SAR Test Report
Part 1 of 3

Project Number:	**4643717**	**Quotation Number:**	**02062020NG-1.3**
Report Number:	**4643717EMC04**	**Revision Level:**	**2**
Client:	**Track Group, Inc.**		

Equipment Under Test:	**GPS Ankle Bracelet**
Model Name/Number:	**OTD 4.1**

FCC ID:	**TPO-OTD41**
IC:	**6512A-OTD41**
Applicable Standards:	**IEC 62209-2 2010**

Report issued on:	**19 Oct. 2020**
Test Result:	**Compliant**

Tested by: _____

Stephen C. Whalen, EMC/RF Exposure Manager

Reviewed by: _____

David Schramm, Operations Manager

Remarks: This report details the results of the testing carried out on one sample, the results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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1 SUMMARY OF RESULTS

RF Exposure Conditions	General Population/Uncontrolled		Compliance to FCC Part 2 Section §2.1093
	Localized SAR 1g (Head and Body)	Localized SAR 10g (Extremities)	
	NA	4.0 W/kg	Complies

Equipment Class	Band	Highest SAR values (W/kg)				
		Head		Body		Extremity
		1g	10g	1g	10g	10g
PCB	LTE Band 2 1850-1910MHz	NA	NA	NA	NA	**1.96**
PCB	LTE Band 4 1710-1755MHz	NA	NA	NA	NA	1.85
PCB	LTE Band 5 824-849MHz	NA	NA	NA	NA	0.75
PCB	LTE Band 12 699-716MHz	NA	NA	NA	NA	1.21
PCB	LTE Band 13 777-787MHz	NA	NA	NA	NA	1.04
PCB	WCDMA Band II 1850-1910	NA	NA	NA	NA	1.91
PCB	WCDMA Band V 824-849	NA	NA	NA	NA	0.79
Simultaneous Results		NA	NA	NA	NA	NA

2 GENERAL INFORMATION

2.1 CLIENT INFORMATION

Name:	Track Group, Inc.
Address:	200 East 5th Ave, Suite 100
City, State, Zip, Country:	Naperville, IL 60563 USA

2.2 TEST LABORATORY

Name:	SGS North America, Inc.
Address:	620 Old Peachtree Road NW, Suite 100
City, State, Zip, Country:	Suwanee, GA 30024, USA

2.3 GENERAL INFORMATION OF EUT

Product Marketing Name (PMN):	ReliAlert XC4
Model Name:	OTD 4.1
Serial Number:	P0020010
Hardware Version (HVIN):	OTD 4.1.0
Firmware Version (FVIN):	4465
Host Marketing Name (HMN):	NA
TX Frequency Bands (MHz):	WCDMA Band II: 1852.4 ~ 1907.6 WCDMA Band V: 826.4 ~ 846.6 LTE Band 2: 1850.7 ~ 1909.3 (BW: 1.4M, 3M, 5M, 10M, 15M, 20M) LTE Band 4: 1710.7 ~ 1754.3 (BW: 1.4M, 3M, 5M, 10M, 15M, 20M) LTE Band 5: 824.7 ~ 848.3 (BW: 1.4M, 3M, 5M, 10M) LTE Band 12: 699.7 ~ 715.3 (BW: 1.4M, 3M, 5M, 10M) LTE Band 13: 779.5 ~ 784.5 (BW: 5M, 10M)
Uplink Modulations:	WCDMA: QPSK LTE: QPSK, 16QAM
Maximum Conducted Power:	See Section 7 of this report
Sample Received Date:	July 13, 2020
Dates of testing:	August 6-11, 2020 and August 17, 2020

2.4 EQUIPMENT UNDER TEST

Device Description	GPS Ankle Bracelet
Device Category	Portable
Stage of production	Pre-production unit
Intended Use	EUT is worn on ankle
Antennas	**TX Antenna** - 10466A1, Multiband Flex PCB, Gain (-0.8 - -1.7dBi), Dimensions 94.25x30mm **RX Antenna** - ANT-GFPCB1540-Q3241, Multiband Flex PCB, Dimensions 15x40mm
Battery	10332-A2, Li-ion Battery Pack, 6400mAh
Optional Accessories	Flexible Strap in variety of sizes (Photo in Appendix A) Secure Cuff in variety of sizes (Photo in Appendix A)

2.5 TEST METHODOLOGY AND REFERENCED STANDARDS AND GUIDELINES

Tests were conducted in accordance with the following applicable standards and guidelines.

IEC62209-2 Edition 1.0 2010-03, Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices – Human models, instrumentation, and procedures – Part 2: Procedure to determine the specific absorption rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)

Ministry of Health (Canada) Safety Code 6 (2015), Limits of Human Exposure to Radio frequency Electromagnetic Fields in the Frequency Range from 3 kHz to 300 GHz

RSS-102 (Issue 5) – Radio Frequency (RF) Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands)

Federal Communications Commission, “Evaluating Compliance with FCC Guidelines for Human Exposure to Radio frequency Electromagnetic Fields”, OET Bulletin 65, FCC, Washington, D.C.: 1997.

FCC KDB – 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
FCC KDB – 865664 D02 RF Exposure Reporting v01r02
FCC KDB – 447498 D01 General RF Exposure Guidance v06
FCC KDB – 941225 D01 3G SAR Procedures v03r01
FCC KDB – 941225 D05 SAR for LTE Devices v02r05

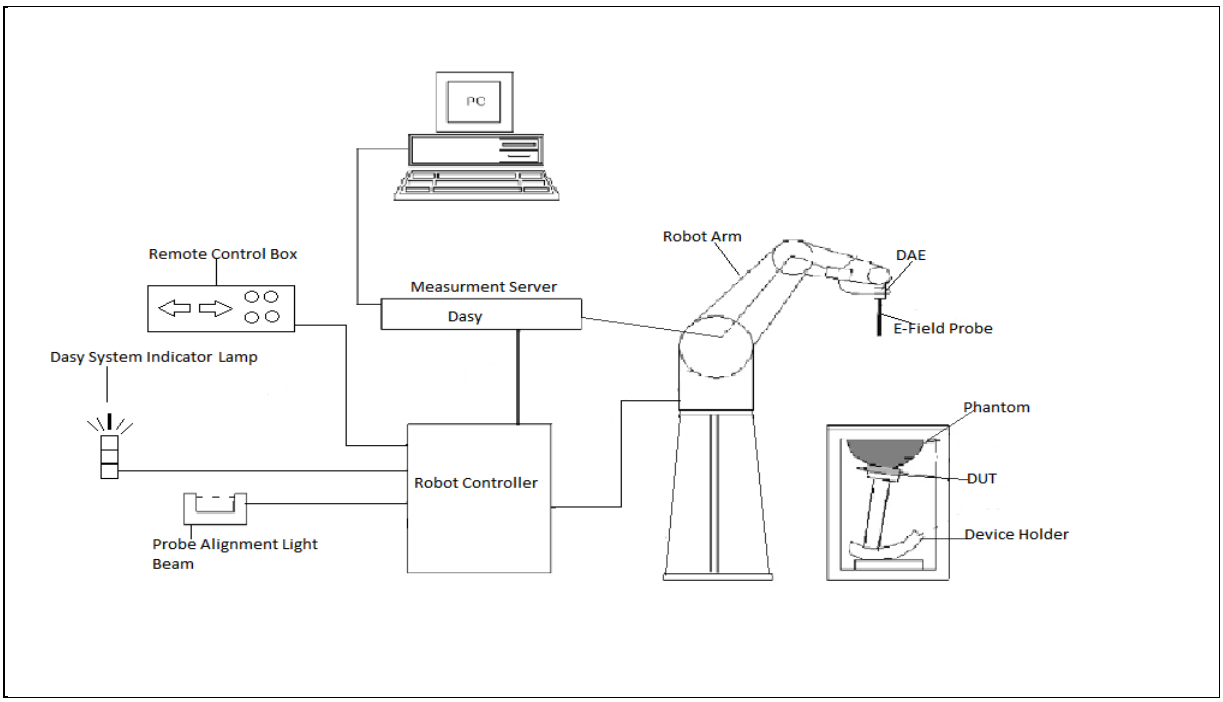
Associated KDB inquiry is included on FCC form 731.

3 TEST EQUIPMENT AND MEASUREMENT SYSTEM

3.1 TEST EQUIPMENT

Equipment	Model	Manufacturer	Serial Number	Cal Due Date
E-Field Probe	ES3DV3	Speag	3272	19-Feb-21
Data Acquisition Electronics	DAE4	Speag	1287	18-Feb-21
Signal Generator	SMB100A	Rohde & Schwarz	107939	13-Jan-23
Directional Coupler	778D	HP	2604A13577	28-Jul-23
Directional Coupler	11692D	HP	1212A02572	27-Jul-23
Power Meter	E4419B	Agilent	G839511059	3-Sep-20
Power Sensor	8481A	Agilent	MY41094585	3-Sep-20
Power Sensor	8481A	Agilent	2702A61269	3-Sep-20
Network Analyzer	ZVL-6	Rohde & Schwarz	101584	14-Apr-21
Spectrum Analyzer	USB-SA44B	Signal Hound	17220259	NA
Dielectric Assessment Kit	DAK-3.5	Speag	1109	11-Feb-21
Digital Thermometer	DTM3000	LKM Electronic	2952	5-Nov-20
Temperature Recorder	ITHX-SD	Omega	1250749	7-April-21
Dipole	D750V3	Speag	1074	11-Feb-21
Dipole	D835V2	Speag	4d123	11-Feb-21
Dipole	D1750V2	Speag	1067	18-Feb-21
Dipole	D1900V2	Speag	5d144	12-Feb-21
Wideband Radio Communication Tester	CMW 500	Rohde & Schwarz	127717	17-Jan-22
Wideband Radio Communication Tester	CMW 500	Rohde & Schwarz	111428	9-Nov-20
Phantom	SAM	Speag	1665	NA

3.2 MEASUREMENT SYSTEM BLOCK DIAGRAM



The Dasy52 SAR test system version 52.10 (4) consists of:

- 1 TX60L Stäubli Robot and system controller cabinet
- 1 Electro Optical Converter mounted on robot's arm
- Robot stand
- Robot remote controller
- Light beam for E-field probe alignment
- DASY5 measurement server
- SAM Twin Phantom or Oval
- Hand-Held/ Laptop device holder
- PC with DASY5 software
- Data Acquisition Electronics (DAE)
- System validation dipole kit
- HBBL600-10000V6 Head Simulating Liquid
- E-field probe
- Warning lamps

3.3 Measurement System Phantom Descriptions

Type	Dimensions	Frequency Range	Dielectric (Ɛr)	Loss Tangent	Material Thickness
Oval ELI5	600x400x190	300MHz - 6GHz	4 ± 1	<0.05	2mm ± 0.2mm
SAM	Human Shaped		< 5		

3.4 Measurement System Tissue Description

Broadband tissue simulation liquid HBBL600-10000V6 was used for SAR testing. Manufactured by Speag and main ingredients are water and oil.

Dielectric Assessment Kit (DAK) was used to measure tissue parameters daily.

4 SYSTEM VALIDATIONS AND VERIFICATIONS

4.1 System Validations

System validations were completed following KDB 856664 and are summarized in table below.

Dates	Probe Calibration Point		Probe SN	Measured Tissue Parameters		Validation		
				σ	ϵ_r	Sensitivity	Linearity	Isotropy
CW								
4/28/2020	Head	750	3272	0.91	44.2	Pass	Pass	Pass
4/28/2020	Head	900	3272	0.89	43.6	Pass	Pass	Pass
4/28/2020	Head	1810	3272	1.37	42.3	Pass	Pass	Pass
4/24/2020	Head	1900	3272	1.45	39.8	Pass	Pass	Pass
5/1/2020	Head	2450	3272	1.83	37.8	Pass	Pass	Pass
LTE								
4/29/2020	Head	750	3272	0.91	43.0	Pass	Pass	Pass
4/29/2020	Head	900	3272	0.94	42.8	Pass	Pass	Pass
4/30/2020	Head	1810	3272	1.36	41.2	Pass	Pass	Pass
5/27/2020	Head	1900	3272	1.47	41.2	Pass	Pass	Pass
802.11								
6/29/2020	Head	2450	3272	1.83	39.3	Pass	Pass	Pass

4.2 SYSTEM VERIFICATIONS

System verification is required for the probe calibration points used to measure SAR. The measured results are normalized to 1W and compared to the results from applicable dipole calibration certificates. Results must be within ±10% of target values.

System verifications were completed within 24 hours of SAR testing and results are summarized in table below.

Date	Dipole	Zoom SAR (1g)	Zoom SAR Normalized 1W (1g)	1W Dipole Target SAR (1g)	% Error from Validation Target (1g)
8/6/2020	D1750V2 - 1067	1.77	35.40	36.30	-2.5%
8/6/2020	D1900V2 - 5d144	2.03	40.60	39.60	2.5%
8/7/2020	D750V3 - 1074	0.42	8.40	8.48	-0.9%
8/7/2020	D835V2 - 4d123	0.49	9.78	9.78	0.0%
8/10/2020	D835V2 - 4d123	0.50	10.06	9.78	2.9%
8/11/2020	D1900V2 - 5d144	2.04	40.80	39.60	3.0%
8/11/2020	D750V3 - 1074	0.43	8.54	8.48	0.7%
8/17/2020	D835V2 - 4d123	0.50	10.06	9.78	2.9%

4.3 TISSUE MEASUREMENT RESULTS

The tissue dielectric parameters were measured at the beginning of the test or within 24 hours of the first SAR test. All measured dielectric parameters are within ±10% tolerance values shown in Table 1. The ±10% tolerance is permitted when using SAR correction formula for deviation from target dielectric values.

Date	Frequency (MHz)	Measured		Target		Deviation	
		Permitivity Ɛr	Conductivity σ	Permitivity Ɛr	Conductivity σ	Permitivity Ɛr	Conductivity σ
8/6/2020	1750.0	39.87	1.37	40.08	1.37	-0.52	0.17
8/6/2020	1720.0	39.91	1.36	40.13	1.35	-0.54	0.28
8/6/2020	1732.5	39.90	1.36	40.11	1.36	-0.53	0.24
8/6/2020	1900.0	39.65	1.46	40.00	1.40	-0.87	4.25
8/6/2020	1880.0	39.69	1.45	40.00	1.40	-0.78	3.40
8/6/2020	1860.0	39.72	1.44	40.00	1.40	-0.70	2.56
8/7/2020	750.0	41.67	0.89	41.94	0.89	-0.65	-0.67
8/7/2020	707.5	41.84	0.87	42.16	0.89	-0.77	-1.80
8/7/2020	782.0	41.56	0.90	41.78	0.90	-0.51	0.24
8/7/2020	835.0	41.39	0.92	41.55	0.91	-0.39	0.83
8/7/2020	836.5	41.39	0.92	41.55	0.91	-0.39	0.83
8/10/2020	835.0	41.79	0.93	41.55	0.91	0.56	1.69
8/10/2020	836.5	41.78	0.93	41.55	0.91	0.57	1.70
8/11/2020	1900.0	39.42	1.46	40.00	1.40	-1.45	4.12
8/11/2020	1880.0	39.45	1.45	40.00	1.40	-1.45	4.12
8/11/2020	750.0	41.81	0.93	41.94	0.89	-0.31	4.24
8/11/2020	707.5	42.01	0.92	42.16	0.89	-0.35	3.17
8/11/2020	782.0	41.66	0.94	41.78	0.90	-0.26	5.05
8/17/2020	835.0	41.24	0.94	41.55	0.91	-0.75	3.16
8/17/2020	846.6	41.18	0.94	41.51	0.91	-0.79	3.15

5 ENVIRONMENTAL CONDITIONS

The SAR Laboratory is controlled environment. The ambient temperature is maintained between 18 – 25°C and tissue temperatures are monitored to ensure ± 2°C is maintained otherwise tissue parameters are remeasured. The tissue level is confirmed to be ≥ 15cm.

Date	Tissue Type	Tissue Temp. Range C°	Lab Temp. Range C°
8/6/2020	Head	22.44 - 23.80	22.90 - 24.80
8/7/2020	Head	21.92 - 21.95	23.10 - 23.30
8/10/2020	Head	20.93 - 21.30	22.30 - 22.90
8/11/2020	Head	21.73 - 23.28	22.50 - 22.80
8/17/2020	Head	21.79 - 23.02	22.50 - 22.70

RF ambient noise is monitored by conducting a noise cube scan during system verification. A spectrum analyzer is used to monitor unwanted signals that might influence measurements.

The tissue depth was verified to be ≥ 15cm.

6 MEASUREMENT PROCEDURES

6.1 HEAD CONFIGURATION

NA

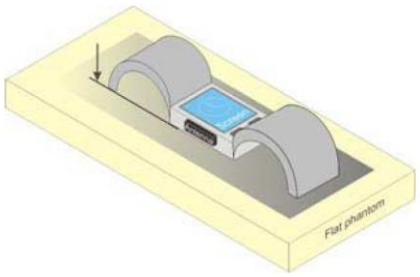
6.2 BODY-WORN CONFIGURATION

NA

6.3 LIMB-WORN CONFIGURATION

A limb-worn device is intended to be strapped to the arm or leg of the user while transmitting. The strap should be opened or removed depending on type of strap. The device shall be positioned directly against phantom surface with strap straightened as much as possible and the back of the device towards the phantom.

Please refer to FCC inquiry on form 731 for approved positioning.



6.4 SAR PROCEDURES SETUP

- Area Scan is used for a fast scan in two dimensions to find the area of high field values before any finer measurement around the hotspot. The routines implemented in the DASY5 software can find the maximum locations.
- Zoom Scan is used to assess the peak spatial values within a cubic averaging volume containing 1g and 10g of simulated tissue. The scan measures points within the cube. Once measurement is done the values are displayed within the job's label.
- Power Drift will measure the field at the same location as the most recent power reference measurement within the same procedure and settings. The Power Drift Measurement gives the field difference in dB.
- Z- Scan measure points along a straight vertical line. The lines run along the z-axis of a one dimension grid.

The area and zoom scan resolutions specified in KDB 865664 are in table below.

Description		≤ 3 GHZ	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface		5 mm ± 1 mm	½·δ·ln(2) mm ± 0.5 mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location		30° ± 1°	20° ± 1°
Maximum area scan spatial resolution: ΔxArea, ΔyArea		≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
		When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	
Maximum zoom scan spatial resolution: ΔxZoom, ΔyZoom		≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: ΔzZoom(n)	≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see IEEE Std 1528-2013 for details. * When zoom scan is required and the reported SAR from the area scan based 1-g SAR estimation procedures of KDB Publication 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.			

7 LTE OUTPUT POWER MEASUREMENTS

The following tables include LTE power measurement configurations as defined in KBD 941225 D05.

7.1 LTE BAND 2

BW	Modulation	RB Alloc.	RB Offset	Low Ch	Mid Ch	High Ch	Modulation	RB Alloc.	RB Offset	Low Ch	Mid Ch	High Ch
				1860 MHz	*1880 MHz*	*1900 MHz*				*1860 MHz*	*1880 MHz*	*1900 MHz*
20	QPSK	1	0	23.00	**23.09**	22.87	Q16	1	0	22.70	22.32	22.51
			49	22.62	22.56	22.37			49	22.17	21.71	21.90
			99	22.36	22.35	22.15			99	22.02	21.58	21.75
		50	0	**21.93**	21.89	21.79		50	0	21.07	21.05	20.98
			24	21.71	21.62	21.56			24	20.80	20.77	20.64
			50	21.57	21.55	21.51			50	20.72	20.69	20.60
		100	0	21.77	21.73	21.63		100	0	20.98	20.88	20.77
BW	**Modulation**	**RB Alloc.**	**RB Offset**	**Low Ch**	**Mid Ch**	**High Ch**	**Modulation**	**RB Alloc.**	**RB Offset**	**Low Ch**	**Mid Ch**	**High Ch**
				1857.5 MHz	*1880 MHz*	*1902.5 MHz*				*1857.5 MHz*	*1880 MHz*	*1902.5 MHz*
15	QPSK	1	0	22.97	23.11	22.97	Q16	1	0	22.46	22.14	22.34
			37	22.51	22.63	22.66			37	22.08	21.70	21.87
			74	22.52	22.52	22.46			74	21.98	21.58	21.77
		36	0	21.97	21.96	21.84		36	0	21.07	21.05	20.96
			20	21.76	21.74	21.76			20	20.86	20.85	20.79
			39	21.73	21.67	21.60			39	20.80	20.78	20.74
		75	0	21.79	21.77	21.70		75	0	20.90	20.80	20.80
BW	**Modulation**	**RB Alloc.**	**RB Offset**	**Low Ch**	**Mid Ch**	**High Ch**	**Modulation**	**RB Alloc.**	**RB Offset**	**Low Ch**	**Mid Ch**	**High Ch**
				1855 MHz	*1880 MHz*	*1905 MHz*				*1855 MHz*	*1880 MHz*	*1905 MHz*
10	QPSK	1	0	22.81	22.78	22.82	Q16	1	0	22.21	22.29	22.31
			25	22.56	22.50	22.59			25	21.93	21.91	21.97
			49	22.52	22.47	22.49			49	21.91	21.87	21.94
		25	0	21.84	21.78	21.76		25	0	21.03	20.97	20.90
			12	21.67	21.67	21.66			12	20.90	20.83	20.75
			25	21.60	21.62	21.57			25	20.87	20.80	20.73
		50	0	21.72	21.70	21.65		50	0	20.90	20.88	20.73
BW	**Modulation**	**RB Alloc.**	**RB Offset**	**Low Ch**	**Mid Ch**	**High Ch**	**Modulation**	**RB Alloc.**	**RB Offset**	**Low Ch**	**Mid Ch**	**High Ch**
				1852.5 MHz	*1880 MHz*	*1907.5 MHz*				*1852.5 MHz*	*1880 MHz*	*1907.5 MHz*
5	QPSK	1	0	22.74	22.78	22.68	Q16	1	0	22.01	22.31	21.91
			12	22.70	22.73	22.51			12	21.87	22.21	21.83
			24	22.58	22.58	22.51			24	21.79	22.19	21.77
		12	0	21.78	21.78	21.67		12	0	21.02	20.77	20.82
			7	21.68	21.70	21.60			7	20.89	20.74	20.77
			13	21.69	21.65	21.62			13	20.88	20.71	20.74
		25	0	21.74	21.66	21.62		25	0	20.90	20.83	20.76
BW	**Modulation**	**RB Alloc.**	**RB Offset**	**Low Ch**	**Mid Ch**	**High Ch**	**Modulation**	**RB Alloc.**	**RB Offset**	**Low Ch**	**Mid Ch**	**High Ch**
				1851.5 MHz	*1880 MHz*	*1908.5 MHz*				*1851.5 MHz*	*1880 MHz*	*1908.5 MHz*
3	QPSK	1	0	22.68	22.67	22.63	Q16	1	0	21.94	21.95	22.06
			8	22.63	22.62	22.57			8	21.98	21.97	21.98
			14	22.55	22.59	22.56			14	21.92	21.91	21.99
		8	0	21.70	21.70	21.67		8	0	21.94	20.99	20.95
			4	21.67	21.65	21.64			4	21.95	20.91	20.92
			7	21.67	21.64	21.63			7	21.92	20.94	20.88
		15	0	21.71	21.70	21.63		15	0	20.91	20.91	20.81
BW	**Modulation**	**RB Alloc.**	**RB Offset**	**Low Ch**	**Mid Ch**	**High Ch**	**Modulation**	**RB Alloc.**	**RB Offset**	**Low Ch**	**Mid Ch**	**High Ch**
				1850.7 MHz	*1880 MHz*	*1909.3 MHz*				*1850.7 MHz*	*1880 MHz*	*1909.3 MHz*
1.4	QPSK	1	0	22.74	22.72	22.57	Q16	1	0	21.94	21.64	22.04
			3	22.69	22.71	22.53			3	21.92	21.65	22.00
			5	22.71	22.68	22.62			5	21.90	21.65	22.13
		3	0	22.67	22.67	22.59		3	0	21.93	21.71	21.72
			1	22.64	22.66	22.61			1	21.99	21.69	21.67
			3	22.66	22.66	22.56			3	22.06	21.74	21.63
		6	0	21.75	21.69	21.66		6	0	21.85	20.89	20.88

7.2 LTE BAND 4

BW	Modulation	RB Alloc.	RB Offset	Low Ch	Mid Ch	High Ch	Modulation	RB Alloc.	RB Offset	Low Ch	Mid Ch	High Ch
				1720 MHz	*1732.5 MHz*	*1745 MHz*				*1720 MHz*	*1732.5 MHz*	*1745 MHz*
20	QPSK	1	0		**22.87**		Q16	1	0		22.53	
			49		22.45				49		21.98	
			99		22.21				99		21.86	
		50	0		**21.83**			50	0		20.85	
			24		21.60				24		20.58	
			50		21.48				50		20.48	
		100	0		21.66			100	0		20.73	
BW	**Modulation**	**RB Alloc.**	**RB Offset**	**Low Ch**	**Mid Ch**	**High Ch**	**Modulation**	**RB Alloc.**	**RB Offset**	**Low Ch**	**Mid Ch**	**High Ch**
				1717.5 MHz	*1732.5 MHz*	*1747.5 MHz*				*1717.5 MHz*	*1732.5 MHz*	*1747.5 MHz*
15	QPSK	1	0	22.91	22.93	23.09	Q16	1	0	22.22	22.43	22.00
			37	22.74	22.50	22.60			37	21.84	21.97	21.63
			74	22.53	22.38	22.64			74	21.74	21.83	21.49
		36	0	21.70	21.83	21.88		36	0	20.78	20.94	20.89
			20	21.65	21.62	21.67			20	20.73	20.72	20.68
			39	21.61	21.51	21.74			39	20.66	20.67	20.70
		75	0	21.76	21.60	21.76		75	0	20.76	20.80	20.67
BW	**Modulation**	**RB Alloc.**	**RB Offset**	**Low Ch**	**Mid Ch**	**High Ch**	**Modulation**	**RB Alloc.**	**RB Offset**	**Low Ch**	**Mid Ch**	**High Ch**
				1715 MHz	*1732.5 MHz*	*1750 MHz*				*1715 MHz*	*1732.5 MHz*	*1750 MHz*
10	QPSK	1	0	22.77	22.85	22.79	Q16	1	0	21.96	22.27	22.10
			25	22.64	22.60	22.56			25	21.79	21.94	21.88
			49	22.54	22.51	22.51			49	21.75	21.82	21.89
		25	0	21.63	21.77	21.73		25	0	20.72	20.82	20.87
			12	21.54	21.64	21.66			12	20.66	20.60	20.79
			25	21.59	21.53	21.64			25	20.69	20.63	20.79
		50	0	21.57	21.64	21.73		50	0	20.60	20.68	20.77
BW	**Modulation**	**RB Alloc.**	**RB Offset**	**Low Ch**	**Mid Ch**	**High Ch**	**Modulation**	**RB Alloc.**	**RB Offset**	**Low Ch**	**Mid Ch**	**High Ch**
				1712.5 MHz	*1732.5 MHz*	*1752.5 MHz*				*1712.5 MHz*	*1732.5 MHz*	*1752.5 MHz*
5	QPSK	1	0	22.62	22.70	22.79	Q16	1	0	21.77	21.81	22.29
			12	22.52	22.63	22.69			12	21.66	21.78	22.17
			24	22.46	22.48	22.62			24	21.60	21.64	22.12
		12	0	21.62	21.61	21.76		12	0	20.70	20.83	20.69
			7	21.59	21.56	21.63			7	20.62	20.71	20.60
			13	21.55	21.54	21.61			13	20.60	20.69	20.59
		25	0	21.57	21.60	21.67		25	0	20.58	20.65	20.69
BW	**Modulation**	**RB Alloc.**	**RB Offset**	**Low Ch**	**Mid Ch**	**High Ch**	**Modulation**	**RB Alloc.**	**RB Offset**	**Low Ch**	**Mid Ch**	**High Ch**
				1711.5 MHz	*1732.5 MHz*	*1753.5 MHz*				*1711.5 MHz*	*1732.5 MHz*	*1753.5 MHz*
3	QPSK	1	0	22.56	22.70	22.75	Q16	1	0	21.76	21.98	21.94
			8	22.50	22.62	22.60			8	21.76	21.87	21.87
			14	22.46	22.59	22.57			14	21.70	21.85	21.85
		8	0	21.57	21.63	21.65		8	0	20.80	20.85	20.77
			4	21.49	21.58	21.59			4	20.76	20.79	20.74
			7	21.51	21.62	21.59			7	20.70	20.81	20.77
		15	0	21.54	21.64	21.59		15	0	20.66	20.74	20.74
BW	**Modulation**	**RB Alloc.**	**RB Offset**	**Low Ch**	**Mid Ch**	**High Ch**	**Modulation**	**RB Alloc.**	**RB Offset**	**Low Ch**	**Mid Ch**	**High Ch**
				1710.7 MHz	*1732.5 MHz*	*1754.3 MHz*				*1710.7 MHz*	*1732.5 MHz*	*1754.3 MHz*
1.4	QPSK	1	0	22.51	22.71	22.73	Q16	1	0	21.51	22.04	21.87
			3	22.48	22.63	22.69			3	21.49	21.92	21.84
			5	22.50	22.66	22.64			5	21.51	21.98	21.87
		3	0	22.54	22.70	22.68		3	0	21.53	21.64	21.70
			1	22.57	22.67	22.69			1	21.52	21.58	21.69
			3	22.53	22.62	22.64			3	21.53	21.51	21.66
		6	0	21.53	21.63	21.63		6	0	20.68	20.77	20.79

7.3 LTE BAND 5

BW	Modulation	RB Alloc.	RB Offset	Low Ch	Mid Ch	High Ch	Modulation	RB Alloc.	RB Offset	Low Ch	Mid Ch	High Ch
				829 MHz	*836.5 MHz*	*844 MHz*				*829 MHz*	*836.5 MHz*	*844 MHz*
10	QPSK	1	0		22.89		Q16	1	0		22.06	
			25		**22.95**				25		22.10	
			49		22.70				49		21.85	
		25	0		21.93			25	0		21.00	
			12		**21.94**				12		21.00	
			25		21.84				25		20.89	
		50	0		21.93			50	0		21.06	
BW	**Modulation**	**RB Alloc.**	**RB Offset**	**Low Ch**	**Mid Ch**	**High Ch**	**Modulation**	**RB Alloc.**	**RB Offset**	**Low Ch**	**Mid Ch**	**High Ch**
				826.5 MHz	*836.5 MHz*	*846.5 MHz*				*826.5 MHz*	*836.5 MHz*	*846.5 MHz*
5	QPSK	1	0	22.88	23.01	22.93	Q16	1	0	22.03	22.43	22.02
			12	22.83	23.07	22.98			12	21.97	22.57	22.01
			24	22.84	22.96	22.88			24	21.96	22.41	21.96
		12	0	21.83	21.91	21.97		12	0	21.06	20.89	21.09
			7	21.85	21.99	22.00			7	21.06	20.95	21.05
			13	21.86	21.98	21.95			13	21.07	20.89	21.02
		25	0	21.84	22.02	21.93		25	0	20.81	21.04	21.03
BW	**Modulation**	**RB Alloc.**	**RB Offset**	**Low Ch**	**Mid Ch**	**High Ch**	**Modulation**	**RB Alloc.**	**RB Offset**	**Low Ch**	**Mid Ch**	**High Ch**
				825.5 MHz	*836.5 MHz*	*847.5 MHz*				*825.5 MHz*	*836.5 MHz*	*847.5 MHz*
3	QPSK	1	0	22.85	22.91	22.93	Q16	1	0	22.06	21.99	22.33
			8	22.81	23.00	22.90			8	22.13	22.10	22.28
			14	22.87	22.90	22.87			14	22.09	22.03	22.20
		8	0	21.88	21.94	21.95		8	0	21.08	21.17	21.25
			4	21.91	21.95	21.96			4	21.01	21.20	21.14
			7	21.83	21.91	21.92			7	21.00	21.16	21.20
		15	0	21.89	21.98	21.94		15	0	20.90	21.19	21.10
BW	**Modulation**	**RB Alloc.**	**RB Offset**	**Low Ch**	**Mid Ch**	**High Ch**	**Modulation**	**RB Alloc.**	**RB Offset**	**Low Ch**	**Mid Ch**	**High Ch**
				824.7 MHz	*836.5 MHz*	*848.3 MHz*				*824.7 MHz*	*836.5 MHz*	*848.3 MHz*
1.4	QPSK	1	0	22.86	22.98	22.90	Q16	1	0	22.09	21.92	22.34
			3	22.93	23.02	22.89			3	22.05	21.99	22.34
			5	22.98	23.01	22.88			5	22.05	21.97	22.33
		3	0	22.93	22.95	22.97		3	0	21.83	21.90	21.99
			1	22.87	22.89	22.96			1	21.97	21.92	21.99
			3	22.89	22.97	22.87			3	21.83	22.02	21.89
		6	0	21.85	22.03	21.94		6	0	21.11	21.23	21.16

7.4 LTE BAND 12

BW	Modulation	RB Alloc.	RB Offset	Low Ch	Mid Ch	High Ch	Modulation	RB Alloc.	RB Offset	Low Ch	Mid Ch	High Ch
				704 MHz	*707.5 MHz*	*711 MHz*				*704 MHz*	*707.5 MHz*	*711 MHz*
10	QPSK	1	0		**22.94**		Q16	1	0		22.18	
			25		22.91				25		22.13	
			49		22.85				49		22.03	
		25	0		22.00			25	0		21.08	
			12		**22.04**				12		21.04	
			25		21.96				25		20.98	
		50	0		22.01			50	0		21.05	
BW	**Modulation**	**RB Alloc.**	**RB Offset**	**Low Ch**	**Mid Ch**	**High Ch**	**Modulation**	**RB Alloc.**	**RB Offset**	**Low Ch**	**Mid Ch**	**High Ch**
				701.5 MHz	*707.5 MHz*	*713.5 MHz*				*701.5 MHz*	*707.5 MHz*	*713.5 MHz*
5	QPSK	1	0	23.08	22.95	23.10	Q16	1	0	22.54	22.09	22.24
			12	23.12	23.00	23.11			12	22.61	22.13	22.23
			24	22.98	22.89	22.86			24	22.55	22.03	22.02
		12	0	22.11	22.01	22.06		12	0	21.10	21.20	21.23
			7	22.07	21.97	22.12			7	21.12	21.11	21.23
			13	22.01	22.00	22.02			13	21.03	21.07	21.12
		25	0	22.01	22.00	22.11		25	0	21.17	21.09	21.14
BW	**Modulation**	**RB Alloc.**	**RB Offset**	**Low Ch**	**Mid Ch**	**High Ch**	**Modulation**	**RB Alloc.**	**RB Offset**	**Low Ch**	**Mid Ch**	**High Ch**
				700.5 MHz	*707.5 MHz*	*714.5 MHz*				*700.5 MHz*	*707.5 MHz*	*714.5 MHz*
3	QPSK	1	0	23.07	22.99	23.14	Q16	1	0	22.22	22.15	22.51
			8	23.07	23.02	23.02			8	22.29	22.15	22.34
			14	23.02	22.97	22.92			14	22.25	22.11	22.29
		8	0	22.00	22.05	22.02		8	0	21.20	21.24	21.38
			4	22.04	22.05	21.96			4	21.24	21.22	21.28
			7	22.03	22.01	22.03			7	21.28	21.18	21.28
		15	0	22.04	22.04	22.00		15	0	21.20	21.24	21.22
BW	**Modulation**	**RB Alloc.**	**RB Offset**	**Low Ch**	**Mid Ch**	**High Ch**	**Modulation**	**RB Alloc.**	**RB Offset**	**Low Ch**	**Mid Ch**	**High Ch**
				699.7 MHz	*707.5 MHz*	*715.3 MHz*				*699.7 MHz*	*707.5 MHz*	*715.3 MHz*
1.4	QPSK	1	0	22.93	23.03	23.00	Q16	1	0	22.28	22.05	22.42
			3	22.87	23.03	22.98			3	22.23	21.99	22.40
			5	23.07	22.99	22.98			5	22.30	21.98	22.41
		3	0	23.04	23.02	23.06		3	0	22.17	21.98	22.06
			1	23.03	22.97	23.08			1	22.09	22.03	22.04
			3	23.00	23.01	22.97			3	22.02	22.04	21.91
		6	0	22.04	22.03	22.00		6	0	21.23	21.18	21.19

7.5 LTE BAND 13

BW	Modulation	RB Alloc.	RB Offset	Low Ch	Mid Ch	High Ch	Modulation	RB Alloc.	RB Offset	Low Ch	Mid Ch	High Ch
				NA	*782 MHz*	*NA*				*NA*	*782 MHz*	*NA*
10	QPSK	1	0		22.57		Q16	1	0		21.76	
			25		**22.88**				25		22.05	
			49		22.31				49		21.46	
		25	0		**21.97**			25	0		21.00	
			12		21.94				12		21.05	
			25		21.93				25		20.96	
		50	0		21.99			50	0		20.96	
BW	**Modulation**	**RB Alloc.**	**RB Offset**	**Low Ch**	**Mid Ch**	**High Ch**	**Modulation**	**RB Alloc.**	**RB Offset**	**Low Ch**	**Mid Ch**	**High Ch**
				779.5 MHz	*782 MHz*	*784.5 MHz*				*779.5 MHz*	*782 MHz*	*784.5 MHz*
5	QPSK	1	0	22.95	23.00	23.12	Q16	1	0	22.40	22.02	22.12
			12	23.06	23.07	22.98			12	22.44	21.99	22.07
			24	22.96	22.92	22.88			24	22.45	21.93	21.99
		12	0	21.94	21.91	22.20		12	0	20.86	21.05	21.21
			7	21.90	22.04	21.91			7	20.84	21.09	20.93
			13	21.90	22.10	21.99			13	20.86	21.13	20.93
		25	0	21.91	21.92	21.90		25	0	20.84	20.92	20.95

8 WCDMA OUTPUT POWER MEASUREMENTS

KDB 941225 D01 3G SAR Procedures defines the following WCDMA configurations for testing.

REL 99

Default primary test configuration;

Low, Mid and High channels

12.2 kbps RMC

Test Loop Mode 1

TPC set to all 1's

HSDPA setup summary according to 3GPP TS 134.121

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

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

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_c.

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

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

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

HSUPA setup summary according to 3GPP TS 134.121

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

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

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

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

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

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

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

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

8.1 WCDMA BAND II

Mode		UpLink Channel	UL Frequency (MHz)	Measured Power (dBm)	Cable Loss (dB)	Conducted Power (dBm)
Release 99	Rel 99 (RMC, 12.2 kbps)	9262	1852.4	22.59	0.77	23.36
		9400	1880	22.65	0.77	**23.42**
		9538	1907.6	22.57	0.78	23.35
HSDPA (QPSK)	Subtest 1	9262	1852.4	22.56	0.77	23.33
		9400	1880	22.65	0.77	23.42
		9538	1907.6	22.56	0.78	23.34
	Subtest 2	9262	1852.4	22.08	0.77	22.85
		9400	1880	22.19	0.77	22.96
		9538	1907.6	22.09	0.78	22.87
	Subtest 3	9262	1852.4	21.55	0.77	22.32
		9400	1880	21.67	0.77	22.44
		9538	1907.6	21.57	0.78	22.35
	Subtest 4	9262	1852.4	21.31	0.77	22.08
		9400	1880	21.43	0.77	22.20
		9538	1907.6	21.33	0.78	22.11
HSDPA (Q16)	Subtest 1	9262	1852.4	22.54	0.77	23.31
		9400	1880	22.68	0.77	23.45
		9538	1907.6	22.54	0.78	23.32
	Subtest 2	9262	1852.4	22.04	0.77	22.81
		9400	1880	22.16	0.77	22.93
		9538	1907.6	22.05	0.78	22.83
	Subtest 3	9262	1852.4	21.57	0.77	22.34
		9400	1880	21.68	0.77	22.45
		9538	1907.6	21.59	0.78	22.37
	Subtest 4	9262	1852.4	21.33	0.77	22.10
		9400	1880	21.44	0.77	22.21
		9538	1907.6	21.35	0.78	22.13
HSUPA	Subtest 1	9262	1852.4	21.62	0.77	22.39
		9400	1880	21.69	0.77	22.46
		9538	1907.6	21.63	0.78	22.41
	Subtest 2	9262	1852.4	19.84	0.77	20.61
		9400	1880	19.96	0.77	20.73
		9538	1907.6	19.86	0.78	20.64
	Subtest 3	9262	1852.4	20.88	0.77	21.65
		9400	1880	21.00	0.77	21.77
		9538	1907.6	20.91	0.78	21.69
	Subtest 4	9262	1852.4	20.09	0.77	20.86
		9400	1880	20.20	0.77	20.97
		9538	1907.6	20.12	0.78	20.90
	Subtest 5	9262	1852.4	22.07	0.77	22.84
		9400	1880	22.20	0.77	22.97
		9538	1907.6	22.06	0.78	22.84

8.2 WCDMA BAND V

Mode		UpLink Channel	UL Frequency (MHz)	Measured Power (dBm)	Cable Loss (dB)	Conducted Power (dBm)
Release 99	Rel 99 (RMC, 12.2 kbps)	4132	826.4	23.12	0.49	23.61
		4175	835	23.18	0.50	23.68
		4233	846.6	23.27	0.50	**23.77**
HSDPA (QPSK)	Subtest 1	4132	826.4	23.10	0.49	23.59
		4175	835	23.18	0.50	23.68
		4233	846.6	23.24	0.50	23.74
	Subtest 2	4132	826.4	22.61	0.49	23.10
		4175	835	22.69	0.50	23.19
		4233	846.6	22.73	0.50	23.23
	Subtest 3	4132	826.4	22.13	0.49	22.62
		4175	835	22.21	0.50	22.71
		4233	846.6	22.26	0.50	22.76
	Subtest 4	4132	826.4	21.89	0.49	22.38
		4175	835	21.96	0.50	22.46
		4233	846.6	22.01	0.50	22.51
HSDPA (Q16)	Subtest 1	4132	826.4	23.06	0.49	23.55
		4175	835	23.13	0.50	23.63
		4233	846.6	23.20	0.50	23.70
	Subtest 2	4132	826.4	22.63	0.49	23.12
		4175	835	22.69	0.50	23.19
		4233	846.6	22.75	0.50	23.25
	Subtest 3	4132	826.4	22.09	0.49	22.58
		4175	835	22.21	0.50	22.71
		4233	846.6	22.28	0.50	22.78
	Subtest 4	4132	826.4	21.84	0.49	22.33
		4175	835	21.96	0.50	22.46
		4233	846.6	22.02	0.50	22.52
HSUPA	Subtest 1	4132	826.4	22.17	0.49	22.66
		4175	835	22.22	0.50	22.72
		4233	846.6	22.35	0.50	22.85
	Subtest 2	4132	826.4	20.37	0.49	20.86
		4175	835	20.42	0.50	20.92
		4233	846.6	20.55	0.50	21.05
	Subtest 3	4132	826.4	21.38	0.49	21.87
		4175	835	21.47	0.50	21.97
		4233	846.6	21.50	0.50	22.00
	Subtest 4	4132	826.4	20.66	0.49	21.15
		4175	835	20.72	0.50	21.22
		4233	846.6	20.78	0.50	21.28
	Subtest 5	4132	826.4	22.59	0.49	23.08
		4175	835	22.66	0.50	23.16
		4233	846.6	22.71	0.50	23.21

9 SAR RESULTS

SAR test reduction thresholds applied from KDBs are scaled accordingly to account for extremity limits. This methodology is same used from KDB 447498 appendix A note. Please refer to FCC inquiry on form 731 for approved thresholds used for SAR test reductions.

Scaled SAR results include scaling up to maximum tune-up tolerance and negative drift. Drifts exceeding 5% where submitted in FCC inquiry on form 731 per KDB 447498.

LTE SAR Test Reduction Procedure:

KDB 941225 D05 SAR for LTE Devices:

Section 4.1 note 3 - For LTE bands that do not support at least three non-overlapping channels in certain channel bandwidths, test the available non-overlapping channels instead. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing; therefore, the requirement for H, M, and L channels may not fully apply.

Section 5.2.1 - Start with the largest channel bandwidth then measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power among RB offsets at the upper edge, middle, and lower edge of each required test channel. When the reported SAR is ≤ 50% of applied limit, testing of the remaining RB offset configurations and required test channels is not required for 1 RB allocation; otherwise, SAR is required for the remaining required test channels and only for the RB offset configuration with the highest output power for that channel. When the reported SAR of a required test channel is > 90% of applied limit, SAR is required for all three RB offset configurations for that required test channel.

Section 5.2.2 - The procedures required for 1 RB allocation in 5.2.1 are applied to measure the SAR for QPSK with 50% RB allocation.

Section 5.2.3 - For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations, and the highest reported SAR for 1 RB and 50% RB allocation in 5.2.1 and 5.2.2 are ≤ 50% of limit. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 90% of limit, the remaining required test channels must also be tested.

Section 5.2.4 - For each modulation besides QPSK; e.g., 16-QAM, 64-QAM, apply the QPSK procedures in 5.2.1, 5.2.2, and 5.2.3 to determine the QAM configurations that may need SAR measurement. For each configuration identified as required for testing, SAR is required only when the highest maximum output power for the configuration in the higher order modulation is > ½ dB higher than the same configuration in QPSK or when the reported SAR for the QPSK configuration is > 90% of limit.

3G SAR Test Reduction Procedure:

KDB 941225 D01 3G SAR Procedures:

When the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ ¼ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 75% of limit, SAR measurement is not required for the secondary mode

9.1 LTE BAND 2 (20MHz BANDWIDTH)

Test Position	Mode	Dist. (mm)	Ch. No.	Freq. (MHz)	RB Allocation	RB Offset	Max Power (dBm)	Meas. Power (dBm)	Power Scaling factor	Drift (dB)	Drift Scaling factor	Mes. SAR 10g	Scaled SAR 10g	Plot No.
Ankle	QPSK	0	18900	1880	1	0	24	23.09	1.23	-0.46	1.11	1.43	1.96	1
Ankle	QPSK	0	18900	1860	50	0	24	21.93	1.61	-0.51	1.12	0.97	1.75	

Additional testing not required per LTE SAR Test Reduction Procedure.

9.2 LTE BAND 4 (20MHz BANDWIDTH)

Test Position	Mode	Dist. (mm)	Ch. No.	Freq. (MHz)	RB Allocation	RB Offset	Max Power (dBm)	Meas. Power (dBm)	Power Scaling factor	Drift (dB)	Drift Scaling factor	Mes. SAR 10g	Scaled SAR 10g	Plot No.
Ankle	QPSK	0	20175	1732.5	1	0	24	22.87	1.30	-0.78	1.20	1.19	1.85	2
Ankle	QPSK	0	20175	1732.5	50	0	24	21.83	1.65	-0.02	1.00	1.11	1.84	

Additional testing not required per LTE SAR Test Reduction Procedure.

9.3 LTE BAND 5 (10MHz BANDWIDTH)

Test Position	Mode	Dist. (mm)	Ch. No.	Freq. (MHz)	RB Allocation	RB Offset	Max Power (dBm)	Meas. Power (dBm)	Power Scaling factor	Drift (dB)	Drift Scaling factor	Mes. SAR 10g	Scaled SAR 10g	Plot No.
Ankle	QPSK	0	20525	836.5	1	25	24	22.95	1.27	-0.64	1.16	0.51	0.75	3
Ankle	QPSK	0	20525	836.5	25	12	24	21.94	1.61	-0.61	1.15	0.40	0.75	

Additional testing not required per LTE SAR Test Reduction Procedure.

9.4 LTE BAND 12 (10MHz BANDWIDTH)

Test Position	Mode	Dist. (mm)	Ch. No.	Freq. (MHz)	RB Allocation	RB Offset	Max Power (dBm)	Meas. Power (dBm)	Power Scaling factor	Drift (dB)	Drift Scaling factor	Mes. SAR 10g	Scaled SAR 10g	Plot No.
Ankle	QPSK	0	23095	707.5	1	0	24	22.94	1.28	-0.46	1.11	0.816	1.16	
Ankle	QPSK	0	23095	707.5	25	12	24	22.04	1.57	-0.05	1.01	0.76	1.21	4

Additional testing not required per LTE SAR Test Reduction Procedure.

9.5 LTE BAND 13 (10MHz BANDWIDTH)

Test Position	Mode	Dist. (mm)	Ch. No.	Freq. (MHz)	RB Allocation	RB Offset	Max Power (dBm)	Meas. Power (dBm)	Power Scaling factor	Drift (dB)	Drift Scaling factor	Mes. SAR 10g	Scaled SAR 10g	Plot No.
Ankle	QPSK	0	23230	782	1	25	24	22.88	1.29	0.09	0.98	0.621	0.80	
Ankle	QPSK	0	23230	782	25	0	24	21.97	1.60	-0.09	1.02	0.64	1.04	5

Additional testing not required per LTE SAR Test Reduction Procedure.

9.6 WCDMA BAND II

Test Position	Mode	Dist. (mm)	Ch. No.	Freq. (MHz)	Max Power (dBm)	Meas. Power (dBm)	Power Scaling factor	Drift (dB)	Drift Scaling factor	Mes. SAR 10g	Scaled SAR 10g	Plot No.
Ankle	Rel 99 12.2 kbps RMC	0	9400	1880	24.5	23.42	1.28	-0.17	1.04	1.43	1.91	6

Additional testing not required per 3G SAR Test Reduction Procedure.

9.7 WCDMA BAND V

Test Position	Mode	Dist. (mm)	Ch. No.	Freq. (MHz)	Max Power (dBm)	Meas. Power (dBm)	Power Scaling factor	Drift (dB)	Drift Scaling factor	Mes. SAR 10g	Scaled SAR 10g	Plot No.
Ankle	Rel 99 12.2 kbps RMC	0	4233	846.6	24.5	23.77	1.18	0.02	1.00	0.67	0.79	7

Additional testing not required per 3G SAR Test Reduction Procedure.

10 VARIABILITY ASSESSMENT

Per the guidelines in KDB 865664 SAR variability assessment is not required because SAR results are below 50% threshold of applicable limit.

11 SIMULTANEOUS TRANSMISSION

This device does not support simultaneous transmissions.

12 SYSTEM UNCERTAINTY

A System uncertainty analysis per KDB 865664 is not required since reported SAR is < 93.75% of applicable limit.

Per guidelines of ISO 17025 a reported system uncertainty is required and therefore included in Appendix E.

13 REVISION HISTORY

Revision Level	Description of changes	Revision Date
DRAFT	Customer Review	02 Sept. 20
0	Initial release	10 Sept. 20
1	Updated EUT description and HMN	16 Sept. 20
2	Removed FCC inquiry tracking number	19 Oct. 20