

SAR TEST REPORT

**FCC 47 CFR § 2.1093
IEEE Std 1528-2013**

for
Chrion Pro

Model Name: N635RN

Prepared for:
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Prepared by
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Issued Date: March 13, 2024

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Report No.: TMWK2305001421KS

Page: 2 / 91

Rev.: 02

Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	January 5, 2024	Initial Issue	ALL	Allison Chen
01	January 17, 2024	See the following Note Rev.(01)	P.27, 87-88	Allison Chen
02	March 13, 2024	See the following Note Rev.(02)	P.1, 5, 7	Allison Chen

Note:

Rev.(01)

1. Modify system check result and simultaneous transmission SAR analysis.

Rev.(02)

1. Applicant modified model name.



Table of Contents

1	ATTESTATION OF TEST RESULTS	5
2	TEST SPECIFICATION, METHODS AND PROCEDURES	6
3	DEVICE UNDER TEST (DUT) INFORMATION	7
3.1	DUT DESCRIPTION	7
3.2	WIRELESS TECHNOLOGIES	8
3.3	GENERAL LTE SAR TEST AND REPORTING CONSIDERATIONS	9
4	SAR MEASUREMENT SYSTEM.....	13
4.1	SYSTEM COMPONENTS.....	14
4.2	SAR SCAN PROCEDURES.....	17
5	MEASUREMENT UNCERTAINTY	19
6	RF EXPOSURE CONDITIONS (TEST CONFIGURATIONS).....	20
6.1	STANDALONE SAR TEST EXCLUSION CONSIDERATIONS	20
7	DIELECTRIC PROPERTY MEASUREMENTS & SYSTEM CHECK	23
7.1	DIELECTRIC PROPERTY MEASUREMENTS	23
7.2	SYSTEM CHECK	26
8	POWER REDUCTION BY PROXIMITY SENSING	28
8.1	PROXIMITY SENSOR TRIGGERING DISTANCE (KDB 616217 D04 SECTION 6.2)	29
8.2	PROXIMITY SENSOR TRIGGERING COVERAGE (KDB 616217 D04 SECTION 6.3).....	31
8.3	TILT ANGLE INFLUENCES TO PROXIMITY SENSOR TRIGGERING (KDB 616217 D04 SECTION 6.4)	32
9	CONDUCTED OUTPUT POWER MEASUREMENTS.....	35
9.1	W-CDMA	35
9.2	LTE.....	39
9.3	WI-FI 2.4GHZ (DTS BAND)	68
9.4	WI-FI 5GHZ (U-NII BANDS).....	69
9.5	BLUETOOTH.	71
10	MEASURED AND REPORTED (SCALED) SAR RESULTS.....	73
10.1	W-CDMA BAND II	73
10.2	W-CDMA BAND IV	73
10.3	W-CDMA BAND V	73
10.4	LTE BAND 2 (20MHZ BANDWIDTH).....	74
10.5	LTE BAND 4 (20MHZ BANDWIDTH)	74
10.6	LTE BAND 5 (10MHZ BANDWIDTH).....	74



Report No.: TMWK2305001421KS

10.7	LTE BAND 7 (20MHZ BANDWIDTH)	75
10.8	LTE BAND 12 (10MHZ BANDWIDTH)	75
10.9	LTE BAND 13 (10MHZ BANDWIDTH)	75
10.10	LTE BAND 14 (10MHZ BANDWIDTH)	76
10.11	LTE BAND 17 (10MHZ BANDWIDTH)	76
10.12	LTE BAND 25 (20MHZ BANDWIDTH)	76
10.13	LTE BAND 26 (15MHZ BANDWIDTH)	77
10.14	LTE BAND 41 (20MHZ BANDWIDTH)	77
10.15	LTE BAND 66 (20MHZ BANDWIDTH)	78
10.16	LTE BAND 71 (20MHZ BANDWIDTH)	78
10.17	WI-FI (DTS BAND)	78
10.18	WI-FI (U-NII BAND)	79
10.19	BLUETOOTH	79
11	SAR MEASUREMENT VARIABILITY	80
12	SIMULTANEOUS TRANSMISSION SAR ANALYSIS	83
12.1	SUM OF THE SAR FOR WCDMA BAND II & WI-FI & BT	86
12.2	SUM OF THE SAR FOR WCDMA BAND IV & WI-FI & BT	86
12.3	SUM OF THE SAR FOR WCDMA BAND V & WI-FI & BT	86
12.4	SUM OF THE SAR FOR LTE BAND 2 & WI-FI & BT	87
12.5	SUM OF THE SAR FOR LTE BAND 4 & WI-FI & BT	87
12.6	SUM OF THE SAR FOR LTE BAND 5 & WI-FI & BT	87
12.7	SUM OF THE SAR FOR LTE BAND 7 & WI-FI & BT	87
12.8	SUM OF THE SAR FOR LTE BAND 12 & WI-FI & BT	87
12.9	SUM OF THE SAR FOR LTE BAND 13 & WI-FI & BT	87
12.10	SUM OF THE SAR FOR LTE BAND 14 & WI-FI & BT	88
12.11	SUM OF THE SAR FOR LTE BAND 17 & WI-FI & BT	88
12.12	SUM OF THE SAR FOR LTE BAND 25 & WI-FI & BT	88
12.13	SUM OF THE SAR FOR LTE BAND 26 & WI-FI & BT	88
12.14	SUM OF THE SAR FOR LTE BAND 41 & WI-FI & BT	88
12.15	SUM OF THE SAR FOR LTE BAND 66 & WI-FI & BT	88
12.16	SUM OF THE SAR FOR LTE BAND 71 & WI-FI & BT	89
13	EQUIPMENT LIST & CALIBRATION STATUS	90
14	FACILITIES	91
15	APPENDIXES	91



Report No.: TMWK2305001421KS

Page: 5 / 91
Rev.: 02

1 Attestation of Test Results

Applicant Name	Mitac Digital Technology Corporation			
Model Name	N635RN			
Applicable Standards	FCC 47 CFR § 2.1093 Published RF exposure KDB procedures IEEE Std 1528-2013			
Exposure Category	SAR Limits (W/Kg) Peak spatial-average (1g of tissue)			
General population	1.6			
RF Exposure Conditions	Equipment Class - Highest Reported SAR (W/kg)			
	PCE	DTS	NII	DSS
Body	1.57	0.62	0.98	0
Simultaneous TX	1.57			
Receive EUT Date:	May 25, 2023			
Date Tested	October 12, 2023 to November 17, 2023			
Test Results	Pass			
Compliance Certification Services Inc. , tested the above equipment in accordance with the requirements set forth in the above standards. Determination of compliance is based on the results of the compliance measurement,not taking into account measurement instrumentation uncertainty.All indications of Pass/Fail in this report are opinions expressed by Compliance Certification Services Inc, based on interpretations and/or observations of test results. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.				
Approved & Released By:		Tested by:		
				
Sky Zhou Asst. Section Manager Compliance Certification Services Inc.		Jack Yang Engineer Compliance Certification Services Inc.		



Report No.: TMWK2305001421KS

Page: 6 / 91

Rev.: 02

2 Test Specification, Methods and Procedures

The tests documented in this report were performed in accordance with FCC 47 CFR § 2.1093, IEEE STD 1528- 2013, the following FCC Published RF exposure [KDB](#) procedures:

- 248227 D01 802.11 Wi-Fi SAR v02r02
- 447498 D02 SAR Procedures for Dongle Xmtr v02r01
- 447498 D04 Interim General RF Exposure Guidance v01
- 616217 D04 SAR for laptop and tablets v01r02
- 865664 D01 SAR measurement 100 MHz to 6 GHz v01r04
- 865664 D02 RF Exposure Reporting v01r02
- 941225 D01 3G SAR Procedures v03r01
- 941225 D05 SAR for LTE Devices v02r05



Report No.: TMWK2305001421KS

Page: 7 / 91

Rev.: 02

3 Device Under Test (DUT) Information

3.1 DUT Description

Applicant Name	Mitac Digital Technology Corporation
Applicant Address	4F., No. 1, R&D Road 2, Hsinchu Science Park, Hsinchu 30076 Taiwan
Manufacturer Name	MITAC COMPUTER (KUNSHAN) CO., LTD.
Manufacturer Address	No. 269, 2nd Avenue, District A, Comprehensive Free Trade Zone, Kunshan, Jiangsu, P.R. China
Product	Chrion Pro
Trade Name	Mio, MiTAC, Magellan, Teletrac Navman
Model No.	N635RN
Model Discrepancy	N/A
Device Dimension	Overall (Length x Width): 211 mm x 131 mm Overall Diagonal: 248 mm
Back Cover	☒ The Back Cover is not removable.
Battery Options	☒ Standard – Lithium-ion battery, Rating 3.7Vdc, 14.8Wh
Hardware Version	R02
Software Version	R15

3.2 Wireless Technologies

Wireless technologies	Frequency bands	Peak Antenna Gain (dBi)	Operating mode	Duty Cycle used for SAR testing
W-CDMA (UMTS)	Band II Band IV Band V	2.92 3.19 1.84	UMTS Rel. 99 (Voice & Data) HSDPA (Rel. 5) HSUPA (Rel. 6)	100%
LTE	FDD Band 2 FDD Band 4 FDD Band 5 FDD Band 7 FDD Band 12 FDD Band 13 FDD Band 14 FDD Band 17 FDD Band 25 FDD Band 26 TDD Band 41 ² FDD Band 66 FDD Band 71	2.92 3.19 1.84 1.75 -1.58 -0.34 0.03 -1.58 2.92 1.84 1.99 3.19 -2.35	QPSK 16QAM 64AQM	100% (FDD) 63.3% (TDD) ^{Power class3}
Antenna Specification	Brand Name	Auden		
	Type	PIFA		
	Parts Number	(1) Main: B31639-01 (2) Aux: B31614-00		
Wi-Fi	2.4 GHz ¹	1.31	802.11b 802.11g 802.11n (HT20) 802.11n (HT40)	97.67% (802.11b) 87.32% (802.11g 20MHz BW) 86.57% (802.11n 20MHz BW) 76.17% (802.11n 40MHz BW)
	5 GHz ¹	1.25	802.11a 802.11n (HT20) 802.11n (HT40) 802.11ac (VHT20) 802.11ac (VHT40) 802.11ac (VHT80)	87.32% (802.11a) 86.57% (802.11n 20MHz BW) 83.13% (802.11ac 20MHz BW) 76.08% (802.11n 40MHz BW) 71.3% (802.11ac 40MHz BW) 55.36% (802.11ac 80MHz BW)
Bluetooth	2.4 GHz	1.31	BR/EDR/LE	76.8%
Antenna Specification	Brand Name	INPAQ		
	Type	Chip Antenna		
	Parts Number	ACM3-5036-A1-CC-S		

Notes:

- Duty cycle for Wi-Fi and BT is referenced from the DTS and U-NII and BT reports.
- This device supports Power Class 2 for LTE Band 41
- The sample selected for test was prototype that representative to production product and was provided by manufacturer
- Variant information between/among model numbers / trademarks is provided by the applicant, test results of this report are applicable to the sample EUT received of main test model name.
- Antenna information is provided by the applicant, test results of this report are applicable to the sample EUT received

3.3 General LTE SAR Test and Reporting Considerations

Item	Description					
Frequency range, Channel Bandwidth, Numbers and Frequencies	Band 2	Frequency range: 1850 - 1910 MHz				
		Channel Bandwidth				
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz
	Low	18700/ 1860	18675/ 1857.5	18650/ 1855	18625/ 1852.5	18615/ 1851.5
						18607/ 1850.7
	Mid	18900/ 1880	18900/ 1880	18900/ 1880	18900/ 1880	18900/ 1880
	High	19100/ 1900	19125/ 1902.5	19150/ 1905	19175/ 1907.5	19185/ 1908.5
						19193/ 1909.3
	Band 4	Frequency range: 1710 - 1755 MHz				
		Channel Bandwidth				
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz
	Low	20050/ 1720	20025/ 1717.5	20000/ 1715	19975/ 1712.5	19965/ 1711.5
						19957/ 1710.7
	Mid	20175/ 1732.5	20175/ 1732.5	20175/ 1732.5	20175/ 1732.5	20175/ 1732.5
	High	20300/ 1745	20325/ 1747.5	20350/ 1750	20375/ 1752.5	20385/ 1753.5
						20393/ 1754.3
	Band 5	Frequency range: 824 - 849 MHz				
		Channel Bandwidth				
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz
	Low			20450/ 829	20425/ 826.5	20415/ 825.5
						20407/ 824.7
	Mid			20525/ 836.5	20525/ 836.5	20525/ 836.5
						20525/ 836.5
	High			20600/ 844	20625/ 846.5	20635/ 847.5
						20643/ 848.3
	Band 7	Frequency range: 2500 - 2570 MHz				
		Channel Bandwidth				
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz
	Low	20850/ 2510	20825/ 2507.5	20800/ 2505	20775/ 2502.5	
	Mid	21100/ 2535	21100/ 2535	21100/ 2535	21100/ 2535	
	High	21350/ 2560	21375/ 2562.5	21400/ 2565	21425/ 2567.5	
	Band 12	Frequency range: 698 - 716 MHz				
		Channel Bandwidth				
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz
	Low			23060/ 704	23035/ 701.5	23025/ 700.5
						23017/ 699.7
	Mid			23095/ 707.5	23095/ 707.5	23095/ 707.5
						23095/ 707.5
	High			23130/ 711	23155/ 713.5	23165/ 714.5
						23173/ 715.3
	Band 13	Frequency range: 777 - 787 MHz				
		Channel Bandwidth				
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz
	Low				23205/ 779.5	
	Mid			23230/ 782	23230/ 782	
	High				23255/ 784.5	

Band 14	Frequency range: 788 - 798 MHz					
	Channel Bandwidth					
	20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
Low				23305/ 790.5		
Mid			23330/ 793	23330/ 793		
High				23355/ 795.5		
Band 17	Frequency range: 704 - 716 MHz					
	Channel Bandwidth					
	20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
Low			23780/ 709	23755/ 706.5		
Mid			23790/ 710	23790/ 710		
High			23800/ 711	23825/ 713.5		
Band 25	Frequency range: 1850 - 1915 MHz					
	Channel Bandwidth					
	20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
Low	26140/ 1860	26115/ 1857.5	26090/ 1855	26065/ 1852.5	26055/ 1851.5	26047/ 1850.7
Mid	26365/ 1882.5	26365/ 1882.5	26365/ 1882.5	26365/ 1882.5	26365/ 1882.5	26365/ 1882.5
High	26590/ 1905	26615/ 1907.5	26640/ 1910	26665/ 1912.5	26675/ 1913.5	26683/ 1914.3
Band 26	Frequency range: 814 - 849 MHz					
	Channel Bandwidth					
	20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
Low		26765/ 821.5	26740/ 819	26715/ 816.5	26705/ 815.5	26697/ 814.7
Mid		26865/ 831.5	26865/ 831.5	26865/ 831.5	26865/ 831.5	26865/ 831.5
High		26965/ 841.5	26990/ 844	27015/ 846.5	27025/ 847.5	27033/ 848.3
Band 41	Frequency range: 2496 - 2690 MHz					
	Channel Bandwidth					
	20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
Low	39750/2506					
Low-Mid	40185/2549.5					
Mid	40620/2593					
Mid-High	41055/2636.5					
High	41490/2680					
Band 66	Frequency range: 1710 - 1780 MHz					
	Channel Bandwidth					
	20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz
Low	132072/ 1720	132047/ 1717.5	132022/ 1715	131997/ 1712.5	131987/ 1711.5	131979/ 1710.7
Mid	132322/ 1745	132322/ 1745	132322/ 1745	132322/ 1745	132322/ 1745	132322/ 1745
High	132572/ 1770	132597/ 1772.5	132622/ 1775	132647/ 1777.5	132657/ 1778.5	132665/ 1779.3

	Band 71	Frequency range: 663 - 698 MHz																																																																			
		Channel Bandwidth																																																																			
		20 MHz	15 MHz	10 MHz	5 MHz	3 MHz	1.4 MHz																																																														
	Low	133222/ 673	133197/ 670.5	133172/ 668	133147/ 665.5																																																																
	Mid	133322/ 683	133297/ 680.5	133297/ 680.5	133297/ 680.5																																																																
High	133372/ 688	133397/ 690.5	133422/ 693	133447/ 695.5																																																																	
Maximum power reduction (MPR)		Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3 <table><tr><th rowspan="2">Modulation</th><th colspan="6">Channel bandwidth / Transmission bandwidth (N_{RB})</th><th rowspan="2">MPR (dB)</th></tr><tr><th>1.4 MHz</th><th>3.0 MHz</th><th>5 MHz</th><th>10 MHz</th><th>15 MHz</th><th>20 MHz</th></tr><tr><td>QPSK</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 1</td></tr><tr><td>16 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 1</td></tr><tr><td>64 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 2</td></tr><tr><td>256 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 2</td></tr><tr><td>64 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 3</td></tr><tr><td>256 QAM</td><td colspan="6">≥ 1</td><td>≤ 5</td></tr></table> MPR Built-in by design The manufacturer MPR values are always within the 3GPP maximum MPR allowance but may not follow the default MPR values. A-MPR (additional MPR) was disabled during SAR testing						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	64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2	256 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 2	64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 3	256 QAM	≥ 1						≤ 5
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																																																														
64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2																																																														
256 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 2																																																														
64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 3																																																														
256 QAM	≥ 1						≤ 5																																																														
Spectrum plots for RB configurations		A properly configured base station simulator was used for the SAR and power measurements; therefore, spectrum plots for each RB allocation and offset configuration are not included in the SAR report																																																																			

3.4 LTE (TDD) Considerations

According to KDB 941225 D05 SAR for LTE Devices v02r02, for Time-Division Duplex (TDD) systems, SAR must be tested using a fixed periodic duty factor according to the highest transmission duty factor implemented for the device and supported by the defined 3GPP LTE TDD configurations.

LTE TDD Bands support 3GPP TS 36.211 section 4.2 for Type 2 Frame Structure and Table 4.2-2 for uplink-downlink configurations and Table 4.2-1 for Special subframe configurations.

Table 4.2-1: Configuration of special subframe (lengths of DwPTS/GP/UpPTS).

Special subframe configuration	Normal cyclic prefix in downlink			Extended cyclic prefix in downlink		
	DwPTS	UpPTS		DwPTS	UpPTS	
		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink
0	$6592 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$	$7680 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$
1	$19760 \cdot T_s$			$20480 \cdot T_s$		
2	$21952 \cdot T_s$			$23040 \cdot T_s$		
3	$24144 \cdot T_s$			$25600 \cdot T_s$		
4	$26336 \cdot T_s$			$7680 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$
5	$6592 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$	$20480 \cdot T_s$		
6	$19760 \cdot T_s$			$23040 \cdot T_s$		
7	$21952 \cdot T_s$			$12800 \cdot T_s$		
8	$24144 \cdot T_s$			-	-	-
9	$13168 \cdot T_s$			-	-	-
10	$13168 \cdot T_s$	$13152 \cdot T_s$	$12800 \cdot T_s$			

Table 4.2-2: Uplink-downlink configurations & Calculated Duty Cycle

Uplink-Downlink Configuration	Downlink-to-Uplink Switch-point Periodicity	Subframe Number										Calculated Duty Cycle (%)
		0	1	2	3	4	5	6	7	8	9	
0	5 ms	D	S	U	U	U	D	S	U	U	U	63.33
1	5 ms	D	S	U	U	D	D	S	U	U	D	43.33
2	5 ms	D	S	U	D	D	D	S	U	D	D	23.33
3	10 ms	D	S	U	U	U	D	D	D	D	D	31.67
4	10 ms	D	S	U	U	D	D	D	D	D	D	21.67
5	10 ms	D	S	U	D	D	D	D	D	D	D	11.67
6	5 ms	D	S	U	U	U	D	S	U	U	D	53.33

Calculated Duty Cycle = Extended cyclic prefix in uplink x (T_s) x # of S + # of U

Example for Calculated Duty Cycle for Uplink-Downlink Configuration 0:

Calculated Duty Cycle = $5120 \times [1/(15000 \times 2048)] \times 2 + 6 \text{ ms} = 63.33\%$

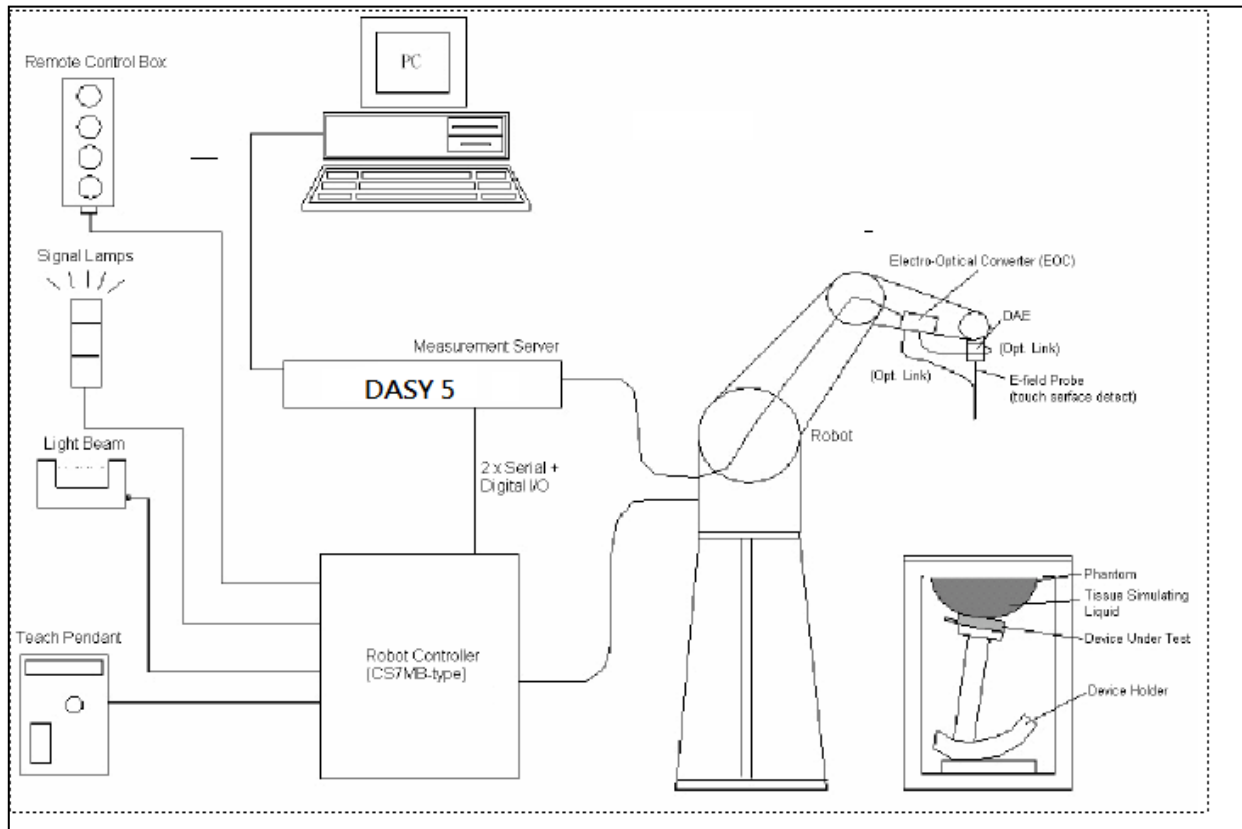
where

$T_s = 1/(15000 \times 2048)$ seconds

Note(s):

This device supports uplink-downlink configurations 0-6. The configuration with highest duty cycle was used for SAR Testing: configuration 0 at 63.3% duty cycle and Special Subframe 7.

4 SAR Measurement System

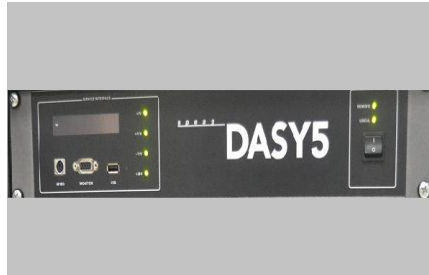


The DASY5 system for performing compliance tests consists of the following items:

- A standard high precision 6-axis robot (Stäubli RX family) with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- A dosimetric probe, i.e., an isotropic E-field probe optimized and calibrated for usage in tissue simulating liquid. The probe is equipped with an optical surface detector system.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion between optical and electrical of the signals for the digital communication to the DAE and for the analog signal from the optical surface detection. The EOC is connected to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- A probe alignment unit which improves the (absolute) accuracy of the probe positioning.
- A computer operating Windows 7 or Windows XP.
- DASY software version: NEO52 D10.3 S14.6.13.
- Remote control with teach pendant and additional circuitry for robot safety such as warning lamps, etc.
- The SAM twin phantom enabling testing left-hand and right-hand usage.
- The device holder for handheld mobile phones.
- Tissue simulating liquid mixed according to the given recipes.
- Validation dipole kits allowing validating the proper functioning of the system.

4.1 System Components

DASY5 Measurement Server



The DASY5 measurement server is based on a PC/104 CPU board with a 166MHz low-power Pentium, 32MB chip disk and 64MB RAM. The necessary circuits for communication with either the DAE4 electronic box as well as the 16-bit AD-converter system for optical detection and digital I/O interface are contained on the DASY5 I/O-board, which is directly connected to the PC/104 bus of the CPU board.

The measurement server performs all real-time data evaluation for field measurements and surface detection, controls robot movements and handles safety operation.



The PC-operating system cannot interfere with these time critical processes. All connections are supervised by a watchdog, and disconnection of any of the cables to the measurement server will automatically disarm the robot and disable all program-controlled robot movements. Furthermore, the measurement server is equipped with two expansion slots which are reserved for future applications. Please note that the expansion slots do not have a standardized pinout and therefore only the expansion cards provided by SPEAG can be inserted. Expansion cards from any other supplier could seriously damage the measurement server. Calibration: No calibration required.

Data Acquisition Electronics (DAE)



The data acquisition electronics (DAE4) consists of a highly sensitive electrometer grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD converter and a command decoder and control logic unit. Transmission to the measurement server is accomplished through an optical downlink for data and status information as well as an optical uplink for commands and the clock. The mechanical probe mounting device includes two different sensor systems for frontal and sideways probe contacts. They are used for mechanical surface detection and probe collision detection. The input impedance of the DAE4 box is 200MOhm; the inputs are symmetrical and floating. Common mode rejection is above 80 dB.

EX3DV4 Isotropic E-Field Probe for Dosimetric Measurements



- Construction:** Symmetrical design with triangular core
Built-in shielding against static charges
PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
- Calibration:** Basic Broad Band Calibration in air: 10-3000 MHz.
Conversion Factors (CF) for HSL 900 and HSL 1800
CF-Calibration for other liquids and frequencies upon request.
- Frequency:** 10 MHz to > 6 GHz; Linearity: ± 0.2 dB (30 MHz to 3 GHz)
- Directivity:** ± 0.3 dB in HSL (rotation around probe axis)
 ± 0.5 dB in HSL (rotation normal to probe axis)
- Dynamic Range:** 10 μ W/g to > 100 mW/g; Linearity: ± 0.2 dB
(noise: typically < 1 μ W/g)
- Dimensions:** Overall length: 330 mm (Tip: 20 mm)
Tip diameter: 2.5 mm (Body: 12 mm)
Distance from probe tip to dipole centers: 1 mm
- Application:** High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields).
Only probe which enables compliance testing for frequencies up to 6 GHz with precision of better 30%.

SAM Phantom



- Construction:** The shell corresponds to the specifications of the Specific Anthropomorphic Mannequin (SAM) phantom defined in IEEE1528: 2013. It enables the dosimetric evaluation of left and right hand phone usage as well as body mounted usage at the flat phantom region. A cover prevents evaporation of the liquid. Reference markings on the phantom allow the complete setup of all predefined phantom positions and measurement grids by manually teaching three points with the robot.
- Shell Thickness:** 2 ± 0.2 mm
- Filling Volume:** Approx. 25 liters
- Dimensions:** Height: 810mm; Length: 1000mm; Width: 500mm

ELI Phantom



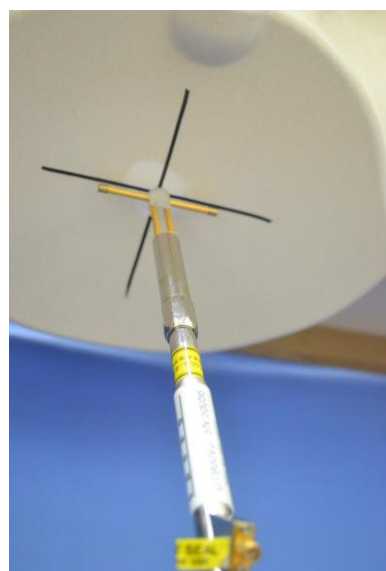
- Construction:** Phantom for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30 MHz to 6 GHz. ELI4 is fully compatible with the latest draft of the standard IEEE1528: 2013 and all known tissue simulating liquids. ELI4 has been optimized regarding its performance and can be integrated into our standard phantom tables. A cover prevents evaporation of the liquid. Reference markings on the phantom allow installation of the complete setup, including all predefined phantom positions and measurement grids, by teaching three points. The phantom is supported by software version DASY5 and higher and is compatible with all SPEAG dosimetric probes and dipoles
- Shell Thickness:** 2.0 ± 0.2 mm (sagging: <1%)
- Filling Volume:** Approx. 25 liters
- Dimensions:** Major ellipse axis: 600 mm
Minor axis: 400 mm 500mm

Device Holder for SAM Twin Phantom



Construction: In combination with the Twin SAM Phantom V4.0 or Twin SAM, the Mounting Device (made from POM) enables the rotation of the mounted transmitter in spherical coordinates, whereby the rotation point is the ear opening. The devices can be easily and accurately positioned according to IEC, IEEE, CENELEC, FCC or other specifications. The device holder can be locked at different phantom locations (left head, right head, and flat phantom).

System Validation Kits for SAM Phantom



Construction: Symmetrical dipole with 1/4 balun Enables measurement of feedpoint impedance with NWA Matched for use near flat phantoms filled with brain simulating solutions Includes distance holder and tripod adaptor.

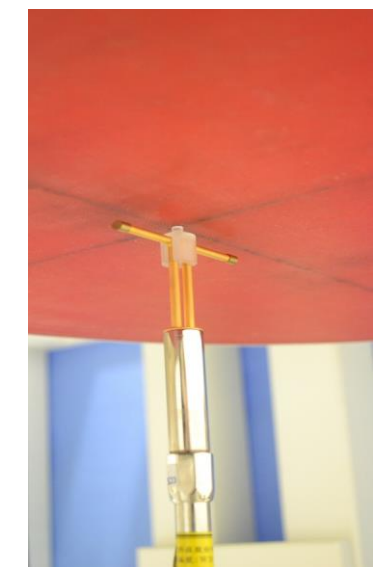
Frequency: 2450, 5300, 5600, 5800 MHz

Return loss: > 20 dB at specified validation position

Power capability: > 100 W ($f < 1\text{GHz}$); > 40 W ($f > 1\text{GHz}$)

Dimensions: D2450V2: dipole length: 51.5 mm; overall height: 290 mm
D5GHzV2: dipole length: 20.6 mm; overall height: 300 mm

System Validation Kits for ELI phantom



Construction: Symmetrical dipole with 1/4 balun Enables measurement of feedpoint impedance with NWA Matched for use near flat phantoms filled with brain simulating solutions Includes distance holder and tripod adaptor.

Frequency: 2450, 5300, 5600, 5800 MHz

Return loss: > 20 dB at specified validation position

Power capability: > 100 W ($f < 1\text{GHz}$); > 40 W ($f > 1\text{GHz}$)

Dimensions: D2450V2: dipole length: 51.5 mm; overall height: 290 mm
D5GHzV2: dipole length: 20.6 mm; overall height: 300 mm

4.2 SAR Scan Procedures

Step 1: Power Reference Measurement

The reference and drift jobs are useful jobs for monitoring the power drift of the device under test in the batch process. Both jobs measure the field at a specified reference position, at a selectable distance from the phantom surface. The reference position can be either the selected section's grid reference point or a user point in this section. The reference job projects the selected point onto the phantom surface, orients the probe perpendicularly to the surface, and approaches the surface using the selected detection method.

Step 2: Area Scan

The Area Scan is used as a fast scan in two dimensions to find the area of high field values, before doing a fine measurement around the hot spot. The sophisticated interpolation routines implemented in DASY software can find the maximum locations even in relatively coarse grids. When an Area Scan has measured all reachable points, it computes the field maximal found in the scanned area, within a range of the global maximum. The range (in dB) is specified in the standards for compliance testing. For example, a 2 dB range is required in IEEE1528 standards, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard (Japan). If only one Zoom Scan follows the Area Scan, then only the absolute maximum will be taken as reference. For cases where multiple maximums are detected, the number of Zoom Scans has to be increased accordingly.

Area Scan Parameters extracted from KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz

	≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface	5 ± 1 mm	$\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5 \text{ mm}$
Maximum probe angle from probe axis to phantom surface normal at the measurement location	30° ± 1°	20° ± 1°
Maximum area scan spatial resolution: ΔxZoom, ΔyZoom	≤ 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.	

Step 3: Zoom Scan

Zoom Scans are used to assess the peak spatial SAR values within a cubic averaging volume containing 1 g and 10 g of simulated tissue. The Zoom Scan measures points (refer to table below) within a cube whose base faces are centered on the maxima found in a preceding area scan job within the same procedure. When the measurement is done, the Zoom Scan evaluates the averaged SAR for 1 g and 10 g and displays these values next to the job's label.

- Zoom Scan Parameters extracted from KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz

			≤ 3 GHz	> 3 GHz
Maximum zoom scan spatial resolution: $\Delta x_{\text{Zoom}}, \Delta y_{\text{Zoom}}$			$\leq 2 \text{ GHz}: \leq 8 \text{ mm}$ $2 - 3 \text{ GHz}: \leq 5 \text{ mm}$	$3 - 4 \text{ GHz}: \leq 5 \text{ mm}$ $4 - 6 \text{ GHz}: \leq 4 \text{ mm}$
Maximum zoom scan spatial resolution, normal to phantom surface	Uniform grid: $\Delta z_{\text{Zoom}}(n)$		$\leq 5 \text{ mm}$	$3 - 4 \text{ GHz}: \leq 4 \text{ mm}$ $4 - 5 \text{ GHz}: \leq 3 \text{ mm}$ $5 - 6 \text{ GHz}: \leq 2 \text{ mm}$
	graded grid	$\Delta z_{\text{Zoom}}(1)$: between 1 st two points closest to phantom surface	$\leq 4 \text{ mm}$	$3 - 4 \text{ GHz}: \leq 3 \text{ mm}$ $4 - 5 \text{ GHz}: \leq 2.5 \text{ mm}$ $5 - 6 \text{ GHz}: \leq 2 \text{ mm}$
		$\Delta z_{\text{Zoom}}(n>1)$: between subsequent points	$\leq 1.5 \cdot \Delta z_{\text{Zoom}}(n-1)$	
Maximum zoom scan volume	x, y, z	$\geq 30 \text{ mm}$	$3 - 4 \text{ GHz}: \geq 28 \text{ mm}$ $4 - 5 \text{ GHz}: \geq 25 \text{ mm}$ $5 - 6 \text{ GHz}: \geq 22 \text{ mm}$	

Step 4: Power drift measurement

The Power Drift Measurement measures the field at the same location as the most recent power reference measurement within the same procedure, and with the same settings. The Power Drift Measurement gives the field difference in dB from the reading conducted within the last Power Reference Measurement. This allows a user to monitor the power drift of the device under test within a batch process. The measurement procedure is the same as Step 1

Step 5: Z-Scan (FCC only)

The Z Scan measures points along a vertical straight line. The line runs along the Z-axis of a one-dimensional grid. In order to get a reasonable extrapolation the extrapolated distance should not be larger than the step size in Z-direction



Report No.: TMWK2305001421KS

Page: 19 / 91

Rev.: 02

5 Measurement Uncertainty

Per KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz, when the highest measured 1-g SAR within a frequency band is < 1.5 W/kg and the measured 10-g SAR within a frequency band is < 3.75 W/kg. The expanded SAR measurement uncertainty must be $\leq 30\%$, for a confidence interval of $k = 2$. If these conditions are met, extensive SAR measurement uncertainty analysis described in IEEE1528: 2013 is not required in SAR reports submitted for equipment approval.

Therefore, the measurement uncertainty is not required.

6 RF Exposure Conditions (Test Configurations)

Refer to Appendixes 1 for the specific details of the antenna-to-antenna and antenna-to-edge(s) distances.

6.1 Standalone SAR Test Exclusion Considerations

Since the Dedicated Host Approach is applied, the SAR-based exemption in Appendix B of KDB 447498 D04 is applied together with KDB 616217 § 4.3 to determine the minimum test separation distance:

- When the separation distance from the antenna to an adjacent edge is ≤ 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.
- When the separation distance from the antenna to an adjacent edge is > 5 mm, the actual antenna-to-edge separation distance is applied to determine SAR test exclusion.
- The available maximum time-averaged power or effective radiated power (ERP), whichever is greater, is less than or equal to the threshold P_{th} (mW) described in the following formula.

P_{th} is given by:

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases}$$

- The separation distances from 0.5 cm to 40 cm and at frequencies from 0.3 GHz to 6 GHz .
 P_{th} is given by:

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

where

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right)$$

and f is in GHz, d is the separation distances (cm).



Report No.: TMWK2305001421KS

Page: 21 / 91

Rev.: 02

SAR Test Exclusion Calculations for $0.3 \text{ GHz} \leq f < 1.5 \text{ GHz}$

Full Power, Proximity Sensor Off																					
Tx Interface	Frequency (GHz)	Output Power		Antenna Gain (dBi)	ERP (dBm)	ERP Threshold (mW)	Separation Distances (cm)					P _e (mW)					Exemption result				
		dBm	mW				Rear	Edge1	Edge2	Edge3	Edge4	Rear	Edge1	Edge2	Edge3	Edge4	Rear	Edge1	Edge2	Edge3	Edge4
WCDMA Band V	0.8466	23.00	200	1.84	22.69	185.78	0.672	4.507	19.8	1.766	0.5	14	207	1703	95	9	-MEASURE-	-EXEMPT-	-EXEMPT-	-MEASURE-	-MEASURE-
LTE Band 5	0.844	24.00	251	1.84	23.69	233.88	0.672	4.507	19.8	1.766	0.5	14	207	1897	95	9	-MEASURE-	-MEASURE-	-EXEMPT-	-MEASURE-	-MEASURE-
LTE Band 12	0.711	23.50	224	-1.58	19.77	94.84	0.672	4.507	19.8	1.766	0.5	17	206	1431	80	12	-MEASURE-	-MEASURE-	-EXEMPT-	-MEASURE-	-MEASURE-
LTE Band 13	0.782	23.50	224	-0.34	21.01	126.18	0.672	4.507	19.8	1.766	0.5	15	207	1573	97	10	-MEASURE-	-MEASURE-	-EXEMPT-	-MEASURE-	-MEASURE-
LTE Band 14	0.793	24.00	251	0.03	21.88	154.17	0.672	4.507	19.8	1.766	0.5	15	207	1595	97	10	-MEASURE-	-MEASURE-	-EXEMPT-	-MEASURE-	-MEASURE-
LTE Band 17	0.711	23.50	224	-1.58	19.77	94.84	0.672	4.507	19.8	1.766	0.5	17	206	1431	80	12	-MEASURE-	-MEASURE-	-EXEMPT-	-MEASURE-	-MEASURE-
LTE Band 26	0.8415	24.00	251	1.84	23.69	233.88	0.672	4.507	19.8	1.766	0.5	14	207	1892	95	9	-MEASURE-	-MEASURE-	-EXEMPT-	-MEASURE-	-MEASURE-
LTE Band 71	0.698	23.50	224	-2.35	19.00	79.43	0.672	4.507	19.8	1.766	0.5	18	206	1395	82	12	-MEASURE-	-MEASURE-	-EXEMPT-	-MEASURE-	-MEASURE-

SAR Test Exclusion Calculations for $1.5 \text{ GHz} \leq f \leq 6 \text{ GHz}$

Tx Interface	Frequency (GHz)	Output Power		Antenna Gain (dBi)	ERP (dBm)	ERP Threshold (mW)	Exemption result	
		dBm	mW				Rear	Edge4
Power Back-off,Proximity Sensor On								
WCDMA Band II	1.9076	18.50	71	2.92	19.27	84.53	-MEASURE-	-MEASURE-
WCDMA Band IV	1.7526	20.00	100	3.19	21.04	127.06	-MEASURE-	-MEASURE-
LTE Band 2	1.9	18.50	71	2.92	19.27	84.53	-MEASURE-	-MEASURE-
LTE Band 4	1.745	20.00	100	3.19	21.04	127.06	-MEASURE-	-MEASURE-
LTE Band 7	2.56	18.50	71	1.75	18.10	64.57	-MEASURE-	-MEASURE-
LTE Band 25	1.905	18.50	71	2.92	19.27	84.53	-MEASURE-	-MEASURE-
LTE Band 41	2.68	18.50	71	1.99	18.34	68.23	-MEASURE-	-MEASURE-
LTE Band 66	1.77	20.00	100	3.19	21.04	127.06	-MEASURE-	-MEASURE-

Tx Interface	Frequency (GHz)	Output Power		Antenna Gain (dBi)	ERP (dBm)	ERP Threshold (mW)	Full Power, Proximity Sensor Off															Exemption result				
							Separation Distances (cm)																			
		Rear	Edge1				Edge2	Edge3	Edge4	Rear	Edge1	Edge2	Edge3	Edge4	Rear	Edge1	Edge2	Edge3	Edge4	Rear	Edge1	Edge2	Edge3	Edge4		
WCDMA Band II	1.9076	23.00	200	2.92	23.77	238.23	0.672	4.507	19.8	1.766	0.5	6	195	3004	35	3	-MEASURE-	-MEASURE-	-EXEMPT-	-MEASURE-	-MEASURE-					
WCDMA Band IV	1.7526	23.00	200	3.19	24.04	253.51	0.672	4.507	19.8	1.766	0.5	6	200	3004	35	4	-MEASURE-	-MEASURE-	-EXEMPT-	-MEASURE-	-MEASURE-					
LTE Band 2	1.9	24.00	251	2.92	24.77	299.92	0.672	4.507	19.8	1.766	0.5	6	195	3004	35	3	-MEASURE-	-MEASURE-	-EXEMPT-	-MEASURE-	-MEASURE-					
LTE Band 4	1.745	23.50	224	3.19	24.54	284.45	0.672	4.507	19.8	1.766	0.5	6	201	3004	35	4	-MEASURE-	-MEASURE-	-EXEMPT-	-MEASURE-	-MEASURE-					
LTE Band 7	2.56	23.50	224	1.75	23.10	204.17	0.672	4.507	19.8	1.766	0.5	5	177	3002	30	3	-MEASURE-	-MEASURE-	-EXEMPT-	-MEASURE-	-MEASURE-					
LTE Band 25	1.905	23.50	224	2.92	24.27	267.30	0.672	4.507	19.8	1.766	0.5	6	195	3004	35	3	-MEASURE-	-MEASURE-	-EXEMPT-	-MEASURE-	-MEASURE-					
LTE Band 41	2.68	23.50	224	1.99	23.34	215.77	0.672	4.507	19.8	1.766	0.5	5	175	3001	29	3	-MEASURE-	-MEASURE-	-EXEMPT-	-MEASURE-	-MEASURE-					
LTE Band 66	1.77	23.50	224	3.19	24.54	284.45	0.672	4.507	19.8	1.766	0.5	6	200	3004	35	4	-MEASURE-	-MEASURE-	-EXEMPT-	-MEASURE-	-MEASURE-					
WiFi 2.4GHz	2.462	14.50	28	1.31	13.66	23.23	0.961	0.983	3.191	12.1	17.05	9	4	93	1176	2358	-MEASURE-	-MEASURE-	-EXEMPT-	-EXEMPT-	-EXEMPT-					
WiFi 5.2GHz	5.24	15.00	32	1.25	14.10	25.70	0.961	0.983	3.191	12.1	17.05	6	2	69	1093	2300	-MEASURE-	-MEASURE-	-EXEMPT-	-EXEMPT-	-EXEMPT-					
WiFi 5.3GHz	5.32	15.00	32	1.25	14.10	25.70	0.961	0.983	3.191	12.1	17.05	6	2	68	1091	2199	-MEASURE-	-MEASURE-	-EXEMPT-	-EXEMPT-	-EXEMPT-					
WiFi 5.5GHz	5.7	12.50	18	1.25	11.60	14.45	0.961	0.983	3.191	12.1	17.05	5	2	67	1073	2194	-MEASURE-	-MEASURE-	-EXEMPT-	-EXEMPT-	-EXEMPT-					
WiFi 5.8GHz	5.825	12.00	16	1.25	11.10	12.88	0.961	0.983	3.191	12.1	17.05	5	2	66	1070	2192	-MEASURE-	-MEASURE-	-EXEMPT-	-EXEMPT-	-EXEMPT-					
BT	2.48	10.00	10	1.31	9.16	8.24	0.961	0.983	3.191	12.1	17.05	9	4	93	1175	2358	-MEASURE-	-MEASURE-	-EXEMPT-	-EXEMPT-	-EXEMPT-					

**REQUIRED TEST CONFIGURATIONS**

The table below identifies the standalone test configurations required for this device according to the findings in Section 6.1:

Test Configurations	Rear	Edge 1	Edge 2	Edge 3	Edge 4
W-CDMA Band 2 Full Power	Yes	Yes	No	Yes	Yes
W-CDMA Band 2 w/ Power Reduction	Yes	No	No	No	Yes
W-CDMA Band 4 Full Power	Yes	Yes	No	Yes	Yes
W-CDMA Band 4 w/ Power Reduction	Yes	No	No	No	Yes
W-CDMA Band 5 Full Power	Yes	No	No	Yes	Yes
LTE Band 2 Full Power	Yes	Yes	No	Yes	Yes
LTE Band 2 w/ Power Reduction	Yes	No	No	No	Yes
LTE Band 4 Full Power	Yes	Yes	No	Yes	Yes
LTE Band 4 w/ Power Reduction	Yes	No	No	No	Yes
LTE Band 5 Full Power	Yes	Yes	No	Yes	Yes
LTE Band 7 Full Power	Yes	Yes	No	Yes	Yes
LTE Band 7 w/ Power Reduction	Yes	No	No	No	Yes
LTE Band 12 Full Power	Yes	Yes	No	Yes	Yes
LTE Band 13 Full Power	Yes	Yes	No	Yes	Yes
LTE Band 14 Full Power	Yes	Yes	No	Yes	Yes
LTE Band 17 Full Power	Yes	Yes	No	Yes	Yes
LTE Band 25 Full Power	Yes	Yes	No	Yes	Yes
LTE Band 25 w/ Power Reduction	Yes	No	No	No	Yes
LTE Band 26 Full Power	Yes	Yes	No	Yes	Yes
LTE Band 41 Full Power	Yes	Yes	No	Yes	Yes
LTE Band 41 w/ Power Reduction	Yes	No	No	No	Yes
LTE Band 66 Full Power	Yes	Yes	No	Yes	Yes
LTE Band 66 w/ Power Reduction	Yes	No	No	No	Yes
LTE Band 71 Full Power	Yes	Yes	No	Yes	Yes
Wi-Fi 2.4 GHz	Yes	Yes	No	No	No
Wi-Fi 5 GHz	Yes	Yes	No	No	No
Bluetooth	Yes	Yes	No	No	No

Note(s):

Yes = Testing is required.

No = Testing is not required.

7 Dielectric Property Measurements & System Check

7.1 Dielectric Property Measurements

The temperature of the tissue-equivalent medium used during measurement must also be within 18°C to 25°C and within $\pm 2^\circ\text{C}$ of the temperature when the tissue parameters are characterized.

The dielectric parameters must be measured before the tissue-equivalent medium is used in a series of SAR measurements. The parameters should be re-measured after each 3 – 4 days of use; or earlier if the dielectric parameters can become out of tolerance; for example, when the parameters are marginal at the beginning of the measurement series.

Tissue dielectric parameters were measured at the low, middle and high frequency of each operating frequency range of the test device.

The dielectric constant (ϵ_r) and conductivity (σ) of typical tissue-equivalent media recipes are expected to be within $\pm 5\%$ of the required target values; but for SAR measurement systems that have implemented the SAR error compensation algorithms documented in IEEE Std 1528-2013, to automatically compensate the measured SAR results for deviations between the measured and required tissue dielectric parameters, the tolerance for ϵ_r and σ may be relaxed to $\pm 10\%$. This is limited to frequencies ≤ 3 GHz.

Tissue Dielectric Parameters

FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz

Target Frequency (MHz)	Head		Body	
	ϵ_r	σ (S/m)	ϵ_r	σ (S/m)
150	52.3	0.76	61.9	0.80
300	45.3	0.87	58.2	0.92
450	43.5	0.87	56.7	0.94
835	41.5	0.90	55.2	0.97
900	41.5	0.97	55.0	1.05
915	41.5	0.98	55.0	1.06
1450	40.5	1.20	54.0	1.30
1610	40.3	1.29	53.8	1.40
1800 – 2000	40.0	1.40	53.3	1.52
2450	39.2	1.80	52.7	1.95
3000	38.5	2.40	52.0	2.73
5000	36.2	4.45	49.3	5.07
5100	36.1	4.55	49.1	5.18
5200	36.0	4.66	49.0	5.30
5300	35.9	4.76	48.9	5.42
5400	35.8	4.86	48.7	5.53
5500	35.6	4.96	48.6	5.65
5600	35.5	5.07	48.5	5.77
5700	35.4	5.17	48.3	5.88
5800	35.3	5.27	48.2	6.00

IEEE Std 1528-2013

Refer to Table 3 within the IEEE Std 1528-2013

Typical Composition of Ingredients for Liquid Tissue Phantoms

The following tissue formulations are provided for reference only as some of the parameters have not been thoroughly verified. The composition of ingredients may be modified accordingly to achieve the desired target tissue parameters required for routine SAR evaluation.

Ingredients (% by weight)	Frequency (MHz)									
	450		835		915		1900		2450	
Tissue Type	Head	Body	Head	Body	Head	Body	Head	Body	Head	Body
Water	38.56	51.16	41.45	52.4	41.05	56.0	54.9	40.4	62.7	73.2
Salt (NaCl)	3.95	1.49	1.45	1.4	1.35	0.76	0.18	0.5	0.5	0.04
Sugar	56.32	46.78	56.0	45.0	56.5	41.76	0.0	58.0	0.0	0.0
HEC	0.98	0.52	1.0	1.0	1.0	1.21	0.0	1.0	0.0	0.0
Bactericide	0.19	0.05	0.1	0.1	0.1	0.27	0.0	0.1	0.0	0.0
Triton X-100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.8	0.0
DGBE	0.0	0.0	0.0	0.0	0.0	0.0	44.92	0.0	0.0	26.7
Dielectric Constant	43.42	58.0	42.54	56.1	42.0	56.8	39.9	54.0	39.8	52.5
Conductivity (S/m)	0.85	0.83	0.91	0.95	1.0	1.07	1.42	1.45	1.88	1.78

alt: 99+% Pure Sodium Chloride Sugar: 98+% Pure Sucrose
Water: De-ionized, 16 MΩ⁺ resistivity HEC: Hydroxy thyl Cellulose
DGBE: 99+% Di(ethylene glycol) butyl ether, [2-(2-butoxyethoxy)ethanol]
Triton X-100 (ultra-pure): Polyethylene glycol mono [4-(1, 1, 3, 3-tetramethylbutyl)phenyl]ether

Simulating Liquids for 5 GHz, Manufactured by SPEAG

Ingredients	(% by weight)
Water	78
Mineral oil	11
Emulsifiers	9
Additives and Salt	2



Report No.: TMWK2305001421KS

Page: 25 / 91

Rev.: 02

Dielectric Property Measurements Results:

Date	Tissue Type	Frequency (MHz)	Relative Permittivity (ϵ_r)			Conductivity (σ)		
			Measured	Target	Delta (%)	Measured	Target	Delta (%)
2023/10/24	Head	700	43.05	42.17	2.09	0.85	0.89	-4.06
		750	42.37	41.90	1.12	0.90	0.89	1.12
		795	41.74	41.69	0.12	0.94	0.90	4.92
2023/10/26	Head	670	41.76	42.33	-1.35	0.84	0.89	-4.97
		750	40.68	41.90	-2.91	0.91	0.89	1.69
		795	40.10	41.69	-3.81	0.93	0.90	4.13
2023/10/23	Head	820	41.48	41.57	-0.22	0.90	0.90	0.45
		835	41.43	41.50	-0.17	0.91	0.90	0.89
		850	41.37	41.50	-0.31	0.91	0.92	-0.33
2023/10/25	Head	820	41.04	41.57	-1.27	0.90	0.90	-0.22
		835	40.98	41.50	-1.25	0.90	0.90	0.33
		850	40.96	41.50	-1.30	0.91	0.92	-0.87
2023/10/29	Head	1710	40.42	40.14	0.70	1.29	1.35	-4.38
		1750	40.41	40.10	0.77	1.31	1.37	-4.67
		1760	40.39	40.08	0.77	1.31	1.38	-4.80
2023/11/2	Head	1710	38.45	40.14	-4.21	1.33	1.35	-1.19
		1750	38.50	40.10	-3.99	1.35	1.37	-1.31
		1760	38.51	40.08	-3.92	1.36	1.38	-1.24
2023/11/14	Head	1710	40.72	40.14	1.44	1.30	1.35	-3.34
		1750	40.57	40.10	1.17	1.34	1.37	-2.55
		1760	40.55	40.08	1.17	1.34	1.38	-2.69
2023/10/28	Head	1850	39.11	40.00	-2.23	1.41	1.40	0.50
		1900	38.93	40.00	-2.68	1.45	1.40	3.57
		1910	38.87	40.00	-2.83	1.46	1.40	4.21
2023/10/31	Head	1850	39.33	40.00	-1.68	1.42	1.40	1.14
		1900	39.16	40.00	-2.10	1.46	1.40	4.14
		1910	39.13	40.00	-2.17	1.47	1.40	4.71
2023/11/13	Head	1850	40.15	40.00	0.37	1.35	1.40	-3.50
		1900	40.08	40.00	0.20	1.38	1.40	-1.79
		1910	40.09	40.00	0.23	1.38	1.40	-1.43
2023/11/6	Head	2400	39.13	39.30	-0.43	1.84	1.76	4.78
		2450	39.01	39.20	-0.48	1.88	1.80	4.44
		2480	38.95	39.16	-0.54	1.91	1.83	3.98
2023/10/30	Head	2500	37.49	39.13	-4.19	1.93	1.85	4.10
		2600	37.52	39.00	-3.79	2.03	1.96	3.47
		2690	37.46	38.89	-3.68	2.11	2.06	2.48
2023/11/1	Head	2500	37.32	39.13	-4.63	1.93	1.85	4.16
		2600	37.35	39.00	-4.23	2.03	1.96	3.62
		2690	37.30	38.89	-4.09	2.10	2.06	1.89
2023/11/3	Head	2500	38.86	39.13	-0.69	1.94	1.85	4.48
		2600	38.67	39.00	-0.85	2.01	1.96	2.45
		2690	38.53	38.89	-0.93	2.08	2.06	1.12
2023/11/15	Head	2500	38.23	39.13	-2.30	1.81	1.85	-2.10
		2600	38.18	39.00	-2.10	1.90	1.96	-3.27
		2690	38.05	38.89	-2.16	1.97	2.06	-4.52
2023/11/17	Head	2500	39.18	39.13	0.13	1.88	1.85	1.40
		2600	39.09	39.00	0.23	1.96	1.96	0.00
		2690	38.97	38.89	0.21	2.03	2.06	-1.65
2023/11/7	Head	5250	35.24	35.95	-1.97	4.70	4.71	-0.17
		5300	35.16	35.90	-2.06	4.74	4.76	-0.34
		5350	34.98	35.85	-2.43	4.82	4.81	0.19
2023/11/8	Head	5500	34.94	35.65	-1.99	4.98	4.97	0.20
		5600	34.64	35.50	-2.42	5.05	5.07	-0.39
		5725	34.32	35.38	-3.00	5.26	5.20	1.27
2023/11/7	Head	5725	34.39	35.38	-2.80	5.28	5.20	1.58
		5750	34.42	35.35	-2.63	5.21	5.22	-0.17
		5850	34.07	35.25	-3.35	5.22	5.32	-1.88

7.2 System Check

SAR system verification is required to confirm measurement accuracy, according to the tissue dielectric media, probe calibration points and other system operating parameters required for measuring the SAR of a test device. The system verification must be performed for each frequency band and within the valid range of each probe calibration point required for testing the device. The same SAR probe(s) and tissue-equivalent media combinations used with each specific SAR system for system verification must be used for device testing. When multiple probe calibration points are required to cover substantially large transmission bands, independent system verifications are required for each probe calibration point. A system verification must be performed before each series of SAR measurements using the same probe calibration point and tissue-equivalent medium. Additional system verification should be considered according to the conditions of the tissue-equivalent medium and measured tissue dielectric parameters, typically every three to four days when the liquid parameters are re-measured or sooner when marginal liquid parameters are used at the beginning of a series of measurements.

System Performance Check Measurement Conditions

- The measurements were performed in the flat section of the TWIN SAM or ELI phantom, shell thickness: 2.0 ± 0.2 mm (bottom plate) filled with Body or Head simulating liquid of the following parameters.
- The depth of tissue-equivalent liquid in a phantom must be ≥ 15.0 cm for SAR measurements ≤ 3 GHz and ≥ 10.0 cm for measurements > 3 GHz.
- The DASY system with an E-Field Probe was used for the measurements.
- The dipole was mounted on the small tripod so that the dipole feed point was positioned below the center marking of the flat phantom section and the dipole was oriented parallel to the body axis (the long side of the phantom). The standard measuring distance was 15 mm (below 1 GHz) and 10 mm (above 1 GHz) from dipole center to the simulating liquid surface.
- The coarse grid with a grid spacing of 15 mm was aligned with the dipole.
For 5 GHz band - The coarse grid with a grid spacing of 10 mm was aligned with the dipole.
- Special 7x7x7 (below 3 GHz) and/or 8x8x7 (above 3 GHz) fine cube
- Distance between probe sensors and phantom surface was set to 2 mm.
- The dipole input power (forward power) was 250 mW (below 2GHz) and 100 mW
- The results are normalized to 1 W input power.



Report No.: TMWK2305001421KS

Page: 27 / 91

Rev.: 02

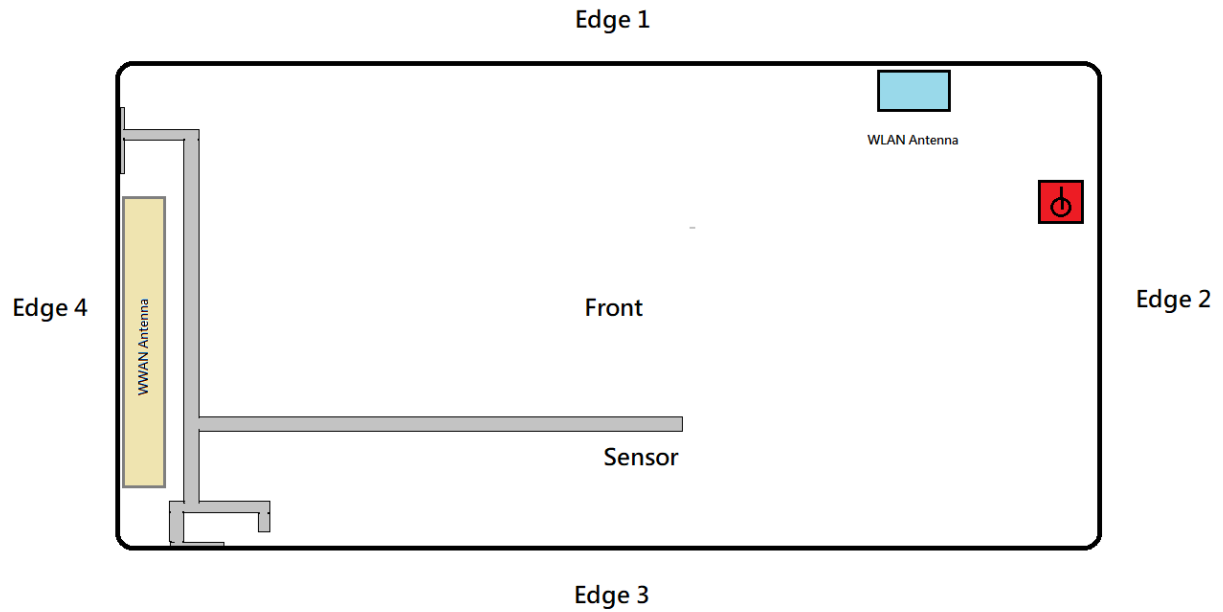
System Check Results

The 1-g and 10-g SAR measured with a reference dipole, using the required tissue-equivalent medium at the test frequency, must be within $\pm 10\%$ of the manufacturer calibrated dipole SAR target. Refer to Appendix 2 for the SAR System Check Plots.

Date	Tissue Type	Dipole S/N	Input Power (mW)	Measured 1g SAR (W/kg)	Targeted 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Delta 1g ± 10 (%)	Measured 10g SAR (W/kg)	Targeted 10g SAR (W/kg)	Normalized 10g SAR (W/kg)	Delta 10g ± 10 (%)	Plot No.
2023/10/24	Head	D750V3-1015	250	2.11	8.63	8.44	-2.20	1.40	5.56	5.6	0.72	1
2023/10/26	Head	D750V3-1015	250	2.06	8.63	8.24	-4.52	1.36	5.56	5.44	-2.16	2
2023/10/23	Head	D835V2-4d063	250	2.37	9.53	9.48	-0.52	1.57	6.11	6.28	2.78	3
2023/10/25	Head	D835V2-4d063	250	2.31	9.53	9.24	-3.04	1.53	6.11	6.12	0.16	4
2023/10/29	Head	D1750V2-1008	250	8.40	36.40	33.6	-7.69	4.50	19.40	18	-7.22	5
2023/11/2	Head	D1750V2-1008	250	9.13	36.40	36.52	0.33	4.89	19.40	19.56	0.82	6
2023/11/14	Head	D1750V2-1008	250	8.78	36.40	35.12	-3.52	4.71	19.40	18.84	-2.89	7
2023/10/28	Head	D1900V2-5d173	250	9.95	40.30	39.8	-1.24	5.21	20.90	20.84	-0.29	8
2023/10/31	Head	D1900V2-5d173	250	10.40	40.30	41.6	3.23	5.47	20.90	21.88	4.69	9
2023/11/13	Head	D1900V2-5d173	250	9.61	40.30	38.44	-4.62	5.04	20.90	20.16	-3.54	10
2023/11/6	Head	D2450V2-727	250	13.90	53.10	55.6	4.71	6.50	24.80	26	4.84	11
2023/10/30	Head	D2600V2-1005	250	13.50	55.40	54	-2.53	6.02	24.70	24.08	-2.51	12
2023/11/1	Head	D2600V2-1005	250	13.90	55.40	55.6	0.36	6.19	24.70	24.76	0.24	13
2023/11/3	Head	D2600V2-1005	250	13.40	55.40	53.6	-3.25	5.99	24.70	23.96	-3.00	14
2023/11/15	Head	D2600V2-1005	250	12.80	55.40	51.2	-7.58	5.75	24.70	23	-6.88	15
2023/11/17	Head	D2600V2-1005	250	13.10	55.40	52.4	-5.42	5.88	24.70	23.52	-4.78	16
2023/11/7	Head	D5GHzV2-1023-5250	100	8.56	80.50	85.6	6.34	2.43	22.90	24.3	6.11	17
2023/11/8	Head	D5GHzV2-1023-5600	100	8.48	83.80	84.8	1.19	2.38	23.70	23.8	0.42	18
2023/11/7	Head	D5GHzV2-1023-5750	100	8.16	80.40	81.6	1.49	2.30	22.60	23	1.77	19

8 Power Reduction by Proximity Sensing

The DUT has one proximity sensors to reduce the output power. The position of the sensors and antenna are as shown in the graphic.



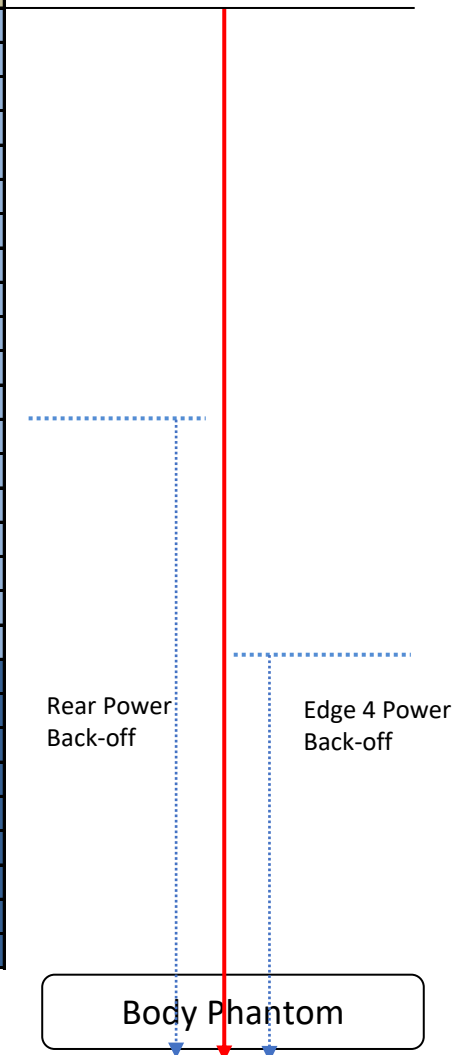
8.1 Proximity Sensor Triggering Distance (KDB 616217 D04 section 6.2)

Proximity sensor triggering distance testing was performed according to the procedures outlined in KDB 616217 D04 section 6.2, and EUT moving further away from the flat phantom and EUT moving toward the flat phantom were both assessed. The details are illustrated in the exhibit “P-Sensor operational description”, and the shortest triggering distances were reported and used for SAR assessment.

Proximity Sensor Status Table of trigger distance

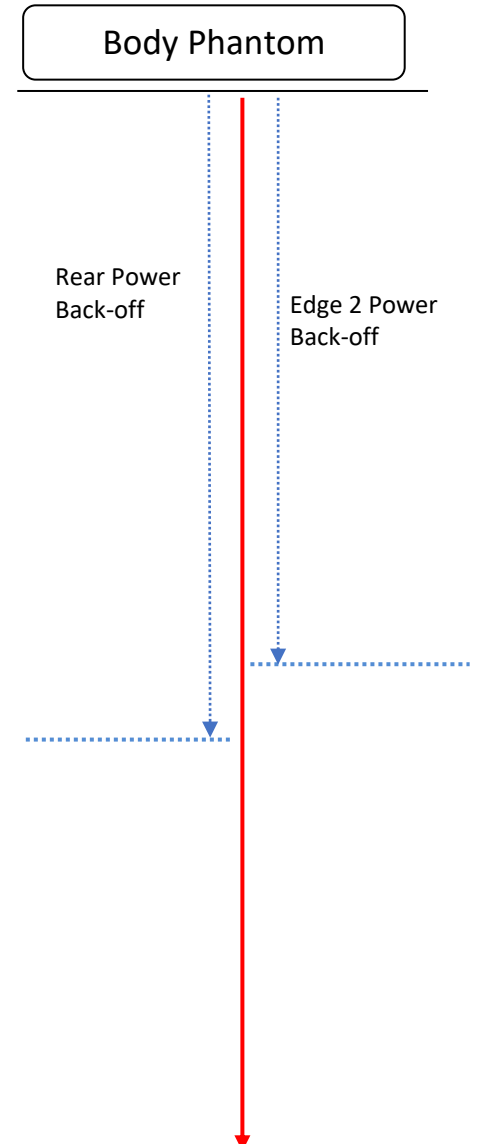
Proximity Sensor Status Table when DUT is moving towards the phantom

Distance to the DUT (mm)	Proximity Sensor Status – Rear Surface	Proximity Sensor Status – Edge 4
30	OFF	OFF
27	OFF	OFF
25	OFF	OFF
24	OFF	OFF
23	OFF	OFF
22	OFF	OFF
21	OFF	OFF
20	OFF	OFF
19	OFF	OFF
18	OFF	OFF
17	OFF	OFF
16	OFF	OFF
15	ON	OFF
14	ON	OFF
13	ON	OFF
12	ON	OFF
11	ON	OFF
10	ON	OFF
9	ON	OFF
8	ON	ON
7	ON	ON
6	ON	ON
5	ON	ON
4	ON	ON
3	ON	ON
2	ON	ON
1	ON	ON
0	ON	ON



Proximity Sensor Status Table when DUT is moving away from the phantom

Distance to the DUT (mm)	Proximity Sensor Status – Rear Surface	Proximity Sensor Status – Edge 4
0	ON	ON
1	ON	ON
2	ON	ON
3	ON	ON
4	ON	ON
5	ON	ON
6	ON	ON
7	ON	ON
8	ON	ON
9	ON	ON
10	ON	ON
11	ON	ON
12	ON	ON
13	ON	ON
14	ON	ON
15	ON	ON
16	ON	ON
17	ON	OFF
18	ON	OFF
19	OFF	OFF
20	OFF	OFF
21	OFF	OFF
22	OFF	OFF
23	OFF	OFF
24	OFF	OFF
25	OFF	OFF
27	OFF	OFF
30	OFF	OFF



Proximity Sensor Trigger Distance (mm)		
Position	Rear	Edge 4
Minimum	15	8



Report No.: TMWK2305001421KS

Page: 31 / 91

Rev.: 02

8.2 Proximity Sensor Triggering Coverage (KDB 616217 D04 section 6.3)

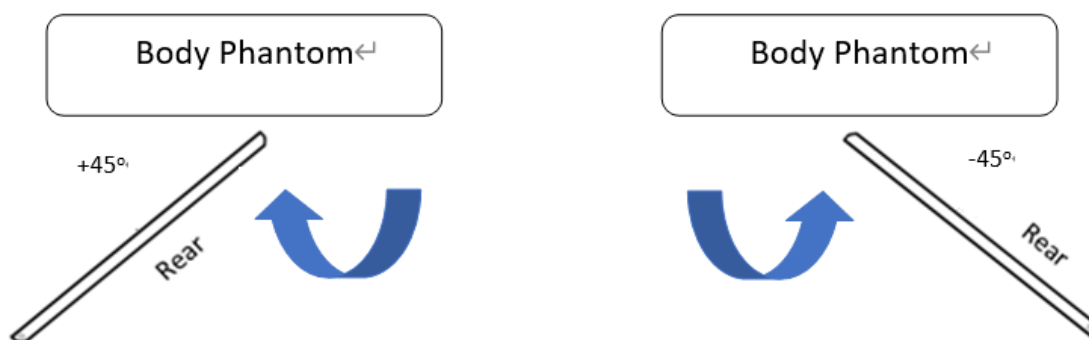
If a sensor is spatially offset from the antenna(s), it is necessary to verify sensor triggering for conditions where the antenna is next to the user but the sensor is laterally further away to ensure sensor coverage is sufficient for reducing the power to maintain compliance. For p-sensor coverage testing, the device is moved and “along the direction of maximum antenna and sensor offset”.

Although the sensor is spatially offset, there is no trigger condition where the antenna is next to the user but the sensor is laterally further away, therefore proximity sensor coverage testing is not required.

This procedure is not required because antenna and sensor are collocated and the peak SAR location is overlapping with the sensor.

8.3 Tilt angle influences to proximity sensor triggering (KDB 616217 D04 section 6.4)

The influence of table tilt angles to proximity sensor triggering was determined by positioning each tablet edge that contains a transmitting antenna, perpendicular to the flat phantom, at 4 mm separation. Rotating the tablet around the edge next to the phantom in $\leq 10^\circ$ increments until the tablet is $\pm 45^\circ$ from the vertical position at 0° , and the maximum output power remains in the reduced mode.



Distance to the DUT (mm)	Proximity Sensor Status 0° to +45°	Proximity Sensor Status 0° to -45°
20	OFF	OFF
19	OFF	OFF
18	OFF	OFF
17	OFF	OFF
16	OFF	ON
15	OFF	ON
14	OFF	ON
13	OFF	ON
12	OFF	ON
11	OFF	ON
10	OFF	ON
9	OFF	ON
8	OFF	ON
7	OFF	ON
6	OFF	ON
5	OFF	ON
4	ON	ON
3	ON	ON
2	ON	ON
1	ON	ON
0	ON	ON

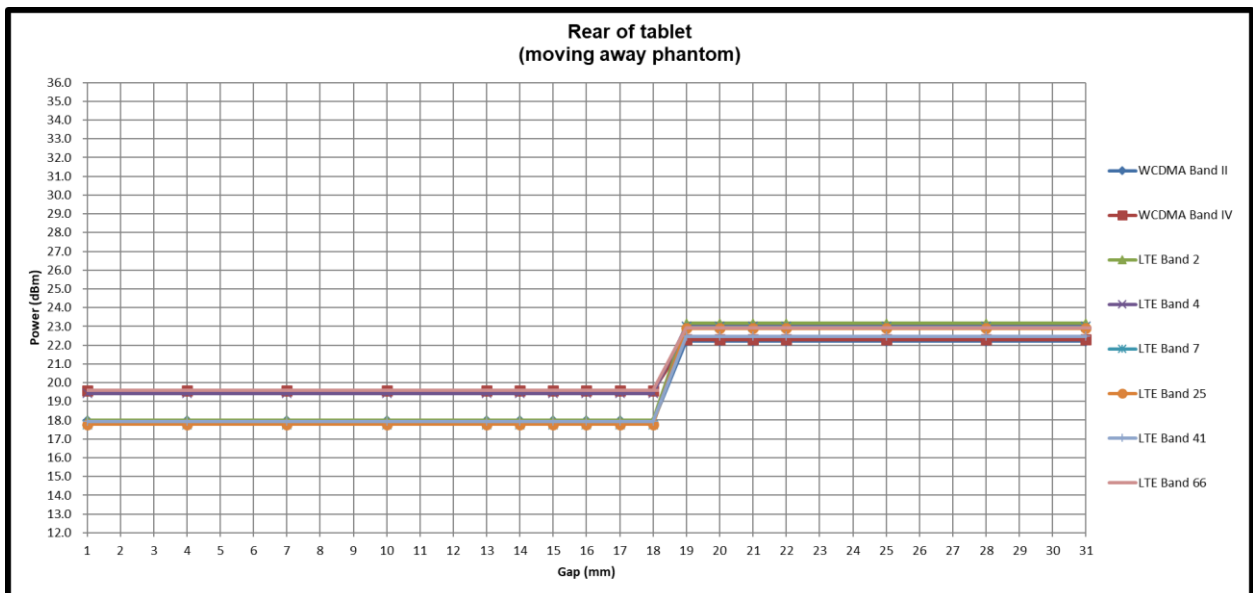
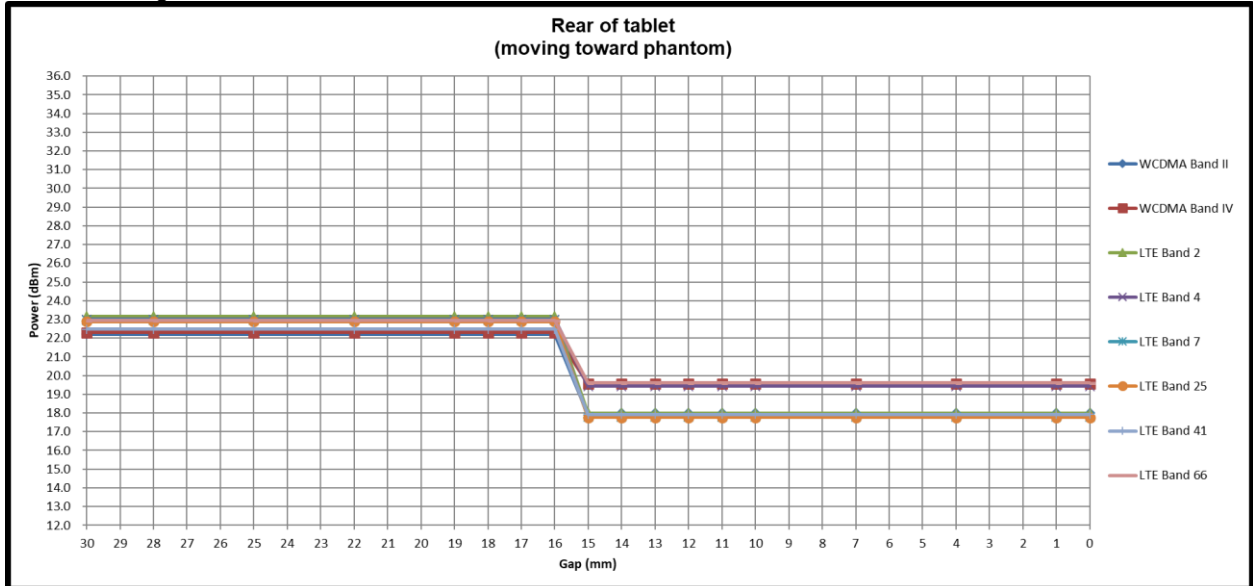
The Sensor Trigger Distance (mm)	
Position	Edge 4
Minimum	4

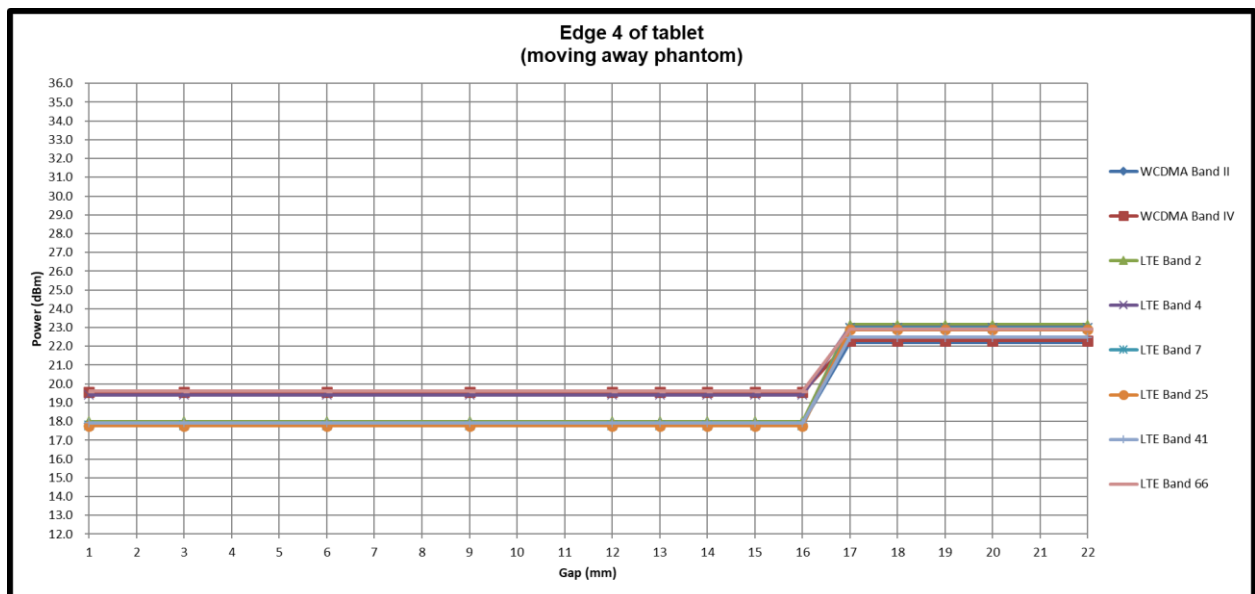
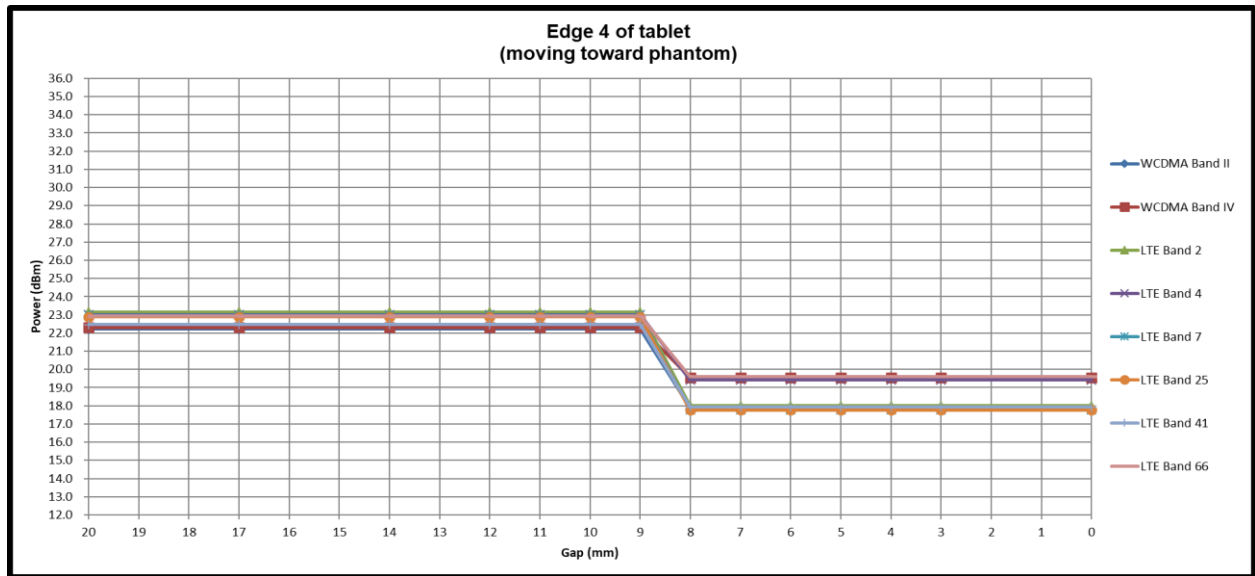
Remark:

- For verification of compliance of power reduction scheme, additional SAR testing with EUT transmitting at full RF power at a conservative trigger distance was performed:
Rear : 14 mm
Edge 4 : 3 mm

Power Reduction per Air-interface

The following graphs show the power level and the distance from the DUT to the flat phantom for the Rear and Edge 4 Surface.







Report No.: TMWK2305001421KS

Page: 35 / 91

Rev.: 02

9 Conducted Output Power Measurements

9.1 W-CDMA

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



Report No.: TMWK2305001421KS

Page: 36 / 91

Rev.: 02

W-CDMA Band II Measured Results

Band	Mode		UL Ch No.	Freq. (MHz)	Max. Meas. Avg Pwr (dBm)	Tune-up Limit	Reduced Meas. Avg Pwr (dBm)	Tune-up Limit
W-CDMA Band II	Rel 99	RMC, 12.2 kbps	9262	1852.4	22.49	23.0	17.79	18.5
			9400	1880.0	22.21		17.99	
			9538	1907.6	22.25		17.83	
	HSDPA	Subtest 1	9262	1852.4	22.37	23.0	17.78	18.5
			9400	1880.0	22.15		17.81	
			9538	1907.6	21.82		17.65	
		Subtest 2	9262	1852.4	22.33	23.0	17.68	18.5
			9400	1880.0	21.97		17.79	
			9538	1907.6	21.63		17.65	
		Subtest 3	9262	1852.4	22.32	22.5	17.69	18.5
			9400	1880.0	22.02		17.73	
			9538	1907.6	21.52		17.75	
		Subtest 4	9262	1852.4	22.30	22.5	17.65	18.5
			9400	1880.0	22.09		17.71	
			9538	1907.6	21.76		17.68	
	HSUPA	Subtest 1	9262	1852.4	21.90	23.0	17.75	18.5
			9400	1880.0	21.84		17.71	
			9538	1907.6	22.22		17.63	
		Subtest 2	9262	1852.4	21.85	22.0	17.72	18.5
			9400	1880.0	21.82		17.67	
			9538	1907.6	21.18		17.74	
		Subtest 3	9262	1852.4	21.87	22.0	17.73	18.5
			9400	1880.0	21.81		17.69	
			9538	1907.6	21.16		17.76	
		Subtest 4	9262	1852.4	21.88	22.0	17.67	18.5
			9400	1880.0	21.78		17.72	
			9538	1907.6	22.13		17.75	
		Subtest 5	9262	1852.4	21.82	23.0	17.77	18.5
			9400	1880.0	21.82		17.69	
			9538	1907.6	21.14		17.64	

W-CDMA Band IV Measured Results

Band	Mode		UL Ch No.	Freq. (MHz)	Max. Meas. Avg Pwr (dBm)	Tune-up Limit	Reduced Meas. Avg Pwr (dBm)	Tune-up Limit
W-CDMA Band IV	Rel 99	RMC, 12.2 kbps	1312	1712.4	22.16	23.0	19.62	20.0
			1413	1732.6	22.30		19.56	
			1513	1752.6	22.36		19.65	
	HSDPA	Subtest 1	1312	1712.4	21.18	22.0	19.47	20.0
			1413	1732.6	21.24		19.34	
			1513	1752.6	21.43		19.41	
		Subtest 2	1312	1712.4	21.14	22.0	19.39	20.0
			1413	1732.6	21.20		19.36	
			1513	1752.6	21.35		19.43	
		Subtest 3	1312	1712.4	21.08	21.5	19.41	20.0
			1413	1732.6	21.15		19.46	
			1513	1752.6	21.37		19.35	
		Subtest 4	1312	1712.4	21.12	21.5	19.32	20.0
			1413	1732.6	21.18		19.38	
			1513	1752.6	21.39		19.35	
	HSUPA	Subtest 1	1312	1712.4	20.74	22.0	19.35	20.0
			1413	1732.6	20.77		19.36	
			1513	1752.6	21.00		19.44	
		Subtest 2	1312	1712.4	20.68	21.0	19.45	20.0
			1413	1732.6	20.66		19.39	
			1513	1752.6	20.78		19.43	
		Subtest 3	1312	1712.4	20.70	21.0	19.45	20.0
			1413	1732.6	20.70		19.38	
			1513	1752.6	20.86		19.43	
		Subtest 4	1312	1712.4	20.65	21.0	19.41	20.0
			1413	1732.6	20.62		19.42	
			1513	1752.6	20.83		19.39	
		Subtest 5	1312	1712.4	20.63	22.0	19.46	20.0
			1413	1732.6	20.60		19.41	
			1513	1752.6	20.89		19.35	



Report No.: TMWK2305001421KS

Page: 38 / 91

Rev.: 02

W-CDMA Band V Measured Results

Band	Mode		UL Ch No.	Freq. (MHz)	Max. Meas. Avg Pwr (dBm)	Tune-up Limit
W-CDMA Band V	Rel 99	RMC, 12.2 kbps	4132	826.4	22.13	23.0
			4183	836.6	22.26	
			4233	846.6	22.42	
	HSDPA	Subtest 1	4132	826.4	21.18	22.0
			4183	836.6	21.30	
			4233	846.6	21.36	
		Subtest 2	4132	826.4	21.10	22.0
			4183	836.6	21.27	
			4233	846.6	21.28	
		Subtest 3	4132	826.4	21.06	21.5
			4183	836.6	21.20	
			4233	846.6	21.25	
		Subtest 4	4132	826.4	21.13	21.5
			4183	836.6	21.22	
			4233	846.6	21.21	
	HSUPA	Subtest 1	4132	826.4	20.76	22.0
			4183	836.6	20.81	
			4233	846.6	20.88	
		Subtest 2	4132	826.4	20.66	21.0
			4183	836.6	20.76	
			4233	846.6	20.82	
		Subtest 3	4132	826.4	20.71	21.0
			4183	836.6	20.70	
			4233	846.6	20.76	
		Subtest 4	4132	826.4	20.68	21.0
			4183	836.6	20.72	
			4233	846.6	20.85	
		Subtest 5	4132	826.4	20.69	22.0
			4183	836.6	20.71	
			4233	846.6	21.73	

9.2 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



Report No.: TMWK2305001421KS

Page: 40 / 91

Rev.: 02

LTE Band 2 Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	MFR	Max. Meas. Avg Pwr (dBm)			Tune-up Limit	MFR	Reduced Meas. Avg Pwr (dBm)			Tune-up Limit
						18700	18900	19100			18700	18900	19100	
						1860 MHz	1880 MHz	1900 MHz			1860 MHz	1880 MHz	1900 MHz	
LTE Band 2	20	QPSK	1	0	0	23.21	23.16	23.23	24.0	0	18.10	17.99	18.14	18.5
			1	49	0	23.54	23.43	23.65		0	17.96	17.91	18.12	
			1	99	0	23.61	23.47	23.33		0	18.09	17.81	17.93	
			50	0	1	22.63	22.53	22.30	23.0	0	17.76	17.80	17.92	18.5
			50	24	1	22.59	22.41	22.41		0	17.92	17.93	18.05	
			50	50	1	22.50	22.47	22.28		0	17.96	17.94	18.08	
		16QAM	100	0	1	22.55	22.56	22.35	23.0	0	17.81	17.81	18.13	18.5
			1	0	1	22.90	22.97	22.63		0	18.09	17.97	18.10	
			1	49	1	22.69	22.39	22.94		0	17.96	17.92	18.02	
			1	99	1	22.57	22.47	22.40	22.0	0	17.91	17.82	18.05	18.5
			50	0	2	21.60	21.38	21.28		0	17.97	17.87	18.04	
			50	24	2	21.62	21.36	21.37		0	17.94	17.82	17.95	
		64QAM	50	50	2	21.66	21.33	21.19	22.0	0	17.96	17.80	17.93	18.5
			100	0	2	21.64	21.41	21.26		0	17.84	17.73	17.96	
			1	0	2	21.63	21.45	21.39	22.0	0	18.04	17.97	18.07	18.5
			1	49	2	21.55	21.43	21.34		0	17.93	17.88	17.97	
			1	99	2	21.47	21.48	21.29		0	17.99	17.95	18.05	
			50	0	3	20.60	20.41	20.38	21.0	0	17.72	17.82	18.03	18.5
			50	24	3	20.61	20.39	20.32		0	17.92	17.98	18.02	
			50	50	3	20.57	20.38	20.35		0	17.85	17.81	17.93	
			100	0	3	20.49	20.32	20.31		0	17.91	17.77	17.96	
Band	BW (MHz)	Mode	RB Allocation	RB offset	MFR	Max. Meas. Avg Pwr (dBm)			Tune-up Limit	MFR	Reduced Meas. Avg Pwr (dBm)			Tune-up Limit
						18675	18900	19125			18675	18900	19125	
						1857.5 MHz	1880 MHz	1902.5 MHz			1857.5 MHz	1880 MHz	1902.5 MHz	
LTE Band 2	15	QPSK	1	0	0	23.04	22.86	22.91	24.0	0	18.04	17.86	17.96	18.5
			1	37	0	23.02	22.91	22.86		0	18.00	17.93	18.01	
			1	74	0	22.96	22.98	23.01		0	18.01	17.89	18.07	
			36	0	1	22.11	22.05	21.83	23.0	0	17.94	17.87	18.05	18.5
			36	20	1	22.02	21.86	21.91		0	17.98	17.88	18.02	
			36	39	1	21.99	21.96	21.90		0	17.91	17.88	18.00	
		16QAM	75	0	1	22.09	21.91	21.88	23.0	0	17.97	17.90	18.03	18.5
			1	0	1	21.97	22.02	21.83		0	17.91	17.92	18.10	
			1	37	1	22.03	21.98	21.94		0	17.92	17.95	18.08	
			1	74	1	22.12	21.90	21.91	22.0	0	18.09	17.88	18.12	18.5
			36	0	2	21.13	21.03	20.87		0	18.03	17.91	17.99	
			36	20	2	21.00	20.93	20.88		0	18.06	17.89	17.94	
		64QAM	36	39	2	20.95	20.89	20.94	22.0	0	17.93	17.80	18.07	18.5
			75	0	2	21.12	20.93	21.02		0	17.91	17.99	18.02	
			1	0	2	20.96	21.05	20.90	22.0	0	18.05	17.85	17.95	18.5
			1	37	2	20.93	20.96	20.98		0	17.94	17.86	17.97	
			1	74	2	21.06	20.96	20.82		0	17.93	17.98	18.10	
			36	0	3	19.97	20.00	19.97	21.0	0	17.88	17.90	18.01	18.5
			36	20	3	19.95	19.99	19.94		0	17.91	17.98	17.95	
			36	39	3	19.98	19.97	20.01		0	18.08	17.84	18.09	
			75	0	3	20.00	19.94	19.92		0	17.93	17.91	17.96	

**LTE Band 2 Measured Results (continued)**

Band	BW (MHz)	Mode	RB Allocation	RB offset	MFR	Max. Meas. Avg Pwr (dBm)			Tune-up Limit	MFR	Reduced Meas. Avg Pwr (dBm)			Tune-up Limit
						18650	18900	19150			18650	18900	19150	
						1855 MHz	1880 MHz	1905 MHz			1855 MHz	1880 MHz	1905 MHz	
LTE Band 2	10	QPSK	1	0	0	23.02	22.94	22.96	24.0	0	17.98	17.99	18.08	18.5
			1	25	0	23.09	22.99	22.95		0	17.94	17.80	18.00	
			1	49	0	23.10	22.85	22.98		0	17.95	17.86	17.98	
			25	0	1	22.10	21.98	21.86	23.0	0	18.04	17.83	18.10	18.5
			25	12	1	21.96	21.90	21.97		0	17.90	17.90	18.03	
			25	25	1	21.98	22.01	21.96		0	18.00	17.81	18.07	
		16QAM	50	0	1	22.13	22.01	21.86	23.0	0	17.96	17.94	18.03	18.5
			1	0	1	22.07	21.86	21.84		0	18.01	17.80	18.02	
			1	25	1	22.13	22.00	21.94		0	17.94	17.88	17.97	
			1	49	1	22.10	21.93	21.95	22.0	0	18.00	17.99	18.06	18.5
			25	0	2	20.99	20.90	21.01		0	17.91	17.99	18.10	
			25	12	2	21.03	21.02	21.01		0	17.99	17.87	18.12	
		64QAM	25	25	2	21.10	20.98	20.95	22.0	0	17.92	17.91	18.03	18.5
			50	0	2	21.07	21.03	20.93		0	17.93	17.99	18.02	
			1	0	2	21.00	20.95	20.91	21.0	0	17.91	17.89	18.04	18.5
			1	25	2	21.00	20.86	20.88		0	17.96	17.85	17.95	
			1	49	2	21.09	20.87	20.94		0	18.09	17.80	18.09	
			25	0	3	20.02	19.94	20.01	21.0	0	18.04	17.83	18.11	18.5
			25	12	3	19.93	19.91	19.96		0	18.02	17.98	18.04	
			25	25	3	19.99	20.00	20.01		0	17.96	17.93	18.03	
			50	0	3	20.11	20.00	19.93		0	17.91	17.83	17.94	
Band	BW (MHz)	Mode	RB Allocation	RB offset	MFR	Max. Meas. Avg Pwr (dBm)			Tune-up Limit	MFR	Reduced Meas. Avg Pwr (dBm)			Tune-up Limit
						18625	18900	19175			18625	18900	19175	
						1852.5 MHz	1880 MHz	1907.5 MHz			1852.5 MHz	1880 MHz	1907.5 MHz	
LTE Band 2	5	QPSK	1	0	0	22.96	22.90	22.92	24.0	0	17.95	17.91	17.97	18.5
			1	12	0	22.95	22.98	22.88		0	17.97	17.86	18.12	
			1	24	0	22.98	22.94	22.95		0	17.98	17.87	17.96	
			12	0	1	22.06	21.98	22.02	23.0	0	17.91	17.98	18.10	18.5
			12	7	1	22.09	21.88	21.98		0	17.85	17.87	17.96	
			12	13	1	21.95	22.04	21.93		0	18.07	17.86	18.12	
		16QAM	25	0	1	22.10	22.00	21.96	23.0	0	17.99	17.80	18.01	18.5
			1	0	1	22.06	21.96	21.93		0	18.05	17.88	17.98	
			1	12	1	22.07	22.02	21.98		0	17.95	17.80	18.06	
			1	24	1	22.09	22.02	21.85	22.0	0	17.96	17.89	17.95	18.5
			12	0	2	21.04	20.96	20.97		0	17.97	17.93	18.02	
			12	7	2	20.97	21.01	20.89		0	18.01	17.82	18.09	
		64QAM	12	13	2	20.99	20.91	20.87	22.0	0	17.92	17.85	17.93	18.5
			25	0	2	21.09	20.86	20.96		0	17.82	17.85	18.01	
			1	0	2	20.96	20.91	20.98	21.0	0	18.05	17.96	18.09	18.5
			1	12	2	21.07	20.94	20.89		0	17.92	17.84	18.01	
			1	24	2	21.07	20.86	21.00		0	17.98	17.90	18.02	
			12	0	3	19.94	19.93	20.01	21.0	0	17.93	17.92	18.00	18.5
			12	7	3	19.98	20.03	19.91		0	17.95	17.83	18.04	
			12	13	3	20.08	19.95	19.95		0	17.92	17.97	17.96	
			25	0	3	19.99	20.01	19.97		0	17.94	17.83	18.02	


LTE Band 2 Measured Results (continued)

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pwr (dBm)			Tune-up Limit	MPR	Reduced Meas. Avg Pwr (dBm)			Tune-up Limit
						18615	18900	19185			18615	18900	19185	
						1851.5 MHz	1880 MHz	1908.5 MHz			1851.5 MHz	1880 MHz	1908.5 MHz	
LTE Band 2	3	QPSK	1	0	0	23.03	22.85	22.85	24.0	0	17.90	17.98	18.03	18.5
			1	8	0	23.01	22.98	22.89		0	18.04	17.96	17.95	
			1	14	0	23.02	22.88	22.85		0	17.96	17.84	17.93	
			8	0	1	22.07	22.02	22.00	23.0	0	18.07	17.99	17.97	18.5
			8	4	1	22.01	21.99	21.94		0	17.98	17.81	17.95	
			8	7	1	22.10	22.01	21.92		0	18.05	17.97	17.99	
		16QAM	15	0	1	22.02	22.03	21.96	23.0	0	17.91	17.85	18.04	18.5
			1	0	1	22.04	21.96	21.94		0	17.99	17.87	18.05	
			1	8	1	22.12	22.04	21.93		0	18.01	17.85	17.95	
			1	14	1	22.03	21.96	21.93	22.0	0	18.08	17.92	18.09	18.5
			8	0	2	20.94	20.89	20.83		0	17.98	17.82	18.06	
			8	4	2	21.00	20.96	20.98		0	17.96	17.99	18.07	
		64QAM	8	7	2	21.10	20.95	20.96	22.0	0	17.95	17.91	18.09	18.5
			15	0	2	20.98	21.04	20.86		0	17.90	17.87	18.01	
			1	0	2	20.97	20.90	20.90	21.0	0	17.91	17.86	18.02	18.5
			1	8	2	21.03	21.03	20.96		0	18.04	17.86	18.10	
			1	14	2	21.03	20.98	20.90		0	18.05	17.89	17.95	
			8	0	3	20.07	20.02	19.89	21.0	0	17.90	17.83	18.08	18.5
			8	4	3	19.95	20.01	19.99		0	17.96	17.95	18.10	
			8	7	3	20.07	20.01	19.96		0	17.92	17.83	18.12	
			15	0	3	19.97	19.88	19.91		0	17.94	17.89	18.11	
Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pwr (dBm)			Tune-up Limit	MPR	Reduced Meas. Avg Pwr (dBm)			Tune-up Limit
						18607	18900	19193			18607	18900	19193	
						1850.7 MHz	1880 MHz	1909.3 MHz			1850.7 MHz	1880 MHz	1909.3 MHz	
LTE Band 2	1.4	QPSK	1	0	0	23.02	23.05	22.96	24.0	0	17.96	17.89	18.02	18.5
			1	3	0	22.95	22.88	22.89		0	18.01	17.80	18.08	
			1	5	0	23.06	22.88	22.99		0	18.04	17.87	17.96	
			3	0	0	23.03	22.92	22.93	24.0	0	17.92	17.85	18.02	18.5
			3	1	0	23.07	22.85	23.00		0	18.03	17.82	17.96	
			3	3	0	23.04	22.88	22.96		0	17.94	17.92	17.95	
		16QAM	6	0	1	22.11	21.94	21.95	23.0	0	17.93	17.88	18.12	18.5
			1	0	1	22.08	21.90	21.86	23.0	0	17.96	17.98	18.05	18.5
			1	3	1	22.03	21.93	21.91		0	17.97	17.84	17.98	
			1	5	1	22.04	21.94	21.95		0	18.09	17.89	18.06	
			3	0	1	22.00	21.87	22.02	23.0	0	17.96	17.85	18.02	18.5
			3	1	1	22.07	21.94	21.89		0	17.98	17.84	18.12	
			3	3	1	22.13	22.04	21.87		0	18.01	17.82	18.02	
		64QAM	6	0	2	20.97	20.89	21.01	22.0	0	18.04	17.99	17.95	18.5
			1	0	2	20.96	20.89	20.92	22.0	0	17.94	17.97	17.93	18.5
			1	3	2	20.97	20.85	20.88		0	17.95	17.82	18.04	
			1	5	2	20.99	20.86	20.84		0	17.92	17.97	17.95	
			3	0	2	20.96	21.02	21.02	22.0	0	18.06	17.82	18.07	18.5
			3	1	2	21.07	20.95	21.01		0	18.07	17.94	18.05	
			3	3	2	21.00	20.97	20.89		0	18.01	17.83	18.12	
			6	0	3	20.02	19.93	19.84	21.0	0	17.92	17.86	17.97	18.5



LTE Band 4 Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pwr (dBm)			Tune-up Limit	MPR	Reduced Meas. Avg Pwr (dBm)			Tune-up Limit		
						20050	20175	20300			20050	20175	20300			
						1720 MHz	1732.5 MHz	1745 MHz			1720 MHz	1732.5 MHz	1745 MHz			
LTE Band 4	20	QPSK	1	0	0	23.11	23.01	23.09	23.5	0	19.41	19.42	19.60	20.0		
			1	49	0	22.88	22.84	22.89		0	19.36	19.33	19.44			
			1	99	0	22.75	22.87	23.01		0	19.39	19.38	19.58			
			50	0	1	22.17	22.11	22.26	22.5	0	19.25	19.37	19.44	20.0		
			50	24	1	21.84	21.84	21.95		0	19.23	19.24	19.42			
			50	50	1	21.87	21.80	21.95		0	19.26	19.35	19.41			
		100	0	1	22.22	22.12	22.21	0	19.39	19.44	19.45					
		16QAM	1	0	1	22.37	22.29	22.36	22.5	0	19.24	19.33	19.54	20.0		
			1	49	1	22.11	22.18	22.37		0	19.39	19.25	19.40			
			1	99	1	22.21	22.15	22.16		0	19.37	19.35	19.46			
			50	0	2	20.71	20.94	20.86	21.5	0	19.41	19.38	19.42	20.0		
			50	24	2	20.86	20.81	21.01		0	19.24	19.33	19.47			
			50	50	2	20.72	20.79	20.88		0	19.32	19.36	19.44			
		64QAM	100	0	2	20.71	20.82	21.02	21.5	0	19.40	19.34	19.46	20.0		
			1	0	2	20.71	20.94	20.92		0	19.29	19.40	19.45			
			1	49	2	20.85	20.91	20.86		0	19.39	19.37	19.53			
			1	99	2	20.81	20.77	20.93	20.5	0	19.31	19.38	19.46	20.0		
			50	0	3	19.85	19.93	19.93		0	19.35	19.40	19.43			
			50	24	3	19.87	19.88	19.93		0	19.37	19.27	19.52			
			50	50	3	19.77	19.83	19.88	0	19.41	19.34	19.51				
			100	0	3	19.83	19.87	19.87	0	19.39	19.22	19.46				
		Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pwr (dBm)			Tune-up Limit	MPR	Reduced Meas. Avg Pwr (dBm)			Tune-up Limit
								20025	20175	20325			20025	20175	20325	
								1717.5 MHz	1732.5 MHz	1747.5 MHz			1717.5 MHz	1732.5 MHz	1747.5 MHz	
LTE Band 4	15	QPSK	1	0	0	22.80	22.90	22.90	23.5	0	19.32	19.30	19.50	20.0		
			1	37	0	22.81	22.81	22.89		0	19.38	19.26	19.44			
			1	74	0	22.69	22.84	22.94		0	19.23	19.29	19.41			
			36	0	1	21.80	21.84	21.95	22.5	0	19.32	19.33	19.43	20.0		
			36	20	1	21.72	21.89	21.95		0	19.24	19.26	19.55			
			36	39	1	21.85	21.95	21.86		0	19.30	19.28	19.44			
		75	0	1	21.69	21.79	21.83	0	19.34	19.24	19.47					
		16QAM	1	0	1	21.81	21.96	21.99	22.5	0	19.26	19.28	19.57	20.0		
			1	37	1	21.80	21.84	21.96		0	19.35	19.27	19.54			
			1	74	1	21.71	21.90	21.88		0	19.26	19.23	19.41			
			36	0	2	20.82	20.87	21.00	21.5	0	19.32	19.35	19.44	20.0		
			36	20	2	20.84	20.92	20.84		0	19.30	19.41	19.56			
			36	39	2	20.74	20.90	20.95		0	19.35	19.37	19.55			
		64QAM	75	0	2	20.76	20.90	20.84	21.5	0	19.36	19.22	19.57	20.0		
			1	0	2	20.71	20.90	20.97		0	19.26	19.39	19.47			
			1	37	2	20.82	20.96	20.95		0	19.28	19.32	19.55			
			1	74	2	20.74	20.95	20.91	20.5	0	19.38	19.22	19.45	20.0		
			36	0	3	19.88	19.78	19.90		0	19.41	19.36	19.43			
			36	20	3	19.74	19.78	20.02		0	19.25	19.32	19.45			
			36	39	3	19.85	19.79	20.00	0	19.34	19.39	19.41				
			75	0	3	19.84	19.91	19.88	0	19.35	19.28	19.57				


LTE Band 4 Measured Results (continued)

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pwr (dBm)			Tune-up Limit	MPR	Reduced Meas. Avg Pwr (dBm)			Tune-up Limit
						20000	20175	20350			20000	20175	20350	
						1715 MHz	1732.5 MHz	1750 MHz			1715 MHz	1732.5 MHz	1750 MHz	
LTE Band 4	10	QPSK	1	0	0	22.85	22.95	22.92	23.5	0	19.41	19.34	19.56	20.0
			1	25	0	22.76	22.78	22.93		0	19.37	19.35	19.52	
			1	49	0	22.78	22.77	22.92		0	19.36	19.38	19.47	
			25	0	1	21.88	21.82	21.86	22.5	0	19.34	19.37	19.48	20.0
			25	12	1	21.74	21.86	21.95		0	19.28	19.26	19.43	
			25	25	1	21.80	21.81	21.93		0	19.24	19.34	19.51	
		16QAM	50	0	1	21.80	21.82	21.89	22.5	0	19.22	19.40	19.53	20.0
			1	0	1	21.76	21.94	21.96		0	19.26	19.36	19.54	
			1	25	1	21.82	21.84	21.94		0	19.39	19.22	19.52	20.0
			1	49	1	21.82	21.88	21.86	21.5	0	19.27	19.33	19.53	
			25	0	2	20.79	20.79	20.88		0	19.25	19.26	19.42	20.0
			25	12	2	20.71	20.81	20.87		0	19.23	19.24	19.44	
		64QAM	25	25	2	20.71	20.76	20.92	21.5	0	19.33	19.23	19.57	20.0
			50	0	2	20.75	20.89	20.85		0	19.28	19.31	19.40	
			1	0	2	20.81	20.82	20.99	21.5	0	19.41	19.38	19.45	20.0
			1	25	2	20.77	20.89	20.92		0	19.39	19.25	19.57	
			1	49	2	20.71	20.76	21.02	20.5	0	19.30	19.33	19.55	20.0
			25	0	3	19.76	19.83	19.97		0	19.33	19.40	19.46	
LTE Band 4	5	QPSK	25	12	3	19.81	19.82	19.84	20.5	0	19.32	19.27	19.58	20.0
			25	25	3	19.83	19.86	19.95		0	19.30	19.29	19.56	
			50	0	3	19.80	19.91	20.03		0	19.22	19.41	19.52	
		16QAM	1	0	0	22.87	22.93	22.87	23.5	0	19.39	19.22	19.48	20.0
			1	12	0	22.71	22.76	22.96		0	19.40	19.35	19.45	
			1	24	0	22.77	22.77	22.90		0	19.29	19.24	19.49	20.0
			12	0	1	21.77	21.93	21.92	22.5	0	19.30	19.27	19.43	
			12	7	1	21.88	21.88	21.84		0	19.32	19.26	19.59	
		64QAM	12	13	1	21.80	21.92	21.97	22.5	0	19.41	19.40	19.45	20.0
			25	0	1	21.78	21.89	21.85		0	19.31	19.26	19.52	
			1	0	1	21.81	21.82	21.83	22.5	0	19.26	19.34	19.47	20.0
			1	12	1	21.79	21.79	22.02		0	19.40	19.41	19.45	
			1	24	1	21.89	21.91	21.84	21.5	0	19.25	19.40	19.46	20.0
			12	0	2	20.79	20.92	20.95		0	19.30	19.39	19.41	
		64QAM	12	7	2	20.79	20.78	21.01	21.5	0	19.32	19.37	19.39	20.0
			12	13	2	20.77	20.89	20.88		0	19.25	19.28	19.42	
			25	0	2	20.75	20.79	20.88	21.5	0	19.41	19.28	19.54	20.0
			1	0	2	20.81	20.94	20.96		0	19.35	19.23	19.40	20.0
			1	12	2	20.70	20.83	20.97	20.5	0	19.39	19.36	19.42	
			1	24	2	20.82	20.90	20.94		0	19.23	19.25	19.47	
		64QAM	12	0	3	19.76	19.91	20.01	20.5	0	19.39	19.28	19.42	20.0
			12	7	3	19.86	19.77	19.87		0	19.22	19.35	19.49	
			12	13	3	19.74	19.96	19.96		0	19.31	19.36	19.48	
			25	0	3	19.82	19.79	19.93		0	19.37	19.41	19.53	


LTE Band 4 Measured Results (continued)

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pwr (dBm)			Tune-up Limit	MPR	Reduced Meas. Avg Pwr (dBm)			Tune-up Limit
						19965	20175	20385			19965	20175	20385	
						1711.5 MHz	1732.5 MHz	1753.5 MHz			1711.5 MHz	1732.5 MHz	1753.5 MHz	
LTE Band 4	3	QPSK	1	0	0	22.73	22.92	22.96	23.5	0	19.22	19.40	19.45	20.0
			1	8	0	22.76	22.93	22.96		0	19.35	19.22	19.50	
			1	14	0	22.75	22.86	22.84		0	19.25	19.41	19.44	
			8	0	1	21.85	21.76	21.94	22.5	0	19.29	19.27	19.44	20.0
			8	4	1	21.80	21.91	21.99		0	19.23	19.33	19.57	
			8	7	1	21.88	21.77	21.89		0	19.30	19.24	19.59	
		16QAM	15	0	1	21.79	21.78	21.85	22.5	0	19.23	19.35	19.43	20.0
			1	0	1	21.89	21.77	21.87		0	19.32	19.31	19.45	
			1	8	1	21.72	21.90	21.89		0	19.28	19.38	19.55	20.0
			1	14	1	21.76	21.88	21.99	21.5	0	19.23	19.28	19.49	
			8	0	2	20.83	20.78	20.83		0	19.35	19.22	19.55	20.0
			8	4	2	20.88	20.94	20.83		0	19.34	19.22	19.40	
		64QAM	8	7	2	20.83	20.77	20.94	21.5	0	19.27	19.32	19.47	20.0
			15	0	2	20.72	20.84	20.93		0	19.40	19.35	19.48	
			1	0	2	20.76	20.92	20.90	21.5	0	19.29	19.27	19.42	20.0
			1	8	2	20.86	20.88	20.97		0	19.22	19.37	19.57	
			1	14	2	20.77	20.79	20.87	20.5	0	19.36	19.26	19.42	20.0
			8	0	3	19.85	19.76	19.90		0	19.34	19.41	19.45	
			8	4	3	19.72	19.91	19.96		0	19.36	19.31	19.42	20.0
			8	7	3	19.86	19.77	19.88		0	19.31	19.28	19.38	
			15	0	3	19.80	19.88	20.02		0	19.35	19.23	19.54	
Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pwr (dBm)			Tune-up Limit	MPR	Reduced Meas. Avg Pwr (dBm)			Tune-up Limit
						19957	20175	20393			19957	20175	20393	
						1710.7 MHz	1732.5 MHz	1754.3 MHz			1710.7 MHz	1732.5 MHz	1754.3 MHz	
LTE Band 4	1.4	QPSK	1	0	0	22.78	22.77	22.89	23.5	0	19.41	19.30	19.45	20.0
			1	3	0	22.75	22.89	22.91		0	19.24	19.39	19.58	
			1	5	0	22.75	22.84	22.92		0	19.36	19.41	19.51	20.0
			3	0	0	22.88	22.83	23.00	23.5	0	19.25	19.28	19.56	
			3	1	0	22.82	22.82	22.93		0	19.22	19.29	19.51	
			3	3	0	22.80	22.95	22.83		0	19.40	19.34	19.52	20.0
		16QAM	6	0	1	21.82	21.84	22.00	22.5	0	19.30	19.25	19.50	
			1	0	1	21.75	21.85	21.84	22.5	0	19.28	19.33	19.45	20.0
			1	3	1	21.86	21.82	21.99		0	19.36	19.38	19.57	
			1	5	1	21.73	21.79	21.95		0	19.32	19.41	19.46	20.0
			3	0	1	21.75	21.79	21.95	22.5	0	19.34	19.25	19.42	
			3	1	1	21.78	21.86	21.85		0	19.25	19.35	19.57	
		64QAM	3	3	1	21.71	21.82	21.88	21.5	0	19.33	19.25	19.59	20.0
			6	0	2	20.78	20.89	20.97		0	19.25	19.34	19.55	
			1	0	2	20.85	20.92	20.93	21.5	0	19.22	19.28	19.58	20.0
			1	3	2	20.78	20.96	21.00		0	19.38	19.39	19.51	
			1	5	2	20.71	20.92	20.91		0	19.35	19.31	19.53	20.0
			3	0	2	20.70	20.82	20.96	21.5	0	19.36	19.23	19.42	
			3	1	2	20.83	20.88	20.86		0	19.22	19.26	19.46	
			3	3	2	20.72	20.76	20.88		0	19.30	19.35	19.56	20.0
			6	0	3	19.71	19.83	19.95	20.5	0	19.22	19.28	19.45	

LTE Band 5 Measured Results

BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pwr (dBm)			Tune-up Limit
					20450	20525	20600	
					829 MHz	836.5 MHz	844 MHz	
10	QPSK	1	0	0	23.13	23.42	23.35	24.0
		1	25	0	23.02	23.26	23.30	
		1	49	0	22.97	23.30	23.27	
		25	0	1	22.14	22.26	22.27	23.0
		25	12	1	22.11	22.19	22.13	
		25	25	1	22.07	22.28	22.14	
		50	0	1	22.07	22.28	22.25	23.0
	16QAM	1	0	1	21.96	22.31	22.28	
		1	25	1	21.94	22.21	22.12	
		1	49	1	22.01	22.14	22.22	
		25	0	2	21.10	21.23	21.19	22.0
		25	12	2	21.13	21.19	21.20	
		25	25	2	20.94	21.24	21.28	
		50	0	2	21.06	21.22	21.25	22.0
	64QAM	1	0	2	20.96	21.15	21.21	
		1	25	2	21.07	21.30	21.14	
		1	49	2	21.09	21.31	21.20	
		25	0	3	20.12	20.27	20.28	21.0
		25	12	3	19.95	20.27	20.15	
		25	25	3	20.13	20.32	20.31	
		50	0	3	19.98	20.20	20.22	21.0
BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pwr (dBm)			Tune-up Limit
					20425	20525	20625	
					826.5 MHz	836.5 MHz	846.5 MHz	
5	QPSK	1	0	0	23.08	23.17	23.19	24.0
		1	12	0	23.08	23.28	23.31	
		1	24	0	23.11	23.19	23.19	
		12	0	1	22.08	22.17	22.19	23.0
		12	7	1	22.05	22.25	22.17	
		12	13	1	21.96	22.32	22.15	
		25	0	1	21.99	22.16	22.17	23.0
	16QAM	1	0	1	22.13	22.27	22.28	
		1	12	1	22.11	22.25	22.13	
		1	24	1	22.13	22.19	22.15	
		12	0	2	21.04	21.16	21.32	22.0
		12	7	2	20.96	21.31	21.21	
		12	13	2	21.04	21.23	21.12	
		25	0	2	21.09	21.32	21.18	22.0
	64QAM	1	0	2	20.97	21.27	21.28	
		1	12	2	21.03	21.33	21.22	
		1	24	2	21.03	21.19	21.30	
		12	0	3	20.05	20.33	20.13	21.0
		12	7	3	20.09	20.14	20.20	
		12	13	3	19.98	20.24	20.23	
		25	0	3	20.12	20.28	20.18	21.0

LTE Band 5 Measured Results (continued)

BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pwr (dBm)			Tune-up Limit
					20415	20525	20635	
					825.5 MHz	836.5 MHz	847.5 MHz	
3	QPSK	1	0	0	23.05	23.33	23.22	24.0
		1	8	0	23.03	23.32	23.14	
		1	14	0	23.01	23.23	23.21	
		8	0	1	22.06	22.33	22.19	23.0
		8	4	1	21.98	22.30	22.24	
		8	7	1	22.01	22.32	22.32	
		15	0	1	22.06	22.25	22.23	
	16QAM	1	0	1	21.95	22.27	22.15	23.0
		1	8	1	22.00	22.32	22.25	
		1	14	1	22.00	22.19	22.24	
		8	0	2	21.04	21.19	21.24	22.0
		8	4	2	20.99	21.15	21.20	
		8	7	2	20.97	21.17	21.26	
		15	0	2	21.00	21.31	21.30	
	64QAM	1	0	2	21.03	21.21	21.13	22.0
		1	8	2	21.13	21.27	21.15	
		1	14	2	20.97	21.16	21.18	
		8	0	3	19.99	20.27	20.19	21.0
		8	4	3	19.95	20.30	20.30	
		8	7	3	20.06	20.30	20.30	
		15	0	3	20.00	20.26	20.24	
BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pwr (dBm)			Tune-up Limit
					20407	20525	20643	
					824.7 MHz	836.5 MHz	848.3 MHz	
1.4	QPSK	1	0	0	23.10	23.23	23.13	24.0
		1	3	0	23.04	23.25	23.32	
		1	5	0	23.02	23.15	23.21	
		3	0	0	23.05	23.31	23.18	24.0
		3	1	0	22.96	23.32	23.24	
		3	3	0	23.05	23.20	23.12	
		6	0	1	22.06	22.31	22.21	23.0
	16QAM	1	0	1	22.14	22.30	22.20	23.0
		1	3	1	22.08	22.19	22.23	
		1	5	1	22.02	22.27	22.16	
		3	0	1	22.12	22.26	22.29	23.0
		3	1	1	21.95	22.20	22.27	
		3	3	1	22.04	22.25	22.24	
		6	0	2	21.12	21.17	21.29	22.0
	64QAM	1	0	2	20.97	21.26	21.31	22.0
		1	3	2	21.02	21.18	21.24	
		1	5	2	21.04	21.23	21.24	
		3	0	2	20.99	21.18	21.26	22.0
		3	1	2	20.99	21.25	21.18	
		3	3	2	20.99	21.33	21.27	
		6	0	3	20.06	20.21	20.21	21.0



LTE Band 7 Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pwr (dBm)			Tune-up Limit	MPR	Reduced Meas. Avg Pwr (dBm)			Tune-up Limit
						20850	21100	21350			20850	21100	21350	
						2510 MHz	2535 MHz	2560 MHz			2510 MHz	2535 MHz	2560 MHz	
LTE Band 7	20	QPSK	1	0	0	23.13	22.97	22.94	23.5	0	18.15	17.78	17.70	18.5
			1	49	0	22.76	22.79	22.78		0	18.11	17.50	17.68	
			1	99	0	22.71	22.86	22.80		0	18.12	17.56	17.59	
			50	0	1	22.12	21.81	21.76	22.5	0	17.98	17.73	17.66	18.5
			50	24	1	21.74	21.79	21.78		0	17.99	17.63	17.58	
			50	50	1	21.75	21.80	21.85		0	18.06	17.51	17.50	
		16QAM	100	0	1	21.98	21.82	21.73	22.5	0	18.06	17.77	17.67	18.5
			1	0	1	22.09	22.33	22.27		0	17.97	17.63	17.61	
			1	49	1	21.84	21.72	21.86		0	18.06	17.52	17.63	
			1	99	1	21.84	21.83	21.74	21.5	0	18.04	17.69	17.64	18.5
			50	0	2	20.90	20.89	20.79		0	18.07	17.54	17.59	
			50	24	2	20.80	20.83	20.87		0	18.14	17.57	17.60	
		64QAM	50	50	2	20.81	20.74	20.87	21.5	0	18.00	17.51	17.67	18.5
			100	0	2	20.88	20.85	20.70		0	18.12	17.64	17.54	
			1	0	2	21.29	21.23	21.13	21.5	0	18.11	17.63	17.62	18.5
			1	49	2	20.74	20.74	20.90		0	18.06	17.55	17.63	
			1	99	2	20.76	20.74	20.78	20.5	0	18.13	17.50	17.44	18.5
			50	0	3	19.80	19.77	19.76		0	18.05	17.69	17.51	
			50	24	3	19.81	19.87	19.89		0	18.07	17.52	17.62	18.5
			50	50	3	19.90	19.72	19.82		0	18.02	17.50	17.66	
			100	0	3	19.72	19.89	19.73		0	18.01	17.65	17.69	
Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pwr (dBm)			Tune-up Limit	MPR	Reduced Meas. Avg Pwr (dBm)			Tune-up Limit
						20825	21100	21375			20825.00	21100.00	21375.00	
						2507.5 MHz	2535 MHz	2562.5 MHz			2507.5 MHz	2535 MHz	2562.5 MHz	
LTE Band 7	15	QPSK	1	0	0	22.73	22.77	22.80	23.5	0	17.96	17.66	17.68	18.5
			1	37	0	22.89	22.71	22.75		0	17.95	17.52	17.63	
			1	74	0	22.73	22.85	22.83		0	18.12	17.53	17.54	
			36	0	1	21.79	21.88	21.83	22.5	0	18.07	17.52	17.56	18.5
			36	20	1	21.88	21.72	21.75		0	18.14	17.50	17.64	
			36	39	1	21.80	21.79	21.72		0	18.00	17.67	17.56	
		16QAM	75	0	1	21.83	21.81	21.72	22.5	0	18.11	17.51	17.58	18.5
			1	0	1	21.82	21.87	21.70		0	18.04	17.61	17.62	
			1	37	1	21.82	21.84	21.86		0	18.10	17.54	17.57	
			1	74	1	21.88	21.74	21.82	21.5	0	18.12	17.60	17.66	18.5
			36	0	2	20.70	20.88	20.89		0	17.98	17.58	17.55	
			36	20	2	20.75	20.73	20.89		0	18.13	17.57	17.63	
		64QAM	36	39	2	20.73	20.71	20.71	21.5	0	18.00	17.64	17.60	18.5
			75	0	2	20.80	20.89	20.79		0	18.08	17.65	17.51	
			1	0	2	20.82	20.80	20.85	21.5	0	17.99	17.66	17.64	18.5
			1	37	2	20.83	20.85	20.74		0	18.07	17.67	17.66	
			1	74	2	20.76	20.70	20.74	20.5	0	17.99	17.68	17.52	18.5
			36	0	3	19.87	19.72	19.84		0	18.05	17.60	17.60	
			36	20	3	19.76	19.83	19.85		0	18.10	17.62	17.69	
			36	39	3	19.71	19.83	19.71		0	18.00	17.57	17.63	
			75	0	3	19.78	19.73	19.80		0	18.04	17.59	17.64	


LTE Band 7 Measured Results (continued)

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pwr (dBm)			Tune-up Limit	MPR	Reduced Meas. Avg Pwr (dBm)			Tune-up Limit
						20800	21100	21400			20800	21100	21400	
						2505 MHz	2535 MHz	2565 MHz			2505 MHz	2535 MHz	2565 MHz	
LTE Band 7	10	QPSK	1	0	0	22.79	22.86	22.71	23.5	0	18.03	17.59	17.64	18.5
			1	25	0	22.83	22.86	22.81		0	18.01	17.55	17.54	
			1	49	0	22.88	22.82	22.84		0	18.13	17.60	17.56	
			25	0	1	21.80	21.82	21.87	22.5	0	17.95	17.54	17.64	18.5
			25	12	1	21.74	21.79	21.89		0	18.13	17.69	17.65	
			25	25	1	21.73	21.71	21.74		0	18.06	17.50	17.62	
		16QAM	50	0	1	21.83	21.71	21.74	22.5	0	18.13	17.59	17.54	18.5
			1	0	1	21.77	21.81	21.82		0	18.01	17.60	17.55	
			1	25	1	21.80	21.83	21.79		0	17.98	17.52	17.51	
			1	49	1	21.80	21.73	21.83	21.5	0	17.96	17.61	17.61	18.5
			25	0	2	20.72	20.73	20.78		0	18.12	17.55	17.63	
			25	12	2	20.81	20.88	20.78		0	18.14	17.61	17.66	
		64QAM	25	25	2	20.76	20.78	20.84	21.5	0	18.05	17.60	17.59	18.5
			50	0	2	20.83	20.74	20.85		0	18.10	17.52	17.58	
			1	0	2	20.71	20.89	20.87	21.5	0	18.05	17.50	17.58	18.5
			1	25	2	20.76	20.73	20.90		0	18.12	17.66	17.65	
			1	49	2	20.80	20.84	20.84	20.5	0	18.00	17.52	17.54	18.5
			25	0	3	19.72	19.79	19.73		0	17.96	17.53	17.56	
			25	12	3	19.78	19.89	19.76		0	17.95	17.62	17.58	
			25	25	3	19.85	19.74	19.76	20.5	0	18.02	17.66	17.64	18.5
			50	0	3	19.72	19.79	19.83		0	18.03	17.61	17.67	
Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pwr (dBm)			Tune-up Limit	MPR	Reduced Meas. Avg Pwr (dBm)			Tune-up Limit
						20775	21100	21425			20775	21100	21425	
						2502.5 MHz	2535 MHz	2567.5 MHz			2502.5 MHz	2535 MHz	2567.5 MHz	
LTE Band 7	5	QPSK	1	0	0	22.83	22.89	22.73	23.5	0	17.97	17.60	17.64	18.5
			1	12	0	22.78	22.70	22.89		0	18.04	17.66	17.59	
			1	24	0	22.78	22.72	22.74		0	18.01	17.57	17.63	
			12	0	1	21.75	21.77	21.84	22.5	0	18.07	17.56	17.58	18.5
			12	7	1	21.81	21.76	21.72		0	18.07	17.62	17.68	
			12	13	1	21.89	21.90	21.71		0	18.12	17.52	17.53	
		16QAM	25	0	1	21.87	21.71	21.86	22.5	0	18.00	17.62	17.54	18.5
			1	0	1	21.75	21.82	21.70		0	18.07	17.63	17.68	
			1	12	1	21.73	21.72	21.70		0	18.10	17.61	17.62	
			1	24	1	21.72	21.73	21.75	21.5	0	18.04	17.51	17.57	18.5
			12	0	2	20.85	20.85	20.78		0	18.01	17.63	17.60	
			12	7	2	20.86	20.79	20.76		0	18.07	17.69	17.56	
		64QAM	12	13	2	20.75	20.76	20.83	21.5	0	18.00	17.68	17.66	18.5
			25	0	2	20.83	20.78	20.78		0	18.14	17.50	17.64	
			1	0	2	20.73	20.86	20.70	21.5	0	17.96	17.66	17.56	18.5
			1	12	2	20.77	20.73	20.82		0	17.93	17.63	17.68	
			1	24	2	20.71	20.70	20.86	20.5	0	18.07	17.60	17.53	18.5
			12	0	3	19.75	19.89	19.87		0	18.01	17.62	17.58	
			12	7	3	19.80	19.75	19.76		0	18.04	17.68	17.55	
			12	13	3	19.84	19.84	19.89	20.5	0	18.01	17.69	17.53	18.5
			25	0	3	19.73	19.83	19.81		0	18.14	17.51	17.63	

LTE Band 12 Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pw r (dBm)			Tune-up Limit
						23060	23095	23130	
						704 MHz	707.5 MHz	711 MHz	
LTE Band 12	10	QPSK	1	0	0	23.06	22.90	23.07	23.5
			1	25	0	22.89	22.75	22.86	
			1	49	0	22.94	22.74	23.02	
			25	0	1	22.20	21.81	22.22	22.5
			25	12	1	21.83	21.72	22.03	
			25	25	1	22.00	21.73	21.87	
			50	0	1	21.99	22.22	21.96	
		16QAM	1	0	1	22.37	22.09	22.33	22.5
			1	25	1	21.98	21.72	22.03	
			1	49	1	21.86	21.65	21.90	
			25	0	2	20.94	20.66	21.03	21.5
			25	12	2	20.95	20.74	21.01	
			25	25	2	20.98	20.76	20.95	
			50	0	2	20.82	20.72	21.01	
		64QAM	1	0	2	20.99	20.69	20.82	21.5
			1	25	2	20.82	20.64	20.89	
			1	49	2	20.94	20.70	20.85	
			25	0	3	19.88	19.70	19.90	20.5
			25	12	3	19.89	19.66	19.86	
			25	25	3	19.90	19.68	19.87	
			50	0	3	19.95	19.84	19.90	
Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pw r (dBm)			Tune-up Limit
						23035	23095	23155	
						701.5 MHz	707.5 MHz	713.5 MHz	
LTE Band 12	5	QPSK	1	0	0	22.92	22.79	22.90	23.5
			1	12	0	22.87	22.69	22.93	
			1	24	0	22.84	22.82	22.96	
			12	0	1	21.88	21.69	21.88	22.5
			12	7	1	21.93	21.66	21.94	
			12	13	1	22.02	21.82	21.98	
			25	0	1	21.96	21.78	21.89	
		16QAM	1	0	1	21.94	21.68	21.92	22.5
			1	12	1	21.93	21.79	21.86	
			1	24	1	21.97	21.72	21.96	
			12	0	2	20.91	20.65	20.93	21.5
			12	7	2	21.00	20.79	20.98	
			12	13	2	20.95	20.82	20.93	
			25	0	2	20.87	20.75	20.97	
		64QAM	1	0	2	20.96	20.69	20.97	21.5
			1	12	2	21.01	20.77	20.91	
			1	24	2	20.88	20.66	20.95	
			12	0	3	20.00	19.84	19.94	20.5
			12	7	3	19.97	19.70	19.86	
			12	13	3	19.90	19.83	19.85	
			25	0	3	19.90	19.73	19.96	



Report No.: TMWK2305001421KS

Page: 51 / 91

Rev.: 02

LTE Band 12 Measured Results (continued)

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pw r (dBm)			Tune-up Limit
						23025	23095	23165	
						700.5 MHz	707.5 MHz	714.5 MHz	
LTE Band 12	3	QPSK	1	0	0	22.84	22.65	23.01	23.5
			1	8	0	22.88	22.68	23.00	
			1	14	0	22.89	22.65	22.87	
			8	0	1	22.02	21.72	21.94	22.5
			8	4	1	21.83	21.81	21.95	
			8	7	1	21.93	21.80	21.88	
			15	0	1	22.02	21.72	22.01	
		16QAM	1	0	1	21.86	21.64	21.85	22.5
			1	8	1	21.97	21.81	21.89	
			1	14	1	21.93	21.82	21.91	
			8	0	2	20.93	20.69	20.87	21.5
			8	4	2	20.86	20.76	20.85	
			8	7	2	20.86	20.80	20.96	
			15	0	2	20.87	20.74	20.88	
		64QAM	1	0	2	20.87	20.78	21.02	21.5
			1	8	2	20.96	20.71	20.95	
			1	14	2	20.94	20.64	20.96	
			8	0	3	19.83	19.78	20.05	20.5
			8	4	3	19.96	19.72	19.87	
			8	7	3	20.00	19.66	20.01	
			15	0	3	19.93	19.75	19.97	
Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pw r (dBm)			Tune-up Limit
						23017	23095	23173	
						699.7 MHz	707.5 MHz	715.3 MHz	
LTE Band 12	1.4	QPSK	1	0	0	22.86	22.76	22.96	23.5
			1	3	0	23.02	22.76	22.98	
			1	5	0	22.95	22.74	22.85	
			3	0	0	22.88	22.75	23.01	23.5
			3	1	0	22.99	22.64	23.02	
			3	3	0	22.86	22.75	22.99	
			6	0	1	21.95	21.72	21.93	22.5
		16QAM	1	0	1	21.96	21.73	21.89	22.5
			1	3	1	22.00	21.66	22.03	
			1	5	1	21.91	21.73	21.88	
			3	0	1	21.98	21.83	21.87	22.5
			3	1	1	21.94	21.69	21.87	
			3	3	1	22.02	21.74	21.95	
			6	0	2	20.87	20.64	20.99	21.5
		64QAM	1	0	2	20.86	20.77	20.86	21.5
			1	3	2	20.91	20.77	20.92	
			1	5	2	20.84	20.72	20.85	
			3	0	2	20.89	20.70	21.01	21.5
			3	1	2	20.96	20.83	20.97	
			3	3	2	20.83	20.81	20.93	
			6	0	3	19.90	19.68	20.03	20.5

LTE Band 13 Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pw r (dBm)			Tune-up Limit
							23230 782 MHz		
LTE Band 13	10	QPSK	1	0	0		23.02		23.5
			1	25	0		22.91		
			1	49	0		22.94		
			25	0	1		21.89		22.5
			25	12	1		21.99		
			25	25	1		21.93		
			50	0	1		21.94		
		16QAM	1	0	1		21.98		22.5
			1	25	1		21.93		
			1	49	1		21.96		
			25	0	2		21.00		21.5
			25	12	2		20.92		
			25	25	2		21.00		
			50	0	2		20.94		
		64QAM	1	0	2		20.93		21.5
			1	25	2		20.96		
			1	49	2		20.88		
			25	0	3		19.99		20.5
			25	12	3		19.94		
			25	25	3		19.91		
			50	0	3		20.02		
Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pw r (dBm)			Tune-up Limit
						23205 779.5 MHz	23230 782 MHz	23255 784.5 MHz	
LTE Band 13	5	QPSK	1	0	0	22.62	22.80	23.06	23.5
			1	12	0	22.59	22.64	22.94	
			1	24	0	22.60	22.53	22.97	
			12	0	1	21.45	21.54	21.90	22.5
			12	7	1	21.46	21.72	21.95	
			12	13	1	21.41	21.65	21.91	
			25	0	1	21.52	21.56	21.85	
		16QAM	1	0	1	21.50	21.65	21.94	22.5
			1	12	1	21.52	21.55	21.97	
			1	24	1	21.48	21.60	21.94	
			12	0	2	20.57	20.62	20.99	21.5
			12	7	2	20.42	20.71	20.97	
			12	13	2	20.41	20.54	20.82	
			25	0	2	20.46	20.63	20.97	
		64QAM	1	0	2	20.53	20.68	20.84	21.5
			1	12	2	20.41	20.71	20.94	
			1	24	2	20.45	20.68	20.85	
			12	0	3	19.56	19.67	19.98	20.5
			12	7	3	19.49	19.61	19.93	
			12	13	3	19.40	19.57	19.82	
			25	0	3	19.46	19.67	19.86	



Report No.: TMWK2305001421KS

Page: 53 / 91

Rev.: 02

LTE Band 14 Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pw r (dBm)			Tune-up Limit
							23330	793 MHz	
LTE Band 14	10	QPSK	1	0	0		23.45		24.0
			1	25	0		23.30		
			1	49	0		23.18		
			25	0	1		22.20		23.0
			25	12	1		22.09		
			25	25	1		22.11		
			50	0	1		22.14		
		16QAM	1	0	1		22.59		23.0
			1	25	1		22.23		
			1	49	1		22.32		
			25	0	2		21.36		22.0
			25	12	2		21.24		
			25	25	2		21.19		
			50	0	2		21.20		
		64QAM	1	0	2		21.22		22.0
			1	25	2		21.36		
			1	49	2		21.38		
			25	0	3		20.27		21.0
			25	12	3		20.36		
			25	25	3		20.26		
			50	0	3		20.23		
Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pw r (dBm)			Tune-up Limit
						23305	23330	23355	
						790.5 MHz	793 MHz	795.5 MHz	
LTE Band 14	5	QPSK	1	0	0	23.13	23.12	23.11	24.0
			1	12	0	22.84	22.90	22.91	
			1	24	0	22.85	22.87	22.92	
			12	0	1	21.95	21.94	21.84	23.0
			12	7	1	22.02	21.92	21.82	
			12	13	1	22.01	21.96	21.90	
			25	0	1	22.01	21.90	21.92	
		16QAM	1	0	1	21.86	21.83	21.95	23.0
			1	12	1	22.03	21.83	21.82	
			1	24	1	21.88	21.81	21.82	
			12	0	2	20.93	20.96	20.86	22.0
			12	7	2	21.02	20.99	20.89	
			12	13	2	20.91	20.93	20.88	
			25	0	2	20.99	20.91	20.80	
		64QAM	1	0	2	20.98	20.98	20.92	22.0
			1	12	2	20.92	20.81	20.93	
			1	24	2	20.87	20.94	20.89	
			12	0	3	19.85	19.82	19.96	21.0
			12	7	3	19.89	19.90	19.81	
			12	13	3	19.92	19.89	19.84	
			25	0	3	20.02	19.98	19.93	



Report No.: TMWK2305001421KS

Page: 54 / 91

Rev.: 02

LTE Band 17 Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pw r (dBm)			Tune-up Limit
						23780	23790	23800	
						709MHz	710 MHz	711 MHz	
LTE Band 17	10	QPSK	1	0	0	23.11	23.17	23.02	23.5
			1	25	0	22.93	23.08	22.65	
			1	49	0	22.99	23.16	22.78	
			25	0	1	21.95	22.06	21.76	22.5
			25	12	1	21.93	22.15	21.64	
			25	25	1	21.83	22.00	21.72	
			50	0	1	21.93	22.10	21.67	
		16QAM	1	0	1	21.83	22.07	21.76	22.5
			1	25	1	21.96	22.01	21.69	
			1	49	1	21.90	22.11	21.74	
			25	0	2	20.83	21.06	20.77	21.5
			25	12	2	20.96	21.08	20.78	
			25	25	2	20.98	21.09	20.78	
			50	0	2	20.88	21.04	20.70	
		64QAM	1	0	2	20.98	21.00	20.72	21.5
			1	25	2	20.96	21.11	20.74	
			1	49	2	20.96	21.06	20.73	
			25	0	3	19.94	20.04	19.64	20.5
			25	12	3	19.86	20.02	19.76	
			25	25	3	19.99	20.15	19.83	
			50	0	3	19.84	19.98	19.74	
Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pw r (dBm)			Tune-up Limit
						23755	23790	23825	
						706.5 MHz	710 MHz	713.5 MHz	
LTE Band 17	5	QPSK	1	0	0	22.90	23.14	22.80	23.5
			1	12	0	22.97	23.13	22.64	
			1	24	0	22.92	23.09	22.73	
			12	0	1	21.90	21.99	21.67	22.5
			12	7	1	21.98	22.12	21.69	
			12	13	1	21.96	22.05	21.80	
			25	0	1	21.97	22.09	21.64	
		16QAM	1	0	1	21.95	22.05	21.80	22.5
			1	12	1	21.99	21.99	21.81	
			1	24	1	21.82	21.98	21.69	
			12	0	2	20.95	20.98	20.64	21.5
			12	7	2	20.91	20.97	20.78	
			12	13	2	20.81	21.07	20.70	
			25	0	2	20.89	21.00	20.70	
		64QAM	1	0	2	20.94	21.01	20.64	21.5
			1	12	2	20.89	21.07	20.63	
			1	24	2	20.90	21.15	20.78	
			12	0	3	19.83	20.04	19.76	20.5
			12	7	3	19.90	20.12	19.70	
			12	13	3	19.93	20.01	19.76	
			25	0	3	19.95	20.08	19.70	



Report No.: TMWK2305001421KS

Page: 55 / 91

Rev.: 02

LTE Band 25 Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pwr (dBm)			Tune-up Limit	MPR	Reduced Meas. Avg Pwr (dBm)			Tune-up Limit
						26140	26365	26590			26140	26365	26590	
						1860 MHz	1882.5 MHz	1905 MHz			1860 MHz	1882.5 MHz	1905 MHz	
LTE Band 25	20	QPSK	1	0	0	22.89	22.89	23.16	23.5	0	17.75	17.77	18.15	18.5
			1	49	0	22.73	22.65	22.96		0	17.64	17.66	18.09	
			1	99	0	22.75	22.61	23.06		0	17.70	17.55	17.98	
			50	0	1	21.73	21.59	22.07	22.5	0	17.64	17.67	18.13	18.5
			50	24	1	21.79	21.66	22.06		0	17.65	17.73	17.95	
			50	50	1	21.72	21.63	22.05		0	17.61	17.68	18.02	
		16QAM	100	0	1	21.80	21.63	22.00	22.5	0	17.61	17.70	18.09	18.5
			1	0	1	21.80	21.73	21.96		0	17.71	17.73	18.03	
			1	49	1	21.63	21.57	22.01		0	17.62	17.61	18.00	
			1	99	1	21.78	21.67	21.97	21.5	0	17.69	17.67	18.07	18.5
			50	0	2	20.62	20.59	21.05		0	17.68	17.65	18.13	
			50	24	2	20.63	20.65	20.99		0	17.63	17.63	18.05	
		64QAM	50	50	2	20.65	20.76	20.97	21.5	0	17.62	17.74	18.03	18.5
			100	0	2	20.71	20.63	20.97		0	17.65	17.70	18.09	
			1	0	2	20.75	20.59	21.02	21.5	0	17.73	17.70	17.96	18.5
			1	49	2	20.60	20.68	20.97		0	17.63	17.67	18.08	
			1	99	2	20.75	20.73	20.98		0	17.59	17.69	18.12	
			50	0	3	19.78	19.69	20.01	20.5	0	17.69	17.65	17.95	18.5
			50	24	3	19.79	19.74	19.99		0	17.68	17.66	18.03	
			50	50	3	19.80	19.76	20.00		0	17.55	17.74	18.05	
			100	0	3	19.67	19.77	19.95		0	17.62	17.71	18.10	
Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pwr (dBm)			Tune-up Limit	MPR	Reduced Meas. Avg Pwr (dBm)			Tune-up Limit
						26115	26365	26615			26115	26365	26615	
						1857.5 MHz	1882.5 MHz	1907.5 MHz			1857.5 MHz	1882.5 MHz	1907.5 MHz	
LTE Band 25	15	QPSK	1	0	0	22.64	22.75	23.06	23.5	0	17.69	17.64	17.95	18.5
			1	37	0	22.64	22.65	22.91		0	17.73	17.71	18.05	
			1	74	0	22.66	22.67	23.08		0	17.62	17.59	18.13	
			36	0	1	21.70	21.63	22.03	22.5	0	17.66	17.55	17.96	18.5
			36	20	1	21.73	21.74	21.97		0	17.71	17.65	18.14	
			36	39	1	21.78	21.72	22.03		0	17.61	17.60	18.12	
		16QAM	75	0	1	21.64	21.65	21.95	22.5	0	17.74	17.58	17.95	18.5
			1	0	1	21.77	21.72	22.09		0	17.59	17.55	17.98	
			1	37	1	21.66	21.76	21.92		0	17.58	17.74	17.99	
			1	74	1	21.68	21.62	22.01	21.5	0	17.74	17.71	18.05	18.5
			36	0	2	20.63	20.76	21.01		0	17.73	17.70	18.13	
			36	20	2	20.74	20.60	21.00		0	17.57	17.72	17.95	
		64QAM	36	39	2	20.62	20.68	20.94	21.5	0	17.62	17.69	18.13	18.5
			75	0	2	20.74	20.63	20.95		0	17.68	17.69	18.11	
			1	0	2	20.70	20.63	20.97	21.5	0	17.66	17.62	18.13	18.5
			1	37	2	20.76	20.59	20.91		0	17.64	17.74	18.02	
			1	74	2	20.64	20.73	21.08		0	17.61	17.68	17.95	
			36	0	3	19.62	19.75	20.00	20.5	0	17.64	17.61	18.12	18.5
			36	20	3	19.62	19.57	20.09		0	17.66	17.67	18.10	
			36	39	3	19.62	19.76	20.07		0	17.63	17.62	18.11	
			75	0	3	19.77	19.75	20.00		0	17.74	17.68	18.01	


LTE Band 25 Measured Results (continued)

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pwr (dBm)			Tune-up Limit	MPR	Reduced Meas. Avg Pwr (dBm)			Tune-up Limit
						26090	26365	26640			26090	26365	26640	
						1855 MHz	1882.5 MHz	1910 MHz			1855 MHz	1882.5 MHz	1910 MHz	
LTE Band 25	10	QPSK	1	0	0	22.79	22.75	22.97	23.5	0	17.55	17.73	17.95	18.5
			1	25	0	22.75	22.68	22.97		0	17.66	17.74	17.98	
			1	49	0	22.73	22.66	23.07		0	17.69	17.60	17.93	
			25	0	1	21.71	21.60	21.95	22.5	0	17.63	17.65	17.97	18.5
			25	12	1	21.64	21.76	22.01		0	17.74	17.59	17.92	
			25	25	1	21.76	21.71	22.07		0	17.63	17.69	17.99	
		16QAM	50	0	1	21.79	21.69	22.06	22.5	0	17.67	17.65	18.13	18.5
			1	0	1	21.68	21.64	21.94		0	17.52	17.56	18.05	
			1	25	1	21.62	21.71	21.91		0	17.70	17.65	17.96	18.5
			1	49	1	21.66	21.64	22.01	21.5	0	17.64	17.72	18.12	
			25	0	2	20.64	20.68	21.00		0	17.67	17.66	18.04	
			25	12	2	20.62	20.62	20.99		0	17.61	17.70	18.09	18.5
		64QAM	25	25	2	20.74	20.57	21.03	21.5	0	17.56	17.73	18.10	
			50	0	2	20.65	20.76	21.04		0	17.58	17.67	18.14	
			1	0	2	20.67	20.57	21.02	21.5	0	17.58	17.70	17.98	18.5
			1	25	2	20.79	20.60	20.92		0	17.69	17.55	18.05	
			1	49	2	20.78	20.75	21.00	20.5	0	17.56	17.71	18.13	
			25	0	3	19.62	19.59	20.07		0	17.71	17.68	18.05	18.5
			25	12	3	19.65	19.67	19.98		0	17.67	17.60	18.14	
			25	25	3	19.68	19.62	19.99	20.5	0	17.69	17.68	18.07	
			50	0	3	19.76	19.69	20.06		0	17.61	17.55	17.98	
Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pwr (dBm)			Tune-up Limit	MPR	Reduced Meas. Avg Pwr (dBm)			Tune-up Limit
						26065	26365	26665			26065	26365	26665	
						1852.5 MHz	1882.5 MHz	1912.5 MHz			1852.5 MHz	1882.5 MHz	1912.5 MHz	
LTE Band 25	5	QPSK	1	0	0	22.65	22.58	22.97	23.5	0	17.71	17.66	18.05	18.5
			1	12	0	22.69	22.74	22.99		0	17.56	17.59	18.04	
			1	24	0	22.78	22.61	23.00		0	17.70	17.62	18.08	
			12	0	1	21.68	21.64	22.07	22.5	0	17.73	17.72	18.09	18.5
			12	7	1	21.71	21.65	21.99		0	17.61	17.62	18.02	
			12	13	1	21.66	21.57	22.04		0	17.68	17.66	17.95	
		16QAM	25	0	1	21.68	21.68	22.08	22.5	0	17.74	17.63	18.09	18.5
			1	0	1	21.71	21.63	21.90		0	17.55	17.67	18.11	
			1	12	1	21.72	21.75	21.96		0	17.74	17.65	18.12	18.5
			1	24	1	21.66	21.77	21.96	21.5	0	17.66	17.71	18.06	
			12	0	2	20.63	20.67	21.06		0	17.71	17.67	18.10	
			12	7	2	20.67	20.72	20.97		0	17.57	17.66	18.01	18.5
		64QAM	12	13	2	20.75	20.57	21.07	21.5	0	17.68	17.64	18.04	
			25	0	2	20.65	20.57	21.03		0	17.63	17.68	18.00	
			1	0	2	20.78	20.65	20.91	21.5	0	17.71	17.62	18.12	18.5
			1	12	2	20.64	20.77	20.97		0	17.55	17.57	18.00	
			1	24	2	20.75	20.74	20.98		0	17.55	17.73	18.08	
			12	0	3	19.66	19.63	20.03	20.5	0	17.62	17.66	17.97	18.5
			12	7	3	19.72	19.65	20.00		0	17.71	17.64	18.06	
			12	13	3	19.76	19.74	20.00		0	17.68	17.69	18.09	
			25	0	3	19.76	19.71	20.01		0	17.58	17.71	18.14	


LTE Band 25 Measured Results (continued)

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pwr (dBm)			Tune-up Limit	MPR	Reduced Meas. Avg Pwr (dBm)			Tune-up Limit
						26055	26365	26675			26055	26365	26675	
						1851.5 MHz	1882.5 MHz	1913.5 MHz			1851.5 MHz	1882.5 MHz	1913.5 MHz	
LTE Band 25	3	QPSK	1	0	0	22.64	22.61	23.03	23.5	0	17.65	17.69	17.97	18.5
			1	8	0	22.64	22.59	23.00		0	17.64	17.67	18.04	
			1	14	0	22.65	22.73	22.97		0	17.63	17.57	18.12	
			8	0	1	21.80	21.69	22.00	22.5	0	17.63	17.57	18.08	18.5
			8	4	1	21.67	21.60	22.00		0	17.60	17.69	17.96	
			8	7	1	21.78	21.76	22.03		0	17.67	17.68	18.04	
		16QAM	15	0	1	21.72	21.64	22.00	22.5	0	17.65	17.67	18.08	18.5
			1	0	1	21.76	21.59	22.03		0	17.59	17.64	18.01	
			1	8	1	21.76	21.62	21.96		0	17.60	17.55	17.98	
			1	14	1	21.68	21.62	22.01	21.5	0	17.62	17.65	18.10	18.5
			8	0	2	20.61	20.73	20.90		0	17.55	17.58	18.13	
			8	4	2	20.64	20.66	20.98		0	17.61	17.74	18.06	
		64QAM	8	7	2	20.77	20.75	21.04	21.5	0	17.59	17.55	18.06	18.5
			15	0	2	20.73	20.64	20.93		0	17.60	17.57	18.14	
			1	0	2	20.72	20.71	21.04	20.5	0	17.66	17.65	18.02	18.5
			1	8	2	20.65	20.75	21.09		0	17.56	17.60	18.03	
			1	14	2	20.77	20.71	20.94		0	17.60	17.59	17.99	
			8	0	3	19.75	19.59	19.91	20.5	0	17.61	17.56	18.00	18.5
			8	4	3	19.78	19.70	19.98		0	17.60	17.67	18.03	
			8	7	3	19.70	19.63	20.04		0	17.74	17.56	18.09	
			15	0	3	19.65	19.58	20.04		0	17.61	17.55	18.07	
Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pwr (dBm)			Tune-up Limit	MPR	Reduced Meas. Avg Pwr (dBm)			Tune-up Limit
						26047	26365	26683			26047	26365	26683	
						1850.7 MHz	1882.5 MHz	1914.3 MHz			1850.7 MHz	1882.5 MHz	1914.3 MHz	
LTE Band 25	1.4	QPSK	1	0	0	22.67	22.62	23.05	23.5	0	17.62	17.55	17.99	18.5
			1	3	0	22.61	22.74	23.06		0	17.59	17.62	18.01	
			1	5	0	22.60	22.67	22.91		0	17.65	17.64	17.95	
			3	0	0	22.72	22.68	22.98	23.5	0	17.57	17.66	18.04	18.5
			3	1	0	22.80	22.66	22.98		0	17.62	17.57	17.98	
			3	3	0	22.76	22.66	23.04		0	17.72	17.74	18.09	
		16QAM	6	0	1	21.64	21.60	21.91	22.5	0	17.71	17.62	18.13	18.5
			1	0	1	21.77	21.64	22.06	22.5	0	17.74	17.66	18.10	18.5
			1	3	1	21.80	21.71	21.99		0	17.59	17.57	18.10	
			1	5	1	21.73	21.71	21.92		0	17.70	17.62	18.14	
			3	0	1	21.69	21.74	21.95	22.5	0	17.67	17.56	18.11	18.5
			3	1	1	21.72	21.75	22.05		0	17.59	17.60	18.01	
		64QAM	3	3	1	21.77	21.75	21.95		0	17.58	17.74	18.03	
			6	0	2	20.65	20.70	20.97	21.5	0	17.67	17.60	18.12	18.5
			1	0	2	20.61	20.75	20.97	21.5	0	17.65	17.58	18.06	18.5
			1	3	2	20.62	20.58	20.90		0	17.65	17.69	18.04	
			1	5	2	20.63	20.69	21.03		0	17.72	17.57	18.09	
			3	0	2	20.63	20.69	21.03	21.5	0	17.57	17.56	18.04	18.5
			3	1	2	20.64	20.69	20.99		0	17.63	17.64	17.98	
			3	3	2	20.69	20.72	21.06		0	17.53	17.58	18.10	
			6	0	3	19.73	19.64	19.93	20.5	0	17.57	17.67	17.96	18.5



Report No.: TMWK2305001421KS

Page: 58 / 91

Rev.: 02

LTE Band 26 Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pw r (dBm)			Tune-up Limit
						26765	26865	26965	
						821.5 MHz	831.5 MHz	841.5 MHz	
LTE Band 26	15	QPSK	1	0	0	23.02	23.11	23.65	24.0
			1	37	0	22.80	22.96	23.38	
			1	74	0	22.80	22.94	23.47	
			36	0	1	21.96	22.01	22.41	23.0
			36	20	1	21.87	21.98	22.45	
			36	39	1	21.86	22.08	22.35	
			75	0	1	21.80	22.08	22.33	
		16QAM	1	0	1	21.89	22.01	22.29	23.0
			1	37	1	21.93	22.01	22.41	
			1	74	1	21.98	22.00	22.38	
			36	0	2	20.86	20.91	21.40	22.0
			36	20	2	20.93	21.08	21.31	
			36	39	2	20.87	20.91	21.36	
			75	0	2	20.94	20.97	21.29	
		64QAM	1	0	2	20.91	20.97	21.43	22.0
			1	37	2	20.91	21.04	21.38	
			1	74	2	20.84	20.96	21.39	
			36	0	3	19.98	20.05	20.34	21.0
			36	20	3	19.78	19.94	20.31	
			36	39	3	19.86	19.90	20.40	
			75	0	3	19.94	19.90	20.36	
Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pw r (dBm)			Tune-up Limit
						26740	26865	26990	
						819 MHz	831.5 MHz	844 MHz	
LTE Band 26	10	QPSK	1	0	0	22.94	22.98	23.30	24.0
			1	25	0	22.84	22.93	23.28	
			1	49	0	22.91	22.94	23.42	
			25	0	1	21.78	22.04	22.33	23.0
			25	12	1	21.81	22.06	22.28	
			25	25	1	21.80	21.94	22.37	
			50	0	1	21.91	22.00	22.39	
		16QAM	1	0	1	21.92	22.01	22.40	23.0
			1	25	1	21.85	22.05	22.29	
			1	49	1	21.89	22.05	22.36	
			25	0	2	20.79	20.94	21.46	22.0
			25	12	2	20.88	20.96	21.41	
			25	25	2	20.92	21.07	21.36	
			50	0	2	20.92	20.94	21.35	
		64QAM	1	0	2	20.85	20.90	21.32	22.0
			1	25	2	20.79	20.97	21.35	
			1	49	2	20.97	21.09	21.36	
			25	0	3	19.86	20.03	20.46	21.0
			25	12	3	19.88	20.07	20.34	
			25	25	3	19.86	20.00	20.34	
			50	0	3	19.85	19.90	20.41	



Report No.: TMWK2305001421KS

Page: 59 / 91

Rev.: 02

LTE Band 26 Measured Results (continued)

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pw r (dBm)			Tune-up Limit
						26715	26865	27015	
						816.5 MHz	831.5 MHz	846.5 MHz	
LTE Band 26	5	QPSK	1	0	0	22.92	22.99	23.33	24.0
			1	12	0	22.87	23.02	23.46	
			1	24	0	22.94	22.98	23.42	
			12	0	1	21.97	22.08	22.36	23.0
			12	7	1	21.93	21.92	22.32	
			12	13	1	21.97	22.01	22.34	
			25	0	1	21.81	22.07	22.39	
		16QAM	1	0	1	21.86	21.98	22.30	23.0
			1	12	1	21.81	21.98	22.36	
			1	24	1	21.88	21.95	22.47	
			12	0	2	20.87	20.96	21.44	22.0
			12	7	2	20.88	20.95	21.29	
			12	13	2	20.84	21.07	21.33	
			25	0	2	20.90	20.92	21.39	
		64QAM	1	0	2	20.86	20.95	21.45	22.0
			1	12	2	20.90	20.97	21.47	
			1	24	2	20.90	21.01	21.40	
			12	0	3	19.96	20.04	20.30	21.0
			12	7	3	19.84	19.92	20.38	
			12	13	3	19.92	20.09	20.33	
			25	0	3	19.85	19.92	20.44	
Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pw r (dBm)			Tune-up Limit
						26705	26865	27025	
						815.5 MHz	831.5 MHz	847.5 MHz	
LTE Band 26	3	QPSK	1	0	0	22.86	23.06	23.30	24.0
			1	8	0	22.94	22.97	23.38	
			1	14	0	22.84	23.02	23.31	
			8	0	1	21.92	22.02	22.37	23.0
			8	4	1	21.88	22.00	22.47	
			8	7	1	21.86	22.02	22.31	
			15	0	1	21.97	22.01	22.44	
		16QAM	1	0	1	21.80	22.00	22.30	23.0
			1	8	1	21.92	21.99	22.43	
			1	14	1	21.86	22.04	22.40	
			8	0	2	20.84	20.98	21.30	22.0
			8	4	2	20.96	21.07	21.47	
			8	7	2	20.95	21.10	21.41	
			15	0	2	20.78	20.94	21.44	
		64QAM	1	0	2	20.86	20.97	21.41	22.0
			1	8	2	20.83	20.92	21.43	
			1	14	2	20.80	20.94	21.39	
			8	0	3	19.80	19.92	20.34	21.0
			8	4	3	19.85	20.05	20.44	
			8	7	3	19.86	19.97	20.42	
			15	0	3	19.97	20.00	20.31	



Report No.: TMWK2305001421KS

Page: 60 / 91

Rev.: 02

LTE Band 26 Measured Results (continued)

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pwr (dBm)			Tune-up Limit
						26697	26865	27033	
						814.7 MHz	831.5 MHz	848.3 MHz	
LTE Band 26	1.4	QPSK	1	0	0	22.83	23.06	23.46	24.0
			1	3	0	22.93	23.03	23.38	
			1	5	0	22.86	23.07	23.43	
			3	0	0	22.81	22.92	23.29	24.0
			3	1	0	22.88	23.04	23.33	
			3	3	0	22.96	22.95	23.33	
			6	0	1	21.83	22.01	22.31	23.0
		16QAM	1	0	1	21.86	22.04	22.36	23.0
			1	3	1	21.81	22.00	22.35	
			1	5	1	21.85	21.93	22.36	
			3	0	1	21.80	22.01	22.42	23.0
			3	1	1	21.90	22.06	22.37	
			3	3	1	21.87	22.07	22.33	
			6	0	2	20.93	21.03	21.41	22.0
		64QAM	1	0	2	20.82	20.97	21.44	22.0
			1	3	2	20.84	20.99	21.32	
			1	5	2	20.97	20.95	21.32	
			3	0	2	20.79	20.99	21.39	22.0
			3	1	2	20.78	21.05	21.34	
			3	3	2	20.88	20.97	21.43	
			6	0	3	19.82	19.93	20.44	21.0



Report No.: TMWK2305001421KS

Page: 61 / 91

Rev.: 02

LTE Band 41 Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pwr (dBm)					Tune-up Limit	MPR	Reduced Meas. Avg Pwr (dBm)					Tune-up Limit
						39750	40185	40620	41055	41490			39750	40185	40620	41055	41490	
						2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz			2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz	
LTE Band 41	20	QPSK	1	0	0	22.86	22.58	22.47	22.46	21.69	23.5	0	18.03	18.02	17.93	17.81	17.60	18.5
			1	49	0	22.77	22.39	22.21	22.34	21.55		0	17.75	17.72	17.82	17.74	17.54	
			1	99	0	22.60	22.53	22.27	22.41	21.59		0	17.72	17.74	17.84	17.66	17.42	
			50	0	1	21.69	21.36	21.37	21.70	21.68	22.5	0	17.95	17.99	17.91	18.02	17.53	18.5
			50	24	1	21.78	21.47	21.33	21.50	21.55		0	17.80	17.68	17.76	17.58	17.52	
			50	50	1	21.67	21.51	21.27	21.47	21.48		0	17.75	17.65	17.67	17.61	17.58	
		16QAM	100	0	1	21.75	21.37	21.28	21.41	21.57	22.5	0	17.85	17.94	17.84	17.93	17.58	18.5
			1	0	1	21.98	21.36	21.45	21.28	21.01		0	17.72	17.78	17.70	17.65	17.54	
			1	49	1	21.73	21.00	21.19	21.07	20.66		0	17.71	17.67	17.72	17.59	17.50	
			1	99	1	21.71	21.05	21.01	21.12	20.58	21.5	0	17.77	17.72	17.78	17.68	17.44	18.5
			50	0	2	21.37	20.64	21.09	21.25	20.48		0	17.76	17.65	17.67	17.74	17.41	
			50	24	2	21.34	20.66	21.06	21.18	20.49		0	17.75	17.82	17.71	17.60	17.58	
		64QAM	50	50	2	21.31	20.73	20.97	21.19	20.64	21.5	0	17.83	17.74	17.79	17.59	17.50	18.5
			100	0	2	21.29	20.84	21.03	21.19	20.53		0	17.73	17.79	17.66	17.65	17.48	
			1	0	2	21.32	21.06	21.32	21.43	20.89	21.5	0	17.83	17.72	17.69	17.54	17.57	18.5
			1	49	2	21.39	20.90	21.07	20.98	20.58		0	17.74	17.65	17.69	17.57	17.43	
			1	99	2	21.36	20.64	20.95	21.14	20.62		0	17.82	17.66	17.72	17.74	17.50	
			50	0	3	20.34	20.05	20.06	20.38	20.39	20.5	0	17.80	17.65	17.66	17.62	17.42	18.5
			50	24	3	20.28	20.17	20.18	20.29	20.30		0	17.72	17.79	17.69	17.71	17.47	
			50	50	3	20.18	20.05	20.13	20.40	20.42		0	17.73	17.68	17.67	17.69	17.40	
			100	0	3	20.39	20.41	20.39	20.46	20.41		0	17.79	17.78	17.73	17.65	17.59	
Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pwr (dBm)					Tune-up Limit	MPR	Reduced Meas. Avg Pwr (dBm)					Tune-up Limit
						39750	40185	40620	41055	41490			39750	40185	40620	41055	41490	
						2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz			2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz	
LTE Band 41	15	QPSK	1	0	0	22.80	22.28	22.24	22.15	21.52	23.5	0	17.73	17.82	17.68	17.61	17.49	18.5
			1	37	0	22.66	22.08	22.18	22.10	21.51		0	17.76	17.80	17.66	17.71	17.45	
			1	74	0	22.32	22.26	22.10	22.24	21.50		0	17.81	17.71	17.79	17.66	17.51	
			36	0	1	21.62	21.20	21.25	21.52	21.54	22.5	0	17.79	17.65	17.77	17.56	17.41	18.5
			36	20	1	21.61	21.30	21.01	21.29	21.37		0	17.74	17.78	17.81	17.64	17.44	
			36	39	1	21.39	21.20	20.97	21.15	21.29		0	17.72	17.75	17.76	17.70	17.41	
		16QAM	75	0	1	21.48	21.11	21.10	21.37	21.51	22.5	0	17.75	17.77	17.65	17.68	17.40	18.5
			1	0	1	21.87	21.25	21.30	21.16	20.71		0	17.84	17.67	17.78	17.62	17.49	
			1	37	1	21.60	20.97	21.01	20.92	20.56		0	17.83	17.81	17.75	17.63	17.56	
			1	74	1	21.55	20.95	20.97	20.79	20.52	21.5	0	17.72	17.82	17.78	17.64	17.59	18.5
			36	0	2	21.14	20.35	21.03	21.04	20.19		0	17.69	17.84	17.84	17.72	17.44	
			36	20	2	21.23	20.41	21.00	21.08	20.31		0	17.84	17.71	17.78	17.69	17.54	
		64QAM	36	39	2	21.03	20.41	20.65	20.87	20.34	21.5	0	17.73	17.75	17.70	17.65	17.50	18.5
			75	0	2	21.25	20.62	20.99	21.13	20.22		0	17.72	17.71	17.74	17.60	17.42	
			1	0	2	21.33	20.80	21.06	21.34	20.61		0	17.72	17.78	17.73	17.65	17.51	
			1	37	2	21.13	20.65	21.02	20.89	20.31	21.5	0	17.69	17.66	17.70	17.56	17.43	18.5
			1	74	2	21.15	20.47	20.85	21.05	20.52		0	17.70	17.72	17.67	17.66	17.47	
			36	0	3	20.15	19.90	19.86	20.41	20.17	20.5	0	17.66	17.70	17.79	17.57	17.43	18.5
			36	20	3	20.37	19.91	20.10	20.32	20.16		0	17.69	17.73	17.74	17.62	17.58	
			36	39	3	20.39	19.74	19.88	20.40	20.34		0	17.82	17.75	17.77	17.59	17.43	
			75	0	3	20.45	20.28	20.25	20.40	20.38		0	17.80	17.69	17.81	17.66	17.58	



Report No.: TMWK2305001421KS

Page: 62 / 91

Rev.: 02

LTE Band 41 Measured Results (continued)

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pwr (dBm)					Tune-up Limit	MPR	Reduced Meas. Avg Pwr (dBm)					Tune-up Limit
						39750	40185	40620	41055	41490			39750	40185	40620	41055	41490	
						2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz			2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz	
LTE Band 41	10	QPSK	1	0	0	22.81	22.33	22.40	22.40	21.57	23.5	0	17.67	17.76	17.80	17.66	17.44	18.5
			1	25	0	22.53	22.28	21.95	22.23	21.53		0	17.72	17.67	17.81	17.74	17.42	
			1	49	0	22.51	22.28	22.14	22.21	21.52		0	17.70	17.75	17.78	17.72	17.49	
			25	0	1	21.64	21.18	21.09	21.43	21.57	22.5	0	17.83	17.77	17.76	17.65	17.43	18.5
			25	12	1	21.66	21.43	21.22	21.20	21.49		0	17.68	17.82	17.67	17.65	17.41	
			25	25	1	21.56	21.26	21.00	21.39	21.30		0	17.76	17.67	17.80	17.69	17.46	
		16QAM	50	0	1	21.43	21.17	21.18	21.18	21.44	22.5	0	17.67	17.83	17.68	17.58	17.54	18.5
			1	0	1	21.73	21.13	21.20	20.97	20.92		0	17.66	17.72	17.66	17.74	17.41	
			1	25	1	21.45	20.77	21.07	20.77	20.56		0	17.82	17.75	17.70	17.56	17.44	
			1	49	1	21.64	20.80	20.89	20.80	20.51	21.5	0	17.78	17.65	17.83	17.60	17.47	18.5
			25	0	2	21.11	20.48	20.84	21.17	20.38		0	17.68	17.66	17.71	17.56	17.52	
			25	12	2	21.02	20.48	20.79	21.12	20.32		0	17.70	17.76	17.67	17.63	17.45	
		64QAM	25	25	2	21.10	20.41	20.64	20.94	20.36	21.5	0	17.79	17.82	17.70	17.72	17.52	18.5
			50	0	2	21.10	20.79	20.95	20.88	20.37		0	17.76	17.71	17.78	17.68	17.46	
			1	0	2	21.43	21.01	21.11	21.36	20.80	21.5	0	17.77	17.65	17.72	17.62	17.41	18.5
			1	25	2	21.28	20.82	20.82	20.94	20.45		0	17.65	17.67	17.82	17.63	17.58	
			1	49	2	21.25	20.35	20.80	20.97	20.46		0	17.80	17.80	17.73	17.63	17.53	
			25	0	3	20.12	19.72	19.85	20.41	20.27	20.5	0	17.74	17.73	17.67	17.56	17.44	18.5
			25	12	3	20.41	19.93	19.88	20.29	20.27		0	17.78	17.65	17.69	17.71	17.43	
			25	25	3	20.25	19.82	20.01	20.40	20.28		0	17.74	17.81	17.80	17.72	17.53	
			50	0	3	20.38	20.25	20.25	20.42	20.39		0	17.70	17.78	17.76	17.66	17.48	
Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pwr (dBm)					Tune-up Limit	MPR	Reduced Meas. Avg Pwr (dBm)					Tune-up Limit
						39750	40185	40620	41055	41490			39750	40185	40620	41055	41490	
						2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz			2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz	
LTE Band 41	5	QPSK	1	0	0	22.74	22.44	22.27	22.36	21.70	23.5	0	17.81	17.66	17.70	17.64	17.51	18.5
			1	12	0	22.67	22.15	22.08	22.11	21.60		0	17.71	17.84	17.75	17.65	17.57	
			1	24	0	22.34	22.50	22.10	22.20	21.59		0	17.75	17.73	17.78	17.56	17.43	
			12	0	1	21.41	21.15	21.05	21.61	21.46	22.5	0	17.82	17.79	17.78	17.64	17.49	18.5
			12	7	1	21.69	21.26	21.14	21.38	21.37		0	17.70	17.78	17.83	17.63	17.42	
			12	13	1	21.46	21.40	21.20	21.26	21.37		0	17.74	17.71	17.84	17.59	17.56	
		16QAM	25	0	1	21.69	21.26	21.13	21.09	21.37	22.5	0	17.80	17.69	17.76	17.63	17.48	18.5
			1	0	1	21.92	21.22	21.27	21.09	20.90		0	17.84	17.68	17.67	17.56	17.40	
			1	12	1	21.52	20.77	20.88	21.02	20.59		0	17.77	17.78	17.73	17.75	17.42	
			1	24	1	21.47	20.73	20.73	21.04	20.54	21.5	0	17.66	17.66	17.69	17.57	17.54	18.5
			12	0	2	21.27	20.43	21.04	21.19	20.30		0	17.68	17.79	17.70	17.62	17.48	
			12	7	2	21.02	20.49	20.90	21.04	20.22		0	17.82	17.80	17.71	17.72	17.58	
		64QAM	12	13	2	21.12	20.67	20.88	21.07	20.38	21.5	0	17.80	17.75	17.78	17.59	17.57	18.5
			25	0	2	21.23	20.73	20.71	21.13	20.36		0	17.66	17.83	17.76	17.74	17.45	
			1	0	2	21.43	20.90	21.19	21.26	20.84	21.5	0	17.82	17.78	17.76	17.58	17.51	18.5
			1	12	2	21.23	20.59	20.81	20.74	20.40		0	17.75	17.76	17.69	17.67	17.55	
			1	24	2	21.09	20.56	20.75	20.87	20.42	20.5	0	17.81	17.67	17.66	17.70	17.54	18.5
			12	0	3	20.14	19.93	19.93	20.29	20.17		0	17.73	17.78	17.77	17.56	17.46	
			12	7	3	20.31	19.84	20.13	20.35	20.04		0	17.67	17.65	17.75	17.72	17.50	
			12	13	3	20.40	19.79	19.86	20.19	20.48	20.5	0	17.70	17.76	17.82	17.68	17.49	18.5
			25	0	3	20.45	20.34	20.32	20.43	20.43		0	17.77	17.72	17.69	17.75	17.41	



Report No.: TMWK2305001421KS

Page: 63 / 91

Rev.: 02

LTE Band 66 Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pwr (dBm)			Tune-up Limit	MPR	Reduced Meas. Avg Pwr (dBm)			Tune-up Limit
						132072	132322	132572			132072	132322	132572	
						1720 MHz	1745 MHz	1770 MHz			1720 MHz	1745 MHz	1770 MHz	
LTE Band 66	20	QPSK	1	0	0	22.99	22.93	22.88	23.5	0	19.53	19.61	19.54	20.0
			1	49	0	22.76	22.58	22.69		0	19.47	19.36	19.49	
			1	99	0	22.73	22.69	22.68		0	19.43	19.49	19.47	
			50	0	1	21.76	21.60	21.73	22.5	0	19.22	19.41	19.23	20.0
			50	24	1	21.72	21.61	21.57		0	19.34	19.35	19.44	
			50	50	1	21.69	21.75	21.74		0	19.32	19.38	19.34	
		16QAM	100	0	1	21.76	21.60	21.68	22.5	0	19.47	19.57	19.41	20.0
			1	0	1	21.71	21.65	21.68		0	19.46	19.36	19.45	
			1	49	1	21.75	21.77	21.67		0	19.37	19.51	19.50	20.0
			1	99	1	21.63	21.77	21.71	21.5	0	19.38	19.34	19.48	
			50	0	2	20.64	20.75	20.74		0	19.53	19.48	19.42	20.0
			50	24	2	20.57	20.64	20.72		0	19.41	19.49	19.34	
		64QAM	50	50	2	20.62	20.76	20.59	21.5	0	19.37	19.41	19.38	20.0
			100	0	2	20.70	20.66	20.59		0	19.34	19.47	19.39	
			1	0	2	20.67	20.63	20.68	21.5	0	19.37	19.51	19.43	20.0
			1	49	2	20.65	20.68	20.70		0	19.43	19.49	19.43	
			1	99	2	20.66	20.75	20.67	20.5	0	19.41	19.36	19.51	20.0
			50	0	3	19.72	19.71	19.66		0	19.35	19.46	19.49	
LTE Band 66	15	QPSK	50	24	3	19.70	19.59	19.69	20.5	0	19.34	19.51	19.53	20.0
			50	50	3	19.60	19.72	19.66		0	19.48	19.40	19.50	
			100	0	3	19.70	19.75	19.63		0	19.34	19.39	19.36	
		16QAM	1	0	0	22.75	22.71	22.61	23.5	0	19.38	19.36	19.48	20.0
			1	37	0	22.71	22.74	22.75		0	19.40	19.52	19.38	
			1	74	0	22.69	22.77	22.61		0	19.43	19.51	19.39	20.0
		64QAM	36	0	1	21.59	21.60	21.69	22.5	0	19.35	19.39	19.36	
			36	20	1	21.73	21.75	21.65		0	19.40	19.38	19.38	
			36	39	1	21.74	21.60	21.60		0	19.53	19.36	19.39	20.0
		16QAM	75	0	1	21.57	21.70	21.77	22.5	0	19.38	19.48	19.44	
			1	0	1	21.71	21.69	21.59		0	19.51	19.40	19.47	20.0
			1	37	1	21.73	21.62	21.62		0	19.46	19.44	19.46	
			1	74	1	21.69	21.67	21.60	21.5	0	19.38	19.38	19.38	
		64QAM	36	0	2	20.62	20.65	20.62		0	19.49	19.45	19.51	20.0
			36	20	2	20.74	20.71	20.59		0	19.36	19.35	19.45	
			36	39	2	20.57	20.76	20.65	21.5	0	19.48	19.41	19.36	
			75	0	2	20.68	20.66	20.71		0	19.45	19.35	19.45	20.0
		64QAM	1	0	2	20.70	20.72	20.64	21.5	0	19.34	19.40	19.51	
			1	37	2	20.61	20.73	20.74		0	19.53	19.41	19.46	20.0
			1	74	2	20.68	20.67	20.66		0	19.53	19.47	19.48	
		64QAM	36	0	3	19.62	19.58	19.73	20.5	0	19.44	19.42	19.47	20.0
			36	20	3	19.71	19.62	19.68		0	19.35	19.35	19.51	
			36	39	3	19.62	19.59	19.64		0	19.41	19.47	19.52	
			75	0	3	19.75	19.62	19.58		0	19.44	19.53	19.49	


LTE Band 66 Measured Results (continued)

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pwr (dBm)			Tune-up Limit	MPR	Reduced Meas. Avg Pwr (dBm)			Tune-up Limit
						132022	132322	132622			132022	132322	132622	
						1715 MHz	1745 MHz	1775 MHz			1715 MHz	1745 MHz	1775 MHz	
LTE Band 66	10	QPSK	1	0	0	22.64	22.63	22.70	23.5	0	19.35	19.36	19.35	20.0
			1	25	0	22.69	22.63	22.74		0	19.38	19.53	19.51	
			1	49	0	22.59	22.66	22.71		0	19.47	19.51	19.46	
			25	0	1	21.74	21.59	21.58	22.5	0	19.38	19.44	19.53	20.0
			25	12	1	21.59	21.57	21.61		0	19.46	19.51	19.40	
			25	25	1	21.58	21.67	21.60		0	19.41	19.38	19.53	
		16QAM	50	0	1	21.66	21.59	21.67	22.5	0	19.50	19.45	19.46	20.0
			1	0	1	21.58	21.68	21.62		0	19.34	19.34	19.50	
			1	25	1	21.66	21.64	21.73		0	19.51	19.51	19.44	20.0
			1	49	1	21.61	21.63	21.61	21.5	0	19.36	19.44	19.38	
			25	0	2	20.72	20.67	20.60		0	19.38	19.39	19.41	
			25	12	2	20.59	20.67	20.59	21.5	0	19.39	19.37	19.42	20.0
		64QAM	25	25	2	20.66	20.71	20.58		0	19.39	19.49	19.36	
			50	0	2	20.72	20.58	20.75		0	19.46	19.37	19.45	20.0
			1	0	2	20.65	20.61	20.64	21.5	0	19.34	19.47	19.52	
			1	25	2	20.77	20.67	20.65		0	19.45	19.52	19.36	20.0
			1	49	2	20.64	20.63	20.58		0	19.46	19.44	19.51	
			25	0	3	19.74	19.73	19.72	20.5	0	19.44	19.53	19.35	20.0
			25	12	3	19.65	19.69	19.66		0	19.50	19.43	19.41	
			25	25	3	19.64	19.64	19.62		0	19.42	19.50	19.51	
			50	0	3	19.63	19.66	19.61		0	19.48	19.49	19.38	
Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pwr (dBm)			Tune-up Limit	MPR	Reduced Meas. Avg Pwr (dBm)			Tune-up Limit
						131997	132322	132647			131997	132322	132647	
						1712.5 MHz	1745 MHz	1777.5 MHz			1712.5 MHz	1745 MHz	1777.5 MHz	
LTE Band 66	5	QPSK	1	0	0	22.58	22.67	22.76	23.5	0	19.39	19.41	19.43	20.0
			1	12	0	22.63	22.73	22.69		0	19.53	19.37	19.50	
			1	24	0	22.70	22.77	22.62		0	19.46	19.53	19.52	
			12	0	1	21.73	21.62	21.67	22.5	0	19.34	19.42	19.45	20.0
			12	7	1	21.71	21.76	21.74		0	19.41	19.37	19.43	
			12	13	1	21.60	21.68	21.61		0	19.42	19.39	19.36	
		16QAM	25	0	1	21.67	21.63	21.71	22.5	0	19.50	19.52	19.38	20.0
			1	0	1	21.77	21.70	21.64		0	19.44	19.48	19.36	
			1	12	1	21.60	21.67	21.61		0	19.48	19.38	19.49	20.0
			1	24	1	21.71	21.74	21.59	21.5	0	19.47	19.48	19.44	
			12	0	2	20.73	20.67	20.57		0	19.43	19.49	19.48	
			12	7	2	20.61	20.66	20.69	21.5	0	19.46	19.36	19.53	20.0
		64QAM	12	13	2	20.66	20.75	20.77		0	19.39	19.44	19.37	
			25	0	2	20.60	20.68	20.64		0	19.37	19.41	19.45	
			1	0	2	20.68	20.61	20.69	21.5	0	19.53	19.50	19.35	20.0
			1	12	2	20.76	20.74	20.66		0	19.36	19.43	19.42	
			1	24	2	20.58	20.76	20.61		0	19.34	19.41	19.51	
			12	0	3	19.63	19.58	19.68	20.5	0	19.35	19.45	19.51	20.0
			12	7	3	19.73	19.72	19.65		0	19.40	19.39	19.41	
			12	13	3	19.65	19.70	19.76		0	19.53	19.40	19.35	
			25	0	3	19.59	19.73	19.61		0	19.45	19.44	19.37	


LTE Band 66 Measured Results (continued)

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pwr (dBm)			Tune-up Limit	MPR	Reduced Meas. Avg Pwr (dBm)			Tune-up Limit
						131987	132322	132657			131987	132322	132657	
						1711.5 MHz	1745 MHz	1778.5 MHz			1711.5 MHz	1745 MHz	1778.5 MHz	
LTE Band 66	3	QPSK	1	0	0	22.59	22.73	22.69	23.5	0	19.47	19.39	19.50	20.0
			1	8	0	22.65	22.74	22.75		0	19.48	19.49	19.45	
			1	14	0	22.67	22.67	22.67		0	19.49	19.43	19.42	
			8	0	1	21.76	21.61	21.70	22.5	0	19.49	19.47	19.51	20.0
			8	4	1	21.69	21.61	21.73		0	19.35	19.36	19.46	
			8	7	1	21.66	21.75	21.75		0	19.46	19.35	19.37	
		16QAM	15	0	1	21.57	21.62	21.76	22.5	0	19.45	19.42	19.44	20.0
			1	0	1	21.69	21.73	21.58		0	19.49	19.45	19.47	
			1	8	1	21.63	21.74	21.66		0	19.35	19.37	19.38	
			1	14	1	21.73	21.76	21.59	21.5	0	19.46	19.48	19.50	20.0
			8	0	2	20.69	20.63	20.58		0	19.45	19.52	19.46	
			8	4	2	20.60	20.75	20.71		0	19.49	19.39	19.43	
		64QAM	8	7	2	20.73	20.75	20.71	21.5	0	19.46	19.53	19.43	20.0
			15	0	2	20.74	20.66	20.70		0	19.38	19.49	19.50	
			1	0	2	20.65	20.76	20.67	21.5	0	19.42	19.41	19.52	20.0
			1	8	2	20.72	20.58	20.64		0	19.35	19.47	19.45	
			1	14	2	20.70	20.61	20.64	20.5	0	19.36	19.49	19.39	20.0
			8	0	3	19.64	19.64	19.62		0	19.43	19.53	19.53	
LTE Band 66	1.4	QPSK	8	4	3	19.73	19.76	19.69	20.5	0	19.48	19.34	19.48	20.0
			8	7	3	19.60	19.75	19.58		0	19.49	19.53	19.47	
			15	0	3	19.61	19.58	19.62		0	19.34	19.42	19.43	
		16QAM	1	0	0	22.64	22.66	22.75	23.5	0	19.44	19.41	19.40	20.0
			1	3	0	22.60	22.69	22.57		0	19.50	19.47	19.52	
			1	5	0	22.58	22.68	22.64		0	19.43	19.45	19.44	
		64QAM	3	0	0	22.67	22.64	22.74	23.5	0	19.42	19.39	19.35	20.0
			3	1	0	22.73	22.66	22.71		0	19.38	19.36	19.49	
			3	3	0	22.64	22.68	22.58		0	19.51	19.49	19.36	
		16QAM	6	0	1	21.58	21.69	21.69	22.5	0	19.38	19.47	19.36	20.0
			1	0	1	21.76	21.70	21.60	22.5	0	19.36	19.42	19.35	20.0
			1	3	1	21.58	21.77	21.76		0	19.34	19.35	19.38	
			1	5	1	21.77	21.73	21.69		0	19.46	19.45	19.42	
		64QAM	3	0	1	21.75	21.61	21.70	22.5	0	19.50	19.53	19.43	20.0
			3	1	1	21.69	21.69	21.68		0	19.52	19.49	19.52	
			3	3	1	21.76	21.66	21.74		0	19.41	19.37	19.41	
		64QAM	6	0	2	20.71	20.63	20.58	21.5	0	19.47	19.39	19.45	20.0
			1	0	2	20.67	20.66	20.65	21.5	0	19.53	19.51	19.43	20.0
			1	3	2	20.63	20.65	20.73		0	19.36	19.39	19.39	
			1	5	2	20.69	20.75	20.57		0	19.41	19.35	19.37	
		64QAM	3	0	2	20.70	20.75	20.66	21.5	0	19.45	19.40	19.49	20.0
			3	1	2	20.65	20.69	20.58		0	19.41	19.38	19.34	
			3	3	2	20.60	20.67	20.73		0	19.44	19.46	19.38	
			6	0	3	19.74	19.74	19.62	20.5	0	19.42	19.36	19.35	20.0

LTE Band 71 Measured Results

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pw r (dBm)			Tune-up Limit
						133222	133322	133372	
						673 MHz	683 MHz	688 MHz	
LTE Band 71	20	QPSK	1	0	0	23.25	23.06	23.11	23.5
			1	49	0	23.10	22.61	22.89	
			1	99	0	23.13	22.69	23.07	
			50	0	1	21.98	22.06	22.03	22.5
			50	24	1	21.90	21.96	21.89	
			50	50	1	21.88	21.92	21.81	
			100	0	1	21.56	22.38	22.33	
		16QAM	1	0	1	22.03	21.88	22.04	22.5
			7	49	1	22.18	21.94	21.97	
			1	99	1	22.05	21.84	22.10	
			50	0	2	21.11	20.87	20.93	21.5
			50	24	2	21.18	20.83	20.99	
			50	50	2	21.05	21.00	20.97	
			100	0	2	21.07	20.82	21.06	
		64QAM	1	0	2	21.18	21.00	20.94	21.5
			1	49	2	21.06	20.91	21.08	
			1	99	2	21.07	20.89	21.01	
			50	0	3	20.01	19.92	20.00	20.5
			50	24	3	20.05	19.91	20.07	
			50	50	3	20.03	19.98	20.08	
			100	0	3	20.18	19.87	20.08	
Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pw r (dBm)			Tune-up Limit
						133197	133297	133397	
						670.5 MHz	680.5 MHz	690.5 MHz	
LTE Band 71	15	QPSK	1	0	0	23.08	22.82	22.94	23.5
			1	37	0	23.19	23.00	23.03	
			1	74	0	23.19	22.98	23.02	
			36	0	1	22.13	21.93	21.92	22.5
			36	20	1	22.16	21.96	21.91	
			36	39	1	22.16	21.87	21.91	
			75	0	1	22.04	21.88	21.94	
		16QAM	1	0	1	22.01	21.86	21.96	22.5
			1	37	1	22.19	21.86	22.07	
			1	74	1	22.17	21.91	22.06	
			36	0	2	21.12	20.93	21.06	21.5
			36	20	2	21.09	20.89	21.09	
			36	39	2	21.05	20.94	21.10	
			75	0	2	21.12	20.83	20.99	
		64QAM	1	0	2	21.00	20.85	21.08	21.5
			1	37	2	21.18	20.84	20.98	
			1	74	2	21.14	20.98	20.95	
			36	0	3	20.01	19.93	19.93	20.5
			36	20	3	20.12	19.88	20.08	
			36	39	3	20.10	19.84	20.01	
			75	0	3	20.14	19.84	19.94	



Report No.: TMWK2305001421KS

Page: 67 / 91

Rev.: 02

LTE Band 71 Measured Results (continued)

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pw r (dBm)			Tune-up Limit
						133172	133297	133422	
						668 MHz	680.5 MHz	693 MHz	
LTE Band 71	10	QPSK	1	0	0	23.07	22.96	22.91	23.5
			1	25	0	23.14	22.90	23.03	
			1	49	0	23.08	22.89	22.97	
			25	0	1	22.16	21.91	22.10	22.5
			25	12	1	22.13	21.92	22.07	
			25	25	1	22.15	21.85	22.01	
			50	0	1	22.19	21.83	21.91	
		16QAM	1	0	1	22.15	21.96	22.03	22.5
			1	25	1	22.19	21.88	21.98	
			1	49	1	22.14	21.84	21.94	
			25	0	2	21.03	20.97	21.05	21.5
			25	12	2	21.06	20.99	21.07	
			25	25	2	21.12	20.82	20.95	
			50	0	2	21.07	20.99	21.04	
		64QAM	1	0	2	21.20	20.94	21.01	21.5
			1	25	2	21.03	20.99	21.02	
			1	49	2	21.09	20.97	21.09	
			25	0	3	20.03	20.00	19.96	20.5
			25	12	3	20.13	19.87	20.03	
			25	25	3	20.02	19.88	20.01	
			50	0	3	20.20	19.98	19.93	
Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Max. Meas. Avg Pw r (dBm)			Tune-up Limit
						133147	133297	133447	
						665.5 MHz	680.5 MHz	695.5 MHz	
LTE Band 71	5	QPSK	1	0	0	23.19	22.93	22.93	23.5
			1	12	0	23.04	22.92	23.06	
			1	24	0	23.15	22.86	22.99	
			12	0	1	22.14	21.97	21.94	22.5
			12	7	1	22.20	21.84	22.02	
			12	13	1	22.06	21.87	21.93	
			25	0	1	22.07	21.92	22.00	
		16QAM	1	0	1	22.09	21.98	22.02	22.5
			1	12	1	22.08	21.81	21.96	
			1	24	1	22.02	21.87	21.92	
			12	0	2	21.16	20.91	21.00	21.5
			12	7	2	21.08	20.83	21.08	
			12	13	2	21.02	20.89	21.02	
			25	0	2	21.07	20.98	21.09	
		64QAM	1	0	2	21.14	20.84	20.90	21.5
			1	12	2	21.15	20.98	20.98	
			1	24	2	21.14	20.96	20.94	
			12	0	3	20.11	19.98	20.04	20.5
			12	7	3	20.13	19.95	20.09	
			12	13	3	20.03	19.94	20.00	
			25	0	3	20.15	20.00	19.91	



9.3 Wi-Fi 2.4GHz (DTS Band)

The maximum output power specified for production units are determined for all applicable 802.11 transmission modes in each standalone and aggregated frequency band. Maximum output power is measured for the highest maximum output power configuration(s) in each frequency band according to the default power measurement procedures.

SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11g/n/ac/ax mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band. Additional output power measurements were not deemed necessary.

SAR testing is not required for OFDM mode(s) when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.

Measured Results

Band	Mode	Data Rate	Ch #	Freq. (MHz)	Meas. Avg Pwr (dBm)	Tune-up Limit (dBm)	SAR Test (Yes/No)
2.4GHz (DTS)	802.11b	1 Mbps	1	2412	14.09	14.5	Yes
			6	2437	13.46		
			11	2462	13.64		
	802.11g	6 Mbps	1	2412	13.90	14.5	No
			6	2437	13.32		
			11	2462	13.44		
	802.11n (HT20)	MCS0	1	2412	13.74	14.5	No
			6	2437	13.66		
			11	2462	13.52		
	802.11n (HT40)	MCS0	3	2422	12.29	13.5	No
			6	2437	12.66		
			9	2452	12.45		

9.4 Wi-Fi 5GHz (U-NII Bands)

The maximum output power specified for production units are determined for all applicable 802.11 transmission modes in each standalone and aggregated frequency band. Maximum output power is measured for the highest maximum output power configuration(s) in each frequency band according to the default power measurement procedures.

When the same transmission mode configurations have the same maximum output power on the same channel for the 802.11 a/g/n/ac modes, the channel in the lower order/sequence 802.11 mode (i.e. a, g, n then ac) is selected.

SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band. Additional output power measurements were not deemed necessary.

Measured Results

Band	Mode	Data Rate	Ch #	Freq. (MHz)	Meas. Avg Pwr (dBm)	Tune-up Limit (dBm)	SAR Test (Yes/No)
5.2GHz (U-NII 1)	802.11a	6 Mbps	36	5180	14.22	15.0	No
			40	5200	14.09		
			44	5220	13.84		
			48	5240	13.54		
	802.11n (HT20)	MCS0	36	5180	14.24	15.0	No
			40	5200	14.06		
			44	5220	13.86		
			48	5240	13.61		
	802.11ac (VHT20)	MCS0	36	5180	14.32	15.0	No
			40	5200	14.05		
			44	5220	13.97		
			48	5240	13.55		
	802.11n (HT40)	MCS0	38	5190	14.64	15.0	No
			46	5230	14.39		
	802.11ac (VHT40)	MCS0	38	5190	14.60	15.0	No
			46	5230	14.37		
	802.11ac (VHT80)	MCS0	42	5210	13.64	14.0	No
5.3GHz (U-NII 2A)	802.11a	6 Mbps	52	5260	14.02	15.0	No
			56	5280	13.87		
			60	5300	13.62		
			64	5320	13.44		
	802.11n (HT20)	MCS0	52	5260	14.09	15.0	No
			56	5280	13.96		
			60	5300	13.71		
			64	5320	13.54		
	802.11ac (VHT20)	MCS0	52	5260	14.09	15.0	No
			56	5280	13.98		
			60	5300	13.71		
			64	5320	13.59		
	802.11n (HT40)	MCS0	54	5270	14.55	15.0	Yes
			62	5310	14.27		
	802.11ac (VHT40)	MCS0	54	5270	14.77	15.0	No
			62	5310	14.27		
	802.11ac (VHT80)	MCS0	58	5290	13.12	14.0	No



Report No.: TMWK2305001421KS

Page: 70 / 91

Rev.: 02

Band	Mode	Data Rate	Ch #	Freq. (MHz)	Meas. Avg Pwr (dBm)	Tune-up Limit (dBm)	SAR Test (Yes/No)
5.5GHz (U-NII 2C)	802.11a	6 Mbps	100	5500	10.60	12.0	No
			116	5580	10.73		
			132	5660	11.25		
			140	5700	11.47		
			144	5720	11.56		
	802.11n (HT20)	MCS0	100	5500	10.68	12.0	No
			116	5580	10.85		
			124	5620	11.09		
			132	5660	11.27		
			140	5700	11.54		
	802.11ac (VHT20)	MCS0	100	5500	10.74	12.0	No
			116	5580	10.87		
			124	5620	11.12		
			132	5660	11.31		
			140	5700	11.48		
	802.11n (HT40)	MCS0	102	5510	11.35	12.5	Yes
			110	5550	11.37		
			118	5590	11.60		
			126	5630	11.67		
			134	5670	11.92		
	802.11ac (VHT40)	MCS0	102	5510	11.33	12.5	No
			110	5550	11.35		
			118	5590	11.55		
			126	5630	11.74		
			134	5670	11.89		
	802.11ac (VHT80)	MCS0	142	5710	12.14	12.0	No
			106	5530	11.87		
			122	5610	11.78		
5.8GHz (U-NII 3)	802.11a	6 Mbps	138	5690	11.89	11.5	No
			149	5745	10.75		
			157	5785	10.80		
	802.11n (HT20)	MCS0	165	5825	10.75	11.5	No
			149	5745	10.80		
			157	5785	10.85		
	802.11ac (VHT20)	MCS0	165	5825	10.89	11.5	No
			149	5745	10.85		
			157	5785	10.87		
	802.11n (HT40)	MCS0	165	5825	10.83	12.0	Yes
			151	5755	11.32		
	802.11ac (VHT40)	MCS0	159	5795	11.45	12.0	No
			151	5755	11.31		
	802.11ac (VHT80)	MCS0	155	5775	11.34	11.5	No

9.5 Bluetooth.

Average Power Measured Results

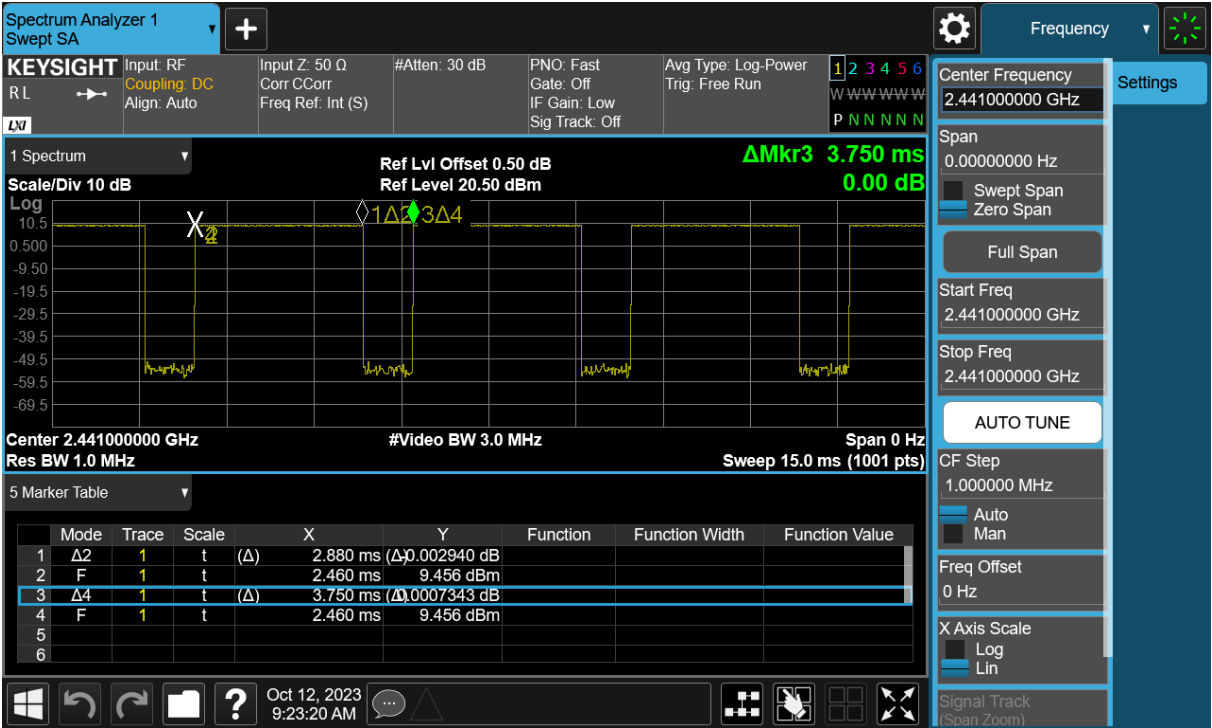
Band (GHz)	Mode	Data Rate	Ch #	Freq. (MHz)	Meas. Avg Pwr (dBm)	Meas. Avg Pwr (mW)	Tune-up Limit (dBm)	SAR Test (Yes/No)
2.4	GFSK	1 Mbps	0	2402	8.79	7.57	10.0	Yes
			39	2441	9.18	8.28		
			78	2480	8.48	7.05		
	EDR, $\pi/4$ DQPSK	2 Mbps	0	2402	6.68	4.66	7.5	No
			39	2441	7.18	5.22		
			78	2480	6.39	4.36		
	EDR, 8-DPSK	3 Mbps	0	2402	6.69	4.67	7.5	No
			39	2441	7.19	5.24		
			78	2480	6.40	4.37		
	LE, GFSK	1 Mbps	0	2402	0.22	1.05	1.0	No
			19	2440	0.65	1.16		
			39	2480	-0.06	0.99		

Duty Factor Measured Results

Mode	Type	T on (ms)	Period (ms)	Duty Cycle
GFSK	DH5	2.88	3.75	76.80%



Duty Cycle plots
GFSK





Report No.: TMWK2305001421KS

Page: 73 / 91

Rev.: 02

10 Measured and Reported (Scaled) SAR Results

10.1 W-CDMA Band II

RF Exposure Conditions	Mode	Power Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.
							Tune-up Limit	Meas.	Meas.	Scaled	
Body	RMC, 12.2 kbps	On	0	Rear	9400	1880.0	18.5	17.99	0.543	0.611	
				Edge 4	9400	1880.0	18.5	17.99	0.162	0.182	
Body	RMC, 12.2 kbps	Off	14	Rear	9262	1852.4	23.0	22.49	0.347	0.390	
			0	Edge 1	9262	1852.4	23.0	22.49	0.119	0.134	
			0	Edge 2	9262	1852.4	23.0	22.49	0.046	0.052	
			0	Edge 3	9262	1852.4	23.0	22.49	0.721	0.811	1
			0	Edge 3	9400	1880.0	23.0	22.21	0.600	0.720	
			0	Edge 3	9538	1907.6	23.0	22.25	0.465	0.553	
			3	Edge 4	9262	1852.4	23.0	22.49	0.293	0.330	

10.2 W-CDMA Band IV

RF Exposure Conditions	Mode	Power Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.
							Tune-up Limit	Meas.	Meas.	Scaled	
Body	RMC, 12.2 kbps	On	0	Rear	1513	1752.6	20.0	19.65	0.724	0.785	2
				Edge 4	1513	1752.6	20.0	19.65	0.296	0.321	
Body	RMC, 12.2 kbps	Off	14	Rear	1513	1752.6	23.0	22.36	0.239	0.277	
			0	Edge 1	1513	1752.6	23.0	22.36	0.071	0.082	
			0	Edge 2	1513	1752.6	23.0	22.36	0.043	0.050	
			0	Edge 3	1513	1752.6	23.0	22.36	0.589	0.683	
			3	Edge 4	1513	1752.6	23.0	22.36	0.338	0.392	

10.3 W-CDMA Band V

RF Exposure Conditions	Mode	Power Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.
							Tune-up Limit	Meas.	Meas.	Scaled	
Body	RMC, 12.2 kbps	N/A	0	Rear	4132	826.4	23.0	22.13	0.882	1.078	3
				Rear	4183	836.6	23.0	22.26	0.864	1.025	
				Rear	4233	846.6	23.0	22.42	0.882	1.008	
				Edge 1	4233	846.6	23.0	22.42	0.236	0.270	
				Edge 2	4233	846.6	23.0	22.42	0.072	0.082	
				Edge 3	4233	846.6	23.0	22.42	0.124	0.142	
				Edge 4	4132	826.4	23.0	22.13	0.871	1.064	
				Edge 4	4183	836.6	23.0	22.26	0.866	1.027	
				Edge 4	4233	846.6	23.0	22.42	0.884	1.010	

10.4 LTE Band 2 (20MHz Bandwidth)

RF Exposure Conditions	Mode	Power Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Plot No.
									Tune-up Limit	Meas.	Meas.	Scaled	
Body	QPSK	On	0	Rear	19100	1900.0	1	0	18.5	18.14	0.505	0.549	
				Rear			50	50	18.5	18.08	0.467	0.514	
				Edge 4	19100	1900.0	1	0	18.5	18.14	0.030	0.033	
				Edge 4			50	50	18.5	18.08	0.156	0.172	
Body	QPSK	Off	14	Rear	19100	1900.0	1	49	24.0	23.65	0.253	0.274	
			14	Rear			50	24	23.0	22.41	0.193	0.221	
			0	Edge 1	19100	1900.0	1	49	24.0	23.65	0.061	0.066	
			0	Edge 1			50	24	23.0	22.41	0.059	0.068	
			0	Edge 2	19100	1900.0	1	49	24.0	23.65	0.050	0.054	
			0	Edge 2			50	24	23.0	22.41	0.037	0.042	
			0	Edge 3	18700	1860.0	1	99	24.0	23.61	1.270	1.389	
			0	Edge 3			50	0	23.0	22.63	1.010	1.100	
			0	Edge 3	18900	1880.0	1	99	24.0	23.47	1.390	1.570	4
			0	Edge 3			50	0	23.0	22.53	1.070	1.192	
			0	Edge 3	19100	1900.0	1	49	24.0	23.65	1.400	1.517	
			0	Edge 3			50	24	23.0	22.41	1.080	1.237	
			3	Edge 4	19100	1900.0	1	49	24.0	23.65	0.401	0.435	
			3	Edge 4			50	24	23.0	22.41	0.319	0.365	

10.5 LTE Band 4 (20MHz Bandwidth)

RF Exposure Conditions	Mode	Power Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Plot No.
									Tune-up Limit	Meas.	Meas.	Scaled	
Body	QPSK	On	0	Rear	20300	1745.0	1	0	20.0	19.60	0.646	0.708	
				Rear			50	0	20.0	19.44	0.681	0.775	5
				Edge 4	20300	1745.0	1	0	20.0	19.60	0.253	0.277	
				Edge 4			50	0	20.0	19.44	0.037	0.042	
Body	QPSK	Off	14	Rear	20050	1720.0	1	0	23.5	23.11	0.137	0.150	
			14	Rear			50	0	22.5	22.17	0.141	0.152	
			0	Edge 1	20050	1720.0	1	0	23.5	23.11	0.043	0.047	
			0	Edge 1			50	0	22.5	22.17	0.043	0.046	
			0	Edge 2	20050	1720.0	1	0	23.5	23.11	0.041	0.045	
			0	Edge 2			50	0	22.5	22.17	0.043	0.046	
			0	Edge 3	20050	1720.0	1	0	23.5	23.11	0.561	0.614	
			0	Edge 3			50	0	22.5	22.17	0.475	0.512	
			3	Edge 4	20050	1720.0	1	0	23.5	23.11	0.349	0.382	
			3	Edge 4			50	0	22.5	22.17	0.307	0.331	

10.6 LTE Band 5 (10MHz Bandwidth)

RF Exposure Conditions	Mode	Power Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Plot No.
									Tune-up Limit	Meas.	Meas.	Scaled	
Body	QPSK	N/A	0	Rear	20525	836.5	1	0	24.0	23.42	0.547	0.625	
				Rear			25	25	23.0	22.28	0.551	0.650	
				Edge 1	20525	836.5	1	0	24.0	23.42	0.026	0.030	
				Edge 1			25	25	23.0	22.28	0.027	0.032	
				Edge 2	20525	836.5	1	0	24.0	23.42	0.099	0.113	
				Edge 2			25	25	23.0	22.28	0.092	0.109	
				Edge 3	20525	836.5	1	0	24.0	23.42	0.131	0.150	
				Edge 3			25	25	23.0	22.28	0.140	0.165	
				Edge 4	20450	829.0	1	0	24.0	23.13	0.975	1.191	
				Edge 4			25	0	23.0	22.14	0.745	0.908	
				Edge 4	20525	836.5	1	0	24.0	23.42	1.060	1.211	
				Edge 4			25	25	23.0	22.28	0.868	1.025	
				Edge 4	20600	844.0	50	0	23.0	22.28	0.837	0.988	
				Edge 4			1	0	24.0	23.35	1.100	1.278	6
				Edge 4			25	0	23.0	22.27	0.827	0.978	

10.7 LTE Band 7 (20MHz Bandwidth)

RF Exposure Conditions	Mode	Power Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Plot No.
									Tune-up Limit	Meas.	Meas.	Scaled	
Body	QPSK	On	0	Rear	20850	2510.0	1	0	18.5	18.15	0.405	0.439	
				Rear			50	50	18.5	18.06	0.413	0.457	
				Edge 4	20850	2510.0	1	0	18.5	18.15	0.727	0.788	
				Edge 4			50	50	18.5	18.06	0.664	0.735	
Body	QPSK	Off	14	Rear	20850	2510.0	1	0	23.5	23.13	0.152	0.166	
			14	Rear			50	0	22.5	22.12	0.115	0.126	
			0	Edge 1	20850	2510.0	1	0	23.5	23.13	0.031	0.034	
			0	Edge 1			50	0	22.5	22.12	0.031	0.034	
			0	Edge 2	20850	2510.0	1	0	23.5	23.13	0.035	0.038	
			0	Edge 2			50	0	22.5	22.12	0.036	0.039	
			0	Edge 3	20850	2510.0	1	0	23.5	23.13	0.623	0.678	
			0	Edge 3			50	0	22.5	22.12	0.489	0.534	
			3	Edge 4	20850	2510.0	1	0	23.5	23.13	1.040	1.132	7
			3	Edge 4			50	0	22.5	22.12	0.739	0.807	
			3	Edge 4			100	0	22.5	21.98	0.799	0.901	
			3	Edge 4	21100	2535.0	1	0	23.5	22.97	0.897	1.013	
			3	Edge 4			50	0	22.5	21.81	0.679	0.796	
			3	Edge 4	21350	2560.0	1	0	23.5	22.94	0.764	0.869	
			3	Edge 4			50	50	22.5	21.85	0.585	0.679	

10.8 LTE Band 12 (10MHz Bandwidth)

RF Exposure Conditions	Mode	Power Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Plot No.
									Tune-up Limit	Meas.	Meas.	Scaled	
Body	QPSK	N/A	0	Rear	23130	711.0	1	0	23.5	23.07	0.338	0.373	
				Rear			25	0	22.5	22.22	0.297	0.317	
				Edge 1	23130	711.0	1	0	23.5	23.07	0.041	0.045	
				Edge 1			25	0	22.5	22.22	0.043	0.046	
				Edge 2	23130	711.0	1	0	23.5	23.07	0.020	0.022	
				Edge 2			25	0	22.5	22.22	0.016	0.017	
				Edge 3	23130	711.0	1	0	23.5	23.07	0.135	0.149	
				Edge 3			25	0	22.5	22.22	0.189	0.202	
				Edge 4	23060	704.0	1	0	23.5	23.06	0.755	0.836	
				Edge 4			25	0	22.5	22.20	0.574	0.615	
				Edge 4	23095	707.5	1	0	23.5	22.90	0.743	0.853	8
				Edge 4			25	0	22.5	21.81	0.566	0.663	
				Edge 4	23130	711.0	1	0	23.5	23.07	0.746	0.824	
				Edge 4			25	0	22.5	22.22	0.591	0.630	

10.9 LTE Band 13 (10MHz Bandwidth)

RF Exposure Conditions	Mode	Power Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Plot No.
									Tune-up Limit	Meas.	Meas.	Scaled	
Body	QPSK	N/A	0	Rear	23230	782.0	1	0	23.5	23.02	0.544	0.608	
				Rear			25	12	22.5	21.99	0.547	0.615	
				Edge 1	23230	782.0	1	0	23.5	23.02	0.212	0.237	
				Edge 1			25	12	22.5	21.99	0.167	0.188	
				Edge 2	23230	782.0	1	0	23.5	23.02	0.022	0.024	
				Edge 2			25	12	22.5	21.99	0.024	0.027	
				Edge 3	23230	782.0	1	0	23.5	23.02	0.130	0.145	
				Edge 3			25	12	22.5	21.99	0.101	0.114	
				Edge 4	23230	782.0	1	0	23.5	23.02	0.864	0.965	9
				Edge 4			25	12	22.5	21.99	0.724	0.814	
				Edge 4	23230	782.0	50	0	22.5	21.94	0.727	0.827	
				Edge 4			50	0	22.5	21.94	0.727	0.827	

10.10 LTE Band 14 (10MHz Bandwidth)

RF Exposure Conditions	Mode	Power Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Plot No.
									Tune-up Limit	Meas.	Meas.	Scaled	
Body	QPSK	N/A	0	Rear	23330	793.0	1	0	24.0	23.45	0.729	0.827	
				Rear			25	0	23.0	22.20	0.600	0.721	
				Rear			50	0	23.0	22.14	0.559	0.681	
				Edge 1	23330	793.0	1	0	24.0	23.45	0.211	0.239	
				Edge 1			25	0	23.0	22.20	0.174	0.209	
				Edge 2	23330	793.0	1	0	24.0	23.45	0.021	0.024	
				Edge 2			25	0	23.0	22.20	0.026	0.031	
				Edge 3	23330	793.0	1	0	24.0	23.45	0.126	0.143	
				Edge 3			25	0	23.0	22.20	0.098	0.118	
				Edge 4	23330	793.0	1	0	24.0	23.45	0.890	1.010	10
				Edge 4			25	0	23.0	22.20	0.751	0.903	
				Edge 4			50	0	23.0	22.14	0.711	0.867	

10.11 LTE Band 17 (10MHz Bandwidth)

RF Exposure Conditions	Mode	Power Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Plot No.
									Tune-up Limit	Meas.	Meas.	Scaled	
Body	QPSK	N/A	0	Rear	23790	710.0	1	0	23.5	23.17	0.368	0.397	
				Rear			25	12	22.5	22.15	0.313	0.339	
				Edge 1	23790	710.0	1	0	23.5	23.17	0.021	0.023	
				Edge 1			25	12	22.5	22.15	0.022	0.024	
				Edge 2	23790	710.0	1	0	23.5	23.17	0.005	0.006	
				Edge 2			25	12	22.5	22.15	0.005	0.006	
				Edge 3	23790	710.0	1	0	23.5	23.17	0.099	0.107	
				Edge 3			25	12	22.5	22.15	0.079	0.086	
				Edge 4	23780	709.0	1	0	23.5	23.11	0.769	0.841	11
				Edge 4			25	0	22.5	21.95	0.582	0.661	
				Edge 4	23790	710.0	1	0	23.5	23.17	0.753	0.812	
				Edge 4			25	12	22.5	22.15	0.611	0.662	
				Edge 4			50	0	22.5	22.10	0.474	0.520	
				Edge 4	23800	711.0	1	0	23.5	23.02	0.759	0.848	
				Edge 4			25	0	22.5	21.76	0.599	0.710	

10.12 LTE Band 25 (20MHz Bandwidth)

RF Exposure Conditions	Mode	Power Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Plot No.
									Tune-up Limit	Meas.	Meas.	Scaled	
Body	QPSK	On	0	Rear	26590	1905.0	1	0	18.5	18.15	0.511	0.554	
				Rear			50	0	18.5	18.13	0.465	0.506	
				Edge 4	26590	1905.0	1	0	18.5	18.15	0.150	0.163	
				Edge 4			50	0	18.5	18.13	0.028	0.030	
Body	QPSK	Off	14	Rear	26590	1905.0	1	0	23.5	23.16	0.157	0.170	
				Rear			50	0	22.5	22.07	0.161	0.178	
			0	Edge 1	26590	1905.0	1	0	23.5	23.16	0.084	0.091	
			0	Edge 1			50	0	22.5	22.07	0.080	0.088	
			0	Edge 2	26590	1905.0	1	0	23.5	23.16	0.027	0.029	
			0	Edge 2			50	0	22.5	22.07	0.026	0.029	
			0	Edge 3	26140	1860.0	1	0	23.5	22.89	1.240	1.427	
			0	Edge 3			50	24	22.5	21.79	1.010	1.189	
			0	Edge 3	26365	1882.5	1	0	23.5	22.89	1.330	1.531	12
			0	Edge 3			50	24	22.5	21.66	1.050	1.274	
			0	Edge 3	26590	1905.0	1	0	23.5	23.16	1.370	1.482	
			0	Edge 3			50	0	22.5	22.07	1.080	1.192	
			0	Edge 3			100	0	22.5	22.00	1.050	1.178	
			3	Edge 4	26590	1905.0	1	0	23.5	23.16	0.402	0.435	
			3	Edge 4			50	0	22.5	22.07	0.311	0.343	

10.13 LTE Band 26 (15MHz Bandwidth)

RF Exposure Conditions	Mode	Power Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Plot No.
									Tune-up Limit	Meas.	Meas.	Scaled	
Body	QPSK	N/A	0	Rear	26765	821.5	1	0	24.0	23.02	0.931	1.167	
				Rear			36	0	23.0	21.96	0.749	0.952	
				Rear	26865	831.5	1	0	24.0	23.11	0.916	1.124	
				Rear			36	39	23.0	22.08	0.783	0.968	
				Rear	26965	841.5	1	0	24.0	23.65	0.898	0.973	
				Rear			36	20	23.0	22.45	0.881	1.000	
				Rear			75	0	23.0	22.33	0.819	0.956	
				Edge 1	26965	841.5	1	0	24.0	23.65	0.314	0.340	
				Edge 1			36	20	23.0	22.45	0.271	0.308	
				Edge 2	26965	841.5	1	0	24.0	23.65	0.132	0.143	
				Edge 2			36	20	23.0	22.45	0.107	0.121	
				Edge 3	26965	841.5	1	0	24.0	23.65	0.211	0.229	
				Edge 3			36	20	23.0	22.45	0.265	0.301	
				Edge 4	26765	821.5	1	0	24.0	23.02	0.984	1.233	13
				Edge 4			36	0	23.0	21.96	0.770	0.978	
				Edge 4	26865	831.5	1	0	24.0	23.11	0.832	1.021	
				Edge 4			36	39	23.0	22.08	0.794	0.981	
				Edge 4	26965	841.5	1	0	24.0	23.65	0.989	1.072	
				Edge 4			36	20	23.0	22.45	0.848	0.962	
				Edge 4			75	0	23.0	22.33	0.617	0.720	

10.14 LTE Band 41 (20MHz Bandwidth)

RF Exposure Conditions	Mode	Power Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Plot No.
									Tune-up Limit	Meas.	Meas.	Scaled	
Body	QPSK	On	0	Rear	39750	2506.0	1	0	18.5	18.03	0.122	0.136	
				Rear			50	0	18.5	17.95	0.126	0.143	
				Edge 4	39750	2506.0	1	0	18.5	18.03	0.283	0.315	
				Edge 4			50	0	18.5	17.95	0.276	0.313	
Body	QPSK	Off	0	14	39750	2506.0	1	0	23.5	22.86	0.019	0.022	
				14			50	24	22.5	21.78	0.018	0.021	
				0	39750	2506.0	1	0	23.5	22.86	0.013	0.015	
				0			50	24	22.5	21.78	0.012	0.014	
				0	39750	2506.0	1	0	23.5	22.86	0.009	0.011	
				0			50	24	22.5	21.78	0.010	0.012	
				0	39750	2506.0	1	0	23.5	22.86	0.238	0.276	
				0			50	24	22.5	21.78	0.185	0.218	
				3	39750	2506.0	1	0	23.5	22.86	0.405	0.469	
				3			50	24	22.5	21.78	0.310	0.366	
				3	40185	2549.5	1	0	23.5	22.58	0.296	0.366	
				3			50	50	22.5	21.51	0.233	0.293	
				3	40620	2593.0	1	0	23.5	22.47	0.336	0.426	
				3			50	0	22.5	21.37	0.286	0.371	
				3	41055	2636.5	1	0	23.5	22.46	0.517	0.657	14
				3			50	0	22.5	21.70	0.467	0.561	
				3	41490	2680.0	1	0	23.5	21.69	0.294	0.446	
				3			50	0	22.5	21.68	0.373	0.451	

10.15 LTE Band 66 (20MHz Bandwidth)

RF Exposure Conditions	Mode	Power Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Plot No.
									Tune-up Limit	Meas.	Meas.	Scaled	
Body	QPSK	On	0	Rear	132072	1720.0	1	0	20.0	19.53	0.911	1.015	15
				Rear			50	24	20.0	19.34	0.931	1.084	
				Rear	132322	1745.0	1	0	20.0	19.61	0.841	0.920	
				Rear			50	0	20.0	19.41	0.873	1.000	
				Rear	132572	1770.0	100	0	20.0	19.57	0.886	0.978	
				Rear			1	0	20.0	19.54	0.866	0.963	
				Rear	132322	1745.0	50	24	20.0	19.44	0.877	0.998	
				Edge 4			1	0	20.0	19.61	0.244	0.267	
Body	QPSK	Off	0	Edge 4	132072	1720.0	50	0	20.0	19.41	0.242	0.277	
				14			1	0	23.5	22.99	0.150	0.169	
				14	132072	1720.0	50	0	22.5	21.76	0.147	0.174	
				0			1	0	23.5	22.99	0.043	0.048	
				0	132072	1720.0	50	0	22.5	21.76	0.042	0.050	
				0			1	0	23.5	22.99	0.033	0.037	
				0	132072	1720.0	50	0	22.5	21.76	0.032	0.038	
				0			1	0	23.5	22.99	0.341	0.383	
				0	132072	1720.0	50	0	22.5	21.76	0.353	0.419	
				0			1	0	23.5	22.99	0.389	0.437	
				3	132072	1720.0	50	0	22.5	21.76	0.310	0.368	
				3			1	0	23.5	22.99	0.389	0.437	

10.16 LTE Band 71 (20MHz Bandwidth)

RF Exposure Conditions	Mode	Power Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Power (dBm)		1-g SAR (W/kg)		Plot No.
									Tune-up Limit	Meas.	Meas.	Scaled	
Body	QPSK	N/A	0	Rear	133222	673.0	1	0	23.5	23.25	0.273	0.289	
				Rear			50	0	22.5	21.98	0.230	0.259	
				Edge 1	133222	673.0	1	0	23.5	23.25	0.052	0.055	
				Edge 1			50	0	22.5	21.98	0.041	0.046	
				Edge 2	133222	673.0	1	0	23.5	23.25	0.008	0.009	
				Edge 2			50	0	22.5	21.98	0.012	0.014	
				Edge 3	133222	673.0	1	0	23.5	23.25	0.082	0.087	
				Edge 3			50	0	22.5	21.98	0.121	0.136	
				Edge 4	133222	673.0	1	0	23.5	23.25	0.711	0.753	
				Edge 4			50	0	22.5	21.98	0.575	0.648	
				Edge 4	133297	680.5	1	0	23.5	23.06	0.836	0.925	
				Edge 4			50	0	22.5	22.06	0.645	0.714	
				Edge 4	133372	688.0	100	0	22.5	22.38	0.653	0.671	
				Edge 4			1	0	23.5	23.11	0.861	0.942	
				Edge 4	133372	688.0	50	0	22.5	22.03	0.662	0.738	
				Edge 4			1	0	23.5	23.11	0.861	0.942	

10.17 Wi-Fi (DTS Band)

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Duty Cycle	Power (dBm)		1-g SAR (W/kg)		Plot No.
							Tune-up Limit	Meas.	Meas.	Scaled	
Body	802.11b	0	Rear	1	2412	97.67%	14.5	14.09	0.218	0.245	17
			Edge 1	1	2412	97.67%	14.5	14.09	0.551	0.620	
			Edge 3	1	2412	97.67%	14.5	14.09	0.002	0.002	

10.18 Wi-Fi (U-NII Band)

RF Exposure Conditions	Frequency Band	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Duty Cycle	Power (dBm)		1-g SAR (W/kg)		Plot No.
								Tune-up Limit	Meas.	Meas.	Scaled	
Body	5.3 (U-NII 2A)	802.11n40	0	Rear	54	5270	76.1%	15.0	14.55	0.139	0.203	
				Edge 1	54	5270	76.1%	15.0	14.55	0.462	0.674	
				Edge 1	62	5310	76.1%	15.0	14.27	0.559	0.869	18
				Edge 3	54	5270	76.1%	15.0	14.55	0.054	0.078	
Body	5.5 (U-NII 2C)	802.11n40	0	Rear	142	5710	76.1%	12.5	12.09	0.139	0.201	
				Edge 1	126	5630	76.1%	12.5	11.67	0.476	0.757	
				Edge 1	134	5670	76.1%	12.5	11.92	0.573	0.861	
				Edge 1	142	5710	76.1%	12.5	12.09	0.642	0.927	19
				Edge 3	142	5710	76.1%	12.5	12.09	0.000	0.000	
Body	5.8 (U-NII 3)	802.11n40	0	Rear	159	5795	76.1%	12.0	11.45	0.130	0.194	
				Edge 1	151	5755	76.1%	12.0	11.32	0.606	0.932	
				Edge 1	159	5795	76.1%	12.0	11.45	0.656	0.979	20
				Edge 3	159	5795	76.1%	12.0	11.45	0.011	0.016	

10.19 Bluetooth

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Duty Cycle	Power (dBm)		1-g SAR (W/kg)		Plot No.
							Tune-up Limit	Meas.	Meas.	Scaled	
Body	GFSK_1M	0	Rear	39	2441	76.80%	10.0	9.18	0.000	0.000	21
			Edge 1	39	2441	76.80%	10.0	9.18	0.000	0.000	
			Edge 3	39	2441	76.80%	10.0	9.18	0.000	0.000	

11 SAR Measurement Variability

In accordance with published RF Exposure KDB 865664 D01 SAR measurement 100 MHz to 6 GHz. These additional measurements are repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device should be returned to ambient conditions (normal room temperature) with the battery fully charged before it is re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.

- 1) Repeated measurement is not required when the original highest measured SAR is <0.8 or 2 W/kg (1-g or 10-g respectively); steps 2) through 4) do not apply.
- 2) When the original highest measured SAR is ≥ 0.8 or 2 W/kg (1-g or 10-g respectively), repeat that measurement once.
- 3) Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is ≥ 1.45 or 3.6 W/kg ($\sim 10\%$ from the 1-g or 10-g respective SAR limit).
- 4) Perform a third repeated measurement only if the original, first, or second repeated measurement is ≥ 1.5 or 3.75 W/kg (1-g or 10-g respectively) and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20 .

WCDMA Band V

RF Exposure Conditions	Mode	Pwr Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Meas. SAR (W/kg)		Largest to Smallest SAR Ratio
							Original	Repeated	
Body	RMC, 12.2 kbps	N/A	0	Edge 4	4233	846.6	0.884	0.884	1.00

LTE Band 2

RF Exposure Conditions	Mode	Pwr Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Meas. SAR (W/kg)		Largest to Smallest SAR Ratio
									Original	Repeated	
Body	QPSK	Off	0	Edge 3	19100	1900	1	49	1.400	1.410	1.01

LTE Band 5

RF Exposure Conditions	Mode	Pwr Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Meas. SAR (W/kg)		Largest to Smallest SAR Ratio
									Original	Repeated	
Body	QPSK	N/A	0	Edge 4	20600	844	1	0	1.100	1.090	1.01

LTE Band 7

RF Exposure Conditions	Mode	Pwr Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Meas. SAR (W/kg)		Largest to Smallest SAR Ratio
									Original	Repeated	
Body	QPSK	Off	3	Edge 4	20850	2510	1	0	1.040	0.974	1.07

LTE Band 13

RF Exposure Conditions	Mode	Pwr Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Meas. SAR (W/kg)		Largest to Smallest SAR Ratio
									Original	Repeated	
Body	QPSK	N/A	0	Edge 4	23230	782	1	0	0.864	0.860	1.00

LTE Band 14

RF Exposure Conditions	Mode	Pwr Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Meas. SAR (W/kg)		Largest to Smallest SAR Ratio
									Original	Repeated	
Body	QPSK	N/A	0	Edge 4	23330	793	1	0	0.890	0.888	1.00

LTE Band 25

RF Exposure Conditions	Mode	Pwr Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Meas. SAR (W/kg)		Largest to Smallest SAR Ratio
									Original	Repeated	
Body	QPSK	Off	0	Edge 3	26590	1905	1	0	1.370	1.380	1.01

LTE Band 26

RF Exposure Conditions	Mode	Pwr Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Meas. SAR (W/kg)		Largest to Smallest SAR Ratio
									Original	Repeated	
Body	QPSK	N/A	0	Edge 4	26965	841.5	1	0	0.989	0.912	1.08

LTE Band 66

RF Exposure Conditions	Mode	Pwr Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Meas. SAR (W/kg)		Largest to Smallest SAR Ratio
									Original	Repeated	
Body	QPSK	On	0	Rear	132072	1720	50	0	0.931	0.928	1.00



Report No.: TMWK2305001421KS

Page: 82 / 91

Rev.: 02

LTE Band 71

RF Exposure Conditions	Mode	Pwr Back-off	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	RB Allocation	RB offset	Meas. SAR (W/kg)		Largest to Smallest SAR Ratio
									Original	Repeated	
Body	QPSK	N/A	0	Edge 4	133372	688	1	0	0.861	0.858	1.00

Note(s):

Second Repeated Measurement is not required since the ratio of the largest to smallest SAR for the original and first repeated measurement is < 1.20.

12 Simultaneous Transmission SAR Analysis

KDB 447498 D04 General RF Exposure Guidance provides two procedures for determining simultaneous transmission SAR test exclusion: Sum of SAR and SAR to Peak Location Ratio (SPLSR)

Sum of SAR

To qualify for simultaneous transmission SAR test exclusion based upon Sum of SAR the sum of the reported standalone SARs for all simultaneously transmitting antennas shall be below the applicable standalone SAR limit. If the sum of the SARs is above the applicable limit then simultaneous transmission SAR test exclusion may still apply if the requirements of the SAR to Peak Location Ratio (SPLSR) evaluation are met.

SAR to Peak Location Ratio (SPLSR)

KDB 447498 D04 General RF Exposure Guidance explains how to calculate the SAR to Peak Location Ratio (SPLSR) between pairs of simultaneously transmitting antennas:

$$\text{SPLSR} = (\text{SAR}_1 + \text{SAR}_2)^{1.5} / R_i$$

Where:

SAR₁ is the highest measured or estimated SAR for the first of a pair of simultaneous transmitting antennas, in a specific test operating mode and exposure condition

SAR₂ is the highest measured or estimated SAR for the second of a pair of simultaneous transmitting antennas, in the same test operating mode and exposure condition as the first

R_i is the separation distance between the pair of simultaneous transmitting antennas. When the SAR is measured, for both antennas in the pair, it is determined by the actual x, y and z coordinates in the 1-g SAR for each SAR peak location, based on the extrapolated and interpolated result in the zoom scan measurement, using the formula of $[(x_1 - x_2)^2 + (y_1 - y_2)^2 + (z_1 - z_2)^2]$

In order for a pair of simultaneous transmitting antennas with the sum of 1-g SAR > 1.6 W/kg to qualify for exemption from Simultaneous Transmission SAR measurements, it has to satisfy the condition of:

$$(\text{SAR}_1 + \text{SAR}_2)^{1.5} / R_i \leq 0.04$$

When an individual antenna transmits at on two bands simultaneously, the sum of the highest reported SAR for the frequency bands should be used to determine SAR₁ or SAR₂. When SPLSR is necessary, the smallest distance between the peak SAR locations for the antenna pair with respect to the peaks from each antenna should be used.

The antennas in all antenna pairs that do not qualify for simultaneous transmission SAR test exclusion must be tested for SAR compliance, according to the enlarged zoom scan and volume scan post-processing procedures in KDB Publication 865664 D01



Report No.: TMWK2305001421KS

Page: 84 / 91

Rev.: 02

Simultaneous Transmission Condition

RF Exposure Condition	Item	Capable Transmit Configurations					
Body	1	W-CDMA	+	DTS	+	BT	
	2	W-CDMA	+	U-NII	+	BT	
	3	LTE	+	DTS	+	BT	
	4	LTE	+	U-NII	+	BT	



Estimated SAR for Simultaneous Transmission SAR Analysis Considerations for SAR estimation

1. When standalone SAR test exclusion applies, standalone SAR must also be estimated to determine simultaneous transmission SAR test exclusion.
2. Please refer to Estimated SAR Tables to see which test positions are inherently compliant as they consist of only estimated SAR values for all applicable transmitters and consequently will always have sum of SAR values < 1.2 W/kg. Simultaneous transmission SAR analysis was therefore not performed for these test positions.
3. Refer to Appendix E of KDB 447498 D04 and multiply the corresponding ratio by the 1-g SAR limit of 1.6 W/kg SAR.

SAR_{est} is given by:

$$\text{SAR}_{\text{est}} = 1.6 * P_{\text{ant}} / P_{\text{th}} [\text{W/kg}]$$

Estimated SAR for $0.3 \text{ GHz} \leq f < 1.5 \text{ GHz}$

Tx Interface	Frequency (GHz)	Output Power		Antenna Gain (dBi)	ERP (dBm)	ERP Threshold (mW)	Separation Distances (cm)					P _o (mW)					Estimated 1-g SAR Value (W/kg)				
		dBm	mW				Rear	Edge1	Edge2	Edge3	Edge4	Rear	Edge1	Edge2	Edge3	Edge4	Rear	Edge1	Edge2	Edge3	Edge4
WCDMA Band V	0.8466	23.00	200	1.84	22.69	185.78	0.672	4.507	19.8	1.766	0.5	14	207	1703	95	9	MEASURE	1.546	0.188	MEASURE	MEASURE
LTE Band 5	0.844	24.00	251	1.84	23.69	233.88	0.672	4.507	19.8	1.766	0.5	14	207	1697	95	9	MEASURE	MEASURE	0.237	MEASURE	MEASURE
LTE Band 12	0.711	23.50	224	-1.58	19.77	94.84	0.672	4.507	19.8	1.766	0.5	17	206	1431	60	12	MEASURE	MEASURE	0.250	MEASURE	MEASURE
LTE Band 13	0.782	23.50	224	-0.34	21.01	126.18	0.672	4.507	19.8	1.766	0.5	15	207	1573	57	10	MEASURE	MEASURE	0.228	MEASURE	MEASURE
LTE Band 14	0.793	24.00	251	0.03	21.88	154.17	0.672	4.507	19.8	1.766	0.5	15	207	1595	57	10	MEASURE	MEASURE	0.252	MEASURE	MEASURE
LTE Band 17	0.711	23.50	224	-1.58	19.77	94.84	0.672	4.507	19.8	1.766	0.5	17	206	1431	60	12	MEASURE	MEASURE	0.250	MEASURE	MEASURE
LTE Band 26	0.8415	24.00	251	1.84	23.69	233.88	0.672	4.507	19.8	1.766	0.5	14	207	1692	95	9	MEASURE	MEASURE	0.237	MEASURE	MEASURE
LTE Band 71	0.688	23.50	224	-2.35	19.00	79.43	0.672	4.507	19.8	1.766	0.5	18	206	1385	62	12	MEASURE	MEASURE	0.259	MEASURE	MEASURE

Estimated SAR for $1.5 \text{ GHz} \leq f \leq 6 \text{ GHz}$

Tx Interface	Frequency (GHz)	Output Power		Antenna Gain (dBi)	ERP (dBm)	ERP Threshold (mW)	Separation Distances (cm)					P _o (mW)					Estimated 1-g SAR Value (W/kg)				
		dBm	mW				Rear	Edge1	Edge2	Edge3	Edge4	Rear	Edge1	Edge2	Edge3	Edge4	Rear	Edge1	Edge2	Edge3	Edge4
WCDMA Band I	1.9076	23.00	200	2.92	23.77	238.23	0.672	4.507	19.8	1.766	0.5	6	195	3004	35	3	MEASURE	MEASURE	0.127	MEASURE	MEASURE
WCDMA Band IV	1.7526	23.00	200	3.19	24.04	253.51	0.672	4.507	19.8	1.766	0.5	6	195	3004	35	4	MEASURE	MEASURE	0.135	MEASURE	MEASURE
LTE Band 2	1.9	24.00	251	2.92	24.77	299.92	0.672	4.507	19.8	1.766	0.5	6	195	3004	35	3	MEASURE	MEASURE	0.160	MEASURE	MEASURE
LTE Band 4	1.745	23.50	224	3.19	24.54	284.45	0.672	4.507	19.8	1.766	0.5	6	202	3004	36	4	MEASURE	MEASURE	0.152	MEASURE	MEASURE
LTE Band 7	2.56	23.50	224	1.75	23.10	204.17	0.672	4.507	19.8	1.766	0.5	5	177	3002	30	3	MEASURE	MEASURE	0.119	MEASURE	MEASURE
LTE Band 25	1.905	23.50	224	2.92	24.27	267.30	0.672	4.507	19.8	1.766	0.5	6	195	3004	35	3	MEASURE	MEASURE	0.142	MEASURE	MEASURE
LTE Band 41	2.68	23.50	224	1.99	23.34	215.77	0.672	4.507	19.8	1.766	0.5	5	175	3001	29	3	MEASURE	MEASURE	0.119	MEASURE	MEASURE
LTE Band 66	1.77	23.50	224	3.19	24.54	284.45	0.672	4.507	19.8	1.766	0.5	6	200	3004	36	4	MEASURE	MEASURE	0.152	MEASURE	MEASURE
WRI 2.4GHz	2.462	14.50	28	1.31	13.66	23.23	0.963	0.583	3.193	12.1	17.05	9	4	93	1176	2598	MEASURE	MEASURE	0.482	0.038	0.020
WRI 5.2GHz	5.24	15.00	32	1.25	14.10	25.70	0.963	0.583	3.193	12.1	17.05	6	2	68	1083	2000	MEASURE	MEASURE	0.742	0.047	0.023
WRI 5.3GHz	5.32	15.00	32	1.25	14.10	25.70	0.963	0.583	3.193	12.1	17.05	6	2	68	1081	2199	MEASURE	MEASURE	0.753	0.047	0.023
WRI 5.5GHz	5.7	12.50	18	1.25	11.60	14.45	0.963	0.583	3.193	12.1	17.05	5	2	67	1073	2194	MEASURE	MEASURE	0.430	0.027	0.013
WRI 5.8GHz	5.825	12.00	16	1.25	11.10	12.88	0.963	0.583	3.193	12.1	17.05	5	2	66	1070	2192	MEASURE	MEASURE	0.388	0.024	0.012
BT	2.48	10.00	10	1.31	9.16	8.24	0.963	0.583	3.193	12.1	17.05	9	4	93	1175	2598	MEASURE	MEASURE	0.172	0.014	0.007

12.1 Sum of the SAR for WCDMA Band II & Wi-Fi & BT

Test Position	Standalone SAR (W/kg)				Σ 1-g SAR (W/kg)	
	WWAN	DTS	U-NII	BT	WWAN + DTS + BT	WWAN + U-NII + BT
	(1)	(2)	(3)	(4)	(1) + (2) + (4)	(1) + (3) + (4)
Rear	0.611	0.245	0.203	0.000	0.86	0.81
Edge 1	0.134	0.620	0.979	0.000	0.75	1.11
Edge 2	0.052	0.482	0.753	0.172	0.71	0.98
Edge 3	0.811	0.002	0.078	0.000	0.81	0.89
Edge 4	0.330	0.020	0.023	0.007	0.36	0.36

12.2 Sum of the SAR for WCDMA Band IV & Wi-Fi & BT

Test Position	Standalone SAR (W/kg)				Σ 1-g SAR (W/kg)	
	WWAN	DTS	U-NII	BT	WWAN + DTS + BT	WWAN + U-NII + BT
	(1)	(2)	(3)	(4)	(1) + (2) + (4)	(1) + (3) + (4)
Rear	0.785	0.245	0.203	0.000	1.03	0.99
Edge 1	0.082	0.620	0.979	0.000	0.70	1.06
Edge 2	0.050	0.482	0.753	0.172	0.70	0.98
Edge 3	0.683	0.002	0.078	0.000	0.69	0.76
Edge 4	0.392	0.020	0.023	0.007	0.42	0.42

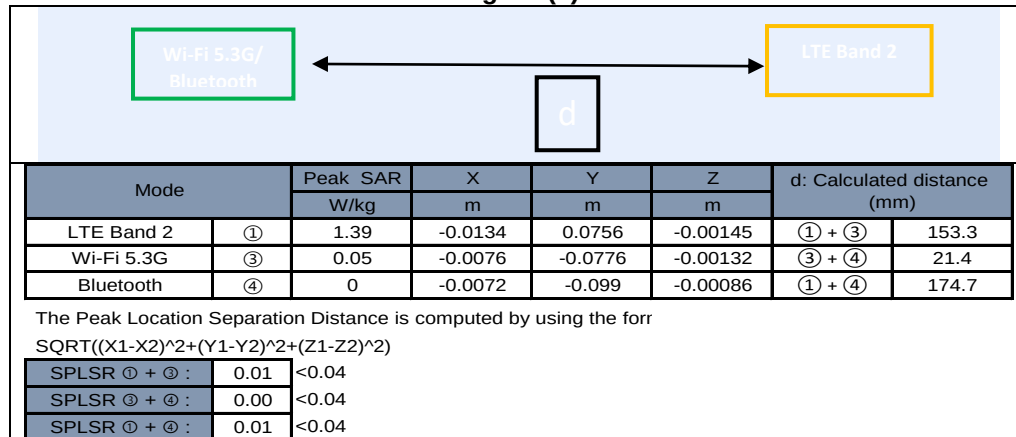
12.3 Sum of the SAR for WCDMA Band V & Wi-Fi & BT

Test Position	Standalone SAR (W/kg)				Σ 1-g SAR (W/kg)	
	WWAN	DTS	U-NII	BT	WWAN + DTS + BT	WWAN + U-NII + BT
	(1)	(2)	(3)	(4)	(1) + (2) + (4)	(1) + (3) + (4)
Rear	1.078	0.245	0.203	0.000	1.32	1.28
Edge 1	0.270	0.620	0.979	0.000	0.89	1.25
Edge 2	0.082	0.482	0.753	0.172	0.74	1.01
Edge 3	0.142	0.002	0.078	0.000	0.14	0.22
Edge 4	1.064	0.020	0.023	0.007	1.09	1.09

12.4 Sum of the SAR for LTE Band 2 & Wi-Fi & BT

Test Position	Standalone SAR (W/kg)				Σ 1-g SAR (W/kg)	
	WWAN	DTS	U-NII	BT	WWAN + DTS + BT	WWAN + U-NII + BT
	(1)	(2)	(3)	(4)	(1) + (2) + (4)	(1) + (3) + (4)
Rear	0.549	0.245	0.203	0.000	0.79	0.75
Edge 1	0.068	0.620	0.979	0.000	0.69	1.05
Edge 2	0.054	0.482	0.753	0.172	0.71	0.98
Edge 3	1.570	0.002	0.078	0.000	1.57	1.65
Edge 4	0.435	0.020	0.023	0.007	0.46	0.47

Figure (1)



12.5 Sum of the SAR for LTE Band 4 & Wi-Fi & BT

Test Position	Standalone SAR (W/kg)				Σ 1-g SAR (W/kg)	
	WWAN	DTS	U-NII	BT	WWAN + DTS + BT	WWAN + U-NII + BT
	(1)	(2)	(3)	(4)	(1) + (2) + (4)	(1) + (3) + (4)
Rear	0.775	0.245	0.203	0.000	1.02	0.98
Edge 1	0.047	0.620	0.979	0.000	0.67	1.03
Edge 2	0.046	0.482	0.753	0.172	0.70	0.97
Edge 3	0.614	0.002	0.078	0.000	0.62	0.69
Edge 4	0.382	0.020	0.023	0.007	0.41	0.41

12.6 Sum of the SAR for LTE Band 5 & Wi-Fi & BT

Test Position	Standalone SAR (W/kg)				Σ 1-g SAR (W/kg)	
	WWAN	DTS	U-NII	BT	WWAN + DTS + BT	WWAN + U-NII + BT
	(1)	(2)	(3)	(4)	(1) + (2) + (4)	(1) + (3) + (4)
Rear	0.650	0.245	0.203	0.000	0.90	0.85
Edge 1	0.032	0.620	0.979	0.000	0.65	1.01
Edge 2	0.113	0.482	0.753	0.172	0.77	1.04
Edge 3	0.165	0.002	0.078	0.000	0.17	0.24
Edge 4	1.278	0.020	0.023	0.007	1.31	1.31

12.7 Sum of the SAR for LTE Band 7 & Wi-Fi & BT

Test Position	Standalone SAR (W/kg)				Σ 1-g SAR (W/kg)	
	WWAN	DTS	U-NII	BT	WWAN + DTS + BT	WWAN + U-NII + BT
	(1)	(2)	(3)	(4)	(1) + (2) + (4)	(1) + (3) + (4)
Rear	0.457	0.245	0.203	0.000	0.70	0.66
Edge 1	0.034	0.620	0.979	0.000	0.65	1.01
Edge 2	0.039	0.482	0.753	0.172	0.69	0.96
Edge 3	0.678	0.002	0.078	0.000	0.68	0.76
Edge 4	1.132	0.020	0.023	0.007	1.16	1.16

12.8 Sum of the SAR for LTE Band 12 & Wi-Fi & BT

Test Position	Standalone SAR (W/kg)				Σ 1-g SAR (W/kg)	
	WWAN	DTS	U-NII	BT	WWAN + DTS + BT	WWAN + U-NII + BT
	(1)	(2)	(3)	(4)	(1) + (2) + (4)	(1) + (3) + (4)
Rear	0.373	0.245	0.203	0.000	0.62	0.58
Edge 1	0.046	0.620	0.979	0.000	0.67	1.03
Edge 2	0.022	0.482	0.753	0.172	0.68	0.95
Edge 3	0.202	0.002	0.078	0.000	0.20	0.28
Edge 4	0.853	0.020	0.023	0.007	0.88	0.88

12.9 Sum of the SAR for LTE Band 13 & Wi-Fi & BT

Test Position	Standalone SAR (W/kg)				Σ 1-g SAR (W/kg)	
	WWAN	DTS	U-NII	BT	WWAN + DTS + BT	WWAN + U-NII + BT
	(1)	(2)	(3)	(4)	(1) + (2) + (4)	(1) + (3) + (4)
Rear	0.615	0.245	0.203	0.000	0.86	0.82
Edge 1	0.237	0.620	0.979	0.000	0.86	1.22
Edge 2	0.027	0.482	0.753	0.172	0.68	0.95
Edge 3	0.145	0.002	0.078	0.000	0.15	0.22
Edge 4	0.965	0.020	0.023	0.007	0.99	1.00

12.10 Sum of the SAR for LTE Band 14 & Wi-Fi & BT

Test Position	Standalone SAR (W/kg)				Σ 1-g SAR (W/kg)	
	WWAN	DTS	U-NII	BT	WWAN + DTS + BT	WWAN + U-NII + BT
	(1)	(2)	(3)	(4)	(1) + (2) + (4)	(1) + (3) + (4)
Rear	0.827	0.245	0.203	0.000	1.07	1.03
Edge 1	0.239	0.620	0.979	0.000	0.86	1.22
Edge 2	0.031	0.482	0.753	0.172	0.69	0.96
Edge 3	0.143	0.002	0.078	0.000	0.15	0.22
Edge 4	1.010	0.020	0.023	0.007	1.04	1.04

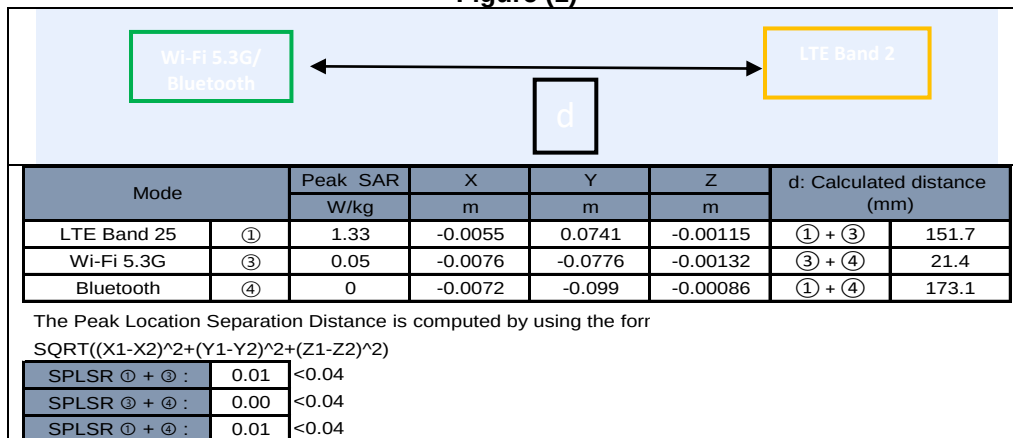
12.11 Sum of the SAR for LTE Band 17 & Wi-Fi & BT

Test Position	Standalone SAR (W/kg)				Σ 1-g SAR (W/kg)	
	WWAN	DTS	U-NII	BT	WWAN + DTS + BT	WWAN + U-NII + BT
	(1)	(2)	(3)	(4)	(1) + (2) + (4)	(1) + (3) + (4)
Rear	0.397	0.245	0.203	0.000	0.64	0.60
Edge 1	0.024	0.620	0.979	0.000	0.64	1.00
Edge 2	0.006	0.482	0.753	0.172	0.66	0.93
Edge 3	0.107	0.002	0.078	0.000	0.11	0.19
Edge 4	0.841	0.020	0.023	0.007	0.87	0.87

12.12 Sum of the SAR for LTE Band 25 & Wi-Fi & BT

Test Position	Standalone SAR (W/kg)				Σ 1-g SAR (W/kg)	
	WWAN	DTS	U-NII	BT	WWAN + DTS + BT	WWAN + U-NII + BT
	(1)	(2)	(3)	(4)	(1) + (2) + (4)	(1) + (3) + (4)
Rear	0.554	0.245	0.203	0.000	0.80	0.76
Edge 1	0.091	0.620	0.979	0.000	0.71	1.07
Edge 2	0.029	0.482	0.753	0.172	0.68	0.95
Edge 3	1.531	0.002	0.078	0.000	1.53	1.61
Edge 4	0.435	0.020	0.023	0.007	0.46	0.47

Figure (1)



12.13 Sum of the SAR for LTE Band 26 & Wi-Fi & BT

Test Position	Standalone SAR (W/kg)				Σ 1-g SAR (W/kg)	
	WWAN	DTS	U-NII	BT	WWAN + DTS + BT	WWAN + U-NII + BT
	(1)	(2)	(3)	(4)	(1) + (2) + (4)	(1) + (3) + (4)
Rear	1.167	0.245	0.203	0.000	1.41	1.37
Edge 1	0.340	0.620	0.979	0.000	0.96	1.32
Edge 2	0.143	0.482	0.753	0.172	0.80	1.07
Edge 3	0.301	0.002	0.078	0.000	0.30	0.38
Edge 4	1.233	0.020	0.023	0.007	1.26	1.26

12.14 Sum of the SAR for LTE Band 41 & Wi-Fi & BT

Test Position	Standalone SAR (W/kg)				Σ 1-g SAR (W/kg)	
	WWAN	DTS	U-NII	BT	WWAN + DTS + BT	WWAN + U-NII + BT
	(1)	(2)	(3)	(4)	(1) + (2) + (4)	(1) + (3) + (4)
Rear	0.143	0.245	0.203	0.000	0.39	0.35
Edge 1	0.015	0.620	0.979	0.000	0.64	0.99
Edge 2	0.012	0.482	0.753	0.172	0.67	0.94
Edge 3	0.276	0.002	0.078	0.000	0.28	0.35
Edge 4	0.657	0.020	0.023	0.007	0.68	0.69

12.15 Sum of the SAR for LTE Band 66 & Wi-Fi & BT

Test Position	Standalone SAR (W/kg)				Σ 1-g SAR (W/kg)	
	WWAN	DTS	U-NII	BT	WWAN + DTS + BT	WWAN + U-NII + BT
	(1)	(2)	(3)	(4)	(1) + (2) + (4)	(1) + (3) + (4)
Rear	1.084	0.245	0.203	0.000	1.33	1.29
Edge 1	0.050	0.620	0.979	0.000	0.67	1.03
Edge 2	0.038	0.482	0.753	0.172	0.69	0.96
Edge 3	0.419	0.002	0.078	0.000	0.42	0.50
Edge 4	0.437	0.020	0.023	0.007	0.46	0.47



Report No.: TMWK2305001421KS

Page: 89 / 91
Rev.: 02

12.16 Sum of the SAR for LTE Band 71 & Wi-Fi & BT

Test Position	Standalone SAR (W/kg)				Σ 1-g SAR (W/kg)	
	WWAN (1)	DTS (2)	U-NII (3)	BT (4)	WWAN + DTS + BT (1) + (2) + (4)	WWAN + U-NII + BT (1) + (3) + (4)
Rear	0.289	0.245	0.203	0.000	0.53	0.49
Edge 1	0.055	0.620	0.979	0.000	0.68	1.03
Edge 2	0.014	0.482	0.753	0.172	0.67	0.94
Edge 3	0.136	0.002	0.078	0.000	0.14	0.21
Edge 4	0.942	0.020	0.023	0.007	0.97	0.97

Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because either the sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.



Report No.: TMWK2305001421KS

Page: 90 / 91

Rev.: 02

13 Equipment List & Calibration Status

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

Dielectric Property Measurements				
Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
Dielectric Assessment Kit	SPEAG	DAKS-3.5	1053	2024/2/26
Thermometer	LKM	DTM3000	3896	2024/1/9

System Check				
Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
Radio Communication Analyzer	Rohde-Schwarz	CMW500	116875	2024/6/7
Radio Communication Analyzer	Anritsu	MT-8821C	6272374568	2024/3/2
Signal Generator	Agilent	N5181A	MY50145826	2024/9/21
Power Meter	Anritsu	ML2496A	2136002	2023/11/23
Power Sensor	Anritsu	MA2411B	1911386	2024/7/24
Power Sensor	Agilent	MA2411B	1911387	2024/7/24
Dual Directional Coupler	Agilent	772D	MY46151258	2024/9/25
Dual Directional Coupler	Agilent	778D	MY48220468	2024/9/25
Amplifier	EMCI	ZHL-42	S1900976	N/A
Amplifier	EMCI	ZVE-8G	S1900977	N/A
Data Acquisition Electronics	SPEAG	DAE4	547	2024/1/23
Dosimetric E-Field Probe	SPEAG	EX3DV4	3665	2024/8/17
System Validation Dipole	SPEAG	D750V3	1015	2024/9/17
System Validation Dipole	SPEAG	D835V2	4d063	2024/9/19
System Validation Dipole	SPEAG	D1750V2	1008	2024/9/18
System Validation Dipole	SPEAG	D1900V2	5d173	2024/4/25
System Validation Dipole	SPEAG	D2450V2	727	2024/4/24
System Validation Dipole	SPEAG	D2600V2	1005	2024/1/10
System Validation Dipole	SPEAG	D5GHzV2	1023	2024/1/18
Humidity/Temperature meter	TECPEL	DTM-303A	TP131515	2024/6/1
Thermometer	LKM	DTM3000	3896	2024/1/9

Software Version
DASY NEO52 D10.3 S14.6.13
SEMCAD-X-PostPro



Report No.: TMWK2305001421KS

Page: 91 / 91

Rev.: 02

14 Facilities

All measurement facilities used to collect the measurement data are located at

☒ No.11, Wugong 6th Rd., Wugu Dist., New Taipei City, Taiwan.

15 Appendixes

Exhibit	Content
1	SAR Setup Photos
2	SAR System Check Plots
3	Highest SAR Test Plots
4	SAR DAE and Probe Calibration Certificates
5	SAR Dipole Calibration Certificates

END OF REPORT