

TEST REPORT

Report Number: 15173542-E9V2

Applicant : APPLE, INC
1 APPLE PARK WAY
CUPERTINO, CA 95014, U.S.A.

Model : A3212

Brand : APPLE

FCC ID : BCG-E8725A

IC : 579C-E8725A

EUT Description : SMARTPHONE

Test Standard(s) : FCC 47 CFR PART 2, PART 22H, 24E, AND 27L
ISED RSS-GEN ISSUE 5, RSS-132 ISSUE 4, RSS-133
ISSUE 7, AND RSS-139 ISSUE 4

Date Of Issue:
2024-11-20

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Revision History

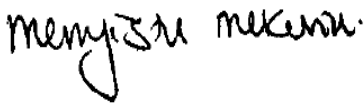
Rev.	Issue Date	Revisions	Revised By
V1	2024-10-21	Initial Review	--
V2	2024-11-20	Addressed TCB questions and updated RSS 133 issue number, updated Section 9.2 & 8.1.2	Binod Sitaula

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1. ATTESTATION OF TEST RESULTS

Applicant Name and Address	APPLE, INC 1 APPLE PARK WAY CUPERTINO, CA 95014, U.S.A.	
Model	A3212	
Brand	APPLE	
FCC ID	BCG-E8725A	
IC	579C-E8725A	
EUT Description	SMARTPHONE	
Serial Number	Conducted: C07H8000260000J57, C07H800003C0000J57, C07H9K000JE0000J57 and Radiated: LD23Q31PQ4, L52G6VJWHY	
Sample Receipt Date	2024-05-15	
Date Tested	2024-05-15 to 2024-10-19	
Applicable Standards	FCC 47 CFR Part 2, Part 22, Part 24, and Part 27 ISED RSS-GEN ISSUE 5, RSS-132 Issue 4, RSS-133 Issue 7, RSS-139 Issue 4.	
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.		
Approved & Released By:	Reviewed By:	Prepared By:
		
Mengistu Mekuria Operations Leader UL Verification Services Inc.	Binod Sitaula Laboratory Engineer Associate UL Verification Services Inc.	Tewodros Woldemichael 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 correctly integrating customer-provided data with measurements performed by UL Verification Services Inc.

Requirement Description	Requirement Clause Number (FCC)	Requirement Clause Number (ISED)	Result	Remarks
RF Conducted Output Power	2.1046,	-	Complies	
Effective Radiated Power	22.913 (a)(5)	RSS132§5.4	Complies	
Equivalent Isotropic Radiated power	24.232 (c), 27.50 (d) (4)	RSS133§5.5 & SRSP-510, 5.1.2 RSS139§5.5	Complies	
Occupied Bandwidth	2.1049	RSS132 RSS133 RSS139 RSS-GEN§6.7	Complies	
Band Edge and Emission Mask	2.1051, 22.917 (a), 24.238 (a), 27.53 (h),	RSS132§5.5 RSS133§5.6 RSS139§5.6	Complies	
Out of Band Emissions	2.1051, 22.917 (a), 24.238 (a), 27.53 (h),	RSS132§5.5 RSS133§5.6 RSS139§5.6	Complies	
Frequency Stability	2.1055, 22.355, 24.235, 27.54	RSS132§5.3 RSS133§5.4 RSS139§5.4	Complies	
Peak-to-Average Ratio	22.913 (d), 24.232 (d), 27.50 (d) (5)	RSS132§5.4 RSS133§5.5 RSS139§5.5	Complies	
Field Strength of Spurious Radiation	2.1053, 22.917 (a), 24.238 (a), 27.53 (h),	RSS132§5.5 RSS133§5.6 RSS139§5.6	Complies	

3. TEST METHODOLOGY

- The tests documented in this report were performed in accordance with the following:
- ANSI C63.26:2015
 - FCC 47 CFR Part 2, Part 22, Part 24, and Part 27.
 - [FCC KDB 971168 D01](#): Power Meas License Digital Systems
 - [FCC KDB 971168 D02](#): Misc Rev Approv License Devices
 - [FCC KDB 412172 D01](#): Determining ERP and EIRP
 - ISED RSS-GEN Issue 5, ISED RSS-132 Issue 4, RSS-133 Issue 7, RSS-139 Issue 4.

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	550739
☒	Building 2: 47266 Benicia Street, Fremont, CA 94538, USA			
☒	Building 3: 843 Auburn Court, Fremont, CA 94538, USA			
☐	Building 4: 47658 Kato Rd, Fremont, CA 94538, USA			
☒	Building 5: 47670 Kato Rd, Fremont, CA 94538, USA			

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}
Conducted Antenna Port Emission Measurement	1.940
Power Spectral Density	2.466
Time Domain Measurements Using SA	3.39
RF Power Measurement Direct Method Using Power Meter	1.300 db Peak 0.450 db Ave.
Radio Frequency (Spectrum Analyzer)	141.16 Hz
Occupied Bandwidth	1.22%
Worst Case Conducted Disturbance, 9KHz to 0.15 MHz	3.78 db
Worst Case Conducted Disturbance, 0.15 to 30 MHz	3.40 db
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

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

6. EQUIPMENT UNDER TEST

6.1. DESCRIPTION OF EUT

The Apple iPhone is a smartphone with GSM, GPRS, EGPRS, WCDMA, LTE, 5G NR1, IEEE 802.11a/b/g/n/ac/ax, Bluetooth (BT), Global Positioning System (GPS), Near-Field Communication (NFC), and Mobile Satellite Service (MSS) technologies. The rechargeable battery is not user accessible. This device is not user-serviceable and requires special tools to disassemble.

6.2. MAXIMUM OUTPUT POWER

EIRP/ERP TEST PROCEDURE

ANSI C63.26:2015
KDB 971168 D01 Section 5.6

$$\text{ERP/EIRP} = \text{PMeas} + \text{GT} - \text{LC}$$

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								
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	-4.50	7.0	26.85	0.484	249.75	250KGXW
	EGPRS	28.00			21.35	0.136	247.92	248KG7W
Part 22 850MHz)								
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	-4.50	7.0	26.85	0.484	249.75	250KGXW
	EGPRS	28.00			21.35	0.136	247.92	248KG7W
Part 24 / RSS 133 1900MHz								
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	31.50	0.40	2.0	31.90	1.549	243.62	244KGXW
	EGPRS	26.50			26.90	0.490	243.72	244KG7W

WCDMA MODE

RSS 132 Band 5								
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	-4.50	7.0	19.05	0.080	4074	4M07F9W
	HSDPA	25.70			19.05	0.080	4064	4M06F9W
Part 22 Band 5								
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	-4.50	7.0	19.05	0.080	4074	4M07F9W
	HSDPA	25.70			19.05	0.080	4064	4M06F9W
Part 24 / RSS 133 Band 2								
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	0.40	2.0	25.60	0.363	4073	4M07F9W
	HSDPA	25.20			25.60	0.363	4067	4M07F9W
Part 27 / RSS 139 Band 4								
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	25.68	-1.10	1.0	24.58	0.287	4069	4M07F9W
	HSDPA	25.70			24.60	0.288	4069	4M07F9W

6.3. SOFTWARE AND FIRMWARE

The EUT firmware installed during testing was 1.0.23.

6.4. MAXIMUM ANTENNA GAIN

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

Frequency Band	ANT 1 Antenna Gain (dBi)	ANT 2 Antenna Gain (dBi)	ANT 3 Antenna Gain (dBi)	ANT 4 Antenna Gain (dBi)
GSM850 and WCDMA 5 824 – 849MHz	-4.5	-4.9		
GSM1900 and WCDMA 2 1850 – 1910 MHz	-2.0	-1.1	0.4	-2.2
WCDMA 4 1710 – 1755 MHz	-1.1	-2.3	-0.7	-1.5

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 ANT4 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
824 – 849 MHz	X	X	N/A	N/A
1710 – 1915 MHz	X	X	X	Y

Based on average conducted output power measurement investigations. The worst-case 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
- WCDMA REL 99
- WCDMA HSDPA

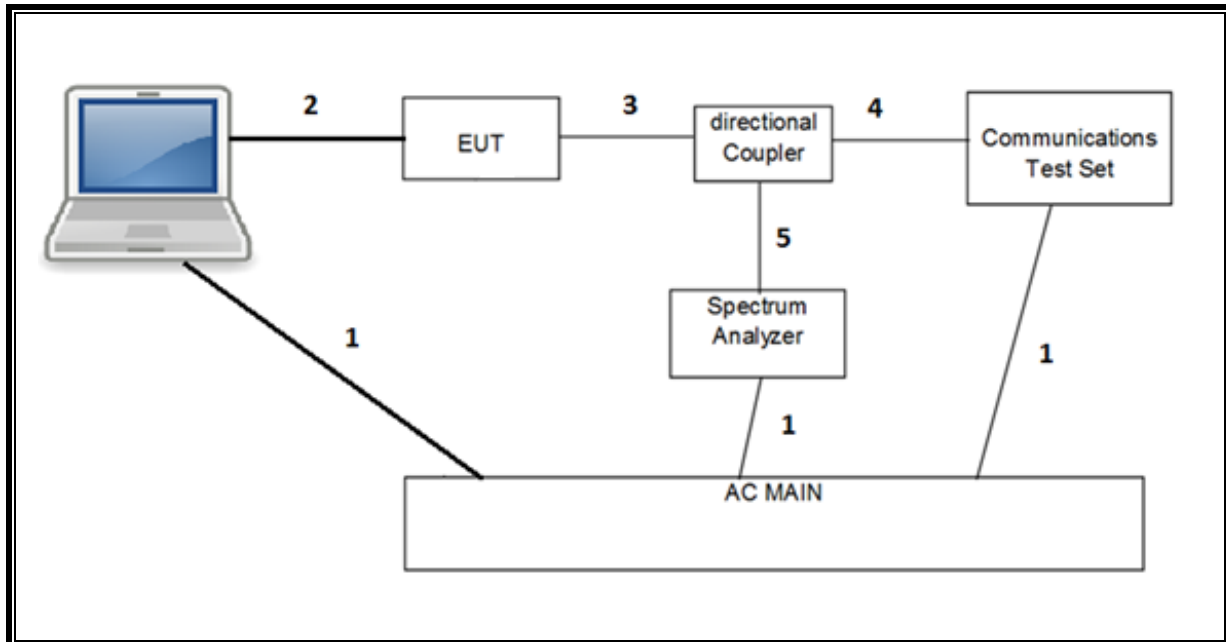
Radiated spurious emissions were investigated from 9kHz to 30MHz, 30MHz-1GHz and above 1GHz. There were no emissions found with less than 20dB of margin from 9kHz to 1GHz.

For simultaneous transmission of multiple channels in the 2.4GHz/5GHz 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.

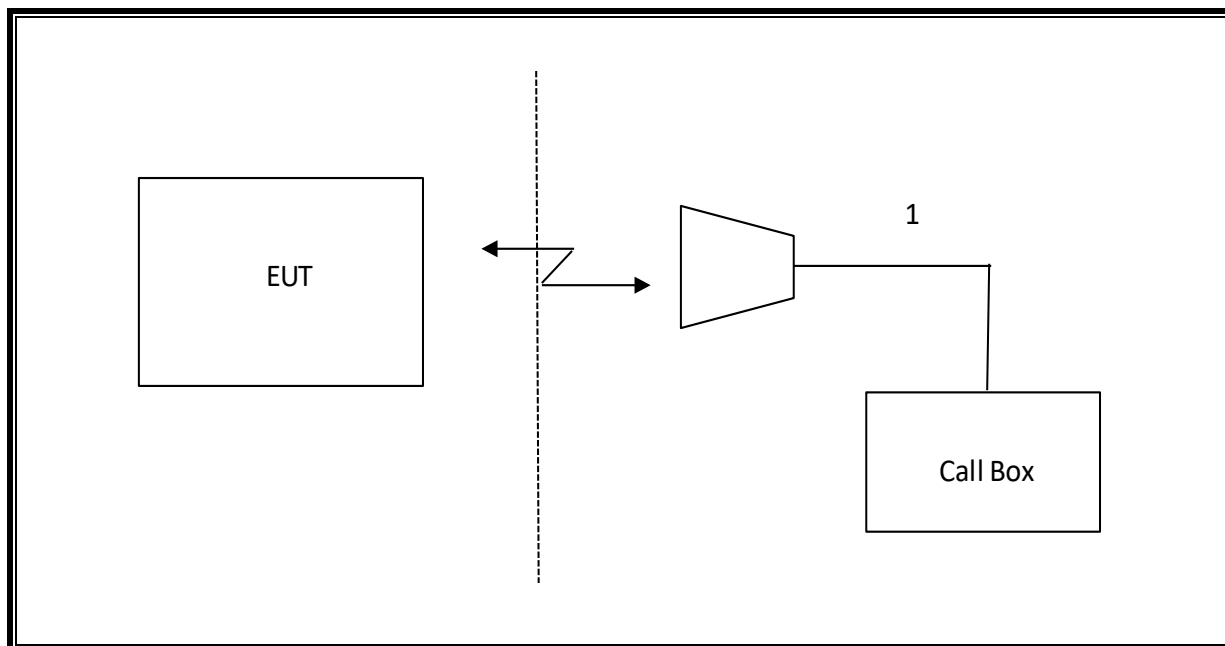
6.6. DESCRIPTION OF TEST SETUP

SUPPORT TEST EQUIPMENT						
Description		Manufacturer	Model	Serial Number		FCC ID/ DoC
Laptop		Apple	MacBook Pro	HRP082673		BCGA1708
AC/DC adapter		Apple	A1718	C4H64450HH3GN8RA6		--
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
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	80430	2026-09-30
Antenna, Horn 1-18GHz	ETS Lindgren	3117	79834	2026-07-31
Antenna, Broadband Hybrid, 30MHz to 3000MHz	SUNAR	JB3	222009	2026-06-30
*Antenna, Passive Loop 30Hz - 1MHz	ELECTRO-METRICS	EM-6871	170014	2024-08-31
*Antenna, Passive Loop 100KHz - 30MHz	ELECTRO-METRICS	EM-6872	170016	2024-08-31
*RF Filter Box, 1-18GHz	UL-FR1	NA	217255	2024-10-31
RF Filter Box, 1-18GHz	UL-FR1	RATS 2	226781	2025-03-30
Amplifier, 10KHz to 1GHz, 32dB	Sonoma	310N	430250	2025-10-31
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	169936	2025-02-28
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	169935	2025-02-28
Wideband Communication Test Set, Call Box	R&S GmbH & Co. KG	CMW500	85943	2025-02-28
Directional Coupler	KRYTAR	152610	198816	2024-10-31
Directional Coupler	KRYTAR	152610	231664	2025-01-22
Power Meter, P-series single channel	Keysight	N1912A	90719	2025-01-31
Power Sensor, P - series, 50MHz to 18GHz, Wideband	Keysight	N1921A	81319	2025-01-31
Filter, HPF 1.2GHz	Wainwright Instruments GmbH	WHKX6-948-1.2/15G-40ST	99	2024-10-31
Spectrum Analyzer, PXA, 2Hz to 44GHz	Keysight	N9030B	231739	2025-01-31
Spectrum Analyzer, PXA, 2Hz to 44GHz	Keysight	N9030B	245120	2025-02-28
Spectrum Analyzer, PXA, 3Hz to 44GHz	Keysight	N9030A	85212	2025-02-28
Wideband Communication Test Set, Call Box	R&S GmbH & Co. KG	CMW500	222793	2025-02-28
Wideband Communication Test Set, Call Box	R&S GmbH & Co. KG	CMW500	222797	2025-02-28
Chamber, Environmental	Thermotron Corp.	SM-16C Mini-Max	179936	2025-07-30
Transmitting Antenna, Horn Antenna	TEKBOX Digital Solutions	TBMA4	226709	C.N.R.
Antenna, Horn 18 to 26.5GHz	A.R.A.	MWH-1826/B	199659	2024-12-31
Amplifier 18-26.5GHz, +5Vdc, -54dBm P1dB	AMPLICAL	AMP18G26.5-60	234683	2025-05-31
DC Power Supply	GWINSTEK	GPS18500	N/A	C.N.R.
UL AUTOMATION SOFTWARE				
CLT Software	UL	UL RF	V2023.11.21.0	
Power Measurement Software	UL	UL RF	V2023.08.14.0	
Radiated test software	UL	UL RF	Ver 9.5 2023-05-01	

NOTES:

- * Testing is completed before equipment expiration date.
- ** 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 MEASUREMENT

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:	25780	Test Date:	2024-07-05
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Mode	Coding Scheme	Time Slots	Ch No.	Freq. (MHz)	Conducted Average Power (dBm)	
					ANT 1	ANT 2
GPRS (GMSK)	CS1	1	128	824.2	33.42	32.34
			190	836.6	33.41	32.50
			251	848.8	33.50	32.36
		2	128	824.2	32.48	31.46
			190	836.6	32.47	31.50
			251	848.8	32.39	31.46
EGPRS (8PSK)	MCS5	1	128	824.2	27.90	27.00
			190	836.6	27.92	26.99
			251	848.8	28.00	26.93
		2	128	824.2	26.99	25.94
			190	836.6	26.92	25.94
			251	848.8	26.93	25.98

8.1.2. GSM 1900

Test Engineer ID:	25780	Test Date:	2024-07-05
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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	31.50	28.86
			661	1880.0	31.98	29.27	31.47	28.85
			810	1909.8	31.97	29.50	31.41	29.00
		2	512	1850.2	30.94	28.46	30.48	27.93
			661	1880.0	30.70	28.28	30.34	27.75
			810	1909.8	30.67	28.22	30.30	27.74
EGPRS (8PSK)	MCS5	1	512	1850.2	26.99	24.45	26.42	23.95
			661	1880.0	27.00	24.45	26.45	23.91
			810	1909.8	26.94	24.50	26.50	24.00
		2	512	1850.2	26.31	23.48	25.50	23.00
			661	1880.0	26.20	23.50	25.43	22.90
			810	1909.8	26.20	23.50	25.43	22.88

8.2. 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 $\geq$ RBW $\geq$ 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
	β_c/β_d	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} (Note 1, 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 $\Delta_{CQI} = 30/15$ 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 $\Delta_{NACK} = 30/15$ with $\beta_{hs} = 30/15 * \beta_c$, and $\Delta_{CQI} = 24/15$ with $\beta_{hs} = 24/15 * \beta_c$.

Note 3: CM = 1 for $\beta_c/\beta_d = 12/15$, $\beta_{hs}/\beta_c = 24/15$. 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 $\beta_c = 11/15$ and $\beta_d = 15/15$.

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} (Note 1)	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	209/25	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	β_{ed1} : 47/15 β_{ed2} : 47/15	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 $\Delta_{CQI} = 30/15$ with $\beta_{hs} = 30/15 * \beta_c$. For sub-test 5, Δ_{ACK} , Δ_{NACK} and $\Delta_{CQI} = 5/15$ with $\beta_{hs} = 5/15 * \beta_c$.

Note 2: CM = 1 for $\beta_c/\beta_d = 12/15$, $\beta_{hs}/\beta_c = 24/15$. 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 $\beta_c = 10/15$ and $\beta_d = 15/15$.

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 (Note 3)	β_d	β_{HS} (Note 1)	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	β_{ed1} : 30/15 β_{ed2} : 30/15	β_{ed3} : 24/15 β_{ed4} : 24/15	3.5	2.5	14	105	105
Note 1: Δ_{ACK}, Δ_{NACK} and $\Delta_{CQI} = 30/15$ with $\beta_{hs} = 30/15 * \beta_c$. 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 $\beta_d = 0$ 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

8.2.1. WCDMA BAND 5

Test Engineer ID:	28774	Test Date:	2024-06-30
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Band	Mode		UL Ch No.	Freq. (MHz)	MPR (dB)	Conducted Average	
						ANT 1	ANT 2
W-CDMA Band 5 (850MHz)	Rel 99	RMC, 12.2 kbps	4132	826.4	N/A	25.61	24.64
			4183	836.6	N/A	25.70	24.70
			4233	846.6	N/A	25.67	24.56
	HSDPA	Subtest 1	4132	826.4	0	25.64	24.60
			4183	836.6	0	25.70	24.65
			4233	846.6	0	25.61	24.58
		Subtest 2	4132	826.4	0	23.57	24.29
			4183	836.6	0	23.70	23.90
			4233	846.6	0	23.60	23.86
		Subtest 3	4132	826.4	0.5	23.32	23.64
			4183	836.6	0.5	23.40	23.58
			4233	846.6	0.5	23.29	23.56
		Subtest 4	4132	826.4	0.5	23.01	23.40
			4183	836.6	0.5	23.17	23.32
			4233	846.6	0.5	23.02	23.30
	HSPA (HSDPA & HSUPA)	Subtest 1	4132	826.4	0	23.66	23.93
			4183	836.6	0	23.71	23.92
			4233	846.6	0	23.65	23.80
		Subtest 2	4132	826.4	2	23.05	22.67
			4183	836.6	2	23.08	22.65
			4233	846.6	2	23.01	22.61
		Subtest 3	4132	826.4	1	23.74	23.71
			4183	836.6	1	23.75	23.69
			4233	846.6	1	23.69	23.69
		Subtest 4	4132	826.4	2	23.77	22.96
			4183	836.6	2	23.79	22.93
			4233	846.6	2	23.73	22.90
		Subtest 5	4132	826.4	0	23.90	24.52
			4183	836.6	0	24.02	24.52
			4233	846.6	0	23.93	24.48
	DC-HSDPA	Subtest 1	4132	826.4	0	23.94	24.27
			4183	836.6	0	24.06	24.22
			4233	846.6	0	23.86	24.17
		Subtest 2	4132	826.4	0	23.57	23.97
			4183	836.6	0	23.72	23.91
			4233	846.6	0	23.58	23.88
		Subtest 3	4132	826.4	0.5	23.28	23.66
			4183	836.6	0.5	23.38	23.59
			4233	846.6	0.5	23.27	23.58
		Subtest 4	4132	826.4	0.5	23.01	23.37
			4183	836.6	0.5	23.10	23.31
			4233	846.6	0.5	23.01	23.28

8.2.2. WCDMA BAND 2

Test Engineer ID:	32061	Test Date:	2024-07-05
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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	25.68	23.57	25.17	23.10
			9400	1880.0	N/A	25.67	23.70	25.20	23.20
			9538	1907.6	N/A	25.70	23.47	25.17	23.01
	HSDPA	Subtest 1	9262	1852.4	0	25.68	23.63	25.20	23.07
			9400	1880.0	0	25.70	23.70	25.17	23.20
			9538	1907.6	0	25.65	23.48	25.05	23.01
		Subtest 2	9262	1852.4	0	25.36	23.24	24.88	22.73
			9400	1880.0	0	25.30	23.29	24.88	22.89
			9538	1907.6	0	25.22	23.07	24.67	22.66
		Subtest 3	9262	1852.4	0.5	25.07	22.95	24.59	22.42
			9400	1880.0	0.5	25.00	20.00	24.57	22.54
			9538	1907.6	0.5	24.98	19.80	24.37	22.37
		Subtest 4	9262	1852.4	0.5	24.78	22.66	24.27	22.16
			9400	1880.0	0.5	24.76	22.76	21.28	22.32
			9538	1907.6	0.5	24.69	22.49	24.13	22.08
	HSPA (HSDPA & HSUPA)	Subtest 1	9262	1852.4	0	23.55	22.40	23.44	22.79
			9400	1880.0	0	23.58	22.43	23.47	22.95
			9538	1907.6	0	23.42	22.22	23.30	22.77
		Subtest 2	9262	1852.4	2	22.64	20.26	22.00	20.64
			9400	1880.0	2	22.66	20.29	22.08	20.86
			9538	1907.6	2	22.49	20.13	21.89	20.63
		Subtest 3	9262	1852.4	1	23.57	20.96	23.04	21.41
			9400	1880.0	1	23.57	21.00	23.08	21.60
			9538	1907.6	1	23.39	20.81	22.92	21.41
		Subtest 4	9262	1852.4	2	22.89	20.52	22.24	20.91
			9400	1880.0	2	22.91	20.57	22.33	21.06
			9538	1907.6	2	22.76	20.37	22.16	20.94
		Subtest 5	9262	1852.4	0	24.55	22.10	23.89	22.51
			9400	1880.0	0	24.49	22.20	23.96	22.65
			9538	1907.6	0	24.34	21.97	23.71	22.48
	DC-HSDPA	Subtest 1	9262	1852.4	0	25.63	23.60	25.15	23.11
			9400	1880.0	0	25.63	23.64	25.16	23.20
			9538	1907.6	0	25.58	23.46	25.06	22.99
		Subtest 2	9262	1852.4	0	25.38	23.22	24.86	22.78
			9400	1880.0	0	25.37	23.34	24.87	22.88
			9538	1907.6	0	25.31	20.08	24.73	22.65
		Subtest 3	9262	1852.4	0.5	25.05	22.94	24.58	22.41
			9400	1880.0	0.5	25.10	23.00	24.56	22.58
			9538	1907.6	0.5	25.02	22.78	24.43	22.32
		Subtest 4	9262	1852.4	0.5	24.78	22.66	24.29	22.13
			9400	1880.0	0.5	24.85	22.73	24.30	22.32
			9538	1907.6	0.5	24.77	22.51	24.15	22.07

8.2.3. WCDMA BAND 4

Test Engineer ID:	32061	Test Date:	2024-07-05
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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	25.68	25.61	25.20	25.61
			1413	1732.6	N/A	25.64	25.70	25.13	25.70
			1513	1752.6	N/A	25.58	25.65	24.96	25.70
	HSDPA	Subtest 1	1312	1712.4	0	25.70	25.70	25.19	25.58
			1413	1732.6	0	25.66	25.66	25.11	25.70
			1513	1752.6	0	25.59	25.66	24.96	25.70
		Subtest 2	1312	1712.4	0	25.36	25.29	24.82	25.32
			1413	1732.6	0	25.32	25.35	24.79	25.37
			1513	1752.6	0	25.23	25.32	24.62	25.40
		Subtest 3	1312	1712.4	0.5	25.08	25.02	24.56	24.96
			1413	1732.6	0.5	24.97	25.06	24.51	25.04
			1513	1752.6	0.5	24.94	25.06	24.31	25.04
		Subtest 4	1312	1712.4	0.5	24.79	24.77	24.28	24.70
			1413	1732.6	0.5	24.71	24.79	24.23	24.76
			1513	1752.6	0.5	24.70	24.78	24.03	24.79
	HSPA (HSDPA & HSUPA)	Subtest 1	1312	1712.4	0	24.11	22.84	24.19	23.08
			1413	1732.6	0	24.14	22.87	24.04	23.14
			1513	1752.6	0	23.98	22.66	23.90	23.14
		Subtest 2	1312	1712.4	2	23.20	20.70	22.82	22.42
			1413	1732.6	2	23.22	20.73	22.64	22.50
			1513	1752.6	2	23.05	20.57	22.53	22.54
		Subtest 3	1312	1712.4	1	24.13	21.40	23.75	23.08
			1413	1732.6	1	24.13	21.44	23.67	23.17
			1513	1752.6	1	23.95	21.25	23.49	23.16
		Subtest 4	1312	1712.4	2	23.45	20.96	23.00	23.13
			1413	1732.6	2	23.47	21.01	22.93	23.20
			1513	1752.6	2	23.32	20.81	22.73	23.25
		Subtest 5	1312	1712.4	0	25.11	22.54	24.58	25.08
			1413	1732.6	0	25.05	22.64	24.51	25.14
			1513	1752.6	0	24.90	22.41	24.35	25.16
	DC-HSDPA	Subtest 1	1312	1712.4	0	25.70	25.69	25.17	25.60
			1413	1732.6	0	25.63	25.67	25.06	25.70
			1513	1752.6	0	25.60	25.66	24.96	25.68
		Subtest 2	1312	1712.4	0	25.43	25.37	24.86	25.32
			1413	1732.6	0	25.28	25.36	24.76	25.38
			1513	1752.6	0	25.26	25.31	24.62	25.41
		Subtest 3	1312	1712.4	0.5	25.10	25.07	24.59	24.97
			1413	1732.6	0.5	25.01	25.06	24.46	25.04
			1513	1752.6	0.5	24.96	25.04	24.31	25.05
		Subtest 4	1312	1712.4	0.5	24.82	24.83	24.30	24.71
			1413	1732.6	0.5	24.77	24.79	24.17	24.75
			1513	1752.6	0.5	24.70	24.77	24.04	24.79

9. CONDUCTED TEST RESULTS

9.1. OCCUPIED BANDWIDTH

RULE PART(S)

FCC: §2.1049

ISED: RSS132; RSS133; 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.

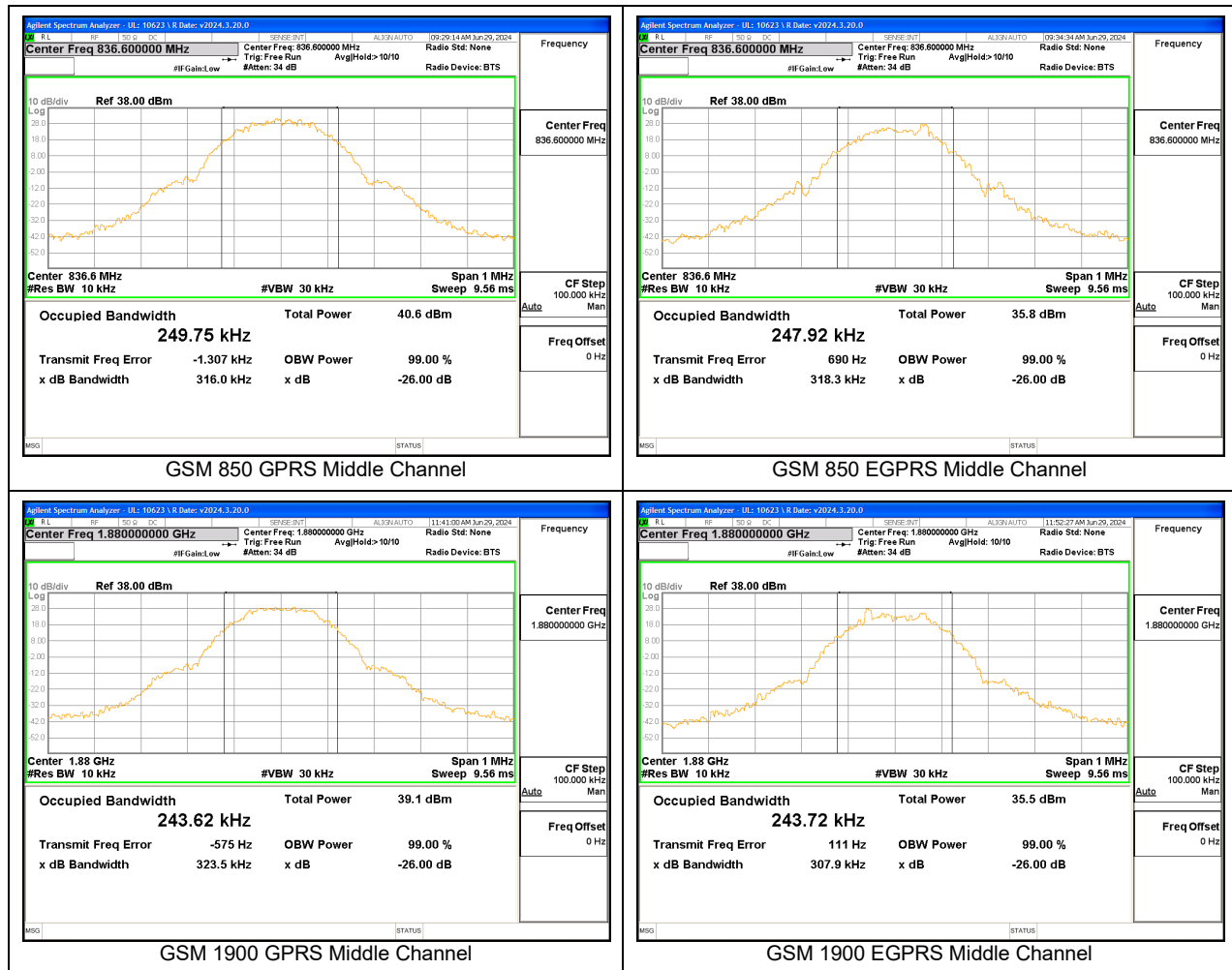
GSM

Band	Modulation	Channel	f(MHz)	99% BW (KHz)	-26dB BW (KHz)
850	GPRS	190	836.6	249.750	316.00
	EGPRS			247.920	318.30
1900	GPRS	661	1880.0	243.620	323.50
	EGPRS			243.720	307.90

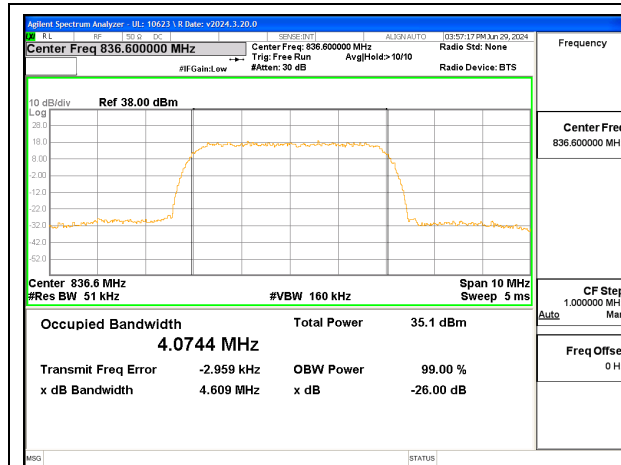
WCDMA

Band	Modulation	Channel	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
BAND 5	REL 99	4183	836.6	4.074	4.61
	HSDPA			4.064	4.60
BAND 2	REL 99	9400	1880.0	4.073	4.60
	HSDPA			4.067	4.62
BAND 4	REL 99	1413	1732.6	4.069	4.62
	HSDPA			4.069	4.62

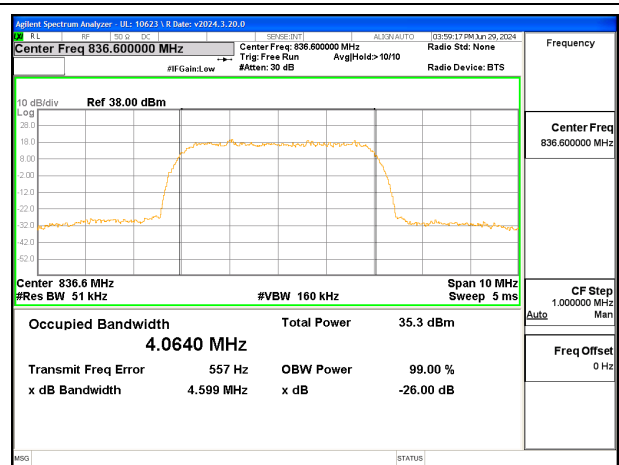
9.1.1. GSM



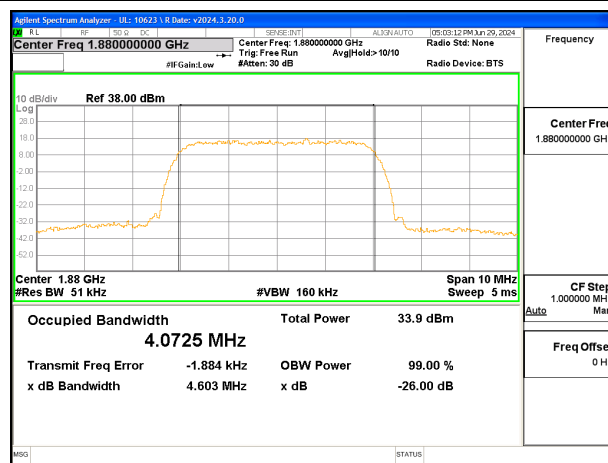
9.1.2. WCDMA



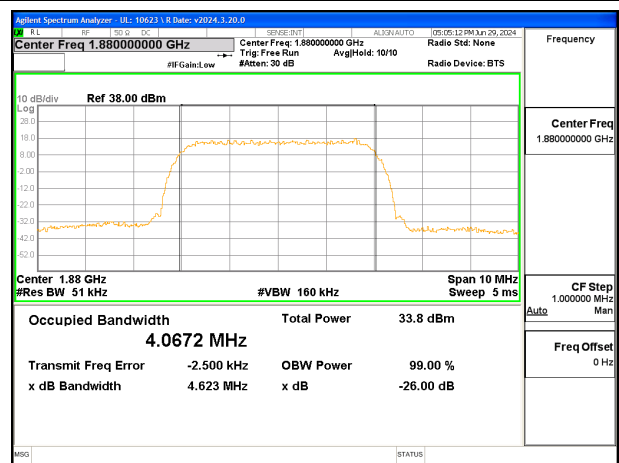
WCDMA Band 5 Rel 99 Middle Channel



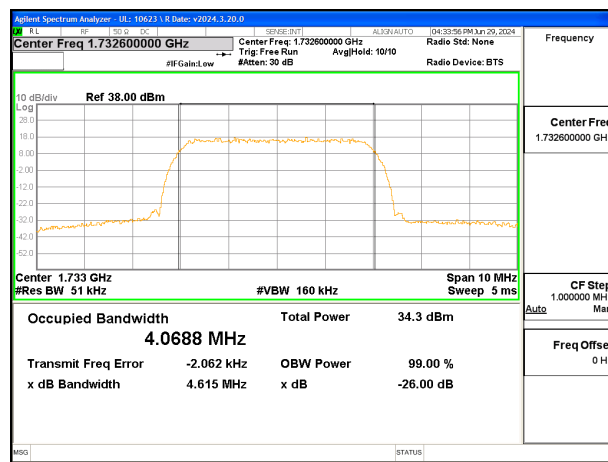
WCDMA Band 5 HSDPA Middle Channel



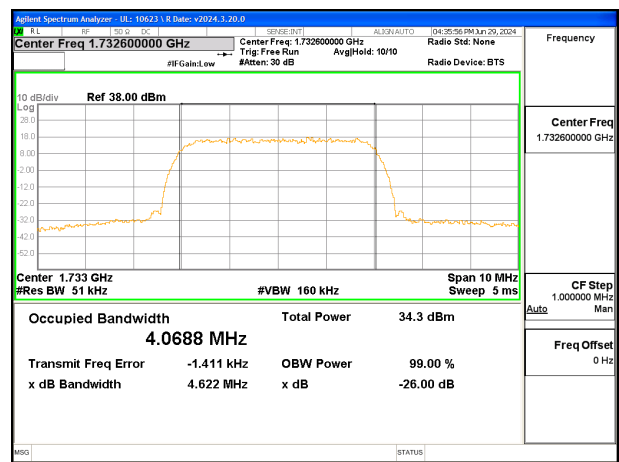
WCDMA Band 2 Rel 99 Middle Channel



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.

(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 $116 \log_{10}(f/6.1)$ decibels or $50 + 10 \log_{10}(P)$ 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 $43 + 10 \log_{10}(P)$ 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.

NOTE: According to 971168 D02 Misc Rev Approv License Devices v02r02, Section VIII (c):

For Section 90.691(a) compliance testing, use RBW = 300 Hz for offsets less than 37.5 kHz from a channel edge; RBW = 100 kHz is allowed for offsets greater than 37.5 kHz.

RSS132§5.5

Equipment shall meet the unwanted emission limits specified 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 below the transmitter output power P (dBW) by at least $43 + 10 \log(p)$ dB.
- (ii) After the first 1.0 MHz immediately outside and adjacent to each of the sub-bands, the power of emissions in any 100 kHz bandwidth shall be attenuated below the transmitter output power P (dBW) by at least $43 + 10 \log(p)$ dB. If the measurement is performed using 1% of the occupied bandwidth, power integration over 100 kHz is required.

p is the output power specified in watts.

RSS133§5.6

For all equipment, the TRP or total conducted power (sum of conducted power across all antenna connectors), where applicable, of the unwanted emissions outside the frequency block or frequency block group shall not exceed the limits shown in the table 3.

Table 3: Unwanted emission limits for all equipment	
Offset frequency from the edge of the frequency block group (MHz)	Unwanted emission limit
≤ 1	-13 dBm/(1% of OBW)
> 1	-13 dBm/MHz

RSS139§5.6

Unwanted emissions shall be measured in terms of average values.

For all equipment, the TRP or total conducted power (sum of conducted power across all antenna connectors) of the unwanted emissions outside the frequency block or frequency block group shall not exceed the limits shown in table 6.

Table 6: Unwanted emission limits	
Offset from the edge of the frequency block or frequency block group	Unwanted emission limits
≤1 MHz	-13 dBm/(1% of B*)
>1 MHz	-13 dBm/MHz

*B is the frequency block or frequency block group.

TEST PROCEDURE

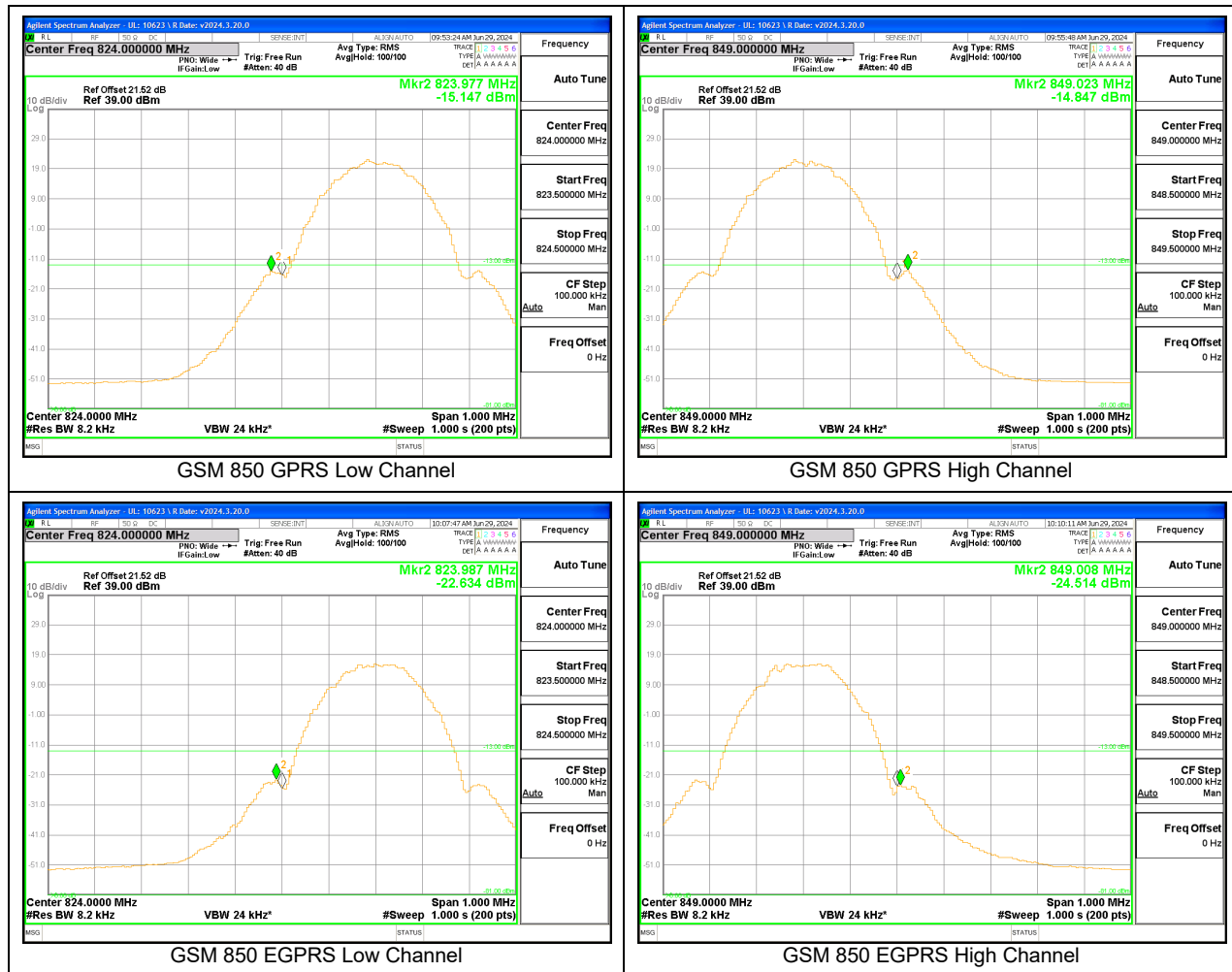
The transmitter output was connected to a R&S CMW500 Test Set and configured to operate at maximum power. The band edge emissions were measured at the required operating frequencies in each band on the Spectrum Analyzer.

For each band edge measurement:

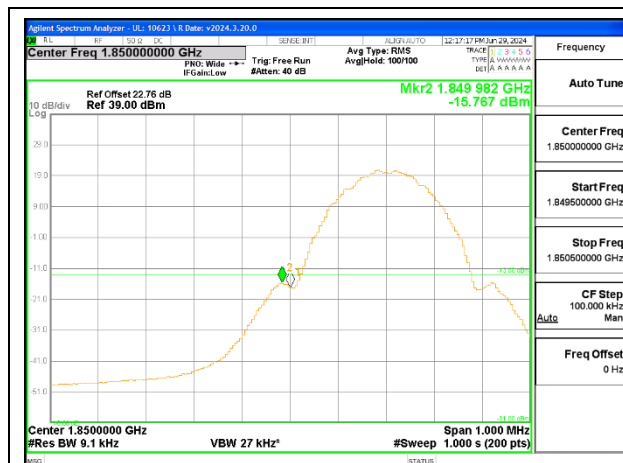
- Set the spectrum analyzer span to include the block edge frequency.
- Set a marker to point the corresponding band edge frequency in each test case.
- Set display line at -13 dBm
- Set resolution bandwidth to at least 1% of emission bandwidth.

RESULTS

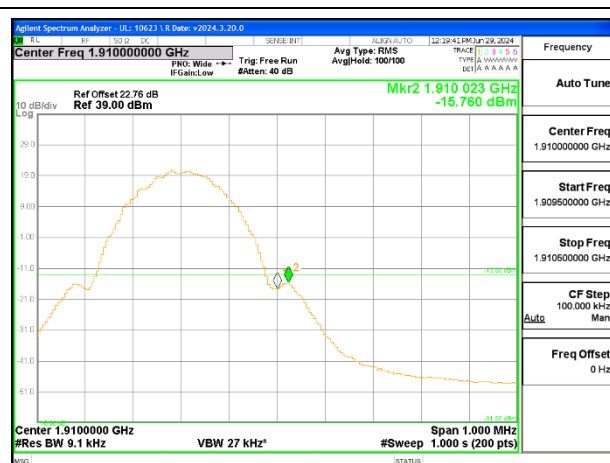
9.2.1. GSM 850



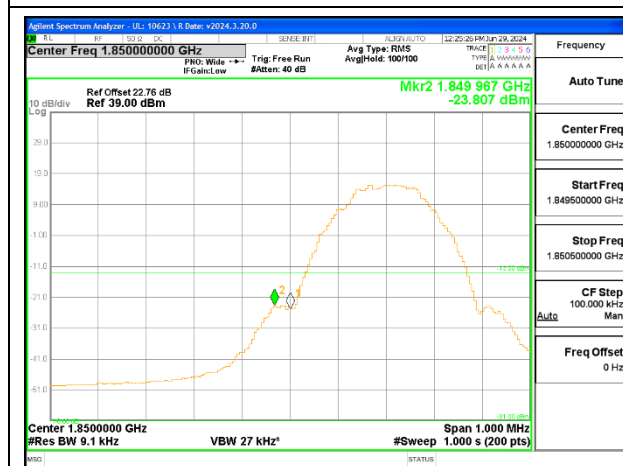
9.2.2. GSM 1900



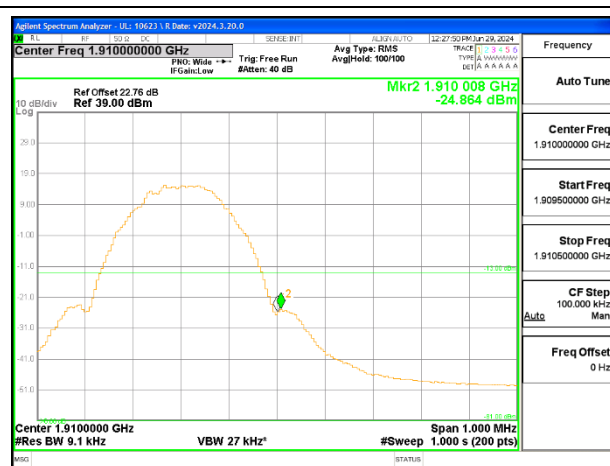
GSM 1900 GPRS Low Channel



GSM 1900 GPRS High Channel

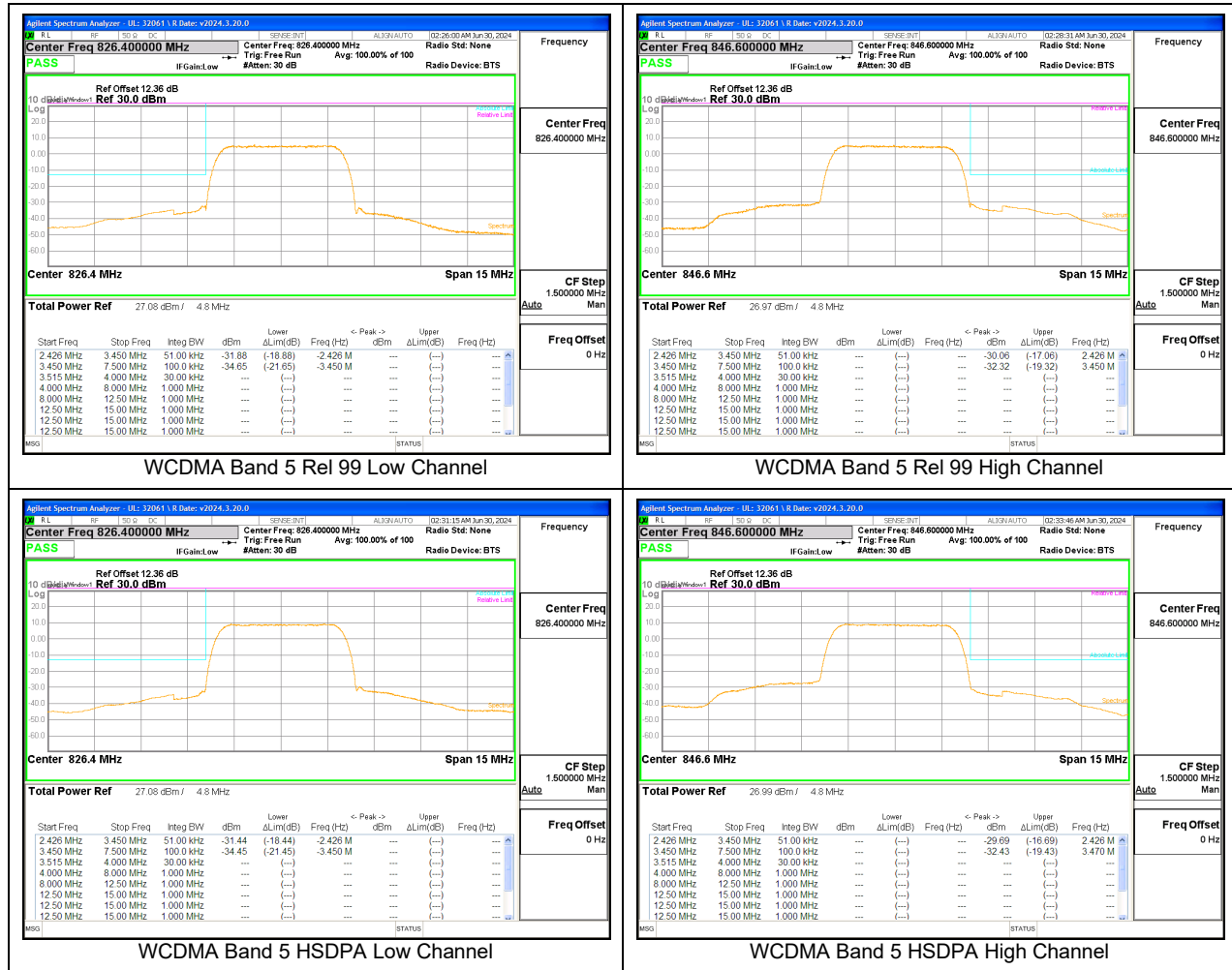


GSM 1900 EGPRS Low Channel



GSM 1900 EGPRS High Channel

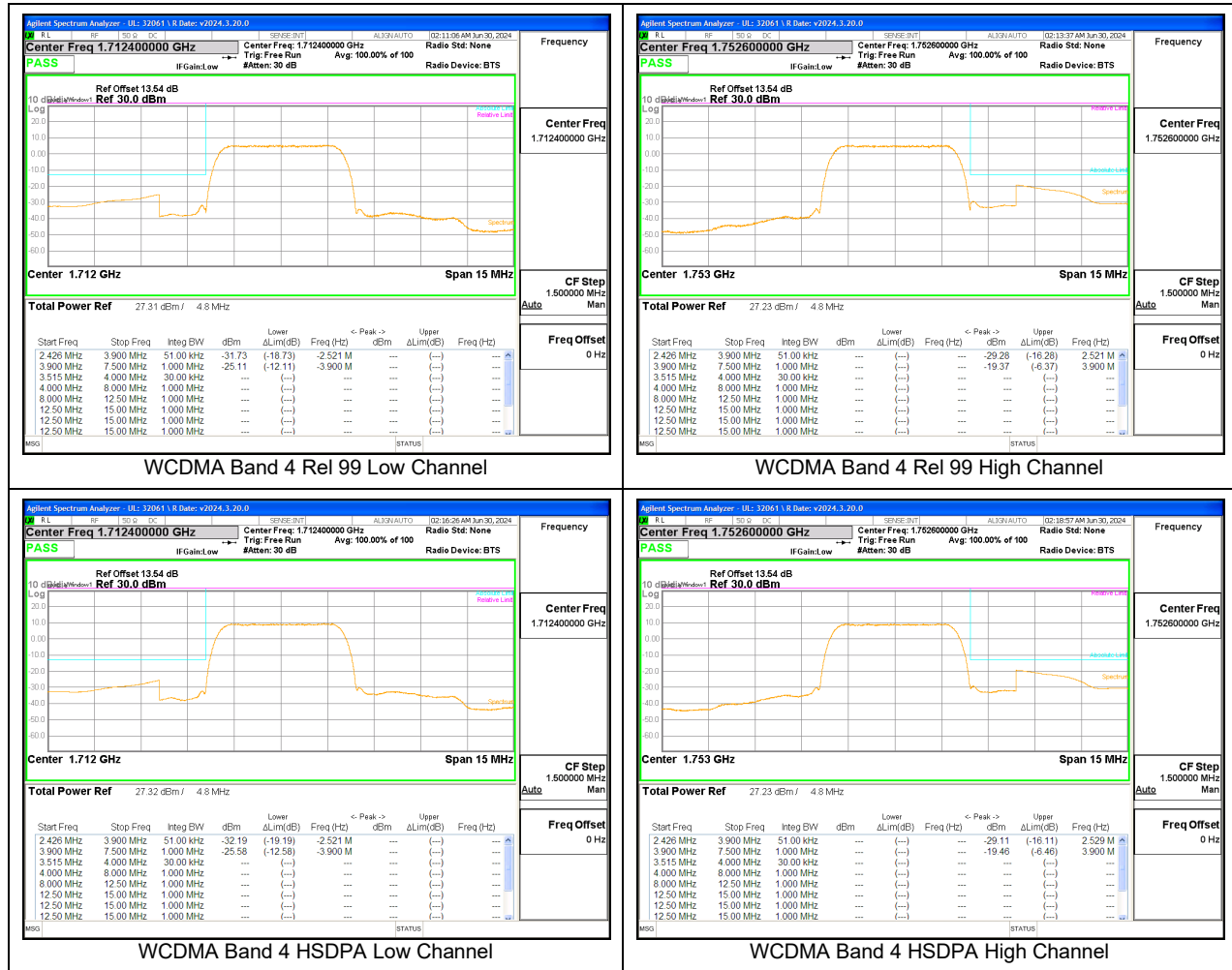
9.2.3. WCDMA BAND 5



9.2.4. WCDMA BAND 2



9.2.5. WCDMA BAND 4



9.3. OUT OF BAND EMISSIONS

RULE PART(S)

FCC: §2.1051, §22.917, §24.238, and §27.53

ISED: RSS132§5.5; RSS133§5.6 and RSS139§5.6

LIMITS

FCC: §22.917(a), §24.238, §27.53 (h)

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§5.6, RSS139§5.6

The minimum permissible attenuation level of any spurious emissions is $43 + 10 \log (P)$ dB where transmitting power (P) in Watts.

TEST PROCEDURE

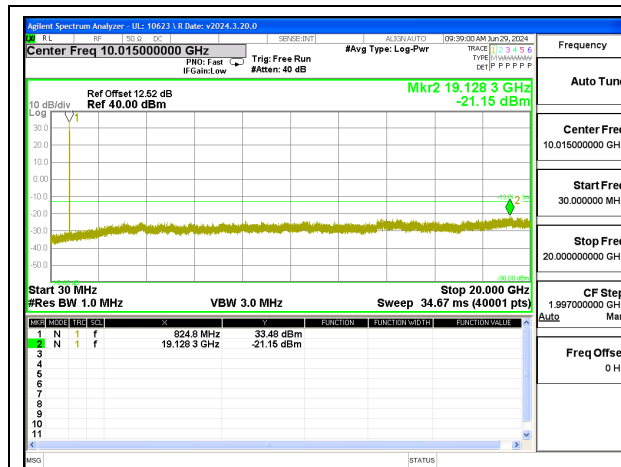
The RF output of the transmitter was connected to a spectrum analyzer through a calibrated coaxial cable. Sufficient scans were taken to show the out-of-band Emissions, if any, up to 10th harmonic. Multiple sweeps were recorded in maximum hold mode using a peak detector to ensure that the worst-case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

For each out of band emissions measurement:

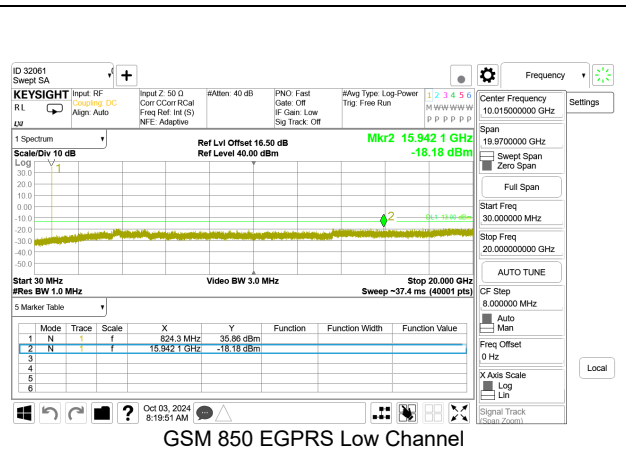
- Set display line at -13 dBm
- Set RBW & VBW to 100 kHz for the measurement below 1 GHz, and 1 MHz for the measurement above 1 GHz.
(NOTE: Worst case set RBW/VBW to 1MHz/3MHz)

RESULTS

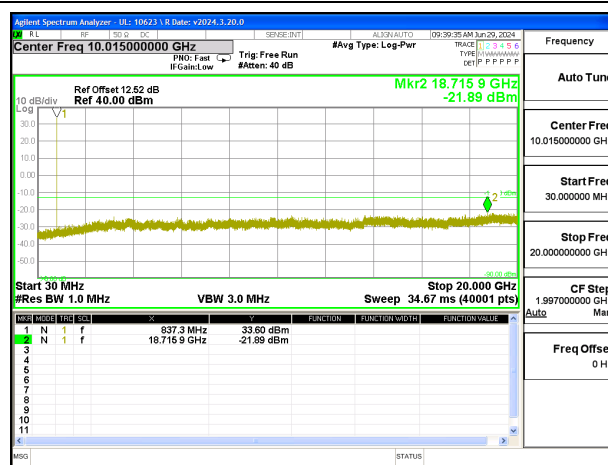
9.3.1. GSM 850



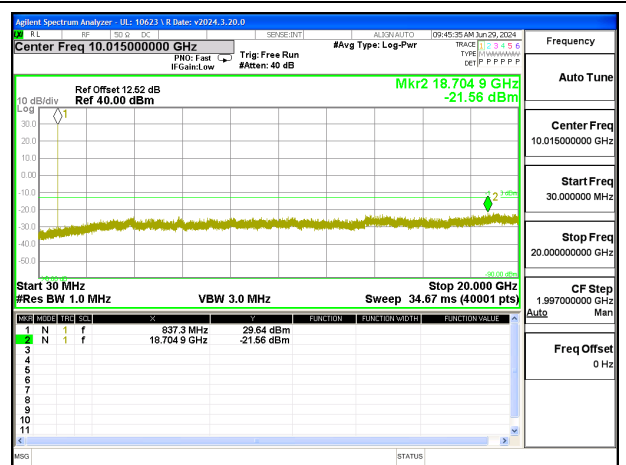
GSM 850 GPRS Low Channel



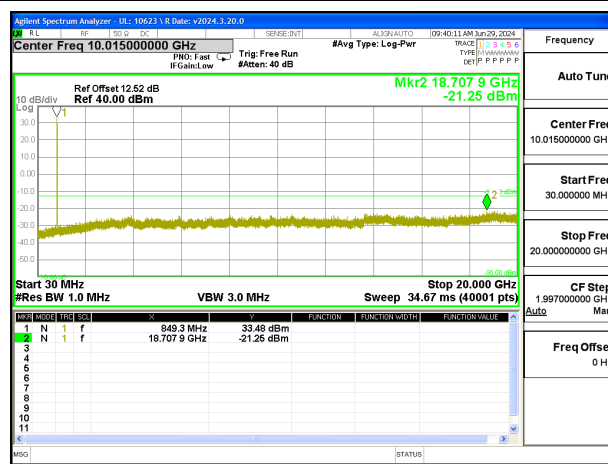
GSM 850 EGPRS Low Channel



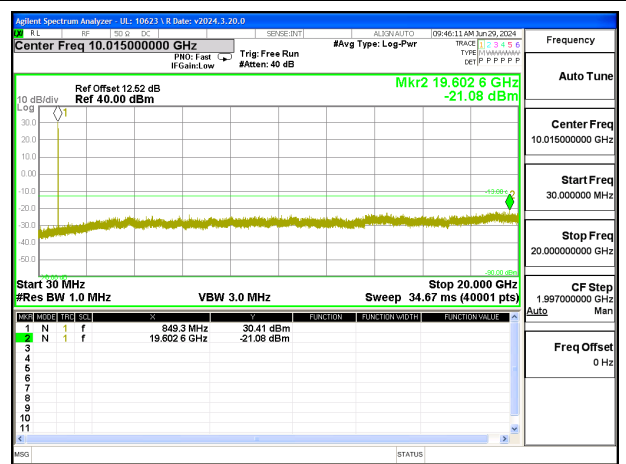
GSM 850 GPRS Middle Channel



GSM 850 EGPRS Middle Channel

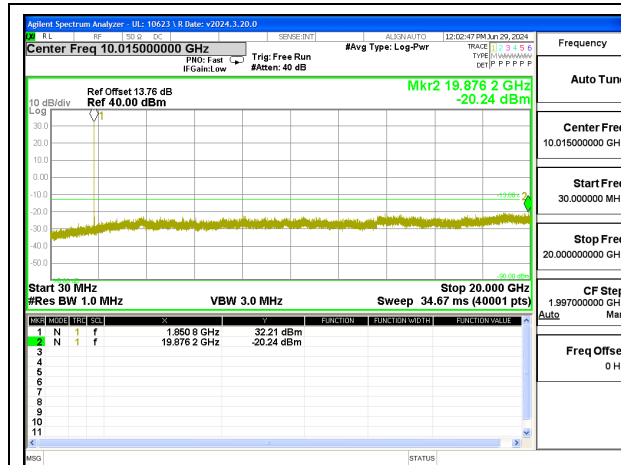


GSM 850 GPRS High Channel

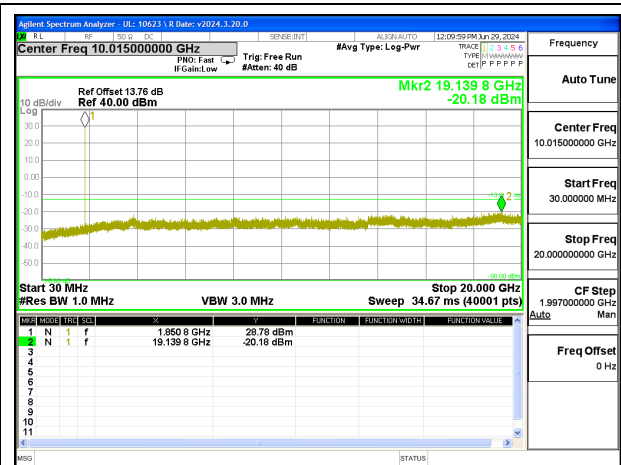


GSM 850 EGPRS High Channel

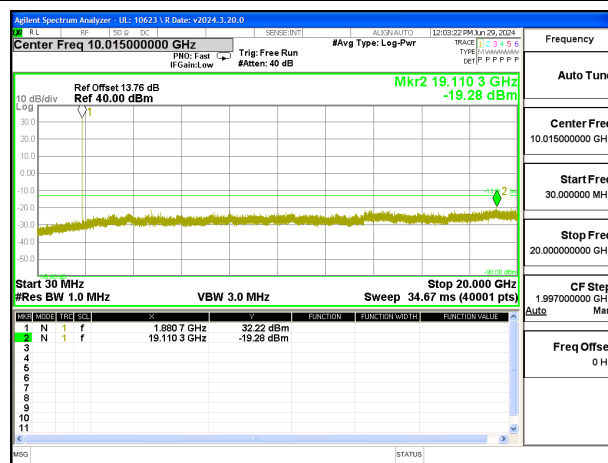
9.3.2. GSM 1900



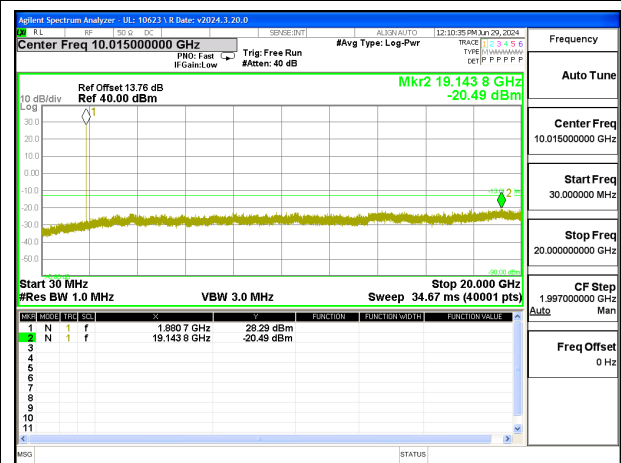
GSM 1900 GPRS Low Channel



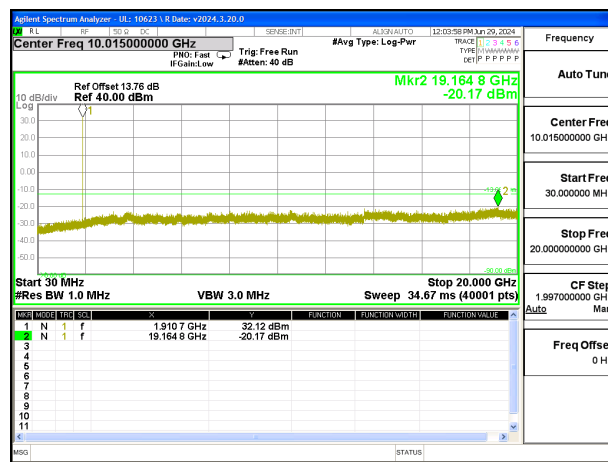
GSM 1900 EGPRS Low Channel



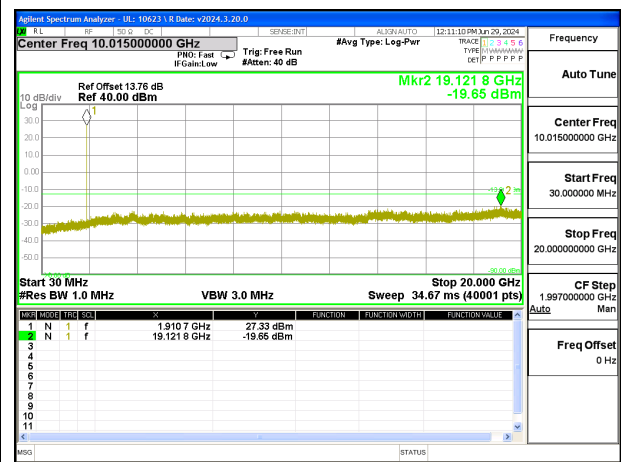
GSM 1900 GPRS Middle Channel



GSM 1900 EGPRS Middle Channel

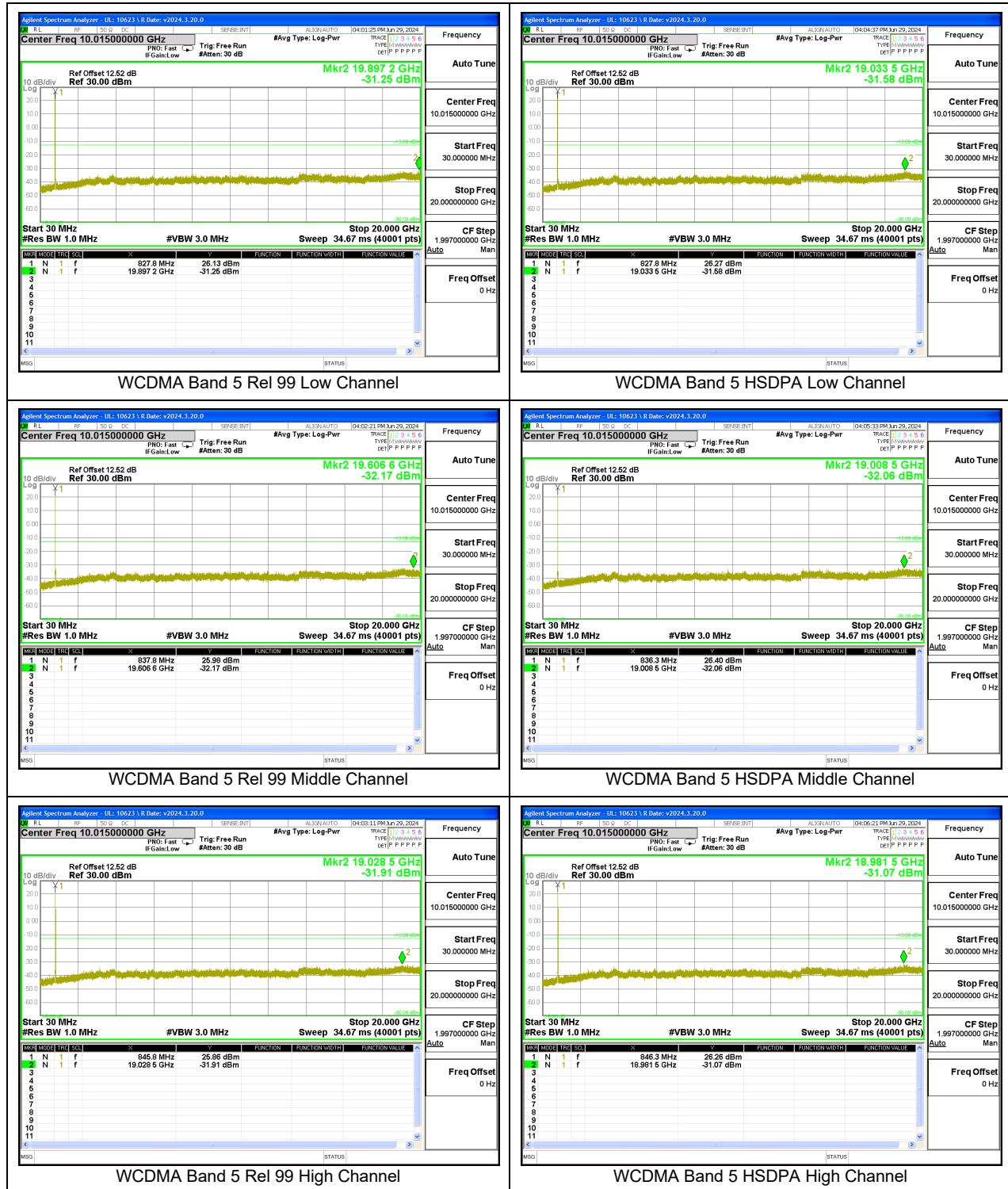


GSM 1900 GPRS High Channel

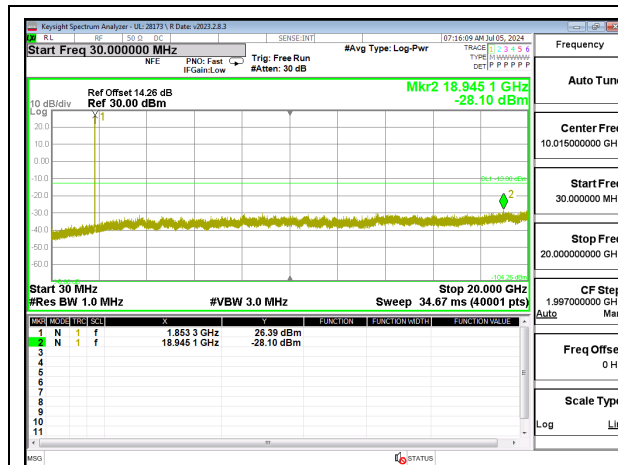


GSM 1900 EGPRS High Channel

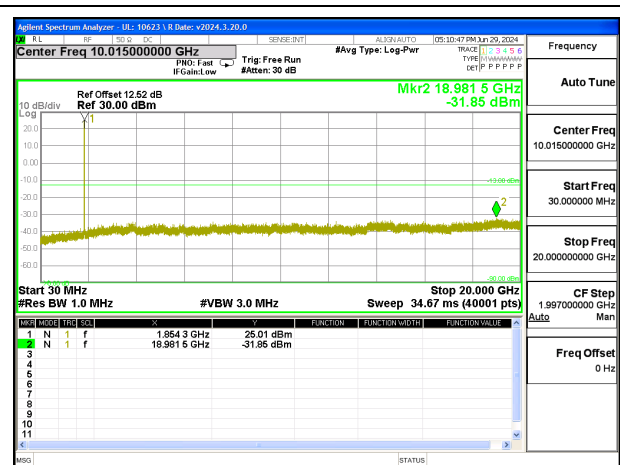
9.3.3. WCDMA BAND 5



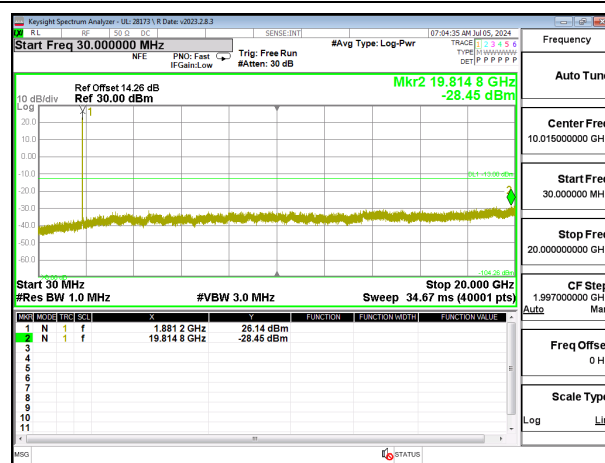
9.3.4. WCDMA BAND 2



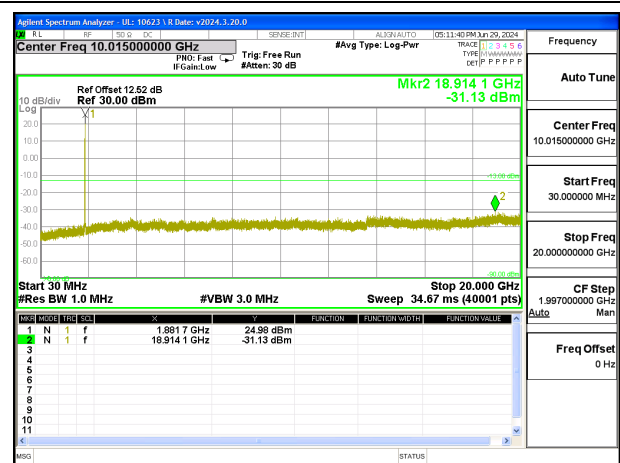
WCDMA Band 2 Rel 99 Low Channel



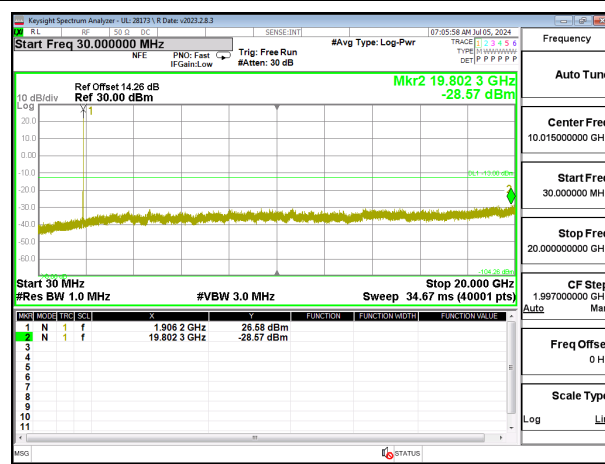
WCDMA Band 2 HSDPA Low Channel



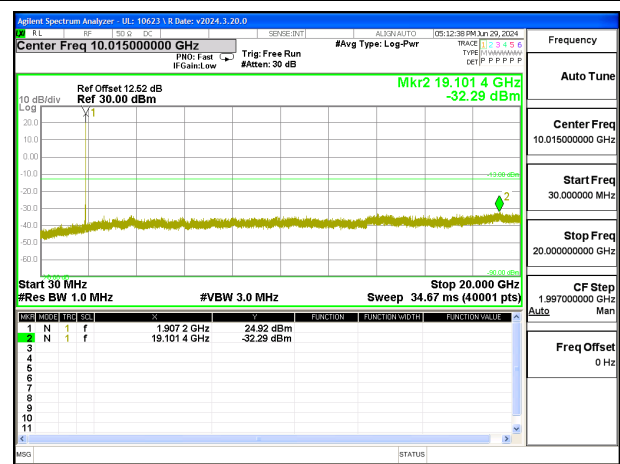
WCDMA Band 2 Rel 99 Middle Channel



WCDMA Band 2 HSDPA Middle Channel

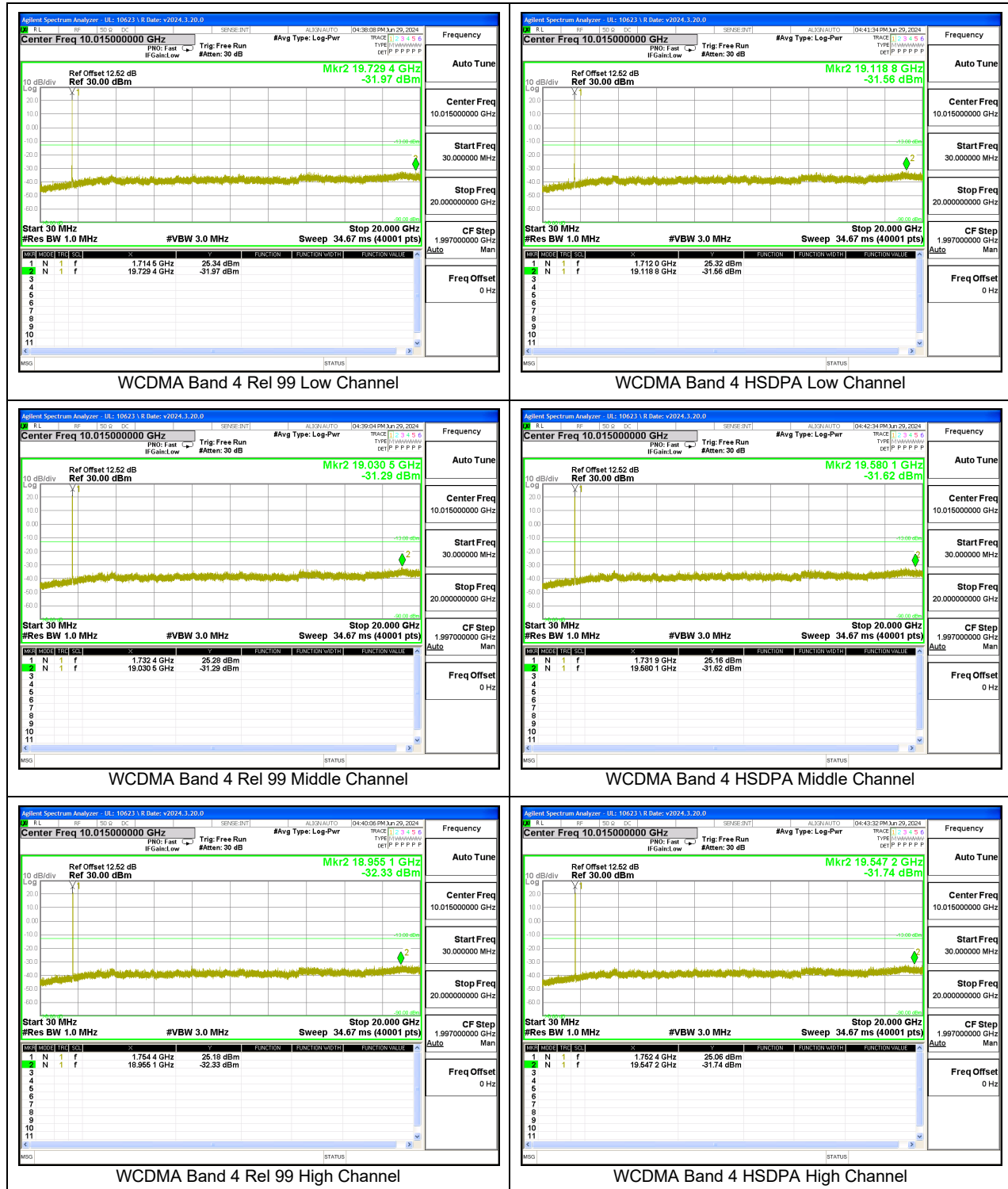


WCDMA Band 2 Rel 99 High Channel



WCDMA Band 2 HSDPA High Channel

9.3.5. WCDMA BAND 4



9.4. FREQUENCY STABILITY

RULE PART(S)

FCC: §2.1055, §22.355, §24.235, and §27.54

ISED: RSS132§5.3; RSS133§5.4 and RSS139§5.4

LIMITS

FCC §22.355

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 frequency stability shall be sufficient to ensure that the occupied bandwidth stays within each of the sub-bands when tested at the temperature and supply voltage variations specified in RSS-Gen.

RSS133§5.4

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§5.4

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 $+50^{\circ}\text{C}$
- Voltage = (85% - 115%)

Low voltage, 3.23VDC, Normal, 3.8VDC and High voltage, 4.37VDC.

End Voltage, 2.95VDC.

Frequency Stability vs Temperature:

The EUT is placed inside a temperature chamber. The temperature is set to 20°C 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 $+50^{\circ}\text{C}$ 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:	12482	Test Date:	2024-08-21
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GPRS 850

Band	5	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		824	849		2.5	
		Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Temperature	Voltage					
Normal (20°C)	Normal	823.9113	849.0686			
Extreme (50°C)		823.9113	849.0686	24.4	0.029	Yes
Extreme (40°C)		823.9113	849.0686	22.0	0.026	Yes
Extreme (30°C)		823.9113	849.0686	24.9	0.030	Yes
Extreme (10°C)		823.9113	849.0686	28.3	0.034	Yes
Extreme (0°C)		823.9113	849.0686	22.2	0.026	Yes
Extreme (-10°C)		823.9113	849.0686	25.1	0.030	Yes
Extreme (-20°C)		823.9113	849.0686	24.8	0.030	Yes
Extreme (-30°C)						
20°C	15%	823.9113	849.0686	22.1	0.026	Yes
	-15%	823.9113	849.0686	21.7	0.026	Yes
	End Point Voltage	823.9113	849.0686	21.0	0.025	Yes

GSM 1900

Band	2	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		1850	1910		2.5	
		Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Temperature	Voltage					
Normal (20°C)	Normal	1849.9304	1910.0602			
Extreme (50°C)		1849.9305	1910.0602	20.2	0.011	Yes
Extreme (40°C)		1849.9305	1910.0603	23.1	0.012	Yes
Extreme (30°C)		1849.9305	1910.0603	28.0	0.015	Yes
Extreme (10°C)		1849.9305	1910.0603	32.3	0.017	Yes
Extreme (0°C)		1849.9305	1910.0602	21.7	0.012	Yes
Extreme (-10°C)		1849.9305	1910.0603	24.5	0.013	Yes
Extreme (-20°C)		1849.9305	1910.0602	20.2	0.011	Yes
Extreme (-30°C)		1849.9305	1910.0602	20.5	0.011	Yes
20°C	15%	1849.9305	1910.0602	22.1	0.012	Yes
	-15%	1849.9305	1910.0603	28.1	0.015	Yes
	End Point Voltage	1849.9305	1910.0602	20.1	0.011	Yes

9.4.2. WCDMA

Test Engineer ID:	27957	Test Date:	9/23/2024
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WCDMA REL 99 BAND 5

Band	5	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		824	849		2.5	
		Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Temperature	Voltage					
Normal (20°C)	Normal	824.1826	848.8376			
Extreme (50°C)		824.1826	848.8376	3.2	0.004	Yes
Extreme (40°C)		824.1826	848.8376	2.7	0.003	Yes
Extreme (30°C)		824.1826	848.8376	2.8	0.003	Yes
Extreme (10°C)		824.1826	848.8376	2.8	0.003	Yes
Extreme (0°C)		824.1826	848.8376	3.3	0.004	Yes
Extreme (-10°C)		824.1826	848.8376	-2.5	-0.003	Yes
Extreme (-20°C)		824.1826	848.8376	2.8	0.003	Yes
Extreme (-30°C)		824.1826	848.8376	-2.8	-0.003	Yes
20°C	15%	824.1826	848.8376	3.1	0.004	Yes
	-15%	824.1826	848.8376	3.6	0.004	Yes
	End Point Voltage	824.1826	848.8376	2.8	0.003	Yes

WCDMA REL 99 BAND 2

Band	2	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		1850	1910		2.5	Within Authorized Frequency Block (Hz)
		Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	
Temperature	Voltage					
Normal (20°C)	Normal	1850.1811	1909.8213			
Extreme (50°C)		1850.1811	1909.8213	-4.3	-0.002	Yes
Extreme (40°C)		1850.1811	1909.8213	5.5	0.003	Yes
Extreme (30°C)		1850.1811	1909.8213	3.9	0.002	Yes
Extreme (10°C)		1850.1811	1909.8213	-4.4	-0.002	Yes
Extreme (0°C)		1850.1811	1909.8213	-4.9	-0.003	Yes
Extreme (-10°C)		1850.1811	1909.8213	5.9	0.003	Yes
Extreme (-20°C)		1850.1811	1909.8213	-4.6	-0.002	Yes
Extreme (-30°C)		1850.1811	1909.8213	-5.1	-0.003	Yes
20°C	15%	1850.1811	1909.8213	4.8	0.003	Yes
	-15%	1850.1811	1909.8213	4.8	0.003	Yes
	End Point Voltage	1850.1811	1909.8213	3.9	0.002	Yes

WCDMA REL 99 BAND 4

Band	4	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		1710	1755			
		Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)			
Temperature	Voltage				Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Normal (20°C)	Normal	1710.1837	1754.8344			
Extreme (50°C)		1710.1837	1754.8344	3.4	0.002	Yes
Extreme (40°C)		1710.1837	1754.8344	4.4	0.003	Yes
Extreme (30°C)		1710.1837	1754.8344	4.6	0.003	Yes
Extreme (10°C)		1710.1837	1754.8344	4.2	0.002	Yes
Extreme (0°C)		1710.1837	1754.8344	3.7	0.002	Yes
Extreme (-10°C)		1710.1837	1754.8344	4.6	0.003	Yes
Extreme (-20°C)		1710.1837	1754.8344	3.7	0.002	Yes
Extreme (-30°C)		1710.1837	1754.8344	4.0	0.002	Yes
20°C	15%	1710.1837	1754.8344	5.0	0.003	Yes
	-15%	1710.1837	1754.8344	5.2	0.003	Yes
	End Point Voltage	1710.1837	1754.8344	4.5	0.003	Yes

9.5. PEAK-TO-AVERAGE POWER RATIO

LIMIT

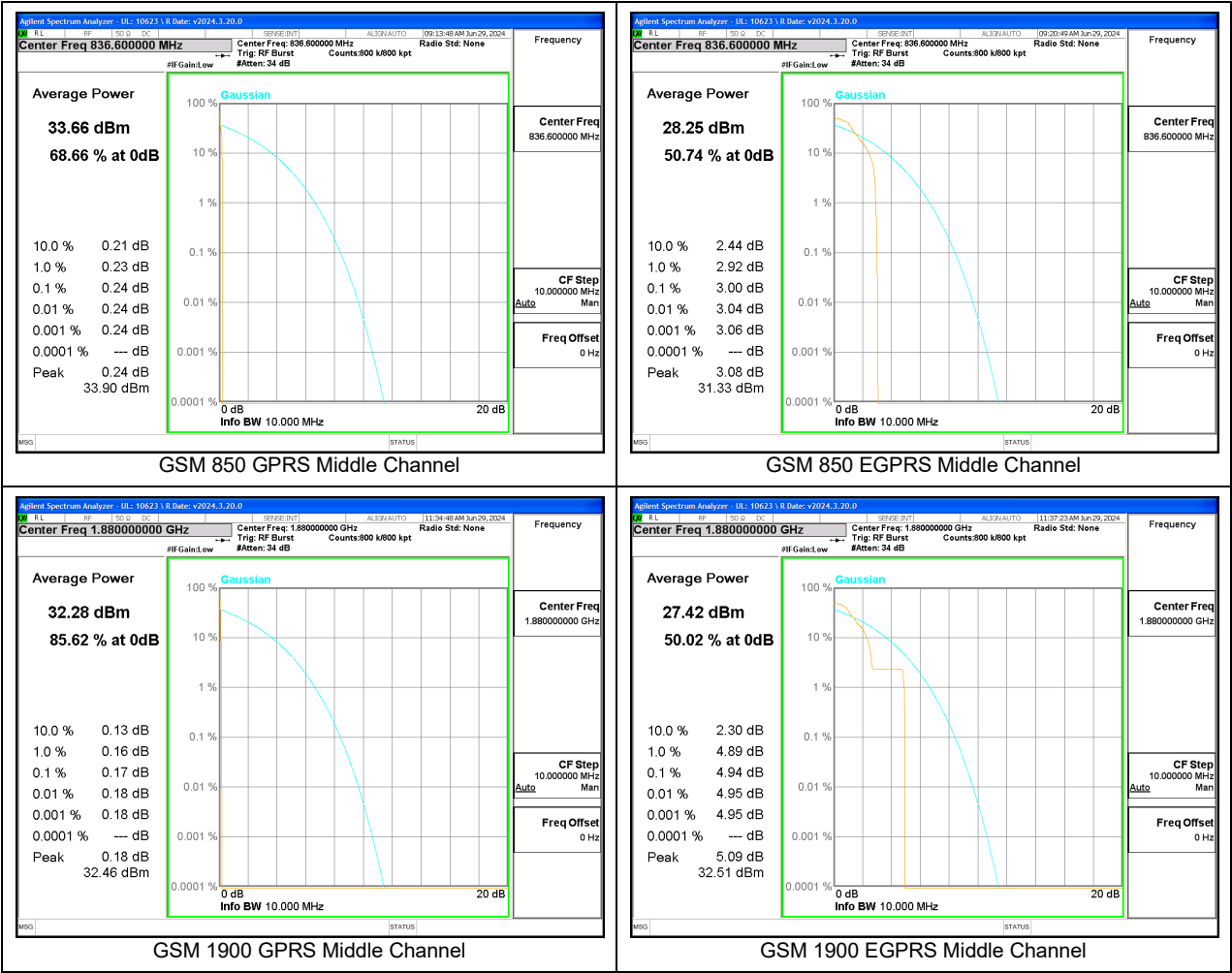
In addition, the peak-to-average power ratio (PAPR) of the transmitter shall not exceed 13 dB for more than 0.1% of the time and shall use a signal corresponding to the highest PAPR during periods of continuous transmission.

RESULT

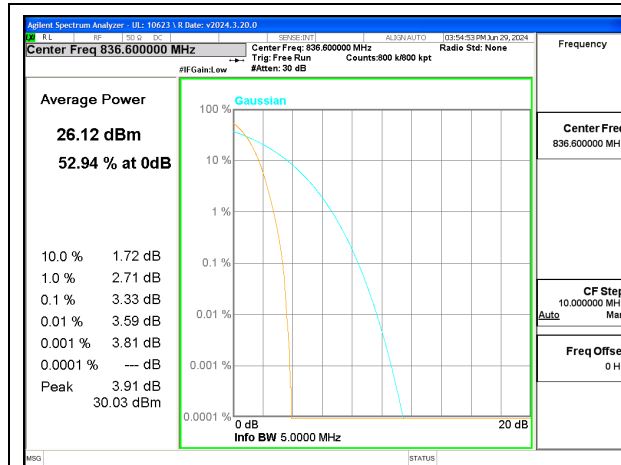
Ant 1 was used to measure as the worst case. The results from all CCDF plots are passed with 13dB peak-to-average power ratio criteria.

Test Engineer ID:	10623	Test Date:	7/5/2024
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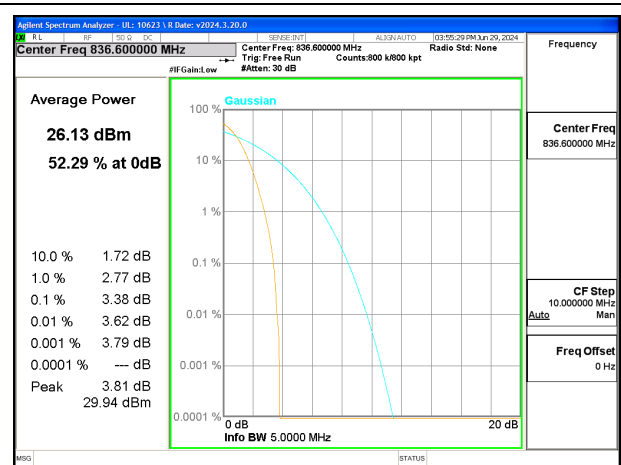
9.5.1. GSM



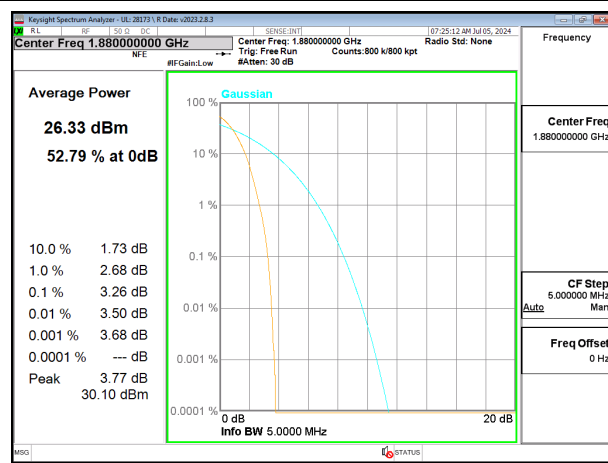
9.5.2. WCDMA



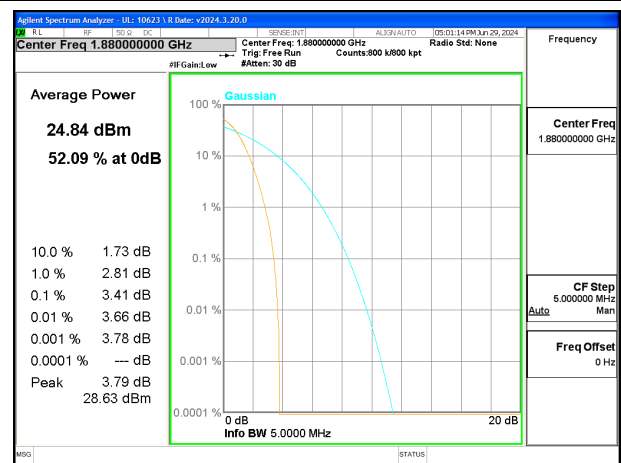
WCDMA Band 5 Rel 99 Middle Channel



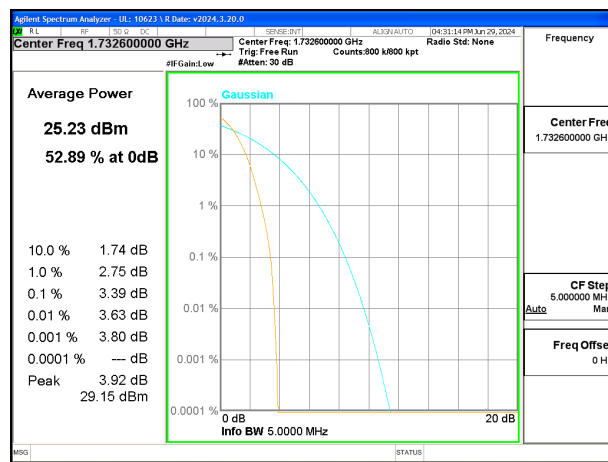
WCDMA Band 5 HSDPA Middle Channel



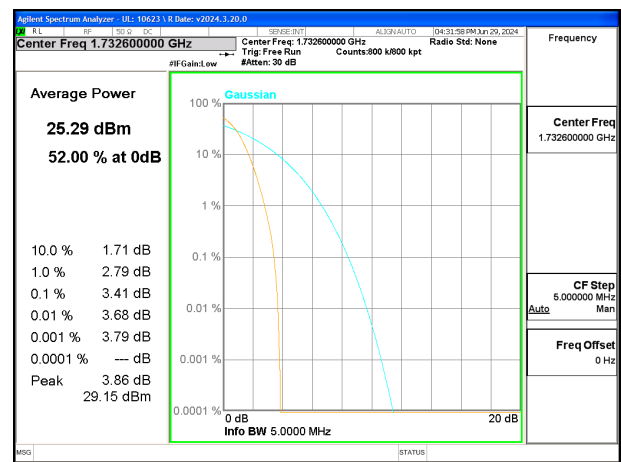
WCDMA Band 2 Rel 99 Middle Channel



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.

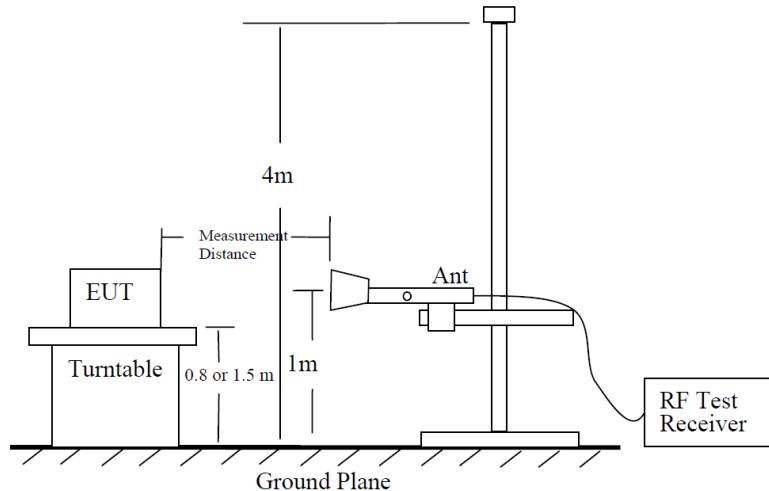


Figure 6—Test site-up for radiated ERP and/or EIRP measurements

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

- a) $E \text{ (dB}\mu\text{V/m)} = \text{Measured amplitude level (dB}\mu\text{V)} + \text{Cable Loss (dB)} + \text{Antenna Factor (dB/m)}$.
- b) $E \text{ (dB}\mu\text{V/m)} = \text{Measured amplitude level (dBm)} + 107 + \text{Cable Loss (dB)} + \text{Antenna Factor (dB/m)}$.
- c) $E \text{ (dB}\mu\text{V/m)} = \text{EIRP (dBm)} - 20\log(D) + 104.8$; where D is the measurement distance (in the far field region) in m.
- d) $\text{EIRP (dBm)} = E \text{ (dB}\mu\text{V/m)} + 20\log(D) - 104.8$; where D is the measurement distance (in the far field region) in m.

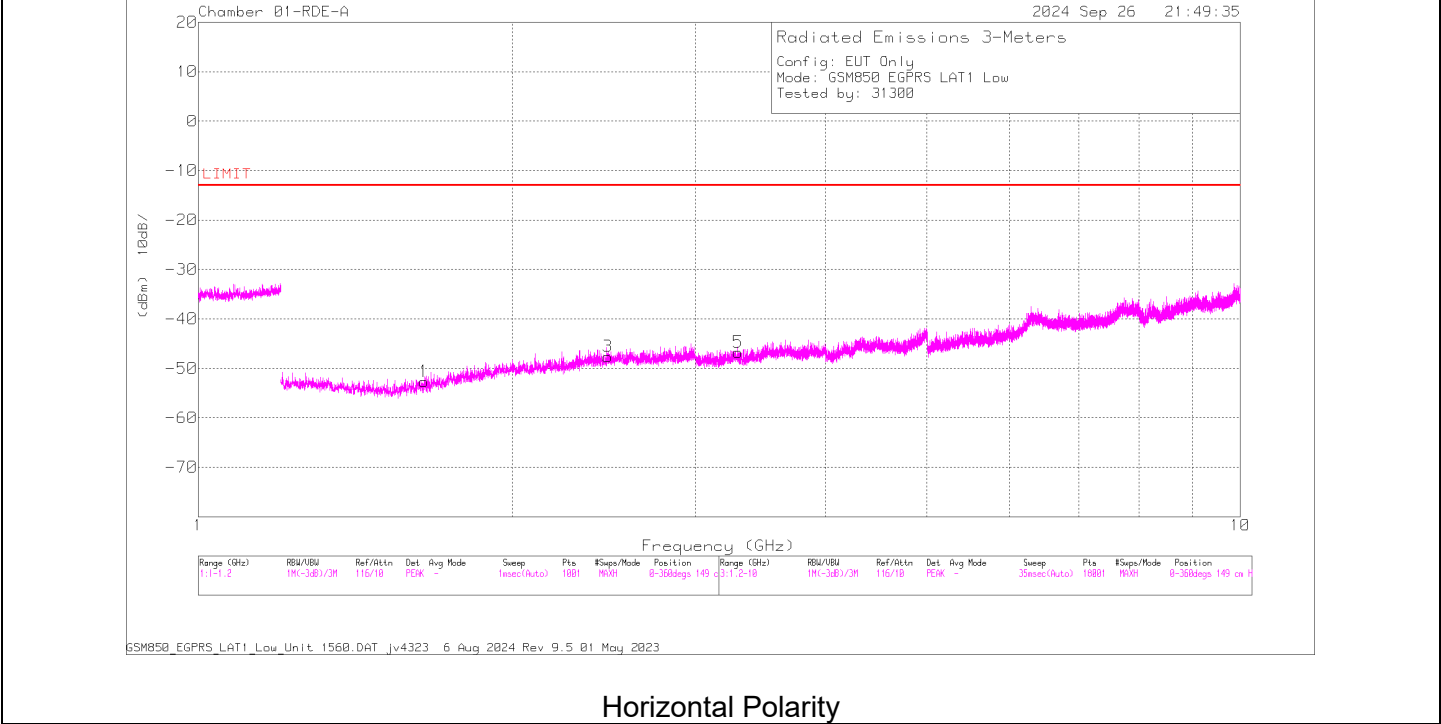
So, from d)

The measuring distance is usually at 3m, then $20 \cdot \log(3) = 9.5424$

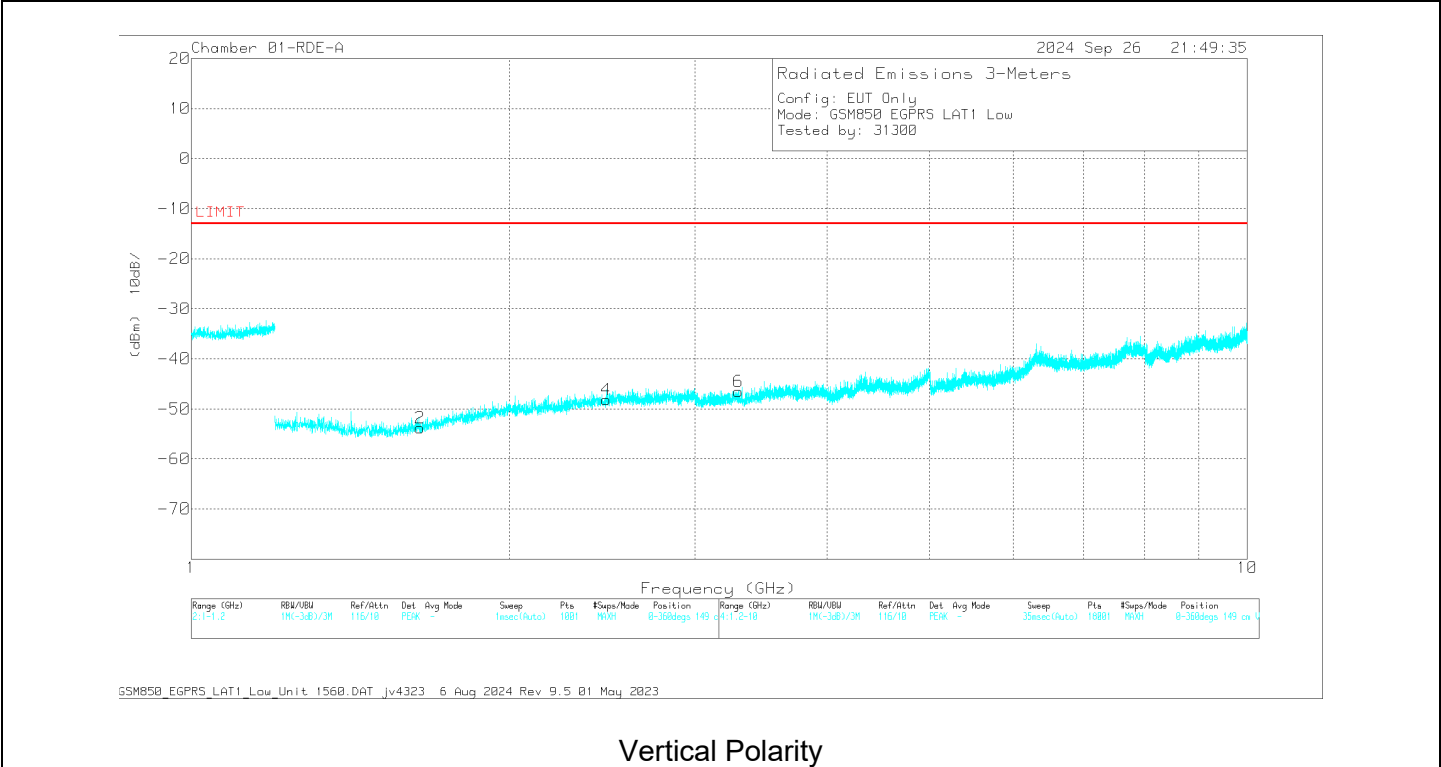
Then, $\text{EIRP (dBm)} = E \text{ (dB}\mu\text{V/m)} + 9.5424 - 104.8 = E \text{ (dB}\mu\text{V/m)} - 95.2576$

Note: Confidence check of each chamber is performed daily to see if any degradation from expected/normal reading reference data. Ambient check of each chamber is performed monthly.

Example Plot



Horizontal Polarity



Vertical Polarity

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	HPF 1.2GHz T1737 1-18GHz	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
1	1.647822	40.73	Pk	28.9	.7	-95.2	-27.78	-52.65	-13	-39.65	H
2	1.647822	39.58	Pk	28.9	.7	-95.2	-27.78	-53.80	-13	-40.80	V
3	2.472578	40.81	Pk	32.5	.5	-95.2	-26.20	-47.59	-13	-34.59	H
4	2.472578	40.25	Pk	32.5	.5	-95.2	-26.20	-48.15	-13	-35.15	V
6	3.296356	39.77	Pk	33.0	.8	-95.2	-24.90	-46.53	-13	-33.53	V
5	3.296845	39.56	Pk	33.0	.8	-95.2	-24.90	-46.74	-13	-33.74	H

10.1. FIELD STRENGTH OF SPURIOUS RADIATION, ANT1

RULE PART(S)

FCC: §2.1053, §22.917, §24.238, and §27.53
ISED: RSS132§5.5; RSS133§5.6 and RSS139§5.6

LIMIT

FCC: §22.917(a), §24.238(a), §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.

RSS132§5.5

Equipment shall meet the unwanted emission limits specified 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 below the transmitter output power P (dBW) by at least $43 + 10 \log(p)$ dB.
- (ii) After the first 1.0 MHz immediately outside and adjacent to each of the sub-bands, the power of emissions in any 100 kHz bandwidth shall be attenuated below the transmitter output power P (dBW) by at least $43 + 10 \log(p)$ dB. If the measurement is performed using 1% of the occupied bandwidth, power integration over 100 kHz is required.

p is the output power specified in watts.

RSS133§5.6

For all equipment, the TRP or total conducted power (sum of conducted power across all antenna connectors), where applicable, of the unwanted emissions outside the frequency block or frequency block group shall not exceed the limits shown in the table 3.

Table 3: Unwanted emission limits for all equipment	
Offset frequency from the edge of the frequency block group (MHz)	Unwanted emission limit
≤ 1	-13 dBm/(1% of OBW)
> 1	-13 dBm/MHz

RSS139§5.6

Unwanted emissions shall be measured in terms of average values.

For all equipment, the TRP or total conducted power (sum of conducted power across all antenna connectors) of the unwanted emissions outside the frequency block or frequency block group shall not exceed the limits shown in table 6.

Table 6: Unwanted emission limits	
Offset from the edge of the frequency block or frequency block group	Unwanted emission limits
≤1 MHz	-13 dBm/(1% of B*)
>1 MHz	-13 dBm/MHz

*B is the frequency block or frequency block group.

TEST PROCEDURE

KDB 971168 D01

RESULTS

10.1.1. GSM 850

GPRS MODE

Project #:	15175342
Date:	2024-09-26
Test Engineer:	31300
Configuration:	EUT Only
Mode:	GPRS 850
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	HPF 1.2GHz T1737 1-18GHz	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 824.2MHz										
1.647822	40.40	Pk	28.9	.7	-95.2	-27.78	-52.98	-13	-39.98	V
1.648800	41.36	Pk	28.9	.7	-95.2	-27.88	-52.12	-13	-39.12	H
2.472578	41.10	Pk	32.5	.5	-95.2	-26.20	-47.30	-13	-34.30	H
2.472578	41.57	Pk	32.5	.5	-95.2	-26.20	-46.83	-13	-33.83	V
3.295867	39.42	Pk	33.0	.8	-95.2	-24.91	-46.89	-13	-33.89	V
3.297823	39.34	Pk	33.0	.8	-95.2	-24.	-46.96	-13	-33.96	H
Mid Channel, 836.6MHz										
1.673245	41.44	Pk	29.1	.7	-95.2	-27.58	-51.54	-13	-38.54	H
1.676667	40.96	Pk	29.1	.7	-95.2	-27.5	-51.94	-13	-38.94	V
2.509245	41.60	Pk	32.5	.7	-95.2	-26.28	-46.68	-13	-33.68	H
2.513645	40.76	Pk	32.5	.7	-95.2	-26.10	-47.34	-13	-34.34	V
3.347689	38.82	Pk	32.8	.5	-95.2	-25.03	-48.11	-13	-35.11	H
3.348178	38.59	Pk	32.8	.5	-95.2	-25.00	-48.31	-13	-35.31	V
High Channel, 848.8MHz										
1.696711	41.78	Pk	29.4	.6	-95.2	-27.57	-50.99	-13	-37.99	H
1.696711	39.61	Pk	29.4	.6	-95.2	-27.57	-53.16	-13	-40.16	V
2.546889	40.41	Pk	32.5	.6	-95.2	-25.90	-47.59	-13	-34.59	V
2.547378	40.88	Pk	32.5	.6	-95.2	-25.86	-47.08	-13	-34.08	H
3.395112	37.98	Pk	32.8	.6	-95.2	-24.79	-48.61	-13	-35.61	H
3.395112	38.89	Pk	32.8	.6	-95.2	-24.79	-47.70	-13	-34.70	V

EGPRS MODE

Project #:	15175342
Date:	2024-09-26
Test Engineer:	31300
Configuration:	EUT Only
Mode:	EGPRS 850
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	HPF 1.2GHz T1737 1-18GHz	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 824.2MHz										
1.647822	40.73	Pk	28.9	.7	-95.2	-27.78	-52.65	-13	-39.65	H
1.647822	39.58	Pk	28.9	.7	-95.2	-27.78	-53.80	-13	-40.80	V
2.472578	40.81	Pk	32.5	.5	-95.2	-26.20	-47.59	-13	-34.59	H
2.472578	40.25	Pk	32.5	.5	-95.2	-26.20	-48.15	-13	-35.15	V
3.296356	39.77	Pk	33.0	.8	-95.2	-24.90	-46.53	-13	-33.53	V
3.296845	39.56	Pk	33.0	.8	-95.2	-24.90	-46.74	-13	-33.74	H
Mid Channel, 836.6MHz										
1.673733	40.58	Pk	29.1	.7	-95.2	-27.53	-52.35	-13	-39.35	H
1.673733	39.54	Pk	29.1	.7	-95.2	-27.53	-53.39	-13	-40.39	V
2.509734	39.29	Pk	32.5	.7	-95.2	-26.23	-48.94	-13	-35.94	H
2.509734	40.06	Pk	32.5	.7	-95.2	-26.23	-48.17	-13	-35.17	V
3.345734	39.15	Pk	32.8	.5	-95.2	-25.10	-47.85	-13	-34.85	H
3.345734	39.05	Pk	32.8	.5	-95.2	-25.10	-47.95	-13	-34.95	V
High Channel, 848.8MHz										
1.697689	40.61	Pk	29.4	.6	-95.2	-27.6	-52.19	-13	-39.19	H
1.697689	39.18	Pk	29.4	.6	-95.2	-27.6	-53.62	-13	-40.62	V
2.545911	40.30	Pk	32.5	.6	-95.2	-25.9	-47.70	-13	-34.70	H
2.546400	40.82	Pk	32.5	.6	-95.2	-25.9	-47.18	-13	-34.18	V
3.395601	38.41	Pk	32.8	.6	-95.2	-24.74	-48.13	-13	-35.13	H
3.395601	39.55	Pk	32.8	.6	-95.2	-24.74	-46.99	-13	-33.99	V

10.1.2. GSM 1900

GPRS MODE

Project #:	15175342
Date:	2024-08-27
Test Engineer:	32145
Configuration:	EUT Only
Mode:	GPRS 1900
Chamber #:	01-RDE-B

Frequency (MHz)	Meter Reading (dBuV)	Det	AF 226671 (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1850.2MHz									
3.688125	42.17	Pk	33.2	-95.2	-32.40	-52.23	-13	-39.23	V
3.720938	42.74	Pk	33.3	-95.2	-32.20	-51.36	-13	-38.36	H
5.542500	41.45	Pk	34.6	-95.2	-29.20	-48.35	-13	-35.35	V
5.552344	41.49	Pk	34.6	-95.2	-29.30	-48.41	-13	-35.41	H
7.421250	41.81	Pk	35.6	-95.2	-26.35	-44.14	-13	-31.14	H
7.437656	41.41	Pk	35.6	-95.2	-26.27	-44.46	-13	-31.46	V
Mid Channel, 1880MHz									
3.725625	42.65	Pk	33.3	-95.2	-32.16	-51.41	-13	-38.41	V
3.749531	43.53	Pk	33.4	-95.2	-32.15	-50.42	-13	-37.42	H
5.617031	41.80	Pk	34.7	-95.2	-29.90	-48.6	-13	-35.60	H
5.617031	40.69	Pk	34.7	-95.2	-29.90	-49.71	-13	-36.71	V
7.470000	42.55	Pk	35.6	-95.2	-26.20	-43.25	-13	-30.25	V
7.527656	41.66	Pk	35.6	-95.2	-26.23	-44.17	-13	-31.17	H
High Channel, 1909.8MHz									
3.684844	43.11	Pk	33.2	-95.2	-32.48	-51.37	-13	-38.37	V
3.694688	42.92	Pk	33.2	-95.2	-32.40	-51.48	-13	-38.48	H
5.202188	41.53	Pk	34.3	-95.2	-28.88	-48.25	-13	-35.25	H
5.219531	40.84	Pk	34.3	-95.2	-28.75	-48.81	-13	-35.81	V
7.421719	40.90	Pk	35.6	-95.2	-26.26	-44.96	-13	-31.96	V
7.464375	41.88	Pk	35.6	-95.2	-26.30	-44.02	-13	-31.02	H

EGPRS MODE

Project #:	15175342
Date:	2024-08-27
Test Engineer:	32145
Configuration:	EUT Only
Mode:	EGPRS 1900
Chamber #:	02-RDE-E

Frequency (MHz)	Meter Reading (dBuV)	Det	AF 226671 (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1850.2MHz									
3.754688	42.84	Pk	33.4	-95.2	-32.10	-51.06	-13	-38.06	H
3.759844	42.11	Pk	33.4	-95.2	-32.10	-51.79	-13	-38.79	V
5.476406	40.67	Pk	34.6	-95.2	-29.10	-49.03	-13	-36.03	V
5.525625	41.25	Pk	34.6	-95.2	-29.50	-48.85	-13	-35.85	H
7.467188	42.84	Pk	35.6	-95.2	-26.22	-42.98	-13	-29.98	H
7.495781	42.48	Pk	35.6	-95.2	-26.20	-43.32	-13	-30.32	V
Mid Channel, 1880MHz									
4.116563	41.65	Pk	33.4	-95.2	-30.81	-50.96	-13	-37.96	V
4.121719	42.01	Pk	33.4	-95.2	-30.83	-50.62	-13	-37.62	H
5.606250	40.62	Pk	34.6	-95.2	-29.8	-49.78	-13	-36.78	V
5.632969	41.32	Pk	34.7	-95.2	-29.9	-49.08	-13	-36.08	H
7.521563	41.30	Pk	35.6	-95.2	-26.3	-44.60	-13	-31.60	V
7.528125	42.31	Pk	35.6	-95.2	-26.21	-43.50	-13	-30.50	H
High Channel, 1909.8MHz									
4.316250	42.24	Pk	33.6	-95.2	-30.18	-49.54	-13	-36.54	V
4.366875	41.70	Pk	33.7	-95.2	-30.01	-49.81	-13	-36.81	H
5.878594	40.89	Pk	35.1	-95.2	-28.44	-47.65	-13	-34.65	V
5.880469	40.48	Pk	35.1	-95.2	-28.45	-48.07	-13	-35.07	H
7.536563	41.96	Pk	35.6	-95.2	-26.36	-44.00	-13	-31.00	H
7.590938	42.21	Pk	35.7	-95.2	-26.39	-43.68	-13	-30.68	V

10.1.3. WCDMA BAND 5

REL 99 MODE

Project #:	15175342
Date:	2024-09-05
Test Engineer:	45258
Configuration:	EUT Only
Mode:	REL 99 Band 5
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	HPF 1.2GHz T1737 1-18GHz	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 826.4MHz										
1.651733	40.64	Pk	28.9	.8	-95.2	-27.70	-52.56	-13	-39.56	H
1.652711	41.27	Pk	28.9	.8	-95.2	-27.63	-51.86	-13	-38.86	V
2.479423	41.25	Pk	32.5	.5	-95.2	-26.10	-47.05	-13	-34.05	V
2.480400	40.88	Pk	32.5	.5	-95.2	-26.10	-47.42	-13	-34.42	H
3.306623	39.92	Pk	32.9	.7	-95.2	-25.00	-46.68	-13	-33.68	V
3.307112	40.23	Pk	32.9	.7	-95.2	-25.01	-46.38	-13	-33.38	H
Mid Channel, 836.6MHz										
1.671778	41.58	Pk	29.1	.7	-95.2	-27.72	-51.54	-13	-38.54	H
1.673733	40.41	Pk	29.1	.7	-95.2	-27.53	-52.52	-13	-39.52	V
2.506800	41.72	Pk	32.5	.7	-95.2	-26.2	-46.48	-13	-33.48	H
2.509245	41.71	Pk	32.5	.7	-95.2	-26.28	-46.57	-13	-33.57	V
3.346223	38.95	Pk	32.8	.5	-95.2	-25.10	-48.05	-13	-35.05	H
3.347689	39.96	Pk	32.8	.5	-95.2	-25.03	-46.97	-13	-33.97	V
High Channel, 846.6MHz										
1.693289	40.89	Pk	29.3	.7	-95.2	-27.67	-51.98	-13	-38.98	V
1.695733	41.62	Pk	29.3	.7	-95.2	-27.53	-51.11	-13	-38.11	H
2.536623	41.88	Pk	32.5	.7	-95.2	-25.9	-46.02	-13	-33.02	H
2.539067	40.4	Pk	32.5	.7	-95.2	-25.9	-47.50	-13	-34.50	V
3.384356	39.61	Pk	32.8	.6	-95.2	-24.8	-46.99	-13	-33.99	H
3.386801	38.79	Pk	32.8	.6	-95.2	-24.88	-47.89	-13	-34.89	V

HSDPA MODE

Project #:	15175342
Date:	2024-09-05
Test Engineer:	45258
Configuration:	EUT Only
Mode:	HSDPA Band 5
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	HPF 1.2GHz T1737 1-18GHz	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 826.4MHz										
1.652222	40.12	Pk	28.9	.8	-95.2	-27.68	-53.06	-13	-40.06	H
1.652711	41.25	Pk	28.9	.8	-95.2	-27.63	-51.88	-13	-38.88	V
2.476000	41.61	Pk	32.5	.5	-95.2	-26.00	-46.59	-13	-33.59	V
2.476978	41.85	Pk	32.5	.5	-95.2	-26.10	-46.45	-13	-33.45	H
3.305156	39.39	Pk	32.9	.7	-95.2	-25.00	-47.21	-13	-34.21	H
3.306134	39.68	Pk	32.9	.7	-95.2	-25.00	-46.92	-13	-33.92	V
Mid Channel, 836.6MHz										
1.672267	41.11	Pk	29.1	.7	-95.2	-27.67	-51.96	-13	-38.96	V
1.673733	40.88	Pk	29.1	.7	-95.2	-27.53	-52.05	-13	-39.05	H
2.505334	42.57	Pk	32.5	.7	-95.2	-26.20	-45.63	-13	-32.63	H
2.507289	41.51	Pk	32.5	.7	-95.2	-26.20	-46.69	-13	-33.69	V
3.344756	39.55	Pk	32.8	.5	-95.2	-25.10	-47.45	-13	-34.45	V
3.347200	40.70	Pk	32.8	.5	-95.2	-25.08	-46.28	-13	-33.28	H
High Channel, 846.6MHz										
1.693289	40.43	Pk	29.3	.7	-95.2	-27.67	-52.44	-13	-39.44	V
1.694267	41.67	Pk	29.3	.7	-95.2	-27.60	-51.13	-13	-38.13	H
2.339111	42.16	Pk	32.0	.5	-95.2	-26.20	-46.74	-13	-33.74	H
2.339111	41.21	Pk	32.0	.5	-95.2	-26.20	-47.69	-13	-34.69	V
3.384845	40.08	Pk	32.8	.6	-95.2	-24.80	-46.52	-13	-33.52	H
3.386801	39.48	Pk	32.8	.6	-95.2	-24.88	-47.2	-13	-34.20	V

10.1.4. WCDMA BAND 2

REL 99 MODE

Project #:	15175342
Date:	2024-09-09
Test Engineer:	45258
Configuration:	EUT Only
Mode:	HSDPA Band 2
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1852.4MHz									
3.704063	39.50	Pk	33.0	-95.2	-23.90	-46.60	-13	-33.60	H
3.704531	38.91	Pk	33.0	-95.2	-23.90	-47.19	-13	-34.19	V
5.553750	38.35	Pk	34.5	-95.2	-20.73	-43.08	-13	-30.08	H
5.558438	38.45	Pk	34.5	-95.2	-20.54	-42.79	-13	-29.79	V
7.408594	36.99	Pk	35.6	-95.2	-18.14	-40.75	-13	-27.75	H
7.409531	36.78	Pk	35.6	-95.2	-18.15	-40.97	-13	-27.97	V
Mid Channel, 1880MHz									
3.757031	40.49	Pk	33.1	-95.2	-23.70	-45.31	-13	-32.31	H
3.759844	38.73	Pk	33.2	-95.2	-23.70	-46.97	-13	-33.97	V
5.640469	37.28	Pk	34.6	-95.2	-20.05	-43.37	-13	-30.37	V
5.644219	37.17	Pk	34.6	-95.2	-20.12	-43.55	-13	-30.55	H
7.518281	38.38	Pk	35.7	-95.2	-18.20	-39.32	-13	-26.32	H
7.519219	38.16	Pk	35.7	-95.2	-18.20	-39.54	-13	-26.54	V
High Channel, 1907.6MHz									
3.815625	38.85	Pk	33.3	-95.2	-24.06	-47.11	-13	-34.11	H
3.815625	38.48	Pk	33.3	-95.2	-24.06	-47.48	-13	-34.48	V
5.722500	36.96	Pk	34.6	-95.2	-21.45	-45.09	-13	-32.09	H
5.722500	37.47	Pk	34.6	-95.2	-21.45	-44.58	-13	-31.58	V
7.630313	38.57	Pk	35.8	-95.2	-16.80	-37.63	-13	-24.63	H
7.632188	38.62	Pk	35.8	-95.2	-16.90	-37.68	-13	-24.68	V

HSDPA MODE

Project #:	15175342
Date:	2024-09-09
Test Engineer:	45258
Configuration:	EUT Only
Mode:	HSDPA Band 2
Chamber #:	01-RDE-A

Frequency (MHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1852.4MHz									
3.703594	38.48	Pk	33.0	-95.2	-23.90	-47.62	-13	-34.62	H
3.705938	39.69	Pk	33.0	-95.2	-23.90	-46.41	-13	-33.41	V
5.555625	37.46	Pk	34.5	-95.2	-20.64	-43.88	-13	-30.88	H
5.556563	37.44	Pk	34.5	-95.2	-20.60	-43.86	-13	-30.86	V
7.410469	38.27	Pk	35.6	-95.2	-18.20	-39.53	-13	-26.53	V
7.411875	37.61	Pk	35.6	-95.2	-18.20	-40.19	-13	-27.19	H
Mid Channel, 1880MHz									
3.760313	39.18	Pk	33.2	-95.2	-23.70	-46.52	-13	-33.52	H
3.761250	38.60	Pk	33.2	-95.2	-23.70	-47.10	-13	-34.10	V
5.640000	37.72	Pk	34.6	-95.2	-20.10	-42.98	-13	-29.98	V
5.642344	36.67	Pk	34.6	-95.2	-20.10	-44.03	-13	-31.03	H
7.519219	38.29	Pk	35.7	-95.2	-18.20	-39.41	-13	-26.41	H
7.520625	37.43	Pk	35.7	-95.2	-18.14	-40.21	-13	-27.21	V
High Channel, 1907.6MHz									
3.812813	39.25	Pk	33.3	-95.2	-23.92	-46.57	-13	-33.57	H
3.813750	40.33	Pk	33.3	-95.2	-23.98	-45.55	-13	-32.55	V
5.720625	37.38	Pk	34.6	-95.2	-21.50	-44.72	-13	-31.72	H
5.722031	37.84	Pk	34.6	-95.2	-21.40	-44.16	-13	-31.16	V
7.630781	37.79	Pk	35.8	-95.2	-16.80	-38.41	-13	-25.41	V
7.634063	39.39	Pk	35.8	-95.2	-16.99	-37.00	-13	-24.00	H

10.1.5. WCDMA BAND 4

REL 99 MODE

Project #:	15175342
Date:	2024-09-09
Test Engineer:	32934
Configuration:	EUT Only
Mode:	REL 99 Band 4
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1712.4MHz									
3.390000	39.85	Pk	32.8	-95.2	-24.40	-46.95	-13	-33.95	V
3.417188	39.84	Pk	32.8	-95.2	-24.90	-47.46	-13	-34.46	H
5.064844	37.80	Pk	34.2	-95.2	-20.80	-44.00	-13	-31.00	V
5.066250	39.50	Pk	34.2	-95.2	-20.83	-42.33	-13	-29.33	H
6.837656	38.72	Pk	35.6	-95.2	-19.03	-39.91	-13	-26.91	H
6.842344	38.10	Pk	35.6	-95.2	-19.20	-40.7	-13	-27.70	V
Mid Channel, 1732.6MHz									
3.462188	39.87	Pk	32.7	-95.2	-24.80	-47.43	-13	-34.43	H
3.466875	40.00	Pk	32.7	-95.2	-24.80	-47.30	-13	-34.30	V
5.191875	38.74	Pk	34.1	-95.2	-22.41	-44.77	-13	-31.77	H
5.201016	39.01	Pk	34.2	-95.2	-22.30	-44.29	-13	-31.29	V
6.937500	37.77	Pk	35.7	-95.2	-18.95	-40.68	-13	-27.68	H
6.95625	38.06	Pk	35.7	-95.2	-18.88	-40.32	-13	-27.32	V
High Channel, 1752.6MHz									
3.506250	40.41	Pk	32.8	-95.2	-24.28	-46.27	-13	-33.27	V
3.515625	39.95	Pk	32.9	-95.2	-24.20	-46.55	-13	-33.55	H
5.256094	39.71	Pk	34.2	-95.2	-22.00	-43.29	-13	-30.29	V
5.259844	38.77	Pk	34.2	-95.2	-21.90	-44.13	-13	-31.13	H
7.032656	38.49	Pk	35.6	-95.2	-18.20	-39.31	-13	-26.31	V
7.034063	37.77	Pk	35.6	-95.2	-18.09	-39.92	-13	-26.92	H

HSDPA MODE

Project #:	15175342
Date:	2024-09-09
Test Engineer:	32934
Configuration:	EUT Only
Mode:	HSDPA Band 4
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1712.4MHz									
3.395625	40.10	Pk	32.8	-95.2	-24.64	-46.94	-13	-33.94	V
3.411094	39.38	Pk	32.8	-95.2	-24.80	-47.82	-13	-34.82	H
5.114063	38.03	Pk	34.2	-95.2	-21.20	-44.17	-13	-31.17	V
5.130469	38.55	Pk	34.2	-95.2	-21.50	-43.95	-13	-30.95	H
6.843047	38.20	Pk	35.6	-95.2	-19.20	-40.60	-13	-27.60	H
6.850313	39.73	Pk	35.6	-95.2	-19.30	-39.17	-13	-26.17	V
Mid Channel, 1732.6MHz									
3.455625	39.69	Pk	32.7	-95.2	-24.80	-47.61	-13	-34.61	H
3.457500	40.21	Pk	32.7	-95.2	-24.85	-47.14	-13	-34.14	V
5.192813	38.25	Pk	34.1	-95.2	-22.40	-45.25	-13	-32.25	H
5.194688	38.68	Pk	34.2	-95.2	-22.43	-44.75	-13	-31.75	V
6.927188	37.68	Pk	35.7	-95.2	-19.02	-40.84	-13	-27.84	V
6.940781	37.81	Pk	35.7	-95.2	-19.00	-40.69	-13	-27.69	H
High Channel, 1752.6MHz									
3.492656	40.93	Pk	32.8	-95.2	-24.3	-45.77	-13	-32.77	V
3.498750	40.85	Pk	32.8	-95.2	-24.2	-45.75	-13	-32.75	H
5.256094	37.81	Pk	34.2	-95.2	-22.0	-45.19	-13	-32.19	V
5.373281	40.06	Pk	34.4	-95.2	-21.1	-41.84	-13	-28.84	H
7.013438	37.72	Pk	35.6	-95.2	-18.2	-40.08	-13	-27.08	V
7.014375	37.29	Pk	35.6	-95.2	-18.2	-40.51	-13	-27.51	H

10.2. FIELD STRENGTH OF SPURIOUS RADIATION, ANT2

10.2.1. GSM 850

GPRS MODE

Project #:	15175342
Date:	2024-09-04
Test Engineer:	45258
Configuration:	EUT Only
Mode:	GPRS 850
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	HPF 1.2GHz T1737 1-18GHz(dB)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 824.2MHz										
1.647822	40.58	Pk	28.9	.7	-95.2	-27.78	-52.80	-13	-39.80	H
1.648311	40.45	Pk	28.9	.7	-95.2	-27.83	-52.98	-13	-39.98	V
2.470134	41.51	Pk	32.5	.5	-95.2	-26.20	-46.89	-13	-33.89	H
2.471600	40.47	Pk	32.5	.5	-95.2	-26.20	-47.93	-13	-34.93	V
3.294889	39.54	Pk	33.0	.8	-95.2	-25.00	-46.86	-13	-33.86	H
3.297334	40.65	Pk	33.0	.8	-95.2	-24.90	-45.65	-13	-32.65	V
Mid Channel, 836.6MHz										
1.673245	41.14	Pk	29.1	.7	-95.2	-27.58	-51.84	-13	-38.84	H
1.673245	41.43	Pk	29.1	.7	-95.2	-27.58	-51.55	-13	-38.55	V
2.508756	41.24	Pk	32.5	.7	-95.2	-26.28	-47.04	-13	-34.04	V
2.510711	41.50	Pk	32.5	.7	-95.2	-26.20	-46.70	-13	-33.70	H
3.345245	40.31	Pk	32.8	.5	-95.2	-25.10	-46.69	-13	-33.69	H
3.346223	40.78	Pk	32.8	.5	-95.2	-25.10	-46.22	-13	-33.22	V
High Channel, 848.8MHz										
1.697689	40.70	Pk	29.4	.6	-95.2	-27.60	-52.10	-13	-39.10	H
1.699156	41.81	Pk	29.4	.6	-95.2	-27.70	-51.09	-13	-38.09	V
2.546400	41.29	Pk	32.5	.6	-95.2	-25.90	-46.71	-13	-33.71	V
2.545528	42.45	Pk	32.5	.6	-95.2	-25.90	-45.55	-13	-32.55	H
3.394134	39.43	Pk	32.8	.6	-95.2	-24.71	-47.08	-13	-34.08	V
3.395601	39.66	Pk	32.8	.6	-95.2	-24.74	-46.88	-13	-33.88	H

EGPRS MODE

Project #:	15175342
Date:	2024-09-04
Test Engineer:	45258
Configuration:	EUT Only
Mode:	EGPRS 850
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	HPF 1.2GHz T1737 1-18GHz(dB)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 824.2MHz										
1.647333	41.26	Pk	28.9	.7	-95.2	-27.73	-52.07	-13	-39.07	V
1.648800	41.18	Pk	28.9	.7	-95.2	-27.88	-52.30	-13	-39.30	H
2.472578	42.83	Pk	32.5	.5	-95.2	-26.20	-45.57	-13	-32.57	H
2.474045	40.64	Pk	32.5	.5	-95.2	-26.10	-47.66	-13	-34.66	V
3.296845	39.75	Pk	33.0	.8	-95.2	-24.90	-46.55	-13	-33.55	H
3.297823	39.93	Pk	33.0	.8	-95.2	-24.90	-46.37	-13	-33.37	V
Mid Channel, 836.6MHz										
1.672267	40.98	Pk	29.1	.7	-95.2	-27.67	-52.09	-13	-39.09	V
1.673733	39.93	Pk	29.1	.7	-95.2	-27.53	-53.00	-13	-40.00	H
2.509734	42.06	Pk	32.5	.7	-95.2	-26.23	-46.17	-13	-33.17	H
2.510223	40.76	Pk	32.5	.7	-95.2	-26.20	-47.44	-13	-34.44	V
3.345734	39.89	Pk	32.8	.5	-95.2	-25.10	-47.11	-13	-34.11	H
3.346712	39.05	Pk	32.8	.5	-95.2	-25.10	-47.95	-13	-34.95	V
High Channel, 848.8MHz										
1.697200	40.46	Pk	29.4	.6	-95.2	-27.60	-52.34	-13	-39.34	V
1.698178	40.91	Pk	29.4	.6	-95.2	-27.62	-51.91	-13	-38.91	H
2.546400	42.68	Pk	32.5	.6	-95.2	-25.90	-45.32	-13	-32.32	H
2.548356	41.09	Pk	32.5	.6	-95.2	-25.80	-46.81	-13	-33.81	V
3.397067	40.62	Pk	32.8	.6	-95.2	-24.79	-45.97	-13	-32.97	H
3.397067	39.29	Pk	32.8	.6	-95.2	-24.79	-47.30	-13	-34.30	V

10.2.2. GSM 1900

GPRS MODE

Project #:	15175342
Date:	2024-09-03
Test Engineer:	45258
Configuration:	EUT Only
Mode:	GPRS 1900
Chamber #:	01-RDE-A

Frequency (MHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1850.2MHz									
3.700313	40.18	Pk	33.0	-95.2	-23.97	-45.99	-13	-32.99	H
3.700781	39.43	Pk	33.0	-95.2	-23.92	-46.69	-13	-33.69	V
5.549531	37.53	Pk	34.5	-95.2	-20.80	-43.97	-13	-30.97	V
5.550469	37.35	Pk	34.5	-95.2	-20.80	-44.15	-13	-31.15	H
7.400156	38.08	Pk	35.6	-95.2	-18.10	-39.62	-13	-26.62	H
7.400625	37.24	Pk	35.6	-95.2	-18.10	-40.46	-13	-27.46	V
Mid Channel, 1880MHz									
3.760781	40.82	Pk	33.2	-95.2	-23.70	-44.88	-13	-31.88	H
3.760781	39.17	Pk	33.2	-95.2	-23.70	-46.53	-13	-33.53	V
5.640938	36.46	Pk	34.6	-95.2	-20.01	-44.15	-13	-31.15	V
5.641406	37.80	Pk	34.6	-95.2	-20.04	-42.84	-13	-29.84	H
7.519219	37.75	Pk	35.7	-95.2	-18.20	-39.95	-13	-26.95	H
7.520625	37.78	Pk	35.7	-95.2	-18.14	-39.86	-13	-26.86	V
High Channel, 1909.8MHz									
3.818438	39.09	Pk	33.3	-95.2	-24.00	-46.81	-13	-33.81	H
3.819375	38.16	Pk	33.3	-95.2	-24.00	-47.74	-13	-34.74	V
5.729063	38.49	Pk	34.6	-95.2	-21.6	-43.71	-13	-30.71	V
5.729531	37.58	Pk	34.6	-95.2	-21.6	-44.62	-13	-31.62	H
7.637344	39.97	Pk	35.8	-95.2	-16.93	-36.36	-13	-23.36	H
7.637813	38.96	Pk	35.8	-95.2	-16.98	-37.42	-13	-24.42	V

EGPRS MODE

Project #:	15175342
Date:	2024-09-03
Test Engineer:	45258
Configuration:	EUT Only
Mode:	EGPRS 1900
Chamber #:	01-RDE-A

Frequency (MHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1850.2MHz									
3.698906	39.61	Pk	33.0	-95.2	-24.10	-46.69	-13	-33.69	H
3.701250	39.07	Pk	33.0	-95.2	-23.90	-47.03	-13	-34.03	V
5.552813	37.86	Pk	34.5	-95.2	-20.80	-43.64	-13	-30.64	H
5.553281	38.96	Pk	34.5	-95.2	-20.77	-42.51	-13	-29.51	V
7.401563	37.89	Pk	35.6	-95.2	-18.10	-39.81	-13	-26.81	V
7.402031	37.99	Pk	35.6	-95.2	-18.10	-39.71	-13	-26.71	H
Mid Channel, 1880MHz									
3.759375	39.36	Pk	33.1	-95.2	-23.70	-46.44	-13	-33.44	V
3.760078	38.56	Pk	33.2	-95.2	-23.70	-47.14	-13	-34.14	H
5.640469	37.40	Pk	34.6	-95.2	-20.05	-43.25	-13	-30.25	H
5.640938	38.44	Pk	34.6	-95.2	-20.01	-42.17	-13	-29.17	V
7.519688	39.12	Pk	35.7	-95.2	-18.20	-38.58	-13	-25.58	H
7.520156	37.37	Pk	35.7	-95.2	-18.18	-40.31	-13	-27.31	V
High Channel, 1909.8MHz									
3.819375	38.16	Pk	33.3	-95.2	-24.00	-47.74	-13	-34.74	H
3.819844	39.48	Pk	33.3	-95.2	-24.00	-46.42	-13	-33.42	V
5.729531	37.27	Pk	34.6	-95.2	-21.60	-44.93	-13	-31.93	H
5.729531	36.98	Pk	34.6	-95.2	-21.60	-45.22	-13	-32.22	V
7.638281	39.32	Pk	35.8	-95.2	-17.00	-37.08	-13	-24.08	V
7.639688	38.81	Pk	35.8	-95.2	-17.00	-37.59	-13	-24.59	H

10.2.3. WCDMA BAND 5

REL 99 MODE

Project #:	15175342
Date:	2024-09-06
Test Engineer:	45258
Configuration:	EUT Only
Mode:	REL 99 Band 5
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	HPF 1.2GHz T1737 1-18GHz	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 826.4MHz										
1.651733	40.49	Pk	28.9	.8	-95.2	-27.70	-52.71	-13	-39.71	V
1.654667	41.52	Pk	28.9	.8	-95.2	-27.77	-51.75	-13	-38.75	H
2.476978	42.19	Pk	32.5	.5	-95.2	-26.10	-46.11	-13	-33.11	V
2.478445	41.19	Pk	32.5	.5	-95.2	-26.10	-47.11	-13	-34.11	H
3.304178	39.46	Pk	33.0	.7	-95.2	-25.00	-47.04	-13	-34.04	H
3.304667	40.27	Pk	32.9	.7	-95.2	-25.00	-46.33	-13	-33.33	V
Mid Channel, 836.6MHz										
1.672756	40.53	Pk	29.1	.7	-95.2	-27.62	-52.49	-13	-39.49	V
1.673245	40.56	Pk	29.1	.7	-95.2	-27.58	-52.42	-13	-39.42	H
2.509734	40.33	Pk	32.5	.7	-95.2	-26.23	-47.9	-13	-34.90	H
2.510711	40.82	Pk	32.5	.7	-95.2	-26.20	-47.38	-13	-34.38	V
3.347689	39.56	Pk	32.8	.5	-95.2	-25.03	-47.37	-13	-34.37	H
3.348667	40.11	Pk	32.8	.5	-95.2	-25.00	-46.79	-13	-33.79	V
High Channel, 846.6MHz										
1.691822	41.21	Pk	29.3	.7	-95.2	-27.68	-51.67	-13	-38.67	H
1.693289	40.49	Pk	29.3	.7	-95.2	-27.67	-52.38	-13	-39.38	V
2.540045	40.78	Pk	32.5	.7	-95.2	-25.90	-47.12	-13	-34.12	H
2.540534	41.44	Pk	32.5	.7	-95.2	-25.85	-46.41	-13	-33.41	V
3.384356	40.50	Pk	32.8	.6	-95.2	-24.80	-46.10	-13	-33.10	V
3.386312	39.96	Pk	32.8	.6	-95.2	-24.83	-46.67	-13	-33.67	H

HSDPA MODE

Project #:	15175342
Date:	2024-09-05
Test Engineer:	45258
Configuration:	EUT Only
Mode:	HSDPA Band 5
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	HPF 1.2GHz T1737 1-18GHz	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 826.4MHz										
1.652711	40.02	Pk	28.9	.8	-95.2	-27.63	-53.11	-13	-40.11	H
1.653200	40.70	Pk	28.9	.8	-95.2	-27.62	-52.42	-13	-39.42	V
2.478445	40.80	Pk	32.5	.5	-95.2	-26.10	-47.50	-13	-34.50	V
2.479911	41.12	Pk	32.5	.5	-95.2	-26.10	-47.18	-13	-34.18	H
3.304667	40.38	Pk	32.9	.7	-95.2	-25.00	-46.22	-13	-33.22	V
3.305645	40.60	Pk	32.9	.7	-95.2	-25.00	-46.00	-13	-33.00	H
Mid Channel, 836.6MHz										
1.672756	40.46	Pk	29.1	.7	-95.2	-27.62	-52.56	-13	-39.56	H
1.673245	40.42	Pk	29.1	.7	-95.2	-27.58	-52.56	-13	-39.56	V
2.507778	42.09	Pk	32.5	.7	-95.2	-26.20	-46.11	-13	-33.11	H
2.510711	40.56	Pk	32.5	.7	-95.2	-26.20	-47.64	-13	-34.64	V
3.34720	39.45	Pk	32.8	.5	-95.2	-25.08	-47.53	-13	-34.53	V
3.348178	39.11	Pk	32.8	.5	-95.2	-25.00	-47.79	-13	-34.79	H
High Channel, 846.6MHz										
1.694756	40.94	Pk	29.3	.7	-95.2	-27.60	-51.86	-13	-38.86	V
1.696222	41.28	Pk	29.3	.7	-95.2	-27.52	-51.44	-13	-38.44	H
2.536134	42.66	Pk	32.5	.7	-95.2	-25.90	-45.24	-13	-32.24	H
2.540534	40.78	Pk	32.5	.7	-95.2	-25.85	-47.07	-13	-34.07	V
3.384845	40.21	Pk	32.8	.6	-95.2	-24.80	-46.39	-13	-33.39	H
3.387289	39.62	Pk	32.8	.6	-95.2	-24.90	-47.08	-13	-34.08	V

10.2.4. WCDMA BAND 2

REL 99 MODE

Project #:	15175342
Date:	2024-09-06
Test Engineer:	45258
Configuration:	EUT Only
Mode:	REL 99 Band 2
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1852.4MHz									
3.703125	39.77	Pk	33.0	-95.2	-23.90	-46.33	-13	-33.33	H
3.705000	39.32	Pk	33.0	-95.2	-23.90	-46.78	-13	-33.78	V
5.555625	37.08	Pk	34.5	-95.2	-20.64	-44.26	-13	-31.26	H
5.557969	38.40	Pk	34.5	-95.2	-20.50	-42.80	-13	-29.80	V
7.409531	36.55	Pk	35.6	-95.2	-18.15	-41.20	-13	-28.20	V
7.410000	37.27	Pk	35.6	-95.2	-18.20	-40.53	-13	-27.53	H
Mid Channel, 1880MHz									
3.757969	39.75	Pk	33.1	-95.2	-23.70	-46.05	-13	-33.05	V
3.759844	38.93	Pk	33.2	-95.2	-23.70	-46.77	-13	-33.77	H
5.641875	38.28	Pk	34.6	-95.2	-20.09	-42.41	-13	-29.41	H
5.641875	38.55	Pk	34.6	-95.2	-20.09	-42.14	-13	-29.14	V
7.520156	37.24	Pk	35.7	-95.2	-18.18	-40.44	-13	-27.44	H
7.520156	37.13	Pk	35.7	-95.2	-18.18	-40.55	-13	-27.55	V
High Channel, 1907.6MHz									
3.815156	38.02	Pk	33.3	-95.2	-24.02	-47.90	-13	-34.90	H
3.816094	38.21	Pk	33.3	-95.2	-24.09	-47.78	-13	-34.78	V
5.720625	37.28	Pk	34.6	-95.2	-21.50	-44.82	-13	-31.82	V
5.722500	37.24	Pk	34.6	-95.2	-21.45	-44.81	-13	-31.81	H
7.629375	38.21	Pk	35.8	-95.2	-16.80	-37.99	-13	-24.99	V
7.631719	38.29	Pk	35.8	-95.2	-16.87	-37.98	-13	-24.98	H

HSDPA MODE

Project #:	15175342
Date:	2024-09-10
Test Engineer:	45258
Configuration:	EUT Only
Mode:	HSDPA Band 2
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1852.4MHz									
3.703125	39.14	Pk	33.0	-95.2	-23.90	-46.96	-13	-33.96	V
3.703594	39.69	Pk	33.0	-95.2	-23.90	-46.41	-13	-33.41	H
5.556563	36.89	Pk	34.5	-95.2	-20.60	-44.41	-13	-31.41	V
5.557031	37.55	Pk	34.5	-95.2	-20.60	-43.75	-13	-30.75	H
7.410000	37.14	Pk	35.6	-95.2	-18.20	-40.66	-13	-27.66	H
7.410469	36.94	Pk	35.6	-95.2	-18.20	-40.86	-13	-27.86	V
Mid Channel, 1880MHz									
3.760313	38.42	Pk	33.2	-95.2	-23.70	-47.28	-13	-34.28	H
3.760313	39.06	Pk	33.2	-95.2	-23.70	-46.64	-13	-33.64	V
5.639531	36.97	Pk	34.6	-95.2	-20.10	-43.73	-13	-30.73	H
5.640000	37.34	Pk	34.6	-95.2	-20.10	-43.36	-13	-30.36	V
7.520625	36.72	Pk	35.7	-95.2	-18.14	-40.92	-13	-27.92	H
7.521563	37.18	Pk	35.7	-95.2	-18.10	-40.42	-13	-27.42	V
High Channel, 1907.6MHz									
3.812813	38.96	Pk	33.3	-95.2	-23.92	-46.86	-13	-33.86	V
3.813281	39.61	Pk	33.3	-95.2	-23.93	-46.22	-13	-33.22	H
5.721563	37.04	Pk	34.6	-95.2	-21.44	-45.00	-13	-32.00	H
5.721563	37.31	Pk	34.6	-95.2	-21.44	-44.73	-13	-31.73	V
7.628438	38.07	Pk	35.8	-95.2	-16.80	-38.13	-13	-25.13	H
7.630781	38.01	Pk	35.8	-95.2	-16.80	-38.19	-13	-25.19	V

10.2.5. WCDMA BAND 4

REL 99 MODE

Project #:	15175342
Date:	2024-09-09
Test Engineer:	32394
Configuration:	EUT Only
Mode:	REL 99 Band 4
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1712.4MHz									
3.406875	39.69	Pk	32.8	-95.2	-24.89	-47.60	-13	-34.60	V
3.431250	40.60	Pk	32.8	-95.2	-25.00	-46.80	-13	-33.80	H
5.138438	38.61	Pk	34.1	-95.2	-21.74	-44.23	-13	-31.23	H
5.148750	39.07	Pk	34.2	-95.2	-22.00	-43.93	-13	-30.93	V
6.847500	37.53	Pk	35.6	-95.2	-19.25	-41.32	-13	-28.32	H
6.850781	38.44	Pk	35.6	-95.2	-19.30	-40.46	-13	-27.46	V
Mid Channel, 1732.6MHz									
3.472969	40.91	Pk	32.8	-95.2	-24.80	-46.29	-13	-33.29	H
3.480938	40.46	Pk	32.8	-95.2	-24.60	-46.54	-13	-33.54	V
5.170781	37.59	Pk	34.1	-95.2	-22.20	-45.71	-13	-32.71	V
5.190938	39.65	Pk	34.1	-95.2	-22.50	-43.95	-13	-30.95	H
6.919688	38.13	Pk	35.6	-95.2	-19.13	-40.60	-13	-27.60	H
6.921094	38.01	Pk	35.6	-95.2	-19.10	-40.69	-13	-27.69	V
High Channel, 1752.6MHz									
3.500156	40.49	Pk	32.8	-95.2	-24.22	-46.13	-13	-33.13	H
3.505313	39.90	Pk	32.8	-95.2	-24.30	-46.80	-13	-33.80	V
5.262656	38.04	Pk	34.2	-95.2	-21.87	-44.83	-13	-31.83	H
5.274844	37.79	Pk	34.2	-95.2	-21.60	-44.81	-13	-31.81	V
7.016719	38.13	Pk	35.6	-95.2	-18.30	-39.77	-13	-26.77	V
7.017656	37.35	Pk	35.6	-95.2	-18.30	-40.55	-13	-27.55	H

HSDPA MODE

Project #:	15175342
Date:	2024-09-10
Test Engineer:	32934
Configuration:	EUT Only
Mode:	HSDPA Band 4
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1712.4MHz									
3.418125	39.81	Pk	32.8	-95.2	-24.90	-47.49	-13	-34.49	V
3.425625	40.41	Pk	32.8	-95.2	-24.90	-46.89	-13	-33.89	H
5.137031	38.09	Pk	34.1	-95.2	-21.70	-44.71	-13	-31.71	H
5.143125	37.82	Pk	34.1	-95.2	-21.81	-45.09	-13	-32.09	V
6.825000	38.22	Pk	35.6	-95.2	-18.80	-40.18	-13	-27.18	V
6.845625	38.07	Pk	35.6	-95.2	-19.26	-40.79	-13	-27.79	H
Mid Channel, 1732.6MHz									
3.432656	39.73	Pk	32.8	-95.2	-24.93	-47.60	-13	-34.60	V
3.442500	41.55	Pk	32.7	-95.2	-24.95	-45.90	-13	-32.90	H
5.201250	37.72	Pk	34.2	-95.2	-22.30	-45.58	-13	-32.58	H
5.222813	37.87	Pk	34.2	-95.2	-22.20	-45.33	-13	-32.33	V
6.898594	37.44	Pk	35.6	-95.2	-19.30	-41.46	-13	-28.46	V
6.922031	37.20	Pk	35.6	-95.2	-19.10	-41.50	-13	-28.50	H
High Channel, 1752.6MHz									
3.514688	40.73	Pk	32.9	-95.2	-24.20	-45.77	-13	-32.77	V
3.515156	40.00	Pk	32.9	-95.2	-24.20	-46.50	-13	-33.50	H
5.261719	38.66	Pk	34.2	-95.2	-21.83	-44.17	-13	-31.17	V
5.262188	38.28	Pk	34.2	-95.2	-21.82	-44.54	-13	-31.54	H
7.017656	37.62	Pk	35.6	-95.2	-18.30	-40.28	-13	-27.28	H
7.036406	38.11	Pk	35.6	-95.2	-18.06	-39.55	-13	-26.55	V

10.3. FIELD STRENGTH OF SPURIOUS RADIATION, ANT3

10.3.1. GSM 1900

GPRS MODE

Project #:	15175342
Date:	202224-08-28
Test Engineer:	32145
Configuration:	EUT Only
Mode:	GPRS 1900
Chamber #:	01-RDE-B

Frequency (MHz)	Meter Reading (dBuV)	Det	226671 ACF (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1850.2MHz									
3.981094	41.72	Pk	33.5	-95.2	-31.40	-51.38	-13	-38.38	V
3.982031	42.18	Pk	33.5	-95.2	-31.40	-50.92	-13	-37.92	H
5.386406	41.36	Pk	34.6	-95.2	-30.32	-49.56	-13	-36.56	V
5.423906	41.19	Pk	34.6	-95.2	-29.41	-48.82	-13	-35.82	H
7.157344	42.76	Pk	35.6	-95.2	-26.10	-42.94	-13	-29.94	V
7.192969	42.10	Pk	35.6	-95.2	-25.80	-43.30	-13	-30.30	H
Mid Channel, 1880MHz									
3.857813	41.87	Pk	33.5	-95.2	-31.70	-51.53	-13	-38.53	V
3.879844	41.68	Pk	33.5	-95.2	-31.70	-51.72	-13	-38.72	H
5.478281	40.13	Pk	34.6	-95.2	-29.13	-49.60	-13	-36.60	V
5.504063	40.73	Pk	34.6	-95.2	-29.21	-49.08	-13	-36.08	H
7.370156	41.61	Pk	35.5	-95.2	-26.50	-44.59	-13	-31.59	V
7.396875	41.99	Pk	35.5	-95.2	-26.50	-44.21	-13	-31.21	H
High Channel, 1909.8MHz									
3.915469	42.98	Pk	33.5	-95.2	-31.75	-50.47	-13	-37.47	H
3.925313	42.16	Pk	33.5	-95.2	-31.87	-51.41	-13	-38.41	V
5.256563	41.98	Pk	34.4	-95.2	-29.00	-47.82	-13	-34.82	H
5.271563	42.25	Pk	34.4	-95.2	-28.94	-47.49	-13	-34.49	V
7.659375	42.36	Pk	35.7	-95.2	-26.60	-43.74	-13	-30.74	H
7.670625	42.32	Pk	35.8	-95.2	-26.50	-43.58	-13	-30.58	V

EGPRS MODE

Project #:	15175342
Date:	2024-08-29
Test Engineer:	32145
Configuration:	EUT Only
Mode:	EGPRS 1900
Chamber #:	01-RDE-B

Frequency (MHz)	Meter Reading (dBuV)	Det	226671 ACF (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1850.2MHz									
3.894844	41.89	Pk	33.5	-95.2	-31.80	-51.61	-13	-38.61	V
3.926719	41.82	Pk	33.5	-95.2	-31.73	-51.61	-13	-38.61	H
5.411719	40.95	Pk	34.6	-95.2	-29.70	-49.35	-13	-36.35	V
5.445469	41.60	Pk	34.6	-95.2	-29.65	-48.65	-13	-35.65	H
7.300313	41.41	Pk	35.5	-95.2	-26.20	-44.49	-13	-31.49	V
7.331719	41.85	Pk	35.5	-95.2	-26.40	-44.25	-13	-31.25	H
Mid Channel, 1880MHz									
3.900000	42.00	Pk	33.5	-95.2	-31.80	-51.50	-13	-38.50	H
3.921563	42.03	Pk	33.5	-95.2	-31.70	-51.37	-13	-38.37	V
5.321250	41.73	Pk	34.5	-95.2	-29.93	-48.90	-13	-35.90	H
5.323125	41.35	Pk	34.5	-95.2	-30.01	-49.36	-13	-36.36	V
7.339688	41.75	Pk	35.5	-95.2	-26.60	-44.55	-13	-31.55	H
7.357500	41.62	Pk	35.5	-95.2	-26.60	-44.68	-13	-31.68	V
High Channel, 1909.8MHz									
3.841875	41.64	Pk	33.5	-95.2	-31.81	-51.87	-13	-38.87	V
3.855000	42.00	Pk	33.5	-95.2	-31.70	-51.40	-13	-38.40	H
5.708438	41.49	Pk	34.8	-95.2	-29.34	-48.25	-13	-35.25	H
5.722969	40.70	Pk	34.8	-95.2	-29.00	-48.70	-13	-35.70	V
7.672031	41.95	Pk	35.8	-95.2	-26.50	-43.95	-13	-30.95	V
7.692188	42.37	Pk	35.8	-95.2	-26.40	-43.43	-13	-30.43	H

10.3.2. WCDMA BAND 2

REL 99 MODE

Project #:	15175342
Date:	2024-09-10
Test Engineer:	45258
Configuration:	EUT Only
Mode:	REL 99 Band 2
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1852.4MHz									
3.702656	39.32	Pk	33.0	-95.2	-23.90	-46.78	-13	-33.78	V
3.705000	38.73	Pk	33.0	-95.2	-23.90	-47.37	-13	-34.37	H
5.557031	38.17	Pk	34.5	-95.2	-20.60	-43.13	-13	-30.13	H
5.558438	37.32	Pk	34.5	-95.2	-20.54	-43.92	-13	-30.92	V
7.409063	36.29	Pk	35.6	-95.2	-18.11	-41.42	-13	-28.42	V
7.410938	37.50	Pk	35.6	-95.2	-18.20	-40.30	-13	-27.3	H
Mid Channel, 1880MHz									
3.762656	39.87	Pk	33.2	-95.2	-23.77	-45.9	-13	-32.9	H
3.763594	39.55	Pk	33.2	-95.2	-23.8	-46.25	-13	-33.25	V
5.640938	37.09	Pk	34.6	-95.2	-20.01	-43.52	-13	-30.52	H
5.641875	36.90	Pk	34.6	-95.2	-20.09	-43.79	-13	-30.79	V
7.519219	37.02	Pk	35.7	-95.2	-18.2	-40.68	-13	-27.68	V
7.522031	37.82	Pk	35.7	-95.2	-18.1	-39.78	-13	-26.78	H
High Channel, 1907.6MHz									
3.812344	39.02	Pk	33.3	-95.2	-23.97	-46.85	-13	-33.85	H
3.815156	38.64	Pk	33.3	-95.2	-24.02	-47.28	-13	-34.28	V
5.721563	36.91	Pk	34.6	-95.2	-21.44	-45.13	-13	-32.13	H
5.724844	37.66	Pk	34.6	-95.2	-21.50	-44.44	-13	-31.44	V
7.628906	38.33	Pk	35.8	-95.2	-16.80	-37.87	-13	-24.87	H
7.631719	38.21	Pk	35.8	-95.2	-16.87	-38.06	-13	-25.06	V

HSDPA MODE

Project #:	15175342
Date:	2024-09-10
Test Engineer:	45258
Configuration:	EUT Only
Mode:	HSDPA Band 2
Chamber #:	03-RDE-B

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1852.4MHz									
3.705000	39.33	Pk	33.0	-95.2	-23.9	-46.77	-13	-33.77	V
3.705938	39.44	Pk	33.0	-95.2	-23.9	-46.66	-13	-33.66	H
5.556094	38.73	Pk	34.5	-95.2	-20.6	-42.57	-13	-29.57	V
5.560313	38.44	Pk	34.5	-95.2	-20.5	-42.76	-13	-29.76	H
7.410469	37.00	Pk	35.6	-95.2	-18.2	-40.80	-13	-27.80	V
7.412344	37.84	Pk	35.6	-95.2	-18.2	-39.96	-13	-26.96	H
Mid Channel, 1880MHz									
3.759844	39.33	Pk	33.2	-95.2	-23.70	-46.37	-13	-33.37	V
3.760313	38.78	Pk	33.2	-95.2	-23.70	-46.92	-13	-33.92	H
5.638125	36.21	Pk	34.6	-95.2	-20.01	-44.4	-13	-31.40	V
5.640000	36.98	Pk	34.6	-95.2	-20.10	-43.72	-13	-30.72	H
7.519219	37.61	Pk	35.7	-95.2	-18.20	-40.09	-13	-27.09	V
7.519688	36.86	Pk	35.7	-95.2	-18.20	-40.84	-13	-27.84	H
High Channel, 1907.6MHz									
3.814688	38.21	Pk	33.3	-95.2	-24.00	-47.69	-13	-34.69	V
3.816094	38.52	Pk	33.3	-95.2	-24.09	-47.47	-13	-34.47	H
5.722500	37.28	Pk	34.6	-95.2	-21.45	-44.77	-13	-31.77	H
5.722500	38.38	Pk	34.6	-95.2	-21.45	-43.67	-13	-30.67	V
7.628438	37.43	Pk	35.8	-95.2	-16.80	-38.77	-13	-25.77	V
7.631250	37.60	Pk	35.8	-95.2	-16.83	-38.63	-13	-25.63	H

10.3.3. WCDMA BAND 4

REL 99 MODE

Project #:	15175342
Date:	2024-09-11
Test Engineer:	32934
Configuration:	EUT Only
Mode:	REL 99 Band
Chamber #:	01-RDE-1

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1712.4MHz									
3.435938	39.88	Pk	32.8	-95.2	-24.99	-47.51	-13	-34.51	V
3.437813	40.40	Pk	32.8	-95.2	-25.00	-47.00	-13	-34.00	H
5.125781	38.86	Pk	34.2	-95.2	-21.40	-43.54	-13	-30.54	V
5.128125	37.98	Pk	34.2	-95.2	-21.40	-44.42	-13	-31.42	H
6.85875	38.44	Pk	35.6	-95.2	-19.40	-40.56	-13	-27.56	H
6.859219	38.29	Pk	35.6	-95.2	-19.38	-40.69	-13	-27.69	V
Mid Channel, 1732.6MHz									
3.489375	40.36	Pk	32.8	-95.2	-24.4	-46.44	-13	-33.44	V
3.497344	40.58	Pk	32.8	-95.2	-24.27	-46.09	-13	-33.09	H
5.262188	38.25	Pk	34.2	-95.2	-21.82	-44.57	-13	-31.57	V
5.268281	37.99	Pk	34.2	-95.2	-21.77	-44.78	-13	-31.78	H
7.015313	37.54	Pk	35.6	-95.2	-18.23	-40.29	-13	-27.29	H
7.048125	37.96	Pk	35.6	-95.2	-18.01	-39.65	-13	-26.65	V
High Channel, 1752.6MHz									
3.502500	39.50	Pk	32.8	-95.2	-24.35	-47.25	-13	-34.25	V
3.517969	40.41	Pk	32.9	-95.2	-24.20	-46.09	-13	-33.09	H
5.227031	38.65	Pk	34.2	-95.2	-22.10	-44.45	-13	-31.45	V
5.247656	38.82	Pk	34.2	-95.2	-22.03	-44.21	-13	-31.21	H
7.00125	37.96	Pk	35.6	-95.2	-18.20	-39.84	-13	-26.84	V
7.006875	37.40	Pk	35.6	-95.2	-18.20	-40.40	-13	-27.40	H

HSDPA MODE

Project #:	15175342
Date:	2024-09-10
Test Engineer:	32934
Configuration:	EUT Only
Mode:	HSDPA Band 4
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1712.4MHz									
3.394219	39.41	Pk	32.8	-95.2	-24.62	-47.61	-13	-34.61	V
3.414375	39.99	Pk	32.8	-95.2	-24.94	-47.35	-13	-34.35	H
5.136563	38.20	Pk	34.1	-95.2	-21.66	-44.56	-13	-31.56	V
5.140781	37.77	Pk	34.1	-95.2	-21.80	-45.13	-13	-32.13	H
6.839063	38.27	Pk	35.6	-95.2	-19.11	-40.44	-13	-27.44	V
6.847969	38.87	Pk	35.6	-95.2	-19.20	-39.93	-13	-26.93	H
Mid Channel, 1732.6MHz									
3.453281	40.40	Pk	32.7	-95.2	-24.87	-46.97	-13	-33.97	V
3.465469	40.45	Pk	32.7	-95.2	-24.80	-46.85	-13	-33.85	H
5.212500	37.98	Pk	34.2	-95.2	-22.30	-45.32	-13	-32.32	H
5.222344	38.10	Pk	34.2	-95.2	-22.20	-45.10	-13	-32.10	V
6.931875	37.38	Pk	35.7	-95.2	-19.00	-41.12	-13	-28.12	H
6.93375	38.39	Pk	35.7	-95.2	-19.00	-40.11	-13	-27.11	V
High Channel, 1752.6MHz									
3.494063	40.47	Pk	32.8	-95.2	-24.30	-46.23	-13	-33.23	H
3.501094	40.18	Pk	32.8	-95.2	-24.30	-46.52	-13	-33.52	V
5.231719	38.35	Pk	34.2	-95.2	-22.00	-44.65	-13	-31.65	H
5.231719	38.47	Pk	34.2	-95.2	-22.00	-44.53	-13	-31.53	V
7.007813	37.13	Pk	35.6	-95.2	-18.20	-40.67	-13	-27.67	H
7.015313	37.63	Pk	35.6	-95.2	-18.23	-40.20	-13	-27.20	V

10.4. FIELD STRENGTH OF SPURIOUS RADIATION, ANT4

10.4.1. GSM 1900

GPRS MODE

Project #:	15175342
Date:	2024-08-30
Test Engineer:	32145
Configuration:	EUT Only
Mode:	GPRS 1900
Chamber #:	01-RDE-A

Frequency (MHz)	Meter Reading (dBuV)	Det	226671 ACF (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1850.2MHz									
3.806250	42.52	Pk	33.4	-95.2	-31.90	-51.18	-13	-38.18	V
3.809063	42.15	Pk	33.4	-95.2	-31.89	-51.54	-13	-38.54	H
5.648906	41.79	Pk	34.7	-95.2	-29.90	-48.61	-13	-35.61	H
5.686406	41.19	Pk	34.7	-95.2	-29.60	-48.91	-13	-35.91	V
7.594688	42.54	Pk	35.7	-95.2	-26.40	-43.36	-13	-30.36	V
7.605469	42.03	Pk	35.7	-95.2	-26.50	-43.97	-13	-30.97	H
Mid Channel, 1880MHz									
3.809063	42.15	Pk	33.4	-95.2	-31.89	-51.54	-13	-38.54	H
5.648906	41.79	Pk	34.7	-95.2	-29.90	-48.61	-13	-35.61	H
7.605469	42.03	Pk	35.7	-95.2	-26.50	-43.97	-13	-30.97	H
3.80625	42.52	Pk	33.4	-95.2	-31.90	-51.18	-13	-38.18	V
5.686406	41.19	Pk	34.7	-95.2	-29.60	-48.91	-13	-35.91	V
7.594688	42.54	Pk	35.7	-95.2	-26.40	-43.36	-13	-30.36	V
High Channel, 1909.8MHz									
3.940313	42.03	Pk	33.5	-95.2	-31.73	-51.40	-13	-38.4	V
3.955313	42.35	Pk	33.5	-95.2	-31.77	-51.12	-13	-38.12	H
5.583281	41.10	Pk	34.6	-95.2	-29.60	-49.10	-13	-36.10	V
5.586094	41.56	Pk	34.6	-95.2	-29.59	-48.63	-13	-35.63	H
7.404844	43.04	Pk	35.5	-95.2	-26.50	-43.16	-13	-30.16	H
7.409531	41.44	Pk	35.5	-95.2	-26.40	-44.66	-13	-31.66	V

EGPRS MODE

Project #:	15175342
Date:	2024-08-04
Test Engineer:	45258
Configuration:	EUT Only
Mode:	EGPRS 1900
Chamber #:	01-RDE-A

Frequency (MHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1850.2MHz									
3.700781	39.31	Pk	33.0	-95.2	-23.92	-46.81	-13	-33.81	H
3.701250	38.32	Pk	33.0	-95.2	-23.90	-47.78	-13	-34.78	V
5.550938	37.88	Pk	34.5	-95.2	-20.80	-43.62	-13	-30.62	H
5.550938	38.54	Pk	34.5	-95.2	-20.80	-42.96	-13	-29.96	V
7.399219	38.88	Pk	35.6	-95.2	-18.10	-38.82	-13	-25.82	H
7.400156	37.48	Pk	35.6	-95.2	-18.10	-40.22	-13	-27.22	V
Mid Channel, 1880MHz									
3.759375	38.73	Pk	33.1	-95.2	-23.70	-47.07	-13	-34.07	V
3.760781	38.99	Pk	33.2	-95.2	-23.70	-46.71	-13	-33.71	H
5.639531	37.65	Pk	34.6	-95.2	-20.10	-43.05	-13	-30.05	V
5.640469	37.25	Pk	34.6	-95.2	-20.05	-43.40	-13	-30.40	H
7.520625	38.43	Pk	35.7	-95.2	-18.14	-39.21	-13	-26.21	V
7.522031	38.17	Pk	35.7	-95.2	-18.10	-39.43	-13	-26.43	H
High Channel, 1909.8MHz									
3.819375	37.78	Pk	33.3	-95.2	-24.00	-48.12	-13	-35.12	H
3.820313	38.78	Pk	33.3	-95.2	-24.03	-47.15	-13	-34.15	V
5.730938	38.42	Pk	34.6	-95.2	-21.60	-43.78	-13	-30.78	V
5.732813	38.49	Pk	34.7	-95.2	-21.60	-43.61	-13	-30.61	H
7.639219	37.56	Pk	35.8	-95.2	-17.00	-38.84	-13	-25.84	V
7.641094	40.72	Pk	35.8	-95.2	-17.00	-35.68	-13	-22.68	H

10.4.2. WCDMA BAND 2

REL 99 MODE

Project #:	15175342
Date:	2024-09-11
Test Engineer:	45258
Configuration:	EUT Only
Mode:	REL 99 Band 2
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1852.4MHz									
3.702188	39.95	Pk	33.0	-95.2	-23.90	-46.15	-13	-33.15	H
3.705000	38.74	Pk	33.0	-95.2	-23.90	-47.36	-13	-34.36	V
5.557031	37.87	Pk	34.5	-95.2	-20.60	-43.43	-13	-30.43	V
5.557500	37.81	Pk	34.5	-95.2	-20.55	-43.44	-13	-30.44	H
7.408125	38.25	Pk	35.6	-95.2	-18.19	-39.54	-13	-26.54	H
7.410469	37.99	Pk	35.6	-95.2	-18.20	-39.81	-13	-26.81	V
Mid Channel, 1880MHz									
3.759375	38.67	Pk	33.1	-95.2	-23.70	-47.13	-13	-34.13	V
3.760781	38.94	Pk	33.2	-95.2	-23.70	-46.76	-13	-33.76	H
5.639531	37.58	Pk	34.6	-95.2	-20.10	-43.12	-13	-30.12	V
5.641406	36.86	Pk	34.6	-95.2	-20.04	-43.78	-13	-30.78	H
7.519688	38.15	Pk	35.7	-95.2	-18.20	-39.55	-13	-26.55	V
7.520156	37.92	Pk	35.7	-95.2	-18.18	-39.76	-13	-26.76	H
High Channel, 1907.6MHz									
3.815156	38.70	Pk	33.3	-95.2	-24.02	-47.22	-13	-34.22	V
3.816094	39.57	Pk	33.3	-95.2	-24.09	-46.42	-13	-33.42	H
5.719219	37.37	Pk	34.6	-95.2	-21.42	-44.65	-13	-31.65	V
5.722500	36.70	Pk	34.6	-95.2	-21.45	-45.35	-13	-32.35	H
7.729688	37.74	Pk	35.8	-95.2	-18.20	-39.86	-13	-26.86	V
7.730156	39.06	Pk	35.8	-95.2	-18.20	-38.54	-13	-25.54	H

HSDPA MODE

Project #:	15175342
Date:	2024-09-11
Test Engineer:	45258
Configuration:	EUT Only
Mode:	HSDPA Band 2
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1852.4MHz									
3.702188	38.63	Pk	33.0	-95.2	-23.90	-47.47	-13	-34.47	H
3.702656	39.78	Pk	33.0	-95.2	-23.90	-46.32	-13	-33.32	V
5.555156	39.64	Pk	34.5	-95.2	-20.68	-41.74	-13	-28.74	H
5.556094	37.62	Pk	34.5	-95.2	-20.60	-43.68	-13	-30.68	V
7.410469	37.64	Pk	35.6	-95.2	-18.20	-40.16	-13	-27.16	H
7.411406	37.04	Pk	35.6	-95.2	-18.20	-40.76	-13	-27.76	V
Mid Channel, 1880MHz									
3.760781	40.02	Pk	33.2	-95.2	-23.70	-45.68	-13	-32.68	V
3.762188	40.14	Pk	33.2	-95.2	-23.72	-45.58	-13	-32.58	H
5.639063	36.83	Pk	34.6	-95.2	-20.10	-43.87	-13	-30.87	V
5.640000	36.82	Pk	34.6	-95.2	-20.10	-43.88	-13	-30.88	H
7.519688	37.72	Pk	35.7	-95.2	-18.20	-39.98	-13	-26.98	H
7.520625	38.14	Pk	35.7	-95.2	-18.14	-39.50	-13	-26.50	V
High Channel, 1907.6MHz									
3.810469	39.33	Pk	33.3	-95.2	-23.95	-46.52	-13	-33.52	H
3.814219	38.51	Pk	33.3	-95.2	-24.00	-47.39	-13	-34.39	V
5.724844	37.30	Pk	34.6	-95.2	-21.50	-44.80	-13	-31.80	V
5.727188	39.06	Pk	34.6	-95.2	-21.52	-43.06	-13	-30.06	H
7.628438	38.69	Pk	35.8	-95.2	-16.80	-37.51	-13	-24.51	H
7.629844	37.95	Pk	35.8	-95.2	-16.80	-38.25	-13	-25.25	V

10.4.3. WCDMA BAND 4

REL 99 MODE

Project #:	15175342
Date:	2024-09-11
Test Engineer:	32934
Configuration:	EUT Only
Mode:	REL 99 Band 4
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1712.4MHz									
3.397031	39.89	Pk	32.8	-95.2	-24.70	-47.21	-13	-34.21	V
3.424219	40.18	Pk	32.8	-95.2	-24.98	-47.20	-13	-34.20	H
5.129531	37.81	Pk	34.2	-95.2	-21.45	-44.64	-13	-31.64	H
5.133281	38.43	Pk	34.2	-95.2	-21.53	-44.10	-13	-31.10	V
6.813281	37.69	Pk	35.6	-95.2	-18.63	-40.54	-13	-27.54	V
6.842813	37.82	Pk	35.6	-95.2	-19.20	-40.98	-13	-27.98	H
Mid Channel, 1732.6MHz									
3.458438	40.92	Pk	32.7	-95.2	-24.90	-46.48	-13	-33.48	V
3.475313	40.51	Pk	32.8	-95.2	-24.70	-46.59	-13	-33.59	H
5.185781	38.24	Pk	34.1	-95.2	-22.42	-45.28	-13	-32.28	H
5.204063	37.81	Pk	34.2	-95.2	-22.39	-45.58	-13	-32.58	V
6.897656	37.54	Pk	35.6	-95.2	-19.30	-41.36	-13	-28.36	V
6.919219	37.75	Pk	35.6	-95.2	-19.18	-41.03	-13	-28.03	H
High Channel, 1752.6MHz									
3.552188	40.64	Pk	32.9	-95.2	-23.72	-45.38	-13	-32.38	V
3.560625	41.54	Pk	32.9	-95.2	-23.64	-44.40	-13	-31.40	H
5.257500	37.74	Pk	34.2	-95.2	-22.00	-45.26	-13	-32.26	V
5.259375	38.66	Pk	34.2	-95.2	-21.90	-44.24	-13	-31.24	H
6.975000	37.68	Pk	35.7	-95.2	-18.60	-40.42	-13	-27.42	V
7.007344	38.03	Pk	35.6	-95.2	-18.20	-39.77	-13	-26.77	H

HSDPA MODE

Project #:	15175342
Date:	2024-09-11
Test Engineer:	32934
Configuration:	EUT Only
Mode:	HSDPA Band 4
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m))	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 1712.4MHz									
3.424219	40.66	Pk	32.8	-95.2	-24.98	-46.72	-13	-33.72	H
3.426094	39.77	Pk	32.8	-95.2	-24.90	-47.53	-13	-34.53	V
5.133750	37.97	Pk	34.2	-95.2	-21.58	-44.61	-13	-31.61	V
5.134688	38.19	Pk	34.1	-95.2	-21.60	-44.51	-13	-31.51	H
6.846563	37.79	Pk	35.6	-95.2	-19.30	-41.11	-13	-28.11	H
6.846563	39.03	Pk	35.6	-95.2	-19.30	-39.87	-13	-26.87	V
Mid Channel, 1732.6MHz									
3.463125	39.23	Pk	32.7	-95.2	-24.80	-48.07	-13	-35.07	H
3.464531	38.37	Pk	32.7	-95.2	-24.80	-48.93	-13	-35.93	V
5.197500	40.09	Pk	34.2	-95.2	-22.40	-43.31	-13	-30.31	H
5.197969	36.93	Pk	34.2	-95.2	-22.40	-46.47	-13	-33.47	V
6.922500	37.77	Pk	35.6	-95.2	-19.05	-40.88	-13	-27.88	H
6.930938	35.68	Pk	35.7	-95.2	-19.00	-42.82	-13	-29.82	V
High Channel, 1752.6MHz									
3.495469	39.87	Pk	32.8	-95.2	-24.30	-46.83	-13	-33.83	H
3.504375	40.36	Pk	32.8	-95.2	-24.30	-46.34	-13	-33.34	V
5.260313	40.80	Pk	34.2	-95.2	-21.90	-42.10	-13	-29.1	V
5.366250	38.90	Pk	34.4	-95.2	-21.10	-43.00	-13	-30.00	H
7.014844	37.31	Pk	35.6	-95.2	-18.20	-40.49	-13	-27.49	V
7.021875	37.67	Pk	35.6	-95.2	-18.39	-40.32	-13	-27.32	H

11. SETUP PHOTOS

Please refer to 15175342-EP1V1 for the Setup Photo Report for setup photos.

END OF REPORT