



TEST REPORT

Test item description: Smart Phone
FCC ID: 2BAY5 SE
Trademark(s): FOSSIBOT
Model/Type reference: S5, S5 PRO
Applicant's name: Shenzhen Qichang Intelligent Technology Co., Ltd
Address: Room 510, Building 7, Yunli Intelligent Park, No. 7, Bantian Street, Longgang , Shenzhen
Manufacturer: Shenzhen Qichang Intelligent Technology Co., Ltd
Address: Room 510, Building 7, Yunli Intelligent Park, No. 7, Bantian Street, Longgang , Shenzhen
Prepared By: Shenzhen CTB Testing Technology Co., Ltd.
Address: 1&2/F., Building A, No.26, Xinghe Road, Xinqiao, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, China
Sample Received Date: Jun. 13, 2025
Sample tested Date: Jun. 13, 2025 to Oct. 10, 2025
Issue Date: Oct. 10, 2025
Report No.: CTB25061304801RF05
Test Standards: FCC Part 22H & 24E
Test Results: PASS
Remark: This is GSM radio test report.

Compiled by:

Reviewed by:

Approved by:

Kai Chen

Kai Chen

Martin Feng

Martin Feng

Bin Mei

Bin Mei / Director

Note: If there is any objection to the inspection results in this report, please submit a written report to the company within 15 days from the date of receiving the report. The test report is effective only with both signature and specialized stamp. This result(s) shown in this report refer only to the sample(s) tested. Without written approval of Shenzhen CTB Testing Technology Co., Ltd. this report can't be reproduced except in full. The tested sample(s) and the sample information are provided by the client. "*" indicates the testing items were fulfilled by subcontracted lab. "#" indicates the items are not in CNAS accreditation scope.

TABLE OF CONTENT

Test Report Declaration	Page
1. VERSION.....	3
2. TEST SUMMARY	4
3. MEASUREMENT UNCERTAINTY	5
4. PRODUCT INFORMATION AND TEST SETUP	6
4.1 Product Information	6
4.2 Test Setup Configuration.....	6
4.3 Support Equipment.....	6
4.4 Channel List	7
4.5 Test Mode	7
4.6 Test Environment	8
5. TEST FACILITY AND TEST INSTRUMENT USED	9
5.1 Test Facility	9
5.2 Test Instrument Used	9
6. RF OUTPUT POWER.....	11
6.1 Standard Applicable	11
6.2 Test Procedure.....	11
6.3 Environmental Conditions	11
6.4 Summary of Test Results/Plots	12
7. PEAK-TO-AVERAGE RATIO(PAR) OF TRANSMITTER	19
7.1 Standard Applicable	19
7.2 Test Procedure.....	19
7.3 Environmental Conditions	19
7.4 Summary of Test Results	20
8. EMISSION BANDWIDTH	22
8.1 Standard Applicable	22
8.2 Test Procedure.....	22
8.3 Environmental Conditions	22
8.4 Summary of Test Results/Plots	23
9. OUT OF BAND EMISSIONS AT ANTENNA TERMINAL	37
9.1 Standard Applicable	37
9.2 Test Procedure.....	37
9.3 Environmental Conditions	37
9.4 Summary of Test Results/Plots	38
10. SPURIOUS RADIATED EMISSIONS.....	62
10.1 Standard Applicable	62
10.2 Test Procedure.....	62
10.3 Environmental Conditions	62
10.4 Summary of Test Results/Plots	63
11. FREQUENCY STABILITY	67
11.1 Standard Applicable	67
11.2 Test Procedure.....	67
11.3 Environmental Conditions	67
11.4 Summary of Test Results/Plots	68
12. EUT TEST PHOTO.....	79

(Note: N/A means not applicable)



1. VERSION

Report No.	Issue Date	Description	Approved
CTB25061304801RF05	Oct. 10, 2025	Original	Valid

2. TEST SUMMARY

The Product has been tested according to the following specifications:

FCC Rules	Description of Test Item	Result
§1.1307, §2.1091	RF Exposure	Compliant
§22.913 (a), §24.232 (c)	RF Output Power	Compliant
§24.51	Peak-to-average Ratio(PAR) of Transmitter	Compliant
§22.917 (b), §24.238 (b)	Emission Bandwidth	Compliant
§22.917 (a), §24.238 (a)	Spurious Emissions at Antenna Terminal	Compliant
§22.917 (a), §24.238 (a)	Spurious Radiation Emissions	Compliant
§22.917 (a), §24.238 (a)	Out of Band Emissions	Compliant
§22.355, §24.235	Frequency Stability	Compliant

3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the Product as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

Item	Uncertainty
Occupancy bandwidth	54.3kHz
Conducted output power Above 1G	0.9dB
Conducted output power below 1G	0.9dB
Power Spectral Density , Conduction	0.9dB
Conduction spurious emissions	2.0dB
Out of band emission	2.0dB
3m camber Radiated spurious emission(30MHz-1GHz)	4.6dB
3m chamber Radiated spurious emission(1GHz-18GHz)	5.1dB
3m chamber Radiated spurious emission(18GHz-40GHz)	3.4dB
Receiver Reference Sensitivity level	1.9dB
humidity uncertainty	5.5%
Temperature uncertainty	0.63°C
frequency	1×10^{-7}

4. PRODUCT INFORMATION AND TEST SETUP

4.1 Product Information

Model/Type reference:	S5, S5 PRO
Model Description:	All the model are the same circuit and RF module, only the name is different. Test sample model: S5
Hardware Version:	J566A_9230MB_D4XUF_V1.1
Software Version:	Android 15
Operation Frequency:	GSM/GPRS/EDGE 850: 824~849MHz GSM/GPRS/EDGE 1900: 1850~1910MHz WCDMA Band 2: 1850~1910MHz WCDMA Band 5: 824~849MHz
Max. RF output power:	GSM850: 29.52dBm GSM1900: 27.73dBm WCDMA Band 2: 20.29dBm WCDMA Band 5: 21.70dBm
Type of Modulation:	GMSK, BPSK
Antenna installation:	FPC antenna
Antenna Gain:	GSM850: -0.87dBi PCS1900: 0.47dBi WCDMA Band 2: 0.47dBi WCDMA Band 5: -0.87dBi
Ratings:	AC 120-240V DC 3.89V by battery

4.2 Test Setup Configuration

See test photographs attached in EUT TEST SETUP PHOTOGRAPHS for the actual connections between Product and support equipment.

4.3 Support Equipment

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
1	Router	Huawei	AX2 Pro	/	AE

Notes:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

4.4 Channel List

Testing Configure			
Support Band	Support Standard	Channel Frequency	Channel Number
GSM 850	GSM/GPRS/EDGE	824.2 MHz	128
		836.6 MHz	190
		848.8 MHz	251
PCS 1900	GSM/GPRS/EDGE	1850.2 MHz	512
		1880.0 MHz	661
		1909.8 MHz	810
WCDMA Band 5	WCDMA/HSDPA/HSUPA	826.4 MHz	4132
		836.6 MHz	4183
		846.6 MHz	4233
WCDMA Band 2	WCDMA/HSDPA/HSUPA	1852.4 MHz	9262
		1880.0 MHz	9400
		1907.6 MHz	9538
Note: the transmitter has been tested on the communications mode of GSM, GPRS, EDGE, WCDMA, HSDPA, HSUPA compliance test and record the worst case.			

4.5 Test Mode

Test Mode List		
Test Mode	Description	Remark
TM1	GSM 850	Low, Middle, High Channels
TM2	GPRS 850	Low, Middle, High Channels
TM3	EDGE 850	Low, Middle, High Channels
TM4	GSM 1900	Low, Middle, High Channels
TM5	GPRS 1900	Low, Middle, High Channels
TM6	EDGE 1900	Low, Middle, High Channels
TM7	WCDMA Band 5	Low, Middle, High Channels
TM8	HSDPA Band 5	Low, Middle, High Channels
TM9	HSUPA Band 5	Low, Middle, High Channels
TM10	WCDMA Band 2	Low, Middle, High Channels
TM11	HSDPA Band 2	Low, Middle, High Channels
TM12	HSUPA Band 2	Low, Middle, High Channels

4.6 Test Environment

Humidity(%):	54
Atmospheric Pressure(kPa):	101
Normal Voltage(DC):	3.89V
Normal Temperature(°C)	23
Low Temperature(°C)	0
High Temperature(°C)	40

5. TEST FACILITY AND TEST INSTRUMENT USED

5.1 Test Facility

All measurement facilities used to collect the measurement data are located at 1&2F., Building A, No. 26, Xinhua Road, Xinqiao, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, China. The site and apparatus are constructed in conformance with the requirements of ANSI C63.4 and CISPR 16-1-1 other equivalent standards.

FCC Test Firm Registration Number: CN1276

5.2 Test Instrument Used

No.	Equipment	Manufacturer	Type No.	Serial No.	Firmware Version	Calibrated Date	Calibrated until
1	Spectrum Analyzer	Agilent	N9020A	MY52090073	A.14.16	2025/5/23	2026/5/22
2	Power Sensor	Agilent	U2021XA	MY56120032	/	2025/5/23	2026/5/22
3	Power Sensor	Agilent	U2021XA	MY56120034	/	2025/5/23	2026/5/22
4	Communication test set	R&S	CMW500	108058	V3.5.80	2025/5/23	2026/5/22
5	Spectrum Analyzer	KEYSIGHT	N9020A	MY51289897	A.14.16	2025/5/23	2026/5/22
6	Signal Generator	Agilent	N5181A	MY50140365	A.01.60	2025/5/22	2026/5/21
7	Vector signal generator	Agilent	N5182A	MY47420195	A.01.87	2025/5/22	2026/5/21
8	Communication test set	Agilent	E5515C	MY50102567	B.19.07 (E1962B)	2025/5/22	2026/5/21
9	2.4 GHz Filter	Shenxiang	MSF2400-2483.5MS-1154	20181015001	/	2025/6/18	2026/6/17
10	5 GHz Filter	Shenxiang	MSF5150-5850 MS-1155	20181015001	/	2025/6/18	2026/6/17
11	Filter	Xingbo	XBLBQ-DZA120	190821-1-1	/	2025/5/24	2026/5/23
12	BT&WI-FI Automatic test software	Microwave	MTS8310	Ver. 2.0.0.0	/	/	/
13	Rohde & Schwarz SFU Broadcast Test System	R&S	SFU	101017	/	2024/10/31	2025/10/30
14	Temperature humidity chamber	Hongjing	TH-80CH	DG-15174	/	2025/5/22	2026/5/21
15	234G Automatic test software	Microwave	MTS8200	Ver. 2.0.0.0	/	/	/
16	966 chamber	C.R.T.	966	/	/	2024/6/23	2027/6/22
17	Receiver	R&S	ESPI	100362	RF_ATTEN_7 (104489/003)	2025/5/23	2026/5/22

18	Amplifier	HP	8447E	2945A02747	/	2025/5/23	2026/5/22
19	Amplifier	Agilent	8449B	3008A01838	/	2025/6/2	2026/6/1
20	TRILOG Broadband Antenna	Schwarzbeck	VULB 9168	00869	/	2025/6/29	2026/6/28
21	Double Ridged Broadband Horn Antenna	Schwarzbeck	BBHA9120D	01911	/	2025/6/1	2026/5/31
22	EMI test software	Fala	EZ-EMC	FA-03A2 RE	/	/	/
23	Loop Antenna	Schwarzbeck	FMZB 1519B	1519B-224	/	2025/6/2	2026/6/1
24	loop antenna	ZHINAN	ZN30900A	GTS534	/	/	/
25	40G Horn antenna	A/H/System	SAS-574	588	/	2025/6/2	2026/6/1
26	Amplifier	AEROFLEX	Aeroflex	097	/	2025/6/2	2026/6/1
27	Power Metter	KEYSIGHT	N1912AP	N/A	A.05.00	2025/6/2	2026/6/1

6. RF OUTPUT POWER

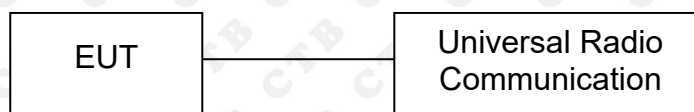
6.1 Standard Applicable

According to §22.913(a)(2), The ERP of mobile and portable stations transmitters and auxiliary test transmitters must not exceed 7 Watts.

According to §24.232 (c), Mobile and portable stations are limited to 2 watts EIRP and the equipment must employ a means for limiting power to the minimum necessary for successful communications.

6.2 Test Procedure

Conducted output power test method:



Radiated power test method:

1. The setup of EUT is according with per ANSI/TIA Standard 603D and ANSI C63.4-2014 measurement procedure.
2. The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.
3. The frequency range up to tenth harmonic of the fundamental frequency was investigated.
4. Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution.

6.3 Environmental Conditions

Temperature:	23 °C
Relative Humidity:	54%
ATM Pressure:	1010 mbar

6.4 Summary of Test Results/Plots

Max. Radiated Power

ERP For GSM Mode GSM850

Frequency	Substitute SG	Height	Table	Polar	Cable loss	Antenna Gain	Result	FCC Part 22H Limit
MHz	dBm	Meter	Degree	H / V	dB	dB	dBm	dBm
Low Channel								
824.2	31.71	1.5	0	H	1.5	-0.87	29.34	38.45
824.2	31.21	1.5	0	V	1.5	-0.87	28.84	38.45
Middle Channel								
836.6	31.55	1.5	0	H	1.5	-0.87	29.18	38.45
836.6	31.38	1.5	0	V	1.5	-0.87	29.01	38.45
High Channel								
848.8	31.85	1.5	0	H	1.5	-0.87	29.48	38.45
848.8	31.89	1.5	0	V	1.5	-0.87	29.52	38.45

EIRP For GSM Mode PCS1900

Frequency	Substitute SG	Height	Table	Polar	Cable loss	Antenna Gain	Result	FCC Part 24E Limit
MHz	dBm	Meter	Degree	H / V	dB	dB	dBm	dBm
Low Channel								
1850.2	28.12	1.5	0	H	1.9	0.47	26.69	33
1850.2	27.67	1.5	0	V	1.9	0.47	26.24	33
Middle Channel								
1880	28.69	1.5	0	H	1.9	0.47	27.26	33
1880	28.96	1.5	0	V	1.9	0.47	27.53	33
High Channel								
1909.8	29.16	1.5	0	H	1.9	0.47	27.73	33
1909.8	29.03	1.5	0	V	1.9	0.47	27.60	33

ERP For GPRS Mode GSM850

Frequency	Substitute SG	Height	Table	Polar	Cable loss	Antenna Gain	Result	FCC Part 22H Limit
MHz	dBm	Meter	Degree	H / V	dB	dB	dBm	dBm
Low Channel								
824.2	29.60	1.5	0	H	1.5	-0.87	27.23	38.45
824.2	29.48	1.5	0	V	1.5	-0.87	27.11	38.45
Middle Channel								
836.6	29.26	1.5	0	H	1.5	-0.87	26.89	38.45
836.6	29.49	1.5	0	V	1.5	-0.87	27.12	38.45
High Channel								
848.8	29.73	1.5	0	H	1.5	-0.87	27.36	38.45
848.8	29.39	1.5	0	V	1.5	-0.87	27.02	38.45

EIRP For GPRS Mode PCS1900

Frequency	Substitute SG	Height	Table	Polar	Cable loss	Antenna Gain	Result	FCC Part 24E Limit
MHz	dBm	Meter	Degree	H / V	dB	dB	dBm	dBm
Low Channel								
1850.2	26.46	1.5	0	H	1.9	0.47	25.03	26.46
1850.2	25.65	1.5	0	V	1.9	0.47	24.22	25.65
Middle Channel								
1880	26.48	1.5	0	H	1.9	0.47	25.05	33
1880	26.20	1.5	0	V	1.9	0.47	24.77	33
High Channel								
1909.8	26.37	1.5	0	H	1.9	0.47	24.94	33
1909.8	26.28	1.5	0	V	1.9	0.47	24.85	33

ERP For EDGE Mode GSM850

Frequency	Substitute SG	Height	Table	Polar	Cable loss	Antenna Gain	Result	FCC Part 22H Limit
MHz	dBm	Meter	Degree	H / V	dB	dB	dBm	dBm
Low Channel								
824.2	27.80	1.5	0	H	1.5	-0.87	25.43	38.45
824.2	27.63	1.5	0	V	1.5	-0.87	25.26	38.45
Middle Channel								
836.6	27.55	1.5	0	H	1.5	-0.87	25.18	27.55
836.6	27.30	1.5	0	V	1.5	-0.87	24.93	27.30
High Channel								
848.8	27.40	1.5	0	H	1.5	-0.87	25.03	27.40
848.8	27.28	1.5	0	V	1.5	-0.87	24.91	27.28

EIRP For EDGE Mode PCS1900

Frequency	Substitute SG	Height	Table	Polar	Cable loss	Antenna Gain	Result	FCC Part 24E Limit
MHz	dBm	Meter	Degree	H / V	dB	dB	dBm	dBm
Low Channel								
1850.2	24.37	1.5	0	H	1.9	0.47	22.94	33
1850.2	24.01	1.5	0	V	1.9	0.47	22.58	33
Middle Channel								
1880	25.10	1.5	0	H	1.9	0.47	23.67	33
1880	25.09	1.5	0	V	1.9	0.47	23.66	33
High Channel								
1909.8	24.93	1.5	0	H	1.9	0.47	23.50	33
1909.8	24.83	1.5	0	V	1.9	0.47	23.40	33

ERP For WCDMA Mode Band 5

Frequency	Substitute SG	Height	Table	Polar	Cable loss	Antenna Gain	Result	FCC Part 22H Limit
MHz	dBm	Meter	Degree	H / V	dB	dBd	dBm	dBm
Low Channel								
826.4	22.60	1.5	0	H	1.5	-0.87	20.23	38.45
826.4	21.82	1.5	0	V	1.5	-0.87	19.45	38.45
Middle Channel								
836.6	21.88	1.5	0	H	1.5	-0.87	19.51	38.45
836.6	22.66	1.5	0	V	1.5	-0.87	20.29	38.45
High Channel								
846.6	21.87	1.5	0	H	1.5	-0.87	19.50	38.45
846.6	21.86	1.5	0	V	1.5	-0.87	19.49	38.45

ERP For HSDPA Mode Band 5

Frequency	Substitute SG	Height	Table	Polar	Cable loss	Antenna Gain	Result	FCC Part 22H Limit
MHz	dBm	Meter	Degree	H / V	dB	dBd	dBm	dBm
Low Channel								
826.4	22.06	1.5	0	H	1.5	-0.87	19.69	38.45
826.4	22.04	1.5	0	V	1.5	-0.87	19.67	38.45
Middle Channel								
836.6	22.51	1.5	0	H	1.5	-0.87	20.14	38.45
836.6	22.06	1.5	0	V	1.5	-0.87	19.69	38.45
High Channel								
846.6	22.33	1.5	0	H	1.5	-0.87	19.96	38.45
846.6	22.01	1.5	0	V	1.5	-0.87	19.64	38.45

ERP For HSUPA Mode Band 5

Frequency	Substitute SG	Height	Table	Polar	Cable loss	Antenna Gain	Result	FCC Part 22H Limit
MHz	dBm	Meter	Degree	H / V	dB	dBd	dBm	dBm
Low Channel								
826.4	21.76	1.5	0	H	1.5	-0.87	19.39	38.45
826.4	21.93	1.5	0	V	1.5	-0.87	19.56	38.45
Middle Channel								
836.6	22.09	1.5	0	H	1.5	-0.87	19.72	38.45
836.6	21.71	1.5	0	V	1.5	-0.87	19.34	38.45
High Channel								
846.6	21.75	1.5	0	H	1.5	-0.87	19.38	38.45
846.6	21.81	1.5	0	V	1.5	-0.87	19.44	38.45

EIRP For WCDMA Mode Band 2

Frequency	Substitute SG	Height	Table	Polar	Cable loss	Antenna Gain	Result	FCC Part 24E Limit
MHz	dBm	Meter	Degree	H / V	dB	dB	dBm	dBm
Low Channel								
1852.4	20.80	1.5	0	H	1.9	0.47	19.37	33
1852.4	21.81	1.5	0	V	1.9	0.47	20.38	33
Middle Channel								
1880	21.82	1.5	0	H	1.9	0.47	20.39	33
1880	21.17	1.5	0	V	1.9	0.47	19.74	33
High Channel								
1907.6	22.24	1.5	0	H	1.9	0.47	20.81	33
1907.6	21.11	1.5	0	V	1.9	0.47	19.68	33

EIRP For HSDPA Mode Band 2

Frequency	Substitute SG	Height	Table	Polar	Cable loss	Antenna Gain	Result	FCC Part 24E Limit
MHz	dBm	Meter	Degree	H / V	dB	dB	dBm	dBm
Low Channel								
1852.4	22.39	1.5	0	H	1.9	0.47	20.96	33
1852.4	23.13	1.5	0	V	1.9	0.47	21.70	33
Middle Channel								
1880	22.59	1.5	0	H	1.9	0.47	21.16	33
1880	22.16	1.5	0	V	1.9	0.47	20.73	33
High Channel								
1907.6	22.67	1.5	0	H	1.9	0.47	21.24	33
1907.6	21.74	1.5	0	V	1.9	0.47	20.31	33

EIRP For HSUPA Mode Band 2

Frequency	Substitute SG	Height	Table	Polar	Cable loss	Antenna Gain	Result	FCC Part 24E Limit
MHz	dBm	Meter	Degree	H / V	dB	dB	dBm	dBm
Low Channel								
1852.4	22.73	1.5	0	H	1.9	0.47	21.30	33
1852.4	21.87	1.5	0	V	1.9	0.47	20.44	33
Middle Channel								
1880	22.43	1.5	0	H	1.9	0.47	21.00	33
1880	23.06	1.5	0	V	1.9	0.47	21.63	33
High Channel								
1907.6	22.34	1.5	0	H	1.9	0.47	20.91	33
1907.6	22.38	1.5	0	V	1.9	0.47	20.95	33

Note: Result = Substitute - Cable loss + Antenna Gain

Max. Conducted Output Power

For Cellular Band (GSM850)

Test Mode	Channel	Frequency (MHz)	Average Power (dBm)	FCC Part 22.913 Limit (dBm)
GSM	Low Channel	824.2	29.34	38.45
	Middle Channel	836.6	29.18	38.45
	High Channel	848.8	29.52	38.45
GPRS(1 Slot)	Low Channel	824.2	27.23	38.45
	Middle Channel	836.6	27.12	38.45
	High Channel	848.8	27.36	38.45
EDGE(1 Slot)	Low Channel	824.2	25.43	38.45
	Middle Channel	836.6	25.18	38.45
	High Channel	848.8	25.03	38.45

For PCS Band (GSM1900)

Test Mode	Channel	Frequency (MHz)	Average Power (dBm)	FCC Part 24.232 Limit (dBm)
GSM	Low Channel	1850.2	26.69	33.0
	Middle Channel	1880.0	27.53	33.0
	High Channel	1909.8	27.73	33.0
GPRS(1 Slot)	Low Channel	1850.2	25.03	33.0
	Middle Channel	1880.0	25.05	33.0
	High Channel	1909.8	24.94	33.0
EDGE(1 Slot)	Low Channel	1850.2	22.94	33.0
	Middle Channel	1880.0	23.67	33.0
	High Channel	1909.8	23.50	33.0

For WCDMA Band 5

Test Mode	Channel	Frequency (MHz)	Average Power (dBm)	FCC Part 22.913 Limit (dBm)
WCDMA	Low Channel	826.4	20.23	38.45
	Middle Channel	836.6	20.29	38.45
	High Channel	846.6	19.50	38.45
HSDPA	Low Channel	826.4	19.69	38.45
	Middle Channel	836.6	20.14	38.45
	High Channel	846.6	19.96	38.45
HSUPA	Low Channel	826.4	19.56	38.45
	Middle Channel	836.6	19.72	38.45
	High Channel	846.6	19.44	38.45

For WCDMA Band 2

Test Mode	Channel	Frequency (MHz)	Average Power (dBm)	FCC Part 24.232 Limit (dBm)
WCDMA	Low Channel	1852.4	20.38	33.00
	Middle Channel	1880.0	20.39	33.00
	High Channel	1907.6	20.81	33.00
HSDPA	Low Channel	1852.4	21.70	33.00
	Middle Channel	1880.0	21.16	33.00
	High Channel	1907.6	21.24	33.00
HSUPA	Low Channel	1852.4	21.30	33.00
	Middle Channel	1880.0	21.63	33.00
	High Channel	1907.6	20.95	33.00

7. PEAK-TO-AVERAGE RATIO(PAR) OF TRANSMITTER

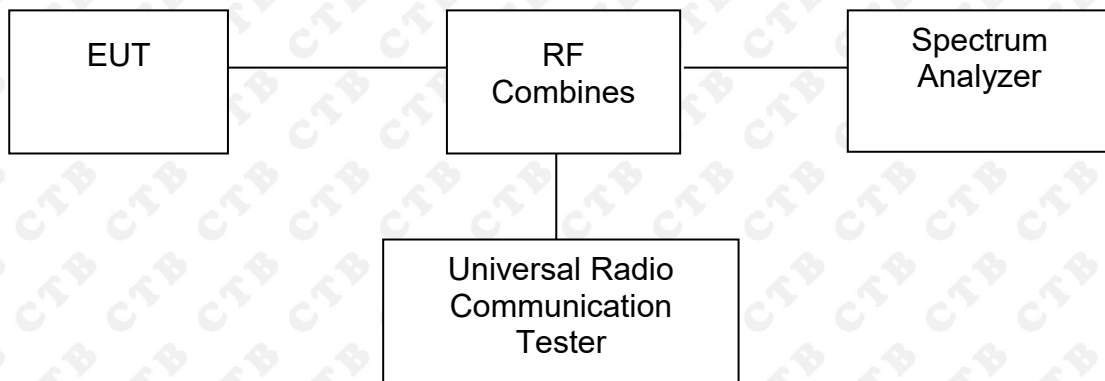
7.1 Standard Applicable

According to §24.232(d), Power measurements for transmissions by stations authorized under this section may be made either in accordance with a Commission-approved average power technique or in compliance with paragraph (e) of this section. In both instances, equipment employed must be authorized in accordance with the provisions of §24.51. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

7.2 Test Procedure

The RF output terminal of the transmitter was connected to the input of the spectrum analyzer via a suitable attenuation. The RBW of the spectrum analyzer was set to 30kHz and the peak-to-average ratio (PAR) of the transmission was recorded. Record the maximum PAPR level associated with a probability of 0.1%.

Test Configuration for the emission bandwidth testing:



7.3 Environmental Conditions

Temperature:	23 °C
Relative Humidity:	54%
ATM Pressure:	1010 mbar

7.4 Summary of Test Results

Only the worst case was selected to record
For GSM850

Test Mode	Channel	Frequency (MHz)	PAR (dB)	Limit (dB)
GSM	190	836.6	2.68	13
GPRS(1 Slot)	190	836.6	2.72	13
EDGE(1 Slot)	190	836.6	2.72	13

For PCS 1900

Test Mode	Channel	Frequency (MHz)	PAR (dB)	Limit (dB)
GSM	512	1850.2	2.71	13
GPRS(1 Slot)	512	1850.2	2.75	13
EDGE(1 Slot)	512	1850.2	2.75	13

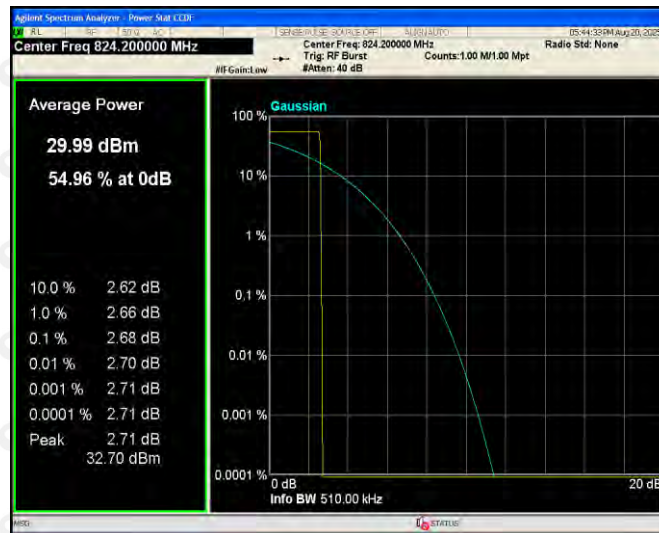
For WCDMA Band 5

Test Mode	Channel	Frequency (MHz)	PAR (dB)	Limit (dB)
WCDMA	4182	836.4	2.88	13
HSDPA	4182	836.4	2.90	13
HSUPA	4182	836.4	2.90	13

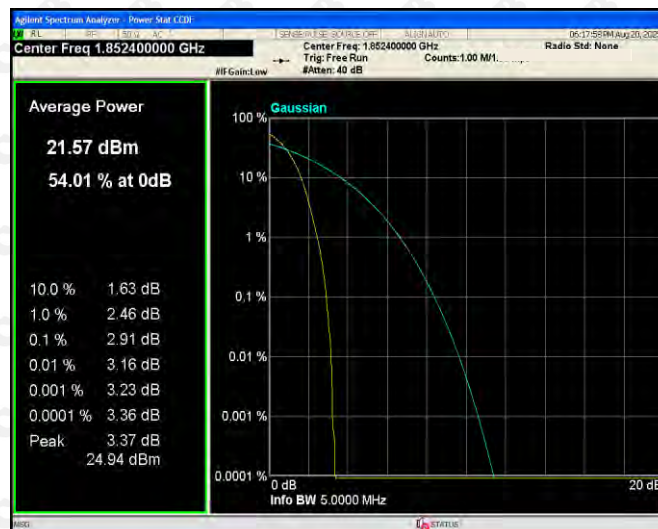
For WCDMA Band 2

Test Mode	Channel	Frequency (MHz)	PAR (dB)	Limit (dB)
WCDMA	9262	1852.4	2.91	13
HSDPA	9400	1852.4	2.89	13
HSUPA	9400	1852.4	2.90	13

GSM :



WCDMA:



8. EMISSION BANDWIDTH

8.1 Standard Applicable

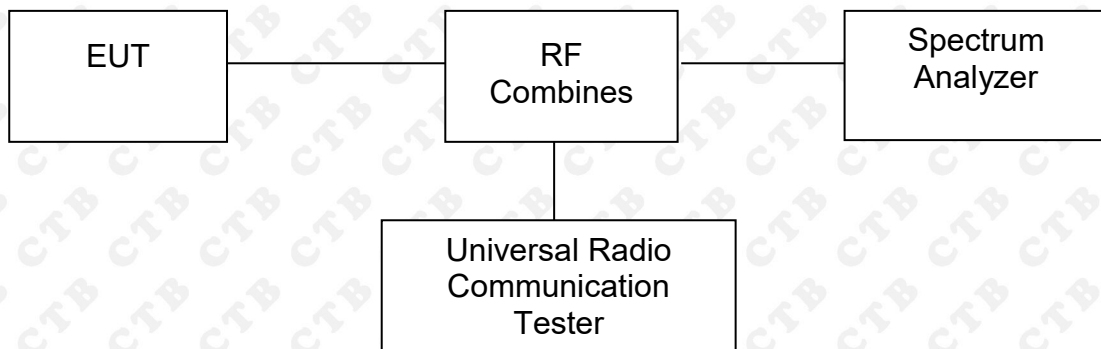
According to §22.917(b), The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

According to §24.238(b), The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

8.2 Test Procedure

The RF output terminal of the transmitter was connected to the input of the spectrum analyzer via a suitable attenuation. The RBW of the spectrum analyzer was set to 10kHz for GSM mode and 100kHz for WCDMA mode, VBW shall be at least 3 times the RBW, and the 26dB bandwidth was recorded.

Test Configuration for the emission bandwidth testing:



8.3 Environmental Conditions

Temperature:	23 °C
Relative Humidity:	54%
ATM Pressure:	1010 mbar

8.4 Summary of Test Results/Plots

For Cellular Band

Test Mode	Channel	Frequency (MHz)	99% Emission Bandwidth (kHz)	26 dB Emission Bandwidth (kHz)
GSM	128	824.2	245.221	309.804
	190	836.6	235.603	310.246
	251	848.8	238.516	313.978
GPRS	128	824.2	248.913	313.202
	190	836.6	249.101	321.707
	251	848.8	241.025	318.093
EDGE	128	824.2	246.909	313.946
	190	836.6	248.181	316.754
	251	848.8	238.725	310.490

For PCS Band

Test Mode	Channel	Frequency (MHz)	99% Emission Bandwidth (kHz)	26 dB Emission Bandwidth (kHz)
GSM	512	1850.2	239.937	310.156
	661	1880.0	244.214	312.427
	810	1909.8	248.104	314.076
GPRS	512	1850.2	245.321	322.706
	661	1880.0	243.453	319.418
	810	1909.8	243.217	319.055
EDGE	512	1850.2	238.306	311.439
	661	1880.0	238.127	307.569
	810	1909.8	242.760	323.519

For Band 5

Test Mode	Channel	Frequency (MHz)	99% Emission Bandwidth (kHz)	26 dB Emission Bandwidth (kHz)
WCDMA	4132	826.4	4147.542	4676.872
	4183	836.6	4157.294	4699.943
	4233	846.6	4143.123	4680.073
HSDPA	4132	826.4	4153.680	4684.010
	4183	836.6	4165.478	4684.454
	4233	846.6	4149.781	4693.586
HSUPA	4132	826.4	4166.011	4693.650
	4183	836.6	4157.700	4661.003
	4233	846.6	4149.918	4672.716

For Band 2

Test Mode	Channel	Frequency (MHz)	99% Emission Bandwidth (kHz)	26 dB Emission Bandwidth (kHz)
WCDMA	9262	1852.4	4154.117	4661.458
	9400	1880.0	4170.657	4687.693
	9538	1907.6	4171.684	4694.646
HSDPA	9262	1852.4	4178.285	4702.477
	9400	1880.0	4153.854	4700.830
	9538	1907.6	4145.204	4693.538
HSUPA	9262	1852.4	4156.651	4679.332
	9400	1880.0	4175.466	4684.009
	9538	1907.6	4170.622	4681.249

For Cellular Band



GPRS Low Channel



GPRS Middle Channel



GPRS High Channel



EDGE Low Channel



EDGE Middle Channel



EDGE High Channel



For PCS Band



GPRS Low Channel



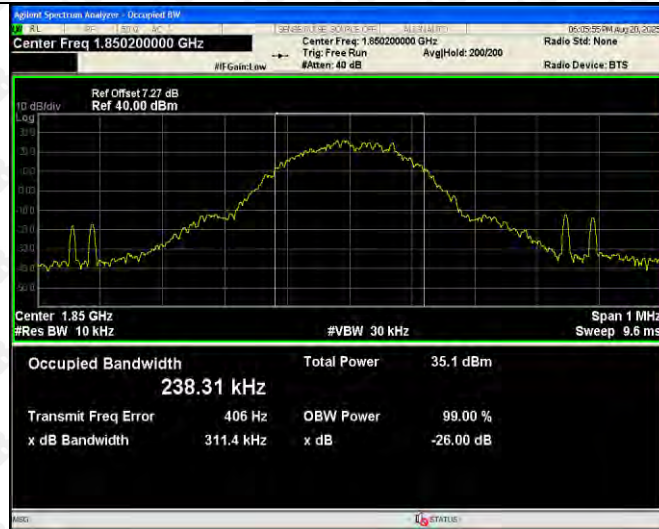
GPRS Middle Channel



GPRS High Channel



EDGE Low Channel



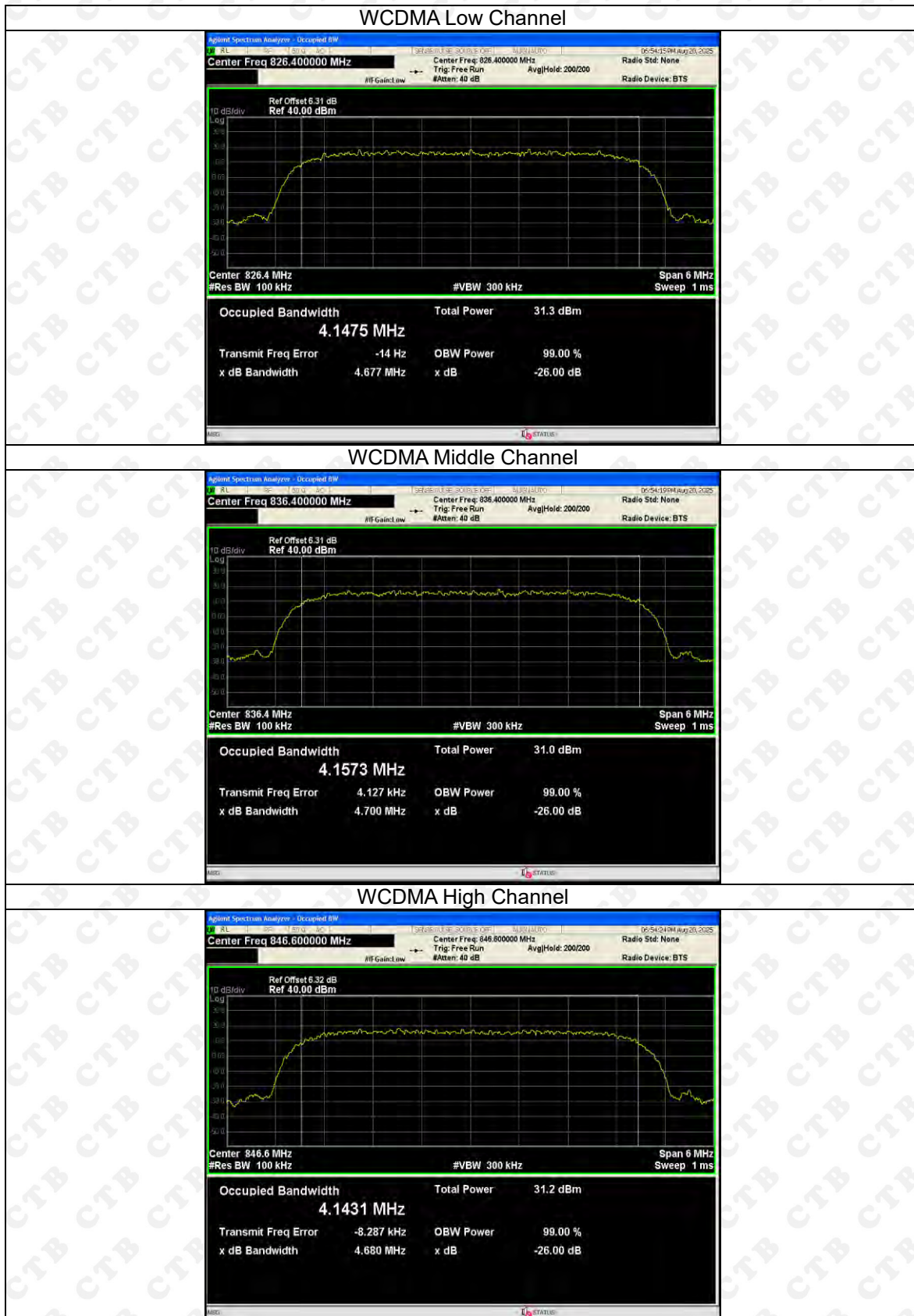
EDGE Middle Channel



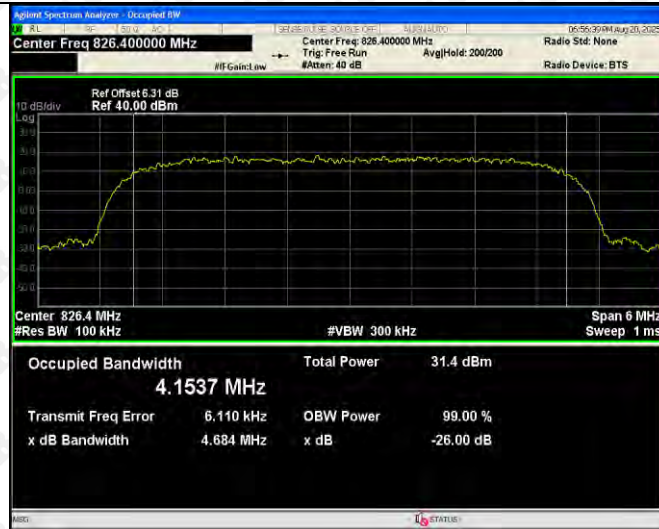
EDGE High Channel



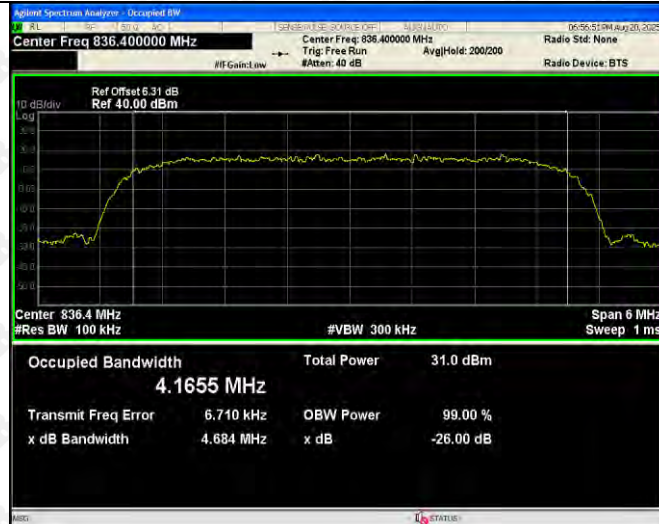
For Band V



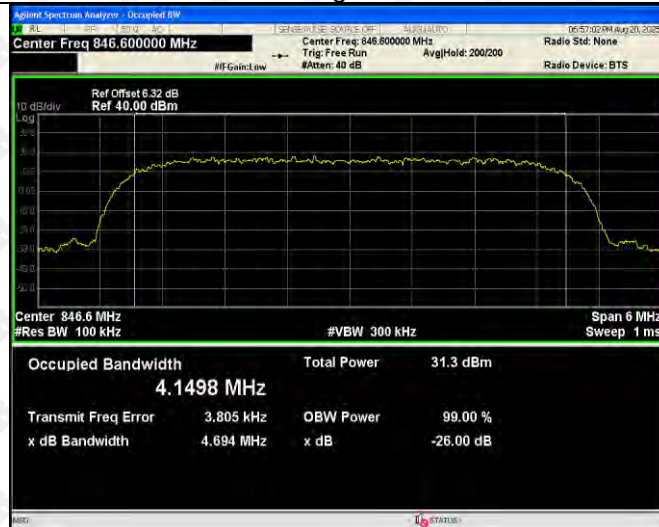
HSDPA Low Channel



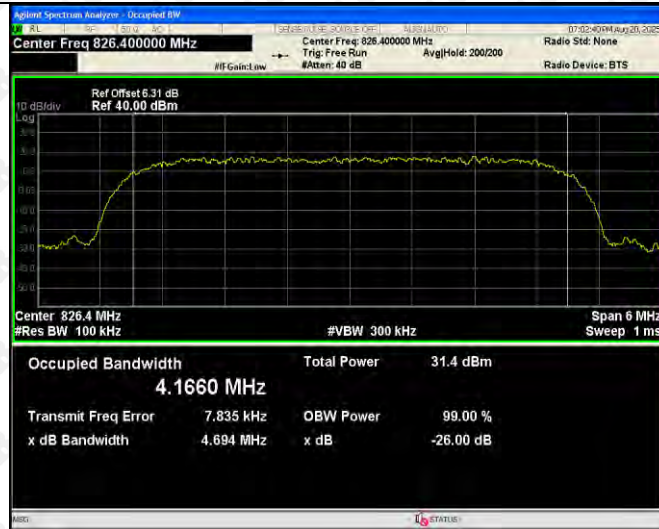
HSDPA Middle Channel



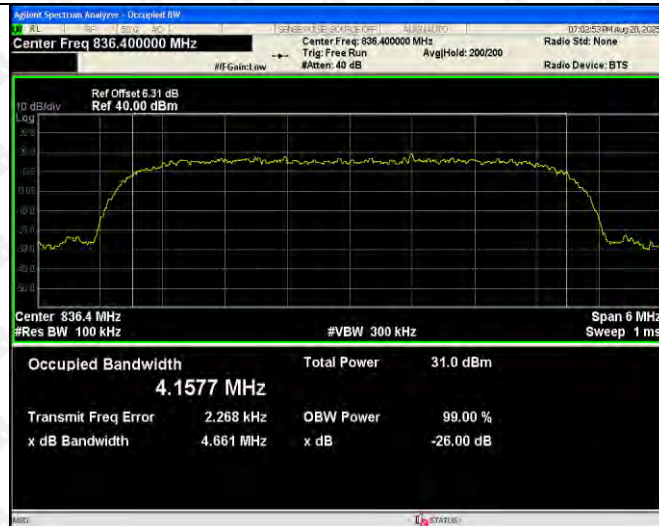
HSDPA High Channel



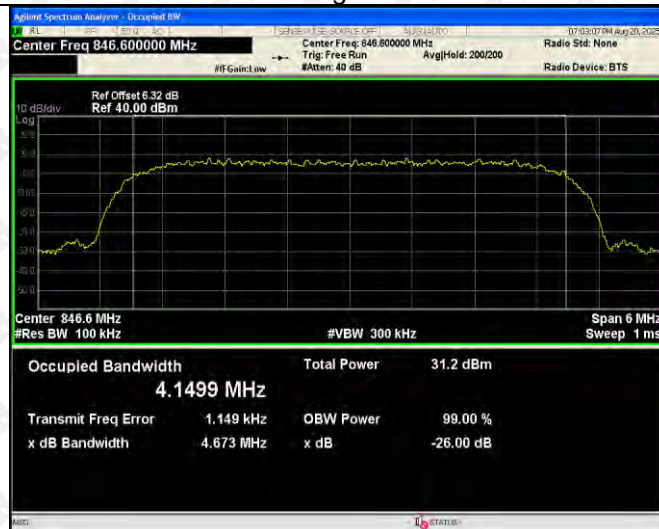
HSUPA Low Channel



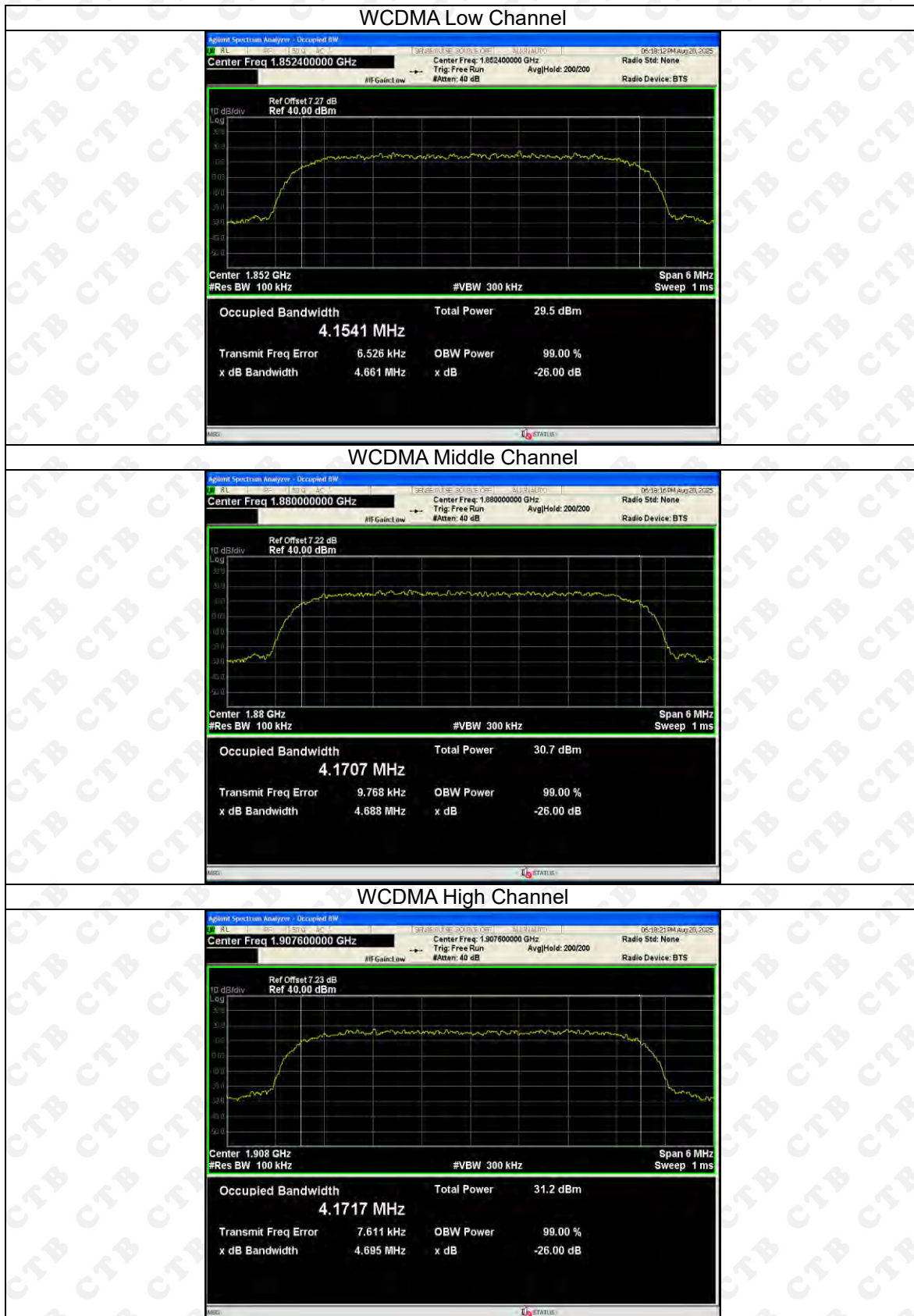
HSUPA Middle Channel



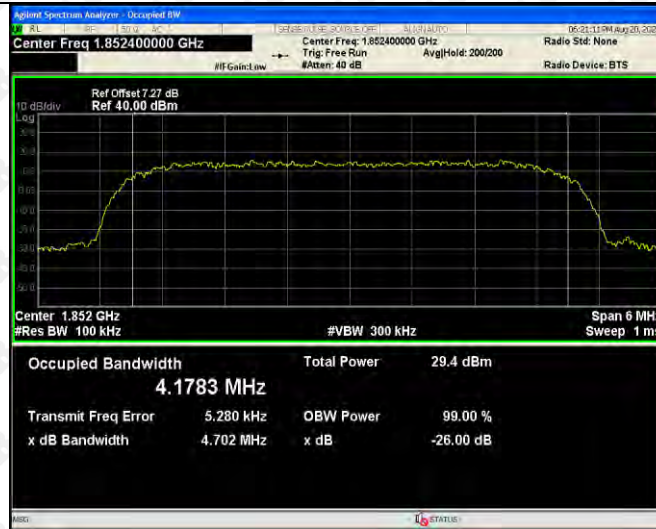
HSUPA High Channel



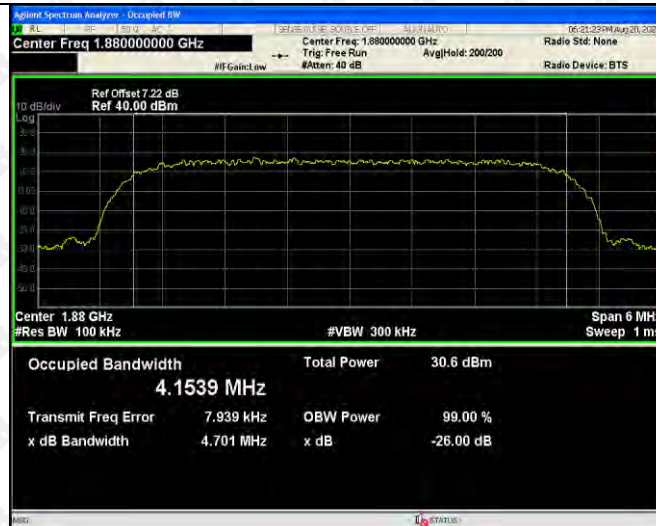
For Band II



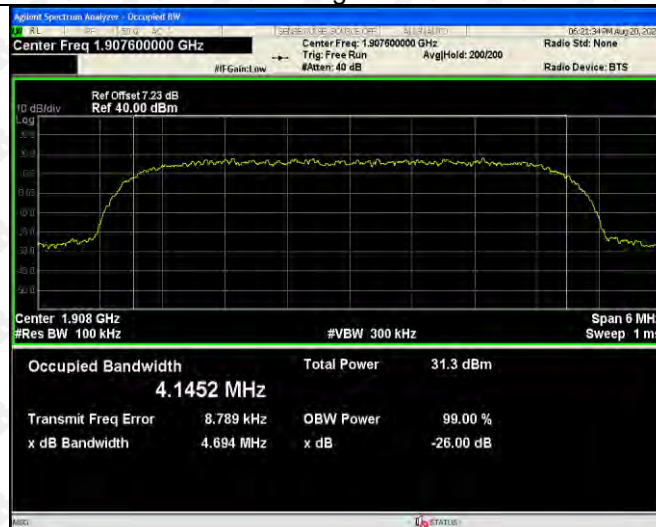
HSDPA Low Channel



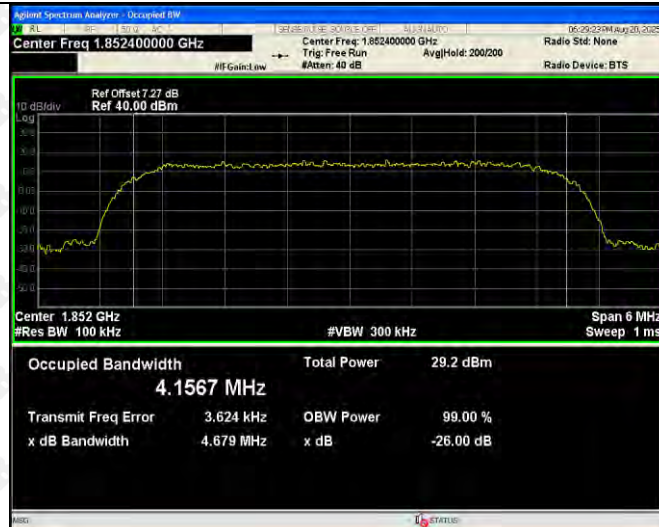
HSDPA Middle Channel



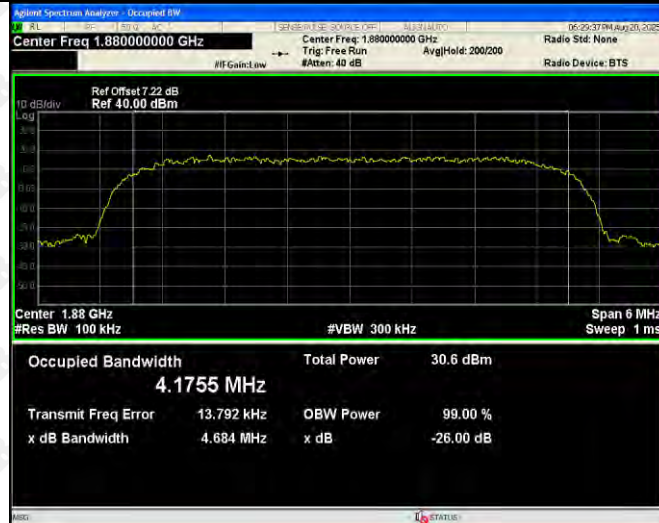
HSDPA High Channel



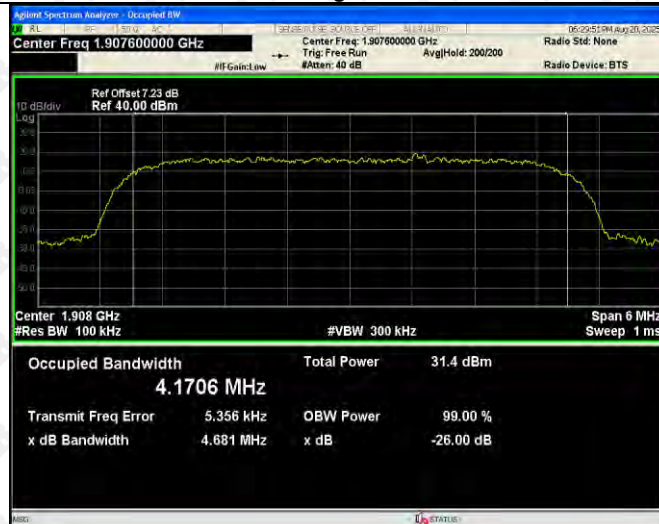
HSUPA Low Channel



HSUPA Middle Channel



HSUPA High Channel



9. OUT OF BAND EMISSIONS AT ANTENNA TERMINAL

9.1 Standard Applicable

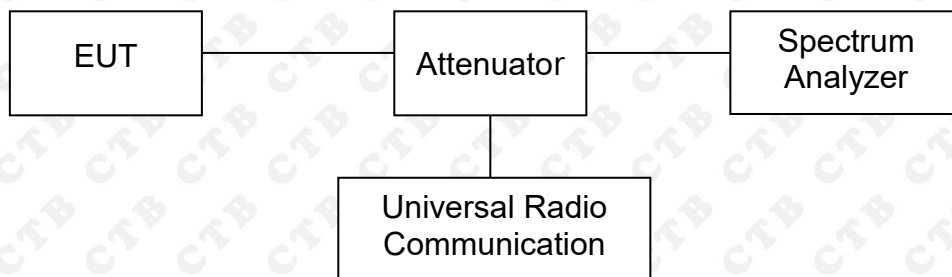
According to §22.917(a), the power of any emissions outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

According to §24.238(a), the power of any emissions 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.

9.2 Test Procedure

The RF output terminal of the transmitter was connected to the input of the spectrum analyzer via a suitable attenuation. The RBW of the spectrum analyzer was set to 100kHz and 1MHz for the scan frequency from 30MHz to 1GHz and the scan frequency from 1GHz to up to 10th harmonic.

Test Configuration for the out of band emissions testing:

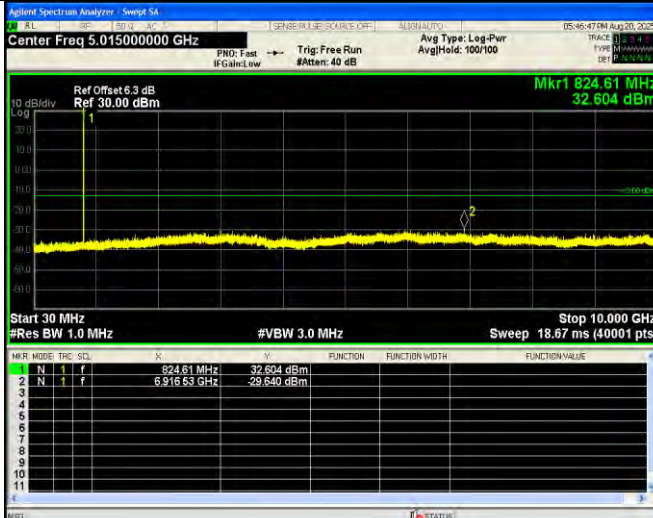
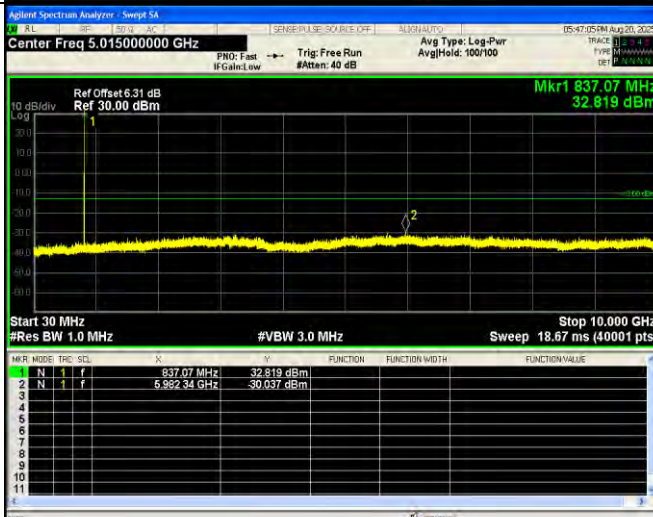
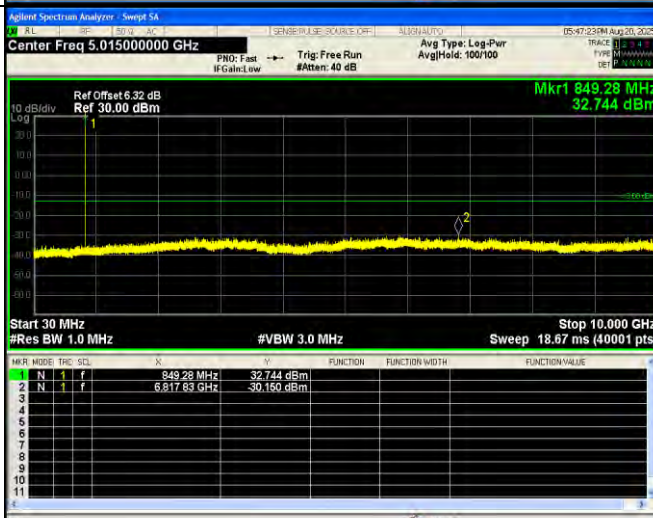


9.3 Environmental Conditions

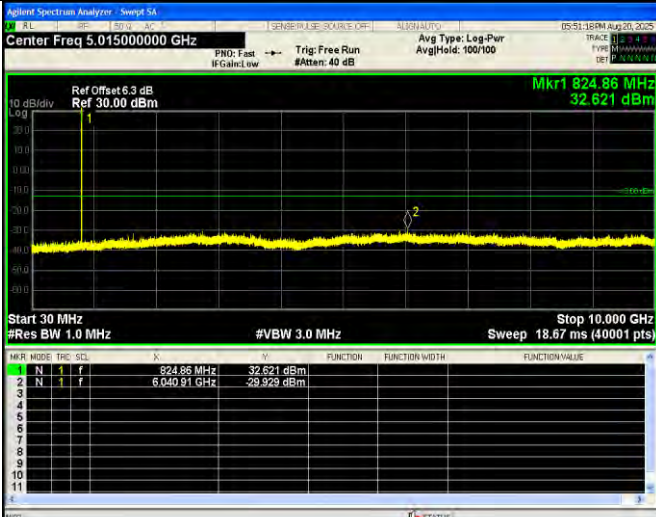
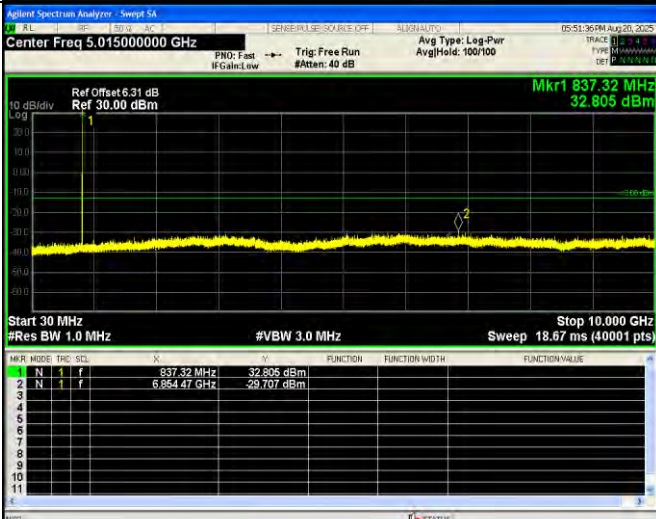
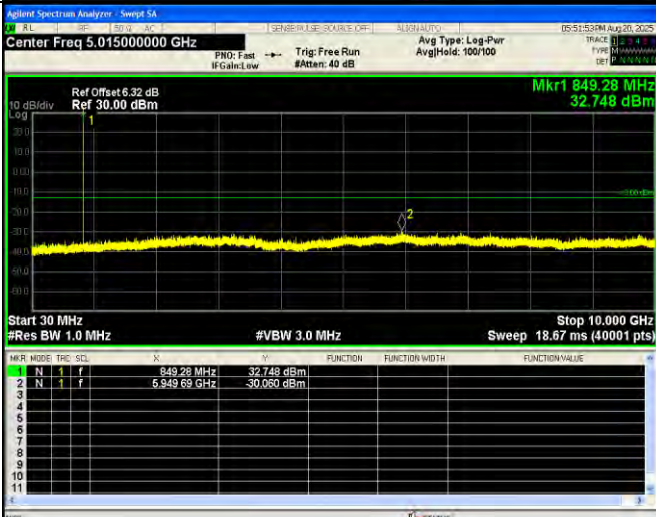
Temperature:	23 °C
Relative Humidity:	54%
ATM Pressure:	1010 mbar

9.4 Summary of Test Results/Plots

Please refer to the following test plots
For Cellular Band

GSM Low Channel	 Agilent Spectrum Analyzer - Sweep SA Center Freq 5.015000000 GHz Ref Offset 6.3 dB Ref 30.00 dBm Mkr1 824.81 MHz 32.604 dBm Start 30 MHz #Res BW 1.0 MHz #VBW 3.0 MHz Stop 10.000 GHz Sweep 18.67 ms (40001 pts) <table><tr><th>M/R</th><th>MODE</th><th>FREQ</th><th>SQL</th><th>X</th><th>Y</th><th>FUNCTION</th><th>FUNCTION WIDTH</th><th>FUNCTION VALUE</th></tr><tr><td>1</td><td>N</td><td>1</td><td>f</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>2</td><td>N</td><td>1</td><td>f</td><td>824.81 MHz</td><td>32.604 dBm</td><td></td><td></td><td></td></tr><tr><td>3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>4</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>6</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>7</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>8</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>9</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>10</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>11</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>	M/R	MODE	FREQ	SQL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	N	1	f						2	N	1	f	824.81 MHz	32.604 dBm				3									4									5									6									7									8									9									10									11								
M/R	MODE	FREQ	SQL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																																																																																																					
1	N	1	f																																																																																																										
2	N	1	f	824.81 MHz	32.604 dBm																																																																																																								
3																																																																																																													
4																																																																																																													
5																																																																																																													
6																																																																																																													
7																																																																																																													
8																																																																																																													
9																																																																																																													
10																																																																																																													
11																																																																																																													
GSM Middle Channel	 Agilent Spectrum Analyzer - Sweep SA Center Freq 5.015000000 GHz Ref Offset 6.31 dB Ref 30.00 dBm Mkr1 837.07 MHz 32.819 dBm Start 30 MHz #Res BW 1.0 MHz #VBW 3.0 MHz Stop 10.000 GHz Sweep 18.67 ms (40001 pts) <table><tr><th>M/R</th><th>MODE</th><th>FREQ</th><th>SQL</th><th>X</th><th>Y</th><th>FUNCTION</th><th>FUNCTION WIDTH</th><th>FUNCTION VALUE</th></tr><tr><td>1</td><td>N</td><td>1</td><td>f</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>2</td><td>N</td><td>1</td><td>f</td><td>837.07 MHz</td><td>32.819 dBm</td><td></td><td></td><td></td></tr><tr><td>3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>4</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>6</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>7</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>8</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>9</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>10</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>11</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>	M/R	MODE	FREQ	SQL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	N	1	f						2	N	1	f	837.07 MHz	32.819 dBm				3									4									5									6									7									8									9									10									11								
M/R	MODE	FREQ	SQL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																																																																																																					
1	N	1	f																																																																																																										
2	N	1	f	837.07 MHz	32.819 dBm																																																																																																								
3																																																																																																													
4																																																																																																													
5																																																																																																													
6																																																																																																													
7																																																																																																													
8																																																																																																													
9																																																																																																													
10																																																																																																													
11																																																																																																													
GSM High Channel	 Agilent Spectrum Analyzer - Sweep SA Center Freq 5.015000000 GHz Ref Offset 6.32 dB Ref 30.00 dBm Mkr1 849.28 MHz 32.744 dBm Start 30 MHz #Res BW 1.0 MHz #VBW 3.0 MHz Stop 10.000 GHz Sweep 18.67 ms (40001 pts) <table><tr><th>M/R</th><th>MODE</th><th>FREQ</th><th>SQL</th><th>X</th><th>Y</th><th>FUNCTION</th><th>FUNCTION WIDTH</th><th>FUNCTION VALUE</th></tr><tr><td>1</td><td>N</td><td>1</td><td>f</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>2</td><td>N</td><td>1</td><td>f</td><td>849.28 MHz</td><td>32.744 dBm</td><td></td><td></td><td></td></tr><tr><td>3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>4</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>6</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>7</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>8</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>9</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>10</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>11</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>	M/R	MODE	FREQ	SQL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	N	1	f						2	N	1	f	849.28 MHz	32.744 dBm				3									4									5									6									7									8									9									10									11								
M/R	MODE	FREQ	SQL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																																																																																																					
1	N	1	f																																																																																																										
2	N	1	f	849.28 MHz	32.744 dBm																																																																																																								
3																																																																																																													
4																																																																																																													
5																																																																																																													
6																																																																																																													
7																																																																																																													
8																																																																																																													
9																																																																																																													
10																																																																																																													
11																																																																																																													

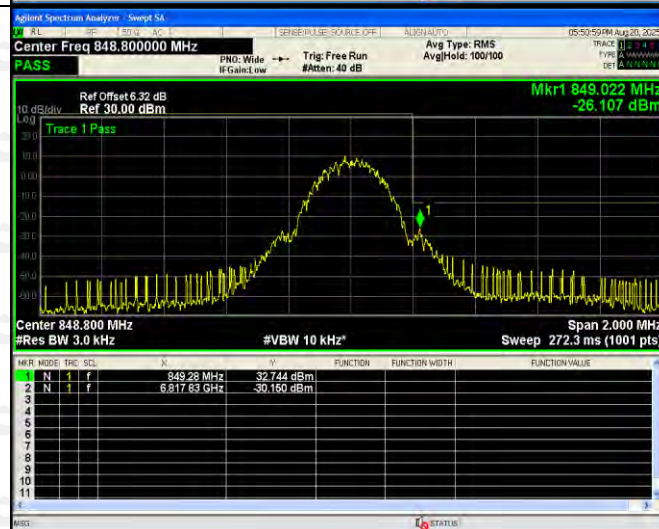
GSM Low Band Emission	
GSM High Band Emission	

GPRS Low Channel	 Agilent Spectrum Analyzer - Sweep SA Center Freq 5.015000000 GHz PNO: Fast IF Gain Low Trig: Free Run #Atten: 40 dB Avg Type: Log-Per AvgHold: 100/100 Mkr1 824.86 MHz 32.621 dBm Ref Offset 6.3 dB Ref 30.00 dBm Start 30 MHz Stop 10.000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz Sweep 18.67 ms (40001 pts) <table><tr><th>MNR</th><th>MODE</th><th>FREQ</th><th>SCD</th><th>X</th><th>Y</th><th>FUNCTION</th><th>FUNCTION WIDTH</th><th>FUNCTION VALUE</th></tr><tr><td>1</td><td>N</td><td>1</td><td>f</td><td>824.86 MHz</td><td>32.621 dBm</td><td></td><td></td><td></td></tr><tr><td>2</td><td>N</td><td>1</td><td>f</td><td>6.040 91 GHz</td><td>-29.929 dBm</td><td></td><td></td><td></td></tr></table>	MNR	MODE	FREQ	SCD	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	N	1	f	824.86 MHz	32.621 dBm				2	N	1	f	6.040 91 GHz	-29.929 dBm			
MNR	MODE	FREQ	SCD	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																				
1	N	1	f	824.86 MHz	32.621 dBm																							
2	N	1	f	6.040 91 GHz	-29.929 dBm																							
GPRS Middle Channel	 Agilent Spectrum Analyzer - Sweep SA Center Freq 5.015000000 GHz PNO: Fast IF Gain Low Trig: Free Run #Atten: 40 dB Avg Type: Log-Per AvgHold: 100/100 Mkr1 837.32 MHz 32.805 dBm Ref Offset 6.31 dB Ref 30.00 dBm Start 30 MHz Stop 10.000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz Sweep 18.67 ms (40001 pts) <table><tr><th>MNR</th><th>MODE</th><th>FREQ</th><th>SCD</th><th>X</th><th>Y</th><th>FUNCTION</th><th>FUNCTION WIDTH</th><th>FUNCTION VALUE</th></tr><tr><td>1</td><td>N</td><td>1</td><td>f</td><td>837.32 MHz</td><td>32.805 dBm</td><td></td><td></td><td></td></tr><tr><td>2</td><td>N</td><td>1</td><td>f</td><td>6.854 47 GHz</td><td>-29.707 dBm</td><td></td><td></td><td></td></tr></table>	MNR	MODE	FREQ	SCD	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	N	1	f	837.32 MHz	32.805 dBm				2	N	1	f	6.854 47 GHz	-29.707 dBm			
MNR	MODE	FREQ	SCD	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																				
1	N	1	f	837.32 MHz	32.805 dBm																							
2	N	1	f	6.854 47 GHz	-29.707 dBm																							
GPRS High Channel	 Agilent Spectrum Analyzer - Sweep SA Center Freq 5.015000000 GHz PNO: Fast IF Gain Low Trig: Free Run #Atten: 40 dB Avg Type: Log-Per AvgHold: 100/100 Mkr1 849.28 MHz 32.748 dBm Ref Offset 6.32 dB Ref 30.00 dBm Start 30 MHz Stop 10.000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz Sweep 18.67 ms (40001 pts) <table><tr><th>MNR</th><th>MODE</th><th>FREQ</th><th>SCD</th><th>X</th><th>Y</th><th>FUNCTION</th><th>FUNCTION WIDTH</th><th>FUNCTION VALUE</th></tr><tr><td>1</td><td>N</td><td>1</td><td>f</td><td>849.28 MHz</td><td>32.748 dBm</td><td></td><td></td><td></td></tr><tr><td>2</td><td>N</td><td>1</td><td>f</td><td>6.949 69 GHz</td><td>-30.060 dBm</td><td></td><td></td><td></td></tr></table>	MNR	MODE	FREQ	SCD	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	N	1	f	849.28 MHz	32.748 dBm				2	N	1	f	6.949 69 GHz	-30.060 dBm			
MNR	MODE	FREQ	SCD	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																				
1	N	1	f	849.28 MHz	32.748 dBm																							
2	N	1	f	6.949 69 GHz	-30.060 dBm																							

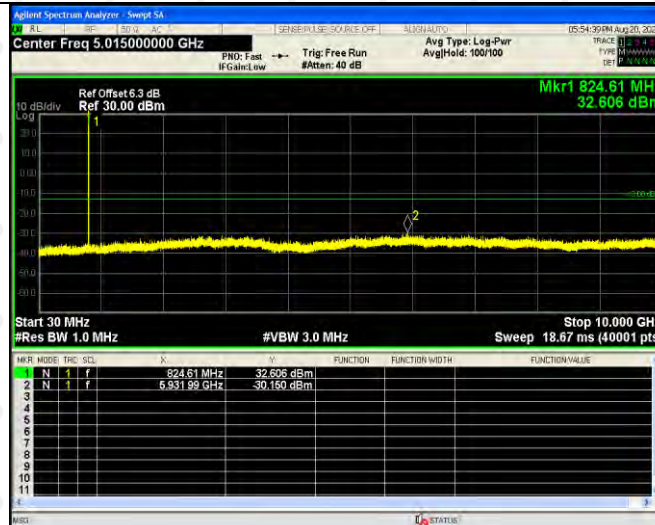
GPRS
Low
Band
Emission



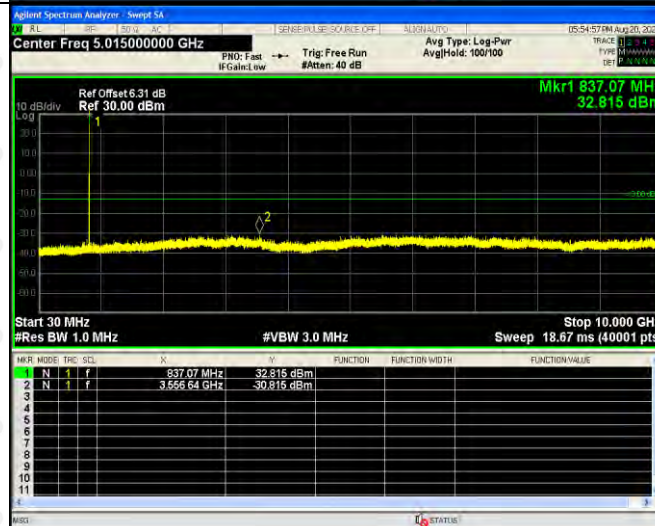
GPRS
High
Band
Emission



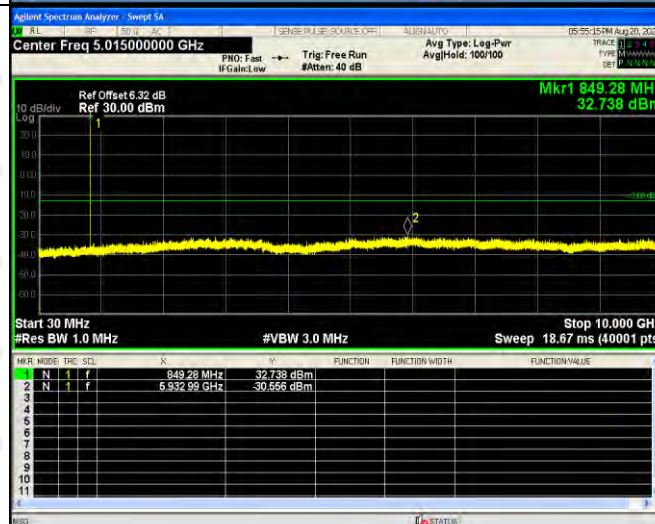
EDGE
Low
Channel



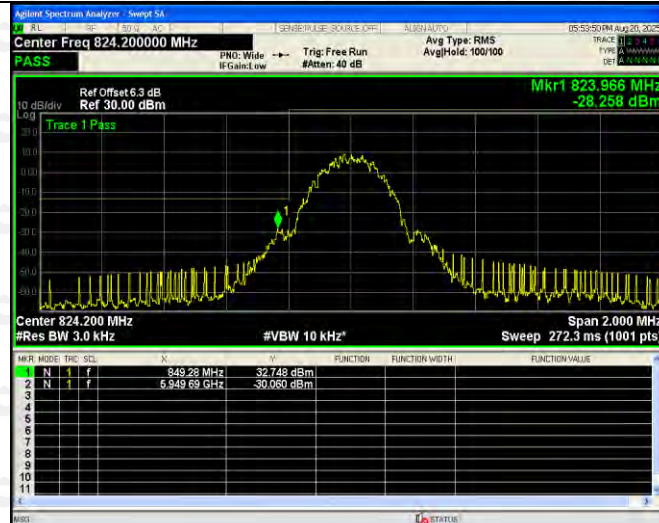
EDGE
Middle
Channel



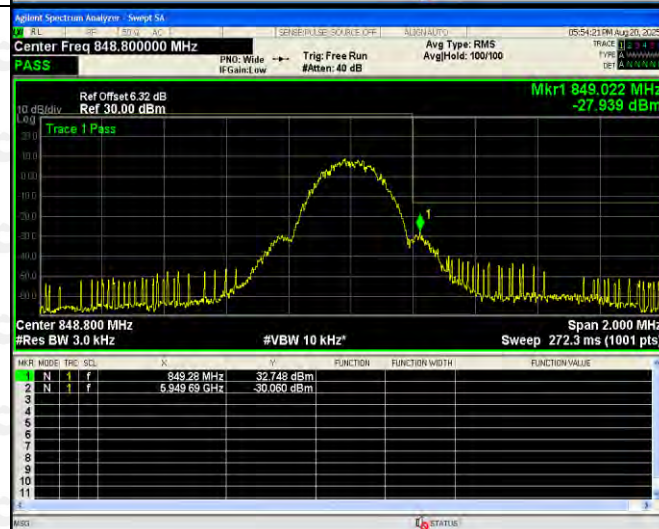
EDGE
High
Channel



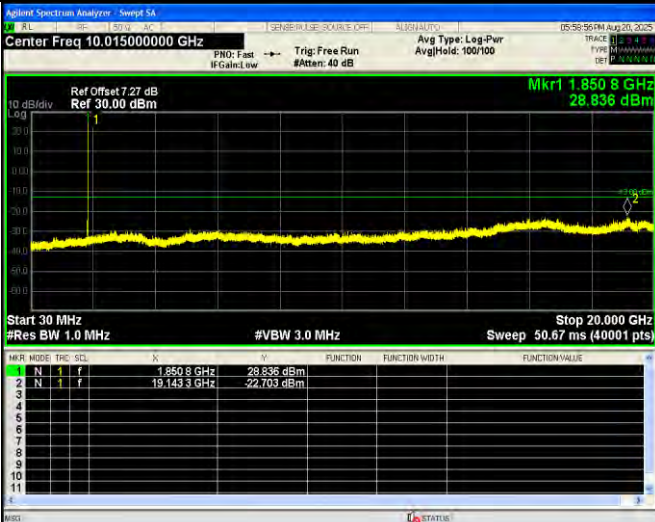
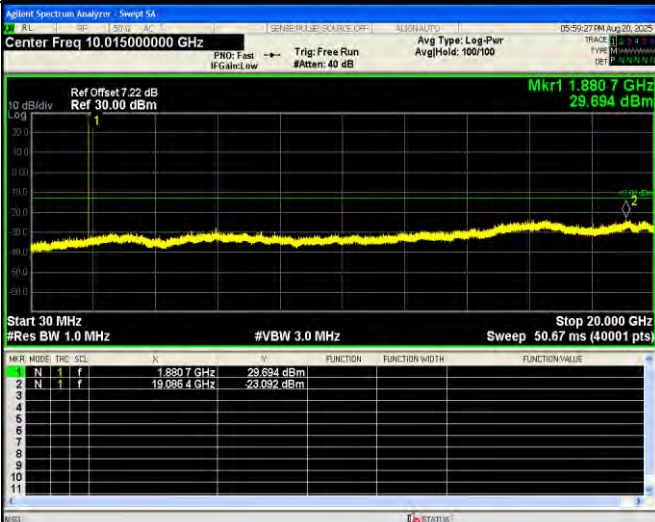
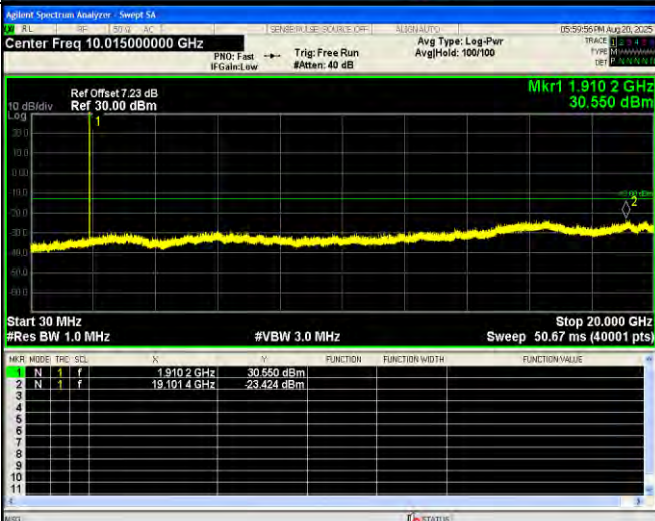
EDGE
Low
Band
Emission

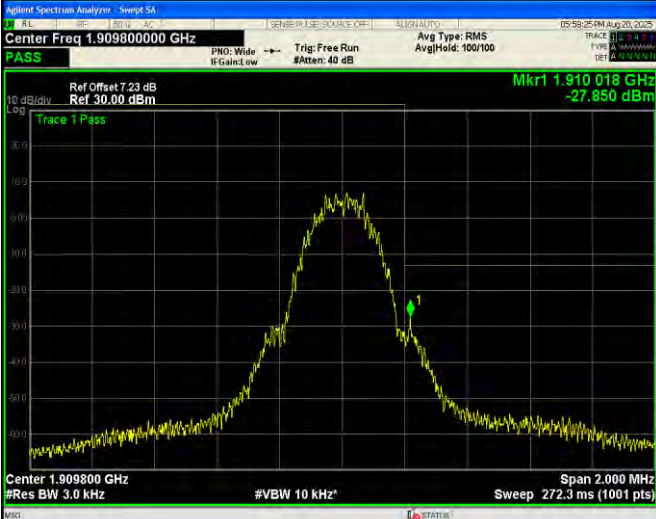


EDGE
High
Band
Emission

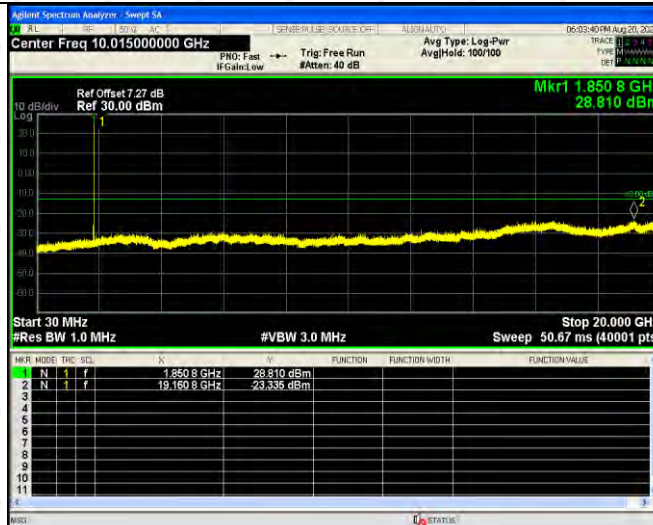


For PCS Band

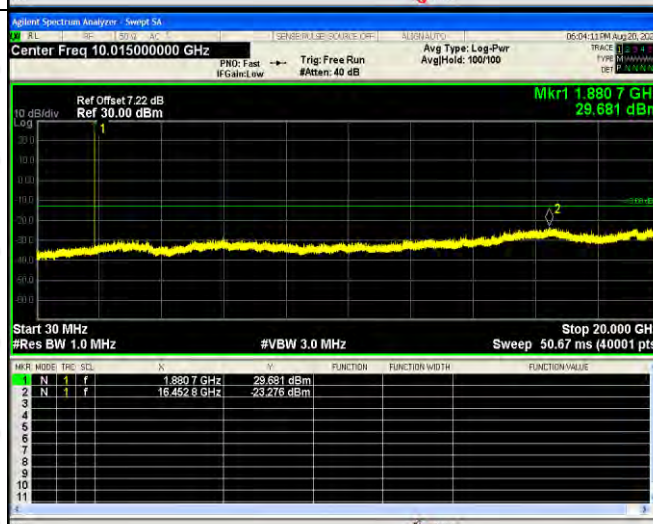
GSM Low Channel	
GSM Middle Channel	
GSM High Channel	

GSM Low Band Emission	
GSM High Band Emission	

GPRS
Low
Channel



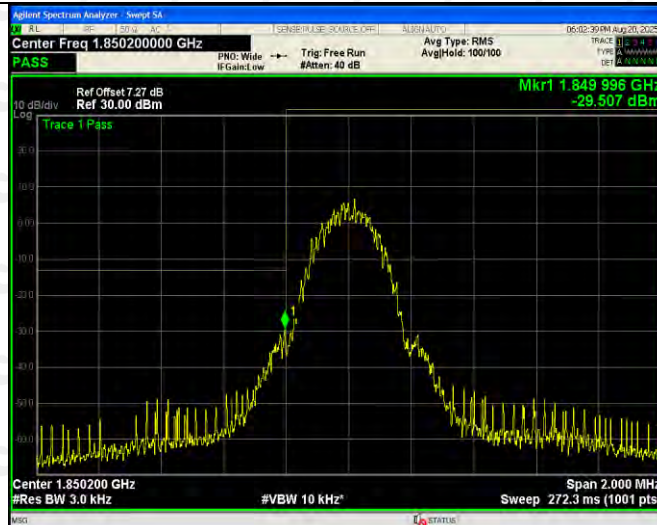
GPRS
Middle
Channel



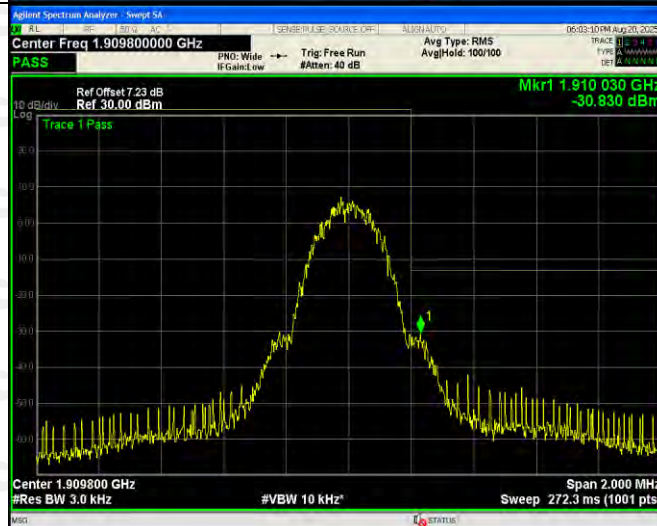
GPRS
High
Channel



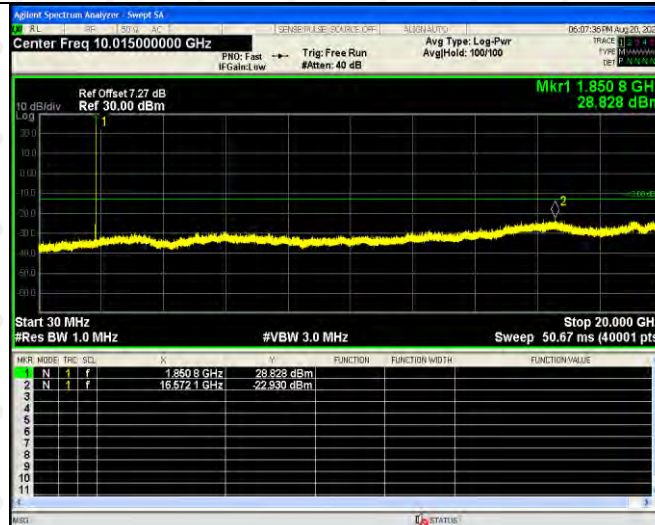
GPRS
Low
Band
Emission



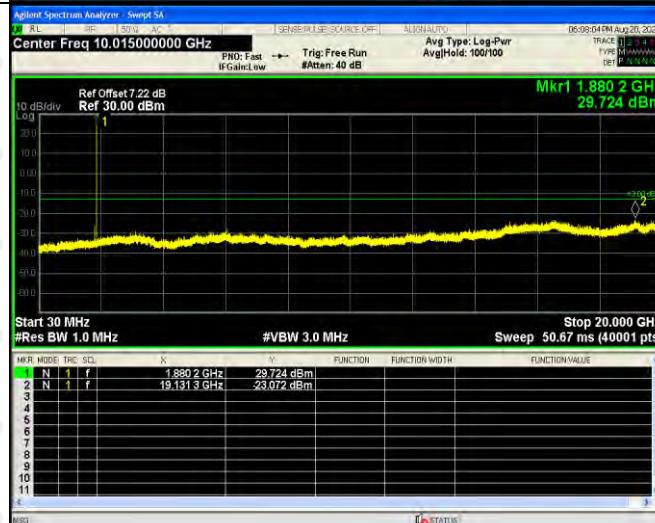
GPRS
High
Band
Emission



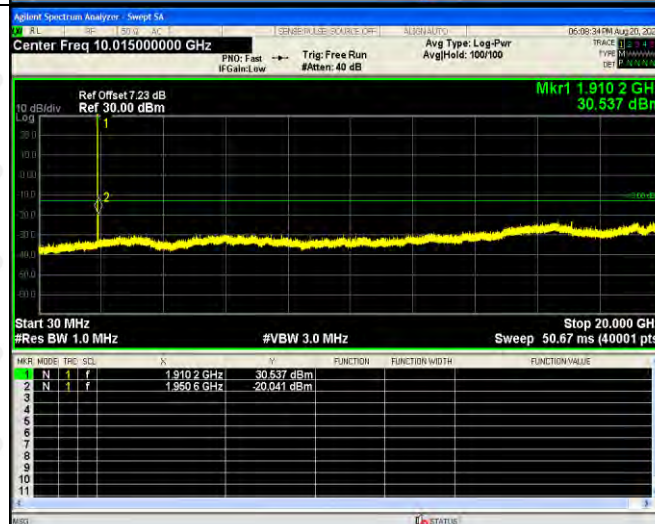
EDGE
Low
Channel



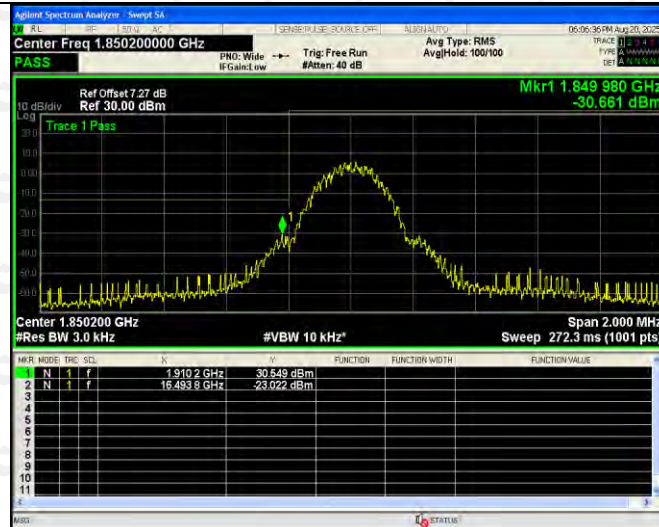
EDGE
Middle
Channel



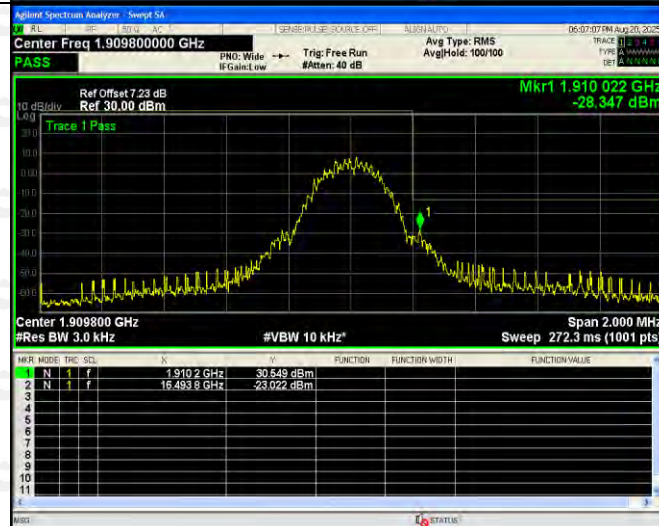
EDGE
High
Channel



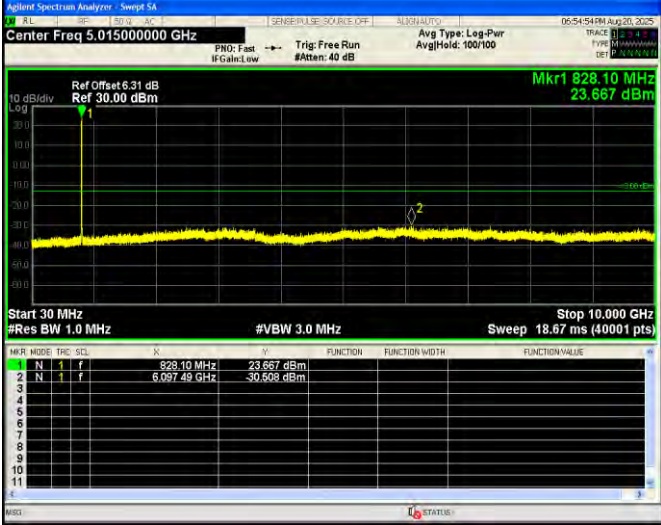
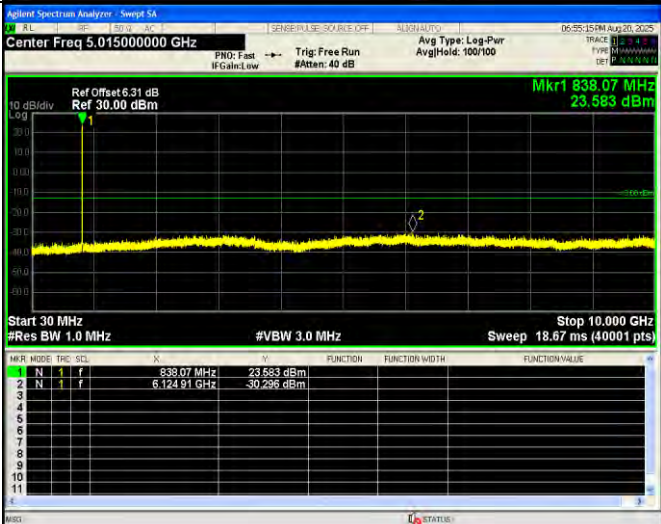
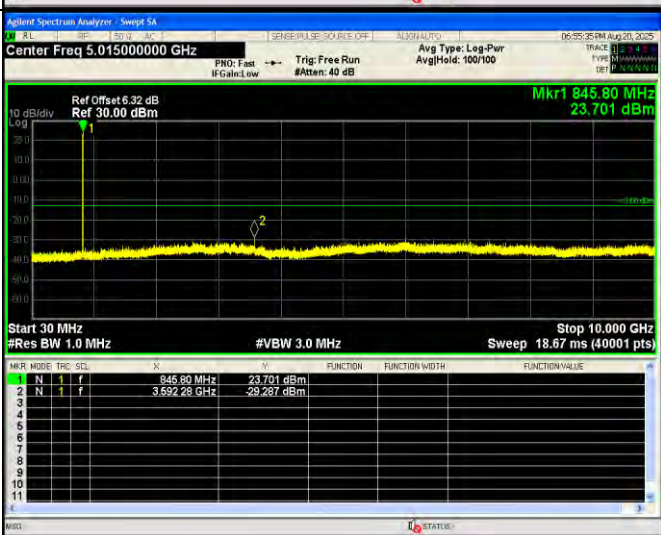
EDGE
Low
Band
Emission



EDGE
High
Band
Emission



For Band V

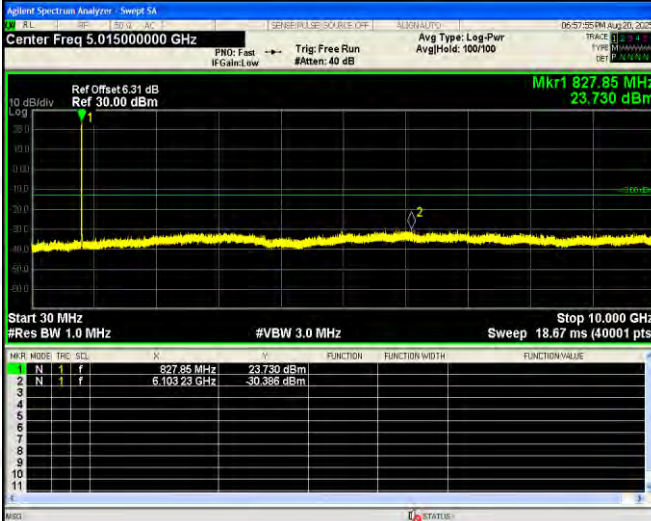
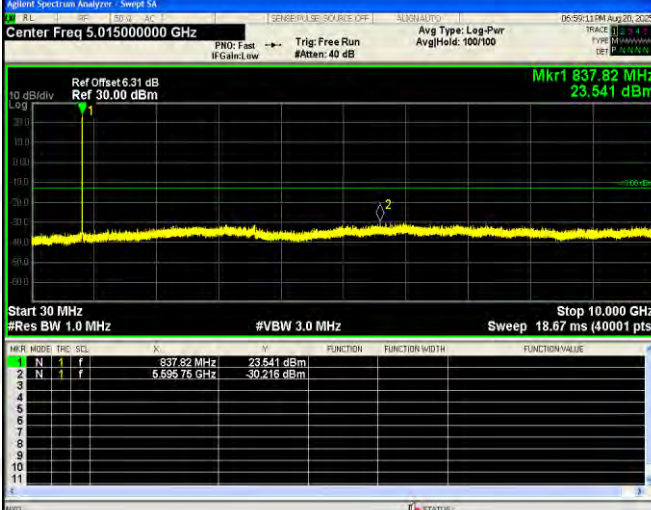
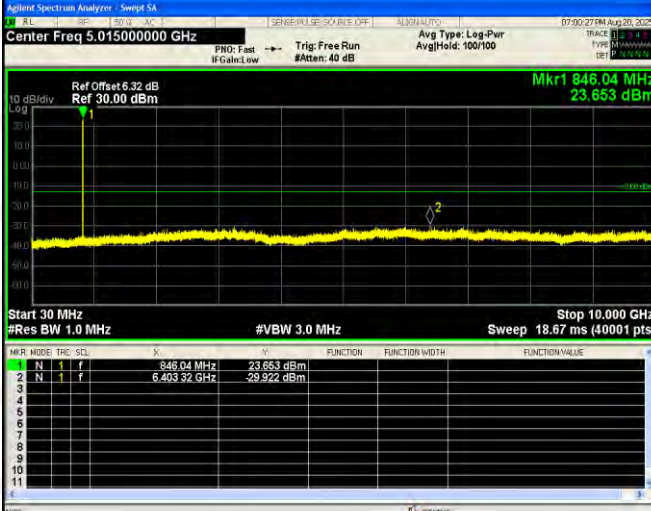
WCDMA Low Channel	
WCDMA Middle Channel	
WCDMA High Channel	

WCDMA
Low
Band
Spurious
Emission



WCDMA
High
Band
Spurious
Emission



HSDPA Low Channel	 <table><tr><th>Mkr</th><th>Mode</th><th>Freq</th><th>Power</th></tr><tr><td>1</td><td>N</td><td>827.85 MHz</td><td>23.730 dBm</td></tr><tr><td>2</td><td>N</td><td>6.10323 GHz</td><td>-30.386 dBm</td></tr></table>	Mkr	Mode	Freq	Power	1	N	827.85 MHz	23.730 dBm	2	N	6.10323 GHz	-30.386 dBm	
Mkr	Mode	Freq	Power											
1	N	827.85 MHz	23.730 dBm											
2	N	6.10323 GHz	-30.386 dBm											
HSDPA Middle Channel	 <table><tr><th>Mkr</th><th>Mode</th><th>Freq</th><th>Power</th></tr><tr><td>1</td><td>N</td><td>837.82 MHz</td><td>23.541 dBm</td></tr><tr><td>2</td><td>N</td><td>5.59575 GHz</td><td>-30.216 dBm</td></tr></table>	Mkr	Mode	Freq	Power	1	N	837.82 MHz	23.541 dBm	2	N	5.59575 GHz	-30.216 dBm	
Mkr	Mode	Freq	Power											
1	N	837.82 MHz	23.541 dBm											
2	N	5.59575 GHz	-30.216 dBm											
HSDPA High Channel	 <table><tr><th>Mkr</th><th>Mode</th><th>Freq</th><th>Power</th></tr><tr><td>1</td><td>N</td><td>846.04 MHz</td><td>23.653 dBm</td></tr><tr><td>2</td><td>N</td><td>6.40332 GHz</td><td>-29.922 dBm</td></tr></table>	Mkr	Mode	Freq	Power	1	N	846.04 MHz	23.653 dBm	2	N	6.40332 GHz	-29.922 dBm	
Mkr	Mode	Freq	Power											
1	N	846.04 MHz	23.653 dBm											
2	N	6.40332 GHz	-29.922 dBm											

HSDPA
Low
Band
Spurious
Emission



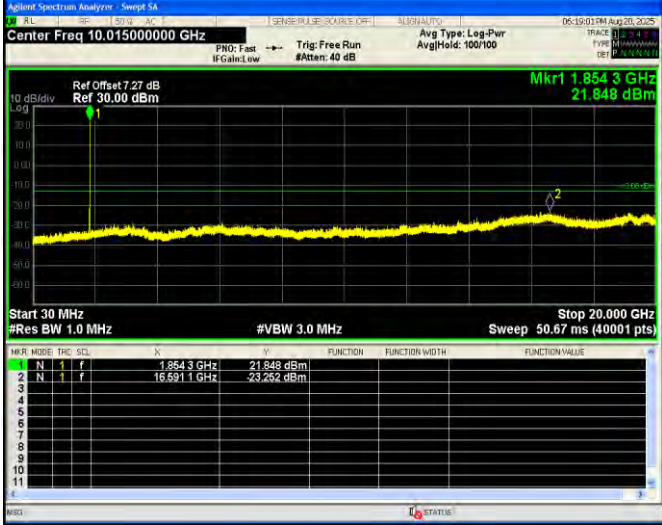
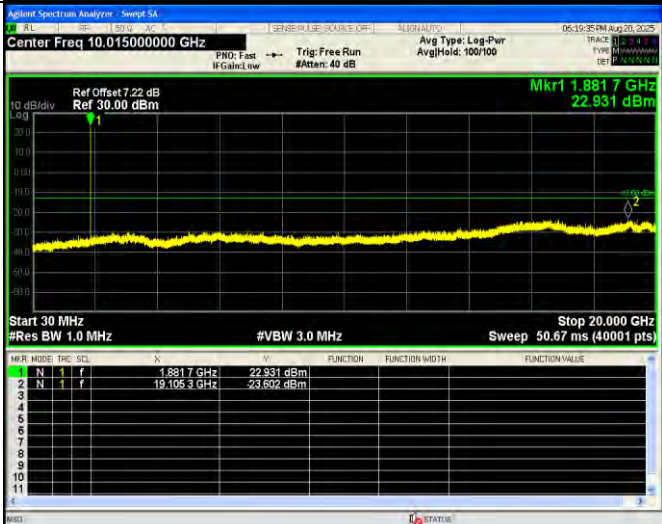
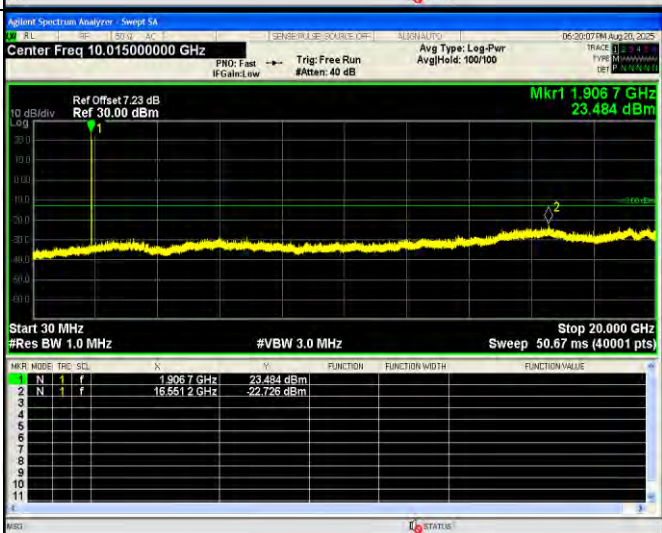
HSDPA
High
Band
Spurious
Emission



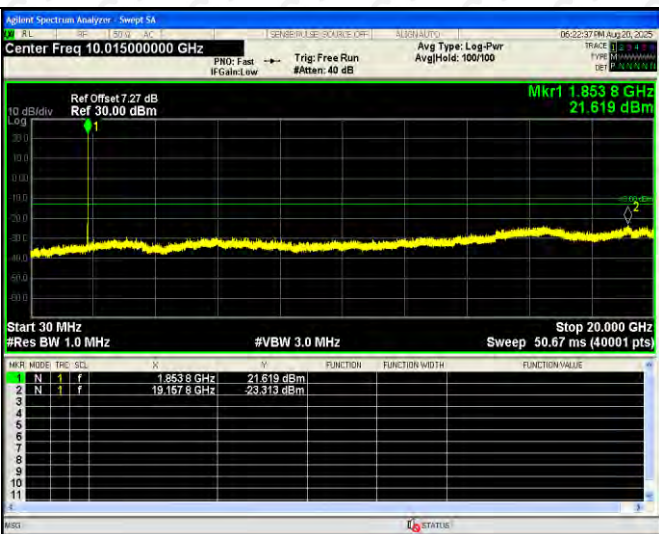
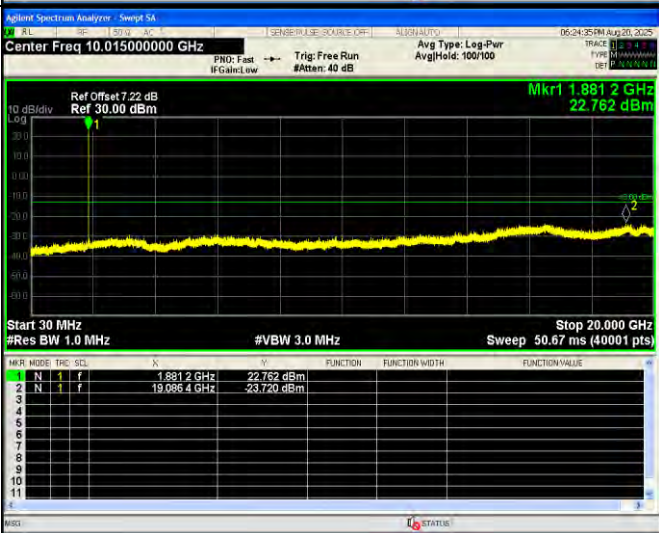
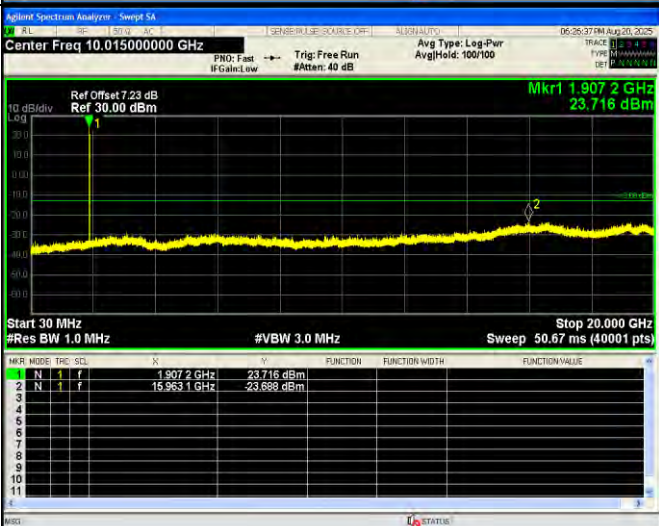
HSUPA Low Channel	Agilent Spectrum Analyzer - Sweep 5A Center Freq 5.015000000 GHz Ref Offset: 6.31 dB Ref 30.00 dBm Mkr1 825.61 MHz 23.645 dBm Start 30 MHz #Res BW 1.0 MHz #VBW 3.0 MHz Stop 10.000 GHz Sweep 18.67 ms (40001 pts) <table><thead><tr><th>MNR</th><th>MODE</th><th>THC</th><th>SCD</th><th>X</th><th>Y</th><th>FUNCTION</th><th>FUNCTION WIDTH</th><th>FUNCTION VALUE</th></tr></thead><tbody><tr><td>1</td><td>N</td><td>1</td><td>f</td><td>825.61 MHz</td><td>23.645 dBm</td><td></td><td></td><td></td></tr><tr><td>2</td><td>N</td><td>1</td><td>f</td><td>6.005 02 GHz</td><td>-29.922 dBm</td><td></td><td></td><td></td></tr></tbody></table>	MNR	MODE	THC	SCD	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	N	1	f	825.61 MHz	23.645 dBm				2	N	1	f	6.005 02 GHz	-29.922 dBm			
MNR	MODE	THC	SCD	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																				
1	N	1	f	825.61 MHz	23.645 dBm																							
2	N	1	f	6.005 02 GHz	-29.922 dBm																							
HSUPA Middle Channel	Agilent Spectrum Analyzer - Sweep 5A Center Freq 5.015000000 GHz Ref Offset: 6.31 dB Ref 30.00 dBm Mkr1 838.32 MHz 23.497 dBm Start 30 MHz #Res BW 1.0 MHz #VBW 3.0 MHz Stop 10.000 GHz Sweep 18.67 ms (40001 pts) <table><thead><tr><th>MNR</th><th>MODE</th><th>THC</th><th>SCD</th><th>X</th><th>Y</th><th>FUNCTION</th><th>FUNCTION WIDTH</th><th>FUNCTION VALUE</th></tr></thead><tbody><tr><td>1</td><td>N</td><td>1</td><td>f</td><td>838.32 MHz</td><td>23.497 dBm</td><td></td><td></td><td></td></tr><tr><td>2</td><td>N</td><td>1</td><td>f</td><td>6.917 78 GHz</td><td>-30.186 dBm</td><td></td><td></td><td></td></tr></tbody></table>	MNR	MODE	THC	SCD	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	N	1	f	838.32 MHz	23.497 dBm				2	N	1	f	6.917 78 GHz	-30.186 dBm			
MNR	MODE	THC	SCD	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																				
1	N	1	f	838.32 MHz	23.497 dBm																							
2	N	1	f	6.917 78 GHz	-30.186 dBm																							
HSUPA High Channel	Agilent Spectrum Analyzer - Sweep 5A Center Freq 5.015000000 GHz Ref Offset: 6.32 dB Ref 30.00 dBm Mkr1 846.29 MHz 23.709 dBm Start 30 MHz #Res BW 1.0 MHz #VBW 3.0 MHz Stop 10.000 GHz Sweep 18.67 ms (40001 pts) <table><thead><tr><th>MNR</th><th>MODE</th><th>THC</th><th>SCD</th><th>X</th><th>Y</th><th>FUNCTION</th><th>FUNCTION WIDTH</th><th>FUNCTION VALUE</th></tr></thead><tbody><tr><td>1</td><td>N</td><td>1</td><td>f</td><td>846.29 MHz</td><td>23.709 dBm</td><td></td><td></td><td></td></tr><tr><td>2</td><td>N</td><td>1</td><td>f</td><td>6.964 64 GHz</td><td>-30.368 dBm</td><td></td><td></td><td></td></tr></tbody></table>	MNR	MODE	THC	SCD	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	N	1	f	846.29 MHz	23.709 dBm				2	N	1	f	6.964 64 GHz	-30.368 dBm			
MNR	MODE	THC	SCD	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																				
1	N	1	f	846.29 MHz	23.709 dBm																							
2	N	1	f	6.964 64 GHz	-30.368 dBm																							

HSUPA Low Band Spurious Emission	
HSUPA High Band Spurious Emission	

For Band II

WCDMA Low Channel		
WCDMA Middle Channel		
WCDMA High Channel		

WCDMA Low Band Spurious Emission	
WCDMA High Band Spurious Emission	

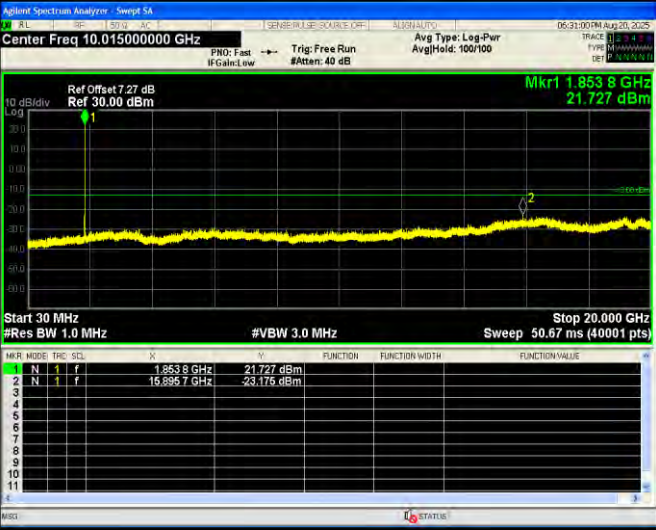
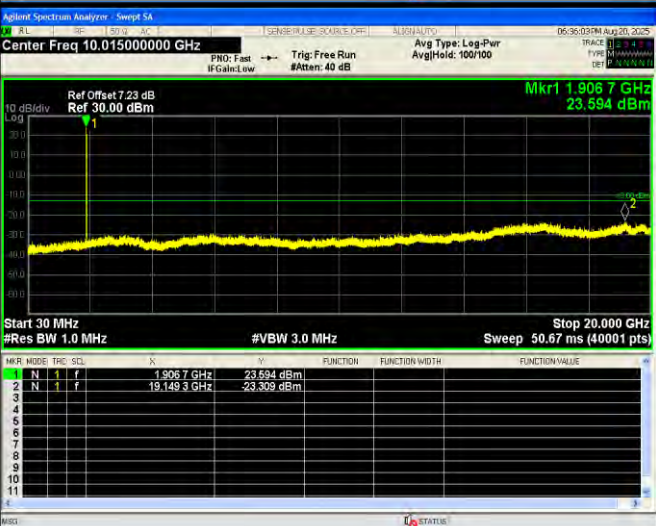
HSDPA Low Channel	 Agilent Spectrum Analyzer - Sweep 5A Center Freq 10.015000000 GHz Ref Offset: 7.27 dB Ref: 30.00 dBm Mkr1 1.8538 GHz 21.619 dBm Start 30 MHz #Res BW 1.0 MHz #VBW 3.0 MHz Sweep 50.67 ms (40001 pts) <table><tr><th>MNR</th><th>MODE</th><th>FREQ</th><th>SCD</th><th>X</th><th>Y</th><th>FUNCTION</th><th>FUNCTION WIDTH</th><th>FUNCTION VALUE</th></tr><tr><td>1</td><td>N</td><td>1</td><td>f</td><td>1.8538 GHz</td><td>21.619 dBm</td><td></td><td></td><td></td></tr><tr><td>2</td><td>N</td><td>1</td><td>f</td><td>19.1678 GHz</td><td>-23.313 dBm</td><td></td><td></td><td></td></tr></table>	MNR	MODE	FREQ	SCD	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	N	1	f	1.8538 GHz	21.619 dBm				2	N	1	f	19.1678 GHz	-23.313 dBm			
MNR	MODE	FREQ	SCD	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																				
1	N	1	f	1.8538 GHz	21.619 dBm																							
2	N	1	f	19.1678 GHz	-23.313 dBm																							
HSDPA Middle Channel	 Agilent Spectrum Analyzer - Sweep 5A Center Freq 10.015000000 GHz Ref Offset: 7.22 dB Ref: 30.00 dBm Mkr1 1.8812 GHz 22.762 dBm Start 30 MHz #Res BW 1.0 MHz #VBW 3.0 MHz Sweep 50.67 ms (40001 pts) <table><tr><th>MNR</th><th>MODE</th><th>FREQ</th><th>SCD</th><th>X</th><th>Y</th><th>FUNCTION</th><th>FUNCTION WIDTH</th><th>FUNCTION VALUE</th></tr><tr><td>1</td><td>N</td><td>1</td><td>f</td><td>1.8812 GHz</td><td>22.762 dBm</td><td></td><td></td><td></td></tr><tr><td>2</td><td>N</td><td>1</td><td>f</td><td>19.0864 GHz</td><td>-23.720 dBm</td><td></td><td></td><td></td></tr></table>	MNR	MODE	FREQ	SCD	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	N	1	f	1.8812 GHz	22.762 dBm				2	N	1	f	19.0864 GHz	-23.720 dBm			
MNR	MODE	FREQ	SCD	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																				
1	N	1	f	1.8812 GHz	22.762 dBm																							
2	N	1	f	19.0864 GHz	-23.720 dBm																							
HSDPA High Channel	 Agilent Spectrum Analyzer - Sweep 5A Center Freq 10.015000000 GHz Ref Offset: 7.23 dB Ref: 30.00 dBm Mkr1 1.9072 GHz 23.716 dBm Start 30 MHz #Res BW 1.0 MHz #VBW 3.0 MHz Sweep 50.67 ms (40001 pts) <table><tr><th>MNR</th><th>MODE</th><th>FREQ</th><th>SCD</th><th>X</th><th>Y</th><th>FUNCTION</th><th>FUNCTION WIDTH</th><th>FUNCTION VALUE</th></tr><tr><td>1</td><td>N</td><td>1</td><td>f</td><td>1.9072 GHz</td><td>23.716 dBm</td><td></td><td></td><td></td></tr><tr><td>2</td><td>N</td><td>1</td><td>f</td><td>15.9631 GHz</td><td>-23.688 dBm</td><td></td><td></td><td></td></tr></table>	MNR	MODE	FREQ	SCD	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	N	1	f	1.9072 GHz	23.716 dBm				2	N	1	f	15.9631 GHz	-23.688 dBm			
MNR	MODE	FREQ	SCD	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																				
1	N	1	f	1.9072 GHz	23.716 dBm																							
2	N	1	f	15.9631 GHz	-23.688 dBm																							

HSDPA
Low
Band
Spurious
Emission



HSDPA
High
Band
Spurious
Emission



HSUPA Low Channel	 Agilent Spectrum Analyzer - Sweep SA Center Freq 10.015000000 GHz Ref Offset: 7.27 dB Ref: 30.00 dBm Mkr1 1.8538 GHz 21.727 dBm Start 30 MHz #Res BW 1.0 MHz #VBW 3.0 MHz Sweep 50.67 ms (40001 pts) <table><tr><th>MNR</th><th>MODE</th><th>FREQ</th><th>SCD</th><th>X</th><th>Y</th><th>FUNCTION</th><th>FUNCTION WIDTH</th><th>FUNCTION VALUE</th></tr><tr><td>1</td><td>N</td><td>1</td><td>f</td><td>1.8538 GHz</td><td>21.727 dBm</td><td></td><td></td><td></td></tr><tr><td>2</td><td>N</td><td>1</td><td>f</td><td>16.8967 GHz</td><td>-23.176 dBm</td><td></td><td></td><td></td></tr></table>	MNR	MODE	FREQ	SCD	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	N	1	f	1.8538 GHz	21.727 dBm				2	N	1	f	16.8967 GHz	-23.176 dBm			
MNR	MODE	FREQ	SCD	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																				
1	N	1	f	1.8538 GHz	21.727 dBm																							
2	N	1	f	16.8967 GHz	-23.176 dBm																							
HSUPA Middle Channel	 Agilent Spectrum Analyzer - Sweep SA Center Freq 10.015000000 GHz Ref Offset: 7.22 dB Ref: 30.00 dBm Mkr1 1.8792 GHz 22.861 dBm Start 30 MHz #Res BW 1.0 MHz #VBW 3.0 MHz Sweep 50.67 ms (40001 pts) <table><tr><th>MNR</th><th>MODE</th><th>FREQ</th><th>SCD</th><th>X</th><th>Y</th><th>FUNCTION</th><th>FUNCTION WIDTH</th><th>FUNCTION VALUE</th></tr><tr><td>1</td><td>N</td><td>1</td><td>f</td><td>1.8792 GHz</td><td>22.861 dBm</td><td></td><td></td><td></td></tr><tr><td>2</td><td>N</td><td>1</td><td>f</td><td>16.8096 GHz</td><td>-22.727 dBm</td><td></td><td></td><td></td></tr></table>	MNR	MODE	FREQ	SCD	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	N	1	f	1.8792 GHz	22.861 dBm				2	N	1	f	16.8096 GHz	-22.727 dBm			
MNR	MODE	FREQ	SCD	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																				
1	N	1	f	1.8792 GHz	22.861 dBm																							
2	N	1	f	16.8096 GHz	-22.727 dBm																							
HSUPA High Channel	 Agilent Spectrum Analyzer - Sweep SA Center Freq 10.015000000 GHz Ref Offset: 7.23 dB Ref: 30.00 dBm Mkr1 1.9067 GHz 23.594 dBm Start 30 MHz #Res BW 1.0 MHz #VBW 3.0 MHz Sweep 50.67 ms (40001 pts) <table><tr><th>MNR</th><th>MODE</th><th>FREQ</th><th>SCD</th><th>X</th><th>Y</th><th>FUNCTION</th><th>FUNCTION WIDTH</th><th>FUNCTION VALUE</th></tr><tr><td>1</td><td>N</td><td>1</td><td>f</td><td>1.9067 GHz</td><td>23.594 dBm</td><td></td><td></td><td></td></tr><tr><td>2</td><td>N</td><td>1</td><td>f</td><td>19.1493 GHz</td><td>-23.309 dBm</td><td></td><td></td><td></td></tr></table>	MNR	MODE	FREQ	SCD	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	N	1	f	1.9067 GHz	23.594 dBm				2	N	1	f	19.1493 GHz	-23.309 dBm			
MNR	MODE	FREQ	SCD	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																				
1	N	1	f	1.9067 GHz	23.594 dBm																							
2	N	1	f	19.1493 GHz	-23.309 dBm																							

HSUPA
Low
Band
Spurious
Emission



HSUPA
High
Band
Spurious
Emission



10. SPURIOUS RADIATED EMISSIONS

10.1 Standard Applicable

According to §22.917(a), the power of any emissions 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.

According to §24.238(a), the power of any emissions 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.

10.2 Test Procedure

- 1.The setup of EUT is according with per ANSI/TIA Standard 603D and ANSI C63.4-2014 measurement procedure.
- 2.The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.
- 3.The frequency range up to tenth harmonic of the fundamental frequency was investigated.
- 4.Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution.

Spurious attenuation limit in dB $= 43 + 10 \log_{10}(\text{power out in Watts})$

10.3 Environmental Conditions

Temperature:	23 °C
Relative Humidity:	54%
ATM Pressure:	101 kPa
Test Voltage	DC 3.7V

10.4 Summary of Test Results/Plots

According to the data below, the FCC Part22.917 and 24.238 standards, and had the worst margin of:

Note: this EUT was tested in 3 orthogonal positions and the worst case position data was reported.

All test modes are performed, but only the worst case is recorded in this report.

For Cellular Band GSM850 Mode

Frequency (MHz)	Reading (dBm)	Correct dB	Result (dBm)	Limit (dBm)	Margin (dB)	Polar H/V
Low Channel (824.2MHz)						
42.62	-69.20	3.9	-65.30	-13	-52.30	H
1645.81	-54.07	4.83	-49.24	-13	-36.24	H
2470.40	-50.36	8.08	-42.28	-13	-29.28	H
40.77	-70.00	4.02	-65.98	-13	-52.98	V
1645.49	-53.28	4.48	-48.80	-13	-35.80	V
2469.94	-51.86	8.2	-43.66	-13	-30.66	V
Middle Channel (836.6MHz)						
42.49	-66.65	3.84	-62.81	-13	-49.81	H
1663.86	-52.85	4.62	-48.23	-13	-35.23	H
2505.23	-56.26	8.25	-48.01	-13	-35.01	H
41.33	-71.96	4.25	-67.71	-13	-54.71	V
1664.98	-47.86	4.54	-43.32	-13	-30.32	V
2506.04	-54.34	8.35	-45.99	-13	-29.75	V
High Channel (848.8MHz)						
44.06	-72.07	4.22	-76.29	-13	-63.29	H
1689.35	-52.75	4.87	-57.62	-13	-44.62	H
2539.57	-58.97	8.38	-67.35	-13	-54.35	H
46.14	-66.65	4.02	-70.67	-13	-57.67	V
1693.48	-53.28	4.56	-57.84	-13	-44.84	V
2544.47	-52.27	8.41	-60.68	-13	-47.68	V

For PCS Band GSM1900 Mode

Frequency (MHz)	Reading (dBm)	Correct dB	Result (dBm)	Limit (dBm)	Margin (dB)	Polar H/V
Low Channel (1850.2MHz)						
40.08	-70.29	4.34	-65.95	-13	-52.95	H
3698.73	-58.02	10.54	-47.48	-13	-34.48	H
5545.94	-61.77	13.37	-48.40	-13	-35.40	H
44.43	-74.32	4.34	-69.98	-13	-56.98	V
3699.17	-52.94	10.54	-42.40	-13	-29.40	V
5546.12	-59.95	13.37	-46.58	-13	-33.58	V
Middle Channel (1880MHz)						
38.17	-67.59	4.02	-63.57	-13	-50.57	H
3754.82	-58.73	10.71	-48.02	-13	-35.02	H
5630.23	-59.33	13.73	-45.60	-13	-32.60	H
42.67	-73.44	4.14	-69.30	-13	-56.30	V
3757.53	-53.74	10.22	-43.52	-13	-30.52	V
5632.64	-55.27	13.16	-42.11	-13	-29.11	V
High Channel (1909.8MHz)						
41.06	-74.06	4.02	-70.04	-13	-57.04	H
3818.26	-61.74	4.9	-56.84	-13	-43.84	H
5724.87	-45.81	8.09	-37.72	-13	-24.72	H
40.69	-60.43	4.25	-56.18	-13	-43.18	V
3818.60	-60.13	4.93	-55.20	-13	-42.20	V
5719.63	-56.24	8.43	-47.81	-13	-34.81	V

For Band 5 Mode

Frequency (MHz)	Reading (dBm)	Correct dB	Result (dBm)	Limit (dBm)	Margin (dB)	Polar H/V
Low Channel (826.4MHz)						
38.75	-69.51	3.91	-65.60	-13	-52.60	H
1643.64	-54.44	10.56	-43.88	-13	-30.88	H
2472.54	-62.20	13.5	-48.70	-13	-35.70	H
41.14	-73.38	3.93	-69.45	-13	-56.45	V
1646.21	-57.15	10.41	-46.74	-13	-33.74	V
2478.40	-58.99	13.16	-45.83	-13	-32.83	V
Middle Channel (836.6MHz)						
37.31	-68.96	4.02	-64.94	-13	-51.94	H
1672.65	-57.95	4.66	-53.29	-13	-40.29	H
2504.24	-42.48	8.34	-34.14	-13	-21.14	H
44.53	-56.33	4.17	-52.16	-13	-39.16	V
1669.94	-57.86	4.94	-52.92	-13	-39.92	V
2501.53	-59.76	8.19	-51.57	-13	-38.57	V
High Channel (846.6MHz)						
41.55	-69.26	3.87	-65.39	-13	-52.39	H
1687.53	-60.73	4.89	-55.84	-13	-42.84	H
2530.46	-45.57	8.42	-37.15	-13	-24.15	H
38.35	-60.30	3.95	-56.35	-13	-43.35	V
1692.39	-63.61	4.99	-58.62	-13	-45.62	V
2533.65	-62.54	8.12	-54.42	-13	-41.42	V

For Band 2 Mode

Frequency (MHz)	Reading (dBm)	Correct dB	Result (dBm)	Limit (dBm)	Margin (dB)	Polar H/V
Low Channel (1852.4MHz)						
40.23	-73.27	3.91	-69.36	-13	-56.36	H
1644.27	-52.26	10.56	-41.70	-13	-28.70	H
2478.55	-61.39	13.5	-47.89	-13	-34.89	H
43.31	-71.25	3.93	-67.32	-13	-54.32	V
1645.00	-50.81	10.41	-40.40	-13	-27.40	V
2471.90	-55.70	13.16	-42.54	-13	-29.54	V
Middle Channel (1880MHz)						
38.75	-72.63	4.02	-68.61	-13	-55.61	H
1665.68	-56.82	4.66	-52.16	-13	-39.16	H
2503.57	-48.90	8.34	-40.56	-13	-27.56	H
44.22	-62.26	4.17	-58.09	-13	-45.09	V
1664.68	-56.36	4.94	-51.42	-13	-38.42	V
2502.48	-60.85	8.19	-52.66	-13	-39.66	V
High Channel (1907.6MHz)						
39.05	-70.13	3.87	-66.26	-13	-53.26	H
1691.78	-56.71	4.89	-51.82	-13	-38.82	H
2533.36	-45.27	8.42	-36.85	-13	-23.85	H
37.74	-61.78	3.95	-57.83	-13	-44.83	V
1690.19	-57.20	4.99	-52.21	-13	-39.21	V
2539.01	-62.11	8.12	-53.99	-13	-40.99	V

Note: Result=Reading+ Correct, Margin= Result- Limit

Note: Testing is carried out with frequency rang 9kHz to the tenth harmonics, other than listed in the table above are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

11. FREQUENCY STABILITY

11.1 Standard Applicable

According to §22.355, the carrier frequency of each transmitter in the Public Mobile Services must be maintained within the tolerances given in Table below:

Frequency Tolerance for Cellular Band

Frequency range (MHz)	Base, fixed (ppm)	Mobile >3 watts (ppm)	Mobile ≤3 watts (ppm)
25 to 50	20.0	20.0	50.0
50 to 450	5.0	5.0	50.0
450 to 512	2.5	5.0	5.0
821 to 896	1.5	2.5	2.5
928 to 929	5.0	N/A	N/A
929 to 960	1.5	N/A	N/A
2110 to 2220	10.0	N/A	N/A

According to §24.235, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

According to §27.54 The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

11.2 Test Procedure

According to §2.1055, the following test procedure was performed.

The Frequency Stability is measured directly with a Frequency Domain Analyzer. Frequency Deviation in ppm is calculated from the measured peak to peak value.

The Carrier Frequency Stability over Power Supply Voltage and over Temperature is measured with a Frequency Domain Analyzer in histogram mode

11.3 Environmental Conditions

Temperature:	23°C
Relative Humidity:	54%
ATM Pressure:	101kPa

11.4 Summary of Test Results/Plots

For Cellular Band GSM Mode

Reference Frequency(Middle Channel): 836.6MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		MCF (Hz)	Error (ppm)
50	NV	8.50	0.01016
40	NV	9.62	0.01150
30	NV	9.85	0.01178
20	NV	9.60	0.01148
10	NV	10.36	0.01238
0	NV	9.90	0.01184
-10	NV	10.67	0.01275
-20	NV	10.24	0.01224
-30	NV	11.39	0.01361

For PCS Band GSM Mode

Reference Frequency(Middle Channel): 1880 MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		MCF (Hz)	Error (ppm)
50	NV	12.29	0.00654
40	NV	12.65	0.00673
30	NV	12.97	0.00690
20	NV	12.91	0.00687
10	NV	12.96	0.00689
0	NV	13.20	0.00702
-10	NV	13.61	0.00724
-20	NV	14.11	0.00751
-30	NV	14.37	0.00764

For Cellular Band GPRS Mode

Reference Frequency(Middle Channel): 836.6MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		MCF (Hz)	Error (ppm)
50	NV	9.27	0.01108
40	NV	8.94	0.01069
30	NV	9.26	0.01107
20	NV	9.10	0.01088
10	NV	10.16	0.01214
0	NV	9.94	0.01188
-10	NV	9.91	0.01184
-20	NV	10.48	0.01252
-30	NV	10.52	0.01257

For PCS Band GPRS Mode

Reference Frequency(Middle Channel): 1880 MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		MCF (Hz)	Error (ppm)
50	NV	12.13	0.00645
40	NV	12.82	0.00682
30	NV	12.52	0.00666
20	NV	13.23	0.00704
10	NV	13.59	0.00723
0	NV	13.72	0.00730
-10	NV	14.21	0.00756
-20	NV	14.13	0.00751
-30	NV	14.76	0.00785

For Cellular Band EDGE Mode

Reference Frequency(Middle Channel): 836.6MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		MCF (Hz)	Error (ppm)
50	NV	10.75	0.01285
40	NV	11.63	0.01390
30	NV	11.94	0.01427
20	NV	11.99	0.01433
10	NV	11.85	0.01417
0	NV	11.55	0.01381
-10	NV	12.53	0.01498
-20	NV	12.31	0.01471
-30	NV	13.19	0.01577

For PCS Band EDGE Mode

Reference Frequency(Middle Channel): 1880 MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		MCF (Hz)	Error (ppm)
50	NV	-9.90	-0.00527
40	NV	-9.64	-0.00513
30	NV	-9.59	-0.00510
20	NV	-9.03	-0.00480
10	NV	-9.18	-0.00488
0	NV	-8.45	-0.00449
-10	NV	-8.98	-0.00477
-20	NV	-8.62	-0.00459
-30	NV	-7.60	-0.00404

For WCDMA Band 5 Mode

Reference Frequency(Middle Channel): 836.6 MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		MCF (Hz)	Error (ppm)
50	NV	0.05	0.00006
40	NV	0.39	0.00047
30	NV	0.28	0.00033
20	NV	0.37	0.00044
10	NV	0.42	0.00050
0	NV	1.09	0.00131
-10	NV	1.34	0.00160
-20	NV	0.79	0.00094
-30	NV	0.85	0.00101

For WCDMA Band 2 Mode

Reference Frequency(Middle Channel): 1880 MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		MCF (Hz)	Error (ppm)
50	NV	0.07	0.00004
40	NV	0.56	0.00030
30	NV	0.25	0.00013
20	NV	0.90	0.00048
10	NV	1.10	0.00058
0	NV	0.98	0.00052
-10	NV	0.69	0.00036
-20	NV	1.14	0.00060
-30	NV	1.23	0.00066

For HSDPA Band 5 Mode

Reference Frequency(Middle Channel): 836.6 MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		MCF (Hz)	Error (ppm)
50	NV	0.05	0.00006
40	NV	0.36	0.00043
30	NV	0.78	0.00093
20	NV	0.84	0.00100
10	NV	0.61	0.00073
0	NV	1.28	0.00153
-10	NV	0.59	0.00070
-20	NV	1.15	0.00137
-30	NV	1.46	0.00175

For HSDPA Band 2 Mode

Reference Frequency(Middle Channel): 1880 MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		MCF (Hz)	Error (ppm)
50	NV	-0.44	-0.00023
40	NV	-0.35	-0.00018
30	NV	0.37	0.00020
20	NV	-0.05	-0.00003
10	NV	1.16	0.00062
0	NV	0.76	0.00040
-10	NV	1.43	0.00076
-20	NV	1.74	0.00093
-30	NV	2.20	0.00117

For HSUPA Band 5 Mode

Reference Frequency(Middle Channel): 836.6 MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		MCF (Hz)	Error (ppm)
50	NV	0.84	0.00101
40	NV	1.11	0.00133
30	NV	0.81	0.00097
20	NV	0.60	0.00072
10	NV	1.71	0.00205
0	NV	1.32	0.00157
-10	NV	1.25	0.00149
-20	NV	2.48	0.00296
-30	NV	2.25	0.00269

For HSUPA Band 2 Mode

Reference Frequency(Middle Channel): 1880 MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		MCF (Hz)	Error (ppm)
50	NV	5.00	0.00266
40	NV	4.92	0.00261
30	NV	5.30	0.00282
20	NV	5.45	0.00290
10	NV	5.74	0.00305
0	NV	6.13	0.00326
-10	NV	7.06	0.00376
-20	NV	6.33	0.00337
-30	NV	7.17	0.00381

So, Frequency Stability Versus Input Voltage is:

Reference Frequency(Middle Channel): GSM 836.6MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		Frequency (Hz)	Error (ppm)
20	LV	11.10	0.01326
	NV	11.74	0.01404
	HV	11.69	0.01398
Reference Frequency(Middle Channel): GSM 1880 MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		Frequency (Hz)	Error (ppm)
20	LV	14.27	0.00759
	NV	14.48	0.00770
	HV	14.61	0.00777
Reference Frequency(Middle Channel): GPRS 836.6MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		Frequency (Hz)	Error (ppm)
20	LV	10.79	0.01290
	NV	11.43	0.01366
	HV	11.31	0.01352
Reference Frequency(Middle Channel): GPRS 1880 MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		Frequency (Hz)	Error (ppm)
20	LV	14.67	0.00780
	NV	14.38	0.00765
	HV	15.10	0.00803
Reference Frequency(Middle Channel): EDGE 836.6MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		Frequency (Hz)	Error (ppm)
20	LV	12.49	0.01494
	NV	13.08	0.01565
	HV	13.07	0.01564
Reference Frequency(Middle Channel): EDGE 1880 MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		Frequency (Hz)	Error (ppm)
20	LV	-8.22	-0.00437
	NV	-7.77	-0.00413
	HV	-7.40	-0.00394

Reference Frequency(Middle Channel): WCDMA 836.6MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		Frequency (Hz)	Error (ppm)
20	LV	0.90	0.00107
	NV	1.74	0.00208
	HV	1.18	0.00141
Reference Frequency(Middle Channel): WCDMA 1732.4MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		Frequency (Hz)	Error (ppm)
20	LV	0.71	0.00041
	NV	1.25	0.00072
	HV	1.72	0.00099
Reference Frequency(Middle Channel): WCDMA 1880 MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		Frequency (Hz)	Error (ppm)
20	LV	2.03	0.00108
	NV	2.36	0.00282
	HV	3.24	0.00388

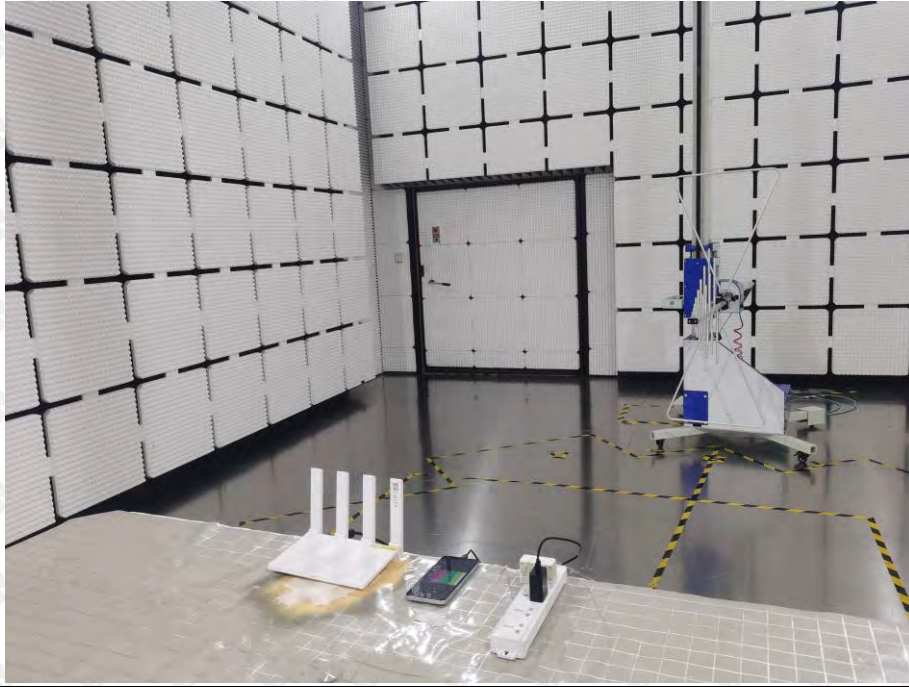
Reference Frequency(Middle Channel): HSDPA 836.6MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		Frequency (Hz)	Error (ppm)
20	LV	1.26	0.00151
	NV	1.43	0.00171
	HV	1.87	0.00223
Reference Frequency(Middle Channel): HSDPA 1732.4MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		Frequency (Hz)	Error (ppm)
20	LV	6.09	0.00352
	NV	5.93	0.00342
	HV	6.25	0.00361
Reference Frequency(Middle Channel): HSDPA 1880 MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		Frequency (Hz)	Error (ppm)
20	LV	7.08	0.00377
	NV	6.83	0.00364
	HV	6.99	0.00372

Reference Frequency(Middle Channel): HSUPA 836.6MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		Frequency (Hz)	Error (ppm)
20	LV	2.32	0.00277
	NV	3.38	0.00404
	HV	3.48	0.00416
Reference Frequency(Middle Channel): HSUPA 1732.4MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		Frequency (Hz)	Error (ppm)
20	LV	5.14	0.00297
	NV	5.58	0.00322
	HV	5.87	0.00339
Reference Frequency(Middle Channel): HSUPA 1880 MHz, Limit: 2.5ppm			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		Frequency (Hz)	Error (ppm)
20	LV	8.86	0.00471
	NV	9.07	0.00483
	HV	9.16	0.00487

12. EUT TEST PHOTO

Radiated Emissions

Below 1G



Above 1G



Conducted emission



***** END OF REPORT *****