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FCC SAR Compliance Test Report

For

INFINIX MOBILITY LIMITED

RMS 05-15, 13A/F SOUTH TOWER WORLD FINANCE CTR HARBOUR CITY 17 CANTON

RD TST KLN HONG KONG

Model: X620B

Test Engineer: Hu Tong Hu Tong

Report Number: FCC18070037A-SAR

Report Date: Jul. 27, 2018

FCC ID: 2AIZN-X620B

Check By: Lily Zhao Lily Zhaw

Approved By: Wang Fengbing

World Standardization Certification & Testing Group

Co.,Ltd.

Prepared By: Building A-B, Baoshi Science & Technology Park,

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Modified History

	REV.	Modification Description	Issued Date	Remark	SE.
(REV.1.0	Initial Test Report Relesse	Jul. 27, 2018	Wang Fengbing	
4	1	ISET WSET	WSET	WSIT	
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1		\times	\times	\times	
7		ISET WSET	WSET	WSCT	
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1 General information

1.1 Notes

The test results of this test report relate exclusively to the test item specified in this test report. World Standardization Certification & Testing Group Co.,Ltd does not assume responsibility for any conclusions and generalisations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the test item. The test report is not to be reproduced or published in full without the prior written permission.

1.2 Application details

Date of receipt of test item: 2018-07-16
Start of test: 2018-07-18
End of test: 2018-07-23

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1.3 Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for X571 is as below:

	Band	Position	MAX Reported SAR1g (W/kg)
7 %	WSET	Head	W5[7 0.095 W5[7
	GSM850	Body & Hotspot 10mm	0.111
/		Head	0.009
AW	GSM1900	Body & Hotspot	0.126
	$\overline{}$	10mm Head	0.087
	UMTS Band II	Body & Hotspot 10mm	0.797
1		Head	0.083
	UMTS Band IV	Body & Hotspot 10mm	0.724
100	5/7 W	Head	0.073
	UMTS Band V	Body & Hotspot 10mm	0.114
		Head	0.062
	LTE Band II	Body & Hotspot 10mm	W5LT 0.680 W5LT
	V	Head	0.061
1	LTE Band IV	Body & Hotspot 10mm	0.701
110	794	Head	0.037
	LTE Band V	Body & Hotspot 10mm	0.091
		Head	0.020
	LTE Band VII	Body & Hotspot 10mm	0.198
	X	Head	0.093
W	Wi-Fi 2.4G	Body & Hotspot 10mm	0.025
	M// E/ E G	Head	0.084
	Wi-Fi 5G	Body & Hotspot 10mm	0.022

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The device is in compliance with Specific Absorption Rate (SAR) for general population/uncontraolled exposure limits of 1.6 W/Kg as averaged over any 1g tissue according to the FCC rule §2.1093, the ANSI/IEEE C95.1:2005, the NCRP Report Number 86 for uncontrolled environment, according to the Industry Canada Radio Standards Specification RSS-102 for General Population/Uncontrolled exposure, and had been tested in accordance with the measurement methods and procedures specified in IEEE Std 1528-2013.

methods a	nd procedures specifi	ed in IEEE Std 152	8-2013.		
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\times		<u> </u>	X	X	
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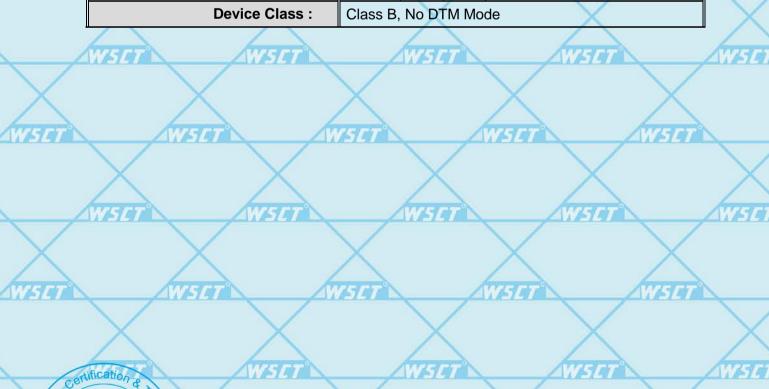




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1.4 EUT Information

Device Information:		
Product Type:	Mobile phone	
Model:	X620B	
Trade Name:	Infinix	
Device Type:	Portable device	
Exposure Category: uncontrolled environment / general population		
Production Unit or Identical Prototype:	Production Unit	
Hardware version:	V2.1	
Software version :	X620B-Q6361A-O-180702V06	
Antenna Type :	Internal Antenna	
Device Operating Configurations:		
Supporting Mode(s):	GSM850,PCS1900, UMTS Band II, UMTS Band IV ,UMTS Band V,LTE Band II, LTE Band IV ,LTE Band VII , Wi-Fi , BT	
Modulation:	GSM(GMSK/8PSK),UMTS(QPSK/16QAM),LTE(QPS K/16QAM), WiFi(OFDM/CCK),BT(GFSK/π/4-DQPSK/ 8-DPSK), BLE(GFSK)	
Device Class :	Class B, No DTM Mode	



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/		Band	TX(MHz)	RX(MHz)	WSE.
		GSM850	824~849	869~894	
_		GSM1900	1850~1910	1930~1990	
		UMTS Band II	1850~1910	1930~1990	
		UMTS Band IV	1710~1755	2110~2155	X
1		UMTS Band V	824~849	V5 / 869~894	W5E
	Operating Frequency Range(s)	LTE Band II	1850~1910	1930~1990	
_		LTE Band IV	1710~1755	2110~2155	
L		LTE Band V	824~849	869~894	
		LTE Band VII	2500~2570	2620~2690	X
1		Wi-Fi (2.4G)		412-2462	WSC
		Wi-Fi (5G)		150~5250 725~5850	
/		ВТ	24	402~2480	
	GPRS class level:	GPRS class 12			
		128-190-251(GSM8		X	\times
		512-661-810(GSM1		10323	Kursa
_		9262-9400-9538(UN 1312-1413-1513(UN		1714	AW5E
		4132-4182-4233(UN		\sim	
		18700-18900-19100			
		20050-20175-20300			
	Test Channels (low-mid-high):	20450-20525-20600			
		20850-21100-21350	•	711)	X
		1-6-11 (Wi-Fi 2.4G)		2 56 60 64 140	
1		802.11a/n/ac 20M: 153-157-161-165	ou-40-44-48-	02-00-00-04-149-	AWSE.
		802.11 n/ac 40M: 3	8-46-54-62-15	51-159 (Wi-Fi 5G)	
		0-39-78(BT)	X	X	
		0-19-39(BLE)			
	Power Source:		/3650mAh(mi	n/typ) Rechargeable	
Ĺ		Battery			





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2 Testing laboratory

Test Site	World Standardization Certification & Testing (Shenzhen) Co.,Ltd.
Test Location	Building A-B, Baoshi Science & Technology Park, Baoshi Road,
1681 LOCALION	Bao'an District, Shenzhen, Guangdong, China
Telephone	+86-755-26996192
Fax	+86-755-86376605

3 Test Environment

WSG	WSCT	IST WS T
	Required	Actual
Ambient temperature:	18 – 25 °C	22 ± 2 °C
Tissue Simulating liquid:	22 ± 2 °C	22 ± 2 °C
Relative humidity content:	30 – 70 %	30 – 70 %

4 Applicant and Manufacturer

	Applicant/Client Name:	INFINIX MOBILITY LIMITED
	Applicant Address:	RMS 05-15, 13A/F SOUTH TOWER WORLD FINANCE CTR HARBOUR CITY 17 CANTON RD TST KLN HONG KONG
	Manufacturer Name:	SHENZHEN TECNO TECHNOLOGY CO.,LTD.
200	Manufacturer Address:	1/F-4/F,7/F, BUILDING 3, TAIPINGYANG INDUSTRIAL ZONE, NO.2088, SHENYAN ROAD, YANTIAN DISTRICT, SHENZHEN CITY, GUANGDONG PROVINCE, P.R.C

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5 Test standard/s:

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C	ANSI Std C95.1-2005	Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.	>
	IEEE Std 1528-2013	Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques	,
<	RSS-102	Radio Frequency Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands (Issue 5 March 2015)	
Ľ	KDB447498 D01	General RF Exposure Guidance v06 W5 W5	>
	KDB648474 D04	Head set SAR v01r03	
	KDB941225 D06	Hot Spot SAR V02r01	/
/	KDB941225 D01	3G SAR Measurement Procedures	
	KDB248227 D01	SAR meas for 802.11 a/b/g v02r02	
	KDB865664 D01	SAR Measurement 100 MHz to 6 GHz v01r04	
	KDB865664 D02	RF Exposure Reporting v01r02	
- 10	KDB 941225 D05	SAR Evaluation Considerations for LTE Devices	2
K	KDB941225 D05A	LTE Rel.10 KDB Inquiry Sheet v01r02	

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5.1 RF exposure limits

Human Exposure	Uncontrolled Environment General Population	Controlled Environment Occupational
Spatial Peak SAR* (Brain/Body/Arms/Legs)	1.60 mW/g	8.00 mW/g
Spatial Average SAR** (Whole Body)	0.08 mW/g	0.40 mW/g
Spatial Peak SAR*** (Heads/Feet/Ankle/Wrist)	4.00 mW/g / 5 / 7	20.00 mW/g

The limit applied in this test report is shown in bold letters

Notes:

- * The Spatial Peak value of the SAR averaged over any 1 gram of tissue (defined as a stissue volume in the shape of a cube) and over the appropriate averaging time.
- ** The Spatial Average value of the SAR averaged over the whole body.
- *** 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.

Uncontrolled Environments are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure.

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.

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5.2 SAR Definition

Specific Absorption Rate is defined as 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 (p).

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

SAR is expressed in units of watts per kilogram (W/kg). SAR can be related to the electric field at a point by

 $SAR = \frac{\sigma \mid E \mid^2}{\rho}$

where:

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W5 C7 W5 C9 = conductivity of the tissue (S/m)

 ρ = mass density of the tissue (kg/m³)

E = rms electric field strength (V/m)

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6 SAR Measurement System

6.1 The Measurement System

Comosar is a system that is able to determine the SAR distribution inside a phantom of human being according to different standards. The Comosar system consists of the following items:

- Main computer to control all the system
- 6 axis robot
- Data acquisition system
- Miniature E-field probe
- Device holder
- Head simulating tissue

The following figure shows the system.

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The EUT under test operating at the maximum power level is placed in the phone holder, under the phantom, which is filled with head simulating liquid. The E-Field probe measures the electric field inside the phantom. The OpenSAR software computes the results to give a SAR value in a 1g or 10g mass.

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6.2 Robot

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The COMOSAR system uses the high precision robots KR 6 R900 sixx type out of the newer series from Satimo SA (France). For the 6-axis controller COMOSAR system, the KUKA robot controller version from Satimo is used. The KR 6 R900 sixx robot series have many features that are important for

our application:

- High precision (repeatability 0.02 mm)
- High reliability (industrial design)
- Jerk-free straight movements
- Low ELF interference (the closed metallic construction shields against motor control fields)

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construction shields against motor control	neids)	WSLT
6-axis controller		\times
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X	\times	SET WSCT
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6.3 Probe

For the measurements the Specific Dosimetric E-Field Probe SSE 5 with following specifications is used

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Figure 1 – MVG COMOSAR Dosimetric E field Dipole

- Dynamic range: 0.01-100 W/kg

Probe Length	330 mm
Length of Individual Dipoles	4.5 mm
Maximum external diameter	8 mm
Probe Tip External Diameter	5 mm / W5CT \
Distance between dipoles / probe extremity	2.7 mm

- Calibration range: 300MHz to 3GHz for head & body simulating liquid.

Angle between probe axis (evaluation axis) and suface normal line:less than 30°



Figure 2 – MVG COMOSAR Dosimetric E field Dipole

Dynamic range: 0.01-100 W/kg

Probe Length	330 mm
Length of Individual Dipoles	2 mm
Maximum external diameter	8 mm
Probe Tip External Diameter	2.5 mm
Distance between dipoles / probe extremity	1 mm

- Calibration range: 5GHz to 6GHz for head & body simulating liquid.

Angle between probe axis (evaluation axis) and suface normal line:less than 30°

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6.4 Measurement procedure

The following steps are used for each test position

- Establish a call with the maximum output power with a base station simulator. The connection between the mobile and the base station simulator is established via air interface.
- Measurement of the local E-field value at a fixed location. This value serves as a reference value for calculating a possible power drift.
- Measurement of the SAR distribution with a grid of 8 to 16 mm * 8 to 16 mm and a constant distance to the inner surface of the phantom. Since the sensors can not directly measure at the inner phantom surface, the values between the sensors and the inner phantom surface are extrapolated. With these values the area of the maximum SAR is calculated by an interpolation scheme.
- Around this point,a cube of 30 * 30 * 30 mm or 32 * 32 * 32 mm is assessed by measuring 5 or 8
 * 5 or 8 * 4 or 5 mm. With these data, the peak spatial-average SAR value can be calculated.

Spatial Peak SAR Evaluation

The procedure for spatial peak SAR evaluation has been implemented according to the test standard. It can be conducted for 1g and 10g, as well as for user-specific masses. The SATIMO software includes all numerical procedures necessary to evaluate the spatial peak SAR value.

The base for the evaluation is a "cube" measurement. The measured volume must include the 1g and 10g cubes with the highest averaged SAR values. For that purpose, the center of the measured volume is aligned to the interpolated peak SAR value of a previously performed area scan.

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The entire evaluation of the spatial peak values is performed within the post-processing engine. The system always gives the maximum values for the 1g and 10g cubes. The algorithm to find the cube with highest averaged SAR is divided into the following stages:

- (a) Extraction of the measured data (grid and values) from the Zoom Scan
- (b) Calculation of the SAR value at every measurement point based on all stored data (A/D values and measurement parameters)
- (c) Generation of a high-resolution mesh within the measured volume
- (d) Interpolation of all measured values form the measurement grid to the high-resolution grid
- (e) Extrapolation of the entire 3-D field distribution to the phantom surface over the distance from sensor to surface
- (f) Calculation of the averaged SAR within masses of 1g and 10g

SAR Averaged Methods

In SATIMO, the interpolation and extrapolation are both based on the modified Quadratic Shepard's method. The interpolation scheme combines a least-square fitted function method and a weighted average method which are the two basic types of computational interpolation and approximation.

Extrapolation routines are used to obtain SAR values between the lowest measurement points and the inner phantom surface. The extrapolation distance is determined by the surface detection distance and the probe sensor offset. The uncertainty increases with the extrapolation distance. To keep the uncertainty within 1% for the 1 g and 10 g cubes, the extrapolation distance should not be larger than 5 mm.

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6.5 Description of interpolation/extrapolation scheme

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- The local SAR inside the phantom is measured using small dipole sensing elements inside a
 probe body. The probe tip must not be in contact with the phantom surface in order to minimise
 measurements errors, but the highest local SAR will occur at the surface of the phantom.
- An extrapolation is using to determinate this highest local SAR values.
 The extrapolation is based on afourth-order least-square polynomial fit of measured data. The local SAR value is then extrapolated from the liquid surface with a 1 mm step.
- The measurements have to be performed over a limited time(due to the duration of the battery) so the step of measurement is high. It could vary between 5 and 8 mm. To obtain an accurate assessment of the maximum SAR average over 10 grams and 1 gram requires a very fine resolution in the three dimensional scanned data array.

	WSET	WSET	WSET	WSET	WSET
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	WSET	WSLIT	WSET	WSET	WSET
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	WSET	WSET	WSLT	WSET	WSET
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ardiza	WSCT Q				X



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6.6 Phantom

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For the measurements the Specific Anthropomorphic Mannequin (SAM) defined by the IEEE SCC-34/SC2 group is used. The phantom is a polyurethane shell integrated in a wooden table. The thickness of the phantom amounts to 2mm +/- 0.2mm. It enables the dosimetric evaluation of left and right phone usage and includes an additional flat phantom part for the simplified performance check. The phantom set-up includes a cover, which prevents the evaporation of the liquid.



/	System Material	Permittivity	Loss Tangent
Y	Delrin W5/7	3.7-57-7	0.005

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WSLT WSLT WSLT WSLT WSLT

WSET WSET WSET WSET

501 W501 W501



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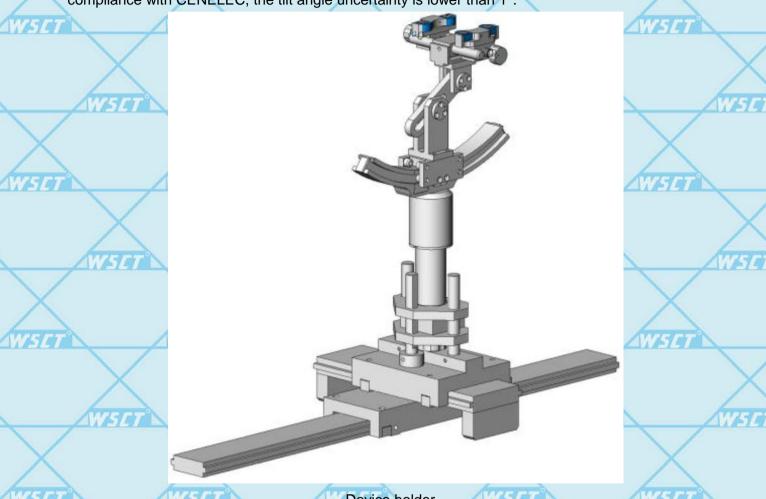


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6.7 Device Holder

The positioning system allows obtaining cheek and tilting position with a very good accuracy. In compliance with CENELEC, the tilt angle uncertainty is lower than 1°.

4W3L/ \



WSET Woevice holder WSET

System Material	Permittivity	Loss Tangent
Delrin	3.7	0.005

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6.8 Video Positioning System

- The video positioning system is used in OpenSAR to check the probe. Which is composed of a camera, LED, mirror and mechanical parts. The camera is piloted by the main computer with firewire link.
- During the process, the actual position of the probe tip with respect to the robot arm is measured, as well as the probe length and the horizontal probe offset. The software then corrects all movements, such that the robot coordinates are valid for the probe tip.
- The repeatability of this process is better than 0.1 mm. If a position has been taught with an aligned probe, the same position will be reached with another aligned probe within 0.1 mm, even if the other probe has different dimensions. During probe rotations, the probe tip will keep its actual position.

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6.9 Tissue simulating liquids: dielectric properties

For SAR measurement of the field distribution inside the phantom, the phantom must be filled with homogeneous tissue simulating liquid to a depth of at least 15 cm. For head SAR testing, the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15 cm. For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm. The simulating liquids should be checked at the beginning of a series of SAR measurements to determine of the dielectic parameter are within the tolerances of the specified target values. The measured conductivity and relative permittivity should be within ± 5% of the target values.

The following materials are used for producing the tissue-equivalent materials. (Liquids used for tests are marked with \boxtimes):

(Liquius uscu ioi ics	is are marked	with [2].		Y		V
Ingredients(% of weight)			Freque	ncy (MHz)		
frequency band	750	⊠ 835	⊠ 1800	⊠ 1900	2450	≥ 2600
Tissue Type	Head	Head	Head	Head	Head	Head
Water	39.2	41.45	52.64	55.242	62.7	55.242
Salt (NaCl)	2.7	1.45	0.36	0.306	0.5	0.306
Sugar	57.0	56.0	0.0	0.0	0.0	0.0
HEC	0.0	1.0	0.0	0.0	0.0	0.0
Bactericide	0.0	0.1	0.0	0.0	0.0	0.0
Triton X-100	0.0	0.0	0.0	0.0	36.8	0.0
DGBE	0.0	0.0	47.0	44.542	0.0	44.452
Ingredients(% of weight)		11019	Freque	ncy (MHz)		1819
frequency band	750	⊠ 835	⊠ 1800	⊠ 1900	≥ 2450	⊠ 2600
Tissue Type	Body	Body	Body	Body	Body	Body
Water	50.30	52.4	69.91	69.91	73.2	64.493
Salt (NaCl)	1.60	1.40	0.13	0.13	0.04	0.024
Sugar	47.0	45.0	0.0	0.0	0.0	0.0
HEC	0.0	1.0	0.0	0.0	0.0	0.0
Bactericide	0.0	0.1	0.0	0.0	0.0	0.0
Triton X-100	0.0	0.0	0.0	0.0	0.0	0.0
DGBE	0.0	0.0	29.96	29.96	26.7	32.252

Salt: 99+% Pure Sodium Chloride

Sugar: 98+% Pure Sucrose

Water: De-ionized, 16M Ω + resistivity

HEC: Hydroxyethyl Cellulose

DGBE: 99+% Di(ethylene glycol) butyl ether, [2-(2-butoxyethoxy)ethanol]

Triton X-100(ultra pure): Polyethylene glycol mono [4-(1,1,3,3-tetramethylbutyl)phenyl]ether

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⊠ Simulating Head Liquid for 5G(HBBL3500-5800MHz), Manufactured by SPEAG:

	Ingredients	(% by weight)	
	Water	50-65%	
	Mineral oil	10-30%	
\	Emulsifiers	8-25%	
5	Sodium salt	0-1.5%	

⊠ Simulating Body Liquid for 5G(MBBL3500-5800MHz), Manufactured by SPEAG:

	Ingredients	(% by weight)	
	Water	60-80%	
/	Esters, Emulsifiers, Inhibitors	20-40%	
	Sodium salt	0-1.5%	

6.10 Tissue simulating liquids: parameters

	Tipour	Measured		Target T	issue		Measure	d Tissue	Liamial		4
/	Tissue Type	Frequency (MHz)	Target Permittivity ε _r	Range of ±5%	Target Conductivity σ (S/m)	Range of ±5%	€ _r	σ (S/m)	Liquid Temp.	Test Date	
/	ET AL	825	41.60	39.52~43.68	0.90	0.86~0.95	40.56	0.94	VSET		
	835MHz Head	835	41.50	39.43~43.58	0.90	0.86~0.95	40.44	0.95		1	,
	1	850	41.50	39.43~43.58	0.92	0.87~0.97	40.33	0.95	21.6°C	2018-	<
		/5/825	55.20	52.44~57.96	0.97 5	0.92~1.02	53.86	0.95	21.0 0	07-19	T _A
	835MHz Body	835	55.20	52.44~57.96	0.97	0.92~1.02	53.76	0.96	\checkmark		
1		850	55.20	52.44~57.96	0.99	0.94~1.04	53.50	0.98			
V	514	1710	40.10	38.10~42.10	1.35	1.28~1.42	40.20	1.34	VSET		
	1800MHz Head	1730	40.10	38.10~42.10	1.35	1.29~1.43	40.17	1.38			<
	1	1750	40.10	38.10~42.10	1.37	1.30~1.44	39.79	1.36		WE	//
1		1800	40.00	38.00~42.00	1.40	1.33~1.47	40.01	1.40	21.6°C	2018-	
	X	1710	53.50	50.83~56.18	1.46	1.39~1.53	52.66	1.48	21.6 C	07-18	
f	15.5.	1730	53.50	50.83~56.18	1.48	1.41~1.55	53.97	1.50	V5ET		
	1800MHz Body	1750	53.40	50.73~56.07	1.49	1.42~1.56	55.19	1.52			/
	,	1800	53.30	50.64~55.97	1.52	1.44~1.60	52.02	1.46		/	

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	1									/
		1850	40.00	38.00~42.00	1.40	1.33~1.47	40.54	1.38		ZWSZ
	1900MHz	1880	40.00	38.00~42.00	1.40	1.33~1.47	40.66	1.37	\times	
4	Head	1900	40.00	38.00~42.00	1.40	1.33~1.47	39.88	1.41	V51-17	
II	-14	1910	40.00	38.00~42.00	1.40	1.33~1.47	39.54	1.44	21.6°C	2018-
		1850	53.30	50.64~55.97	1.52	1.44~1.60	52.62	1.49	21.0 0	07-18
	1900MHz	1880	53.30	50.64~55.97	1.52	1.44~1.60	51.47	1.57		WSE
1	Body	1900	53.30	50.64~55.97	1.52	1.44~1.60	52.70	1.52	\checkmark	
_		1910	53.30	50.64~55.97	1.52	1.44~1.60	53.63	1.54	\wedge	
M	SET	2410	39.30	37.34~41.26	1.76	1.67~1.85	39.29	1.88	VSET	
	2450MHz Head	2435	39.20	37.24~41.16	1.79	1.70~1.88	39.25	1.87		\times
		2450	39.20	37.24~41.16	1.80	1.71~1.89	39.27	1.85		Aug .
1		2460	39.20	37.24~41.16	1.81	1.72~1.90	39.27	1.83	21.6°C	2018-
-1	X	2410	52.80	50.16~55.44	1.91	1.81~2.00	53.23	1.91	21.00	07-23
Í	2450MHz	2435	52.70	50.07~55.34	1.94	1.84~2.04	53.05	1.90	VSET	
	Body	2450	52.70	50.07~55.34	1.95	1.85~2.05	53.05	2.03		
		2460	52.70	50.07~55.34	1.96	1.86~2.06	53.01	2.04		
_		2510	39.00	37.05~40.95	1.96	1.86~2.06	39.22	1.88		AWS E
	2600MHz	2535	39.00	37.05~40.95	1.96	1.86~2.06	38.89	1.89	X	
4	Head	2560	39.00	37.05~40.95	1.96	1.86~2.06	39.09	1.90	VSET	
A.A.	2191	2600	39.00	37.05~40.95	1.96	1.86~2.06	39.25	1.92	21.6°C	2018-
		2510	52.50	49.90~55.11	2.16	2.05~2.27	52.70	2.02	21.0 0	07-21
	2600MHz	2535	52.50	49.90~55.11	2.16	2.05~2.27	52.41	2.05		WS C
1	Body	2560	52.50	49.90~55.11	2.16	2.05~2.27	52.12	2.10	/	
1		2600	52.50	49.90~55.11	2.16	2.05~2.27	52.21	2.18	\triangle	
		AT Y	and the same of th				ALC: NO.			

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						<u> </u>					
1		5200	36.0	34.20~37.80	4.66	4.43~4.89	35.62	4.50		AWS	C J
	5G Head	5300	35.9	34.10~37.70	4.76	4.52~5.00	35.52	4.83	\times		
4	772	5800	35.3	33.54~37.07	5.27	5.01~5.53	34.63	5.16	21.6°C	2018-	
14.		5200	49.0	46.55~51.45	5.30	5.03~5.56	49.86	5.19	21.0 0	07-23	1
	5G Body	5300	48.9	46.05~51.35	5.42	5.15~5.69	48.32	5.27			
	V	5800	48.20	45.79~50.61	6.00	5.70~6.30	47.74	6.09		W5	E 1
/				s = Pelative per	mittivity a= Cond	uctivity					

 ϵ_r = Relative permittivity, σ = Conductivity

	c, reduite permit	array, o contadeavity		
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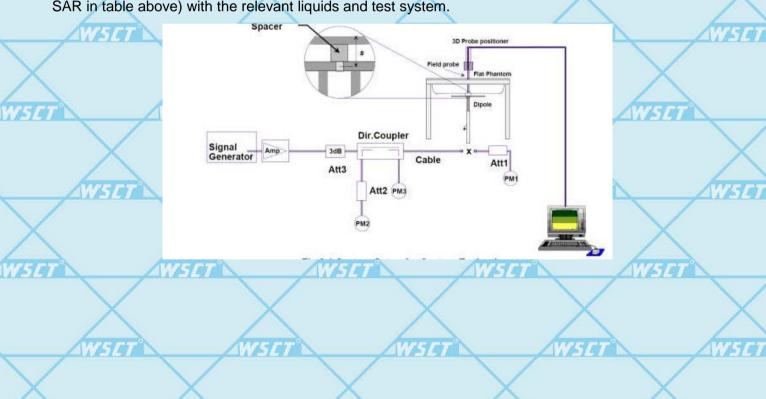
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7 System Check

7.1 System check procedure

The System check is performed by using a System check dipole which is positioned parallel to the planar part of the SAM phantom at the reference point. The distance of the dipole to the SAM phantom is determined by a spacer. The dipole is connected to the signal source consisting of signal generator and amplifier via a directional coupler, N-connector cable and adaption to SMA. It is fed with a power of 100 mW. To adjust this power a power meter is used. The power sensor is connected to the cable before the System check to measure the power at this point and do adjustments at the signal generator. At the outputs of the directional coupler both return loss as well as forward power are controlled during the validation to make sure that emitted power at the dipole is kept constant. This can also be checked by the power drift measurement after the test (result on plot).

System check results have to be equal or near the values determined during dipole calibration (target SAR in table above) with the relevant liquids and test system.



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7.2 System check results

The system Check is performed for verifying the accuracy of the complete measurement system and performance of the software. The following table shows System check results for all frequency bands and tissue liquids used during the tests (plot(s) see annex A).

		ZW56		AN34			74		4W5L/ N	_
	Overtone		Target SAR (1	W) (+/-10%	·)	Measure (Normalize		Linuid		
	System Check	1-g (W/g)	Range of ±10% 1-g (W/g)	10-g (W/g)	Range of \pm 10% 10-g (W/g)	1-g (W/g)	10-g (W/g)	Liquid Temp.	Test Date	1
	D835V2 Head	9.82	8.84~10.80	6.35	5.72~6.99	9.120	6.720	21.6°C	2018/07/19	
À	D1800V2 Head	37.09	33.38~40.80	19.77	17.93~21.75	36.70	20.57	21.6°C	2018/07/18	
	D1900V2 Head	38.93	35.04~42.82	20.27	18.45~22.55	37.820	20.630	21.6°C	2018/07/18	7
	D2450V2 Head	53.41	48.07~58.75	23.95	21.56~26.35	51.240	24.800	21.6°C	2018/07/23	4
1	D2600V2 Head	56.88	51.20~62.56	24.92	22.43~27.41	55.01	26.06	21.6°C	2018/07/21	M
	D5200V2 Head	164.05	147.65~180.45	57.03	51.33~62.73	174.700	55.560	21.6°C	2018/07/23	
	D5300V2 Head	171.66	154.50~188.82	59.33	53.40~65.26	177.950	61.560	21.6°C	2018/07/23	_
	D5800V2 Head	185.02	166.52~203.52	62.43	56.19~68.67	185.190	63.340	21.6°C	2018/07/23	
J	D835V2 Body	9.41	8.47~10.35	6.22	5.99~6.84	8.460	6.300	21.6°C	2018/07/19	1
	D1800V2 Body	38.03	34.23~41.83	20.69	18.62~22.76	36.26	20.53	21.6°C	2018/07/18	
0	D1900V2 Body	38.73	34.86~42.60	20.48	18.43~22.53	37.200	20.470	21.6°C	2018/07/18	
	D2450V2 Body	51.39	46.25~56.53	23.63	21.27~25.99	47.280	23.290	21.6°C	2018/07/23	1
	D2600V2 Body	54.54	49.09~59.99	24.37	21.94~26.80	52.070	25.080	21.6°C	2018/07/21	4
7	D5200V2 Body	163.36	147.03~179.69	57.09	51.39~62.79	167.180	59.640	21.6°C	2018/07/23	12
	D5300V2 Body	166.22	149.60~182.84	57.22	51.50~62.94	165.370	58.820	21.6°C	2018/07/23	
	D5800V2 Body	177.10	159.39~194.81	59.95	53.96~65.94	179.660	60.800	21.6°C	2018/07/23	7
			Note: All SAF	R values are	e normalized to	1W forward	power.			

Note: 5G band system check USES standard waveguide, so the test results are standard en62209-2 table B2









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8 **SAR Test Test Configuration**

GSM Test Configurations 8.1

SAR tests for GSM850 and GSM1900, a communication link is set up with a base station by air link. Using CMU200 the power lever is set to "5" and "0" in SAR of GSM850 and GSM1900. The tests in the band of GSM 850 and GSM 1900 are performed in the mode of GPRS/EGPRS function. Since the GPRS class is 12 for this EUT, it has at most 4 timeslots in uplink and at most 4 timeslots in downlink, the maximum total timeslot is 5.

When SAR tests for EGPRS mode is necessary, GMSK modulation should be used to minimize SAR measurement error due to higher peak-to-average power (PAR) ratios inherent in 8-PSK.

UMTS Test Configuration

1) Output Power Verification

Maximum output power is verified on the high, middle and low channels according to procedures described in section 5.2 of 3GPP TS 34.121, using the appropriate RMC or AMR with TPC (transmit power control) set to all "1 some for WCDMA/HSDPA or by 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, HSDPA, HSPA) are requied in the SAR report. All configurations that are not supported by the Headset or cannot be measured due to technical or equipment limitations must be clearly identified.

2) WCDMA

a. 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.

b. Body SAR Measurements

SAR for body-worn accessory configurations 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 other spreading codes and multiple DPDCHn configurations supported by the Headset with 12.2 kbps RMC as the primary mode

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3) HSDPA

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SAR for body exposure configurations is measured according to the "Body SAR Measurements"" procedures of 3G device. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is \$\leq\$ \(\lambda \) dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is \$\leq\$ 1.2 W/kg, SAR measurement is not required for the secondary mode. This is referred to as the 3G SAR test reduction procedure in the following SAR test guidance, where the primary mode is identified in the applicable wireless mode test procedures and the secondary mode is wireless mode being considered for SAR test reduction by that procedure. When the 3G SAR test reduction procedure is not satisfied, it is identified as "otherwise" in the applicable procedures; SAR measurement is required for the secondary mode.

Per KDB941225 D01, the 3G SAR test reduction procedure is applied to HSDPA body configurations with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured for HSDPA using the HSDPA body SAR procedures for the highest reported SAR body exposure configuration in 12.2 kbps RMC.

HSDPA should be configured according to UE category of a test device. The number of HS-DSCH/HS-PDSCHs,

HAPRQ processes, minimum inter-TTI interval, transport block sizes and RV coding sequence are defined by the H-set. To maintain a consistent test configuration and stable transmission condition, QPSK is used in the H-set for SAR testing. HS-DPCCH should be configured with a CQI feedback cycle of 4ms with a CQI repetition factor of 2 to maintain a constant rate of active CQI slots. The β c and β d gain factors for DPCCH and DPDCH were set according to the values in the below table,

 Δ ACK, Δ NACK, Δ CQI = 8. The variation of the β c / β d ratio causes a power reduction at sub-tests 2 - 4.

Sub-test₽	βе₽	β₫€³	β _d (SF)ψ	β _e /β _d ↔	β _{hs} (1)¢	CM(dB)(2)₽	MPR (dB)₽
1₽	2/15₽	15/15₽	64₽	2/15₽	4/15₽	0.0₽	0₽
242	12/15(3)	15/15(3)₽	64₽	12/15(3)₽	24/15₽	1.0₽	0∻
3₽	15/15₽	8/15₽	64₽	15/8₽	30/15₽	1.5₽	0.5₽
4₽	15/15₽	4/15₽	64₽	15/4₽	30/15₽	1.5₽	0.5₽

Note 1: \triangle ACK, \triangle NACK and \triangle CQI = 8 $A_{hs} = \beta_{hs}/\beta_c = 30/15$ $\beta_{hs} = 30/15 * \beta_c + \beta_c + \beta_{hs}$

Note 2 : CM=1 for $\beta_c/\beta_{d=}$ 12/15, $\beta_{hg}/\beta_c = 24/15$. For all other combinations of DPDCH,DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases. Note 3 : For subtest 2 the β_c/β_d ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 11/15$ and $\beta_d = 15/15$?

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The measurements were performed with a Fixed Reference Channel (FRC) and H-Set 1 QPSK.:

		· Annalasia
Parameter	Value	
Nominal average inf. bit rate	534 kbit/s	
Inter-TTI Distance	3 TTI's	
Number of HARQ Processes	2 Processes	
Information Bit Payload	3202 Bits	
MAC-d PDU size	336 Bits	
Number Code Blocks	1 Block	
Binary Channel Bits Per TTI	4800 Bits	
Total Available SMLs in UE	19200 SMLs	
Number of SMLs per HARQ Proc	ess 9600 SMLs	
Coding Rate	0.67	
Number of Physical Channel Cod	les 5	

4)HSUPA

SAR for body exposure configurations is measured according to the "Body SAR Measurements" procedures of 3G device. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is \leq ½ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is \leq 1.2 W/kg, SAR measurement is not required for the secondary mode. Per KDB941225 D01v03, 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, SAR is measured for HSPA using the

HSPA body SAR procedures for the highest reported body exposure SAR configuration in 12.2 kbps RMC.

	WSET	WSET	WSET	WSET	WSET
WSE	$\langle \times$	\times			SET
	WSET	WSET	WSET	WSCT	WSCI
WSE	$\langle \times$	\times			5/27
	\times	WSET	WSET	WSET	WSCI
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LTE Test Configuration 8.3

SAR for LTE band exposure configurations is measured according to the procedures of KDB 941225 D05 SAR for LTE Devices. The CMW500 WideBand Radio Communication Tester was 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 test were performed with the same number of RB and RB offsets transmitting on all TTI frames(Maximum TTI)

1) Spectrum Plots for RB configurations

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

2) MPR

When MPR is implemented permanently within the UE, regardless of network requirements, only those RB configurations allowed by 3GPP for the channel bandwidth and modulation combinations may be tested with MPR active. Configurations with RB allocations less than the RB thresholds required by 3GPP must be tested without MPR.

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

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

Modulation	Channel bandwidth / Transmission bandwidth (RB)							
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz		
QPSK	>5	>4	>8	> 12	> 16	> 18	≤ 1	
16 QAM	≤5	≤4	≤8	≤ 12	≤ 16	≤ 18	≤ 1	
16 QAM	>5	>4	>8	> 12	> 16	> 18	≤2	

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3) A-MPR

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A-MPR(Additional MPR) has been disabled for all SAR tests by using Network Signalling Value of "NS_01" on the

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base station simulator.

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4) LTE procedures for SAR testing

- A) Largest channel bandwidth standalone SAR test requirements
- i) QPSK with 1 RB allocation

Start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel. When the reported SAR is ≤ 0.8 W/kg, testing of the remaining RB offset configurations and required test channels is not required for 1 RB allocation; otherwise, SAR is required for the remaining required test channels and only for the RB offset configuration with the highest output power for that channel. When the reported SAR of a required test channel is > 1.45 W/kg, SAR is required for all three RB offset configurations for that required test channel.

ii) QPSK with 50% RB allocation

The procedures required for 1 RB allocation in i) are applied to measure the SAR for QPSK with 50% RB allocation.

iii) QPSK with 100% RB allocation

For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation in i) and ii) are \leq 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.

iv) Higher order modulations

For each modulation besides QPSK; e.g., 16-QAM, 64-QAM, apply the QPSK procedures in above sections to determine the QAM configurations that may need SAR measurement. For each configuration identified as required for testing, SAR is required only when the highest maximum output power for the configuration in the higher order modulation is > ½ dB higher than the same configuration in QPSK or when the reported SAR for the QPSK configuration is > 1.45 W/kg.

B) Other channel bandwidth standalone SAR test requirements

For the other channel bandwidths used by the device in a frequency band, apply all the procedures required for the largest channel bandwidth in section A) to determine the channels and RB configurations that need SAR testing and only measure SAR when the highest maximum output power of a configuration requiring testing in the smaller channel bandwidth is > ½ dB higher than the equivalent channel configurations in the largest channel bandwidth or the reported SAR of a configuration for the largest channel bandwidth is > 1.45 W/kg.

5) TDD LTE test configuration

According to KDB 941225 D05 SAR for LTE Devices v02r04, 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.

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8.4 Wi-Fi Test Configuration

For the 802.11b/g SAR tests, a communication link is set up with the test mode software for Wi-Fi mode test. The Absolute Radio Frequency Channel Number(ARFCN) is allocated to 1,6 and 11 respectively in the case of 2450 MHz. During the test, at the each test frequency channel, the EUT is operated at the RF continuous emission mode. Each channel should be tested at the lowest data rate. 802.11b/g operating modes are tested independently according to the service requirements in each frquency band. 802.11b/g modes are tested on channel 1, 6, 11; however, if output power reduction is necessary for channels 1 and/or 11 to meet restricted band requirements the highest output channel closest to each of these channels must be tested instead.

SAR is not required for 802.11g/n channels when the maximum average output power is less than

0.25dB higher than that measured on the corresponding 802.11b channels.

						Z 1 7 A 7 A A
2	Mode	Band	GHz	Channel	"Default	Test Channels"
	ogo	Sana	01.12	O Harmon	802.11b	802.11g
	WSCT	WSET	2412	1#	WS	Δ
,	802.11b/g	2.4 GHz	2437	6	1	Δ
	×		2462	11#	X √	Δ

Notes:

 $\sqrt{\ }$ = "default test channels"

Δ= possible 802.11g channels with maximum average output ¼ dB the "default test channels"

= when output power is reduced for channel 1 and /or 11 to meet restricted band requirements the highest output channels closest to each of these channels should be tested.

802.11 Test Channels per F	CC Requirements	X	X	
WSET	WSET	WSET	WSET	
\sim	\vee	\vee	\vee	\sim
WSET	WSET	WSET	WSET	WSET
WSET WSET	WSET	WSET	WSET	
		\vee	X	\vee
vification	WSET	WSET	WSCI	WSET
Certification & legal	X		X	





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8.5 WiFi 2.4G SAR Test Procedures

Separate SAR procedures are applied to DSSS and OFDM configurations in the 2.4 GHz band to simplify DSSS test requirements. For 802.11b DSSS SAR measurements, DSSS SAR procedure applies to fixed exposure test position and initial test position procedure applies to multiple exposure test positions.

A)802.11b DSSS SAR Test Requirements

SAR is measured for 2.4 GHz 802.11b DSSS using either a 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 (section 3.1 of of KDB 248227D01v02) for the exposure configuration is \leq 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 exposure configuration using the next highest measured output power channel. When any reported SAR is > 1.2 W/kg, SAR is required for the third channel; i.e., all channels require testing.

B) 2.4GHz 802.11g/n OFDM SAR Test Exclusion Requirements

When SAR measurement is required for 2.4 GHz 802.11g/n OFDM configurations, the measurement and test reduction procedures for OFDM are applied (section 5.3 of of KDB 248227D01v02r01). SAR is not required for the following 2.4 GHz OFDM conditions.

- 1) When KDB Publication 447498 SAR test exclusion applies to the OFDM configuration.
- 2) When the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is $\leq 1.2 \text{ W/kg}$.
- C) SAR Test Requirements for OFDM configurations

When SAR measurement is required for 802.11 g/n OFDM configurations, each standalone and frequency aggregated band is considered separately for SAR test reduction. In applying the initial test configuration and subsequent test configuration procedures, the 802.11 transmission configuration with the highest specified maximum output power and the channel within a test configuration with the highest measured maximum output power should be clearly distinguished to apply the procedures.

WSET WSET WSET WSET WSET WSET WSET



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8.6 WiFi 5G SAR Test Procedures

A) U-NII-1 and U-NII-2A Bands

For devices that operate in only one of the U-NII-1 and U-NII-2A bands, the normally required SAR procedures for OFDM configurations are applied. For devices that operate in both U-NII bands using the same transmitter and antenna(s), SAR test reduction is determined according to the following:

- 1) When the same maximum output power is specified for both bands, begin SAR measurement in U- NII-2A band by applying the OFDM SAR requirements. If the highest reported SAR for a test configuration is ≤ 1.2 W/kg, SAR is not required for U-NII-1 band for that configuration (802.11 mode and exposure condition); otherwise, both bands are tested independently for SAR.
- 2) When different maximum output power is specified for the bands, begin SAR measurement in the band with higher specified maximum output power. The highest reported SAR for the tested configuration is adjusted by the ratio of lower to higher specified maximum output power for the two bands. When the adjusted SAR is ≤ 1.2 W/kg, SAR is not required for the band with lower maximum output power in that test configuration; otherwise, both bands are tested independently for SAR.
- 3) The two U-NII bands may be aggregated to support a 160 MHz channel on channel number 50. Without additional testing, the maximum output power for this is limited to the lower of the maximum output power certified for the two bands. When SAR measurement is required for at least one of the bands and the highest reported SAR adjusted by the ratio of specified maximum output power of aggregated to standalone band is > 1.2 W/kg, SAR is required for the 160 MHz channel. This procedure does not apply to an aggregated band with maximum output higher than the standalone band(s); the aggregated band must be tested independently for SAR. SAR is not required when the 160 MHz channel is operating at a reduced maximum power and also qualifies for SAR test exclusion.

OAN lest exclusion.				
WSET	WSLT	WSET	WSET	WSET
		/		
WSET WSE	WSE	T WS	ET W.	SET
WSET	WSET	WSCT	WSLT	WSET
			/	
			\geq	
WSET WSL	7 WSL	T W5	W	SET
certification &	WSET	WSET	WSET	WSCT
and a feet				
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B) U-NII-2C and U-NII-3 Bands

The frequency range covered by these bands is 380 MHz (5.47 - 5.85 GHz), 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, all channels that operate at 5.60 - 5.65 GHz must be included to apply the SAR test reduction and measurement procedures.

When the same transmitter and antenna(s) are used for U-NII-2C band and U-NII-3 band or 5.8 GHz band of §15.247, the bands may be aggregated to enable additional channels with 20, 40 or 80 MHz bandwidth to span across the band gap, as illustrated in Appendix B. The maximum output power for the additional band gap channels is limited to the lower of those certified for the bands. Unless band gap channels are permanently disabled, they must be considered for SAR testing. The frequency range covered by these bands is 380 MHz (5.47 – 5.85 GHz), which requires a minimum of at least two SAR probe calibration frequency points to support SAR measurements. To maintain SAR measurement accuracy and to facilitate test reduction, the channels in U-NII-2C band above 5.65 GHz may be grouped with the 5.8 GHz channels in U-NII-3 or §15.247 band to enable two SAR probe calibration frequency points to cover the bands, including the band gap channels. When band gap channels are supported and the bands are not aggregated for SAR testing, band gap channels must be considered independently in each band according to the normally required OFDM SAR measurement and probe calibration frequency points requirements.

C) OFDM Transmission Mode SAR Test Configuration and Channel Selection Requirements

The initial test configuration for 5 GHz OFDM transmission modes is determined by the 802.11 configuration with the highest maximum output power specified for production units, including tune-up tolerance, in each standalone and aggregated frequency band. SAR for the initial test configuration is measured using the highest maximum output power channel determined by the default power measurement procedures. When multiple configurations in a frequency band have the same specified maximum output power, the initial test configuration is determined according to the following steps applied sequentially.

- The largest channel bandwidth configuration is selected among the multiple configurations with the same specified maximum output power.
- 2) If multiple configurations have the same specified maximum output power and largest channel bandwidth, the lowest order modulation among the largest channel bandwidth configurations is selected.
- 3) If multiple configurations have the same specified maximum output power, largest channel bandwidth and lowest order modulation, the lowest data rate configuration among these configurations is selected.
- 4) When multiple transmission modes (802.11a/g/n/ac) have the same specified maximum output power, largest channel bandwidth, lowest order modulation and lowest data rate, the lowest order 802.11 mode is selected; i.e., 802.11a is chosen over 802.11n then 802.11ac or 802.11g is chosen over 802.11n. After an initial test configuration is determined, if multiple test channels have the same measured maximum output power, the channel chosen for SAR measurement is determined according to the following. These channel selection procedures apply to both the initial test configuration and subsequent test configuration(s), with respect to the default power measurement procedures or additional power measurements required for further SAR test reduction. The same procedures also apply to subsequent highest output power channel(s) selection.



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- 1) The channel closest to mid-band frequency is selected for SAR measurement.
- 2) For channels with equal separation from mid-band frequency; for example, high and low channels or two mid-band channels, the higher frequency (number) channel is selected for SAR measurement.

D) SAR Test Requirements for OFDM configurations

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When SAR measurement is required for 802.11 a/n/ac OFDM configurations, each standalone and frequency aggregated band is considered separately for SAR test reduction. When the same transmitter and antenna(s) are used for U-NII-1 and U-NII-2A bands, additional SAR test reduction applies. When band gap channels between U-NII-2C band and 5.8 GHz U-NII-3 or §15.247 band are supported, the highest maximum output power transmission mode configuration and maximum output power channel across the bands must be used to determine SAR test reduction, according to the initial test configuration and subsequent test configuration requirements. In applying the initial test configuration and subsequent test configuration procedures, the 802.11 transmission configuration with the highest specified maximum output power and the channel within a test configuration with the highest measured maximum output power should be clearly distinguished to apply the procedures.

WSET	WSET	WSET	WSCT	WSET
X	\times	\times	\times	
WSET	WSET	SET	SET W.	7.17
X	\times		\times	X
WSET	WSET	WSET	WSET	AWSET*
WSET	WSIT W	SET W	SET W	741
WSLT	WSET	WSCT	WSET	WSCT
WSET	\times	\times	\times	577
X	X	WSET	WSLT	WSCT
WSET OF SET	VSET W	\times	\times	57.7

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9 Detailed Test Results

9.1 Conducted Power measurements

The maximum conducted average power (Unit: dBm) including tune-up tolerance is shown as below.

9.1.1 Conducted Power of GSM850

ATTU		1145 5	Name and Address of the Owner, where the Owner, which is the Ow	ATT.	July and the same	1000		ATT2:
GSM850(SIM1) GSM(CS)		Burst-Averaged output Power (dBm)			Division	Source Based time Average Power(dBm)		
		128CH	190CH	251CH	Factors	128CH	190CH	251CH
		32.92	32.89	32.90	-9.03	23.89	23.86	23.87
	1 Tx Slot	32.45	32.37	32.38	-9.03	23.42	23.34	23.35
GPRS	2 Tx Slots	31.67	31.62	31.59	-6.02	25.65	25.60	25.57
(GMSK)	3 Tx Slots	30.46	30.39	30.37	-4.26	26.20	26.13	26.11
	4 Tx Slots	29.96	29.85	29.80	-3.01	26.95	26.84	26.79
11/27	1 Tx Slot	28.73	28.71	28.70	-9.03	19.70	19.68	19.67
EGPRS	2 Tx Slots	27.85	27.82	27.81	-6.02	21.83	21.80	21.79
(8-PSK)	3 Tx Slots	27.18	27.10	27.15	-4.26	22.92	22.84	22.89
	4 Tx Slots	26.76	26.65	26.67	-3.01	23.75	23.64	23.66

GSM850(SIM2)			Burst-Averaged output Power (dBm)		Division	Source Based time Average Power(dBm)			
			128CH	190CH	251CH	Factors	128CH	190CH	251CH
	GSN	Л(CS)	32.81	32.82	32.85	-9.03	23.78	23.79	23.82
		1 Tx Slot	32.33	32.32	32.30	-9.03	23.30	23.29	23.27
⋖	GPRS	2 Tx Slots	31.42	31.40	31.43	-6.02	25.40	25.38	25.41
	(GMSK)	3 Tx Slots	30.36	30.38	30.35	-4.26	26.10	26.12	26.09
Į	7	4 Tx Slots	29.85	29.78	29.72	-3.01	26.84	26.77	26.71
		1 Tx Slot	28.47	28.45	28.39	-9.03	19.44	19.42	19.36
	EGPRS	2 Tx Slots	27.66	27.59	27.65	-6.02	21.64	21.57	21.63
	(8-PSK)	3 Tx Slots	26.91	26.92	26.90	-4.26	22.65	22.66	22.64
		4 Tx Slots	26.47	26.41	26.43	3.01	23.46	23.40	23.42

Note: 1) The conducted power of GSM850 is measured with RMS detector.

2) Frame-averaged output power was calculated from the measured burst-averaged output power by converting the slot powers into linear units and calculating the energy over 8 timesolts.

3)The bolded GPRS 4Tx slots mode was selected for SAR testing according the highest Source Based time Average Power table.

4) channel /Frequency: 128/824.2; 190/836.6; 251/848.8



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9.1.2 Conducted Power of GSM1900

	GSM1900(SIM1)		Burst-Averaged output Power (dBm)		Division	Source Based time Average Power(dBm)			
ľ			512CH	661CH	810CH	Factors	512CH	661CH	810CH
	GSM(CS)		30.15	30.20	30.11	-9.03	21.12	21.17	21.08
	X	1 Tx Slot	29.78	29.76	29.72	-9.03	20.75	20.73	20.69
	GPRS	2 Tx Slots	28.81	28.84	28.88	-6.02	22.79	22.82	22.86
	(GMSK)	3 Tx Slots	27.52	27.51	27.56	-4.26	23.26	23.25	23.30
		4 Tx Slots	26.88	26.82	26.80	-3.01	23.87	23.81	23.79
<		1 Tx Slot	27.56	27.55	27.48	-9.03	18.53	18.52	18.45
	EGPRS	2 Tx Slots	26.71	26.74	26.79	-6.02	20.69	20.72	20.77
Z	(8-PSK)	3 Tx Slots	25.90	25.92	25.93	-4.26	21.64	21.66	5/21.67
		4 Tx Slots	25.43	25.48	25.45	-3.01	22.42	22.47	22.44

GSM1900(SIM2)		Burst-Averaged output Power (dBm)		Division	Source Based time Average Power(dBm)				
	Ì		512CH	661CH	810CH	Factors	512CH	661CH	810CH
1	GSN	Л(CS)	29.91	29.95	29.98	-9.03	20.88	20.92	20.95
		1 Tx Slot	29.45	29.46	29.42	-9.03	20.42	20.43	20.39
1	GPRS	2 Tx Slots	27.81	28.77	28.79	-6.02	21.79	22.75	22.77
	(GMSK)	3 Tx Slots	27.33	27.38	27.32	-4.26	23.07	23.12	23.06
	X	4 Tx Slots	26.74	26.79	26.68	-3.01	23.73	23.78	23.67
		1 Tx Slot	27.35	27.38	27.36	-9.03	18.32	18.35	18.33
	EGPRS	2 Tx Slots	26.65	26.68	26.67	-6.02	20.63	20.66	20.65
	(8-PSK)	3 Tx Slots	25.81	25.84	25.85	-4.26	21.55	21.58	21.59
<		4 Tx Slots	25.35	25.39	25.36	-3.01	22.34	22.38	22.35

Note: 1) The conducted power of GSM1900 is measured with RMS detector.

2) Frame-averaged output power was calculated from the measured burst-averaged output power by converting the slot powers into linear units and calculating the energy over 8 timesolts.

3)The bolded GPRS 4Tx slots mode was selected for SAR testing according the highest Source Based time Average Power table.

4) channel /Frequency: 512/1850.2; 661/1880; 810/1909.8

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9.1.3 Conducted Power of UMTS Band II

		7						
/	LIMTO	Band II	C	Conducted Power (dBm)				
\	OIVI I S	Danu II	9262CH	9400CH	9538CH			
¥.	WCDMA //	12.2kbps RMC	21.85	21.72	21.80			
		Subtest 1	21.30	21.51	21.46			
	HSDPA	Subtest 2	21.26	20.67	20.69	1		
	WSIT	Subtest 3	21.20 // 5/7	20.62	20.61	7		
		Subtest 4	21.12	20.56	20.58			
		Subtest 1	21.43	20.88	20.87			
ý	TW TW	Subtest 2	21.21	20.75	20.80			
	HSUPA	Subtest 3	21.18	20.81	20.78	\		
	\sim	Subtest 4	20.92	20.85	20.73	,		
	WSGT	Subtest 5	20.90	20.77	20.70	2		

Note: 1) channel /Frequency: 9262/1852.4, 9400/1880, 9538/1907.6

9.1.4 Conducted Power of UMTS Band IV

LIMTO	Band IV	Conducted Power (dBm)				
UIVITS	Danu IV	1312CH	1312CH 1413CH			
WCDMA	12.2kbps RMC	22.02	22.16	22.20		
	Subtest 1	21.71	21.73	21.75		
HSDPA	Subtest 2	21.86	21.84	21.82		
HODPA	Subtest 3	21.75	21.61	21.56		
\times	Subtest 4	21.67	21.72	21.61		
	Subtest 1	21.86	21.68	21.53		
WSET	Subtest 2	21.63	21.75	21.62		
HSUPA	Subtest 3	21.58	21.66	21.53		
	Subtest 4	21.49	21.42	21.48		
	Subtest 5	21.41	21.37	21.40		

Note: 1) channel /Frequency: 1312/1712.4, 1413/1732.5, 1513/1752.6





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9.1.5 Conducted Power of UMTS Band V

/							
	LIMTO	Band V	Conducted Power (dBm)				
7	OIVI 3	Danu v	4132CH	4182CH	4233CH		
<u>u</u>	WCDMA	12.2kbps RMC	22.46	22.40	22.35		
	X	Subtest 1	22.24	22.18	22.12		
	HSDPA	Subtest 2	21.82	21.81	21.80		
,	HODFA	Subtest 3	21.63	21.52	21.54		
		Subtest 4	21.58	21.50	21.61		
		Subtest 1	21.79	21.66	21.69		
L		Subtest 2	21.60	21.72	21.62		
	HSUPA	Subtest 3	21.53	21.53	21.50		
	Subtest 4		21.48	21.37	21.35		
WSTET		Subtest 5	21.33	21.29	21.31		
,	N	1/5	0/000 4 4400/000 4	1000/010 0			

Note: 1) channel /F	requency: 4132/826.4, 4	182/836.4, 4233/846.6)	_
WSET	WSET	WSCI	WS	
\times	\times	\times	\times	\sim
WSDT	WSET	WSET	WSET	WSET
X	\times	X		
WSET	WSET	WSEI	WS	FT
WSET	WSCT	WSET	WSET	WSET
				/
WSET	WSCI	WSLI	WAS	77
	WSET	WSLT	WSET	WSGT
Certification & Page				/



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9.1.6 Condu	9.1.6 Conducted Power of LTE Band II									
		Conducte	ed Power	of LTE Band	d II k					
Bandwidth	Modulation	RB size	RB	Channel	Channel	Channel				
Balluwiulli	iviodulation	ND SIZE	offset	18607	18900	19193				
	THE PARTY		0	20.70	20.93	20.54				
		X 1	3	21.08	20.42	20.83				
	,		5	20.78	21.25	20.82				
	QPSK	SET \	0	5 21.18	20.72	20.54				
		3	2	20.41	20.30	20.57				
			3	20.64	20.73	20.69				
1.4MHz	AUGUST AND	6	0	20.95	20.88	20.84				
1.4111112			0	20.93	20.45	20.46				
		X 1	3	20.74	20.61	20.89				
	4		5	21.03	21.03	20.93				
	16QAM	F14 A	0	21.22	20.87	20.74				
		3	2	20.56	20.86	21.06				
			3	21.02	20.78	20.96				
7	WSET	6	75F0	20.30	21.05	20.55				
Bandwidth	Modulation	RB size	RB	Channel	Channel	Channel				
Barrawiatii	Wodalation	TO SIZE	offset	18615	18900	19185				
	A		0	20.97	21.20	20.68				
		75/54	7	21.13	20.44	20.39				
			14	20.89	20.56	20.56				
	QPSK		0	20.55	20.94	20.27				
	WSLT	8	7-5-4	20.61	21.14	21.02				
			7	20.48	20.51	20.96				
3MHz		15	0	21.24	20.52	21.10				
J	. 1	1511	0	21.00	20.31	20.41				
		1504	7	20.90	20.29	20.80				
	X		14	20.97	20.63	20.80				
	16QAM		0	20.96	21.03	20.99				
	WSET	8	75.74	20.47	20.65	20.44				
			7	20.94	20.36	21.03				
		15	0	20.62	20.65	20.79				

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Bandwidth Modulation RB size RB offset Channel Channel 18625 18900	2
Bandwidth Modulation RB size	
Bandwidth Modulation RB size offset 18625 18900	Channel
	19175
0 20.78 20.78	21.11
1 13 21.26 21.19	20.44
24 20.75 21.20	21.26
QPSK 0 21.08 20.46	21.09
12 6 20.83 21.01	20.51
13 20.83 21.02	21.15
5MHz 25 0 20.81 21.02	20.74
0 20.39 21.05	20.41
1 13 20.28 20.65	21.14
24 20.37 21.05	20.47
16QAM 0 21.02 20.55	20.49
12 6 20.95 20.89	21.17
13 20.69 21.13	21.19
25 0 21.13 20.70	20.33
· · · · · · · · · · · · · · · · · · ·	
Randwidth Modulation RB size RB Channel Channel	Channel
BandwidthModulationRB sizeRB offsetChannelChannel1865018900	Channel 19150
Bandwidth Modulation RB size	
Bandwidth Modulation RB size offset 18650 18900	19150
Bandwidth Modulation RB size	19150 20.54
Bandwidth Modulation RB size Image: NB size offset of the property o	19150 20.54 20.28
Bandwidth Modulation RB size Item offset 18650 18900 0 20.67 20.67 25 20.69 20.31 49 20.28 20.97	19150 20.54 20.28 20.45
Bandwidth Modulation RB size Image: No offset o	19150 20.54 20.28 20.45 20.52
Bandwidth Modulation RB size Image: No offset o	19150 20.54 20.28 20.45 20.52 21.08
Bandwidth Modulation RB size offset 18650 18900 0 20.67 20.67 20.67 25 20.69 20.31 49 20.28 20.97 49 20.28 20.79 20.79 20.79 25 13 21.19 20.44 25 20.78 20.78 20.78 50 0 20.67 20.81 10MHz 0 20.80 21.25	19150 20.54 20.28 20.45 20.52 21.08 20.93
Bandwidth Modulation RB size Image: No offset 18650 18900 0 20.67 20.67 25 20.69 20.31 49 20.28 20.97 QPSK 0 20.51 20.79 25 13 21.19 20.44 25 20.78 20.78 50 0 20.67 20.81	19150 20.54 20.28 20.45 20.52 21.08 20.93 20.68
RB size Offset 18650 18900	19150 20.54 20.28 20.45 20.52 21.08 20.93 20.68 21.26
Bandwidth Modulation RB size offset 18650 18900 0 20.67 20.67 20.67 25 20.69 20.31 49 20.28 20.97 QPSK 0 20.51 20.79 20.79 25 13 21.19 20.44 25 20.78 20.78 50 0 20.67 20.81 0 20.80 21.25 25 20.93 20.73	19150 20.54 20.28 20.45 20.52 21.08 20.93 20.68 21.26 20.46
RB size Offset 18650 18900	19150 20.54 20.28 20.45 20.52 21.08 20.93 20.68 21.26 20.46 20.93
RB size Offset 18650 18900	19150 20.54 20.28 20.45 20.45 20.52 21.08 20.93 20.68 21.26 20.46 20.93 21.00

WSET WSET

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		Conducte	d Power	of LTE Band	1 11	
Bandwidth	Modulation	RB size	RB	Channel	Channel	Channel
Bandwidth	Modulation	KD SIZE	offset	18675	18900	19125
	WSET	1	0	20.75	20.66	20.41
	THE STATE OF THE S	1/11	38	20.42	20.94	20.72
		\times	74	20.84	20.89	20.93
	QPSK	QPSK		0	20.29	20.81
		/5/36	18	20.95	20.94	21.13
			39	21.04	20.45	20.63
15MHz			75	0	21.05	21.05
1311112	WSET	1	0	20.46	20.70	20.42
		1	38	21.14	20.99	21.13
		X	74	20.83	20.82	20.47
	16QAM		0	21.13	21.17	21.21
		36	18	20.34	20.70	20.80
			39	21.17	21.25	21.02
	\wedge	75	0	20.38	21.26	20.79

Conducted Power of LTE Band II

	Bandwidth	Modulation	RB size	RB	Channel	Channel	Channel	
	Danawiani	iviodulation	KD SIZE	offset	18700	18900	19100	
			15ET	0	/5/20.78	20.73	20.91	3
1		\/	1	50	20.35	20.39	20.69	
		X		99	20.28	20.99	21.10	
		QPSK	4	0	20.92	20.42	20.55	
49		CI PIAN	50	25	20.48	20.57	20.76	
			\vee	50	21.13	20.91	20.32	
	20MHz		100	0	20.27	20.60	20.56	
	ZUIVITIZ		VSCT \	0	/5/20.92	21.18	20.48	75
/		\/	1	50	21.15	20.84	20.41	
		X		99	20.90	21.25	20.86	
7		16QAM	6	0	20.52	20.74	20.78	
TV.		11-17-1	50	25	20.69	20.78	21.02	
			X	50	21.08	20.43	20.64	
			100	0	20.85	21.15	20.71	

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9.1.7 Conducted Power of LTE Band IV

	9.1.7 Condu	cted Power o	of LTE Ban	d IV				
		(Conducte	d Power	of LTE Band	IV		<u>'</u> \$
	Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	
7			/10		19957	20175	20393	
_				0	20.68	20.59	20.46	
			X^1	3	21.07	20.40	21.06	
				5	20.96	21.18	20.64	
		QPSK	SET"	0	20.87	20.27	20.71	E
/			3	2	20.53	20.63	20.32	
				3	20.84	20.62	21.01	
3	1.4MHz	ATTENDED TO	6	0	20.86	20.96	20.32	
Y.	11-111112	1177		0	21.11	20.59	20.70	
				3	20.41	20.65	21.07	
		_		5	21.23	20.48	20.42	
		16QAM	15ET	0	/5/20.33	21.16	20.92 M	3
1			3	2	20.57	21.22	20.43	
\			ı	3	20.68	20.40	20.50	
		August 1	6	0	21.09	20.49	20.59	
×	Bandwidth	Modulation	RB size	RB	Channel	Channel	Channel	
	Danawidin	Modulation	ND 3126	offset	19965	20175	20385	
		2		0	20.66	20.91	20.35	
			7-7-1	7	/5/21.08	21.21	20.70	4
1				14	21.12	20.58	20.57	
\		QPSK		0	20.87	20.36	20.65	
7		WSET	8	4	20.93	20.67	20.60	
_				7	21.05	20.33	20.95	
	3MHz		15	0	20.63	21.01	20.72	
	SIVII IZ	_		0	20.54	20.56	20.94	
			V5E1	7	20.28	21.25	21.25	7.8
/				14	21.09	20.97	20.76	
-		16QAM		0	20.40	20.46	20.90	
7		WSET	8	75.74	20.43	20.36	20.97	
				7	20.60	20.62	20.64	
			15	0	20.41	20.55	20.99	



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_		(Conducte	d Power	of LTE Band	IV		25
	Donalos islah	N4 1 1 4	DD :	RB	Channel	Channel	Channel	
	Bandwidth	Modulation	RB size	offset	19975	20175	20375	
ľ		11777		0	21.17	20.92	20.77	
			\ 1	13	20.58	20.88	20.84	1
				24	21.24	20.93	21.08	/
		QPSK //	SET \	0 //	21.10	20.65	20.32	Z
/		\/	12	6	20.66	21.23	20.46	
		X		13	21.17	20.62	20.40	
2	5MHz	And a	25	0	20.28	20.48	20.85	
4	SIVII IZ	TIP THE	-	0	21.22	20.63	20.69	
				13	20.65	20.75	20.94	
		,		24	20.57	20.85	21.06	
		16QAM	ISET \	0	5 20.36	21.23	21.20	Z
1			12	6	20.65	20.95	20.37	
\				13	21.12	20.55	20.59	
7		ATTE DE LA COLONIA DE LA COLON	25	0	21.18	20.68	20.35	
	Bandwidth	Modulation	RB size	RB	Channel	Channel	Channel	Ţ
	Zanaman	Gadiation	112 0120	offset	20000	20175	20350	
		A		0	20.67	20.58	21.26	
			15ET	25	20.57	20.31	20.98	F
1				49	20.83	20.57	20.43	
\		QPSK		0	20.67	21.13	20.77	
7		WSET	25	13	20.61	20.69	20.99	
				25	20.53	20.54	20.51	•
	10MHz		50	0	20.88	20.44	20.66	_)
		6	Colores and	0	20.71	20.57	20.82	4
			1501	25	20.43	21.08	21.07	2
/		X		49	21.13	21.21	21.20	
1		16QAM	0-	0	20.65	21.17	20.35	
V		WSET	25	75 13	20.90	20.51	21.15	
			50	25 0	20.57 21.25	20.99	20.52 20.98	1



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		C	Conducte	d Power	of LTE Band	IV		7
	Bandwidth	Modulation	RB size	RB	Channel	Channel	Channel	
	Danawiath	iviodulation	KD SIZE	offset	20025	20175	20325	
		WISET		0	20.46	21.06	20.28	
4			1/	38	20.35	20.85	20.29	
			\times	74	20.93	20.48	21.25	١
		QPSK		0	21.11	20.85	20.85	1
			/5 36	18	/5/21.01	21.15	21.01	1
		\/		39	20.39	21.40	21.18	
	15MHz	X	75	0	21.04	20.76	20.53	
7	I JIVII IZ	WSET	/	0	20.54	20.81	20.91	
2			1/	38	20.49	21.04	21.16	
			X	74	20.29	20.86	21.09	
		16QAM		0	20.82	21.14	20.75	/
			36	18	20.44	21.11	20.71	1
1				39	20.91	20.83	20.91	
			75	0	20.86	21.12	21.04	

	C	Conducte	d Power	of LTE Band	IV
Pondwidth	Modulation	DD cizo	RB	Channel	C
Danuwium	Modulation	KD SIZE	offcot	00050	

	Bandwidth	Modulation	RB size	RB	Channel	Channel	Channel	1
	Danuwiutii	iviodulation	ND SIZE	offset	20050	20175	20300	/
			ISET \	0	/5/21.09	20.54	20.45	4
			1	50	21.25	21.09	21.04	
		X		99	20.64	20.88	20.49	
		QPSK	4	0	20.42	20.83	21.17	
7		CIPITAL	50	25	20.28	20.71	20.61	
			\vee	50	20.82	20.45	20.78	\
	20MHz	,	100	0	21.06	20.46	20.42	
	ZUIVITZ		ISUT \	0	/5/21.14	20.52	20.56	3
			1	50	20.28	20.69	20.78	
		X		99	20.73	20.57	21.19	
2		16QAM	K	0	20.84	20.44	20.35	
W.		11-17-1	50	25	21.21	20.31	20.45	
			X	50	21.04	20.67	21.12	1
			100	0	20.82	21.19	20.53	

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9.1.8 Conducted Power of LTE Band V

	9.1.8 Condu	cted Power o	of LTE Ban	d V				
		(Conducte	d Power	of LTE Band	I V		<u>'</u> \$
	Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	
7		4W3/-/ N	217		20470	20525	20643	
				0	20.89	20.27	20.46	
			X^1	3	21.06	20.38	20.93	
		000V A		5	20.51	20.75	21.01	
		QPSK	774	0	20.87	20.80	20.29	É
/			3	2	20.78	21.06	20.59	
\		\wedge		3	20.32	20.24	20.97	
ď	1.4MHz	(TETE	6	0	20.85	20.80	20.82	
				0	20.31	20.94	20.87	
			X^1	3	20.98	20.66	20.59	
		4		5	20.39	20.90	21.02	
		16QAM		0	20.84	20.09	21.03	Š
1			3	2	20.43	20.48	20.94	
\				3	21.05	20.34	21.05	
d		AUG BAR	6	0	20.91	20.56	20.73	
	Bandwidth	Modulation	RB size	RB	Channel	Channel	Channel	
	Danawiatii	Wioddiation	TAB GIZO	offset	20415	20525	20635	
				0	20.86	21.04	21.03	
			757.1	7	20.75	20.94	20.66	4
1				14	20.84	20.24	20.31	
\		QPSK		0	20.66	20.92	20.71	
7		WSET	8	ver4	20.51	20.80	20.75	
				7	20.90	20.72	20.35	Ī
	3MHz		15	0	20.09	20.72	20.50	
	0111112	- 4		0	20.64	20.82	20.68	
			1501	7	20.32	20.68	20.22	Æ
/				14	20.13	20.76	20.19	
1		16QAM		0	20.26	20.74	20.49	
4		WSET	8	75-4	20.60	20.69	20.81	
				7	20.22	20.69	20.85	
			15	0	20.56	20.72	21.00	



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Conducted Power of LTE Band V									
Company	_			Conducte	d Power	of LTE Band	I V		E
Consert 20425		Danakudalth	Mandada Can	DD -:	RB	Channel	Channel	Channel	
1 13 20.96 20.57 20.84 24 20.85 20.48 20.27 20.84 20.27 20.85 20.48 20.27 20.85 20.48 20.27 20.48 20.27 20.44 20.41 20.46 20.94 20.48 20.27 20.46 20.94 20.48 20.27 20.42 20.41 20.31 20.50 20.24 20.31 24 20.60 21.01 20.61 20.50 20.24 20.31 24 20.60 21.01 20.61 20.61 20.65 20.44 20.37 20.95 20.63 20.71 20.21 20.60 20.63 20.71 20.21 20.60 20.63 20.71 20.21 20.60 20.65 20.42 20.46 20.60 20.65 20.42 20.46 20.60 20.65 20.42 20.46 20.60 20.65 20.42 20.46 20.60 20.65 20.42 20.46 20.60 20.65 20.42 20.46 20.60 20.65 20.42 20.46 20.60 20.65 20.42 20.66 20.60 20.65 20.42 20.65 20.60 20.66 20.65 20.45 20.55 20.60 20.66 20.45 20.55 20.60 20.66 20.45 20.55 20.60 20.66 20.45 20.35 20.66 20.45 20.35 20.66 20.45 20.35 20.66 20.45 20.35 20.66 20.6		Banawiath	iviodulation	RB SIZE	offset	20425	20525	20625	
QPSK	Ý.				0	20.87	20.29	20.59	
Carry Carr			~	\ 1	13	20.96	20.57	20.84	1
12 6 20.85 20.24 20.41 13 20.46 20.94 20.48 25 0 20.87 20.73 20.93 0 20.27 20.42 21.00 1 13 20.50 20.24 20.31 24 20.60 21.01 20.61 12 6 21.04 20.38 20.71 13 20.57 20.99 20.95 25 0 20.63 20.71 20.21 Bandwidth Modulation RB size RB				\wedge	24	20.85	20.48	20.27	/
13 20.46 20.94 20.48			QPSK //	SET N	0 //	75 / 20.34	20.90	20.78	4
25	/		\/	12	6	20.85	20.24	20.41	
1			X		13	20.46	20.94	20.48	
1 13 20.50 20.24 20.31	3	EMU-	1	25	0	20.87	20.73	20.93	
16QAM	4	ЭМП	11-1-1		0	20.27	20.42	21.00	
16QAM				√ 1	13	20.50	20.24	20.31	
12 6 21.04 20.38 20.71 13 20.57 20.99 20.95 25 0 20.63 20.71 20.21 20.21 RB Channel Channel Channel 20450 20525 20600 0 20.56 20.42 20.46 1 25 20.64 20.92 21.06 49 20.26 20.78 20.39 25 20 20.73 20.08 20.16 25 20.99 20.24 20.53 50 0 20.86 20.45 20.35 10MHz 25 21.00 20.23 20.93 16QAM 0 20.88 20.11 20.48 25 13 20.18 20.48 21.00 25 20.12 20.30 20.91			,		24	20.60	21.01	20.61	-
13 20.57 20.99 20.95 25 0 20.63 20.71 20.21 Bandwidth Modulation RB size RB offset 20450 20525 20600 0 20.56 20.42 20.46 1 25 20.64 20.92 21.06 49 20.26 20.78 20.39 25 20.99 20.24 21.07 25 20.99 20.24 20.53 50 0 20.86 20.45 20.35 10MHz 16QAM 25 21.00 20.23 20.93 16QAM 25 21.00 20.23 20.93 16QAM 25 21.3 20.18 20.48 21.00 25 20.12 20.30 20.91			16QAM	TSET \	0	15 £ 20.89	20.44	20.37	Z
Pandwidth Modulation RB size RB offset RB offset Channel Chann	1			12	6	21.04	20.38	20.71	
RB size RB offset Channel Channel Channel 20450 20525 20600			X		13	20.57	20.99	20.95	
Nodulation RB size Offset 20450 20525 20600	7		August 1	25	0	20.63	20.71	20.21	
Offset 20450 20525 20600 0 20.56 20.42 20.46 1 25 20.64 20.92 21.06 49 20.26 20.78 20.39 QPSK 0 20.73 20.08 20.16 25 13 20.27 20.44 21.07 25 20.99 20.24 20.53 50 0 20.86 20.45 20.35 10MHz 10MHz 10QAM 0 20.88 20.11 20.48 25 13 20.18 20.48 21.00 25 20.12 20.30 20.91	×	Randwidth	Modulation	PR cizo	RB	Channel	Channel	Channel	
1 25 20.64 20.92 21.06 49 20.26 20.78 20.39 0 20.73 20.08 20.16 25 13 20.27 20.44 21.07 25 20.99 20.24 20.53 50 0 20.86 20.45 20.35 0 20.34 20.69 20.66 1 25 21.00 20.23 20.93 49 20.32 20.67 20.15 16QAM 0 20.88 20.11 20.48 25 13 20.18 20.48 21.00 25 20.12 20.30 20.91		Banawiatii	Woddiation	ND 3126	offset	20450	20525	20600	
QPSK QPSK 0 20.73 20.08 20.16 25 13 20.27 20.44 21.07 25 20.99 20.24 20.53 50 0 20.86 20.45 20.35 0 20.34 20.69 20.66 25 21.00 20.23 20.93 49 20.32 20.67 20.15 16QAM 0 20.88 20.11 20.48 25 13 20.18 20.48 21.00 25 20.12 20.30 20.91			2		0	20.56	20.42	20.46	
10MHz QPSK 25 13 20.27 20.44 21.07 25 20.99 20.24 20.53 50 0 20.86 20.45 20.35 0 20.34 20.66 1 25 21.00 20.32 20.66 21 25 21.00 20.32 20.67 20.15 16QAM 0 20.88 20.11 20.48 21.00 20.23 20.48 21.00 20.28				757-11	25	20.64	20.92	21.06	K
10MHz 25	1				49	20.26	20.78	20.39	
10MHz 25 20.99 20.24 20.53 50 0 20.86 20.45 20.35 0 20.34 20.69 20.66 25 21.00 20.23 20.93 49 20.32 20.67 20.15 16QAM 0 20.88 20.11 20.48 25 13 20.18 20.48 21.00 25 20.12 20.30 20.91	\		QPSK		0	20.73	20.08	20.16	
10MHz 50 0 20.86 20.45 20.35 0 20.66 25 21.00 20.23 20.93 49 20.32 20.67 20.15 16QAM 0 20.88 20.11 20.48 21.00 25 20.12 20.30 20.91	7		WSET	25	13	20.27	20.44	21.07	
10MHz 0 20.34 20.69 20.66 25 21.00 20.23 20.93 49 20.32 20.67 20.15 16QAM 0 20.88 20.11 20.48 25 13 20.18 20.48 21.00 25 20.12 20.30 20.91					25	20.99	20.24	20.53	
16QAM 20.34 20.69 20.66 25 21.00 20.23 20.93 20.93 20.48 20.48 21.00 25 20.12 20.30 20.91		10MHz		50	0	20.86	20.45	20.35	
16QAM 0 20.32 20.67 20.15 0 20.88 20.11 20.48 21.00 25 20.12 20.30 20.91		1011112	- 4			20.34	20.69	20.66	
16QAM 0 20.88 20.11 20.48 25 13 20.18 20.48 21.00 25 20.12 20.30 20.91				F7414	25	21.00	20.23	20.93	Æ
25 13 20.18 20.48 21.00 25 20.12 20.30 20.91	/		\vee		×	×		X	
25 20.12 20.30 20.91	1		16QAM				\		
	y		WSET	25	A-1-11				
50 0 20.08 20.45 20.84						\ /			
				50	0	20.08	20.45	20.84	

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9.1.9 Conducted Power of LTE Band VII

	9.1.9 Condu	cted Power of	of LTE Ban	d VII				
_		C	onducte	d Power o	of LTE Band	VII		E
	Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	
ř				C/4 \	20775	21100	21425	
				0	20.85	21.18	20.53	
			X^1	13	20.31	20.98	21.08	
		annu A	1777	24	20.36	20.58	20.90	,
		QPSK	BILL	0	20.54	21.22	20.41	E
/		\sim	12	6	20.69	21.11	20.80	_
\				13	20.32	20.57	21.23	
ý	5MHz	WELT	25	/5 / O	20.62	20.85	20.72	
	5			0	20.92	20.82	20.34	
			X 1	13	21.15	20.71	20.88	
		4		24	20.92	20.59	21.20	
		16QAM	514	0	21.19	20.90	21.13	£
/			12	6	20.57	21.00	20.30	
\		\wedge		13	20.89	20.53	20.63	
j		WSIT	25	75 F O	20.71	20.66	20.42	
	Bandwidth	Modulation	RB size	RB	Channel	Channel	21.43	
	Bandwidth	Woddiation	ND SIZE	offset	20800	21100	21400	
		4		0	20.68	21.07	20.33	
			1554	25	21.01	21.19	20.31	É
1				49	20.95	20.51	21.18	
\		QPSK		0	20.49	20.77	21.11	
7		WSET	25	13	20.73	20.45	20.71	
				25	20.42	20.54	21.22	
	10MHz		50	0	20.58	21.04	20.96	
	IUWITZ	4		0	21.22	21.01	20.41	
			ISET .	25	20.61	20.77	20.52	4
1				49	20.99	20.84	20.84	
1		16QAM		0	20.66	21.27	20.44	
V		WSET	25	/5/13	21.13//5/	20.90	20.80	
			/	25	20.50	20.94	20.72	
			50	0	21.21	20.64	21.15	

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		C	onducte	d Power o	of LTE Band	VII		Z
,	Bandwidth	Modulation	RB size	RB	Channel	Channel	Channel	
	Danawiath	iviodulation	KD SIZE	offset	20825	21100	21375	
<i>p</i> -		And the last		0	20.84	20.32	20.54	
4		WSET	1/	38	20.59	20.79	20.32	
			\times	74	20.66	20.61	20.85	
		QPSK		0	21.12	20.69	20.30	/
			75 36	18	/5/21.02	20.51	20.68	Z
			90	39	20.54	21.14	20.60	
	15MHz	\times	75	0	20.58	20.52	20.71	
r	ISMINE	WSIT	/	0	20.78	20.71	20.46	
2			1/	38	21.19	20.53	20.76	Ī
			X	74	21.11	20.35	20.72	
		16QAM		0	20.46	20.92	21.10	/
			36	18	21.23	20.64	20.69	A
/				39	20.80	20.70	20.98	
\			75	0	20.41	20.34	20.80	

Conducted Power of LTE Band VII

							A
Bandwidth	Modulation	RB size	RB	Channel	Channel	Channel	>
Danuwium	iviodulation	ND SIZE	offset	20850	21100	21350	
	V	15ET	0	/5/21.02	20.72	20.71	5
	\/	1	50	21.04	20.97	20.78	
	X		99	20.44	20.71	20.79	
	QPSK	6	0	20.67	20.81	21.01	
4	TIPI 4	50	25	20.32	20.54	20.83	
	-	\vee	50	20.96	20.46	20.75	>
20MHz	,	100	0	20.92	21.02	20.70	
ZUIVITZ		ISET \	0 1	/5/20.96	21.09	20.88	15
	\/	1	50	20.55	20.84	20.39	
	X		99	20.68	20.98	21.16	
	16QAM	6	0	20.33	21.16	21.25	
	THE PARTY	50	25	21.19	20.74	20.45	
		X	50	20.39	21.10	21.11	
		100	0	21.03	21.01	20.41	

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9.1.10 Conducted Power of Wi-Fi 2.4G

Mode 802.11b Channel / Frequency (MHz) 1(2412) 6(2437) 11(2462) Average Power(dBm) 14.28 14.36 14.24 Mode 802.11g	
Average Power(dBm) 14.28 14.36 14.24 Mode 802.11g	
Mode 802.11g	
Channel / Frequency (MHz) 1(2412) 6(2437) 11(2462)	
Average Power(dBM) 13.66 13.68 13.48	
Mode 802.11n(HT20)	
Channel / Frequency (MHz) 1(2412) 6(2437) 11(2462)	
Average Power(dBM) 13.69 13.08 13.41	SULEA
Mode 802.11n(HT40)	
Channel / Frequency (MHz) 1(2412) 6(2437) 11(2462)	
Average Power(dBm) 12.19 12.28 12.30	

XXXX
WSET WSET WSET WSET WSET
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9.1.11 Conducted Power of Wi-Fi 5G

75.57

1	Band	Mode	Channel	Freque ncy (MHz)	Data Rate (Mbps)	Power Setting	Tune -up	Average Power (dBm)	SAR Test (Yes/No)	_
	\times	802.11a	36	5180		14.50	14.50±1.0	15.22	No	
	W-57		44	5220	6	14.50	14.50±1.0	15.32	No	į
/	LIEL		48	5240		14.50	14.50±1.0	15.36	Yes	ĺ
		802.11n	36	5180	\times	14.00	14.00±1.0	14.17	No	
_		HT20	44	5220	6.5	14.00	14.00±1.0	14.46	No	
	_		48	5240	VSET 1	14.00	14.00±1.0	14.61	No	5
	X	802.11n	38	5190		12.50	12.50±1.0	13.24	No	
	5.2G	HT40	46	5230	13.5	12.50	12.50±1.0	13.31	No	,
/		802.11ac	36	5180	C EM	12.00	12.00±1.0	12.51	No	
		20M	48	5240	6.5M	12.00	12.00±1.0	12.48	No	
X		802.11ac	38	5190	13.5M	11.50	11.50±1.0	12.36	No	
		40M	46	5230	13.31	11.50	11.50±1.0	12.08	No	
	\geq	802.11ac 80M	42	5210	29.3M	9.50	9.50±1.0	10.12	No	

WSET WSET WSET WSET

WSET WSET WSET WSET

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		_					X.			
/	Band	Mode	Channel	Freque ncy	Data Rate	Power Setting	Tune -up	Average Power	SAR Test	
				(MHz)	(Mbps)			(dBm)	(Yes/No)	
		W5	149	5745	ISET I	14.50	14.50±1.0	15.18	No No	٥
		200.44	153	5765		14.50	14.50±1.0	15.26	No	
		802.11a	157	5785	6	14.50	14.50±1.0	15.21	No	
/	WSL		161	5805	,	14.50	14.50±1.0	15.35	No	e
			165	5825		14.50	14.50±1.0	15.40	Yes	
			149	5745	X	13.50	13.50±1.0	14.21	No	
		802.11n	153	5765	1517	13.50	13.50±1.0	14.08	No	L
		HT20	157	5785	6.5	13.50	13.50±1.0	14.20	No	ľ
	\times		161	5805		13.50	13.50±1.0	14.36	No	
	form		165	5825		13.50	13.50±1.0	14.23	No	
1	5.8G	802.11n	151	5755		13.00	13.00±1.0	13.56	No	Ĺ
	0.00	HT40	159	5795	13.5	13.00	13.00±1.0	13.47	No	
_			149	5745		12.00	12.00±1.0	12.56	No	
	_	WS	153	5765	ISET 1	12.00	12.00±1.0	12.36	No No	>
	\times	802.11ac	157	5785	6.5M	12.00	12.00±1.0	12.42	No	
	land.	20M	161	5805		12.00	12.00±1.0	12.64	No	
/	W51		165	5825		12.00	12.00±1.0	12.46	No	
		802.11ac	151	5755	X-14	11.50	11.50±1.0	12.41	No	
		40M	159	5795	13.5M	11.50	11.50±1.0	12.25	No	
		802.11ac			E19A	10.00	10.00 + 1.0		7.F7.7.A	1
		80M	155	5775	29.3M	10.00	10.00±1.0	10.64	No	

WSET WSET WSET WSET

WSET WSET WSET WSET

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9.1.12 Conducted Power of BT

The maximum output power of BT 3.0 is:

>	Mode		1Mbps							
7	Channel / Frequency (MHz)	0(2402)	39(2441)	78(2480)						
	Average Power(dBm)	0.53	2.07	2.42						
	Mode	2Mbps								
	Channel / Frequency (MHz)	0(2402)	39(2441)	78(2480)						
	Average Power(dBm)	-0.49	0.94	0.94						
	Mode	3Mbps								
1	Channel / Frequency (MHz)	0(2402)	39(2441)	78(2480)						
	Average Power(dBm)	-0.56	0.45	-0.05						

155 The maximum output power of BLE is: 475 67

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Mode		1Mbps	
Channel / Frequency (MHz)	0(2402)	39(2440)	78(2480)
Average Power(dBm)	0.31	0.09	-0.01

WSET	WSET	WSET	WSET	WSET
\times	SUT WISH			
WSET	WSDT	WSET	WSET	WSET
\times	SUT WIST		ET W5	
WSET	WSET	WSET	WSET	WSET
\times	5LT W5L			
X	WSET	WSET	WSET	WSCT
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9.	1.13	Tune-up	power	tolerance

9.	1.13 Tune-up po	wer tolerance			1 WSC				
	Band	(m)	Tune-up po	wer tolerance(dBm)	t-cert.com				
7	CIPIAN	- CIPIAN	GSM	Max output power =32.5dBm±0.5dBm					
		GSM/GPRS	1TXslots	Max output power =32.0dBm±0.5dBm					
	GSM850	(GMSK)	2TXslots	Max output power =31.5dBm±0.5dBm					
S.		(Olviolt)	3TXslots	Max output power =30.0dBm±0.5dBm					
		ET	4TXslots	Max output power =29.5dBm±0.5dBm					
	\ /		1TXslots	Max output power =28.5dBm±0.5dBm					
	GSM850	EGPRS (8-	2TXslots	Max output power =27.5dBm±0.5dBm	\sim				
	GOIVIOSO	PSK)	3TXslots	Max output power =27.0dBm±0.5dBm					
	ATTIGET	Augustin	4TXslots	Max output power =26.5dBm±0.5dBm	WSI				
7	CHEISE	- IFIA	GSM	Max output power =30.0dBm±0.5dBm	LEL				
		GSM/GPRS	1TXslots	Max output power =29.5dBm±0.5dBm					
	GSM1900	(GMSK)	2TXslots	Max output power =28.5dBm±0.5dBm					
١.		(GIVIOIT)	3TXslots	Max output power =27.5dBm±0.5dBm					
			4TXslots	Max output power =26.5dBm±0.5dBm					
	GSM1900		1TXslots	Max output power =27.5dBm±0.5dBm					
	X	EGPRS (8-	2TXslots	Max output power =26.5dBm±0.5dBm	X				
		PSK)	3TXslots	Max output power =25.5dBm±0.5dBm					
	AUG TO	Augus	4TXslots	Max output power =25.0dBm±0.5dBm	11123				
7	WCDMA 2	- July	Max output pov	wer =21.0dbm±1.0dbm	LEL				
	WCDMA 4		wer =21.5dbm±1.0dbm						
	WCDMA 5	X	Max output pov	wer =21.5dbm±1.0dbm					
S.	LTE B2		Max output pov	wer =20.5dbm±1.0dbm					
Ì	LTE B4		Max output pov	wer =20.5dbm±1.0dbm					
	LTE B5		Max output pov	wer =20.5dbm±1.0dbm					
	LTE B7	X	Max output por	ver =20.5dbm±1.0dbm	X				
		802	2.11b	Max output power =13.5±1dbm					
	2.4G Wi-Fi		2.11g	Max output power =13.0±1dbm					
7	2.40 WH	802.11	n (HT20)	Max output power =13.0 ±1dbm					
		802.11	n (HT40)	Max output power =11.5±1dbm					
	/		802.11a	Max output power =14.5dbm±1.0dBm					
	_		802.11n(HT20)	Max output power =14.0dbm±1.0dBm					
		Band1	802.11n(HT40)	Max output power =12.5dbm±1.0dBm					
		Danu	802.11ac20M	Max output power =12.0dbm±1.0dBm					
	X	X	802.11ac40M	Max output power =11.5dbm±1.0dBm	\times				
	5G Wi-Fi		802.11ac80M	Max output power =9.5dbm±1.0dBm					
	W.S.C.T	WSET	802.11a	Max output power =14.5dbm±1.0dBm	WSI				
7	CHECK	1	802.11n(HT20)	Max output power =13.5dbm±1.0dBm	118-1-				
		Band4	802.11n(HT40)	Max output power =13.0dbm±1.0dBm					
	/	Dallu4	802.11ac20M	Max output power =12.0 dbm±1.0dBm					
>	-		802.11ac40M	Max output power =11.5dbm±1.0dBm					
	477	7.47	802.11ac80M	Max output power =10.0dbm±1.0dBm					
			Power	Max output power =1.5dBm±1dbm					
	BT	2Mbps	s Power	Max output power =0.0dBm±1dbm	\times				
			s Power //	Max output power =0.0dBm±1dbm	/				
	BLE	1Mbps	Power	Max output power =0.0dBm±1dbm	ATTE				





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9.2 SAR test results

Notes:

- 1) Per KDB447498 D01v05 r02,the SAR test shall be performed at the high, middle and low frequency channels of each operating mode. If the scaled SAR measured at mid-band channel for each test configuration is at least 3.0 dB lower than the SAR limit (< 0.8 W/kg), testing at the high and low channels is optional.
- 2) Per KDB447498 D01v05r02, testing of other required channels within the operating mode of a frequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is: ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is \leq 100 MHz. When the maximum output power variation across the required test channels is $> \frac{1}{2}$ dB, instead of the middle channel, the highest output power channel must be used.
- 3) Per KDB447498 D01v05r02, All measurement SAR result is scaled-up to account for tune-up tolerance is compliant.
- 4) Per KDB648474 D04v01r02, body-worn accessory testing is typically associated with voice operations. Therefore, GSM voice was evaluated for body-worn with headset SAR.
- 5)Per KDB248227 D01v01r02, the procedures required to establish specific device operating configurations for testing the SAR of 802.11 a/b/g transmitters.
- (1) For Headsets operating next to ear, hotspot mode or mini-tablet configurations, the initial test position procedures were applied. The test position with the highest extrapolated peak SAR will be used as the initial test position. When the reported SAR of initial test position is <= 0.4 W/kg, SAR testing for remaining test positions is not 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.
- (2) For WLAN 2.4 GHz, the highest measured maximum output power channel for DSSS was selected for SAR measurement. When the reported SAR is <= 0.8 W/kg, no further SAR testing is required. Otherwise, SAR is evaluated at the next highest measured output power channel. When any reported SAR is > 1.2 W/kg, SAR is required for the third channel. For OFDM modes (802.11g/n), SAR is not required when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and it is <= 1.2 W/kg.



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- (3) For WLAN 5 GHz, the initial test configuration was selected according to the transmission mode with the highest maximum output power. When the reported SAR of initial test configuration is > 0.8 W/kg, SAR is required for the subsequent highest measured output power channel until the reported SAR result is <= 1.2 W/kg or all required channels are measured. For other transmission modes, SAR is not required when the highest reported SAR for initial test configuration is adjusted by the ratio of subsequent test configuration to initial test configuration specified maximum output power and it is <= 1.2 W/kg.
- 6) Per KDB865664 D01v01r04,for each frequency band,repeated SAR measurement is required only when the measured SAR is ≥0.8W/Kg; if the deviation among the repeated measurement is ≤20%,and the measured SAR <1.45W/Kg,only one repeated measurement is required.
- 7) Per KDB865664 D02v01r01, SAR plot is only required for the highest measured SAR in each exposure configuration, wireless mode and frequency band combination; Plots are also required when the measured SAR is > 1.5 W/kg, or > 7.0 W/kg for occupational exposure. The published RF exposure KDB procedures may require additional plots; for example, to support SAR to peak location separation ratio test exclusion and/or volume scan post-processing(Refer to appendix B for details).
- 8) Per KDB941225 D06v01r01, the DUT Dimension is bigger than 9 cm x 5 cm, so 10mm is chosen as the test separation distance for Hotspot mode. When the antenna-to-edge distance is greater than 2.5cm, such position does not need to be tested.
- 9) Per KDB 941225 D01, 3G SAR Measurement Procedures ,The mode tested for SAR is referred to as the primary mode. The equivalent modes considered for SAR test reduction are denoted as secondary modes. Both primary and secondary modes must be in the same frequency band. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ 1/4 dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤1.2 W/kg, SAR measurement is not required for the secondary mode.

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10)Per KDB 941225 D05, SAR Evaluation Considerations for LTE Devices

(1)QPSK with 1 RB and 50% RB allocation

Start with the largest channel bandwidth and measure SAR, using the RB offset and required test channel combination with the highest maximum output power among RB offsets at the upper edge, middle and lower edge of each required test channel. When the reported SAR is ≤ 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 and only for the RB offset configuration with the highest output power for that channel. When the reported SAR of a required test channel is > 1.45 W/kg, SAR is required for all three RB offset configurations for that required test channel.

(2)QPSK with 100% RB allocation

SAR is not required when the highest maximum output power for 100% RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.

(3) Higher order modulations

SAR is required only when the highest maximum output power for the configuration in the higher order modulation is > 1/2 dB higher than the same configuration in QPSK or when the reported SAR for the QPSK configuration is >1.45 W/kg.

(4)Other channel bandwidth

SAR is required when the highest maximum output power of the smaller channel bandwidth is > 1/2 dB higher than the equivalent channel configurations in the largest channel bandwidth configuration or the reported SAR of a configuration for the largest channel bandwidth is > 1.45 W/kg.

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9.2.1 Results overview of GSM850

						\ /				
Test Position	Test channel	Test			Power Drift	Condu cted	Tune-up Limit	Scaled SAR ₁₋₀	Scaling	
of Head	/Freq.(MHz)	Mode	1-g	10-g	(%)	Power (dBm)	(dBm)	(W/kg)	Factor	
Left Head Touched	128/824.2	GPRS 4TS	0.077	0.053	1.710	29.960	30.000	0.078	1.009	
Left Head Tilted 15°	128/824.2	GPRS 4TS	0.073	0.049	2.240	29.960	30.000	0.074	1.009	1
Right Head Touched	128/824.2	GPRS 4TS	0.094	0.065	-2.480	29.960	30.000	0.095	1.009	
Right Head Tilted 15°	128/824.2	GPRS 4TS	0.047	0.038	-3.000	29.960	30.000	0.047	1.009	
Test Position	Test	Test	_		Power	Condu cted	Tune-up	Scaled	Scaling	7
10mm	/Freq.(MHz)	Mode	1-g	10-g	(%)	Power (dBm)	(dBm)	(W/kg)	Factor	
WSET		SAR Res	ults for I	Hotspot	Exposure	Condition	n <i>WSET</i>		WSE	Ī
Front side	128/824.2	GPRS 4TS	0.085	0.058	-2.460	29.960	30.000	0.086	1.009	
Rear side	128/824.2	GPRS 4TS	0.110	0.084	1.740	29.960	30.000	0.111	1.009	
Bottom side	128/824.2	GPRS 4TS	0.036	0.022	-1.670	29.960	30.000	0.036	1.009	7
Left side	128/824.2	GPRS 4TS	0.018	0.012	-2.690	29.960	30.000	0.018	1.009	\
	Left Head Touched Left Head Tilted 15° Right Head Touched Right Head Tilted 15° Test Position of Body with 10mm Front side Rear side Bottom side	Left Head Touched Left Head Tilted 15° Right Head Touched Right Head Tilted 15° Test Position of Body with 10mm Test Front side Rear side Tab/824.2 Left Head Tab/824.2 Left Head Tab/824.2 Test Position Test Channel 128/824.2 128/824.2 Test Channel 128/824.2 Test Channel 17 Channel 128/824.2	Left Head Touched Left Head Touched Tilted 15° Right Head Tilted 15° Right Head Tilted 15° Test Position of Body with 10mm Test Rear side Touched Touched Tale/824.2 Test Channel Jale/824.2 GPRS 4TS GPRS 4TS Test GPRS 4TS Test Channel Jale/824.2 GPRS 4TS Test GPRS 4TS Test Mode Tilted 15° Test Channel Jale/824.2 GPRS 4TS Test Mode Test Channel Jale/824.2 GPRS 4TS GPRS	Test Position of Head	Left Head Touched 128/824.2 GPRS 4TS 0.077 0.053 Left Head Touched 128/824.2 GPRS 4TS 0.077 0.053 Left Head Tilted 15° 128/824.2 GPRS 4TS 0.073 0.049 Right Head Touched 128/824.2 GPRS 4TS 0.094 0.065 Right Head Tilted 15° 128/824.2 GPRS 4TS 0.047 0.038 Test Position of Body with 10mm Test channel / Freq.(MHz) Test Mode SAR Value (W/kg) Front side 128/824.2 GPRS 4TS 0.085 0.058 Rear side 128/824.2 GPRS 4TS 0.110 0.084 Bottom side 128/824.2 GPRS 4TS 0.036 0.022 Left side 128/824.2 GPRS 4TS 0.036 0.022	Test Position of Head	Test Position of Head	Test Position of Head	Test Position of Head	Test Position of Head Freq.(MHz) Test Mode 1-g 10-g 1



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9.2.2 Results overview of GSM1900

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/	Test Position of	Test channel	Test Mode	(W/	Value 'kg)	Power Drift	Conducted Power	Tune-up Limit	Scaled SAR _{1-g}	Scalig Factor
7	Head	/Freq.(MHz)	mode	1-g	10-g	(%)	(dBm)	(dBm)	(W/kg)	i dotoi
	Left Head Touched	512/1850.2	GPRS 4TS	0.009	0.006	2.130	26.880	27.000	0.009	1.028
	Left Head Tilted 15°	512/1850.2	GPRS 4TS	0.004	0.003	-0.150	26.880	27.000	0.004	1.028
/	Right Head Touched	512/1850.2	GPRS 4TS	0.006	0.004	1.780	26.880	27.000	0.006	1.028
/	Right Head Tilted 15°	512/1850.2	GPRS 4TS	0.005	0.004	0.580	26.880	27.000	0.005	1.028
7	Test	T1		SAR	Value					
	Position of Body with 10mm	Test channel /Freq.(MHz)	Test Mode	(W/ 1-g	/kg) 10-g	Power Drift (%)	Conducted Power (dBm)	Tune-up Limit (dBm)	Scaled SAR _{1-g} (W/kg)	Scalig Factor
	Body with	channel /Freq.(MHz)	Mode	1-g	10-g	Drift (%)	Power	Limit (dBm)	SAR _{1-g}	
/	Body with 10mm	channel /Freq.(MHz)	Mode	1-g	10-g	Drift (%)	Power (dBm)	Limit (dBm)	SAR _{1-g}	Factor
	Body with 10mm	channel /Freq.(MHz)	SAR I	1-g Results f	10-g or Hots	Drift (%) oot Expos	Power (dBm) ure Condition	Limit (dBm)	SAR _{1-g} (W/kg)	Factor
	Body with 10mm Front side	channel /Freq.(MHz) 512/1850.2	SAR I GPRS 4TS GPRS	1-g Results 1	10-g for Hots 0.038	Drift (%) oot Expos 3.280	Power (dBm) sure Condition 26.880	Limit (dBm) 27.000	SAR _{1-g} (W/kg) 0.066	1.028
	Body with 10mm Front side Rear side	channel /Freq.(MHz) 512/1850.2 512/1850.2	SAR I GPRS 4TS GPRS 4TS GPRS	1-g Results 1 0.064 0.082	10-g for Hots 0.038 0.047	Drift (%) cot Expos 3.280 1.950	Power (dBm) sure Condition 26.880 26.880	27.000 27.000	SAR ₁₋₉ (W/kg) 0.066 0.084	1.028 1.028

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9.2.3 Results overview of UMTS Band II

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Test sition of	Test channel	Test	(W/kg) Power		Power Drift	Conducted Power	Tune- up	Scaled SAR _{1-a}	Scalig	
Head	/Freq.(MHz)	Mode	1-g	10-g	(%)	(dBm)	Limit (dBm)	(W/kg)	Factor	9
eft Head ouched	9262/1852.4	RMC	0.084	0.051	-1.570	21.850	22.000	0.087	1.035	
eft Head Ited 15°	9262/1852.4	RMC	0.030	0.019	-1.060	21.850	22.000	0.031	1.035	
ght Head ouched	9262/1852.4	RMC	0.048	0.032	-0.150	21.850	22.000	0.050	1.035	
ght Head Ited 15°	9262/1852.4	RMC	0.046	0.028	-0.330	21.850	22.000	0.048	1.035	
Test sition of	Test	Test			Power	Conducted	Tune- up	Scaled	Scalig	/
ody with 10mm	/Freq.(MHz)	Mode	1-g	10-g	(%)	(dBm)	Limit (dBm)	(W/kg)	Factor	\
	SET	SAR R	esults fo	r Hotspo	ot Exposu	re Condition	AWSET		717	7/
ont side	9262/1852.4	RMC	0.742	0.421	-0.690	21.850	22.000	0.768	1.035	
ear side	9262/1852.4	RMC	0.763	0.478	-1.180	21.850	22.000	0.790	1.035	
ttom side	9262/1852.4	RMC	0.770	0.624	-1.590	21.850	22.000	0.797	1.035	
eft side	9262/1852.4	RMC	0.071	0.044	-1.490	21.850	22.000	0.073	1.035	
	sition of Head eft Head ouched lted 15° ght Head ouched ght Head lted 15°. Test sition of ody with 10mm ont side ear side tom side	channel //Freq.(MHz) eft Head ouched eft Head lted 15° ght Head ouched ght He	channel /Freq.(MHz) eft Head ouched eft Head ouched eft Head elted 15° ght Head ouched elted 15° ght Head elted 15° georgia eller elle	Test Sition of Head Freq.(MHz) Test Mode 1-g	Channel Freq.(MHz) Channel Head Freq.(MHz) Channel Head Head Preq.(MHz) Channel Preq.(MHz) Head Preq.(MHz) Preq.(MHz)	Test Sition of Head Freq.(MHz) Test Mode Test Mode Test Test Mode Test Test	Test Sition of Head Freq.(MHz) Freq.(MHz) Test Mode Head Head Freq.(MHz) Test Head Guiched 9262/1852.4 RMC 0.084 0.051 -1.570 21.850	Test channel / Freq.(MHz)	Test sition of Head Freq.(MHz) Test Mode 1-g 10-g 10-	Test sition of Head Head ouched o

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9.2.4 Results overview of UMTS Band IV

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Test Position of	Test channel	Test			Power Drift	Conducted Power	Tune- up	Scaled SAR _{1-a}	Scalig	
Head	/Freq.(MHz)	Mode	1-g	10-g	(%)	(dBm)	Limit (dBm)	(W/kg)	Factor	9
Left Head Touched	1513/1752.6	RMC	0.077	0.049	-1.720	22.200	22.500	0.083	1.072	
Left Head Tilted 15°	1513/1752.6	RMC	0.034	0.022	-0.750	22.200	22.500	0.036	1.072	
Right Head Touched	1513/1752.6	RMC	0.062	0.041	-0.720	22.200	22.500	0.066	1.072	
Right Head Tilted 15°	1513/1752.6	RMC	0.038	0.024	-0.200	22.200	22.500	0.041	1.072	
Test Position of	Test	Test			Power	Conducted	Tune- up	Scaled	Scalig	/
Body with 10mm	/Freq.(MHz)	Mode	1-g	10-g	(%)	(dBm)	Limit (dBm)	(W/kg)	Factor	\
AW	SET	SAR Re	esults fo	r Hotspo	ot Exposu	re Condition	AWSET		AWS	7
Front side	1513/1752.6	RMC	0.667	0.386	-1.130	22.200	22.500	0.715	1.072	l
Rear side	1513/1752.6	RMC	0.662	0.378	-0.990	22.200	22.500	0.709	1.072	
Bottom side	1513/1752.6	RMC	0.676	0.394	-1.180	22.200	22.500	0.724	1.072	
Left side	1513/1752.6	RMC	0.058	0.039	-0.260	22.200	22.500	0.062	1.072	
	Position of Head Left Head Touched Left Head Tilted 15° Right Head Touched Right Head Tilted 15° Test Position of Body with 10mm Front side Rear side Bottom side	Position of Head /Freq.(MHz) Left Head Touched 1513/1752.6 Left Head Tilted 15° 1513/1752.6 Right Head Touched 1513/1752.6 Right Head Touched 1513/1752.6 Right Head Tilted 15° 1513/1752.6 Test Position of Body with 10mm Test Channel /Freq.(MHz) Front side 1513/1752.6 Rear side 1513/1752.6 Bottom side 1513/1752.6	Position of Head /Freq.(MHz) Left Head Touched 1513/1752.6 RMC Left Head Tilted 15° 1513/1752.6 RMC Right Head Touched Touched Right Head Touched Tilted 15° 1513/1752.6 RMC Right Head Touched Tilted 15° 1513/1752.6 RMC Test Position of Body with 10mm Test Channel /Freq.(MHz) Front side 1513/1752.6 RMC Rear side 1513/1752.6 RMC Bottom side 1513/1752.6 RMC	Position of Head	Position of Head	Position of Head	Position of Head	Position of Head	Position of Head	Position of Head Freq.(MHz) Freq.(MHz)

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WSET	WSET	WSET	WSET	WSLT	
			X	X	X



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9.2.5 Results overview of UMTS Band V

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	Test Position of	Test channel	Test	_	Value kg)	Power Drift	Conducted Power	Tune- up	Scaled SAR _{1-q}	Scalig	
1	Head	/Freq.(MHz)	Mode	1-g	10-g	(%)	(dBm)	Limit (dBm)	(W/kg)	Factor	j
	Left Head Touched	4132/826.4	RMC	0.060	0.049	1.490	22.460	22.500	0.061	1.009	
1	Left Head Tilted 15°	4132/826.4	RMC	0.040	0.032	-0.570	22.460	22.500	0.040	1.009	
	Right Head Touched	4132/826.4	RMC	0.072	0.059	-0.130	22.460	22.500	0.073	1.009	
1	Right Head Tilted 15°	4132/826.4	RMC	0.045	0.035	-1.100	22.460	22.500	0.045	1.009	
	Test Position of	Test	Test	SAR ' (W/	Value kg)	Power	Conducted	Tune- up	Scaled	Scalig	/
	Body with 10mm	channel /Freq.(MHz)	Mode	1-g	10-g	Drift (%)	Power (dBm)	Limit (dBm)	SAR _{1-g} (W/kg)	Factor	\
_	AW	SET	SAR R	esults fo	r Hotspo	ot Exposu	re Condition	WSET		AWS	1
	Front side	4132/826.4	RMC	0.097	0.077	-1.410	22.460	22.500	0.098	1.009	
	Rear side	4132/826.4	RMC	0.113	0.090	-2.000	22.460	22.500	0.114	1.009	
1	Bottom side	4132/826.4	RMC	0.031	0.022	-3.140	22.460	22.500	0.031	1.009	
	Left side	4132/826.4	RMC	0.068	0.054	-1.600	22.460	22.500	0.069	1.009	



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9.2.6 Results overview of LTE Band II

	Test Position of	Test channel	Test	SAR (W/		Power Drift	Conducted Power	Tune- up	Scaled SAR _{1-q}	Scalig	
	Head	/Freq.(MHz)	Mode	1-g	10-g	(%)	(dBm)	Limit (dBm)	(W/kg)	Factor	9
	Left Head Touched	19100/1900	20M QPSK 1RB#99	0.033	0.020	-0.210	21.100	21.500	0.036	1.096	
	Left Head Tilted 15°	19100/1900	20M QPSK 1RB#99	0.011	0.007	-1.520	21.100	21.500	0.012	1.096	
1	Right Head Touched	19100/1900	20M QPSK 1RB#99	0.047	0.028	0.580	21.100	21.500	0.052	1.096	L.A
	Right Head Tilted 15°	19100/1900	20M QPSK 1RB#99	0.028	0.017	-0.830	21.100	21.500	0.031	1.096	
4	Left Head Touched	18700/1860	20M QPSK 50%RB#50	0.057	0.035	-1.040	21.130	21.500	0.062	1.089	
	Left Head Tilted 15°	18700/1860	20M QPSK 50%RB#50	0.021	0.013	-1.290	21.130	21.500	0.023	1.089	1
	Right Head Touched	18700/1860	20M QPSK 50%RB#50	0.034	0.021	-0.750	21.130	21.500	0.037	1.089	1
1	Right Head Tilted 15°	18700/1860	20M QPSK 50%RB#50	0.032	0.020	0.360	21.130	21.500	0.035	1.089	'n
	Test			SAR V	Value		_	Tune-			1
	Position of	Test channel	Test	(W/		Power Drift	Conducted Power	up	Scaled SAR _{1-a}	Scalig	
	Position of Body with 10mm	channel /Freq.(MHz)	Test Mode	_		Power Drift (%)	Conducted Power (dBm)		Scaled SAR _{1-g} (W/kg)	Scalig Factor	
	Body with	channel	Mode	(W/ 1-g	kg) 10-g	Drift (%)	Power	up Limit	SAR _{1-g}		
	Body with	channel	Mode SAR I 20M QPSK 1RB#99	(W/ 1-g	kg) 10-g	Drift (%)	Power (dBm)	up Limit	SAR _{1-g}		/
	Body with 10mm	channel /Freq.(MHz)	SAR I 20M QPSK 1RB#99 20M QPSK 1RB#99	(W/ 1-g Results fo	kg) 10-g or Hotspo	Drift (%)	Power (dBm)	up Limit (dBm)	SAR _{1-q} (W/kg)	Factor	\ \ \
	Body with 10mm Front side	channel /Freq.(MHz)	SAR I 20M QPSK 1RB#99 20M QPSK 1RB#99 20M QPSK 1RB#99	(W/ 1-g Results fo	10-g or Hotspo	Drift (%) ot Exposur	Power (dBm) e Condition 21.100	up Limit (dBm)	SAR _{1-g} (W/kg) 0.556	Factor 1.096	/ \
	Body with 10mm Front side Rear side	channel /Freq.(MHz) 19100/1900 19100/1900	SAR I 20M QPSK 1RB#99 20M QPSK 1RB#99 20M QPSK 1RB#99 20M QPSK 1RB#99	(W/ 1-g Results fo 0.507 0.620	10-g or Hotspo 0.288 0.348	Drift (%) ot Exposur -0.490 3.630	Power (dBm) e Condition 21.100 21.100	up Limit (dBm) 21.500 21.500	SAR _{1-g} (W/kg) 0.556 0.680	1.096 1.096	- / \ b
	Body with 10mm Front side Rear side Bottom side	channel /Freq.(MHz) 19100/1900 19100/1900	SAR I 20M QPSK 1RB#99 20M QPSK 1RB#99 20M QPSK 1RB#99 20M QPSK 1RB#99 20M QPSK 50%RB#50	(W/ 1-g Results fo 0.507 0.620 0.464	10-g or Hotspo 0.288 0.348 0.275	Drift (%) ot Exposur -0.490 3.630 -0.430	Power (dBm) e Condition 21.100 21.100 21.100	up Limit (dBm) 21.500 21.500	SAR _{1-g} (W/kg) 0.556 0.680 0.509	1.096 1.096	
	Front side Rear side Bottom side Left side	channel /Freq.(MHz) 19100/1900 19100/1900 19100/1900	Mode SAR I 20M QPSK 1RB#99 20M QPSK 1RB#99 20M QPSK 1RB#99 20M QPSK 1RB#99 20M QPSK 50%RB#50 20M QPSK 50%RB#50	(W/ 1-g Results fo 0.507 0.620 0.464 0.038	10-g 0.288 0.348 0.275 0.023	Drift (%) ot Exposur -0.490 3.630 -0.430 -3.110	Power (dBm) e Condition 21.100 21.100 21.100 21.100	21.500 21.500 21.500 21.500	0.556 0.680 0.509	1.096 1.096 1.096 1.096	
	Front side Rear side Bottom side Left side Front side	channel /Freq.(MHz) 19100/1900 19100/1900 19100/1900 18700/1860	Mode SAR I 20M QPSK 1RB#99 20M QPSK 1RB#99 20M QPSK 1RB#99 20M QPSK 1RB#99 20M QPSK 50%RB#50 20M QPSK	(W/ 1-g Results fo 0.507 0.620 0.464 0.038	10-g 0.288 0.348 0.275 0.023 0.266	Drift (%) ot Exposur -0.490 3.630 -0.430 -3.110 -0.600	Power (dBm) e Condition 21.100 21.100 21.100 21.130	21.500 21.500 21.500 21.500 21.500	0.556 0.680 0.509 0.042	1.096 1.096 1.096 1.096 1.089	

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9.2.7 Results overview of LTE Band IV

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1	Test Position of	Test channel	Test Mode	SAR ' (W/		Power Drift	Conducted Power	Tune- up Limit	Scaled SAR _{1-q}	Scalig Factor	
1	Head	/Freq.(MHz)	Wiode	1-g	10-g	(%)	(dBm)	(dBm)	(W/kg)	ractor	9
	Left Head Touched	20050/1720	20M QPSK 1RB#50	0.055	0.035	-1.710	21.250	21.500	0.058	1.059	
	Left Head Tilted 15°	20050/1720	20M QPSK 1RB#50	0.025	0.017	-0.910	21.250	21.500	0.026	1.059	
4	Right Head Touched	20050/1720	20M QPSK 1RB#50	0.058	0.038	-0.340	21.250	21.500	0.061	1.059	11.
	Right Head Tilted 15°	20050/1720	20M QPSK 1RB#50	0.026	0.017	-0.540	21.250	21.500	0.028	1.059	
1	Left Head Touched	20300/1745	20M QPSK 50%RB#0	0.057	0.037	-1.710	21.170	21.500	0.061	1.079	
	Left Head Tilted 15°	20300/1745	20M QPSK 50%RB#0	0.024	0.016	-1.920	21.170	21.500	0.026	1.079	/
	Right Head Touched	20300/1745	20M QPSK 50%RB#0	0.048	0.031	-0.260	21.170	21.500	0.052	1.079	1
_	Right Head Tilted 15°	20300/1745	20M QPSK 50%RB#0	0.025	0.016	0.370	21.170	21.500	0.027	1.079	7
	Test	Test		SAR '	Value		0 1 1	Tune-			
	Position of		Test	(W/	kg)	Power Drift	Conducted Power	up	Scaled SAR _{1-a}	Scalig	
1	Position of Body with 10mm	channel /Freq.(MHz)	Test Mode	(W/ 1-g	kg) 10-g	Drift (%)	Power (dBm)	up Limit (dBm)	Scaled SAR _{1-g} (W/kg)	Scalig Factor	
1	Body with	channel	Mode	1-g	10-g	Drift (%)	Power	Limit	SAR _{1-g}		
1	Body with	channel	Mode	1-g	10-g	Drift (%)	Power (dBm)	Limit	SAR _{1-g}		
1	Body with 10mm	channel /Freq.(MHz)	SAR I 20M QPSK 1RB#50 20M QPSK 1RB#50	1-g Results fo	10-g or Hotspo	Drift (%) ot Exposur	Power (dBm)	Limit (dBm)	SAR _{1-g} (W/kg)	Factor	/ / /
1	Body with 10mm	channel /Freq.(MHz) 20050/1720	SAR I 20M QPSK 1RB#50 20M QPSK	1-g Results fo	10-g or Hotspo 0.344	Drift (%) ot Exposure 0.410	Power (dBm) e Condition 21.250	Limit (dBm) 21.500	SAR _{1-q} (W/kg)	1.059	/ \
4	Body with 10mm Front side Rear side	channel /Freq.(MHz) 20050/1720 20050/1720	SAR I 20M QPSK 1RB#50	1-g Results for 0.589 0.662	10-g or Hotspo 0.344 0.385	Drift (%) ot Exposure 0.410 -0.060	Power (dBm) e Condition 21.250 21.250	21.500 21.500	SAR _{1-q} (W/kg) 0.624 0.701	1.059 1.059	/ \ \
	Body with 10mm Front side Rear side Bottom side	channel /Freq.(MHz) 20050/1720 20050/1720 20050/1720	SAR I 20M QPSK 1RB#50 20M QPSK 50%RB#0	1-g Results fo 0.589 0.662 0.430	10-g or Hotspo 0.344 0.385 0.262	Drift (%) ot Exposure 0.410 -0.060 -0.370	Power (dBm) e Condition 21.250 21.250 21.250	21.500 21.500 21.500	SAR _{1-q} (W/kg) 0.624 0.701 0.455	1.059 1.059 1.059	/ \ 7
	Body with 10mm Front side Rear side Bottom side Left side	channel /Freq.(MHz) 20050/1720 20050/1720 20050/1720 20050/1720	SAR I 20M QPSK 1RB#50 20M QPSK	1-g Results for 0.589 0.662 0.430 0.075	10-g 0.344 0.385 0.262 0.048	Drift (%) ot Exposure 0.410 -0.060 -0.370 -0.220	Power (dBm) e Condition 21.250 21.250 21.250 21.250	21.500 21.500 21.500 21.500	0.624 0.701 0.455 0.079	1.059 1.059 1.059 1.059	
	Body with 10mm Front side Rear side Bottom side Left side Front side	channel /Freq.(MHz) 20050/1720 20050/1720 20050/1720 20050/1720 20300/1745	Mode SAR I 20M QPSK 1RB#50 20M QPSK 1RB#50 20M QPSK 1RB#50 20M QPSK 1RB#50 20M QPSK 50%RB#0 20M QPSK	1-g Results for 0.589 0.662 0.430 0.075 0.522	10-g 0.344 0.385 0.262 0.048 0.302	Drift (%) ot Exposure 0.410 -0.060 -0.370 -0.220 -0.410	Power (dBm) e Condition 21.250 21.250 21.250 21.250 21.170	21.500 21.500 21.500 21.500 21.500	0.624 0.701 0.455 0.079	1.059 1.059 1.059 1.059 1.079	
	Body with 10mm Front side Rear side Bottom side Left side Front side Rear side	channel /Freq.(MHz) 20050/1720 20050/1720 20050/1720 20050/1720 20300/1745	Mode SAR I 20M QPSK 1RB#50 20M QPSK 1RB#50 20M QPSK 1RB#50 20M QPSK 1RB#50 20M QPSK 50%RB#0 20M QPSK 50%RB#0 20M QPSK	1-g Results for 0.589 0.662 0.430 0.075 0.522 0.596	10-g 0.344 0.385 0.262 0.048 0.302 0.345	Drift (%) ot Exposure 0.410 -0.060 -0.370 -0.220 -0.410 -0.370	Power (dBm) e Condition 21.250 21.250 21.250 21.250 21.170 21.170	21.500 21.500 21.500 21.500 21.500 21.500	0.624 0.701 0.455 0.079 0.563 0.643	1.059 1.059 1.059 1.059 1.079 1.079	

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9.2.8 Results overview of LTE Band V

JOINES.

			/								
	Test Position of	Test channel	Test	SAR (W/		Power Drift	Conducted Power	Tune- up	Scaled SAR _{1-q}	Scalig	
	Head	/Freq.(MHz)	Mode	1-g	10-g	(%)	(dBm)	Limit (dBm)	(W/kg)	Factor	-
	Left Hand Touched	20600/844	10M QPSK 1RB#25	0.048	0.036	-1.640	21.060	21.500	0.053	1.107	
	Left Hand Tilted 15°	20600/844	10M QPSK 1RB#25	0.028	0.021	1.520	21.060	21.500	0.031	1.107	
7	Right Hand Touched	20600/844	10M QPSK 1RB#25	0.033	0.024	-0.190	21.060	21.500	0.037	1.107	L.A
	Right Hand Tilted 15°	20600/844	10M QPSK 1RB#25	0.019	0.014	-2.760	21.060	21.500	0.021	1.107	
1	Left Hand Touched	20600/844	10M QPSK 25%RB#13	0.039	0.030	-1.850	21.070	21.500	0.043	1.104	
	Left Hand Tilted 15°	20600/844	10M QPSK 25%RB#13	0.022	0.017	0.030	21.070	21.500	0.024	1.104	/
	Right Hand Touched	20600/844	10M QPSK 25%RB#13	0.034	0.025	-4.340	21.070	21.500	0.038	1.104	
1	Right Hand Tilted 15°	20600/844	10M QPSK 25%RB#13	0.020	0.015	1.640	21.070	21.500	0.022	1.104	7/
	Test	T1		SAR V	Value	_		Tune-			
	Position of	Test	Test	(W/		Power	Conducted	up	Scaled	Scalig	
/	Position of Body with 10mm	channel /Freq.(MHz)	Test Mode	_		Power Drift (%)	Power (dBm)		Scaled SAR _{1-g} (W/kg)	Scalig Factor	
	Body with	channel	Mode	(W/ 1-g	kg) 10-g	Drift (%)	Power	up Limit	SAR _{1-g}		
	Body with	channel	Mode	(W/ 1-g	kg) 10-g	Drift (%)	Power (dBm)	up Limit	SAR _{1-g}		
	Body with 10mm	channel /Freq.(MHz)	Mode SAR I 10M QPSK 1RB#25 10M QPSK 1RB#25	(W/ 1-g Results fo	kg) 10-g or Hotspo	Drift (%) ot Exposure	Power (dBm)	up Limit (dBm)	SAR _{1-q} (W/kg)	Factor	/ /
	Body with 10mm Front side	channel /Freq.(MHz) 20600/844	Mode SAR I 10M QPSK 1RB#25 10M QPSK 1RB#25 10M QPSK 1RB#25	(W/ 1-g Results fo	10-g or Hotspo	Drift (%) ot Exposure	Power (dBm) e Condition 21.060	up Limit (dBm)	SAR _{1-q} (W/kg)	Factor	/ \
	Body with 10mm Front side Rear side	channel /Freq.(MHz) 20600/844 20600/844	Mode SAR I 10M QPSK 1RB#25 10M QPSK 1RB#25 10M QPSK 1RB#25 10M QPSK 1RB#25	(W/ 1-g Results fo 0.067 0.082	10-g or Hotspo 0.047 0.058	Drift (%) ot Exposure 0.570 1.070	Power (dBm) e Condition 21.060 21.060	up Limit (dBm) 21.500 21.500	SAR ₁₋₉ (W/kg) 0.074 0.091	1.107 1.107	/ \
	Body with 10mm Front side Rear side Bottom side	channel /Freq.(MHz) 20600/844 20600/844	Mode SAR I 10M QPSK 1RB#25 10M QPSK 1RB#25 10M QPSK 1RB#25 10M QPSK 1RB#25 10M QPSK 25%RB#13	(W/ 1-g Results for 0.067 0.082 0.006	10-g 0.047 0.058 0.004	Drift (%) ot Exposure 0.570 1.070	Power (dBm) e Condition 21.060 21.060	up Limit (dBm) 21.500 21.500 21.500	SAR _{1-g} (W/kg) 0.074 0.091 0.007	1.107 1.107 1.107	
	Front side Rear side Bottom side Left side	channel /Freq.(MHz) 20600/844 20600/844 20600/844	Mode SAR I 10M QPSK 1RB#25 10M QPSK 1RB#25 10M QPSK 1RB#25 10M QPSK 1RB#25 10M QPSK 25%RB#13 10M QPSK 25%RB#13	(W/ 1-g Results for 0.067 0.082 0.006 0.005	10-g 0.047 0.058 0.004 0.004	Drift (%) ot Exposure 0.570 1.070 1.750 -2.630	Power (dBm) e Condition 21.060 21.060 21.060 21.060	21.500 21.500 21.500 21.500	0.074 0.091 0.006	1.107 1.107 1.107 1.107	
	Front side Rear side Bottom side Left side Front side	channel /Freq.(MHz) 20600/844 20600/844 20600/844 20600/844	Mode SAR I 10M QPSK 1RB#25 10M QPSK 1RB#25 10M QPSK 1RB#25 10M QPSK 1RB#25 10M QPSK 25%RB#13 10M QPSK	(W/ 1-g Results for 0.067 0.082 0.006 0.005	10-g 0.047 0.058 0.004 0.004 0.0032	Drift (%) ot Exposure 0.570 1.070 1.750 -2.630 0.690	Power (dBm) e Condition 21.060 21.060 21.060 21.060 21.070	21.500 21.500 21.500 21.500 21.500	0.074 0.091 0.007 0.006	1.107 1.107 1.107 1.107 1.104	ノトのフト

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9.2.9 Results overview of LTE Band VII

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	\ /				\ /				\ /	
A	Test Position of	Test channel	Test Mode	SAR (W/		Power Drift	Conducted Power	Tune- up Limit	Scaled SAR _{1-g}	Scalig Factor
1	Head	/Freq.(MHz)	WIOGE	1-g	10-g	(%)	(dBm)	(dBm)	(W/kg)	1 actor
	Left Head Touched	20850/2510	20M QPSK 1RB#50	0.012	0.006	1.750	21.040	21.500	0.013	1.112
	Left Head Tilted 15°	20850/2510	20M QPSK 1RB#50	0.007	0.004	1.370	21.040	21.500	0.008	1.112
7	Right Head Touched	20850/2510	20M QPSK 1RB#50	0.018	0.008	-2.020	21.040	21.500	0.020	1.112
	Right Head Tilted 15°	20850/2510	20M QPSK 1RB#50	0.009	0.005	-0.240	21.040	21.500	0.010	1.112
1	Left Head Touched	21350/2560	20M QPSK 50%RB#0	0.006	0.003	-1.240	21.010	21.500	0.007	1.119
	Left Head Tilted 15°	21350/2560	20M QPSK 50%RB#0	0.005	0.003	1.420	21.010	21.500	0.006	1.119
	Right Head Touched	21350/2560	20M QPSK 50%RB#0	0.009	0.005	-1.020	21.010	21.500	0.010	1.119
	Right Head Tilted 15°	21350/2560	20M QPSK 50%RB#0	0.005	0.003	4.340	21.010	21.500	0.006	1.119
	Test Position of	Test channel	Test	SAR (W/		Power Drift	Conducted Power	Tune- up	Scaled SAR _{1-q}	Scalig
	Dadyyyyith									
1	Body with 10mm	/Freq.(MHz)	Mode	1-g	10-g	(%)	(dBm)	Limit (dBm)	(W/kg)	Factor
1						(%)				Factor
4						(%)	(dBm)			1.112
1	10mm	/Freq.(MHz)	SAR I 20M QPSK 1RB#50 20M QPSK 1RB#50	Results fo	or Hotspo	(%) ot Exposur	(dBm) e Condition	(dBm)	(W/kg)	
1	10mm Front side	/Freq.(MHz) 20850/2510	SAR I 20M QPSK 1RB#50 20M QPSK 1RB#50 20M QPSK 1RB#50	Results fo	0.032	(%) ot Exposure 0.870	(dBm) e Condition 21.040	(dBm) 21.500	(W/kg) 0.082	1.112
	Front side Rear side	/Freq.(MHz) 20850/2510 20850/2510	SAR I 20M QPSK 1RB#50 20M QPSK 1RB#50 20M QPSK	0.074 0.119	0.032 0.049	(%) ot Exposure 0.870 -0.490	(dBm) e Condition 21.040 21.040	21.500 21.500	0.082 0.132	1.112
	Front side Rear side Bottom side	/Freq.(MHz) 20850/2510 20850/2510 20850/2510	SAR I 20M QPSK 1RB#50 20M QPSK 1RB#50 20M QPSK 1RB#50 20M QPSK 1RB#50 20M QPSK 50%RB#0	0.074 0.119 0.178	0.032 0.049 0.078	(%) ot Exposure 0.870 -0.490 0.710	(dBm) e Condition 21.040 21.040 21.040	21.500 21.500 21.500	0.082 0.132 0.198	1.112 1.112 1.112
	Front side Rear side Bottom side Left side	/Freq.(MHz) 20850/2510 20850/2510 20850/2510 20850/2510	SAR I 20M QPSK 1RB#50 20M QPSK 1RB#50 20M QPSK 1RB#50 20M QPSK 1RB#50 20M QPSK	0.074 0.119 0.178 0.019	0.032 0.049 0.078 0.009	0.870 -0.490 0.710	(dBm) e Condition 21.040 21.040 21.040 21.040	21.500 21.500 21.500 21.500	0.082 0.132 0.198 0.021	1.112 1.112 1.112 1.112
4	Front side Rear side Bottom side Left side Front side	/Freq.(MHz) 20850/2510 20850/2510 20850/2510 20850/2510 21350/2560	SAR I 20M QPSK 1RB#50 20M QPSK 1RB#50 20M QPSK 1RB#50 20M QPSK 1RB#50 20M QPSK 50%RB#0 20M QPSK	0.074 0.119 0.178 0.019 0.063	0.032 0.049 0.078 0.009 0.027	0.870 -0.490 0.710 1.330 -3.880	(dBm) e Condition 21.040 21.040 21.040 21.040 21.040	21.500 21.500 21.500 21.500 21.500	0.082 0.132 0.198 0.021	1.112 1.112 1.112 1.112 1.119

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9.2.10 Results overview of Wi-Fi 2.4G

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	Test Position of	Test channel	Test	SAR (W/		Power Drift	Conducted Power	Tune- up	Scaled SAR _{1-g}	Scaling
1	Head	/Freq.(MHz)	Mode	1-g	10-g	(%)	(dBm)	Limit (dBm)	(W/kg)	Factor
	Left Head Touched	6/2437	802.11b	0.074	0.034	-0.630	14.360	14.500	0.076	1.033
	Left Head Tilted 15°	6/2437	802.11b	0.070	0.031	-0.200	14.360	14.500	0.072	1.033
-	Right Head Touched	6/2437	802.11b	0.090	0.042	-0.560	14.360	14.500	0.093	1.033
	Right Head Tilted 15°	6/2437	802.11b	0.083	0.035	0.310	14.360	14.500	0.086	1.033
1	Test Position of	Test channel	Test	SAR \		Power Drift	Conducted Power	Tune- up	Scaled SAR _{1-q}	Scaling
	Body with 10mm	/Freq.(MHz)	Mode	1-g	10-g	(%)	(dBm)	Limit (dBm)	(W/kg)	Factor
	/		SAR R	esults fo	or Hotsp	ot Exposi	ure Condition		į.	
L	Front side ///	6/2437	802.11b	0.023	0.011	-0.050	14.360	14.500	0.024	1.033
	Rear side	6/2437	802.11b	0.021	0.010	0.840	14.360	14.500	0.022	1.033
	Top side	6/2437	802.11b	0.024	0.012	1.280	14.360	14.500	0.025	1.033
1	Left side	6/2437	802.11b	0.015	0.007	0.620	14.360	14.500	0.015	1.033
	T at 100 may not 1	F 1 1 2 40	and a self of		T of will able tolls		A TOTAL SEE AND ADDRESS.		JET THE NEW YORK	

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WS	<i>ET</i>	WSUT	WSLT	WSLT	WSET
WSUT	WSUT	\times			SET
		X	X	X	X

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9.2.11 Results overview of Wi-Fi 5G

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				,					\ /	
1	Test Position of Head	Test channel /Freq.(MHz)	Test Mode	SAR (W/		Power Drift (%)	Conducted Power (dBm)	Tune- up Limit	Scaled SAR _{1-g} (W/kg)	Scaling Factor
	Tieau	71 Teq.(IIII 12)			J		,	(dBm)	(VV/Kg)	
	1 611 1	X		5.2G	U-NII-1 b	and (802.	11a)	-X		\times
	Left Head Touched	48/5240	802.11a	0.070	0.033	-0.860	15.360	15.500	0.072	1.000
-	Left Head Tilted 15°	48/5240	802.11a	0.062	0.028	-0.520	15.360	15.500	0.064	1.000
	Right Head Touched	48/5240	802.11a	0.081	0.040	-1.150	15.360	15.500	0.084	1.000
1	Right Head Tilted 15°	48/5240	802.11a	0.067	0.031	1.410	15.360	15.500	0.069	1.000
1	7-1-3-14	-		5.8G (U-NII-3 B	and (802.	11a)		ZIFIA	
	Left Head Touched	165/5825	802.11a	0.057	0.029	0.520	15.400	15.500	0.058	1.023
	Left Head Tilted 15°	165/5825	802.11a	0.022	0.011	-1.130	15.400	15.500	0.023	1.023
X	Right Head Touched	165/5825	802.11a	0.068	0.033	1.010	15.400	15.500	0.070	1.023
	Right Head Tilted 15°	165/5825	802.11a	0.035	0.018	0.820	15.400	15.500	0.036	1.023
1	Test Position of Body with	Test channel	Test Mode	SAR (W/	kg)	Power Drift	Conducted Power	Tune- up Limit	Scaled SAR _{1-g}	Scaling Factor
	10mm	/Freq.(MHz)		1-g	10-g	(%)	(dBm)	(dBm)	(W/kg)	
	/	S	AR Results	s for Hot	spot Exp	oosure Co	ndition with 1	l0mm	0.0	
	W	5ET		5.2G	U-NII-1 b	and (802.	11a)	AWSET	1	AWSE!
	Front side	48/5240	802.11a	0.019	0.010	1.010	15.360	15.500	0.020	1.000
	Rear side	48/5240	802.11a	0.017	0.008	0.680	15.360	15.500	0.018	1.000
_	Top side	48/5240	802.11a	0.021	0.011	1.020	15.360	15.500	0.022	1.000
1	Left side	48/5240	802.11a	0.012	0.006	-0.150	15.360	15.500	0.012	1.000
				5.8G l	U-NII-3 B	and (802.	11a)		2)	
	Front side	165/5825	802.11a	0.013	0.006	0.220	15.400	15.500	0.013	1.023
	Rear side	165/5825	802.11a	0.011	0.005	-0.590	15.400	15.500	0.011	1.023
	Top side	165/5825	802.11a	0.016	0.009	1.000	15.400	15.500	0.016	1.023
	Left side	165/5825	802.11a	0.010	0.004	-1.050	15.400	15.500	0.010	1.023

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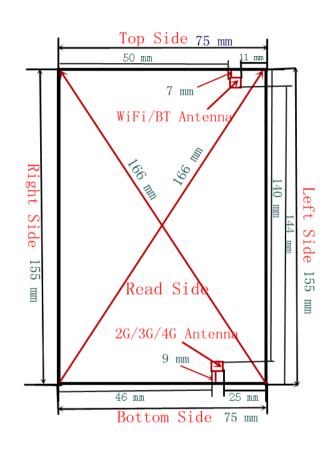


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10 Multiple Transmitter Information

The SAR measurement positions of each side are as below:







< Rear Side >

Mode	Front side	Rear side	Left side	Right side	Top side	Bottom side
2G/3G/4G Antenna	Yes	Yes	Yes	No	No	Yes
Wi-Fi/BT Antenna	Yes	Yes	Yes	No	Yes	No

1) Per KDB941225 D06v01r01, the DUT Dimension is bigger than 9 cm x 5 cm, so 10mm is chosen as the test separation distance for Hotspot mode. When the antenna-to-edge distance is greater than 2.5cm, such position does not need to be tested.



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10.1.1 Stand-alone SAR test exclusion

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤

50 mm are determined by:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance,

mm)] $\cdot [\sqrt{f(GHz)}] \le 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

- f(GHz) is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison

When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

a)Head position

			The second secon					
Mada	Dress (dDres)	Dun av/ms/4/)	Dietense/mm)	£/CII=\	Calculation	exclusion	SAR test	
Mode	Pmax(abm)	Pmax(mvv)	Distance(mm)	i(Gnz)	Result	Threshold	exclusion	
BT	2.5	1.78	5.00	2.45	0.56	3.00	Yes	
DI	2.5	1.70	5.00	2.43	0.56	3.00	165	

Body-Worn position

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	Mode	Dmay(dPm)	Dmay(mW)	Distance(mm)	€(CH-)	Calculation	exclusion	SAR test
)	Wode	Piliax(UDIII)	rillax(IIIVV)	Distance(IIIII)	i(GHZ)	Result	Threshold	exclusion
	BT	2.5	1.78	10.00	2.45	0.28	3.00	Yes

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When the standalone SAR test exclusion applies to an antenna that transmits simultaneously with other antennas, the standalone SAR must be estimated according to the following to determine simultaneous transmission SAR test exclusion

(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)]·[$\sqrt{f(GHz)/x}$] W/kg for test separation distances \leq 50 mm, where x = 7.5 for 1-g SAR. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

4	Mode	Position	Pmax(dBm)	Pmax(mW)	Distance(mm)	f(GHz)	х	Estimated SAR(W/Kg)
	BT	Head	2.5	1.78	5.00	2.45	7.50	0.074
	BT	Body	2.5	1.78	10.00	2.45	7.50	0.025

10.1.2 Simultaneous Transmission Possibilities

The Simultaneous Transmission Possibilities are as below:

L	Simultaneous Tran	nsmission Possibilities			
	Simultaneous Tx Combination	Configuration	Head	Body	Hotspot
	Wild	GSM/GPRS/UMTS/LTE +Wi-Fi	V5/YES	YES	YES W
1	2	GSM/GPRS/UMTS/LTE +BT	YES	NO	NO

Note: The device does not support simultaneous BT and Wi-Fi ,because the BT and Wi-Fi share the same antenna and can't transmit simultaneously.

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10.1.3 SAR Summation Scenario

		Scaled	SAR _{Max}		Wi-Fi		
4	Test Position	GSM850	Wi-Fi (2.4G)	∑ _{1-g} SAR	(5G)	∑ _{1-g} SAR	SPLSP
1	Left Head Touched	0.078	0.076	0.154	0.072	0.150	NA
Head	Left Head Tilted 15°	0.074	0.072	0.146	0.064	0.138	NA
пеац	Right Head Touched	0.095	0.093	0.188	0.084	0.179	NA /
WS	Right Head Tilted 15°	0.047	0.086	0.133	0.069	0.116	NA
/	Front side	0.086	0.024	0.110	0.020	0.106	NA
Hotopot	Rear side	0.111	0.022	0.133	0.018	0.129	NA
Hotspot	Bottom side	0.036	0.000	0.036	0.000	0.036	NA
	Left side	0.018	0.015	0.033	0.012	0.030	NA

Note: Simultaneous Tx Combination of GSM850 and Wi-Fi

			Scaled	SAR _{Max}		Wi-Fi	_		1
		Test Position	GSM1900	Wi-Fi (2.4G)	∑ _{1-g} SAR	(5G)	∑ _{1-g} SAR	SPLSP	5
1		Left Head Touched	0.009	0.076	0.085	0.072	0.081	NA	ı
1	Head	Left Head Tilted 15°	0.004	0.072	0.076	0.064	0.068	NA	ı
	пеац	Right Head Touched	0.006	0.093	0.099	0.084	0.090	NA	ı
L		Right Head Tilted 15°	0.005	0.086	0.091	0.069	0.074	NA	H
		Front side	0.066	0.024	0.090	0.020	0.086	NA	
	Hotspot	Rear side	0.084	0.022	0.106	0.018	0.102	NA	2
		Bottom side	0.126	0.000	0.126	0.000	0.126	NA /	
	AWS	Left side	0.013	0.015	0.028	0.012	0.025	NA M	5

Note: Simultaneous Tx Combination of GSM1900 and Wi-Fi

^			-	_					
			Scaled	SAR _{Max}		Wi-Fi	۲.		
L	7	Test Position	UMTS	Wi-Fi	∑ _{1-g} SAR		∑ _{1-g} SAR	SPLSP	
			Band II	(2.4G)		(5G)	SAK		
	X	Left Head Touched	0.087	0.076	0.163	0.072	0.159	NA	١
	Hood	Left Head Tilted 15°	0.031	0.072	0.103	0.064	0.095	NA /	
	Head	Right Head Touched	0.050	0.093	0.143	0.084	0.134	NA ///	Ę
		Right Head Tilted 15°	0.048	0.086	0.134	0.069	0.117	NA	
1		Front side	0.768	0.024	0.792	0.020	0.788	NA	
	Hotspot	Rear side	0.790	0.022	0.812	0.018	0.808	NA	
77		Bottom side	0.797	0.000	0.797	0.000	0.797	NA	
Æ.		Left side	0.073	0.015	0.088	0.012	0.085	NA	

Note: Simultaneous Tx Combination of UMTS Band II and Wi-Fi



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		Scaled	SAR _{Max}		Wi-Fi	∑ _{1-g}	
	Test Position	UMTS Band IV	Wi-Fi (2.4G)	∑ _{1-g} SAR	(5G)	SAR	SPLSP
	Left Head Touched	0.083	0.076	0.159	0.072	0.155	NA
Head	Left Head Tilted 15°	0.036	0.072	0.108	0.064	0.100	NA
Head	Right Head Touched	0.066	0.093	0.159	0.084	0.150	NA
V	Right Head Tilted 15°	0.041	0.086	0.127	0.069	0.110	NA
	Front side	0.715	0.024	0.739	0.020	0.735	NA 🧪
Hotopot /	Rear side	0.709	0.022	0.731	0.018	0.727	NA
Hotspot	Bottom side	0.724	0.000	0.724	0.022	0.724	NA
	Left side	0.062	0.015	0.077	0.012	0.074	NA

Note: Simultaneous Tx Combination of UMTS Band IV and Wi-Fi

			J. 1 1 J. 60					OV AND AND A
-5			Scaled	SAR _{Max}		Wi-Fi	∑ _{1-g}	
	٦	Test Position	UMTS Band V	Wi-Fi (2.4G)	∑ _{1-g} SAR	(5G)	SAR	SPLSP
	house	Left Head Touched	0.061	0.076	0.137	0.072	0.133	NA
/	Head	Left Head Tilted 15°	0.040	0.072	0.112	0.064	0.104	NA
	пеац	Right Head Touched	0.073	0.093	0.166	0.084	0.157	NA
		Right Head Tilted 15°	0.045	0.086	0.131	0.069	0.114	NA
		Front side	0.098	0.024	0.122	0.020	0.118	NA
Z	Hotspot	Rear side	0.114	0.022	0.136	0.018	0.132	NA
		Bottom side	0.031	0.000	0.031	0.000	0.031	NA
		Left side	0.069	0.015	0.084	0.012	0.081	NA

Note: Simultaneous Tx Combination of UMTS Band V and Wi-Fi

			Scaled	SAR _{Max}		Wi-Fi	7	
\langle		Test Position	LTE	Wi-Fi	$\sum_{1-g} SAR$	(5G)	∑ _{1-g} SAR	SPLSP
			Band II	(2.4G)		(/		
Z	7*	Left Head Touched	0.062	0.076	0.138	0.072	0.134	NA
	Head	Left Head Tilted 15°	0.023	0.072	0.095	0.064	0.087	NA
	i leau	Right Head Touched	0.052	0.093	0.145	0.084	0.136	NA
		Right Head Tilted 15°	0.035	0.086	0.121	0.069	0.104	NA
	WE	Front side	0.556	0.024	0.580	0.020	0.576	NA
	Hotopot	Rear side	0.680	0.022	0.702	0.018	0.698	NA
/	Hotspot	Bottom side	0.563	0.000	0.563	0.000	0.563	NA
\		Left side	0.042	0.015	0.057	0.012	0.054	NA

Note: Simultaneous Tx Combination of LTE Band II and Wi-Fi



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			Scaled	SAR _{Max}				
<		Test Position	LTE Band IV	Wi-Fi (2.4G)	∑ _{1-g} SAR	Wi-Fi (5G)	∑ _{1-g} SAR	SPLSP
r		Left Head Touched	0.061	0.076	0.137	0.072	0.133	NA
	Head	Left Head Tilted 15°	0.026	0.072	0.098	0.064	0.090	NA
	пеац	Right Head Touched	0.061	0.093	0.154	0.084	0.145	NA
		Right Head Tilted 15°	0.028	0.086	0.114	0.069	0.097	NA
	Alle	Front side	0.624	0.024	0.648	0.020	0.644	NA 🦱
<	Hotspot	Rear side	0.701	0.022	0.723	0.018	0.719	NA
	Ποιδροί	Bottom side	0.455	0.000	0.455	0.000	0.455	NA
		Left side	0.079	0.015	0.094	0.012	0.091	NA

Note: Simultaneous Tx Combination of LTE Band IV and Wi-Fi

			Scaled	SAR _{Max}					
		Test Position	LTE	Wi-Fi	∑ _{1-g} SAR	Wi-Fi	∑ _{1-q} SAR	SPLSP	1
			Band V	(2.4G)	∠1-g 3 741€	(5G)	∠1-g 37 41€	0. 20.	
									E
/	/	Left Head Touched	0.053	0.076	0.129	0.072	0.125	NA	
	Head	Left Head Tilted 15°	0.031	0.072	0.103	0.064	0.095	NA	
		Right Head Touched	0.038	0.093	0.131	0.084	0.122	NA	
ľ		Right Head Tilted 15°	0.022	0.086	0.108	0.069	0.091	/5 / NA	
		Front side	0.074	0.024	0.098	0.020	0.094	NA	
	Llatanat	Rear side	0.091	0.022	0.113	0.018	0.109	NA	١
	Hotspot	Bottom side	0.009	0.000	0.009	0.000	0.009	NA /	ľ
	AUL	Left side	0.006	0.015	0.021	0.012	0.018	NA	

Note: Simultaneous Tx Combination of LTE Band V and Wi-Fi

6		X		X			X		
			Scaled	SAR _{Max}					
Z		Test Position	LTE	Wi-Fi	∑ _{1-g} SAR	Wi-Fi	∑ _{1-q} SAR	SPLSP	
			Band VII	(2.4G)		(5G)	Z1-g = 7 1	5. 25.	
	/	Left Head Touched	0.013	0.076	0.089	0.072	0.085	NA	
	Hood	Left Head Tilted 15°	0.008	0.072	0.080	0.064	0.072	NA	
	Head	Right Head Touched	0.020	0.093	0.113	0.084	0.104	NA	
j		Right Head Tilted 15°	0.010	0.086	0.096	0.069	0.079	NA	
(Front side	0.082	0.024	0.106	0.020	0.102	NA	
	Hotopot	Rear side	0.132	0.022	0.154	0.018	0.150	NA	
L	Hotspot	Bottom side	0.198	0.000	0.198	0.000	0.198	NA	
		Left side	0.021	0.015	0.036	0.012	0.033	NA	

Note: Simultaneous Tx Combination of LTE Band VII and Wi-Fi



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MAX. Σ SAR_{1g} = 0.812W/kg<1.6 W/kg, so the Simultaneous SAR is not required for Wi-Fi and GSM&UMTS<E antenna.

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WS	ET WS	USE WISE	WS	ar NV	511
	WSLT	WSET	WSET	WSLIT	WSET
WS	$\langle \hspace{0.1cm} \rangle$	$\langle \rangle$			711
	WSET	WSET	WSET	WISTOT	Wister
WS	$\langle \hspace{0.1cm} \rangle$	$\langle \hspace{0.2cm} \hspace{0.2cm}$			311
	WSET	WSET	WSET	WSET	WSET
WS		$\langle \ \rangle$			SET
	WSET	WSET	WSLT	WSET	WSET
NY Z	WS	$\langle \hspace{0.1cm} \rangle$			567
	certification e	WSET	WSET	WSCT	WSET
	100				



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ß	Test Position		Scaled	SAR _{Max}	∑ _{1-q} SAR	SPLSP	
			GSM850 BT			OI LOI	
Ī		Left Head Touched	0.078	0.074	0.152	NA	
	Head	Left Head Tilted 15°	0.074	0.074	0.148	NA	
		Right Head Touched	0.095	0.074	65/20.169	NA/5/	
١,	Right Head Tilted 15°		0.047	0.074	0.121	NA	

Note: Simultaneous Tx Combination of GSM850 and BT

ľ	Test Position -		Scaled	SAR _{Max}	7	SPLSP	
			GSM1900	BT	∑ _{1-g} SAR		
		Left Head Touched	0.009	0.074	0.083	NA	
١.,	Head	Left Head Tilted 15°	0.004	0.074	0.078	NA	
П		Right Head Touched	0.006	0.074	0.080	NA 5/1	
	Right Head Tilted 15°		0.005	0.074	0.079	NA	

Note: Simultaneous Tx Combination of GSM1900 and BT

į.		Scaled	SAR _{Max}		SPLSP	
	Test Position	UMTS Band II	ВТ	∑ _{1-g} SAR		
	Left Head Touched	0.087	0.074	0.161	NA	
Llood	Left Head Tilted 15°	0.031	0.074	0.105	NA/5/	
Head	Right Head Touched	0.05	0.074	0.124	NA	
X	Right Head Tilted 15°	0.048	0.074	0.122	< NA	

Note: Simultaneous Tx Combination of UMTS Band II and BT

			Scaled	SAR _{Max}		SPLSP	
Te		Test Position	UMTS Band IV	ВТ	∑ _{1-g} SAR		
		Left Head Touched	0.083	0.074	0.157	NA/5E	
\	Head	Left Head Tilted 15°	0.036	0.074	0.110	NA	
		Right Head Touched	0.066	0.074	0.140	< NA	
		Right Head Tilted 15°	0.041	0.074	0.115	NA	

Note: Simultaneous Tx Combination of UMTS Band IV and BT

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<u> </u>		Scaled	SAR _{Max}		SPLSP	
	Test Position	UMTS Band V	ВТ	∑ _{1-g} SAR		
	Left Head Touched	0.061	0.074	0.135	NA	
Llood	Left Head Tilted 15°	0.040	0.074	0.114	NA 5	
Head	Right Head Touched	0.073	0.074	0.147	NA	
X	Right Head Tilted 15°	0.045	0.074	0.119	NA	

Note: Simultaneous Tx Combination of UMTS Band V and BT

			Scaled	SAR _{Max}		SPLSP	
		Test Position	LTE Band	ВТ	∑ _{1-g} SAR		
		Left Head Touched	0.062	0.074	0.136	NA	
1	Head	Left Head Tilted 15°	0.023	0.074	0.097	NA	
		Right Head Touched	0.052	0.074	0.126	/ NA	
,		Right Head Tilted 15°	0.035	0.074	0.109	NA	

Note: Simultaneous Tx Combination of LTE Band II and BT

			Scaled	SAR _{Max}		SPLSP	
		Test Position	LTE Band IV	ВТ	∑ _{1-g} SAR		
		Left Head Touched	0.061	0.074	0.135	NA	
106	Head	Left Head Tilted 15°	0.026	0.074	0.100	NA	
Пе		Right Head Touched	0.061	0.074	0.135	NA	
FE		Right Head Tilted 15°	0.028	0.074	0.102	NA	

Note: Simultaneous Tx Combination of LTE Band IV and BT

		Scaled	SAR _{Max}		
	Test Position	LTE Band V	ВТ	∑ _{1-g} SAR	SPLSP
	Left Head Touched	0.053	0.074	0.127	NA
Hood	Left Head Tilted 15°	0.031	0.074	0.105	NA
Head	Right Head Touched	0.038	0.074	0.112	NA
SET	Right Head Tilted 15°	0.022	0.074	0.096	NA

Note: Simultaneous Tx Combination of LTE Band V and BT

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		Scaled	SAR _{Max}				
Test Position		LTE Band VII	ВТ	∑ _{1-g} SAR	SPLSP		
	Left Head Touched	0.013	0.074	0.087	NA		
Hood	Left Head Tilted 15°	0.008	0.074	0.082	NA		
Head	Right Head Touched	0.020	0.074	0.094	NA		
X	Right Head Tilted 15°	0.010	0.074	0.084	NA		
- N	T 0 11 41 6	TE 5 11/11	/ I = -				

Note: Simultaneous Tx Combination of LTE Band VII and BT

MAX. Σ SAR_{1g} = 0.169W/kg<1.6 W/kg, so the Simultaneous SAR is not required for BT and GSM&UMTS<E antenna.

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11 Measurement uncertainty evaluation

11.1 Measurement uncertainty evaluation for SAR test

The following table includes the uncertainty table of the IEEE 1528. The values are determined by Satimo. The breakdown of the individual uncertainties is as follows:

Ī	Measurer			_	uation for	SAR test			1
	Uncertainty Component	Tol. (±%)	Prob. Dist.	Div.	C _i (1g)	C _i (10g)	1g U _i (±%)	10g U _i (±%)	Vi
	measurement system								
	Probe Calibration	5.8	N	1	1	1	5.8	5.8	∞
<	Axial Isotropy	3.5	R	$\sqrt{3}$	$(1-C_p)^{1/2}$	$(1-C_p)^{1/2}$	1.43	1.43	8
	Hemispherical Isotropy	5.9	R	$\sqrt{3}$	$\sqrt{C_p}$	√C _p	2.41	2.41	∞
Z	Boundary Effect	1/1/	5 R7	$\sqrt{3}$	1 W	741	0.58	0.58	8
	Linearity	4.7	R	$\sqrt{3}$	/1	1	2.71	2.71	8
	system Detection Limits	1	R	$\sqrt{3}$	1	1	0.58	0.58	∞)
	Modulation response	3	Ν	1	1	1)	3.00	3.00	∞
	Readout Electronics	0.5	N	1475	771	1/7	0.50	0.50	∞
	Response Time	0	R	$\sqrt{3}$	1	1	0.00	0.00	8
K	Integration Time	1.4	R	$\sqrt{3}$	1	1 X	0.81	0.81	8
	RF Ambient Conditions-Noise	3	R	$\sqrt{3}$	1 /	7	1.73	1.73	8
Ž	RF Ambient Conditions- Reflections	3 W	5 R	$\sqrt{3}$	1W	700	1.73	1.73	8
	Probe Positioner Mechanical Tolerance	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	8
	Probe positioning with respect to Phantom Shell	1.4	R	$\sqrt{3}$	1	1/1	0.81	0.81	8/7
×	Extrapolation, interpolation and Integration Algorithms for Max.SAR Evaluation	2.3	R	$\sqrt{3}$	1	1	1.33	1.33	8
7	Test sample Related								
	Test Sample Positioning	2.6	N	1	/1	1	2.60	2.60	11
	Device Holder Uncertainty	3	N	1	1	1	3.00	3.00	7
	Output Power Variation-SAR drift measurement	5	R	√3	1	1	2.89	2.89	8
	SAR scaling	2	R	$\sqrt{3}$	1	1/1	1.15	1.15	8

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	Phantom and Tissue Parameters									L
×	Phantom Uncertainty (shape and thickness tolerances)	4	R	√3	1	/1	2.31	2.31	8	
7	Uncertainty in SAR correction for deviation (in permittivity and conductivity)	2	5 N	1	1/1/2	0.84	2.00	1.68	8	
	Liquid conductivity (meas.)	2.5	N	1	0.64	0.43	1.60	1.08	5	J
	Liquid conductivity (target.)	5	R	$\sqrt{3}$	0.64	0.43	1.85	1.24	5	
	Liquid Permittivity (meas.)//5/	2.5	N	11/5	0.60	0.49	1.50	1.23	8	L
×	Liquid Permittivity (target.)	5	R	√3	0.60	0.49	1.73	1.42	∞	
_	Combined Standard Uncertainly	4	Rss	7	4		10.63	10.54		
Z	Expanded Uncertainty{95% CONFIDENCE INTERRVAL}	/ 177	k		176	79	21.26	21.08	1	

WSET	WSET	WSET	WSET	WSET
WSUT				
WSET	WSET	WSET	WSLT	WSET
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WSET	WSET	WSLT	WSLT	WSET
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X	WSLT	WSET	WSCT	WSCT
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11.2 Measurement uncertainty evaluation for system check

The following table includes the uncertainty table of the IEEE 1528. The values are determined by Satimo. The breakdown of the individual uncertainties is as follows:

	by Galino. The Breakdown of the Individual differentials as follows.									
-9	Uncer	rtainty	For Syste	em Perf	ormance (Check				
7	Uncertainty Component	Tol.	Prob.	Div.	Ci	Ci	1g	10g	Vi	
		(±%)	Dist.	DIV.	/ 1g	10g	U _i (±%)	U _i (±%)	Vi	
	measurement system									
	Probe Calibration	5.8	N	1	1	1	5.80	5.80	∞/	
	Axial Isotropy	3.5	R	$\sqrt{3}$	$(1-C_p)^{1/2}$	$(1-C_p)^{1/2}$	1.43	1.43	00	
	Hemispherical Isotropy	5.9	R /	$\sqrt{3}$	√Cp	$\sqrt{C_p}$	2.41	2.41	8	
V	Boundary Effect	1	R	$\sqrt{3}$	1	/ 1	0.58	0.58	8	
	Linearity	4.7	R	$\sqrt{3}$	1 /	1	2.71	2.71	∞	
¥	system detection Limits	1/6	veR7	$\sqrt{3}$	1/1/2	321	0.58	0.58	∞	
7.6	Modulation response	0	N	1	1		0.00	0.00	∞	
	Readout Electronics	0.5	N	1	1	1	0.50	0.50	∞	
	Response Time	0	R	$\sqrt{3}$	1	1	0.00	0.00	∞ /	
	Integration Time	1.4	R	$\sqrt{3}$	1	1 /4	0.81	0.81	-	
	RF ambient Conditions - Noise	3	R	$\sqrt{3}$		1/11	1.73	1.73	- 8	
×	RF ambient Conditions – Reflections	3	R	√3	1	1	1.73	1.73	8	
5/	Probe positioned Mechanical Tolerance	1.4	R	$\sqrt{3}$	1/1/2	7 10 10	0.81	0.81	8	
	Probe positioning with respect to Phantom Shell	1.4	R	√3	/1	1	0.81	0.81	8	
	Extrapolation, interpolation and integration Algorithms for Max. SAR Evaluation	2.3	R	$\sqrt{3}$	1	1	1.33	1.33	8	
	Dipole									
×	Deviation of experimental source from numerical source	4	N	1	1	X ₁	4.00	4.00	∞	
7	Input power and SAR drift measurement	5	V5R7	$\sqrt{3}$	1 W	5E71	2.89	2.89	∞	
	Dipole axis to liquid Distance	2	R	$\sqrt{3}$	1	1	1.16	1.16	∞	

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	Phantom and Tissue Parameters									L
×	Phantom Uncertainty (shape and thickness tolerances)	4	R	√3	1	1	2.31	2.31	8	
7	Uncertainty in SAR correction for deviation (in permittivity and conductivity)	2	Z _T	1	1	0.84	2.00	1.68	8	
	Liquid conductivity (meas.)	2.5	N	1	0.64	0.43	1.60	1.08	5	J
	Liquid conductivity (target.)	5	R	√3	0.64	0.43	1.85	1.24	5	
	Liquid Permittivity (meas.) V5/	2.5	N	W5	0.60	0.49	1.50	1.23	8	Ľ
v	Liquid Permittivity (target.)	5	R	$\sqrt{3}$	0.60	0.49	1.73	1.41	8	
	Combined Standard Uncertainty		Rss		/		10.28	9.98		
7	Expanded Uncertainty (95% Confidence interval)	1	V5k7°		W	777	20.57	19.95	1	

	WSET	WSET	WSET	WSUT	WSET
WIST	$\langle \hspace{0.1cm} \rangle$	WS		W.	
	WSET	WSET	WSET	WSET	WSET
Wist	$\langle \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$				TET I
	WSET	WSET	WSLT	WSET	WSET
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	\times	WSIII	WSLT	WSET	WSCT
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12 Test equipment and ancillaries used for tests

To simplify the identification of the test equipment and/or ancillaries which were used, the reporting of the relevant test cases only refer to the test item number as specified in the table below.

-	the iv	cicvant test	cases only refer to the tes	st item number	as specified in the	table below.	
剪		Manufact	Device Type	Device Type Type(Model) Serial number calibra		ration	
		urer	Device Type	, ,		Last Cal.	Due Date
		CATINA	COMOSAR	0055	ON 07/45 ED050	0047.44.07	2040 44 22
		SATIMO	DOSIMETRIC E FIELD PROBE	SSE5	SN 07/15 EP252	2017-11-27	2018-11-26
		SATIMO	COMOSAR DOSIMETRIC E FIELD PROBE	SSE2	SN 08/16 EPGO292	2017-12-09	2018-12-08
5		SATIMO	COMOSAR 750 MHz REFERENCE DIPOLE	SID750	SN 14/13 DIP 0G750-234	2018-07-25	2019-07-24
	\boxtimes	SATIMO	COMOSAR 835 MHz REFERENCE DIPOLE	SID835	SN 14/13 DIP0G835-235	2018-07-25	2019-07-24
	otan	SATIMO	COMOSAR 900 MHz REFERENCE DIPOLE	SID900	SN 14/13 DIP0G900-231	2018-07-25	2019-07-24
	\boxtimes	SATIMO	COMOSAR 1800 MHz REFERENCE DIPOLE	SID1800	SN 14/13 DIP1G800-232	2018-07-25	2019-07-24
4	\boxtimes	SATIMO	COMOSAR 1900 MHz REFERENCE DIPOLE	SID1900	SN 14/13 DIP1G900-236	2018-07-25	2019-07-24
		SATIMO	COMOSAR 2000 MHz REFERENCE DIPOLE	SID2000	SN 14/13 DIP2G000-237	2018-07-25	2019-07-24
	\boxtimes	SATIMO	COMOSAR 2450 MHz REFERENCE DIPOLE	SID2450	SN 14/13 DIP2G450-238	2018-07-25	2019-07-24
/	\boxtimes	SATIMO	COMOSAR 2600 MHz REFERENCE DIPOLE	SID2600	SN 28/14 DIP2G600-327	2018-07-25	2019-07-24
\	\boxtimes	SATIMO	COMOSAR 5200 MHz REFERENCE DIPOLE	SID5200	SN 14/13 EPG239	2018-07-25	2019-07-24
型		SATIMO	COMOSAR 5800 MHz REFERENCE DIPOLE	SID5800	SN 14/13 EPG239	2018-07-25	2019-07-24
	\boxtimes	SATIMO	Software	OPENSAR	N/A	N/A	N/A
		SATIMO	Phantom	COMOSAR IEEE SAM PHANTOM	SN 14/13 SAM99	N/A	N/A
(R&S	Universal Radio Communication Tester	CMU 200	117528	2017-10-16	2018-10-15
	X	HP	Network Analyser	8753D	3410A08889	2017-10-18	2018-10-17
4		HP /	Signal Generator	E4421B	GB39340770	2017-10-15	2018-10-14
		Keithley	Multimeter	Keithley 2000	4014539	2017-10-15	2018-10-14

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Please Contact with WSCT
www.wsct-cert.com

	X	SATIMO	Amplifier	Power	MODU-023-A-	2017-10-15	2018-10-14
J		SATIVO	Ampliner	Amplifier	0004	2017-10-13	2010-10-14
	\boxtimes	Agilent	Power Meter	E4418B	GB43312909	2017-10-15	2018-10-14
V	\boxtimes	Agilent	Power Meter Sensor	E4412A	MY41500046	2017-10-15	2018-10-14
J	\boxtimes	Agilent	Power Meter	E4417A	GB41291826	2017-10-15	2018-10-14
4		Agilent	Power Meter Sensor	8481H	MY41091215	2017-10-15	2018-10-14
	\boxtimes	SATIMO	DAE	SUPR72	SN 42/13	2017-10-15	2018-10-14

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Annex A: System performance verification

(Please See the SAR Measurement Plots of annex A.)

1614

Annex B: Measurement results

(Please See the SAR Measurement Plots of annex B.)

WSET WSET WSET WSET

Annex C: Calibration reports

Certification &

(Please See the Calibration reports of annex C.)

Annex D: Photo documentation

(Please See the Photo documentation of annex D.)

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