

Annex 1: Measurement diagrams to TEST REPORT No.: 16-1-0019501T07a

According to:
FCC Regulations
Part 22, Part 24, Part 15C

IC-Regulations
RSS-132 Issue 3, RSS-133 Issue 6,
RSS-Gen Issue 4

for

u-Blox AG

GSM/W-CDMA Module SARA-U201

FCC-ID: XPY1CGM5NNN
IC: 8595A-1CGM5NNN
PMN: SARA-U201
HVIN: SARA-U201

Laboratory Accreditation and Listings			
 DAkks Deutsche Akkreditierungsstelle D-PL-12047-01-01	 FEDERAL COMMUNICATIONS COMMISSION FCC • USA • MRA US-EU 0003	 Industry Canada Reg. No.: 3462D-1 Reg. No.: 3462D-2 Reg. No.: 3462D-3	 Voluntary Controls for Electromagnetic Emissions Reg. No.: R-2666 C-2914, T-1967, G-301
 WiFi ALLIANCE AUTHORIZED RF LABORATORY	 ctia Authorized TM Test Lab Lab Code: 20011130-00		
accredited according to DIN EN ISO/IEC 17025			
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			

Table of contents

1. MEASUREMENT DIAGRAMS.....3

1.1. Magnetic field strength emissions measurements accord. §15.2093

1.2. Spurious emissions radiated (850 MHz transmitting mode).....9

1.3. Spurious emissions radiated (1900 MHz transmitting mode).....12

1.4. Radiated emissions on 850 MHz transmitting band-edge.....15

1.5. Radiated emissions on 1900 MHz transmitting band-edge.....17

1.6. Power Measurements and PAPR-Value21

1.7. 26dBc Emission bandwidth29

1.8. 99% Occupied bandwidth.....36

1.9. Spurious emissions conducted (850 MHz transmitting mode)42

1.10. Spurious emissions conducted (1900 MHz transmitting mode)48

1.11. Conducted emissions on 850 MHz transmitting band-edge.....51

1.12. Conducted emissions on 1900 MHz transmitting band-edge.....53

1. Measurement diagrams

1.1. Magnetic field strength emissions measurements accord. §15.209

Diagram No. 2.01_Channel_128

Date:	07.06.2016	Page 1 of 5
Test description:	Magnetic Field Strength Measurement related to 30/300 m distance	
Test site and distance:	Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance	
Version of Testsoftware:	EMC32 V9.25.0	
Distance correction:	used accord. table, pls. see test report	
Technical Data:	Please see page 2 for detailed data of measurement setup	
Rec. antenna (pre-scan):	height 1.00 m, parallel and 90° to EUT polarisation	
Used filter:	bypass	
Test specification:	FCC 15.205 § 15.209; RSS-Gen: Issue 4	
Operator:	AHo	
Operating conditions:	TX-on	
Power during tests:	3,8V DC, 120V/60Hz,	
Comment 1:	Channel low=128	
Comment 2:		

EUT Information

Manufacturer:	u-blox AG
Model:	SARA-U201
Type:	GSM/WCDMA module

EUT:	-
HW version:	261A01
SW version:	23.56
SVN:	-
Config:	-
Serial number:	357520070020959
Connected Interfaces:	Antenna GSATT1505001611 and Headset
Power Supply:	3.8V DC
Comments:	-

Full Spectrum

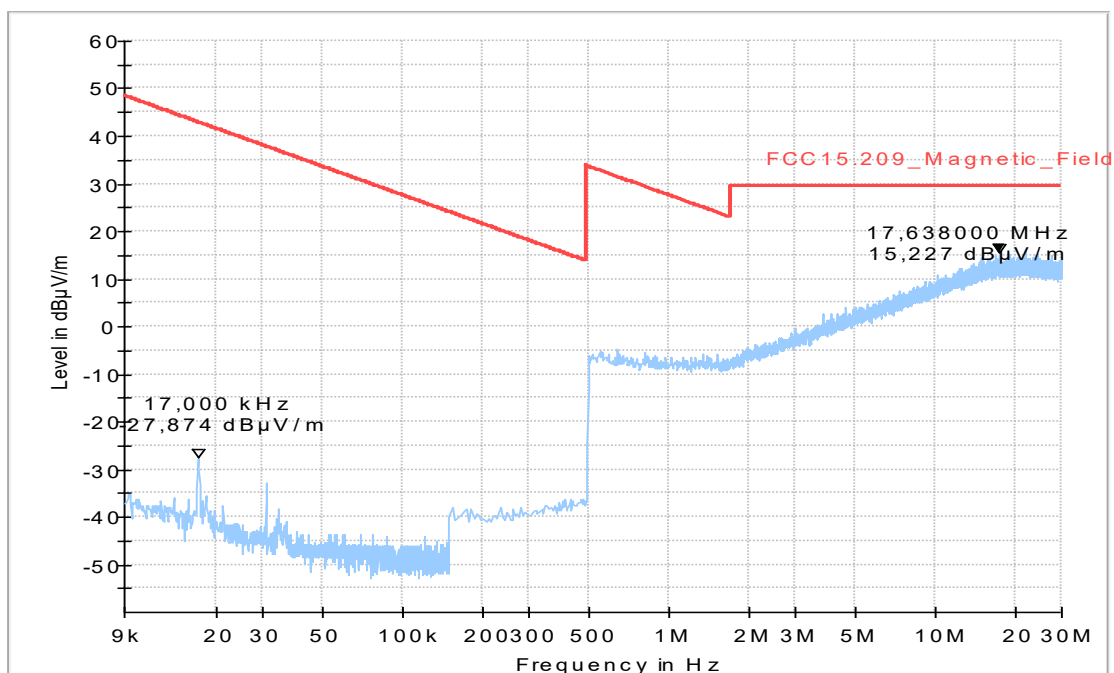


Diagram No. 2.02_V_Ch192

Date:	30.05.2016	Page 1 of 5
Test description:	Magnetic Field Strength Measurement related to 30/300 m distance	
Test site and distance:	Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance	
Version of Testsoftware:	EMC32 V9.25.0	
Distance correction:	used accord. table, pls. see test report	
Technical Data:	Please see page 2 for detailed data of measurement setup	
Rec. antenna (pre-scan):	height 1.00 m, parallel and 90° to EUT polarisation	
Used filter:	bypass	
Test specification:	FCC 15.205 § 15.209; RSS-Gen: Issue 4	
Operator:	Ase	
Operating conditions:	TX-on	
Power during tests:	12V DC, 3.8V DC	
Comment 1:	Channel middle=192	
Comment 2:	EUT vertical	

EUT Information

Manufacturer:	u-blox AG
Model:	SARA-U201
Type:	GSM/WCDMA module

EUT:	-
HW version:	261A01
SW version:	23.56
SVN:	-
Config:	-
Serial number:	357520070020959
Connected Interfaces:	Antenna GSATT1505001611 and Headset
Power Supply:	3.8V DC
Comments:	-

Full Spectrum

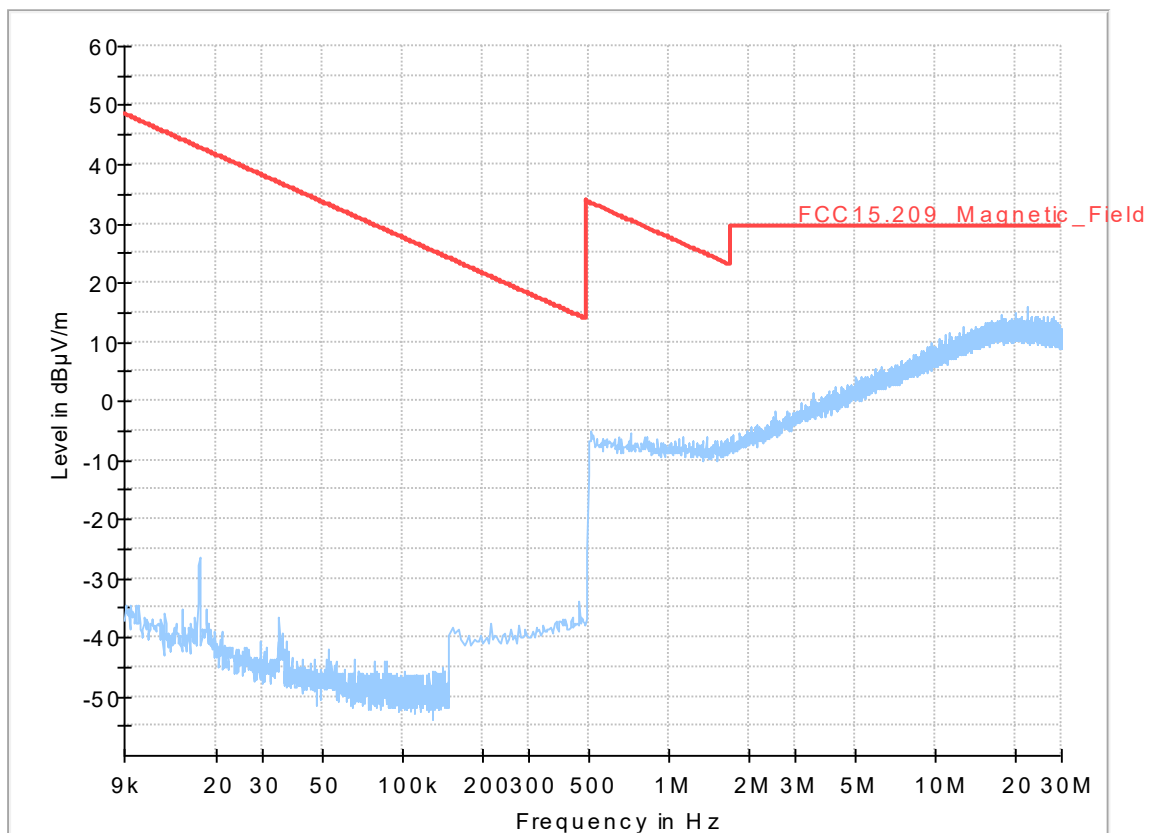


Diagram No. 2.03_V_Ch251

Date:	30.05.2016	Page 1 of 5
Test description:	Magnetic Field Strength Measurement related to 30/300 m distance	
Test site and distance:	Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance	
Version of Testsoftware:	EMC32 V9.25.0	
Distance correction:	used accord. table, pls. see test report	
Technical Data:	Please see page 2 for detailed data of measurement setup	
Rec. antenna (pre-scan):	height 1.00 m, parallel and 90° to EUT polarisation	
Used filter:	bypass	
Test specification:	FCC 15.205 § 15.209; RSS-Gen: Issue 4	
Operator:	Ase	
Operating conditions:	TX-on	
Power during tests:	12V DC, 3.8V DC	
Comment 1:	Channel high =251	
Comment 2:	EUT vertical	

EUT Information

Manufacturer:	u-blox AG
Model:	SARA-U201
Type:	GSM/WCDMA module

EUT:	-
HW version:	261A01
SW version:	23.56
SVN:	-
Config:	-
Serial number:	357520070020959
Connected Interfaces:	Antenna GSATT1505001611 and Headset
Power Supply:	3.8V DC
Comments:	-

Full Spectrum

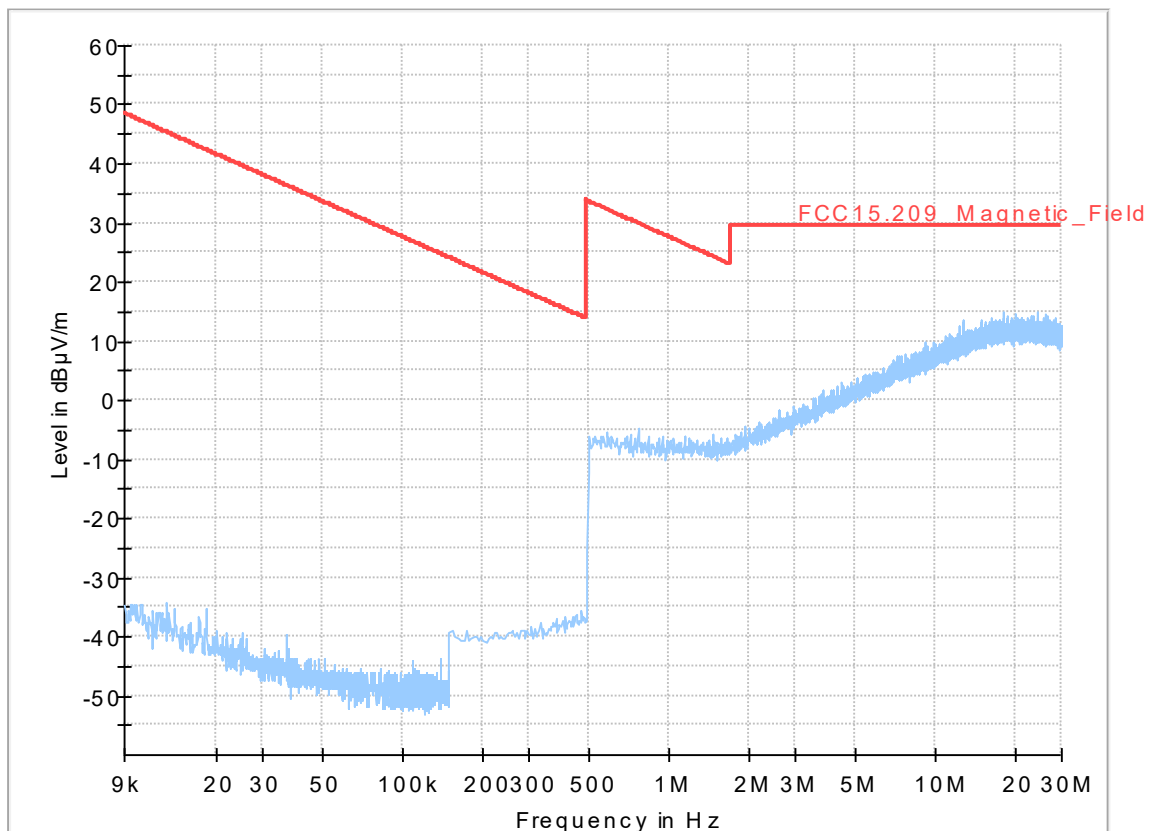


Diagram No. 2.23_Channel_512

Test description: Magnetic Field Strength Measurement related to 30/300 m distance
Test site and distance: Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance
Version of Testsoftware: EMC32 V9.25.0
Distance correction: used accord. table, pls. see test report
Technical Data: Please see page 2 for detailed data of measurement setup
Rec. antenna (pre-scan): height 1.00 m, parallel and 90° to EUT polarisation
Used filter: bypass
Test specification: FCC 15.205 § 15.209; RSS-Gen: Issue 4

Operator: AHo
Operating conditions: TX-on
Power during tests: 3,8V DC, 120V/60Hz,
Comment 1: Channel 512
Comment 2:

EUT Information

Manufacturer: u-blox AG
Model: SARA-U201
Type: GSM/WCDMA module

EUT: -
HW version: 261A01
SW version: 23.56
SVN: -
Config: -
Serial number: 357520070020959
Connected Interfaces: Antenna GSATT1505001611 and Headset
Power Supply: 3.8V DC
Comments: -

Full Spectrum

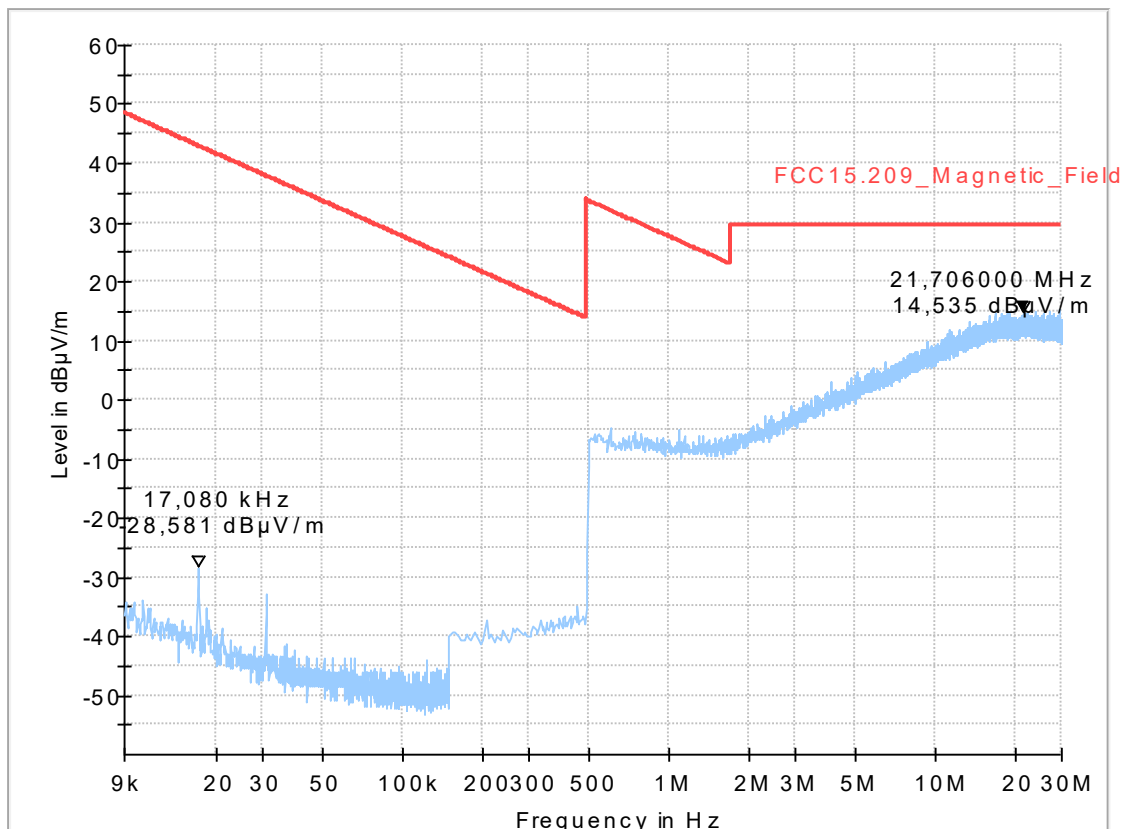


Diagram No. 2.24_Channel_661

Date: 07.06.2016 Page 1 of 5
Test description: Magnetic Field Strength Measurement related to 30/300 m distance
Test site and distance: Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance
Version of Testsoftware: EMC32 V9.25.0
Distance correction: used accord. table, pls. see test report
Technical Data: Please see page 2 for detailed data of measurement setup
Rec. antenna (pre-scan): height 1.00 m, parallel and 90° to EUT polarisation
Used filter: bypass
Test specification: FCC 15.205 § 15.209; RSS-Gen: Issue 4

Operator: AHo
Operating conditions: TX-on
Power during tests: 3,8V DC, 120V/60Hz,
Comment 1: Channel 661
Comment 2:

EUT Information

Manufacturer: u-blox AG
Model: SARA-U201
Type: GSM/WCDMA module

EUT: -
HW version: 261A01
SW version: 23.56
SVN: -
Config: -
Serial number: 357520070020959
Connected Interfaces: Antenna GSATT1505001611 and Headset
Power Supply: 3.8V DC
Comments: -

Full Spectrum

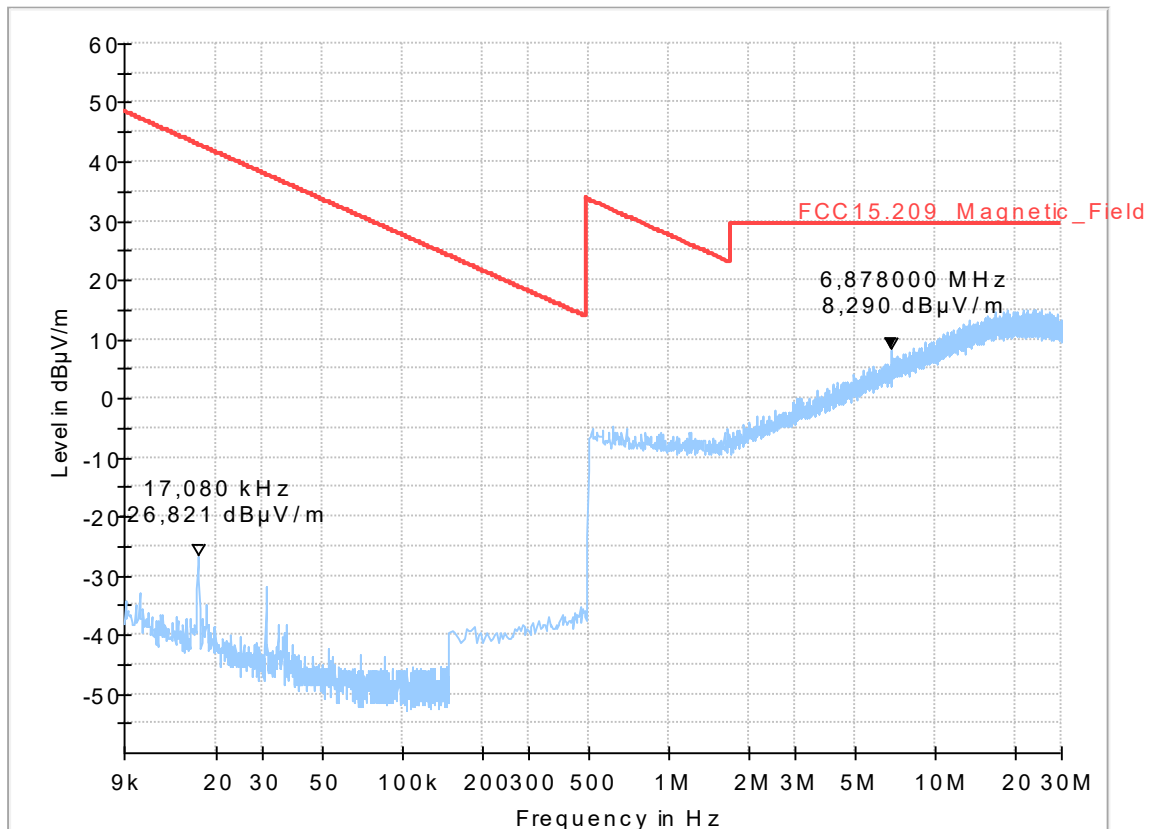


Diagram No. 2.25_Channel_810

Test description:
Test site and distance:
Version of Testsoftware:
Distance correction:
Technical Data:
Rec. antenna (pre-scan):
Used filter:
Test specification:

Date: 07.06.2016 Page 1 of 5
Magnetic Field Strength Measurement related to 30/300 m distance
Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance
EMC32 V9.25.0
used accord. table, pls. see test report
Please see page 2 for detailed data of measurement setup
height 1.00 m, parallel and 90° to EUT polarisation
bypass
FCC 15.205 § 15.209; RSS-Gen: Issue 4

Operator:
Operating conditions:
Power during tests:
Comment 1:
Comment 2:

AHo
TX-on
3,8V DC, 120V/60Hz,
Channel 810

EUT Information

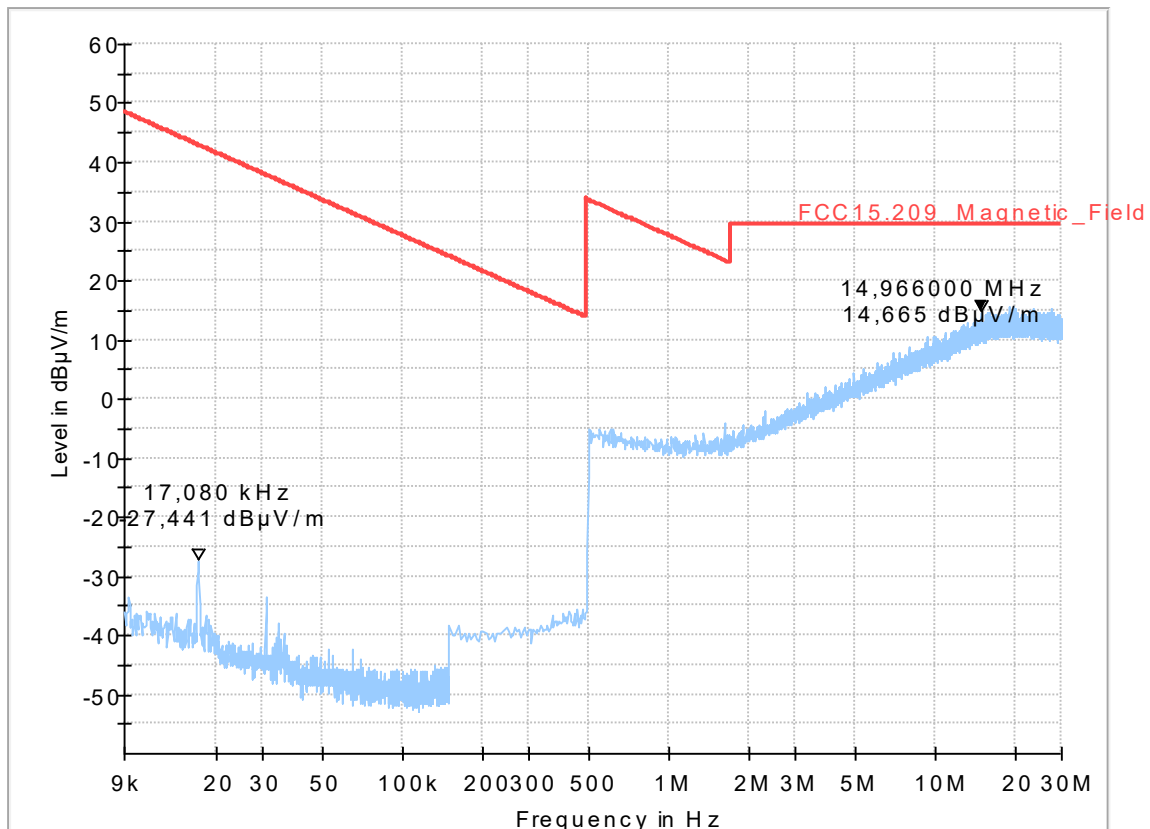
Manufacturer:
Model:
Type:

u-blox AG
SARA-U201
GSM/WCDMA module

EUT:
HW version:
SW version:
SVN:
Config:
Serial number:
Connected Interfaces:
Power Supply:
Comments:

-
261A01
23.56
-
-
357520070020959
Antenna GSATT1505001611 and Headset
3.8V DC
-

Full Spectrum



1.2. Spurious emissions radiated (850 MHz transmitting mode)

Diagram 8.04_RSE_R_Ch128_GPRS

Common Information

Test Description:	Radiated Emissions GSM850
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR) - EMC32 V9.26.0
Test Standard:	FCC Part22.917/RSS-132
Test Case:	-
Operating Mode:	MS allocated UL channel 128
Exclusionband:	824 - 849MHz
Environmental Conditions:	Humidity: 50%rH; Temperature: 22°C
Operator:	AHo

EUT Information

Manufacturer:	u-blox AG
Model:	SARA-U201
Type:	GSM/WCDMA module
EUT:	-
HW version:	261A01
SW version:	23.56
SVN:	-
Config:	-
Serial number:	357520070020959
Connected Interfaces:	Antenna GSATT1505001611 and Headset
Power Supply:	3.8V DC
Comments:	-

Full Spectrum

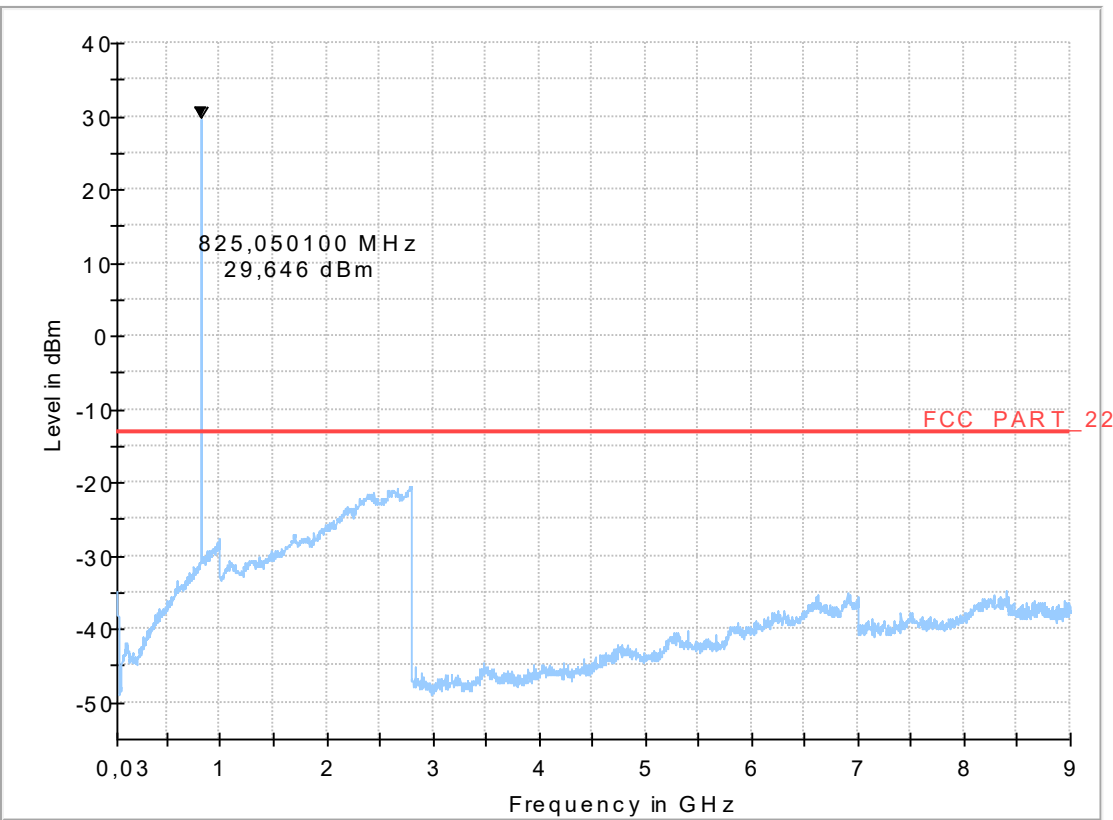


Diagram 8.05_RSE_R_Ch192_GPRS

Common Information

Test Description:	Radiated Emissions GSM850
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part22.917/RSS-132
Test Case:	-
Operating Mode:	MS allocated UL channel 192
Exclusionband:	824 - 849MHz
Environmental Conditions:	Humidity: 50%rH; Temperature: 22°C
Operator:	Aho

EUT Information

Manufacturer:	u-blox AG
Model:	SARA-U201
Type:	GSM/WCDMA module
EUT:	-
HW version:	261A01
SW version:	23.56
SVN:	-
Config:	-
Serial number:	357520070020959
Connected Interfaces:	Antenna GSATT1505001611 and Headset
Power Supply:	3.8V DC
Comments:	-

Full Spectrum

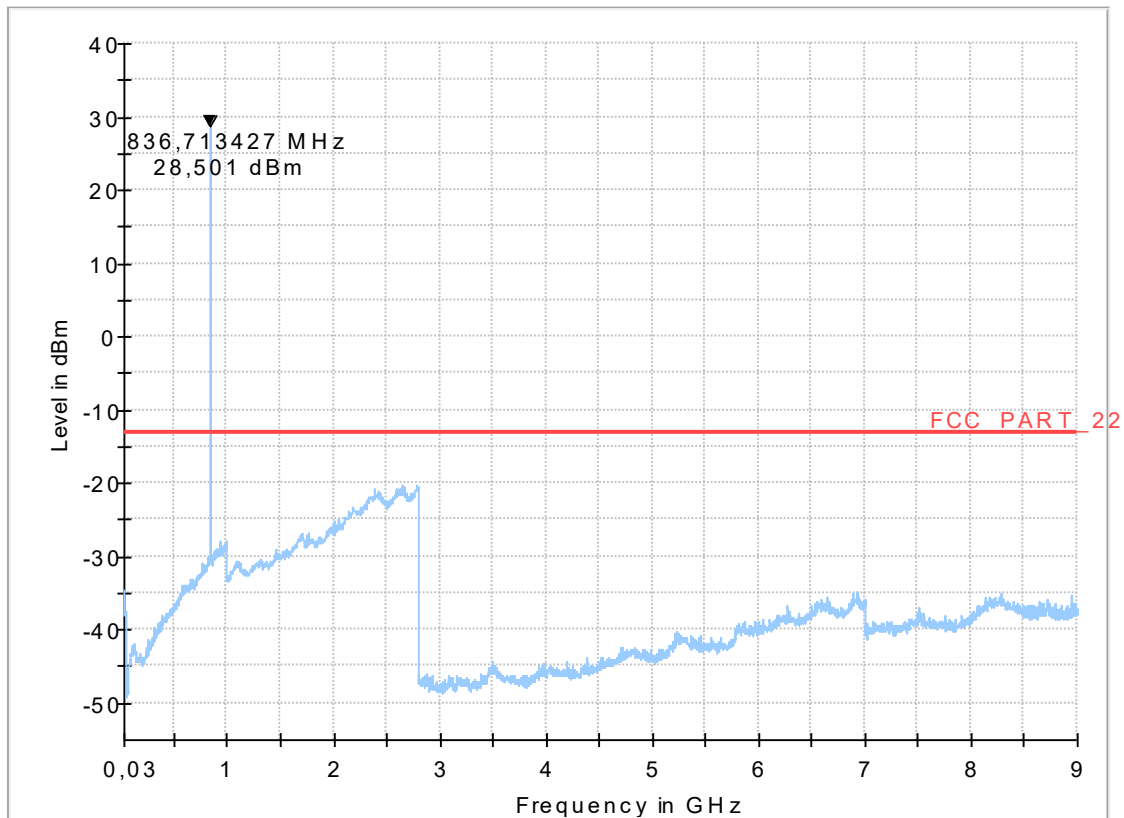


Diagram 8.06_RSE_R_Ch251_GPRS

Common Information

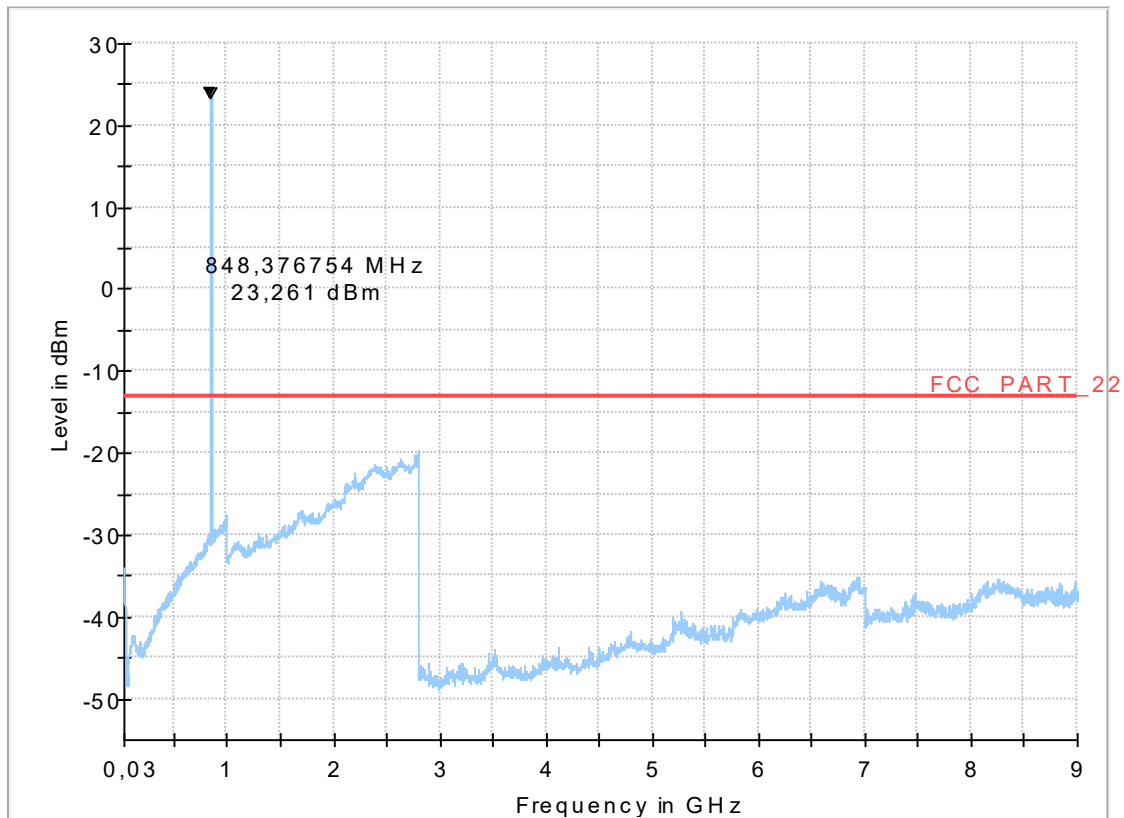
Test Description:	Radiated Emissions GSM850
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR) - EMC32 V9.26.0
Test Standard:	FCC Part22.917/RSS-132
Test Case:	-
Operating Mode:	MS allocated UL channel 251
Exclusionband:	824 - 849MHz
Environmental Conditions:	Humidity: 50%rH; Temperature: 22°C
Operator:	AHo

EUT Information

Manufacturer:	u-blox AG
Model:	SARA-U201
Type:	GSM/WCDMA module

EUT:	-
HW version:	261A01
SW version:	23.56
SVN:	-
Config:	-
Serial number:	357520070020959
Connected Interfaces:	Antenna GSATT1505001611 and Headset
Power Supply:	3.8V DC
Comments:	-

Full Spectrum



1.3. Spurious emissions radiated (1900 MHz transmitting mode)

Diagram 8.13_RSE_R_Ch512_GPRS

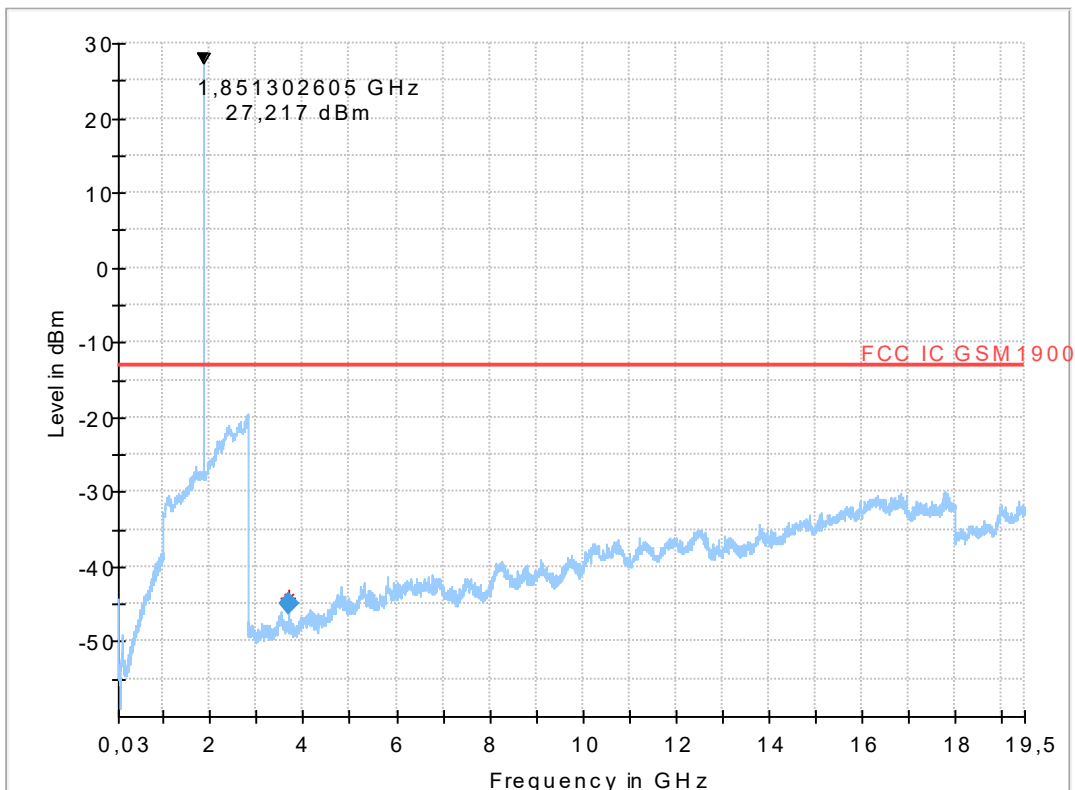
Common Information

Test Description:	Radiated Emissions GSM850
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR) - EMC32 V9.26.0
Test Standard:	FCC Part24.238
Test Case:	-
Operating Mode:	MS allocated UL channel 512
Exclusionband:	1850 - 1910MHz
Environmental Conditions:	Humidity: 50%rH; Temperature: 22°C
Operator:	AHo

EUT Information

Manufacturer:	u-blox AG
Model:	SARA-U201
Type:	GSM/WCDMA module
EUT:	-
HW version:	261A01
SW version:	23.56
SVN:	-
Config:	-
Serial number:	357520070020959
Connected Interfaces:	Antenna GSATT1505001611 and Headset
Power Supply:	3.8V DC
Comments:	-

Full Spectrum



Final Result

Frequency (MHz)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
3700.245491	-13.00	31.96	1000.0	H	275.0	90.0	-94.9

Diagram 8.14_RSE_R_Ch661_GPRS

Common Information

Test Description:	Radiated Emissions GSM850
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR) - EMC32 V9.26.0
Test Standard:	FCC Part24.238
Test Case:	-
Operating Mode:	MS allocated UL channel 661
Exclusionband:	1850 - 1910MHz
Environmental Conditions:	Humidity: 50%rH; Temperature: 22°C
Operator:	AHo

EUT Information

Manufacturer:	u-blox AG
Model:	SARA-U201
Type:	GSM/WCDMA module

EUT:	-
HW version:	261A01
SW version:	23.56
SVN:	-
Config:	-
Serial number:	357520070020959
Connected Interfaces:	Antenna GSATT1505001611 and Headset
Power Supply:	3.8V DC
Comments:	-

Full Spectrum

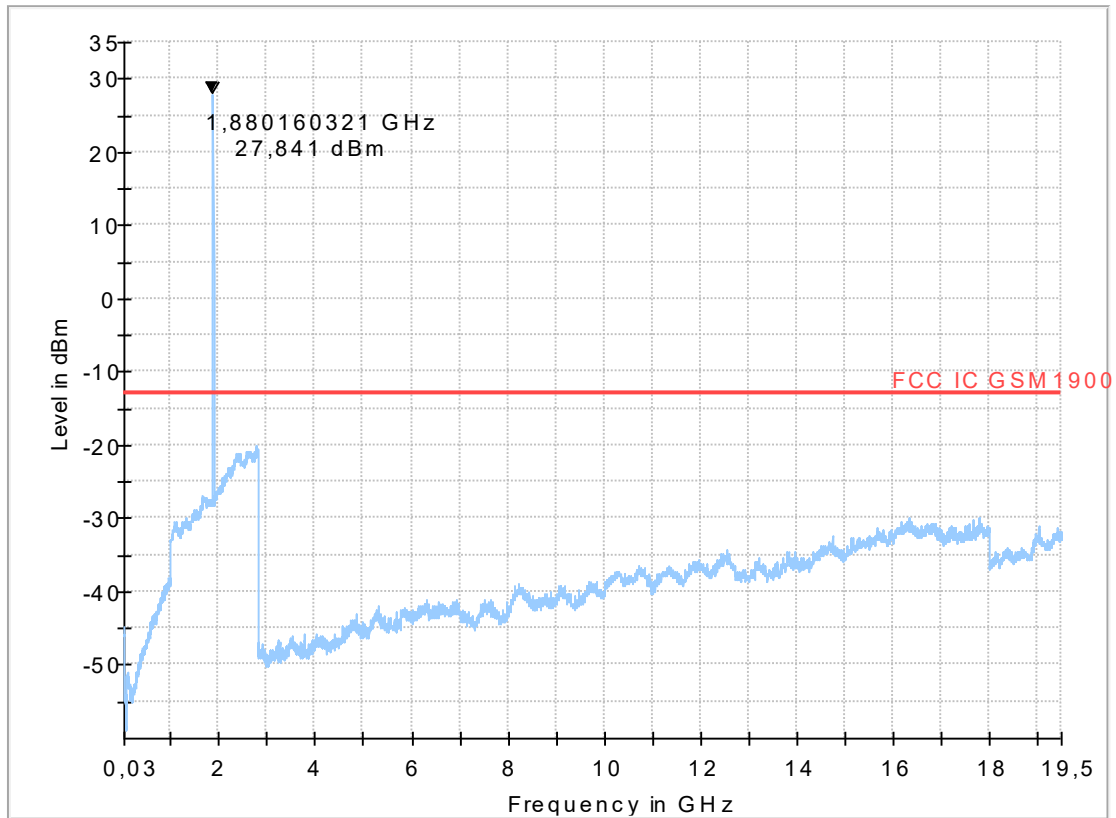


Diagram 8.15_RSE_R_Ch810_GPRS

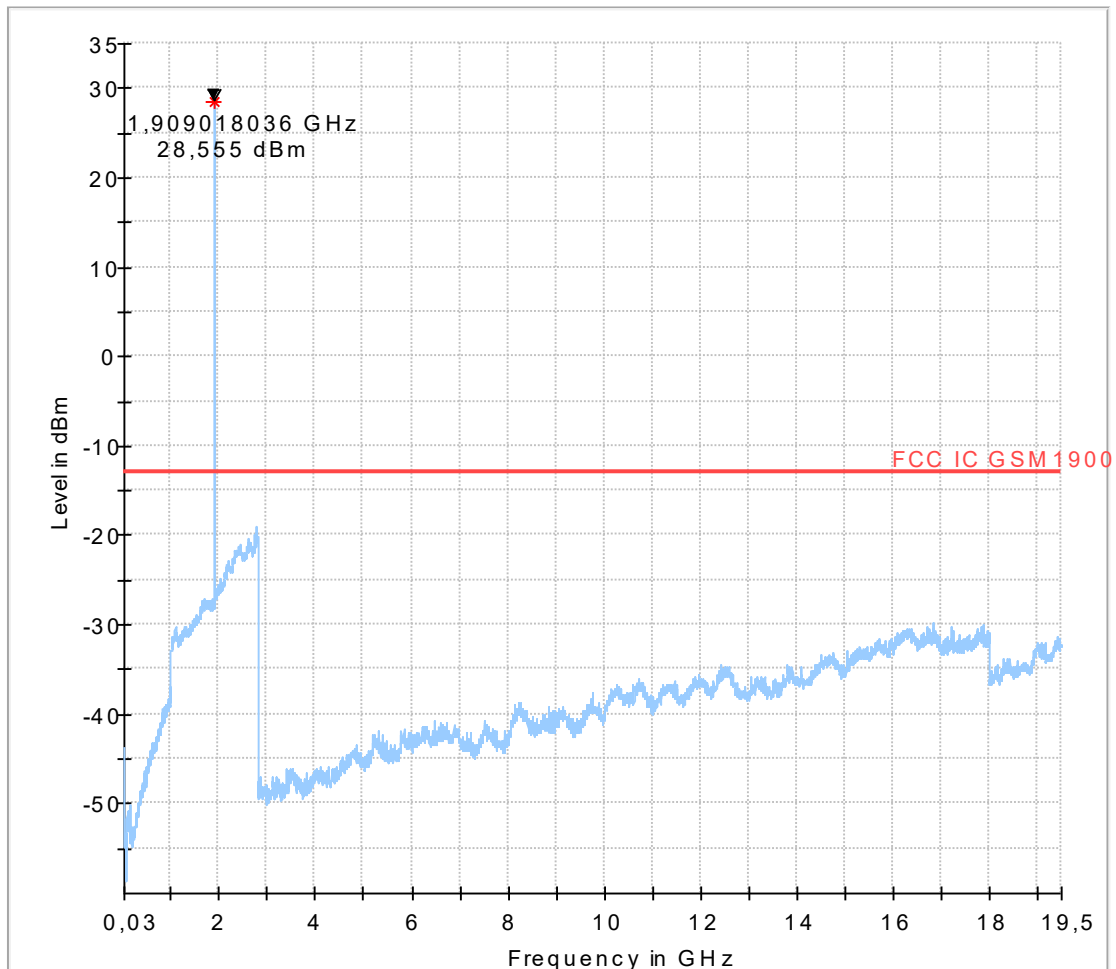
Common Information

Test Description:	Radiated Spurious Emissions GSM1900
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR) - EMC32 V9.26.0
Test Standard:	FCC Part24.238
Test Case:	-
Operating Mode:	MS allocated UL channel 810
Exclusionband:	1850 - 1910MHz
Environmental Conditions:	Humidity: 50%rH; Temperature: 22°C
Operator:	AHo

EUT Information

Manufacturer:	u-blox AG
Model:	SARA-U201
Type:	GSM/WCDMA module
EUT:	-
HW version:	261A01
SW version:	23.56
SVN:	-
Config:	-
Serial number:	357520070020959
Connected Interfaces:	Antenna GSATT1505001611 and Headset
Power Supply:	3.8V DC
Comments:	-

Full Spectrum



1.4. Radiated emissions on 850 MHz transmitting band-edge

Diagram: 9.03_RSE_R_Ch128_GPRS

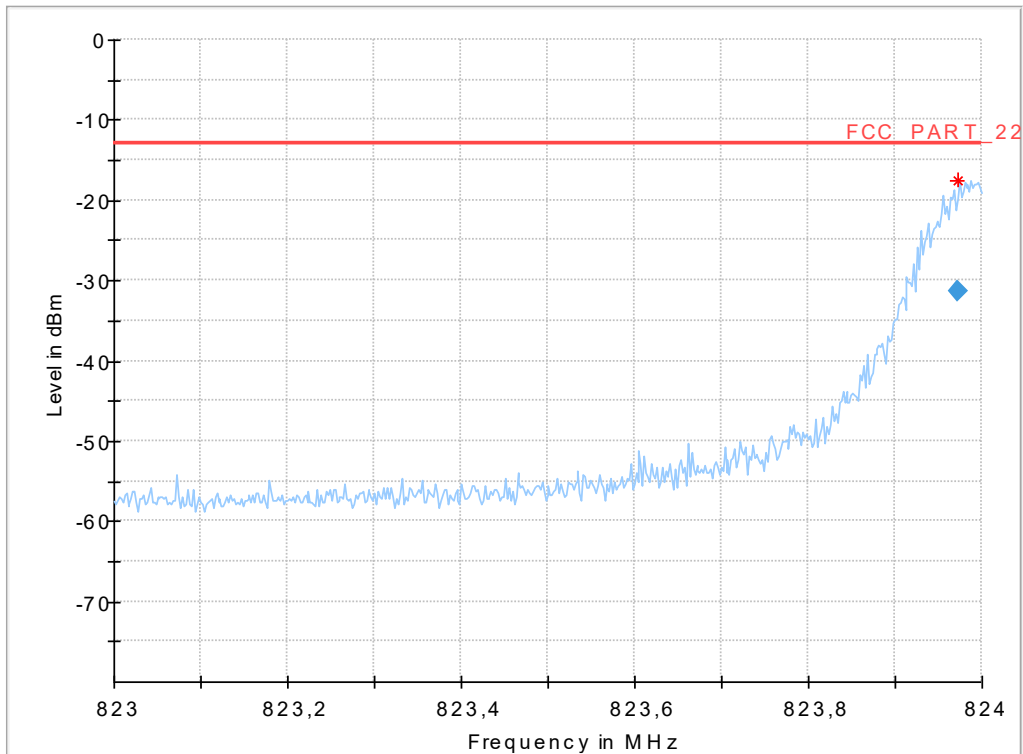
Common Information

Test Description:	Radiated Band Edge Compliance GSM850
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR) - EMC32 V9.26.0
Test Standard:	FCC Part22.917/RSS-132
Operating Mode:	MS allocated channel 128 (fc = 824.2MHz), Voice, PCL5 (+33dBm)
Exclusionband:	824 - 849MHz
Environmental Conditions:	Humidity: 49%rH; Temperature: 23°C
Operator:	AHo

EUT Information

Manufacturer:	u-blox AG
Model:	SARA-U201
Type:	GSM/WCDMA module
EUT:	-
HW version:	261A01
SW version:	23.56
SVN:	-
Config:	-
Serial number:	357520070020959
Connected Interfaces:	Antenna GSATT1505001611 and Headset
Power Supply:	3.8V DC
Comments:	-

Full Spectrum



Final Result

Frequency (MHz)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
823.971944	-13.00	18.29	10000.0	H	154.0	0.0	-75.8

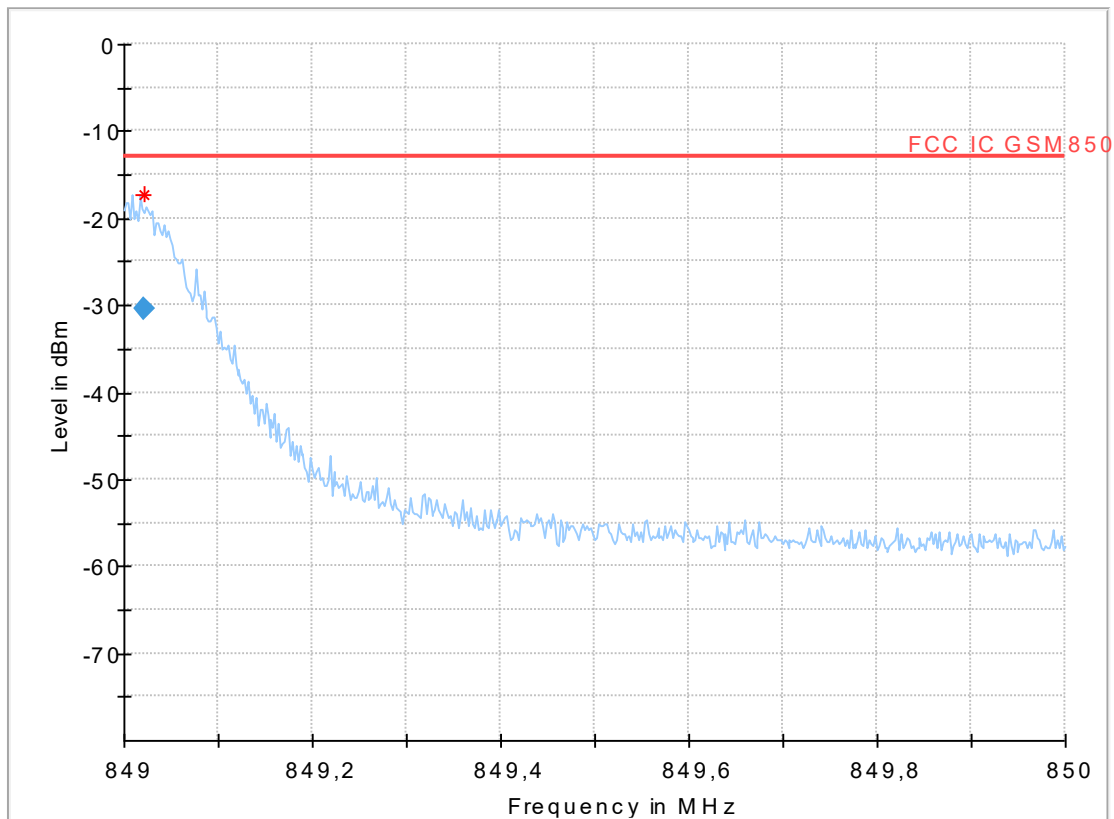
Diagram 9.04_RSE_R_Ch251_GPRS**Common Information**

Test Description:	Radiated Band Edge Compliance GSM850
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part22.917/RSS-132
Operating Mode:	MS allocated channel 251 (fc = 848.8MHz), Voice, PCL0 (+33dBm)
Exclusionband:	824 - 849MHz
Environmental Conditions:	Humidity: 49%rH; Temperature: 23°C
Operator:	AHo

EUT Information

Manufacturer:	u-blox AG
Model:	SARA-U201
Type:	GSM/WCDMA module

EUT:	-
HW version:	261A01
SW version:	23.56
SVN:	-
Config:	-
Serial number:	357520070020959
Connected Interfaces:	Antenna GSATT1505001611 and Headset
Power Supply:	3.8V DC
Comments:	-

Full Spectrum**Final Result**

Frequency (MHz)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
849.022044	-13.00	17.39	10000.0	H	220.0	0.0	-76.0

1.5. Radiated emissions on 1900 MHz transmitting band-edge

Diagram 9.09_BE_R_Ch512_GPRS_1900

Common Information

Test Description:	Radiated Spurious Emissions GSM1900
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part22.917 / RSS-133
Comm. Link:	GSM1900, Voice/EDGE
Operating Mode:	MS allocated channel 512 (UL = 1850.2MHz)
Exclusionband:	1850- 1910MHz
Environmental Conditions:	Humidity: 61%rH; Temperature: 22°C
Operator:	Ris

EUT Information

Manufacturer:	u-blox AG
Model:	SARA-U201
Type:	GSM/WCDMA module
EUT:	-
HW version:	261A01
SW version:	23.56
SVN:	-
Config:	-
Serial number:	357520070020959
Connected Interfaces:	Antenna GSATT1505001611 and Headset
Power Supply:	3.8V DC
Comments:	-

Full Spectrum

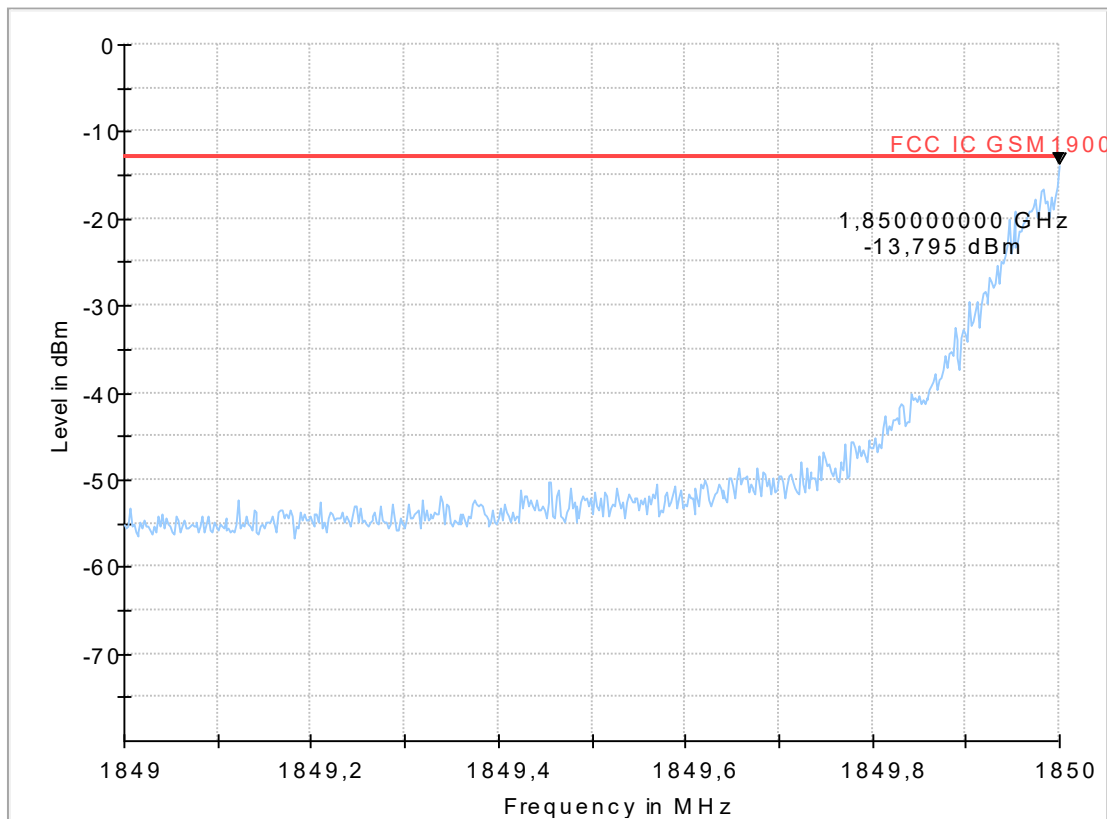


Diagram 9.10_BE_R_Ch810_GPRS_1900

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
Comm. Link:	GSM1900, Voice/EDGE
Operating Mode:	MS allocated channel 810 (UL = 1909.8MHz)
Exclusionband:	1850- 1910MHz
Environmental Conditions:	Humidity: 61%RH; Temperature: 22°C
Operator:	RLs

EUT Information

Manufacturer:	u-blox AG
Model:	SARA-U201
Type:	GSM/WCDMA module

EUT:	-
HW version:	261A01
SW version:	23.56
SVN:	-
Config:	-
Serial number:	357520070020959
Connected Interfaces:	Antenna GSATT1505001611 and Headset
Power Supply:	3.8V DC
Comments:	-

Full Spectrum

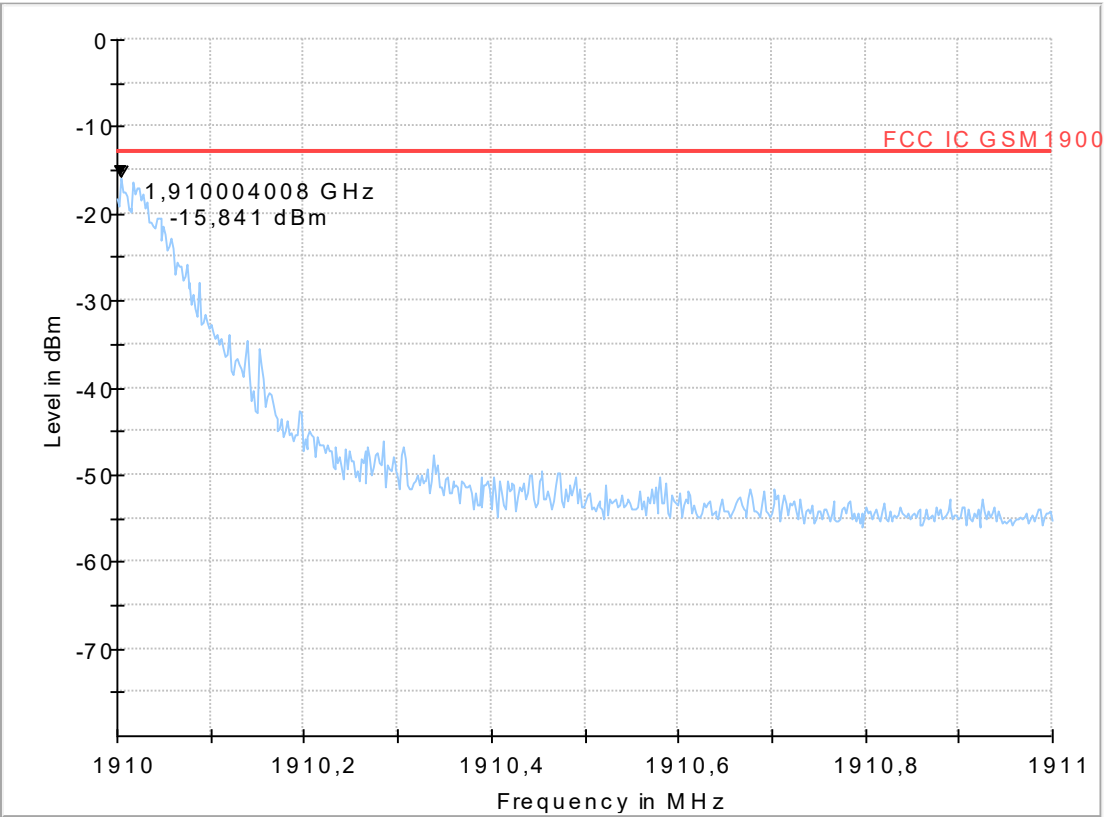


Diagram 9.11_BE_R_Ch512_EGPRS

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
Comm. Link:	EGPRS
Operating Mode:	MS allocated channel 512 (UL = 1850.2MHz)
Exclusionband:	1850- 1910MHz
Environmental Conditions:	Humidity: 59%rH; Temperature: 22°C
Operator:	RLs

EUT Information

Manufacturer:	u-blox AG
Model:	SARA-U201
Type:	GSM/WCDMA module

EUT:	-
HW version:	261A01
SW version:	23.56
SVN:	-
Config:	-
Serial number:	357520070020959
Connected Interfaces:	Antenna GSATT1505001611 and Headset
Power Supply:	3.8V DC
Comments:	-

Full Spectrum

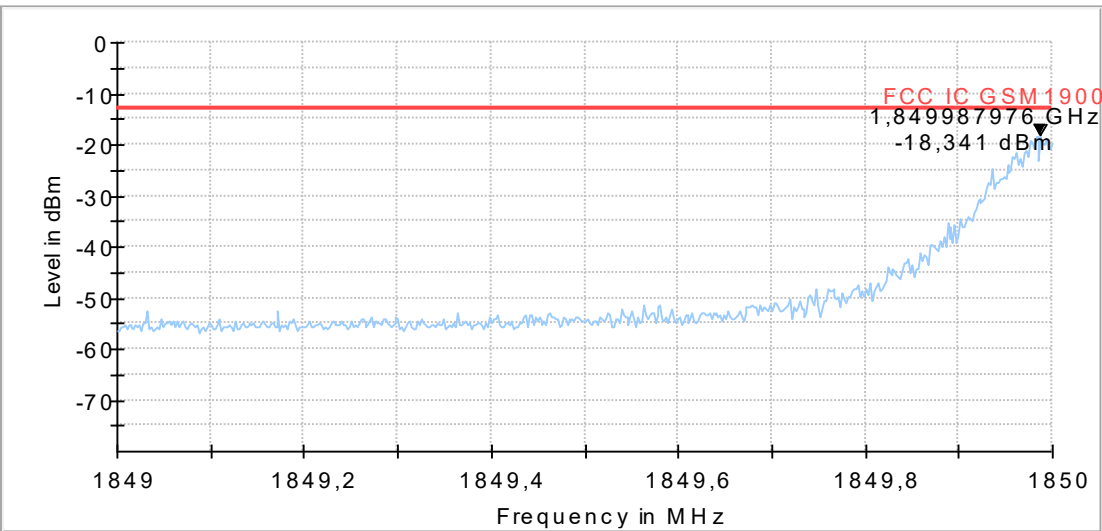


Diagramm 9.12_BE_R_Ch810_EGPRS

Common Information

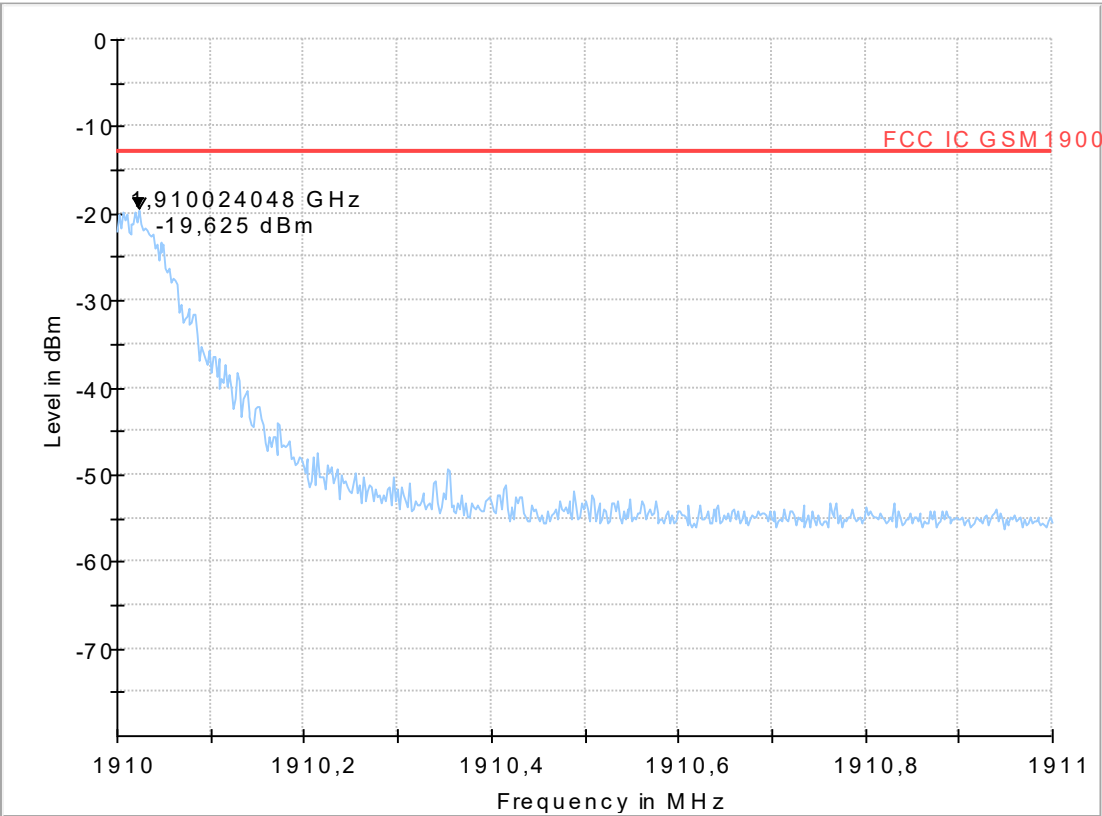
Test Description:	Radiated Spurious Emissions GSM1900
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 24.238
Comm. Link:	EGPRS
Operating Mode:	MS allocated channel 810 (UL = 1909.8MHz)
Exclusionband:	1850- 1910MHz
Environmental Conditions:	Humidity: 60%rH; Temperature: 22°C
Operator:	RLs

EUT Information

Manufacturer:	u-blox AG
Model:	SARA-U201
Type:	GSM/WCDMA module

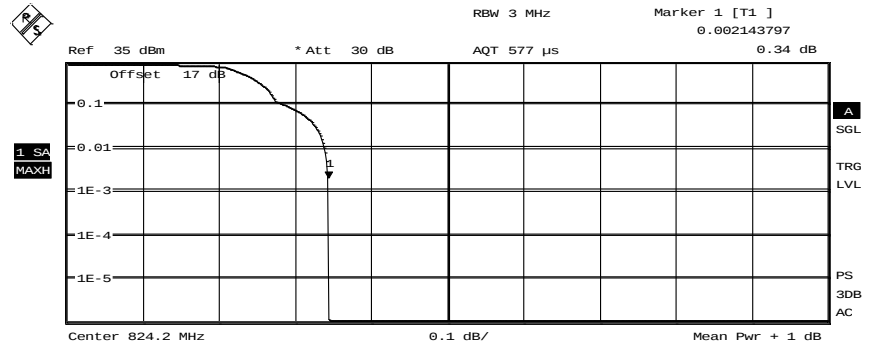
EUT:	-
HW version:	261A01
SW version:	23.56
SVN:	-
Config:	-
Serial number:	357520070020959
Connected Interfaces:	Antenna GSATT1505001611 and Headset
Power Supply:	3.8V DC
Comments:	-

Full Spectrum



1.6. Power Measurements and PAPR-Value

1.6.1. GSM 850 (GMSK Modulation)



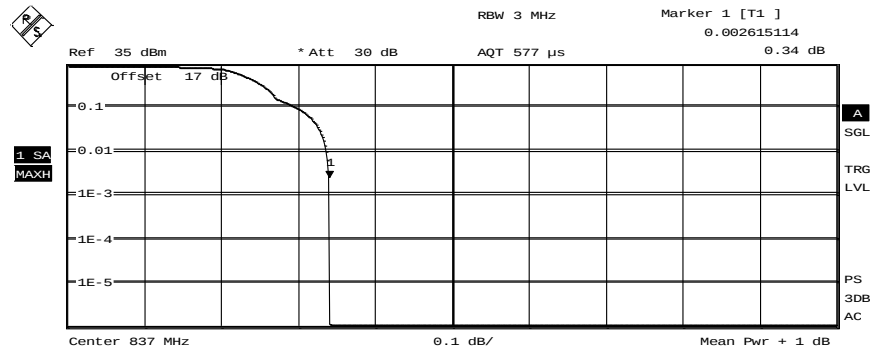
Complementary Cumulative Distribution Function
NOF samples: 2308, Usable BW: 3.5MHz

Trace 1
Mean 32.59 dBm
Peak 32.93 dBm
Crest 0.34 dB

10 % 0.29 dB
1 % 0.34 dB
.1 % 0.34 dB
.01 % 0.34 dB

Date: 15.JUN.2016 14:19:06

Channel 128



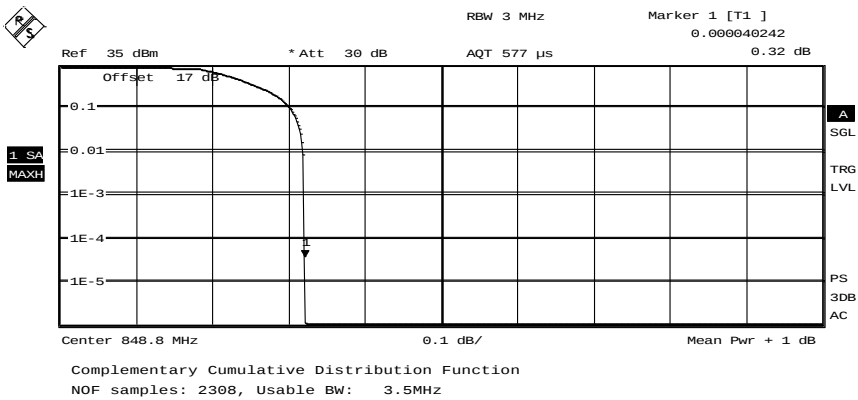
Complementary Cumulative Distribution Function
NOF samples: 2308, Usable BW: 3.5MHz

Trace 1
Mean 32.66 dBm
Peak 33.00 dBm
Crest 0.34 dB

10 % 0.30 dB
1 % 0.34 dB
.1 % 0.34 dB
.01 % 0.34 dB

Date: 15.JUN.2016 14:18:21

Channel 192

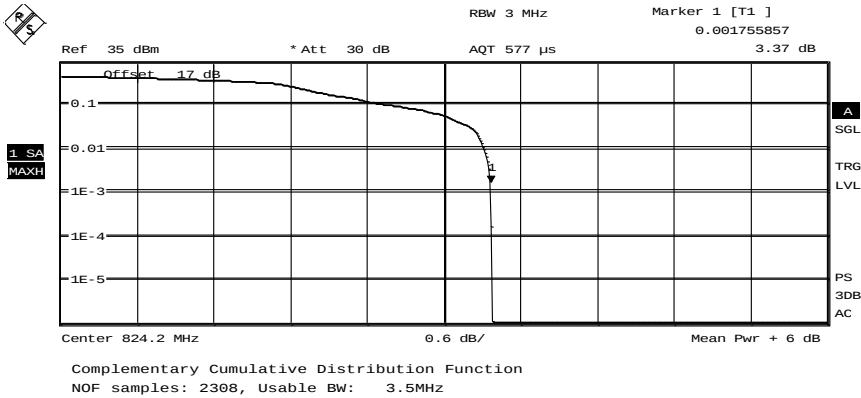


Trace 1	
Mean	32.82 dBm
Peak	33.14 dBm
Crest	0.32 dB
10 %	0.30 dB
1 %	0.32 dB
.1 %	0.32 dB
.01 %	0.32 dB

Date: 15.JUN.2016 14:17:50

Channel 251

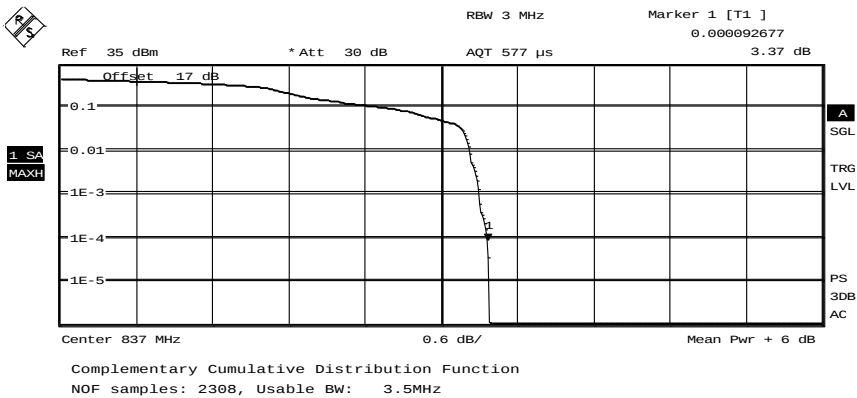
1.6.2. GSM 850 (8-PSK Modulation)



Trace 1	
Mean	26.81 dBm
Peak	30.18 dBm
Crest	3.37 dB
10 %	2.63 dB
1 %	3.32 dB
.1 %	3.37 dB
.01 %	3.38 dB

Date: 15.JUN.2016 14:11:49

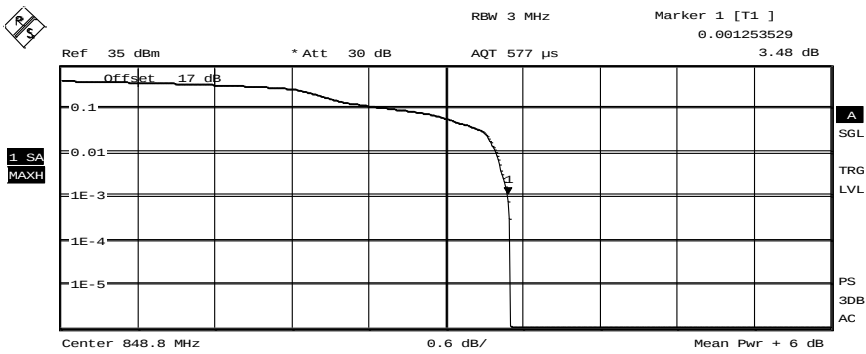
Channel 128



Trace 1	
Mean	27.02 dBm
Peak	30.39 dBm
Crest	3.38 dB
10 %	2.61 dB
1 %	3.23 dB
.1 %	3.30 dB
.01 %	3.37 dB

Date: 15.JUN.2016 14:12:44

Channel 192



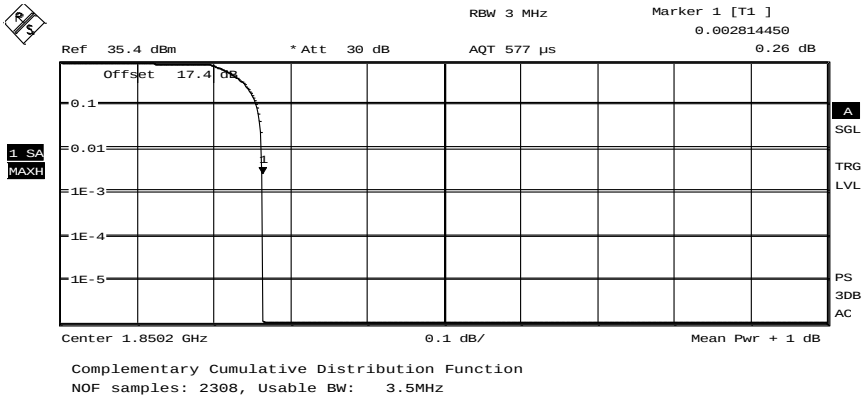
Complementary Cumulative Distribution Function
NOF samples: 2308, Usable BW: 3.5MHz

Trace 1	
Mean	26.96 dBm
Peak	30.46 dBm
Crest	3.50 dB
10 %	2.64 dB
1 %	3.39 dB
.1 %	3.49 dB
.01 %	3.51 dB

Date: 15.JUN.2016 14:13:58

Channel 251

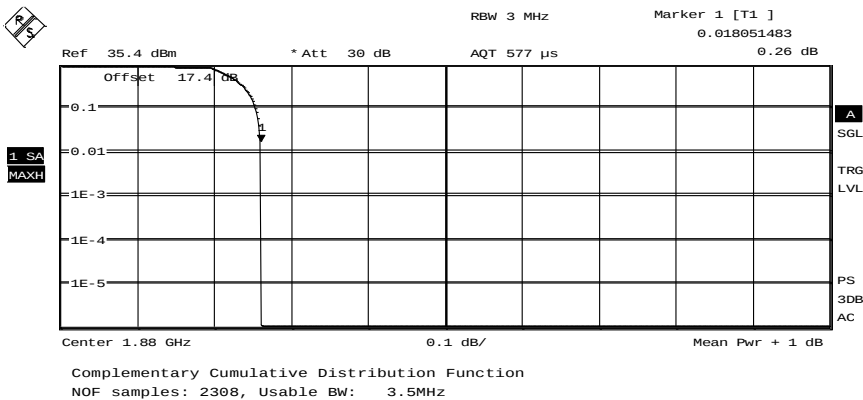
1.6.3. GSM 1900 (GMSK Modulation)



Trace 1	
Mean	30.25 dBm
Peak	30.51 dBm
Crest	0.26 dB
10 %	0.25 dB
1 %	0.26 dB
.1 %	0.26 dB
.01 %	0.26 dB

Date: 15.JUN.2016 14:22:49

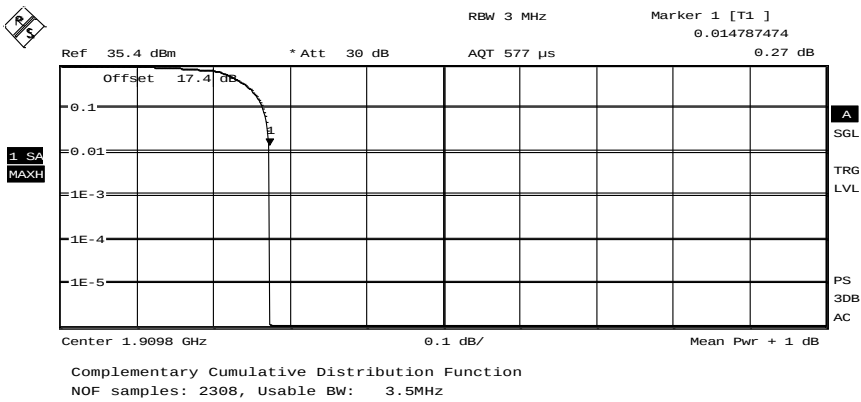
Channel 512



Trace 1	
Mean	30.25 dBm
Peak	30.51 dBm
Crest	0.26 dB
10 %	0.25 dB
1 %	0.26 dB
.1 %	0.26 dB
.01 %	0.26 dB

Date: 15.JUN.2016 14:23:56

Channel 661

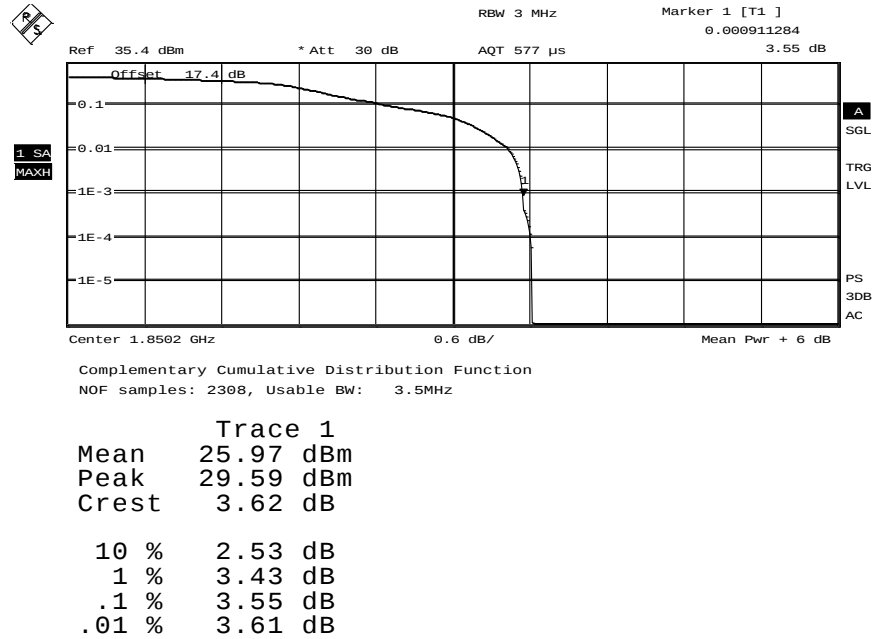


Trace 1	
Mean	30.59 dBm
Peak	30.86 dBm
Crest	0.27 dB
10 %	0.26 dB
1 %	0.27 dB
.1 %	0.27 dB
.01 %	0.27 dB

Date: 15.JUN.2016 14:24:31

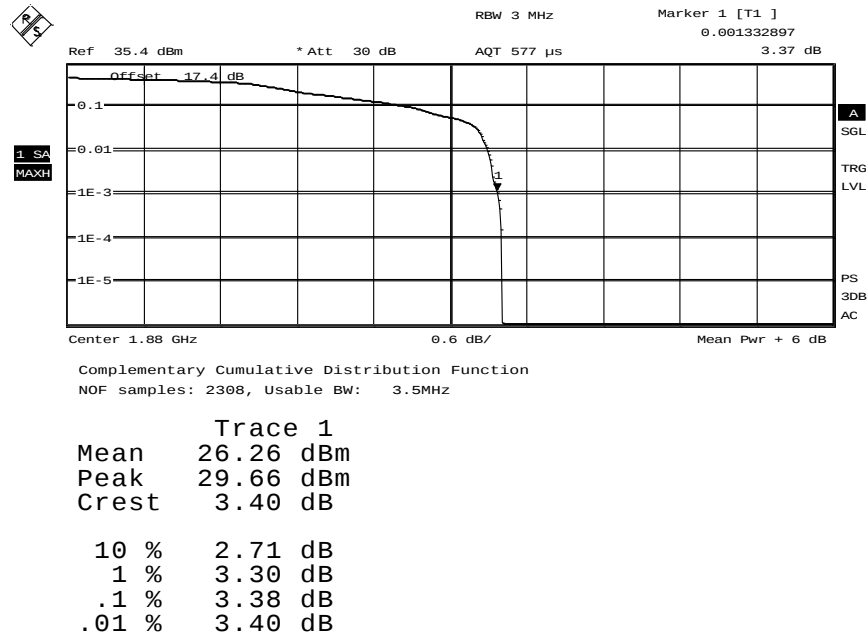
Channel 810

1.6.4. GSM 1900 (8-PSK Modulation)



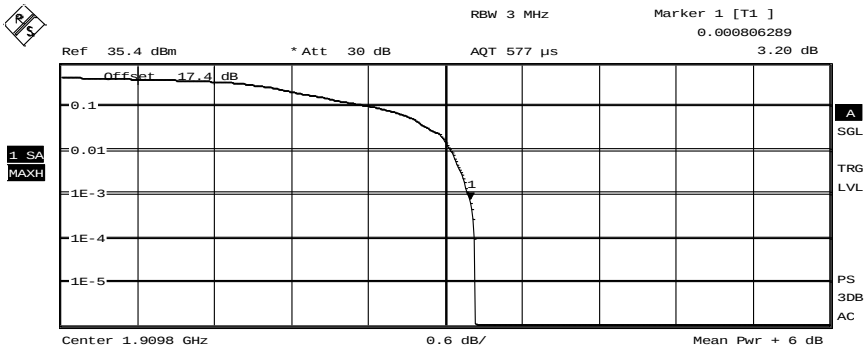
Date: 15.JUN.2016 14:29:00

Channel 512



Date: 15.JUN.2016 14:28:13

Channel 661



Complementary Cumulative Distribution Function
NOF samples: 2308, Usable BW: 3.5MHz

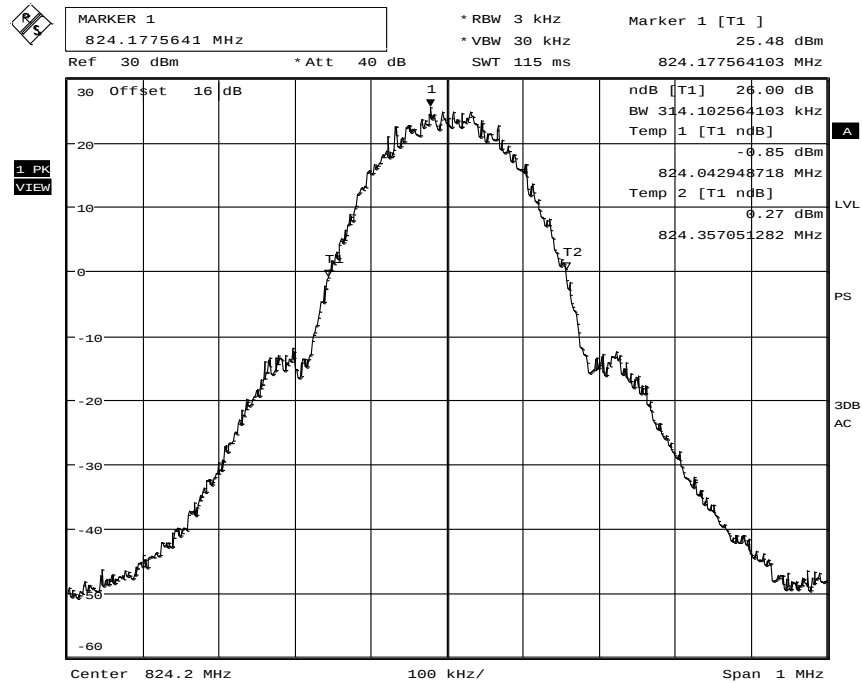
Trace 1	
Mean	26.64 dBm
Peak	29.87 dBm
Crest	3.23 dB
10 %	2.47 dB
1 %	3.05 dB
.1 %	3.18 dB
.01 %	3.23 dB

Date: 15.JUN.2016 14:27:29

Channel 810

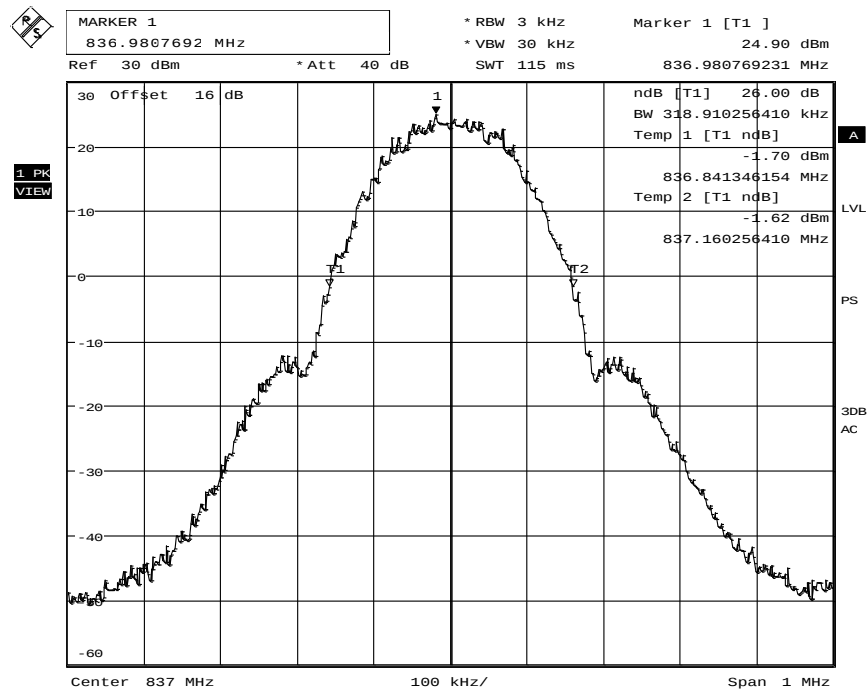
1.7. 26dBc Emission bandwidth

1.7.1. GPRS 850 MHz TX-Mode (GMSK)



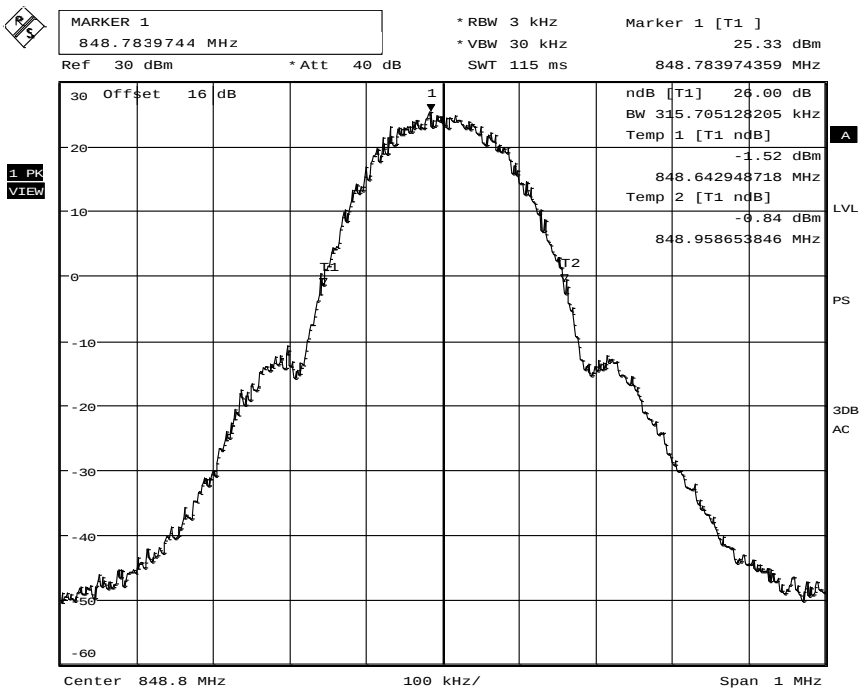
Date: 15.JUN.2016 12:19:57

Channel 128



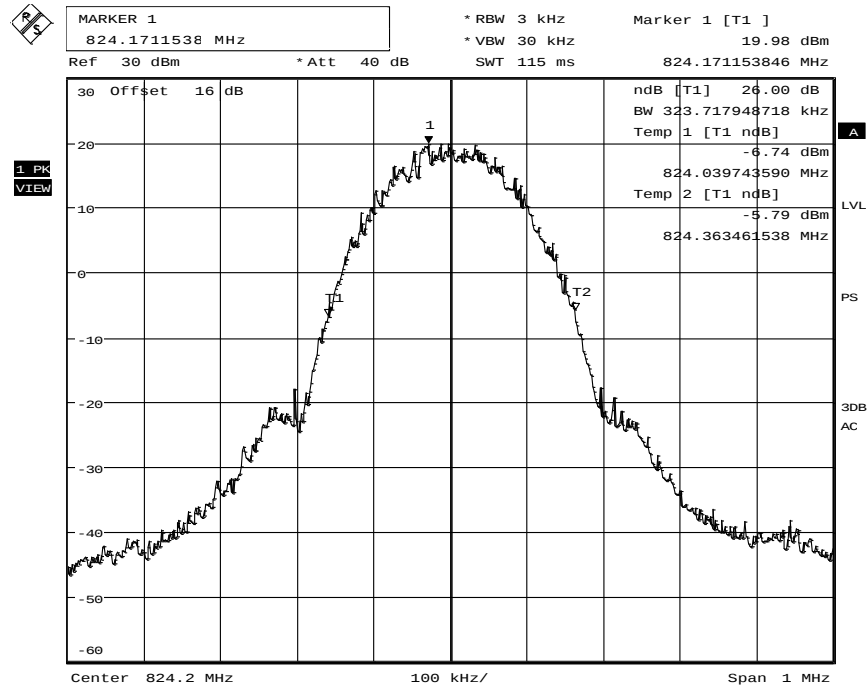
Date: 15.JUN.2016 12:23:59

Channel 192

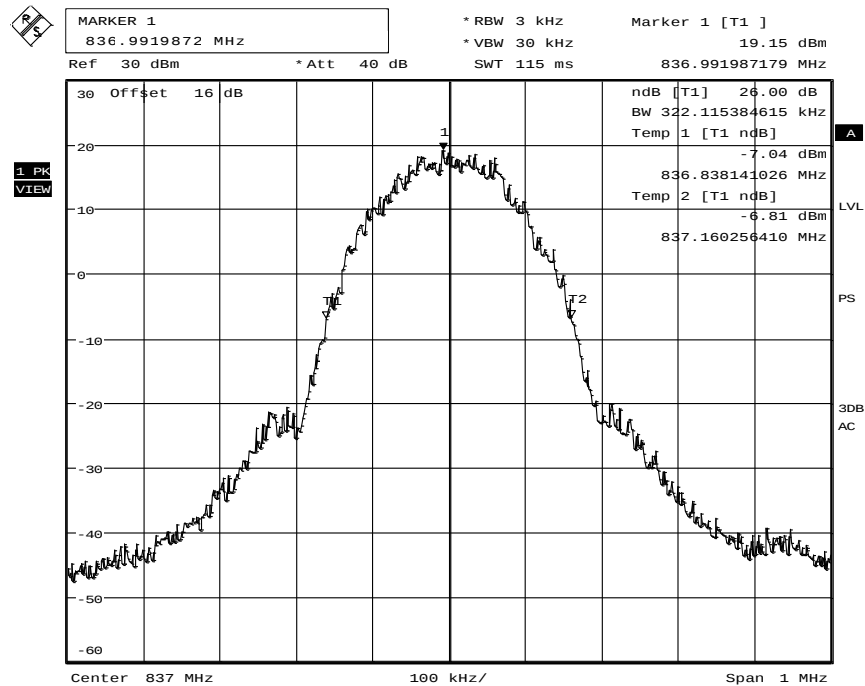


Date: 15.JUN.2016 12:29:03

Channel 251

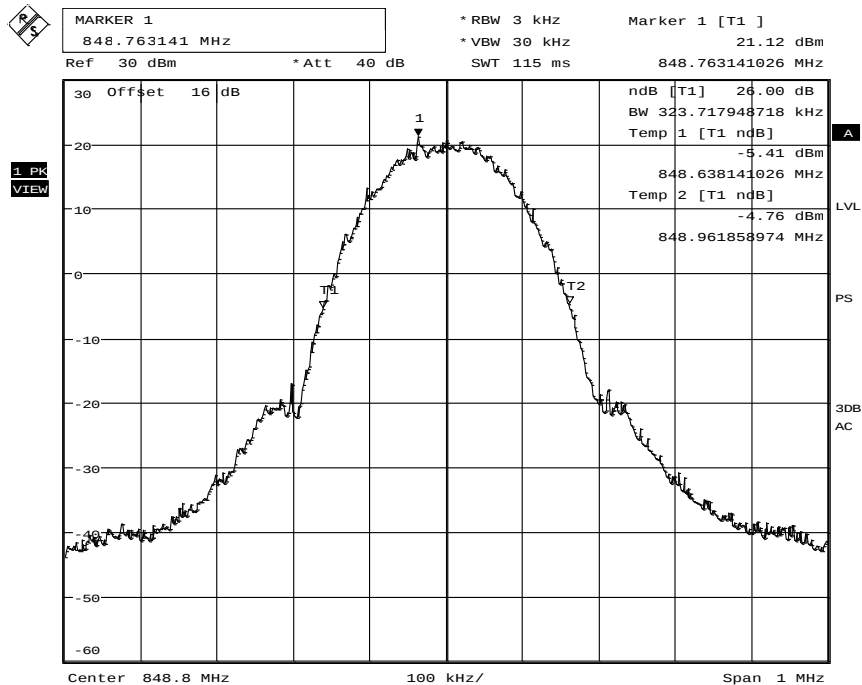
1.7.2. E-GPRS 850 MHz TX-Mode (8PSK)

Date: 15.JUN.2016 13:18:36

Channel 128

Date: 15.JUN.2016 13:12:19

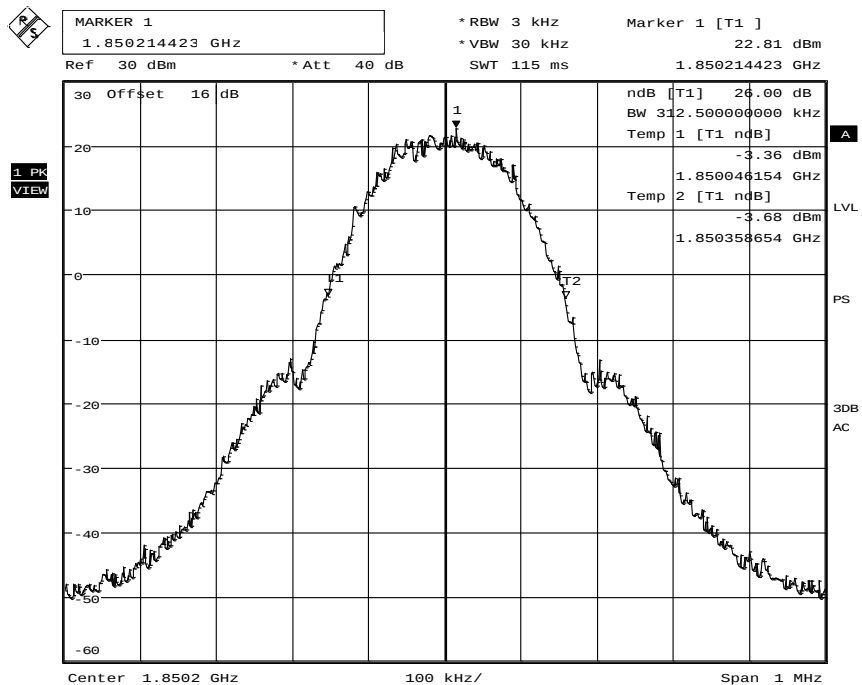
Channel 192



Date: 15.JUN.2016 13:05:42

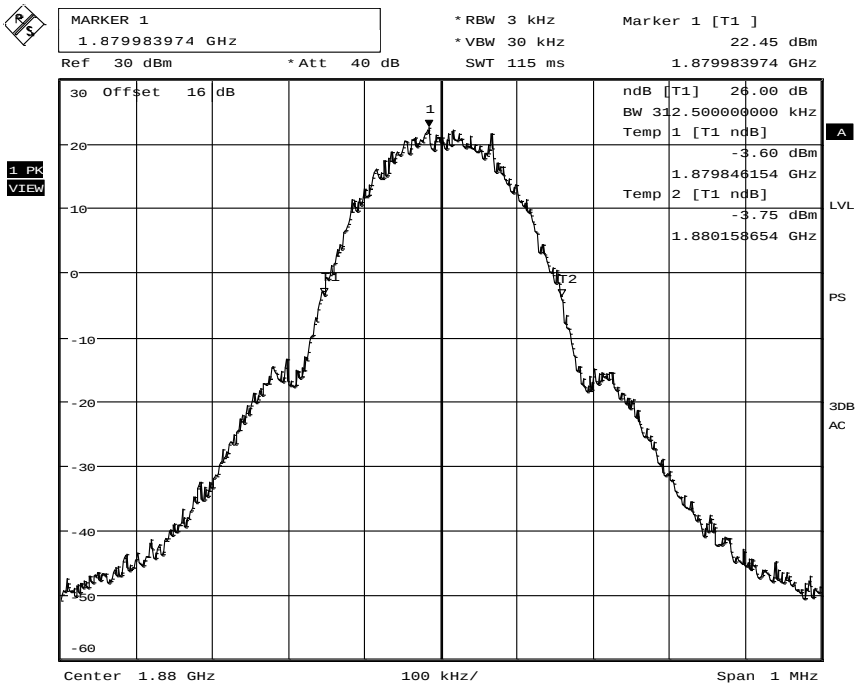
Channel 251

1.7.3. GPRS 1900 MHz TX-Mode



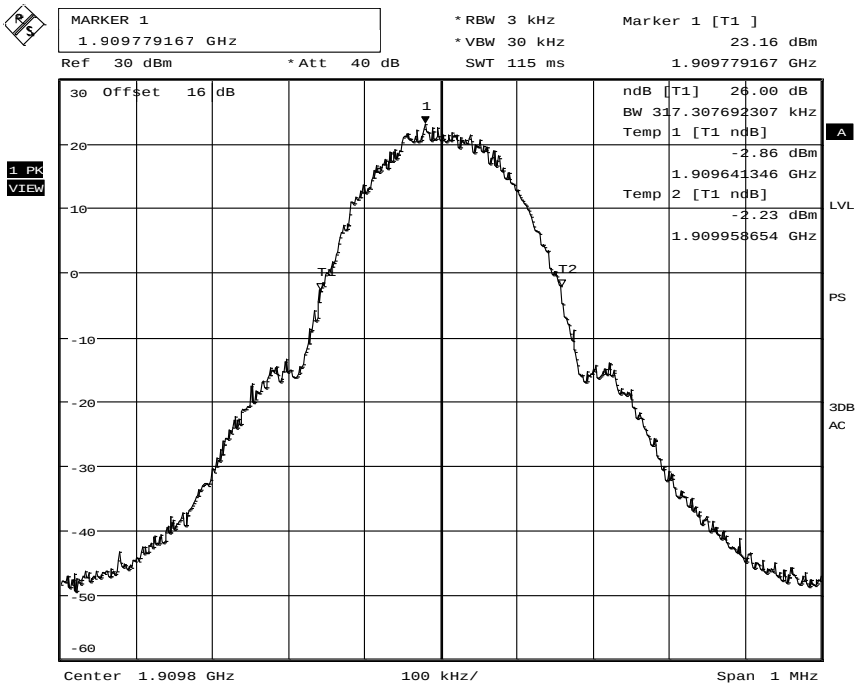
Date: 15.JUN.2016 10:45:47

Channel 512



Date: 15.JUN.2016 10:49:34

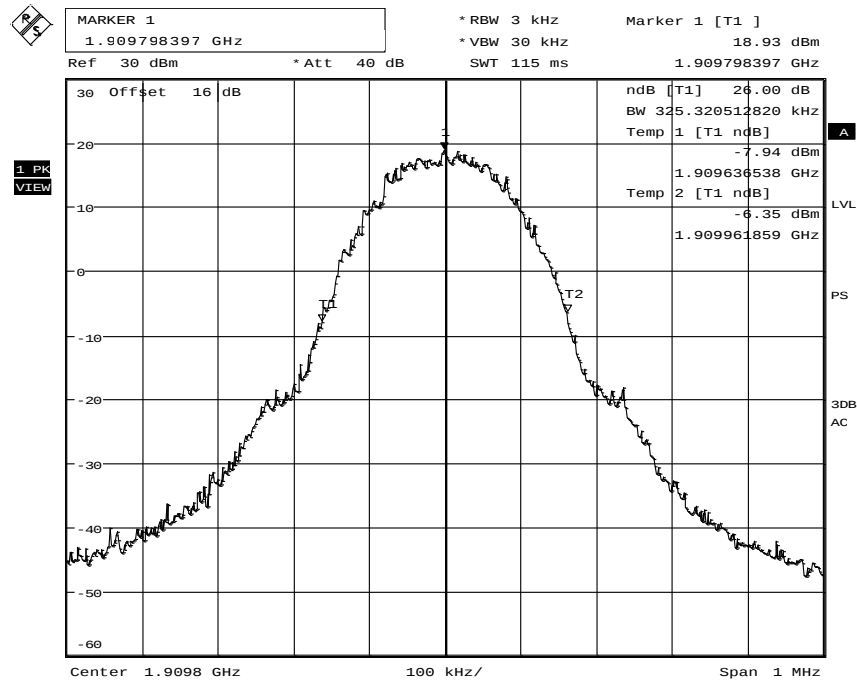
Channel 661



Date: 15.JUN.2016 10:55:56

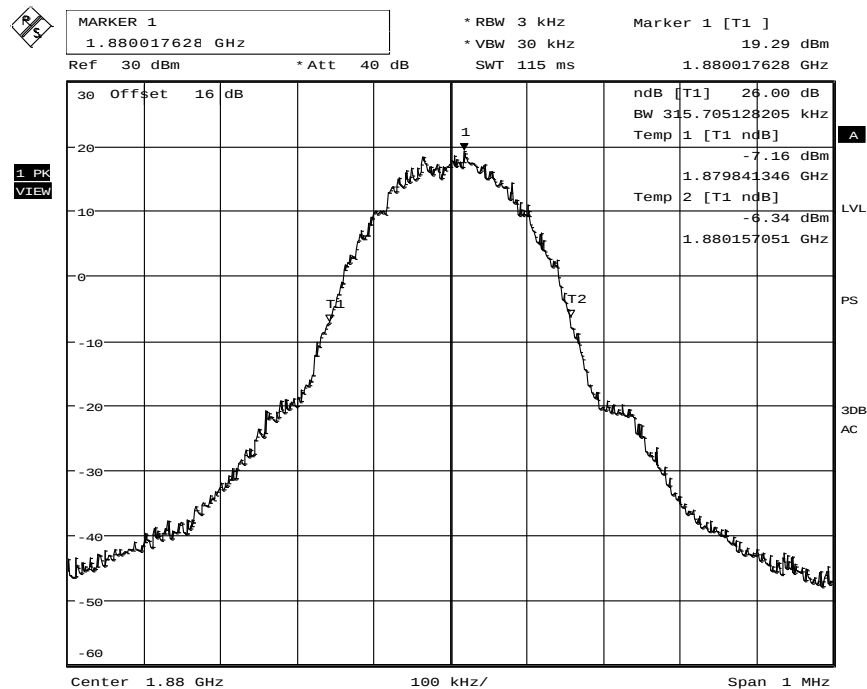
Channel 810

1.7.4.E-GPRS 1900 MHz TX-Mode



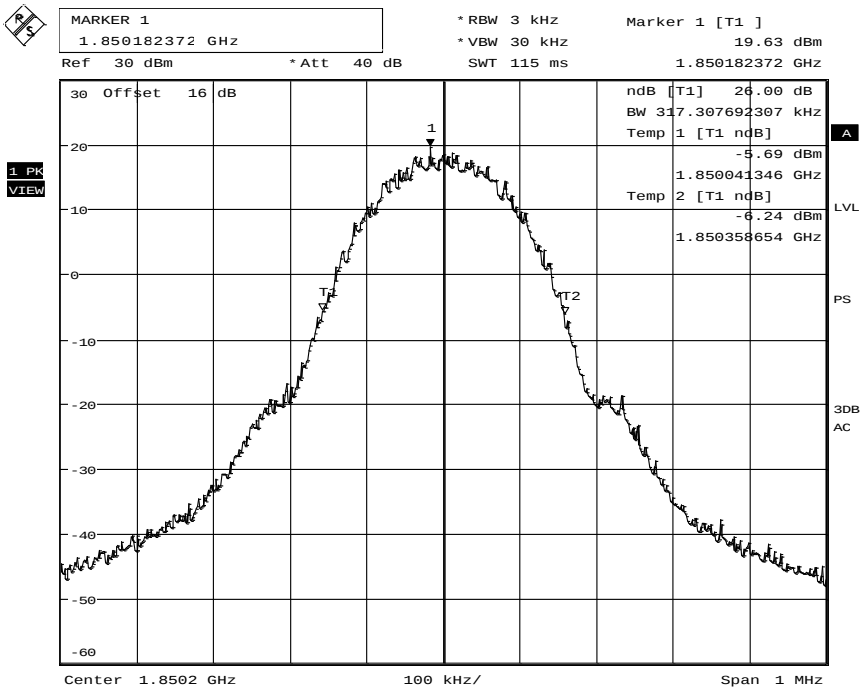
Date: 15.JUN.2016 11:05:20

Channel 512



Date: 15.JUN.2016 11:10:39

Channel 661

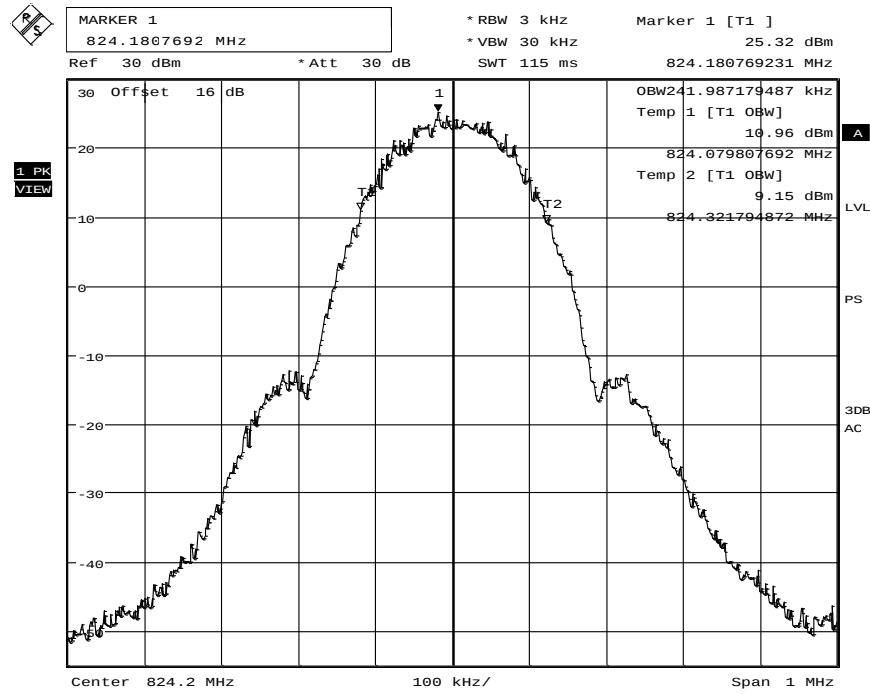


Date: 15.JUN.2016 11:17:00

Channel 810

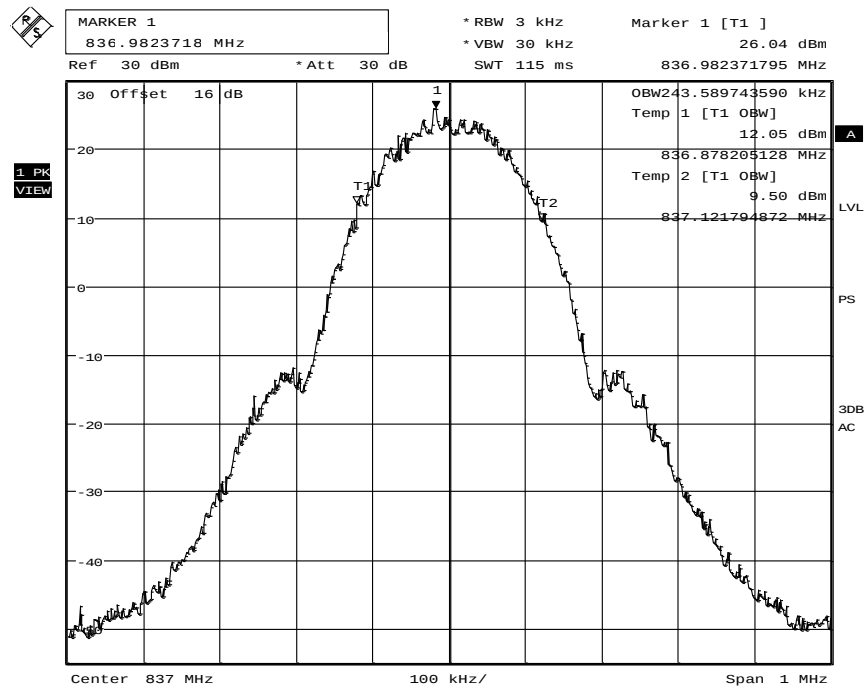
1.8. 99% Occupied bandwidth

1.8.1. GPRS 850 MHz TX-Mode



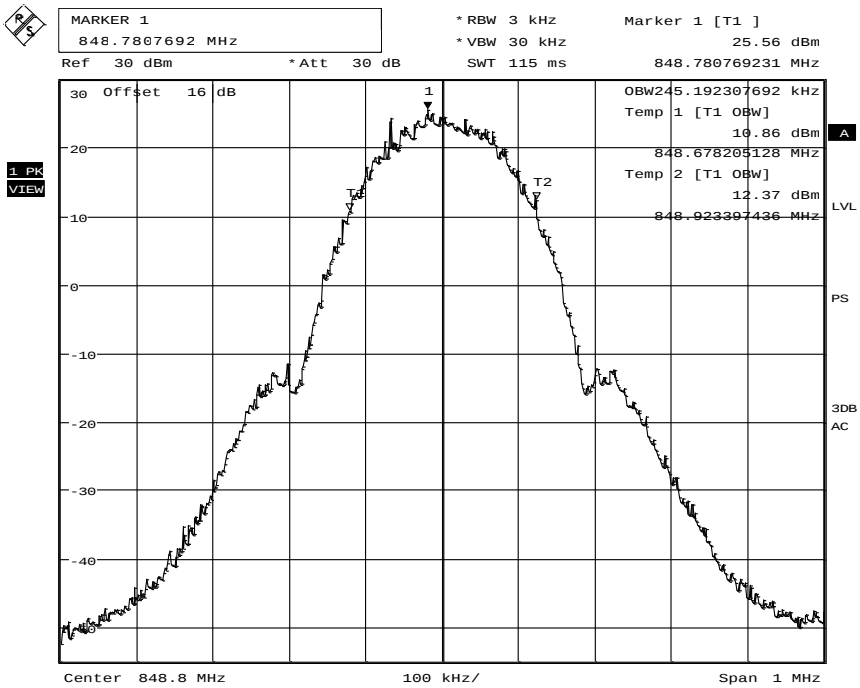
Date: 15.JUN.2016 12:15:27

Channel 128



Date: 15.JUN.2016 12:11:55

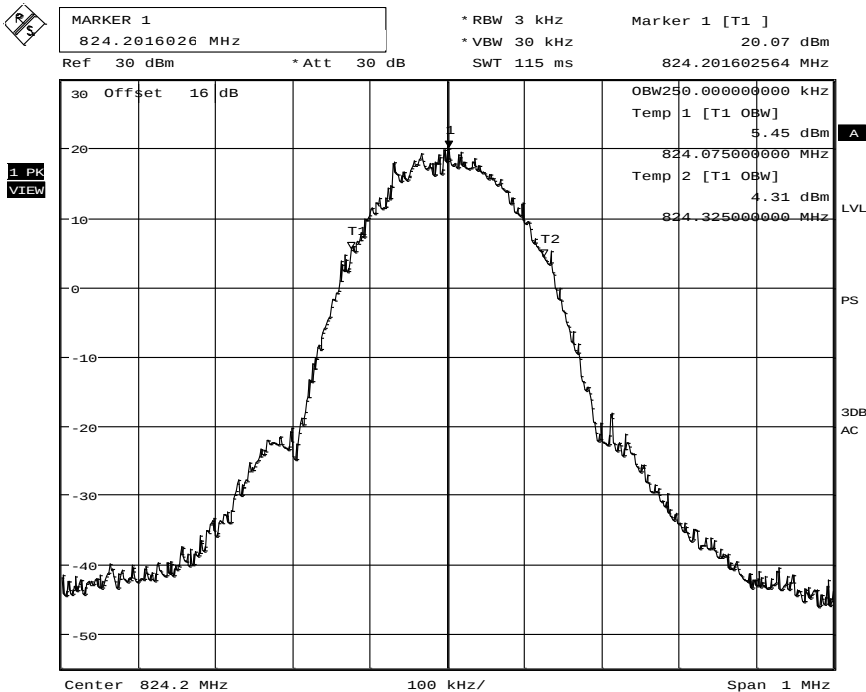
Channel 192



Date: 15.JUN.2016 12:07:20

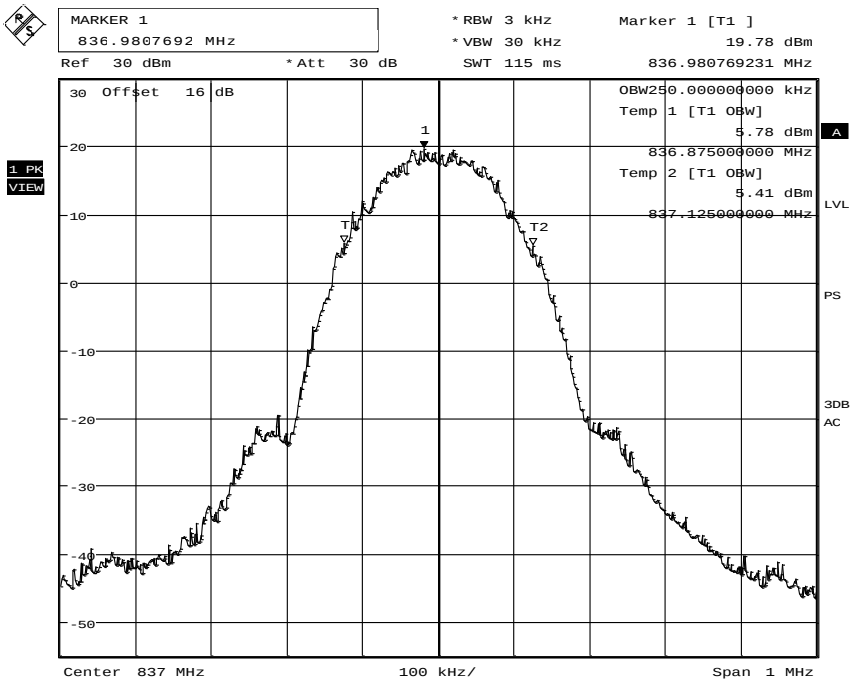
Channel 251

1.8.2. E-GPRS 850 MHz TX-Mode



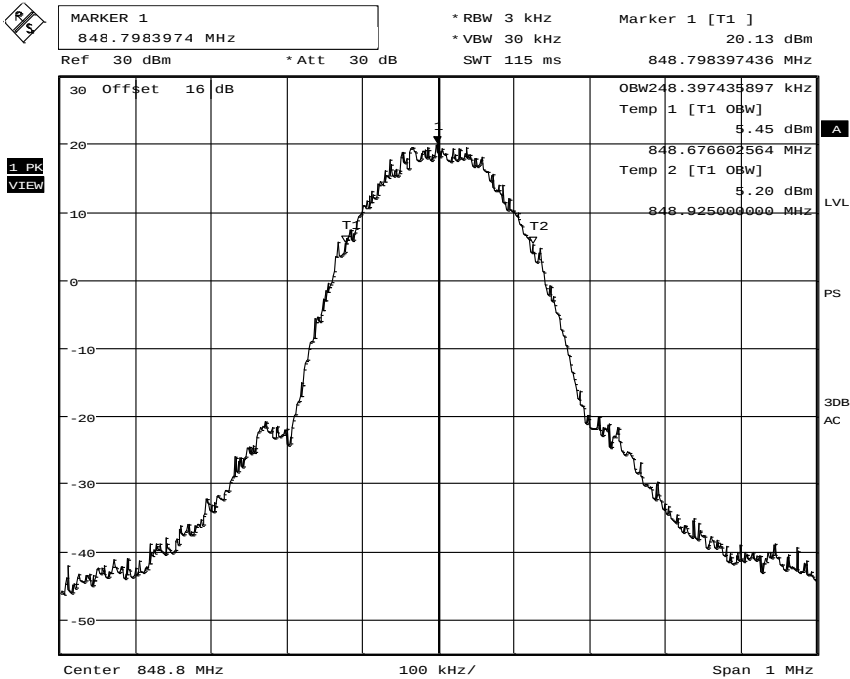
Date: 15.JUN.2016 13:24:09

Channel 128



Date: 15.JUN.2016 13:30:01

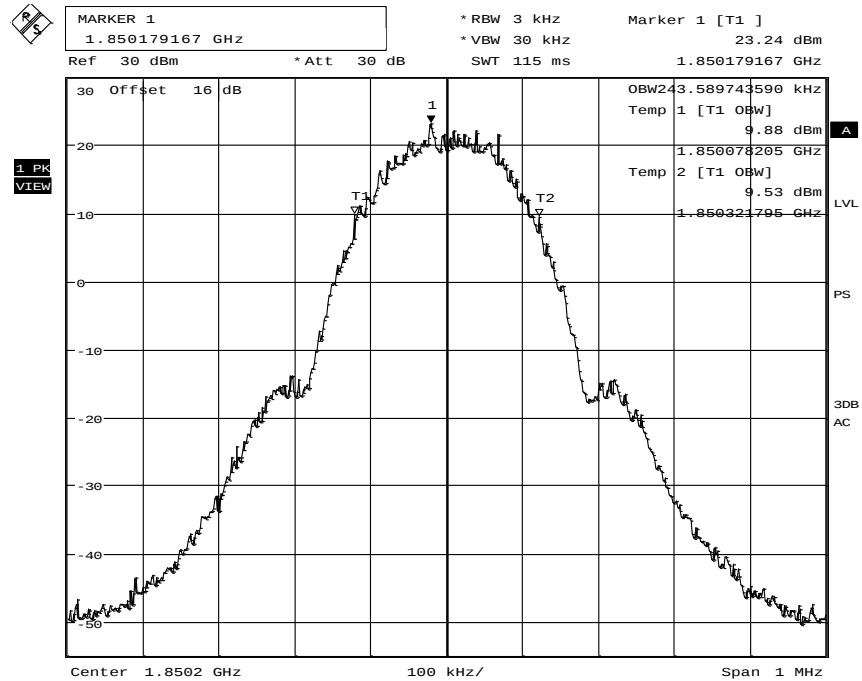
Channel 192



Date: 15.JUN.2016 13:34:48

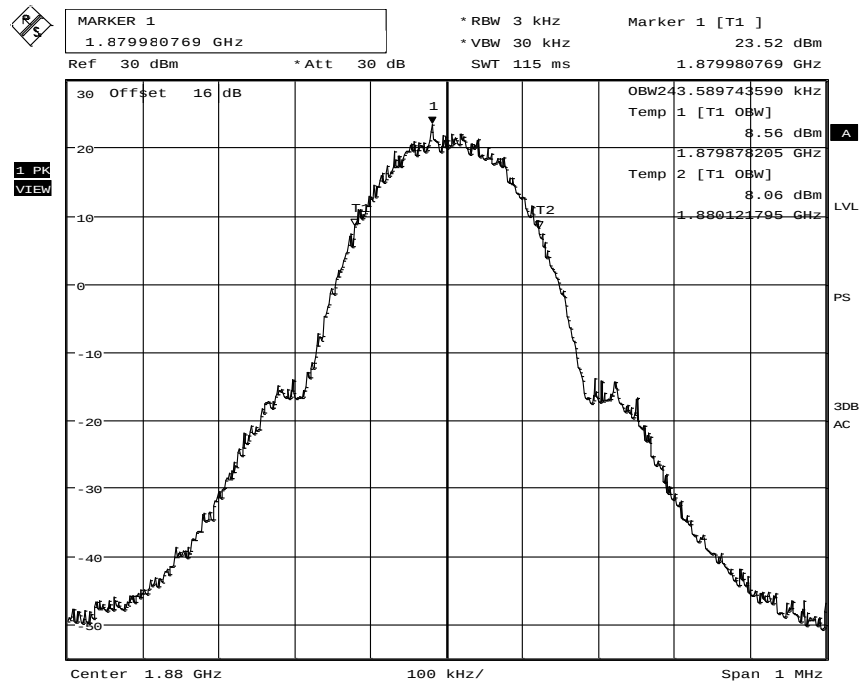
Channel 251

1.8.3. GPRS 1900 MHz TX-Mode



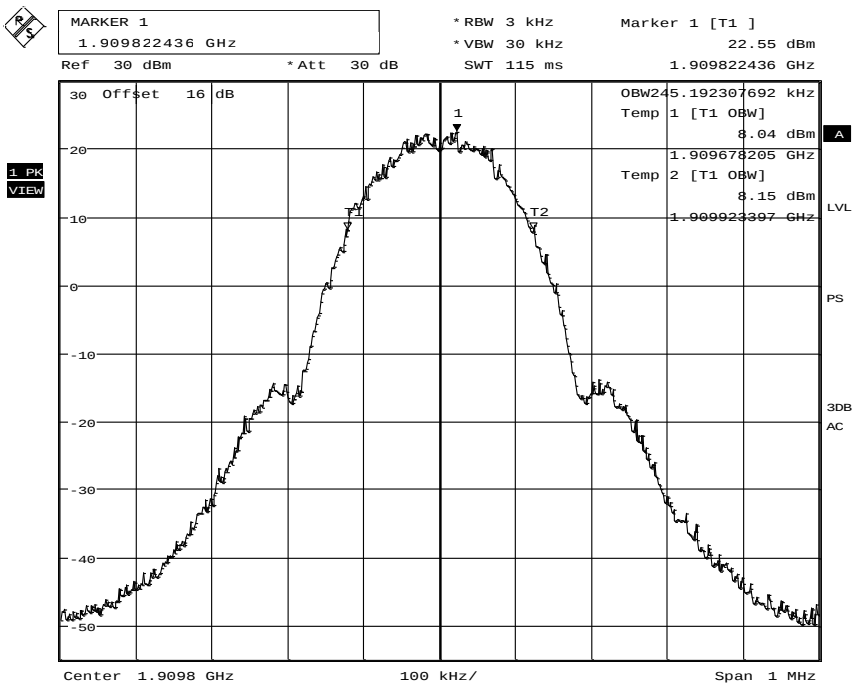
Date: 15.JUN.2016 11:49:36

Channel 512



Date: 15.JUN.2016 11:44:56

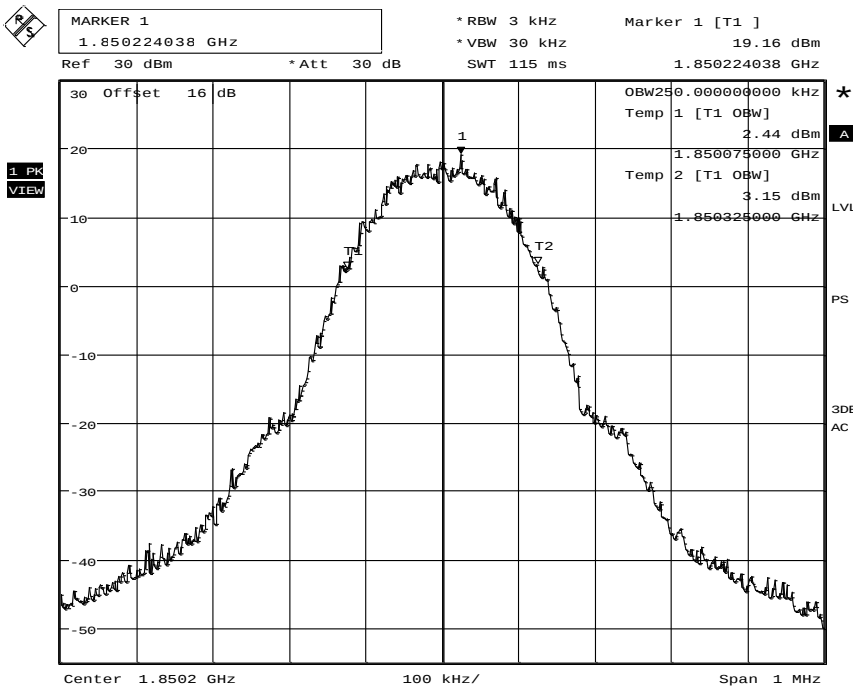
Channel 661



Date: 15.JUN.2016 11:39:05

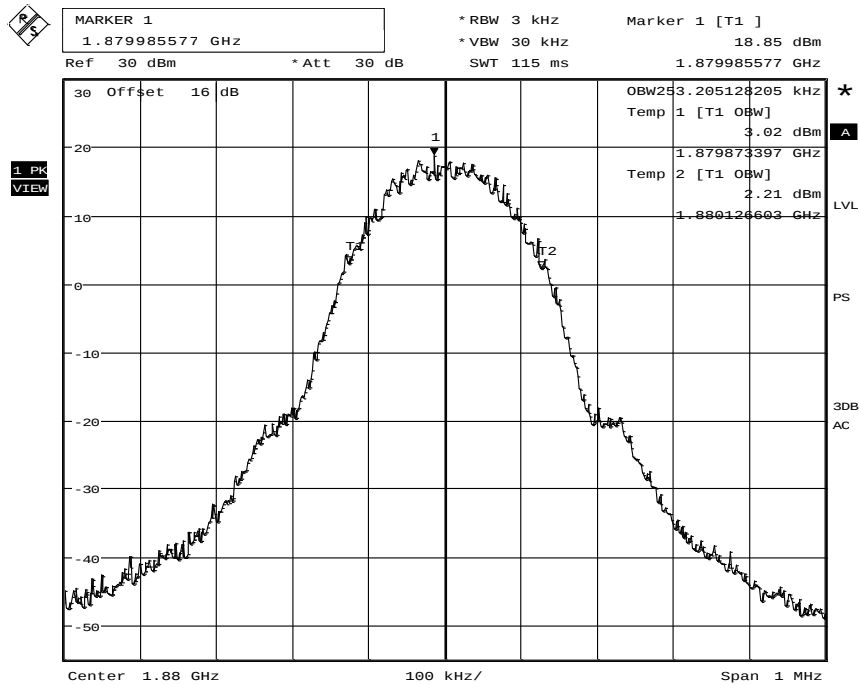
Channel 810

1.8.4. E-GPRS 1900 MHz TX-Mode



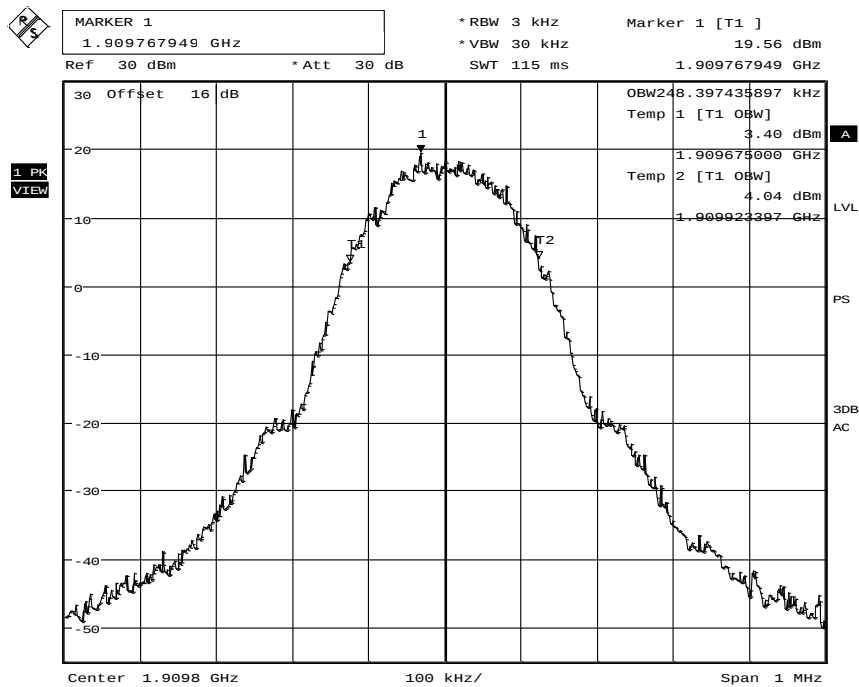
Date: 15.JUN.2016 11:21:57

Channel 512



Date: 15.JUN.2016 11:27:04

Channel 661



Date: 15.JUN.2016 11:31:02

Channel 810

1.9. Spurious emissions conducted (850 MHz transmitting mode)

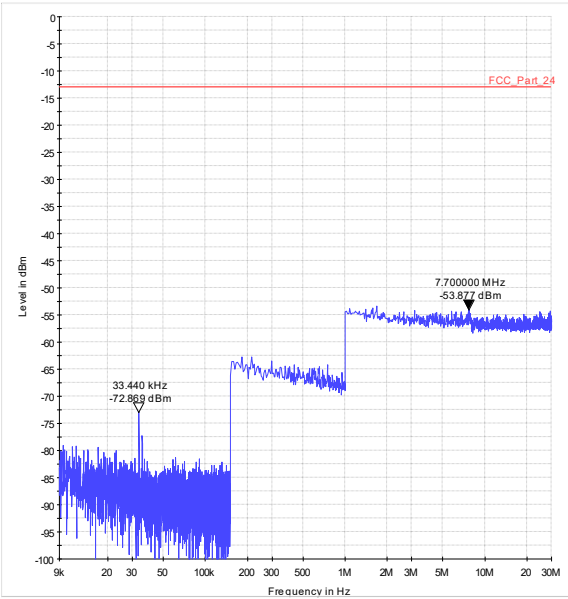


Diagram 36.07_Ch128_GRPS_Sweep1

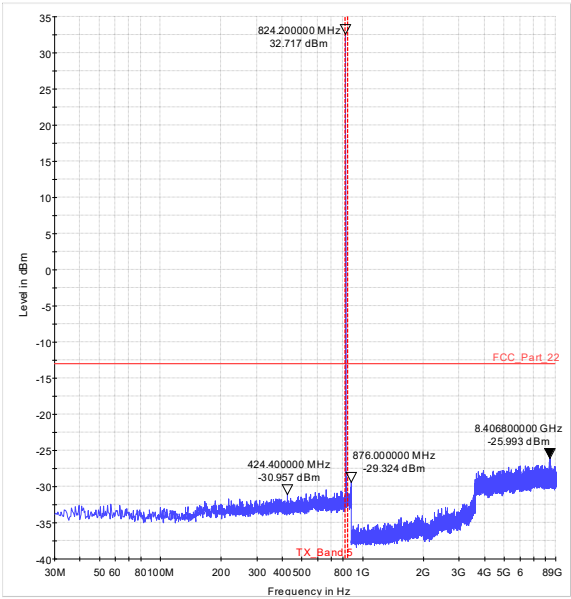


Diagram 36.08_Ch128_GRPS_Sweep2

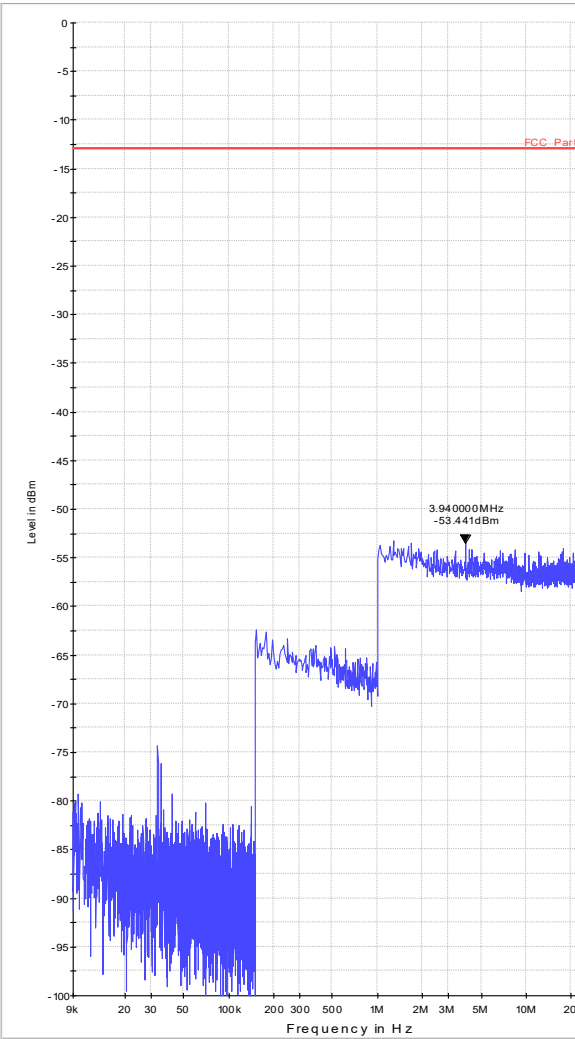


Diagram 36.09_Ch192_GRPS_Sweep1

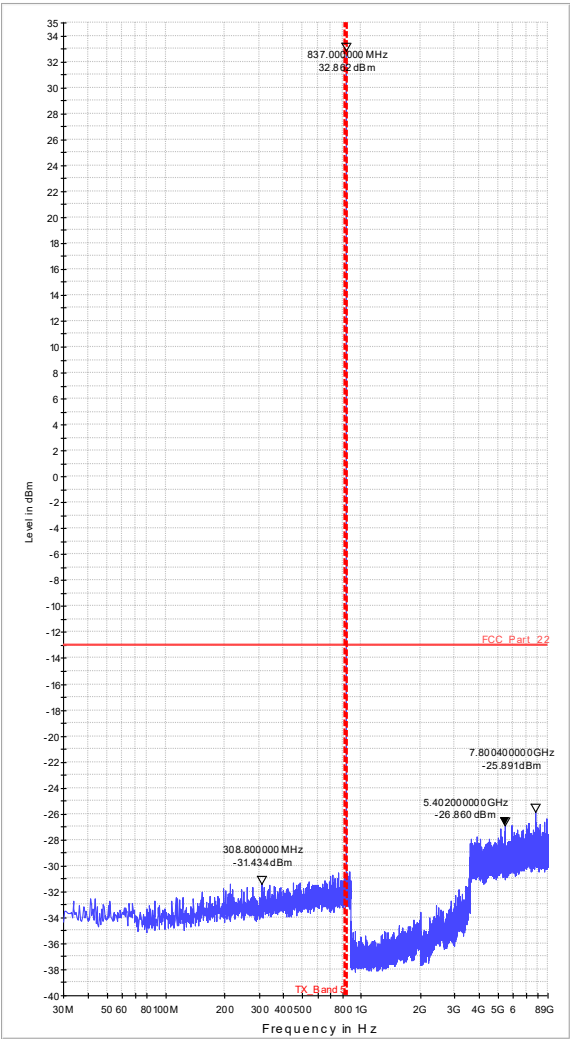


Diagram 36.10_Ch192_GRPS_Sweep2

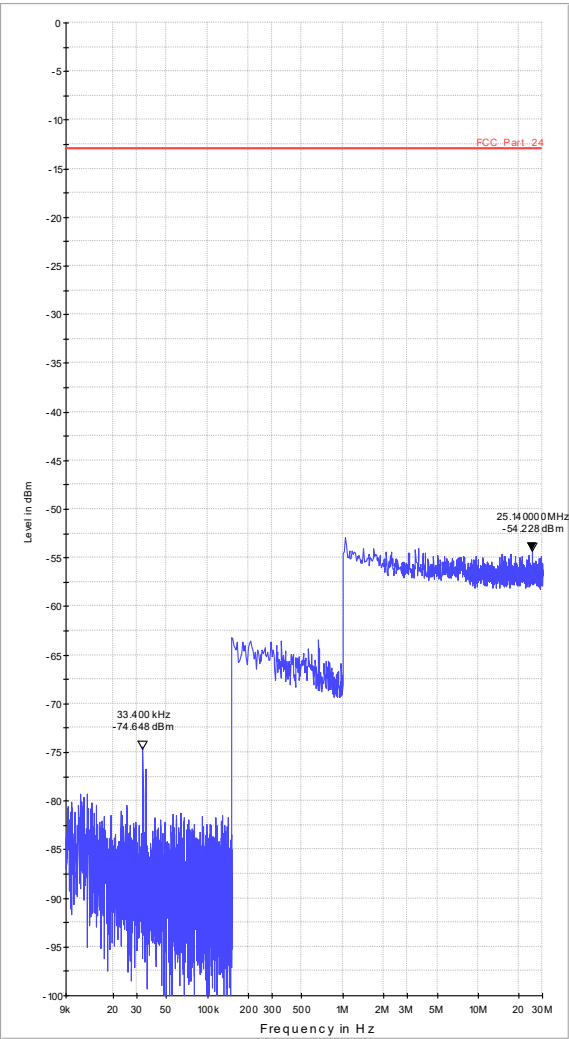


Diagram 36.11_Ch251_GRPS_Sweep1

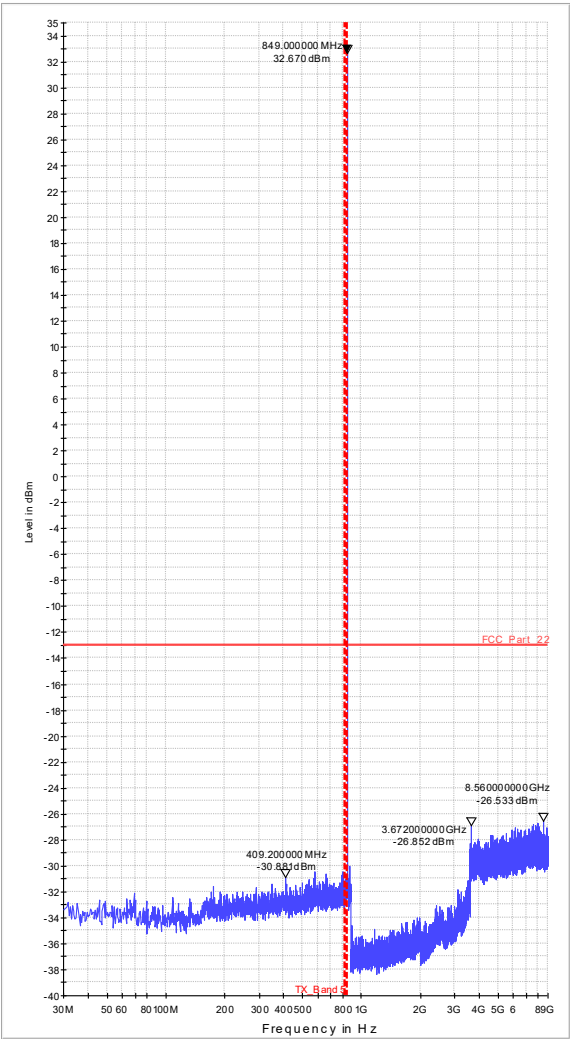


Diagram 36.12_Ch251_GRPS_Sweep2

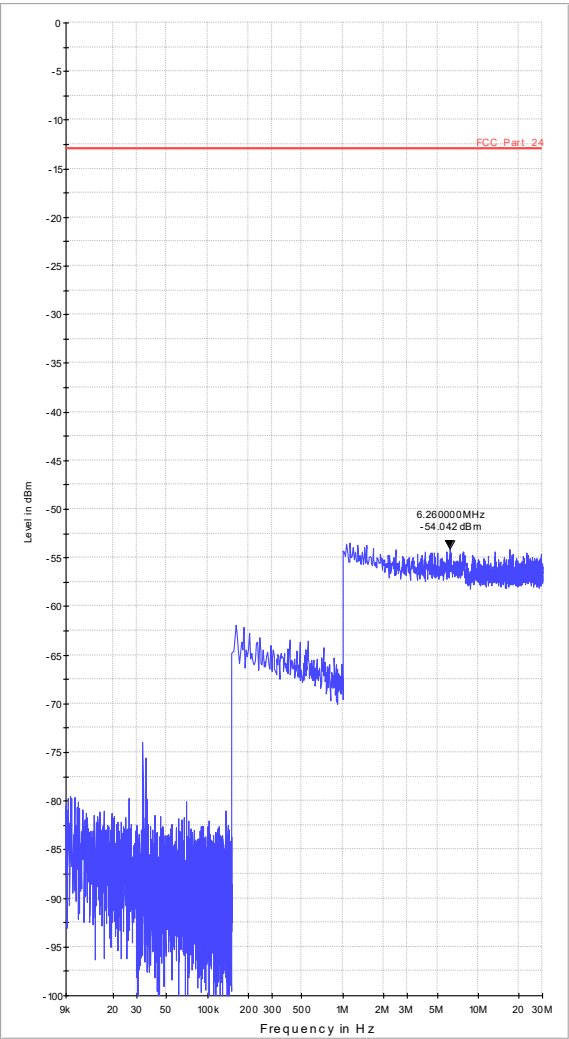


Diagram 36.13_RSE_Ch128_EGPRS_Sweep1

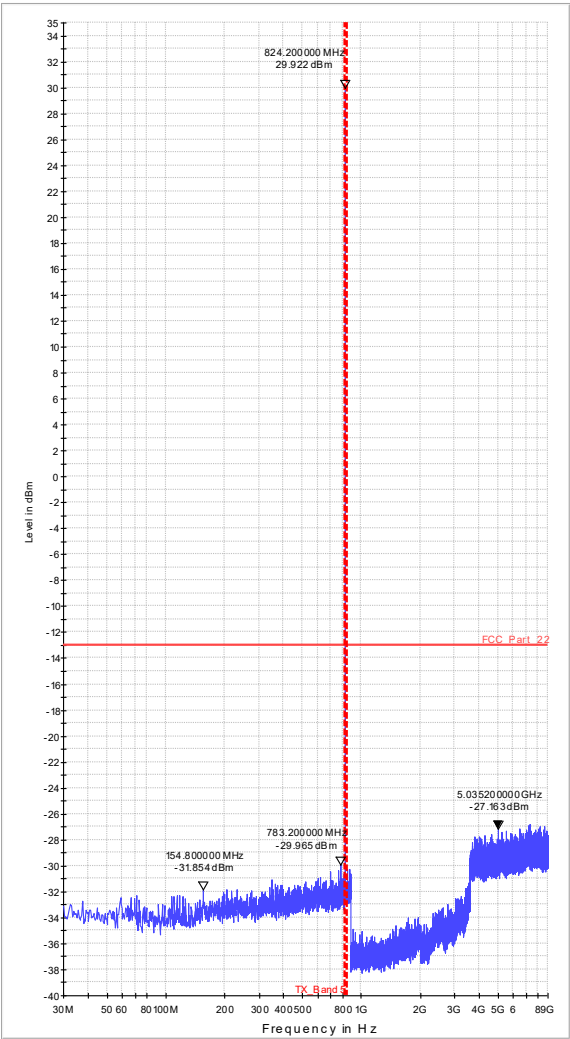


Diagram 36.14_RSE_Ch128_EGPRS_Sweep2

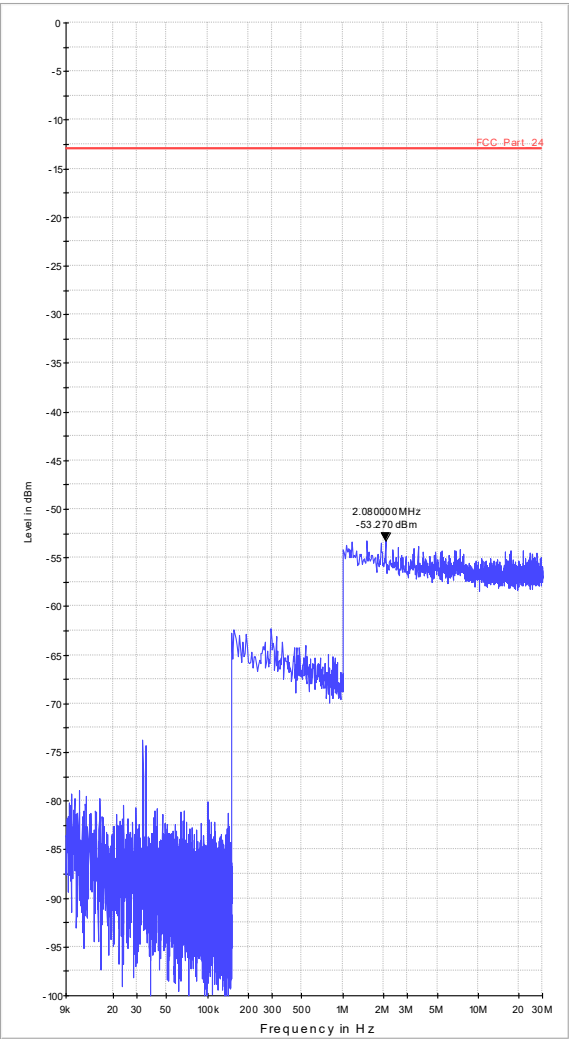


Diagram 36.15_RSE_Ch192_EGPRS_Sweep1

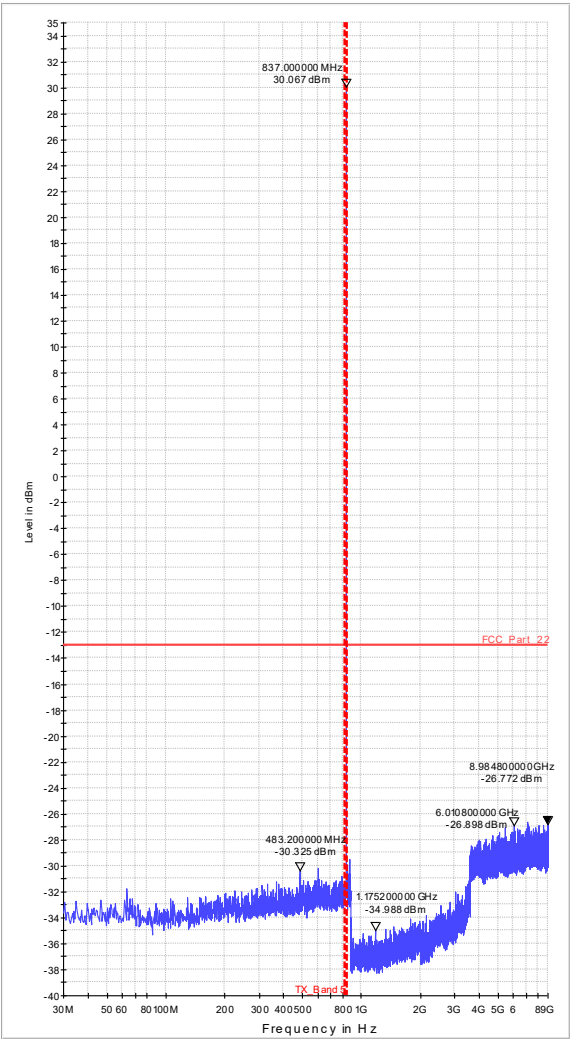


Diagram 36.16_RSE_Ch192_EGPRS_Sweep2

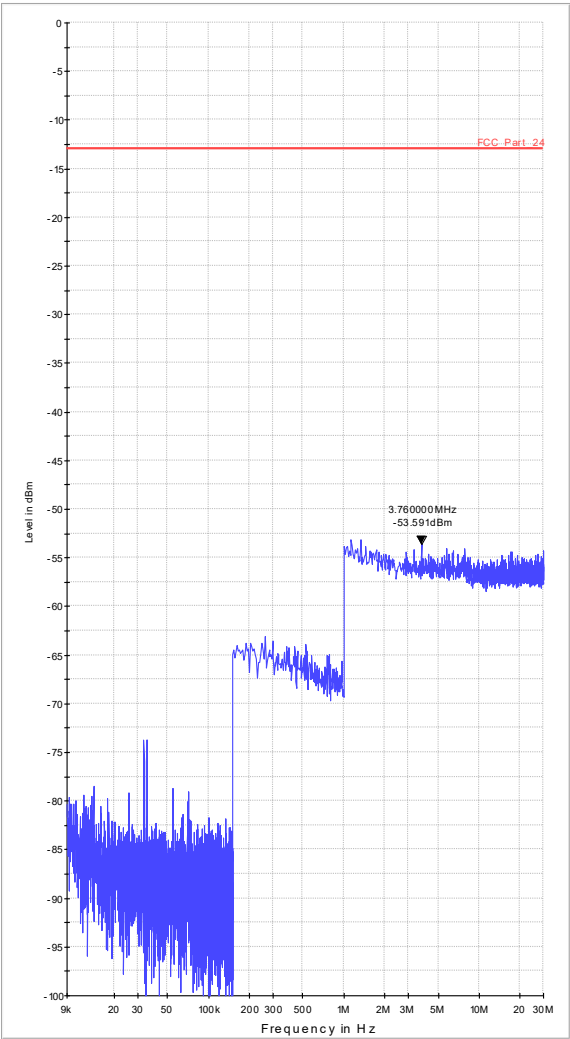


Diagram 36.17_RSE_Ch251_EGPRS_Sweep1

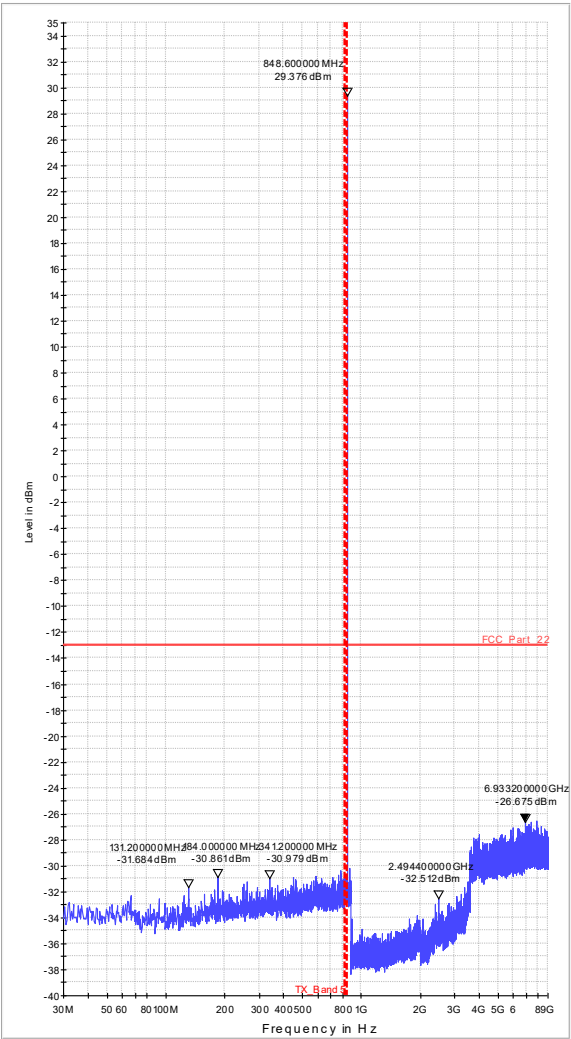


Diagram 36.18_RSE_Ch251_EGPRS_Sweep2

1.10. Spurious emissions conducted (1900 MHz transmitting mode)

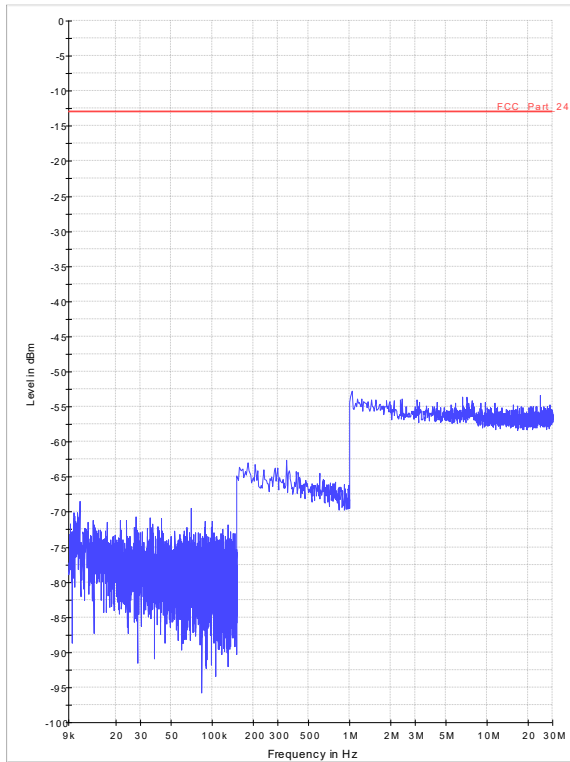


Diagram 36.20_RSE_Ch512_GPRS_Sweep1

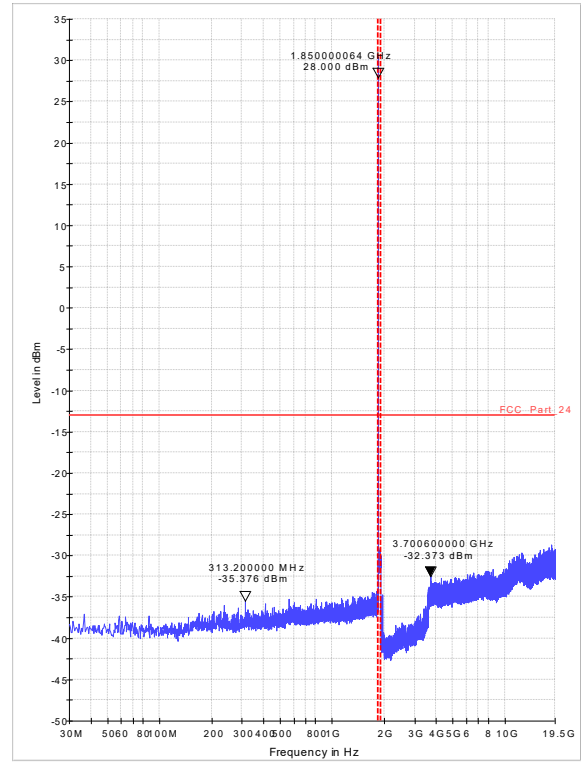


Diagram 36.21_RSE_Ch512_GPRS_Sweep2

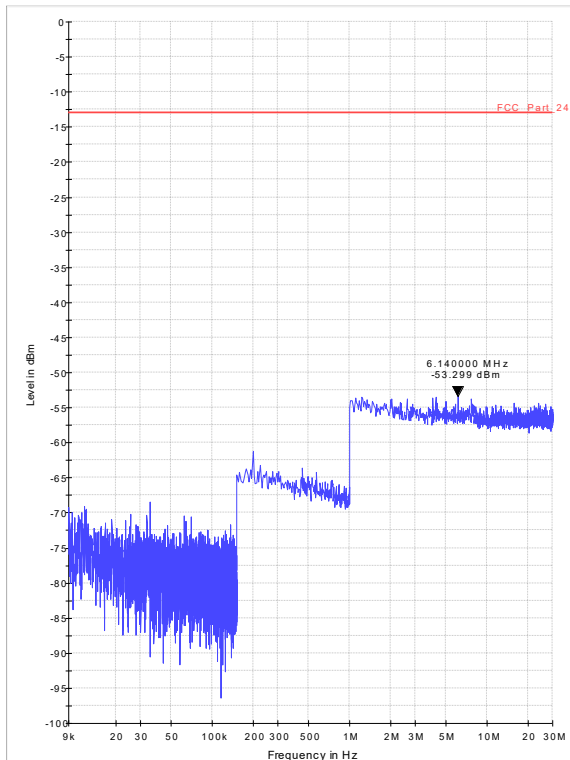


Diagram 36.22_RSE_Ch661_GPRS_Sweep1

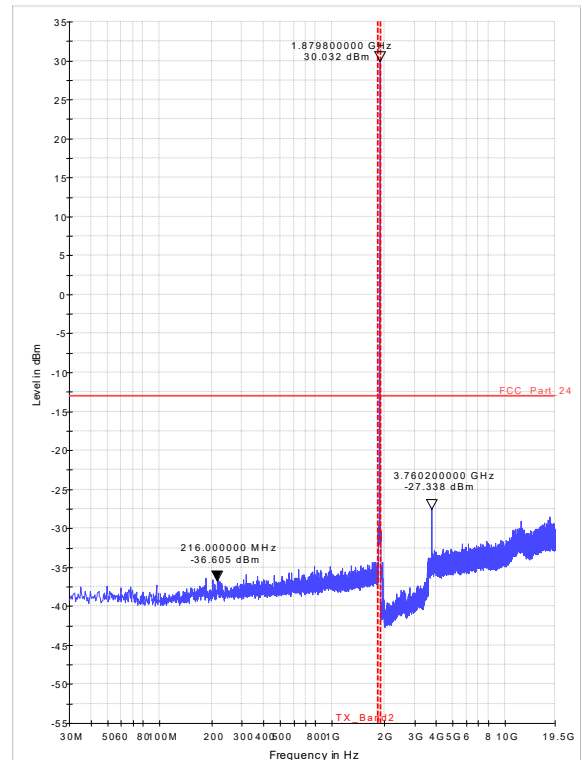


Diagram 36.23_RSE_Ch661_GPRS_Sweep2

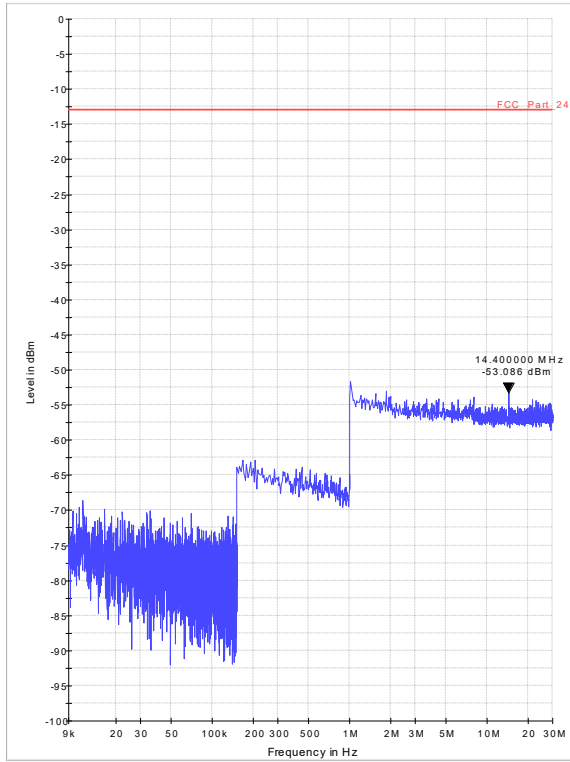


Diagram 36.24_RSE_Ch810_GPRS_Sweep1

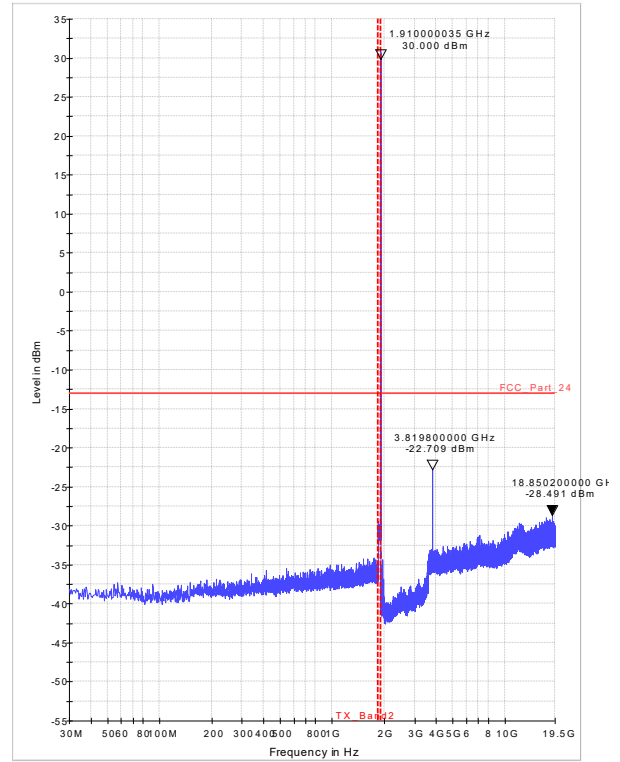


Diagram 36.25_RSE_Ch810_GPRS_Sweep2

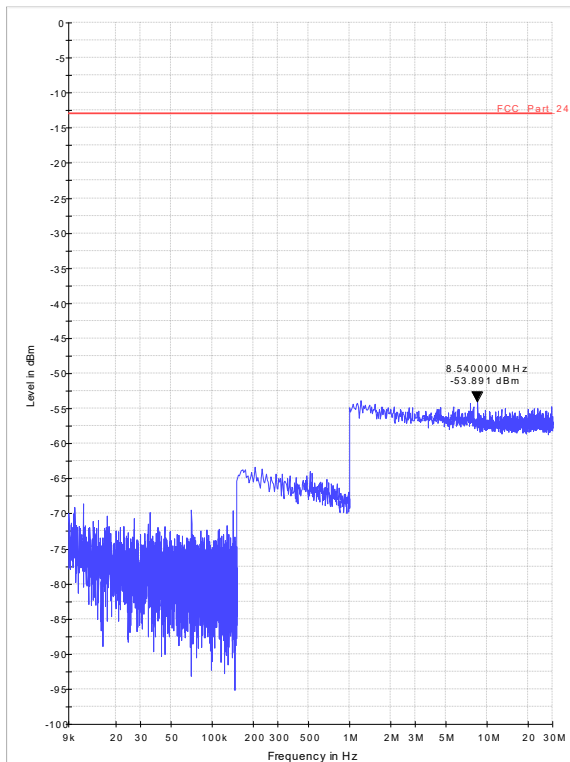


Diagram 36.26_RSE_Ch512_EGPRS_Sweep1

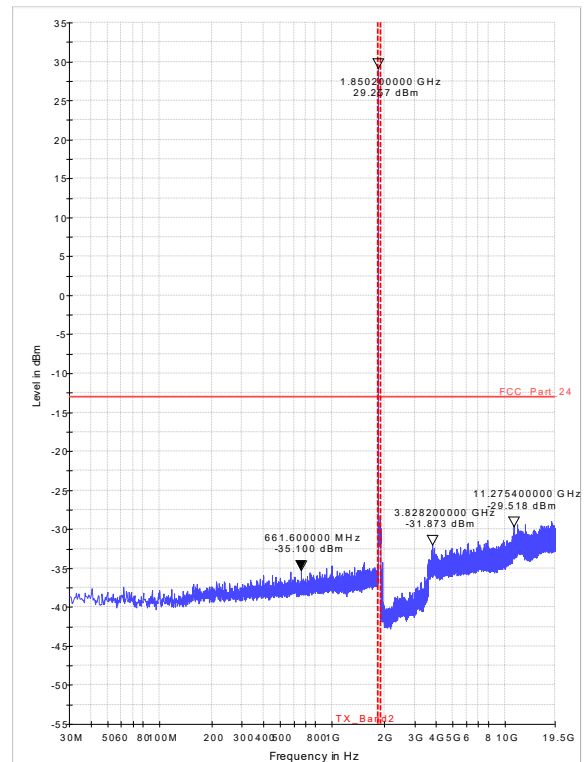


Diagram 36.27_RSE_Ch512_EGPRS_Sweep2

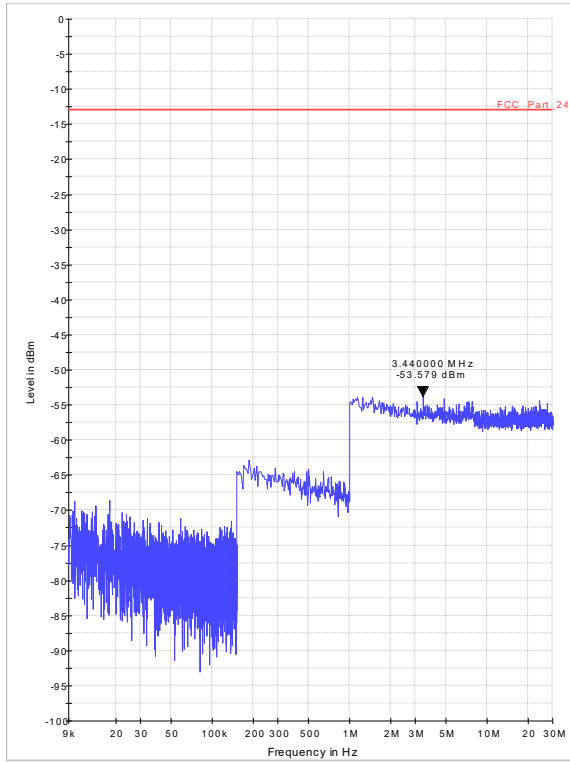


Diagram 36.28_RSE_Ch661_EGPRS_Sweep1

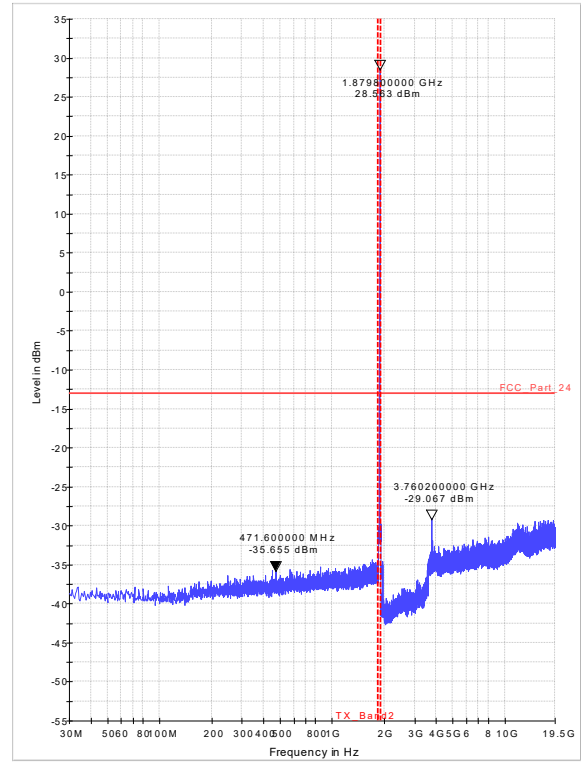


Diagram 36.29_RSE_Ch661_EGPRS_Sweep2

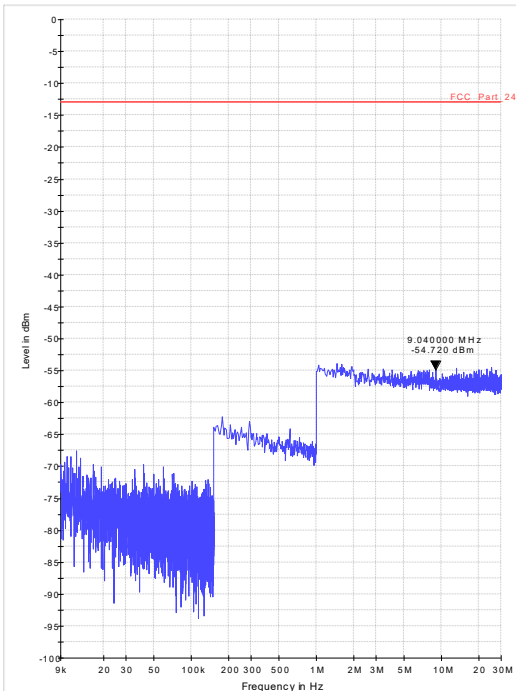


Diagram 36.30_RSE_Ch810_EGPRS_Sweep1

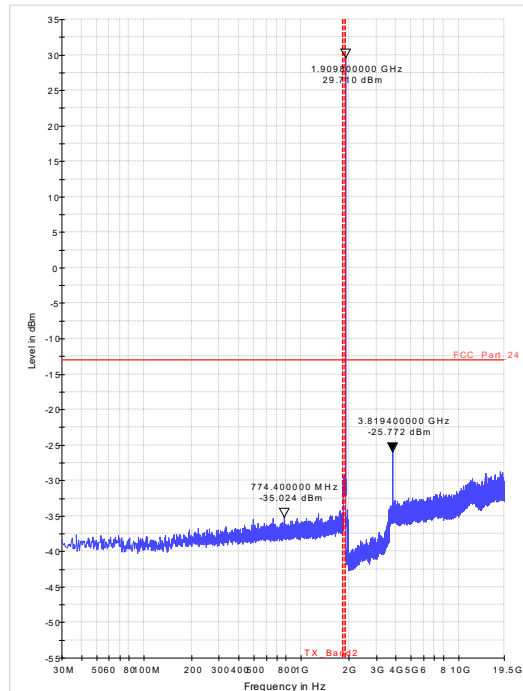


Diagram 36.31_RSE_Ch810_EGPRS_Sweep2

1.11. Conducted emissions on 850 MHz transmitting band-edge

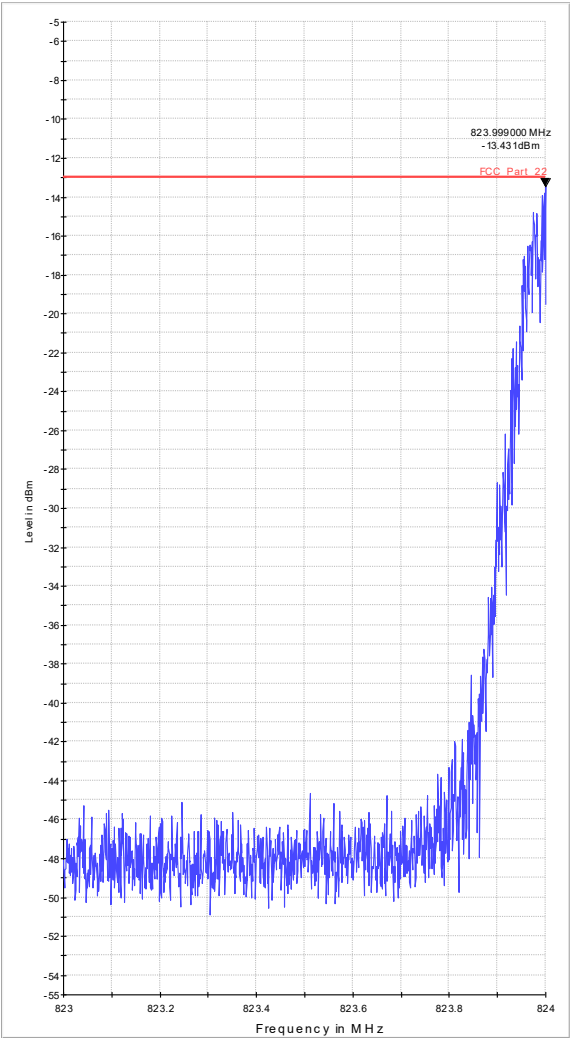


Diagram 37.03_BE_Ch128_GPRS

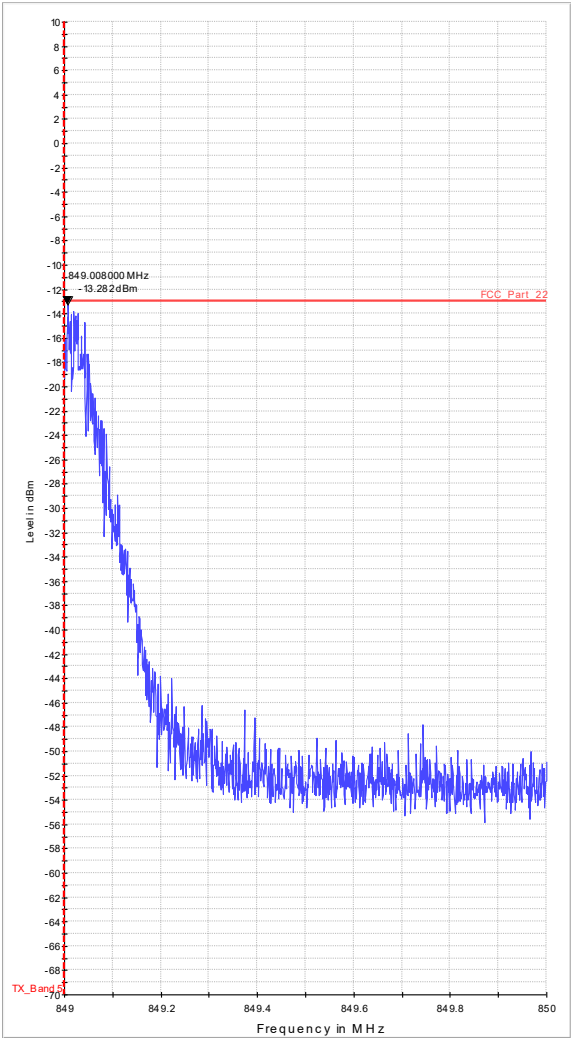


Diagram 37.04_BE_Ch251_GPRS

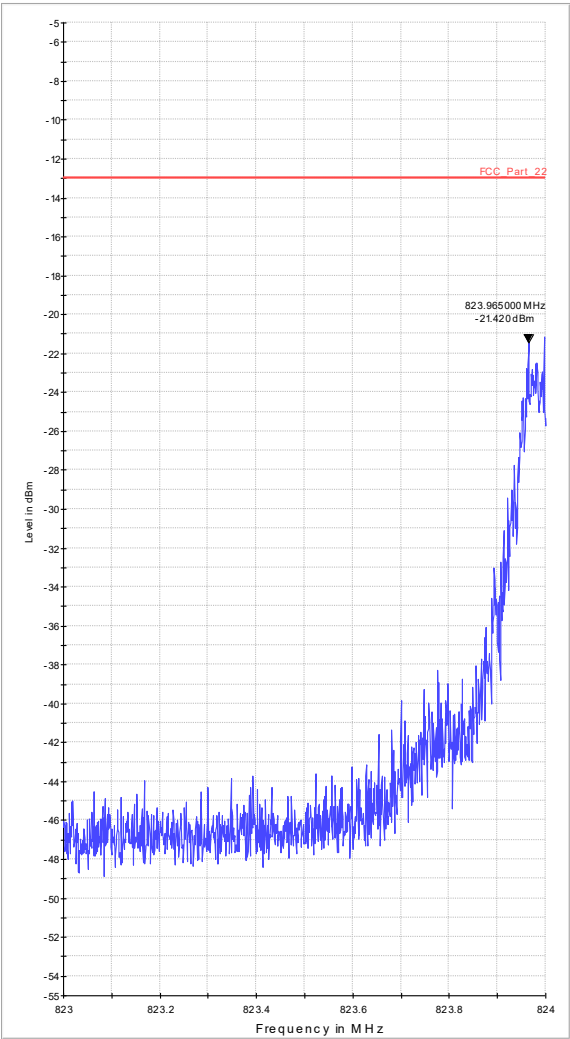


Diagram 37.05_BE_Ch128_EGPRS

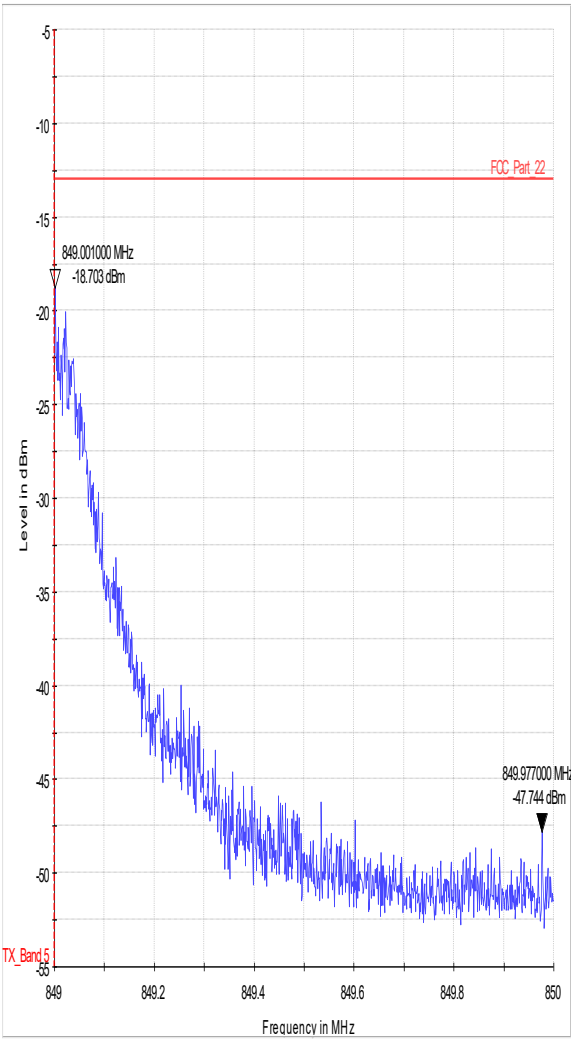


Diagram 37.06_BE_Ch251_EGPRS

1.12. Conducted emissions on 1900 MHz transmitting band-edge

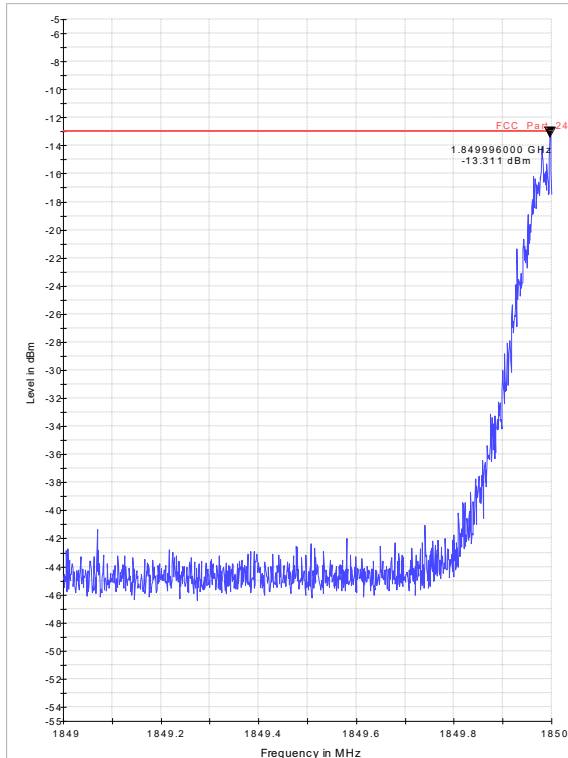


Diagram 37.10_BE_Ch512_GPRS_PK

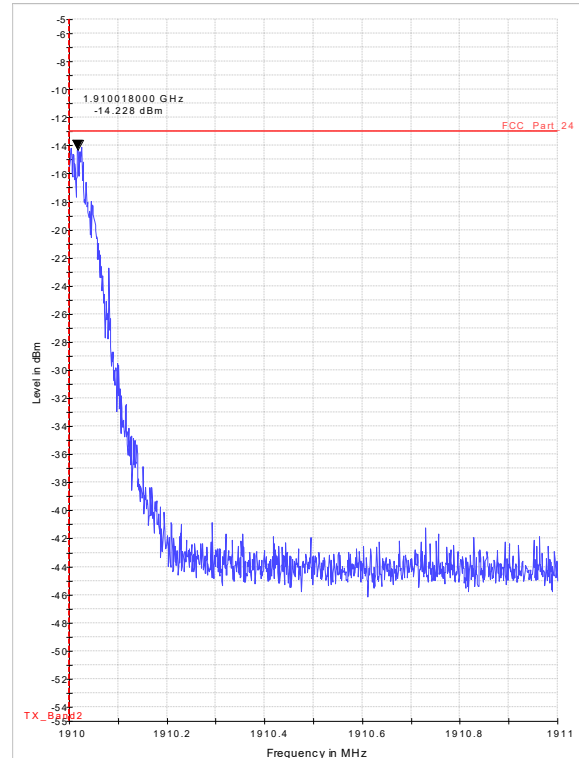


Diagram 37.11_BE_Ch810_GPRS_PK

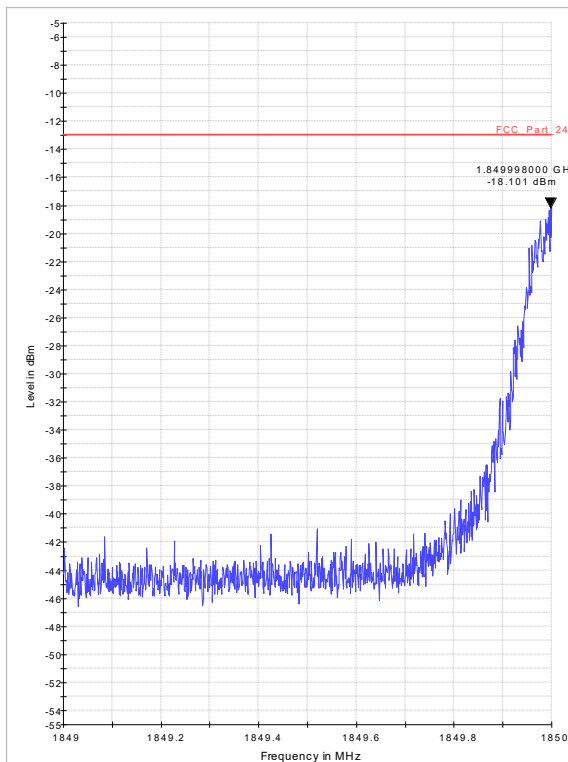


Diagram 37.12_BE_Ch512_EGPRS_PK

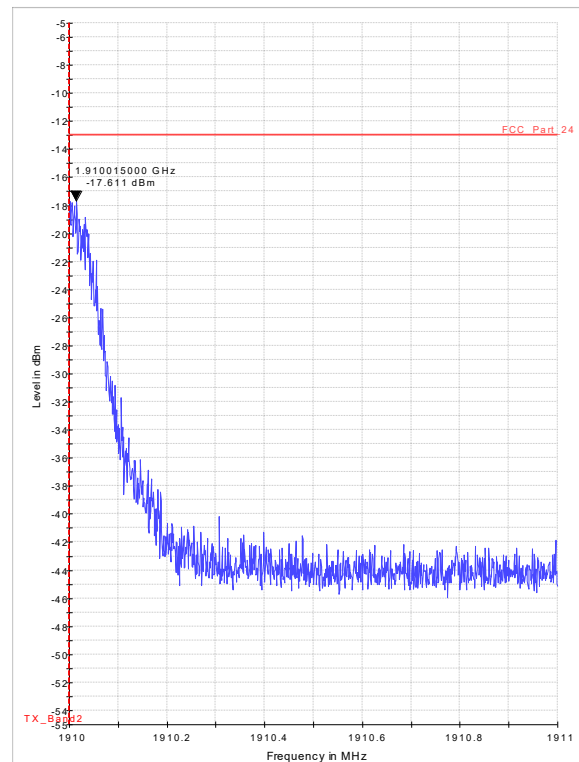


Diagram 37.13_BE_Ch810_EGPRS_PK