



REPORT No.: SZ25090313W05

TEST REPORT

APPLICANT : DrKumo Inc.

PRODUCT NAME : Tablet

MODEL NAME : XL100

BRAND NAME : Drkumo

FCC ID : 2BP5Q-XL100

STANDARD(S) : 47 CFR Part 2
47 CFR Part 24 Subpart E
47 CFR Part 27 Subpart L

RECEIPT DATE : 2025.06.09

TEST DATE : 2025.06.10-2025.08.20

ISSUE DATE : 2025.08.21



Edited by: Zeng Xiaoying
Zeng Xiaoying (Rapporteur)

Approved by: Shen Junsheng
Shen Junsheng (Supervisor)

NOTE: This document is issued by Shenzhen Morlab Communications Technology Co., Ltd., the test report shall not be reproduced except in full without prior written permission of the company. The test results apply only to the particular sample(s) tested and to the specific tests carried out which is available on request for validation and information confirmed at our website.

MORLAB

Shenzhen Morlab Communications Technology Co., Ltd.
FL1-1-3, Building A, FeiYang Science Park, No.8 LongChang Road,
Block67, BaoAn District, ShenZhen, GuangDong Province, P. R. China

Tel: 86-755-36698555

Http://www.morlab.cn

Fax: 86-755-36698525

E-mail: service@morlab.cn





DIRECTORY

1. Technical Information	3
1.1. Applicant and Manufacturer Information	3
1.2. Equipment Under Test (EUT) Description	3
1.3. Maximum E.R.P./E.I.R.P. and Emission Designator	5
1.4. Test Standards and Results	6
1.5. Environmental Conditions	7
2. 47 CFR Part 2, 24E and 27L Requirements	8
2.1. Conducted RF Output Power	8
2.2. Peak to Average Ratio	12
2.3. Occupied Bandwidth	16
2.4. Frequency Stability	24
2.5. Conducted Out of Band Emissions	32
2.6. Band Edge	49
2.7. Determining E.R.P. and/or E.I.R.P. from conducted RF output power measurements	55
2.8. Radiated Out of Band Emissions	62
Annex A Laboratory Information	70
3. TEST SETUP PHOTOGRAPHS	73
4. EXTERNAL AND INTERNAL PHOTOS OF THE EUT	73

Change History		
Version	Date	Reason for change
1.0	2025-09-09	First edition





1. Technical Information

Note: Provide by applicant.

1.1. Applicant and Manufacturer Information

Applicant:	DrKumo Inc.
Applicant Address:	6850 Lincoln Ave. STE 102 Buena Park, CA 90620, USA.
Manufacturer:	DrKumo Inc.
Manufacturer Address:	6850 Lincoln Ave. STE 102 Buena Park, CA 90620, USA.

1.2. Equipment Under Test (EUT) Description

Product Name:	Tablet	
Sample No.:	1#	
Hardware Version:	AP37_P1	
Software Version:	HPP-AP37-1.0.4	
Modulation Type:	GSM/GPRS Mode with GMSK Modulation EDGE Mode with 8PSK Modulation WCDMA Mode with QPSK Modulation HSDPA Mode with QPSK Modulation HSUPA Mode with QPSK Modulation HSPA+ Mode with 16QAM Modulation	
Operating Frequency Range:	GSM850:	824.2 MHz - 848.8 MHz
	PCS1900:	1850.2 MHz - 1909.8 MHz
	WCDMA Band IV	1712.4 MHz - 1752.6 MHz
	WCDMA Band II	1852.4 MHz - 1907.6 MHz
	WCDMA Band V:	826.4-846.6 MHz
Antenna Type:	Internal Antenna	
Antenna Gain:	GSM 850:	0.52 dBi (declare by Applicant)
	PCS1900:	0.62 dBi (declare by Applicant)
	WCDMA band II:	0.62 dBi (declare by Applicant)
	WCDMA band IV:	1.28 dBi (declare by Applicant)





	WCDMA band V:	0.52 dBi (declare by Applicant)
Accessory Information:	Battery	
	Brand Name:	hotpepper
	Model No.:	HLP2504G50
	Serial No.:	N/A
	Capacity:	5000mAh
	Rated Voltage:	3.8V
	Charge Limit:	4.35V
	Manufacturer:	Shenzhen Aerospace Electronic Co., Ltd.

Note 1: The transmitter (Tx) frequency arrangement of the PCS 1900MHz band used by the EUT can be represented with the formula $F(n)=1850.2+0.2*(n-512)$, $512 \leq n \leq 810$; the lowest, middle and highest channel numbers (ARFCHs) used and tested in this report are separately 512 (1850.2MHz), 661 (1880.0MHz) and 810 (1909.8MHz).

Note 2: The transmitter (Tx) frequency arrangement of the WCDMA IV band used by the EUT can be represented with the formula $F(n)=1712.4+0.2*(n-1312)$, $1312 \leq n \leq 1513$; the lowest, middle and highest channel numbers (ARFCHs) used and tested in this report are separately 1312 (1712.4MHz), 1413 (1732.6MHz) and 1513 (1752.6MHz).

Note 3: The transmitter (Tx) frequency arrangement of the WCDMA Band II used by the EUT can be represented with the formula $F(n)=1852.4+0.2*(n-9262)$, $9262 \leq n \leq 9538$; the lowest, middle and highest channel numbers (ARFCHs) used and tested in this report are separately 9262 (1852.4MHz), 9400 (1880MHz) and 9538 (1907.6MHz).

Note 4: All test modes and data rates were considered and evaluated respectively by performing full test. Test modes are chosen to be reported as the worst case below:

GSM mode and EDGE mode for GSM 850;

GSM mode and EDGE mode for GSM 1900;

WCDMA mode for WCDMA band V;

WCDMA mode for WCDMA band IV;

WCDMA mode for WCDMA band II;

Note 5: SIM 1 and SIM 2 is a chipset unit and tested as a single chipset. The SIM 1 is chosen for test.

Note 6: The EUT description presented in the report are provided by applicant and/or manufacturer, and the test laboratory is not responsible for the accuracy of the information. For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.





1.3. Maximum E.R.P./E.I.R.P. and Emission Designator

Test Mode	Maximum E.R.P./E.I.R.P. (W)	Emission Designator
GSM 850	2.0606	247KGXW
GSM 850	0.5321	250KG7W
PCS 1900	1.1143	246KGXW
PCS 1900	0.4036	249KG7W
WCDMA Band V	0.2655	4M16F9W
WCDMA Band IV	0.2168	4M18F9W
WCDMA Band II	0.2328	4M17F9W





1.4. Test Standards and Results

The objective of the report is to perform testing according to 47 CFR Part 2, Part 24 and Part 27 for the EUT FCC ID Certification:

No.	Identity	Document Title
1	47 CFR Part 2 (10-1-12 Edition)	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
2	47 CFR Part 24 (10-1-12 Edition)	Personal Communications Services
3	47 CFR Part 27 (10-1-12 Edition)	Miscellaneous Wireless Communications Services

Test detailed items/section required by FCC rules and results are as below:

No.	Section	Description	Test Date	Test Engineer	Result	Remark
1	2.1046	Conducted RF Output Power	Jun. 27, 2025	Tan Xiaowei	PASS	/
2	24.232(d)	Peak -Average Ratio	Jun. 27, 2025	Liu Huiyan	PASS	/
3	2.1049	Occupied Bandwidth	Jun. 27, 2025	Liu Huiyan	PASS	/
4	2.1055, 24.235, 27.54	Frequency Stability	Jun. 27, 2025	Liu Huiyan	PASS	/
5	2.1051, 24.238(a), 27.53(h)	Conducted Out of Band Emissions	Jun. 27, 2025	Liu Huiyan	PASS	/
6	2.1051, 24.238(a), 27.53(h)	Band Edge	Jun. 27, 2025	Liu Huiyan	PASS	/
7	24.232(c) 27.50(d)	Transmitter Radiated Power (E.I.P.R./E.R.P.)	Jun. 27, 2025	Liu Huiyan	PASS	/
8	2.1053, 24.238(a), 27.53(h)	Radiated Out of Band Emissions	Jun. 27, 2025	Gao Jianrou	PASS	/

Note 1: The tests were performed according to the method of measurements prescribed in KDB 971168 D01 v03r01 and ANSI/TIA-603-E-2016.

Note 2: Any additions, deviation, or exclusions from the method shall be noted in the "Remark".

Note 3: The antenna gain presented in the report are provided by applicant and/or manufacturer,





and the test laboratory is not responsible for the accuracy of the information.

1.5. Environmental Conditions

During the measurement, the environmental conditions were within the listed ranges:

Temperature (°C):	15-35
Relative Humidity (%):	30-60
Atmospheric Pressure (kPa):	86-106





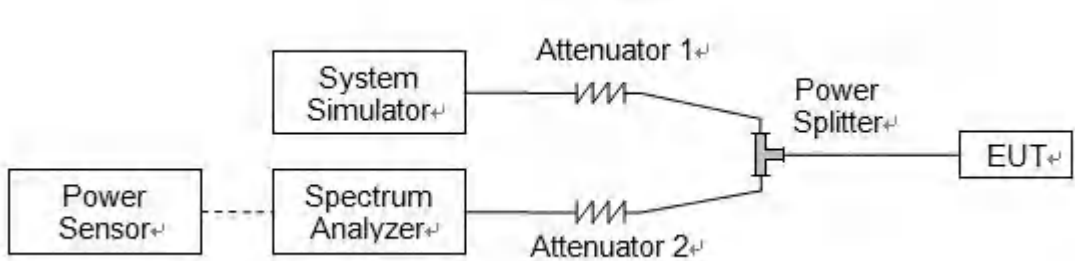
2.1. Conducted RF Output Power

2.1.1.Requirement

According to FCC section 2.1046(a), for transmitters other than single sideband, independent sideband and controlled carrier radiotelephone, power output shall be measured at the RF output terminals when the transmitter is adjusted in accordance with the tune-up procedure to give the values of current and voltage on the circuit elements specified in FCC section 2.1033(c)(8).

2.1.2. Test Description

Test Setup:



The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power i.e. Power Control Level (PCL) = 5 and Power Class = 4. A call is established between the EUT and the SS.

**2.1.3. Test Results**

Band: GSM 850	Burst Average Power (dBm)		
Channel	128	190	251
Frequency (MHz)	824.2	836.6	848.8
GSM (GMSK, Voice)	33.13	33.13	33.04
GPRS (GMSK, 1 TX slot)	33.14	33.11	33.03
GPRS (GMSK, 2 TX slots)	32.28	32.27	32.19
GPRS (GMSK, 3 TX slots)	30.45	30.45	30.30
GPRS (GMSK, 4 TX slots)	29.36	29.35	29.17
EGPRS (8PSK, 1 TX slot)	27.18	27.26	27.11
EGPRS (8PSK, 2 TX slots)	26.05	26.15	25.99
EGPRS (8PSK, 3 TX slots)	23.82	23.86	23.79
EGPRS (8PSK, 4 TX slots)	22.71	22.77	22.63

Band: PCS 1900	Burst Average Power (dBm)		
Channel	512	661	810
Frequency (MHz)	1850.2	1880.0	1909.8
GSM (GMSK, Voice)	30.29	30.47	30.05
GPRS (GMSK, 1 TX slot)	30.28	30.45	30.04
GPRS (GMSK, 2 TX slots)	29.33	29.53	29.09
GPRS (GMSK, 3 TX slots)	27.39	27.60	27.14
GPRS (GMSK, 4 TX slots)	26.35	26.73	26.69
EGPRS (8PSK, 1 TX slot)	25.91	26.06	25.55
EGPRS (8PSK, 2 TX slots)	24.61	24.82	24.41
EGPRS (8PSK, 3 TX slots)	22.42	22.64	22.23
EGPRS (8PSK, 4 TX slots)	21.24	21.46	20.94





WCDMA Average power (dBm)			
Band	WCDMA Band V		
Channel	4132	4183	4233
Frequency (MHz)	826.4	836.6	846.6
AMR 12.2 kbps	23.86	24.16	24.24
RMC 12.2 kbps	23.84	24.17	24.05
HSDPA Sub-test 1	22.73	23.04	23.12
HSDPA Sub-test 2	22.29	22.51	22.51
HSDPA Sub-test 3	22.30	22.53	22.64
HSDPA Sub-test 4	22.30	22.56	22.52
HSUPA Sub-test 1	20.88	21.17	21.19
HSUPA Sub-test 2	21.38	21.68	21.70
HSUPA Sub-test 3	21.88	22.18	22.22
HSUPA Sub-test 4	20.91	21.20	21.23
HSUPA Sub-test 5	22.86	23.14	23.18

WCDMA Average power (dBm)			
Band	WCDMA Band IV		
Channel	1312	1413	1513
Frequency (MHz)	1712.4	1732.6	1752.6
AMR 12.2 kbps	22.35	23.26	22.89
RMC 12.2 kbps	22.36	23.36	22.98
HSDPA Sub-test 1	21.53	22.42	22.12
HSDPA Sub-test 2	21.13	22.00	21.68
HSDPA Sub-test 3	21.03	21.90	21.55
HSDPA Sub-test 4	21.00	21.84	21.52
HSUPA Sub-test 1	19.58	20.42	20.07
HSUPA Sub-test 2	20.06	20.89	20.57
HSUPA Sub-test 3	20.55	21.42	21.10
HSUPA Sub-test 4	19.59	20.44	20.09
HSUPA Sub-test 5	21.56	22.34	22.07





WCDMA Average power (dBm)			
Band	WCDMA Band II		
Channel	9262	9400	9538
Frequency (MHz)	1852.4	1880.0	1907.6
AMR 12.2 kbps	23.41	23.66	22.82
RMC 12.2 kbps	23.39	23.67	23.54
HSDPA Sub-test 1	22.79	22.95	22.32
HSDPA Sub-test 2	22.31	22.46	21.78
HSDPA Sub-test 3	22.21	22.34	21.73
HSDPA Sub-test 4	22.20	22.39	21.78
HSUPA Sub-test 1	20.41	20.64	19.88
HSUPA Sub-test 2	20.90	21.16	20.40
HSUPA Sub-test 3	21.44	21.71	20.92
HSUPA Sub-test 4	20.47	20.73	19.94
HSUPA Sub-test 5	22.43	22.68	21.79



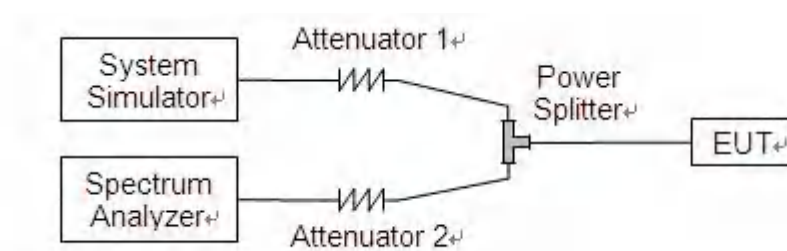
2.2. Peak to Average Ratio

2.2.1. Requirement

According to FCC 24.232(d) and 27.50(d), the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

2.2.2. Test Description

Test Setup:



The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power i.e. Power Control Level (PCL) = 5 and Power Class = 4. A call is established between the EUT and the SS.

2.2.3. Test procedure

1. For GSM/EDGE operating mode:
 - a. Set RBW=1MHz, VBW=3MHz, peak detector in spectrum analyzer.
 - b. Set EUT in maximum output power, and triggered the bust signal.
 - c. Measured respectively the peak level and mean level, and the deviation was recorded as Peak to Average ratio.
2. For UMTS operating mode:
 - a. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.
 - b. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1%.





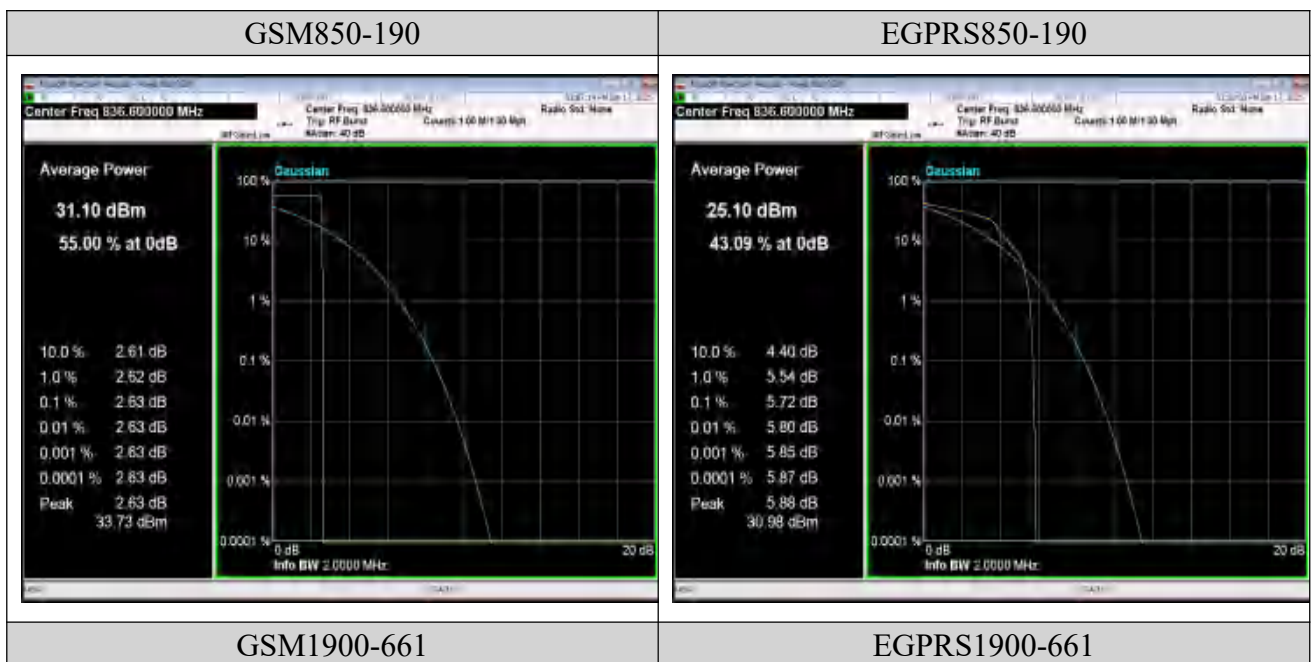
2.2.4. Test Result

A. Test Verdict:

Band	Channel	PCL	Result(dB)	Limit(dB)	Verdict
GSM850	190	5	2.63	13	PASS
EGPRS850	190	8	5.72	13	PASS
GSM1900	661	0	2.7	13	PASS
EGPRS1900	661	2	6.25	13	PASS

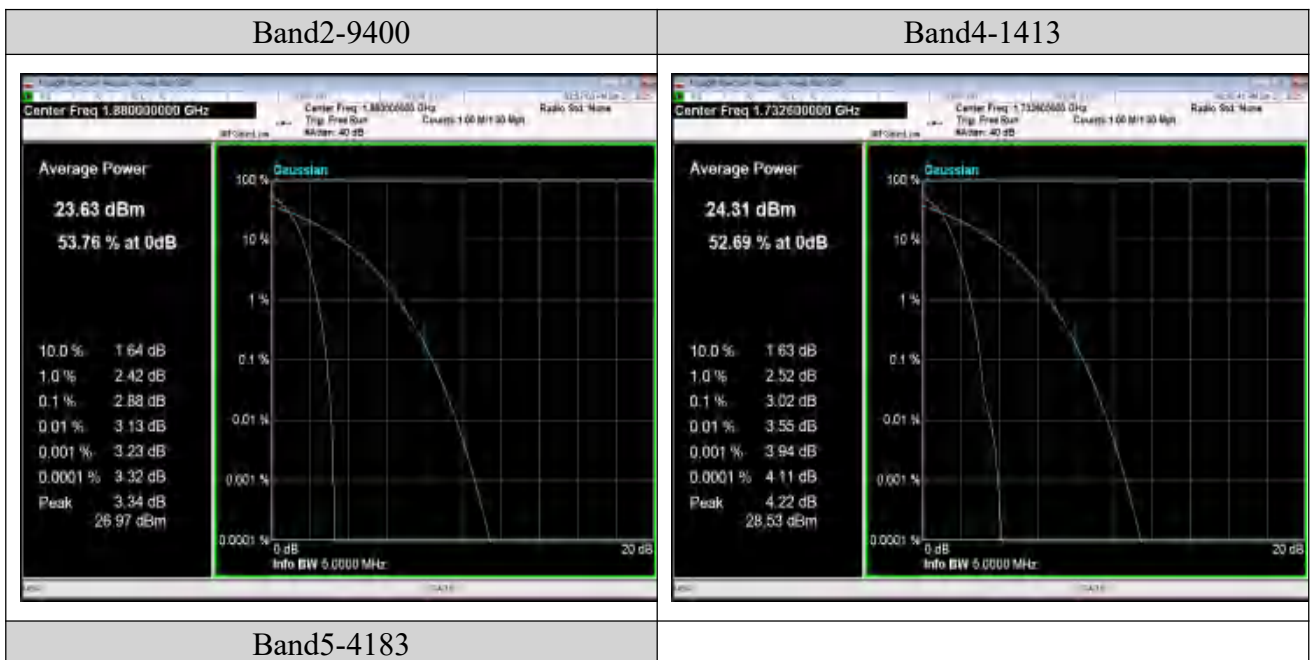
Band	Channel	Peak-to-Average Ratio(dB)	Limit(dB)	Verdict
Band2	9400	2.88	13	PASS
Band4	1413	3.02	13	PASS
Band5	4183	3.11	13	PASS

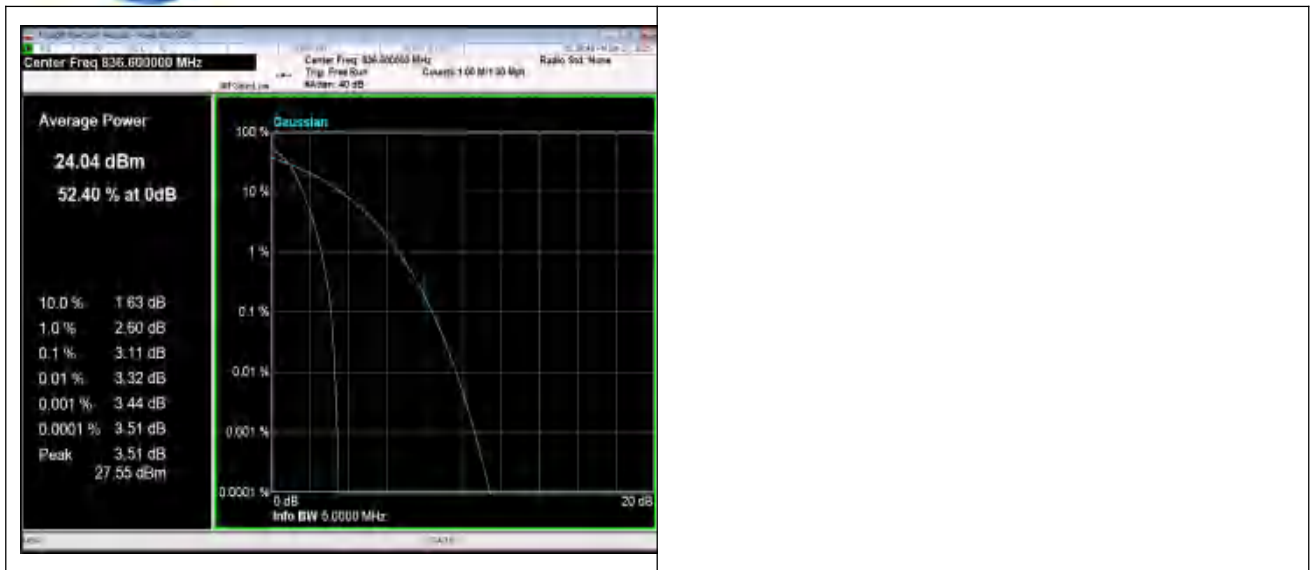
Test Graphs





Test Graphs(WCDMA)





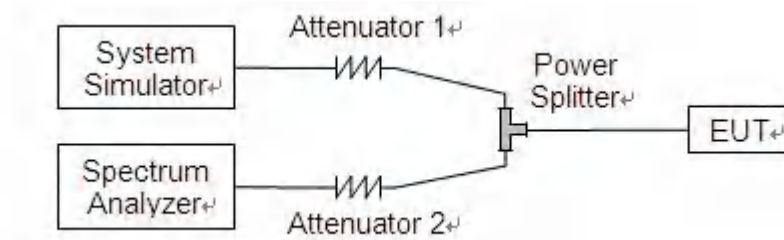
2.3. Occupied Bandwidth

2.3.1. Requirement

According to FCC section 2.1049, the occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission. Occupied bandwidth is also known as the 99% emission bandwidth.

2.3.2. Test Description

Test Setup:



The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power i.e. Power Control Level (PCL) = 5 and Power Class = 4. A call is established between the EUT and the SS.



**2.3.3.Test Result**

Band	Channel	PCL	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit (MHz)	Verdict
GSM850	128	5	0.24640	0.3199	---	PASS
GSM850	190	5	0.24666	0.3150	---	PASS
GSM850	251	5	0.24482	0.3145	---	PASS
EGPRS850	128	8	0.24956	0.3190	---	PASS
EGPRS850	190	8	0.24488	0.3132	---	PASS
EGPRS850	251	8	0.24882	0.3124	---	PASS
GSM1900	512	0	0.24600	0.3099	---	PASS
GSM1900	661	0	0.24498	0.3184	---	PASS
GSM1900	810	0	0.24494	0.3059	---	PASS
EGPRS1900	512	2	0.24621	0.3142	---	PASS
EGPRS1900	661	2	0.24855	0.3185	---	PASS
EGPRS1900	810	2	0.24748	0.3141	---	PASS

Band	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit(kHz)	Verdict
Band2	9262	4.1721	4.732	---	PASS
Band2	9400	4.1694	4.726	---	PASS
Band2	9538	4.1799	4.723	---	PASS
Band4	1312	4.1755	4.720	---	PASS
Band4	1413	4.1811	4.726	---	PASS
Band4	1513	4.1742	4.710	---	PASS
Band5	4132	4.1736	4.709	---	PASS
Band5	4183	4.1605	4.702	---	PASS
Band5	4233	4.1599	4.682	---	PASS

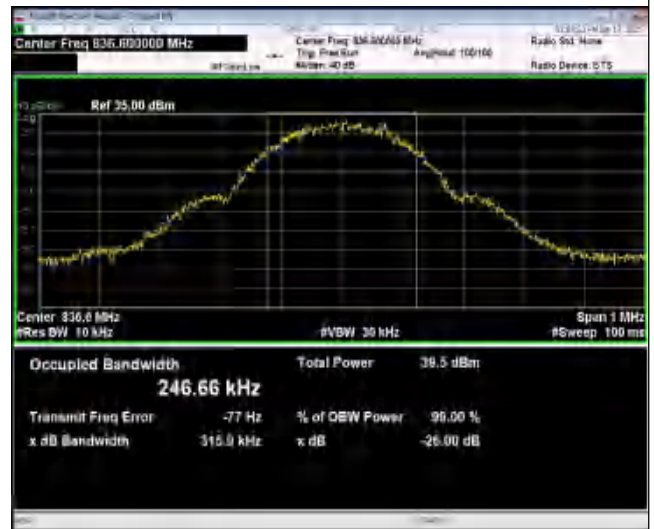




GSM850-128



GSM850-190



GSM850-251



EGPRS850-128



EGPRS850-190

EGPRS850-251

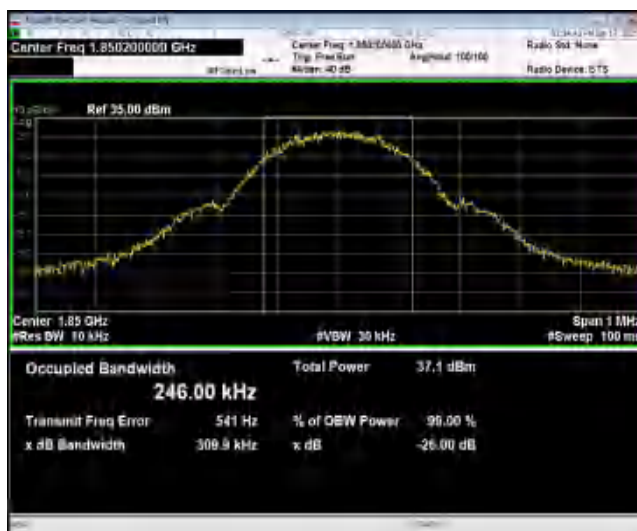




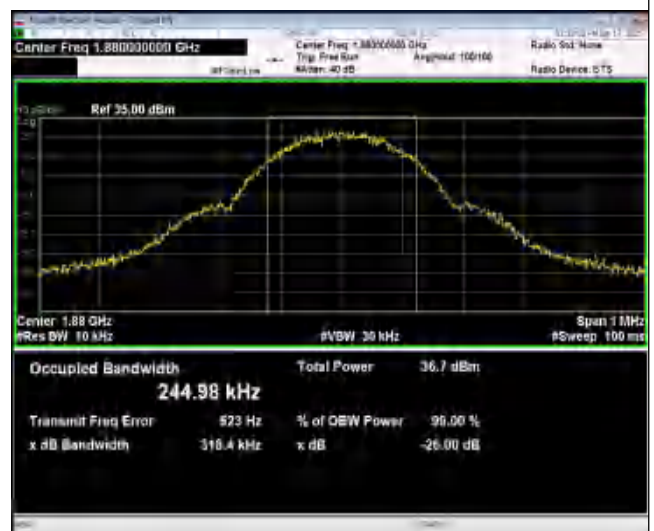
GSM1900-512



GSM1900-661



GSM1900-810



EGPRS1900-512

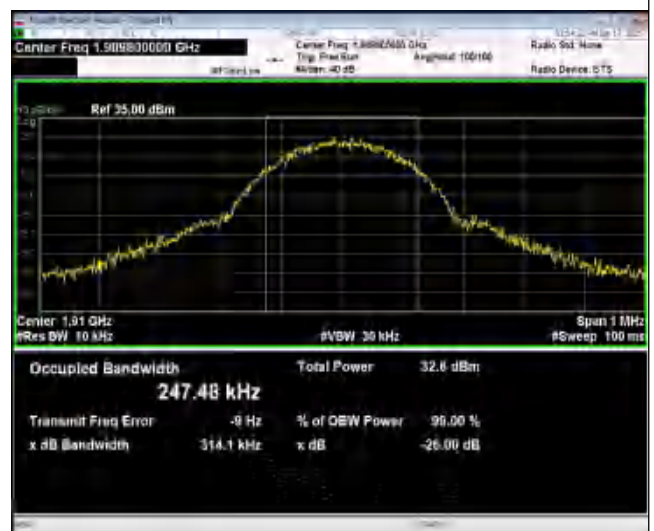
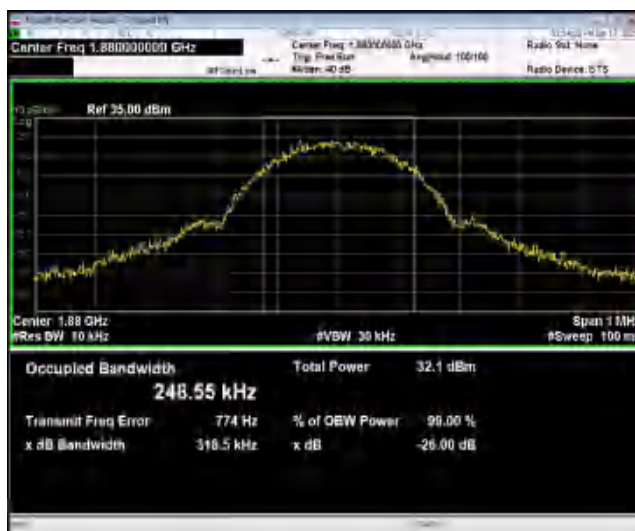




EGPRS1900-661

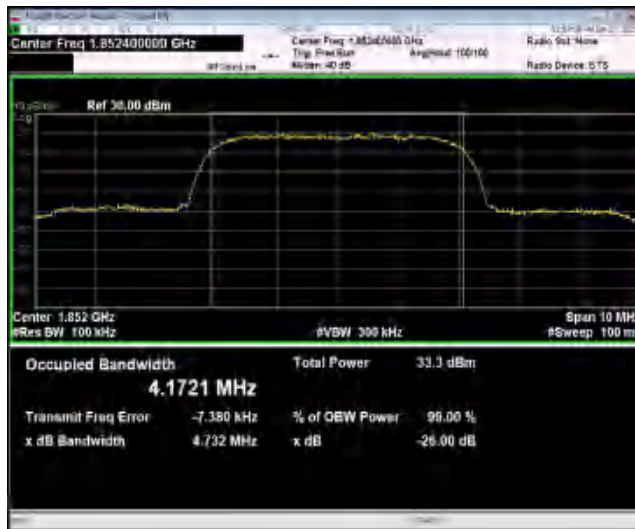


EGPRS1900-810

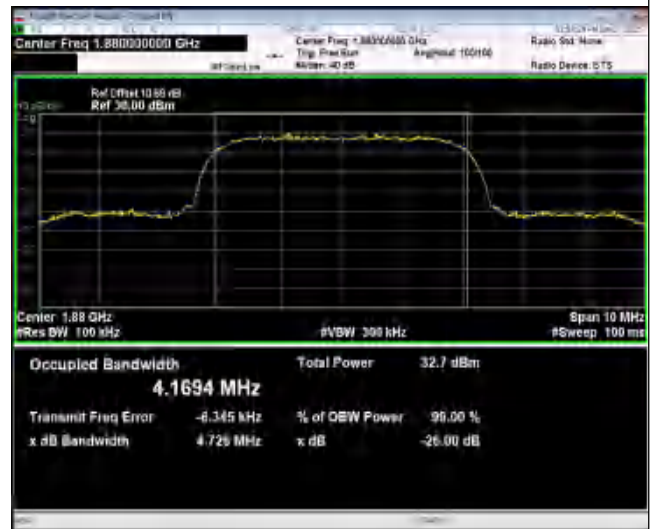




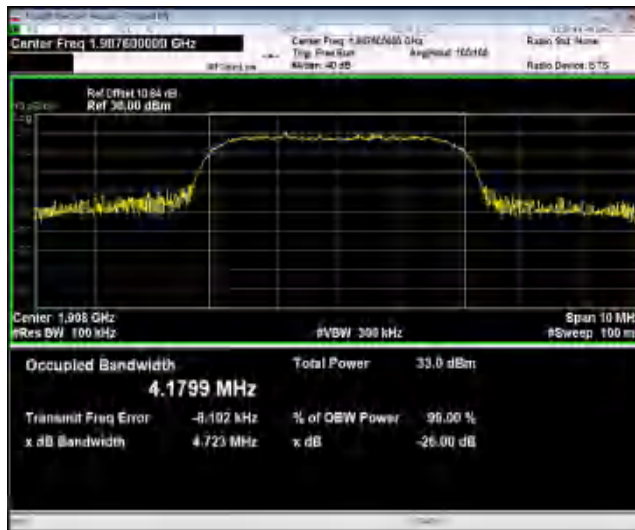
Band2-9262



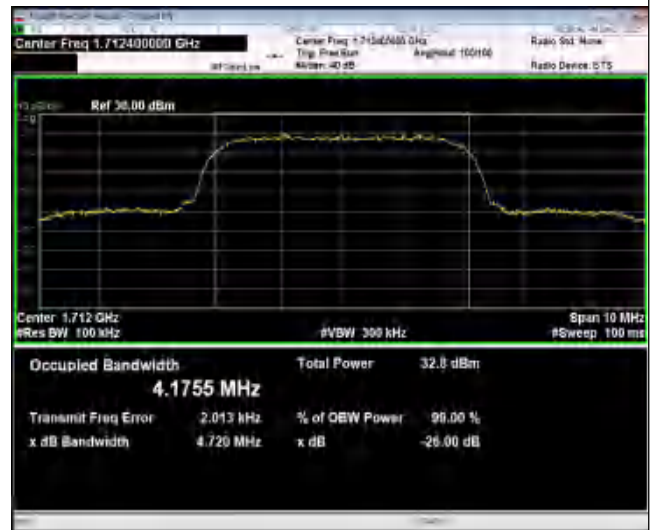
Band2-9400



Band2-9538

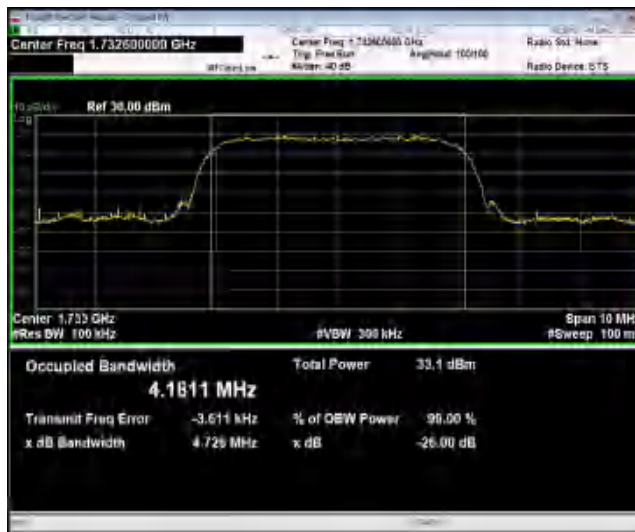


Band4-1312

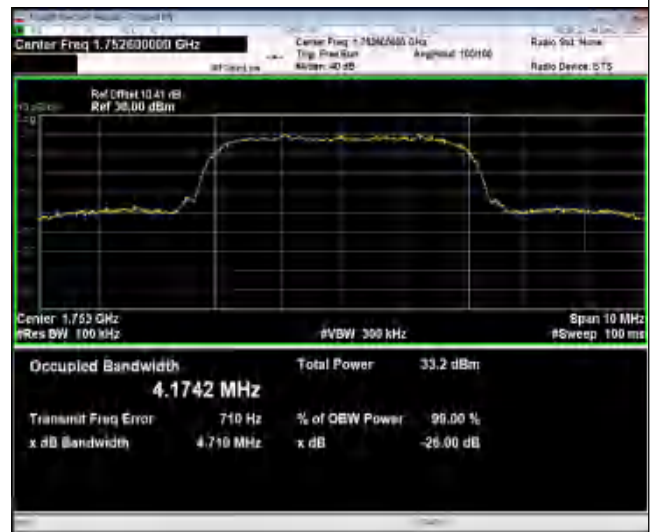


Band4-1413

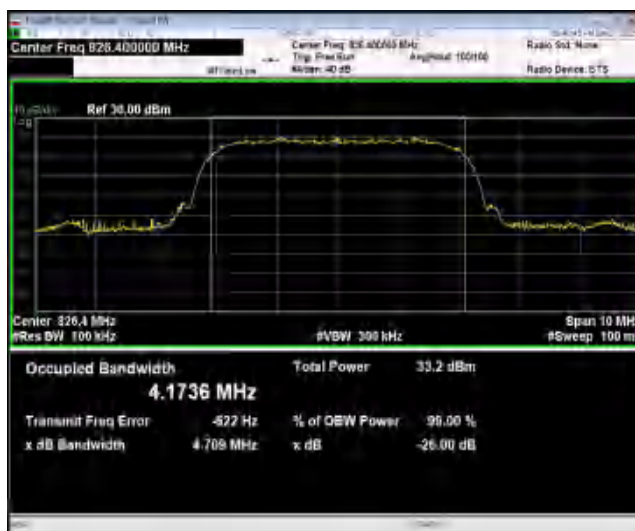
Band4-1513



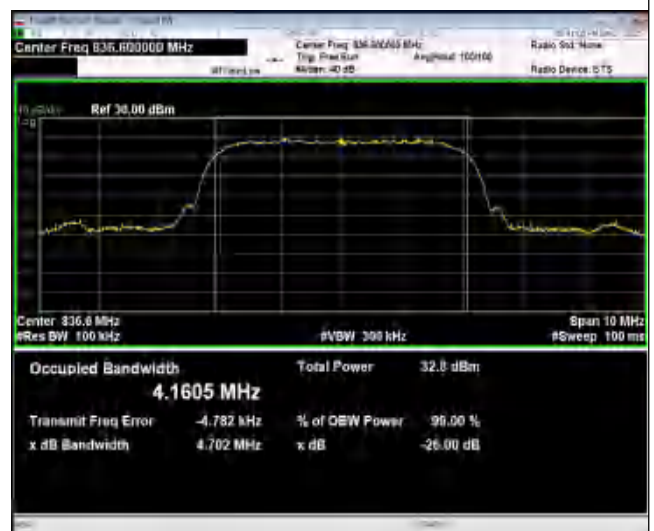
Band5-4132



Band5-4183



Band5-4233





2.4. Frequency Stability

2.4.1. Requirement

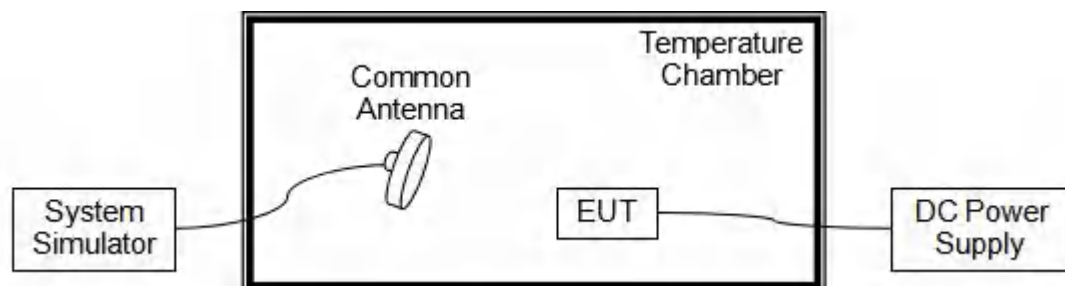
According to FCC section 22.355, 24.235 and 27.54 the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. According to FCC section 2.1055, the test conditions are:

- (a) The temperature is varied from -30°C to $+50^{\circ}\text{C}$ at intervals of not more than 10°C .
- (b) For hand carried battery powered equipment, the primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacture. The supply voltage shall be measured at the input to the cable normally provided with the equipment, or at the power supply terminals if cables are not normally provided.

Note: The operating temperature of EUT is from -10°C to 55°C , which are specified by the applicant.

2.4.2. Test Description

Test Setup:



The EUT, which is powered by the DC Power Supply directly, is located in the Temperature Chamber. The EUT is commanded by the System Simulator (SS) to operate at the maximum output power i.e. Power Control Level (PCL) = 5 and Power Class = 4. A call is established between the EUT and the SS via a Common Antenna.



**2.4.3.Test Result**

The nominal, highest and lowest extreme voltages are separately 3.80V, 4.35V and 3.60V, which are specified by the applicant; the normal temperature here used is 20°C.

Reference Frequency: GSM850 Middle channel=190 Frequency=836.6MHz					
Temperature					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	3.72	0.004447	±2.5	Pass
	-20	1.07	0.001279		
	-10	1.50	0.001793		
	0	2.04	0.002438		
	10	2.04	0.002438		
	20	1.08	0.001291		
	30	1.40	0.001673		
	40	1.90	0.002271		
	50	-0.36	-0.000430		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.60	2.06	0.002462	±2.5	Pass
	3.80	5.49	0.006562		
	4.35	2.84	0.003395		
Remark: All channel had been tested, but only the worst case data displayed in this report.					



Reference Frequency: EGPRS850 Middle channel=190 Frequency=836.6MHz					
Temperature					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	-1.34	-0.001602	±2.5	Pass
	-20	0.34	0.000406		
	-10	-0.54	-0.000645		
	0	1.88	0.002247		
	10	2.92	0.003490		
	20	3.93	0.004698		
	30	3.25	0.003885		
	40	2.02	0.002415		
	50	2.27	0.002713		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.60	3.54	0.004231	±2.5	Pass
	3.80	0.21	0.000251		
	4.35	0.23	0.000275		
Remark: All channel had been tested, but only the worst case data displayed in this report.					





Reference Frequency: PCS1900 Middle channel=661 Frequency=1880MHz					
Temperature					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	10.15	0.005399	Within authorized band for PCS 1900	Pass
	-20	1.62	0.000862		
	-10	9.39	0.004995		
	0	13.59	0.007229		
	10	9.18	0.004883		
	20	-1.20	-0.000638		
	30	7.29	0.003878		
	40	4.75	0.002527		
	50	9.86	0.005245		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.60	2.24	0.001191	Within authorized band for PCS 1900	Pass
	3.80	11.60	0.006170		
	4.35	8.38	0.004457		
Remark: All channel had been tested, but only the worst case data displayed in this report.					





Reference Frequency: EGPRS1900 Middle channel=661 Frequency=1880MHz					
Temperature					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	0.37	0.000197	Within authorized band for PCS 1900	Pass
	-20	-3.16	-0.001681		
	-10	-1.21	-0.000644		
	0	0.43	0.000229		
	10	-1.58	-0.000840		
	20	2.21	0.001176		
	30	7.78	0.004138		
	40	7.67	0.004080		
	50	10.02	0.005330		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.60	4.42	0.002351	Within authorized band for PCS 1900	Pass
	3.80	0.62	0.000330		
	4.35	2.38	0.001266		
Remark: All channel had been tested, but only the worst case data displayed in this report.					





Reference Frequency: WCDMA BAND V 12.2k RMC Middle channel=4183 Frequency=836.6MHz					
Temperature					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	-15.21	-0.018181	±2.5	Pass
	-20	-8.76	-0.010471		
	-10	-7.99	-0.009551		
	0	-11.43	-0.013662		
	10	-9.75	-0.011654		
	20	-7.45	-0.008905		
	30	-8.80	-0.010519		
	40	-10.65	-0.012730		
	50	-6.77	-0.008092		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.60	-10.62	-0.012694	±2.5	Pass
	3.80	-11.02	-0.013172		
	4.35	-11.11	-0.013280		
Remark: All channel had been tested, but only the worst case data displayed in this report.					





Reference Frequency: WCDMA BAND IV 12.2k RMC Middle Frequency=1413 channel=1732.6MHz					
Temperature					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	-14.60	-0.008427	Within authorized band for BAND IV	Pass
	-20	-13.84	-0.007988		
	-10	-12.97	-0.007486		
	0	-11.99	-0.006920		
	10	-11.62	-0.006707		
	20	-13.60	-0.007849		
	30	-13.43	-0.007751		
	40	-13.53	-0.007809		
	50	-13.93	-0.008040		
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.60	-13.38	-0.007722	Within authorized band for BAND IV	Pass
	3.80	-14.73	-0.008502		
	4.35	-11.08	-0.006395		
Remark: All channel had been tested, but only the worst case data displayed in this report.					





Reference Frequency: WCDMA BAND II 12.2k RMC Middle Frequency=9400 channel=1880MHz					
Temperature					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	-10.36	-0.005511	Within authorized band for BAND II	Pass
	-20	-10.89	-0.005793		
	-10	-10.76	-0.005723		
	0	-11.99	-0.006378		
	10	-14.78	-0.007862		
	20	-8.43	-0.004484		
	30	-8.63	-0.004590		
	40	-10.61	-0.005644		
	50	-10.91	-0.005803		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.60	-11.95	-0.006356	Within authorized band for BAND II	Pass
	3.80	-12.56	-0.006681		
	4.35	-14.18	-0.007543		
Remark: All channel had been tested, but only the worst case data displayed in this report.					



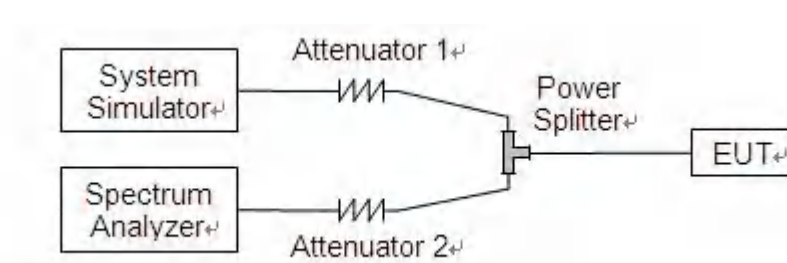
2.5. Conducted Out of Band Emissions

2.5.1. Requirement

According to FCC section 22.917(a), 24.238(a) and 27.53(h) the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \cdot \log(P)$ dB. This calculated to be -13dBm. The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency.

2.5.2. Test Description

Test Setup:



The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power i.e. Power Control Level (PCL) = 5 and Power Class = 4. A call is established between the EUT and the SS.



**2.5.3.Test Result**

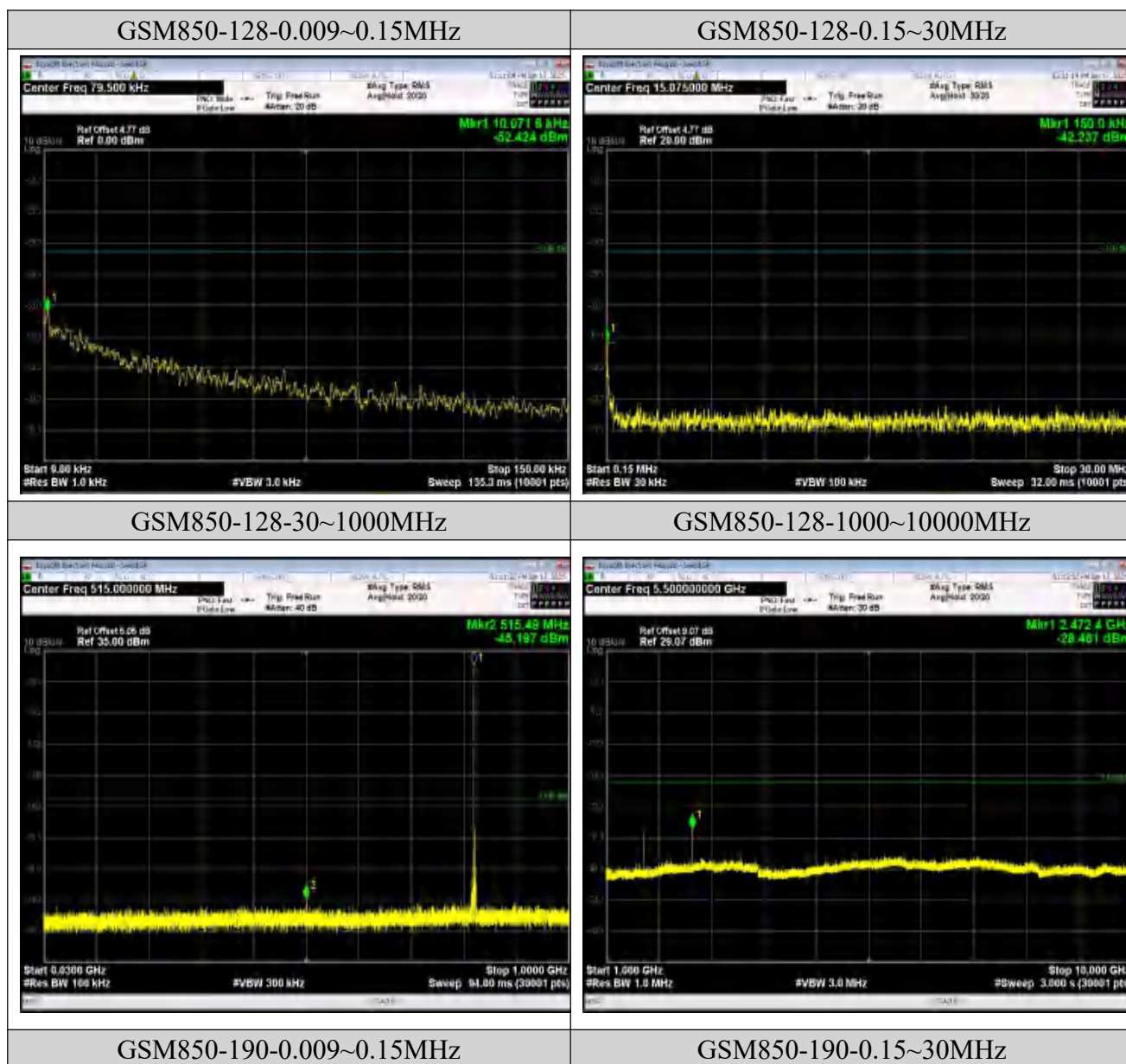
Band	Channel	PCL	Frequency Range(MHz)	Max.Freq. (MHz)	Result (dBm)	Limit (dBm)	Verdict
GSM850	128	5	0.009~0.15MHz	0.01	-52.42	-33	PASS
GSM850	128	5	0.15~30MHz	0.15	-42.24	-13	PASS
GSM850	128	5	30~1000MHz	515.49	-45.2	-13	PASS
GSM850	128	5	1000~10000MHz	2472.4	-28.46	-13	PASS
GSM850	190	5	0.009~0.15MHz	0.01	-55.07	-33	PASS
GSM850	190	5	0.15~30MHz	0.15	-45.23	-13	PASS
GSM850	190	5	30~1000MHz	655.07	-45.99	-13	PASS
GSM850	190	5	1000~10000MHz	2509.6	-29.67	-13	PASS
GSM850	251	5	0.009~0.15MHz	0.01	-54.34	-33	PASS
GSM850	251	5	0.15~30MHz	0.15	-42.37	-13	PASS
GSM850	251	5	30~1000MHz	682.42	-46.09	-13	PASS
GSM850	251	5	1000~10000MHz	1697.5	-29.86	-13	PASS
GSM1900	512	0	0.009~0.15MHz	0.01	-52.62	-43	PASS
GSM1900	512	0	0.15~30MHz	0.15	-40.53	-23	PASS
GSM1900	512	0	30~1000MHz	902.26	-46.5	-13	PASS
GSM1900	512	0	1000~18000MHz	16972.07	-22.11	-13	PASS
GSM1900	661	0	0.009~0.15MHz	0.01	-54.92	-43	PASS
GSM1900	661	0	0.15~30MHz	0.15	-39.94	-23	PASS
GSM1900	661	0	30~1000MHz	777.42	-45.86	-13	PASS
GSM1900	661	0	1000~18000MHz	17012.3	-22.15	-13	PASS
GSM1900	810	0	0.009~0.15MHz	0.01	-54.28	-43	PASS
GSM1900	810	0	0.15~30MHz	0.15	-43.43	-23	PASS
GSM1900	810	0	30~1000MHz	875.36	-46.47	-13	PASS
GSM1900	810	0	1000~18000MHz	17033.27	-22.06	-13	PASS





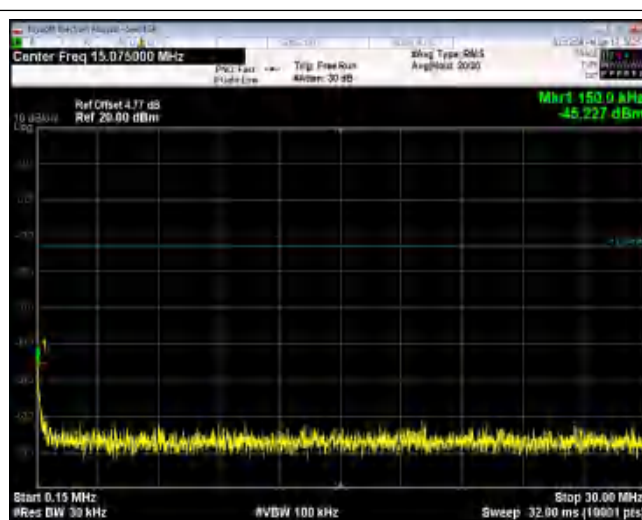
Band	Channel	Frequency Range (Mhz)	Frequency (dBm)	Result (dBm)	Limit (dBm)	Verdict
Band2	9262	0.009~0.15MHz	0.01	-55.5	-43	PASS
Band2	9262	0.15~30MHz	0.15	-48.25	-23	PASS
Band2	9262	30~1000MHz	914.8	-45.52	-13	PASS
Band2	9262	1000~20000MHz	19667.5	-30.84	-13	PASS
Band2	9400	0.009~0.15MHz	0.01	-56.45	-43	PASS
Band2	9400	0.15~30MHz	0.17	-47.94	-23	PASS
Band2	9400	30~1000MHz	940.89	-45.29	-13	PASS
Band2	9400	1000~20000MHz	19921.47	-31.02	-13	PASS
Band2	9538	0.009~0.15MHz	0.01	-56.91	-43	PASS
Band2	9538	0.15~30MHz	0.15	-47.2	-23	PASS
Band2	9538	30~1000MHz	962.3	-45.25	-13	PASS
Band2	9538	1000~20000MHz	19982.9	-30.76	-13	PASS
Band4	1312	0.009~0.15MHz	0.01	-54.45	-43	PASS
Band4	1312	0.15~30MHz	0.16	-47.72	-23	PASS
Band4	1312	30~1000MHz	930.13	-45.54	-13	PASS
Band4	1312	1000~20000MHz	19927.17	-29.79	-13	PASS
Band4	1413	0.009~0.15MHz	0.01	-53.99	-43	PASS
Band4	1413	0.15~30MHz	0.15	-47.62	-23	PASS
Band4	1413	30~1000MHz	371.12	-45.52	-13	PASS
Band4	1413	1000~20000MHz	19941.1	-30.53	-13	PASS
Band4	1513	0.009~0.15MHz	0.01	-55.07	-43	PASS
Band4	1513	0.15~30MHz	0.15	-47.59	-23	PASS
Band4	1513	30~1000MHz	879.62	-45.53	-13	PASS
Band4	1513	1000~20000MHz	19945.53	-29.76	-13	PASS
Band5	4132	0.009~0.15MHz	0.01	-54.94	-33	PASS
Band5	4132	0.15~30MHz	0.15	-48.73	-13	PASS
Band5	4132	30~1000MHz	436.07	-54.36	-13	PASS
Band5	4132	1000~10000MHz	5986	-37.35	-13	PASS
Band5	4183	0.009~0.15MHz	0.01	-53.49	-33	PASS
Band5	4183	0.15~30MHz	0.15	-46.55	-13	PASS
Band5	4183	30~1000MHz	558.04	-55.26	-13	PASS
Band5	4183	1000~10000MHz	7336	-36.88	-13	PASS
Band5	4233	0.009~0.15MHz	0.01	-56.23	-33	PASS
Band5	4233	0.15~30MHz	0.15	-46.85	-13	PASS
Band5	4233	30~1000MHz	166.38	-55.06	-13	PASS
Band5	4233	1000~10000MHz	5792.2	-36.97	-13	PASS



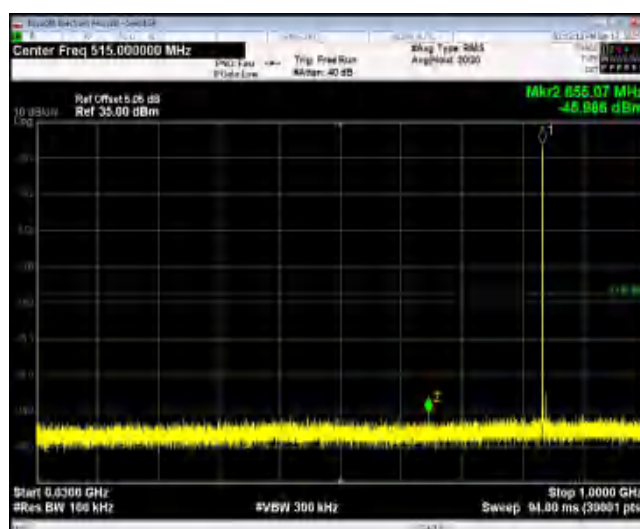




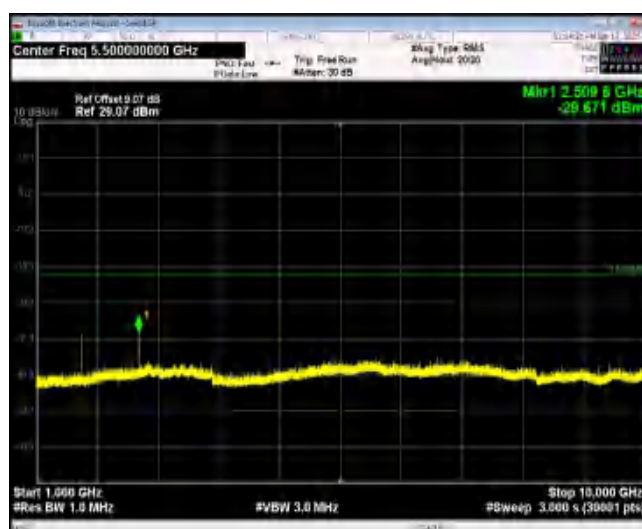
GSM850-190-30~1000MHz



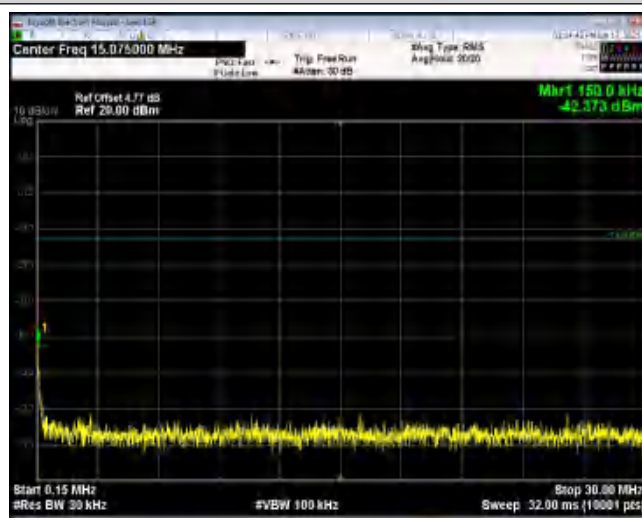
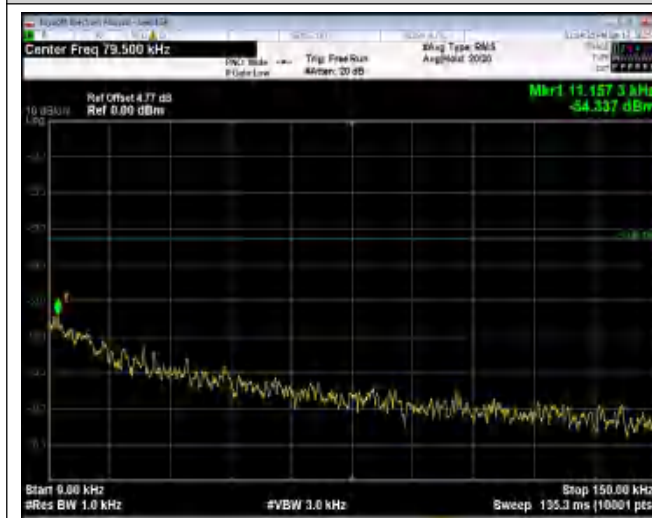
GSM850-190-1000~10000MHz



GSM850-251-0.009~0.15MHz

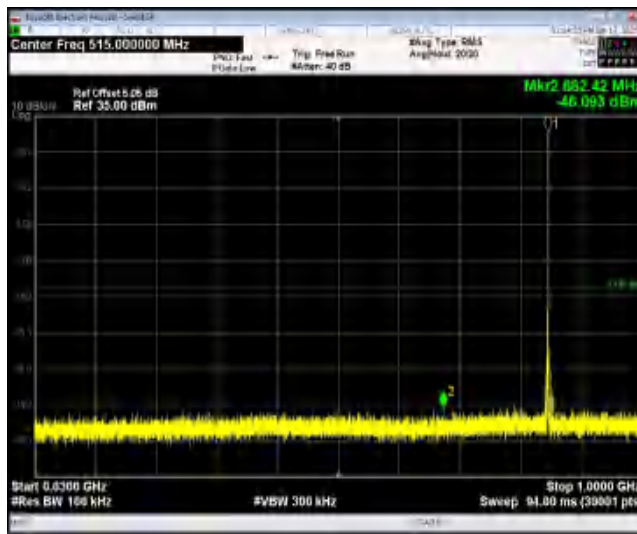


GSM850-251-0.15~30MHz

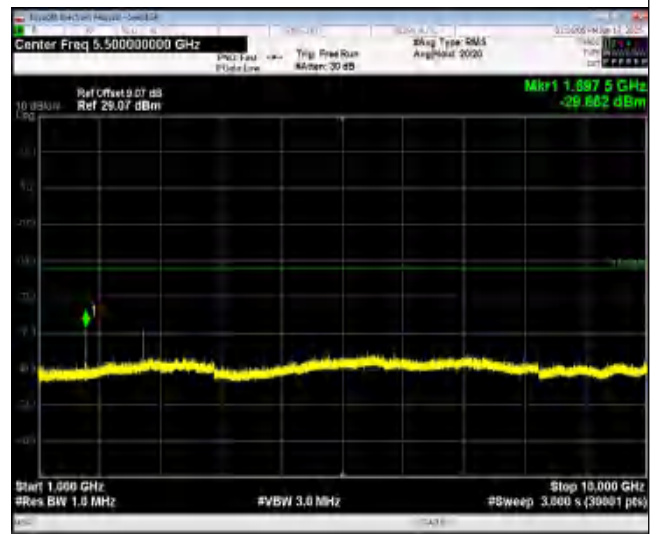




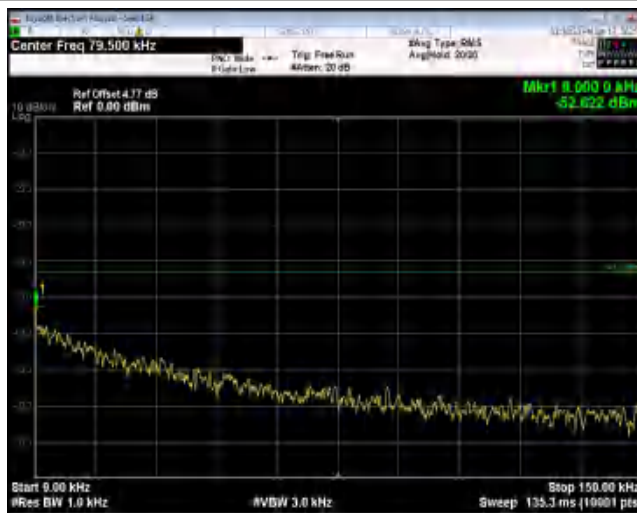
GSM850-251-30~1000MHz



GSM850-251-1000~10000MHz



GSM1900-512-0.009~0.15MHz



GSM1900-512-0.15~30MHz



GSM1900-512-30~1000MHz

GSM1900-512-1000~18000MHz

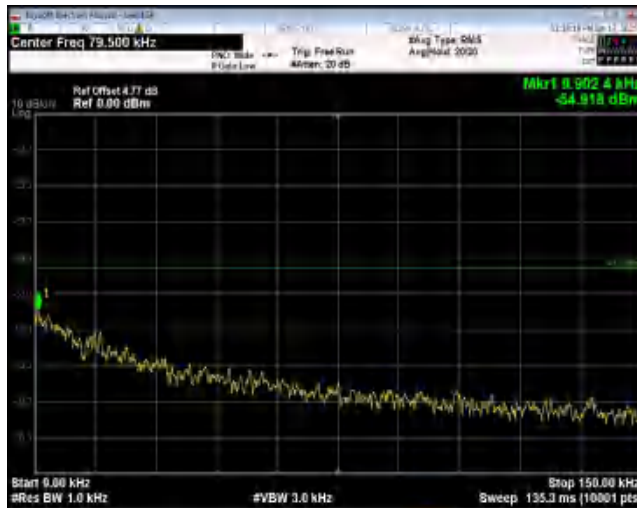




GSM1900-661-0.009~0.15MHz



GSM1900-661-0.15~30MHz

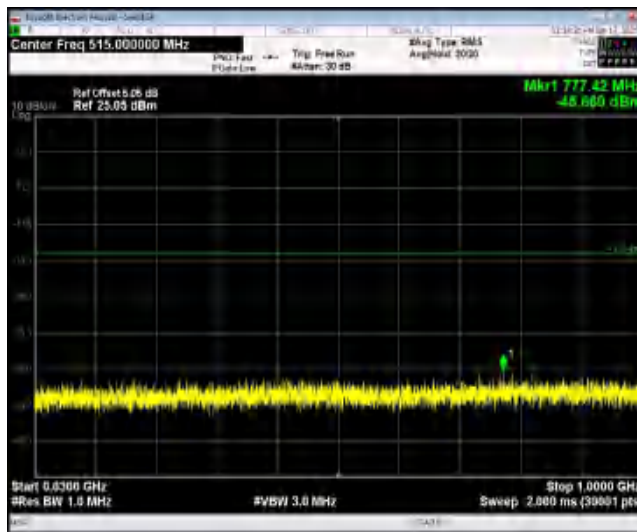


GSM1900-661-30~1000MHz



GSM1900-661-1000~18000MHz

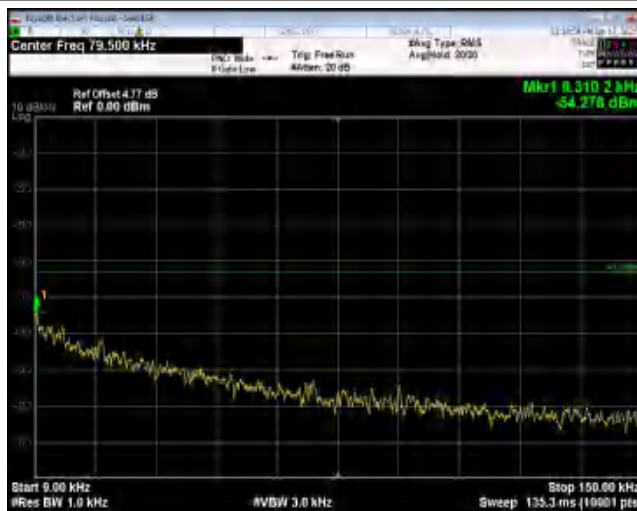




GSM1900-810-0.009~0.15MHz



GSM1900-810-0.15~30MHz

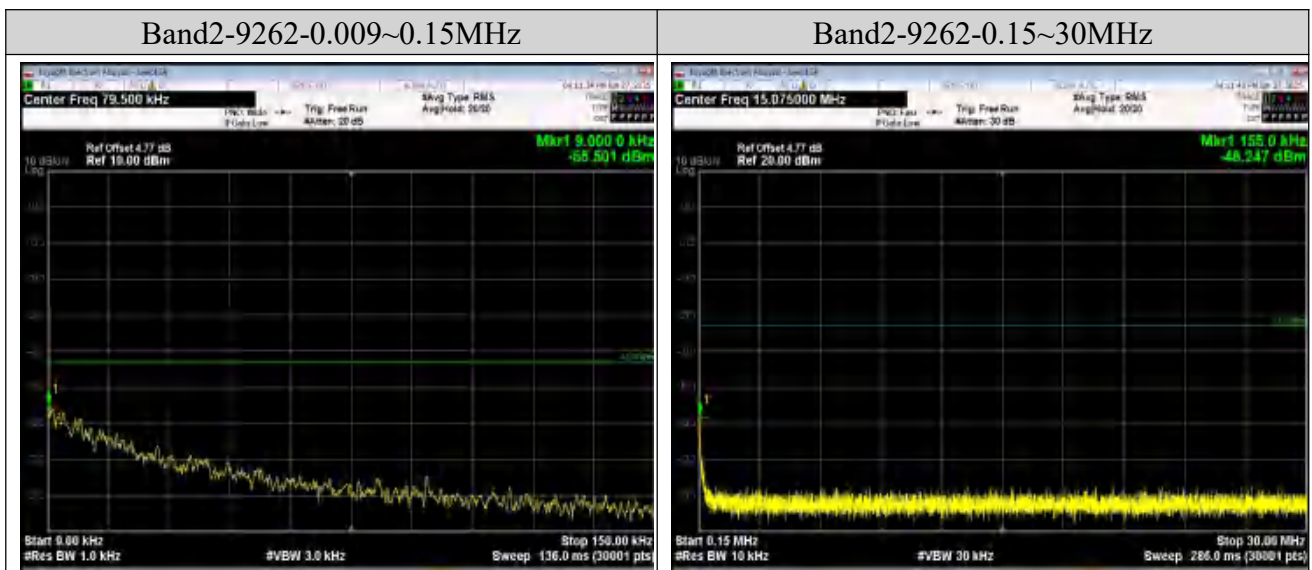
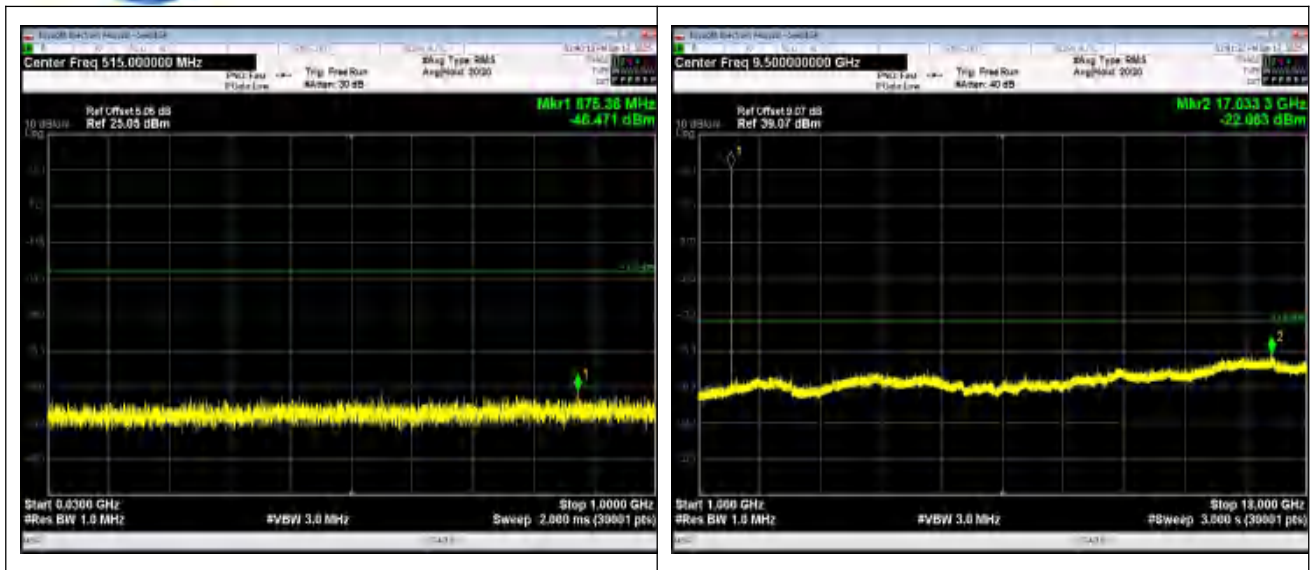


GSM1900-810-30~1000MHz



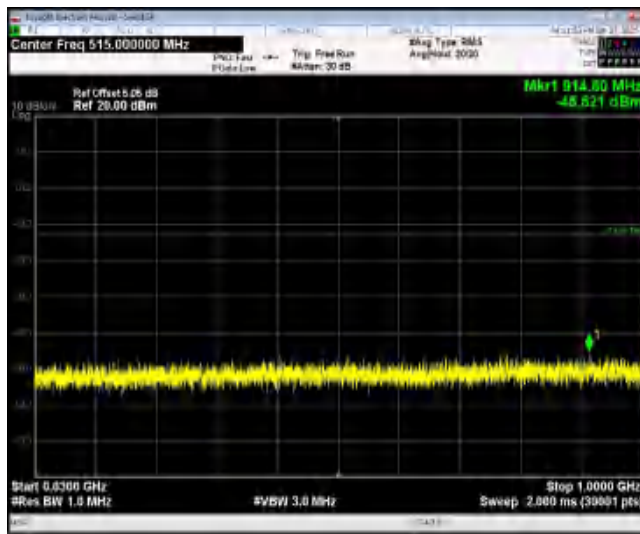
GSM1900-810-1000~18000MHz







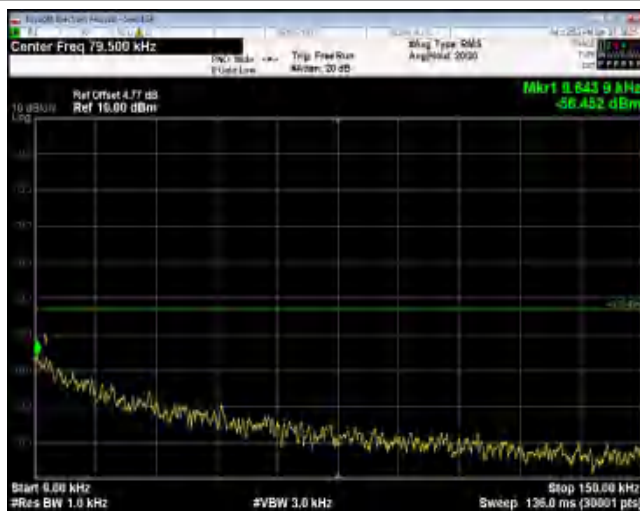
Band2-9262-30~1000MHz



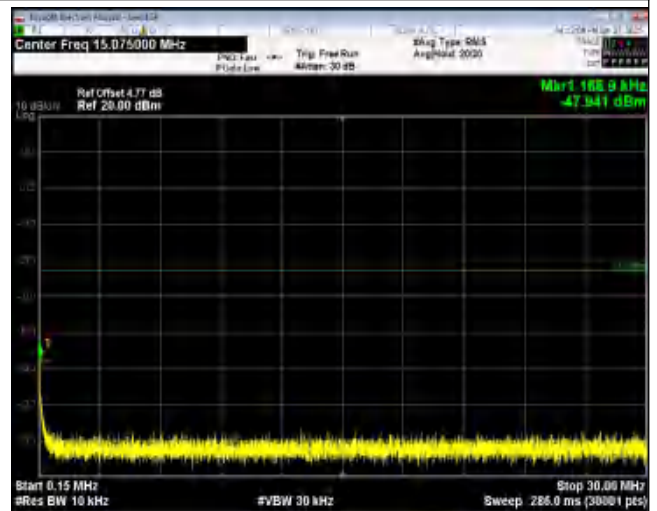
Band2-9262-1000~20000MHz



Band2-9400-0.009~0.15MHz



Band2-9400-0.15~30MHz



Band2-9400-30~1000MHz

Band2-9400-1000~20000MHz





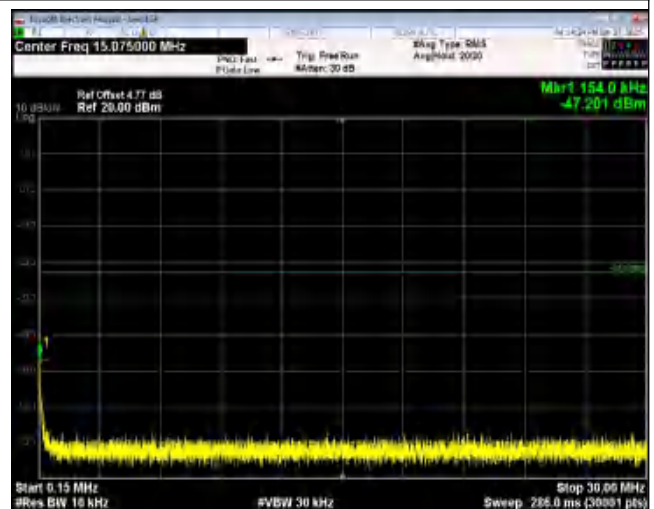
Band2-9538-0.009~0.15MHz



Band2-9538-0.15~30MHz

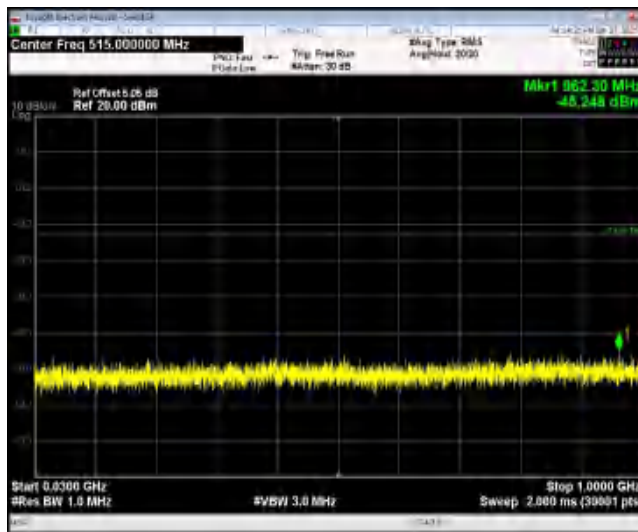


Band2-9538-30~1000MHz



Band2-9538-1000~20000MHz





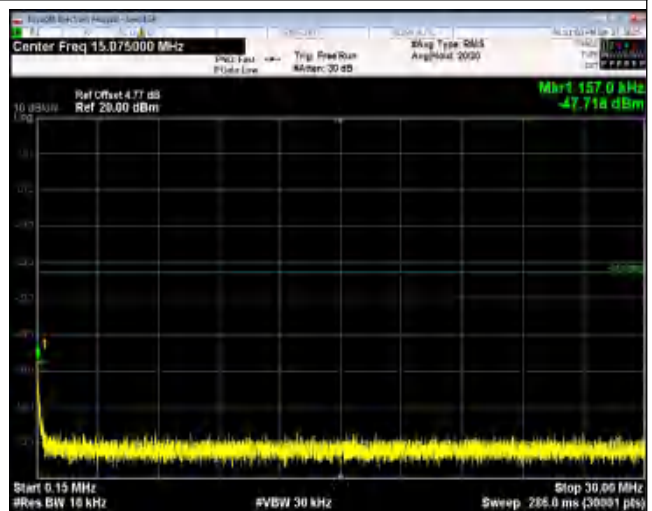
Band4-1312-0.009~0.15MHz



Band4-1312-0.15~30MHz

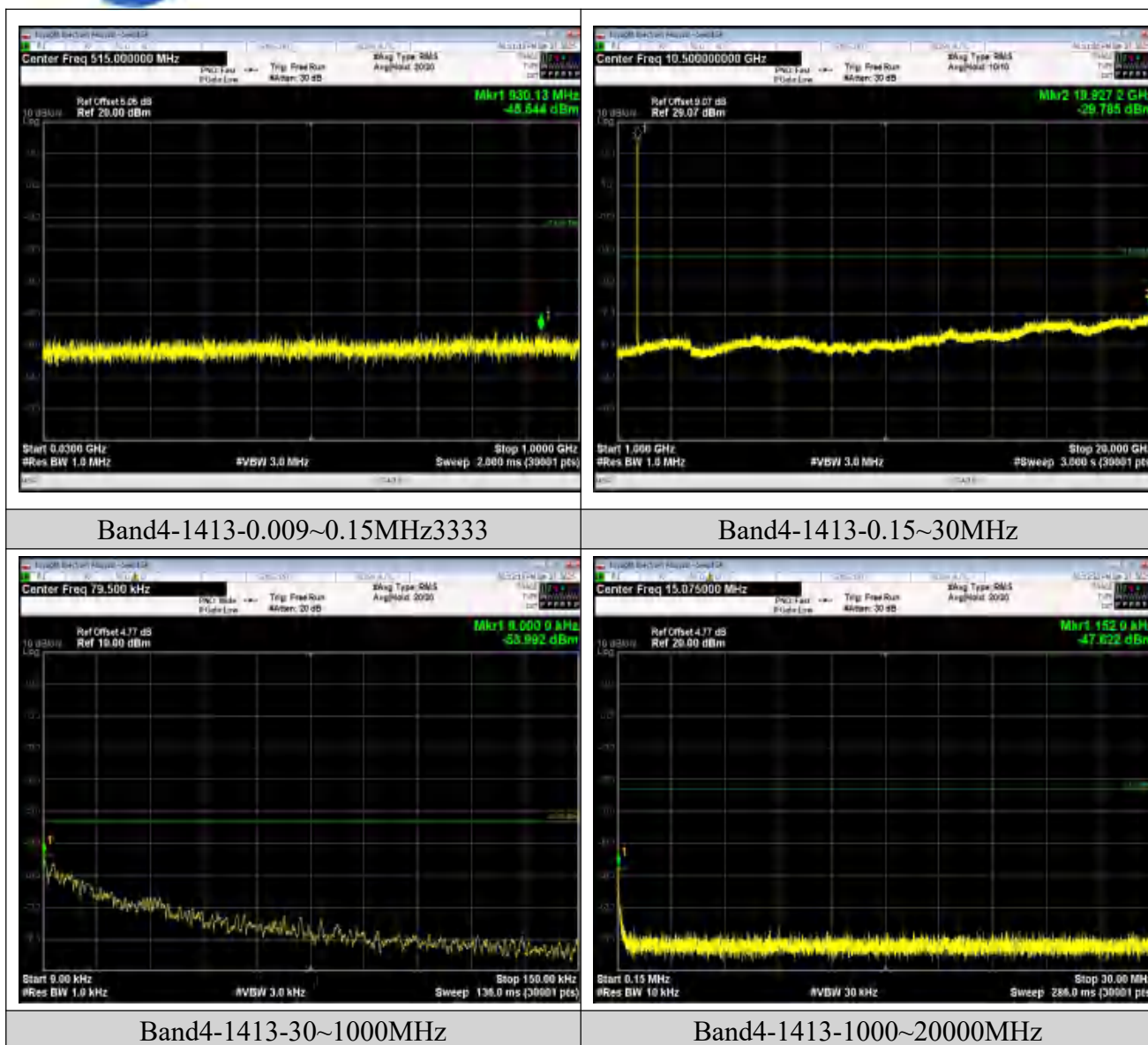


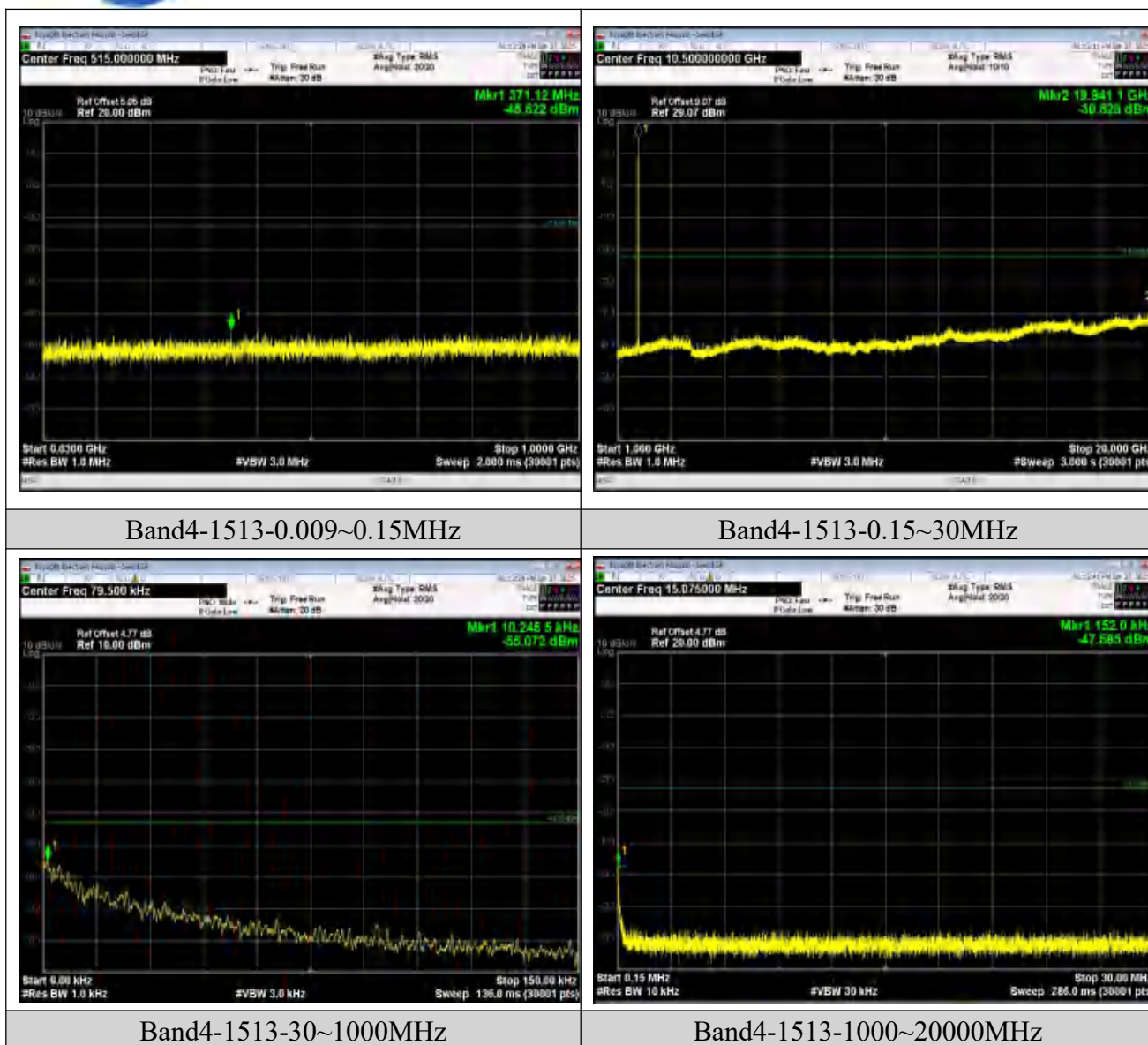
Band4-1312-30~1000MHz

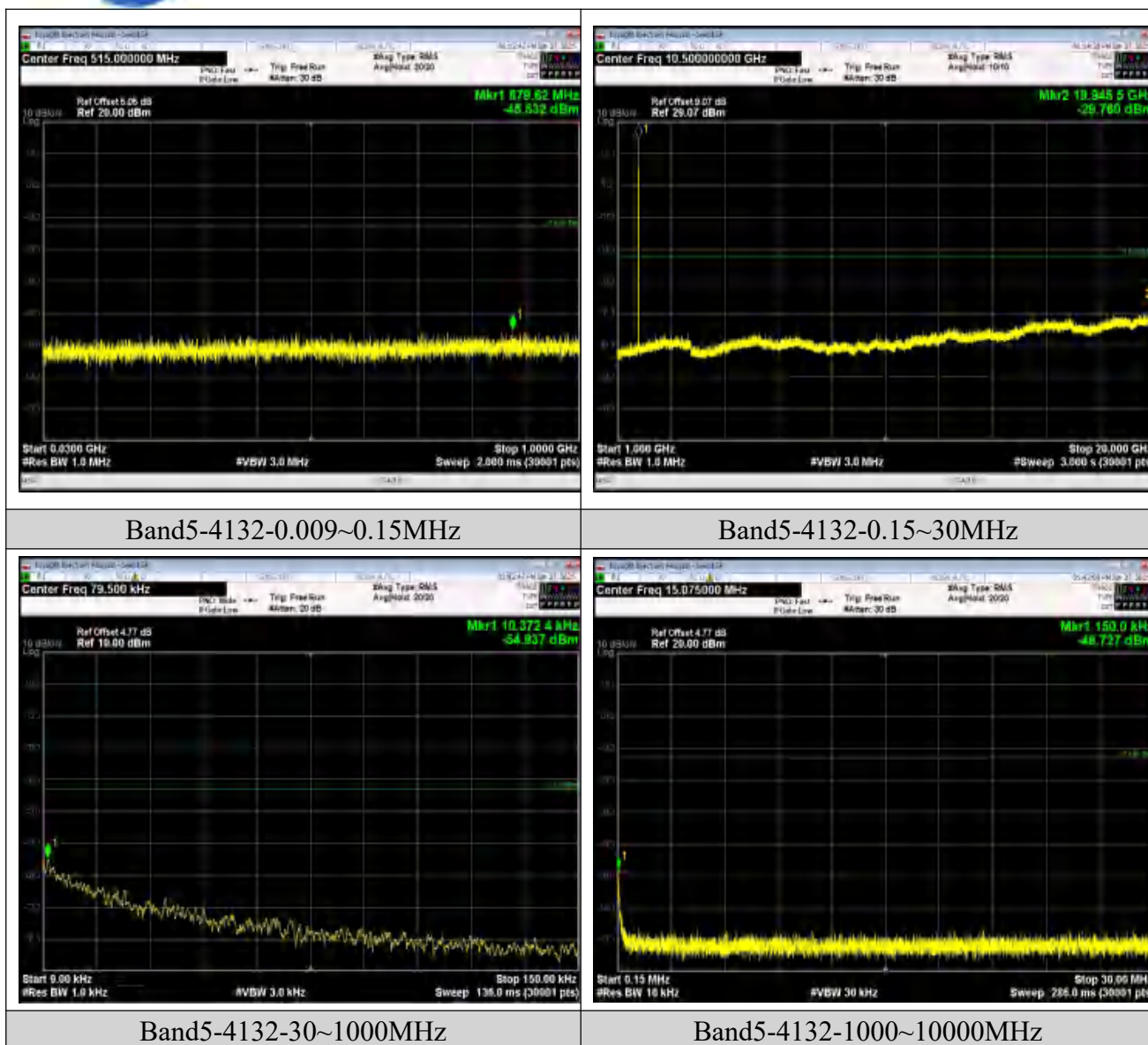


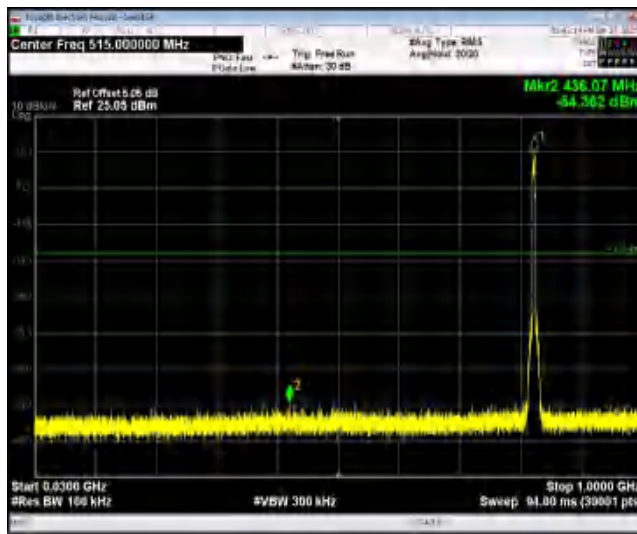
Band4-1312-1000~20000MHz



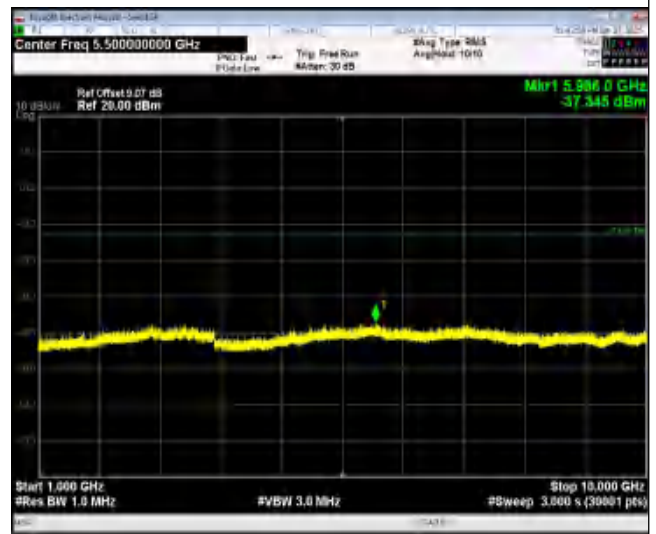




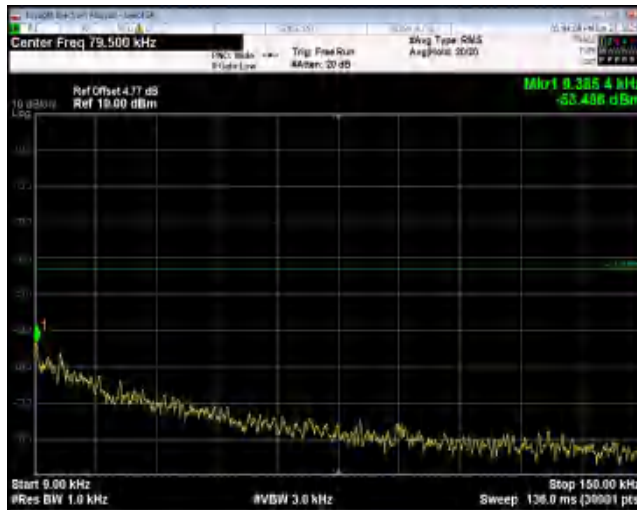




Band5-4183-0.009~0.15MHz



Band5-4183-0.15~30MHz

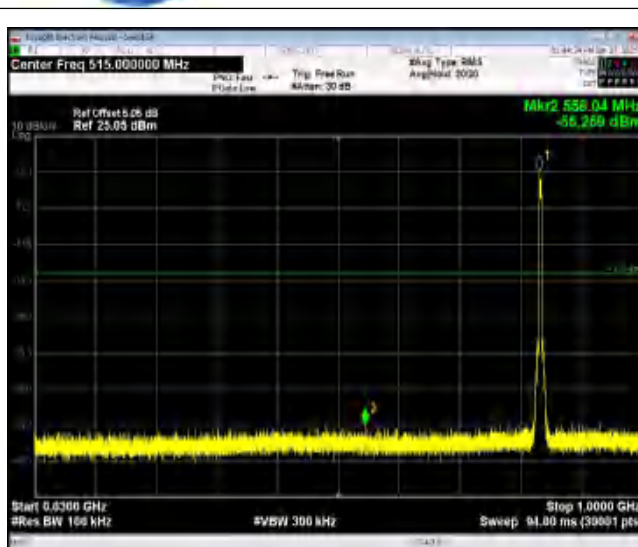


Band5-4183-30~1000MHz

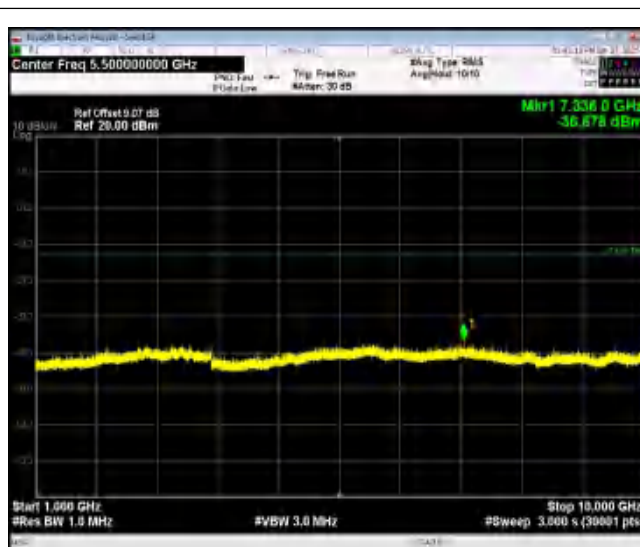


Band5-4183-1000~10000MHz





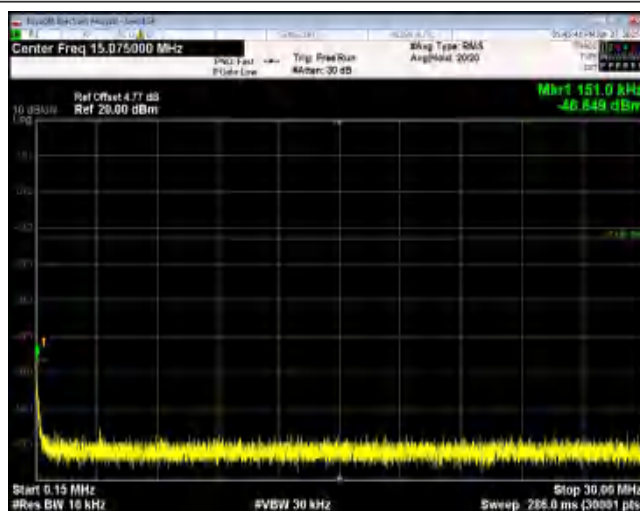
Band5-4233-0.009~0.15MHz



Band5-4233-0.15~30MHz

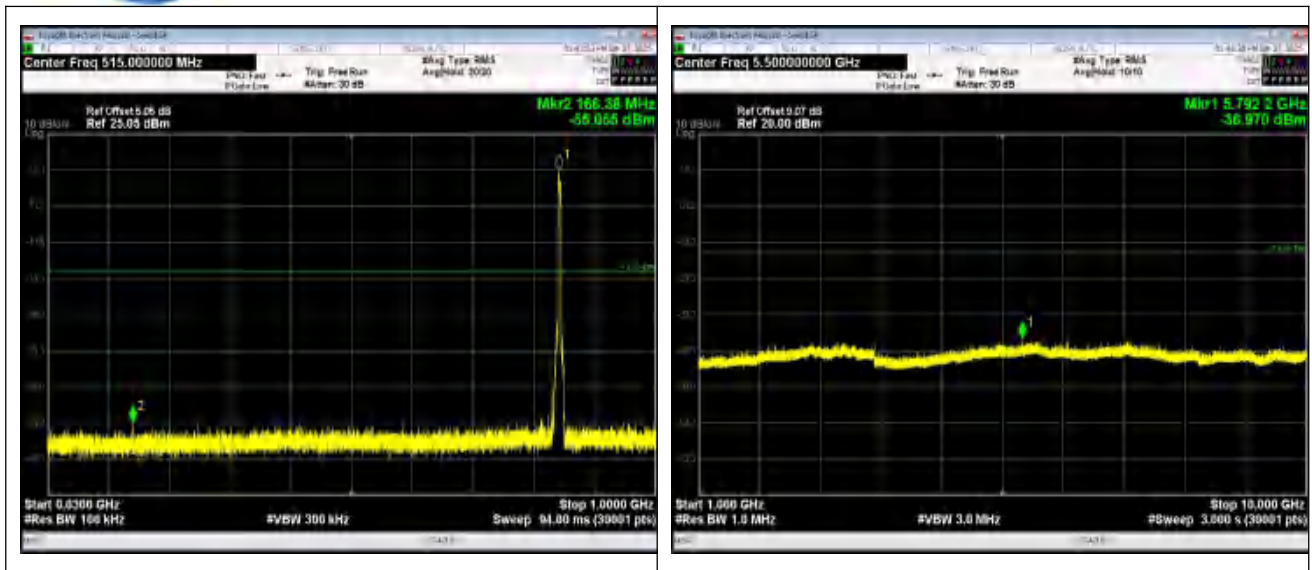


Band5-4233-30~1000MHz



Band5-4233-1000~10000MHz





2.6. Band Edge

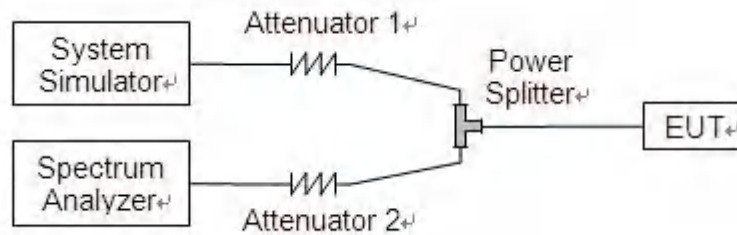
2.6.1. Requirement

According to FCC section 22.917(a), 24.238(a) and 27.53(h) the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43+10\log(P)$ dB.

2.6.2. Test Description

Test Setup:





The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power i.e. Power Control Level (PCL) = 5 and Power Class = 4. A call is established between the EUT and the SS.

2.6.3.Test Result

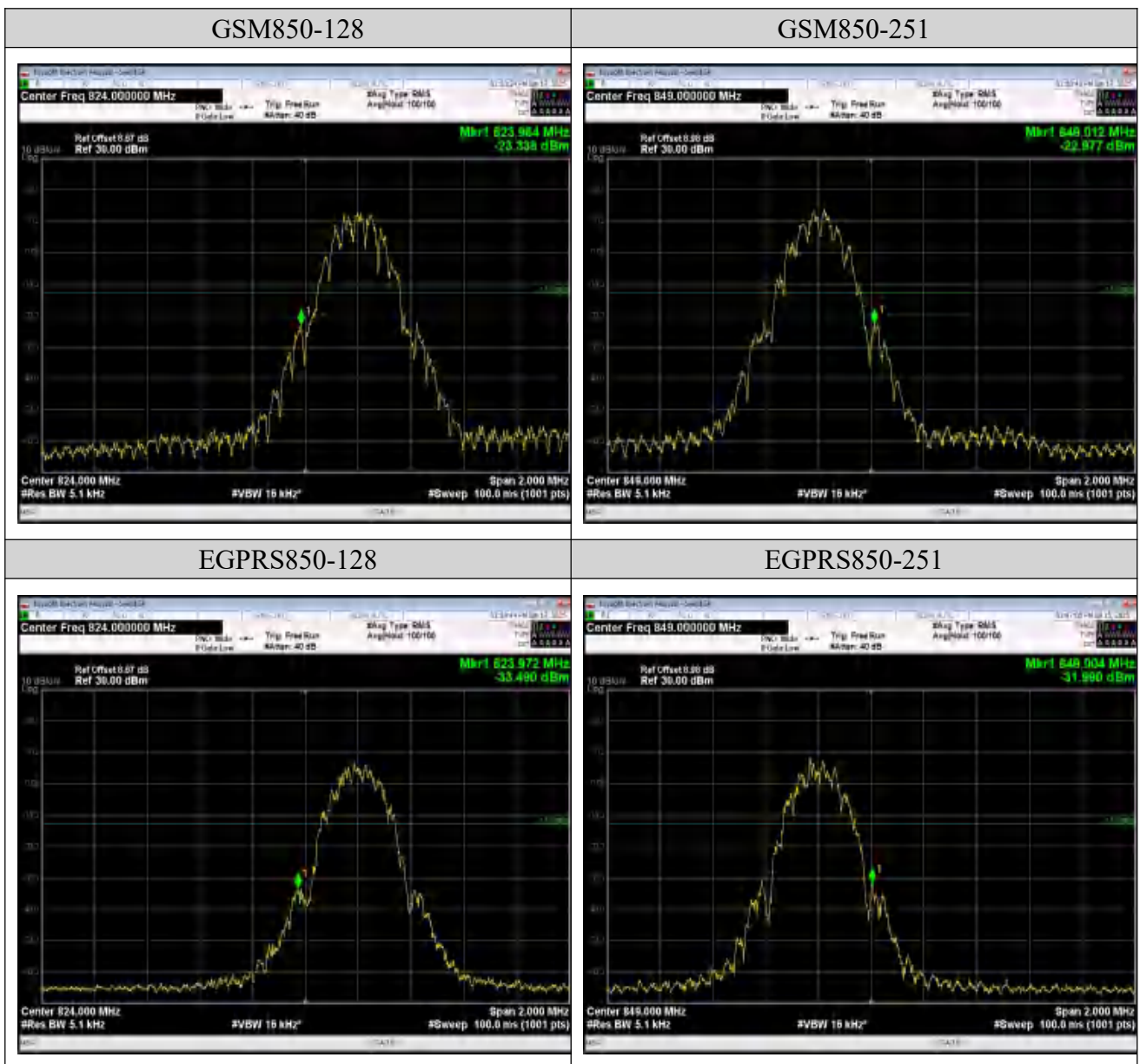
The lowest and highest channels are tested to verify the band edge emissions.

Band	Channel	PCL	Freq (MHz)	Result (dBm)	Limit(dBm)	Verdict
GSM850	128	5	823.98	-23.34	-13	PASS
GSM850	251	5	849.01	-22.98	-13	PASS
EGPRS850	128	8	823.97	-33.49	-13	PASS
EGPRS850	251	8	849.00	-31.99	-13	PASS
GSM1900	512	0	1849.98	-14.49	-13	PASS
GSM1900	810	0	1910.02	-13.48	-13	PASS
EGPRS1900	512	2	1849.97	-21.71	-13	PASS



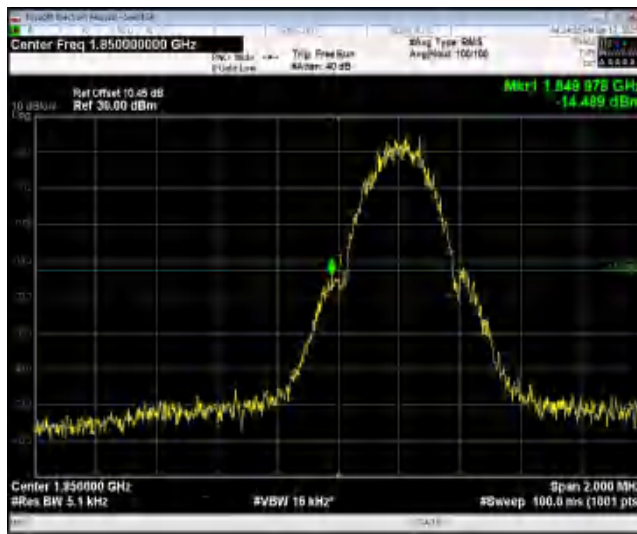
EGPRS1900	810	2	1910.03	-22.05	-13	PASS
-----------	-----	---	---------	--------	-----	------

Band	Channel	Frequency (MHz)	Result (dBm)	Limit(dBm)	Verdict
Band2	9262	1850.00	-16.71	-13	PASS
Band2	9538	1910.00	-18.02	-13	PASS
Band4	1312	1710.00	-19.55	-13	PASS
Band4	1513	1755.00	-19.76	-13	PASS
Band5	4132	824.00	-19.03	-13	PASS
Band5	4233	849.00	-20.19	-13	PASS

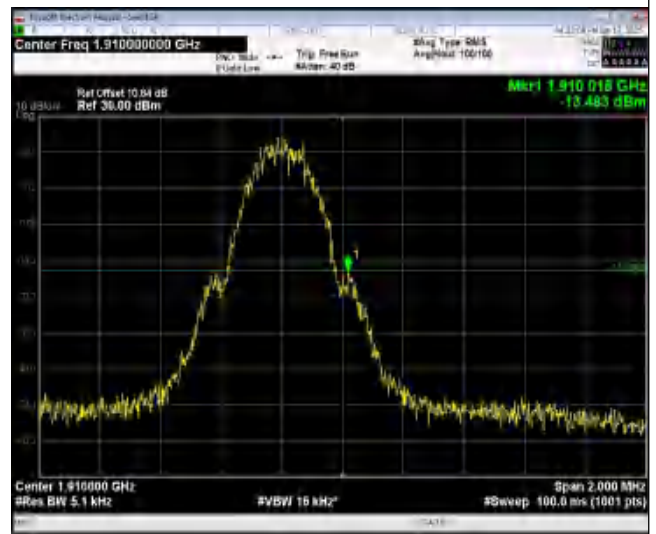




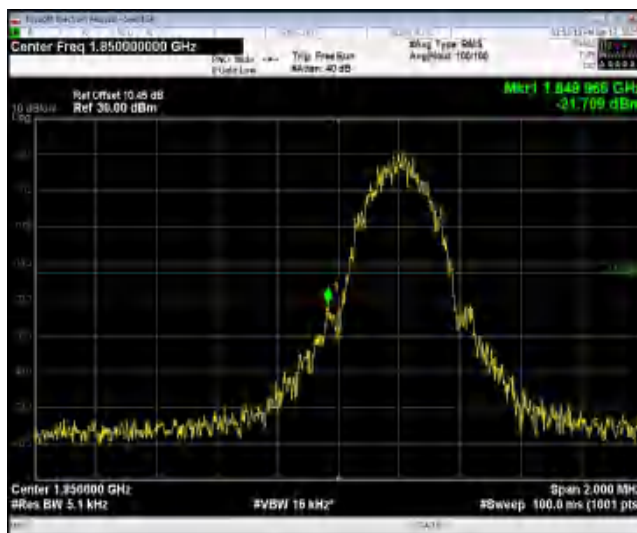
GSM1900-512



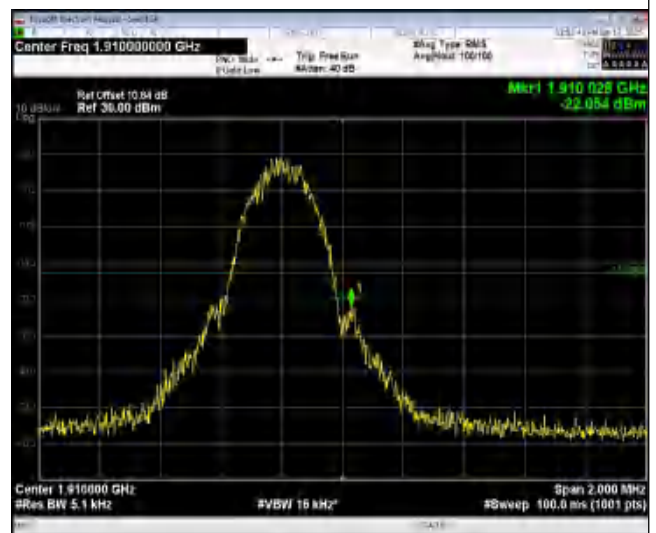
GSM1900-810



EGPRS1900-512



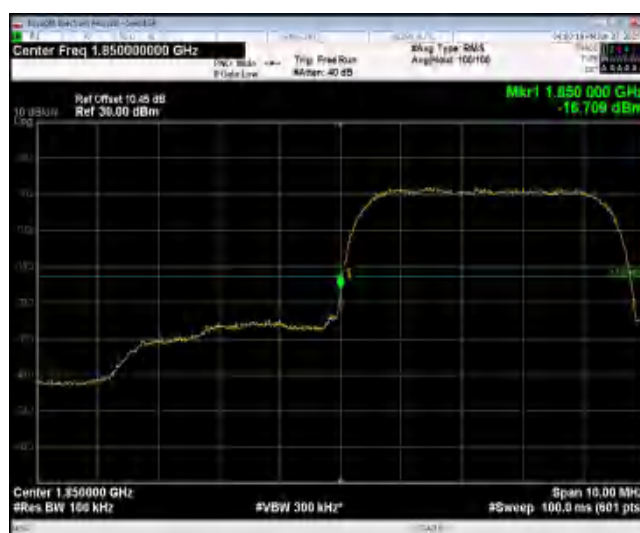
EGPRS1900-810



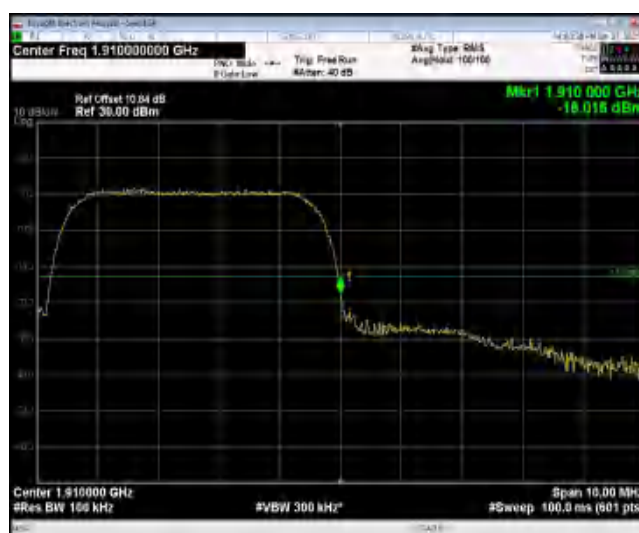
Band2-9262

Band2-9538





Band4-1312



Band4-1513

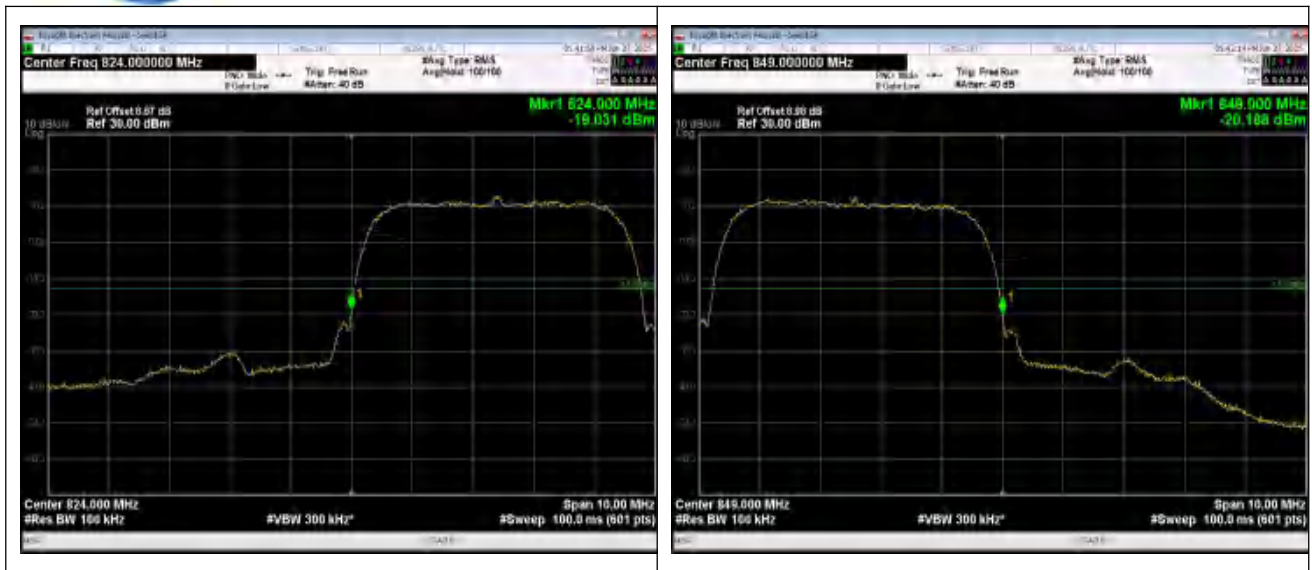


Band5-4132



Band5-4233







2.7. Determining E.R.P. and/or E.I.R.P. from conducted RF output power measurements

2.7.1. Requirement

According to FCC section 22.913, the Effective Radiated Power (E.R.P.) of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

According to FCC section 24.232, the broadband PCS mobile station is limited to 2 Watts e.i.r.p. peak power.

According to FCC section 27.50, mobile, and portable (hand-held) stations is limited to 1 Watts e.i.r.p. peak power.

2.7.2. Test Description

The test setups refer to section 2.1.3

A call is established between the EUT and the SS via a Common Antenna. The EUT is commanded by the SS to operate at the maximum and minimum output power (i.e. GSM850MHz band Power Control Level (PCL) = 5/19 and Power Class = 4, GSM1900MHz band Power Control Level (PCL) = 0/15 and Power Class = 1), and only the test result of the maximum output power was recorded. Please refer to section 2.1.3 of this report.

The relevant equation for determining the maximum E.R.P. or E.I.R.P. from the measured RF output power is given in Equation (1) as follows:

$$\text{E.R.P. or E.I.R.P.} = P_{\text{Meas}} + G_{\text{T}}$$

Where:

E.R.P. or E.I.R.P. effective radiated power or equivalent isotropically radiated power, respectively (expressed in the same units as P_{Meas} , e.g., dBm or dBW)

P_{Meas} measured transmitter output power or PSD, in dBm or dBW

G_{T} gain of the transmitting antenna, in dBd (E.R.P.) or dBi (E.I.R.P.)

For devices utilizing multiple antennas, see ANSI C63.25-2015 6.4 for guidance with respect to determining the effective array transmit antenna gain term to be used in the above equation.

The following equations demonstrate the mathematical relationship between E.R.P. and E.I.R.P.:

a) $\text{E.R.P.} = \text{E.I.R.P.} - 2.15$, where E.R.P. and E.I.R.P. are expressed in consistent units.

b) $\text{E.I.R.P.} = \text{E.R.P.} + 2.15$, where E.R.P. and E.I.R.P. are expressed in consistent units.



**2.7.3. Test Result**

Band	Channel	PCL	Conducted Power (dBm)	ERP/EIRP (dBm)	ERP/EIRP Limit (dBm)	Verdict
GSM850	128	5	33.13	31.5	38.45	PASS
GSM850	190	5	33.13	31.5	38.45	PASS
GSM850	251	5	33.04	31.41	38.45	PASS
GSM1900	512	0	30.29	30.91	33.00	PASS
GSM1900	661	0	30.47	31.09	33.00	PASS
GSM1900	810	0	30.05	30.67	33.00	PASS

Band	Channel	PCL	Slot	Conducted Power (dBm)	ERP/EIRP (dBm)	ERP/EIRP Limit (dBm)	Verdict
GPRS850	128	5	1	33.04	31.41	38.45	PASS
GPRS850	128	5	2	32.28	30.65	38.45	PASS
GPRS850	128	5	3	30.45	28.82	38.45	PASS
GPRS850	128	5	4	29.36	27.73	38.45	PASS
GPRS850	190	5	1	33.11	31.48	38.45	PASS
GPRS850	190	5	2	32.27	30.64	38.45	PASS
GPRS850	190	5	3	30.45	28.82	38.45	PASS
GPRS850	190	5	4	29.35	27.72	38.45	PASS
GPRS850	251	5	1	33.03	31.4	38.45	PASS
GPRS850	251	5	2	32.19	30.56	38.45	PASS
GPRS850	251	5	3	30.30	28.67	38.45	PASS
GPRS850	251	5	4	29.17	27.54	38.45	PASS
GPRS1900	512	0	1	30.28	30.9	33.00	PASS
GPRS1900	512	0	2	29.33	29.95	33.00	PASS
GPRS1900	512	0	3	27.39	28.01	33.00	PASS
GPRS1900	512	0	4	26.35	26.97	33.00	PASS
GPRS1900	661	0	1	30.45	31.07	33.00	PASS
GPRS1900	661	0	2	29.53	30.15	33.00	PASS
GPRS1900	661	0	3	27.60	28.22	33.00	PASS
GPRS1900	661	0	4	26.73	27.35	33.00	PASS
GPRS1900	810	0	1	30.04	30.66	33.00	PASS
GPRS1900	810	0	2	29.09	29.71	33.00	PASS
GPRS1900	810	0	3	27.14	27.76	33.00	PASS





REPORT No.: SZ25090313W05

GPRS1900	810	0	4	26.69	27.31	33.00	PASS
----------	-----	---	---	-------	-------	-------	------

Band	Channel	PCL	Slot	Conducted Power (dBm)	ERP/EIRP (dBm)	ERP/EIRP Limit (dBm)	Verdict
EGPRS850	128	8	1	27.18	25.55	38.45	PASS
EGPRS850	128	8	2	26.05	24.42	38.45	PASS
EGPRS850	128	8	3	23.82	22.19	38.45	PASS
EGPRS850	128	8	4	22.71	21.08	38.45	PASS
EGPRS850	190	8	1	27.26	25.63	38.45	PASS
EGPRS850	190	8	2	26.15	24.52	38.45	PASS
EGPRS850	190	8	3	23.86	22.23	38.45	PASS
EGPRS850	190	8	4	22.77	21.14	38.45	PASS
EGPRS850	251	8	1	27.11	25.48	38.45	PASS
EGPRS850	251	8	2	25.99	24.36	38.45	PASS
EGPRS850	251	8	3	23.79	22.16	38.45	PASS
EGPRS850	251	8	4	22.63	21	38.45	PASS
EGPRS1900	512	2	1	25.91	26.53	33.00	PASS
EGPRS1900	512	2	2	24.61	25.23	33.00	PASS
EGPRS1900	512	2	3	22.42	23.04	33.00	PASS
EGPRS1900	512	2	4	21.24	21.86	33.00	PASS
EGPRS1900	661	2	1	26.06	26.68	33.00	PASS
EGPRS1900	661	2	2	24.82	25.44	33.00	PASS
EGPRS1900	661	2	3	22.64	23.26	33.00	PASS
EGPRS1900	661	2	4	21.46	22.08	33.00	PASS
EGPRS1900	810	2	1	25.55	26.17	33.00	PASS
EGPRS1900	810	2	2	24.41	25.03	33.00	PASS
EGPRS1900	810	2	3	22.23	22.85	33.00	PASS
EGPRS1900	810	2	4	20.94	21.56	33.00	PASS



**Test Result(WCDMA)**

Band	Type	Channel	Conducted Power (dBm)	ERP/EIRP (dBm)	ERP/EIRP Limit (dBm)	Verdict
Band2	Voice	9262	23.41	24.03	33.01	PASS
Band2	TestMode	9262	23.39	24.01	33.01	PASS
Band2	TestMode	9400	23.67	24.29	33.01	PASS
Band2	Voice	9400	23.66	24.28	33.01	PASS
Band2	TestMode	9538	23.54	24.16	33.01	PASS
Band2	Voice	9538	22.82	23.44	33.01	PASS
Band4	Voice	1312	22.35	23.63	30.00	PASS
Band4	TestMode	1312	22.36	23.64	30.00	PASS
Band4	Voice	1413	23.26	24.54	30.00	PASS
Band4	TestMode	1413	23.36	24.64	30.00	PASS
Band4	TestMode	1513	22.98	24.26	30.00	PASS
Band4	Voice	1513	22.89	24.17	30.00	PASS
Band5	Voice	4132	23.86	22.23	38.45	PASS
Band5	TestMode	4132	23.84	22.21	38.45	PASS
Band5	TestMode	4183	24.07	22.44	38.45	PASS
Band5	Voice	4183	24.16	22.53	38.45	PASS
Band5	Voice	4233	24.24	22.61	38.45	PASS
Band5	TestMode	4233	24.05	22.42	38.45	PASS



**Test Result(HSDPA)**

Band	Channel	SubTest	Conducted Power (dBm)	ERP/EIRP (dBm)	ERP/EIRP Limit (dBm)	Verdict
Band2	9262	1	22.79	23.41	33.01	PASS
Band2	9262	2	22.31	22.93	33.01	PASS
Band2	9262	3	22.21	22.83	33.01	PASS
Band2	9262	4	22.20	22.82	33.01	PASS
Band2	9400	1	22.95	23.57	33.01	PASS
Band2	9400	2	22.46	23.08	33.01	PASS
Band2	9400	3	22.34	22.96	33.01	PASS
Band2	9400	4	22.39	23.01	33.01	PASS
Band2	9538	1	22.32	22.94	33.01	PASS
Band2	9538	2	21.78	22.4	33.01	PASS
Band2	9538	3	21.73	22.35	33.01	PASS
Band2	9538	4	21.78	22.4	33.01	PASS
Band4	1312	1	21.53	22.81	30.00	PASS
Band4	1312	2	21.13	22.41	30.00	PASS
Band4	1312	3	21.03	22.31	30.00	PASS
Band4	1312	4	21.00	22.28	30.00	PASS
Band4	1413	1	22.42	23.7	30.00	PASS
Band4	1413	2	22.00	23.28	30.00	PASS
Band4	1413	3	21.90	23.18	30.00	PASS
Band4	1413	4	21.84	23.12	30.00	PASS
Band4	1513	1	22.12	23.4	30.00	PASS
Band4	1513	2	21.68	22.96	30.00	PASS
Band4	1513	3	21.55	22.83	30.00	PASS
Band4	1513	4	21.52	22.8	30.00	PASS
Band5	4132	1	22.73	21.1	38.5	PASS
Band5	4132	2	22.29	20.66	38.5	PASS
Band5	4132	3	22.30	20.67	38.5	PASS
Band5	4132	4	22.30	20.67	38.5	PASS
Band5	4183	1	23.04	21.41	38.5	PASS
Band5	4183	2	22.51	20.88	38.5	PASS
Band5	4183	3	22.53	20.9	38.5	PASS
Band5	4183	4	22.56	20.93	38.5	PASS
Band5	4233	1	23.12	21.49	38.5	PASS





Band5	4233	2	22.51	20.88	38.5	PASS
Band5	4233	3	22.64	21.01	38.5	PASS
Band5	4233	4	22.52	20.89	38.5	PASS

Test Result(HSUPA)

Band	Channel	SubTest	Conducted Power (dBm)	ERP/EIRP (dBm)	ERP/EIRP Limit (dBm)	Verdict
Band2	9262	1	20.41	21.03	33.01	PASS
Band2	9262	2	20.90	21.52	33.01	PASS
Band2	9262	3	21.44	22.06	33.01	PASS
Band2	9262	4	20.47	21.09	33.01	PASS
Band2	9262	5	22.43	23.05	33.01	PASS
Band2	9400	1	20.64	21.26	33.01	PASS
Band2	9400	2	21.16	21.78	33.01	PASS
Band2	9400	3	21.71	22.33	33.01	PASS
Band2	9400	4	20.73	21.35	33.01	PASS
Band2	9400	5	22.68	23.3	33.01	PASS
Band2	9538	1	19.88	20.5	33.01	PASS
Band2	9538	2	20.40	21.02	33.01	PASS
Band2	9538	3	20.92	21.54	33.01	PASS
Band2	9538	4	19.94	20.56	33.01	PASS
Band2	9538	5	21.79	22.41	33.01	PASS
Band4	1312	1	19.58	20.86	30.00	PASS
Band4	1312	2	20.06	21.34	30.00	PASS
Band4	1312	3	20.55	21.83	30.00	PASS
Band4	1312	4	19.59	20.87	30.00	PASS
Band4	1312	5	21.56	22.84	30.00	PASS
Band4	1413	1	20.42	21.7	30.00	PASS
Band4	1413	2	20.89	22.17	30.00	PASS
Band4	1413	3	21.42	22.7	30.00	PASS
Band4	1413	4	20.44	21.72	30.00	PASS
Band4	1413	5	22.34	23.62	30.00	PASS
Band4	1513	1	20.07	21.35	30.00	PASS
Band4	1513	2	20.57	21.85	30.00	PASS
Band4	1513	3	21.10	22.38	30.00	PASS
Band4	1513	4	20.09	21.37	30.00	PASS
Band4	1513	5	22.07	23.35	30.00	PASS





REPORT No.: SZ25090313W05

Band5	4132	1	20.88	19.25	38.5	PASS
Band5	4132	2	21.38	19.75	38.5	PASS
Band5	4132	3	21.88	20.25	38.5	PASS
Band5	4132	4	20.91	19.28	38.5	PASS
Band5	4132	5	22.86	21.23	38.5	PASS
Band5	4183	1	21.17	19.54	38.5	PASS
Band5	4183	2	21.68	20.05	38.5	PASS
Band5	4183	3	22.18	20.55	38.5	PASS
Band5	4183	4	21.20	19.57	38.5	PASS
Band5	4183	5	23.14	21.51	38.5	PASS
Band5	4233	1	21.19	19.56	38.5	PASS
Band5	4233	2	21.70	20.07	38.5	PASS
Band5	4233	3	22.22	20.59	38.5	PASS
Band5	4233	4	21.23	19.6	38.5	PASS
Band5	4233	5	23.18	21.55	38.5	PASS

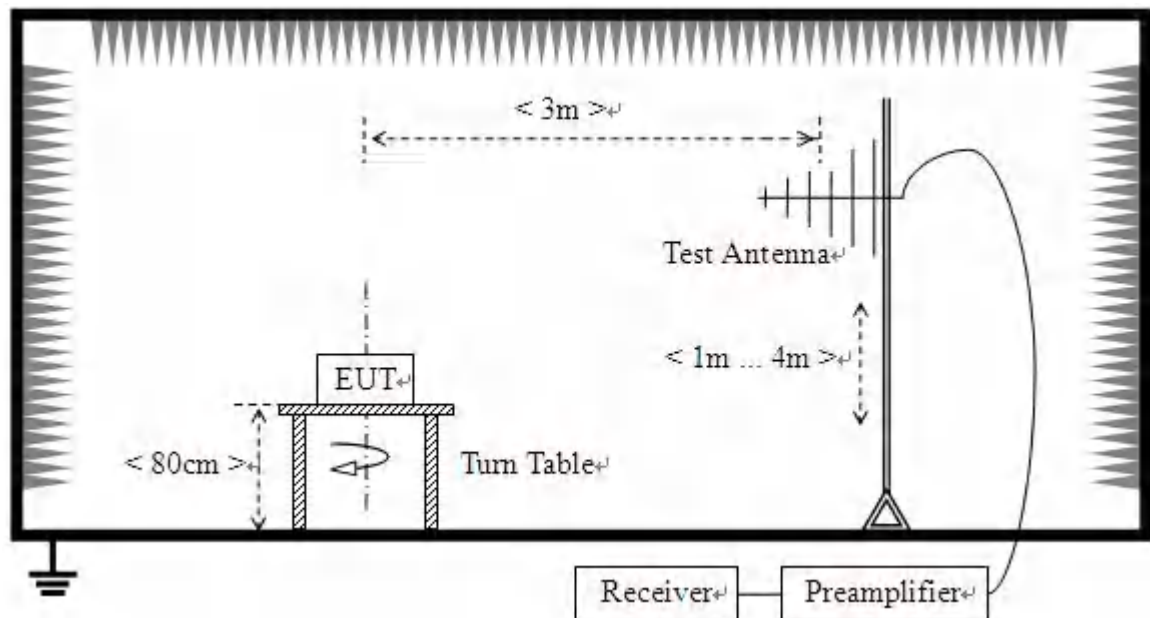


2.8. Radiated Out of Band Emissions

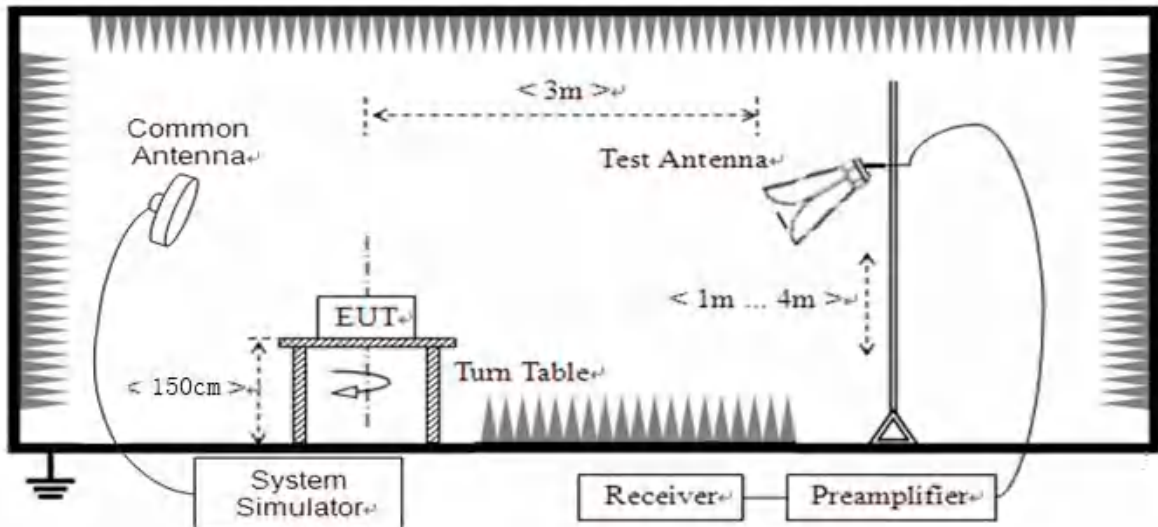
2.8.1. Requirement

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \cdot \log(P)$ dB. This calculated to be -13dBm. The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency.

2.8.2. Test Description



(For the test frequency from 30MHz to 1GHz)



(For the test frequency above 1GHz)

The EUT is located in a 3m Full-Anechoic Chamber, the cable loss, air loss and so on of the site as factors are pre-calibrated using the "Substitution" method, and calculated to correct the reading. A call is established between the EUT and the SS via a Common Antenna. The EUT is commanded by the SS to operate at the maximum and minimum output power and only the test result of the maximum output power was recorded.

In the frequency range above 30MHz, Bi-Log Test Antenna (30MHz to 1GHz) and Horn Test Antenna (above 1GHz) are used. Test Antenna is 3m away from the EUT. Test Antenna height is varied from 1m to 4m above the ground and the Turn Table is actuated to turn from 0° to 360° to determine the maximum value of the radiated power. The emission levels at both horizontal and vertical polarizations should be tested. The Filters consists of Notch Filters and High Pass Filter.

Note: When doing measurements above 1GHz, the EUT has been within the 3dB cone width of the horn antenna during horizontal antenna.

2.8.3.Test Procedure

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements.

For measurements above 1GHz the resolution bandwidth is set to 1MHz, the video band width is set to 3MHz for peak measurements.



2.8.4. Test Result

Note1: The power of the EUT transmitting frequency should be ignored.

Note2: All test mode and condition mentioned were considered and evaluated respectively by performing full test, only the worst data were recorded and reported.

Note3: All spurious emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

Note4: NA means the frequency is the basic frequency or the base station frequency, they are no need to verdict.





GSM850						
Lowest channel						
Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Polarization
1648.40	-47.68	-11.55	-59.23	-13.00	46.23	Vertical
2472.60	-36.12	-8.68	-44.80	-13.00	31.80	Vertical
3296.80	-55.00	-3.87	-58.87	-13.00	45.87	Vertical
1648.40	-41.79	-10.88	-52.67	-13.00	39.67	Horizontal
2472.60	-37.31	-9.15	-46.46	-13.00	33.46	Horizontal
3296.80	-55.11	-3.93	-59.04	-13.00	46.04	Horizontal
Middle channel						
Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Polarization
1673.20	-47.91	-10.70	-58.61	-13.00	45.61	Vertical
2509.80	-35.66	-8.66	-44.32	-13.00	31.32	Vertical
3346.40	-54.94	-3.33	-58.27	-13.00	45.27	Vertical
1673.20	-42.18	-10.28	-52.46	-13.00	39.46	Horizontal
2509.80	-36.81	-8.73	-45.54	-13.00	32.54	Horizontal
3346.40	-54.78	-3.42	-58.20	-13.00	45.20	Horizontal
Highest channel						
Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Polarization
1697.60	-42.50	-9.90	-52.40	-13.00	39.40	Vertical
2546.40	-36.83	-8.40	-45.23	-13.00	32.23	Vertical
3395.20	-54.65	-2.55	-57.20	-13.00	44.20	Vertical
1697.60	-42.56	-9.70	-52.26	-13.00	39.26	Horizontal
2546.40	-37.26	-8.17	-45.43	-13.00	32.43	Horizontal
3395.20	-54.83	-2.62	-57.45	-13.00	44.45	Horizontal
Remark:						
1. The emission levels of below 1 GHz are lower than the limit 10dB, so not show in test report.						





2. Test Frequency up to 10GHz, and the emission levels of other frequencies are lower than the limit 20dB, not show in test report.

PCS1900						
Lowest channel						
Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Polarization
3700.40	-63.46	-0.34	-63.80	-13.00	50.80	Vertical
5550.60	-53.39	4.15	-49.24	-13.00	36.24	Vertical
3700.40	-63.94	-0.16	-64.10	-13.00	51.10	Horizontal
5550.60	-45.84	4.05	-41.79	-13.00	28.79	Horizontal
Middle channel						
Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Polarization
3760.00	-63.49	-1.01	-64.50	-13.00	51.50	Vertical
5640.00	-53.25	3.96	-49.29	-13.00	36.29	Vertical
3760.00	-63.68	-0.56	-64.24	-13.00	51.24	Horizontal
5640.00	-45.76	4.14	-41.62	-13.00	28.62	Horizontal
Highest channel						
Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Polarization
3819.60	-63.61	-0.53	-64.14	-13.00	51.14	Vertical
5729.40	-53.48	3.44	-50.04	-13.00	37.04	Vertical
3819.60	-63.88	-0.06	-63.94	-13.00	50.94	Horizontal
5729.40	-45.94	3.82	-42.12	-13.00	29.12	Horizontal
Remark:						
1. The emission levels of below 1 GHz are lower than the limit 10dB, so not show in test report.						
2. Test Frequency up to 20GHz, and the emission levels of other frequencies are lower than the limit 20dB, not show in test report.						



WCDMA band II						
Lowest channel						
Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Polarization
3704.80	-63.22	-0.43	-63.65	-13.00	50.65	Vertical
5557.20	-64.30	4.18	-60.12	-13.00	47.12	Vertical
3704.80	-63.63	-0.23	-63.86	-13.00	50.86	Horizontal
5557.20	-64.78	4.10	-60.68	-13.00	47.68	Horizontal
Middle channel						
Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Polarization
3760.00	-63.12	-1.01	-64.13	-13.00	51.13	Vertical
5640.00	-64.79	3.96	-60.83	-13.00	47.83	Vertical
3760.00	-63.49	-0.56	-64.05	-13.00	51.05	Horizontal
5640.00	-64.93	4.14	-60.79	-13.00	47.79	Horizontal
Highest channel						
Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Polarization
3815.20	-63.30	-0.65	-63.95	-13.00	50.95	Vertical
5722.80	-65.22	3.42	-61.80	-13.00	48.80	Vertical
3815.20	-63.48	-0.14	-63.62	-13.00	50.62	Horizontal
5722.80	-65.25	3.81	-61.44	-13.00	48.44	Horizontal
Remark:						
1. The emission levels of below 1 GHz are lower than the limit 10dB, so not show in test report.						
2. Test Frequency up to 20GHz, and the emission levels of other frequencies are lower than the limit 20dB, not show in test report.						





WCDMA band IV						
Lowest channel						
Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Polarization
3424.40	-61.60	-2.17	-63.77	-13.00	50.77	Vertical
5136.60	-64.57	3.77	-60.80	-13.00	47.80	Vertical
6848.80	-64.60	5.80	-58.80	-13.00	45.80	Vertical
3424.40	-58.84	-2.23	-61.07	-13.00	48.07	Horizontal
5136.60	-64.65	3.81	-60.84	-13.00	47.84	Horizontal
6848.80	-64.51	6.01	-58.50	-13.00	45.50	Horizontal
Middle channel						
Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Polarization
3464.80	-61.78	-2.53	-64.31	-13.00	51.31	Vertical
5197.20	-64.71	3.26	-61.45	-13.00	48.45	Vertical
6929.60	-64.43	5.19	-59.24	-13.00	46.24	Vertical
3464.80	-58.98	-2.53	-61.51	-13.00	48.51	Horizontal
5197.20	-64.64	3.18	-61.46	-13.00	48.46	Horizontal
6929.60	-64.92	5.17	-59.75	-13.00	46.75	Horizontal
Highest channel						
Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Polarization
3505.20	-62.10	-3.15	-65.25	-13.00	52.25	Vertical
5257.80	-65.12	3.11	-62.01	-13.00	49.01	Vertical
7010.40	-64.70	5.73	-58.97	-13.00	45.97	Vertical
3505.20	-59.45	-3.00	-62.45	-13.00	49.45	Horizontal
5257.80	-64.71	3.43	-61.28	-13.00	48.28	Horizontal
7010.40	-64.92	5.77	-59.15	-13.00	46.15	Horizontal
Remark:						
1. The emission levels of below 1 GHz are lower than the limit 10dB, so not show in test report.						





2. Test Frequency up to 20GHz, and the emission levels of other frequencies are lower than the limit 20dB, not show in test report.

WCDMA band V						
Lowest channel						
Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Polarization
1652.80	-59.81	-11.40	-71.21	-13.00	58.21	Vertical
2479.20	-61.45	-8.68	-70.13	-13.00	57.13	Vertical
3305.60	-62.74	-3.76	-66.50	-13.00	53.50	Vertical
1652.80	-59.48	-10.77	-70.25	-13.00	57.25	Horizontal
2479.20	-56.16	-9.07	-65.23	-13.00	52.23	Horizontal
3305.60	-63.04	-3.86	-66.90	-13.00	53.90	Horizontal
Middle channel						
Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Polarization
1673.20	-60.00	-10.70	-70.70	-13.00	57.70	Vertical
2509.80	-61.14	-8.66	-69.80	-13.00	56.80	Vertical
3346.40	-62.83	-3.33	-66.16	-13.00	53.16	Vertical
1673.20	-59.35	-10.28	-69.63	-13.00	56.63	Horizontal
2509.80	-56.57	-8.73	-65.30	-13.00	52.30	Horizontal
3346.40	-63.18	-3.42	-66.60	-13.00	53.60	Horizontal
Highest channel						
Frequency (MHz)	Reading Level (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Polarization
1697.60	-59.95	-9.90	-69.85	-13.00	56.85	Vertical
2546.40	-61.09	-8.40	-69.49	-13.00	56.49	Vertical
3395.20	-63.10	-2.55	-65.65	-13.00	52.65	Vertical
1697.60	-59.25	-9.70	-68.95	-13.00	55.95	Horizontal
2546.40	-56.50	-8.17	-64.67	-13.00	51.67	Horizontal





3395.20	-63.27	-2.62	-65.89	-13.00	52.89	Horizontal
Remark: 1. The emission levels of below 1 GHz are lower than the limit 10dB, so not show in test report. 2. Test Frequency up to 10GHz, and the emission levels of other frequencies are lower than the limit 20dB, not show in test report.						

Annex A Laboratory Information

1. Identification of the Responsible Testing Laboratory

Laboratory Name:	Shenzhen Morlab Communications Technology Co., Ltd.
Laboratory Address:	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China
Telephone:	+86 755 36698555
Facsimile:	+86 755 36698525

2. Identification of the Responsible Testing Location

Name:	Shenzhen Morlab Communications Technology Co., Ltd.
Address:	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China

3. Facilities and Accreditations

All measurement facilities used to collect the measurement data are located at FL.3, Building A, FeiYang Science Park, Block 67, BaoAn District, Shenzhen, 518101 P. R. China. The test site is constructed in conformance with the requirements of ANSI C63.10-2013 and CISPR Publication 22; the FCC designation number is CN1192, the test firm registration number is 226174.





REPORT No.: SZ25090313W05

4. Test Equipment Utilized

4.1 Conducted Test Equipment

Equipment	Serial No.	Type	Manufacturer	Cal. Date	Due Date
EXA Signal Analyzer	MY51511149	N9020A	Agilent	2025.05.15	2026.05.14
Communication Test Station	6200995016	MT8820C	Anritsu	2024.09.11	2025.09.10
Temperature Chamber	S022177101 00089002	KMT-36LF 1A0	KOMEG	2024.09.11	2025.09.10

4.2 List of Software Used

Description	Manufacturer	Software Version
JS36-RSE	Tonscend	5.0.0



**4.3 Radiated Test Equipment**

Equipment	Serial No.	Type	Manufacturer	Cal. Date	Due Date
System Simulator	152038	CMW500	R&S	2024.09.11	2025.09.10
Receiver	MY56060145	N9020A	Agilent	2025.05.13	2026.05.12
Test Antenna – Loop	FMZB 1519	1519-022	Schwarzbeck	2025.05.16	2026.05.15
Test Antenna - Bi-Log	9163-274	VULB 9163	Schwarzbeck	2025.06.28	2026.06.27
Test Antenna - Horn	9120D-963	BBHA 9120D	Schwarzbeck	2025.05.16	2026.05.15
Test Antenna - Horn	BBHA9170	BBHA9170#773	Schwarzbeck	2025.06.20	2026.06.19
RF Coaxial Cable (DC-18GHz)	MRE001	PE330	Pasternack	2025.05.13	2026.05.12
RF Coaxial Cable (DC-18GHz)	MRE002	CLU18	Pasternack	2025.05.13	2026.05.12
RF Coaxial Cable (DC-18GHz)	MRE003	CLU18	Pasternack	2025.05.13	2026.05.12
RF Coaxial Cable (DC-40GHz)	22290045	QA360-40-K K-0.5	Qualwave	2024.09.11	2025.09.10
RF Coaxial Cable (DC-40GHz)	22290046	QA360-40-K KF-2	Qualwave	2024.09.11	2025.09.10
Preamplifier (10MHz-6GHz)	46732	S10M100L3802	LUCIX CORP.	2025.05.13	2026.05.12
Preamplifier (2GHz-18GHz)	61171/61172	S020180L3203	LUCIX CORP.	2025.05.13	2026.05.12
Preamplifier (18GHz-40GHz)	DS77209	DCLNA0118-40C-S	Decentest	2025.05.13	2026.05.12
Notch Filter	N/A	WRCG-GSM 1900	Wainwright	N/A	N/A
Notch Filter	N/A	WRCGV-W Band II	Wainwright	N/A	N/A
Notch Filter	N/A	WRCGV-W Band IV	Wainwright	N/A	N/A
Anechoic Chamber	N/A	9m*6m*6m	CRT	2025.04.19	2028.04.18
Anechoic	N/A	9m*6m*6m	CRT	2022.11.30	2025.11.29





Chamber					
---------	--	--	--	--	--

3. TEST SETUP PHOTOGRAPHS

Please refer to the Appendix F.

4. EXTERNAL AND INTERNAL PHOTOS OF THE EUT

External Please refer to the Appendix G.

Internal Please refer to the Appendix H.

_____ END OF REPORT _____

