FCC RF Test Report

APPLICANT	:	Xiaomi Communications Co., Ltd.
EQUIPMENT	:	Mobile Phone
BRAND NAME	:	Redmi
MODEL NAME	:	23028RA60L
FCC ID	:	2AFZZA60L
STANDARD	:	47 CFR Part 2, 22(H), 24(E), 27(L)
CLASSIFICATION	:	PCS Licensed Transmitter Held to Ear (PCE)
TEST DATE(S)	:	Nov. 12, 2022 ~ Nov. 28, 2022

We, Sporton International Inc. (Kunshan), would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.26-2015 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. (Kunshan), the test report shall not be reproduced except in full.

Jason Jia

Approved by: Jason Jia

ACCREDITED
Cert #5145.02

Sporton International Inc. (Kunshan)
No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China

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APPENDIX A. TEST RESULTS OF CONDUCTED TEST

APPENDIX B. TEST RESULTS OF RADIATED TEST

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG2O2911A	Rev. 01	Initial issue of report	Dec. 12, 2022

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1046	Conducted Output Power	-	Report Only	-
	§22.913(a)(5)	Effective Radiated Power	< 7 Watts	PASS	-
	§24.232(c)	Equivalent Isotropic Radiated Power	< 2 Watts	PASS	-
	§27.50(d)(4)	Equivalent Isotropic Radiated Power	< 1 Watts	PASS	-
3.5	§24.232(d)	Peak-to-Average Ratio	< 13 dB	PASS	-
3.6	§2.1049	Occupied Bandwidth	Reporting Only	PASS	-
3.7	§2.1051 §22.917(a) §24.238(a) §27.53(h)	Band Edge Measurement	< 43+10log10(P[Watts])	PASS	-
3.8	§2.1051 §22.917(a) §24.238(a) §27.53(h)	Conducted Emission	< 43+10log10(P[Watts])	PASS	-
3.9	§2.1055 §22.355	Frequency Stability for Temperature & Voltage	< 2.5 ppm for Part 22	PASS	-
	§2.1055 §24.235 §27.54		Within Authorized Band		
4.4	§2.1053; §22.917(a); §24.238(a); §27.53(h)	Field Strength of Spurious Radiation	< 43+10log10(P[Watts])	PASS	Under limit 40.05 dB at 7524.00 MHz

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

1 General Description

1.1 Applicant

Xiaomi Communications Co., Ltd.
#019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085

1.2 Manufacturer

Xiaomi Communications Co., Ltd.
#019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Phone
Brand Name	Redmi
Model Name	23028RA60L
FCC ID	2AFZZA60L
IMEI Code	Conducted: 861736060059026/861736060059034 Radiation: 861736060060461
HW Version	P1.1
SW Version	MIUI14
EUT Stage	Identical Prototype

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx Frequency	**GSM/GPRS/EDGE:** 850: 824 MHz ~ 849 MHz 1900: 1850MHz ~ 1910MHz **WCDMA:** Band V: 824 MHz ~ 849 MHz Band II: 1850 MHz ~ 1910 MHz Band IV: 1710 MHz ~ 1755 MHz
Rx Frequency	**GSM/GPRS/EDGE:** 850: 869 MHz ~ 894 MHz 1900: 1930 MHz ~ 1990 MHz **WCDMA:** Band V: 869 MHz ~ 894 MHz Band II: 1930 MHz ~ 1990 MHz Band IV: 2110 MHz ~ 2155 MHz

Maximum Output Power to Antenna	**<Ant. 0>:** **GSM/GPRS/EDGE:** 850: 32.77 dBm 1900: 29.69 dBm **WCDMA:** Band V: 24.23 dBm Band II: 24.45 dBm Band IV: 24.46 dBm **<Ant. 1>:** **GSM/GPRS/EDGE:** 850: 32.41 dBm 1900: 29.56 dBm **WCDMA:** Band V: 24.20 dBm Band II: 24.31 dBm Band IV: 24.37 dBm
Antenna Type	PIFA Antenna
Antenna Gain	**Ant. 0:** Cellular Band: -3.56 dBi PCS Band: 1.61 dBi AWS Band: 0.48 dBi **Ant. 1:** Cellular Band: -3.77 dBi PCS Band: -2.82 dBi AWS Band: -2.19 dBi
Type of Modulation	GSM: GMSK GPRS: GMSK EDGE: GMSK / 8PSK WCDMA : BPSK HSDPA/DC-HSDPA : QPSK HSUPA : QPSK HSPA+ : 16QAM (16QAM uplink is not supported) DC-HSDPA : 64QAM

Note: The maximum ERP/EIRP is calculated from max output power and max antenna gain, so only the maximum ERP/EIRP of Ant.0 are shown in the report.

1.5 Modification of EUT

No modifications are made to the EUT during all test items.

1.6 Maximum ERP/EIRP Power, and Emission Designator

FCC Rule	Frequency Band	Frequency Range (MHz)	Type of Modulation	Maximum ERP/EIRP (W)	Emission Designator
Part 22	GSM850 (GSM)	824.2 ~ 848.8	GMSK	0.5082	245KGXW
Part 22	GSM850 (EDGE)	824.2 ~ 848.8	8PSK	0.1435	241KG7W
Part 22	WCDMA Band V	826.4 ~ 846.6	BPSK	0.0711	4M14F9W
Part 24	GSM1900 (GSM)	1850.2 ~ 1909.8	GMSK	1.3490	243KGXW
Part 24	GSM1900 (EDGE)	1850.2 ~ 1909.8	8PSK	0.5821	239KG7W
Part 24	WCDMA Band II	1852.4 ~ 1907.6	BPSK	0.4036	4M15F9W
Part 27	WCDMA Band IV	1712.4 ~ 1752.6	BPSK	0.3119	4M13F9W

1.7 Testing Location

Sporton International Inc. (Kunshan) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

Test Firm	Sporton International Inc. (Kunshan)		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158 FAX : +86-512-57900958		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	TH01-KS 03CH04-KS	CN1257	314309

1.8 Test Software

Item	Site	Manufacturer	Name	Version
1.	03CH04-KS	AUDIX	E3	6.2009-8-24al

1.9 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR Part 2, 22(H), 24(E), 27(L)
- ANSI C63.26-2015
- FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01
- FCC KDB 412172 D01 Determining ERP and EIRP v01r01

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

2 Test Configuration of Equipment Under Test

2.1 Test Mode

Antenna port conducted and radiated test items were performed according to KDB 971168 D01 Power Meas. License Digital Systems v03r01 with maximum output power.

Radiated measurements were performed with rotating EUT in different three orthogonal test planes to find the maximum emission.

Radiated emissions were investigated as following frequency range:

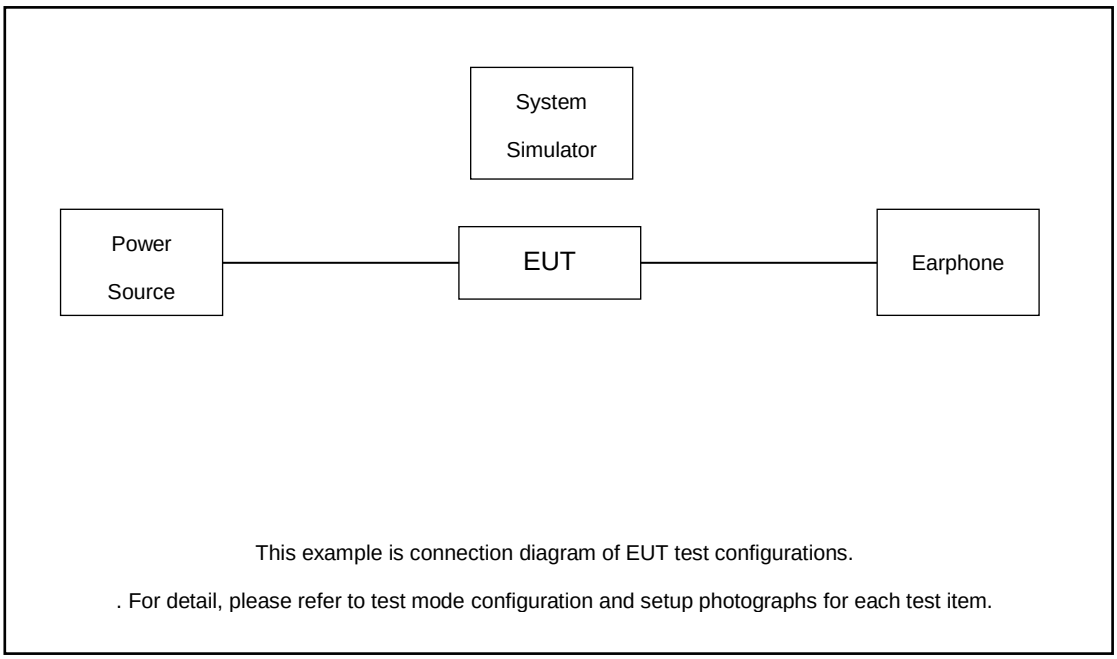
1. 30 MHz to 9000 MHz for GSM850 and WCDMA Band V.
2. 30 MHz to 18000 MHz for WCDMA Band IV.
3. 30 MHz to 19100 MHz for GSM1900 and WCDMA Band II.

All modes and data rates and positions were investigated.

Test modes are chosen to be reported as the worst case configuration below:

Test Modes		
Band	**Radiated TCs**	**Conducted TCs**
GSM 850	■ GSM Link ■ EDGE 1 Tx slots Link	■ GSM Link ■ EDGE 1 Tx slots Link
GSM 1900	■ GSM Link ■ EDGE 1 Tx slots Link	■ GSM Link ■ EDGE 1 Tx slots Link
WCDMA Band V	■ RMC 12.2Kbps Link	■ RMC 12.2Kbps Link
WCDMA Band II	■ RMC 12.2Kbps Link	■ RMC 12.2Kbps Link
WCDMA Band IV	■ RMC 12.2Kbps Link	■ RMC 12.2Kbps Link

2.2 Connection Diagram of Test System



The EUT has been configuration operated in a manner tended to maximize its emission characteristics in a typical application.

2.3 Support Unit used in test configuration

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	LTE Base Station	Anritsu	MT8820/8821	N/A	N/A	Unshielded, 1.8 m

2.4 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between RF conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level will be exactly the RF output level.

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

The following shows an offset computation example with RF cable loss 4.6 dB and a 10dB attenuator.

Example :

Offset(dB) = RF cable loss(dB) + attenuator factor(dB).

= 4.6 + 10 = 14.6 (dB)

2.5 Frequency List of Low/Middle/High Channels

Frequency List				
Band	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
GSM850	Channel	128	189	251
	Frequency	824.2	836.4	848.8
WCDMA Band V	Channel	4132	4182	4233
	Frequency	826.4	836.4	846.6
GSM1900	Channel	512	661	810
	Frequency	1850.2	1880.0	1909.8
WCDMA Band II	Channel	9262	9400	9538
	Frequency	1852.4	1880.0	1907.6
WCDMA Band IV	Channel	1312	1413	1513
	Frequency	1712.4	1732.6	1752.6

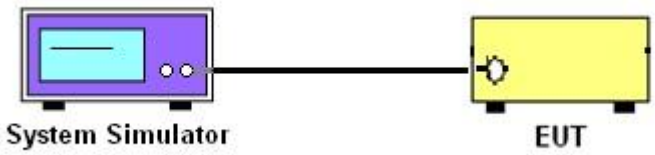
3 Conducted Test Result

3.1 Measuring Instruments

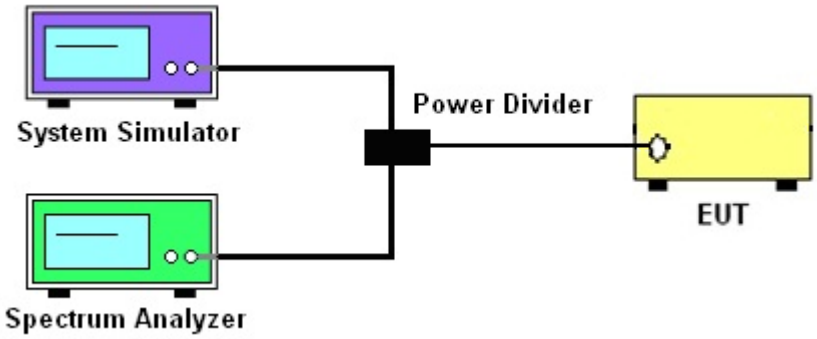
See list of measuring instruments of this test report.

3.2 Test Setup

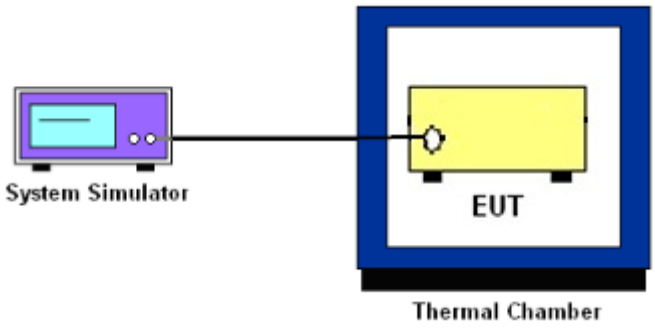
3.2.1 Conducted Output Power



3.2.2 Peak-to-Average Ratio, Occupied Bandwidth, Conducted Band-Edge and Conducted Spurious Emission



3.2.3 Frequency Stability



3.3 Test Result of Conducted Test

Please refer to Appendix A.

3.4 Conducted Output Power and ERP/EIRP

3.4.1 Description of the Conducted Output Power and ERP/EIRP

A system simulator was used to establish communication with the EUT. Its parameters were set to enforce EUT transmitting at the maximum power. The measured power in the radio frequency on the transmitter output terminals shall be reported.

The ERP of mobile transmitters must not exceed 7 Watts for GSM850 and WCDMA Band V.

The EIRP of mobile transmitters must not exceed 2 Watts for GSM1900 and WCDMA Band II.

The EIRP of mobile transmitters must not exceed 1 Watts for WCDMA Band IV.

According to KDB 412172 D01 Power Approach,

EIRP = $P_T + G_T – L_C$, ERP = EIRP -2.15, where

P_T = transmitter output power in dBm

G_T = gain of the transmitting antenna in dBi

L_C = signal attenuation in the connecting cable between the transmitter and antenna in dB

3.4.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.2
2. The transmitter output port was connected to the system simulator.
3. Set EUT at maximum power through the system simulator.
4. Select lowest, middle, and highest channels for each band and different modulation.
5. Measure and record the power level from the system simulator.

3.5 Peak-to-Average Ratio

3.5.1 Description of the PAR Measurement

The peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

3.5.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.2.3.4 (CCDF).
2. The EUT was connected to spectrum and system simulator via a power divider.
3. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.
4. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1 %.
5. Record the deviation as Peak to Average Ratio.

3.6 99% Occupied Bandwidth and 26dB Bandwidth Measurement

3.6.1 Description of 99% Occupied Bandwidth and 26dB Bandwidth Measurement

The occupied bandwidth is the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5% of the total mean transmitted power.

The 26 dB emission bandwidth is defined as the frequency range between two points, one above and one below the carrier frequency, at which the spectral density of the emission is attenuated 26 dB below the maximum in-band spectral density of the modulated signal. Spectral density (power per unit bandwidth) is to be measured with a detector of resolution bandwidth equal to approximately 1.0% of the emission bandwidth.

3.6.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.4
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the spectrum analyzer shall be between two and five times the anticipated OBW.
4. The nominal resolution bandwidth (RBW) shall be in the range of 1 to 5 % of the anticipated OBW, and the VBW shall be at least 3 times the RBW.
5. Set the detection mode to peak, and the trace mode to max hold.
6. Determine the reference value: Set the EUT to transmit a modulated signal. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace.
   (this is the reference value)
7. Determine the “-26 dB down amplitude” as equal to (Reference Value – X).
8. Place two markers, one at the lowest and the other at the highest frequency of the envelope of the spectral display such that each marker is at or slightly below the “–X dB down amplitude” determined in step 6. If a marker is below this “-X dB down amplitude” value it shall be placed as close as possible to this value. The OBW is the positive frequency difference between the two markers.
9. Use the 99 % power bandwidth function of the spectrum analyzer and report the measured bandwidth.

3.7 Conducted Band Edge

3.7.1 Description of Conducted Band Edge Measurement

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least 43 + 10 log (P) dB.

3.7.2 Test Procedures

1. The testing follows ANSI C63.26 section 5.7
2. The EUT was connected to the spectrum analyzer and system simulator via a power divider.
3. The RF output of EUT was connected to the spectrum analyzer by an RF cable and attenuator. The path loss was compensated to the results for each measurement.
4. The band edges of low and high channels for the highest RF powers were measured.
5. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
6. The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)

3.8 Conducted Spurious Emission

3.8.1 Description of Conducted Spurious Emission Measurement

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least 43 + 10 log (P) dB.

It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10th harmonic.

3.8.2 Test Procedures

1. The testing follows ANSI C63.26 section 5.7
2. The EUT was connected to the spectrum analyzer and system simulator via a power divider.
3. The RF output of EUT was connected to the spectrum analyzer by an RF cable and attenuator. The path loss was compensated to the results for each measurement.
4. The middle channel for the highest RF power within the transmitting frequency was measured.
5. The conducted spurious emission for the whole frequency range was taken.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
7. The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)

3.9 Frequency Stability

3.9.1 Description of Frequency Stability Measurement

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within ±0.00025% (±2.5ppm) of the center frequency.

3.9.2 Test Procedures for Temperature Variation

1. The testing follows ANSI C63.26 section 5.6.4
2. The EUT was set up in the thermal chamber and connected with the system simulator.
3. With power OFF, the temperature was decreased to -30°C and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
4. With power OFF, the temperature was raised in 10°C step up to 50°C. The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.

3.9.3 Test Procedures for Voltage Variation

1. The testing follows ANSI C63.26 section 5.6.5
2. The EUT was placed in a temperature chamber at 20±5°C and connected with the system simulator.
3. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value for other than hand carried battery equipment.
4. For hand carried, battery powered equipment, reduce the primary ac or dc supply voltage to the battery operating end point, which shall be specified by the manufacturer.
5. The variation in frequency was measured for the worst case.

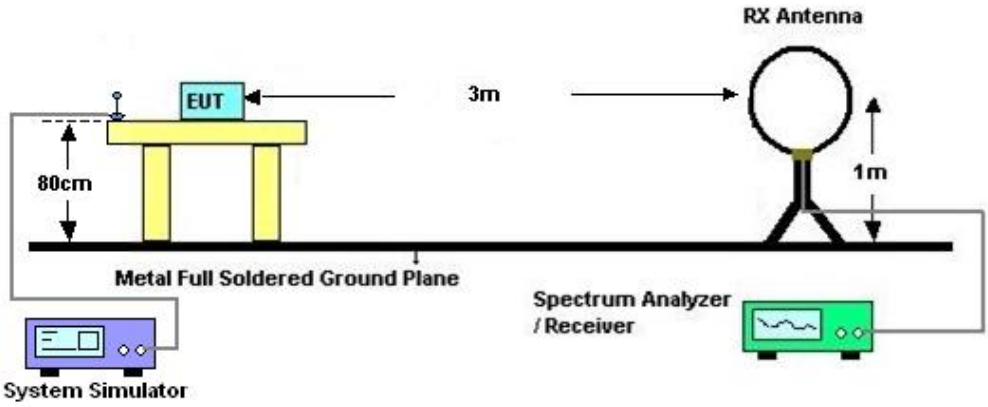
4 Radiated Test Items

4.1 Measuring Instruments

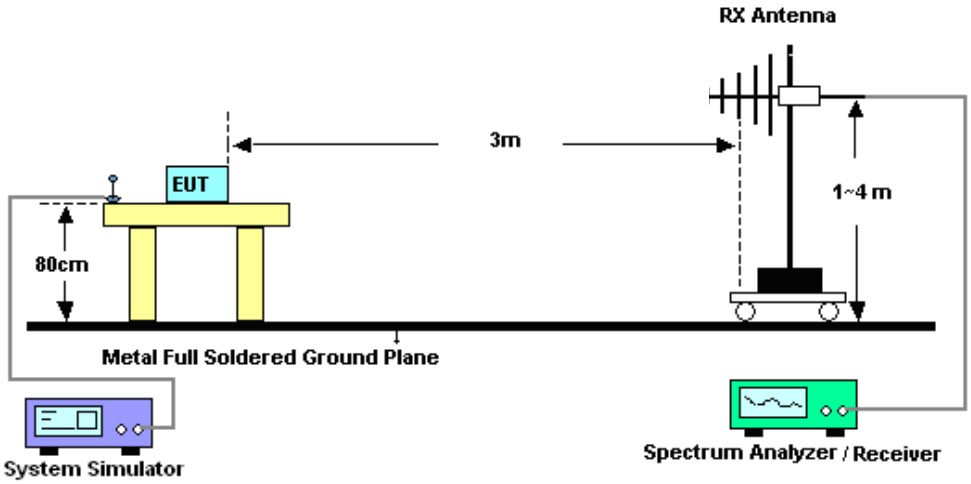
See list of measuring instruments of this test report.

4.2 Test Setup

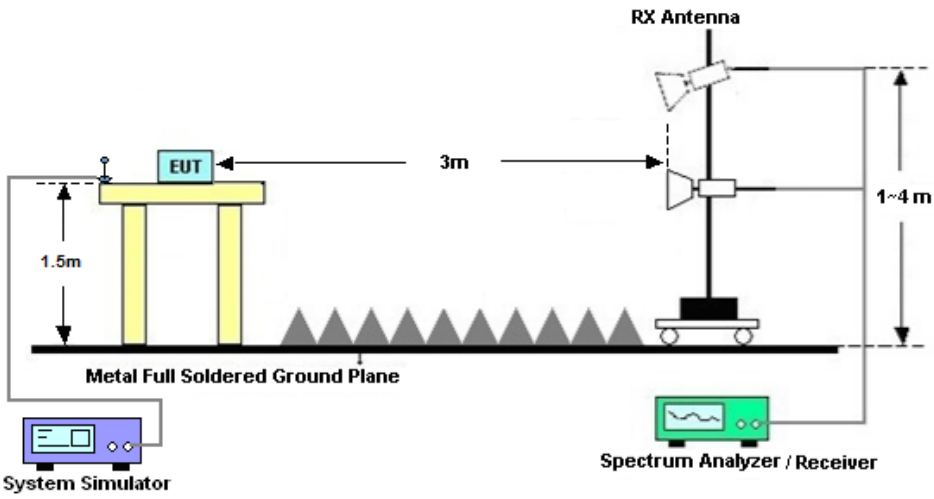
4.2.1 For radiated test below 30MHz



4.2.2 For radiated test from 30MHz to 1GHz



4.2.3 For radiated test above 1GHz



4.3 Test Result of Radiated Test

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

Please refer to Appendix B.

4.4 Field Strength of Spurious Radiation Measurement

4.4.1 Description of Field Strength of Spurious Radiated Measurement

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least 43 + 10 log (P) dB. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

4.4.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.5
2. The EUT was placed on a rotatable wooden table 0.8 meters for frequency below 1GHz and 1.5 meter for frequency above 1GHz above the ground.
3. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest spurious emission.
5. The height of the receiving antenna is varied between one meter and four meters to search for the maximum spurious emission for both horizontal and vertical polarizations.
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking record of maximum spurious emission.
7. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
8. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
9. Taking the record of output power at antenna port.
10. Repeat step 7 to step 8 for another polarization.
11. EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
12. ERP (dBm) = EIRP - 2.15
13. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
14. The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)

5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101040	10Hz~40GHz	Oct. 12, 2022	Nov. 12, 2022	Oct. 11, 2023	Conducted (TH01-KS)
Power divider	STI	STI08-0055	-	0.5~40GHz	Aug. 26, 2022	Nov. 12, 2022	Aug. 25, 2023	Conducted (TH01-KS)
Temperature &humidity chamber	Hongzhan	LP-150U	H2014011440	-40~+150°C 20%~95%RH	Jul. 15, 2022	Nov. 12, 2022	Jul. 14, 2023	Conducted (TH01-KS)
EXA Spectrum Analyzer	Keysight	N9010B	MY57471079	10Hz-44G,MAX 30dB	Oct. 12, 2022	Nov. 28, 2022	Oct. 11, 2023	Radiation (03CH04-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Oct. 16, 2022	Nov. 28, 2022	Oct. 15, 2023	Radiation (03CH04-KS)
Bilog Antenna	TeseQ	CBL6111D	49922	30MHz-1GHz	May 24, 2022	Nov. 28, 2022	May 23, 2023	Radiation (03CH04-KS)
Horn Antenna	Schwarzbeck	BBHA9120D	1284	1GHz~18GHz	Jan. 05, 2022	Nov. 28, 2022	Jan. 04, 2023	Radiation (03CH04-KS)
SHF-EHF Horn	Com-power	AH-840	101070	18GHz~40GHz	Jan. 05, 2022	Nov. 28, 2022	Jan. 04, 2023	Radiation (03CH04-KS)
Amplifier	SONOMA	310N	187289	9KHz-1GHz	Jan. 05, 2022	Nov. 28, 2022	Jan. 04, 2023	Radiation (03CH04-KS)
Amplifier	MITEQ	EM18G40GGA	060728	18~40GHz	Jan. 05, 2022	Nov. 28, 2022	Jan. 04, 2023	Radiation (03CH04-KS)
high gain Amplifier	EM	EM01G18GA	060840	1Ghz-18Ghz	Oct. 12, 2022	Nov. 28, 2022	Oct. 11, 2023	Radiation (03CH04-KS)
Amplifier	Agilent	8449B	3008A02370	1Ghz-18Ghz	Oct. 12, 2022	Nov. 28, 2022	Oct. 11, 2023	Radiation (03CH04-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Nov. 28, 2022	NCR	Radiation (03CH04-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Nov. 28, 2022	NCR	Radiation (03CH04-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Nov. 28, 2022	NCR	Radiation (03CH04-KS)

NCR: No Calibration Required

6 Uncertainty of Evaluation

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.26-2015. All the measurement uncertainty value were shown with a coverage K=2 to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

Uncertainty of Conducted Measurement

Test Item	Uncertainty
Conducted Power	±0.56 dB
Conducted Emissions	±0.92 dB
Occupied Channel Bandwidth	±0.03 %

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.3dB

Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.8dB

Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.8dB

---------- THE END ----------

Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power) and ERP/EIRP

<Ant.0>:

GSM850	Burst Average Power (dBm)			ERP(W)		
TX Channel	128	189	251			
Frequency (MHz)	824.2	836.4	848.8	L	M	H
GSM 1 Tx slot	32.53	32.77	32.65	0.4808	0.5082	0.4943
GPRS 1 Tx slot	32.47	32.60	32.57	0.4742	0.4887	0.4853
GPRS 2 Tx slots	28.74	28.81	28.66	0.2009	0.2042	0.1972
GPRS 3 Tx slots	27.07	27.26	26.89	0.1368	0.1429	0.1312
GPRS 4 Tx slots	25.88	25.91	25.75	0.1040	0.1047	0.1009
EDGE 1 Tx slot	27.15	27.28	27.00	0.1393	0.1435	0.1346
EDGE 2 Tx slots	24.39	24.35	24.20	0.0738	0.0731	0.0706
EDGE 3 Tx slots	22.13	22.24	22.16	0.0439	0.0450	0.0442
EDGE 4 Tx slots	21.38	21.48	21.28	0.0369	0.0378	0.0361

GSM1900	Burst Average Power (dBm)			EIRP(W)		
TX Channel	512	661	810			
Frequency (MHz)	1850.2	1880	1909.8	L	M	H
GSM 1 Tx slot	29.49	29.69	29.65	1.2882	1.3490	1.3366
GPRS 1 Tx slot	29.49	29.61	29.57	1.2882	1.3243	1.3122
GPRS 2 Tx slots	25.66	25.77	25.74	0.5333	0.5470	0.5433
GPRS 3 Tx slots	23.77	24.06	23.88	0.3451	0.3690	0.3540
GPRS 4 Tx slots	22.58	22.72	22.71	0.2624	0.2710	0.2704
EDGE 1 Tx slot	25.87	26.04	25.85	0.5598	0.5821	0.5572
EDGE 2 Tx slots	22.88	23.21	23.06	0.2812	0.3034	0.2931
EDGE 3 Tx slots	21.74	21.89	21.86	0.2163	0.2239	0.2223
EDGE 4 Tx slots	19.97	20.12	19.99	0.1439	0.1489	0.1445

Band		WCDMA V			ERP(W)		
TX Channel		4132	4182	4233			
Rx Channel		4357	4407	4458			
Frequency (MHz)		826.4	836.4	846.6	L	M	H
3GPP Rel 99	AMR 12.2Kbps	24.07	24.20	24.13	0.0685	0.0706	0.0695
3GPP Rel 99	RMC 12.2Kbps	24.15	24.23	24.21	0.0698	0.0711	0.0708
3GPP Rel 6	HSDPA Subtest-1	23.10	23.27	23.23	0.0548	0.0570	0.0565
3GPP Rel 6	HSDPA Subtest-2	23.06	23.32	23.22	0.0543	0.0577	0.0564
3GPP Rel 6	HSDPA Subtest-3	22.63	22.88	22.81	0.0492	0.0521	0.0513
3GPP Rel 6	HSDPA Subtest-4	22.54	22.75	22.62	0.0482	0.0506	0.0491
3GPP Rel 8	DC-HSDPA Subtest-1	22.91	23.17	23.04	0.0525	0.0557	0.0541
3GPP Rel 8	DC-HSDPA Subtest-2	23.05	23.21	23.18	0.0542	0.0562	0.0558
3GPP Rel 8	DC-HSDPA Subtest-3	22.58	22.81	22.70	0.0486	0.0513	0.0500
3GPP Rel 8	DC-HSDPA Subtest-4	22.48	22.71	22.57	0.0475	0.0501	0.0485
3GPP Rel 6	HSUPA Subtest-1	23.21	23.41	23.38	0.0562	0.0589	0.0585
3GPP Rel 6	HSUPA Subtest-2	21.14	21.29	21.25	0.0349	0.0361	0.0358
3GPP Rel 6	HSUPA Subtest-3	22.22	22.45	22.36	0.0448	0.0472	0.0462
3GPP Rel 6	HSUPA Subtest-4	21.11	21.34	21.19	0.0347	0.0366	0.0353
3GPP Rel 6	HSUPA Subtest-5	23.15	23.37	23.30	0.0555	0.0583	0.0574

Band		WCDMA IV			EIRP(W)		
TX Channel		1312	1413	1513			
Rx Channel		1537	1638	1738			
Frequency (MHz)		1712.4	1732.6	1752.6	L	M	H
3GPP Rel 99	AMR 12.2Kbps	24.26	24.39	24.21	0.2979	0.3069	0.2944
3GPP Rel 99	RMC 12.2Kbps	24.37	24.46	24.26	0.3055	0.3119	0.2979
3GPP Rel 6	HSDPA Subtest-1	23.32	23.37	23.20	0.2399	0.2427	0.2333
3GPP Rel 6	HSDPA Subtest-2	23.33	23.44	23.26	0.2404	0.2466	0.2366
3GPP Rel 6	HSDPA Subtest-3	22.87	22.95	22.78	0.2163	0.2203	0.2118
3GPP Rel 6	HSDPA Subtest-4	22.83	22.93	22.73	0.2143	0.2193	0.2094
3GPP Rel 8	DC-HSDPA Subtest-1	23.20	23.38	23.11	0.2333	0.2432	0.2286
3GPP Rel 8	DC-HSDPA Subtest-2	23.13	23.24	23.18	0.2296	0.2355	0.2323
3GPP Rel 8	DC-HSDPA Subtest-3	22.71	22.77	22.66	0.2084	0.2113	0.2061
3GPP Rel 8	DC-HSDPA Subtest-4	22.81	22.85	22.62	0.2133	0.2153	0.2042
3GPP Rel 6	HSUPA Subtest-1	23.35	23.41	23.26	0.2415	0.2449	0.2366
3GPP Rel 6	HSUPA Subtest-2	21.25	21.37	21.10	0.1489	0.1531	0.1439
3GPP Rel 6	HSUPA Subtest-3	22.25	22.34	22.10	0.1875	0.1914	0.1811
3GPP Rel 6	HSUPA Subtest-4	21.28	21.36	21.05	0.1500	0.1528	0.1422
3GPP Rel 6	HSUPA Subtest-5	23.36	23.45	23.25	0.2421	0.2472	0.2360

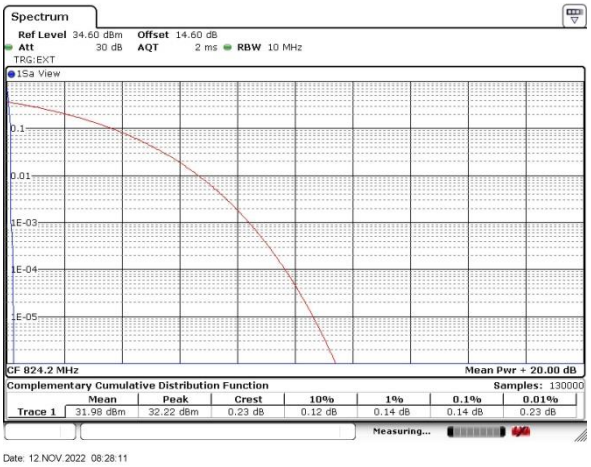
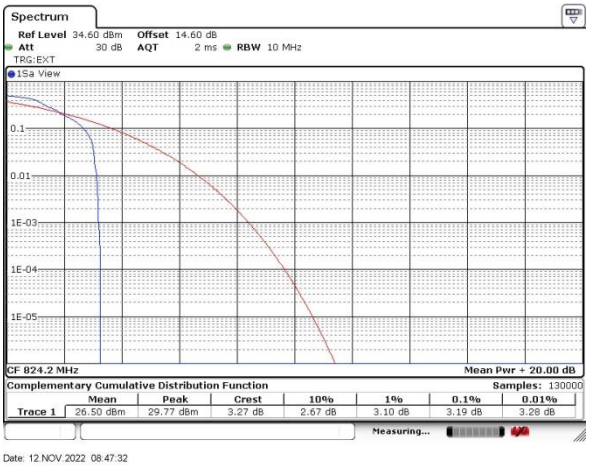
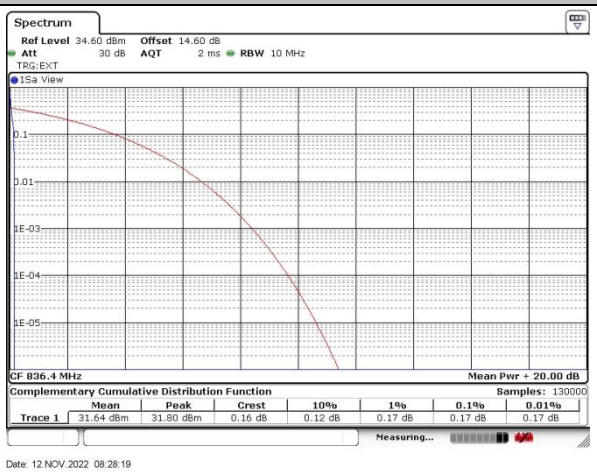
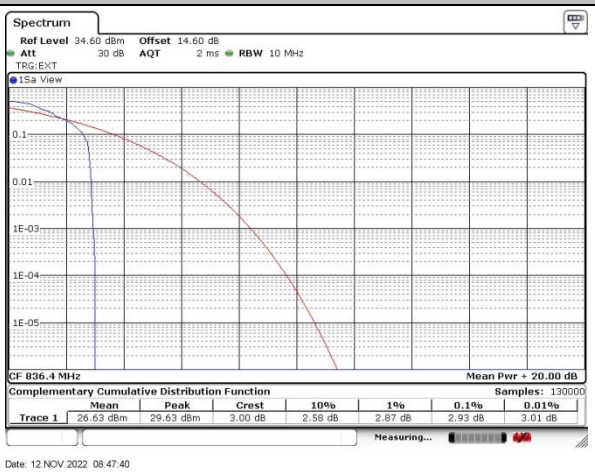
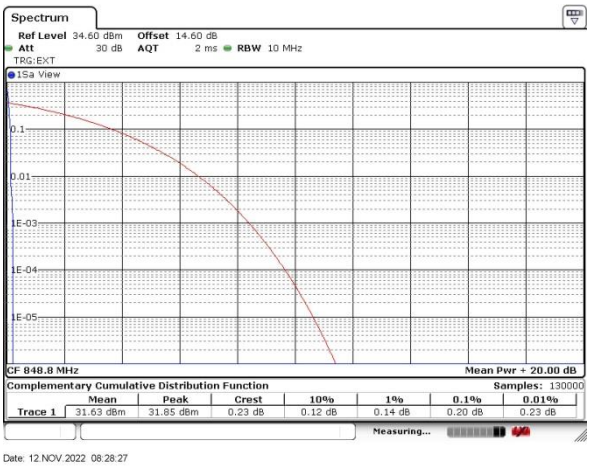
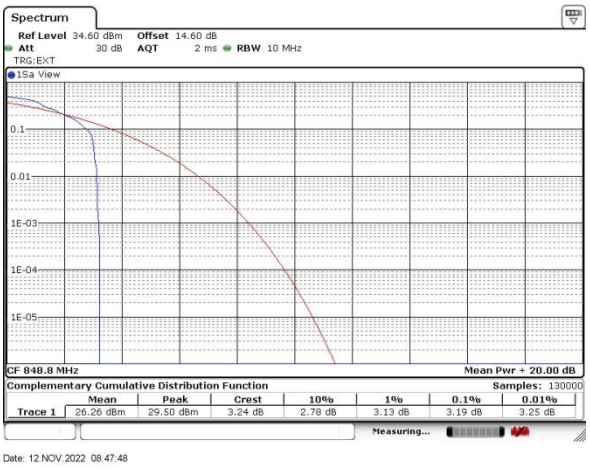
Band		WCDMA II			EIRP(W)		
TX Channel		9262	9400	9538			
Rx Channel		9662	9800	9938			
Frequency (MHz)		1852.4	1880	1907.6	L	M	H
3GPP Rel 99	AMR 12.2Kbps	24.28	24.41	24.35	0.3882	0.3999	0.3945
3GPP Rel 99	RMC 12.2Kbps	24.33	24.45	24.40	0.3926	0.4036	0.3990
3GPP Rel 6	HSDPA Subtest-1	23.22	23.38	23.25	0.3041	0.3155	0.3062
3GPP Rel 6	HSDPA Subtest-2	23.30	23.46	23.33	0.3097	0.3214	0.3119
3GPP Rel 6	HSDPA Subtest-3	22.84	22.97	22.90	0.2786	0.2871	0.2825
3GPP Rel 6	HSDPA Subtest-4	22.74	22.89	22.83	0.2723	0.2818	0.2780
3GPP Rel 8	DC-HSDPA Subtest-1	23.16	23.31	23.24	0.2999	0.3105	0.3055
3GPP Rel 8	DC-HSDPA Subtest-2	23.08	23.28	23.25	0.2944	0.3083	0.3062
3GPP Rel 8	DC-HSDPA Subtest-3	22.67	22.81	22.74	0.2679	0.2767	0.2723
3GPP Rel 8	DC-HSDPA Subtest-4	22.71	22.90	22.78	0.2704	0.2825	0.2748
3GPP Rel 6	HSUPA Subtest-1	23.31	23.43	23.34	0.3105	0.3192	0.3126
3GPP Rel 6	HSUPA Subtest-2	21.20	21.37	21.24	0.1910	0.1986	0.1928
3GPP Rel 6	HSUPA Subtest-3	22.24	22.33	22.20	0.2427	0.2477	0.2404
3GPP Rel 6	HSUPA Subtest-4	21.20	21.30	21.15	0.1910	0.1954	0.1888
3GPP Rel 6	HSUPA Subtest-5	23.30	23.44	23.39	0.3097	0.3199	0.3162

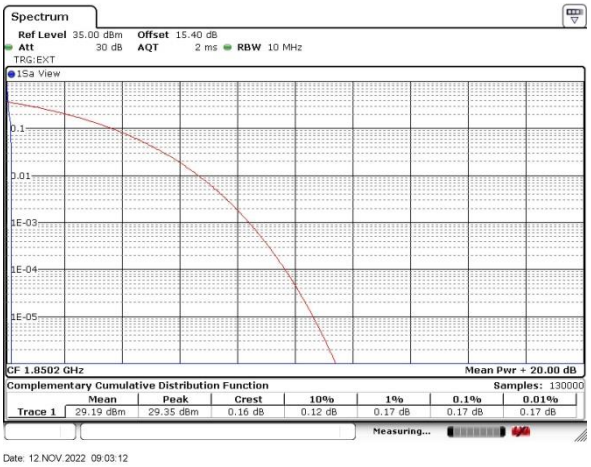
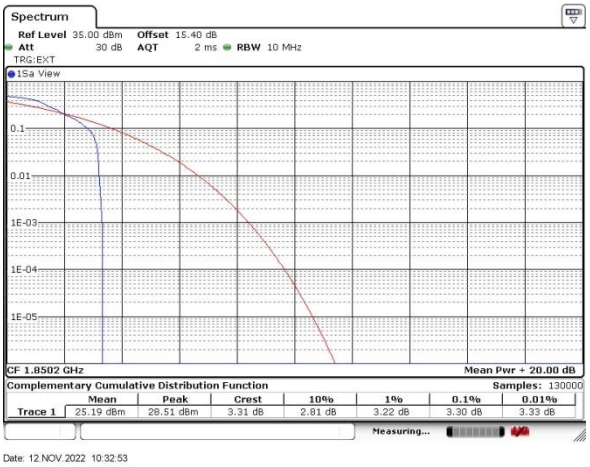
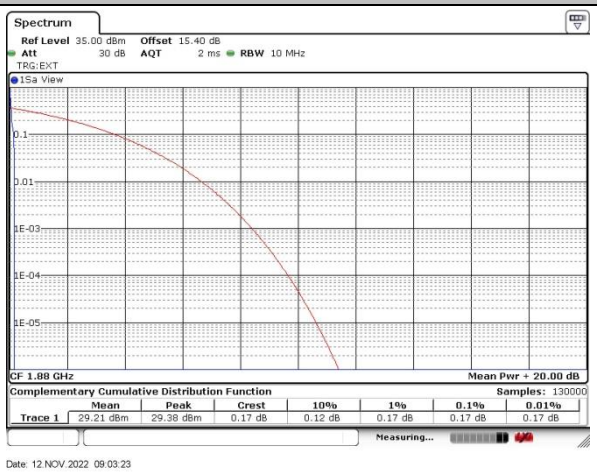
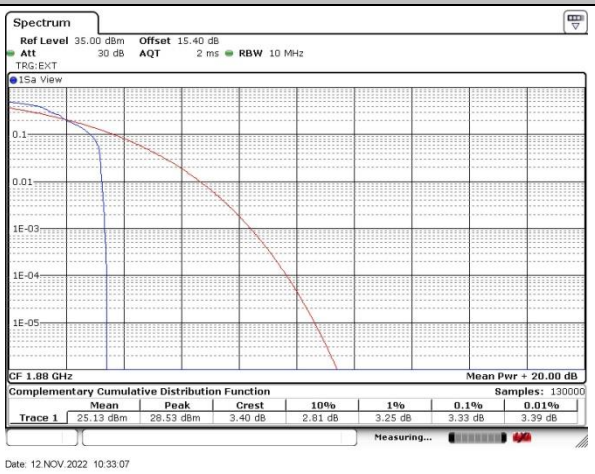
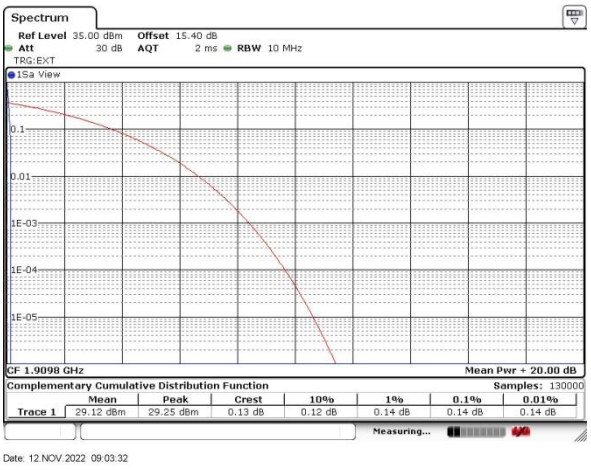
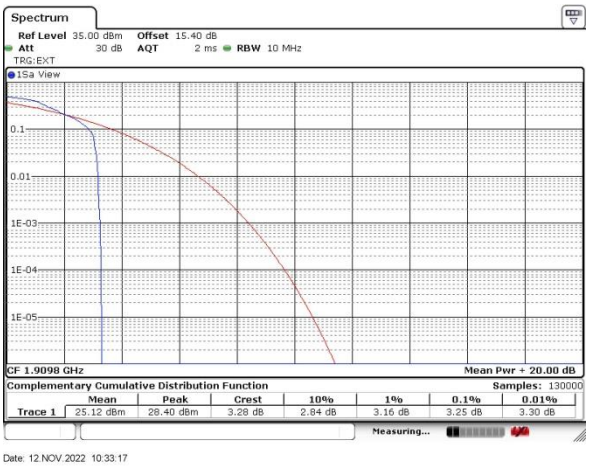
A1. GSM

Peak-to-Average Ratio

Mode	GSM850		Limit: 13dB
Mod.	GSM	EDGE class 8	Result
Lowest CH	0.14	3.19	PASS
Middle CH	0.17	2.93	
Highest CH	0.20	3.19	

Mode	GSM1900		Limit: 13dB
Mod.	GSM	EDGE class 8	Result
Lowest CH	0.17	3.30	PASS
Middle CH	0.17	3.33	
Highest CH	0.14	3.25	

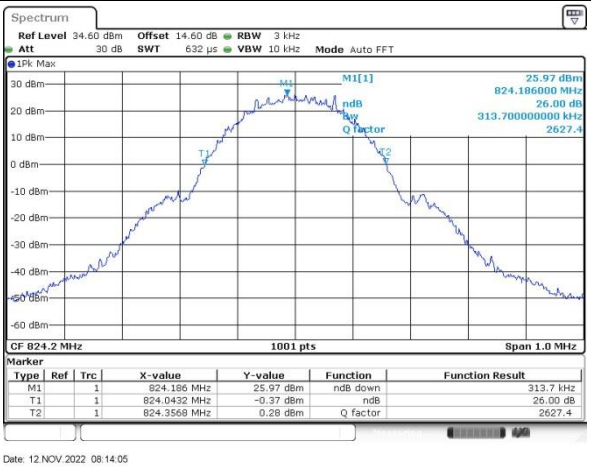
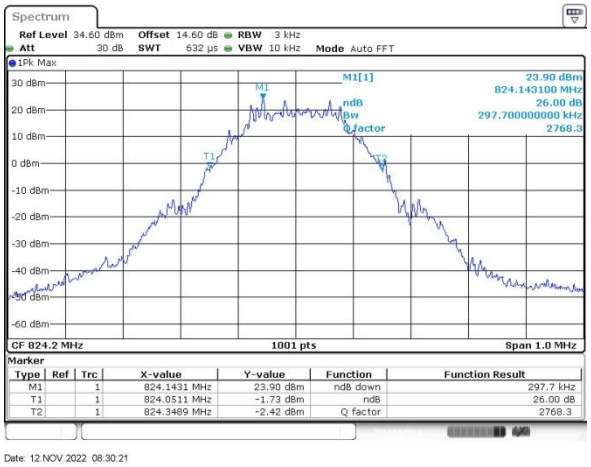
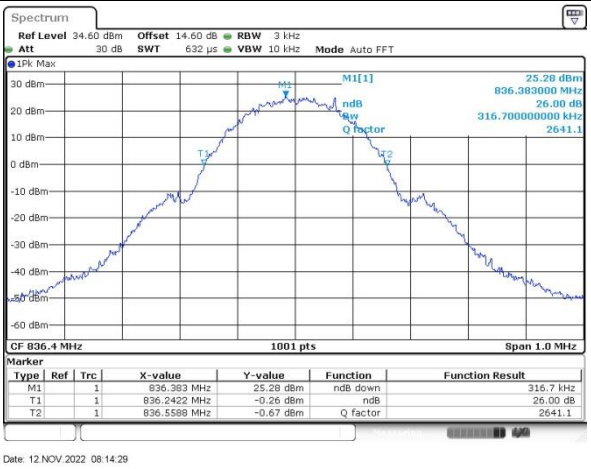
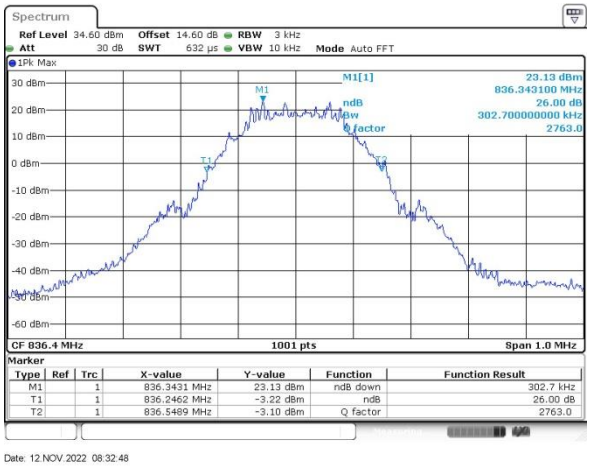
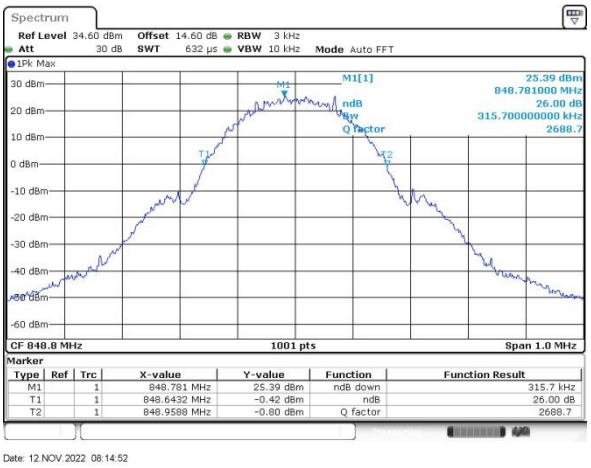
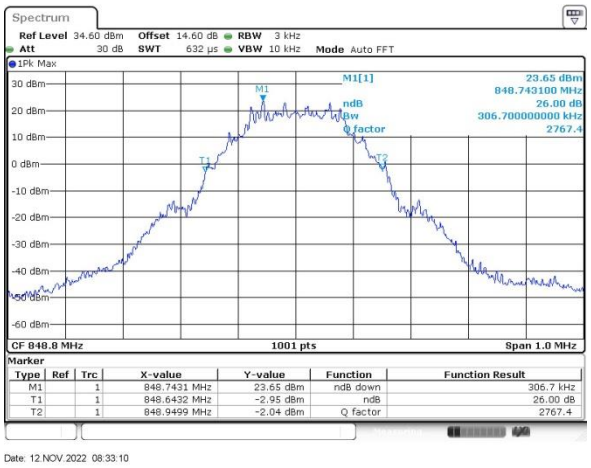
GSM850 (GSM)	GSM850 (EDGE class 8)
Lowest Channel	**Lowest Channel**
	
Middle Channel	**Middle Channel**
	
Highest Channel	**Highest Channel**
	

GSM1900 (GSM)	GSM1900 (EDGE class 8)
Lowest Channel	**Lowest Channel**
	
Middle Channel	**Middle Channel**
	
Highest Channel	**Highest Channel**
	

26dB Bandwidth

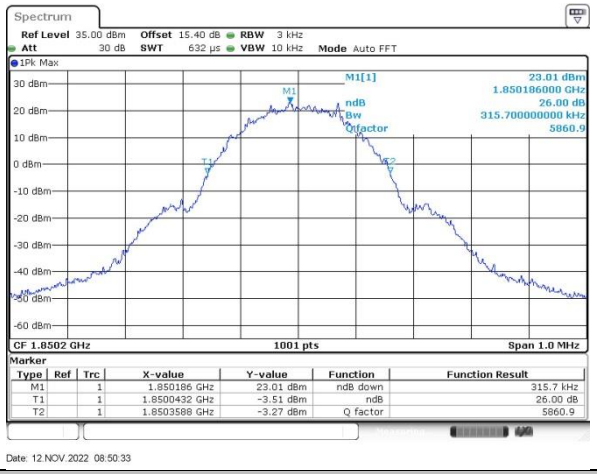
Mode	GSM850	
Mod.	GSM	EDGE class 8
Lowest CH	0.314	0.298
Middle CH	0.317	0.303
Highest CH	0.316	0.307

Mode	GSM1900	
Mod.	GSM	EDGE class 8
Lowest CH	0.316	0.315
Middle CH	0.315	0.308
Highest CH	0.317	0.302

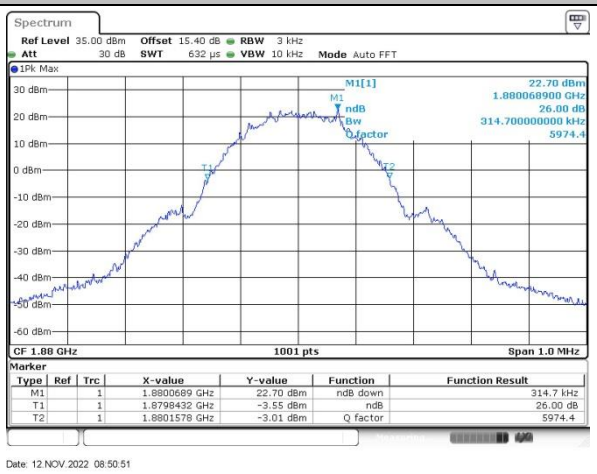
GSM850 (GSM)	GSM850 (EDGE class 8)
Lowest Channel	**Lowest Channel**
	
Middle Channel	**Middle Channel**
	
Highest Channel	**Highest Channel**
	

GSM1900 (GSM)

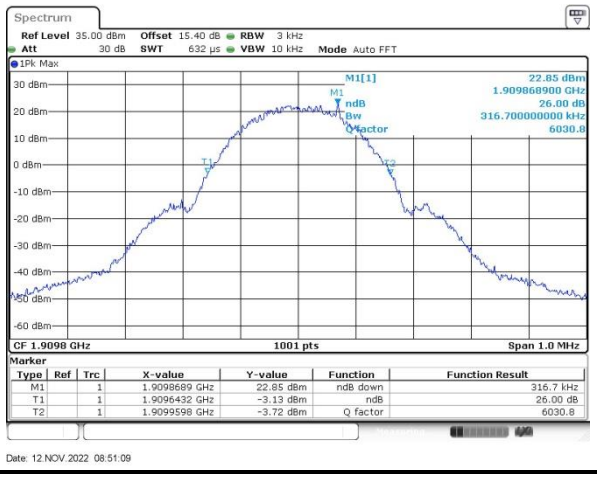
Lowest Channel



Middle Channel

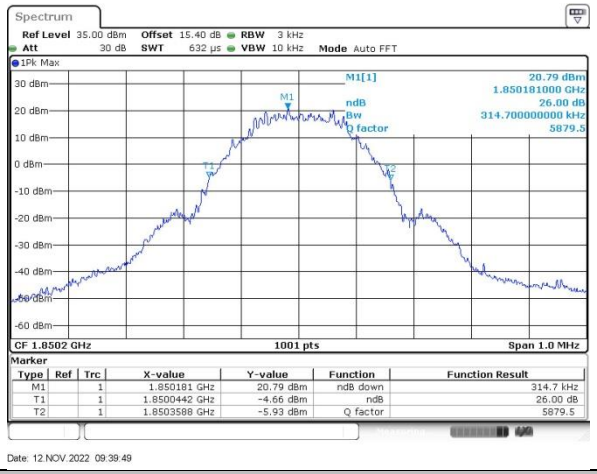


Highest Channel

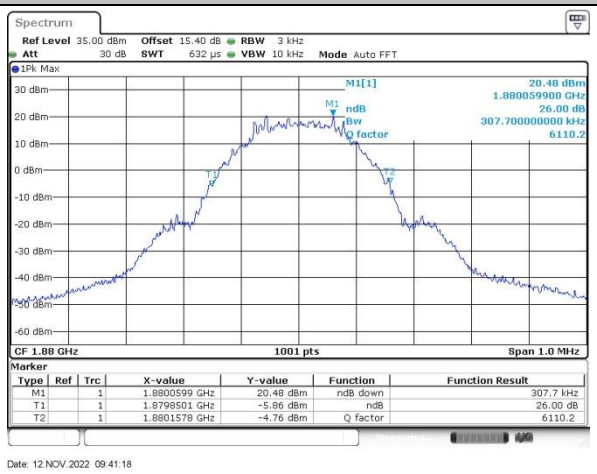


GSM1900 (EDGE class 8)

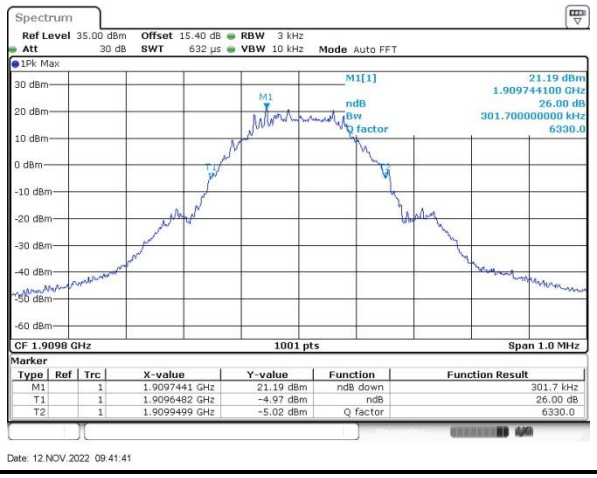
Lowest Channel



Middle Channel



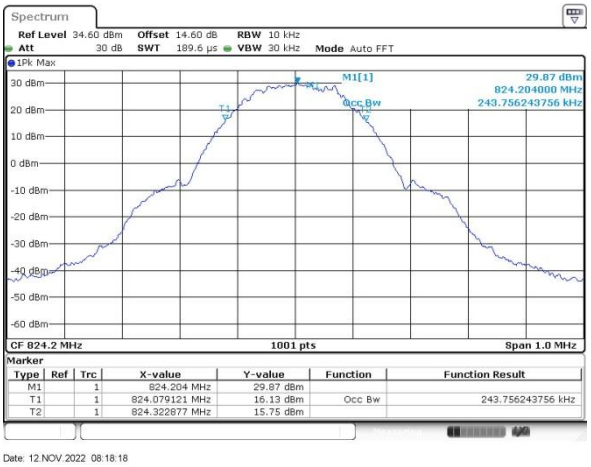
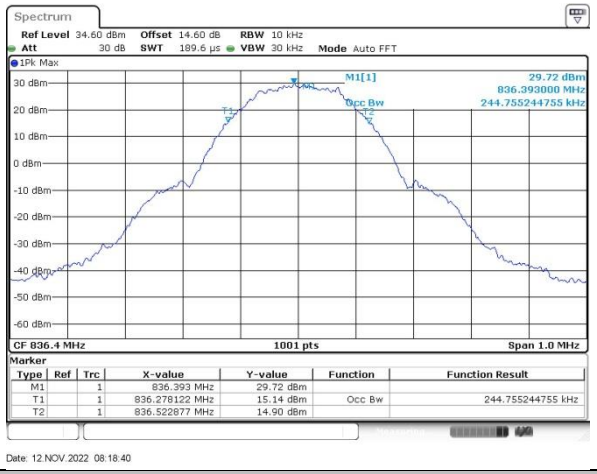
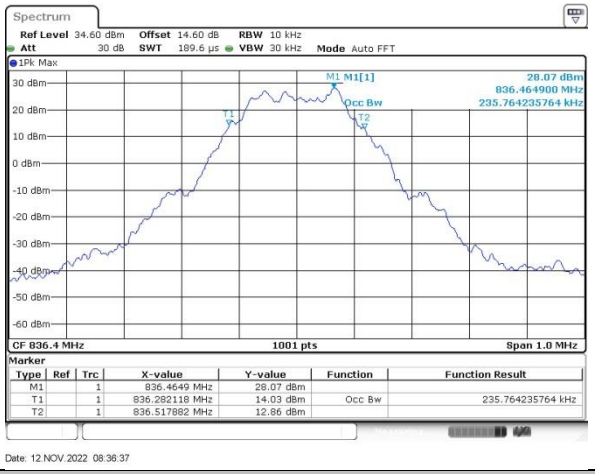
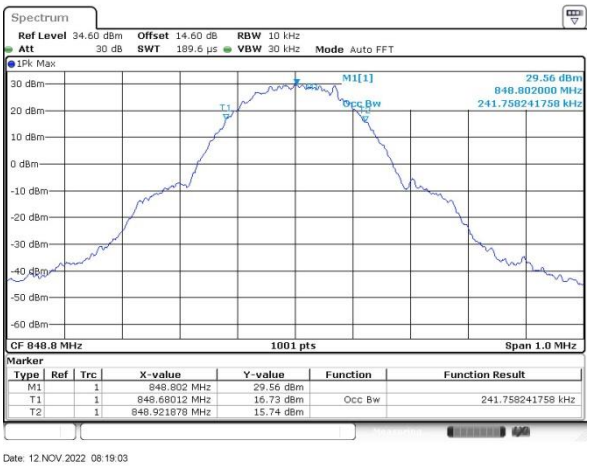
Highest Channel

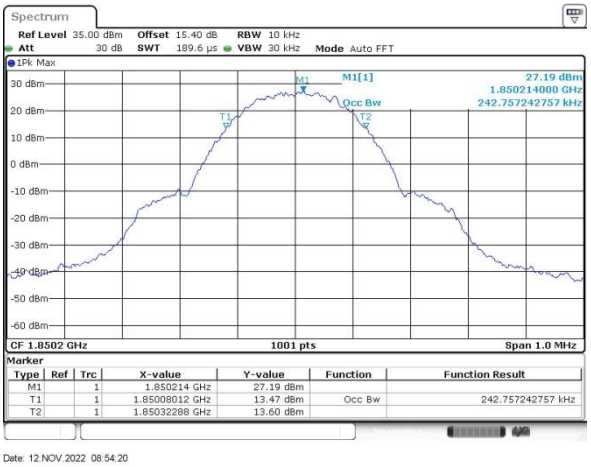
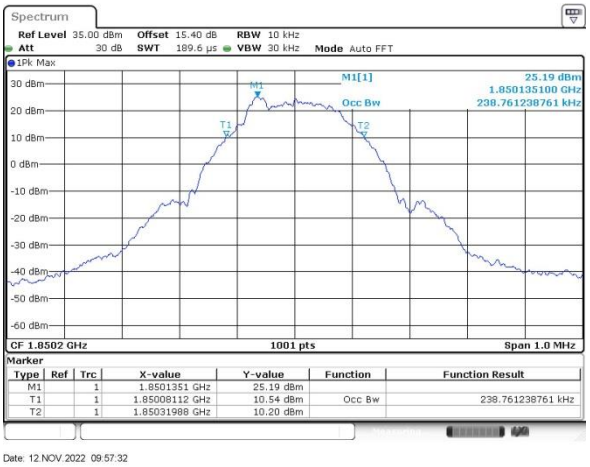
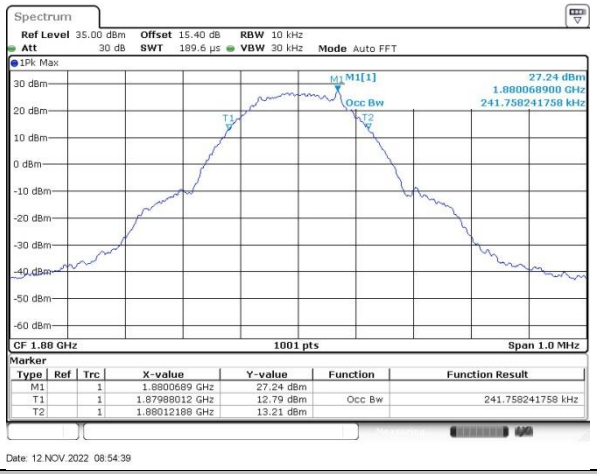
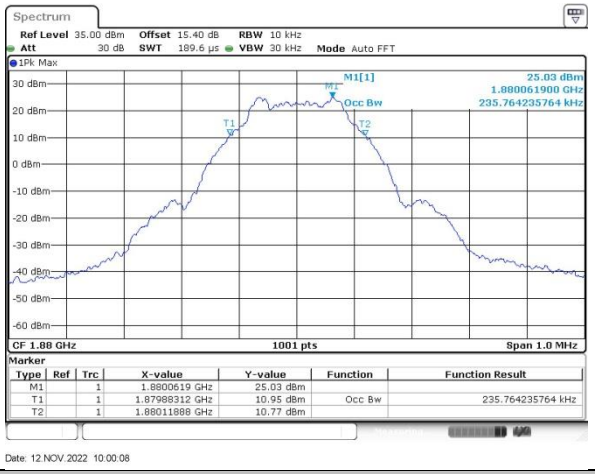
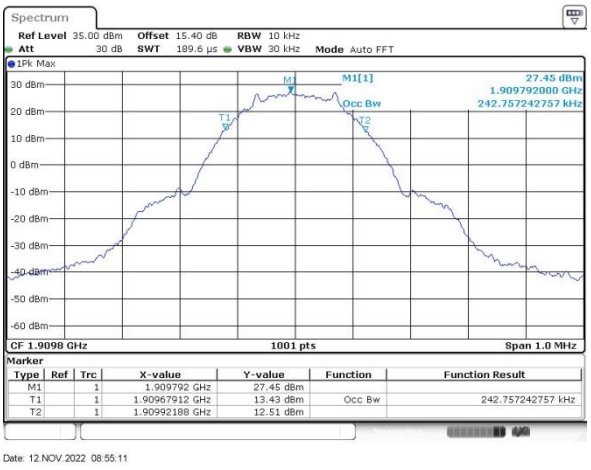
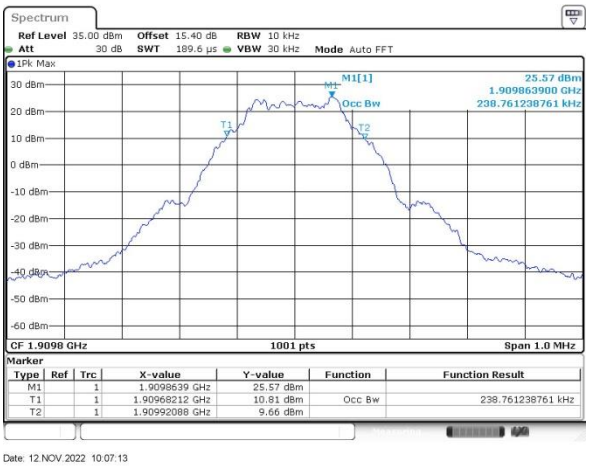


Occupied Bandwidth

Mode	GSM850	
Mod.	GSM	EDGE class 8
Lowest CH	0.244	0.238
Middle CH	0.245	0.236
Highest CH	0.242	0.241

Mode	GSM1900	
Mod.	GSM	EDGE class 8
Lowest CH	0.243	0.239
Middle CH	0.242	0.236
Highest CH	0.243	0.239

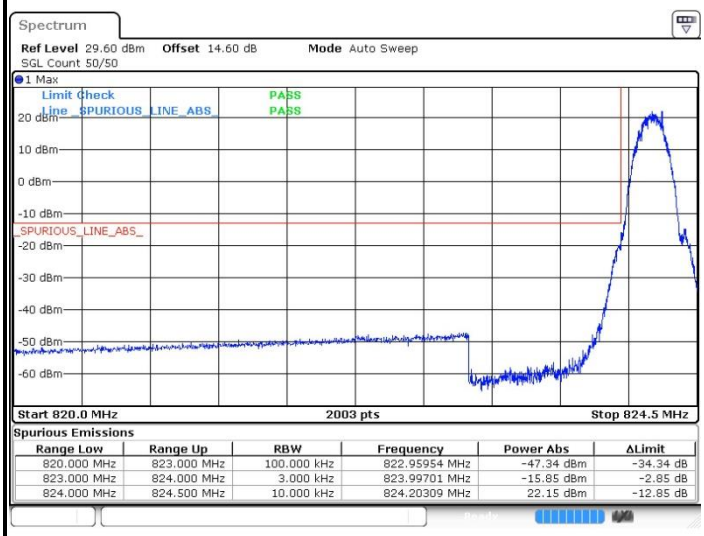
GSM850 (GSM)	GSM850 (EDGE class 8)
Lowest Channel	**Lowest Channel**
	
Middle Channel	**Middle Channel**
	
Highest Channel	**Highest Channel**
	

GSM1900 (GSM)	GSM1900 (EDGE class 8)
Lowest Channel	**Lowest Channel**
	
Middle Channel	**Middle Channel**
	
Highest Channel	**Highest Cannel**
	

Conducted Band Edge

GSM850 (GSM)

Lowest Band Edge

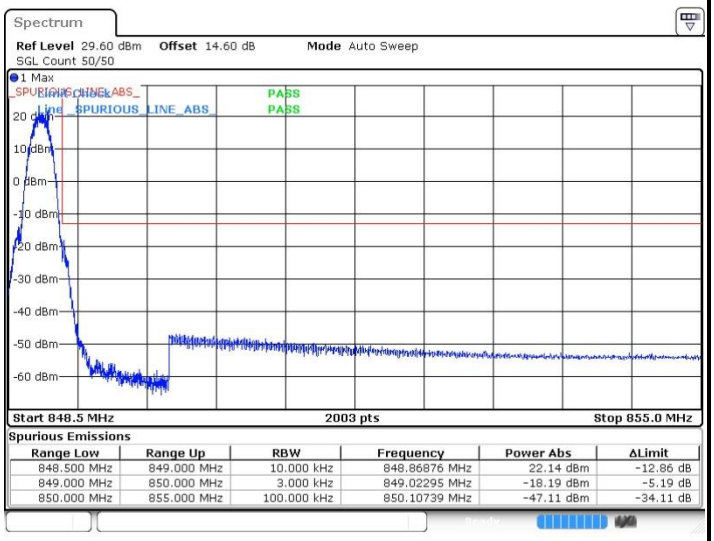


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
820.000 MHz	823.000 MHz	100.000 kHz	822.95954 MHz	-47.34 dBm	-34.34 dB
823.000 MHz	824.000 MHz	3.000 kHz	823.99701 MHz	-15.85 dBm	-2.85 dB
824.000 MHz	824.500 MHz	10.000 kHz	824.20309 MHz	22.15 dBm	-12.85 dB

Date: 12.NOV.2022 08:21:36

Highest Band Edge



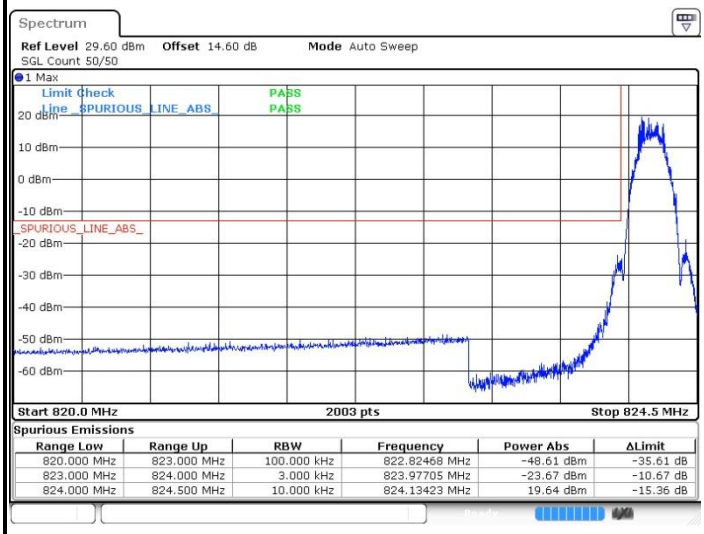
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
848.500 MHz	849.000 MHz	10.000 kHz	848.86876 MHz	22.14 dBm	-12.86 dB
849.000 MHz	850.000 MHz	3.000 kHz	849.02295 MHz	-18.19 dBm	-5.19 dB
850.000 MHz	855.000 MHz	100.000 kHz	850.10739 MHz	-47.11 dBm	-34.11 dB

Date: 12.NOV.2022 08:23:13

GSM850 (EDGE class 8)

Lowest Band Edge

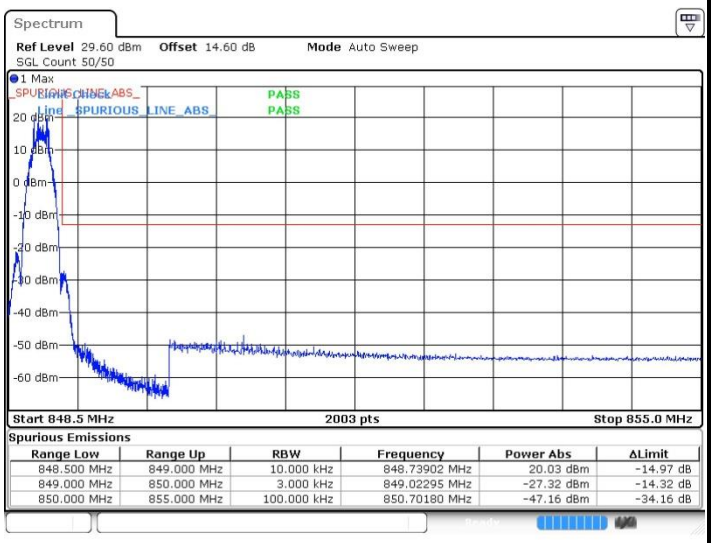


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
820.000 MHz	823.000 MHz	100.000 kHz	822.82468 MHz	-48.61 dBm	-35.61 dB
823.000 MHz	824.000 MHz	3.000 kHz	823.97705 MHz	-23.67 dBm	-10.67 dB
824.000 MHz	824.500 MHz	10.000 kHz	824.13423 MHz	19.64 dBm	-15.36 dB

Date: 12.NOV.2022 08:40:27

Highest Band Edge



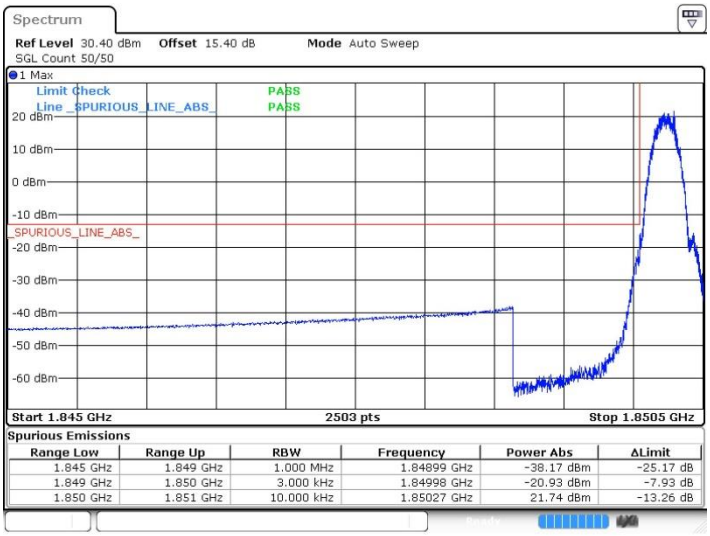
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
848.500 MHz	849.000 MHz	10.000 kHz	848.73902 MHz	20.03 dBm	-14.97 dB
849.000 MHz	850.000 MHz	3.000 kHz	849.02295 MHz	-27.32 dBm	-14.32 dB
850.000 MHz	855.000 MHz	100.000 kHz	850.70180 MHz	-47.16 dBm	-34.16 dB

Date: 12.NOV.2022 08:42:04

GSM1900 (GSM)

Lowest Band Edge

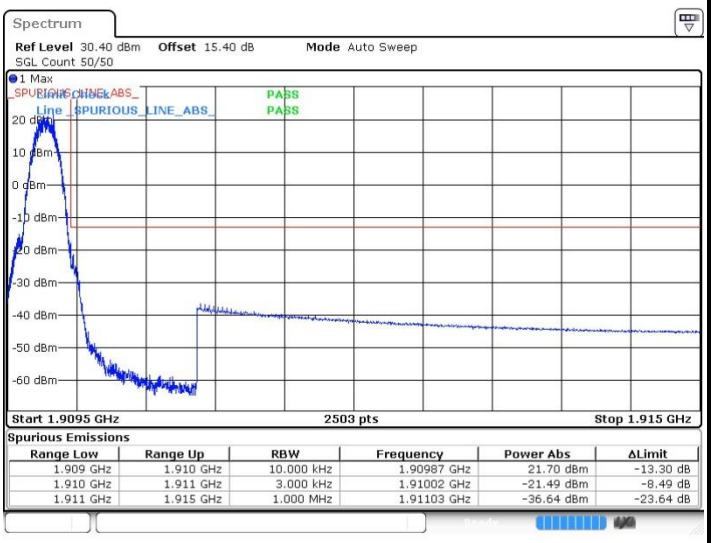


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.845 GHz	1.849 GHz	1.000 MHz	1.84899 GHz	-38.17 dBm	-25.17 dB
1.849 GHz	1.850 GHz	3.000 kHz	1.84998 GHz	-20.93 dBm	-7.93 dB
1.850 GHz	1.851 GHz	10.000 kHz	1.85027 GHz	21.74 dBm	-13.26 dB

Date: 12.NOV.2022 08:57:04

Highest Band Edge



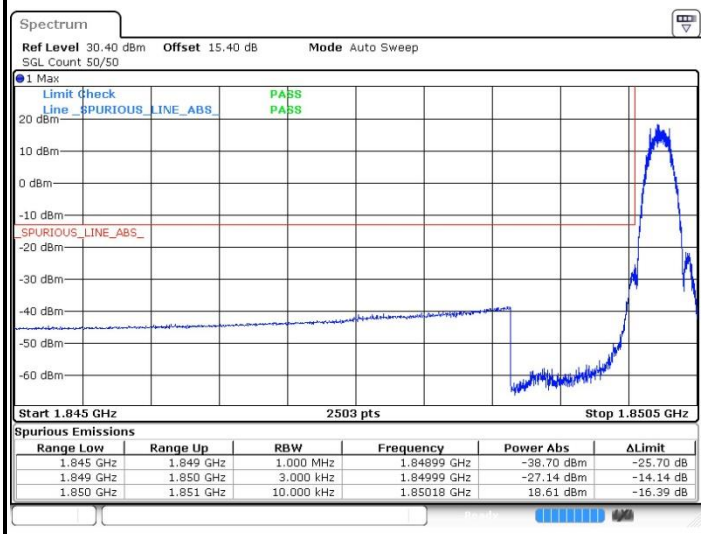
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.909 GHz	1.910 GHz	10.000 kHz	1.90987 GHz	21.70 dBm	-13.30 dB
1.910 GHz	1.911 GHz	3.000 kHz	1.91002 GHz	-21.49 dBm	-8.49 dB
1.911 GHz	1.915 GHz	1.000 MHz	1.91103 GHz	-36.64 dBm	-23.64 dB

Date: 12.NOV.2022 08:58:43

GSM1900 (EDGE class 8)

Lowest Band Edge

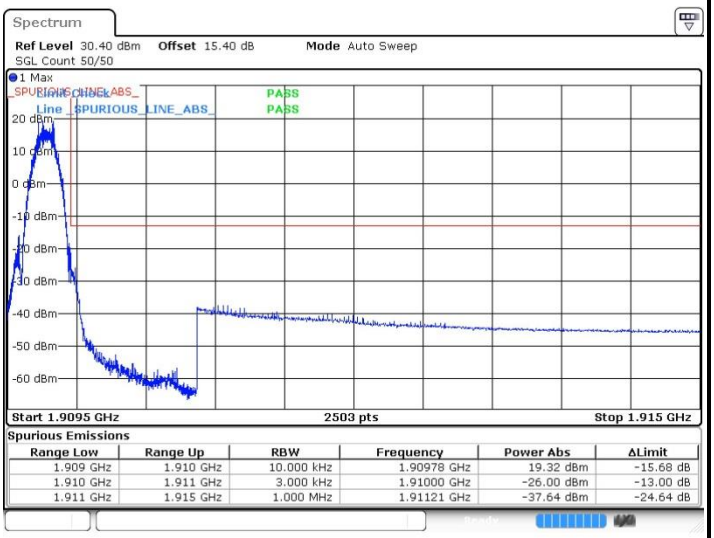


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.845 GHz	1.849 GHz	1.000 MHz	1.84899 GHz	-38.70 dBm	-25.70 dB
1.849 GHz	1.850 GHz	3.000 kHz	1.84999 GHz	-27.14 dBm	-14.14 dB
1.850 GHz	1.851 GHz	10.000 kHz	1.85018 GHz	18.61 dBm	-16.39 dB

Date: 12.NOV.2022 10:20:50

Highest Band Edge



Spurious Emissions

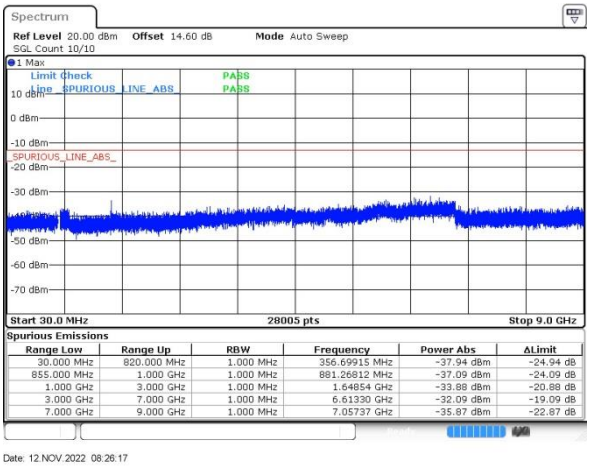
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.909 GHz	1.910 GHz	10.000 kHz	1.90978 GHz	19.32 dBm	-15.68 dB
1.910 GHz	1.911 GHz	3.000 kHz	1.91000 GHz	-26.00 dBm	-13.00 dB
1.911 GHz	1.915 GHz	1.000 MHz	1.91121 GHz	-37.64 dBm	-24.64 dB

Date: 12.NOV.2022 10:22:28

Conducted Spurious Emission

GSM850 (GSM)

Lowest Channel

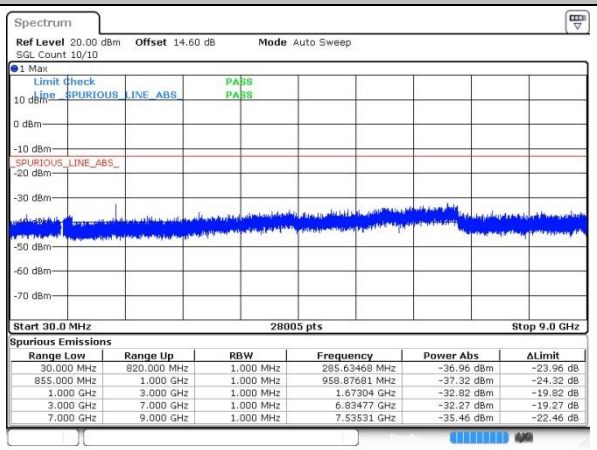


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	820.000 MHz	1.000 MHz	356.69915 MHz	-37.94 dBm	-24.94 dB
855.000 MHz	1.000 GHz	1.000 MHz	881.26812 MHz	-37.09 dBm	-24.09 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.64854 GHz	-33.88 dBm	-20.88 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.61330 GHz	-32.09 dBm	-19.09 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.05737 GHz	-35.87 dBm	-22.87 dB

Date: 12.NOV.2022 08:26:17

Middle Channel

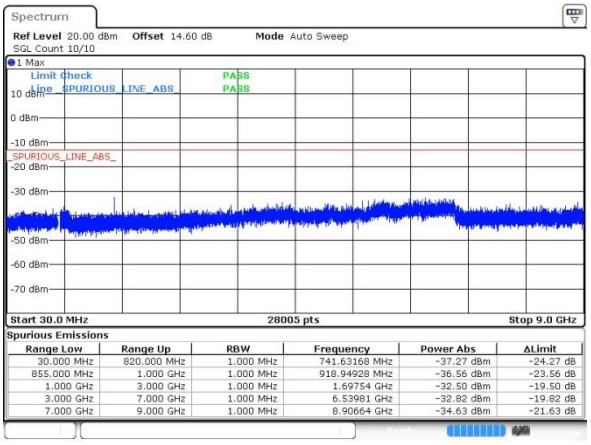


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	820.000 MHz	1.000 MHz	285.63468 MHz	-36.96 dBm	-23.96 dB
855.000 MHz	1.000 GHz	1.000 MHz	958.87681 MHz	-37.32 dBm	-24.32 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.67304 GHz	-32.82 dBm	-19.82 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.83477 GHz	-32.27 dBm	-19.27 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.53531 GHz	-35.46 dBm	-22.46 dB

Date: 12.NOV.2022 08:26:39

Highest Channel



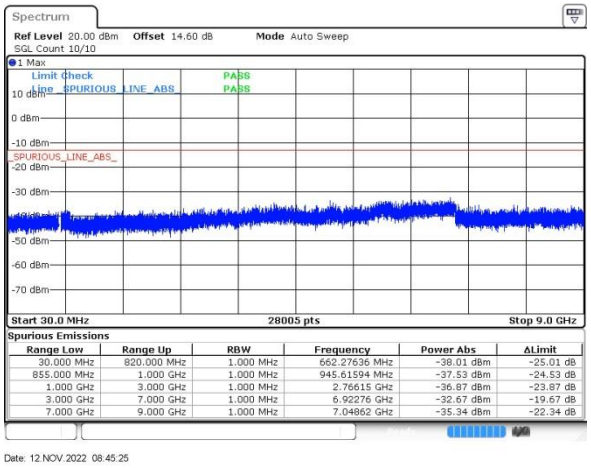
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	820.000 MHz	1.000 MHz	741.63168 MHz	-37.27 dBm	-24.27 dB
855.000 MHz	1.000 GHz	1.000 MHz	918.94928 MHz	-36.56 dBm	-23.56 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.69754 GHz	-32.50 dBm	-19.50 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.53981 GHz	-32.82 dBm	-19.82 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.90664 GHz	-34.63 dBm	-21.63 dB

Date: 12.NOV.2022 08:27:09

GSM850 (EDGE class 8)

Lowest Channel

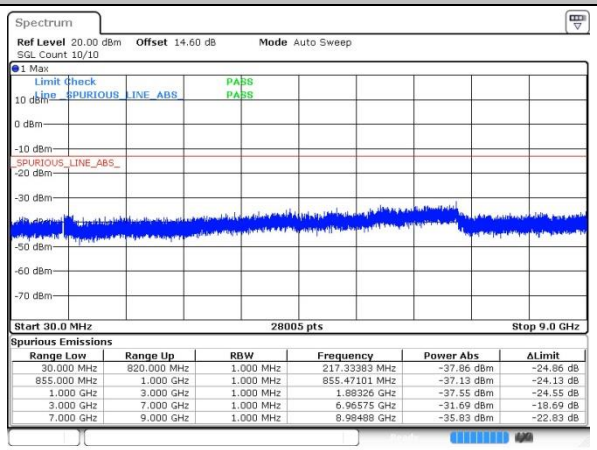


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	820.000 MHz	1.000 MHz	662.27636 MHz	-38.01 dBm	-25.01 dB
855.000 MHz	1.000 GHz	1.000 MHz	945.61594 MHz	-37.53 dBm	-24.53 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.76615 GHz	-36.87 dBm	-23.87 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.92276 GHz	-32.67 dBm	-19.67 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.04862 GHz	-35.34 dBm	-22.34 dB

Date: 12.NOV.2022 08:45:25

Middle Channel

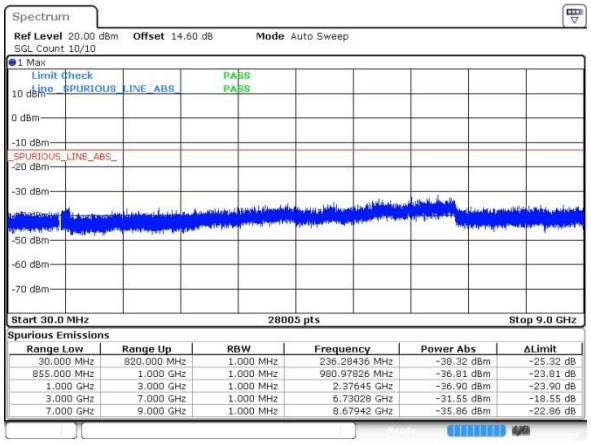


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	820.000 MHz	1.000 MHz	217.33383 MHz	-37.86 dBm	-24.86 dB
855.000 MHz	1.000 GHz	1.000 MHz	855.47101 MHz	-37.13 dBm	-24.13 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.88326 GHz	-37.55 dBm	-24.55 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.96575 GHz	-31.69 dBm	-18.69 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.98488 GHz	-35.83 dBm	-22.83 dB

Date: 12.NOV.2022 08:45:46

Highest Channel



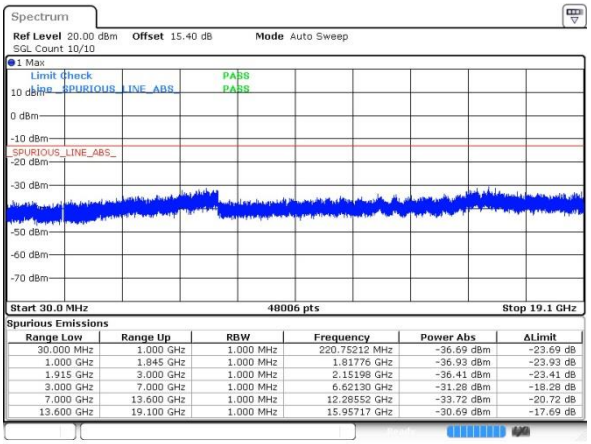
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	820.000 MHz	1.000 MHz	236.28436 MHz	-38.32 dBm	-25.32 dB
855.000 MHz	1.000 GHz	1.000 MHz	980.97826 MHz	-36.81 dBm	-23.81 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.37645 GHz	-36.90 dBm	-23.90 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.73028 GHz	-31.55 dBm	-18.55 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.67942 GHz	-35.86 dBm	-22.86 dB

Date: 12.NOV.2022 08:46:07

GSM1900 (GSM)

Lowest Channel

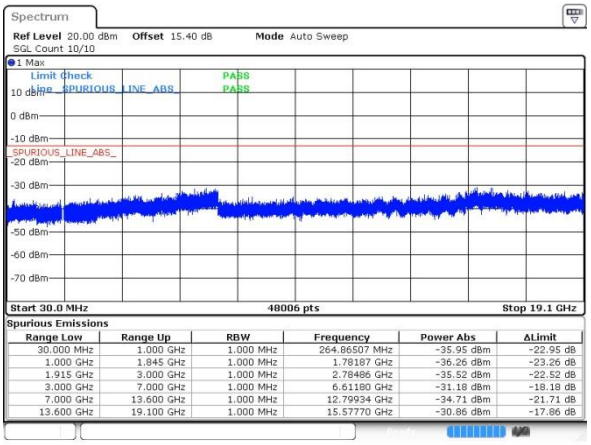


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	220.75212 MHz	-36.69 dBm	-23.69 dB
1.000 GHz	1.845 GHz	1.000 MHz	1.81776 GHz	-36.93 dBm	-23.93 dB
1.915 GHz	3.000 GHz	1.000 MHz	2.15198 GHz	-36.41 dBm	-23.41 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.62130 GHz	-31.28 dBm	-18.28 dB
7.000 GHz	13.600 GHz	1.000 MHz	12.28552 GHz	-33.72 dBm	-20.72 dB
13.600 GHz	19.100 GHz	1.000 MHz	15.95717 GHz	-30.69 dBm	-17.69 dB

Date: 12.NOV.2022 09:01:47

Middle Channel

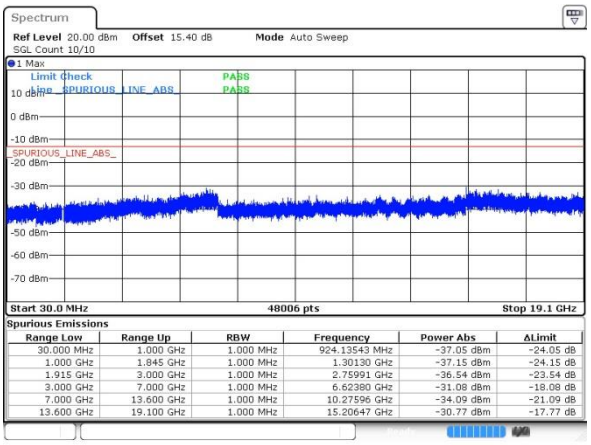


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	264.86507 MHz	-35.95 dBm	-22.95 dB
1.000 GHz	1.845 GHz	1.000 MHz	1.78187 GHz	-36.26 dBm	-23.26 dB
1.915 GHz	3.000 GHz	1.000 MHz	2.78486 GHz	-35.52 dBm	-22.52 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.61180 GHz	-31.18 dBm	-18.18 dB
7.000 GHz	13.600 GHz	1.000 MHz	12.79934 GHz	-34.71 dBm	-21.71 dB
13.600 GHz	19.100 GHz	1.000 MHz	15.57770 GHz	-30.86 dBm	-17.86 dB

Date: 12.NOV.2022 09:02:08

Highest Channel



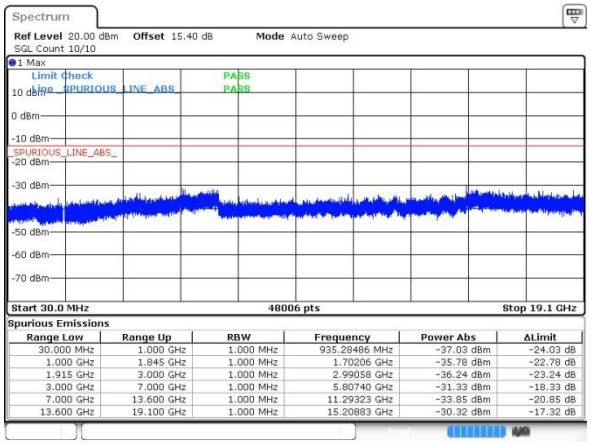
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	924.13543 MHz	-37.05 dBm	-24.05 dB
1.000 GHz	1.845 GHz	1.000 MHz	1.30130 GHz	-37.15 dBm	-24.15 dB
1.915 GHz	3.000 GHz	1.000 MHz	2.75991 GHz	-36.54 dBm	-23.54 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.62380 GHz	-31.08 dBm	-18.08 dB
7.000 GHz	13.600 GHz	1.000 MHz	10.27596 GHz	-34.09 dBm	-21.09 dB
13.600 GHz	19.100 GHz	1.000 MHz	15.20647 GHz	-30.77 dBm	-17.77 dB

Date: 12.NOV.2022 09:02:29

GSM1900 (EDGE class 8)

Lowest Channel

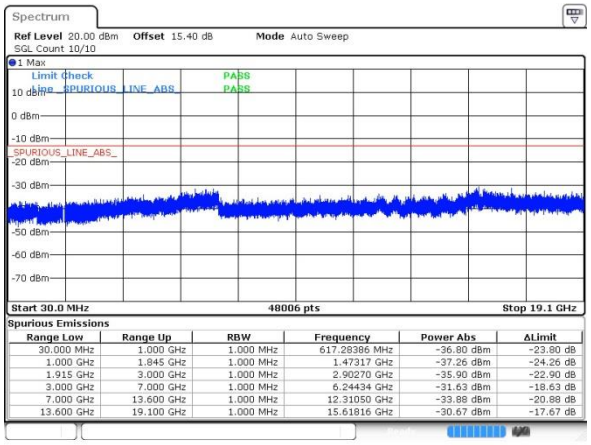


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	935.28486 MHz	-37.03 dBm	-24.03 dB
1.000 GHz	1.845 GHz	1.000 MHz	1.70206 GHz	-35.78 dBm	-22.78 dB
1.915 GHz	3.000 GHz	1.000 MHz	2.99058 GHz	-36.24 dBm	-23.24 dB
3.000 GHz	7.000 GHz	1.000 MHz	5.80740 GHz	-31.33 dBm	-18.33 dB
7.000 GHz	13.600 GHz	1.000 MHz	11.29323 GHz	-33.85 dBm	-20.85 dB
13.600 GHz	19.100 GHz	1.000 MHz	15.20883 GHz	-30.32 dBm	-17.32 dB

Date: 12.NOV.2022 10:24:49

Middle Channel

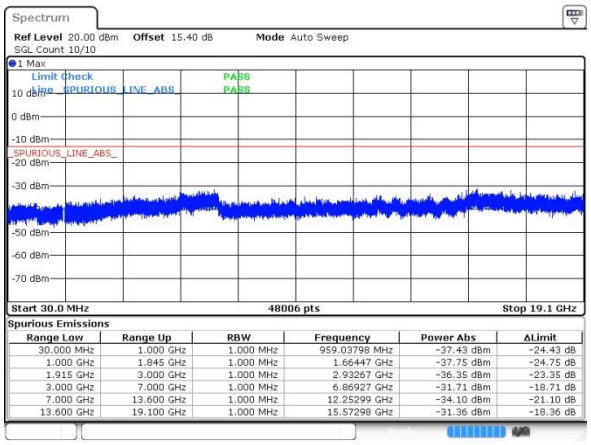


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	617.28386 MHz	-36.80 dBm	-23.80 dB
1.000 GHz	1.845 GHz	1.000 MHz	1.47317 GHz	-37.26 dBm	-24.26 dB
1.915 GHz	3.000 GHz	1.000 MHz	2.90270 GHz	-35.90 dBm	-22.90 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.24434 GHz	-31.63 dBm	-18.63 dB
7.000 GHz	13.600 GHz	1.000 MHz	12.31050 GHz	-33.88 dBm	-20.88 dB
13.600 GHz	19.100 GHz	1.000 MHz	15.61816 GHz	-30.67 dBm	-17.67 dB

Date: 12.NOV.2022 10:25:25

Highest Channel



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	959.03798 MHz	-37.43 dBm	-24.43 dB
1.000 GHz	1.845 GHz	1.000 MHz	1.66447 GHz	-37.75 dBm	-24.75 dB
1.915 GHz	3.000 GHz	1.000 MHz	2.93267 GHz	-36.35 dBm	-23.35 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.86927 GHz	-31.71 dBm	-18.71 dB
7.000 GHz	13.600 GHz	1.000 MHz	12.25299 GHz	-34.10 dBm	-21.10 dB
13.600 GHz	19.100 GHz	1.000 MHz	15.57298 GHz	-31.36 dBm	-18.36 dB

Date: 12.NOV.2022 10:25:57

Frequency Stability

Test Conditions	Middle Channel	GSM850 (GSM)	GSM850 (EDGE class 8)	Limit 2.5ppm
Temperature (°C)	Voltage (Volt)	Deviation (ppm)		Result
50	Normal Voltage	0.0056	0.0013	PASS
40	Normal Voltage	0.0092	0.0025	
30	Normal Voltage	0.0055	0.0031	
20(Ref.)	Normal Voltage	0.0000	0.0000	
10	Normal Voltage	0.0031	0.0046	
0	Normal Voltage	0.0035	0.0037	
-10	Normal Voltage	0.0048	0.0072	
-20	Normal Voltage	0.0066	0.0087	
-30	Normal Voltage	0.0021	0.0021	
20	Maximum Voltage	0.0057	0.0065	
20	Normal Voltage	0.0016	0.0032	
20	Battery End Point	0.0033	0.0034	

Test Conditions	Middle Channel	GSM1900 (GSM)	GSM1900 (EDGE class 8)	Limit Note 2.
Temperature (°C)	Voltage (Volt)	Deviation (ppm)		Result
50	Normal Voltage	0.0037	0.0032	PASS
40	Normal Voltage	0.0022	0.0057	
30	Normal Voltage	0.0041	0.0011	
20(Ref.)	Normal Voltage	0.0000	0.0000	
10	Normal Voltage	0.0051	0.0029	
0	Normal Voltage	0.0046	0.0025	
-10	Normal Voltage	0.0039	0.0034	
-20	Normal Voltage	0.0025	0.0025	
-30	Normal Voltage	0.0016	0.0029	
20	Maximum Voltage	0.0037	0.0023	
20	Normal Voltage	0.0044	0.0018	
20	Battery End Point	0.0038	0.0025	

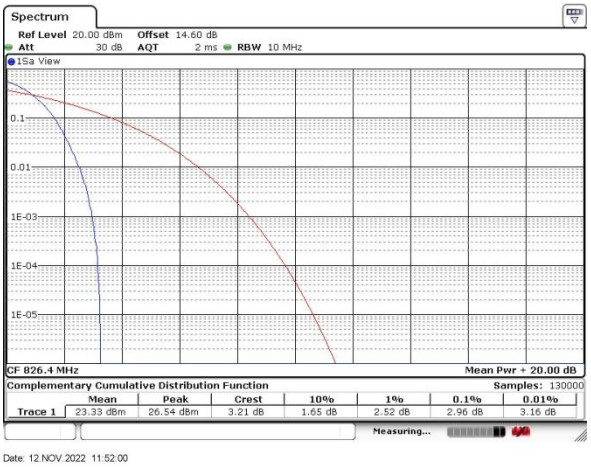
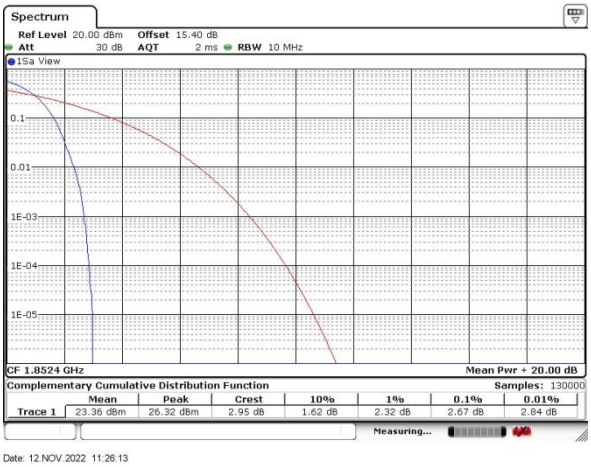
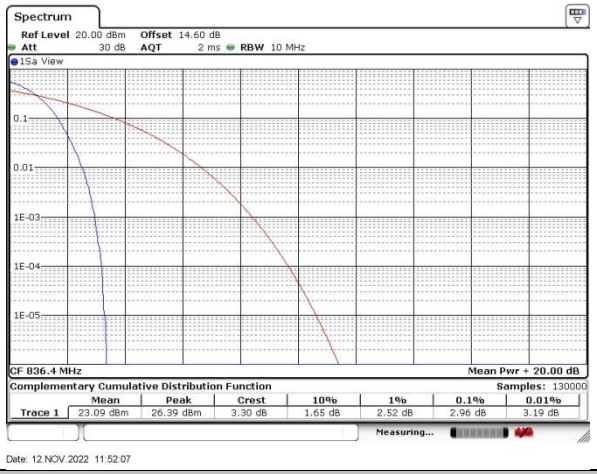
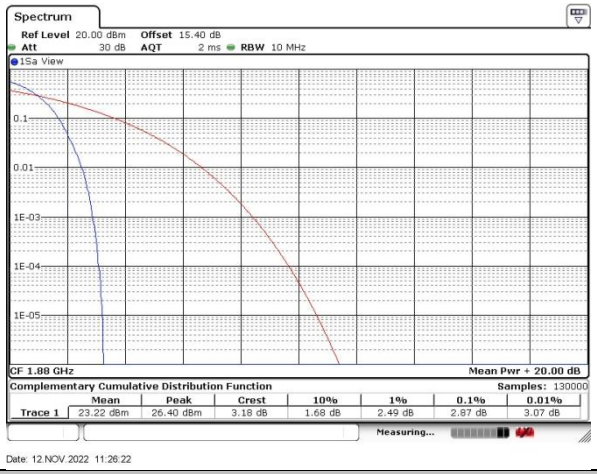
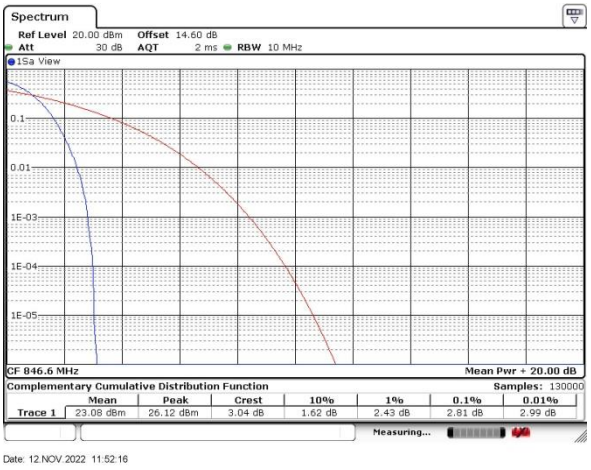
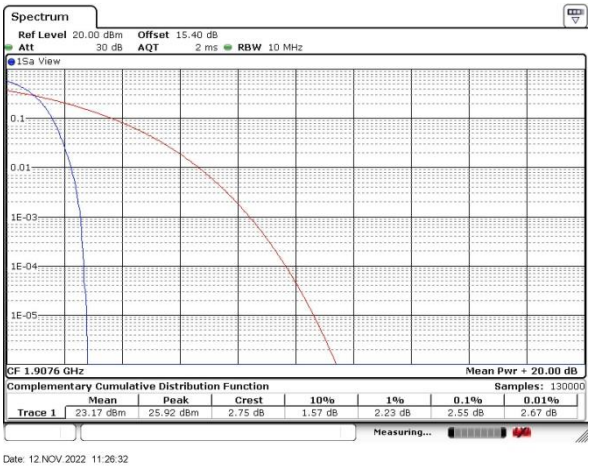
Note:

1. Normal Voltage = 3.87V ; Battery End Point (BEP) =3.7V. ; Maximum Voltage =4.25V
2. The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.

A2. WCDMA

Peak-to-Average Ratio

Mode	WCDMA Band V	WCDMA Band II	WCDMA Band IV	Limit: 13dB
Mod.	RMC 12.2Kbps	RMC 12.2Kbps	RMC 12.2Kbps	Result
Lowest CH	2.96	2.67	2.61	PASS
Middle CH	2.96	2.87	2.75	
Highest CH	2.81	2.55	2.70	

WCDMA Band V (RMC 12.2Kbps)	WCDMA Band II (RMC 12.2Kbps)
Lowest Channel	**Lowest Channel**
	
Middle Channel	**Middle Channel**
	
Highest Channel	**Highest Channel**