SAR Test Report

Report No.: AGC10211211201FH01

FCC ID	:	2AUCLQX1050
APPLICATION PURPOSE	:	Original Equipment
PRODUCT DESIGNATION	:	Pro¹ X
BRAND NAME	:	F
MODEL NAME	:	QX1050
APPLICANT	:	FX Technology Limited
DATE OF ISSUE	:	Feb. 25, 2022
STANDARD(S)	:	IEEE Std. 1528:2013 FCC 47 CFR Part 2§2.1093 IEEE Std C95.1 ™-2005 IEC 62209-1: 2016
REPORT VERSION	:	V1.0

Attestation of Global Compliance(Shenzhen) Co., Ltd.

Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Feb. 25, 2022	Valid	Initial Release

Test Report

Applicant Name	FX Technology Limited
Applicant Address	2 Stone Buildings, Lincoln's Inn, London, England, WC2A 3TH UK
Manufacturer Name	FX Technology (UK) Limited
Manufacturer Address	2 Stone Buildings, Lincoln's Inn, London, England, WC2A 3TH UK
Factory Name	FX Technology (UK) Limited
Factory Address	2 Stone Buildings, Lincoln's Inn, London, England, WC2A 3TH UK
Product Designation	Pro1 X
Brand Name	F
Model Name	QX1050
EUT Voltage	DC3.85V by battery
Applicable Standard	IEEE Std. 1528:2013 FCC 47 CFR Part 2§2.1093 IEEE Std C95.1 ™-2005 IEC 62209-1: 2016
Test Date	Feb. 08, 2022 to Feb. 23, 2022
Report Template	AGCRT-US-4G/SAR (2021-04-20)

Note: The results of testing in this report apply to the product/system which was tested only.

Prepared By Thea Huang

Thea Huang (Project Engineer) Feb. 25, 2022

Reviewed By Calvin Liu

Calvin Liu (Reviewer) Feb. 25, 2022

Approved By Max Zhang

Max Zhang (Authorized Officer) Feb. 25, 2022

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1. SUMMARY OF MAXIMUM SAR VALUE

The maximum results of Specific Absorption Rate (SAR) found during testing for EUT are as follows:

Frequency Band	Highest Reported 1g-SAR(W/kg)			SAR Test Limit (W/kg)
	Head	Body-worn(with 10mm separation)	Hotspot(with 10mm separation)	
GSM 850	0.094	0.130	-	1.6
PCS 1900	0.157	0.421	-	
UMTS Band II	0.194	0.507	0.507	
UMTS Band IV	0.073	0.358	0.358	
UMTS Band V	0.037	0.074	0.074	
CDMA BAND 0	0.155	0.221	0.221	
CDMA BAND 1	0.248	0.196	0.196	
LTE Band 2	0.152	0.525	0.525	
LTE Band 4	0.072	0.313	0.313	
LTE Band 5	0.018	0.056	0.056	
LTE Band 7	0.137	0.744	0.744	
LTE Band 12	0.043	0.111	0.111	
LTE Band 13	0.077	0.121	0.121	
LTE Band 17	0.093	0.291	0.291	
LTE Band 25	0.083	0.193	0.193	
LTE Band 26	0.160	0.261	0.261	
LTE Band 41	0.179	0.301	0.301	
WIFI 2.4G	0.404	0.428	0.428	
5.2GHz (U-NII-1)	0.051	0.061	0.061	
Simultaneous Reported SAR	0.818			
SAR Test Result	PASS			

This device is compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6W/kg) specified in IEEE Std. 1528:2013; FCC 47CFR § 2.1093; IEEE/ANSI C95.1:2005 and the following specific FCC Test Procedures:

- KDB 447498 D01 General RF Exposure Guidance v06
- KDB 648474 D04 Handset SAR v01r03
- KDB 865664 D01 SAR Measurement 100MHz to 6GHz v01r04
- KDB 941225 D01 3G SAR Procedures v03r01
- KDB 941225 D06 Hotspot Mode v02r01
- KDB 248227 D01 802 11 Wi-Fi SAR v02r02
- KDB 941225 D05 SAR for LTE Devices v02r05

2. GENERAL INFORMATION

2.1. EUT Description

General Information	
Product Designation	Pro[1] X
Test Model	QX1050
Hardware Version	Android OS
Software Version	S701_mainboard_v30
Device Category	Portable
RF Exposure Environment	Uncontrolled
Antenna Type	Internal
GSM	
Support Band	☒GSM 850 ☒PCS 1900 (U.S. Bands) ☒GSM 900 ☒DCS 1800 (Non-U.S. Bands)
TX Frequency Range	GSM 850 : 820-850MHz;; PCS 1900: 1850-1910MHz;
RX Frequency Range	GSM 850 : 869~894MHz; PCS 1900: 1930~1990MHz
Release Version	R99
Type of modulation	GMSK for GSM
Antenna Gain	GSM850: 0.5dBi; PCS1900: 0.9dBi
Max. Average Power	GSM850: 33.36dBm ;PCS1900: 29.73dBm
WCDMA	
Support Band	☒UMTS FDD Band II ☒UMTS FDD Band V ☒UMTS FDD Band IV (U.S. Bands) ☒UMTS FDD Band I ☒UMTS FDD Band VIII (Non-U.S. Bands)
HS Type	HSPA(HSUPA/HSDPA)
TX Frequency Range	WCDMA FDD Band II: 1850-1910MHz; WCDMA FDD Band V: 824-849MHz FDD Band IV: 1710-1770MHz
RX Frequency Range	WCDMA FDD Band II: 1930-1990MHz; WCDMA FDD Band V: 869-894MHz FDD Band IV: 2110-2170MHz
Release Version	Rel-6
Type of modulation	HSDPA:QPSK/16QAM; HSUPA:BPSK; WCDMA:QPSK
Antenna Gain	Band II: 0.9dBi; Band IV: 0.8dBi; Band V: 0.5dBi
Max. Average Power	Band II: 22.32dBm; Band IV: 22.54dBm;Band V: 22.58dBm
Bluetooth	
Operation Frequency	2402~2480MHz
Antenna Gain	1.3dBi
Bluetooth Version	V4.2
Type of modulation	**BR/EDR**: GFSK, Π/4-DQPSK, 8-DPSK; **BLE:** GFSK
EIRP	**BR/EDR**: 3.43dBm; **BLE:** -2.41dBm
WIFI	
WIFI Specification	☐802.11a ☒802.11b ☒802.11g ☒802.11n(20) ☒802.11n(40)
Operation Frequency	2412~2462MHz
Antenna Gain	1.3dBi
Avg. Burst Power	11b:12.21dBm,11g:12.75dBm,11n(20):12.21dBm,11n(40):9.82dBm

EUT Description (Continue)

CDMA	
Support Band	☒ CDMA Band 0 ☒ CDMA Band 1
Type of modulation	1xRTT; 1XEV-DO REV A
Antenna Gain	CDMA Band 0: 0.5dBii; CDMA Band 1: 0.9dBi;
Max. Average Power	CDMA Band 0: 24.30dBm; CDMA Band 1: 24.40dBm;
LTE	
Support Band	☒FDD Band 2 ☒FDD Band 4 ☒FDD Band 5 ☒FDD Band 7 ☒FDD Band 12 ☒FDD Band 13 ☒FDD Band 17 ☒FDD Band 19 ☒FDD Band 25 ☒FDD Band 26 ☒TDD Band 41 (U.S. Bands) ☒FDD Band 1 ☒FDD Band 3 ☒FDD Band 7 ☒FDD Band 8 ☒FDD Band 20 ☒TDD Band 28 ☒TDD Band 38 ☒FDD Band 40 (Non-U.S. Bands)
TX Frequency Range	Band 2:1850-1910MHz; Band 4:1710-1755MHz;Band 5:824-849MHz; Band 7:2500-2570MHz; Band 12:699-716MHz; Band 13: 777-787MHz; Band 17: 704-716MHz; Band 19: 830-845MHz;Band 25: 1850-1915MHz; Band 26: 814-849MHz; Band 41:2496-2690MHz;
RX Frequency Range	Band 2:1930-1990MHz; Band 4:2110-2155MHz; Band 5:869-894MHz; Band 7:2620-2690MHz; Band 12: 729-746 MHz; Band 13: 746-756MHz; Band 17: 734-746 MHz; Band 19: 875-890MHz;Band 25: 1930-1995MHz; Band 26: 859-894MHz; Band 41:2496-2690MHz;
Release Version	Rel-8
Type of modulation	QPSK, 16QAM
Antenna Gain	Band 2: 0.9dBi; Band 4: 0.8dBi; Band 5: 0.5dBi; Band 7: 1.2dBi; Band 12: 0.3dBi; Band 13: 0.3dBi; Band 17: 0.3dBi; Band 19: 0.5dBi; Band 25: 0.9dBi; Band 26: 0.5dBi; Band 41: 1.2dBi;
Max. Average Power	Band 2: 23.02dBm; Band 4: 23.29dBm; Band 5: 23.56dBm; Band 7:21.96dBm; Band 12: 23.71dBm; Band 13: 23.75dBm; Band 17: 23.20dBm; Band 25: 22.95dBm; Band 26: 23.87dBm; Band 41: 22.94dBm;

EUT Description (Continue)

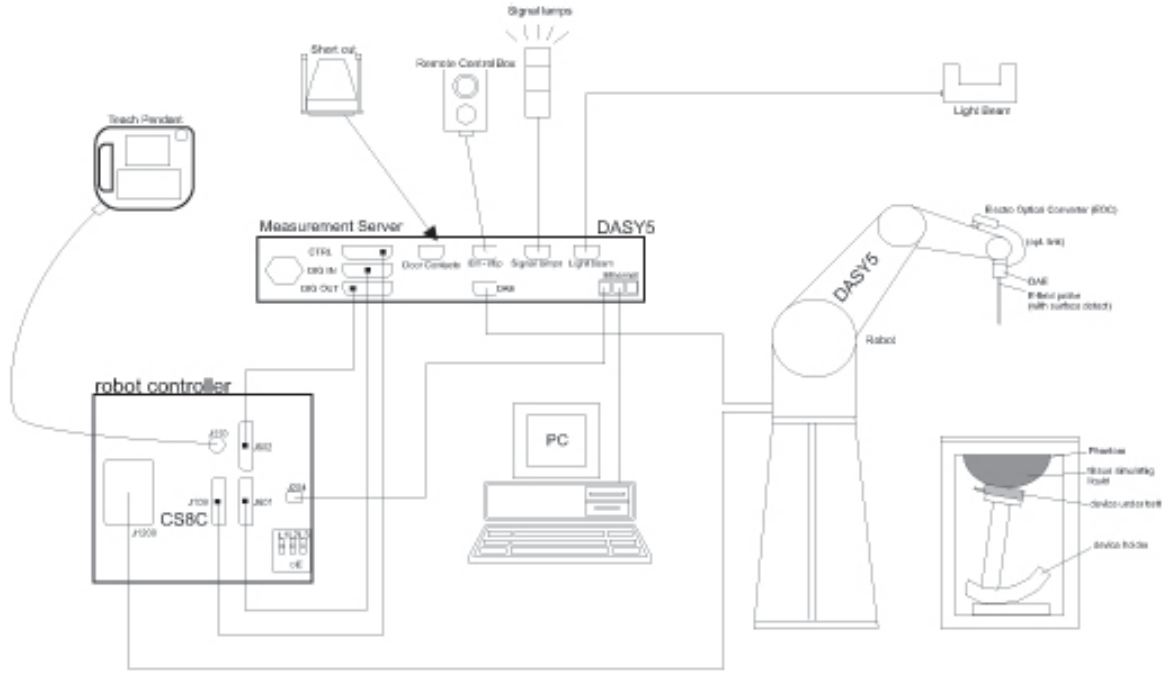
5 GHz WIFI	
WIFI Specification	☒802.11a ☒802.11n20 ☒802.11n40 ☒802.11ac20 ☒802.11ac40 ☐802.11ac80
Operation Frequency	U-NII-1: 5180MHz~5240MHz;
Max. conducted Power	U-NII-1: 12.06dBm;
Antenna Gain	1.3dBi
Accessories	
Battery	Brand name: N/A Model No. : 5036108(T5) Voltage and Capacitance: 3.85V & 3150mAh
Earphone	Brand name: N/A Model No. : N/A

Note: 1. CMU200 can measure the average power and Peak power at the same time
2. The sample used for testing is end product.
3. The test sample has no any deviation to the test method of standard mentioned in page 1.

Product	Type
	☒ Production unit ☐ Identical Prototype

3. SAR MEASUREMENT SYSTEM

3.1. The DASY5 system used for performing compliance tests consists of following items



- A standard high precision 6-axis robot with controller, teach pendant and software.
- Data acquisition electronics (DAE) which attached to the robot arm extension. The DAE consist of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder with a control logic unit. Transmission to the measurement server is accomplished through an optical downlink for data and status information, as well as an optical uplink for commands and the clock
- A dosimetric probe equipped with an optical surface detector system.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital Communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- A Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running WinXP and the DASY5 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- Phantoms, device holders and other accessories according to the targeted measurement.

3.2. DASY5 E-Field Probe

The SAR measurement is conducted with the dosimetric probe manufactured by SPEAG. The probe is specially designed and calibrated for use in liquid with high permittivity. The dosimetric probe has special calibration in liquid at different frequency. SPEAG conducts the probe calibration in compliance with international and national standards (e.g. IEEE-1528 etc.)Under ISO17025.The calibration data are in Appendix D.

Isotropic E-Field Probe Specification

Model	EX3DV4-SN:3953	
Manufacture	SPEAG	
frequency	0.7GHz-6GHz Linearity:±0.9%(k=2)	
Dynamic Range	0.01W/kg-100W/kg Linearity: ±0.9%(k=2)	
Dimensions	Overall length:337mm Tip diameter:2.5mm Typical distance from probe tip to dipole centers:1mm	
Application	High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields). Only probe which enables compliance testing for frequencies up to 6 GHz with precision of better 30%.	

3.3. Data Acquisition Electronics description

The data acquisition electronics (DAE) consist if a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converte and a command decoder with a control logic unit. Transmission to the measurement sever is accomplished through an optical downlink fir data and status information, as well as an optical uplink for commands and the clock.

The mechanical probe mounting device includes two different sensor systems for frontal and sideways probe contacts. They are used for mechanical surface detection and probe collision detection.

DAE4

Input Impedance	200MOhm	
The Inputs	Symmetrical and floating	
Common mode rejection	above 80 dB	

3.4. Robot

The DASY system uses the high precision robots (DASY5:TX60) type from Stäubli SA (France). For the 6-axis controller system, the robot controller version from is used.
The XL 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)
- 6-axis controller

3.5. Light Beam Unit

The light beam switch allows automatic “tooling” of the probe. 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 prob.1 mm, even if the other probe has different dimensions. During probe rotations, the probe tip will keep its actual position. e, the same position will be reached with another aligned probe within 0

3.6. Device Holder

The DASY device holder is designed to cope with different positions given in the standard. It has two scales for the device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear reference points). The rotation center for both scales is the ear reference point (EPR). Thus the device needs no repositioning when changing the angles. The DASY device holder has been made out of low-loss POM material having the following dielectric parameters: relative permittivity ε=3 and loss tangent δ = 0.02. The amount of dielectric material has been reduced in the closest vicinity of the device, since measurements have suggested that the influence of the clamp on the test results could thus be lowered.	

3.7. Measurement Server

The measurement server is based on a PC/104 CPU board with CPU (DASY5: 400 MHz, Intel Celeron), chip-disk (DASY5: 128MB), RAM (DASY5: 128MB). The necessary circuits for communication with the DAE electronic box, as well as the 16 bit AD converter system for optical detection and digital I/O interface are contained on the DAYS I/O board, which is directly connected to the PC/104 bus of the CPU board. The measurement server performs all the real-time data evaluation for field measurements and surface detection, controls robot movements and handles safety operations.	

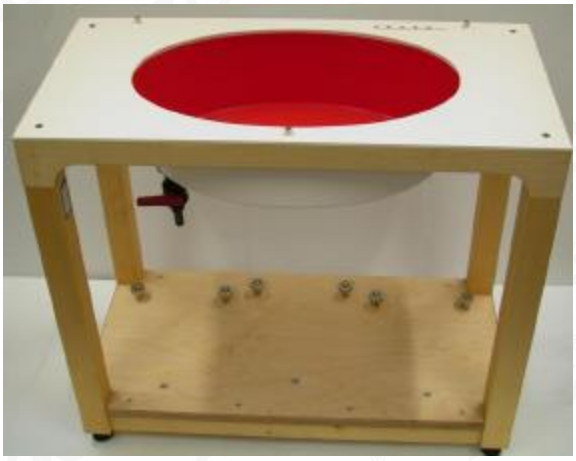
3.8. PHANTOM

SAM Twin Phantom

The SAM twin phantom is a fiberglass shell phantom with 2mm shell thickness (except the ear region where shell thickness increases to 6mm). It has three measurement areas: □ Left head □ Right head □ Flat phantom	

The bottom plate contains three pair of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. A white cover is provided to tap the phantom during off-periods to prevent water evaporation and changes in the liquid parameters. On the phantom top, three reference markers are provided to identify the phantom position with respect to the robot.

ELI4 Phantom

□ Flat phantom a fiberglass shell flat phantom with 2mm+/- 0.2 mm shell thickness. It has only one measurement area for Flat phantom	

4. SAR MEASUREMENT PROCEDURE

4.1. Specific Absorption Rate (SAR)

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

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

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

SAR is expressed in units of Watts per kilogram (W/kg)
SAR can be obtained using either of the following equations:

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

$$SAR = c_h \frac{dT}{dt}\Big|_{t=0}$$

Where

SAR	is the specific absorption rate in watts per kilogram;
E	is the r.m.s. value of the electric field strength in the tissue in volts per meter;
σ	is the conductivity of the tissue in siemens per metre;
ρ	is the density of the tissue in kilograms per cubic metre;
c_h	is the heat capacity of the tissue in joules per kilogram and Kelvin;
$\frac{dT}{dt} \mid t = 0$	is the initial time derivative of temperature in the tissue in kelvins per second

4.2. SAR Measurement Procedure

Step 1: Power Reference Measurement

The Power Reference Measurement and Power Drift Measurement are for monitoring the power drift of the device under test in the batch process. The minimum distance of probe sensors to surface is 2.7mm This distance cannot be smaller than the distance os sensor calibration points to probe tip as `defined in the probe properties,

Step 2: Area Scan

The Area Scan is used as a fast scan in two dimensions to find the area of high field values, before doing a fine measurement around the hot spot. The sophisticated interpolation routines implemented in DASY software can find the maximum locations even in relatively coarse grids. When an Area Scan has measured all reachable points, it computes the field maximal found in the scanned area, within a range of the global maximum. The range (in db) is specified in the standards for compliance testing. For example, a 2db range is required in IEEE Standard 1528, whereby 3db is a requirement when compliance is assessed in accordance with the ARIB standard (Japan) If one Zoom Scan follows the Area Scan, then only the absolute maximum will be taken as reference. For cases where multiple maximum are detected, the number of Zoom Scan has to be increased accordingly.

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

	≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface	5 ± 1 mm	½·δ·ln(2) ± 0.5 mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location	30° ± 1°	20° ± 1°
Maximum area scan spatial resolution: Δx_{Area}, Δy_{Area}	≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
	When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	

Step 3: Zoom Scan

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

Zoom Scan Parameters extracted from KDB865664 d01 SAR Measurement 100MHz to 6GHz

Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}			≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	≤ 1.5·$\Delta z_{Zoom}(n-1)$	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm

Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.

* When zoom scan is required and the *reported* SAR from the *area scan based 1-g SAR estimation* procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.

Step 4: Power Drift Measurement

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

4.3. RF Exposure Conditions

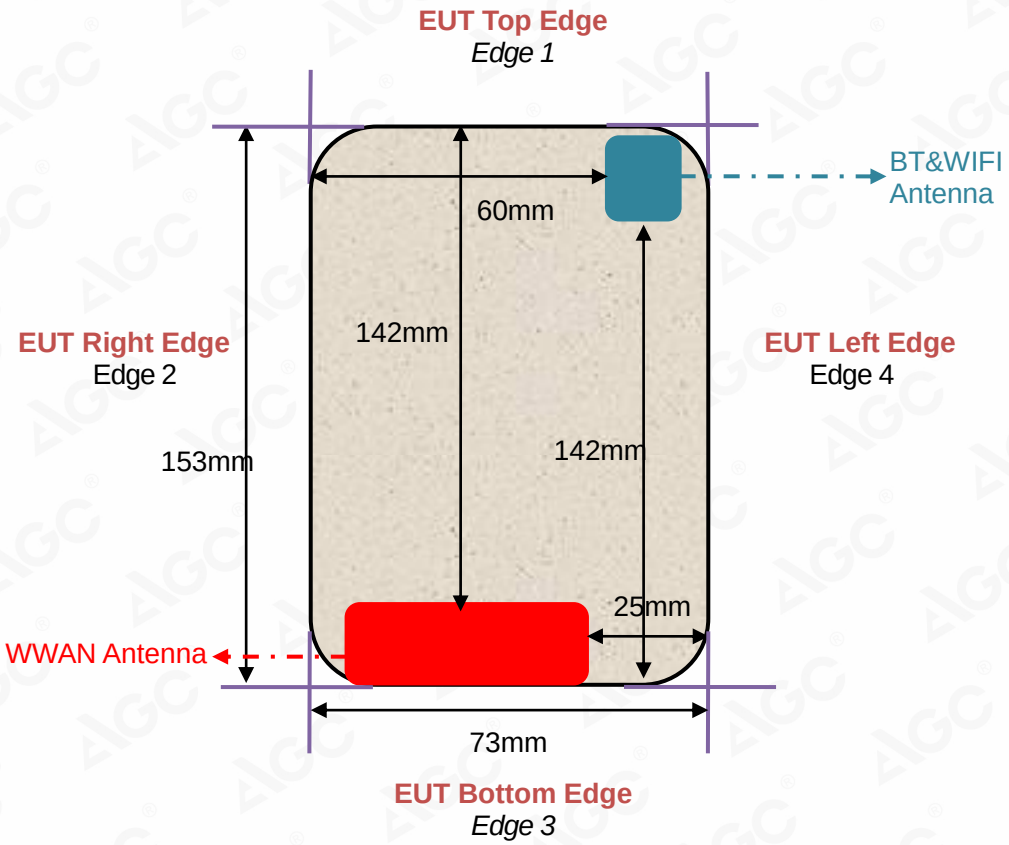
Test Configuration and setting:

The EUT is a model of GSM/WCDMA Portable Mobile Station (MS). It supports GSM, WCDMA/HSPA, CDMA , BT, WIFI, and support hot spot mode.

For WWAN SAR testing, the device was controlled by using a base station emulator. Communication between the device and the emulator were established by air link. The distance between the EUT and the antenna is larger than 50cm, and the output power radiated from the emulator antenna is at least 30db smaller than the output power of EUT.

For WLAN testing, the EUT is configured with the WLAN continuous TX tool through engineering command.

Antenna Location: (the back view)



For WWAN mode:

Test Configurations	Antenna to edges/surface	SAR required	Note
Head			
Left Touch		Yes	--
Left Tilt		Yes	--
Right Touch		Yes	--
Right Tilt		Yes	--
Body			
Back	<25mm	Yes	--
Front	<25mm	Yes	--
Hotspot			
Back	<25mm	Yes	--
Front	<25mm	Yes	--
Edge 1 (Top)	142mm	No	SAR is not required for the distance between the antenna and the edge is >25mm as per KDB 941225 D06 Hotspot SAR
Edge 2 (Right)	3mm	Yes	--
Edge 3 (Bottom)	1mm	Yes	--
Edge 4 (Left)	25mm	Yes	--

For WLAN mode:

Test Configurations	Antenna to edges/surface	SAR required	Note
Head			
Left Touch		Yes	--
Left Tilt		Yes	--
Right Touch		Yes	--
Right Tilt		Yes	--
Body			
Back	<25mm	Yes	--
Front	<25mm	Yes	--
Hotspot			
Back	<25mm	Yes	--
Front	<25mm	Yes	--
Edge 1 (Top)	1mm	Yes	--
Edge 2 (Right)	60mm	No	SAR is not required for the distance between the antenna and the edge is >25mm as per KDB 941225 D06 Hotspot SAR
Edge 3 (Bottom)	142mm	No	SAR is not required for the distance between the antenna and the edge is >25mm as per KDB 941225 D06 Hotspot SAR
Edge 4 (Left)	3mm	Yes	--

5. TISSUE SIMULATING LIQUID

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 15cm. For head SAR testing the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15cm For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15cm.The nominal dielectric values of the tissue simulating liquids in the phantom and the tolerance of 10% are listed in 6.2

5.1. The composition of the tissue simulating liquid

Ingredient (% Weight) / Frequency (MHz)	Water	Nacl	Polysorbate 20	DGBE	1,2 Propanediol	Triton X-100
750 Head	35	2	0.0	0.0	63	0.0
835 Head	50.36	1.25	48.39	0.0	0.0	0.0
1750 Head	52.64	0.36	0.0	47	0.0	0.0
1900 Head	54.9	0.18	0.0	44.92	0.0	0.0
2450 Head	71.88	0.16	0.0	7.99	0.0	19.97
2600 Head	55.242	0.306	0	44.452	0	0

Ingredient (% Weight) / Frequency (MHz)	Water	Nacl	Polysorbate 20	DGBE	1,2-Propanediol	Triton X-100	Diethylen glycol monohex ylether
5000 Head	65.52	0.0	0.0	0.0	0.0	17.24	17.24

5.2. Tissue Dielectric Parameters for Head and Body Phantoms

The head tissue dielectric parameters recommended by the IEC 62209-1 have been incorporated in the following table. The body tissue dielectric parameters recommended by the IEC 62209-2 have been incorporated in the following table.

Target Frequency (MHz)	head		body	
	εr	σ (S/m)	εr	σ (S/m)
300	45.3	0.87	45.3	0.87
450	43.5	0.87	43.5	0.87
750	**41.9**	**0.89**	**41.9**	**0.89**
835	**41.5**	**0.90**	**41.5**	**0.90**
900	41.5	0.97	41.5	0.97
915	41.5	1.01	41.5	1.01
1450	40.5	1.20	40.5	1.20
1610	40.3	1.29	40.3	1.29
1750	**40.1**	**1.37**	**40.1**	**1.37**
1800 – 2000	**40.0**	**1.40**	**40.0**	**1.40**
2300	39.5	1.67	39.5	1.67
2450	**39.2**	**1.80**	**39.2**	**1.80**
2600	**39.0**	**1.96**	**39.0**	**1.96**
3000	38.5	2.40	38.5	2.40
5200	**36.0**	**4.66**	**36.0**	**4.66**
5300	35.9	4.76	35.9	4.76
5600	35.5	5.07	35.5	5.07
5800	35.3	5.27	35.3	5.27

(εr = relative permittivity, σ = conductivity and ρ = 1000 kg/m3)

5.3. Tissue Calibration Result

The dielectric parameters of the liquids were verified prior to the SAR evaluation using DASY 5 Dielectric Probe Kit and R&S Network Analyzer ZVL6.

Tissue Stimulant Measurement for 750MHz					
	Fr. (MHz)	Dielectric Parameters (±10%)		Tissue Temp [°C]	Test time
		εr 41.9 (37.71-46.09)	δ[s/m] 0.89(0.801-0.979)		
Head	704	43.76	0.85	21.0	Feb. 10, 2022
	709	43.54	0.86		
	707.5	43.29	0.87		
	710	43.05	0.88		
	711	42.87	0.89		
	750	42.61	0.90		
	782	42.35	0.91		

Tissue Stimulant Measurement for 835MHz					
	Fr. (MHz)	Dielectric Parameters (±10%)		Tissue Temp [°C]	Test time
		εr 41.5 (37.35-45.65)	δ[s/m] 0.90(0.81-0.99)		
Head	824.2	41.78	0.90	20.5	Feb. 08, 2022
	826.4	41.45	0.91		
	835	41.16	0.92		
	836.52	40.98	0.93		
	836.4	40.86	0.94		
	836.6	40.86	0.94		
	846.6	40.53	0.95		
	848.8	40.53	0.95		

Tissue Stimulant Measurement for 835MHz					
	Fr. (MHz)	Dielectric Parameters (±10%)		Tissue Temp [°C]	Test time
		εr 41.5 (37.35-45.65)	δ[s/m] 0.90(0.81-0.99)		
Head	821.5	43.64	0.86	20.4	Feb. 09, 2022
	829	43.35	0.87		
	831.5	43.12	0.88		
	835	42.89	0.89		
	836.5	42.65	0.90		
	841.5	42.41	0.91		
	844	42.23	0.92		

Tissue Stimulant Measurement for 1750MHz					
	Fr. (MHz)	Dielectric Parameters (±10%)		Tissue Temp [°C]	Test time
		εr 40.1 (36.09-44.11)	δ[s/m]1.37(1.233-1.507)		
Head	1712.4	40.48	1.36	20.0	Feb. 23, 2022
	1720	40.48	1.36		
	1732.4	40.23	1.37		
	1732.5	40.23	1.37		
	1745	39.95	1.38		
	1750	39.71	1.39		
	1752.6	39.58	1.40		

Tissue Stimulant Measurement for 1900MHz					
	Fr. (MHz)	Dielectric Parameters (±10%)		Tissue Temp [°C]	Test time
		εr40.00(36.00-44.00)	δ[s/m]1.40(1.26-1.54)		
Head	1850.2	40.51	1.39	20.6	Feb. 14, 2022
	1852.4	40.32	1.40		
	1880	39.89	1.41		
	1900	39.75	1.42		
	1907.6	39.52	1.43		
	1909.8	39.34	1.44		

Tissue Stimulant Measurement for 1900MHz					
	Fr. (MHz)	Dielectric Parameters (±10%)		Tissue Temp [°C]	Test time
		εr40.00(36.00-44.00)	δ[s/m]1.40(1.26-1.54)		
Head	1860	40.36	1.36	20.8	Feb. 16, 2022
	1880	40.17	1.37		
	1882.5	39.95	1.38		
	1900	39.72	1.39		
	1905	39.57	1.40		

Tissue Stimulant Measurement for 2450MHz					
	Fr. (MHz)	Dielectric Parameters (±10%)		Tissue Temp [°C]	Test time
		εr39.2(35.28-43.12)	δ[s/m]1.80(1.62-1.98)		
Head	2412	39.02	1.79	20.3	Feb. 18, 2022
	2437	38.89	1.80		
	2450	38.73	1.81		
	2462	38.50	1.82		

Tissue Stimulant Measurement for 2600MHz					
	Fr. (MHz)	Dielectric Parameters (±10%)		Tissue Temp [°C]	Test time
		εr39(35.1-42.9)	δ[s/m]1.96(1.764-2.156)		
Head	2506	40.63	1.92	20.5	Feb. 21, 2022
	2510	40.42	1.93		
	2535	40.15	1.94		
	2560	38.96	1.95		
	2593	38.78	1.96		
	2600	38.61	1.97		
	2680	38.41	1.98		

Tissue Stimulant Measurement for 5200MHz					
	Fr. (MHz)	Dielectric Parameters (±10%)		Tissue Temp [°C]	Test time
		εr 36.0(32.4-39.6)	δ[s/m] 4.66(4.194 -5.126)		
Head	5180	35.99	4.62	20.2	Feb. 22, 2022
	5200	35.80	4.63		
	5220	35.69	4.64		
	5240	35.42	4.65		

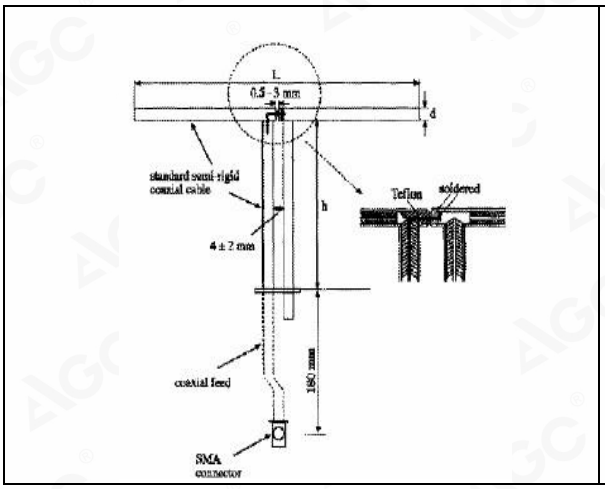
6. SAR SYSTEM CHECK PROCEDURE

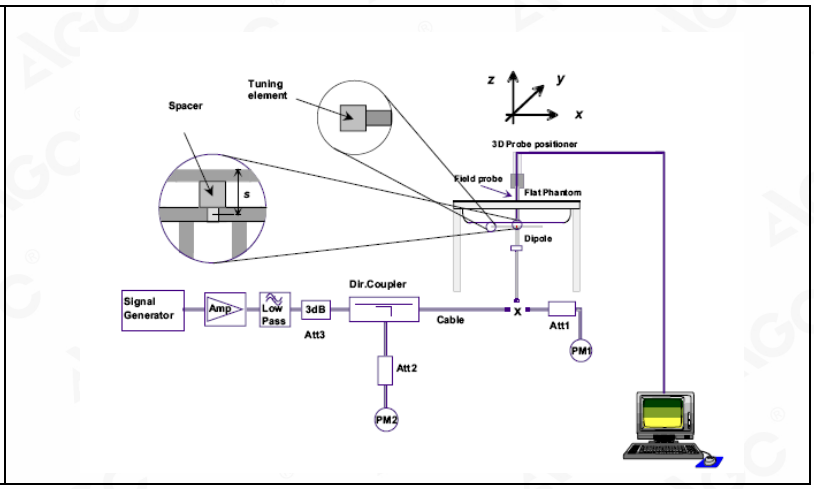
6.1. SAR System Check Procedures

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

Each DASY system is equipped with one or more system check kits. These units, together with the predefined measurement procedures within the DASY software, enable the user to conduct the system check and system validation. System kit includes a dipole, and dipole device holder.

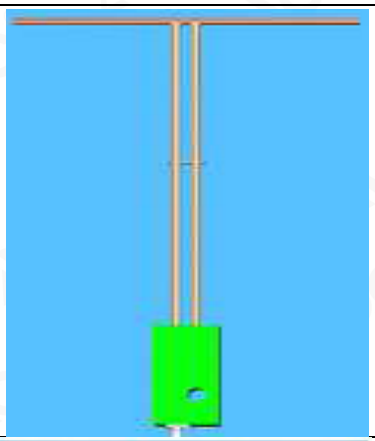
The system check verifies that the system operates within its specifications. It's performed daily or before every SAR measurement. The system check uses normal SAR measurement in the flat section of the phantom with a matched dipole at a specified distance. The system check setup is shown as below.





6.2. SAR System Check

6.2.1. Dipoles

	The dipoles used are based on the IEEE-1528 standard, and is complied with mechanical and electrical specifications in line with the requirements of IEEE. the table below provides details for the mechanical and electrical specifications for the dipoles.
	The wave guide is based on the IEEE-1528 standard, and is complied with mechanical and electrical specifications in line with the requirements of IEEE. The table below provides details for the mechanical and electrical specifications for the wave guide.

Frequency	L (mm)	h (mm)	d (mm)
750MHz	176	100	6.35
835MHz	161.0	89.8	3.6
1800MHz	71.6	41.7	3.6
1900MHz	68	39.5	3.6
2300MHz	55.5	32.6	3.6
2450MHz	51.5	30.4	3.6
2600MHz	48.5	28.8	3.6

Frequency	L (mm)	W (mm)	L_f (mm)	W_f (mm)
5000MHz	40.39	20.19	81.03	61.98

6.2.2. System Check Result

System Performance Check at 750MHz&835MHz &1800MHz &1900MHz &2450MHz&2600MHz&5000-6000MHz								
Validation Kit: SN47/14 DIP 0G750-340& SN29/15 DIP 0G835-383& SN46/11 DIP 1G800-186& SN 46/11 DIP 1G900-187& SN46/11 DIP 2G450-189&& SN 47/14 DIP 2G600-342& SN 15/15 WGA 36								
Frequency [MHz]	Target Value(W/kg)		Reference Result (± 10%)		Tested Value(W/kg)		Tissue Temp. [°C]	Test time
	1g	10g	1g	10g	1g	10g		
750	8.31	5.45	7.479-9.141	4.905-5.995	8.56	5.56	21.0	Feb. 10, 2022
835	9.85	6.27	8.865-10.835	5.643 -6.897	9.83	6.20	20.5	Feb. 08, 2022
835	9.85	6.27	8.865-10.835	5.643-6.897	9.86	6.36	20.4	Feb. 09, 2022
1800	39.07	20.29	35.163-42.977	18.261-22.319	38.20	19.34	20.0	Feb. 23, 2022
1900	40.25	20.50	36.225-44.275	18.45-22.55	38.35	19.49	20.6	Feb. 14, 2022
1900	40.25	20.50	36.225-44.275	18.45-22.55	39.78	21.24	20.8	Feb. 16, 2022
2450	53.97	24.01	48.573-59.367	21.609-26.411	54.52	25.04	20.3	Feb. 18, 2022
2600	56.86	24.84	51.174-62.546	22.356-27.324	55.95	24.25	20.5	Feb. 21, 2022
5200	161.18	55.04	145.062-177.298	49.536-60.544	166.97	53.13	20.2	Feb. 22, 2022

Note:
(1) We use a CW signal of 15dBm&18dBm for system check, and then all SAR values are normalized to 1W forward power. The result must be within ±10% of target value.

7. EUT TEST POSITION

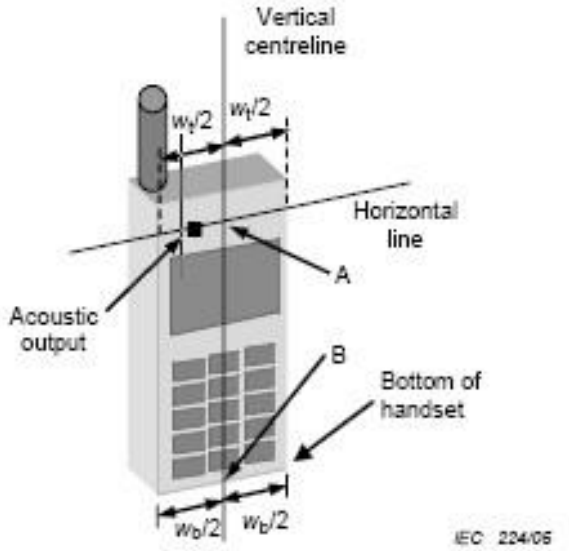
This EUT was tested in **Right Cheek, Right Tilted, Left Cheek, Left Tilted, Body back, Body front and 4 edges.**

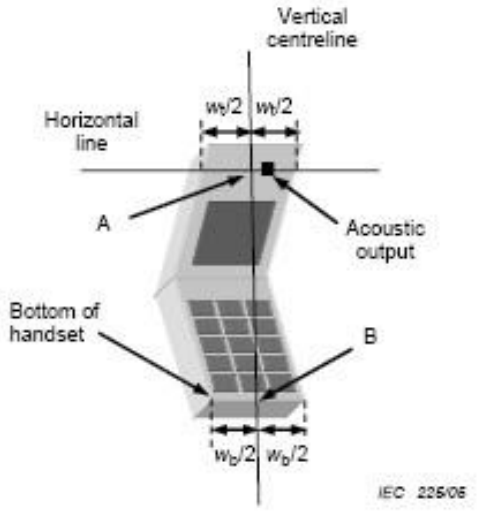
7.1. Define Two Imaginary Lines on the Handset

(1)The vertical centerline passes through two points on the front side of the handset the midpoint of the width wt of the handset at the level of the acoustic output, and the midpoint of the width wb of the handset.

(2)The horizontal line is perpendicular to the vertical centerline and passes through the center of the acoustic output. The horizontal line is also tangential to the face of the handset at point A.

(3)The two lines intersect at point A. Note that for many handsets, point A coincides with the center of the acoustic output; however, the acoustic output may be located elsewhere on the horizontal line. Also note that the vertical centerline is not necessarily to the front face of the handset, especially for clamshell handsets, handsets with flip covers, and other irregularly shaped handsets.





7.2. Cheek Position

(1) To position the device with the vertical center line of the body of the device and the horizontal line crossing the center picec in a plane parallel to the sagittal plane of the phantom. While maintaining the device in this plane, align the vertical center line with the reference plane containing the ear and mouth reference point (M: Mouth, RE: Right Ear, and LE: Left Ear) and align the center of the ear piece with the line RE-LE.

(2) To move the device towards the phantom with the ear piece aligned with the the line LE-RE until the phone touched the ear. While maintaining the device in the reference plane and maintaining the phone contact with ear, move the bottom of the phone until any point on the front side is in contact with the cheek of the phantom or until contact with the ear is lost

7.3. Tilt Position

(1) To position the device in the “cheek” position described above.

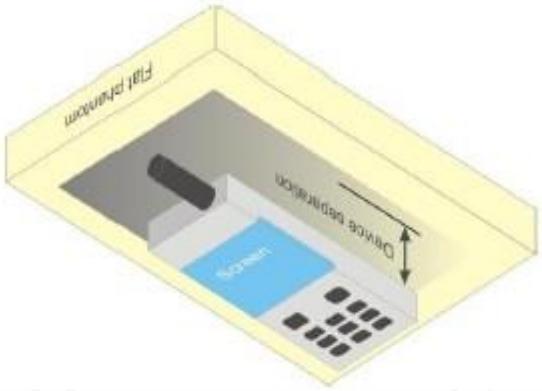
(2) While maintaining the device in the reference plane described above and pivoting against the ear, moves it outward away from the mouth by an angle of 15 degrees or until with the ear is lost.

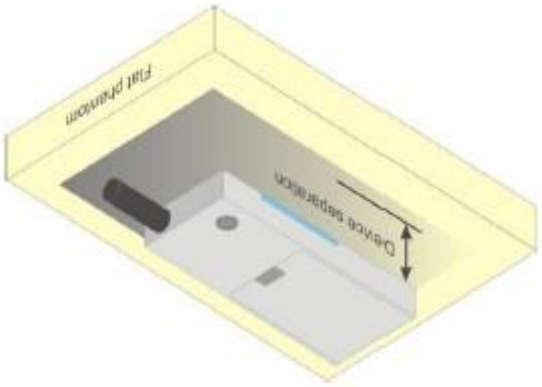
7.4. Body Worn Position

(1) To position the EUT parallel to the phantom surface.

(2) To adjust the EUT parallel to the flat phantom.

(3) To adjust the distance between the EUT surface and the flat phantom to **10mm.**





8. SAR EXPOSURE LIMITS

Limits for General Population/Uncontrolled Exposure (W/kg)

Type Exposure	Uncontrolled Environment Limit (W/kg)
Spatial Peak SAR (1g cube tissue for brain or body)	1.60
Spatial Average SAR (Whole body)	0.08
Spatial Peak SAR (Limbs)	4.0

9. TEST FACILITY

Test Site	Attestation of Global Compliance (Shenzhen) Co., Ltd
Location	1-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China
Designation Number	CN1259
FCC Test Firm Registration Number	975832
A2LA Cert. No.	5054.02
Description	Attestation of Global Compliance(Shenzhen) Co., Ltd is accredited by A2LA

10. TEST EQUIPMENT LIST

Equipment description	Manufacturer/ Model	Identification No.	Software version	Current calibration date	Next calibration date
Stäubli Robot	Stäubli-TX60	F13/5Q2UD1/A/01	N/A	N/A	N/A
Robot Controller	Stäubli-CS8	139522	N/A	N/A	N/A
E-Field Probe	Speag- EX3DV4	SN:3953	N/A	Aug. 27,2021	Aug. 26,2022
SAM Twin Phantom	Speag-SAM	1790	N/A	N/A	N/A
Device Holder	Speag-SD 000 H01 KA	SD 000 H01 KA	N/A	N/A	N/A
DAE4	Speag-SD 000 D04 BM	1398	N/A	May 17,2021	May 16,2022
SAR Software	Speag-DASY5	N/A	5.3da53	N/A	N/A
Liquid	SATIMO	N/A	N/A	N/A	N/A
Radio Communication Tester	R&S-CMU200	115532	V5.2.1	Apr. 14,2021	Apr. 13,2022
Dipole	SATIMO SID750	SN47/14 DIP 0G750-340	N/A	Apr. 26,2019	Apr. 25,2022
Dipole	SATIMO SID835	SN 29/15 DIP 0G850-383	N/A	Apr. 26,2019	Apr. 25,2022
Dipole	SATIMO SID1800	SN46/11 DIP 1G800-186	N/A	Apr. 26,2019	Apr. 25,2022
Dipole	SATIMO SID1900	SN 46/11 DIP 1G900-187	N/A	Apr. 26,2019	Apr. 25,2022
Dipole	SATIMO SID2450	SN 46/11 DIP 2G450-189	N/A	Apr. 26,2019	Apr. 25,2022
Dipole	SATIMO SID2600	SN 47/14 DIP 2G600-342	N/A	Apr. 26,2019	Apr. 25,2022
Wave guide	SWG5500	SN 15/15 WGA 36	N/A	Apr. 26,2019	Apr. 25,2022
Signal Generator	Agilent-E4438C	US41461365	V5.03	Aug. 18,2021	Aug. 17,2022
Vector Analyzer	Agilent / E4440A	MY44303916	N/A	Mar. 21,2021	Mar. 20,2022
Network Analyzer	Rhode & Schwarz ZVL6	SN101443	3.2	Oct. 28,2021	Oct. 27,2022
Attenuator	Warison /WATT-6SR1211	S/N:WRJ34AYM2F1	N/A	June 09,2021	June 08,2022
Attenuator	Mini-circuits / VAT-10+	31405	N/A	June 09,2021	June 08,2022
Amplifier	AS0104-55_55	1004793	N/A	June 10,2021	June 09,2022
Directional Couple	Werlatone/ C5571-10	SN99463	N/A	May 15,2020	May 14,2022
Directional Couple	Werlatone/ C6026-10	SN99482	N/A	May 15,2020	May 14,2022
Power Sensor	NRP-Z21	1137.6000.02	N/A	Sep. 07,2021	Sep. 06,2022
Power Sensor	NRP-Z23	100323	N/A	Feb. 17,2021	Feb. 16,2022
Power Sensor	NRP-Z23	100323	N/A	Feb. 16,2022	Feb. 15,2023
Power Viewer	R&S	V2.3.1.0	N/A	N/A	N/A
Calibration standard parts for network sub - port	R&S/ ZV-Z132	N/A	V2.3.1.0	Dec. 07, 2021	Dec. 06, 2022

Note: Per KDB 865664 Dipole SAR Validation, AGC Lab has adopted 3 years calibration intervals. On annual basis, every measurement dipole has been evaluated and is in compliance with the following criteria:
1. There is no physical damage on the dipole;
2. System validation with specific dipole is within 10% of calibrated value;
3. Return-loss is within 20% of calibrated measurement;
4. Impedance is within 5Ω of calibrated measurement.

11. MEASUREMENT UNCERTAINTY

DASY Uncertainty- EX3DV4 Measurement uncertainty for Dipole averaged over 1 gram / 10 gram.									
a	b	c	d	e f(d,k)	f	g	h c×f/e	i c×g/e	k
Uncertainty Component	Sec.	Tol (± %)	Prob. Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (±%)	10g Ui (±%)	vi
Measurement System									
Probe calibration	E.2.1	6.65	N	1	1	1	6.65	6.65	∞
Axial Isotropy	E.2.2	0.6	R	$\sqrt{3}$	√0.5	√0.5	0.24	0.24	∞
Hemispherical Isotropy	E.2.2	1.6	R	$\sqrt{3}$	√0.5	√0.5	0.65	0.65	∞
Boundary effect	E.2.3	1	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Linearity	E.2.4	0.45	R	$\sqrt{3}$	1	1	0.26	0.26	∞
System detection limits	E.2.4	1	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Modulation response	E2.5	3.3	R	$\sqrt{3}$	1	1	1.91	1.91	∞
Readout Electronics	E.2.6	0.15	N	1	1	1	0.15	0.15	∞
Response Time	E.2.7	0	R	$\sqrt{3}$	1	1	0.00	0.00	∞
Integration Time	E.2.8	1.7	R	$\sqrt{3}$	1	1	0.98	0.98	∞
RF ambient conditions-Noise	E.6.1	3	R	$\sqrt{3}$	1	1	1.73	1.73	∞
RF ambient conditions-reflections	E.6.1	3	R	$\sqrt{3}$	1	1	1.73	1.73	∞
Probe positioner mechanical tolerance	E.6.2	0.4	R	$\sqrt{3}$	1	1	0.23	0.23	∞
Probe positioning with respect to phantom shell	E.6.3	6.7	R	$\sqrt{3}$	1	1	3.87	3.87	∞
Extrapolation, interpolation, and integrations algorithms for max. SAR evaluation	E.5	4	R	$\sqrt{3}$	1	1	2.31	2.31	∞
Test sample Related									
Test sample positioning	E.4.2	2.9	N	1	1	1	2.90	2.90	∞
Device holder uncertainty	E.4.1	3.6	N	1	1	1	3.60	3.60	∞
Output power variation—SAR drift measurement	E.2.9	5	R	$\sqrt{3}$	1	1	2.89	2.89	∞
SAR scaling	E.6.5	5	R	$\sqrt{3}$	1	1	2.89	2.89	∞
Phantom and tissue parameters									
Phantom shell uncertainty—shape, thickness, and permittivity	E.3.1	6.6	R	$\sqrt{3}$	1	1	3.81	3.81	∞
Uncertainty in SAR correction for deviations in permittivity and conductivity	E.3.2	1.9	N	1	1	0.84	1.90	1.60	∞
Liquid conductivity measurement	E.3.3	4	N	1	0.78	0.71	3.12	2.84	M
Liquid permittivity measurement	E.3.3	5	N	1	0.23	0.26	1.15	1.30	M
Liquid conductivity—temperature uncertainty	E.3.4	2.5	R	$\sqrt{3}$	0.78	0.71	1.13	1.02	∞
Liquid permittivity—temperature uncertainty	E.3.4	2.5	R	$\sqrt{3}$	0.23	0.26	0.33	0.38	∞
Combined Standard Uncertainty			RSS				11.79	11.63	
Expanded Uncertainty (95% Confidence interval)			K=2				23.59	23.26	

DASY Uncertainty- EX3DV4 System Check uncertainty for Dipole averaged over 1 gram / 10 gram.									
a	b	c	d	e f(d,k)	f	g	h c×f/e	i c×g/e	k
Uncertainty Component	Sec.	Tol (± %)	Prob. Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (±%)	10g Ui (±%)	vi
Measurement System									
Probe calibration drift	E.2.1	0.5	N	1	1	1	0.5	0.5	∞
Axial Isotropy	E.2.2	0.6	R	$\sqrt{3}$	0	0	0.00	0.00	∞
Hemispherical Isotropy	E.2.2	1.6	R	$\sqrt{3}$	0	0	0.00	0.00	∞
Boundary effect	E.2.3	1	R	$\sqrt{3}$	0	0	0.00	0.00	∞
Linearity	E.2.4	0.45	R	$\sqrt{3}$	0	0	0.00	0.00	∞
System detection limits	E.2.4	1	R	$\sqrt{3}$	0	0	0.00	0.00	∞
Modulation response	E2.5	3.3	R	$\sqrt{3}$	0	0	0.00	0.00	∞
Readout Electronics	E.2.6	0.15	N	1	0	0	0.00	0.00	∞
Response Time	E.2.7	0	R	$\sqrt{3}$	0	0	0.00	0.00	∞
Integration Time	E.2.8	1.7	R	$\sqrt{3}$	0	0	0.00	0.00	∞
RF ambient conditions-Noise	E.6.1	3	R	$\sqrt{3}$	0	0	0.00	0.00	∞
RF ambient conditions-reflections	E.6.1	3	R	$\sqrt{3}$	0	0	0.00	0.00	∞
Probe positioner mechanical tolerance	E.6.2	0.4	R	$\sqrt{3}$	1	1	0.37	0.37	∞
Probe positioning with respect to phantom shell	E.6.3	6.7	R	$\sqrt{3}$	1	1	3.87	3.87	∞
Extrapolation, interpolation, and integrations algorithms for max. SAR evaluation	E.5	4	R	$\sqrt{3}$	0	0	0.00	0.00	∞
System check source (dipole)									
Deviation of experimental dipoles	E.6.4	2.0	N	1	1	1	2.00	2.00	∞
Input power and SAR drift measurement	8,6.6.4	5.0	R	$\sqrt{3}$	1	1	2.89	2.89	∞
Dipole axis to liquid distance	8,E.6.6	2.0	R	$\sqrt{3}$	1	1	1.15	1.15	∞
Phantom and tissue parameters									
Phantom shell uncertainty—shape, thickness, and permittivity	E.3.1	6.6	R	$\sqrt{3}$	1	1	3.81	3.81	∞
Uncertainty in SAR correction for deviations in permittivity and conductivity	E.3.2	1.9	N	1	1	0.84	1.90	1.60	∞
Liquid conductivity measurement	E.3.3	4	N	1	0.78	0.71	3.12	2.84	M
Liquid permittivity measurement	E.3.3	5	N	1	0.23	0.26	1.15	1.30	M
Liquid conductivity—temperature uncertainty	E.3.4	2.5	R	$\sqrt{3}$	0.78	0.71	1.13	1.02	∞
Liquid permittivity—temperature uncertainty	E.3.4	2.5	R	$\sqrt{3}$	0.23	0.26	0.33	0.38	∞
Combined Standard Uncertainty			RSS				7.34	7.07	
Expanded Uncertainty (95% Confidence interval)			K=2				14.67	14.14	

DASY Uncertainty- EX3DV4 System Validation uncertainty for Dipole averaged over 1 gram / 10 gram.									
a	b	c	d	e f(d,k)	f	g	h c×f/e	i c×g/e	k
Uncertainty Component	Sec.	Tol (±%)	Prob. Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (±%)	10g Ui (±%)	vi
Measurement System									
Probe calibration	E.2.1	6.65	N	1	1	1	6.65	6.65	∞
Axial Isotropy	E.2.2	0.6	R	$\sqrt{3}$	1	1	0.35	0.35	∞
Hemispherical Isotropy	E.2.2	1.6	R	$\sqrt{3}$	0	0	0.00	0.00	∞
Boundary effect	E.2.3	1	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Linearity	E.2.4	0.45	R	$\sqrt{3}$	1	1	0.26	0.26	∞
System detection limits	E.2.4	1	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Modulation response	E2.5	3.3	R	$\sqrt{3}$	0	0	0.00	0.00	∞
Readout Electronics	E.2.6	0.15	N	1	1	1	0.15	0.15	∞
Response Time	E.2.7	0	R	$\sqrt{3}$	0	0	0.00	0.00	∞
Integration Time	E.2.8	1.7	R	$\sqrt{3}$	0	0	0.00	0.00	∞
RF ambient conditions-Noise	E.6.1	3	R	$\sqrt{3}$	1	1	1.73	1.73	∞
RF ambient conditions-reflections	E.6.1	3	R	$\sqrt{3}$	1	1	1.73	1.73	∞
Probe positioner mechanical tolerance	E.6.2	0.4	R	$\sqrt{3}$	1	1	0.23	0.23	∞
Probe positioning with respect to phantom shell	E.6.3	6.7	R	$\sqrt{3}$	1	1	3.87	3.87	∞
Extrapolation, interpolation, and integrations algorithms for max. SAR evaluation	E.5	4	R	$\sqrt{3}$	1	1	2.31	2.31	∞
System check source (dipole)									
Deviation of experimental dipole from numerical dipole	E.6.4	5.0	N	1	1	1	5.00	5.00	∞
Input power and SAR drift measurement	8,6.6.4	5.0	R	$\sqrt{3}$	1	1	2.89	2.89	∞
Dipole axis to liquid distance	8,E.6.6	2.0	R	$\sqrt{3}$	1	1	1.15	1.15	∞
Phantom and tissue parameters									
Phantom shell uncertainty—shape, thickness, and permittivity	E.3.1	6.6	R	$\sqrt{3}$	1	1	3.81	3.81	∞
Uncertainty in SAR correction for deviations in permittivity and conductivity	E.3.2	1.9	N	1	1	0.84	1.90	1.60	∞
Liquid conductivity measurement	E.3.3	4	N	1	0.78	0.71	3.12	2.84	M
Liquid permittivity measurement	E.3.3	5	N	1	0.23	0.26	1.15	1.30	M
Liquid conductivity—temperature uncertainty	E.3.4	2.5	R	$\sqrt{3}$	0.78	0.71	1.13	1.02	∞
Liquid permittivity—temperature uncertainty	E.3.4	2.5	R	$\sqrt{3}$	0.23	0.26	0.33	0.38	∞
Combined Standard Uncertainty			RSS				11.45	11.28	
Expanded Uncertainty (95% Confidence interval)			K=2				22.89	22.55	

12. CONDUCTED POWER MEASUREMENT

GSM BAND

Mode	Frequency(MHz)	Avg. Burst Power(dBm)	Duty cycle Factor(dBm)	Frame Power(dBm)
Maximum Power <1>				
GSM 850	824.2	33.10	-9	24.10
	836.6	33.28	-9	24.28
	848.8	**33.36**	-9	24.36

GSM BAND CONTINUE

Mode	Frequency(MHz)	Avg. Burst Power(dBm)	Duty cycle Factor(dBm)	Frame Power(dBm)
Maximum Power <1>				
PCS1900	1850.2	**29.73**	-9	20.73
	1880	29.59	-9	20.59
	1909.8	29.70	-9	20.70

UMTS BAND
HSDPA Setup Configuration:

·The EUT was connected to Base Station CMU200 referred to the Setup Configuration.

·The RF path losses were compensated into the measurements.

·A call was established between EUT and Based Station with following setting:

(1) Set Gain Factors(βc and βd) parameters set according to each

(2) Set RMC 12.2Kbps+HSDPA mode.

(3) Set Cell Power=-86dBm

(4) Set HS-DSCH Configuration Type to FRC (H-set 1, QPSK)

(5) Select HSDPA Uplink Parameters

(6) Set Delta ACK, Delta NACK and Delta CQI=8

(7) Set Ack - Nack Repetition Factor to 3

(8) Set CQI Feedback Cycle (k) to 4ms

(9) Set CQI Repetition Factor to 2

(10) Power Ctrl Mode=All Up bits

·The transmitted maximum output power was recorded.

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

Sub-test	βc (Note5)	βd	βd (SF)	βc/βd	βHS (Note1, Note 2)	CM (dB) (Note 3)	MPR (dB) (Note 3)
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15(Note 4)	15/15(Note 4)	64	12/15(Note 4)	24/15	1.0	0.0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5

Note 1: ΔACK, ΔNACK and ΔCQI = 30/15 with β_{hs} = 30/15 * β_c .
Note 2: For the HS-DPCCH power mask requirement test in clause 5.2C, 5.7A, and the Error Vector Magnitude (EVM) with HS-DPCCH test in clause 5.13.1A, and HSDPA EVM with phase discontinuity in clause 5.13.1AA, ΔACK and ΔNACK = 30/15 with β_{hs} = 30/15 * β_c , and ΔCQI = 24/15 with β_{hs} = 24/15 * β_c .
Note 3: CM = 1 for βc/βd =12/15, hs/ c=24/15. For all other combinations of DPDCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.
Note 4: For subtest 2 the c/ 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 c = 11/15 and d = 15/15.

HSUPA Setup Configuration:

· The EUT was connected to Base Station CMU200 referred to the Setup Configuration.

· The RF path losses were compensated into the measurements.

· A call was established between EUT and Base Station with following setting * :

(1) Call Configs = 5.2B, 5.9B, 5.10B, and 5.13.2B with QPSK

(2) Set the Gain Factors (βc and βd) and parameters (AG Index) were set according to each specific sub-test in the following table, C11.1.3, quoted from the TS 34.121

(3) Set Cell Power = -86 dBm

(4) Set Channel Type = 12.2k + HSPA

(5) Set UE Target Power

(6) Power Ctrl Mode= Alternating bits

(7) Set and observe the E-TFCI

(8) Confirm that E-TFCI is equal to the target E-TFCI of 75 for sub-test 1, and other subtest's E-TFCI

· The transmitted maximum output power was recorded.

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

Sub-test	βc	βd	βd (SF)	βc/βd	βHS (Note 1)	βec	βed (Note 4) (Note 5)	βed (SF)	βed (Codes)	CM (dB) (Note 2)	MPR (dB) (Note 2) (Note 6)	AG Index (Note 5)	E-TFCI
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/225	1309/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	βed1: 47/15 βed2: 47/15	4 4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15	0	-	-	5/15	5/15	47/15	4	1	1.0	0.0	12	67

Note 1: For sub-test 1 to 4, ΔACK, ΔNACK and ΔCQI = 30/15 with β_{hs} = 30/15 * β_c. For sub-test 5, ΔACK, ΔNACK and ΔCQI = 5/15 with β_{hs} = 5/15 * β_c.
Note 2: CM = 1 for βc/βd =12/15, hs/ c=24/15. For all other combinations of DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.
Note 3: For subtest 1 the c/ d ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to c = 10/15 and d = 15/15.
Note 4: In case of testing by UE using E-DPDCH Physical Layer category 1, Sub-test 3 is omitted according to TS25.306 Table 5.1g.
Note 5: βed cannot be set directly; it is set by Absolute Grant Value.
Note 6: For subtests 2, 3 and 4, UE may perform E-DPDCH power scaling at max power which could results in slightly smaller MPR values.

UMTS BAND II

Mode	Frequency (MHz)	Avg. Burst Power (dBm)
WCDMA 1900 RMC	1852.4	**22.32**
	1880	22.20
	1907.6	22.22
HSDPA Subtest 1	1852.4	22.09
	1880	22.08
	1907.6	21.97
HSDPA Subtest 2	1852.4	21.34
	1880	20.88
	1907.6	20.87
HSDPA Subtest 3	1852.4	20.12
	1880	19.99
	1907.6	20.68
HSDPA Subtest 4	1852.4	20.00
	1880	19.91
	1907.6	20.22
HSUPA Subtest 1	1852.4	20.25
	1880	20.53
	1907.6	20.72
HSUPA Subtest 2	1852.4	20.75
	1880	20.26
	1907.6	20.34
HSUPA Subtest 3	1852.4	21.62
	1880	21.69
	1907.6	21.21
HSUPA Subtest 4	1852.4	21.36
	1880	21.29
	1907.6	21.19
HSUPA Subtest 5	1852.4	21.27
	1880	22.10
	1907.6	22.10

UMTS BAND IV

Mode	Frequency (MHz)	Avg. Burst Power (dBm)
WCDMA 1700 RMC	1712.4	**22.54**
	1732.4	21.83
	1752.6	22.27
HSDPA Subtest 1	1712.4	22.24
	1732.4	22.03
	1752.6	21.84
HSDPA Subtest 2	1712.4	21.00
	1732.4	20.83
	1752.6	20.66
HSDPA Subtest 3	1712.4	20.06
	1732.4	19.82
	1752.6	20.54
HSDPA Subtest 4	1712.4	20.15
	1732.4	20.05
	1752.6	20.19
HSUPA Subtest 1	1712.4	20.15
	1732.4	20.37
	1752.6	20.61
HSUPA Subtest 2	1712.4	20.51
	1732.4	20.53
	1752.6	20.50
HSUPA Subtest 3	1712.4	21.37
	1732.4	21.76
	1752.6	21.47
HSUPA Subtest 4	1712.4	21.16
	1732.4	20.93
	1752.6	20.98
HSUPA Subtest 5	1712.4	21.01
	1732.4	22.36
	1752.6	22.07

UMTS BAND V

Mode	Frequency (MHz)	Avg. Burst Power (dBm)
WCDMA 850 RMC	826.4	**22.58**
	836.6	22.11
	846.6	22.21
HSDPA Subtest 1	826.4	22.07
	836.6	22.23
	846.6	21.71
HSDPA Subtest 2	826.4	21.00
	836.6	21.12
	846.6	20.98
HSDPA Subtest 3	826.4	20.07
	836.6	19.94
	846.6	20.44
HSDPA Subtest 4	826.4	20.12
	836.6	19.87
	846.6	20.12
HSUPA Subtest 1	826.4	20.03
	836.6	20.54
	846.6	20.81
HSUPA Subtest 2	826.4	20.57
	836.6	20.29
	846.6	20.34
HSUPA Subtest 3	826.4	21.66
	836.6	21.73
	846.6	21.36
HSUPA Subtest 4	826.4	21.23
	836.6	21.31
	846.6	21.16
HSUPA Subtest 5	826.4	21.36
	836.6	22.18
	846.6	22.12

CDMA BAND 0

Mode	Frequency (MHz)	Avg. Burst Power (dBm)
1xRTT	824.7	23.60
	836.52	**24.30**
	848.31	23.60
1XEV-DO REV A	824.7	23.70
	836.52	24.20
	848.31	23.60

CDMA BAND 1

Mode	Frequency (MHz)	Avg. Burst Power (dBm)
1xRTT	1851.25	24.00
	1880	**24.40**
	1908.75	24.00
1XEV-DO REV A	1851.25	24.00
	1880	24.30
	1908.75	23.00

According to 3GPP 25.101 sub-clause 6.2.2 , the maximum output power is allowed to be reduced by following the table.

Table 6.1aA: UE maximum output power with HS-DPCCH and E-DCH

UE Transmit Channel Configuration	CM(db)	MPR(db)
For all combinations of ,DPDCH,DPCCH HS-DPDCH,E-DPDCH and E-DPCCH	0≤ CM≤3.5	MAX(CM-1,0)
Note: CM=1 for β_c/β_d=12/15, β_{hs}/β_c=24/15.For all other combinations of DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.		

The device supports MPR to solve linearity issues (ACLR or SEM) due to the higher peak-to average ratios (PAR) of the HSUPA signal. This prevents saturating the full range of the TX DAC inside of device and provides a reduced power output to the RF transceiver chip according to the Cubic Metric (a function of the combinations of DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH).

When E-DPDCH channels are present the beta gains on those channels are reduced firsts to try to get the power under the allowed limit. If the beta gains are lowered as far as possible, then a hard limiting is applied at the maximum allowed level.

The SW currently recalculates the cubic metric every time the beta gains on the E-DPDCH are reduced. The cubic metric will likely get lower each time this is done .However, there is no reported reduction of maximum output power in the HSUPA mode since the device also provides a compensation for the power back-off by increasing the gain of TX_AGC in the transceiver (PA) device.

The end effect is that the DUT output power is identical to the case where there is no MPR in the device.

LTE Band

LTE (TDD) Considerations

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

SAR was tested with the highest transmission duty factor (63.33%) using Uplink-downlink configuration 0 and Special subframe configuration 7.

LTE TDD Band 41 supports 3GPP TS 36.211 section 4.2 for Type 2 Frame Structure and Table 4.2-2 for uplink-downlink configurations and Table 4.2-1 for Special subframe configurations.

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

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

Table 4.2-2: Uplink-downlink configurations

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

Calculated Duty Cycle

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

Note： Calculated Duty Cycle = Extended cyclic prefix in uplink x (Ts) x # of S + # of U
Example for Calculated Duty Cycle for Uplink-Downlink Configuration 0:
Calculated Duty Cycle = 5120 x [1/(15000 x 2048)] x 2 + 6 ms = 63.33%
where
Ts = 1/(15000 x 2048) seconds

LTE Band

Conducted Power of LTE Band 2(dBm)							
Bandwidth	**Modulation**	**RB size**	**RB offset**	**Target MPR**	**Channel**	**Channel**	**Channel**
					18607	**18900**	**19193**
1.4MHz	QPSK	1	0	0	22.67	22.38	22.54
			3	0	22.83	22.45	22.64
			5	0	22.77	22.42	22.78
		3	0	0	22.70	22.38	22.67
			2	0	22.71	22.35	22.72
			3	0	22.66	22.44	22.98
		6	0	1	21.55	21.3	21.59
	16QAM	1	0	1	21.81	22.14	21.95
			3	1	21.39	22.16	21.89
			5	1	21.41	22.09	22.28
		3	0	1	21.78	21.19	21.87
			2	1	21.74	21.26	21.93
			3	1	21.63	21.24	21.98
		6	0	2	20.64	20.82	20.76
Bandwidth	**Modulation**	**RB size**	**RB offset**	**Target MPR**	**Channel**	**Channel**	**Channel**
					18615	**18900**	**19185**
3MHz	QPSK	1	0	0	22.61	22.38	22.59
			7	0	22.43	22.47	22.59
			14	0	22.54	22.35	22.61
		8	0	1	21.51	21.43	21.58
			4	1	21.5	21.45	21.6
			7	1	21.58	21.47	21.68
		15	0	1	21.53	21.47	21.6
	16QAM	1	0	1	21.94	21.75	21.48
			7	1	22.01	21.81	22.05
			14	1	22.06	21.89	22.01
		8	0	2	20.71	20.63	20.58
			4	2	20.73	20.63	20.51
			7	2	20.74	20.78	21.01
		15	0	2	20.77	20.69	20.64

Conducted Power of LTE Band 2(dBm)							
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel 18625	Channel 18900	Channel 19175
5MHz	QPSK	1	0	0	22.32	22.07	22.65
			13	0	22.39	22.38	22.61
			24	0	22.49	22.13	22.34
		12	0	1	21.54	21.37	21.67
			6	1	21.52	21.40	21.65
			13	1	21.58	21.40	21.66
		25	0	1	21.49	21.40	21.65
	16QAM	1	0	1	20.89	21.63	20.47
			13	1	21.88	22.23	21.38
			24	1	20.84	21.73	22.48
		12	0	2	20.32	20.45	20.46
			6	2	20.35	20.46	20.48
			13	2	20.47	20.48	20.74
		25	0	2	20.52	20.48	20.67
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel 18650	Channel 18900	Channel 19150
10MHz	QPSK	1	0	0	22.56	22.37	22.61
			25	0	22.67	22.59	22.9
			49	0	22.39	22.4	22.63
		25	0	1	21.51	21.43	21.61
			13	1	21.49	21.44	21.58
			25	1	21.61	21.42	21.67
		50	0	1	21.66	21.39	21.72
	16QAM	1	0	1	22.06	22.13	21.73
			25	1	22.25	22.73	21.9
			49	1	21.96	22.18	22.89
		25	0	2	20.5	20.58	20.65
			13	2	20.53	20.57	20.66
			25	2	20.58	20.55	20.9
		50	0	2	20.74	20.37	20.83

Conducted Power of LTE Band 2(dBm)							
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel 18675	Channel 18900	Channel 19125
15MHz	QPSK	1	0	0	22.45	22.39	22.48
			38	0	22.45	22.52	22.65
			74	0	22.39	22.42	22.77
		36	0	1	21.54	21.38	21.49
			18	1	21.54	21.43	21.5
			39	1	21.55	21.39	21.51
		75	0	1	21.63	21.38	21.56
	16QAM	1	0	1	22.01	21.7	21.73
			38	1	21.98	22.46	21.88
			74	1	21.99	22.19	22.3
		36	0	2	20.57	20.51	20.52
			18	2	20.5	20.55	20.55
			39	2	20.51	20.55	20.57
		75	0	2	20.66	20.55	20.51
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel 18700	Channel 18900	Channel 19100
20MHz	QPSK	1	0	0	22.47	22.41	22.43
			50	0	22.88	22.83	22.63
			99	0	22.23	22.68	22.89
		50	0	1	21.54	21.44	21.62
			25	1	21.55	21.44	21.65
			50	1	21.6	21.46	21.64
		100	0	1	21.52	21.41	21.62
	16QAM	1	0	1	21.45	21.58	22.48
			50	1	22.62	21.71	**23.02**
			99	1	21.33	21.48	21.82
		50	0	2	20.84	20.50	20.67
			25	2	20.81	20.52	20.63
			50	2	20.62	20.62	20.68
		100	0	2	20.62	20.52	20.65

Conducted Power of LTE Band 4(dBm)							
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel	Channel	Channel
					19957	20175	20393
1.4MHz	QPSK	1	0	0	22.12	20.88	22.54
			3	0	22.30	20.81	22.67
			5	0	22.28	20.96	22.58
		3	0	0	22.16	20.84	22.55
			2	0	22.14	20.84	22.60
			3	0	22.18	20.89	22.61
		6	0	1	21.81	21.65	21.64
	16QAM	1	0	1	21.59	21.14	22.01
			3	1	21.59	21.22	21.89
			5	1	21.59	21.15	21.90
		3	0	1	21.71	21.10	21.85
			2	1	21.70	21.03	21.67
			3	1	21.78	20.93	21.73
		6	0	2	21.07	20.51	20.72
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel	Channel	Channel
					19965	20175	20385
3MHz	QPSK	1	0	0	22.00	22.53	22.64
			7	0	22.40	22.43	22.96
			14	0	22.39	22.25	22.66
		8	0	1	21.70	21.59	21.70
			4	1	21.74	21.60	21.70
			7	1	21.67	21.48	21.62
		15	0	1	21.06	21.71	21.62
	16QAM	1	0	1	21.87	22.24	21.75
			7	1	22.20	22.14	22.04
			14	1	22.21	21.98	22.07
		8	0	2	21.11	20.64	20.73
			4	2	21.11	20.58	20.66
			7	2	21.06	20.55	20.77
		15	0	2	20.67	20.57	20.76

Conducted Power of LTE Band 4(dBm)							
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel 19975	Channel 20175	Channel 20375
5MHz	QPSK	1	0	0	21.67	22.35	22.47
			13	0	22.59	22.43	22.77
			24	0	22.49	22.20	22.53
		12	0	1	21.74	21.72	21.86
			6	1	21.65	21.72	21.86
			13	1	21.75	21.57	21.83
		25	0	1	21.69	21.69	21.71
	16QAM	1	0	1	21.06	22.49	21.98
			13	1	21.90	22.52	22.55
			24	1	21.21	22.13	22.29
		12	0	2	20.81	20.77	20.75
			6	2	20.82	20.67	20.75
			13	2	20.92	20.78	20.71
		25	0	2	20.65	20.74	20.90
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel 20000	Channel 20175	Channel 20350
10MHz	QPSK	1	0	0	21.51	22.61	22.71
			25	0	23.15	22.60	22.90
			49	0	22.87	22.49	22.71
		25	0	1	21.70	21.81	21.86
			13	1	21.70	21.82	21.85
			25	1	21.70	21.68	21.80
		50	0	1	21.81	21.62	21.81
	16QAM	1	0	1	21.07	23.12	22.23
			25	1	22.11	22.37	22.26
			49	1	21.95	22.13	22.40
		25	0	2	20.78	21.09	20.82
			13	2	20.76	20.89	20.83
			25	2	21.04	20.69	21.08
		50	0	2	20.72	20.55	20.88

Conducted Power of LTE Band 4(dBm)							
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel 20025	Channel 20175	Channel 20325
15MHz	QPSK	1	0	0	21.22	22.75	22.57
			38	0	22.81	22.71	23.49
			74	0	22.77	22.60	22.80
		36	0	1	21.60	21.65	21.93
			18	1	21.61	21.64	21.92
			39	1	21.61	21.63	21.91
		75	0	1	21.71	21.66	21.87
	16QAM	1	0	1	20.97	22.85	21.67
			38	1	22.21	22.34	22.29
			74	1	22.47	22.38	21.98
		36	0	2	20.90	20.85	21.03
			18	2	20.88	20.79	21.04
			39	2	20.87	20.79	21.04
		75	0	2	20.88	20.82	20.98
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel 20050	Channel 20175	Channel 20300
20MHz	QPSK	1	0	0	20.59	23.20	22.95
			50	0	23.06	23.08	**23.29**
			99	0	22.59	22.74	23.16
		50	0	1	21.77	21.72	21.88
			25	1	21.74	21.74	21.86
			50	1	21.82	21.76	21.93
		100	0	1	21.72	21.75	21.76
	16QAM	1	0	1	20.20	22.10	22.19
			50	1	23.11	21.99	22.14
			99	1	22.15	21.42	22.07
		50	0	2	20.92	20.95	20.91
			25	2	20.90	20.99	21.01
			50	2	20.90	20.82	21.08
		100	0	2	20.81	20.75	20.97

Conducted Power of LTE Band 5(dBm)							
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel	Channel	Channel
					20407	20525	20643
1.4MHz	QPSK	1	0	0	23.10	23.15	**23.56**
			3	0	23.05	23.25	23.32
			5	0	23.09	23.09	23.24
		3	0	0	22.99	23.16	23.24
			2	0	23.07	23.08	23.17
			3	0	23.03	23.10	23.40
		6	0	1	22.02	22.05	22.25
	16QAM	1	0	1	22.23	22.83	22.26
			3	1	22.37	22.89	22.62
			5	1	22.22	22.82	22.52
		3	0	1	22.15	22.12	22.34
			2	1	22.12	22.10	22.30
			3	1	22.15	22.18	22.38
		6	0	2	21.10	21.37	21.50
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel	Channel	Channel
					20415	20525	20635
3MHz	QPSK	1	0	0	23.07	23.14	23.29
			7	0	22.90	23.04	23.10
			14	0	22.96	23.05	23.29
		8	0	1	21.98	22.09	22.30
			4	1	21.98	22.06	22.27
			7	1	21.98	22.06	22.22
		15	0	1	22.07	22.10	22.25
	16QAM	1	0	1	22.00	22.72	22.62
			7	1	21.99	22.63	22.65
			14	1	22.08	22.67	22.96
		8	0	2	20.87	21.18	21.15
			4	2	20.79	21.19	21.16
			7	2	20.81	21.41	21.39
		15	0	2	20.89	21.21	21.25

Conducted Power of LTE Band 5(dBm)							
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel	Channel	Channel
					20425	20525	20625
5MHz	QPSK	1	0	0	22.95	22.92	22.84
			13	0	23.09	22.89	23.12
			24	0	22.73	22.82	22.88
		12	0	1	21.93	22.26	22.30
			6	1	21.92	22.30	22.27
			13	1	22.06	22.02	22.38
		25	0	1	21.71	22.20	22.35
	16QAM	1	0	1	21.73	21.62	22.01
			13	1	22.26	22.37	22.67
			24	1	21.70	21.35	22.55
		12	0	2	21.13	21.04	21.17
			6	2	21.02	21.13	21.18
			13	2	21.19	21.11	21.32
		25	0	2	20.97	21.11	21.32
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel	Channel	Channel
					20450	20525	20600
10MHz	QPSK	1	0	0	23.07	23.05	23.14
			25	0	23.36	23.24	23.21
			49	0	22.93	23.28	23.10
		25	0	1	22.03	22.12	22.27
			13	1	21.96	22.18	22.30
			25	1	22.13	22.14	22.31
		50	0	1	22.03	22.10	22.30
	16QAM	1	0	1	22.39	22.55	22.86
			25	1	22.83	23.53	22.98
			49	1	22.20	22.76	23.52
		25	0	2	21.04	21.17	21.00
			13	2	20.96	21.18	21.04
			25	2	21.16	21.18	21.05
		50	0	2	20.98	21.14	21.12

Conducted Power of LTE Band 7 (dBm)							
Bandwidth	**Modulation**	**RB size**	**RB offset**	**Target MPR**	**Channel**	**Channel**	**Channel**
					20775	**21100**	**21425**
5MHz	QPSK	1	0	0	21.33	21.15	20.51
			12	0	21.91	21.76	21.11
			24	0	21.20	21.18	20.58
		12	0	1	20.91	20.62	19.96
			6	1	20.91	20.62	19.96
			13	1	20.80	20.65	19.99
		25	0	1	20.75	20.61	20.13
	16QAM	1	0	1	20.52	20.39	20.10
			12	1	21.20	21.03	20.72
			24	1	20.49	20.46	20.13
		12	0	2	19.99	19.80	19.35
			6	2	20.00	19.80	19.36
			13	2	19.91	19.85	19.37
		25	0	2	20.30	19.86	19.44
Bandwidth	**Modulation**	**RB size**	**RB offset**	**Target MPR**	**Channel**	**Channel**	**Channel**
					20800	**21100**	**21400**
10MHz	QPSK	1	0	0	21.27	20.92	20.49
			24	0	21.92	21.76	21.05
			49	0	21.03	21.06	20.30
		25	0	1	20.91	20.58	20.03
			12	1	20.90	20.57	20.03
			25	1	20.99	20.64	19.93
		50	0	1	20.86	20.55	20.20
	16QAM	1	0	1	21.00	20.16	20.07
			24	1	21.78	21.07	20.62
			49	1	20.94	20.35	19.80
		25	0	2	20.01	19.78	19.46
			12	2	20.01	19.79	19.46
			25	2	20.11	19.86	19.34
		50	0	2	20.14	19.72	19.34

Conducted Power of LTE Band 7 (dBm)							
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel	Channel	Channel
					20825	21100	21375
15MHz	QPSK	1	0	0	21.20	20.94	20.72
			37	0	**21.96**	21.81	21.22
			74	0	20.92	21.11	20.27
		37	0	1	20.99	20.66	20.15
			16	1	21.00	20.66	20.15
			35	1	21.00	20.66	20.15
		75	0	1	20.98	20.73	20.34
	16QAM	1	0	1	20.94	20.15	20.65
			37	1	21.85	21.11	21.17
			74	1	20.82	20.47	20.11
		37	0	2	20.03	19.83	19.45
			16	2	20.03	19.84	19.46
			35	2	20.05	19.85	19.46
		75	0	2	20.21	19.88	19.48
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel	Channel	Channel
					20850	21100	21350
20MHz	QPSK	1	0	0	19.24	18.66	18.67
			49	0	20.48	20.21	19.85
			99	0	19.29	19.46	18.66
		50	0	1	20.85	20.61	20.48
			25	1	20.84	20.61	20.48
			49	1	20.86	20.74	20.08
		100	0	1	20.89	20.76	20.67
	16QAM	1	0	1	18.65	17.92	18.51
			49	1	19.96	19.54	19.71
			99	1	18.74	18.88	18.41
		50	0	2	20.02	19.78	19.83
			25	2	20.02	19.78	19.84
			49	2	20.05	20.00	19.43
		100	0	2	20.22	19.83	19.61

Conducted Power of LTE Band 12(dBm)							
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel	Channel	Channel
					23017	23095	23173
1.4MHz	QPSK	1	0	0	23.22	23.55	23.39
			3	0	23.12	23.58	23.53
			5	0	23.00	23.53	23.20
		3	0	0	23.26	23.43	23.16
			2	0	23.22	23.38	23.22
			3	0	23.21	23.41	23.40
		6	0	1	22.16	22.19	22.25
	16QAM	1	0	1	22.11	22.60	23.01
			3	1	22.12	22.72	23.04
			5	1	22.37	22.69	23.04
		3	0	1	22.22	22.38	22.24
			2	1	22.28	22.47	22.22
			3	1	22.21	22.53	22.38
		6	0	2	21.08	21.17	21.24
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel	Channel	Channel
					23025	23095	23165
3MHz	QPSK	1	0	0	23.47	23.41	23.16
			7	0	23.35	23.30	23.60
			14	0	23.26	23.44	**23.71**
		8	0	1	22.46	22.33	22.42
			4	1	22.47	22.34	22.41
			7	1	22.38	22.34	22.34
		15	0	1	22.33	22.31	22.25
	16QAM	1	0	1	22.80	22.68	22.20
			7	1	22.91	22.69	22.26
			14	1	22.79	22.61	22.62
		8	0	2	21.81	21.20	21.41
			4	2	21.82	21.14	21.42
			7	2	21.46	21.23	21.64
		15	0	2	21.54	21.19	21.24

Conducted Power of LTE Band 12(dBm)							
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel 23035	Channel 23095	Channel 23155
5MHz	QPSK	1	0	0	23.34	22.98	23.21
			13	0	23.40	23.32	23.27
			24	0	23.02	23.21	23.22
		12	0	1	22.37	22.43	22.26
			6	1	22.38	22.43	22.26
			13	1	22.46	22.38	22.22
		25	0	1	22.24	22.25	22.26
	16QAM	1	0	1	22.10	22.64	21.92
			13	1	22.17	23.17	21.97
			24	1	21.80	22.87	22.04
		12	0	2	21.31	21.22	21.15
			6	2	21.33	21.24	21.17
			13	2	21.23	21.23	21.16
		25	0	2	21.60	21.33	21.15
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel 23060	Channel 23095	Channel 23130
10MHz	QPSK	1	0	0	23.15	23.18	23.29
			25	0	23.14	23.44	23.64
			49	0	23.16	23.09	23.15
		25	0	1	22.40	22.21	22.37
			13	1	22.40	22.21	22.38
			25	1	22.53	22.37	22.30
		50	0	1	22.27	22.27	22.26
	16QAM	1	0	1	22.60	22.79	22.39
			25	1	22.72	22.95	22.40
			49	1	22.71	22.62	22.49
		25	0	2	21.17	21.16	21.38
			13	2	21.18	21.17	21.33
			25	2	21.40	21.42	21.42
		50	0	2	21.52	21.33	21.34

Conducted Power of LTE Band 13(dBm)							
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel 23205	Channel 23230	Channel 23255
5MHz	QPSK	1	0	0	23.32	23.27	23.22
			13	0	23.49	23.56	23.29
			24	0	23.25	23.36	23.38
		12	0	1	22.52	22.57	22.54
			6	1	22.52	22.57	22.46
			13	1	22.52	22.58	22.57
		25	0	1	22.60	22.42	22.49
	16QAM	1	0	1	22.34	22.02	23.33
			13	1	22.65	22.41	23.40
			24	1	22.20	21.94	22.36
		12	0	2	21.45	21.41	21.42
			6	2	21.56	21.40	21.35
			13	2	21.58	21.53	21.35
		25	0	2	21.52	21.79	21.40

Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel 23230
10MHz	QPSK	1	0	0	23.57
			25	0	**23.75**
			49	0	23.34
		25	0	1	22.60
			13	1	22.52
			25	1	22.56
		50	0	1	22.37
	16QAM	1	0	1	22.34
			25	1	23.08
			49	1	22.80
		25	0	2	21.38
			13	2	21.38
			25	2	21.47
		50	0	2	21.51

Conducted Power of LTE Band 17(dBm)							
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel	Channel	Channel
					23755	23790	23825
5MHz	QPSK	1	0	0	23.14	22.88	22.69
			13	0	**23.20**	23.01	22.91
			24	0	22.89	22.98	22.91
		12	0	1	22.10	22.09	22.16
			6	1	22.17	22.09	22.16
			13	1	22.05	22.10	22.21
		25	0	1	21.28	22.04	22.12
	16QAM	1	0	1	21.88	21.41	22.55
			13	1	21.99	21.62	23.06
			24	1	21.85	21.70	22.90
		12	0	2	21.16	21.14	21.10
			6	2	21.16	21.10	21.01
			13	2	21.13	21.12	21.09
		25	0	2	21.28	21.40	21.16
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel	Channel	Channel
					23780	23790	23800
10MHz	QPSK	1	0	0	23.10	23.02	23.03
			25	0	23.19	23.21	23.37
			49	0	22.98	23.14	23.13
		25	0	1	22.19	22.12	22.18
			13	1	22.20	22.13	22.11
			25	1	22.18	22.17	22.17
		50	0	1	22.20	22.07	22.14
	16QAM	1	0	1	22.69	22.78	22.20
			25	1	22.73	22.59	22.23
			49	1	22.11	22.73	22.20
		25	0	2	21.28	21.14	20.96
			13	2	21.30	21.08	20.99
			25	2	21.19	21.09	21.24
		50	0	2	21.21	21.16	21.15

Conducted Power of LTE Band 25(dBm)							
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel	Channel	Channel
					26047	26365	26683
1.4MHz	QPSK	1	0	0	22.35	22.41	22.59
			2	0	22.61	22.39	22.43
			5	0	22.25	22.51	22.36
		3	0	0	22.31	22.32	22.53
			1	0	22.37	22.28	22.52
			3	0	22.26	22.26	22.35
		6	0	1	21.26	21.14	21.39
	16QAM	1	0	1	21.62	21.05	21.72
			2	1	21.66	21.04	21.65
			5	1	21.56	21.14	21.37
		3	0	1	21.35	21.39	22.14
			1	1	21.33	21.38	22.1
			3	1	21.31	21.28	21.45
		6	0	2	20.22	20.22	20.17
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel	Channel	Channel
					26055	26365	26675
3MHz	QPSK	1	0	0	22.39	22.1	**22.95**
			8	0	22.3	22.2	22.85
			14	0	22.42	22.17	22.42
		8	0	1	21.31	21.23	21.55
			4	1	21.33	21.28	21.56
			7	1	21.31	21.35	21.48
		15	0	1	21.41	21.1	21.4
	16QAM	1	0	1	21.85	21.92	22.22
			8	1	21.96	22.45	21.54
			14	1	21.99	22.38	21.76
		8	0	2	20.52	20.18	20.78
			4	2	20.53	20.17	20.78
			7	2	20.5	20.18	20.71
		15	0	2	20.33	20.13	20.62

Conducted Power of LTE Band 25(dBm)							
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel	Channel	Channel
					26065	26365	26665
5MHz	QPSK	1	0	0	22.18	22	22.09
			12	0	22.35	22.1	22.34
			24	0	22.26	22.02	22.27
		12	0	1	21.37	21.2	21.55
			6	1	21.35	21.17	21.47
			13	1	21.34	21.24	21.6
		25	0	1	21.02	21.19	21.62
	16QAM	1	0	1	20.13	20.68	21.88
			12	1	21.5	21.13	22.39
			24	1	21.36	21.12	22.12
		12	0	2	20.22	20.21	20.63
			6	2	20.23	20.2	20.65
			13	2	20.4	20.34	20.76
		25	0	2	20.42	20.19	20.31
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel	Channel	Channel
					26090	26365	26640
10MHz	QPSK	1	0	0	22.38	22.39	22.36
			24	0	22.45	22.54	22.9
			49	0	22.26	22.23	22.55
		25	0	1	21.36	21.27	21.52
			12	1	21.35	21.24	21.49
			25	1	21.32	21.29	21.53
		50	0	1	21.41	21.24	21.65
	16QAM	1	0	1	21.38	21.95	21.69
			24	1	22.71	22.44	21.74
			49	1	22	22.54	21.51
		25	0	2	20.41	20.2	20.52
			12	2	20.32	20.2	20.49
			25	2	20.43	20.41	20.82
		50	0	2	20.21	20.02	20.29

Conducted Power of LTE Band 25(dBm)							
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel 26115	Channel 26365	Channel 26615
15MHz	QPSK	1	0	0	22.3	22.28	22.31
			38	0	22.33	22.48	22.42
			74	0	22.32	22.54	22.39
		38	0	1	21.38	21.24	21.56
			18	1	21.38	21.27	21.54
			37	1	21.38	21.24	21.56
		75	0	1	21.27	21.26	21.54
	16QAM	1	0	1	21.84	22.00	20.91
			38	1	22.00	22.56	22.04
			74	1	21.24	22.14	22.11
		38	0	2	20.24	20.36	20.61
			18	2	20.27	20.36	20.61
			37	2	20.36	20.39	20.61
		75	0	2	20.28	20.21	20.47
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel 26140	Channel 26365	Channel 26590
20MHz	QPSK	1	0	0	22.40	22.68	22.35
			49	0	22.64	22.69	22.31
			99	0	22.15	22.75	22.66
		50	0	1	21.42	21.29	21.42
			25	1	21.32	21.30	21.44
			50	1	21.41	21.28	21.61
		100	0	1	21.33	21.31	21.50
	16QAM	1	0	1	21.95	20.96	22.31
			49	1	22.27	21.53	22.28
			99	1	21.26	21.63	22.81
		50	0	2	20.49	20.37	20.40
			25	2	20.42	20.36	20.38
			50	2	20.45	20.46	20.66
		100	0	2	20.39	20.04	20.34

Conducted Power of LTE Band 26(dBm)							
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel 26697	Channel 26865	Channel 27033
1.4MHz	QPSK	1	0	0	23.32	23.43	23.43
			2	0	23.25	23.48	23.58
			5	0	23.51	23.43	23.56
		3	0	0	23.39	23.44	23.54
			1	0	23.31	23.43	23.61
			3	0	23.62	23.41	23.54
		6	0	1	22.31	22.33	22.52
	16QAM	1	0	1	23.00	22.68	22.75
			2	1	23.04	22.67	23.09
			5	1	23.01	22.50	23.03
		3	0	1	22.32	22.50	22.65
			1	1	22.30	22.48	22.72
			3	1	22.93	22.39	22.37
		6	0	2	21.28	21.61	21.75
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel 26705	Channel 26865	Channel 27025
3MHz	QPSK	1	0	0	23.30	23.41	23.43
			8	0	23.27	23.41	23.45
			14	0	23.65	23.36	23.50
		8	0	1	22.34	22.41	22.49
			4	1	22.34	22.34	22.51
			7	1	22.35	22.38	22.48
		15	0	1	22.37	22.40	22.82
	16QAM	1	0	1	22.95	22.69	22.69
			8	1	22.21	22.74	22.99
			14	1	22.76	22.67	23.05
		8	0	2	21.72	21.26	21.65
			4	2	21.75	21.29	21.65
			7	2	21.69	21.21	21.53
		15	0	2	21.42	21.40	21.46

Conducted Power of LTE Band 26(dBm)							
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel 26715	Channel 26865	Channel 27015
5MHz	QPSK	1	0	0	23.27	23.57	22.93
			12	0	23.25	23.29	23.54
			24	0	23.32	23.34	23.76
		12	0	1	22.68	22.68	22.89
			6	1	22.68	22.66	22.40
			13	1	22.40	22.44	22.51
		25	0	1	22.53	22.17	22.54
	16QAM	1	0	1	22.24	23.09	22.22
			12	1	21.91	22.98	22.69
			24	1	21.72	23.04	22.33
		12	0	2	21.38	21.44	21.37
			6	2	21.43	21.48	21.39
			13	2	21.52	21.34	21.56
		25	0	2	21.62	21.23	21.64
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel 26740	Channel 26865	Channel 26990
10MHz	QPSK	1	0	0	23.45	23.22	23.50
			24	0	23.69	23.37	23.55
			49	0	23.31	23.66	**23.87**
		25	0	1	22.39	22.70	22.48
			12	1	22.45	22.70	22.43
			25	1	22.80	22.46	22.57
		50	0	1	22.60	22.65	22.64
	16QAM	1	0	1	23.30	22.65	22.80
			24	1	22.98	23.23	22.86
			49	1	22.86	23.07	23.07
		25	0	2	21.54	21.26	21.54
			12	2	21.46	21.22	21.54
			25	2	21.42	21.35	21.59
		50	0	2	21.68	21.70	21.67

Conducted Power of LTE Band 26(dBm)							
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel 26765	Channel 26865	Channel 26965
15MHz	QPSK	1	0	0	23.55	23.34	23.20
			38	0	23.40	23.72	23.45
			74	0	23.26	23.47	23.50
		38	0	1	22.79	22.70	22.69
			18	1	22.76	22.68	22.67
			37	1	22.75	22.67	22.67
		75	0	1	22.35	22.76	22.74
	16QAM	1	0	1	23.05	23.47	22.20
			38	1	23.00	23.11	22.71
			74	1	22.21	22.84	23.03
		38	0	2	21.28	21.32	21.33
			18	2	21.23	21.35	21.30
			37	2	21.26	21.37	21.33
		75	0	2	21.29	21.36	21.76

Conducted Power of LTE Band 41(dBm)							
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel 39675	Channel 40620	Channel 41565
5MHz	QPSK	1	0	0	22.63	22.38	22.25
			12	0	22.30	22.49	22.29
			24	0	22.21	22.32	22.14
		12	0	1	21.40	21.48	21.59
			6	1	21.40	21.49	21.59
			13	1	21.27	21.49	21.60
		25	0	1	21.28	21.36	21.62
	16QAM	1	0	1	21.61	21.06	22.05
			12	1	21.61	21.13	22.28
			24	1	21.50	21.10	21.28
		12	0	2	20.35	20.38	20.55
			6	2	20.35	20.30	20.55
			13	2	20.34	20.29	20.52
		25	0	2	20.63	20.67	20.58
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel 39700	Channel 40620	Channel 41540
10MHz	QPSK	1	0	0	22.38	22.65	22.48
			24	0	22.46	22.60	22.45
			49	0	22.58	22.71	22.40
		25	0	1	21.32	21.53	21.62
			12	1	21.31	21.53	21.62
			25	1	21.24	21.62	21.60
		50	0	1	21.25	21.41	21.63
	16QAM	1	0	1	21.80	21.56	21.68
			24	1	21.73	21.80	22.55
			49	1	21.62	21.61	22.11
		25	0	2	20.42	20.51	20.77
			12	2	20.42	20.51	20.77
			25	2	20.30	20.62	20.72
		50	0	2	20.39	20.75	20.50

Conducted Power of LTE Band 41(dBm)							
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel 39725	Channel 40620	Channel 41515
15MHz	QPSK	1	0	0	22.40	22.74	22.59
			37	0	22.36	22.62	22.54
			74	0	22.52	22.82	22.51
		37	0	1	21.20	21.47	21.64
			19	1	21.20	21.47	21.64
			38	1	21.20	21.47	21.64
		75	0	1	21.31	21.42	21.74
	16QAM	1	0	1	21.84	22.07	21.84
			37	1	21.38	21.91	21.74
			74	1	21.41	22.10	21.75
		37	0	2	20.45	20.41	20.67
			19	2	20.45	20.42	20.67
			38	2	20.45	20.43	20.68
		75	0	2	20.16	20.57	20.63
Bandwidth	Modulation	RB size	RB offset	Target MPR	Channel 39750	Channel 40620	Channel 41490
20MHz	QPSK	1	0	0	22.20	22.55	22.75
			49	0	22.62	**22.94**	22.70
			99	0	22.31	22.60	22.64
		50	0	1	21.25	21.59	21.70
			25	1	21.25	21.59	21.71
			50	1	21.41	21.73	21.63
		100	0	1	21.44	21.62	21.88
	16QAM	1	0	1	22.32	21.30	22.61
			49	1	22.18	21.27	22.58
			99	1	22.11	21.45	22.44
		50	0	2	20.42	20.62	20.76
			25	2	20.42	20.54	20.69
			50	2	20.53	20.66	20.65
		100	0	2	20.37	20.48	20.63

The following tests were conducted according to the test requirements outlined in section 6.2 of the 3GPP TS36.101 specification.
UE Power Class: 3 (23 +/- 2dBm). The allowed Maximum Power Reduction (MPR) for the maximum output power due to higher order modulation and transmit bandwidth configuration (resource blocks) is specified in Table 6.2.3.3-1 of the 3GPP TS36.101.

Table 6.2.3.3-1 Maximum Power Reduction (MPR) for Power class3

Modulation	Maximum Power Reduction (MPR) for Power[RB]						MPR(dB)
	1.4MHz	3MHz	5MHz	10MHz	15MHz	20MHz	
QPSK	＞5	＞4	＞8	＞12	＞16	＞18	≤1
16QAM	≤5	≤4	≤8	≤12	≤16	≤18	≤1
16QAM	＞5	＞4	＞8	＞12	＞16	＞18	≤2

The allowed A-MPR values specified below in Table 6.2.4.3-1 of 3GPP TS36.101 are in addition to the allowed MPR requirements. All the measurements below were performed with A-MPR disabled, by using Network Signaling Value of “NS_01”.3

Table 6.2.4.3-1: Additional Maximum Power Reduction (A-MPR) / Spectrum Emission requirements

Network Signaling value	Requirements (sub-clause)	E-UTRA Band	Channel bandwidth (MHz)	Resources Blocks (N_{RB})	A-MPR (dB)
NS_01	6.6.2.1.1	Table 5.2-1	1.4,3,5,10,15,20	Table 5.4.2-1	N/A
NS_03	6.6.2.2.3.1	2,4,10, 23, 25,35,36	3	>5	≤ 1
			5	>6	≤ 1
			10	>6	≤ 1
			15	>8	≤ 1
			20	>10	≤ 1
NS_04	6.6.2.2.3.2	41	5	>6	≤1
			10, 15, 20	Table 6.2.4.3-4	
NS_05	6.6.3.3.3.1	1	10,15,20	≥ 50	≤ 1
NS_06	6.6.2.2.3.3	12, 13, 14, 17	1.4, 3, 5, 10	Table 5.4.2-1	N/A
NS_07	6.6.2.2.3.3 6.6.3.3.3.2	13	10	Table 6.2.4.3-2	Table 6.2.4.3-2
NS_08	6.6.3.3.3.3	19	10, 15	> 44	≤ 3
NS_09	6.6.3.3.3.4	21	10, 15	> 40	≤ 1
				> 55	≤ 2
NS_10		20	15, 20	Table 6.2.4.3-3	Table 6.2.4.3-3
NS_11	6.6.2.2.1 6.6.3.3.13	231	1.4, 3, 5, 10,15,20	Table 6.2.4.3-5	Table 6.2.4.3-5
NS_12	6.6.3.3.5	26	1.4, 3, 5	Table 6.2.4.3-6	Table 6.2.4.3-6
NS_13	6.6.3.3.6	26	5	Table 6.2.4.3-7	Table 6.2.4.3-7
NS_14	6.6.3.3.7	26	10, 15	Table 6.2.4.3-8	Table 6.2.4.3-8
NS_15	6.6.3.3.8	26	1.4, 3, 5, 10, 15	Table 6.2.4.3-9 Table 6.2.4.3-10	Table 6.2.4.3-9, Table 6.2.4.3-10
NS_16	6.6.3.3.9	27	3, 5, 10	Table 6.2.4.3-11, Table 6.2.4.3-12, Table 6.2.4.3-13	
NS_17	6.6.3.3.10 6.6.3.3.11	28 28	5, 10	Table 5.4.2-1	N/A
			5	≥ 2	≤ 1
NS_18			10, 15, 20	≥ 1	≤ 4
NS_19			10, 15, 20	Table 6.2.4.3-15	Table 6.2.4.3-15
NS_20			5, 10, 15, 20	Table 6.2.4.3-14	Table 6.2.4.3-14
…					
NS_20	-	-	-	-	-

WIFI

Mode	Data Rate (Mbps)	Channel	Frequency(MHz)	Avg. Burst Power(dBm)
802.11b	1	01	2412	12.21
		06	2437	11.76
		11	2462	12.02
802.11g	6	01	2412	**12.75**
		06	2437	10.23
		11	2462	12.14
802.11n(20)	6.5	01	2412	12.21
		06	2437	11.11
		11	2462	11.94
802.11n(40)	13.5	03	2422	9.52
		06	2437	9.68
		09	2452	9.82

Bluetooth_V4.2(BR/EDR)

Modulation	Channel	Frequency(MHz)	Peak Power (dBm)
GFSK	0	2402	-1.95
	39	2441	0.10
	78	2480	1.08
π /4-DQPSK	0	2402	-0.14
	39	2441	1.98
	78	2480	3.02
8-DPSK	0	2402	0.12
	39	2441	2.23
	78	2480	**3.43**

Bluetooth_V4.2(BLE)

Modulation	Channel	Frequency(MHz)	Peak Power (dBm)
GFSK	0	2402	-5.70
	19	2440	-3.62
	39	2480	**-2.41**

5GHz WIFI

Mode	channel	Frequency	Power(dBm)
			Data Rate(bps)
			6M
802.11a	36	5180	8.51
	40	5200	10.33
	48	5240	**12.06**
			MCS0
802.11n (20)	36	5180	8.39
	40	5200	10.09
	48	5240	11.84
			MCS0
802.11n (40)	38	5190	5.13
	46	5230	6.76
			MCS0
802.11ac (20)	36	5180	8.31
	40	5200	10.01
	48	5240	11.78
			MCS0
802.11ac (40)	38	5190	5.07
	46	5230	6.74
			MCS0
802.11ac (80)	42	5210	5.77

13. TEST RESULTS

13.1. SAR Test Results Summary

13.1.1. Test position and configuration

Head SAR was performed with the device configured in the positions according to IEEE 1528-2013, Body-worn and 4 Edges SAR was performed with the device 10mm from the phantom.

13.1.2. Operation Mode

1. Per KDB 447498 D01 v06 ,for each exposure position, if the highest 1-g SAR is ≤ 0.8 W/kg, testing for low and high channel is optional.
2. Per KDB 865664 D01 v01r04,for each frequency band, if the measured SAR is ≥0.8W/kg, testing for repeated SAR measurement is required , that the highest measured SAR is only to be tested. When the SAR results are near the limit, the following procedures are required for each device to verify these types of SAR measurement related variation concerns by repeating the highest measured SAR configuration in each frequency band.
   (1) When the original highest measured SAR is ≥0.8W/kg, repeat that measurement once.
   (2) Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is >1.20 or when the original or repeated measurement is ≥1.45 W/kg.
   (3) Perform a third repeated measurement only if the original, first and second repeated measurement is ≥1.5 W/kg and ratio of largest to smallest SAR for the original, first and second measurement is ≥ 1.20.
3. Body-worn exposure conditions are intended to voice call operations, therefore GSM voice call mode is selected to be test.
4. Per KDB 648474 D04 v01r03,when the reported SAR for a body-worn accessory measured without a headset connected to the handset is ≤1.2W/kg, SAR testing with a headset connected is not required.
5. Per KDB 248227 D01v02r02,for 2.4GHz 802.11g/n SAR testing is not required when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤1.2W/kg.
6. Per KDB 941225 D06 V02r01, When the same wireless mode transmission configurations for voice and data are required for SAR measurements, the more conservative configuration with a smaller separation distance should be tested for the overlapping SAR configurations.
7. Maximum Scaling SAR in order to calculate the Maximum SAR values to test under the standard Peak Power, Calculation method is as follows:
   Maximum Scaling SAR =tested SAR (Max.) ×[maximum turn-up power (mw)/ maximum measurement output power(mw)]
8. Proximity sensor, just for avoiding the wrong operation in the phone screen when call, and has no influence on output power or SAR result
9. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1RB allocation using the RB offset and required test channel combination with highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
10. Per KDB 941125 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
11. Per KDB 941125 D05v02r05. 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

1RB allocation and the highest reported SAR is >1.45 W/kg, the remaining required test channels must also be tested.

12. Per KDB 941125 D05v02r05. 16QAM output power for each RB allocation configuration is not 1/2 dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤1.45W/kg, Per KDB 941225 D05v02r05, 16QAM SAR testing is not required.
13. Per KDB 941125 D05v02r05. Smaller bandwidth output power for each RB allocation configuration is >not 1/2 dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤1.45W/kg. Per KDB 941125 D05v02r03, smaller bandwidth SAR testing is not required.

13.1.3. Test Result

SAR MEASUREMENT									
Depth of Liquid (cm):>15			Relative Humidity (%): 50.8						
Product: Pro[1] X									
Test Mode: GSM850 with GMSK modulation									
Position	**Mode**	**Ch.**	**Fr. (MHz)**	**Power Drift (<±0.2 dB)**	**SAR (1g) (W/kg)**	**Max. Tune-up Power (dBm)**	**Meas. output Power (dBm)**	**Scaled SAR (W/kg)**	**Limit (W/kg)**
SIM 1 Card									
Left Cheek	voice	190	836.6	-0.04	0.077	33.40	33.28	0.079	1.6
Left Tilt	voice	190	836.6	-0.13	0.073	33.40	33.28	0.075	1.6
Right Cheek	voice	190	836.6	0.11	**0.091**	33.40	33.28	**0.094**	1.6
Right Tilt	voice	190	836.6	-0.14	0.051	33.40	33.28	0.052	1.6
Body back	voice	190	836.6	-0.15	0.024	33.40	33.28	0.025	1.6
Body front	voice	190	836.6	0.12	0.028	33.40	33.28	0.029	1.6
Edge 2(Right)	voice	190	836.6	0.15	0.013	33.40	33.28	0.013	1.6
Edge 3(Bottom)	voice	190	836.6	0.04	**0.126**	33.40	33.28	**0.130**	1.6
Edge 4(Left)	voice	190	836.6	0.07	0.108	33.40	33.28	0.111	1.6
Slip cover Edge 3	voice	190	836.6	-0.10	0.095	33.40	33.28	0.098	1.6

Note:
· When the 1-g Reported SAR is ≤ 0.8 W/kg, testing for low and high channel is optional. Refer to KDB 447498.
·The test separation for body back, body front and 4 Edges is 10mm of all above table.

SAR MEASUREMENT									
Depth of Liquid (cm):>15				Relative Humidity (%): 51.7					
Product: Pro[1] X									
Test Mode: PCS1900 with GMSK modulation									
Position	**Mode**	**Ch.**	**Fr. (MHz)**	**Power Drift (<±0.2 dB)**	**SAR (1g) (W/kg)**	**Max. Tune-up Power (dBm)**	**Meas. output Power (dBm)**	**Scaled SAR (W/kg)**	**Limit (W/kg)**
SIM 1 Card									
Left Cheek	voice	661	1880.0	0.10	0.101	29.80	29.59	0.106	1.6
Left Tilt	voice	661	1880.0	-0.09	0.058	29.80	29.59	0.061	1.6
Right Cheek	voice	661	1880.0	0.11	**0.150**	29.80	29.59	**0.157**	1.6
Right Tilt	voice	661	1880.0	0.01	0.069	29.80	29.59	0.072	1.6
Body back	voice	661	1880.0	0.12	0.060	29.80	29.59	0.063	1.6
Body front	voice	661	1880.0	0.14	0.036	29.80	29.59	0.038	1.6
Edge 2(Right)	voice	661	1880.0	-0.17	0.181	29.80	29.59	0.190	1.6
Edge 3(Bottom)	voice	661	1880.0	-0.12	**0.401**	29.80	29.59	**0.421**	1.6
Edge 4(Left)	voice	661	1880.0	-0.19	0.031	29.80	29.59	0.033	1.6
Slip cover Edge 3	voice	661	1880.0	-0.15	0.375	29.80	29.59	0.394	1.6

Note:
· When the 1-g Reported SAR is ≤ 0.8 W/kg, testing for low and high channel is optional. Refer to KDB 447498.
·The test separation for body back, body front and 4 Edges is 10mm of all above table.

SAR MEASUREMENT									
Depth of Liquid (cm):>15				Relative Humidity (%): 51.7					
Product: Pro[1] X									
Test Mode: WCDMA Band II with QPSK modulation									
Position	**Mode**	**Ch.**	**Fr. (MHz)**	**Power Drift (<±0.2 dB)**	**SAR (1g) (W/kg)**	**Max. Tune-up Power (dBm)**	**Meas. output Power (dBm)**	**Scaled SAR (W/kg)**	**Limit (W/kg)**
Left Cheek	RMC 12.2kbps	9400	1880	0.13	0.129	22.40	22.20	0.135	1.6
Left Tilt	RMC 12.2kbps	9400	1880	0.18	0.081	22.40	22.20	0.085	1.6
Right Cheek	RMC 12.2kbps	9400	1880	0.15	**0.185**	22.40	22.20	**0.194**	1.6
Right Tilt	RMC 12.2kbps	9400	1880	0.14	0.080	22.40	22.20	0.084	1.6
Body back	RMC 12.2kbps	9400	1880	-0.05	0.182	22.40	22.20	0.191	1.6
Body front	RMC 12.2kbps	9400	1880	0.11	0.135	22.40	22.20	0.141	1.6
Edge 2(Right)	RMC 12.2kbps	9400	1880	0.12	0.178	22.40	22.20	0.186	1.6
Edge 3(Bottom)	RMC 12.2kbps	9400	1880	-0.11	**0.484**	22.40	22.20	**0.507**	1.6
Edge 4(Left)	RMC 12.2kbps	9400	1880	0.16	0.039	22.40	22.20	0.041	1.6
Slip cover Edge 3	RMC 12.2kbps	9400	1880	-0.12	0.471	22.40	22.20	0.493	1.6

Note:
· When the 1-g Reported SAR is ≤ 0.8 W/kg, testing for low and high channel is optional. Refer to KDB 447498.
·The test separation for body back, body front and 4 Edges is 10mm of all above table.

SAR MEASUREMENT									
Depth of Liquid (cm):>15				Relative Humidity (%): 48.3					
Product: Pro[1] X									
Test Mode: WCDMA Band IV with QPSK modulation									
Position	**Mode**	**Ch.**	**Fr. (MHz)**	**Power Drift (<±0.2 dB)**	**SAR (1g) (W/kg)**	**Max. Tune-up Power (dBm)**	**Meas. output Power (dBm)**	**Scaled SAR (W/kg)**	**Limit (W/kg)**
Left Cheek	RMC 12.2kbps	8662	1732.4	0.18	0.021	22.60	21.83	0.025	1.6
Left Tilt	RMC 12.2kbps	8662	1732.4	0.16	0.030	22.60	21.83	0.036	1.6
Right Cheek	RMC 12.2kbps	8662	1732.4	0.14	**0.061**	22.60	21.83	**0.073**	1.6
Right Tilt	RMC 12.2kbps	8662	1732.4	0.02	0.045	22.60	21.83	0.054	1.6
Body back	RMC 12.2kbps	8662	1732.4	-0.15	0.128	22.60	21.83	0.153	1.6
Body front	RMC 12.2kbps	8662	1732.4	0.13	0.038	22.60	21.83	0.045	1.6
Edge 2(Right)	RMC 12.2kbps	8662	1732.4	-0.10	0.071	22.60	21.83	0.085	1.6
Edge 3(Bottom)	RMC 12.2kbps	8662	1732.4	0.11	**0.300**	22.60	21.83	**0.358**	1.6
Edge 4(Left)	RMC 12.2kbps	8662	1732.4	0.12	0.014	22.60	21.83	0.017	1.6
Slip cover Edge 3	RMC 12.2kbps	8662	1732.4	0.17	0.289	22.60	21.83	0.345	1.6

Note:
· When the 1-g Reported SAR is ≤ 0.8 W/kg, testing for low and high channel is optional. Refer to KDB 447498.
·The test separation for body back, body front and 4 Edges is 10mm of all above table.

SAR MEASUREMENT									
Depth of Liquid (cm):>15				Relative Humidity (%): 50.8					
Product: Pro[1] X									
Test Mode: WCDMA Band V with QPSK modulation									
Position	**Mode**	**Ch.**	**Fr. (MHz)**	**Power Drift (<±0.2 dB)**	**SAR (1g) (W/kg)**	**Max. Tune-up Power (dBm)**	**Meas. output Power (dBm)**	**Scaled SAR (W/kg)**	**Limit (W/kg)**
Left Cheek	RMC 12.2kbps	4183	836.6	0.19	**0.033**	22.60	22.11	**0.037**	1.6
Left Tilt	RMC 12.2kbps	4183	836.6	0.16	0.019	22.60	22.11	0.021	1.6
Right Cheek	RMC 12.2kbps	4183	836.6	-0.17	0.027	22.60	22.11	0.030	1.6
Right Tilt	RMC 12.2kbps	4183	836.6	0.18	0.018	22.60	22.11	0.020	1.6
Body back	RMC 12.2kbps	4183	836.6	0.13	**0.066**	22.60	22.11	**0.074**	1.6
Body front	RMC 12.2kbps	4183	836.6	-0.14	0.034	22.60	22.11	0.038	1.6
Edge 2(Right)	RMC 12.2kbps	4183	836.6	0.10	0.049	22.60	22.11	0.055	1.6
Edge 3(Bottom)	RMC 12.2kbps	4183	836.6	0.15	0.025	22.60	22.11	0.028	1.6
Edge 4(Left)	RMC 12.2kbps	4183	836.6	0.16	0.060	22.60	22.11	0.067	1.6
Slip cover Edge 3	RMC 12.2kbps	4183	836.6	0.15	0.025	22.60	22.11	0.028	1.6

Note:
· When the 1-g Reported SAR is ≤ 0.8 W/kg, testing for low and high channel is optional. Refer to KDB 447498.
·The test separation for body back, body front and 4 Edges is 10mm of all above table.

SAR MEASUREMENT									
Depth of Liquid (cm):>15				Relative Humidity (%): 50.8					
Product: Pro[1] X									
Test Mode: CDMA BAND 0 with 1xRTT modulation									
Position	**Mode**	**Ch.**	**Fr. (MHz)**	**Power Drift (<±0.2 dB)**	**SAR (1g) (W/kg)**	**Max. Tune-up Power (dBm)**	**Meas. output Power (dBm)**	**Scaled SAR (W/kg)**	**Limit (W/kg)**
Left Cheek	1xRTT	384	836.52	0.07	0.141	24.40	24.30	0.144	1.6
Left Tilt	1xRTT	384	836.52	-0.04	0.077	24.40	24.30	0.079	1.6
Right Cheek	1xRTT	384	836.52	-0.03	**0.151**	24.40	24.30	**0.155**	1.6
Right Tilt	1xRTT	384	836.52	-0.05	0.080	24.40	24.30	0.082	1.6
Body back	1xRTT	384	836.52	0.05	0.171	24.40	24.30	0.175	1.6
Body front	1xRTT	384	836.52	0.17	0.088	24.40	24.30	0.090	1.6
Edge 2(Right)	1xRTT	384	836.52	-0.14	**0.216**	24.40	24.30	**0.221**	1.6
Edge 3(Bottom)	1xRTT	384	836.52	-0.14	0.051	24.40	24.30	0.052	1.6
Edge 4(Left)	1xRTT	384	836.52	-0.02	0.203	24.40	24.30	0.208	1.6
Slip cover Edge 3	1xRTT	384	836.52	-0.17	0.054	24.40	24.30	0.055	1.6

Note:
· When the 1-g Reported SAR is ≤ 0.8 W/kg, testing for low and high channel is optional. Refer to KDB 447498.
·The test separation for body back, body front and 4 Edges is 10mm of all above table.

SAR MEASUREMENT									
Depth of Liquid (cm):>15				Relative Humidity (%): 51.7					
Product: Pro[1] X									
Test Mode: CDMA BAND 1 with 1xRTT modulation									
Position	**Mode**	**Ch.**	**Fr. (MHz)**	**Power Drift (<±0.2 dB)**	**SAR (1g) (W/kg)**	**Max. Tune-up Power (dBm)**	**Meas. output Power (dBm)**	**Scaled SAR (W/kg)**	**Limit (W/kg)**
Left Cheek	1xRTT	600	1880	-0.07	0.121	24.50	24.40	0.124	1.6
Left Tilt	1xRTT	600	1880	0.11	0.102	24.50	24.40	0.104	1.6
Right Cheek	1xRTT	600	1880	-0.02	**0.242**	24.50	24.40	**0.248**	1.6
Right Tilt	1xRTT	600	1880	0.08	0.125	24.50	24.40	0.128	1.6
Body back	1xRTT	600	1880	0.15	0.177	24.50	24.40	0.181	1.6
Body front	1xRTT	600	1880	0.19	0.132	24.50	24.40	0.135	1.6
Edge 2(Right)	1xRTT	600	1880	0.11	0.186	24.50	24.40	0.190	1.6
Edge 3(Bottom)	1xRTT	600	1880	0.07	**0.192**	24.50	24.40	**0.196**	1.6
Edge 4(Left)	1xRTT	600	1880	0.16	0.084	24.50	24.40	0.086	1.6
Slip cover Edge 3	1xRTT	600	1880	0.08	0.186	24.50	24.40	0.190	1.6

Note:
· When the 1-g Reported SAR is ≤ 0.8 W/kg, testing for low and high channel is optional. Refer to KDB 447498.
·The test separation for body back, body front and 4 Edges is 10mm of all above table.

SAR MEASUREMENT												
Depth of Liquid (cm):>15					Relative Humidity (%): 51.2							
Product: Pro[1] X												
Test Mode: LTE Band 2												
BM MHz	MOD	Position	Test Mode		Ch.	Freq. (MHz)	Power Drift (<±0.2 dB)	SAR (1g) (W/kg)	Max. Tune up Power (dBm)	Meas. output Power (dBm)	Scaled SAR (W/kg)	Limit (W/kg)
			UL RB Allocation	UL RB Allocation								
20	QPSK	Left Cheek	1	0	18900	1880	0.19	0.028	23.10	21.41	0.041	1.6
		Left Tilt	1	0	18900	1880	0.12	0.021	23.10	21.41	0.031	1.6
		Right Cheek	1	0	18900	1880	0.18	**0.103**	23.10	21.41	**0.152**	1.6
		Right Tilt	1	0	18900	1880	0.16	0.024	23.10	21.41	0.035	1.6
		Body back	1	0	18900	1880	0.18	0.187	23.10	21.41	0.276	1.6
		Body front	1	0	18900	1880	0.05	0.125	23.10	21.41	0.184	1.6
		Edge 2(Right)	1	0	18900	1880	0.13	0.168	23.10	21.41	0.248	1.6
		Edge 3(Bottom)	1	0	18900	1880	0.08	**0.356**	23.10	21.41	**0.525**	1.6
		Edge 4(Left)	1	0	18900	1880	0.02	0.011	23.10	21.41	0.016	1.6
		Slip cover Edge 3	1	0	18900	1880	0.12	0.342	23.10	21.41	0.505	1.6

Note:
· When the 1-g Reported SAR is ≤ 0.8 W/kg, testing for low and high channel is optional. Refer to KDB 447498.
·The test separation for body back, body front and 4 Edges is 10mm of all above table.

SAR MEASUREMENT												
Depth of Liquid (cm):>15				Relative Humidity (%): 48.3								
Product: Pro[1] X												
Test Mode: LTE Band 4												
BM MHz	MOD	Position	Test Mode		Ch.	Freq. (MHz)	Power Drift (<±0.2 dB)	SAR (1g) (W/kg)	Max. Tuneup Power (dBm)	Meas. output Power (dBm)	Scaled SAR (W/kg)	Limit (W/kg)
			UL RB Allocation	UL RB START								
20	QPSK	Left Cheek	1	0	20175	1732.5	0.10	0.040	23.30	23.20	0.041	1.6
		Left Tilt	1	0	20175	1732.5	0.19	0.034	23.30	23.20	0.035	1.6
		Right Cheek	1	0	20175	1732.5	0.11	**0.070**	23.30	23.20	**0.072**	1.6
		Right Tilt	1	0	20175	1732.5	0.10	0.051	23.30	23.20	0.052	1.6
		Body back	1	0	20175	1732.5	-0.18	0.174	23.30	23.20	0.178	1.6
		Body front	1	0	20175	1732.5	0.19	0.057	23.30	23.20	0.058	1.6
		Edge 2(Right)	1	0	20175	1732.5	0.14	0.105	23.30	23.20	0.107	1.6
		Edge 3(Bottom)	1	0	20175	1732.5	0.14	**0.306**	23.30	23.20	**0.313**	1.6
		Edge 4(Left)	1	0	20175	1732.5	0.19	0.026	23.30	23.20	0.027	1.6
		Slip cover Edge 3	1	0	20175	1732.5	0.12	0.286	23.30	23.20	0.293	1.6

Note:
· When the 1-g Reported SAR is ≤ 0.8 W/kg, testing for low and high channel is optional. Refer to KDB 447498.
·The test separation for body back, body front and 4 Edges is 10mm of all above table.

SAR MEASUREMENT												
Depth of Liquid (cm):>15					Relative Humidity (%): 51.7							
Product: Pro[1] X												
Test Mode: LTE Band 5												
BM MHz	MOD	Position	Test Mode		Ch.	Freq. (MHz)	Power Drift (<±0.2 dB)	SAR (1g) (W/kg)	Max. Tuneup Power (dBm)	Meas. output Power (dBm)	Scaled SAR (W/kg)	Limit (W/kg)
			UL RB Allocation	UL RB START								
10	QPSK	Left Cheek	1	0	20525	836.5	0.14	0.006	23.60	23.05	0.007	1.6
		Left Tilt	1	0	20525	836.5	0.06	0.003	23.60	23.05	0.003	1.6
		Right Cheek	1	0	20525	836.5	0.15	**0.016**	23.60	23.05	**0.018**	1.6
		Right Tilt	1	0	20525	836.5	-0.16	0.004	23.60	23.05	0.005	1.6
		Body back	1	0	20525	836.5	-0.02	0.037	23.60	23.05	0.042	1.6
		Body front	1	0	20525	836.5	0.04	0.017	23.60	23.05	0.019	1.6
		Edge 2(Right)	1	0	20525	836.5	0.10	0.025	23.60	23.05	0.028	1.6
		Edge 3(Bottom)	1	0	20525	836.5	0.17	**0.049**	23.60	23.05	**0.056**	1.6
		Edge 4(Left)	1	0	20525	836.5	0.13	0.035	23.60	23.05	0.040	1.6
		Slip cover Edge 3	1	0	20525	836.5	0.07	0.044	23.60	23.05	0.050	1.6

Note:
· When the 1-g Reported SAR is ≤ 0.8 W/kg, testing for low and high channel is optional. Refer to KDB 447498.
·The test separation for body back, body front and 4 Edges is 10mm of all above table.

SAR MEASUREMENT												
Depth of Liquid (cm):>15				Relative Humidity (%): 47.1								
Product: Pro[1] X												
Test Mode: LTE Band 7												
BM MHz	MOD	Position	Test Mode		Ch.	Freq. (MHz)	Power Drift (<±0.2 dB)	SAR (1g) (W/kg)	Max. Tuneup Power (dBm)	Meas. output Power (dBm)	Scaled SAR (W/kg)	Limit (W/kg)
			UL RB Allocation	UL RB START								
20	QPSK	Left Cheek	1	0	21100	2535	-0.18	0.054	20.50	18.66	0.082	1.6
		Left Tilt	1	0	21100	2535	0.12	0.032	20.50	18.66	0.049	1.6
		Right Cheek	1	0	21100	2535	-0.10	**0.090**	20.50	18.66	**0.137**	1.6
		Right Tilt	1	0	21100	2535	-0.10	0.072	20.50	18.66	0.110	1.6
		Body back	1	0	21100	2535	-0.15	0.255	20.50	18.66	0.390	1.6
		Body front	1	0	21100	2535	-0.05	0.283	20.50	18.66	0.432	1.6
		Edge 2(Right)	1	0	21100	2535	-0.15	0.015	20.50	18.66	0.023	1.6
		Edge 3(Bottom)	1	0	21100	2535	0.01	**0.487**	20.50	18.66	**0.744**	1.6
		Edge 4(Left)	1	0	21100	2535	-0.15	0.257	20.50	18.66	0.393	1.6
		Slip cover Edge 3	1	0	21100	2535	0.08	0.481	20.50	18.66	0.735	1.6

Note:
· When the 1-g Reported SAR is ≤ 0.8 W/kg, testing for low and high channel is optional. Refer to KDB 447498.
·The test separation for body back, body front and 4 Edges is 10mm of all above table.

SAR MEASUREMENT												
Depth of Liquid (cm):>15				Relative Humidity (%): 50.5								
Product: Pro[1] X												
Test Mode: LTE Band 12												
BM MHz	MOD	Position	Test Mode		Ch.	Freq. (MHz)	Power Drift (<±0.2 dB)	SAR (1g) (W/kg)	Max. Tuneup Power (dBm)	Meas. output Power (dBm)	Scaled SAR (W/kg)	Limit (W/kg)
			UL RB Allocation	UL RB START								
10	QPSK	Left Cheek	1	0	23095	707.5	0.10	**0.037**	23.80	23.18	**0.043**	1.6
		Left Tilt	1	0	23095	707.5	0.16	0.010	23.80	23.18	0.012	1.6
		Right Cheek	1	0	23095	707.5	0.07	0.013	23.80	23.18	0.015	1.6
		Right Tilt	1	0	23095	707.5	0.18	0.011	23.80	23.18	0.013	1.6
		Body back	1	0	23095	707.5	0.16	0.080	23.80	23.18	0.092	1.6
		Body front	1	0	23095	707.5	0.18	0.024	23.80	23.18	0.028	1.6
		Edge 2(Right)	1	0	23095	707.5	0.18	0.032	23.80	23.18	0.037	1.6
		Edge 3(Bottom)	1	0	23095	707.5	0.12	0.095	23.80	23.18	0.110	1.6
		Edge 4(Left)	1	0	23095	707.5	0.13	**0.096**	23.80	23.18	**0.111**	1.6
		Slip cover Edge 3	1	0	23095	707.5	0.14	0.090	23.80	23.18	0.104	1.6

Note:
· When the 1-g Reported SAR is ≤ 0.8 W/kg, testing for low and high channel is optional. Refer to KDB 447498.
·The test separation for body back, body front and 4 Edges is 10mm of all above table.

SAR MEASUREMENT												
Depth of Liquid (cm):>15				Relative Humidity (%): 50.5								
Product: Pro[1] X												
Test Mode: LTE Band 13												
BM MHz	MOD	Position	Test Mode		Ch.	Freq. (MHz)	Power Drift (<±0.2 dB)	SAR (1g) (W/kg)	Max. Tuneup Power (dBm)	Meas. output Power (dBm)	Scaled SAR (W/kg)	Limit (W/kg)
			UL RB Allocation	UL RB START								
10	QPSK	Left Cheek	1	0	23230	782	0.07	0.046	23.80	23.57	0.049	1.6
		Left Tilt	1	0	23230	782	-0.15	0.014	23.80	23.57	0.015	1.6
		Right Cheek	1	0	23230	782	0.01	**0.073**	23.80	23.57	**0.077**	1.6
		Right Tilt	1	0	23230	782	0.02	0.039	23.80	23.57	0.041	1.6
		Body back	1	0	23230	782	0.14	**0.115**	23.80	23.57	**0.121**	1.6
		Body front	1	0	23230	782	0.03	0.061	23.80	23.57	0.064	1.6
		Edge 2(Right)	1	0	23230	782	-0.15	0.012	23.80	23.57	0.013	1.6
		Edge 3(Bottom)	1	0	23230	782	-0.14	0.058	23.80	23.57	0.061	1.6
		Edge 4(Left)	1	0	23230	782	0.03	0.079	23.80	23.57	0.083	1.6
		Slip cover Edge 3	1	0	23230	782	-0.12	0.055	23.80	23.57	0.058	1.6

Note:
· When the 1-g Reported SAR is ≤ 0.8 W/kg, testing for low and high channel is optional. Refer to KDB 447498.
·The test separation for body back, body front and 4 Edges is 10mm of all above table.

SAR MEASUREMENT												
Depth of Liquid (cm):>15				Relative Humidity (%): 50.5								
Product: Pro[1] X												
Test Mode: LTE Band 17												
BM MHz	MOD	Position	Test Mode		Ch.	Freq. (MHz)	Power Drift (<±0.2 dB)	SAR (1g) (W/kg)	Max. Tuneup Power (dBm)	Meas. output Power (dBm)	Scaled SAR (W/kg)	Limit (W/kg)
			UL RB Allocation	UL RB START								
10	QPSK	Left Cheek	1	0	23790	710	0.17	0.068	23.20	23.02	0.071	1.6
		Left Tilt	1	0	23790	710	-0.02	0.001	23.20	23.02	0.001	1.6
		Right Cheek	1	0	23790	710	0.04	**0.089**	23.20	23.02	**0.093**	1.6
		Right Tilt	1	0	23790	710	0.02	0.045	23.20	23.02	0.047	1.6
		Body back	1	0	23790	710	-0.13	**0.279**	23.20	23.02	**0.291**	1.6
		Body front	1	0	23790	710	-0.12	0.158	23.20	23.02	0.165	1.6
		Edge 2(Right)	1	0	23790	710	0.09	0.065	23.20	23.02	0.068	1.6
		Edge 3(Bottom)	1	0	23790	710	0.15	0.085	23.20	23.02	0.089	1.6
		Edge 4(Left)	1	0	23790	710	0.19	0.069	23.20	23.02	0.072	1.6
		Slip cover Edge 3	1	0	23790	710	0.12	0.082	23.20	23.02	0.085	1.6

Note:
· When the 1-g Reported SAR is ≤ 0.8 W/kg, testing for low and high channel is optional. Refer to KDB 447498.
·The test separation for body back, body front and 4 Edges is 10mm of all above table.

SAR MEASUREMENT												
Depth of Liquid (cm):>15				Relative Humidity (%): 51.2								
Product: Pro[1] X												
Test Mode: LTE Band 25												
BM MHz	MOD	Position	Test Mode		Ch.	Freq. (MHz)	Power Drift (<±0.2 dB)	SAR (1g) (W/kg)	Max. Tuneup Power (dBm)	Meas. output Power (dBm)	Scaled SAR (W/kg)	Limit (W/kg)
			UL RB Allocation	UL RB START								
20	QPSK	Left Cheek	1	0	26365	1882.5	0.10	**0.077**	23.00	22.68	**0.083**	1.6
		Left Tilt	1	0	26365	1882.5	0.14	0.019	23.00	22.68	0.020	1.6
		Right Cheek	1	0	26365	1882.5	0.12	0.046	23.00	22.68	0.050	1.6
		Right Tilt	1	0	26365	1882.5	0.19	0.025	23.00	22.68	0.027	1.6
		Body back	1	0	26365	1882.5	-0.12	**0.179**	23.00	22.68	**0.193**	1.6
		Body front	1	0	26365	1882.5	-0.09	0.118	23.00	22.68	0.127	1.6
		Edge 2(Right)	1	0	26365	1882.5	0.18	0.012	23.00	22.68	0.013	1.6
		Edge 3(Bottom)	1	0	26365	1882.5	0.15	0.072	23.00	22.68	0.078	1.6
		Edge 4(Left)	1	0	26365	1882.5	-0.07	0.074	23.00	22.68	0.080	1.6
		Slip cover Edge 3	1	0	26365	1882.5	0.06	0.074	23.00	22.68	0.080	1.6

Note:
· When the 1-g Reported SAR is ≤ 0.8 W/kg, testing for low and high channel is optional. Refer to KDB 447498.
·The test separation for body back, body front and 4 Edges is 10mm of all above table.

SAR MEASUREMENT												
Depth of Liquid (cm):>15				Relative Humidity (%): 51.7								
Product: Pro[1] X												
Test Mode: LTE Band 26												
BM MHz	MOD	Position	Test Mode		Ch.	Freq. (MHz)	Power Drift (<±0.2 dB)	SAR (1g) (W/kg)	Max. Tuneup Power (dBm)	Meas. output Power (dBm)	Scaled SAR (W/kg)	Limit (W/kg)
			UL RB Allocation	UL RB START								
15	QPSK	Left Cheek	1	0	26915	831.5	0.17	0.132	23.90	23.34	0.150	1.6
		Left Tilt	1	0	26915	831.5	0.17	0.060	23.90	23.34	0.068	1.6
		Right Cheek	1	0	26915	831.5	-0.12	**0.141**	23.90	23.34	**0.160**	1.6
		Right Tilt	1	0	26915	831.5	0.12	0.070	23.90	23.34	0.080	1.6
		Body back	1	0	26915	831.5	0.14	**0.229**	23.90	23.34	**0.261**	1.6
		Body front	1	0	26915	831.5	0.19	0.174	23.90	23.34	0.198	1.6
		Edge 2(Right)	1	0	26915	831.5	0.13	0.159	23.90	23.34	0.181	1.6
		Edge 3(Bottom)	1	0	26915	831.5	-0.01	0.157	23.90	23.34	0.179	1.6
		Edge 4(Left)	1	0	26915	831.5	0.14	0.114	23.90	23.34	0.130	1.6
		Slip cover Edge 3	1	0	26915	831.5	-0.07	0.153	23.90	23.34	0.174	1.6

Note:
· When the 1-g Reported SAR is ≤ 0.8 W/kg, testing for low and high channel is optional. Refer to KDB 447498.
·The test separation for body back, body front and 4 Edges is 10mm of all above table.

SAR MEASUREMENT												
Depth of Liquid (cm):>15					Relative Humidity (%): 47.1							
Product: Pro[1] X												
Test Mode: LTE Band 41												
BW MHz	MOD	Position	Test Mode		Ch.	Freq. (MHz)	Power Drift (<±0.2 dB)	SAR (1g) (W/kg)	Max. Tuneup Power (dBm)	Meas. output Power (dBm)	Scaled SAR (W/kg)	Limit (W/kg)
			UL RB Allocation	UL RB START								
20	QPSK	Left Cheek	1	0	40620	2593	0.04	**0.161**	23.00	22.55	**0.179**	1.6
		Left Tilt	1	0	40620	2593	0.14	0.049	23.00	22.55	0.054	1.6
		Right Cheek	1	0	40620	2593	0.09	0.121	23.00	22.55	0.134	1.6
		Right Tilt	1	0	40620	2593	0.15	0.124	23.00	22.55	0.138	1.6
		Body back	1	0	40620	2593	0.17	0.248	23.00	22.55	0.275	1.6
		Body front	1	0	40620	2593	-0.08	0.223	23.00	22.55	0.247	1.6
		Edge 2(Right)	1	0	40620	2593	0.223	0.039	23.00	22.55	0.043	1.6
		Edge 3(Bottom)	1	0	40620	2593	0.13	**0.271**	23.00	22.55	**0.301**	1.6
		Edge 4(Left)	1	0	40620	2593	0.02	0.219	23.00	22.55	0.243	1.6
		Slip cover Edge 3	1	0	40620	2593	0.11	0.259	23.00	22.55	0.287	1.6

Note:
· When the 1-g Reported SAR is ≤ 0.8 W/kg, testing for low and high channel is optional. Refer to KDB 447498.
·The test separation for body back, body front and 4 Edges is 10mm of all above table

SAR MEASUREMENT									
Depth of Liquid (cm):>15				Relative Humidity (%): 49.6					
Product: Pro[1] X									
Test Mode:802.11b									
Position	**Mode**	**Ch.**	**Fr. (MHz)**	**Power Drift (<±0.2 dB)**	**SAR (1g) (W/kg)**	**Max. Tune-up Power (dBm)**	**Meas. output Power (dBm)**	**Scaled SAR (W/kg)**	**Limit (W/kg)**
Left Cheek	DTS	6	2437	0.13	0.347	12.30	11.76	0.393	1.6
Left Tilt	DTS	6	2437	-0.06	0.146	12.30	11.76	0.165	1.6
Right Cheek	DTS	6	2437	0.02	**0.357**	12.30	11.76	**0.404**	1.6
Right Tilt	DTS	6	2437	-0.14	0.347	12.30	11.76	0.393	1.6
Body back	DTS	6	2437	0.14	**0.378**	12.30	11.76	**0.428**	1.6
Body front	DTS	6	2437	0.12	0.131	12.30	11.76	0.148	1.6
Edge 1 (Top)	DTS	6	2437	-0.18	0.284	12.30	11.76	0.322	1.6
Edge 4(Left)	DTS	6	2437	0.16	0.067	12.30	11.76	0.076	1.6
Slip cover Edge 1	DTS	6	2437	-0.12	0.276	12.30	11.76	0.313	1.6

Note:
- According to KDB248227, SAR is not required for 802.11n HT20/HT40 channels when the maximum average output power is less than 1/4 dB higher than that measured on the corresponding 802.11a/b channels.
- All of above "DTS" means data transmitters.
- The test separation for body back, body front and 4 Edges is 10mm of all above table.

SAR MEASUREMENT								
Depth of Liquid (cm):>15				Relative Humidity (%): 46.9				
Product: Pro[1] X								
Test Mode: 5.2GHz WIFI								
Position	**Ch.**	**Fr. (MHz)**	**Power Drift (<±0.2dB)**	**SAR (1g) (W/kg)**	**Max. Tune-up Power (dBm)**	**Meas. output Power (dBm)**	**Scaled SAR (W/kg)**	**Limit (W/kg)**
Left Cheek	40	5200	0.02	0.022	12.06	10.33	0.033	1.6
Left Tilt	40	5200	-0.03	**0.034**	12.06	10.33	**0.051**	1.6
Right Cheek	40	5200	0.09	0.019	12.06	10.33	0.028	1.6
Right Tilt	40	5200	0.12	0.031	12.06	10.33	0.046	1.6
Body back	40	5200	-0.12	0.024	12.06	10.33	0.036	1.6
Body front	40	5200	-0.13	0.013	12.06	10.33	0.019	1.6
Edge 1 (Top)	40	5200	0.13	0.029	12.06	10.33	0.043	1.6
Edge 4(Left)	40	5200	0.17	**0.041**	12.06	10.33	**0.061**	1.6
Slip cover Edge 1	40	5200	0.16	0.026	12.06	10.33	0.039	1.6

Note:
1. When the 1-g Reported SAR is ≤ 0.8 W/kg, testing for low and high channel is optional. Refer to KDB447498.
2. The test separation for body back, body front and 4 Edges is 10mm of all above table.

Simultaneous Multi-band Transmission Evaluation:

Application Simultaneous Transmission information:

NO	Simultaneous state	Portable Handset		
		Head	Body-worn	Hotspot
1	GSM(voice)+ WLAN 2.4GHz& WLAN 5.2GHz (data)	Yes	Yes	-
2	GSM(voice)+ Bluetooth(data)	Yes	Yes	-
3	WCDMA+ WLAN 2.4GHz& WLAN 5.2GHz (data)	Yes	Yes	Yes
4	WCDMA+ Bluetooth(data)	Yes	Yes	Yes
5	CDMA + WLAN 2.4GHz& WLAN 5.2GHz (data)	Yes	Yes	Yes
6	CDMA + Bluetooth(data)	Yes	Yes	Yes
7	LTE + WLAN 2.4GHz& WLAN 5.2GHz (data)	Yes	Yes	Yes
8	LTE + Bluetooth(data)	Yes	Yes	Yes

NOTE:

1. WIFI and BT share the same antenna, and cannot transmit simultaneously.
2. Simultaneous with every transmitter must be the same test position.
3. KDB 447498 D01, BT SAR is excluded as below table.
4. KDB 447498 D01, for handsets the test separation distance is determined by the smallest distance between the outer surface of the device and the user; which is 0mm for head SAR and 10mm for body-worn SAR.
5. According to KDB 447498 D01 4.3.1, Standalone SAR test exclusion is as follow:
   For 100 MHz to 6 GHz and test separation distances ≤ 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:
   [(max. power of channel, including tune-up tolerance, mW) / (min. test separation distance, mm)] • [√f(GHz)] ≤ 3.0 for 1-g SAR, and ≤ 7.5 for 10-g extremity SAR[30], where
   - f(GHz) is the RF channel transmit frequency in GHz
   - Power and distance are rounded to the nearest mW and mm before calculation[31]
   - The result is rounded to one decimal place for comparison
   - The values 3.0 and 7.5 are referred to as numeric thresholds in step b) below

   The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm, and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm according to 4.1 f) is applied to determine SAR test exclusion.
6. If the test separation distance is <5mm, 5mm is used for excluded SAR calculation.
7. According to KDB 447498 D01 4.3.2, simultaneous transmission SAR test exclusion is as follow:
   (1) Simultaneous transmission SAR test exclusion is determined for each operating configuration and exposure condition according to the reported standalone SAR of each applicable simultaneous transmitting antenna.
   (2) Any transmitters and antennas should be considered when calculating simultaneous mode.
   (3) For mobile phone and PC, it's the sum of all transmitters and antennas at the same mode with same position in each applicable exposure condition
   (4)When the standalone SAR test exclusion of section 4.3.2 is applied to an antenna that transmits simultaneously with other antennas, the standalone SAR must be estimated according to the following to det
   (max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)]·[√f(GHz)/x] W/kg for test separation distances ≤ 50 mm;
   where x = 7.5 for 1-g SAR, and x = 18.75 for 10-g SAR.

8. When the sum of SAR is larger than the limit, SAR test exclusion is determined by the SAR to peak location separation ratio. The simultaneous transmitting antennas in each operating mode and exposure condition combination must be considered one pair at a time to determine the SAR to peak location separation ratio to qualify for test exclusion. The ratio is determined by (SAR1 + SAR2)1.5/Ri, rounded to two decimal digits, and must be ≤ 0.04 for all antenna pairs in the configuration to qualify for 1-g SAR test exclusion.

Estimated SAR		Max Power including Tune-up Tolerance		Separation Distance (mm)	Estimated SAR (W/kg)
		dBm	mW		
BT	Head	4	2.51	0	0.105
	Body	4	2.51	10	0.053

Sum of the SAR for GSM 850 &2.4GHz WiFi & BT:

RF Exposure Conditions	Test Position	Simultaneous Transmission Scenario			Σ1-g SAR (W/kg)	SPLSR (Yes/No)
		GSM 850	2.4GHz WiFi DTS Band	Bluetooth		
Head (voice)	Left Touch	0.079	0.393		0.472	No
	Left Tilt	0.075	0.165		0.240	No
	Right Touch	0.094	0.404		0.498	No
	Right Tilt	0.052	0.393		0.445	No
Head (voice)	Left Touch	0.079		0.105	0.184	No
	Left Tilt	0.075		0.105	0.180	No
	Right Touch	0.094		0.105	0.199	No
	Right Tilt	0.052		0.105	0.157	No
Body-worn	Rear	0.025	0.428		0.453	No
		0.025		0.053	0.078	No
	Front	0.029	0.148		0.177	No
		0.029		0.053	0.082	No
	Edge 4	0.111	0.076		0.187	No
	Edge 4	0.111		0.053	0.164	No

Note:

·According to KDB 447498 D01 General RF Exposure Guidance, when the simultaneous transmission SAR is less than1.6 W/kg, SPLSR assessment is not required.

·SPLSR mean is “The SAR to Peak Location Separation Ratio “

Sum of the SAR for GSM 1900 &2.4GHz WiFi & BT:

RF Exposure Conditions	Test Position	Simultaneous Transmission Scenario			Σ1-g SAR (W/kg)	SPLSR (Yes/No)
		PCS 1900	2.4GHz WiFi DTS Band	Bluetooth		
Head (voice)	Left Touch	0.106	0.393		0.499	No
	Left Tilt	0.061	0.165		0.226	No
	Right Touch	0.157	0.404		0.561	No
	Right Tilt	0.072	0.393		0.465	No
Head (voice)	Left Touch	0.106		0.105	0.211	No
	Left Tilt	0.061		0.105	0.166	No
	Right Touch	0.157		0.105	0.262	No
	Right Tilt	0.072		0.105	0.177	No
Body-worn	Rear	0.063	0.428		0.491	No
		0.063		0.053	0.116	No
	Front	0.038	0.148		0.186	No
		0.038		0.053	0.091	No
	Edge 4	0.033	0.076		0.109	No
	Edge 4	0.033		0.053	0.086	No

Note:

·According to KDB 447498 D01 General RF Exposure Guidance, when the simultaneous transmission SAR is less than1.6 W/kg, SPLSR assessment is not required.

·SPLSR mean is “The SAR to Peak Location Separation Ratio “

Sum of the SAR for WCDMA Band II &2.4GHz WiFi & BT:

RF Exposure Conditions	Test Position	Simultaneous Transmission Scenario			Σ1-g SAR (W/kg)	SPLSR (Yes/No)
		WCDMA Band II	2.4GHz WiFi DTS Band	Bluetooth		
Head	Left Touch	0.135	0.393		0.528	No
	Left Tilt	0.085	0.165		0.250	No
	Right Touch	0.194	0.404		0.598	No
	Right Tilt	0.084	0.393		0.477	No
Head	Left Touch	0.135		0.105	0.240	No
	Left Tilt	0.085		0.105	0.190	No
	Right Touch	0.194		0.105	0.299	No
	Right Tilt	0.084		0.105	0.189	No
Body-worn	Rear	0.191	0.428		0.619	No
	Front	0.141	0.148		0.289	No
	Edge 4	0.041	0.076		0.117	No
	Rear	0.191		0.053	0.244	No
	Front	0.141		0.053	0.194	No
	Edge 4	0.041		0.053	0.094	No

Note:

·According to KDB 447498 D01 General RF Exposure Guidance, when the simultaneous transmission SAR is less than1.6 W/kg, SPLSR assessment is not required.
·SPLSR mean is “The SAR to Peak Location Separation Ratio “

Sum of the SAR for WCDMA Band IV &2.4GHz WiFi & BT:

RF Exposure Conditions	Test Position	Simultaneous Transmission Scenario			Σ1-g SAR (W/kg)	SPLSR (Yes/No)
		WCDMA Band IV	2.4GHz WiFi DTS Band	Bluetooth		
Head	Left Touch	0.025	0.393		0.418	No
	Left Tilt	0.036	0.165		0.201	No
	Right Touch	0.073	0.404		0.477	No
	Right Tilt	0.054	0.393		0.447	No
Head	Left Touch	0.025		0.105	0.130	No
	Left Tilt	0.036		0.105	0.141	No
	Right Touch	0.073		0.105	0.178	No
	Right Tilt	0.054		0.105	0.159	No
Body-worn	Rear	0.153	0.428		0.581	No
	Front	0.045	0.148		0.193	No
	Edge 4	0.017	0.076		0.093	No
	Rear	0.153		0.053	0.206	No
	Front	0.045		0.053	0.098	No
	Edge 4	0.017		0.053	0.070	No

Note:

·According to KDB 447498 D01 General RF Exposure Guidance, when the simultaneous transmission SAR is less than1.6 W/kg, SPLSR assessment is not required.
·SPLSR mean is “The SAR to Peak Location Separation Ratio “

Sum of the SAR for WCDMA Band V &2.4GHz WiFi & BT:

RF Exposure Conditions	Test Position	Simultaneous Transmission Scenario			Σ1-g SAR (W/kg)	SPLSR (Yes/No)
		WCDMA Band V	2.4GHz WiFi DTS Band	Bluetooth		
Head	Left Touch	0.037	0.393		0.430	No
	Left Tilt	0.021	0.165		0.186	No
	Right Touch	0.030	0.404		0.434	No
	Right Tilt	0.020	0.393		0.413	No
Head	Left Touch	0.037		0.105	0.142	No
	Left Tilt	0.021		0.105	0.126	No
	Right Touch	0.030		0.105	0.135	No
	Right Tilt	0.020		0.105	0.125	No
Body-worn	Rear	0.074	0.428		0.502	No
	Front	0.038	0.148		0.186	No
	Edge 4	0.067	0.076		0.143	No
	Rear	0.074		0.053	0.127	No
	Front	0.038		0.053	0.091	No
	Edge 4	0.067		0.053	0.120	No

Note:

·According to KDB 447498 D01 General RF Exposure Guidance, when the simultaneous transmission SAR is less than1.6 W/kg, SPLSR assessment is not required.
·SPLSR mean is “The SAR to Peak Location Separation Ratio “

Sum of the SAR for CDMA BAND 0 &2.4GHz WiFi & BT:

RF Exposure Conditions	Test Position	Simultaneous Transmission Scenario			Σ1-g SAR (W/kg)	SPLSR (Yes/No)
		CDMA BAND 0	2.4GHz WiFi DTS Band	Bluetooth		
Head	Left Touch	0.144	0.393		0.537	No
	Left Tilt	0.079	0.165		0.244	No
	Right Touch	0.155	0.404		0.559	No
	Right Tilt	0.082	0.393		0.475	No
Head	Left Touch	0.144		0.105	0.249	No
	Left Tilt	0.079		0.105	0.184	No
	Right Touch	0.155		0.105	0.260	No
	Right Tilt	0.082		0.105	0.187	No
Body-worn	Rear	0.175	0.428		0.603	No
	Front	0.090	0.148		0.238	No
	Edge 4	0.208	0.076		0.284	No
	Rear	0.175		0.053	0.228	No
	Front	0.090		0.053	0.143	No
	Edge 4	0.208		0.053	0.261	No

Note:

·According to KDB 447498 D01 General RF Exposure Guidance, when the simultaneous transmission SAR is less than1.6 W/kg, SPLSR assessment is not required.

·SPLSR mean is “The SAR to Peak Location Separation Ratio “

Sum of the SAR for CDMA BAND 1 &2.4GHz WiFi & BT:

RF Exposure Conditions	Test Position	Simultaneous Transmission Scenario			Σ1-g SAR (W/kg)	SPLSR (Yes/No)
		CDMA BAND 1	2.4GHz WiFi DTS Band	Bluetooth		
Head	Left Touch	0.124	0.393		0.517	No
	Left Tilt	0.104	0.165		0.269	No
	Right Touch	0.248	0.404		0.652	No
	Right Tilt	0.128	0.393		0.521	No
Head	Left Touch	0.124		0.105	0.229	No
	Left Tilt	0.104		0.105	0.209	No
	Right Touch	0.248		0.105	0.353	No
	Right Tilt	0.128		0.105	0.233	No
Body-worn	Rear	0.181	0.428		0.609	No
	Front	0.135	0.148		0.283	No
	Edge 4	0.086	0.076		0.162	No
	Rear	0.181		0.053	0.234	No
	Front	0.135		0.053	0.188	No
	Edge 4	0.086		0.053	0.139	No

Note:

·According to KDB 447498 D01 General RF Exposure Guidance, when the simultaneous transmission SAR is less than1.6 W/kg, SPLSR assessment is not required.

·SPLSR mean is “The SAR to Peak Location Separation Ratio “

Sum of the SAR for LTE Band 2 &2.4GHz WiFi & BT:

RF Exposure Conditions	Test Position	Simultaneous Transmission Scenario			Σ1-g SAR (W/kg)	SPLSR (Yes/No)
		LTE Band 2	2.4GHz WiFi DTS Band	Bluetooth		
Head	Left Touch	0.041	0.393		0.434	No
	Left Tilt	0.031	0.165		0.196	No
	Right Touch	0.152	0.404		0.556	No
	Right Tilt	0.035	0.393		0.428	No
Head	Left Touch	0.041		0.105	0.146	No
	Left Tilt	0.031		0.105	0.136	No
	Right Touch	0.152		0.105	0.257	No
	Right Tilt	0.035		0.105	0.140	No
Body-worn	Rear	0.276	0.428		0.704	No
	Front	0.184	0.148		0.332	No
	Edge 4	0.016	0.076		0.092	No
	Rear	0.276		0.053	0.329	No
	Front	0.184		0.053	0.237	No
	Edge 4	0.016		0.053	0.069	No

Note:

·According to KDB 447498 D01 General RF Exposure Guidance, when the simultaneous transmission SAR is less than1.6 W/kg, SPLSR assessment is not required.
·SPLSR mean is “The SAR to Peak Location Separation Ratio “

Sum of the SAR for LTE Band 4 &2.4GHz WiFi & BT:

RF Exposure Conditions	Test Position	Simultaneous Transmission Scenario			Σ1-g SAR (W/kg)	SPLSR (Yes/No)
		LTE Band 4	2.4GHz WiFi DTS Band	Bluetooth		
Head	Left Touch	0.041	0.393		0.434	No
	Left Tilt	0.035	0.165		0.200	No
	Right Touch	0.072	0.404		0.476	No
	Right Tilt	0.052	0.393		0.445	No
Head	Left Touch	0.041		0.105	0.146	No
	Left Tilt	0.035		0.105	0.140	No
	Right Touch	0.072		0.105	0.177	No
	Right Tilt	0.052		0.105	0.157	No
Body-worn	Rear	0.178	0.428		0.606	No
	Front	0.058	0.148		0.206	No
	Edge 4	0.027	0.076		0.103	No
	Rear	0.178		0.053	0.231	No
	Front	0.058		0.053	0.111	No
	Edge 4	0.027		0.053	0.080	No

Note:

·According to KDB 447498 D01 General RF Exposure Guidance, when the simultaneous transmission SAR is less than1.6 W/kg, SPLSR assessment is not required.
·SPLSR mean is “The SAR to Peak Location Separation Ratio “

Sum of the SAR for LTE Band 5 &2.4GHz WiFi & BT:

RF Exposure Conditions	Test Position	Simultaneous Transmission Scenario			Σ1-g SAR (W/kg)	SPLSR (Yes/No)
		LTE Band 5	2.4GHz WiFi DTS Band	Bluetooth		
Head	Left Touch	0.007	0.393		0.400	No
	Left Tilt	0.003	0.165		0.168	No
	Right Touch	0.018	0.404		0.422	No
	Right Tilt	0.005	0.393		0.398	No
Head	Left Touch	0.007		0.105	0.112	No
	Left Tilt	0.003		0.105	0.108	No
	Right Touch	0.018		0.105	0.123	No
	Right Tilt	0.005		0.105	0.110	No
Body-worn	Rear	0.042	0.428		0.470	No
	Front	0.019	0.148		0.167	No
	Edge 4	0.040	0.076		0.116	No
	Rear	0.042		0.053	0.095	No
	Front	0.019		0.053	0.072	No
	Edge 4	0.040		0.053	0.093	No

Note:

·According to KDB 447498 D01 General RF Exposure Guidance, when the simultaneous transmission SAR is less than1.6 W/kg, SPLSR assessment is not required.
·SPLSR mean is “The SAR to Peak Location Separation Ratio “

Sum of the SAR for LTE Band 7 &2.4GHz WiFi & BT:

RF Exposure Conditions	Test Position	Simultaneous Transmission Scenario			Σ1-g SAR (W/kg)	SPLSR (Yes/No)
		LTE Band 7	2.4GHz WiFi DTS Band	Bluetooth		
Head	Left Touch	0.082	0.393		0.475	No
	Left Tilt	0.049	0.165		0.214	No
	Right Touch	0.137	0.404		0.541	No
	Right Tilt	0.110	0.393		0.503	No
Head	Left Touch	0.082		0.105	0.187	No
	Left Tilt	0.049		0.105	0.154	No
	Right Touch	0.137		0.105	0.242	No
	Right Tilt	0.110		0.105	0.215	No
Body-worn	Rear	0.390	0.428		**0.818**	No
	Front	0.432	0.148		0.580	No
	Edge 4	0.393	0.076		0.469	No
	Rear	0.390		0.053	0.443	No
	Front	0.432		0.053	0.485	No
	Edge 4	0.393		0.053	0.446	No

Note:

·According to KDB 447498 D01 General RF Exposure Guidance, when the simultaneous transmission SAR is less than1.6 W/kg, SPLSR assessment is not required.
·SPLSR mean is “The SAR to Peak Location Separation Ratio “

Sum of the SAR for LTE Band 12 &2.4GHz WiFi & BT:

RF Exposure Conditions	Test Position	Simultaneous Transmission Scenario			Σ1-g SAR (W/kg)	SPLSR (Yes/No)
		LTE Band 12	2.4GHz WiFi DTS Band	Bluetooth		
Head	Left Touch	0.043	0.393		0.436	No
	Left Tilt	0.012	0.165		0.177	No
	Right Touch	0.015	0.404		0.419	No
	Right Tilt	0.013	0.393		0.406	No
Head	Left Touch	0.043		0.105	0.148	No
	Left Tilt	0.012		0.105	0.117	No
	Right Touch	0.015		0.105	0.120	No
	Right Tilt	0.013		0.105	0.118	No
Body-worn	Rear	0.092	0.428		0.520	No
	Front	0.028	0.148		0.176	No
	Edge 4	0.111	0.076		0.187	No
	Rear	0.092		0.053	0.145	No
	Front	0.028		0.053	0.081	No
	Edge 4	0.111		0.053	0.164	No

Note:

·According to KDB 447498 D01 General RF Exposure Guidance, when the simultaneous transmission SAR is less than1.6 W/kg, SPLSR assessment is not required.
·SPLSR mean is “The SAR to Peak Location Separation Ratio “

Sum of the SAR for LTE Band 13 &2.4GHz WiFi & BT:

RF Exposure Conditions	Test Position	Simultaneous Transmission Scenario			Σ1-g SAR (W/kg)	SPLSR (Yes/No)
		LTE Band 13	2.4GHz WiFi DTS Band	Bluetooth		
Head	Left Touch	0.049	0.393		0.442	No
	Left Tilt	0.015	0.165		0.180	No
	Right Touch	0.077	0.404		0.481	No
	Right Tilt	0.041	0.393		0.434	No
Head	Left Touch	0.049		0.105	0.154	No
	Left Tilt	0.015		0.105	0.120	No
	Right Touch	0.077		0.105	0.182	No
	Right Tilt	0.041		0.105	0.146	No
Body-worn	Rear	0.121	0.428		0.549	No
	Front	0.064	0.148		0.212	No
	Edge 4	0.083	0.076		0.159	No
	Rear	0.121		0.053	0.174	No
	Front	0.064		0.053	0.117	No
	Edge 4	0.083		0.053	0.136	No

Note:

·According to KDB 447498 D01 General RF Exposure Guidance, when the simultaneous transmission SAR is less than1.6 W/kg, SPLSR assessment is not required.
·SPLSR mean is “The SAR to Peak Location Separation Ratio “

Sum of the SAR for LTE Band 17 &2.4GHz WiFi & BT:

RF Exposure Conditions	Test Position	Simultaneous Transmission Scenario			Σ1-g SAR (W/kg)	SPLSR (Yes/No)
		LTE Band 17	2.4GHz WiFi DTS Band	Bluetooth		
Head	Left Touch	0.071	0.393		0.464	No
	Left Tilt	0.001	0.165		0.166	No
	Right Touch	0.093	0.404		0.497	No
	Right Tilt	0.047	0.393		0.440	No
Head	Left Touch	0.071		0.105	0.176	No
	Left Tilt	0.001		0.105	0.106	No
	Right Touch	0.093		0.105	0.198	No
	Right Tilt	0.047		0.105	0.152	No
Body-worn	Rear	0.291	0.428		0.719	No
	Front	0.165	0.148		0.313	No
	Edge 4	0.072	0.076		0.148	No
	Rear	0.291		0.053	0.344	No
	Front	0.165		0.053	0.218	No
	Edge 4	0.072		0.053	0.125	No

Note:

·According to KDB 447498 D01 General RF Exposure Guidance, when the simultaneous transmission SAR is less than1.6 W/kg, SPLSR assessment is not required.
·SPLSR mean is “The SAR to Peak Location Separation Ratio “

Sum of the SAR for LTE Band 25 &2.4GHz WiFi & BT:

RF Exposure Conditions	Test Position	Simultaneous Transmission Scenario			Σ1-g SAR (W/kg)	SPLSR (Yes/No)
		LTE Band 25	2.4GHz WiFi DTS Band	Bluetooth		
Head	Left Touch	0.083	0.393		0.476	No
	Left Tilt	0.020	0.165		0.185	No
	Right Touch	0.050	0.404		0.454	No
	Right Tilt	0.027	0.393		0.420	No
Head	Left Touch	0.083		0.105	0.188	No
	Left Tilt	0.020		0.105	0.125	No
	Right Touch	0.050		0.105	0.155	No
	Right Tilt	0.027		0.105	0.132	No
Body-worn	Rear	0.193	0.428		0.621	No
	Front	0.127	0.148		0.275	No
	Edge 4	0.080	0.076		0.156	No
	Rear	0.193		0.053	0.246	No
	Front	0.127		0.053	0.180	No
	Edge 4	0.080		0.053	0.133	No

Note:

·According to KDB 447498 D01 General RF Exposure Guidance, when the simultaneous transmission SAR is less than1.6 W/kg, SPLSR assessment is not required.
·SPLSR mean is “The SAR to Peak Location Separation Ratio “

Sum of the SAR for LTE Band 26 &2.4GHz WiFi & BT:

RF Exposure Conditions	Test Position	Simultaneous Transmission Scenario			Σ1-g SAR (W/kg)	SPLSR (Yes/No)
		LTE Band 26	2.4GHz WiFi DTS Band	Bluetooth		
Head	Left Touch	0.150	0.393		0.543	No
	Left Tilt	0.068	0.165		0.233	No
	Right Touch	0.160	0.404		0.564	No
	Right Tilt	0.080	0.393		0.473	No
Head	Left Touch	0.150		0.105	0.255	No
	Left Tilt	0.068		0.105	0.173	No
	Right Touch	0.160		0.105	0.265	No
	Right Tilt	0.080		0.105	0.185	No
Body-worn	Rear	0.261	0.428		0.689	No
	Front	0.198	0.148		0.346	No
	Edge 4	0.130	0.076		0.206	No
	Rear	0.261		0.053	0.314	No
	Front	0.198		0.053	0.251	No
	Edge 4	0.130		0.053	0.183	No

Note:

·According to KDB 447498 D01 General RF Exposure Guidance, when the simultaneous transmission SAR is less than1.6 W/kg, SPLSR assessment is not required.
·SPLSR mean is “The SAR to Peak Location Separation Ratio “

Sum of the SAR for LTE Band 41 &2.4GHz WiFi & BT:

RF Exposure Conditions	Test Position	Simultaneous Transmission Scenario			Σ1-g SAR (W/kg)	SPLSR (Yes/No)
		LTE Band 41	2.4GHz WiFi DTS Band	Bluetooth		
Head	Left Touch	0.179	0.393		0.572	No
	Left Tilt	0.054	0.165		0.219	No
	Right Touch	0.134	0.404		0.538	No
	Right Tilt	0.138	0.393		0.531	No
Head	Left Touch	0.179		0.105	0.284	No
	Left Tilt	0.054		0.105	0.159	No
	Right Touch	0.134		0.105	0.239	No
	Right Tilt	0.138		0.105	0.243	No
Body-worn	Rear	0.275	0.428		0.703	No
	Front	0.247	0.148		0.395	No
	Edge 4	0.243	0.076		0.319	No
	Rear	0.275		0.053	0.328	No
	Front	0.247		0.053	0.300	No
	Edge 4	0.243		0.053	0.296	No

Note:

·According to KDB 447498 D01 General RF Exposure Guidance, when the simultaneous transmission SAR is less than1.6 W/kg, SPLSR assessment is not required.
·SPLSR mean is “The SAR to Peak Location Separation Ratio “

Sum of the SAR for GSM 850 &5.2GHz WiFi & BT:

RF Exposure Conditions	Test Position	Simultaneous Transmission Scenario			Σ1-g SAR (W/kg)	SPLSR (Yes/No)
		GSM 850	5.2GHz WiFi DTS Band	Bluetooth		
Head (voice)	Left Touch	0.079	0.033		0.112	No
	Left Tilt	0.075	0.051		0.126	No
	Right Touch	0.094	0.028		0.122	No
	Right Tilt	0.052	0.046		0.098	No
Head (voice)	Left Touch	0.079		0.105	0.184	No
	Left Tilt	0.075		0.105	0.180	No
	Right Touch	0.094		0.105	0.199	No
	Right Tilt	0.052		0.105	0.157	No
Body-worn	Rear	0.025	0.036		0.061	No
		0.025		0.053	0.078	No
	Front	0.029	0.019		0.048	No
		0.029		0.053	0.082	No
	Edge 4	0.111	0.061		0.172	No
	Edge 4	0.111		0.053	0.164	No

Note:

·According to KDB 447498 D01 General RF Exposure Guidance, when the simultaneous transmission SAR is less than1.6 W/kg, SPLSR assessment is not required.

·SPLSR mean is “The SAR to Peak Location Separation Ratio “

Sum of the SAR for GSM 1900 &5.2GHz WiFi & BT:

RF Exposure Conditions	Test Position	Simultaneous Transmission Scenario			Σ1-g SAR (W/kg)	SPLSR (Yes/No)
		PCS 1900	5.2GHz WiFi DTS Band	Bluetooth		
Head (voice)	Left Touch	0.106	0.033		0.139	No
	Left Tilt	0.061	0.051		0.112	No
	Right Touch	0.157	0.028		0.185	No
	Right Tilt	0.072	0.046		0.118	No
Head (voice)	Left Touch	0.106		0.105	0.211	No
	Left Tilt	0.061		0.105	0.166	No
	Right Touch	0.157		0.105	0.262	No
	Right Tilt	0.072		0.105	0.177	No
Body-worn	Rear	0.063	0.036		0.099	No
		0.063		0.053	0.116	No
	Front	0.038	0.019		0.057	No
		0.038		0.053	0.091	No
	Edge 4	0.033	0.061		0.094	No
	Edge 4	0.033		0.053	0.086	No

Note:

·According to KDB 447498 D01 General RF Exposure Guidance, when the simultaneous transmission SAR is less than1.6 W/kg, SPLSR assessment is not required.

·SPLSR mean is “The SAR to Peak Location Separation Ratio “

Sum of the SAR for WCDMA Band II &5.2GHz WiFi & BT:

RF Exposure Conditions	Test Position	Simultaneous Transmission Scenario			Σ1-g SAR (W/kg)	SPLSR (Yes/No)
		WCDMA Band II	5.2GHz WiFi DTS Band	Bluetooth		
Head	Left Touch	0.135	0.033		0.168	No
	Left Tilt	0.085	0.051		0.136	No
	Right Touch	0.194	0.028		0.222	No
	Right Tilt	0.084	0.046		0.130	No
Head	Left Touch	0.135		0.105	0.240	No
	Left Tilt	0.085		0.105	0.190	No
	Right Touch	0.194		0.105	0.299	No
	Right Tilt	0.084		0.105	0.189	No
Body-worn	Rear	0.191	0.036		0.227	No
	Front	0.141	0.019		0.160	No
	Edge 4	0.041	0.061		0.102	No
	Rear	0.191		0.053	0.244	No
	Front	0.141		0.053	0.194	No
	Edge 4	0.041		0.053	0.094	No

Note:

·According to KDB 447498 D01 General RF Exposure Guidance, when the simultaneous transmission SAR is less than1.6 W/kg, SPLSR assessment is not required.

·SPLSR mean is “The SAR to Peak Location Separation Ratio “

Sum of the SAR for WCDMA Band IV &5.2GHz WiFi & BT:

RF Exposure Conditions	Test Position	Simultaneous Transmission Scenario			Σ1-g SAR (W/kg)	SPLSR (Yes/No)
		WCDMA Band IV	5.2GHz WiFi DTS Band	Bluetooth		
Head	Left Touch	0.025	0.033		0.058	No
	Left Tilt	0.036	0.051		0.087	No
	Right Touch	0.073	0.028		0.101	No
	Right Tilt	0.054	0.046		0.100	No
Head	Left Touch	0.025		0.105	0.130	No
	Left Tilt	0.036		0.105	0.141	No
	Right Touch	0.073		0.105	0.178	No
	Right Tilt	0.054		0.105	0.159	No
Body-worn	Rear	0.153	0.036		0.189	No
	Front	0.045	0.019		0.064	No
	Edge 4	0.017	0.061		0.078	No
	Rear	0.153		0.053	0.206	No
	Front	0.045		0.053	0.098	No
	Edge 4	0.017		0.053	0.070	No

Note:

·According to KDB 447498 D01 General RF Exposure Guidance, when the simultaneous transmission SAR is less than1.6 W/kg, SPLSR assessment is not required.
·SPLSR mean is “The SAR to Peak Location Separation Ratio “

Sum of the SAR for WCDMA Band V &5.2GHz WiFi & BT:

RF Exposure Conditions	Test Position	Simultaneous Transmission Scenario			Σ1-g SAR (W/kg)	SPLSR (Yes/No)
		WCDMA Band V	5.2GHz WiFi DTS Band	Bluetooth		
Head	Left Touch	0.037	0.033		0.070	No
	Left Tilt	0.021	0.051		0.072	No
	Right Touch	0.030	0.028		0.058	No
	Right Tilt	0.020	0.046		0.066	No
Head	Left Touch	0.037		0.105	0.142	No
	Left Tilt	0.021		0.105	0.126	No
	Right Touch	0.030		0.105	0.135	No
	Right Tilt	0.020		0.105	0.125	No
Body-worn	Rear	0.074	0.036		0.110	No
	Front	0.038	0.019		0.057	No
	Edge 4	0.067	0.061		0.128	No
	Rear	0.074		0.053	0.127	No
	Front	0.038		0.053	0.091	No
	Edge 4	0.067		0.053	0.120	No

Note:

·According to KDB 447498 D01 General RF Exposure Guidance, when the simultaneous transmission SAR is less than1.6 W/kg, SPLSR assessment is not required.

·SPLSR mean is “The SAR to Peak Location Separation Ratio “

Sum of the SAR for CDMA BAND 0 &5.2GHz WiFi & BT:

RF Exposure Conditions	Test Position	Simultaneous Transmission Scenario			Σ1-g SAR (W/kg)	SPLSR (Yes/No)
		CDMA BAND 0	5.2GHz WiFi DTS Band	Bluetooth		
Head	Left Touch	0.144	0.033		0.177	No
	Left Tilt	0.079	0.051		0.130	No
	Right Touch	0.155	0.028		0.183	No
	Right Tilt	0.082	0.046		0.128	No
Head	Left Touch	0.144		0.105	0.249	No
	Left Tilt	0.079		0.105	0.184	No
	Right Touch	0.155		0.105	0.260	No
	Right Tilt	0.082		0.105	0.187	No
Body-worn	Rear	0.175	0.036		0.211	No
	Front	0.090	0.019		0.109	No
	Edge 4	0.208	0.061		0.269	No
	Rear	0.175		0.053	0.228	No
	Front	0.090		0.053	0.143	No
	Edge 4	0.208		0.053	0.261	No

Note:

·According to KDB 447498 D01 General RF Exposure Guidance, when the simultaneous transmission SAR is less than1.6 W/kg, SPLSR assessment is not required.
·SPLSR mean is “The SAR to Peak Location Separation Ratio “

Sum of the SAR for CDMA BAND 1 &5.2GHz WiFi & BT:

RF Exposure Conditions	Test Position	Simultaneous Transmission Scenario			Σ1-g SAR (W/kg)	SPLSR (Yes/No)
		CDMA BAND 1	5.2GHz WiFi DTS Band	Bluetooth		
Head	Left Touch	0.124	0.033		0.157	No
	Left Tilt	0.104	0.051		0.155	No
	Right Touch	0.248	0.028		0.276	No
	Right Tilt	0.128	0.046		0.174	No
Head	Left Touch	0.124		0.105	0.229	No
	Left Tilt	0.104		0.105	0.209	No
	Right Touch	0.248		0.105	0.353	No
	Right Tilt	0.128		0.105	0.233	No
Body-worn	Rear	0.181	0.036		0.217	No
	Front	0.135	0.019		0.154	No
	Edge 4	0.086	0.061		0.147	No
	Rear	0.181		0.053	0.234	No
	Front	0.135		0.053	0.188	No
	Edge 4	0.086		0.053	0.139	No

Note:

·According to KDB 447498 D01 General RF Exposure Guidance, when the simultaneous transmission SAR is less than1.6 W/kg, SPLSR assessment is not required.

·SPLSR mean is “The SAR to Peak Location Separation Ratio “

Sum of the SAR for LTE Band 2 &5.2GHz WiFi & BT:

RF Exposure Conditions	Test Position	Simultaneous Transmission Scenario			Σ1-g SAR (W/kg)	SPLSR (Yes/No)
		LTE Band 2	5.2GHz WiFi DTS Band	Bluetooth		
Head	Left Touch	0.041	0.033		0.074	No
	Left Tilt	0.031	0.051		0.082	No
	Right Touch	0.152	0.028		0.180	No
	Right Tilt	0.035	0.046		0.081	No
Head	Left Touch	0.041		0.105	0.146	No
	Left Tilt	0.031		0.105	0.136	No
	Right Touch	0.152		0.105	0.257	No
	Right Tilt	0.035		0.105	0.140	No
Body-worn	Rear	0.276	0.036		0.312	No
	Front	0.184	0.019		0.203	No
	Edge 4	0.016	0.061		0.077	No
	Rear	0.276		0.053	0.329	No
	Front	0.184		0.053	0.237	No
	Edge 4	0.016		0.053	0.069	No

Note:

·According to KDB 447498 D01 General RF Exposure Guidance, when the simultaneous transmission SAR is less than1.6 W/kg, SPLSR assessment is not required.
·SPLSR mean is “The SAR to Peak Location Separation Ratio “

Sum of the SAR for LTE Band 4 &5.2GHz WiFi & BT:

RF Exposure Conditions	Test Position	Simultaneous Transmission Scenario			Σ1-g SAR (W/kg)	SPLSR (Yes/No)
		LTE Band 4	5.2GHz WiFi DTS Band	Bluetooth		
Head	Left Touch	0.041	0.033		0.074	No
	Left Tilt	0.035	0.051		0.086	No
	Right Touch	0.072	0.028		0.100	No
	Right Tilt	0.052	0.046		0.098	No
Head	Left Touch	0.041		0.105	0.146	No
	Left Tilt	0.035		0.105	0.140	No
	Right Touch	0.072		0.105	0.177	No
	Right Tilt	0.052		0.105	0.157	No
Body-worn	Rear	0.178	0.036		0.214	No
	Front	0.058	0.019		0.077	No
	Edge 4	0.027	0.061		0.088	No
	Rear	0.178		0.053	0.231	No
	Front	0.058		0.053	0.111	No
	Edge 4	0.027		0.053	0.080	No

Note:

·According to KDB 447498 D01 General RF Exposure Guidance, when the simultaneous transmission SAR is less than1.6 W/kg, SPLSR assessment is not required.
·SPLSR mean is “The SAR to Peak Location Separation Ratio “

Sum of the SAR for LTE Band 5 &5.2GHz WiFi & BT:

RF Exposure Conditions	Test Position	Simultaneous Transmission Scenario			Σ1-g SAR (W/kg)	SPLSR (Yes/No)
		LTE Band 5	5.2GHz WiFi DTS Band	Bluetooth		
Head	Left Touch	0.007	0.033		0.040	No
	Left Tilt	0.003	0.051		0.054	No
	Right Touch	0.018	0.028		0.046	No
	Right Tilt	0.005	0.046		0.051	No
Head	Left Touch	0.007		0.105	0.112	No
	Left Tilt	0.003		0.105	0.108	No
	Right Touch	0.018		0.105	0.123	No
	Right Tilt	0.005		0.105	0.110	No
Body-worn	Rear	0.042	0.036		0.078	No
	Front	0.019	0.019		0.038	No
	Edge 4	0.040	0.061		0.101	No
	Rear	0.042		0.053	0.095	No
	Front	0.019		0.053	0.072	No
	Edge 4	0.040		0.053	0.093	No

Note:

·According to KDB 447498 D01 General RF Exposure Guidance, when the simultaneous transmission SAR is less than1.6 W/kg, SPLSR assessment is not required.
·SPLSR mean is “The SAR to Peak Location Separation Ratio “

Sum of the SAR for LTE Band 7 &5.2GHz WiFi & BT:

RF Exposure Conditions	Test Position	Simultaneous Transmission Scenario			Σ1-g SAR (W/kg)	SPLSR (Yes/No)
		LTE Band 7	5.2GHz WiFi DTS Band	Bluetooth		
Head	Left Touch	0.082	0.033		0.115	No
	Left Tilt	0.049	0.051		0.100	No
	Right Touch	0.137	0.028		0.165	No
	Right Tilt	0.110	0.046		0.156	No
Head	Left Touch	0.082		0.105	0.187	No
	Left Tilt	0.049		0.105	0.154	No
	Right Touch	0.137		0.105	0.242	No
	Right Tilt	0.110		0.105	0.215	No
Body-worn	Rear	0.390	0.036		0.426	No
	Front	0.432	0.019		0.451	No
	Edge 4	0.393	0.061		0.454	No
	Rear	0.390		0.053	0.443	No
	Front	0.432		0.053	0.485	No
	Edge 4	0.393		0.053	0.446	No

Note:

·According to KDB 447498 D01 General RF Exposure Guidance, when the simultaneous transmission SAR is less than1.6 W/kg, SPLSR assessment is not required.
·SPLSR mean is “The SAR to Peak Location Separation Ratio “

Sum of the SAR for LTE Band 12 &5.2GHz WiFi & BT:

RF Exposure Conditions	Test Position	Simultaneous Transmission Scenario			Σ1-g SAR (W/kg)	SPLSR (Yes/No)
		LTE Band 12	5.2GHz WiFi DTS Band	Bluetooth		
Head	Left Touch	0.043	0.033		0.076	No
	Left Tilt	0.012	0.051		0.063	No
	Right Touch	0.015	0.028		0.043	No
	Right Tilt	0.013	0.046		0.059	No
Head	Left Touch	0.043		0.105	0.148	No
	Left Tilt	0.012		0.105	0.117	No
	Right Touch	0.015		0.105	0.120	No
	Right Tilt	0.013		0.105	0.118	No
Body-worn	Rear	0.092	0.036		0.128	No
	Front	0.028	0.019		0.047	No
	Edge 4	0.111	0.061		0.172	No
	Rear	0.092		0.053	0.145	No
	Front	0.028		0.053	0.081	No
	Edge 4	0.111		0.053	0.164	No

Note:

·According to KDB 447498 D01 General RF Exposure Guidance, when the simultaneous transmission SAR is less than1.6 W/kg, SPLSR assessment is not required.
·SPLSR mean is “The SAR to Peak Location Separation Ratio “

Sum of the SAR for LTE Band 13 &5.2GHz WiFi & BT:

RF Exposure Conditions	Test Position	Simultaneous Transmission Scenario			Σ1-g SAR (W/kg)	SPLSR (Yes/No)
		LTE Band 13	5.2GHz WiFi DTS Band	Bluetooth		
Head	Left Touch	0.049	0.033		0.082	No
	Left Tilt	0.015	0.051		0.066	No
	Right Touch	0.077	0.028		0.105	No
	Right Tilt	0.041	0.046		0.087	No
Head	Left Touch	0.049		0.105	0.154	No
	Left Tilt	0.015		0.105	0.120	No
	Right Touch	0.077		0.105	0.182	No
	Right Tilt	0.041		0.105	0.146	No
Body-worn	Rear	0.121	0.036		0.157	No
	Front	0.064	0.019		0.083	No
	Edge 4	0.083	0.061		0.144	No
	Rear	0.121		0.053	0.174	No
	Front	0.064		0.053	0.117	No
	Edge 4	0.083		0.053	0.136	No

Note:

·According to KDB 447498 D01 General RF Exposure Guidance, when the simultaneous transmission SAR is less than1.6 W/kg, SPLSR assessment is not required.
·SPLSR mean is “The SAR to Peak Location Separation Ratio “

Sum of the SAR for LTE Band 17 &5.2GHz WiFi & BT:

RF Exposure Conditions	Test Position	Simultaneous Transmission Scenario			Σ1-g SAR (W/kg)	SPLSR (Yes/No)
		LTE Band 17	5.2GHz WiFi DTS Band	Bluetooth		
Head	Left Touch	0.071	0.033		0.104	No
	Left Tilt	0.001	0.051		0.052	No
	Right Touch	0.093	0.028		0.121	No
	Right Tilt	0.047	0.046		0.093	No
Head	Left Touch	0.071		0.105	0.176	No
	Left Tilt	0.001		0.105	0.106	No
	Right Touch	0.093		0.105	0.198	No
	Right Tilt	0.047		0.105	0.152	No
Body-worn	Rear	0.291	0.036		0.327	No
	Front	0.165	0.019		0.184	No
	Edge 4	0.072	0.061		0.133	No
	Rear	0.291		0.053	0.344	No
	Front	0.165		0.053	0.218	No
	Edge 4	0.072		0.053	0.125	No

Note:

·According to KDB 447498 D01 General RF Exposure Guidance, when the simultaneous transmission SAR is less than1.6 W/kg, SPLSR assessment is not required.
·SPLSR mean is “The SAR to Peak Location Separation Ratio “

Sum of the SAR for LTE Band 25 &5.2GHz WiFi & BT:

RF Exposure Conditions	Test Position	Simultaneous Transmission Scenario			Σ1-g SAR (W/kg)	SPLSR (Yes/No)
		LTE Band 25	5.2GHz WiFi DTS Band	Bluetooth		
Head	Left Touch	0.083	0.033		0.116	No
	Left Tilt	0.020	0.051		0.071	No
	Right Touch	0.050	0.028		0.078	No
	Right Tilt	0.027	0.046		0.073	No
Head	Left Touch	0.083		0.105	0.188	No
	Left Tilt	0.020		0.105	0.125	No
	Right Touch	0.050		0.105	0.155	No
	Right Tilt	0.027		0.105	0.132	No
Body-worn	Rear	0.193	0.036		0.229	No
	Front	0.127	0.019		0.146	No
	Edge 4	0.080	0.061		0.141	No
	Rear	0.193		0.053	0.246	No
	Front	0.127		0.053	0.180	No
	Edge 4	0.080		0.053	0.133	No

Note:

·According to KDB 447498 D01 General RF Exposure Guidance, when the simultaneous transmission SAR is less than1.6 W/kg, SPLSR assessment is not required.
·SPLSR mean is “The SAR to Peak Location Separation Ratio “

Sum of the SAR for LTE Band 26 &5.2GHz WiFi & BT:

RF Exposure Conditions	Test Position	Simultaneous Transmission Scenario			Σ1-g SAR (W/kg)	SPLSR (Yes/No)
		LTE Band 26	5.2GHz WiFi DTS Band	Bluetooth		
Head	Left Touch	0.150	0.033		0.183	No
	Left Tilt	0.068	0.051		0.119	No
	Right Touch	0.160	0.028		0.188	No
	Right Tilt	0.080	0.046		0.126	No
Head	Left Touch	0.150		0.105	0.255	No
	Left Tilt	0.068		0.105	0.173	No
	Right Touch	0.160		0.105	0.265	No
	Right Tilt	0.080		0.105	0.185	No
Body-worn	Rear	0.261	0.036		0.297	No
	Front	0.198	0.019		0.217	No
	Edge 4	0.130	0.061		0.191	No
	Rear	0.261		0.053	0.314	No
	Front	0.198		0.053	0.251	No
	Edge 4	0.130		0.053	0.183	No

Note:

·According to KDB 447498 D01 General RF Exposure Guidance, when the simultaneous transmission SAR is less than1.6 W/kg, SPLSR assessment is not required.
·SPLSR mean is “The SAR to Peak Location Separation Ratio “

Sum of the SAR for LTE Band 41 &5.2GHz WiFi & BT:

RF Exposure Conditions	Test Position	Simultaneous Transmission Scenario			Σ1-g SAR (W/kg)	SPLSR (Yes/No)
		LTE Band 41	5.2GHz WiFi DTS Band	Bluetooth		
Head	Left Touch	0.179	0.033		0.212	No
	Left Tilt	0.054	0.051		0.105	No
	Right Touch	0.134	0.028		0.162	No
	Right Tilt	0.138	0.046		0.184	No
Head	Left Touch	0.179		0.105	0.284	No
	Left Tilt	0.054		0.105	0.159	No
	Right Touch	0.134		0.105	0.239	No
	Right Tilt	0.138		0.105	0.243	No
Body-worn	Rear	0.275	0.036		0.311	No
	Front	0.247	0.019		0.266	No
	Edge 4	0.243	0.061		0.304	No
	Rear	0.275		0.053	0.328	No
	Front	0.247		0.053	0.300	No
	Edge 4	0.243		0.053	0.296	No

Note:

·According to KDB 447498 D01 General RF Exposure Guidance, when the simultaneous transmission SAR is less than1.6 W/kg, SPLSR assessment is not required.
·SPLSR mean is “The SAR to Peak Location Separation Ratio “

APPENDIX A. SAR SYSTEM CHECK DATA

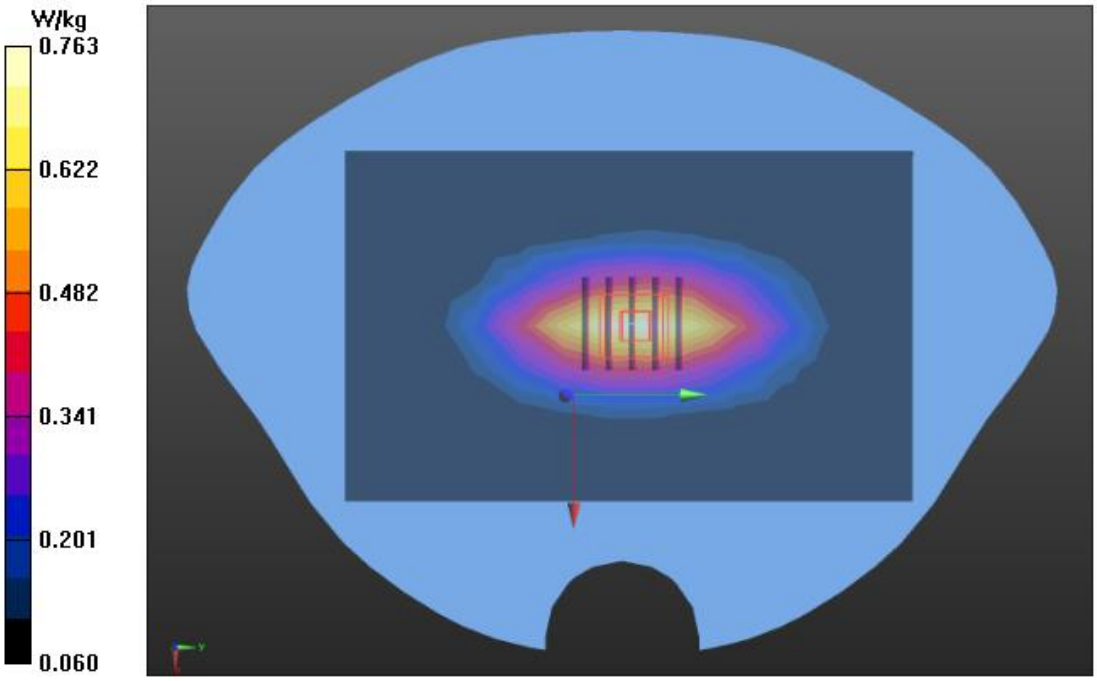
Test Laboratory: AGC Lab **Date: Feb. 10, 2022**
System Check Head 750MHz
DUT: Dipole 750 MHz Type: SID 750

Communication System: CW; Communication System Band: D750 (750.0 MHz); Duty Cycle: 1:1;
Frequency: 750 MHz; Medium parameters used: f = 750MHz; σ=0.90 mho/m; εr =42.61; ρ= 1000 kg/m³ ;
Phantom section: Flat Section; Input Power=18dBm
Ambient temperature (℃): 21.2, Liquid temperature (℃): 21.0

DASY Configuration:
• Probe: EX3DV4 – SN:3953; ConvF(10.37, 10.37, 10.37); Calibrated: Aug. 27,2021;
• Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 1.0, 31.0
• Electronics: DAE4 SN1398; Calibrated: May 17,2021
• Phantom: SAM (20deg probe tilt) with CRP v5.0; Type: QD000P40CD;
• DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Configuration/System Check Head 750MHz**/Area Scan (9x14x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.743 W/kg

Configuration/System Check Head 750MHz**/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 27.578 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 0.952 W/kg
SAR(1 g) = 0.540 W/kg; SAR(10 g) = 0.351 W/kg
Maximum value of SAR (measured) = 0.763 W/kg



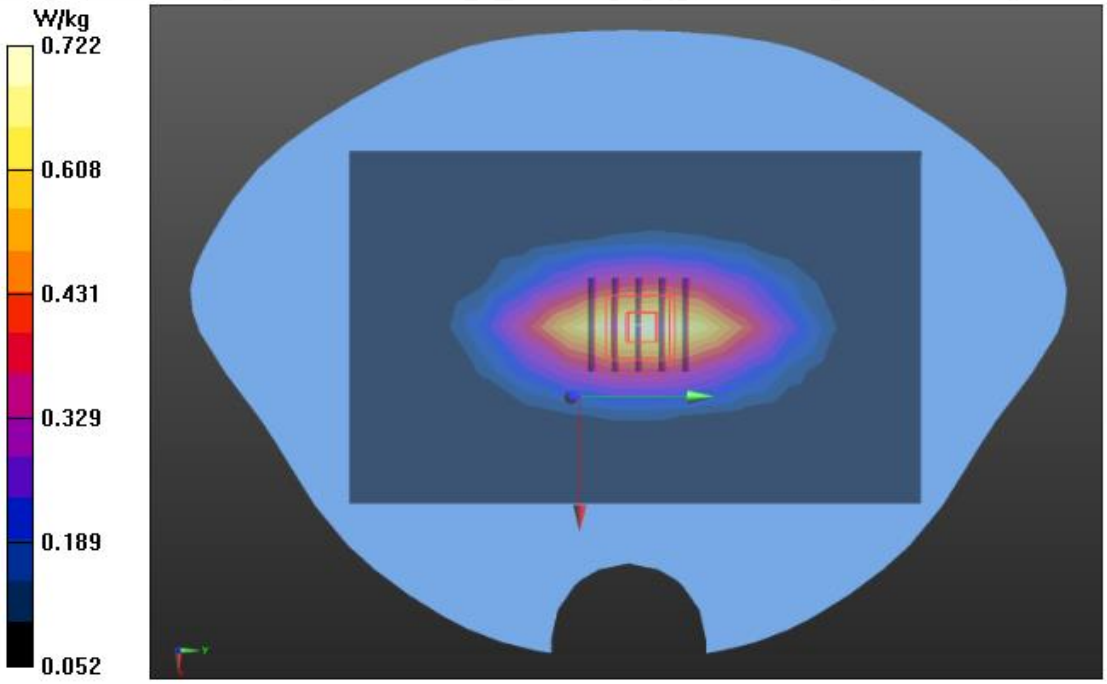
Test Laboratory: AGC Lab **Date: Feb. 08, 2022**
System Check Head 835 MHz
DUT: Dipole 835 MHz Type: SID 835

Communication System CW; Communication System Band: D835 (835.0 MHz); Duty Cycle: 1:1;
Frequency: 835 MHz; Medium parameters used: f = 835 MHz; σ=0.92 mho/m; εr =41.16; ρ= 1000 kg/m³ ;
Phantom section: Flat Section; Input Power=18dBm
Ambient temperature (℃):20.7, Liquid temperature (℃): 20.5

DASY Configuration:
• Probe: EX3DV4 – SN:3953; ConvF(10.01, 10.01, 10.01); Calibrated: Aug. 27,2021;
• Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 1.0, 31.0
• Electronics: DAE4 SN1398; Calibrated: May 17,2021
• Phantom: SAM (20deg probe tilt) with CRP v5.0; Type: QD000P40CD;
• DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Configuration/System Check Head 835MHz/Area Scan (9x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.724 W/kg

Configuration/System Check Head 835MHz/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 27.431 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.984 W/kg
SAR(1 g) = 0.620 W/kg; SAR(10 g) = 0.391 W/kg
Maximum value of SAR (measured) = 0.722 W/kg



Test Laboratory: AGC Lab **Date: Feb. 09, 2022**
System Check Head 835 MHz
DUT: Dipole 835 MHz Type: SID 835

Communication System CW; Communication System Band: D835 (835.0 MHz); Duty Cycle: 1:1;
Frequency: 835 MHz; Medium parameters used: f = 835 MHz; σ=0.89 mho/m; εr =42.89; ρ= 1000 kg/m³ ;
Phantom section: Flat Section; Input Power=18dBm
Ambient temperature (℃): 20.6, Liquid temperature (℃): 20.4

DASY Configuration:
• Probe: EX3DV4 – SN:3953; ConvF(10.01, 10.01, 10.01); Calibrated: Aug. 27,2021;
• Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 1.0, 31.0
• Electronics: DAE4 SN1398; Calibrated: May 17,2021
• Phantom: SAM (20deg probe tilt) with CRP v5.0; Type: QD000P40CD;
• DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Configuration/System Check Head 835MHz/Area Scan (9x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.721 W/kg

Configuration/System Check Head 835MHz/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 23.617 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 1.05 W/kg
SAR(1 g) = 0.622 W/kg; SAR(10 g) = 0.401 W/kg
Maximum value of SAR (measured) = 0.794 W/kg