

Annex 1: Diagrams of testing to
TEST REPORT
No.: TR-15-1-0008101-02a

According to
FCC Regulations:
Part 22, Part 24

for
peiker acoustic GmbH & Co. KG

GSM/E-GPRS/W-CDMA Wireless Module
V1140-103-1

FCC-ID: QWY-V1140-103







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

1.1. Spurious emissions radiated (GSM850 transmitting mode)

Diagram 8.06_CH251_GPRS

Common Information

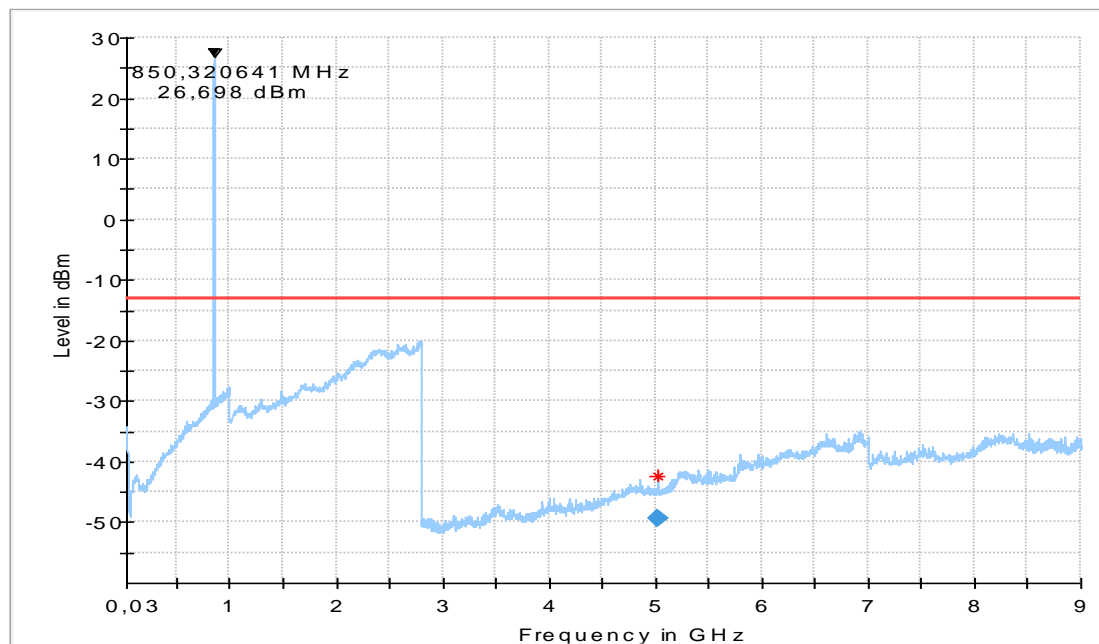
Test Description:	Radiated Emissions GSM850
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part22.917
Test Case:	
Operating Mode:	MS allocated UL channel 251
Environmental Conditions:	Humidity: 40%rH; Temperature: 23°C
Operator:	KMo/APh

EUT Information

Manufacturer:	peiker acoustic GmbH & Co. KG
EuT:	PKD0054AB1(a)
Model:	V1140-103-1

HW Version:	tbd (please refer to test report)
SW Version:	M9615A-CETWTDZM-6.3.1.100087
Serial Number:	353816-07-000000-7
Connected Interfaces:	shark antenna with ground plane, microphone, loudspeaker, cables
Power Supply:	12 VDC
Comments:	

Full Spectrum



Final Result

Frequency (MHz)	MaxPeak (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
5021.152304	-49.48	-	36.48	5000.0	1000.000	V	67.0	90.0	-91.1

1.2. Spurious emissions radiated (GSM1900 transmitting mode)

Diagram 8.14_CH661_GPRS

Common Information

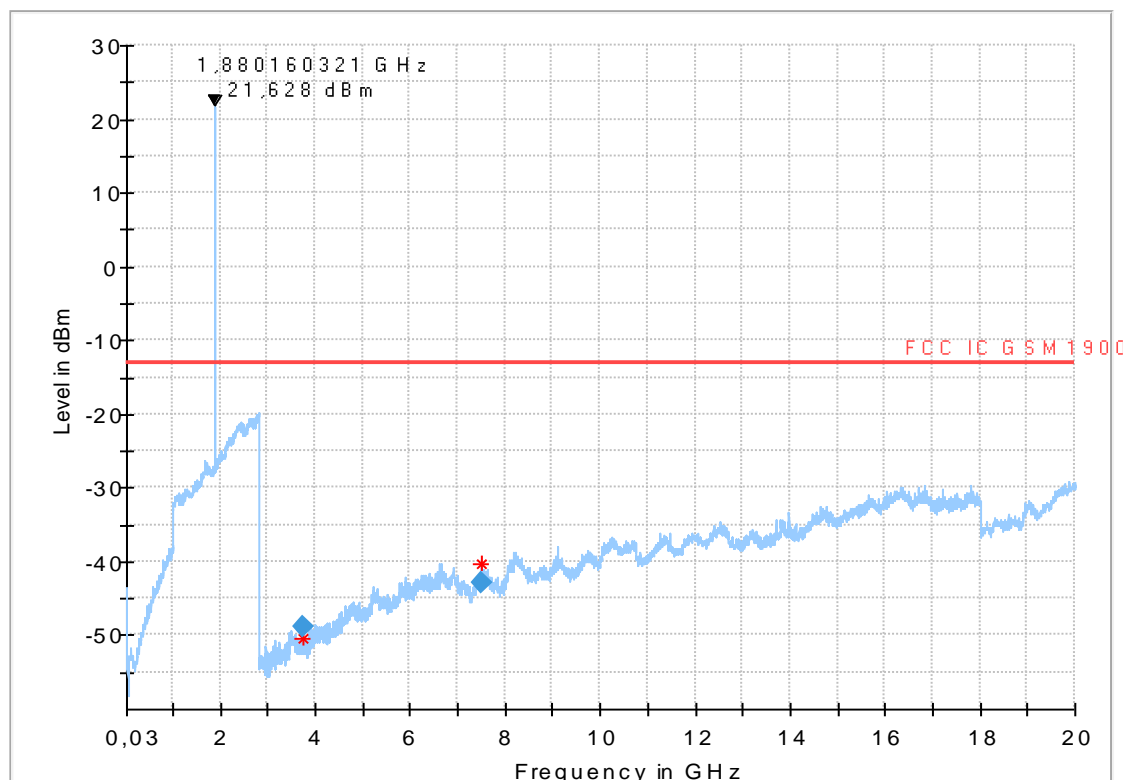
Test Description:	Radiated Spurious Emissions GSM1900
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR) - EMC32 V9.21.0
Test Standard:	FCC Part 24.238
Comm. Link:	GSM1900, Voice/EDGE
Operating Mode:	MS allocated channel ,661(UL = 1880.0MHz)
Environmental Conditions:	Humidity: 40%rH; Temperature: 23°C
Operator:	KMo

EUT Information

Manufacturer:	peiker acoustic GmbH & Co. KG
EuT:	PKD0054AB1(a)
Model:	V1140-103-1

HW Version:	tbd (please refer to test report)
SW Version:	M9615A-CETWTDZM-6.3.1.100087
Serial Number:	353816-07-000000-7
Connected Interfaces:	shark antenna with ground plane, microphone, loudspeaker, cables
Power Supply:	12 VDC
Comments:	

Full Spectrum



Final Result

Frequency (MHz)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
3760.135271	-	35.92	1000.0	1000.000	V	104.0	0.0	-95.1
7522.119238	-	29.84	1000.0	1000.000	V	168.0	90.0	-83.4

1.3. Spurious emissions radiated (FDD Band II transmitting mode)

Diagram 8.02 RSE_R_CH9538_FDD_II

Common Information

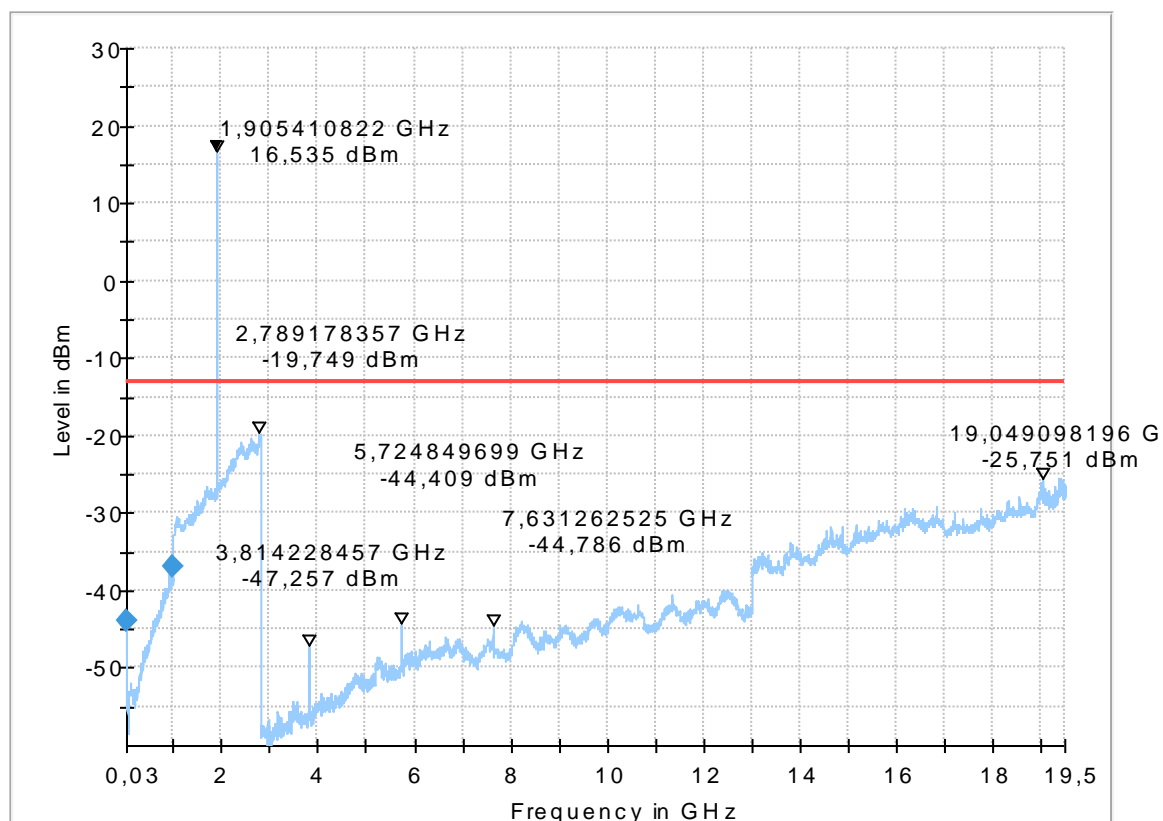
Test Description:	Radiated Spurious Emissions UMTS FDDII
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 24 / RSS-133, Issue 6
Operating Mode:	UE allocated channel 9538 (fc = 1907.6 MHz)
Environmental Conditions:	Humidity: 43%rH; Temperature: 21°C
Operator:	APH

EUT Information

Manufacturer:	peiker acoustic GmbH & Co. KG
EuT:	PKD0054AB1(a)
Model:	V1140-103-1

HW Version:	tbd (please refer to test report)
SW Version:	M9615A-CETWTDZM-6.3.1.100087
Serial Number:	353816-07-000000-7
Connected Interfaces:	shark antenna with ground plane, microphone, loudspeaker, cables
Power Supply:	12 VDC
Comments:	

Full Spectrum



1.4. Spurious emissions radiated (FDD Band V transmitting mode)

Diagram 8.50 RSE_R_CH4132_RMC

Common Information

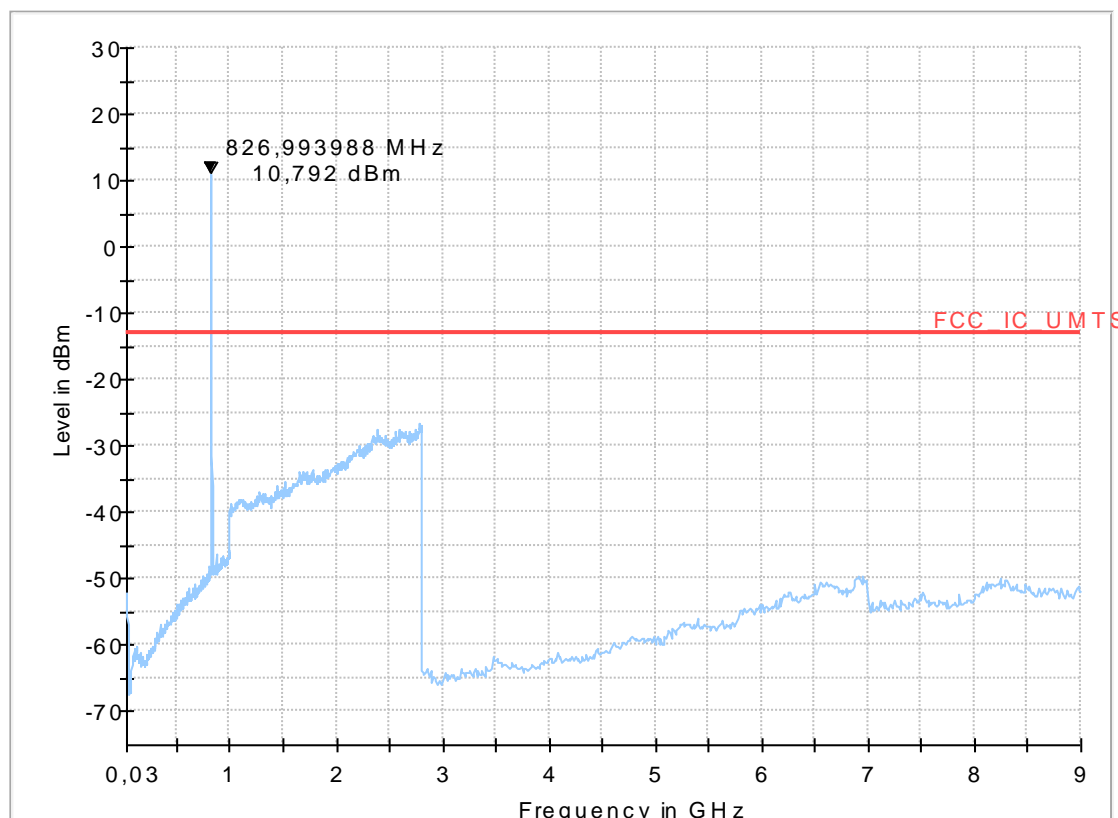
Test Description:	Radiated Spurious Emissions UMTS FDDV
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR) - EMC32 V9.21.0
Test Standard:	FCC Part 22.917(a)
Operating Mode:	UE allocated channel 4132 (fc = 826.6) ,RMC
Environmental Conditions:	Humidity: 40%rH; Temperature: 23°C
Operator:	Kmo

EUT Information

Manufacturer:	peiker acoustic GmbH & Co. KG
EuT:	PKD0054AB1(a)
Model:	V1140-103-1

HW Version:	tbd (please refer to test report)
SW Version:	M9615A-CETWTDZM-6.3.1.100087
Serial Number:	353816-07-000000-7
Connected Interfaces:	shark antenna with ground plane, microphone, loudspeaker, cables
Power Supply:	12 VDC
Comments:	

Full Spectrum



1.5. Radiated emissions on GSM850 band-edge

Diagram 9.03 RSE_R_CH128_GPRS

Common Information

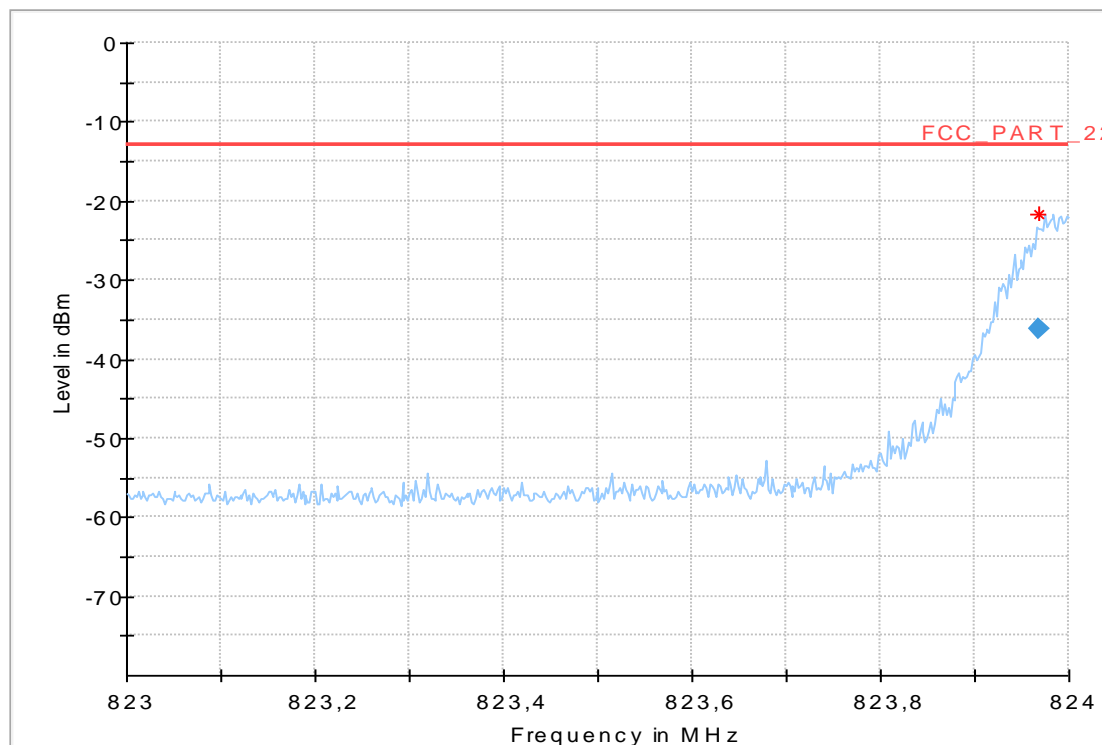
Test Description:	Radiated Band Edge Compliance GSM850
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR) - EMC32 V9.21.0
Test Standard:	FCC Part 22.917
Operating Mode:	MS allocated channel 128 (fc = 824.2MHz), Voice, PCL5 (+33dBm)
Exclusionband:	824 - 849MHz
Environmental Conditions:	Humidity: 40%rH; Temperature: 23°C
Operator:	Kmo

EUT Information

Manufacturer:	peiker acoustic GmbH & Co. KG
EuT:	PKD0054AB1(a)
Model:	V1140-103-1

HW Version:	tbd (please refer to test report)
SW Version:	M9615A-CETWTDZM-6.3.1.100087
Serial Number:	353816-07-000000-7
Connected Interfaces:	shark antenna with ground plane, microphone, loudspeaker, cables
Power Supply:	12 VDC
Comments:	

Full Spectrum



Final Result

Frequency (MHz)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
823.967936	13.00	23.29	10000.0	H	309.0	90.0	-75.8

Diagram 9.04 RSE_R_CH251_GPRS

Common Information

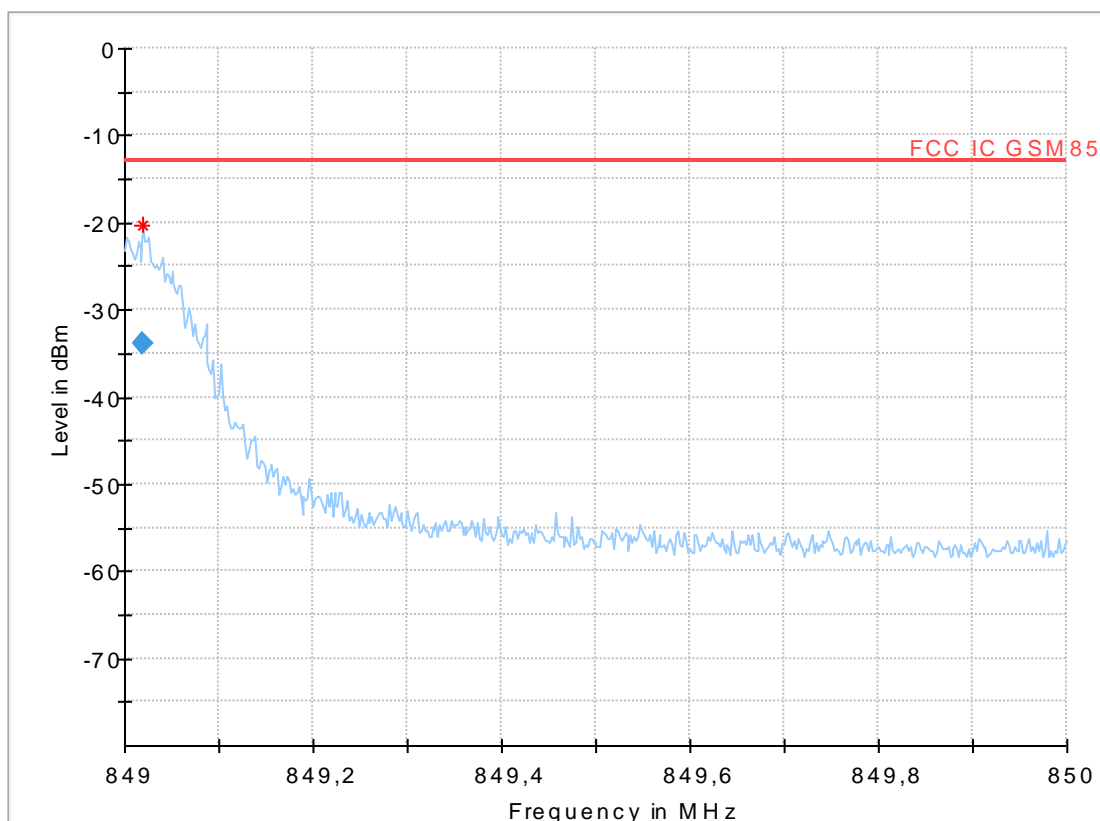
Test Description:	Radiated Band Edge Compliance GSM850
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR)
Test Standard:	FCC Part 22.917
Operating Mode:	MS allocated channel 251 (fc = 848.8MHz), Voice, PCL0 (+33dBm)
Exclusionband:	824 - 849MHz
Environmental Conditions:	Humidity: 40%rH; Temperature: 23°C
Operator:	Kmo

EUT Information

Manufacturer:	peiker acoustic GmbH & Co. KG
EuT:	PKD0054AB1(a)
Model:	V1140-103-1

HW Version:	tdb (please refer to test report)
SW Version:	M9615A-CETWTDZM-6.3.1.100087
Serial Number:	353816-07-000000-7
Connected Interfaces:	shark antenna with ground plane, microphone, loudspeaker, cables
Power Supply:	12 VDC
Comments:	

Full Spectrum



Final Result

Frequency (MHz)	RMS (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
849.020040	-33.91	13.00	20.91	10000.0	H	304.0	90.0	-76.0

1.6. Radiated emissions on GSM1900 band-edge

Diagram 9.07_CH512_GPRS

Common Information

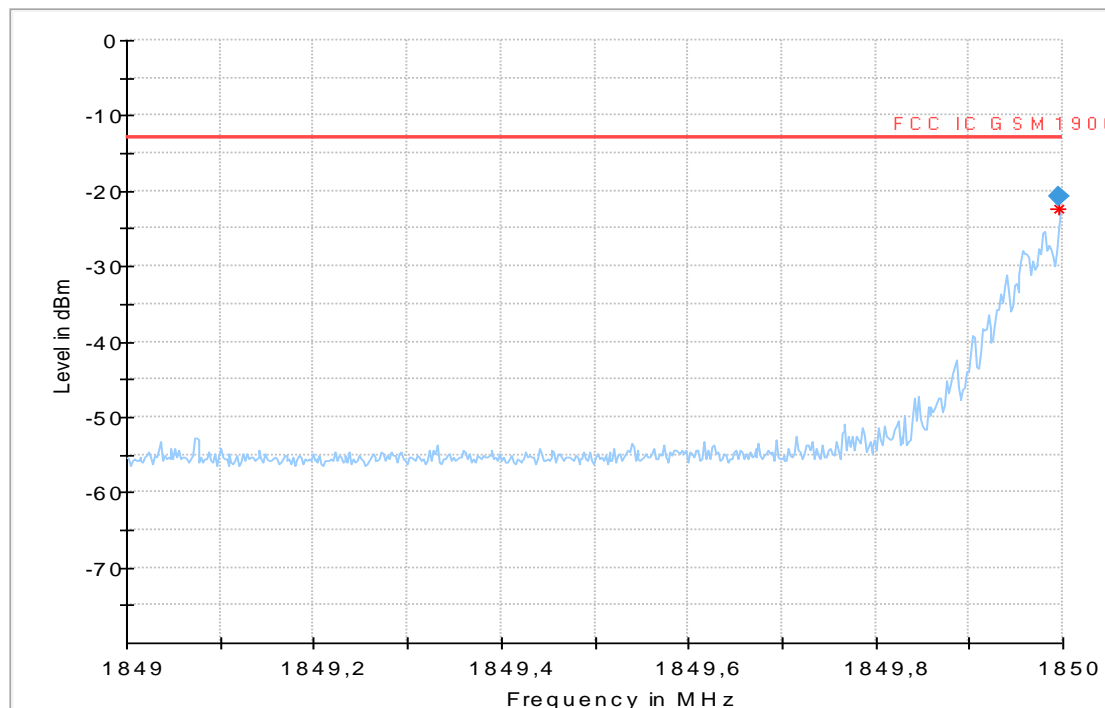
Test Description:	Radiated Spurious Emissions GSM1900
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR) - EMC32 V9.21.0
Test Standard:	FCC Part 24.238
Comm. Link:	GSM1900, Voice/EDGE
Operating Mode:	MS allocated channel 512 (UL = 1850.2MHz)
Exclusionband:	1850- 1910MHz
Environmental Conditions:	Humidity: 40%rH; Temperature: 23°C
Operator:	KMo

EUT Information

Manufacturer:	peiker acoustic GmbH & Co. KG
EuT:	PKD0054AB1(a)
Model:	V1140-103-1

HW Version:	tbd (please refer to test report)
SW Version:	M9615A-CETWTDZM-6.3.1.100087
Serial Number:	353816-07-000000-7
Connected Interfaces:	shark antenna with ground plane, microphone, loudspeaker, cables
Power Supply:	12 VDC
Comments:	

Full Spectrum



Final Result

Frequency (MHz)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
1849.995992	-13.00	7.69	10000.0	3.000	H	65.0	90.0	-63.1

Diagram 9.08_CH810_GPRS

Common Information

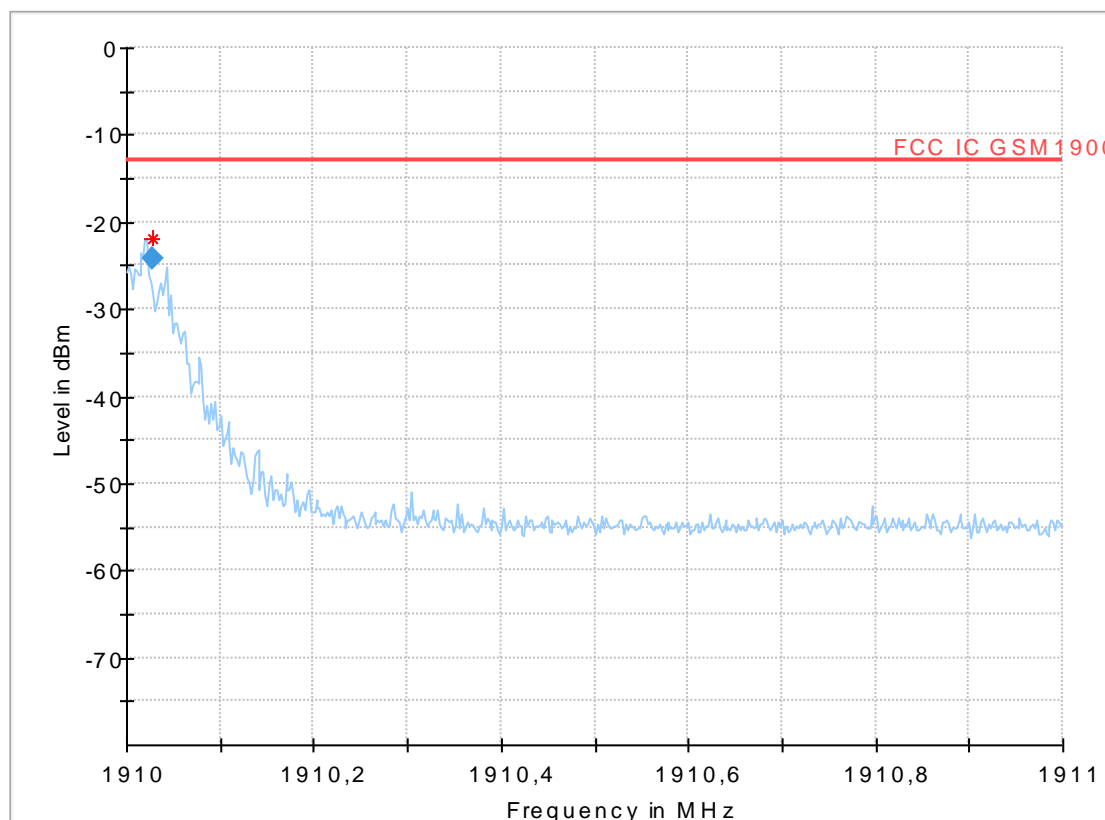
Test Description:	Radiated Spurious Emissions GSM1900
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR) - EMC32 V9.21.0
Test Standard:	FCC Part 24.238
Comm. Link:	GSM1900, Voice/EDGE
Operating Mode:	MS allocated channel 810 (UL = 1909.8MHz)
Exclusionband:	1850- 1910MHz
Environmental Conditions:	Humidity: 40%rH; Temperature: 23°C
Operator:	KMo

EUT Information

Manufacturer:	peiker acoustic GmbH & Co. KG
EuT:	PKD0054AB1(a)
Model:	V1140-103-1

HW Version:	tdb (please refer to test report)
SW Version:	M9615A-CETWTDZM-6.3.1.100087
Serial Number:	353816-07-000000-7
Connected Interfaces:	shark antenna with ground plane, microphone, loudspeaker, cables
Power Supply:	12 VDC
Comments:	

Full Spectrum



Final Result

Frequency (MHz)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
1910.028056	-13.00	11.18	10000.0	3.000	V	8.0	90.0	-62.8

1.7. Radiated emissions on FDD Band II band-edge

Diagram 9.01_CH9262_FDD_II

Common Information

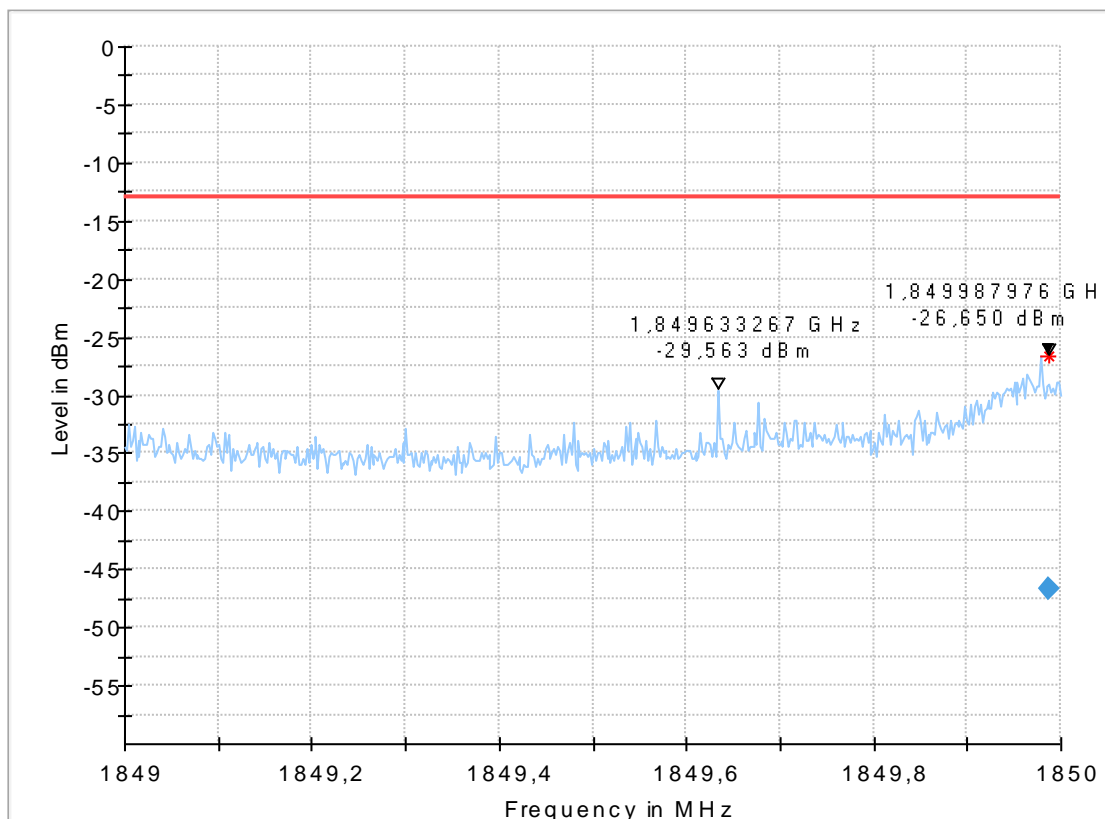
Test Description:	Band-Edge High - Radiated Spurious Emissions UMTS FDDII
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR) - EMC32 V9.121.0
Test Standard:	FCC Part 24
Operating Mode:	UE allocated channel 9262 (fc = 1852.4 MHz)
Exclusionband:	1850 - 1910 MHz
Environmental Conditions:	Humidity: 42%rH; Temperature: 23°C
Operator:	APh

EUT Information

Manufacturer:	peiker acoustic GmbH & Co. KG
EuT:	PKD0054AB1(a)
Model:	V1140-103-1

HW Version:	tbd (please refer to test report)
SW Version:	M9615A-CETWTDZM-6.3.1.100087
Serial Number:	353816-07-000000-7
Connected Interfaces:	shark antenna with ground plane, microphone, loudspeaker, cables
Power Supply:	12 VDC
Comments:	

Full Spectrum



Final Result

Frequency (MHz)	Average (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
1849.987976	-46.64	-13.00	33.64	10000.0	5.000	V	2.0	90.0	-63.1

Diagram 9.02 RSE_R_CH9538_FDD_II

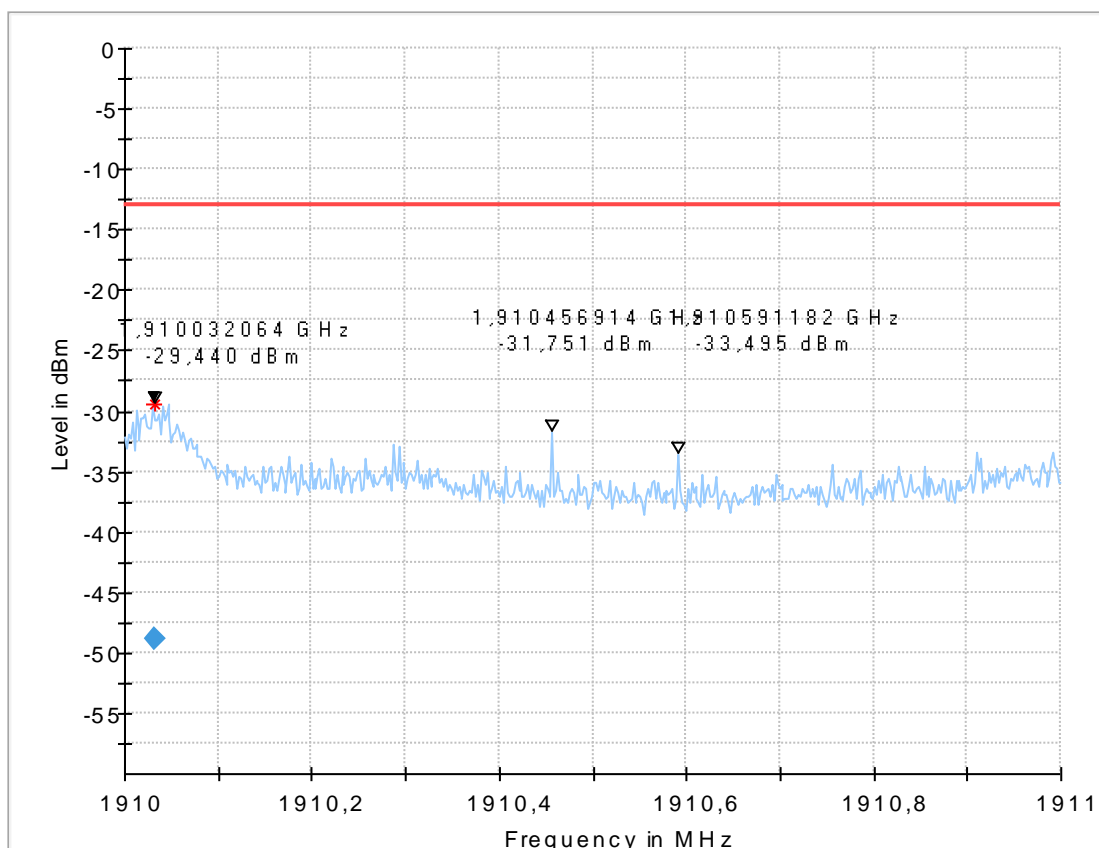
Common Information

Test Description:	Band-Edge High - Radiated Spurious Emissions UMTS FDDII
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR) - EMC32 V9.121.0
Test Standard:	FCC Part 24
Operating Mode:	UE allocated channel 9538 (fc = 1907.6 MHz)
Environmental Conditions:	Humidity: 43%rH; Temperature: 23°C
Operator:	APh

EUT Information

Manufacturer:	peiker acoustic GmbH & Co. KG
EuT:	PKD0054AB1(a)
Model:	V1140-103-1

HW Version:	tbd (please refer to test report)
SW Version:	M9615A-CETWTDZM-6.3.1.100087
Serial Number:	353816-07-000000-7
Connected Interfaces:	shark antenna with ground plane, microphone, loudspeaker, cables
Power Supply:	12 VDC
Comments:	



Final Result

Frequency (MHz)	Average (dBm)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
1910.032064	-48.87	-13.00	35.87	10000.0	5.000	V	6.0	90.0	-62.8

1.8. Radiated emissions on FDD Band V band-edge

Diagram 9.50_CH4132_RMC

Common Information

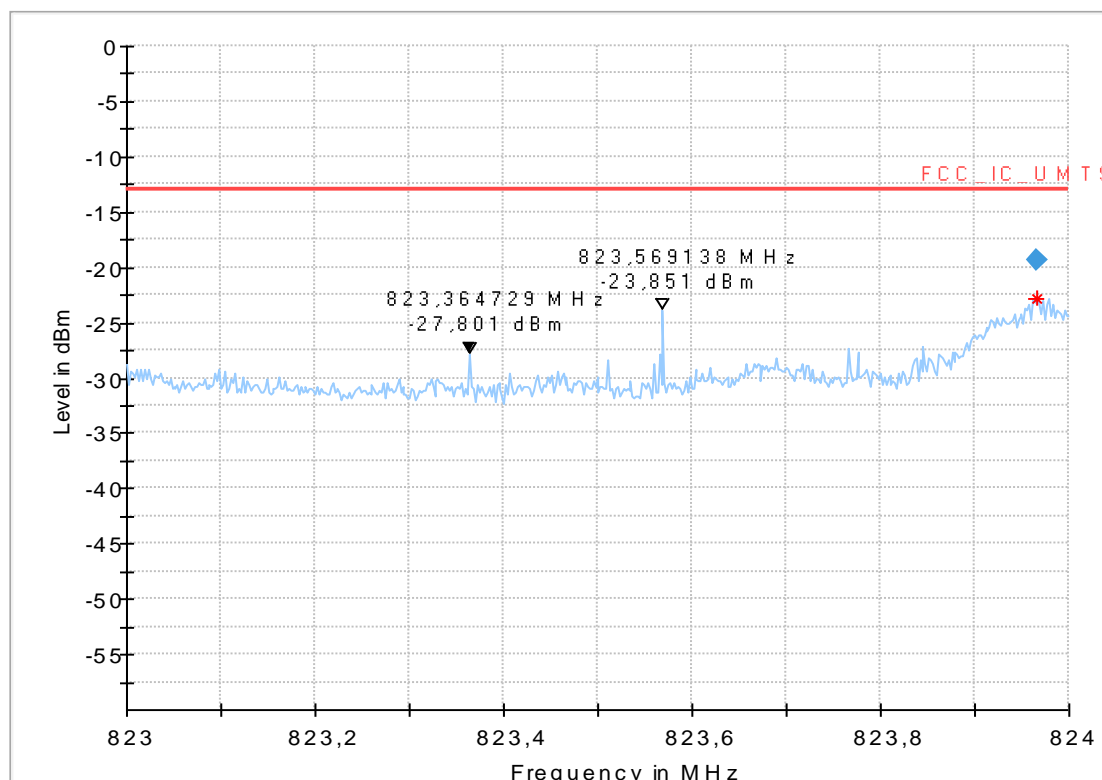
Test Description:	Band-Edge low - Radiated Spurious Emissions UMTS FDDV
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR) - EMC32 V9.21.0
Test Standard:	FCC Part 22.917(a)
Operating Mode:	UE allocated channel 4132
Environmental Conditions:	Humidity: 40%rH; Temperature: 23°C
Operator:	Kmo

EUT Information

Manufacturer:	peiker acoustic GmbH & Co. KG
EuT:	PKD0054AB1(a)
Model:	V1140-103-1

HW Version:	tbd (please refer to test report)
SW Version:	M9615A-CETWTDZM-6.3.1.100087
Serial Number:	353816-07-000000-7
Connected Interfaces:	shark antenna with ground plane, microphone, loudspeaker, cables
Power Supply:	12 VDC
Comments:	

Full Spectrum



Final Result

Frequency (MHz)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
823.965751	-	6.41	500.0	100.000	V	296.0	0.0	-75.8

Diagram 9.51_CH4233_RMC

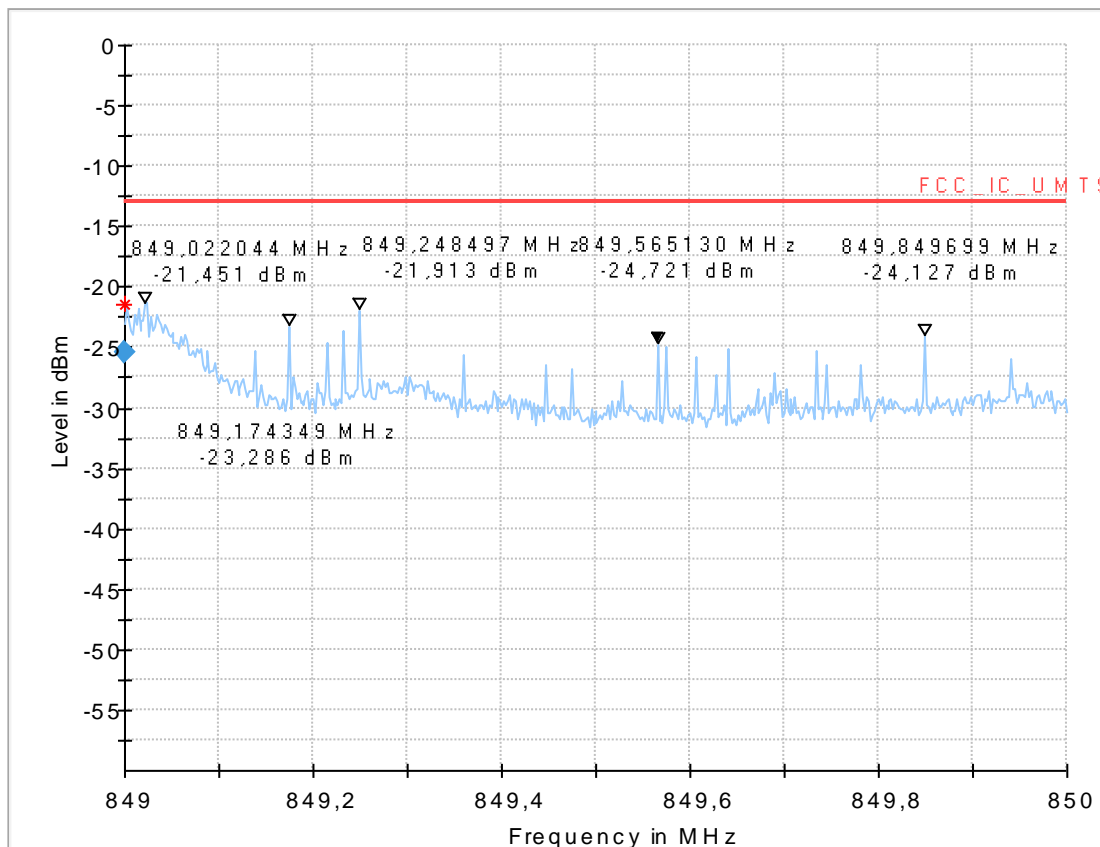
Common Information

Test Description:	Band-Edge High - Radiated Spurious Emissions UMTS FDDV
Test Site Location:	CETECOM GmbH Essen
Test Site:	Fully Anechoic Room (FAR) - EMC32 V9.21.0
Test Standard:	FCC Part 22.917(a)
Operating Mode:	UE allocated channel 4233 (fc = 826.6)
Environmental Conditions:	Humidity: 40%rH; Temperature: 23°C
Operator:	Kmo

EUT Information

Manufacturer:	peiker acoustic GmbH & Co. KG
EuT:	PKD0054AB1(a)
Model:	V1140-103-1

HW Version:	tbd (please refer to test report)
SW Version:	M9615A-CETWTDZM-6.3.1.100087
Serial Number:	353816-07-000000-7
Connected Interfaces:	shark antenna with ground plane, microphone, loudspeaker, cables
Power Supply:	12 VDC
Comments:	



Final Result

Frequency (MHz)	Limit (dBm)	Margin (dB)	Meas. Time (ms)	Pol	Azimuth (deg)	Elevation (deg)	Corr. (dB)
849.001046	-	12.45	500.0	H	52.0	90.0	-75.9