

Annex 4: Measurement diagrams
to
TEST REPORT
No.: 6-0147-19-14-5a

According to:
FCC Regulations
Part 22, Part 24

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

for

Gemalto M2M GmbH

Wireless Module ALS1-US

FCC-ID: QIPALS1-US
IC: 7830A-ALS1US







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

1.1. Spurious emissions radiated (850 MHz transmitting mode)

8.04a_RSE_R_Ch128_GPRS

Common Information

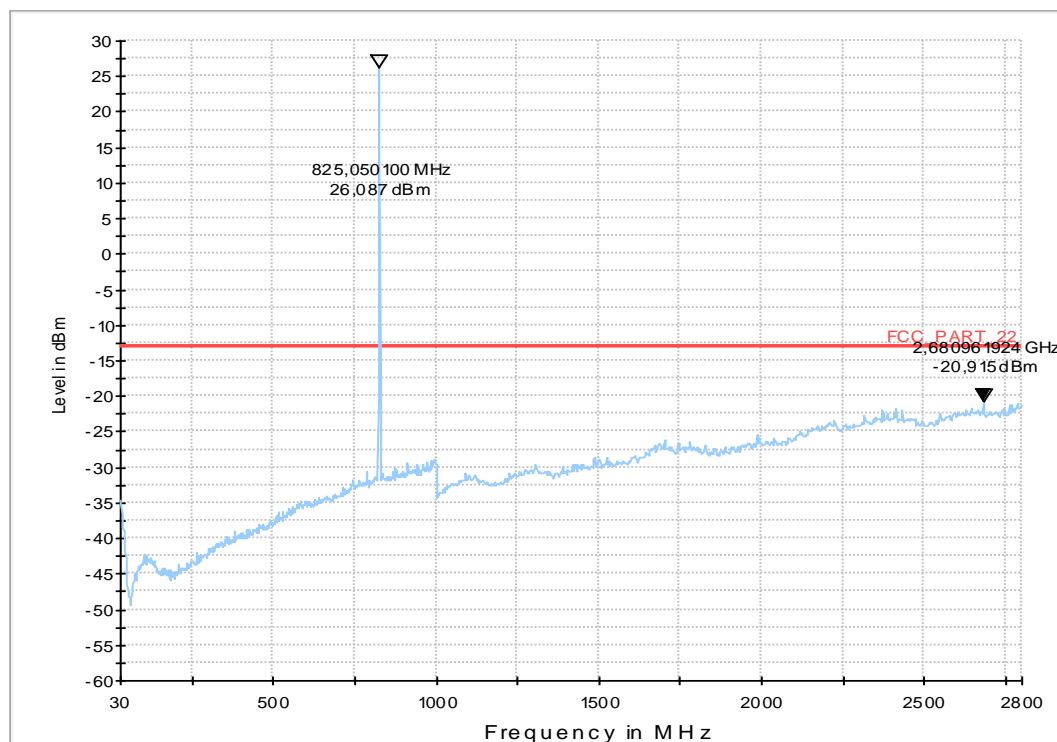
Test Description:	Radiated Emissions GSM850
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 22.917
Test Case:	-
Operating Mode:	MS allocated UL channel 128
Exclusionband:	824 - 849MHz
Environmental Conditions:	Humidity: 30%rH; Temperature: 21,8°C
Operator:	Lor

EUT Information

Manufacturer:	Gemalto GmbH
EuT:	Wireless Module
Type:	ALS1-US

HW version:	-
SW version:	-
Serial number:	#21
Connected Interfaces:	Audio line to Votronic handset, RS232, USB cable
Power Supply:	9VD on DSB75, Intern 4.2 V to Module
Comments:	-

030402_FCC_Part22_GSM850_TX_all_channels_30M-12G_slow_speed



8.04b_RSE_R_Ch128_GPRS

Common Information

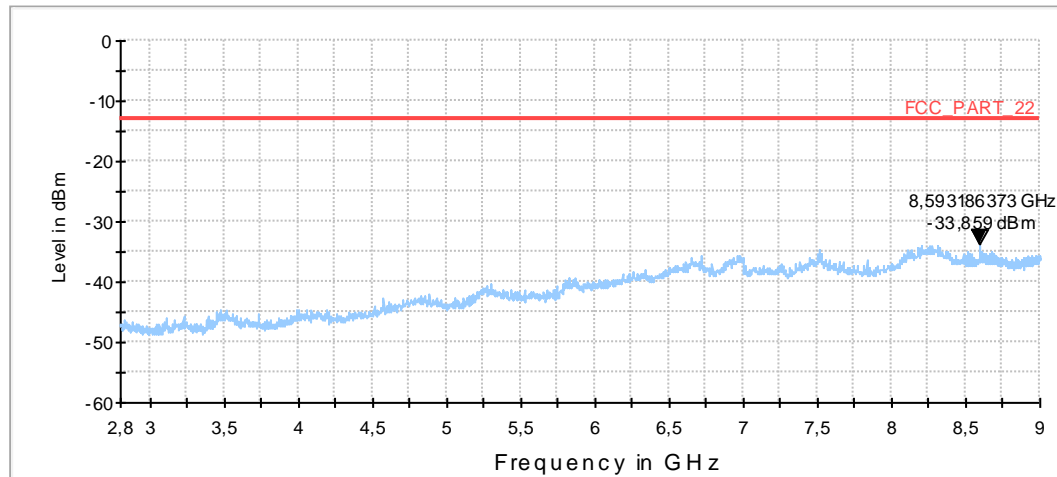
Test Description:	Radiated Emissions GSM850
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part22.917
Test Case:	-
Operating Mode:	MS allocated UL channel 128
Exclusionband:	824 - 849MHz
Environmental Conditions:	Humidity: 30%rH; Temperature: 21,8°C
Operator:	Lor

EUT Information

Manufacturer:	Gemalto GmbH
EuT:	Wireless Module
Type:	ALS1-US

HW version:	-
SW version:	-
Serial number:	#21
Connected Interfaces:	Audio line to Votronic handset, RS232, USB cable
Power Supply:	9VD on DSB75, Intern 4.2 V to Module
Comments:	-

030402_FCC_Part22_GSM850_TX_all_channels_30M-12G_slow_speed



8.05_RSE_R_Ch192_GPRS

Common Information

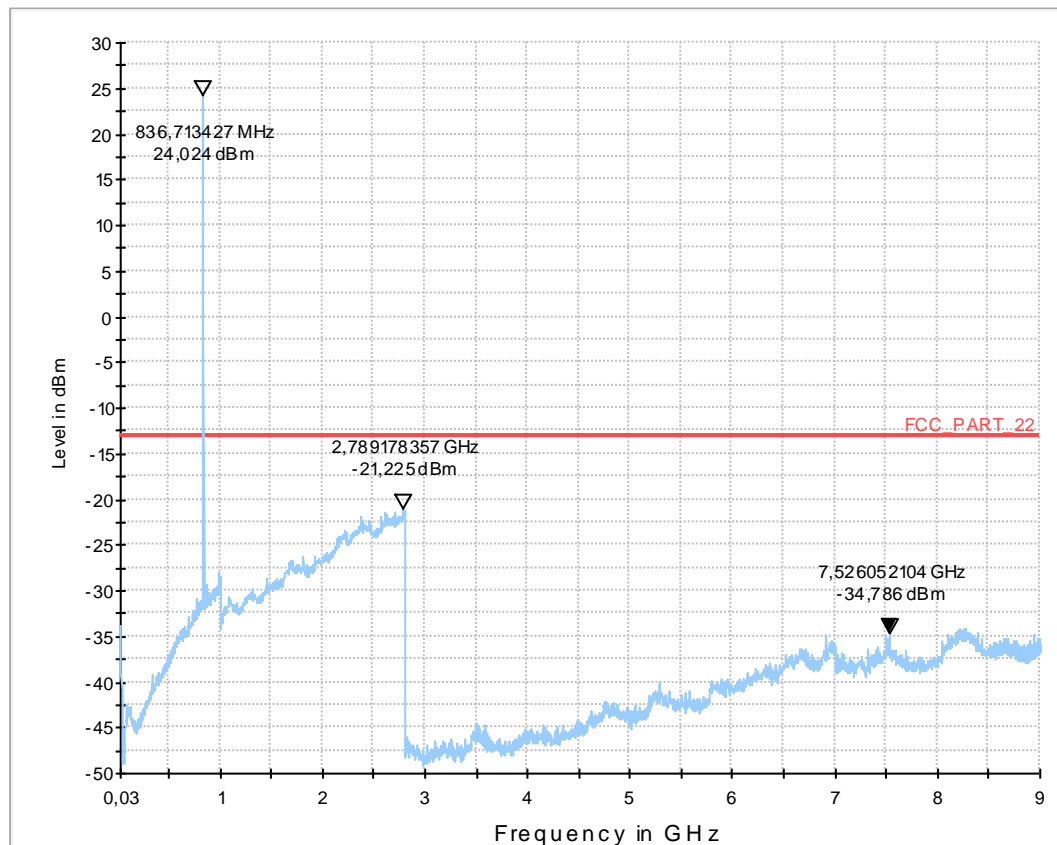
Test Description:	Radiated Emissions GSM850
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part22.917
Test Case:	-
Operating Mode:	MS allocated UL channel 192
Exclusionband:	824 - 849MHz
Environmental Conditions:	Humidity: 30%rH; Temperature: 21,8°C
Operator:	Lor

EUT Information

Manufacturer:	Gemalto GmbH
EuT:	Wireless Module
Type:	ALS1-US

HW version:	-
SW version:	-
Serial number:	#21
Connected Interfaces:	Audio line to Votronic handset, RS232, USB cable
Power Supply:	9VD on DSB75, Intern 4.2 V to Module
Comments:	-

030402_FCC_Part22_GSM850_TX_all_channels_30M-12G_slow_speed



8.06_RSE_R_Ch251_GPRS

Common Information

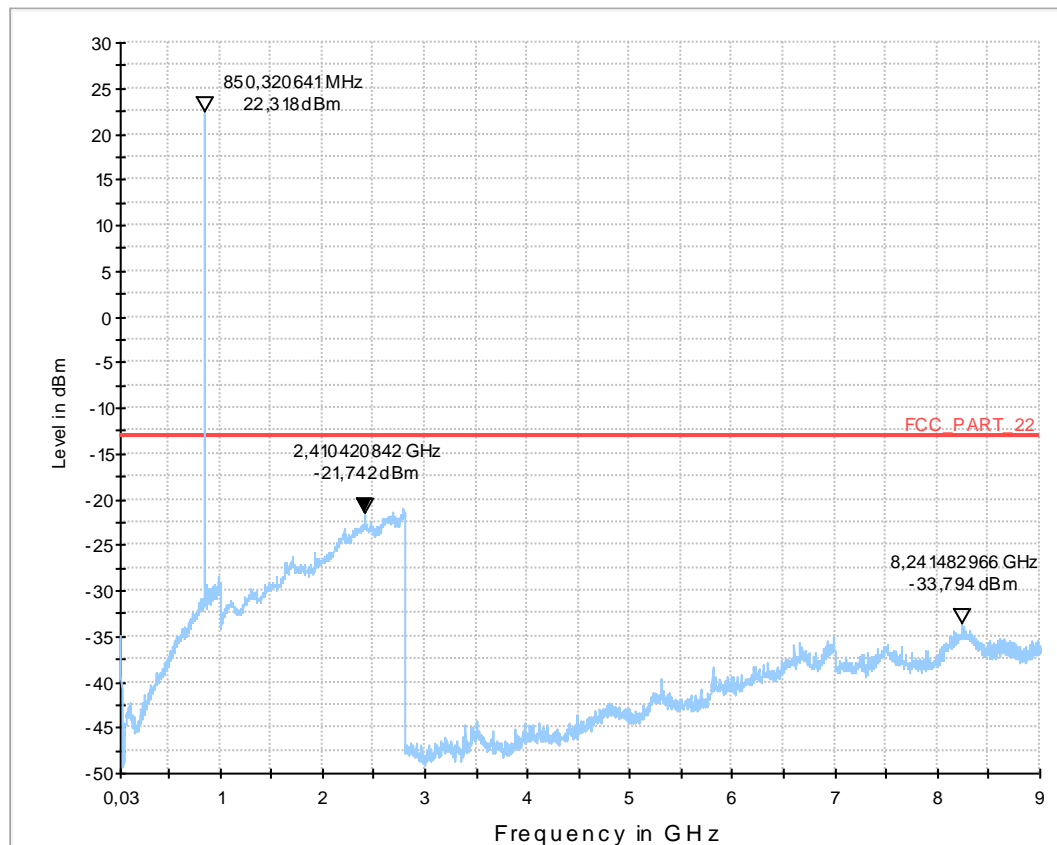
Test Description:	Radiated Emissions GSM850
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part22.917
Test Case:	-
Operating Mode:	MS allocated UL channel 251
Exclusionband:	824 - 849MHz
Environmental Conditions:	Humidity: 30%rH; Temperature: 21,8°C
Operator:	Lor

EUT Information

Manufacturer:	Gemalto GmbH
EuT:	Wireless Module
Type:	ALS1-US

HW version:	-
SW version:	-
Serial number:	#21
Connected Interfaces:	Audio line to Votronic handset, RS232, USB cable
Power Supply:	9VD on DSB75, Intern 4.2 V to Module
Comments:	-

030402_FCC_Part22_GSM850_TX_all_channels_30M-12G_slow_speed



1.2. Spurious emissions radiated (1900 MHz transmitting mode)

8.13_RSE_R_Ch512_GPRS

Common Information

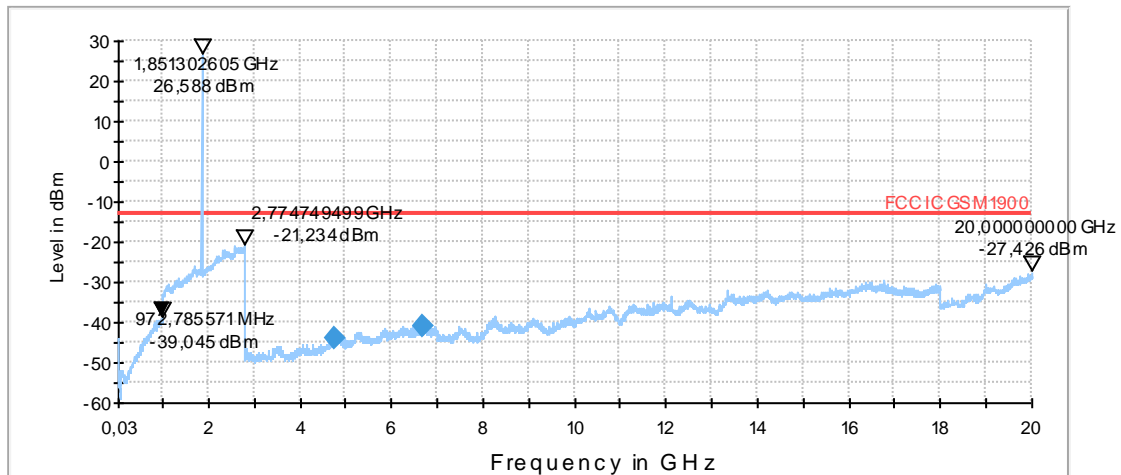
Test Description: Radiated Spurious Emissions GSM1900
 Test Site Location: CETECOM GmbH Essen
 Test Site: Fully Anechoic Room (FAR)
 Test Standard: FCC Part 24.238
 Comm. Link: GPRS1900
 Operating Mode: MS allocated channel 512 (UL = 1850.2MHz)
 Exclusionband: 1850- 1910MHz
 Environmental Conditions: Humidity: 30%rH; Temperature: 21,8°C
 Operator: Lor

EUT Information

Manufacturer: Gemalto GmbH
 EuT: Wireless Module
 Type: ALS1-US

HW version: -
 SW version: -
 Serial number: #21
 Connected Interfaces: Audio line to Votronic handset, RS232, USB cable
 Power Supply: 9VD on DSB75, Intern 4.2 V to Module
 Comments: -

030405_FCC_Part24_GSM1900_TX_all_channels_30M-20G_slow_Speed



Final Result 1

Frequency (MHz)	MaxPeak (dBm)	Meas. Time (ms)	Bandwidth (kHz)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)	Margin (dB)	Limit (dBm)
4758.822645	-43.8	5000.0	3000.000	H	272.0	0.0	-90.5	30.8	-13.0
6690.215431	-41.1	5000.0	3000.000	H	55.0	90.0	-85.3	28.1	-13.0

8.14_RSE_R_Ch661_GPRS

Common Information

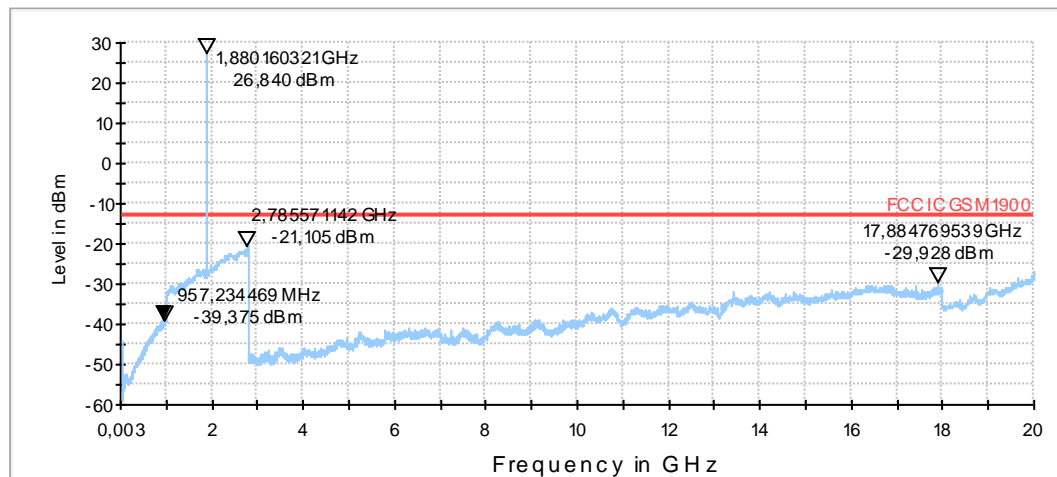
Test Description:	Radiated Spurious Emissions GSM1900
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 24.238
Comm. Link:	GPRS1900
Operating Mode:	MS allocated channel 661(UL = 1880.0MHz)
Exclusionband:	1850- 1910MHz
Environmental Conditions:	Humidity: 30%rH; Temperature: 21,8°C
Operator:	Lor

EUT Information

Manufacturer:	Gemalto GmbH
EuT:	Wireless Module
Type:	ALS1-US

HW version:	-
SW version:	-
Serial number:	#21
Connected Interfaces:	Audio line to Votronic handset, RS232, USB cable
Power Supply:	9VD on DSB75, Intern 4.2 V to Module
Comments:	-

030405_FCC_Part24_GSM1900_TX_all_channels_30M-20G_slow_Speed



8.15_RSE_R_Ch810_GPRS

Common Information

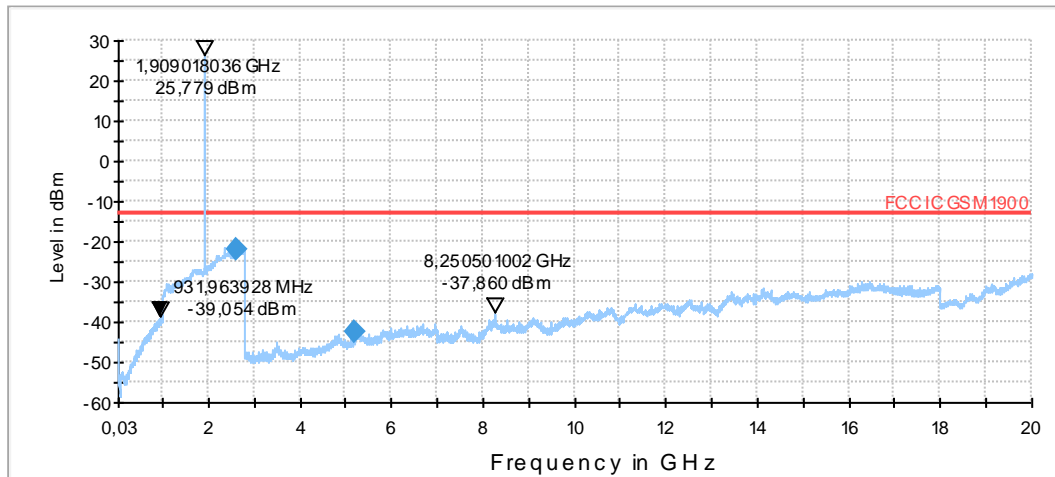
Test Description: Radiated Spurious Emissions GSM1900
 Test Site Location: CETECOM GmbH Essen
 Test Site: Fully Anechoic Room (FAR)
 Test Standard: FCC Part 24.238
 Comm. Link: GPRS1900
 Operating Mode: MS allocated channel 810 (UL = 1909.8MHz)
 Exclusionband: 1850- 1910MHz
 Environmental Conditions: Humidity: 30%rH; Temperature: 21,8°C
 Operator: Lor

EUT Information

Manufacturer: Gemalto GmbH
 EuT: Wireless Module
 Type: ALS1-US

 HW version: -
 SW version: -
 Serial number: #21
 Connected Interfaces: Audio line to Votronic handset, RS232, USB cable
 Power Supply: 9VD on DSB75, Intern 4.2 V to Module
 Comments: -

030405_FCC_Part24_GSM1900_TX_all_channels_30M-20G_slow_Speed



Final Result 1

Frequency (MHz)	MaxPeak (dBm)	Meas. Time (ms)	Bandwidth (kHz)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)	Margin (dB)	Limit (dBm)
2632.650301	-22.0	5000.0	1000.000	H	349.0	0.0	-58.7	9.0	-13.0
5219.473948	-42.5	5000.0	3000.000	H	-38.0	0.0	-88.9	29.5	-13.0

8.16_RSE_R_Ch661_GPRS

Common Information

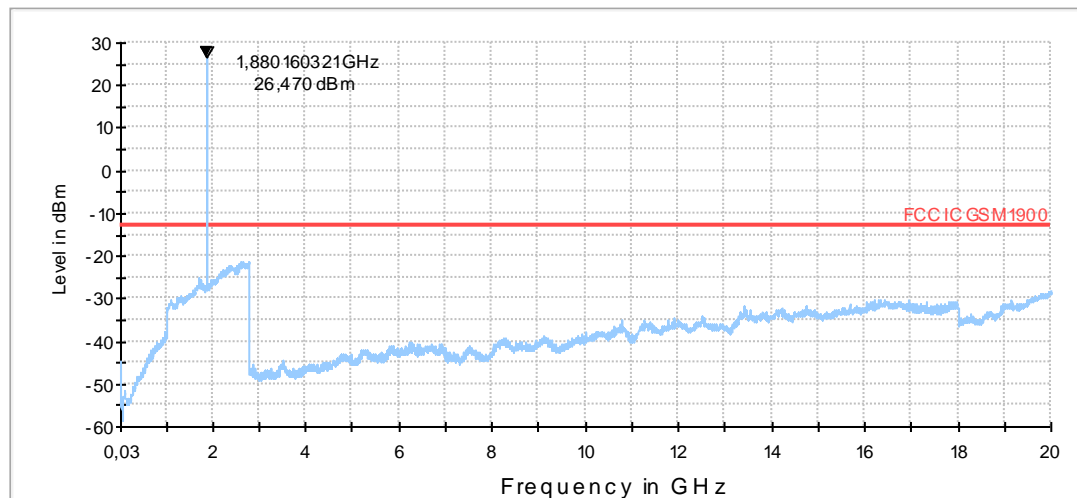
Test Description:	Radiated Spurious Emissions GSM1900
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 24.238
Comm. Link:	GSM1900, GPRS
Operating Mode:	MS allocated channel 661(UL = 1880.0MHz)
Exclusionband:	1850- 1910MHz
Environmental Conditions:	Humidity: 63%rH; Temperature: 25°C
Operator:	HLA/ABA

EUT Information

Manufacturer:	Gemalto M2M GmbH
Model:	Wireless Module
Type:	ALS1-US

EUT:	WMC0434US1bb
HW version:	B2 (Rev4.2)
SW version:	01.010
SVN:	-
Config:	-
Serial number:	004401080906320
Connected Interfaces:	USB, RS232, Audio
Power Supply:	3.3V internally, 9V DC externally over DSB75
Comments:	Two Radiated Antenna

030404_FCC_Part24_GSM1900_TX_all_channels_30M-20G



1.3. Radiated emissions on 850 MHz transmitting band-edge

9.03_BE_R_Ch128_GPRS

Common Information

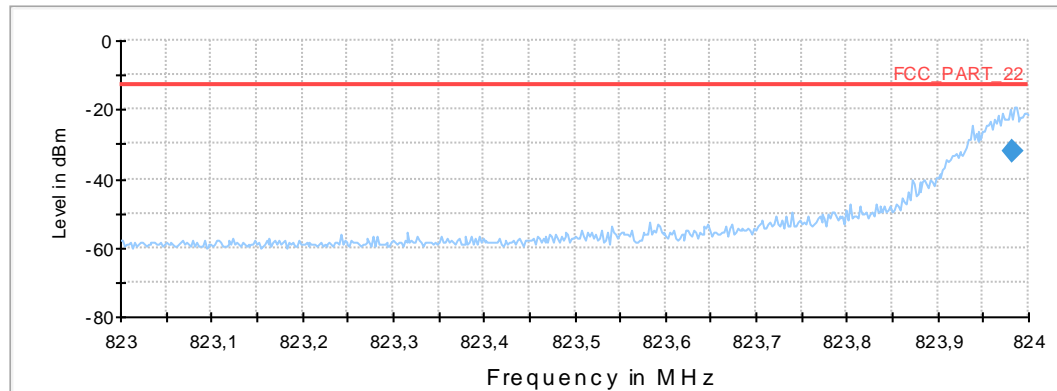
Test Description: Radiated Band Edge Compliance GSM850
 Test Site Location: CETECOM GmbH Essen
 Test Site: Fully Anechoic Room (FAR)
 Test Standard: FCC Part 22.917
 Operating Mode: MS allocated channel 128 (fc = 824.2MHz)
 Exclusionband: 824 - 849MHz
 Environmental Conditions: Humidity: 30%rH; Temperature: 21,8°C
 Operator: Lor

EUT Information

Manufacturer: Gemalto GmbH
 EuT: Wireless Module
 Type: ALS1-US

 HW version: -
 SW version: -
 Serial number: #21
 Connected Interfaces: Audio line to Votronic handset, RS232, USB cable
 Power Supply: 9VD on DSB75, Intern 4.2 V to Module
 Comments: -

030402d_FCC_Part22_GSM850_TX_low_BE_CMU_RF3_RF4_low_speed_no.



Final Result 1

Frequency (MHz)	RMS (dBm)	Meas. Time (ms)	Bandwidth (kHz)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)	Margin (dB)	Limit (dBm)
823.981964	-32.0	10000.0	3.000	V	7.0	90.0	-75.9	19.0	-13.0

9.04_BE_R_Ch251_GPRS

Common Information

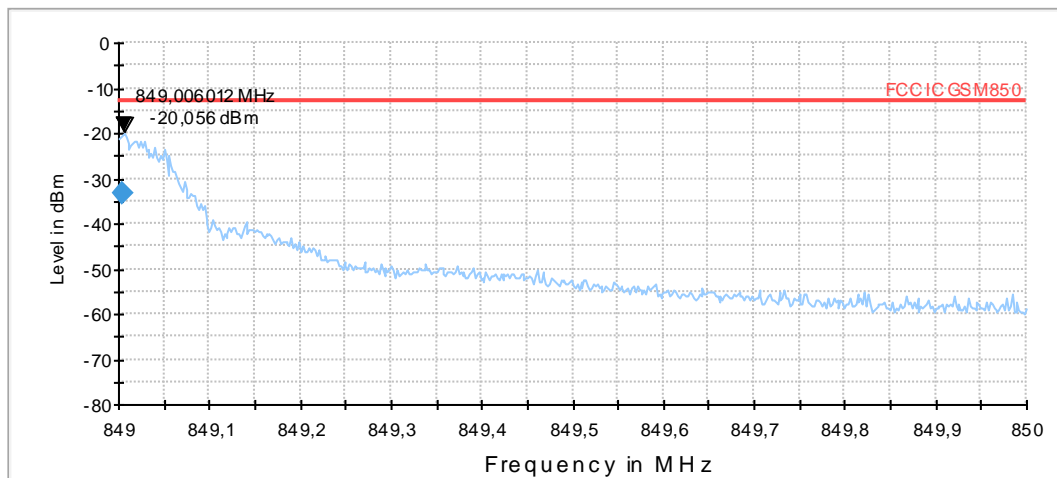
Test Description: Radiated Band Edge Compliance GSM850
 Test Site Location: CETECOM GmbH Essen
 Test Site: Fully Anechoic Room (FAR)
 Test Standard: FCC Part 22.917
 Operating Mode: MS allocated channel 251 (fc = 848.8MHz)
 Exclusionband: 824 - 849MHz
 Environmental Conditions: Humidity: 30%rH; Temperature: 21,8°C
 Operator: Lor

EUT Information

Manufacturer: Gemalto GmbH
 EuT: Wireless Module
 Type: ALS1-US

 HW version: -
 SW version: -
 Serial number: #21
 Connected Interfaces: Audio line to Votronic handset, RS232, USB cable
 Power Supply: 9VD on DSB75, Intern 4.2 V to Module
 Comments: -

030403d_FCC_Part22_GSM850_TX_high_BE_CMU_RF3_RF4_low_speed_nc



Final Result 1

Frequency (MHz)	RMS (dBm)	Meas. Time (ms)	Bandwidth (kHz)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)	Margin (dB)	Limit (dBm)
849.004008	-33.3	10000.0	3.000	V	108.0	0.0	-76.0	20.3	-13.0

9.05_BE_R_Ch128_EGPRS

Common Information

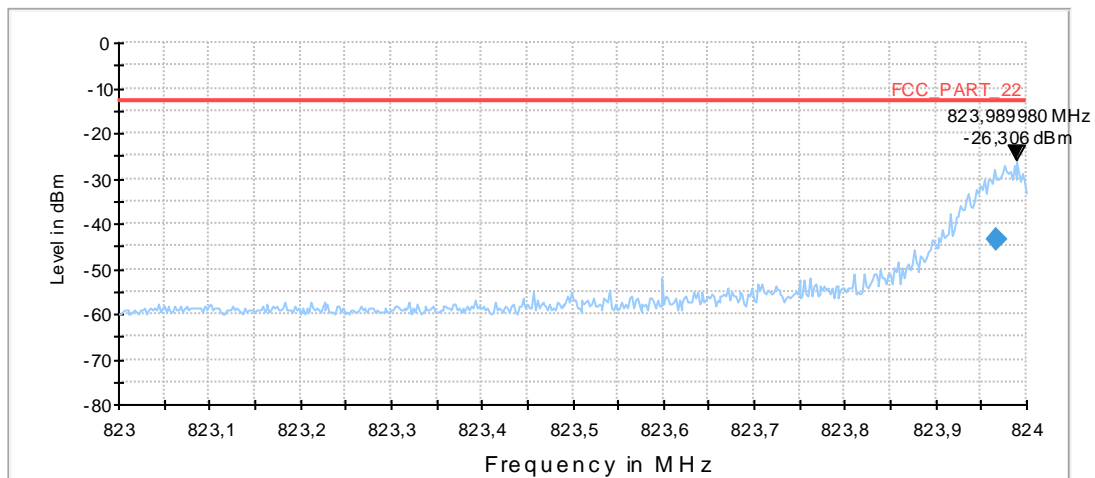
Test Description: Radiated Band Edge Compliance GSM850
 Test Site Location: CETECOM GmbH Essen
 Test Site: Fully Anechoic Room (FAR)
 Test Standard: FCC Part 22.917
 Operating Mode: MS allocated channel 128 (fc = 824.2MHz), E-GPRS Mode
 Exclusionband: 824 - 849MHz
 Environmental Conditions: Humidity: 30%rH; Temperature: 21,8°C
 Operator: Lor

EUT Information

Manufacturer: Gemalto GmbH
 EuT: Wireless Module
 Type: ALS1-US

 HW version: -
 SW version: -
 Serial number: #21
 Connected Interfaces: Audio line to Votronic handset, RS232, USB cable
 Power Supply: 9VD on DSB75, Intern 4.2 V to Module
 Comments: -

030402d_FCC_Part22_GSM850_TX_low_BE_CMU_RF3_RF4_low_speed_no.



Final Result 1

Frequency (MHz)	RMS (dBm)	Meas. Time (ms)	Bandwidth (kHz)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)	Margin (dB)	Limit (dBm)
823.965932	-43.4	10000.0	3.000	V	9.0	90.0	-75.9	30.4	-13.0

9.06_BE_R_Ch251_EGPRS

Common Information

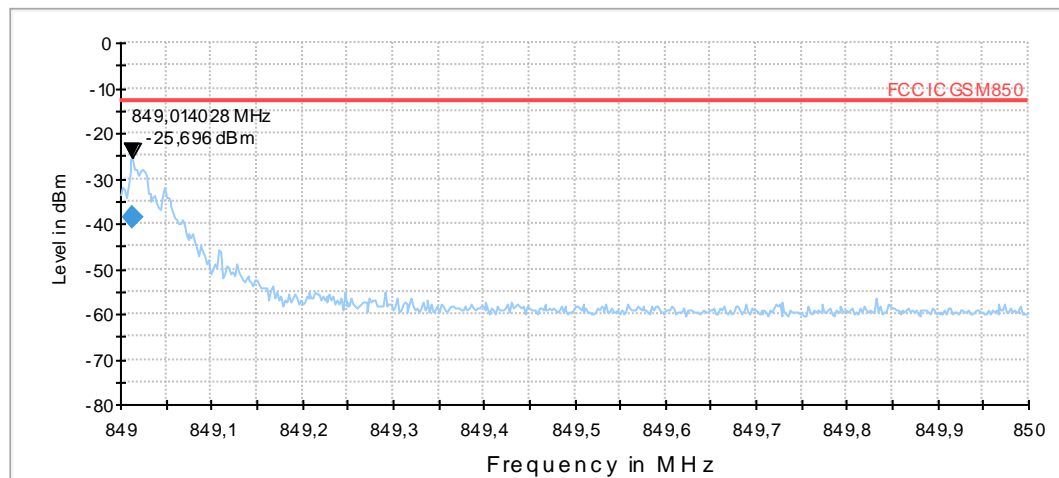
Test Description: Radiated Band Edge Compliance GSM850
 Test Site Location: CETECOM GmbH Essen
 Test Site: Fully Anechoic Room (FAR)
 Test Standard: FCC Part 22.917
 Operating Mode: MS allocated channel 251 (fc = 848.8MHz), E-GPRS Mode
 Exclusionband: 824 - 849MHz
 Environmental Conditions: Humidity: 30%rH; Temperature: 21,8°C
 Operator: Lor

EUT Information

Manufacturer: Gemalto GmbH
 EuT: Wireless Module
 Type: ALS1-US

 HW version: -
 SW version: -
 Serial number: #21
 Connected Interfaces: Audio line to Votronic handset, RS232, USB cable
 Power Supply: 9VD on DSB75, Intern 4.2 V to Module
 Comments: -

030403d_FCC_Part22_GSM850_TX_high_BE_CMU_RF3_RF4_low_speed_nc



Final Result 1

Frequency (MHz)	RMS (dBm)	Meas. Time (ms)	Bandwidth (kHz)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)	Margin (dB)	Limit (dBm)
849.014028	-38.7	10000.0	3.000	V	38.0	0.0	-76.1	25.7	-13.0

1.4. Radiated emissions on 1900 MHz transmitting band-edge

9.09_BE_R_Ch512_GPRS

Common Information

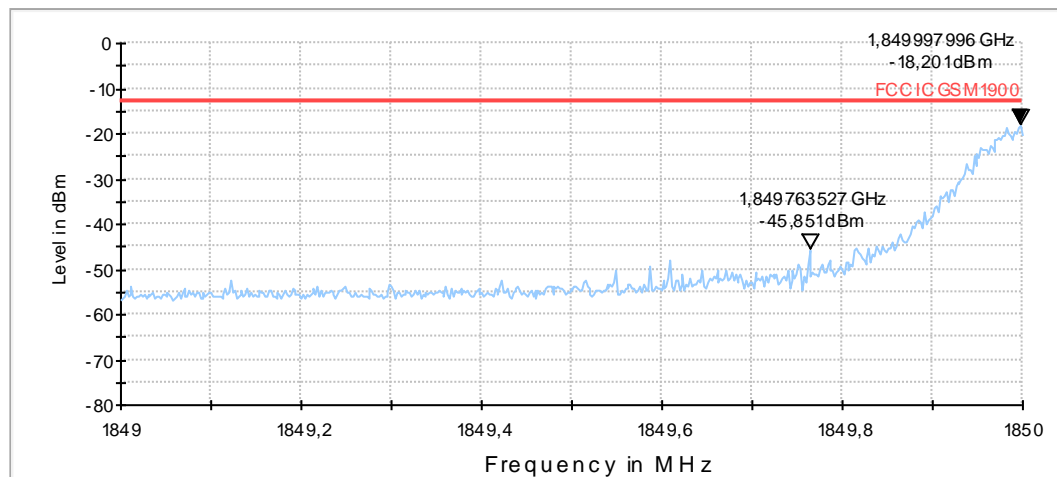
Test Description:	Radiated Spurious Emissions GSM1900
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 24.238
Comm. Link:	GPRS1900
Operating Mode:	MS allocated channel 512 (UL = 1850.2MHz)
Exclusionband:	1850- 1910MHz
Environmental Conditions:	Humidity: 30%rH; Temperature: 22°C
Operator:	Lor

EUT Information

Manufacturer:	Gemalto GmbH
EuT:	Wireless Module
Type:	ALS1-US

HW version:	-
SW version:	-
Serial number:	#21
Connected Interfaces:	Audio line to Votronic handset, RS232, USB cable
Power Supply:	9VD on DSB75, Intern 4.2 V to Module
Comments:	-

030405_FCC_Part24_GSM1900_TX_low_ch_band_edge



9.10_BE_R_Ch810_GPRS

Common Information

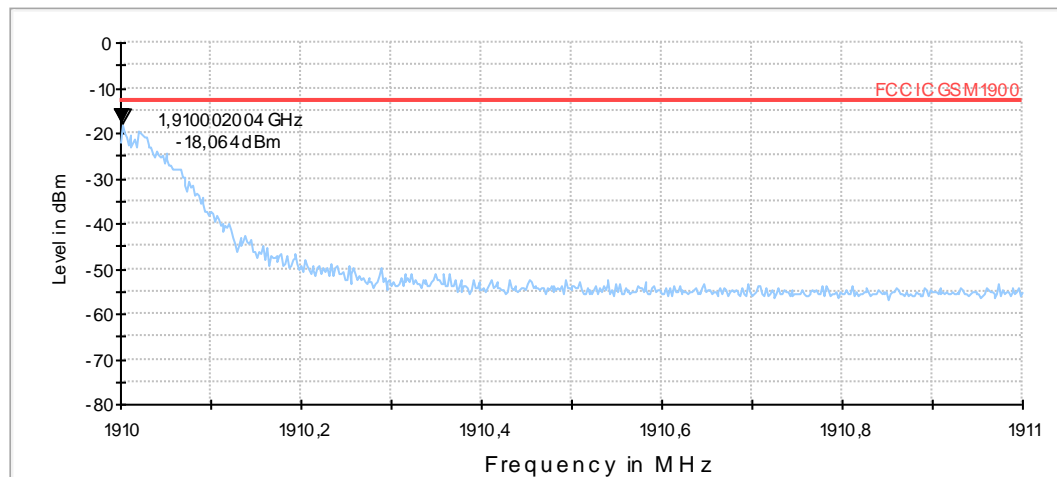
Test Description:	Radiated Spurious Emissions GSM1900
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 24.238
Comm. Link:	GPRS1900
Operating Mode:	MS allocated channel 810 (UL = 1909.8MHz)
Exclusionband:	1850- 1910MHz
Environmental Conditions:	Humidity: 30%rH; Temperature: 22°C
Operator:	Lor

EUT Information

Manufacturer:	Gemalto GmbH
EuT:	Wireless Module
Type:	ALS1-US

HW version:	-
SW version:	-
Serial number:	#21
Connected Interfaces:	Audio line to Votronic handset, RS232, USB cable
Power Supply:	9VD on DSB75, Intern 4.2 V to Module
Comments:	-

030406_FCC_Part24_GSM1900_TX_high_ch_band_edge



9.11_BE_R_Ch512_EGPRS

Common Information

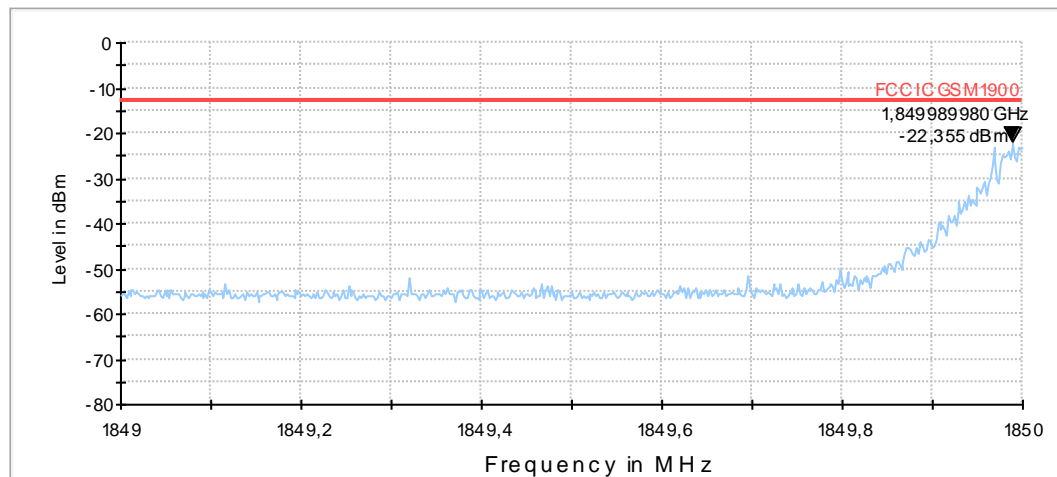
Test Description:	Radiated Spurious Emissions GSM1900
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 24.238
Comm. Link:	E-GPRS1900
Operating Mode:	MS allocated channel 512 (UL = 1850.2MHz)
Exclusionband:	1850- 1910MHz
Environmental Conditions:	Humidity: 30%rH; Temperature: 22°C
Operator:	Lor

EUT Information

Manufacturer:	Gemalto GmbH
EuT:	Wireless Module
Type:	ALS1-US

HW version:	-
SW version:	-
Serial number:	#21
Connected Interfaces:	Audio line to Votronic handset, RS232, USB cable
Power Supply:	9VD on DSB75, Intern 4.2 V to Module
Comments:	-

030405_FCC_Part24_GSM1900_TX_low_ch_band_edge



9.12_BE_R_Ch810_EGPRS

Common Information

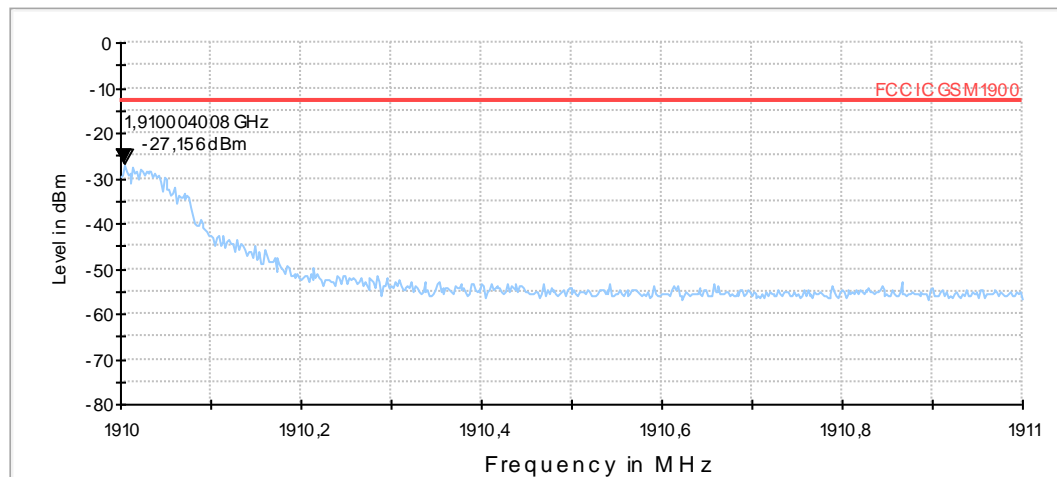
Test Description:	Radiated Spurious Emissions GSM1900
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 24.238
Comm. Link:	E-GPRS1900
Operating Mode:	MS allocated channel 810 (UL = 1909.8MHz)
Exclusionband:	1850- 1910MHz
Environmental Conditions:	Humidity: 30%rH; Temperature: 22°C
Operator:	Lor

EUT Information

Manufacturer:	Gemalto GmbH
EuT:	Wireless Module
Type:	ALS1-US

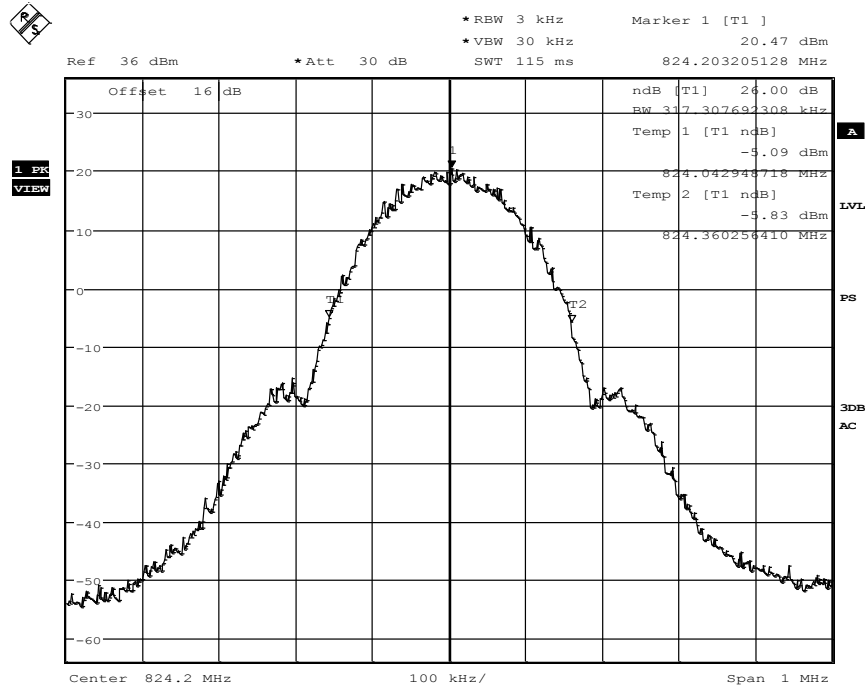
HW version:	-
SW version:	-
Serial number:	#21
Connected Interfaces:	Audio line to Votronic handset, RS232, USB cable
Power Supply:	9VD on DSB75, Intern 4.2 V to Module
Comments:	-

030406_FCC_Part24_GSM1900_TX_high_ch_band_edge



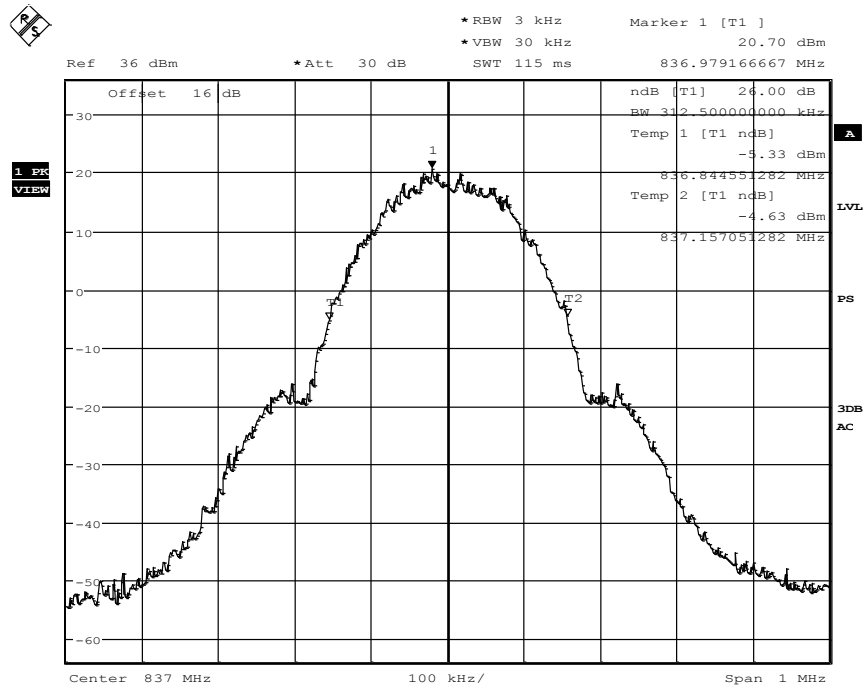
1.5. 26dBc Emission bandwidth

1.5.1. GPRS 850 MHz TX-mode



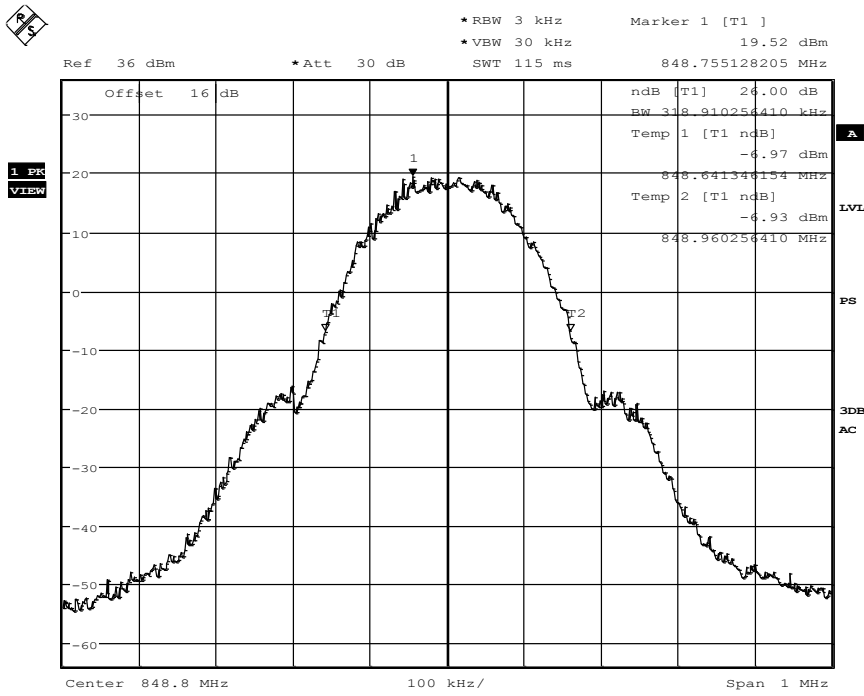
Date: 22.MAR.2013 13:51:27

Channel 128



Date: 22.MAR.2013 13:46:55

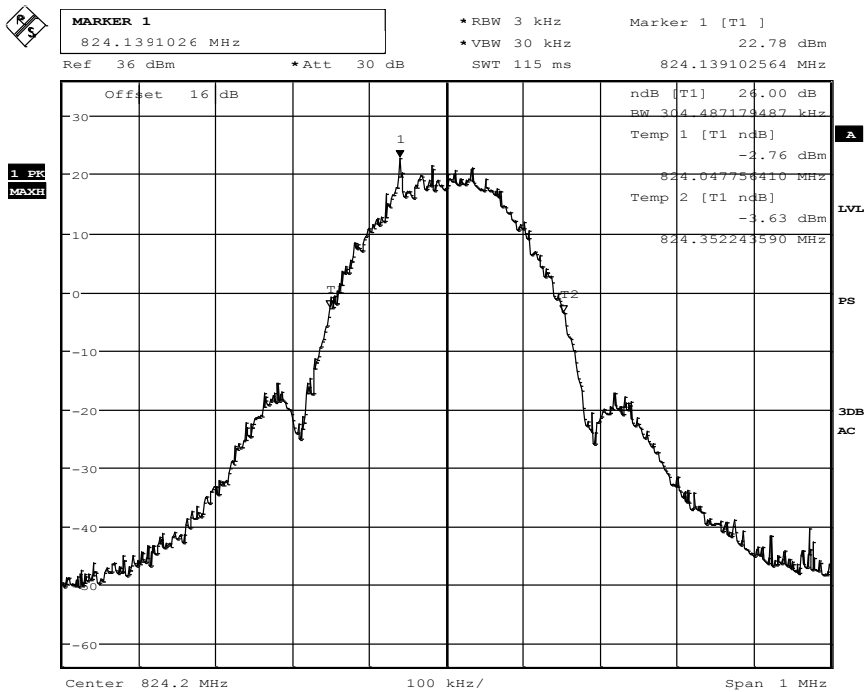
Channel 192



Date: 22.MAR.2013 13:43:14

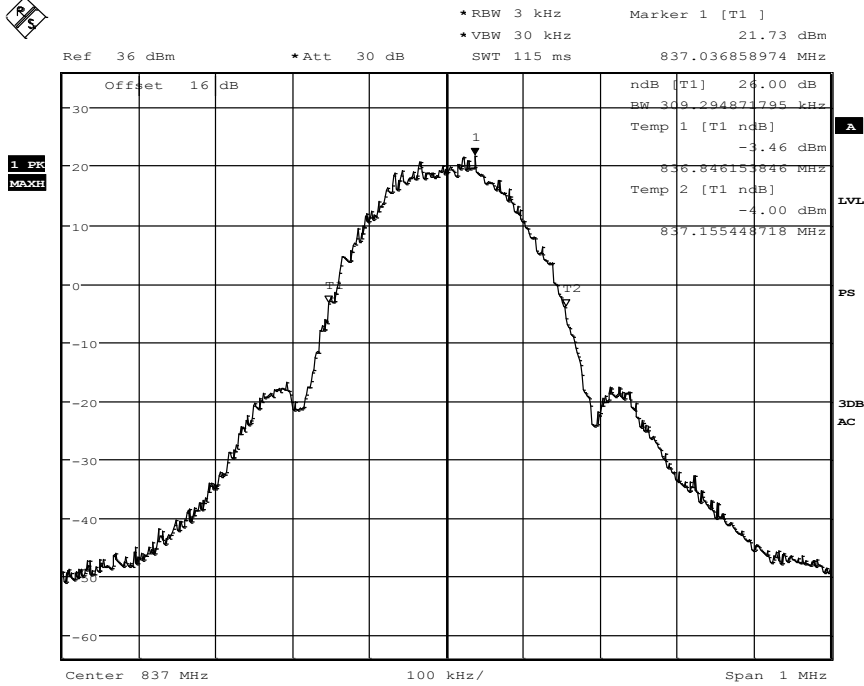
Channel 251

1.5.2. E-GPRS 850 MHz TX-mode



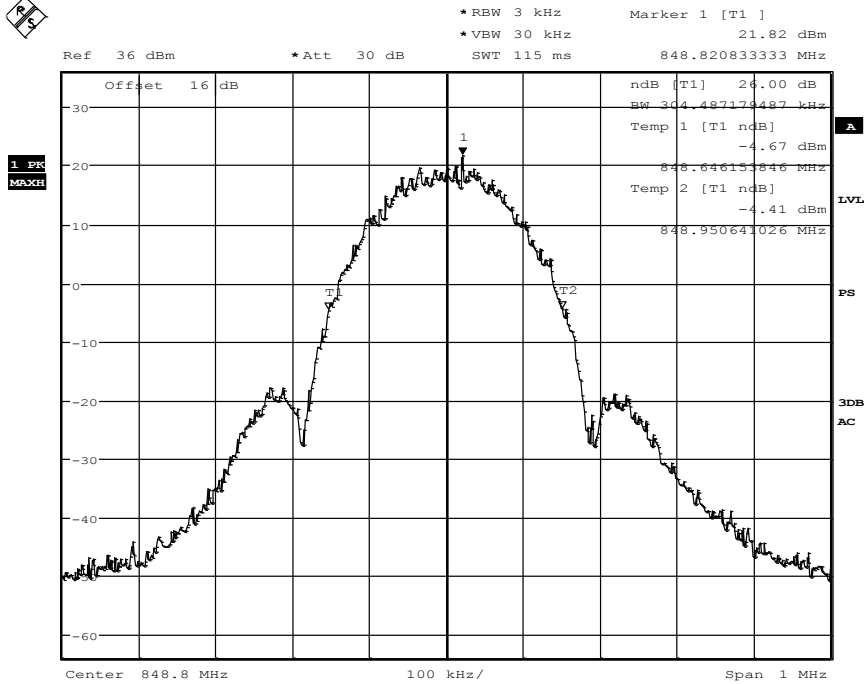
Date: 22.MAR.2013 13:06:43

Channel 128



Date: 22.MAR.2013 13:01:24

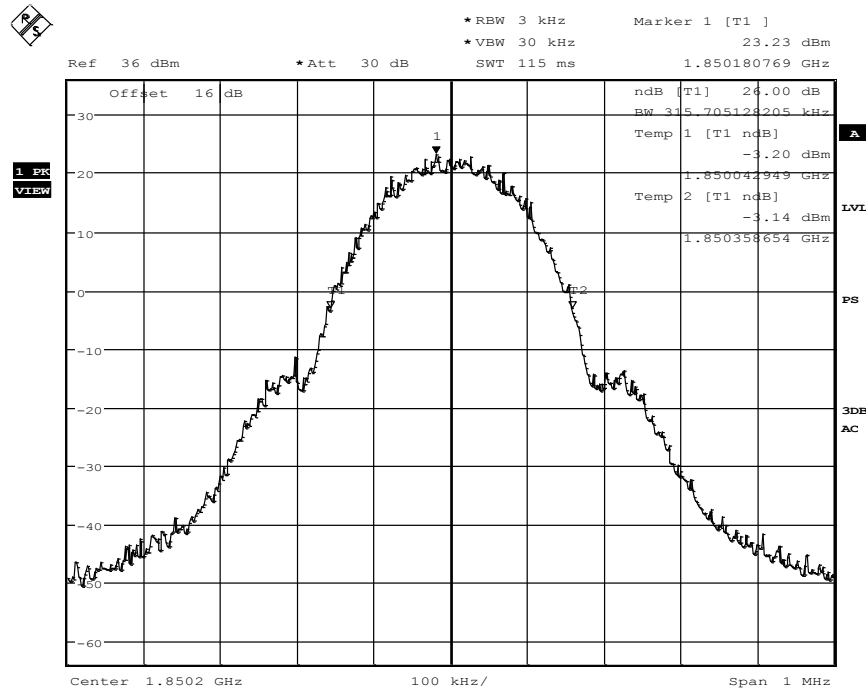
Channel 192



Date: 22.MAR.2013 13:09:46

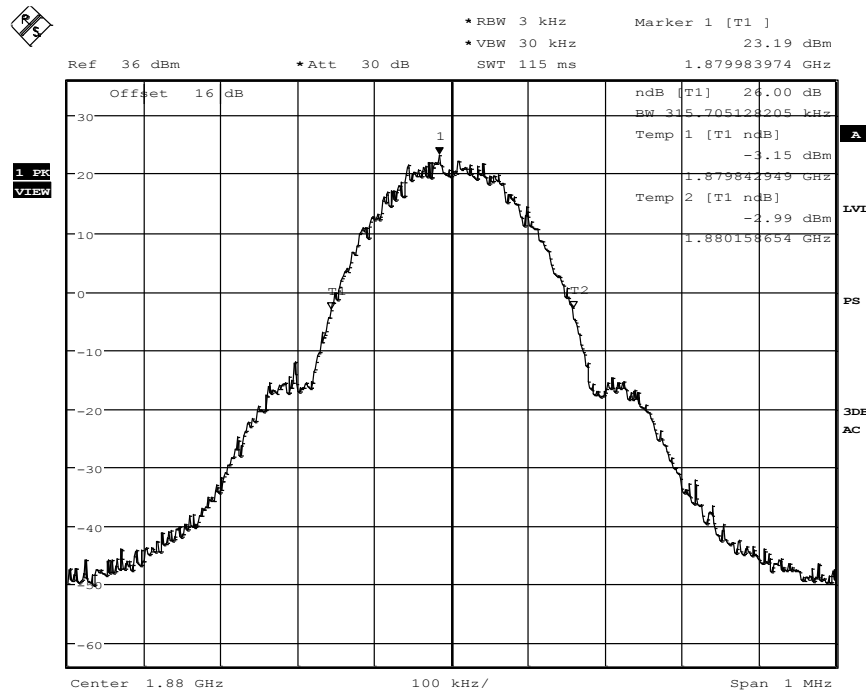
Channel 251

1.5.3. GPRS 1900 MHz TX-mode



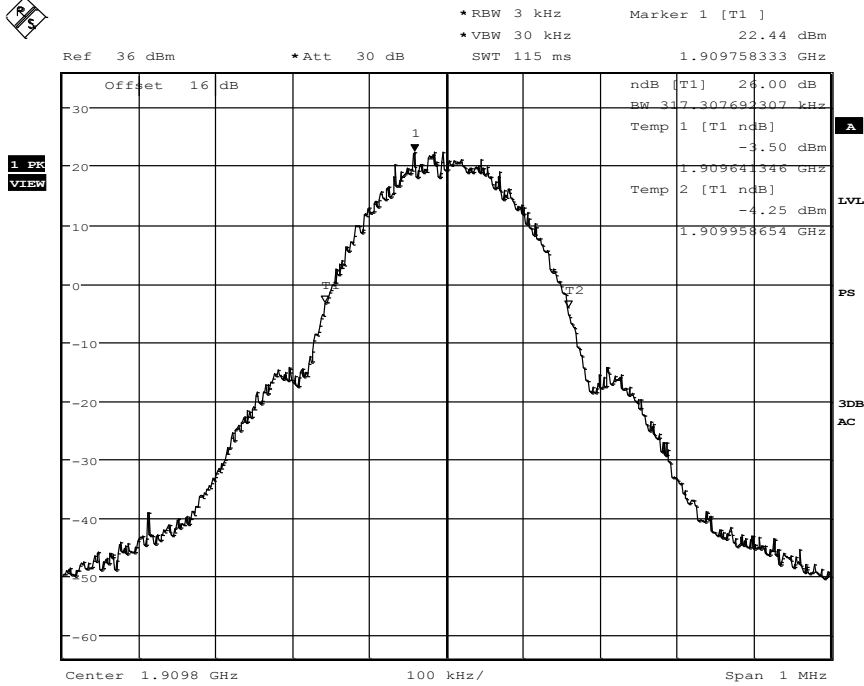
Date: 22.MAR.2013 13:57:01

Channel 512



Date: 22.MAR.2013 14:00:49

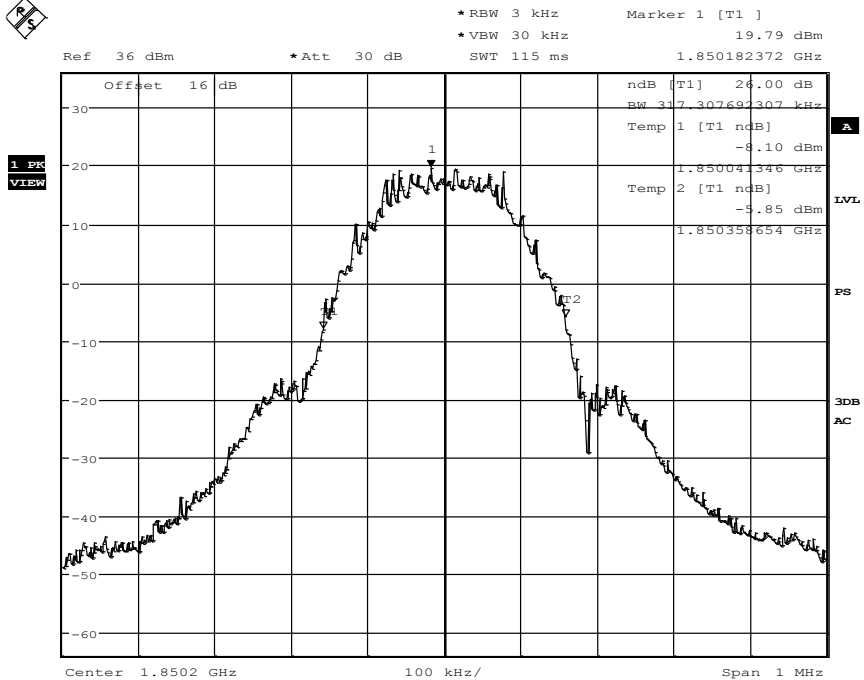
Channel 661



Date: 22.MAR.2013 14:04:33

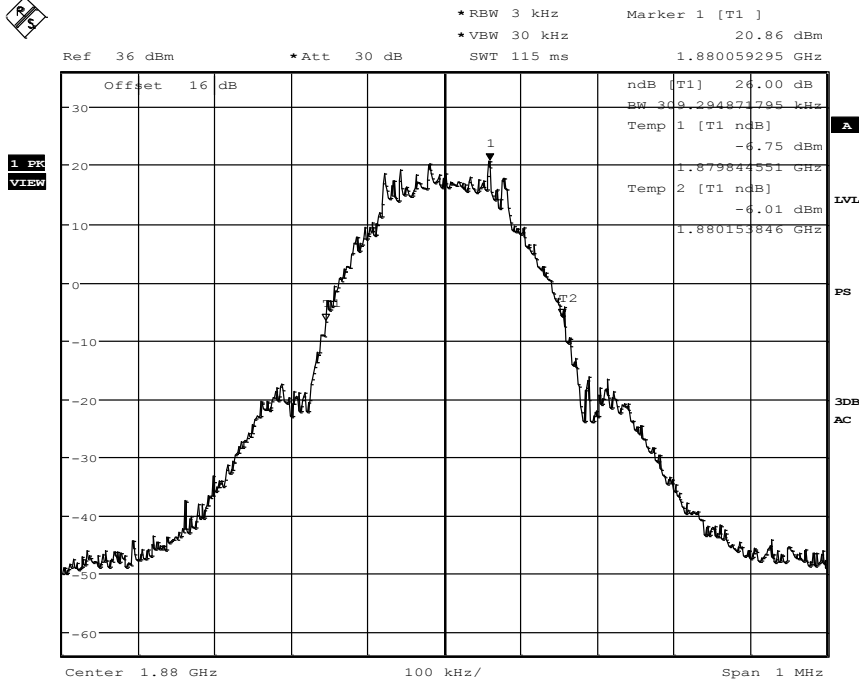
Channel 810

1.5.4. E-GPRS 1900 MHz TX-mode



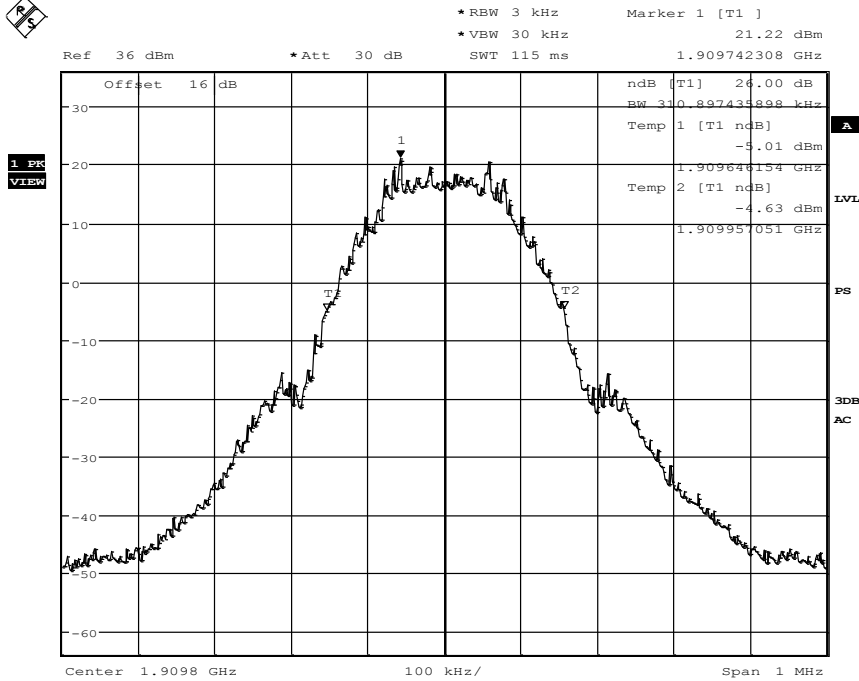
Date: 22.MAR.2013 15:42:39

Channel 512



Date: 22.MAR.2013 15:53:13

Channel 661

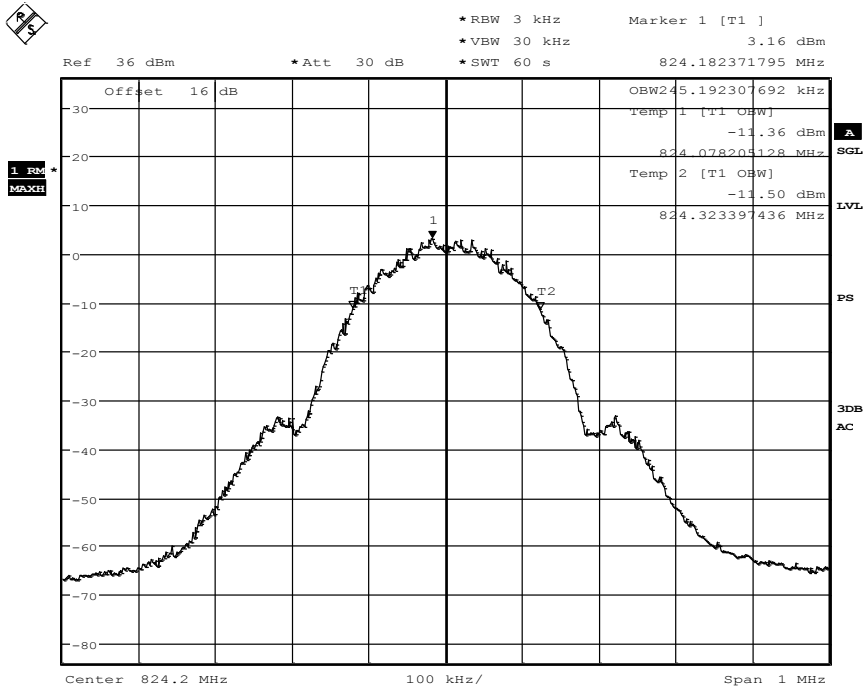


Date: 22.MAR.2013 16:01:05

Channel 810

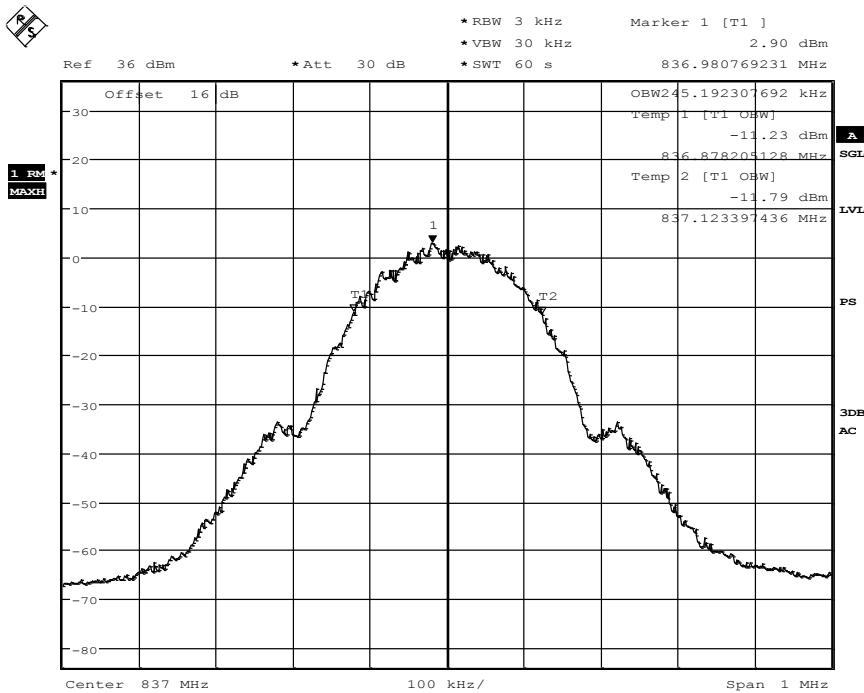
1.6. 99% Occupied bandwidth

1.6.1. GPRS 850 MHz TX-mode



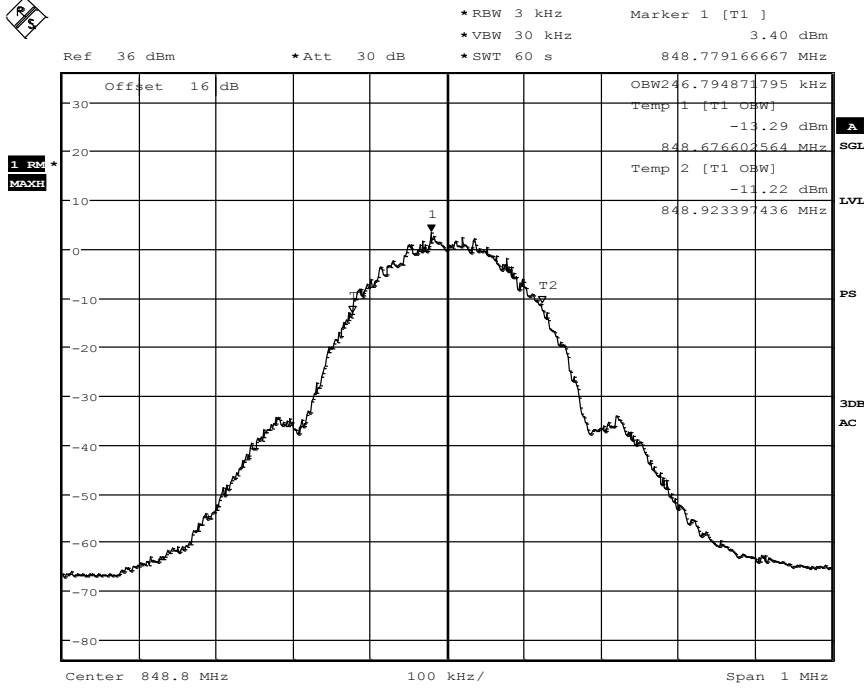
Date: 22.MAR.2013 13:33:41

Channel 128



Date: 22.MAR.2013 13:36:00

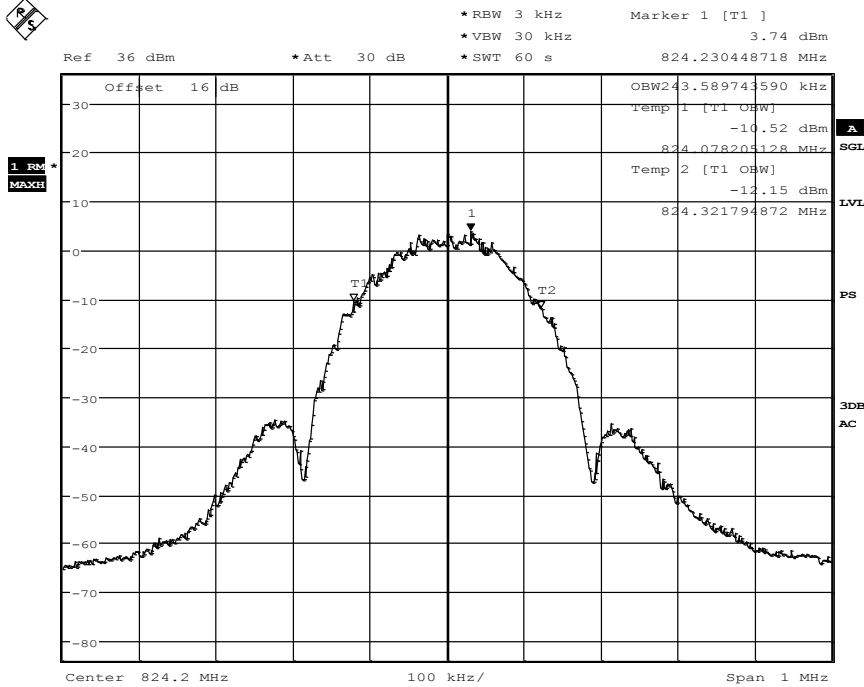
Channel 192



Date: 22.MAR.2013 13:37:51

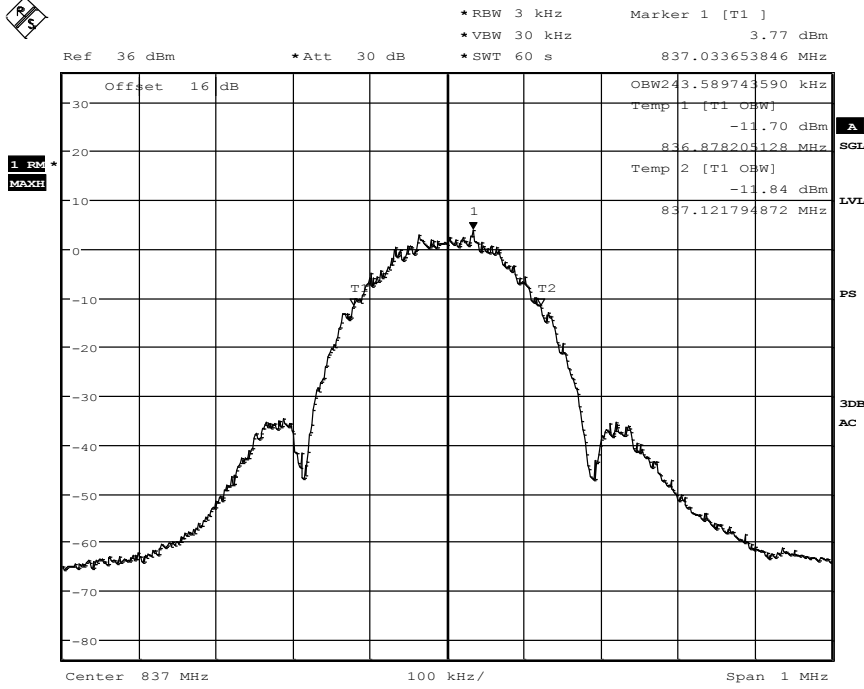
Channel 251

1.6.2. E-GPRS 850 MHz TX-mode



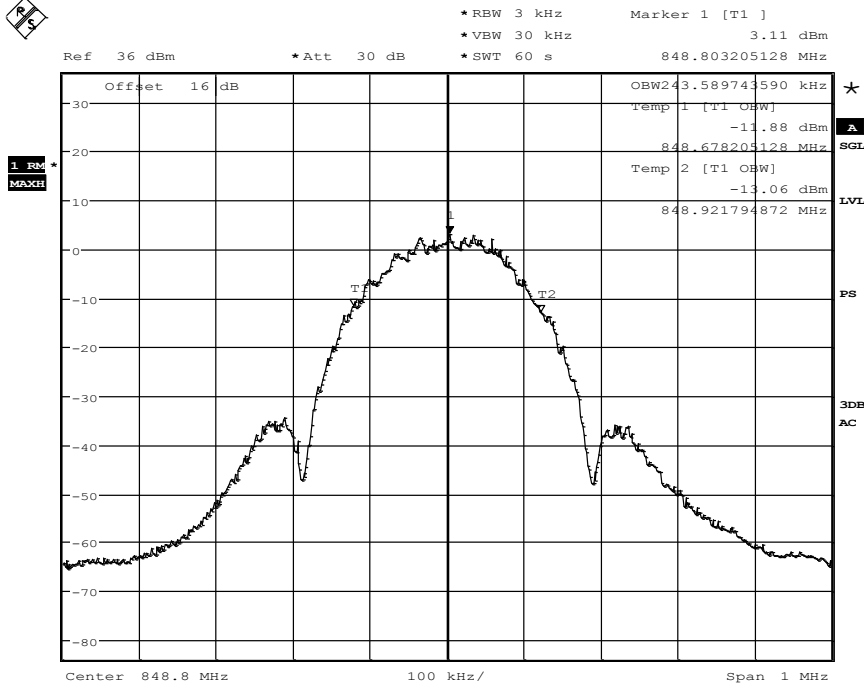
Date: 22.MAR.2013 13:26:25

Channel 128



Date: 22.MAR.2013 13:24:42

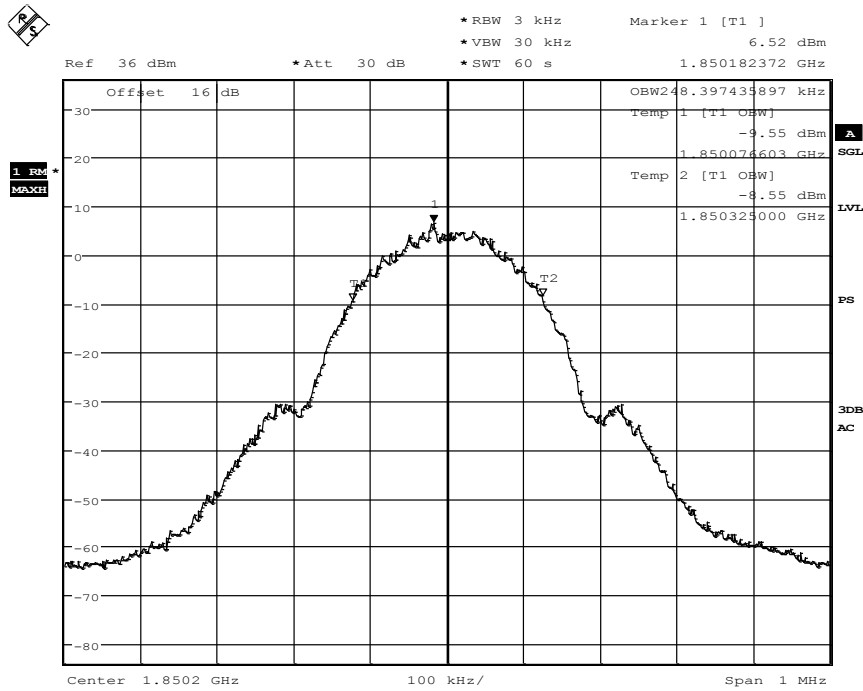
Channel 192



Date: 22.MAR.2013 13:22:27

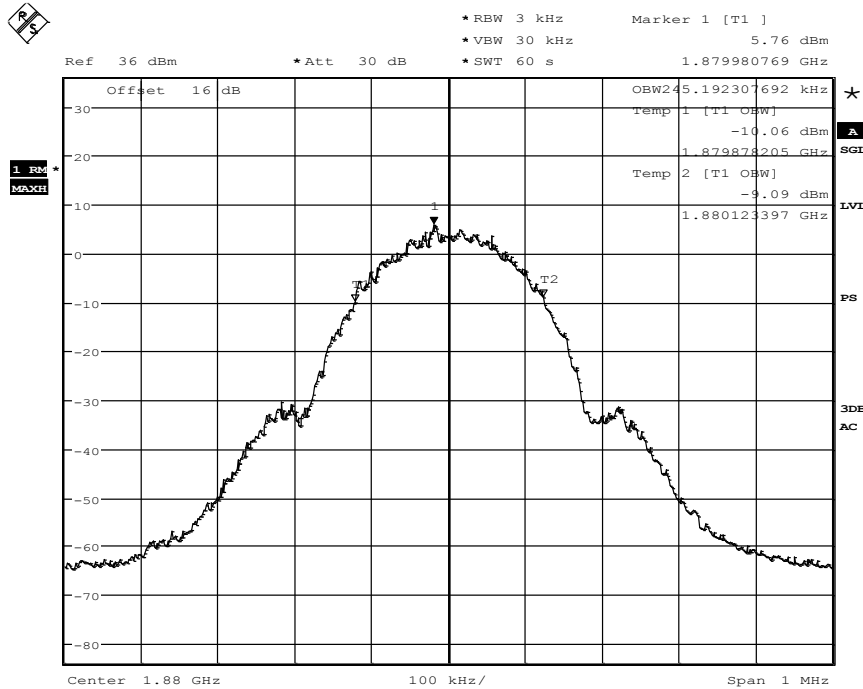
Channel 251

1.6.3. GPRS 1900 MHz TX-mode



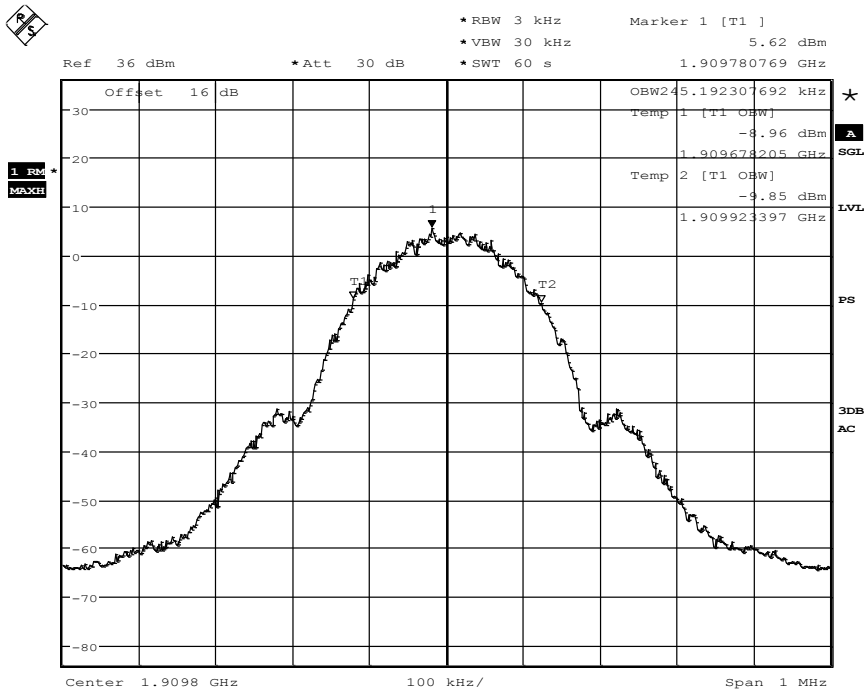
Date: 22.MAR.2013 14:17:08

Channel 512



Date: 22.MAR.2013 14:12:53

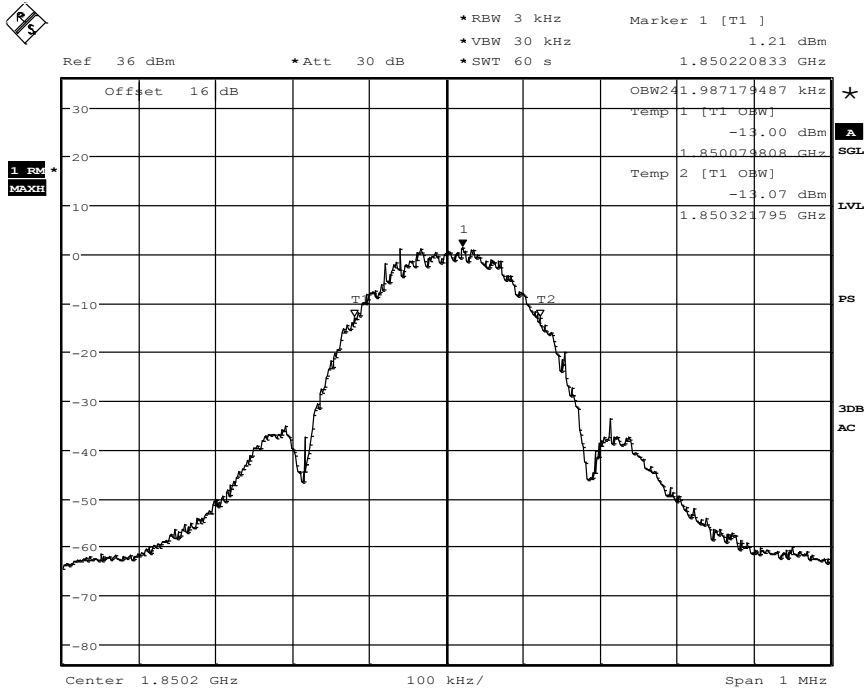
Channel 661



Date: 22.MAR.2013 14:08:41

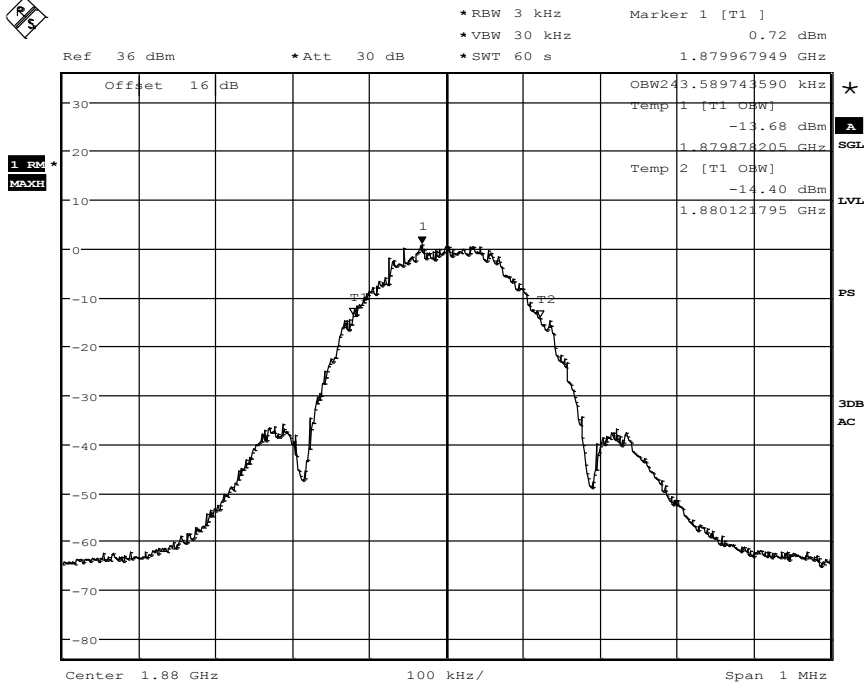
Channel 810

1.6.4. E-GPRS 1900 MHz TX-mode



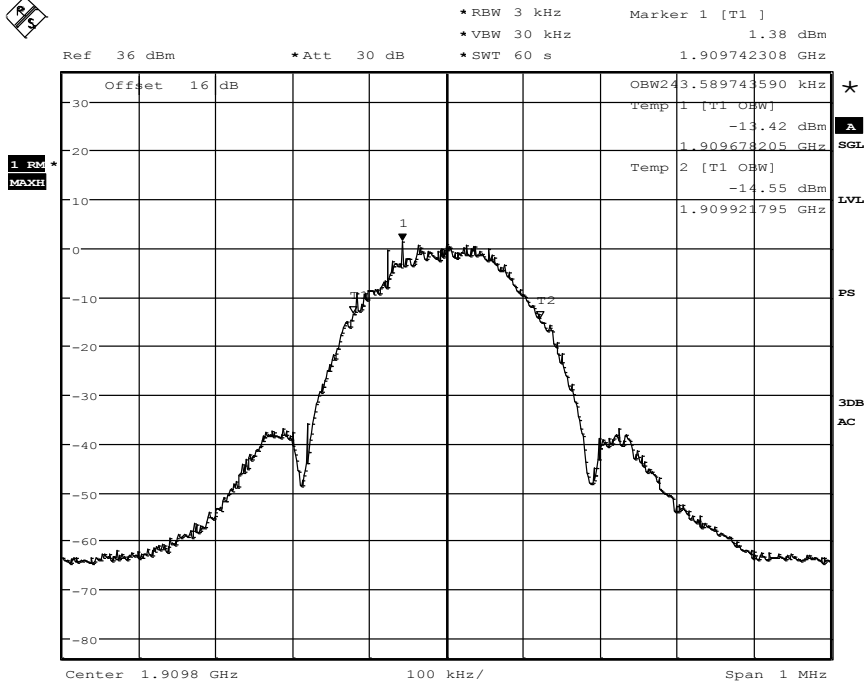
Date: 22.MAR.2013 15:19:43

Channel 512



Date: 22.MAR.2013 15:24:24

Channel 661



Date: 22.MAR.2013 15:26:15

Channel 810

1.7. Spurious emissions conducted (850 MHz transmitting mode)

36.01_RSE_Ch128_GPRS_Sweep1

Common Information

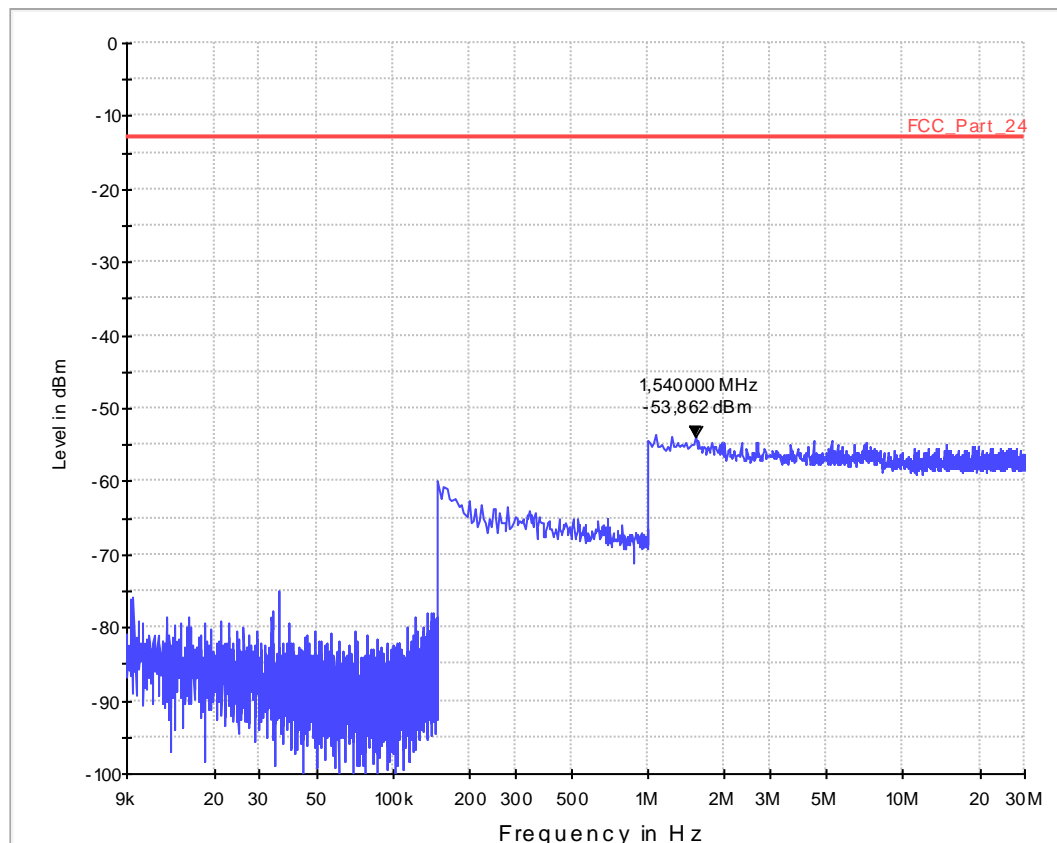
Test Description:	Conducted Spurious Emissions
Test Site Location:	CETECOM GmbH Essen
Test Site:	Radio Lab 2
Test Standard:	FCC Part 22.917
Comm. Link:	GPRS Data-Mode
Operating Mode:	MS allocated channel 128 (UL = 824.2MHz)
Exclusionband:	824 - 849MHz
Environmental Conditions:	Humidity: ___%rH; Temperature: ___°C
Operator:	Lor

EUT Information

Manufacturer:	Gemalto
EuT:	ALS1-US
Type:	UCC 55099-33589-49924

HW version:	B2 (Rev.3)
SW version:	00.170
Serial number:	Sample21
Connected Interfaces:	-
Power Supply:	4.2 V
Comments:	-

Fula2_FCC_22_Scan1_9kHz_30MHz



36.02_RSE_Ch128_GPRS_Sweep2

Common Information

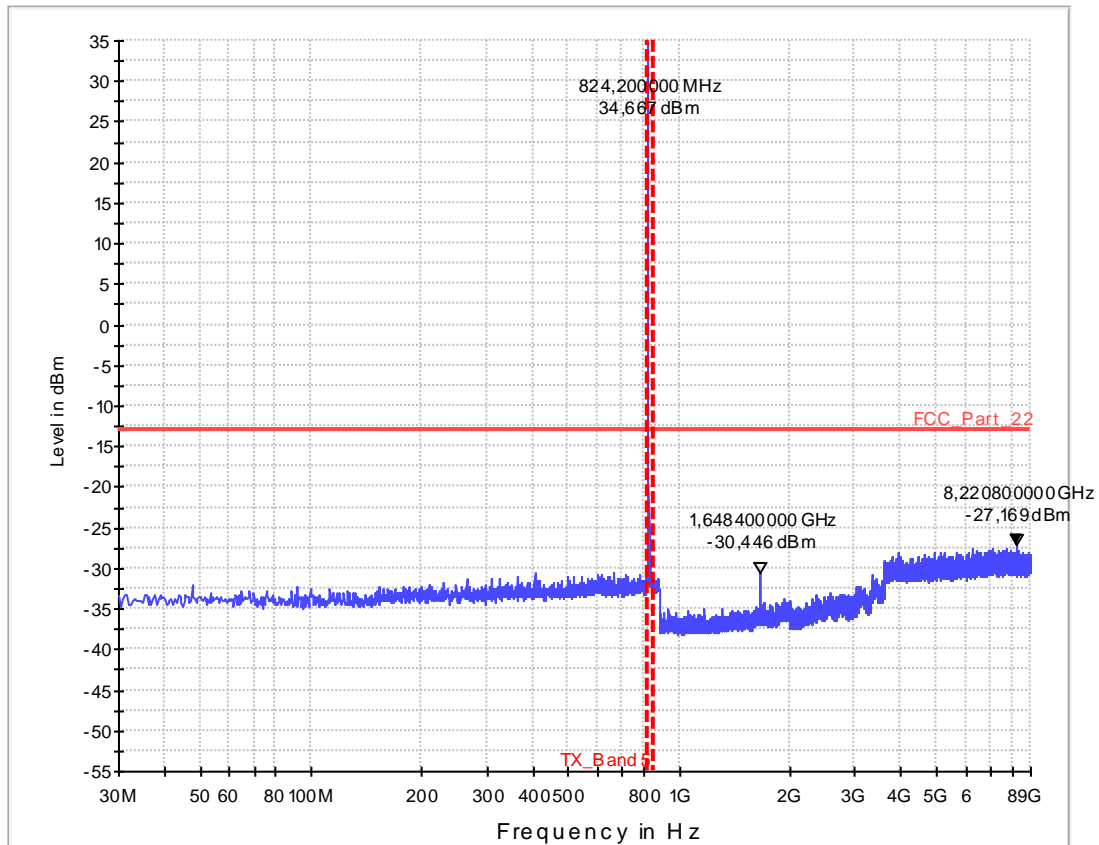
Test Description:	Conducted Spurious Emissions
Test Site Location:	CETECOM GmbH Essen
Test Site:	Radio Lab 2
Test Standard:	FCC Part 22.917
Comm. Link:	GSM850 Voice, GPRS Data-Mode, E-GPRS Data-Mode
Operating Mode:	MS allocated channel 128 (UL = 824.2MHz)
Exclusionband:	824 - 849MHz
Environmental Conditions:	Humidity: __%rH; Temperature: __°C
Operator:	Lor

EUT Information

Manufacturer:	Gemalto
EuT:	ALS1-US
Type:	UCC 55099-33589-49924

HW version:	B2 (Rev.3)
SW version:	00.170
Serial number:	Sample21
Connected Interfaces:	-
Power Supply:	4.2 V
Comments:	-

Fula2_FCC_22_GSM_Scan2_30MHz_9GHz



36.03_RSE_Ch192_GPRS_Sweep1

Common Information

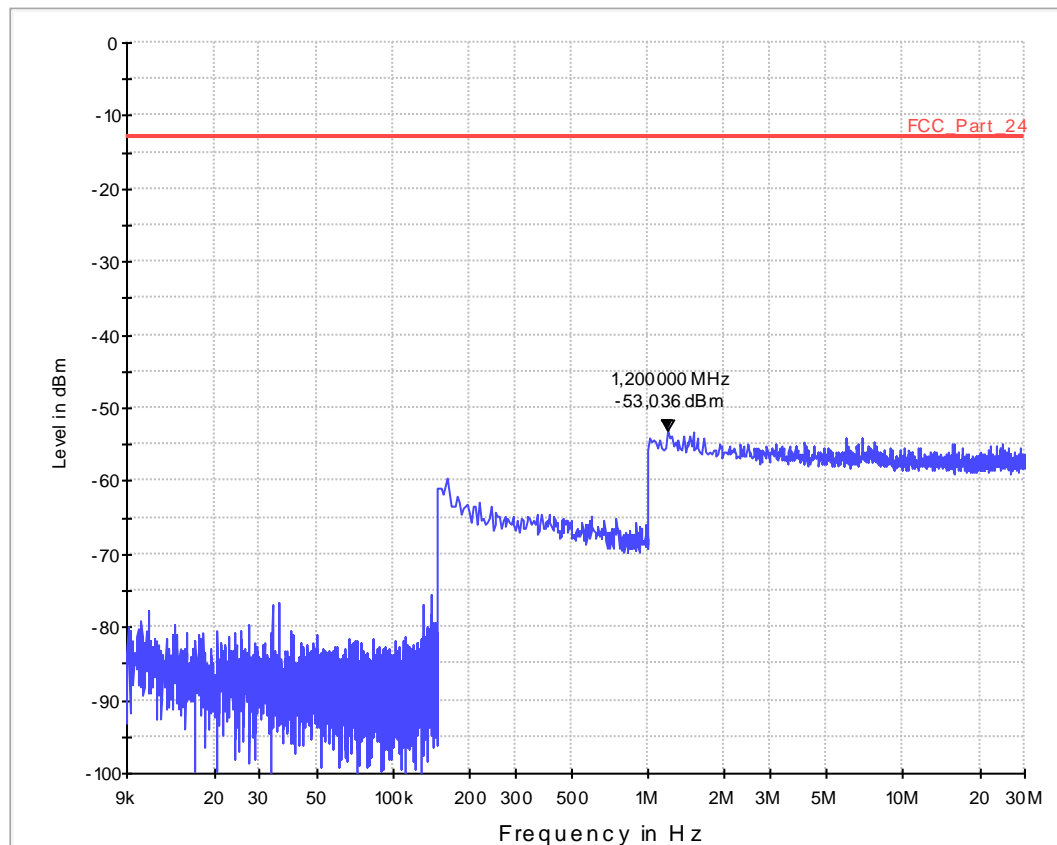
Test Description:	Conducted Spurious Emissions
Test Site Location:	CETECOM GmbH Essen
Test Site:	Radio Lab 2
Test Standard:	FCC Part 22.917
Comm. Link:	GPRS Data-Mode
Operating Mode:	MS allocated channel 192(UL = 837.0MHz)
Exclusionband:	824 - 849MHz
Environmental Conditions:	Humidity: 34%rH; Temperature: 26°C
Operator:	Lor

EUT Information

Manufacturer:	Gemalto
EuT:	ALS1-US
Type:	UCC 55099-33589-49924

-----	-----
HW version:	B2 (Rev.3)
SW version:	00.170
Serial number:	Sample21
Connected Interfaces:	-
Power Supply:	4.2 V
Comments:	-

Fula2_FCC_22_Scan1_9kHz_30MHz



36.04_RSE_Ch192_GPRS_Sweep2

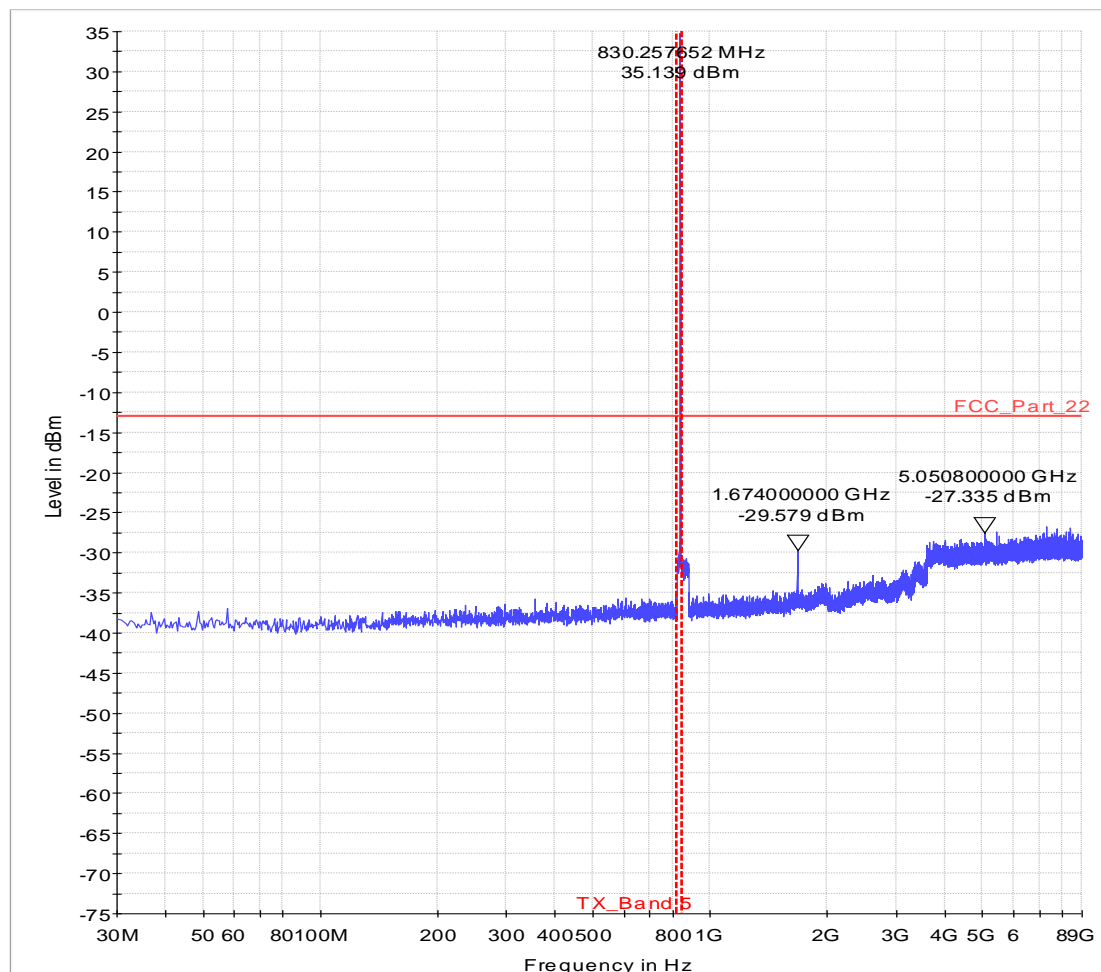
Common Information

Test Description:	Conducted Spurious Emissions
Test Site Location:	CETECOM GmbH Essen
Test Site:	Radio Lab 2
Test Standard:	FCC Part 22.917
Comm. Link:	GPRS Data-Mode
Operating Mode:	MS allocated channel 192(UL = 837.0MHz)
Exclusionband:	824 - 849MHz
Environmental Conditions:	Humidity: 34%rH; Temperature: 26°C
Operator:	Lor

EUT Information

Manufacturer:	Gemalto
EuT:	ALS1-US
Type:	UCC 55099-33589-49924

HW version:	B2 (Rev.3)
SW version:	00.170
Serial number:	Sample21
Connected Interfaces:	-
Power Supply:	4.2 V
Comments:	-



36.05_RSE_Ch251_GPRS_Sweep1

Common Information

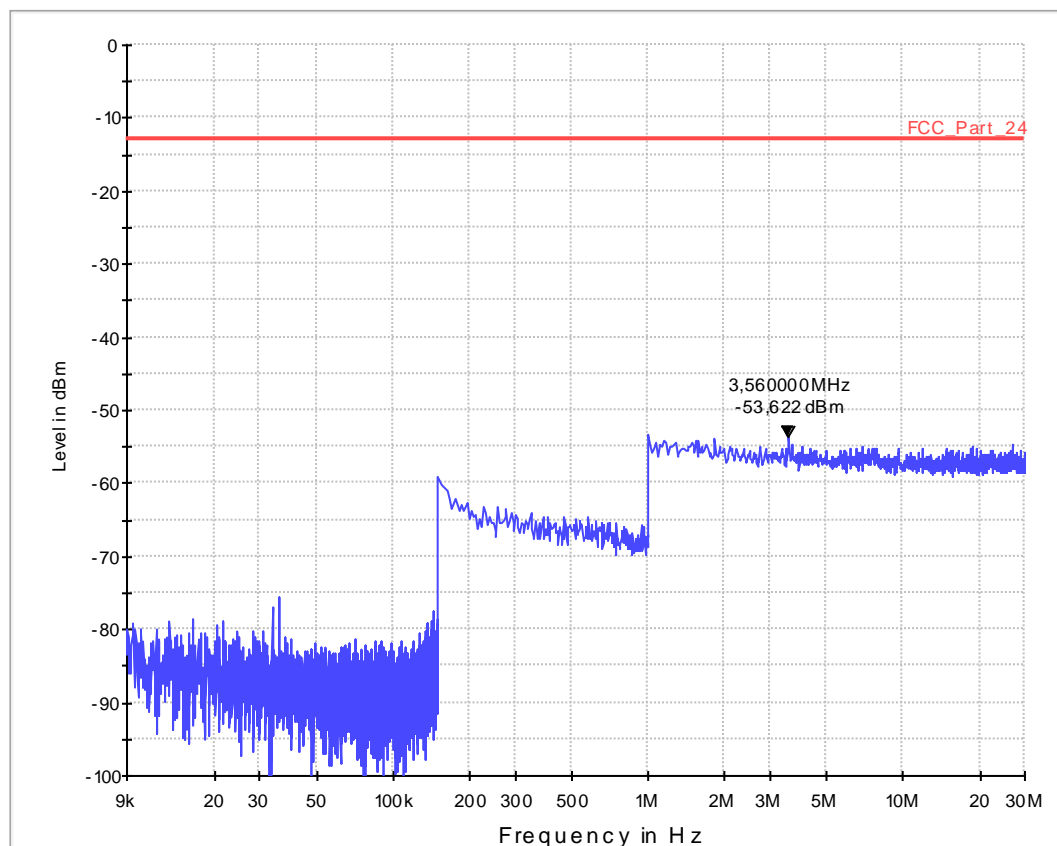
Test Description:	Conducted Spurious Emissions
Test Site Location:	CETECOM GmbH Essen
Test Site:	Radio Lab 2
Test Standard:	FCC Part 22.917
Comm. Link:	GPRS Data-Mode
Operating Mode:	MS allocated channel 251 (UL = 848.8MHz)
Exclusionband:	824 - 849MHz
Environmental Conditions:	Humidity: 34%RH; Temperature: 26°C
Operator:	Lor

EUT Information

Manufacturer:	Gemalto
EuT:	ALS1-US
Type:	UCC 55099-33589-49924

HW version:	B2 (Rev.3)
SW version:	00.170
Serial number:	Sample21
Connected Interfaces:	-
Power Supply:	4.2 V
Comments:	-

Fula2_FCC_22_Scan1_9kHz_30MHz



36.06_RSE_Ch251_GPRS_Sweep2

Common Information

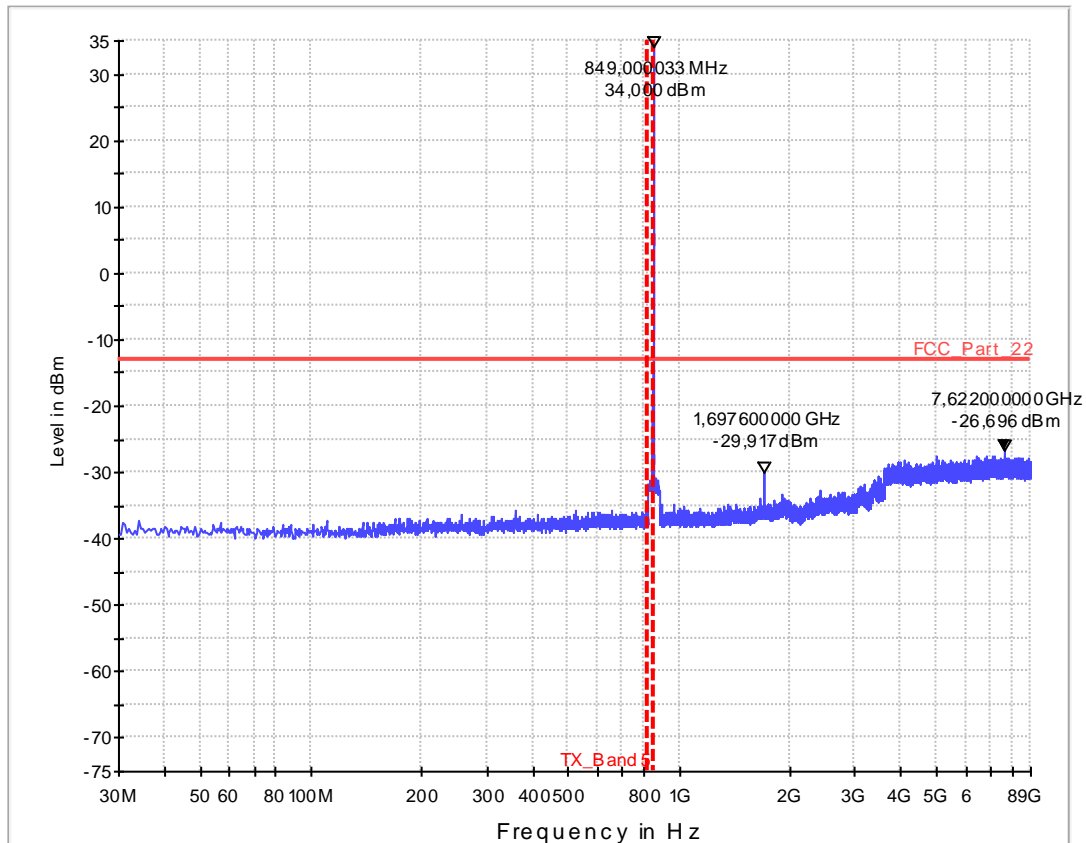
Test Description:	Conducted Spurious Emissions
Test Site Location:	CETECOM GmbH Essen
Test Site:	Radio Lab 2
Test Standard:	FCC Part 22.917
Comm. Link:	GPRS Data-Mode
Operating Mode:	MS allocated channel 251 (UL = 848.8MHz)
Exclusionband:	824 - 849MHz
Environmental Conditions:	Humidity: 34%rH; Temperature: 26°C
Operator:	Lor

EUT Information

Manufacturer:	Gemalto
EuT:	ALS1-US
Type:	UCC 55099-33589-49924

-----	-----
HW version:	B2 (Rev.3)
SW version:	00.170
Serial number:	Sample21
Connected Interfaces:	-
Power Supply:	4.2 V
Comments:	-

Fula2_FCC_22_GSM_Scan2_30MHz_9GHz



36.08_RSE_Ch128_EGPRS_Sweep2

Common Information

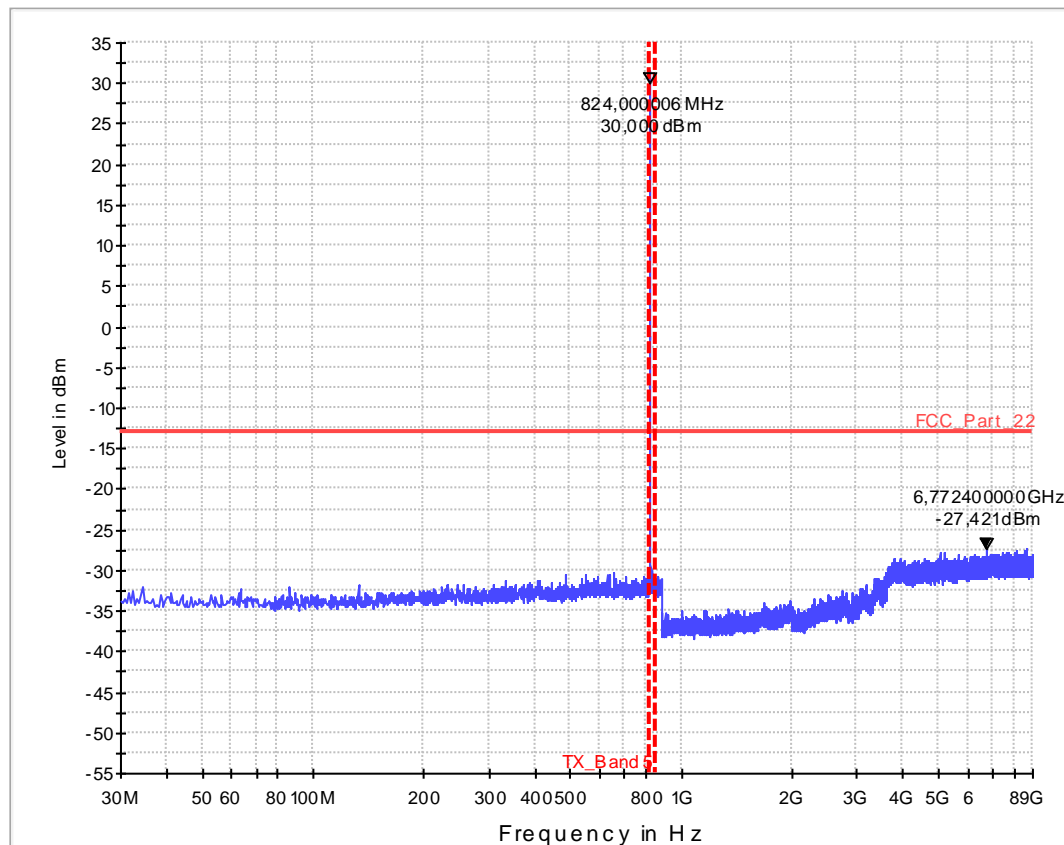
Test Description:	Conducted Spurious Emissions
Test Site Location:	CETECOM GmbH Essen
Test Site:	Radio Lab 2
Test Standard:	FCC Part 22.917
Comm. Link:	E-GPRS Data-Mode
Operating Mode:	MS allocated channel 128 (UL = 824.2MHz)
Exclusionband:	824 - 849MHz
Environmental Conditions:	Humidity: 34%rH; Temperature: 26°C
Operator:	Lor

EUT Information

Manufacturer:	Gemalto
EuT:	ALS1-US
Type:	UCC 55099-33589-49924

-----	-----
HW version:	B2 (Rev.3)
SW version:	00.170
Serial number:	Sample21
Connected Interfaces:	-
Power Supply:	4.2 V
Comments:	-

Fula2_FCC_22_GSM_Scan2_30MHz_9GHz



36.10_RSE_Ch192_EGPRS_Sweep2

Common Information

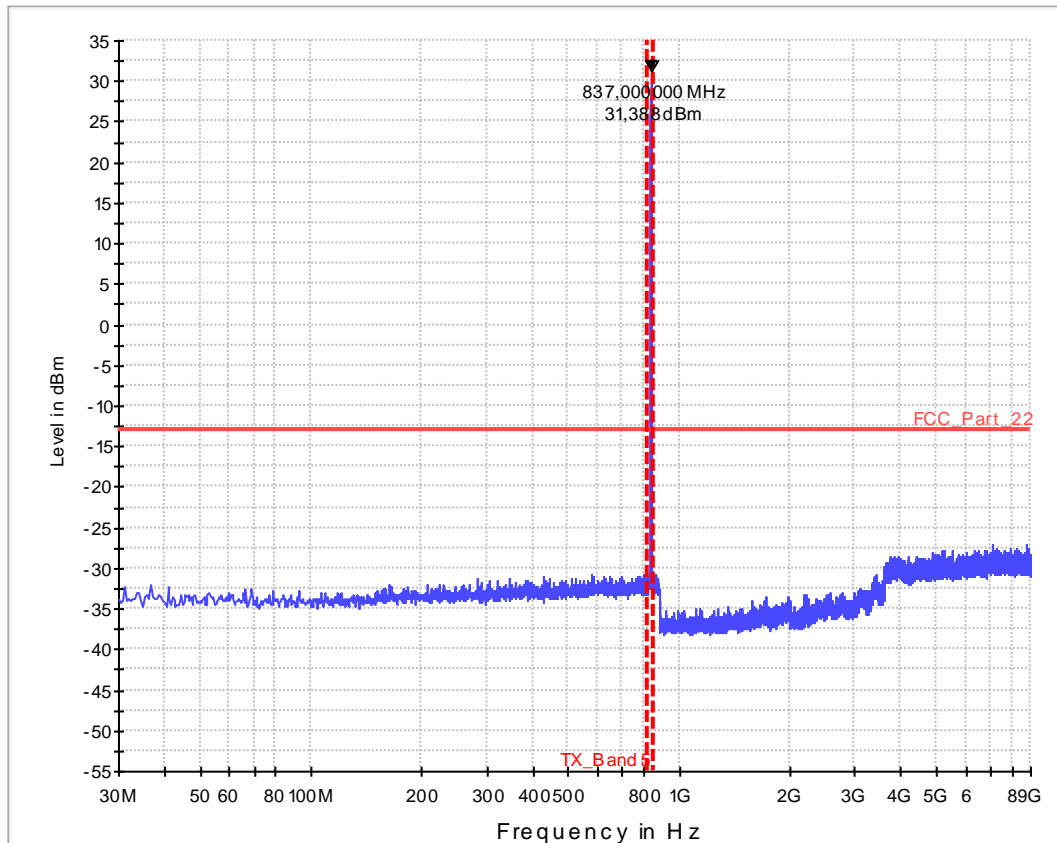
Test Description:	Conducted Spurious Emissions
Test Site Location:	CETECOM GmbH Essen
Test Site:	Radio Lab 2
Test Standard:	FCC Part 22.917
Comm. Link:	E-GPRS Data-Mode
Operating Mode:	MS allocated channel 192(UL = 837.0MHz)
Exclusionband:	824 - 849MHz
Environmental Conditions:	Humidity: 34%rH; Temperature: 26°C
Operator:	Lor

EUT Information

Manufacturer:	Gemalto
EuT:	ALS1-US
Type:	UCC 55099-33589-49924

HW version:	B2 (Rev.3)
SW version:	00.170
Serial number:	Sample21
Connected Interfaces:	-
Power Supply:	4.2 V
Comments:	-

Fula2_FCC_22_GSM_Scan2_30MHz_9GHz



36.12_RSE_Ch251_EGPRS_Sweep2

Common Information

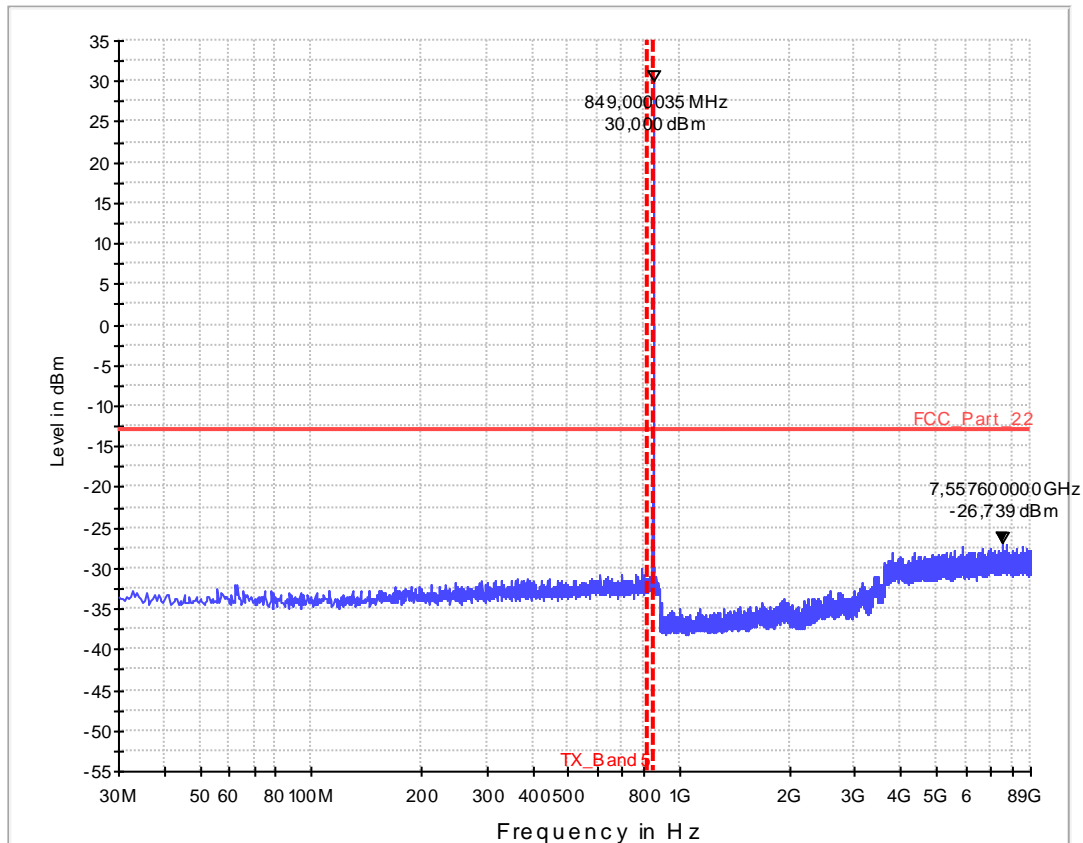
Test Description:	Conducted Spurious Emissions
Test Site Location:	CETECOM GmbH Essen
Test Site:	Radio Lab 2
Test Standard:	FCC Part 22.917
Comm. Link:	E-GPRS Data-Mode
Operating Mode:	MS allocated channel 251 (UL = 848.8MHz)
Exclusionband:	824 - 849MHz
Environmental Conditions:	Humidity: 34%rH; Temperature: 26°C
Operator:	Lor

EUT Information

Manufacturer:	Gemalto
EuT:	ALS1-US
Type:	UCC 55099-33589-49924

HW version:	B2 (Rev.3)
SW version:	00.170
Serial number:	Sample21
Connected Interfaces:	-
Power Supply:	4.2 V
Comments:	-

Fula2_FCC_22_GSM_Scan2_30MHz_9GHz



1.8. Spurious emissions conducted (1900 MHz transmitting mode)**36.20_RSE_Ch512_GPRS_Sweep1****Common Information**

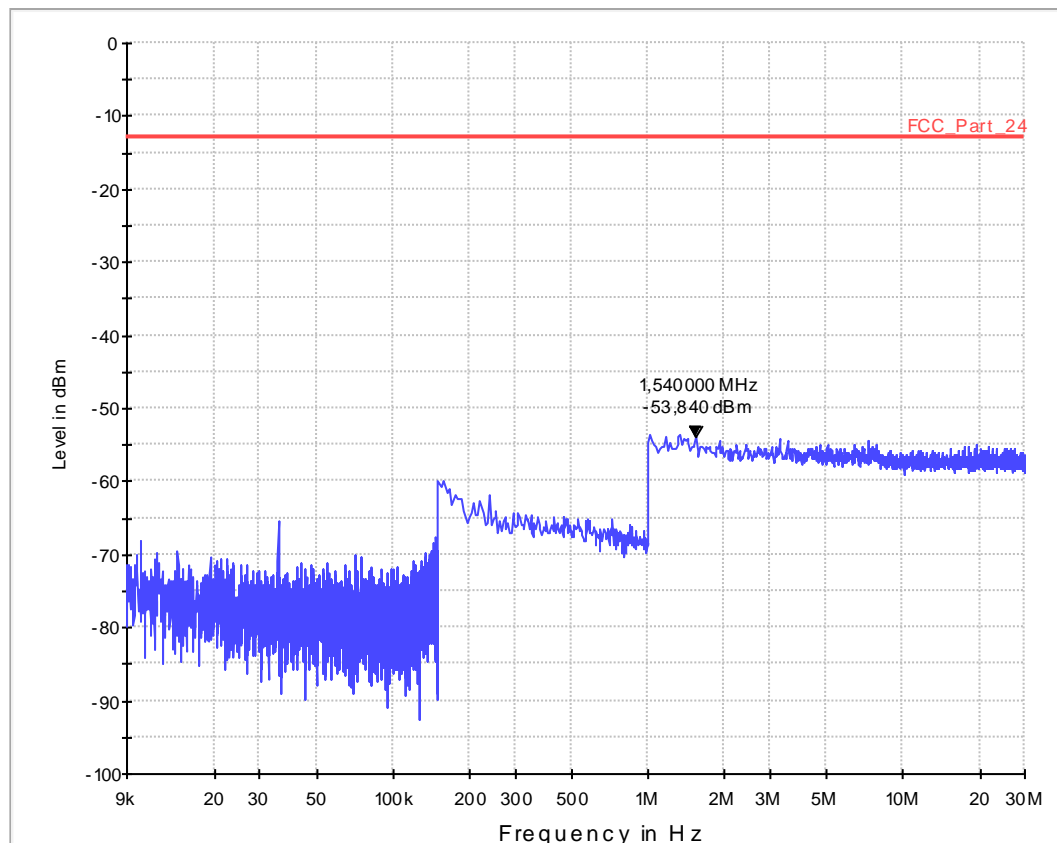
Test Description:	Conducted Spurious Emissions
Test Site Location:	CETECOM GmbH Essen
Test Site:	Radio Lab 2
Test Standard:	FCC Part 24.238
Comm. Link:	GPRS Data-Mode
Operating Mode:	MS allocated channel 512 (UL = 1850.2MHz)
Exclusionband:	1850-1910MHz
Environmental Conditions:	Humidity: 34%rH; Temperature: 21°C
Operator:	Lor

EUT Information

Manufacturer:	Gemalto
EuT:	ALS1-US
Type:	UCC 55099-33589-49924

HW version:	B2 (Rev.3)
SW version:	00.170
Serial number:	Sample21
Connected Interfaces:	-
Power Supply:	4.2 V
Comments:	-

Fula2_FCC_24_GSM_Scan1_9kHz_30MHz



36.21_RSE_Ch512_GPRS_Sweep2

Common Information

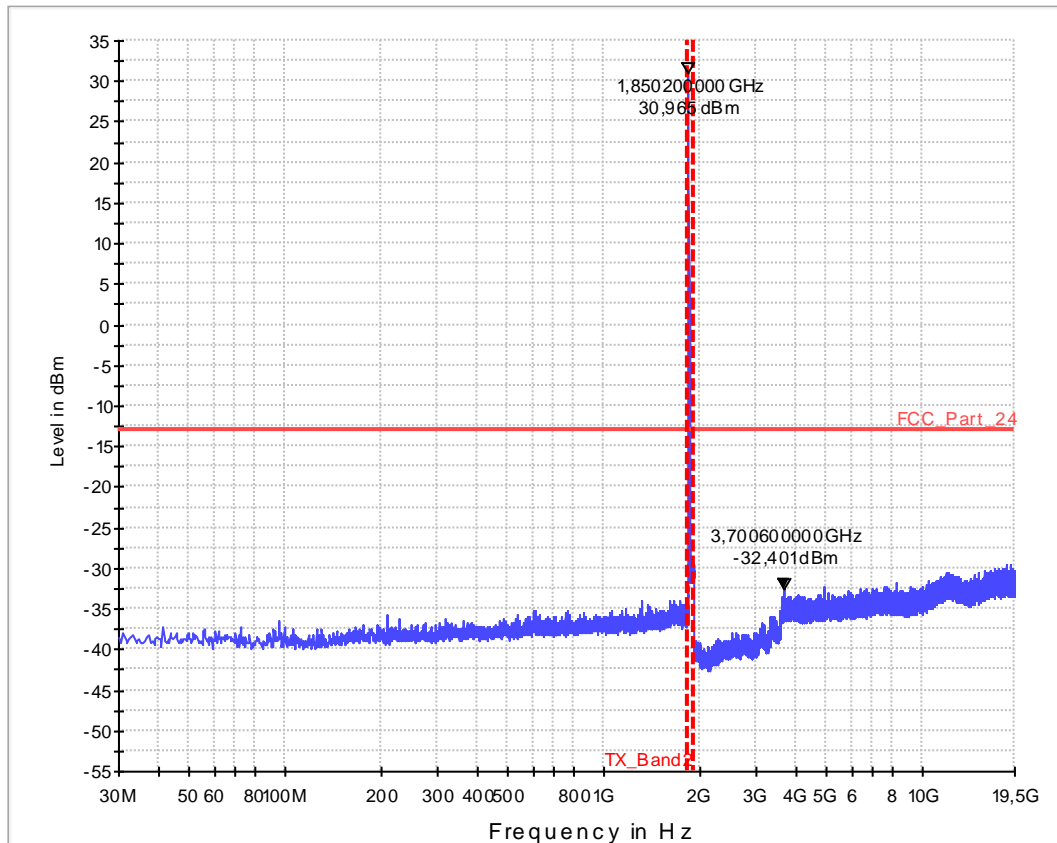
Test Description:	Conducted Spurious Emissions
Test Site Location:	CETECOM GmbH Essen
Test Site:	Radio Lab 2
Test Standard:	FCC Part 24.238
Comm. Link:	GSM1900 Voice, GPRS Data-Mode, E-GPRS Data-Mode
Operating Mode:	MS allocated channel 512 (UL = 1850.2MHz)
Exclusionband:	1850-1910MHz
Environmental Conditions:	Humidity: 34%rH; Temperature: 21°C
Operator:	Lor

EUT Information

Manufacturer:	Gemalto
EuT:	ALS1-US
Type:	UCC 55099-33589-49924

HW version:	B2 (Rev.3)
SW version:	00.170
Serial number:	Sample21
Connected Interfaces:	-
Power Supply:	4.2 V
Comments:	-

Fula2_FCC_24_GSM_Scan2_30MHz_19.5GHz



36.22_RSE_Ch661_GPRS_Sweep1

Common Information

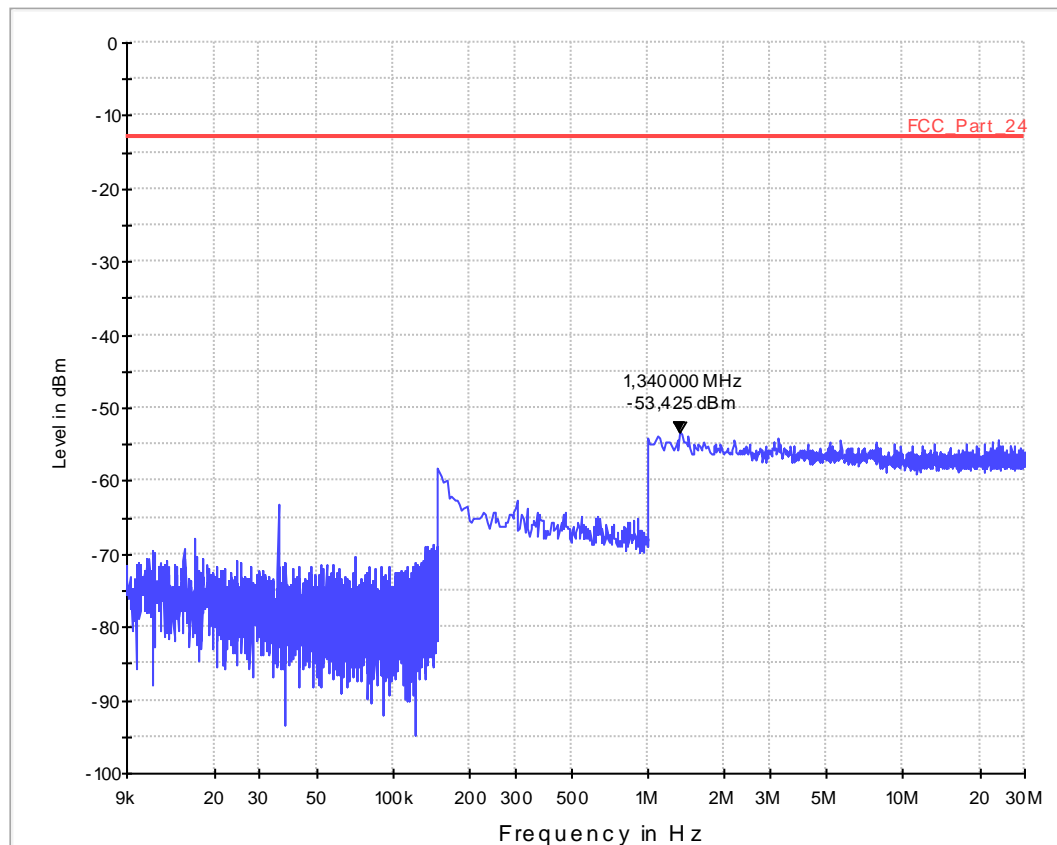
Test Description:	Conducted Spurious Emissions
Test Site Location:	CETECOM GmbH Essen
Test Site:	Radio Lab 2
Test Standard:	FCC Part 24.238
Comm. Link:	GPRS Data-Mode
Operating Mode:	MS allocated channel 661 (UL = 1880MHz)
Exclusionband:	1850-1910MHz
Environmental Conditions:	Humidity: 34%rH; Temperature: 21°C
Operator:	Lor

EUT Information

Manufacturer:	Gemalto
EuT:	ALS1-US
Type:	UCC 55099-33589-49924

-----	-----
HW version:	B2 (Rev.3)
SW version:	00.170
Serial number:	Sample21
Connected Interfaces:	-
Power Supply:	4.2 V
Comments:	-

Fula2_FCC_24_GSM_Scan1_9kHz_30MHz



36.23_RSE_Ch661_GPRS_Sweep2

Common Information

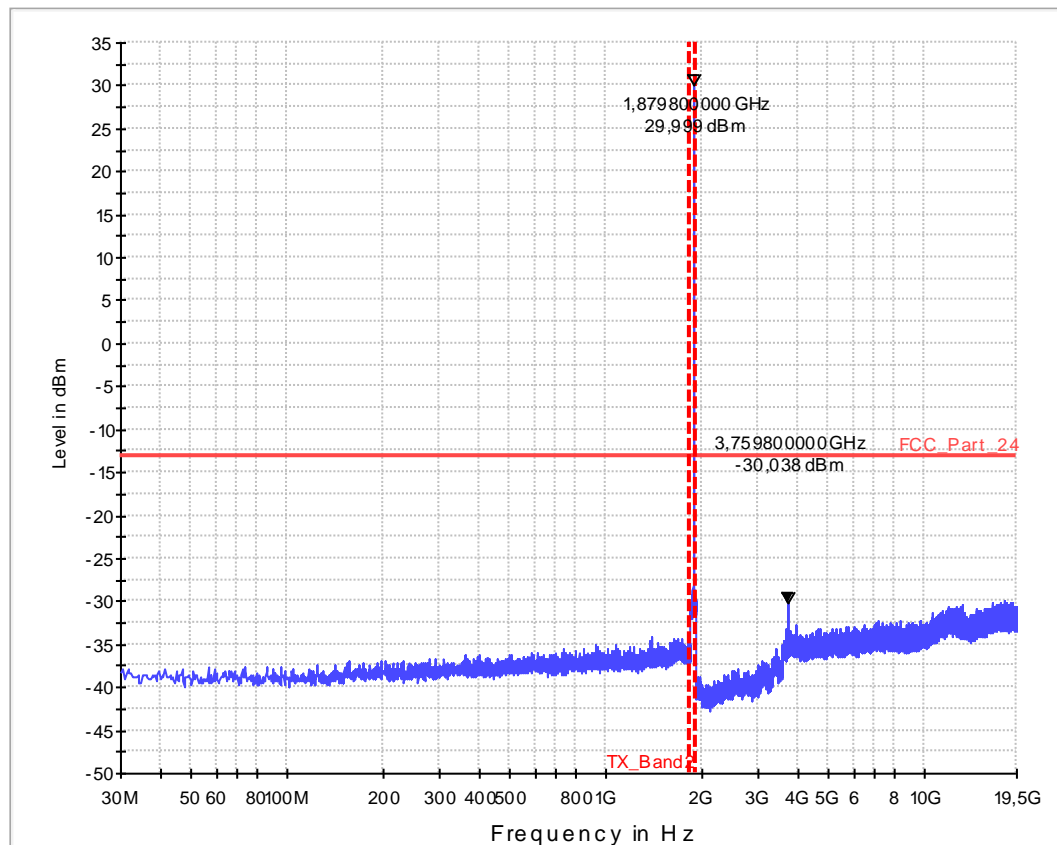
Test Description:	Conducted Spurious Emissions
Test Site Location:	CETECOM GmbH Essen
Test Site:	Radio Lab 2
Test Standard:	FCC Part 24.238
Comm. Link:	GPRS Data-Mode
Operating Mode:	MS allocated channel 661 (UL = 1880MHz)
Exclusionband:	1850-1910MHz
Environmental Conditions:	Humidity: 34%rH; Temperature: 21°C
Operator:	Lor

EUT Information

Manufacturer:	Gemalto
EuT:	ALS1-US
Type:	UCC 55099-33589-49924

-----	-----
HW version:	B2 (Rev.3)
SW version:	00.170
Serial number:	Sample21
Connected Interfaces:	-
Power Supply:	4.2 V
Comments:	-

Fula2_FCC_24_GSM_Scan2_30MHz_19.5GHz



36.24_RSE_Ch810_GPRS_Sweep1

Common Information

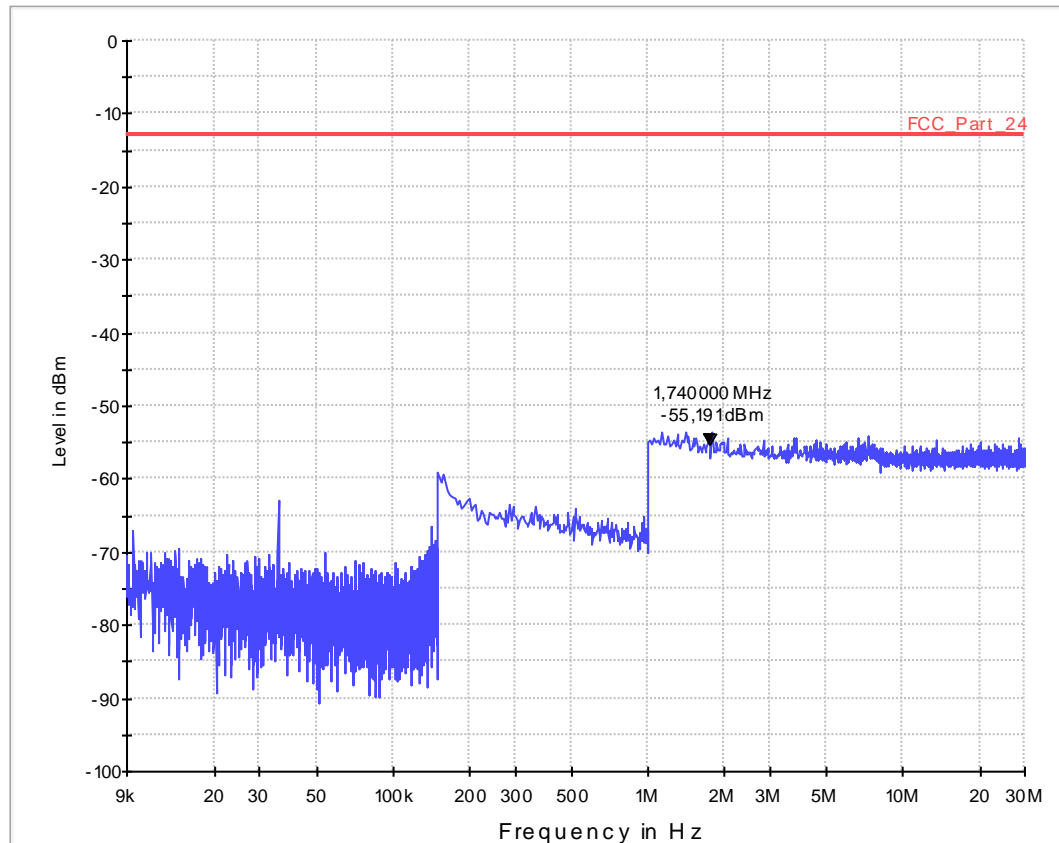
Test Description:	Conducted Spurious Emissions
Test Site Location:	CETECOM GmbH Essen
Test Site:	Radio Lab 2
Test Standard:	FCC Part 24.238
Comm. Link:	GPRS Data-Mode
Operating Mode:	MS allocated channel 810 (UL = 1908.8MHz)
Exclusionband:	1850-1910MHz
Environmental Conditions:	Humidity: 34%rH; Temperature: 21°C
Operator:	Lor

EUT Information

Manufacturer:	Gemalto
EuT:	ALS1-US
Type:	UCC 55099-33589-49924

-----	-----
HW version:	B2 (Rev.3)
SW version:	00.170
Serial number:	Sample21
Connected Interfaces:	-
Power Supply:	4.2 V
Comments:	-

Fula2_FCC_24_GSM_Scan1_9kHz_30MHz



36.25_RSE_Ch810_GPRS_Sweep2

Common Information

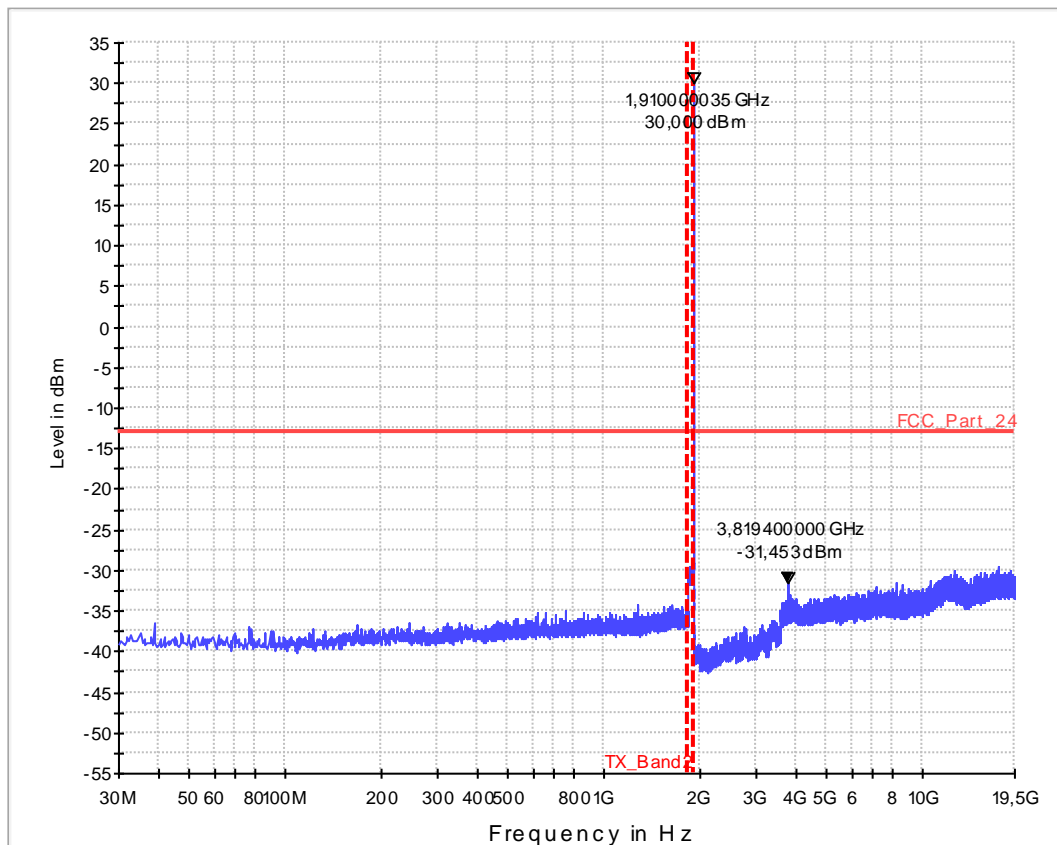
Test Description:	Conducted Spurious Emissions
Test Site Location:	CETECOM GmbH Essen
Test Site:	Radio Lab 2
Test Standard:	FCC Part 24.238
Comm. Link:	GSM1900 Voice, GPRS Data-Mode, E-GPRS Data-Mode
Operating Mode:	MS allocated channel 810 (UL = 1909.8MHz)
Exclusionband:	1850-1910MHz
Environmental Conditions:	Humidity: 34%rH; Temperature: 21°C
Operator:	Lor

EUT Information

Manufacturer:	Gemalto
EuT:	ALS1-US
Type:	UCC 55099-33589-49924

-----	-----
HW version:	B2 (Rev.3)
SW version:	00.170
Serial number:	Sample21
Connected Interfaces:	-
Power Supply:	4.2 V
Comments:	-

Fula2_FCC_24_GSM_Scan2_30MHz_19.5GHz



36.27_RSE_Ch512_EGPRS_Sweep2

Common Information

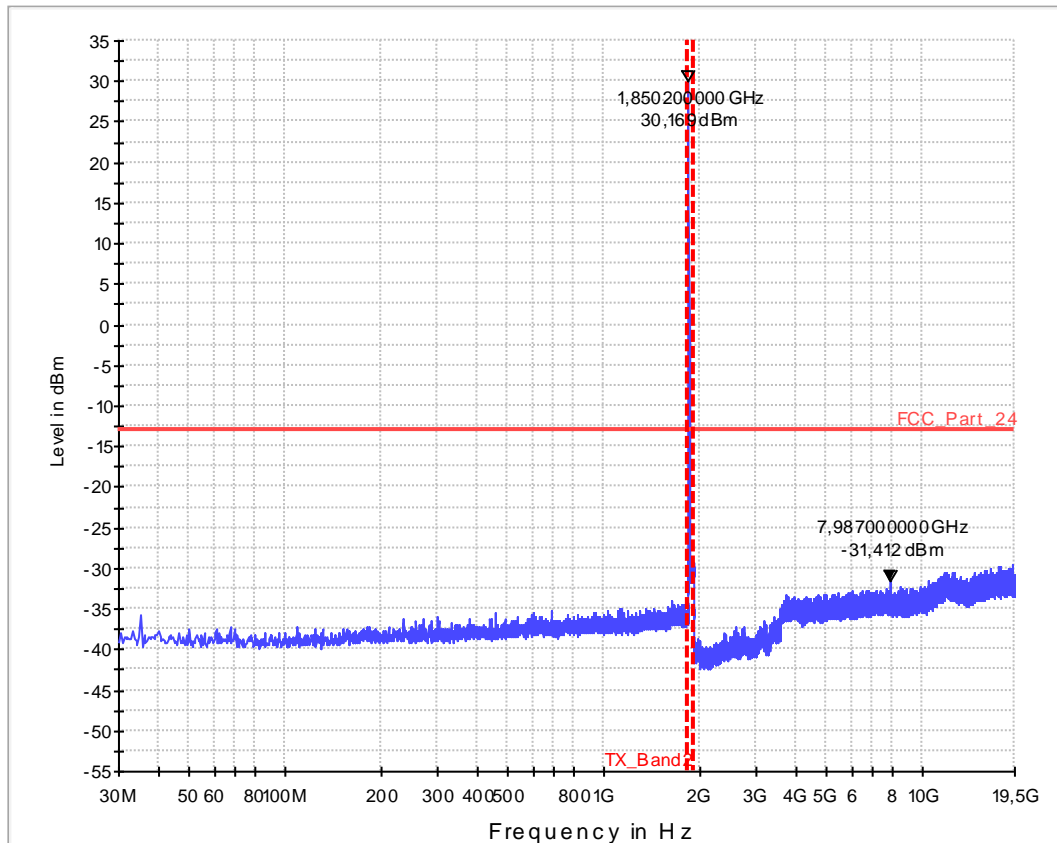
Test Description:	Conducted Spurious Emissions
Test Site Location:	CETECOM GmbH Essen
Test Site:	Radio Lab 2
Test Standard:	FCC Part 24.238
Comm. Link:	E-GPRS Data-Mode
Operating Mode:	MS allocated channel 512 (UL = 1850.2MHz)
Exclusionband:	1850-1910MHz
Environmental Conditions:	Humidity: 34%rH; Temperature: 21°C
Operator:	Lor

EUT Information

Manufacturer:	Gemalto
EuT:	ALS1-US
Type:	UCC 55099-33589-49924

HW version:	B2 (Rev.3)
SW version:	00.170
Serial number:	Sample21
Connected Interfaces:	-
Power Supply:	4.2 V
Comments:	-

Fula2_FCC_24_GSM_Scan2_30MHz_19.5GHz



36.29_RSE_Ch661_EGPRS_Sweep2

Common Information

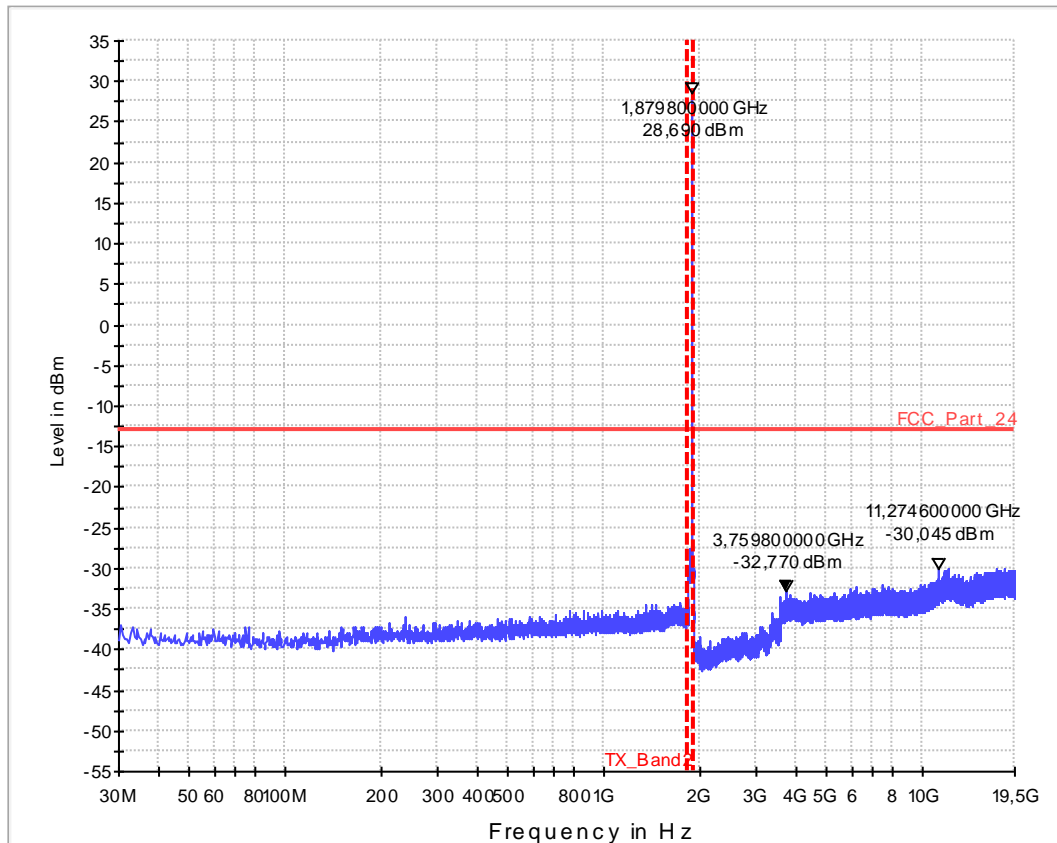
Test Description:	Conducted Spurious Emissions
Test Site Location:	CETECOM GmbH Essen
Test Site:	Radio Lab 2
Test Standard:	FCC Part 24.238
Comm. Link:	GSM1900 Voice, GPRS Data-Mode, E-GPRS Data-Mode
Operating Mode:	MS allocated channel 661(UL = 1880MHz)
Exclusionband:	1850-1910MHz
Environmental Conditions:	Humidity: 34%rH; Temperature: 21°C
Operator:	Lor

EUT Information

Manufacturer:	Gemalto
EuT:	ALS1-US
Type:	UCC 55099-33589-49924

HW version:	B2 (Rev.3)
SW version:	00.170
Serial number:	Sample21
Connected Interfaces:	-
Power Supply:	4.2 V
Comments:	-

Fula2_FCC_24_GSM_Scan2_30MHz_19.5GHz



36.31_RSE_Ch810_EGPRS_Sweep2

Common Information

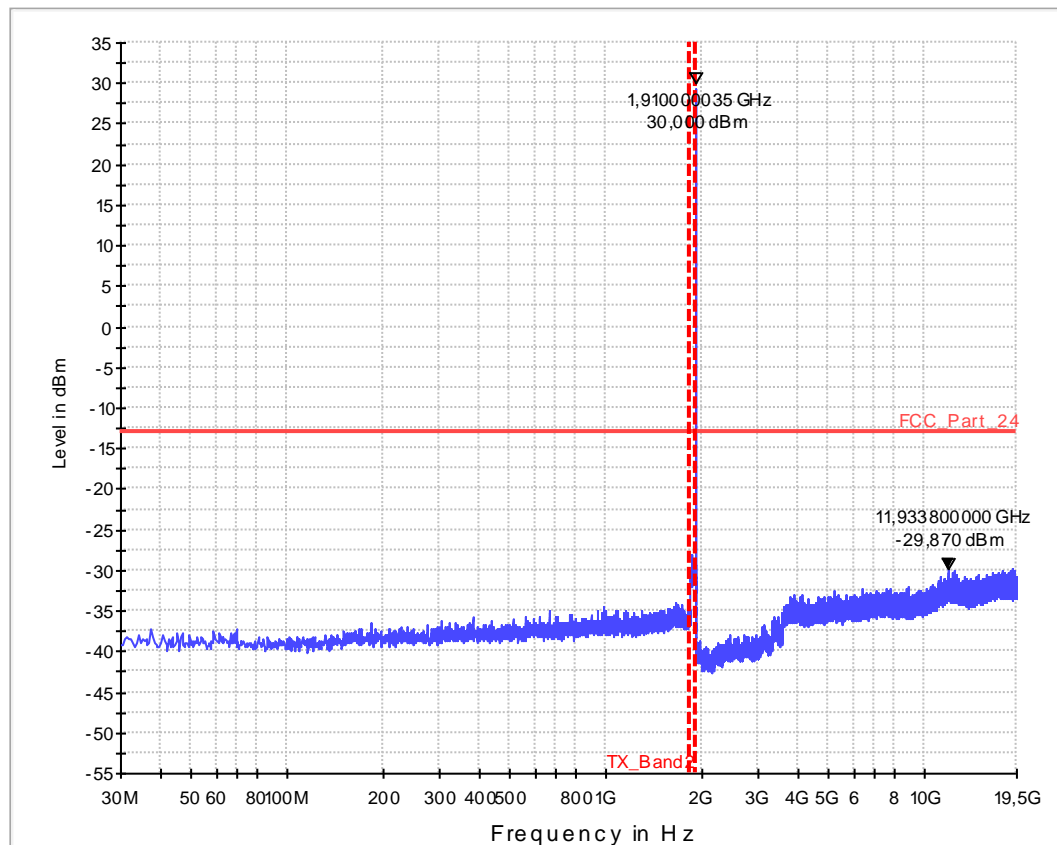
Test Description:	Conducted Spurious Emissions
Test Site Location:	CETECOM GmbH Essen
Test Site:	Radio Lab 2
Test Standard:	FCC Part 24.238
Comm. Link:	GSM1900 Voice, GPRS Data-Mode, E-GPRS Data-Mode
Operating Mode:	MS allocated channel 810 (UL = 1909.8MHz)
Exclusionband:	1850-1910MHz
Environmental Conditions:	Humidity: 34%rH; Temperature: 21°C
Operator:	Lor

EUT Information

Manufacturer:	Gemalto
EuT:	ALS1-US
Type:	UCC 55099-33589-49924

-----	-----
HW version:	B2 (Rev.3)
SW version:	00.170
Serial number:	Sample21
Connected Interfaces:	-
Power Supply:	4.2 V
Comments:	-

Fula2_FCC_24_GSM_Scan2_30MHz_19.5GHz



1.9. Conducted emissions on 850 MHz transmitting band-edge

Diagram No.: 37.01_BE_Ch128_GPRS_AV

Common Information

Test Description: TX Spurious Emission conducted §2.1051 - Band-Edge Compliance

Test Site: Radio laboratory 2

Test Standard: FCC FCC Part 22

Operation mode: TX - GPRS850 Mode, Channel 128

Operator Name: Lor

Comment: --

EUT Information

Manufacturer: Gemalto

EuT: ALS1-US

Type: UCC 55099-33589-49924

HW version: B2 (Rev.3)

SW version: 00.170

Serial number: Sample21

Connected Interfaces: -

Power Supply: 4.2 V

Comments: -

Fula2_FCC_22_BE_LOW_Channel_128_AV

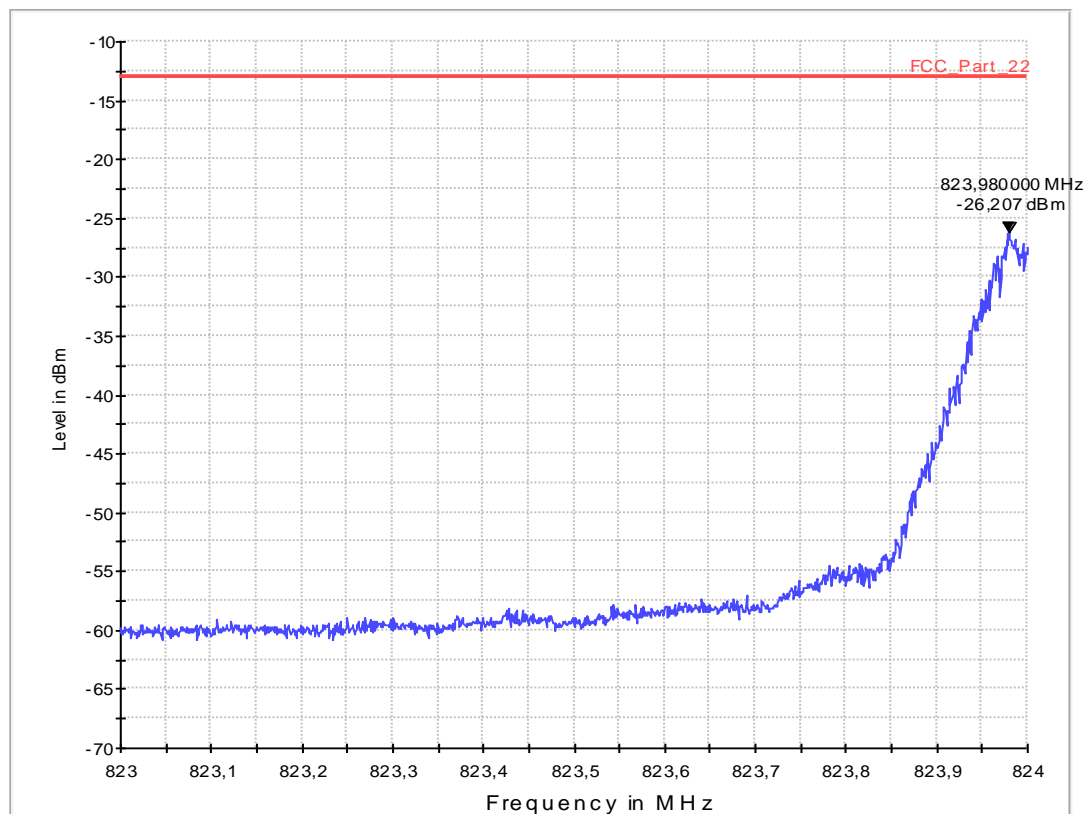


Diagram No.: 37.02_BE_Ch251_GPRS_AV

Common Information

Test Description:	TX Spurious Emission conducted §2.1051 - Band-Edge Compliance
Test Site:	Radio laboratory 2
Test Standard:	FCC FCC Part 22
Operation mode:	TX - GPRS850 Mode, Channel 251
Operator Name:	Lor
Comment:	--

EUT Information

Manufacturer:	Gemalto
EuT:	ALS1-US
Type:	UCC 55099-33589-49924

HW version:	B2 (Rev.3)
SW version:	00.170
Serial number:	Sample21
Connected Interfaces:	-
Power Supply:	4.2 V
Comments:	-

Fula2_FCC_22_BE_High_Channel_251_AV

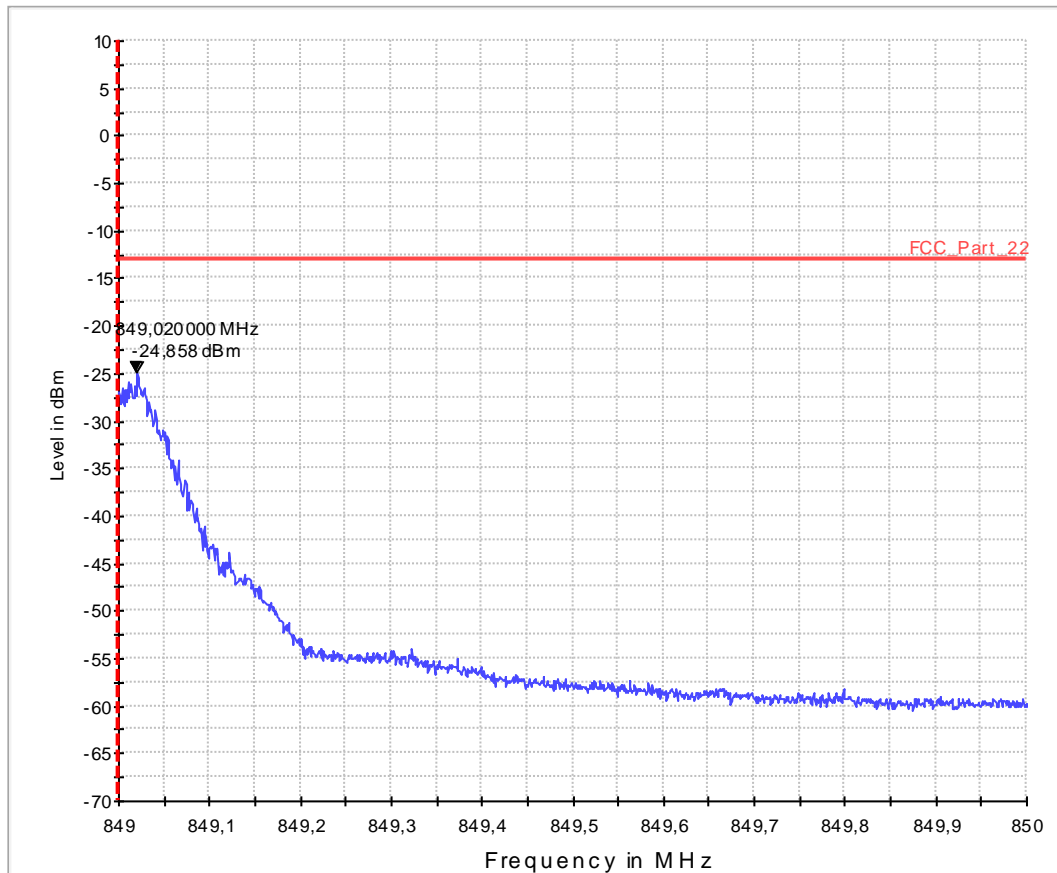


Diagram No.: 37.03_BE_Ch128_EGPRS_AV

Common Information

Test Description: TX Spurious Emission conducted §2.1051 - Band-Edge Compliance

Test Site: Radio laboratory 2
Test Standard: FCC FCC Part 22

Operation mode: TX - E-GPRS850 Mode, Channel 128
Operator Name: Lor
Comment: --

EUT Information

Manufacturer: Gemalto
EuT: ALS1-US
Type: UCC 55099-33589-49924

HW version: B2 (Rev.3)
SW version: 00.170
Serial number: Sample21
Connected Interfaces: -
Power Supply: 4.2 V
Comments: -

Fula2_FCC_22_BE_LOW_Channel_128_AV

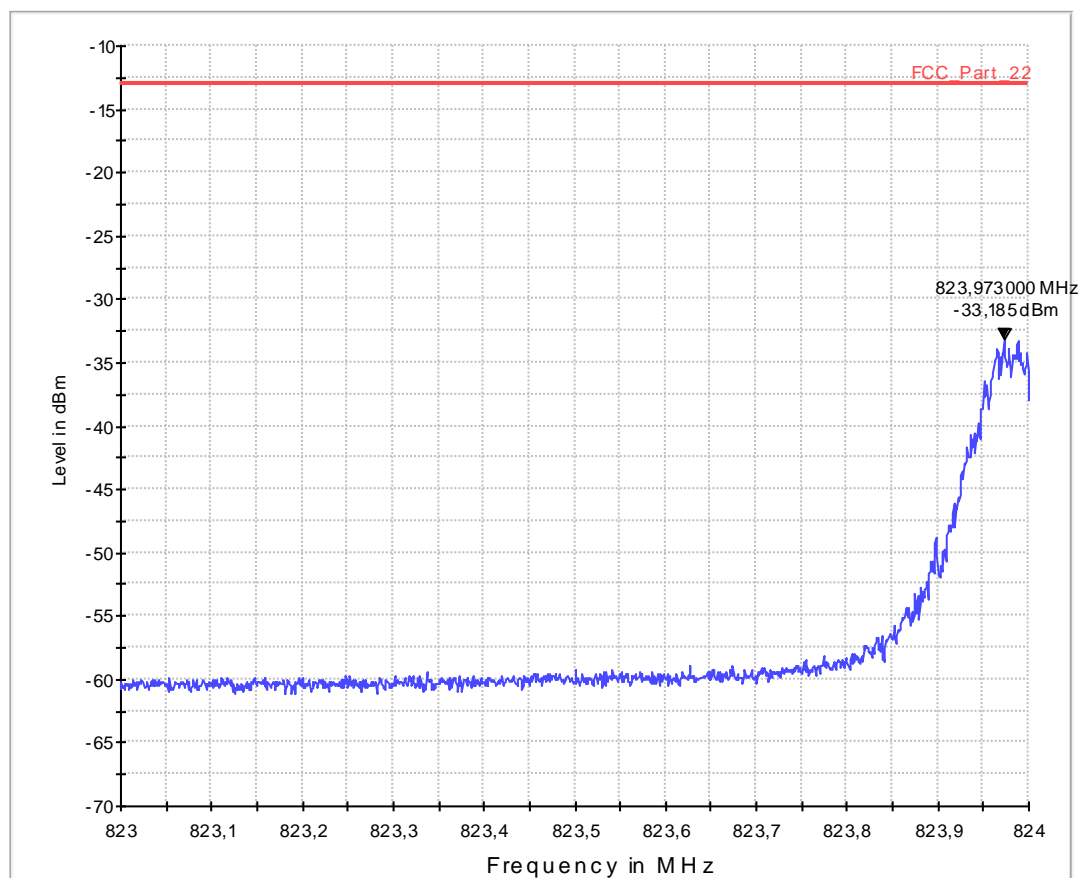


Diagram No.: 37.04_BE_Ch251_EGPRS_AV

Common Information

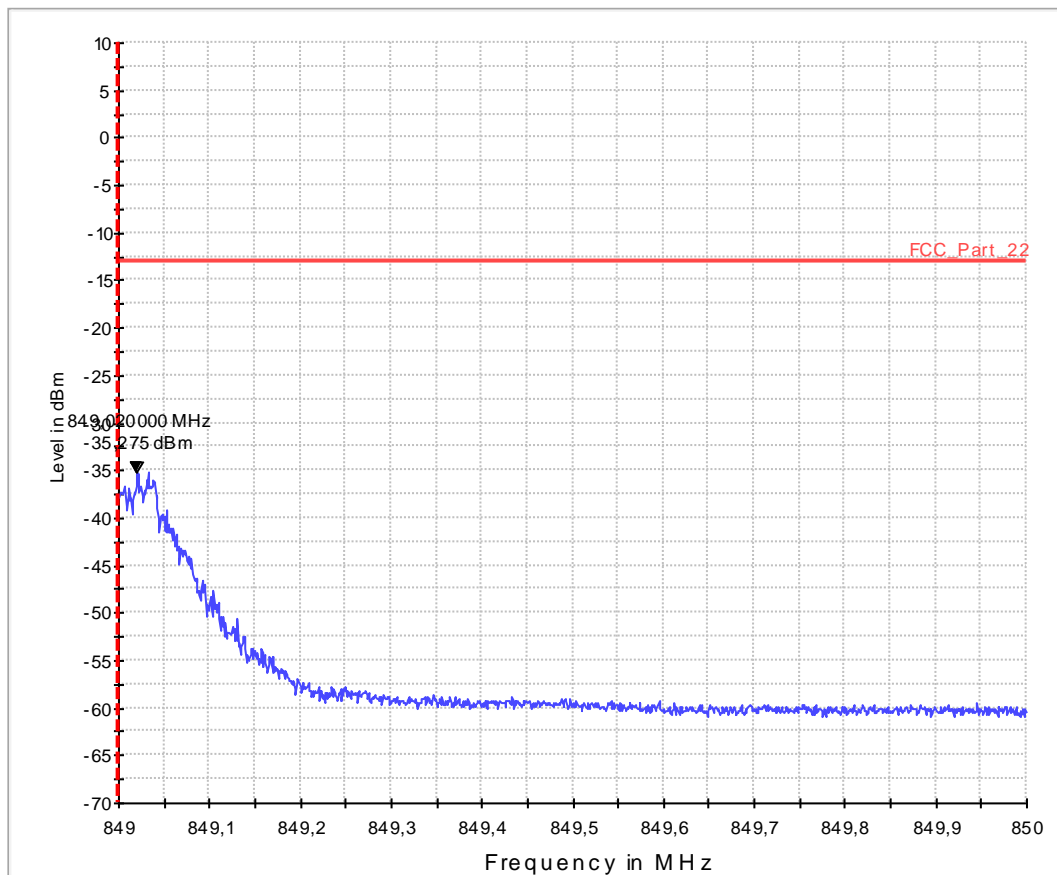
Test Description:	TX Spurious Emission conducted §2.1051 - Band-Edge Compliance
Test Site:	Radio laboratory 2
Test Standard:	FCC FCC Part 22
Operation mode:	TX - E-GPRS850 Mode, Channel 251
Operator Name:	Lor
Comment:	--

EUT Information

Manufacturer:	Gemalto
EuT:	ALS1-US
Type:	UCC 55099-33589-49924

HW version:	B2 (Rev.3)
SW version:	00.170
Serial number:	Sample21
Connected Interfaces:	-
Power Supply:	4.2 V
Comments:	-

Fula2_FCC_22_BE_High_Channel_251_AV



1.10. Conducted emissions on 1900 MHz transmitting band-edge

Diagram No.: 37.10_BE_Ch512_GPRS_PK

Common Information

Test Description: TX Spurious Emission conducted §2.1051 - Band-Edge Compliance

Test Site: Radio laboratory 2

Test Standard: FCC FCC Part 24

Operation mode: 1900 MHz GPRS Data-Mode, Channel 512

Operator Name: Lor

Comment: --

EUT Information

Manufacturer: Gemalto

EuT: ALS1-US

Type: UCC 55099-33589-49924

HW version: B2 (Rev.3)

SW version: 00.170

Serial number: Sample21

Connected Interfaces: -

Power Supply: 4.2 V

Comments: -

Fula2_FCC_24_GSM_BE_Low_Channel_512

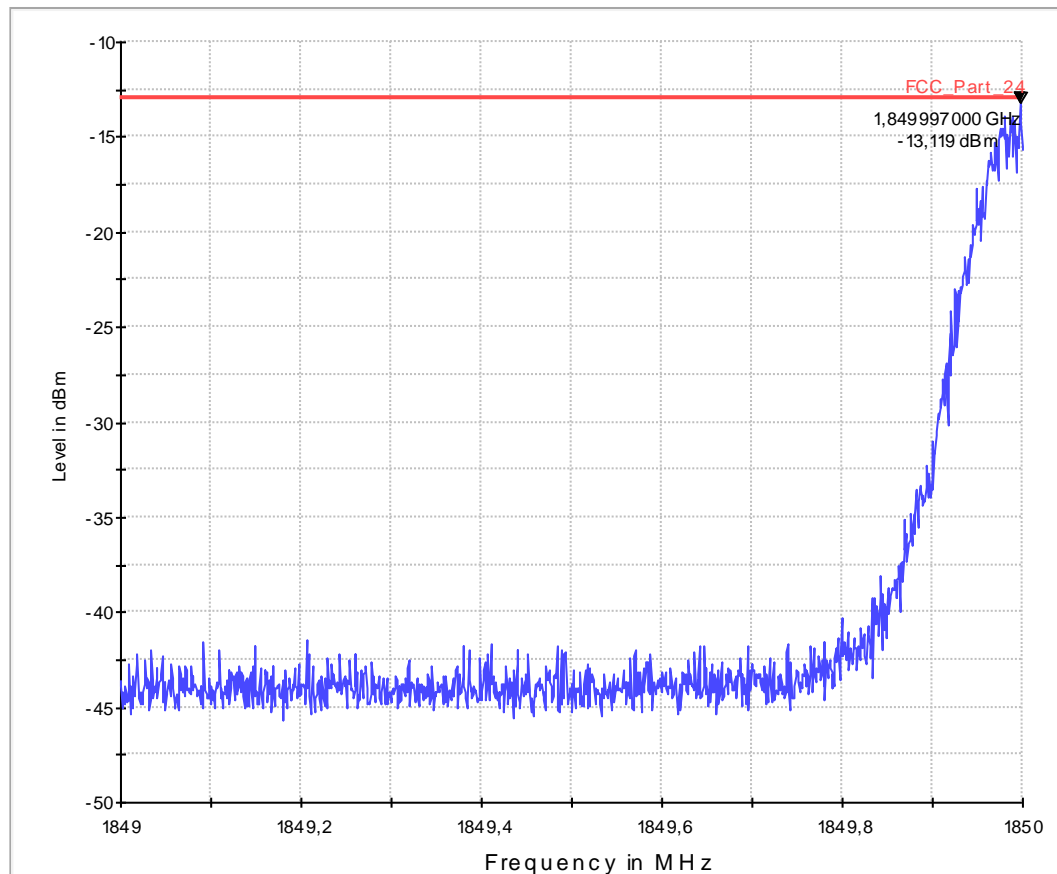


Diagram No.: 37.11_BE_Ch810_GPRS_PK

Common Information

Test Description: TX Spurious Emission conducted §2.1051 - Band-Edge Compliance

Test Site: Radio laboratory 2
Test Standard: FCC FCC Part 24

Operation mode: 1900 MHz GPRS Data-Mode, Channel 810
Operator Name: Lor
Comment: --

EUT Information

Manufacturer: Gemalto
EuT: ALS1-US
Type: UCC 55099-33589-49924

HW version: B2 (Rev.3)
SW version: 00.170
Serial number: Sample21
Connected Interfaces: -
Power Supply: 4.2 V
Comments: -

Fula2_FCC_24_GSM_BE_High_Channel_810

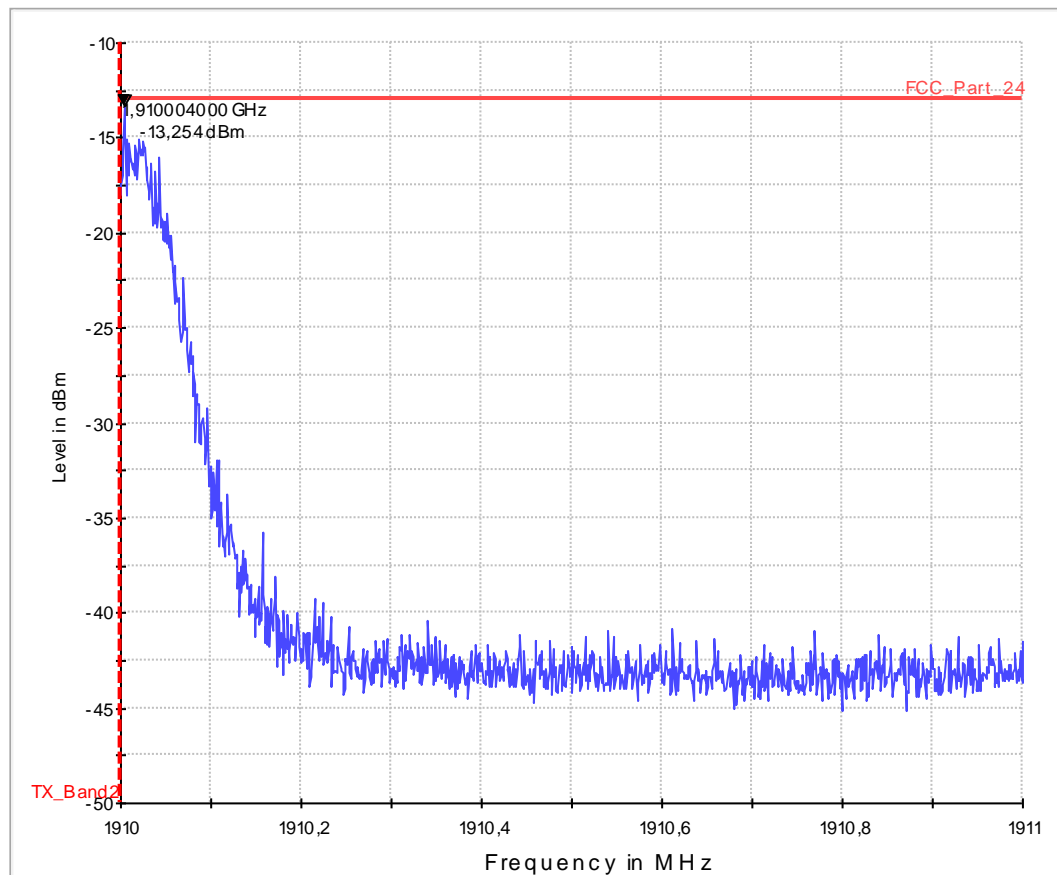


Diagram No.: 37.12_BE_Ch512_EGPRS_PK

Common Information

Test Description: TX Spurious Emission conducted §2.1051 - Band-Edge Compliance

Test Site: Radio laboratory 2
Test Standard: FCC FCC Part 24

Operation mode: 1900 MHz E-GPRS Data-Mode, Channel 512
Operator Name: Lor
Comment: --

EUT Information

Manufacturer: Gemalto
EuT: ALS1-US
Type: UCC 55099-33589-49924

HW version: B2 (Rev.3)
SW version: 00.170
Serial number: Sample21
Connected Interfaces: -
Power Supply: 4.2 V
Comments: -

Fula2_FCC_24_GSM_BE_Low_Channel_512

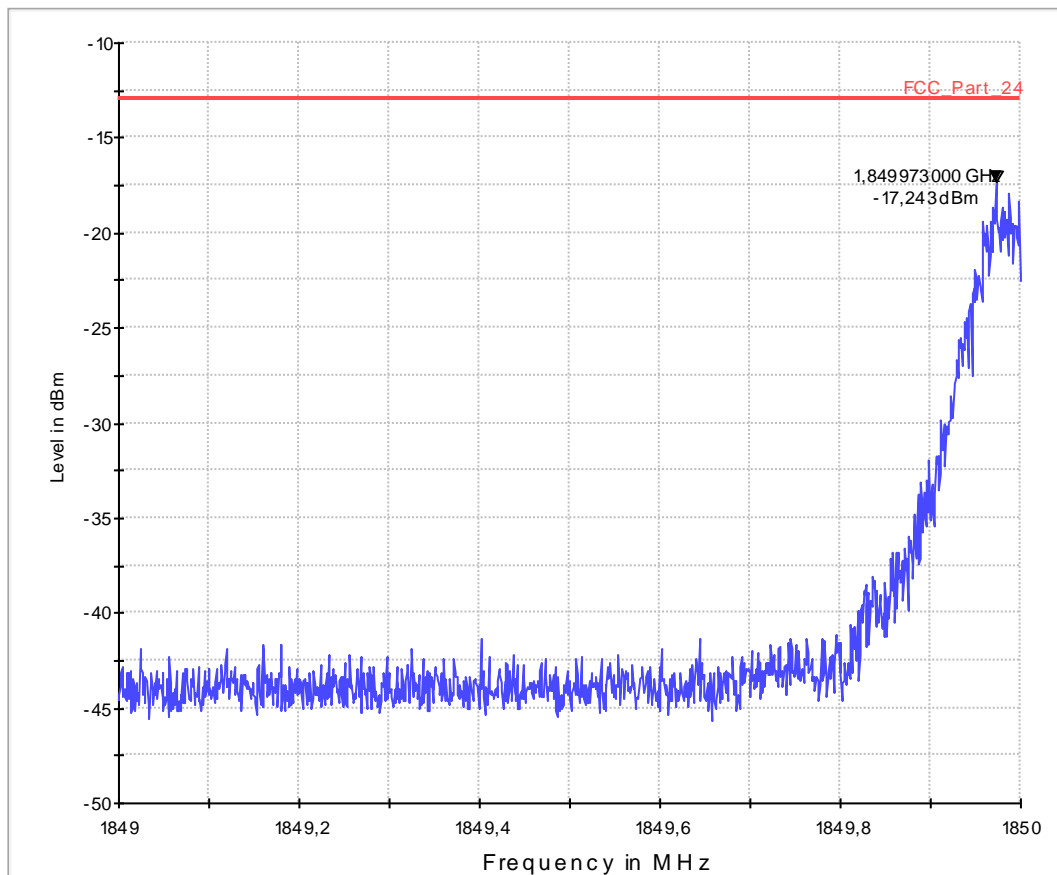


Diagram No.: 37.13_BE_Ch810_EGPRS_PK

Common Information

Test Description: TX Spurious Emission conducted §2.1051 - Band-Edge Compliance

Test Site: Radio laboratory 2
Test Standard: FCC FCC Part 24

Operation mode: 1900 MHz E-GPRS Data-Mode, Channel 810
Operator Name: Lor
Comment: --

EUT Information

Manufacturer: Gemalto
EuT: ALS1-US
Type: UCC 55099-33589-49924

HW version: B2 (Rev.3)
SW version: 00.170
Serial number: Sample21
Connected Interfaces: -
Power Supply: 4.2 V
Comments: -

Fula2_FCC_24_GSM_BE_High_Channel_810

