







Annex 1: Measurement diagrams  
to  
**TEST REPORT**  
No.: 6-0143-12-11-2a

According to:  
**FCC Regulations**  
Part15C, Part 22 & Part 24

**IC-Regulations**  
RSS-132 Issue 2, RSS-133 Issue 5 &  
RSS-Gen Issue 3

for  
**u-blox AG**

RF-Module LISA-U260-01  
*FCC-ID: XPYLISAU200*  
*IC-ID: 8595A-LISAU200*

Laboratory Accreditation and Listings			
 <b>Deutsche Akkreditierungsstelle</b> D-PL-12047-01-01	 <b>FEDERAL COMMUNICATIONS COMMISSION</b> Reg. No.: 736496 MRA US-EU 0003	 <b>Industry Canada</b> Reg. No.: 3462D-1 Reg. No.: 3462D-2 Reg. No.: 3462D-3	 <b>Voluntary Controls for Electromagnetic Emissions</b> Reg. No.: R-2665, R-2666 C-2914, T-1967, G-301
 <b>WIFI ALLIANCE</b> AUTHORIZED RF LABORATORY	 <b>CTIA Authorized Test Lab</b> LAB CODE 20011130-00		
accredited according to DIN EN ISO/IEC 17025			
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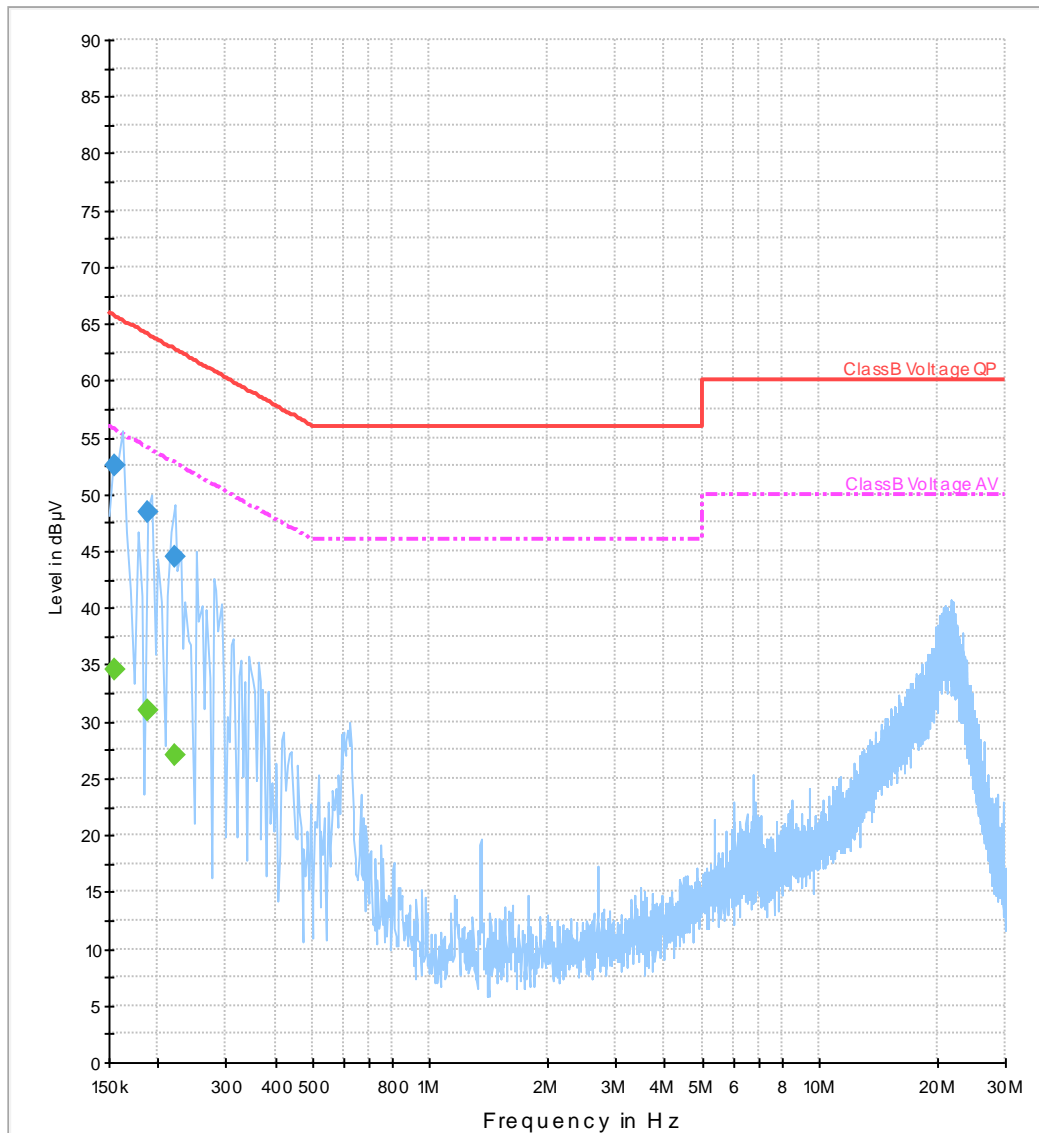
# 1. Measurement results

## 1.1. Conducted emissions on AC-Power lines - FDD II/ V Mode

### Diagram No. 1.01

Test Description:	Date: 15.10.2012 Page 1 of 2
Testspezifikation:	Conducted Voltage Measurement Class B
Technical Data:	FCC 15.207
Diagram:	Please see next page for detailed information
Operator name:	Shows the peak values as a sum of measured ports (N+L1) in maxhold mode
Report.- Nr.	HLA 6-0143-12-11-2a
EUT:	LISA U260 + Antenna + charger
Manufacturer:	u-blox AG
Operating mode:	FDD II TCH Data
Measured on line:	Mains AC L1 and N
Power during test:	110 V AC 60 Hz
Comment 1:	12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main

01\_Class B\_Voltage\_PK\_QPAV\_N\_L1



Date: 15.10.2012 Page 2 of 2

**Final Result 1**

Frequency (MHz)	QuasiPeak (dB $\mu$ V)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB $\mu$ V)
0.155000	52.6	15000.0	9.000	GND	N	0.0	13.2	65.7
0.189469	48.4	15000.0	9.000	GND	N	0.0	15.7	64.1
0.221813	44.5	15000.0	9.000	GND	L1	0.0	18.3	62.8

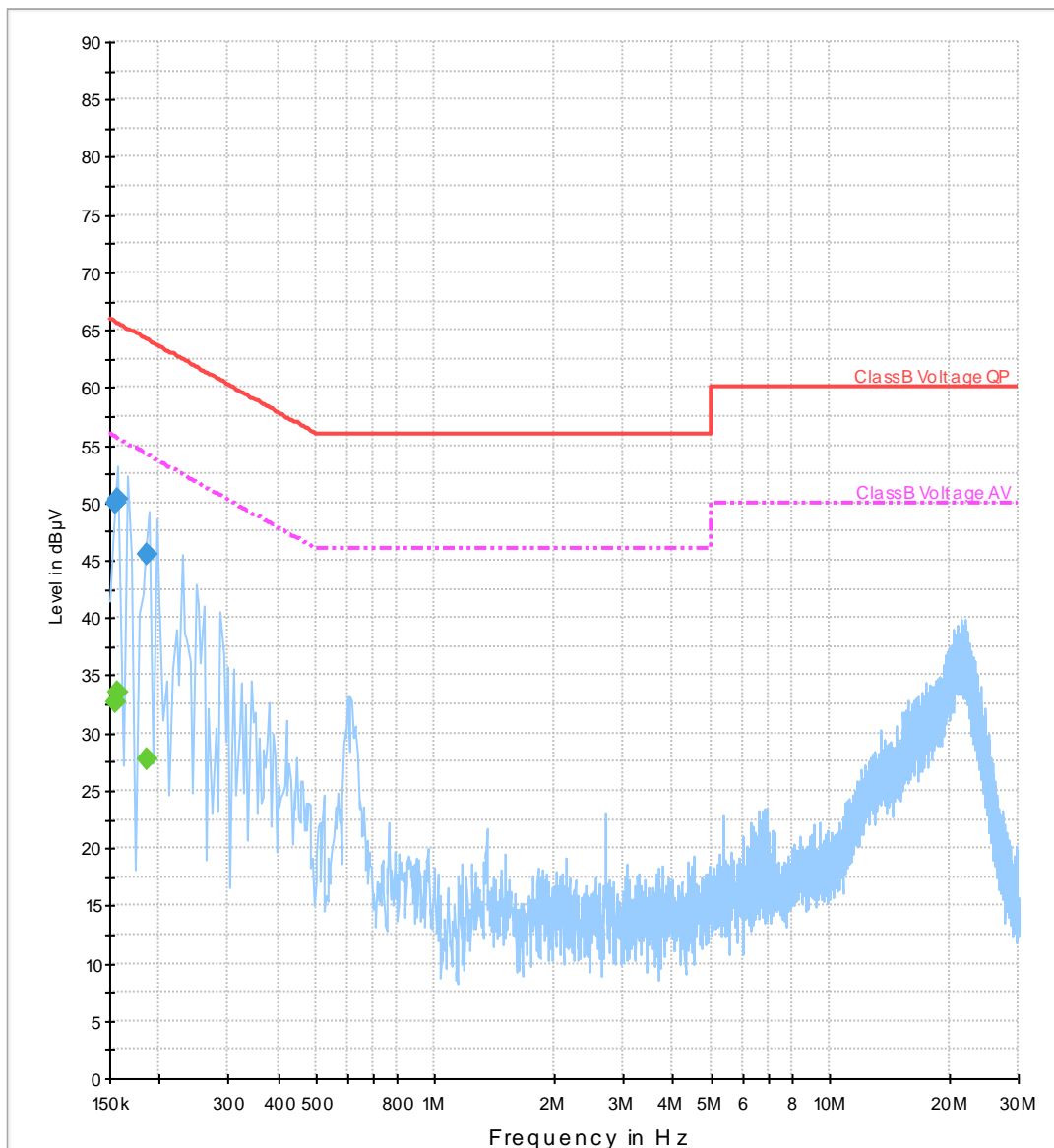
**Final Result 2**

Frequency (MHz)	CAverage (dB $\mu$ V)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB $\mu$ V)
0.155000	34.5	15000.0	9.000	GND	N	0.0	21.2	55.7
0.189469	31.0	15000.0	9.000	GND	N	0.0	23.1	54.1
0.221813	27.0	15000.0	9.000	GND	L1	0.0	25.8	52.8

## Diagram No. 1.02

Test Description:	Date: 15.10.2012 Page 1 of 2
Testspezifikation:	Conducted Voltage Measurement Class B
Technical Data:	FCC 15.207
Diagram:	Please see next page for detailed information
Operator name:	Shows the peak values as a sum of measured ports (N+L1) in maxhold mode
Report.- Nr.	HLa 6-0143-12-11-2a
EUT:	LISA U260 + Antenna + charger
Manufacturer:	u-blox AG
Operating mode:	FDD V TCH Data
Measured on line:	Mains AC L1 and N
Power during test:	110 V AC 60 Hz
Comment 1:	12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main
Comment 2:	

01\_Class B\_Voltage\_PK\_QPAV\_N\_L1



**Final Result 1**

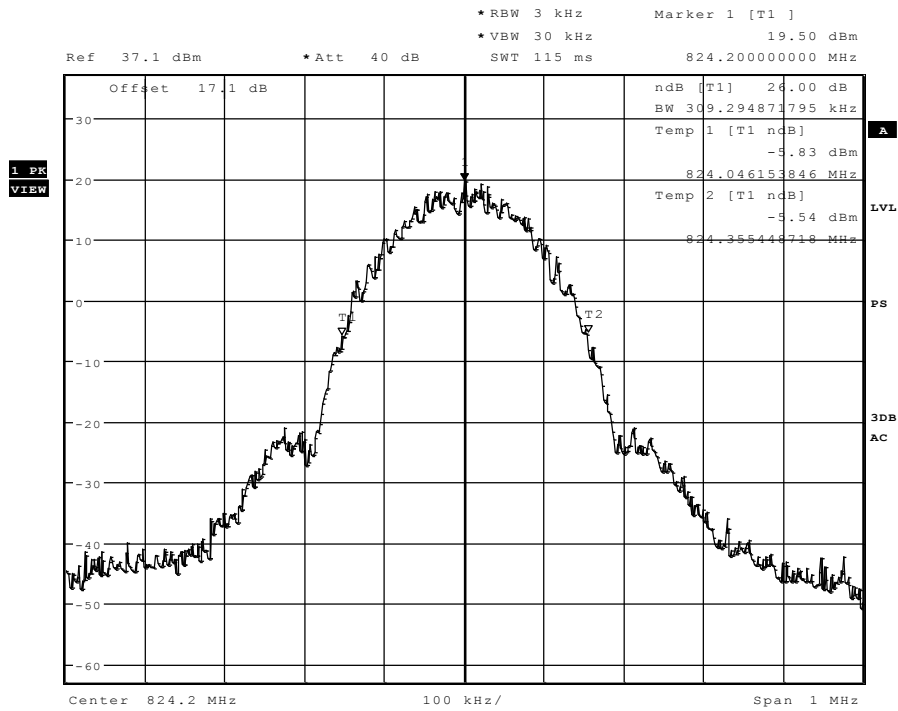
Frequency (MHz)	QuasiPeak (dB $\mu$ V)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB $\mu$ V)
0.155000	50.0	15000.0	9.000	GND	L1	0.0	15.7	65.7
0.157125	50.3	15000.0	9.000	GND	L1	0.0	15.3	65.6

**Final Result 2**

Frequency (MHz)	CAverage (dB $\mu$ V)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB $\mu$ V)
0.155000	32.6	15000.0	9.000	GND	L1	0.0	23.1	55.7
0.157125	33.6	15000.0	9.000	GND	L1	0.0	22.0	55.6

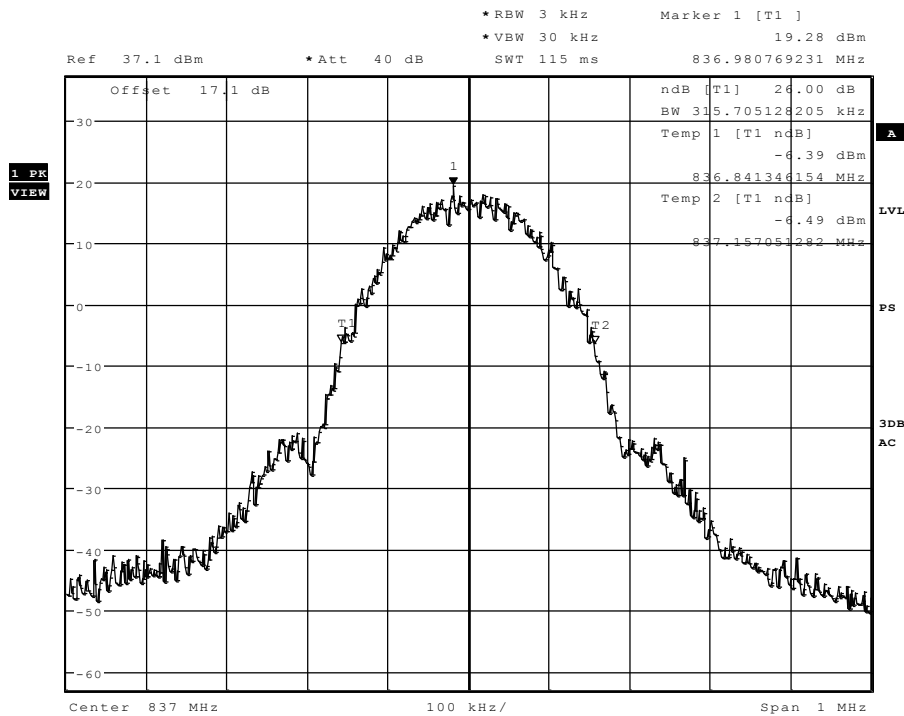
## 1.2. 26dBc Emission bandwidth

### EDGE 850



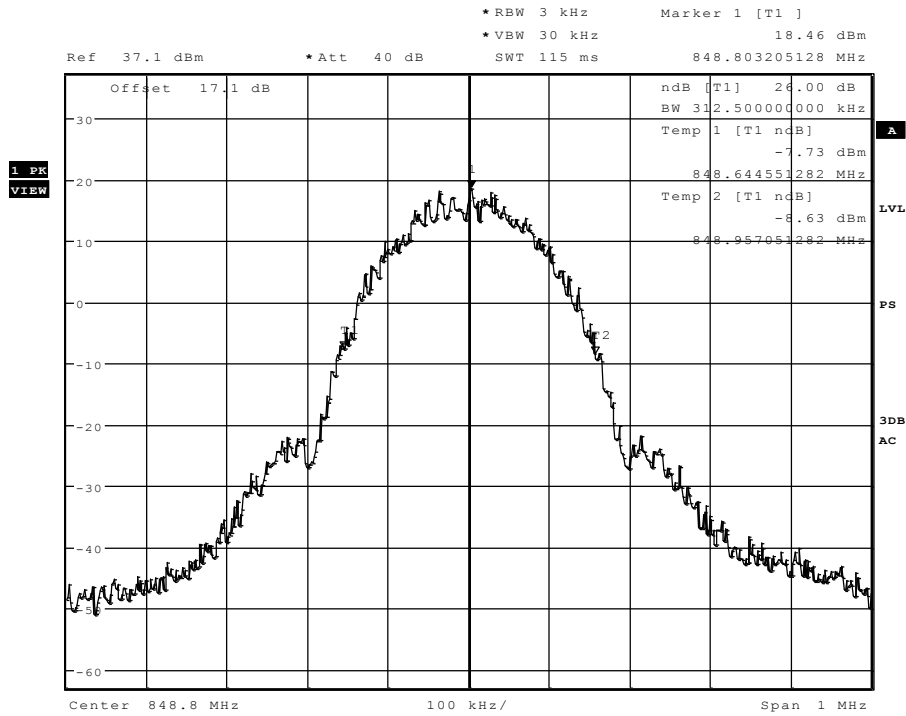
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### Channel 128



Date: 15.OCT.2012 13:56:54

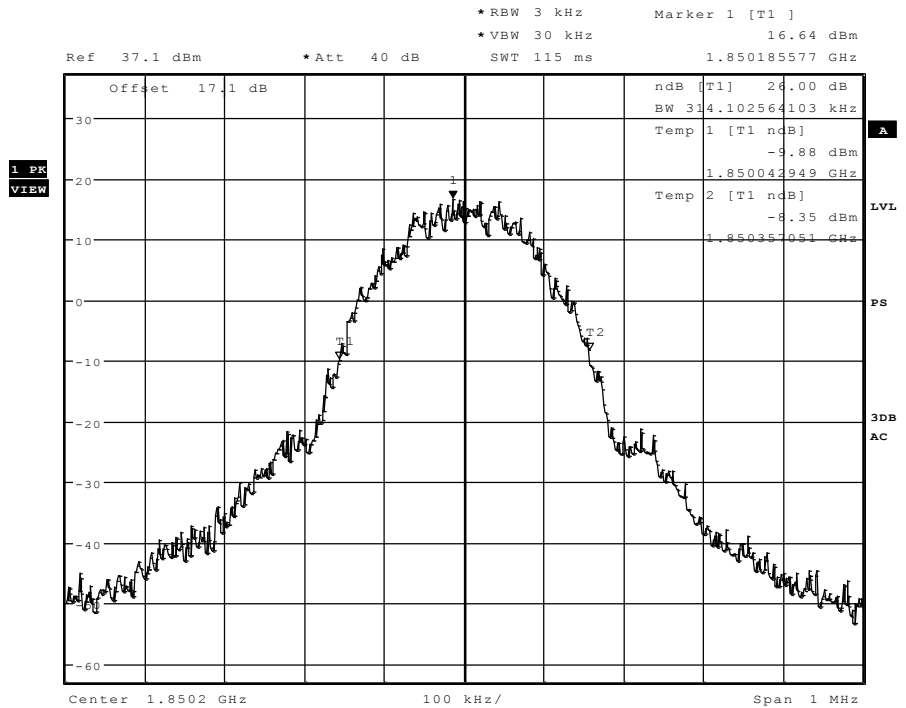
### Channel 192



Date: 15.OCT.2012 14:00:58

**Channel 251**

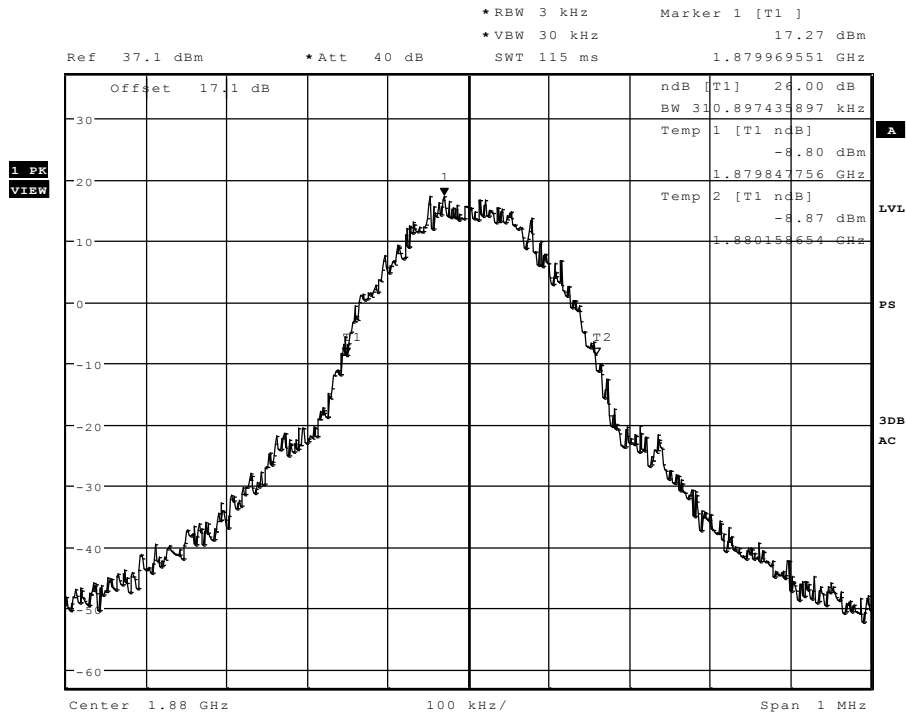
**EDGE - PCS 1900**



Date: 15.OCT.2012 14:09:16

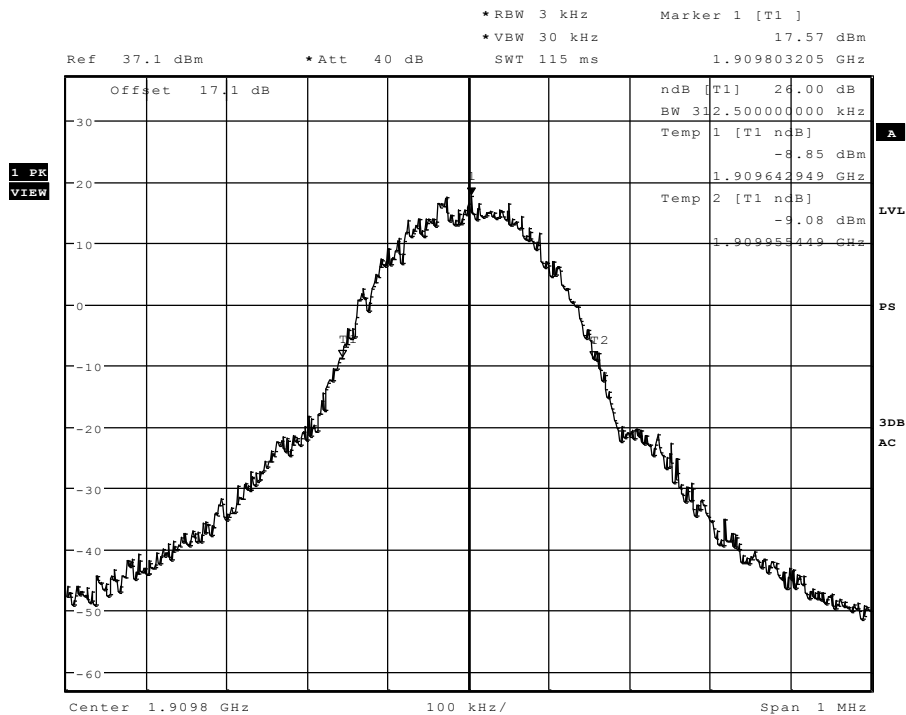
**Channel 512**





Date: 15.OCT.2012 14:03:36

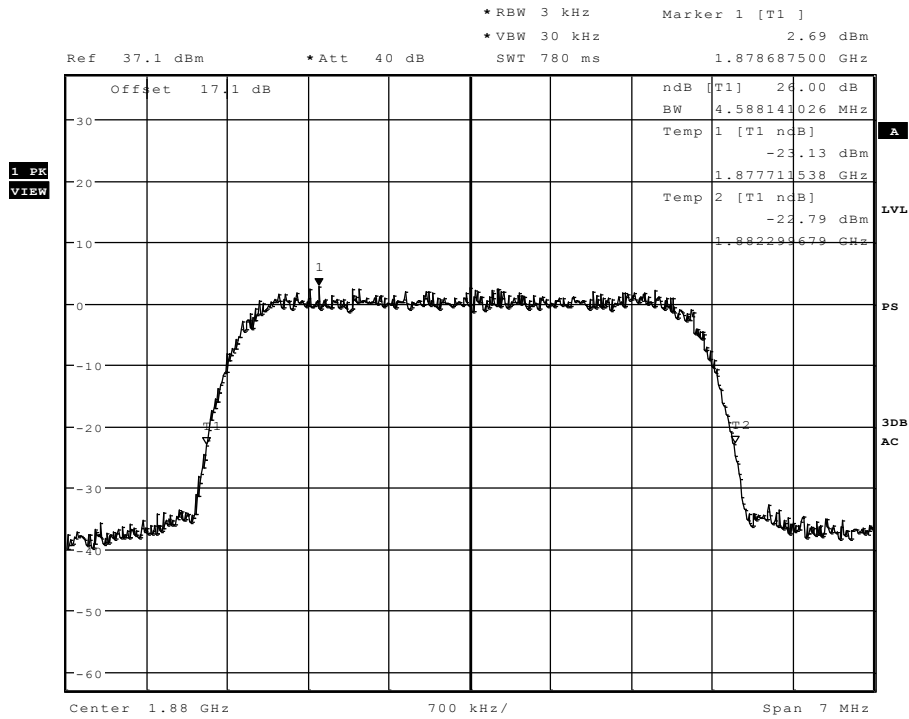
**Channel 661**



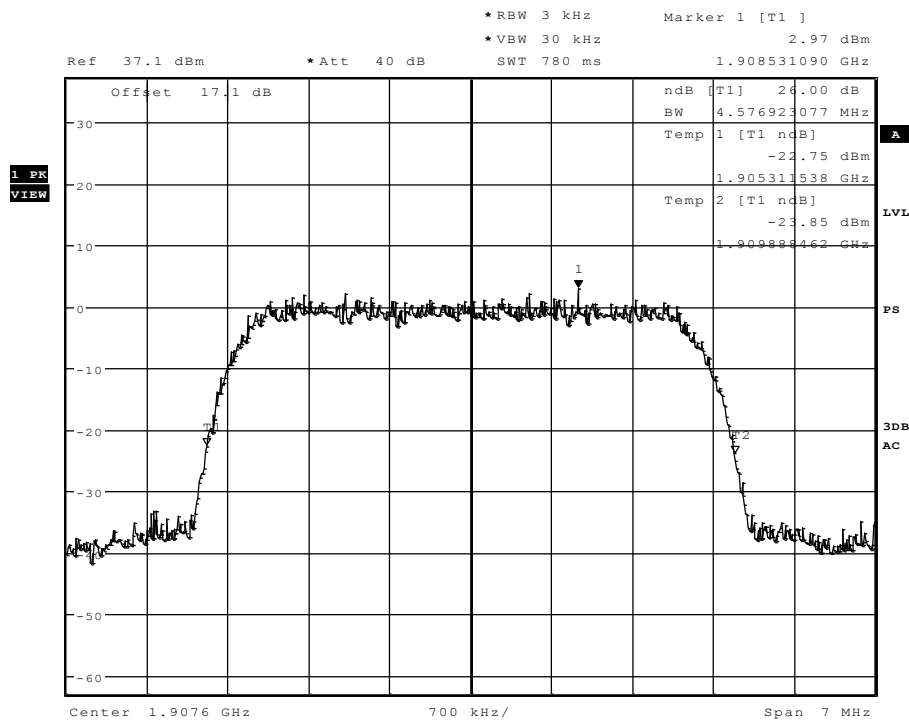
Date: 15.OCT.2012 14:11:27

**Channel 810**

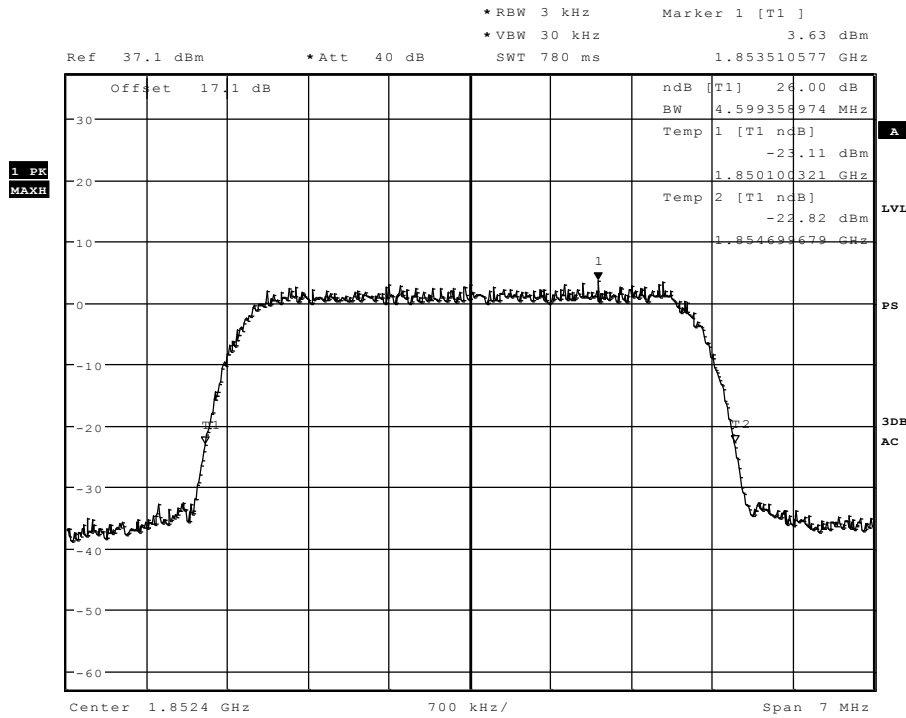
**FDD II mode**



Date: 12.OCT.2012 12:08:16

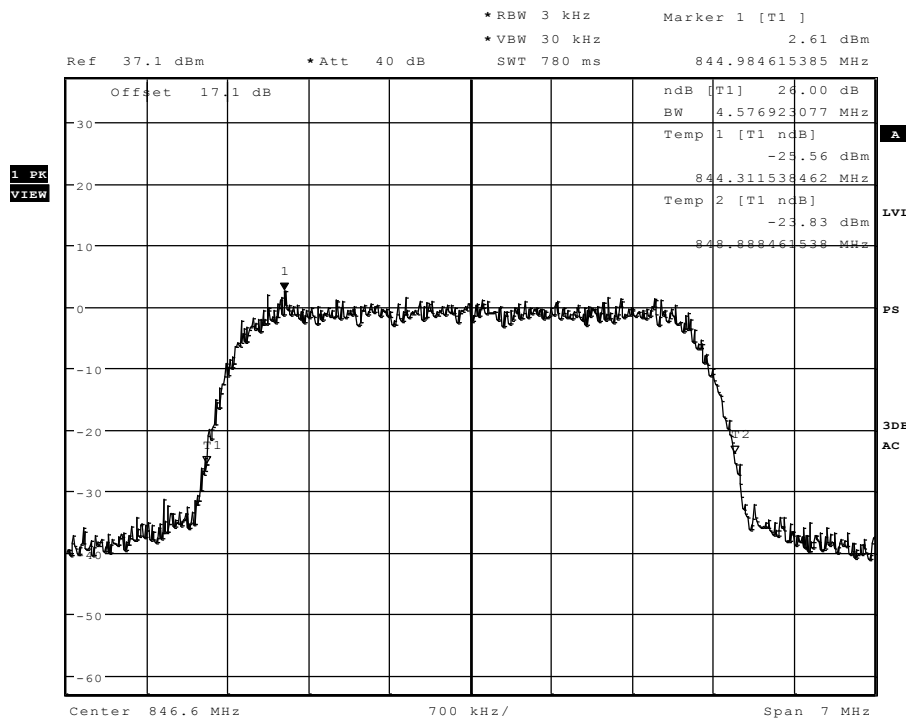


Date: 12.OCT.2012 12:10:24

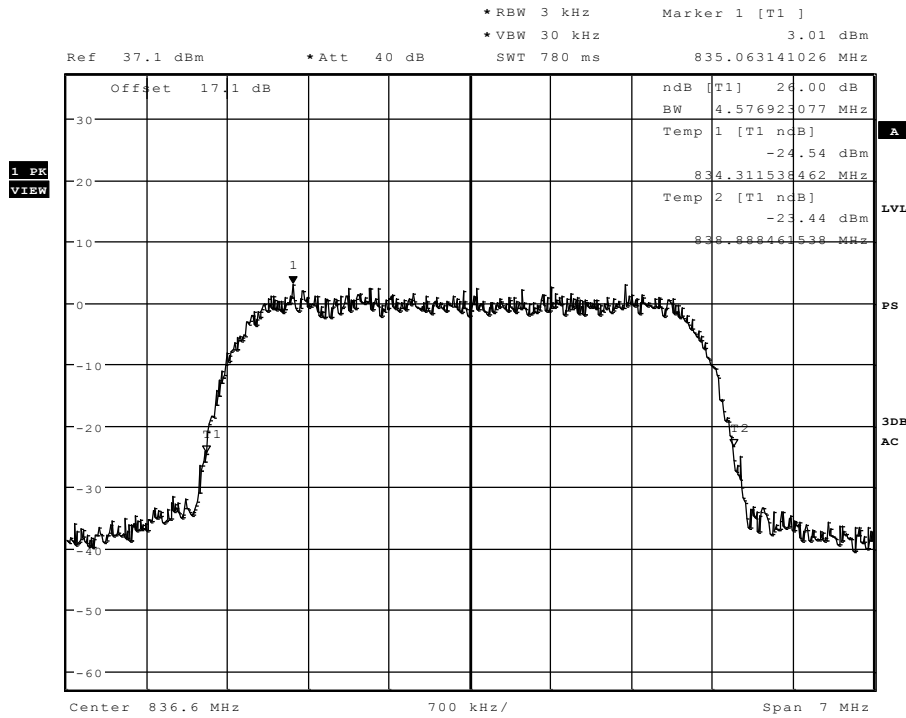


Date: 12.OCT.2012 12:00:57

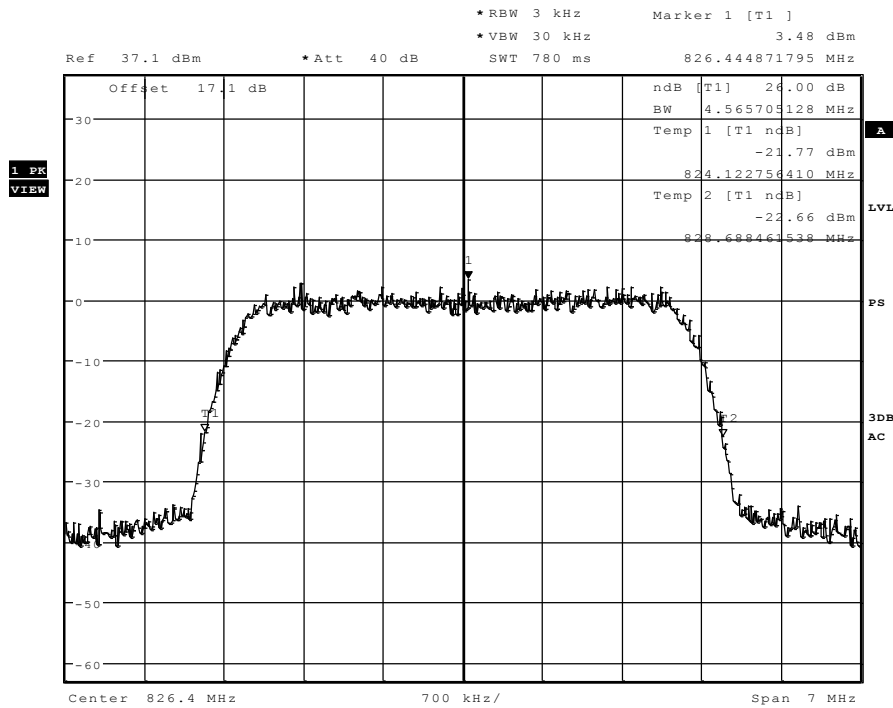
**FDD V mode**



Date: 12.OCT.2012 15:54:31



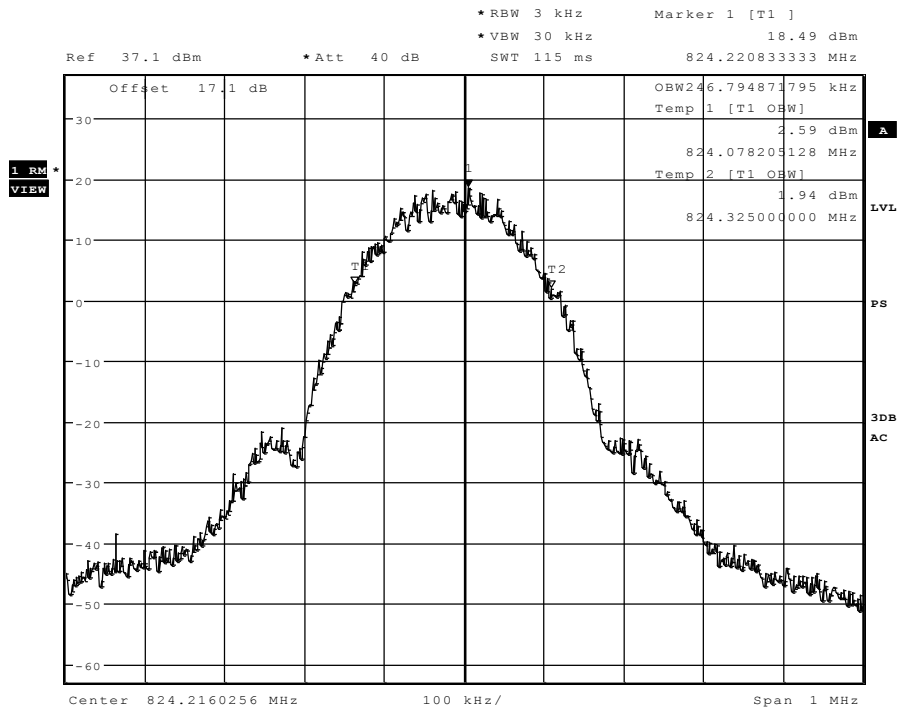
Date: 12.OCT.2012 15:59:16



Date: 12.OCT.2012 15:58:11

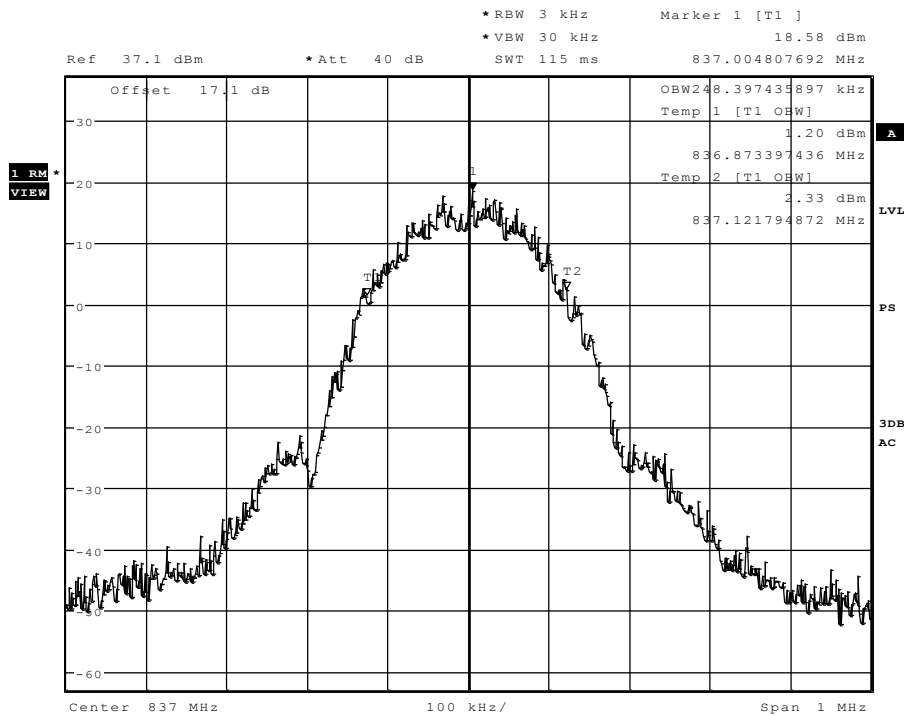
### 1.3. 99% Occupied bandwidth

#### EDGE G850



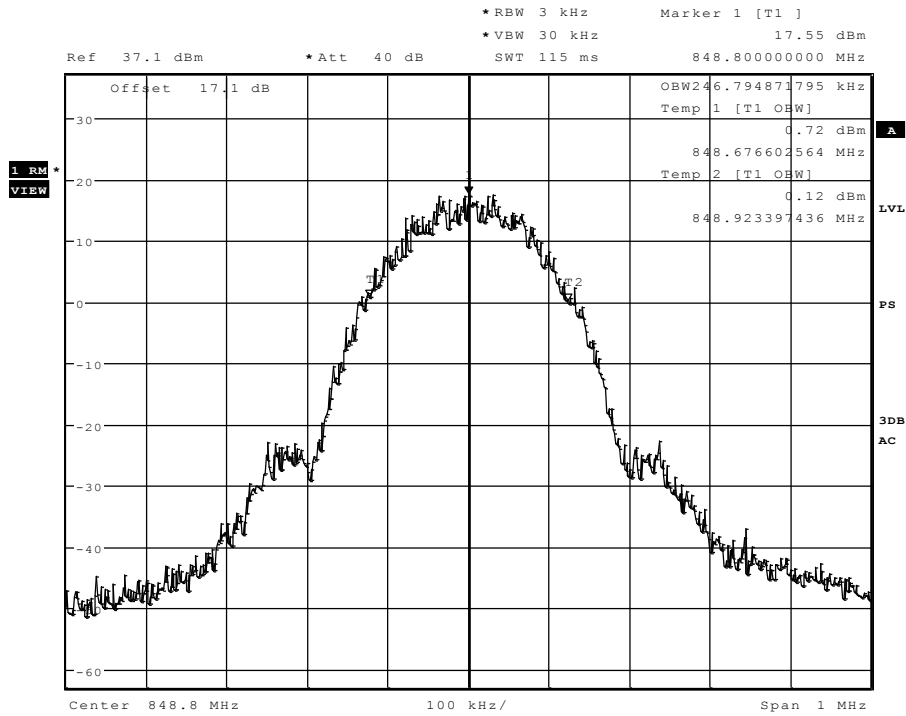
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#### Channel 128



Date: 15.OCT.2012 13:58:12

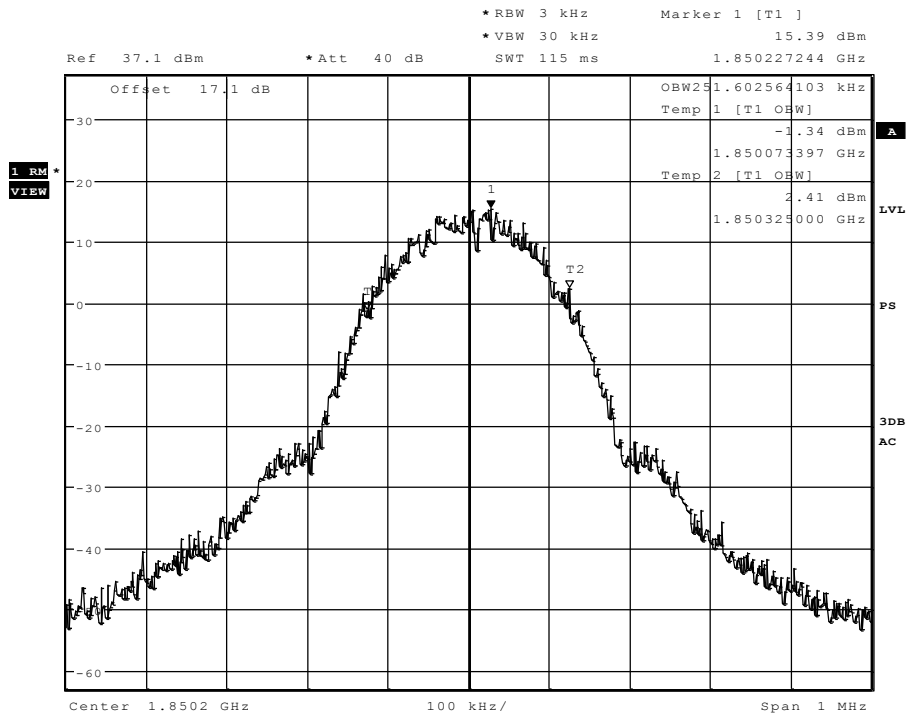
#### Channel 192



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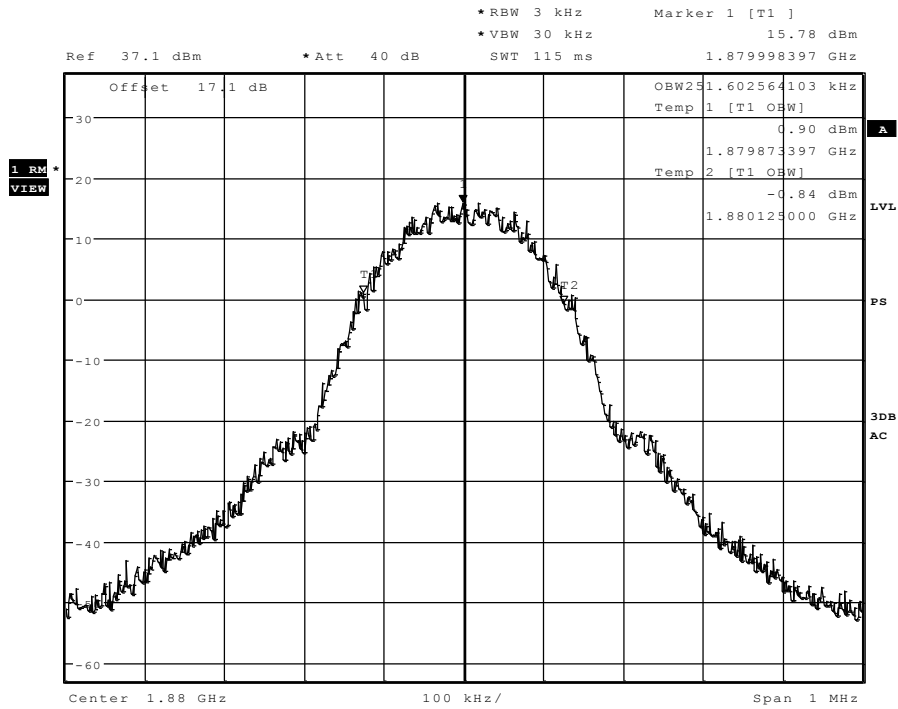
**Channel 251**

**EDGE - PCS1900**



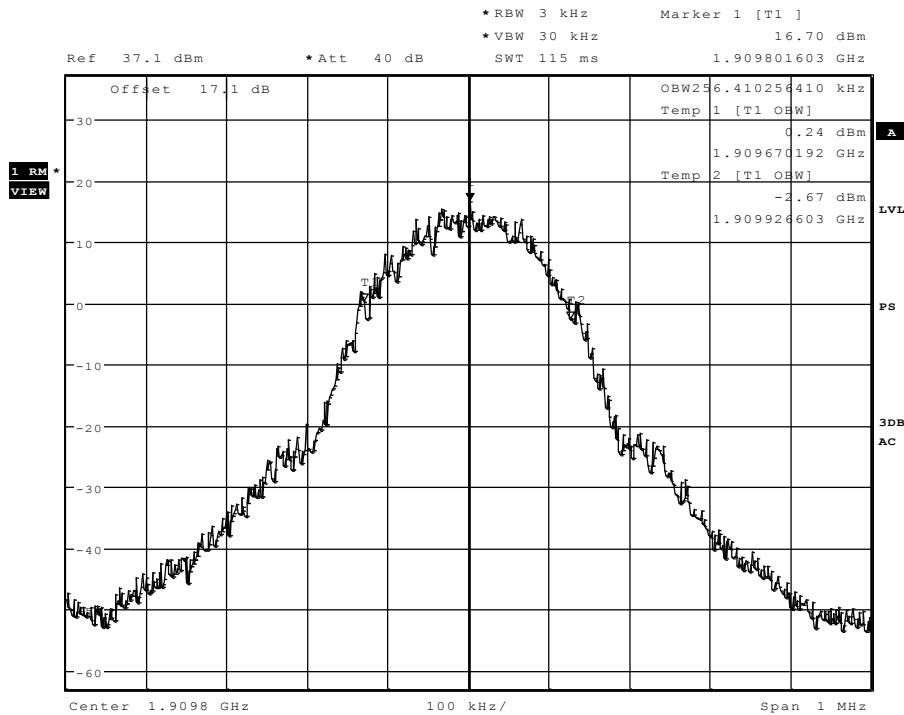
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**Channel 512**



Date: 15.OCT.2012 14:05:51

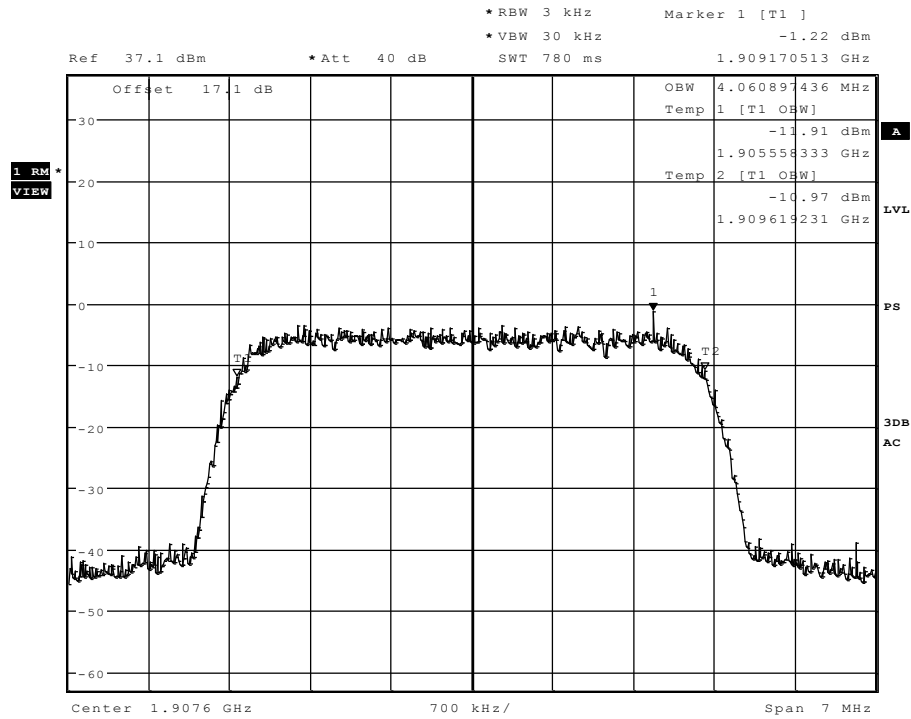
**Channel 661**



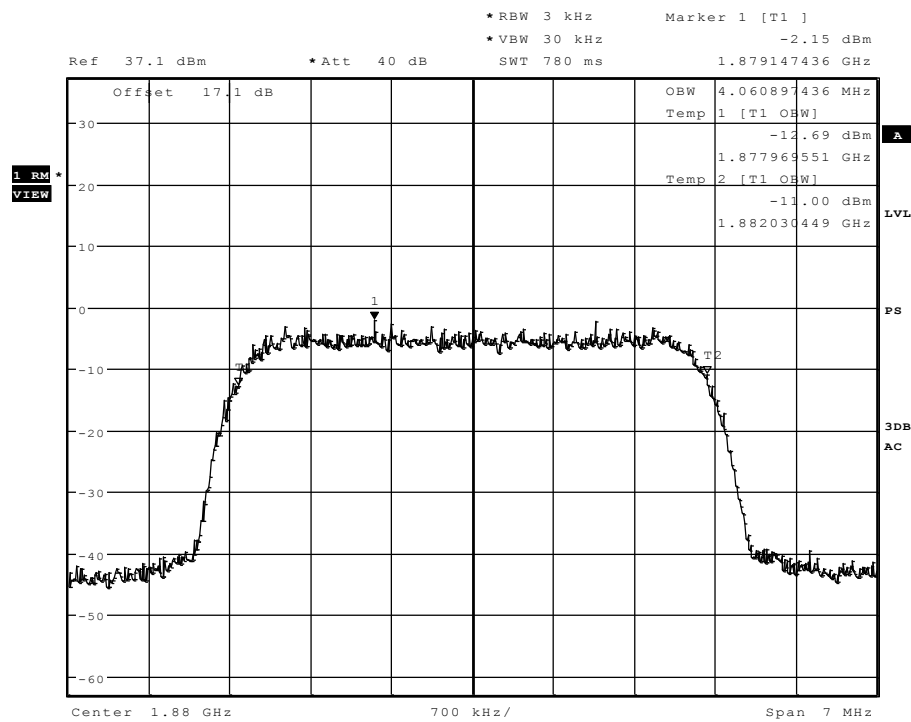
Date: 15.OCT.2012 14:13:07

**Channel 810**

**FDD II mode**

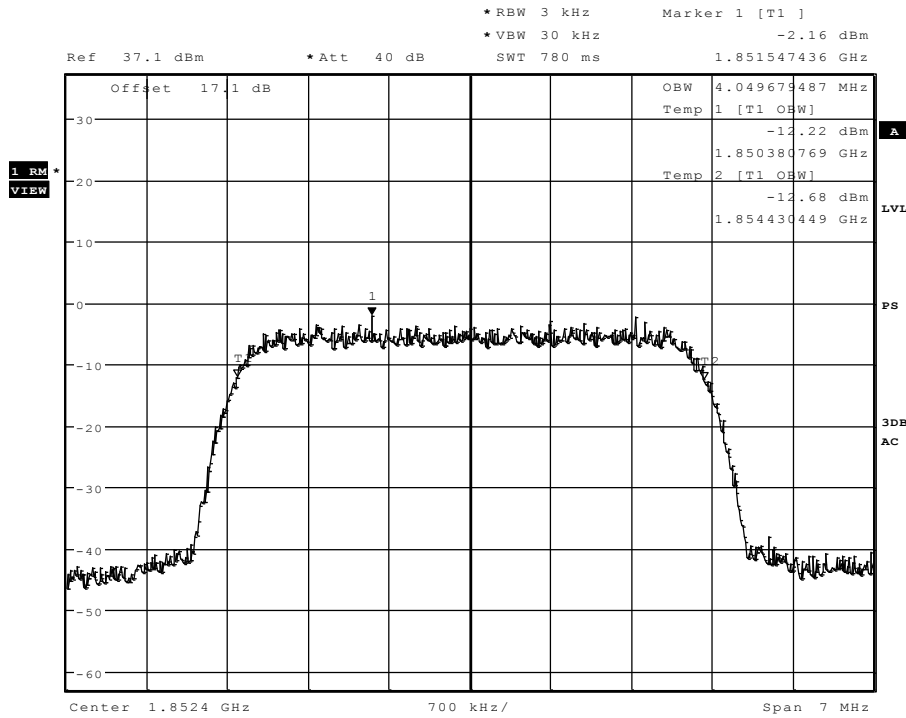


Date: 12.OCT.2012 12:12:02



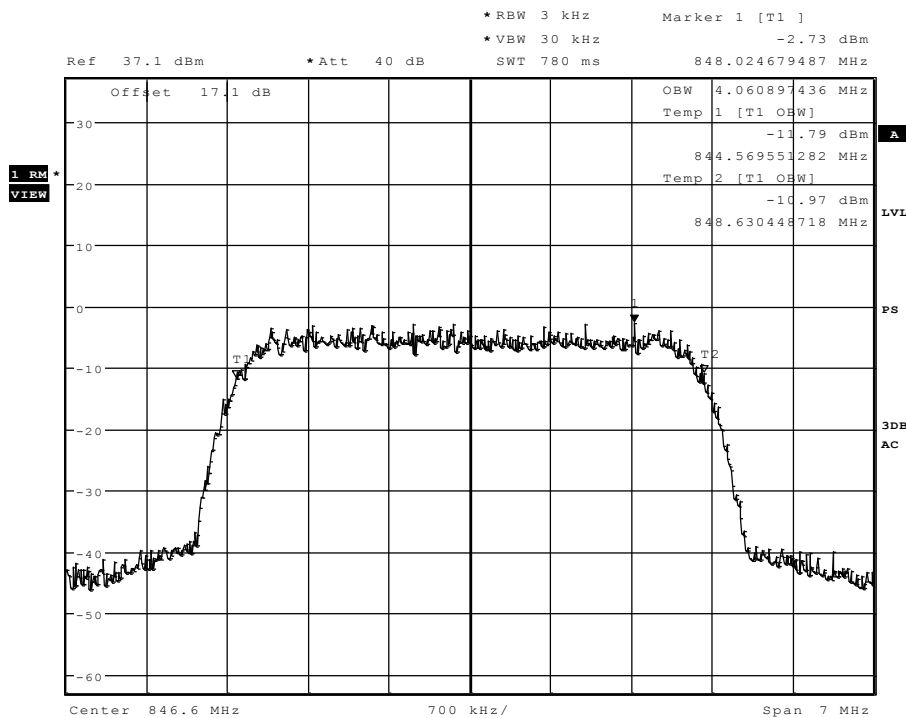
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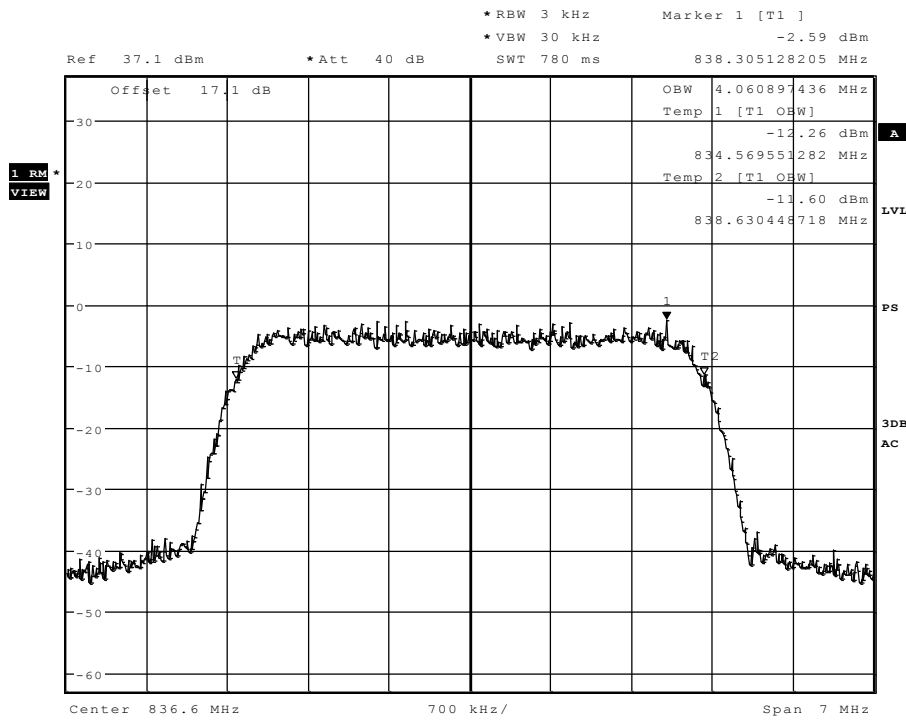


Date: 12.OCT.2012 12:02:50

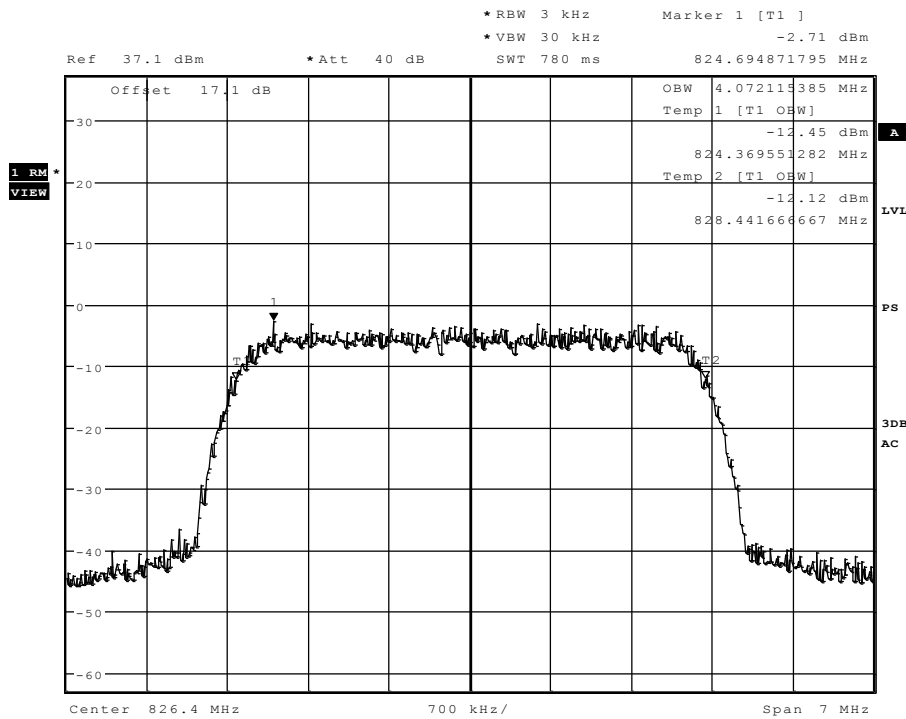
**FDD V mode**



Date: 12.OCT.2012 15:55:54



Date: 12.OCT.2012 16:00:32



Date: 12.OCT.2012 15:56:57

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

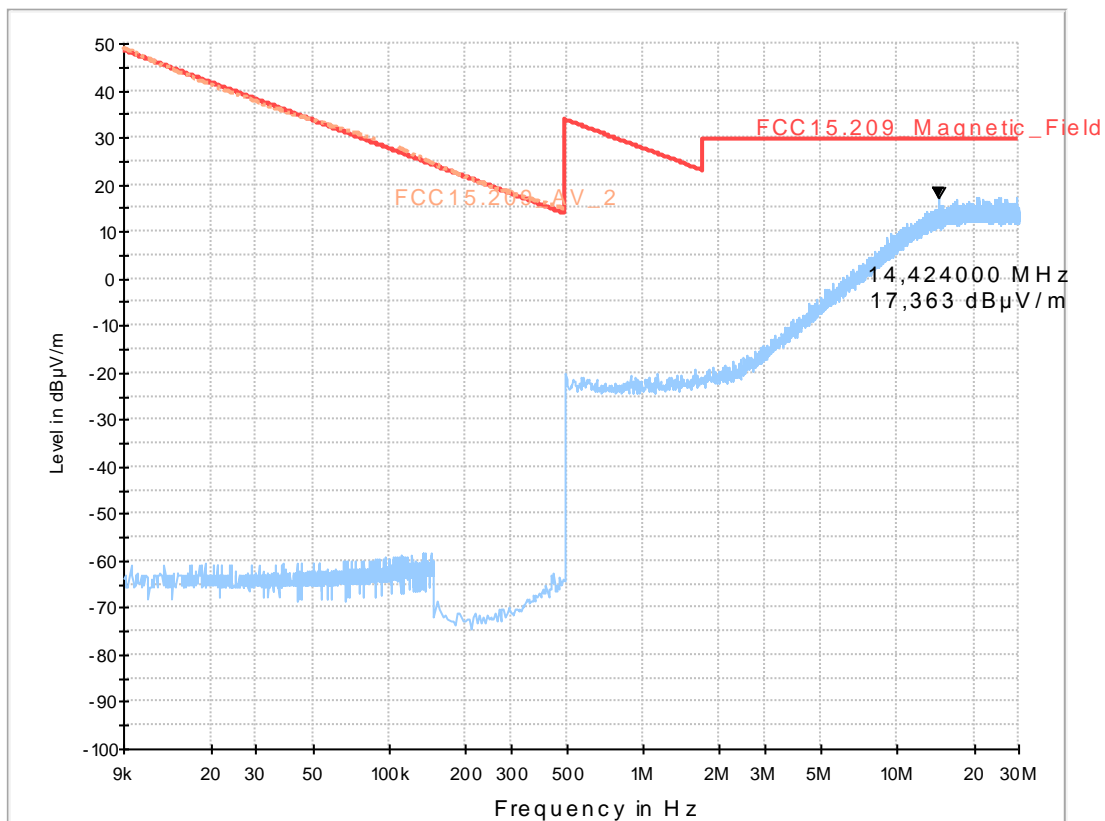
## Diagram No. 2.01\_CS\_H

Date:	09.10.2012 Page 1 of 1
Test description:	Magnetic Fieldstrength Measurement related to 30/300 m distance
Test site and distance:	Semi Anechoic Room with mobile absorbers on the floor (SAR) with 3 m measurement distance
Distance correction:	used
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:	KRe/Tas
Operating conditions:	TX mode, ARFCN 251 high channel (G850)
Power during tests:	110V 60Hz,
Comment 1:	6-0143-12-11-2a
Comment 2:	

### EUT Information

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	Taoglass antenna, Micro USB cable, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main
Comments:	SN 113

FCC 15.209\_magn hor+vert



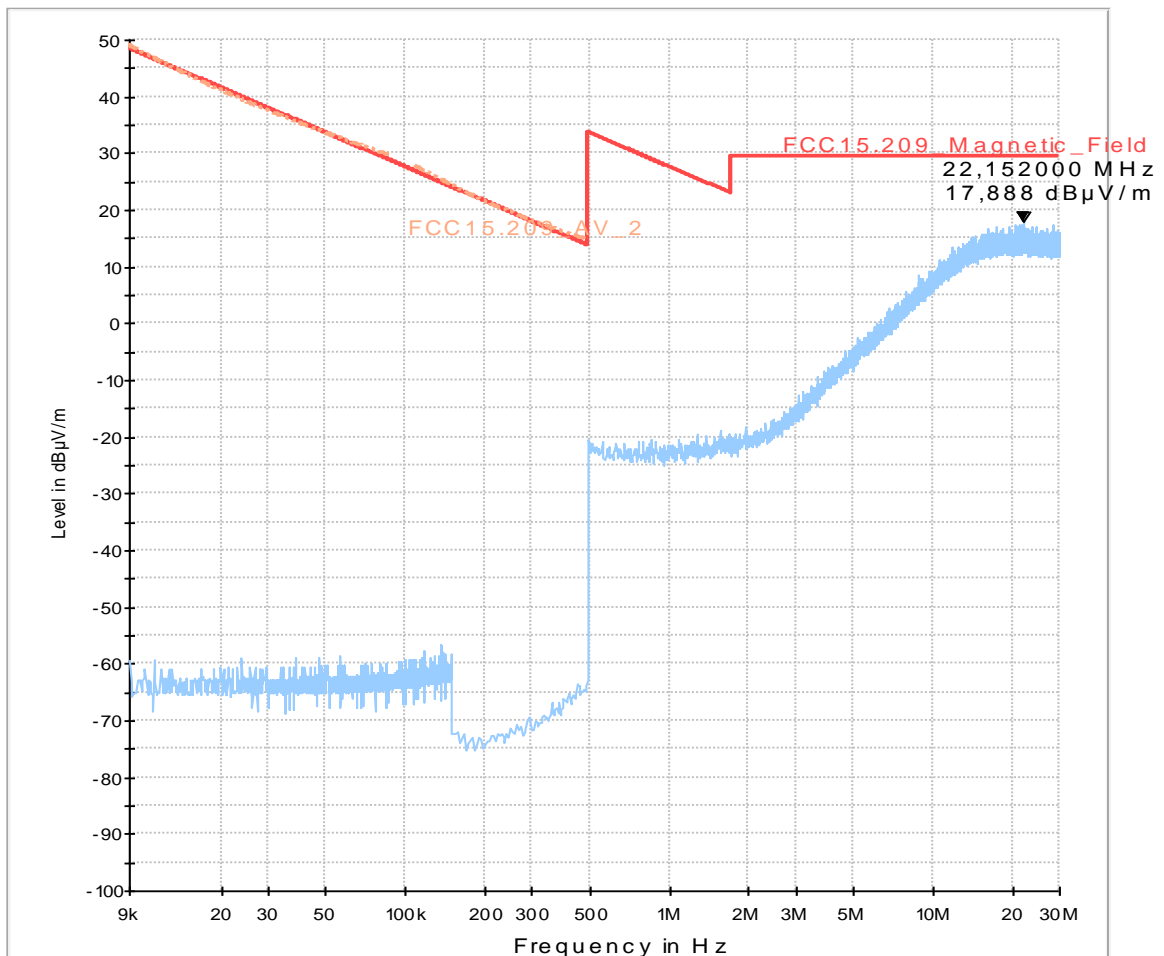
## Diagram No. 2.01\_PS\_L

Test description:	Magnetic Fieldstrength Measurement related to 30/300 m distance
Test site and distance:	Semi Anechoic Room with mobile absorbers on the floor (SAR) with 3 m measurement distance
Distance correction:	used
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:	KRe/Tas
Operating conditions:	TX – EDGE mode, ARFCN 128 low channel (G850)
Power during tests:	110V 60Hz,
Comment 1:	6-0143-12-11-2a

### EUT Information

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	Taoglass antenna, Micro USB cable, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main
Comments:	SN 113

FCC15.209\_magn hor+vert



## 1.6 Field strength < 30 MHz (radiated) – PCS1900 Mode

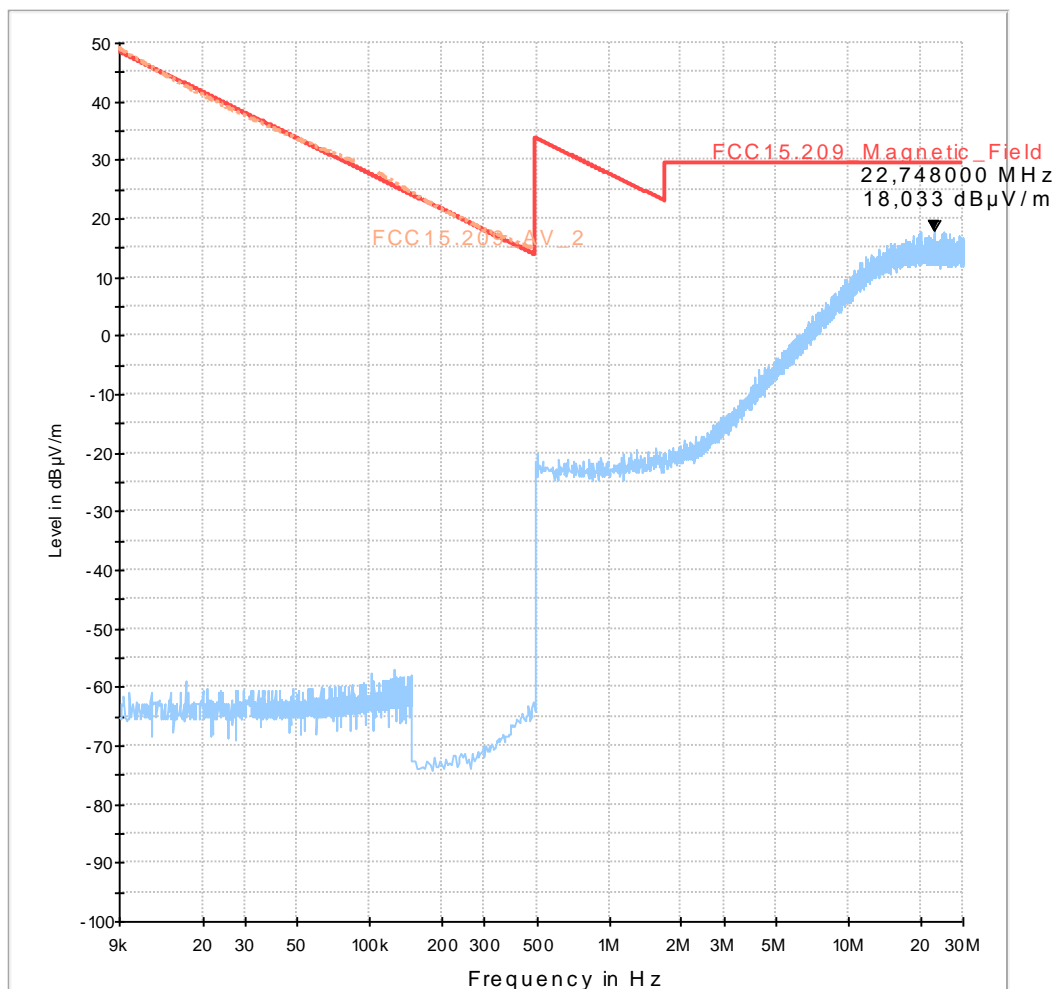
### Diagram No. 2.02\_CS\_L

Test description:	Magnetic Fieldstrength Measurement related to 30/300 m distance
Test site and distance:	Semi Anechoic Room with mobile absorbers on the floor (SAR) with 3 m measurement distance
Distance correction:	used
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:	KRe/Tas
Operating conditions:	TX - Voice mode, ARFCN 512 low channel (PCS1900)
Power during tests:	110V 60Hz,
Comment 1:	6-0143-12-11-2a

### EUT Information

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	Taoglass antenna, Micro USB cable, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main
Comments:	SN 113

FCC15.209\_magn hor+vert



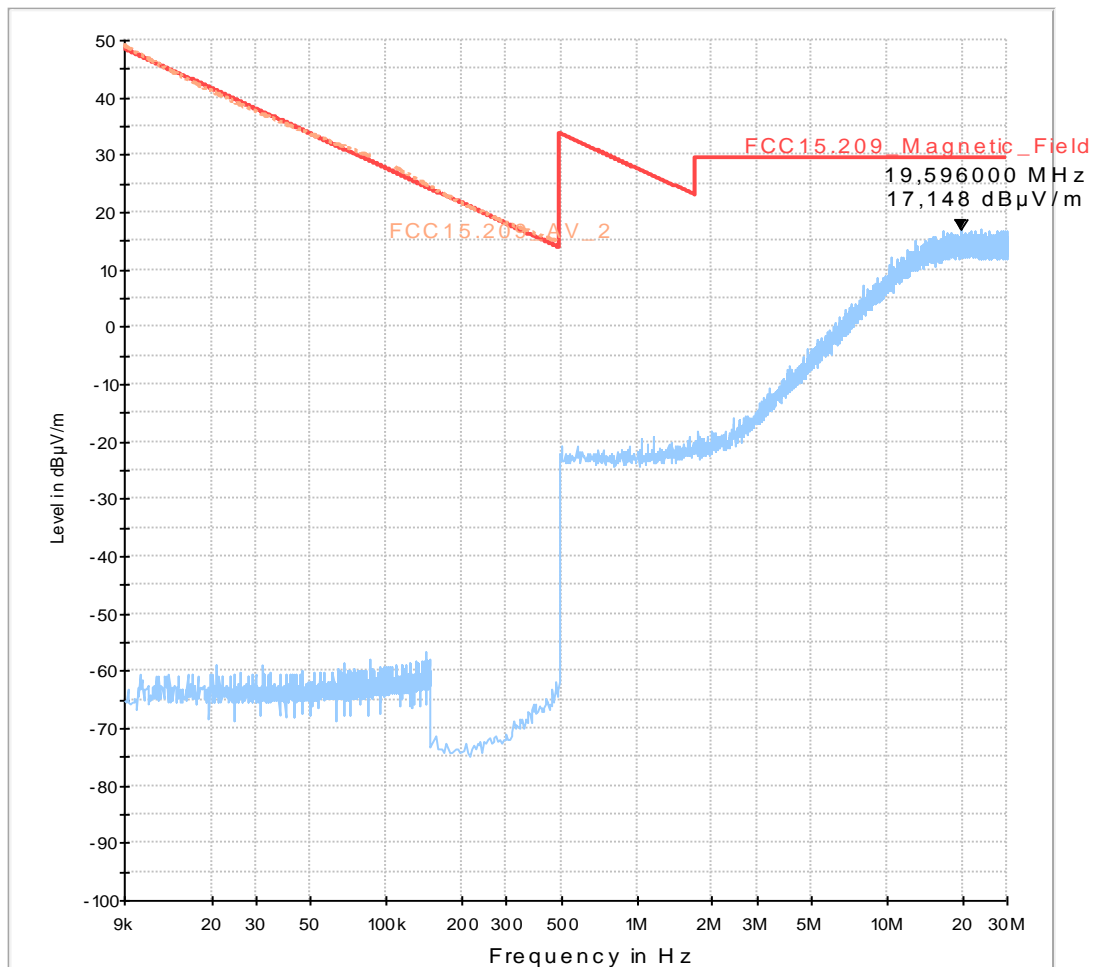
## Diagram No. 2.02\_PS\_L

Test description:	Magnetic Fieldstrength Measurement related to 30/300 m distance
Test site and distance:	Semi Anechoic Room with mobile absorbers on the floor (SAR) with 3 m measurement distanc
Distance correction:	used
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:	KRe/Tas
Operating conditions:	TX - EDGE mode, ARFCN 512 low channel (PCS1900)
Power during tests:	110V 60Hz,
Comment 1:	6-0143-12-11-2a

### EUT Information

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	Taoglass antenna, Micro USB cable, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main
Comments:	SN 113

FCC15.209\_magn hor+vert



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

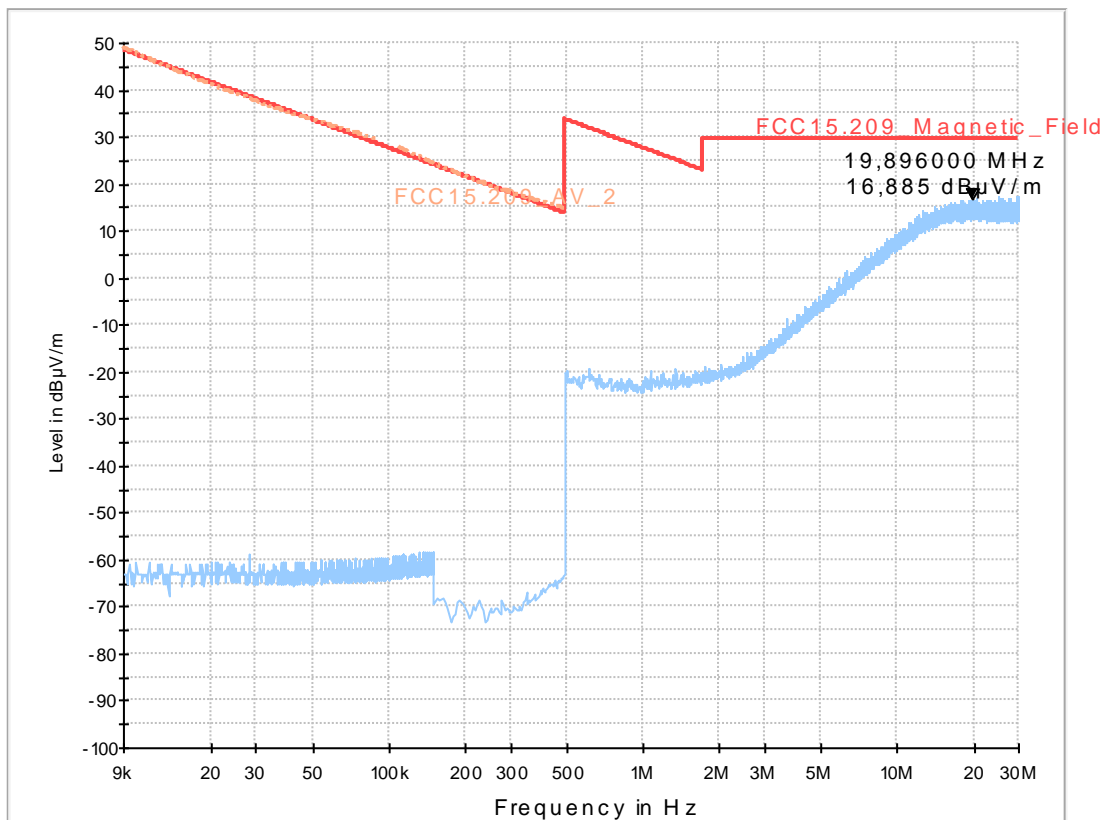
### Diagram No. 2.06\_FDDII\_RSE\_RMC\_L

Date:	09.10.2012	Page 1 of 1
Test description:	Magnetic Fieldstrength Measurement related to 30/300 m distance	
Test site and distance:	Semi Anechoic Room with mobile absorbers on the floor (SAR) with 3 m measurement distance	
Distance correction:	no used	
Rec. antenna (pre-scan):	height 1.00 m, parallel and 90° to EUT polarisation	
Used filter:	no	
Test specification:	FCC 15.205 § 15.209; RSS-Gen: Issue 3	
Operator:	KRe/Tas	
Operating conditions:	TX mode, U-ARFCN 9262 Low channel	
Power during tests:	110V 60Hz,	
Comment 1:	6-0143-12-11-2a	
Comment 2:		

#### EUT Information

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	Taoglass antenna, Micro USB cable, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main
Comments:	SN 113

FCC15.209\_magn hor+vert



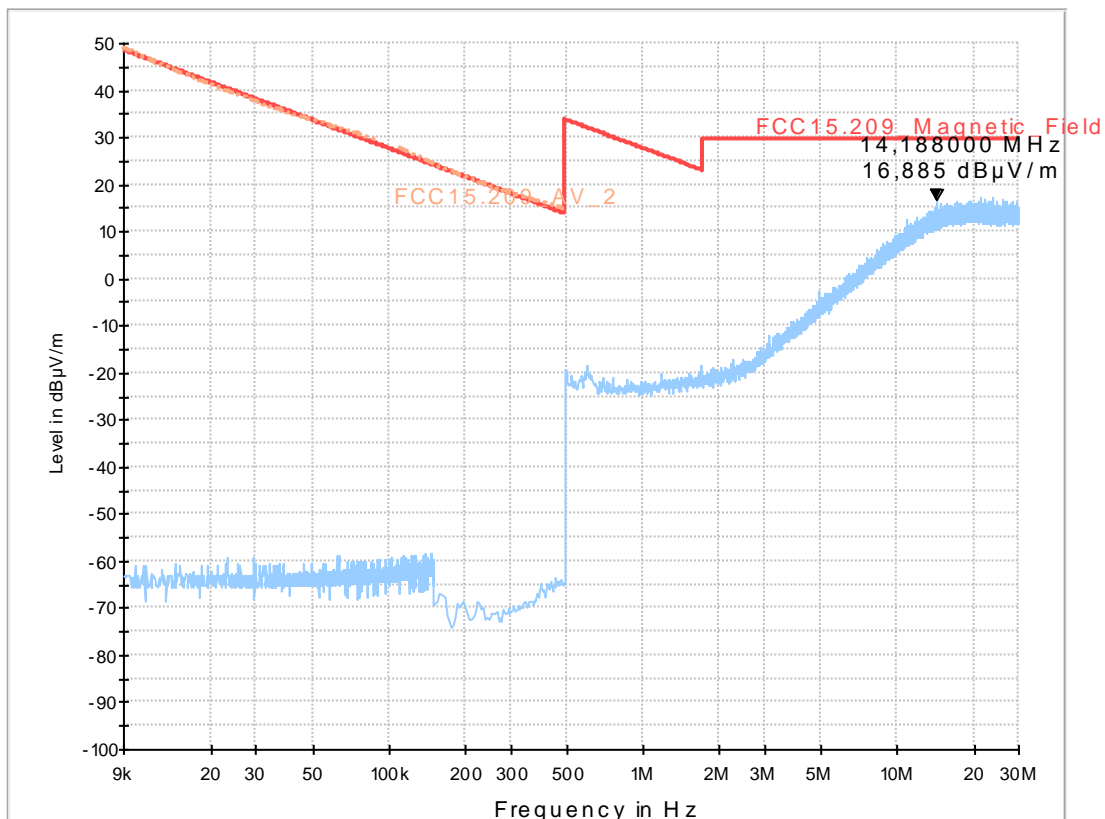
## Diagram No. 2.07\_FDDII\_RSE\_RMC\_M

Date:	09.10.2012	Page 1 of 1
Test description:	Magnetic Fieldstrength Measurement related to 30/300 m distance	
Test site and distance:	Semi Anechoic Room with mobile absorbers on the floor (SAR) with 3 m measurement distance	
Distance correction:	no used	
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:	KRe	
Operating conditions:	TX mode, U-ARFCN 9400 middle channel	
Power during tests:	110V 60Hz,	
Comment 1:	6-0143-12-11-2a	
Comment 2:		

### EUT Information

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	Taoglass antenna, Micro USB cable, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main
Comments:	SN 113

FCC15.209\_magn hor+vert





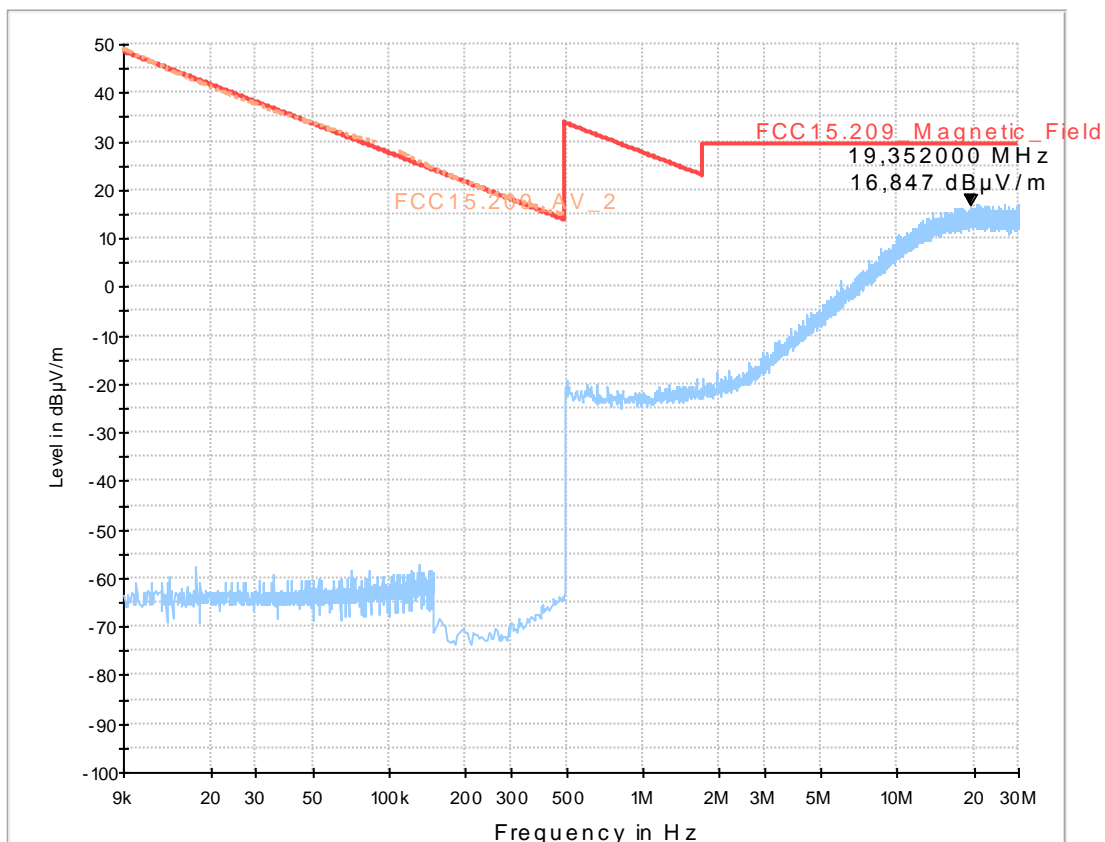
## Diagram No. 2.08\_FDDII\_RSE\_RMC\_H

Date:	09.10.2012	Page 1 of 1
Test description:	Magnetic Fieldstrength Measurement related to 30/300 m distance	
Test site and distance:	Semi Anechoic Room with mobile absorbers on the floor (SAR) with 3 m measurement distance	
Distance correction:	no used	
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:	KRe/Tas	
Operating conditions:	TX mode, U-ARFCN 9538 high channel	
Power during tests:	110V 60Hz,	
Comment 1:	6-0143-12-11-2a	

### EUT Information

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	Taoglass antenna, Micro USB cable, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main
Comments:	SN 113

FCC15.209\_magn hor+vert



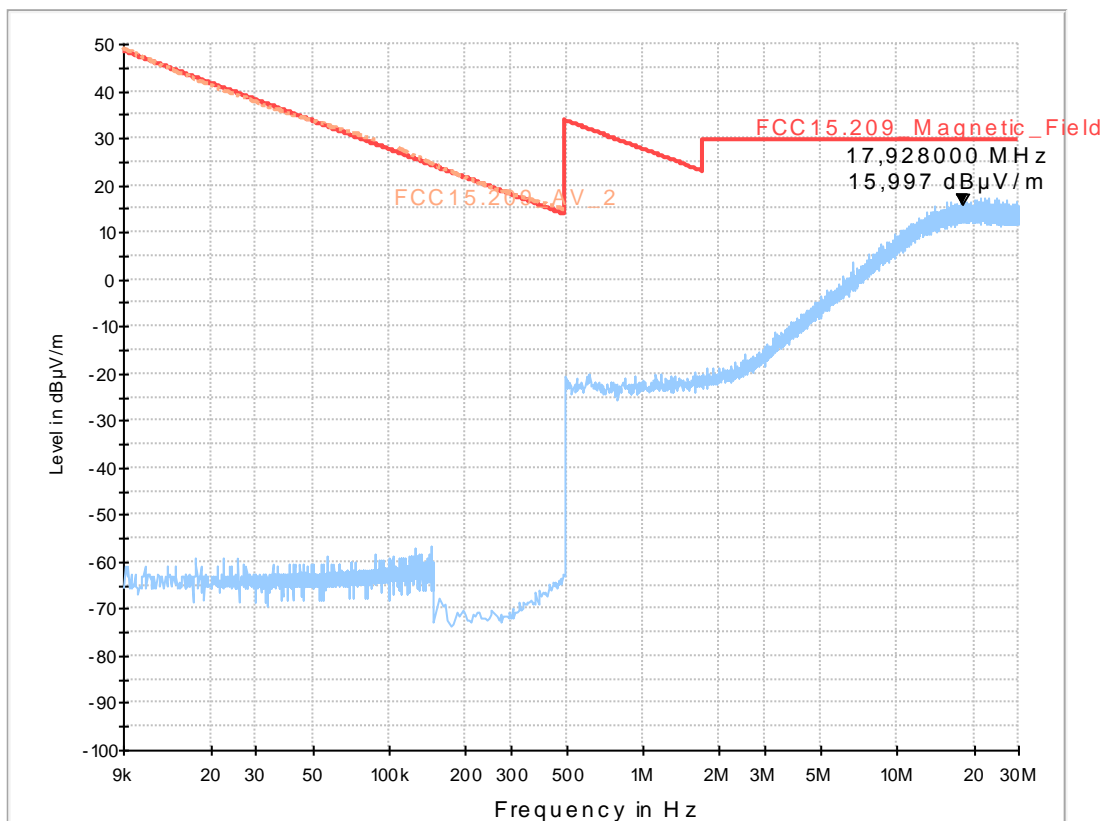
## 1.6 Field strength < 30 MHz (radiated) – FDD V Mode Diagram No. 2.03\_FDDV\_RSE\_RMC\_L

Date:	09.10.2012	Page 1 of 1
Test description:	Magnetic Fieldstrength Measurement related to 30/300 m distance	
Test site and distance:	Semi Anechoic Room with mobile absorbers on the floor (SAR) with 3 m measurement distance	
Distance correction:	no used	
Rec. antenna (pre-scan):	height 1.00 m, parallel and 90° to EUT polarisation	
Used filter:	no	
Test specification:	FCC 15.205 § 15.209; RSS-Gen: Issue 3	
Operator:	KRe/Tas	
Operating conditions:	TX mode, U-ARFCN 4132 Low channel	
Power during tests:	110V 60Hz,	
Comment 1:	6-0143-12-11-2a	
Comment 2:		

### EUT Information

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	Taoglass antenna, Micro USB cable, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main
Comments:	SN 113

FCC15.209\_magn hor+vert



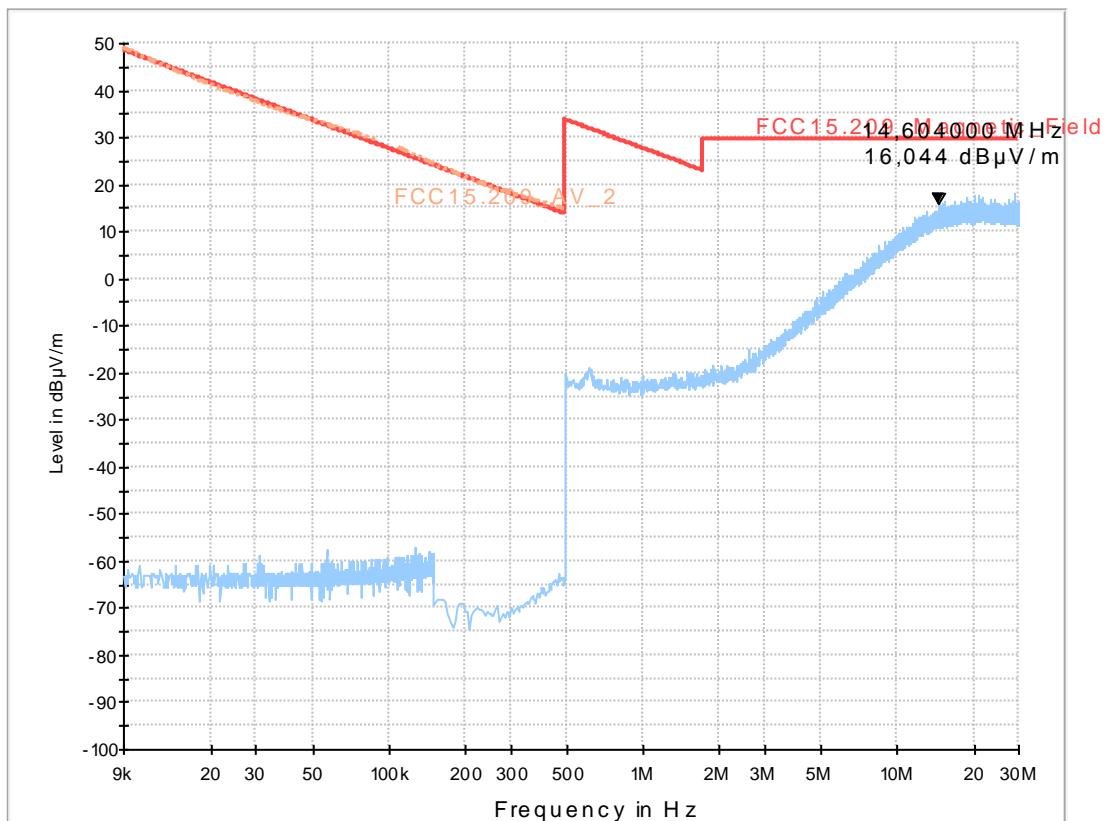
## Diagram No. 2.04\_FDD V\_RSE\_RMC\_M

Test description:	Date: 09.10.2012 Page 1 of 1
Test site and distance:	Magnetic Fieldstrength Measurement related to 30/300 m distance
	Semi Anechoic Room with mobile absorbers on the floor (SAR) with 3 m measurement distance
Distance correction:	used
Rec. antenna (pre-scan):	height 1.00 m, parallel and 90° to EUT polarisation
Used filter:	not used
Test specification:	FCC 15.205 § 15.209; RSS-Gen: Issue 3
Operator:	KRe/Tas
Operating conditions:	TX mode, U-ARFCN 4183 middle channel
Power during tests:	110V 60Hz,
Comment 1:	6-0143-12-11-2a
Comment 2:	

### EUT Information

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	Taoglass antenna, Micro USB cable, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main
Comments:	SN 113

FCC 15.209\_magn hor+vert



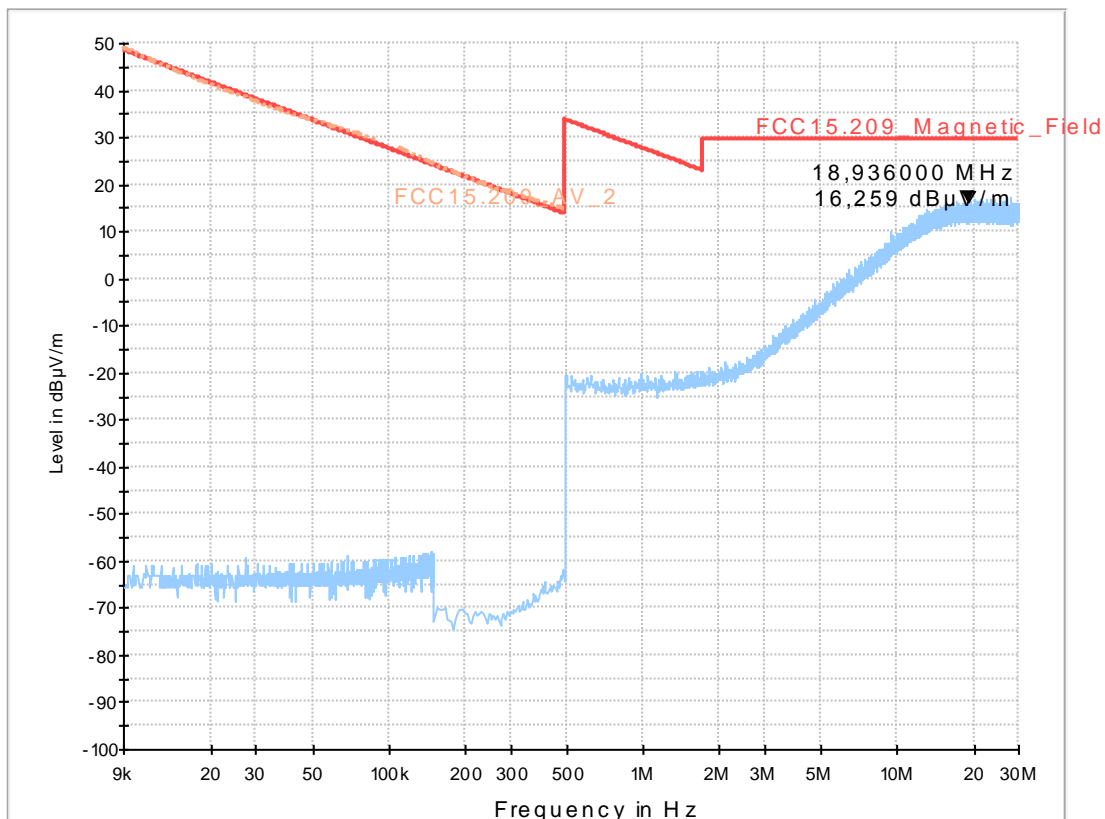
## Diagram no.: 2.05\_FDDV\_RSE\_RMC\_H

Test description:	Date: 09.10.2012 Page 1 of 1
Test site and distance:	Magnetic Fieldstrength Measurement related to 30/300 m distance
	Semi Anechoic Room with mobile absorbers on the floor (SAR) with 3 m measurement distance
Distance correction:	used
Rec. antenna (pre-scan):	height 1.00 m, parallel and 90° to EUT polarisation
Used filter:	no
Test specification:	FCC 15.205 § 15.209; RSS-Gen: Issue 3
Operator:	KRe/Tas
Operating conditions:	TX mode, U-ARFCN 4233 high channel
Power during tests:	110V 60Hz,
Comment 1:	6-0143-12-11-2a
Comment 2:	

### EUT Information

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	Taoglass antenna, Micro USB cable, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main
Comments:	SN 113

FCC 15.209\_magn hor+vert



### 1.7 TX Spurious emissions conducted + Block-Edge – FDD II Mode

#### Diagram No.: 12.01

##### Common Information

Test Description: TX Spurious Emission conducted  
 Test Site: Radio laboratory 1  
 Test Standard: FCC Part 24.238 Broadband PCS, RSS-133

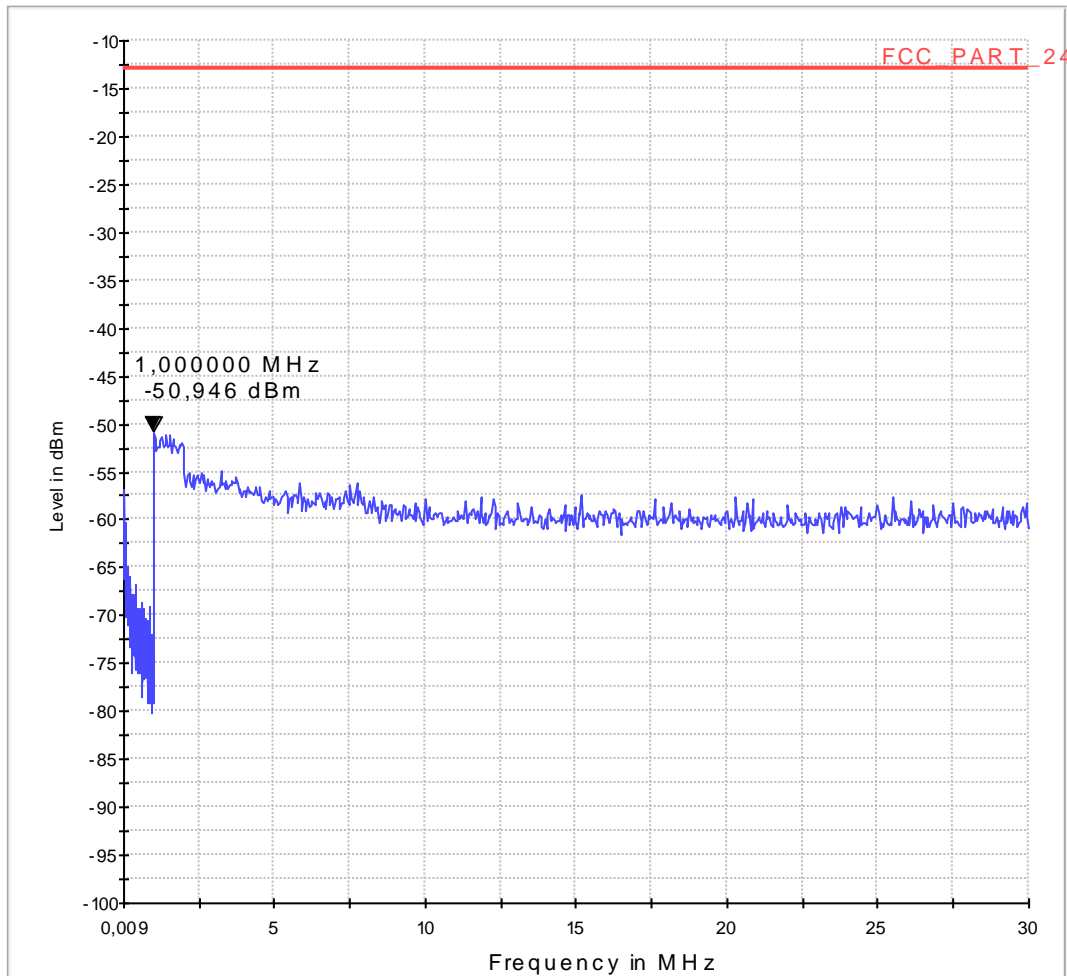
Operation mode: TX - FDD II (RMC), low channel on U-ARFCN 9262  
 Operator Name: Tas  
 Comment: 6-0143-12-11-2a

##### EUT Information

Manufacturer: ublox AG  
 Model: LISA-U260  
 Type: GSM/FDD Module

EUT: LISA-U260, RF Sample  
 HW version: 146AC0  
 FW version: 22.60  
 Serial number: 354235050002264  
 Connected Accessories: --  
 Power Supply: 3,8 V DC nominal  
 Comments: SN 113

Sweep\_1



## Diagram No.: 12.02

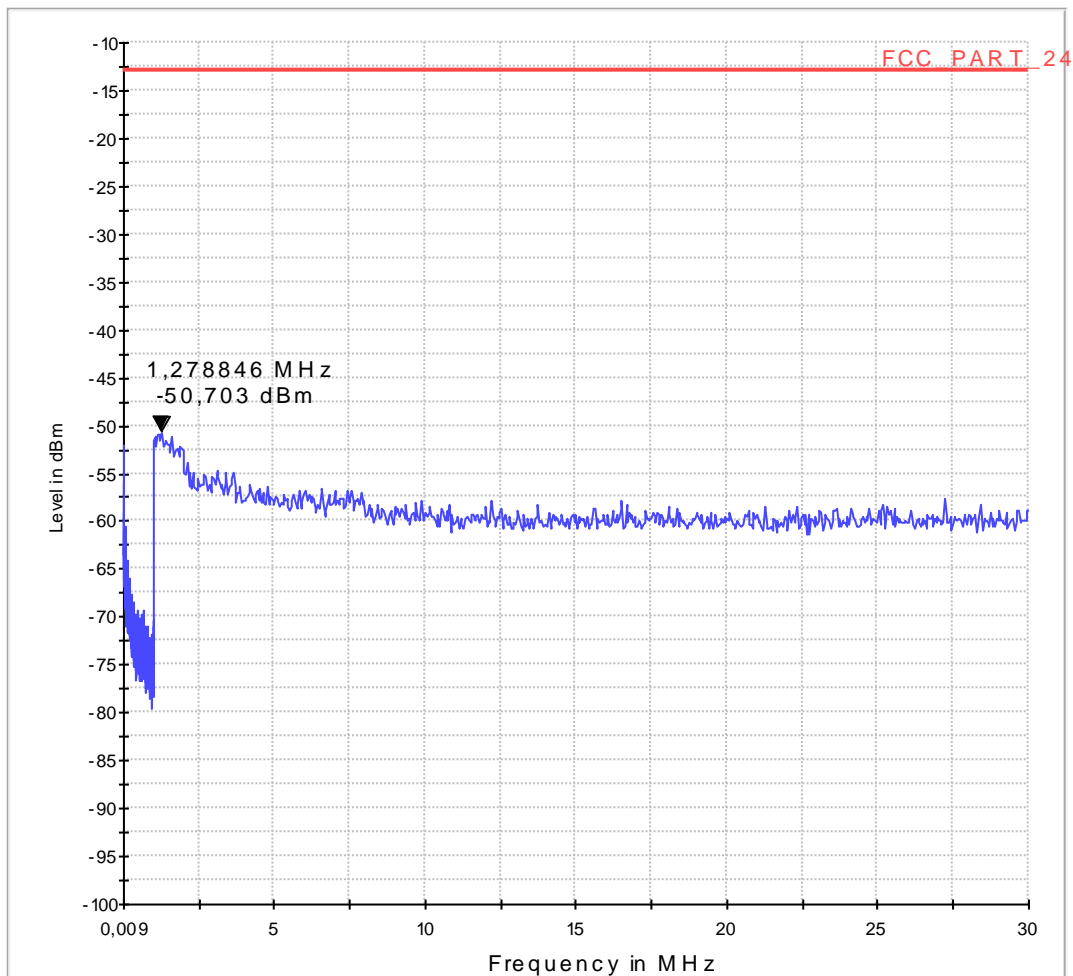
### Common Information

Test Description:	TX Spurious Emission conducted
Test Site:	Radio laboratory 1
Test Standard:	FCC Part 24.238 Broadband PCS, RSS-133
Operation mode:	TX - FDD V (RMC), middle channel on U-ARFCN 9400
Operator Name:	Tas
Comment:	6-0143-12-11-2a

### EUT Information

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	--
Power Supply:	3,8 V DC nominal
Comments:	SN 113

Sweep\_1



## Diagram No.: 12.03

### Common Information

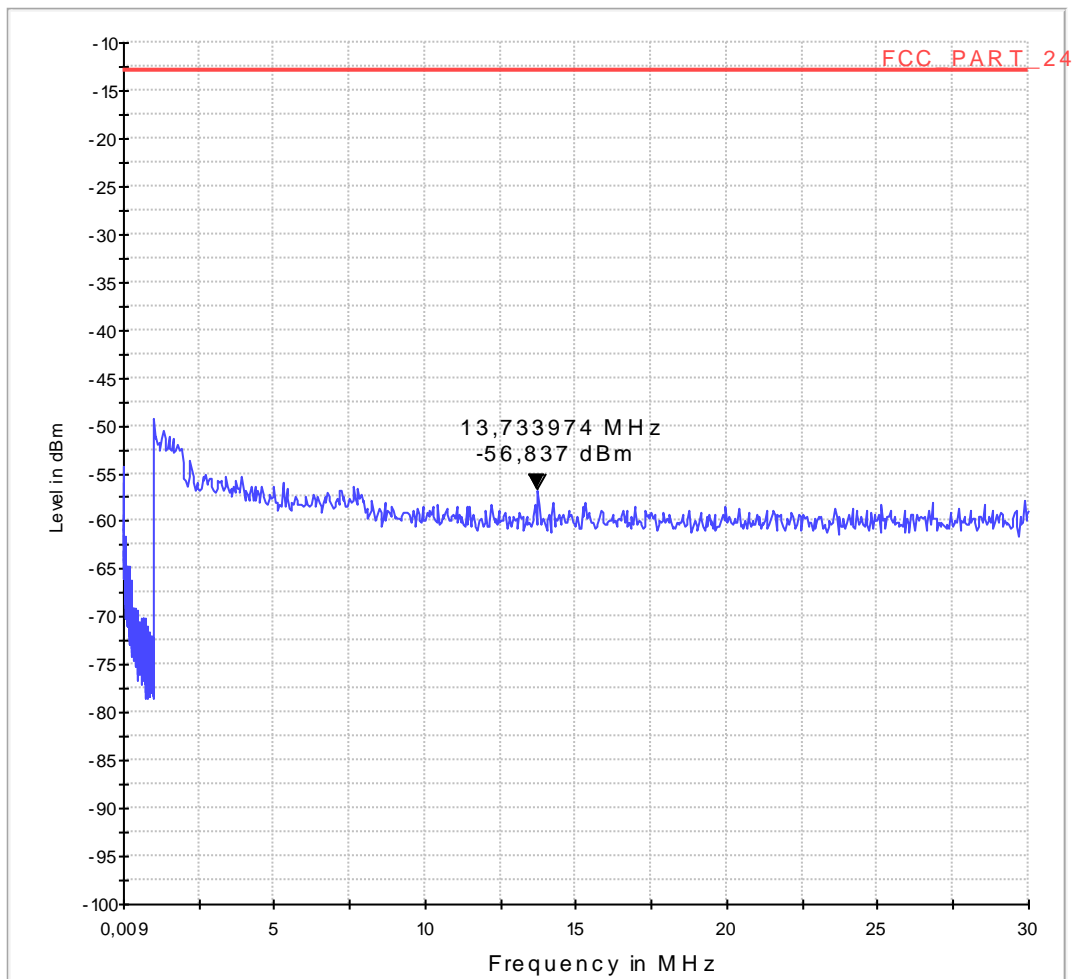
Test Description:	TX Spurious Emission conducted
Test Site:	Radio laboratory 1
Test Standard:	FCC Part 24.238 Broadband PCS, RSS-133
Operation mode:	TX - FDD II (RMC), high channel on U-ARFCN 9538
Operator Name:	Tas
Comment:	6-0143-12-11-2a

### EUT Information

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	--
Power Supply:	3,8 V DC nominal
Comments:	SN 113

### Sweep\_1

Sweep\_1



## Diagram No. 12.04

### Common Information

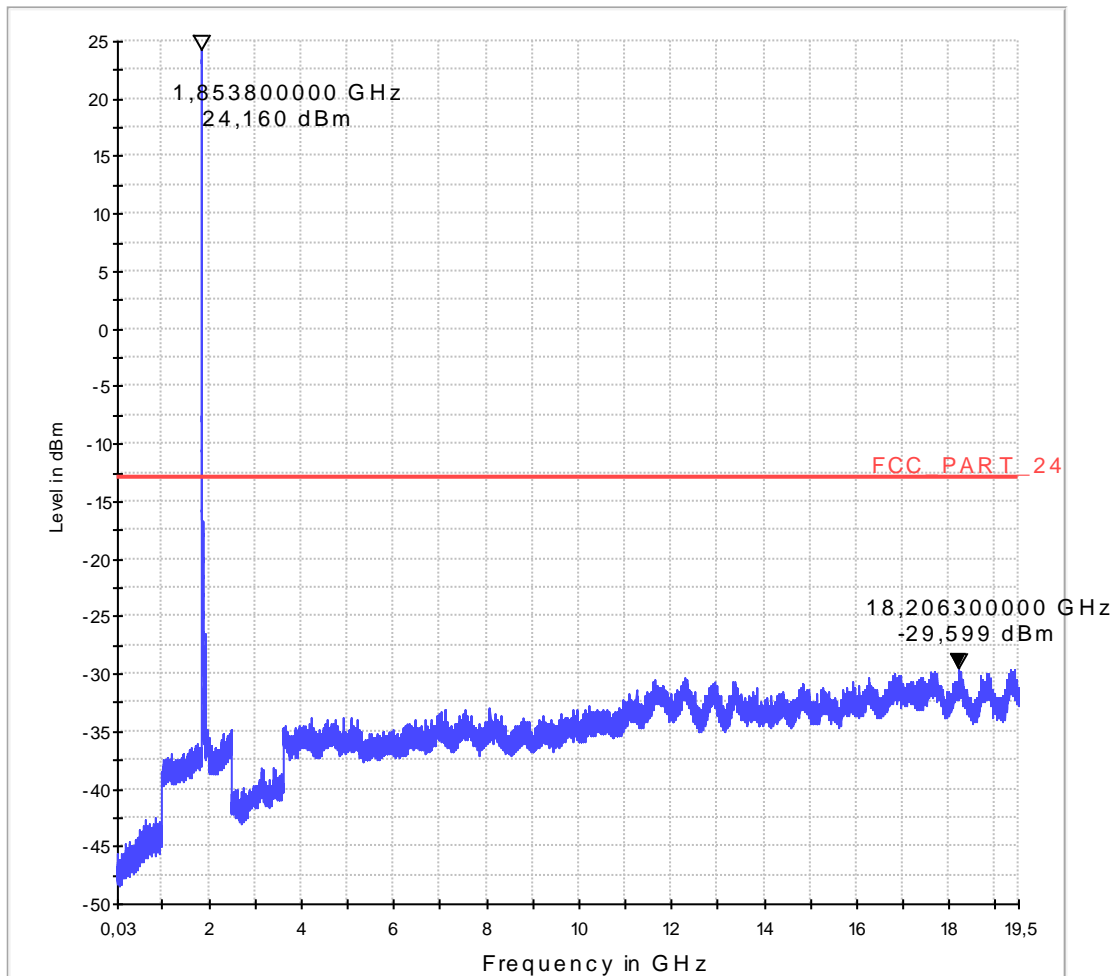
Test Description:	TX Spurious Emission conducted
Test Site:	Radio laboratory 1
Test Standard:	FCC Part 24.238 Broadband PCS, RSS-133
Environment Conditions:	Normal conditions (Vnominal, Tnominal)
Operator Name:	Tas
Comment:	TX carrier visible and for spurious emission test shall be ignored

6-0143-12-11-2a

### EUT Information

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	--
Power Supply:	3,8 V DC nominal
Comments:	SN 113

Sweep\_2





## Diagram No. 12.05

### Common Information

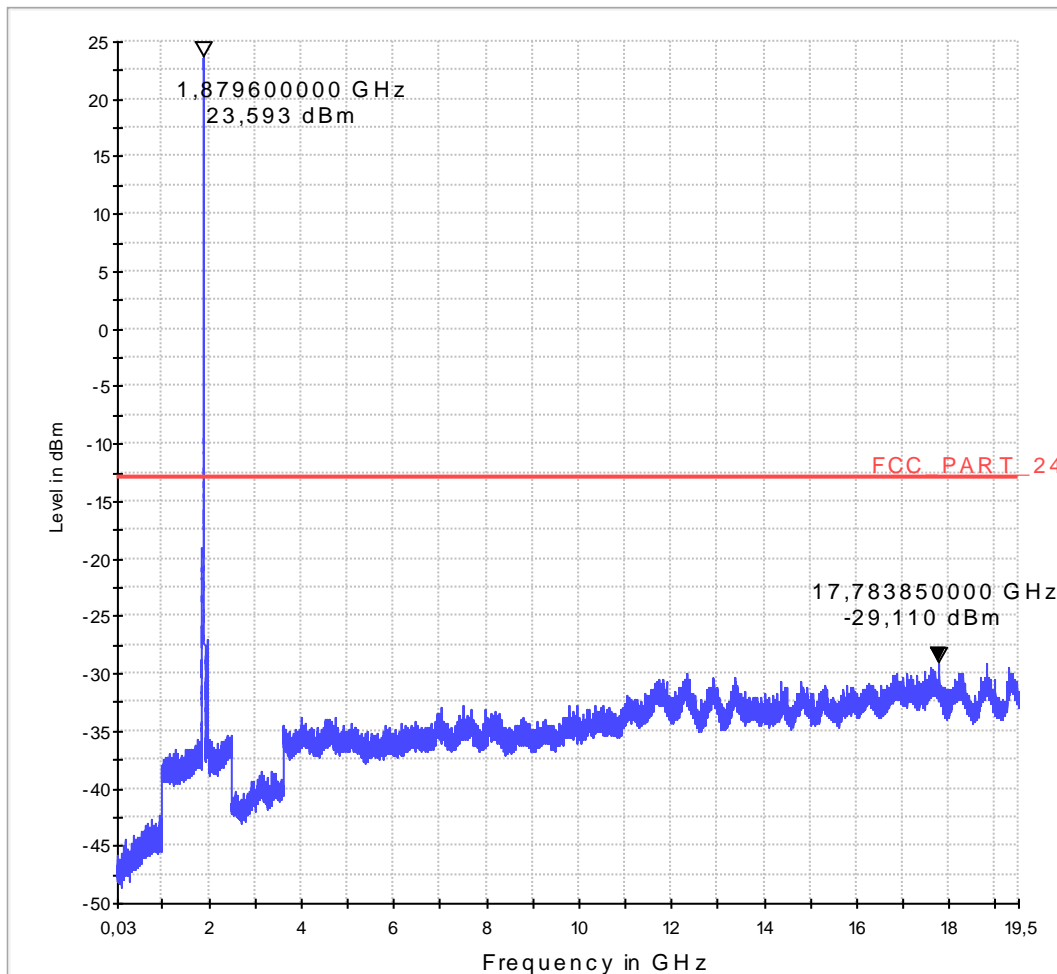
Test Description:	TX Spurious Emission conducted
Test Site:	Radio laboratory 1
Test Standard:	FCC Part 24.238 Broadband PCS, RSS-133
Environment Conditions:	Normal conditions (Vnominal, Tnominal)
Operator Name:	Tas
Comment:	TX carrier visible and for spurious emission test shall be ignored

6-0143-12-11-2a

### EUT Information

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	--
Power Supply:	3,8 V DC nominal
Comments:	SN 113

Sweep\_2



## Diagram no.: 12.06

### Common Information

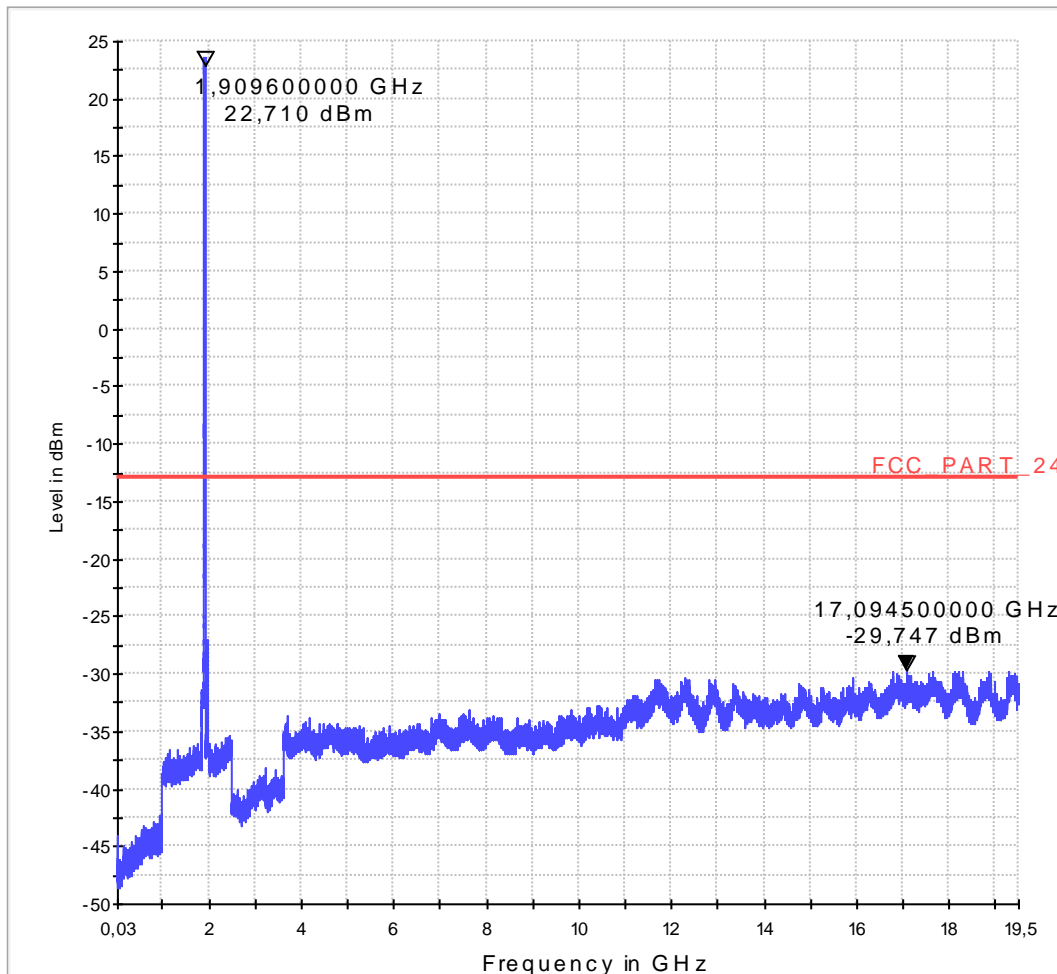
Test Description:	TX Spurious Emission conducted
Test Site:	Radio laboratory 1
Test Standard:	FCC Part 24.238 Broadband PCS, RSS-133
Environment Conditions:	Normal conditions (Vnominal, Tnominal)
Operator Name:	Tas
Comment:	TX carrier visible and for spurious emission test shall be ignored

6-0143-12-11-2a

### EUT Information

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	--
Power Supply:	3,8 V DC nominal
Comments:	SN 113

Sweep\_2



## Diagram No. 12.07\_BE\_L

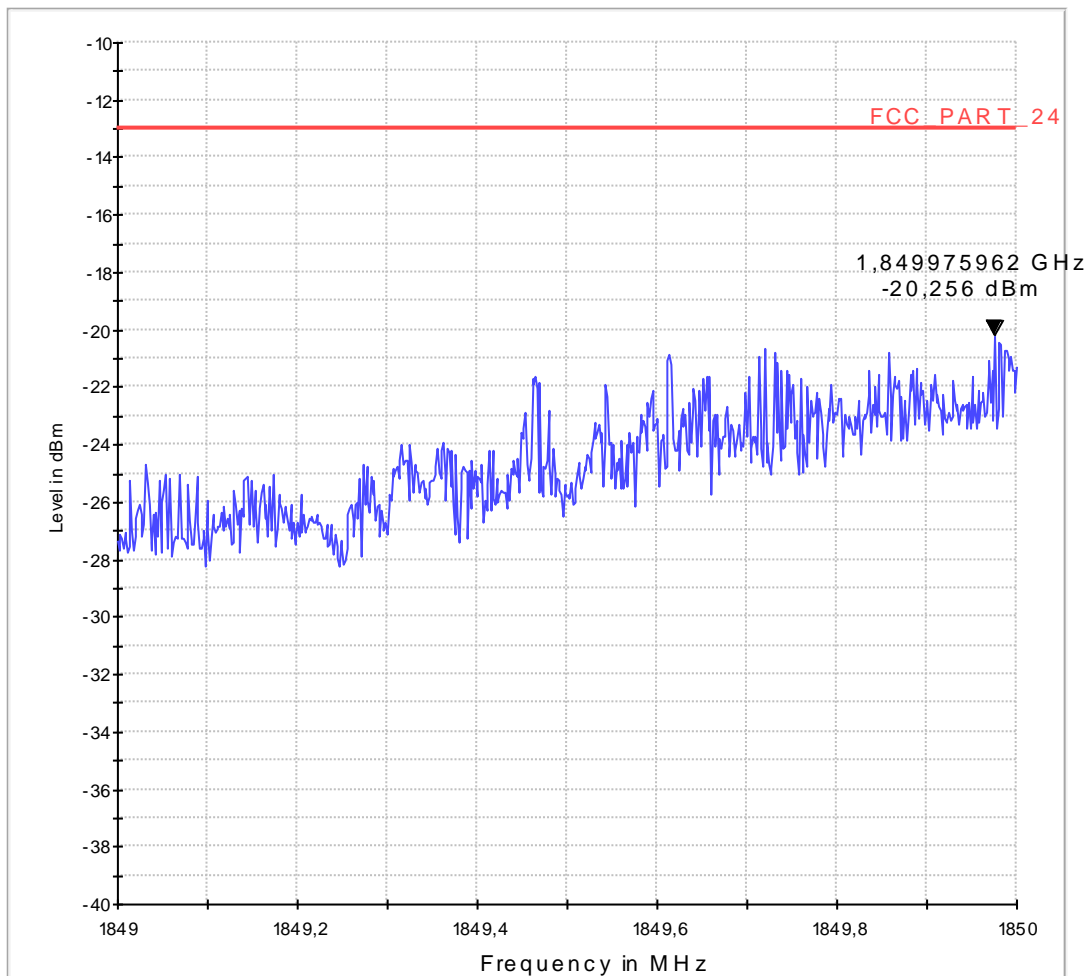
### Common Information

Test Description:	Transmitter unwanted emissions (Band-Edge)/ FCC requirements
Test Site:	Radio laboratory 1
Test Standard:	FCC Part 24.238 (a,b)
Environment Conditions:	Normal conditions (Vnominal, Tnominal)
Operator Name:	Tas
Operating mode:	FDD II TX, low channel on U-ARFCN 9262 6-0143-12-11-2a

### EUT Information

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	--
Power Supply:	3,8 V DC nominal
Comments:	SN 113

Sweep\_3a\_Band\_Edge\_Channel\_9262\_PK



## Diagram No. 12.08\_BE\_H

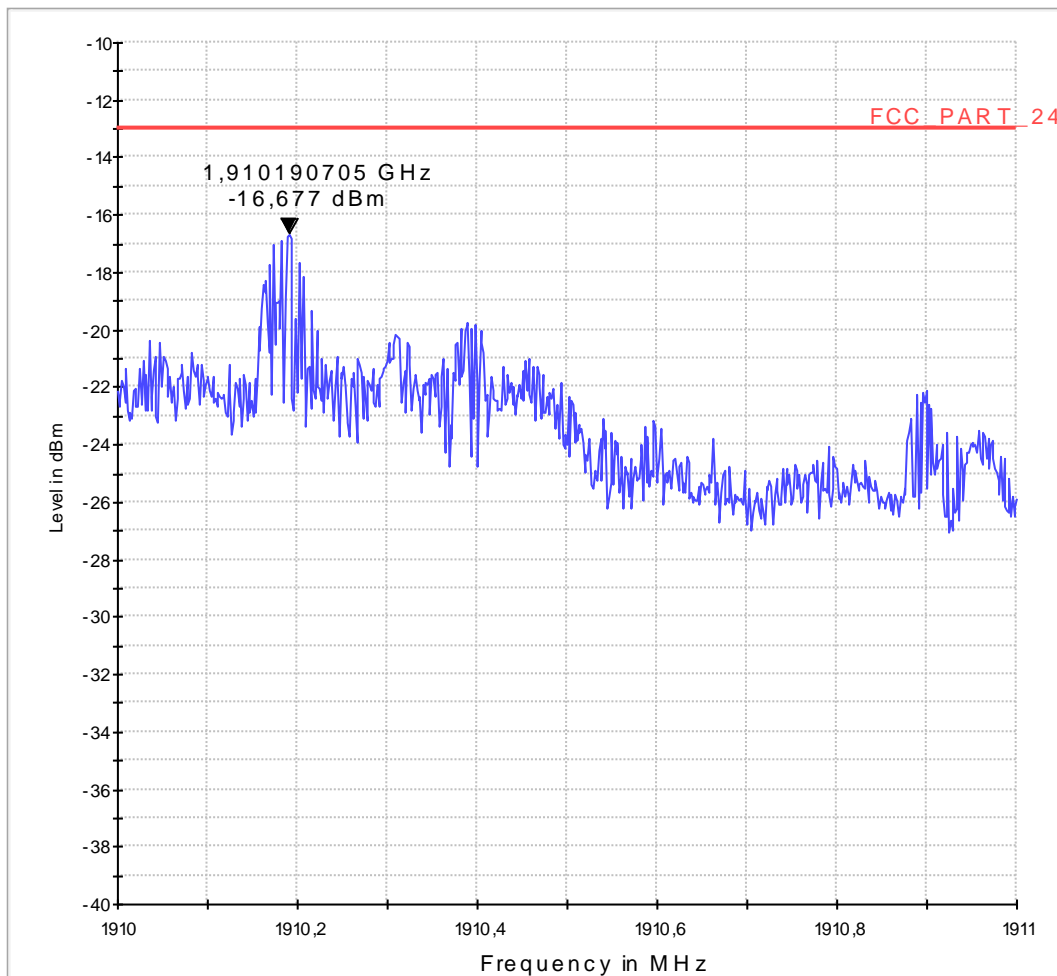
### Common Information

Test Description:	Transmitter unwanted emissions (Band-Edge)/ FCC requirements
Test Site:	Radio laboratory 1
Test Standard:	FCC Part 24.238 (a,b)
Environment Conditions:	Normal conditions (Vnominal, Tnominal)
Operator Name:	Tas
Operating mode:	FDD II, TX mode, high channel on U-ARFCN 9538 6-0143-12-11-2a

### EUT Information

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	--
Power Supply:	3,8 V DC nominal
Comments:	SN 113

Sweep\_3a\_Band\_Edge\_Channel\_9538\_PK



## 1.8 TX Spurious emissions conducted + Block-Edge – FDD V Mode

### Diagram No.: 12.11

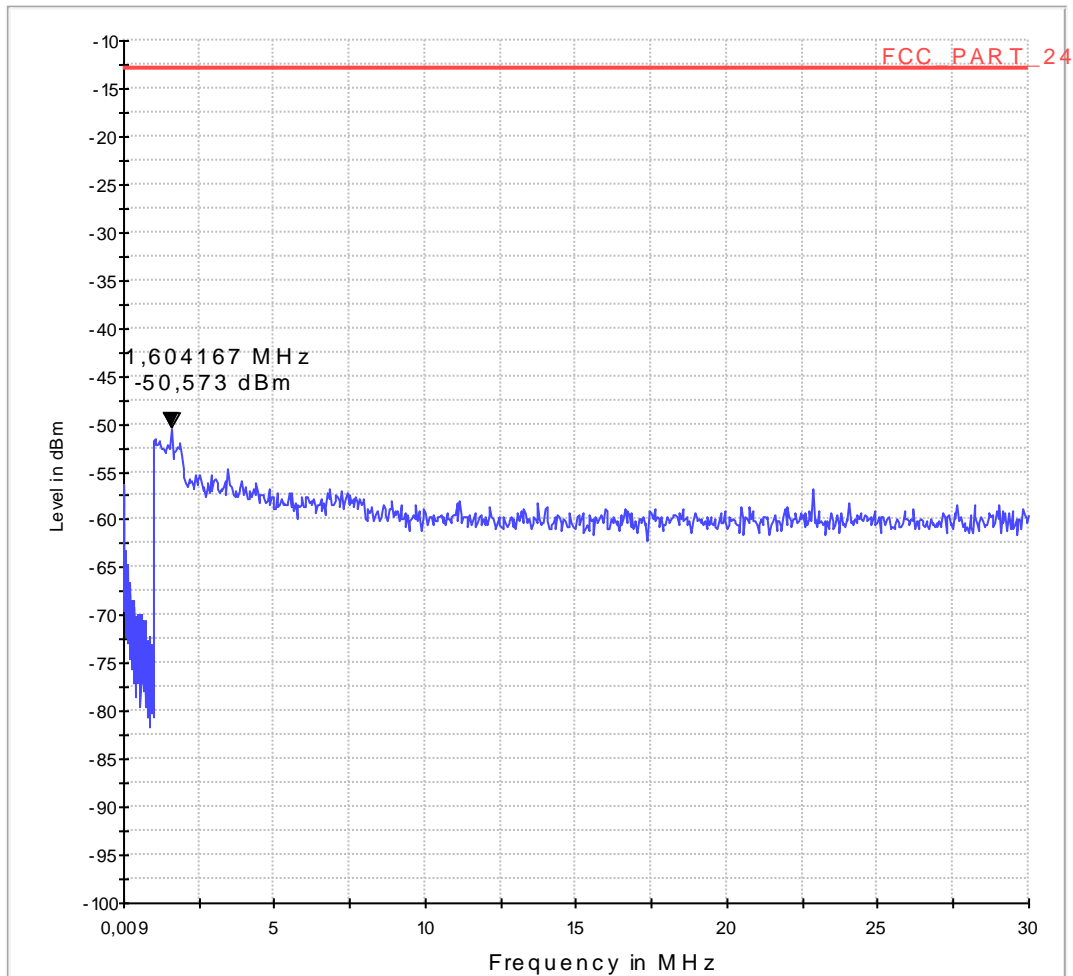
#### Common Information

Test Description:	TX Spurious Emission conducted
Test Site:	Radio laboratory 1
Test Standard:	FCC Part 22.917, RSS-132
Operation mode:	TX - FDD V (RMC), low channel on U-ARFCN 4132
Operator Name:	Tas
Comment:	6-0143-12-11-2a

#### EUT Information

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	--
Power Supply:	3,8 V DC nominal
Comments:	SN 113

Sweep\_1



## Diagram No.: 12.12

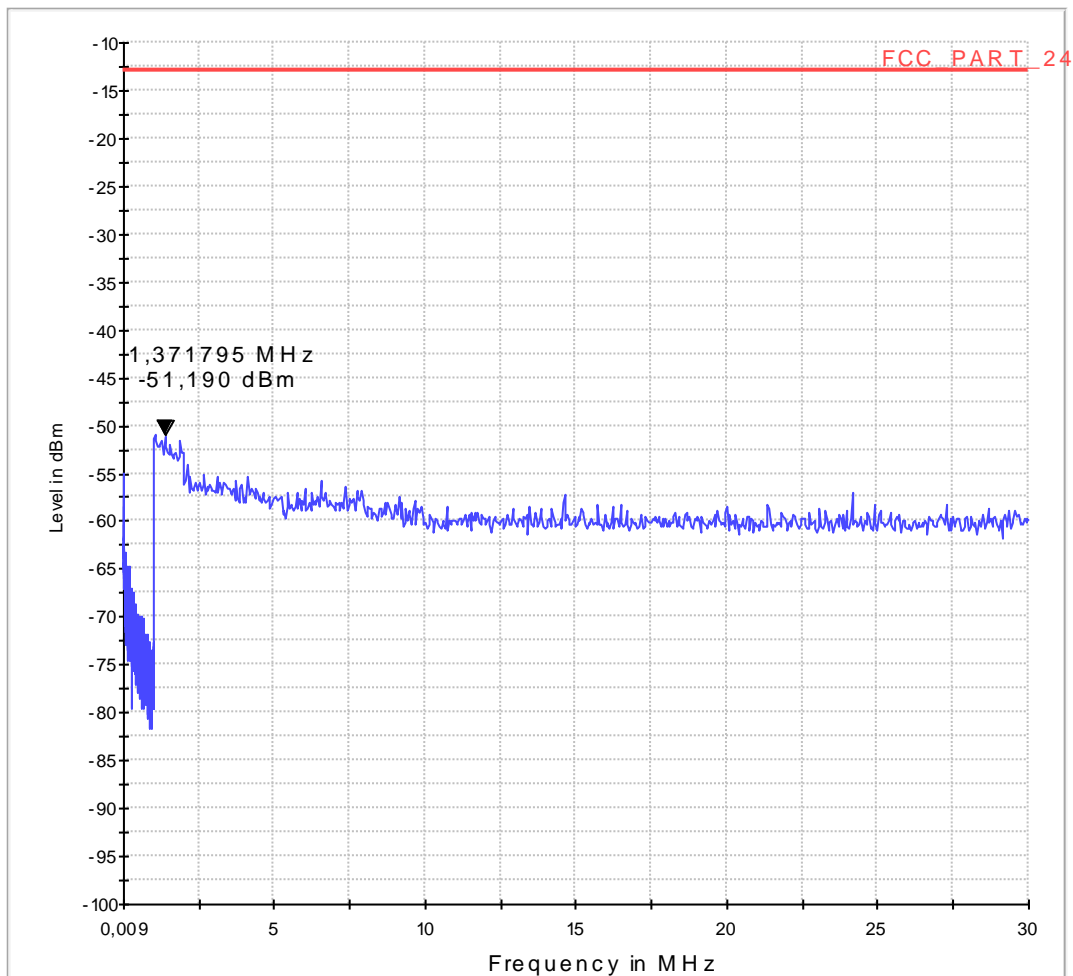
### Common Information

Test Description:	TX Spurious Emission conducted
Test Site:	Radio laboratory 1
Test Standard:	FCC Part 22.917 (a) & (b), RSS-132
Operation mode:	TX - FDD V (RMC), middle channel on U-ARFCN 4182
Operator Name:	Tas
Comment:	6-0143-12-11-2a

### EUT Information

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	--
Power Supply:	3,8 V DC nominal
Comments:	SN 113

Sweep\_1



### Diagram No.: 12.13

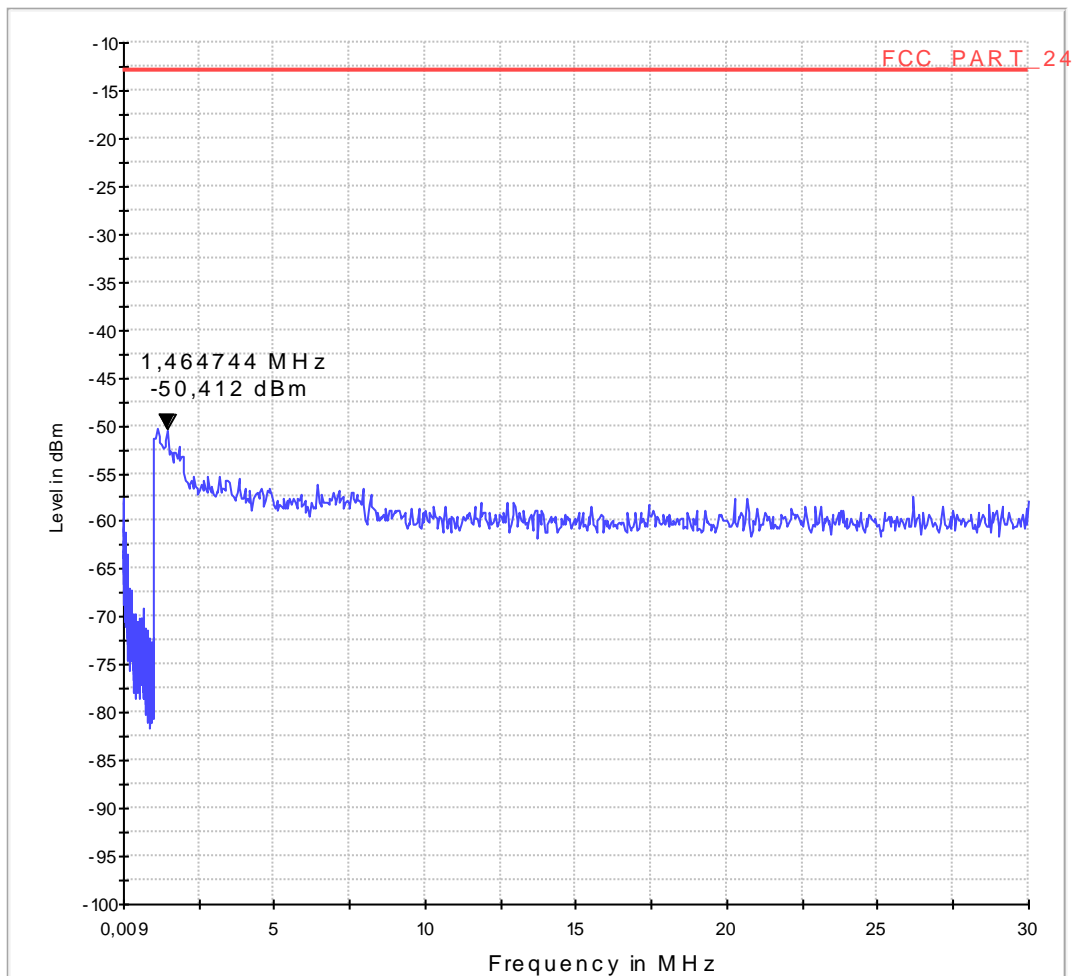
#### Common Information

Test Description:	TX Spurious Emission conducted
Test Site:	Radio laboratory 1
Test Standard:	FCC Part 22.917 (a) & (b), RSS-132
Operation mode:	TX - FDD V (RMC), high channel on U-ARFCN 4233
Operator Name:	Tas
Comment:	6-0143-12-11-2a

#### EUT Information

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	--
Power Supply:	3,8 V DC nominal
Comments:	SN 113

Sweep\_1



## Diagram No. 12.14

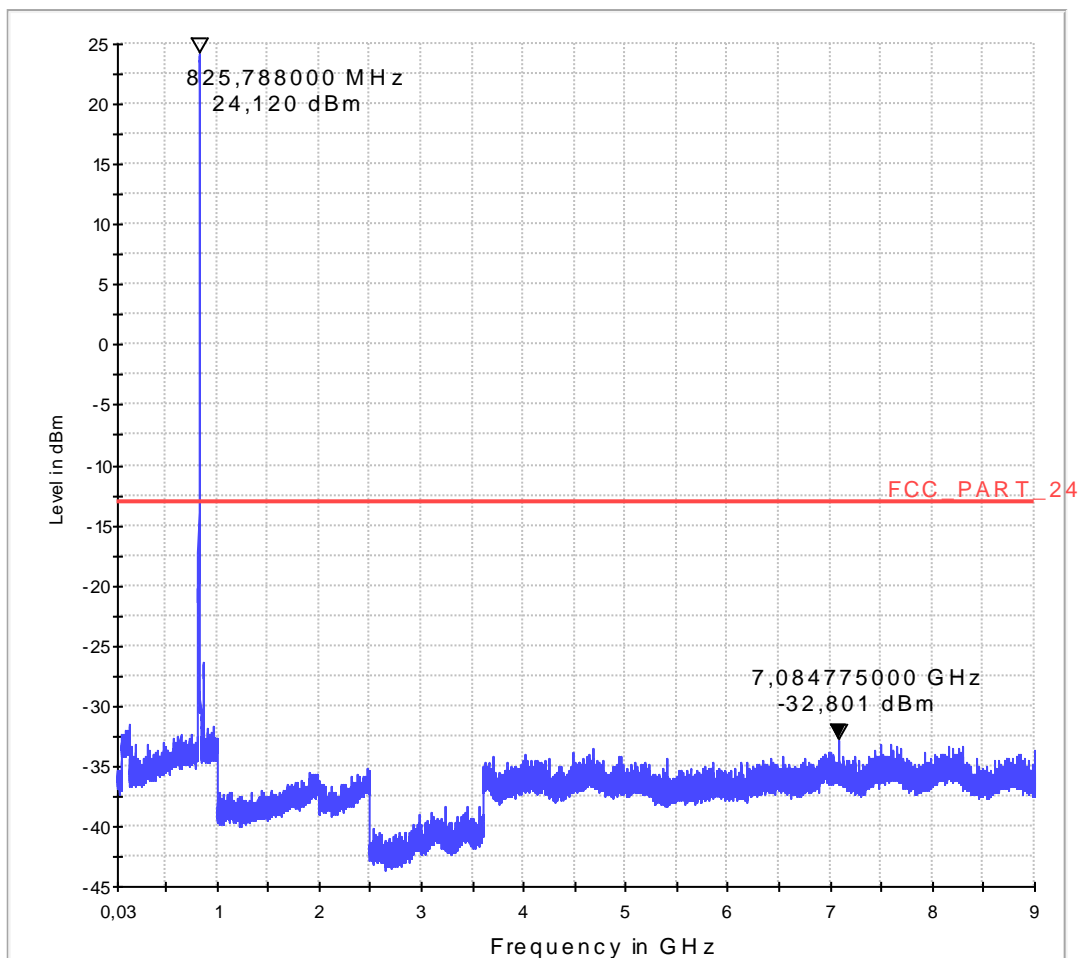
### Common Information

Test Description:	TX Spurious Emission conducted
Test Site:	Radio laboratory 1
Test Standard:	FCC Part 22.917 (a) & (b), RSS-132
Environment Conditions:	Normal conditions (Vnominal, Tnominal)
Operator Name:	Tas
Operating mode:	FDD V, TX mode, low channel on U-ARFCN 4132
Comment	TX carrier visible and for spurious emission test shall be ignored 6-0143-12-11-2a

### EUT Information

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	--
Power Supply:	3,8 V DC nominal
Comments:	SN 113

Sweep\_2





## Diagram No. 12.15

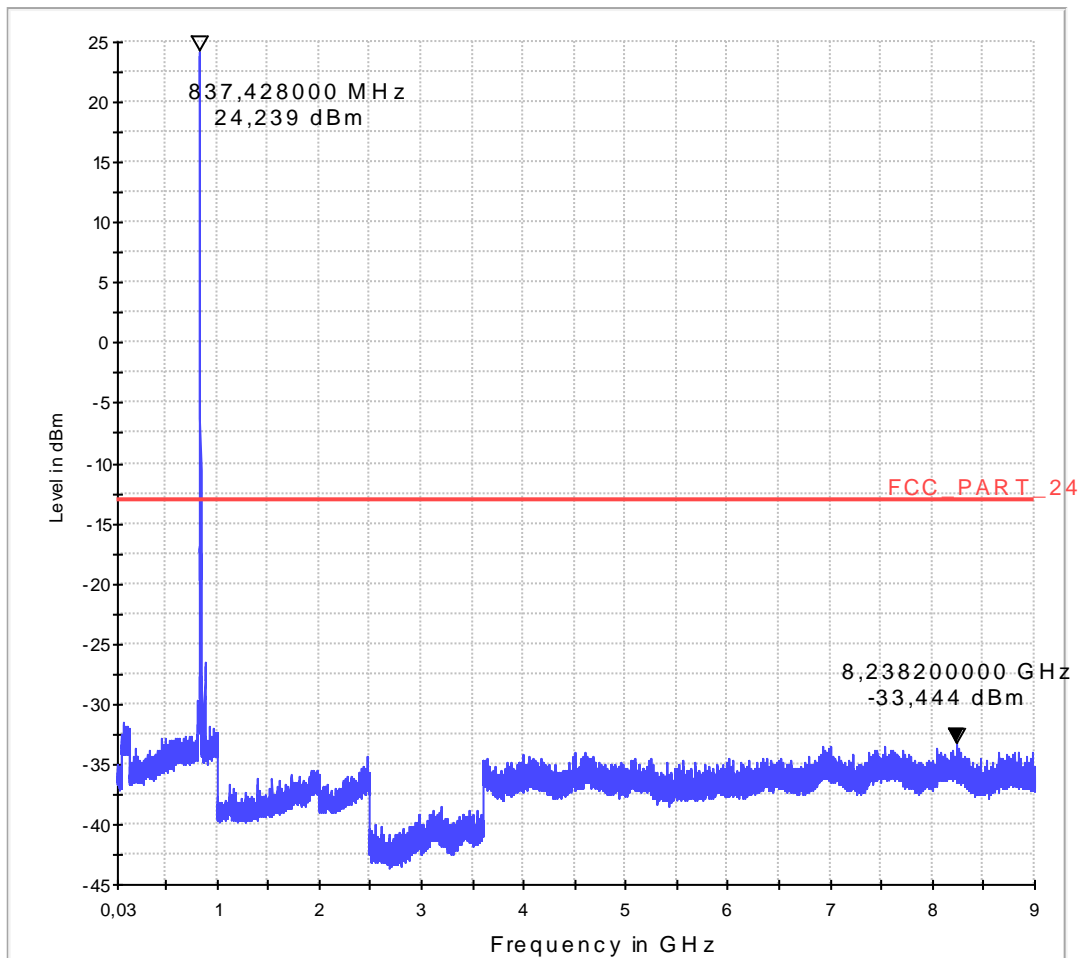
### Common Information

Test Description:	TX Spurious Emission conducted
Test Site:	Radio laboratory 1
Test Standard:	FCC Part 22.917 (a) & (b), RSS-132
Environment Conditions:	Normal conditions (Vnominal, Tnominal)
Operator Name:	Tas
Operating mode:	FDD II, TX mode, middle channel on U-ARFCN 4183 TX carrier visible and for spurious emission test shall be ignored 6-0143-12-11-2a

### EUT Information

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	--
Power Supply:	3,8 V DC nominal
Comments:	SN 113

Sweep\_2



## Diagram No. 12.16

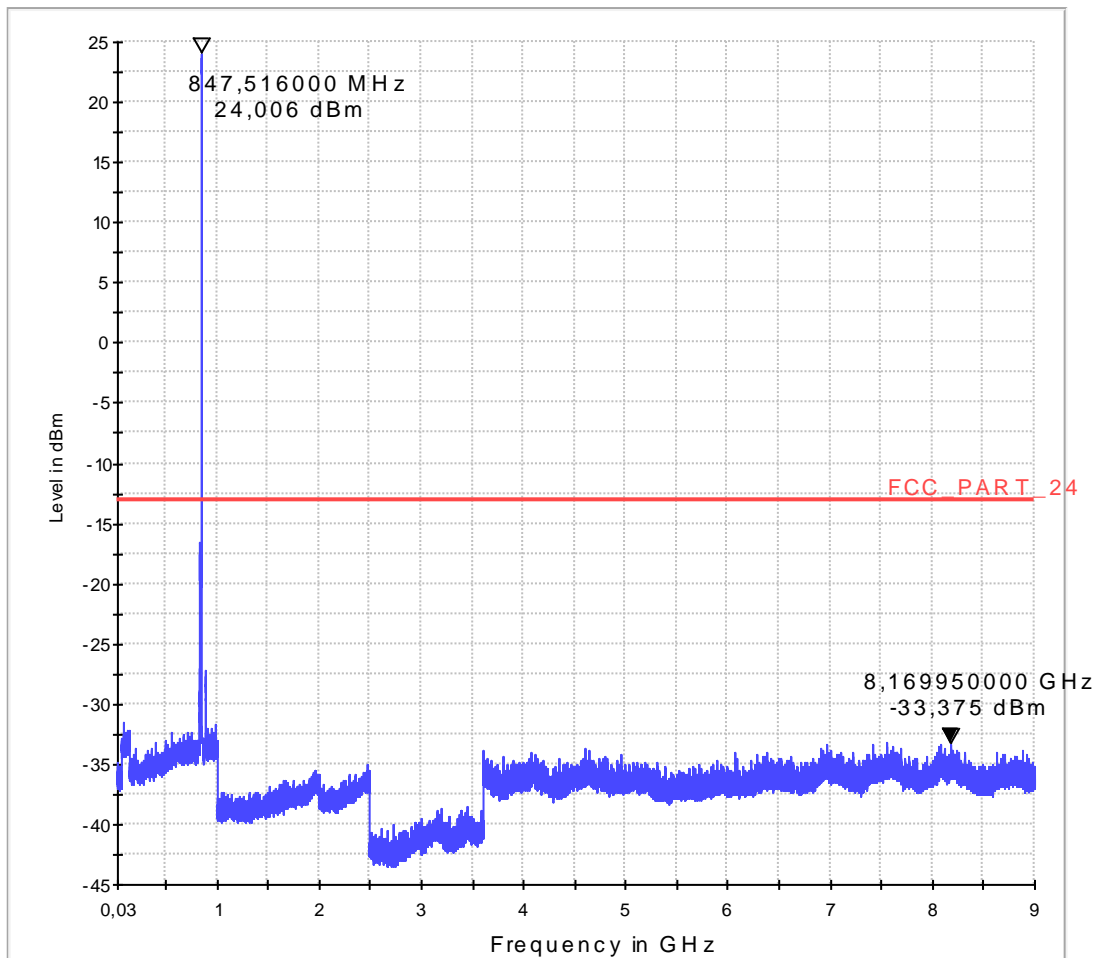
### Common Information

Test Description:	TX Spurious Emission conducted
Test Site:	Radio laboratory 1
Test Standard:	FCC Part 22.917 (a) & (b), RSS-132
Environment Conditions:	Normal conditions (Vnominal, Tnominal)
Operator Name:	Tas
Operating mode:	FDD II, TX mode, high channel on U-ARFCN 4233 TX carrier visible and for spurious emission test shall be ignored 6-0143-12-11-2a

### EUT Information

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	--
Power Supply:	3,8 V DC nominal
Comments:	SN 113

Sweep\_2



## Diagram No. 12.17\_BE\_L

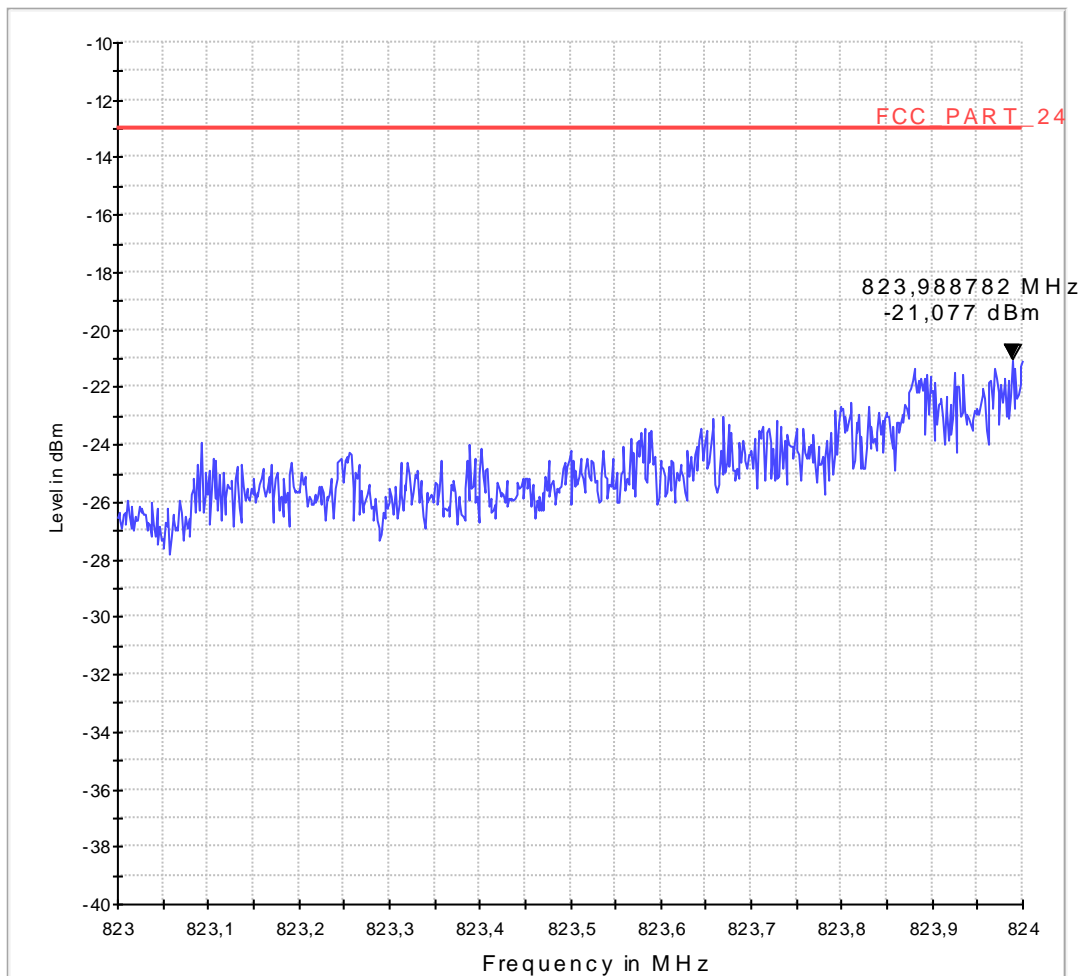
### Common Information

Test Description:	Transmitter unwanted emissions (Band-Edge)/ FCC requirements
Test Site:	Radio laboratory 1
Test Standard:	FCC Part 22.917 (a) & (b), RSS-132
Environment Conditions:	Normal conditions (Vnominal, Tnominal)
Operator Name:	Tas
Operating mode:	FDD V, TX mode, low channel on U-ARFCN 4132 6-0143-12-11-2a

### EUT Information

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	--
Power Supply:	3,8 V DC nominal
Comments:	SN 113

Sweep\_3a\_Band\_Edge\_Channel\_4132\_PK



### Diagram No. 12.18\_BE\_H

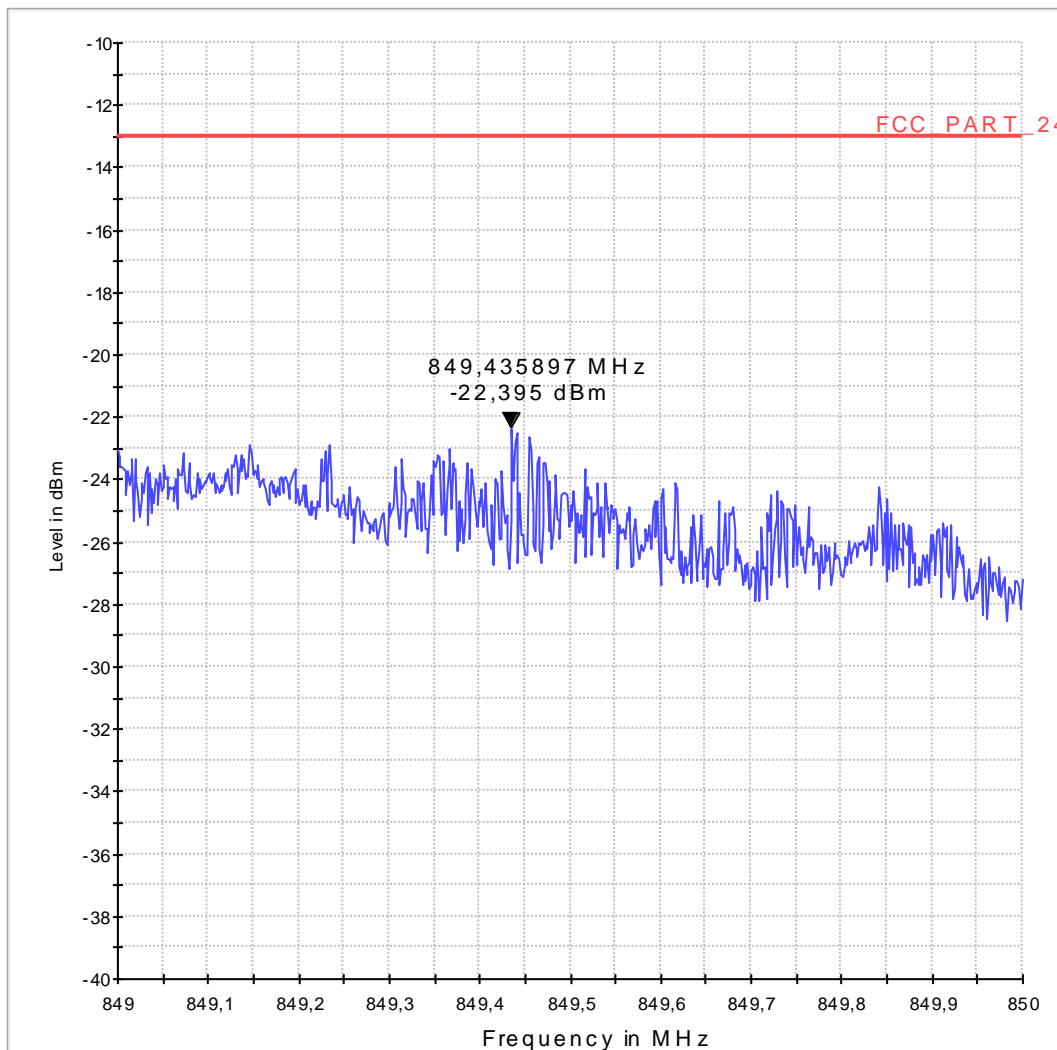
#### Common Information

Test Description:	Transmitter unwanted emissions (Band-Edge)/ FCC requirements
Test Site:	Radio laboratory 1
Test Standard:	FCC Part 22.917 (a) & (b), RSS-132
Environment Conditions:	Normal conditions (Vnominal, Tnominal)
Operator Name:	Tas
Operating mode:	FDD V, TX mode, high channel on U-ARFCN 4233 6-0143-12-11-2a

#### EUT Information

EUT Name:	GSM/GPRS Mobile Phone
Serial Number:	
Applicant/ Manufacturer	
Serial Number	
Hardware version:	
Software version:	
Remarks:	TEST ERSTELLUNG FILES 04.05.2007, Lor

Sweep\_3a\_Band\_Edge\_Channel\_4233\_PK



## 1.9 Radiated spurious emissions+ Block-Edge: $f > 30$ MHz – G850 Mode

### Diagram no.: 8.15\_G850\_RSE\_H

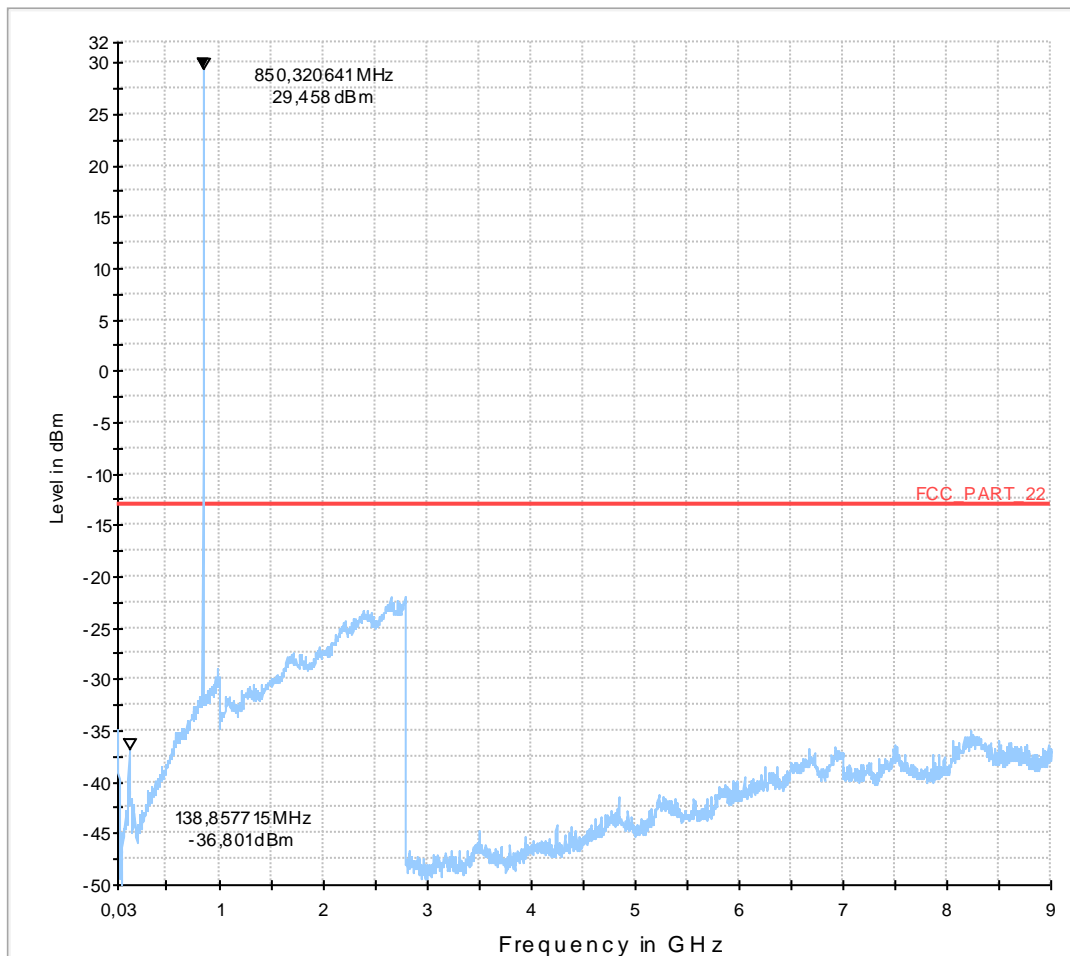
#### Common Information

Test Description:	Radiated Emissions GSM850
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 22.917(a)(b), RSS-132:4.5.1
Test Case:	GSM850, Voice
Operating Mode:	MS allocated channel 251 (UL = 848.0 MHz)
Exclusionband:	824 - 849MHz
Environmental Conditions:	Humidity: 53%rH; Temperature: 19°C
Operator:	Tas 6-0147-12-11-2a

#### EUT Information

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	Taoglass antenna, Micro USB cable, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main
Comments:	SN 113

030401\_FCC\_Part22\_GSM850\_TX\_all\_channels\_30M-12G



## Diagram no.: 8.16\_G850\_EDGE\_RSE\_L

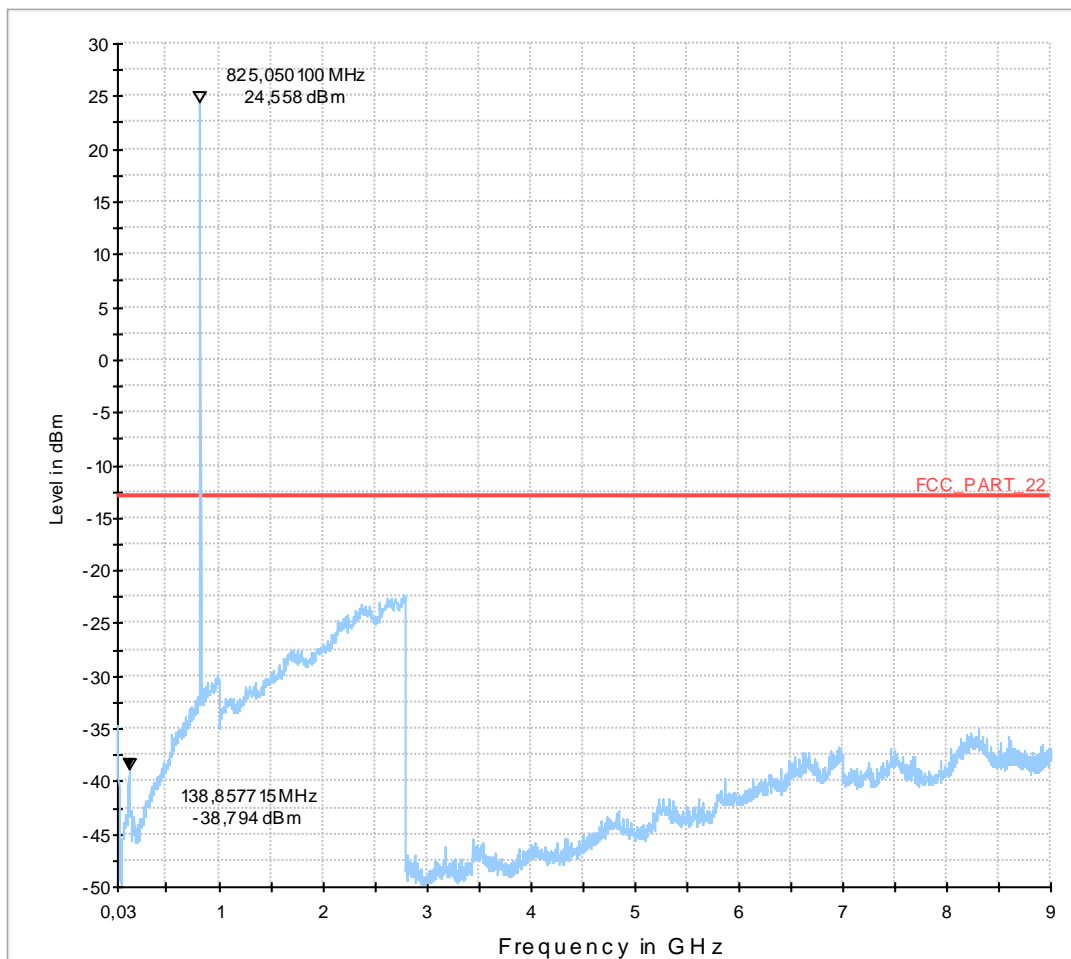
### Common Information

Test Description:	Radiated Emissions GSM850
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 22.917(a)(b), RSS-132:4.5.1
Test Case:	GSM850, EDGE
Operating Mode:	MS allocated channel 128 (UL = 824.2MHz)
Exclusionband:	824 - 849MHz
Environmental Conditions:	Humidity: 53%rH; Temperature: 19°C
Operator:	Tas 6-0147-12-11-2a

### EUT Information

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	Taoglass antenna, Micro USB cable, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main
Comments:	SN 113

030401\_FCC\_Part22\_GSM850\_TX\_all\_channels\_30M-12G



## Diagram No.: 8.13\_BE

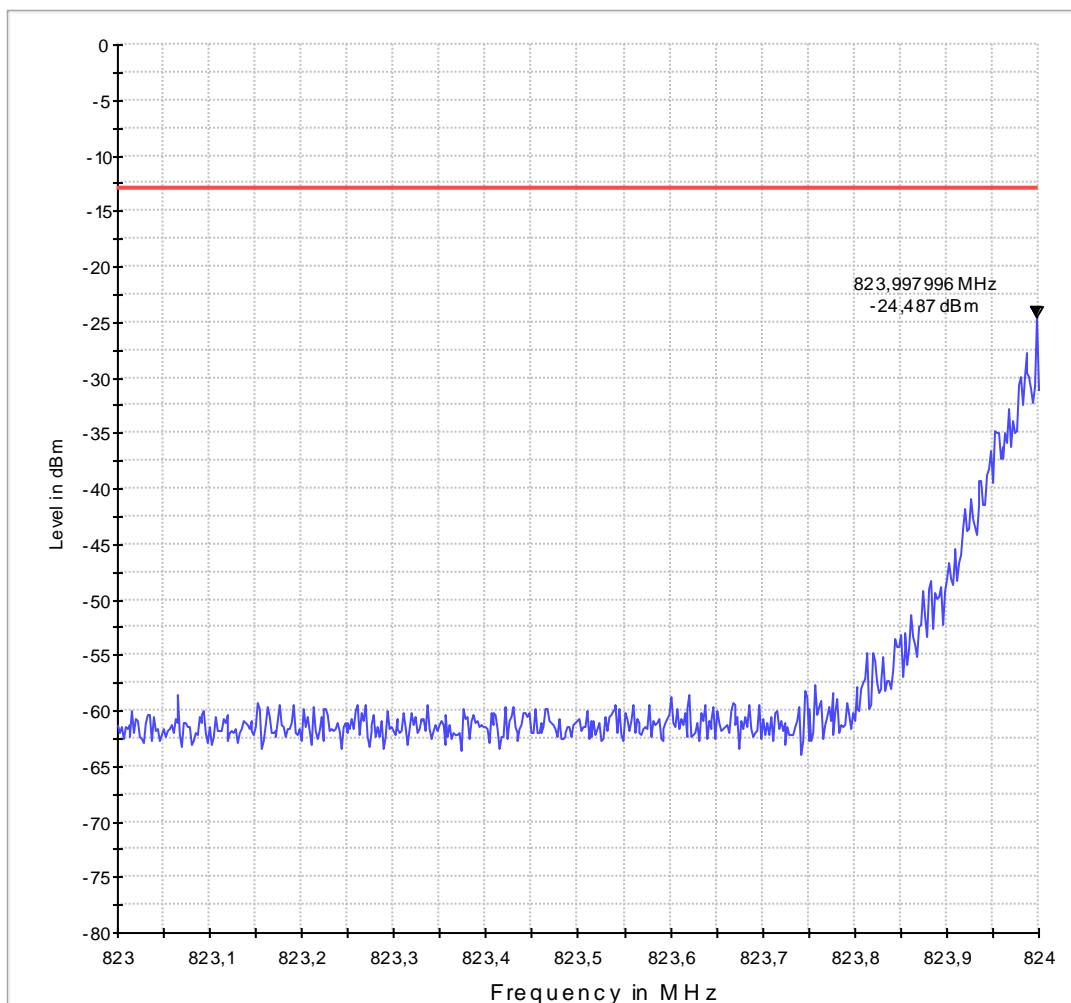
### Common Information

Test Description:	Band-Edge compliance radiated
Test Site:	FAR
Test Standard:	FCC Part 22, RSS-132
Antenna polarisation:	vertical / horizontal
Operation mode:	MS allocated channel 128 (UL = 824.2MHz)
Operator Name:	Tas
Comment:	6-0143-12-11-2a

### EUT Information

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	Taoglass antenna, Micro USB cable, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main
Comments:	SN 113

010402\_FCC\_Part22\_GSM850\_TX\_channel\_128\_band\_edge



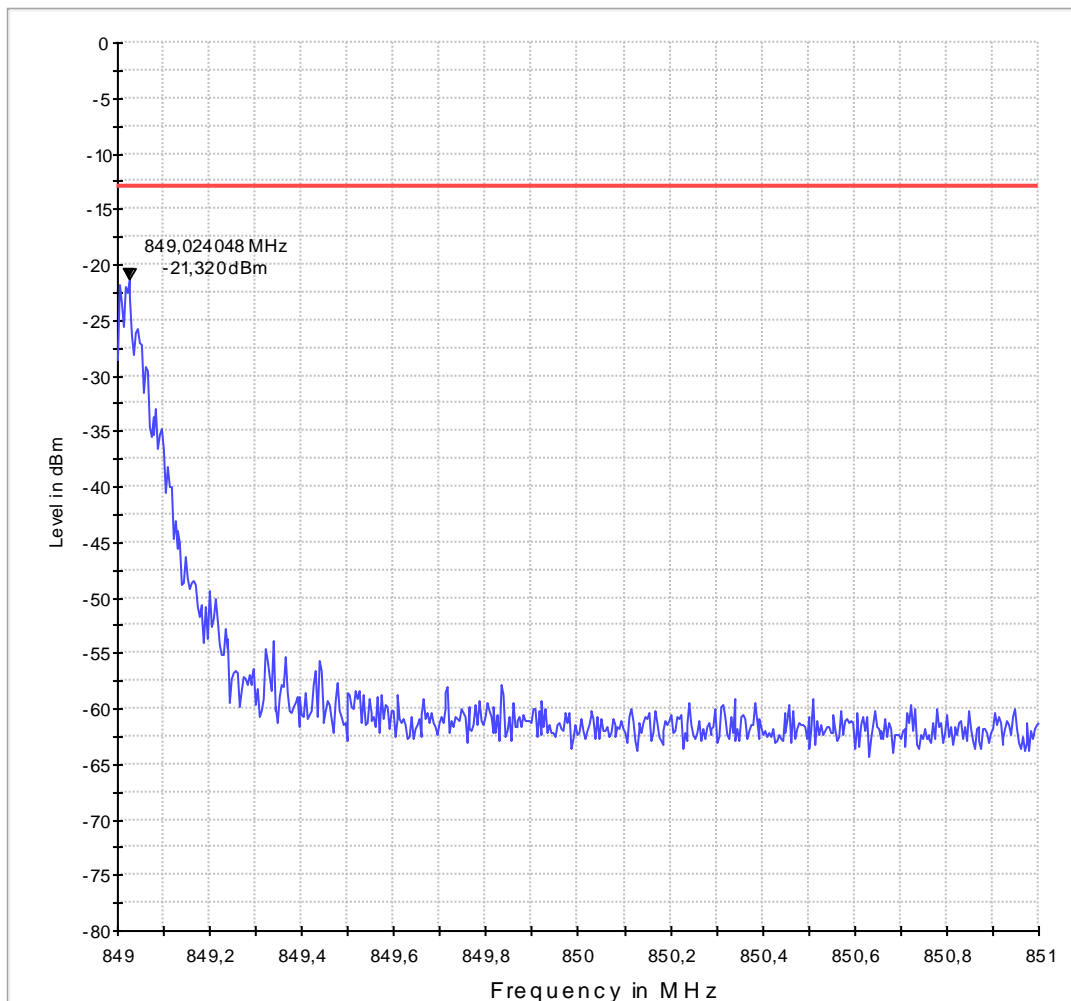
**Diagram No.: 8.15\_BE****Common Information**

Test Description:	Band-Edge compliance radiated
Test Site:	FAR
Test Standard:	FCC Part 22, RSS-132
Antenna polarisation:	vertical / horizontal
Operation mode:	MS allocated channel 251 (UL = 848.0 MHz)
Operator Name:	Tas
Comment:	6-0143-12-11-2a

**EUT Information**

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	Taoglass antenna, Micro USB cable, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main
Comments:	SN 113

010403\_FCC\_Part22\_GSM850\_TX\_channel\_251\_band\_edge





**Diagram No.: 8.16\_BE****Common Information**

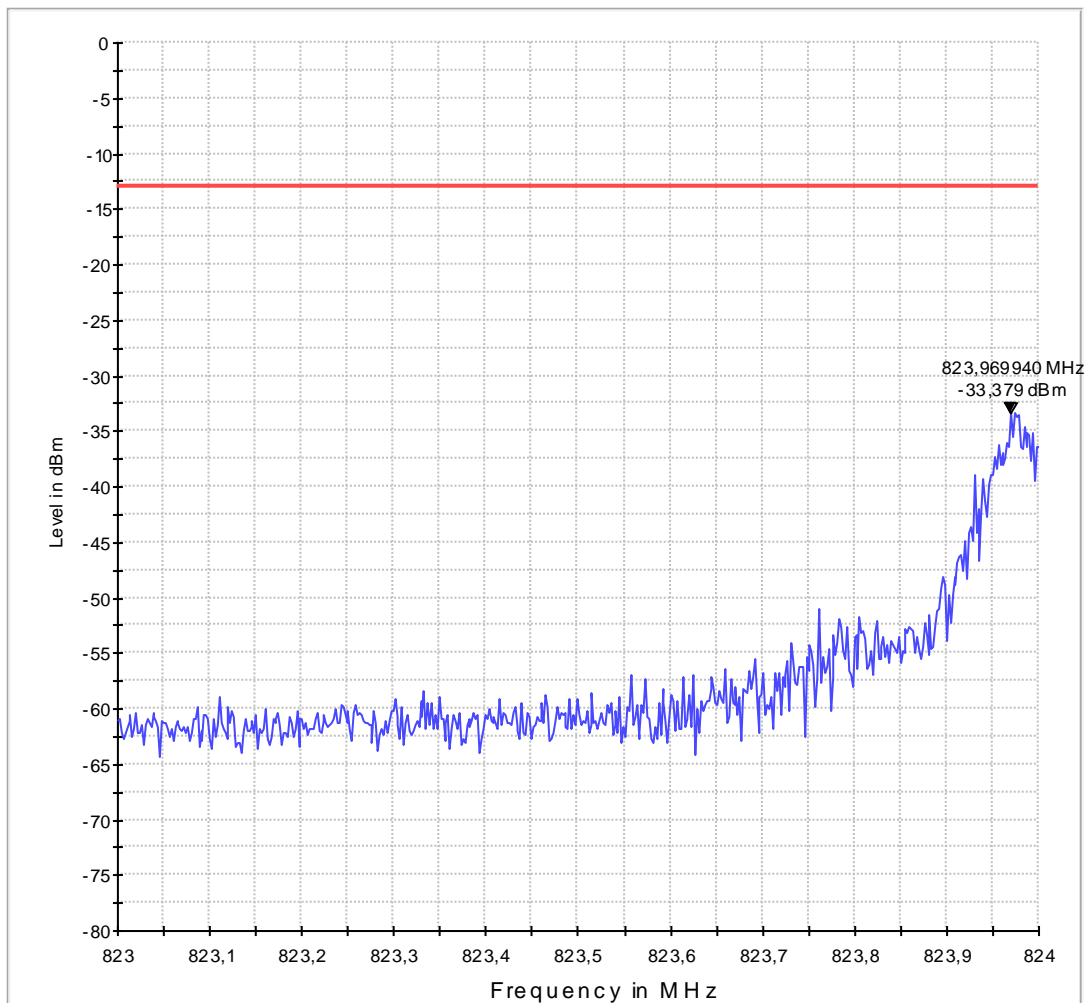
Test Description:	Band-Edge compliance radiated
Test Site:	FAR
Test Standard:	FCC Part 22, RSS-132
Antenna polarisation:	vertical / horizontal
Operation mode:	MS allocated channel 128 (UL = 824.2MHz), EDGE
Operator Name:	Tas
Comment:	6-0143-12-11-2a

**EUT Information**

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module

EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	Taoglass antenna, Micro USB cable, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main
Comments:	SN 113

010402\_FCC\_Part22\_GSM850\_TX\_channel\_128\_band\_edge



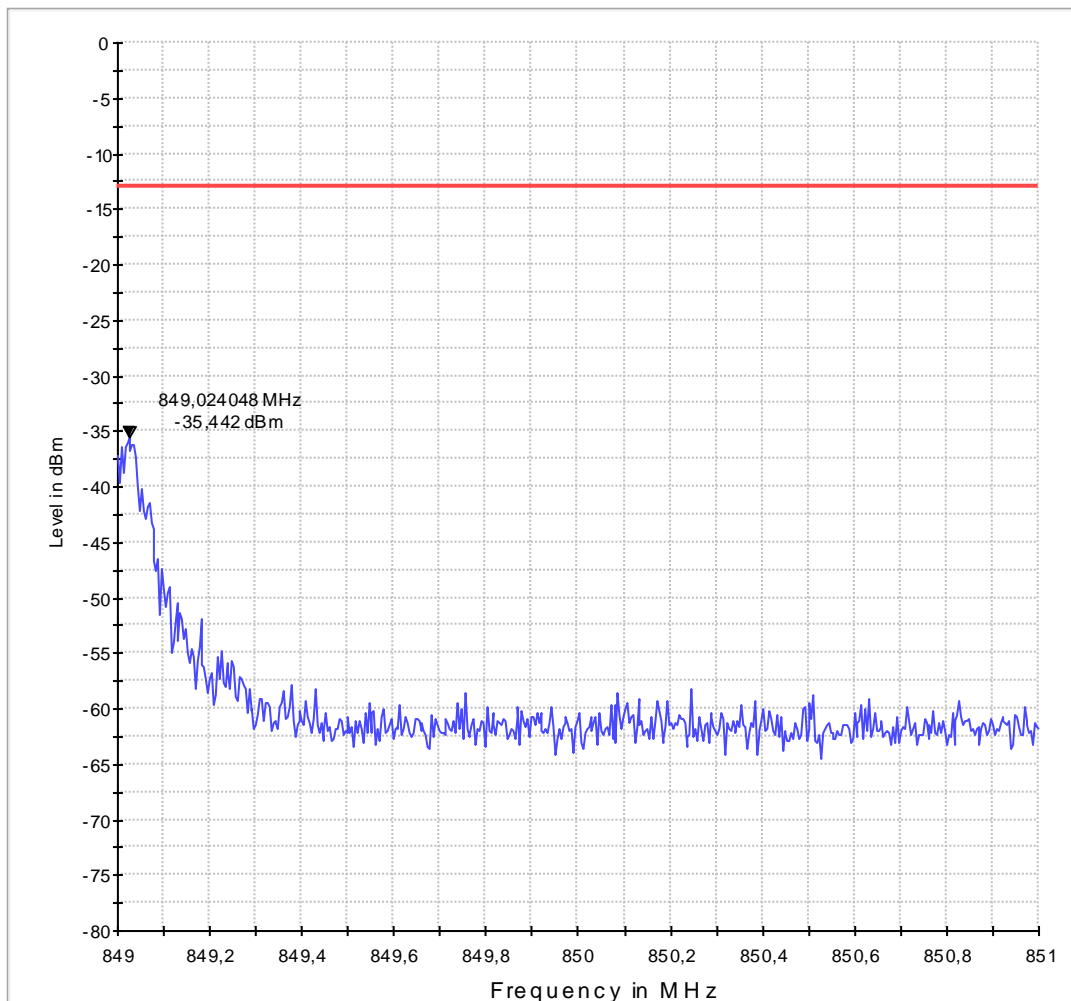
**Diagram No.: 8.18\_BE****Common Information**

Test Description:	Band-Edge compliance radiated
Test Site:	FAR
Test Standard:	FCC Part 22, RSS-132
Antenna polarisation:	vertical / horizontal
Operation mode:	MS allocated channel 251 (UL = 848.0 MHz), EDGE
Operator Name:	Tas
Comment:	6-0143-12-11-2a

**EUT Information**

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	Taoglass antenna, Micro USB cable, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main
Comments:	SN 113

010403\_FCC\_Part22\_GSM850\_TX\_channel\_251\_band\_edge



## 2.0 E.R.P.(radiated) – 850 Mode

### 8.13\_G850\_ERP\_\_L

#### Common Information

Test Description: G850 - ERP Carrier Measurement  
 Test Site Location: CETECOM GmbH Essen  
 Test Site: Fully Anechoic Room (FAR)  
 Test Standard: FCC Part 22.917  
 Comm. Link: GSM850, Voice  
 Operating Mode: MS allocated channel 128 (UL = 824.2MHz)  
 Exclusionband: 824 - 849MHz  
 Environmental Conditions: Humidity: 53%rH; Temperature: 19°C  
 Operator: Tas  
 6-0143-12-11-2a

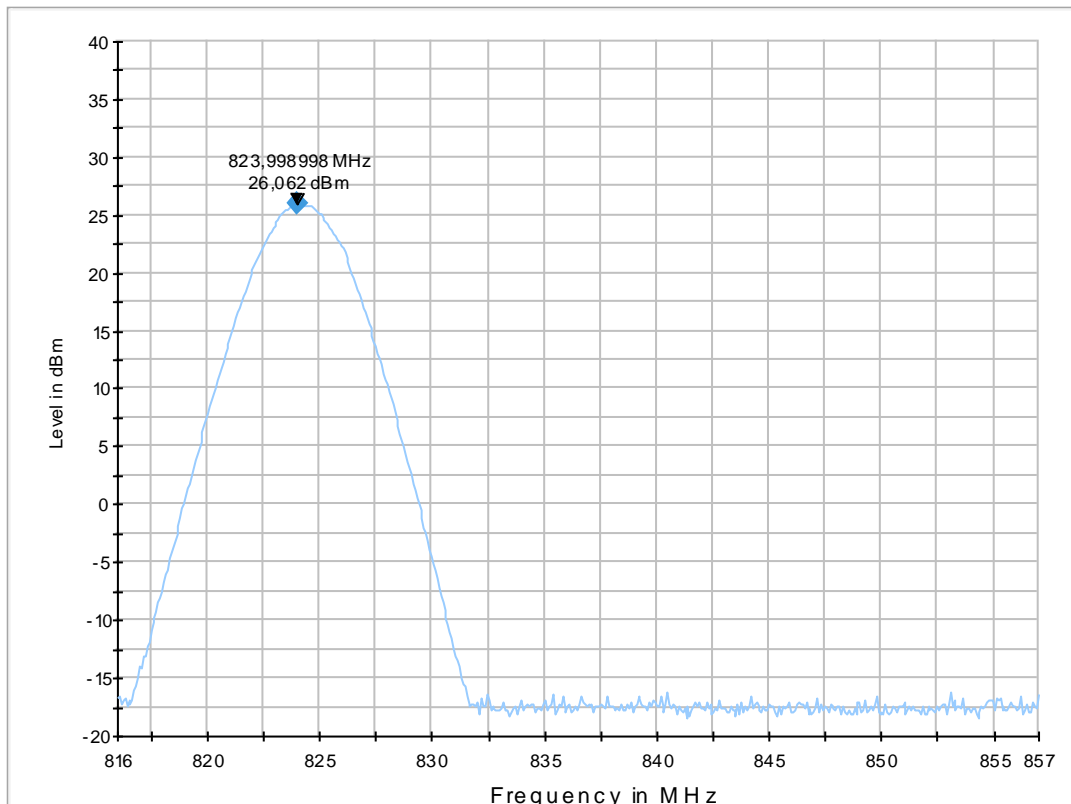
#### EUT Information

Manufacturer: ublox AG  
 Model: LISA-U260  
 Type: GSM/FDD Module  
 -----  
 EUT: LISA-U260, RF Sample  
 HW version: 146AC0  
 FW version: 22.60  
 Serial number: 354235050002264  
 Connected Accessories: Taoglass antenna, Micro USB cable, AC/DC Power Supply  
 Power Supply: 12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main  
 Comments: SN 113

#### Final Result 1

Frequency (MHz)	MaxPeak (dBm)	Meas. Time (ms)	Bandwidth (kHz)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)
823.998998	26.1	5000.0	3000.000	H	20.0	90.0	-75.9

030407\_FCC\_Part22\_GSM850\_ERP\_Carrier\_measurement



## 8.14\_G850\_ERP\_M

### Common Information

Test Description: G850 - ERP Carrier Measurement  
 Operating Conditions: CETECOM GmbH Essen  
 Operator Name: Fully Anechoic Room (FAR)  
 FCC Part 22.917(2) - Limitation of mobile transmitters  
 GSM850, Voice  
 MS allocated channel 192(UL = 837.0MHz)  
 824 - 849MHz  
 Humidity: 53%rH; Temperature: 19°C  
 Tas  
 6-0143-12-11-2a

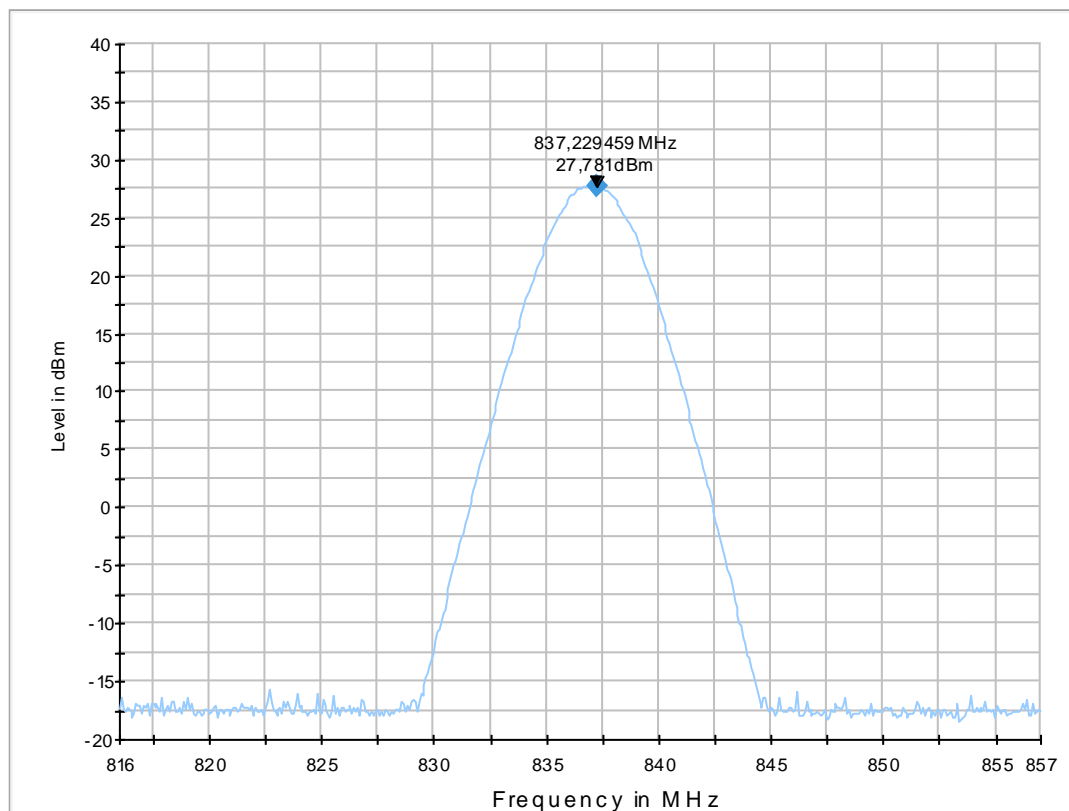
### EUT Information

Manufacturer: ublox AG  
 Model: LISA-U260  
 Type: GSM/FDD Module  
 -----  
 EUT: LISA-U260, RF Sample  
 HW version: 146AC0  
 FW version: 22.60  
 Serial number: 354235050002264  
 Connected Accessories: Taoglass antenna, Micro USB cable, AC/DC Power Supply  
 Power Supply: 12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main  
 Comments: SN 113

### Final Result 1

Frequency (MHz)	MaxPeak (dBm)	Meas. Time (ms)	Bandwidth (kHz)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)
837.229459	27.8	5000.0	3000.000	H	16.0	90.0	-75.8

030407\_FCC\_Part22\_GSM850\_ERP\_Carrier\_measurement



## 8.15\_G850\_ERP\_H

### Common Information

Test Description: G850 - ERP Carrier Measurement  
 Test Site Location: CETECOM GmbH Essen  
 Test Site: Fully Anechoic Room (FAR)  
 Test Standard: FCC Part 22.917  
 Comm. Link: GSM850, Voice  
 Operating Mode: MS allocated channel 251 (UL = 848.0 MHz)  
 Exclusionband: 824 - 849MHz  
 Environmental Conditions: Humidity: 53%rH; Temperature: 19°C  
 Operator: Tas  
 6-0147-12-11-2a

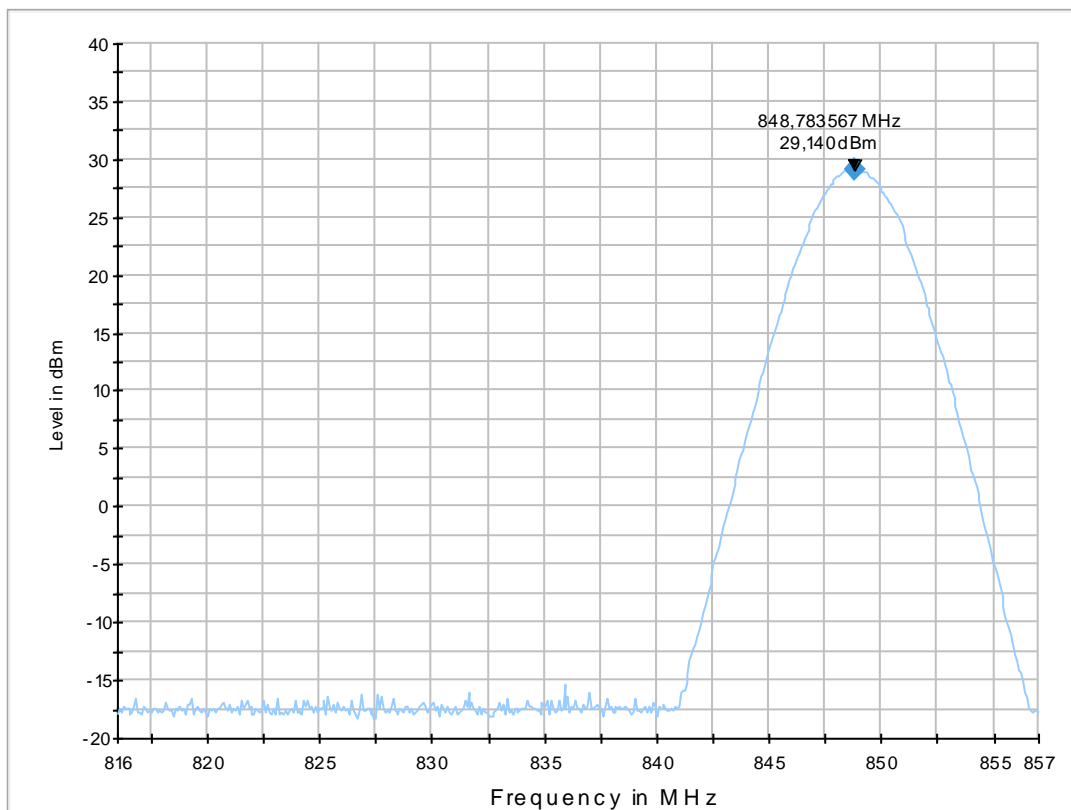
### EUT Information

Manufacturer: ublox AG  
 Model: LISA-U260  
 Type: GSM/FDD Module  
 -----  
 EUT: LISA-U260, RF Sample  
 HW version: 146AC0  
 FW version: 22.60  
 Serial number: 354235050002264  
 Connected Accessories: Taoglass antenna, Micro USB cable, AC/DC Power Supply  
 Power Supply: 12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main  
 Comments: SN 113

### Final Result 1

Frequency (MHz)	MaxPeak (dBm)	Meas. Time (ms)	Bandwidth (kHz)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)
848.802605	29.1	5000.0	3000.000	H	17.0	90.0	-76.0

030407\_FCC\_Part22\_GSM850\_ERP\_Carrier\_measurement



## 8.16\_G850\_ERP\_EDGE\_L

### Common Information

Test Description: EGPRS850 - ERP Carrier Measurement  
 Test Site Location: CETECOM GmbH Essen  
 Test Site: Fully Anechoic Room (FAR)  
 Test Standard: FCC Part 22.917(2) - Limitation of mobile transmitters  
 Operating Mode: MS allocated channel 128 (fc = 824.2MHz), EGPRS, MCS5, Testmode A, 1 UL Slot (3),  
 Exclusionband: 824 - 849MHz  
 Environmental Conditions: Humidity: 52%rH; Temperature: 20°C  
 Operator: Tas  
 6-0143-12-11-2a

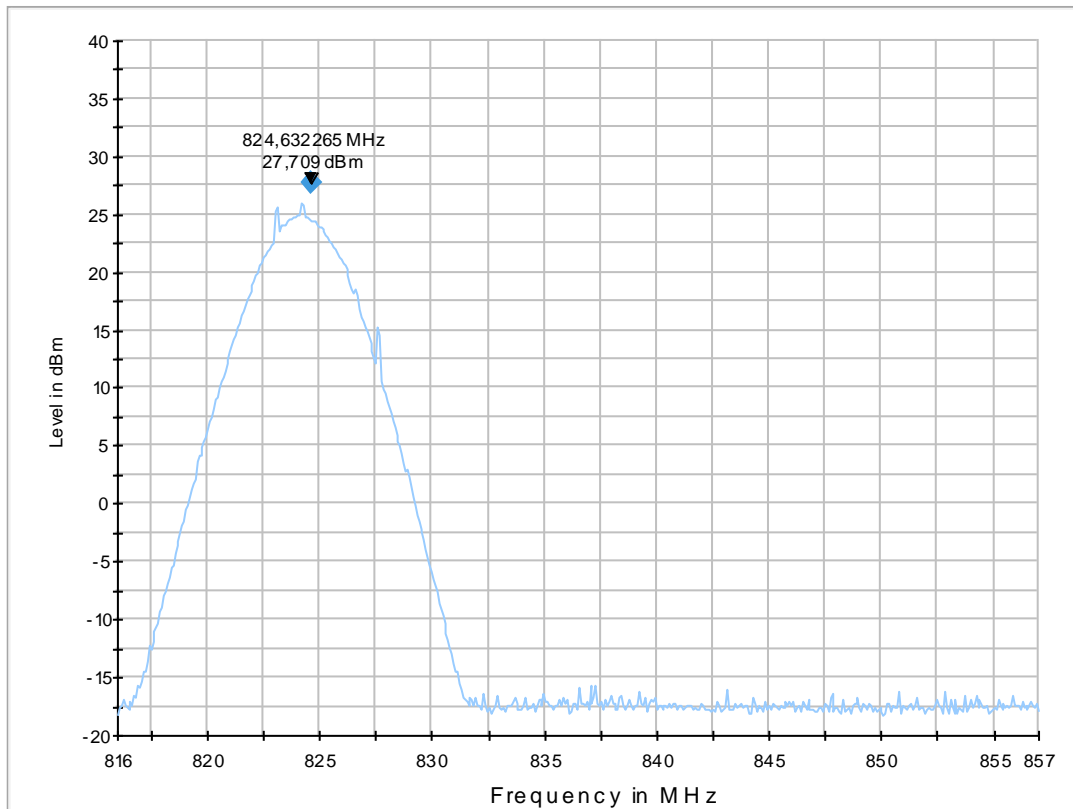
### EUT Information

Manufacturer: ublox AG  
 Model: LISA-U260  
 Type: GSM/FDD Module  
 -----  
 EUT: LISA-U260, RF Sample  
 HW version: 146AC0  
 FW version: 22.60  
 Serial number: 354235050002264  
 Connected Accessories: Taoglass antenna, Micro USB cable, AC/DC Power Supply  
 Power Supply: 12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main  
 Comments: SN 113

### Final Result 1

Frequency (MHz)	MaxPeak (dBm)	Meas. Time (ms)	Bandwidth (kHz)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)
824.632265	27.7	5000.0	3000.000	V	123.0	90.0	-76.0

030407g\_FCC\_Part22\_GSM850\_ERP\_Ch128\_EGPRS\_CMU\_RF2



## 8.17\_G850\_ERP\_EDGE\_M

### Common Information

Test Description: EGPRS850 - ERP Carrier Measurement  
 Test Site Location: CETECOM GmbH Essen  
 Test Site: Fully Anechoic Room (FAR)  
 Test Standard: FCC Part 22.917(2) - Limitation of mobile transmitters  
 Comm. Link: GSM850, EDGE  
 Operating Mode: MS allocated channel 192(UL = 837.0MHz)  
 Exclusionband: 824 - 849MHz  
 Environmental Conditions: Humidity: 45%rH; Temperature: 20°C  
 Operator: Tas  
 6-0147-12-11-2a

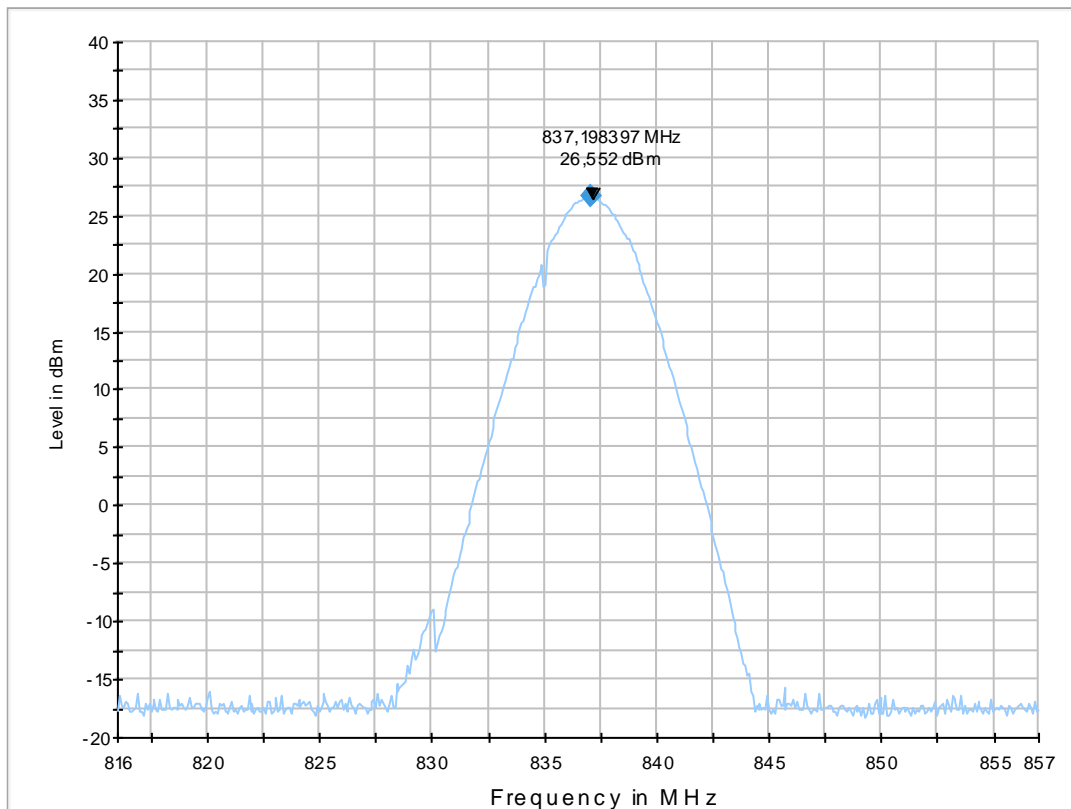
### EUT Information

Manufacturer: ublox AG  
 Model: LISA-U260  
 Type: GSM/FDD Module  
 -----  
 EUT: LISA-U260, RF Sample  
 HW version: 146AC0  
 FW version: 22.60  
 Serial number: 354235050002264  
 Connected Accessories: Taoglass antenna, Micro USB cable, AC/DC Power Supply  
 Power Supply: 12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main  
 Comments: SN 113

### Final Result 1

Frequency (MHz)	MaxPeak (dBm)	Meas. Time (ms)	Bandwidth (kHz)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)
837.071142	26.7	5000.0	3000.000	H	21.0	90.0	-75.8

030407\_FCC\_Part22\_GSM850\_ERP\_Carrier\_measurement



## Diagram no. 8.18\_G850\_ERP\_EDGE\_H

### Common Information

Test Description: EGPRS850 - ERP Carrier Measurement  
 Operating Conditions: CETECOM GmbH Essen  
 Operator Name: Fully Anechoic Room (FAR)  
 FCC Part 22.917(2) - Limitation of mobile transmitters  
 MS allocated channel 251 (fc = 848.0 MHz), EGPRS, MCS5, Testmode A, 1 UL Slot (3),  
 824 - 849MHz  
 Humidity: 52%rH; Temperature: 20°C  
 Tas  
 6-0143-12-11-2a

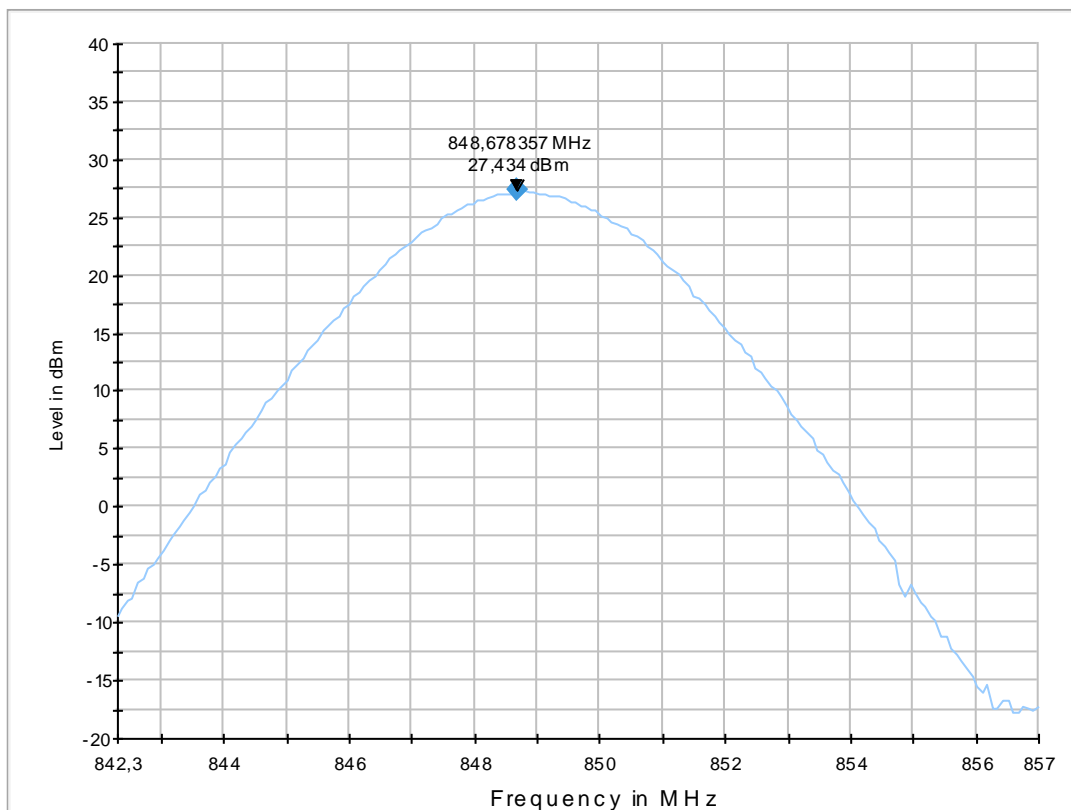
### EUT Information

Manufacturer: ublox AG  
 Model: LISA-U260  
 Type: GSM/FDD Module  
 -----  
 EUT: LISA-U260, RF Sample  
 HW version: 146AC0  
 FW version: 22.60  
 Serial number: 354235050002264  
 Connected Accessories: Taoglass antenna, Micro USB cable, AC/DC Power Supply  
 Power Supply: 12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main  
 Comments: SN 113

### Final Result 1

Frequency (MHz)	MaxPeak (dBm)	Meas. Time (ms)	Bandwidth (kHz)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)
848.678357	27.4	5000.0	3000.000	H	24.0	90.0	-76.0

030407\_FCC\_Part22\_GSM850\_ERP\_Carrier\_measurement





## 2.1 Radiated spurious emissions+ Block-Edge: $f > 30$ MHz – PCS1900 Mode

### Diagram no.:8.07\_1900\_RSE\_L

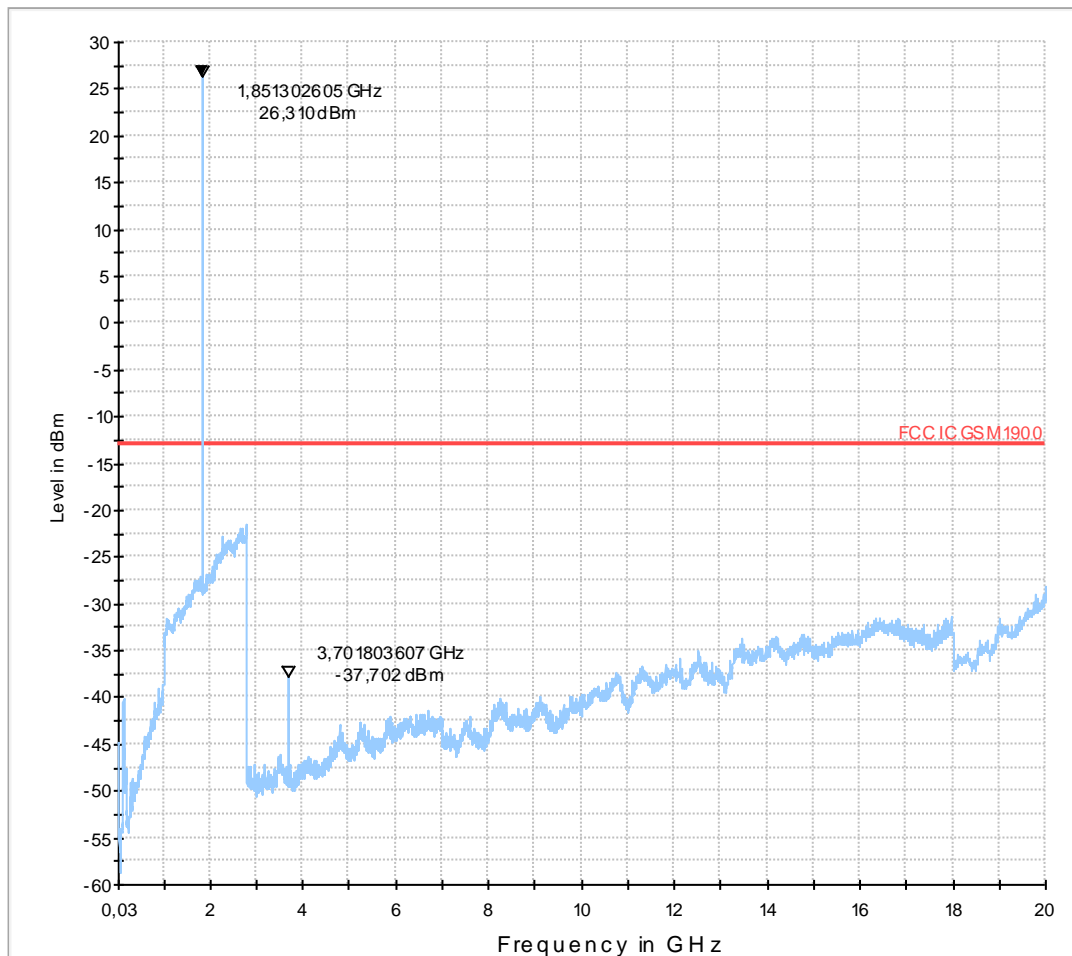
#### Common Information

Test Description:	Radiated Spurious Emissions GSM1900
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 24.238(a)(b), RSS-133:6.5.1 (a)(b)
Comm. Link:	GSM1900, Voice
Operating Mode:	MS allocated channel 512 (UL = 1850.2MHz)
Exclusionband:	1850- 1910MHz
Environmental Conditions:	Humidity: 55%rH; Temperature: 20°C
Operator:	Tas 6-0143-12-11-2a

#### EUT Information

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	Taoglass antenna, Micro USB cable, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main
Comments:	SN 113

030404\_FCC\_Part24\_GSM1900\_TX\_all\_channels\_30M-20G



## Diagram no.:8.10\_1900\_RSE\_EDGE\_L

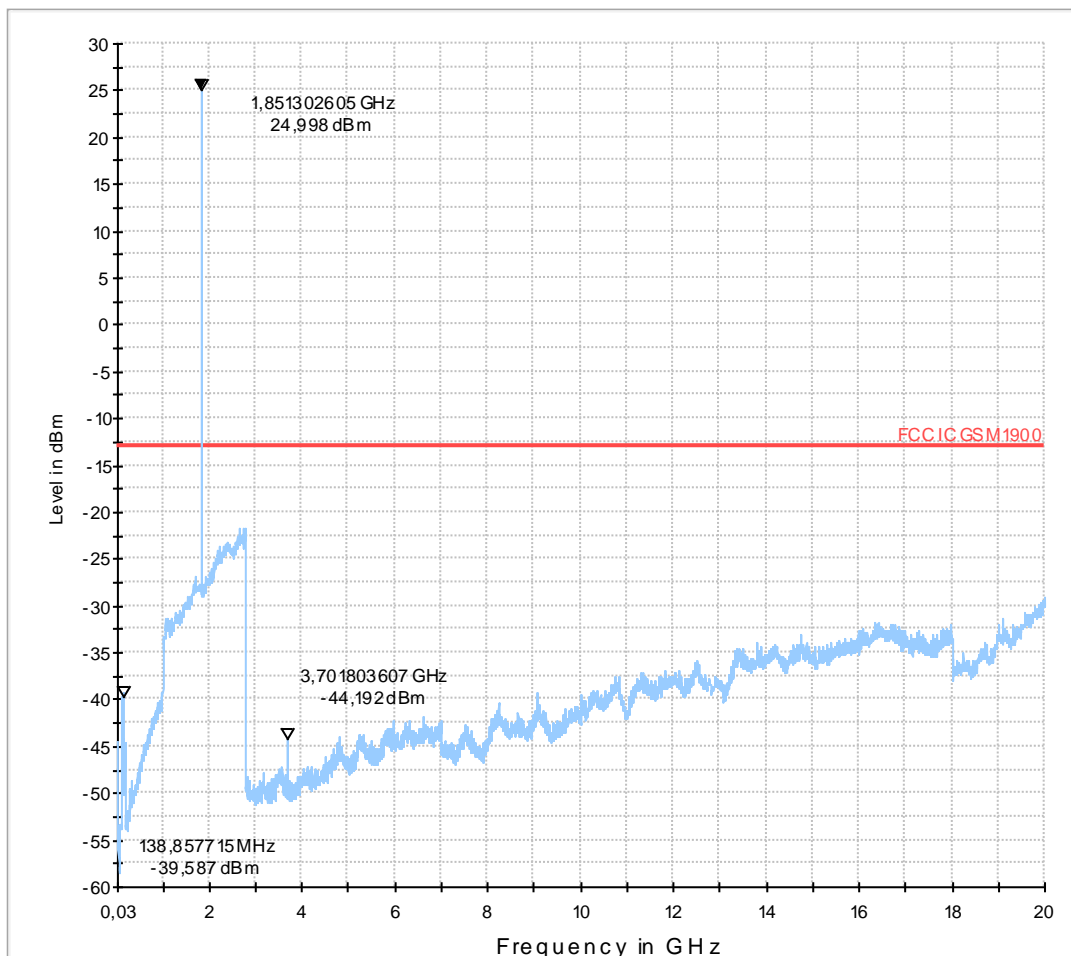
### Common Information

Test Description:	Radiated Spurious Emissions GSM1900
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 24.238(a)(b), RSS-133:6.5.1 (a)(b)
Comm. Link:	GSM1900, EDGE
Operating Mode:	MS allocated channel 512 (UL = 1850.2MHz)
Exclusionband:	1850- 1910MHz
Environmental Conditions:	Humidity: 55%rH; Temperature: 20°C
Operator:	Tas 6-0143-12-11-2a

### EUT Information

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	Taoglass antenna, Micro USB cable, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main
Comments:	SN 113

030404\_FCC\_Part24\_GSM1900\_TX\_all\_channels\_30M-20G



## Diagram no.:8.07\_1900\_BE\_L

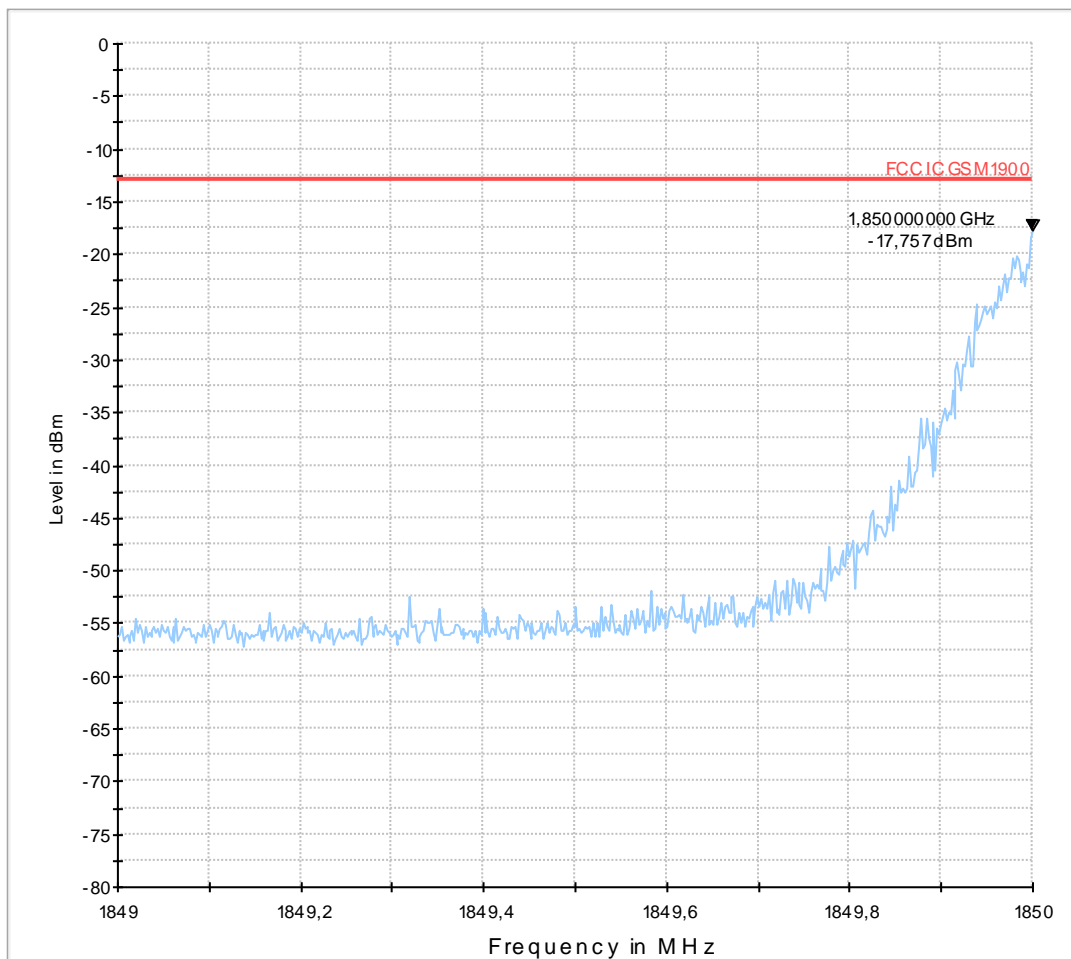
### Common Information

Test Description:	Band-Edge compliance radiated
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 24.238(a)(b), RSS-133:6.5.1 (a)(b)
Comm. Link:	GSM1900, Voice
Operating Mode:	MS allocated channel 512 (UL = 1850.2MHz)
Exclusionband:	1850- 1910MHz
Environmental Conditions:	Humidity: 55%rH; Temperature: 20°C
Operator:	Tas 6-0143-12-11-2a

### EUT Information

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	Taoglass antenna, Micro USB cable, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main
Comments:	SN 113

030405\_FCC\_Part24\_GSM1900\_TX\_low\_ch\_band\_edge



## Diagram no.:8.09\_1900\_BE\_H

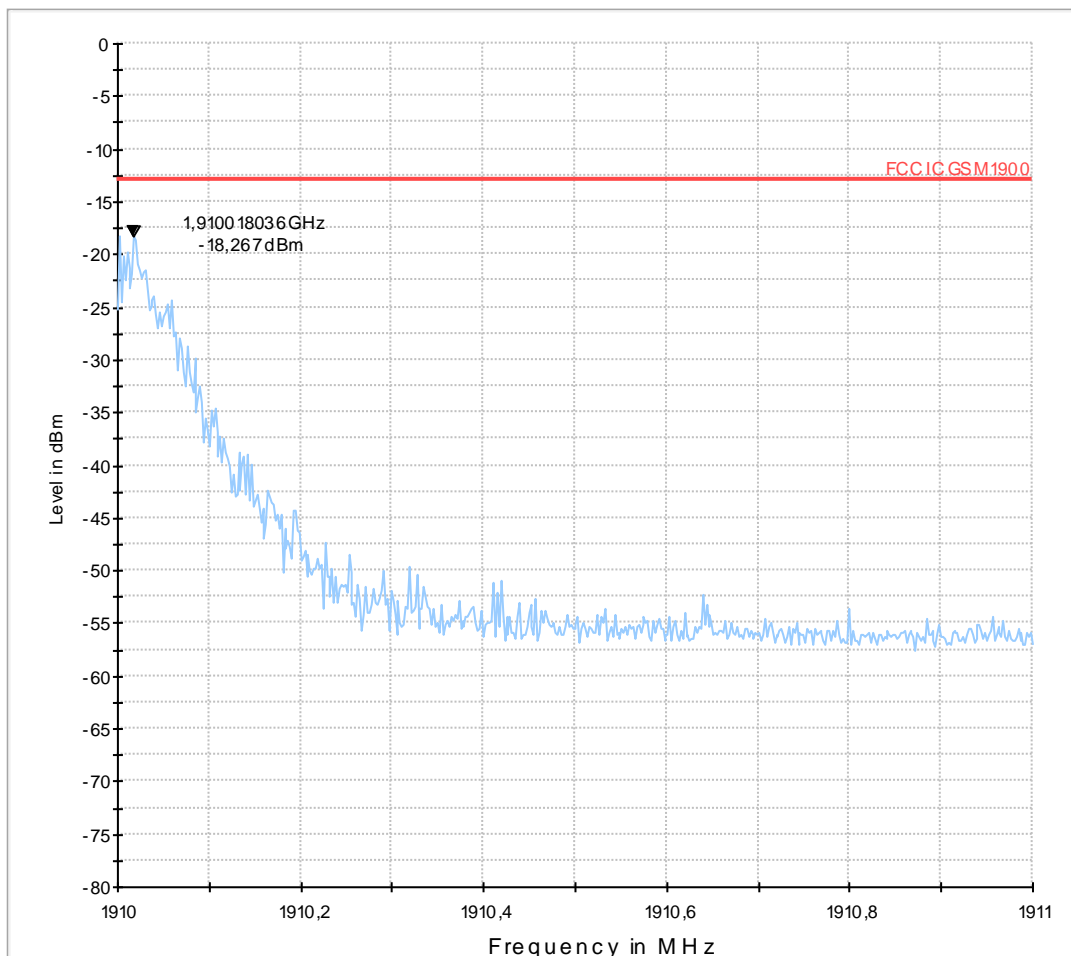
### Common Information

Test Description:	Band-Edge compliance radiated
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 24.238(a)(b), RSS-133:6.5.1 (a)(b)
Comm. Link:	GSM1900, Voice
Operating Mode:	MS allocated channel 810 (UL = 1909.0 MHz)
Exclusionband:	1850- 1910MHz
Environmental Conditions:	Humidity: 55%rH; Temperature: 20°C
Operator:	Tas 6-0143-12-11-2a

### EUT Information

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	Taoglass antenna, Micro USB cable, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main
Comments:	SN 113

030406\_FCC\_Part24\_GSM1900\_TX\_high\_ch\_band\_edge



## 8.10\_1900\_BE\_EDGE\_L

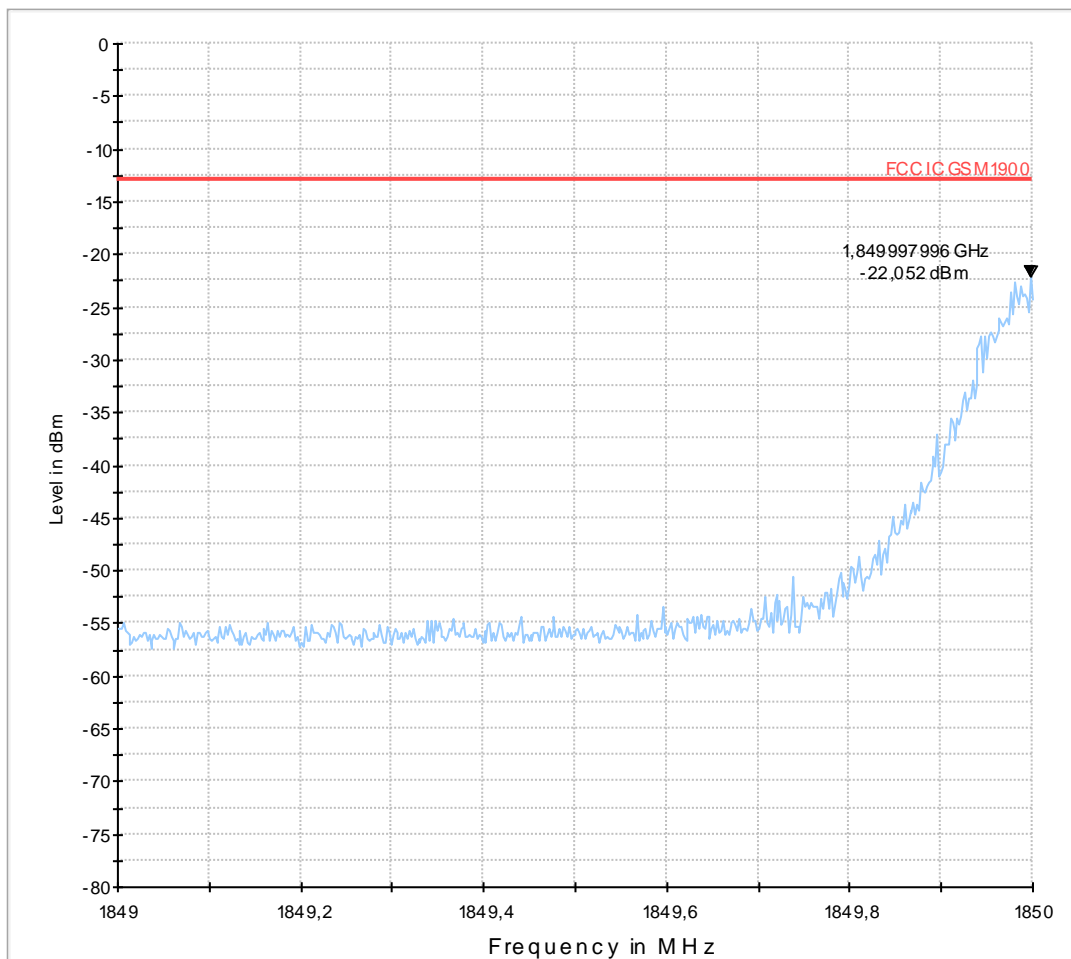
### Common Information

Test Description:	Band-Edge compliance radiated
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 24.238(a)(b), RSS-132:4.5. -1 & -2
Comm. Link:	GSM1900, EDGE
Operating Mode:	MS allocated channel 512 (UL = 1850.2MHz)
Exclusionband:	1850- 1910MHz
Environmental Conditions:	Humidity: 53%rH; Temperature: 19°C
Operator:	Tas 6-0147-12-11-2a

### EUT Information

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	Taoglass antenna, Micro USB cable, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main
Comments:	SN 113

030405\_FCC\_Part24\_GSM1900\_TX\_low\_ch\_band\_edge



## Diagram No.: 8.12\_EDGE\_BE

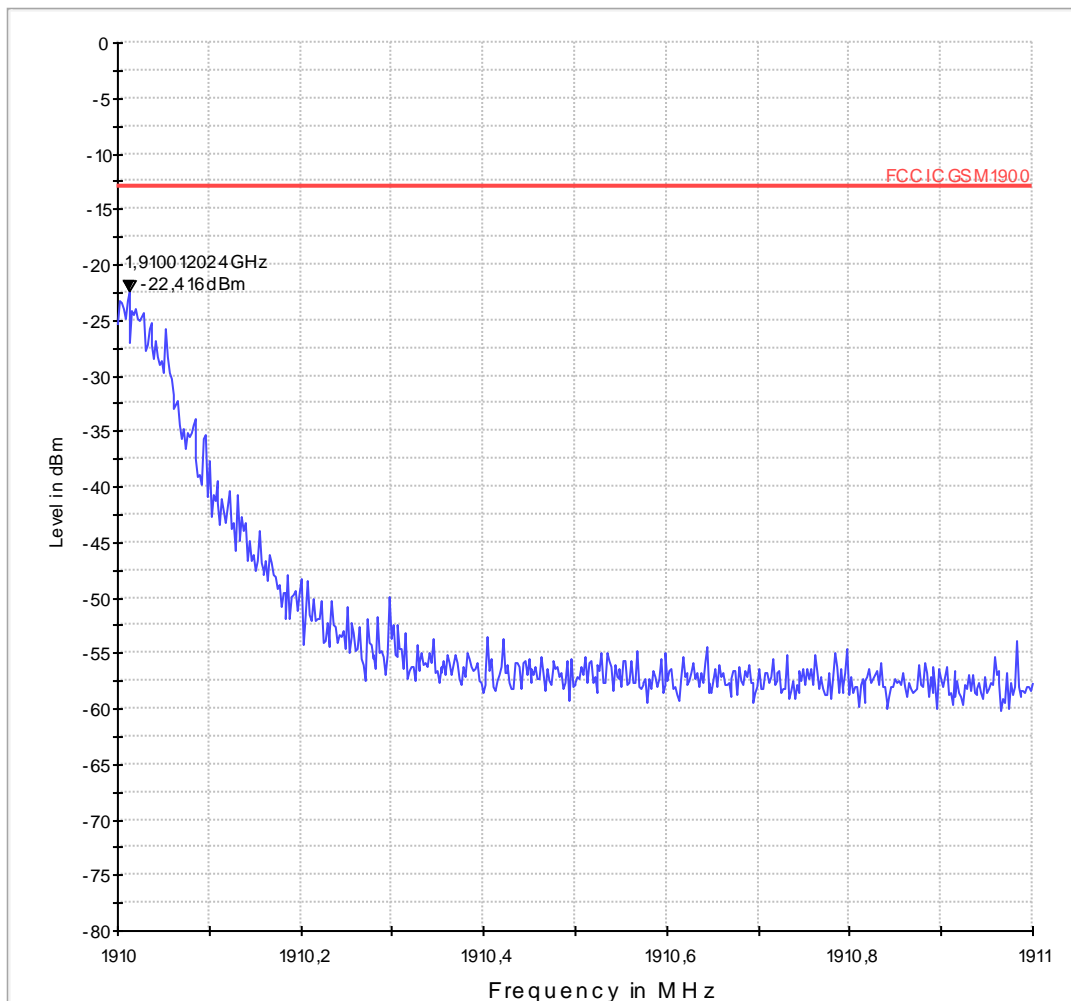
### Common Information

Test Description:	Band-Edge compliance radiated
Test Site:	FAR
Test Standard:	FCC Part 24, RSS-133
Antenna polarisation:	vertical / horizontal
Operation mode:	MS allocated channel 810 (UL = 1880.0 MHz), EDGE
Operator Name:	Tas
Comment:	6-0143-12-11-2a

### EUT Information

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	Taoglass antenna, Micro USB cable, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main
Comments:	SN 113

010406\_FCC\_Part24\_GSM1900\_TX\_channel\_810\_band\_edge



## 2.2 E.I.R.P.(radiated) – PCS1900 Mode

### Diagram no.:8.07\_1900\_EIRP\_L

#### Common Information

Test Description:	PCS1900 EIRP Measurement
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC § 24.232(c), RSS-133:4.1
Comm. Link:	GSM1900, Voice
Operating Mode:	MS allocated channel 512 (UL = 1850.2MHz)
Exclusionband:	1850- 1910MHz
Environmental Conditions:	Humidity: 55%rH; Temperature: 20°C
Operator:	Tas 6-0147-12-11-2a

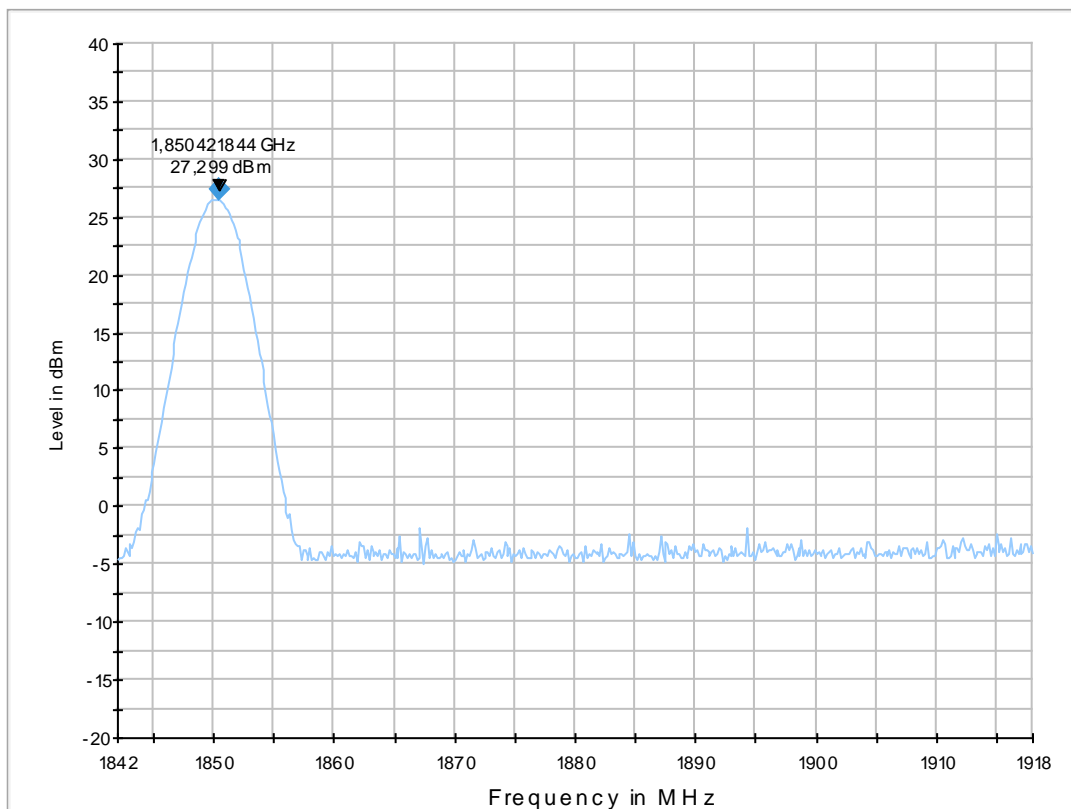
#### EUT Information

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	Taoglass antenna, Micro USB cable, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main
Comments:	SN 113

#### Final Result 1

Frequency (MHz)	MaxPeak (dBm)	Meas. Time (ms)	Bandwidth (kHz)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)
1850.421844	27.3	5000.0	3000.000	H	193.0	0.0	-63.1

030408\_FCC\_Part24\_GSM1900\_Carrier\_measurement



## Diagram no.:8.08\_1900\_EIRP\_M

### Common Information

Test Description: PCS1900 EIRP Measurement  
 Operating Conditions: CETECOM GmbH Essen  
 Operator Name: Fully Anechoic Room (FAR)  
 FCC § 24.232(c), RSS-133:4.1  
 GSM1900, Voice  
 MS allocated channel 661 (UL = 1880.0 MHz)  
 1850- 1910MHz  
 Humidity: 55%rH; Temperature: 20°C  
 Tas  
 6-0147-12-11-2a

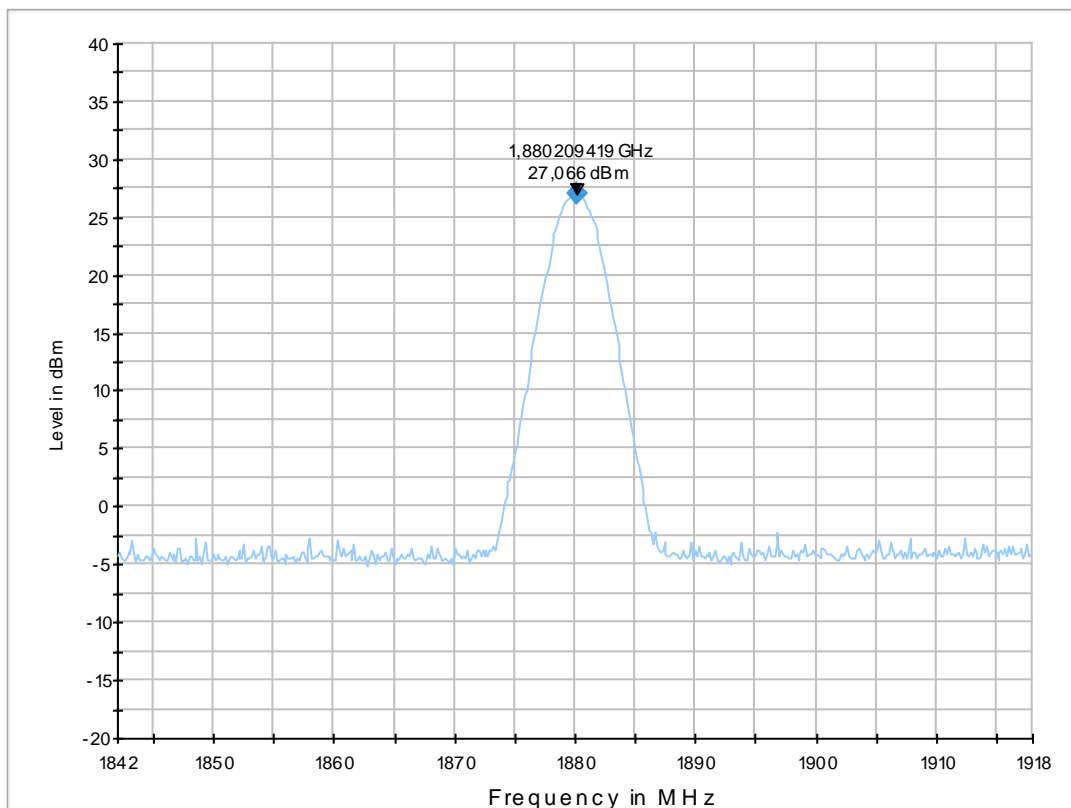
### EUT Information

Manufacturer: ublox AG  
 Model: LISA-U260  
 Type: GSM/FDD Module  
 -----  
 EUT: LISA-U260, RF Sample  
 HW version: 146AC0  
 FW version: 22.60  
 Serial number: 354235050002264  
 Connected Accessories: Taoglass antenna, Micro USB cable, AC/DC Power Supply  
 Power Supply: 12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main  
 Comments: SN 113

### Final Result 1

Frequency (MHz)	MaxPeak (dBm)	Meas. Time (ms)	Bandwidth (kHz)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)
1880.209419	27.1	5000.0	3000.000	H	1.0	90.0	-63.0

030408\_FCC\_Part24\_GSM1900\_Carrier\_measurement





## Diagram no.: 8.09\_1900\_EIRP\_H

### Common Information

Test Description: PCS1900 EIRP Measurement  
 Operating Conditions: CETECOM GmbH Essen  
 Operator Name: Fully Anechoic Room (FAR)  
 FCC § 24.232(c), RSS-133:4.1  
 GSM1900, Voice  
 MS allocated channel 810 (UL = 1909.0 MHz)  
 1850- 1910MHz  
 Tas  
 6-0143-12-11-2a

### EUT Information

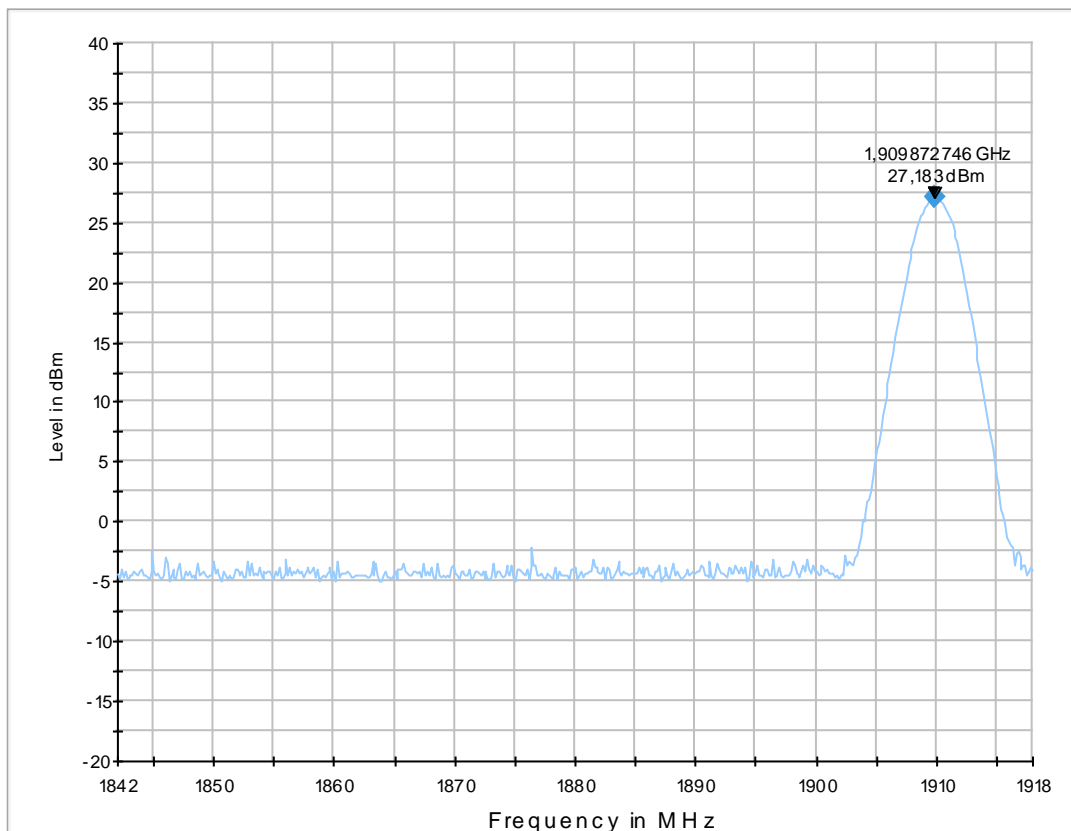
Manufacturer: ublox AG  
 Model: LISA-U260  
 Type: GSM/FDD Module

-----  
 EUT: LISA-U260, RF Sample  
 HW version: 146AC0  
 FW version: 22.60  
 Serial number: 354235050002264  
 Connected Accessories: Taoglass antenna, Micro USB cable, AC/DC Power Supply  
 Power Supply: 12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main  
 Comments: SN 113

### Final Result 1

Frequency (MHz)	MaxPeak (dBm)	Meas. Time (ms)	Bandwidth (kHz)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)
1909.872746	27.2	5000.0	3000.000	H	175.0	0.0	-62.8

030408\_FCC\_Part24\_GSM1900\_Carrier\_measurement



## Diagram no.: 8.10\_1900\_EIRP\_EDGE\_L

### Common Information

Test Description:	EDGE PCS1900 EIRP Measurement
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 24.913(2), RSS-133:6.5.1(a)(b)
Comm. Link:	GSM1900, EDGE
Operating Mode:	MS allocated channel 512 (UL = 1850.2MHz)
Exclusionband:	1850- 1910MHz
Environmental Conditions:	Humidity: 53%rH; Temperature: 19°C
Operator:	Tas 6-0147-12-11-2a

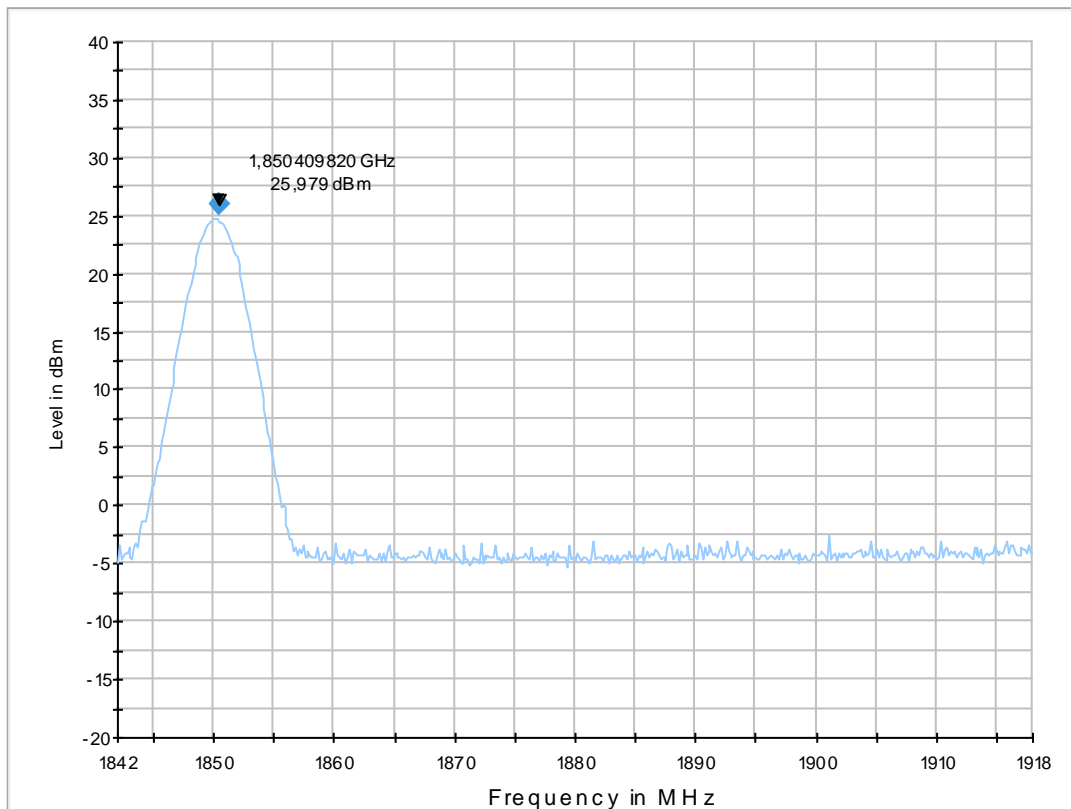
### EUT Information

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	Taoglass antenna, Micro USB cable, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main
Comments:	SN 113

### Final Result 1

Frequency (MHz)	MaxPeak (dBm)	Meas. Time (ms)	Bandwidth (kHz)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)
1850.409820	26.0	5000.0	3000.000	H	33.0	90.0	-63.1

030408j\_FCC\_Part24\_GSM1900\_EIRP\_Ch512\_EGPRS\_CMU\_RF3\_RF4



## Diagram no.: 8.11\_1900\_EIRP\_EDGE\_M

### Common Information

Test Description:	EDGE PCS1900 EIRP Measurement
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 24.232(a)
Comm. Link:	GSM1900, EDGE
Operating Mode:	MS allocated channel 661 (UL = 1880.0MHz)
Exclusionband:	1850- 1910MHz
Environmental Conditions:	Humidity: 58%rH; Temperature: 20°C
Operator:	Tas 6-0143-12-11-2a

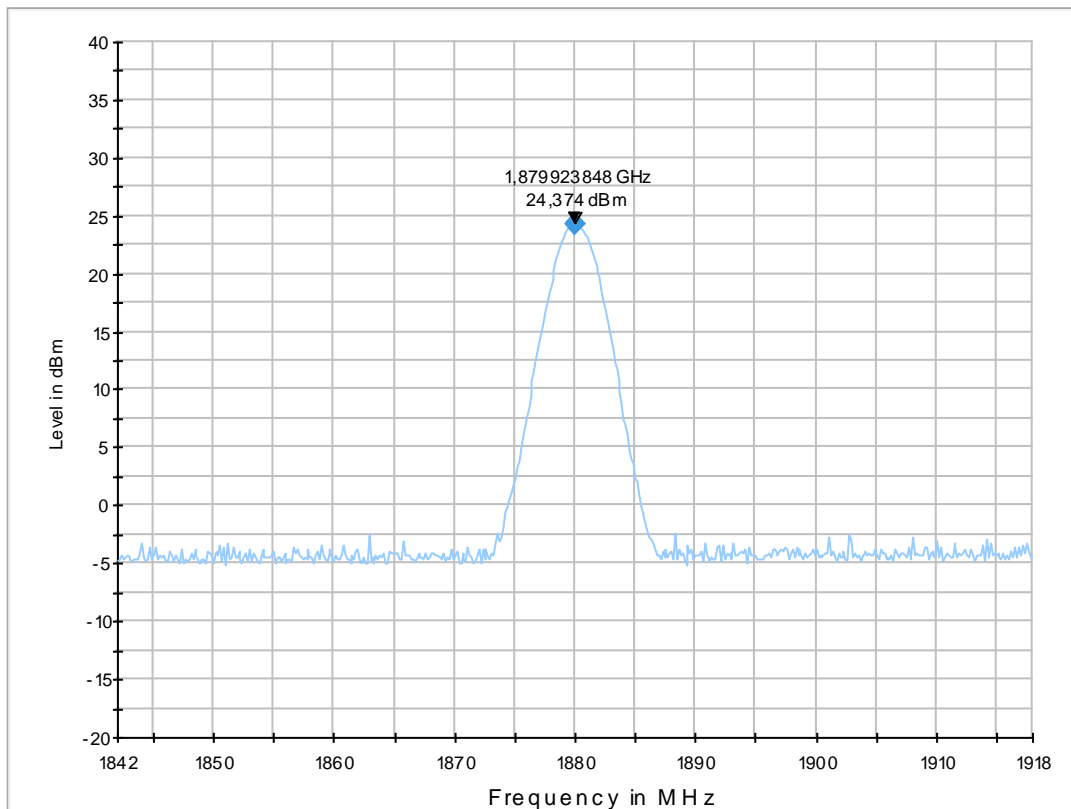
### EUT Information

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	Taoglass antenna, Micro USB cable, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main
Comments:	SN 113

### Final Result 1

Frequency (MHz)	MaxPeak (dBm)	Meas. Time (ms)	Bandwidth (kHz)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)
1879.998998	24.4	5000.0	3000.000	H	0.0	90.0	-63.0

030408k\_FCC\_Part24\_GSM1900\_EIRP\_Ch661\_EGPRS\_CMU\_RF3\_RF4



## Diagram no.: 8.12\_1900\_EIRP\_EDGE\_H

### Common Information

Test Description: EDGE PCS1900 EIRP Measurement  
 Test Site: FAR  
 Test Standard: FCC Part 24.232(c)  
 Antenna polarisation: vertical / horizontal  
  
 Operation mode: MS allocated channel 810 (UL = 1880.0 MHz)  
 Operator Name: Tas  
 Comment: 6-0143-12-11-2a

### EUT Information

Manufacturer: ublox AG  
 Model: LISA-U260  
 Type: GSM/FDD Module  

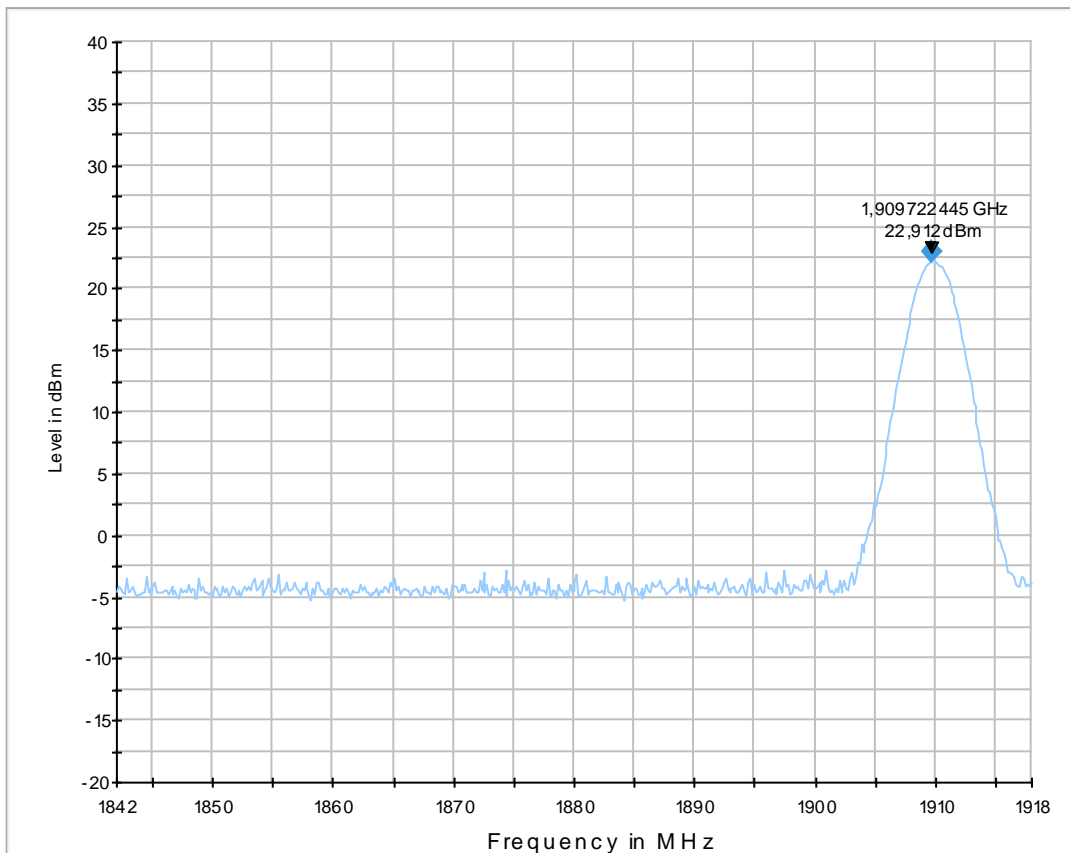

---

 EUT: LISA-U260, RF Sample  
 HW version: 146AC0  
 FW version: 22.60  
 Serial number: 354235050002264  
 Connected Accessories: Taoglass antenna, Micro USB cable, AC/DC Power Supply  
 Power Supply: 12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main  
 Comments: SN 113

### Final Result 1

Frequency (MHz)	MaxPeak (dBm)	Meas. Time (ms)	Bandwidth (kHz)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)
1909.722445	22.9	5000.0	3000.000	H	175.0	0.0	-62.8

030408I\_FCC\_Part24\_GSM1900\_EIRP\_Ch810\_EGPRS\_CMU\_RF3\_RF4



## 2.3 Radiated spurious emissions+ Block-Edge: $f > 30$ MHz – FDD II Mode

### 8.01\_FDDII\_RSE\_RMC\_L

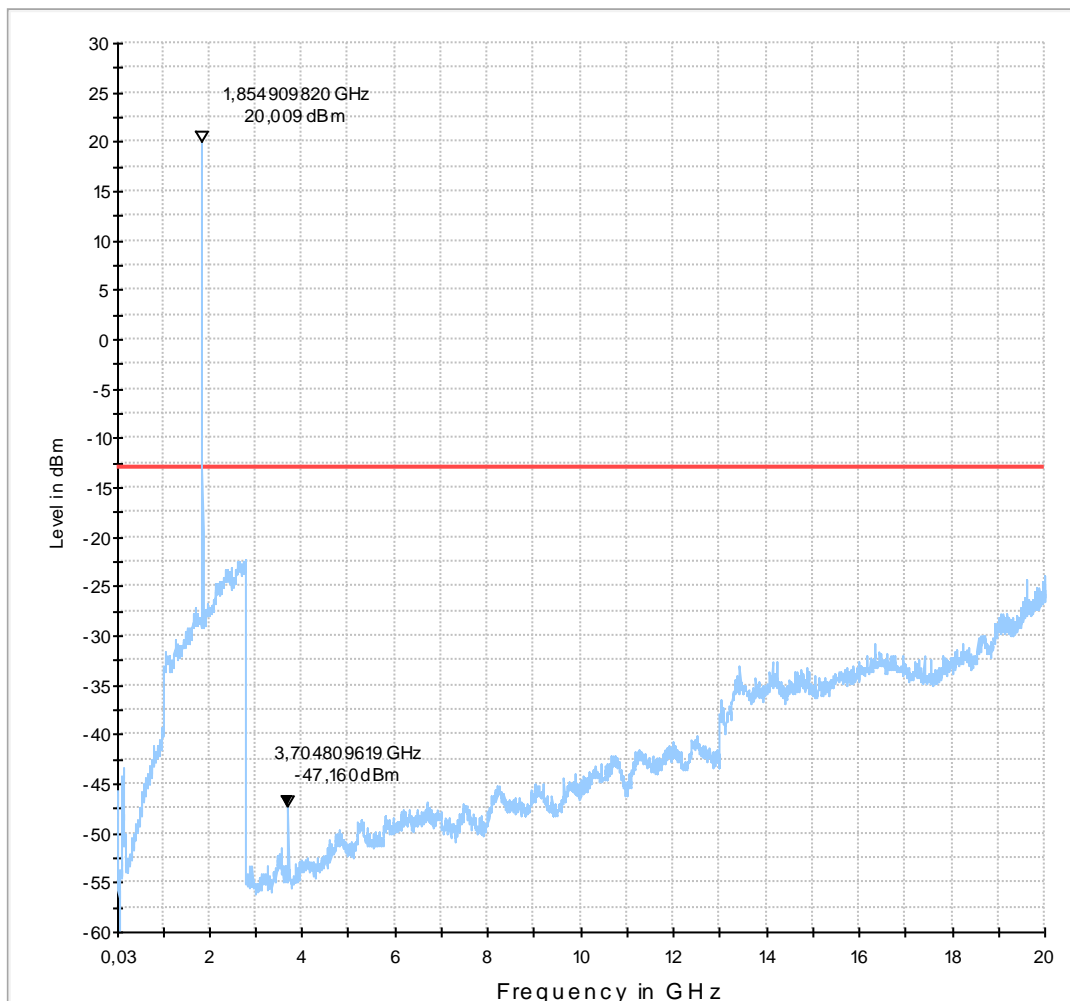
#### Common Information

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(a)(b), RSS-133:4.1
Operating Mode:	UE allocated channel 9262 ( $f_c = 1852.4$ MHz), RMC
Environmental Conditions:	Humidity: 50 %rH; Temperature: 20.2 °C
Operator:	Tas
Comment:	6-0143-12-11-2a Excluded 9262 carrier on diagram

#### EUT Information

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	Taoglass antenna, Micro USB cable, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main
Comments:	SN 113

030414\_FCC\_Part24\_UMTS-FDDII\_TX\_all\_channels\_30M-25G



## 8.02\_FDDII\_RSE\_RMC\_M

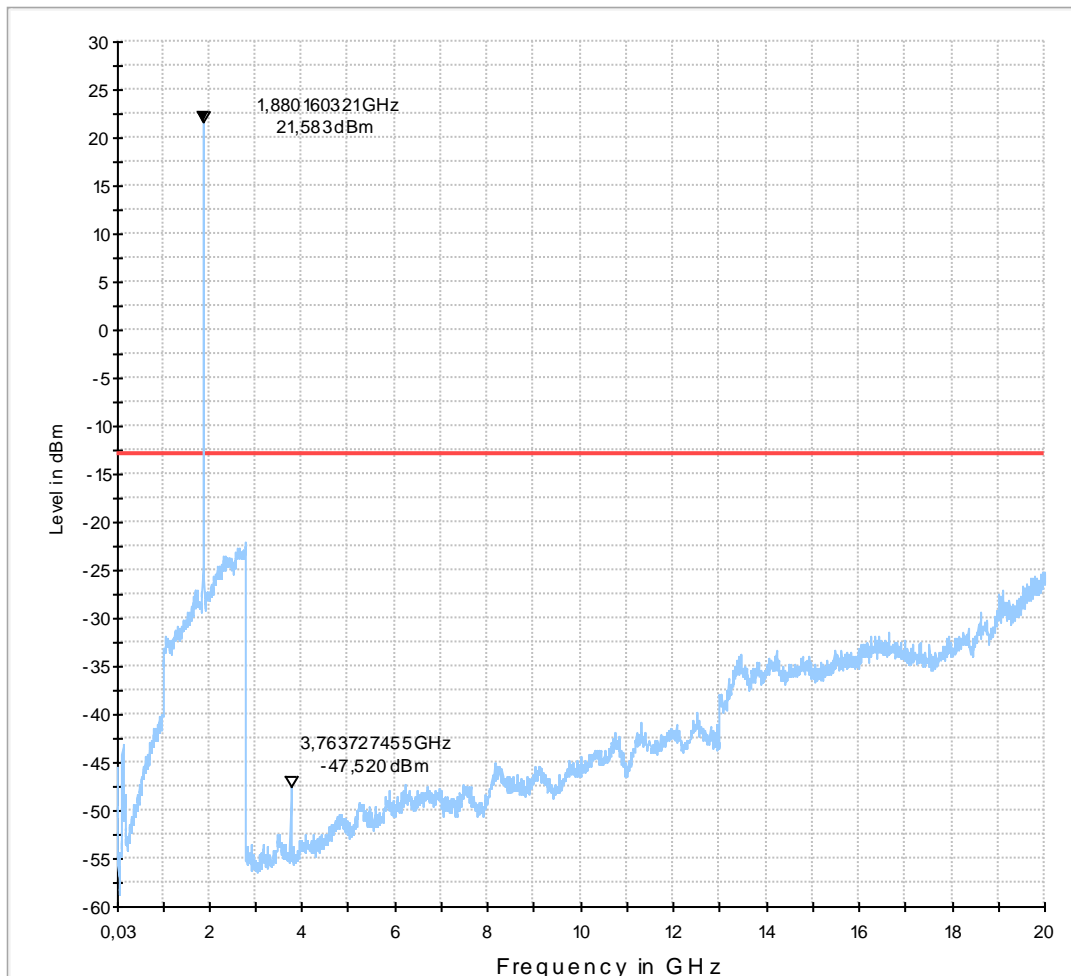
### Common Information

Test Description:	Radiated Spurious Emissions UMTS FDDII
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 24.913(2), RSS-133:6.5.1(a)(b)
Operating Mode:	UE allocated channel 9400 (fc = 1880.0 MHz), RMC
Environmental Conditions:	Humidity: 50 %rH; Temperature: 20.2 °C
Comment:	Excluded carrier 9400 of this test case
Operator:	Tas 6-0143-12-11-2a

### EUT Information

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	Taoglass antenna, Micro USB cable, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main
Comments:	SN 113

030414\_FCC\_Part24\_UMTS-FDDII\_TX\_all\_channels\_30M-25G



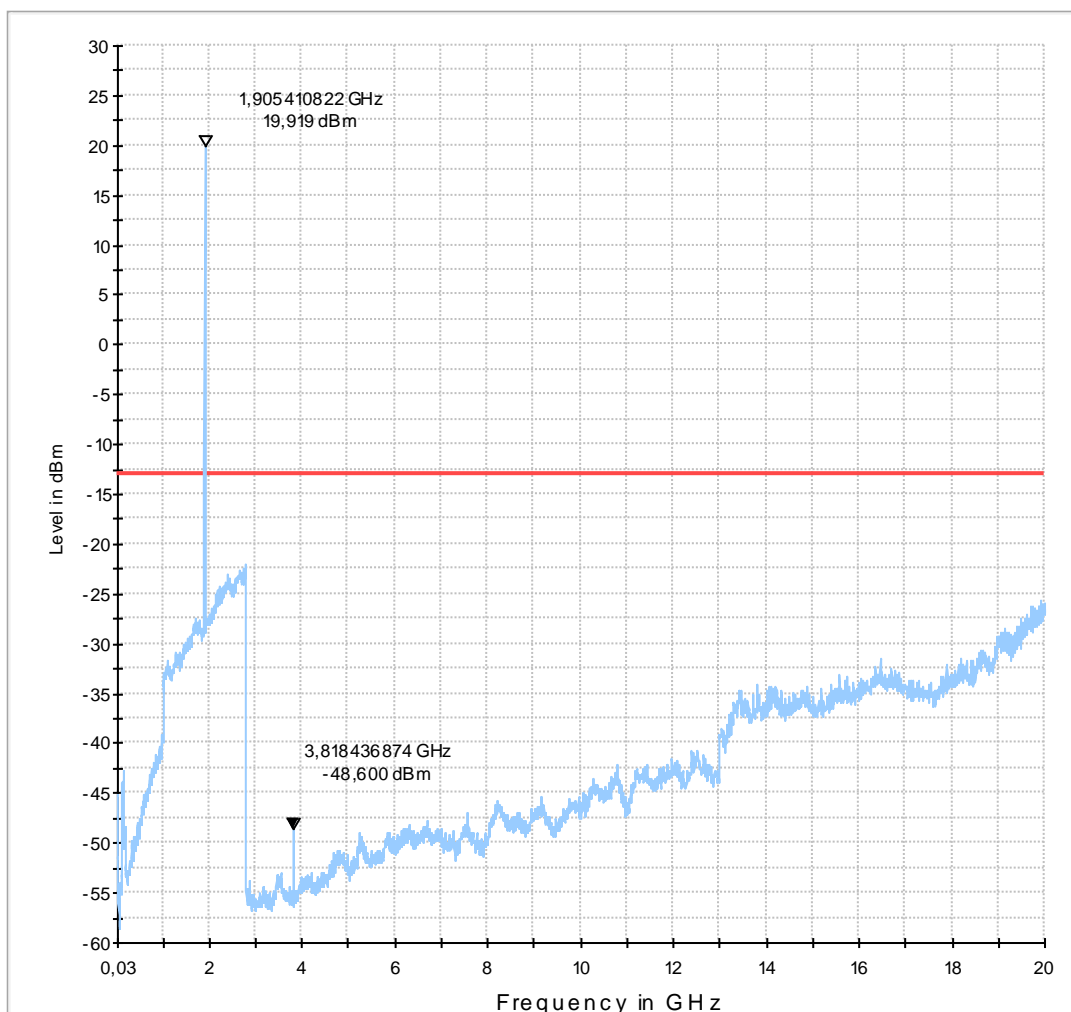
## 8.03\_FDDII\_RSE\_RMC\_H

### 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 24.913(2), RSS-133:6.5.1(a)(b)
Operating Mode:	UE allocated channel 9538 (fc = 1907.6 MHz), RMC
Environmental Conditions:	Humidity: 50 %rH; Temperature: 20.2 °C
Comment:	Excluded carrier 9538 of this test case
Operator:	Tas 6-0143-12-11-2a

### EUT Information

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	Taoglass antenna, Micro USB cable, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main
Comments:	SN 113



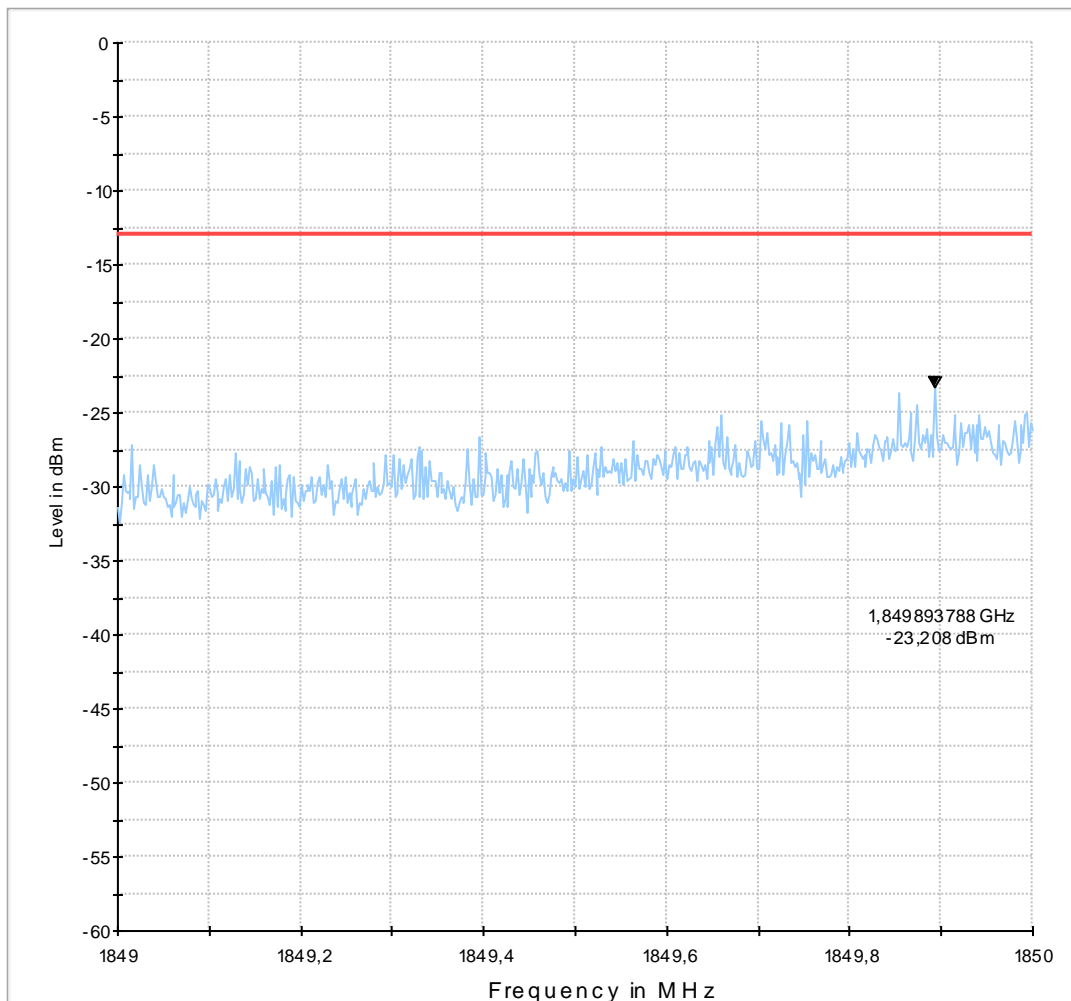
**Diagram No.: 8.01\_BE\_L****Common Information**

Test Description:	Band-Edge compliance radiated
Test Site:	FAR
Test Standard:	FCC Part 24, RSS-133
Antenna polarisation:	vertical / horizontal
Operation mode:	UE allocated low channel 9262 (fc = 1852.4 MHz), RMC
Operator Name:	Tas
Comment:	6-0143-12-11-2a

**EUT Information**

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	Taoglass antenna, Micro USB cable, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main
Comments:	SN 113

030415\_FCC\_Part24\_UMTS-FDD II\_TX\_low\_channel\_band\_edge





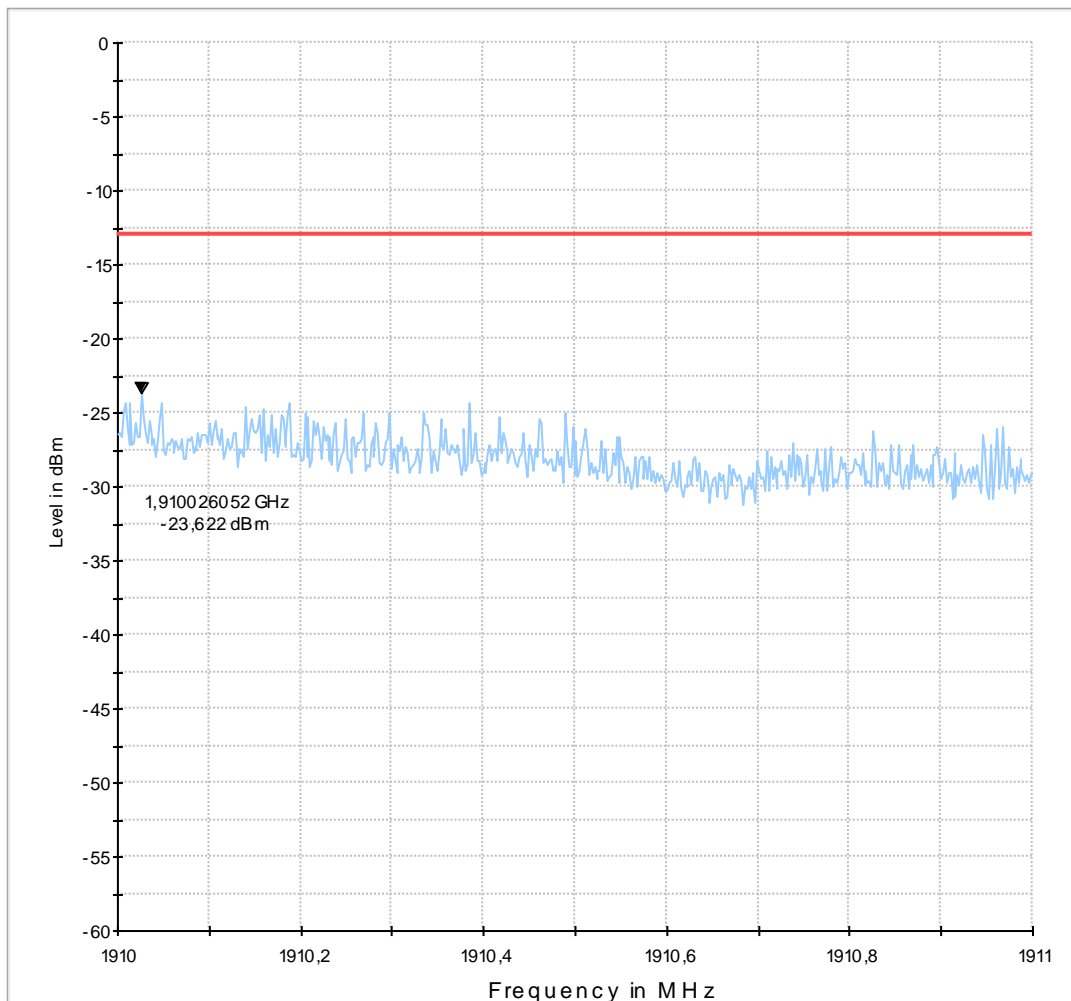
**Diagram No.: 8.03\_BE\_H****Common Information**

Test Description:	Band-Edge compliance radiated
Test Site:	FAR
Test Standard:	FCC Part 24, RSS-133
Antenna polarisation:	vertical / horizontal
Operation mode:	UE allocated high channel 9538 (fc = 1907.5 MHz), RMC
Operator Name:	Tas
Comment:	6-0143-12-11-2a

**EUT Information**

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	Taoglass antenna, Micro USB cable, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main
Comments:	SN 113

030416\_FCC\_Part24\_UMTS-FDD II\_TX\_high\_channel\_band\_edge



## 2.4 E.I.R.P.(radiated) – FDD II Mode

### Diagram no.: 8.01\_FDD II\_EIRP\_RMC\_L

#### Common Information

Test Description:	UMTS FDDII - ERP Carrier Measurement
Test location:	CETECOM GmbH Essen
Test site:	Fully Anechoic Room (FAR)
Ant. pol.:	horizontal/vertical
Test standards	FCC § 24.232, IC RSS-132:4.4
Op. mode:	UE allocated channel 9262 (fc = 1852.4 MHz), RMC
Operator	Tas
SAP no.:	6-0143-12-11-2a

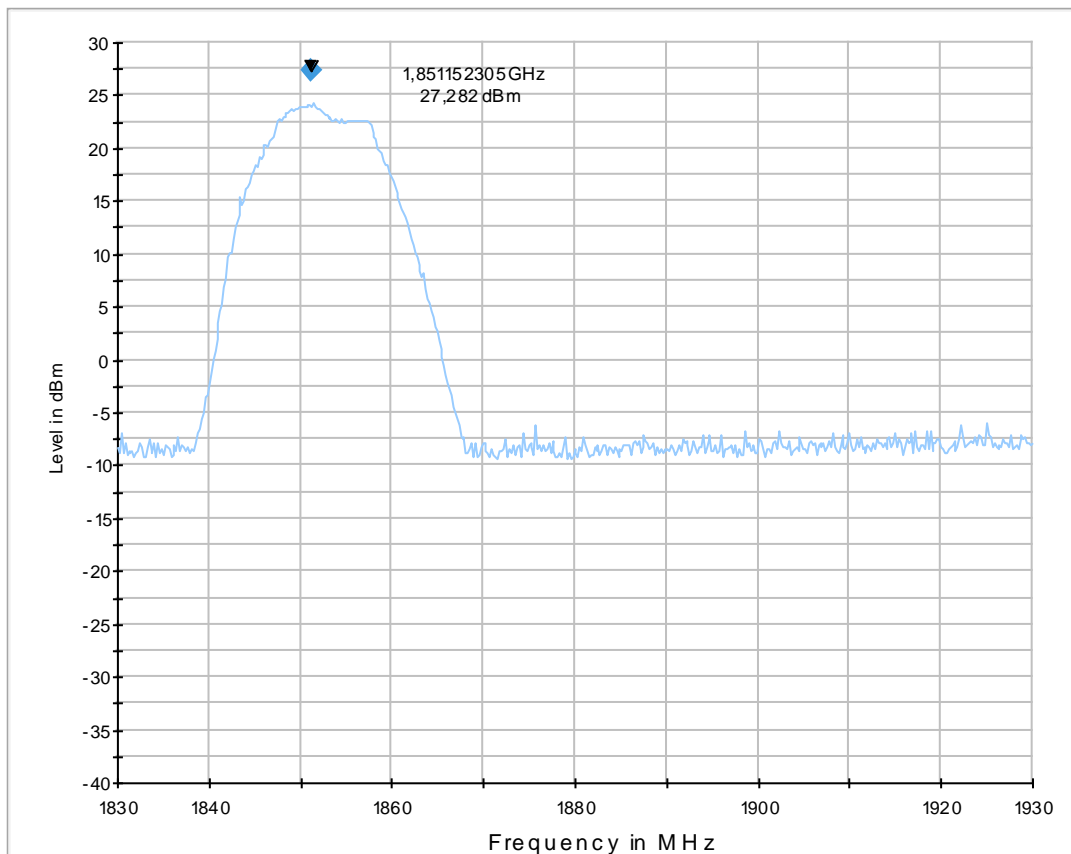
#### EUT Information

Manufacturer:	ublox
Model:	LISA-U260
Type:	GSM_GPRS_EDGE/FDD_HSUPA Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	tbd
SW version:	tbd
Serial number:	354235050002264
Connected Accessories:	Taoglass antenna, Micro USB cable, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main
Comments:	SN 113

#### Final Result 1

Frequency (MHz)	MaxPeak (dBm)	Meas. Time (ms)	Bandwidth (kHz)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)
1851.152305	27.3	10000.0	10000.000	H	16.0	90.0	-63.1

030422a\_FCC\_Part24\_UMTS-FDDII\_Carrier\_Measurement\_Ch9262\_CMU\_R



## 8.02\_FDDII\_EIRP\_RMC\_M

### Common Information

Test Description: EIRP Measurement UMTS FDDII  
 Test Site Location: CETECOM GmbH Essen  
 Test Site: Fully Anechoic Room (FAR)  
 Test Standard: FCC § 24.232(c), RSS-133:4.1  
 Operating Mode: UE allocated channel 9400 (fc = 1880.0 MHz), RMC  
 Environmental Conditions: Humidity: 50 %rH; Temperature: 20.2 °C  
 Operator: Tas  
 6-0143-12-11-2a

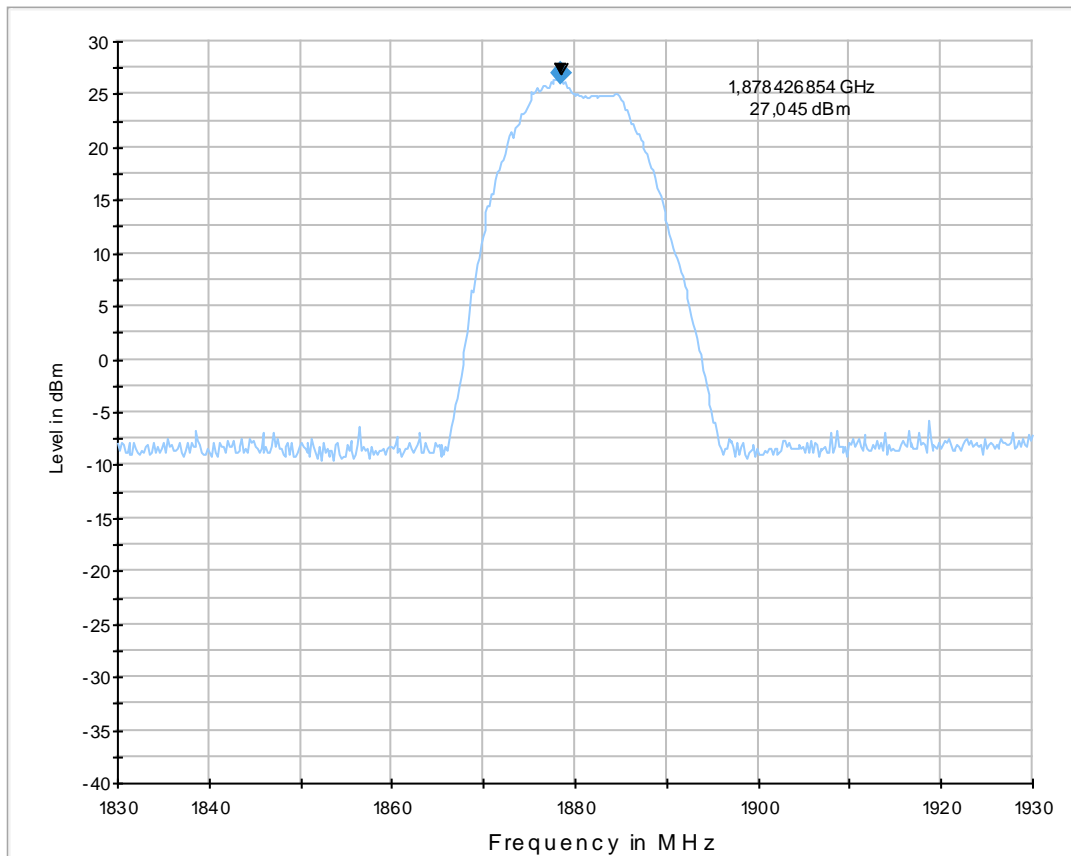
### EUT Information

Manufacturer: ublox  
 Model: LISA-U260  
 Type: GSM\_GPRS\_EDGE/FDD\_HSUPA Module  
 -----  
 EUT: LISA-U260, RF Sample  
 HW version: tbd  
 SW version: tbd  
 Serial number: 354235050002264  
 Connected Accessories: Taoglass antenna, Micro USB cable, AC/DC Power Supply  
 Power Supply: 12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main  
 Comments: SN 113

### Final Result 1

Frequency (MHz)	MaxPeak (dBm)	Meas. Time (ms)	Bandwidth (kHz)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)
1878.426854	27.0	10000.0	10000.000	H	9.0	90.0	-63.0

030422b\_FCC\_Part24\_UMTS-FDDII\_Carrier\_Measurement\_Ch9400\_CMU\_R



### 8.03\_FDDII\_EIRP\_RMC\_H

#### Common Information

Test Description: EIRP Measurement UMTS FDDII  
 Test Site Location: CETECOM GmbH Essen  
 Test Site: Fully Anechoic Room (FAR)  
 Test Standard: FCC § 24.232(c), RSS-133:4.1  
 Operating Mode: UE allocated channel 9538 (fc = 1907.6 MHz), RMC  
 Environmental Conditions: Humidity: 50 %rH; Temperature: 20.2 °C  
 Operator: Tas  
 6-0143-12-11-2a

#### EUT Information

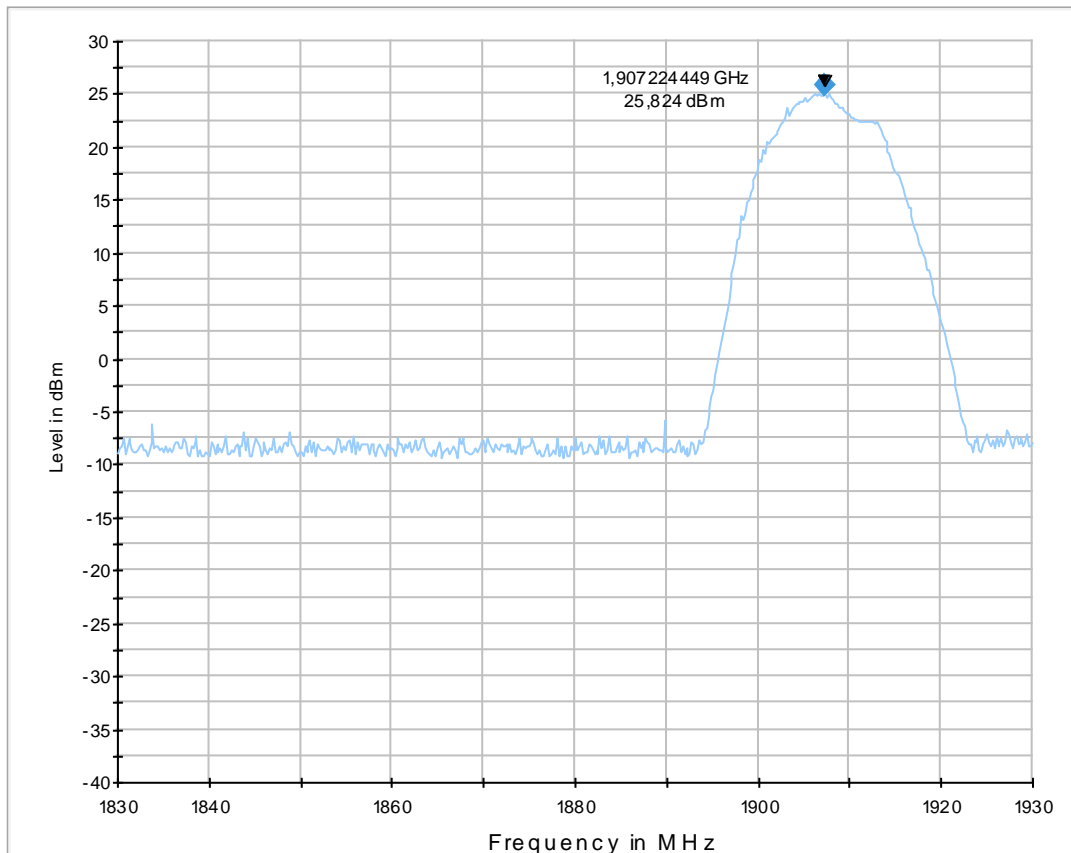
Manufacturer: ublox  
 Model: LISA-U260  
 Type: GSM\_GPRS\_EDGE/FDD\_HSUPA Module

-----  
 EUT: LISA-U260, RF Sample  
 HW version: 146AC0  
 FW version: 22.60  
 Serial number: 354235050002264  
 Connected Accessories: Taoglass antenna, Micro USB cable, AC/DC Power Supply  
 Power Supply: 12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main  
 Comments: SN 113

#### Final Result 1

Frequency (MHz)	MaxPeak (dBm)	Meas. Time (ms)	Bandwidth (kHz)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)
1907.224449	25.8	10000.0	10000.000	H	197.0	90.0	-62.9

030422c\_FCC\_Part24\_UMTS-FDDII\_Carrier\_Measurement\_Ch9538\_CMU\_R



## 2.5 Radiated spurious emissions+ Block-Edge: f> 30 MHz – FDD V Mode

### 8.04\_FDD V\_RSE\_RMC\_L

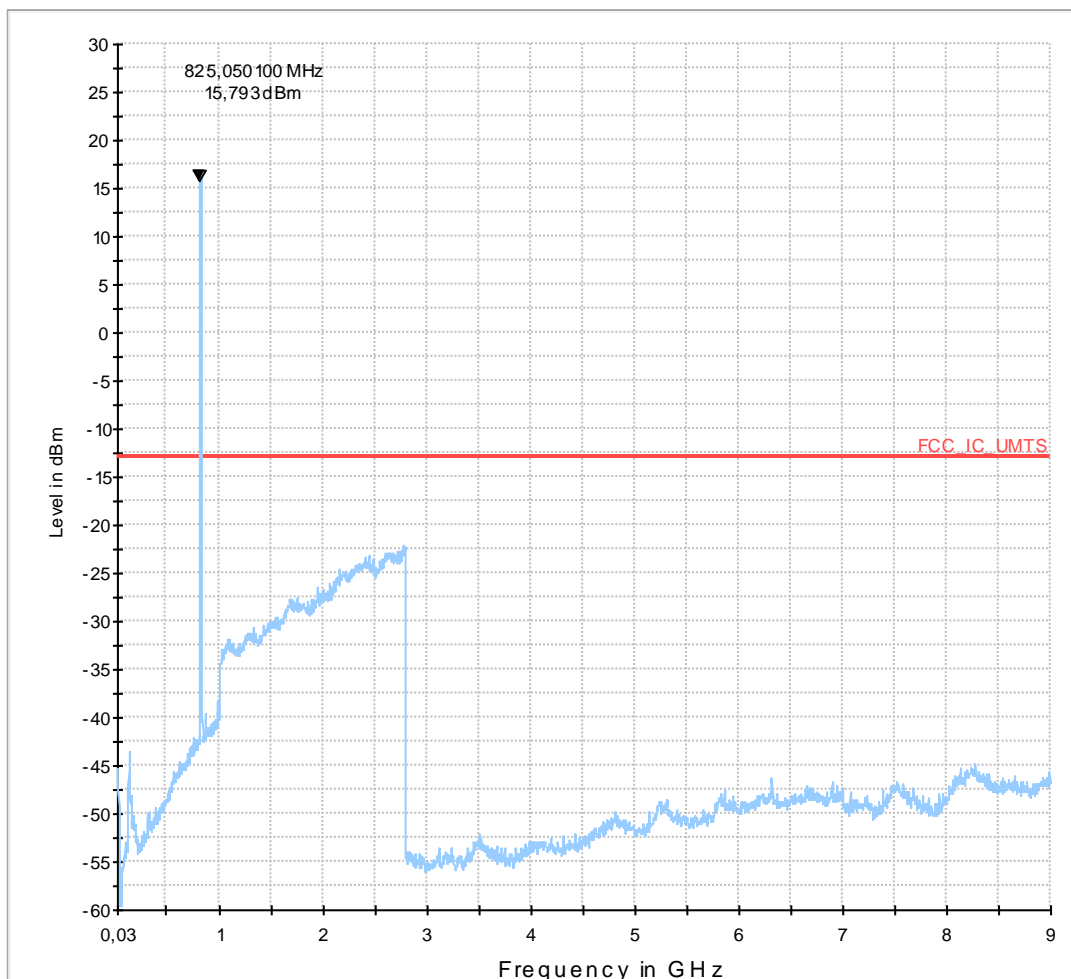
#### Common Information

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)(b), RSS-132:4.5.1
Operating Mode:	UE allocated channel 4132 (fc = 826.4 MHz), RMC
Environmental Conditions:	Humidity: 50 %rH; Temperature: 20.2 °C
Comment:	Excluded carrier 4132 of this test case
Operator:	Tas 6-0143-12-11-2a

#### EUT Information

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	Taoglass antenna, Micro USB cable, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main
Comments:	SN 113

030411\_FCC\_Part22\_UMTS-FDDV\_TX\_all\_channels\_30M-12G



## 8.05\_FDD V\_RSE\_RMC\_M

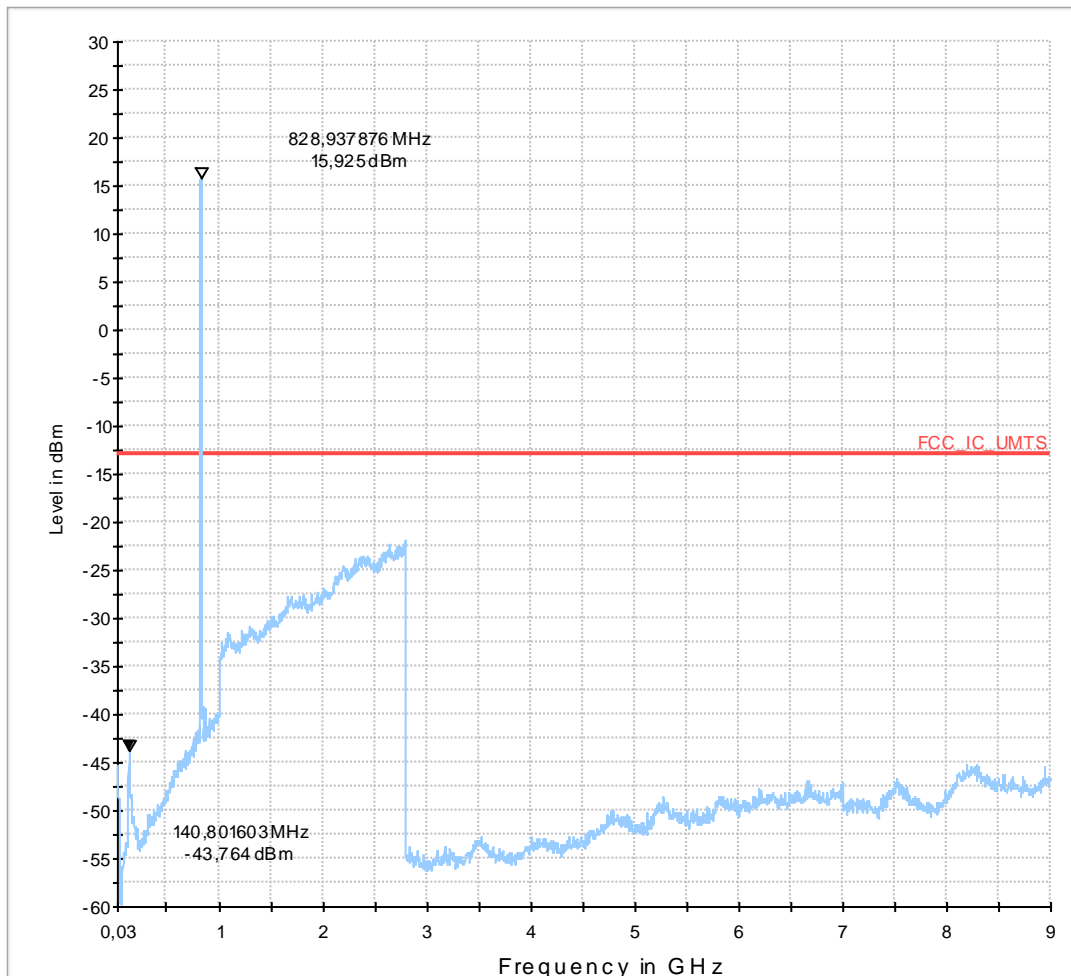
### Common Information

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)(b), RSS-132:4.5.1
Operating Mode:	UE allocated channel 4183 (fc = 836.6 MHz), RMC
Environmental Conditions:	Humidity: 50 %rH; Temperature: 20.2 °C
Comment:	Excluded carrier 4183 of this test case
Operator:	Tas 6-0143-12-11-2a

### EUT Information

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	Taoglass antenna, Micro USB cable, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main
Comments:	SN 113

030411\_FCC\_Part22\_UMTS-FDDV\_TX\_all\_channels\_30M-12G



## 8.06\_FDD V\_RSE\_RMC\_H

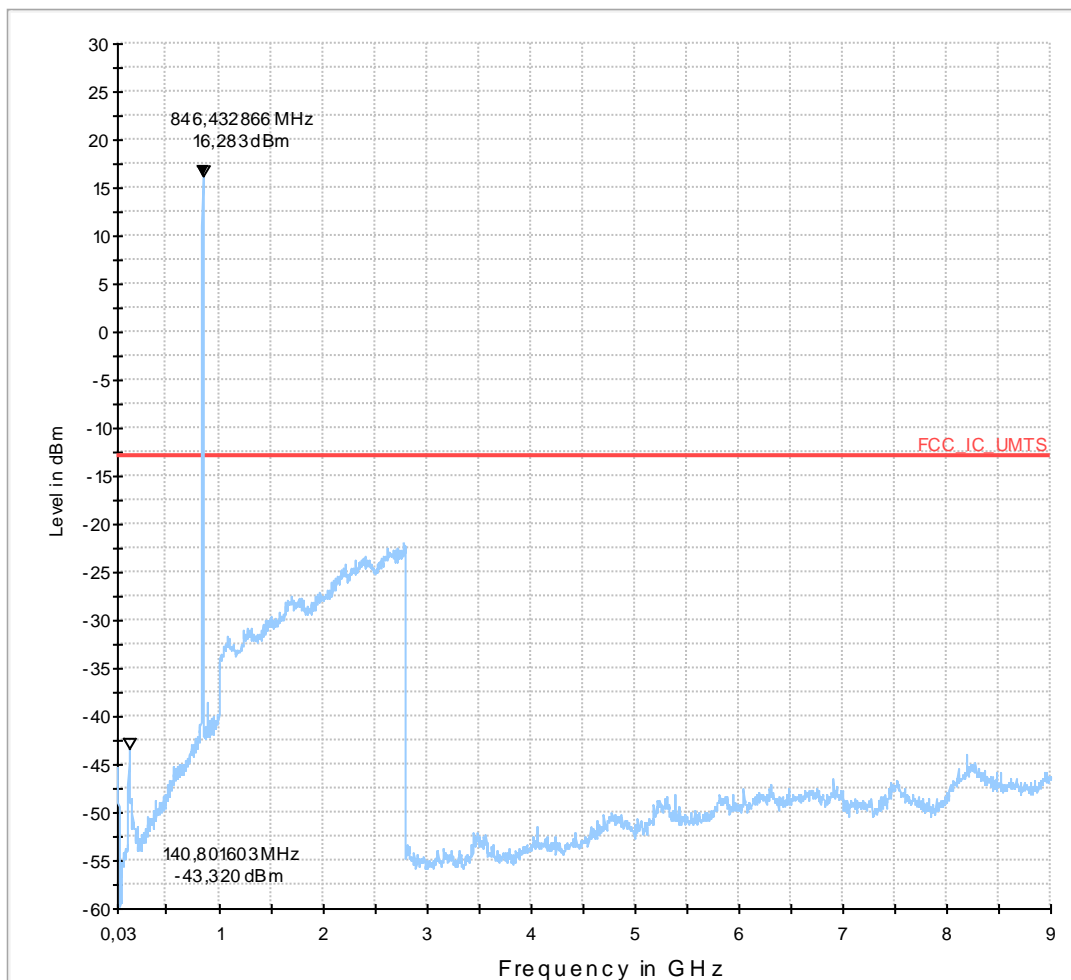
### Common Information

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)(b), RSS-132:4.5.1
Operating Mode:	UE allocated channel 4233 (fc = 846.6 MHz), HSPA
Environmental Conditions:	Humidity: 50 %rH; Temperature: 20.2 °C
Comment:	Excluded carrier 4233 of this test case
Operator:	Tas 6-0143-12-11-2a

### EUT Information

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	Taoglass antenna, Micro USB cable, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main
Comments:	SN 113

030411\_FCC\_Part22\_UMTS-FDDV\_TX\_all\_channels\_30M-12G



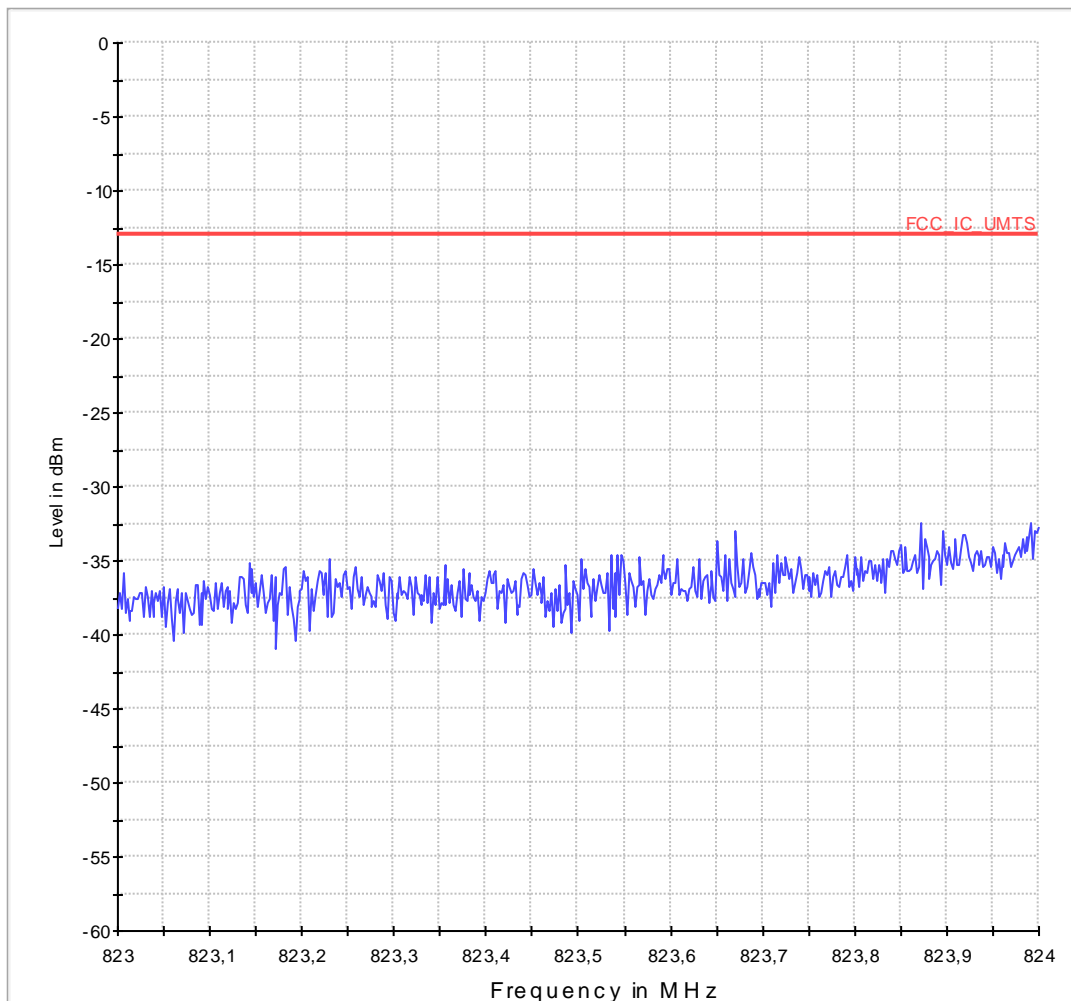
**Diagram No.: 8.04\_BE\_L****Common Information**

Test Description:	Band-Edge compliance radiated
Test Site:	FAR
Test Standard:	FCC Part 22, RSS-132
Antenna polarisation:	vertical / horizontal
Operation mode:	UE allocated low channel 4132 (fc = 826,4 MHz), RMC
Operator Name:	Tas
Comment:	6-0143-12-11-2a

**EUT Information**

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	Taoglass antenna, Micro USB cable, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main
Comments:	SN 113

010412\_FCC\_Part22\_UMTS-FDDII\_TX\_channel\_4132\_band\_edge





## Diagram No.: 8.06\_BE\_H

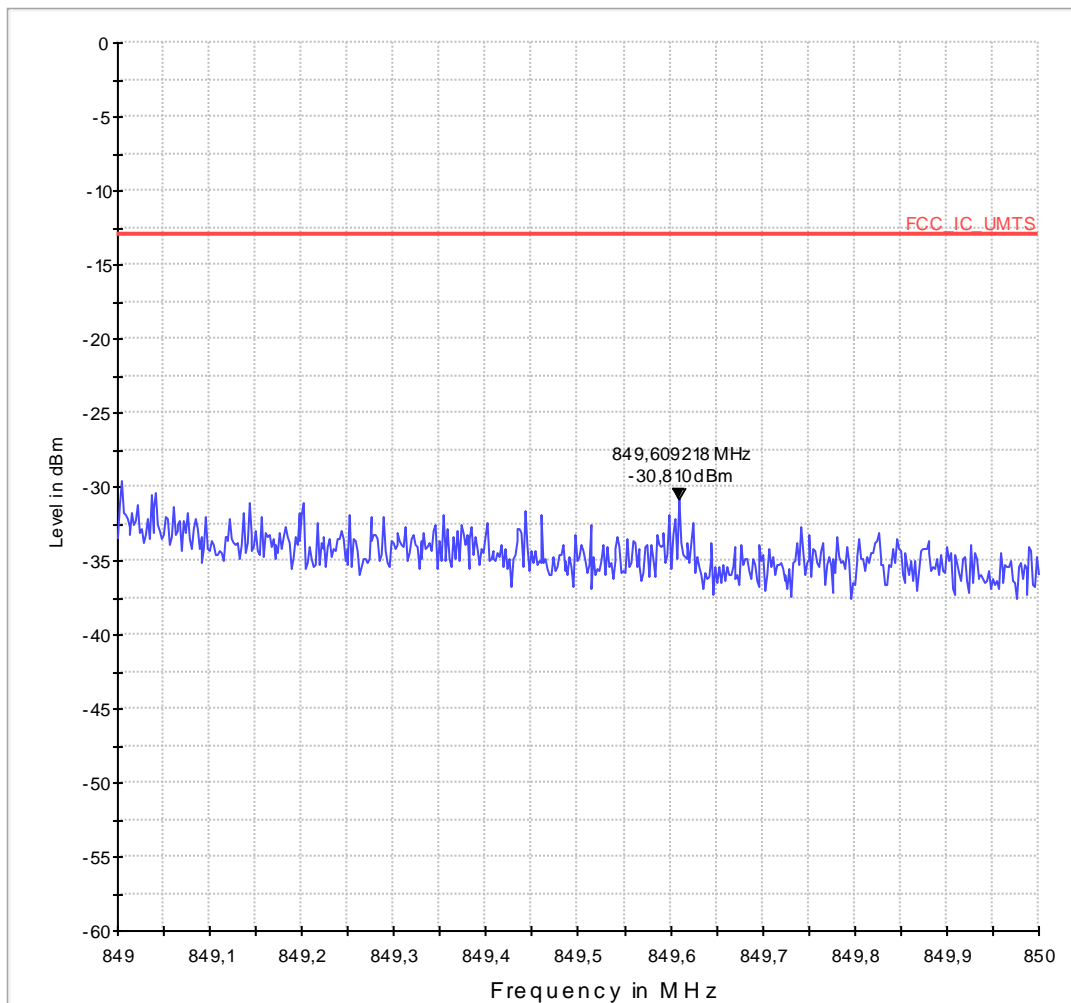
### Common Information

Test Description:	Band-Edge compliance radiated
Test Site:	FAR
Test Standard:	FCC Part 22, RSS-132
Antenna polarisation:	vertical / horizontal
Operation mode:	UE allocated high channel 4233 (fc = 846.6 MHz), RMC
Operator Name:	Tas
Comment:	6-0143-12-11-2a

### EUT Information

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	Taoglass antenna, Micro USB cable, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main
Comments:	SN 113

010413\_FCC\_Part22\_UMTS-FDDII\_TX\_channel\_4233\_band\_edge



## 2.6 E.I.R.P.(radiated) – FDD V Mode

### 8.04\_FDD V\_ERP\_RMC\_L

#### Common Information

Test Description:	ERP Measurement UMTS FDDV
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 22.913(2), RSS-132:4.4
Operating Mode:	UE allocated channel 4132 (fc = 826.4 MHz), RMc
Environmental Conditions:	Humidity: 50 %rH; Temperature: 20.2 °C
Operator:	Tas 6-0143-12-11-2a

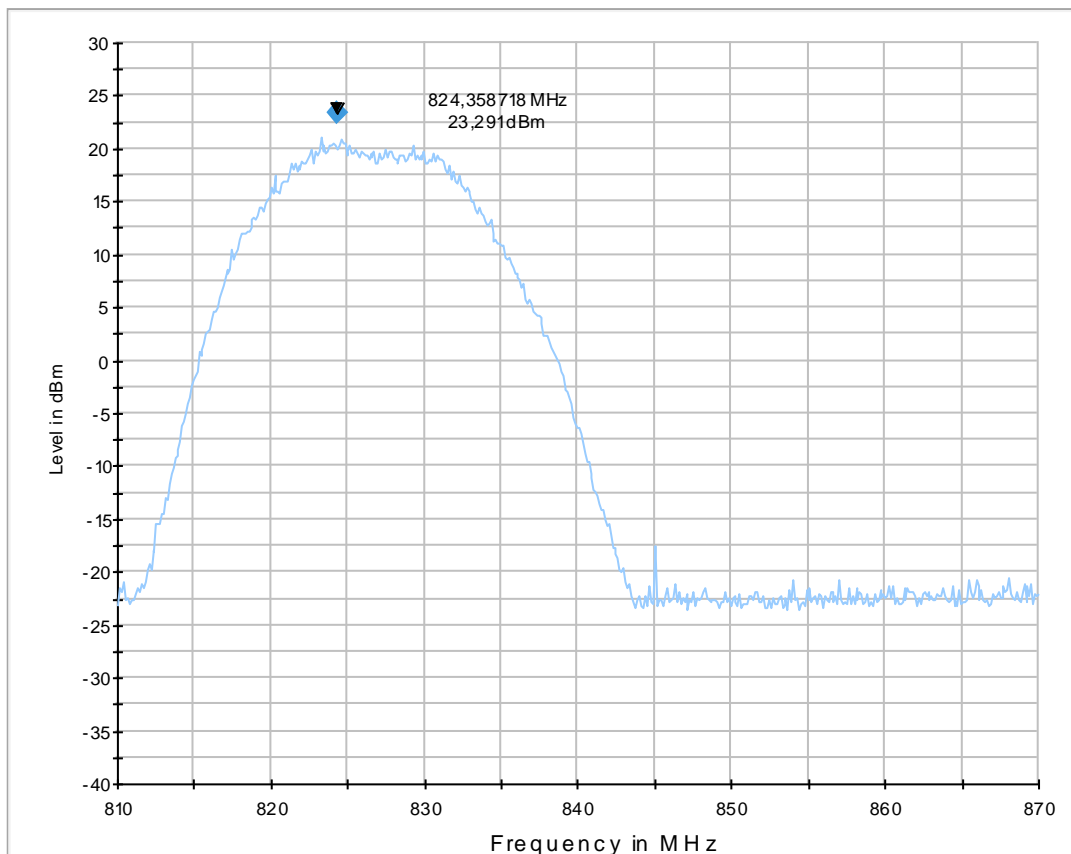
#### EUT Information

Manufacturer:	ublox AG
Model:	LISA-U260
Type:	GSM/FDD Module
-----	
EUT:	LISA-U260, RF Sample
HW version:	146AC0
FW version:	22.60
Serial number:	354235050002264
Connected Accessories:	Taoglass antenna, Micro USB cable, AC/DC Power Supply
Power Supply:	12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main
Comments:	SN 113

#### Final Result 1

Frequency (MHz)	MaxPeak (dBm)	Meas. Time (ms)	Bandwidth (kHz)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)
824.358718	23.3	10000.0	10000.000	H	85.0	0.0	-76.0

030421a\_FCC\_Part22\_UMTS-FDDV\_Carrier\_Ch4132\_RMC\_CMU\_RF2



## 8.05\_FDD V\_ERP\_RMC\_M

### Common Information

Test Description: ERP Measurement UMTS FDD V  
 Test Site Location: CETECOM GmbH Essen  
 Test Site: Fully Anechoic Room (FAR)  
 Test Standard: FCC Part 22.913(2), RSS-132:4.4  
 Operating Mode: UE allocated channel 4183 (fc = 836.6 MHz), RMC  
 Environmental Conditions: Humidity: 50 %rH; Temperature: 20.2 °C  
 Operator: Tas  
 6-0143-12-11-2a

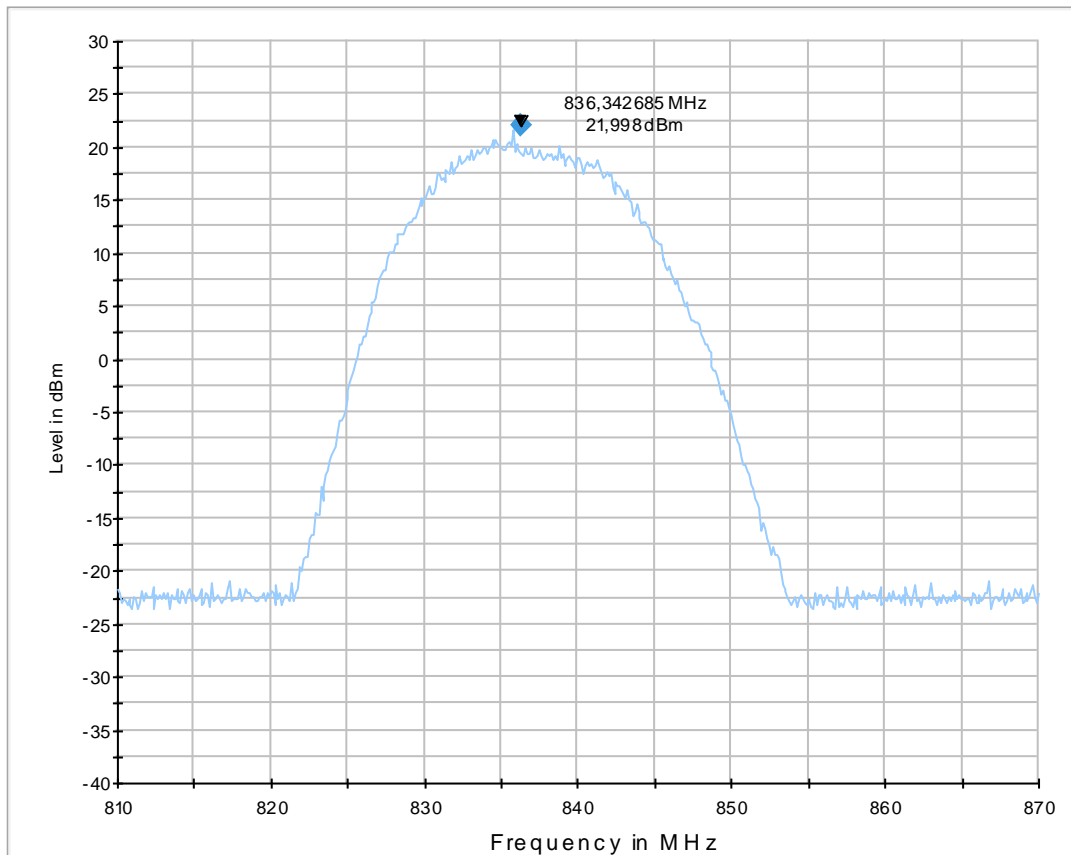
### EUT Information

Manufacturer: ublox AG  
 Model: LISA-U260  
 Type: GSM/FDD Module  
 -----  
 EUT: LISA-U260, RF Sample  
 HW version: 146AC0  
 FW version: 22.60  
 Serial number: 354235050002264  
 Connected Accessories: Taoglass antenna, Micro USB cable, AC/DC Power Supply  
 Power Supply: 12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main  
 Comments: SN 113

### Final Result 1

Frequency (MHz)	MaxPeak (dBm)	Meas. Time (ms)	Bandwidth (kHz)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)
836.342685	22.0	10000.0	10000.000	H	103.0	0.0	-75.9

030421b\_FCC\_Part22\_UMTS-FDD V\_Carrier\_Ch4183\_RMC\_CMU\_RF2



## 8.06\_FDD V\_ERP\_RMC\_H

### Common Information

Test Description: ERP Measurement UMTS FDD V  
 Test Site Location: CETECOM GmbH Essen  
 Test Site: Fully Anechoic Room (FAR)  
 Test Standard: FCC Part 22.913(2), RSS-132:4.4  
 Operating Mode: UE allocated channel 4233 (fc = 846.6 MHz), HSPA  
 Environmental Conditions: Humidity: 50 %rH; Temperature: 20.2 °C  
 Operator: Tas  
 6-0143-12-11-2a

### EUT Information

Manufacturer: ublox AG  
 Model: LISA-U260  
 Type: GSM/FDD Module

-----  
 EUT: LISA-U260, RF Sample  
 HW version: 146AC0  
 FW version: 22.60  
 Serial number: 354235050002264  
 Connected Accessories: Taoglass antenna, Micro USB cable, AC/DC Power Supply  
 Power Supply: 12VDC via AC/DC Power supply with 110VAC/ 60 Hz Main  
 Comments: SN 113

### Final Result 1

Frequency (MHz)	MaxPeak (dBm)	Meas. Time (ms)	Bandwidth (kHz)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)
844.599198	21.6	10000.0	10000.000	H	149.0	0.0	-76.0

030421b\_FCC\_Part22\_UMTS-FDD V\_Carrier\_Ch4233\_RMC\_CMU\_RF2

