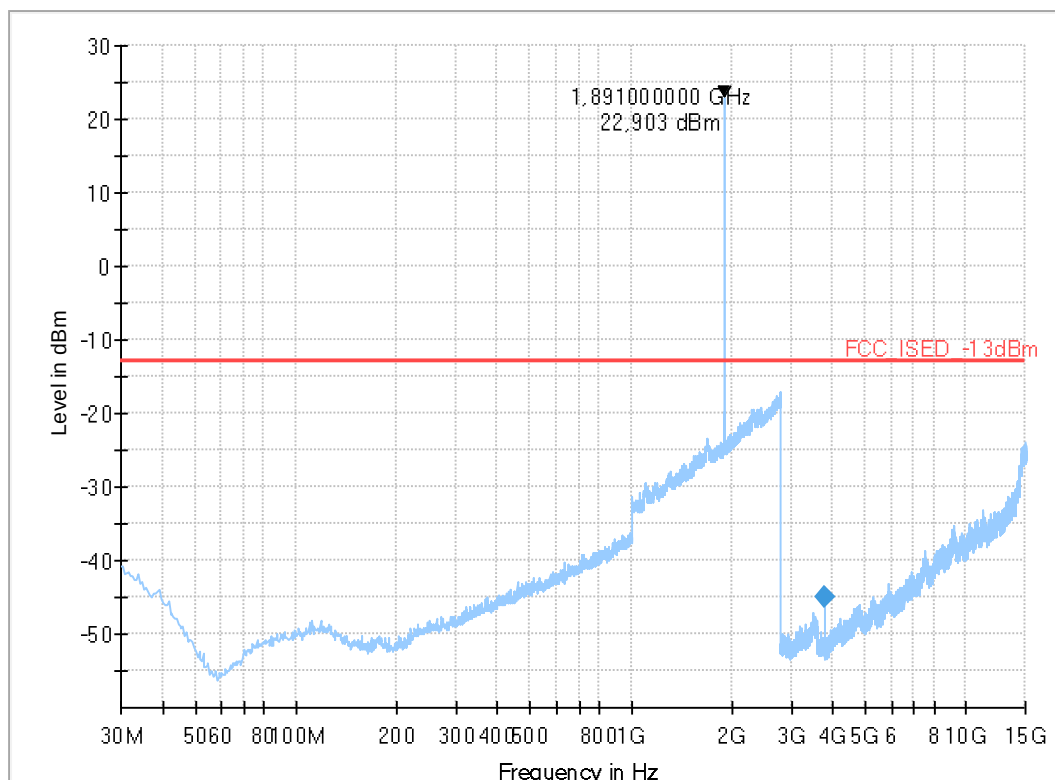
8.02b_Traffic_mode_LTE_FDD_B02_CH_19100_laying

Common Information

Test Description:	Radiated emission
Test Site:	Fully-Anechoic Chamber
Test Standard:	FCC FCC Part 27.53(h) AWS emission limits / RSS-139, Issue 3
Antenna polarisation:	vertical / horizontal
Measurement software version	EMC32 V10.60.20
Operating Mode:	LTE FDD2 ch_19100 BW20MHz 1RB/low
Operator:	KTe
EUT Setup:	1
Verdict:	Passed

EUT Information

PMT number:	22-1-00306S58_C01
	Full Spectrum



Remark: Emission at 1.891 GHz is uplink frequency of LTE FDD 2 and not related to result.

Final_Result

Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
3782.083333	-44.91	-13.00	31.91	100.0	1000.000	155.0	V	226.0	0.0	-89

(continuation of the "Final_Result" table from column 17 ...)

Frequency (MHz)	Comment
3782.083333	13:41:10 - 30.11.2022

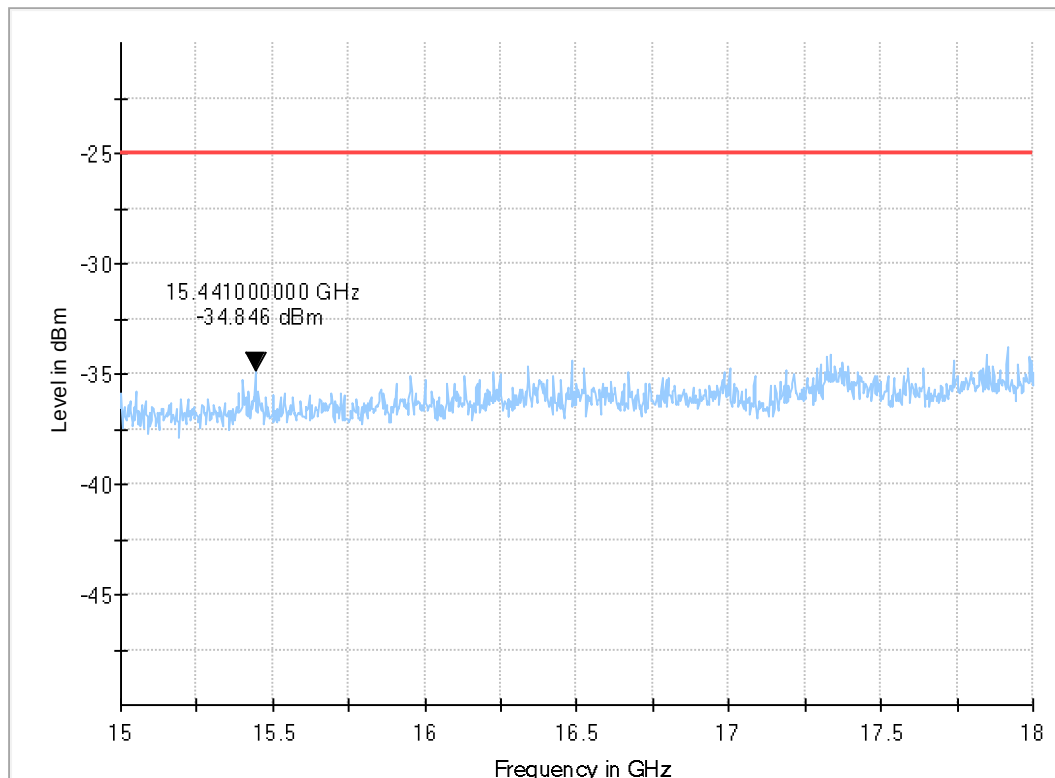
8.03a_Traffic_mode_LTE_FDD_B02_CH_19100_laying

Common Information

Test Description:	Radiated Field Strength Emission
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR2)
Test Standard:	FCC Part 24
Comm. Link:	LTE B02
Operating Mode:	MS allocated channel 19100, 1RB@0
Exclusionband:	--
Environmental Conditions:	Humidity: 45%rH; Temperature: 21°C
Operator:	npe
Set-up:	EUT laying, Ant hor
Verdict:	Passed

EUT Information

PMT Sample Nr.	22-1-00306S58_C01
	Full Spectrum



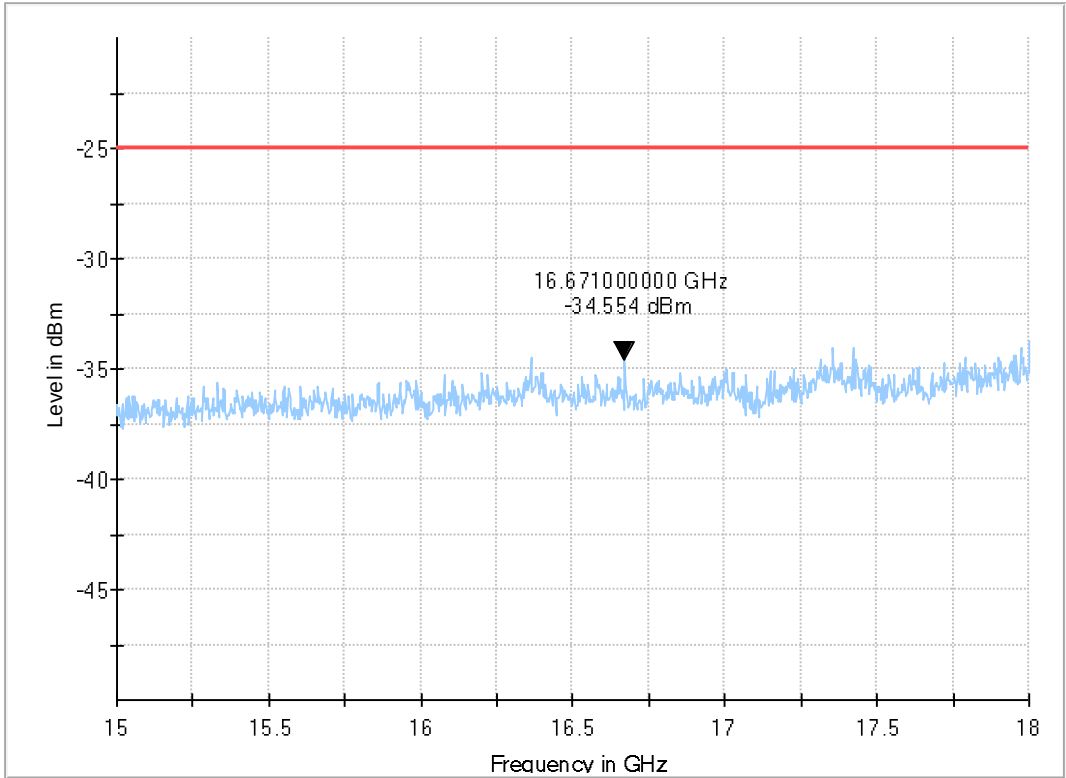
8.03b_Traffic_mode_LTE_FDD_B02_CH_19100_standing

Common Information

Test Description:	Radiated Field Strength Emission
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR2)
Test Standard:	FCC Part 24
Comm. Link:	LTE B02
Operating Mode:	MS allocated channel 19100, 1RB@0
Exclusionband:	--
Environmental Conditions:	Humidity: 45%rH; Temperature: 21°C
Operator:	npe
Set-up:	EUT standing, Ant hor
Verdict:	Passed

EUT Information

PMT Sample Nr.	22-1-00306S58_C01
	Full Spectrum



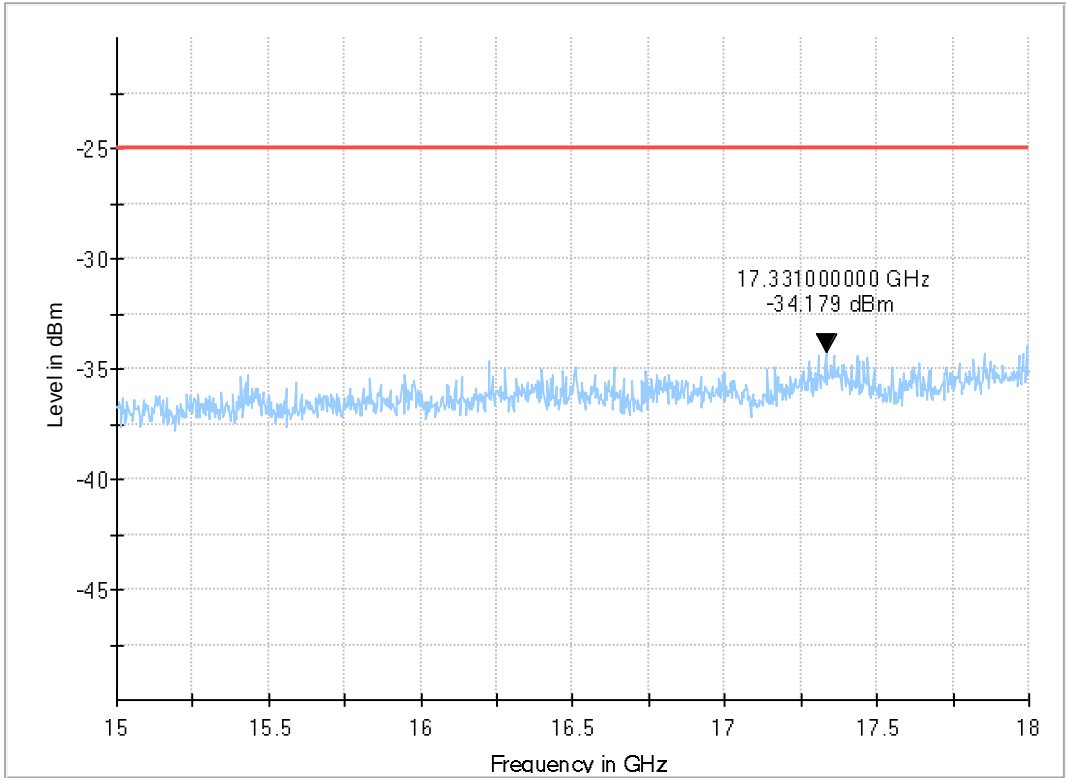
8.03c_Traffic_mode_LTE_FDD_B02_CH_19100_laying

Common Information

Test Description:	Radiated Spurious Emissions
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR2)
Test Standard:	FCC Part 24
Comm. Link:	LTE B02
Operating Mode:	MS allocated channel 19100, 1RB@0
Exclusionband:	--
Environmental Conditions:	Humidity: 45%rH; Temperature: 21°C
Operator:	npe
Set-up:	EUT laying, Ant ver
Verdict:	Passed

EUT Information

PMT Sample Nr.	22-1-00306S58_C01
	Full Spectrum



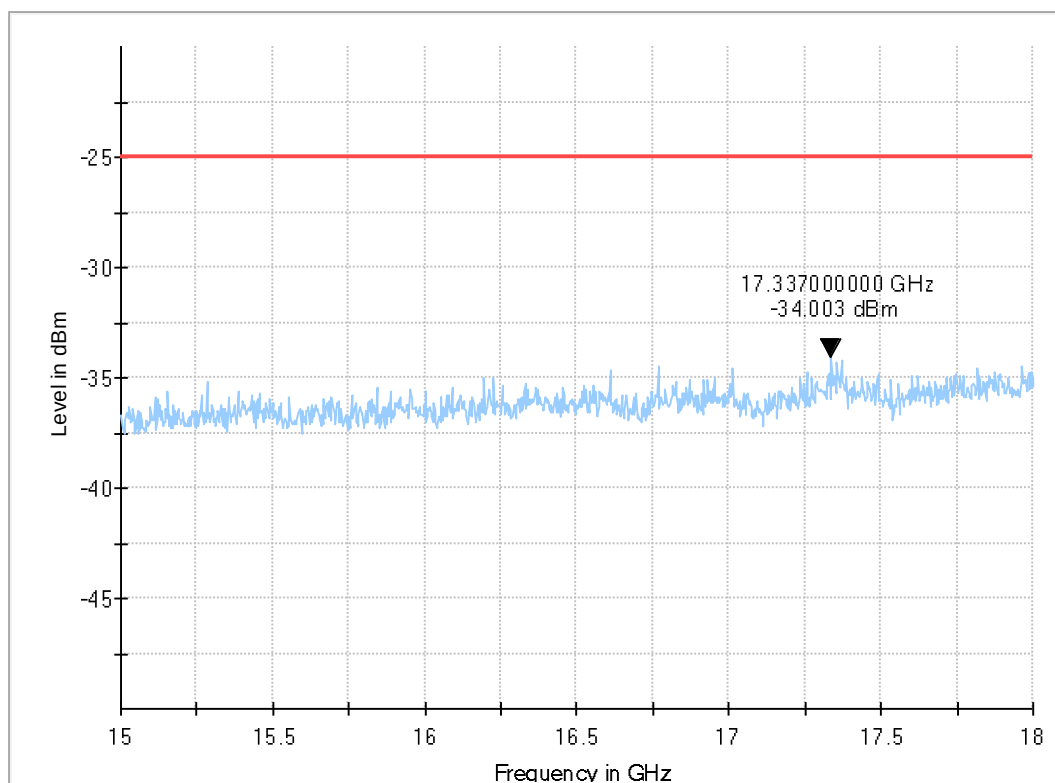
8.03d_Traffic_mode_LTE_FDD_B02_CH_19100_standing

Common Information

Test Description:	Radiated Spurious Emissions
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR2)
Test Standard:	FCC Part 24
Comm. Link:	LTE B02
Operating Mode:	MS allocated channel 19100, 1RB@0
Exclusionband:	--
Environmental Conditions:	Humidity: 45%rH; Temperature: 21°C
Operator:	npe
Set-up:	EUT standing, Ant ver
Verdict:	Passed

EUT Information

PMT Sample Nr.	22-1-00306S58_C01
	Full Spectrum



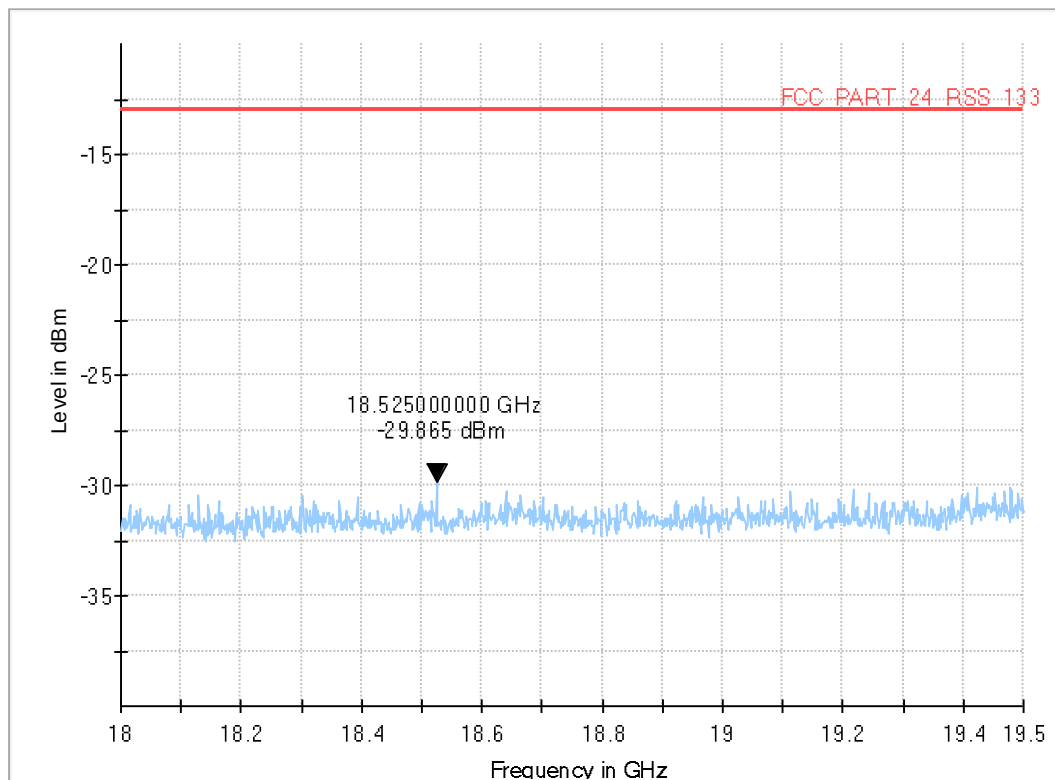
8.04a_c_Traffic_mode_LTE_FDD_B02_CH_19100_ EUT_laying

Common Information

Test Description:	Radiated Spurious Emissions W-CDMA II
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR2)
Test Standard:	FCC Part 24.238 / RSS-133
Comm. Link:	LTE B02
Operating Mode:	MS allocated channel 19100, 1RB@0
Exclusionband:	1850- 1910MHz
Environmental Conditions:	Humidity: 48%rH; Temperature: 21.2°C
Operator:	Lor
EUT Setup:	EUT laying, Ant hor/ver, main antenna
Verdict:	Passed

EUT Information

PMT Sample Nr.	22-1-00306S58_C01
	Full Spectrum



8.04b_d_Traffic_mode_LTE_FDD_B02_CH_19100_ EUT_standing

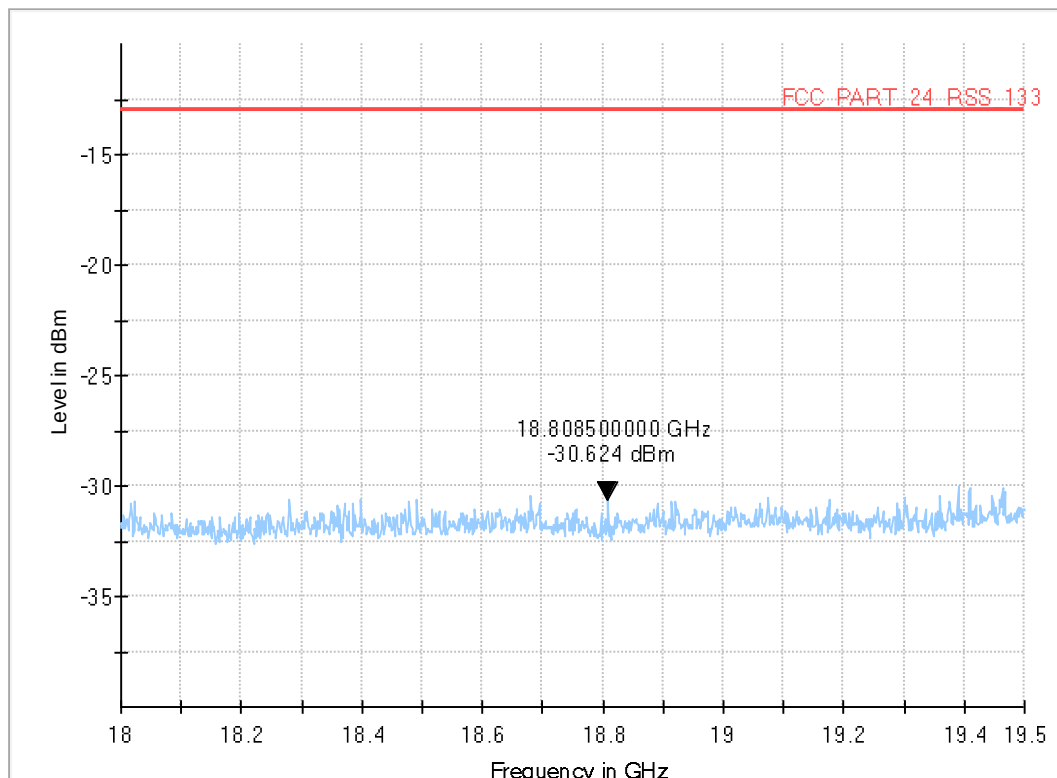
Common Information

Test Description:	Radiated Spurious Emissions W-CDMA II
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR2)
Test Standard:	FCC Part 24.238 / RSS-133
Comm. Link:	LTE B02
Operating Mode:	MS allocated channel 19100, 1RB@0
Exclusionband:	1850- 1910MHz
Environmental Conditions:	Humidity: 48%rH; Temperature: 21.2°C
Operator:	Lor
EUT Setup:	EUT standing, Ant hor/ver, main antenna
Verdict:	Passed

EUT Information

PMT Sample Nr. 22-1-00306S58_C01

Full Spectrum



8.05a_Traffic_mode_LTE_FDD_B04_CH_20300_laying

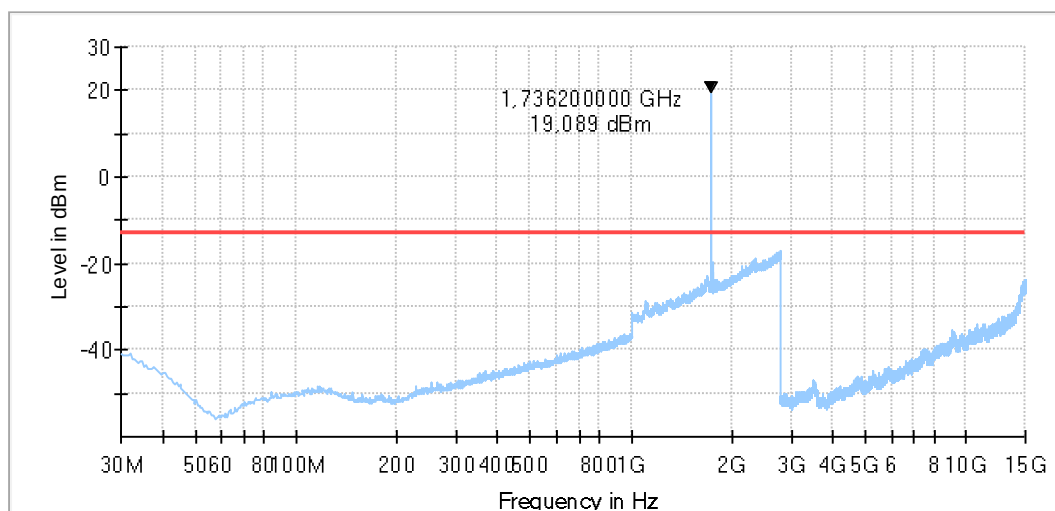
Common Information

Test Description:	Radiated emission
Test Site:	Fully-Anechoic Chamber
Test Standard:	FCC FCC Part 27.53(h) AWS emission limits / RSS-139, Issue 3
Antenna polarisation:	vertical / horizontal
Measurement software version	EMC32 V10.60.20
Operating Mode:	LTE FDD4 ch_20300 BW20MHz 1RB/low
Operator:	TFra
EUT Setup:	EUT standing, Ant hor/ver, main antenna
Verdict:	Passed

EUT Information

PMT number:	22-1-00306S58_C01
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Full Spectrum



Remark: Emission at 1.736 GHz is uplink frequency of LTE FDD 4 and not related to result.

8.05b_Traffic_mode_LTE_FDD_B04_CH_20300_sranding

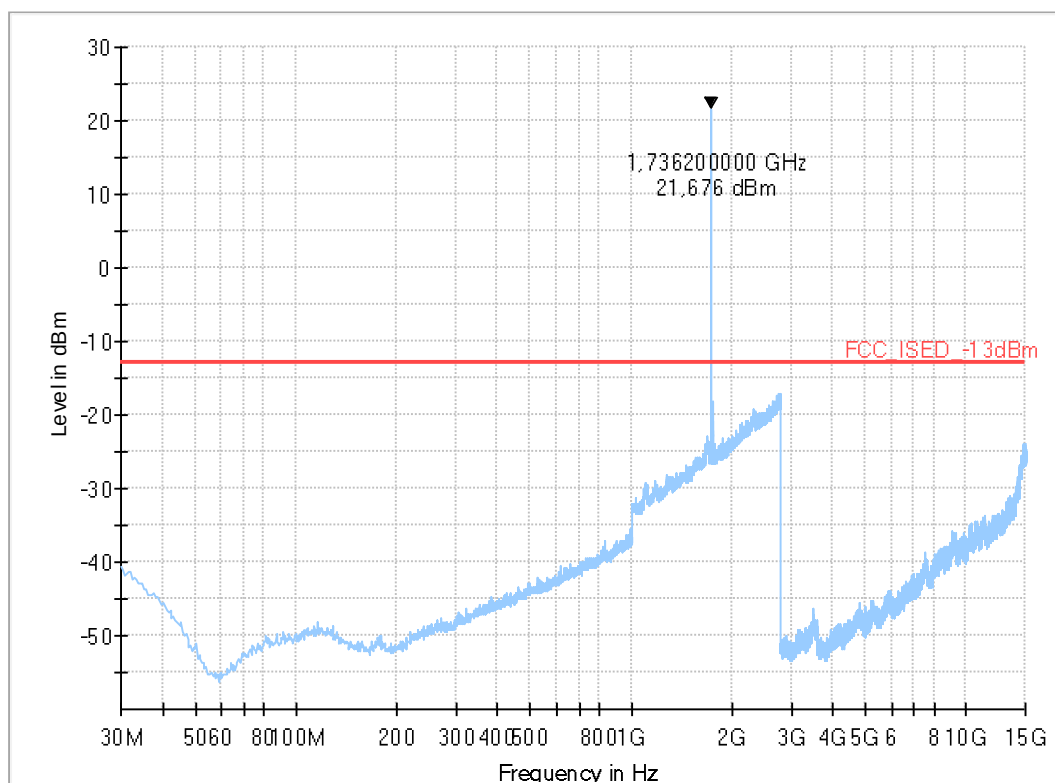
Common Information

Test Description:	Radiated emission
Test Site:	Fully-Anechoic Chamber
Test Standard:	FCC FCC Part 27.53(h) AWS emission limits / RSS-139, Issue 3
Antenna polarisation:	vertical / horizontal
Measurement software version	EMC32 V10.60.20
Operating Mode:	LTE FDD4 ch_20300 BW20MHz 1RB/low
Operator:	KTe
Comment:	-
EUT Setup:	1
Verdict:	Passed

EUT Information

PMT number:	22-1-00306S58_C01
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Full Spectrum



Remark: Emission at 1.736 GHz is uplink frequency of LTE FDD 4 and not related to result.

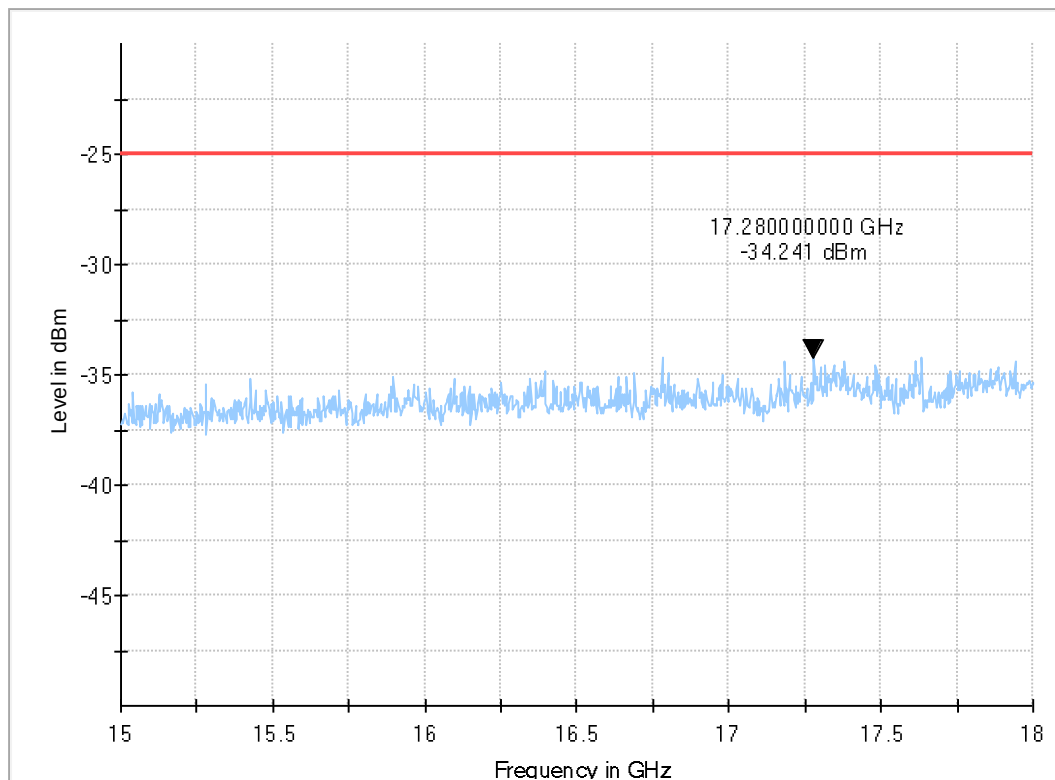
8.06a_Traffic_mode_LTE_FDD_B04_CH_20300_laying

Common Information

Test Description:	Radiated Spurious Emissions
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR2)
Test Standard:	FCC Part 27.53 (m)(4)/ RSS-139
Comm. Link:	LTE B04
Operating Mode:	MS allocated channel 20300, 1RB@0
Exclusionband:	--
Environmental Conditions:	Humidity: 45%rH; Temperature: 21°C
Operator:	npe
Set-up:	EUT laying, Ant hor
Verdict:	Passed

EUT Information

PMT Sample Nr.	22-1-00306S58_C01
	Full Spectrum



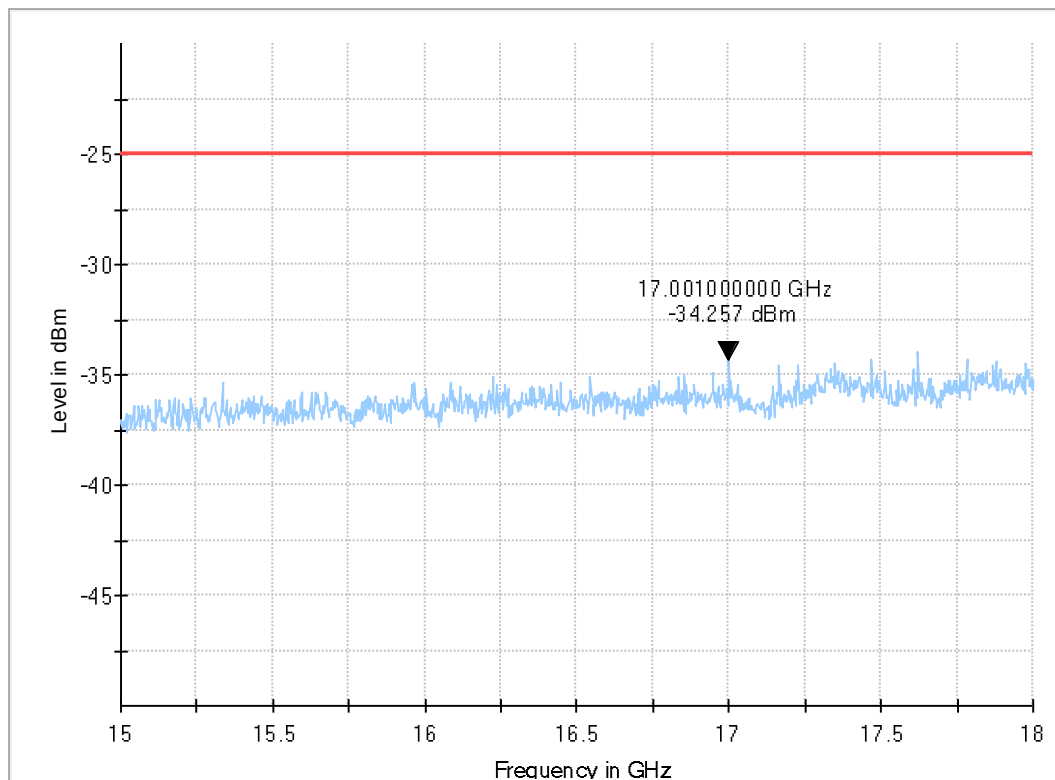
8.06b_Traffic_mode_LTE_FDD_B04_CH_20300_standing

Common Information

Test Description:	Radiated Spurious Emissions
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR2)
Test Standard:	FCC Part 27.53 (m)(4)/ RSS-139
Comm. Link:	LTE B04
Operating Mode:	MS allocated channel 20300, 1RB@0
Exclusionband:	--
Environmental Conditions:	Humidity: 45%rH; Temperature: 21°C
Operator:	npe
Set-up:	EUT standing, Ant hor
Verdict:	Passed

EUT Information

PMT Sample Nr.	22-1-00306S58_C01
	Full Spectrum



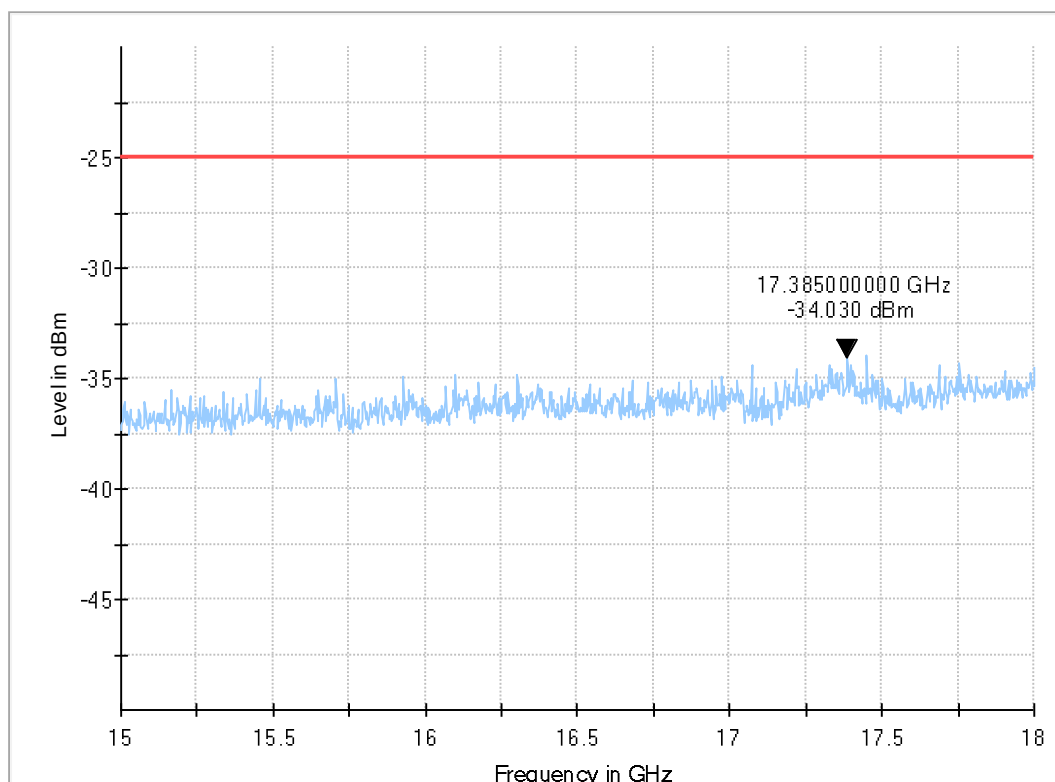
8.06c_Traffic_mode_LTE_FDD_B04_CH_20300_laying

Common Information

Test Description:	Radiated Spurious Emissions
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR2)
Test Standard:	FCC Part 27.53 / RSS-139
Comm. Link:	LTE B04
Operating Mode:	MS allocated channel 20300, 1RB@0
Exclusionband:	--
Environmental Conditions:	Humidity: 45%rH; Temperature: 21°C
Operator:	npe
Set-up:	EUT laying, Ant ver
Verdict:	Passed

EUT Information

PMT Sample Nr.	22-1-00306S58_C01
	Full Spectrum



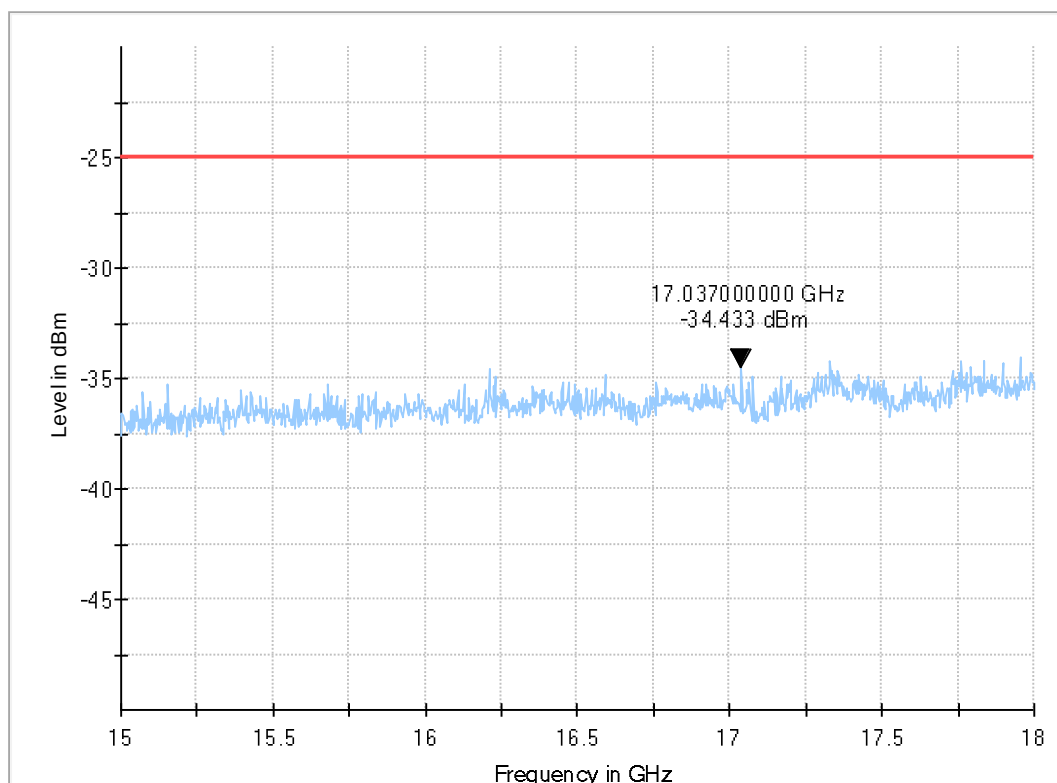
8.06d_Traffic_mode_LTE_FDD_B04_CH_20300_standing

Common Information

Test Description:	Radiated Spurious Emissions
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR2)
Test Standard:	FCC Part 27.53 / RSS-139
Comm. Link:	LTE B04
Operating Mode:	MS allocated channel 20300, 1RB@0
Exclusionband:	--
Environmental Conditions:	Humidity: 45%rH; Temperature: 21°C
Operator:	npe
Set-up:	EUT standing, Ant ver
Verdict:	Passed

EUT Information

PMT Sample Nr.	22-1-00306S58_C01
	Full Spectrum



8.07a_Traffic_mode_LTE_FDD_B05_CH_20450_standing

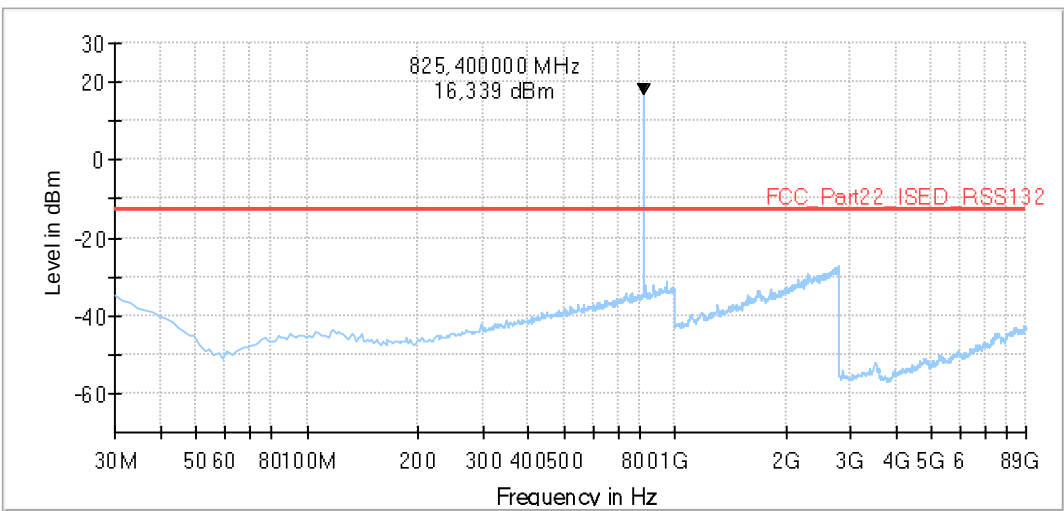
Common Information

Test Description:	Radiated emission related to 1m
Test Site:	Fully Anechoic Chamber (FAC1) - EMC32 V10.60.20
Test Standard:	FCC FCC Part 24.238 Broadband PCS
Antenna polarisation:	vertical / horizontal
Operating Mode:	LTE FDD5 ch_20450 BW10MHz 1RB/low
Operator:	TFra
Environmental Conditions::	Humidity : 54%rH; Temperature: 20°C
EUT Setup:	1
Verdict:	Passed

EUT Information

PMT number:	22-1-00306S58_C01
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Full Spectrum



Remark: Emission at 825.4 GHz is uplink frequency of LTE FDD 5 and not related to result.

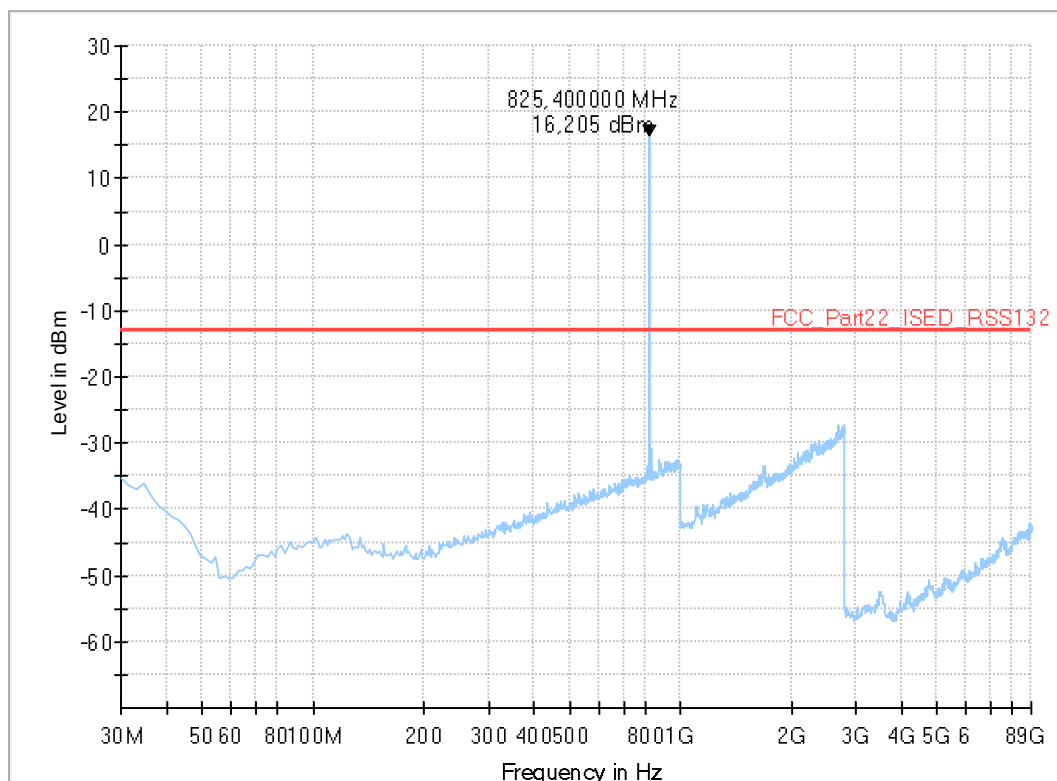
8.07b_Traffic_mode_LTE_FDD_B05_CH_20450_laying

Common Information

Test Description:	Radiated emission related to 1m
Test Site:	Fully Anechoic Chamber (FAC1) - EMC32 V10.60.20
Test Standard:	FCC FCC Part 24.238 Broadband PCS
Antenna polarisation:	vertical / horizontal
Operating Mode:	LTE FDD5 ch_20450 BW10MHz 1RB/low
Operator:	KTe
Environmental Conditions::	Humidity : 48%rH; Temperature: 20°C
EUT Setup:	1
Verdict:	Passed

EUT Information

PMT number:	22-1-00306S58_C01
	Full Spectrum



Remark: Emission at 825.4 GHz is uplink frequency of LTE FDD 5 and not related to result.

8.08a_Traffic_mode_LTE_FDD_B07_CH_20850_standing

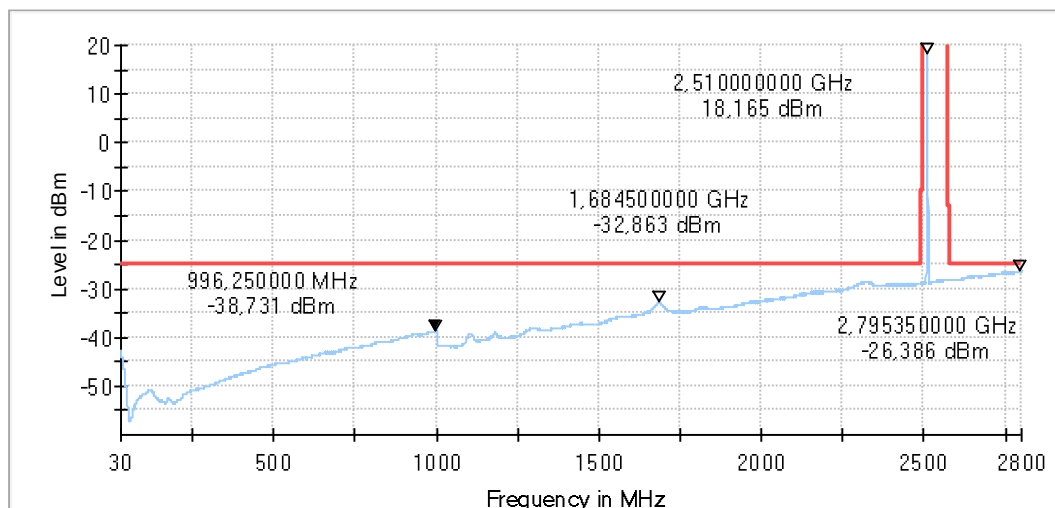
Common Information

Test Description:	Band-Edge low - Radiated Spurious Emissions LTE Band 7
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Chamber (FAC1) - EMC32 V10.60.20
Test Standard:	FCC Part 27.53(l)(4) / RSS-130 Mobile stations limits
Operating Mode:	LTE FDD7 ch_2085 BW20MHz 1RB/50
Environmental Conditions::	Humidity : 54%rH; Temperature: 20°C
Test SW Version:	EMC32 V10.60.20
Operator:	TFra
Remarks:	EUT - standing position
EUT Setup:	1
Verdict:	Passed

EUT Information

PMT number:	22-1-00306S58_C01
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Full Spectrum



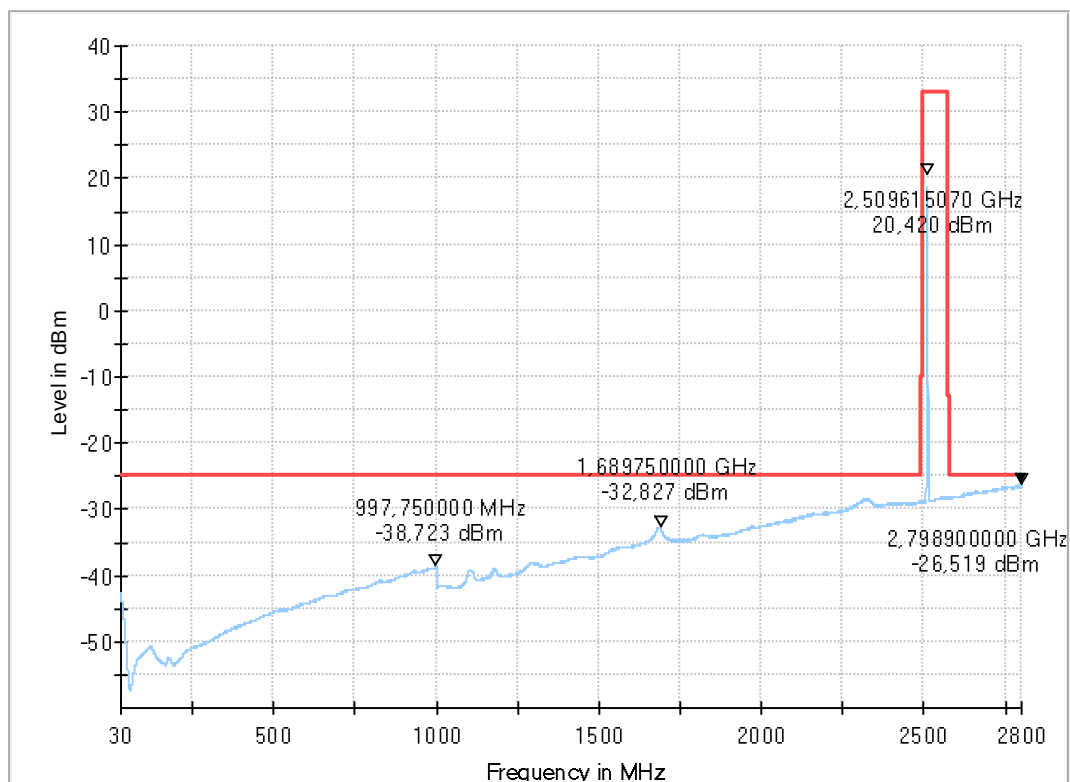
8.08b_Traffic_mode_LTE_FDD_B07_CH_20850_laying

Common Information

Test Description:	Band-Edge low - Radiated Spurious Emissions LTE Band 7
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Chamber (FAC1) - EMC32 V10.60.20
Test Standard:	FCC Part 27.53(l)(4) / RSS-130 Mobile stations limits
Operating Mode:	LTE FDD7 ch_2085 BW20MHz 1RB/50
Environmental Conditions::	Humidity : 50%rH; Temperature: 20°C
Test SW Version:	EMC32 V10.60.20
Operator:	KTe
Remarks:	EUT - laying position
EUT Setup:	1
Verdict:	Passed

EUT Information

PMT number:	22-1-00306S58_C01
	Full Spectrum



8.09a_Traffic_mode_LTE_FDD_B07_CH_20850_laying

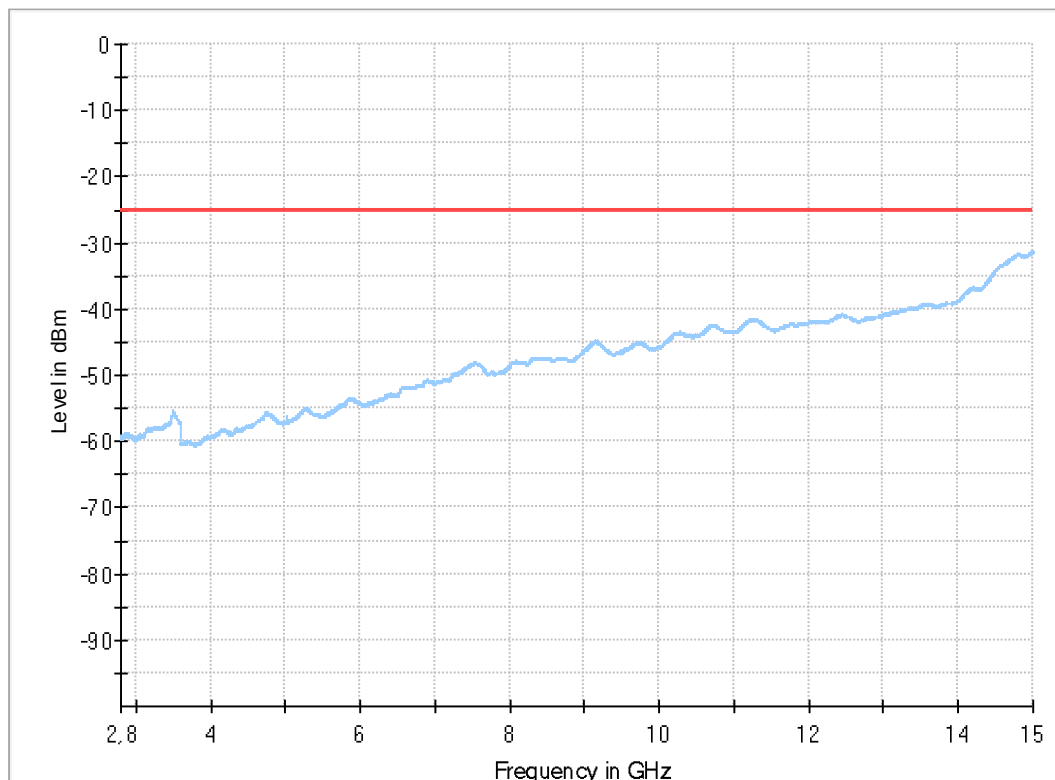
Common Information

Test Description:	Radiated field strength emission in 3m distance
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Chamber (FAC1) - EMC32 V10.60.20
Test Standard:	FCC Part 27
Test Case:	Radiated field strength
Operating Mode:	LTE B07 20MHz BW, 1RB@50
Environmental Conditions:	Humidity: 50%rH; Temperature: 20°C
Operator:	npe
EUT Setup:	laying
Verdict:	Passed

EUT Information

PMT Sample Nr: 22-1-00306558_C01

Full Spectrum



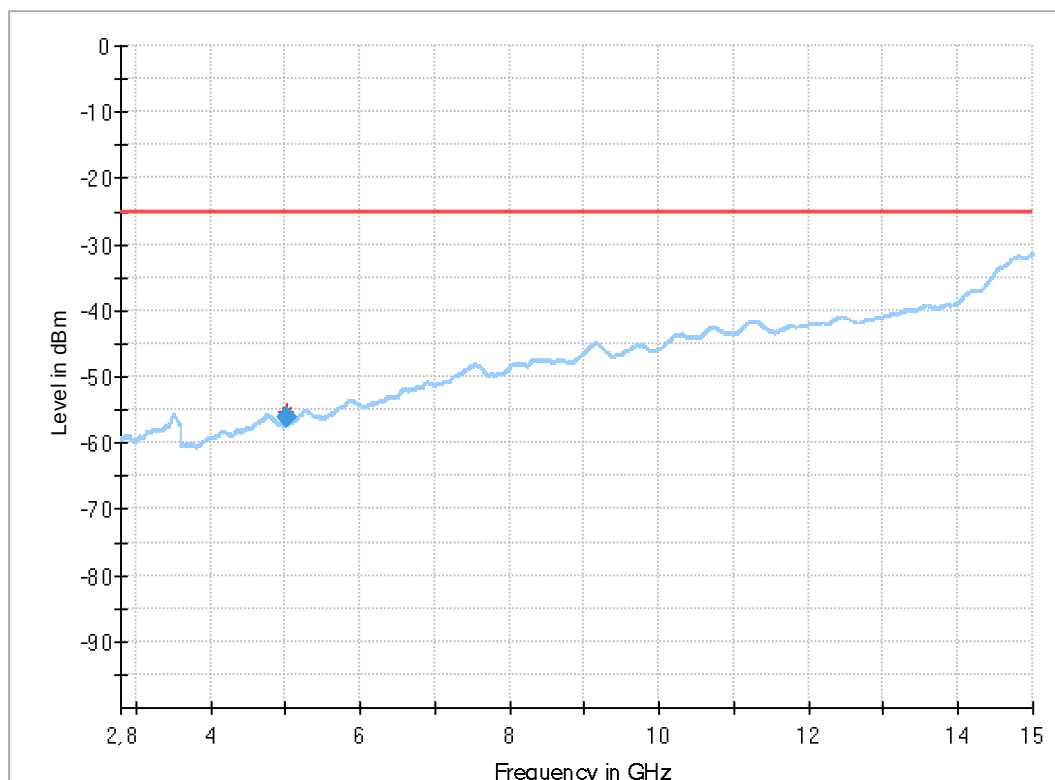
8.09b_Traffic_mode_LTE_FDD_B07_CH_20850_standing

Common Information

Test Description:	Radiated field strength emission in 3m distance
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Chamber (FAC1) - EMC32 V10.60.20
Test Standard:	FCC Part 27
Test Case:	Radiated field strength
Operating Mode:	LTE FDD7 ch_2085 BW20MHz 1RB/50
Environmental Conditions::	Humidity : 47%rH; Temperature: 20°C
Operator:	KTe
EUT Setup:	1
Verdict:	Passed
Comment:	standing

EUT Information

PMT number:	22-1-00306S58_C01
	Full Spectrum



Final_Result

Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
5020.180000	-56.17	-25.00	31.17	1000.0	1000.000	V	178.0	0.0	-85

8.10a_Traffic_mode_LTE_FDD_B07_CH_20850_laying

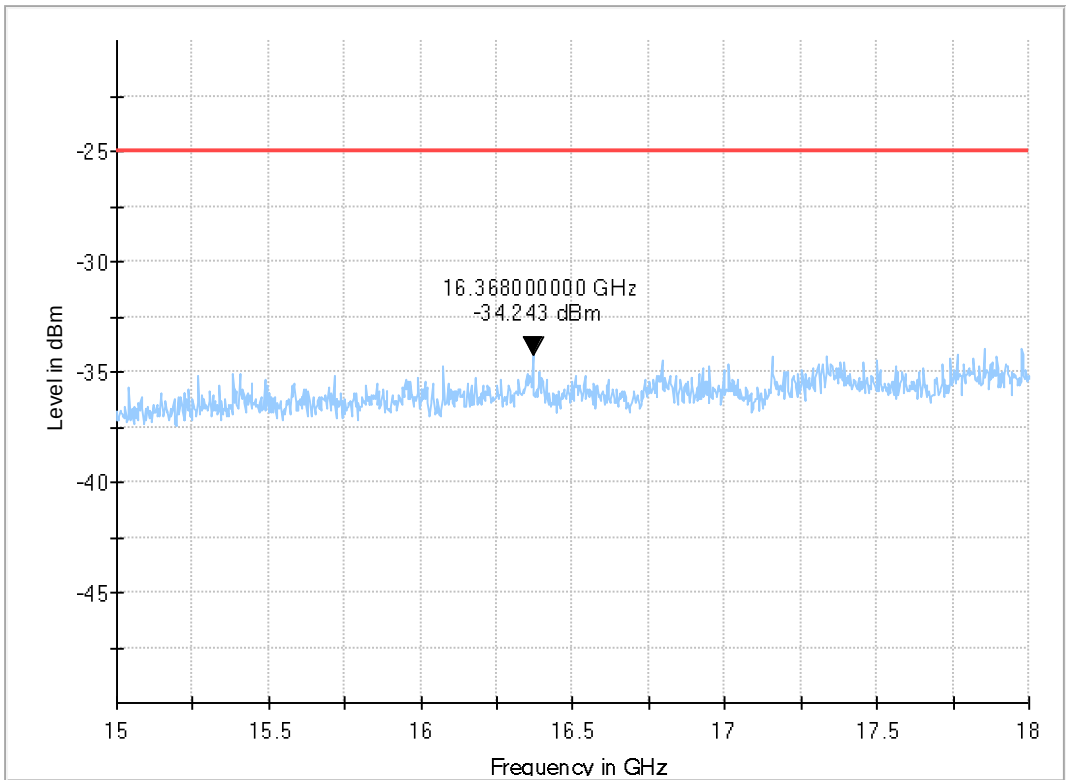
Common Information

Test Description:	Radiated Spurious Emissions
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR2)
Test Standard:	FCC Part 27.53 (m)(4)/ RSS-139
Comm. Link:	LTE B07
Operating Mode:	MS allocated channel 20850, 1RB@50
Exclusionband:	--
Environmental Conditions:	Humidity: 45%rH; Temperature: 21°C
Operator:	npe
Set-up:	EUT laying, Ant hor
Verdict:	Passed

EUT Information

PMT Sample Nr.	22-1-00306S58_C01
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Full Spectrum



8.11b_Traffic_mode_LTE_FDD_B07_CH_20850_standing

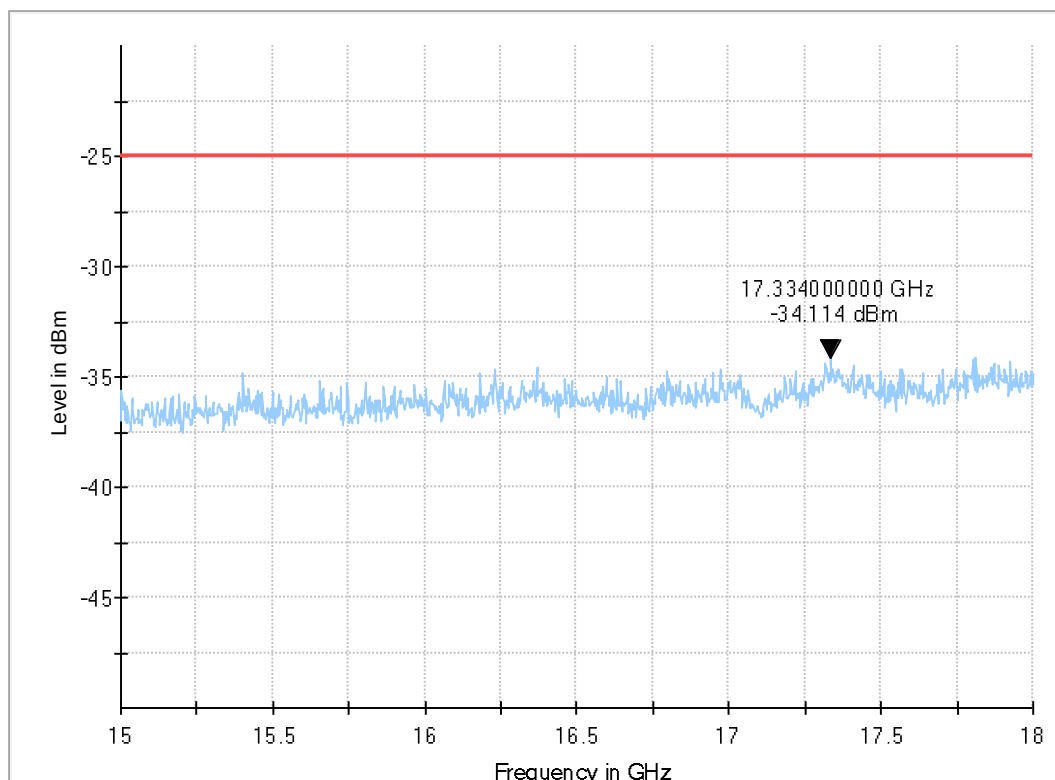
Common Information

Test Description:	Radiated Spurious Emissions
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR2)
Test Standard:	FCC Part 27.53 (m)(4)/ RSS-139
Comm. Link:	LTE B07
Operating Mode:	MS allocated channel 20850, 1RB@50
Exclusionband:	--
Environmental Conditions:	Humidity: 45%rH; Temperature: 21°C
Operator:	npe
Set-up:	EUT standing, Ant hor
Verdict:	Passed

EUT Information

PMT Sample Nr.	22-1-00306S58_C01
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Full Spectrum



8.11c_Traffic_mode_LTE_FDD_B07_CH_20850_laying

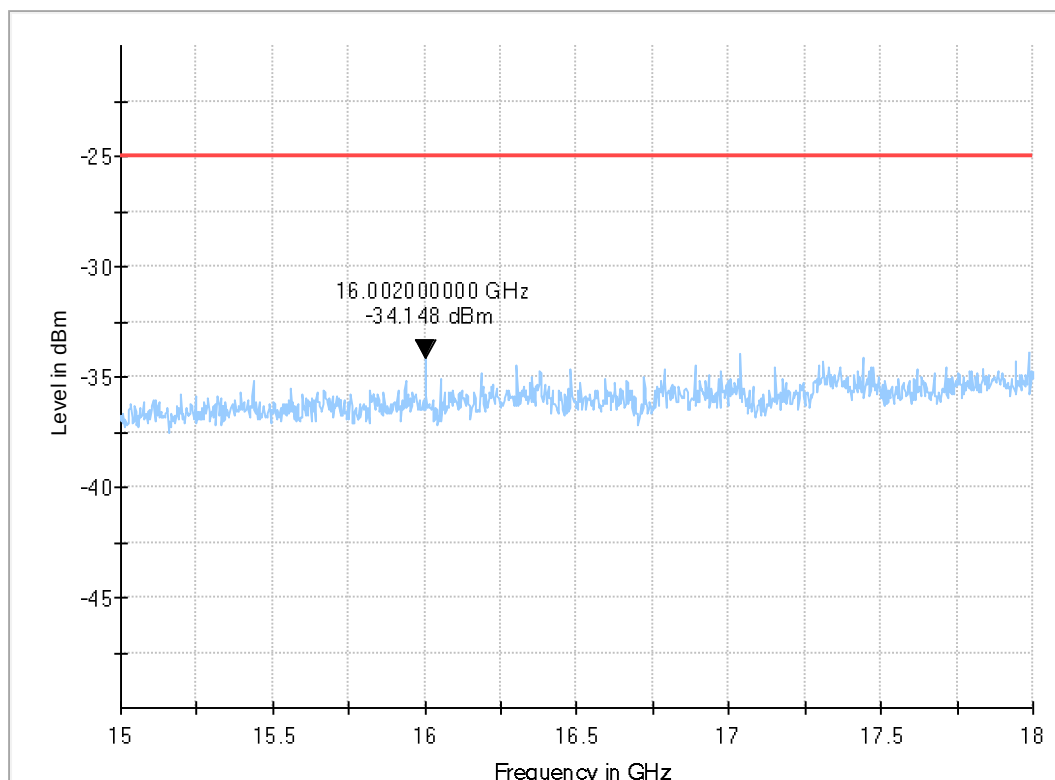
Common Information

Test Description:	Radiated Spurious Emissions
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR2)
Test Standard:	FCC Part 27.53 (m)(4)/ RSS-139
Comm. Link:	LTE B07
Operating Mode:	MS allocated channel 20850, 1RB@50
Exclusionband:	--
Environmental Conditions:	Humidity: 45%rH; Temperature: 21°C
Operator:	npe
Set-up:	EUT laying, Ant ver
Verdict:	Passed

EUT Information

PMT Sample Nr.	22-1-00306S58_C01
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Full Spectrum



8.11d_Traffic_mode_LTE_FDD_B07_CH_20850_standing

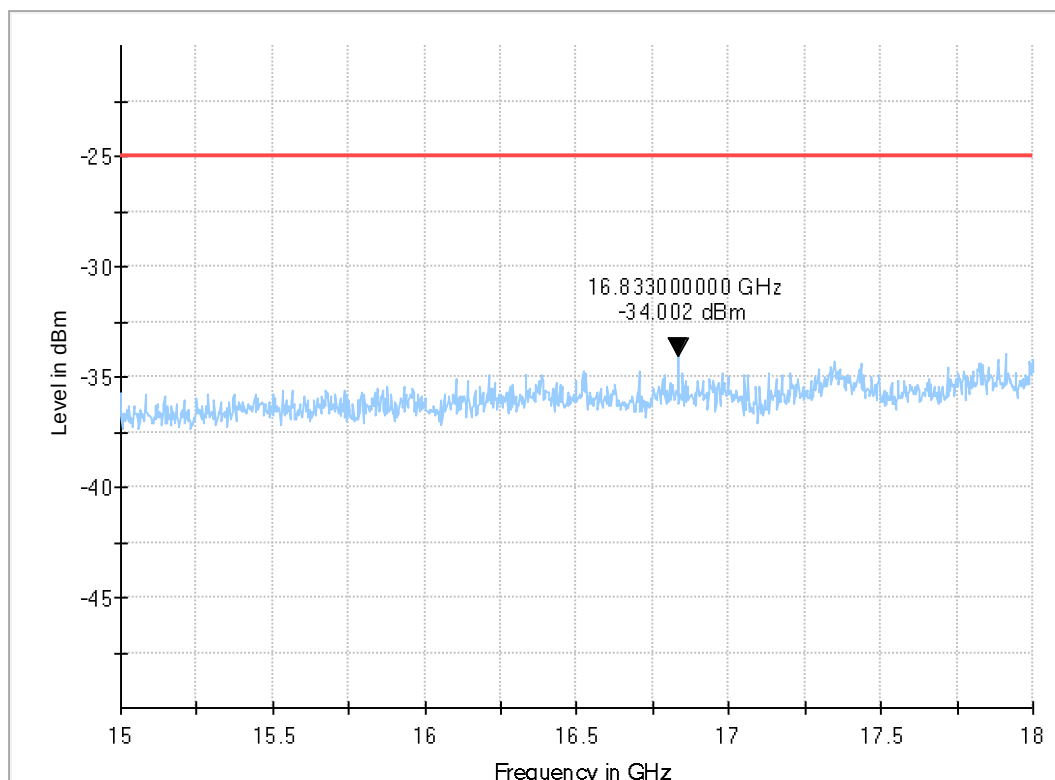
Common Information

Test Description:	Radiated Spurious Emissions
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR2)
Test Standard:	FCC Part 27.53 (m)(4)/ RSS-139
Comm. Link:	LTE B07
Operating Mode:	MS allocated channel 20850, 1RB@50
Exclusionband:	--
Environmental Conditions:	Humidity: 45%rH; Temperature: 21°C
Operator:	npe
Set-up:	EUT standing, Ant ver
Verdict:	Passed

EUT Information

PMT Sample Nr.	22-1-00306S58_C01
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Full Spectrum



8.11a_c_Traffic_mode_LTE_FDD_B07_CH_20850_ EUT_laying

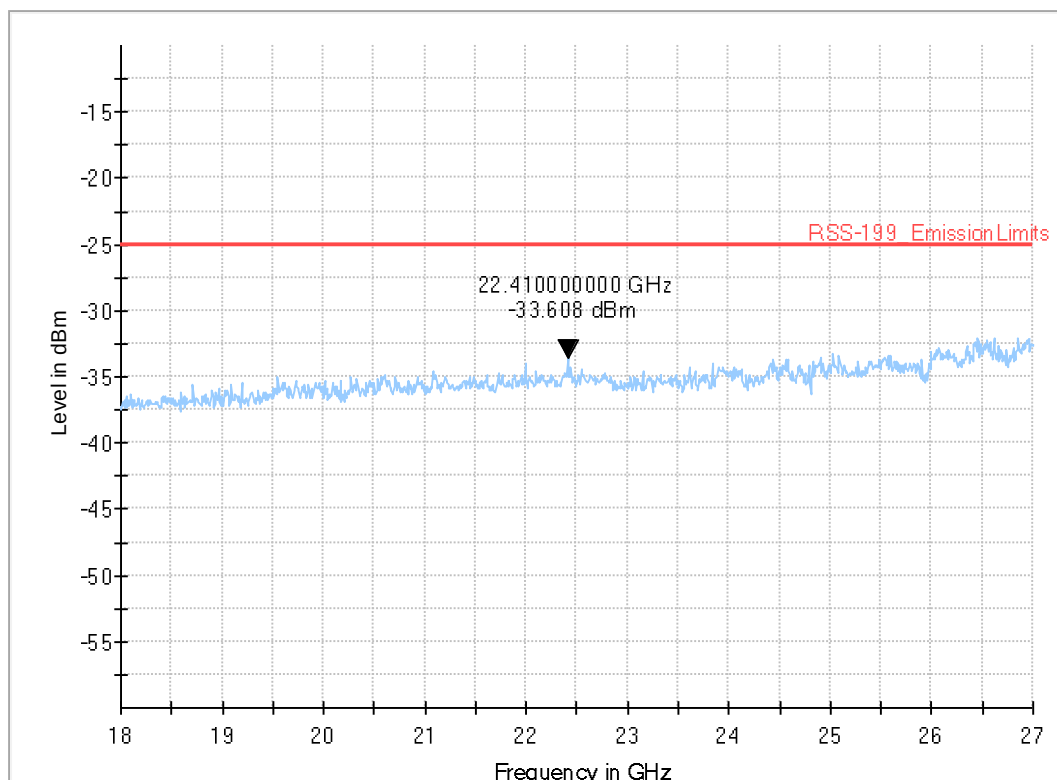
Common Information

Test Description:	Radiated Spurious Emissions LTE Band 7
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR2)
Test Standard:	FCC Part 27.53 (m)(4)/ RSS-139
Comm. Link:	LTE Band 7
Operating Mode:	MS allocated channel 20850, 1RB@50
Exclusionband:	2496 to 2690 MHz
Environmental Conditions:	Humidity: 47%rH; Temperature: 21°C
Operator:	Lor
Set-up:	EUT laying, Ant hor/ver, main antenna
Verdict:	Passed

EUT Information

PMT Sample Nr.	22-1-00306S58_C01
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Full Spectrum



8.11b_d_Traffic_mode_LTE_FDD_B07_CH_20850_ EUT_standing

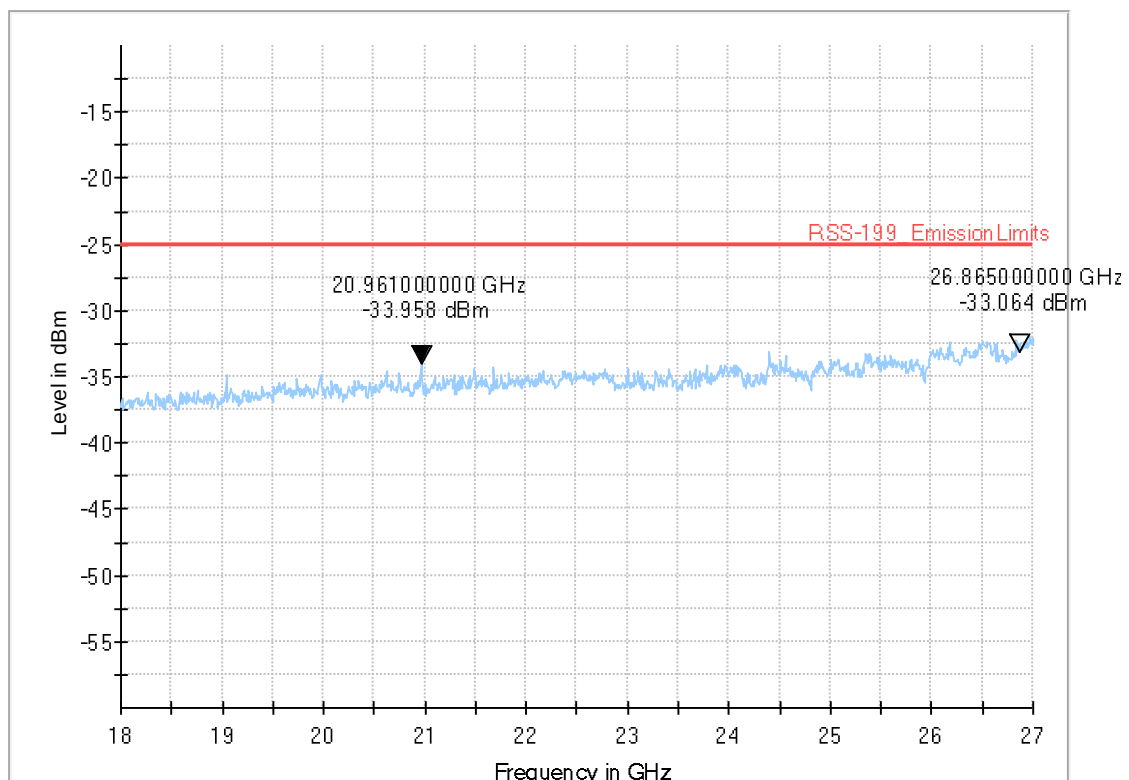
Common Information

Test Description:	Radiated Spurious Emissions LTE Band 7
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR2)
Test Standard:	FCC Part 27.53 (m)(4)/ RSS-139
Comm. Link:	LTE Band 7
Operating Mode:	MS allocated channel 20850, 1RB@50
Exclusionband:	2496 to 2690 MHz
Environmental Conditions:	Humidity: 47%rH; Temperature: 21°C
Operator:	Lor
Set-up:	EUT standing, Ant hor/ver, main antenna
Verdict:	Passed

EUT Information

PMT Sample Nr.	22-1-00306S58_C01
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Full Spectrum



9.201_Bandedge_low_LTE_FDD_B02_CH_low_ RB_1_low

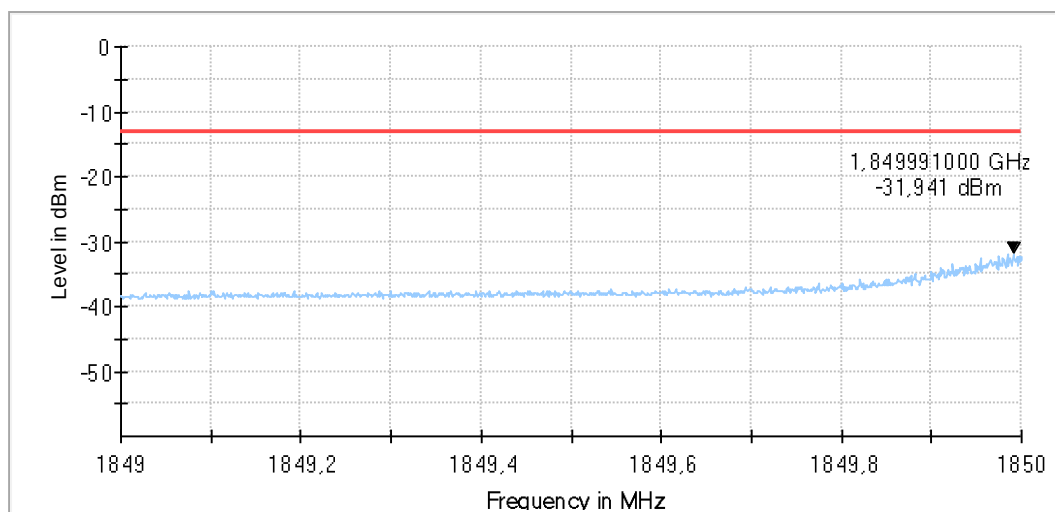
Common Information

Test Description:	BandEdge low - Radiated Spurious Emissions LTE Band II
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Chamber (FAC1) - EMC32 V10.60.20
Test Standard:	-
Test Case:	-
Operating Mode:	LTE FDD2 UL18700/1860MHz BW20 1RBlow
Environmental Conditions::	Humidity : 54%rH; Temperature: 20°C
Operator:	TFra
EUT Setup:	1
Verdict:	Passed

EUT Information

PMT number: 22-1-00306S58_C01

Full Spectrum



9.202_Bandedge_low_LTE_FDD_B02_CH_low_RB_Full

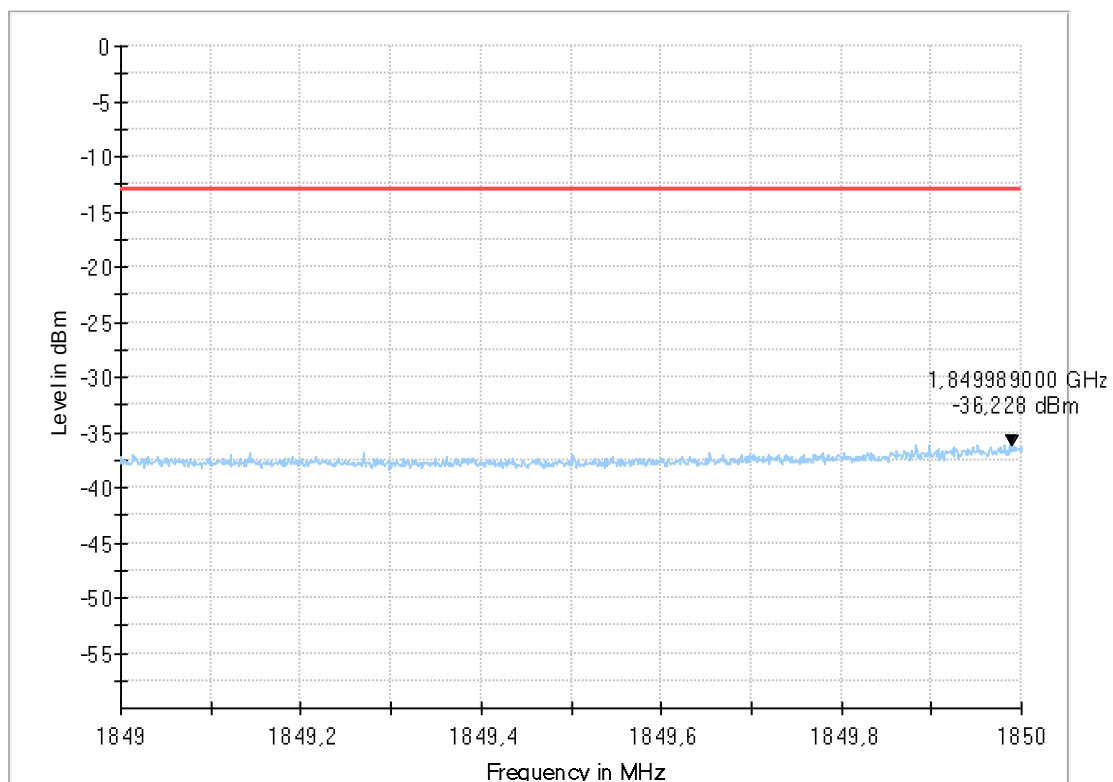
Common Information

Test Description:	BandEdge low - Radiated Spurious Emissions LTE Band II
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Chamber (FAC1) - EMC32 V10.60.20
Test Standard:	FCC Part 24
Test Case:	Radiated field strength
Operating Mode:	LTE_FDD_B02_CH_low_RB_Full
Environmental Conditions:	Humidity: 50%rH; Temperature: 20°C
Operator:	npe
EUT Setup:	1
Verdict:	Passed

EUT Information

PMT Sample Nr: 22-1-00306S58_C01

Full Spectrum



9.203_Bandedge_high_LTE_FDD_B02_CH_high_RB_1_high

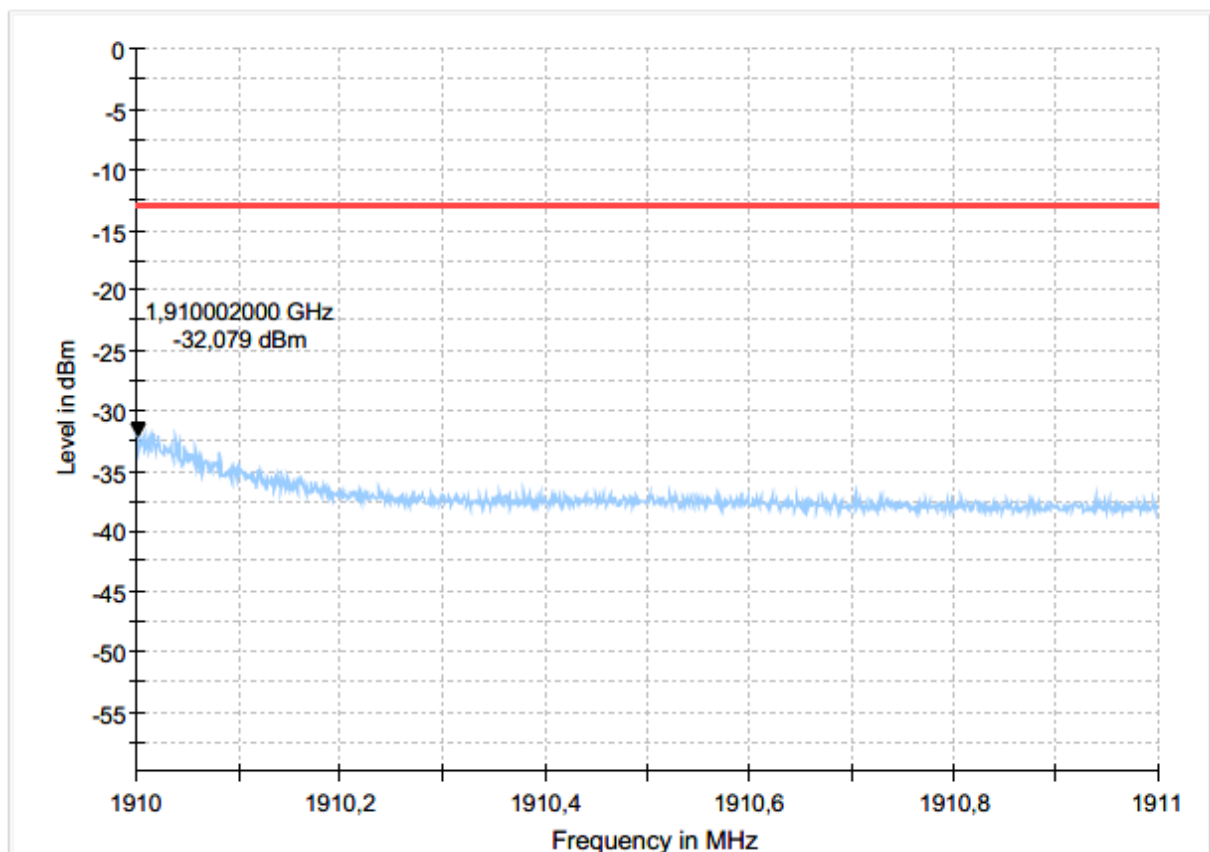
Common Information

Test Description:	BandEdge high - Radiated Spurious Emissions LTE Band II
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Chamber (FAC1) - EMC32 V10.60.20
Test Standard:	FCC Part 24
Test Case:	Radiated field strength
Operating Mode:	LTE_FDD_B02_CH_high_1RB
Environmental Conditions:	Humidity: 50%rH; Temperature: 20°C
Operator:	npe
EUT Setup:	
Verdict:	Passed

EUT Information

PMT Sample Nr:	22-1-00306S58_C01
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Full Spectrum



9.204_Bandedge_high_LTE_FDD_B02_CH_high_RB_Full

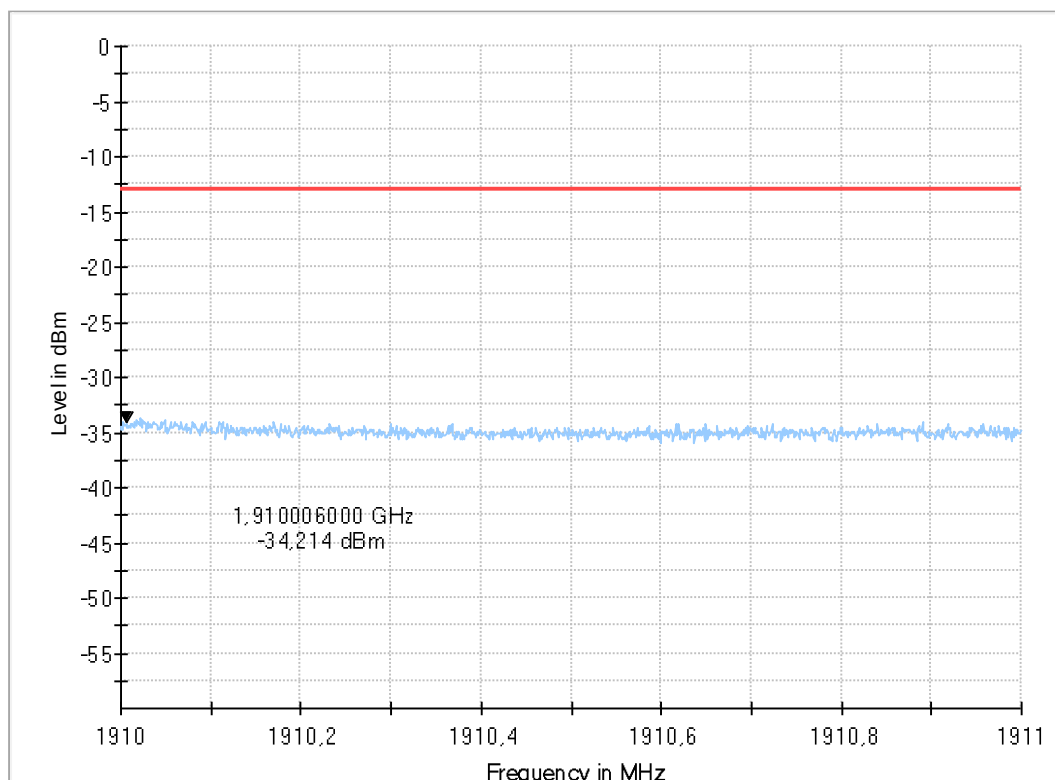
Common Information

Test Description:	BandEdge high - Radiated Spurious Emissions LTE Band II
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Chamber (FAC1) - EMC32 V10.60.20
Test Standard:	FCC Part 24
Test Case:	Radiated field strength
Operating Mode:	LTE_FDD_B02_CH_high_RB_Full
Environmental Conditions:	Humidity: 50%rH; Temperature: 20°C
Operator:	npe
EUT Setup:	
Verdict:	Passed

EUT Information

PMT Sample Nr:	22-1-00306S58_C01
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Full Spectrum



9.401_Bandedge_low_LTE_FDD_B04_CH_low_RB_1_low

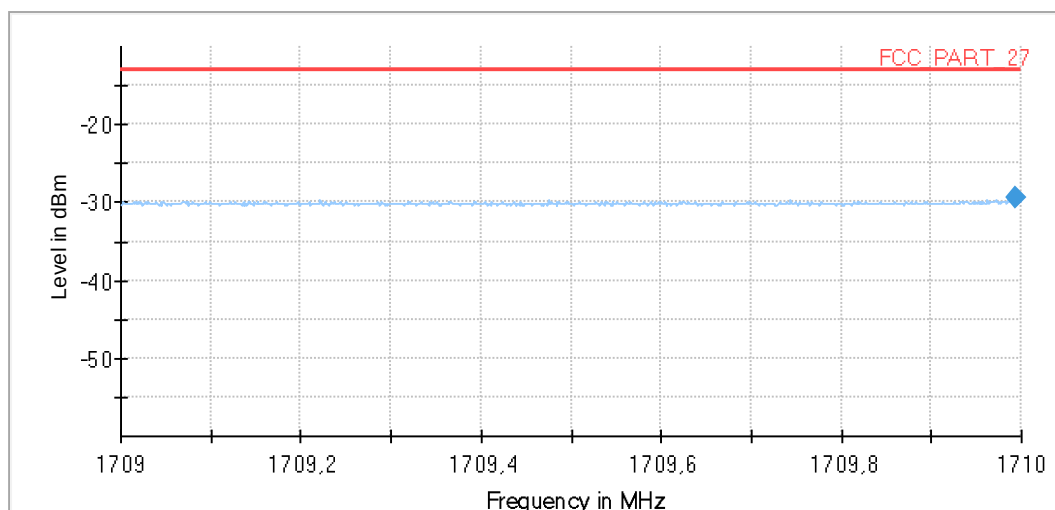
Common Information

Test Description:	BandEdge low - Radiated Spurious Emissions LTE Band IV
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Chamber (FAC1) - EMC32 V10.60.20
Test Standard:	-
Test Case:	-
Operating Mode:	LTE FDD4 ch_20050 BW20MHz 1RB/low/QPSK
Environmental Conditions::	Humidity : 40%rH; Temperature: 18°C
Operator:	Aho
EUT Setup:	1
Verdict:	Passed

EUT Information

PMT number: 22-1-00306S58_C01

Full Spectrum



Final_Result

Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
1709.993000	-29.34	-13.00	16.34	700.0	200.000	H	345.0	90.0	-62

9.402_Bandedge_low_LTE_FDD_B04_CH_low_RB_Full

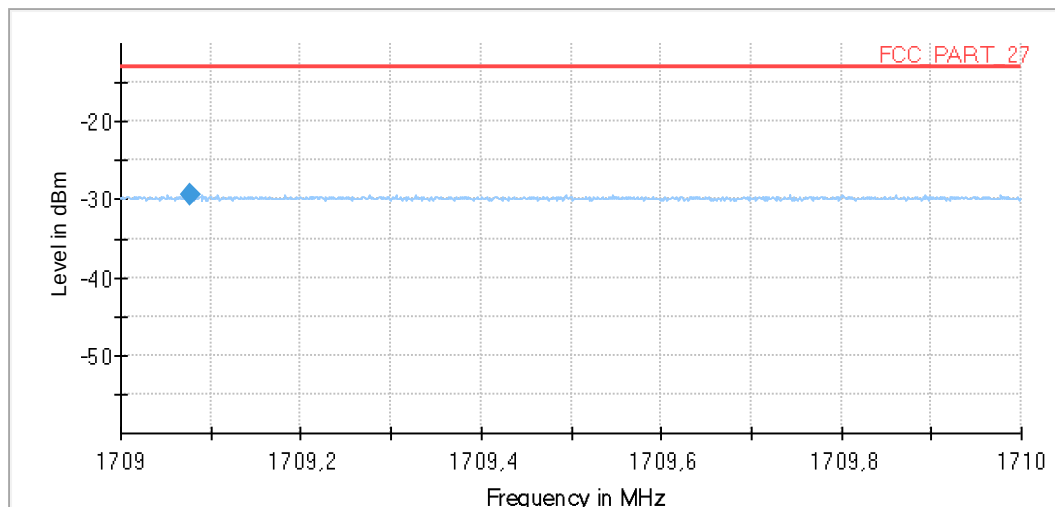
Common Information

Test Description: BandEdge low - Radiated Spurious Emissions LTE Band IV
 Test Site Location: CETECOM GmbH Essen
 Test Site: Fully Anechoic Chamber (FAC1) - EMC32 V10.60.20
 Test Standard: -
 Test Case: -
 Operating Mode: LTE FDD4 ch_20050 BW20MHz 100RB/QPSK
 Environmental Conditions:: Humidity : 40%rH; Temperature: 20°C
 Operator: Aho
 EUT Setup: 1
 Verdict: PassedComment:

EUT Information

PMT number: 22-1-00306S58_C01

Full Spectrum



Final_Result

Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
1709.078000	-29.34	-13.00	16.34	700.0	200.000	H	346.0	90.0	-62

9.403_Bandedge_high_LTE_FDD_B04_CH_high_RB_1_high

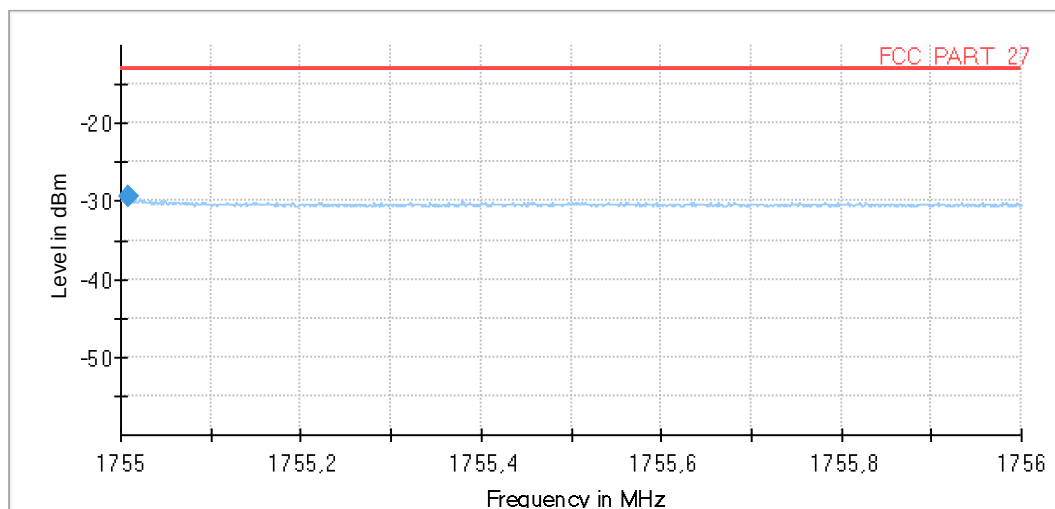
Common Information

Test Description: BandEdge high - Radiated Spurious Emissions LTE Band IV
 Test Site Location: CETECOM GmbH Essen
 Test Site: Fully Anechoic Chamber (FAC1) - EMC32 V10.60.20
 Test Standard: -
 Test Case: -
 Operating Mode: LTE FDD4 ch_20300 I BW20MHz I 1RB I High I QPSK
 Environmental Conditions:: Humidity : 40%rH; Temperature: 20°C
 Operator: Aho
 EUT Setup: 1
 Verdict: Passed
 Comment:

EUT Information

PMT number: 22-1-00306558_C01

Full Spectrum



Final_Result

Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
1755.009000	-29.38	-13.00	16.38	700.0	200.000	H	53.0	90.0	-62

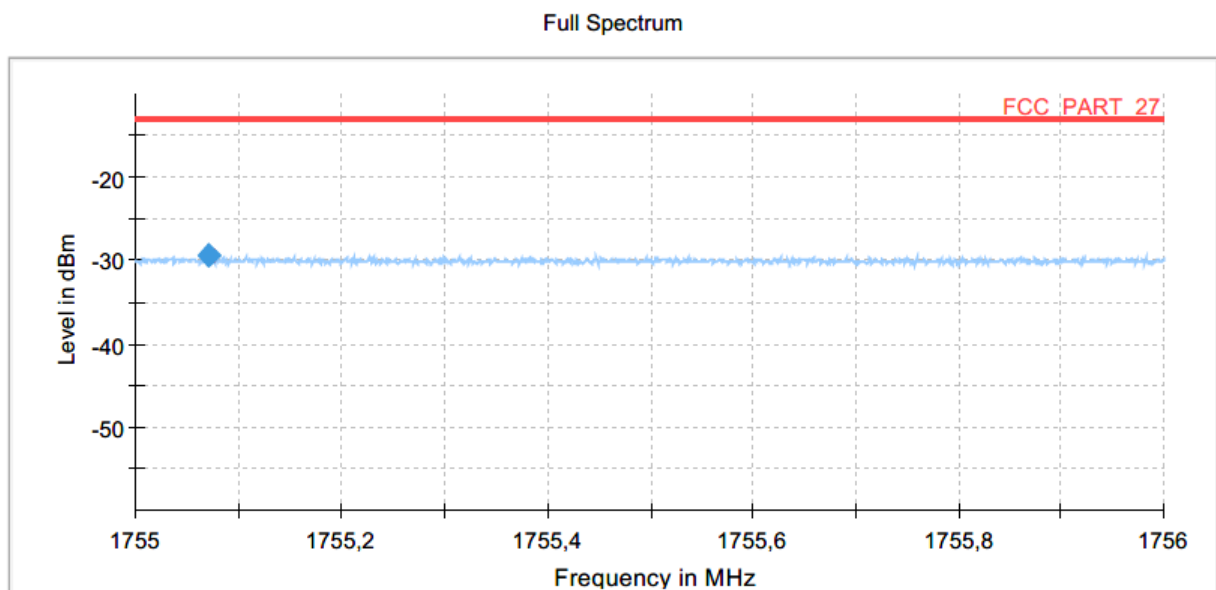
9.404_Bandedge_high_LTE_FDD_B04_CH_high_RB_Full

Common Information

Test Description: BandEdge high - Radiated Spurious Emissions LTE Band IV
 Test Site Location: CETECOM GmbH Essen
 Test Site: Fully Anechoic Chamber (FAC1) - EMC32 V10.60.20
 Test Standard: -
 Test Case: -
 Operating Mode: LTE FDD4 ch_20300 | BW20MHz | 100RB | QPSK
 Environmental Conditions: Humidity : 40%rH; Temperature: 20°C
 Operator: Aho
 EUT Setup: 1
 Verdict: Passed
 Comment:

EUT Information

PMT number: 22-1-00306S58_C01



Final Result

Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
1755.070000	-29.49	-13.00	16.49	700.0	200.000	H	55.0	90.0	-62

9.501_Bandedge_low_LTE_FDD_B05_CH_low_RB_1_low

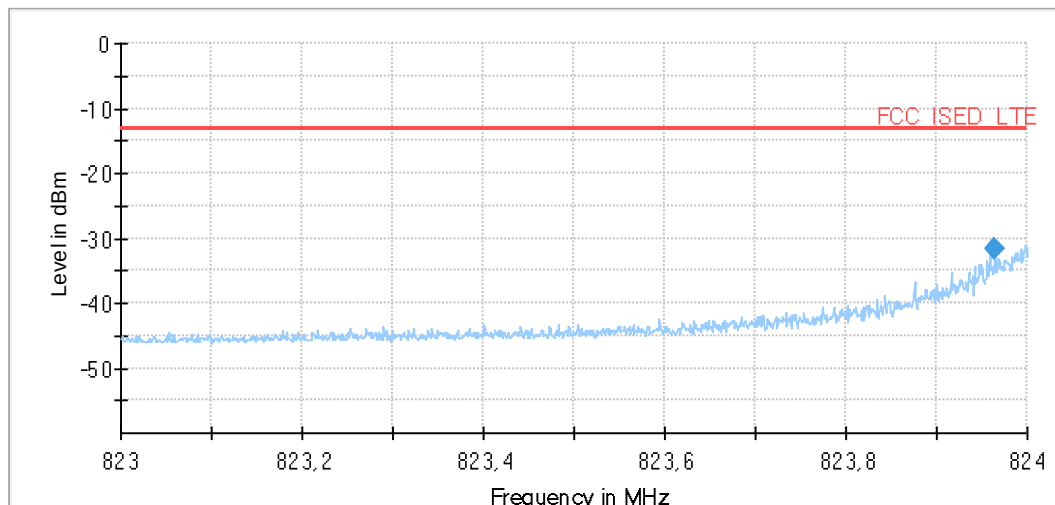
Common Information

Test Description: Band-Edge low - Radiated Spurious Emissions LTE Band V
 Test Site Location: CETECOM GmbH Essen
 Test Site: Fully Anechoic Chamber (FAC1) - EMC32 V10.60.20
 Test Standard: FCC Part 22.917(a) / RSS-132
 Operating Mode: LTE FDD5 I UL channel:20450 I BW10MHz I1RB, low I QPSK
 Environmental Conditions: Humidity : 40%rH; Temperature: 20°C
 Test SW Version: EMC32 V10.60.20
 Operator: Aho
 Remarks: EUT - laying/standing position
 EUT Setup: 1
 Verdict: PassedComment:

EUT Information

PMT number: 22-1-00306558_C01

Full Spectrum



Final_Result

Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
823.964000	-31.78	-13.00	18.78	500.0	100.000	H	18.0	90.0	-76.3

9.502_Bandedge_low_LTE_FDD_B05_CH_low_RB_Full

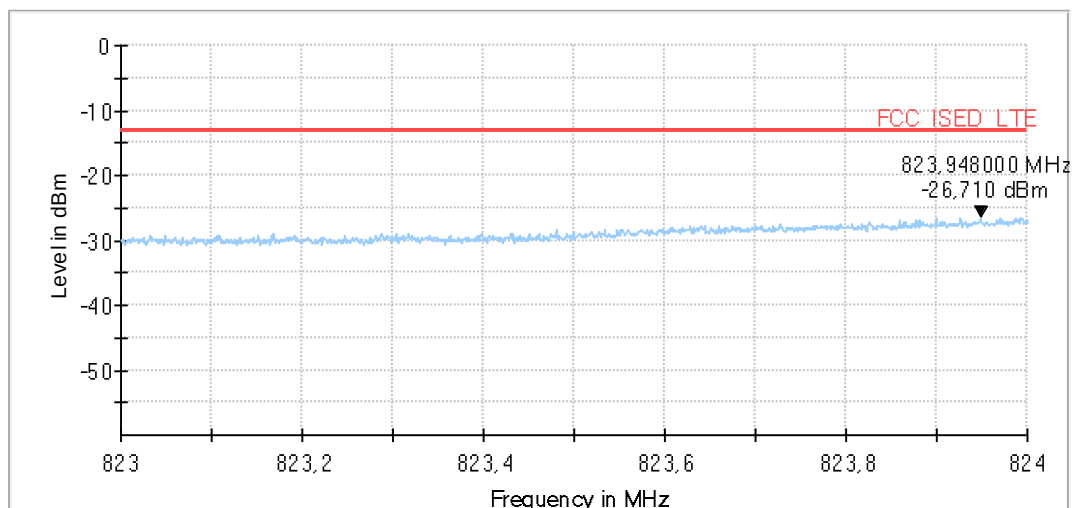
Common Information

Test Description:	Band-Edge low - Radiated Spurious Emissions LTE Band V
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Chamber (FAC1) - EMC32 V10.60.20
Test Standard:	FCC Part 22.917(a) / RSS-132
Operating Mode:	LTE FDD5 UL channel:20450 BW10MHz 50RB QPSK
Environmental Conditions::	Humidity : 40%rH; Temperature: 20°C
Test SW Version:	EMC32 V10.60.20
Operator:	Aho
Remarks:	EUT - laying/standing position
EUT Setup:	1
Verdict:	PassedComment:

EUT Information

PMT number:	22-1-00306S58_C01
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Full Spectrum



9.503_Bandedge_low_LTE_FDD_B05_CH_high_RB_1_high

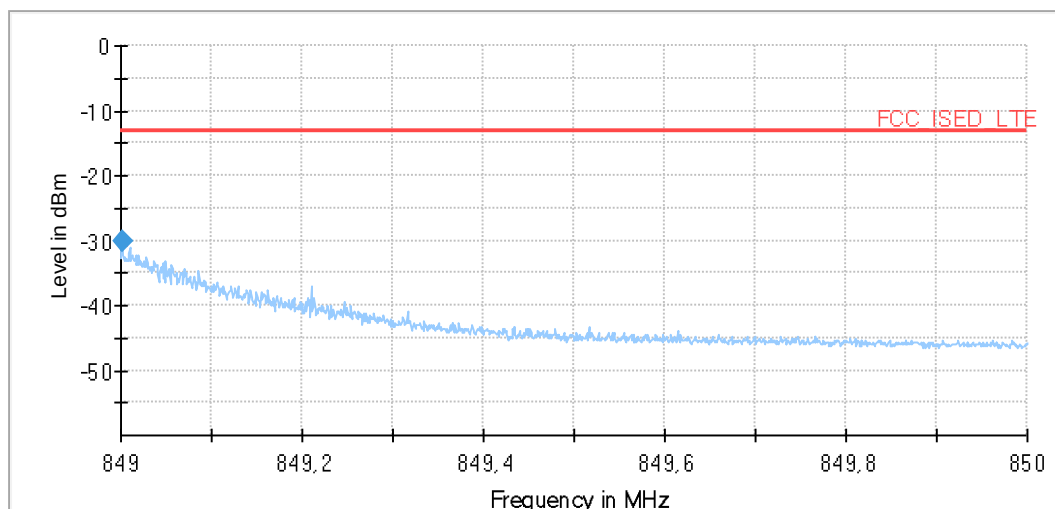
Common Information

Test Description:	Band-Edge low - Radiated Spurious Emissions LTE Band V
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Chamber (FAC1) - EMC32 V10.60.20
Test Standard:	FCC Part 22.917(a) / RSS-132
Operating Mode:	LTE FDD5 UL channel:20450 BW10MHz 1RB High QPSK
Environmental Conditions::	Humidity : 40%rH; Temperature: 20°C
Test SW Version:	EMC32 V10.60.20
Operator:	Aho
EUT Setup:	1
Verdict:	Passed

EUT Information

PMT number:	22-1-00306S58_C01
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Full Spectrum



Final_Result

Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
849.002000	-30.18	-13.00	17.18	700.0	100.000	H	23.0	90.0	-76

9.504_Bandedge_high_LTE_FDD_B05_CH_high_RB_Full

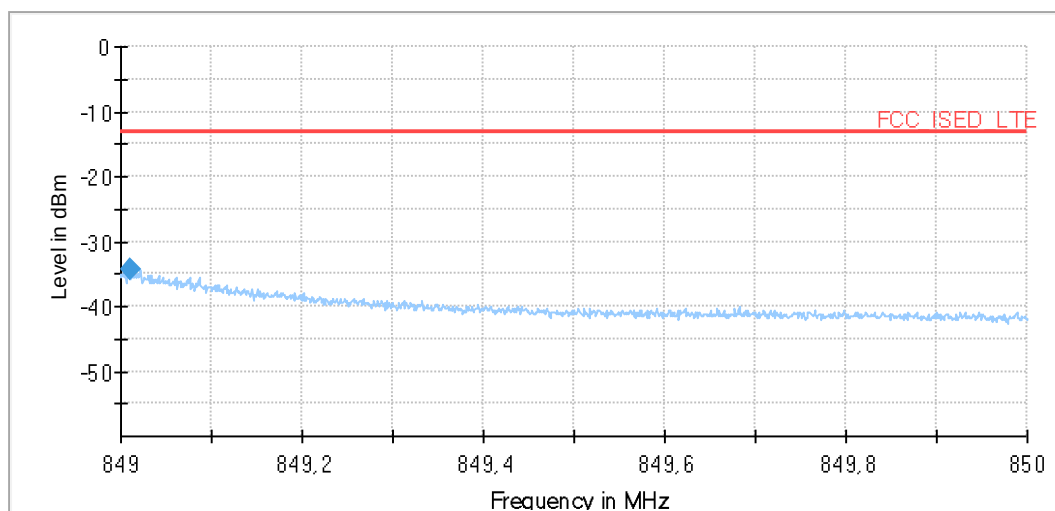
Common Information

Test Description:	Band-Edge low - Radiated Spurious Emissions LTE Band V
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Chamber (FAC1) - EMC32 V10.60.20
Test Standard:	FCC Part 22.917(a) / RSS-132
Operating Mode:	LTE FDD5 UL channel:20450 BW10MHz 50RB QPSK
Environmental Conditions::	Humidity : 40%rH; Temperature: 20°C
Test SW Version:	EMC32 V10.60.20
Operator:	Aho
EUT Setup:	1
Verdict:	Passed

EUT Information

PMT number: 22-1-00306558_C01

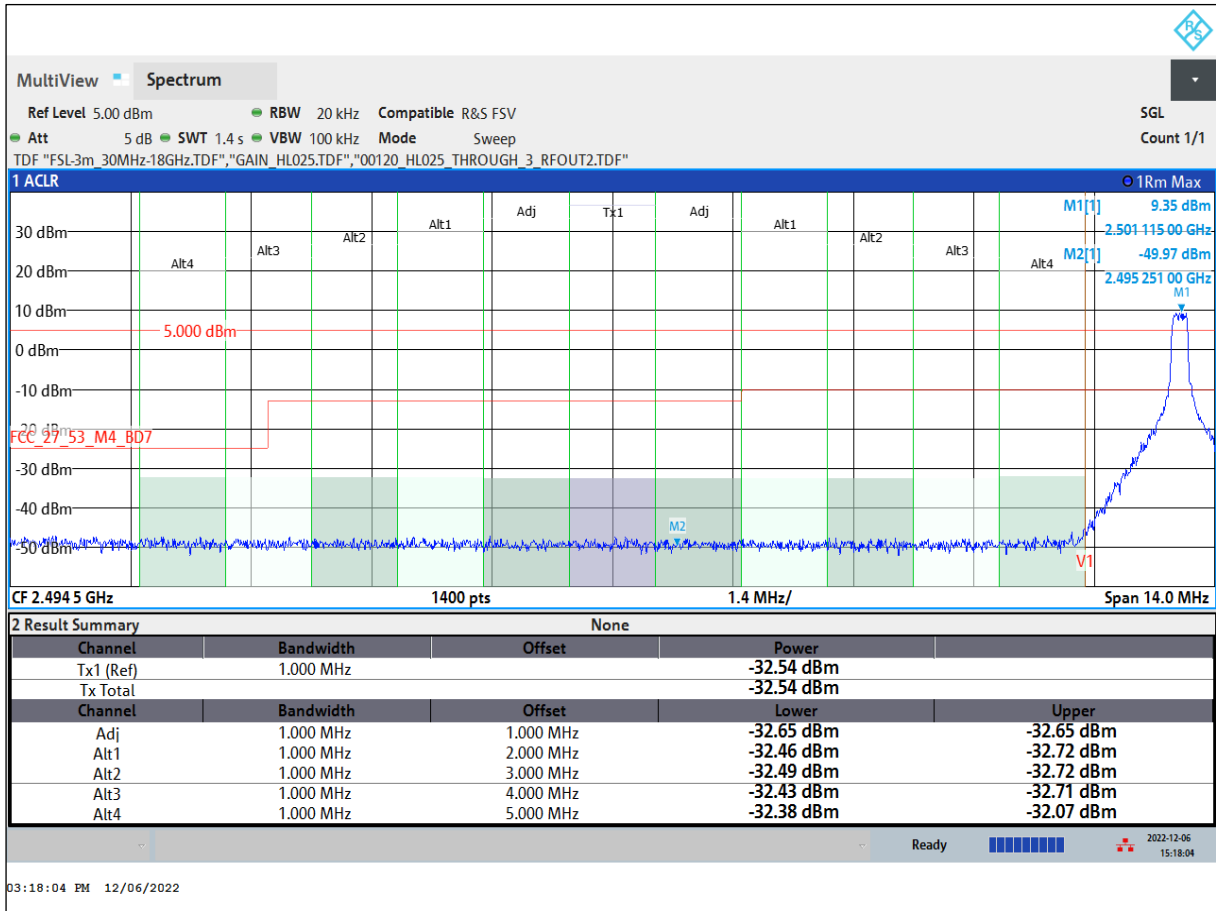
Full Spectrum



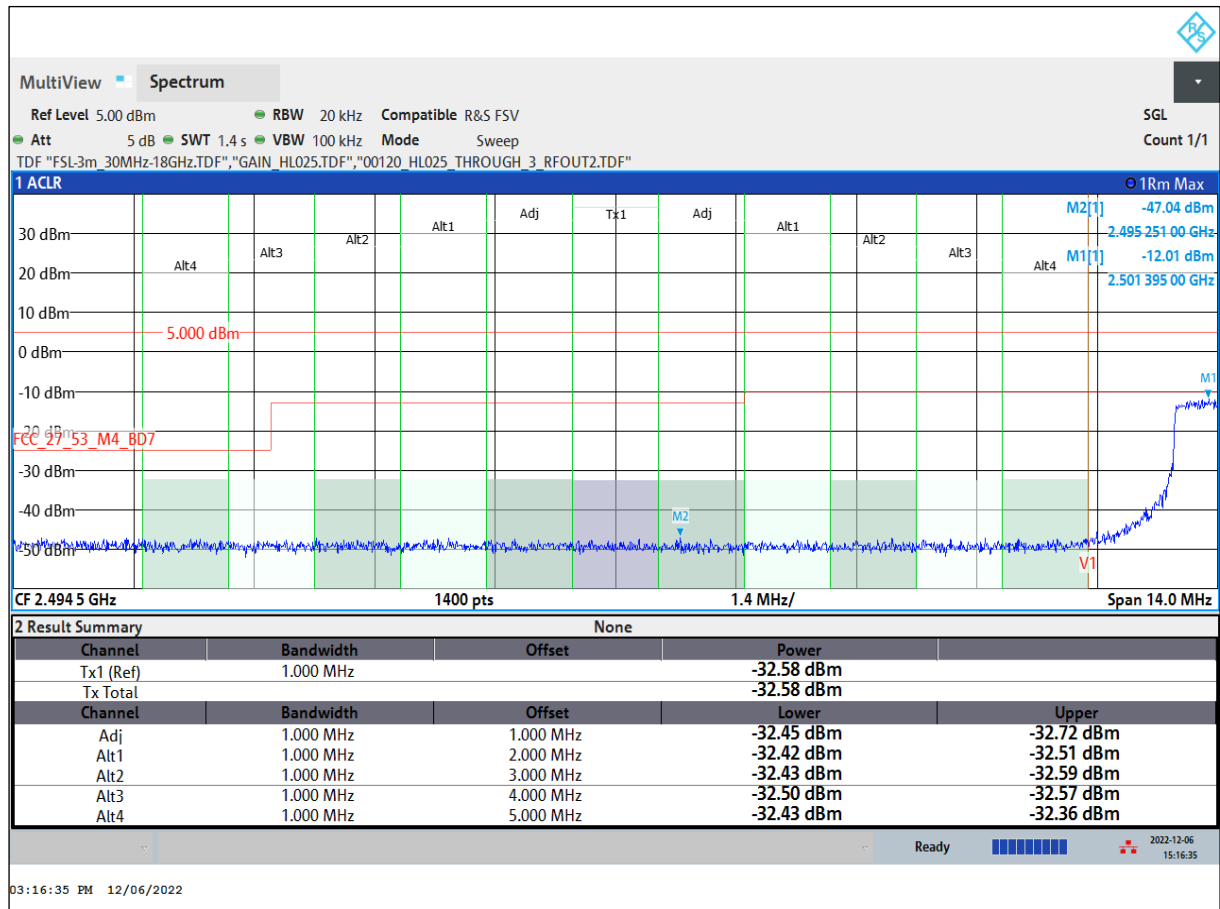
Final_Result

Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
849.011000	-34.27	-13.00	21.27	700.0	100.000	H	13.0	90.0	-76

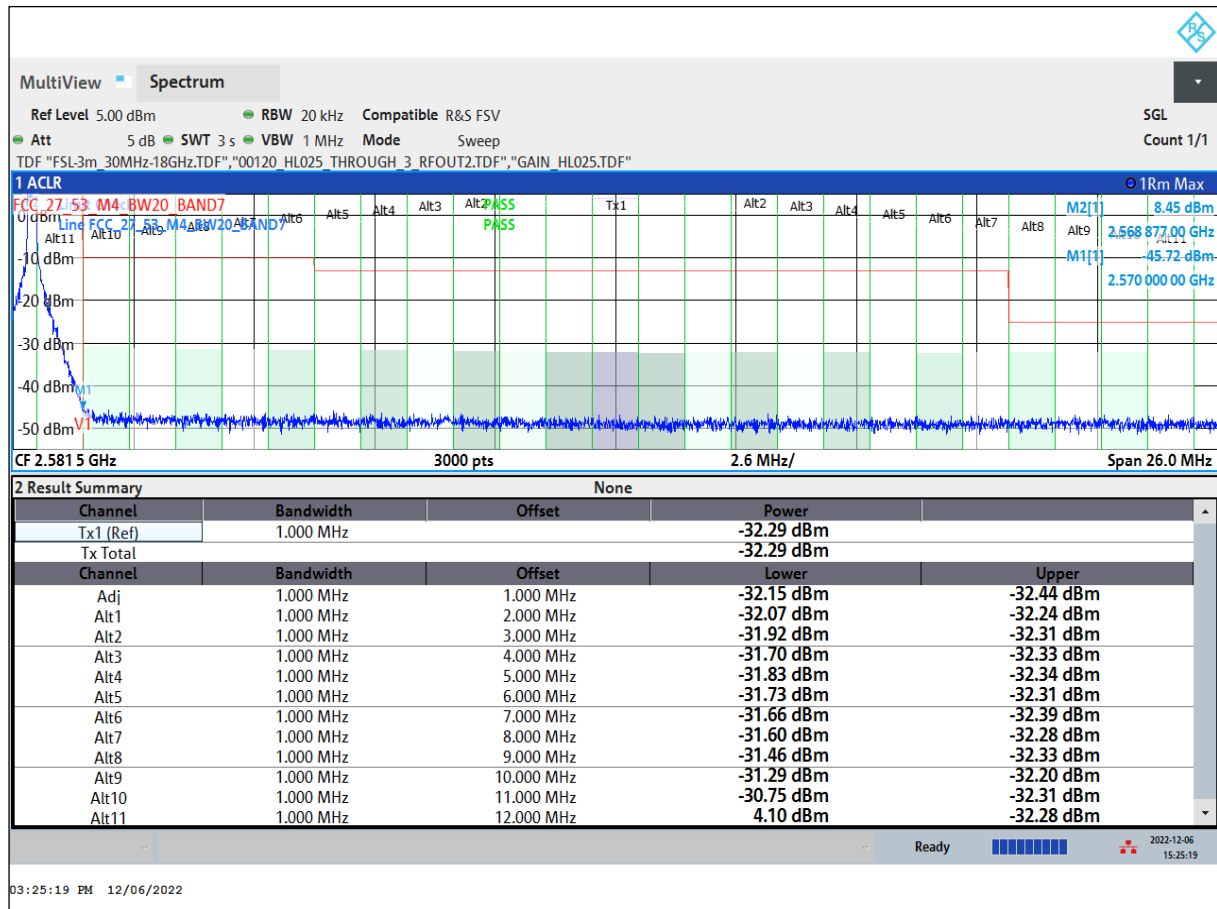
9.701_BE_low_ch_20850_BW20M_1RB_low_T4345



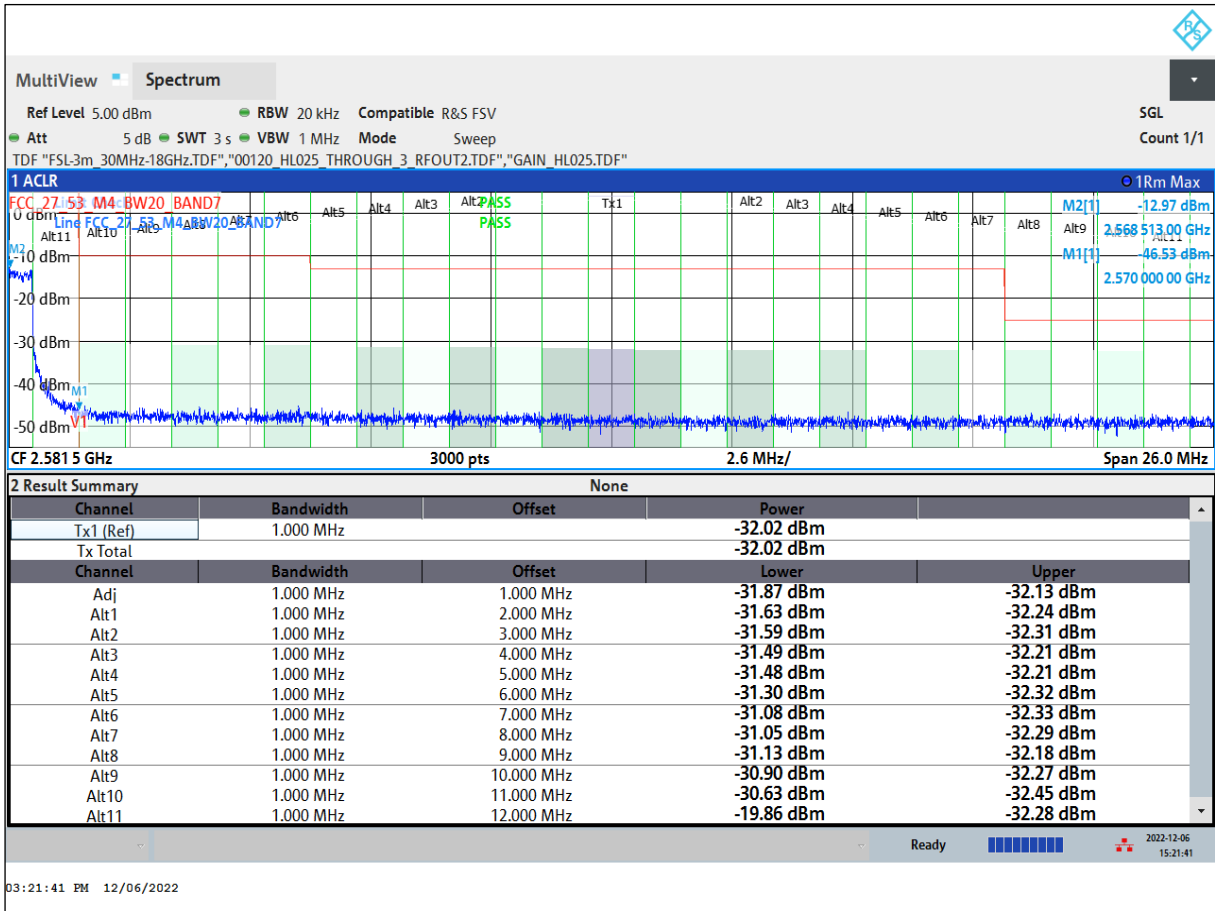
9.702_BE_low_ch_20850_BW20M_Full_RB_T4339



9.703_BE_high_ch_21350_BW20M_1RB_high_T4363



9.704_BE_high_ch_21350_BW20M_Full_RB_T4384



End Of Annex 1