

Annex 4: Measurement diagrams
to
TEST REPORT
No.: 6-0147-12-19-6a

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 EHS6
(GSM/GPRS/E-GPRS Mode)

FCC-ID: QIPEHS6
IC-ID: 7830A-EHS6







Laboratory Accreditation and Listings			
 Deutsche Akkreditierungsstelle D-PL-12047-01-01	 FEDERAL COMMUNICATIONS COMMISSION U.S.A. 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			
<p align="center"> CETECOM GmbH Laboratory Radio Communications & Electromagnetic Compatibility Im Teelbruch 116 • 45219 Essen • Germany Registered in Essen, Germany, Reg. No.: HRB Essen 8984 Tel.: + 49 (0) 20 54 / 95 19-954 • Fax: + 49 (0) 20 54 / 95 19-964 E-mail: info@cetecom.com • Internet: www.cetecom.com </p>			

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1. Renaming of company information

All diagrams contain applicants former company name *Cinterion Wireless Modules GmbH*. The name change was valid from 2013-05-01 on.

2. Field strength of spurious radiation

2.1. GSM850 Operating Mode

8.01_RSE_R_Ch128_GSM

Common Information

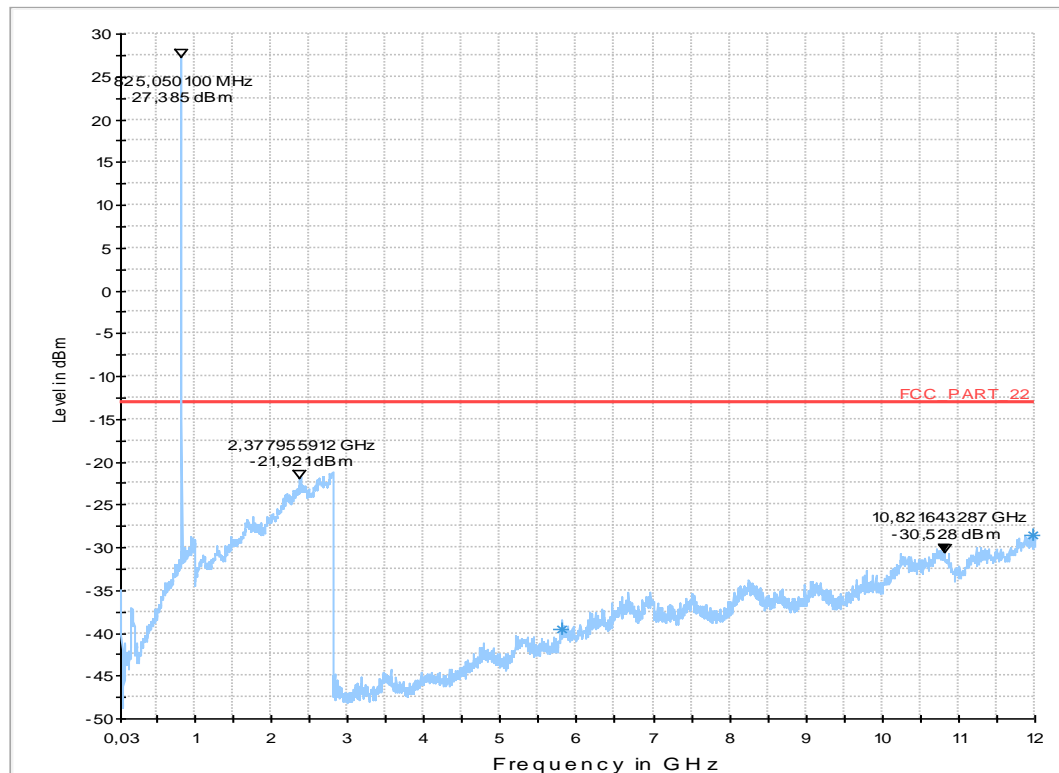
Test Description:	Radiated Emissions GSM850
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part22.917
Test Case:	-
Operating Mode:	MS allocated UL channel 128
Exclusionband:	824 - 849MHz
Environmental Conditions:	Humidity: 22%rH; Temperature: 38°C
Operator:	Lor

EUT Information

Manufacturer:	Cinterion GmbH
Model:	Wireless Module
Type:	GSM/E-GPRS/W-CDMA

EUT:	EHS6
Serial number:	004401 08 084039 6
Connected Interfaces:	USB/RS-232/Audio
Power Supply:	9V DC to DSB75
Comments:	Accessories: DSB75-Adapter, Handset Votronic, Smarteq MiniMag mount antenna

030401_FCC_Part22_GSM850_TX_all_channels_30M-12G



8.02_RSE_R_Ch192_GSM

Common Information

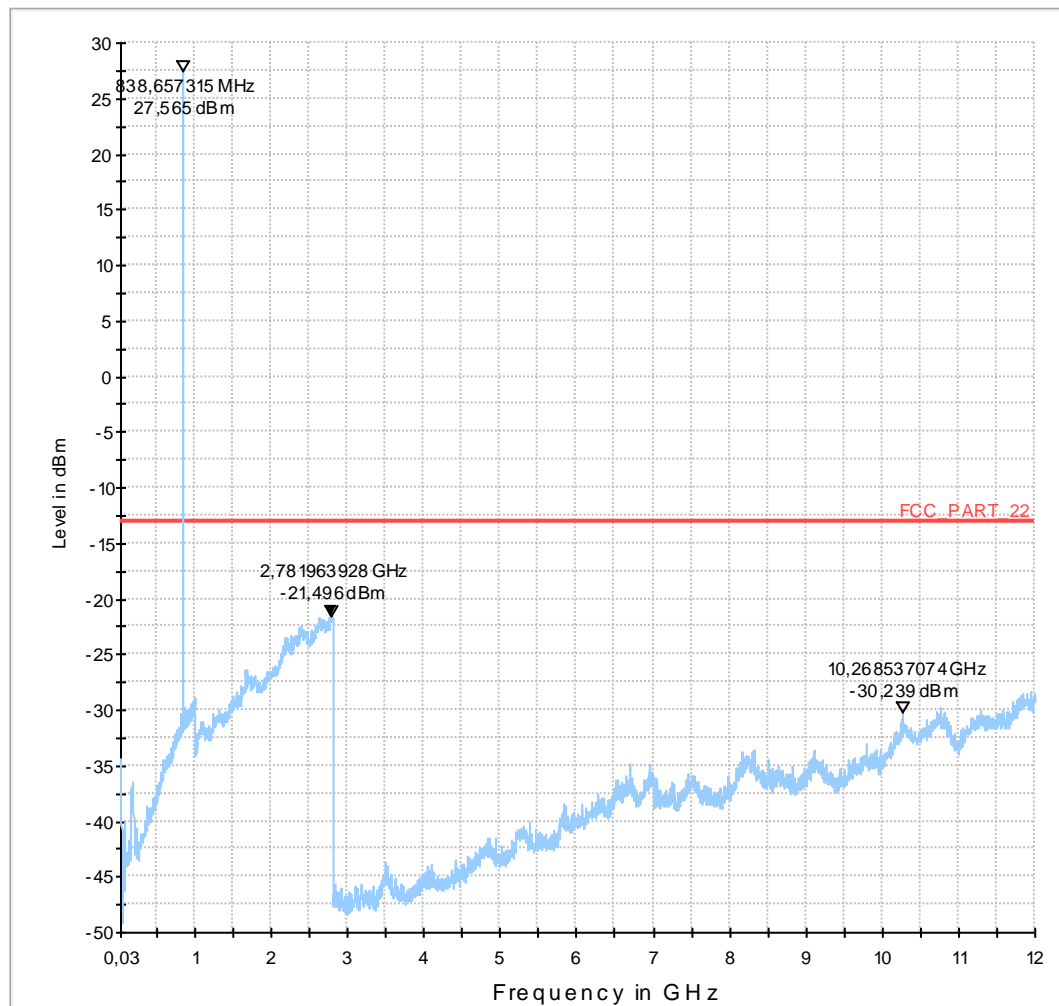
Test Description:	Radiated Emissions GSM850
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part22.917
Test Case:	-
Operating Mode:	MS allocated UL channel 192
Exclusionband:	824 - 849MHz
Environmental Conditions:	Humidity: 22%rH; Temperature: 38°C
Operator:	Lor

EUT Information

Manufacturer:	Cinterion GmbH
Model:	Wireless Module
Type:	GSM/E-GPRS/W-CDMA

EUT:	EHS6
Serial number:	004401 08 084039 6
Connected Interfaces:	USB/RS-232/Audio
Power Supply:	9V DC to DSB75
Comments:	Accessories: DSB75-Adapter, Handset Votronic, Smarteq MiniMag mount antenna

030401_FCC_Part22_GSM850_TX_all_channels_30M-12G



8.03_RSE_R_Ch251_GSM

Common Information

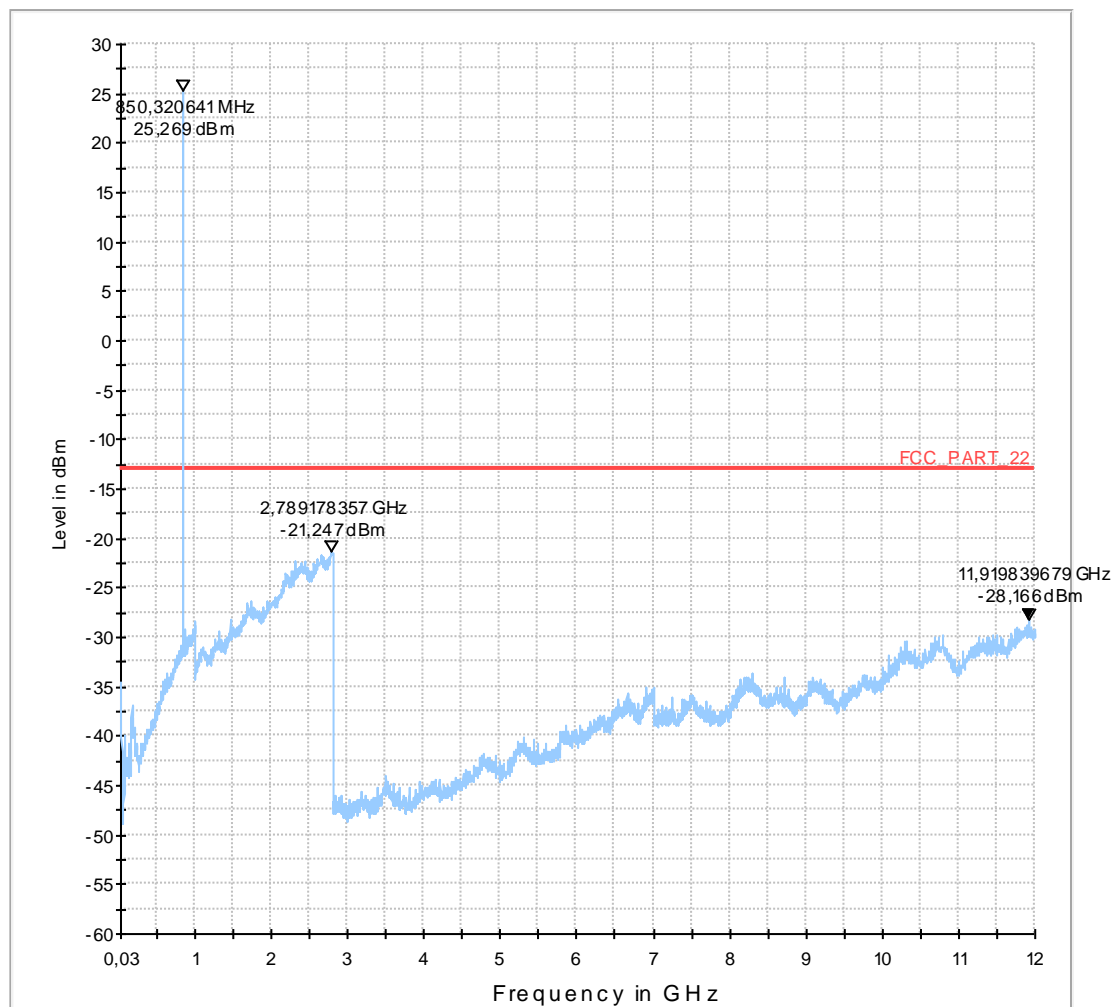
Test Description:	Radiated Emissions GSM850
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part22.917
Test Case:	-
Operating Mode:	MS allocated UL channel 251
Exclusionband:	824 - 849MHz
Environmental Conditions:	Humidity: 22%rH; Temperature: 38°C
Operator:	Lor

EUT Information

Manufacturer:	Cinterion GmbH
Model:	Wireless Module
Type:	GSM/E-GPRS/W-CDMA

EUT:	EHS6
Serial number:	004401 08 084039 6
Connected Interfaces:	USB/RS-232/Audio
Power Supply:	9V DC to DSB75
Comments:	Accessories: DSB75-Adapter, Handset Votronic, Smarteq MiniMag mount antenna

030401_FCC_Part22_GSM850_TX_all_channels_30M-12G



2.2. GSM1900 Operating Mode

8.10_RSE_R_Ch512_GSM

Common Information

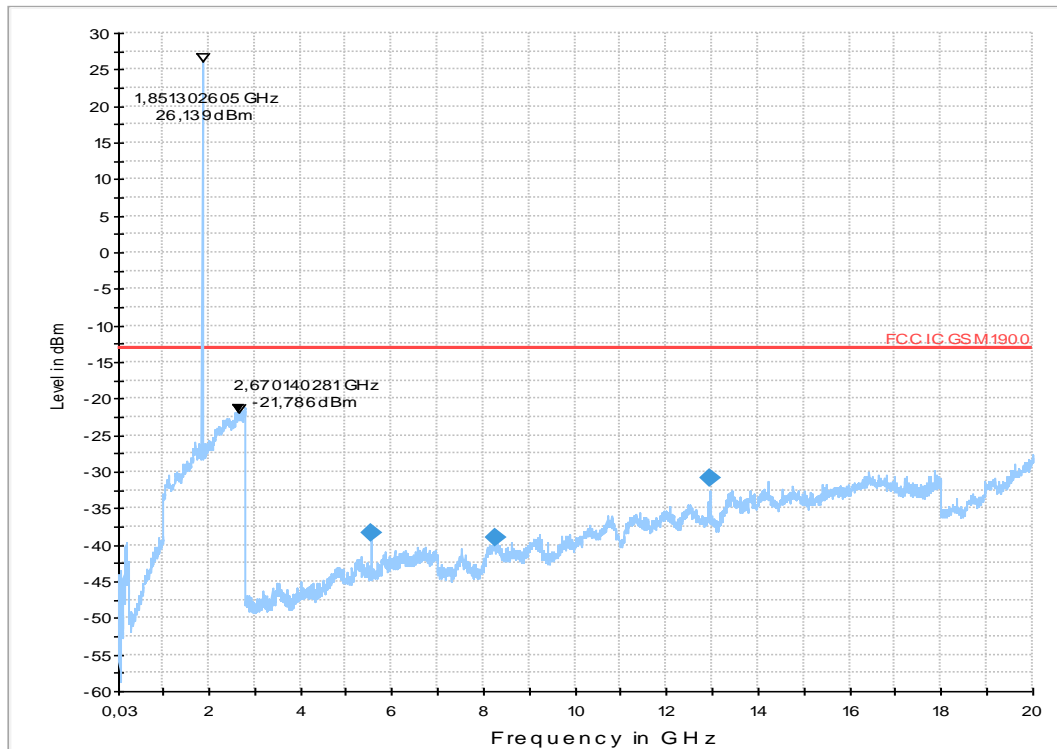
Test Description:	Radiated Spurious Emissions GSM1900
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 24.238
Comm. Link:	GSM1900, Voice
Operating Mode:	MS allocated channel 512 (UL = 1850.2MHz)
Exclusionband:	1850- 1910MHz
Environmental Conditions:	Humidity: 22%rH; Temperature: 38°C
Operator:	Lor

EUT Information

Manufacturer:	Cinterion GmbH
Model:	Wireless Module
Type:	GSM/E-GPRS/W-CDMA

EUT:	EHS6
Serial number:	004401 08 084039 6
Hardware Rev.	B1.2/1
Software Rev.	rev 01.001
Connected Interfaces:	USB/RS-232/Audio
Power Supply:	9V DC to DSB75
Comments:	Accessories: DSB75-Adapter, Handset Votronic, Smarteq MiniMag mount antenna

030404_FCC_Part24_GSM1900_TX_all_channels_30M-20G



Final Result 1

Frequency (MHz)	MaxPeak (dBm)	Meas. Time (ms)	Bandwidth (kHz)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)	Margin (dB)	Limit (dBm)
5550.005010	-38.3	5000.0	3000.000	H	169.0	90.0	-89.9	25.3	-13.0
8254.313627	-39.0	5000.0	3000.000	V	77.0	90.0	-81.2	26.0	-13.0
12951.057115	-30.9	5000.0	3000.000	H	169.0	90.0	-76.6	17.9	-13.0

8.11_RSE_R_Ch661_GSM

Common Information

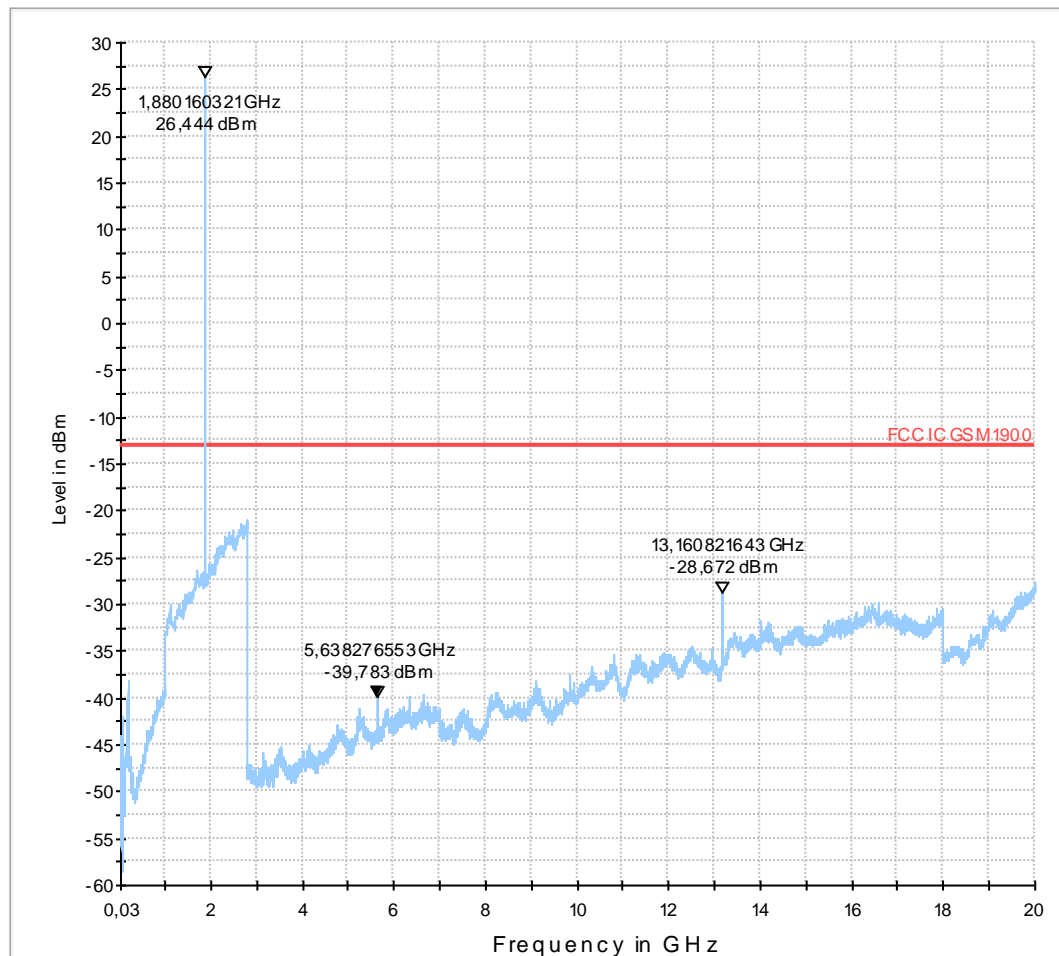
Test Description:	Radiated Spurious Emissions GSM1900
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 24.238
Comm. Link:	GSM1900, Voice
Operating Mode:	MS allocated channel 661 (UL = 1880.0MHz)
Exclusionband:	1850- 1910MHz
Environmental Conditions:	Humidity: 22%rH; Temperature: 38°C
Operator:	Lor

EUT Information

Manufacturer:	Cinterion GmbH
Model:	Wireless Module
Type:	GSM/E-GPRS/W-CDMA

EUT:	EHS6
Serial number:	004401 08 084039 6
Hardware Rev.	B1.2/1
Software Rev.	rev 01.001
Connected Interfaces:	USB/RS-232/Audio
Power Supply:	9V DC to DSB75
Comments:	Accessories: DSB75-Adapter, Handset Votronic, Smarteq MiniMag mount antenna

030404_FCC_Part24_GSM1900_TX_all_channels_30M-20G



8.12_RSE_R_Ch810_GSM

Common Information

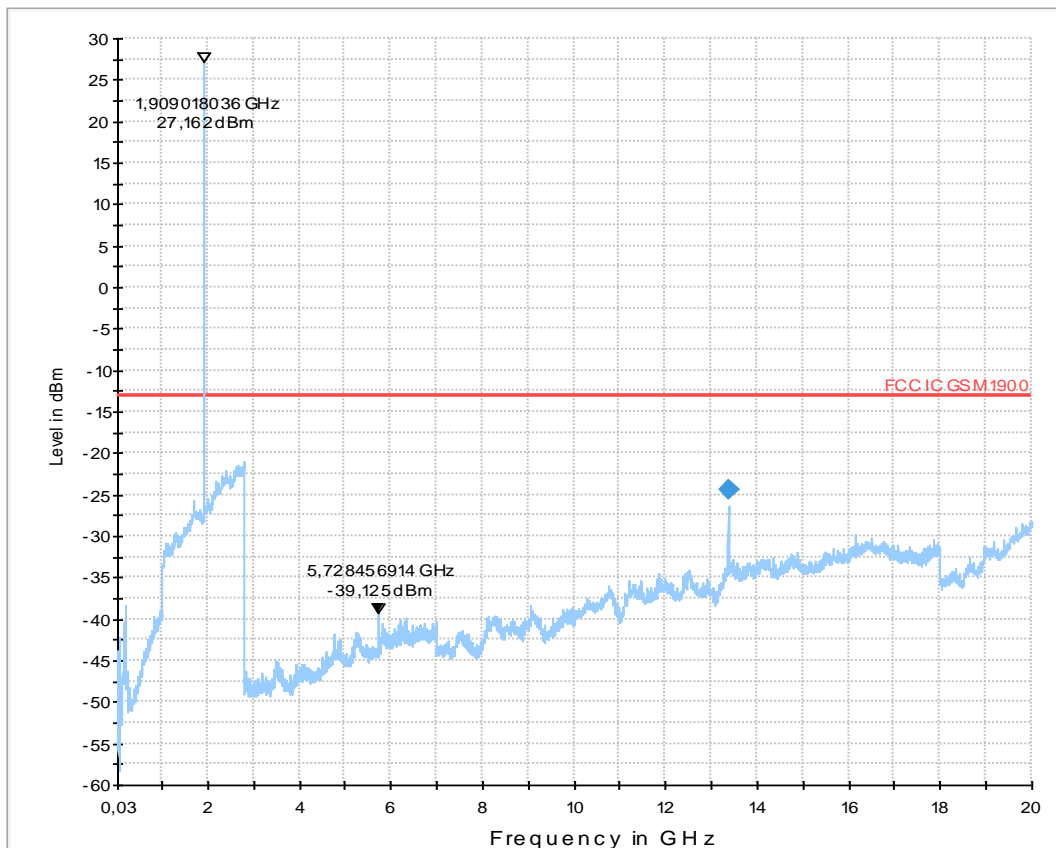
Test Description:	Radiated Spurious Emissions GSM1900
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 24.238
Comm. Link:	GSM1900, Voice
Operating Mode:	MS allocated channel 810 (UL = 1909.8MHz)
Exclusionband:	1850- 1910MHz
Environmental Conditions:	Humidity: 22%rH; Temperature: 38°C
Operator:	Lor

EUT Information

Manufacturer:	Cinterion GmbH
Model:	Wireless Module
Type:	GSM/E-GPRS/W-CDMA

EUT:	EHS6
Serial number:	004401 08 084039 6
Hardware Rev.	B1.2/1
Software Rev.	rev 01.001
Connected Interfaces:	USB/RS-232/Audio
Power Supply:	9V DC to DSB75
Comments:	Accessories: DSB75-Adapter, Handset Votronic, Smarteq MiniMag mounbt antenna

030404_FCC_Part24_GSM1900_TX_all_channels_30M-20G



Final Result 1

Frequency (MHz)	MaxPeak (dBm)	Meas. Time (ms)	Bandwidth (kHz)	Polarization	Azimuth (deg)	Elevation (deg)	Corr. (dB)	Margin (dB)	Limit (dBm)
13368.582164	-24.3	5000.0	3000.000	H	164.0	90.0	-75.3	11.3	-13.0

2.3. Band-Edge compliance for GSM850 operation (outside frequency block)

Diagram No.: 9.01_RSE_Ch128_GSM

Common Information

Test Description:	Band-Edge Radiated - G850
Test Site:	FAR
Test Standard:	FCC Part 22, RSS-133
Antenna polarisation:	vertical / horizontal
Operation mode:	MS allocated channel 128 (fc = 824,2 MHz); Voice, PCL0 (+33 dBm)
Operator Name:	Tas
Comment:	6-0147-12-19

EUT Information

EUT Name:	EHS6
Manufacturer:	Cinterion
Serial Number:	004401080840396
Hardware Rev:	B1.2 /1
Software Rev:	rev 01.001
Comment:	Interface R232 used for connection with Laptop#7
Accessories:	Power supply (12V DC), Mounting Ant. 1140.26 SMA, Handset HH-SI30.3/v3.0/0

010402_FCC_Part22_GSM850_TX_channel_128_band_edge

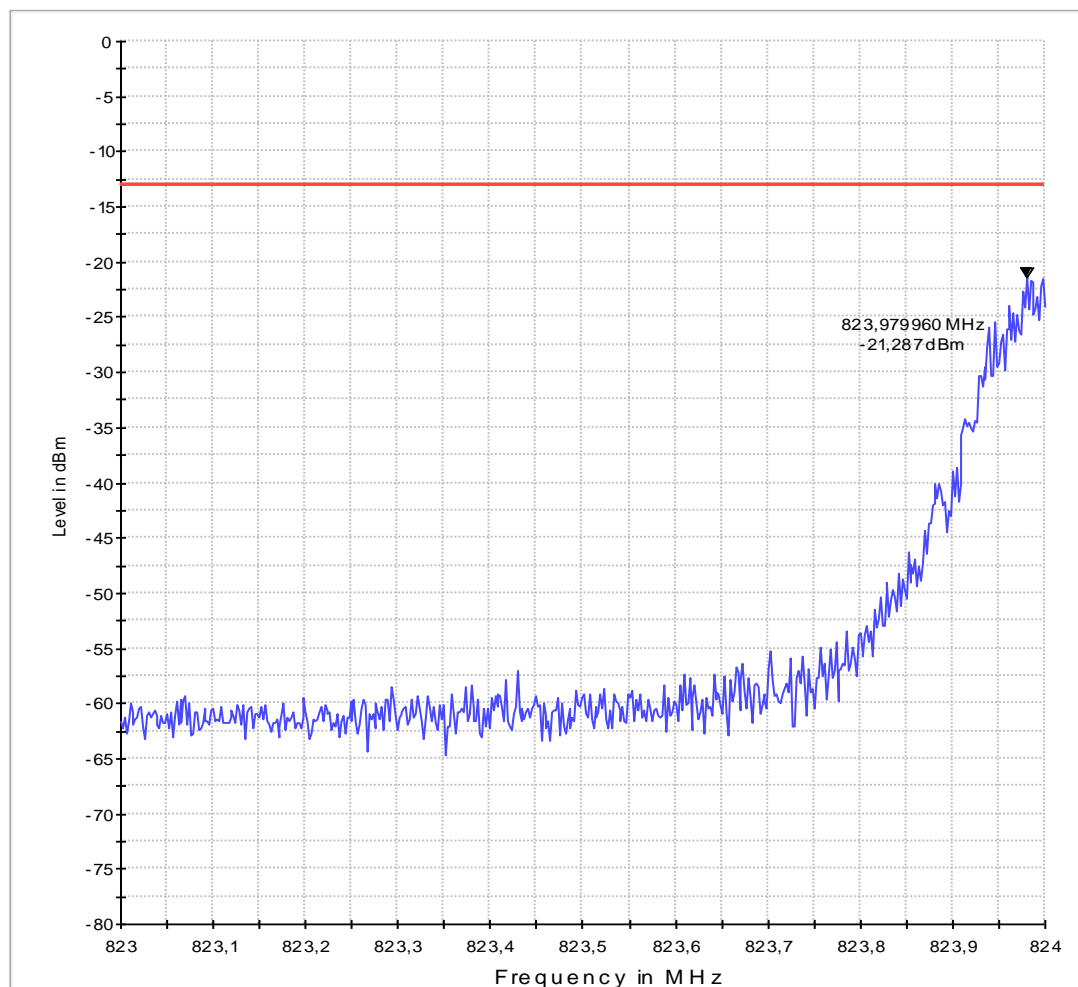


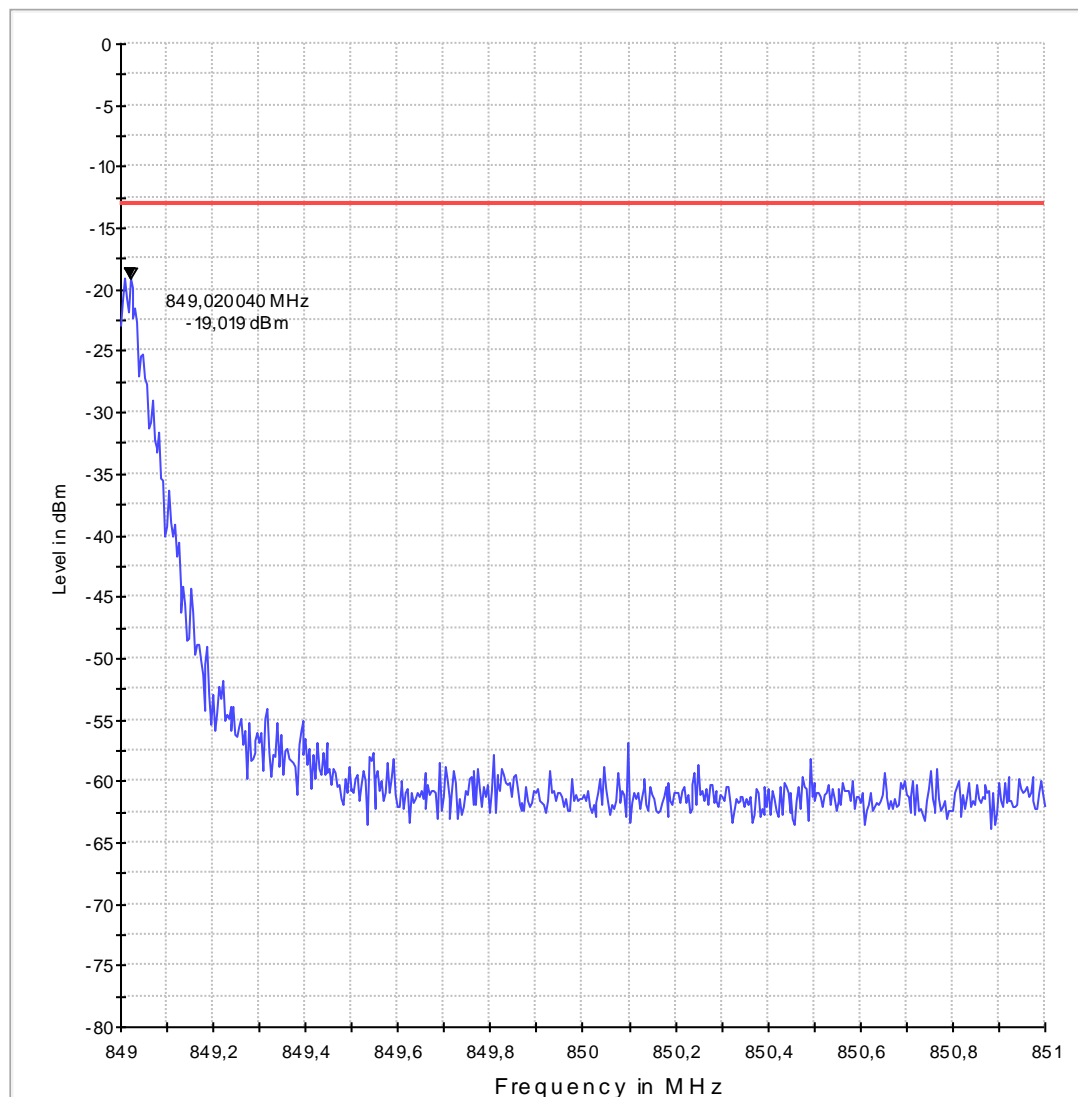
Diagram No.: 9.02_BE_ch251_GSM**Common Information**

Test Description:	Band-Edge Radiated - G850
Test Site:	FAR
Test Standard:	FCC Part 22, RSS-132
Antenna polarisation:	vertical / horizontal
Operation mode:	MS allocated channel 251 (fc = 848.8 MHz); Voice, PCL5 (+33dBm)
Operator Name:	Tas
Comment:	6-0147-12-19

EUT Information

EUT Name:	EHS6
Manufacturer:	Cinterion
Serial Number:	004401080840396
Hardware Rev:	B1.2 /1
Software Rev:	rev 01.001
Comment:	Interface R232 used for connection with Laptop#7
Accessories:	Power supply (12V DC), Mounting Ant. 1140.26 SMA, Handset HH-SI30.3/v3.0/0

010403_FCC_Part22_GSM850_TX_channel_251_band_edge



2.4. Band-Edge compliance for GSM 1900 operation (outside frequency block)

9.07_BE_R_Ch512_GSM

Common Information

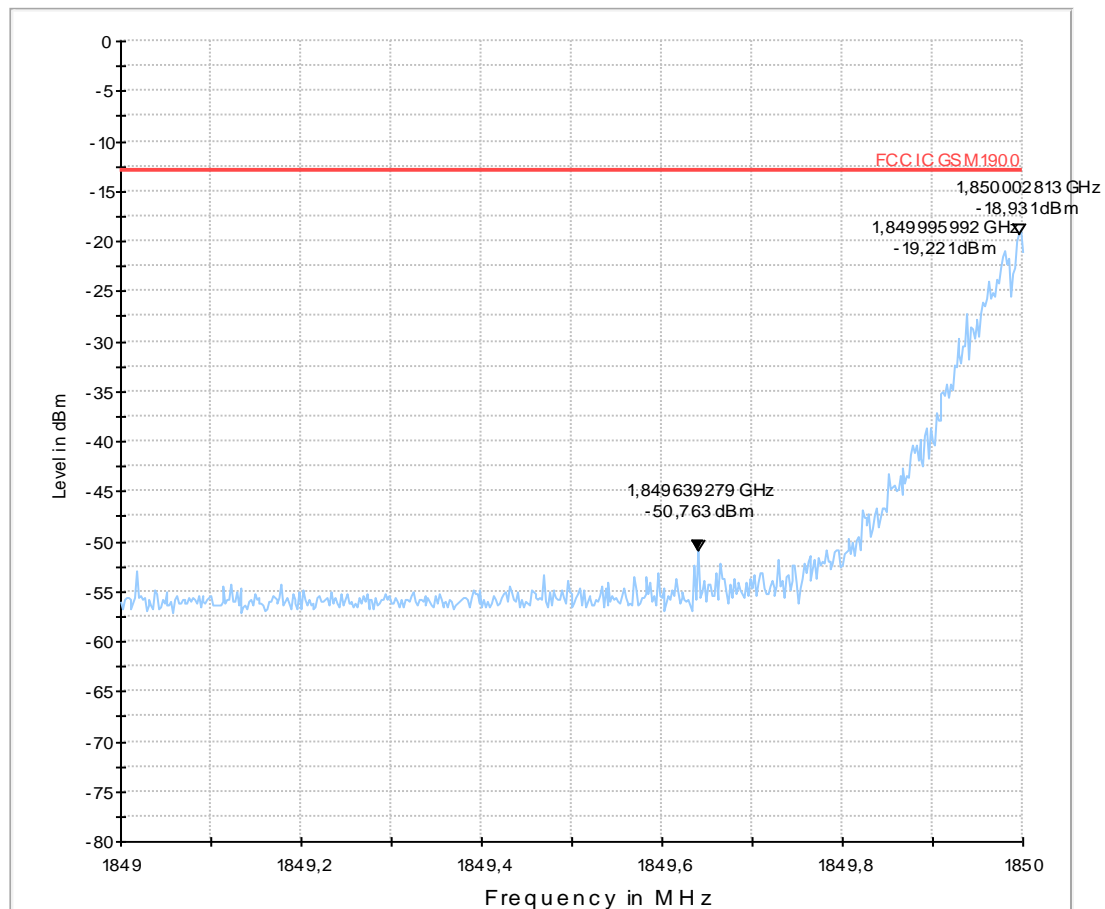
Test Description:	Radiated Spurious Emissions GSM1900
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 24.238
Comm. Link:	GSM1900, Voice
Operating Mode:	MS allocated channel 512 (UL = 1850.2MHz)
Exclusionband:	1850- 1910MHz
Environmental Conditions:	Humidity: 22%rH; Temperature: 38°C
Operator:	Lor

EUT Information

Manufacturer:	Cinterion GmbH
Model:	Wireless Module
Type:	GSM/E-GPRS/W-CDMA

EUT:	EHS6
Serial number:	004401 08 084039 6
Hardware Rev.	B1.2/1
Software Rev.	rev 01.001
Connected Interfaces:	USB/RS-232/Audio
Power Supply:	9V DC to DSB75
Comments:	Accessories: DSB75-Adapter, Handset Votronic, Smarteq MiniMag mounbt antenna

030405_FCC_Part24_GSM1900_TX_low_ch_band_edge



9.08_BE_R_Ch810_GSM

Common Information

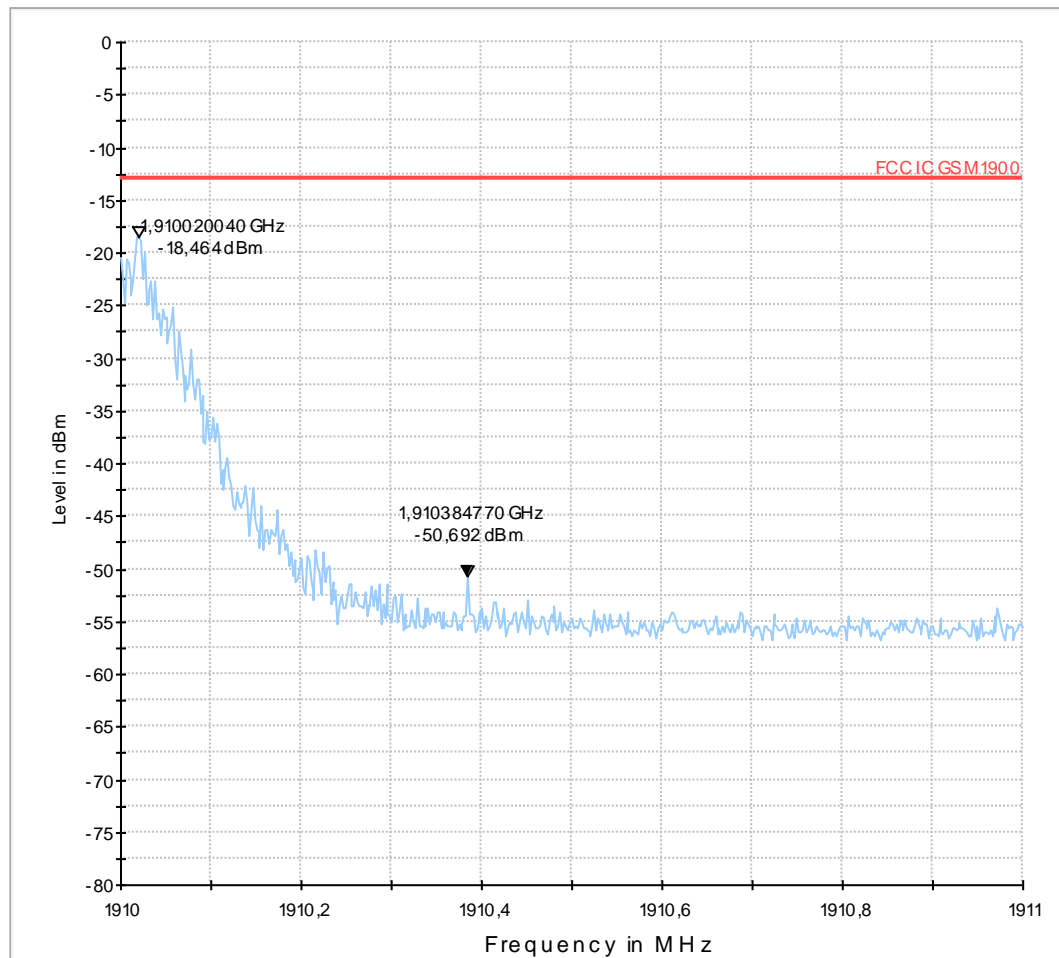
Test Description:	Radiated Spurious Emissions GSM1900
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 24.238
Comm. Link:	GSM1900, Voice
Operating Mode:	MS allocated channel 810 (UL = 1909.8MHz)
Exclusionband:	1850- 1910MHz
Environmental Conditions:	Humidity: 22%rH; Temperature: 38°C
Operator:	Lor

EUT Information

Manufacturer:	Cinterion GmbH
Model:	Wireless Module
Type:	GSM/E-GPRS/W-CDMA

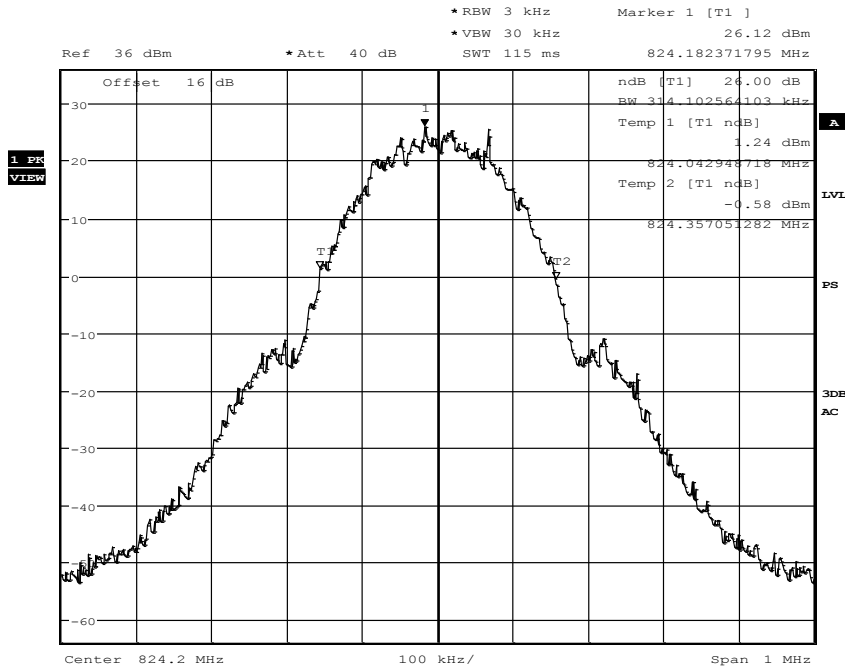
EUT:	EHS6
Serial number:	004401 08 084039 6
Hardware Rev.	B1.2/1
Software Rev.	rev 01.001
Connected Interfaces:	USB/RS-232/Audio
Power Supply:	9V DC to DSB75
Comments:	Accessories: DSB75-Adapter, Handset Votronic, Smarteq MiniMag mounbt antenna

030406_FCC_Part24_GSM1900_TX_high_ch_band_edge



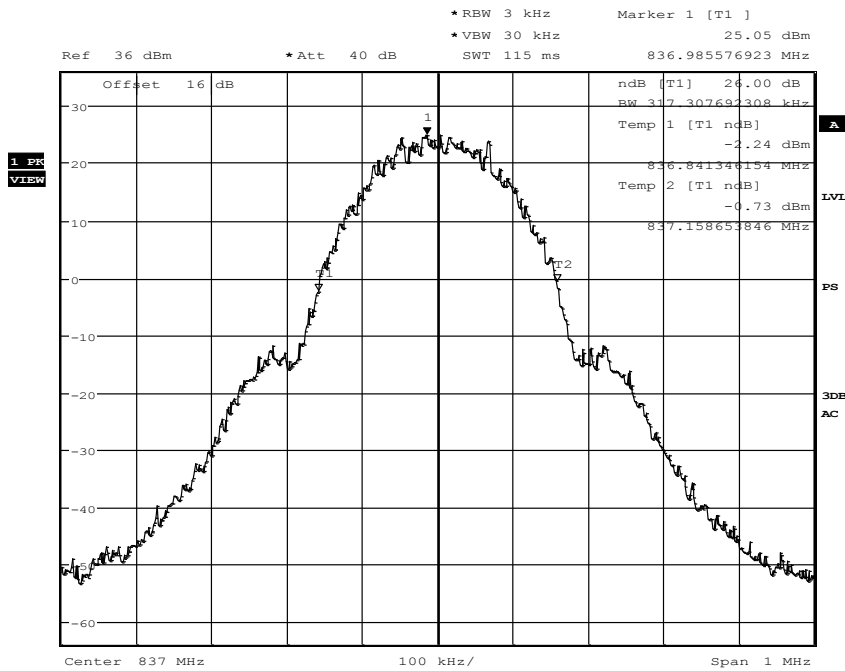
3. Emission Bandwidth (26 dBc)

3.1. GSM 850 operating mode



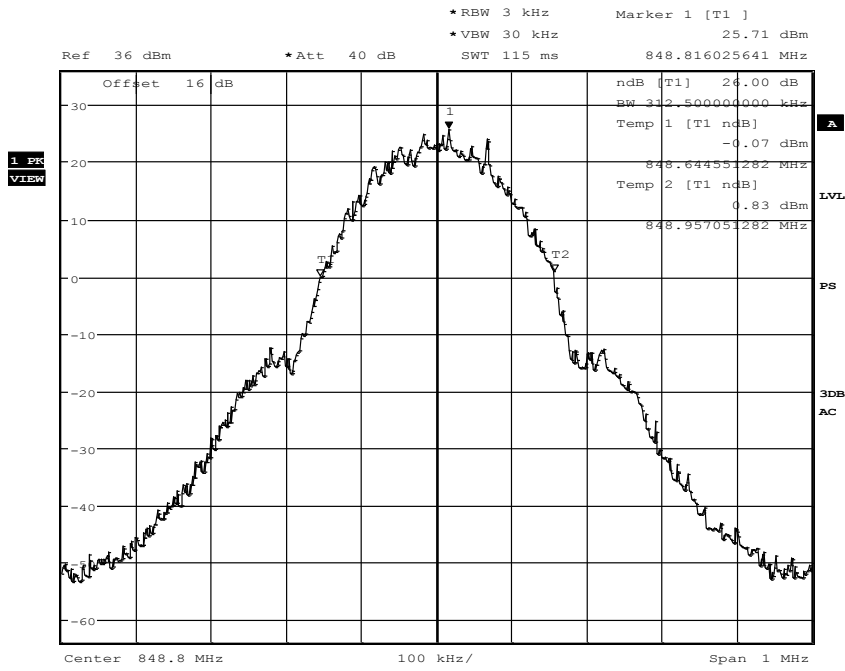
Date: 21.NOV.2012 11:28:57

Channel 128



Date: 21.NOV.2012 11:27:09

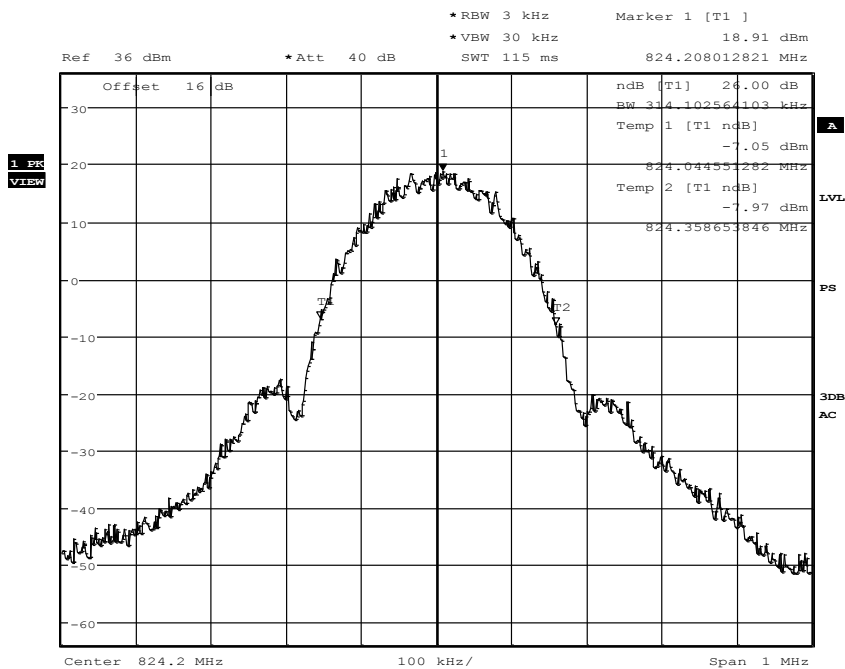
Channel 192



Date: 21.NOV.2012 11:24:17

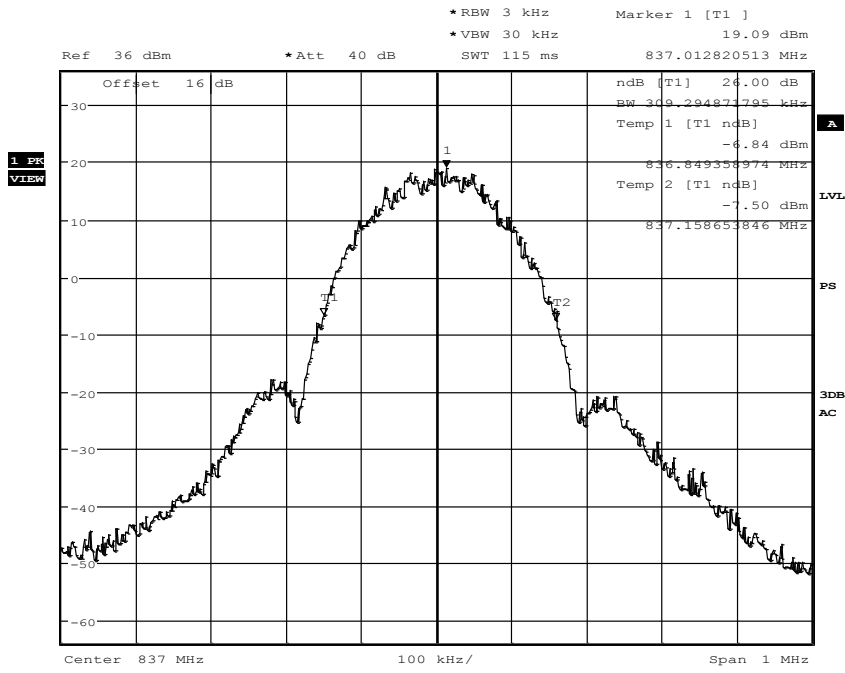
Channel 251

3.2. E-GPRS 850 operating mode



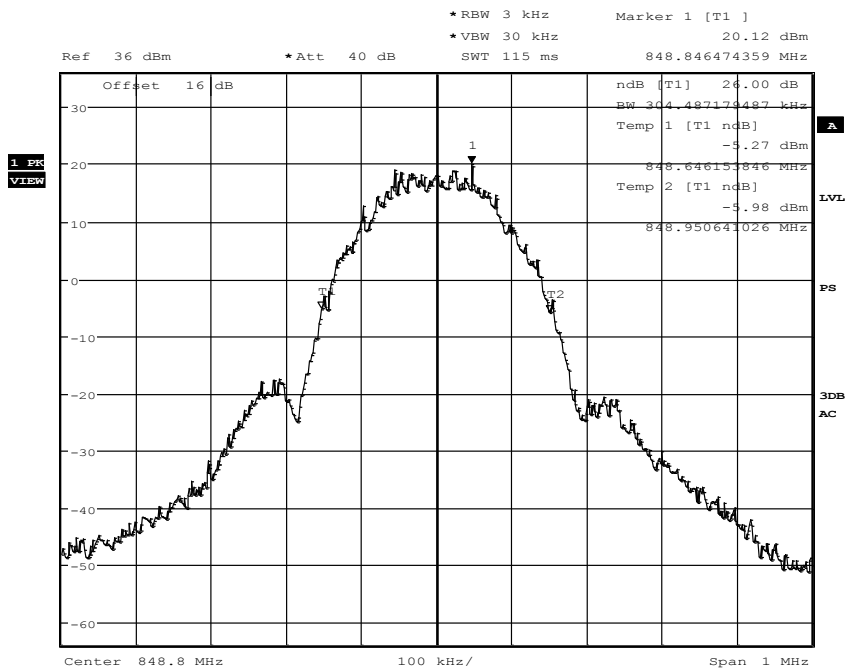
Date: 21.NOV.2012 12:34:42

Channel 128



Date: 21.NOV.2012 12:33:12

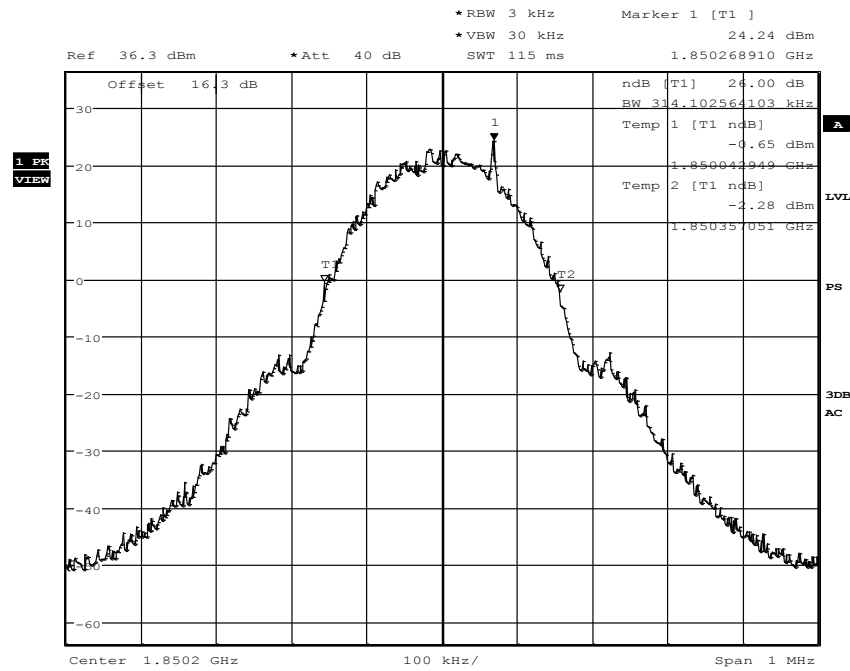
Channel 192



Date: 21.NOV.2012 12:31:14

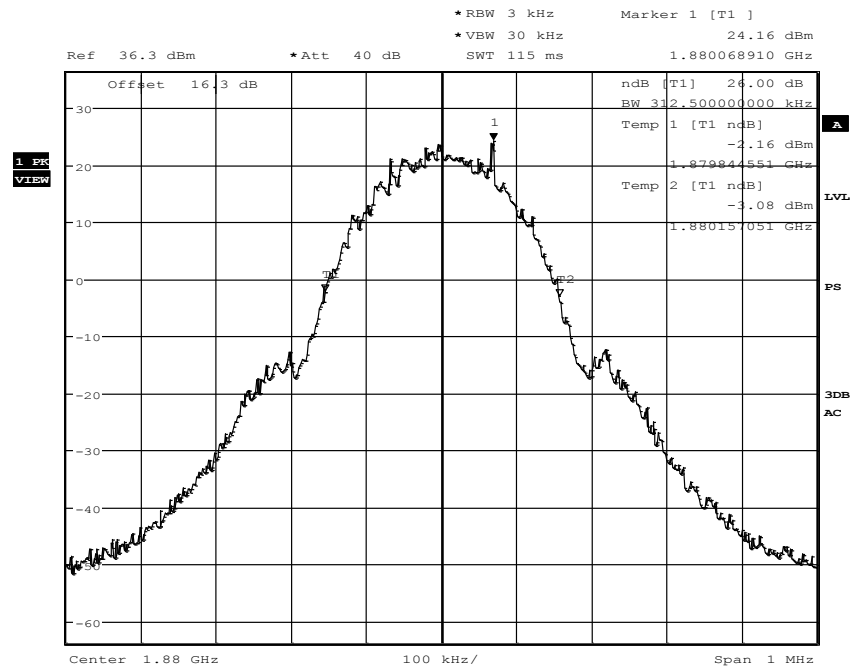
Channel 251

3.3. GSM 1900 operating mode



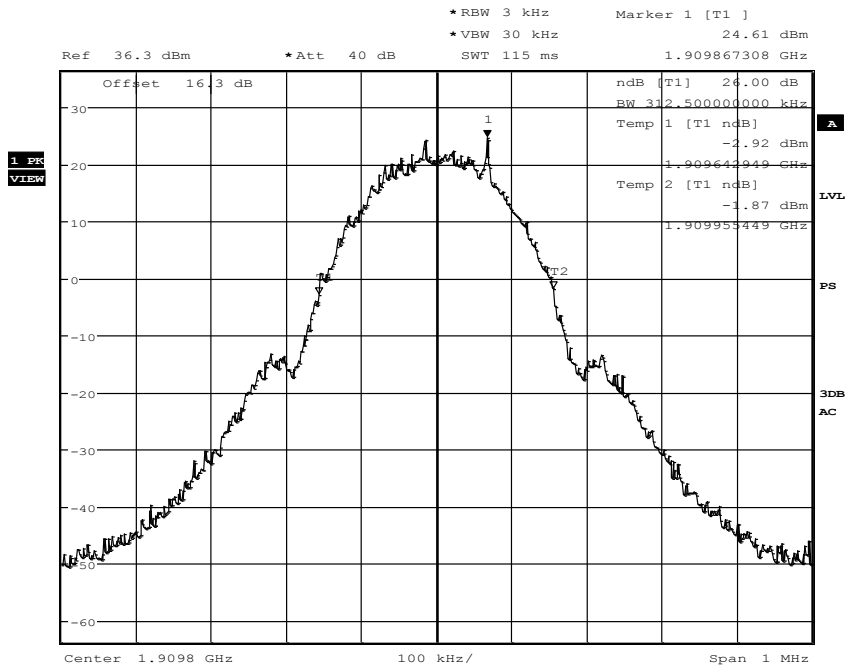
Date: 21.NOV.2012 10:49:34

Channel 512



Date: 21.NOV.2012 10:45:02

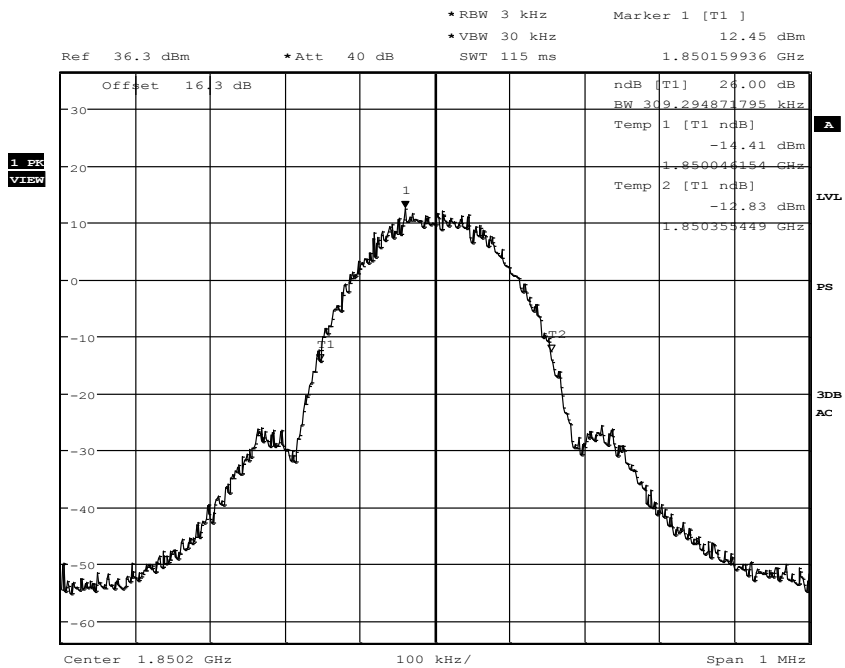
Channel 661



Date: 21.NOV.2012 10:39:30

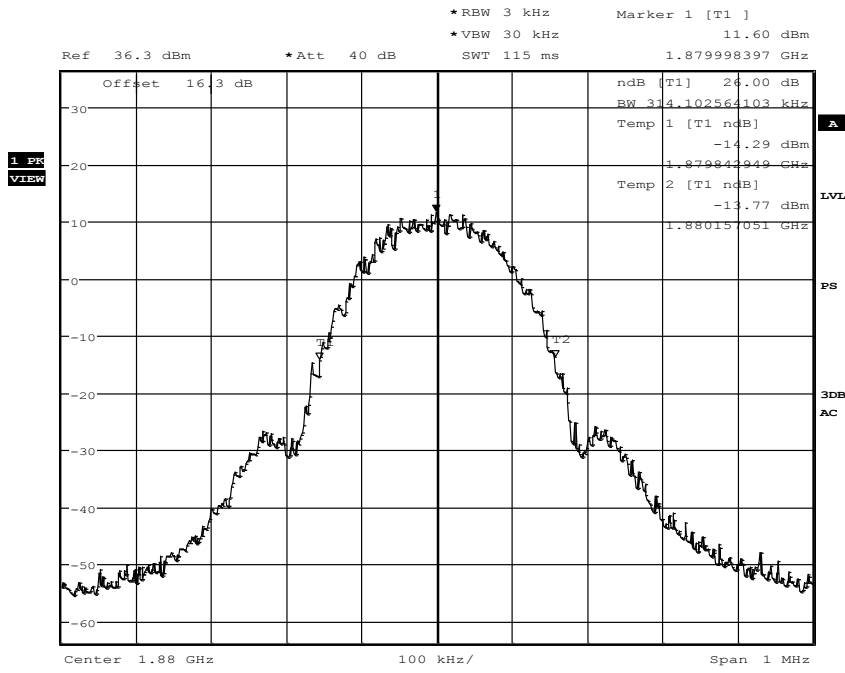
Channel 810

3.4. E-GPRS 1900 operating mode



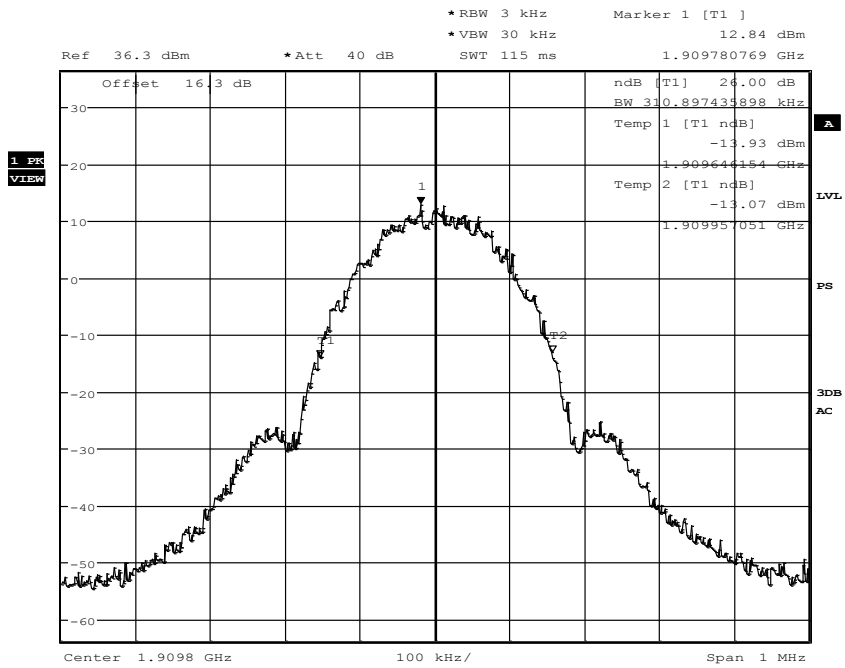
Date: 21.NOV.2012 12:37:47

Channel 512



Date: 21.NOV.2012 12:39:35

Channel 661

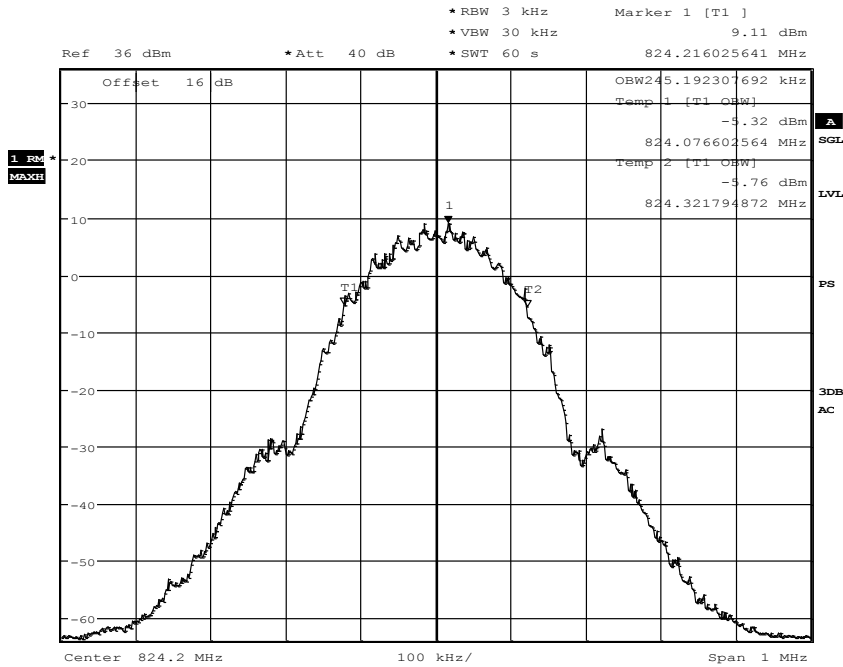


Date: 21.NOV.2012 12:41:28

Channel 810

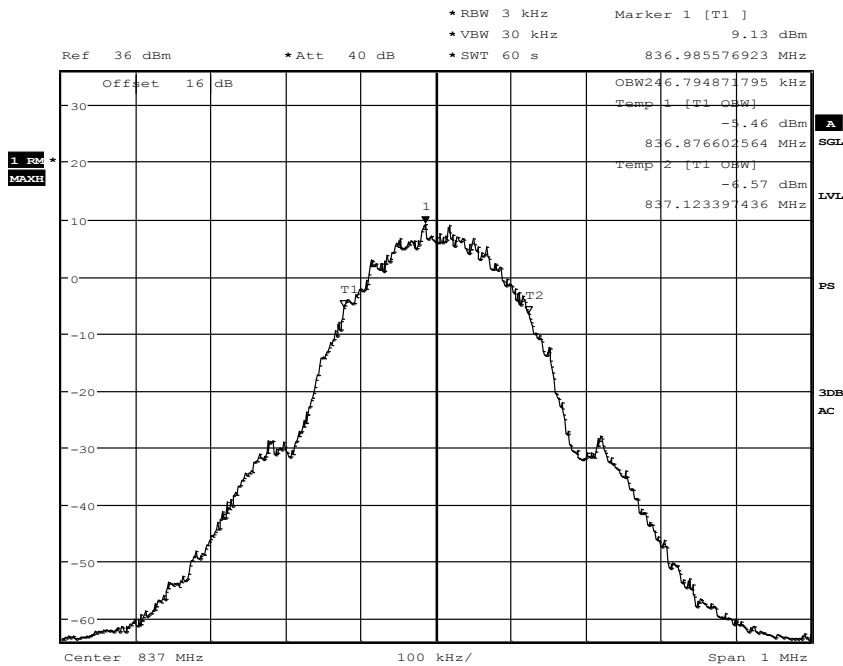
4. Occupied Bandwidth

4.1. GSM 850 operating mode



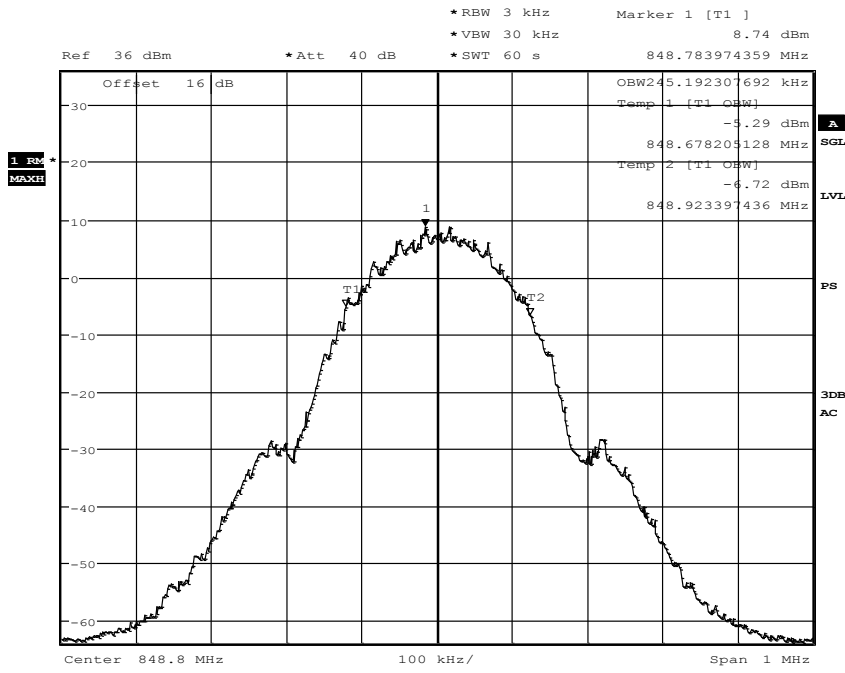
Date: 21.NOV.2012 11:17:33

Channel 128



Date: 21.NOV.2012 11:20:43

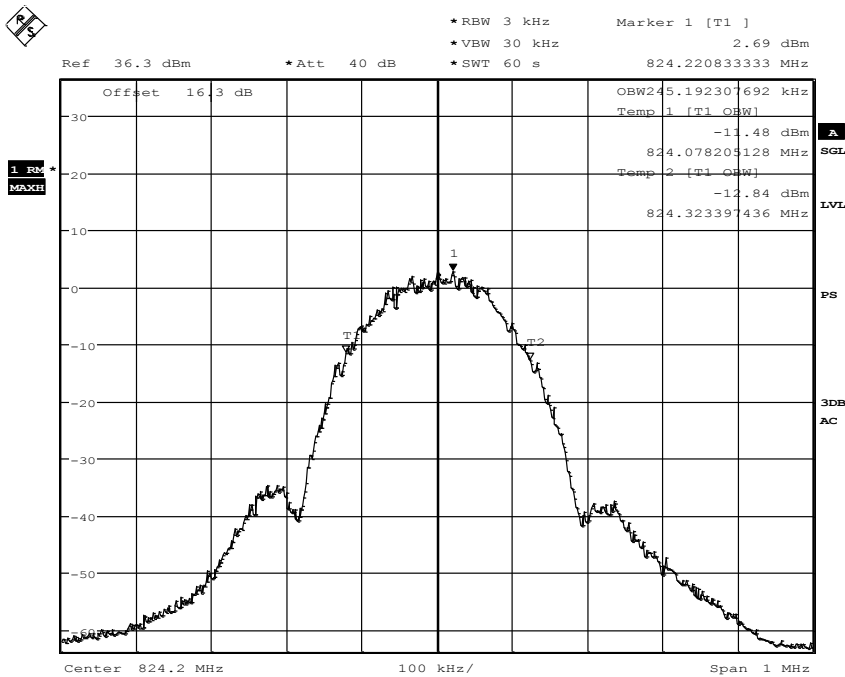
Channel 192



Date: 21.NOV.2012 11:22:26

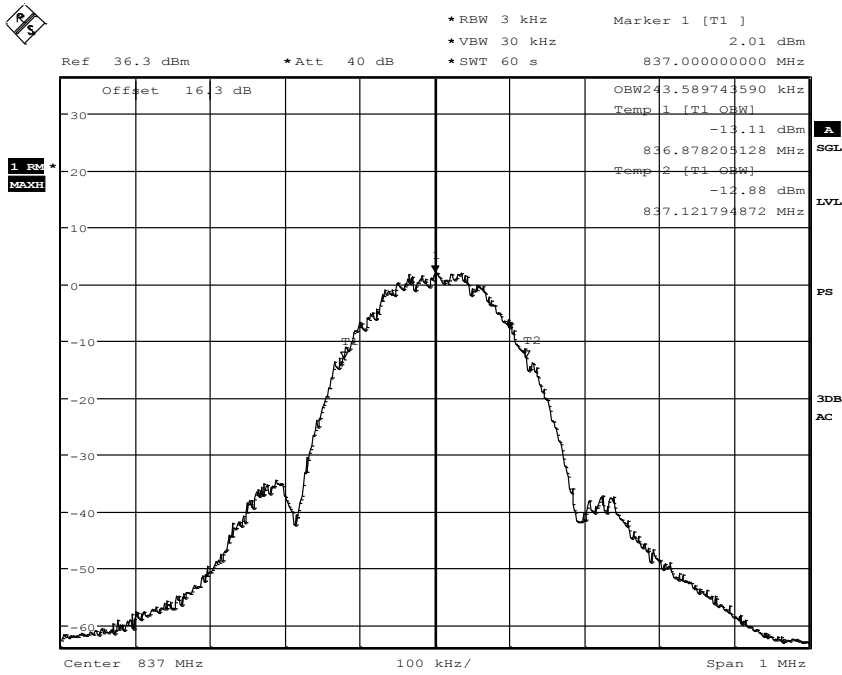
Channel 251

4.2. E-GPRS 850 operating mode



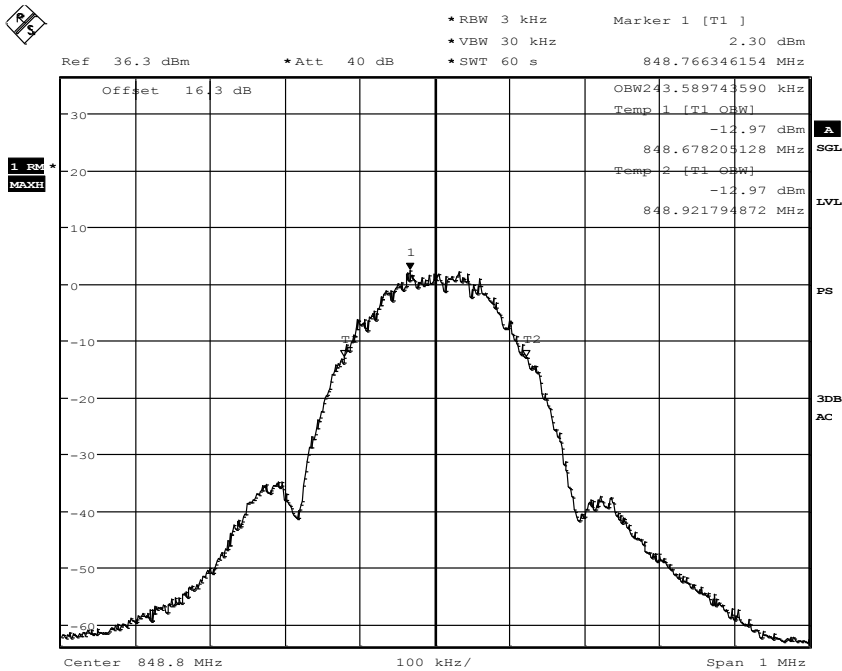
Date: 21.NOV.2012 12:24:21

Channel 128



Date: 21.NOV.2012 12:26:37

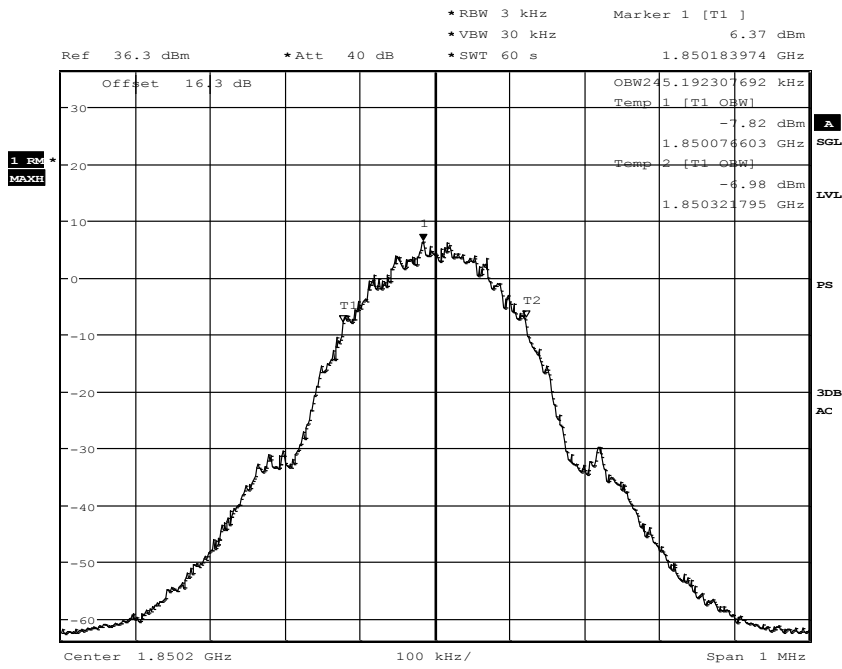
Channel 192



Date: 21.NOV.2012 12:28:19

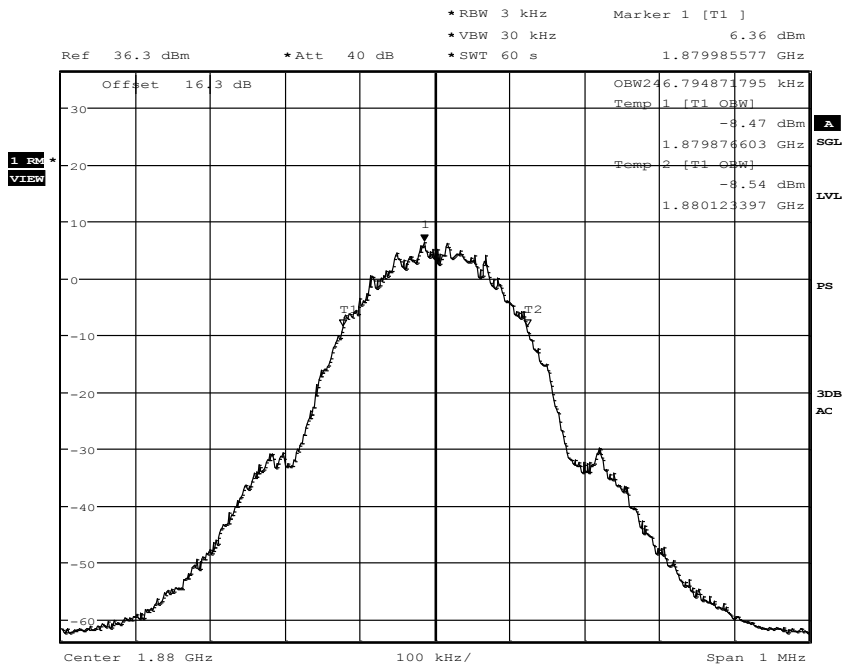
Channel 251

4.3. GSM 1900 operating mode



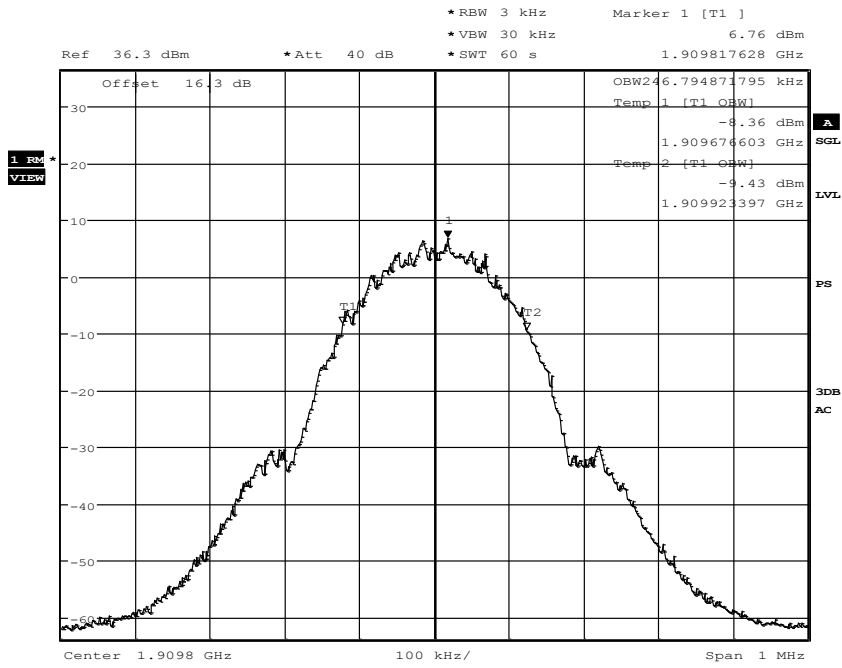
Date: 21.NOV.2012 10:53:14

Channel 512



Date: 21.NOV.2012 10:57:39

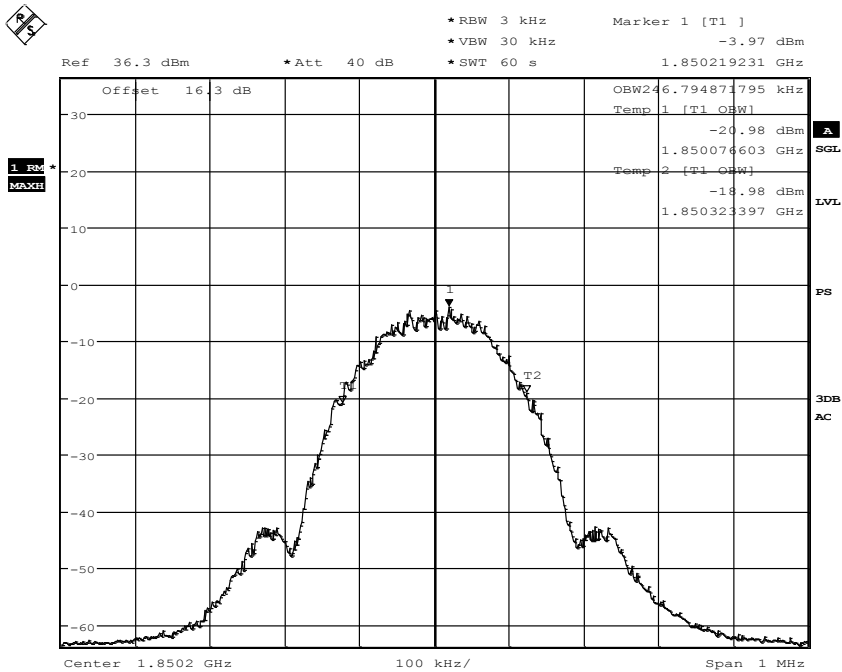
Channel 661



Date: 21.NOV.2012 11:02:56

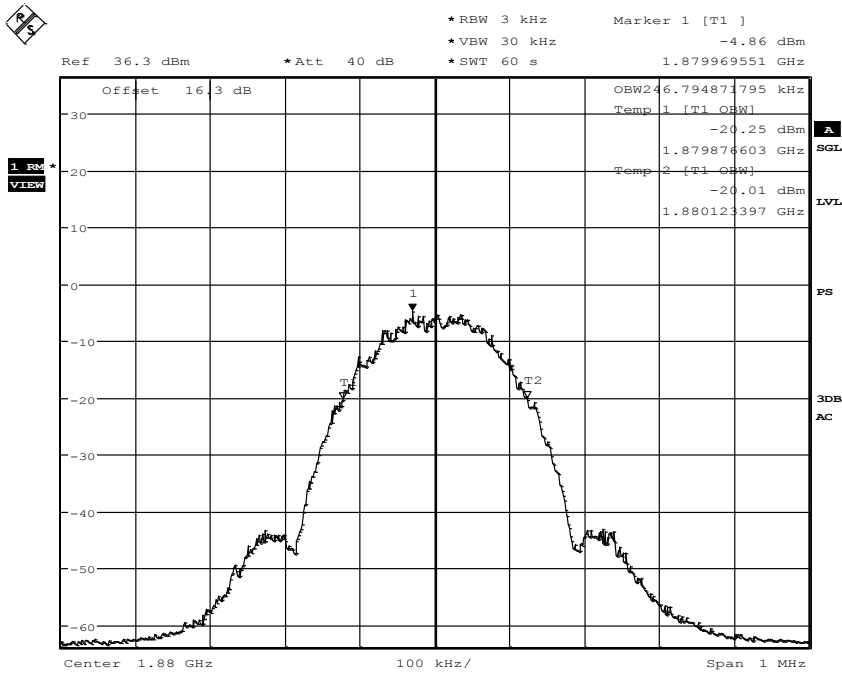
Channel 810

4.4. E-GPRS 1900 operating mode



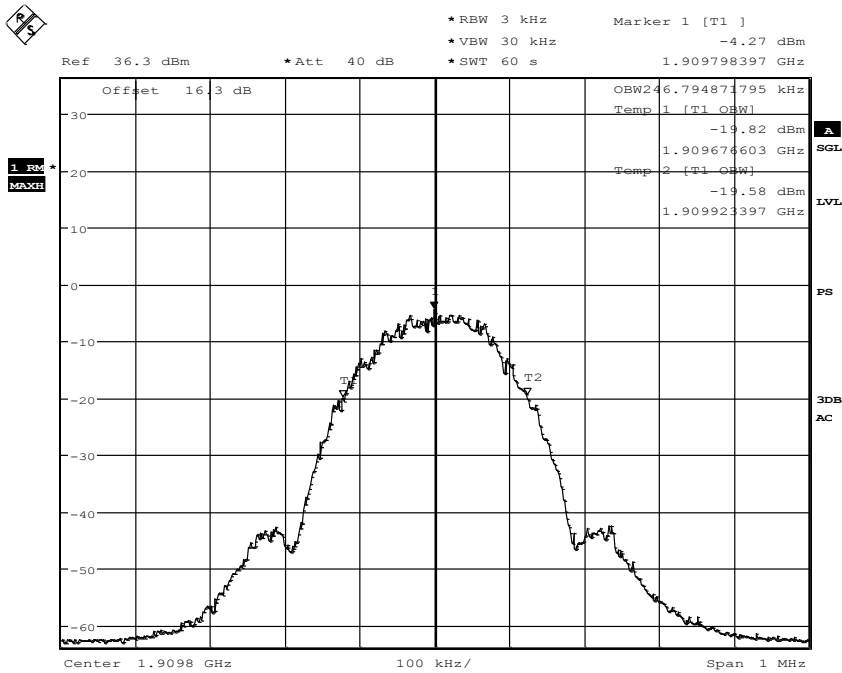
Date: 21.NOV.2012 13:11:58

Channel 512



Date: 21.NOV.2012 13:09:06

Channel 661



Date: 21.NOV.2012 12:43:45

Channel 810

5. Spurious emissions (antenna terminal)

5.1. GSM850 operating mode

Diagram No.: 36.01_RSE_Ch128_GSM_Sweep1

Common Information

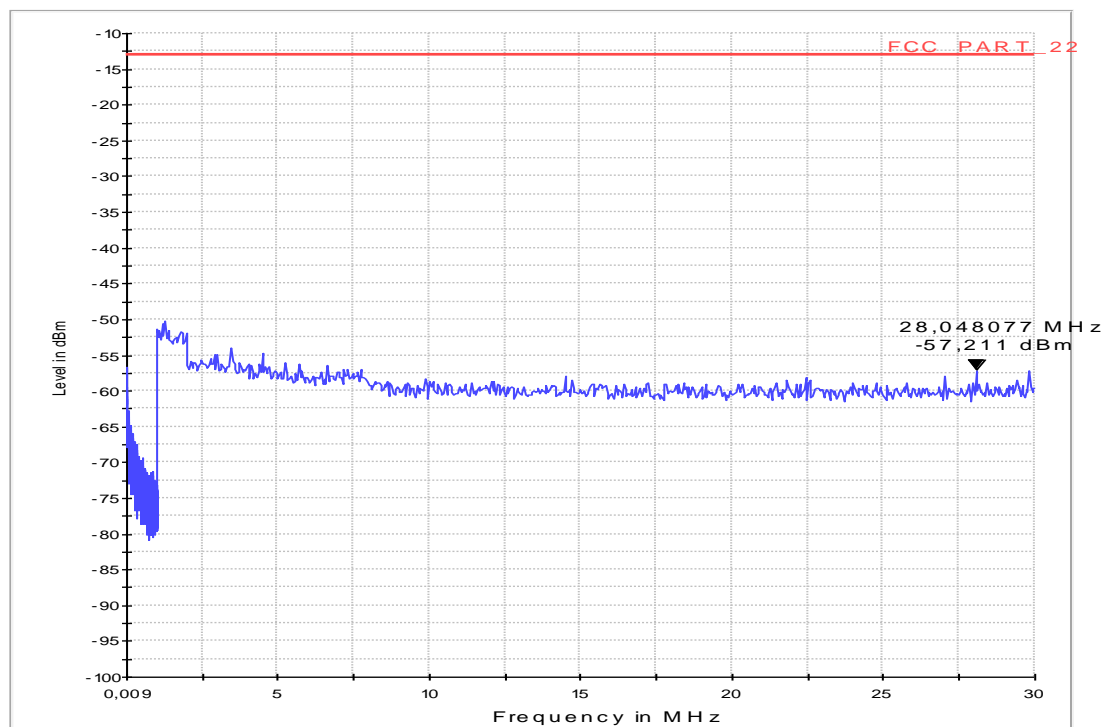
Test Description: TX Spurious Emission conducted §2.1051
 Test Site: Radio laboratory 1
 Test Standard: FCC FCC Part 22&24

 Operation mode: TX GSM 850, CHANNEL 128
 Operator Name: Lor
 Comment: --

EUT Information

EUT Name: EHS6
 Manufacturer: Cinterion
 Serial Number: #2 Conducted
 Hardware Rev: B1.2/1
 Software Rev: 01.001
 Comment: Interface R232
 Accessories: Power supply (9V DC)

Sweep_1



Sweep Setup: Sweep_1 [EMI radiated]

Hardware Setup: 31_ESU_Conducted_FCC_Part_15_22_24
 Receiver: [ESU 40]
 Level Unit: dBm

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
9 kHz - 1 MHz	792,8 Hz	PK+	1 kHz	10 s	0 dB
1 MHz - 30 MHz	46,474 kHz	PK+	100 kHz	5 s	0 dB

Diagram No.: 36.02_RSE_Ch128_GSM_Sweep2

Common Information

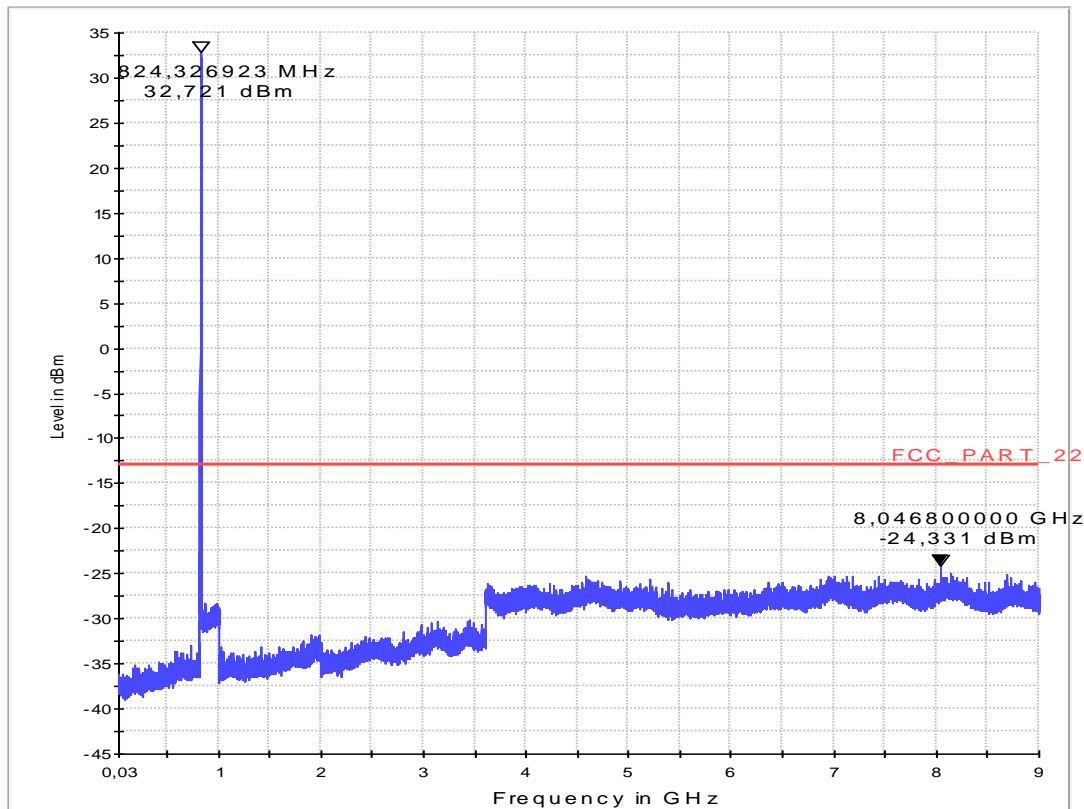
Test Description: TX Spurious Emission conducted §2.1051
 Test Site: Radio laboratory 1
 Test Standard: FCC FCC Part 22&24

 Operation mode: TX GSM 850, CHANNEL 128
 Operator Name: Lor
 Comment: --

EUT Information

EUT Name: EHS6
 Manufacturer: Cinterion
 Serial Number: #2 Conducted
 Hardware Rev: B1.2/1
 Software Rev: 01.001
 Comment: Interface R232
 Accessories: Power supply (9V DC)

Sweep_2



Sweep Setup: Sweep_2 [EMI radiated]

Hardware Setup: 31_ESU_Conducted_FCC_Part_15_22_24
 Receiver: [ESU 40]
 Level Unit: dBm

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
30 MHz - 820 MHz	316 kHz	PK+	1 MHz	10 s	0 dB
820 MHz - 1 GHz	288,462 kHz	PK+	1 MHz	2 s	0 dB
1 GHz - 9 GHz	400 kHz	PK+	1 MHz	100 s	0 dB

Diagram No.: 36.03_RSE_Ch192_GSM_Sweep1

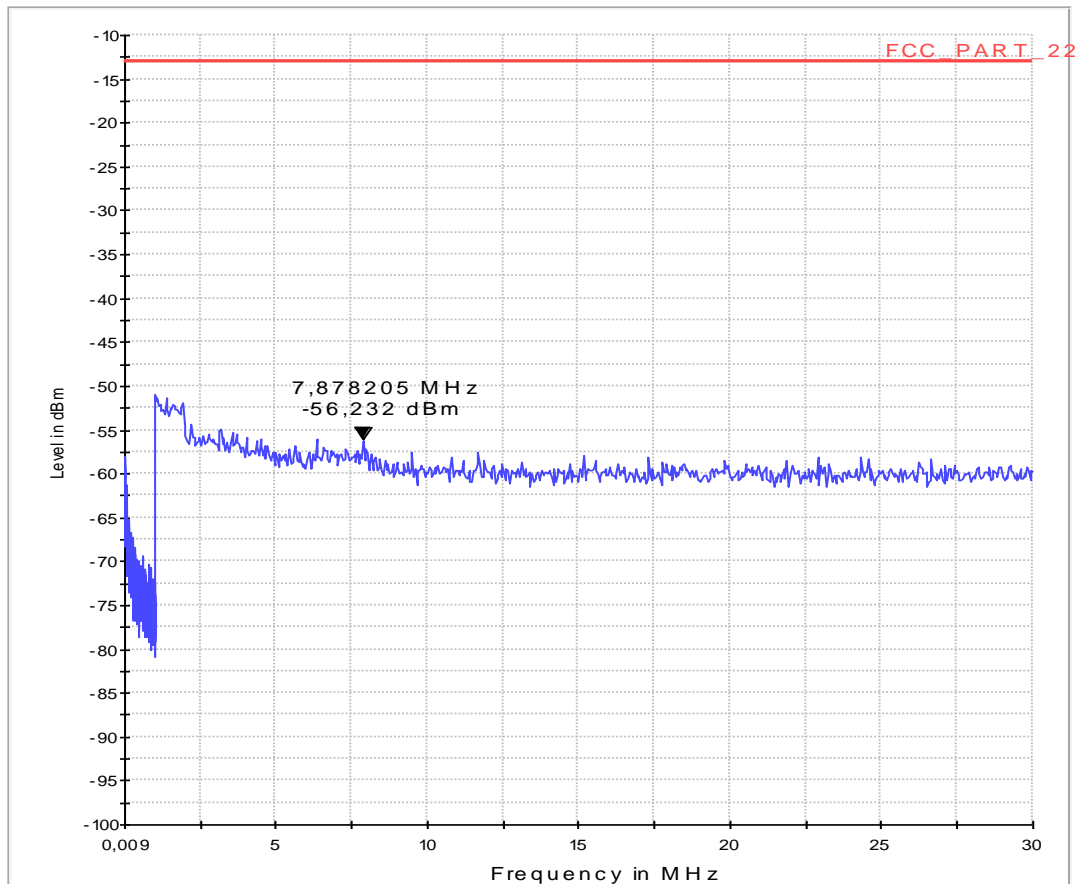
Common Information

Test Description:	TX Spurious Emission conducted §2.1051
Test Site:	Radio laboratory 1
Test Standard:	FCC FCC Part 22&24
Operation mode:	TX GSM 850, CHANNEL 192
Operator Name:	Lor
Comment:	--

EUT Information

EUT Name:	EHS6
Manufacturer:	Cinterion
Serial Number:	#2 Conducted
Hardware Rev:	B1.2/1
Software Rev:	01.001
Comment:	Interface R232
Accessories:	Power supply (9V DC)

Sweep_1



Sweep Setup: Sweep_1 [EMI radiated]

Hardware Setup:	31_ESU_Conducted_FCC_Part_15_22_24
Receiver:	[ESU 40]
Level Unit:	dBm

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
9 kHz - 1 MHz	792,8 Hz	PK+	1 kHz	10 s	0 dB
1 MHz - 30 MHz	46,474 kHz	PK+	100 kHz	5 s	0 dB

Diagram No.: 36.04_RSE_Ch192_GSM_Sweep2

Common Information

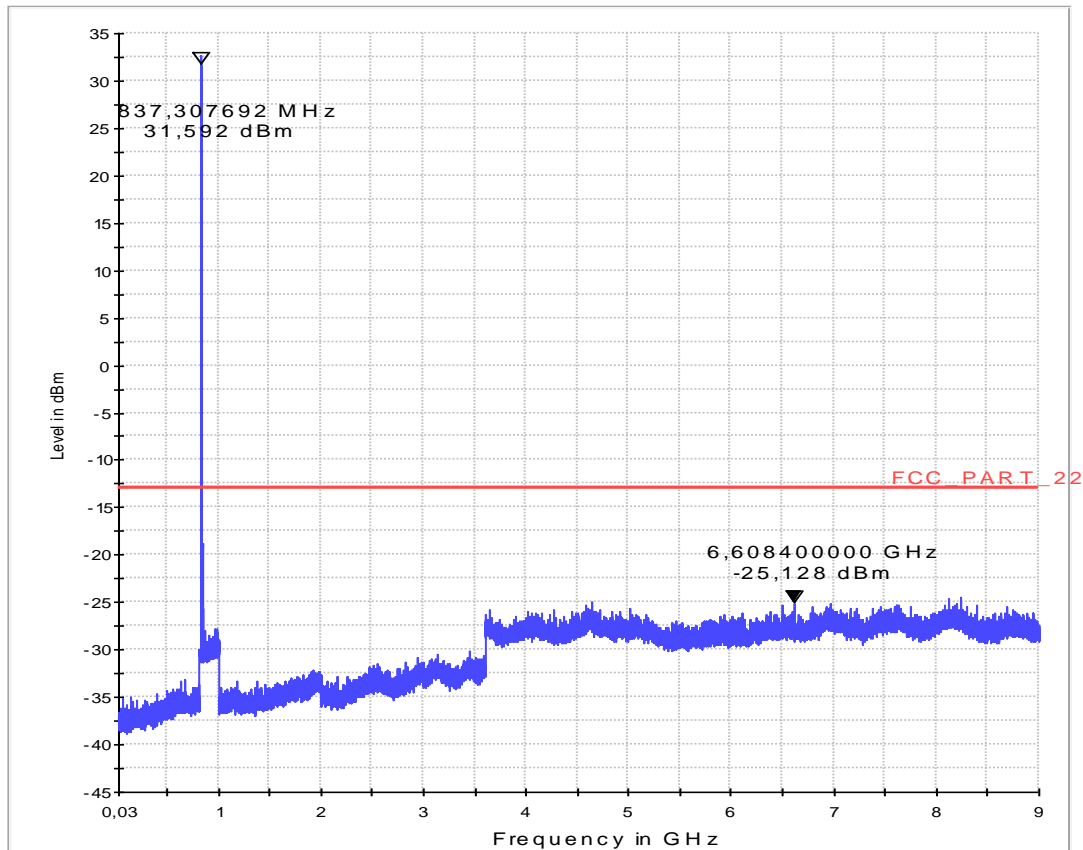
Test Description: TX Spurious Emission conducted §2.1051
 Test Site: Radio laboratory 1
 Test Standard: FCC FCC Part 22&24

 Operation mode: TX GSM 850, CHANNEL 192
 Operator Name: Lor
 Comment: --

EUT Information

EUT Name: EHS6
 Manufacturer: Cinterion
 Serial Number: #2 Conducted
 Hardware Rev: B1.2/1
 Software Rev: 01.001
 Comment: Interface R232
 Accessories: Power supply (9V DC)

Sweep_2



Sweep Setup: Sweep_2 [EMI radiated]

Hardware Setup: 31_ESU_Conducted_FCC_Part_15_22_24
 Receiver: [ESU 40]
 Level Unit: dBm

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
30 MHz - 820 MHz	316 kHz	PK+	1 MHz	10 s	0 dB
820 MHz - 1 GHz	288,462 kHz	PK+	1 MHz	2 s	0 dB
1 GHz - 9 GHz	400 kHz	PK+	1 MHz	100 s	0 dB

Diagram No.: 36.05_RSE_Ch251_GSM_Sweep1

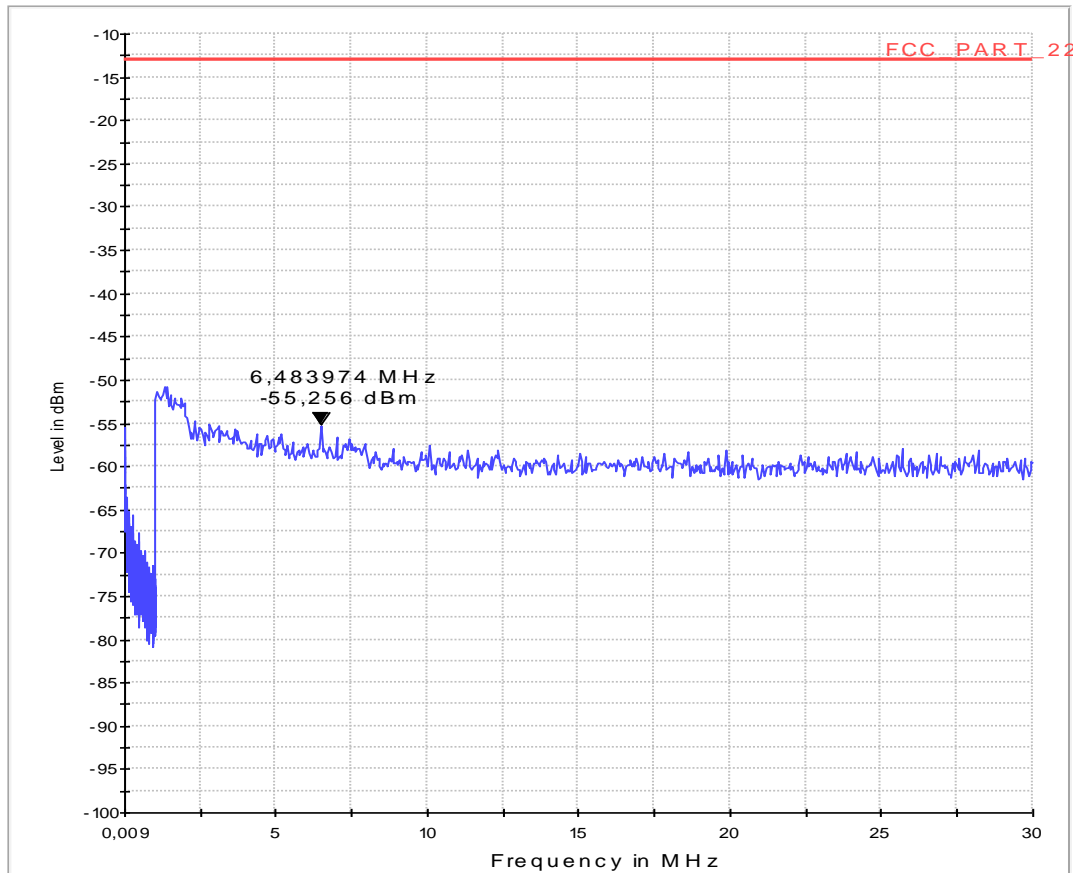
Common Information

Test Description:	TX Spurious Emission conducted §2.1051
Test Site:	Radio laboratory 1
Test Standard:	FCC FCC Part 22&24
Operation mode:	TX GSM 850, CHANNEL 251
Operator Name:	Lor
Comment:	--

EUT Information

EUT Name:	EHS6
Manufacturer:	Cinterion
Serial Number:	#2 Conducted
Hardware Rev:	B1.2/1
Software Rev:	01.001
Comment:	Interface R232
Accessories:	Power supply (9V DC)

Sweep_1



Sweep Setup: Sweep_1 [EMI radiated]

Hardware Setup:	31_ESU_Conducted_FCC_Part_15_22_24
Receiver:	[ESU 40]
Level Unit:	dBm

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
9 kHz - 1 MHz	792,8 Hz	PK+	1 kHz	10 s	0 dB
1 MHz - 30 MHz	46,474 kHz	PK+	100 kHz	5 s	0 dB

Diagram No.: 36.06_RSE_Ch251_GSM_Sweep2

Common Information

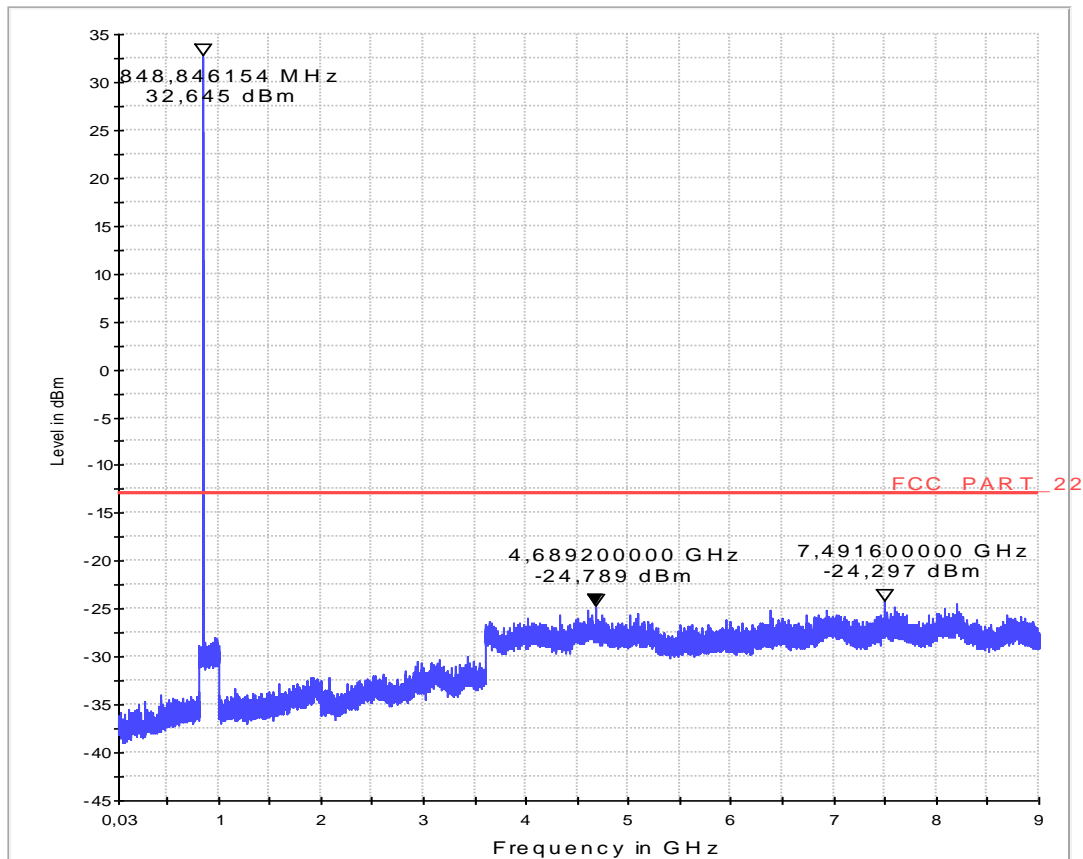
Test Description: TX Spurious Emission conducted §2.1051
 Test Site: Radio laboratory 1
 Test Standard: FCC FCC Part 22&24

 Operation mode: TX GSM 850, CHANNEL 251
 Operator Name: Lor
 Comment: --

EUT Information

EUT Name: EHS6
 Manufacturer: Cinterion
 Serial Number: #2 Conducted
 Hardware Rev: B1.2/1
 Software Rev: 01.001
 Comment: Interface R232
 Accessories: Power supply (9V DC)

Sweep_2



Sweep Setup: Sweep_2 [EMI radiated]

Hardware Setup: 31_ESU_Conducted_FCC_Part_15_22_24
 Receiver: [ESU 40]
 Level Unit: dBm

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
30 MHz - 820 MHz	316 kHz	PK+	1 MHz	10 s	0 dB
820 MHz - 1 GHz	288,462 kHz	PK+	1 MHz	2 s	0 dB
1 GHz - 9 GHz	400 kHz	PK+	1 MHz	100 s	0 dB

5.2. GSM1900 operating mode

Diagram No.: 36.20_RSE_Ch512_GSM_Sweep1

Common Information

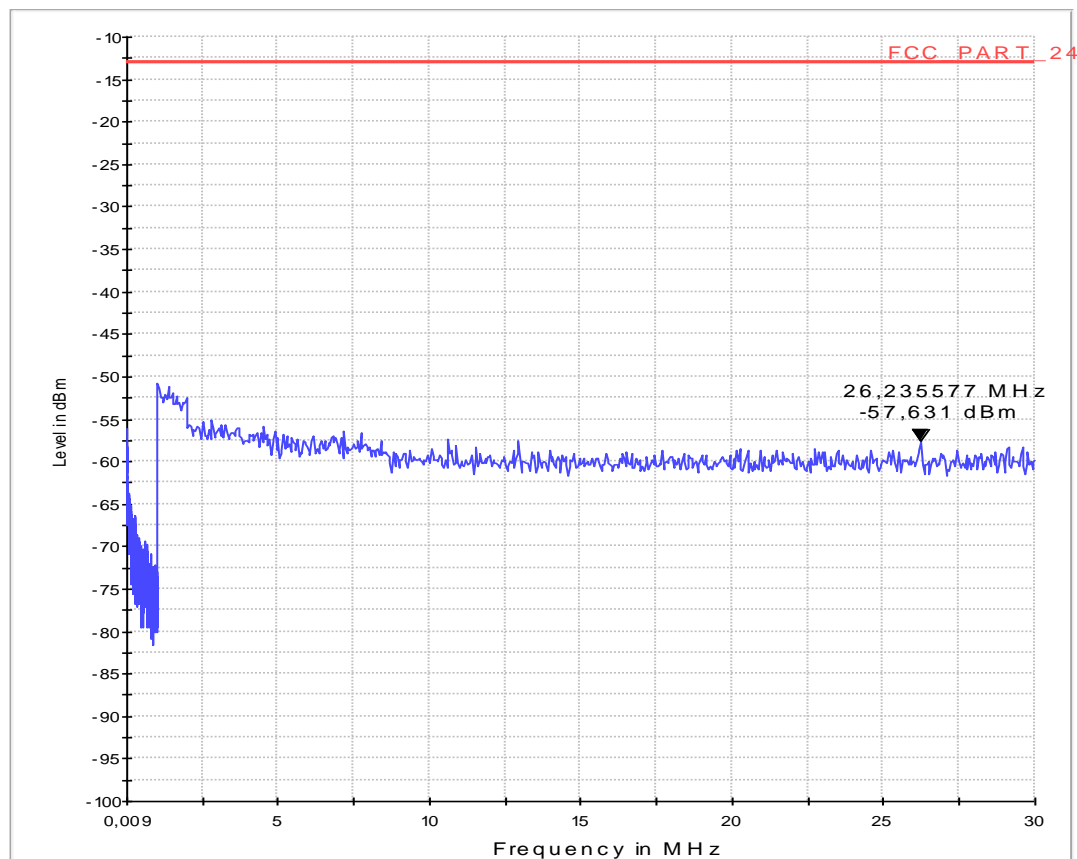
Test Description: TX Spurious Emission conducted §2.1051
 Test Site: Radio laboratory 1
 Test Standard: FCC FCC Part 22&24

Operation mode: TX GSM1900, CHANNEL 512
 Operator Name: Lor
 Comment: --

EUT Information

EUT Name: EHS6
 Manufacturer: Cinterion
 Serial Number: #2 Conducted
 Hardware Rev: B1.2/1
 Software Rev: 01.001
 Comment: Interface R232
 Accessories: Power supply (9V DC)

Sweep_1



Sweep Setup: Sweep_1 [EMI radiated]

Hardware Setup: 31_ESU_Conducted_FCC_Part_15_22_24
 Receiver: [ESU 40]
 Level Unit: dBm

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
9 kHz - 1 MHz	792,8 Hz	PK+	1 kHz	10 s	0 dB
1 MHz - 30 MHz	46,474 kHz	PK+	100 kHz	5 s	0 dB

Diagram No.: 36.21_RSE_Ch512_GSM_Sweep2

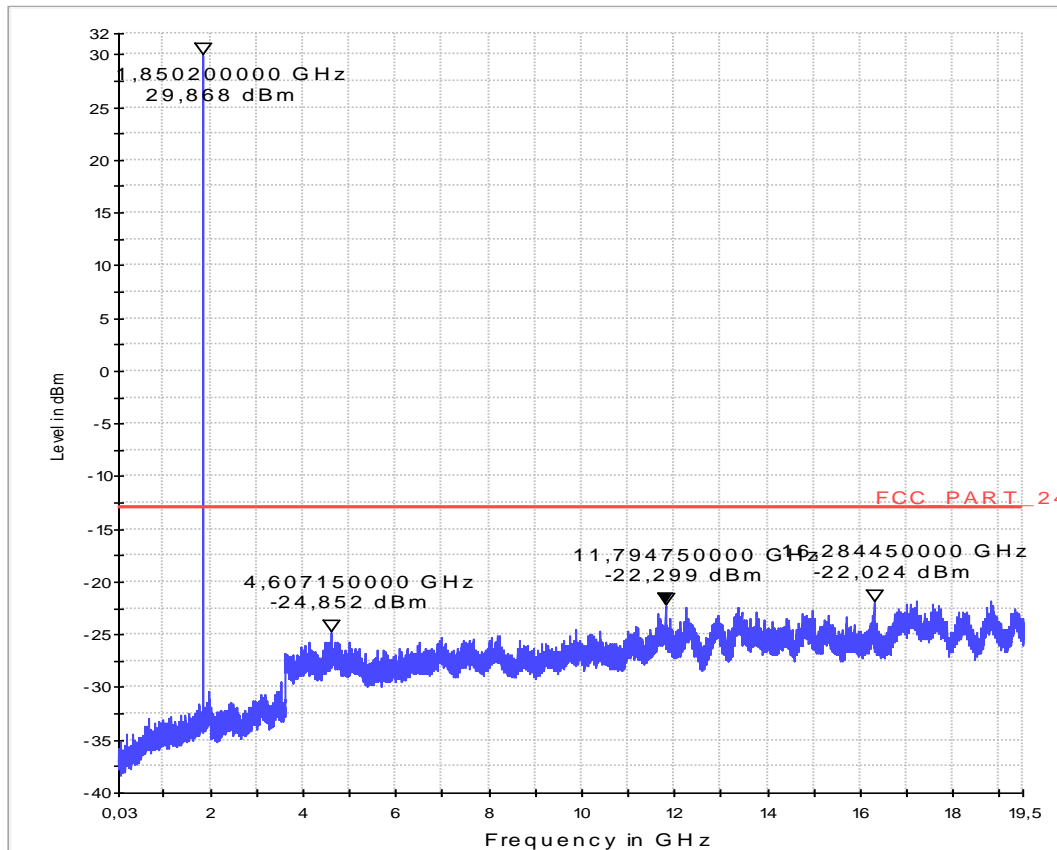
Common Information

Test Description:	TX Spurious Emission conducted §2.1051
Test Site:	Radio laboratory 1
Test Standard:	FCC FCC Part 22&24
Operation mode:	TX GSM1900, CHANNEL 512
Operator Name:	Lor
Comment:	--

EUT Information

EUT Name:	EHS6
Manufacturer:	Cinterion
Serial Number:	#2 Conducted
Hardware Rev:	B1.2/1
Software Rev:	01.001
Comment:	Interface R232
Accessories:	Power supply (9V DC)

Sweep_2



Sweep Setup: Sweep_2 [EMI radiated]

Hardware Setup:	31_ESU_Conducted_FCC_Part_15_22_24
Receiver:	[ESU 40]
Level Unit:	dBm

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
30 MHz - 1 GHz	388 kHz	PK+	1 MHz	100 s	0 dB
1 GHz - 2,5 GHz	600 kHz	PK+	1 MHz	15 s	0 dB
2.5 GHz - 19,5 GHz	850 kHz	PK+	1 MHz	150 s	0 dB

Diagram No.: 36.22_RSE_Ch661_GSM_Sweep1

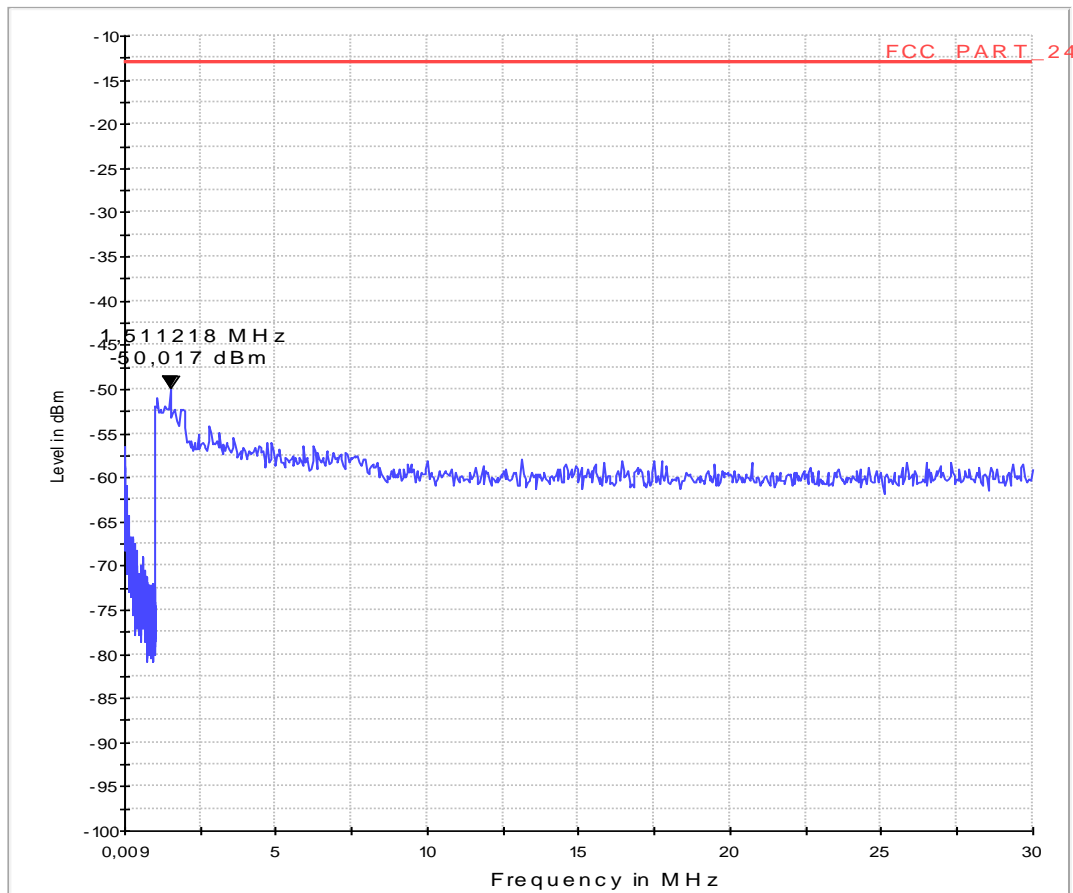
Common Information

Test Description:	TX Spurious Emission conducted §2.1051
Test Site:	Radio laboratory 1
Test Standard:	FCC FCC Part 22&24
Operation mode:	TX GSM1900, CHANNEL 661
Operator Name:	Lor
Comment:	--

EUT Information

EUT Name:	EHS6
Manufacturer:	Cinterion
Serial Number:	#2 Conducted
Hardware Rev:	B1.2/1
Software Rev:	01.001
Comment:	Interface R232
Accessories:	Power supply (9V DC)

Sweep_1



Sweep Setup: Sweep_1 [EMI radiated]

Hardware Setup:	31_ESU_Conducted_FCC_Part_15_22_24
Receiver:	[ESU 40]
Level Unit:	dBm

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
9 kHz - 1 MHz	792,8 Hz	PK+	1 kHz	10 s	0 dB
1 MHz - 30 MHz	46,474 kHz	PK+	100 kHz	5 s	0 dB

Diagram No.: 36.23_RSE_Ch661_GSM_Sweep2

Common Information

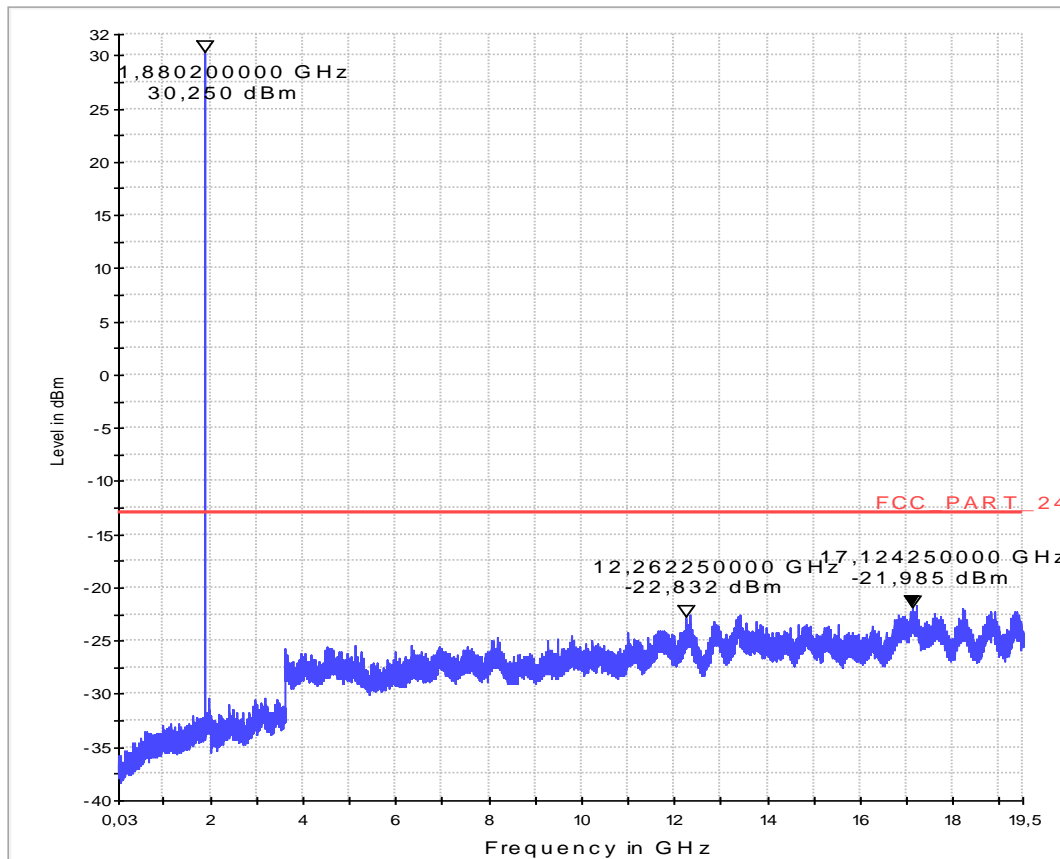
Test Description: TX Spurious Emission conducted §2.1051
 Test Site: Radio laboratory 1
 Test Standard: FCC FCC Part 22&24

 Operation mode: TX GSM1900, CHANNEL 661
 Operator Name: Lor
 Comment: --

EUT Information

EUT Name: EHS6
 Manufacturer: Cinterion
 Serial Number: #2 Conducted
 Hardware Rev: B1.2/1
 Software Rev: 01.001
 Comment: Interface R232
 Accessories: Power supply (9V DC)

Sweep_2



Sweep Setup: Sweep_2 [EMI radiated]

Hardware Setup: 31_ESU_Conducted_FCC_Part_15_22_24
 Receiver: [ESU 40]
 Level Unit: dBm

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
30 MHz - 1 GHz	388 kHz	PK+	1 MHz	100 s	0 dB
1 GHz - 2,5 GHz	600 kHz	PK+	1 MHz	15 s	0 dB
2.5 GHz - 19,5 GHz	850 kHz	PK+	1 MHz	150 s	0 dB

Diagram No.: 36.24_RSE_Ch810_GSM_Sweep1

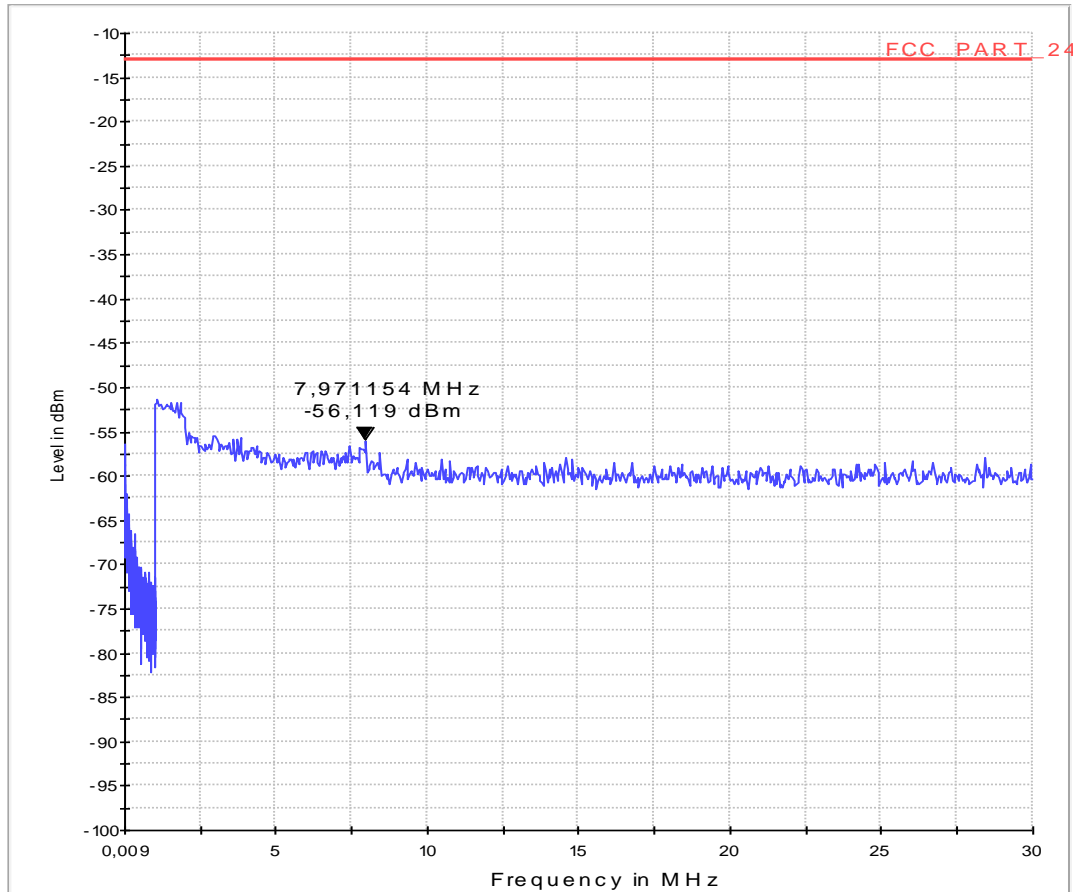
Common Information

Test Description:	TX Spurious Emission conducted §2.1051
Test Site:	Radio laboratory 1
Test Standard:	FCC FCC Part 22&24
Operation mode:	TX GSM1900, CHANNEL 810
Operator Name:	Lor
Comment:	--

EUT Information

EUT Name:	EHS6
Manufacturer:	Cinterion
Serial Number:	#2 Conducted
Hardware Rev:	B1.2/1
Software Rev:	01.001
Comment:	Interface R232
Accessories:	Power supply (9V DC)

Sweep_1



Sweep Setup: Sweep_1 [EMI radiated]

Hardware Setup:	31_ESU_Conducted_FCC_Part_15_22_24
Receiver:	[ESU 40]
Level Unit:	dBm

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
9 kHz - 1 MHz	792,8 Hz	PK+	1 kHz	10 s	0 dB
1 MHz - 30 MHz	46,474 kHz	PK+	100 kHz	5 s	0 dB

Diagram No.: 36.25_RSE_Ch810_GSM_Sweep2

Common Information

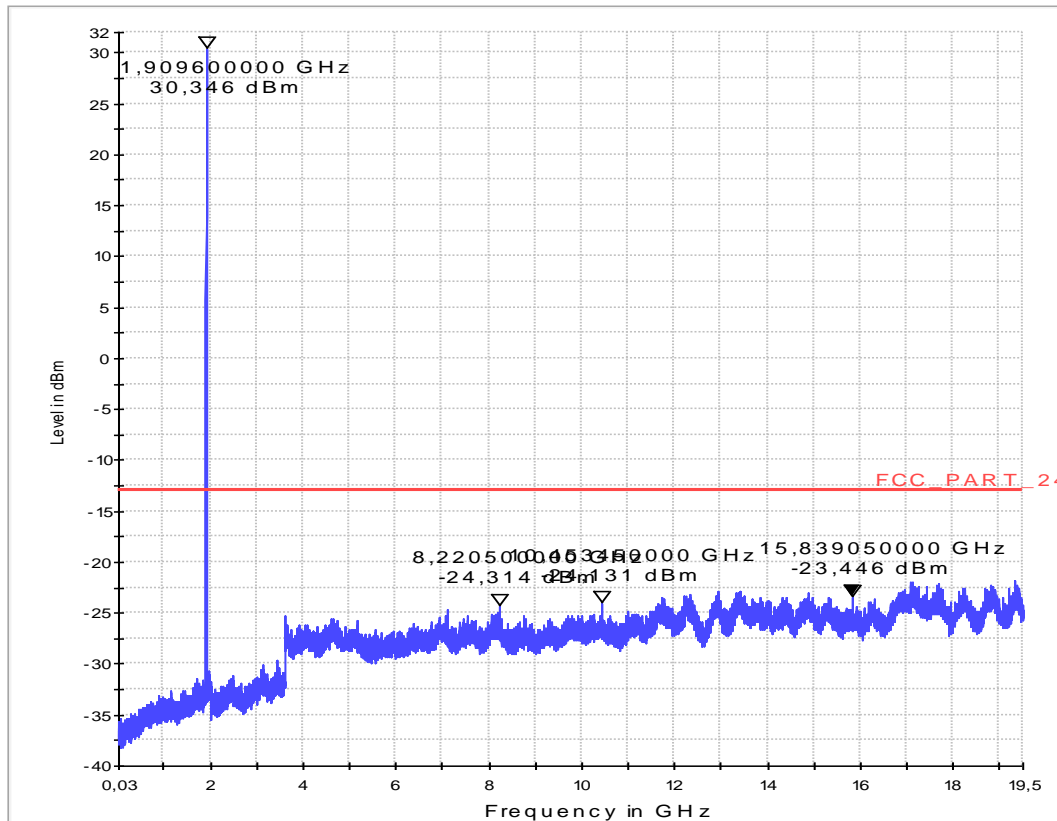
Test Description: TX Spurious Emission conducted §2.1051
 Test Site: Radio laboratory 1
 Test Standard: FCC FCC Part 22&24

 Operation mode: TX GSM1900, CHANNEL 810
 Operator Name: Lor
 Comment: --

EUT Information

EUT Name: EHS6
 Manufacturer: Cinterion
 Serial Number: #2 Conducted
 Hardware Rev: B1.2/1
 Software Rev: 01.001
 Comment: Interface R232
 Accessories: Power supply (9V DC)

Sweep_2



Sweep Setup: Sweep_2 [EMI radiated]

Hardware Setup: 31_ESU_Conducted_FCC_Part_15_22_24
 Receiver: [ESU 40]
 Level Unit: dBm

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
30 MHz - 1 GHz	388 kHz	PK+	1 MHz	100 s	0 dB
1 GHz - 2,5 GHz	600 kHz	PK+	1 MHz	15 s	0 dB
2.5 GHz - 19,5 GHz	850 kHz	PK+	1 MHz	150 s	0 dB

5.3. Band-Edge compliance for GSM 850 operation (outside frequency block)

Diagram No.: 37.01_BE_Ch128_GSM_AV

Common Information

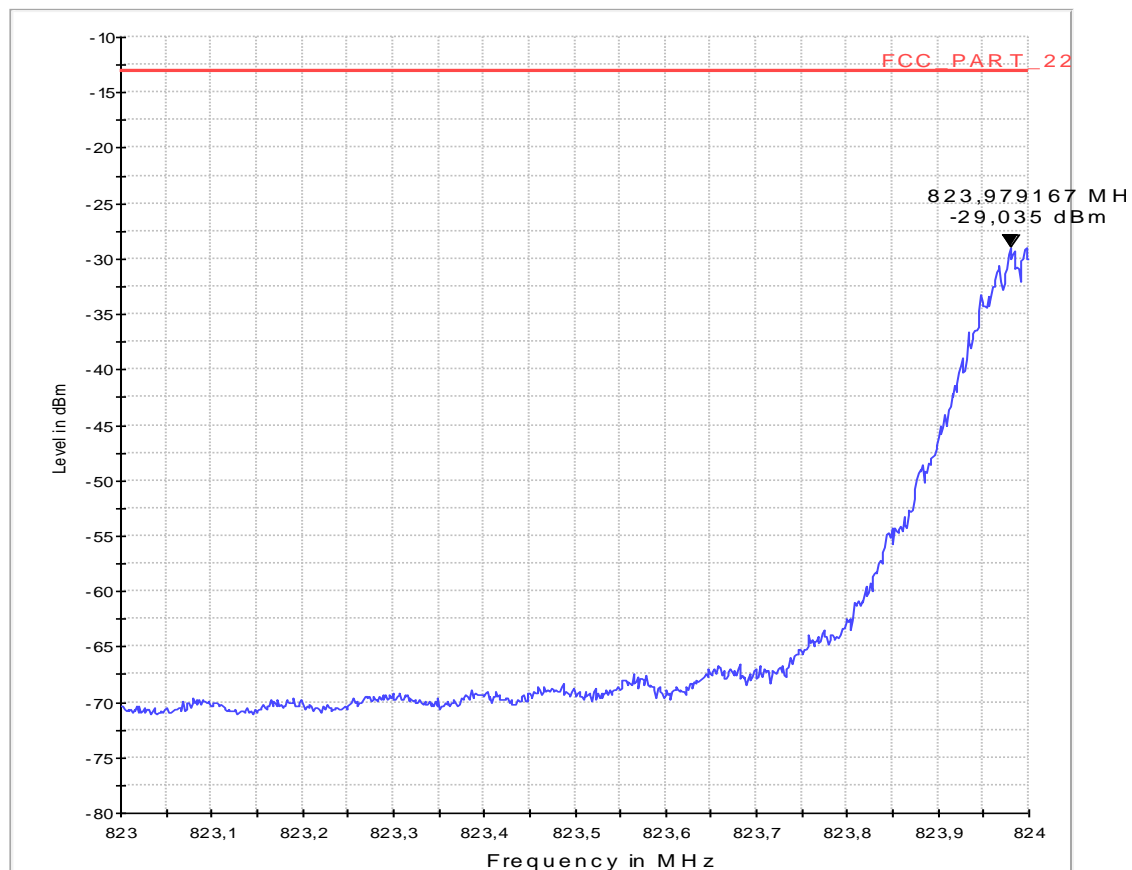
Test Description: TX Spurious Emission conducted §2.1051 - Band-Edge Compliance
 Test Site: Radio laboratory 1
 Test Standard: FCC FCC Part 22&24

Operation mode: TX GSM 850, CHANNEL 128
 Operator Name: Lor
 Comment: --

EUT Information

EUT Name: EHS6
 Manufacturer: Cinterion
 Serial Number: #2 Conducted
 Hardware Rev: B1.2/1
 Software Rev: 01.001
 Comment: Interface R232
 Accessories: Power supply (9V DC)

Sweep_3b_Band_Edge_Channel_128_AV



Sweep Setup: Sweep_3b_Band_Edge_Channel_128_AV [EMI radiated]

Hardware Setup: 31_ESU_Conducted_FCC_Part_15_22_24
 Receiver: [ESU 40]
 Level Unit: dBm

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
823 MHz - 824 MHz	1,603 kHz	RMS	3 kHz	70 s	0 dB

Diagram No.: 37.02_BE_Ch251_GSM_AV

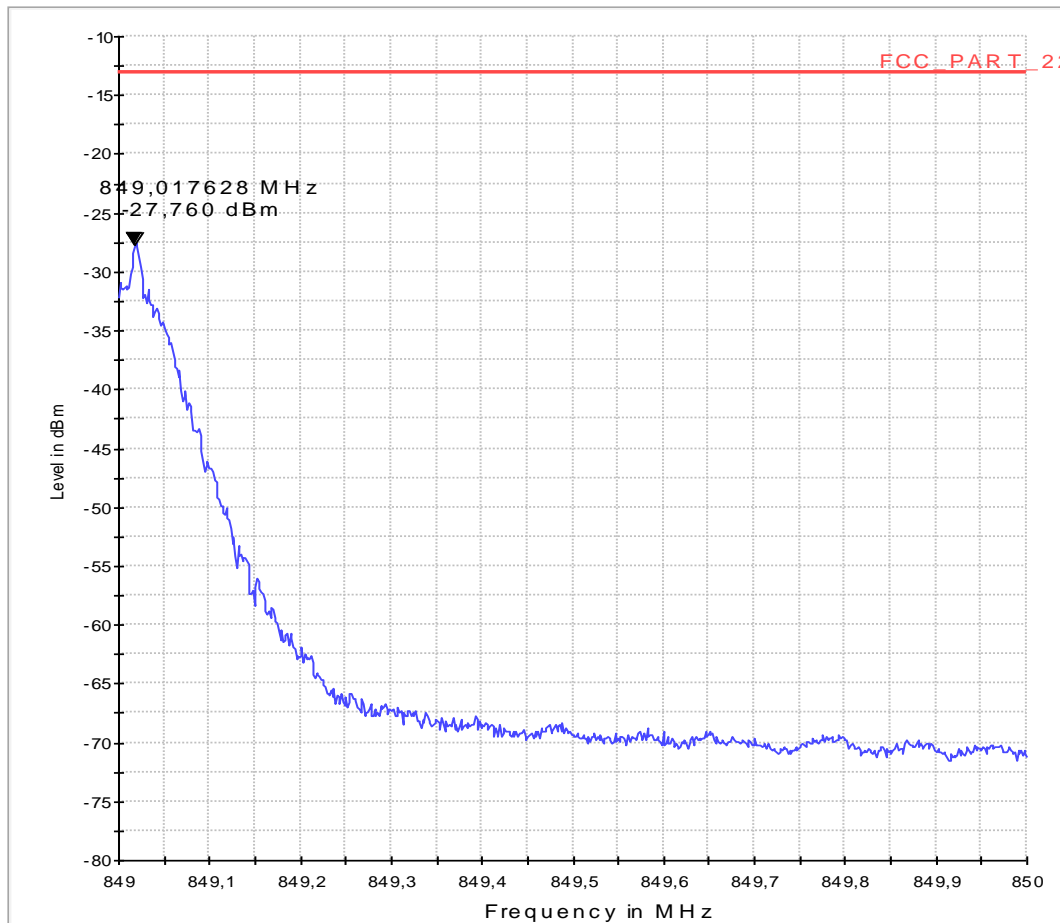
Common Information

Test Description:	TX Spurious Emission conducted §2.1051 - Band-Edge Compliance
Test Site:	Radio laboratory 1
Test Standard:	FCC FCC Part 22&24
Operation mode:	TX GSM 850, CHANNEL 251
Operator Name:	Lor
Comment:	--

EUT Information

EUT Name:	EHS6
Manufacturer:	Cinterion
Serial Number:	#2 Conducted
Hardware Rev:	B1.2/1
Software Rev:	01.001
Comment:	Interface R232
Accessories:	Power supply (9V DC)

Sweep_4b_Band_Edge_Channel_251_AV



Sweep Setup: Sweep_4b_Band_Edge_Channel_251_AV [EMI radiated]

Hardware Setup:	31_ESU_Conducted_FCC_Part_15_22_24
Receiver:	[ESU 40]
Level Unit:	dBm

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
849 MHz - 850 MHz	1,603 kHz	RMS	3 kHz	70 s	0 dB

Diagram No.: 37.03_BE_Ch128_EGPRS_AV

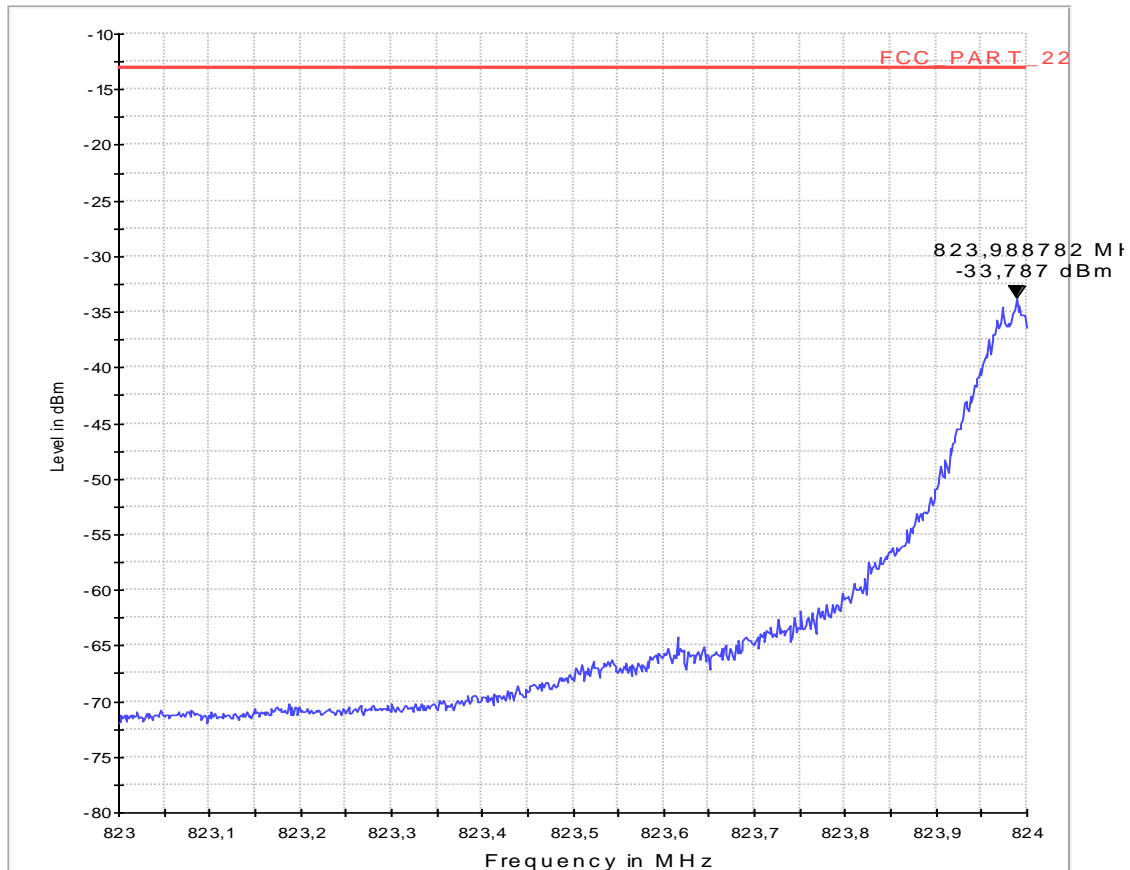
Common Information

Test Description:	TX Spurious Emission conducted §2.1051 - Band-Edge Compliance
Test Site:	Radio laboratory 1
Test Standard:	FCC FCC Part 22&24
Operation mode:	TX EGPRS 850, CHANNEL 128
Operator Name:	Lor
Comment:	--

EUT Information

EUT Name:	EHS6
Manufacturer:	Cinterion
Serial Number:	#2 Conducted
Hardware Rev:	B1.2/1
Software Rev:	01.001
Comment:	Interface R232
Accessories:	Power supply (9V DC)

Sweep_3b_Band_Edge_Channel_128_AV



Sweep Setup: Sweep_3b_Band_Edge_Channel_128_AV [EMI radiated]

Hardware Setup:	31_ESU_Conducted_FCC_Part_15_22_24
Receiver:	[ESU 40]
Level Unit:	dBm

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
823 MHz - 824 MHz	1,603 kHz	RMS	3 kHz	70 s	0 dB

Diagram No.: 37.04_BE_Ch251_EGPRS_AV

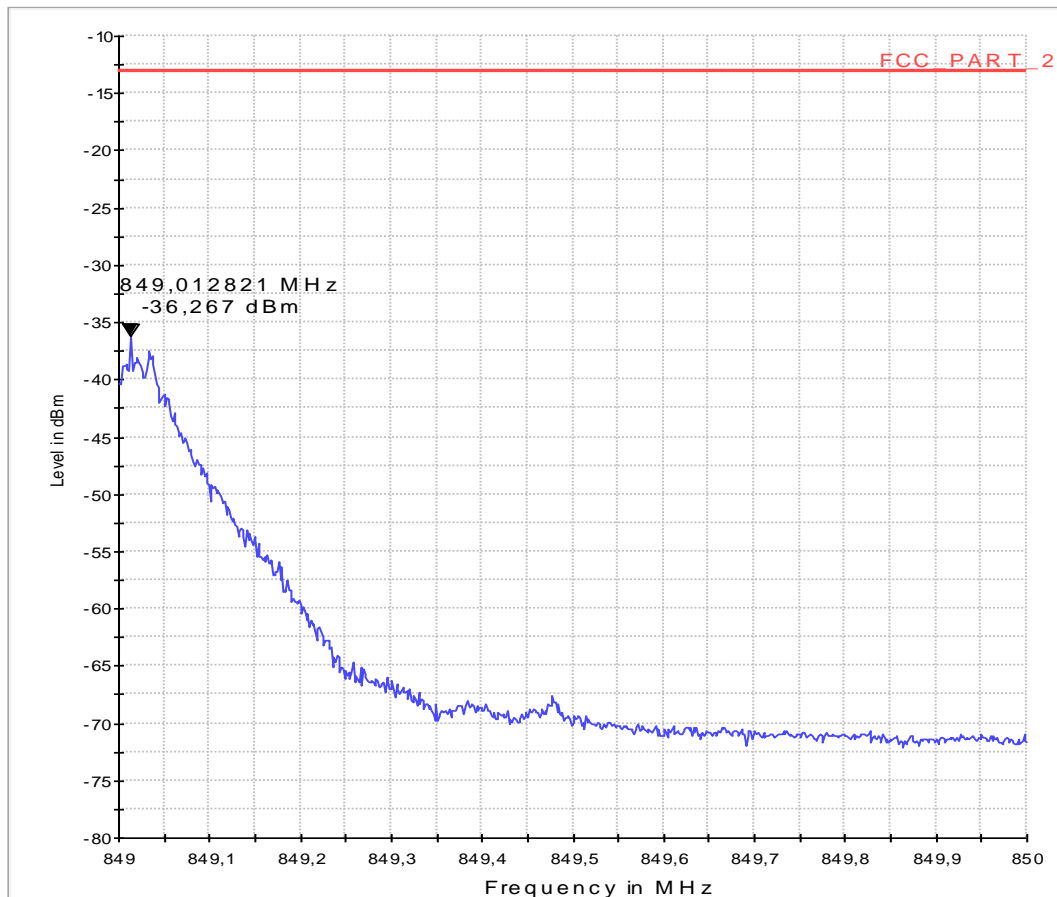
Common Information

Test Description:	TX Spurious Emission conducted §2.1051 - Band-Edge Compliance
Test Site:	Radio laboratory 1
Test Standard:	FCC FCC Part 22&24
Operation mode:	TX EGPRS 850, CHANNEL 251
Operator Name:	Lor
Comment:	--

EUT Information

EUT Name:	EHS6
Manufacturer:	Cinterion
Serial Number:	#2 Conducted
Hardware Rev:	B1.2/1
Software Rev:	01.001
Comment:	Interface R232
Accessories:	Power supply (9V DC)

Sweep_4b_Band_Edge_Channel_251_AV



Sweep Setup: Sweep_4b_Band_Edge_Channel_251_AV [EMI radiated]

Hardware Setup:	31_ESU_Conducted_FCC_Part_15_22_24
Receiver:	[ESU 40]
Level Unit:	dBm

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
849 MHz - 850 MHz	1,603 kHz	RMS	3 kHz	70 s	0 dB

5.4. Band-Edge compliance for GSM 1900 operation (outside frequency block)

Diagram No.: 37.10_BE_Ch512_GSM_AV

Common Information

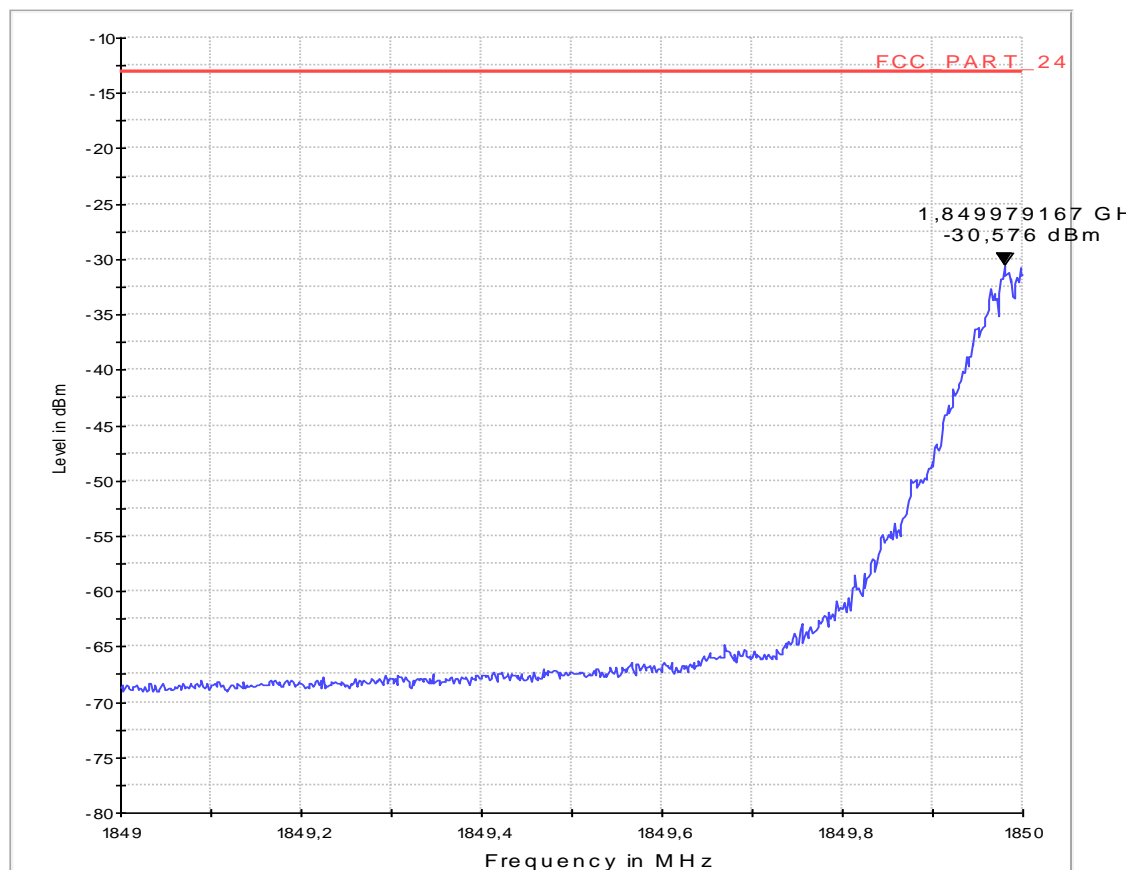
Test Description: TX Spurious Emission conducted §2.1051 - Band-Edge Compliance
 Test Site: Radio laboratory 1
 Test Standard: FCC FCC Part 22&24

 Operation mode: TX GSM1900, CHANNEL 512
 Operator Name: Lor
 Comment: --

EUT Information

EUT Name: EHS6
 Manufacturer: Cinterion
 Serial Number: #2 Conducted
 Hardware Rev: B1.2/1
 Software Rev: 01.001
 Comment: Interface R232
 Accessories: Power supply (9V DC)

Sweep_3b_Band_Edge_Channel_512_AV



Sweep Setup: Sweep_3b_Band_Edge_Channel_512_AV [EMI radiated]

Hardware Setup: 31_ESU_Conducted_FCC_Part_15_22_24
 Receiver: [ESU 40]
 Level Unit: dBm

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
1.849 GHz - 1,85 GHz	1,603 kHz	RMS	3 kHz	70 s	0 dB

Diagram No.: 37.11_BE_Ch810_GSM_AV

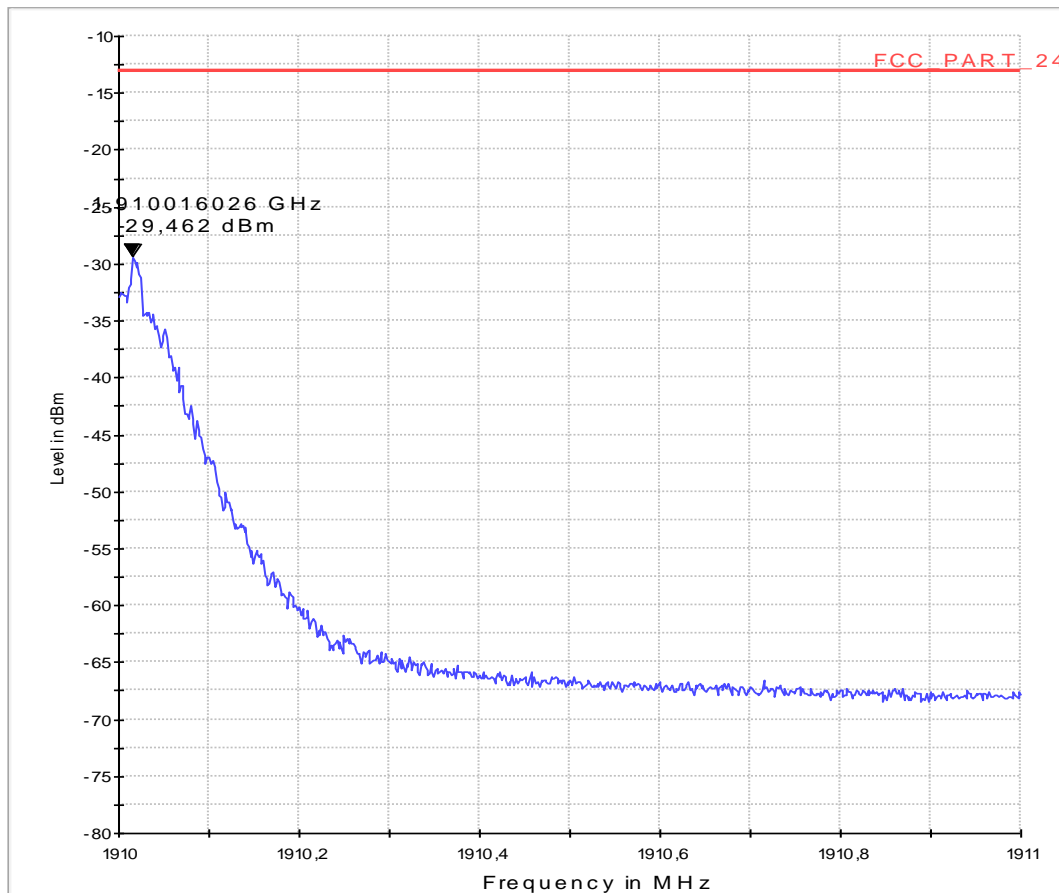
Common Information

Test Description:	TX Spurious Emission conducted §2.1051 - Band-Edge Compliance
Test Site:	Radio laboratory 1
Test Standard:	FCC FCC Part 22&24
Operation mode:	TX GSM1900, CHANNEL 810
Operator Name:	Lor
Comment:	--

EUT Information

EUT Name:	EHS6
Manufacturer:	Cinterion
Serial Number:	#2 Conducted
Hardware Rev:	B1.2/1
Software Rev:	01.001
Comment:	Interface R232
Accessories:	Power supply (9V DC)

Sweep_4b_Band_Edge_Channel_810_AV



Sweep Setup: Sweep_4b_Band_Edge_Channel_810_AV [EMI radiated]

Hardware Setup:	31_ESU_Conducted_FCC_Part_15_22_24
Receiver:	[ESU 40]
Level Unit:	dBm

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
1.91 GHz - 1,911 GHz	1,603 kHz	RMS	3 kHz	70 s	0 dB

Diagram No.: 37.12_BE_Ch512_EGPRS_AV

Common Information

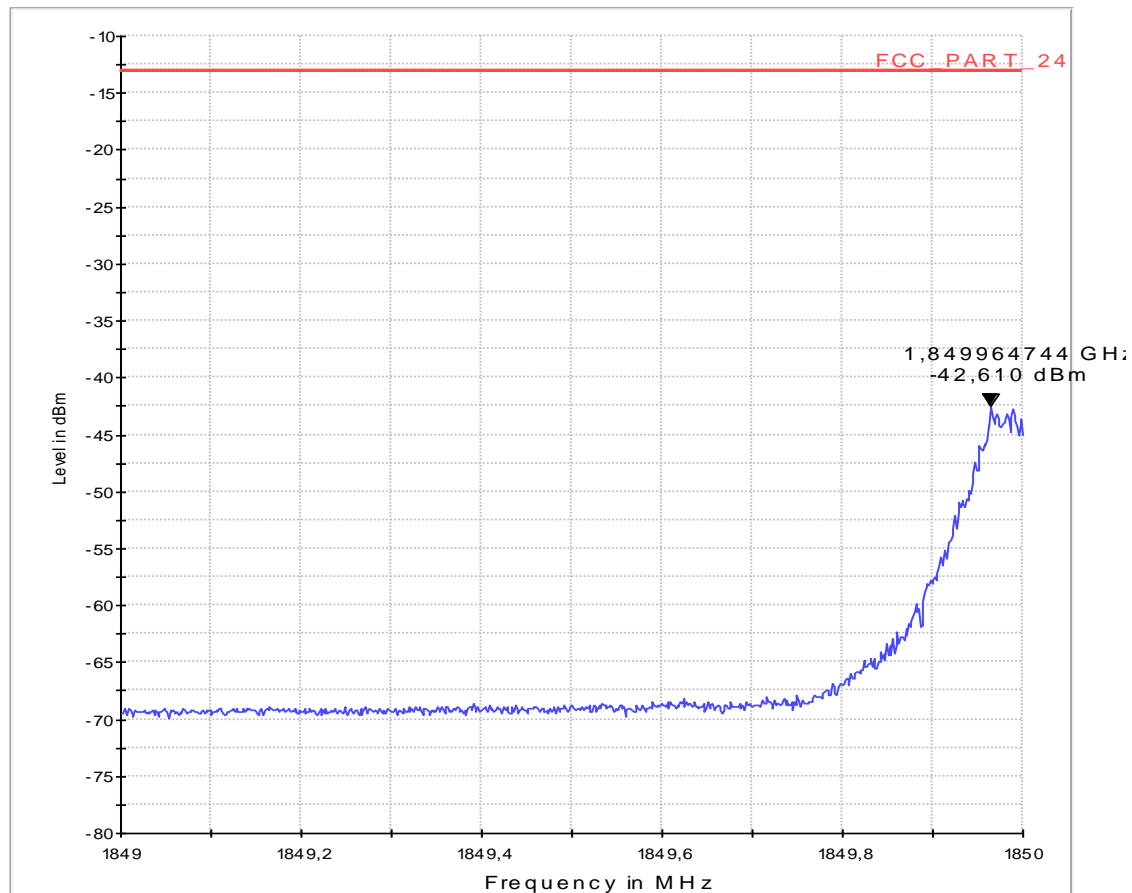
Test Description: TX Spurious Emission conducted §2.1051 - Band-Edge Compliance
 Test Site: Radio laboratory 1
 Test Standard: FCC FCC Part 22&24

 Operation mode: TX EGPRS 1900, CHANNEL 512
 Operator Name: Lor
 Comment: --

EUT Information

EUT Name: EHS6
 Manufacturer: Cinterion
 Serial Number: #2 Conducted
 Hardware Rev: B1.2/1
 Software Rev: 01.001
 Comment: Interface R232
 Accessories: Power supply (9V DC)

Sweep_3b_Band_Edge_Channel_512_AV



Sweep Setup: Sweep_3b_Band_Edge_Channel_512_AV [EMI radiated]

Hardware Setup: 31_ESU_Conducted_FCC_Part_15_22_24
 Receiver: [ESU 40]
 Level Unit: dBm

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
1.849 GHz - 1,85 GHz	1,603 kHz	RMS	3 kHz	70 s	0 dB

Diagram No.: 37.13_BE_Ch810_EGPRS_AV

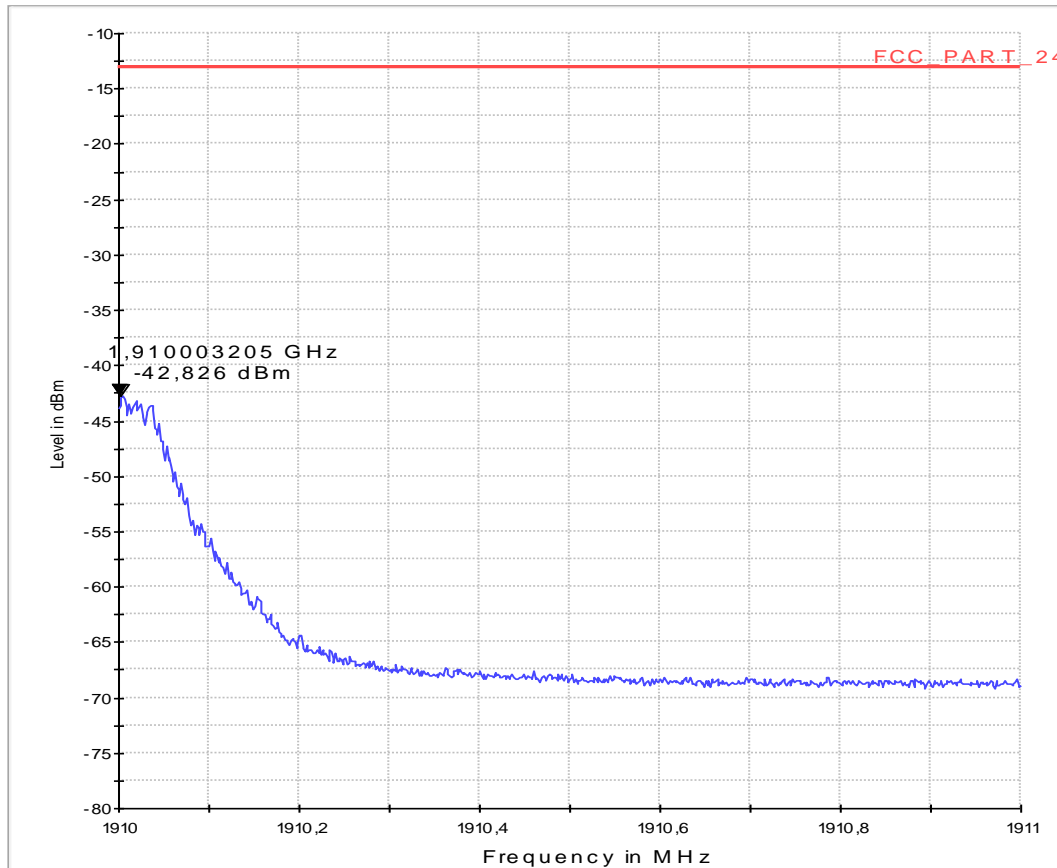
Common Information

Test Description:	TX Spurious Emission conducted §2.1051 - Band-Edge Compliance
Test Site:	Radio laboratory 1
Test Standard:	FCC FCC Part 22&24
Operation mode:	TX EGPRS 1900, CHANNEL 810
Operator Name:	Lor
Comment:	--

EUT Information

EUT Name:	EHS6
Manufacturer:	Cinterion
Serial Number:	#2 Conducted
Hardware Rev:	B1.2/1
Software Rev:	01.001
Comment:	Interface R232
Accessories:	Power supply (9V DC)

Sweep_4b_Band_Edge_Channel_810_AV



Sweep Setup: Sweep_4b_Band_Edge_Channel_810_AV [EMI radiated]

Hardware Setup:	31_ESU_Conducted_FCC_Part_15_22_24
Receiver:	[ESU 40]
Level Unit:	dBm

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
1.91 GHz - 1,911 GHz	1,603 kHz	RMS	3 kHz	70 s	0 dB