



TEST REPORT

Report Number. : 12775491-E3V4

Applicant : ANELTO INC.
6270 MORNINGSTAR DRIVE
SUITE 100
THE COLONY, TX 75056, U.S.A.

Model : ANH0319

FCC ID : 2AGPI-ANH0319
IC ID : 20951-ANH0319

EUT : CELLULAR PERSONAL EMERGENCY RESPONSE SYSTEM
Description

Test : FCC CFR47 PART 22 SUBPART H
Standard(s) FCC CFR47 PART 24 SUBPART E
FCC CFR47 PART 27 SUBPART H and L
ISED RSS-132 ISSUE 3, RSS-133 ISSUE 6,
RSS-139 ISSUE 3, RSS-130 ISSUE 2

Date Of Issue:
SEPTEMBER 26, 2019

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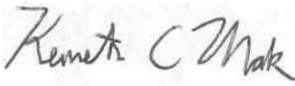
Revision History

Rev.	Issue Date	Revisions	Revised By
V1	9/18/2019	Initial Review	--
V2	9/18/2019	Updated Section 5.4 per TCB Feedback	Dan Corona
V3	9/20/2019	Updated Section 5.4, 5.5, and 7 per TCB Feedback	Kenneth Mak
V4	9/26/2019	Updated Section 2 and Sec. 8.1: Removed mentioning of TIA-603	Kenneth Mak

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1. ATTESTATION OF TEST RESULTS

Applicant Name and Address	ANELTO INC. 6270 MORNINGSTAR DRIVE SUITE 100 THE COLONY, TX 75056, U.S.A.		
Model	ANH0319		
FCC ID	2AGPI-ANH0319		
EUT Description	CELLULAR PERSONAL EMERGENCY RESPONSE SYSTEM		
Serial Number	190312, 190411, 190405, 19239		
Date Tested	7/31/2019; 8/23/2019 TO 8/27/2019		
Applicable Standards	FCC CFR 47 PART 22H, 24E, 27H and L ISED RSS-132 ISSUE 3, RSS-133 ISSUE 6, RSS-139 ISSUE 3, RSS-130 ISSUE 2		
Test Results	Complies		
UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report. The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of the U.S. government.			
Approved & Released For UL Verification Services Inc. By: 		Reviewed By: 	
Dan Corona Operations Leader Consumer Technology Division UL Verification Services Inc.		Kenneth Mak Test Engineer Consumer Technology Division UL Verification Services Inc.	

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.26:2015, ANSI C63.4:2014, FCC CFR 47 Part 2, Part 22, Part 24, Part 27, KDB 971168 D01 v03r01, KDB 996369 D04 v01, ISED RSS-132 ISSUE 3, RSS-133 ISSUE 6, RSS-139 ISSUE 3, RSS-130 ISSUE 2.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 and 47266 Benicia Street, and 47658 Kato Road, Fremont, California, USA. Line conducted emissions are measured only at the 47173 address. The following table identifies which facilities were utilized for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

47173 Benicia Street	47266 Benicia Street	47658 Kato Rd.
☐ Chamber A	☐ Chamber D	☐ Chamber I
☐ Chamber B	☐ Chamber E	☒ Chamber J
☐ Chamber C	☐ Chamber F	☒ Chamber K
	☐ Chamber G	☐ Chamber L
	☐ Chamber H	

The above test sites and facilities are covered under FCC Test Firm Registration # 208313. Chambers above are covered under Industry Canada company address and respective code: 2324A.

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. 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)
 $36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} = 28.9 \text{ dBuV/m}$

MAINS CONDUCTED EMISSIONS

Where relevant, the following sample calculation is provided:

Final Voltage (dBuV) = Measured Voltage (dBuV) + Cable Loss (dB) + Limiter Factor (dB) + LISN Insertion Loss.
 $36.5 \text{ dBuV} + 0 \text{ dB} + 10.1 \text{ dB} + 0 \text{ dB} = 46.6 \text{ dBuV}$

4.3. MEASUREMENT UNCERTAINTY

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

Parameter	Uncertainty
Worst Case Conducted Disturbance, 9KHz to 0.15 MHz	3.84 dB
Worst Case Conducted Disturbance, 0.15 to 30 MHz	3.65 dB
Worst Case Radiated Disturbance, 9KHz to 30 MHz	2.52 dB
Worst Case Radiated Disturbance, 30 to 1000 MHz	4.88 dB
Worst Case Radiated Disturbance, 1000 to 18000 MHz	4.24 dB
Worst Case Radiated Disturbance, 18000 to 26000 MHz	4.37 dB
Worst Case Radiated Disturbance, 26000 to 40000 MHz	5.17 dB

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a mobile personal emergency response system with WCDMA, LTE and 906 MHz single channel radio.

5.2. SOFTWARE AND FIRMWARE

The firmware installed in the EUT during testing was 5350CERT.

5.3. MAXIMUM ANTENNA GAIN

Carrier Band	Tx Band Frequency	Nominal Antenna Gain (Isotropic)
Band 2	1850.0 - 1909.9 MHz	-2 dBi
Band 4	1710.0 - 1754.9 MHz	-2 dBi
Band 5	824.0 - 848.9 MHz	-4 dBi
Band12	699.0 - 715.9 MHz	-5 dBi

ISM Band	Tx Band Frequency	Nominal Antenna Gain (Isotropic)
SRR	906 MHz	-2 dBi

5.4. MAXIMUM OUTPUT POWER

Conducted test data from the antenna port is referred to SAR Report 12775491-S1 (FCC ID: 2AGPI-ANH0319) in accordance with ANSI C63.26:2015.

WCDMA

RSS 132 Band 5								
Frequency range (MHz)	Modulation	Conducted (Average) (dBm)	Antenna Gain (dBi)	Limit (W)	EIRP		99% BW (kHz)	Emission Designator
					(dBm)	(W)		
826.4-846.6	REL 99	23.1	-4.00	11.5	19.10	0.081	4110	4M11F9W
	HSDPA	22.4			18.40	0.069	4148	4M15F9W
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	23.1	-4.00	7.0	16.95	0.050	4110	4M11F9W
	HSDPA	22.4			16.25	0.042	4148	4M15F9W
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	20.8	-2.00	2.0	18.80	0.076	4124	4M12F9W
	HSDPA	19.7			17.70	0.059	4148	4M15F9W
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	21.9	-2.00	1.0	19.90	0.098	4130	4M13F9W
	HSDPA	21.2			19.20	0.083	4150	4M15F9W

LTE Band 2

Part 24 / RSS 133								
EIRP Limit (W)		2.00						
Antenna Gain (dBi)		-2.00						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% BW (kHz)	Emission Designator
1.4	QPSK	1850.7	1909.3	21.3	19.30	0.085	1104	1M10G7W
	16QAM			20.5	18.50	0.071	1104	1M10D7W
3.0	QPSK	1851.5	1908.5	21.1	19.10	0.081	2760	2M76G7W
	16QAM			20.2	18.20	0.066	2760	2M76D7W
5.0	QPSK	1852.5	1907.5	21.1	19.10	0.081	4540	4M54G7W
	16QAM			20.1	18.10	0.065	4540	4M54D7W
10.0	QPSK	1855.0	1905.0	21.4	19.40	0.087	9120	9M12G7W
15.0	QPSK	1857.5	1902.5	21.2	19.20	0.083	13560	13M6G7W
20.0	QPSK	1860.0	1900.0	21.0	19.00	0.079	18640	18M6G7W

LTE Band 4

Part 27 / RSS 139								
EIRP Limit (W)		1.00						
Antenna Gain (dBi)		-2.00						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% BW (kHz)	Emission Designator
1.4	QPSK	1710.7	1754.3	22.1	20.10	0.102	1098	1M10G7W
	16QAM			21.2	19.20	0.083	1110	1M11D7W
3.0	QPSK	1711.5	1753.5	22.1	20.10	0.102	2748	2M75G7W
	16QAM			20.9	18.90	0.078	2760	2M76D7W
5.0	QPSK	1712.5	1752.5	22.3	20.30	0.107	4520	4M52G7W
	16QAM			21.1	19.10	0.081	4520	4M52D7W
10.0	QPSK	1715.0	1750.0	22.4	20.40	0.110	9080	9M08G7W
15.0	QPSK	1717.5	1747.5	22.4	20.40	0.110	13500	13M5G7W
20.0	QPSK	1720.0	1745.0	22.6	20.60	0.115	18480	18M5G7W

LTE Band 12

Part 27 / RSS 130								
ERP Limit (W)		3.00						
Antenna Gain (dBi)		-5.00						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	ERP Average (dBm)	ERP Average (W)	99% BW (kHz)	Emission Designator
1.4	QPSK	699.7	715.3	22.8	15.65	0.037	1110	1M11G7W
	16QAM			22.1	14.95	0.031	1104	1M10D7W
3.0	QPSK	700.5	714.5	22.8	15.65	0.037	2748	2M75G7W
	16QAM			21.9	14.75	0.030	2760	2M76D7W
5.0	QPSK	701.5	713.5	23.1	15.95	0.039	4540	4M54G7W
10.0	QPSK	704.0	711.0	22.9	15.75	0.038	9120	9M12G7W

5.5. WORST-CASE CONFIGURATION AND MODE

The EUT supports WCDMA and LTE Bands of:
WCDMA Band 2/4/5 and LTE Band 2/4/12.

The EUT was tested with the AC/DC adapter.

All testing was performed using WCDMA REL 99 and HSDPA, and LTE QPSK modulations to represent the worst case.

The worst-case scenario for all measurements is based on the average conducted output power measurement. The test items below based on FCC ID: XMR201605EC25A (Report number: RTWK160705001-00 and RKS160908001-00A (C2PC adding W-CDMA Band 4)). The device supports LTE UE Category 1 only. Therefore, 16QAM only supports channel bandwidths up to 5MHz per Table A.2.2.1.2-1 of 3GPP TS 36.101.

Test Item	Note
Occupied bandwidth	Refer to Reports RTWK160705001-00 and RKS160908001-00A
Band edge and emission mask	Refer to Reports RTWK160705001-00 and RKS160908001-00A
Out of band emissions	Refer to Reports RTWK160705001-00 and RKS160908001-00A
Frequency stability	Refer to Reports RTWK160705001-00 and RKS160908001-00A
Peak to average ratio	Refer to Reports RTWK160705001-00 and RKS160908001-00A
Radiated spurious emissions	Tested

5.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter	Anelto	SWI5-5-N	SW15-5-N-MUB	N/A

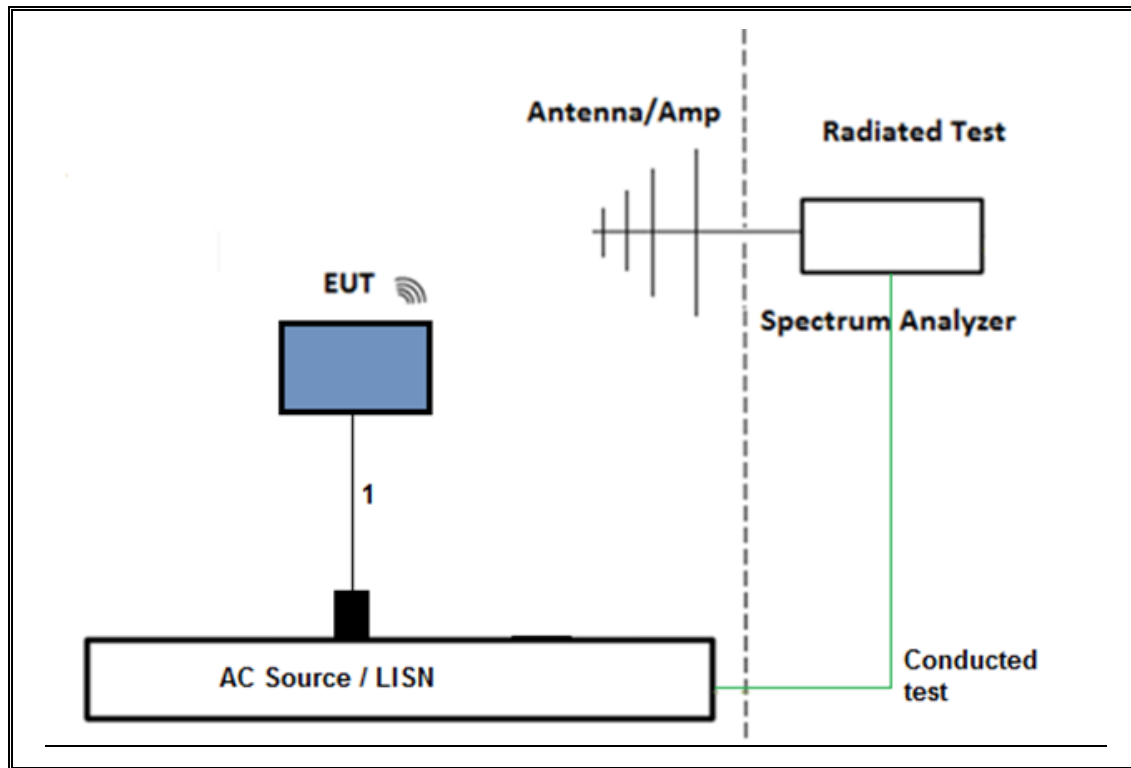
I/O CABLES (RF Radiated Test)

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	AC	1	2-prong	Un-shielded	1.2m	N/A
2	RF In/out	1	Communication Test Set	Un-shielded	2m	N/A

TEST SETUP

The EUT is continuously communicated to the call box during the tests

RADIATED TEST SETUP DIAGRAM



6. 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	T346	5/13/2020
Filter, HPF 3.0GHz	MICRO-TRONICS	HPM17543	T486	6/23/2020
Spectrum Analyzer, PXA, 3Hz to 44GHz	Agilent (Keysight) Technologies	N9030A	T908	1/23/2020
RF Amplifier, 1-18GHz	MITEQ	AFS42-00101800-25-S-42	T1165	6/23/2020
RF SWITCH	Pasternack	PE7159	T1274	6/23/2020
RF Cable, DC - 18GHz,	Pasternack	PE341-48	167835	6/23/2020
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	T344	5/7/2020
Antenna, Broadband Hybrid, 30MHz to 2000MHz	Sunol Sciences Corp.	JB3	T899	8/23/2020
Amplifier, 1 to 18GHz, 35dB	AMPLICAL	AMP1G18-35	T1571	5/28/2020
Amplifier, 1-7GHz, 24dB	AMPLICAL	AMP1G7-24-27	T1608	5/28/2020
Amplifier, 9KHz to 1GHz, 32dB	SONOMA INSTRUMENT	310	PRE0180174	6/1/2020
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	PRE0179367	5/16/2020
Amplifier, 1 to 18GHz, 35dB	AMPLICAL	AMP1G18-35	T1569	5/4/2020
Amplifier, 1-7GHz, 24dB	AMPLICAL	AMP1G7-24-27	T1609	5/4/2020
Antenna, Broadband Hybrid, 30MHz to 3GHz	Sunol Sciences Corp.	JB3	PRE0184052	10/24/2019
Amplifier, 9KHz to 1GHz, 32dB	SONOMA INSTRUMENT	310	175953	12/13/2019
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	PRE0179372	2/16/2020
Wideband Communication Test Set, Call Box	Rohde & Schwarz (Koeln) GmbH & Co. KG	CMW500	T958	2/20/2020
Wideband Communication Test Set, Call Box	Rohde & Schwarz (Koeln) GmbH & Co. KG	CMW500	T979	2/20/2020
UL AUTOMATION SOFTWARE				
Radiated Software	UL	UL EMC	Ver 9.5, Dec 01, 2016	

NOTES:

- Equipment listed above that calibrated during the testing period was set for test after the calibration.
- Equipment listed above that has a calibration due date during the testing period, the testing is completed before equipment expiration date.

7. RF OUTPUT POWER VERIFICATION

Output power was from SAR Report 12775491-S1 in accordance with ANSI C63.26:2015.

7.1. W-CDMA

Per KDB 941225 D01 3G SAR Procedures for W-CDMA:

Maximum output power is verified on the high, middle and low channels and using the appropriate 12.2 kbps RMC with TPC (transmit power control) set to all "1's"

Release 99 Setup Procedures used to establish the test signals

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 Setup Procedures used to establish the test signals

The following 4 Sub-tests were completed according to Release 5 procedures in section 5.2 of 3GPP TS34.121. A summary of these settings are illustrated below:

Table C.10.2.4: β values for transmitter characteristics tests with HS-DPCCH

	Mode	HSDPA	HSDPA	HSDPA	HSDPA
	Subtest	1	2	3	4
W-CDMA General Settings	Loopback Mode	Test Mode 1			
	Rel99 RMC	12.2kbps RMC			
	HSDPA FRC	H-Set 1			
	Power Control Algorithm	Algorithm 2			
	β_c	2/15	11/15	15/15	15/15
	β_d	15/15	15/15	8/15	4/15
	Bd (SF)	64			
	β_c/β_d	2/15	11/15	15/8	15/4
	β_{hs}	4/15	24/15	30/15	30/15
HSDPA Specific Settings	MPR (dB)	0	0	0.5	0.5
	D_{ACK}	8			
	D_{NAK}	8			
	DCQI	8			
	Ack-Nack repetition factor	3			
	CQI Feedback (Table 5.2B.4)	4ms			
	CQI Repetition Factor (Table 5.2B.4)	2			
	$A_{hs}=\beta_{hs}/\beta_c$	30/15			

HSPA (HSDPA & HSUPA) Setup Procedures used to establish the test signals

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

	Mode	HSPA				
	Subtest	1	2	3	4	5
WCDMA General Settings	Loopback Mode	Test Mode 1				
	Rel99 RMC	12.2 kbps RMC				
	HSDPA FRC	H-Set 1				
	HSUPA Test	HSPA				
	Power Control Algorithm	Algorithm 2				Algorithm 1
	β_c	11/15	6/15	15/15	2/15	15/15
	β_d	15/15	15/15	9/15	15/15	0
	β_{ec}	209/225	12/15	30/15	2/15	5/15
	β_c/β_d	11/15	6/15	15/9	2/15	-
	β_{hs}	22/15	12/15	30/15	4/15	5/15
HSDPA Specific Settings	β_{ed}	1309/225	94/75	47/15	56/75	47/15
	CM (dB)	1	3	2	3	1
	MPR (dB)	0	2	1	2	0
	DACK	8				0
	DNAK	8				0
	DCQI	8				0
	Ack-Nack repetition factor	3				
HSUPA Specific Settings	CQI Feedback (Table 5.2B.4)	4ms				
	CQI Repetition Factor (Table 5.2B.4)	2				
	$A_{hs} = \beta_{hs}/\beta_c$	30/15				
	E-DPDCCH	6	8	8	5	0
	DHARQ	0	0	0	0	0
	AG Index	20	12	15	17	12
	ETFCI (from 34.121 Table C.11.1.3)	75	67	92	71	67
	Associated Max UL Data Rate kbps	242.1	174.9	482.8	205.8	308.9
	Reference E-TFCIs	5	5	2	5	1
	Reference E-TFCI	11	11	11	11	67
	Reference E-TFCI PO	4	4	4	4	18
	Reference E-TFCI	67	67	92	67	67
	Reference E-TFCI PO	18	18	18	18	18
	Reference E-TFCI	71	71	71	71	71
	Reference E-TFCI PO	23	23	23	23	23
	Reference E-TFCI	75	75	75	75	75
	Reference E-TFCI PO	26	26	26	26	26
	Reference E-TFCI	81	81	81	81	81
	Reference E-TFCI PO	27	27	27	27	27
	Maximum Channelization Codes	2xSF2				SF4

DC-HSDPA Setup Procedures used to establish the test signals

The following tests were completed according to procedures in section 7.3.13 of 3GPP TS34.108. A summary of these settings are illustrated below:

Downlink Physical Channels are set as per 3GPP TS34.121-1

Table E.5.0: Levels for HSDPA connection setup

Parameter During Connection setup	Unit	Value
P-CPICH_Ec/Ior	dB	-10
P-CCPCH and SCH_Ec/Ior	dB	-12
PICH_Ec/Ior	dB	-15
HS-PDSCH	dB	off
HS-SCCH_1	dB	off
DPCH_Ec/Ior	dB	-5
OCNS_Ec/Ior	dB	-3.1

Call is set up as per 3GPP TS34.108 sub clause 7.3.13

The configurations of the fixed reference channels for HSDPA RF tests are described in 3GPP TS 34.121, annex C for FDD and 3GPP TS 34.122.

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	Proces ses	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.		

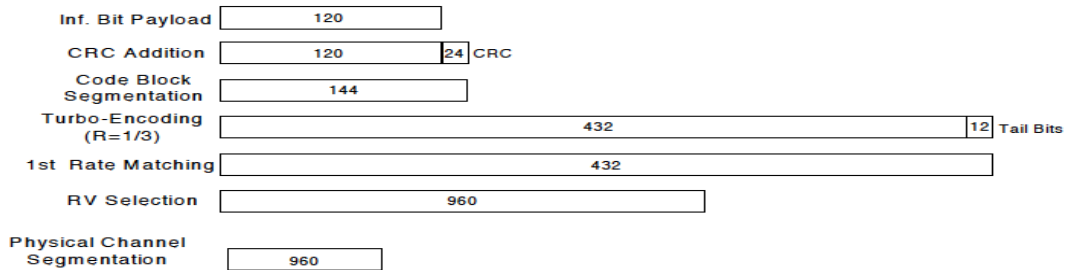


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

The following 4 Sub-tests for HSDPA were completed according to Release 8 procedures in section 5.2 of 3GPP TS34.121. A summary of subtest settings are illustrated below:

	Mode	HSDPA	HSDPA	HSDPA	HSDPA
	Subtest	1	2	3	4
WCDMA General Settings	Loopback Mode	Test Mode 1			
	Rel99 RMC	12.2kbps RMC			
	HSDPA FRC	H-Set 1			
	Power Control Algorithm	Algorithm2			
	β_c	2/15	11/15	15/15	15/15
	β_d	15/15	15/15	8/15	4/15
	β_d (SF)	64			
	β_c/β_d	2/15	12/15	15/8	15/4
	β_{hs}	4/15	24/15	30/15	30/15
HSDPA Specific Settings	MPR (dB)	0	0	0.5	0.5
	DACK	8			
	DNAK	8			
	DCQI	8			
	Ack-Nack Repetition factor	3			
	CQI Feedback	4ms			
	CQI Repetition Factor	2			
	Ahs = β_{hs}/β_c	30/15			

W-CDMA Band V Measured Results

Mode		UL Ch No.	Freq. (MHz)	Maximum Average Power (dBm)		
				Measured Pwr	MPR	Tune-up Limit
Release 99	Rel 99 (RMC, 12.2 kbps)	4132	826.4	23.1	N/A	24.0
		4183	836.6	23.1		
		4233	846.6	23.1		
HSDPA	Subtest 1	4132	826.4	22.4	0.0	24.0
		4183	836.6	22.4		
		4233	846.6	22.4		
	Subtest 2	4132	826.4	21.6	0.0	24.0
		4183	836.6	21.6		
		4233	846.6	21.6		
	Subtest 3	4132	826.4	20.8	0.5	23.5
		4183	836.6	20.6		
		4233	846.6	20.7		
	Subtest 4	4132	826.4	20.5	0.5	23.5
		4183	836.6	20.5		
		4233	846.6	20.5		
HSUPA	Subtest 1	4132	826.4	22.0	0.0	24.0
		4183	836.6	22.3		
		4233	846.6	22.0		
	Subtest 2	4132	826.4	21.2	2.0	22.0
		4183	836.6	21.2		
		4233	846.6	21.3		
	Subtest 3	4132	826.4	21.2	1.0	23.0
		4183	836.6	21.2		
		4233	846.6	21.2		
	Subtest 4	4132	826.4	21.5	2.0	22.0
		4183	836.6	21.9		
		4233	846.6	21.4		
	Subtest 5	4132	826.4	22.5	0.0	24.0
		4183	836.6	22.5		
		4233	846.6	22.3		
DC-HSDPA	Subtest 1	4132	826.4	22.4	0.0	24.0
		4183	836.6	22.5		
		4233	846.6	22.4		
	Subtest 2	4132	826.4	21.7	0.0	24.0
		4183	836.6	21.6		
		4233	846.6	21.7		
	Subtest 3	4132	826.4	20.8	0.5	23.5
		4183	836.6	20.6		
		4233	846.6	20.7		
	Subtest 4	4132	826.4	20.4	0.5	23.5
		4183	836.6	20.4		
		4233	846.6	20.4		

W-CDMA Band IV Measured Results

Mode		UL Ch No.	Freq. (MHz)	Maximum Average Power (dBm)		
				Measured Pwr	MPR	Tune-up Limit
Release 99	Rel 99 (RMC, 12.2 kbps)	1312	1712.4	21.6	N/A	23.0
		1413	1732.6	21.9		
		1513	1752.6	21.5		
HSDPA	Subtest 1	1312	1712.4	21.0	0.0	23.0
		1413	1732.6	21.0		
		1513	1752.6	21.0		
	Subtest 2	1312	1712.4	21.0	0.0	23.0
		1413	1732.6	21.2		
		1513	1752.6	21.1		
	Subtest 3	1312	1712.4	21.1	0.5	22.5
		1413	1732.6	21.0		
		1513	1752.6	21.1		
	Subtest 4	1312	1712.4	21.0	0.5	22.5
		1413	1732.6	21.2		
		1513	1752.6	21.2		
HSUPA	Subtest 1	1312	1712.4	20.5	0.0	23.0
		1413	1732.6	20.6		
		1513	1752.6	20.5		
	Subtest 2	1312	1712.4	20.1	2.0	21.0
		1413	1732.6	20.0		
		1513	1752.6	20.1		
	Subtest 3	1312	1712.4	20.0	1.0	22.0
		1413	1732.6	20.0		
		1513	1752.6	20.0		
	Subtest 4	1312	1712.4	20.4	2.0	21.0
		1413	1732.6	20.4		
		1513	1752.6	20.5		
	Subtest 5	1312	1712.4	21.0	0.0	23.0
		1413	1732.6	21.0		
		1513	1752.6	21.1		
DC-HSDPA	Subtest 1	1312	1712.4	21.1	0.0	23.0
		1413	1732.6	21.2		
		1513	1752.6	21.0		
	Subtest 2	1312	1712.4	21.0	0.0	23.0
		1413	1732.6	21.2		
		1513	1752.6	21.0		
	Subtest 3	1312	1712.4	21.1	0.5	22.5
		1413	1732.6	21.1		
		1513	1752.6	21.1		
	Subtest 4	1312	1712.4	21.2	0.5	22.5
		1413	1732.6	21.2		
		1513	1752.6	21.2		

W-CDMA Band II Measured Results

Mode		UL Ch No.	Freq. (MHz)	Maximum Average Power (dBm)		
				Measured Pwr	MPR	Tune-up Limit
Release 99	Rel 99 (RMC, 12.2 kbps)	9262	1852.4	20.7	N/A	22.0
		9400	1880.0	20.7		
		9538	1907.6	20.8		
HSDPA	Subtest 1	9262	1852.4	19.7	0.0	22.0
		9400	1880.0	19.6		
		9538	1907.6	19.6		
	Subtest 2	9262	1852.4	19.1	0.0	22.0
		9400	1880.0	19.2		
		9538	1907.6	19.1		
	Subtest 3	9262	1852.4	18.7	0.5	21.5
		9400	1880.0	18.9		
		9538	1907.6	18.8		
	Subtest 4	9262	1852.4	18.5	0.5	21.5
		9400	1880.0	18.5		
		9538	1907.6	18.7		
HSUPA	Subtest 1	9262	1852.4	19.6	0.0	22.0
		9400	1880.0	19.7		
		9538	1907.6	19.3		
	Subtest 2	9262	1852.4	18.6	2.0	20.0
		9400	1880.0	18.6		
		9538	1907.6	18.4		
	Subtest 3	9262	1852.4	18.6	1.0	21.0
		9400	1880.0	18.0		
		9538	1907.6	18.3		
	Subtest 4	9262	1852.4	19.1	2.0	20.0
		9400	1880.0	19.1		
		9538	1907.6	18.8		
	Subtest 5	9262	1852.4	19.7	0.0	22.0
		9400	1880.0	19.7		
		9538	1907.6	19.7		
DC-HSDPA	Subtest 1	9262	1852.4	19.6	0.0	22.0
		9400	1880.0	19.7		
		9538	1907.6	19.6		
	Subtest 2	9262	1852.4	19.6	0.0	22.0
		9400	1880.0	19.7		
		9538	1907.6	19.7		
	Subtest 3	9262	1852.4	19.2	0.5	21.5
		9400	1880.0	19.1		
		9538	1907.6	19.2		
	Subtest 4	9262	1852.4	19.1	0.5	21.5
		9400	1880.0	19.1		
		9538	1907.6	19.2		

7.2. LTE

The following tests were conducted according to the test requirements outlined in section 6.2 of the 3GPP TS36.101 specification.

UE Power Class: 3 (23 +/- 2dBm). The allowed Maximum Power Reduction (MPR) for the maximum output power due to higher order modulation and transmit bandwidth configuration (resource blocks) is specified in Table 6.2.3-1 of the 3GPP TS36.101.

Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3

Modulation	Channel bandwidth / Transmission bandwidth (N _{RB})						MPR (dB)
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2
64 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 2
64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 3
256 QAM	≥ 1						≤ 5

The allowed A-MPR values specified below in Table 6.2.4.-1 of 3GPP TS36.101 are in addition to the allowed MPR requirements. All the measurements below were performed with A-MPR disabled, by using Network Signaling Value of "NS_01".

Table 6.2.4-1: Additional Maximum Power Reduction (A-MPR)

Network Signalling value	Requirements (subclause)	E-UTRA Band	Channel bandwidth (MHz)	Resources Blocks (N_{RB})	A-MPR (dB)
NS_01	6.6.2.1.1	Table 5.5-1	1.4, 3, 5, 10, 15, 20	Table 5.6-1	N/A
NS_03	6.6.2.2.1	2, 4, 10, 23, 25, 35, 36, 66, 70	3	>5	≤ 1
			5	>6	≤ 1
			10	>6	≤ 1
			15	>8	≤ 1
			20	>10	≤ 1
NS_04	6.6.2.2.2, 6.6.3.3.19	41	5, 10, 15, 20	Table 6.2.4-4, Table 6.2.4-4a	
NS_05	6.6.3.3.1	1	10, 15, 20	≥ 50 (NOTE 1)	≤ 1 (NOTE 1)
			15, 20	Table 6.2.4-18 (NOTE 2)	
		65 (NOTE 3)	10, 15, 20	≥ 50	≤ 1 (NOTE 1)
			15, 20	Table 6.2.4-18 (NOTE 2)	
NS_06	6.6.2.2.3	12, 13, 14, 17	1.4, 3, 5, 10	Table 5.6-1	N/A
NS_07	6.6.2.2.3, 6.6.3.3.2	13	10	Table 6.2.4-2	
NS_08	6.6.3.3.3	19	10, 15	> 44	≤ 3
NS_09	6.6.3.3.4	21	10, 15	> 40	≤ 1
				> 55	≤ 2
NS_10		20	15, 20	Table 6.2.4-3	
NS_11	6.6.2.2.1, 6.6.3.3.13	23	1.4, 3, 5, 10, 15, 20	Table 6.2.4-5	
NS_12	6.6.3.3.5	26	1.4, 3, 5, 10, 15	Table 6.2.4-6	
NS_13	6.6.3.3.6	26	5	Table 6.2.4-7	
NS_14	6.6.3.3.7	26	10, 15	Table 6.2.4-8	
NS_15	6.6.3.3.8	26	1.4, 3, 5, 10, 15	Table 6.2.4-9, Table 6.2.4-10	
NS_16	6.6.3.3.9	27	3, 5, 10	Table 6.2.4-11, Table 6.2.4-12, Table 6.2.4-13	
NS_17	6.6.3.3.10	28	5, 10	Table 5.6-1	N/A
NS_18	6.6.3.3.11	28	5	≥ 2	≤ 1
			10, 15, 20	≥ 1	≤ 4
NS_19	6.6.3.3.12	44	10, 15, 20	Table 6.2.4-14	
NS_20	6.2.2, 6.6.2.2.1, 6.6.3.3.14	23	5, 10, 15, 20	Table 6.2.4-15	
NS_21	6.6.2.2.1, 6.6.3.3.15	30	5, 10	Table 6.2.4-16	
NS_22	6.6.3.3.16	42, 43	5, 10, 15, 20	Table 6.2.4-17	
NS_23	6.6.3.3.17	42, 43	5, 10, 15, 20	N/A	
NS_24	6.6.3.3.20	65 (NOTE 4)	5, 10, 15, 20	Table 6.2.4-19	
NS_25	6.6.3.3.21	65 (NOTE 4)	5, 10, 15, 20	Table 6.2.4-20	
NS_26	6.6.3.3.22	68	10, 15	Table 6.2.4-21	
NS_27	6.6.2.2.5, 6.6.3.3.23	48	5, 10, 15, 20	Table 6.2.4-22	
NS_28	6.2.2A, 6.6.3.3.24	46 (NOTE 5)	20	Table 6.2.4-23	
NS_29	6.2.2A, 6.6.2.3.1a, 6.6.3.3.25	46 (NOTE 5)	20	Table 6.2.4-24	
NS_30	6.2.2A, 6.6.3.3.26	46 (NOTE 5)	20	Table 6.2.4-25	
NS_31	6.2.2A, 6.6.3.3.27	46 (NOTE 5)	20	Table 6.2.4-26	
NS_32	-	-	-	-	-

NOTE 1: Applicable when the lower edge of the assigned E-UTRA UL channel bandwidth frequency is larger than or equal to the upper edge of PHS band (1915.7 MHz) + 4 MHz + the channel BW assigned, where channel BW is as defined in subclause 5.6. A-MPR for

LTE Band 2 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)				
				18700	18900	19100	MPR	Tune-up Limit
				1860 MHz	1880 MHz	1900 MHz		
20 MHz	QPSK	1	0	21.0	20.8	20.7	0.0	21.5
		1	49	20.7	20.8	20.7	0.0	21.5
		1	99	20.6	21.0	20.8	0.0	21.5
		50	0	19.8	19.7	19.7	1.0	20.5
		50	24	19.7	19.8	19.7	1.0	20.5
		50	50	19.6	19.9	19.6	1.0	20.5
		100	0	19.8	19.7	19.7	1.0	20.5
BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)				
				18675.0	18900.0	19125.0	MPR	Tune-up Limit
				1857.5 MHz	1880 MHz	1902.5 MHz		
15 MHz	QPSK	1	0	21.0	21.2	21.0	0.0	21.5
		1	37	21.0	21.1	21.0	0.0	21.5
		1	74	20.9	21.1	21.0	0.0	21.5
		36	0	20.0	20.2	19.9	1.0	20.5
		36	20	20.0	20.2	19.8	1.0	20.5
		36	39	19.9	20.2	20.0	1.0	20.5
		75	0	20.1	20.2	19.9	1.0	20.5
BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)				
				18650.0	18900.0	19150.0	MPR	Tune-up Limit
				1855 MHz	1880 MHz	1905 MHz		
10 MHz	QPSK	1	0	21.2	21.1	21.0	0.0	21.5
		1	25	21.2	21.3	20.9	0.0	21.5
		1	49	21.1	21.4	21.3	0.0	21.5
		25	0	20.2	20.0	19.9	1.0	20.5
		25	12	20.2	20.1	19.9	1.0	20.5
		25	25	20.1	20.1	19.9	1.0	20.5
		50	0	20.1	20.0	20.0	1.0	20.5

Note(s):

1. Device supports LTE UE Category 1 only. Therefore, 16QAM only supports channel bandwidths up to 5MHz per Table A.2.2.1.2-1 of 3GPP TS 36.101.

LTE Band 2 Measured Results (continued)

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)				
				18625.0	18900.0	19175.0	MPR	Tune-up Limit
				1852.5 MHz	1880 MHz	1907.5 MHz		
5 MHz	QPSK	1	0	20.7	20.8	20.8	0.0	21.5
		1	12	20.7	21.0	21.1	0.0	21.5
		1	24	20.8	21.1	21.0	0.0	21.5
		12	0	19.9	19.9	19.8	1.0	20.5
		12	7	19.9	20.0	19.9	1.0	20.5
		12	13	20.0	20.1	20.0	1.0	20.5
		25	0	20.1	20.1	19.8	1.0	20.5
	16QAM	1	0	19.9	19.6	19.4	1.0	20.5
		1	12	20.0	19.9	19.5	1.0	20.5
		1	24	20.1	19.7	20.0	1.0	20.5
		12	0	18.9	18.9	18.8	2.0	19.5
		12	7	18.9	18.9	18.8	2.0	19.5
		12	13	18.8	18.9	18.9	2.0	19.5
		25	0	18.9	18.9	18.9	2.0	19.5
BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)				
				18615.0	18900.0	19185.0	MPR	Tune-up Limit
				1851.5 MHz	1880 MHz	1908.5 MHz		
3 MHz	QPSK	1	0	21.1	21.0	21.1	0.0	21.5
		1	8	21.0	21.1	21.1	0.0	21.5
		1	14	21.0	21.1	21.1	0.0	21.5
		8	0	20.0	20.1	20.0	1.0	20.5
		8	4	19.9	20.1	20.0	1.0	20.5
		8	7	20.0	20.1	19.9	1.0	20.5
		15	0	20.0	20.1	19.9	1.0	20.5
	16QAM	1	0	19.8	20.1	20.0	1.0	20.5
		1	8	20.2	20.2	19.9	1.0	20.5
		1	14	19.9	19.8	20.0	1.0	20.5
		8	0	18.9	18.7	18.9	2.0	19.5
		8	4	19.0	18.7	18.9	2.0	19.5
		8	7	19.2	18.7	19.0	2.0	19.5
		15	0	19.0	18.8	19.0	2.0	19.5
BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)				
				18607.0	18900.0	19193.0	MPR	Tune-up Limit
				1850.7 MHz	1880 MHz	1909.3 MHz		
1.4 MHz	QPSK	1	0	21.2	21.1	21.1	0.0	21.5
		1	3	21.3	21.2	21.2	0.0	21.5
		1	5	21.1	21.2	21.1	0.0	21.5
		3	0	21.2	21.1	21.1	0.0	21.5
		3	1	21.2	21.2	21.1	0.0	21.5
		3	3	21.2	21.3	21.0	0.0	21.5
		6	0	20.2	20.2	20.0	1.0	20.5
	16QAM	1	0	20.0	20.0	19.9	1.0	20.5
		1	3	20.0	20.1	20.3	1.0	20.5
		1	5	19.9	20.1	19.9	1.0	20.5
		3	0	20.1	20.5	20.2	1.0	20.5
		3	1	20.0	20.5	20.2	1.0	20.5
		3	3	20.1	20.5	20.3	1.0	20.5
		6	0	19.0	19.3	19.1	2.0	19.5

LTE Band 4 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)				
					20175		MPR	Tune-up Limit
					1732.5 MHz			
20 MHz	QPSK	1	0		22.6		0.0	23.5
		1	49		22.5		0.0	23.5
		1	99		22.1		0.0	23.5
		50	0		21.3		1.0	22.5
		50	24		21.2		1.0	22.5
		50	50		21.1		1.0	22.5
		100	0		21.6		1.0	22.5
BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)				
				20025.0	20175.0	20325.0	MPR	Tune-up Limit
				1717.5 MHz	1732.5 MHz	1747.5 MHz		
15 MHz	QPSK	1	0	21.6	22.4	22.3	0.0	23.5
		1	37	21.8	22.3	22.2	0.0	23.5
		1	74	22.0	22.0	22.4	0.0	23.5
		36	0	20.6	21.0	20.8	1.0	22.5
		36	20	20.7	20.9	20.8	1.0	22.5
		36	39	20.7	20.9	20.9	1.0	22.5
		75	0	20.7	20.8	20.8	1.0	22.5
BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)				
				20000.0	20175.0	20350.0	MPR	Tune-up Limit
				1715 MHz	1732.5 MHz	1750 MHz		
10 MHz	QPSK	1	0	22.0	22.1	22.0	0.0	23.5
		1	25	22.0	22.1	22.2	0.0	23.5
		1	49	22.1	22.0	22.4	0.0	23.5
		25	0	20.8	20.8	20.9	1.0	22.5
		25	12	20.7	20.8	21.0	1.0	22.5
		25	25	20.8	20.8	21.0	1.0	22.5
		50	0	20.8	20.9	20.9	1.0	22.5

Note(s):

- Device supports LTE UE Category 1 only. Therefore, 16QAM only supports channel bandwidths up to 5MHz per Table A.2.2.1.2-1 of 3GPP TS 36.101.

LTE Band 4 Measured Results (continued)

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)				
				19975.0	20175.0	20375.0	MPR	Tune-up Limit
				1712.5 MHz	1732.5 MHz	1752.5 MHz		
5 MHz	QPSK	1	0	21.5	21.7	22.1	0.0	23.5
		1	12	21.7	21.9	22.0	0.0	23.5
		1	24	21.6	21.9	22.3	0.0	23.5
		12	0	20.7	20.9	20.8	1.0	22.5
		12	7	20.7	20.9	21.0	1.0	22.5
		12	13	20.7	20.9	21.1	1.0	22.5
		25	0	20.7	20.9	20.8	1.0	22.5
	16QAM	1	0	20.6	20.6	20.5	1.0	22.5
		1	12	20.5	20.5	20.5	1.0	22.5
		1	24	20.7	20.6	21.1	1.0	22.5
		12	0	19.6	19.8	19.7	2.0	21.5
		12	7	19.6	19.9	19.7	2.0	21.5
		12	13	19.8	19.9	19.9	2.0	21.5
		25	0	19.9	19.9	20.0	2.0	21.5
BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)				
				19965.0	20175.0	20385.0	MPR	Tune-up Limit
				1711.5 MHz	1732.5 MHz	1753.5 MHz		
3 MHz	QPSK	1	0	22.0	21.9	21.8	0.0	23.5
		1	8	21.7	21.9	21.9	0.0	23.5
		1	14	22.0	21.8	22.1	0.0	23.5
		8	0	20.6	20.8	20.8	1.0	22.5
		8	4	20.6	20.8	20.8	1.0	22.5
		8	7	20.7	20.8	20.9	1.0	22.5
		15	0	20.7	21.0	21.0	1.0	22.5
	16QAM	1	0	20.5	20.8	20.8	1.0	22.5
		1	8	20.9	20.6	20.7	1.0	22.5
		1	14	20.5	20.5	20.8	1.0	22.5
		8	0	19.8	20.1	19.7	2.0	21.5
		8	4	19.9	19.9	19.8	2.0	21.5
		8	7	19.8	19.8	20.0	2.0	21.5
		15	0	19.8	20.0	19.9	2.0	21.5
BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)				
				19957.0	20175.0	20393.0	MPR	Tune-up Limit
				1710.7 MHz	1732.5 MHz	1754.3 MHz		
1.4 MHz	QPSK	1	0	21.9	22.0	22.0	0.0	23.5
		1	3	22.0	22.1	22.0	0.0	23.5
		1	5	21.8	21.9	22.1	0.0	23.5
		3	0	21.9	21.9	22.1	0.0	23.5
		3	1	21.9	22.0	22.1	0.0	23.5
		3	3	21.9	22.1	22.1	0.0	23.5
		6	0	20.7	20.9	21.0	1.0	22.5
	16QAM	1	0	20.8	21.1	20.8	1.0	22.5
		1	3	20.8	21.2	20.9	1.0	22.5
		1	5	20.8	21.0	20.8	1.0	22.5
		3	0	21.0	21.2	20.7	1.0	22.5
		3	1	20.9	21.2	20.8	1.0	22.5
		3	3	20.9	21.0	20.9	1.0	22.5
		6	0	19.9	20.3	19.8	2.0	21.5

LTE Band 12 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)				
					23095		MPR	Tune-up Limit
					707.5 MHz			
10 MHz	QPSK	1	0		22.6		0.0	23.5
		1	25		22.9		0.0	23.5
		1	49		22.6		0.0	23.5
		25	0		21.7		1.0	22.5
		25	12		21.7		1.0	22.5
		25	25		21.7		1.0	22.5
		50	0		21.8		1.0	22.5
BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)				
				23035.0	23095.0	23155.0	MPR	Tune-up Limit
				701.5 MHz	707.5 MHz	713.5 MHz		
5 MHz	QPSK	1	0	22.4	22.8	22.5	0.0	23.5
		1	12	22.5	23.1	22.6	0.0	23.5
		1	24	22.4	22.7	22.5	0.0	23.5
		12	0	21.8	21.7	21.6	1.0	22.5
		12	7	21.6	21.8	21.6	1.0	22.5
		12	13	21.4	21.8	21.7	1.0	22.5
		25	0	21.6	21.8	21.7	1.0	22.5
BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)				
				23025.0	23095.0	23165.0	MPR	Tune-up Limit
				700.5 MHz	707.5 MHz	714.5 MHz		
3 MHz	QPSK	1	0	22.7	22.7	22.5	0.0	23.5
		1	8	22.8	22.7	22.5	0.0	23.5
		1	14	22.6	22.6	22.8	0.0	23.5
		8	0	21.6	21.7	21.6	1.0	22.5
		8	4	21.7	21.7	21.5	1.0	22.5
		8	7	21.5	21.6	21.6	1.0	22.5
		15	0	21.6	21.7	21.6	1.0	22.5
	16QAM	1	0	21.7	21.8	21.4	1.0	22.5
		1	8	21.8	21.9	21.1	1.0	22.5
		1	14	21.5	21.7	21.4	1.0	22.5
		8	0	21.0	21.0	20.6	2.0	21.5
		8	4	21.0	21.0	20.6	2.0	21.5
		8	7	20.8	21.0	20.7	2.0	21.5
		15	0	20.8	20.7	20.6	2.0	21.5
BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)				
				23017.0	23095.0	23173.0	MPR	Tune-up Limit
				699.7 MHz	707.5 MHz	715.3 MHz		
1.4 MHz	QPSK	1	0	22.6	22.6	22.4	0.0	23.5
		1	3	22.6	22.6	22.8	0.0	23.5
		1	5	22.6	22.6	22.7	0.0	23.5
		3	0	22.6	22.5	22.6	0.0	23.5
		3	1	22.6	22.6	22.7	0.0	23.5
		3	3	22.6	22.5	22.6	0.0	23.5
		6	0	21.7	21.6	21.7	1.0	22.5
	16QAM	1	0	21.3	21.9	21.4	1.0	22.5
		1	3	21.6	22.1	21.6	1.0	22.5
		1	5	21.4	22.0	21.7	1.0	22.5
		3	0	21.2	21.9	21.7	1.0	22.5
		3	1	21.3	21.9	21.8	1.0	22.5
		3	3	21.4	21.9	21.8	1.0	22.5
		6	0	20.7	20.9	20.7	2.0	21.5

Note(s):

1. Device supports LTE UE Category 1 only. Therefore, 16QAM only supports channel bandwidths up to 5MHz per Table A.2.2.1.2-1 of 3GPP TS 36.101.

8. RADIATED TEST RESULTS

8.1. FIELD STRENGTH OF SPURIOUS RADIATION

RULE PART(S)

FCC: §2.1053, §22.917, §24.238, and §27.53.

LIMITS

FCC: §22.917(a), §24.238(a), and §27.53 (g), (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.

TEST PROCEDURE

KDB 971168 D01 v03r01/D02 v02/r01

MODES TESTED

- WCDMA Band 2
- WCDMA Band 4
- WCDMA Band 5
- LTE Band 2
- LTE Band 4
- LTE Band 12

RESULTS

No spurious emissions were detected above system noise floor from 18-26GHz.

HARMONICS AND SPURIOUS EMISSIONS

8.1.1. WCDMA Band 5

Company:	Anelto
Project #:	12775491
Date:	8/26/2019
Test Engineer:	31300
Configuration:	EUT+ Support Equipment
Mode:	Band 5 REL99
Chamber #:	Chamber K

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF EMC4294 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
826.4 MHz												
1	1.65397	-38.3	Pk	28.7	-35.5	10.2	-34.9	-13	-21.9	0-360	150	H
3	2.48219	-60.14	Pk	32.5	-35.3	10.4	-52.54	-13	-39.54	0-360	150	H
5	3.30775	-66.36	Pk	32.8	-33.5	10.8	-56.26	-13	-43.26	0-360	150	H
2	1.65397	-44.39	Pk	28.7	-35.5	11.1	-40.09	-13	-27.09	0-360	150	V
4	2.47528	-60	Pk	32.4	-35.3	10.9	-52	-13	-39	0-360	150	V
6	3.30084	-62.04	Pk	32.8	-33.4	11	-51.64	-13	-38.64	0-360	150	V

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF EMC4294 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
836.6 MHz												
1	* 1.67522	-43.04	Pk	28.8	-35.5	9.8	-39.94	-13	-26.94	0-360	150	H
2	2.51088	-61.51	Pk	32.4	-35.3	10.2	-54.21	-13	-41.21	0-360	150	H
3	3.34281	-62.09	Pk	32.9	-33.4	10.6	-51.99	-13	-38.99	0-360	150	H
4	* 1.67097	-49.59	Pk	28.8	-35.5	11.3	-44.99	-13	-31.99	0-360	150	V
5	2.513	-58.11	Pk	32.4	-35.3	11.4	-49.61	-13	-36.61	0-360	150	V
6	3.34334	-59.54	Pk	32.9	-33.4	10.8	-49.24	-13	-36.24	0-360	150	V
7	* 4.18378	-63.64	Pk	33.2	-31.9	11	-51.34	-13	-38.34	0-360	150	V

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF EMC4294 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
846.6 MHz												
1	* 1.69434	-50	Pk	29	-35.5	11.4	-45.1	-13	-32.1	0-360	150	H
2	2.54169	-61.27	Pk	32.4	-35.3	9.9	-54.27	-13	-41.27	0-360	150	H
3	3.38319	-63.37	Pk	33	-33.4	10.9	-52.87	-13	-39.87	0-360	150	H
4	* 1.69142	-54.32	Pk	29	-35.5	11.9	-48.92	-13	-35.92	0-360	150	V
5	2.53744	-59.57	Pk	32.4	-35.3	10.5	-51.97	-13	-38.97	0-360	150	V
6	3.38213	-63.42	Pk	33	-33.4	11.1	-52.72	-13	-39.72	0-360	150	V

Company:	Anelto
Project #:	12775491
Date:	8/26/2019
Test Engineer:	10646
Configuration:	EUT+ Support Equipment
Mode:	Band 5 HSDPA
Chamber #:	Chamber K

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF EMC4294 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
826.4 MHz												
1	1.65078	-38.94	Pk	28.6	-35.5	10.1	-35.74	-13	-22.74	0-360	150	H
3	2.47528	-59.5	Pk	32.4	-35.3	10.9	-51.5	-13	-38.5	0-360	150	H
5	3.30775	-66.19	Pk	32.8	-33.5	10.8	-56.09	-13	-43.09	0-360	150	H
2	1.65078	-45.81	Pk	28.6	-35.5	11	-41.71	-13	-28.71	0-360	150	V
4	2.47581	-59.57	Pk	32.4	-35.3	10.9	-51.57	-13	-38.57	0-360	150	V
6	3.30881	-63.65	Pk	32.8	-33.4	11.3	-52.95	-13	-39.95	0-360	150	V

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF EMC4294 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
836.6 MHz												
1	1.67416	-41.55	Pk	28.8	-35.5	9.8	-38.45	-13	-25.45	0-360	150	H
3	2.51141	-60.4	Pk	32.4	-35.3	10.2	-53.1	-13	-40.1	0-360	150	H
5	3.35078	-62.46	Pk	32.9	-33.5	10.5	-52.56	-13	-39.56	0-360	150	H
2	1.67416	-48.11	Pk	28.8	-35.5	11.3	-43.51	-13	-30.51	0-360	150	V
4	2.51353	-57.71	Pk	32.4	-35.3	11.3	-49.31	-13	-36.31	0-360	150	V
6	3.34972	-60.09	Pk	32.9	-33.5	10.7	-49.99	-13	-36.99	0-360	150	V

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF EMC4294 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
846.6 MHz												
1	1.69116	-49.21	Pk	29	-35.5	11	-44.71	-13	-31.71	0-360	150	H
3	2.54169	-62.27	Pk	32.4	-35.3	9.9	-55.27	-13	-42.27	0-360	150	H
5	3.38213	-65.55	Pk	33	-33.4	11	-54.95	-13	-41.95	0-360	150	H
2	1.69116	-53.77	Pk	29	-35.5	11.9	-48.37	-13	-35.37	0-360	150	V
4	2.54222	-59.75	Pk	32.4	-35.3	10.5	-52.15	-13	-39.15	0-360	150	V
6	3.38319	-62.69	Pk	33	-33.4	11.1	-51.99	-13	-38.99	0-360	150	V

8.1.2. WCDMA Band 2

Company:	Anelto
Project #:	12775491
Date:	8/23/2019
Test Engineer:	43575 OS
Configuration:	EUT+ Support Equipment
Mode:	Band 2 REL99
Chamber #:	Chamber K

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF EMC4294 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1852.4 MHz												
1	1.85266	-61.47	Pk	30.9	-35.4	11	-54.97	-13	-41.97	0-360	150	H
2	3.703	-68.3	Pk	33	-32.6	10.7	-57.2	-13	-44.2	0-360	150	H
3	5.55334	-64.74	Pk	34.6	-29.9	10.7	-49.34	-13	-36.34	0-360	150	H
4	7.43716	-73.26	Pk	35.7	-26.8	10.4	-53.96	-13	-40.96	0-360	150	H
5	1.85106	-59.75	Pk	30.8	-35.4	11.4	-52.95	-13	-39.95	0-360	150	V
6	3.70619	-65.82	Pk	33.1	-32.6	11	-54.32	-13	-41.32	0-360	150	V
7	5.55494	-57.01	Pk	34.6	-29.9	10.9	-41.41	-13	-28.41	0-360	150	V
8	7.39678	-72.96	Pk	35.7	-26.9	10.7	-53.46	-13	-40.46	0-360	150	V

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF EMC4294 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1880 MHz												
1	1.87922	-60.68	Pk	30.9	-35.4	11.4	-53.78	-13	-40.78	0-360	150	H
2	3.76303	-67.41	Pk	33.3	-32.5	10.3	-56.31	-13	-43.31	0-360	150	H
3	5.64206	-61.85	Pk	34.8	-29.4	10.1	-46.35	-13	-33.35	0-360	150	H
4	7.55244	-73.07	Pk	35.7	-26.7	10.3	-53.77	-13	-40.77	0-360	150	H
5	1.88081	-60.31	Pk	30.9	-35.4	11.9	-52.91	-13	-39.91	0-360	150	V
6	3.76144	-65.77	Pk	33.3	-32.5	10.6	-54.37	-13	-41.37	0-360	150	V
7	5.63781	-54.35	Pk	34.7	-29.5	10.6	-38.55	-13	-25.55	0-360	150	V
8	7.50197	-72.4	Pk	35.5	-26.8	10.8	-52.9	-13	-39.9	0-360	150	V

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF EMC4294 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1907.6 MHz												
1	1.90844	-60.13	Pk	31	-35.4	11.2	-53.33	-13	-40.33	0-360	150	H
2	3.81616	-64.96	Pk	33.4	-32.2	10.1	-53.66	-13	-40.66	0-360	150	H
3	5.72653	-61.09	Pk	34.8	-29.4	10.5	-45.19	-13	-32.19	0-360	150	H
4	7.62097	-73.31	Pk	35.8	-26.5	10.4	-53.61	-13	-40.61	0-360	150	H
5	1.90631	-59.72	Pk	31	-35.4	11.5	-52.62	-13	-39.62	0-360	150	V
6	3.81403	-66.11	Pk	33.4	-32.3	10.3	-54.71	-13	-41.71	0-360	150	V
7	5.71963	-54.61	Pk	34.9	-29.4	10.3	-38.81	-13	-25.81	0-360	150	V
8	7.66188	-72.94	Pk	35.8	-26.6	10.5	-53.24	-13	-40.24	0-360	150	V

Company:	Anelto
Project #:	12775491
Date:	8/23/2019
Test Engineer:	43575 OS
Configuration:	EUT+ Support Equipment
Mode:	Band 2 HSDPA
Chamber #:	Chamber K

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF EMC4294 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1852.4 MHz												
1	1.85106	-61.47	Pk	30.8	-35.4	11.1	-54.97	-13	-41.97	0-360	150	H
2	3.703	-67.38	Pk	33	-32.6	10.7	-56.28	-13	-43.28	0-360	150	H
3	5.55972	-65.46	Pk	34.6	-29.9	10.9	-49.86	-13	-36.86	0-360	150	H
4	7.45469	-72.96	Pk	35.7	-26.8	10.6	-53.46	-13	-40.46	0-360	150	H
5	1.85319	-60.51	Pk	30.9	-35.4	11.5	-53.51	-13	-40.51	0-360	150	V
6	3.70672	-65.65	Pk	33.1	-32.6	11	-54.15	-13	-41.15	0-360	150	V
7	5.56025	-56.46	Pk	34.6	-30	11	-40.86	-13	-27.86	0-360	150	V
8	7.42813	-73.19	Pk	35.6	-26.8	10.6	-53.79	-13	-40.79	0-360	150	V

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF EMC4294 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1880 MHz												
1	1.88081	-60.84	Pk	30.9	-35.4	11.4	-53.94	-13	-40.94	0-360	150	H
2	3.788	-67.69	Pk	33.3	-32.4	10.8	-55.99	-13	-42.99	0-360	150	H
3	5.64259	-63.22	Pk	34.8	-29.4	10.1	-47.72	-13	-34.72	0-360	150	H
4	7.50781	-73.49	Pk	35.6	-26.8	10.5	-54.19	-13	-41.19	0-360	150	H
5	1.88028	-60.65	Pk	30.9	-35.4	11.8	-53.35	-13	-40.35	0-360	150	V
6	3.76197	-65.36	Pk	33.3	-32.5	10.6	-53.96	-13	-40.96	0-360	150	V
7	5.63675	-54.46	Pk	34.7	-29.5	10.7	-38.56	-13	-25.56	0-360	150	V
8	7.54394	-73.33	Pk	35.7	-26.8	10.4	-54.03	-13	-41.03	0-360	150	V

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF EMC4294 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1907.6 MHz												
1	1.90631	-61.37	Pk	31	-35.4	11.1	-54.67	-13	-41.67	0-360	150	H
2	3.81244	-66.59	Pk	33.4	-32.3	10.2	-55.29	-13	-42.29	0-360	150	H
3	5.71963	-61.33	Pk	34.9	-29.4	10.1	-45.73	-13	-32.73	0-360	150	H
4	7.66453	-72.37	Pk	35.8	-26.6	10.4	-52.77	-13	-39.77	0-360	150	H
5	1.90844	-60.2	Pk	31	-35.4	11.4	-53.2	-13	-40.2	0-360	150	V
6	3.81775	-66.66	Pk	33.4	-32.2	10.3	-55.16	-13	-42.16	0-360	150	V
7	5.71963	-55.7	Pk	34.9	-29.4	10.3	-39.9	-13	-26.9	0-360	150	V
8	7.62628	-73.2	Pk	35.8	-26.6	10.5	-53.5	-13	-40.5	0-360	150	V

8.1.3. WCDMA Band 4

Company:	Anelto
Project #:	12775491
Date:	8/24/2019
Test Engineer:	43575 OS
Configuration:	EUT+ Support Equipment
Mode:	Band 4 REL99
Chamber #:	Chamber K

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF EMC4294 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1712.4 MHz												
1	1.71347	-61.51	Pk	29.3	-35.5	11.3	-56.41	-13	-43.41	0-360	150	H
2	3.42675	-59.37	Pk	33	-33.3	11	-48.67	-13	-35.67	0-360	150	H
3	5.1395	-57.29	Pk	34.3	-30.6	10.2	-43.39	-13	-30.39	0-360	150	H
4	6.93619	-72.9	Pk	35.8	-27.4	10.4	-54.1	-13	-41.1	0-360	150	H
5	1.71134	-57.29	Pk	29.3	-35.5	12.1	-51.39	-13	-38.39	0-360	150	V
6	3.4225	-58.55	Pk	33	-33.4	11.2	-47.75	-13	-34.75	0-360	150	V
7	5.13472	-52.52	Pk	34.3	-30.5	10.5	-38.22	-13	-25.22	0-360	150	V
8	6.84481	-72.83	Pk	35.8	-27.4	10.5	-53.93	-13	-40.93	0-360	150	V

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF EMC4294 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1732.6 MHz												
1	1.73366	-63.26	Pk	29.6	-35.5	12.2	-56.96	-13	-43.96	0-360	150	H
2	3.46659	-64.14	Pk	33.1	-33.3	11	-53.34	-13	-40.34	0-360	150	H
3	5.20059	-58.79	Pk	34.2	-30.4	10.6	-44.39	-13	-31.39	0-360	150	H
4	7.00206	-72.51	Pk	35.8	-27.4	10.2	-53.91	-13	-40.91	0-360	150	H
5	1.73313	-56.26	Pk	29.6	-35.5	12.6	-49.56	-13	-36.56	0-360	150	V
6	3.46341	-64.24	Pk	33.1	-33.3	10.9	-53.54	-13	-40.54	0-360	150	V
7	5.19528	-54.3	Pk	34.3	-30.4	10.3	-40.1	-13	-27.1	0-360	150	V
8	6.94788	-72.46	Pk	35.7	-27.4	10.4	-53.76	-13	-40.76	0-360	150	V

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF EMC4294 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1752.6 MHz												
1	1.75278	-67.03	Pk	29.7	-35.5	12.5	-60.33	-13	-47.33	0-360	150	H
2	3.50378	-63.83	Pk	33.1	-33.2	11.1	-52.83	-13	-39.83	0-360	150	H
3	5.26063	-61.26	Pk	34.3	-30.1	10.5	-46.56	-13	-33.56	0-360	150	H
4	7.01109	-73.08	Pk	35.8	-27.3	10.1	-54.48	-13	-41.48	0-360	150	H
5	1.75384	-67.89	Pk	29.7	-35.5	11.8	-61.89	-13	-48.89	0-360	150	V
6	3.50325	-64.52	Pk	33.1	-33.2	10.8	-53.82	-13	-40.82	0-360	150	V
7	5.25372	-55.67	Pk	34.3	-30.2	10.7	-40.87	-13	-27.87	0-360	150	V
8	7.00684	-71.75	Pk	35.8	-27.4	10.5	-52.85	-13	-39.85	0-360	150	V

Company:	Anelto
Project #:	12775491
Date:	8/24/2019
Test Engineer:	43575 OS
Configuration:	EUT+ Support Equipment
Mode:	Band 4 HSDPA
Chamber #:	Chamber K

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF EMC4294 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1712.4 MHz												
1	1.71294	-64.84	Pk	29.3	-35.5	11.3	-59.74	-13	-46.74	0-360	150	H
2	3.4225	-60.2	Pk	33	-33.4	11	-49.6	-13	-36.6	0-360	150	H
3	5.1395	-57.77	Pk	34.3	-30.6	10.2	-43.87	-13	-30.87	0-360	150	H
4	6.86819	-72.81	Pk	35.7	-27.3	10.6	-53.81	-13	-40.81	0-360	150	H
5	1.71347	-57.82	Pk	29.3	-35.5	11.9	-52.12	-13	-39.12	0-360	150	V
6	3.4225	-60.55	Pk	33	-33.4	11.2	-49.75	-13	-36.75	0-360	150	V
7	5.14003	-53.04	Pk	34.3	-30.6	10.4	-38.94	-13	-25.94	0-360	150	V
8	6.84959	-72.78	Pk	35.7	-27.4	10.5	-53.98	-13	-40.98	0-360	150	V

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF EMC4294 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1732.6 MHz												
1	1.73153	-61.93	Pk	29.5	-35.5	12.3	-55.63	-13	-42.63	0-360	150	H
2	3.46659	-63.97	Pk	33.1	-33.3	11	-53.17	-13	-40.17	0-360	150	H
3	5.19422	-59.31	Pk	34.3	-30.4	10.2	-45.21	-13	-32.21	0-360	150	H
4	6.94256	-73.42	Pk	35.7	-27.4	10.3	-54.82	-13	-41.82	0-360	150	H
5	1.73153	-56.79	Pk	29.5	-35.5	12.6	-50.19	-13	-37.19	0-360	150	V
6	3.46341	-63.97	Pk	33.1	-33.3	10.9	-53.27	-13	-40.27	0-360	150	V
7	5.20059	-56.09	Pk	34.2	-30.4	10.5	-41.79	-13	-28.79	0-360	150	V
8	6.92025	-73.8	Pk	35.7	-27.3	10.4	-55	-13	-42	0-360	150	V

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF EMC4294 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1752.6 MHz												
1	1.75331	-60.62	Pk	29.7	-35.5	12.5	-53.92	-13	-40.92	0-360	150	H
2	3.50272	-63.16	Pk	33.1	-33.2	11.2	-52.06	-13	-39.06	0-360	150	H
3	5.26009	-60.44	Pk	34.3	-30.1	10.5	-45.74	-13	-32.74	0-360	150	H
4	7.03022	-74.29	Pk	35.7	-27.1	10.2	-55.49	-13	-42.49	0-360	150	H
5	1.75172	-56.57	Pk	29.7	-35.5	11.7	-50.67	-13	-37.67	0-360	150	V
6	3.50378	-64.27	Pk	33.1	-33.2	10.8	-53.57	-13	-40.57	0-360	150	V
7	5.25478	-57.77	Pk	34.3	-30.2	10.7	-42.97	-13	-29.97	0-360	150	V
8	7.001	-72.62	Pk	35.8	-27.4	10.7	-53.52	-13	-40.52	0-360	150	V

8.1.4. LTE Band 2

Company:	Anelto
Project #:	12775491
Date:	8/26/2019
Test Engineer:	31300
Configuration:	EUT+ Support Equipment
Mode:	LTE 2_20MHz QPSK
Chamber #:	Chamber K

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF EMC4294 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1860 MHz												
1	1.85903	-54.14	Pk	30.8	-35.4	11.1	-47.64	-13	-34.64	0-360	150	H
2	3.68653	-67.65	Pk	32.9	-32.5	11.1	-56.15	-13	-43.15	0-360	150	H
3	5.55334	-61.32	Pk	34.6	-29.9	10.7	-45.92	-13	-32.92	0-360	150	H
4	7.50622	-73.27	Pk	35.6	-26.8	10.5	-53.97	-13	-40.97	0-360	150	H
5	1.85053	-46.42	Pk	30.8	-35.4	11.4	-39.62	-13	-26.62	0-360	150	V
6	3.70194	-67.81	Pk	33	-32.5	11	-56.31	-13	-43.31	0-360	150	V
7	5.55281	-53.86	Pk	34.6	-29.9	10.9	-38.26	-13	-25.26	0-360	150	V
8	7.43716	-73.52	Pk	35.7	-26.8	10.5	-54.12	-13	-41.12	0-360	150	V

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF EMC4294 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1880 MHz												
1	1.87178	-63.17	Pk	31.1	-35.4	11.2	-56.27	-13	-43.27	0-360	150	H
2	3.78322	-69.63	Pk	33.4	-32.5	10.7	-58.03	-13	-45.03	0-360	150	H
3	5.61284	-60.06	Pk	34.8	-29.6	10.5	-44.36	-13	-31.36	0-360	150	H
4	7.44034	-72.86	Pk	35.7	-26.7	10.4	-53.46	-13	-40.46	0-360	150	H
5	1.87125	-55.81	Pk	31	-35.4	11.6	-48.61	-13	-35.61	0-360	150	V
6	3.73806	-69.21	Pk	33.1	-32.5	10.7	-57.91	-13	-44.91	0-360	150	V
7	5.61338	-57.86	Pk	34.8	-29.6	10.8	-41.86	-13	-28.86	0-360	150	V
8	7.5025	-73.22	Pk	35.5	-26.8	10.8	-53.72	-13	-40.72	0-360	150	V

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF EMC4294 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1900 MHz												
1	1.90419	-55.72	Pk	31	-35.4	11.1	-49.02	-13	-36.02	0-360	150	H
2	3.83794	-68.01	Pk	33.4	-32.3	10.6	-56.31	-13	-43.31	0-360	150	H
3	5.67288	-61.87	Pk	34.8	-29.4	10.4	-46.07	-13	-33.07	0-360	150	H
4	7.64434	-73.08	Pk	35.8	-26.6	10.2	-53.68	-13	-40.68	0-360	150	H
5	1.90844	-58.02	Pk	31	-35.4	11.4	-51.02	-13	-38.02	0-360	150	V
6	3.83209	-66.57	Pk	33.3	-32.2	10.6	-54.87	-13	-41.87	0-360	150	V
7	5.70316	-66.17	Pk	34.9	-29.3	10.2	-50.37	-13	-37.37	0-360	150	V
8	7.64328	-73.39	Pk	35.8	-26.6	10.5	-53.69	-13	-40.69	0-360	150	V

8.1.5. LTE Band 4

Company:	Anelto
Project #:	12775491
Date:	8/26/2019
Test Engineer:	31300
Configuration:	EUT+ Support Equipment
Mode:	LTE 4_20MHz QPSK
Chamber #:	Chamber K

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF EMC4294 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1720 MHz												
1	1.71081	-46.11	Pk	29.3	-35.5	11.4	-40.91	-13	-27.91	0-360	150	H
2	3.42197	-60.15	Pk	33	-33.4	11	-49.55	-13	-36.55	0-360	150	H
3	5.13313	-54.17	Pk	34.3	-30.5	10.1	-40.27	-13	-27.27	0-360	150	H
4	6.76672	-72.85	Pk	35.7	-27.7	10.4	-54.45	-13	-41.45	0-360	150	H
5	1.72781	-46.63	Pk	29.4	-35.5	12.6	-40.13	-13	-27.13	0-360	150	V
6	3.43897	-65.73	Pk	33.1	-33.3	11	-54.93	-13	-41.93	0-360	150	V
7	5.15969	-60.58	Pk	34.2	-30.6	10.7	-46.28	-13	-33.28	0-360	150	V
8	6.87988	-73.36	Pk	35.8	-27.4	10.7	-54.26	-13	-41.26	0-360	150	V

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF EMC4294 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1732.5 MHz												
1	1.72356	-40.32	Pk	29.4	-35.4	11.9	-34.42	-13	-21.42	0-360	150	H
2	3.44694	-58.15	Pk	33.1	-33.2	11	-47.25	-13	-34.25	0-360	150	H
3	5.17084	-56.75	Pk	34.2	-30.5	10.5	-42.55	-13	-29.55	0-360	150	H
4	6.89422	-69.56	Pk	35.8	-27.4	10.2	-50.96	-13	-37.96	0-360	150	H
5	1.72303	-40.12	Pk	29.5	-35.4	12.1	-33.92	-13	-20.92	0-360	150	V
6	3.44694	-60.59	Pk	33.1	-33.2	11.3	-49.39	-13	-36.39	0-360	150	V
7	5.17084	-47.64	Pk	34.2	-30.5	10.6	-33.34	-13	-20.34	0-360	150	V
8	6.89422	-73	Pk	35.8	-27.4	10.4	-54.2	-13	-41.2	0-360	150	V

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF EMC4294 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1745 MHz												
1	1.73578	-45.77	Pk	29.6	-35.5	12.2	-39.47	-13	-26.47	0-360	150	H
2	3.47191	-64.44	Pk	33.1	-33.2	11	-53.54	-13	-40.54	0-360	150	H
3	5.20803	-55.82	Pk	34.2	-30.4	10.9	-41.12	-13	-28.12	0-360	150	H
4	6.91494	-72.76	Pk	35.8	-27.3	10.1	-54.16	-13	-41.16	0-360	150	H
5	1.73578	-46.58	Pk	29.6	-35.5	12.7	-39.78	-13	-26.78	0-360	150	V
6	3.47191	-65	Pk	33.1	-33.2	10.9	-54.2	-13	-41.2	0-360	150	V
7	5.20803	-51.84	Pk	34.2	-30.4	10.7	-37.34	-13	-24.34	0-360	150	V
8	6.95106	-72.88	Pk	35.8	-27.4	10.3	-54.18	-13	-41.18	0-360	150	V

8.1.6. LTE Band 12

Company:	Anelto
Project #:	12775491
Date:	9/12/2019
Test Engineer:	20756 CW
Configuration:	EUT+ Support Equipment
Mode:	LTE 12_10MHz QPSK
Chamber #:	Chamber J

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF PRE0189055 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit Line	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
704 MHz												
1	* 1.40747	-35.96	Pk	25.2	-35.9	12.5	-34.16	-13	-21.16	0-360	148	H
2	2.11191	-54.14	Pk	28.2	-35.6	12.1	-49.44	-13	-36.44	0-360	148	H
3	* 2.81581	-62.83	Pk	29.3	-35.2	12	-56.73	-13	-43.73	0-360	148	H
4	* 3.51972	-60.5	Pk	30.4	-33.9	11.9	-52.1	-13	-39.1	0-360	148	H
5	* 4.22416	-65.34	Pk	32	-32.1	12.1	-53.34	-13	-40.34	0-360	148	H
6	* 4.92753	-67.85	Pk	34.6	-31.2	12.1	-52.35	-13	-39.35	0-360	148	H
7	* 1.408	-37.29	Pk	25.2	-35.9	11.4	-36.59	-13	-23.59	0-360	148	V
8	2.11191	-54.76	Pk	28.2	-35.6	11.3	-50.86	-13	-37.86	0-360	148	V
9	* 2.81581	-58.16	Pk	29.3	-35.2	11.8	-52.26	-13	-39.26	0-360	148	V
10	* 3.51972	-56.06	Pk	30.4	-33.9	11.9	-47.66	-13	-34.66	0-360	148	V
11	* 4.22363	-64.45	Pk	32	-32.1	11.9	-52.65	-13	-39.65	0-360	148	V
12	* 4.92753	-65.15	Pk	34.6	-31.2	12.1	-49.65	-13	-36.65	0-360	148	V

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF PRE0189055 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit Line	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
707.5 MHz												
1	* 1.41438	-35.66	Pk	25.2	-35.9	12.3	-34.06	-13	-21.06	0-360	148	H
2	2.12253	-54.47	Pk	28.2	-35.6	11.8	-50.07	-13	-37.07	0-360	148	H
3	* 2.82963	-62.84	Pk	29.3	-35.2	11.8	-56.94	-13	-43.94	0-360	148	H
4	* 3.53725	-61.07	Pk	30.4	-33.8	11.6	-52.87	-13	-39.87	0-360	148	H
5	* 1.41438	-38.4	Pk	25.2	-35.9	11.5	-37.6	-13	-24.6	0-360	148	V
6	2.122	-55.39	Pk	28.2	-35.6	11.6	-51.19	-13	-38.19	0-360	148	V
7	* 2.82989	-60.74	Pk	29.3	-35.2	11.9	-54.74	-13	-41.74	0-360	148	V
8	* 3.53725	-56.89	Pk	30.4	-33.8	11.4	-48.89	-13	-35.89	0-360	148	V

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	AF PRE0189055 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit Line	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
711 MHz												
1	* 1.42181	-35.91	Pk	25.1	-35.8	12.3	-34.31	-13	-21.31	0-360	148	H
2	2.13263	-53.69	Pk	28.2	-35.6	12	-49.09	-13	-36.09	0-360	148	H
3	* 2.84397	-59.93	Pk	29.3	-35.2	12.2	-53.63	-13	-40.63	0-360	148	H
4	* 3.55478	-56.57	Pk	30.3	-33.8	11.4	-48.67	-13	-35.67	0-360	148	H
5	* 4.97694	-62.99	Pk	34.9	-31.3	11.8	-47.59	-13	-34.59	0-360	148	H
6	* 1.42181	-37.13	Pk	25.1	-35.8	11.5	-36.33	-13	-23.33	0-360	148	V
7	2.13263	-51.97	Pk	28.2	-35.6	12.2	-47.17	-13	-34.17	0-360	148	V
8	* 2.84397	-59.42	Pk	29.3	-35.2	11.7	-53.62	-13	-40.62	0-360	148	V
9	* 3.55478	-56.63	Pk	30.3	-33.8	11.5	-48.63	-13	-35.63	0-360	148	V
10	* 4.97641	-63.36	Pk	34.9	-31.3	11.6	-48.16	-13	-35.16	0-360	148	V