

Annex 1: Measurement diagrams to
TEST REPORT
 No.: 17-1-0165401T02

According to:
FCC Regulations
 Part 22, Part 24

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

for

peiker acoustic GmbH

Telematic Device
 ATM-02-MEX-R1

FCC: QWY-ATM2-R-11







Laboratory Accreditation and Listings			
 DAkkS Deutsche Akkreditierungsstelle D-PL-12047-01-01	 FEDERAL COMMUNICATIONS COMMISSION FC U.S.A. 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 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>			

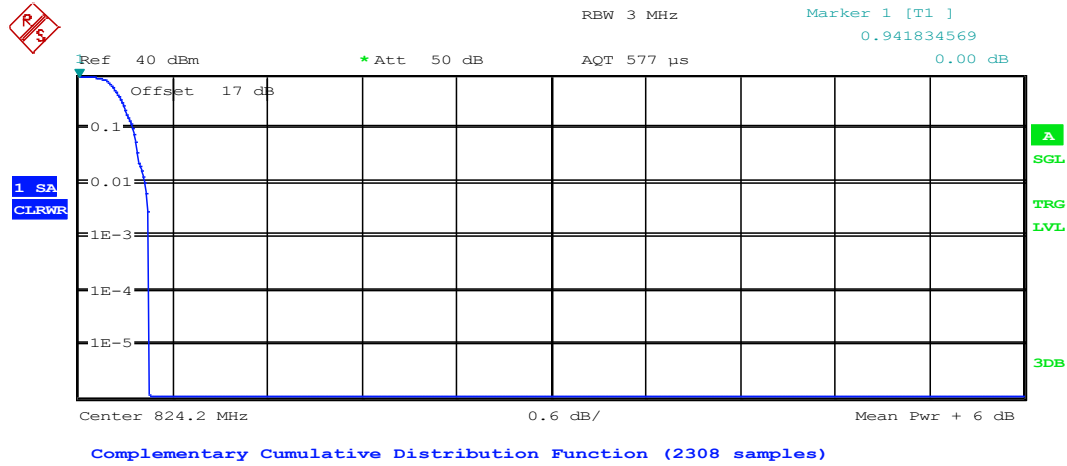
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1. Measurement diagrams

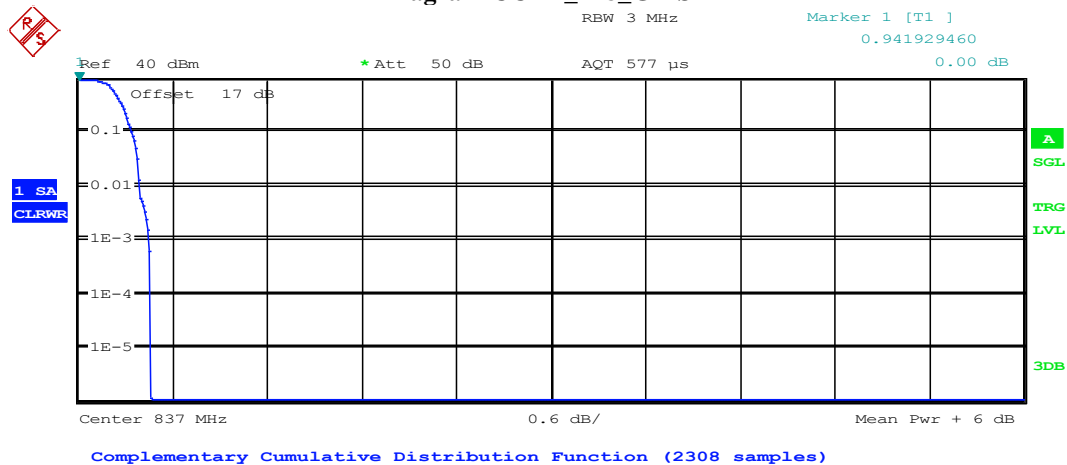
1.1. Power Measurements and PAPR-Value

1.1.1. GSM 850 (GMSK Modulation)



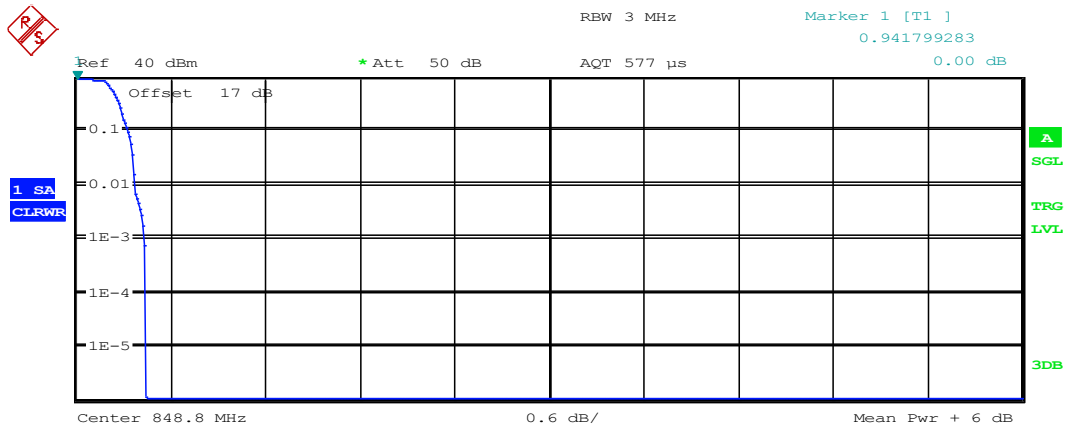
Trace 1	
Mean	31.31 dBm
Peak	31.76 dBm
Crest	0.45 dB
10 %	0.35 dB
1 %	0.42 dB
.1 %	0.45 dB
.01 %	0.45 dB

Diagram CCDF_128_GMSK



Trace 1	
Mean	31.44 dBm
Peak	31.90 dBm
Crest	0.46 dB
10 %	0.34 dB
1 %	0.38 dB
.1 %	0.45 dB
.01 %	0.46 dB

Diagram CCDF_192_GMSK

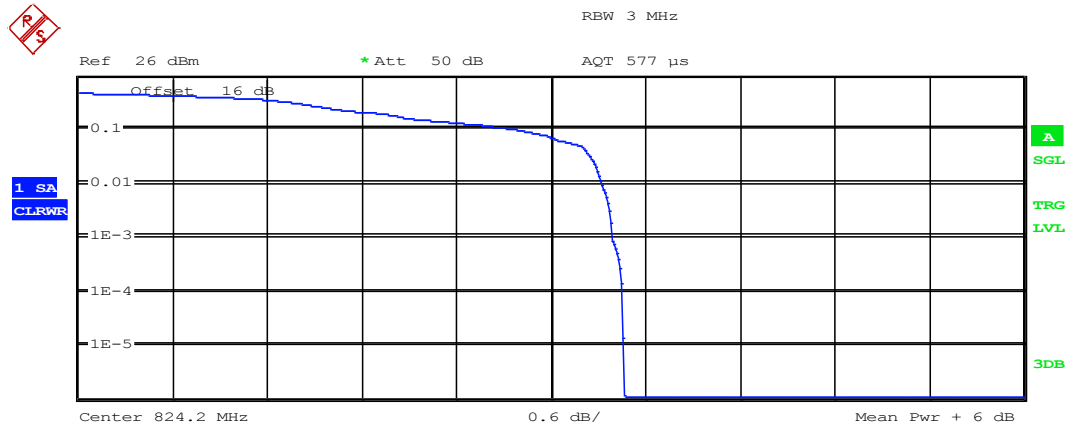


Complementary Cumulative Distribution Function (2308 samples)

	Trace 1	
Mean	31.67	dBm
Peak	32.11	dBm
Crest	0.44	dB
10 %	0.33	dB
1 %	0.38	dB
.1 %	0.43	dB
.01 %	0.44	dB

Diagram CCDF_251_GMSK

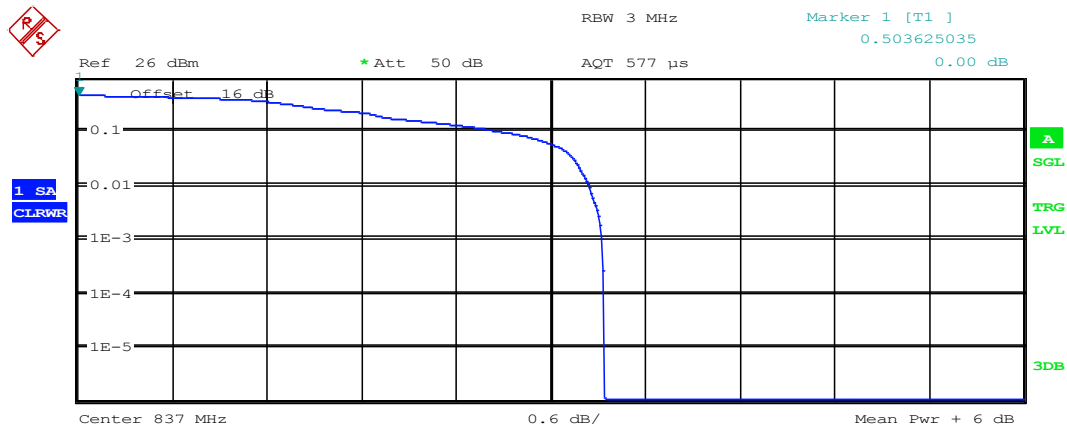
1.1.2. GSM 850 (8-PSK Modulation)



Complementary Cumulative Distribution Function (2308 samples)

Trace 1	
Mean	23.52 dBm
Peak	26.97 dBm
Crest	3.46 dB
10 %	2.80 dB
1 %	3.32 dB
.1 %	3.39 dB
.01 %	3.45 dB

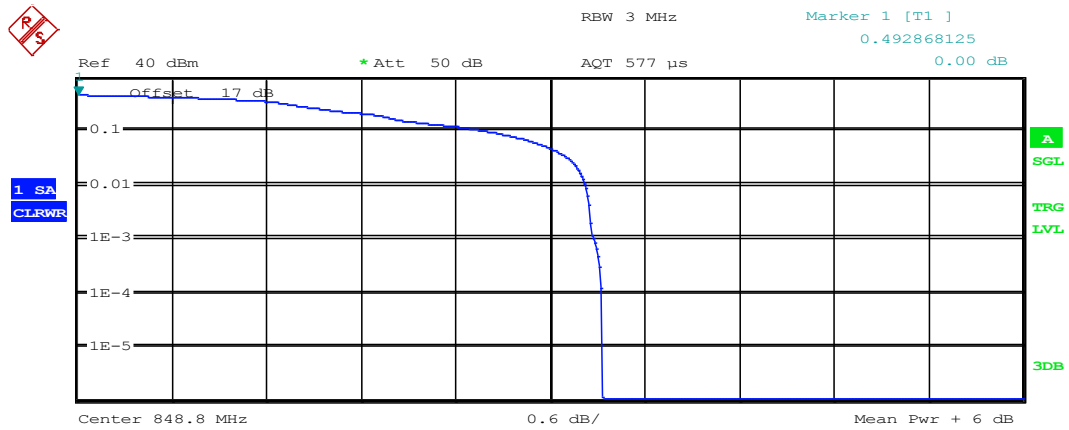
Diagram CCDF_128_8PSK



Complementary Cumulative Distribution Function (2308 samples)

Trace 1	
Mean	23.71 dBm
Peak	27.04 dBm
Crest	3.33 dB
10 %	2.71 dB
1 %	3.24 dB
.1 %	3.33 dB
.01 %	3.35 dB

Diagram CCDF_192_8PSK

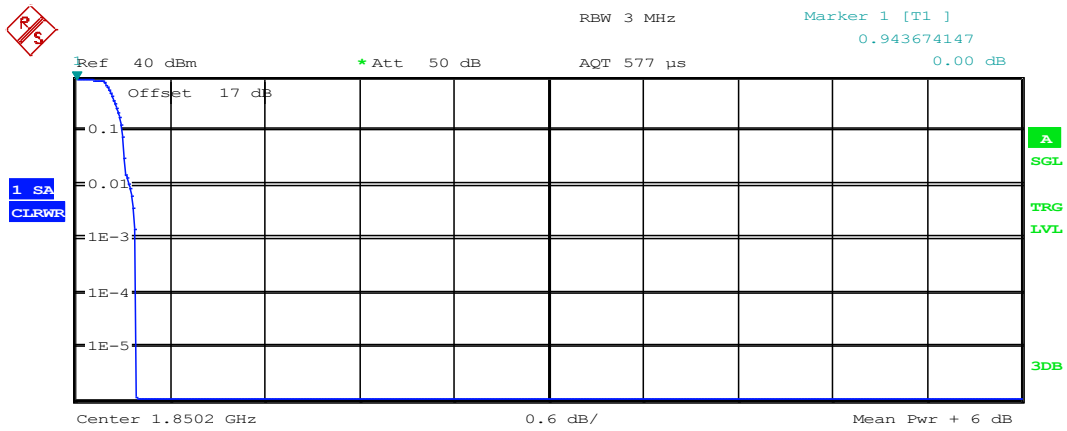


Complementary Cumulative Distribution Function (2308 samples)

Trace 1	
Mean	24.83 dBm
Peak	28.16 dBm
Crest	3.33 dB
10 %	2.62 dB
1 %	3.22 dB
.1 %	3.28 dB
.01 %	3.33 dB

Diagram CCDF_251_8PSK

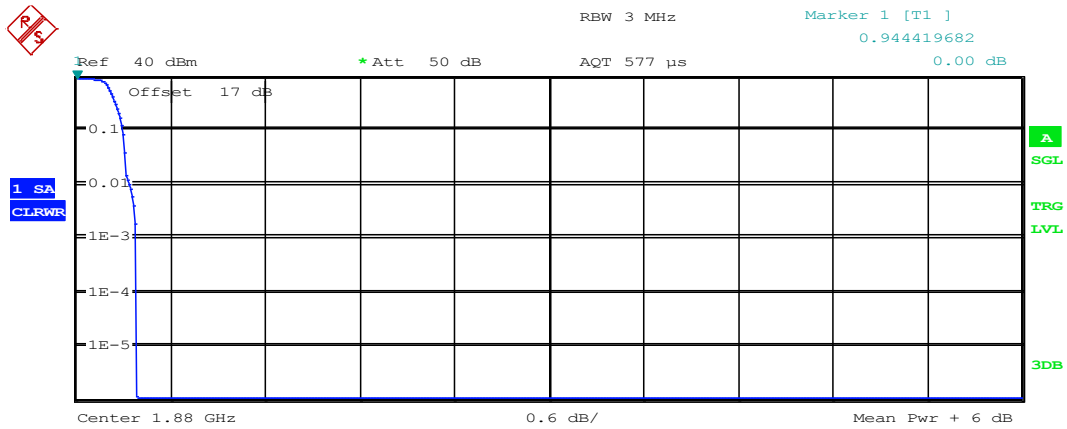
1.1.3. GSM 1900 (GMSK Modulation)



Complementary Cumulative Distribution Function (2308 samples)

Trace 1	
Mean	28.84 dBm
Peak	29.22 dBm
Crest	0.38 dB
10 %	0.30 dB
1 %	0.34 dB
.1 %	0.38 dB
.01 %	0.38 dB

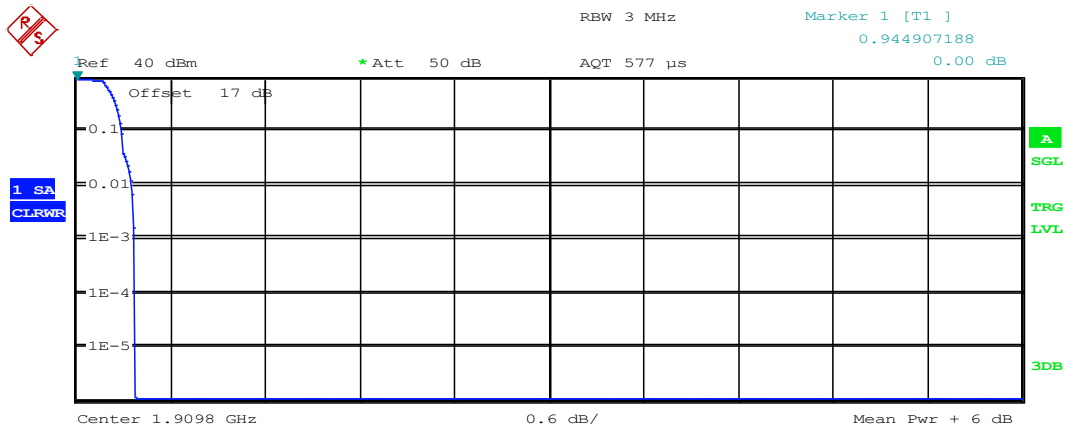
Diagram CCDF_512_GMSK



Complementary Cumulative Distribution Function (2308 samples)

Trace 1	
Mean	27.99 dBm
Peak	28.37 dBm
Crest	0.38 dB
10 %	0.30 dB
1 %	0.34 dB
.1 %	0.38 dB
.01 %	0.38 dB

Diagram CCDF_661_GMSK

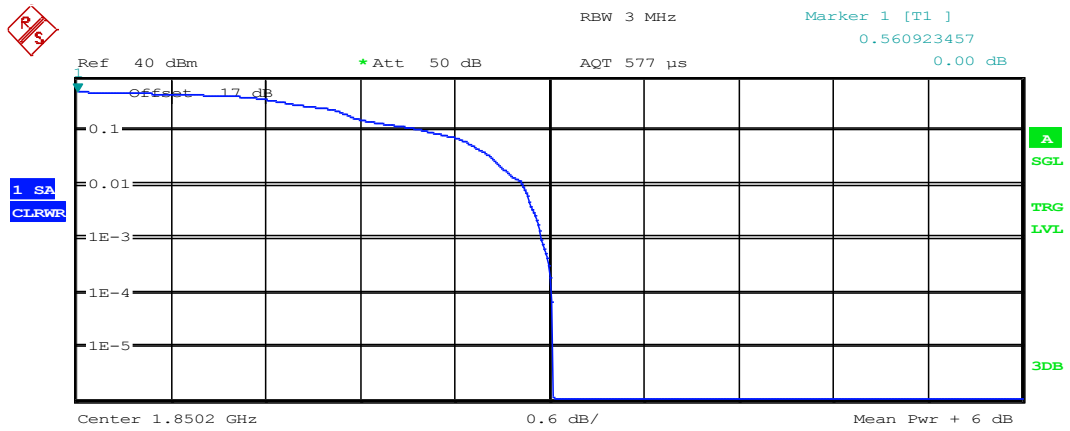


Complementary Cumulative Distribution Function (2308 samples)

Trace 1	
Mean	28.22 dBm
Peak	28.58 dBm
Crest	0.37 dB
10 %	0.29 dB
1 %	0.35 dB
.1 %	0.37 dB
.01 %	0.38 dB

Diagram CCDF_810_GMSK

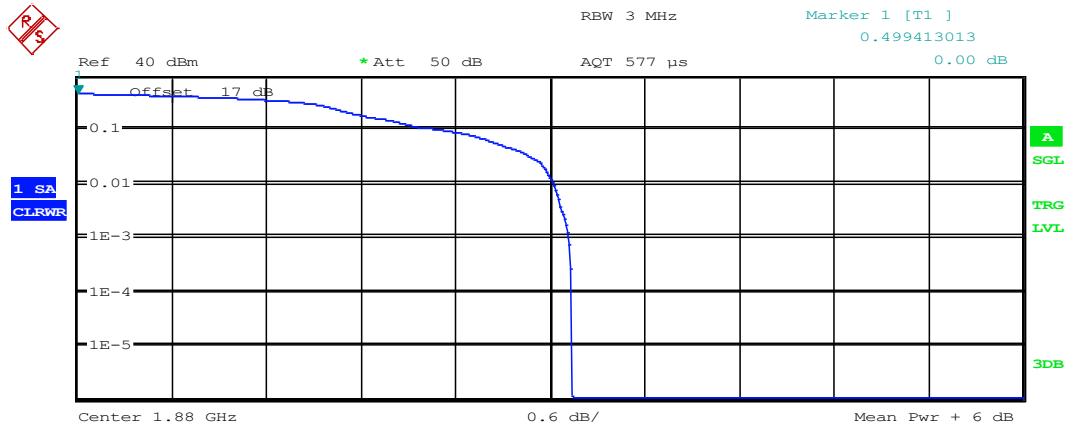
1.1.4. GSM 1900 (8-PSK Modulation)



Complementary Cumulative Distribution Function (2308 samples)

Trace 1	
Mean	25.28 dBm
Peak	28.30 dBm
Crest	3.02 dB
10 %	2.24 dB
1 %	2.83 dB
.1 %	2.95 dB
.01 %	3.02 dB

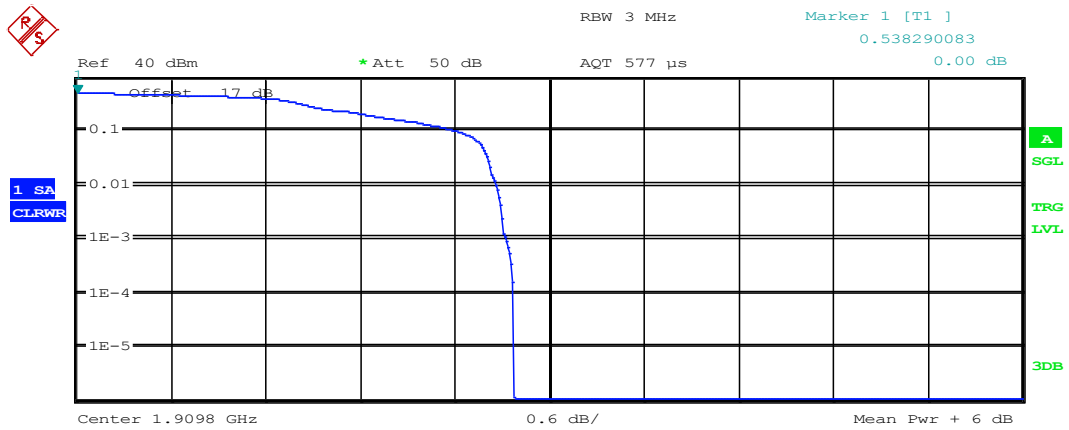
Diagram CCDF_512_8PSK



Complementary Cumulative Distribution Function (2308 samples)

Trace 1	
Mean	24.32 dBm
Peak	27.46 dBm
Crest	3.13 dB
10 %	2.35 dB
1 %	3.02 dB
.1 %	3.12 dB
.01 %	3.14 dB

Diagram CCDF_661_8PSK



Complementary Cumulative Distribution Function (2308 samples)

Trace 1	
Mean	25.11 dBm
Peak	27.88 dBm
Crest	2.77 dB
10 %	2.42 dB
1 %	2.66 dB
.1 %	2.72 dB
.01 %	2.77 dB

Diagram CCDF_810_8PSK

1.2. Magnetic field emissions radiated 850 MHz transmitting mode

1.2.1. Magnetic field emissions radiated (850 MHz transmitting mode)-Main-Antenna

2.01a_RSE_GPRS_850_CH251_standing

Common Information

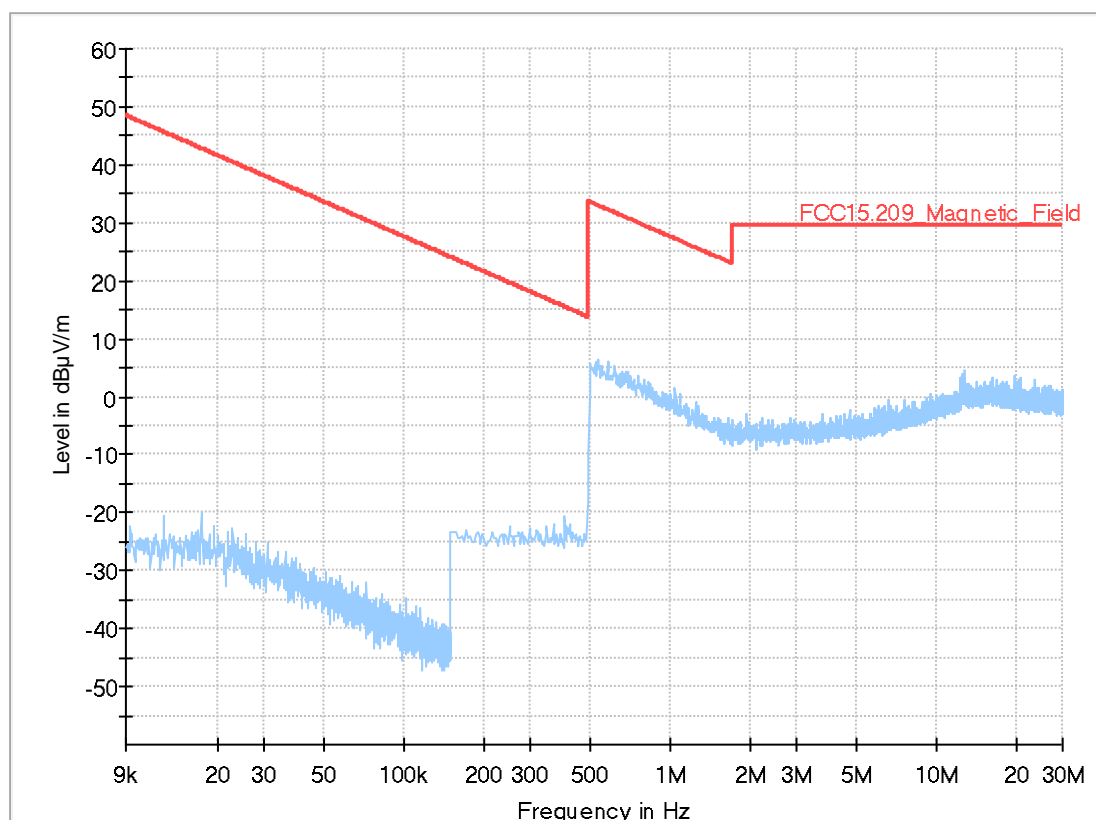
Test Description:	Magnetic Field Strength Measurement related to 30/300m distance
Test site and distance	Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance
Version of Testsoftware	EMC32 V9.25.0
Rec antenna	height 1.00m parallel and 90° to EUT polarisation
Used filter	bypass
Test Specification	FCC 15.205 § 15.209;RSS-Gen: Issue 4
Operating mode	GSM 850_CH251
Operating Conditions:	Humidity: 38%rH, Temperature: 20°C
Operator Name:	DLe
Comment:	DUT Standing

EUT Information

Manufacturer:	Peiker Acoustic GmbH & Co.KG a Valeo brand
Product:	Telematic Device
EUT Model:	AtM-02-US-R1-MEX

HW version:	103.004.004
SW version:	001.009.020
SVN:	-
Serial number:	4342
Connected Interfaces:	-

Full Spectrum



2.01b_RSE_GPRS_850_CH251_laying

Common Information

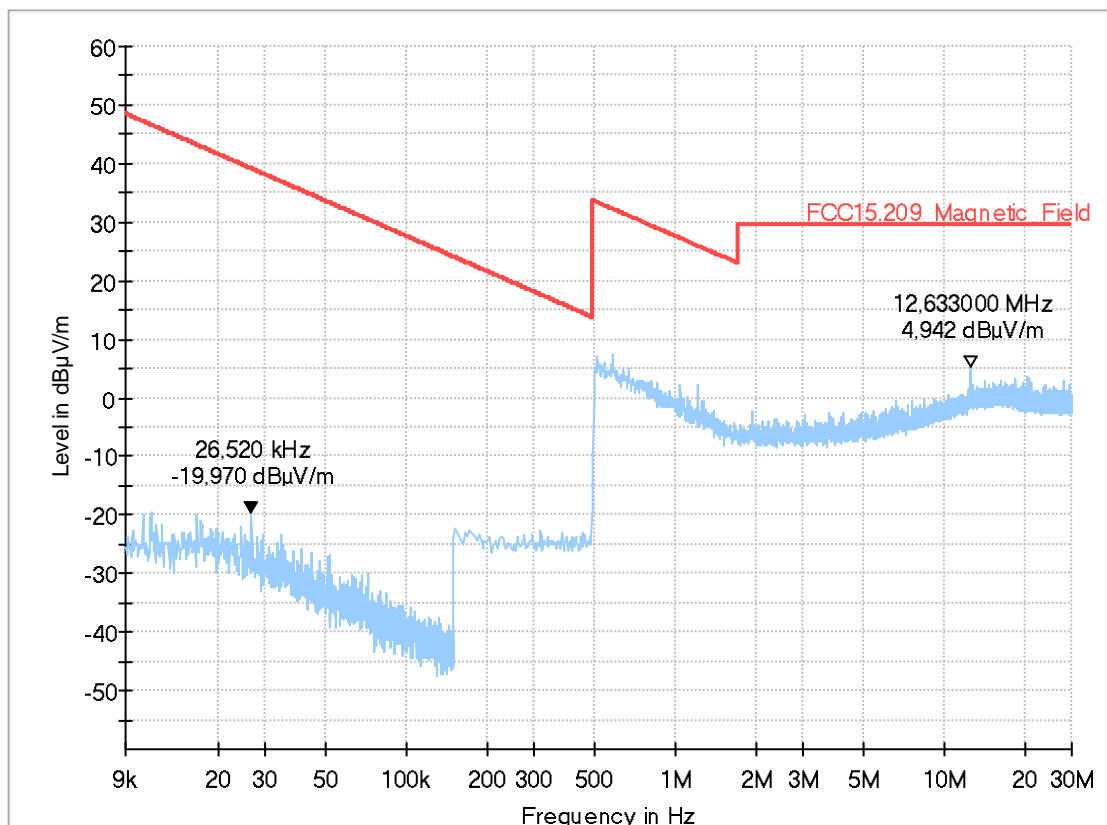
Test Description:	Magnetic Field Strength Measurement related to 30/300m distance
Test site and distance	Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance
Version of Testsoftware	EMC32 V9.25.0
Rec antenna	height 1.00m parallel and 90° to EUT polarisation
Used filter	bypass
Test Specification	FCC 15.205 § 15.209;RSS-Gen: Issue 4
Operating mode	GSM 850_CH251
Operating Conditions:	Humidity: 38%rH, Temperature: 20°C
Operator Name:	DLe
Comment:	DUT Laying

EUT Information

Manufacturer:	Peiker Acoustic GmbH & Co.KG a Valeo brand
Product:	Telematic Device
EUT Model:	AtM-02-US-R1-MEX

HW version:	103.004.004
SW version:	001.009.020
SVN:	-
Serial number:	4342
Connected Interfaces:	-

Full Spectrum



1.3. Magnetic field emissions radiated 1900 MHz transmitting mode

1.3.1. Magnetic field emissions radiated (1900 MHz transmitting mode)-Main-Antenna

2.02a_RSE_GPRS1900_512_laying

Common Information

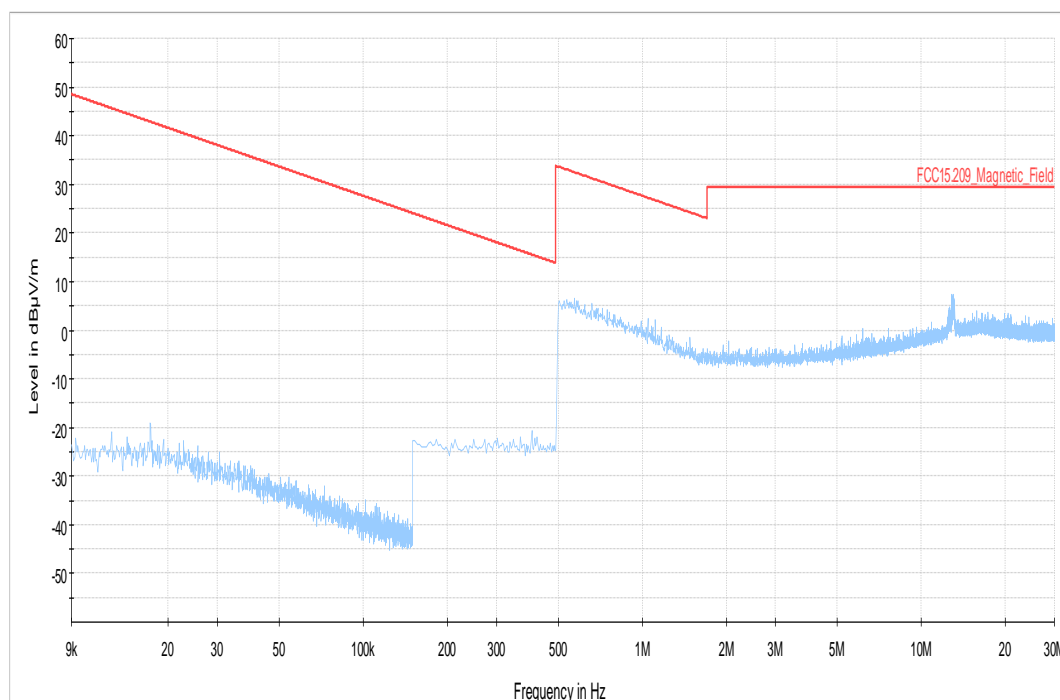
Test Description:	Magnetic Field Strength Measurement related to 30/300m distance
Test site and distance	Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance
Version of Testsoftware	EMC32 V9.25.0
Rec antenna	height 1.00m parallel and 90° to EUT polarisation
Used filter	bypass
Test Specification	FCC 15.205 § 15.209;RSS-Gen: Issue 4
Operating mode	GSM 1900_CH512
Operating Conditions:	Humidity: 38%rH, Temperature: 20°C
Operator Name:	DLe
Comment:	DUT Laying

EUT Information

Manufacturer:	Peiker Acoustic GmbH & Co.KG a Valeo brand
Product:	Telematic Device
EUT Model:	AtM-02-US-R1-MEX

HW version:	103.004.004
SW version:	001.009.020
SVN:	-
Serial number:	4342
Connected Interfaces:	-

Full Spectrum



2.02b_RSE_GPRS_1900_CH512_standing

Common Information

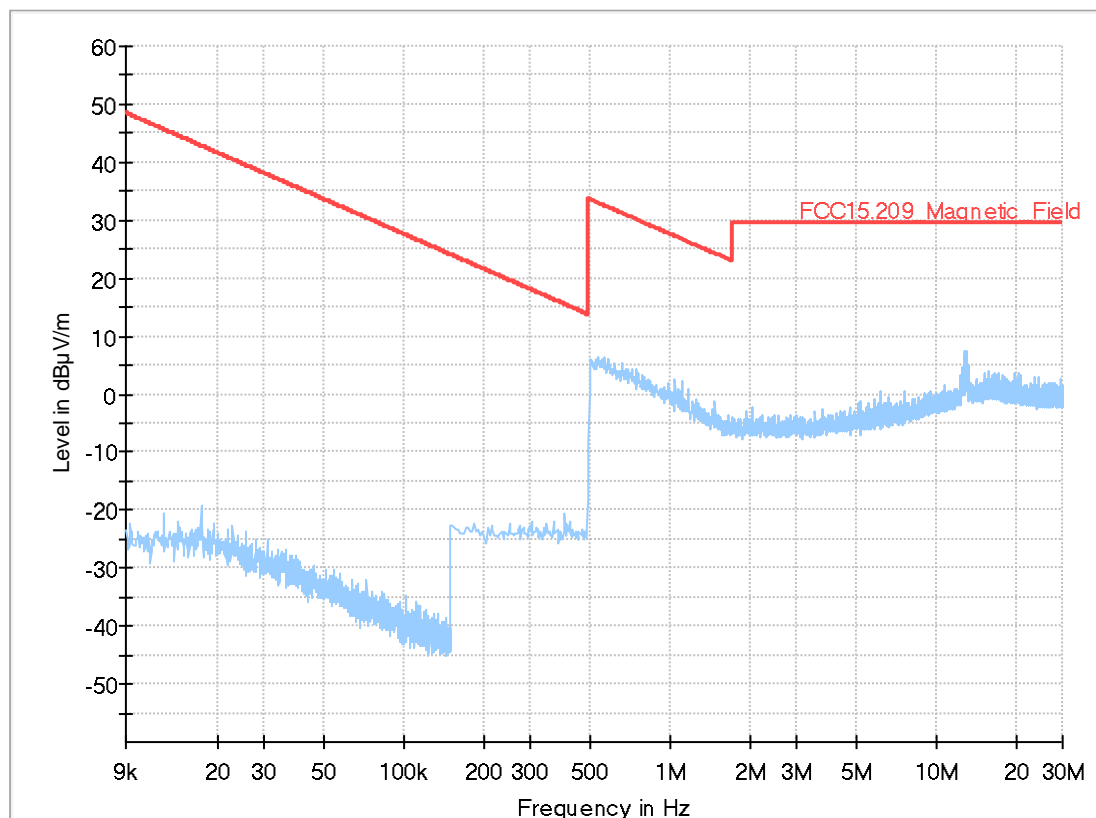
Test Description:	Magnetic Field Strength Measurement related to 30/300m distance
Test site and distance	Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance
Version of Testsoftware	EMC32 V9.25.0
Rec antenna	height 1.00m parallel and 90° to EUT polarisation
Used filter	bypass
Test Specification	FCC 15.205 § 15.209;RSS-Gen: Issue 4
Operating mode	GSM 1900_CH512
Operating Conditions:	Humidity: 38%rH, Temperature: 20°C
Operator Name:	DLe
Comment:	DUT Standing

EUT Information

Manufacturer:	Peiker Acoustic GmbH & Co.KG a Valeo brand
Product:	Telematic Device
EUT Model:	AtM-02-US-R1-MEX

HW version:	103.004.004
SW version:	001.009.020
SVN:	-
Serial number:	4342
Connected Interfaces:	-

Full Spectrum



1.4. Spurious emissions radiated 850 MHz transmitting mode

1.4.1. Spurious emissions radiated (850 MHz transmitting mode)-Main-Antenna

8.01_RSE_GPRS_850_CH251

Common Information

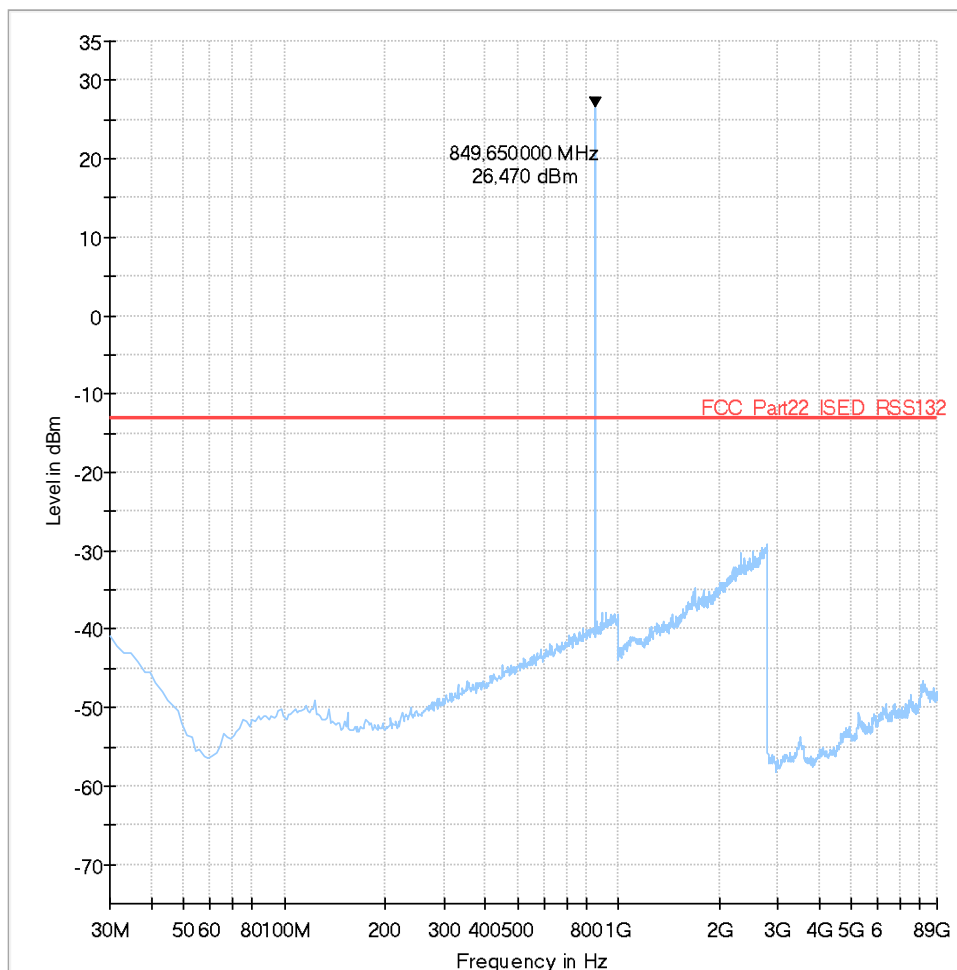
Test Description:	Radiated field strength emission in 3m distance
Test Site:	Fully-Anechoic Room
Test Standard:	FCC FCC Part 27.53(h) AWS emission limits / RSS-139, Issue 3
Antenna polarisation:	vertical / horizontal
Operation mode:	TCH 850, CHANNEL 251
Operator Name:	RIs
Comment:	

EUT Information

Manufacturer:	Peiker Acoustic GmbH & Co.KG a Valeo brand
Product:	Telematic Device
EUT Model:	AtM-02-US-R1-MEX

HW version:	103.004.004
SW version:	001.009.020
SVN:	-
Serial number:	4342
Connected Interfaces:	-

Full Spectrum



1.5. Spurious emissions radiated 1900 MHz transmitting mode

1.5.1. Spurious emissions radiated (1900 MHz transmitting mode)-Main-Antenna

8.02_RSE_GPRS_1900_CH512

Common Information

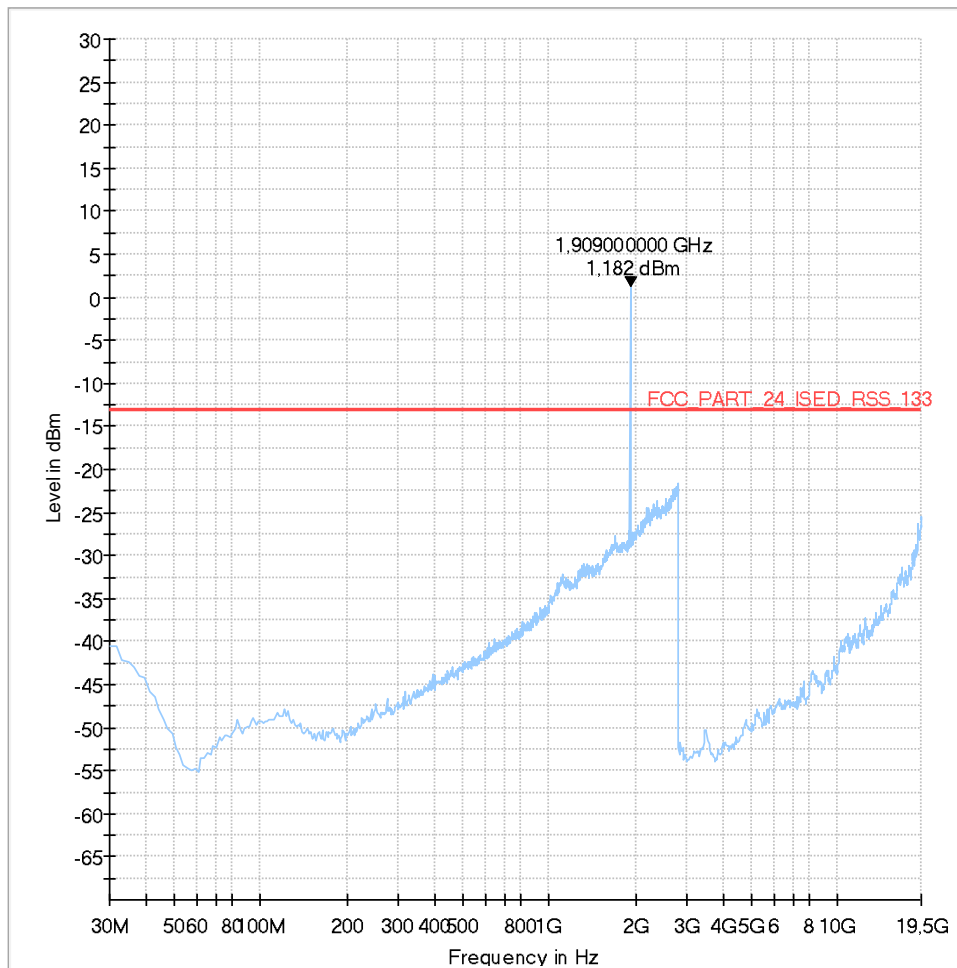
Test Description:	Radiated field strength emission in 3m distance
Test Site:	CETECOM GmbH Essen
Test Standard:	FCC FCC Part 24.238 Broadband PCS
Antenna polarisation:	vertical / horizontal
Operation mode:	TCH 1900, CHANNEL 512/ 661/ 810
Operator Name:	Rls
Comment:	

EUT Information

Manufacturer:	Peiker Acoustic GmbH & Co.KG a Valeo brand
Product:	Telematic Device
EUT Model:	AtM-02-US-R1-MEX

HW version:	103.004.004
SW version:	001.009.020
SVN:	-
Serial number:	4342
Connected Interfaces:	-

Full Spectrum



1.6. Radiated emissions on 850 MHz transmitting band-edge-mode**1.6.1. Spurious emissions radiated (850 MHz transmitting band edge mode)-Main-Antenna****9.01a_RSE_GPRS_850_CH128****Common Information**

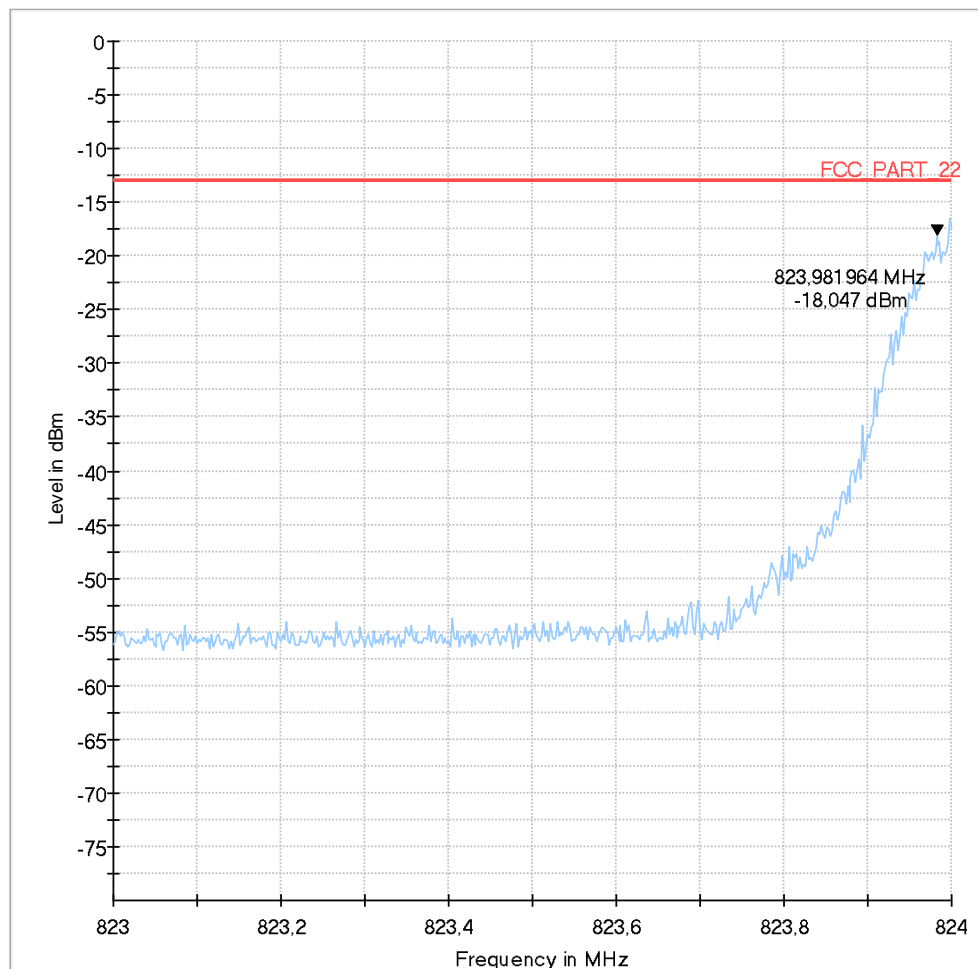
Test Description:	Radiated Band Edge Compliance GSM850
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 22.917
Operating Mode:	MS allocated channel 128 (fc = 824.2MHz), Voice, PCL5 (+33dBm)
Exclusionband:	824 - 849MHz
Environmental Conditions:	Humidity: 40%rH; Temperature: 20°C
Operator:	RIs

EUT Information

Manufacturer:	Peiker Acoustic GmbH & Co.KG a Valeo brand
Product:	Telematic Device
EUT Model:	AtM-02-US-R1-MEX

HW version:	103.004.004
SW version:	001.009.020
SVN:	-
Serial number:	4342
Connected Interfaces:	-

Full Spectrum



9.01b_RSE_GPRS_850_CH251

Common Information

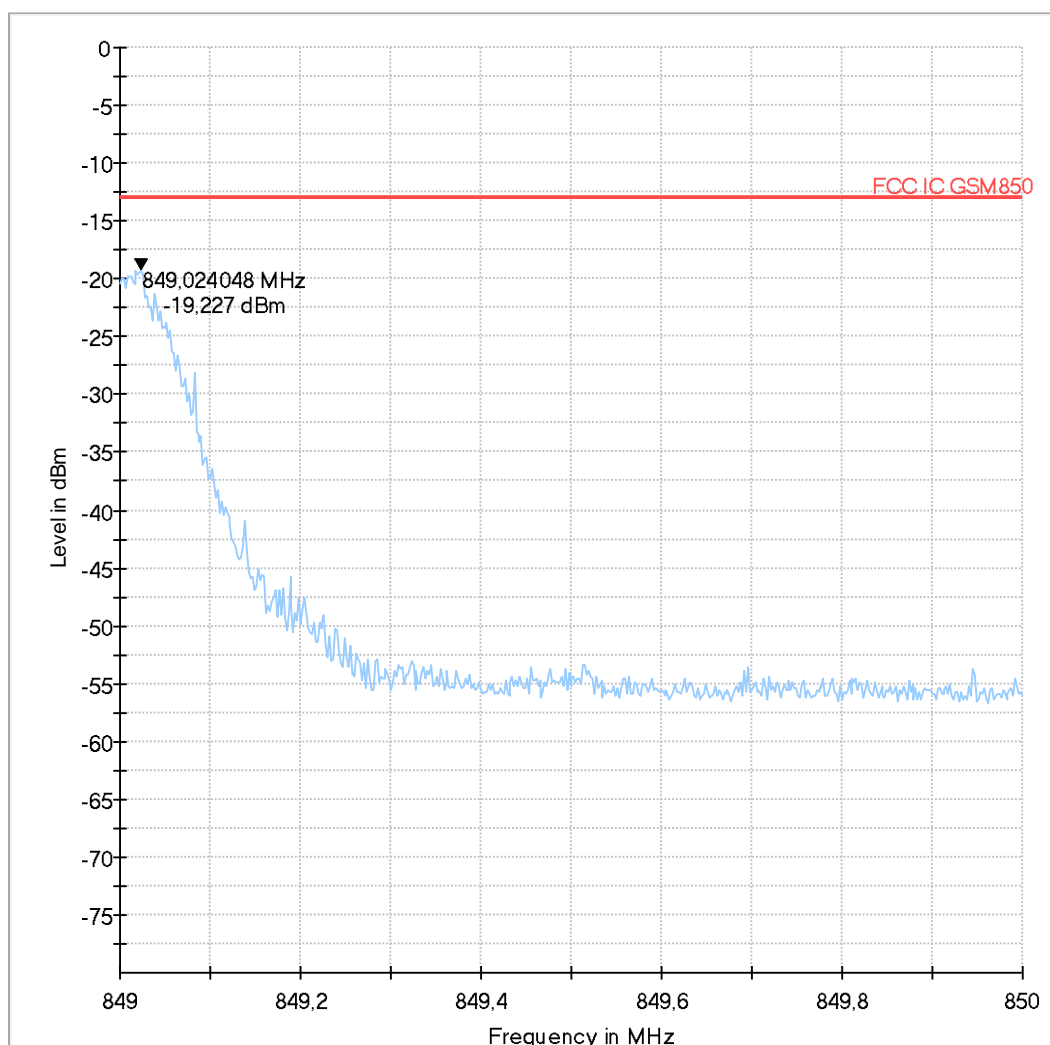
Test Description:	Radiated Band Edge Compliance GSM850
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 22.917
Operating Mode:	MS allocated channel 251 (fc = 848.8MHz), Voice, PCL0 (+33dBm)
Exclusionband:	824 - 849MHz
Environmental Conditions:	Humidity: 40%rH; Temperature: 20°C
Operator:	Rls

EUT Information

Manufacturer:	Peiker Acoustic GmbH & Co.KG a Valeo brand
Product:	Telematic Device
EUT Model:	AtM-02-US-R1-MEX

HW version:	103.004.004
SW version:	001.009.020
SVN:	-
Serial number:	4342
Connected Interfaces:	-

Full Spectrum



1.7. Radiated emissions on 1900 MHz transmitting band-edge-mode
1.7.1. Radiated emissions on (1900 MHz transmitting band-edge-mode)-Main-Antenna

9.02a_RSE_GPRS_1900_CH512

Common Information

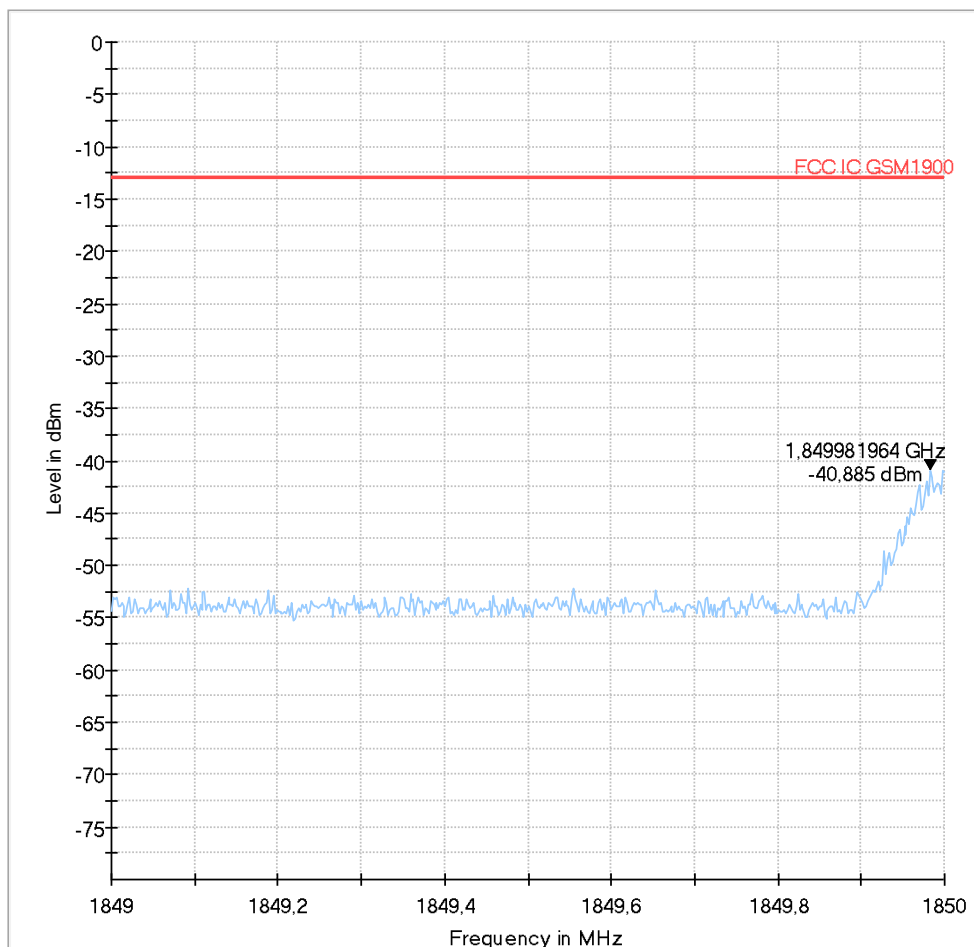
Test Description:	Radiated Spurious Emissions GSM1900
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 24.238
Comm. Link:	GSM1900, Voice/EDGE
Operating Mode:	MS allocated channel 512 (UL = 1850.2MHz)
Exclusionband:	1850- 1910MHz
Environmental Conditions:	Humidity: 40%rH; Temperature: 20°C
Operator:	RLs

EUT Information

Manufacturer:	Peiker Acoustic GmbH & Co.KG a Valeo brand
Product:	Telematic Device
EUT Model:	AtM-02-US-R1-MEX

HW version:	103.004.004
SW version:	001.009.020
SVN:	-
Serial number:	4342
Connected Interfaces:	-

Full Spectrum



9.02b_RSE_GPRS_1900_CH810

Common Information

Test Description:	Radiated Band Edge Compliance GSM1900
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 24.238
Operating Mode:	MS allocated channel 810 (UL = 1909.8MHz)
Exclusionband:	1850- 1910MHz
Environmental Conditions:	Humidity: 40%rH; Temperature: 20°C
Operator:	Rls

EUT Information

Manufacturer:	Peiker Acoustic GmbH & Co.KG a Valeo brand
Product:	Telematic Device
EUT Model:	AtM-02-US-R1-MEX

HW version:	103.004.004
SW version:	001.009.020
SVN:	-
Serial number:	4342
Connected Interfaces:	-

Full Spectrum

