

Annex 1: Measurement diagrams
to
PARTIAL TEST REPORT
No.: 6-0330-13-3-6a

According to:
FCC Regulations
Part15C, Part 22, Part 24, Part 27

IC-Regulations
RSS-132 Issue 3, RSS-133 Issue 6, RSS-139 Issue 2
RSS-Gen Issue 3

for
u-blox AG

RF-Module LISA-U200-01
FCC-ID: XPYLISAU200
IC-ID: 8595A-LISAU200N







Laboratory Accreditation and Listings			
 Deutsche Akkreditierungsstelle D-PL-12047-01-01	 Reg. No.: 736496 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-2665, R-2666 C-2914, T-1967, G-301
 WiFi ALLIANCE	 LAB CODE 20011130-00		
accredited according to DIN EN ISO/IEC 17025			
<p>CETECOM GmbH Laboratory Radio Communications & Electromagnetic Compatibility Im Teelbruch 116 • 45219 Essen • Germany Registered in Essen, Germany, Reg. No.: HRB Essen 8984 Tel.: + 49 (0) 20 54 / 95 19-954 • Fax: + 49 (0) 20 54 / 95 19-964 E-mail: info@cetecom.com • Internet: www.cetecom.com</p>			

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1. Measurement results

1.1. Field strength < 30 MHz (radiated) – G850 Mode

2.01_Ch192_G850

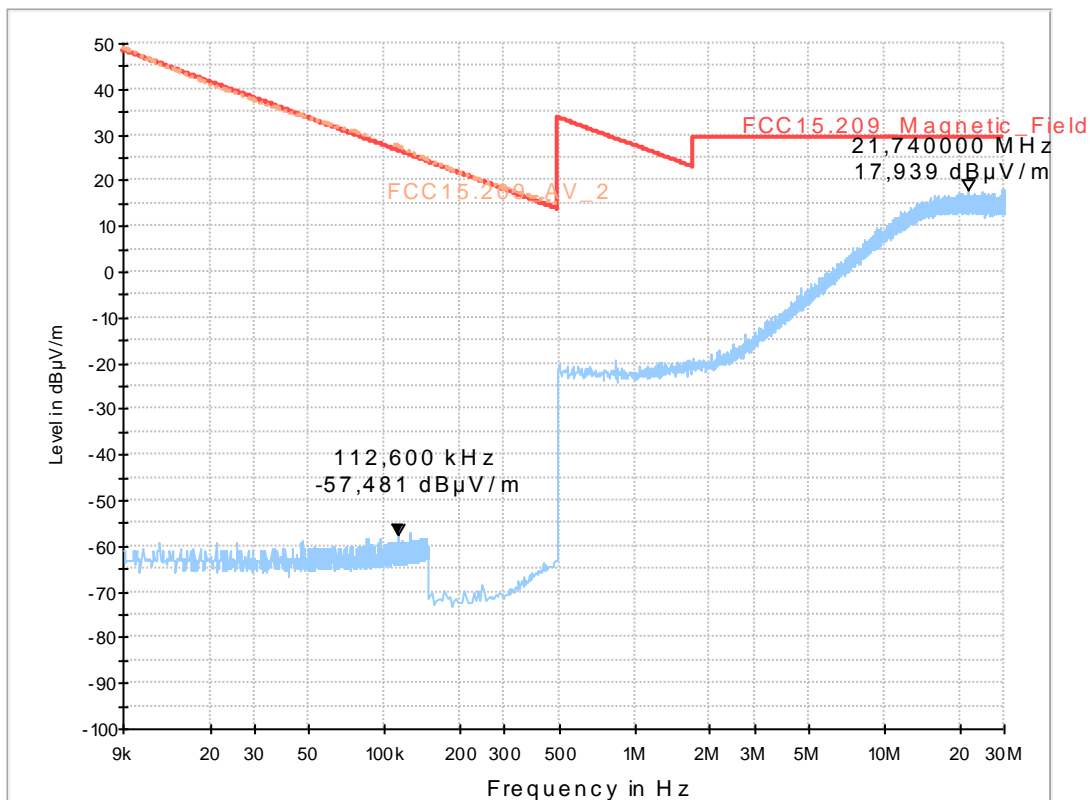
Date:	18.10.2013	Page 1 of 2
Test description:	Magnetic Fieldstrength Measurement related to 30/300 m distance	
Test site and distance:	Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance	
Version of Testsoftware:	EMC32 V8.51.0	
Distance correction:	used accord. table, pls. see test report	
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 3	
Operator:	ADa	
Operating conditions:	TX-on, G850 - GSM/GPRS, middle channel ARFCN 192	
Power during tests:	12V DC, 120 V/60Hz 6-0330-13-6-3a	

EUT Information

Manufacturer:	ublox AG
Model:	LISA-U200
Type:	GSM/FDD Module

EUT:	LISA-U200, RF Sample
HW version:	146AB2
FW version:	22.90
Serial number:	3588901-04-594324-5
Connected Accessories:	Taoglass antenna, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 120 VAC/ 60 Hz Main
Comments:	--

FCC15.209_magn hor+vert



1.2 Field strength < 30 MHz (radiated) – PCS1900 Mode

2.02_Ch661_PCS1900

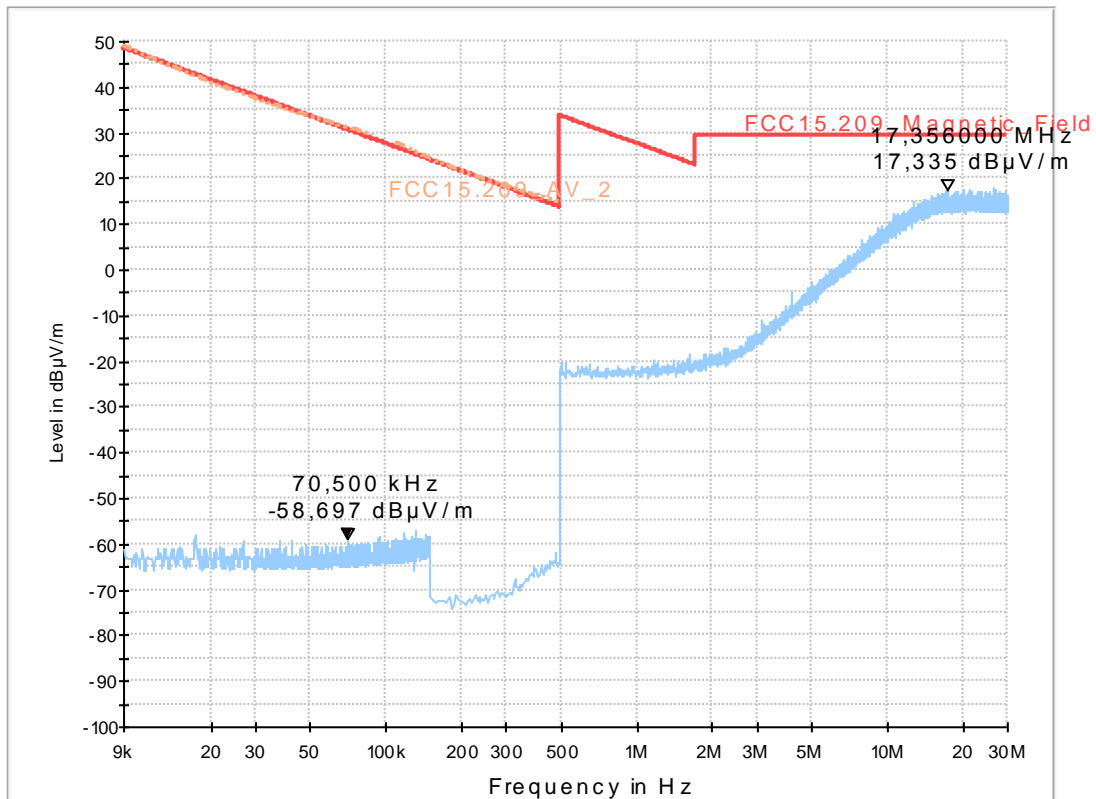
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Test description:	Magnetic Fieldstrength Measurement related to 30/300 m distance	
Test site and distance:	Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance	
Version of Testsoftware:	EMC32 V8.51.0	
Distance correction:	used accord. 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 3	
Operator:	ADa	
Operating conditions:	TX-on, PCS1900 - GSM/GPRS, middle channel ARFCN 661	
Power during tests:	12V DC, 120 V/60Hz 6-0330-13-6-3a	

EUT Information

Manufacturer:	ublox AG
Model:	LISA-U200
Type:	GSM/FDD Module

EUT:	LISA-U200, RF Sample
HW version:	146AB2
FW version:	22.90
Serial number:	3588901-04-594324-5
Connected Accessories:	Taoglass antenna, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 120 VAC/ 60 Hz Main
Comments:	--

FCC 15.209_magn hor+vert



1.3 Field strength < 30 MHz (radiated) – FDD II Mode

2.03_Ch9400_RMC

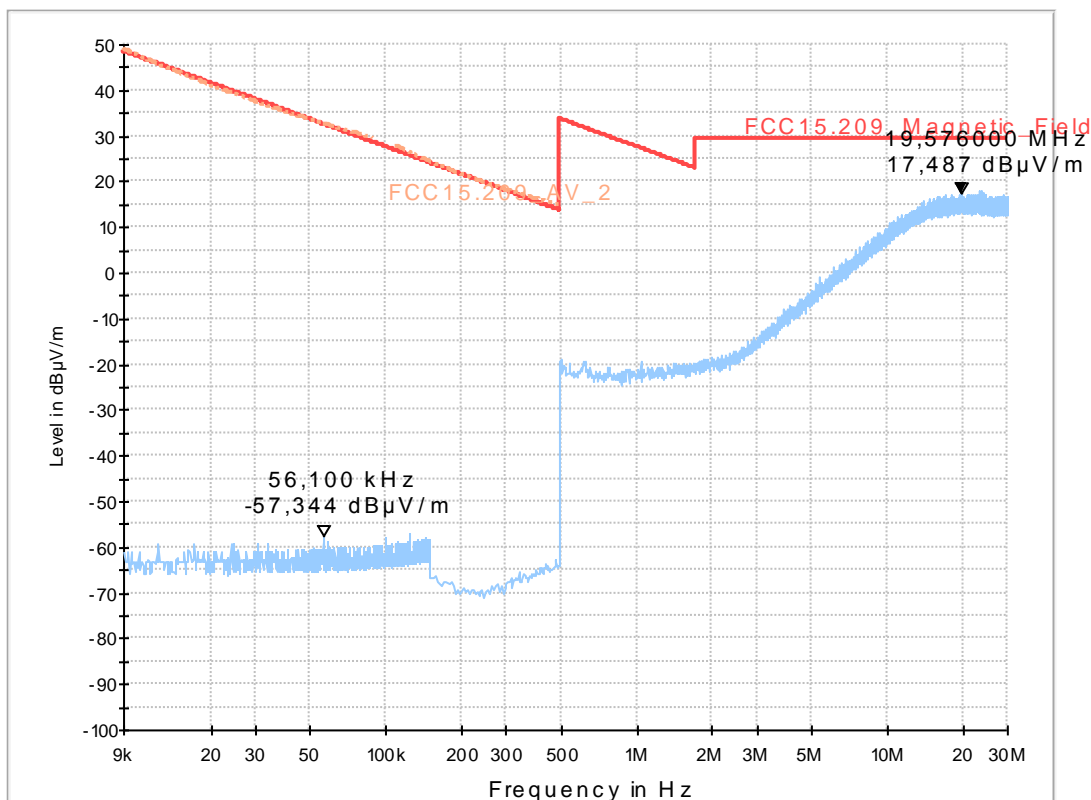
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Test description:	Magnetic Fieldstrength Measurement related to 30/300 m distance	
Test site and distance:	Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance	
Version of Testsoftware:	EMC32 V8.51.0	
Distance correction:	used accord. 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 3	
Operator:	ADa	
Operating conditions:	TX-on, middle channel 9400	
Power during tests:	12V DC via AC/DC Power supply with 120 V/60Hz 6-0330-13-6-3a	

EUT Information

Manufacturer:	ublox AG
Model:	LISA-U200
Type:	GSM/FDD Module

EUT:	LISA-U200, RF Sample
HW version:	146AB2
FW version:	22.90
Serial number:	3588901-04-594324-5
Connected Accessories:	Taoglass antenna, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 120 VAC/ 60 Hz Main
Comments:	--

FCC15.209_magn hor+vert



1.4 Field strength < 30 MHz (radiated) – FDD IV Mode

2.04_Ch1413_RMC

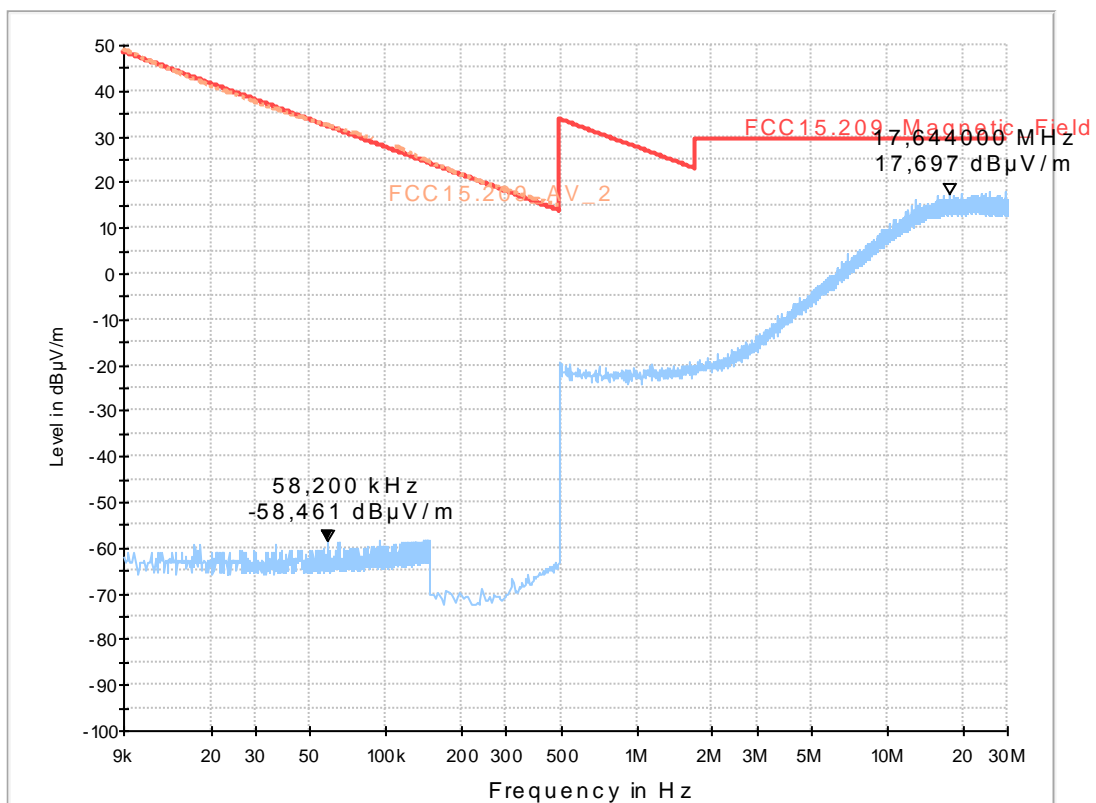
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Test description:	Magnetic Fieldstrength Measurement related to 30/300 m distance	
Test site and distance:	Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance	
Version of Testsoftware:	EMC32 V8.51.0	
Distance correction:	used accord. 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 3	
Operator:	ADa	
Operating conditions:	TX-on, middle channel 1413	
Power during tests:	12V DC, 120 V/60Hz 6-0330-13-6-3a	

EUT Information

Manufacturer:	ublox AG
Model:	LISA-U200
Type:	GSM/FDD Module

EUT:	LISA-U200, RF Sample
HW version:	146AB2
FW version:	22.90
Serial number:	3588901-04-594324-5
Connected Accessories:	Taoglass antenna, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 120 VAC/ 60 Hz Main
Comments:	--

FCC15.209_magn hor+vert



1.5 Field strength < 30 MHz (radiated) – FDD V Mode

2.05_Ch4182_RMC

Common Information

Test description:	Magnetic Fieldstrength 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 V8.51.0
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 3

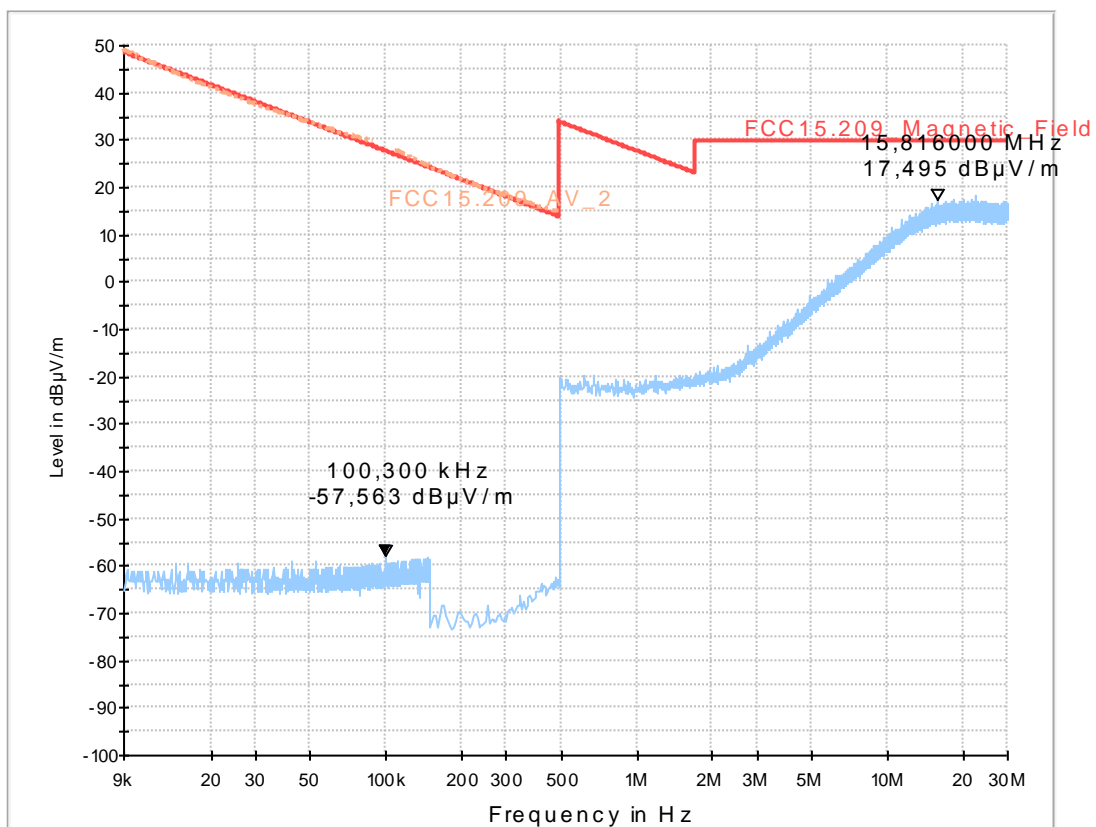
Operator:	ADa
Operating conditions:	TX-on, middle channel 4182
Power during tests:	12V DC, 120 V/60Hz 6-0330-13-6-3a

EUT Information

Manufacturer:	ublox AG
Model:	LISA-U200
Type:	GSM/FDD Module

EUT:	LISA-U200, RF Sample
HW version:	146AB2
FW version:	22.90
Serial number:	3588901-04-594324-5
Connected Accessories:	Taoglass antenna, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 120 VAC/ 60 Hz Main
Comments:	--

FCC15.209_magn hor+vert



1.6 TX Spurious emissions conducted – G850 Mode

Diagram No.: 36.00_G850_mid

Common Information

Test Description:	TX Spurious Emission Conducted §2.1051
Test Site:	Radio laboratory 2
Test Standard:	FCC Part 22, RSS-132
Operation mode:	TX - GSM/GPRS (CS), Channel 192, (PCL= 5 (33 dBm))
Operator:	Tas
Comment:	6-0330-13-3-6a

EUT Information

Manufacturer:	ublox AG
Model:	LISA-U200
Type:	GSM/FDD Module

EUT:	LISA-U200, RF Sample
HW version:	146AB2
FW version:	22.90
Serial number:	358901-04-594324-5
Connected Accessories:	AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 120 VAC/ 60 Hz Main
Comments:	--

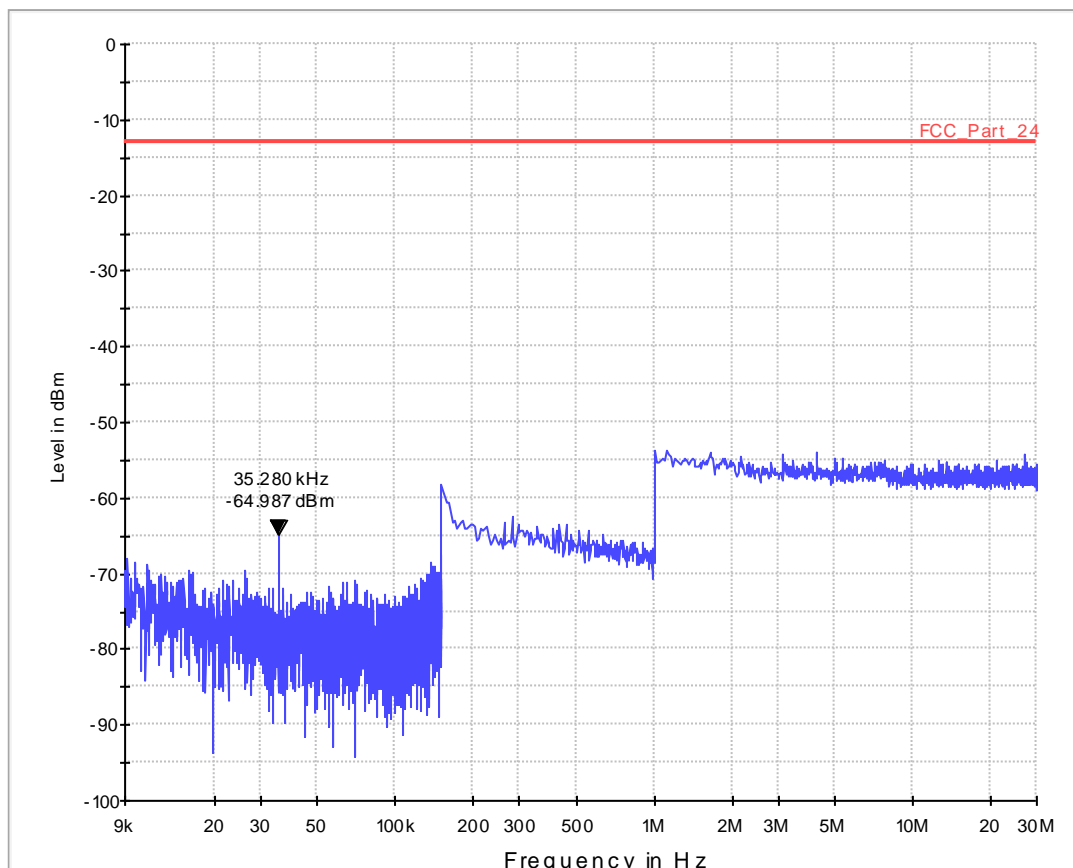


Diagram No.: 36.01_GSM_G850_low

Common Information

Test Description:	TX Spurious Emission Conducted §2.1051
Test Site:	Radio laboratory 2
Test Standard:	FCC Part 22, RSS-132
Operation mode:	TX - GSM/GPRS (CS), Channel 128, (PCL= 5 (33 dBm))
Operator:	Tas
Comment:	6-0330-13-3-6a

EUT Information

Manufacturer:	ublox AG
Model:	LISA-U200
Type:	GSM/FDD Module

EUT:	LISA-U200, RF Sample
HW version:	146AB2
FW version:	22.90
Serial number:	358901-04-594324-5
Connected Accessories:	AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 120 VAC/ 60 Hz Main
Comments:	--

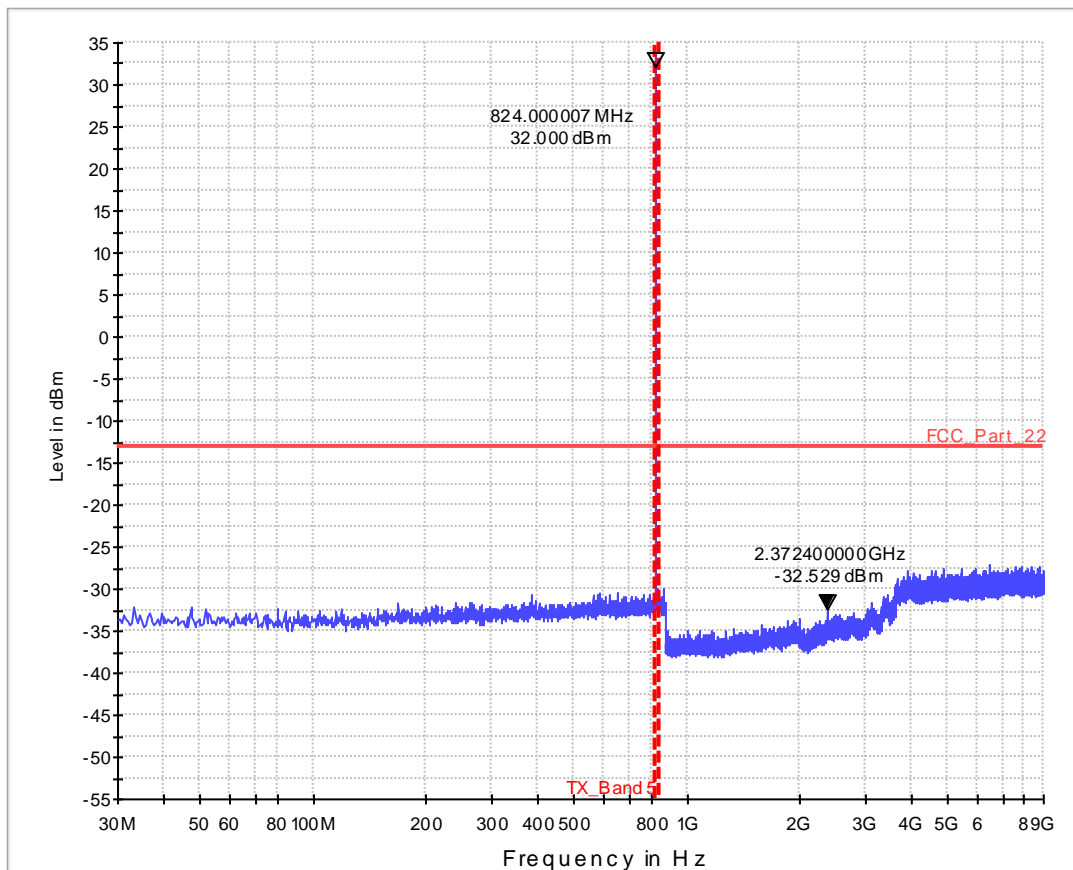


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Common Information

Test Description:	TX Spurious Emission Conducted §2.1051
Test Site:	Radio laboratory 2
Test Standard:	FCC Part 22, RSS-132
Operation mode:	TX - GSM/GPRS (CS), Channel 192, (PCL= 5 (33 dBm))
Operator:	Tas
Comment:	6-0330-13-3-6a

EUT Information

Manufacturer:	ublox AG
Model:	LISA-U200
Type:	GSM/FDD Module

EUT:	LISA-U200, RF Sample
HW version:	146AB2
FW version:	22.90
Serial number:	358901-04-594324-5
Connected Accessories:	AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 120 VAC/ 60 Hz Main
Comments:	--

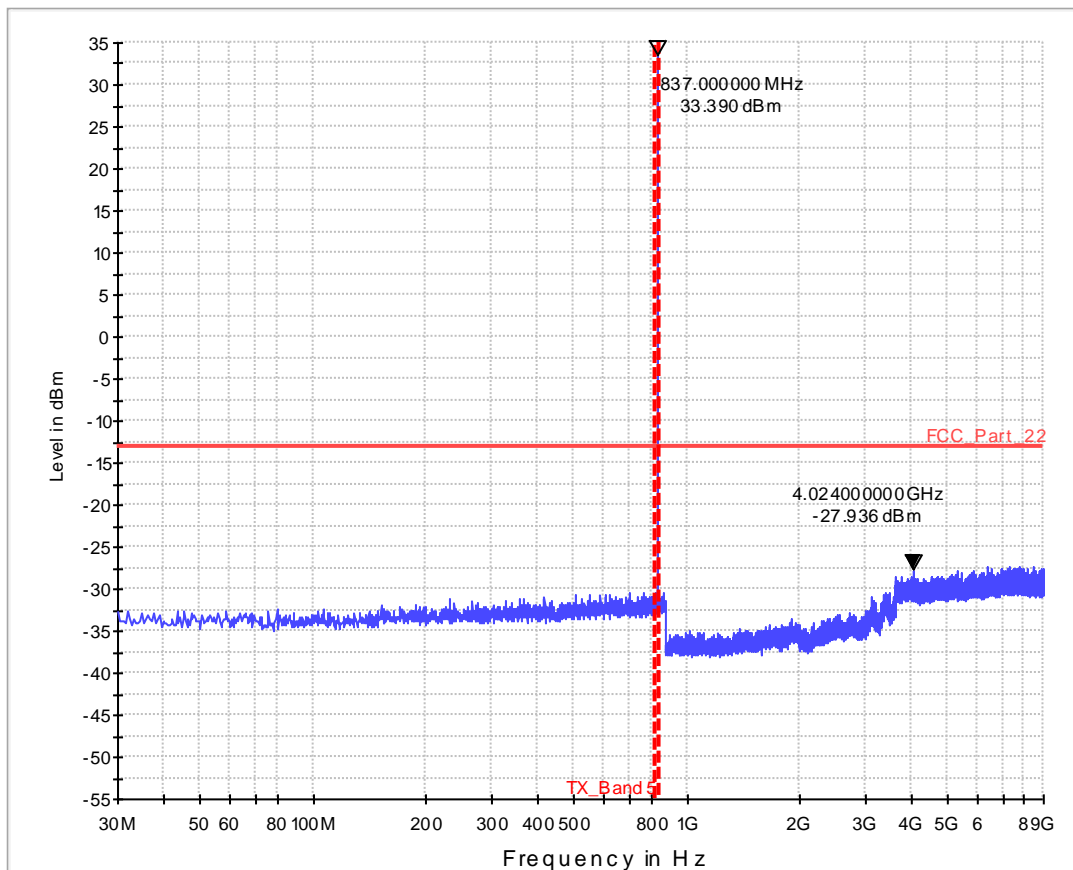


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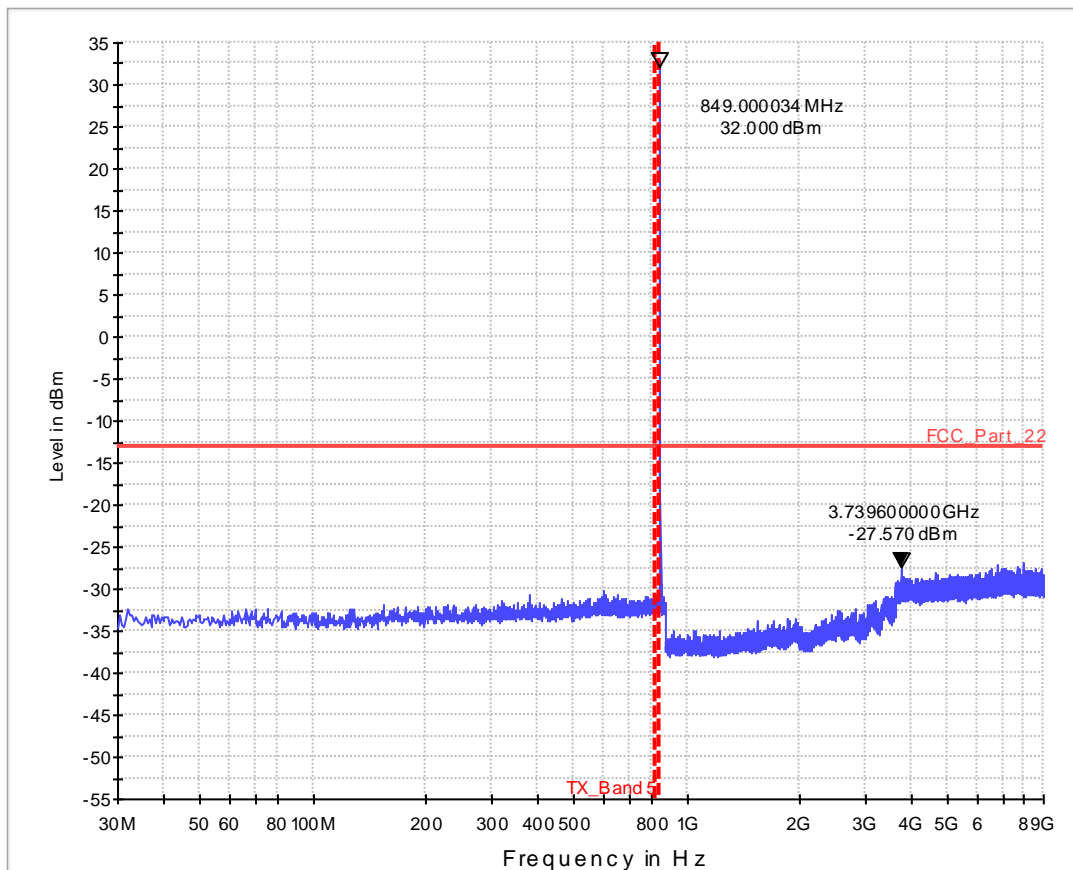
Common Information

Test Description:	TX Spurious Emission Conducted §2.1051
Test Site:	Radio laboratory 2
Test Standard:	FCC Part 22, RSS-132
Operation mode:	TX - GSM/GPRS (CS), Channel 251, (PCL= 5 (33 dBm))
Operator:	Tas
Comment:	6-0330-13-3-6a

EUT Information

Manufacturer:	ublox AG
Model:	LISA-U200
Type:	GSM/FDD Module

EUT:	LISA-U200, RF Sample
HW version:	146AB2
FW version:	22.90
Serial number:	358901-04-594324-5
Connected Accessories:	AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 120 VAC/ 60 Hz Main
Comments:	--



1.7 TX Spurious emissions conducted – PCS1900 Mode

Diagram No.: 36.07_PCS1900_mid

Common Information

Test Description:	TX Spurious Emission Conducted §2.1051
Test Site:	Radio laboratory 2
Test Standard:	FCC Part 24, RSS-133
Operation mode:	TX - GSM/GPRS (CS), Channel 661, (PCL= 0 (30 dBm))
Operator:	Tas
Comment:	6-0330-13-3-6a

EUT Information

Manufacturer:	ublox AG
Model:	LISA-U200
Type:	GSM/FDD Module

EUT:	LISA-U200, RF Sample
HW version:	146AB2
FW version:	22.90
Serial number:	358901-04-594324-5
Connected Accessories:	AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 120 VAC/ 60 Hz Main
Comments:	--

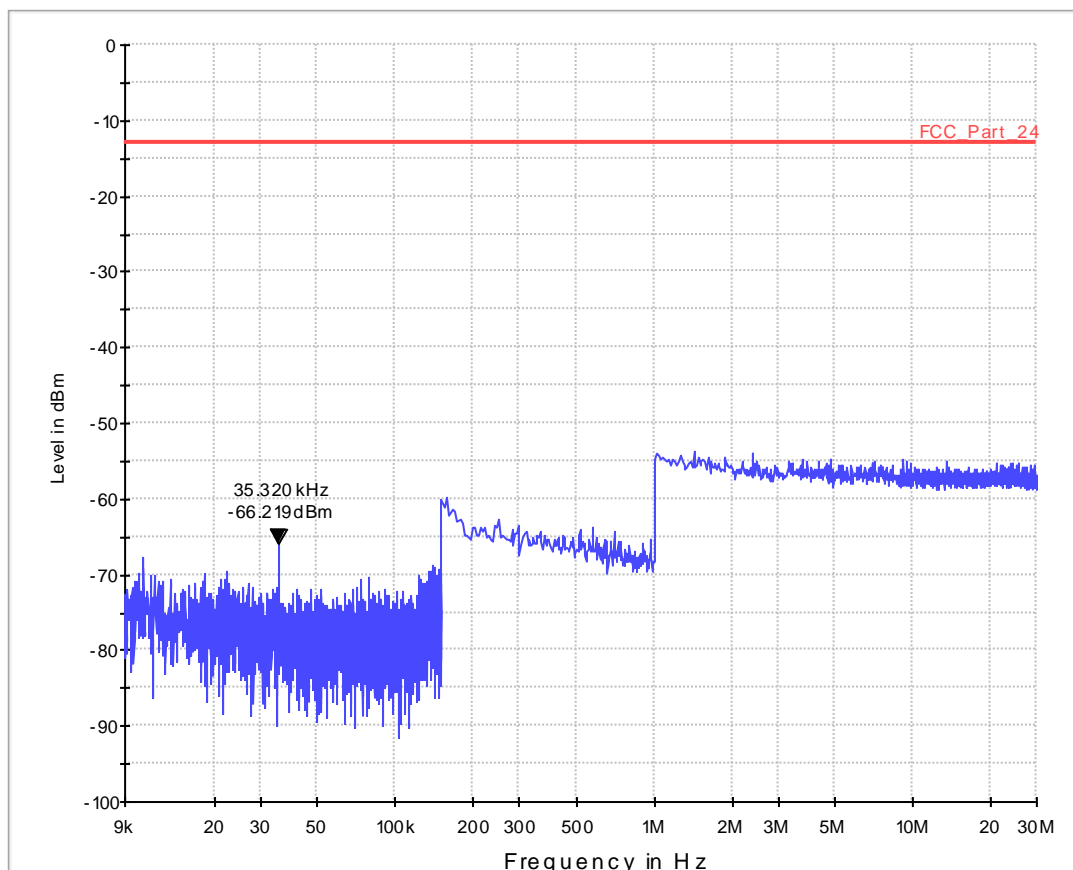


Diagram No.: 36.08_PCS1900_low

Common Information

Test Description:	TX Spurious Emission Conducted §2.1051
Test Site:	Radio laboratory 2
Test Standard:	FCC Part 24, RSS-133
Operation mode:	TX - GSM/GPRS (CS), Channel 512, (PCL= 0 (30 dBm))
Operator:	Tas
Comment:	6-0330-13-3-6a

EUT Information

Manufacturer:	ublox AG
Model:	LISA-U200
Type:	GSM/FDD Module

EUT:	LISA-U200, RF Sample
HW version:	146AB2
FW version:	22.90
Serial number:	358901-04-594324-5
Connected Accessories:	AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 120 VAC/ 60 Hz Main
Comments:	--

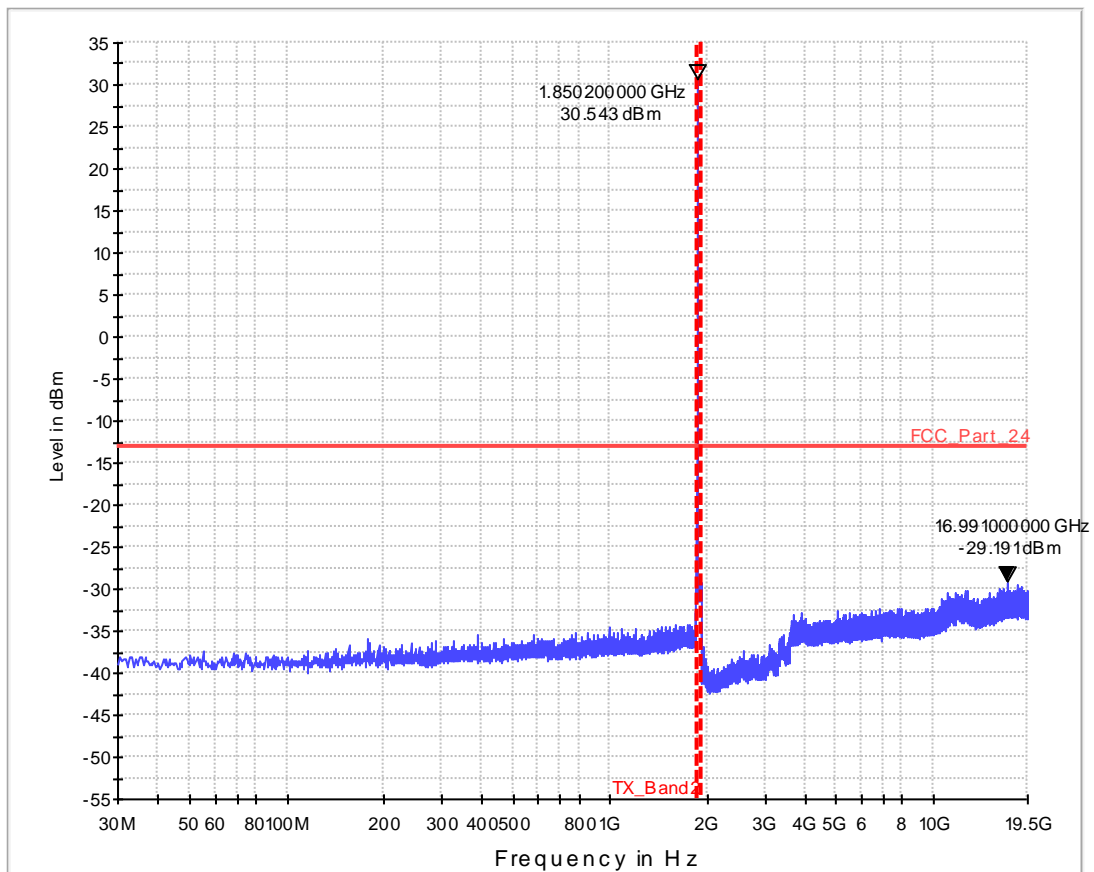


Diagram No.: 36.09_PCS1900_mid

Common Information

Test Description: TX Spurious Emission Conducted §2.1051
Test Site: Radio laboratory 2
Test Standard: FCC Part 24, RSS-133

Operation mode: TX - GSM/GPRS (CS), Channel 661, (PCL= 0 (30 dBm))
Operator: Tas
Comment: 6-0330-13-3-6a

EUT Information

Manufacturer: ublox AG
Model: LISA-U200
Type: GSM/FDD Module

EUT: LISA-U200, RF Sample
HW version: 146AB2
FW version: 22.90
Serial number: 358901-04-594324-5
Connected Accessories: AC/DC Power Supply
Power Supply: 12VDC via AC/DC Power supply with 120 VAC/ 60 Hz Main
Comments: --

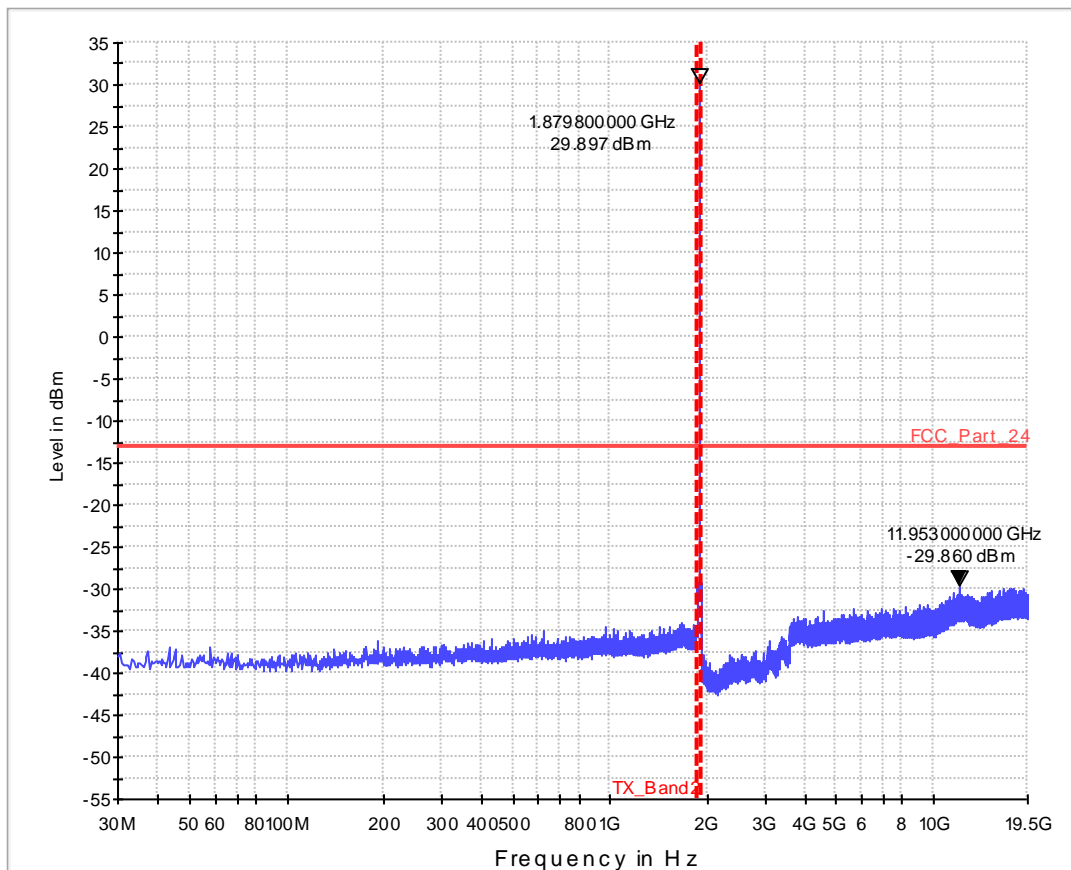


Diagram No.: 36.10_PCS1900_high

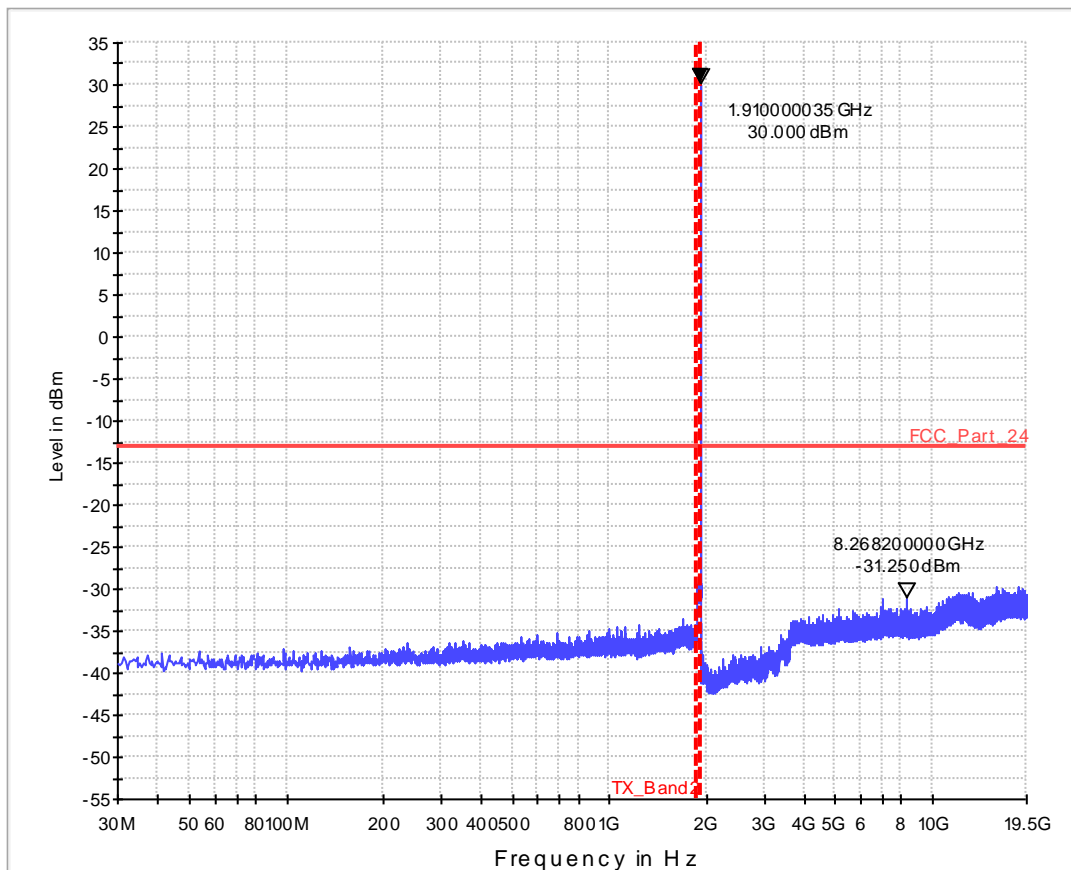
Common Information

Test Description:	TX Spurious Emission Conducted §2.1051
Test Site:	Radio laboratory 2
Test Standard:	FCC Part 24, RSS-133
Operation mode:	TX - GSM/GPRS (CS), Channel 810, (PCL= 0 (30 dBm))
Operator:	Tas
Comment:	6-0330-13-3-6a

EUT Information

Manufacturer:	ublox AG
Model:	LISA-U200
Type:	GSM/FDD Module

EUT:	LISA-U200, RF Sample
HW version:	146AB2
FW version:	22.90
Serial number:	358901-04-594324-5
Connected Accessories:	AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 120 VAC/ 60 Hz Main
Comments:	--



1.8 TX Spurious emissions conducted – FDD II Mode

Diagram No.: 36.14_FDD II_mid

Common Information

Test Description:	TX Spurious Emission Conducted §2.1051
Test Site:	Radio laboratory 2
Test Standard:	FCC Part 24, RSS-133
Operation mode:	TX - FDD II (RMC), Channel 9400, (PC= 24 dBm)
Operator:	Tas
Comment:	6-0330-13-3-6a

EUT Information

Manufacturer:	ublox AG
Model:	LISA-U200
Type:	GSM/FDD Module

EUT:	LISA-U200, RF Sample
HW version:	146AB2
FW version:	22.90
Serial number:	358901-04-594324-5
Connected Accessories:	AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 120 VAC/ 60 Hz Main
Comments:	--

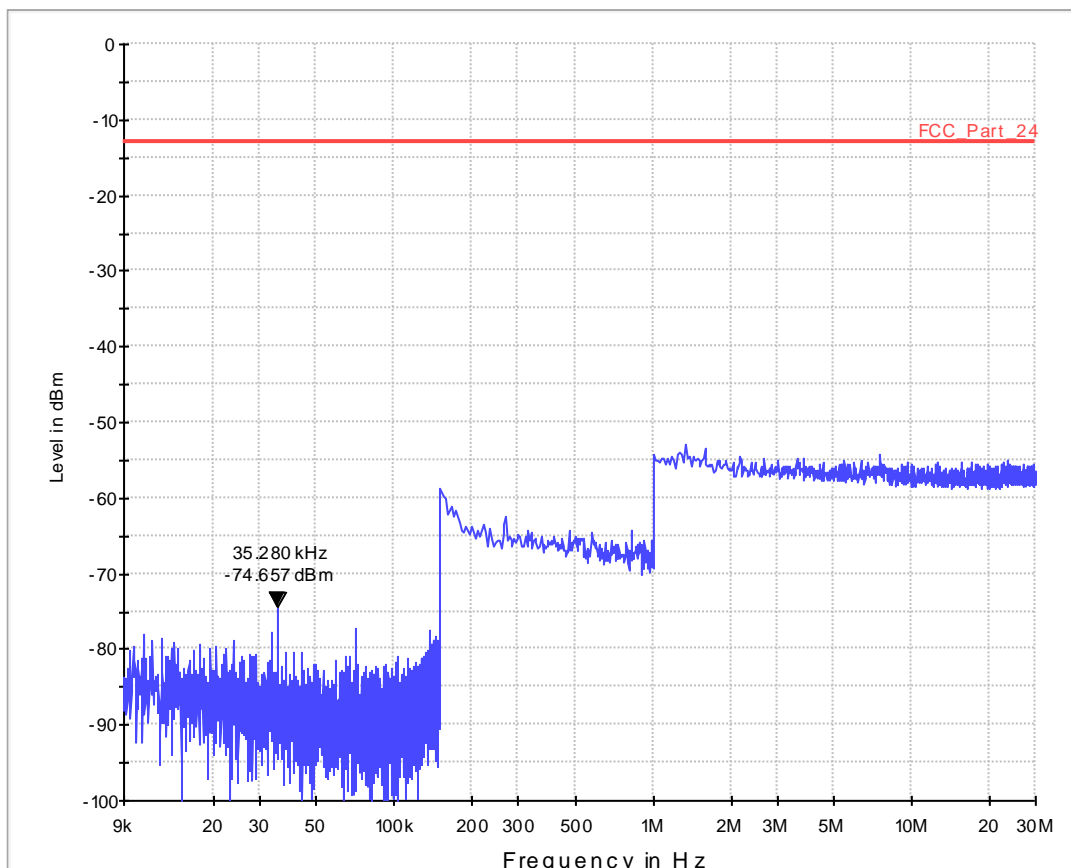


Diagram No.: 36.15_FDD II_low

Common Information

Test Description:	TX Spurious Emission Conducted §2.1051
Test Site:	Radio laboratory 2
Test Standard:	FCC Part 24, RSS-133
Operation mode:	TX - FDD II (RMC), Channel 9262, (PCL= 3 (24 dBm))
Operator:	Tas
Comment:	6-0330-13-3-6a

EUT Information

Manufacturer:	ublox AG
Model:	LISA-U200
Type:	GSM/FDD Module

EUT:	LISA-U200, RF Sample
HW version:	146AB2
FW version:	22.90
Serial number:	358901-04-594324-5
Connected Accessories:	AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 120 VAC/ 60 Hz Main
Comments:	--

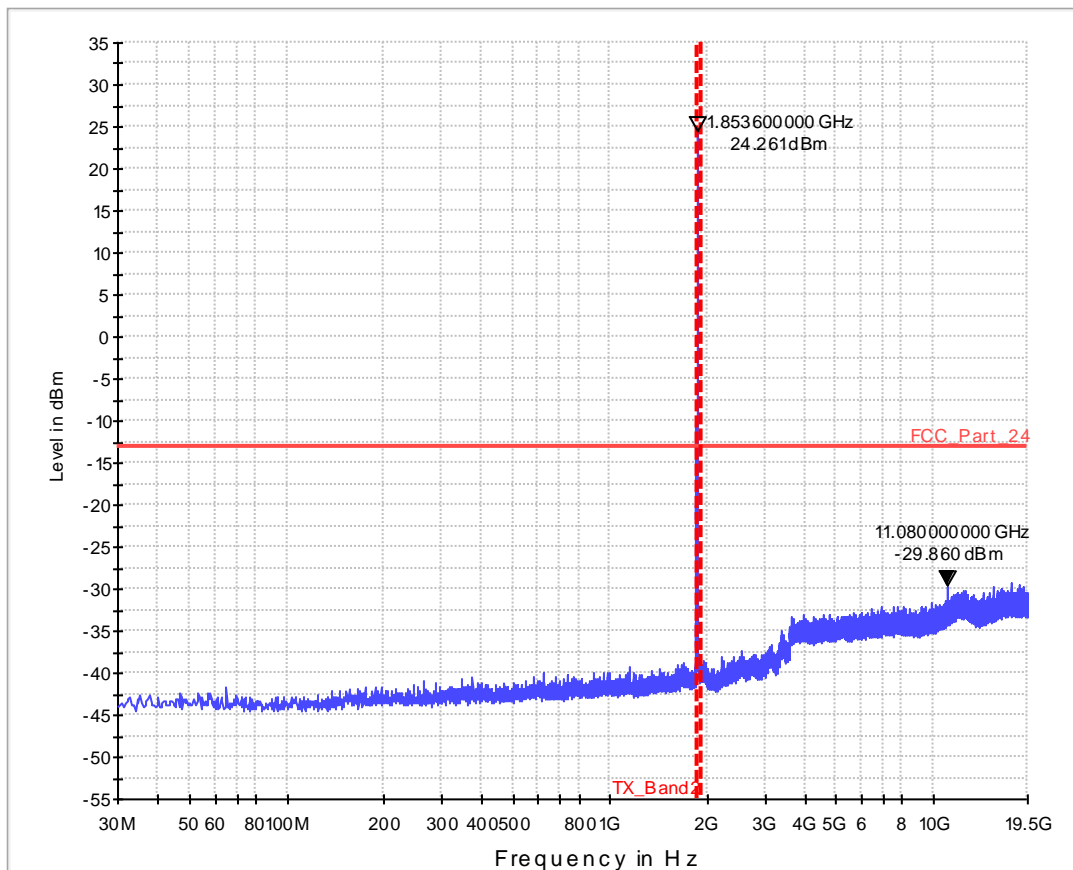


Diagram No.: 36.16_FDD II_mid

Common Information

Test Description:	TX Spurious Emission Conducted §2.1051
Test Site:	Radio laboratory 2
Test Standard:	FCC Part 24, RSS-133
Operation mode:	TX - FDD II (RMC), Channel 9400, (PC= 24 dBm)
Operator:	Tas
Comment:	6-0330-13-3-6a

EUT Information

Manufacturer:	ublox AG
Model:	LISA-U200
Type:	GSM/FDD Module

EUT:	LISA-U200, RF Sample
HW version:	146AB2
FW version:	22.90
Serial number:	358901-04-594324-5
Connected Accessories:	AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 120 VAC/ 60 Hz Main
Comments:	--

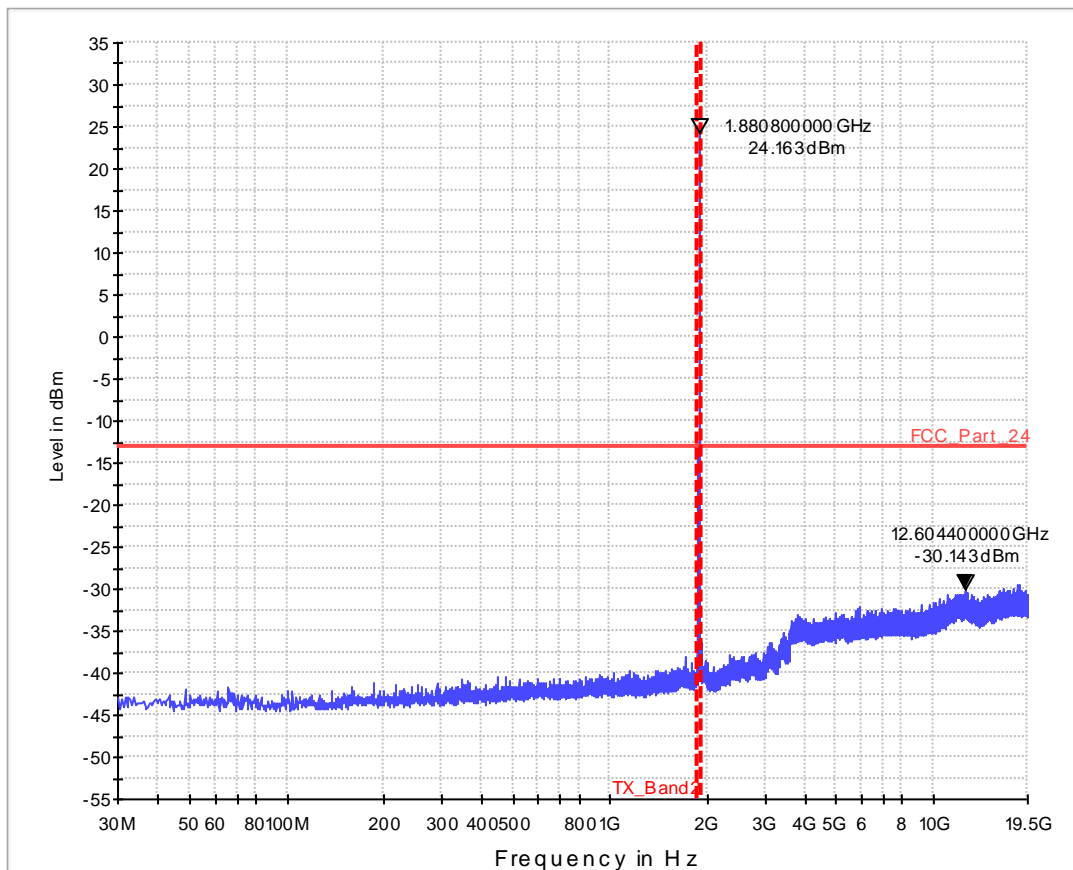


Diagram No.: 36.17_FDD II_high

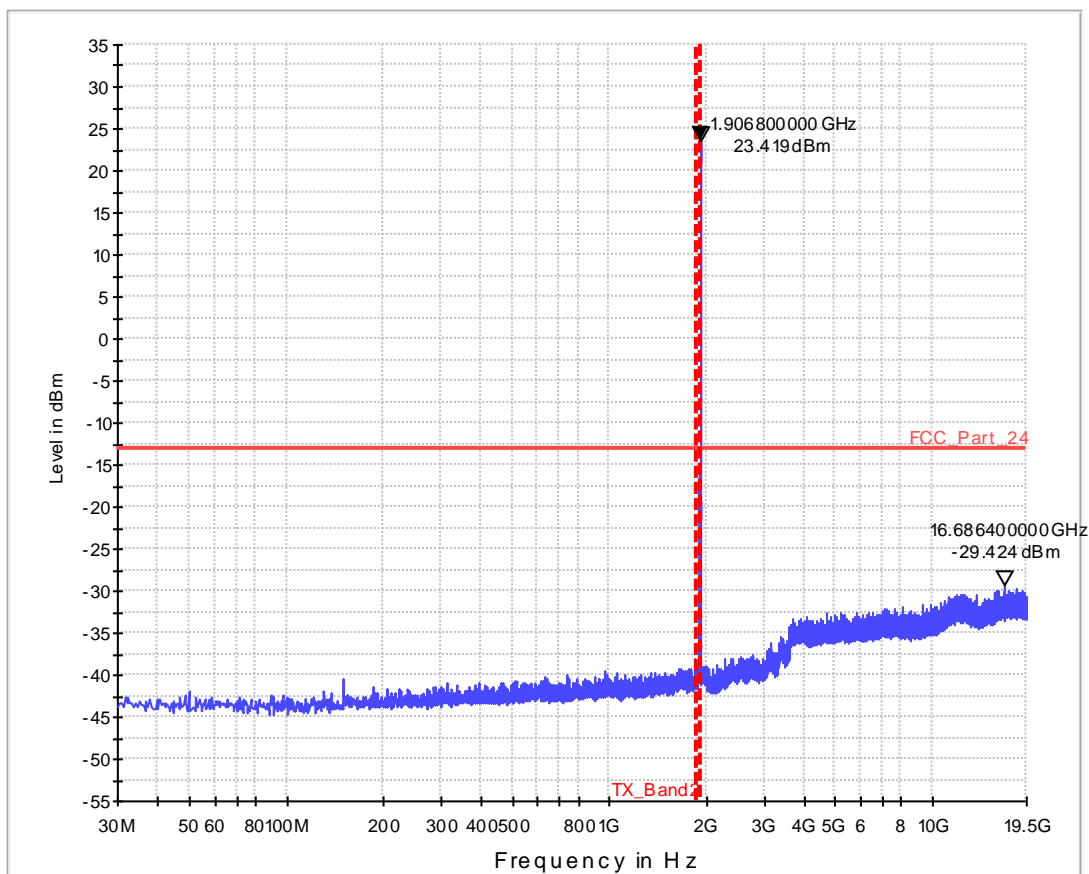
Common Information

Test Description:	TX Spurious Emission Conducted §2.1051
Test Site:	Radio laboratory 2
Test Standard:	FCC Part 24, RSS-133
Operation mode:	TX - FDD II (RMC), Channel 9538, (PCL= 3 (24 dBm))
Operator:	Tas
Comment:	6-0330-13-3-6a

EUT Information

Manufacturer:	ublox AG
Model:	LISA-U200
Type:	GSM/FDD Module

EUT:	LISA-U200, RF Sample
HW version:	146AB2
FW version:	22.90
Serial number:	358901-04-594324-5
Connected Accessories:	AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 120 VAC/ 60 Hz Main
Comments:	--



1.9 TX Spurious emissions conducted – FDD VI Mode

Diagram No.: 36.18_FDD IV_mid

Common Information

Test Description:	TX Spurious Emission Conducted §2.1051
Test Site:	Radio laboratory 2
Test Standard:	FCC Part 27, RSS-139
Operation mode:	TX - FDD IV (RMC), Channel 1413, (PCL= 3 (24 dBm))
Operator:	Tas
Comment:	6-0330-13-3-6a

EUT Information

Manufacturer:	ublox AG
Model:	LISA-U200
Type:	GSM/FDD Module

EUT:	LISA-U200, RF Sample
HW version:	146AB2
FW version:	22.90
Serial number:	358901-04-594324-5
Connected Accessories:	AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 120 VAC/ 60 Hz Main
Comments:	--

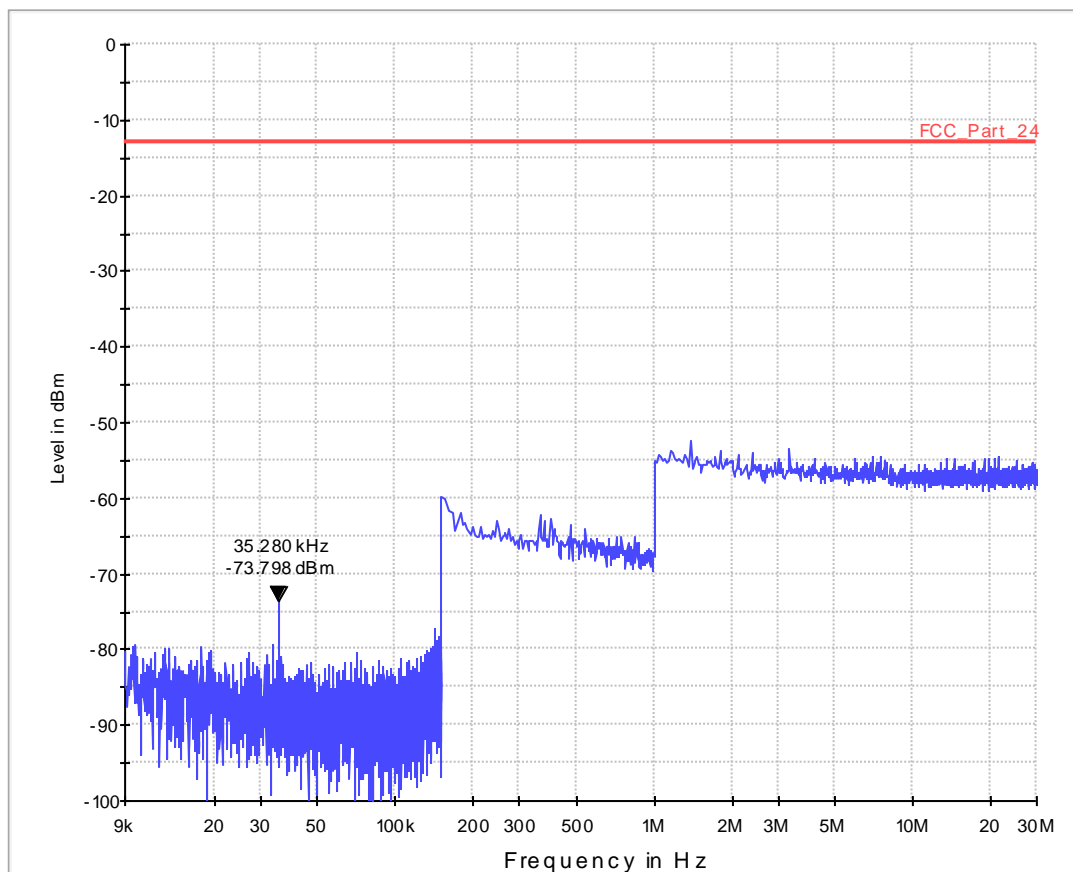


Diagram No.: 36.19_FDD IV_low

Common Information

Test Description:	TX Spurious Emission Conducted §2.1051
Test Site:	Radio laboratory 2
Test Standard:	FCC Part 27, RSS-139
Operation mode:	TX - FDD IV (RMC), Channel 1312, (PCL= 3 (24 dBm))
Operator:	Tas
Comment:	6-0330-13-3-6a

EUT Information

Manufacturer:	ublox AG
Model:	LISA-U200
Type:	GSM/FDD Module

EUT:	LISA-U200, RF Sample
HW version:	146AB2
FW version:	22.90
Serial number:	358901-04-594324-5
Connected Accessories:	AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 120 VAC/ 60 Hz Main
Comments:	--

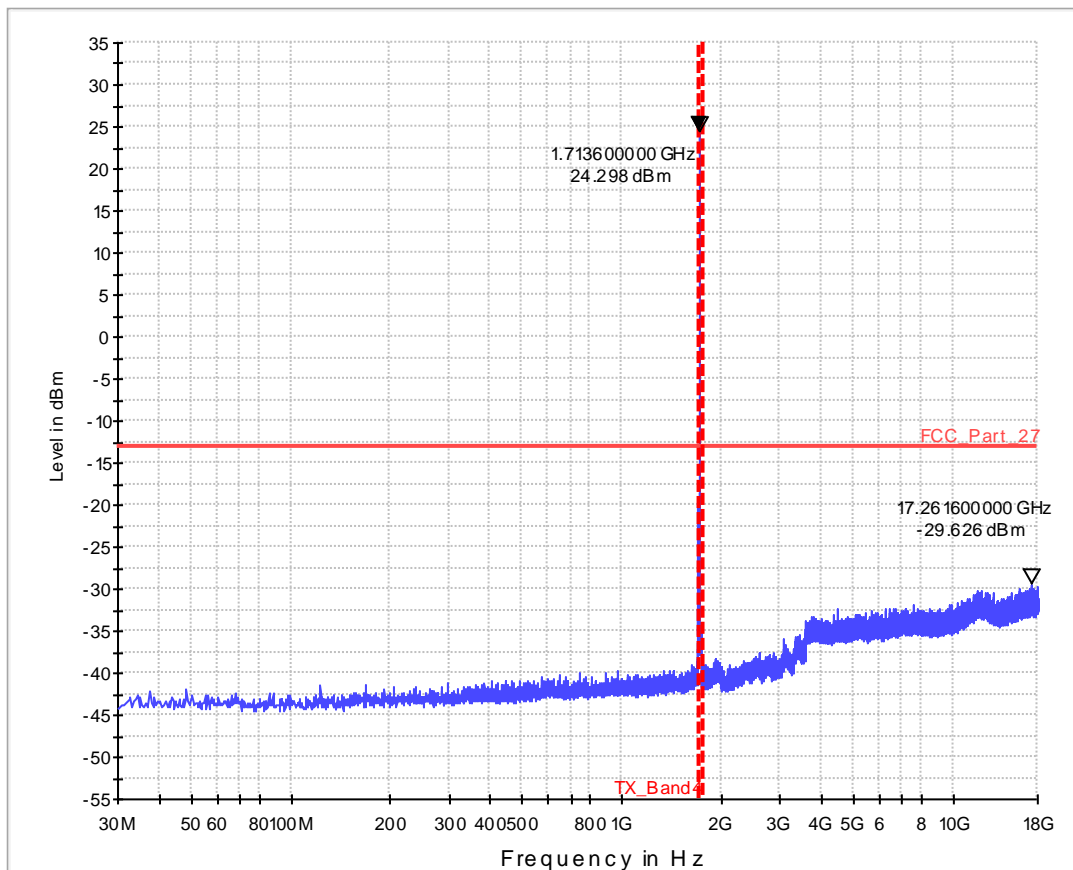


Diagram No.: 36.20_FDD IV_mid

Common Information

Test Description:	TX Spurious Emission Conducted §2.1051
Test Site:	Radio laboratory 2
Test Standard:	FCC Part 27, RSS-139
Operation mode:	TX - FDD IV (RMC), Channel 1413, (PCL= 3 (24 dBm))
Operator:	Tas
Comment:	6-0330-13-3-6a

EUT Information

Manufacturer:	ublox AG
Model:	LISA-U200
Type:	GSM/FDD Module

EUT:	LISA-U200, RF Sample
HW version:	146AB2
FW version:	22.90
Serial number:	358901-04-594324-5
Connected Accessories:	AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 120 VAC/ 60 Hz Main
Comments:	--

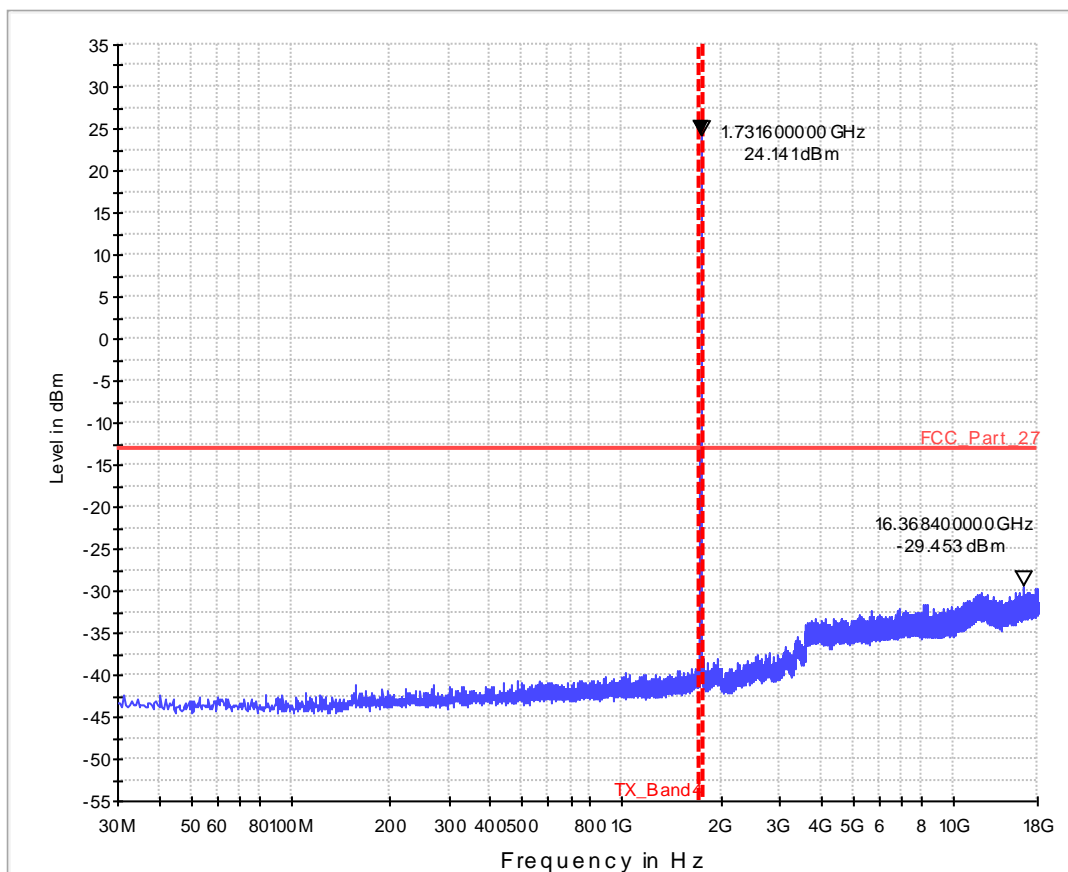


Diagram No.: 36.21_FDD IV_high

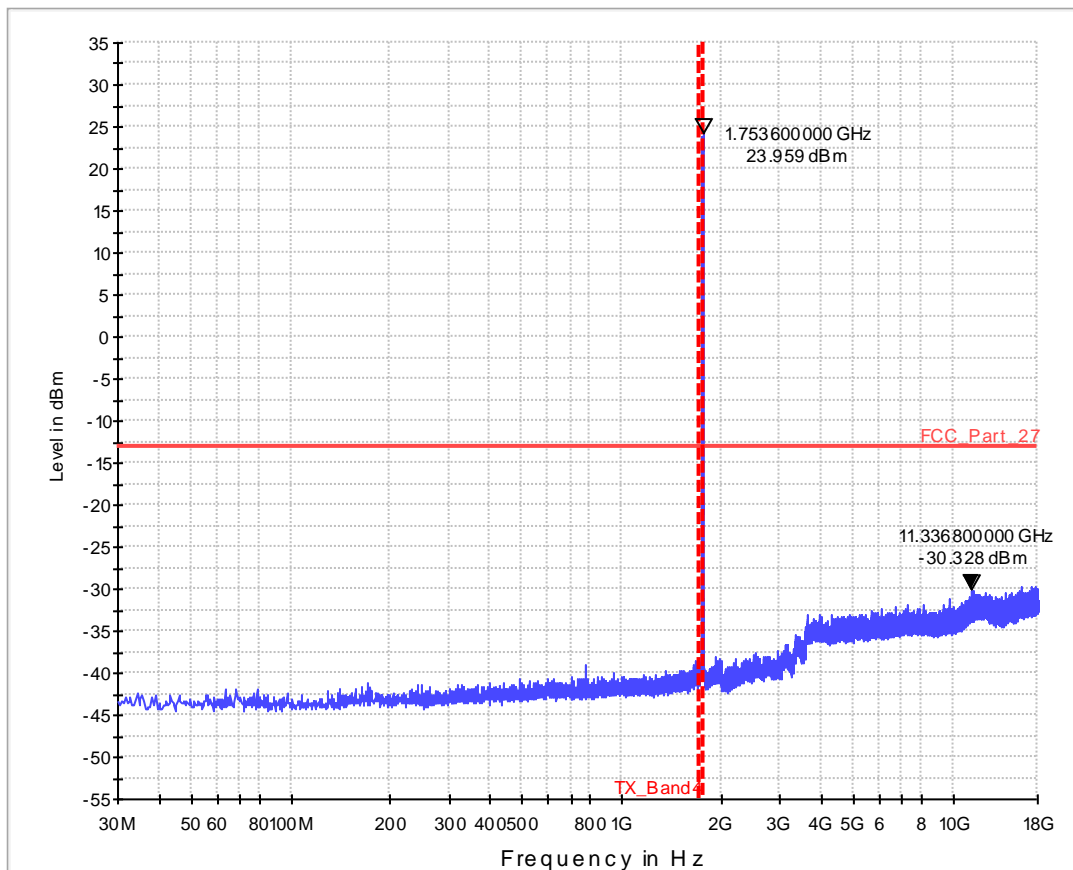
Common Information

Test Description:	TX Spurious Emission Conducted §2.1051
Test Site:	Radio laboratory 2
Test Standard:	FCC Part 27, RSS-139
Operation mode:	TX - FDD IV (RMC), Channel 1513, (PCL= 3 (24 dBm))
Operator:	Tas
Comment:	6-0330-13-3-6a

EUT Information

Manufacturer:	ublox AG
Model:	LISA-U200
Type:	GSM/FDD Module

EUT:	LISA-U200, RF Sample
HW version:	146AB2
FW version:	22.90
Serial number:	358901-04-594324-5
Connected Accessories:	AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 120 VAC/ 60 Hz Main
Comments:	--



2.0 TX Spurious emissions conducted – FDD V Mode

Diagram No.: 36.22_FDD V_mid

Common Information

Test Description:	TX Spurious Emission Conducted §2.1051
Test Site:	Radio laboratory 2
Test Standard:	FCC Part 22, RSS-132
Operation mode:	TX - FDD V (RMC), Channel 4182, (PCL= 3 (24 dBm))
Operator:	Tas
Comment:	6-0330-13-3-6a

EUT Information

Manufacturer:	ublox AG
Model:	LISA-U200
Type:	GSM/FDD Module

EUT:	LISA-U200, RF Sample
HW version:	146AB2
FW version:	22.90
Serial number:	358901-04-594324-5
Connected Accessories:	AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 120 VAC/ 60 Hz Main
Comments:	--

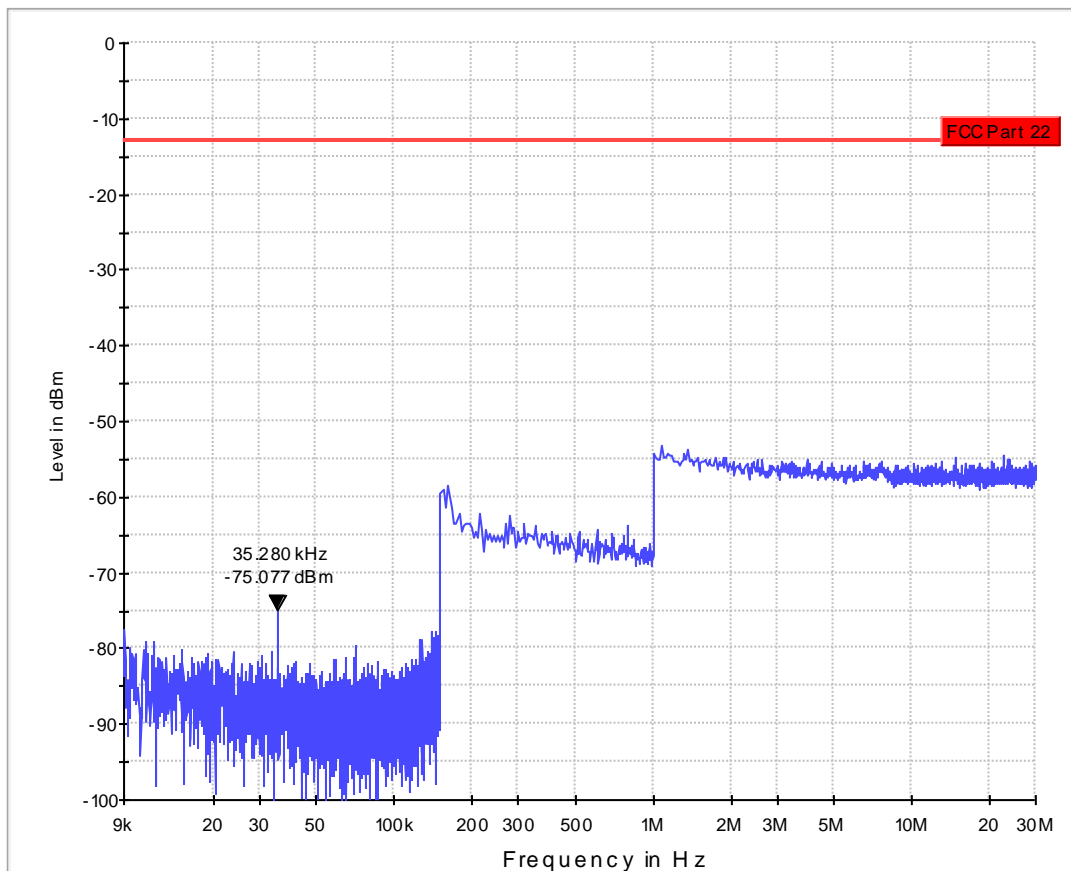


Diagram No.: 36.23_FDD V_low

Common Information

Test Description:	TX Spurious Emission Conducted §2.1051
Test Site:	Radio laboratory 2
Test Standard:	FCC Part 22, RSS-132
Operation mode:	TX - FDD V (RMC), Channel 4132, (PCL= 3 (24 dBm))
Operator:	Tas
Comment:	6-0330-13-3-6a

EUT Information

Manufacturer:	ublox AG
Model:	LISA-U200
Type:	GSM/FDD Module

EUT:	LISA-U200, RF Sample
HW version:	146AB2
FW version:	22.90
Serial number:	358901-04-594324-5
Connected Accessories:	AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 120 VAC/ 60 Hz Main
Comments:	--

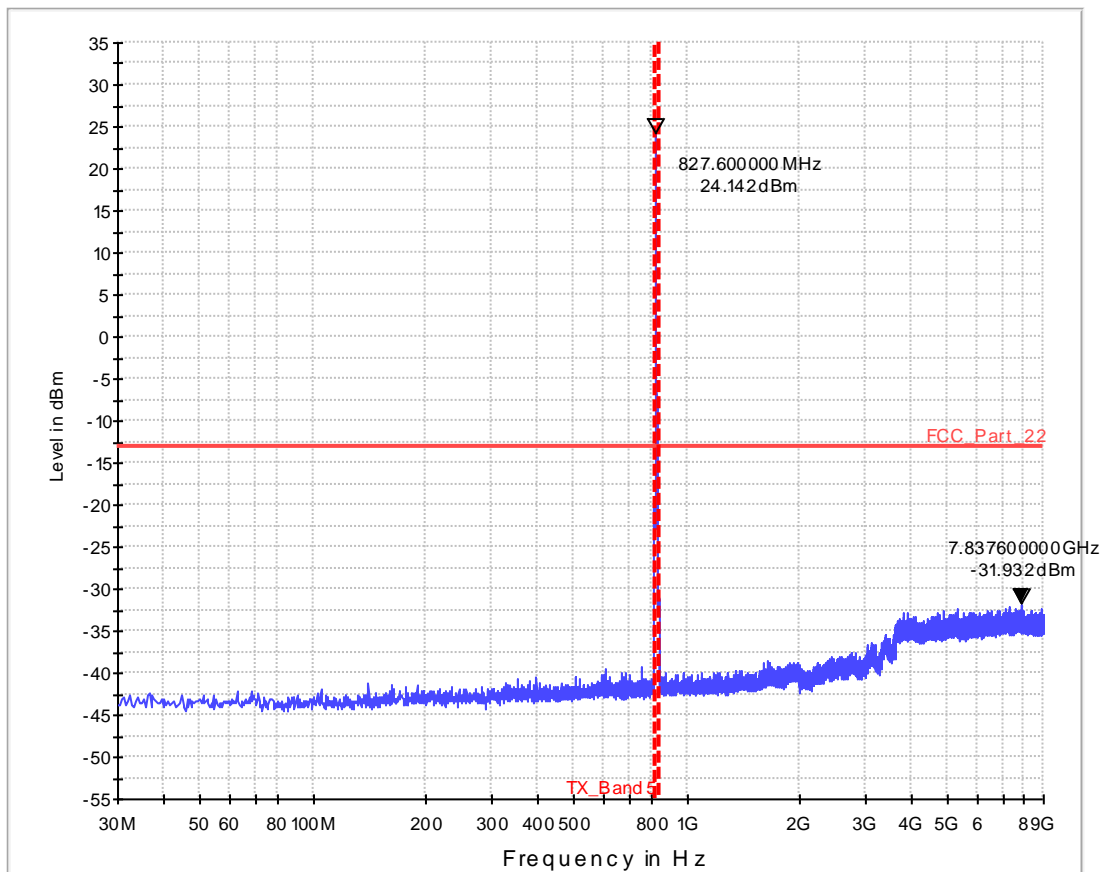


Diagram No.: 36.24_FDD V_mid

Common Information

Test Description:	TX Spurious Emission Conducted §2.1051
Test Site:	Radio laboratory 2
Test Standard:	FCC Part 22, RSS-132
Operation mode:	TX - FDD V (RMC), Channel 4182, (PCL= 3 (24 dBm))
Operator:	Tas
Comment:	6-0330-13-3-6a

EUT Information

Manufacturer:	ublox AG
Model:	LISA-U200
Type:	GSM/FDD Module

EUT:	LISA-U200, RF Sample
HW version:	146AB2
FW version:	22.90
Serial number:	358901-04-594324-5
Connected Accessories:	AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 120 VAC/ 60 Hz Main
Comments:	--

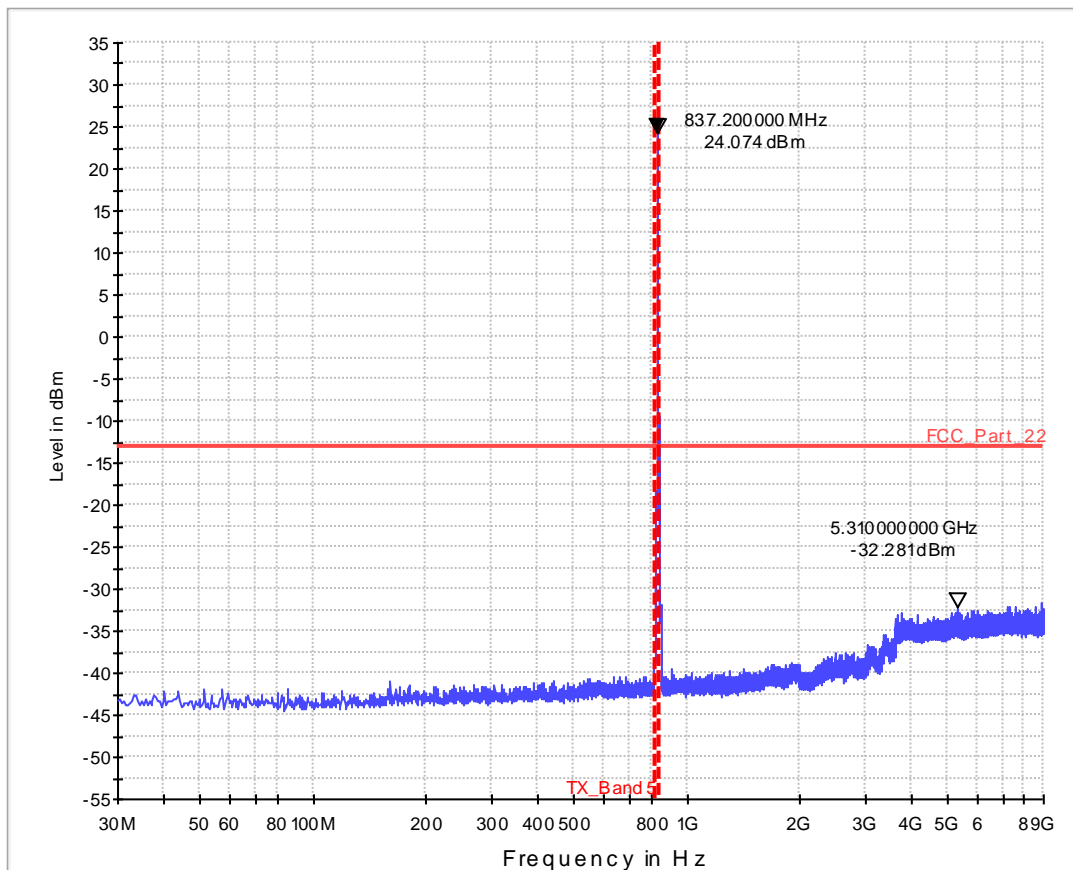


Diagram No.: 36.25_FDD V_high

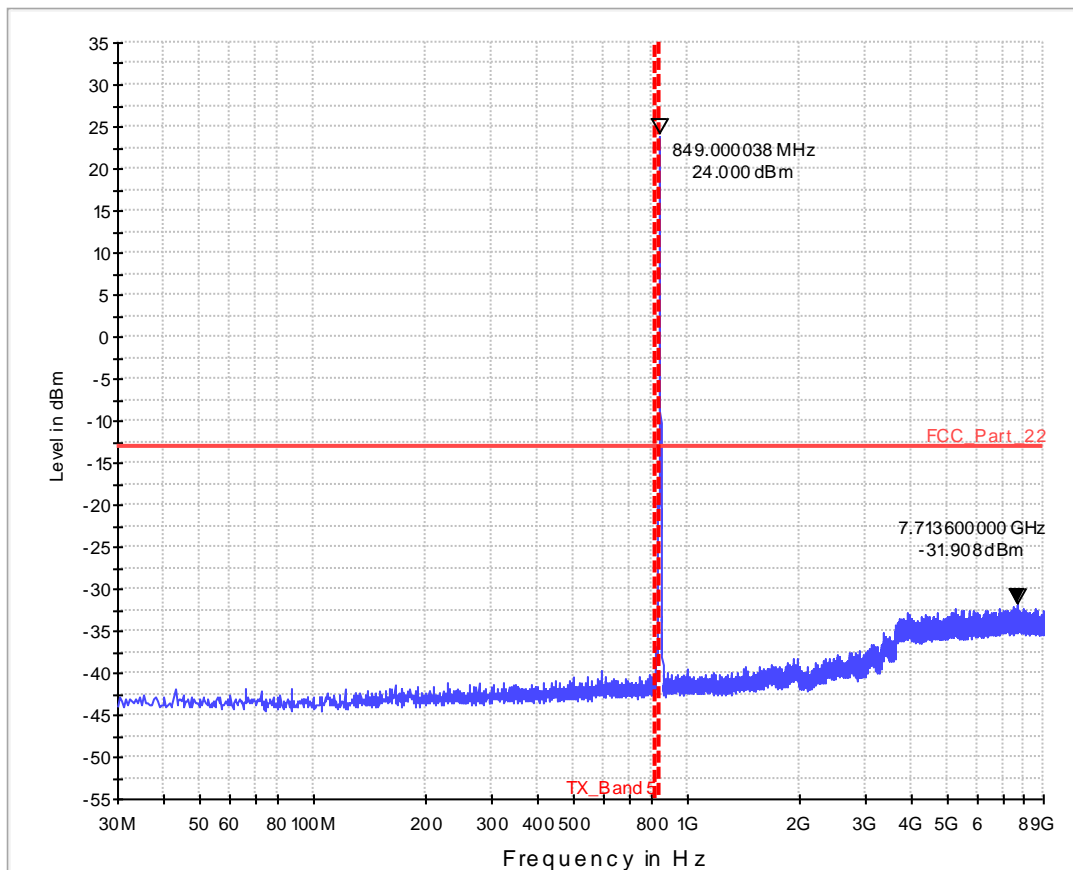
Common Information

Test Description:	TX Spurious Emission Conducted §2.1051
Test Site:	Radio laboratory 2
Test Standard:	FCC Part 22, RSS-132
Operation mode:	TX - FDD V (RMC), Channel 4233, (PCL= 3 (24 dBm))
Operator:	Tas
Comment:	6-0330-13-3-6a

EUT Information

Manufacturer:	ublox AG
Model:	LISA-U200
Type:	GSM/FDD Module

EUT:	LISA-U200, RF Sample
HW version:	146AB2
FW version:	22.90
Serial number:	358901-04-594324-5
Connected Accessories:	AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 120 VAC/ 60 Hz Main
Comments:	--



2.1 Radiated spurious emissions: $f > 30$ MHz – G850 Mode

8.01_Ch128_GSM

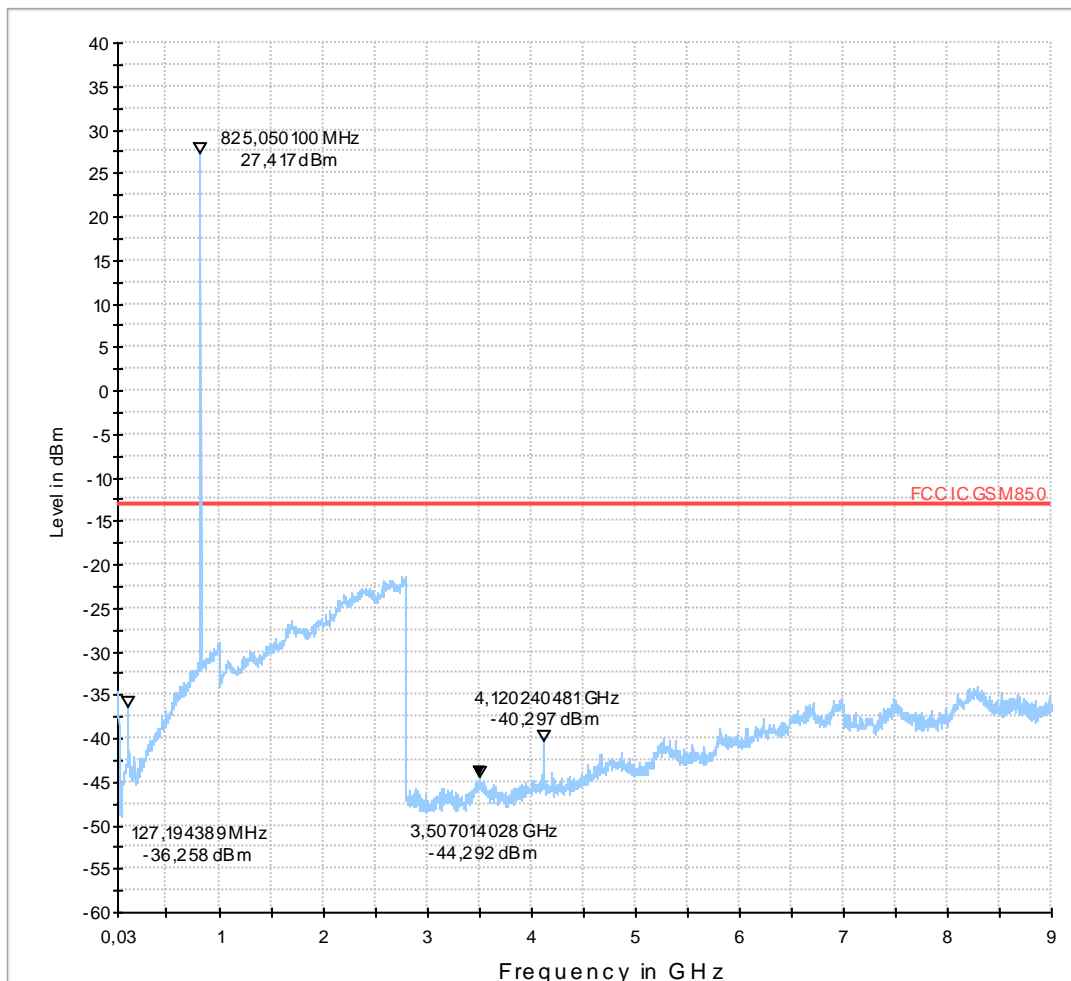
Common Information

Test Description:	Radiated Emissions GSM850
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 22.917, RSS-132
Test Case:	TX
Operating Mode:	MS allocated UL channel 128, GSM/GPRS
Exclusionband:	824 - 849MHz
Environmental Conditions:	Humidity: 44%rH; Temperature: 20,5°C
Operator:	Tas/Rsp 6-0330-13-3-6a

EUT Information

Manufacturer:	ublox AG
Model:	LISA-U200
Type:	GSM/FDD Module

EUT:	LISA-U200, RF Sample
HW version:	146AB2
FW version:	22.90
Serial number:	3588901-04-594324-5
Connected Accessories:	Taoglass antenna, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 120 VAC/ 60 Hz Main
Comments:	--



8.02_Ch192_GSM

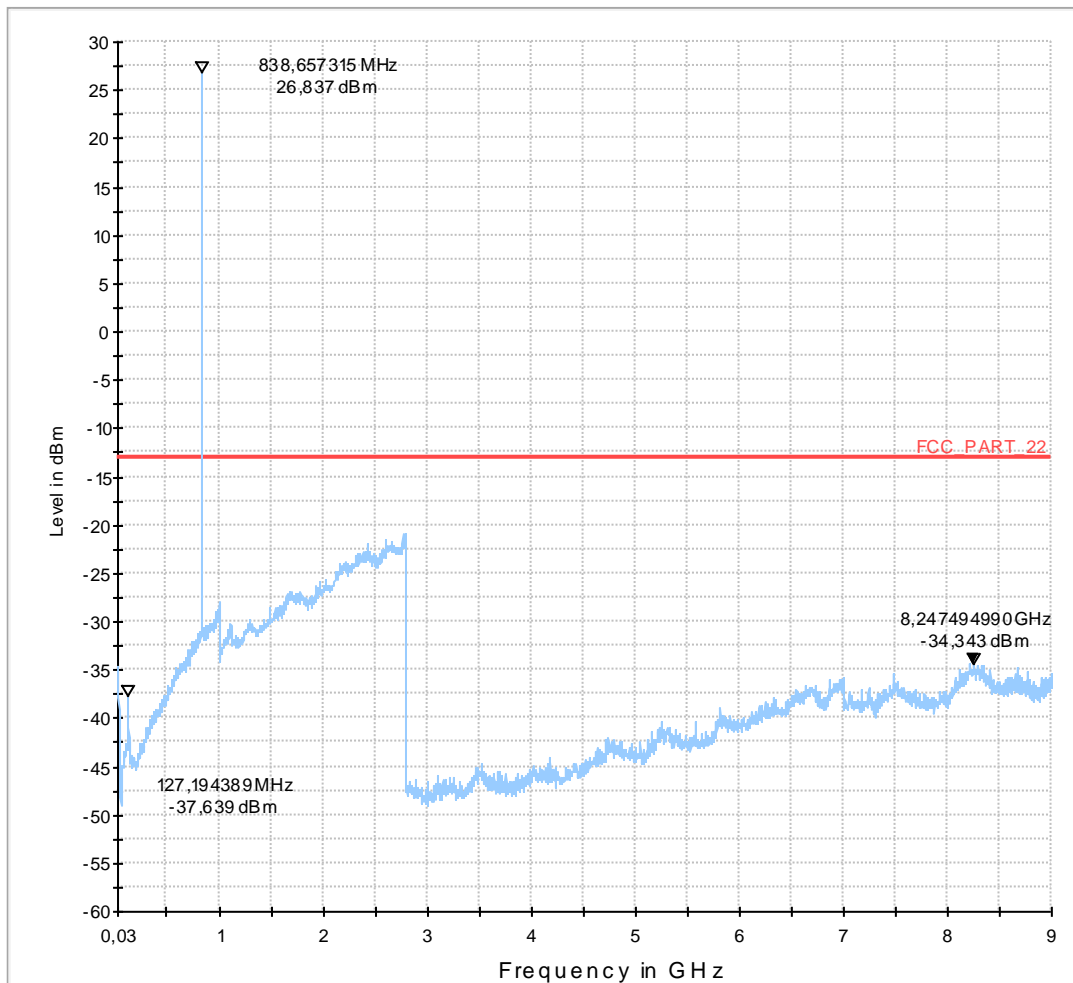
Common Information

Test Description:	Radiated Spurious Emissions G850
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 22.917, RSS-132
Test Case:	TX
Operating Mode:	MS allocated UL channel 192, GSM/GPRS
Exclusionband:	824 - 849MHz
Environmental Conditions:	Humidity: 44%rH; Temperature: 20,5°C
Operator:	Tas/Rsp 6-0330-13-3-6a

EUT Information

Manufacturer:	ublox AG
Model:	LISA-U200
Type:	GSM/FDD Module

EUT:	LISA-U200, RF Sample
HW version:	146AB2
FW version:	22.90
Serial number:	3588901-04-594324-5
Connected Accessories:	Taoglass antenna, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 120 VAC/ 60 Hz Main
Comments:	--



8.03_Ch251_GSM

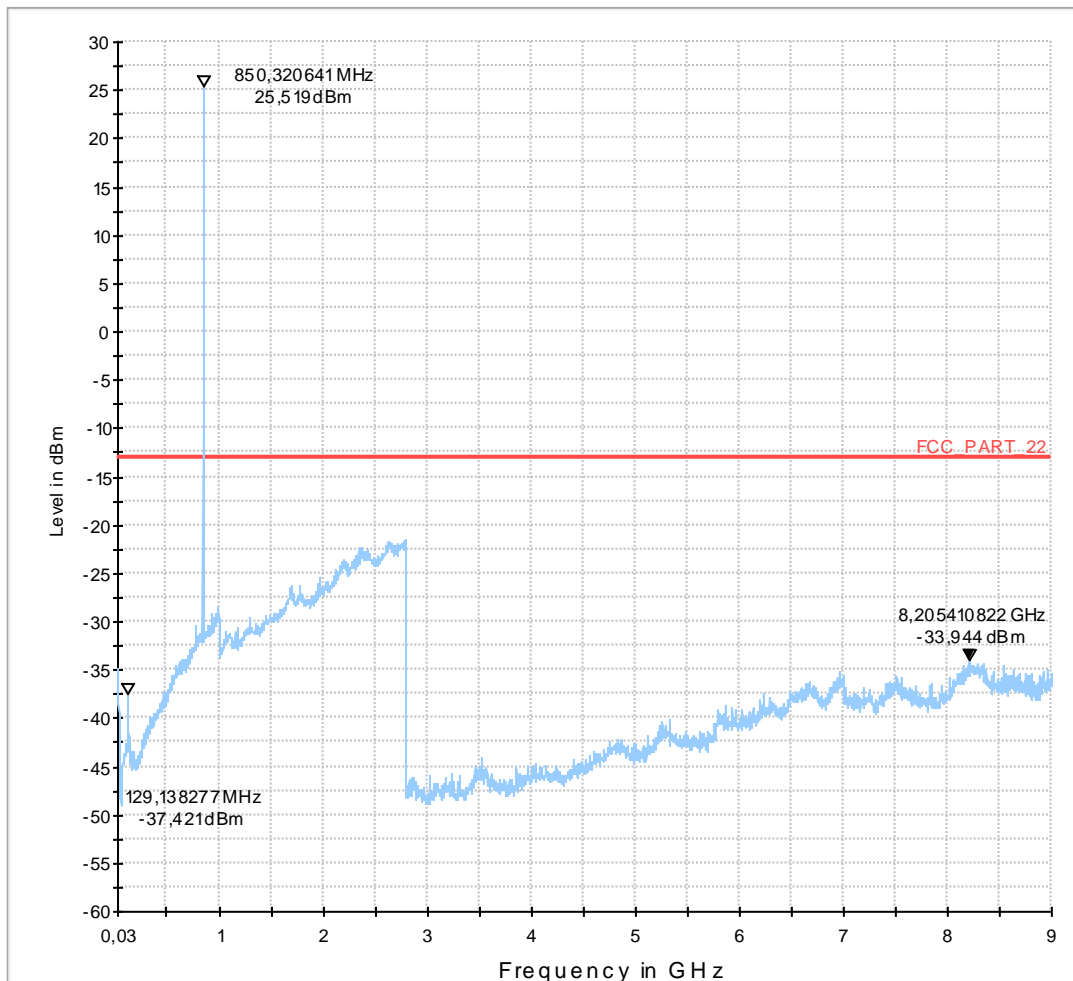
Common Information

Test Description:	Radiated Spurious Emissions G850
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 22.917, RSS-132
Test Case:	TX
Operating Mode:	MS allocated UL channel 251, GSM/GPRS
Exclusionband:	824 - 849MHz
Environmental Conditions:	Humidity: 44%rH; Temperature: 20,5°C
Operator:	Tas/Rsp 6-0330-13-3-6a

EUT Information

Manufacturer:	ublox AG
Model:	LISA-U200
Type:	GSM/FDD Module

EUT:	LISA-U200, RF Sample
HW version:	146AB2
FW version:	22.90
Serial number:	3588901-04-594324-5
Connected Accessories:	Taoglass antenna, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 120 VAC/ 60 Hz Main
Comments:	--



2.2 Radiated spurious emissions: $f > 30$ MHz – PCS1900 Mode

8.04_Ch512_GSM

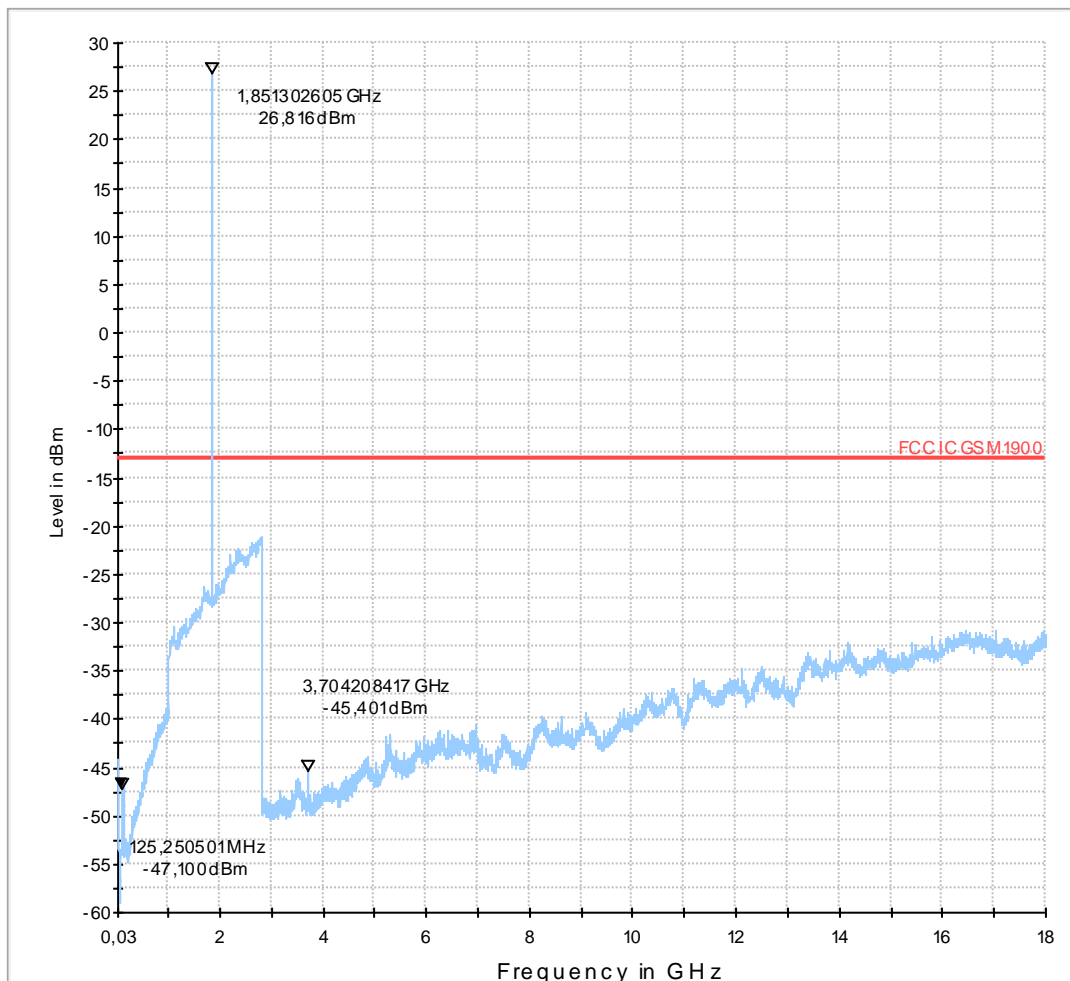
Common Information

Test Description:	Radiated Spurious Emissions GSM1900
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 24.238, RSS-133
Comm. Link:	GSM1900, Voice
Operating Mode:	MS allocated channel 512 (UL = 1850.2MHz)
Exclusionband:	1850- 1910MHz
Environmental Conditions:	Humidity: 44%rH; Temperature: 20,5°C
Operator:	Tas/Rsp 6-0330-13-3-6a

EUT Information

Manufacturer:	ublox AG
Model:	LISA-U200
Type:	GSM/FDD Module

EUT:	LISA-U200, RF Sample
HW version:	146AB2
FW version:	22.90
Serial number:	3588901-04-594324-5
Connected Accessories:	Taoglass antenna, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 120 VAC/ 60 Hz Main
Comments:	--



8.05_Ch661_GSM

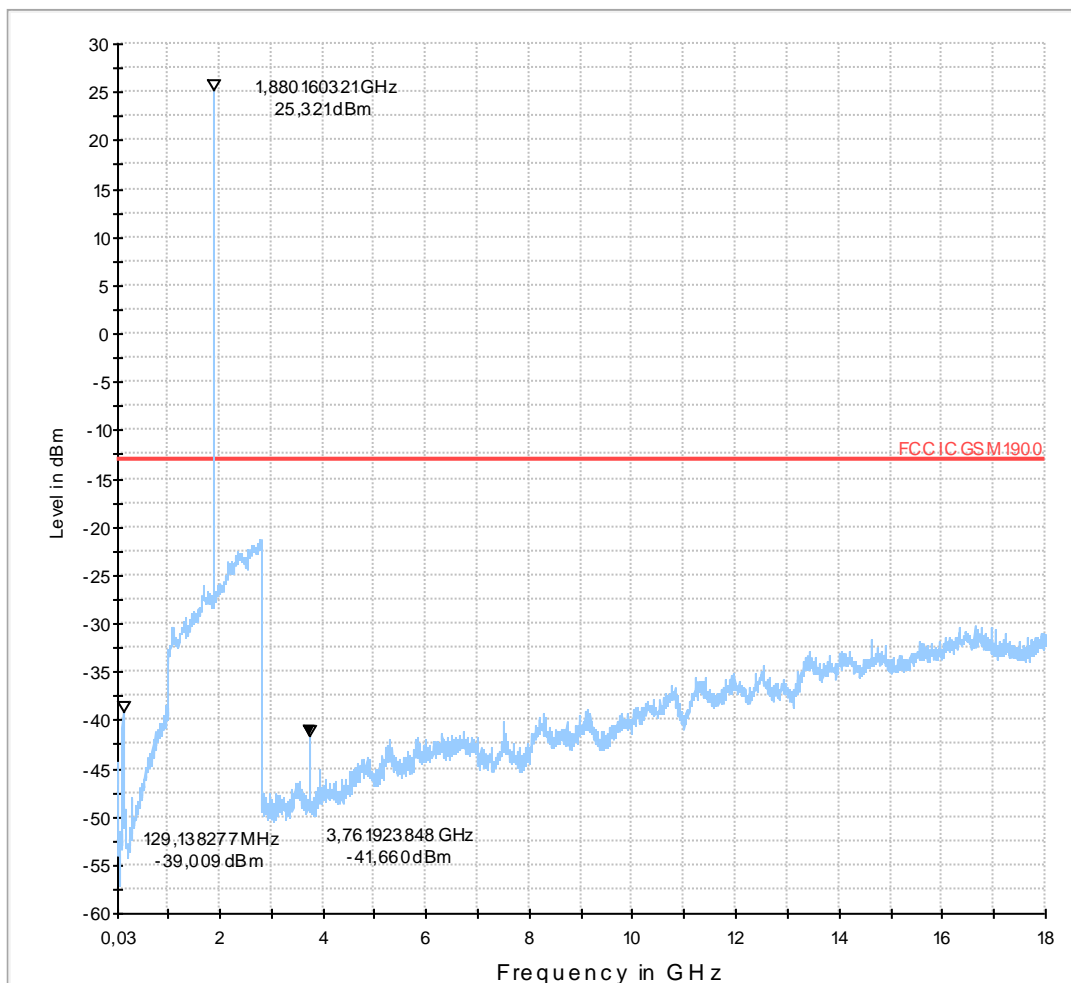
Common Information

Test Description:	Radiated Spurious Emissions GSM1900
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 24.238, RSS-133
Comm. Link:	GSM1900, Voice
Operating Mode:	MS allocated channel 661 (UL = 1880.2MHz)
Exclusionband:	1850- 1910MHz
Environmental Conditions:	Humidity: 44%rH; Temperature: 20,5°C
Operator:	Tas/Rsp 6-0330-13-3-6a

EUT Information

Manufacturer:	ublox AG
Model:	LISA-U200
Type:	GSM/FDD Module

EUT:	LISA-U200, RF Sample
HW version:	146AB2
FW version:	22.90
Serial number:	3588901-04-594324-5
Connected Accessories:	Taoglass antenna, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 120 VAC/ 60 Hz Main
Comments:	--



8.06_Ch810_GSM

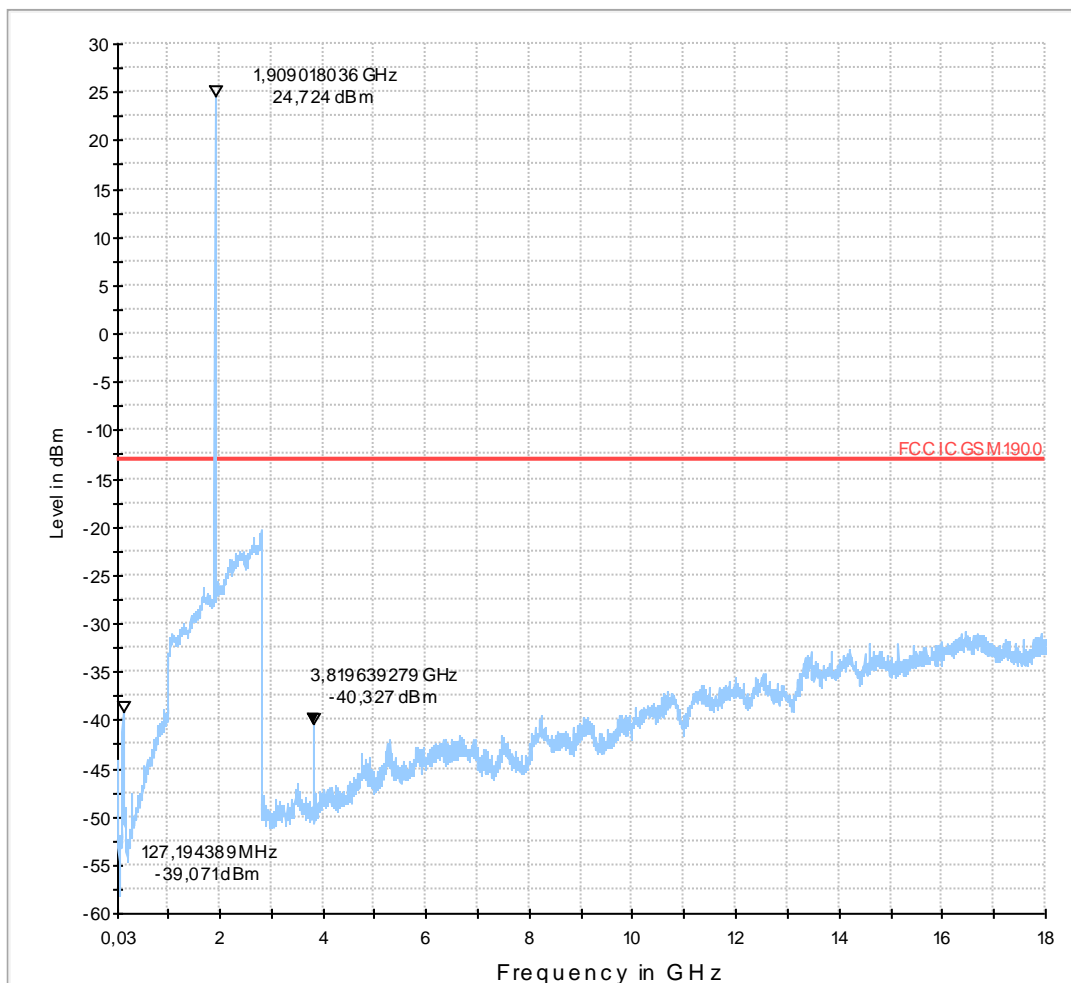
Common Information

Test Description:	Radiated Spurious Emissions GSM1900
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 24.238, RSS-133
Comm. Link:	GSM1900, Voice
Operating Mode:	MS allocated channel 810 (UL = 1909,8 MHz)
Exclusionband:	1850- 1910MHz
Environmental Conditions:	Humidity: 44%rH; Temperature: 20,5°C
Operator:	Tas/Rsp 6-0330-13-3-6a

EUT Information

Manufacturer:	ublox AG
Model:	LISA-U200
Type:	GSM/FDD Module

EUT:	LISA-U200, RF Sample
HW version:	146AB2
FW version:	22.90
Serial number:	3588901-04-594324-5
Connected Accessories:	Taoglass antenna, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 120 VAC/ 60 Hz Main
Comments:	--



2.3 Radiated spurious emissions: $f > 30$ MHz – FDD II Mode

8.20_Ch9262_RMC

Common Information

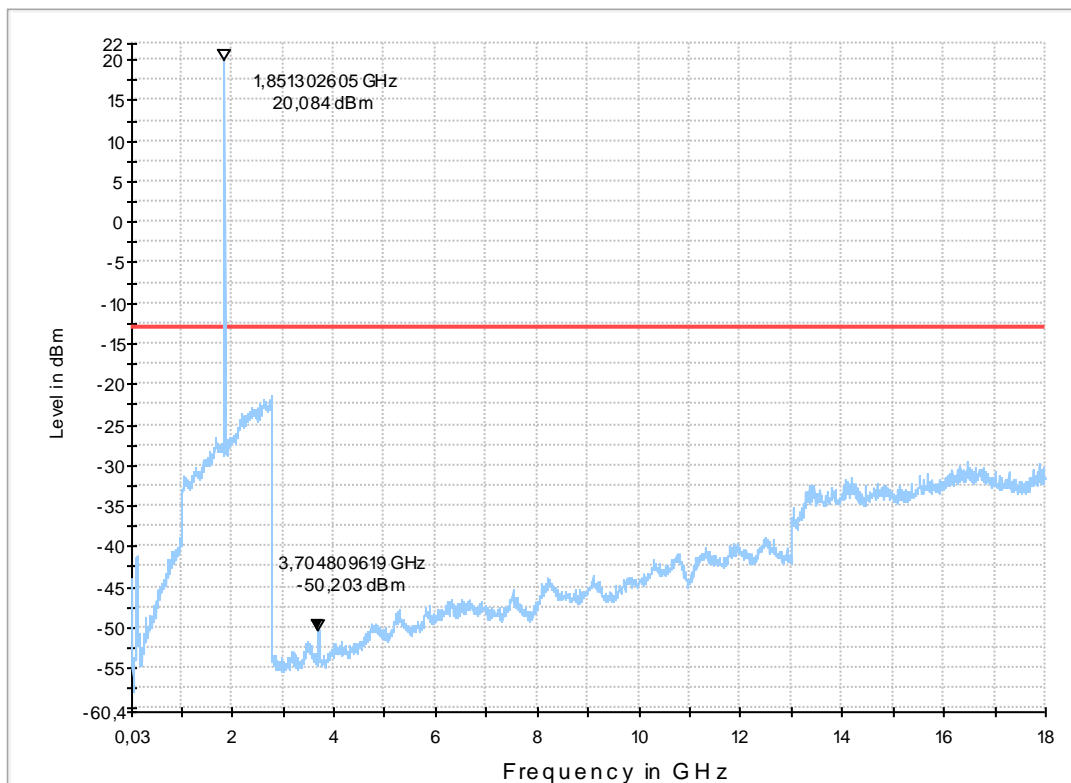
Test Description:	Radiated Spurious Emissions UMTS FDDII
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 24
Operating Mode:	UE allocated channel 9262 ($f_c = 1852.4$ MHz)
Environmental Conditions:	Humidity: 50%rH; Temperature: 20°C
Operator:	ada 6-0330-13-3-6a

EUT Information

Manufacturer:	ublox AG
Model:	LISA-U200
Type:	GSM/FDD Module

EUT:	LISA-U200, RF Sample
HW version:	146AB2
FW version:	22.90
Serial number:	3588901-04-594324-5
Connected Accessories:	Taoglass antenna, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 120 VAC/ 60 Hz Main
Comments:	--

030414_FCC_Part24_UMTS-FDDII_TX_all_channels_30M-25G



8.21_Ch9400_RMC

Common Information

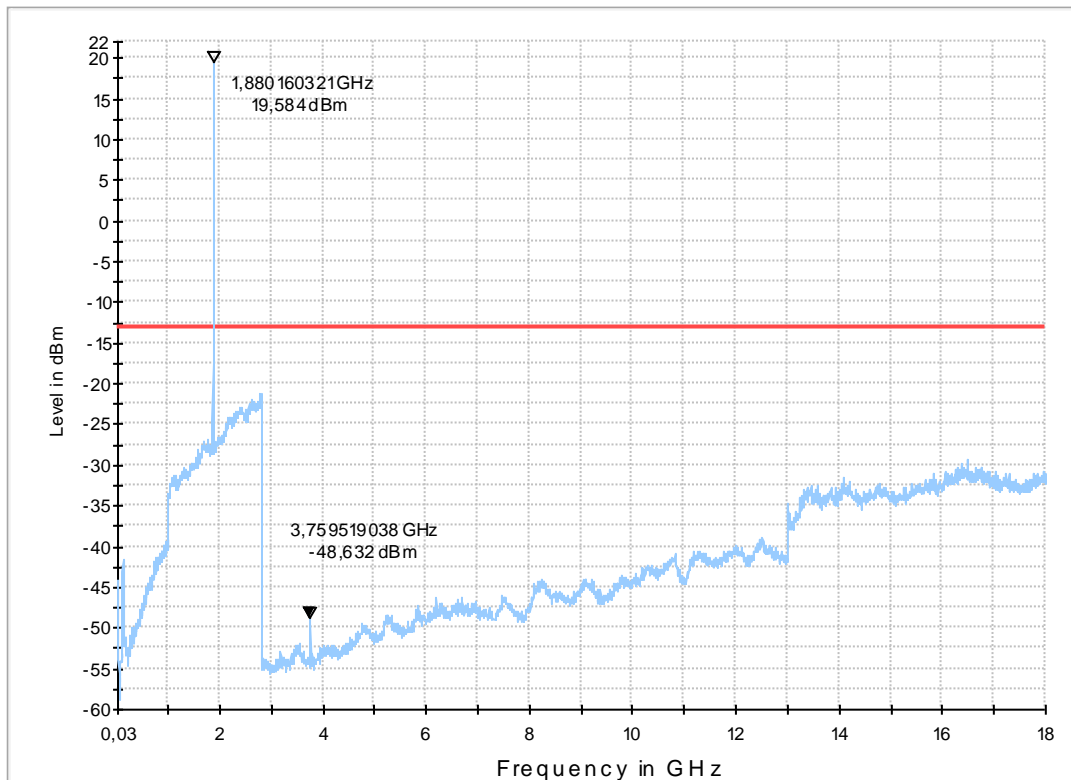
Test Description:	Radiated Spurious Emissions UMTS FDDII
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 24
Operating Mode:	UE allocated channel 9400 (fc = 1800MHz)
Environmental Conditions:	Humidity: 50%rH; Temperature: 20°C
Operator:	ada
	6-0330-13-3-6a

EUT Information

Manufacturer:	ublox AG
Model:	LISA-U200
Type:	GSM/FDD Module

EUT:	LISA-U200, RF Sample
HW version:	146AB2
FW version:	22.90
Serial number:	3588901-04-594324-5
Connected Accessories:	Taoglass antenna, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 120 VAC/ 60 Hz Main
Comments:	--

030414_FCC_Part24_UMTS-FDDII_TX_all_channels_30M-25G



8.22_Ch9538_RMC_

Common Information

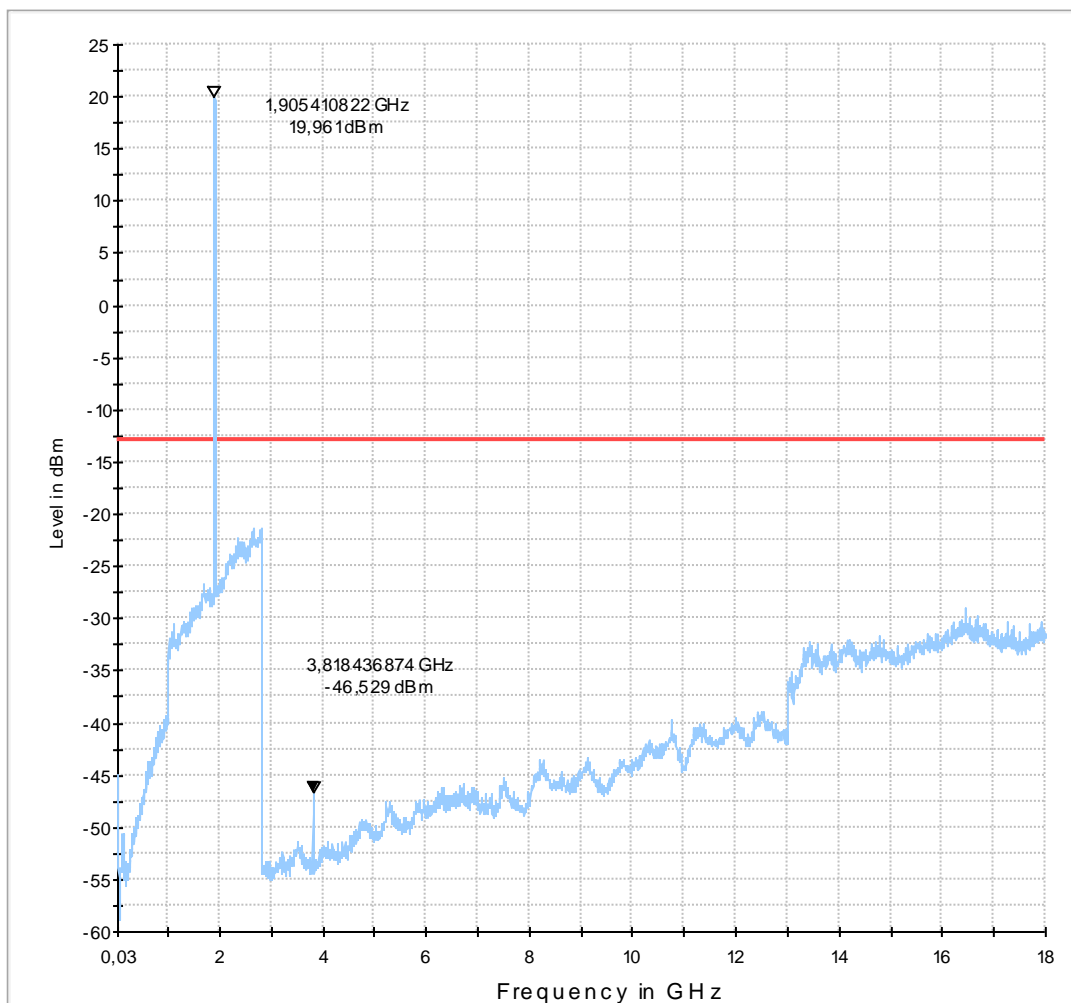
Test Description:	Radiated Spurious Emissions UMTS FDDII
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 24.238, RSS-133
Operating Mode:	UE allocated channel 9538 (fc = 1907,6MHz)
Environmental Conditions:	Humidity: 50%rH; Temperature: 20°C
Operator:	Tas/GAr 6-0330-13-6-3a

EUT Information

Manufacturer:	ublox AG
Model:	LISA-U200
Type:	GSM/FDD Module

EUT:	LISA-U200, RF Sample
HW version:	146AB2
FW version:	22.90
Serial number:	3588901-04-594324-5
Connected Accessories:	Taoglass antenna, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 120 VAC/ 60 Hz Main
Comments:	--

030414_FCC_Part24_UMTS-FDDII_TX_all_channels_30M-25G



2.4 Radiated spurious emissions: $f > 30$ MHz – FDD IV Mode

8.23_Ch1312_RMC

Common Information

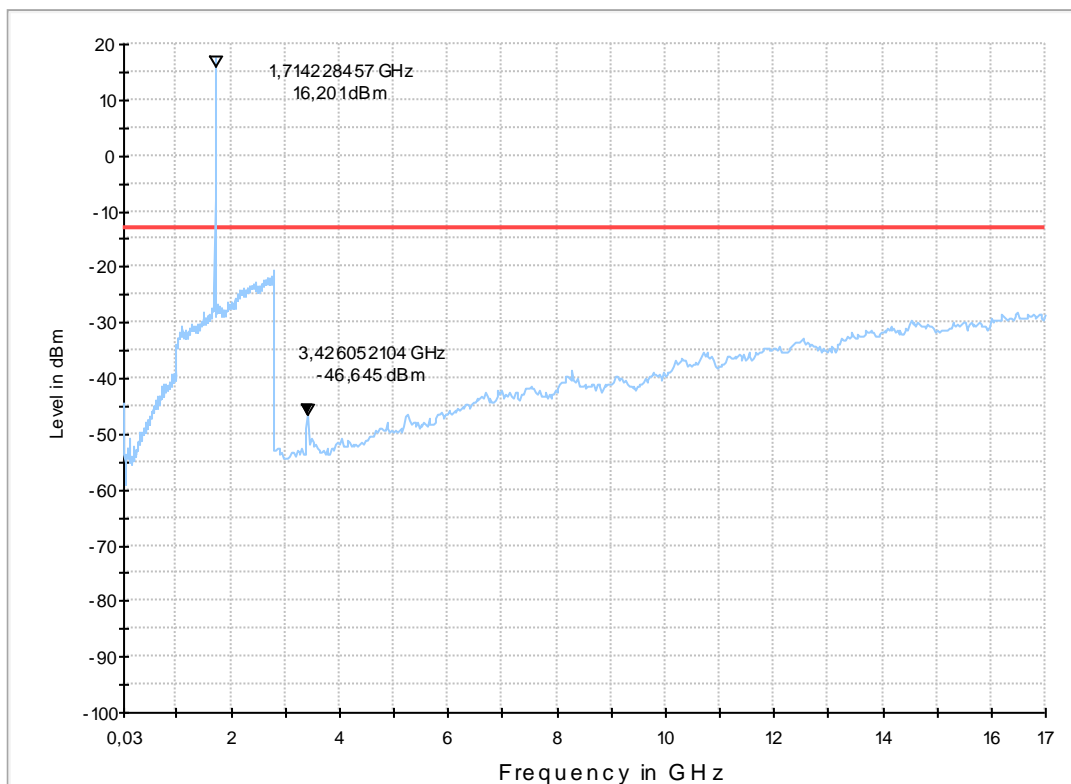
Test Description:	Radiated Spurious Emissions UMTS FDDII
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 27
Operating Mode:	UE allocated channel 1312 (fc 1712,4)
Environmental Conditions:	Humidity: 50%rH; Temperature: 20°C
Operator:	ada
	6-0330-13-3-6a

EUT Information

Manufacturer:	ublox AG
Model:	LISA-U200
Type:	GSM/FDD Module

EUT:	LISA-U200, RF Sample
HW version:	146AB2
FW version:	22.90
Serial number:	3588901-04-594324-5
Connected Accessories:	Taoglass antenna, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 120 VAC/ 60 Hz Main
Comments:	--

030419_FCC_Part27_LTE IV_TX_all_channels_30M-18G



8.24_Ch1413_RMC

Common Information

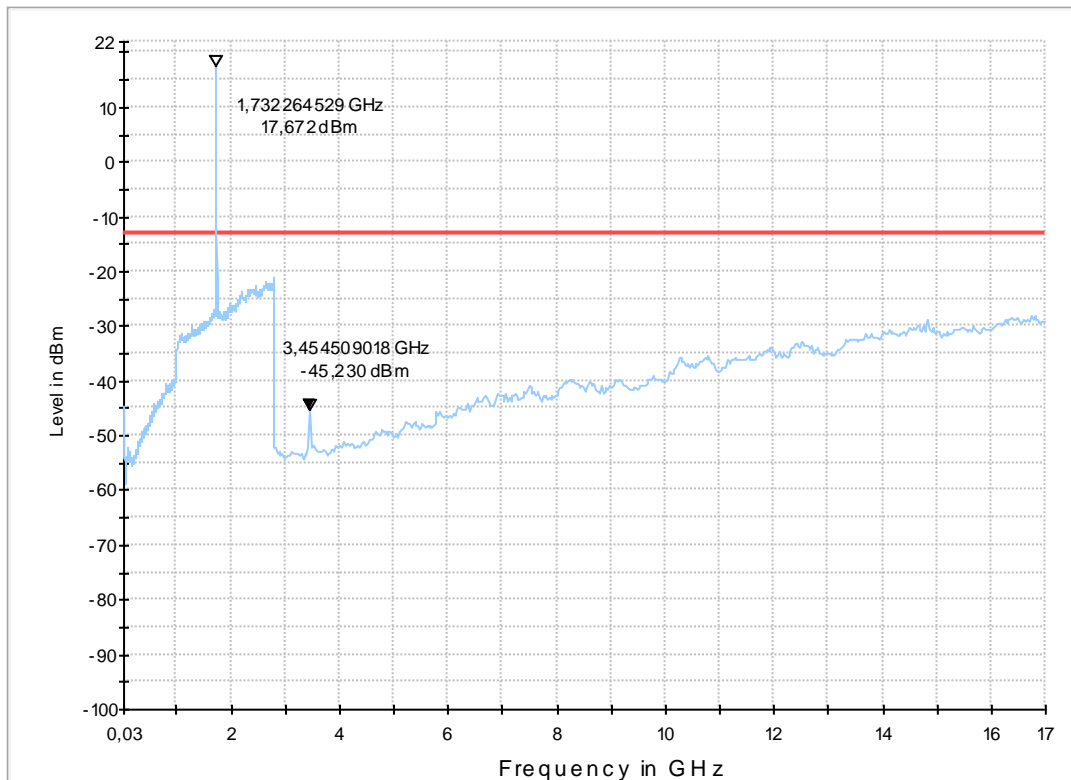
Test Description:	Radiated Spurious Emissions UMTS FDDII
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 27
Operating Mode:	UE allocated channel 1413 (fc 1736,6)
Environmental Conditions:	Humidity: 50%rH; Temperature: 20°C
Operator:	ada 6-0330-13-3-6a

EUT Information

Manufacturer:	ublox AG
Model:	LISA-U200
Type:	GSM/FDD Module

EUT:	LISA-U200, RF Sample
HW version:	146AB2
FW version:	22.90
Serial number:	3588901-04-594324-5
Connected Accessories:	Taoglass antenna, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 120 VAC/ 60 Hz Main
Comments:	--

030419_FCC_Part27_LTE IV_TX_all_channels_30M-18G



8.25_Ch1513_RMC

Common Information

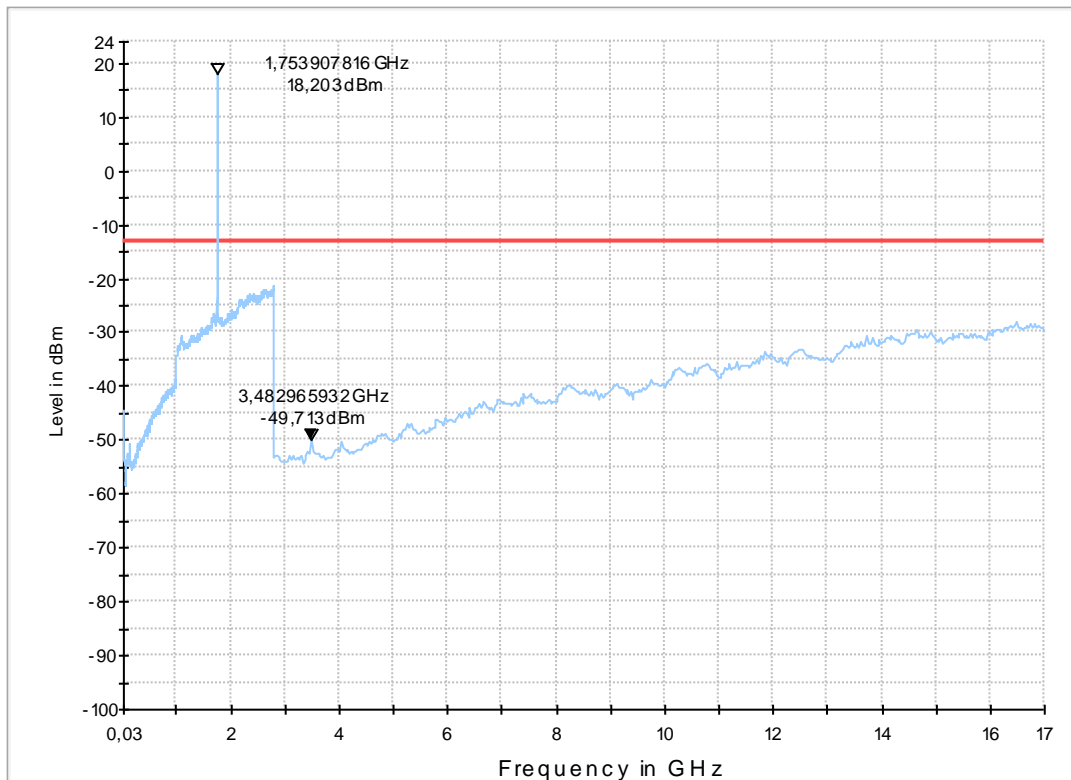
Test Description:	Radiated Spurious Emissions UMTS FDDII
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 27
Operating Mode:	UE allocated channel 1513 (fc 1752,6,6)
Environmental Conditions:	Humidity: 50%rH; Temperature: 20°C
Operator	ada
	6-0330-13-3-6a

EUT Information

Manufacturer:	ublox AG
Model:	LISA-U200
Type:	GSM/FDD Module

EUT:	LISA-U200, RF Sample
HW version:	146AB2
FW version:	22.90
Serial number:	3588901-04-594324-5
Connected Accessories:	Taoglass antenna, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 120 VAC/ 60 Hz Main
Comments:	--

030419_FCC_Part27_LTE IV_TX_all_channels_30M-18G



2.5 Radiated spurious emissions: $f > 30$ MHz – FDD V Mode

8.26_Ch4132_RMC

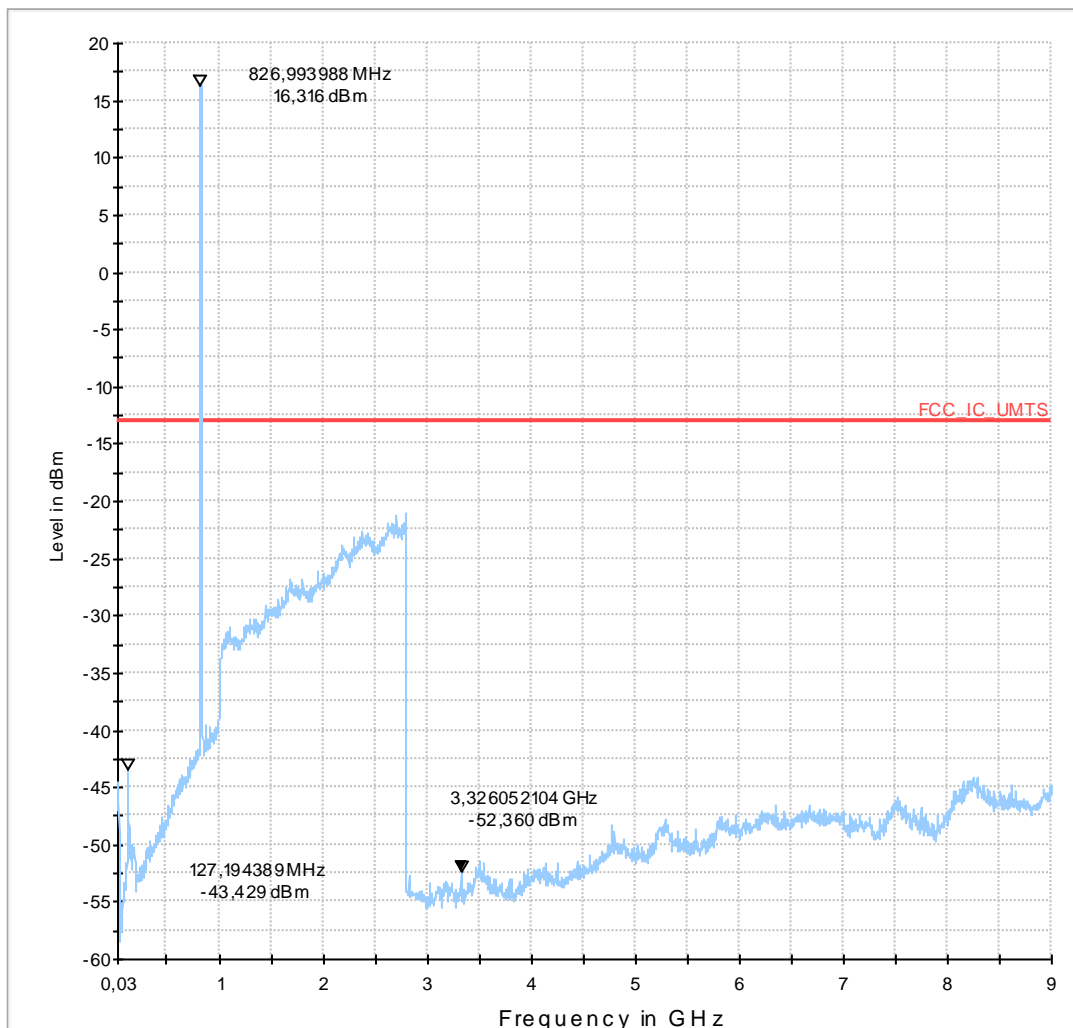
Common Information

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, RSS-132
Operating Mode:	UE allocated middle channel 4132 ($f_c = 826.6$ MHz)
Environmental Conditions:	Humidity: 50%rH; Temperature: 20°C
Operator:	Tas/GAr 6-0330-13-6-3a

EUT Information

Manufacturer:	ublox AG
Model:	LISA-U200
Type:	GSM/FDD Module

EUT:	LISA-U200, RF Sample
HW version:	146AB2
FW version:	22.90
Serial number:	3588901-04-594324-5
Connected Accessories:	Taoglass antenna, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 120 VAC/ 60 Hz Main
Comments:	--



8.27_Ch4182_RMC

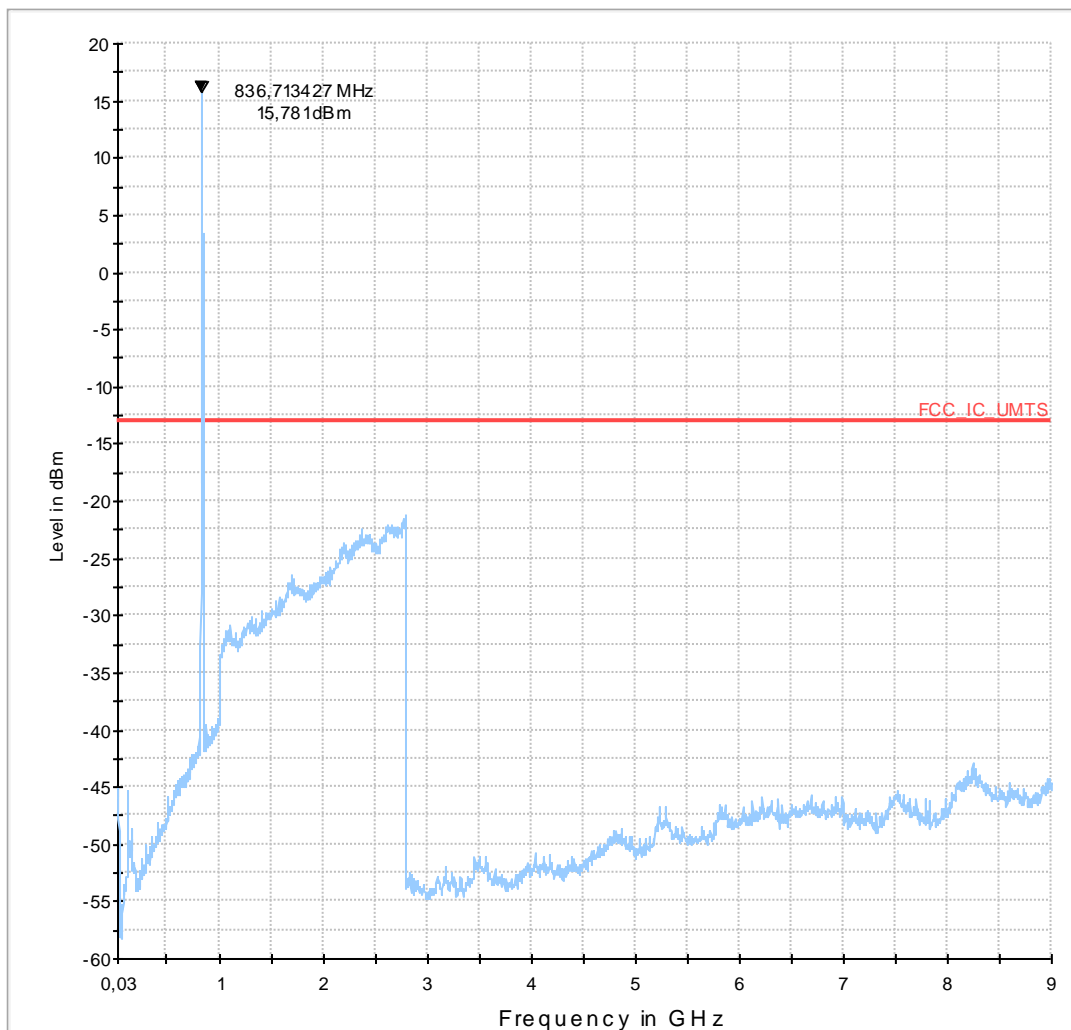
Common Information

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 middle channel 4182 (fc = 836.4 MHz),
Environmental Conditions:	Humidity: 50%rH; Temperature: 20°C
Operator:	Tas/GAr 6-0330-13-6-3a

EUT Information

Manufacturer:	ublox AG
Model:	LISA-U200
Type:	GSM/FDD Module

EUT:	LISA-U200, RF Sample
HW version:	146AB2
FW version:	22.90
Serial number:	3588901-04-594324-5
Connected Accessories:	Taoglass antenna, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 120 VAC/ 60 Hz Main
Comments:	--



8.28_Ch4233_RMC

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 high channel 4233 (fc = 846.6 MHz),
Environmental Conditions:	Humidity: 50%rH; Temperature: 20°C
Operator:	Tas/GAr 6-0330-13-3-6a

EUT Information

Manufacturer:	ublox AG
Model:	LISA-U200
Type:	GSM/FDD Module

EUT:	LISA-U200, RF Sample
HW version:	146AB2
FW version:	22.90
Serial number:	3588901-04-594324-5
Connected Accessories:	Taoglass antenna, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 120 VAC/ 60 Hz Main
Comments:	--

