verify No.343332044228

위변조방지/진위확인
www.docugr.com

TEST REPORT

KCTL Inc.
65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Korea
TEL: 82-31-285-0894 FAX: 82-505-299-8311
www.kctl.co.kr

KCTL

1. Client

- Name : Samsung Electronics Co., Ltd.
- Address : 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea
- Date of Receipt : 2020-08-31

2. Use of Report : Certification

3. Name of Product and Model : Tablet PC
- Model Number : SM-T577U/DS
- Manufacturer and Country of Origin : Samsung Electronics Co., Ltd./ Vietnam

4. FCC ID : A3LSMT577U

5. Date of Test : 2020-09-03 ~ 2020-09-18

6. Location of Test : ■ Permanent Testing Lab ☐ On Site Testing (Address: Address of testing location)

7. Test Standards : IEEE 1528-2013, ANSI/IEEE C95.1, KDB Publication

8. Test Results : Refer to the test result in the test report

Affirmation	Tested by Name : Dongkyu Kim (Signature)	Technical Manager Name : Jongwon Ma (Signature)

2020-10-15

KCTL Inc.

As a test result of the sample which was submitted from the client, this report does not guarantee the whole product quality. This test report should not be used and copied without a written agreement by KCTL Inc.

REPORT REVISION HISTORY

Date	Revision	Page No
2020-10-06	Originally issued	-
2020-10-15	Changed 2.4 ㎓ WLAN Frequency	5

Note: The Report No. KR20-SPF0041 is superseded by the report No. KR20-SPF0041-A

This report shall not be reproduced except in full, without the written approval of KCTL Inc. This document may be altered or revised by KCTL Inc. personnel only, and shall be noted in the revision section of the document. Any alteration of this document not carried out by KCTL Inc. will constitute fraud and shall nullify the document. This test report is a general report that does not use the KOLAS accreditation mark and is not related to KS Q ISO/IEC 17025 and KOLAS accreditation.

General remarks for test reports

1. Identification when information is provided by the customer: Information marked "#" is provided by the customer.
- Disclaimer: This information is provided by the customer and can affect the validity of results.

CONTENTS

1. General information 4
2. Device information 5
3. #LTE Information 24
4. Specific Absorption Rate 27
5. SAR Measurement Procedures 28
6. SAR Measurement Configurations 29
7. RF Exposure Limits 30
8. FCC SAR General Measurement Procedures 31
9. RF Average Conducted Output Power 38
10. System Verification 95
11. SAR Test Results 99
12. Simultaneous Transmission 115
13. SAR Measurement Variability 134
14. Measurement Uncertainty 135
15. Test Equipment Information 136
16. Test System Verification Results 138
17. Test Results 156
Appendixes List 177
Appendix A. Calibration certificate 178
Appendix B. SAR Tissue Specification 290
Appendix C. Downlink LTE CA RF Conducted Power 291
Appendix D. Power Reduction Verification 299
Appendix E. #Antenna Location & Distance 309
Appendix F. EUT Photo 311
Appendix G. Test Setup Photo 314
End of test report 321

This test report shall not be reproduced, except in full, without the written approval

1. General information

Client	:	Samsung Electronics Co., Ltd.
Address	:	129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea
Manufacturer	:	Samsung Electronics Co., Ltd.
Address	:	129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea
Factory	:	Samsung Electronics Vietnam Thai Nguyen Co., Ltd(SEVT)
Address	:	Yen Binh Industrial Park, Dong Tien Ward, Pho Yen Town Thai Nguyen Province, Vietnam
Contact Person	:	Hyunje Choi / chj5630.choi@samsung.com
Laboratory	:	KCTL Inc.
Address	:	65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea
Accreditations	:	FCC Site Designation No: KR0040, FCC Site Registration No: 687132
		VCCI Registration No. : R-3327, G-198, C-3706, T-1849
		Industry Canada Registration No. : 8035A
		KOLAS No.: KT231

1.1 Report Overview

This report details the results of testing carried out on the samples listed in section 2, the results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. If the product in this test report is used in any configuration other than that detailed in the test report, the manufacturer must ensure the new configuration complies with all relevant standards and certification requirements. Any mention of KCTL Inc. Wireless lab or testing done by KCTL Inc. Wireless lab made in connection with the distribution or use of the tested product must be approved in writing by KCTL Inc. Wireless lab.

2. Device information

2.1 Basic description

Product Name		Tablet PC		
Product Model Number		SM-T577U/DS		
Product Manufacturer		Samsung Electronics Co., Ltd.		
Product Serial Number	WCDMA/LTE Radiation	R32N601ABKJ		
		R32N601AC8Y		
	WLAN Radiation	R32N601AB4P		
		R32N601AB9M		
	Conduction	WCDMA / LTE	R32N601A85A	
		WLAN / Bluetooth	R32N601A7VE	
Device Overview		Band & Mode	Operating Modes	Tx Frequency (㎒)
		WCDMA Band II	Voice/Data	1 852.4 ~ 1 907.6
		WCDMA Band IV	Voice/Data	1 712.4 ~ 1 752.6
		WCDMA Band V	Voice/Data	826.4 ~ 846.6
		LTE Band 2	Voice/Data	1 850.7 ~ 1 909.3
		LTE Band 4	Voice/Data	1 710.7 ~ 1 754.3
		LTE Band 5	Voice/Data	824.7 ~ 848.3
		LTE Band 7	Voice/Data	2 502.5 ~ 2 567.5
		LTE Band 12	Voice/Data	699.7 ~ 715.3
		LTE Band 13	Voice/Data	779.5 ~ 784.5
		LTE Band 14	Voice/Data	790.5 ~ 795.5
		LTE Band 25	Voice/Data	1 850.7 ~ 1 914.3
		LTE Band 26	Voice/Data	814.7 ~ 848.3
		LTE Band 29	Voice/Data	Rx only
		LTE Band 41	Voice/Data	2 498.5 ~ 2 687.5
		LTE Band 66	Voice/Data	1 710.7 ~ 1 779.3
		LTE Band 71	Voice/Data	666.5 ~ 695.5
		2.4 ㎓ WLAN	Voice/Data	2 412.0 ~ 2 462.0
		U-NII-1	Voice/Data	5 180.0 ~ 5 240.0
		U-NII-2A	Voice/Data	5 260.0 ~ 5 320.0
		U-NII-2C	Voice/Data	5 500.0 ~ 5 720.0
		U-NII-3	Voice/Data	5 745.0 ~ 5 825.0
		Bluetooth	Data	2 402.0 ~ 2 480.0
		NFC	Data	13.56
TDWR Information		5.60 ㎓~ 5.65 ㎓ band (TDWR) is supported by the device.		

2.2 Summary of SAR Test Results

Band	Equipment Class	Highest Reported 1g SAR (W/kg) Body
WCDMA Band II	PCB	0.65
WCDMA Band IV	PCB	0.61
WCDMA Band V	PCB	0.57
LTE Band 2	PCB	N/A
LTE Band 4	PCB	N/A
LTE Band 5	PCB	N/A
LTE Band 7	PCB	**0.73**
LTE Band 12	PCB	0.47
LTE Band 13	PCB	0.51
LTE Band 14	PCB	0.48
LTE Band 25	PCB	0.62
LTE Band 26	PCB	0.63
LTE Band 41	PCB	0.58
LTE Band 66	PCB	0.65
LTE Band 71	PCB	0.52
2.4 GHz WLAN	DTS	0.45
U-NII-1	NII	N/A
U-NII-2A	NII	0.55
U-NII-2C	NII	0.35
U-NII-3	NII	0.39
Bluetooth	DSS	0.60
Simultaneous SAR per KDB 690783 D01v01r03		1.58

This test report shall not be reproduced, except in full, without the written approval

2.3 Power Reduction for SAR

This device utilizes a power reduction mechanism for some wireless modes and bands for SAR compliance under some conditions when the device is being used in close proximity to the user's hand. FCC KDB Publication 616217 D04v01r02 Section 6 was used as a guideline for selecting SAR test distances for this device when being used in Tablet use conditions. Detailed descriptions of the power reduction mechanism are included in the operational description.

2.4 #Maximum Tune-up power

This device operates using the following maximum output power specifications. SAR values were scaled to the maximum allowed power to determine compliance per KDB Publication 447498 D01v06.

2.4.1 Maximum 3G/4G Output Power

Band	Mode	Output Power (dBm)		
		Target	Max. Allowed	SAR Test
WCDMA Band II	RMC	23.50	**24.50**	**Yes**
	HSDPA	23.00	**24.00**	No
	HSUPA	23.00	**24.00**	No
	DC-HSDPA	23.00	**24.00**	No
WCDMA Band IV	RMC	23.50	**24.50**	**Yes**
	HSDPA	23.00	**24.00**	No
	HSUPA	23.00	**24.00**	No
	DC-HSDPA	23.00	**24.00**	No
WCDMA Band V	RMC	23.50	**24.50**	**Yes**
	HSDPA	23.00	**24.00**	No
	HSUPA	23.00	**24.00**	No
	DC-HSDPA	23.00	**24.00**	No
LTE Band 2		23.50	**24.50**	*No
LTE Band 4		24.00	**25.00**	*No
LTE Band 5		23.50	**24.50**	*No
LTE Band 7		22.00	**23.00**	**Yes**
LTE Band 12		23.50	**24.50**	**Yes**
LTE Band 13		23.50	**24.50**	**Yes**
LTE Band 14		23.50	**24.50**	**Yes**
LTE Band 25		23.50	**24.50**	**Yes**
LTE Band 26		23.50	**24.50**	**Yes**
LTE Band 41 (Power Class 2)		25.50	**26.50**	No
LTE Band 41 (Power Class 3)		23.50	**24.50**	**Yes**
LTE Band 66		24.00	**25.00**	**Yes**
LTE Band 71		23.50	**24.50**	**Yes**

2.4.2 Reduced 3G/4G Output Power(Grip Sensor)

Band	Mode	Output Power (dBm)		
		Target	Max. Allowed	SAR Test
WCDMA Band II	RMC	13.50	**14.50**	**Yes**
	HSDPA	13.00	**14.00**	No
	HSUPA	13.00	**14.00**	No
	DC-HSDPA	13.00	**14.00**	No
WCDMA Band IV	RMC	14.50	**15.50**	**Yes**
	HSDPA	14.00	**15.00**	No
	HSUPA	14.00	**15.00**	No
	DC-HSDPA	14.00	**15.00**	No
WCDMA Band V	RMC	19.50	**20.50**	**Yes**
	HSDPA	19.00	**20.00**	No
	HSUPA	19.00	**20.00**	No
	DC-HSDPA	19.00	**20.00**	No
LTE Band 2		13.50	**14.50**	*No
LTE Band 4		14.00	**15.00**	*No
LTE Band 5		18.50	**19.50**	*No
LTE Band 7		12.00	**13.00**	**Yes**
LTE Band 12		16.50	**17.50**	**Yes**
LTE Band 13		16.50	**17.50**	**Yes**
LTE Band 14		16.50	**17.50**	**Yes**
LTE Band 25		13.50	**14.50**	**Yes**
LTE Band 26		18.50	**19.50**	**Yes**
LTE Band 41 (Power Class 2)		13.50	**14.50**	**Yes**
LTE Band 41 (Power Class 3)		13.50	**14.50**	**Yes**
LTE Band 66		14.00	**15.00**	**Yes**
LTE Band 71		16.50	**17.50**	**Yes**

Notes in Sections 2.4.1 and 2.4.2:

LTE Band 2 Measured Results

SAR for LTE Band 2 (Frequency range: 1 850.7 ~ 1 909.3 ㎒) is covered by LTE Band 25 (Frequency range: 1 850.7 ~ 1 914.3 ㎒) due to overlapping frequency range, same maximum tune-up limit and same channel bandwidth

LTE Band 4 Measured Results

SAR for LTE Band 4 (Frequency range: 1 710.7 ~ 1 754.3 ㎒) is covered by LTE Band 66 (Frequency range: 1 710.7 ㎒ ~ 1 779.3 ㎒) due to overlapping frequency range, same maximum tune-up limit and same channel bandwidth

LTE Band 5 Measured Results

SAR for LTE Band 5 (Frequency range: 824.7 ㎒ ~ 848.3 ㎒) is covered by LTE Band 26 (Frequency range: 814.7 ㎒ ~ 848.3 ㎒) due to overlapping frequency range, same maximum tune-up limit and same channel bandwidth

2.4.3 Maximum WLAN Output Power
2.4.3.1 Maximum WLAN Output Power(Maximum Tune-up Power)

Band	Ant.	Mode	Channel	Output Power (dB m)		
				Target	Max. Allowed	SAR Test
WLAN 2.4 GHz	Ant.1, Ant.2	802.11b	All Channel	18.00	**19.00**	Yes
		802.11g	All Channel	14.00	**15.00**	No
		802.11n(HT20)	All Channel	13.50	**14.50**	No
		802.11ac(VHT20)	All Channel	13.50	**14.50**	No
		SU 20 MHz	All Channel	13.50	**14.50**	No
		RU 26T_20 MHz	All Channel	15.00	**16.00**	No
		RU 52T_20 MHz	All Channel	15.00	**16.00**	No
		RU 106T_20 MHz	All Channel	15.00	**16.00**	No
		RU 242T_20 MHz	All Channel	13.00	**14.00**	No
	MIMO	802.11g	All Channel	17.00	**18.00**	No
		802.11n(HT20)	All Channel	16.50	**17.50**	No
		802.11ac(VHT20)	All Channel	16.50	**17.50**	No
		SU 20 MHz	All Channel	16.50	**17.50**	No
		RU 26T_20 MHz	All Channel	18.00	**19.00**	No
		RU 52T_20 MHz	All Channel	18.00	**19.00**	No
		RU 106T_20 MHz	All Channel	18.00	**19.00**	No
		RU 242T_20 MHz	All Channel	16.00	**17.00**	No

Band	Ant.	Mode	Channel	Output Power (dB m)		
				Target	Max. Allowed	SAR Test
U-NII	Ant.1, Ant.2	802.11a	All Channel	14.00	**15.00**	Yes
		802.11n(HT20)	All Channel	14.00	**15.00**	No
		802.11n(HT40)	All Channel	13.00	**14.00**	No
		802.11ac(VHT20)	All Channel	14.00	**15.00**	No
		802.11ac(VHT40)	All Channel	13.00	**14.00**	No
		802.11ac(VHT80)	All Channel	12.00	**13.00**	No
		SU 20 MHz	All Channel	14.00	**15.00**	No
		RU 26T_20 MHz	All Channel	10.00	**11.00**	No
		RU 52T_20 MHz	All Channel	10.00	**11.00**	No
		RU 106T_20 MHz	All Channel	10.00	**11.00**	No
		RU 242T_20 MHz	All Channel	10.00	**11.00**	No
		SU 40 MHz	All Channel	13.00	**14.00**	No
		RU 26T_40 MHz	All Channel	10.00	**11.00**	No
		RU 52T_40 MHz	All Channel	10.00	**11.00**	No
		RU 106T_40 MHz	All Channel	10.00	**11.00**	No
		RU 242T_40 MHz	All Channel	10.00	**11.00**	No
		RU 484T_40 MHz	All Channel	10.00	**11.00**	No
		SU 80 MHz	All Channel	12.00	**13.00**	No
		RU 26T_80 MHz	All Channel	10.00	**11.00**	No
		RU 52T_80 MHz	All Channel	10.00	**11.00**	No
		RU 106T_80 MHz	All Channel	10.00	**11.00**	No
		RU 242T_80 MHz	All Channel	10.00	**11.00**	No
		RU 484T_80 MHz	All Channel	10.00	**11.00**	No
		RU 996T_80 MHz	All Channel	10.00	**11.00**	No

Band	Ant.	Mode	Channel	Output Power (dB m)		
				Target	Max. Allowed	SAR Test
U-NII	MIMO	802.11a	All Channel	17.00	**18.00**	No
		802.11n(HT20)	All Channel	17.00	**18.00**	No
		802.11n(HT40)	All Channel	16.00	**17.00**	No
		802.11ac(VHT20)	All Channel	17.00	**18.00**	No
		802.11ac(VHT40)	All Channel	16.00	**17.00**	No
		802.11ac(VHT80)	All Channel	15.00	**16.00**	No
		SU 20 MHz	All Channel	17.00	**18.00**	No
		RU 26T_20 MHz	All Channel	13.00	**14.00**	No
		RU 52T_20 MHz	All Channel	13.00	**14.00**	No
		RU 106T_20 MHz	All Channel	13.00	**14.00**	No
		RU 242T_20 MHz	All Channel	13.00	**14.00**	No
		SU 40 MHz	All Channel	16.00	**17.00**	No
		RU 26T_40 MHz	All Channel	13.00	**14.00**	No
		RU 52T_40 MHz	All Channel	13.00	**14.00**	No
		RU 106T_40 MHz	All Channel	13.00	**14.00**	No
		RU 242T_40 MHz	All Channel	13.00	**14.00**	No
		RU 484T_40 MHz	All Channel	13.00	**14.00**	No
		SU 80 MHz	All Channel	15.00	**16.00**	No
		RU 26T_80 MHz	All Channel	13.00	**14.00**	No
		RU 52T_80 MHz	All Channel	13.00	**14.00**	No
		RU 106T_80 MHz	All Channel	13.00	**14.00**	No
		RU 242T_80 MHz	All Channel	13.00	**14.00**	No
		RU 484T_80 MHz	All Channel	13.00	**14.00**	No
		RU 996T_80 MHz	All Channel	13.00	**14.00**	No

2.4.3.2 Reduced WLAN Output Power(Grip Sensor)

Band	Ant.	Mode	Channel	Output Power (dB m)		
				Target	Max. Allowed	SAR Test
WLAN 2.4 GHz	Ant.1, Ant.2	802.11b	All Channel	8.00	**9.00**	Yes
		802.11g	All Channel	8.00	**9.00**	No
		802.11n(HT20)	All Channel	8.00	**9.00**	No
		802.11ac(VHT20)	All Channel	8.00	**9.00**	No
		SU 20 MHz	All Channel	8.00	**9.00**	No
		RU 26T_20 MHz	All Channel	5.00	**6.00**	No
		RU 52T_20 MHz	All Channel	5.00	**6.00**	No
		RU 106T_20 MHz	All Channel	5.00	**6.00**	No
		RU 242T_20 MHz	All Channel	5.00	**6.00**	No
	MIMO	802.11g	All Channel	11.00	**12.00**	No
		802.11n(HT20)	All Channel	11.00	**12.00**	No
		802.11ac(VHT20)	All Channel	11.00	**12.00**	No
		SU 20 MHz	All Channel	11.00	**12.00**	No
		RU 26T_20 MHz	All Channel	8.00	**9.00**	No
		RU 52T_20 MHz	All Channel	8.00	**9.00**	No
		RU 106T_20 MHz	All Channel	8.00	**9.00**	No
		RU 242T_20 MHz	All Channel	8.00	**9.00**	No

Band	Ant.	Mode	Channel	Output Power (dB m)		
				Target	Max. Allowed	SAR Test
U-NII	Ant.1, Ant.2	802.11a	All Channel	2.90	**3.90**	No
		802.11n(HT20)	All Channel	2.90	**3.90**	No
		802.11n(HT40)	All Channel	2.90	**3.90**	No
		802.11ac(VHT20)	All Channel	2.90	**3.90**	No
		802.11ac(VHT40)	All Channel	2.90	**3.90**	No
		802.11ac(VHT80)	All Channel	2.90	**3.90**	**Yes**
		SU 20 MHz	All Channel	2.90	**3.90**	No
		RU 26T_20 MHz	All Channel	2.90	**3.90**	No
		RU 52T_20 MHz	All Channel	2.90	**3.90**	No
		RU 106T_20 MHz	All Channel	2.90	**3.90**	No
		RU 242T_20 MHz	All Channel	2.90	**3.90**	No
		SU 40 MHz	All Channel	2.90	**3.90**	No
		RU 26T_40 MHz	All Channel	2.90	**3.90**	No
		RU 52T_40 MHz	All Channel	2.90	**3.90**	No
		RU 106T_40 MHz	All Channel	2.90	**3.90**	No
		RU 242T_40 MHz	All Channel	2.90	**3.90**	No
		RU 484T_40 MHz	All Channel	2.90	**3.90**	No
		SU 80 MHz	All Channel	2.90	**3.90**	No
		RU 26T_80 MHz	All Channel	2.90	**3.90**	No
		RU 52T_80 MHz	All Channel	2.90	**3.90**	No
		RU 106T_80 MHz	All Channel	2.90	**3.90**	No
		RU 242T_80 MHz	All Channel	2.90	**3.90**	No
		RU 484T_80 MHz	All Channel	2.90	**3.90**	No
		RU 996T_80 MHz	All Channel	2.90	**3.90**	No

Band	Ant.	Mode	Channel	Output Power (dB m)		
				Target	Max. Allowed	SAR Test
U-NII	MIMO	802.11a	All Channel	5.90	**6.90**	No
		802.11n(HT20)	All Channel	5.90	**6.90**	No
		802.11n(HT40)	All Channel	5.90	**6.90**	No
		802.11ac(VHT20)	All Channel	5.90	**6.90**	No
		802.11ac(VHT40)	All Channel	5.90	**6.90**	No
		802.11ac(VHT80)	All Channel	5.90	**6.90**	No
		SU 20 MHz	All Channel	5.90	**6.90**	No
		RU 26T_20 MHz	All Channel	5.90	**6.90**	No
		RU 52T_20 MHz	All Channel	5.90	**6.90**	No
		RU 106T_20 MHz	All Channel	5.90	**6.90**	No
		RU 242T_20 MHz	All Channel	5.90	**6.90**	No
		SU 40 MHz	All Channel	5.90	**6.90**	No
		RU 26T_40 MHz	All Channel	5.90	**6.90**	No
		RU 52T_40 MHz	All Channel	5.90	**6.90**	No
		RU 106T_40 MHz	All Channel	5.90	**6.90**	No
		RU 242T_40 MHz	All Channel	5.90	**6.90**	No
		RU 484T_40 MHz	All Channel	5.90	**6.90**	No
		SU 80 MHz	All Channel	5.90	**6.90**	No
		RU 26T_80 MHz	All Channel	5.90	**6.90**	No
		RU 52T_80 MHz	All Channel	5.90	**6.90**	No
		RU 106T_80 MHz	All Channel	5.90	**6.90**	No
		RU 242T_80 MHz	All Channel	5.90	**6.90**	No
		RU 484T_80 MHz	All Channel	5.90	**6.90**	No
		RU 996T_80 MHz	All Channel	5.90	**6.90**	No

2.4.3.3 Reduced WLAN Output Power(RSDB)

Band	Ant.	Mode	Channel	Output Power (dB m)		
				Target	Max. Allowed	SAR Test
WLAN 2.4 GHz	Ant.1, Ant.2	802.11b	All Channel	14.00	**15.00**	**Yes**
		802.11g	All Channel	14.00	**15.00**	No
		802.11n(HT20)	All Channel	13.50	**14.50**	No
		802.11ac(VHT20)	All Channel	13.50	**14.50**	No
		SU 20 MHz	All Channel	13.50	**14.50**	No
		RU 26T_20 MHz	All Channel	14.00	**15.00**	No
		RU 52T_20 MHz	All Channel	14.00	**15.00**	No
		RU 106T_20 MHz	All Channel	14.00	**15.00**	No
		RU 242T_20 MHz	All Channel	13.00	**14.00**	No
	MIMO	802.11g	All Channel	17.00	**18.00**	No
		802.11n(HT20)	All Channel	16.50	**17.50**	No
		802.11ac(VHT20)	All Channel	16.50	**17.50**	No
		SU 20 MHz	All Channel	16.50	**17.50**	No
		RU 26T_20 MHz	All Channel	17.00	**18.00**	No
		RU 52T_20 MHz	All Channel	17.00	**18.00**	No
		RU 106T_20 MHz	All Channel	17.00	**18.00**	No
		RU 242T_20 MHz	All Channel	16.00	**17.00**	No

Band	Ant.	Mode	Channel	Output Power (dB m)		
				Target	Max. Allowed	SAR Test
U-NII	Ant.1, Ant.2	802.11a	All Channel	10.00	**11.00**	No
		802.11n(HT20)	All Channel	10.00	**11.00**	No
		802.11n(HT40)	All Channel	10.00	**11.00**	No
		802.11ac(VHT20)	All Channel	10.00	**11.00**	No
		802.11ac(VHT40)	All Channel	10.00	**11.00**	No
		802.11ac(VHT80)	All Channel	10.00	**11.00**	**Yes**
		SU 20 MHz	All Channel	10.00	**11.00**	No
		RU 26T_20 MHz	All Channel	10.00	**11.00**	No
		RU 52T_20 MHz	All Channel	10.00	**11.00**	No
		RU 106T_20 MHz	All Channel	10.00	**11.00**	No
		RU 242T_20 MHz	All Channel	10.00	**11.00**	No
		SU 40 MHz	All Channel	10.00	**11.00**	No
		RU 26T_40 MHz	All Channel	10.00	**11.00**	No
		RU 52T_40 MHz	All Channel	10.00	**11.00**	No
		RU 106T_40 MHz	All Channel	10.00	**11.00**	No
		RU 242T_40 MHz	All Channel	10.00	**11.00**	No
		RU 484T_40 MHz	All Channel	10.00	**11.00**	No
		SU 80 MHz	All Channel	10.00	**11.00**	No
		RU 26T_80 MHz	All Channel	10.00	**11.00**	No
		RU 52T_80 MHz	All Channel	10.00	**11.00**	No
		RU 106T_80 MHz	All Channel	10.00	**11.00**	No
		RU 242T_80 MHz	All Channel	10.00	**11.00**	No
		RU 484T_80 MHz	All Channel	10.00	**11.00**	No
		RU 996T_80 MHz	All Channel	10.00	**11.00**	No

Band	Ant.	Mode	Channel	Output Power (dB m)		
				Target	Max. Allowed	SAR Test
U-NII	MIMO	802.11a	All Channel	13.00	**14.00**	No
		802.11n(HT20)	All Channel	13.00	**14.00**	No
		802.11n(HT40)	All Channel	13.00	**14.00**	No
		802.11ac(VHT20)	All Channel	13.00	**14.00**	No
		802.11ac(VHT40)	All Channel	13.00	**14.00**	No
		802.11ac(VHT80)	All Channel	13.00	**14.00**	No
		SU 20 MHz	All Channel	13.00	**14.00**	No
		RU 26T_20 MHz	All Channel	13.00	**14.00**	No
		RU 52T_20 MHz	All Channel	13.00	**14.00**	No
		RU 106T_20 MHz	All Channel	13.00	**14.00**	No
		RU 242T_20 MHz	All Channel	13.00	**14.00**	No
		SU 40 MHz	All Channel	13.00	**14.00**	No
		RU 26T_40 MHz	All Channel	13.00	**14.00**	No
		RU 52T_40 MHz	All Channel	13.00	**14.00**	No
		RU 106T_40 MHz	All Channel	13.00	**14.00**	No
		RU 242T_40 MHz	All Channel	13.00	**14.00**	No
		RU 484T_40 MHz	All Channel	13.00	**14.00**	No
		SU 80 MHz	All Channel	13.00	**14.00**	No
		RU 26T_80 MHz	All Channel	13.00	**14.00**	No
		RU 52T_80 MHz	All Channel	13.00	**14.00**	No
		RU 106T_80 MHz	All Channel	13.00	**14.00**	No
		RU 242T_80 MHz	All Channel	13.00	**14.00**	No
		RU 484T_80 MHz	All Channel	13.00	**14.00**	No
		RU 996T_80 MHz	All Channel	13.00	**14.00**	No

2.4.3.4 Reduced WLAN Output Power(RSDB+Grip Sensor)

Band	Ant.	Mode	Channel	Output Power (dB m)		
				Target	Max. Allowed	SAR Test
WLAN 2.4 GHz	Ant.1, Ant.2	802.11b	All Channel	5.00	**6.00**	**Yes**
		802.11g	All Channel	5.00	**6.00**	No
		802.11n(HT20)	All Channel	5.00	**6.00**	No
		802.11ac(VHT20)	All Channel	5.00	**6.00**	No
		SU 20 MHz	All Channel	5.00	**6.00**	No
		RU 26T_20 MHz	All Channel	5.00	**6.00**	No
		RU 52T_20 MHz	All Channel	5.00	**6.00**	No
		RU 106T_20 MHz	All Channel	5.00	**6.00**	No
		RU 242T_20 MHz	All Channel	5.00	**6.00**	No
	MIMO	802.11g	All Channel	8.00	**9.00**	No
		802.11n(HT20)	All Channel	8.00	**9.00**	No
		802.11ac(VHT20)	All Channel	8.00	**9.00**	No
		SU 20 MHz	All Channel	8.00	**9.00**	No
		RU 26T_20 MHz	All Channel	8.00	**9.00**	No
		RU 52T_20 MHz	All Channel	8.00	**9.00**	No
		RU 106T_20 MHz	All Channel	8.00	**9.00**	No
		RU 242T_20 MHz	All Channel	8.00	**9.00**	No

Band	Ant.	Mode	Channel	Output Power (dB m)		
				Target	Max. Allowed	SAR Test
U-NII	Ant.1, Ant.2	802.11a	All Channel	1.00	**2.00**	No
		802.11n(HT20)	All Channel	1.00	**2.00**	No
		802.11n(HT40)	All Channel	1.00	**2.00**	No
		802.11ac(VHT20)	All Channel	1.00	**2.00**	No
		802.11ac(VHT40)	All Channel	1.00	**2.00**	No
		802.11ac(VHT80)	All Channel	1.00	**2.00**	**Yes**
		SU 20 MHz	All Channel	1.00	**2.00**	No
		RU 26T_20 MHz	All Channel	1.00	**2.00**	No
		RU 52T_20 MHz	All Channel	1.00	**2.00**	No
		RU 106T_20 MHz	All Channel	1.00	**2.00**	No
		RU 242T_20 MHz	All Channel	1.00	**2.00**	No
		SU 40 MHz	All Channel	1.00	**2.00**	No
		RU 26T_40 MHz	All Channel	1.00	**2.00**	No
		RU 52T_40 MHz	All Channel	1.00	**2.00**	No
		RU 106T_40 MHz	All Channel	1.00	**2.00**	No
		RU 242T_40 MHz	All Channel	1.00	**2.00**	No
		RU 484T_40 MHz	All Channel	1.00	**2.00**	No
		SU 80 MHz	All Channel	1.00	**2.00**	No
		RU 26T_80 MHz	All Channel	1.00	**2.00**	No
		RU 52T_80 MHz	All Channel	1.00	**2.00**	No
		RU 106T_80 MHz	All Channel	1.00	**2.00**	No
		RU 242T_80 MHz	All Channel	1.00	**2.00**	No
		RU 484T_80 MHz	All Channel	1.00	**2.00**	No
		RU 996T_80 MHz	All Channel	1.00	**2.00**	No

Band	Ant.	Mode	Channel	Output Power (dB m)		
				Target	Max. Allowed	SAR Test
U-NII	MIMO	802.11a	All Channel	4.00	**5.00**	No
		802.11n(HT20)	All Channel	4.00	**5.00**	No
		802.11n(HT40)	All Channel	4.00	**5.00**	No
		802.11ac(VHT20)	All Channel	4.00	**5.00**	No
		802.11ac(VHT40)	All Channel	4.00	**5.00**	No
		802.11ac(VHT80)	All Channel	4.00	**5.00**	No
		SU 20 MHz	All Channel	4.00	**5.00**	No
		RU 26T_20 MHz	All Channel	4.00	**5.00**	No
		RU 52T_20 MHz	All Channel	4.00	**5.00**	No
		RU 106T_20 MHz	All Channel	4.00	**5.00**	No
		RU 242T_20 MHz	All Channel	4.00	**5.00**	No
		SU 40 MHz	All Channel	4.00	**5.00**	No
		RU 26T_40 MHz	All Channel	4.00	**5.00**	No
		RU 52T_40 MHz	All Channel	4.00	**5.00**	No
		RU 106T_40 MHz	All Channel	4.00	**5.00**	No
		RU 242T_40 MHz	All Channel	4.00	**5.00**	No
		RU 484T_40 MHz	All Channel	4.00	**5.00**	No
		SU 80 MHz	All Channel	4.00	**5.00**	No
		RU 26T_80 MHz	All Channel	4.00	**5.00**	No
		RU 52T_80 MHz	All Channel	4.00	**5.00**	No
		RU 106T_80 MHz	All Channel	4.00	**5.00**	No
		RU 242T_80 MHz	All Channel	4.00	**5.00**	No
		RU 484T_80 MHz	All Channel	4.00	**5.00**	No
		RU 996T_80 MHz	All Channel	4.00	**5.00**	No

2.4.4 Maximum Bluetooth Output Power

Band	Ant.	Mode	Channel	Output Power (dB m)		
				Target	Max. Allowed	SAR Test
Bluetooth	Ant.1	BDR	All Channel	11.50	**12.50**	Yes
		EDR	All Channel	11.00	**12.00**	No
		LE 1M(GFSK)	All Channel	6.50	**7.50**	No
		LE 2M(GFSK)	All Channel	7.00	**8.00**	No

2.5 SAR Test Configurations

2.5.1 #DUT Antenna Locations

The overall dimensions of this device are > 20 cm. A diagram showing the location of the device antennas can be found in Appendix E.

2.5.2 SAR Test Exclusion Considerations_(Maximum Tune-up Power)

<Body Configuration>

Band / Ant.	Freq. [MHz]	Output Power		Separation distances [mm]					SAR Exemption				
		dBm	㎽	Rear	Left	Right	Top	Bot.	Rear	Left	Right	Top	Bot.
WCDMA 2	1 907.6	24.50	282	5	87	5	5	192	77.90 Measure	479mW EXEMPT	77.90 Measure	77.90 Measure	1529mW EXEMPT
WCDMA 4	1 752.6	24.50	282	5	87	5	5	192	74.67 Measure	483mW EXEMPT	74.67 Measure	74.67 Measure	1533mW EXEMPT
WCDMA 5	846.6	24.50	282	5	87	5	5	192	51.89 Measure	372mW EXEMPT	51.89 Measure	51.89 Measure	964mW EXEMPT
LTE 7	2 567.5	23.00	200	5	87	5	5	192	64.09 Measure	464mW EXEMPT	64.09 Measure	64.09 Measure	1514mW EXEMPT
LTE 12	715.3	24.50	282	5	87	5	5	192	47.70 Measure	354mW EXEMPT	47.70 Measure	47.70 Measure	855mW EXEMPT
LTE 13	784.5	24.50	282	5	87	5	5	192	49.95 Measure	363mW EXEMPT	49.95 Measure	49.95 Measure	912mW EXEMPT
LTE 14	784.5	24.50	282	5	87	5	5	192	49.95 Measure	363mW EXEMPT	49.95 Measure	49.95 Measure	912mW EXEMPT
LTE 25	1 914.3	24.50	282	5	87	5	5	192	78.03 Measure	478mW EXEMPT	78.03 Measure	78.03 Measure	1528mW EXEMPT
LTE 26	848.3	24.50	282	5	87	5	5	192	51.95 Measure	372mW EXEMPT	51.95 Measure	51.95 Measure	966mW EXEMPT
LTE 41	2 687.5	26.50	447	5	87	5	5	192	146.56 Measure	461mW EXEMPT	146.56 Measure	146.56 Measure	1511mW EXEMPT
LTE 66	1 779.3	25.00	316	5	87	5	5	192	84.30 Measure	482mW EXEMPT	84.30 Measure	84.30 Measure	1532mW EXEMPT
LTE 71	695.5	24.50	282	5	87	5	5	192	47.04 Measure	351mW EXEMPT	47.04 Measure	47.04 Measure	838mW EXEMPT
2.4 ㎓ Ant.1	2 480.0	19.00	79	5	5	113	26	162	24.88 Measure	24.88 Measure	725mW EXEMPT	4.78 Measure	1215mW EXEMPT
5.3 ㎓ Ant.1	5 320.0	15.00	32	5	5	113	26	162	14.76 Measure	14.76 Measure	695mW EXEMPT	2.84 EXEMPT	1185mW EXEMPT
5.6 ㎓ Ant.1	5 720.0	15.00	32	5	5	113	26	162	15.31 Measure	15.31 Measure	693mW EXEMPT	2.94 EXEMPT	1183mW EXEMPT
5.8 ㎓ Ant.1	5 825.0	15.00	32	5	5	113	26	162	15.45 Measure	15.45 Measure	692mW EXEMPT	2.97 EXEMPT	1182mW EXEMPT
2.4 ㎓ Ant.2	2 480.0	19.00	79	5	25	89	5	198	24.88 Measure	4.98 Measure	485mW EXEMPT	24.88 Measure	1575mW EXEMPT
5.3 ㎓ Ant.2	5 320.0	15.00	32	5	25	89	5	198	14.76 Measure	2.95 EXEMPT	455mW EXEMPT	14.76 Measure	1545mW EXEMPT
5.6 ㎓ Ant.2	5 720.0	15.00	32	5	25	89	5	198	15.31 Measure	3.06 Measure	453mW EXEMPT	15.31 Measure	1543mW EXEMPT
5.8 ㎓ Ant.2	5 825.0	15.00	32	5	25	89	5	198	15.45 Measure	3.09 Measure	452mW EXEMPT	15.45 Measure	1542mW EXEMPT
Bluetooth	2 480.0	12.50	18	5	5	113	26	162	5.67 Measure	5.67 Measure	725mW EXEMPT	1.09 EXEMPT	1215mW EXEMPT

Note 1: For distances < 5mm, a distance of 5mm is used to determine SAR exclusion and estimated SAR value.
Note 2: Output power is the maximum rated power (including tune-up or manufacturing tolerances) and includes source-based averaging.
Note 3: If the antenna separation distance is > 50mm then the value listed is the output power threshold, above which SAR measurement is required. For separation <= 50mm the value is the KDB 447498 calculated value and must be less than 3.0 for SAR exemption.
Note 4: Formulas round separation distance to nearest mm and power to nearest ㎽ before calculating thresholds or exemption values.
Note 5: Reduced Power state(Grip Sensor On) is measured in WCDMA, LTE and WLAN modes.

SAR Test Exclusion (Maximum Output Power)

Mode	Device Edge for SAR Testing (Front View)					
	Front	Rear	Left Edge	Right Edge	Top	Bottom
WCDMA Band II	No	Yes	Note)Yes	Yes	Yes	No
WCDMA Band IV	No	Yes	Note)Yes	Yes	Yes	No
WCDMA Band V	No	Yes	Note)Yes	Yes	Yes	No
LTE Band 7	No	Yes	Note)Yes	Yes	Yes	No
LTE Band 12	No	Yes	Note)Yes	Yes	Yes	No
LTE Band 13	No	Yes	Note)Yes	Yes	Yes	No
LTE Band 14	No	Yes	Note)Yes	Yes	Yes	No
LTE Band 25	No	Yes	Note)Yes	Yes	Yes	No
LTE Band 26	No	Yes	Note)Yes	Yes	Yes	No
LTE Band 41	No	Yes	Note)Yes	Yes	Yes	No
LTE Band 66	No	Yes	Note)Yes	Yes	Yes	No
LTE Band 71	No	Yes	Note)Yes	Yes	Yes	No
2.4 ㎓ WLAN (Ant.1)	No	Yes	Yes	Note)Yes	Yes	No
U-NII-2A (Ant.1)	No	Yes	Yes	Note)Yes	Note)Yes	No
U-NII-2C (Ant.1)	No	Yes	Yes	Note)Yes	Note)Yes	No
U-NII-3 (Ant.1)	No	Yes	Yes	Note)Yes	Note)Yes	No
2.4 ㎓ WLAN (Ant.2)	No	Yes	Yes	Note)Yes	Yes	No
U-NII-2A (Ant.2)	No	Yes	No	Note)Yes	Yes	No
U-NII-2C (Ant.2)	No	Yes	Yes	Note)Yes	Yes	No
U-NII-3 (Ant.2)	No	Yes	Yes	Note)Yes	Yes	No
Bluetooth (Ant.1)	No	Yes	Yes	Note)Yes	No	No

Note : The conservative estimated SAR was measured to exclude the simultaneous transmission SAR test.

2.6 SAR Test Methods and Procedures

The tests documented in this report were performed in accordance with IEEE 1528-2013 and the following published KDB procedures:

- IEEE 1528-2013
- 248227 D01 802.11 Wi-Fi SAR v02r02
- 447498 D01 General RF Exposure Guidance v06
- 616217 D04 SAR for laptop and tablets v01r02 (Proximity Sensor)
- 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
- 941225 D05A LTE Rel. 10 KDB Inquiry Sheet v01r02
- October 2014 TCB Workshop Notes (Other LTE Considerations)
- October 2016 TCB Workshop Notes (Bluetooth Duty Factor)
- May 2017 TCB Workshop Notes (LTE Band 41 power Class 2)
- April 2018 TCB Workshop Notes (LTE Carrier Aggregation)
- April 2019 TCB Workshop Notes (Tissue Simulation Liquids)

This test report shall not be reproduced, except in full, without the written approval

3. #LTE Information

LTE Information	
Form Factor	Tablet
Frequency Range of each LTE transmission band	LTE Band 2 (1 850.7 ㎒ ~ 1 909.3 ㎒) LTE Band 4 (1 710.7 ㎒ ~ 1 754.3 ㎒) LTE Band 5 (824.7 ㎒ ~ 848.3 ㎒) LTE Band 7 (2 502.5㎒ ~ 2 567.5 ㎒) LTE Band 12 (699.7 ㎒ ~ 715.3 ㎒) LTE Band 13 (779.5 ㎒ ~ 784.5 ㎒) LTE Band 14 (490.5 ㎒ ~ 795.5 ㎒) LTE Band 25 (1 850.7 ㎒ ~ 1 914.3 ㎒) LTE Band 26 (814.7 ~ 848.3 ㎒) LTE Band 41 (2 498.5 ㎒ ~ 2 687.5 ㎒) LTE Band 66 (1 710.7 ㎒ ~ 1 779.3 ㎒) LTE Band 71 (666.5 ㎒ ~ 695.5 ㎒)
Channel Bandwidths	LTE Band 2: 1.4 ㎒, 3 ㎒, 5 ㎒, 10 ㎒, 15 ㎒, 20 ㎒ LTE Band 4: 1.4 ㎒, 3 ㎒, 5 ㎒, 10 ㎒, 15 ㎒, 20 ㎒ LTE Band 5: 1.4 ㎒, 3 ㎒, 5 ㎒, 10 ㎒ LTE Band 7: 5 ㎒, 10 ㎒, 15 ㎒, 20 ㎒ LTE Band 12: 1.4 ㎒, 3 ㎒, 5 ㎒, 10 ㎒ LTE Band 13: 5 ㎒, 10 ㎒ LTE Band 14: 5 ㎒, 10 ㎒ LTE Band 25: 1.4 ㎒, 3 ㎒, 5 ㎒, 10 ㎒, 15 ㎒, 20 ㎒ LTE Band 26: 1.4 ㎒, 3 ㎒, 5 ㎒, 10 ㎒, 15 ㎒, LTE Band 41: 5 ㎒, 10 ㎒, 15 ㎒, 20 ㎒ LTE Band 66: 1.4 ㎒, 3 ㎒, 5 ㎒, 10 ㎒, 15 ㎒, 20 ㎒ LTE Band 71: 5 ㎒, 10 ㎒, 15 ㎒, 20 ㎒

This test report shall not be reproduced, except in full, without the written approval

Channel Numbers and Frequencies (MHz)	Low	Low-Mid	Mid	Mid-High	High
LTE Band 2: 1.4 MHz	1 850.7 (18 607)		1 880.0 (18 900)		1 909.3 (19 193)
LTE Band 2: 3 MHz	1 851.5 (18 615)		1 880.0 (18 900)		1 908.5 (19 185)
LTE Band 2: 5 MHz	1 852.5 (18 625)		1 880.0 (18 900)		1 907.5 (19 175)
LTE Band 2: 10 MHz	1 855.0 (18 650)		1 880.0 (18 900)		1 905.0 (19 150)
LTE Band 2: 15 MHz	1 857.5 (18 675)		1 880.0 (18 900)		1 902.5 (19 125)
LTE Band 2: 20 MHz	1 860.0 (18 700)		1 880.0 (18 900)		1 900.0 (19 100)
LTE Band 4: 1.4 MHz	1 710.7 (19 957)		1 732.5 (20 175)		1 754.3 (20 393)
LTE Band 4: 3 MHz	1 711.5 (19 965)		1 732.5 (20 175)		1 753.5 (20 385)
LTE Band 4: 5 MHz	1 712.5 (19 975)		1 732.5 (20 175)		1 752.5 (20 375)
LTE Band 4: 10 MHz	1 715.0 (20 000)		1 732.5 (20 175)		1 750.0 (20 350)
LTE Band 4: 15 MHz	1 717.5 (20 025)		1 732.5 (20 175)		1 747.5 (20 325)
LTE Band 4: 20 MHz	1 720.0 (20 050)		1 732.5 (20 175)		1 745.0 (20 300)
LTE Band 5: 1.4 MHz	824.7 (20 407)		836.5 (20 525)		848.3 (20 643)
LTE Band 5: 3 MHz	825.5 (20 415)		836.5 (20 525)		847.5 (20 635)
LTE Band 5: 5 MHz	826.5 (20 425)		836.5 (20 525)		846.5 (20 625)
LTE Band 5: 10 MHz	829.0 (20 450)		836.5 (20 525)		844.0 (20 600)
LTE Band 7: 5 MHz	2 502.5 (20 775)		2 535.0 (21 100)		2 567.5 (21 425)
LTE Band 7: 10 MHz	2 505.0 (20 800)		2 535.0 (21 100)		2 565.0 (21 400)
LTE Band 7: 15 MHz	2 507.5 (20 825)		2 535.0 (21 100)		2 562.5 (21 375)
LTE Band 7: 20 MHz	2 510.0 (20 850)		2 535.0 (21 100)		2 560.0 (21 350)
LTE Band 12: 1.4 MHz	699.7 (23 017)		707.5 (23 095)		715.3 (23 173)
LTE Band 12: 3 MHz	700.5 (23 025)		707.5 (23 095)		714.5 (23 655)
LTE Band 12: 5 MHz	701.5 (23 035)		707.5 (23 095)		713.5 (23 155)
LTE Band 12: 10 MHz	704.0 (23 060)		707.5 (23 095)		711.0 (23 130)
LTE Band 13: 5 MHz	779.5 (23 205)		782.0 (23 230)		784.5 (23 255)
LTE Band 13: 10 MHz	-		782.0 (23 230)		-
LTE Band 14: 5 MHz	790.5 (23 305)		793.0 (23 330)		795.5 (23 355)
LTE Band 14: 10 MHz	-		793.0 (23 330)		-
LTE Band 25: 1.4 MHz	1 850.7 (26 047)		1 882.5 (26 365)		1 914.3 (26 683)
LTE Band 25: 3 MHz	1 851.5 (26 055)		1 882.5 (26 365)		1 913.5 (26 675)
LTE Band 25: 5 MHz	1 852.5 (26 065)		1 882.5 (26 365)		1 912.5 (26 665)
LTE Band 25: 10 MHz	1 855.0 (26 090)		1 882.5 (26 365)		1 910.0 (26 640)
LTE Band 25: 15 MHz	1 857.5 (26 115)		1 882.5 (26 365)		1 907.5 (26 615)
LTE Band 25: 20 MHz	1 860.0 (26 140)		1 882.5 (26 365)		1 905.0 (26 590)

This test report shall not be reproduced, except in full, without the written approval

Channel Numbers and Frequencies (MHz)	Low	Low-Mid	Mid	Mid-High	High
LTE Band 26: 1.4 MHz	814.7 (26 697)		831.5 (26 865)		848.3 (27 033)
LTE Band 26: 3 MHz	815.5 (26 705)		831.5 (26 865)		847.5 (27 025)
LTE Band 26: 5 MHz	816.5 (26 715)		831.5 (26 865)		846.5 (27 015)
LTE Band 26: 10 MHz	819.0 (26 740)		831.5 (26 865)		844.0 (26 990)
LTE Band 26: 15 MHz	821.5 (26 765)		831.5 (26 865)		841.5 (26 965)
LTE Band 41: 5 MHz	2 506.0 (39 750)	2 549.5 (40 185)	2 593.0 (40 620)	2 636.5 (41 055)	2 680.0 (41 490)
LTE Band 41: 10 MHz	2 506.0 (39 750)	2 549.5 (40 185)	2 593.0 (40 620)	2 636.5 (41 055)	2 680.0 (41 490)
LTE Band 41: 15 MHz	2 506.0 (39 750)	2 549.5 (40 185)	2 593.0 (40 620)	2 636.5 (41 055)	2 680.0 (41 490)
LTE Band 41: 20 MHz	2 506.0 (39 750)	2 549.5 (40 185)	2 593.0 (40 620)	2 636.5 (41 055)	2 680.0 (41 490)
LTE Band 66: 1.4 MHz	1 710.7 (131 979)		1 745.0 (132 322)		1 779.3 (132 665)
LTE Band 66: 3 MHz	1 711.5 (131 987)		1 745.0 (132 322)		1 778.5 (132 657)
LTE Band 66: 5 MHz	1 712.5 (131 997)		1 745.0 (132 322)		1 777.5 (132 647)
LTE Band 66: 10 MHz	1 715.0 (132 022)		1 745.0 (132 322)		1 775.0 (132 622)
LTE Band 66: 15 MHz	1 717.5 (132 047)		1 745.0 (132 322)		1 772.5 (132 597)
LTE Band 66: 20 MHz	1 720.0 (132 072)		1 745.0 (132 322)		1 770.0 (132 572)
LTE Band 71: 5 MHz	665.5 (133 147)		680.5 (133 297)		695.5 (133 447)
LTE Band 71: 10 MHz	668.0 (133 172)		680.5 (133 297)		693.0 (133 422)
LTE Band 71: 15 MHz	670.5 (133 197)		680.5 (133 297)		690.5 (133 397)
LTE Band 71: 20 MHz	673.0 (133 222)		680.5 (133 297)		688.0 (133 372)
UE Category	UL: 5, DL: 11				
Modulations Supported in UL	QPSK, 16QAM, 64QAM				
LTE MPR Permanently implemented per 3GPP TS 36.101 section 6.2.3 ~ 6.2.5?(manufacturer attestation to be provided)	YES				
A-MPR(Additional MPR) disabled for SAR Testing?	YES				
LTE Carrier Aggregation Possible Combinations	This device only supports LTE DL CA aggregation.				
LTE Additional Information	This device supports full CA features on 3GPP Release 10. It supports carrier aggregation as shown in Appendix C. Uplink communications are done on the PCC. The following LTE Release 10 Features are not supported: Relay, HetNet, Enhanced MIMO, eICIC, WIFI Offloading, MDH, eMBMS, Cross-Carrier Scheduling, Enhanced SC-FDMA.				

4. Specific Absorption Rate

4.1 Introduction

The SAR is related to the rate at which energy is absorbed per unit mass in an object exposed to a radio field. The SAR distribution in a biological body is complicated and is usually carried out by experimental techniques or numerical modeling. The standard recommends limits for two tiers of groups, occupational / controlled and general population/uncontrolled, based on a person's awareness and ability to exercise control over his or her exposure. In general, occupational/controlled exposure limits are higher than the limits for general population/uncontrolled.

4.2 SAR Definition

The SAR definition is the time derivative (rate) of the incremental energy (dW) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dv) of a given density (ρ). The equation description is as below:

$$\mathbf{SAR} = \frac{\mathbf{d}}{\mathbf{dt}}\left(\frac{\mathbf{dW}}{\mathbf{dm}}\right) = \frac{\mathbf{d}}{\mathbf{dt}}\left(\frac{\mathbf{dW}}{\boldsymbol{\rho}\mathbf{dv}}\right)$$

SAR is expressed in units of Watts per kilogram (W/kg)
SAR measurement can be either related to the temperature elevation in tissue by

$$\mathbf{SAR} = \mathbf{C}\left(\frac{\boldsymbol{\delta}\mathbf{T}}{\boldsymbol{\delta}\mathbf{t}}\right)$$

Where: C is the specific head capacity, δT is the temperature rise and δt is the exposure duration, or related to the electrical field in the tissue by

$$\mathbf{SAR} = \frac{\boldsymbol{\sigma}|\mathbf{E}|^2}{\boldsymbol{\rho}}$$

Where: σ is the conductivity of the tissue, ρ is the mass density of the tissue and E is the RMS electrical field strength. However for evaluating SAR of low power transmitter, electrical field measurement is typically applied.

5. SAR Measurement Procedures

5.1 SAR Scan Procedures

Step 1: Power Reference Measurement
The Power Reference Measurement and Power Drift Measurements are for monitoring the power drift of the device under test in the batch process. The Minimum distance of probe sensors to surface determines the closest measurement point to phantom surface. The minimum distance of probe sensors to surface is 1.4 mm. This distance cannot be smaller than the Distance of sensor calibration points to probe tip as defined in the probe properties.
Step 2: Area Scan & Zoom 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 and Zoom Scans are used to assess the peak spatial SAR values within a cubic averaging volume containing1 g and 10 g of simulated tissue. 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 & Zoom Scan Parameters extracted from KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04.

			≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface			5 mm ± 1 mm	½·δ·ln(2) mm 0.5 mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location			30° ± 1°	20° ± 1°
Maximum area scan spatial resolution: Δx_{Area}, Δy_{Area}			≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
			When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	
Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}			≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	≤ 1.5·$\Delta z_{Zoom}(n-1)$ mm	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm
Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see IEEE Std 1528-2013 for details. * When zoom scan is required and the reported SAR from the area scan based 1-g SAR estimation procedures of KDB Publication 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.				

Step 3: 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.

6. SAR Measurement Configurations

6.6 Body-Worn Accessory Configurations

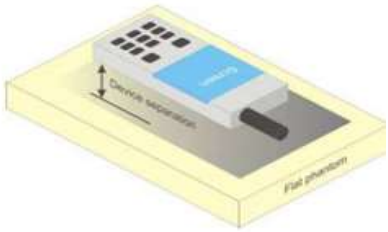


Figure 7
Sample Body-Worn Diagram

Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration (see Figure 7). Per FCC KDB Publication 648474 D04v01r03, Body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in FCC KDB Publication 447498 D01v06 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-worn accessory test separation distance is greater than or equal to that required for hotspot mode, when applicable. When the reported SAR for a body-worn accessory, measured without a headset connected to the handset, is > 1.2 W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a headset attached to the handset.

Accessories for Body-worn operation configurations are divided into two categories: those that do not contain metallic components and those that do contain metallic components. When multiple accessories that do not contain metallic components are supplied with the device, the device is tested with only the accessory that dictates the closest spacing to the body. Then multiple accessories that contain metallic components are tested with the device with each accessory. If multiple accessories share an identical metallic component (i.e. the same metallic belt-clip used with different holsters with no other metallic components) only the accessory that dictates the closest spacing to the body is tested.
Body-worn accessories may not always be supplied or available as options for some devices intended to be authorized for body-worn use. In this case, a test configuration with a separation distance between the back of the device and the flat phantom is used. Test position spacing was documented. Transmitters that are designed to operate in front of a person's face, as in push-to-talk configurations, are tested for SAR compliance with the front of the device positioned to face the flat phantom in head fluid. For devices that are carried next to the body such as a shoulder, waist or chest-worn transmitters, SAR compliance is tested with the accessories, including headsets and microphones, attached to the device and positioned against a flat phantom in a normal use configuration.

6.9 Proximity Sensor Considerations

This device uses a power reduction mechanism to reduce output powers in certain use conditions when the device is used close to the user's body.
When the device's antenna is within a certain distance of the user, the sensor activates and reduces the maximum allowed output power. However, the sensor is not active when the device is moved beyond the sensor triggering distance and the maximum output power is no longer limited. Therefore, additional evaluation is needed in the vicinity of the triggering distance to ensure SAR is compliant when the device is allowed to operate at a non-reduced output power level. FCC KDB Publication 616217 D04v01r02 Section 6 was used as a guideline for selecting SAR test distances for this device at these additional test positions.

7. RF Exposure Limits

UNCONTROLLED ENVIRONMENTS are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure. The general population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity.

CONTROLLED ENVIRONMENTS are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e. as a result of employment or occupation). In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. This exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Human Exposure	Uncontrolled Environment General Population	Controlled Environment Occupational
Partial Peak SAR [1] (Partial)	1.60 mW/g	8.00 mW/g
Partial Average SAR [2] (Whole Body)	0.08 mW/g	0.40 mW/g
Partial Peak SAR [3] (Hands/Feet/Ankle/Wrist)	4.00 mW/g	20.00 mW/g

1) The spatial Peak value of the SAR averaged over any 1g gram of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.
2) The spatial Average value of the SAR averaged over the whole body.
3) The Spatial Peak value of the SAR averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.

8. FCC SAR General Measurement Procedures

8.1 Measured and Reported SAR

Per FCC KDB Publication 447498 D01v06, When SAR is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance. For simultaneous transmission, the measured aggregate SAR must be scaled according to the sum of the differences between the maximum tune-up tolerance and actual power used to test each transmitter. When SAR is measured at or scaled to the maximum tune-up tolerance limit, the results are referred to as reported SAR. Test highest reported SAR results are identified on the grant of equipment authorization according to procedures in KDB 690783 D01v01r03.

8.2 3G SAR Test Reduction Procedure

In FCC KDB Publication 941225 D01v03r01, certain transmission modes within a frequency band and wireless mode evaluated for SAR are defined as primary modes. The equivalent modes considered for SAR test reduction are denoted as secondary modes. When the maximum output power including tune-up tolerance specified for production units in a secondary mode is ≤ 0.25 dB higher than the primary mode or when the highest reported SAR of the primary mode, scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode, is ≤ 1.2 W/kg, SAR measurements are not required for the secondary mode. These criteria are referred to as the 3G SAR test reduction procedure. When the 3G SAR test reduction procedure is not satisfied, SAR measurements are additionally required for the secondary mode.

8.3 Procedures Used to Establish RF Signal for SAR

The following procedures are according to FCC KDB Publication 941225 D01v03r01 “3G SAR Measurement Procedures.”
The device is placed into a simulated call using a base station simulator in a RF shielded chamber. Establishing connections in this manner ensure a consistent means for testing SAR and are recommended for evaluating SAR [4]. Devices under test are evaluated prior to testing, with a fully charged battery and were configured to operate at maximum output power. In order to verify that the device is tested throughout the SAR test at maximum output power, the SAR measurement system measures a “point SAR” at an arbitrary reference point at the start and end of the 1 gram SAR evaluation, to assess for any power drifts during the evaluation. If the power drift deviates by more than 5%, the SAR test and drift measurements are repeated.

8.4 SAR Measurement Conditions for UMTS

8.4.1 Output Power Verification

Maximum output power is verified on the High, Middle and Low channels according to the general descriptions in sec. 5.2 of 3GPP TS 34.121, using the appropriate RMC with TPC (transmit power control) set to all “1s” or applying the required inner loop power control procedures to maintain maximum output power while HSUPA is active. Results for all applicable physical channel configurations (DPCCH, DPDCHn and spreading codes, HS-DPCCH etc) are tabulated in this test report. All configurations that are not supported by the DUT or cannot be measured due to technical or equipment limitations are identified.

8.4.2 Head SAR Measurements

SAR for next to the ear head exposure is measured using a 12.2 kbps RMC with TPC bits configured to all “1’s”. The 3G SAR test reduction procedure is applied to AMR configurations with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured for 12.2 kbps AMR in 3.4 kbps SRB (signaling radio bearer) using the highest reported SAR configuration in 12.2 kbps RMC for head exposure.

8.4.3 Body SAR measurements

SAR for body exposure configurations is measured using the 12.2kbps RMC with the TPC bits all “1s”. the 3G SAR test reduction procedure is applied to other spreading codes and multiple DPDCHn configurations supported by the handset with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured using and applicable RMC configuration with the corresponding spreading code or DPDCHn, for the highest reported SAR configuration in 12.2kbps RMC.

8.4.4 SAR Measurements with Rel. 5 HSDPA

The 3G SAR test reduction procedure is applied to HSDPA body configurations with 12.2 kbps RMC as the primary mode. Otherwise, Body SAR for HSDPA is measured using and FRC with H-SET 1 in Sub-test and a 12.2 kbps RMC without HSDPA. Handsets with both HSDPA and HSUPA are tested according to release 6 HSPA test procedures. 8.4.5 SAR Measurement with Rel.6 HSUPA The 3G SAR test Reduction Procedure is applied to HSPA (HSUPA/HSDPA with RMC) body configurations with 12.2 kbps RMC as the primary mode. Otherwise, Body SAR for HSPA is measured with E-DCH Sub-test 5, Using H-Set 1 and QPSK for FRC and a 12.2kbps RMC configured in Test Loop Mode 1 and Power Control algorithm 2, according to the highest reported body SAR configuration in 12.2 kbps RMC without HSPA. When VOIP applies to head exposure, the 3G SAR test reduction procedure is applied with 12.2 kbps RMC as the primary mode; otherwise, the same HSPA configuration used for body SAR measurements are applied to head exposure testing.

8.4.5 SAR Measurements with Rel. 6 HSUPA

The 3G SAR test reduction procedure is applied to HSPA (HSUPA/HSDPA with RMC) body configurations with 12.2 kbps RMC as the primary mode. Otherwise, Body SAR for HSPA is measured with E-DCH Sub-test 5, using H-Set1 and QPSK for FRC and a 12.2 kbps RMC configured in Test Loop Mode 1 and power control algorithm 2, according to the highest reported body SAR configuration in 12.2 kbps RMC without HSPA.

8.4.6 SAR Measurements with Rel. 8 DC-HSDPA

SAR is required for Rel. 8 DC-HSDPA when SAR is required for Rel. 5 HSDPA; otherwise, the 3G SAR test reduction procedure is applied to DC-HSDPA with 12.2 kbps RMC as the primary mode. Power is measured for DC-HSDPA according to the H-Set 12, FRC configuration in Table C.8.1.12 of 3GPP TS 34.121-1 to determine SAR test reduction. A primary and a secondary serving HS-DSCH Cell are required to perform the power measurement and for the results to be acceptable

8.5 SAR Measurement Conditions for LTE

LTE modes are tested according to FCC KDB 941225 D05v02r05 publication. Establishing connections with base station simulators ensure a consistent means for testing SAR and are recommended for evaluation SAR [4]. The R&S CMW500 or Anritsu MT8820C simulators are used for LTE output power measurements and SAR testing. Closed loop power control was used so the UE transmits with maximum output power during SAR testing. SAR tests were performed with the same number of RB and RB offsets transmitting on all TTI frames (maximum TTI).

8.5.1 Spectrum Plots for RB Configurations

A properly configured base station simulator was used for SAR tests and power measurements. Therefore, spectrum plots for RB configurations were not required to be included in this report.

8.5.2 MPR

MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS36. 101 Section 6.2.3 – 6.2.5 under Table 6.2.3-1.

8.5.3 A-MPR

A-MPR (Additional MPR) has been disabled for all SAR tests by setting NS=01 on the base station simulator

8.5.4 Required RB Size and RB offsets for SAR testing

According to FCC KDB 941225 D05v02r05

1. Per sec 4.2.1, SAR is required for QPSK 1 RB Allocation for the largest bandwidth
   a. The required channel and offset combination with the highest maximum output power is required for SAR.
   b. When the reported SAR is ≤ 0.8 W/Kg, testing of the remaining RB offset configurations and required test channels is not required. Otherwise, SAR is required for the remaining required test channels using the RB offset configuration with highest output power for that channel.
   c. When the reported SAR for a required test channel is > 1.45 W/kg, SAR is required for all RB offset configurations for that channel
2. Per Sec 4.2.2, SAR is required for 50% RB allocation using the largest bandwidth following the same procedures outlined in Sec 4.2.1.
3. Per Sec. 4.2.3, QPSK SAR is not required for the 100% all0cation when the highest maximum output power for the 100% allocation is less than the highest maximum output power of the 1 RB and 50% RB allocations and the reported SAR for the 1 RB and 50% RB allocations is < 0.8 W/kg.
4. Per Sec. 4.2.4 and 4.3, SAR test for higher order modulations and lower bandwidths configurations are not required when the conducted power of the required test configurations determined by Sec. 4.2.1 through 4.2.3 is less than or equal to 1/2 dB higher than the equivalent configuration using QPSK modulation and when the QPSK SAR for those configurations is < 1.45 W/Kg.

8.5.5 LTE(TDD) Considerations

According to KDB 941225 D05v02r05, 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.

SAR was tested with the highest transmission duty factor (63.33 %) using Uplink-downlink configuration 0 and Special sub-frame configuration 6.

LTE TDD Band supports 3GPP TS 36.211 section 4.2 for Type 2 Frame and Table 4.2-2 for uplink-downlink configurations and Table 4.2-1 for Special sub frame 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	$6592 \cdot T_s$	$(1+X) \cdot 2192 \cdot T_s$	$(1+X) \cdot 2560 \cdot T_s$	$7680 \cdot T_s$	$(1+X) \cdot 2192 \cdot T_s$	$(1+X) \cdot 2560 \cdot T_s$
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	$26336 \cdot T_s$			$7680 \cdot T_s$	$(2+X) \cdot 2192 \cdot T_s$	$(2+X) \cdot 2560 \cdot T_s$
5	$6592 \cdot T_s$	$(2+X) \cdot 2192 \cdot T_s$	$(2+X) \cdot 2560 \cdot T_s$	$20480 \cdot T_s$		
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

Uplink-downlink configuration	Downlink-to-Uplink Switch-point periodicity	Subframe number									
		0	1	2	3	4	5	6	7	8	9
0	5 ms	D	S	U	U	U	D	S	U	U	U
1	5 ms	D	S	U	U	D	D	S	U	U	D
2	5 ms	D	S	U	D	D	D	S	U	D	D
3	10 ms	D	S	U	U	U	D	D	D	D	D
4	10 ms	D	S	U	U	D	D	D	D	D	D
5	10 ms	D	S	U	D	D	D	D	D	D	D
6	5 ms	D	S	U	U	U	D	S	U	U	D

Calculated Duty Cycle – Extended cyclic prefix in uplink x (Ts) x # of S + # of U
Example for calculated Duty Cycle for Uplink-Downlink Configuration 0:
Calculated Duty Cycle = (5120 x [1/(15000 x 2048)] x 2 + 0.006)/0.01 = 63.33 %
Ts = 1/(15000 x 2048) seconds

Note: This device supports Power Class 2 and Power Class 3 operations for LTE Band 41. The highest available duty cycle for Power Class 2 operations is 43.3 % using UL-DL configuration 1.

8.6 SAR Testing with 802.11 Transmitters

The normal network operating configurations are not suitable for measuring the SAR of 802.11 a/b/g transmitters. Unpredictable fluctuations in network traffic and antenna diversity conditions can introduce undesirable variations in SAR results. The SAR for these devices should be measured using chipset based test mode software to ensure the results are consistent and reliable.

8.6.1 General Device Setup

Chipset based test mode software is hardware dependent and generally varies among manufacturers. The device operating parameters established in test mode for SAR measurements must be identical to those programmed in production units, including output power levels, amplifier gain settings and other RF performance tuning parameters. A periodic duty factor is required for current generation SAR systems to measure SAR. When 802.11 frame gaps are accounted for in the transmission, a maximum transmission duty factor of 92 – 96% is typically achievable in most test mode configurations. A minimum transmission duty factor of 85% is required to avoid certain hardware and device implementation issues related to wide range SAR scaling. The reported SAR is scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit.

8.6.2 U-NII-1 and U-NII-2A

For devices that operate in both U-NII-1 and U-NII-2A bands, when the same maximum output power is specified for both bands, SAR measurement using OFDM SAR test procedures is not required for U-NII-1 unless the highest reported SAR for U-NII-2A is > 1.2 W/kg. When different maximum output powers is not required unless the highest reported SAR for the U-NII band with the higher maximum output power, adjusted by the ratio of lower to higher specified maximum output power for the two bands, is > 1.2 W/kg. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

8.6.3 U-NII-2C and U-NII-3

The frequency range covered by U-NII-2C and U-NII-3 is 380 ㎒ (5.47 – 5.85 ㎓), which requires a minimum of at least two SAR probe calibration frequency points to support SAR measurements. When Terminal Doppler Weather Radar (TDWR) restriction applies, the channels at 5.60 – 5.65 ㎓ in U-NII-2C band must be disabled with acceptable mechanisms and documented in the equipment certification. Unless band gap channels are permanently disabled, SAR must be considered for these channels. When band gap channels are disabled, each band is tested independently according to the normally required OFDM SAR measurement and probe calibration frequency point requirements.

8.6.4 Initial Test Position Procedure

For exposure conditions with multiple test positions, such as handset operating next to the ear, devices with hotspot mode or UMPC mini-tablet, procedures for initial test position can be applied. Using the transmission mode determined by the DSSS procedure or initial test configuration, area scans are measured for all positions in an exposure condition. The test position with the highest extrapolated (peak) SAR is used as the initial test position. When reported SAR for the initial test position is ≤ 0.4 W/kg, no additional testing for the remaining test positions is required. Otherwise, SAR is evaluated at the subsequent highest peak SAR positions until the reported SAR result is ≤ 0.8 W/kg or all test positions are measured.

8.6.5 2.4 ㎓ SAR Test Requirement

SAR is measured for 2.4 ㎓ 802.11b DSSS using either the fixed test position or, when applicable, the initial test position procedure. SAR test reduction is determined according to the following.

1) When the reported SAR of the highest measured maximum output power channel for the exposure configuration is ≤ 0.8 W/kg, no further SAR testing is required for 802.11b DSSS in that exposure configuration.
2) When the reported SAR is > 0.8 W/kg, SAR is required for that position using the next highest measured output power channel; i.e., all channels require testing.

2.4 ㎓ 802.11g/n OFDM are additionally evaluated for SAR if highest reported SAR for 802.11b, adjusted by the ratio of the OFDM to DSSS specified maximum output power, is > 1.2 W/kg. When SAR is required for OFDM modes in 2.4 ㎓ band, the Initial Test Configuration Procedures should be followed.

8.6.6 OFDM Transmission Mode and SAR Test Channel Selection

For the 2.4 ㎓ and 5 ㎓ band, when the same maximum output power was specified for multiple OFDM transmission mode configurations in a frequency band or aggregated band, SAR is measured using the configuration with the largest channel bandwidth, lowest order modulation and lowest data rate. When the maximum output power of a channel is the same for equivalent OFDM configurations; for example, 802.11a, 802.11n and 802.11ac or 802.11g and 802.11n with the same channel band width, modulation and data rate etc., the lower order 802.11 mode i.e., 802.11a, then 802.11n and 802.11ac or 802.11g then 802.11n, is used for SAR measurement. When maximum output power are the same for multiple test channels, either according to the default or additional power measurement requirements, SAR is measured using the channel closest to the middle of the frequency band or aggregated band. When there are multiple channels with the same maximum output power, SAR is measured using the higher number channel.

8.6.7 Initial Test Configuration Procedure

For OFDM, in both 2.4 and 5 ㎓ bands, an initial test configuration is determined for each frequency band and aggregated band, according to the transmission mode with the highest maximum output power specified for SAR measurements. When the same maximum output power is specified for multiple OFDM transmission mode configurations in a frequency band or aggregated band, SAR is measured using the configuration(s) with the largest channel bandwidth, lowest order modulation, and lowest data rate. If the average RF output powers of the highest identical transmission modes are within 0.25 ㏈ of each other, mid channel of the transmission mode with highest average RF output power is the initial test channel. Otherwise, the channel of the transmission mode with the highest average RF output conducted power will be the initial test configuration.

When the reported SAR is ≤ 0.8 W/kg, no additional measurements on other test channels are required. Otherwise, SAR is evaluated using the subsequent highest average RF output channel until the reported SAR result is ≤ 1.2 W/kg or all channels are measured. When there are multiple untested channels having the same subsequent highest average RF output power, the channel with higher frequency from the lowest 802.11 mode is considered for SAR measurements.

8.6.8 Subsequent Test Configuration Procedures

For OFDM configurations in each frequency band and aggregated band, SAR is evaluated for initial test configuration using the fixed test position or the initial test position procedure. When the highest reported SAR (for the initial test configuration), adjusted by the ratio of the specified maximum output power of the subsequent test configuration to initial test configuration, is ≤ 1.2 W/kg, no additional SAR tests for the subsequent test configurations are required. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

This test report shall not be reproduced, except in full, without the written approval

9. RF Average Conducted Output Power

9.1 WCDMA Average Conducted Output Power (Maximum Average Power)

Band	Mode	Average Conducted Power (dB m)			3GPP MPR [dB]
		Channel			
		9 262	9 400	9 538	
WCDMA Band II	RMC	24.02	24.14	24.24	-
	HSDPA-Subtest 1	23.33	23.48	23.54	0
	HSDPA-Subtest 2	23.18	23.23	23.27	0
	HSDPA-Subtest 3	22.30	22.28	22.30	0.5
	HSDPA-Subtest 4	22.58	22.74	22.85	0.5
	HSUPA-Subtest 1	22.63	22.38	22.40	0
	HSUPA-Subtest 2	21.38	21.38	21.39	2
	HSUPA-Subtest 3	22.37	22.47	22.51	1
	HSUPA-Subtest 4	21.40	21.47	21.49	2
	HSUPA-Subtest 5	23.71	23.72	23.75	0
	DC-HSDPA-Subtest 1	22.91	23.48	23.54	0
	DC-HSDPA-Subtest 2	23.50	23.62	23.67	0
	DC-HSDPA-Subtest 3	21.95	22.04	22.10	0.5
	DC-HSDPA-Subtest 4	22.93	23.05	23.11	0.5

Band	Mode	Average Conducted Power (dB m)			3GPP MPR [dB]
		Channel			
		1 312	1 412	1 513	
WCDMA Band IV	RMC	23.92	24.14	23.83	-
	HSDPA-Subtest 1	23.08	23.09	23.07	0
	HSDPA-Subtest 2	22.79	22.84	22.78	0
	HSDPA-Subtest 3	21.75	21.73	21.67	0.5
	HSDPA-Subtest 4	22.41	22.27	22.20	0.5
	HSUPA-Subtest 1	22.44	22.43	22.35	0
	HSUPA-Subtest 2	21.21	21.19	21.12	2
	HSUPA-Subtest 3	22.17	22.12	22.07	1
	HSUPA-Subtest 4	21.20	21.22	21.15	2
	HSUPA-Subtest 5	23.39	23.39	23.32	0
	DC-HSDPA-Subtest 1	22.61	23.11	23.18	0
	DC-HSDPA-Subtest 2	23.09	23.11	23.18	0
	DC-HSDPA-Subtest 3	21.63	21.67	21.70	0.5
	DC-HSDPA-Subtest 4	22.64	22.61	22.70	0.5

Band	Mode	Average Conducted Power (dB m)			3GPP MPR [dB]
		Channel			
		4 132	4 183	4 233	
WCDMA Band V	RMC	24.08	24.10	24.10	-
	HSDPA-Subtest 1	22.95	23.07	23.01	0
	HSDPA-Subtest 2	22.75	22.94	22.78	0
	HSDPA-Subtest 3	21.71	21.73	21.69	0.5
	HSDPA-Subtest 4	22.15	22.17	22.35	0.5
	HSUPA-Subtest 1	22.35	22.12	22.23	0
	HSUPA-Subtest 2	21.09	21.04	21.06	2
	HSUPA-Subtest 3	22.09	22.10	22.06	1
	HSUPA-Subtest 4	21.09	21.05	21.07	2
	HSUPA-Subtest 5	23.36	23.39	23.38	0
	DC-HSDPA-Subtest 1	22.54	23.22	23.03	0
	DC-HSDPA-Subtest 2	23.06	23.20	23.07	0
	DC-HSDPA-Subtest 3	21.53	21.66	21.59	0.5
	DC-HSDPA-Subtest 4	22.52	22.63	22.49	0.5

This test report shall not be reproduced, except in full, without the written approval

9.2 WCDMA Average Conducted Output Power (Reduced Average Power-Grip Sensor)

Band	Mode	Average Conducted Power (dB m)			3GPP MPR [dB]
		Channel			
		9 262	9 400	9 538	
WCDMA Band II	RMC	14.21	14.32	14.34	-
	HSDPA-Subtest 1	13.64	13.65	13.68	0
	HSDPA-Subtest 2	13.54	13.40	13.46	0
	HSDPA-Subtest 3	13.33	13.36	13.38	0
	HSDPA-Subtest 4	13.34	13.34	13.38	0
	HSUPA-Subtest 1	12.64	12.41	12.47	0
	HSUPA-Subtest 2	12.64	12.64	12.68	0
	HSUPA-Subtest 3	12.63	12.62	12.67	0
	HSUPA-Subtest 4	12.66	12.65	12.68	0
	HSUPA-Subtest 5	13.68	13.67	13.73	0
	DC-HSDPA-Subtest 1	13.67	13.77	13.82	0
	DC-HSDPA-Subtest 2	13.67	13.80	13.82	0
	DC-HSDPA-Subtest 3	13.64	13.76	13.78	0
	DC-HSDPA-Subtest 4	13.65	13.77	13.79	0

Band	Mode	Average Conducted Power (dB m)			3GPP MPR [dB]
		Channel			
		1 312	1 412	1 513	
WCDMA Band IV	RMC	15.03	15.05	15.07	-
	HSDPA-Subtest 1	14.44	14.46	14.44	0
	HSDPA-Subtest 2	14.22	14.38	14.18	0
	HSDPA-Subtest 3	14.31	14.16	14.11	0
	HSDPA-Subtest 4	14.31	14.14	14.09	0
	HSUPA-Subtest 1	13.44	13.22	13.15	0
	HSUPA-Subtest 2	13.44	13.43	13.37	0
	HSUPA-Subtest 3	13.44	13.42	13.38	0
	HSUPA-Subtest 4	13.44	13.45	13.35	0
	HSUPA-Subtest 5	14.46	14.48	14.41	0
	DC-HSDPA-Subtest 1	14.46	14.47	14.55	0
	DC-HSDPA-Subtest 2	14.45	14.46	14.52	0
	DC-HSDPA-Subtest 3	14.45	14.44	14.50	0
	DC-HSDPA-Subtest 4	14.44	14.47	14.54	0

Band	Mode	Average Conducted Power (dB m)			3GPP MPR [dB]
		Channel			
		4 132	4 183	4 233	
WCDMA Band V	RMC	20.05	20.16	20.08	-
	HSDPA-Subtest 1	19.24	19.33	19.23	0
	HSDPA-Subtest 2	19.14	19.21	19.14	0
	HSDPA-Subtest 3	18.98	19.16	18.93	0
	HSDPA-Subtest 4	18.95	19.01	18.96	0
	HSUPA-Subtest 1	18.35	18.32	18.32	0
	HSUPA-Subtest 2	18.37	18.32	18.35	0
	HSUPA-Subtest 3	18.35	18.34	18.39	0
	HSUPA-Subtest 4	18.34	18.32	18.33	0
	HSUPA-Subtest 5	19.34	19.33	19.34	0
	DC-HSDPA-Subtest 1	18.80	19.44	19.23	0
	DC-HSDPA-Subtest 2	19.31	19.43	19.24	0
	DC-HSDPA-Subtest 3	19.31	19.45	19.23	0
	DC-HSDPA-Subtest 4	19.33	19.44	19.25	0

KCTL

9.3 LTE Average Conducted Output Power (Maximum Average Power)

9.3.1 LTE Band 7

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				20 850	21 100	21 350	
				2 510.0 MHz	2 535.0 MHz	2 560.0 MHz	
20 MHz	QPSK	1	0	22.56	22.58	22.49	0
		1	49	22.65	22.65	22.51	0
		1	99	22.65	22.68	22.57	0
		50	0	21.67	21.71	21.56	1
		50	24	21.76	21.88	21.66	1
		50	50	21.79	21.82	21.62	1
		100	0	21.69	21.75	21.58	1
	16QAM	1	0	21.69	21.50	21.78	1
		1	49	21.84	21.86	21.85	1
		1	99	21.86	21.78	21.89	1
		50	0	20.88	20.93	20.77	2
		50	24	20.97	20.88	20.84	2
		50	50	20.96	20.91	20.79	2
		100	0	20.93	20.92	20.77	2
	64QAM	1	0	20.69	20.52	20.11	2
		1	49	20.92	20.57	20.20	2
		1	99	20.91	20.54	20.15	2
		50	0	19.58	19.46	18.97	3
		50	24	19.67	19.53	19.15	3
		50	50	19.68	19.43	19.05	3
		100	0	19.75	19.49	19.20	3

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				20 825	21 100	21 375	
				2 507.5 MHz	2 535.0 MHz	2 562.5 MHz	
15 MHz	QPSK	1	0	22.10	22.18	22.01	0
		1	36	22.26	22.30	22.00	0
		1	74	22.24	22.29	22.06	0
		36	0	21.41	21.50	21.30	1
		36	18	21.45	21.52	21.34	1
		36	37	21.40	21.48	21.33	1
		75	0	21.49	21.56	21.40	1
	16QAM	1	0	21.22	21.35	21.27	1
		1	36	21.49	21.58	21.19	1
		1	74	21.42	21.60	21.15	1
		36	0	20.43	20.47	20.25	2
		36	18	20.44	20.54	20.26	2
		36	37	20.42	20.49	20.27	2
		75	0	20.54	20.52	20.34	2
	64QAM	1	0	20.50	20.45	19.91	2
		1	36	20.86	20.37	19.96	2
		1	74	20.84	20.38	20.09	2
		36	0	19.47	19.22	18.82	3
		36	18	19.42	19.46	18.95	3
		36	37	19.49	19.21	18.84	3
		75	0	19.67	19.31	19.01	3

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				20 800	21 100	21 400	
				2 505.0 MHz	2 535.0 MHz	2 565.0 MHz	
10 MHz	QPSK	1	0	22.15	22.18	21.91	0
		1	25	22.22	22.29	22.14	0
		1	49	22.26	22.25	22.17	0
		25	0	21.29	21.39	21.15	1
		25	12	21.39	21.45	21.25	1
		25	25	21.39	21.42	21.23	1
		50	0	21.46	21.48	21.26	1
	16QAM	1	0	21.27	21.38	21.18	1
		1	25	21.45	21.38	21.19	1
		1	49	21.49	21.33	21.44	1
		25	0	20.38	20.41	20.21	2
		25	12	20.45	20.45	20.28	2
		25	25	20.47	20.43	20.27	2
		50	0	20.46	20.47	20.28	2
	64QAM	1	0	20.60	20.38	19.86	2
		1	25	20.81	20.51	20.07	2
		1	49	20.82	20.44	20.06	2
		25	0	19.53	19.23	18.75	3
		25	12	19.50	19.46	19.02	3
		25	25	19.56	19.33	18.98	3
		50	0	19.70	19.34	19.12	3

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				20 775	21 100	21 425	
				2 502.5 MHz	2 535.0 MHz	2 567.5 MHz	
5 MHz	QPSK	1	0	22.11	22.16	21.94	0
		1	12	22.16	22.25	21.99	0
		1	24	22.23	22.40	22.06	0
		12	0	21.40	21.43	21.27	1
		12	7	21.41	21.43	21.27	1
		12	13	21.39	21.46	21.25	1
		25	0	21.34	21.44	21.26	1
	16QAM	1	0	21.44	21.69	21.49	1
		1	12	21.60	21.46	21.35	1
		1	24	21.45	21.48	21.29	1
		12	0	20.36	20.50	20.23	2
		12	7	20.35	20.40	20.20	2
		12	13	20.36	20.46	20.20	2
		25	0	20.40	20.45	20.22	2
	64QAM	1	0	20.45	20.43	20.00	2
		1	12	20.73	20.50	20.07	2
		1	24	20.78	20.29	20.06	2
		12	0	19.39	19.29	18.75	3
		12	7	19.52	19.30	18.97	3
		12	13	19.47	19.25	18.92	3
		25	0	19.55	19.37	18.99	3

9.3.2 LTE Band 12

Band width	Modulation	RB Size	RB offset	Maximum Average Power	MPR
				23 095	
				707.5 ㎒	
10 ㎒	QPSK	1	0	24.42	0
		1	25	24.45	0
		1	49	24.40	0
		25	0	23.34	1
		25	12	23.43	1
		25	25	23.34	1
		50	0	23.21	1
	16QAM	1	0	23.02	1
		1	25	23.13	1
		1	49	23.07	1
		25	0	22.34	2
		25	12	22.43	2
		25	25	22.39	2
		50	0	22.29	2
	64QAM	1	0	22.17	2
		1	25	22.12	2
		1	49	22.12	2
		25	0	20.94	3
		25	12	20.93	3
		25	25	20.86	3
		50	0	20.94	3

10 ㎒ Bandwidths does not support at least three non-overlapping channels in certain channel bandwidths. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing per KDB 941225 D05 SAR for LTE Devices.

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				23 035	23 095	23 155	
				701.5 ㎒	707.5 ㎒	713.5 ㎒	
5 ㎒	QPSK	1	0	24.12	24.01	23.99	0
		1	12	24.03	24.12	24.04	0
		1	24	23.99	24.10	24.04	0
		12	0	23.03	22.97	22.98	1
		12	7	22.98	22.99	22.94	1
		12	13	22.99	22.97	22.91	1
		25	0	22.78	22.78	22.76	1
	16QAM	1	0	22.57	22.66	22.77	1
		1	12	22.64	22.85	22.80	1
		1	24	22.82	22.68	22.74	1
		12	0	22.04	22.00	22.02	2
		12	7	21.98	21.95	22.00	2
		12	13	22.01	21.91	21.97	2
		25	0	21.90	21.84	21.88	2
	64QAM	1	0	21.88	22.02	21.60	2
		1	12	21.81	21.92	21.80	2
		1	24	21.97	22.05	21.79	2
		12	0	20.86	20.74	20.63	3
		12	7	20.89	20.79	20.55	3
		12	13	20.78	20.74	20.72	3
		25	0	20.77	20.78	20.64	3

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				23 025	23 095	23 655	
				700.5 MHz	707.5 MHz	714.5 MHz	
3 MHz	QPSK	1	0	24.05	23.99	24.11	0
		1	8	23.99	24.03	24.08	0
		1	14	23.95	24.03	24.01	0
		8	0	23.02	22.95	22.92	1
		8	4	23.00	22.97	22.92	1
		8	7	23.03	22.96	22.91	1
		15	0	22.83	22.77	22.75	1
	16QAM	1	0	22.99	22.72	22.81	1
		1	8	22.86	22.73	22.82	1
		1	14	22.77	22.74	22.78	1
		8	0	22.05	21.98	21.98	2
		8	4	22.06	21.92	21.89	2
		8	7	22.05	21.92	21.92	2
		15	0	21.97	21.92	21.83	2
	64QAM	1	0	21.81	21.96	21.59	2
		1	8	21.98	22.07	21.80	2
		1	14	21.84	21.90	21.83	2
		8	0	20.79	20.83	20.71	3
		8	4	20.74	20.69	20.55	3
		8	7	20.80	20.80	20.53	3
		15	0	20.89	20.88	20.69	3

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				23 017	23 095	23 173	
				699.7 MHz	707.5 MHz	715.3 MHz	
1.4 MHz	QPSK	1	0	24.03	24.06	23.96	0
		1	3	24.02	24.03	23.88	0
		1	5	24.02	23.98	23.91	0
		3	0	23.68	23.91	23.50	0
		3	1	23.70	23.66	23.57	0
		3	3	23.74	23.69	23.62	0
		6	0	22.86	22.77	22.65	1
	16QAM	1	0	22.67	22.93	22.85	1
		1	3	22.55	22.87	22.74	1
		1	5	22.54	22.87	22.72	1
		3	0	23.11	22.93	22.90	1
		3	1	22.99	22.85	23.03	1
		3	3	23.06	22.79	22.86	1
		6	0	21.96	21.78	21.80	2
	64QAM	1	0	21.92	22.07	21.71	2
		1	3	21.92	21.95	21.76	2
		1	5	21.98	22.05	21.82	2
		3	0	21.68	21.78	21.60	2
		3	1	21.85	21.73	21.65	2
		3	3	21.81	21.62	21.68	2
		6	0	20.88	20.75	20.72	3

9.3.3 LTE Band 13

Band width	Modulation	RB Size	RB offset	Maximum Average Power 23 230 782.0 ㎒	MPR
10 ㎒	QPSK	1	0	23.97	0
		1	25	24.05	0
		1	49	24.11	0
		25	0	23.01	1
		25	12	23.12	1
		25	25	23.04	1
		50	0	22.88	1
	16QAM	1	0	22.78	1
		1	25	23.01	1
		1	49	22.87	1
		25	0	22.04	2
		25	12	22.11	2
		25	25	22.08	2
		50	0	22.00	2
	64QAM	1	0	21.85	2
		1	25	21.92	2
		1	49	21.73	2
		25	0	20.71	3
		25	12	20.69	3
		25	25	20.67	3
		50	0	20.70	3

Band width	Modulation	RB Size	RB offset	Maximum Average Power 23 230 782.0 ㎒	MPR
5 ㎒	QPSK	1	0	23.91	0
		1	12	23.95	0
		1	24	23.79	0
		12	0	22.70	1
		12	7	22.67	1
		12	13	22.65	1
		25	0	22.50	1
	16QAM	1	0	22.61	1
		1	12	22.69	1
		1	24	22.64	1
		12	0	21.66	2
		12	7	21.65	2
		12	13	21.63	2
		25	0	21.56	2
	64QAM	1	0	21.81	2
		1	12	21.88	2
		1	24	21.70	2
		12	0	20.68	3
		12	7	20.60	3
		12	13	20.66	3
		25	0	20.61	3

5 ㎒ Bandwidths does not support at least three non-overlapping channels in certain channel bandwidths. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing per KDB 941225 D05 SAR for LTE Devices.

9.3.4 LTE Band 14

Band width	Modulation	RB Size	RB offset	Maximum Average Power 23 330 793.0 ㎒	MPR
10 ㎒	QPSK	1	0	23.99	0
		1	25	24.23	0
		1	49	24.05	0
		25	0	23.04	1
		25	12	23.14	1
		25	25	23.05	1
		50	0	22.89	1
	16QAM	1	0	22.91	1
		1	25	22.98	1
		1	49	22.87	1
		25	0	22.06	2
		25	12	22.13	2
		25	25	22.06	2
		50	0	22.04	2
	64QAM	1	0	21.74	2
		1	25	21.88	2
		1	49	21.83	2
		25	0	20.77	3
		25	12	20.79	3
		25	25	20.73	3
		50	0	20.84	3

10 ㎒ Bandwidths does not support at least three non-overlapping channels in certain channel bandwidths. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing per KDB 941225 D05 SAR for LTE Devices.

Band width	Modulation	RB Size	RB offset	Maximum Average Power 23 330 793.0 ㎒	MPR
5 ㎒	QPSK	1	0	23.75	0
		1	12	23.81	0
		1	24	23.80	0
		12	0	22.84	1
		12	7	22.80	1
		12	13	22.70	1
		25	0	22.58	1
	16QAM	1	0	22.76	1
		1	12	22.77	1
		1	24	22.84	1
		12	0	21.78	2
		12	7	21.73	2
		12	13	21.72	2
		25	0	21.65	2
	64QAM	1	0	21.69	2
		1	12	21.85	2
		1	24	21.77	2
		12	0	20.69	3
		12	7	20.72	3
		12	13	20.70	3
		25	0	20.78	3

9.3.5 LTE Band 25

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				26 140	26 365	26 590	
				1 860.0 MHz	1 882.5 MHz	1 905.0 MHz	
20 MHz	QPSK	1	0	24.25	24.38	24.33	0
		1	49	24.26	24.41	24.37	0
		1	99	24.32	24.36	24.42	0
		50	0	23.18	23.34	23.31	1
		50	24	23.31	23.31	23.41	1
		50	50	23.30	23.21	23.33	1
		100	0	23.14	23.24	23.28	1
	16QAM	1	0	23.14	23.05	23.39	1
		1	49	23.17	23.16	23.46	1
		1	99	23.27	23.06	23.47	1
		50	0	22.22	22.38	22.40	2
		50	24	22.31	22.47	22.45	2
		50	50	22.31	22.42	22.43	2
		100	0	22.24	22.39	22.40	2
	64QAM	1	0	22.12	22.00	21.69	2
		1	49	21.91	22.04	21.68	2
		1	99	22.07	21.89	21.60	2
		50	0	20.89	20.84	20.59	3
		50	24	20.93	20.87	20.68	3
		50	50	20.91	20.77	20.60	3
		100	0	20.91	20.93	20.71	3

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				26 115	26 365	26 615	
				1 857.5 MHz	1 882.5 MHz	1 907.5 MHz	
15 MHz	QPSK	1	0	23.89	24.01	23.96	0
		1	36	24.06	24.11	24.01	0
		1	74	24.03	24.12	24.12	0
		36	0	23.01	23.13	23.18	1
		36	18	23.03	23.15	23.07	1
		36	37	22.96	23.10	23.18	1
		75	0	22.86	23.00	23.05	1
	16QAM	1	0	22.72	22.60	22.85	1
		1	36	22.84	22.89	22.88	1
		1	74	22.88	22.73	22.78	1
		36	0	21.94	22.12	22.09	2
		36	18	22.03	22.14	22.14	2
		36	37	21.96	22.08	22.13	2
		75	0	21.93	22.07	22.10	2
	64QAM	1	0	21.87	21.82	21.48	2
		1	36	21.82	21.79	21.45	2
		1	74	21.90	21.74	21.46	2
		36	0	20.66	20.74	20.40	3
		36	18	20.86	20.79	20.56	3
		36	37	20.82	20.71	20.39	3
		75	0	20.80	20.73	20.48	3

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				26 090	26 365	26 640	
				1 855.0 MHz	1 882.5 MHz	1 910.0 MHz	
10 MHz	QPSK	1	0	24.02	23.97	24.13	0
		1	25	24.08	24.04	24.03	0
		1	49	24.04	24.09	24.01	0
		25	0	23.05	23.04	23.00	1
		25	12	23.08	23.11	23.11	1
		25	25	23.05	23.08	23.10	1
		50	0	22.93	22.93	22.92	1
	16QAM	1	0	22.92	22.73	22.78	1
		1	25	22.88	23.14	22.90	1
		1	49	22.86	23.08	22.83	1
		25	0	22.04	22.06	22.07	2
		25	12	22.15	22.11	22.14	2
		25	25	22.09	22.10	22.10	2
		50	0	21.98	22.03	22.02	2
	64QAM	1	0	21.93	21.84	21.53	2
		1	25	21.67	21.82	21.45	2
		1	49	21.99	21.68	21.39	2
		25	0	20.66	20.68	20.45	3
		25	12	20.82	20.67	20.53	3
		25	25	20.67	20.60	20.35	3
		50	0	20.70	20.81	20.64	3

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				26 065	26 365	26 665	
				1 852.5 MHz	1 882.5 MHz	1 912.5 MHz	
5 MHz	QPSK	1	0	24.11	24.20	24.10	0
		1	12	24.08	24.02	24.13	0
		1	24	24.05	24.20	24.01	0
		12	0	23.11	23.11	22.91	1
		12	7	23.08	23.09	23.15	1
		12	13	23.04	23.07	23.14	1
		25	0	22.89	22.87	22.96	1
	16QAM	1	0	22.76	22.64	22.69	1
		1	12	22.95	23.00	22.66	1
		1	24	22.84	23.12	22.69	1
		12	0	22.01	22.11	22.03	2
		12	7	22.03	22.07	22.19	2
		12	13	21.96	22.03	22.11	2
		25	0	21.96	21.94	22.07	2
	64QAM	1	0	21.93	21.90	21.44	2
		1	12	21.66	21.97	21.43	2
		1	24	21.99	21.79	21.42	2
		12	0	20.79	20.73	20.51	3
		12	7	20.68	20.73	20.47	3
		12	13	20.83	20.57	20.40	3
		25	0	20.73	20.84	20.54	3

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				26 055	26 365	26 675	
				1 851.5 MHz	1 882.5 MHz	1 913.5 MHz	
3 MHz	QPSK	1	0	24.09	24.14	24.03	0
		1	8	24.02	24.15	24.11	0
		1	14	23.98	24.15	24.11	0
		8	0	23.08	23.06	22.94	1
		8	4	23.00	23.11	23.17	1
		8	7	23.06	23.08	22.96	1
		15	0	22.82	22.88	23.03	1
	16QAM	1	0	22.99	23.02	23.14	1
		1	8	22.89	22.91	22.91	1
		1	14	22.89	22.90	22.97	1
		8	0	22.07	22.13	22.01	2
		8	4	22.05	22.13	22.19	2
		8	7	22.06	22.07	22.17	2
		15	0	21.94	22.07	22.03	2
	64QAM	1	0	21.99	21.83	21.60	2
		1	8	21.76	21.99	21.48	2
		1	14	22.02	21.75	21.55	2
		8	0	20.83	20.78	20.52	3
		8	4	20.87	20.72	20.44	3
		8	7	20.78	20.69	20.47	3
		15	0	20.68	20.86	20.56	3

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				26 047	26 365	26 683	
				1 850.7 MHz	1 882.5 MHz	1 914.3 MHz	
1.4 MHz	QPSK	1	0	24.03	24.20	24.07	0
		1	3	24.14	23.96	24.04	0
		1	5	24.16	24.19	24.07	0
		3	0	24.01	24.02	23.94	0
		3	1	24.03	24.06	23.97	0
		3	3	23.97	24.09	24.02	0
		6	0	22.80	22.89	23.11	1
	16QAM	1	0	22.86	22.92	22.88	1
		1	3	22.75	22.83	22.90	1
		1	5	22.71	22.91	22.69	1
		3	0	23.12	23.08	23.14	1
		3	1	23.08	23.07	22.93	1
		3	3	23.07	23.08	23.05	1
		6	0	21.94	22.03	22.04	2
	64QAM	1	0	21.97	21.95	21.63	2
		1	3	21.68	21.99	21.57	2
		1	5	22.02	21.73	21.54	2
		3	0	21.76	21.68	21.49	2
		3	1	21.68	21.74	21.47	2
		3	3	21.68	21.57	21.43	2
		6	0	20.81	20.81	20.65	3

This test report shall not be reproduced, except in full, without the written approval

9.3.6 LTE Band 26

Band width	Modulation	RB Size	RB offset	Maximum Average Power 26 865 831.5 MHz	MPR
15 MHz	QPSK	1	0	24.19	0
		1	36	24.21	0
		1	74	24.29	0
		36	0	23.24	1
		36	18	23.32	1
		36	37	23.25	1
		75	0	23.10	1
	16QAM	1	0	22.83	1
		1	36	22.99	1
		1	74	22.91	1
		36	0	22.21	2
		36	18	22.23	2
		36	37	22.20	2
		75	0	22.10	2
	64QAM	1	0	21.72	2
		1	36	21.81	2
		1	74	21.73	2
		36	0	20.64	3
		36	18	20.69	3
		36	37	20.68	3
		75	0	20.67	3

15 MHz Bandwidths does not support at least three non-overlapping channels in certain channel bandwidths. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing per KDB 941225 D05 SAR for LTE Devices.

Band width	Modulation	RB Size	RB offset	Maximum Average Power 26 740 819.0 MHz	26 865 831.5 MHz	26 990 844.0 MHz	MPR
10 MHz	QPSK	1	0	23.65	23.74	23.64	0
		1	25	23.99	23.96	23.81	0
		1	49	23.75	23.77	23.83	0
		25	0	22.72	22.70	22.68	1
		25	12	22.79	22.84	22.74	1
		25	25	22.73	22.77	22.76	1
		50	0	22.59	22.62	22.59	1
	16QAM	1	0	22.70	22.54	22.67	1
		1	25	22.69	22.61	22.66	1
		1	49	22.59	22.51	22.60	1
		25	0	21.71	21.73	21.70	2
		25	12	21.82	21.82	21.74	2
		25	25	21.78	21.79	21.75	2
		50	0	21.73	21.73	21.66	2
	64QAM	1	0	21.67	21.50	21.62	2
		1	25	21.77	21.64	21.49	2
		1	49	21.62	21.48	21.53	2
		25	0	20.47	20.40	20.41	3
		25	12	20.53	20.56	20.60	3
		25	25	20.53	20.50	20.56	3
		50	0	20.50	20.42	20.50	3

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				26 715	26 865	27 015	
				816.5 MHz	831.5 MHz	846.5 MHz	
5 MHz	QPSK	1	0	23.84	23.76	23.59	0
		1	12	23.84	24.03	23.73	0
		1	24	24.12	24.14	23.79	0
		12	0	22.79	22.82	22.79	1
		12	7	22.82	22.79	22.74	1
		12	13	22.79	22.78	22.70	1
		25	0	22.60	22.60	22.55	1
	16QAM	1	0	22.31	22.66	22.24	1
		1	12	22.47	22.74	22.34	1
		1	24	22.48	22.60	22.48	1
		12	0	21.79	21.78	21.75	2
		12	7	21.81	21.77	21.79	2
		12	13	21.79	21.75	21.78	2
		25	0	21.73	21.65	21.62	2
	64QAM	1	0	21.66	21.67	21.58	2
		1	12	21.73	21.57	21.66	2
		1	24	21.45	21.63	21.54	2
		12	0	20.45	20.39	20.54	3
		12	7	20.65	20.47	20.43	3
		12	13	20.56	20.50	20.49	3
		25	0	20.53	20.58	20.51	3

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				26 705	26 865	27 025	
				815.5 MHz	831.5 MHz	847.5 MHz	
3 MHz	QPSK	1	0	23.87	23.81	23.83	0
		1	8	23.76	23.82	23.80	0
		1	14	23.73	23.84	23.84	0
		8	0	22.79	22.80	22.75	1
		8	4	22.74	22.85	22.75	1
		8	7	22.79	22.75	22.78	1
		15	0	22.61	22.61	22.58	1
	16QAM	1	0	22.77	22.69	22.66	1
		1	8	22.72	22.70	22.66	1
		1	14	22.58	22.69	22.67	1
		8	0	21.80	21.79	21.78	2
		8	4	21.81	21.78	21.73	2
		8	7	21.80	21.74	21.76	2
		15	0	21.78	21.75	21.64	2
	64QAM	1	0	21.52	21.60	21.57	2
		1	8	21.75	21.69	21.54	2
		1	14	21.49	21.50	21.40	2
		8	0	20.44	20.55	20.37	3
		8	4	20.60	20.52	20.55	3
		8	7	20.57	20.57	20.60	3
		15	0	20.54	20.51	20.50	3

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				26 697	26 865	27 033	
				814.7 MHz	831.5 MHz	848.3 MHz	
1.4 MHz	QPSK	1	0	24.08	23.85	23.66	0
		1	3	23.82	23.75	23.81	0
		1	5	23.88	23.74	23.76	0
		3	0	23.77	23.74	23.50	0
		3	1	23.71	23.78	23.51	0
		3	3	23.71	23.61	23.58	0
		6	0	22.53	22.56	22.37	1
	16QAM	1	0	22.72	22.60	22.43	1
		1	3	22.59	22.56	22.17	1
		1	5	22.49	22.43	22.33	1
		3	0	22.87	22.79	22.54	1
		3	1	22.85	22.80	22.54	1
		3	3	22.83	22.85	22.56	1
		6	0	21.63	21.75	21.42	2
	64QAM	1	0	21.52	21.48	21.57	2
		1	3	21.80	21.61	21.68	2
		1	5	21.61	21.66	21.51	2
		3	0	21.58	21.55	21.43	2
		3	1	21.61	21.50	21.59	2
		3	3	21.55	21.51	21.55	2
		6	0	20.45	20.57	20.54	3

This test report shall not be reproduced, except in full, without the written approval

9.3.7 LTE Band 41(Power Class 2)

Band width	Modulation	RB Size	RB offset	Maximum Average Power					MPR
				39 750	40 185	40 620	41 055	41 490	
				2 506.0 MHz	2 549.5 MHz	2 593.0 MHz	2 636.5 MHz	2 680.0 MHz	
20 MHz	QPSK	1	0	25.17	25.14	24.98	25.04	25.20	0
		1	49	25.30	25.28	25.12	25.18	25.29	0
		1	99	25.32	25.30	25.14	25.31	25.39	0
		50	0	24.78	24.71	24.60	24.61	24.79	1
		50	24	24.83	24.79	24.72	24.69	24.88	1
		50	50	24.84	24.80	24.73	24.70	24.90	1
		100	0	24.86	24.85	24.75	24.71	24.88	1
	16QAM	1	0	24.98	24.80	24.99	24.78	24.48	1
		1	49	25.13	24.98	25.12	24.90	24.61	1
		1	99	25.16	25.00	25.19	24.85	24.67	1
		50	0	23.80	23.62	23.65	23.55	23.73	2
		50	24	23.84	23.73	23.75	23.67	23.81	2
		50	50	23.80	23.74	23.76	23.68	23.80	2
		100	0	23.89	23.75	23.78	23.67	23.87	2
	64QAM	1	0	23.91	23.53	23.43	23.40	23.51	2
		1	49	24.09	23.56	23.41	23.38	23.49	2
		1	99	24.09	23.56	23.41	23.36	23.47	2
		50	0	22.95	22.54	22.36	22.33	22.45	3
		50	24	23.06	22.57	22.48	22.35	22.48	3
		50	50	23.05	22.51	22.47	22.38	22.49	3
		100	0	23.10	22.65	22.54	22.31	22.41	3

Band width	Modulation	RB Size	RB offset	Maximum Average Power					MPR
				39 750	40 185	40 620	41 055	41 490	
				2 506.0 MHz	2 549.5 MHz	2 593.0 MHz	2 636.5 MHz	2 680.0 MHz	
15 MHz	QPSK	1	0	25.17	25.13	25.02	24.99	25.23	0
		1	36	25.26	25.26	25.13	25.13	25.37	0
		1	74	25.27	25.27	25.20	25.15	25.34	0
		36	0	24.85	24.87	24.74	24.75	24.95	1
		36	18	24.88	24.90	24.79	24.78	24.96	1
		36	37	24.89	24.90	24.78	24.81	24.98	1
		75	0	24.96	24.89	24.78	24.80	24.98	1
	16QAM	1	0	24.59	24.73	24.55	24.58	24.76	1
		1	36	24.66	24.88	24.56	24.68	24.87	1
		1	74	24.64	24.85	24.66	24.70	24.87	1
		36	0	23.88	23.76	23.70	23.71	23.81	2
		36	18	23.89	23.80	23.73	23.74	23.88	2
		36	37	23.87	23.78	23.68	23.73	23.85	2
		75	0	23.92	23.86	23.73	23.73	23.92	2
	64QAM	1	0	23.79	23.42	23.36	23.19	23.31	2
		1	36	23.85	23.51	23.26	23.14	23.32	2
		1	74	23.91	23.40	23.24	23.24	23.31	2
		36	0	22.81	22.31	22.16	22.27	22.35	3
		36	18	22.94	22.36	22.34	22.11	22.39	3
		36	37	22.86	22.35	22.41	22.28	22.31	3
		75	0	22.96	22.47	22.37	22.25	22.33	3

Band width	Modulation	RB Size	RB offset	Maximum Average Power					MPR
				39 750	40 185	40 620	41 055	41 490	
				2 506.0 MHz	2 549.5 MHz	2 593.0 MHz	2 636.5 MHz	2 680.0 MHz	
10 MHz	QPSK	1	0	25.22	25.15	25.10	25.04	25.20	0
		1	25	25.22	25.24	25.17	25.15	25.32	0
		1	49	25.25	25.24	25.17	25.20	25.25	0
		25	0	24.78	24.76	24.67	24.62	24.80	1
		25	12	24.83	24.81	24.75	24.69	24.87	1
		25	25	24.81	24.78	24.70	24.69	24.84	1
		50	0	24.87	24.83	24.75	24.71	24.86	1
	16QAM	1	0	24.88	24.79	24.33	24.62	24.65	1
		1	25	25.02	24.87	24.56	24.67	24.92	1
		1	49	24.86	24.86	24.67	24.78	24.95	1
		25	0	23.72	23.71	23.67	23.58	23.76	2
		25	12	23.79	23.74	23.72	23.64	23.80	2
		25	25	23.80	23.76	23.71	23.61	23.80	2
		50	0	23.81	23.75	23.73	23.64	23.82	2
	64QAM	1	0	23.72	23.35	23.35	23.16	23.33	2
		1	25	23.87	23.47	23.33	23.20	23.43	2
		1	49	23.92	23.44	23.26	23.11	23.36	2
		25	0	22.90	22.49	22.29	22.08	22.34	3
		25	12	22.99	22.39	22.24	22.12	22.37	3
		25	25	22.84	22.43	22.39	22.21	22.38	3
		50	0	22.94	22.49	22.44	22.22	22.17	3

Band width	Modulation	RB Size	RB offset	Maximum Average Power					MPR
				39 750	40 185	40 620	41 055	41 490	
				2 506.0 MHz	2 549.5 MHz	2 593.0 MHz	2 636.5 MHz	2 680.0 MHz	
5 MHz	QPSK	1	0	25.25	25.27	25.21	25.08	25.31	0
		1	12	25.25	25.33	25.23	25.19	25.24	0
		1	24	25.27	25.20	25.12	25.17	25.39	0
		12	0	24.77	24.80	24.73	24.72	24.86	1
		12	7	24.73	24.77	24.73	24.70	24.79	1
		12	13	24.72	24.75	24.71	24.66	24.85	1
		25	0	24.84	24.77	24.68	24.67	24.84	1
	16QAM	1	0	24.81	25.03	25.04	24.54	25.28	1
		1	12	24.87	24.83	24.83	24.74	25.23	1
		1	24	24.85	24.96	24.85	24.69	24.78	1
		12	0	23.89	23.77	23.84	23.67	23.84	2
		12	7	23.83	23.76	23.74	23.67	23.81	2
		12	13	23.82	23.74	23.69	23.65	23.83	2
		25	0	23.77	23.72	23.63	23.64	23.90	2
	64QAM	1	0	23.79	23.31	23.21	23.28	23.30	2
		1	12	23.87	23.31	23.23	23.25	23.41	2
		1	24	23.92	23.48	23.17	23.17	23.36	2
		12	0	22.85	22.39	22.21	22.10	22.37	3
		12	7	22.98	22.48	22.36	22.24	22.31	3
		12	13	22.80	22.36	22.32	22.14	22.31	3
		25	0	22.92	22.50	22.36	22.13	22.26	3

9.3.8 LTE Band 41(Power Class 3)

Band width	Modulation	RB Size	RB offset	Maximum Average Power					MPR
				39 750	40 185	40 620	41 055	41 490	
				2 506.0 MHz	2 549.5 MHz	2 593.0 MHz	2 636.5 MHz	2 680.0 MHz	
20 MHz	QPSK	1	0	23.56	23.57	23.43	23.37	23.51	0
		1	49	23.73	23.54	23.45	23.31	23.55	0
		1	99	23.75	23.72	23.59	23.46	23.76	0
		50	0	22.81	22.82	22.74	22.69	22.86	1
		50	24	22.90	22.84	22.81	22.74	22.85	1
		50	50	22.94	22.86	22.85	22.75	22.98	1
		100	0	22.91	22.92	22.79	22.80	22.97	1
	16QAM	1	0	22.85	22.76	22.43	22.40	22.86	1
		1	49	23.00	22.89	22.64	22.56	23.04	1
		1	99	22.94	22.85	22.75	22.76	23.03	1
		50	0	21.83	21.69	21.75	21.69	21.86	2
		50	24	21.96	21.82	21.84	21.74	21.97	2
		50	50	21.93	21.78	21.79	21.77	21.94	2
		100	0	21.95	21.87	21.85	21.76	21.99	2
	64QAM	1	0	21.82	21.48	21.28	21.25	21.40	2
		1	49	21.99	21.43	21.33	21.27	21.41	2
		1	99	21.98	21.46	21.32	21.22	21.33	2
		50	0	20.89	20.40	20.22	20.23	20.39	3
		50	24	21.00	20.48	20.41	20.24	20.41	3
		50	50	21.00	20.41	20.38	20.25	20.38	3
		100	0	21.02	20.56	20.43	20.19	20.30	3

Band width	Modulation	RB Size	RB offset	Maximum Average Power					MPR
				39 750	40 185	40 620	41 055	41 490	
				2 506.0 MHz	2 549.5 MHz	2 593.0 MHz	2 636.5 MHz	2 680.0 MHz	
15 MHz	QPSK	1	0	23.49	23.43	23.25	23.20	23.44	0
		1	36	23.57	23.51	23.49	23.35	23.48	0
		1	74	23.60	23.55	23.50	23.36	23.60	0
		36	0	22.91	22.87	22.80	22.79	22.92	1
		36	18	22.98	22.92	22.82	22.82	23.00	1
		36	37	22.92	22.84	22.81	22.78	22.98	1
		75	0	22.97	22.92	22.84	22.86	23.02	1
	16QAM	1	0	22.85	22.76	22.63	22.69	22.59	1
		1	36	22.96	22.85	22.65	22.85	22.72	1
		1	74	23.09	22.87	22.77	22.81	22.78	1
		36	0	21.94	21.79	21.72	21.75	21.93	2
		36	18	21.95	21.91	21.75	21.75	21.99	2
		36	37	21.93	21.82	21.73	21.77	21.92	2
		75	0	21.93	21.90	21.83	21.77	21.95	2
	64QAM	1	0	21.62	21.23	21.05	21.00	21.31	2
		1	36	21.86	21.25	21.13	21.13	21.28	2
		1	74	21.92	21.26	21.08	21.06	21.26	2
		36	0	20.84	20.20	20.08	20.16	20.19	3
		36	18	20.83	20.34	20.33	20.13	20.31	3
		36	37	20.92	20.30	20.24	20.18	20.19	3
		75	0	20.96	20.33	20.28	19.94	20.10	3

Band width	Modulation	RB Size	RB offset	Maximum Average Power					MPR
				39 750	40 185	40 620	41 055	41 490	
				2 506.0 MHz	2 549.5 MHz	2 593.0 MHz	2 636.5 MHz	2 680.0 MHz	
10 MHz	QPSK	1	0	23.46	23.56	23.42	23.16	23.48	0
		1	25	23.36	23.25	23.55	23.45	23.32	0
		1	49	23.41	23.66	23.48	23.22	23.66	0
		25	0	22.82	22.78	22.73	22.69	22.82	1
		25	12	22.88	22.86	22.79	22.76	22.94	1
		25	25	22.84	22.85	22.83	22.77	22.91	1
		50	0	22.92	22.86	22.84	22.79	22.94	1
	16QAM	1	0	22.80	22.67	22.51	22.54	22.96	1
		1	25	23.05	22.81	22.46	22.65	22.93	1
		1	49	23.01	22.78	22.69	22.88	22.83	1
		25	0	21.89	21.79	21.76	21.68	21.82	2
		25	12	21.91	21.81	21.79	21.74	21.86	2
		25	25	21.89	21.82	21.77	21.70	21.85	2
		50	0	21.92	21.82	21.82	21.74	21.91	2
	64QAM	1	0	21.68	21.40	21.22	21.12	21.27	2
		1	25	21.74	21.29	21.23	21.20	21.22	2
		1	49	21.87	21.21	21.25	21.17	21.13	2
		25	0	20.66	20.34	19.98	20.04	20.15	3
		25	12	20.82	20.23	20.35	20.16	20.32	3
		25	25	20.94	20.27	20.19	20.18	20.13	3
		50	0	20.77	20.46	20.32	19.97	20.15	3

Band width	Modulation	RB Size	RB offset	Maximum Average Power					MPR
				39 750	40 185	40 620	41 055	41 490	
				2 506.0 MHz	2 549.5 MHz	2 593.0 MHz	2 636.5 MHz	2 680.0 MHz	
5 MHz	QPSK	1	0	23.40	23.39	23.21	23.34	23.47	0
		1	12	23.45	23.35	23.34	23.44	23.62	0
		1	24	23.60	23.39	23.24	23.35	23.49	0
		12	0	22.92	22.86	22.83	22.79	22.94	1
		12	7	22.92	22.85	22.79	22.78	22.91	1
		12	13	22.90	22.84	22.77	22.78	22.90	1
		25	0	22.86	22.84	22.80	22.72	22.89	1
	16QAM	1	0	22.74	22.78	22.70	22.72	22.88	1
		1	12	22.82	22.78	22.56	22.70	22.80	1
		1	24	23.00	22.82	22.78	22.58	22.97	1
		12	0	21.90	21.85	21.79	21.75	21.92	2
		12	7	21.87	21.80	21.79	21.70	21.93	2
		12	13	21.80	21.83	21.79	21.70	21.83	2
		25	0	21.92	21.83	21.76	21.75	21.90	2
	64QAM	1	0	21.74	21.23	21.13	21.12	21.22	2
		1	12	21.85	21.31	21.08	21.22	21.33	2
		1	24	21.88	21.37	21.27	21.14	21.14	2
		12	0	20.73	20.24	19.97	20.03	20.33	3
		12	7	20.87	20.37	20.28	20.09	20.33	3
		12	13	20.87	20.21	20.33	20.01	20.22	3
		25	0	20.93	20.36	20.21	20.11	20.21	3

9.3.9 LTE Band 66

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				132 072	132 322	132 572	
				1 720.0 MHz	1 745.0 MHz	1 770.0 MHz	
20 MHz	QPSK	1	0	24.38	24.35	24.25	0
		1	49	24.54	24.56	24.55	0
		1	99	24.46	24.50	24.34	0
		50	0	23.66	23.66	23.74	1
		50	24	23.78	23.85	23.77	1
		50	50	23.76	23.74	23.81	1
		100	0	23.60	23.63	23.62	1
	16QAM	1	0	23.48	23.38	23.45	1
		1	49	23.51	23.45	23.73	1
		1	99	23.53	23.54	23.72	1
		50	0	22.69	22.67	22.63	2
		50	24	22.78	22.77	22.74	2
		50	50	22.76	22.75	22.71	2
		100	0	22.71	22.73	22.70	2
	64QAM	1	0	22.48	22.16	22.06	2
		1	49	22.58	22.46	22.26	2
		1	99	22.63	22.50	22.23	2
		50	0	21.40	21.25	21.13	3
		50	24	21.52	21.34	21.25	3
		50	50	21.44	21.26	21.23	3
		100	0	21.49	21.34	21.33	3

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				132 047	132 322	132 597	
				1 717.5 MHz	1 745.0 MHz	1 772.5 MHz	
15 MHz	QPSK	1	0	24.02	24.16	24.18	0
		1	36	24.42	24.34	24.09	0
		1	74	24.19	24.10	24.07	0
		36	0	23.30	23.30	23.28	1
		36	18	23.35	23.34	23.34	1
		36	37	23.31	23.37	23.30	1
		75	0	23.42	23.44	23.39	1
	16QAM	1	0	23.48	23.40	23.40	1
		1	36	23.58	23.57	23.61	1
		1	74	23.53	23.54	23.55	1
		36	0	22.66	22.65	22.64	2
		36	18	22.71	22.77	22.70	2
		36	37	22.75	22.74	22.63	2
		75	0	22.62	22.57	22.56	2
	64QAM	1	0	22.38	22.04	21.97	2
		1	36	22.46	22.32	22.13	2
		1	74	22.43	22.25	22.17	2
		36	0	21.33	21.05	20.92	3
		36	18	21.47	21.13	21.07	3
		36	37	21.35	21.10	21.00	3
		75	0	21.30	21.19	21.13	3

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				132 022	132 322	132 622	
				1 715.0 MHz	1 745.0 MHz	1 775.0 MHz	
10 MHz	QPSK	1	0	23.82	23.96	23.98	0
		1	25	24.22	24.14	23.89	0
		1	49	23.99	23.90	23.87	0
		25	0	23.15	23.15	23.13	1
		25	12	23.20	23.19	23.19	1
		25	25	23.16	23.22	23.15	1
		50	0	23.32	23.34	23.29	1
	16QAM	1	0	23.38	23.30	23.30	1
		1	25	23.34	23.31	23.41	1
		1	49	23.31	23.29	23.45	1
		25	0	22.56	22.55	22.54	2
		25	12	22.61	22.67	22.60	2
		25	25	22.65	22.64	22.53	2
		50	0	22.57	22.52	22.51	2
	64QAM	1	0	22.27	22.01	21.98	2
		1	25	22.43	22.40	22.08	2
		1	49	22.42	22.29	22.09	2
		25	0	21.22	21.13	21.03	3
		25	12	21.37	21.17	21.12	3
		25	25	21.34	21.06	21.12	3
		50	0	21.32	21.27	21.25	3

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				131 997	132 322	132 647	
				1 712.5 MHz	1 745.0 MHz	1 777.5 MHz	
5 MHz	QPSK	1	0	23.81	23.85	23.70	0
		1	12	23.93	23.89	23.80	0
		1	24	23.94	23.95	23.78	0
		12	0	23.18	23.20	23.16	1
		12	7	23.17	23.17	23.13	1
		12	13	23.17	23.14	23.12	1
		25	0	23.28	23.26	23.23	1
	16QAM	1	0	23.18	23.41	23.22	1
		1	12	23.35	23.42	23.23	1
		1	24	23.25	23.56	23.33	1
		12	0	22.59	22.56	22.61	2
		12	7	22.63	22.65	22.53	2
		12	13	22.63	22.51	22.46	2
		25	0	22.47	22.52	22.48	2
	64QAM	1	0	22.33	22.11	21.82	2
		1	12	22.34	22.33	22.07	2
		1	24	22.52	22.35	22.00	2
		12	0	21.22	21.14	21.01	3
		12	7	21.30	21.21	21.18	3
		12	13	21.24	21.20	21.15	3
		25	0	21.30	21.23	21.20	3

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				131 987	132 322	132 657	
				1 711.5 MHz	1 745.0 MHz	1 778.5 MHz	
3 MHz	QPSK	1	0	23.88	23.95	23.87	0
		1	8	23.80	23.95	23.92	0
		1	14	23.60	23.72	23.72	0
		8	0	23.23	23.18	23.15	1
		8	4	23.18	23.13	23.14	1
		8	7	23.37	23.41	23.32	1
		15	0	23.31	23.30	23.23	1
	16QAM	1	0	23.60	23.46	23.42	1
		1	8	23.54	23.49	23.44	1
		1	14	23.35	23.51	23.36	1
		8	0	22.64	22.66	22.57	2
		8	4	22.59	22.64	22.56	2
		8	7	22.60	22.67	22.53	2
		15	0	22.54	22.56	22.38	2
	64QAM	1	0	22.35	21.94	21.85	2
		1	8	22.43	22.35	22.15	2
		1	14	22.38	22.45	22.16	2
		8	0	21.21	21.13	20.95	3
		8	4	21.34	21.25	21.08	3
		8	7	21.20	21.14	21.09	3
		15	0	21.41	21.26	21.12	3

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				131 979	132 322	132 665	
				1 710.7 MHz	1 745.0 MHz	1 779.3 MHz	
1.4 MHz	QPSK	1	0	24.32	24.34	23.85	0
		1	3	24.21	24.21	23.76	0
		1	5	23.85	24.18	23.78	0
		3	0	23.70	23.72	23.67	0
		3	1	23.74	23.73	23.67	0
		3	3	23.75	23.81	23.60	0
		6	0	23.26	23.28	23.18	1
	16QAM	1	0	23.29	23.53	23.29	1
		1	3	23.21	23.42	23.28	1
		1	5	23.21	23.41	23.32	1
		3	0	23.50	23.49	23.65	1
		3	1	23.58	23.56	23.57	1
		3	3	23.55	23.50	23.56	1
		6	0	22.53	22.47	22.52	2
	64QAM	1	0	22.41	21.98	21.87	2
		1	3	22.35	22.21	22.11	2
		1	5	22.55	22.32	21.98	2
		3	0	22.20	22.20	22.02	2
		3	1	22.39	22.15	22.02	2
		3	3	22.22	22.14	22.07	2
		6	0	21.32	21.14	21.11	3

9.3.10 LTE Band 71

Band width	Modulation	RB Size	RB offset	Maximum Average Power 133 297 680.5 ㎒	MPR
20 ㎒	QPSK	1	0	24.11	0
		1	49	24.03	0
		1	99	24.00	0
		50	0	23.11	1
		50	24	23.27	1
		50	50	23.16	1
		100	0	22.71	1
	16QAM	1	0	23.13	1
		1	49	23.14	1
		1	99	23.18	1
		50	0	22.26	2
		50	24	22.30	2
		50	50	22.24	2
		100	0	22.27	2
	64QAM	1	0	21.91	2
		1	49	21.97	2
		1	99	21.92	2
		50	0	20.82	3
		50	24	20.85	3
		50	50	20.81	3
		100	0	20.86	3

Band width	Modulation	RB Size	RB offset	Maximum Average Power 133 297 680.5 ㎒	MPR
15 ㎒	QPSK	1	0	23.63	0
		1	36	23.69	0
		1	74	23.63	0
		36	0	23.07	1
		36	18	23.10	1
		36	37	23.00	1
		75	0	22.69	1
	16QAM	1	0	22.74	1
		1	36	22.82	1
		1	74	22.77	1
		36	0	21.87	2
		36	18	21.85	2
		36	37	21.81	2
		75	0	21.86	2
	64QAM	1	0	21.78	2
		1	36	21.81	2
		1	74	21.84	2
		36	0	20.60	3
		36	18	20.64	3
		36	37	20.60	3
		75	0	20.66	3

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				133 172	133 297	133 422	
				668.0 MHz	680.5 MHz	693.0 MHz	
10 MHz	QPSK	1	0	23.78	23.59	23.59	0
		1	25	23.71	23.64	23.70	0
		1	49	23.74	23.71	23.84	0
		25	0	23.10	23.00	22.98	1
		25	12	23.10	23.00	23.05	1
		25	25	23.10	22.95	22.99	1
		50	0	22.73	22.65	22.64	1
	16QAM	1	0	23.13	22.76	22.81	1
		1	25	23.15	22.88	22.98	1
		1	49	22.91	22.85	22.90	1
		25	0	21.90	21.77	21.82	2
		25	12	21.93	21.82	21.86	2
		25	25	21.87	21.79	21.81	2
		50	0	21.92	21.83	21.85	2
	64QAM	1	0	21.88	21.85	21.62	2
		1	25	22.04	21.91	21.72	2
		1	49	21.73	21.69	21.83	2
		25	0	20.83	20.62	20.73	3
		25	12	20.87	20.64	20.80	3
		25	25	20.74	20.68	20.83	3
		50	0	20.79	20.70	20.81	3

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				133 147	133 297	133 447	
				665.5 MHz	680.5 MHz	695.5 MHz	
5 MHz	QPSK	1	0	23.71	23.69	23.64	0
		1	12	23.61	23.86	23.84	0
		1	24	23.77	23.59	23.73	0
		12	0	23.20	23.06	23.09	1
		12	7	23.13	23.02	23.09	1
		12	13	23.15	22.99	23.01	1
		25	0	22.75	22.62	22.69	1
	16QAM	1	0	22.93	22.99	23.00	1
		1	12	22.95	23.05	22.84	1
		1	24	23.05	22.89	22.76	1
		12	0	21.97	21.79	21.89	2
		12	7	21.92	21.76	21.85	2
		12	13	21.93	21.71	21.85	2
		25	0	21.93	21.79	21.87	2
	64QAM	1	0	21.84	21.85	21.61	2
		1	12	22.02	21.90	21.76	2
		1	24	21.82	21.69	21.84	2
		12	0	20.64	20.74	20.74	3
		12	7	20.78	20.70	20.69	3
		12	13	20.83	20.69	20.70	3
		25	0	20.83	20.73	20.83	3

9.4 LTE Average Conducted Output Power (Reduced Average Power-Grip Sensor)

9.4.1 LTE Band 7

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				20 850	21 100	21 350	
				2 510.0 MHz	2 535.0 MHz	2 560.0 MHz	
20 MHz	QPSK	1	0	12.21	12.23	12.20	0
		1	49	12.31	12.42	12.29	0
		1	99	12.38	12.47	12.30	0
		50	0	12.31	12.37	12.23	0
		50	24	12.42	12.44	12.31	0
		50	50	12.43	12.41	12.28	0
		100	0	12.29	12.42	12.20	0
	16QAM	1	0	12.12	12.13	12.05	0
		1	49	11.88	12.13	12.00	0
		1	99	12.06	12.05	12.00	0
		50	0	11.81	11.84	11.70	0
		50	24	11.92	11.93	11.77	0
		50	50	11.91	11.93	11.74	0
		100	0	11.81	11.86	11.67	0
	64QAM	1	0	11.81	11.59	11.25	0
		1	49	11.89	11.60	11.40	0
		1	99	11.95	11.60	11.25	0
		50	0	11.76	11.61	11.11	0
		50	24	11.83	11.62	11.18	0
		50	50	11.81	11.55	11.24	0
		100	0	11.82	11.72	11.33	0

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				20 825	21 100	21 375	
				2 507.5 MHz	2 535.0 MHz	2 562.5 MHz	
15 MHz	QPSK	1	0	12.07	12.11	12.01	0
		1	36	12.09	12.15	12.04	0
		1	74	12.15	12.24	12.09	0
		36	0	12.13	12.18	12.00	0
		36	18	12.21	12.19	12.02	0
		36	37	12.14	12.13	12.00	0
		75	0	12.07	12.15	11.91	0
	16QAM	1	0	11.66	11.94	11.62	0
		1	36	11.80	11.61	11.61	0
		1	74	11.77	12.03	11.78	0
		36	0	11.79	11.85	11.63	0
		36	18	11.85	11.89	11.62	0
		36	37	11.80	11.90	11.58	0
		75	0	11.71	11.76	11.53	0
	64QAM	1	0	11.67	11.50	11.12	0
		1	36	11.79	11.53	11.26	0
		1	74	11.85	11.52	11.17	0
		36	0	11.61	11.48	11.03	0
		36	18	11.76	11.51	11.11	0
		36	37	11.73	11.41	11.18	0
		75	0	11.68	11.57	11.18	0

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				20 800	21 100	21 400	
				2 505.0 MHz	2 535.0 MHz	2 565.0 MHz	
10 MHz	QPSK	1	0	12.03	12.11	12.03	0
		1	25	12.12	12.14	12.01	0
		1	49	12.07	12.18	12.03	0
		25	0	12.02	12.07	11.91	0
		25	12	12.08	12.15	11.94	0
		25	25	12.04	12.12	11.96	0
		50	0	11.94	12.06	11.81	0
	16QAM	1	0	11.78	11.88	11.61	0
		1	25	11.86	11.71	11.64	0
		1	49	11.67	11.79	11.63	0
		25	0	11.86	11.75	11.51	0
		25	12	11.80	11.83	11.61	0
		25	25	11.78	11.79	11.63	0
		50	0	11.65	11.70	11.46	0
	64QAM	1	0	11.74	11.49	11.10	0
		1	25	11.74	11.45	11.34	0
		1	49	11.86	11.45	11.16	0
		25	0	11.67	11.49	11.06	0
		25	12	11.71	11.47	11.04	0
		25	25	11.67	11.49	11.11	0
		50	0	11.75	11.67	11.24	0

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				20 775	21 100	21 425	
				2 502.5 MHz	2 535.0 MHz	2 567.5 MHz	
5 MHz	QPSK	1	0	12.22	12.08	12.02	0
		1	12	12.31	12.16	12.03	0
		1	24	12.26	12.16	12.08	0
		12	0	12.05	12.12	11.99	0
		12	7	12.05	12.09	11.95	0
		12	13	12.07	12.09	11.94	0
		25	0	11.85	11.91	11.79	0
	16QAM	1	0	11.74	11.76	11.61	0
		1	12	11.84	11.84	11.63	0
		1	24	11.92	11.89	11.62	0
		12	0	11.76	11.82	11.60	0
		12	7	11.74	11.80	11.60	0
		12	13	11.73	11.78	11.58	0
		25	0	11.60	11.55	11.46	0
	64QAM	1	0	11.71	11.49	11.14	0
		1	12	11.81	11.54	11.25	0
		1	24	11.86	11.46	11.12	0
		12	0	11.67	11.48	11.09	0
		12	7	11.76	11.47	11.06	0
		12	13	11.68	11.47	11.10	0
		25	0	11.69	11.59	11.22	0

9.4.2 LTE Band 12

Band width	Modulation	RB Size	RB offset	Maximum Average Power 23 095 707.5 ㎒	MPR
10 ㎒	QPSK	1	0	17.15	0
		1	25	17.22	0
		1	49	17.13	0
		25	0	17.21	0
		25	12	17.29	0
		25	25	17.16	0
		50	0	17.21	0
	16QAM	1	0	17.28	0
		1	25	17.25	0
		1	49	17.23	0
		25	0	17.20	0
		25	12	17.24	0
		25	25	17.20	0
		50	0	17.23	0
	64QAM	1	0	17.43	0
		1	25	17.45	0
		1	49	17.46	0
		25	0	17.31	0
		25	12	17.31	0
		25	25	17.32	0
		50	0	17.40	0

10 ㎒ Bandwidths does not support at least three non-overlapping channels in certain channel bandwidths. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing per KDB 941225 D05 SAR for LTE Devices.

Band width	Modulation	RB Size	RB offset	Maximum Average Power 23 035 701.5 ㎒	23 095 707.5 ㎒	23 155 713.5 ㎒	MPR
5 ㎒	QPSK	1	0	17.17	17.14	17.11	0
		1	12	17.33	17.24	17.25	0
		1	24	17.29	17.22	17.24	0
		12	0	17.28	17.25	17.21	0
		12	7	17.23	17.23	17.22	0
		12	13	17.22	17.20	17.17	0
		25	0	17.24	17.22	17.22	0
	16QAM	1	0	17.23	17.36	17.49	0
		1	12	17.20	17.39	17.36	0
		1	24	17.23	17.46	17.34	0
		12	0	17.22	17.20	17.27	0
		12	7	17.22	17.16	17.22	0
		12	13	17.19	17.18	17.21	0
		25	0	17.23	17.18	17.20	0
	64QAM	1	0	17.20	17.33	17.17	0
		1	12	17.33	17.40	17.30	0
		1	24	17.23	17.39	17.16	0
		12	0	17.17	17.16	17.16	0
		12	7	17.23	17.25	17.11	0
		12	13	17.27	17.24	17.12	0
		25	0	17.34	17.25	17.21	0

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				23 025	23 095	23 655	
				700.5 MHz	707.5 MHz	714.5 MHz	
3 MHz	QPSK	1	0	17.35	17.26	17.25	0
		1	8	17.26	17.25	17.23	0
		1	14	17.20	17.25	17.22	0
		8	0	17.25	17.24	17.14	0
		8	4	17.20	17.17	17.11	0
		8	7	17.24	17.17	17.13	0
		15	0	17.22	17.21	17.18	0
	16QAM	1	0	17.31	17.29	17.33	0
		1	8	17.34	17.31	17.36	0
		1	14	17.30	17.37	17.39	0
		8	0	17.27	17.21	17.15	0
		8	4	17.26	17.22	17.09	0
		8	7	17.22	17.18	17.14	0
		15	0	17.28	17.26	17.13	0
	64QAM	1	0	17.21	17.28	17.10	0
		1	8	17.37	17.31	17.23	0
		1	14	17.22	17.35	17.16	0
		8	0	17.13	17.25	17.18	0
		8	4	17.28	17.20	17.11	0
		8	7	17.26	17.19	17.18	0
		15	0	17.28	17.29	17.22	0

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				23 017	23 095	23 173	
				699.7 MHz	707.5 MHz	715.3 MHz	
1.4 MHz	QPSK	1	0	17.41	17.37	17.24	0
		1	3	17.27	17.21	17.14	0
		1	5	17.25	17.21	17.18	0
		3	0	17.25	17.15	17.04	0
		3	1	17.24	17.16	17.09	0
		3	3	17.32	17.19	17.03	0
		6	0	17.29	17.30	17.10	0
	16QAM	1	0	17.26	17.31	17.13	0
		1	3	17.17	17.15	17.18	0
		1	5	17.19	17.22	17.06	0
		3	0	17.16	17.16	17.13	0
		3	1	17.26	17.18	17.18	0
		3	3	17.23	17.14	17.12	0
		6	0	17.25	17.15	17.07	0
	64QAM	1	0	17.18	17.28	17.14	0
		1	3	17.29	17.30	17.23	0
		1	5	17.22	17.33	17.22	0
		3	0	17.19	17.19	17.13	0
		3	1	17.26	17.24	17.15	0
		3	3	17.24	17.17	17.17	0
		6	0	17.35	17.35	17.17	0

9.4.3 LTE Band 13

Band width	Modulation	RB Size	RB offset	Maximum Average Power 23 230 782.0 ㎒	MPR
10 ㎒	QPSK	1	0	16.84	0
		1	25	16.91	0
		1	49	16.92	0
		25	0	16.91	0
		25	12	16.96	0
		25	25	16.93	0
		50	0	16.90	0
	16QAM	1	0	17.10	0
		1	25	17.17	0
		1	49	17.07	0
		25	0	16.87	0
		25	12	16.99	0
		25	25	16.92	0
		50	0	16.99	0
	64QAM	1	0	17.16	0
		1	25	17.37	0
		1	49	17.06	0
		25	0	17.07	0
		25	12	17.17	0
		25	25	17.11	0
		50	0	17.16	0

Band width	Modulation	RB Size	RB offset	Maximum Average Power 23 230 782.0 ㎒	MPR
5 ㎒	QPSK	1	0	16.86	0
		1	12	16.95	0
		1	24	16.94	0
		12	0	16.96	0
		12	7	16.93	0
		12	13	16.94	0
		25	0	16.95	0
	16QAM	1	0	16.90	0
		1	12	17.21	0
		1	24	17.21	0
		12	0	16.97	0
		12	7	16.93	0
		12	13	16.92	0
		25	0	16.94	0
	64QAM	1	0	17.11	0
		1	12	17.05	0
		1	24	17.05	0
		12	0	17.04	0
		12	7	17.08	0
		12	13	17.05	0
		25	0	17.09	0

5 ㎒ Bandwidths does not support at least three non-overlapping channels in certain channel bandwidths. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing per KDB 941225 D05 SAR for LTE Devices.

9.4.4 LTE Band 14

Band width	Modulation	RB Size	RB offset	Maximum Average Power 23 330 793.0 ㎒	MPR
10 ㎒	QPSK	1	0	16.87	0
		1	25	16.91	0
		1	49	16.84	0
		25	0	16.90	0
		25	12	16.94	0
		25	25	16.90	0
		50	0	16.88	0
	16QAM	1	0	17.06	0
		1	25	17.10	0
		1	49	16.86	0
		25	0	16.89	0
		25	12	16.99	0
		25	25	16.92	0
		50	0	16.96	0
	64QAM	1	0	17.02	0
		1	25	17.12	0
		1	49	17.02	0
		25	0	16.91	0
		25	12	16.88	0
		25	25	16.88	0
		50	0	16.96	0

10 ㎒ Bandwidths does not support at least three non-overlapping channels in certain channel bandwidths. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing per KDB 941225 D05 SAR for LTE Devices.

Band width	Modulation	RB Size	RB offset	Maximum Average Power 23 330 793.0 ㎒	MPR
5 ㎒	QPSK	1	0	16.83	0
		1	12	16.88	0
		1	24	16.85	0
		12	0	16.91	0
		12	7	16.90	0
		12	13	16.85	0
		25	0	16.93	0
	16QAM	1	0	16.97	0
		1	12	17.11	0
		1	24	17.06	0
		12	0	16.96	0
		12	7	16.95	0
		12	13	16.86	0
		25	0	16.89	0
	64QAM	1	0	16.96	0
		1	12	16.95	0
		1	24	16.90	0
		12	0	16.94	0
		12	7	16.92	0
		12	13	16.92	0
		25	0	16.90	0

9.4.5 LTE Band 25

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				26 140	26 365	26 590	
				1 860.0 MHz	1 882.5 MHz	1 905.0 MHz	
20 MHz	QPSK	1	0	14.02	14.21	14.17	0
		1	49	14.20	14.31	14.21	0
		1	99	14.21	14.32	14.45	0
		50	0	14.08	14.16	14.25	0
		50	24	14.21	14.30	14.32	0
		50	50	14.16	14.28	14.31	0
		100	0	14.22	14.27	14.30	0
	16QAM	1	0	14.17	14.48	14.43	0
		1	49	14.46	14.47	14.42	0
		1	99	14.47	14.40	14.45	0
		50	0	14.11	14.19	14.23	0
		50	24	14.18	14.31	14.33	0
		50	50	14.18	14.27	14.29	0
		100	0	14.25	14.37	14.35	0
	64QAM	1	0	14.41	14.15	13.94	0
		1	49	14.46	14.20	14.00	0
		1	99	14.28	14.26	13.94	0
		50	0	14.26	14.06	13.94	0
		50	24	14.26	14.15	13.97	0
		50	50	14.29	14.07	13.99	0
		100	0	14.30	14.11	14.03	0

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				26 115	26 365	26 615	
				1 857.5 MHz	1 882.5 MHz	1 907.5 MHz	
15 MHz	QPSK	1	0	14.06	14.21	14.18	0
		1	36	14.12	14.33	14.28	0
		1	74	14.12	14.27	14.24	0
		36	0	14.15	14.26	14.28	0
		36	18	14.16	14.29	14.35	0
		36	37	14.14	14.27	14.23	0
		75	0	14.20	14.31	14.30	0
	16QAM	1	0	14.34	14.39	14.31	0
		1	36	14.46	14.39	14.40	0
		1	74	14.39	14.45	14.39	0
		36	0	14.16	14.27	14.28	0
		36	18	14.18	14.27	14.26	0
		36	37	14.16	14.25	14.21	0
		75	0	14.23	14.32	14.32	0
	64QAM	1	0	14.28	14.03	13.81	0
		1	36	14.40	14.05	13.93	0
		1	74	14.20	14.15	13.87	0
		36	0	14.14	13.96	13.84	0
		36	18	14.20	14.10	13.85	0
		36	37	14.15	13.97	13.84	0
		75	0	14.22	14.06	13.91	0

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				26 090	26 365	26 640	
				1 855.0 MHz	1 882.5 MHz	1 910.0 MHz	
10 MHz	QPSK	1	0	14.15	14.14	14.17	0
		1	25	14.19	14.27	14.32	0
		1	49	14.21	14.28	14.30	0
		25	0	14.21	14.25	14.25	0
		25	12	14.26	14.27	14.27	0
		25	25	14.25	14.23	14.27	0
		50	0	14.31	14.28	14.31	0
	16QAM	1	0	14.35	14.18	14.21	0
		1	25	14.47	14.41	14.41	0
		1	49	14.32	14.32	14.25	0
		25	0	14.25	14.21	14.26	0
		25	12	14.33	14.27	14.29	0
		25	25	14.27	14.23	14.29	0
		50	0	14.32	14.28	14.35	0
	64QAM	1	0	14.36	14.03	13.80	0
		1	25	14.35	14.13	13.93	0
		1	49	14.14	14.12	13.84	0
		25	0	14.13	13.98	13.84	0
		25	12	14.12	14.07	13.82	0
		25	25	14.20	13.97	13.91	0
		50	0	14.21	14.05	13.89	0

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				26 065	26 365	26 665	
				1 852.5 MHz	1 882.5 MHz	1 912.5 MHz	
5 MHz	QPSK	1	0	14.17	14.18	14.30	0
		1	12	14.32	14.24	14.32	0
		1	24	14.31	14.27	14.39	0
		12	0	14.26	14.30	14.39	0
		12	7	14.23	14.28	14.35	0
		12	13	14.24	14.24	14.35	0
		25	0	14.26	14.29	14.34	0
	16QAM	1	0	14.36	14.44	14.29	0
		1	12	14.41	14.43	14.27	0
		1	24	14.46	14.48	14.17	0
		12	0	14.35	14.29	14.44	0
		12	7	14.21	14.27	14.44	0
		12	13	14.22	14.24	14.32	0
		25	0	14.27	14.23	14.34	0
	64QAM	1	0	14.36	14.04	13.84	0
		1	12	14.33	14.06	13.95	0
		1	24	14.13	14.13	13.86	0
		12	0	14.21	13.99	13.81	0
		12	7	14.12	14.08	13.85	0
		12	13	14.17	13.99	13.84	0
		25	0	14.24	14.04	13.98	0

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				26 055	26 365	26 675	
				1 851.5 MHz	1 882.5 MHz	1 913.5 MHz	
3 MHz	QPSK	1	0	14.32	14.31	14.41	0
		1	8	14.20	14.32	14.39	0
		1	14	14.17	14.28	14.43	0
		8	0	14.23	14.22	14.44	0
		8	4	14.19	14.23	14.35	0
		8	7	14.19	14.22	14.35	0
		15	0	14.16	14.26	14.37	0
	16QAM	1	0	14.43	14.41	14.40	0
		1	8	14.36	14.47	14.45	0
		1	14	14.19	14.37	14.45	0
		8	0	14.29	14.25	14.38	0
		8	4	14.30	14.26	14.44	0
		8	7	14.28	14.26	14.38	0
		15	0	14.29	14.28	14.39	0
	64QAM	1	0	14.31	14.06	13.83	0
		1	8	14.41	14.15	13.85	0
		1	14	14.13	14.12	13.88	0
		8	0	14.21	13.96	13.83	0
		8	4	14.15	14.05	13.89	0
		8	7	14.16	13.93	13.90	0
		15	0	14.24	14.06	13.89	0

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				26 047	26 365	26 683	
				1 850.7 MHz	1 882.5 MHz	1 914.3 MHz	
1.4 MHz	QPSK	1	0	14.29	14.34	14.48	0
		1	3	14.23	14.30	14.34	0
		1	5	14.21	14.32	14.44	0
		3	0	14.23	14.19	14.33	0
		3	1	14.23	14.21	14.30	0
		3	3	14.16	14.25	14.39	0
		6	0	14.17	14.25	14.36	0
	16QAM	1	0	14.48	14.42	14.48	0
		1	3	14.31	14.44	14.37	0
		1	5	14.33	14.31	14.50	0
		3	0	14.12	14.29	14.39	0
		3	1	14.24	14.23	14.34	0
		3	3	14.31	14.17	14.31	0
		6	0	14.27	14.27	14.30	0
	64QAM	1	0	14.36	14.05	13.79	0
		1	3	14.33	14.05	13.87	0
		1	5	14.13	14.15	13.84	0
		3	0	14.18	13.92	13.85	0
		3	1	14.17	14.06	13.83	0
		3	3	14.20	14.01	13.92	0
		6	0	14.20	14.04	13.97	0

9.4.6 LTE Band 26

Band width	Modulation	RB Size	RB offset	Maximum Average Power 26 865 831.5 MHz	MPR
15 MHz	QPSK	1	0	18.97	0
		1	36	19.22	0
		1	74	18.99	0
		36	0	19.37	0
		36	18	19.00	0
		36	37	18.96	0
		75	0	19.08	0
	16QAM	1	0	18.96	0
		1	36	18.84	0
		1	74	19.29	0
		36	0	19.02	0
		36	18	19.04	0
		36	37	19.10	0
		75	0	19.05	0
	64QAM	1	0	18.94	0
		1	36	19.15	0
		1	74	19.06	0
		36	0	19.01	0
		36	18	19.04	0
		36	37	19.03	0
		75	0	19.02	0

15 MHz Bandwidths does not support at least three non-overlapping channels in certain channel bandwidths. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing per KDB 941225 D05 SAR for LTE Devices.

Band width	Modulation	RB Size	RB offset	Maximum Average Power 26 740 819.0 MHz	26 865 831.5 MHz	26 990 844.0 MHz	MPR
10 MHz	QPSK	1	0	18.85	18.91	18.78	0
		1	25	18.97	19.03	18.90	0
		1	49	18.93	19.03	18.92	0
		25	0	18.98	18.96	18.89	0
		25	12	18.99	19.00	18.96	0
		25	25	18.97	19.00	18.96	0
		50	0	19.04	19.06	19.00	0
	16QAM	1	0	19.09	18.82	19.02	0
		1	25	19.38	18.97	19.05	0
		1	49	19.25	18.89	19.08	0
		25	0	18.99	19.02	18.94	0
		25	12	19.06	19.09	18.99	0
		25	25	18.99	19.08	19.00	0
		50	0	19.09	19.08	19.04	0
	64QAM	1	0	18.96	18.86	18.90	0
		1	25	19.06	19.05	18.93	0
		1	49	18.96	19.01	18.91	0
		25	0	18.91	18.93	18.82	0
		25	12	18.98	18.94	18.90	0
		25	25	18.91	18.93	18.89	0
		50	0	18.88	18.89	18.87	0

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				26 715	26 865	27 015	
				816.5 MHz	831.5 MHz	846.5 MHz	
5 MHz	QPSK	1	0	18.95	18.91	18.90	0
		1	12	18.98	19.05	19.05	0
		1	24	19.03	18.97	18.93	0
		12	0	19.02	19.03	18.95	0
		12	7	19.00	19.01	18.97	0
		12	13	18.99	19.02	19.01	0
		25	0	19.00	19.01	19.00	0
	16QAM	1	0	19.09	19.28	18.90	0
		1	12	19.21	19.28	18.93	0
		1	24	19.32	19.28	19.21	0
		12	0	18.98	19.00	19.01	0
		12	7	18.99	19.02	18.96	0
		12	13	18.96	18.95	19.03	0
		25	0	19.04	19.02	19.01	0
	64QAM	1	0	18.93	18.80	18.92	0
		1	12	19.09	19.08	18.88	0
		1	24	19.03	18.96	18.90	0
		12	0	18.96	18.86	18.82	0
		12	7	19.00	18.99	18.90	0
		12	13	18.99	18.93	18.93	0
		25	0	18.94	18.95	18.82	0

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				26 705	26 865	27 025	
				815.5 MHz	831.5 MHz	847.5 MHz	
3 MHz	QPSK	1	0	19.07	19.05	19.01	0
		1	8	18.92	19.09	19.01	0
		1	14	18.91	19.06	19.03	0
		8	0	18.97	19.00	18.95	0
		8	4	18.95	19.00	18.94	0
		8	7	18.97	18.95	18.94	0
		15	0	18.99	19.01	19.00	0
	16QAM	1	0	19.20	19.11	18.99	0
		1	8	19.21	19.15	19.23	0
		1	14	19.17	19.15	19.01	0
		8	0	19.10	19.03	18.98	0
		8	4	19.02	19.03	19.02	0
		8	7	19.00	19.00	18.95	0
		15	0	19.09	19.05	18.99	0
	64QAM	1	0	18.92	18.85	18.93	0
		1	8	19.09	19.07	18.95	0
		1	14	18.97	18.97	18.89	0
		8	0	18.96	18.91	18.83	0
		8	4	18.98	18.92	18.82	0
		8	7	18.93	18.92	18.92	0
		15	0	18.89	18.95	18.86	0

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				26 697	26 865	27 033	
				814.7 MHz	831.5 MHz	848.3 MHz	
1.4 MHz	QPSK	1	0	19.08	19.12	18.84	0
		1	3	18.99	19.02	18.71	0
		1	5	19.00	19.02	18.73	0
		3	0	18.91	18.97	18.73	0
		3	1	18.92	18.93	18.69	0
		3	3	18.98	18.91	18.78	0
		6	0	18.98	18.93	18.78	0
	16QAM	1	0	18.85	19.05	18.85	0
		1	3	19.02	19.14	18.63	0
		1	5	18.88	18.91	18.98	0
		3	0	19.04	19.09	18.71	0
		3	1	19.03	19.12	18.78	0
		3	3	19.03	18.96	18.78	0
		6	0	18.95	19.00	18.90	0
	64QAM	1	0	18.93	18.85	18.91	0
		1	3	19.01	19.07	18.92	0
		1	5	18.94	18.95	18.86	0
		3	0	18.89	18.94	18.89	0
		3	1	18.91	18.91	18.86	0
		3	3	18.92	18.94	18.88	0
		6	0	18.94	18.91	18.87	0

9.4.7 LTE Band 41(Power Class 2)

Band width	Modulation	RB Size	RB offset	Maximum Average Power					MPR
				39 750	40 185	40 620	41 055	41 490	
				2 506.0 MHz	2 549.5 MHz	2 593.0 MHz	2 636.5 MHz	2 680.0 MHz	
20 MHz	QPSK	1	0	14.21	14.18	14.03	14.00	14.27	0
		1	49	14.33	14.24	14.14	14.19	14.40	0
		1	99	14.38	14.30	14.19	14.25	14.43	0
		50	0	14.27	14.18	14.08	14.08	14.30	0
		50	24	14.35	14.29	14.18	14.18	14.37	0
		50	50	14.36	14.31	14.20	14.19	14.42	0
		100	0	14.40	14.34	14.23	14.24	14.41	0
	16QAM	1	0	14.24	14.12	13.95	14.33	14.13	0
		1	49	14.43	14.20	14.10	14.25	14.19	0
		1	99	14.41	14.28	14.03	14.48	14.24	0
		50	0	14.26	14.18	14.20	14.12	14.23	0
		50	24	14.37	14.24	14.28	14.18	14.32	0
		50	50	14.34	14.19	14.21	14.17	14.29	0
		100	0	14.38	14.31	14.24	14.26	14.36	0
	64QAM	1	0	14.41	13.75	13.83	13.88	13.85	0
		1	49	14.44	13.91	13.95	14.00	13.92	0
		1	99	14.39	13.75	13.90	13.91	13.87	0
		50	0	14.41	14.02	13.92	14.00	13.90	0
		50	24	14.44	14.03	14.07	14.00	14.02	0
		50	50	14.49	13.99	14.03	14.04	14.09	0
		100	0	14.44	14.11	13.99	14.03	14.12	0

Band width	Modulation	RB Size	RB offset	Maximum Average Power					MPR
				39 750	40 185	40 620	41 055	41 490	
				2 506.0 MHz	2 549.5 MHz	2 593.0 MHz	2 636.5 MHz	2 680.0 MHz	
15 MHz	QPSK	1	0	14.20	14.14	14.04	14.09	14.26	0
		1	36	14.28	14.27	14.16	14.15	14.37	0
		1	74	14.39	14.28	14.19	14.18	14.37	0
		36	0	14.34	14.25	14.14	14.13	14.37	0
		36	18	14.37	14.28	14.21	14.18	14.38	0
		36	37	14.37	14.27	14.17	14.17	14.34	0
		75	0	14.38	14.38	14.22	14.22	14.42	0
	16QAM	1	0	14.38	14.23	13.90	14.12	14.17	0
		1	36	14.32	14.09	13.91	14.30	14.37	0
		1	74	14.37	14.34	14.15	14.30	14.36	0
		36	0	14.35	14.26	14.16	14.16	14.32	0
		36	18	14.35	14.28	14.16	14.17	14.35	0
		36	37	14.35	14.24	14.18	14.20	14.31	0
		75	0	14.36	14.29	14.20	14.20	14.38	0
	64QAM	1	0	14.36	13.73	13.66	13.70	13.79	0
		1	36	14.36	13.73	13.74	13.87	13.81	0
		1	74	14.43	13.59	13.88	13.85	13.87	0
		36	0	14.26	13.97	13.95	13.87	13.84	0
		36	18	14.36	13.92	13.94	13.87	13.94	0
		36	37	14.34	13.92	13.97	13.95	13.96	0
		75	0	14.47	14.01	13.85	13.96	14.00	0

Band width	Modulation	RB Size	RB offset	Maximum Average Power					MPR
				39 750	40 185	40 620	41 055	41 490	
				2 506.0 MHz	2 549.5 MHz	2 593.0 MHz	2 636.5 MHz	2 680.0 MHz	
10 MHz	QPSK	1	0	14.17	14.15	14.12	14.06	14.26	0
		1	25	14.28	14.23	14.23	14.15	14.32	0
		1	49	14.27	14.20	14.20	14.20	14.32	0
		25	0	14.25	14.21	14.14	14.14	14.32	0
		25	12	14.32	14.32	14.21	14.18	14.35	0
		25	25	14.31	14.25	14.19	14.13	14.35	0
		50	0	14.30	14.29	14.22	14.20	14.34	0
	16QAM	1	0	14.02	14.18	14.09	14.05	14.35	0
		1	25	14.39	14.34	14.15	14.14	14.17	0
		1	49	14.35	14.11	13.99	14.17	14.21	0
		25	0	14.27	14.16	14.15	14.12	14.24	0
		25	12	14.26	14.25	14.22	14.15	14.32	0
		25	25	14.29	14.24	14.19	14.19	14.30	0
		50	0	14.34	14.27	14.22	14.19	14.32	0
	64QAM	1	0	14.34	13.67	13.68	13.69	13.70	0
		1	25	14.36	13.76	13.85	13.88	13.76	0
		1	49	14.44	13.69	13.83	13.82	13.87	0
		25	0	14.26	13.97	13.78	13.83	13.83	0
		25	12	14.35	13.91	13.85	13.97	13.95	0
		25	25	14.39	13.86	13.97	13.96	13.95	0
		50	0	14.33	13.94	13.87	14.04	13.96	0

Band width	Modulation	RB Size	RB offset	Maximum Average Power					MPR
				39 750	40 185	40 620	41 055	41 490	
				2 506.0 MHz	2 549.5 MHz	2 593.0 MHz	2 636.5 MHz	2 680.0 MHz	
5 MHz	QPSK	1	0	14.30	14.22	14.11	14.16	14.28	0
		1	12	14.29	14.25	14.20	14.14	14.30	0
		1	24	14.31	14.23	14.14	14.18	14.30	0
		12	0	14.32	14.29	14.22	14.19	14.39	0
		12	7	14.34	14.28	14.24	14.15	14.36	0
		12	13	14.31	14.26	14.20	14.17	14.37	0
		25	0	14.33	14.31	14.28	14.19	14.39	0
	16QAM	1	0	14.30	14.42	14.00	14.18	14.50	0
		1	12	14.35	14.38	14.05	14.15	14.48	0
		1	24	14.26	14.37	14.01	14.19	14.50	0
		12	0	14.34	14.30	14.30	14.21	14.40	0
		12	7	14.34	14.29	14.16	14.12	14.35	0
		12	13	14.31	14.27	14.22	14.14	14.35	0
		25	0	14.30	14.26	14.21	14.23	14.31	0
	64QAM	1	0	14.27	13.71	13.74	13.79	13.73	0
		1	12	14.37	13.79	13.86	13.82	13.78	0
		1	24	14.43	13.59	13.78	13.86	13.90	0
		12	0	14.38	14.03	13.79	13.92	13.83	0
		12	7	14.47	13.96	13.98	13.98	14.05	0
		12	13	14.35	13.93	13.96	13.91	14.11	0
		25	0	14.40	13.98	13.88	14.06	14.02	0

9.4.8 LTE Band 41(Power Class 3)

Band width	Modulation	RB Size	RB offset	Maximum Average Power					MPR
				39 750	40 185	40 620	41 055	41 490	
				2 506.0 MHz	2 549.5 MHz	2 593.0 MHz	2 636.5 MHz	2 680.0 MHz	
20 MHz	QPSK	1	0	14.19	14.18	14.01	13.99	14.24	0
		1	49	14.31	14.32	14.21	14.14	14.36	0
		1	99	14.38	14.33	14.28	14.22	14.42	0
		50	0	14.26	14.19	14.11	14.03	14.29	0
		50	24	14.32	14.30	14.18	14.16	14.38	0
		50	50	14.34	14.31	14.23	14.25	14.42	0
		100	0	14.39	14.35	14.25	14.23	14.40	0
	16QAM	1	0	14.34	14.05	13.84	14.08	14.06	0
		1	49	14.42	14.16	14.13	14.42	14.16	0
		1	99	14.43	14.24	14.20	14.37	14.28	0
		50	0	14.26	14.13	14.17	14.06	14.23	0
		50	24	14.37	14.21	14.23	14.17	14.35	0
		50	50	14.34	14.20	14.25	14.16	14.31	0
		100	0	14.41	14.31	14.28	14.20	14.37	0
	64QAM	1	0	14.39	13.78	13.79	13.85	13.81	0
		1	49	14.49	13.86	13.90	13.95	13.88	0
		1	99	14.48	13.78	13.90	13.96	13.91	0
		50	0	14.41	14.04	13.96	13.97	13.92	0
		50	24	14.48	14.08	14.02	14.01	14.05	0
		50	50	14.46	14.03	14.01	14.05	14.13	0
		100	0	14.48	14.07	14.00	14.08	14.15	0

Band width	Modulation	RB Size	RB offset	Maximum Average Power					MPR
				39 750	40 185	40 620	41 055	41 490	
				2 506.0 MHz	2 549.5 MHz	2 593.0 MHz	2 636.5 MHz	2 680.0 MHz	
15 MHz	QPSK	1	0	14.22	14.17	14.03	14.04	14.24	0
		1	36	14.36	14.30	14.16	14.19	14.34	0
		1	74	14.37	14.32	14.16	14.18	14.33	0
		36	0	14.32	14.27	14.13	14.15	14.36	0
		36	18	14.38	14.28	14.18	14.19	14.38	0
		36	37	14.34	14.25	14.16	14.18	14.35	0
		75	0	14.37	14.31	14.20	14.21	14.37	0
	16QAM	1	0	14.22	14.14	14.23	14.23	14.30	0
		1	36	14.29	14.35	14.36	14.25	14.41	0
		1	74	14.34	14.18	14.33	14.36	14.40	0
		36	0	14.35	14.28	14.13	14.14	14.34	0
		36	18	14.42	14.27	14.20	14.21	14.37	0
		36	37	14.34	14.22	14.18	14.18	14.34	0
		75	0	14.39	14.32	14.22	14.21	14.34	0
	64QAM	1	0	14.31	13.69	13.68	13.71	13.76	0
		1	36	14.35	13.71	13.78	13.89	13.79	0
		1	74	14.42	13.63	13.83	13.88	13.83	0
		36	0	14.30	13.93	13.91	13.87	13.79	0
		36	18	14.37	13.97	13.95	13.86	13.92	0
		36	37	14.35	13.89	13.95	14.00	14.01	0
		75	0	14.43	13.99	13.87	13.93	14.05	0

Band width	Modulation	RB Size	RB offset	Maximum Average Power					MPR
				39 750	40 185	40 620	41 055	41 490	
				2 506.0 MHz	2 549.5 MHz	2 593.0 MHz	2 636.5 MHz	2 680.0 MHz	
10 MHz	QPSK	1	0	14.18	14.16	14.12	14.12	14.21	0
		1	25	14.21	14.22	14.25	14.21	14.31	0
		1	49	14.26	14.25	14.24	14.24	14.35	0
		25	0	14.26	14.16	14.15	14.11	14.30	0
		25	12	14.29	14.27	14.20	14.15	14.33	0
		25	25	14.30	14.26	14.20	14.16	14.36	0
		50	0	14.35	14.31	14.24	14.20	14.35	0
	16QAM	1	0	14.25	14.17	13.79	14.27	14.24	0
		1	25	14.40	14.29	13.98	14.30	14.33	0
		1	49	14.42	14.12	14.06	14.30	14.31	0
		25	0	14.24	14.16	14.16	14.17	14.28	0
		25	12	14.36	14.28	14.20	14.22	14.31	0
		25	25	14.29	14.26	14.21	14.15	14.31	0
		50	0	14.32	14.28	14.22	14.19	14.37	0
	64QAM	1	0	14.32	13.72	13.64	13.74	13.66	0
		1	25	14.40	13.78	13.80	13.87	13.74	0
		1	49	14.41	13.71	13.82	13.84	13.85	0
		25	0	14.29	13.93	13.83	13.83	13.87	0
		25	12	14.36	13.94	13.89	13.94	14.00	0
		25	25	14.40	13.90	13.92	13.96	14.00	0
		50	0	14.36	13.95	13.88	14.00	14.00	0

Band width	Modulation	RB Size	RB offset	Maximum Average Power					MPR
				39 750	40 185	40 620	41 055	41 490	
				2 506.0 MHz	2 549.5 MHz	2 593.0 MHz	2 636.5 MHz	2 680.0 MHz	
5 MHz	QPSK	1	0	14.29	14.19	14.06	14.13	14.30	0
		1	12	14.31	14.21	14.26	14.10	14.31	0
		1	24	14.32	14.23	14.17	14.20	14.32	0
		12	0	14.33	14.31	14.23	14.17	14.37	0
		12	7	14.28	14.26	14.17	14.12	14.30	0
		12	13	14.33	14.23	14.20	14.16	14.34	0
		25	0	14.30	14.28	14.22	14.17	14.37	0
	16QAM	1	0	14.19	14.33	14.16	14.06	14.37	0
		1	12	14.09	14.34	14.01	14.07	14.44	0
		1	24	14.28	14.26	14.14	14.09	14.42	0
		12	0	14.33	14.25	14.21	14.17	14.33	0
		12	7	14.31	14.30	14.17	14.12	14.35	0
		12	13	14.30	14.25	14.19	14.12	14.34	0
		25	0	14.33	14.27	14.21	14.20	14.34	0
	64QAM	1	0	14.30	13.71	13.71	13.75	13.70	0
		1	12	14.37	13.77	13.83	13.80	13.79	0
		1	24	14.38	13.64	13.83	13.88	13.85	0
		12	0	14.33	13.98	13.82	13.87	13.78	0
		12	7	14.43	14.01	13.95	13.96	14.00	0
		12	13	14.36	13.92	13.95	13.94	14.07	0
		25	0	14.40	14.02	13.93	14.01	14.03	0

9.4.9 LTE Band 66

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				132 072	132 322	132 572	
				1 720.0 ㎒	1 745.0 ㎒	1 770.0 ㎒	
20 ㎒	QPSK	1	0	14.81	14.69	14.63	0
		1	49	14.92	14.97	14.90	0
		1	99	14.74	14.95	14.72	0
		50	0	14.95	14.93	14.92	0
		50	24	14.96	14.99	14.98	0
		50	50	14.94	14.92	14.95	0
		100	0	14.95	14.96	14.94	0
	16QAM	1	0	14.48	14.62	14.67	0
		1	49	14.55	14.67	14.80	0
		1	99	14.79	14.54	14.90	0
		50	0	14.94	14.86	14.88	0
		50	24	15.00	14.96	14.91	0
		50	50	14.98	14.95	14.96	0
		100	0	14.93	14.98	14.91	0
	64QAM	1	0	14.70	14.59	14.65	0
		1	49	14.93	14.90	14.57	0
		1	99	14.90	14.71	14.55	0
		50	0	14.78	14.68	14.54	0
		50	24	14.82	14.70	14.57	0
		50	50	14.81	14.73	14.53	0
		100	0	14.89	14.73	14.65	0

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				132 047	132 322	132 597	
				1 717.5 ㎒	1 745.0 ㎒	1 772.5 ㎒	
15 ㎒	QPSK	1	0	14.24	14.56	14.49	0
		1	36	14.38	14.62	14.42	0
		1	74	14.52	14.58	14.55	0
		36	0	14.96	15.00	14.92	0
		36	18	14.97	15.00	14.93	0
		36	37	14.92	14.94	15.00	0
		75	0	14.99	14.92	14.98	0
	16QAM	1	0	14.37	14.42	14.53	0
		1	36	14.52	14.55	14.64	0
		1	74	14.72	14.56	14.43	0
		36	0	14.91	14.98	14.98	0
		36	18	14.90	14.91	14.99	0
		36	37	14.87	14.92	14.96	0
		75	0	15.00	14.91	14.94	0
	64QAM	1	0	14.57	14.51	14.59	0
		1	36	14.85	14.75	14.42	0
		1	74	14.79	14.56	14.41	0
		36	0	14.73	14.59	14.49	0
		36	18	14.68	14.62	14.51	0
		36	37	14.68	14.68	14.43	0
		75	0	14.78	14.64	14.50	0

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				132 022	132 322	132 622	
				1 715.0 MHz	1 745.0 MHz	1 775.0 MHz	
10 MHz	QPSK	1	0	14.33	14.56	14.55	0
		1	25	14.40	14.61	14.60	0
		1	49	14.48	14.43	14.41	0
		25	0	14.94	14.94	14.89	0
		25	12	14.99	14.99	14.91	0
		25	25	14.93	14.97	14.92	0
		50	0	14.99	14.92	14.97	0
	16QAM	1	0	14.75	14.51	14.56	0
		1	25	14.73	14.37	14.46	0
		1	49	14.45	14.44	14.58	0
		25	0	14.92	14.92	14.91	0
		25	12	14.99	14.99	14.97	0
		25	25	14.96	14.95	14.89	0
		50	0	14.93	14.99	14.97	0
	64QAM	1	0	14.65	14.45	14.51	0
		1	25	14.84	14.84	14.45	0
		1	49	14.84	14.66	14.42	0
		25	0	14.66	14.59	14.41	0
		25	12	14.67	14.60	14.51	0
		25	25	14.71	14.62	14.39	0
		50	0	14.80	14.59	14.51	0

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				131 997	132 322	132 647	
				1 712.5 MHz	1 745.0 MHz	1 777.5 MHz	
5 MHz	QPSK	1	0	14.39	14.31	14.30	0
		1	12	14.42	14.90	14.34	0
		1	24	14.67	14.40	14.41	0
		12	0	15.00	14.91	14.98	0
		12	7	14.96	14.97	14.93	0
		12	13	14.97	14.98	14.91	0
		25	0	14.97	14.99	14.91	0
	16QAM	1	0	14.33	14.60	14.41	0
		1	12	14.35	14.72	14.35	0
		1	24	14.46	14.58	14.35	0
		12	0	14.93	14.98	14.98	0
		12	7	14.95	14.96	14.96	0
		12	13	14.97	14.86	14.94	0
		25	0	14.98	14.93	14.93	0
	64QAM	1	0	14.58	14.54	14.54	0
		1	12	14.88	14.80	14.42	0
		1	24	14.80	14.58	14.41	0
		12	0	14.64	14.60	14.39	0
		12	7	14.73	14.65	14.42	0
		12	13	14.74	14.68	14.38	0
		25	0	14.84	14.65	14.52	0

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				131 987	132 322	132 657	
				1 711.5 MHz	1 745.0 MHz	1 778.5 MHz	
3 MHz	QPSK	1	0	14.70	14.12	14.07	0
		1	8	14.64	14.15	14.09	0
		1	14	14.03	14.12	14.09	0
		8	0	14.91	14.96	14.94	0
		8	4	14.99	15.00	14.90	0
		8	7	14.99	14.93	14.93	0
		15	0	14.92	15.00	14.94	0
	16QAM	1	0	14.23	14.33	14.16	0
		1	8	14.19	14.35	14.49	0
		1	14	14.15	14.27	14.43	0
		8	0	15.00	15.00	14.94	0
		8	4	15.00	14.96	14.95	0
		8	7	14.98	14.96	14.95	0
		15	0	14.92	14.94	14.80	0
	64QAM	1	0	14.58	14.49	14.52	0
		1	8	14.84	14.80	14.48	0
		1	14	14.80	14.60	14.49	0
		8	0	14.65	14.58	14.42	0
		8	4	14.70	14.56	14.52	0
		8	7	14.72	14.65	14.47	0
		15	0	14.79	14.66	14.60	0

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				131 979	132 322	132 665	
				1 710.7 MHz	1 745.0 MHz	1 779.3 MHz	
1.4 MHz	QPSK	1	0	14.98	14.94	14.95	0
		1	3	15.00	14.95	14.88	0
		1	5	15.00	14.91	14.88	0
		3	0	14.91	14.86	14.83	0
		3	1	14.93	14.87	14.82	0
		3	3	14.94	14.92	14.80	0
		6	0	14.92	14.92	14.90	0
	16QAM	1	0	14.99	14.91	14.98	0
		1	3	14.95	14.92	14.90	0
		1	5	14.77	14.94	14.91	0
		3	0	14.92	14.88	14.93	0
		3	1	14.90	14.88	14.91	0
		3	3	14.90	14.82	14.88	0
		6	0	14.97	14.99	14.95	0
	64QAM	1	0	14.62	14.47	14.50	0
		1	3	14.80	14.84	14.45	0
		1	5	14.82	14.58	14.50	0
		3	0	14.73	14.60	14.41	0
		3	1	14.68	14.62	14.45	0
		3	3	14.74	14.68	14.40	0
		6	0	14.82	14.64	14.56	0

9.4.10 LTE Band 71

Band width	Modulation	RB Size	RB offset	Maximum Average Power 133 297 680.5 MHz	MPR
20 MHz	QPSK	1	0	17.28	0
		1	49	17.26	0
		1	99	17.21	0
		50	0	17.21	0
		50	24	17.29	0
		50	50	17.18	0
		100	0	17.23	0
	16QAM	1	0	17.35	0
		1	49	17.27	0
		1	99	17.22	0
		50	0	17.11	0
		50	24	17.21	0
		50	50	17.11	0
		100	0	17.22	0
	64QAM	1	0	17.23	0
		1	49	17.27	0
		1	99	17.16	0
		50	0	17.12	0
		50	24	17.08	0
		50	50	17.07	0
		100	0	17.18	0

Band width	Modulation	RB Size	RB offset	Maximum Average Power 133 297 680.5 MHz	MPR
15 MHz	QPSK	1	0	17.13	0
		1	36	17.19	0
		1	74	17.16	0
		36	0	17.24	0
		36	18	17.25	0
		36	37	17.15	0
		75	0	17.27	0
	16QAM	1	0	17.34	0
		1	36	17.43	0
		1	74	17.45	0
		36	0	17.17	0
		36	18	17.20	0
		36	37	17.15	0
		75	0	17.24	0
	64QAM	1	0	17.18	0
		1	36	17.12	0
		1	74	17.07	0
		36	0	17.03	0
		36	18	16.96	0
		36	37	16.95	0
		75	0	17.10	0

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				133 172	133 297	133 422	
				668.0 MHz	680.5 MHz	693.0 MHz	
10 MHz	QPSK	1	0	17.28	17.17	17.13	0
		1	25	17.25	17.26	17.24	0
		1	49	17.24	17.22	17.18	0
		25	0	17.28	17.17	17.19	0
		25	12	17.29	17.20	17.21	0
		25	25	17.25	17.16	17.17	0
		50	0	17.30	17.17	17.19	0
	16QAM	1	0	17.46	17.20	17.34	0
		1	25	17.39	17.25	17.35	0
		1	49	17.28	17.24	17.47	0
		25	0	17.27	17.18	17.14	0
		25	12	17.28	17.20	17.18	0
		25	25	17.22	17.15	17.14	0
		50	0	17.32	17.15	17.23	0
	64QAM	1	0	17.03	17.12	17.04	0
		1	25	17.28	17.19	17.07	0
		1	49	17.04	17.02	17.00	0
		25	0	17.08	17.06	17.07	0
		25	12	17.11	17.01	16.99	0
		25	25	17.09	16.94	17.09	0
		50	0	17.22	17.06	17.04	0

Band width	Modulation	RB Size	RB offset	Maximum Average Power			MPR
				133 147	133 297	133 447	
				665.5 MHz	680.5 MHz	695.5 MHz	
5 MHz	QPSK	1	0	17.23	17.17	17.11	0
		1	12	17.34	17.26	17.20	0
		1	24	17.33	17.24	17.21	0
		12	0	17.34	17.25	17.28	0
		12	7	17.31	17.18	17.23	0
		12	13	17.28	17.18	17.22	0
		25	0	17.32	17.16	17.23	0
	16QAM	1	0	17.26	17.32	17.24	0
		1	12	17.41	17.26	17.23	0
		1	24	17.50	17.31	17.19	0
		12	0	17.36	17.22	17.27	0
		12	7	17.27	17.23	17.26	0
		12	13	17.31	17.17	17.19	0
		25	0	17.30	17.15	17.23	0
	64QAM	1	0	17.00	17.14	17.12	0
		1	12	17.21	17.21	17.01	0
		1	24	17.04	17.04	17.02	0
		12	0	17.11	17.04	17.05	0
		12	7	17.09	17.02	16.99	0
		12	13	17.06	16.95	17.00	0
		25	0	17.13	17.13	17.02	0

9.5 WLAN Average Conducted Output Power(Maximum Average Power)

9.5.1 WLAN Average Conducted Output Power_Ant.1

Band	Freq. [MHz]	Channel	Mode			
			802.11b	802.11g	802.11n	802.11ac
WLAN 2.4 GHz	2 412.0	1	17.98	14.02	14.00	14.01
	2 437.0	6	17.96	14.71	14.37	14.47
	2 462.0	11	17.25	14.43	14.21	14.28

Band	Freq. [MHz]	Channel	Mode		
			802.11a	802.11n	802.11ac
U-NII (20 MHz)	5 180.0	36	14.57	14.77	14.69
	5 200.0	40	14.54	14.59	14.56
	5 220.0	44	14.35	14.27	14.34
	5 240.0	48	14.77	14.69	14.55
	5 260.0	52	14.96	14.92	14.68
	5 280.0	56	14.67	14.90	14.67
	5 300.0	60	14.35	14.39	14.52
	5 320.0	64	14.80	14.35	14.70
	5 500.0	100	14.30	14.45	14.27
	5 580.0	116	14.28	14.40	14.47
	5 600.0	120	13.97	13.90	14.00
	5 620.0	124	13.94	13.99	14.06
	5 700.0	140	14.45	14.07	14.57
	5 720.0	144	14.25	14.29	14.43
	5 745.0	149	14.44	14.37	14.47
	5 785.0	157	14.71	14.51	14.42
	5 825.0	165	14.67	14.46	14.59

Band	Freq. [MHz]	Channel	Mode	
			802.11n	802.11ac
U-NII (40 MHz)	5 190.0	38	13.81	13.73
	5 230.0	46	13.77	13.82
	5 270.0	54	13.85	13.97
	5 310.0	62	13.79	13.89
	5 510.0	102	13.71	13.54
	5 590.0	118	13.57	13.39
	5 630.0	126	12.73	13.13
	5 670.0	134	13.12	13.22
	5 710.0	142	13.09	13.08
	5 755.0	151	13.69	13.73
	5 795.0	159	13.94	13.67

Band	Freq. [MHz]	Channel	Mode
			802.11ac
U-NII (80 MHz)	5 210.0	42	12.54
	5 290.0	58	12.55
	5 530.0	106	12.65
	5 610.0	122	12.46
	5 690.0	138	12.61
	5 775.0	155	12.38

9.5.2 WLAN Average Conducted Output Power_Ant.2

Band	Freq. [MHz]	Channel	Mode			
			802.11b	802.11g	802.11n	802.11ac
WLAN 2.4 GHz	2 412.0	1	17.97	14.98	13.99	14.00
	2 437.0	6	17.44	14.87	13.65	13.69
	2 462.0	11	17.81	14.97	13.77	13.72

Band	Freq. [MHz]	Channel	Mode		
			802.11a	802.11n	802.11ac
U-NII (20 MHz)	5 180.0	36	14.27	14.34	14.37
	5 200.0	40	14.05	14.07	14.44
	5 220.0	44	13.86	13.99	14.26
	5 240.0	48	14.32	14.32	14.07
	5 260.0	52	14.53	14.37	14.07
	5 280.0	56	14.35	14.17	14.00
	5 300.0	60	13.87	14.27	13.89
	5 320.0	64	14.14	14.13	13.78
	5 500.0	100	14.51	14.34	14.56
	5 580.0	116	14.32	14.40	14.65
	5 600.0	120	13.83	13.99	13.89
	5 620.0	124	13.96	13.85	13.97
	5 700.0	140	14.21	14.24	14.24
	5 720.0	144	14.34	13.98	14.23
	5 745.0	149	14.46	14.36	14.39
	5 785.0	157	14.74	14.58	14.58
	5 825.0	165	14.61	14.55	14.65

Band	Freq. [MHz]	Channel	Mode	
			802.11n	802.11ac
U-NII (40 MHz)	5 190.0	38	13.24	13.42
	5 230.0	46	13.25	13.13
	5 270.0	54	12.98	13.17
	5 310.0	62	13.02	13.40
	5 510.0	102	13.65	13.73
	5 590.0	118	13.59	13.64
	5 630.0	126	13.47	13.53
	5 670.0	134	13.63	13.44
	5 710.0	142	13.74	13.43
	5 755.0	151	13.52	13.36
	5 795.0	159	13.85	13.74

Band	Freq. [MHz]	Channel	Mode
			802.11ac
U-NII (80 MHz)	5 210.0	42	12.15
	5 290.0	58	12.27
	5 530.0	106	12.33
	5 610.0	122	12.47
	5 690.0	138	12.52
	5 775.0	155	12.33

9.5.3 WLAN Average Conducted Output Power_MIMO

Band	Freq. [MHz]	Channel	Mode			
			802.11b	802.11g	802.11n	802.11ac
WLAN 2.4 GHz	2 412.0	1	N/A	17.42	16.34	16.43
	2 437.0	6		17.26	16.23	16.21
	2 462.0	11		16.70	16.17	16.22

Band	Freq. [MHz]	Channel	Mode		
			802.11a	802.11n	802.11ac
U-NII (20 MHz)	5 180.0	36	16.65	16.84	16.91
	5 200.0	40	16.80	16.62	16.56
	5 220.0	44	17.14	17.12	17.09
	5 240.0	48	17.21	17.12	17.18
	5 260.0	52	16.94	16.99	16.96
	5 280.0	56	17.08	17.00	16.88
	5 300.0	60	17.06	16.92	16.95
	5 320.0	64	16.71	16.63	16.72
	5 500.0	100	16.73	17.06	17.05
	5 580.0	116	17.05	17.10	17.08
	5 600.0	120	16.74	16.76	16.76
	5 620.0	124	16.78	16.67	16.74
	5 700.0	140	16.75	17.01	17.01
	5 720.0	144	16.62	16.92	16.79
	5 745.0	149	16.92	17.19	17.20
	5 785.0	157	17.25	17.29	17.28
	5 825.0	165	17.32	17.14	17.22

Band	Freq. [MHz]	Channel	Mode	
			802.11n	802.11ac
U-NII (40 MHz)	5 190.0	38	15.88	16.04
	5 230.0	46	16.09	16.21
	5 270.0	54	16.15	16.05
	5 310.0	62	15.99	16.14
	5 510.0	102	16.08	15.97
	5 590.0	118	16.20	16.04
	5 630.0	126	15.97	16.20
	5 670.0	134	16.06	16.02
	5 710.0	142	16.12	16.06
	5 755.0	151	16.09	16.24
	5 795.0	159	16.46	16.34

Band	Freq. [MHz]	Channel	Mode
			802.11ac
U-NII (80 MHz)	5 210.0	42	15.05
	5 290.0	58	15.03
	5 530.0	106	15.06
	5 610.0	122	15.01
	5 690.0	138	14.95
	5 775.0	155	15.14

9.6 WLAN Average Conducted Output Power(Reduced Average Power-Grip Sensor)

9.6.1 WLAN Average Conducted Output Power_Ant.1

Band	Freq. [MHz]	Channel	Mode			
			802.11b	802.11g	802.11n	802.11ac
WLAN 2.4 GHz	2 412.0	1	8.48	7.62	7.60	8.00
	2 437.0	6	8.42	8.31	8.33	8.05
	2 462.0	11	8.07	8.42	8.09	7.86

Band	Freq. [MHz]	Channel	Mode		
			802.11a	802.11n	802.11ac
U-NII (20 MHz)	5 180.0	36	3.55	3.36	3.32
	5 200.0	40	3.33	3.48	2.93
	5 220.0	44	2.95	3.00	2.88
	5 240.0	48	3.00	3.12	3.05
	5 260.0	52	3.50	3.49	3.44
	5 280.0	56	3.14	3.24	3.35
	5 300.0	60	3.38	3.49	3.51
	5 320.0	64	3.21	3.19	3.26
	5 500.0	100	3.25	3.29	3.34
	5 580.0	116	3.39	3.41	3.38
	5 600.0	120	2.82	3.04	2.98
	5 620.0	124	3.10	3.04	2.94
	5 700.0	140	3.24	3.29	3.33
	5 720.0	144	3.37	3.37	3.38
	5 745.0	149	2.99	3.05	3.09
	5 785.0	157	3.58	3.61	3.59
	5 825.0	165	3.28	3.22	3.17

Band	Freq. [MHz]	Channel	Mode	
			802.11n	802.11ac
U-NII (40 MHz)	5 190.0	38	3.33	3.45
	5 230.0	46	3.24	3.04
	5 270.0	54	3.08	3.01
	5 310.0	62	3.10	3.23
	5 510.0	102	2.98	3.22
	5 590.0	118	3.01	3.10
	5 630.0	126	3.19	3.24
	5 670.0	134	2.98	2.88
	5 710.0	142	2.91	3.07
	5 755.0	151	3.36	3.26
	5 795.0	159	3.19	3.38

Band	Freq. [MHz]	Channel	Mode
			802.11ac
U-NII (80 MHz)	5 210.0	42	3.35
	5 290.0	58	3.59
	5 530.0	106	3.28
	5 610.0	122	3.46
	5 690.0	138	3.34
	5 775.0	155	3.50

9.6.2 WLAN Average Conducted Output Power_Ant.2

Band	Freq. [MHz]	Channel	Mode			
			802.11b	802.11g	802.11n	802.11ac
WLAN 2.4 GHz	2 412.0	1	8.46	7.84	8.29	7.86
	2 437.0	6	7.94	8.07	8.12	7.94
	2 462.0	11	7.85	8.14	7.74	8.18

Band	Freq. [MHz]	Channel	Mode		
			802.11a	802.11n	802.11ac
U-NII (20 MHz)	5 180.0	36	3.46	3.24	3.28
	5 200.0	40	3.28	3.36	2.93
	5 220.0	44	3.03	3.10	2.75
	5 240.0	48	2.95	3.14	3.03
	5 260.0	52	3.39	3.51	3.54
	5 280.0	56	3.06	3.09	3.22
	5 300.0	60	3.34	3.53	3.38
	5 320.0	64	3.31	3.23	3.40
	5 500.0	100	3.29	3.31	3.35
	5 580.0	116	3.45	3.39	3.52
	5 600.0	120	2.86	3.06	3.10
	5 620.0	124	3.06	3.04	3.06
	5 700.0	140	3.25	3.29	3.42
	5 720.0	144	3.38	3.46	3.47
	5 745.0	149	3.11	3.08	3.10
	5 785.0	157	3.73	3.67	3.65
	5 825.0	165	3.42	3.28	3.18

Band	Freq. [MHz]	Channel	Mode	
			802.11n	802.11ac
U-NII (40 MHz)	5 190.0	38	3.26	3.32
	5 230.0	46	3.12	2.93
	5 270.0	54	3.11	3.00
	5 310.0	62	3.16	3.24
	5 510.0	102	2.97	3.30
	5 590.0	118	3.06	3.16
	5 630.0	126	3.16	3.20
	5 670.0	134	2.94	2.99
	5 710.0	142	2.93	3.09
	5 755.0	151	3.38	3.25
	5 795.0	159	3.27	3.51

Band	Freq. [MHz]	Channel	Mode
			802.11ac
U-NII (80 MHz)	5 210.0	42	3.16
	5 290.0	58	3.45
	5 530.0	106	3.23
	5 610.0	122	3.40
	5 690.0	138	3.31
	5 775.0	155	3.27

9.6.3 WLAN Average Conducted Output Power_MIMO

Band	Freq. [MHz]	Channel	Mode			
			802.11b	802.11g	802.11n	802.11ac
WLAN 2.4 GHz	2 412.0	1	N/A	11.35	11.03	10.96
	2 437.0	6		11.37	10.58	10.86
	2 462.0	11		10.81	11.26	10.78

Band	Freq. [MHz]	Channel	Mode		
			802.11a	802.11n	802.11ac
U-NII (20 MHz)	5 180.0	36	6.12	5.96	5.85
	5 200.0	40	5.92	6.01	5.62
	5 220.0	44	5.65	5.69	5.61
	5 240.0	48	5.66	5.73	5.63
	5 260.0	52	6.11	6.03	6.01
	5 280.0	56	5.72	5.87	5.92
	5 300.0	60	6.04	6.20	6.02
	5 320.0	64	5.94	5.83	5.99
	5 500.0	100	5.80	5.91	5.97
	5 580.0	116	6.01	6.05	6.06
	5 600.0	120	5.71	5.72	5.66
	5 620.0	124	5.65	5.69	5.63
	5 700.0	140	5.79	5.82	6.00
	5 720.0	144	6.01	6.01	5.97
	5 745.0	149	5.71	5.63	5.72
	5 785.0	157	6.34	6.22	6.23
	5 825.0	165	6.04	5.94	5.79

Band	Freq. [MHz]	Channel	Mode	
			802.11n	802.11ac
U-NII (40 MHz)	5 190.0	38	5.82	6.42
	5 230.0	46	5.79	6.08
	5 270.0	54	5.68	6.05
	5 310.0	62	5.66	6.25
	5 510.0	102	5.59	6.34
	5 590.0	118	5.68	6.25
	5 630.0	126	5.82	6.38
	5 670.0	134	5.56	6.02
	5 710.0	142	5.52	6.15
	5 755.0	151	6.01	6.38
	5 795.0	159	5.88	6.59

Band	Freq. [MHz]	Channel	Mode
			802.11ac
U-NII (80 MHz)	5 210.0	42	5.79
	5 290.0	58	6.12
	5 530.0	106	5.81
	5 610.0	122	6.06
	5 690.0	138	5.94
	5 775.0	155	6.03

9.7 WLAN Average Conducted Output Power (Reduced Average Power-RSDB

9.7.1 WLAN Average Conducted Output Power_Ant.1

Band	Freq. [MHz]	Channel	Mode
			802.11b
WLAN 2.4 GHz	2 412.0	1	14.63
	2 437.0	6	14.13
	2 462.0	11	14.16
Band	**Freq. [MHz]**	**Channel**	**Mode**
			802.11ac
U-NII (80 MHz)	5 210.0	42	10.17
	5 290.0	58	10.35
	5 530.0	106	10.16
	5 610.0	122	10.26
	5 690.0	138	10.17
	5 775.0	155	10.51

9.7.2 WLAN Average Conducted Output Power_Ant.2

Band	Freq. [MHz]	Channel	Mode
			802.11b
WLAN 2.4 GHz	2 412.0	1	13.97
	2 437.0	6	13.66
	2 462.0	11	13.78
Band	**Freq. [MHz]**	**Channel**	**Mode**
			802.11ac
U-NII (80 MHz)	5 210.0	42	9.78
	5 290.0	58	9.87
	5 530.0	106	9.75
	5 610.0	122	9.93
	5 690.0	138	9.84
	5 775.0	155	10.32

9.8 WLAN Average Conducted Output Power (Reduced Average Power- RSDB +Grip Sensor)

9.8.1 WLAN Average Conducted Output Power_Ant.1

Band	Freq. [MHz]	Channel	Mode
			802.11b
WLAN 2.4 GHz	2 412.0	1	5.26
	2 437.0	6	5.11
	2 462.0	11	5.10
Band	**Freq. [MHz]**	**Channel**	**Mode**
			802.11ac
U-NII (80 MHz)	5 210.0	42	1.60
	5 290.0	58	1.72
	5 530.0	106	1.62
	5 610.0	122	1.68
	5 690.0	138	1.57
	5 775.0	155	1.71

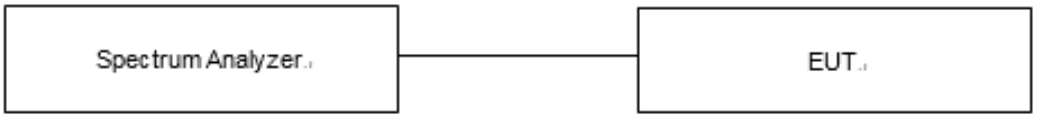
9.8.2 WLAN Average Conducted Output Power_Ant.2

Band	Freq. [MHz]	Channel	Mode
			802.11b
WLAN 2.4 GHz	2 412.0	1	5.12
	2 437.0	6	5.01
	2 462.0	11	5.07
Band	**Freq. [MHz]**	**Channel**	**Mode**
			802.11ac
U-NII (80 MHz)	5 210.0	42	1.45
	5 290.0	58	1.56
	5 530.0	106	1.52
	5 610.0	122	1.62
	5 690.0	138	1.60
	5 775.0	155	1.58

Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02:

- Power measurements were performed for the transmission mode configuration with the highest maximum output power specified for production units.
- For transmission modes with the same maximum output power specification, powers were measured for the largest channel bandwidth, lowest order modulation and lowest data rate.
- For transmission modes with identical maximum specified output power, channel bandwidth, modulation and data rates, power measurements were required for all identical configurations.
- For each transmission mode configuration, powers were measured for the highest and lowest channels; and at the mid-band channel(s) when there were at least 3 channels supported. For configurations with multiple mid-band channels, due to an even number of channels, both channels were measured.
- For additional RSDB scenario SAR Test, only the relevant mode was measured.

Power Measurement Setup



9.9 Bluetooth Average Conducted Output Power(Maximum Average Power)

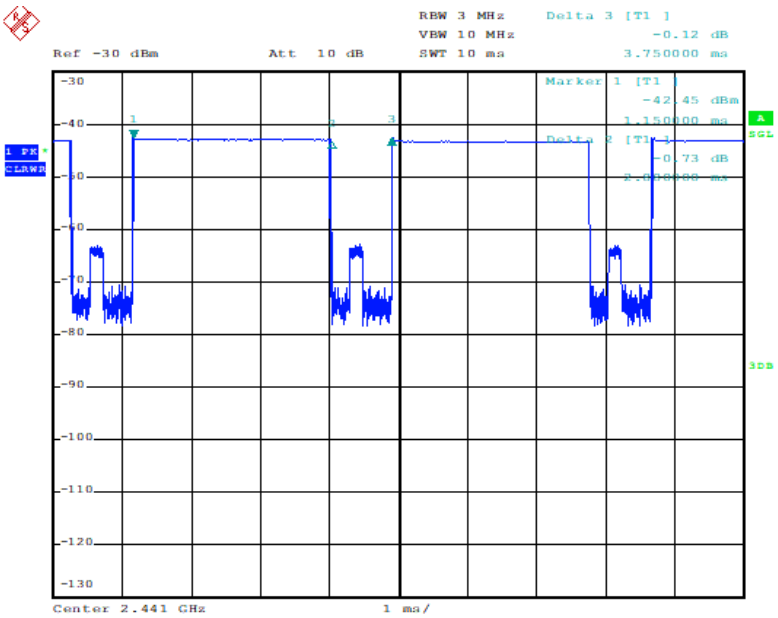
9.9.1 Bluetooth Average Conducted Output Power

Mode	Freq. [MHz]	Channel	Conducted Powers (dBm)
BDR_DH5 (1 Mbps)	2 402.0	0	12.08
	2 441.0	39	12.29
	2 480.0	78	12.01
EDR_2-DH5 (2 Mbps)	2 402.0	0	11.06
	2 441.0	39	11.88
	2 480.0	78	10.84
EDR_3-DH5 (3 Mbps)	2 402.0	0	11.08
	2 441.0	39	11.90
	2 480.0	78	10.86
LE (1 Mbps-37)	2 402.0	0	6.20
	2 440.0	19	7.16
	2 480.0	39	6.85
LE (1 Mbps-255)	2 402.0	0	6.22
	2 440.0	19	7.12
	2 480.0	39	6.74
LE (2 Mbps-37)	2 402.0	0	7.48
	2 440.0	19	7.84
	2 480.0	39	7.72
LE (2 Mbps-255)	2 402.0	0	7.42
	2 440.0	19	7.80
	2 480.0	39	7.67

9.10 Wireless Band Duty Cycle

Wireless Bands	Frequency Bands	Mode	Ant.	Duty Cycle (%)
WCDMA	Band II	RMC, HSDPA, HSUPA, DC-HSDPA		100
	Band IV			
	Band V			
LTE	FDD Band 7	QPSK, 16QAM, 64QAM		100
	FDD Band 12			
	FDD Band 13			
	FDD Band 14			
	FDD Band 25			
	FDD Band 26			
	FDD Band 66			
	FDD Band 71			
	TDD Band 41			Power Class 3: 63.33
	TDD Band 41			Power Class 2: 43.33
WLAN	2.4 GHz	802.11b	Ant.1	98.60
			Ant.2	99.00
	5 GHz	802.11a	Ant.1	94.10
			Ant.2	94.10
		802.11ac VHT80	Ant.1	87.20
		802.11ac VHT80	Ant.2	87.20

Wireless Bands	Frequency Bands		Mode		Duty Cycle (%)	
	Mode	Packet	On Time (ms)	On-Off Time (ms)	Duty Cycle (%)	Duty Cycle Compensate Factor
Bluetooth	BDR(GFSK)	DH5	2.88	3.75	76.80	1.302



10. System Verification

10.1 Tissue Verification

The dielectric properties for this Tissue Simulant Liquids were measured by using the SPEAG Model DAK3.5 Dielectric Probe in conjunction with Agilent E5071B Network Analyzer (300 kHz – 8 500 ㎒). The Conductivity (σ) and Permittivity (ρ) are listed in Table 1.For the SAR measurement given in this report. The temperature variation of the Tissue Simulant Liquids was (22 ± 2) ℃.

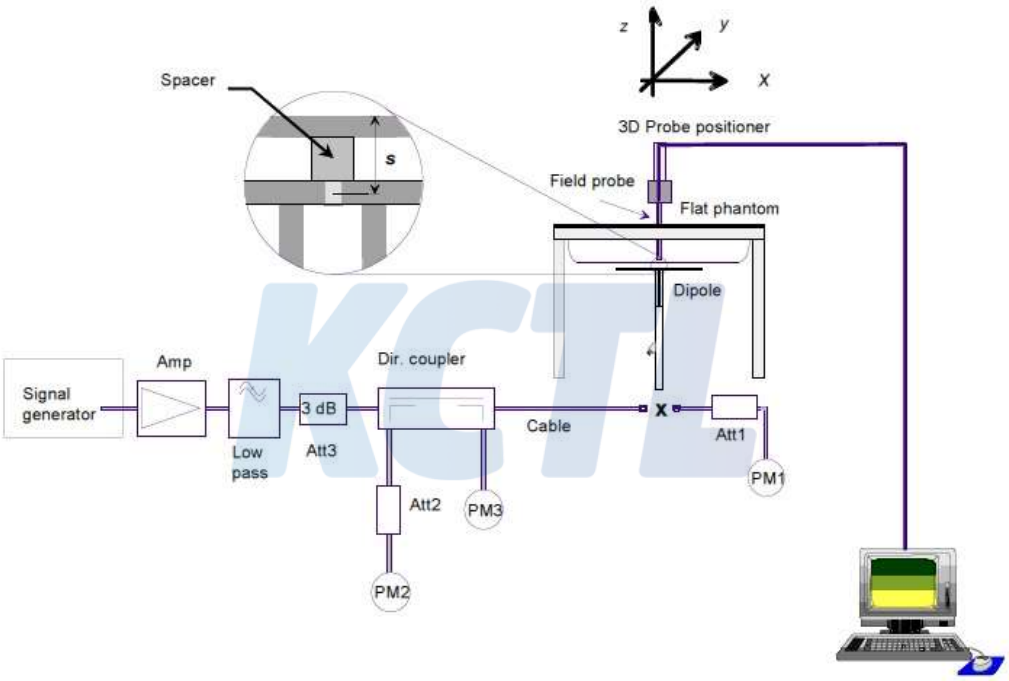
Freq. (㎒)	Limit/Measured		Permittivity (ρ)	Conductivity (σ)	Temp. (°C)
750.0	Recommended Limit		41.90 ± 5 % (39.81 ~ 44.00)	0.89 ± 5 % (0.85 ~ 0.93)	22 ± 2
	Measured	2020-09-14	41.55	0.92	20.72
750.0	Recommended Limit		41.90 ± 5 % (39.81 ~ 44.00)	0.89 ± 5 % (0.85 ~ 0.93)	22 ± 2
	Measured	2020-09-15	41.98	0.92	20.59
750.0	Recommended Limit		41.90 ± 5 % (39.81 ~ 44.00)	0.89 ± 5 % (0.85 ~ 0.93)	22 ± 2
	Measured	2020-09-16	43.19	0.87	21.03
750.0	Recommended Limit		41.90 ± 5 % (39.81 ~ 44.00)	0.89 ± 5 % (0.85 ~ 0.93)	22 ± 2
	Measured	2020-09-17	42.75	0.87	20.91
850.0	Recommended Limit		41.50 ± 5 % (39.43 ~ 43.58)	0.92 ± 5 % (0.87 ~ 0.97)	22 ± 2
	Measured	2020-09-09	41.19	0.93	20.46
850.0	Recommended Limit		41.50 ± 5 % (39.43 ~ 43.58)	0.92 ± 5 % (0.87 ~ 0.97)	22 ± 2
	Measured	2020-09-10	41.50	0.92	20.93
850.0	Recommended Limit		41.50 ± 5 % (39.43 ~ 43.58)	0.92 ± 5 % (0.87 ~ 0.97)	22 ± 2
	Measured	2020-09-18	40.36	0.92	20.49
1 750.0	Recommended Limit		40.07 ± 5 % (38.07 ~ 42.07)	1.37 ± 5 % (1.30 ~ 1.44)	22 ± 2
	Measured	2020-09-03	40.63	1.37	20.71
1 750.0	Recommended Limit		40.07 ± 5 % (38.07 ~ 42.07)	1.37 ± 5 % (1.30 ~ 1.44)	22 ± 2
	Measured	2020-09-04	40.65	1.38	20.66
1 900.0	Recommended Limit		40.00 ± 5 % (38.00 ~ 42.00)	1.40 ± 5 % (1.33 ~ 1.47)	22 ± 2
	Measured	2020-09-09	39.66	1.44	20.58
1 900.0	Recommended Limit		40.00 ± 5 % (38.00 ~ 42.00)	1.40 ± 5 % (1.33 ~ 1.47)	22 ± 2
	Measured	2020-09-10	40.45	1.43	20.69

Freq. (MHz)	Limit/Measured		Permittivity (ρ)	Conductivity (σ)	Temp. (°C)
2 450.0	Recommended Limit		39.20 ± 5 % (37.24 ~ 41.16)	1.80 ± 5 % (1.71 ~ 1.89)	22 ± 2
	Measured	2020-09-11	38.42	1.83	20.34
2 450.0	Recommended Limit		39.20 ± 5 % (37.24 ~ 41.16)	1.80 ± 5 % (1.71 ~ 1.89)	22 ± 2
	Measured	2020-09-14	38.18	1.80	20.53
2 600.0	Recommended Limit		39.00 ± 5 % (37.05 ~ 40.95)	1.96 ± 5 % (1.86 ~ 2.06)	22 ± 2
	Measured	2020-09-03	38.31	1.96	20.90
2 600.0	Recommended Limit		39.00 ± 5 % (37.05 ~ 40.95)	1.96 ± 5 % (1.86 ~ 2.06)	22 ± 2
	Measured	2020-09-17	37.54	2.01	20.88
5 300.0	Recommended Limit		35.90 ± 5 % (34.11 ~ 37.70)	4.76 ± 5 % (4.52 ~ 5.00)	22 ± 2
	Measured	2020-09-11	35.42	4.85	20.57
5 600.0	Recommended Limit		35.50 ± 5 % (33.73 ~ 37.28)	5.07 ± 5 % (4.82 ~ 5.32)	22 ± 2
	Measured	2020-09-14	35.10	5.20	20.37
5 800.0	Recommended Limit		35.30 ± 5 % (33.54 ~ 37.07)	5.27 ± 5 % (5.01 ~ 5.53)	22 ± 2
	Measured	2020-09-15	34.33	5.37	20.62

<Table 1. Measurement result of Tissue electric parameters>

10.2 Test System Verification

The microwave circuit arrangement for system verification is sketched below picture.
The daily system accuracy verification occurs within the flat section of the SAM phantom. A SAR measurement was performed to see if the measured SAR was within ± 10% from the t arget SAR values. The tests were conducted on the same days as the measurement of the EUT. The obtained results from the system accuracy verification are displayed in the Table 2. During the tests, the ambient temperature of the laboratory was in the range (22 ± 2) ℃, th e relative humidity was in the range(50 ± 20)% and the liquid depth Above the ear/grid refer ence points was above 15 cm in all the cases. It is seen that the system is operating within its specification, as the results are within acceptable tolerance of the reference values.



Verification Kit	Probe S/N	Frequency (MHz)	Tissue Type	Limit/Measured (Normalized to 1 W)		
D750V3 SN: 1096	EX3DV4 SN: 7540	750.0	HSL	Recommended Limit 1g (Normalized)		8.32 ± 10 % (7.49 ~ 9.15)
				Measured	2020-09-14	8.44
D750V3 SN: 1096	EX3DV4 SN: 7540	750.0	HSL	Recommended Limit 1g (Normalized)		8.32 ± 10 % (7.49 ~ 9.15)
				Measured	2020-09-15	8.52
D750V3 SN: 1096	EX3DV4 SN: 7540	750.0	HSL	Recommended Limit 1g (Normalized)		8.32 ± 10 % (7.49 ~ 9.15)
				Measured	2020-09-16	8.12
D750V3 SN: 1096	EX3DV4 SN: 7540	750.0	HSL	Recommended Limit 1g (Normalized)		8.32 ± 10 % (7.49 ~ 9.15)
				Measured	2020-09-17	8.48
D850V2 SN: 1006	EX3DV4 SN: 7540	850.0	HSL	Recommended Limit 1g (Normalized)		9.95 ± 10 % (8.96 ~ 10.95)
				Measured	2020-09-09	9.72
D850V2 SN: 1006	EX3DV4 SN: 7540	850.0	HSL	Recommended Limit 1g (Normalized)		9.95 ± 10 % (8.96 ~ 10.95)
				Measured	2020-09-10	9.96
D850V2 SN: 1006	EX3DV4 SN: 7540	850.0	HSL	Recommended Limit 1g (Normalized)		9.95 ± 10 % (8.96 ~ 10.95)
				Measured	2020-09-18	10.24
D1750V2 SN: 1072	EX3DV4 SN: 7541	1 750.0	HSL	Recommended Limit 1g (Normalized)		36.50 ± 10 % (32.85 ~ 40.15)
				Measured	2020-09-03	36.96
D1750V2 SN: 1072	EX3DV4 SN: 7541	1 750.0	HSL	Recommended Limit 1g (Normalized)		36.50 ± 10 % (32.85 ~ 40.15)
				Measured	2020-09-04	36.24
D1900V2 SN: 5d160	EX3DV4 SN: 7541	1 900.0	HSL	Recommended Limit 1g (Normalized)		39.40 ± 10 % (35.46 ~ 43.34)
				Measured	2020-09-09	40.80
D1900V2 SN: 5d160	EX3DV4 SN: 7541	1 900.0	HSL	Recommended Limit 1g (Normalized)		39.40 ± 10 % (35.46 ~ 43.34)
				Measured	2020-09-10	40.40
D2450V2 SN: 895	EX3DV4 SN: 7541	2 450.0	HSL	Recommended Limit 1g (Normalized)		52.40 ± 10 % (47.16 ~ 57.64)
				Measured	2020-09-11	55.80
D2450V2 SN: 895	EX3DV4 SN: 7541	2 450.0	HSL	Recommended Limit 1g (Normalized)		52.40 ± 10 % (47.16 ~ 57.64)
				Measured	2020-09-14	52.20
D2600V2 SN: 1050	EX3DV4 SN: 7540	2 600.0	HSL	Recommended Limit 1g (Normalized)		56.20 ± 10 % (50.58 ~ 61.82)
				Measured	2020-09-03	55.70
D2600V2 SN: 1050	EX3DV4 SN: 7541	2 600.0	HSL	Recommended Limit 1g (Normalized)		56.20 ± 10 % (50.58 ~ 61.82)
				Measured	2020-09-17	56.00
D5GHzV2 SN: 1134	EX3DV4 SN: 3928	5 300.0	HSL	Recommended Limit 1g (Normalized)		82.3 ± 10 % (74.07 ~ 90.53)
				Measured	2020-09-11	81.00
D5GHzV2 SN: 1134	EX3DV4 SN: 3928	5 600.0	HSL	Recommended Limit 1g (Normalized)		84.1 ± 10 % (75 .69 ~ 92.51)
				Measured	2020-09-14	85.10
D5GHzV2 SN: 1134	EX3DV4 SN: 3928	5 800.0	HSL	Recommended Limit 1g (Normalized)		81.5 ± 10 % (73.35 ~ 89.65)
				Measured	2020-09-15	83.00

<Table 1. System Verification Result>

This test report shall not be reproduced, except in full, without the written approval

11. SAR Test Results

11.1 Standalone Body Test Results

WCDMA Band II									
Mode	EUT Position	Distance (mm)	Frequency (MHz)	Measured Conducted Power (dBm)	Max. Tune-up Power (dBm)	Power Scaling Factor	Measured 1 g SAR (W/kg)	Scaled 1 g SAR (W/kg)	Plot No.
RMC	Grip Sensor off								
	Rear	19	1 880.0	24.14	24.50	1.086	0.490	0.532	
	Left	0	1 880.0	24.14	24.50	1.086	0.224	0.243	
	Right	6	1 880.0	24.14	24.50	1.086	0.310	0.337	
	Top	14	1 880.0	24.14	24.50	1.086	0.600	**0.652**	1
	Grip Sensor on								
	Rear	0	1 880.0	14.32	14.50	1.042	0.567	0.591	
	Right	0	1 880.0	14.32	14.50	1.042	0.068	0.071	
	Top	0	1 880.0	14.32	14.50	1.042	0.319	0.332	
	Additional Test of Protective Cover(with S-pen)								
	Top	14	1 880.0	24.14	24.50	1.086	0.320	0.348	

WCDMA Band IV									
Mode	EUT Position	Distance (mm)	Frequency (MHz)	Measured Conducted Power (dBm)	Max. Tune-up Power (dBm)	Power Scaling Factor	Measured 1 g SAR (W/kg)	Scaled 1 g SAR (W/kg)	Plot No.
RMC	Grip Sensor off								
	Rear	19	1 732.4	24.14	24.50	1.086	0.355	0.386	
	Left	0	1 732.4	24.14	24.50	1.086	0.124	0.135	
	Right	6	1 732.4	24.14	24.50	1.086	0.299	0.325	
	Top	14	1 732.4	24.14	24.50	1.086	0.562	0.610	
	Grip Sensor on								
	Rear	0	1 732.4	15.05	15.50	1.109	0.554	**0.614**	2
	Right	0	1 732.4	15.05	15.50	1.109	0.070	0.078	
	Top	0	1 732.4	15.05	15.50	1.109	0.275	0.305	
	Additional Test of Protective Cover(with S-pen)								
	Rear	0	1 732.4	15.05	15.50	1.109	0.435	0.482	

WCDMA Band V									
Mode	EUT Position	Distance (mm)	Frequency (MHz)	Measured Conducted Power (dBm)	Max. Tune-up Power (dBm)	Power Scaling Factor	Measured 1 g SAR (W/kg)	Scaled 1 g SAR (W/kg)	Plot No.
RMC	Grip Sensor off								
	Rear	19	836.6	24.10	24.50	1.096	0.433	0.475	
	Left	0	836.6	24.10	24.50	1.096	0.114	0.125	
	Right	6	836.6	24.10	24.50	1.096	0.377	0.413	
	Top	14	836.6	24.10	24.50	1.096	0.230	0.252	
	Grip Sensor on								
	Rear	0	836.6	20.16	20.50	1.081	0.525	**0.568**	3
	Right	0	836.6	20.16	20.50	1.081	0.368	0.398	
	Top	0	836.6	20.16	20.50	1.081	0.148	0.160	
	Additional Test of Protective Cover(with S-pen)								
	Rear	0	836.6	20.16	20.50	1.081	0.402	0.435	

LTE Band 7									
Mode	**EUT Position**	**Distance (mm)**	**Frequency (MHz)**	**Measured Conducted Power (dBm)**	**Max. Tune-up Power (dBm)**	**Power Scaling Factor**	**Measured 1 g SAR (W/kg)**	**Scaled 1 g SAR (W/kg)**	**Plot No.**
Grip Sensor off									
QPSK 20M 1RB 99Offset	Rear	19	2 535.0	22.68	23.00	1.076	0.567	0.610	
QPSK 20M 50RB 24Offset	Rear	19	2 535.0	21.88	22.00	1.028	0.434	0.446	
QPSK 20M 1RB 99Offset	Left	0	2 535.0	22.68	23.00	1.076	0.042	0.045	
QPSK 20M 1RB 99Offset	Right	6	2 535.0	22.68	23.00	1.076	0.455	0.490	
QPSK 20M 50RB 24Offset	Right	6	2 535.0	21.88	22.00	1.028	0.351	0.361	
QPSK 20M 1RB 99Offset	Top	14	2 535.0	22.68	23.00	1.076	0.677	**0.728**	4
QPSK 20M 50RB 24Offset	Top	14	2 535.0	21.88	22.00	1.028	0.530	0.545	
Grip Sensor on									
QPSK 20M 1RB 99Offset	Rear	0	2 535.0	12.47	13.00	1.130	0.450	0.509	
QPSK 20M 50RB 24Offset	Rear	0	2 535.0	12.44	13.00	1.138	0.428	0.487	
QPSK 20M 1RB 99Offset	Right	0	2 535.0	12.47	13.00	1.130	0.071	0.080	
QPSK 20M 50RB 24Offset	Right	0	2 535.0	12.44	13.00	1.138	0.073	0.083	
QPSK 20M 1RB 99Offset	Top	0	2 535.0	12.47	13.00	1.130	0.261	0.295	
QPSK 20M 50RB 24Offset	Top	0	2 535.0	12.44	13.00	1.138	0.245	0.279	
Additional Test of Protective Cover(with S-pen)									
QPSK 20M 1RB 99Offset	Top	14	2 535.0	22.68	23.00	1.076	0.240	0.258	

This test report shall not be reproduced, except in full, without the written approval

LTE Band 12									
Mode	**EUT Position**	**Distance (mm)**	**Frequency (MHz)**	**Measured Conducted Power (dBm)**	**Max. Tune-up Power (dBm)**	**Power Scaling Factor**	**Measured 1 g SAR (W/kg)**	**Scaled 1 g SAR (W/kg)**	**Plot No.**
Grip Sensor off									
QPSK 10M 1RB 25Offset	Rear	19	707.5	24.45	24.50	1.012	0.228	0.231	
QPSK 10M 25RB 12Offset	Rear	19	707.5	23.43	23.50	1.016	0.203	0.206	
QPSK 10M 1RB 25Offset	Left	0	707.5	24.45	24.50	1.012	0.039	0.039	
QPSK 10M 1RB 25Offset	Right	6	707.5	24.45	24.50	1.012	0.091	0.092	
QPSK 10M 25RB 12Offset	Right	6	707.5	23.43	23.50	1.016	0.118	0.120	
QPSK 10M 1RB 25Offset	Top	14	707.5	24.45	24.50	1.012	0.201	0.203	
QPSK 10M 25RB 12Offset	Top	14	707.5	23.43	23.50	1.016	0.158	0.161	
Grip Sensor on									
QPSK 10M 1RB 25Offset	Rear	0	707.5	17.22	17.50	1.067	0.414	0.442	
QPSK 10M 25RB 12Offset	Rear	0	707.5	17.29	17.50	1.050	0.444	**0.466**	5
QPSK 10M 1RB 25Offset	Right	0	707.5	17.22	17.50	1.067	0.138	0.147	
QPSK 10M 25RB 12Offset	Right	0	707.5	17.29	17.50	1.050	0.135	0.142	
QPSK 10M 1RB 25Offset	Top	0	707.5	17.22	17.50	1.067	0.182	0.194	
QPSK 10M 25RB 12Offset	Top	0	707.5	17.29	17.50	1.050	0.184	0.193	
Additional Test of Protective Cover(with S-pen)									
QPSK 10M 25RB 12Offset	Rear	0	707.5	17.29	17.50	1.050	0.286	0.300	

LTE Band 13									
Mode	**EUT Position**	**Distance (mm)**	**Frequency (MHz)**	**Measured Conducted Power (dBm)**	**Max. Tune-up Power (dBm)**	**Power Scaling Factor**	**Measured 1 g SAR (W/kg)**	**Scaled 1 g SAR (W/kg)**	**Plot No.**
Grip Sensor off									
QPSK 10M 1RB 49Offset	Rear	19	782.0	24.11	24.50	1.094	0.342	0.374	
QPSK 10M 25RB 12Offset	Rear	19	782.0	23.12	23.50	1.091	0.287	0.313	
QPSK 10M 1RB 49Offset	Left	0	782.0	24.11	24.50	1.094	0.110	0.120	
QPSK 10M 1RB 49Offset	Right	6	782.0	24.11	24.50	1.094	0.243	0.266	
QPSK 10M 25RB 12Offset	Right	6	782.0	23.12	23.50	1.091	0.192	0.209	
QPSK 10M 1RB 49Offset	Top	14	782.0	24.11	24.50	1.094	0.252	0.276	
QPSK 10M 25RB 12Offset	Top	14	782.0	23.12	23.50	1.091	0.201	0.219	
Grip Sensor on									
QPSK 10M 1RB 49Offset	Rear	0	782.0	16.92	17.50	1.143	0.430	0.491	
QPSK 10M 25RB 12Offset	Rear	0	782.0	16.96	17.50	1.132	0.454	**0.514**	6
QPSK 10M 1RB 49Offset	Right	0	782.0	16.92	17.50	1.143	0.207	0.237	
QPSK 10M 25RB 12Offset	Right	0	782.0	16.96	17.50	1.132	0.202	0.229	
QPSK 10M 1RB 49Offset	Top	0	782.0	16.92	17.50	1.143	0.125	0.143	
QPSK 10M 25RB 12Offset	Top	0	782.0	16.96	17.50	1.132	0.129	0.146	
Additional Test of Protective Cover(with S-pen)									
QPSK 10M 25RB 12Offset	Rear	0	782.0	16.96	17.50	1.132	0.281	0.318	

LTE Band 14									
Mode	**EUT Position**	**Distance (mm)**	**Frequency (MHz)**	**Measured Conducted Power (dBm)**	**Max. Tune-up Power (dBm)**	**Power Scaling Factor**	**Measured 1 g SAR (W/kg)**	**Scaled 1 g SAR (W/kg)**	**Plot No.**
Grip Sensor off									
QPSK 10M 1RB 25Offset	Rear	19	793.0	24.23	24.50	1.064	0.337	0.359	
QPSK 10M 25RB 12Offset	Rear	19	793.0	23.14	23.50	1.086	0.299	0.325	
QPSK 10M 1RB 25Offset	Left	0	793.0	24.23	24.50	1.064	0.089	0.095	
QPSK 10M 1RB 25Offset	Right	6	793.0	24.23	24.50	1.064	0.264	0.281	
QPSK 10M 25RB 12Offset	Right	6	793.0	23.14	23.50	1.086	0.233	0.253	
QPSK 10M 1RB 25Offset	Top	14	793.0	24.23	24.50	1.064	0.285	0.303	
QPSK 10M 25RB 12Offset	Top	14	793.0	23.14	23.50	1.086	0.231	0.251	
Grip Sensor on									
QPSK 10M 1RB 25Offset	Rear	0	793.0	16.91	17.50	1.146	0.421	0.482	
QPSK 10M 25RB 12Offset	Rear	0	793.0	16.94	17.50	1.138	0.425	**0.484**	7
QPSK 10M 1RB 25Offset	Right	0	793.0	16.91	17.50	1.146	0.220	0.252	
QPSK 10M 25RB 12Offset	Right	0	793.0	16.94	17.50	1.138	0.217	0.247	
QPSK 10M 1RB 25Offset	Top	0	793.0	16.91	17.50	1.146	0.131	0.150	
QPSK 10M 25RB 12Offset	Top	0	793.0	16.94	17.50	1.138	0.131	0.149	
Additional Test of Protective Cover(with S-pen)									
QPSK 10M 25RB 12Offset	Rear	0	793.0	16.94	17.50	1.138	0.266	0.303	

LTE Band 25									
Mode	**EUT Position**	**Distance (mm)**	**Frequency (MHz)**	**Measured Conducted Power (dBm)**	**Max. Tune-up Power (dBm)**	**Power Scaling Factor**	**Measured 1 g SAR (W/kg)**	**Scaled 1 g SAR (W/kg)**	**Plot No.**
Grip Sensor off									
QPSK 20M 1RB 99Offset	Rear	19	1 905.0	24.42	24.50	1.019	0.467	0.476	
QPSK 20M 50RB 24Offset	Rear	19	1 905.0	23.41	23.50	1.021	0.406	0.415	
QPSK 20M 1RB 99Offset	Left	0	1 905.0	24.42	24.50	1.019	0.230	0.234	
QPSK 20M 1RB 99Offset	Right	6	1 905.0	24.42	24.50	1.019	0.306	0.312	
QPSK 20M 50RB 24Offset	Right	6	1 905.0	23.41	23.50	1.021	0.255	0.260	
QPSK 20M 1RB 99Offset	Top	14	1 905.0	24.42	24.50	1.019	0.609	**0.621**	8
QPSK 20M 50RB 24Offset	Top	14	1 905.0	23.41	23.50	1.021	0.531	0.542	
Grip Sensor on									
QPSK 20M 1RB 99Offset	Rear	0	1 905.0	14.45	14.50	1.012	0.569	0.576	
QPSK 20M 50RB 24Offset	Rear	0	1 905.0	14.32	14.50	1.042	0.555	0.578	
QPSK 20M 1RB 99Offset	Right	0	1 905.0	14.45	14.50	1.012	0.086	0.087	
QPSK 20M 50RB 24Offset	Right	0	1 905.0	14.32	14.50	1.042	0.087	0.091	
QPSK 20M 1RB 99Offset	Top	0	1 905.0	14.45	14.50	1.012	0.421	0.426	
QPSK 20M 50RB 24Offset	Top	0	1 905.0	14.32	14.50	1.042	0.410	0.427	
Additional Test of Protective Cover(with S-pen)									
QPSK 20M 1RB 99Offset	Top	14	1 905.0	24.42	24.50	1.019	0.301	0.307	

This test report shall not be reproduced, except in full, without the written approval

LTE Band 26									
Mode	**EUT Position**	**Distance (mm)**	**Frequency (MHz)**	**Measured Conducted Power (dBm)**	**Max. Tune-up Power (dBm)**	**Power Scaling Factor**	**Measured 1 g SAR (W/kg)**	**Scaled 1 g SAR (W/kg)**	**Plot No.**
Grip Sensor off									
QPSK 15M 1RB 74Offset	Rear	19	831.5	24.29	24.50	1.050	0.439	0.461	
QPSK 15M 36RB 18Offset	Rear	19	831.5	23.32	23.50	1.042	0.357	0.372	
QPSK 15M 1RB 74Offset	Left	0	831.5	24.29	24.50	1.050	0.108	0.113	
QPSK 15M 1RB 74Offset	Right	6	831.5	24.29	24.50	1.050	0.414	0.435	
QPSK 15M 36RB 18Offset	Right	6	831.5	23.32	23.50	1.042	0.373	0.389	
QPSK 15M 1RB 74Offset	Top	14	831.5	24.29	24.50	1.050	0.230	0.242	
QPSK 15M 36RB 18Offset	Top	14	831.5	23.32	23.50	1.042	0.232	0.242	
Grip Sensor on									
QPSK 15M 1RB 36Offset	Rear	0	831.5	19.22	19.50	1.067	0.585	0.624	
QPSK 15M 36RB 0Offset	Rear	0	831.5	19.37	19.50	1.030	0.611	**0.629**	9
QPSK 15M 1RB 36Offset	Right	0	831.5	19.22	19.50	1.067	0.363	0.387	
QPSK 15M 36RB 0Offset	Right	0	831.5	19.37	19.50	1.030	0.375	0.386	
QPSK 15M 1RB 36Offset	Top	0	831.5	19.22	19.50	1.067	0.167	0.178	
QPSK 15M 36RB 0Offset	Top	0	831.5	19.37	19.50	1.030	0.177	0.182	
Additional Test of Protective Cover(with S-pen)									
QPSK 15M 36RB 0Offset	Rear	0	831.5	19.01	19.50	1.119	0.412	0.461	

LTE Band 41 Power Class 3									
Mode	**EUT Position**	**Distance (mm)**	**Frequency (MHz)**	**Measured Conducted Power (dBm)**	**Max. Tune-up Power (dBm)**	**Power Scaling Factor**	**Measured 1 g SAR (W/kg)**	**Scaled 1 g SAR (W/kg)**	**Plot No.**
Grip Sensor off									
QPSK 20M 1RB 99Offset	Rear	19	2 680.0	23.76	24.50	1.186	0.408	0.484	
QPSK 20M 50RB 50Offset	Rear	19	2 680.0	22.98	23.50	1.127	0.338	0.381	
QPSK 20M 1RB 99Offset	Left	0	2 680.0	23.76	24.50	1.186	0.001	0.001	
QPSK 20M 1RB 99Offset	Right	6	2 680.0	23.76	24.50	1.186	0.406	0.482	
QPSK 20M 50RB 50Offset	Right	6	2 680.0	22.98	23.50	1.127	0.341	0.384	
QPSK 20M 1RB 99Offset	Top	14	2 680.0	23.76	24.50	1.186	0.436	0.517	
QPSK 20M 50RB 50Offset	Top	14	2 680.0	22.98	23.50	1.127	0.390	0.440	
Grip Sensor on									
QPSK 20M 1RB 99Offset	Rear	0	2 680.0	14.42	14.50	1.019	0.564	0.575	
QPSK 20M 50RB 50Offset	Rear	0	2 680.0	14.42	14.50	1.019	0.572	**0.583**	10
QPSK 20M 1RB 99Offset	Right	0	2 680.0	14.42	14.50	1.019	0.119	0.121	
QPSK 20M 50RB 50Offset	Right	0	2 680.0	14.42	14.50	1.019	0.124	0.126	
QPSK 20M 1RB 99Offset	Top	0	2 680.0	14.42	14.50	1.019	0.357	0.364	
QPSK 20M 50RB 50Offset	Top	0	2 680.0	14.42	14.50	1.019	0.377	0.384	
Additional Test of Protective Cover(with S-pen)									
QPSK 20M 50RB 50Offset	Rear	0	2 680.0	14.42	14.50	1.019	0.366	0.373	

LTE Band 41 Power Class 2									
Mode	**EUT Position**	**Distance (mm)**	**Frequency (MHz)**	**Measured Conducted Power (dBm)**	**Max. Tune-up Power (dBm)**	**Power Scaling Factor**	**Measured 1 g SAR (W/kg)**	**Scaled 1 g SAR (W/kg)**	**Plot No.**
Grip Sensor on									
QPSK 20M 50RB 50Offset	Rear	0	2 680.0	14.42	14.50	1.019	0.376	0.383	

Note: Per May 2017 TCB Workshop, all SAR tests were performed using Power Class 3. SAR with power class 2 at the available duty factor was additionally performed for the power class 3 configuration with the highest SAR configuration for each exposure conditions.

LTE Band 41 PC3 vs PC2 linearly result										
Exposure Condition	LTE Band 41 PC3				LTE Band 41 PC2				PC 2 linearly Scaled SAR [W/kg]	Dev. [%]
	Maximum Tune-up Power [dBm]	Duty Cycle [%]	Frame Averaged Power [mW]	Reported SAR [W/kg]	Maximum Tune-up Power [dBm]	Duty Cycle [%]	Frame Averaged Power [dBm]	Reported SAR [W/kg]		
Body	14.5	63.3	17.8	0.583	14.5	43.3	12.2	0.383	0.560	-3.96

Note: The linearity between the Power Class 2 and Power Class 3 SAR results and the respective frame averaged powers was calculated to determine that the results were linear.
Per May 2017 TCB Workshop, no additional SAR measurements were required since the linearity between power classes was < 10% and all reported SAR values were < 1.4 W/kg for 1g.

LTE Band 66									
Mode	EUT Position	Distance (mm)	Frequency (MHz)	Measured Conducted Power (dBm)	Max. Tune-up Power (dBm)	Power Scaling Factor	Measured 1 g SAR (W/kg)	Scaled 1 g SAR (W/kg)	Plot No.
Grip Sensor off									
QPSK 20M 1RB 49Offset	Rear	19	1 745.0	24.56	25.00	1.107	0.338	0.374	
QPSK 20M 50RB 24Offset	Rear	19	1 745.0	23.85	24.00	1.035	0.328	0.339	
QPSK 20M 1RB 49Offset	Left	0	1 745.0	24.56	25.00	1.107	0.116	0.128	
QPSK 20M 1RB 49Offset	Right	6	1 745.0	24.56	25.00	1.107	0.303	0.335	
QPSK 20M 50RB 24Offset	Right	6	1 745.0	23.85	24.00	1.035	0.290	0.300	
QPSK 20M 1RB 49Offset	Top	14	1 745.0	24.56	25.00	1.107	0.585	**0.648**	11
QPSK 20M 50RB 24Offset	Top	14	1 745.0	23.85	24.00	1.035	0.562	0.582	
Grip Sensor on									
QPSK 20M 1RB 49Offset	Rear	0	1 745.0	14.97	15.00	1.007	0.611	0.615	
QPSK 20M 50RB 24Offset	Rear	0	1 745.0	14.99	15.00	1.002	0.604	0.605	
QPSK 20M 1RB 49Offset	Right	0	1 745.0	14.97	15.00	1.007	0.095	0.096	
QPSK 20M 50RB 24Offset	Right	0	1 745.0	14.99	15.00	1.002	0.095	0.095	
QPSK 20M 1RB 49Offset	Top	0	1 745.0	14.97	15.00	1.007	0.357	0.359	
QPSK 20M 50RB 24Offset	Top	0	1 745.0	14.99	15.00	1.002	0.363	0.364	
Additional Test of Protective Cover(with S-pen)									
QPSK 20M 1RB 49Offset	Top	14	1 745.0	24.56	25.00	1.107	0.237	0.262	

LTE Band 71									
Mode	**EUT Position**	**Distance (mm)**	**Frequency (MHz)**	**Measured Conducted Power (dBm)**	**Max. Tune-up Power (dBm)**	**Power Scaling Factor**	**Measured 1 g SAR (W/kg)**	**Scaled 1 g SAR (W/kg)**	**Plot No.**
Grip Sensor off									
QPSK 20M 1RB 0Offset	Rear	19	680.5	24.11	24.50	1.094	0.150	0.164	
QPSK 20M 50RB 24Offset	Rear	19	680.5	23.27	23.50	1.054	0.137	0.144	
QPSK 20M 1RB 0Offset	Left	0	680.5	24.11	24.50	1.094	0.112	0.123	
QPSK 20M 1RB 0Offset	Right	6	680.5	24.11	24.50	1.094	0.108	0.118	
QPSK 20M 50RB 24Offset	Right	6	680.5	23.27	23.50	1.054	0.110	0.116	
QPSK 20M 1RB 0Offset	Top	14	680.5	24.11	24.50	1.094	0.100	0.109	
QPSK 20M 50RB 24Offset	Top	14	680.5	23.27	23.50	1.054	0.119	0.125	
Grip Sensor on									
QPSK 20M 1RB 0Offset	Rear	0	680.5	17.28	17.50	1.052	0.496	**0.522**	12
QPSK 20M 50RB 24Offset	Rear	0	680.5	17.29	17.50	1.050	0.465	0.488	
QPSK 20M 1RB 0Offset	Right	0	680.5	17.28	17.50	1.052	0.129	0.136	
QPSK 20M 50RB 24Offset	Right	0	680.5	17.29	17.50	1.050	0.133	0.140	
QPSK 20M 1RB 0Offset	Top	0	680.5	17.28	17.50	1.052	0.217	0.228	
QPSK 20M 50RB 24Offset	Top	0	680.5	17.29	17.50	1.050	0.205	0.215	
Additional Test of Protective Cover(with S-pen)									
QPSK 20M 1RB 0Offset	Rear	0	680.5	17.28	17.50	1.052	0.305	0.321	

WLAN 2.4 GHz Ant.1										
Mode	**EUT Position**	**Distance (mm)**	**Frequency (MHz)**	**Measured Conducted Power (dBm)**	**Max. Tune-up Power (dBm)**	**Power Scaling Factor**	**Duty Cycle Compensate Factor**	**Measured 1 g SAR (W/kg)**	**Scaled 1 g SAR (W/kg)**	**Plot No.**
802.11b	Grip Sensor off									
	Rear	12	2 412.0	17.98	19.00	1.265	1.014	0.159	0.204	
	Left	5	2 412.0	17.98	19.00	1.265	1.014	0.196	0.251	
	Right	0	2 412.0	17.98	19.00	1.265	1.014	0.011	0.014	
	Top	0	2 412.0	17.98	19.00	1.265	1.014	0.066	0.085	
	Grip Sensor on									
	Rear	0	2 412.0	8.48	9.00	1.127	1.014	0.397	**0.454**	13
	Left	0	2 412.0	8.48	9.00	1.127	1.014	0.044	0.050	
	Additional Test of Protective Cover(with S-pen)									
	Rear	0	2 412.0	8.48	9.00	1.127	1.014	0.175	0.200	
Additional SAR Test (RSDB Scenario) G.Note 8										
802.11 b	Rear	12	2 412.0	14.63	15.00	1.089	1.014	0.065	0.072	
Additional SAR Test (Grip Sensor + RSDB Scenario) G.Note 8										
802.11 b	Rear	0	2 412.0	5.26	6.00	1.186	1.014	0.121	0.146	

WLAN 2.4 GHz Ant.2										
Mode	**EUT Position**	**Distance (mm)**	**Frequency (MHz)**	**Measured Conducted Power (dBm)**	**Max. Tune-up Power (dBm)**	**Power Scaling Factor**	**Duty Cycle Compensate Factor**	**Measured 1 g SAR (W/kg)**	**Scaled 1 g SAR (W/kg)**	**Plot No.**
802.11b	Grip Sensor off									
	Rear	12	2 412.0	17.97	19.00	1.268	1.010	0.297	0.380	
	Left	0	2 412.0	17.97	19.00	1.268	1.010	0.249	0.319	
	Right	0	2 412.0	17.97	19.00	1.268	1.010	0.034	0.044	
	Top	7	2 412.0	17.97	19.00	1.268	1.010	0.104	0.133	
	Grip Sensor on									
	Rear	0	2 412.0	8.46	9.00	1.132	1.014	0.343	**0.394**	14
	Top	0	2 412.0	8.46	9.00	1.132	1.014	0.031	0.036	
	Additional Test of Protective Cover(with S-pen)									
	Rear	0	2 412.0	8.46	9.00	1.132	1.014	0.198	0.227	
Additional SAR Test (RSDB Scenario) G.Note 8										
802.11 b	Rear	12	2 412.0	13.97	15.00	1.268	1.010	0.109	0.140	
Additional SAR Test (Grip Sensor + RSDB Scenario) G.Note 8										
802.11 b	Rear	0	2 412.0	5.12	6.00	1.225	1.014	0.128	0.159	

U-NII-2A Ant.1										
Mode	**EUT Position**	**Distance (mm)**	**Frequency (MHz)**	**Measured Conducted Power (dBm)**	**Max. Tune-up Power (dBm)**	**Power Scaling Factor**	**Duty Cycle Compensate Factor**	**Measured 1 g SAR (W/kg)**	**Scaled 1 g SAR (W/kg)**	**Plot No.**
802.11a	Grip Sensor off									
	Rear	12	5 260.0	14.96	15.00	1.009	1.062	0.512	**0.549**	15
	Left	5	5 260.0	14.96	15.00	1.009	1.062	0.314	0.336	
	Right	0	5 260.0	14.96	15.00	1.009	1.062	0.000	0.000	
	Top	0	5 260.0	14.96	15.00	1.009	1.062	0.081	0.087	
	Additional Test of Protective Cover(with S-pen)									
	Rear	12	5 260.0	14.96	15.00	1.009	1.062	0.477	0.511	
802.11ac (VHT80)	Grip Sensor on									
	Rear	0	5 290.0	3.59	3.90	1.074	1.146	0.182	0.224	
	Left	0	5 290.0	3.59	3.90	1.074	1.146	0.023	0.028	
802.11ac (VHT80)	Additional SAR Test (RSDB Scenario) G.Note 8									
	Rear	12	5 290.0	10.35	11.00	1.161	1.146	0.212	0.282	
802.11ac (VHT80)	Additional SAR Test (Grip Sensor + RSDB Scenario) G.Note 8									
	Rear	0	5 290.0	1.72	2.00	1.067	1.146	0.141	0.172	

U-NII-2A Ant.2										
Mode	**EUT Position**	**Distance (mm)**	**Frequency (MHz)**	**Measured Conducted Power (dBm)**	**Max. Tune-up Power (dBm)**	**Power Scaling Factor**	**Duty Cycle Compensate Factor**	**Measured 1 g SAR (W/kg)**	**Scaled 1 g SAR (W/kg)**	**Plot No.**
802.11a	Grip Sensor off									
	Rear	12	5 260.0	14.53	15.00	1.114	1.062	0.083	0.098	
	Right	0	5 260.0	14.53	15.00	1.114	1.062	0.000	0.000	
	Top	7	5 260.0	14.53	15.00	1.114	1.062	0.185	**0.219**	16
	Additional Test of Protective Cover(with S-pen)									
	Top	7	5 260.0	14.53	15.00	1.114	1.062	0.059	0.070	
802.11ac (VHT80)	Grip Sensor on									
	Rear	0	5 290.0	3.45	3.90	1.109	1.146	0.101	0.128	
	Top	0	5 290.0	3.45	3.90	1.109	1.146	0.044	0.056	
802.11ac (VHT80)	Additional SAR Test (RSDB Scenario) G.Note 8									
	Rear	12	5 290.0	9.87	11.00	1.297	1.146	0.038	0.056	
802.11ac (VHT80)	Additional SAR Test (Grip Sensor + RSDB Scenario)									
	Rear	0	5 290.0	1.56	2.00	1.107	1.146	0.094	0.119	

U-NII-2C Ant.1										
Mode	**EUT Position**	**Distance (mm)**	**Frequency (MHz)**	**Measured Conducted Power (dBm)**	**Max. Tune-up Power (dBm)**	**Power Scaling Factor**	**Duty Cycle Compensate Factor**	**Measured 1 g SAR (W/kg)**	**Scaled 1 g SAR (W/kg)**	**Plot No.**
802.11a	Grip Sensor off									
	Rear	12	5 700.0	14.45	15.00	1.135	1.062	0.294	**0.354**	17
	Left	5	5 700.0	14.45	15.00	1.135	1.062	0.120	0.145	
	Right	0	5 700.0	14.45	15.00	1.135	1.062	0.000	0.000	
	Top	0	5 700.0	14.45	15.00	1.135	1.062	0.009	0.011	
	Additional Test of Protective Cover(with S-pen)									
	Rear	12	5 700.0	14.45	15.00	1.135	1.062	0.265	0.319	
802.11ac (VHT80)	Grip Sensor on									
	Rear	0	5 610.0	3.46	3.90	1.107	1.146	0.117	0.148	
	Left	0	5 610.0	3.46	3.90	1.107	1.146	0.006	0.008	
802.11ac (VHT80)	Additional SAR Test (RSDB Scenario) G.Note 8									
	Rear	12	5 610.0	10.26	11.00	1.186	1.146	0.071	0.097	
802.11ac (VHT80)	Additional SAR Test (Grip Sensor + RSDB Scenario) G.Note 8									
	Rear	0	5 610.0	1.68	2.00	1.076	1.146	0.096	0.118	

U-NII-2C Ant.2										
Mode	**EUT Position**	**Distance (mm)**	**Frequency (MHz)**	**Measured Conducted Power (dBm)**	**Max. Tune-up Power (dBm)**	**Power Scaling Factor**	**Duty Cycle Compensate Factor**	**Measured 1 g SAR (W/kg)**	**Scaled 1 g SAR (W/kg)**	**Plot No.**
802.11a	Grip Sensor off									
	Rear	12	5 500.0	14.51	15.00	1.119	1.062	0.166	0.197	
	Left	0	5 500.0	14.51	15.00	1.119	1.062	0.021	0.025	
	Right	0	5 500.0	14.51	15.00	1.119	1.062	0.000	0.000	
	Top	7	5 500.0	14.51	15.00	1.119	1.062	0.235	**0.279**	18
	Additional Test of Protective Cover(with S-pen)									
	Top	7	5 500.0	14.51	15.00	1.119	1.062	0.074	0.088	
802.11ac (VHT80)	Grip Sensor on									
	Rear	0	5 610.0	3.40	3.90	1.122	1.146	0.069	0.089	
	Top	0	5 610.0	3.40	3.90	1.122	1.146	0.020	0.026	
802.11ac (VHT80)	Additional SAR Test (RSDB Scenario) G.Note 8									
	Rear	12	5 610.0	9.93	11.00	1.279	1.146	0.052	0.076	
802.11ac (VHT80)	Additional SAR Test (Grip Sensor + RSDB Scenario) G.Note 8									
	Rear	0	5 610.0	1.62	2.00	1.091	1.146	0.061	0.076	

U-NII-3 Ant.1										
Mode	**EUT Position**	**Distance (mm)**	**Frequency (MHz)**	**Measured Conducted Power (dBm)**	**Max. Tune-up Power (dBm)**	**Power Scaling Factor**	**Duty Cycle Compensate Factor**	**Measured 1 g SAR (W/kg)**	**Scaled 1 g SAR (W/kg)**	**Plot No.**
802.11a	Grip Sensor off									
	Rear	12	5 785.0	14.71	15.00	1.069	1.062	0.347	**0.394**	19
	Left	5	5 785.0	14.71	15.00	1.069	1.062	0.126	0.143	
	Right	0	5 785.0	14.71	15.00	1.069	1.062	0.000	0.000	
	Top	0	5 785.0	14.71	15.00	1.069	1.062	0.048	0.054	
	Additional Test of Protective Cover(with S-pen)									
	Rear	12	5 785.0	14.71	15.00	1.069	1.062	0.204	0.232	
802.11ac (VHT80)	Grip Sensor on									
	Rear	0	5 775.0	3.50	3.90	1.096	1.146	0.144	0.181	
	Left	0	5 775.0	3.50	3.90	1.096	1.146	0.011	0.014	
802.11ac (VHT80)	Additional SAR Test (RSDB Scenario) G.Note 8									
	Rear	12	5 775.0	10.51	11.00	1.119	1.146	0.160	0.205	
802.11ac (VHT80)	Additional SAR Test (Grip Sensor + RSDB Scenario) G.Note 8									
	Rear	0	5 775.0	1.71	2.00	1.069	1.146	0.104	0.127	

U-NII-3 Ant.2										
Mode	**EUT Position**	**Distance (mm)**	**Frequency (MHz)**	**Measured Conducted Power (dBm)**	**Max. Tune-up Power (dBm)**	**Power Scaling Factor**	**Duty Cycle Compensate Factor**	**Measured 1 g SAR (W/kg)**	**Scaled 1 g SAR (W/kg)**	**Plot No.**
802.11a	Grip Sensor off									
	Rear	12	5 785.0	14.74	15.00	1.062	1.062	0.116	0.131	
	Left	0	5 785.0	14.74	15.00	1.062	1.062	0.016	0.018	
	Right	0	5 785.0	14.74	15.00	1.062	1.062	0.000	0.000	
	Top	7	5 785.0	14.74	15.00	1.062	1.062	0.120	**0.135**	20
	Additional Test of Protective Cover(with S-pen)									
	Top	7	5 785.0	14.74	15.00	1.062	1.062	0.051	0.058	
802.11ac (VHT80)	Grip Sensor on									
	Rear	0	5 775.0	3.27	3.90	1.156	1.146	0.061	0.081	
	Top	0	5 775.0	3.27	3.90	1.156	1.146	0.011	0.015	
802.11ac (VHT80)	Additional SAR Test (RSDB Scenario) G.Note 8									
	Rear	12	5 775.0	10.32	11.00	1.169	1.146	0.041	0.055	
802.11ac (VHT80)	Additional SAR Test (Grip Sensor + RSDB Scenario) G.Note 8									
	Rear	0	5 775.0	1.58	2.00	1.102	1.146	0.058	0.073	

Bluetooth										
Mode	**EUT Position**	**Distance (mm)**	**Frequency (MHz)**	**Measured Conducted Power (dBm)**	**Max. Tune-up Power (dBm)**	**Power Scaling Factor**	**Duty Cycle Compensate Factor**	**Measured 1 g SAR (W/kg)**	**Scaled 1 g SAR (W/kg)**	**Plot No.**
BDR_DH5	Grip Sensor off									
	Rear	0	2 441.0	12.29	12.50	1.050	1.302	0.436	**0.596**	21
	Rear	12	2 441.0	12.29	12.50	1.050	1.302	0.024	0.033	
	Left	0	2 441.0	12.29	12.50	1.050	1.302	0.062	0.085	
	Right	0	2 441.0	12.29	12.50	1.050	1.302	0.001	0.001	
	Additional Test of Protective Cover(with S-pen)									
	Rear	0	2 441.0	12.29	12.50	1.050	1.302	0.268	0.366	

General Notes:

1. The test data reported are the worst-case SAR values according to test procedures specified in IEEE 1528-2013, and FCC KDB Publication 447498 D01v06.
2. All modes of operation were investigated, and worst-case results are reported.
3. Battery is fully charged for all readings and the standard batteries are the only options.
4. Liquid tissue depth was at least 15 cm.
5. The manufacturer has confirmed that the device(s) tested have the same physical, mechanical and thermal characteristics and are within operational tolerances expected for production units.
6. SAR results were scaled to the maximum allowed power to demonstrate compliance per FCC KDB Publication 447498 D01v06.
7. This device utilizes power reduction for some wireless modes, as outlined in Section 2.3. The maximum output power allowed for each transmitter and exposure condition was evaluated for SAR compliance based on expected use conditions and simultaneous transmission scenarios.
8. Additional testing required in order satisfying FCC simultaneous transmission limit criteria.

WCDMA Notes:

1. UMTS mode in was tested under RMC 12.2 kbps with HSPA Inactive per KDB Publication 941225 D01v03r01. AMR and HSPA SAR was not required per the 3G Test Reduction Procedure in KDB Publication 941225 D01v03r01.
2. 2. Per FCC KDB Publication 447498 D01v06, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg for 1g evaluations then testing at the other channels is not required for such test configuration(s).

LTE Notes:

1. Justification Start with the largest channel bandwidth and measure SAR for QPSK with 1 RB, and 50% RB allocation, using the RB offset and required test channel combination with the highest maximum output power among RB offsets at the upper edge, middle and lower edge of each required test channel.
2. When the reported SAR is > 0.8 W/kg, testing for other Channels is performed at the highest output power level for 1RB, and 50% RB configuration for that channel.
3. Testing for 100% RB configuration is performed at the highest output power level for 100% RB configuration across the Low, Mid and High Channel when the highest reported SAR for 1 RB and 50% RB are > 0.8 W/kg. Testing for the reAnt.1ing required channels is not needed because the reported SAR for 100% RB Allocation < 1.45 W/kg.
4. Testing for 16-QAM modulation is not required because the reported SAR for QPSK is < 1.45 W/Kg and its output power is not more than 0.5 dB higher than that of QPSK.
5. Testing for the other channel bandwidths is not required because the reported SAR for the highest channel bandwidth is < 1.45 W/Kg and its output power is not more than 0.5 dB higher than that of the highest channel bandwidth.
6. A-MPR was disabled for all SAR tests by setting NS=01 and MCC=001 on the base station simulator.
7. SAR tests were performed with the same number of RB and RB offsets transmitting on all TTI frames (maximum TTI).
8. TDD LTE was tested using UL-DL configuration 0 with 6 UL sub frames and 2S sub-frames using extended cyclic prefix only and special sub frame configuration 6. SAR tests were performed at maximum output power and worst-case transmission duty factor in extended cyclic prefix. Per 3GPP 36.211 Sec. 4, the duty factor using extended cyclic prefix is 0.633(cf=1.58).
9. This device supports Power Class 2 and Power Class 3 operations for LTE Band 41. The highest available duty cycle for Power Class 2 operations is 43.3% using UL-DL configuration 1.
10. For LTE bands that do not support at least three non-overlapping channels in certain channel bandwidths, test the available non-overlapping channels instead. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing; therefore, the requirement for H, M and L channels may not fully apply.

WLAN & Bluetooth Notes:

1. Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02 for 2.4㎓ WIFI operations, the highest measured maximum output power channel for DSSS was selected for SAR measurement. SAR for OFDM modes (2.4㎓ 802.11g/n) was not required due to the maximum allowed powers and the highest reported DSSS SAR.
2. The device was configured to transmit continuously at the required data rate, channel bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools. The reported SAR was scaled to the 100% transmission duty factor to determine compliance.
3. 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.
4. When the specified maximum output power is the same for both UNII Band1 and UNII Band 2A, begins SAR measurement in UNII band 2A; and if the highest reported SAR for UNII band 2A is ≤ 1.2W/kg, SAR is not required for UNII band1 > 1.2W/kg, both bands should be tested independently for SAR.
5. When the maximum reported 1g averaged SAR is ≤0.8 W/kg, SAR testing on additional channels was not required. Otherwise, SAR for the next highest output power channel was required until the reported SAR result was ≤ 1.20 W/kg for 1g evaluations or all test channels were measured.

12. Simultaneous Transmission

The following procedures adopted from FCC KDB Publication 447498 D01v06 are applicable to devices with built in unlicensed transmitters such as 802.11 and Bluetooth devices which may simultaneously transmit with the licensed transmitter.
This device contains transmitters that may operate simultaneously. Therefore, simultaneous transmission analysis is required. Per FCC KDB Publication 447498 D01v06 4.3.2 and IEEE 1528-2013 Section 6.3.4.1.2, simultaneous transmission SAR test exclusion may be applied when the sum of the 1g or 10g SAR for all the simultaneous transmitting antennas in a specific a physical test configuration is within SAR limits. The different test positions in an exposure condition may be considered collectively to determine SAR test exclusion according to the sum of 1g or 10g SAR.

12.1 Estimated SAR

When standalone SAR is not required to be measured, per FCC KDB 447498 D01v06 4.3.2 b), the following equation must be used to estimate the standalone 1g SAR for simultaneous transmission assessment involving that transmitter.

1) For Test separation distances ≤ 50 mm.

$$\text{Estimated SAR} = \frac{\sqrt{f(\text{GHz})}}{7.5} \times \frac{(\text{Max Power of channel, mW})}{\text{Min. Separation Distance, mm}}$$

2) When the minimum test separation distance is > 50mm, the estimated SAR Value is 0.4 W/kg.

3) For distances < 5mm, a distance of 5mm is used to determine SAR exclusion and estimated SAR value.

4) Output power is the maximum rated power (including tune-up or manufacturing tolerances) and includes source-based averaging.

< Body Configuration – Maximum Power>

Band / Ant.	Freq. [MHz]	Output Power		Separation distances [mm]					Estimated SAR Value [W/kg]				
		dBm	mW	Rear	Left	Right	Top	Bot.	Rear	Left	Right	Top	Bottom
WCDMA 2	1 907.6	24.50	282	5	87	5	5	192	Measure	Measure	Measure	Measure	EWEMPT
WCDMA 4	1 752.6	24.50	282	5	87	5	5	192	Measure	Measure	Measure	Measure	EWEMPT
WCDMA 5	846.6	24.50	282	5	87	5	5	192	Measure	Measure	Measure	Measure	EWEMPT
LTE 5	848.3	24.50	282	5	87	5	5	192	Measure	Measure	Measure	Measure	EWEMPT
LTE 7	2 567.5	23.00	200	5	87	5	5	192	Measure	Measure	Measure	Measure	EWEMPT
LTE 12	715.3	24.50	282	5	87	5	5	192	Measure	Measure	Measure	Measure	EWEMPT
LTE 13	784.5	24.50	282	5	87	5	5	192	Measure	Measure	Measure	Measure	EWEMPT
LTE 14	784.5	24.50	282	5	87	5	5	192	Measure	Measure	Measure	Measure	EWEMPT
LTE 25	1 914.3	24.50	282	5	87	5	5	192	Measure	Measure	Measure	Measure	EWEMPT
LTE 26	848.3	24.50	282	5	87	5	5	192	Measure	Measure	Measure	Measure	EWEMPT
LTE 41	2 687.5	24.50	282	5	87	5	5	192	Measure	Measure	Measure	Measure	EWEMPT
LTE 66	1 779.3	25.00	316	5	87	5	5	192	Measure	Measure	Measure	Measure	EWEMPT
LTE 71	695.5	24.50	282	5	87	5	5	192	Measure	Measure	Measure	Measure	EWEMPT
2.4 GHz Ant.1	2 462.0	19.00	79	5	5	113	26	162	Measure	Measure	Measure	Measure	EWEMPT
U-NII-2A Ant.1	5 320.0	15.00	32	5	5	113	26	162	Measure	Measure	Measure	Measure	EWEMPT
U-NII-2C Ant.1	5 720.0	15.00	32	5	5	113	26	162	Measure	Measure	Measure	Measure	EWEMPT
U-NII-3 Ant.1	5 825.0	15.00	32	5	5	113	26	162	Measure	Measure	Measure	Measure	EWEMPT
2.4 GHz Ant.2	2 462.0	19.00	79	5	25	89	5	198	Measure	Measure	Measure	Measure	EWEMPT
U-NII-2A Ant.2	5 320.0	15.00	32	5	25	89	5	198	Measure	0.394	Measure	Measure	EWEMPT
U-NII-2C Ant.2	5 720.0	15.00	32	5	25	89	5	198	Measure	Measure	Measure	Measure	EWEMPT
U-NII-3 Ant.2	5 825.0	15.00	32	5	25	89	5	198	Measure	Measure	Measure	Measure	EWEMPT
Bluetooth	2 480.0	12.50	18	5	5	113	26	162	Measure	Measure	Measure	0.145	EWEMPT

12.2 #Simultaneous Transmission Configurations

According to FCC KDB 447498 D01v06, transmitters are considered to be transmitting simultaneously when there is overlapping transmission, with the exception of transmissions during network hand-offs with maximum hand-off duration less than 30 seconds.
This device contains multiple transmitters that may operate simultaneously, and therefore requires a simultaneous transmission analysis according to FCC KDB Publication 447498 D01v06 4.3.2 procedures.

No.	Scenario	RF Exposure Condition
		Body
Non-RSDB		
1	Licensed + WLAN 2.4G Ant.1	Yes
2	Licensed + WLAN 2.4G Ant.2	Yes
3	Licensed + WLAN 5G Ant.1	Yes
4	Licensed + WLAN 5G Ant.2	Yes
5	Licensed + Bluetooth	Yes
6	Licensed + WLAN 2.4G MIMO	Yes
7	Licensed + WLAN 5G MIMO	Yes
8	Licensed + Bluetooth + WLAN 5G Ant.1	Yes
9	Licensed + Bluetooth + WLAN 5G Ant.2	Yes
10	Licensed + Bluetooth + WLAN 5G MIMO	Yes
RSDB		
11	Licensed + WLAN 2.4G Ant.1 + WLAN 5G Ant.1	Yes
12	Licensed + WLAN 2.4G Ant.1 + WLAN 5G Ant.2	Yes
13	Licensed + WLAN 2.4G Ant.2 + WLAN5G Ant.1	Yes
14	Licensed + WLAN 2.4G Ant.2 + WLAN 5G Ant.2	Yes
15	Licensed + WLAN 2.4G Ant.1 + WLAN 5G MIMO	Yes
16	Licensed + WLAN 2.4G Ant.2 + WLAN 5G MIMO	Yes
17	Licensed + WLAN 2.4G MIMO + WLAN 5G Ant.1	Yes
18	Licensed + WLAN 2.4G MIMO + WLAN 5G Ant.2	Yes
19	Licensed + WLAN 2.4G MIMO + WLAN 5G MIMO	Yes

12.2.1 Simultaneous Transmission Analysis

< Body: Sensor On >

Exposure Condition /Position		licensed	WLAN				Bluetooth
			2.4 GHz Ant.1	2.4 GHz Ant.2	5 GHz Ant.1	5 GHz Ant.2	Ant.1
		[①]	[②]	[③]	[④]	[⑤]	[⑥]
WCDMA Band II							
Body	Rear	0.591	0.454	0.394	0.224	0.128	0.596
	Left	0.243	0.050	0.319	0.028	0.394	0.085
	Right	0.071	0.014	0.044	0.000	0.000	0.001
	Top	0.332	0.085	0.133	0.087	0.056	0.145

Summation

-		[①]+[②]	[①]+[③]	[①]+[④]	[①]+[⑤]	[①]+[⑥]	[①]+[②]+[③]	[①]+[④]+[⑤]	[①]+[④]+[⑥]	[①]+[⑤]+[⑥]	[①]+[④]+[⑤]+[⑥]
Body	Rear	1.045	0.985	0.815	0.719	1.187	1.439	0.943	1.411	1.315	1.539
	Left	0.293	0.562	0.271	0.637	0.328	0.612	0.665	0.356	0.722	0.750
	Right	0.085	0.115	0.071	0.071	0.072	0.129	0.071	0.072	0.072	0.072
	Top	0.417	0.465	0.419	0.388	0.477	0.550	0.475	0.564	0.533	0.620

WCDMA Band IV											
Body	Rear	0.614		0.454		0.394		0.224		0.128	0.596
	Left	0.135		0.050		0.319		0.028		0.394	0.085
	Right	0.078		0.014		0.044		0.000		0.000	0.001
	Top	0.305		0.085		0.133		0.087		0.056	0.145

Summation

-		[①]+[②]	[①]+[③]	[①]+[④]	[①]+[⑤]	[①]+[⑥]	[①]+[②]+[③]	[①]+[④]+[⑤]	[①]+[④]+[⑥]	[①]+[⑤]+[⑥]	[①]+[④]+[⑤]+[⑥]
Body	Rear	1.068	1.008	0.838	0.742	1.210	1.462	0.966	1.434	1.338	1.562
	Left	0.185	0.454	0.163	0.529	0.220	0.504	0.557	0.248	0.614	0.642
	Right	0.092	0.122	0.078	0.078	0.079	0.136	0.078	0.079	0.079	0.079
	Top	0.390	0.438	0.392	0.361	0.450	0.523	0.448	0.537	0.506	0.593

WCDMA Band V											
Body	Rear	0.568		0.454		0.394		0.224		0.128	0.596
	Left	0.125		0.050		0.319		0.028		0.394	0.085
	Right	0.398		0.014		0.044		0.000		0.000	0.001
	Top	0.160		0.085		0.133		0.087		0.056	0.145

Summation

-		[①]+[②]	[①]+[③]	[①]+[④]	[①]+[⑤]	[①]+[⑥]	[①]+[②]+[③]	[①]+[④]+[⑤]	[①]+[④]+[⑥]	[①]+[⑤]+[⑥]	[①]+[④]+[⑤]+[⑥]
Body	Rear	1.022	0.962	0.792	0.696	1.164	1.416	0.920	1.388	1.292	1.516
	Left	0.175	0.444	0.153	0.519	0.210	0.494	0.547	0.238	0.604	0.632
	Right	0.412	0.442	0.398	0.398	0.399	0.456	0.398	0.399	0.399	0.399
	Top	0.245	0.293	0.247	0.216	0.305	0.378	0.303	0.392	0.361	0.448

Exposure Condition /Position		licensed	WLAN				Bluetooth
			2.4 GHz Ant.1	2.4 GHz Ant.2	5 GHz Ant.1	5 GHz Ant.2	Ant.1
		[①]	[②]	[③]	[④]	[⑤]	[⑥]
LTE Band 7							
Body	Rear	0.509	0.454	0.394	0.224	0.128	0.596
	Left	0.045	0.050	0.319	0.028	0.394	0.085
	Right	0.083	0.014	0.044	0.000	0.000	0.001
	Top	0.295	0.085	0.133	0.087	0.056	0.145

Summation

-		[①]+[②]	[①]+[③]	[①]+[④]	[①]+[⑤]	[①]+[⑥]	[①]+[②]+[③]	[①]+[④]+[⑤]	[①]+[④]+[⑥]	[①]+[⑤]+[⑥]	[①]+[④]+[⑤]+[⑥]
Body	Rear	0.963	0.903	0.733	0.637	1.105	1.357	0.861	1.329	1.233	1.457
	Left	0.095	0.364	0.073	0.439	0.130	0.414	0.467	0.158	0.524	0.552
	Right	0.097	0.127	0.083	0.083	0.084	0.141	0.083	0.084	0.084	0.084
	Top	0.380	0.428	0.382	0.351	0.440	0.513	0.438	0.527	0.496	0.583

LTE Band 12						
Body	Rear	0.466	0.454	0.394	0.224	0.128	0.596
	Left	0.039	0.050	0.319	0.028	0.394	0.085
	Right	0.147	0.014	0.044	0.000	0.000	0.001
	Top	0.194	0.085	0.133	0.087	0.056	0.145

Summation

-		[①]+[②]	[①]+[③]	[①]+[④]	[①]+[⑤]	[①]+[⑥]	[①]+[②]+[③]	[①]+[④]+[⑤]	[①]+[④]+[⑥]	[①]+[⑤]+[⑥]	[①]+[④]+[⑤]+[⑥]
Body	Rear	0.920	0.860	0.690	0.594	1.062	1.314	0.818	1.286	1.190	1.414
	Left	0.089	0.358	0.067	0.433	0.124	0.408	0.461	0.152	0.518	0.546
	Right	0.161	0.191	0.147	0.147	0.148	0.205	0.147	0.148	0.148	0.148
	Top	0.279	0.327	0.281	0.250	0.339	0.412	0.337	0.426	0.395	0.482

LTE Band 13						
Body	Rear	0.514	0.454	0.394	0.224	0.128	0.596
	Left	0.120	0.050	0.319	0.028	0.394	0.085
	Right	0.237	0.014	0.044	0.000	0.000	0.001
	Top	0.146	0.085	0.133	0.087	0.056	0.145

Summation

-		[①]+[②]	[①]+[③]	[①]+[④]	[①]+[⑤]	[①]+[⑥]	[①]+[②]+[③]	[①]+[④]+[⑤]	[①]+[④]+[⑥]	[①]+[⑤]+[⑥]	[①]+[④]+[⑤]+[⑥]
Body	Rear	0.968	0.908	0.738	0.642	1.110	1.362	0.866	1.334	1.238	1.462
	Left	0.170	0.439	0.148	0.514	0.205	0.489	0.542	0.233	0.599	0.627
	Right	0.251	0.281	0.237	0.237	0.238	0.295	0.237	0.238	0.238	0.238
	Top	0.231	0.279	0.233	0.202	0.291	0.364	0.289	0.378	0.347	0.434

LTE Band 14						
Body	Rear	0.484	0.454	0.394	0.224	0.128	0.596
	Left	0.095	0.050	0.319	0.028	0.394	0.085
	Right	0.252	0.014	0.044	0.000	0.000	0.001
	Top	0.150	0.085	0.133	0.087	0.056	0.145

Summation

-		[①]+[②]	[①]+[③]	[①]+[④]	[①]+[⑤]	[①]+[⑥]	[①]+[②]+[③]	[①]+[④]+[⑤]	[①]+[④]+[⑥]	[①]+[⑤]+[⑥]	[①]+[④]+[⑤]+[⑥]
Body	Rear	0.938	0.878	0.708	0.612	1.080	1.332	0.836	1.304	1.208	1.432
	Left	0.145	0.414	0.123	0.489	0.180	0.464	0.517	0.208	0.574	0.602
	Right	0.266	0.296	0.252	0.252	0.253	0.310	0.252	0.253	0.253	0.253
	Top	0.235	0.283	0.237	0.206	0.295	0.368	0.293	0.382	0.351	0.438

Exposure Condition /Position		licensed	WLAN				Bluetooth
			2.4 GHz Ant.1	2.4 GHz Ant.2	5 GHz Ant.1	5 GHz Ant.2	Ant.1
		[①]	[②]	[③]	[④]	[⑤]	[⑥]
LTE Band 25							
Body	Rear	0.578	0.454	0.394	0.224	0.128	0.596
	Left	0.234	0.050	0.319	0.028	0.394	0.085
	Right	0.091	0.014	0.044	0.000	0.000	0.001
	Top	0.427	0.085	0.133	0.087	0.056	0.145

Summation

-		[①]+[②]	[①]+[③]	[①]+[④]	[①]+[⑤]	[①]+[⑥]	[①]+[②]+[③]	[①]+[④]+[⑤]	[①]+[④]+[⑥]	[①]+[⑤]+[⑥]	[①]+[④]+[⑤]+[⑥]
Body	Rear	1.032	0.972	0.802	0.706	1.174	1.426	0.930	1.398	1.302	1.526
	Left	0.284	0.553	0.262	0.628	0.319	0.603	0.656	0.347	0.713	0.741
	Right	0.105	0.135	0.091	0.091	0.092	0.149	0.091	0.092	0.092	0.092
	Top	0.512	0.560	0.514	0.483	0.572	0.645	0.570	0.659	0.628	0.715

LTE Band 26							
Body	Rear	0.629	0.454	0.394	0.224	0.128	0.596
	Left	0.113	0.050	0.319	0.028	0.394	0.085
	Right	0.387	0.014	0.044	0.000	0.000	0.001
	Top	0.182	0.085	0.133	0.087	0.056	0.145

Summation

-		[①]+[②]	[①]+[③]	[①]+[④]	[①]+[⑤]	[①]+[⑥]	[①]+[②]+[③]	[①]+[④]+[⑤]	[①]+[④]+[⑥]	[①]+[⑤]+[⑥]	[①]+[④]+[⑤]+[⑥]
Body	Rear	1.083	1.023	0.853	0.757	1.225	1.477	0.981	1.449	1.353	1.577
	Left	0.163	0.432	0.141	0.507	0.198	0.482	0.535	0.226	0.592	0.620
	Right	0.401	0.431	0.387	0.387	0.388	0.445	0.387	0.388	0.388	0.388
	Top	0.267	0.315	0.269	0.238	0.327	0.400	0.325	0.414	0.383	0.470

LTE Band 41							
Body	Rear	0.583	0.454	0.394	0.224	0.128	0.596
	Left	0.001	0.050	0.319	0.028	0.394	0.085
	Right	0.126	0.014	0.044	0.000	0.000	0.001
	Top	0.384	0.085	0.133	0.087	0.056	0.145

Summation

-		[①]+[②]	[①]+[③]	[①]+[④]	[①]+[⑤]	[①]+[⑥]	[①]+[②]+[③]	[①]+[④]+[⑤]	[①]+[④]+[⑥]	[①]+[⑤]+[⑥]	[①]+[④]+[⑤]+[⑥]
Body	Rear	1.037	0.977	0.807	0.711	1.179	1.431	0.935	1.403	1.307	1.531
	Left	0.051	0.320	0.029	0.395	0.086	0.370	0.423	0.114	0.480	0.508
	Right	0.140	0.170	0.126	0.126	0.127	0.184	0.126	0.127	0.127	0.127
	Top	0.469	0.517	0.471	0.440	0.529	0.602	0.527	0.616	0.585	0.672

LTE Band 66							
Body	Rear	0.615	0.454	0.394	0.224	0.128	0.596
	Left	0.128	0.050	0.319	0.028	0.394	0.085
	Right	0.096	0.014	0.044	0.000	0.000	0.001
	Top	0.364	0.085	0.133	0.087	0.056	0.145

Summation

-		[①]+[②]	[①]+[③]	[①]+[④]	[①]+[⑤]	[①]+[⑥]	[①]+[②]+[③]	[①]+[④]+[⑤]	[①]+[④]+[⑥]	[①]+[⑤]+[⑥]	[①]+[④]+[⑤]+[⑥]
Body	Rear	1.069	1.009	0.839	0.743	1.211	1.463	0.967	1.435	1.339	1.563
	Left	0.178	0.447	0.156	0.522	0.213	0.497	0.550	0.241	0.607	0.635
	Right	0.110	0.140	0.096	0.096	0.097	0.154	0.096	0.097	0.097	0.097
	Top	0.449	0.497	0.451	0.420	0.509	0.582	0.507	0.596	0.565	0.652

Exposure Condition /Position		licensed	WLAN				Bluetooth
			2.4 GHz Ant.1	2.4 GHz Ant.2	5 GHz Ant.1	5 GHz Ant.2	Ant.1
		[①]	[②]	[③]	[④]	[⑤]	[⑥]
LTE Band 71							
Body	Rear	0.522	0.454	0.394	0.224	0.128	0.596
	Left	0.123	0.050	0.319	0.028	0.394	0.085
	Right	0.140	0.014	0.044	0.000	0.000	0.001
	Top	0.228	0.085	0.133	0.087	0.056	0.145

Summation											
-		[①]+[②]	[①]+[③]	[①]+[④]	[①]+[⑤]	[①]+[⑥]	[①]+[②]+[③]	[①]+[④]+[⑤]	[①]+[④]+[⑥]	[①]+[⑤]+[⑥]	[①]+[④]+[⑤]+[⑥]
Body	Rear	0.976	0.916	0.746	0.650	1.118	1.370	0.874	1.342	1.246	1.470
	Left	0.173	0.442	0.151	0.517	0.208	0.492	0.545	0.236	0.602	0.630
	Right	0.154	0.184	0.140	0.140	0.141	0.198	0.140	0.141	0.141	0.141
	Top	0.313	0.361	0.315	0.284	0.373	0.446	0.371	0.460	0.429	0.516

This test report shall not be reproduced, except in full, without the written approval

<Body: Sensor On + RSDB>

Exposure Condition /Position		licensed	WLAN 2.4 GHz Ant.1	WLAN 2.4 GHz Ant.2	WLAN 5 GHz Ant.1	WLAN 5 GHz Ant.2	Bluetooth Ant.1
		[①]	[②]	[③]	[④]	[⑤]	[⑥]
WCDMA Band II							
Body	Rear	0.591	0.146	0.159	0.172	0.119	0.596
	Left	0.243	0.050	0.319	0.028	0.394	0.085
	Right	0.071	0.014	0.044	0.000	0.000	0.001
	Top	0.332	0.085	0.133	0.087	0.056	0.145

Summation

-		[①]+[②]+[④]	[①]+[②]+[⑤]	[①]+[③]+[④]	[①]+[③]+[⑤]	[①]+[②]+[④]+[⑤]	[①]+[③]+[④]+[⑤]	[①]+[②]+[③]+[④]	[①]+[②]+[③]+[⑤]	[①]+[②]+[③]+[④]+[⑤]
Body	Rear	0.909	0.856	0.922	0.869	1.028	1.041	1.068	1.015	1.187
	Left	0.321	0.687	0.590	0.956	0.715	0.984	0.640	1.006	1.034
	Right	0.085	0.085	0.115	0.115	0.085	0.115	0.129	0.129	0.129
	Top	0.504	0.473	0.552	0.521	0.560	0.608	0.637	0.606	0.693

WCDMA Band IV							
Body	Rear	0.614	0.146	0.159	0.172	0.119	0.596
	Left	0.135	0.050	0.319	0.028	0.394	0.085
	Right	0.078	0.014	0.044	0.000	0.000	0.001
	Top	0.305	0.085	0.133	0.087	0.056	0.145

Summation

-		[①]+[②]+[④]	[①]+[②]+[⑤]	[①]+[③]+[④]	[①]+[③]+[⑤]	[①]+[②]+[④]+[⑤]	[①]+[③]+[④]+[⑤]	[①]+[②]+[③]+[④]	[①]+[②]+[③]+[⑤]	[①]+[②]+[③]+[④]+[⑤]
Body	Rear	0.932	0.879	0.945	0.892	1.051	1.064	1.091	1.038	1.210
	Left	0.213	0.579	0.482	0.848	0.607	0.876	0.532	0.898	0.926
	Right	0.092	0.092	0.122	0.122	0.092	0.122	0.136	0.136	0.136
	Top	0.477	0.446	0.525	0.494	0.533	0.581	0.610	0.579	0.666

WCDMA Band V							
Body	Rear	0.568	0.146	0.159	0.172	0.119	0.596
	Left	0.125	0.050	0.319	0.028	0.394	0.085
	Right	0.398	0.014	0.044	0.000	0.000	0.001
	Top	0.160	0.085	0.133	0.087	0.056	0.145

Summation

-		[①]+[②]+[④]	[①]+[②]+[⑤]	[①]+[③]+[④]	[①]+[③]+[⑤]	[①]+[②]+[④]+[⑤]	[①]+[③]+[④]+[⑤]	[①]+[②]+[③]+[④]	[①]+[②]+[③]+[⑤]	[①]+[②]+[③]+[④]+[⑤]
Body	Rear	0.886	0.833	0.899	0.846	1.005	1.018	1.045	0.992	1.164
	Left	0.203	0.569	0.472	0.838	0.597	0.866	0.522	0.888	0.916
	Right	0.412	0.412	0.442	0.442	0.412	0.442	0.456	0.456	0.456
	Top	0.332	0.301	0.380	0.349	0.388	0.436	0.465	0.434	0.521

Exposure Condition /Position		licensed	WLAN				Bluetooth
			2.4 GHz Ant.1	2.4 GHz Ant.2	5 GHz Ant.1	5 GHz Ant.2	Ant.1
		[①]	[②]	[③]	[④]	[⑤]	[⑥]
LTE Band 7							
Body	Rear	0.509	0.146	0.159	0.172	0.119	0.596
	Left	0.045	0.050	0.319	0.028	0.394	0.085
	Right	0.083	0.014	0.044	0.000	0.000	0.001
	Top	0.295	0.085	0.133	0.087	0.056	0.145

Summation

-		[①]+[②]+[④]	[①]+[②]+[⑤]	[①]+[③]+[④]	[①]+[③]+[⑤]	[①]+[②]+[④]+[⑤]	[①]+[③]+[④]+[⑤]	[①]+[②]+[③]+[④]	[①]+[②]+[③]+[⑤]	[①]+[②]+[③]+[④]+[⑤]
Body	Rear	0.827	0.774	0.840	0.787	0.946	0.959	0.986	0.933	1.105
	Left	0.123	0.489	0.392	0.758	0.517	0.786	0.442	0.808	0.836
	Right	0.097	0.097	0.127	0.127	0.097	0.127	0.141	0.141	0.141
	Top	0.467	0.436	0.515	0.484	0.523	0.571	0.600	0.569	0.656

LTE Band 12							
Body	Rear	0.466	0.146	0.159	0.172	0.119	0.596
	Left	0.039	0.050	0.319	0.028	0.394	0.085
	Right	0.147	0.014	0.044	0.000	0.000	0.001
	Top	0.194	0.085	0.133	0.087	0.056	0.145

Summation

-		[①]+[②]+[④]	[①]+[②]+[⑤]	[①]+[③]+[④]	[①]+[③]+[⑤]	[①]+[②]+[④]+[⑤]	[①]+[③]+[④]+[⑤]	[①]+[②]+[③]+[④]	[①]+[②]+[③]+[⑤]	[①]+[②]+[③]+[④]+[⑤]
Body	Rear	0.784	0.731	0.797	0.744	0.903	0.916	0.943	0.890	1.062
	Left	0.117	0.483	0.386	0.752	0.511	0.780	0.436	0.802	0.830
	Right	0.161	0.161	0.191	0.191	0.161	0.191	0.205	0.205	0.205
	Top	0.366	0.335	0.414	0.383	0.422	0.470	0.499	0.468	0.555

LTE Band 13							
Body	Rear	0.514	0.146	0.159	0.172	0.119	0.596
	Left	0.120	0.050	0.319	0.028	0.394	0.085
	Right	0.237	0.014	0.044	0.000	0.000	0.001
	Top	0.146	0.085	0.133	0.087	0.056	0.145

Summation

-		[①]+[②]+[④]	[①]+[②]+[⑤]	[①]+[③]+[④]	[①]+[③]+[⑤]	[①]+[②]+[④]+[⑤]	[①]+[③]+[④]+[⑤]	[①]+[②]+[③]+[④]	[①]+[②]+[③]+[⑤]	[①]+[②]+[③]+[④]+[⑤]
Body	Rear	0.832	0.779	0.845	0.792	0.951	0.964	0.991	0.938	1.110
	Left	0.198	0.564	0.467	0.833	0.592	0.861	0.517	0.883	0.911
	Right	0.251	0.251	0.281	0.281	0.251	0.281	0.295	0.295	0.295
	Top	0.318	0.287	0.366	0.335	0.374	0.422	0.451	0.420	0.507

LTE Band 14							
Body	Rear	0.484	0.146	0.159	0.172	0.119	0.596
	Left	0.095	0.050	0.319	0.028	0.394	0.085
	Right	0.252	0.014	0.044	0.000	0.000	0.001
	Top	0.150	0.085	0.133	0.087	0.056	0.145

Summation

-		[①]+[②]+[④]	[①]+[②]+[⑤]	[①]+[③]+[④]	[①]+[③]+[⑤]	[①]+[②]+[④]+[⑤]	[①]+[③]+[④]+[⑤]	[①]+[②]+[③]+[④]	[①]+[②]+[③]+[⑤]	[①]+[②]+[③]+[④]+[⑤]
Body	Rear	0.802	0.749	0.815	0.762	0.921	0.934	0.961	0.908	1.080
	Left	0.173	0.539	0.442	0.808	0.567	0.836	0.492	0.858	0.886
	Right	0.266	0.266	0.296	0.296	0.266	0.296	0.310	0.310	0.310
	Top	0.322	0.291	0.370	0.339	0.378	0.426	0.455	0.424	0.511

Exposure Condition /Position		licensed	WLAN				Bluetooth
			2.4 GHz Ant.1	2.4 GHz Ant.2	5 GHz Ant.1	5 GHz Ant.2	Ant.1
		[①]	[②]	[③]	[④]	[⑤]	[⑥]
LTE Band 25							
Body	Rear	0.578	0.146	0.159	0.172	0.119	0.596
	Left	0.234	0.050	0.319	0.028	0.394	0.085
	Right	0.091	0.014	0.044	0.000	0.000	0.001
	Top	0.427	0.085	0.133	0.087	0.056	0.145

Summation

-		[①]+[②]+[④]	[①]+[②]+[⑤]	[①]+[③]+[④]	[①]+[③]+[⑤]	[①]+[②]+[④]+[⑤]	[①]+[③]+[④]+[⑤]	[①]+[②]+[③]+[④]	[①]+[②]+[③]+[⑤]	[①]+[②]+[③]+[④]+[⑤]
Body	Rear	0.896	0.843	0.909	0.856	1.015	1.028	1.055	1.002	1.174
	Left	0.312	0.678	0.581	0.947	0.706	0.975	0.631	0.997	1.025
	Right	0.105	0.105	0.135	0.135	0.105	0.135	0.149	0.149	0.149
	Top	0.599	0.568	0.647	0.616	0.655	0.703	0.732	0.701	0.788

LTE Band 26							
Body	Rear	0.629	0.146	0.159	0.172	0.119	0.596
	Left	0.113	0.050	0.319	0.028	0.394	0.085
	Right	0.387	0.014	0.044	0.000	0.000	0.001
	Top	0.182	0.085	0.133	0.087	0.056	0.145

Summation

-		[①]+[②]+[④]	[①]+[②]+[⑤]	[①]+[③]+[④]	[①]+[③]+[⑤]	[①]+[②]+[④]+[⑤]	[①]+[③]+[④]+[⑤]	[①]+[②]+[③]+[④]	[①]+[②]+[③]+[⑤]	[①]+[②]+[③]+[④]+[⑤]
Body	Rear	0.947	0.894	0.960	0.907	1.066	1.079	1.106	1.053	1.225
	Left	0.191	0.557	0.460	0.826	0.585	0.854	0.510	0.876	0.904
	Right	0.401	0.401	0.431	0.431	0.401	0.431	0.445	0.445	0.445
	Top	0.354	0.323	0.402	0.371	0.410	0.458	0.487	0.456	0.543

LTE Band 41							
Body	Rear	0.583	0.146	0.159	0.172	0.119	0.596
	Left	0.001	0.050	0.319	0.028	0.394	0.085
	Right	0.126	0.014	0.044	0.000	0.000	0.001
	Top	0.384	0.085	0.133	0.087	0.056	0.145

Summation

-		[①]+[②]+[④]	[①]+[②]+[⑤]	[①]+[③]+[④]	[①]+[③]+[⑤]	[①]+[②]+[④]+[⑤]	[①]+[③]+[④]+[⑤]	[①]+[②]+[③]+[④]	[①]+[②]+[③]+[⑤]	[①]+[②]+[③]+[④]+[⑤]
Body	Rear	0.901	0.848	0.914	0.861	1.020	1.033	1.060	1.007	1.179
	Left	0.079	0.445	0.348	0.714	0.473	0.742	0.398	0.764	0.792
	Right	0.140	0.140	0.170	0.170	0.140	0.170	0.184	0.184	0.184
	Top	0.556	0.525	0.604	0.573	0.612	0.660	0.689	0.658	0.745

LTE Band 66							
Body	Rear	0.615	0.146	0.159	0.172	0.119	0.596
	Left	0.128	0.050	0.319	0.028	0.394	0.085
	Right	0.096	0.014	0.044	0.000	0.000	0.001
	Top	0.364	0.085	0.133	0.087	0.056	0.145

Summation

-		[①]+[②]+[④]	[①]+[②]+[⑤]	[①]+[③]+[④]	[①]+[③]+[⑤]	[①]+[②]+[④]+[⑤]	[①]+[③]+[④]+[⑤]	[①]+[②]+[③]+[④]	[①]+[②]+[③]+[⑤]	[①]+[②]+[③]+[④]+[⑤]
Body	Rear	0.933	0.880	0.946	0.893	1.052	1.065	1.092	1.039	1.211
	Left	0.206	0.572	0.475	0.841	0.600	0.869	0.525	0.891	0.919
	Right	0.110	0.110	0.140	0.140	0.110	0.140	0.154	0.154	0.154
	Top	0.536	0.505	0.584	0.553	0.592	0.640	0.669	0.638	0.725

Exposure Condition /Position		licensed	WLAN				Bluetooth
			2.4 GHz Ant.1	2.4 GHz Ant.2	5 GHz Ant.1	5 GHz Ant.2	Ant.1
		[①]	[②]	[③]	[④]	[⑤]	[⑥]
LTE Band 71							
Body	Rear	0.522	0.146	0.159	0.172	0.119	0.596
	Left	0.123	0.050	0.319	0.028	0.394	0.085
	Right	0.140	0.014	0.044	0.000	0.000	0.001
	Top	0.228	0.085	0.133	0.087	0.056	0.145

Summation										
-		[①]+[②]+[④]	[①]+[②]+[⑤]	[①]+[③]+[④]	[①]+[③]+[⑤]	[①]+[②]+[④]+[⑤]	[①]+[③]+[④]+[⑤]	[①]+[②]+[③]+[④]	[①]+[②]+[③]+[⑤]	[①]+[②]+[③]+[④]+[⑤]
Body	Rear	0.840	0.787	0.853	0.800	0.959	0.972	0.999	0.946	1.118
	Left	0.201	0.567	0.470	0.836	0.595	0.864	0.520	0.886	0.914
	Right	0.154	0.154	0.184	0.184	0.154	0.184	0.198	0.198	0.198
	Top	0.400	0.369	0.448	0.417	0.456	0.504	0.533	0.502	0.589

This test report shall not be reproduced, except in full, without the written approval

< Body: Sensor Off(Maximum Power) >

Exposure Condition /Position		licensed	WLAN				Bluetooth
			2.4 GHz Ant.1	2.4 GHz Ant.2	5 GHz Ant.1	5 GHz Ant.2	Ant.1
		[①]	[②]	[③]	[④]	[⑤]	[⑥]
WCDMA Band II							
Body	Rear	0.532	0.204	0.380	0.549	0.197	0.033
	Left	0.243	0.251	0.319	0.336	0.394	0.085
	Right	0.337	0.014	0.044	0.000	0.000	0.001
	Top	0.652	0.085	0.133	0.087	0.279	0.145

Summation

-		[①]+[②]	[①]+[③]	[①]+[④]	[①]+[⑤]	[①]+[⑥]	[①]+[②]+[③]	[①]+[④]+[⑤]	[①]+[④]+[⑥]	[①]+[⑤]+[⑥]	[①]+[④]+[⑤]+[⑥]
Body	Rear	0.736	0.912	1.081	0.729	0.565	1.116	1.278	1.114	0.762	1.311
	Left	0.494	0.562	0.579	0.637	0.328	0.813	0.973	0.664	0.722	1.058
	Right	0.351	0.381	0.337	0.337	0.338	0.395	0.337	0.338	0.338	0.338
	Top	0.737	0.785	0.739	0.931	0.797	0.870	1.018	0.884	1.076	1.163

WCDMA Band IV							
Body	Rear	0.386	0.204	0.380	0.549	0.197	0.033
	Left	0.135	0.251	0.319	0.336	0.394	0.085
	Right	0.325	0.014	0.044	0.000	0.000	0.001
	Top	0.610	0.085	0.133	0.087	0.279	0.145

Summation

-		[①]+[②]	[①]+[③]	[①]+[④]	[①]+[⑤]	[①]+[⑥]	[①]+[②]+[③]	[①]+[④]+[⑤]	[①]+[④]+[⑥]	[①]+[⑤]+[⑥]	[①]+[④]+[⑤]+[⑥]
Body	Rear	0.590	0.766	0.935	0.583	0.419	0.970	1.132	0.968	0.616	1.165
	Left	0.386	0.454	0.471	0.529	0.220	0.705	0.865	0.556	0.614	0.950
	Right	0.339	0.369	0.325	0.325	0.326	0.383	0.325	0.326	0.326	0.326
	Top	0.695	0.743	0.697	0.889	0.755	0.828	0.976	0.842	1.034	1.121

Exposure Condition /Position		licensed	WLAN				Bluetooth
			2.4 GHz Ant.2	2.4 GHz MIMO	5 GHz Ant.1	5 GHz Ant.2	Ant.1
		[①]	[②]	[③]	[④]	[⑤]	[⑥]
WCDMA Band V							
Body	Rear	0.475	0.204	0.380	0.549	0.197	0.033
	Left	0.125	0.251	0.319	0.336	0.394	0.085
	Right	0.413	0.014	0.044	0.000	0.000	0.001
	Top	0.252	0.085	0.133	0.087	0.279	0.145

Summation

-		[①]+[②]	[①]+[③]	[①]+[④]	[①]+[⑤]	[①]+[⑥]	[①]+[②]+[③]	[①]+[④]+[⑤]	[①]+[④]+[⑥]	[①]+[⑤]+[⑥]	[①]+[④]+[⑤]+[⑥]
Body	Rear	0.679	0.855	1.024	0.672	0.508	1.059	1.221	1.057	0.705	1.254
	Left	0.376	0.444	0.461	0.519	0.210	0.695	0.855	0.546	0.604	0.940
	Right	0.427	0.457	0.413	0.413	0.414	0.471	0.413	0.414	0.414	0.414
	Top	0.337	0.385	0.339	0.531	0.397	0.470	0.618	0.484	0.676	0.763

Exposure Condition /Position		licensed	WLAN 2.4 GHz Ant.1	WLAN 2.4 GHz Ant.2	WLAN 5 GHz Ant.1	WLAN 5 GHz Ant.2	Bluetooth Ant.1
		[①]	[②]	[③]	[④]	[⑤]	[⑥]
LTE Band 7							
Body	Rear	0.610	0.204	0.380	0.549	0.197	0.033
	Left	0.045	0.251	0.319	0.336	0.394	0.085
	Right	0.490	0.014	0.044	0.000	0.000	0.001
	Top	0.728	0.085	0.133	0.087	0.279	0.145

Summation

-		[①]+[②]	[①]+[③]	[①]+[④]	[①]+[⑤]	[①]+[⑥]	[①]+[②]+[③]	[①]+[④]+[⑤]	[①]+[④]+[⑥]	[①]+[⑤]+[⑥]	[①]+[④]+[⑤]+[⑥]
Body	Rear	0.814	0.990	1.159	0.807	0.643	1.194	1.356	1.192	0.840	1.389
	Left	0.296	0.364	0.381	0.439	0.130	0.615	0.775	0.466	0.524	0.860
	Right	0.504	0.534	0.490	0.490	0.491	0.548	0.490	0.491	0.491	0.491
	Top	0.813	0.861	0.815	1.007	0.873	0.946	1.094	0.960	1.152	1.239

LTE Band 12							
Body	Rear	0.231	0.204	0.380	0.549	0.197	0.033
	Left	0.039	0.251	0.319	0.336	0.394	0.085
	Right	0.120	0.014	0.044	0.000	0.000	0.001
	Top	0.203	0.085	0.133	0.087	0.279	0.145

Summation

-		[①]+[②]	[①]+[③]	[①]+[④]	[①]+[⑤]	[①]+[⑥]	[①]+[②]+[③]	[①]+[④]+[⑤]	[①]+[④]+[⑥]	[①]+[⑤]+[⑥]	[①]+[④]+[⑤]+[⑥]
Body	Rear	0.435	0.611	0.780	0.428	0.264	0.815	0.977	0.813	0.461	1.010
	Left	0.290	0.358	0.375	0.433	0.124	0.609	0.769	0.460	0.518	0.854
	Right	0.134	0.164	0.120	0.120	0.121	0.178	0.120	0.121	0.121	0.121
	Top	0.288	0.336	0.290	0.482	0.348	0.421	0.569	0.435	0.627	0.714

LTE Band 13							
Body	Rear	0.374	0.204	0.380	0.549	0.197	0.033
	Left	0.120	0.251	0.319	0.336	0.394	0.085
	Right	0.266	0.014	0.044	0.000	0.000	0.001
	Top	0.276	0.085	0.133	0.087	0.279	0.145

Summation

-		[①]+[②]	[①]+[③]	[①]+[④]	[①]+[⑤]	[①]+[⑥]	[①]+[②]+[③]	[①]+[④]+[⑤]	[①]+[④]+[⑥]	[①]+[⑤]+[⑥]	[①]+[④]+[⑤]+[⑥]
Body	Rear	0.578	0.754	0.923	0.571	0.407	0.958	1.120	0.956	0.604	1.153
	Left	0.371	0.439	0.456	0.514	0.205	0.690	0.850	0.541	0.599	0.935
	Right	0.280	0.310	0.266	0.266	0.267	0.324	0.266	0.267	0.267	0.267
	Top	0.361	0.409	0.363	0.555	0.421	0.494	0.642	0.508	0.700	0.787

LTE Band 14							
Body	Rear	0.359	0.204	0.380	0.549	0.197	0.033
	Left	0.095	0.251	0.319	0.336	0.394	0.085
	Right	0.281	0.014	0.044	0.000	0.000	0.001
	Top	0.303	0.085	0.133	0.087	0.279	0.145

Summation

-		[①]+[②]	[①]+[③]	[①]+[④]	[①]+[⑤]	[①]+[⑥]	[①]+[②]+[③]	[①]+[④]+[⑤]	[①]+[④]+[⑥]	[①]+[⑤]+[⑥]	[①]+[④]+[⑤]+[⑥]
Body	Rear	0.563	0.739	0.908	0.556	0.392	0.943	1.105	0.941	0.589	1.138
	Left	0.346	0.414	0.431	0.489	0.180	0.665	0.825	0.516	0.574	0.910
	Right	0.295	0.325	0.281	0.281	0.282	0.339	0.281	0.282	0.282	0.282
	Top	0.388	0.436	0.390	0.582	0.448	0.521	0.669	0.535	0.727	0.814

Exposure Condition /Position		licensed	WLAN				Bluetooth
			2.4 GHz Ant.1	2.4 GHz Ant.2	5 GHz Ant.1	5 GHz Ant.2	Ant.1
		[①]	[②]	[③]	[④]	[⑤]	[⑥]
LTE Band 25							
Body	Rear	0.476	0.204	0.380	0.549	0.197	0.033
	Left	0.234	0.251	0.319	0.336	0.394	0.085
	Right	0.312	0.014	0.044	0.000	0.000	0.001
	Top	0.621	0.085	0.133	0.087	0.279	0.145

Summation

-		[①]+[②]	[①]+[③]	[①]+[④]	[①]+[⑤]	[①]+[⑥]	[①]+[②]+[③]	[①]+[④]+[⑤]	[①]+[④]+[⑥]	[①]+[⑤]+[⑥]	[①]+[④]+[⑤]+[⑥]
Body	Rear	0.680	0.856	1.025	0.673	0.509	1.060	1.222	1.058	0.706	1.255
	Left	0.485	0.553	0.570	0.628	0.319	0.804	0.964	0.655	0.713	1.049
	Right	0.326	0.356	0.312	0.312	0.313	0.370	0.312	0.313	0.313	0.313
	Top	0.706	0.754	0.708	0.900	0.766	0.839	0.987	0.853	1.045	1.132

LTE Band 26							
Body	Rear	0.461	0.204	0.380	0.549	0.197	0.033
	Left	0.113	0.251	0.319	0.336	0.394	0.085
	Right	0.435	0.014	0.044	0.000	0.000	0.001
	Top	0.242	0.085	0.133	0.087	0.279	0.145

Summation

-		[①]+[②]	[①]+[③]	[①]+[④]	[①]+[⑤]	[①]+[⑥]	[①]+[②]+[③]	[①]+[④]+[⑤]	[①]+[④]+[⑥]	[①]+[⑤]+[⑥]	[①]+[④]+[⑤]+[⑥]
Body	Rear	0.665	0.841	1.010	0.658	0.494	1.045	1.207	1.043	0.691	1.240
	Left	0.364	0.432	0.449	0.507	0.198	0.683	0.843	0.534	0.592	0.928
	Right	0.449	0.479	0.435	0.435	0.436	0.493	0.435	0.436	0.436	0.436
	Top	0.327	0.375	0.329	0.521	0.387	0.460	0.608	0.474	0.666	0.753

LTE Band 41							
Body	Rear	0.484	0.204	0.380	0.549	0.197	0.033
	Left	0.001	0.251	0.319	0.336	0.394	0.085
	Right	0.482	0.014	0.044	0.000	0.000	0.001
	Top	0.517	0.085	0.133	0.087	0.279	0.145

Summation

-		[①]+[②]	[①]+[③]	[①]+[④]	[①]+[⑤]	[①]+[⑥]	[①]+[②]+[③]	[①]+[④]+[⑤]	[①]+[④]+[⑥]	[①]+[⑤]+[⑥]	[①]+[④]+[⑤]+[⑥]
Body	Rear	0.688	0.864	1.033	0.681	0.517	1.068	1.230	1.066	0.714	1.263
	Left	0.252	0.320	0.337	0.395	0.086	0.571	0.731	0.422	0.480	0.816
	Right	0.496	0.526	0.482	0.482	0.483	0.540	0.482	0.483	0.483	0.483
	Top	0.602	0.650	0.604	0.796	0.662	0.735	0.883	0.749	0.941	1.028

LTE Band 66							
Body	Rear	0.374	0.204	0.380	0.549	0.197	0.033
	Left	0.128	0.251	0.319	0.336	0.394	0.085
	Right	0.335	0.014	0.044	0.000	0.000	0.001
	Top	0.648	0.085	0.133	0.087	0.279	0.145

Summation

-		[①]+[②]	[①]+[③]	[①]+[④]	[①]+[⑤]	[①]+[⑥]	[①]+[②]+[③]	[①]+[④]+[⑤]	[①]+[④]+[⑥]	[①]+[⑤]+[⑥]	[①]+[④]+[⑤]+[⑥]
Body	Rear	0.578	0.754	0.923	0.571	0.407	0.958	1.120	0.956	0.604	1.153
	Left	0.379	0.447	0.464	0.522	0.213	0.698	0.858	0.549	0.607	0.943
	Right	0.349	0.379	0.335	0.335	0.336	0.393	0.335	0.336	0.336	0.336
	Top	0.733	0.781	0.735	0.927	0.793	0.866	1.014	0.880	1.072	1.159

Exposure Condition /Position		licensed	WLAN				Bluetooth
			2.4 GHz Ant.1	2.4 GHz Ant.2	5 GHz Ant.1	5 GHz Ant.2	Ant.1
		[①]	[②]	[③]	[④]	[⑤]	[⑥]
LTE Band 71							
Body	Rear	0.164	0.204	0.380	0.549	0.197	0.033
	Left	0.123	0.251	0.319	0.336	0.394	0.085
	Right	0.118	0.014	0.044	0.000	0.000	0.001
	Top	0.125	0.085	0.133	0.087	0.279	0.145

Summation											
-		[①]+[②]	[①]+[③]	[①]+[④]	[①]+[⑤]	[①]+[⑥]	[①]+[②]+[③]	[①]+[④]+[⑤]	[①]+[④]+[⑥]	[①]+[⑤]+[⑥]	[①]+[④]+[⑤]+[⑥]
Body	Rear	0.368	0.544	0.713	0.361	0.197	0.748	0.910	0.746	0.394	0.943
	Left	0.374	0.442	0.459	0.517	0.208	0.693	0.853	0.544	0.602	0.938
	Right	0.132	0.162	0.118	0.118	0.119	0.176	0.118	0.119	0.119	0.119
	Top	0.210	0.258	0.212	0.404	0.270	0.343	0.491	0.357	0.549	0.636

This test report shall not be reproduced, except in full, without the written approval

<Body: Sensor Off + RSDB>

Exposure Condition /Position		licensed	WLAN				Bluetooth
			2.4 GHz Ant.1	2.4 GHz Ant.2	5 GHz Ant.1	5 GHz Ant.2	Ant.1
		[①]	[②]	[③]	[④]	[⑤]	[⑥]
WCDMA Band II							
Body	Rear	0.532	0.072	0.140	0.282	0.076	0.033
	Left	0.243	0.251	0.319	0.336	0.394	0.085
	Right	0.337	0.014	0.044	0.000	0.000	0.001
	Top	0.652	0.085	0.133	0.087	0.279	0.145

Summation

-		[①]+[②]+[④]	[①]+[②]+[⑥]	[①]+[③]+[④]	[①]+[③]+[⑥]	[①]+[②]+[④]+[⑥]	[①]+[③]+[④]+[⑥]	[①]+[②]+[③]+[④]	[①]+[②]+[③]+[⑥]	[①]+[②]+[③]+[④]+[⑥]
Body	Rear	0.886	0.680	0.954	0.748	0.962	1.030	1.026	0.820	1.102
	Left	0.830	0.888	0.898	0.956	1.224	1.292	1.149	1.207	1.543
	Right	0.351	0.351	0.381	0.381	0.351	0.381	0.395	0.395	0.395
	Top	0.824	1.016	0.872	1.064	1.103	1.151	0.957	1.149	1.236

WCDMA Band IV										
Body	Rear	0.386		0.072		0.140		0.282	0.076	0.033
	Left	0.135		0.251		0.319		0.336	0.394	0.085
	Right	0.325		0.014		0.044		0.000	0.000	0.001
	Top	0.610		0.085		0.133		0.087	0.279	0.145

Summation

-		[①]+[②]+[④]	[①]+[②]+[⑥]	[①]+[③]+[④]	[①]+[③]+[⑥]	[①]+[②]+[④]+[⑥]	[①]+[③]+[④]+[⑥]	[①]+[②]+[③]+[④]	[①]+[②]+[③]+[⑥]	[①]+[②]+[③]+[④]+[⑥]
Body	Rear	0.740	0.534	0.808	0.602	0.816	0.884	0.880	0.674	0.956
	Left	0.722	0.780	0.790	0.848	1.116	1.184	1.041	1.099	1.435
	Right	0.339	0.339	0.369	0.369	0.339	0.369	0.383	0.383	0.383
	Top	0.782	0.974	0.830	1.022	1.061	1.109	0.915	1.107	1.194

WCDMA Band V										
Body	Rear	0.475		0.072		0.140		0.282	0.076	0.033
	Left	0.125		0.251		0.319		0.336	0.394	0.085
	Right	0.413		0.014		0.044		0.000	0.000	0.001
	Top	0.252		0.085		0.133		0.087	0.279	0.145

Summation

-		[①]+[②]+[④]	[①]+[②]+[⑥]	[①]+[③]+[④]	[①]+[③]+[⑥]	[①]+[②]+[④]+[⑥]	[①]+[③]+[④]+[⑥]	[①]+[②]+[③]+[④]	[①]+[②]+[③]+[⑥]	[①]+[②]+[③]+[④]+[⑥]
Body	Rear	0.829	0.623	0.897	0.691	0.905	0.973	0.969	0.763	1.045
	Left	0.712	0.770	0.780	0.838	1.106	1.174	1.031	1.089	1.425
	Right	0.427	0.427	0.457	0.457	0.427	0.457	0.471	0.471	0.471
	Top	0.424	0.616	0.472	0.664	0.703	0.751	0.557	0.749	0.836

Exposure Condition /Position		licensed	WLAN				Bluetooth
			2.4 GHz Ant.1	2.4 GHz Ant.2	5 GHz Ant.1	5 GHz Ant.2	Ant.1
		[①]	[②]	[③]	[④]	[⑤]	[⑥]
LTE Band 7							
Body	Rear	0.610	0.072	0.140	0.282	0.076	0.033
	Left	0.045	0.251	0.319	0.336	0.394	0.085
	Right	0.490	0.014	0.044	0.000	0.000	0.001
	Top	0.728	0.085	0.133	0.087	0.279	0.145

Summation

-		[①]+[②]+[④]	[①]+[②]+[⑤]	[①]+[③]+[④]	[①]+[③]+[⑤]	[①]+[②]+[④]+[⑤]	[①]+[③]+[④]+[⑤]	[①]+[②]+[③]+[④]	[①]+[②]+[③]+[⑤]	[①]+[②]+[③]+[④]+[⑤]
Body	Rear	0.964	0.758	1.032	0.826	1.040	1.108	1.104	0.898	1.180
	Left	0.632	0.690	0.700	0.758	1.026	1.094	0.951	1.009	1.345
	Right	0.504	0.504	0.534	0.534	0.504	0.534	0.548	0.548	0.548
	Top	0.900	1.092	0.948	1.140	1.179	1.227	1.033	1.225	1.312

LTE Band 12							
Body	Rear	0.231	0.072	0.140	0.282	0.076	0.033
	Left	0.039	0.251	0.319	0.336	0.394	0.085
	Right	0.120	0.014	0.044	0.000	0.000	0.001
	Top	0.203	0.085	0.133	0.087	0.279	0.145

Summation

-		[①]+[②]+[④]	[①]+[②]+[⑤]	[①]+[③]+[④]	[①]+[③]+[⑤]	[①]+[②]+[④]+[⑤]	[①]+[③]+[④]+[⑤]	[①]+[②]+[③]+[④]	[①]+[②]+[③]+[⑤]	[①]+[②]+[③]+[④]+[⑤]
Body	Rear	0.585	0.379	0.653	0.447	0.661	0.729	0.725	0.519	0.801
	Left	0.626	0.684	0.694	0.752	1.020	1.088	0.945	1.003	1.339
	Right	0.134	0.134	0.164	0.164	0.134	0.164	0.178	0.178	0.178
	Top	0.375	0.567	0.423	0.615	0.654	0.702	0.508	0.700	0.787

LTE Band 13							
Body	Rear	0.374	0.072	0.140	0.282	0.076	0.033
	Left	0.120	0.251	0.319	0.336	0.394	0.085
	Right	0.266	0.014	0.044	0.000	0.000	0.001
	Top	0.276	0.085	0.133	0.087	0.279	0.145

Summation

-		[①]+[②]+[④]	[①]+[②]+[⑤]	[①]+[③]+[④]	[①]+[③]+[⑤]	[①]+[②]+[④]+[⑤]	[①]+[③]+[④]+[⑤]	[①]+[②]+[③]+[④]	[①]+[②]+[③]+[⑤]	[①]+[②]+[③]+[④]+[⑤]
Body	Rear	0.728	0.522	0.796	0.590	0.804	0.872	0.868	0.662	0.944
	Left	0.707	0.765	0.775	0.833	1.101	1.169	1.026	1.084	1.420
	Right	0.280	0.280	0.310	0.310	0.280	0.310	0.324	0.324	0.324
	Top	0.448	0.640	0.496	0.688	0.727	0.775	0.581	0.773	0.860

LTE Band 14							
Body	Rear	0.359	0.072	0.140	0.282	0.076	0.033
	Left	0.095	0.251	0.319	0.336	0.394	0.085
	Right	0.281	0.014	0.044	0.000	0.000	0.001
	Top	0.303	0.085	0.133	0.087	0.279	0.145

Summation

-		[①]+[②]+[④]	[①]+[②]+[⑤]	[①]+[③]+[④]	[①]+[③]+[⑤]	[①]+[②]+[④]+[⑤]	[①]+[③]+[④]+[⑤]	[①]+[②]+[③]+[④]	[①]+[②]+[③]+[⑤]	[①]+[②]+[③]+[④]+[⑤]
Body	Rear	0.713	0.507	0.781	0.575	0.789	0.857	0.853	0.647	0.929
	Left	0.682	0.740	0.750	0.808	1.076	1.144	1.001	1.059	1.395
	Right	0.295	0.295	0.325	0.325	0.295	0.325	0.339	0.339	0.339
	Top	0.475	0.667	0.523	0.715	0.754	0.802	0.608	0.800	0.887

Exposure Condition /Position		licensed	WLAN				Bluetooth
			2.4 GHz Ant.1	2.4 GHz Ant.2	5 GHz Ant.1	5 GHz Ant.2	Ant.1
		[①]	[②]	[③]	[④]	[⑤]	[⑥]
LTE Band 25							
Body	Rear	0.476	0.072	0.140	0.282	0.076	0.033
	Left	0.234	0.251	0.319	0.336	0.394	0.085
	Right	0.312	0.014	0.044	0.000	0.000	0.001
	Top	0.621	0.085	0.133	0.087	0.279	0.145

Summation

-		[①]+[②]+[④]	[①]+[②]+[⑤]	[①]+[③]+[④]	[①]+[③]+[⑤]	[①]+[②]+[④]+[⑤]	[①]+[③]+[④]+[⑤]	[①]+[②]+[③]+[④]	[①]+[②]+[③]+[⑤]	[①]+[②]+[③]+[④]+[⑤]
Body	Rear	0.830	0.624	0.898	0.692	0.906	0.974	0.970	0.764	1.046
	Left	0.821	0.879	0.889	0.947	1.215	1.283	1.140	1.198	1.534
	Right	0.326	0.326	0.356	0.356	0.326	0.356	0.370	0.370	0.370
	Top	0.793	0.985	0.841	1.033	1.072	1.120	0.926	1.118	1.205

LTE Band 26							
Body	Rear	0.461	0.072	0.140	0.282	0.076	0.033
	Left	0.113	0.251	0.319	0.336	0.394	0.085
	Right	0.435	0.014	0.044	0.000	0.000	0.001
	Top	0.242	0.085	0.133	0.087	0.279	0.145

Summation

-		[①]+[②]+[④]	[①]+[②]+[⑤]	[①]+[③]+[④]	[①]+[③]+[⑤]	[①]+[②]+[④]+[⑤]	[①]+[③]+[④]+[⑤]	[①]+[②]+[③]+[④]	[①]+[②]+[③]+[⑤]	[①]+[②]+[③]+[④]+[⑤]
Body	Rear	0.815	0.609	0.883	0.677	0.891	0.959	0.955	0.749	1.031
	Left	0.700	0.758	0.768	0.826	1.094	1.162	1.019	1.077	1.413
	Right	0.449	0.449	0.479	0.479	0.449	0.479	0.493	0.493	0.493
	Top	0.414	0.606	0.462	0.654	0.693	0.741	0.547	0.739	0.826

LTE Band 41							
Body	Rear	0.484	0.072	0.140	0.282	0.076	0.033
	Left	0.001	0.251	0.319	0.336	0.394	0.085
	Right	0.482	0.014	0.044	0.000	0.000	0.001
	Top	0.517	0.085	0.133	0.087	0.279	0.145

Summation

-		[①]+[②]+[④]	[①]+[②]+[⑤]	[①]+[③]+[④]	[①]+[③]+[⑤]	[①]+[②]+[④]+[⑤]	[①]+[③]+[④]+[⑤]	[①]+[②]+[③]+[④]	[①]+[②]+[③]+[⑤]	[①]+[②]+[③]+[④]+[⑤]
Body	Rear	0.838	0.632	0.906	0.700	0.914	0.982	0.978	0.772	1.054
	Left	0.588	0.646	0.656	0.714	0.982	1.050	0.907	0.965	1.301
	Right	0.496	0.496	0.526	0.526	0.496	0.526	0.540	0.540	0.540
	Top	0.689	0.881	0.737	0.929	0.968	1.016	0.822	1.014	1.101

LTE Band 66							
Body	Rear	0.374	0.072	0.140	0.282	0.076	0.033
	Left	0.128	0.251	0.319	0.336	0.394	0.085
	Right	0.335	0.014	0.044	0.000	0.000	0.001
	Top	0.648	0.085	0.133	0.087	0.279	0.145

Summation

-		[①]+[②]+[④]	[①]+[②]+[⑤]	[①]+[③]+[④]	[①]+[③]+[⑤]	[①]+[②]+[④]+[⑤]	[①]+[③]+[④]+[⑤]	[①]+[②]+[③]+[④]	[①]+[②]+[③]+[⑤]	[①]+[②]+[③]+[④]+[⑤]
Body	Rear	0.728	0.522	0.796	0.590	0.804	0.872	0.868	0.662	0.944
	Left	0.715	0.773	0.783	0.841	1.109	1.177	1.034	1.092	1.428
	Right	0.349	0.349	0.379	0.379	0.349	0.379	0.393	0.393	0.393
	Top	0.820	1.012	0.868	1.060	1.099	1.147	0.953	1.145	1.232

Exposure Condition /Position		licensed	WLAN				Bluetooth
			2.4 GHz Ant.1	2.4 GHz Ant.2	5 GHz Ant.1	5 GHz Ant.2	Ant.1
		[①]	[②]	[③]	[④]	[⑤]	[⑥]
LTE Band 71							
Body	Rear	0.164	0.072	0.140	0.282	0.076	0.033
	Left	0.123	0.251	0.319	0.336	0.394	0.085
	Right	0.118	0.014	0.044	0.000	0.000	0.001
	Top	0.125	0.085	0.133	0.087	0.279	0.145

Summation										
-		[①]+[②]+[④]	[①]+[②]+[⑤]	[①]+[③]+[④]	[①]+[③]+[⑤]	[①]+[②]+[④]+[⑤]	[①]+[③]+[④]+[⑤]	[①]+[②]+[③]+[④]	[①]+[②]+[③]+[⑤]	[①]+[②]+[③]+[④]+[⑤]
Body	Rear	0.518	0.312	0.586	0.380	0.594	0.662	0.658	0.452	0.734
	Left	0.710	0.768	0.778	0.836	1.104	1.172	1.029	1.087	1.423
	Right	0.132	0.132	0.162	0.162	0.132	0.162	0.176	0.176	0.176
	Top	0.297	0.489	0.345	0.537	0.576	0.624	0.430	0.622	0.709

Simultaneous transmission SAR test exclusion considerations

- Simultaneous transmission SAR test exclusion is determined for each operating configuration and exposure condition according to the reported standalone SAR of each applicable simultaneously transmitting antenna. When the sum of 1-g or 10-g SAR of all simultaneously transmitting antennas in an operating mode and exposure condition combination is within the SAR limit, SAR test exclusion applies to that simultaneous transmission configuration. Per KDB Publication 447498 D01v06.
- When the sum of SAR1g of all simultaneously transmitting antennas in an operating mode and exposure condition combination is within the SAR limit (SAR1g 1.6 W/kg), the SPLSR procedures is not required. When the sum of SAR1g is greater than the SAR limit (SAR1g 1.6 W/kg), SAR test exclusion is determined by the SPLSR.

13. SAR Measurement Variability

Per FCC KDB Publication 865664 D01v01r04, SAR measurement variability was assessed for each frequency band, which was determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. When both head and body tissue-equivalent media were required for SAR measurements in a frequency band, the variability measurement procedures were applied to the tissue medium with the highest measured SAR, using the highest measured SAR configuration for that tissue-equivalent medium. These additional measurements were repeated after the completion of all measurements requiring the same head or body tissue equivalent medium in a frequency band. The test device was returned to ambient conditions (normal room temperature) with the battery fully charged before it was re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.

SAR Measurement Variability was assessed using the following procedures for each frequency band:

1) **Repeated measurements are not required when the original highest measured SAR is < 0.80 W/㎏.**
2) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.
3) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).
4) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.

Band	Mode	Ant.	Frequency (㎒)	EUT Position	Separation Distance (㎜)	Measured 1 g SAR (W/㎏)	Repeated 1 g SAR (W/㎏)	Ratio
N/A								

14. Measurement Uncertainty

Per KDB 865664 D01 SAR measurement 100㎒ to 6㎓, 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 ≤ 30%, for a confidence interval of *k* = 2. If these conditions are met, extensive SAR measurement uncertainty analysis described in IEEE Standard 1528-2013 is not required in SAR reports submitted for equipment approval. For this device, the highest measured 1-g SAR is less 1.5W/kg and highest measured 10-g SAR is less 3.75W/kg. Therefore, the measurement uncertainty table is not required in this report.

This test report shall not be reproduced, except in full, without the written approval

15. Test Equipment Information

Test Platform	SPEAG DASY5 System			
Version	DASY52: 52.10.4.1527 / SEMCAD: 14.6.14 (7483)			
Location	KCTL Inc, 65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, Korea			
Manufacture	SPEAG			
Hardware Reference				
Equipment	Model	Serial Number	Date of Calibration	Due date of next Calibration
Shield Room	-	8F - 2	-	-
Shield Room	-	8F - 3	-	-
Shield Room	-	8F - 4	-	-
DASY5 Robot	TX90XL	F12/5L7FA1/A/01	-	-
DASY6 Robot	TX90XL speag	F/18/0004968/A/001	-	-
DASY6 Robot	TX60 Lspeag	F/19/0007289/A/001	-	-
Phantom	2mm Oval Phantom ELI5	1178	-	-
Phantom	2mm Oval Phantom ELI5	2097	-	-
Phantom	2mm Oval Phantom ELI5	2098	-	-
Mounting Device	Laptop Holder	-	-	-
Mounting Device	Mounting Device	-	-	-
DAE	DAE4	666	2020-01-24	2021-01-24
DAE	DAE4	1587	2020-07-29	2021-07-29
DAE	DAE4	1586	2020-04-22	2021-04-22
Probe	EX3DV4	3928	2020-01-30	2021-01-30
Probe	EX3DV4	7540	2020-04-28	2021-04-28
Probe	EX3DV4	7541	2020-07-30	2021-07-30
ESG Vector Signal Generator	E4438C	MY42080486	2020-05-11	2021-05-11
ESG Vector Signal Generator	E4438C	MY42080845	2020-03-12	2021-03-12
Dual Power Meter	E4419B	GB43312301	2020-05-12	2021-05-12
Dual Power Meter	EPM-442A	GB37480680	2020-05-12	2021-05-12
Power Sensor	8481H	3318A 19379	2020-05-12	2021-05-12
Power Sensor	8481H	3318A 19377	2020-05-12	2021-05-12
Power Sensor	8481H	2703A11902	2020-05-12	2021-05-12
Power Sensor	8481H	3318A18090	2020-05-12	2021-05-12
Attenuator	8491B 3dB	17387	2020-05-12	2021-05-12
Attenuator	8491B 10dB	29425	2020-05-12	2021-05-12
Attenuator	8491B-6dB	MY39270294	2020-05-12	2021-05-12
Attenuator	8491A	21552	2020-05-12	2021-05-12
Attenuator	8491A	35560	2020-05-12	2021-05-12
Attenuator	8491A	35934	2020-05-12	2021-05-12

Equipment	Model	Serial Number	Date of Calibration	Due date of next Calibration
Power Amplifier	GRF5039	1062	2020-05-12	2021-05-12
Power Amplifier	2055-BBS3Q7E9I	1005D/C0521	2020-03-12	2021-03-12
Power Amplifier	AMP2027	10010	2020-05-12	2021-05-12
Dual Directional Coupler	778D	16059	2020-05-12	2021-05-12
Dual Directional Coupler	772D	2839A00719	2020-05-12	2021-05-12
Dual Directional Coupler	778D-012	50136	2020-05-12	2021-05-12
Dual Directional Coupler	772D	2839A160504	2020-05-12	2021-05-12
Low Pass Filter	LA-15N	36543	2020-05-12	2021-05-12
Low Pass Filter	LA-30N	40058	2020-05-12	2021-05-12
Low Pass Filter	VLF-3000+	31831	2020-05-12	2021-05-12
Low Pass Filter	VLF-6000+	31838	2020-05-12	2021-05-12
Dipole Validation Kits	D750V3	1096	2019-04-25	2021-04-25
Dipole Validation Kits	D850V2	1006	2020-04-21	2022-04-21
Dipole Validation Kits	D1750V2	1072	2020-04-20	2022-04-20
Dipole Validation Kits	D1900V2	5d160	2020-04-22	2022-04-22
Dipole Validation Kits	D2450V2	895	2020-07-21	2022-07-21
Dipole Validation Kits	D2600V2	1050	2020-07-21	2022-07-21
Dipole Validation Kits	D5GHzV2	1134	2020-05-20	2022-05-20
Network Analyzer	E5071B	MY42403524	2020-02-27	2021-02-27
Dielectric Assessment Kit	DAK-3.5	1078	2020-05-19	2021-05-19
Humidity/Temp	MHB-382SD	23107	2020-05-14	2021-05-14
Humidity/Temp	MHB-382SD	46307	2020-03-27	2021-03-27
Humidity/Temp	MHB-382SD	46301	2020-03-21	2021-03-21
Wideband Radio Communication Tester	CMW500	132120	2020-05-11	2021-05-11
Wideband Radio Communication Tester	CMW500	168683	2020-04-06	2021-04-06

16. Test System Verification Results

Date: 2020-09-14

Test Laboratory: KCTL Inc.
File Name: 750 MHz Verification Input Power 250 mW 2020-09-14.da52:0

DUT: Dipole 750 MHz D750V3, Type: D750V3, Serial: D750V3 - SN:1096

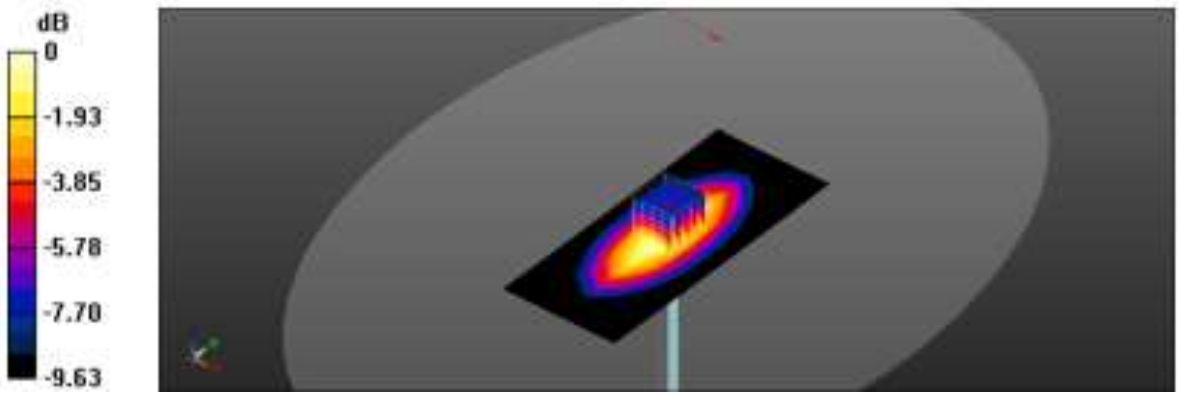
Communication System: UID 0, CW (0); Frequency: 750 MHz; Duty Cycle: 1:1
Medium parameters used: f = 750 MHz; σ = 0.919 S/m; ε_r = 41.549; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7540; ConvF(9.88, 9.88, 9.88) @ 750 MHz; ; Calibrated: 2020-04-28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1586; Calibrated: 2020-04-22
- Phantom: ELI v5.0 sn1178; Type: QDOVA002AA; Serial: TP:1178
- Measurement SW: DASY52, Version 52.10 (4);

System Performance Check/750 MHz Verification Input Power 250 mW 2020-09-14/Area Scan (7x15x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 2.68 W/kg

System Performance Check/750 MHz Verification Input Power 250 mW 2020-09-14/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 56.84 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 2.96 W/kg
SAR(1 g) = 2.11 W/kg; SAR(10 g) = 1.43 W/kg
Smallest distance from peaks to all points 3 dB below = 23.8 mm
Ratio of SAR at M2 to SAR at M1 = 70.6%
Maximum value of SAR (measured) = 2.69 W/kg



0 dB = 2.69 W/kg = 4.30 dBW/kg

Date: 2020-09-15

Test Laboratory: KCTL Inc.
File Name: 750 MHz Verification Input Power 250 mW 2020-09-15.da52:0

DUT: Dipole 750 MHz D750V3, Type: D750V3, Serial: D750V3 - SN:1096

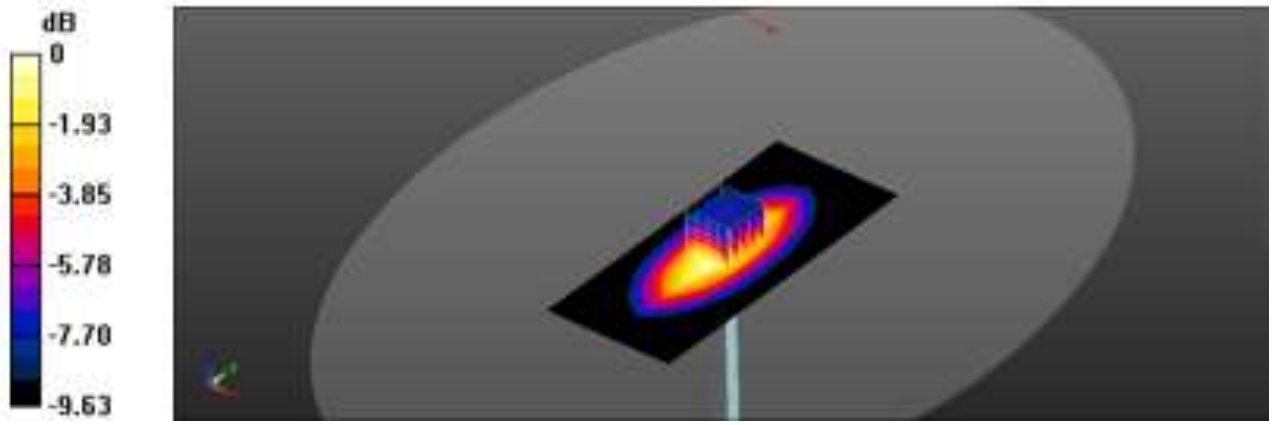
Communication System: UID 0, CW (0); Frequency: 750 MHz; Duty Cycle: 1:1
Medium parameters used: f = 750 MHz; σ = 0.923 S/m; ε_r = 41.982; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7540; ConvF(9.88, 9.88, 9.88) @ 750 MHz; ; Calibrated: 2020-04-28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1586; Calibrated: 2020-04-22
- Phantom: ELI v5.0 sn1178; Type: QDOVA002AA; Serial: TP:1178
- Measurement SW: DASY52, Version 52.10 (4);

System Performance Check/750 MHz Verification Input Power 250 mW 2020-09-15/Area Scan (7x15x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 2.66 W/kg

System Performance Check/750 MHz Verification Input Power 250 mW 2020-09-15/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 57.15 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 2.99 W/kg
SAR(1 g) = 2.13 W/kg; SAR(10 g) = 1.45 W/kg
Smallest distance from peaks to all points 3 dB below = 22.6 mm
Ratio of SAR at M2 to SAR at M1 = 70.9%
Maximum value of SAR (measured) = 2.73 W/kg



0 dB = 2.73 W/kg = 4.36 dBW/kg

Date: 2020-09-16

Test Laboratory: KCTL Inc.
File Name: 750 MHz Verification Input Power 250 mW 2020-09-16.da52:0

DUT: Dipole 750 MHz D750V3, Type: D750V3, Serial: D750V3 - SN:1096

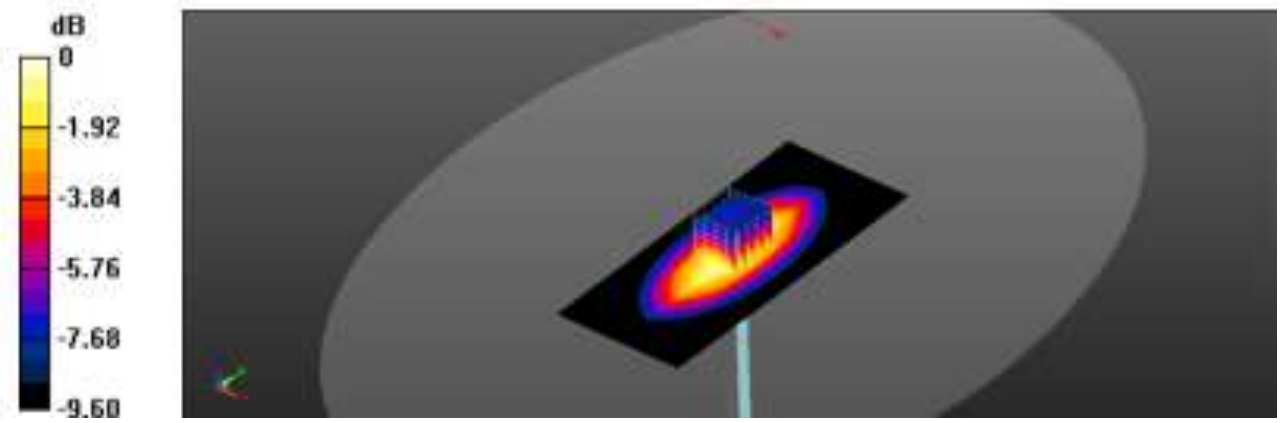
Communication System: UID 0, CW (0); Frequency: 750 MHz; Duty Cycle: 1:1
Medium parameters used: f = 750 MHz; σ = 0.866 S/m; ε_r = 43.188; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7540; ConvF(9.88, 9.88, 9.88) @ 750 MHz; ; Calibrated: 2020-04-28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1586; Calibrated: 2020-04-22
- Phantom: ELI v5.0 sn1178; Type: QDOVA002AA; Serial: TP:1178
- Measurement SW: DASY52, Version 52.10 (4);

System Performance Check/750 MHz Verification Input Power 250 mW 2020-09-16/Area Scan (7x15x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 2.59 W/kg

System Performance Check/750 MHz Verification Input Power 250 mW 2020-09-16/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 57.73 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 2.86 W/kg
SAR(1 g) = 2.03 W/kg; SAR(10 g) = 1.38 W/kg
Smallest distance from peaks to all points 3 dB below = 21.5 mm
Ratio of SAR at M2 to SAR at M1 = 70.9%
Maximum value of SAR (measured) = 2.61 W/kg



0 dB = 2.61 W/kg = 4.17 dBW/kg

Date: 2020-09-17

Test Laboratory: KCTL Inc.
File Name: 750 MHz Verification Input Power 250 mW 2020-09-17.da52:0

DUT: Dipole 750 MHz D750V3, Type: D750V3, Serial: D750V3 - SN:1096

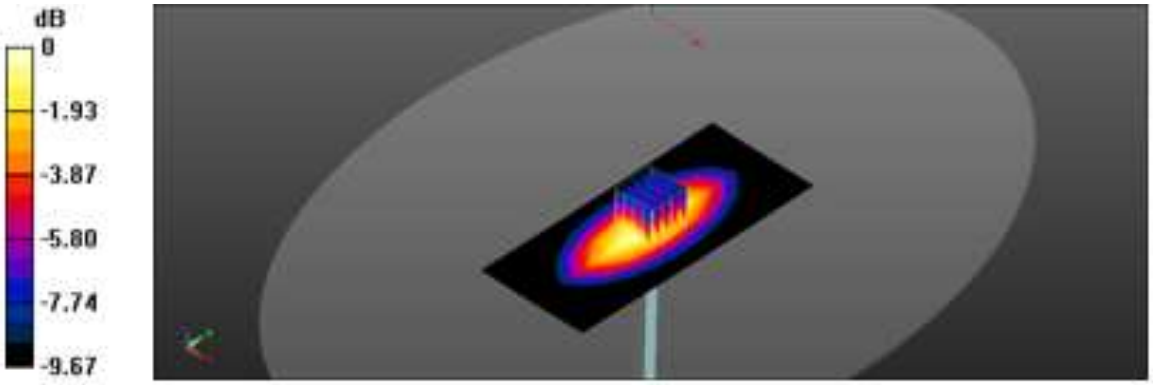
Communication System: UID 0, CW (0); Frequency: 750 MHz; Duty Cycle: 1:1
Medium parameters used: f = 750 MHz; σ = 0.865 S/m; ε_r = 42.754; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7540; ConvF(9.88, 9.88, 9.88) @ 750 MHz; ; Calibrated: 2020-04-28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1586; Calibrated: 2020-04-22
- Phantom: ELI v5.0 sn1178; Type: QDOVA002AA; Serial: TP:1178
- Measurement SW: DASY52, Version 52.10 (4);

System Performance Check/750 MHz Verification Input Power 250 mW 2020-09-17/Area Scan (7x15x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 2.63 W/kg

System Performance Check/750 MHz Verification Input Power 250 mW 2020-09-17/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 59.56 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 2.97 W/kg
SAR(1 g) = 2.12 W/kg; SAR(10 g) = 1.44 W/kg
Smallest distance from peaks to all points 3 dB below = 21.5 mm
Ratio of SAR at M2 to SAR at M1 = 70.8%
Maximum value of SAR (measured) = 2.72 W/kg



0 dB = 2.72 W/kg = 4.35 dBW/kg

Date: 2020-09-09

Test Laboratory: KCTL Inc.
File Name: 850 MHz Verification Input Power 250 mW 2020-09-09.da52:0

DUT: Dipole 850 MHz D850V2, Type: D850V2, Serial: D850V2 - SN:1006

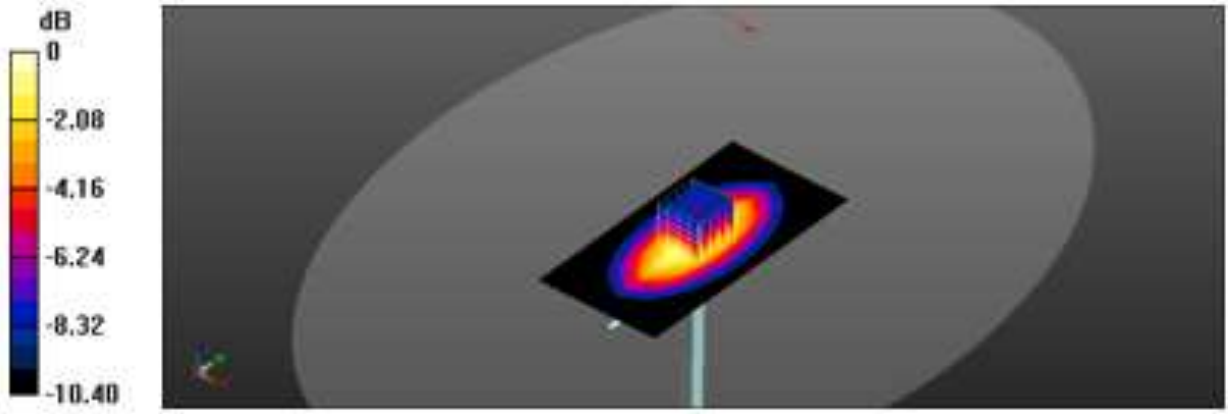
Communication System: UID 0, CW (0); Frequency: 850 MHz; Duty Cycle: 1:1
Medium parameters used: f = 850 MHz; σ = 0.925 S/m; ε_r = 41.191; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7540; ConvF(9.32, 9.32, 9.32) @ 850 MHz; ; Calibrated: 2020-04-28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1586; Calibrated: 2020-04-22
- Phantom: ELI v5.0 sn1178; Type: QDOVA002AA; Serial: TP:1178
- Measurement SW: DASY52, Version 52.10 (4);

System Performance Check/850 MHz Verification Input Power 250 mW 2020-09-09/Area Scan (7x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 3.22 W/kg

System Performance Check/850 MHz Verification Input Power 250 mW 2020-09-09/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 61.32 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 3.50 W/kg
SAR(1 g) = 2.43 W/kg; SAR(10 g) = 1.62 W/kg
Smallest distance from peaks to all points 3 dB below = 18.7 mm
Ratio of SAR at M2 to SAR at M1 = 69%
Maximum value of SAR (measured) = 3.17 W/kg



0 dB = 3.17 W/kg = 5.01 dBW/kg

Date: 2020-09-10

Test Laboratory: KCTL Inc.
File Name: 850 MHz Verification Input Power 250 mW 2020-09-10.da52:0

DUT: Dipole 850 MHz D850V2, Type: D850V2, Serial: D850V2 - SN:1006

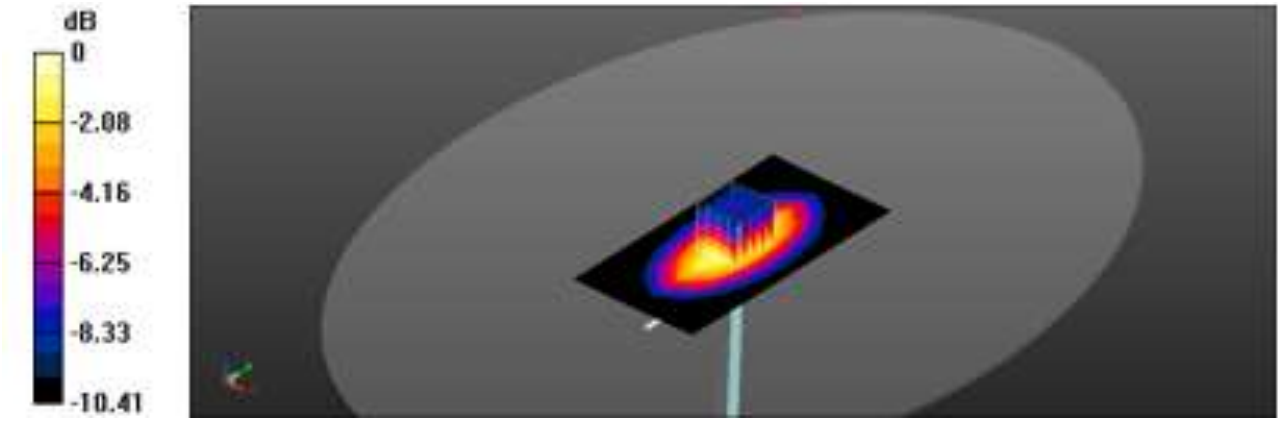
Communication System: UID 0, CW (0); Frequency: 850 MHz; Duty Cycle: 1:1
Medium parameters used: f = 850 MHz; σ = 0.918 S/m; ε_r = 41.501; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7540; ConvF(9.32, 9.32, 9.32) @ 850 MHz; ; Calibrated: 2020-04-28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1586; Calibrated: 2020-04-22
- Phantom: ELI v5.0 sn1178; Type: QDOVA002AA; Serial: TP:1178
- Measurement SW: DASY52, Version 52.10 (4);

System Performance Check/850 MHz Verification Input Power 250 mW 2020-09-10/Area Scan (7x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 3.27 W/kg

System Performance Check/850 MHz Verification Input Power 250 mW 2020-09-10/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 62.22 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 3.58 W/kg
SAR(1 g) = 2.49 W/kg; SAR(10 g) = 1.66 W/kg
Smallest distance from peaks to all points 3 dB below = 18.7 mm
Ratio of SAR at M2 to SAR at M1 = 69%
Maximum value of SAR (measured) = 3.25 W/kg



0 dB = 3.25 W/kg = 5.12 dBW/kg

Date: 2020-09-18

Test Laboratory: KCTL Inc.
File Name: 850 MHz Verification Input Power 250 mW 2020-09-18.da52:0

DUT: Dipole 850 MHz D850V2, Type: D850V2, Serial: D850V2 - SN:1006

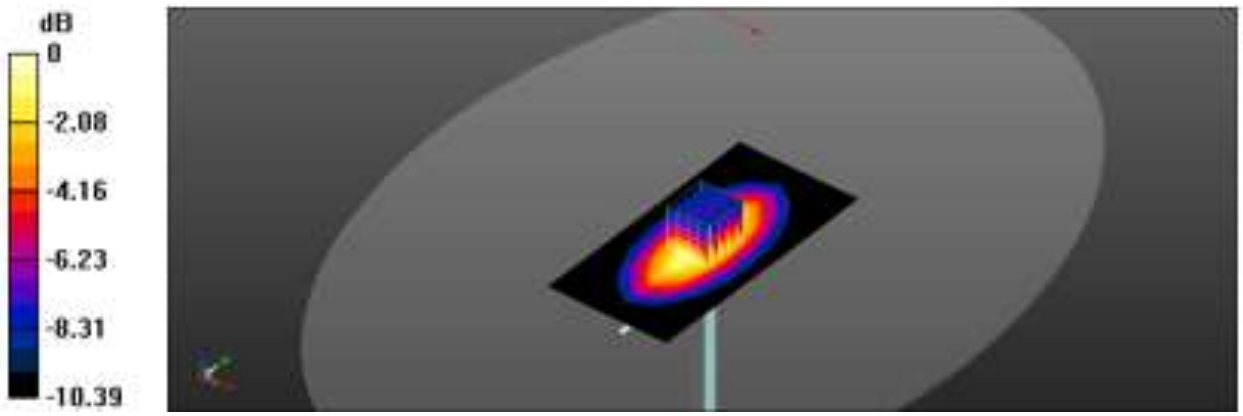
Communication System: UID 0, CW (0); Frequency: 850 MHz; Duty Cycle: 1:1
Medium parameters used: f = 850 MHz; σ = 0.92 S/m; ε_r = 40.363; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7540; ConvF(9.32, 9.32, 9.32) @ 850 MHz; ; Calibrated: 2020-04-28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1586; Calibrated: 2020-04-22
- Phantom: ELI v5.0 sn1178; Type: QDOVA002AA; Serial: TP:1178
- Measurement SW: DASY52, Version 52.10 (4);

System Performance Check/850 MHz Verification Input Power 250 mW 2020-09-18/Area Scan (7x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 3.39 W/kg

System Performance Check/850 MHz Verification Input Power 250 mW 2020-09-18/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 63.21 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 3.67 W/kg
SAR(1 g) = 2.56 W/kg; SAR(10 g) = 1.7 W/kg
Smallest distance from peaks to all points 3 dB below = 16.7 mm
Ratio of SAR at M2 to SAR at M1 = 69.1%
Maximum value of SAR (measured) = 3.33 W/kg



0 dB = 3.33 W/kg = 5.22 dBW/kg

Date: 9/3/2020

Test Laboratory: KCTL Inc.
File Name: 1750 MHz Verification Input Power 250 mW 2020-09-03.da52:0

DUT: Dipole 1750 MHz D1750V2, Type: D1750V2, Serial: D1750V2 - SN:1072

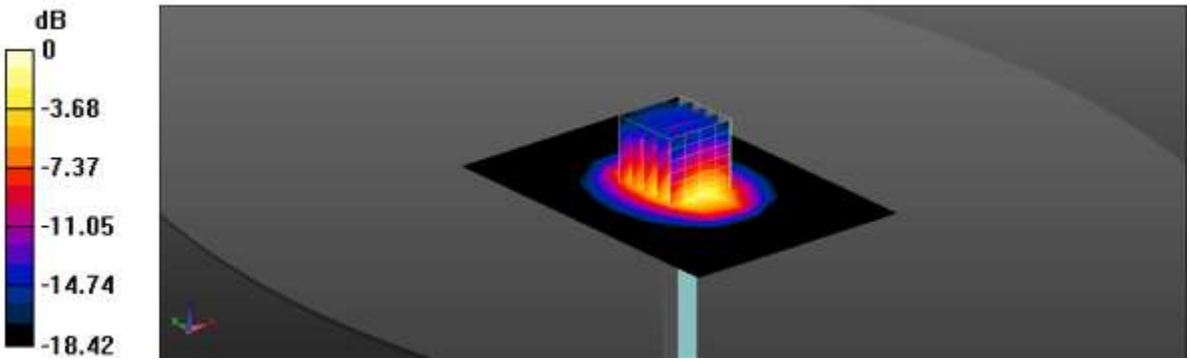
Communication System: UID 0, CW (0); Frequency: 1750 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1750 MHz; σ = 1.374 S/m; ε_r = 40.631; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7541; ConvF(8.56, 8.56, 8.56) @ 1750 MHz; ; Calibrated: 7/30/2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1587; Calibrated: 7/29/2020
- Phantom: ELI V8.0_Left; Type: QD OVA 004 AA; Serial: 2098
- Measurement SW: DASY52, Version 52.10 (4);

System Performance Check (without Area Scan)/1750 MHz Verification Input Power 250 mW 2020-09-03/Area Scan (8x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 11.6 W/kg

System Performance Check (without Area Scan)/1750 MHz Verification Input Power 250 mW 2020-09-03/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 105.7 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 17.6 W/kg
SAR(1 g) = 9.24 W/kg; SAR(10 g) = 4.84 W/kg
Smallest distance from peaks to all points 3 dB below = 11.2 mm
Ratio of SAR at M2 to SAR at M1 = 51.9%
Maximum value of SAR (measured) = 14.4 W/kg



0 dB = 14.4 W/kg = 11.58 dBW/kg

Date: 9/4/2020

Test Laboratory: KCTL Inc.
File Name: 1750 MHz Verification Input Power 250 mW 2020-09-04.da52:0

DUT: Dipole 1750 MHz D1750V2, Type: D1750V2, Serial: D1750V2 - SN:1072

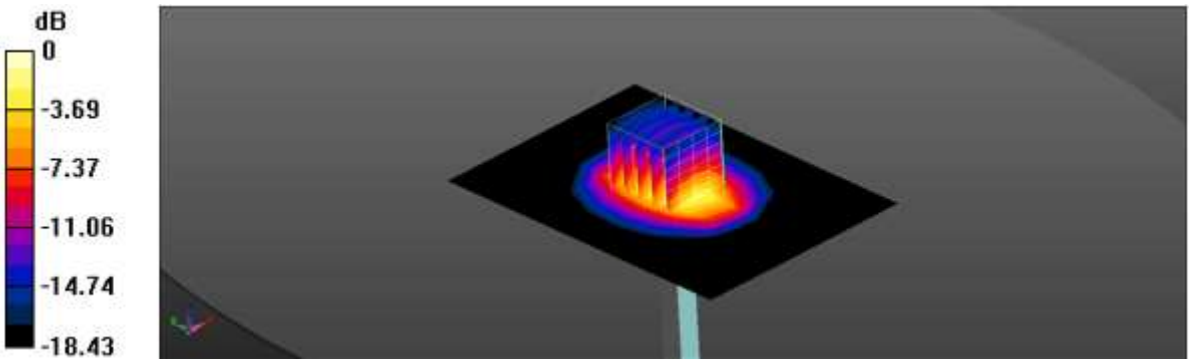
Communication System: UID 0, CW (0); Frequency: 1750 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1750 MHz; σ = 1.383 S/m; ε_r = 40.651; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7541; ConvF(8.56, 8.56, 8.56) @ 1750 MHz; ; Calibrated: 7/30/2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1587; Calibrated: 7/29/2020
- Phantom: ELI V8.0_Left; Type: QD OVA 004 AA; Serial: 2098
- Measurement SW: DASY52, Version 52.10 (4);

System Performance Check (without Area Scan)/1750 MHz Verification Input Power 250 mW 2020-09-04/Area Scan (8x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 11.4 W/kg

System Performance Check (without Area Scan)/1750 MHz Verification Input Power 250 mW 2020-09-04/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 104.2 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 17.3 W/kg
SAR(1 g) = 9.06 W/kg; SAR(10 g) = 4.75 W/kg
Smallest distance from peaks to all points 3 dB below = 11.2 mm
Ratio of SAR at M2 to SAR at M1 = 51.9%
Maximum value of SAR (measured) = 14.2 W/kg



0 dB = 14.2 W/kg = 11.52 dBW/kg

Date: 9/9/2020

Test Laboratory: KCTL Inc.
File Name: 1900 MHz Verification Input Power 250 mW 2020-09-09.da53:0

DUT: Dipole 1900 MHz D1900V2, Type: D1900V2, Serial: D1900V2 - SN:5d160

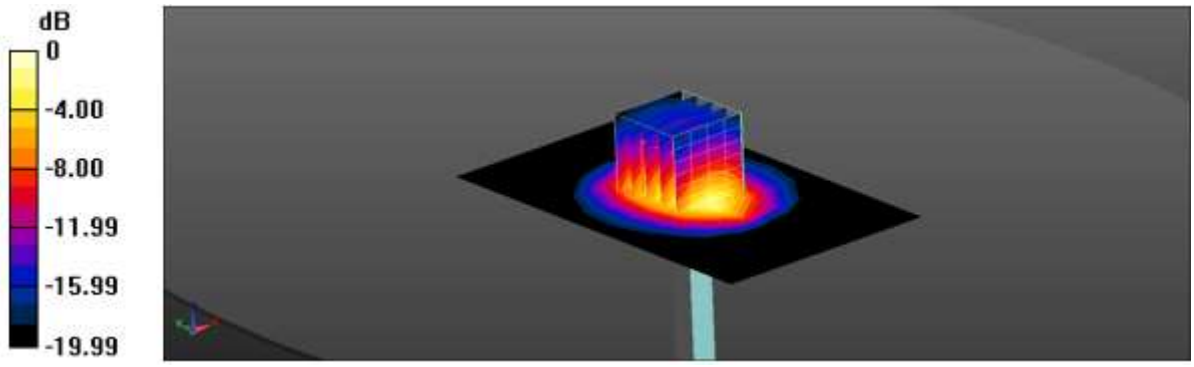
Communication System: UID 0, CW (0); Frequency: 1900 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.439 S/m; ε_r = 39.655; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7541; ConvF(8.27, 8.27, 8.27) @ 1900 MHz; ; Calibrated: 7/30/2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1587; Calibrated: 7/29/2020
- Phantom: ELI V8.0_Left; Type: QD OVA 004 AA; Serial: 2098
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/1900 MHz Verification Input Power 250 mW 2020-09-09/Area Scan (7x11x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 16.2 W/kg

Configuration/1900 MHz Verification Input Power 250 mW 2020-09-09/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 109.5 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 20.4 W/kg
SAR(1 g) = 10.2 W/kg; SAR(10 g) = 5.18 W/kg
Smallest distance from peaks to all points 3 dB below = 11.2 mm
Ratio of SAR at M2 to SAR at M1 = 49.4%
Maximum value of SAR (measured) = 16.4 W/kg



0 dB = 16.4 W/kg = 12.15 dBW/kg

Date: 9/10/2020

Test Laboratory: KCTL Inc.
File Name: 1900 MHz Verification Input Power 250 mW 2020-09-10.da53:0

DUT: Dipole 1900 MHz D1900V2, Type: D1900V2, Serial: D1900V2 - SN:5d160

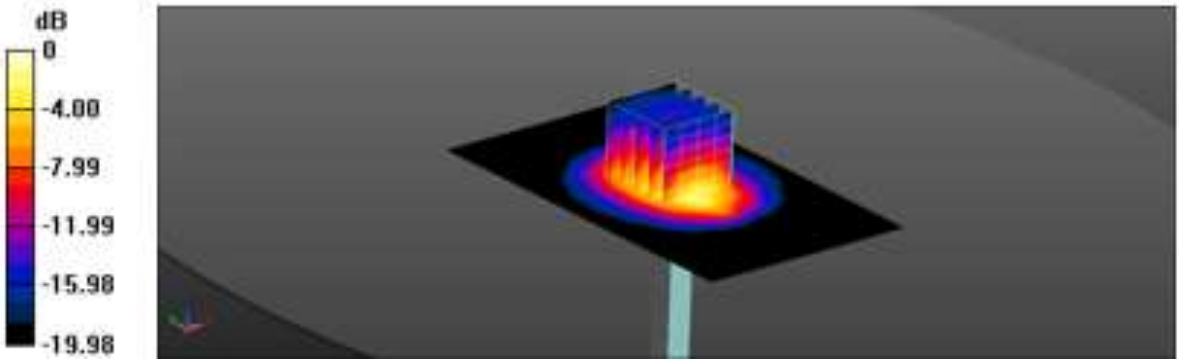
Communication System: UID 0, CW (0); Frequency: 1900 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.428 S/m; ε_r = 40.447; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7541; ConvF(8.27, 8.27, 8.27) @ 1900 MHz; ; Calibrated: 7/30/2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1587; Calibrated: 7/29/2020
- Phantom: ELI V8.0_Left; Type: QD OVA 004 AA; Serial: 2098
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/1900 MHz Verification Input Power 250 mW 2020-09-10/Area Scan (7x11x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 16.1 W/kg

Configuration/1900 MHz Verification Input Power 250 mW 2020-09-10/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 109.3 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 20.2 W/kg
SAR(1 g) = 10.1 W/kg; SAR(10 g) = 5.14 W/kg
Smallest distance from peaks to all points 3 dB below = 11.2 mm
Ratio of SAR at M2 to SAR at M1 = 49.5%
Maximum value of SAR (measured) = 16.2 W/kg



0 dB = 16.2 W/kg = 12.10 dBW/kg

Date: 9/11/2020

Test Laboratory: KCTL Inc.
File Name: 2450 MHz Verification Input Power 100 mW 2020-09-11.da53:0

DUT: Dipole 2450 MHz D2450V2, Type: D2450V2, Serial: D2450V2 - SN:895

Communication System: UID 0, CW (0); Frequency: 2450 MHz; Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2450 MHz; σ = 1.827 S/m; ε_r = 38.419; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

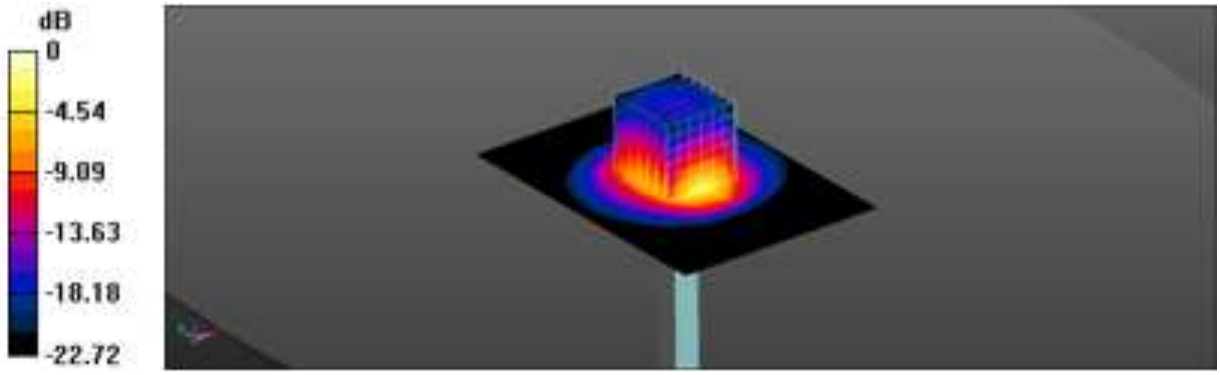
- Probe: EX3DV4 - SN7541; ConvF(7.54, 7.54, 7.54) @ 2450 MHz; ; Calibrated: 7/30/2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1587; Calibrated: 7/29/2020
- Phantom: ELI V8.0_Left; Type: QD OVA 004 AA; Serial: 2098
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/2450 MHz Verification Input Power 100 mW 2020-09-11/Area Scan (8x11x1):
Measurement grid: dx=12mm, dy=12mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 8.04 W/kg

Configuration/2450 MHz Verification Input Power 100 mW 2020-09-11/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 72.87 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 11.6 W/kg
SAR(1 g) = 5.58 W/kg; SAR(10 g) = 2.57 W/kg
Smallest distance from peaks to all points 3 dB below = 9 mm
Ratio of SAR at M2 to SAR at M1 = 48.4%

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 9.35 W/kg



0 dB = 9.35 W/kg = 9.71 dBW/kg

Date: 9/14/2020

Test Laboratory: KCTL Inc.
File Name: 2450 MHz Verification Input Power 100 mW 2020-09-14.da53:0

DUT: Dipole 2450 MHz D2450V2, Type: D2450V2, Serial: D2450V2 - SN:895

Communication System: UID 0, CW (0); Frequency: 2450 MHz; Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2450 MHz; σ = 1.797 S/m; ε_r = 38.18; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

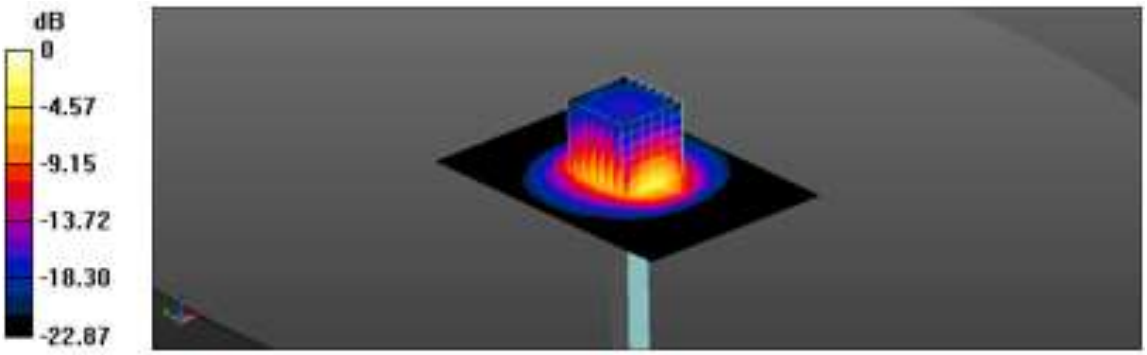
- Probe: EX3DV4 - SN7541; ConvF(7.54, 7.54, 7.54) @ 2450 MHz; ; Calibrated: 7/30/2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1587; Calibrated: 7/29/2020
- Phantom: ELI V8.0_Left; Type: QD OVA 004 AA; Serial: 2098
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/2450 MHz Verification Input Power 100 mW 2020-09-14/Area Scan (8x11x1):
Measurement grid: dx=12mm, dy=12mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 7.51 W/kg

Configuration/2450 MHz Verification Input Power 100 mW 2020-09-14/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 71.11 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 10.9 W/kg
SAR(1 g) = 5.22 W/kg; SAR(10 g) = 2.4 W/kg
Smallest distance from peaks to all points 3 dB below = 9 mm
Ratio of SAR at M2 to SAR at M1 = 48.2%

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 8.78 W/kg



0 dB = 8.78 W/kg = 9.43 dBW/kg

Date: 2020-09-03

Test Laboratory: KCTL Inc.
File Name: 2600 MHz Verification Input Power 100 mW 2020-09-03.da5:0

DUT: Dipole 2600 MHz D2600V2, Type: D2600V2, Serial: D2600V2 - SN:1050

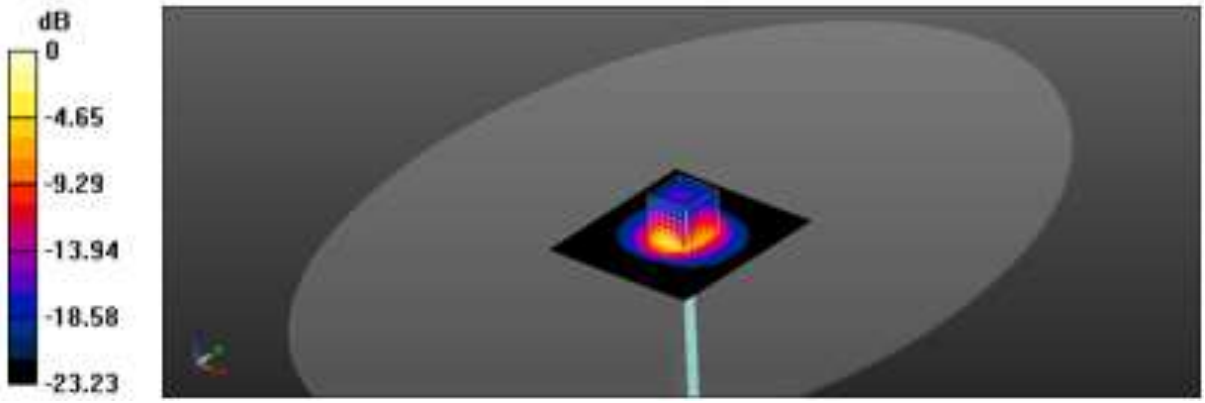
Communication System: UID 0, CW (0); Frequency: 2600 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2600 MHz; σ = 1.955 S/m; ε_r = 38.311; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7540; ConvF(7.21, 7.21, 7.21) @ 2600 MHz; ; Calibrated: 2020-04-28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1586; Calibrated: 2020-04-22
- Phantom: ELI v5.0 sn1178; Type: QDOVA002AA; Serial: TP:1178
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/2600 MHz Verification Input Power 100 mW 2020-09-03/Area Scan (10x11x1):
Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 7.68 W/kg

Configuration/2600 MHz Verification Input Power 100 mW 2020-09-03/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 72.49 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 12.5 W/kg
SAR(1 g) = 5.57 W/kg; SAR(10 g) = 2.51 W/kg
Smallest distance from peaks to all points 3 dB below = 9 mm
Ratio of SAR at M2 to SAR at M1 = 45.6%
Maximum value of SAR (measured) = 9.70 W/kg



0 dB = 9.70 W/kg = 9.87 dBW/kg

Date: 9/17/2020

Test Laboratory: KCTL Inc.
File Name: 2600 MHz Verification Input Power 100 mW 2020-09-17.da53:0

DUT: Dipole 2600 MHz D2600V2, Type: D2600V2, Serial: D2600V2 - SN:1050

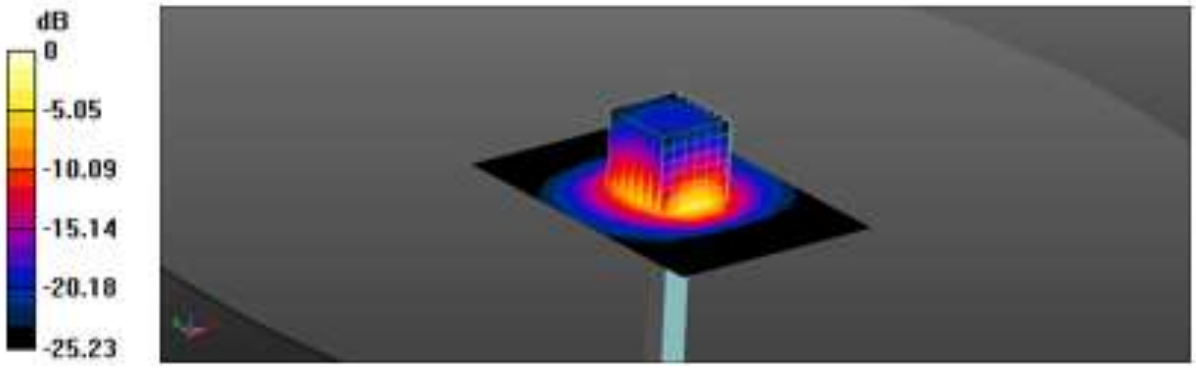
Communication System: UID 0, CW (0); Frequency: 2600 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2600 MHz; σ = 2.007 S/m; ε_r = 37.543; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7541; ConvF(7.35, 7.35, 7.35) @ 2600 MHz; ; Calibrated: 7/30/2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1587; Calibrated: 7/29/2020
- Phantom: ELI V8.0_Left; Type: QD OVA 004 AA; Serial: 2098
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/2600 MHz Verification Input Power 100 mW 2020-09-17/Area Scan (8x11x1):
Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 7.27 W/kg

Configuration/2600 MHz Verification Input Power 100 mW 2020-09-17/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 73.67 V/m; Power Drift = -0.00 dB
Peak SAR (extrapolated) = 12.8 W/kg
SAR(1 g) = 5.6 W/kg; SAR(10 g) = 2.43 W/kg
Smallest distance from peaks to all points 3 dB below = 9 mm
Ratio of SAR at M2 to SAR at M1 = 43.7%
Maximum value of SAR (measured) = 9.97 W/kg



0 dB = 9.97 W/kg = 9.99 dBW/kg

Date: 9/11/2020

Test Laboratory: KCTL Inc.
File Name: 5300 MHz Verification Input Power 100 mW 2020-09-11.da5:0

DUT: Dipole D5GHzV2, Type: D5GHzV2, Serial: D5GHzV2 - SN:1134

Communication System: UID 0, CW (0); Frequency: 5300 MHz; Duty Cycle: 1:1
Medium parameters used (interpolated): f = 5300 MHz; σ = 4.849 S/m; ε_r = 35.417; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

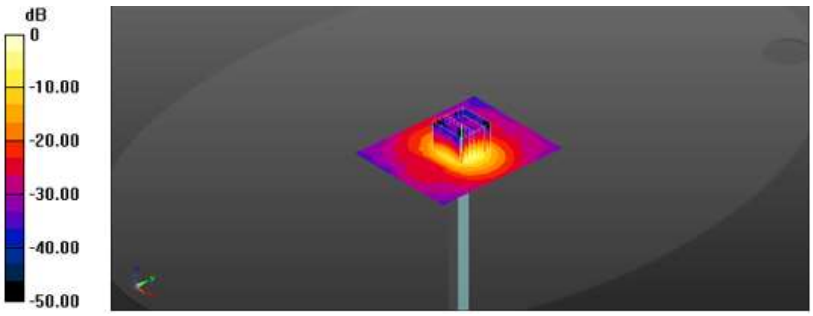
- Probe: EX3DV4 - SN3928;ConvF(4.94, 4.94, 4.94) @ 5300 MHz; Calibrated: 1/30/2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn666; Calibrated: 1/24/2020
- Phantom: Front_Left_ELI V8.0; Type: QD OVA 004 AA; Serial: 2097
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/5300 MHz Verification Input Power 100 mW 2020-09-11/Area Scan (10x12x1):
Measurement grid: dx=10mm, dy=10mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 15.5 W/kg

Configuration/5300 MHz Verification Input Power 100 mW 2020-09-11/Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 68.64 V/m; Power Drift = -0.16 dB
Peak SAR (extrapolated) = 35.3 W/kg
SAR(1 g) = 8.1 W/kg; SAR(10 g) = 2.35 W/kg
Smallest distance from peaks to all points 3 dB below = 7.9 mm
Ratio of SAR at M2 to SAR at M1 = 62.2%

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 20.8 W/kg



0 dB = 20.8 W/kg = 13.18 dBW/kg

Date: 9/14/2020

Test Laboratory: KCTL Inc.
File Name: 5600 MHz Verification Input Power 100 mW 2020-09-14.da5:0

DUT: Dipole D5GHzV2, Type: D5GHzV2, Serial: D5GHzV2 - SN:1134

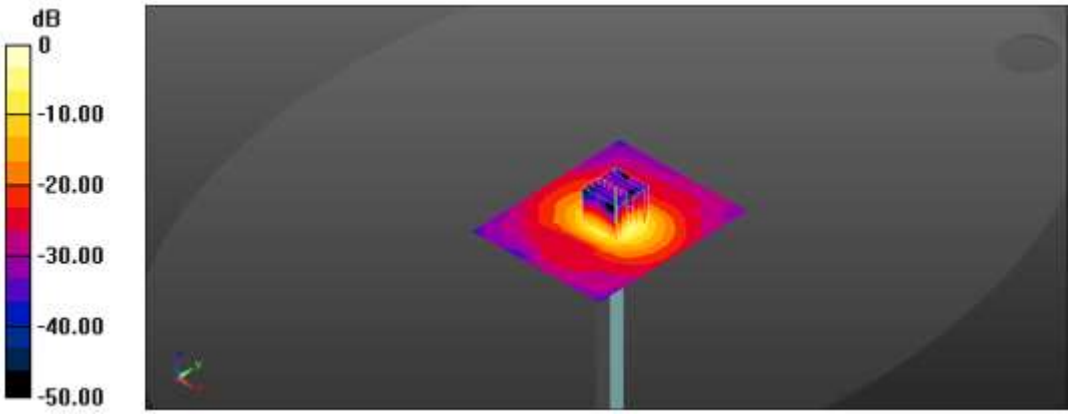
Communication System: UID 0, CW (0); Frequency: 5600 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5600 MHz; σ = 5.201 S/m; ε_r = 35.099; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3928;ConvF(4.69, 4.69, 4.69) @ 5600 MHz; Calibrated: 1/30/2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn666; Calibrated: 1/24/2020
- Phantom: Front_Left_ELI V8.0; Type: QD OVA 004 AA; Serial: 2097
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/5600 MHz Verification Input Power 100 mW 2020-09-14/Area Scan (10x12x1):
Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 18.6 W/kg

Configuration/5600 MHz Verification Input Power 100 mW 2020-09-14/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 68.09 V/m; Power Drift = -0.18 dB
Peak SAR (extrapolated) = 36.9 W/kg
SAR(1 g) = 8.51 W/kg; SAR(10 g) = 2.47 W/kg
Smallest distance from peaks to all points 3 dB below = 7.9 mm
Ratio of SAR at M2 to SAR at M1 = 62%
Maximum value of SAR (measured) = 21.9 W/kg



0 dB = 21.9 W/kg = 13.40 dBW/kg

Date: 9/15/2020

Test Laboratory: KCTL Inc.
File Name: 5800 MHz Verification Input Power 100 mW 2020-09-15.da5:0

DUT: Dipole D5GHzV2, Type: D5GHzV2, Serial: D5GHzV2 - SN:1134

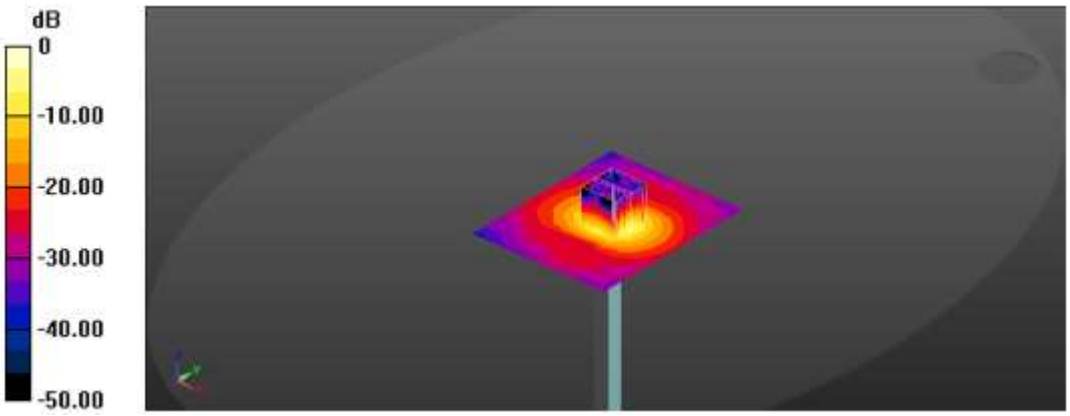
Communication System: UID 0, CW (0); Frequency: 5800 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5800 MHz; σ = 5.374 S/m; ε_r = 34.325; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3928;ConvF(4.65, 4.65, 4.65) @ 5800 MHz; Calibrated: 1/30/2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn666; Calibrated: 1/24/2020
- Phantom: Front_Left_ELI V8.0; Type: QD OVA 004 AA; Serial: 2097
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/5800 MHz Verification Input Power 100 mW 2020-09-15/Area Scan (10x12x1):
Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 18.3 W/kg

Configuration/5800 MHz Verification Input Power 100 mW 2020-09-15/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 65.95 V/m; Power Drift = -0.15 dB
Peak SAR (extrapolated) = 36.3 W/kg
SAR(1 g) = 8.3 W/kg; SAR(10 g) = 2.41 W/kg
Smallest distance from peaks to all points 3 dB below = 7.9 mm
Ratio of SAR at M2 to SAR at M1 = 62%
Maximum value of SAR (measured) = 21.6 W/kg



0 dB = 21.6 W/kg = 13.34 dBW/kg

17. Test Results

1)

Date: 9/9/2020

Test Laboratory: KCTL Inc.
File Name: 1.WCDMA FDD II_Body_Sensor Off.da53:2

DUT: SM-T577U/DS, Type: Tablet PC, Serial: R32N601AC8Y

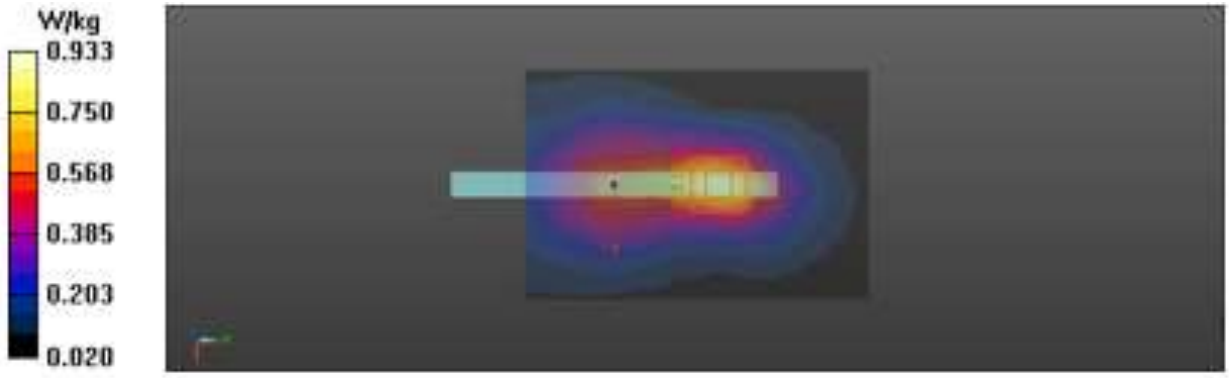
Communication System: UID 0, W-CDMA 1900 (Band 2) (0); Frequency: 1880 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.426 S/m; ε_r = 39.711; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7541; ConvF(8.27, 8.27, 8.27) @ 1880 MHz; ; Calibrated: 7/30/2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1587; Calibrated: 7/29/2020
- Phantom: ELI V8.0_Left; Type: QD OVA 004 AA; Serial: 2098
- Measurement SW: DASY52, Version 52.10 (4);

Configuration 3/WCDMA FDD II_CH9400_Top_14 mm/Area Scan (7x10x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.933 W/kg

Configuration 3/WCDMA FDD II_CH9400_Top_14 mm/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 21.93 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 1.13 W/kg
SAR(1 g) = 0.600 W/kg; SAR(10 g) = 0.325 W/kg
Smallest distance from peaks to all points 3 dB below = 12.8 mm
Ratio of SAR at M2 to SAR at M1 = 53.4%
Maximum value of SAR (measured) = 0.912 W/kg



2)

Date: 9/3/2020

Test Laboratory: KCTL Inc.
File Name: 1.WCDMA FDD IV_Body_Sensor On.da53:0

DUT: SM-T577U/DS, Type: Tablet PC, Serial: R32N601AC8Y

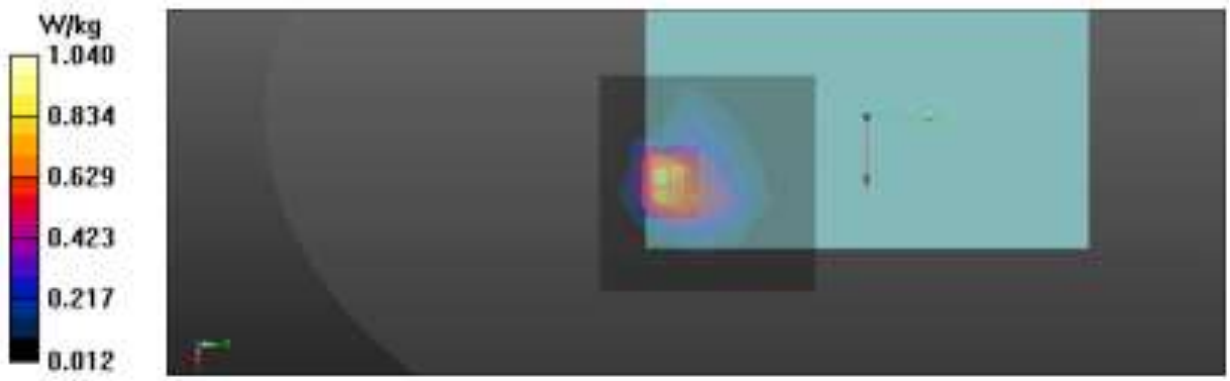
Communication System: UID 0, W-CDMA 1700 (Band4) (0); Frequency: 1732.4 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1732.4 MHz; σ = 1.351 S/m; ε_r = 40.675; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7541; ConvF(8.56, 8.56, 8.56) @ 1732.4 MHz; ; Calibrated: 7/30/2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1587; Calibrated: 7/29/2020
- Phantom: ELI V8.0_Left; Type: QD OVA 004 AA; Serial: 2098
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/WCDMA FDD IV_CH1412_Rear_0 mm Grip Sensor On/Area Scan (8x8x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.02 W/kg

Configuration/WCDMA FDD IV_CH1412_Rear_0 mm Grip Sensor On/Zoom Scan (8x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 28.17 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 1.49 W/kg
SAR(1 g) = 0.554 W/kg; SAR(10 g) = 0.273 W/kg
Smallest distance from peaks to all points 3 dB below = 7.1 mm
Ratio of SAR at M2 to SAR at M1 = 35.7%
Maximum value of SAR (measured) = 1.04 W/kg



3)

Date: 2020-09-10

Test Laboratory: KCTL Inc.
File Name: 1.WCDMA FDD V_Body_Sensor On.da53:0

DUT: SM-T577U/DS, Type: Tablet, Serial: R32N601ABKJ

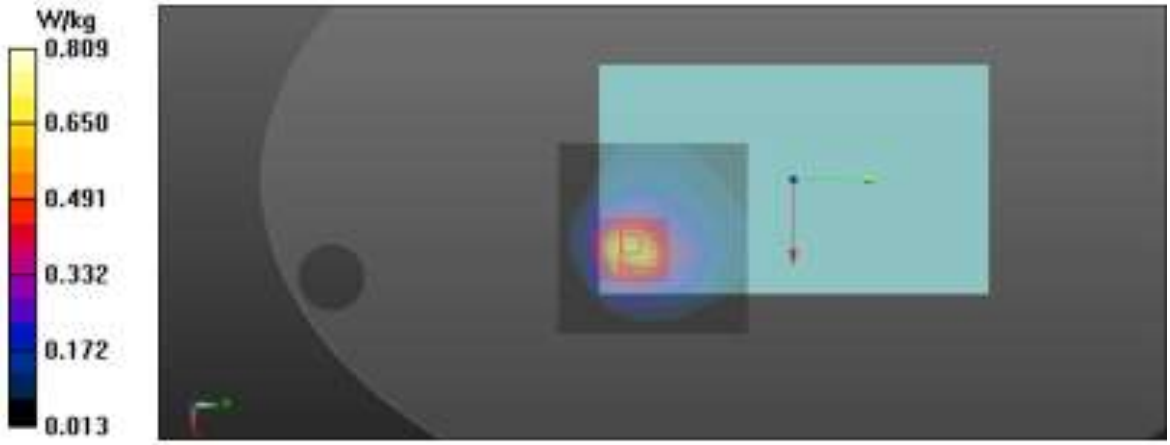
Communication System: UID 0, W-CDMA 850 (Band 5) (0); Frequency: 836.6 MHz; Duty Cycle: 1:1
Medium parameters used: f = 836.6 MHz; σ = 0.906 S/m; ε_r = 41.67; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7540; ConvF(9.32, 9.32, 9.32) @ 836.6 MHz; ; Calibrated: 2020-04-28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1586; Calibrated: 2020-04-22
- Phantom: ELI v5.0 sn1178; Type: QDOVA002AA; Serial: TP:1178
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/WCDMA FDD V_CH4183_Rear_0 mm Grip Sensor On/Area Scan (8x8x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.723 W/kg

Configuration/WCDMA FDD V_CH4183_Rear_0 mm Grip Sensor On/Zoom Scan (8x9x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 31.03 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 1.03 W/kg
SAR(1 g) = 0.525 W/kg; SAR(10 g) = 0.312 W/kg
Maximum value of SAR (measured) = 0.809 W/kg



4)

Date: 9/17/2020

Test Laboratory: KCTL Inc.
File Name: 1.LTE Band 7_QPSK_20 MHz_Body_Sensor Off.da53:2

DUT: SM-T577U/DS, Type: Tablet PC, Serial: R32N601AC8Y

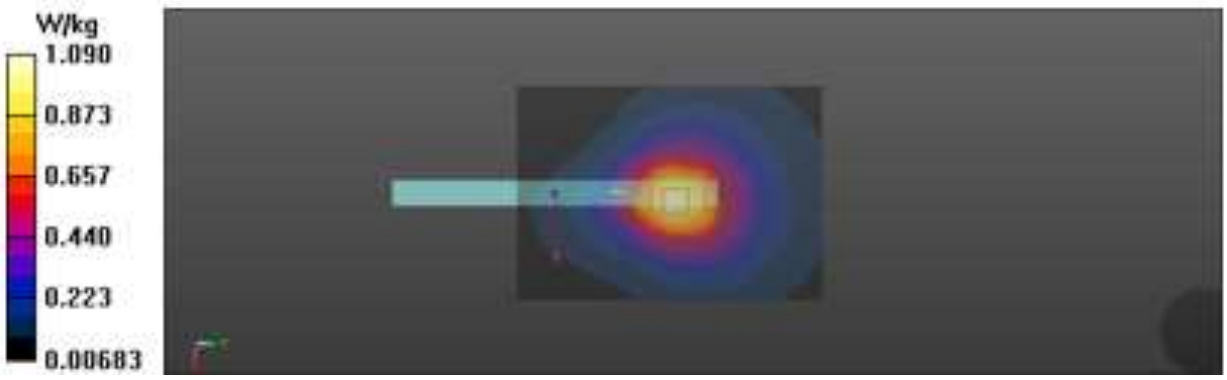
Communication System: UID 0, LTE band 7 (0); Frequency: 2535 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2535 MHz; σ = 1.936 S/m; ε_r = 37.76; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7541; ConvF(7.35, 7.35, 7.35) @ 2535 MHz; ; Calibrated: 7/30/2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1587; Calibrated: 7/29/2020
- Phantom: ELI V8.0_Left; Type: QD OVA 004 AA; Serial: 2098
- Measurement SW: DASY52, Version 52.10 (4);

Configuration 3/LTE Band 7_QPSK_20 MHz_1RB_99offset_CH21100_Top_14 mm/Area Scan (8x11x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 1.06 W/kg

Configuration 3/LTE Band 7_QPSK_20 MHz_1RB_99offset_CH21100_Top_14 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 24.34 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 1.37 W/kg
SAR(1 g) = 0.677 W/kg; SAR(10 g) = 0.353 W/kg
Smallest distance from peaks to all points 3 dB below = 14.9 mm
Ratio of SAR at M2 to SAR at M1 = 48.5%
Maximum value of SAR (measured) = 1.09 W/kg



5)

Date: 2020-09-14

Test Laboratory: KCTL Inc.
File Name: 1.LTE Band 12_QPSK_10 MHz_Body_Sensor On.da53:0

DUT: SM-T577U/DS, Type: Tablet, Serial: R32N601ABKJ

Communication System: UID 0, LTE Band 12 (0); Frequency: 707.5 MHz; Duty Cycle: 1:1
Medium parameters used: f = 707.5 MHz; σ = 0.88 S/m; ε_r = 42.01; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7540; ConvF(9.88, 9.88, 9.88) @ 707.5 MHz; ; Calibrated: 2020-04-28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1586; Calibrated: 2020-04-22
- Phantom: ELI v5.0 sn1178; Type: QDOVA002AA; Serial: TP:1178
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/LTE Band 12_QPSK_10 MHz_25RB_12offset_CH23095_Rear_0 mm Grip Sensor On/Area Scan (8x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.436 W/kg

Configuration/LTE Band 12_QPSK_10 MHz_25RB_12offset_CH23095_Rear_0 mm Grip Sensor On/Zoom Scan (7x8x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 28.70 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 1.34 W/kg
SAR(1 g) = 0.444 W/kg; SAR(10 g) = 0.220 W/kg
Maximum value of SAR (measured) = 0.914 W/kg

6)

Date: 2020-09-17

Test Laboratory: KCTL Inc.
File Name: 1.LTE Band 13_QPSK_10 MHz_Body_Sensor On.da53:0

DUT: SM-T577U/DS, Type: Tablet, Serial: R32N601ABKJ

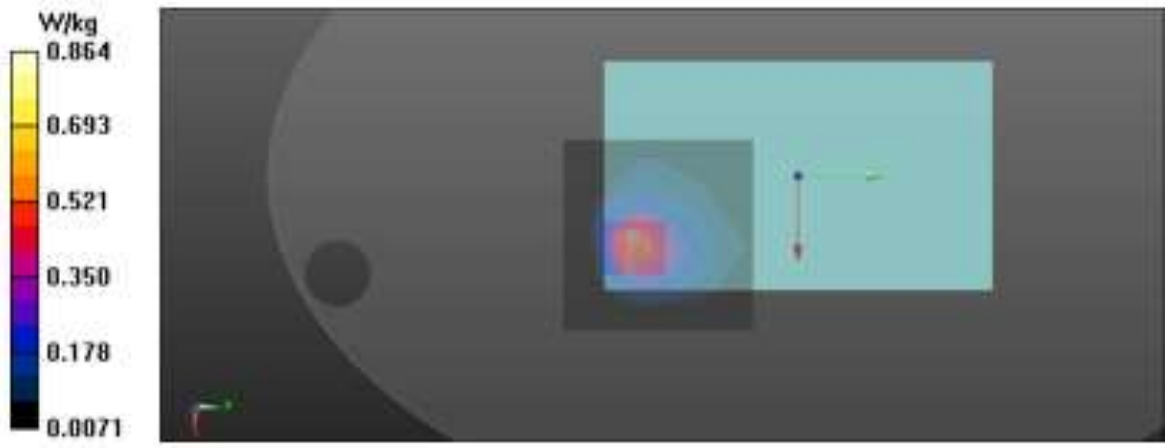
Communication System: UID 0, LTE Band 13 (0); Frequency: 782 MHz; Duty Cycle: 1:1
Medium parameters used: f = 782 MHz; σ = 0.902 S/m; ε_r = 42.448; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7540; ConvF(9.88, 9.88, 9.88) @ 782 MHz; ; Calibrated: 2020-04-28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1586; Calibrated: 2020-04-22
- Phantom: ELI v5.0 sn1178; Type: QDOVA002AA; Serial: TP:1178
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/LTE Band 13_QPSK_10 MHz_25RB_12offset_CH23230_Rear_0 mm Grip Sensor On/Area Scan (8x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.530 W/kg

Configuration/LTE Band 13_QPSK_10 MHz_25RB_12offset_CH23230_Rear_0 mm Grip Sensor On/Zoom Scan (7x8x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 30.50 V/m; Power Drift = -0.00 dB
Peak SAR (extrapolated) = 1.24 W/kg
SAR(1 g) = 0.454 W/kg; SAR(10 g) = 0.240 W/kg
Maximum value of SAR (measured) = 0.864 W/kg



7)

Date: 2020-09-16

Test Laboratory: KCTL Inc.
File Name: 1.LTE Band 14_QPSK_10 MHz_Body_Sensor On.da53:0

DUT: SM-T577U/DS, Type: Tablet, Serial: R32N601ABKJ

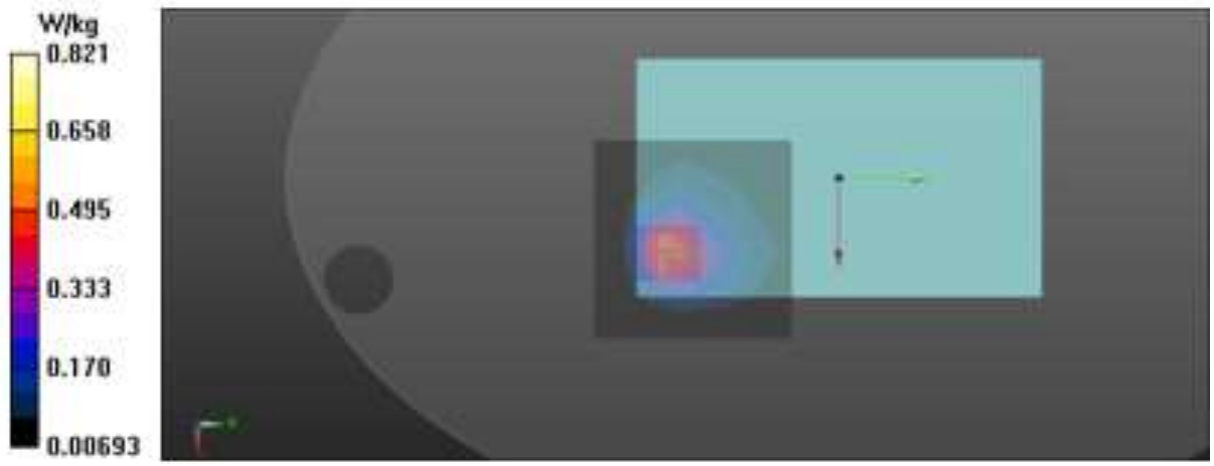
Communication System: UID 0, LTE Band 14 (0); Frequency: 793 MHz; Duty Cycle: 1:1
Medium parameters used: f = 793 MHz; σ = 0.916 S/m; ε_r = 42.799; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7540; ConvF(9.88, 9.88, 9.88) @ 793 MHz; ; Calibrated: 2020-04-28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1586; Calibrated: 2020-04-22
- Phantom: ELI v5.0 sn1178; Type: QDOVA002AA; Serial: TP:1178
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/LTE Band 14_QPSK_10 MHz_25RB_12offset_CH23330_Rear_0 mm Grip Sensor On/Area Scan (8x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.498 W/kg

Configuration/LTE Band 14_QPSK_10 MHz_25RB_12offset_CH23330_Rear_0 mm Grip Sensor On/Zoom Scan (7x8x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 29.43 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 1.17 W/kg
SAR(1 g) = 0.425 W/kg; SAR(10 g) = 0.225 W/kg
Maximum value of SAR (measured) = 0.821 W/kg



8)

Date: 9/10/2020

Test Laboratory: KCTL Inc.
File Name: 1.LTE Band 25_QPSK_20 MHz_Body_Sensor Off.da53:2

DUT: SM-T577U/DS, Type: Tablet PC, Serial: R32N601AC8Y

Communication System: UID 0, LTE Band 25 (0); Frequency: 1905 MHz; Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1905 MHz; σ = 1.433 S/m; ε_r = 40.435; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

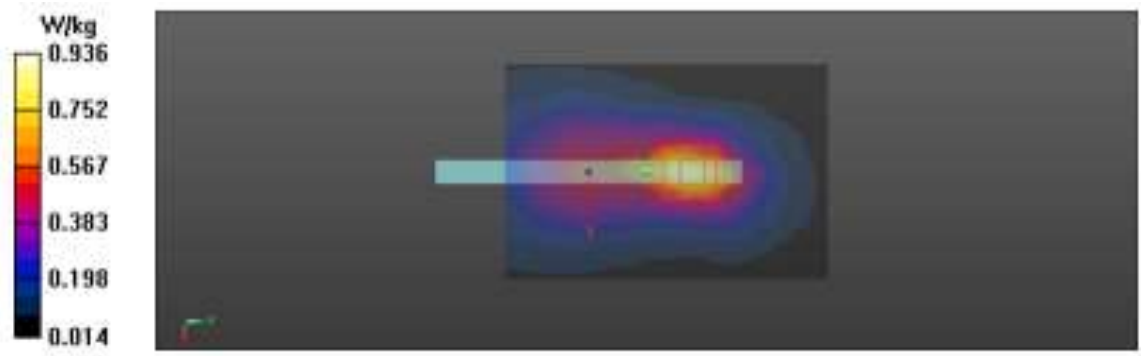
- Probe: EX3DV4 - SN7541; ConvF(8.27, 8.27, 8.27) @ 1905 MHz; ; Calibrated: 7/30/2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1587; Calibrated: 7/29/2020
- Phantom: ELI V8.0_Left; Type: QD OVA 004 AA; Serial: 2098
- Measurement SW: DASY52, Version 52.10 (4);

Configuration 3/LTE Band 25_QPSK_20 MHz_1RB_99offset_CH26590_Top_14 mm/Area Scan (7x10x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.927 W/kg

Configuration 3/LTE Band 25_QPSK_20 MHz_1RB_99offset_CH26590_Top_14 mm/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 20.25 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 1.15 W/kg
SAR(1 g) = 0.609 W/kg; SAR(10 g) = 0.328 W/kg
Smallest distance from peaks to all points 3 dB below = 12.8 mm
Ratio of SAR at M2 to SAR at M1 = 53.3%

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.936 W/kg



9)

Date: 2020-09-18

Test Laboratory: KCTL Inc.
File Name: 1.LTE Band 26_QPSK_10 MHz_Body_Sensor On.da53:0

DUT: SM-T577U/DS, Type: Tablet, Serial: R32N601ABKJ

Communication System: UID 0, LTE Band 26 (0); Frequency: 831.5 MHz; Duty Cycle: 1:1
Medium parameters used: f = 831.5 MHz; σ = 0.898 S/m; ε_r = 40.553; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7540; ConvF(9.32, 9.32, 9.32) @ 831.5 MHz; ; Calibrated: 2020-04-28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1586; Calibrated: 2020-04-22
- Phantom: ELI v5.0 sn1178; Type: QDOVA002AA; Serial: TP:1178
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/LTE Band 26_QPSK_15 MHz_36RB_0offset_CH26865_Rear_0 mm Grip Sensor On/Area Scan (8x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.800 W/kg

Configuration/LTE Band 26_QPSK_15 MHz_36RB_0offset_CH26865_Rear_0 mm Grip Sensor On/Zoom Scan (7x8x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 32.67 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 1.41 W/kg
SAR(1 g) = 0.611 W/kg; SAR(10 g) = 0.346 W/kg
Maximum value of SAR (measured) = 1.04 W/kg

10)

Date: 2020-09-03

Test Laboratory: KCTL Inc.
File Name: 1.LTE Band 41_QPSK_20 MHz_Body.da53:0

DUT: SM-T577U/DS, Type: Tablet, Serial: R32N601ABKJ

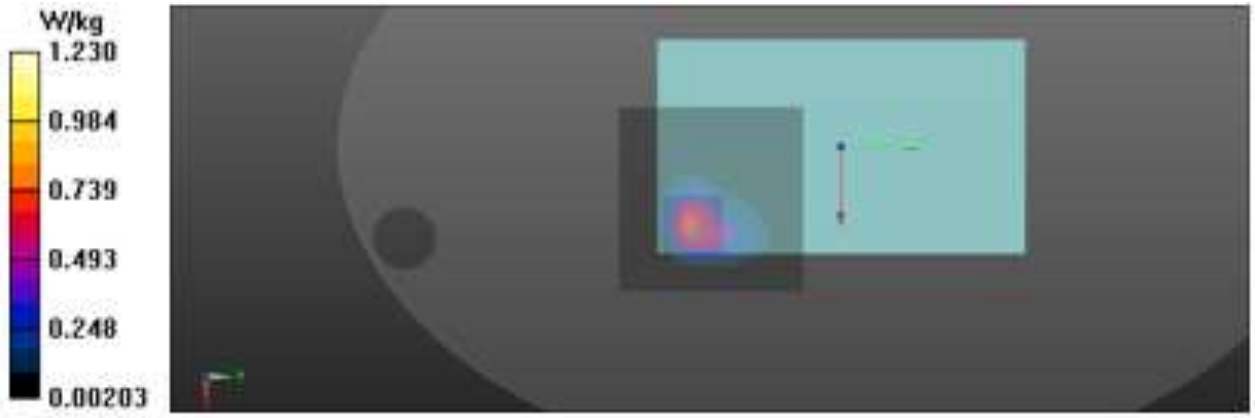
Communication System: UID 0, LTE Band 41 (0); Frequency: 2680 MHz; Duty Cycle: 1:1.58016
Medium parameters used: f = 2680 MHz; σ = 2.033 S/m; ε_r = 38.076; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7540; ConvF(7.21, 7.21, 7.21) @ 2680 MHz; ; Calibrated: 2020-04-28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1586; Calibrated: 2020-04-22
- Phantom: ELI v5.0 sn1178; Type: QDOVA002AA; Serial: TP:1178
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/LTE Band 41_QPSK_20 MHz_50RB_50offset_CH41490_Rear_0 mm Grip Sensor On/Area Scan (10x10x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 0.634 W/kg

Configuration/LTE Band 41_QPSK_20 MHz_50RB_50offset_CH41490_Rear_0 mm Grip Sensor On/Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.06 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 1.67 W/kg
SAR(1 g) = 0.572 W/kg; SAR(10 g) = 0.218 W/kg
Smallest distance from peaks to all points 3 dB below = 5.1 mm
Ratio of SAR at M2 to SAR at M1 = 36%
Maximum value of SAR (measured) = 1.23 W/kg



11)

Date: 9/4/2020

Test Laboratory: KCTL Inc.
File Name: 1.LTE Band 66_QPSK_20 MHz_Body_Sensor Off.da53:2

DUT: SM-T577U/DS, Type: Tablet PC, Serial: R32N601AC8Y

Communication System: UID 0, LTE Band 66 (0); Frequency: 1745 MHz; Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1745 MHz; σ = 1.374 S/m; ε_r = 40.658; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

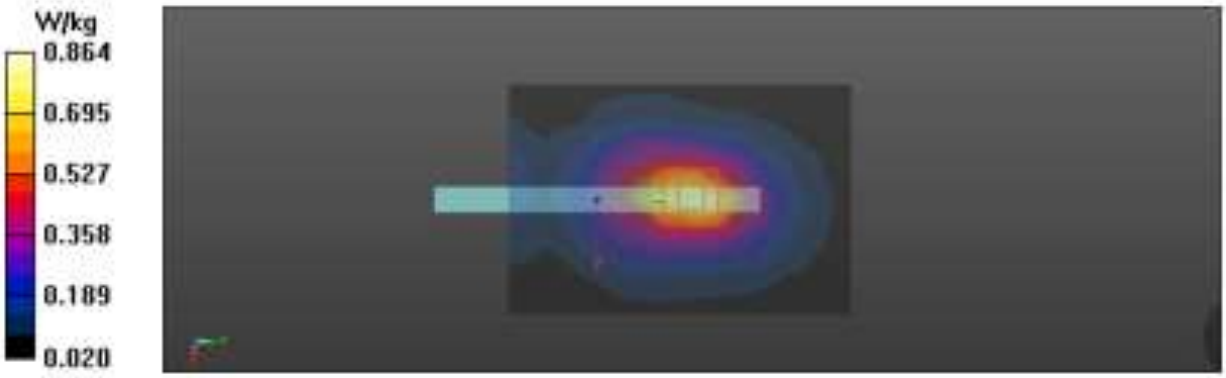
- Probe: EX3DV4 - SN7541; ConvF(8.56, 8.56, 8.56) @ 1745 MHz; ; Calibrated: 7/30/2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1587; Calibrated: 7/29/2020
- Phantom: ELI V8.0_Left; Type: QD OVA 004 AA; Serial: 2098
- Measurement SW: DASY52, Version 52.10 (4);

Configuration 3/LTE Band 66_QPSK_20 MHz_1RB_49offset_CH132322_Top_14 mm/Area Scan (7x10x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.864 W/kg

Configuration 3/LTE Band 66_QPSK_20 MHz_1RB_49offset_CH132322_Top_14 mm/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.61 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 1.03 W/kg
SAR(1 g) = 0.585 W/kg; SAR(10 g) = 0.334 W/kg
Smallest distance from peaks to all points 3 dB below = 14.4 mm
Ratio of SAR at M2 to SAR at M1 = 56.7%

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.864 W/kg



12)

Date: 2020-09-15

Test Laboratory: KCTL Inc.
File Name: 1.LTE Band 71_QPSK_20 MHz_Body_Sensor On.da53:0

DUT: SM-T577U/DS, Type: Tablet, Serial: R32N601ABKJ

Communication System: UID 0, LTE Band 71 (0); Frequency: 680.5 MHz; Duty Cycle: 1:1
Medium parameters used (interpolated): f = 680.5 MHz; σ = 0.857 S/m; ε_r = 42.707; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

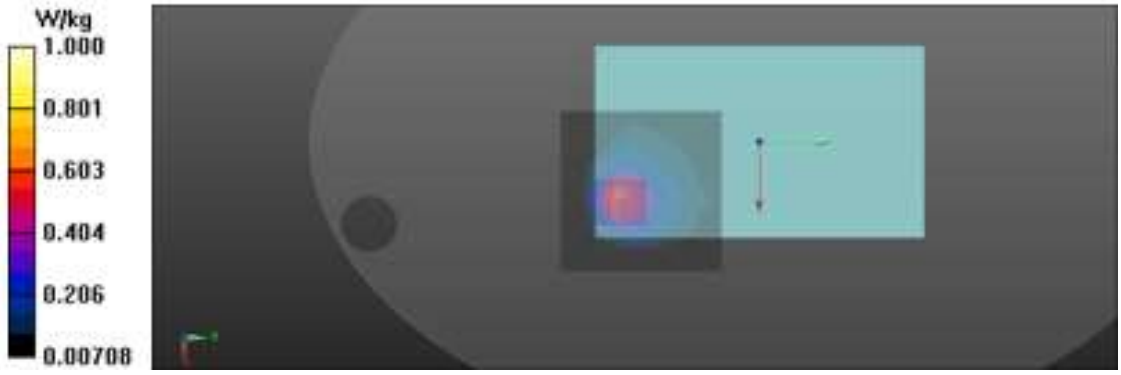
- Probe: EX3DV4 - SN7540; ConvF(9.88, 9.88, 9.88) @ 680.5 MHz; ; Calibrated: 2020-04-28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1586; Calibrated: 2020-04-22
- Phantom: ELI v5.0 sn1178; Type: QDOVA002AA; Serial: TP:1178
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/LTE Band 71_QPSK_20 MHz_1RB_0offset_CH133297_Rear_0 mm Grip Sensor On/Area Scan (8x8x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.509 W/kg

Configuration/LTE Band 71_QPSK_20 MHz_1RB_0offset_CH133297_Rear_0 mm Grip Sensor On/Zoom Scan (7x8x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 34.73 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 1.50 W/kg
SAR(1 g) = 0.496 W/kg; SAR(10 g) = 0.241 W/kg
Smallest distance from peaks to all points 3 dB below = 7.6 mm
Ratio of SAR at M2 to SAR at M1 = 34.1%

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.00 W/kg



13)

Date: 9/11/2020

Test Laboratory: KCTL Inc.
File Name: 1.2.4G_802.11 _Body.da53:0

DUT: SM-T577U/DS, Type: Tablet PC, Serial: R32N601AB9M

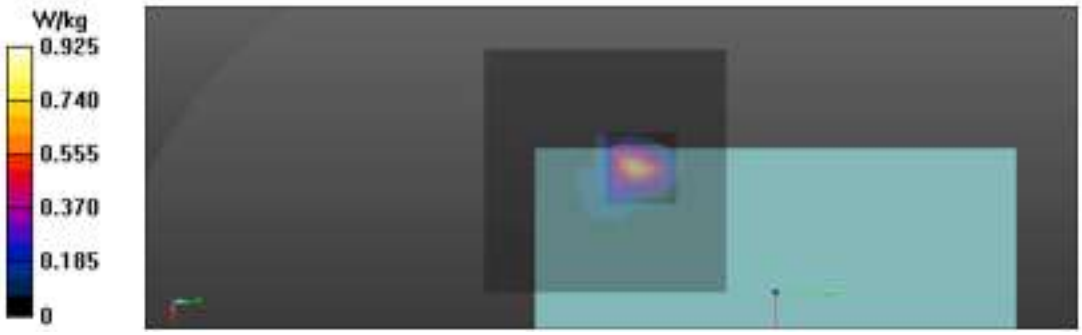
Communication System: UID 0, 2.4GWLAN (0); Frequency: 2412 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2412 MHz; σ = 1.79 S/m; ε_r = 38.547; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7541; ConvF(7.54, 7.54, 7.54) @ 2412 MHz; ; Calibrated: 7/30/2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1587; Calibrated: 7/29/2020
- Phantom: ELI V8.0_Left; Type: QD OVA 004 AA; Serial: 2098
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/802.11 b_Ant.1_CH1_Rear_0 mm Grip Sensor On/Area Scan (10x10x1):
Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 0.423 W/kg

Configuration/802.11 b_Ant.1_CH1_Rear_0 mm Grip Sensor On/Zoom Scan (9x9x7)/Cube 0:
Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 16.56 V/m; Power Drift = -0.14 dB
Peak SAR (extrapolated) = 1.68 W/kg
SAR(1 g) = 0.397 W/kg; SAR(10 g) = 0.131 W/kg
Smallest distance from peaks to all points 3 dB below = 5.4 mm
Ratio of SAR at M2 to SAR at M1 = 66.8%
Maximum value of SAR (measured) = 0.925 W/kg



14)

Date: 9/11/2020

Test Laboratory: KCTL Inc.
File Name: 1.2.4G_802.11 _Body.da53:0

DUT: SM-T577U/DS, Type: Tablet PC, Serial: R32N601AB9M

Communication System: UID 0, 2.4GWLAN (0); Frequency: 2412 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2412 MHz; σ = 1.79 S/m; ε_r = 38.547; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7541; ConvF(7.54, 7.54, 7.54) @ 2412 MHz; ; Calibrated: 7/30/2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1587; Calibrated: 7/29/2020
- Phantom: ELI V8.0_Left; Type: QD OVA 004 AA; Serial: 2098
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/802.11 b_Ant.2_CH1_Rear_0 mm Grip Sensor On/Area Scan (10x10x1):
Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 0.583 W/kg

Configuration/802.11 b_Ant.2_CH1_Rear_0 mm Grip Sensor On/Zoom Scan (8x8x7)/Cube 0:
Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 5.234 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 1.38 W/kg
SAR(1 g) = 0.343 W/kg; SAR(10 g) = 0.116 W/kg
Smallest distance from peaks to all points 3 dB below = 5.7 mm
Ratio of SAR at M2 to SAR at M1 = 66.4%
Maximum value of SAR (measured) = 0.768 W/kg

15)

Date: 9/11/2020

Test Laboratory: KCTL Inc.
File Name: 1.5.3G_802.11 _Body.da53:0

DUT: SM-T577U/DS, Type: Tablet, Serial: R32N601AB4P

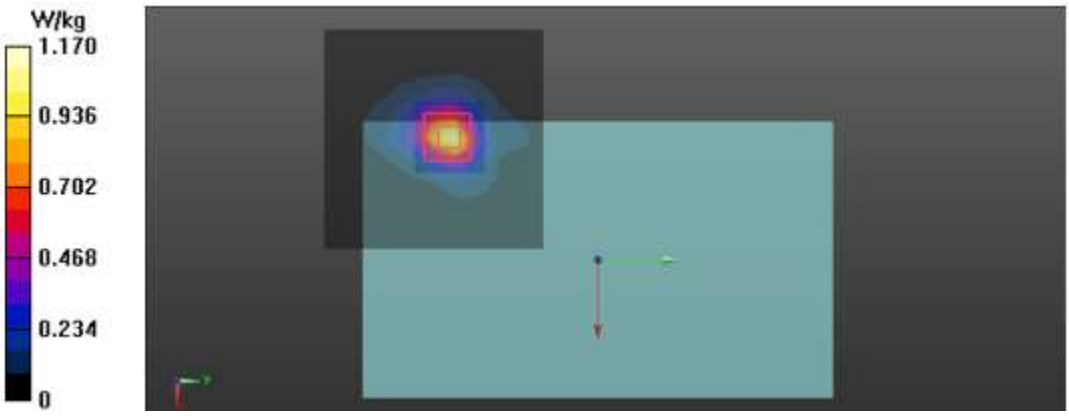
Communication System: UID 0, 5GWLAN (0); Frequency: 5260 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5260 MHz; σ = 4.811 S/m; ε_r = 35.444; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3928;ConvF(4.94, 4.94, 4.94) @ 5260 MHz; Calibrated: 1/30/2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn666; Calibrated: 1/24/2020
- Phantom: Front_Left_ELI V8.0; Type: QD OVA 004 AA; Serial: 2097
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/802.11 a_Ant.1_CH52_Rear_12 mm Grip Sensor Off/Area Scan (11x11x1):
Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 1.12 W/kg

Configuration/802.11 a_Ant.1_CH52_Rear_12 mm Grip Sensor Off/Zoom Scan (9x9x7)/Cube 0:
Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 17.03 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 1.91 W/kg
SAR(1 g) = 0.512 W/kg; SAR(10 g) = 0.175 W/kg
Smallest distance from peaks to all points 3 dB below = 10 mm
Ratio of SAR at M2 to SAR at M1 = 64%
Maximum value of SAR (measured) = 1.17 W/kg



16)

Date: 9/11/2020

Test Laboratory: KCTL Inc.
File Name: 1.5.3G_802.11 _Body.da53:2

DUT: SM-T577U/DS, Type: Tablet, Serial: R32N601AB4P

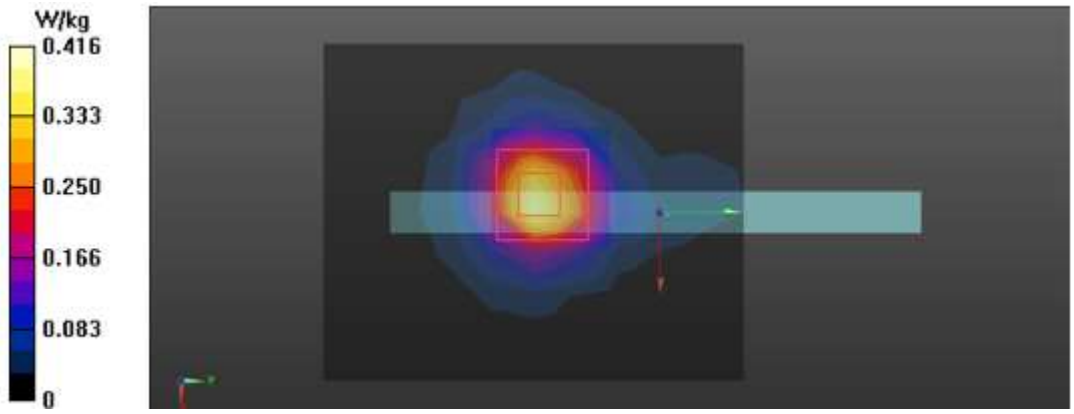
Communication System: UID 0, 5GWLAN (0); Frequency: 5260 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5260 MHz; σ = 4.811 S/m; ε_r = 35.444; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3928;ConvF(4.94, 4.94, 4.94) @ 5260 MHz; Calibrated: 1/30/2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn666; Calibrated: 1/24/2020
- Phantom: Front_Left_ELI V8.0; Type: QD OVA 004 AA; Serial: 2097
- Measurement SW: DASY52, Version 52.10 (4);

Configuration 3/802.11 a_Ant.2_CH52_Top_7 mm Grip Sensor Off/Area Scan (9x11x1):
Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.392 W/kg

Configuration 3/802.11 a_Ant.2_CH52_Top_7 mm Grip Sensor Off/Zoom Scan (8x8x7)/Cube 0:
Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 3.445 V/m; Power Drift = 0.15 dB
Peak SAR (extrapolated) = 0.687 W/kg
SAR(1 g) = 0.185 W/kg; SAR(10 g) = 0.065 W/kg
Smallest distance from peaks to all points 3 dB below = 9.6 mm
Ratio of SAR at M2 to SAR at M1 = 64.1%
Maximum value of SAR (measured) = 0.416 W/kg



17)

Date: 9/14/2020

Test Laboratory: KCTL Inc.
File Name: 1.5.6G_802.11 _Body.da53:0

DUT: SM-T577U/DS, Type: Tablet, Serial: R32N601AB4P

Communication System: UID 0, 5GWLAN (0); Frequency: 5700 MHz; Duty Cycle: 1:1
Medium parameters used (interpolated): f = 5700 MHz; σ = 5.307 S/m; ε_r = 34.871; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

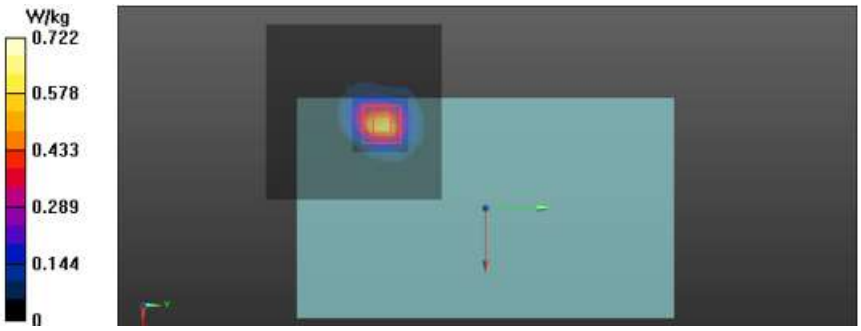
- Probe: EX3DV4 - SN3928;ConvF(4.69, 4.69, 4.69) @ 5700 MHz; Calibrated: 1/30/2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn666; Calibrated: 1/24/2020
- Phantom: Front_Left_ELI V8.0; Type: QD OVA 004 AA; Serial: 2097
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/802.11 a_Ant.1_CH140_Rear_12 mm Grip Sensor Off/Area Scan (11x11x1):
Measurement grid: dx=10mm, dy=10mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.602 W/kg

Configuration/802.11 a_Ant.1_CH140_Rear_12 mm Grip Sensor Off/Zoom Scan (9x9x7)/Cube 0:
Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 8.934 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 1.70 W/kg
SAR(1 g) = 0.294 W/kg; SAR(10 g) = 0.092 W/kg
Smallest distance from peaks to all points 3 dB below = 8.4 mm
Ratio of SAR at M2 to SAR at M1 = 60.7%

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.722 W/kg



18)

Date: 9/14/2020

Test Laboratory: KCTL Inc.
File Name: 1.5.6G_802.11 _Body.da53:2

DUT: SM-T577U/DS, Type: Tablet, Serial: R32N601AB4P

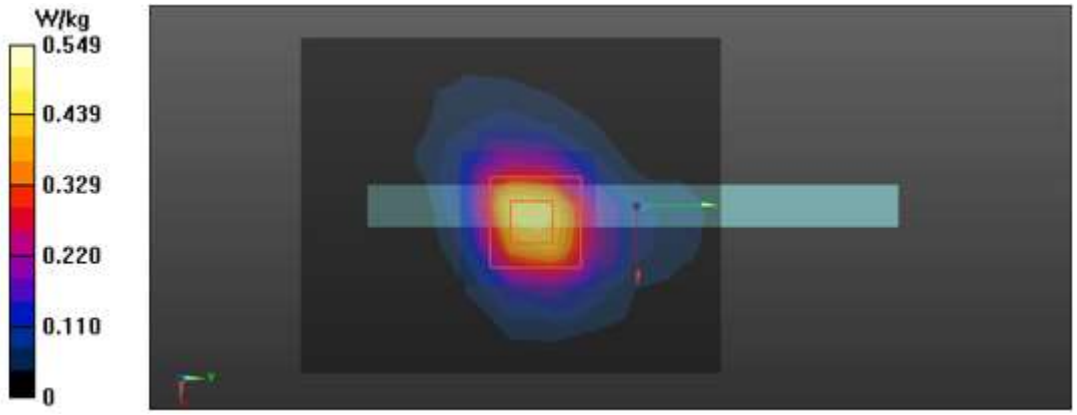
Communication System: UID 0, 5GWLAN (0); Frequency: 5500 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5500 MHz; σ = 5.102 S/m; ε_r = 35.34; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3928;ConvF(4.78, 4.78, 4.78) @ 5500 MHz; Calibrated: 1/30/2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn666; Calibrated: 1/24/2020
- Phantom: Front_Left_ELI V8.0; Type: QD OVA 004 AA; Serial: 2097
- Measurement SW: DASY52, Version 52.10 (4);

Configuration 3/802.11 a_Ant.2_CH100_Top_7 mm Grip Sensor Off/Area Scan (9x11x1):
Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.475 W/kg

Configuration 3/802.11 a_Ant.2_CH100_Top_7 mm Grip Sensor Off/Zoom Scan (9x9x7)/Cube 0:
Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 4.184 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 0.974 W/kg
SAR(1 g) = 0.235 W/kg; SAR(10 g) = 0.083 W/kg
Smallest distance from peaks to all points 3 dB below = 10.1 mm
Ratio of SAR at M2 to SAR at M1 = 60%
Maximum value of SAR (measured) = 0.549 W/kg



19)

Date: 9/15/2020

Test Laboratory: KCTL Inc.
File Name: 1.5.8G_802.11 _Body.da53:0

DUT: SM-T577U/DS, Type: Tablet, Serial: R32N601AB4P

Communication System: UID 0, 5GWLAN (0); Frequency: 5785 MHz; Duty Cycle: 1:1
Medium parameters used (interpolated): f = 5785 MHz; σ = 5.358 S/m; ε_r = 34.368; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

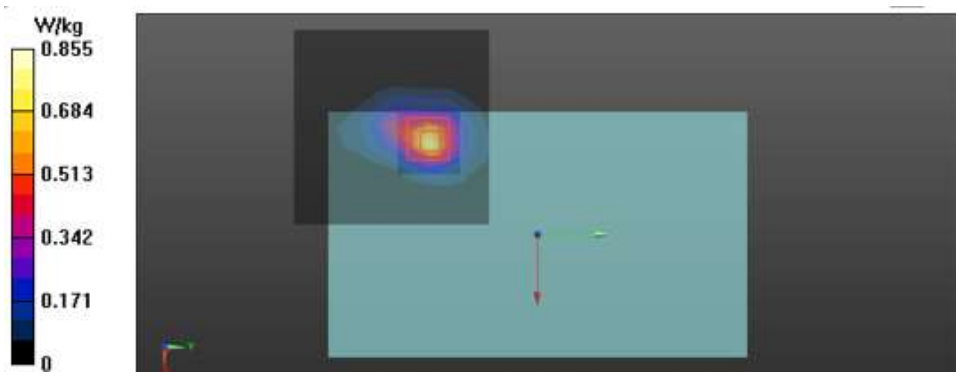
- Probe: EX3DV4 - SN3928;ConvF(4.65, 4.65, 4.65) @ 5785 MHz; Calibrated: 1/30/2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn666; Calibrated: 1/24/2020
- Phantom: Front_Left_ELI V8.0; Type: QD OVA 004 AA; Serial: 2097
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/802.11 a_Ant.1_CH157_Rear_12 mm Grip Sensor Off/Area Scan (11x11x1):
Measurement grid: dx=10mm, dy=10mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.777 W/kg

Configuration/802.11 a_Ant.1_CH157_Rear_12 mm Grip Sensor Off/Zoom Scan (9x9x7)/Cube 0:
Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 10.15 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 1.56 W/kg
SAR(1 g) = 0.347 W/kg; SAR(10 g) = 0.115 W/kg
Smallest distance from peaks to all points 3 dB below = 8.9 mm
Ratio of SAR at M2 to SAR at M1 = 58.7%

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.855 W/kg



20)

Date: 9/15/2020

Test Laboratory: KCTL Inc.
File Name: 1.5.8G_802.11 _Body.da53:2

DUT: SM-T577U/DS, Type: Tablet, Serial: R32N601AB4P

Communication System: UID 0, 5GWLAN (0); Frequency: 5785 MHz; Duty Cycle: 1:1
Medium parameters used (interpolated): f = 5785 MHz; σ = 5.358 S/m; ε_r = 34.368; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

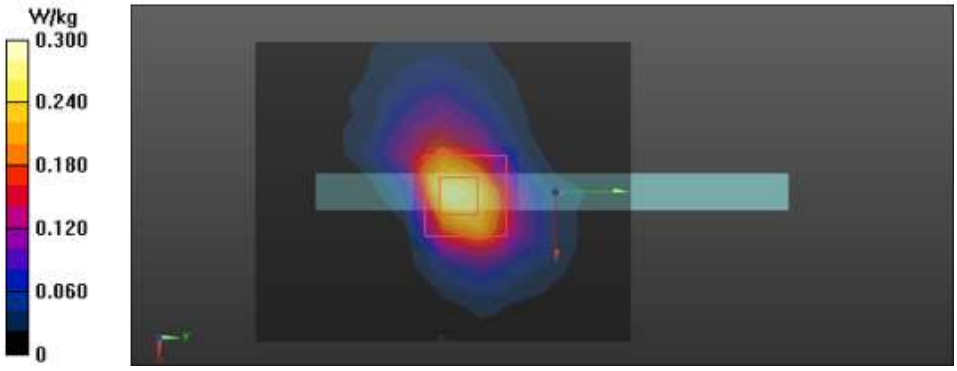
- Probe: EX3DV4 - SN3928;ConvF(4.65, 4.65, 4.65) @ 5785 MHz; Calibrated: 1/30/2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn666; Calibrated: 1/24/2020
- Phantom: Front_Left_ELI V8.0; Type: QD OVA 004 AA; Serial: 2097
- Measurement SW: DASY52, Version 52.10 (4);

Configuration 3/802.11 a_Ant.2_CH157_Top_7 mm Grip Sensor Off/Area Scan (9x11x1):
Measurement grid: dx=10mm, dy=10mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.280 W/kg

Configuration 3/802.11 a_Ant.2_CH157_Top_7 mm Grip Sensor Off/Zoom Scan (8x8x7)/Cube 0:
Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 3.181 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 1.49 W/kg
SAR(1 g) = 0.120 W/kg; SAR(10 g) = 0.042 W/kg
Smallest distance from peaks to all points 3 dB below = 8.6 mm
Ratio of SAR at M2 to SAR at M1 = 58.8%

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.300 W/kg



21)

Date: 9/14/2020

Test Laboratory: KCTL Inc.
File Name: 1.Bluetooth_GFSK_DH5_Body.da53:0

DUT: SM-T577U/DS, Type: Tablet PC, Serial: R32N601AB9M

Communication System: UID 0, Bluetooth (0); Frequency: 2441 MHz; Duty Cycle: 1:1.30227
Medium parameters used (interpolated): f = 2441 MHz; σ = 1.786 S/m; ε_r = 38.215; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

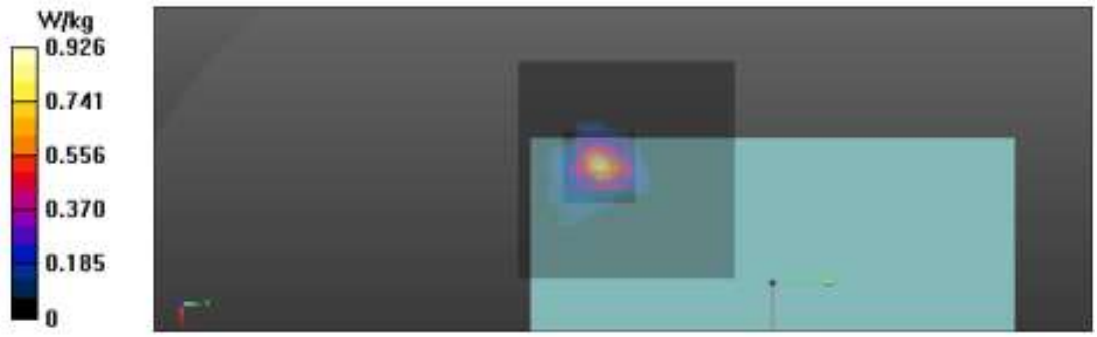
- Probe: EX3DV4 - SN7541; ConvF(7.54, 7.54, 7.54) @ 2441 MHz; ; Calibrated: 7/30/2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1587; Calibrated: 7/29/2020
- Phantom: ELI V8.0_Left; Type: QD OVA 004 AA; Serial: 2098
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/Bluetooth_GFSK_DH5_Ant.1_CH39_Rear_0 mm Grip Sensor Off/Area Scan (9x9x1): Measurement grid: dx=12mm, dy=12mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.848 W/kg

Configuration/Bluetooth_GFSK_DH5_Ant.1_CH39_Rear_0 mm Grip Sensor Off/Zoom Scan (9x9x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 19.09 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 1.80 W/kg
SAR(1 g) = 0.436 W/kg; SAR(10 g) = 0.143 W/kg
Smallest distance from peaks to all points 3 dB below = 4.7 mm
Ratio of SAR at M2 to SAR at M1 = 60.6%

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.926 W/kg



Appendixes List

Appendix A	A.1 Probe Calibration certificate (EX3DV4_3928) A.2 Probe Calibration certificate (EX3DV4_7540) A.3 Probe Calibration certificate (EX3DV4_7541) A.4 Dipole Calibration certificate (D750V3_1096) A.5 Dipole Calibration certificate (D850V2_1006) A.6 Dipole Calibration certificate (D1750V2_1072) A.7 Dipole Calibration certificate (D1900V2_5d160) A.8 Dipole Calibration certificate (D2450V2_895) A.9 Dipole Calibration certificate (D2600V2_1050) A.10 Dipole Calibration certificate (D5GHzV2_1134) A.11 Justification for Extended SAR Dipole Calibrations
Appendix B	SAR Tissue Specification
Appendix C	Downlink LTE CA RF Conducted Power
Appendix D	Power Reduction Verification
Appendix E	#Antenna Location & Distance
Appendix F	EUT Photo
Appendix G	Test Setup Photo

This test report shall not be reproduced, except in full, without the written approval