TEST REPORT

Report Number. : 13573771-E7V2

Applicant	:	APPLE, INC 1 APPLE PARKWAY CUPERTINO, CA 95014, U.S.A.
Model	:	A2484
FCC ID	:	BCG-E4003A
IC	:	579C-E4003A
EUT Description	:	SMARTPHONE
Test Standard(s)	:	FCC CFR47 PART 22H, 24E, 27L, AND 90S ISED RSS-GEN ISSUE 5, RSS-132 ISSUE 3, RSS-133 ISSUE 6, AND RSS-139 ISSUE 3

Date Of Issue:
AUGUST 09, 2021

Prepared by:
UL Verification Services Inc.
47173 Benicia Street
Fremont, CA 94538, U.S.A.
TEL: (510) 319-4000
FAX: (510) 661-0888

ACCREDITED
CERT #0751.05

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	8/4/2021	Initial Review	Mengistu Mekuria
V2	8/9/2021	Addressed TCB Questions	Mengistu Mekuria

TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS 6

2. SUMMARY OF TEST RESULTS 7

3. TEST METHODOLOGY 8

4. FACILITIES AND ACCREDITATION 8

5. DECISION RULES AND MEASUREMENT UNCERTAINTY 9

5.1. METROLOGICAL TRACEABILITY 9

5.2. DECISION RULES 9

5.3. MEASUREMENT UNCERTAINTY 9

5.4. SAMPLE CALCULATION 9

6. EQUIPMENT UNDER TEST 10

6.1. DESCRIPTION OF EUT 10

6.2. MAXIMUM OUTPUT POWER 10

6.3. SOFTWARE AND FIRMWARE 13

6.4. MAXIMUM ANTENNA GAIN 13

6.5. WORST-CASE CONFIGURATION AND MODE 14

6.6. DESCRIPTION OF TEST SETUP 15

7. TEST AND MEASUREMENT EQUIPMENT 17

8. RF OUTPUT POWER VERIFICATION 19

8.1. GSM 19

8.1.1. GSM 850 20

8.1.2. GSM 1900 20

8.2. CDMA 21

8.2.1. CDMA BC10 24

8.2.2. CDMA BC0 25

8.2.3. CDMA BC1 26

8.3. WCDMA 27

8.3.1. WCDMA BAND 5 30

8.3.2. WCDMA BAND 2 31

8.3.3. WCDMA BAND 4 32

9. CONDUCTED TEST RESULTS 33

9.1. OCCUPIED BANDWIDTH 33

9.1.1. GSM 35

9.1.2. CDMA 36

9.1.3. WCDMA 37

9.2. BAND EDGE AND EMISSION MASK 38

9.2.1. GSM 850 40
9.2.2. GSM 1900 41
9.2.3. CDMA BC10 42
9.2.4. CDMA BC0 43
9.2.5. CDMA BC1 44
9.2.6. WCDMA BAND 5 45
9.2.7. WCDMA BAND 2 46
9.2.8. WCDMA BAND 4 47
9.3. OUT OF BAND EMISSIONS 48
9.3.1. GSM 850 49
9.3.2. GSM 1900 50
9.3.3. CDMA BC10 51
9.3.4. CDMA BC0 52
9.3.5. CDMA BC1 53
9.3.6. WCDMA BAND 5 54
9.3.7. WCDMA BAND 2 55
9.3.8. WCDMA BAND 4 56
9.4. FREQUENCY STABILITY 57
9.4.1. GSM 58
9.4.2. CDMA 59
9.4.3. WCDMA 61
9.5. PEAK-TO-AVERAGE POWER RATIO 63
9.5.1. GSM 64
9.5.2. CDMA 65
9.5.3. WCDMA 66
10. RADIATED TEST RESULTS 67
10.1. Example Plot 68
10.2. FIELD STRENGTH OF SPURIOUS RADIATION, ABOVE 1GHz, ANT 1 70
10.2.1. GSM 850 71
10.2.2. GSM 1900 73
10.2.3. CDMA BC10 75
10.2.4. CDMA BC0 77
10.2.5. CDMA BC1 79
10.2.6. WCDMA BAND 5 81
10.2.7. WCDMA BAND 2 83
10.2.8. WCDMA BAND 4 85
10.3. FIELD STRENGTH OF SPURIOUS RADIATION, ABOVE 1GHz, ANT 2 87
10.3.1. GSM 850 87
10.3.2. GSM 1900 89
10.3.3. CDMA BC10 91
10.3.4. CDMA BC0 93
10.3.5. CDMA BC1 95
10.3.6. WCDMA BAND 5 97
10.3.7. WCDMA BAND 2 99
10.3.8. WCDMA BAND 4 101
10.4. FIELD STRENGTH OF SPURIOUS RADIATION, ABOVE 1GHz, ANT 3 103
10.4.1. GSM 1900 103
10.4.2. CDMA BC1 105

10.4.3. WCDMA BAND 2 107
10.4.4. WCDMA BAND 4 109

10.1. FIELD STRENGTH OF SPURIOUS RADIATION, ABOVE 1GHz, ANT 4 111
10.1.1. GSM 1900 111
10.1.2. CDMA BC1 113
10.1.3. WCDMA BAND 2 115
10.1.4. WCDMA BAND 4 117

11. SETUP PHOTOS 119

1. ATTESTATION OF TEST RESULTS

Applicant Name and Address	APPLE, INC 1 APPLE PARKWAY CUPERTINO, CA 95014, U.S.A.
Model	A2484
Brand	APPLE
FCC ID	BCG-E4003A
IC	579C-E4003A
EUT Description	SMARTPHONE
Serial Number	DQPGXVW7TL (Conducted), XKX609QCDP (Radiated)
Sample Receipt Date	5/20/2021 (Conducted), 5/21/2021 (Radiated)
Date Tested	APRIL 01, 2021 to MAY 26, 2021
Applicable Standards	FCC CFR47 PART 22H, 24E, 27L, AND 90S ISED RSS-GEN ISSUE 5, RSS-132 ISSUE 3, RSS-133 ISSUE 6, AND RSS-139 ISSUE 3
Test Results	COMPLIES

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise.

This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by A2LA, NIST, any agency of the Federal Government, or any agency of the U.S. government.

Approved & Released By:	Reviewed By:	Prepared By:
		
Dan Coronia Operations Leader UL Verification Services Inc.	Lieu Nguyen Project Engineer UL Verification Services Inc.	Tony Li Laboratory Engineer UL Verification Services Inc.

2. SUMMARY OF TEST RESULTS

This report contains data provided by the customer which can impact the validity of results. UL Verification Services Inc. is only responsible for the validity of results after the integration of the data provided by the customer.

Requirement Description	Requirement Clause Number (FCC)	Requirement Clause Number (ISED)	Result	Remarks
RF Conducted Output Power	2.1046, 90.635 (b)	-	Complies	
Effective Radiated Power	22.913 (a)(5)	-	Complies	
Equivalent Isotropic Radiated power	24.232 (c), 27.50 (d) (4)	RSS132§5.4 RSS133§6.4 & SRSP-510, 5.1.2 RSS139§6.5	Complies	
Occupied Bandwidth	2.1049	RSS132 RSS133§2.3 RSS139 RSS-GEN§6.7	Complies	
Band Edge and Emission Mask	2.1051, 22.917 (a), 24.238 (a), 27.53 (h), 90.691(a)	RSS132§5.5 RSS133§6.5 RSS139§6.6	Complies	
Out of Band Emissions	2.1051, 22.917 (a), 24.238 (a), 27.53 (h), 90.691 (a)	RSS132§5.5 RSS133§6.5 RSS139§6.6	Complies	
Frequency Stability	2.1055, 22.355, 24.235, 27.54, 90.213	RSS132§5.3 RSS133§6.3 RSS139§6.4	Complies	
Peak-to-Average Ratio	22.913 (d), 24.232 (d), 27.50 (d) (5)	RSS132§5.4 RSS133§6.4 RSS139§6.5	Complies	
Field Strength of Spurious Radiation	2.1053, 22.917 (a), 24.238 (a), 27.53 (h), 90.691 (a)	RSS132§5.5 RSS133§6.5 RSS139§6.6	Complies	

3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with the following:

- ANSI C63.26:2015
- FCC CFR 47 Part 2, Part 22, Part 24, Part 27 and Part 90
- FCC KDB 971168 D01 v03r01: Power Meas License Digital Systems
- FCC KDB 971168 D02 v02r01: Misc Rev Approv License Devices
- FCC KDB 412172 D01 v01r01. Determining ERP and EIRP
- ISED RSS-GEN Issue 5, RSS-132 Issue 3, RSS-133 Issue 6, RSS-139 Issue 3.

4. FACILITIES AND ACCREDITATION

UL Verification Services Inc. is accredited by A2LA, certification #0751.05, for all testing performed within the scope of this report. Testing was performed at the locations noted below.

	Address	ISED CABID	ISED Company Number	FCC Registration
☒	Building 1: 47173 Benicia Street, Fremont, CA 94538, USA	US0104	2324A	208313
☒	Building 2: 47266 Benicia Street, Fremont, CA 94538, USA	US0104	22541	208313
☒	Building 4: 47658 Kato Rd, Fremont, CA 94538, USA	US0104	2324B	208313

5. DECISION RULES AND MEASUREMENT UNCERTAINTY

5.1. METROLOGICAL TRACEABILITY

All test and measuring equipment utilized to perform the tests documented in this report are calibrated on a regular basis, with a maximum time between calibrations of one year or the manufacturers' recommendation, whichever is less, and where applicable is traceable to recognized national standards.

5.2. DECISION RULES

The Decision Rule is based on Simple Acceptance in accordance with ISO Guide 98-4:2012 Clause 8.2. (Measurement uncertainty is not taken into account when stating conformity with a specified requirement.)

5.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	U_{Lab}
Worst Case Radiated Disturbance, 9KHz to 30 MHz	2.87 dB
Worst Case Radiated Disturbance, 30 to 1000 MHz	6.01 dB
Worst Case Radiated Disturbance, 1000 to 18000 MHz	4.73 dB
Worst Case Radiated Disturbance, 18000 to 26000 MHz	4.51 dB
Worst Case Radiated Disturbance, 26000 to 40000 MHz	5.29 dB
Occupied Channel Bandwidth	±1.22 %
Temperature	±2.26%
Supply voltages	±0.57 %
Time	±3.39 %

Uncertainty figures are valid to a confidence level of 95%.

5.4. SAMPLE CALCULATION

RADIATED EMISSIONS

Where relevant, the following sample calculation is provided:
Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)
36.5 dBuV + 18.7 dB/m + 0.6 dB – 26.9 dB = 28.9 dBuV/m

MAINS CONDUCTED EMISSIONS

Where relevant, the following sample calculation is provided:
Final Voltage (dBuV) = Measured Voltage (dBuV) + Cable Loss (dB) + Limiter Factor (dB) + LISN Insertion Loss.
36.5 dBuV + 0 dB +10.1 dB+ 0 dB = 46.6 dBuV

6. EQUIPMENT UNDER TEST

6.1. DESCRIPTION OF EUT

The Apple iPhone is a smartphone with multimedia functions (music, application support, and video), cellular GSM, GPRS, EGPRS, UMTS, LTE, 5G, CDMA, IEEE 802.11a/b/g/n/ac/ax, Bluetooth, Ultra-Wideband, GPS, and NFC. All models support at least one UICC based SIM. The second SIM is either an UICC based p-SIM (physical SIM) or e-SIM (electronic SIM). The device supports a built-in inductive charging transmitter and receiver. The rechargeable battery is not user accessible.

Testing was performed on the parent model and is used to support the application for the parent and variants identified in this report based on the test plan submitted and approved via KDB inquiry by the FCC and by ISED-Canada.

CDMA BC10 band is supported in USA only.

6.2. MAXIMUM OUTPUT POWER

EIRP/ERP TEST PROCEDURE

ANSI C63.26:2015
KDB 971168 D01 Section 5.6

ERP/EIRP = PMeas + GT − LC
where: ERP/EIRP = effective or equivalent radiated power, respectively (expressed in the same units as PMeas, typically dBW or dBm);
PMeas = measured transmitter output power or PSD, in dBm or dBW;
GT = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);
LC = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

For devices utilizing multiple antennas, KDB 662911 provides guidance for determining the effective array transmit antenna gain term to be used in the above equation.

EUT includes different power levels for head use configuration and body use configuration and the below tables contain the highest of all configurations average conducted and ERP/EIRP output powers as follows:

GSM MODES

RSS 132 850MHz (Ant 1)

Frequency range (MHz)	Modulation	Conducted (Average) (dBm)	Antenna Gain (dBi)	Limit (W)	EIRP		99% BW (kHz)	Emission Designator
					(dBm)	(W)		
824.2-848.8	GPRS	33.50	-5.20	11.5	28.30	0.676	243.68	244KGXW
	EGPRS	28.00			28.00	0.631	234.37	234KG7W

Part 22 850MHz (Ant 1)

Frequency range (MHz)	Modulation	Conducted (Average) (dBm)	Antenna Gain (dBi)	Limit (W)	ERP		99% BW (kHz)	Emission Designator
					(dBm)	(W)		
824.2-848.8	GPRS	33.50	-5.20	7.0	26.15	0.412	243.68	244KGXW
	EGPRS	28.00			25.85	0.385	234.37	234KG7W

Part 24 / RSS 133 1900MHz (Ant 3)

Frequency range (MHz)	Modulation	Conducted (Average) (dBm)	Antenna Gain (dBi)	Limit (W)	EIRP		99% BW (kHz)	Emission Designator
					(dBm)	(W)		
1850.2-1909.8	GPRS	31.00	1.10	2.0	32.10	1.622	240.75	241KGXW
	EGPRS	26.50			26.50	0.447	232.77	233KG7W

CDMA MODES

Part 90 BC10 (Ant 1)

Frequency range (MHz)	Modulation	Conducted (Average) (dBm)	Conducted (Average) (W)	Antenna Gain (dBi)	Limit (W)	ERP		99% BW (kHz)	Emission Designator
						(dBm)	(W)		
817.25-822.75	1xRTT	25.70	0.372	-5.20	100.0	18.35	0.068	1277.2	1M28F9W
	1xEV-DO Rev A	25.70	0.372			18.35	0.068	1274.4	1M27F9W

RSS 132 BC0 (Ant 1)

Frequency range (MHz)	Modulation	Conducted (Average) (dBm)	Antenna Gain (dBi)	Limit (W)	EIRP		99% BW (kHz)	Emission Designator
					(dBm)	(W)		
824.7-848.31	1xRTT	23.50	-5.20	11.5	18.30	0.068	1282.6	1M28F9W
	1xEV-DO Rev A	23.50			18.30	0.068	1279.5	1M28F9W

Part 22 BC0 (Ant 1)

Frequency range (MHz)	Modulation	Conducted (Average) (dBm)	Antenna Gain (dBi)	Limit (W)	ERP		99% BW (kHz)	Emission Designator
					(dBm)	(W)		
824.7-848.31	1xRTT	23.50	-5.20	7.0	16.15	0.041	1282.6	1M28F9W
	1xEV-DO Rev A	23.50			16.15	0.041	1279.5	1M28F9W

Part 24 / RSS 133 BC1 (Ant 1)

Frequency range (MHz)	Modulation	Conducted (Average) (dBm)	Antenna Gain (dBi)	Limit (W)	EIRP		99% BW (kHz)	Emission Designator
					(dBm)	(W)		
1851.25-1908.75	1xRTT	25.70	-3.10	2.0	22.60	0.182	1280.7	1M28F9W
	1xEV-DO Rev A	25.70			22.60	0.182	1279.5	1M28F9W

WCDMA MODE

RSS 132 Band 5 (Ant 1)

Frequency range (MHz)	Modulation	Conducted (Average) (dBm)	Antenna Gain (dBi)	Limit (W)	EIRP		99% BW (kHz)	Emission Designator
					(dBm)	(W)		
826.4-846.6	REL 99	25.70	-5.20	11.5	20.50	0.112	4192	4M19F9W
	HSDPA	24.68			19.48	0.089	4153.1	4M15F9W

Part 22 Band 5 (Ant 1)

Frequency range (MHz)	Modulation	Conducted (Average) (dBm)	Antenna Gain (dBi)	Limit (W)	ERP		99% BW (kHz)	Emission Designator
					(dBm)	(W)		
826.4-846.6	REL 99	25.70	-5.20	7.0	18.35	0.068	4192	4M19F9W
	HSDPA	24.68			17.33	0.054	4153.1	4M15F9W

Part 24 / RSS 133 Band 2 (Ant 3)

Frequency range (MHz)	Modulation	Conducted (Average) (dBm)	Antenna Gain (dBi)	Limit (W)	EIRP		99% BW (kHz)	Emission Designator
					(dBm)	(W)		
1852.4-1907.6	REL 99	25.20	1.10	2.0	26.30	0.427	4138.2	4M14F9W
	HSDPA	24.31			25.41	0.348	4144.4	4M14F9W

Part 27 / RSS 139 Band 4 (Ant 3)

Frequency range (MHz)	Modulation	Conducted (Average) (dBm)	Antenna Gain (dBi)	Limit (W)	EIRP		99% BW (kHz)	Emission Designator
					(dBm)	(W)		
1712.4-1752.6	REL 99	25.20	-0.60	1.0	24.60	0.288	4147.1	4M15F9W
	HSDPA	24.26			23.66	0.232	4148	4M15F9W

6.3. SOFTWARE AND FIRMWARE

The EUT firmware installed during testing was version 0.21.02-1.

6.4. MAXIMUM ANTENNA GAIN

The antenna(s) gain and type, as provided by the manufacturer' are as follows:

Frequency Range (MHz)	ANT 1 Antenna Gain (dBi)	ANT 2 Antenna Gain (dBi)	ANT 3 Antenna Gain (dBi)	ANT 4 Antenna Gain (dBi)
BC10 816 - 824	-5.2	-6.5		
GSM850, BC0, WCDMA 5 824 - 849	-5.2	-6.5		
GSM1900, BC1, WCDMA 2 1850 - 1910	-3.1	-1.2	1.1	-2.1
WCDMA 4 1710 - 1755	-2.6	-2.6	-0.6	-1.7

6.5. WORST-CASE CONFIGURATION AND MODE

The EUT was investigated in three orthogonal orientations X/Y/Z on all ANT 1, ANT2, ANT3, and ANT 4 antennas to determine the worst case orientation. The following table exhibits the worst case orientation for different frequency bands. The full tests of the EUT have made upon the orientations that shown in the table below.

Frequency Bands	ANT1	ANT2	ANT3	ANT4
663 – 849 MHz	X	X	N/A	N/A
1710 – 1915 MHz	Y	Y	X	X

Based on average conducted output power measurement investigations. The worst-case antenna port is Ant1 with the highest power. Therefore, Ant 1 was used to perform all conducted tests.

The worst-case scenario for all measurements as followed:
- GSM GPRS
- GSM EGPRS
- CDMA 2000 1xRTT
- CDMA 2000 1xEV-DO REV. A
- WCDMA REL 99
- WCDMA HSDPA

Radiated spurious emissions were investigated from 9kHz to 30MHz, 30MHz-1GHz and above 1GHz. There were no emissions found with less than 20dB of margin from 9kHz to 1GHz.

For simultaneous transmission of multiple channels in the 2.4GHz/5GH WLAN, UWB, and Cellular bands, tests were conducted for various configurations having the highest power, least separation in frequencies and widest operation bandwidths. No noticeable new emission was found.

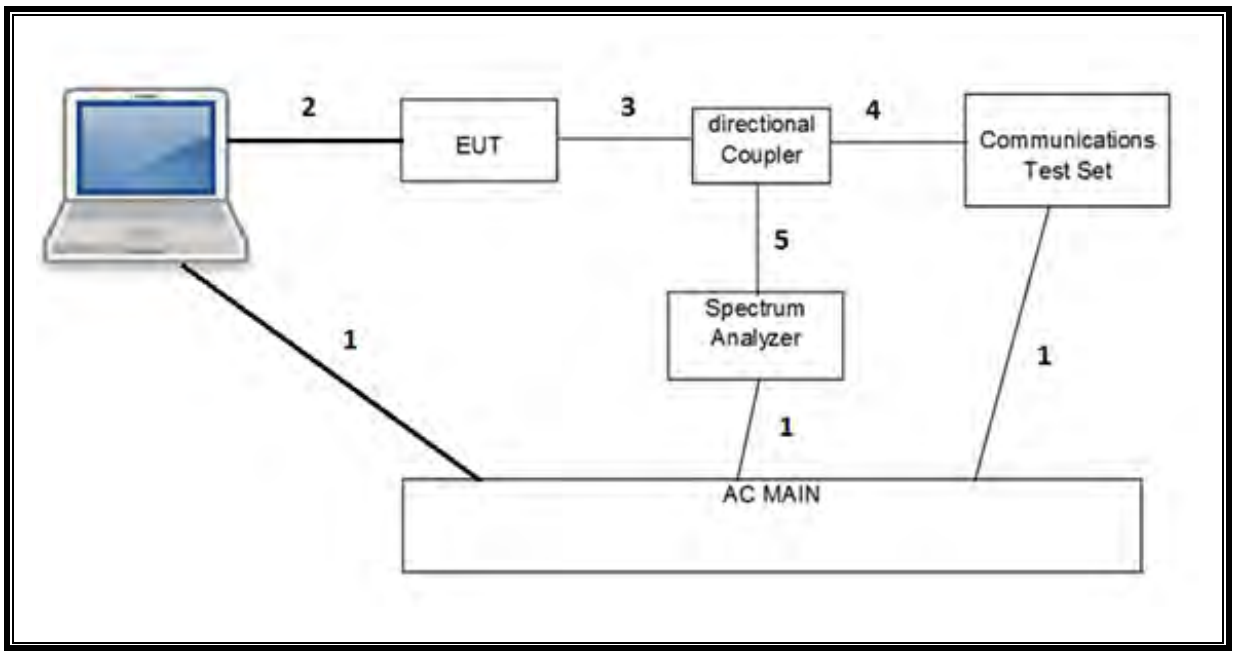
6.6. DESCRIPTION OF TEST SETUP

SUPPORT TEST EQUIPMENT				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID/ DoC**
Laptop	A1398	C02PM012G3QD	QDS-BRCM1069	A1398
AC/DC adapter	PA-1450-BA1	B123	N/A	PA-1450-BA1

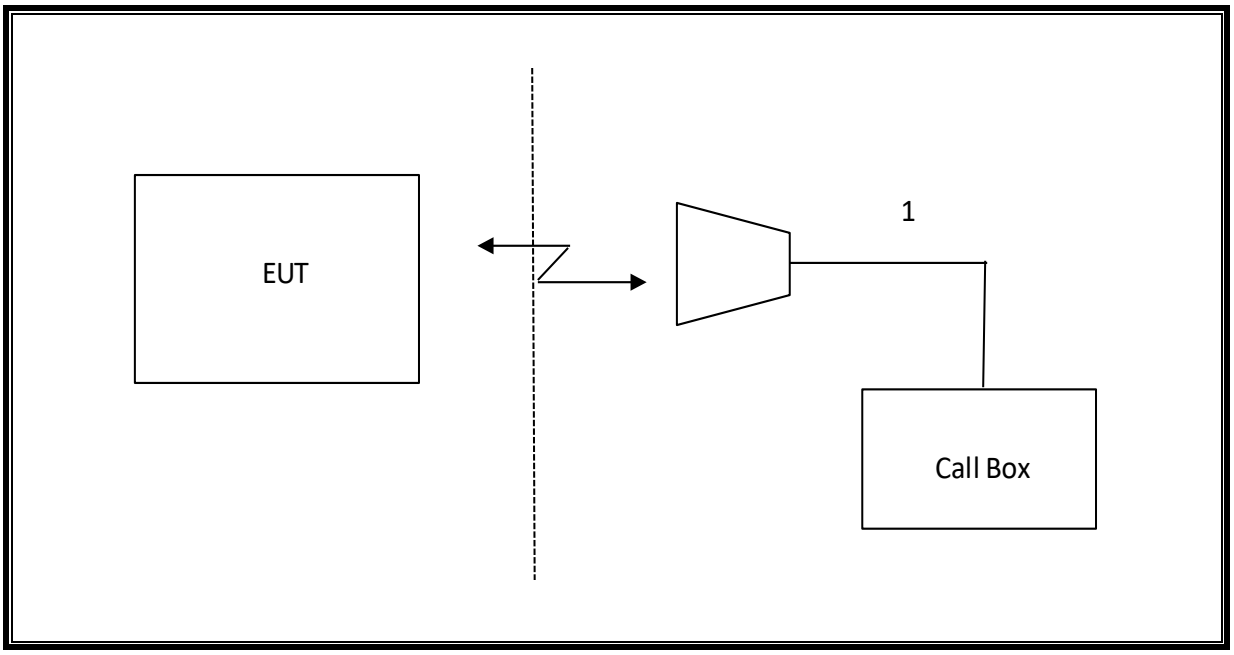
I/O CABLES (RF CONDUCTED TEST)						
Cable No.	**Port**	**# of Identical Ports**	**Connector Type**	**Cable Type**	**Cable Length (m)**	**Remarks**
1	AC	3	US 115V	Un-shielded	2.0	N/A
2	USB	1	DC	Un-shielded	1.0	N/A
3	RF In/Out	1	EUT	Un-shielded	0.6	N/A
4	RF In/Out	1	Communication Test Set	Un-shielded	1.2	N/A
5	RF In/Out	1	Barrel	N/A	N/A	N/A

I/O CABLES (RF RADIATED TEST)						
Cable No.	**Port**	**# of Identical Ports**	**Connector Type**	**Cable Type**	**Cable Length (m)**	**Remarks**
1	RF In/Out	1	Antenna	Un-shielded	5.0	N/A

CONDUCTED SETUP



RADIATED SETUP



7. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

TEST EQUIPMENT LIST				
Description	**Manufacturer**	**Model**	**Asset**	**Cal Due**
Power Meter, P-series single channel	Keysight Technologies Inc.	N1912A	T1245	01/21/2022
Power Sensor, P-series 50MHz to 18GHz	Keysight Technologies Inc.	N1921A	T1226	02/19/2022
Wideband Radio Communications Tester	Rohde & Schwarz (Koeln) GmbH & Co. KG	CMW500	T964	02/21/2022
Spectrum Analyzer, PXA, 3Hz to 44GHz	Keysight Technologies Inc.	N9030A	T905	01/28/2022
Directional Coupler	KRYTAR	152613	T1536	09/16/2021
Wideband Communication Test Set, Call Box	Rohde & Schwarz (Koeln) GmbH & Co. KG	CMW500	T703	Connection Purposes Only
Antenna, Horn 1-12GHz	L3 Narda	PNR 1-12-440EM-NF	PRE0181258	Connection Purposes Only
Antenna, Broadband Hybrid, 30MHz to 3GHz	Sunol Sciences Corp.	JB3	202329	10/27/2021
Amplifier, 9KHz to 1GHz, 32dB	SONOMA INSTRUMENT	310	202992	11/22/2021
Antenna, Horn 1-18GHz	ETS-Lindgren (Cedar Park, Texas)	3117	T136	7/7/2021
*RF Amplifier, 1-18GHz	MITEQ	AFS42-00101800-25-S-42	T1165	6/12/2021
Spectrum Analyzer, PXA, 3Hz to 44GHz	Keysight Technologies Inc	N9030A	T1450	1/21/2022
*Antenna, Horn 1-18GHz	ETS-Lindgren (Cedar Park, Texas)	3117	T345	5/26/2021
*RF Device, Active, Amplifier	AMPLICAL	AMP1G18-35	205885	6/1/2021
Spectrum Analyzer, PXA, 3Hz to 44GHz	Keysight Technologies Inc	N9030A	T340	1/28/2022
Antenna, Horn 1-18GHz	ETS-Lindgren (Cedar Park, Texas)	3117	200785	9/25/2021
Rf Amplifier 1-18GHz, 45dB Min	AMPLICAL	AMP0.1G18-47-20	172124	12/9/2021
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	201501	2/23/2022
Antenna, Horn 1-18GHz	ETS-Lindgren (Cedar Park, Texas)	3117	PRE0213973	2/16/2022
RF Device, Active, Amplifier	AMPLICAL	AMP0.1G18-47-20	207180	3/14/2022
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	201499	2/26/2022
Antenna, Horn 1-18GHz	ETS-Lindgren (Cedar Park, Texas)	3117	PRE0213833	2/16/2022
*RF Device, Active, Amplifier	AMPLICAL	AMP0.1G18-47-20	206055	5/13/2021
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	201500	2/26/2022
Filter, Highpass 1.2GHz	MICRO-TRONICS	HPM50108	T1737	6/23/2021
Filter, 2.7 to 18GHz High Pass	MICROWAVE CIRCUITS	H2G518G6	T772	01/22/2022
*ANTENNA, HORN	ARA	SWH-28	T125	04/17/2021
*Amplifier, 1 to 26.5GHz, 23.5dB Gain minimum	Keysight Technologies Inc	8449B	T404	04/08/2021
Spectrum Analyzer, PXA, 3Hz to 44GHz	Keysight Technologies Inc	N9030A	T1454	01/27/2022
Antenna, Active Loop 9KHz to 30MHz	ETS-Lindgren (Cedar Park, Texas)	6502	T1616	12/02/2021

UL AUTOMATION SOFTWARE			
CLT Software	UL	UL RF	Ver 3.1.4 April 13, 2021
Power Measurement Software	UL	UL RF	Ver 2.9.4 April 1, 2021
Radiated test software	UL	UL RF	Ver 9.5 February 2, 2021

NOTES:

1. * Testing is completed before equipment expiration date.
2. ** Equipment listed above that has a calibration due date during the testing period, the testing is completed before equipment expiration date.

8. RF OUTPUT POWER VERIFICATION

EUT includes different power levels for head use configuration and body use configuration and the below tables contain the highest of all configurations average conducted output powers as follows:

8.1. GSM

Using CMW500 Communication Test Set
Function: Menu select > GSM Mobile Station > GSM 850/900/1800/1900

Press **Connection control** to choose the different menus
Press **RESET** > choose all to reset all settings

Connection	Press **Signal Off** to turn off the signal and change settings Network Support > GSM+GPRS or GSM+EGPRS Main Service > Packet Data Service selection > Test Mode A – Auto Slot Config. off	
MS Signal	Press Slot Config bottom on the right twice to select and change the number of time slots and power setting	
	> Slot configuration	> Uplink/Gamma > 33 dBm for GPRS 850/900 > 27 dBm for EGPRS 850/900 > 30 dBm for GPRS1800/1900 > 26 dBm for EGPRS1800/1900
BS Signal	Enter the same channel number for TCH channel (test channel) and BCCH channel	
	Frequency Offset >	+ 0 Hz
	Mode >	BCCH and TCH
	BCCH Level >	-85 dBm (May need to adjust if link is not stable)
	BCCH Channel >	choose desire test channel [Enter the same channel number for TCH channel (test channel) and BCCH channel]
	Channel Type >	Off
	P0>	4 dB
	Slot Config >	Unchanged (if already set under MS Signal)
	TCH >	choose desired test channel
	Hopping >	Off
	Main Timeslot >	3 (Default)
Network	Coding Scheme >	CS 1 (GPRS) and MCS5 (EGPRS)
	Bit Stream >	2E9-1PSR Bit Pattern
AF/RF	Enter appropriate offsets for Ext. Att. Output and Ext. Att. Input	
Connection	Press **Signal On** to turn on the signal and change settings	

RESULT

8.1.1. GSM 850

Test Engineer ID:	19431	Test Date:	5/6/2021

Mode	Coding Scheme	Time Slots	Ch No.	Freq. (MHz)	Conducted Average Power (dBm)	
					ANT 1	ANT 2
GPRS (GMSK)	CS1	1	128	824.2	33.19	31.71
			190	836.6	**33.50**	**32.00**
			251	848.8	33.18	31.62
		2	128	824.2	32.30	30.78
			190	836.6	32.50	31.00
			251	848.8	32.01	30.63
EGPRS (8PSK)	MCS5	1	128	824.2	27.91	26.06
			190	836.6	**28.00**	**26.50**
			251	848.8	27.89	25.91
		2	128	824.2	26.94	25.04
			190	836.6	27.00	25.50
			251	848.8	26.82	24.88

8.1.2. GSM 1900

Test Engineer ID:	19431	Test Date:	4/20/2021

Mode	Coding Scheme	Time Slots	Ch No.	Freq. (MHz)	Conducted Average Power (dBm)			
					ANT 1	ANT 2	ANT 3	ANT 4
GPRS (GMSK)	CS1	1	512	1850.2	**32.00**	29.34	30.72	28.91
			661	1880	31.87	**29.50**	**31.00**	**29.00**
			810	1909.8	25.94	29.17	30.84	28.64
		2	512	1850.2	31.00	28.30	29.85	27.95
			661	1880	30.94	28.50	30.00	28.00
			810	1909.8	30.50	28.18	29.67	27.61
EGPRS (8PSK)	MCS5	1	512	1850.2	26.92	24.35	26.36	**24.00**
			661	1880	**27.00**	**24.50**	**26.50**	23.96
			810	1909.8	26.71	24.06	26.38	23.76
		2	512	1850.2	26.00	23.39	25.39	23.00
			661	1880	25.99	23.50	25.50	22.92
			810	1909.8	25.90	23.21	25.34	22.71

8.2. CDMA

Maximum output power is verified on the Low, Middle and High channels according to procedures in section 4.4.5.2 of 3GPP2 C.S0011/TIA-98-E for 1xRTT, section 3.1.2.3.4 of 3GPP2 C.S0033-0/TIA-866 for Rel. 0 and section 4.3.4 of 3GPP2 C.S0033-A for Rev. A

1xRTT

This procedure assumes the Agilent 8960 Test Set has the following applications installed and with valid license.

Application	Rev, License
CDMA2000 Mobile Test	B.15.18, L

- Protocol Rev > 6 (IS-2000-0)
- System ID: 18; NID: 65535, Reg. Ch. #.: 610 for Cell, 600 for PCS & 450 for AWS
- Radio Config (RC) > RC1 or RC3
- Service Option (SO) Setup > SO55 or SO32
- Traffic Data Rate > Full
- Rvs Power Ctrl > All Up bits (Maximum TxPout)

1xEV-DO - Release 0 (REL 0)

This procedure assumes the Agilent 8960 Test Set has the following applications installed and with valid license.

EVDO Release 0 - RTAP

- Call Setup > Shift & Preset
- Call Control:
  - Access Network Info > Cell Parameters > Sector ID > 00000000 : 00000000 : 00000000 : 00000000 > Subnet Mask > 0
  - Generator Info > Termination Parameters > Max Forward Packet Duration > 16 Slots
- Call Parms:
  - Cell Power > -105.5 dBm/1.23 MHz
  - Channel > (Enter channel number)
  - Application Config > Enhanced Test Application Protocol > RTAP
  - RTAP Rate > 153.6 kbps
  - Rvs Power Ctrl > Active bits
  - Protocol Rel > 0 (1xEV-DO)
- Press “Start Data Connection” when “Session Open” appear in “Active Cell”
- Rvs Power Ctrl > All Up bits (Maximum TxPout)

EVDO Release 0 - FTAP

- Call Setup > Shift & Preset
- Call Control:
  - Access Network Info > Cell Parameters > Sector ID > 00000000 : 00000000 : 00000000 : 00000000 > Subnet Mask > 0
  - Generator Info > Termination Parameters > Max Forward Packet Duration > 16 Slots
- Call Parms:
  - Cell Power > -105.5 dBm/1.23 MHz
  - Cell Band > (Select US Cellular or US PCS)
  - Channel > (Enter channel number)
  - Application Config > Enhanced Test Application Protocol > FTAP (default)
  - FTAP Rate > 307.2 kbps (2 Slot, QPSK)
  - Rvs Power Ctrl > Active bits
  - Protocol Rel > 0 (1xEV-DO)
- Press “Start Data Connection” when “Session Open” appear in “Active Cell”
- Rvs Power Ctrl > All Up bits (Maximum TxPout)

1xEV-DO - Revision A (REV A)

This procedure assumes the Agilent 8960 Test Set has the following applications installed and with valid license.

Application	Rev, License
1xEV-DO Terminal Test	A.09.13

EVDO Rev. A – RETAP

- Call Setup > Shift & Preset
- Cell Power > -60 dBm/1.23 MHz
- Protocol Rev > A (1xEV-DO-A)
- Application Config > Enhanced Test Application Protocol > RETAP
- R-Data Pkt Size > 4096
- Protocol Subtype Config > Release A Physical Layer Subtype > Subtype 2
  - PL Subtype 2 Access Channel MAC Subtype > Default (Subtype 0)
- Access Network Info > Cell Parameters
  - Sector ID > 00000000: 00000000: 00000000: 00000000
  - Subnet Mask > 0
- Generator Info > Termination Parameters > Max Forward Packet Duration >16 Slots
  - ACK R-Data After > Subpacket 0 (All ACK)
- Rvs Power Ctrl > All Up bits (to get the maximum power)

EVDO Rev. A - FETAP

- Call Setup > Shift & Preset
- Cell Power > -60 dBm/1.23 MHz
- Protocol Rev > A (1xEV-DO-A)
- Application Config > Enhanced Test Application Protocol > FETAP
- F-Traffic Format > 4 (1024, 2,128) Canonical (307.2k, QPSK)
- Protocol Subtype Config > Release A Physical Layer Subtype > Subtype 2
  - PL Subtype 2 Access Channel MAC Subtype > Default (Subtype 0)
- Access Network Info > Cell Parameters > Sector ID > 00000000: 00000000: 00000000: 00000000
  - Subnet Mask > 0
- Generator Info > Termination Parameters > Max Forward Packet Duration >16 Slots
  - ACK R-Data After > Subpacket 0 (All ACK)
- Rvs Power Ctrl > All Up bits (to get the maximum power)

1x Advanced Setup Procedures used to establish the test signals

Call box setup procedure

- Protocol Rev > 6 (IS-2000-0)
- System ID: 331; NID: 65535, Reg. Ch. #.:
- Radio Config (RC) > Fwd11,Rvs8
- Service Option (SO) Setup > SO75 (Loopback)
- Traffic Data Rate > Full
- Rvs Power Ctrl > All Up bits (Maximum TxPout)
- Reverse Power Control Mode: 00-200 to 400 bps
- Smart blanking was disabled.

1xEV-DO Rev. B Setup Procedures used to establish the test signals

Call box setup procedure

- CMW 500 Signal Generator > 1xEV-DO Taskbar Enable
- CMW 500 1xEV-DO Signaling Configuration Window >
- 1xEV-DO Signaling On Window:
  Under Access Network Control:
  Band Class: BC0: US Cellular
  RF Channel: 31
  1xEV-DO Power: -70 dBm
  Release B

- 1xEV-DO Signaling Configuration Window

  Under RF Frequency Band / Channel: Enter Ch. Frequency

- Under Carrier Configuration: RF Frequency
  For Two Carriers: Low Channel (1013)

	RF Channel	RF Channel Offset
Carrier [0]	31	0
Carrier [1]	1013	982

- Under Carrier Configuration: RF Pilot

	Carrier Sector	Active on AN	Assigned to AT
Pilot [0]	C0/S0	✓	✓
	CA/S1	✓	✓

For Three Carriers: Low Channel (1013)

	RF Channel	RF Channel Offset
Carrier [0]	72	0
Carrier [1]	31	-41
Carrier [2]	1013	941

- Under Carrier Configuration: RF Pilot

	Carrier Sector	Active on AN	Assigned to AT
Pilot [0]	C0/S0	✓	✓
Pilot [1]	C1/S1	✓	✓
Pilot [2]	C2/S2	✓	✓

• Rvs Power Ctrl > All Up bits (to get the maximum power)

RESULT

8.2.1. CDMA BC10

Test Engineer ID:	19431	Test Date:	4/20/2021

Band	Mode	Radio Configuration (RC)	Service Option (SO)	Ch No.	Freq. (MHz)	Condcuted Average Power (dBm)	
						ANT 1	ANT 2
BC10 (800MHz)	1xRTT	RC1	2 (Loopback)	450	817.25	25.24	24.50
				560	820.00	25.45	24.42
				670	822.75	25.54	24.50
			55 (Loopback)	450	817.25	25.65	24.60
				560	820.00	25.59	24.64
				670	822.75	25.65	24.66
		RC2	9 (Loopback)	450	817.25	25.51	24.50
				560	820.00	25.57	24.57
				670	822.75	25.65	24.65
			55 (Loopback)	450	817.25	25.68	24.69
				560	820.00	25.70	24.65
				670	822.75	25.70	**24.70**
		RC3	2 (Loopback)	450	817.25	25.62	24.42
				560	820.00	25.51	24.47
				670	822.75	25.54	24.53
			55 (Loopback)	450	817.25	25.64	24.61
				560	820.00	25.63	24.53
				670	822.75	25.70	24.62
			32 (+ F-SCH)	450	817.25	24.47	23.89
				560	820.00	24.50	23.86
				670	822.75	24.51	23.85
			32 (+ SCH)	450	817.25	24.51	23.87
				560	820.00	24.49	23.86
				670	822.75	24.52	23.87
		RC4	2 (Loopback)	450	817.25	25.56	24.64
				560	820.00	25.61	24.69
				670	822.75	25.70	24.63
			55 (Loopback)	450	817.25	25.68	24.69
				560	820.00	25.70	24.66
				670	822.75	25.69	24.49
			32 (+ F-SCH)	450	817.25	25.17	24.07
				560	820.00	25.20	24.05
				670	822.75	25.22	24.08
			32 (+ SCH)	450	817.25	25.15	24.13
				560	820.00	25.13	24.12
				670	822.75	24.21	24.11
		RC5	9 (Loopback)	450	817.25	25.52	24.59
				560	820.00	25.56	24.55
				670	822.75	**25.70**	24.69
			55 (Loopback)	450	817.25	25.55	24.69
				560	820.00	25.60	24.69
				670	822.75	25.59	24.69
	1xAdvanced	RC11	2 (Loopback)	450	817.25	24.89	24.42
				560	820.00	24.81	24.38
				670	822.75	24.82	24.41
			75 (Loopback)	450	817.25	24.85	24.43
				560	820.00	24.83	24.39
				670	822.75	24.91	24.41
			32 (+ F-SCH)	450	817.25	24.68	23.93
				560	820.00	24.66	23.98
				670	822.75	24.71	23.98
			32 (+ SCH)	450	817.25	24.66	23.97
				560	820.00	24.66	23.95
				670	822.75	24.72	24.00
	1xEVDO Rel. 0	FTAP Rate: 307.2 kbps(2 slot, QPSK)	RTAP Rate: 153.6 kbps	450	817.25	**25.70**	24.67
				560	820.00	25.38	**24.70**
				670	822.75	25.47	24.56
	1xEVDO Rev. A	FETAP: 307.2k, QPSK/ ACK	RETAP: 4096	450	817.25	24.76	24.64
				560	820.00	23.97	23.78
				670	822.75	25.33	23.86

8.2.2. CDMA BC0

Test Engineer ID:	39004	Test Date:	6/22/2021

Band	Mode	Radio Configuration (RC)	Service Option (SO)	Ch No.	Freq. (MHz)	Condcuted Average Power (dBm)	
						ANT 1	ANT 2
BC0 (850MHz)	1xRTT	RC1	2 (Loopback)	1013	824.70	23.02	22.87
				384	836.52	23.02	22.97
				777	848.31	23.05	22.86
			55 (Loopback)	1013	824.70	23.11	22.89
				384	836.52	23.24	22.93
				777	848.31	22.99	22.88
		RC2	9 (Loopback)	1013	824.70	23.25	22.87
				384	836.52	23.34	22.91
				777	848.31	23.24	22.87
			55 (Loopback)	1013	824.70	23.34	22.93
				384	836.52	23.22	22.92
				777	848.31	23.04	22.83
		RC3	2 (Loopback)	1013	824.70	23.23	22.94
				384	836.52	23.29	22.90
				777	848.31	23.18	22.91
			55 (Loopback)	1013	824.70	23.25	22.96
				384	836.52	23.23	22.96
				777	848.31	23.24	22.91
			32 (+ F-SCH)	1013	824.70	22.13	21.78
				384	836.52	22.18	21.69
				777	848.31	22.26	21.63
			32 (+ SCH)	1013	824.70	22.13	21.79
				384	836.52	22.10	21.69
				777	848.31	22.25	21.62
		RC4	2 (Loopback)	1013	824.70	23.30	**23.00**
				384	836.52	23.28	22.95
				777	848.31	23.25	22.98
			55 (Loopback)	1013	824.70	23.37	22.95
				384	836.52	23.29	22.97
				777	848.31	23.15	22.91
			32 (+ F-SCH)	1013	824.70	22.10	21.81
				384	836.52	22.13	21.72
				777	848.31	22.18	21.63
			32 (+ SCH)	1013	824.70	22.11	22.60
				384	836.52	22.14	22.78
				777	848.31	22.23	22.86
		RC5	9 (Loopback)	1013	824.70	**23.50**	22.96
				384	836.52	23.40	22.96
				777	848.31	23.30	22.65
			55 (Loopback)	1013	824.70	23.43	22.89
				384	836.52	23.31	22.96
				777	848.31	23.24	22.92
	1xAdvanced	RC11	2 (Loopback)	1013	824.70	22.59	22.32
				384	836.52	22.57	22.37
				777	848.31	22.64	22.29
			75 (Loopback)	1013	824.70	22.59	22.32
				384	836.52	22.60	22.23
				777	848.31	22.66	22.24
			32 (+ F-SCH)	1013	824.70	22.19	21.90
				384	836.52	22.23	21.84
				777	848.31	22.30	21.80
			32 (+ SCH)	1013	824.70	22.26	21.93
				384	836.52	22.29	21.87
				777	848.31	22.38	21.82
	1xEVDO Rel. 0	FTAP Rate: 307.2 kbps(2 slot, QPSK)	RTAP Rate: 153.6 kbps	1013	824.70	23.32	22.98
				384	836.52	23.29	22.96
				777	848.31	23.19	22.99
	1xEVDO Rev. A	FETAP: 307.2k, QPSK/ ACK	RETAP: 4096	1013	824.70	**23.50**	22.98
				384	836.52	23.17	22.96
				777	848.31	23.11	**23.00**

8.2.3. CDMA BC1

Test Engineer ID:	19431	Test Date:	4/20/2021

Band	Mode	Radio Configuration (RC)	Service Option (SO)	Ch No.	Freq. (MHz)	Condcuted Average Power (dBm)	
						ANT 1	ANT 2
BC1 (1900MHz)	1xRTT	RC1	2 (Loopback)	25	1851.25	25.66	**23.70**
				600	1880.00	25.58	23.64
				1175	1908.75	25.65	23.42
			55 (Loopback)	25	1851.25	25.68	23.60
				600	1880.00	25.64	23.51
				1175	1908.75	25.66	23.51
		RC2	9 (Loopback)	25	1851.25	25.68	23.65
				600	1880.00	25.66	23.53
				1175	1908.75	25.66	23.24
			55 (Loopback)	25	1851.25	25.63	23.49
				600	1880.00	25.58	23.43
				1175	1908.75	25.52	23.34
		RC3	2 (Loopback)	25	1851.25	**25.70**	23.54
				600	1880.00	25.69	23.36
				1175	1908.75	25.65	23.37
			55 (Loopback)	25	1851.25	25.62	23.55
				600	1880.00	25.66	23.59
				1175	1908.75	25.69	23.46
			32 (+ F-SCH)	25	1851.25	25.04	22.45
				600	1880.00	25.08	22.48
				1175	1908.75	25.02	22.44
			32 (+ SCH)	25	1851.25	25.08	22.49
				600	1880.00	25.12	22.45
				1175	1908.75	25.02	22.47
		RC4	2 (Loopback)	25	1851.25	25.67	23.59
				600	1880.00	25.56	23.50
				1175	1908.75	25.45	23.55
			55 (Loopback)	25	1851.25	25.67	23.66
				600	1880.00	25.64	23.58
				1175	1908.75	25.47	23.16
			32 (+ F-SCH)	25	1851.25	25.08	22.12
				600	1880.00	25.19	22.10
				1175	1908.75	25.05	22.07
			32 (+ SCH)	25	1851.25	25.11	22.12
				600	1880.00	25.16	22.11
				1175	1908.75	25.04	22.10
		RC5	9 (Loopback)	25	1851.25	25.66	23.26
				600	1880.00	25.62	23.19
				1175	1908.75	**25.70**	23.12
			55 (Loopback)	25	1851.25	25.67	23.34
				600	1880.00	25.63	23.21
				1175	1908.75	25.66	23.15
	1xAdvanced	RC11	2 (Loopback)	25	1851.25	24.83	23.30
				600	1880.00	24.68	23.28
				1175	1908.75	24.65	23.27
			75 (Loopback)	25	1851.25	24.78	23.24
				600	1880.00	24.75	23.30
				1175	1908.75	24.72	23.28
			32 (+ F-SCH)	25	1851.25	24.50	22.15
				600	1880.00	24.63	22.16
				1175	1908.75	24.51	22.13
			32 (+ SCH)	25	1851.25	24.41	22.19
				600	1880.00	24.52	22.20
				1175	1908.75	24.38	22.15
	1xEVDO Rel. 0	FTAP Rate: 307.2 kbps(2 slot, QPSK)	RTAP Rate: 153.6 kbps	25	1851.25	25.67	**23.70**
				600	1880	25.62	23.66
				1175	1908.75	25.62	23.64
	1xEVDO Rev. A	FETAP: 307.2k, QPSK/ ACK	RETAP: 4096	25	1851.25	**25.70**	23.60
				600	1880	25.60	23.50
				1175	1908.75	25.67	23.55

8.3. WCDMA

TEST PROCEDURE

The transmitter output was connected to the input terminal of Directional Coupler via calibrated coaxial cable. The output coupling terminal of the Directional Coupler was directly connected to a spectrum analyzer while the output through terminal connected to the communication test set via calibrated coaxial cable.

The output power was measured with the spectrum analyzer at the low, middle and high channel in each band.

- Set the spectrum analyzer span wide enough or greater than the modulated signal BW.
- Set a spectrum analyzer at peak detection mode with VBW ≥ RBW.≥ 26dB BW, typically 5MHz.
- Set a marker to point the corresponding peak value.

REL 99

The following tests were completed according to the test requirements outlined in section 5.2 of the 3GPP TS34.121-1 specification. The DUT supports power Class 3, which has a nominal maximum output power of 24 dBm (+1.7/-3.7).

Mode	Subtest	Rel99
WCDMA General Settings	Loopback Mode	Test Mode 2
	Rel99 RMC	12.2kbps RMC
	Power Control Algorithm	Algorithm2
	βc/βd	8/15

HSDPA REL 5

The following 4 Sub-tests were completed according to Release 5 procedures in table C.10.1.4 of 3GPP TS 34.121-1 A summary of these settings are illustrated below:

Table C.10.1.4: β values for transmitter characteristics tests with HS-DPCCH

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note1, Note 2)	CM (dB) (Note 3)	MPR (dB) (Note 3)
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15 (Note 4)	15/15 (Note 4)	64	12/15 (Note 4)	24/15	1.0	0.0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with $\beta_{hs} = 30/15 * \beta_c$.

Note 2: For the HS-DPCCH power mask requirement test in clause 5.2C, 5.7A, and the Error Vector Magnitude (EVM) with HS-DPCCH test in clause 5.13.1A, and HSDPA EVM with phase discontinuity in clause 5.13.1AA, Δ_{ACK} and Δ_{NACK} = 30/15 with $\beta_{hs} = 30/15 * \beta_c$, and Δ_{CQI} = 24/15 with $\beta_{hs} = 24/15 * \beta_c$.

Note 3: CM = 1 for β_c/β_d =12/15, β_{hs}/β_c=24/15. For all other combinations of DPDCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.

Note 4: For subtest 2 the β_c/β_d ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to β_c = 11/15 and β_d = 15/15.

HSPA REL 6 (HSDPA & HSUPA)

The following 5 Sub-tests were completed according to Release 6 procedures in table C.11.1.3 of 3GPP TS 34.121-1. A summary of these settings are illustrated below:

Table C.11.1.3: β values for transmitter characteristics tests with HS-DPCCH and E-DCH

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note1)	β_{ec}	β_{ed} (Note 4) (Note 5)	β_{ed} (SF)	β_{ed} (Codes)	CM (dB) (Note 2)	MPR (dB) (Note 2) (Note 6)	AG Index (Note 5)	E-TFCI
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/225	1309/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	$\beta_{ed}1$: 47/15 $\beta_{ed}2$: 47/15	4 4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15	0	-	-	5/15	5/15	47/15	4	1	1.0	0.0	12	67

Note 1: For sub-test 1 to 4, Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_c. For sub-test 5, Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 5/15 with β_{hs} = 5/15 * β_c.

Note 2: CM = 1 for β_c/β_d =12/15, β_{hs}/β_c=24/15. For all other combinations of DPDCH, DPCCH, HS- DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.

Note 3: For subtest 1 the β_c/β_d ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to β_c = 10/15 and β_d = 15/15.

Note 4: In case of testing by UE using E-DPDCH Physical Layer category 1, Sub-test 3 is omitted according to TS25.306 Table 5.1g.

Note 5: β_{ed} can not be set directly; it is set by Absolute Grant Value.

Note 6: For subtests 2, 3 and 4, UE may perform E-DPDCH power scaling at max power which could results in slightly smaller MPR values.

DUAL CARRIER HSDPA (DC-HSDPA (REL 8, CAT 24)

The following 4 Sub-tests for DC-HSDPA were completed according to Release 8 procedures in table C08.1.12 of 3GPP TS 34.121-1. A summary of subtest settings are illustrated below:

Table C.8.1.12: Fixed Reference Channel H-Set 12

Parameter	Unit	Value
Nominal Avg. Inf. Bit Rate	kbps	60
Inter-TTI Distance	TTI's	1
Number of HARQ Processes	Processes	6
Information Bit Payload (N_{INF})	Bits	120
Number Code Blocks	Blocks	1
Binary Channel Bits Per TTI	Bits	960
Total Available SML's in UE	SML's	19200
Number of SML's per HARQ Proc.	SML's	3200
Coding Rate		0.15
Number of Physical Channel Codes	Codes	1
Modulation		QPSK

Note 1: The RMC is intended to be used for DC-HSDPA mode and both cells shall transmit with identical parameters as listed in the table.

Note 2: Maximum number of transmission is limited to 1, i.e., retransmission is not allowed. The redundancy and constellation version 0 shall be used.

HSPA+ REL 7

The following 1 Sub-test was completed according to Release 7 procedures in table C.11.1.4 of 3GPP TS34.121. A summary of these settings are illustrated below:

Table C.11.1.4: **β values for transmitter characteristics tests with HS-DPCCH and E-DCH with 16QAM**

Sub-test	β_c (Note3)	β_d	β_{HS} (Note1)	β_{ec}	β_{ed} (2xSF2) (Note 4)	β_{ed} (2xSF4) (Note 4)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 4)	E-TFCI (Note 5)	E-TFCI (boost)
1	1	0	30/15	30/15	$\beta_{ed}1$: 30/15 $\beta_{ed}2$: 30/15	$\beta_{ed}3$: 24/15 $\beta_{ed}4$: 24/15	3.5	2.5	14	105	105

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_c.
Note 2: CM = 3.5 and the MPR is based on the relative CM difference, MPR = MAX(CM-1,0).
Note 3: DPDCH is not configured, therefore the β_c is set to 1 and β_d = 0 by default.
Note 4: β_{ed} can not be set directly; it is set by Absolute Grant Value.
Note 5: All the sub-tests require the UE to transmit 2SF2+2SF4 16QAM EDCH and they apply for UE using E-DPDCH category 7. E-DCH TTI is set to 2ms TTI and E-DCH table index = 2. To support these E-DCH configurations DPDCH is not allocated. The UE is signalled to use the extrapolation algorithm.

RESULT

8.3.1. WCDMA BAND 5

Test Engineer ID:	19431	Test Date:	4/20/2021

Band	Mode		UL Ch No.	Freq. (MHz)	MPR (dB)	Conducted Average Power (dBm)	
						ANT 1	ANT 2
W-CDMA Band 5 (850MHz)	Rel 99	RMC, 12.2 kbps	4132	826.4	N/A	**25.70**	**24.70**
			4183	836.6	N/A	25.56	24.65
			4233	846.6	N/A	25.49	24.59
	HSDPA	Subtest 1	4132	826.4	0	**24.68**	23.70
			4183	836.6	0	24.53	23.66
			4233	846.6	0	24.46	23.59
		Subtest 2	4132	826.4	0	**24.68**	23.71
			4183	836.6	0	24.53	23.66
			4233	846.6	0	24.47	23.61
		Subtest 3	4132	826.4	0.5	24.19	23.22
			4183	836.6	0.5	24.03	23.16
			4233	846.6	0.5	23.96	23.09
		Subtest 4	4132	826.4	0.5	24.18	23.20
			4183	836.6	0.5	24.03	23.14
			4233	846.6	0.5	23.97	23.09
	HSPA (HSDPA & HSUPA)	Subtest 1	4132	826.4	0	24.67	23.74
			4183	836.6	0	24.53	23.68
			4233	846.6	0	24.49	23.65
		Subtest 2	4132	826.4	2	22.71	21.73
			4183	836.6	2	22.55	21.69
			4233	846.6	2	22.49	21.65
		Subtest 3	4132	826.4	1	23.70	22.71
			4183	836.6	1	23.53	22.68
			4233	846.6	1	23.50	22.62
		Subtest 4	4132	826.4	2	22.70	21.73
			4183	836.6	2	22.55	21.70
			4233	846.6	2	22.49	21.61
		Subtest 5	4132	826.4	0	24.25	23.27
			4183	836.6	0	24.09	23.23
			4233	846.6	0	24.06	23.19
	DC-HSDPA	Subtest 1	4132	826.4	0	24.66	23.73
			4183	836.6	0	24.55	23.68
			4233	846.6	0	24.48	23.62
		Subtest 2	4132	826.4	0	24.67	**23.83**
			4183	836.6	0	24.55	23.77
			4233	846.6	0	24.48	23.70
		Subtest 3	4132	826.4	0.5	24.20	23.32
			4183	836.6	0.5	24.05	23.24
			4233	846.6	0.5	23.99	23.19
		Subtest 4	4132	826.4	0.5	24.19	23.32
			4183	836.6	0.5	24.04	23.25
			4233	846.6	0.5	23.97	23.18

8.3.2. WCDMA BAND 2

Test Engineer ID:	19431	Test Date:	4/20/2021

Band	Mode		UL Ch No.	Freq. (MHz)	MPR (dB)	Conducted Average Power (dBm)			
						ANT 1	ANT 2	ANT 3	ANT 4
W-CDMA Band 2 (1900MHz)	Rel 99	RMC, 12.2 kbps	9262	1852.4	N/A	**25.70**	**23.70**	**25.20**	**23.70**
			9400	1880.0	N/A	25.48	23.61	25.16	**23.70**
			9538	1907.6	N/A	25.54	23.50	25.05	23.52
	HSDPA	Subtest 1	9262	1852.4	0	24.69	22.72	**24.31**	22.70
			9400	1880.0	0	24.46	22.59	24.14	**22.71**
			9538	1907.6	0	24.55	22.49	24.05	22.53
		Subtest 2	9262	1852.4	0	**24.72**	22.70	24.20	22.70
			9400	1880.0	0	24.46	22.61	24.15	22.70
			9538	1907.6	0	24.56	22.51	24.04	22.53
		Subtest 3	9262	1852.4	0.5	24.19	22.20	23.72	22.17
			9400	1880.0	0.5	23.94	22.11	23.66	22.18
			9538	1907.6	0.5	24.05	22.03	23.54	22.03
		Subtest 4	9262	1852.4	0.5	24.18	22.21	23.70	22.17
			9400	1880.0	0.5	23.95	22.09	23.67	22.19
			9538	1907.6	0.5	24.04	22.01	23.53	22.02
	HSPA (HSDPA & HSUPA)	Subtest 1	9262	1852.4	0	24.67	22.72	24.19	22.70
			9400	1880.0	0	24.47	22.64	24.18	22.69
			9538	1907.6	0	24.47	22.54	24.09	22.59
		Subtest 2	9262	1852.4	2	22.68	20.73	22.23	20.67
			9400	1880.0	2	22.50	20.63	22.19	20.68
			9538	1907.6	2	22.56	20.54	22.07	20.58
		Subtest 3	9262	1852.4	1	23.70	21.72	23.21	21.67
			9400	1880.0	1	23.46	21.65	23.19	21.69
			9538	1907.6	1	23.56	21.55	23.06	21.54
		Subtest 4	9262	1852.4	2	22.72	20.73	22.21	20.71
			9400	1880.0	2	22.49	20.65	22.18	20.69
			9538	1907.6	2	22.58	20.55	22.10	20.56
		Subtest 5	9262	1852.4	0	24.25	22.28	23.76	22.25
			9400	1880.0	0	24.03	22.20	23.74	22.26
			9538	1907.6	0	24.12	22.10	23.65	22.10
	DC-HSDPA	Subtest 1	9262	1852.4	0	**24.72**	22.72	24.31	**22.71**
			9400	1880.0	0	24.46	22.62	24.27	22.70
			9538	1907.6	0	24.55	22.51	24.16	22.54
		Subtest 2	9262	1852.4	0	24.71	**22.73**	24.00	22.70
			9400	1880.0	0	24.46	22.62	23.97	22.69
			9538	1907.6	0	24.57	22.50	23.91	22.53
		Subtest 3	9262	1852.4	0.5	24.20	22.19	23.50	22.19
			9400	1880.0	0.5	23.97	22.06	23.48	22.18
			9538	1907.6	0.5	24.06	22.04	23.41	22.04
		Subtest 4	9262	1852.4	0.5	24.19	22.20	23.52	22.19
			9400	1880.0	0.5	23.96	22.11	23.49	22.19
			9538	1907.6	0.5	24.02	22.02	23.40	22.03

8.3.3. WCDMA BAND 4

Test Engineer ID:	19431	Test Date:	5/7/2021

Band	Mode		UL Ch No.	Freq. (MHz)	MPR (dB)	Conducted Average Power (dBm)			
						ANT 1	ANT 2	ANT 3	ANT 4
W-CDMA Band 4 (1700MHz)	Rel 99	RMC, 12.2 kbps	1312	1712.4	N/A	**25.70**	**23.70**	**25.20**	**23.70**
			1413	1732.6	N/A	25.60	23.58	25.10	23.57
			1513	1752.6	N/A	25.59	23.57	25.08	23.59
	HSDPA	Subtest 1	1312	1712.4	0	24.72	22.73	**24.26**	**22.73**
			1413	1732.6	0	24.62	22.61	24.15	21.82
			1513	1752.6	0	24.61	22.60	24.14	21.86
		Subtest 2	1312	1712.4	0	24.76	22.75	24.21	22.02
			1413	1732.6	0	24.65	22.62	24.18	22.01
			1513	1752.6	0	24.65	22.62	24.18	22.04
		Subtest 3	1312	1712.4	0.5	24.27	22.26	23.78	21.70
			1413	1732.6	0.5	24.16	22.14	23.69	21.56
			1513	1752.6	0.5	24.13	22.12	23.62	21.59
		Subtest 4	1312	1712.4	0.5	24.27	22.26	23.76	21.70
			1413	1732.6	0.5	24.16	22.15	23.69	21.57
			1513	1752.6	0.5	24.17	22.11	23.67	21.61
	HSPA (HSDPA & HSUPA)	Subtest 1	1312	1712.4	0	24.76	22.74	24.26	22.32
			1413	1732.6	0	24.66	22.64	24.19	22.28
			1513	1752.6	0	24.69	22.67	24.22	22.34
		Subtest 2	1312	1712.4	2	22.79	20.75	22.30	20.42
			1413	1732.6	2	22.70	20.66	22.23	20.33
			1513	1752.6	2	22.70	20.66	22.21	20.37
		Subtest 3	1312	1712.4	1	23.80	21.78	23.32	21.45
			1413	1732.6	1	23.73	21.67	23.22	11.42
			1513	1752.6	1	23.77	21.68	23.24	21.42
		Subtest 4	1312	1712.4	2	22.82	20.74	22.29	20.53
			1413	1732.6	2	22.76	20.68	22.21	20.46
			1513	1752.6	2	22.73	20.66	22.21	20.50
		Subtest 5	1312	1712.4	0	24.33	22.31	23.81	22.11
			1413	1732.6	0	24.27	22.24	23.76	22.11
			1513	1752.6	0	24.29	22.23	23.76	22.10
	DC-HSDPA	Subtest 1	1312	1712.4	0	**24.77**	**22.76**	23.14	22.70
			1413	1732.6	0	24.66	22.66	23.10	22.59
			1513	1752.6	0	24.63	22.64	23.17	22.59
		Subtest 2	1312	1712.4	0	24.73	**22.76**	23.28	22.71
			1413	1732.6	0	24.66	22.64	23.26	22.59
			1513	1752.6	0	24.66	22.64	23.34	22.59
		Subtest 3	1312	1712.4	0.5	24.26	22.31	23.05	22.22
			1413	1732.6	0.5	24.18	22.18	22.81	22.11
			1513	1752.6	0.5	24.16	22.09	22.86	22.10
		Subtest 4	1312	1712.4	0.5	24.26	22.30	23.05	22.19
			1413	1732.6	0.5	24.18	22.17	22.92	22.08
			1513	1752.6	0.5	24.16	22.16	23.09	22.08

9. CONDUCTED TEST RESULTS

9.1. OCCUPIED BANDWIDTH

RULE PART(S)

FCC: §2.1049
ISED: RSS132; RSS133§2.3; RSS139

LIMITS

For reporting purposes only.

TEST PROCEDURE

The transmitter output was connected to a calibrated coaxial cable and coupler, the other end of which was connected to a spectrum analyzer. The occupied bandwidth was measured with the spectrum analyzer at the middle channel in each band. The 99% and -26dB bandwidths was also measured and recorded.

RESULTS

There is no limit required and power is the same for low, middle and high channel; therefore, only middle channel was tested.

GSM

Band	Modulation	Channel	f(MHz)	99% BW (KHz)	-26dB BW (KHz)
850	GPRS	190	836.6	243.68	320.8
	EGPRS			234.37	295.0
1900	GPRS	661	1880.0	240.75	314.3
	EGPRS			232.77	297.6

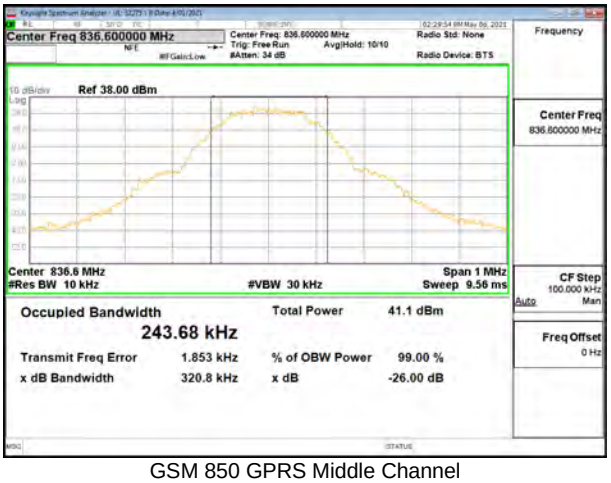
CDMA

Band	Modulation	Channel	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
BC10	1xRTT	560	820.0	1.2772	1.437
	1xEV-DO Rev A			1.2744	1.434
BC0	1xRTT	384	836.5	1.2826	1.434
	1xEV-DO Rev A			1.2795	1.437
BC1	1xRTT	600	1880.0	1.2807	1.434
	1xEV-DO Rev A			1.2795	1.446

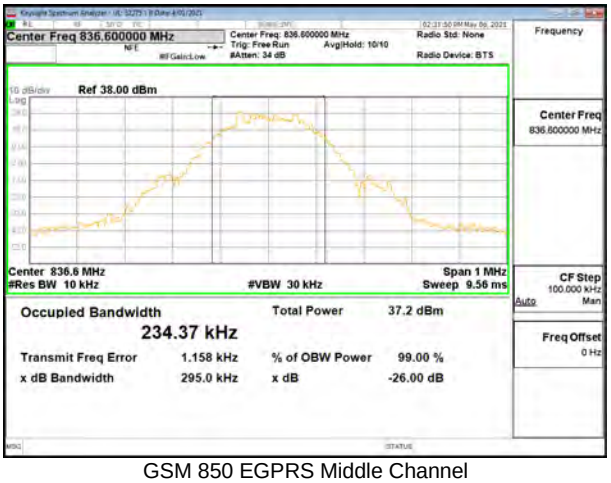
WCDMA

Band	Modulation	Channel	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
BAND 5	REL 99	4408	836.6	4.1492	4.712
	HSDPA			4.1531	4.700
BAND 2	REL 99	9800	1880.0	4.1382	4.679
	HSDPA			4.1444	4.709
BAND 4	REL 99	1638	1732.6	4.1471	4.701
	HSDPA			4.1480	4.696

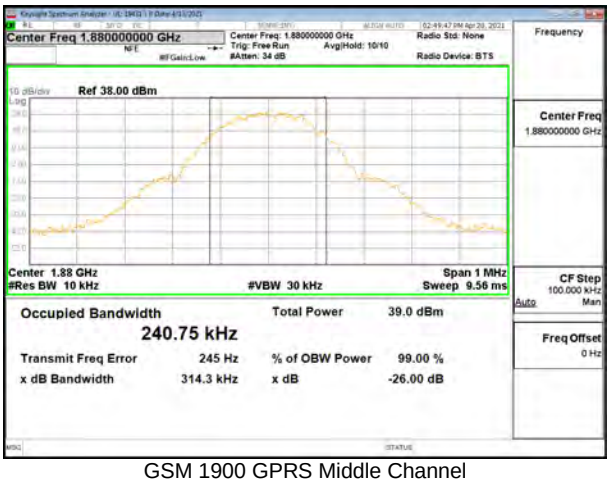
9.1.1. GSM



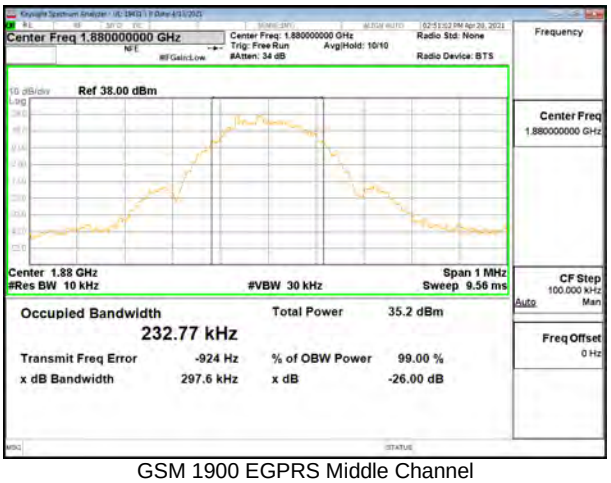
GSM 850 GPRS Middle Channel



GSM 850 EGPRS Middle Channel

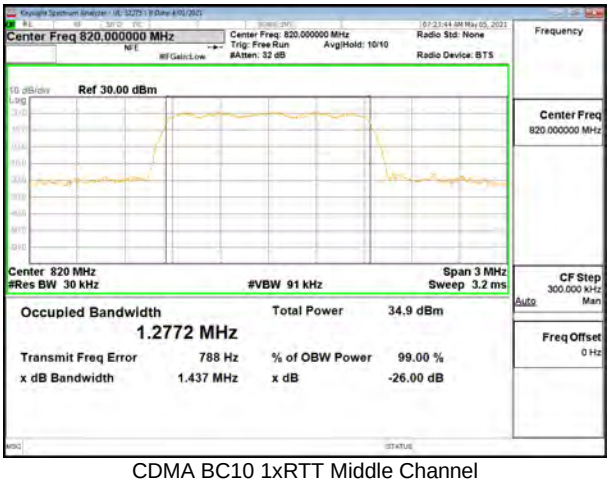


GSM 1900 GPRS Middle Channel

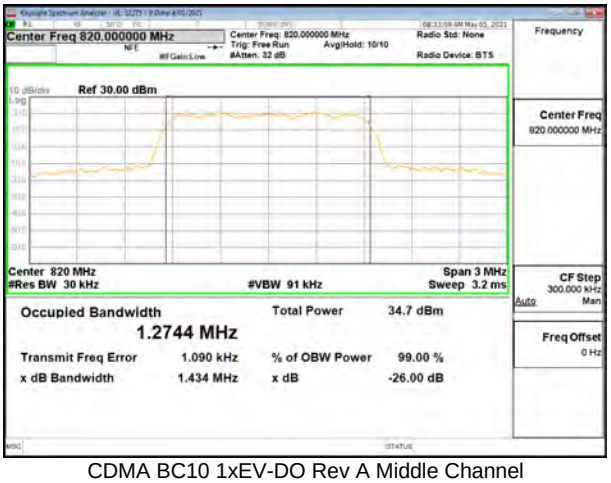


GSM 1900 EGPRS Middle Channel

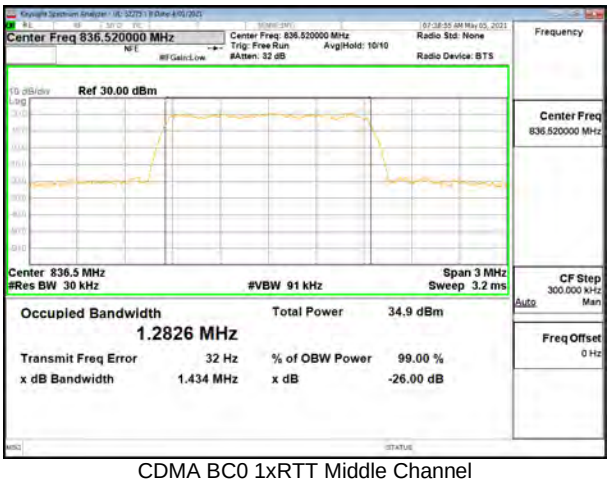
9.1.2. CDMA



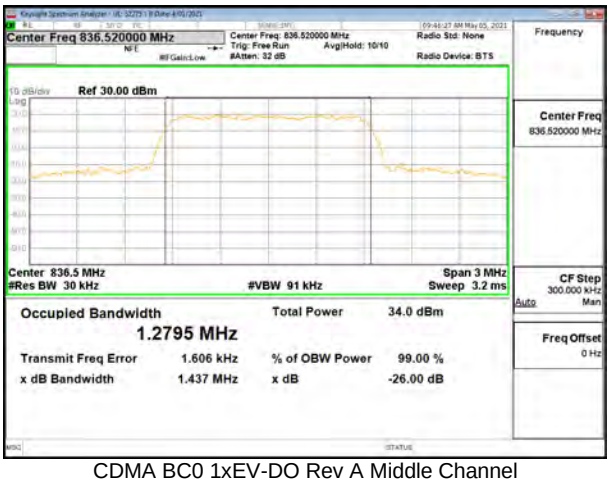
CDMA BC10 1xRTT Middle Channel



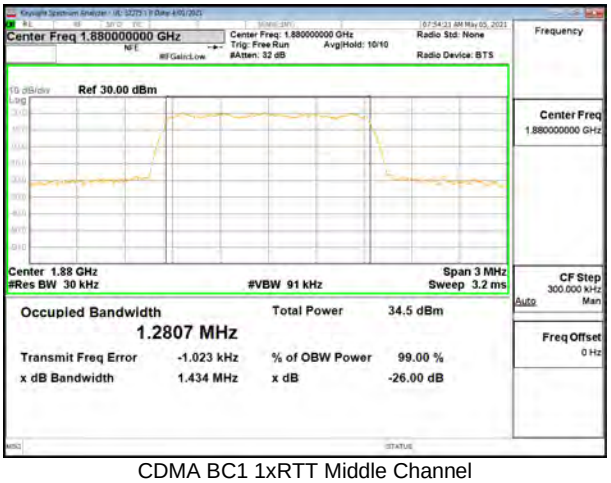
CDMA BC10 1xEV-DO Rev A Middle Channel



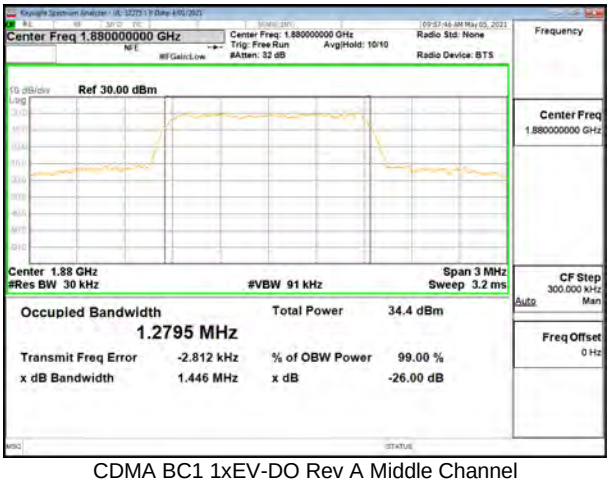
CDMA BC0 1xRTT Middle Channel



CDMA BC0 1xEV-DO Rev A Middle Channel

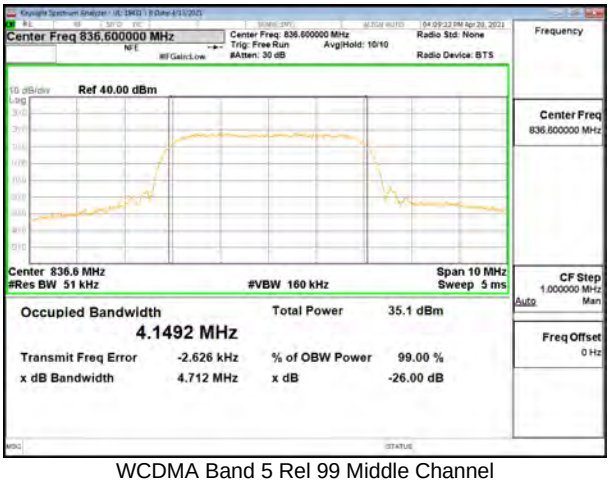


CDMA BC1 1xRTT Middle Channel

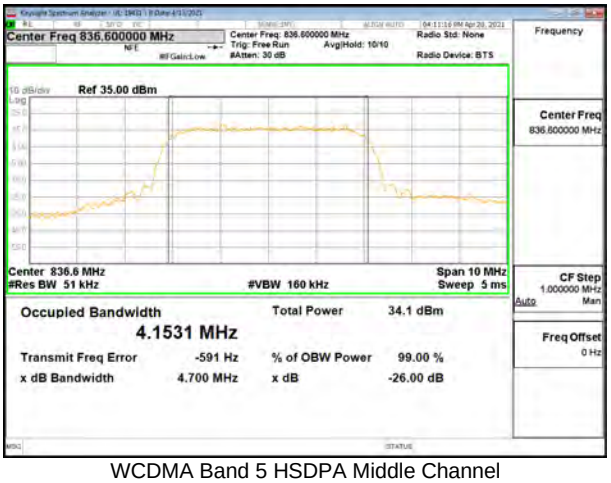


CDMA BC1 1xEV-DO Rev A Middle Channel

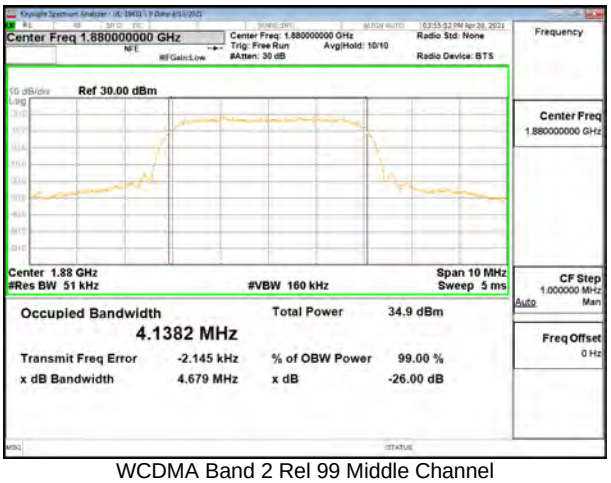
9.1.3. WCDMA



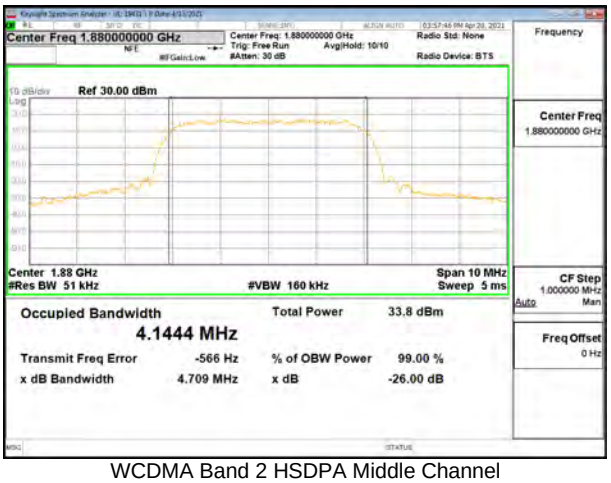
WCDMA Band 5 Rel 99 Middle Channel



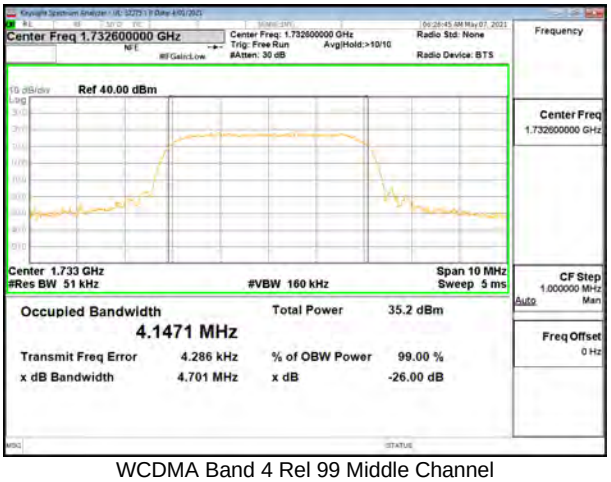
WCDMA Band 5 HSDPA Middle Channel



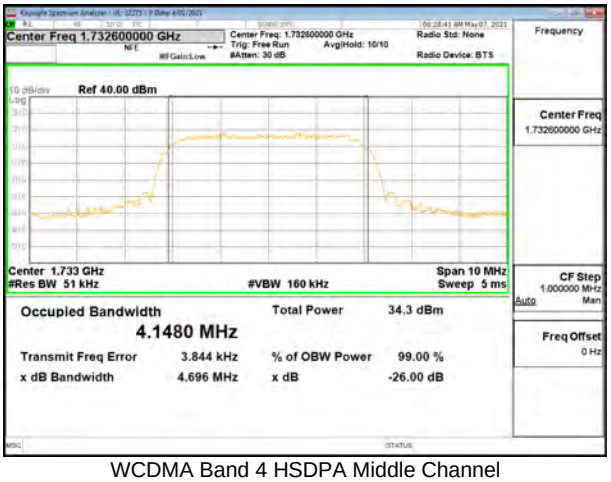
WCDMA Band 2 Rel 99 Middle Channel



WCDMA Band 2 HSDPA Middle Channel



WCDMA Band 4 Rel 99 Middle Channel



WCDMA Band 4 HSDPA Middle Channel

9.2. BAND EDGE AND EMISSION MASK

LIMITS

FCC: §22.917(a), §24.238, §27.53 (h)
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.

FCC: §90.691 Emission mask requirements for EA-based systems.
(a) Out-of-band emission requirement shall apply only to the “outer” channels included in an EA license and to spectrum adjacent to interior channels used by incumbent licensees. The emission limits are as follows:

(1) For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 116 Log10(f/6.1) decibels or 50 + 10 Log10(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.

(2) For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 43 + 10Log10(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz.

RSS132§5.5
Mobile and base station equipment shall comply with the limits in (i) and (ii) below.

(i) In the first 1.0 MHz band immediately outside and adjacent to each of the sub-bands specified in Section 5.1, the power of emissions per any 1% of the occupied bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least 43 + 10 log10p (watts).
(ii) After the first 1.0 MHz immediately outside and adjacent to each of the sub-bands, the power of emissions in any100 kHz bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least43 + 10 log10 p (watts). If the measurement is performed using 1% of the occupied bandwidth, power integration over 100 kHz is required.

RSS133§6.5.1
Equipment shall comply with the limits in (i) and (ii) below.

(i) In the 1.0 MHz bands immediately outside and adjacent to the equipment’s operating frequency block, the emission power per any 1% of the emission bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least 43 + 10 log10p(watts).
(ii) After the first 1.0 MHz, the emission power in any 1 MHz bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least 43 + 10 log10p (watts). If the measurement is performed using 1% of the emission bandwidth, power integration over 1.0 MHz is required.

RSS139§6.6

(i) In the first 1.0 MHz bands immediately outside and adjacent to the equipment’s smallest operating frequency block,Footnote2 which can contain the equipment’s occupied bandwidth, the emission power per any 1% of the emission bandwidth shall be attenuated below the transmitter output power P (in dBW) by at least43 + 10 log10 p (watts) dB.
(ii) After the first 1.0 MHz outside the equipment’s smallest operating frequency block, which can contain the equipment’s occupied bandwidth, the emission power in any 1 MHz bandwidth shall be attenuated below the transmitter output power P (in dBW) by at least 43 + 10 log10 p (watts) dB.

TEST PROCEDURE

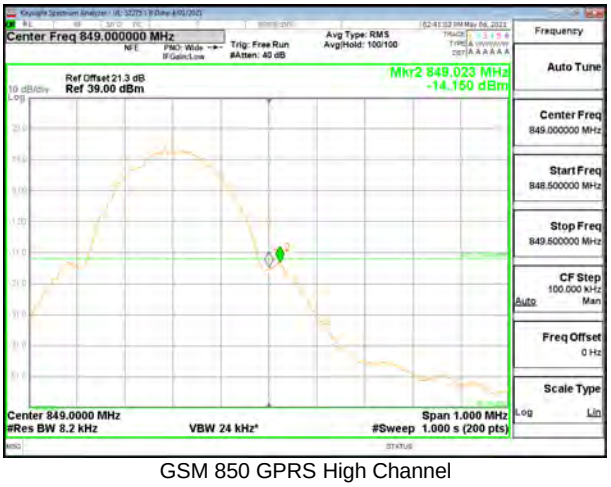
The transmitter output was connected to a R&S CMW500 Test Set and configured to operate at maximum power. The band edge emissions were measured at the required operating frequencies in each band on the Spectrum Analyzer. For each band edge measurement:

- Set the spectrum analyzer span to include the block edge frequency.
- Set a marker to point the corresponding band edge frequency in each test case.
- Set display line at -13 dBm
- Set resolution bandwidth to at least 1% of emission bandwidth.

RESULTS

9.2.1. GSM 850

GSM 850 GPRS Low Channel

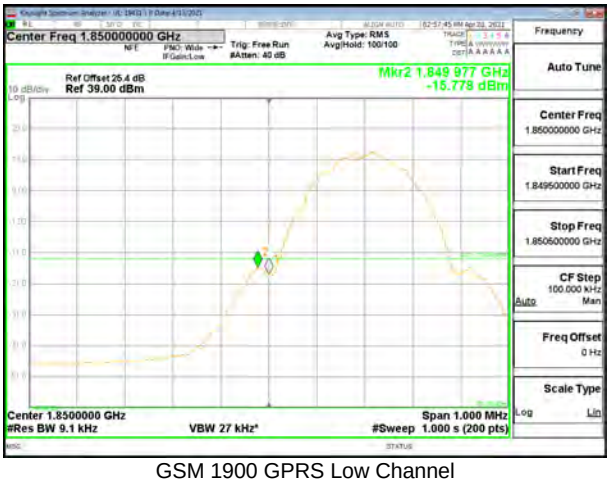


GSM 850 GPRS High Channel

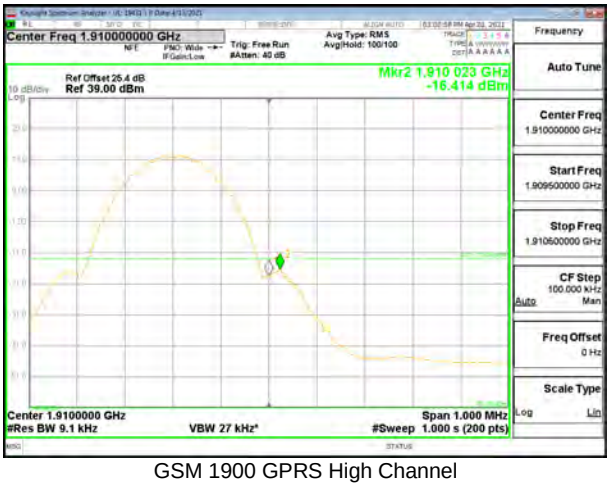
GSM 850 EGPRS Low Channel

GSM 850 EGPRS High Channel

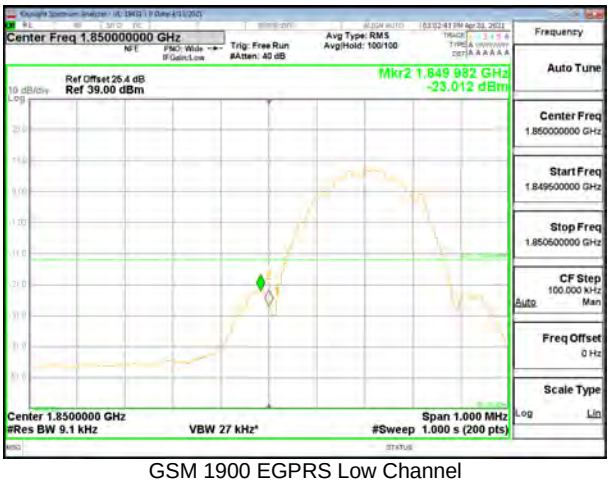
9.2.2. GSM 1900



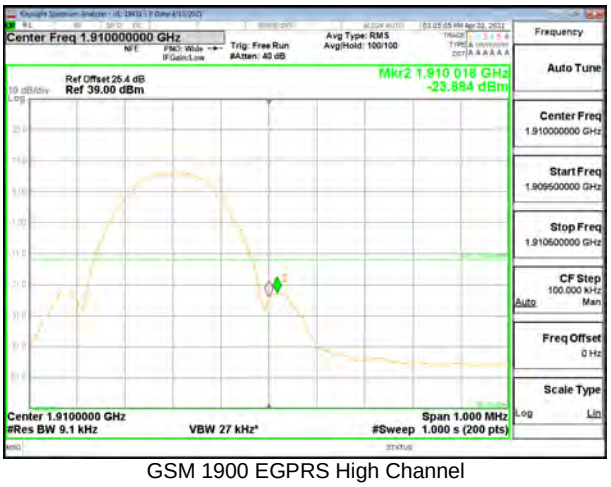
GSM 1900 GPRS Low Channel



GSM 1900 GPRS High Channel



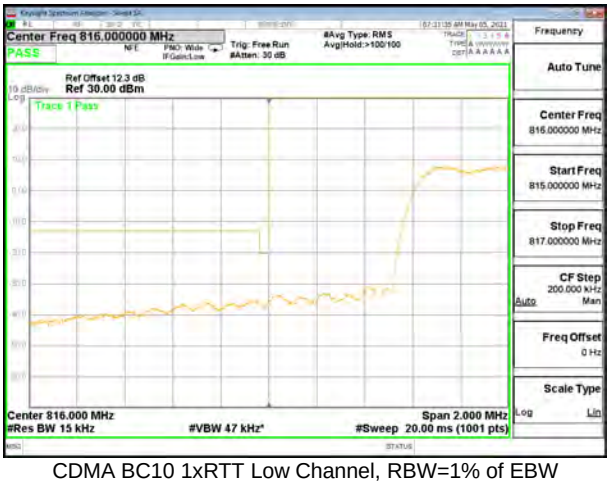
GSM 1900 EGPRS Low Channel



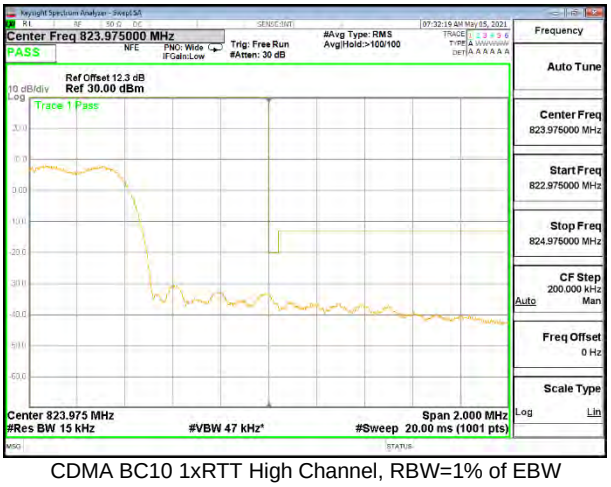
GSM 1900 EGPRS High Channel

9.2.3. CDMA BC10

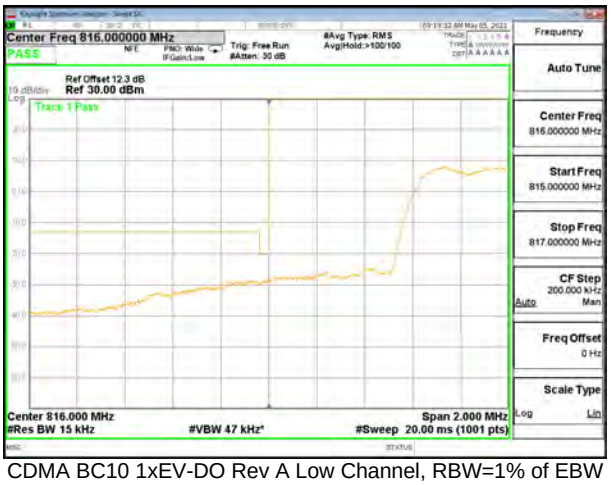
Test Engineer ID:	39004	Test Date:	5/5/2021



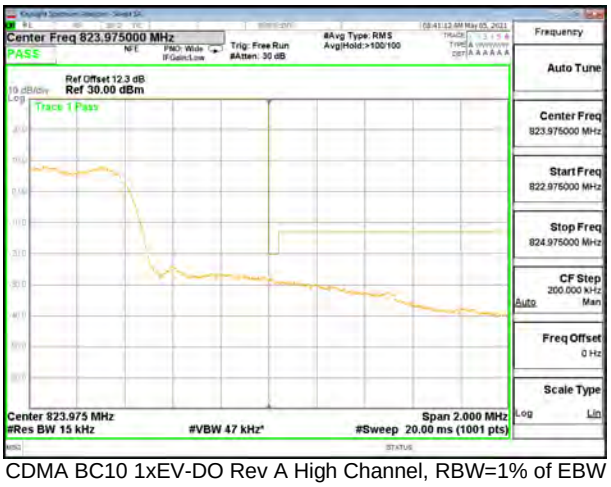
CDMA BC10 1xRTT Low Channel, RBW=1% of EBW



CDMA BC10 1xRTT High Channel, RBW=1% of EBW



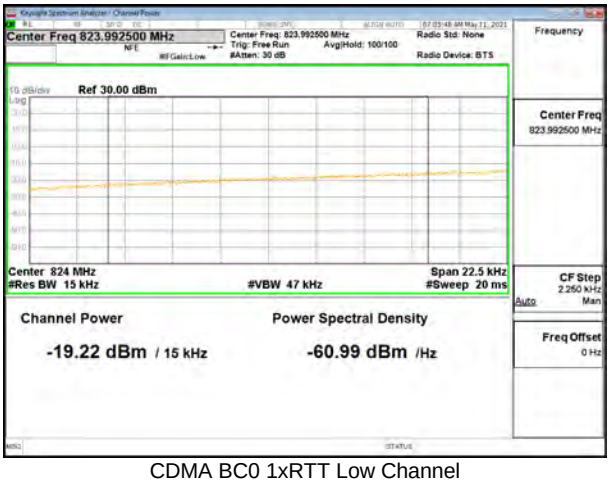
CDMA BC10 1xEV-DO Rev A Low Channel, RBW=1% of EBW



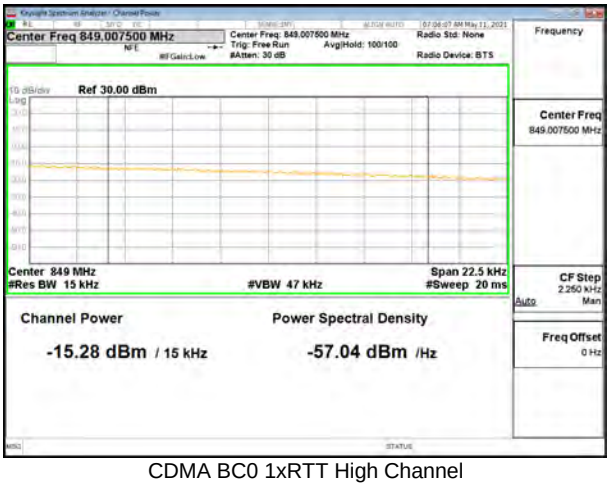
CDMA BC10 1xEV-DO Rev A High Channel, RBW=1% of EBW

9.2.4. CDMA BC0

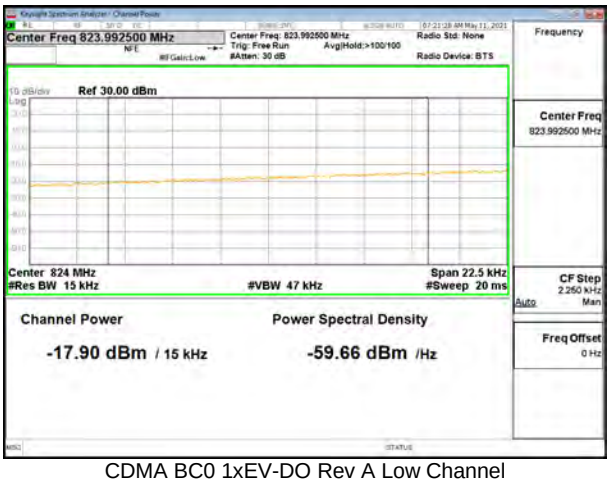
Test Engineer ID:	39004	Test Date:	5/11/2021



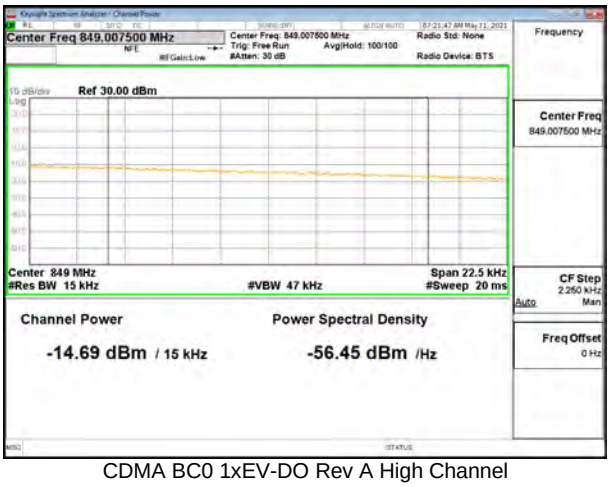
CDMA BC0 1xRTT Low Channel



CDMA BC0 1xRTT High Channel

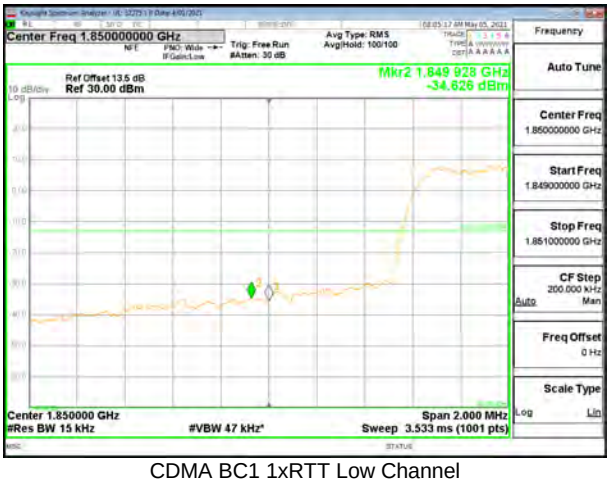


CDMA BC0 1xEV-DO Rev A Low Channel



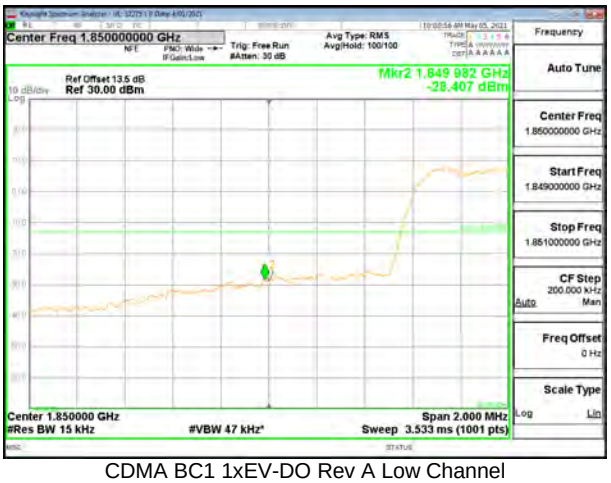
CDMA BC0 1xEV-DO Rev A High Channel

9.2.5. CDMA BC1

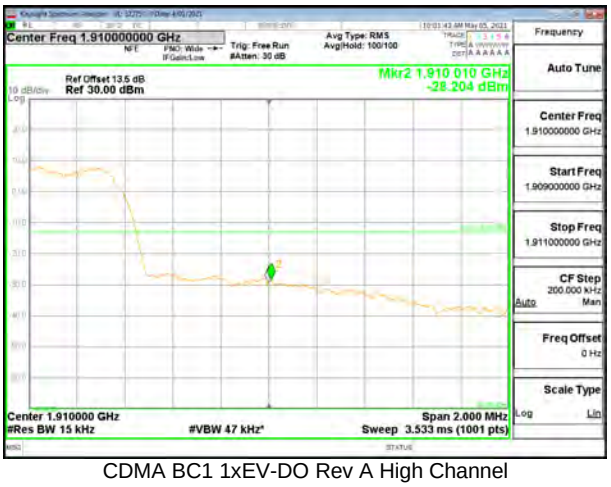


CDMA BC1 1xRTT Low Channel

CDMA BC1 1xRTT High Channel

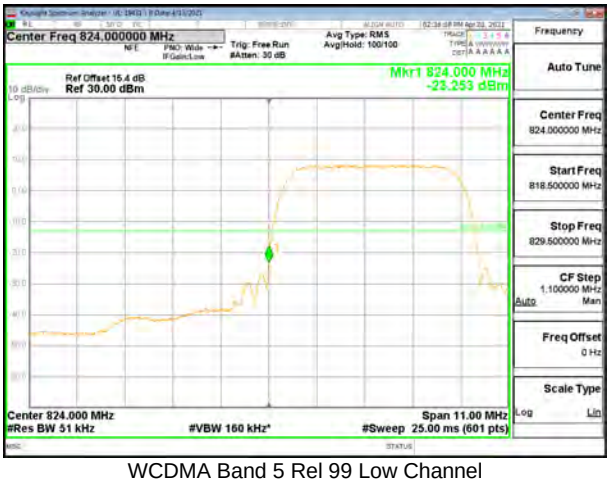


CDMA BC1 1xEV-DO Rev A Low Channel

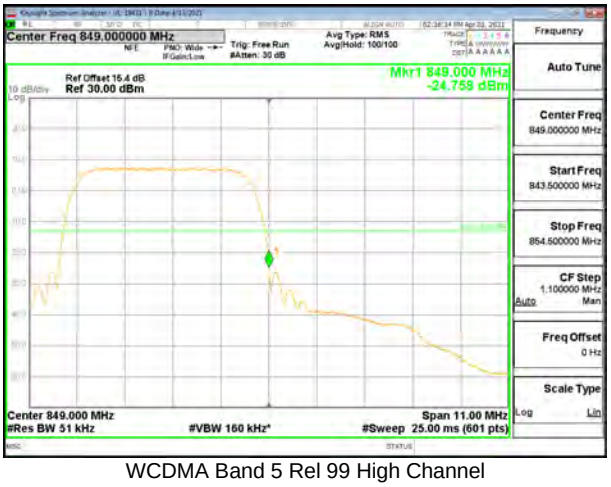


CDMA BC1 1xEV-DO Rev A High Channel

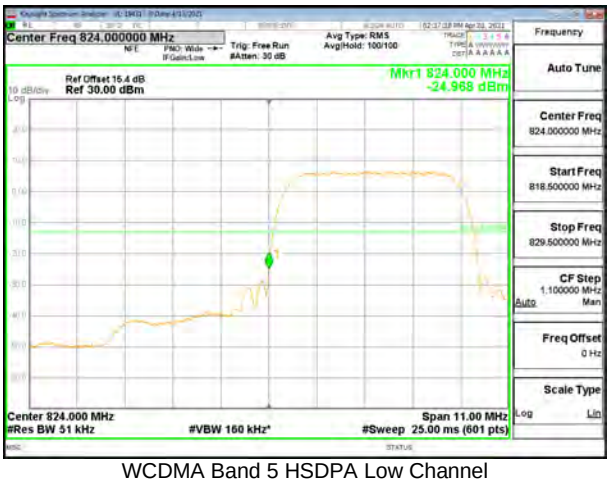
9.2.6. WCDMA BAND 5



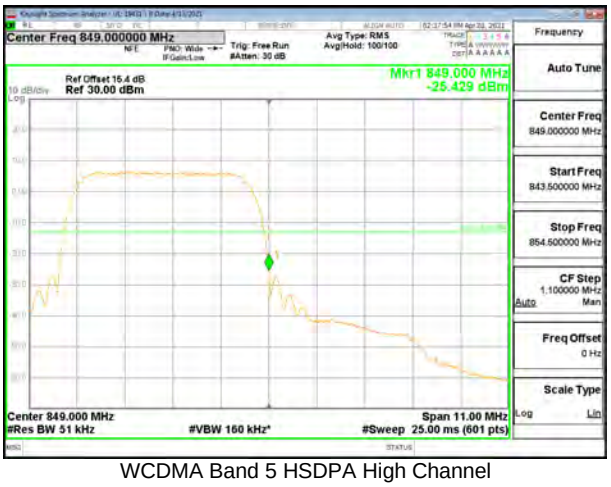
WCDMA Band 5 Rel 99 Low Channel



WCDMA Band 5 Rel 99 High Channel

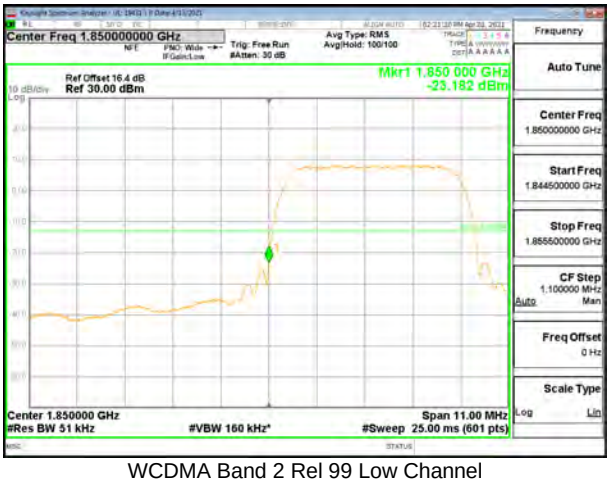


WCDMA Band 5 HSDPA Low Channel

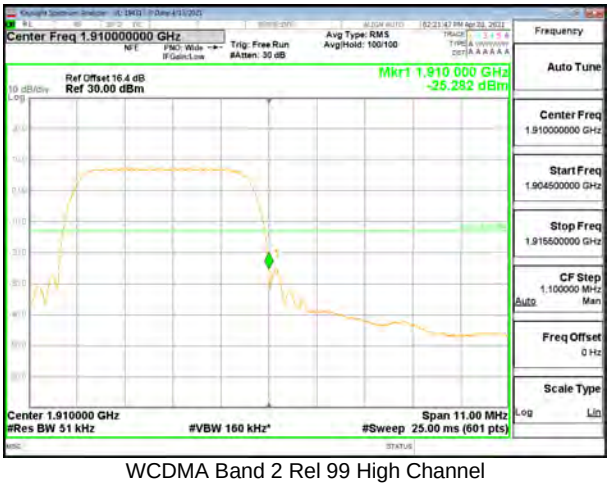


WCDMA Band 5 HSDPA High Channel

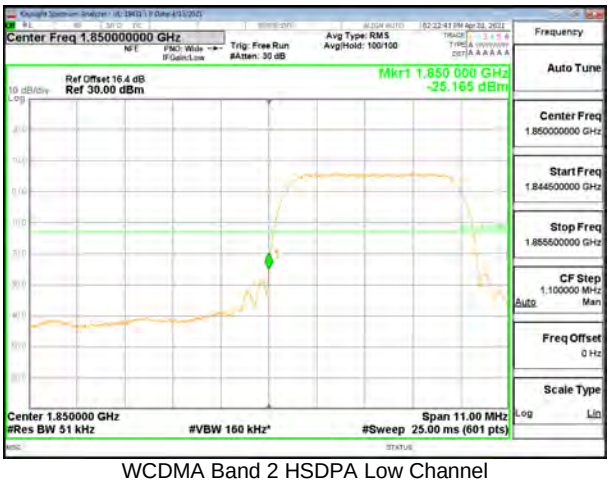
9.2.7. WCDMA BAND 2



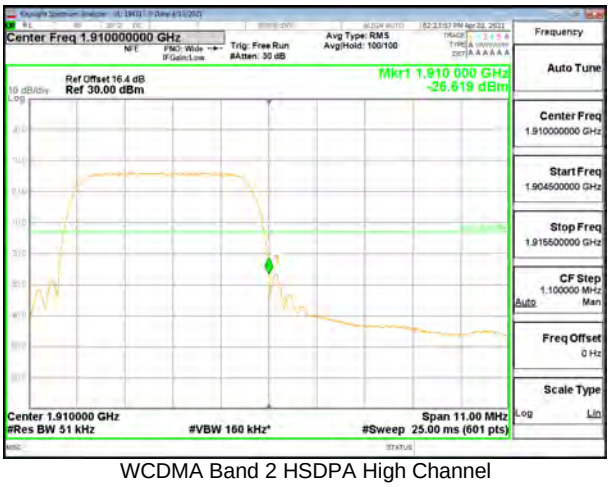
WCDMA Band 2 Rel 99 Low Channel



WCDMA Band 2 Rel 99 High Channel

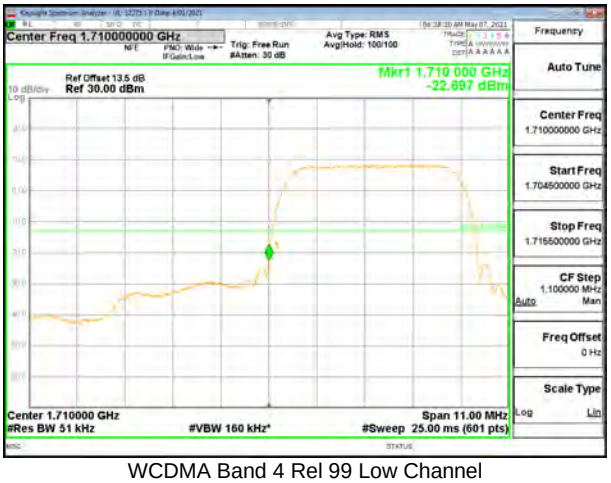


WCDMA Band 2 HSDPA Low Channel

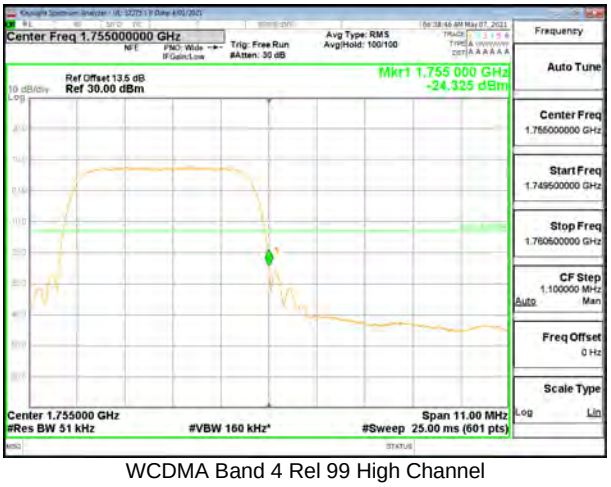


WCDMA Band 2 HSDPA High Channel

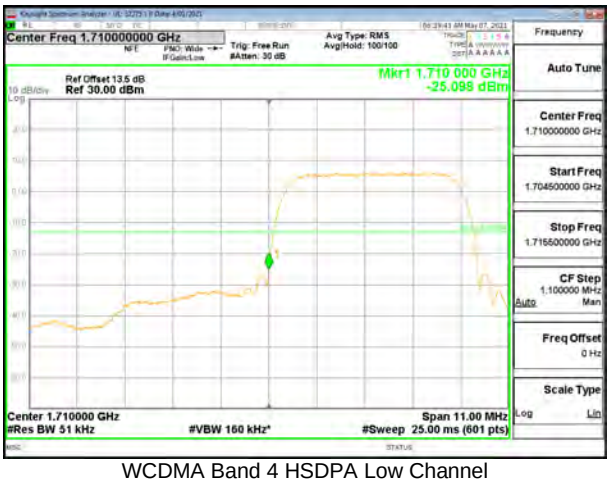
9.2.8. WCDMA BAND 4



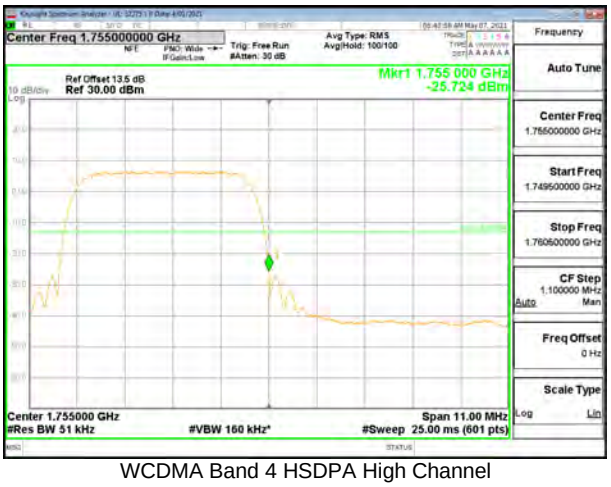
WCDMA Band 4 Rel 99 Low Channel



WCDMA Band 4 Rel 99 High Channel



WCDMA Band 4 HSDPA Low Channel



WCDMA Band 4 HSDPA High Channel

9.3. OUT OF BAND EMISSIONS

RULE PART(S)

FCC: §2.1051, §22.917, §24.238, §27.53 and §90.691
ISED: RSS132§5.5; RSS133§6.5 and RSS139§6.6

LIMITS

FCC: §22.917(a), §24.238, §27.53 (h), §90.691
The minimum permissible attenuation level of any spurious emissions is 43 + 10 log (P) dB where transmitting power (P) in Watts.

RSS132§5.5, RSS133§6.5.1, RSS139§6.6
The minimum permissible attenuation level of any spurious emissions is 43 + 10 log (P) dB where transmitting power (P) in Watts.

TEST PROCEDURE

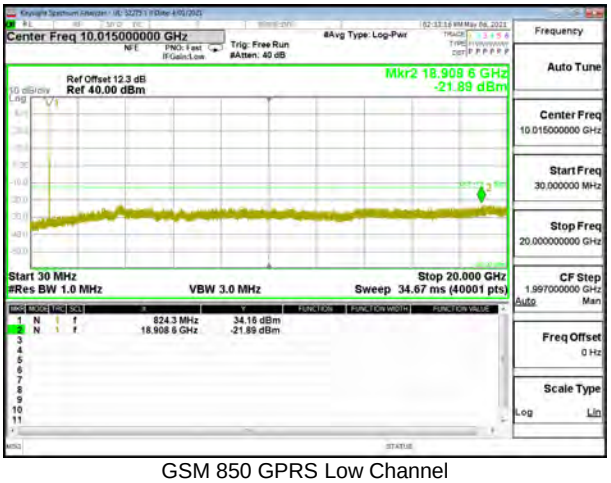
The RF output of the transmitter was connected to a spectrum analyzer through a calibrated coaxial cable. Sufficient scans were taken to show the out-of-band Emissions, if any, up to 10th harmonic. Multiple sweeps were recorded in maximum hold mode using a peak detector to ensure that the worst-case emissions were caught.

For each out of band emissions measurement:

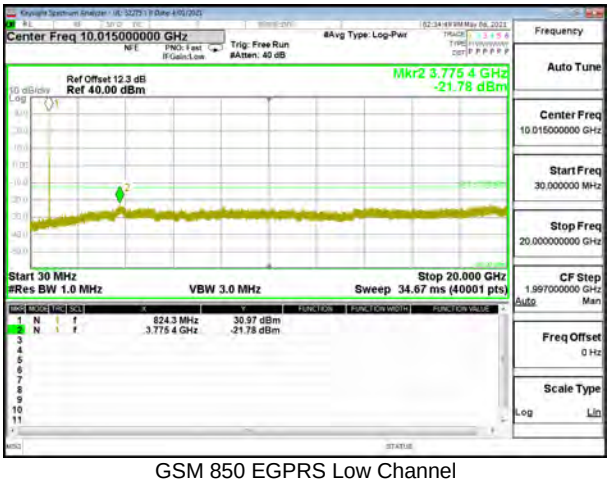
- Set display line at -13 dBm
- Set RBW & VBW to 100 kHz for the measurement below 1 GHz, and 1 MHz for the measurement above 1 GHz. (NOTE: Worst case set RBW/VBW to 1MHz/3MHz)

RESULTS

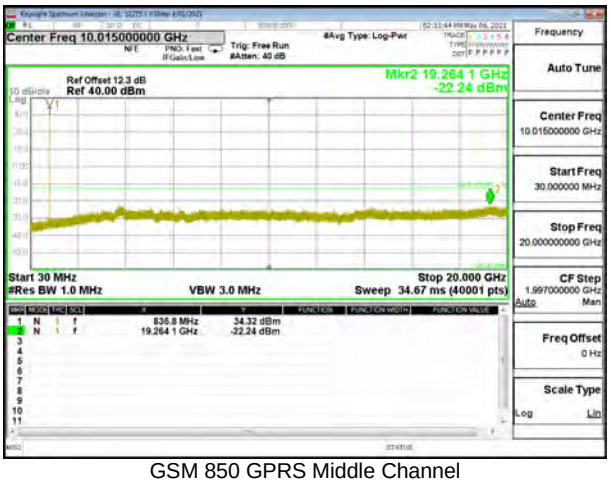
9.3.1. GSM 850



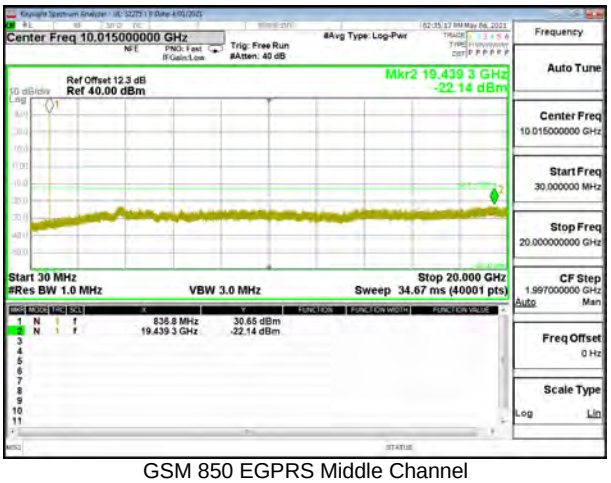
GSM 850 GPRS Low Channel



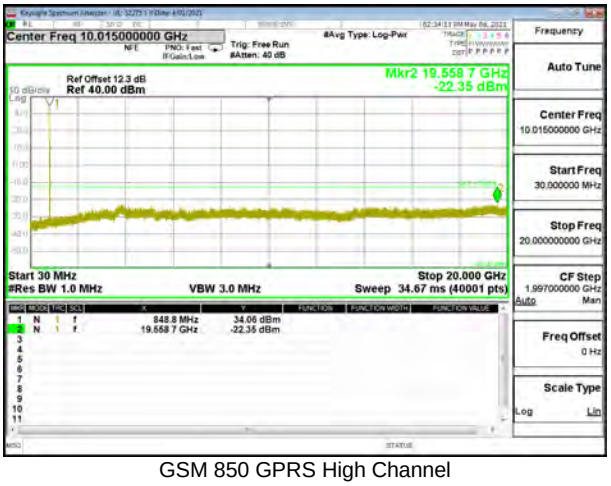
GSM 850 EGPRS Low Channel



GSM 850 GPRS Middle Channel



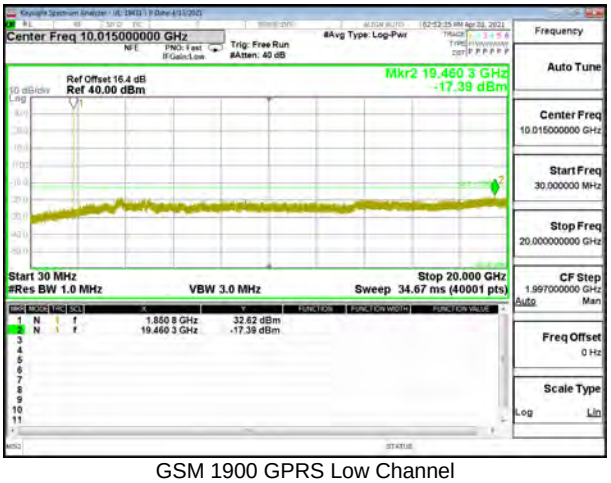
GSM 850 EGPRS Middle Channel



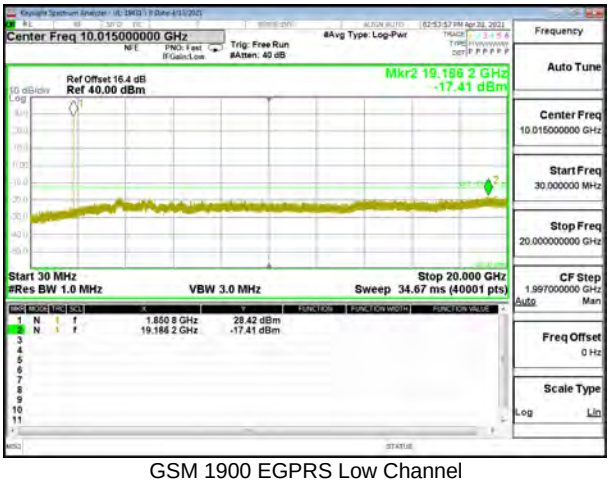
GSM 850 GPRS High Channel

GSM 850 EGPRS High Channel

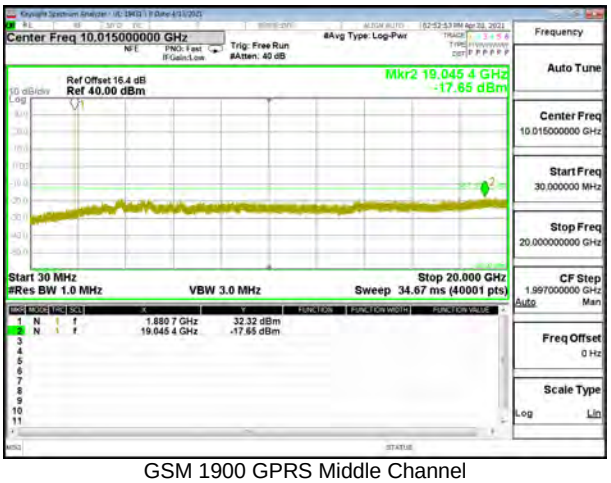
9.3.2. GSM 1900



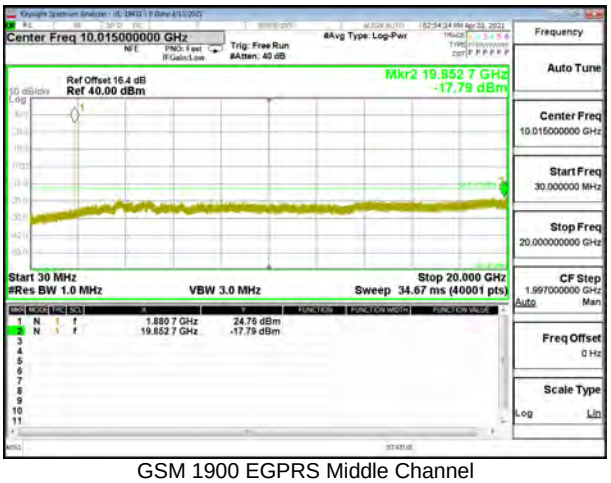
GSM 1900 GPRS Low Channel



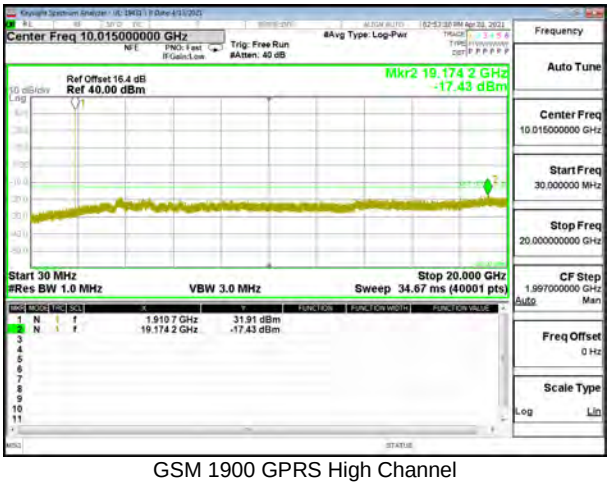
GSM 1900 EGPRS Low Channel



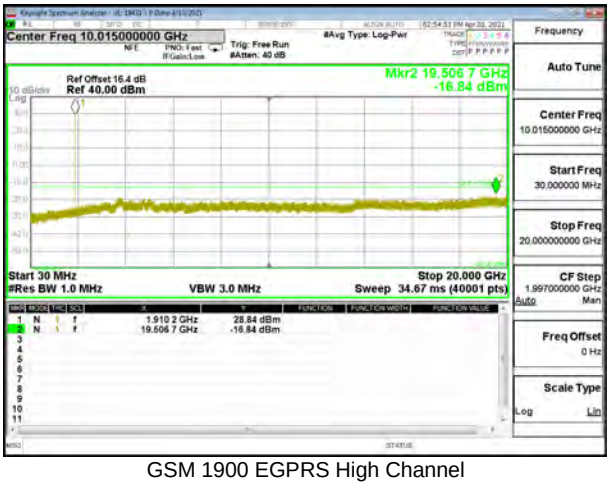
GSM 1900 GPRS Middle Channel



GSM 1900 EGPRS Middle Channel

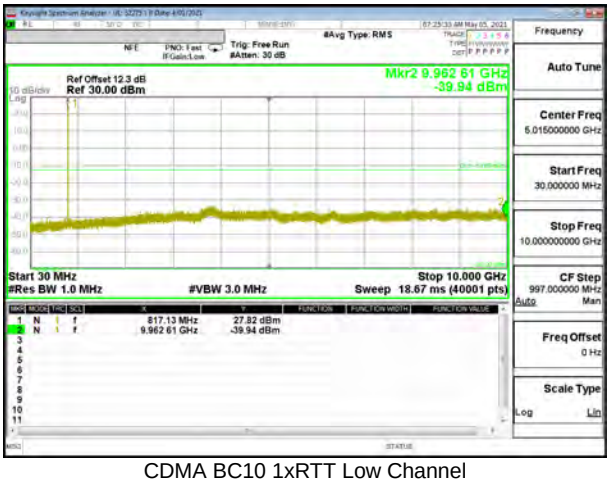


GSM 1900 GPRS High Channel

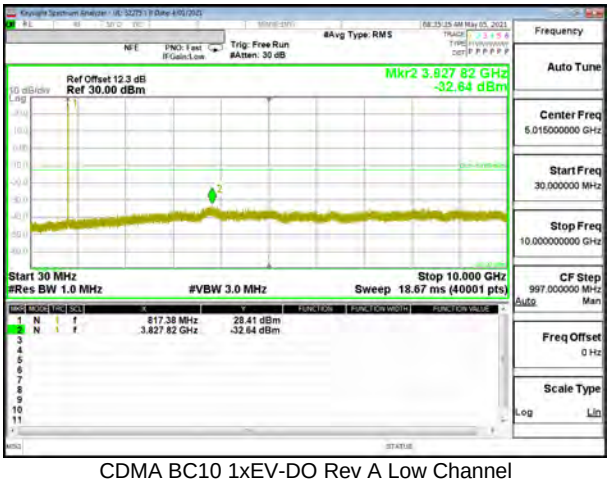


GSM 1900 EGPRS High Channel

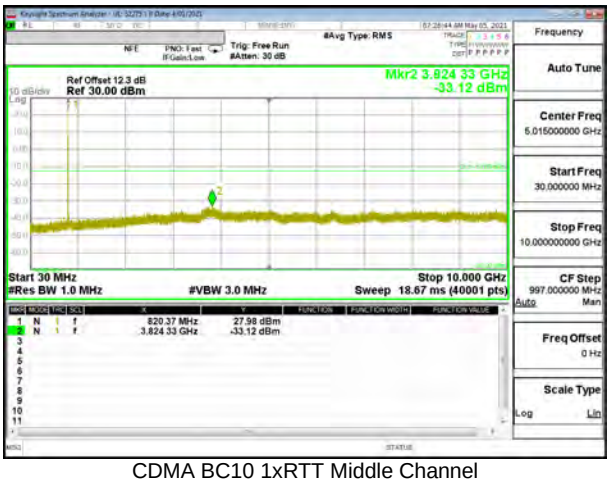
9.3.3. CDMA BC10



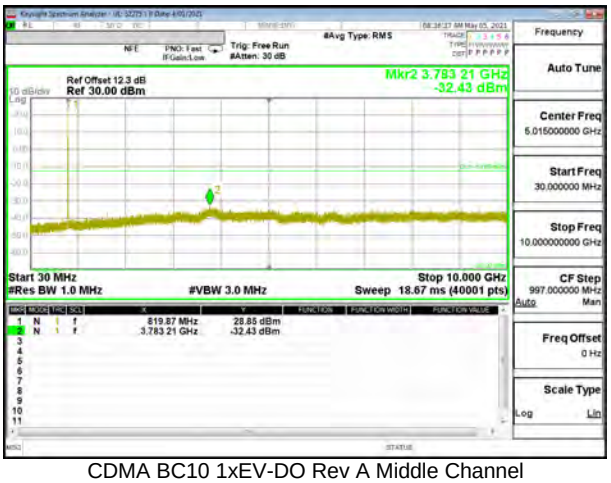
CDMA BC10 1xRTT Low Channel



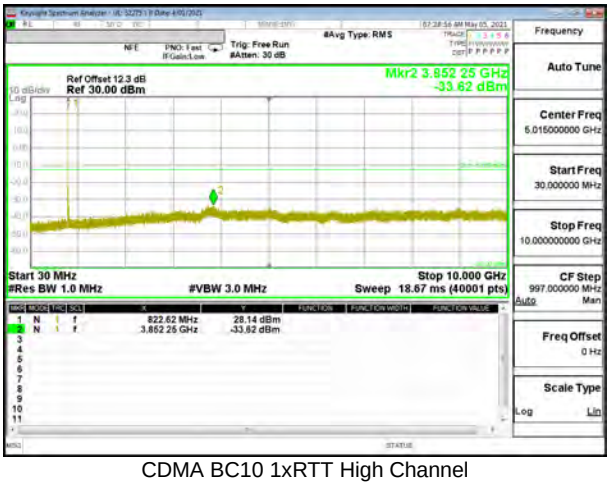
CDMA BC10 1xEV-DO Rev A Low Channel



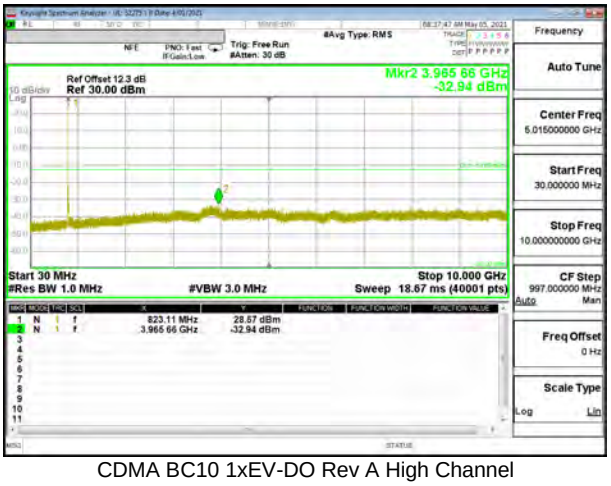
CDMA BC10 1xRTT Middle Channel



CDMA BC10 1xEV-DO Rev A Middle Channel

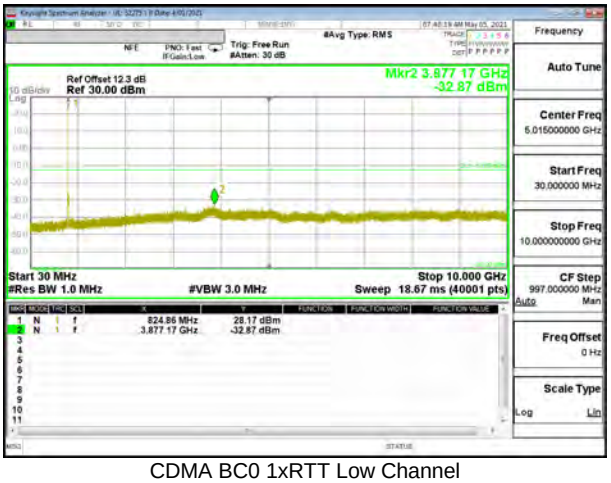


CDMA BC10 1xRTT High Channel

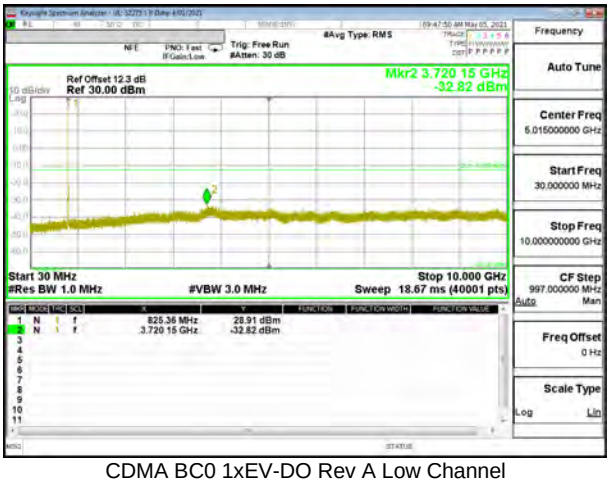


CDMA BC10 1xEV-DO Rev A High Channel

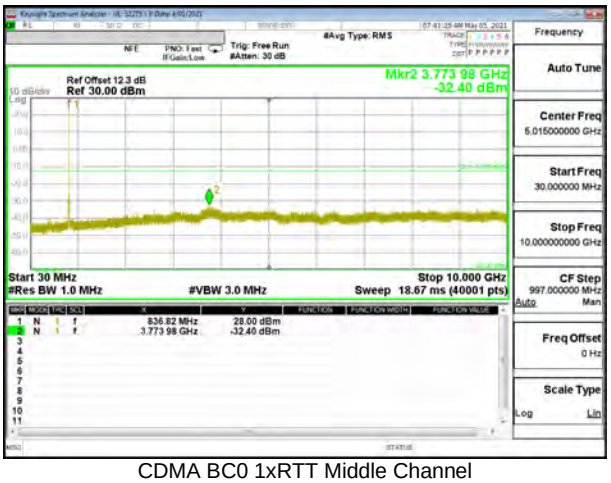
9.3.4. CDMA BC0



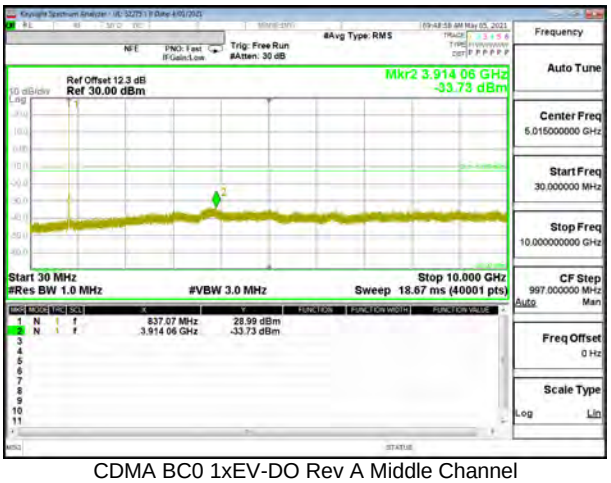
CDMA BC0 1xRTT Low Channel



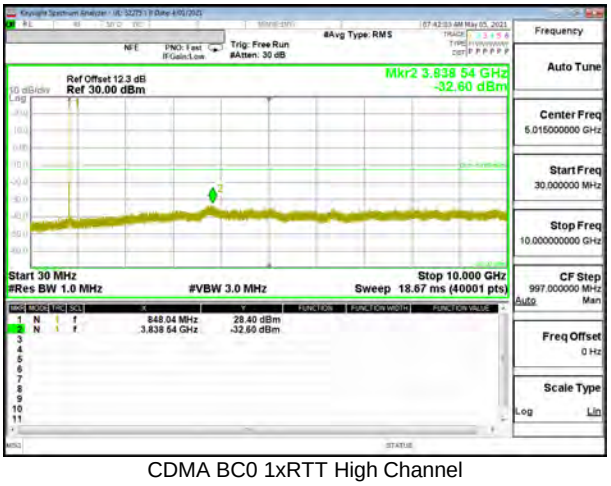
CDMA BC0 1xEV-DO Rev A Low Channel



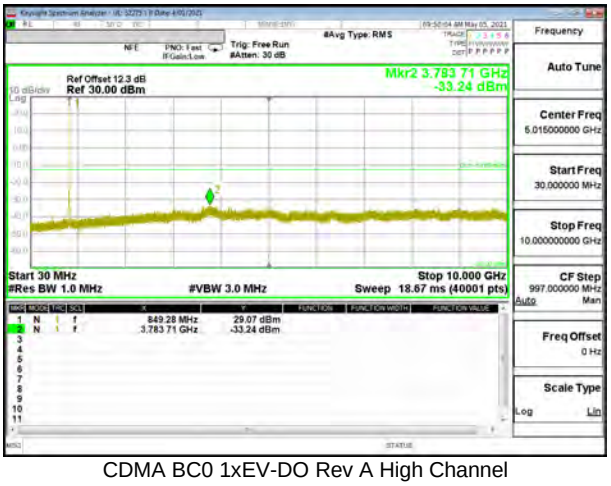
CDMA BC0 1xRTT Middle Channel



CDMA BC0 1xEV-DO Rev A Middle Channel

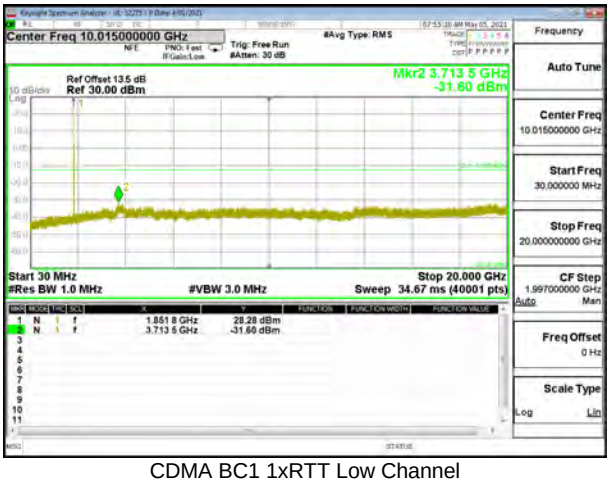


CDMA BC0 1xRTT High Channel

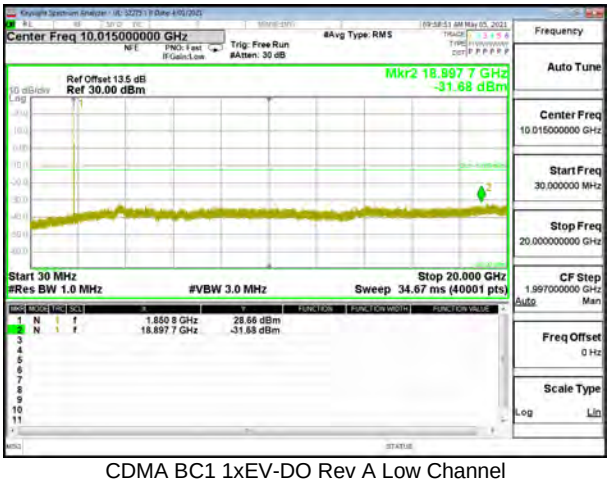


CDMA BC0 1xEV-DO Rev A High Channel

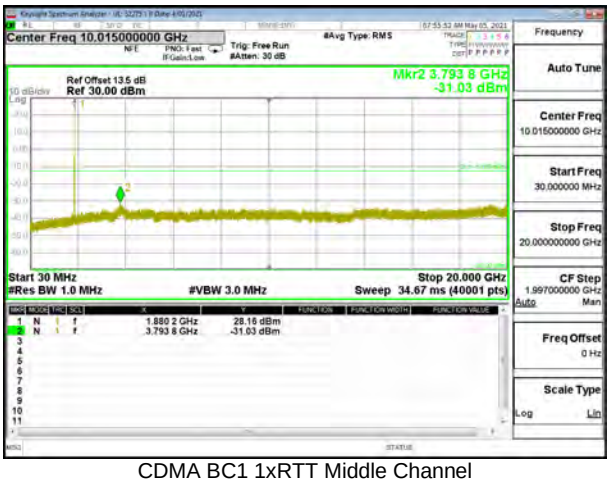
9.3.5. CDMA BC1



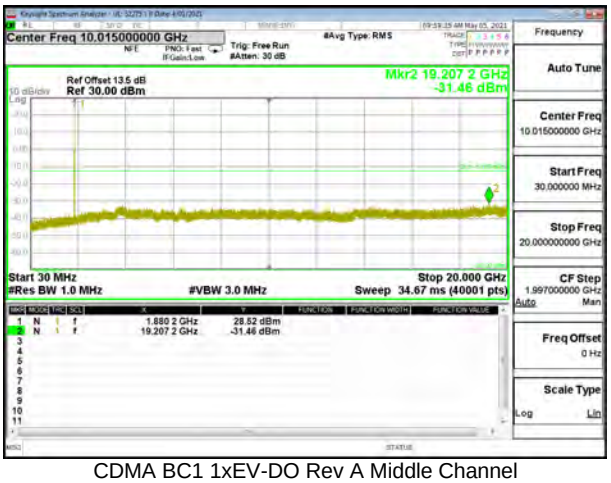
CDMA BC1 1xRTT Low Channel



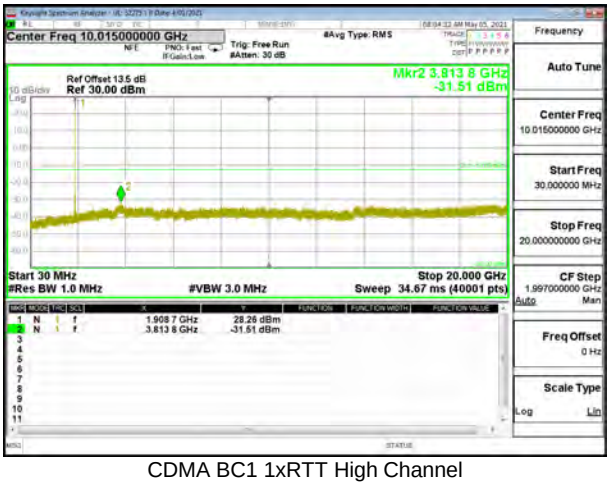
CDMA BC1 1xEV-DO Rev A Low Channel



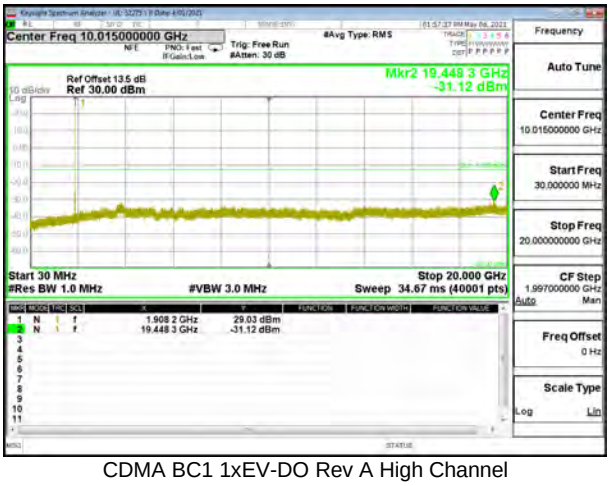
CDMA BC1 1xRTT Middle Channel



CDMA BC1 1xEV-DO Rev A Middle Channel

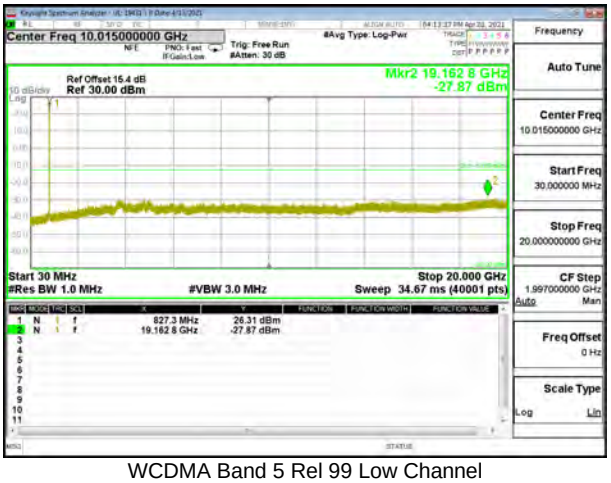


CDMA BC1 1xRTT High Channel

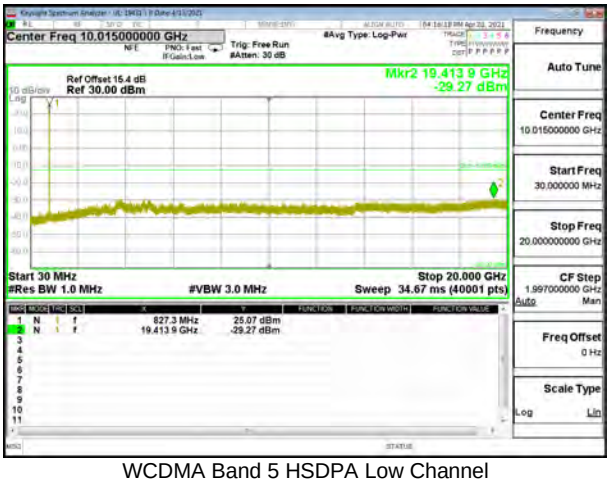


CDMA BC1 1xEV-DO Rev A High Channel

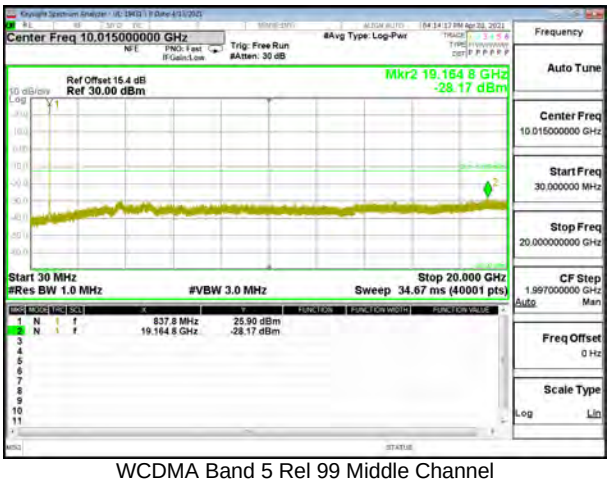
9.3.6. WCDMA BAND 5



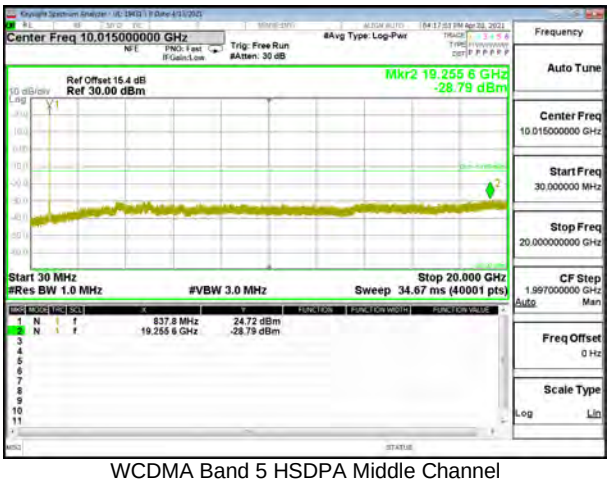
WCDMA Band 5 Rel 99 Low Channel



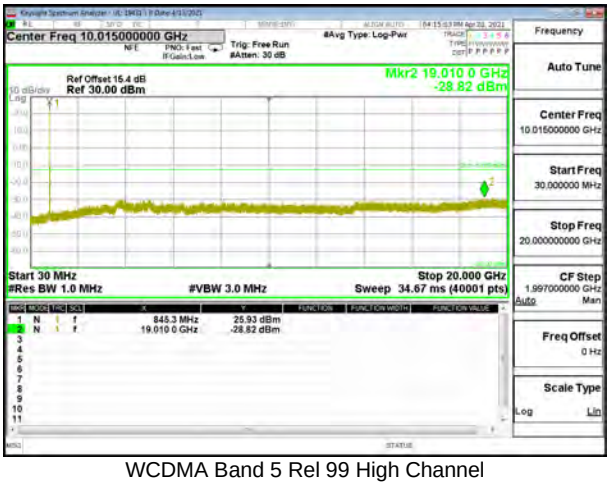
WCDMA Band 5 HSDPA Low Channel



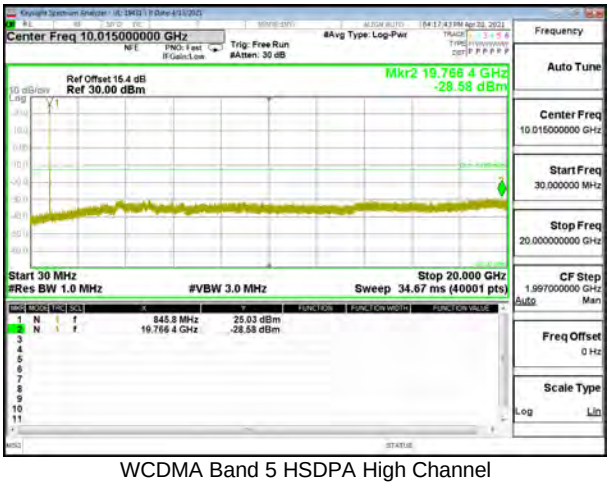
WCDMA Band 5 Rel 99 Middle Channel



WCDMA Band 5 HSDPA Middle Channel

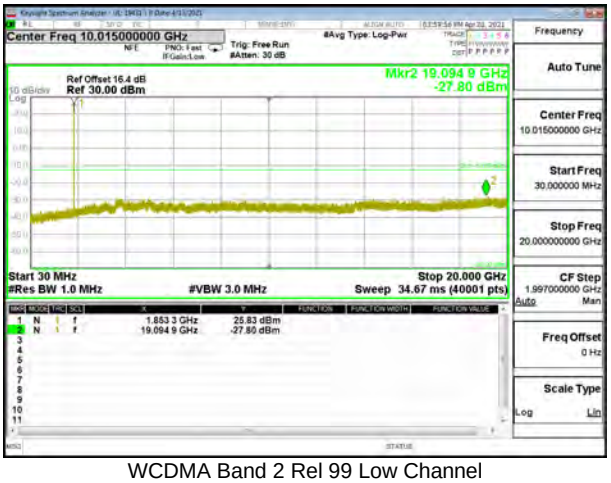


WCDMA Band 5 Rel 99 High Channel

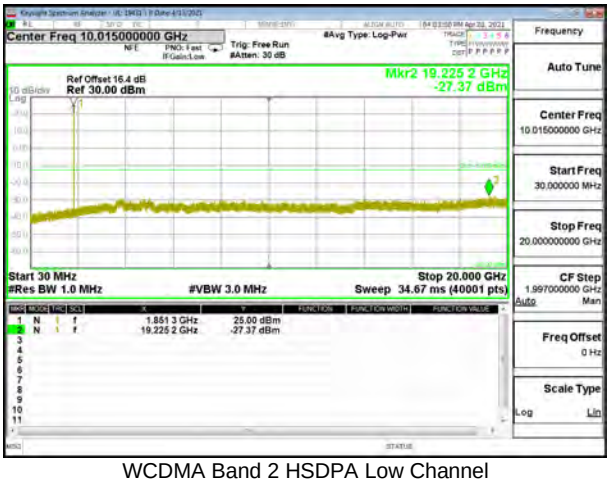


WCDMA Band 5 HSDPA High Channel

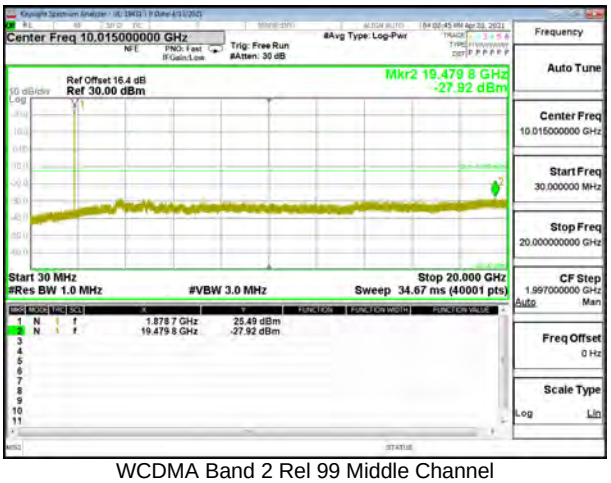
9.3.7. WCDMA BAND 2



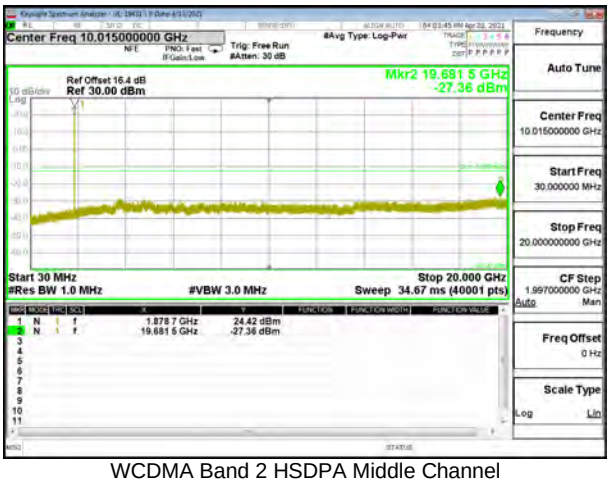
WCDMA Band 2 Rel 99 Low Channel



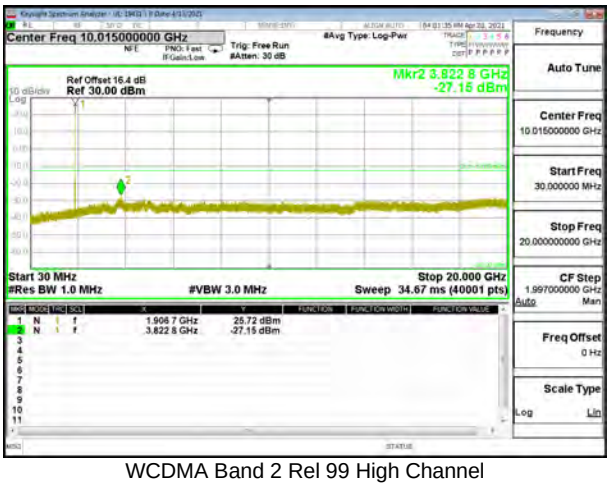
WCDMA Band 2 HSDPA Low Channel



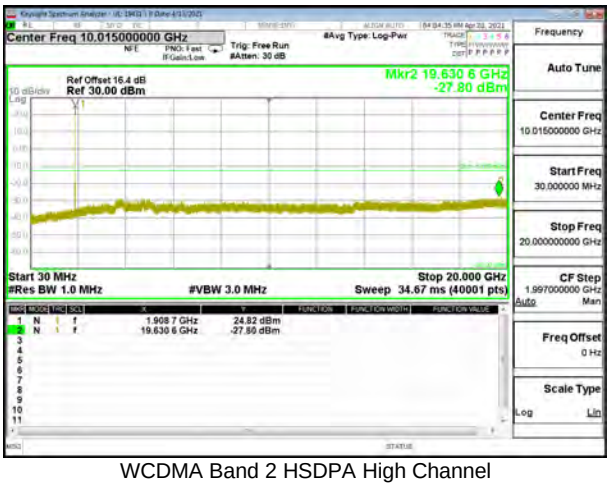
WCDMA Band 2 Rel 99 Middle Channel



WCDMA Band 2 HSDPA Middle Channel

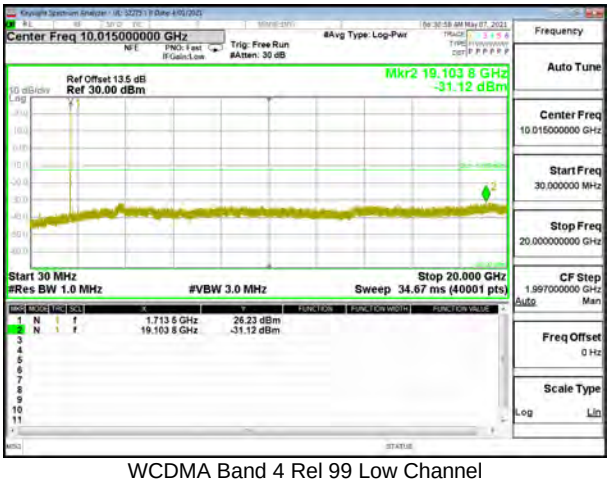


WCDMA Band 2 Rel 99 High Channel

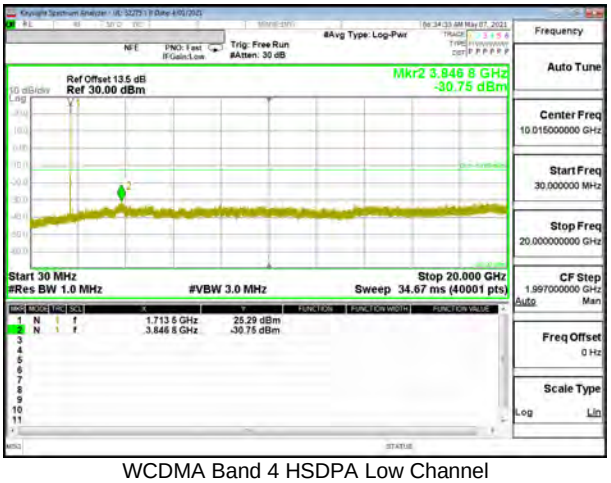


WCDMA Band 2 HSDPA High Channel

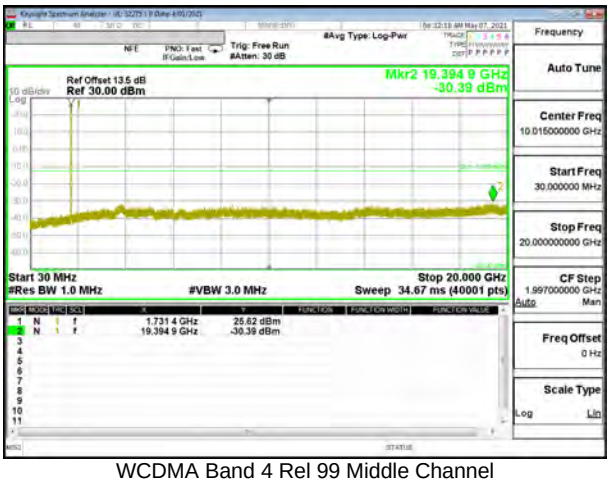
9.3.8. WCDMA BAND 4



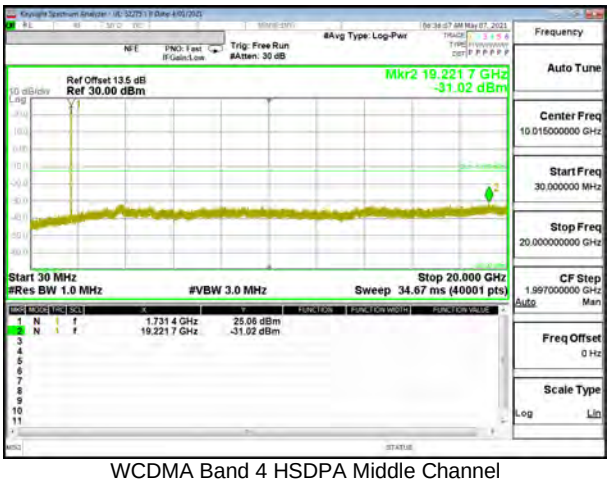
WCDMA Band 4 Rel 99 Low Channel



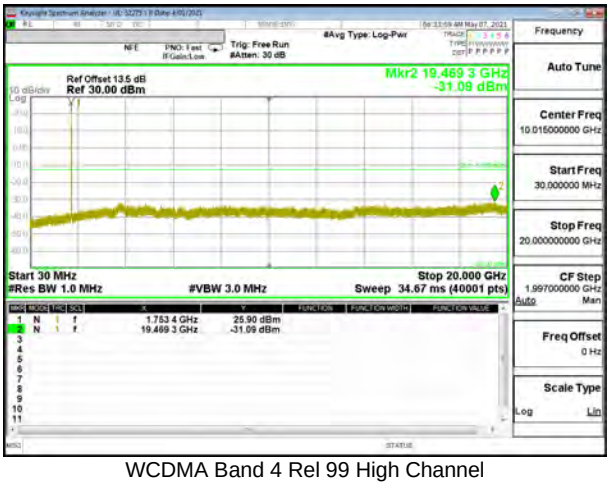
WCDMA Band 4 HSDPA Low Channel



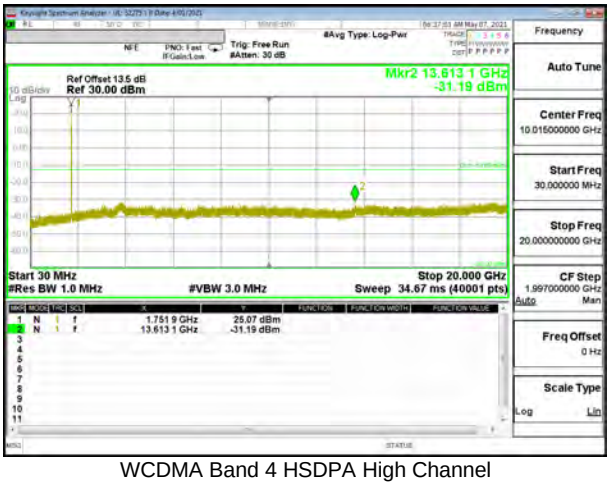
WCDMA Band 4 Rel 99 Middle Channel



WCDMA Band 4 HSDPA Middle Channel



WCDMA Band 4 Rel 99 High Channel



WCDMA Band 4 HSDPA High Channel

9.4. FREQUENCY STABILITY

RULE PART(S)

FCC: §2.1055, §22.355, §24.235, §27.54 and §90.213
ISED: RSS132§5.3; RSS133§6.3 and RSS139§6.4

LIMITS

FCC §22.355, §90.213
The carrier frequency shall not depart from the reference frequency in excess of ±2.5 ppm for mobile stations.

FCC §24.235 & §27.54
The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

RSS132§5.3
The carrier frequency shall not depart from the reference frequency in excess of ±2.5 SRSP for mobile stations and±1.5 ppm for base stations.
In lieu of meeting the above stability values, the test report may show that the frequency stability is sufficient to ensure that the occupied bandwidth stays within each of the sub-bands (see Section 5.1) when tested to the temperature and supply voltage variations specified in RSS-Gen.

RSS133§6.3
The carrier frequency shall not depart from the reference frequency, in excess of ±2.5 ppm for mobile stations and±1.0 ppm for base stations.
In lieu of meeting the above stability values, the test report may show that the frequency stability is sufficient to ensure that the emission bandwidth stays within the operating frequency block when tested to the temperature and supply voltage variations specified in RSS-Gen.

RSS139§6.4
The frequency stability shall be sufficient to ensure that the occupied bandwidth stays within the operating frequency block when tested to the temperature and supply voltage variations specified in RSS-Gen.

TEST PROCEDURE

Use CMW 500 with Frequency Error measurement capability.

- Temp. = −30°C to +50°C
- Voltage = (85% - 115%)

  Low voltage, 3.23VDC, Normal, 3.8VDC and High voltage, 4.37VDC.
  End Voltage, 3.2VDC.

Frequency Stability vs Temperature:
The EUT is place inside a temperature chamber. The temperature is set to 20ºC and allowed to stabilize. After sufficient soak time, the transmitting frequency error is measured. The temperature is increased by 10 degrees, allowed to stabilize and soak, and then the measurement is repeated. This is repeated until +50ºC is reached.

Frequency Stability vs Voltage:
The peak frequency error is recorded (worst-case).

RESULTS

See the following pages.

9.4.1. GSM

Test Engineer ID:	12981	Test Date:	5/12/2021

GPRS 850

Limit		824	849	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	824.0490	848.9267		
Extreme (50C)		824.0490	848.9267	19.5	0.023
Extreme (40C)		824.0490	848.9267	17.0	0.020
Extreme (30C)		824.0490	848.9267	16.4	0.020
Extreme (10C)		824.0490	848.9267	15.8	0.019
Extreme (0C)		824.0490	848.9267	15.5	0.019
Extreme (-10C)		824.0490	848.9267	14.7	0.018
Extreme (-20C)		824.0490	848.9267	14.4	0.017
Extreme (-30C)		824.0490	848.9267	13.9	0.017
20C	15%	824.0490	848.9267	16.2	0.019
	-15%	824.0490	848.9267	16.8	0.020
	End Point	824.0490	848.9267	16.4	0.020

GPRS 1900

Limit		1850	1910	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	1850.2588	1909.9389		
Extreme (50C)		1850.2588	1909.9389	14.4	0.008
Extreme (40C)		1850.2588	1909.9389	17.9	0.010
Extreme (30C)		1850.2588	1909.9389	18.6	0.010
Extreme (10C)		1850.2588	1909.9389	19.4	0.010
Extreme (0C)		1850.2588	1909.9389	21.7	0.012
Extreme (-10C)		1850.2588	1909.9389	22.6	0.012
Extreme (-20C)		1850.2588	1909.9389	25.5	0.014
Extreme (-30C)		1850.2588	1909.9389	31.2	0.017
20C	15%	1850.2588	1909.9389	19.6	0.010
	-15%	1850.2588	1909.9389	19.4	0.010
	End Point	1850.2588	1909.9389	19.5	0.010

9.4.2. CDMA

Test Engineer ID:	12981	Test Date:	5/12/2021

CDMA 1xRTT BC10

Limit		816	824	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	816.5637	823.4589		
Extreme (50C)		816.5637	823.4589	5.7	0.007
Extreme (40C)		816.5637	823.4589	5.1	0.006
Extreme (30C)		816.5637	823.4589	6.1	0.007
Extreme (10C)		816.5637	823.4589	-2.7	-0.003
Extreme (0C)		816.5637	823.4589	-3.7	-0.004
Extreme (-10C)		816.5637	823.4589	-2.1	-0.003
Extreme (-20C)		816.5637	823.4589	-2.7	-0.003
Extreme (-30C)		816.5637	823.4589	-3.6	-0.004
20C	15%	816.5637	823.4589	5.4	0.007
	-15%	816.5637	823.4589	5.5	0.007
	End Point	816.5637	823.4589	-2.8	-0.003

CDMA 1xRTT BC0

Limit		824	849	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	824.0137	848.9960		
Extreme (50C)		824.0137	848.9960	-8.0	-0.010
Extreme (40C)		824.0137	848.9960	-7.7	-0.009
Extreme (30C)		824.0137	848.9960	-7.7	-0.009
Extreme (10C)		824.0137	848.9960	-6.8	-0.008
Extreme (0C)		824.0137	848.9960	-7.3	-0.009
Extreme (-10C)		824.0137	848.9960	-8.5	-0.010
Extreme (-20C)		824.0137	848.9960	-7.7	-0.009
Extreme (-30C)		824.0137	848.9960	-7.2	-0.009
20C	15%	824.0137	848.9960	-7.7	-0.009
	-15%	824.0137	848.9960	-7.4	-0.009
	End Point	824.0137	848.9960	-8.1	-0.010

CDMA 1xRTT BC1

Limit		1850	1910	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	1850.5637	1909.4331		
Extreme (50C)		1850.5637	1909.4331	16.5	0.009
Extreme (40C)		1850.5637	1909.4331	16.6	0.009
Extreme (30C)		1850.5637	1909.4331	17.6	0.009
Extreme (10C)		1850.5637	1909.4331	16.3	0.009
Extreme (0C)		1850.5637	1909.4331	15.7	0.008
Extreme (-10C)		1850.5637	1909.4331	14.3	0.008
Extreme (-20C)		1850.5637	1909.4331	14.9	0.008
Extreme (-30C)		1850.5637	1909.4331	14.0	0.007
20C	15%	1850.5637	1909.4331	15.4	0.008
	-15%	1850.5637	1909.4331	15.9	0.008
	End Point	1850.5637	1909.4331	15.7	0.008

9.4.3. WCDMA

Test Engineer ID:	12981	Test Date:	5/12/2021

WCDMA REL 99 BAND 5

Limit		824	849	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	824.1184	848.8766		
Extreme (50C)		824.1184	848.8766	1.5	0.002
Extreme (40C)		824.1184	848.8766	1.3	0.002
Extreme (30C)		824.1184	848.8766	1.4	0.002
Extreme (10C)		824.1184	848.8766	0.7	0.001
Extreme (0C)		824.1184	848.8766	-0.6	-0.001
Extreme (-10C)		824.1184	848.8766	-0.7	-0.001
Extreme (-20C)		824.1184	848.8766	-0.8	-0.001
Extreme (-30C)		824.1184	848.8766	-0.8	-0.001
20C	15%	824.1184	848.8766	0.6	0.001
	-15%	824.1184	848.8766	0.9	0.001
	End Point	824.1184	848.8766	0.9	0.001

WCDMA REL 99 BAND 2

Limit		1850	1910	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	1850.1417	1909.8666		
Extreme (50C)		1850.1417	1909.8666	16.8	0.009
Extreme (40C)		1850.1417	1909.8666	14.7	0.008
Extreme (30C)		1850.1417	1909.8666	13.6	0.007
Extreme (10C)		1850.1417	1909.8666	14.7	0.008
Extreme (0C)		1850.1417	1909.8666	13.5	0.007
Extreme (-10C)		1850.1417	1909.8666	12.8	0.007
Extreme (-20C)		1850.1417	1909.8666	11.3	0.006
Extreme (-30C)		1850.1417	1909.8666	11.1	0.006
20C	15%	1850.1417	1909.8666	13.7	0.007
	-15%	1850.1417	1909.8666	13.6	0.007
	End Point	1850.1417	1909.8666	13.3	0.007

WCDMA REL 99 BAND 4

Limit		1710	1755	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (20C)	Normal	1710.1484	1754.8516		
Extreme (50C)		1710.1484	1754.8516	17.7	0.010
Extreme (40C)		1710.1484	1754.8516	16.2	0.009
Extreme (30C)		1710.1484	1754.8516	14.2	0.008
Extreme (10C)		1710.1484	1754.8516	12.7	0.007
Extreme (0C)		1710.1484	1754.8516	6.0	0.003
Extreme (-10C)		1710.1484	1754.8516	-6.5	-0.004
Extreme (-20C)		1710.1484	1754.8516	-8.0	-0.005
Extreme (-30C)		1710.1484	1754.8516	-8.9	-0.005
20C	15%	1710.1484	1754.8516	13.6	0.008
	-15%	1710.1484	1754.8516	12.7	0.007
	End Point	1710.1484	1754.8516	13.6	0.008

9.5. PEAK-TO-AVERAGE POWER RATIO

LIMIT

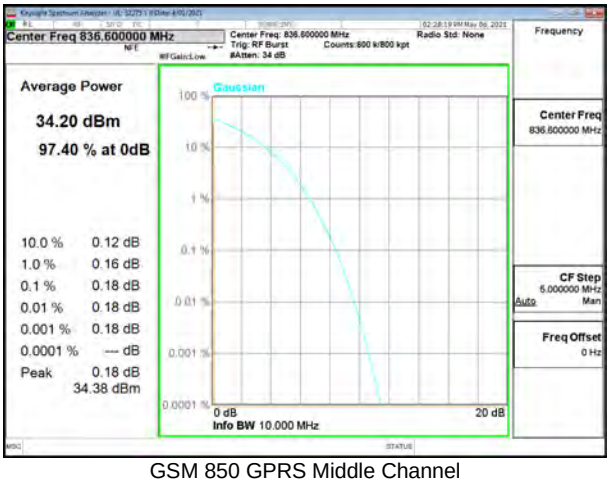
In addition, the peak-to-average power ratio (PAPR) of the transmitter shall not exceed 13 dB for more than 0.1% of the time and shall use a signal corresponding to the highest PAPR during periods of continuous transmission.

RESULT

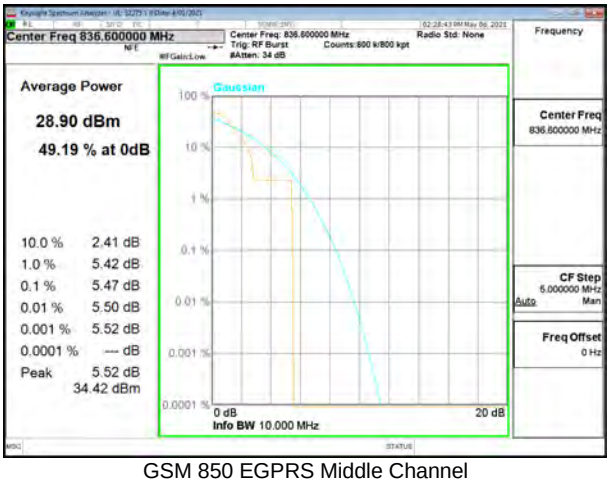
Ant 1 was used to measure as the worst case. The results from all CCDF plots are passed with 13dB peak-to-average power ratio criteria.

Test Engineer ID:	52275	**Test Date:**	5/6/2021

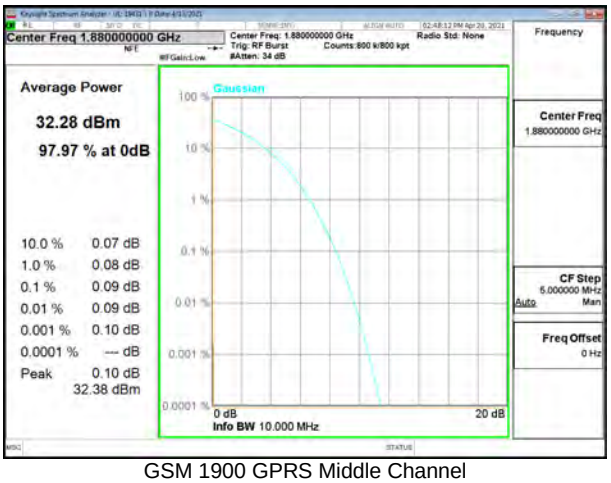
9.5.1. GSM



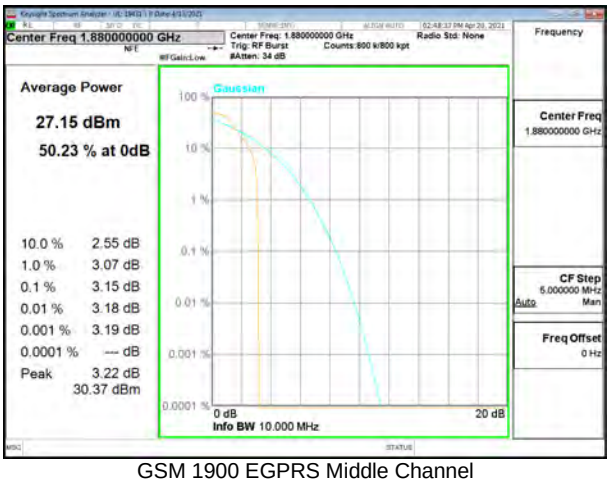
GSM 850 GPRS Middle Channel



GSM 850 EGPRS Middle Channel

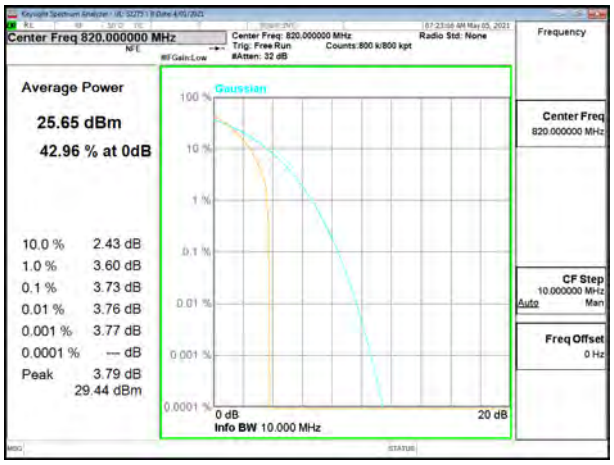


GSM 1900 GPRS Middle Channel

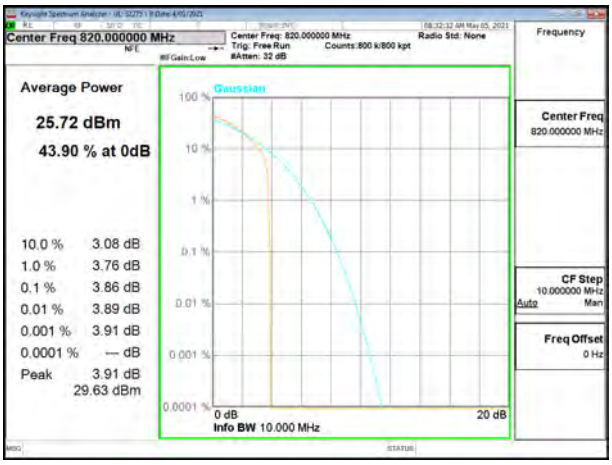


GSM 1900 EGPRS Middle Channel

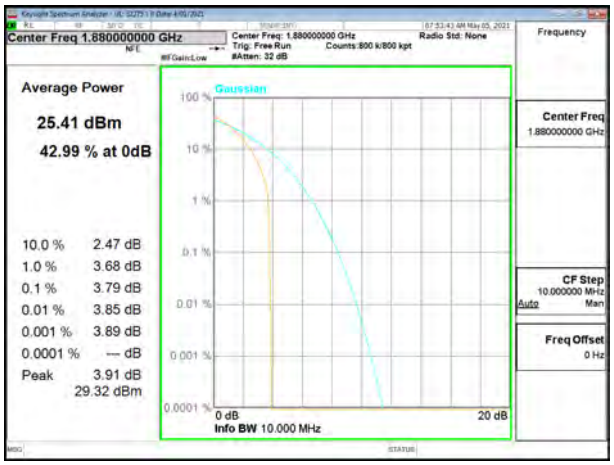
9.5.2. CDMA



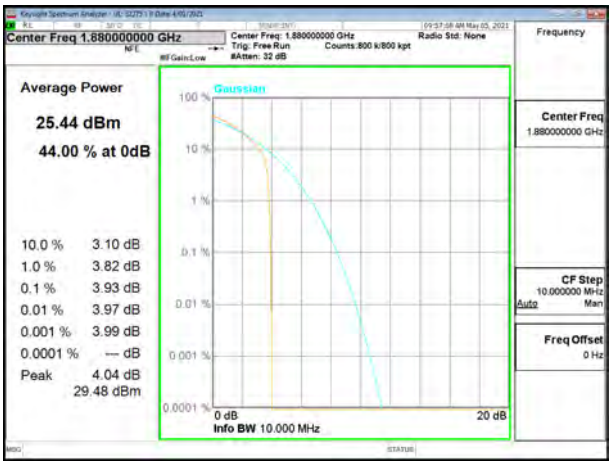
CDMA BC10 1xRTT Middle Channel



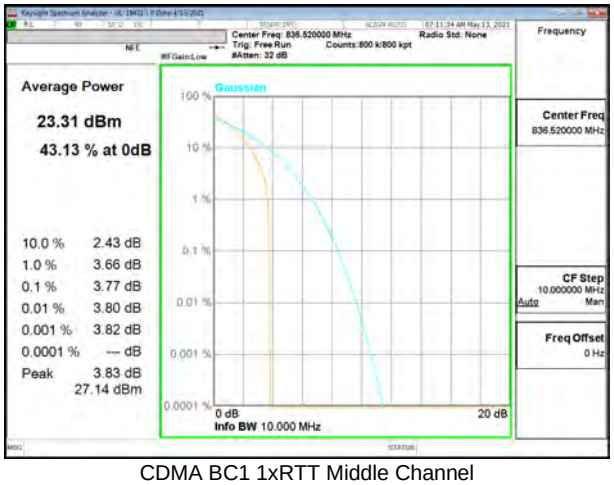
CDMA BC10 1xEV-DO Rev A Middle Channel



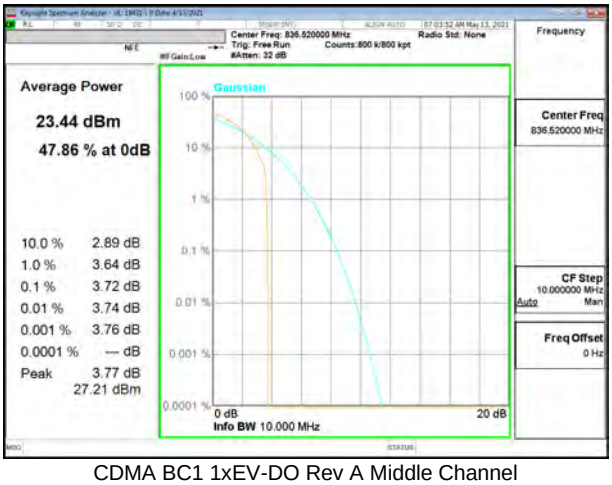
CDMA BC0 1xRTT Middle Channel



CDMA BC0 1xEV-DO Rev A Middle Channel

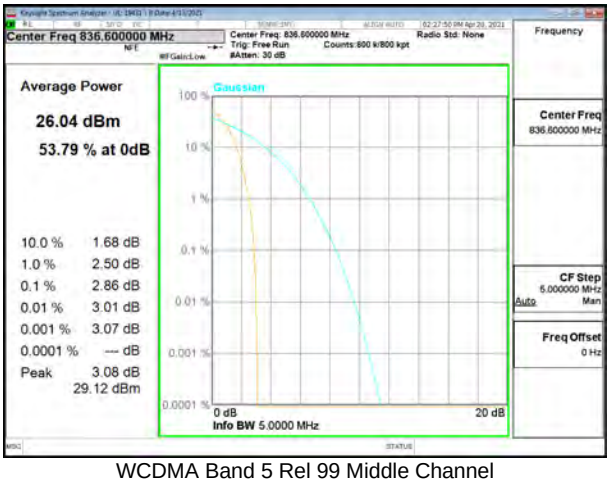


CDMA BC1 1xRTT Middle Channel

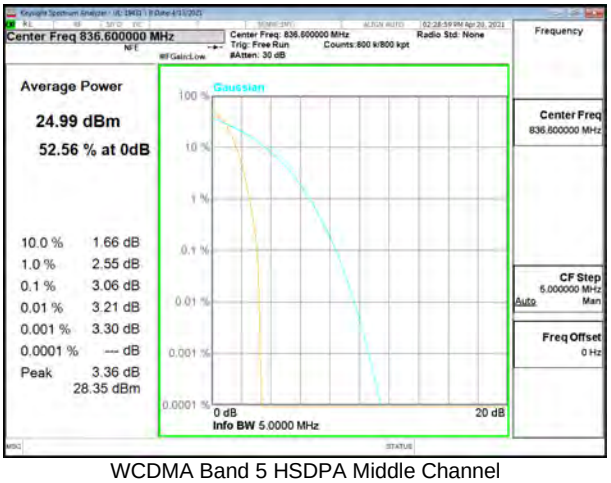


CDMA BC1 1xEV-DO Rev A Middle Channel

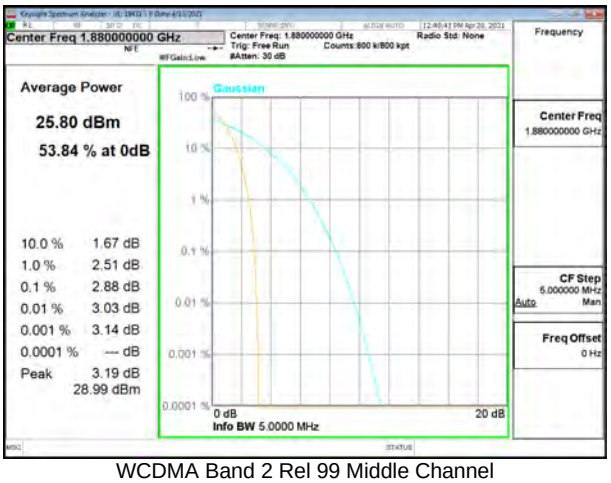
9.5.3. WCDMA



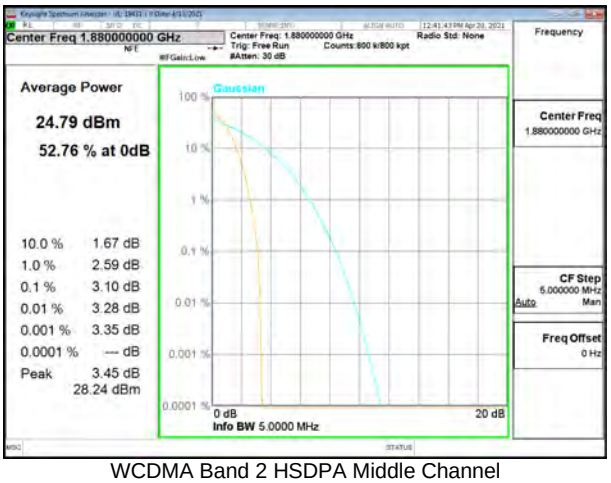
WCDMA Band 5 Rel 99 Middle Channel



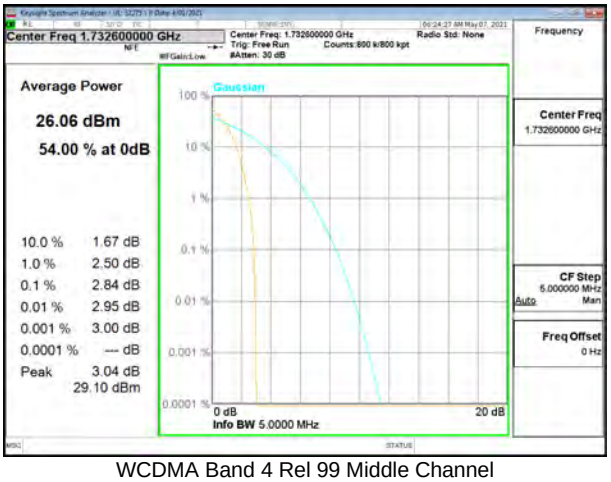
WCDMA Band 5 HSDPA Middle Channel



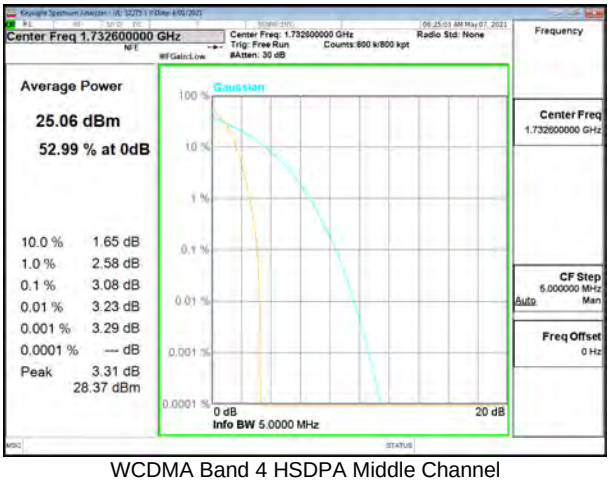
WCDMA Band 2 Rel 99 Middle Channel



WCDMA Band 2 HSDPA Middle Channel



WCDMA Band 4 Rel 99 Middle Channel



WCDMA Band 4 HSDPA Middle Channel

10. RADIATED TEST RESULTS

Radiated measurement using the Field Strength Method

Using the test configuration shown in Figure 6 below, We measure the radiated emissions directly from the EUT and convert the measured field strength or received power to ERP or EIRP, as required, for comparison to the applicable limits. As stated in 5.5.1 of ANSI C63.26-2015, the field strength measurement method using a test site validated to the requirements of ANSI C63.4 is an alternative to the substitution measurement method.

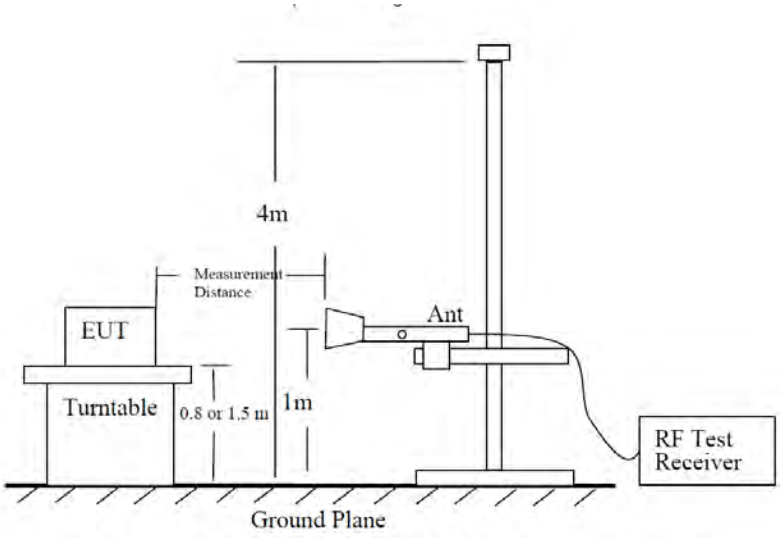


Figure 6—Test site-up for radiated ERP and/or EIRP measurements

Radiated Power Measurement Calculation According to ANSI C63.26-2015

a) E (dBµV/m) = Measured amplitude level (dBµV) + Cable Loss (dB) + Antenna Factor (dB/m).
b) E (dBµV/m) = Measured amplitude level (dBm) + 107 + Cable Loss (dB) + Antenna Factor (dB/m).
c) E (dBµV/m) = EIRP (dBm) − 20log(D) + 104.8; where D is the measurement distance (in the far field region) in m.
d) EIRP (dBm) = E (dBµV/m) + 20log(D) − 104.8; where D is the measurement distance (in the far field region) in m.

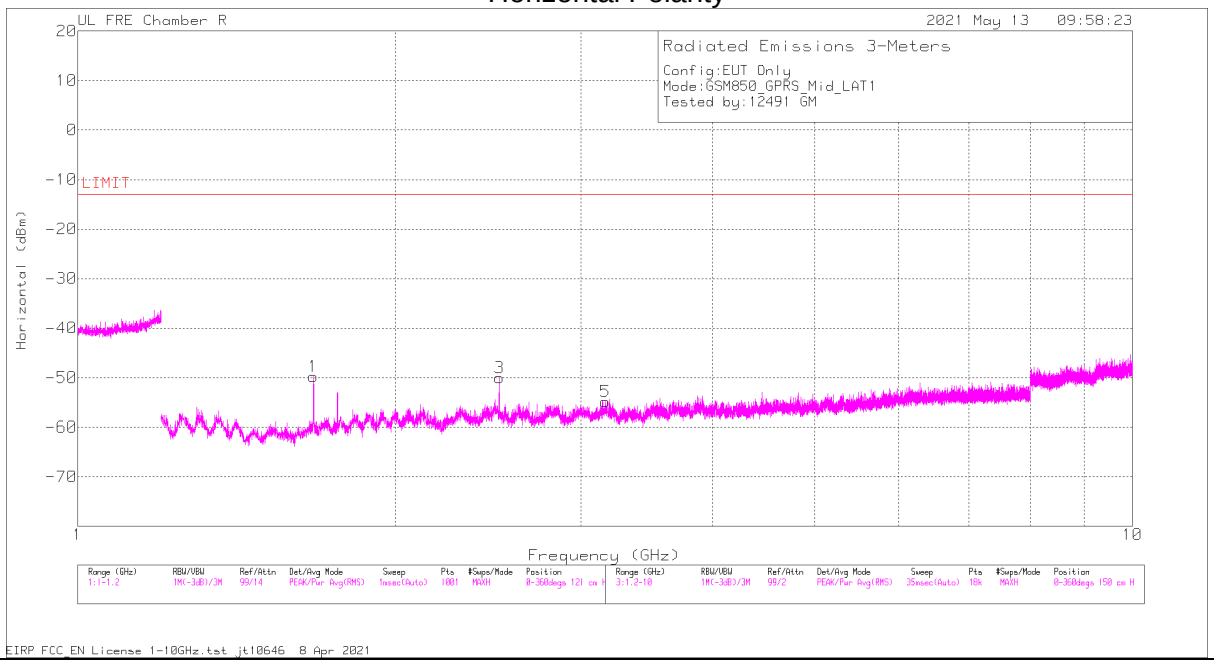
So, from d)
The measuring distance is usually at 3m, then 20*Log(3)=9.5424

Then, EIRP (dBm) = E (dBµV/m) + 9.5424 − 104.8 = E (dBµV/m) – 95.2576

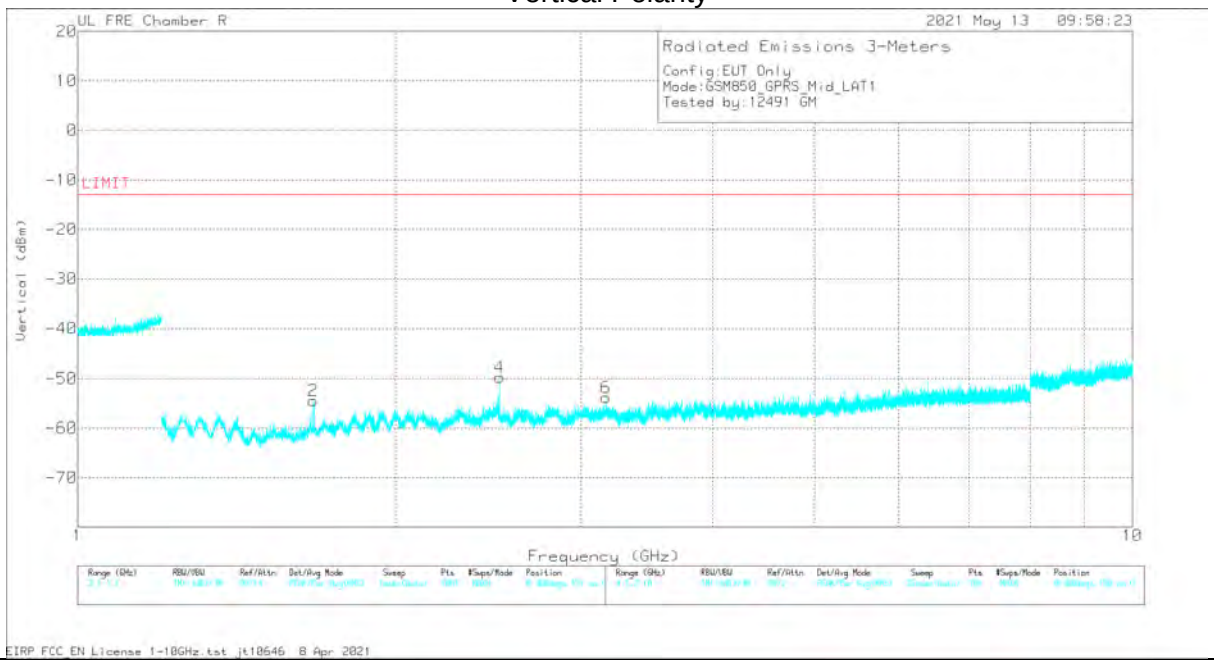
Note that: we do confidence check to our chambers every day to see if any degradation from expected/normal reading reference data. Also we do ambient check to all our chambers every month.

10.1. Example Plot

Horizontal Polarity



Vertical Polarity



Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl (dB)	HPF 1.2GHz T1737 1-18GHz	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
1.67324	66.09	Pk	28.9	-45.5	.7	-95.2	-45.01	-13	-32.01	H
2.50981	62.44	Pk	32.6	-45.1	.7	-95.2	-44.58	-13	-31.56	H
3.16652	52.59	Pk	32.9	-42.1	.5	-95.2	-51.31	-13	-38.31	H
1.67335	63.07	Pk	28.9	-45.5	.7	-95.2	-48.03	-13	-35.03	V
2.50991	60.64	Pk	32.6	-45.1	.7	-95.2	-46.36	-13	-33.36	V
3.16641	52.63	Pk	32.9	-42.1	.5	-95.2	-51.27	-13	-38.27	V

Pk - Peak detector

EIRP FCC_EN License 1-18GHz.tst jt10646 15 Jun 2020
Rev 9.5 06 Mar 2020

10.2. FIELD STRENGTH OF SPURIOUS RADIATION, ABOVE 1GHz, ANT 1

RULE PART(S)

FCC: §2.1053, §22.917, §24.238, §27.53 and §90.691.
ISED: RSS132§5.5; RSS133§6.5 and RSS139§6.6

LIMIT

FCC: §22.917(a), §24.238(a), §27.53 (h), §90.691
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.

RSS132§5.5
Mobile and base station equipment shall comply with the limits in (i) and (ii) below.

(i) In the first 1.0 MHz band immediately outside and adjacent to each of the sub-bands specified in Section 5.1, the power of emissions per any 1% of the occupied bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least 43 + 10 log10p (watts).

(ii) After the first 1.0 MHz immediately outside and adjacent to each of the sub-bands, the power of emissions in any100 kHz bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least43 + 10 log10 p (watts). If the measurement is performed using 1% of the occupied bandwidth, power integration over 100 kHz is required.

RSS133§6.5.1
Equipment shall comply with the limits in (i) and (ii) below.

(i) In the 1.0 MHz bands immediately outside and adjacent to the equipment's operating frequency block, the emission power per any 1% of the emission bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least 43 + 10 log10p(watts).

(ii) After the first 1.0 MHz, the emission power in any 1 MHz bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least 43 + 10 log10p (watts). If the measurement is performed using 1% of the emission bandwidth, power integration over 1.0 MHz is required.

RSS139§6.6

(i) In the first 1.0 MHz bands immediately outside and adjacent to the equipment's smallest operating frequency block,Footnote2 which can contain the equipment's occupied bandwidth, the emission power per any 1% of the emission bandwidth shall be attenuated below the transmitter output power P (in dBW) by at least43 + 10 log10 p (watts) dB.

(ii) After the first 1.0 MHz outside the equipment's smallest operating frequency block, which can contain the equipment's occupied bandwidth, the emission power in any 1 MHz bandwidth shall be attenuated below the transmitter output power P (in dBW) by at least 43 + 10 log10 p (watts) dB.

TEST PROCEDURE

KDB 971168 D01

RESULTS

10.2.1. GSM 850

GPRS MODE

Project #:	13573771
Date:	4/16/2021
Test Engineer:	12491
Configuration:	EUT Only
Mode:	GPRS 850
Chamber #:	Chamber R

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213973 (dB/m)	Amp/Cbl (dB)	HPF 1.2GHz T1737 1-18GHz	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 824.2 MHz										
1.73831	61.22	Pk	29.7	-45.5	.7	-95.2	-49.08	-13	-36.08	H
2.47187	62.83	Pk	32.3	-45.2	.5	-95.2	-44.77	-13	-31.77	H
6.00188	50.32	Pk	35.2	-40	.8	-95.2	-48.88	-13	-35.88	H
1.73834	58.66	Pk	29.7	-45.5	.7	-95.2	-51.64	-13	-38.64	V
2.47257	59.25	Pk	32.3	-45.2	.5	-95.2	-48.35	-13	-35.35	V
6.00237	50.41	Pk	35.2	-40	.8	-95.2	-48.79	-13	-35.79	V
Mid Channel, 836.6 MHz										
1.67324	66.09	Pk	28.9	-45.5	.7	-95.2	-45.01	-13	-32.01	H
2.50981	62.44	Pk	32.6	-45.1	.7	-95.2	-44.58	-13	-31.56	H
3.16652	52.59	Pk	32.9	-42.1	.5	-95.2	-51.31	-13	-38.31	H
1.67335	63.07	Pk	28.9	-45.5	.7	-95.2	-48.03	-13	-35.03	V
2.50991	60.64	Pk	32.6	-45.1	.7	-95.2	-46.36	-13	-33.36	V
3.16641	52.63	Pk	32.9	-42.1	.5	-95.2	-51.27	-13	-38.27	V
High Channel, 848.8 MHz										
1.69736	55.67	Pk	28.5	-45.1	.6	-95.2	-55.53	-13	-42.53	H
1.69796	55.15	Pk	28.6	-45	.6	-95.2	-55.85	-13	-42.85	V
2.54562	55.3	Pk	32.1	-44.2	.6	-95.2	-51.4	-13	-38.4	H
2.54772	55	Pk	32.1	-44.3	.6	-95.2	-51.8	-13	-38.8	V
3.39343	52.01	Pk	32.5	-42.2	.6	-95.2	-52.29	-13	-39.29	V
3.39502	52.61	Pk	32.5	-42.1	.6	-95.2	-51.59	-13	-38.59	H

Pk – Peak Detector

EGPRS MODE

Project #:	13573771
Date:	4/16/2021
Test Engineer:	12491 GM, 19172 BD
Configuration:	EUT Only
Mode:	EGPRS 850
Chamber #:	Chamber R, Q

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213973 (dB/m)	Amp/Cbl (dB)	HPF 1.2GHz T1737 1-18GHz	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 824.2 MHz										
1.6484	56.22	Pk	28.8	-45.6	.7	-95.2	-55.08	-13	-42.08	V
1.65132	55.15	Pk	28.8	-45.6	.8	-95.2	-56.05	-13	-43.05	H
2.47308	55.46	Pk	32.3	-45.2	.5	-95.2	-52.14	-13	-39.14	V
2.47418	55.56	Pk	32.3	-45.2	.5	-95.2	-52.04	-13	-39.04	H
3.29518	50.49	Pk	32.4	-41.7	.8	-95.2	-53.21	-13	-40.21	V
3.296	51.22	Pk	32.4	-41.7	.8	-95.2	-52.48	-13	-39.48	H
Mid Channel, 836.6 MHz										
1.67326	60.55	Pk	28.9	-45.5	.7	-95.2	-50.55	-13	-37.55	V
1.67444	55.94	Pk	28.9	-45.5	.7	-95.2	-55.16	-13	-42.16	H
2.49969	56.7	Pk	32.6	-45.1	.6	-95.2	-50.4	-13	-37.4	V
2.50303	55.34	Pk	32.6	-45.1	.6	-95.2	-51.76	-13	-38.76	H
3.34609	51.86	Pk	32.3	-41.7	.5	-95.2	-52.24	-13	-39.24	H
3.34977	51.78	Pk	32.3	-41.7	.5	-95.2	-52.32	-13	-39.32	V
High Channel, 848.8 MHz										
1.6958	55.43	Pk	28.5	-45.1	.7	-95.2	-55.67	-13	-42.67	H
1.69618	54.76	Pk	28.5	-45.1	.7	-95.2	-56.34	-13	-43.34	V
2.5459	55.19	Pk	32.1	-44.2	.6	-95.2	-51.51	-13	-38.51	H
2.54819	54.79	Pk	32.1	-44.2	.6	-95.2	-51.91	-13	-38.91	V
3.39605	52.24	Pk	32.5	-42.2	.6	-95.2	-52.06	-13	-39.06	V
3.3971	51.95	Pk	32.5	-42.1	.6	-95.2	-52.25	-13	-39.25	H

Pk – Peak Detector

10.2.2. GSM 1900

GPRS MODE

Project #:	13573771
Date:	7/23/2021
Test Engineer:	50820 EC
Configuration:	EUT Only
Mode:	GPRS 1900
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213832 (dB/m)	Amp/Cbl (dB)	HPF 2.7GHz T772 1-18GHz	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 1850.2MHz										
3.7012	40.73	Pk	33.5	-31.1	1	-95.2	-51.07	-13	-38.07	H
5.55087	41.56	Pk	34.5	-29.7	1	-95.2	-47.84	-13	-34.84	H
7.39853	37.28	Pk	35.7	-27.4	1	-95.2	-48.62	-13	-35.62	H
3.69872	40.98	Pk	33.5	-31.2	1	-95.2	-50.92	-13	-37.92	V
5.5507	40.48	Pk	34.5	-30	1	-95.2	-49.22	-13	-36.22	V
7.40122	37.64	Pk	35.8	-28.6	1	-95.2	-49.36	-13	-36.36	V
Mid Channel, 1880MHz										
3.76037	41.52	Pk	33.6	-32	1	-95.2	-52.08	-13	-38.08	V
3.76043	41.96	Pk	33.6	-32	1	-95.2	-51.64	-13	-37.64	H
5.63814	40.28	Pk	35	-30	1	-95.2	-49.92	-13	-35.92	V
5.64124	40.59	Pk	35	-30.1	1	-95.2	-49.71	-13	-35.71	H
7.51948	37.07	Pk	35.7	-26.1	1	-95.2	-48.53	-13	-34.53	H
7.52178	36.9	Pk	35.8	-26.1	1	-95.2	-48.6	-13	-34.6	V
High Channel, 1909.8MHz										
3.81992	42.24	Pk	33.7	-31.8	1	-95.2	-51.06	-13	-37.06	H
3.82055	41.93	Pk	33.7	-31.8	1	-95.2	-51.37	-13	-37.37	V
5.7291	44.2	Pk	34.8	-29	1	-95.2	-45.2	-13	-31.2	H
5.7294	41.63	Pk	34.8	-29	1	-95.2	-47.77	-13	-33.77	V
7.63852	36.78	Pk	35.9	-26.5	1	-95.2	-49.02	-13	-35.02	V
7.64043	37.95	Pk	35.9	-26.6	1	-95.2	-47.95	-13	-33.95	H

Pk – Peak Detector

EGPRS MODE

Project #:	13573771
Date:	4/1/2021
Test Engineer:	50820 EC
Configuration:	EUT Only
Mode:	EGPRS 1900
Chamber #:	Chamber O

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213832 (dB/m)	Amp/Cbl (dB)	HPF 2.7GHz T772 1-18GHz	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 1850.2MHz										
3.7017	40.91	Pk	33.5	-31.1	1	-95.2	-50.89	-13	-37.89	H
5.55034	39.26	Pk	34.5	-29.7	1	-95.2	-50.14	-13	-37.14	H
7.40051	37.59	Pk	35.8	-27.4	1	-95.2	-48.21	-13	-35.21	H
3.70124	41.7	Pk	33.5	-31.2	1	-95.2	-50.2	-13	-37.2	V
5.55253	39.42	Pk	34.4	-30	1	-95.2	-50.38	-13	-37.38	V
7.40085	37.91	Pk	35.8	-27.6	1	-95.2	-48.09	-13	-35.09	V
Mid Channel, 1880MHz										
5.64051	39.83	Pk	34.6	-29.2	1	-95.2	-48.97	-13	-35.97	H
7.52022	36.75	Pk	35.7	-27.3	1	-95.2	-49.05	-13	-36.05	H
9.39815	36.12	Pk	36.5	-25.3	1	-95.2	-46.88	-13	-33.88	H
5.63968	38.6	Pk	34.6	-29.2	1	-95.2	-50.2	-13	-37.2	V
7.51884	37.06	Pk	35.7	-27.5	1	-95.2	-48.94	-13	-35.94	V
9.40007	39.25	Pk	36.5	-25.6	1	-95.2	-44.05	-13	-31.05	V
High Channel, 1909.8MHz										
3.82043	40.83	Pk	33.5	-31.7	1	-95.2	-51.57	-13	-38.57	H
5.73051	38.78	Pk	34.7	-29.2	1	-95.2	-49.92	-13	-36.92	H
7.64077	36.05	Pk	35.9	-26.8	1	-95.2	-49.05	-13	-36.05	H
3.82169	40.23	Pk	33.5	-31.4	1	-95.2	-51.87	-13	-38.87	V
5.7299	38.82	Pk	34.7	-29.3	1	-95.2	-49.98	-13	-36.98	V
7.64112	36.57	Pk	35.9	-27	1	-95.2	-48.73	-13	-35.73	V

Pk - Peak detector

10.2.3. CDMA BC10

1xRTT MODE

Project #:	13573771
Date:	5/12/2021
Test Engineer:	45258
Configuration:	EUT Only
Mode:	1xRTT BC10
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T962 (dB/m)	Amp/Cbl (dB)	HPF 1.2GHz T1737 1-18GHz	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 817.25 MHz										
1.63489	43.61	Pk	25	-27.8	.7	-95.2	-53.69	-13	-40.69	H
2.45261	41.57	Pk	28.8	-26.7	.5	-95.2	-51.03	-13	-38.03	H
3.27128	36.45	Pk	31.3	-25.5	.7	-95.2	-52.25	-13	-39.25	H
1.63429	38.26	Pk	25	-27.8	.7	-95.2	-59.04	-13	-46.04	V
2.45084	38.32	Pk	28.8	-26.7	.5	-95.2	-54.28	-13	-41.28	V
3.27002	36.12	Pk	31.3	-25.5	.6	-95.2	-52.68	-13	-39.68	V
Mid Channel, 820 MHz										
1.64144	46.47	Pk	25	-27.8	.7	-95.2	-50.83	-13	-37.83	H
2.46215	37.54	Pk	28.9	-26.6	.5	-95.2	-54.86	-13	-41.86	H
3.28086	36.79	Pk	31.4	-25.3	.8	-95.2	-51.51	-13	-38.51	H
1.64196	40.2	Pk	25	-27.8	.7	-95.2	-57.1	-13	-44.1	V
2.46258	37.84	Pk	28.9	-26.6	.5	-95.2	-54.56	-13	-41.56	V
3.28185	36.67	Pk	31.4	-25.4	.8	-95.2	-51.73	-13	-38.73	V
High Channel, 822.75 MHz										
1.76958	37.98	Pk	25.8	-27.5	.6	-95.2	-58.32	-13	-45.32	H
2.45091	41.26	Pk	28.8	-26.7	.5	-95.2	-51.34	-13	-38.34	H
3.27579	36.47	Pk	31.3	-25.4	.7	-95.2	-52.13	-13	-39.13	H
1.76572	37.79	Pk	25.7	-27.6	.6	-95.2	-58.71	-13	-45.71	V
2.45268	37.81	Pk	28.8	-26.7	.5	-95.2	-54.79	-13	-41.79	V
3.27568	36.52	Pk	31.3	-25.4	.7	-95.2	-52.08	-13	-39.08	V

1xEV-DO REV A MODE

Project #:	13573771
Date:	5/12/2021
Test Engineer:	45258
Configuration:	EUT Only
Mode:	1xEV-DO REV A BC10
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T962 (dB/m)	Amp/Cbl (dB)	HPF 1.2GHz T1737 1-18GHz	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 817.75 MHz										
1.63409	37.87	Pk	25	-27.8	.7	-95.2	-59.43	-13	-46.43	H
2.45081	37.23	Pk	28.8	-26.7	.5	-95.2	-55.37	-13	-42.37	H
3.27055	36.78	Pk	31.3	-25.5	.7	-95.2	-51.92	-13	-38.92	H
1.63463	38.97	Pk	25	-27.8	.7	-95.2	-58.33	-13	-45.33	V
2.45144	37.29	Pk	28.8	-26.7	.5	-95.2	-55.31	-13	-42.31	V
3.27018	36.02	Pk	31.3	-25.5	.7	-95.2	-52.68	-13	-39.68	V
Mid Channel, 820 MHz										
1.64059	37.87	Pk	25	-27.8	.7	-95.2	-59.43	-13	-46.43	H
2.45926	37.4	Pk	28.9	-26.6	.5	-95.2	-55.0	-13	-42.0	H
3.28388	37.18	Pk	31.3	-25.4	.8	-95.2	-51.32	-13	-38.32	H
1.64024	38.88	Pk	25	-27.8	.7	-95.2	-58.42	-13	-45.42	V
2.46206	36.75	Pk	28.9	-26.6	.5	-95.2	-55.65	-13	-42.65	V
3.28267	36.63	Pk	31.3	-25.4	.8	-95.2	-51.87	-13	-38.87	V
High Channel, 822.75 MHz										
1.64637	41.13	Pk	24.9	-27.8	.7	-95.2	-56.27	-13	-43.27	H
2.46863	37.61	Pk	28.9	-26.7	.5	-95.2	-54.89	-13	-41.89	H
3.28949	37.11	Pk	31.2	-25.4	.8	-95.2	-51.49	-13	-38.49	H
1.64522	38.49	Pk	25	-27.8	.7	-95.2	-58.81	-13	-45.81	V
2.46971	37.45	Pk	28.9	-26.7	.5	-95.2	-55.05	-13	-38.49	V
3.29221	37.01	Pk	31.2	-25.4	.8	-95.2	-51.59	-13	-38.59	V

10.2.4. CDMA BC0

1xRTT MODE

Project #:	13573771
Date:	5/11/21
Test Engineer:	45258
Configuration:	EUT Only
Mode:	1xRTT BC0
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T962 (dB/m)	Amp/Cbl (dB)	HPF 1.2GHz T1737 1-18GHz	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 824.7 MHz										
1.6499	45.98	Pk	24.9	-27.8	.8	-95.2	-51.32	-13	-38.32	H
2.47481	38.27	Pk	29	-26.6	.5	-95.2	-54.03	-13	-41.03	H
3.30147	36.07	Pk	31.1	-25.6	.8	-95.2	-52.83	-13	-39.83	H
1.65026	40.92	Pk	24.9	-27.8	.8	-95.2	-56.38	-13	-43.38	V
2.47519	38.06	Pk	29	-26.6	.5	-95.2	-54.24	-13	-41.24	V
3.29897	36.48	Pk	31.2	-25.5	.8	-95.2	-52.22	-13	-39.22	V
Mid Channel, 836.52 MHz										
1.67358	45.99	Pk	25	-27.8	.7	-95.2	-51.31	-13	-38.31	H
2.50792	36.27	Pk	29.1	-26.5	.7	-95.2	-55.63	-13	-42.63	H
3.34607	36.74	Pk	30.9	-25.6	.6	-95.2	-52.56	-13	-39.56	H
1.67371	41.41	Pk	25	-27.8	.7	-95.2	-55.89	-13	-42.89	V
2.50905	35.64	Pk	29.1	-26.6	.7	-95.2	-56.36	-13	-43.36	V
3.34471	36.19	Pk	31	-25.6	.6	-95.2	-53.01	-13	-40.01	V
High Channel, 848.31 MHz										
1.69718	48.79	Pk	25	-27.6	.7	-95.2	-48.31	-13	-35.31	H
2.54389	41.35	Pk	29.2	-26.6	.7	-95.2	-50.55	-13	-37.55	H
3.39418	37.54	Pk	30.7	-25.5	.6	-95.2	-51.86	-13	-38.86	H
1.69589	37.9	Pk	25	-27.6	.7	-95.2	-59.2	-13	-46.2	V
2.54539	38.6	Pk	29.2	-26.6	.7	-95.2	-53.3	-13	-40.3	V
3.39352	37.54	Pk	30.7	-25.5	.6	-95.2	-51.86	-13	-38.86	V

1xEV-DO REV A MODE

Project #:	13573771
Date:	5/11/21
Test Engineer:	45258
Configuration:	EUT Only
Mode:	1xEV-DO REV A BC0
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T962 (dB/m)	Amp/Cbl (dB)	HPF 1.2GHz T1737 1-18GHz	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 824.7 MHz										
1.69509	37.87	Pk	25	-27.6	.7	-95.2	-59.23	-13	-46.23	H
2.5471	36.95	Pk	29.3	-26.6	.7	-95.2	-54.85	-13	-41.85	H
3.39395	36.32	Pk	30.7	-25.5	.6	-95.2	-53.08	-13	-40.08	H
1.69723	38.42	Pk	25	-27.6	.7	-95.2	-58.68	-13	-45.68	V
2.54464	37.33	Pk	29.2	-26.6	.7	-95.2	-54.57	-13	-41.57	V
3.39399	36.1	Pk	30.7	-25.5	.6	-95.2	-53.3	-13	-40.3	V
Mid Channel, 836.52 MHz										
1.67779	38.11	Pk	24.9	-27.8	.7	-95.2	-59.29	-13	-46.29	H
2.5093	36.21	Pk	29.1	-26.6	.7	-95.2	-55.79	-13	-42.79	H
3.34776	36.82	Pk	31	-25.6	.6	-95.2	-52.38	-13	-39.38	H
1.67558	38.91	Pk	25	-27.8	.7	-95.2	-58.39	-13	-45.39	V
2.51075	37.15	Pk	29.1	-26.6	.7	-95.2	-54.85	-13	-41.85	V
3.34752	37.2	Pk	31	-25.6	.6	-95.2	-52.0	-13	-39.0	V
High Channel, 848.31 MHz										
1.69557	38.54	Pk	25	-27.6	.7	-95.2	-58.56	-13	-45.56	H
2.54667	37.27	Pk	29.3	-26.6	.7	-95.2	-54.53	-13	-41.53	H
3.39412	36.87	Pk	30.7	-25.5	.6	-95.2	-52.53	-13	-39.53	H
1.69708	38.41	Pk	25	-27.6	.7	-95.2	-58.69	-13	-45.69	V
2.54678	37.84	Pk	29.3	-26.6	.7	-95.2	-53.96	-13	-40.96	V
3.39497	36.92	Pk	30.7	-25.5	.6	-95.2	-52.48	-13	-39.48	V

10.2.5. CDMA BC1

1xRTT MODE

Project #:	13573771
Date:	5/11/21
Test Engineer:	45258
Configuration:	EUT Only
Mode:	1xRTT BC1
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T962 (dB/m)	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 1851.25 MHz									
3.70278	37.42	Pk	30.3	-24.6	-95.2	-52.08	-13	-39.08	H
5.55362	35.96	Pk	33.3	-23.3	-95.2	-49.24	-13	-36.24	H
7.40342	34.14	Pk	36.9	-21	-95.2	-45.16	-13	-32.16	H
3.70242	37.73	Pk	30.3	-24.6	-95.2	-51.77	-13	-38.77	V
5.5519	35.67	Pk	33.3	-23.3	-95.2	-49.53	-13	-36.53	V
7.40496	34.06	Pk	36.9	-21	-95.2	-45.24	-13	-32.24	V
Mid Channel, 1880 MHz									
3.57925	38.74	Pk	30.6	-24.8	-95.2	-50.66	-13	-37.66	H
5.64047	36	Pk	33.1	-22.2	-95.2	-48.3	-13	-35.3	H
7.51929	34.09	Pk	36.7	-20.4	-95.2	-44.81	-13	-31.81	H
3.76053	37.83	Pk	30.7	-24.9	-95.2	-51.57	-13	-38.57	V
5.64199	35.89	Pk	33.2	-22.2	-95.2	-48.31	-13	-35.31	V
7.52068	34.66	Pk	36.7	-20.4	-95.2	-44.24	-13	-31.24	V
High Channel, 1908.75 MHz									
3.81842	37.25	Pk	30.9	-24.6	-95.2	-51.65	-13	-38.65	H
5.72722	37.2	Pk	33	-21.7	-95.2	-46.7	-13	-33.7	H
7.63746	34.29	Pk	36.9	-21.2	-95.2	-45.21	-13	-32.21	H
3.8172	37.19	Pk	31	-24.6	-95.2	-51.61	-13	-38.61	V
5.72607	35.42	Pk	33	-21.7	-95.2	-48.48	-13	-35.48	V
7.63715	34.64	Pk	36.9	-21.2	-95.2	-44.86	-13	-31.86	V

1xEV-DO REV A MODE

Project #:	13573771
Date:	5/11/21
Test Engineer:	45258
Configuration:	EUT Only
Mode:	1xEV-DO REV A BC1
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T962 (dB/m)	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 1851.25 MHz									
3.70274	37.43	Pk	30.3	-24.6	-95.2	-52.07	-13	-39.07	H
5.55213	37.16	Pk	33.3	-23.3	-95.2	-48.04	-13	-35.04	H
7.40458	34.55	Pk	36.9	-21	-95.2	-44.75	-13	-31.75	H
3.70032	-37.41	Pk	30.3	-24.6	-95.2	-52.09	-13	-39.09	V
5.5524	35.61	Pk	33.3	-23.3	-95.2	-49.59	-13	-36.59	V
7.40407	34.71	Pk	36.9	-21	-95.2	-44.59	-13	-31.59	V
Mid Channel, 1880 MHz									
3.76059	37.38	Pk	30.7	-24.9	-95.2	-52.02	-13	-39.02	H
5.6387	37.83	Pk	33.1	-22.3	-95.2	-46.57	-13	-33.57	H
7.5188	34.63	Pk	36.7	-20.4	-95.2	-44.27	-13	-31.27	H
3.76176	37.44	Pk	30.7	-24.9	-95.2	-51.96	-13	-38.96	V
5.64141	35.72	Pk	33.1	-22.2	-95.2	-48.58	-13	-35.58	V
7.52087	33.94	Pk	36.7	-20.4	-95.2	-44.96	-13	-31.96	V
High Channel, 1908.75 MHz									
3.81757	37.52	Pk	30.9	-24.6	-95.2	-51.38	-13	-38.38	H
5.72574	35.09	Pk	33	-21.7	-95.2	-48.81	-13	-35.81	H
7.6359	34.91	Pk	36.9	-21.2	-95.2	-44.59	-13	-31.59	H
3.81533	38.11	Pk	31	-24.6	-95.2	-50.69	-13	-37.69	V
5.72606	35.45	Pk	33	-21.7	-95.2	-48.45	-13	-35.45	V
7.63445	34.4	Pk	36.9	-21.2	-95.2	-45.1	-13	-32.1	V

10.2.6. WCDMA BAND 5

REL 99 MODE

Project #:	13573771
Date:	5/23/21
Test Engineer:	25000
Configuration:	EUT Only
Mode:	REL 99 Band 5
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T962 (dB/m)	Amp/Cbl (dB)	HPF 1.2GHz T1737 1-18GHz	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 826.40 MHz										
1.65157	37.36	Pk	24.9	-27.8	.8	-95.2	-59.94	-13	-46.94	V
1.65613	38.28	Pk	25	-27.8	.8	-95.2	-58.92	-13	-45.92	H
2.47922	37.13	Pk	29	-26.6	.5	-95.2	-55.17	-13	-42.17	H
2.4812	37.34	Pk	29	-26.7	.5	-95.2	-55.06	-13	-42.06	V
3.30391	36.05	Pk	31.1	-25.6	.7	-95.2	-52.95	-13	-39.95	H
3.30415	35.96	Pk	31.1	-25.6	.7	-95.2	-53.04	-13	-40.04	V
Mid Channel, 836.60 MHz										
1.67362	37.9	Pk	25	-27.8	.7	-95.2	-59.4	-13	-46.4	H
1.67392	38.39	Pk	25	-27.8	.7	-95.2	-58.91	-13	-45.91	V
2.51169	37.48	Pk	29.1	-26.6	.7	-95.2	-54.52	-13	-41.52	V
2.52321	36.64	Pk	29.2	-26.6	.8	-95.2	-55.16	-13	-42.16	H
3.34526	37.04	Pk	30.9	-25.6	.6	-95.2	-52.26	-13	-39.26	V
3.34779	36.63	Pk	31	-25.6	.6	-95.2	-52.57	-13	-39.57	H
High Channel, 846.60 MHz										
1.6928	38.07	Pk	25	-27.7	.7	-95.2	-59.13	-13	-46.13	V
1.69289	38.75	Pk	25	-27.7	.7	-95.2	-58.45	-13	-45.45	H
2.53884	37.97	Pk	29.3	-26.7	.8	-95.2	-53.83	-13	-40.83	H
2.54003	37.41	Pk	29.3	-26.7	.7	-95.2	-54.49	-13	-41.49	V
3.385	36.44	Pk	30.8	-25.7	.6	-95.2	-53.06	-13	-40.06	H
3.38708	36.75	Pk	30.8	-25.7	.6	-95.2	-52.75	-13	-39.75	V

HSDPA MODE

Project #:	13573771
Date:	5/23/21
Test Engineer:	25000
Configuration:	EUT Only
Mode:	HSDPA Band 5
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T962 (dB/m)	Amp/Cbl (dB)	HPF 1.2GHz T1737 1-18GHz	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 826.40 MHz										
1.65162	38.04	Pk	24.9	-27.8	.8	-95.2	-59.26	-13	-46.26	V
1.65367	38.19	Pk	24.9	-27.8	.8	-95.2	-59.11	-13	-46.11	H
2.47898	37.31	Pk	29	-26.6	.5	-95.2	-54.99	-13	-41.99	V
2.48124	37.28	Pk	29	-26.7	.5	-95.2	-55.12	-13	-42.12	H
3.30552	36.08	Pk	31.1	-25.7	.7	-95.2	-53.02	-13	-40.02	V
3.30587	36.13	Pk	31.1	-25.7	.7	-95.2	-52.97	-13	-39.97	H
Mid Channel, 836.60 MHz										
1.67282	38.61	Pk	25	-27.8	.7	-95.2	-58.69	-13	-45.69	H
1.67392	39.17	Pk	25	-27.8	.7	-95.2	-58.13	-13	-45.13	V
2.50807	37.31	Pk	29.1	-26.5	.7	-95.2	-54.59	-13	-41.59	H
2.51114	38.21	Pk	29.1	-26.6	.7	-95.2	-53.79	-13	-40.79	V
3.34478	37.2	Pk	31	-25.6	.6	-95.2	-52.0	-13	-39.0	H
3.34761	37.19	Pk	31	-25.6	.6	-95.2	-52.01	-13	-39.01	V
High Channel, 846.60 MHz										
1.69091	37.5	Pk	25	-27.7	.7	-95.2	-59.7	-13	-46.7	V
1.69136	38.16	Pk	25	-27.7	.7	-95.2	-59.04	-13	-46.04	H
2.53927	36.92	Pk	29.3	-26.7	.8	-95.2	-54.88	-13	-41.88	V
2.53999	37.58	Pk	29.3	-26.7	.7	-95.2	-54.32	-13	-41.32	H
3.38603	36.14	Pk	30.8	-25.7	.6	-95.2	-53.36	-13	-40.36	V
3.38769	36.35	Pk	30.8	-25.7	.6	-95.2	-53.15	-13	-40.15	H

10.2.7. WCDMA BAND 2

REL 99 MODE

Project #:	13573771
Date:	4/8/2021
Test Engineer:	50820
Configuration:	EUT Only
Mode:	REL 99 Band 2
Chamber #:	O

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213832 (dB/m)	Amp/Cbl/Fltr/ Pad (dB)	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 1852.4MHz									
3.70341	52.71	Pk	33.5	-42.1	-95.2	-51.09	-13	-38.09	V
3.70634	52.69	Pk	33.5	-42.1	-95.2	-51.11	-13	-38.11	H
5.55586	51.26	Pk	34.4	-40.6	-95.2	-50.14	-13	-37.14	H
5.55673	51.21	Pk	34.4	-40.6	-95.2	-50.19	-13	-37.19	V
7.40933	49.27	Pk	35.7	-38.5	-95.2	-48.73	-13	-35.73	H
7.41195	49.15	Pk	35.7	-38.5	-95.2	-48.85	-13	-35.85	V
Mid Channel, 1880MHz									
3.76026	52.49	Pk	33.5	-41.7	-95.2	-50.91	-13	-37.91	V
3.76058	52.47	Pk	33.5	-41.7	-95.2	-50.93	-13	-37.93	H
5.6386	50.94	Pk	34.6	-40.3	-95.2	-49.96	-13	-36.96	V
5.63987	51.25	Pk	34.6	-40.3	-95.2	-49.65	-13	-36.65	H
7.51905	48.76	Pk	35.7	-38.4	-95.2	-49.14	-13	-36.14	H
7.51922	48.49	Pk	35.7	-38.4	-95.2	-49.41	-13	-36.41	V
High Channel, 1907.6MHz									
3.81447	52.27	Pk	33.5	-41.9	-95.2	-51.33	-13	-38.33	H
3.81638	52.56	Pk	33.5	-41.9	-95.2	-51.04	-13	-38.04	V
5.72131	51.79	Pk	34.7	-39.9	-95.2	-48.61	-13	-35.61	H
5.72185	50.38	Pk	34.7	-39.9	-95.2	-50.02	-13	-37.02	V
7.63139	48.48	Pk	35.9	-38.2	-95.2	-49.02	-13	-36.02	H
7.63191	48.5	Pk	35.9	-38.2	-95.2	-49.0	-13	-36.0	V

Pk - Peak detector

HSDPA MODE

Project #:	13573771
Date:	5/21/21
Test Engineer:	45258
Configuration:	EUT Only
Mode:	HSDPA Band 2
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T962 (dB/m)	Amp/Cbl/Fltr/ Pad (dB)	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 1852.4MHz									
3.7037	38.33	Pk	30.3	-24.6	-95.2	-51.17	-13	-38.17	V
3.70417	37.68	Pk	30.3	-24.6	-95.2	-51.82	-13	-38.82	H
5.55656	36.74	Pk	33.2	-23.3	-95.2	-48.56	-13	-35.56	H
5.55864	36.51	Pk	33.2	-23.4	-95.2	-48.89	-13	-35.89	V
7.41112	34.78	Pk	36.8	-21.1	-95.2	-44.72	-13	-31.72	H
7.41145	34.58	Pk	36.8	-21.1	-95.2	-44.92	-13	-31.92	V
Mid Channel, 1880MHz									
3.75996	37.07	Pk	30.6	-24.9	-95.2	-52.43	-13	-39.43	H
3.76106	37.43	Pk	30.7	-24.9	-95.2	-51.97	-13	-38.97	V
5.63869	36.46	Pk	33.1	-22.3	-95.2	-47.94	-13	-34.94	V
5.63928	36.01	Pk	33.1	-22.3	-95.2	-48.39	-13	-35.39	H
7.52065	34.23	Pk	36.7	-20.4	-95.2	-44.67	-13	-31.67	V
7.52073	34.54	Pk	36.7	-20.4	-95.2	-44.36	-13	-31.36	H
High Channel, 1907.6MHz									
3.81509	37.87	Pk	31	-24.7	-95.2	-51.03	-13	-38.03	H
3.81561	37.23	Pk	31	-24.6	-95.2	-51.57	-13	-38.57	V
5.72297	36.72	Pk	33	-21.7	-95.2	-47.18	-13	-34.18	V
5.72329	35.1	Pk	33	-21.7	-95.2	-48.8	-13	-35.8	H
7.62852	34.84	Pk	36.9	-21.1	-95.2	-44.56	-13	-31.56	H
7.6288	34.52	Pk	36.9	-21.1	-95.2	-44.88	-13	-31.88	V

Pk - Peak detector

10.2.8. WCDMA BAND 4

REL 99 MODE

Project #:	13573771
Date:	4/8/2021
Test Engineer:	50820
Configuration:	EUT Only
Mode:	REL 99 Band 4
Chamber #:	O

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213832 (dB/m)	Amp/Cbl/Fltr/ Pad (dB)	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 1712.4MHz									
3.42458	52.9	Pk	32.7	-42.3	-95.2	-51.9	-13	-38.9	V
3.42688	53.77	Pk	32.7	-42.3	-95.2	-51.03	-13	-38.03	H
5.13624	51.61	Pk	34.2	-41.8	-95.2	-51.19	-13	-38.19	H
5.13867	51.44	Pk	34.2	-41.8	-95.2	-51.36	-13	-38.36	V
6.8501	50.19	Pk	35.6	-39.6	-95.2	-49.01	-13	-36.01	H
6.85033	49.77	Pk	35.6	-39.6	-95.2	-49.43	-13	-36.43	V
Mid Channel, 1732.6MHz									
3.46449	53.45	Pk	32.8	-42.1	-95.2	-51.05	-13	-38.05	V
3.4664	53.68	Pk	32.8	-42.1	-95.2	-50.82	-13	-37.82	H
5.19783	51.81	Pk	34.3	-41.8	-95.2	-50.89	-13	-37.89	H
5.19977	52.69	Pk	34.3	-41.8	-95.2	-50.01	-13	-37.01	V
6.93142	50.06	Pk	35.7	-39.6	-95.2	-49.04	-13	-36.04	H
6.93151	49.91	Pk	35.7	-39.6	-95.2	-49.19	-13	-36.19	V
High Channel, 1752.61MHz									
3.50367	52.41	Pk	32.7	-42.1	-95.2	-52.19	-13	-39.19	V
3.5057	53.31	Pk	32.7	-42.1	-95.2	-51.29	-13	-38.29	H
5.25596	52.28	Pk	34.4	-41.3	-95.2	-49.82	-13	-36.82	H
5.25905	52.22	Pk	34.4	-41.3	-95.2	-49.88	-13	-36.88	V
7.00933	50.44	Pk	35.8	-39.5	-95.2	-48.46	-13	-35.46	H
7.01071	50.39	Pk	35.8	-39.5	-95.2	-48.51	-13	-35.51	V

Pk - Peak detector

HSDPA MODE

Project #:	13573771
Date:	5/21/21
Test Engineer:	45258
Configuration:	EUT Only
Mode:	HSDPA Band 4
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T962 (dB/m)	Amp/Cbl/Fltr/ Pad (dB)	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 1712.4MHz									
3.42394	36.38	Pk	30.5	-24.7	-95.2	-53.02	-13	-40.02	H
3.4259	36.82	Pk	30.5	-24.7	-95.2	-52.58	-13	-39.58	V
5.13391	37.75	Pk	33.8	-22.3	-95.2	-45.95	-13	-32.95	H
5.13415	36.36	Pk	33.8	-22.3	-95.2	-47.34	-13	-34.34	V
6.84837	35.12	Pk	36.1	-21.1	-95.2	-45.08	-13	-32.08	H
6.84993	35.49	Pk	36.1	-21	-95.2	-44.61	-13	-31.61	V
Mid Channel, 1732.6MHz									
3.46558	35.99	Pk	30.3	-24.5	-95.2	-53.41	-13	-40.41	H
3.46765	36.45	Pk	30.3	-24.4	-95.2	-52.85	-13	-39.85	V
5.19707	36.98	Pk	33.7	-23.6	-95.2	-48.12	-13	-35.12	V
5.1999	37.21	Pk	33.7	-23.6	-95.2	-47.89	-13	-34.89	H
6.9292	35.06	Pk	36.3	-20.9	-95.2	-44.74	-13	-31.74	H
6.93061	35.1	Pk	36.3	-20.9	-95.2	-44.7	-13	-31.7	V
High Channel, 1752.61MHz									
3.50319	37.51	Pk	30.2	-24.7	-95.2	-52.19	-13	-39.19	V
3.50616	36.69	Pk	30.3	-24.8	-95.2	-53.01	-13	-40.01	H
5.25653	37.28	Pk	33.5	-23.9	-95.2	-48.32	-13	-35.32	V
5.25866	36.27	Pk	33.4	-23.9	-95.2	-49.43	-13	-36.43	H
7.01047	35.1	Pk	36.6	-22	-95.2	-45.5	-13	-32.5	H
7.01202	35.5	Pk	36.5	-22	-95.2	-45.2	-13	-32.2	V

Pk - Peak detector

10.3. FIELD STRENGTH OF SPURIOUS RADIATION, ABOVE 1GHz, ANT 2

10.3.1. GSM 850

GPRS MODE

Project #:	13573771
Date:	5/13 – 5/23/21
Test Engineer:	12491/25000
Configuration:	EUT Only
Mode:	GSM850 GPRS
Chamber #:	Chamber R/Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl (dB)	HPF 1.2GHz T1737 1-18GHz	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 824.2 MHz										
1.64719	55.44	Pk	28.4	-45.1	.7	-95.2	-55.76	-13	-42.76	V
1.65021	55.66	Pk	28.4	-45.1	.8	-95.2	-55.44	-13	-42.44	H
2.47091	54.07	Pk	32.4	-44.4	.5	-95.2	-52.63	-13	-39.63	H
2.47182	54.53	Pk	32.4	-44.4	.5	-95.2	-52.17	-13	-39.17	V
3.29495	52.27	Pk	32.5	-42.5	.8	-95.2	-52.13	-13	-39.13	V
3.29694	52.55	Pk	32.5	-42.4	.8	-95.2	-51.75	-13	-38.75	H
Mid Channel, 836.6 MHz										
1.67375	55.74	Pk	28.4	-45.1	.7	-95.2	-55.46	-13	-42.46	V
1.67487	55.87	Pk	28.4	-45.1	.7	-95.2	-55.33	-13	-42.33	H
2.51102	54.8	Pk	32.4	-44.4	.7	-95.2	-51.7	-13	-38.7	H
2.5111	54.03	Pk	32.4	-44.4	.7	-95.2	-52.47	-13	-39.47	V
3.34506	52.07	Pk	32.5	-42.2	.5	-95.2	-52.33	-13	-39.33	V
3.34808	51.58	Pk	32.5	-42.2	.5	-95.2	-52.82	-13	-39.82	H
High Channel, 848.8 MHz										
1.69764	38.68	Pk	25	-27.6	.7	-95.2	-58.42	-13	-45.42	V
1.69966	38.56	Pk	25.1	-27.7	.7	-95.2	-58.54	-13	-45.54	H
2.54555	37.14	Pk	29.2	-26.6	.7	-95.2	-54.76	-13	-41.76	V
2.54663	37.29	Pk	29.3	-26.6	.7	-95.2	-54.51	-13	-41.51	H
3.39596	36.78	Pk	30.8	-25.5	.6	-95.2	-52.52	-13	-39.52	V
3.39631	37.15	Pk	30.8	-25.5	.6	-95.2	-52.15	-13	-39.15	H

Pk – Peak Detector

EGPRS MODE

Project #:	13573771
Date:	5/24/21
Test Engineer:	25000
Configuration:	EUT Only
Mode:	GSM850 EGPRS
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl (dB)	HPF 1.2GHz T1737 1-18GHz	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 824.2 MHz										
1.6469	40.46	Pk	24.9	-27.8	.8	-95.2	-56.84	-13	-43.84	V
1.64788	42.32	Pk	24.9	-27.8	.8	-95.2	-54.98	-13	-41.98	H
2.42594	36.98	Pk	28.8	-26.8	.5	-95.2	-55.72	-13	-42.72	V
2.42813	38.22	Pk	28.8	-26.8	.5	-95.2	-54.48	-13	-41.48	H
3.29646	36.72	Pk	31.2	-25.4	.8	-95.2	-51.88	-13	-38.88	H
3.29872	35.41	Pk	31.2	-25.5	.8	-95.2	-53.29	-13	-40.29	V
Mid Channel, 836.6 MHz										
1.67144	42.72	Pk	25	-27.8	.7	-95.2	-54.58	-13	-41.58	H
1.67441	41.96	Pk	25	-27.8	.7	-95.2	-55.34	-13	-42.34	V
2.50744	38.47	Pk	29.1	-26.5	.7	-95.2	-53.43	-13	-40.43	H
2.51062	38.29	Pk	29.1	-26.6	.7	-95.2	-53.71	-13	-40.71	V
3.3471	36.1	Pk	31	-25.6	.6	-95.2	-53.1	-13	-40.1	H
3.34729	36.03	Pk	31	-25.6	.6	-95.2	-53.17	-13	-40.17	V
High Channel, 848.8 MHz										
1.69586	42.29	Pk	25	-27.6	.7	-95.2	-54.81	-13	-41.81	H
1.6983	40.73	Pk	25.1	-27.7	.7	-95.2	-56.37	-13	-43.37	V
2.54703	36.8	Pk	29.3	-26.6	.7	-95.2	-55.0	-13	-42.0	V
2.54722	38.3	Pk	29.3	-26.6	.7	-95.2	-53.5	-13	-40.5	H
3.3933	36.09	Pk	30.7	-25.5	.6	-95.2	-53.31	-13	-40.31	H
3.39607	36	Pk	30.8	-25.5	.6	-95.2	-53.3	-13	-40.3	V

Pk – Peak Detector

10.3.2. GSM 1900

GPRS MODE

Project #:	13573771
Date:	4/2/2021
Test Engineer:	45258
Configuration:	EUT Only
Mode:	GPRS 1900
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213832 (dB/m)	Amp/Cbl (dB)	HPF 2.7GHz T772 1-18GHz	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 1850.2MHz										
3.70031	38.39	Pk	33.2	-32.3	1	-95.2	-55.91	-13	-41.91	H
3.70031	39.92	Pk	33.2	-32.3	1	-95.2	-54.38	-13	-40.38	V
5.55047	36.97	Pk	34.9	-29.7	1	-95.2	-53.03	-13	-39.03	H
5.55047	35.77	Pk	34.9	-29.7	1	-95.2	-54.23	-13	-40.23	V
7.40063	33.05	Pk	35.7	-26.3	1	-95.2	-52.75	-13	-38.75	H
7.40063	34.2	Pk	35.7	-26.3	1	-95.2	-51.6	-13	-37.6	V
Mid Channel, 1880MHz										
3.75948	42.79	Pk	33.5	-32.1	1	-95.2	-51.01	-13	-38.01	V
3.76084	42.55	Pk	33.6	-32	1	-95.2	-51.05	-13	-38.05	H
5.63811	41.3	Pk	35	-30	1	-95.2	-48.9	-13	-35.9	H
5.63941	40.14	Pk	35	-30.1	1	-95.2	-50.16	-13	-37.16	V
7.51929	37.76	Pk	35.7	-26.1	1	-95.2	-47.84	-13	-34.84	H
7.52209	38	Pk	35.8	-26.1	1	-95.2	-47.5	-13	-34.5	V
High Channel, 1909.8MHz										
3.81984	37.64	Pk	33.7	-31.8	1	-95.2	-55.66	-13	-41.66	H
3.81984	38.86	Pk	33.7	-31.8	1	-95.2	-54.44	-13	-40.44	V
5.72953	41.51	Pk	34.8	-29	1	-95.2	-47.89	-13	-33.89	H
5.72953	41.9	Pk	34.8	-29	1	-95.2	-47.5	-13	-33.5	V
7.63922	33.06	Pk	35.9	-26.5	1	-95.2	-52.74	-13	-38.74	H
7.63922	35.56	Pk	35.9	-26.5	1	-95.2	-50.24	-13	-36.24	V

Pk – Peak Detector

EGPRS MODE

Project #:	13573771
Date:	4/2/2021
Test Engineer:	50820
Configuration:	EUT Only
Mode:	EGPRS 1900
Chamber #:	Chamber O

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213832 (dB/m)	Amp/Cbl (dB)	HPF 2.7GHz T772 1-18GHz	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 1850.2MHz										
3.70192	40.76	Pk	33.5	-31.1	1	-95.2	-51.04	-13	-38.04	H
5.5492	39.4	Pk	34.4	-29.6	1	-95.2	-50.0	-13	-37.0	H
7.40091	38.04	Pk	35.8	-27.4	1	-95.2	-47.76	-13	-34.76	H
3.70064	40.47	Pk	33.5	-31.2	1	-95.2	-51.43	-13	-38.43	V
5.5506	39.21	Pk	34.5	-30	1	-95.2	-50.49	-13	-37.49	V
7.39875	37.48	Pk	35.7	-27.6	1	-95.2	-48.62	-13	-35.62	V
Mid Channel, 1880MHz										
3.75923	40.13	Pk	33.5	-31.1	1	-95.2	-51.67	-13	-38.67	H
5.63806	38.74	Pk	34.5	-29.1	1	-95.2	-50.06	-13	-37.06	H
7.52162	36.58	Pk	35.7	-27.3	1	-95.2	-49.22	-13	-36.22	H
3.75875	39.72	Pk	33.5	-31.1	1	-95.2	-52.08	-13	-39.08	V
5.64041	38.51	Pk	34.6	-29.2	1	-95.2	-50.29	-13	-37.29	V
7.52083	36.63	Pk	35.7	-27.5	1	-95.2	-49.37	-13	-36.37	V
High Channel, 1909.8MHz										
3.81751	41.23	Pk	33.5	-31.6	1	-95.2	-51.07	-13	-38.07	H
5.72762	38.69	Pk	34.6	-29.2	1	-95.2	-50.11	-13	-37.11	H
7.64122	36.22	Pk	35.9	-26.8	1	-95.2	-48.88	-13	-35.88	H
3.82059	40.42	Pk	33.5	-31.4	1	-95.2	-51.68	-13	-38.68	V
5.72886	38.48	Pk	34.6	-29.3	1	-95.2	-50.42	-13	-37.42	V
7.64086	35.9	Pk	35.9	-27	1	-95.2	-49.4	-13	-36.4	V

Pk – Peak Detector

10.3.3. CDMA BC10

1xRTT MODE

Project #:	13573771
Date:	5/14/2021
Test Engineer:	45258
Configuration:	EUT Only
Mode:	1xRTT BC10
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T962 (dB/m)	Amp/Cbl (dB)	HPF 1.2GHz T1737 1-18GHz	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 817.25 MHz										
1.634	37.74	Pk	25	-27.8	.7	-95.2	-59.56	-13	-46.56	V
1.63453	39.47	Pk	25	-27.8	.7	-95.2	-57.83	-13	-44.83	H
2.45188	37.56	Pk	28.8	-26.7	.5	-95.2	-55.04	-13	-42.04	H
2.45303	37.05	Pk	28.8	-26.7	.5	-95.2	-55.55	-13	-42.55	V
3.26923	36.96	Pk	31.3	-25.5	.6	-95.2	-51.84	-13	-38.84	V
3.27011	36.51	Pk	31.3	-25.5	.7	-95.2	-52.19	-13	-39.19	H
Mid Channel, 820 MHz										
1.63978	38.88	Pk	25	-27.8	.7	-95.2	-58.42	-13	-45.42	V
1.64001	38.6	Pk	25	-27.8	.7	-95.2	-58.7	-13	-45.7	H
2.45984	36.66	Pk	28.9	-26.6	.5	-95.2	-55.74	-13	-42.74	V
2.46176	36.63	Pk	28.9	-26.6	.5	-95.2	-55.77	-13	-42.77	H
3.27943	37.01	Pk	31.4	-25.3	.8	-95.2	-51.29	-13	-38.29	V
3.28132	37.2	Pk	31.4	-25.4	.8	-95.2	-51.2	-13	-38.2	H
High Channel, 822.75 MHz										
1.64363	38.11	Pk	25	-27.8	.7	-95.2	-59.19	-13	-46.19	H
1.64599	38.64	Pk	24.9	-27.8	.7	-95.2	-58.76	-13	-45.76	V
2.46716	37.44	Pk	28.9	-26.7	.5	-95.2	-55.06	-13	-42.06	V
2.46804	37.46	Pk	28.9	-26.7	.5	-95.2	-55.04	-13	-42.04	H
3.29027	36.73	Pk	31.2	-25.4	.8	-95.2	-51.87	-13	-38.87	H
3.29269	36.73	Pk	31.2	-25.4	.8	-95.2	-51.87	-13	-38.87	V

1xEV-DO REV A MODE

Project #:	13573771
Date:	5/14/21
Test Engineer:	45258
Configuration:	EUT Only
Mode:	1xEV-DO REV A BC10
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T962 (dB/m)	Amp/Cbl (dB)	HPF 1.2GHz T1737 1-18GHz	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 817.25 MHz										
1.63334	37.96	Pk	25	-27.9	.7	-95.2	-59.44	-13	-46.44	V
1.63539	38.43	Pk	25	-27.8	.7	-95.2	-58.87	-13	-45.87	H
2.45155	37.78	Pk	28.8	-26.7	.5	-95.2	-54.82	-13	-41.82	H
2.4519	38.48	Pk	28.8	-26.7	.5	-95.2	-54.12	-13	-41.12	V
3.26752	37.46	Pk	31.4	-25.5	.6	-95.2	-51.24	-13	-38.24	H
3.27106	37.71	Pk	31.3	-25.5	.7	-95.2	-50.99	-13	-37.99	V
Mid Channel, 820 MHz										
1.64011	37.83	Pk	25	-27.8	.7	-95.2	-59.47	-13	-46.47	V
1.64169	37.46	Pk	25	-27.8	.7	-95.2	-59.84	-13	-46.84	H
2.45899	42.47	Pk	28.9	-26.6	.5	-95.2	-49.93	-13	-36.93	V
2.46047	38.46	Pk	28.9	-26.6	.5	-95.2	-53.94	-13	-40.94	H
3.27877	37.1	Pk	31.4	-25.3	.8	-95.2	-51.2	-13	-38.2	H
3.27963	36.73	Pk	31.4	-25.3	.8	-95.2	-51.57	-13	-38.57	V
High Channel, 822.75 MHz										
1.64552	38.21	Pk	24.9	-27.8	.7	-95.2	-59.19	-13	-46.19	V
1.64704	37.82	Pk	24.9	-27.8	.8	-95.2	-59.48	-13	-46.48	H
2.46945	42.53	Pk	28.9	-26.7	.5	-95.2	-49.97	-13	-36.97	H
2.46969	42.77	Pk	28.9	-26.7	.5	-95.2	-49.73	-13	-36.73	V
3.28953	36.72	Pk	31.2	-25.4	.8	-95.2	-51.88	-13	-38.88	V
3.29098	36.58	Pk	31.2	-25.4	.8	-95.2	-52.02	-13	-39.02	H

10.3.4. CDMA BC0

1xRTT MODE

Project #:	13573771
Date:	5/14/21
Test Engineer:	45258
Configuration:	EUT Only
Mode:	1xRTT BC0
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T962 (dB/m)	Amp/Cbl (dB)	HPF 1.2GHz T1737 1-18GHz	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 824.7 MHz										
1.64888	38.51	Pk	24.9	-27.8	.8	-95.2	-58.79	-13	-45.79	V
1.64964	37.73	Pk	24.9	-27.8	.8	-95.2	-59.57	-13	-46.57	H
2.4732	36.98	Pk	29	-26.6	.5	-95.2	-55.32	-13	-42.32	V
2.47511	37.53	Pk	29	-26.6	.5	-95.2	-54.77	-13	-41.77	H
3.29951	36.08	Pk	31.1	-25.5	.8	-95.2	-52.72	-13	-39.72	V
3.30034	36.17	Pk	31.1	-25.6	.8	-95.2	-52.73	-13	-39.73	H
Mid Channel, 836.52 MHz										
1.67224	38.57	Pk	25	-27.8	.7	-95.2	-58.73	-13	-45.73	H
1.67452	37.7	Pk	25	-27.8	.7	-95.2	-59.6	-13	-46.6	V
2.50992	36.38	Pk	29.1	-26.6	.7	-95.2	-55.62	-13	-42.62	V
2.51009	37.34	Pk	29.1	-26.6	.7	-95.2	-54.66	-13	-41.66	H
3.34606	37.32	Pk	30.9	-25.6	.6	-95.2	-51.98	-13	-38.98	V
3.34673	36.42	Pk	31	-25.6	.6	-95.2	-52.78	-13	-39.78	H
High Channel, 848.31 MHz										
1.69558	38.19	Pk	25	-27.6	.7	-95.2	-58.91	-13	-45.91	H
1.69716	39.04	Pk	25	-27.6	.7	-95.2	-58.06	-13	-45.06	V
2.54564	37.1	Pk	29.2	-26.6	.7	-95.2	-54.8	-13	-41.8	H
2.54573	37.38	Pk	29.2	-26.6	.7	-95.2	-54.52	-13	-41.52	V
3.39236	36.46	Pk	30.7	-25.6	.6	-95.2	-53.04	-13	-40.04	V
3.39444	36.65	Pk	30.7	-25.5	.6	-95.2	-52.75	-13	-39.75	H

1xEV-DO REV A MODE

Project #:	13573771
Date:	5/13/21
Test Engineer:	45258
Configuration:	EUT Only
Mode:	1xEV-DO REV A BC0
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T962 (dB/m)	Amp/Cbl (dB)	HPF 1.2GHz T1737 1-18GHz	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 824.7 MHz										
1.64816	37.82	Pk	24.9	-27.8	.8	-95.2	-59.48	-13	-46.48	V
1.65002	37.89	Pk	24.9	-27.8	.8	-95.2	-59.41	-13	-46.41	H
2.47385	37.49	Pk	29	-26.6	.5	-95.2	-54.81	-13	-41.81	V
2.47622	36.8	Pk	29	-26.6	.5	-95.2	-55.5	-13	-42.5	H
3.29776	36.28	Pk	31.2	-25.5	.8	-95.2	-52.42	-13	-39.42	V
3.29895	36.65	Pk	31.2	-25.5	.8	-95.2	-52.05	-13	-39.05	H
Mid Channel, 836.52 MHz										
1.67257	38.13	Pk	25	-27.8	.7	-95.2	-59.17	-13	-46.17	V
1.67335	37.54	Pk	25	-27.8	.7	-95.2	-59.76	-13	-46.76	H
2.5107	36.12	Pk	29.1	-26.6	.7	-95.2	-55.88	-13	-42.88	H
2.51148	37	Pk	29.1	-26.6	.7	-95.2	-55.0	-13	-42.0	V
3.34572	36.25	Pk	30.9	-25.6	.6	-95.2	-53.05	-13	-40.05	V
3.34622	36.35	Pk	30.9	-25.6	.6	-95.2	-52.95	-13	-39.95	H
High Channel, 848.31 MHz										
1.69729	38.73	Pk	25	-27.6	.7	-95.2	-58.37	-13	-45.37	H
1.69859	37.51	Pk	25.1	-27.7	.7	-95.2	-59.59	-13	-46.59	V
2.54418	37.23	Pk	29.2	-26.6	.7	-95.2	-54.67	-13	-41.67	V
2.54538	36.94	Pk	29.2	-26.6	.7	-95.2	-54.96	-13	-41.96	H
3.3924	36.71	Pk	30.7	-25.6	.6	-95.2	-52.79	-13	-39.79	H
3.39456	36.24	Pk	30.7	-25.5	.6	-95.2	-53.16	-13	-40.16	V

10.3.5. CDMA BC1

1xRTT MODE

Project #:	13573771
Date:	5/14/21
Test Engineer:	45258
Configuration:	EUT Only
Mode:	1xRTT BC1
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T962 (dB/m)	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 1851.25 MHz									
3.70197	36.76	Pk	30.3	-24.6	-95.2	-52.74	-13	-39.74	H
3.70443	37.29	Pk	30.3	-24.7	-95.2	-52.31	-13	-39.31	V
5.55299	36.54	Pk	33.3	-23.3	-95.2	-48.66	-13	-35.66	H
5.55441	36.48	Pk	33.3	-23.3	-95.2	-48.72	-13	-35.72	V
7.40622	34.07	Pk	36.9	-21.1	-95.2	-45.33	-13	-32.33	H
7.40697	34.93	Pk	36.8	-21.1	-95.2	-44.57	-13	-31.57	V
Mid Channel, 1880 MHz									
3.76082	37.31	Pk	30.7	-24.9	-95.2	-52.09	-13	-39.09	H
3.76093	37.48	Pk	30.7	-24.9	-95.2	-51.92	-13	-38.92	V
5.63912	34.75	Pk	33.1	-22.3	-95.2	-49.65	-13	-36.65	H
5.6401	35.79	Pk	33.1	-22.2	-95.2	-48.51	-13	-35.51	V
7.51876	34.86	Pk	36.7	-20.4	-95.2	-44.04	-13	-31.04	H
7.5206	34.28	Pk	36.7	-20.4	-95.2	-44.62	-13	-31.62	V
High Channel, 1908.75 MHz									
3.8175	33.62	Pk	30.9	-24.6	-95.2	-55.28	-13	-42.28	H
3.8175	35.98	Pk	30.9	-24.6	-95.2	-52.92	-13	-39.92	V
5.72625	31.34	Pk	33	-21.7	-95.2	-52.56	-13	-39.56	H
5.72625	29.66	Pk	33	-21.7	-95.2	-54.24	-13	-41.24	V
7.63547	33.81	Pk	36.9	-21.2	-95.2	-45.69	-13	-32.69	H
7.63547	29.87	Pk	36.9	-21.2	-95.2	-49.63	-13	-36.63	V

1xEV-DO REV A MODE

Project #:	13573771
Date:	5/13/21
Test Engineer:	45258
Configuration:	EUT Only
Mode:	1xEV-DO REV A BC1
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T962 (dB/m)	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 1851.25 MHz									
3.70086	37.78	Pk	30.3	-24.6	-95.2	-51.72	-13	-38.72	H
3.70208	37.73	Pk	30.3	-24.6	-95.2	-51.77	-13	-38.77	V
5.55491	35.11	Pk	33.3	-23.3	-95.2	-50.09	-13	-37.09	V
5.55507	36.1	Pk	33.3	-23.3	-95.2	-49.1	-13	-36.1	H
7.4044	35.16	Pk	36.9	-21	-95.2	-44.14	-13	-31.14	H
7.40569	35.04	Pk	36.9	-21	-95.2	-44.26	-13	-31.26	V
Mid Channel, 1880 MHz									
3.75938	36.64	Pk	30.6	-24.9	-95.2	-52.86	-13	-39.86	H
3.76131	37.38	Pk	30.7	-24.9	-95.2	-52.02	-13	-39.02	V
5.63852	36.51	Pk	33.1	-22.3	-95.2	-47.89	-13	-34.89	V
5.63953	34.76	Pk	33.1	-22.3	-95.2	-49.64	-13	-36.64	H
7.52061	35.16	Pk	36.7	-20.4	-95.2	-43.74	-13	-30.74	V
7.5207	34.07	Pk	36.7	-20.4	-95.2	-44.83	-13	-31.83	H
High Channel, 1908.75 MHz									
3.81729	37.34	Pk	31	-24.6	-95.2	-51.46	-13	-38.46	H
3.81853	37.58	Pk	30.9	-24.6	-95.2	-51.32	-13	-38.32	V
5.72684	35.82	Pk	33	-21.7	-95.2	-48.08	-13	-35.08	V
5.72806	34.36	Pk	33	-21.8	-95.2	-49.64	-13	-36.64	H
7.62698	34.87	Pk	37	-21.1	-95.2	-44.43	-13	-31.43	V
7.62733	35.57	Pk	37	-21.1	-95.2	-43.73	-13	-30.73	H

10.3.6. WCDMA BAND 5

REL 99 MODE

Project #:	13573771
Date:	5/23/21
Test Engineer:	18868
Configuration:	EUT Only
Mode:	REL 99 Band 5
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl (dB)	HPF 1.2GHz T1737 1-18GHz	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 826.40 MHz										
1.64348	40.6	Pk	29.1	-30.8	.7	-95.2	-55.6	-13	-42.6	V
1.65174	41.71	Pk	29	-30.7	.8	-95.2	-54.39	-13	-41.39	H
2.48092	39.72	Pk	33.4	-29.6	.5	-95.2	-51.18	-13	-38.18	V
2.48337	40.62	Pk	33.4	-29.7	.5	-95.2	-50.38	-13	-37.38	H
3.30078	39.21	Pk	33	-28.4	.8	-95.2	-50.59	-13	-37.59	V
3.31102	38.64	Pk	32.9	-28.6	.7	-95.2	-51.56	-13	-38.56	H
Mid Channel, 836.60 MHz										
1.65963	40.67	Pk	29	-30.7	.8	-95.2	-55.43	-13	-42.43	H
1.68917	41.26	Pk	29.1	-30.5	.7	-95.2	-54.64	-13	-41.64	V
2.49944	39.48	Pk	33.5	-29.8	.6	-95.2	-51.42	-13	-38.42	V
2.50693	40.78	Pk	33.5	-29.6	.7	-95.2	-49.82	-13	-36.82	H
3.33447	38.73	Pk	33	-28.6	.5	-95.2	-51.57	-13	-38.57	V
3.34051	39.43	Pk	32.9	-28.5	.5	-95.2	-50.87	-13	-37.87	H
High Channel, 846.60 MHz										
1.6943	41.29	Pk	29	-30.5	.7	-95.2	-54.71	-13	-41.71	H
1.69727	40.38	Pk	29.1	-30.5	.6	-95.2	-55.62	-13	-42.62	V
2.53582	39.03	Pk	33.4	-29.3	.7	-95.2	-51.37	-13	-38.37	V
2.54369	39.22	Pk	33.3	-29.4	.6	-95.2	-51.48	-13	-38.48	H
3.3894	38.59	Pk	33	-28.5	.6	-95.2	-51.51	-13	-38.51	V
3.39425	38.65	Pk	33	-28.4	.6	-95.2	-51.35	-13	-38.35	H

HSDPA MODE

Project #:	13573771
Date:	5/23/21
Test Engineer:	18868
Configuration:	EUT Only
Mode:	HSDPA Band 5
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl (dB)	HPF 1.2GHz T1737 1-18GHz	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 826.40 MHz										
1.6459	40.34	Pk	29.1	-30.8	.7	-95.2	-55.86	-13	-42.86	H
1.86879	42.48	Pk	31.7	-30.5	.6	-95.2	-50.92	-13	-37.92	V
2.46656	32.84	Pk	33.2	-29.8	.5	-95.2	-58.46	-13	-45.46	V
2.47896	40	Pk	33.4	-29.6	.5	-95.2	-51.0	-13	-38.0	H
3.29715	31.91	Pk	33	-28.3	.8	-95.2	-57.79	-13	-44.79	V
3.29928	39.1	Pk	33	-28.4	.8	-95.2	-50.6	-13	-37.6	H
Mid Channel, 836.60 MHz										
1.66595	41.34	Pk	28.9	-30.6	.7	-95.2	-54.86	-13	-41.86	H
1.67147	41.29	Pk	29	-30.6	.7	-95.2	-54.81	-13	-41.81	V
2.50971	39.8	Pk	33.5	-29.7	.7	-95.2	-50.9	-13	-37.9	H
2.52299	40.11	Pk	33.4	-29.5	.8	-95.2	-50.39	-13	-37.39	V
3.3527	38.84	Pk	33	-28.5	.6	-95.2	-51.26	-13	-38.26	V
3.35419	38.77	Pk	33	-28.5	.6	-95.2	-51.33	-13	-38.33	H
High Channel, 846.60 MHz										
1.68471	41	Pk	29	-30.6	.7	-95.2	-55.1	-13	-42.1	V
1.68557	41.57	Pk	29	-30.6	.7	-95.2	-54.53	-13	-41.53	H
2.5392	39.65	Pk	33.4	-29.4	.7	-95.2	-50.85	-13	-37.85	V
2.54217	39.83	Pk	33.4	-29.4	.6	-95.2	-50.77	-13	-37.77	H
3.38098	38.99	Pk	33	-28.6	.6	-95.2	-51.21	-13	-38.21	V
3.39511	38.74	Pk	33	-28.4	.6	-95.2	-51.26	-13	-38.26	H

10.3.7. WCDMA BAND 2

REL 99 MODE

Project #:	13573771
Date:	4/9 – 4/12/2021
Test Engineer:	50820
Configuration:	EUT Only
Mode:	REL 99 Band 2
Chamber #:	Chamber O

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213832 (dB/m)	Amp/Cbl/Fltr/ Pad (dB)	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 1852.4MHz									
3.70423	53.47	Pk	33.5	-42.1	-95.2	-50.33	-13	-37.33	V
3.70512	53.52	Pk	33.5	-42.1	-95.2	-50.28	-13	-37.28	H
5.55568	50.96	Pk	34.4	-40.6	-95.2	-50.44	-13	-37.44	V
5.55904	51.45	Pk	34.4	-40.6	-95.2	-49.95	-13	-36.95	H
7.40885	49.16	Pk	35.7	-38.6	-95.2	-48.94	-13	-35.94	H
7.4097	48.94	Pk	35.7	-38.5	-95.2	-49.06	-13	-36.06	V
Mid Channel, 1880MHz									
3.75844	52.11	Pk	33.5	-41.8	-95.2	-51.39	-13	-38.39	V
3.7604	52.48	Pk	33.5	-41.7	-95.2	-50.92	-13	-37.92	H
5.63938	51.36	Pk	34.6	-40.3	-95.2	-49.54	-13	-36.54	H
5.6403	51.17	Pk	34.6	-40.3	-95.2	-49.73	-13	-36.73	V
7.51929	49.06	Pk	35.7	-38.4	-95.2	-48.84	-13	-35.84	V
7.51968	48.64	Pk	35.7	-38.4	-95.2	-49.26	-13	-36.26	H
High Channel, 1907.6MHz									
3.81518	52.48	Pk	33.5	-41.9	-95.2	-51.12	-13	-38.12	V
3.81603	52.64	Pk	33.5	-41.9	-95.2	-50.96	-13	-37.96	H
5.72055	50.68	Pk	34.7	-39.8	-95.2	-49.62	-13	-36.62	H
5.72081	50.56	Pk	34.7	-39.8	-95.2	-49.74	-13	-36.74	V
7.62899	49.05	Pk	35.9	-38.2	-95.2	-48.45	-13	-35.45	V
7.63144	49.22	Pk	35.9	-38.2	-95.2	-48.28	-13	-35.28	H

Pk - Peak detector

HSDPA MODE

Project #:	13573771
Date:	5/27/2021
Test Engineer:	19226
Configuration:	EUT Only
Mode:	HSDPA Band 2
Chamber #:	Chamber S

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213833 (dB/m)	Amp/Cbl/Fltr/ Pad (dB)	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 1852.4MHz									
3.7041	52.27	Pk	33.5	-41.4	-95.2	-50.13	-13	-37.13	H
3.70492	51.73	Pk	33.5	-41.4	-95.2	-50.67	-13	-37.67	V
5.55349	56.63	Pk	34.5	-40.8	-95.2	-44.27	-13	-31.27	V
5.55516	52.54	Pk	34.5	-40.8	-95.2	-48.36	-13	-35.36	H
7.40879	49.18	Pk	36.1	-39.4	-95.2	-48.92	-13	-35.92	H
7.40965	50.07	Pk	36.1	-39.4	-95.2	-48.03	-13	-35.03	V
Mid Channel, 1880MHz									
3.75992	51.89	Pk	33.5	-40.9	-95.2	-50.71	-13	-37.71	H
3.7616	51.72	Pk	33.5	-40.9	-95.2	-50.88	-13	-37.88	V
5.63635	54.66	Pk	34.4	-39.2	-95.2	-45.34	-13	-32.34	H
5.6374	54.04	Pk	34.5	-39.2	-95.2	-45.86	-13	-32.86	V
7.52003	49.25	Pk	36.2	-38.8	-95.2	-48.55	-13	-35.55	H
7.52156	49.65	Pk	36.2	-38.8	-95.2	-48.15	-13	-35.15	V
High Channel, 1907.6MHz									
3.81584	52.36	Pk	33.6	-41.4	-95.2	-50.04	-13	-37.04	V
3.81726	52.52	Pk	33.6	-41.5	-95.2	-49.98	-13	-36.98	H
5.72054	54	Pk	34.7	-40.4	-95.2	-46.3	-13	-33.3	H
5.72064	52.47	Pk	34.7	-40.4	-95.2	-47.83	-13	-34.83	V
7.63035	48.95	Pk	36.1	-38.9	-95.2	-48.65	-13	-35.65	H
7.63047	49.64	Pk	36.1	-38.9	-95.2	-47.96	-13	-34.96	V

Pk - Peak detector

10.3.8. WCDMA BAND 4

REL 99 MODE

Project #:	13573771
Date:	4/9/2021
Test Engineer:	50820
Configuration:	EUT Only
Mode:	REL 99 Band 4
Chamber #:	Chamber O

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213832 (dB/m)	Amp/Cbl/Fltr/ Pad (dB)	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 1712.4MHz									
3.42362	54.39	Pk	32.7	-42.3	-95.2	-50.41	-13	-37.41	H
3.42455	53.35	Pk	32.7	-42.3	-95.2	-51.45	-13	-38.45	V
5.13576	52.36	Pk	34.1	-41.8	-95.2	-50.54	-13	-37.54	V
5.13732	51.4	Pk	34.2	-41.8	-95.2	-51.4	-13	-38.4	H
6.84877	49.78	Pk	35.7	-39.6	-95.2	-49.32	-13	-36.32	H
6.85113	49.24	Pk	35.7	-39.6	-95.2	-49.86	-13	-36.86	V
Mid Channel, 1732.6MHz									
3.46423	52.88	Pk	32.8	-42.1	-95.2	-51.62	-13	-38.62	H
3.46527	52.91	Pk	32.8	-42.1	-95.2	-51.59	-13	-38.59	V
5.19582	52.11	Pk	34.3	-41.8	-95.2	-50.59	-13	-37.59	H
5.19758	52.67	Pk	34.3	-41.8	-95.2	-50.03	-13	-37.03	V
6.93013	50.55	Pk	35.7	-39.6	-95.2	-48.55	-13	-35.55	V
6.9316	49.88	Pk	35.7	-39.6	-95.2	-49.22	-13	-36.22	H
High Channel, 1752.61MHz									
3.5037	52.92	Pk	32.7	-42.1	-95.2	-51.68	-13	-38.68	V
3.50546	52.49	Pk	32.7	-42.1	-95.2	-52.11	-13	-39.11	H
5.25743	52.63	Pk	34.4	-41.3	-95.2	-49.47	-13	-36.47	H
5.25924	51.98	Pk	34.4	-41.3	-95.2	-50.12	-13	-37.12	V
7.01082	49.73	Pk	35.8	-39.5	-95.2	-49.17	-13	-36.17	H
7.0122	50.91	Pk	35.8	-39.5	-95.2	-47.99	-13	-34.99	V

Pk - Peak detector

HSDPA MODE

Project #:	13573771
Date:	5/27 - 5/28/2021
Test Engineer:	19226
Configuration:	EUT Only
Mode:	HSDPA Band 4
Chamber #:	Chamber S

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213833 (dB/m)	Amp/Cbl/Fltr/ Pad (dB)	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 1712.4MHz									
3.42385	50.65	Pk	32.6	-40.6	-95.2	-52.55	-13	-39.55	V
3.42388	51.31	Pk	32.6	-40.6	-95.2	-51.89	-13	-38.89	H
5.13385	57.23	Pk	34.5	-41	-95.2	-44.47	-13	-31.47	V
5.13434	56.54	Pk	34.5	-41	-95.2	-45.16	-13	-32.16	H
6.84793	49.53	Pk	35.8	-38.7	-95.2	-48.57	-13	-35.57	V
6.84917	50.05	Pk	35.8	-38.7	-95.2	-48.05	-13	-35.05	H
Mid Channel, 1732.6MHz									
3.4664	51.57	Pk	32.8	-40.8	-95.2	-51.63	-13	-38.63	V
3.46732	51.39	Pk	32.8	-40.7	-95.2	-51.71	-13	-38.71	H
5.20038	54.48	Pk	34.4	-41.2	-95.2	-47.52	-13	-34.52	V
5.20098	55.96	Pk	34.4	-41.2	-95.2	-46.04	-13	-33.04	H
6.92985	49.57	Pk	36	-39.1	-95.2	-48.73	-13	-35.73	V
6.93094	49.6	Pk	36	-39.1	-95.2	-48.7	-13	-35.7	H
High Channel, 1752.61MHz									
3.50376	50.59	Pk	32.9	-41.5	-95.2	-52.41	-13	-39.41	H
3.50562	50.84	Pk	33	-41.5	-95.2	-52.06	-13	-39.06	V
5.25453	54.59	Pk	34.5	-41.6	-95.2	-47.01	-13	-34.01	H
5.25549	54.99	Pk	34.5	-41.6	-95.2	-46.61	-13	-33.61	V
7.0089	49.57	Pk	35.9	-39.5	-95.2	-48.73	-13	-35.73	H
7.01225	49.53	Pk	35.9	-39.5	-95.2	-48.87	-13	-35.87	V

Pk - Peak detector

10.4. FIELD STRENGTH OF SPURIOUS RADIATION, ABOVE 1GHz, ANT 3

10.4.1. GSM 1900

GPRS MODE

Project #:	13573771
Date:	4/6 – 4/7/2021
Test Engineer:	50820
Configuration:	EUT Only
Mode:	GPRS 1900
Chamber #:	Chamber O

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213832 (dB/m)	Amp/Cbl/Fltr/ Pad (dB)	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 1850.2MHz									
3.69971	53.15	Pk	33.5	-42.1	-95.2	-50.65	-13	-37.65	H
3.70161	53.27	Pk	33.5	-42.1	-95.2	-50.53	-13	-37.53	V
5.5485	51.06	Pk	34.4	-40.7	-95.2	-50.44	-13	-37.44	V
5.54897	51.31	Pk	34.4	-40.7	-95.2	-50.19	-13	-37.19	H
7.39867	49.58	Pk	35.7	-38.6	-95.2	-48.52	-13	-35.52	V
7.39943	49.71	Pk	35.7	-38.6	-95.2	-48.39	-13	-35.39	H
Mid Channel, 1880MHz									
5.64015	65.27	Pk	34.6	-40.3	-95.2	-35.63	-13	-22.63	V
5.64018	62.84	Pk	34.6	-40.3	-95.2	-38.06	-13	-25.06	H
7.51993	49.18	Pk	35.7	-38.4	-95.2	-48.72	-13	-35.72	H
7.52193	48.95	Pk	35.7	-38.3	-95.2	-48.85	-13	-35.85	V
9.39978	54.88	Pk	36.5	-36.7	-95.2	-40.52	-13	-27.52	H
9.4002	59.44	Pk	36.5	-36.7	-95.2	-35.96	-13	-22.96	V
High Channel, 1909.8MHz									
3.81884	52.3	Pk	33.5	-41.9	-95.2	-51.3	-13	-38.3	H
3.82021	52.06	Pk	33.5	-41.9	-95.2	-51.54	-13	-38.54	V
5.7278	50.33	Pk	34.6	-40	-95.2	-50.27	-13	-37.27	V
5.7298	50.38	Pk	34.7	-40	-95.2	-50.12	-13	-37.12	H
7.63753	48.62	Pk	35.8	-38.1	-95.2	-48.88	-13	-35.88	V
7.63921	48.52	Pk	35.9	-38.1	-95.2	-48.88	-13	-35.88	H

Pk – Peak Detector

EGPRS MODE

Project #:	13573771
Date:	4/6 – 4/7/2021
Test Engineer:	50820
Configuration:	EUT Only
Mode:	EGPRS 1900
Chamber #:	Chamber O

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213832 (dB/m)	Amp/Cbl/Fltr/ Pad (dB)	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 1850.2MHz									
3.69892	52.99	Pk	33.5	-42.1	-95.2	-50.81	-13	-37.81	H
3.69969	52.85	Pk	33.5	-42.1	-95.2	-50.95	-13	-37.95	V
5.55001	52.72	Pk	34.5	-40.7	-95.2	-48.68	-13	-35.68	V
5.55054	53.73	Pk	34.5	-40.7	-95.2	-47.67	-13	-34.67	H
7.3995	48.95	Pk	35.7	-38.6	-95.2	-49.15	-13	-36.15	H
7.40182	49.64	Pk	35.8	-38.6	-95.2	-48.36	-13	-35.36	V
Mid Channel, 1880MHz									
3.75901	52.23	Pk	33.5	-41.7	-95.2	-51.17	-13	-38.17	V
3.76093	52.59	Pk	33.5	-41.7	-95.2	-50.81	-13	-37.81	H
5.6394	64.84	Pk	34.6	-40.3	-95.2	-36.06	-13	-23.06	V
5.63948	61.2	Pk	34.6	-40.3	-95.2	-39.7	-13	-26.7	H
7.51833	49.25	Pk	35.7	-38.4	-95.2	-48.65	-13	-35.65	H
7.51951	48.31	Pk	35.7	-38.4	-95.2	-49.59	-13	-36.59	V
High Channel, 1909.8MHz									
3.81812	52.45	Pk	33.5	-41.9	-95.2	-51.15	-13	-38.15	V
3.82154	51.78	Pk	33.5	-41.9	-95.2	-51.82	-13	-38.82	H
5.72946	58.47	Pk	34.6	-40	-95.2	-42.13	-13	-29.13	V
5.72953	65.07	Pk	34.6	-40	-95.2	-35.53	-13	-22.53	H
7.63809	48.32	Pk	35.8	-38.1	-95.2	-49.18	-13	-36.18	H
7.63837	48.45	Pk	35.8	-38.1	-95.2	-49.05	-13	-36.05	V

Pk – Peak Detector

10.4.2. CDMA BC1

1xRTT MODE

Project #:	13573771
Date:	5/19/21
Test Engineer:	25000
Configuration:	EUT Only
Mode:	1xRTT BC1
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T962 (dB/m)	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 1851.25 MHz									
3.69703	36.07	Pk	30.3	-24.6	-95.2	-53.43	-13	-40.43	H
3.69891	35.48	Pk	30.3	-24.6	-95.2	-54.02	-13	-41.02	V
5.53547	34.85	Pk	33.2	-23.6	-95.2	-50.75	-13	-37.75	V
5.54719	34.84	Pk	33.2	-23.5	-95.2	-50.66	-13	-37.66	H
7.38703	32.55	Pk	36.9	-20.8	-95.2	-46.55	-13	-33.55	V
7.39734	33.09	Pk	36.9	-20.9	-95.2	-46.11	-13	-33.11	H
Mid Channel, 1880 MHz									
3.76875	36.51	Pk	30.8	-25	-95.2	-52.89	-13	-39.89	H
3.77859	36.26	Pk	30.8	-25	-95.2	-53.14	-13	-40.14	V
5.65828	33.8	Pk	33.1	-21.7	-95.2	-50.0	-13	-37.0	V
5.66203	33.83	Pk	33.1	-21.5	-95.2	-49.77	-13	-36.77	H
7.50516	32.97	Pk	36.7	-20.2	-95.2	-45.73	-13	-32.73	V
7.50984	32.97	Pk	36.8	-20.3	-95.2	-45.73	-13	-32.73	H
High Channel, 1908.75 MHz									
3.82266	35.58	Pk	31	-24.7	-95.2	-53.32	-13	-40.32	H
3.82828	36.86	Pk	31.1	-24.7	-95.2	-51.94	-13	-38.94	V
5.71406	33.56	Pk	33	-21.6	-95.2	-50.24	-13	-37.24	V
5.74875	33.6	Pk	33	-22	-95.2	-50.6	-13	-37.6	H
7.62047	33.21	Pk	37	-21	-95.2	-45.99	-13	-32.99	H
7.62984	33.84	Pk	36.9	-21.1	-95.2	-45.56	-13	-32.56	V

1xEV-DO REV A MODE

Project #:	13573771
Date:	5/19/21
Test Engineer:	25000
Configuration:	EUT Only
Mode:	1xEV-DO REV A BC1
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T962 (dB/m)	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 1851.25 MHz									
3.68484	35.47	Pk	30.2	-24.6	-95.2	-54.13	-13	-41.13	V
3.70406	35.34	Pk	30.3	-24.6	-95.2	-54.16	-13	-41.16	H
5.54156	35.77	Pk	33.2	-23.6	-95.2	-49.83	-13	-36.83	H
5.55	34.2	Pk	33.3	-23.4	-95.2	-51.1	-13	-38.1	V
7.38938	32.81	Pk	36.9	-20.8	-95.2	-46.29	-13	-33.29	H
7.42359	33.47	Pk	36.9	-20.8	-95.2	-45.63	-13	-32.63	V
Mid Channel, 1880 MHz									
3.76547	36.19	Pk	30.7	-24.9	-95.2	-53.21	-13	-40.21	V
3.76641	36.48	Pk	30.8	-24.9	-95.2	-52.82	-13	-39.82	H
5.64188	35.32	Pk	33.2	-22.2	-95.2	-48.88	-13	-35.88	H
5.66063	34.72	Pk	33.1	-21.6	-95.2	-48.98	-13	-35.98	V
7.50469	33.32	Pk	36.7	-20.2	-95.2	-45.38	-13	-32.38	H
7.51359	33.29	Pk	36.8	-20.3	-95.2	-45.41	-13	-32.41	V
High Channel, 1908.75 MHz									
3.82266	35.48	Pk	31	-24.7	-95.2	-53.42	-13	-40.42	H
3.82594	36.25	Pk	31	-24.6	-95.2	-52.55	-13	-39.55	V
5.71453	34.68	Pk	33	-21.6	-95.2	-49.12	-13	-36.12	H
5.72953	35.31	Pk	33.1	-21.8	-95.2	-48.59	-13	-35.59	V
7.61484	33.48	Pk	36.9	-21	-95.2	-45.82	-13	-32.82	V
7.6575	33.51	Pk	37	-21.1	-95.2	-45.79	-13	-32.79	H

10.4.3. WCDMA BAND 2

REL 99 MODE

Project #:	13573771
Date:	4/12/2021
Test Engineer:	50820
Configuration:	EUT Only
Mode:	REL 99 Band 2
Chamber #:	Chamber O

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213832 (dB/m)	Amp/Cbl/Fltr/ Pad (dB)	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 1852.4MHz									
3.70464	53.23	Pk	33.5	-42.1	-95.2	-50.57	-13	-37.57	H
3.70691	53.02	Pk	33.5	-42.1	-95.2	-50.78	-13	-37.78	V
5.5559	51.41	Pk	34.4	-40.6	-95.2	-49.99	-13	-36.99	H
5.55598	51.3	Pk	34.4	-40.6	-95.2	-50.1	-13	-37.1	V
7.40786	49.57	Pk	35.7	-38.6	-95.2	-48.53	-13	-35.53	V
7.4108	49.53	Pk	35.7	-38.5	-95.2	-48.47	-13	-35.47	H
Mid Channel, 1880MHz									
3.75941	52.48	Pk	33.5	-41.7	-95.2	-50.92	-13	-37.92	H
3.76122	52.18	Pk	33.5	-41.7	-95.2	-51.22	-13	-38.22	V
5.63966	51.39	Pk	34.6	-40.3	-95.2	-49.51	-13	-36.51	V
5.64138	51.08	Pk	34.6	-40.3	-95.2	-49.82	-13	-36.82	H
7.51839	49.54	Pk	35.7	-38.4	-95.2	-48.36	-13	-35.36	V
7.52067	48.68	Pk	35.7	-38.3	-95.2	-49.12	-13	-36.12	H
High Channel, 1907.6MHz									
3.8165	52.05	Pk	33.5	-41.9	-95.2	-51.55	-13	-38.55	V
3.817	52.25	Pk	33.5	-41.9	-95.2	-51.35	-13	-38.35	H
5.72261	50.29	Pk	34.7	-39.9	-95.2	-50.11	-13	-37.11	V
5.72312	50.23	Pk	34.7	-39.9	-95.2	-50.17	-13	-37.17	H
7.62992	48.6	Pk	35.9	-38.2	-95.2	-48.9	-13	-35.9	V
7.63067	49.12	Pk	35.9	-38.2	-95.2	-48.38	-13	-35.38	H

Pk - Peak detector

HSDPA MODE

Project #:	13573771
Date:	5/23/21
Test Engineer:	25000
Configuration:	EUT Only
Mode:	HSDPA Band 2
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T962 (dB/m)	Amp/Cbl/Fltr/ Pad (dB)	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 1852.4MHz									
3.70346	38.46	Pk	30.3	-24.6	-95.2	-51.04	-13	-38.04	H
3.70686	38.03	Pk	30.3	-24.7	-95.2	-51.57	-13	-38.57	V
5.55612	36.51	Pk	33.2	-23.3	-95.2	-48.79	-13	-35.79	V
5.55826	37.17	Pk	33.2	-23.4	-95.2	-48.23	-13	-35.23	H
7.40808	34.55	Pk	36.8	-21.1	-95.2	-44.95	-13	-31.95	V
7.41019	35.44	Pk	36.8	-21.1	-95.2	-44.06	-13	-31.06	H
Mid Channel, 1880MHz									
3.75979	37.87	Pk	30.6	-24.9	-95.2	-51.63	-13	-38.63	H
3.76046	37.79	Pk	30.7	-24.9	-95.2	-51.61	-13	-38.61	V
5.6387	36.27	Pk	33.1	-22.3	-95.2	-48.13	-13	-35.13	V
5.64061	35.68	Pk	33.1	-22.2	-95.2	-48.62	-13	-35.62	H
7.5219	34.93	Pk	36.7	-20.5	-95.2	-44.07	-13	-31.07	V
7.52201	34.91	Pk	36.7	-20.5	-95.2	-44.09	-13	-31.09	H
High Channel, 1907.6MHz									
3.81351	39.25	Pk	31	-24.7	-95.2	-49.65	-13	-36.65	V
3.81618	37.94	Pk	31	-24.6	-95.2	-50.86	-13	-37.86	H
5.72146	36.02	Pk	33	-21.7	-95.2	-47.88	-13	-34.88	H
5.72195	35.88	Pk	33	-21.7	-95.2	-48.02	-13	-35.02	V
7.62949	35.1	Pk	36.9	-21.1	-95.2	-44.3	-13	-31.3	V
7.63096	35.52	Pk	36.9	-21.1	-95.2	-43.88	-13	-30.88	H

10.4.4. WCDMA BAND 4

REL 99 MODE

Project #:	13573771
Date:	4/12/2021
Test Engineer:	50820
Configuration:	EUT Only
Mode:	HSDPA Band 4
Chamber #:	Chamber O

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213832 (dB/m)	Amp/Cbl (dB)	HPF 2.7GHz T772 1-18GHz	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 1712.4MHz										
3.42382	53.3	Pk	32.7	-42.3	0.8	-95.2	-50.7	-13	-37.7	V
3.42469	54.22	Pk	32.7	-42.3	0.8	-95.2	-49.78	-13	-36.78	H
5.13615	52.31	Pk	34.1	-41.8	0.5	-95.2	-50.09	-13	-37.09	V
5.13772	51.89	Pk	34.2	-41.8	0.5	-95.2	-50.41	-13	-37.41	H
6.848	49.54	Pk	35.6	-39.6	0.5	-95.2	-49.16	-13	-36.16	H
6.84876	49.94	Pk	35.7	-39.6	0.5	-95.2	-48.66	-13	-35.66	V
Mid Channel, 1732.6MHz										
3.46601	53.43	Pk	32.8	-42.1	0.6	-95.2	-50.47	-13	-37.47	V
3.46792	52.51	Pk	32.8	-42.1	0.6	-95.2	-51.39	-13	-38.39	H
5.19689	51.44	Pk	34.3	-41.8	0.5	-95.2	-50.76	-13	-37.76	V
5.19792	51.71	Pk	34.3	-41.8	0.5	-95.2	-50.49	-13	-37.49	H
6.92998	49.32	Pk	35.7	-39.6	0.4	-95.2	-49.38	-13	-36.38	H
6.931	50.2	Pk	35.7	-39.6	0.4	-95.2	-48.5	-13	-35.5	V
High Channel, 1752.6MHz										
3.50404	52.5	Pk	32.7	-42.1	0.8	-95.2	-51.3	-13	-38.3	V
3.50613	52.83	Pk	32.7	-42.1	0.8	-95.2	-50.97	-13	-37.97	H
5.25672	52.07	Pk	34.4	-41.3	0.7	-95.2	-49.33	-13	-36.33	V
5.25692	51.81	Pk	34.4	-41.3	0.7	-95.2	-49.59	-13	-36.59	H
7.0096	49.68	Pk	35.8	-39.5	0.5	-95.2	-48.72	-13	-35.72	V
7.00985	49.68	Pk	35.8	-39.5	0.5	-95.2	-48.72	-13	-35.72	H

Pk - Peak detector

HSDPA MODE

Project #:	13573771
Date:	4/28 – 4/30/2021
Test Engineer:	50820
Configuration:	EUT Only
Mode:	HSDPA Band 4
Chamber #:	Chamber O

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213832 (dB/m)	Amp/Cbl (dB)	HPF 2.7GHz T772 1-18GHz	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 1712.4MHz										
3.42278	53.54	Pk	32.7	-43.4	.8	-95.2	-51.56	-13	-38.56	H
3.42612	53.14	Pk	32.7	-43.4	.8	-95.2	-51.96	-13	-38.96	V
5.13606	51.87	Pk	34.1	-42.7	.5	-95.2	-51.43	-13	-38.43	H
5.13633	52.44	Pk	34.2	-42.7	.5	-95.2	-50.76	-13	-37.76	V
6.84797	49.32	Pk	35.6	-40.3	.5	-95.2	-50.08	-13	-37.08	H
6.84842	49.43	Pk	35.7	-40.3	.5	-95.2	-49.87	-13	-36.87	V
Mid Channel, 1732.6MHz										
3.46524	52.34	Pk	32.8	-43.3	.6	-95.2	-52.76	-13	-39.76	V
3.46567	52.13	Pk	32.8	-43.3	.6	-95.2	-52.97	-13	-39.97	H
5.19757	51.49	Pk	34.3	-42.5	.5	-95.2	-51.41	-13	-38.41	V
5.19805	51.91	Pk	34.3	-42.5	.5	-95.2	-50.99	-13	-37.99	H
6.93024	49.79	Pk	35.7	-40.4	.4	-95.2	-49.71	-13	-36.71	H
6.93185	49.23	Pk	35.7	-40.5	.4	-95.2	-50.37	-13	-37.37	V
High Channel, 1752.6MHz										
3.50347	53.37	Pk	32.7	-43.2	.8	-95.2	-51.53	-13	-38.53	V
3.50449	53.79	Pk	32.7	-43.3	.8	-95.2	-51.21	-13	-38.21	H
5.25628	51.97	Pk	34.4	-42.5	.7	-95.2	-50.63	-13	-37.63	V
5.25869	51.65	Pk	34.4	-42.4	.7	-95.2	-50.85	-13	-37.85	H
7.01	49.51	Pk	35.8	-40.3	.5	-95.2	-49.69	-13	-36.69	H
7.01027	50.23	Pk	35.8	-40.3	.5	-95.2	-48.97	-13	-35.97	V

Pk - Peak detector

10.1. FIELD STRENGTH OF SPURIOUS RADIATION, ABOVE 1GHz, ANT 4

10.1.1. GSM 1900

GPRS MODE

Project #:	13573771
Date:	4/7/2021
Test Engineer:	50820
Configuration:	EUT Only
Mode:	GPRS 1900
Chamber #:	Chamber O

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213832 (dB/m)	Amp/Cbl/Fltr/ Pad (dB)	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 1850.2MHz									
3.70006	53.88	Pk	33.5	-42.1	-95.2	-49.92	-13	-36.92	H
3.70075	52.77	Pk	33.5	-42.1	-95.2	-51.03	-13	-38.03	V
5.54927	50.84	Pk	34.5	-40.7	-95.2	-50.56	-13	-37.56	H
5.55097	50.83	Pk	34.5	-40.7	-95.2	-50.57	-13	-37.57	V
7.40117	49.5	Pk	35.8	-38.6	-95.2	-48.5	-13	-35.5	H
7.40182	49.7	Pk	35.8	-38.6	-95.2	-48.3	-13	-35.3	V
Mid Channel, 1880MHz									
5.63938	50.86	Pk	34.6	-40.3	-95.2	-50.04	-13	-37.04	H
5.64039	52.28	Pk	34.6	-40.3	-95.2	-48.62	-13	-35.62	V
7.51916	48.53	Pk	35.7	-38.4	-95.2	-49.37	-13	-36.37	V
7.51978	49.3	Pk	35.7	-38.4	-95.2	-48.6	-13	-35.6	H
9.40042	48.71	Pk	36.5	-36.7	-95.2	-46.69	-13	-33.69	H
9.40068	47.48	Pk	36.5	-36.7	-95.2	-47.92	-13	-34.92	V
High Channel, 1909.8MHz									
3.8193	51.98	Pk	33.5	-41.9	-95.2	-51.62	-13	-38.62	H
3.82084	52.74	Pk	33.5	-41.9	-95.2	-50.86	-13	-37.86	V
5.73013	50.28	Pk	34.7	-40	-95.2	-50.22	-13	-37.22	V
5.73032	50.39	Pk	34.7	-40	-95.2	-50.11	-13	-37.11	H
7.63723	48.41	Pk	35.8	-38.1	-95.2	-49.09	-13	-36.09	V
7.63767	48.51	Pk	35.8	-38.1	-95.2	-48.99	-13	-35.99	H

Pk – Peak Detector

EGPRS MODE

Project #:	13573771
Date:	4/7 – 4/8/2021
Test Engineer:	50820
Configuration:	EUT Only
Mode:	EGPRS 1900
Chamber #:	Chamber O

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213832 (dB/m)	Amp/Cbl/Fltr/ Pad (dB)	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 1850.2MHz									
3.69966	53.11	Pk	33.5	-42.1	-95.2	-50.69	-13	-37.69	H
3.70192	54.05	Pk	33.5	-42.1	-95.2	-49.75	-13	-36.75	V
5.54922	50.72	Pk	34.5	-40.7	-95.2	-50.68	-13	-37.68	H
5.55303	51.21	Pk	34.4	-40.7	-95.2	-50.29	-13	-37.29	V
7.39941	49.7	Pk	35.7	-38.6	-95.2	-48.4	-13	-35.4	V
7.40132	49.44	Pk	35.8	-38.6	-95.2	-48.56	-13	-35.56	H
Mid Channel, 1880MHz									
5.64004	59.98	Pk	34.6	-40.3	-95.2	-40.92	-13	-27.92	H
5.64024	56.51	Pk	34.6	-40.3	-95.2	-44.39	-13	-31.39	V
7.52022	49.41	Pk	35.7	-38.3	-95.2	-48.39	-13	-35.39	V
7.52029	49.35	Pk	35.7	-38.3	-95.2	-48.45	-13	-35.45	H
9.40044	48.12	Pk	36.5	-36.7	-95.2	-47.28	-13	-34.28	H
9.40059	51.94	Pk	36.5	-36.7	-95.2	-43.46	-13	-30.46	V
High Channel, 1909.8MHz									
5.72928	63.24	Pk	34.6	-40	-95.2	-37.36	-13	-24.36	H
5.72966	67.52	Pk	34.7	-40	-95.2	-32.98	-13	-19.98	V
7.64031	48.7	Pk	35.9	-38.1	-95.2	-48.7	-13	-35.7	H
7.64058	48.51	Pk	35.9	-38.1	-95.2	-48.89	-13	-35.89	V
9.54869	58.36	Pk	36.7	-37	-95.2	-37.14	-13	-24.14	V
9.54891	52.23	Pk	36.7	-37	-95.2	-43.27	-13	-30.27	H

Pk - Peak detector

10.1.2. CDMA BC1

1xRTT MODE

Project #:	13573771
Date:	5/19/21
Test Engineer:	25000
Configuration:	EYT Only
Mode:	1xRTT BC1
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T962 (dB/m)	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 1851.25 MHz									
3.69422	35.61	Pk	30.3	-24.5	-95.2	-53.79	-13	-40.79	H
3.72328	35.85	Pk	30.4	-25	-95.2	-53.95	-13	-40.95	V
5.54063	35.01	Pk	33.2	-23.5	-95.2	-50.49	-13	-37.49	V
5.56078	34.06	Pk	33.2	-23.4	-95.2	-51.34	-13	-38.34	H
7.38422	32.76	Pk	37	-20.7	-95.2	-46.14	-13	-33.14	H
7.42828	32.83	Pk	36.8	-20.7	-95.2	-46.27	-13	-33.27	V
Mid Channel, 1880 MHz									
3.75609	36.85	Pk	30.6	-24.8	-95.2	-52.55	-13	-39.55	V
3.78234	36.63	Pk	30.8	-24.9	-95.2	-52.67	-13	-39.67	H
5.62359	34.57	Pk	33.1	-22.4	-95.2	-49.93	-13	-36.93	H
5.62547	34.38	Pk	33.2	-22.4	-95.2	-50.02	-13	-37.02	V
7.53094	32.87	Pk	36.9	-20.7	-95.2	-46.13	-13	-33.13	H
7.53469	32.88	Pk	36.9	-20.7	-95.2	-46.12	-13	-33.12	V
High Channel, 1908.75 MHz									
3.81703	33	Pk	31	-24.6	-95.2	-55.8	-13	-42.8	H
3.81703	34.02	Pk	31	-24.6	-95.2	-54.78	-13	-41.78	V
5.72625	30.09	Pk	33	-21.7	-95.2	-53.81	-13	-40.81	H
5.72625	32.01	Pk	33	-21.7	-95.2	-51.89	-13	-38.89	V
7.63547	32.13	Pk	36.9	-21.2	-95.2	-47.37	-13	-34.37	H
7.63547	30.13	Pk	36.9	-21.2	-95.2	-49.37	-13	-36.37	V

1xEV-DO REV A MODE

Project #:	13573771
Date:	5/20/21
Test Engineer:	45258
Configuration:	EUT Only
Mode:	1xEV-DO REV A BC1
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T962 (dB/m)	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 1851.25 MHz									
3.70266	33.31	Pk	30.3	-24.6	-95.2	-56.19	-13	-43.19	H
3.70266	33.22	Pk	30.3	-24.6	-95.2	-56.28	-13	-43.28	V
5.55375	31.14	Pk	33.3	-23.3	-95.2	-54.06	-13	-41.06	H
5.55375	32.31	Pk	33.3	-23.3	-95.2	-52.89	-13	-39.89	V
7.40531	30.53	Pk	36.9	-21	-95.2	-48.77	-13	-35.77	H
7.40531	31.83	Pk	36.9	-21	-95.2	-47.47	-13	-34.47	V
Mid Channel, 1880 MHz									
3.76031	33.77	Pk	30.6	-24.9	-95.2	-55.73	-13	-42.73	H
3.76031	33.64	Pk	30.6	-24.9	-95.2	-55.86	-13	-42.86	V
5.64047	30.07	Pk	33.1	-22.2	-95.2	-54.23	-13	-41.23	H
5.64047	31.64	Pk	33.1	-22.2	-95.2	-52.66	-13	-39.66	V
7.52063	31.57	Pk	36.7	-20.4	-95.2	-47.33	-13	-34.33	H
7.52063	30.73	Pk	36.7	-20.4	-95.2	-48.17	-13	-35.17	V
High Channel, 1908.75 MHz									
3.81703	32.76	Pk	31	-24.6	-95.2	-56.04	-13	-43.04	H
3.81703	34.78	Pk	31	-24.6	-95.2	-54.02	-13	-41.02	V
5.72625	31.15	Pk	33	-21.7	-95.2	-52.75	-13	-39.75	H
5.72625	30.83	Pk	33	-21.7	-95.2	-53.07	-13	-40.07	V
7.63594	31.57	Pk	36.9	-21.2	-95.2	-47.93	-13	-34.93	H
7.63594	30.75	Pk	36.9	-21.2	-95.2	-48.75	-13	-35.75	V

10.1.3. WCDMA BAND 2

REL 99 MODE

Project #:	13573771
Date:	4/13/2021
Test Engineer:	50820
Configuration:	EUT Only
Mode:	REL 99 Band 2
Chamber #:	Chamber O

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213832 (dB/m)	Amp/Cbl (dB)	HPF 2.7GHz T772 1-18GHz	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 1852.4MHz										
3.70315	52.74	Pk	33.5	-42.1	0.7	-95.2	-50.36	-13	-37.36	V
3.70412	52.63	Pk	33.5	-42.1	0.7	-95.2	-50.47	-13	-37.47	H
5.55746	51.06	Pk	34.4	-40.6	0.7	-95.2	-49.64	-13	-36.64	H
6.03397	49.37	Pk	35.4	-39.1	0.6	-95.2	-48.93	-13	-35.93	V
7.40879	49.3	Pk	35.7	-38.6	0.4	-95.2	-48.4	-13	-35.4	H
7.40896	49.21	Pk	35.7	-38.6	0.4	-95.2	-48.49	-13	-35.49	V
Mid Channel, 1880MHz										
3.76025	53.07	Pk	33.5	-41.7	0.6	-95.2	-49.73	-13	-36.73	H
3.76141	52.04	Pk	33.5	-41.7	0.6	-95.2	-50.76	-13	-37.76	V
5.64136	50.92	Pk	34.6	-40.3	0.6	-95.2	-49.38	-13	-36.38	V
5.6422	50.8	Pk	34.7	-40.3	0.6	-95.2	-49.4	-13	-36.4	H
7.51911	48.53	Pk	35.7	-38.4	0.4	-95.2	-48.97	-13	-35.97	V
7.52027	48.71	Pk	35.7	-38.3	0.4	-95.2	-48.69	-13	-35.69	H
High Channel, 1907.6MHz										
3.81487	51.91	Pk	33.5	-41.9	0.6	-95.2	-51.09	-13	-38.09	H
3.81542	51.69	Pk	33.5	-41.9	0.6	-95.2	-51.31	-13	-38.31	V
5.7201	50.91	Pk	34.7	-39.8	0.6	-95.2	-48.79	-13	-35.79	H
5.72321	50.85	Pk	34.7	-39.9	0.6	-95.2	-48.95	-13	-35.95	V
7.62871	48.14	Pk	35.9	-38.2	0.4	-95.2	-48.96	-13	-35.96	H
7.63225	48.45	Pk	35.9	-38.2	0.4	-95.2	-48.65	-13	-35.65	V

Pk - Peak detector

HSDPA MODE

Project #:	13573771
Date:	4/27 – 4/28/2021
Test Engineer:	50820
Configuration:	EUT Only
Mode:	HSDPA Band 2
Chamber #:	Chamber O

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213832 (dB/m)	Amp/Cbl (dB)	HPF 2.7GHz T772 1-18GHz	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 1852.4MHz										
3.70372	52.64	Pk	33.5	-43	.7	-95.2	-51.36	-13	-38.36	V
3.70511	52.21	Pk	33.5	-43	.7	-95.2	-51.79	-13	-38.79	H
5.55098	50.64	Pk	34.5	-41.7	.7	-95.2	-51.06	-13	-38.06	V
5.55287	50.8	Pk	34.4	-41.7	.6	-95.2	-51.1	-13	-38.1	H
7.4087	49.11	Pk	35.7	-39.7	.4	-95.2	-49.69	-13	-36.69	V
7.40909	49.27	Pk	35.7	-39.7	.4	-95.2	-49.53	-13	-36.53	H
Mid Channel, 1880MHz										
3.75897	52.27	Pk	33.5	-42.8	.6	-95.2	-51.63	-13	-38.63	V
3.75971	52.03	Pk	33.5	-42.8	.6	-95.2	-51.87	-13	-38.87	H
5.63887	51.05	Pk	34.6	-41.5	.6	-95.2	-50.45	-13	-37.45	V
5.64159	50.53	Pk	34.6	-41.4	.6	-95.2	-50.87	-13	-37.87	H
7.54045	49	Pk	35.7	-39.4	.4	-95.2	-49.5	-13	-36.5	H
7.54142	50.08	Pk	35.7	-39.4	.4	-95.2	-48.42	-13	-35.42	V
High Channel, 1907.6MHz										
3.8156	52.37	Pk	33.5	-42.9	.6	-95.2	-51.63	-13	-38.63	V
3.81599	53.02	Pk	33.5	-42.9	.6	-95.2	-50.98	-13	-37.98	H
5.72333	50.15	Pk	34.7	-41.3	.6	-95.2	-51.05	-13	-38.05	H
5.72427	50.52	Pk	34.6	-41.3	.6	-95.2	-50.78	-13	-37.78	V
7.63036	48.39	Pk	35.9	-39.2	.4	-95.2	-49.71	-13	-36.71	V
7.63085	48.57	Pk	35.9	-39.2	.4	-95.2	-49.53	-13	-36.53	H

Pk - Peak detector

10.1.4. WCDMA BAND 4

REL 99 MODE

Project #:	13573771
Date:	4/13/2021
Test Engineer:	50820
Configuration:	EUT Only
Mode:	REL 99 Band 4
Chamber #:	Chamber O

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213832 (dB/m)	Amp/Cbl (dB)	HPF 2.7GHz T772 1-18GHz	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 1712.4MHz										
3.42464	53.29	Pk	32.7	-42.3	0.8	-95.2	-50.71	-13	-37.71	V
3.4256	53.63	Pk	32.7	-42.3	0.8	-95.2	-50.37	-13	-37.37	H
5.13665	51.54	Pk	34.2	-41.8	0.5	-95.2	-50.76	-13	-37.76	V
5.13793	51.71	Pk	34.2	-41.8	0.5	-95.2	-50.59	-13	-37.59	H
6.84785	48.97	Pk	35.6	-39.6	0.5	-95.2	-49.73	-13	-36.73	V
6.85069	49.52	Pk	35.7	-39.6	0.5	-95.2	-49.08	-13	-36.08	H
Mid Channel, 1732.6MHz										
3.4649	53.06	Pk	32.8	-42.1	0.6	-95.2	-50.84	-13	-37.84	V
3.46506	53.14	Pk	32.8	-42.1	0.6	-95.2	-50.76	-13	-37.76	H
5.19646	52.78	Pk	34.3	-41.8	0.5	-95.2	-49.42	-13	-36.42	V
5.19834	52.47	Pk	34.3	-41.8	0.5	-95.2	-49.73	-13	-36.73	H
6.93053	49.53	Pk	35.7	-39.6	0.4	-95.2	-49.17	-13	-36.17	V
6.93155	49.62	Pk	35.7	-39.6	0.4	-95.2	-49.08	-13	-36.08	H
High Channel, 1752.6MHz										
3.50658	52.56	Pk	32.7	-42.1	0.8	-95.2	-51.24	-13	-38.24	V
3.5068	52.56	Pk	32.7	-42.1	0.8	-95.2	-51.24	-13	-38.24	H
5.31506	52.45	Pk	34.5	-40.8	0.7	-95.2	-48.35	-13	-35.35	V
5.34546	51.37	Pk	34.6	-40.6	0.7	-95.2	-49.13	-13	-36.13	H
7.01029	49.65	Pk	35.8	-39.5	0.5	-95.2	-48.75	-13	-35.75	V
7.01072	49.73	Pk	35.8	-39.5	0.4	-95.2	-48.77	-13	-35.77	H

Pk - Peak detector

HSDPA MODE

Project #:	13573771
Date:	4/28/2021
Test Engineer:	50820
Configuration:	EUT Only
Mode:	HSDPA Band 4
Chamber #:	Chamber O

Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0213832 (dB/m)	Amp/Cbl (dB)	HPF 2.7GHz T772 1-18GHz	EIRP CF	Corrected Reading (dBm)	Limit	Margin (dB)	Polarity
Low Channel, 1712.4MHz										
3.42408	53.14	Pk	32.7	-43.4	.8	-95.2	-51.96	-13	-38.96	H
3.42608	52.72	Pk	32.7	-43.4	.8	-95.2	-52.38	-13	-39.38	V
5.13711	51.58	Pk	34.2	-42.7	.5	-95.2	-51.62	-13	-38.62	H
5.13872	52.5	Pk	34.2	-42.7	.5	-95.2	-50.7	-13	-37.7	V
6.84529	49.66	Pk	35.7	-40.3	.5	-95.2	-49.64	-13	-36.64	H
6.84593	49.53	Pk	35.7	-40.3	.5	-95.2	-49.77	-13	-36.77	V
Mid Channel, 1732.6MHz										
3.46637	52.49	Pk	32.8	-43.4	.6	-95.2	-52.71	-13	-39.71	H
3.46676	52.31	Pk	32.8	-43.4	.6	-95.2	-52.89	-13	-39.89	V
5.19836	51.33	Pk	34.3	-42.5	.5	-95.2	-51.57	-13	-38.57	H
5.19857	51.95	Pk	34.3	-42.5	.5	-95.2	-50.95	-13	-37.95	V
6.92945	49.13	Pk	35.7	-40.4	.4	-95.2	-50.37	-13	-37.37	V
6.9298	49.51	Pk	35.7	-40.4	.4	-95.2	-49.99	-13	-36.99	H
High Channel, 1752.6MHz										
3.50327	53.08	Pk	32.7	-43.2	.8	-95.2	-51.82	-13	-38.82	V
3.50342	53.43	Pk	32.7	-43.2	.8	-95.2	-51.47	-13	-38.47	H
5.25632	52.27	Pk	34.4	-42.5	.7	-95.2	-50.33	-13	-37.33	V
5.25944	51.49	Pk	34.4	-42.4	.7	-95.2	-51.01	-13	-38.01	H
7.01051	49.73	Pk	35.8	-40.3	.5	-95.2	-49.47	-13	-36.47	H
7.01114	49.35	Pk	35.8	-40.3	.4	-95.2	-49.95	-13	-36.95	V

Pk - Peak detector

11. SETUP PHOTOS

Please refer to 13573771-EP1V1 FCC IC Setup Photo for setup photos

END OF REPORT