FCC SAR REPORT

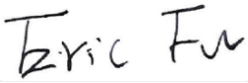
Application No:	SZCR2404001381AT
Applicant:	Wuxi iData Technology Company Ltd.
Address of Applicant:	Floor 11, Building B1. Wuxi Binhu National Sensing Information Center, No.999 Gaolang East Road, Wuxi, China
Manufacturer:	Wuxi iData Technology Company Ltd.
Address of Manufacturer:	Floor 11, Building B1. Wuxi Binhu National Sensing Information Center, No.999 Gaolang East Road, Wuxi, China
Product Name:	New Mobile Computer
Model No.(EUT):	iData T1 Pro, iData T1A Pro, iData T1T Pro, iData T1P Pro, iData T1S Pro, iData T1L Pro, iData T1C Pro, iData T1M Pro, iData T1HC Pro, iData T1 Pro HC, iData T1 Pro 27°, iData T1 Pro 45°, iData T1 Pro Angle, iData T1 Pro Plus, iData T1 Pro Lite, iData T1 Pro Max, iData T1 Pro Ultra, iData T1 Pro Color, iData T1 Pro Premium, iData T1 Pro Edition, iData T1 Pro Plus Edition, iData T1 Pro UHF, T1 Pro, T1A Pro, T1T Pro, T1P Pro, T1S Pro, T1L Pro, T1C Pro, T1M Pro, T1HC Pro, T1 Pro HC, T1 Pro 27°, T1 Pro 45°, T1 Pro Angle, T1 Pro Plus, T1 Pro Lite, T1 Pro Max, T1 Pro Ultra, T1 Pro Color, T1 Pro Premium, T1 Pro Edition, T1 Pro Plus Edition, T1 Pro UHF, S37, M62, C55, T80, Y81, Z36 ♣
♣	Please refer to section 1.1 of this report which indicates which model was actually tested and which were electrically identical.
Trade Mark:	iData
FCC ID:	2ADE3IDATAT1PRO
Standards:	FCC 47CFR §2.1093
Date of Receipt:	2024-05-26
Date of Test:	2024-05-28 to 2024-06-07
Date of Issue:	2024-06-14
Test conclusion:	**PASS ***

* In the configuration tested, the EUT detailed in this report complied with the standards specified above.

Keny Xu
Laboratory Manager

REVISION HISTORY

Version	Description	Date	Remark
00	Original	2024-06-14	/

Authorized for issue by:				
				
		Roman Pan / Project Engineer		
				
		Eric Fu / Reviewer		

TEST SUMMARY

Frequency Band	Maximum Reported SAR(W/kg)		
	Head	Body&Hotspot	Product specific 10g SAR
GSM850	0.551	0.249	/
GSM1900	0.261	0.501	/
WCDMA Band II	0.239	0.394	/
WCDMA Band IV	0.338	0.355	/
WCDMA Band V	0.410	0.401	/
LTE Band 2	0.243	0.418	/
LTE Band 4	0.295	0.350	/
LTE Band 5	0.410	0.434	/
LTE Band 7	0.554	**1.155**	/
LTE Band 12	0.220	0.374	/
LTE Band 17	0.255	0.425	/
LTE Band 38	0.380	0.526	/
LTE Band 41	0.345	0.316	/
WI-FI (2.4GHz)	0.511	0.134	/
WI-FI (5GHz)	**0.731**	0.194	0.232
BT	0.094	0.025	/
SAR Limited(W/kg)	1.6		4.0
Maximum Simultaneous Transmission SAR (W/kg)			
Scenario	Head	Hotspot	Product specific 10g SAR
Sum SAR	**1.379**	1.218	/
SPLSR	/	/	/
SPLSR Limited	0.04		0.1

CONTENTS

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Nanshan District, Shenzhen, Guangdong, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn
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1 General Information

1.1 General Description of EUT

Product Phase:	Production unit		
Device Type :	Portable device		
Exposure Category:	Uncontrolled environment / general population		
SN:	860885059334402/ 860885059943525		
Hardware Version:	T1-2		
Software Version:	14.00.007		
Antenna Gain:	BT/2.4G WIFI antenna gain: 2.2dBi 5G WIFI antenna gain: 0.8dBi GSM850:-2.1dBi; PCS1900:-1.6dBi WCDMA B2:-1.6dBi; B4: 0.9dBi; B5:-2.1dBi LTE B2:-1.6dBi;B4: 0.9dBi; B5:-2.1dBi,B7:3.4dBi,B12:-1.1dBi, B17:-1.1dBi,B38:3.4dBi,,B41:3.4dBi		
Antenna Type:	PIFA antenna		
Device Operating Configurations:			
Modulation Mode:	GSM:GMSK,8PSK;WCDMA:QPSK LTE:QPSK,16QAM; WIFI:DSSS,OFDM;BT: GFSK, π/4DQPSK,8DPSK		
GPRS Multi-slots Class:	12	EGPRS Multi-slots Class:	12
HSDPA UE Category:	14	HSUPA UE Category:	6
Power Class:	1, tested with power level 5(GSM900)		
	2, tested with power level 0(GSM1800)		
	3, tested with power control “all 1” (All WCDMA Bands)		
	4, tested with power control Max Power (All LTE Bands)		
Frequency Bands:	Band	Tx (MHz)	Rx (MHz)
	GSM850	824-849	869-894
	GSM1900	1850-1910	1930-1990
	WCDMA Band II	1850-1910	1930-1990
	WCDMA Band IV	1710-1755	2110- 2155
	WCDMA Band V	824-849	869-894
	LTE Band 2	1850-1910	1930-1990
	LTE Band 4	1710-1755	2110- 2155
	LTE Band 5	824-849	869-894
	LTE Band 7	2500-2570	2620- 2690
	LTE Band 12	699-716	729-746
	LTE Band 17	704-716	734-746
	LTE Band 38	2570-2620	2570-2620
	LTE Band 41	2496-2690	2496-2690
	WIFI(2.4GHz)	2412~2462	2412~2462
	WIFI(5GHz)	5150-5825	5150-5825
	BT BLE	2402~2480	2402~2480
Battery Information:	Model:	H2461	
	Normal Voltage :	DC3.85V	

	Rated capacity :	5000mAh
	Battery Type :	Rechargeable Li-ion Battery
	Manufacturer	Zhongshan Tianmao Battery Co.,Ltd

Declaration of EUT Family Grouping:

Model No.: iData T1 Pro, iData T1A Pro, iData T1T Pro, iData T1P Pro, iData T1S Pro, iData T1L Pro, iData T1C Pro, iData T1M Pro, iData T1HC Pro, iData T1 Pro HC, iData T1 Pro 27°, iData T1 Pro 45°, iData T1 Pro Angle, iData T1 Pro Plus, iData T1 Pro Lite, iData T1 Pro Max, iData T1 Pro Ultra, iData T1 Pro Color, iData T1 Pro Premium, iData T1 Pro Edition, iData T1 Pro Plus Edition, iData T1 Pro UHF, T1 Pro, T1A Pro, T1T Pro, T1P Pro, T1S Pro, T1L Pro, T1C Pro, T1M Pro, T1HC Pro, T1 Pro HC, T1 Pro 27°, T1 Pro 45°, T1 Pro Angle, T1 Pro Plus, T1 Pro Lite, T1 Pro Max, T1 Pro Ultra, T1 Pro Color, T1 Pro Premium, T1 Pro Edition, T1 Pro Plus Edition, T1 Pro UHF, S37, M62, C55, T80, Y81, Z36

Only the model iData T1 Pro was tested, since according to the declaration from the applicant, the electrical circuit design, PCB layout, components used, internal wiring and functions were identical for all the above models, with only difference on color and pattern.

1.2 Test Specification

Identity	Document Title
FCC 47CFR §2.1093	Radiofrequency Radiation Exposure Evaluation: Portable Devices
ANSI/IEEE C95.1-1992	IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz – 300 GHz.
IEEE 1528-2013	Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques
KDB 941225 D01	3G SAR Measurement Procedures v03r01
KDB 941225 D05	SAR for LTE Devices v02r05
KDB 941225 D05A	LTE Rel.10 KDB Inquiry Sheet v01r02
KDB 941225 D06	Hotspot Mode SAR v02r01
KDB 248227 D01	SAR Guidance for IEEE 802 11 Wi-Fi SAR v02r02
KDB 648474 D04	Handset SAR v01r03
KDB 447498 D04	Interim General RF Exposure Guidance v01
KDB 865664 D01	SAR Measurement 100 MHz to 6 GHz v01r04
KDB 865664 D02	RF Exposure Reporting v01r02
KDB 690783 D01	SAR Listings on Grants v01r03

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1.3 RF exposure limits

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

Notes:
* The Spatial Peak value of the SAR averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time
** The Spatial Average value of the SAR averaged over the whole body.
*** The Spatial Peak value of the SAR averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.
Uncontrolled Environments are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure.
Controlled Environments are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e. as a result of employment or occupation.)

1.4 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch
No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Nanshan District, Shenzhen, Guangdong, China. 518057.

Tel: +86 755 2601 2053 Fax: +86 755 2671 0594
No tests were sub-contracted.

1.5 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

• A2LA (Certificate No. 3816.01)

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

• VCCI (Member No. 1937)

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen EMC laboratory have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

• FCC –Designation Number: CN1336

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1336. Test Firm Registration Number: 787754.

• Innovation, Science and Economic Development Canada

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0006.

IC#: 4620C.

2 Laboratory Environment

Temperature	Min. = 18°C, Max. = 25 °C
Relative humidity	Min. = 30%, Max. = 70%
Ambient noise is checked and found very low and in compliance with requirement of standards. Reflection of surrounding objects is minimized and in compliance with requirement of standards.	

Table 1： The Ambient Conditions

3 SAR Measurements System Configuration

3.1 The SAR Measurement System

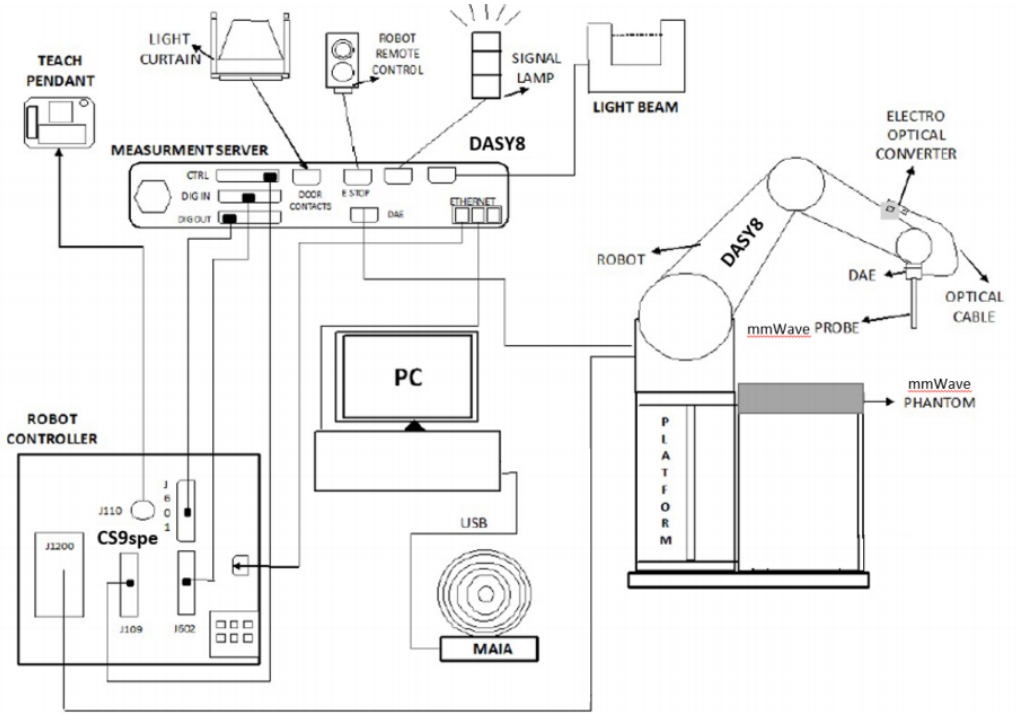
This SAR Measurement System uses a Computer-controlled 3-D stepper motor system (SPEAG DASY professional system). A E-field probe is used to determine the internal electric fields. The SAR can be obtained from the equation SAR= σ (|Ei|2)/ ρ where σ and ρ are the conductivity and mass density of the tissue-Simulate.

The DASY system for performing compliance tests consists of the following items:
A standard high precision 6-axis robot (Stabile RX family) with controller, teach pendant and software an arm extension for accommodation the data acquisition electronics (DAE).

A dosimetric probe, i.e., an isotropic E-field probe optimized and calibrated for usage in tissue simulating liquid. The probe is equipped with an optical surface detector system.

A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.

The Electro-optical converter (EOC) performs the conversion between optical and electrical of the signals for the digital communication to DAE and for the analog signal from the optical surface detection. The EOC is connected to the measurement server.



SAR Measurement System Configuration

- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- A probe alignment unit which improves the (absolute) accuracy of the probe positioning.
- A computer operating Windows system.
- DASY software.
- Remote control with teach pendant and additional circuitry for robot safety such as warning lamps, etc.
- The SAM twin phantom enabling testing left-hand, right-hand and Body Worn usage.
- The device holder for handheld mobile phones.
- Tissue simulating liquid mixed according to the given recipes.
- Validation dipole kits allowing to validat the proper functioning of the system.

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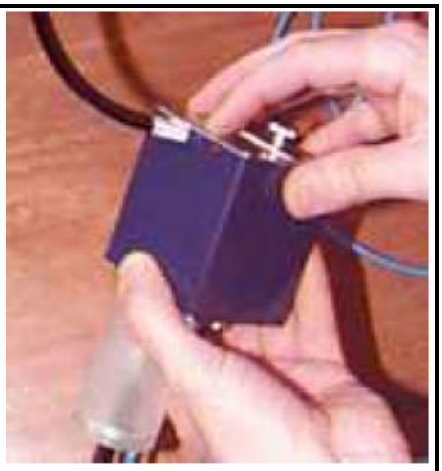
3.2 Isotropic E-field Probe EX3DV4

	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Calibration	ISO/IEC 17025 calibration service available.
Frequency	10 MHz to > 6 GHz Linearity: ± 0.2 dB (30 MHz to 6 GHz)
Directivity	± 0.3 dB in TSL (rotation around probe axis) ± 0.5 dB in TSL (rotation normal to probe axis)
Dynamic Range	10 µW/g to > 100 mW/g Linearity: ± 0.2 dB (noise: typically < 1 µW/g)
Dimensions	Overall length: 337 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm
Application	High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields); the only probe that enables compliance testing for frequencies up to 6 GHz with precision of better 30%.
Compatibility	DASY52 SAR and higher, EASY4/MRI

3.3 Data Acquisition Electronics (DAE)

Model	DAE4	
Construction	Signal amplifier, multiplexer, A/D converter and control logic. Serial optical link for communication with DASY4/5 embedded system (fully remote controlled). Two step probe touch detector for mechanical surface detection and emergency robot stop.	
Measurement Range	-100 to +300 mV (16 bit resolution and two range settings: 4mV,400mV)	
Input Offset Voltage	< 5µV (with auto zero)	
Input Bias Current	< 50 f A	
Dimensions	60 x 60 x 68 mm	

3.4 SAM Twin Phantom

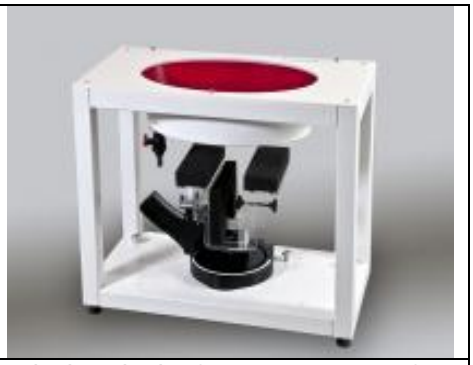
Material	Vinylester, glass fiber reinforced (VE-GF)	
Liquid Compatibility	Compatible with all SPEAG tissue simulating liquids (incl. DGBE type)	
Shell Thickness	2 ± 0.2 mm (6 ± 0.2 mm at ear point)	
Dimensions (incl. Wooden Support)	Length: 1000 mm Width: 500 mm Height: adjustable feet	
Filling Volume	approx. 25 liters	
Wooden Support	SPEAG standard phantom table	

The shell corresponds to the specifications of the Specific Anthropomorphic Mannequin (SAM) phantom defined in IEEE 1528 and IEC 62209-1. It enables the dosimetric evaluation of left and right hand phone usage as well as body mounted usage at the flat phantom region. A cover prevents evaporation of the liquid. Reference markings on the phantom allow the complete setup of all predefined phantom positions and measurement grids by teaching three points with the robot.

Twin SAM V5.0 has the same shell geometry and is manufactured from the same material as Twin SAM V4.0, but has reinforced top structure.

3.5 ELI Phantom

Material	Vinylester, glass fiber reinforced (VE-GF)
Liquid Compatibility	Compatible with all SPEAG tissue simulating liquids (incl. DGBE type)
Shell Thickness	2.0 ± 0.2 mm (bottom plate)
Dimensions	Major axis: 600 mm Minor axis: 400 mm
Filling Volume	approx. 30 liters
Wooden Support	SPEAG standard phantom table



Phantom for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30 MHz to 6 GHz. ELI is fully compatible with the IEC 62209-2 standard and all known tissue simulating liquids. ELI has been optimized regarding its performance and can be integrated into our standard phantom tables. A cover prevents evaporation of the liquid. Reference markings on the phantom allow installation of the complete setup, including all predefined phantom positions and measurement grids, by teaching three points. The phantom is compatible with all SPEAG dosimetric probes and dipoles.

ELI V5.0 has the same shell geometry and is manufactured from the same material as ELI4, but has reinforced top structure.

3.6 Device Holder for Transmitters

F-1. **Device Holder for Transmitters**

- 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 centres for both scales are the ear reference point (ERP). 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 procedure

3.7.1 Scanning procedure

Step 1: Power reference measurement

The “reference” and “drift” measurements are located at the beginning and end of the batch process. They measure the field drift at one single point in the liquid over the complete procedure.

Step 2: *Area scan*

The SAR distribution at the exposed side of the head was measured at a distance of 4mm from the inner surface of the shell. The area covered the entire dimension of the head and the horizontal grid spacing was 15mm*15mm.Based on the area scan data, the area of the maximum absorption was determined by spline interpolation.

Step 3: *Zoom scan*

Around this point, a volume of 30mm*30mm*30mm (fine resolution volume scan, zoom scan) was assessed by measuring 5x5x7 points. On this basis of this data set, the spatial peak SAR value was evaluated with the following procedure:

The data at the surface was extrapolated, since the centre of the dipoles is 2.0mm away from the tip of the probe and the distance between the surface and the lowest measuring point is 1.2mm. (This can be variable. Refer to the probe specification).The extrapolation was based on a least square algorithm. A polynomial of the fourth order was calculated through the points in z-axes. This polynomial was then used to evaluate the points between the surface and the probe tip. The maximum interpolated value was searched with a straight-forward algorithm. Around this maximum the SAR values averaged over the spatial volumes (1g or 10g) were computed using the 3D-Spline interpolation algorithm. The volume was integrated with the trapezoidal algorithm. One thousand points were interpolated to calculate the average. All neighbouring volumes were evaluated until no neighboring volume with a higher average value was found.

The area and zoom scan resolutions specified in the table below must be applied to the SAR measurements Probe boundary effect error compensation is required for measurements with the probe tip closer than half a probe tip diameter to the phantom surface. Both the probe tip diameter and sensor offset distance must satisfy measurement protocols; to ensure probe boundary effect errors are minimized and the higher fields closest to the phantom surface can be correctly measured and extrapolated to the phantom surface for computing 10-g SAR. Tolerances of the post-processing algorithms must be verified by the test laboratory for the scan resolutions used in the SAR measurements, according to the reference distribution functions specified in EN 62209-1/2.

Step 4: Power reference measurement (drift)

The Power Drift Measurement job measures the field at the same location as the most recent power reference measurement job within the same procedure, and with the same settings. The indicated drift is mainly the variation of the DUT’s output power and should vary max. ± 5 %

3.7.2 Data Storage

The DASY software stores the acquired data from the data acquisition electronics as raw data (in microvolt readings from the probe sensors), together with all necessary software parameters for the data evaluation (probe calibration data, liquid parameters and device frequency and modulation data) in measurement files with the extension ".DAE". The software evaluates the desired unit and format for output each time the data is visualized or exported. This allows verification of the complete software setup even after the measurement and allows correction of incorrect parameter settings. For example, if a measurement has been performed with a wrong crest factor parameter in the device setup, the parameter can be corrected afterwards and the data can be re-evaluated. The measured data can be visualized or exported in different units or formats, depending on the selected probe type ([V/m], [A/m], [°C], [m W/g], [m W/cm²], [dBrel], etc.). Some of these units are not available in certain situations or show meaningless results, e.g., a SAR output in a lossless media will always be zero. Raw data can also be exported to perform the evaluation with other software packages.

3.7.3 Data Evaluation by SEMCAD

The SEMCAD software automatically executes the following procedures to calculate the field units from the microvolt readings at the probe connector. The parameters used in the evaluation are stored in the configuration modules of the software:

Probe parameters:	- Sensitivity	Normi, ai0, ai1, ai2
	- Conversion factor	ConvFi
	- Diode compression point	Dcpi
Device parameters:	- Frequency	f
	- Crest factor	cf
Media parameters:	- Conductivity	ε
	- Density	ρ

These parameters must be set correctly in the software. They can be found in the component documents or they can be imported into the software from the configuration files issued for the DASY components. In the direct measuring mode of the multimeter option, the parameters of the actual system setup are used. In the scan visualization and export modes, the parameters stored in the corresponding document files are used.

The first step of the evaluation is a linearization of the filtered input signal to account for the compression characteristics of the detector diode. The compensation depends on the input signal, the diode type and the DC-transmission factor from the diode to the evaluation electronics.

If the exciting field is pulsed, the crest factor of the signal must be known to correctly compensate for peak power. The formula for each channel can be given as:

$$V_i = U_i + U_i^2 \cdot cf / dcp_i$$

With Vi = compensated signal of channel i (i = x, y, z)

Ui = input signal of channel i (i = x, y, z)

cf = crest factor of exciting field (DASY parameter)

dcp i = diode compression point (DASY parameter)

From the compensated input signals the primary field data for each channel can be evaluated:

E-field probes:

$$E_i = (V_i / Norm_i \cdot ConvF)^{1/2}$$

H-field probes:

$$H_i = (V_i)^{1/2} \cdot (a_{i0} + a_{i1} f + a_{i2} f^2) / f$$

With Vi = compensated signal of channel i (i = x, y, z)
Normi = sensor sensitivity of channel I (i = x, y, z)
[mV/(V/m)2] for E-field Probes
ConvF = sensitivity enhancement in solution
aij = sensor sensitivity factors for H-field probes
f = carrier frequency [GHz]
Ei = electric field strength of channel i in V/m

Hi = magnetic field strength of channel i in A/m

The RSS value of the field components gives the total field strength (Hermitian magnitude):

$$E_{tot} = (E_x^2 + E_Y^2 + E_z^2)^{1/2}$$

The primary field data are used to calculate the derived field units.

$$SAR = (Etot^2 \cdot \sigma) / (\varepsilon \cdot 1000)$$

with SAR = local specific absorption rate in mW/g

Etot = total field strength in V/m

σ= conductivity in [mho/m] or [Siemens/m]

ε= equivalent tissue density in g/cm3

Note that the density is normally set to 1 (or 1.06), to account for actual brain density rather than the density of the simulation liquid. The power flow density is calculated assuming the excitation field to be a free space field.

$$P_{pwe} = E_{tot}{}^2{}_2 / 3770 \text{ or } \quad P_{pwe} = H_{tot}^2 \cdot 37.7$$

with Ppwe = equivalent power density of a plane wave in mW/cm2
Etot = total electric field strength in V/m

Htot = total magnetic field strength in A/m

4 SAR measurement variability and uncertainty

4.1 SAR measurement variability

Per KDB 865664 D01 SAR measurement 100 MHz to 6 GHz v01r04, SAR measurement variability must be assessed for each frequency band, which is determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. The additional measurements are repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device should be returned to ambient conditions (normal room temperature) with the battery fully charged before it is re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.

1) Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg; steps 2) through 4) do not apply.

2) When the original highest measured SAR is ≥ 0.80 W/kg, repeat that measurement once.

3) Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).

4) Perform a third repeated measurement only if the original, first or second repeated measurement is ≥1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.

The same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds.

4.2 SAR measurement uncertainty

Per KDB865664 D01 SAR Measurement 100 MHz to 6 GHz, when the highest measured 1-g SAR within a frequency band is < 1.5 W/kg, the extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval. The equivalent ratio (1.5/1.6) is applied to extremity and occupational exposure conditions.

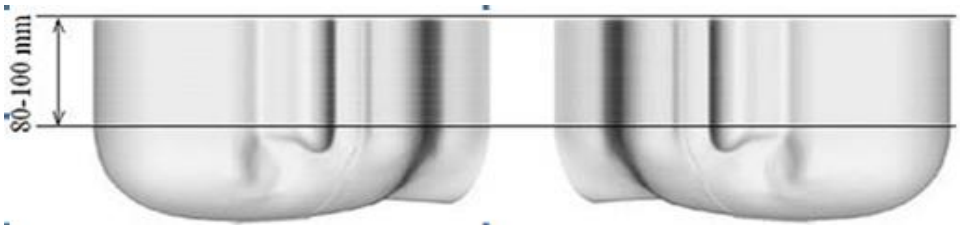
5 Description of Test Position

5.1 The Head Test Position

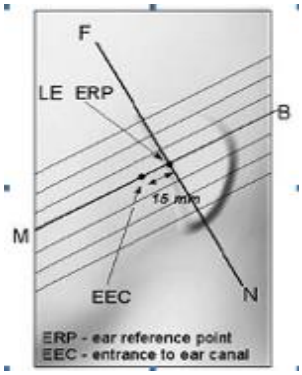
5.1.1 SAM Phantom Shape

F-2. Front, back, and side views of SAM (model for the phantom shell). Full-head model is for illustration purposes only-procedures in this recommended practice are intended primarily for the phantom setup.

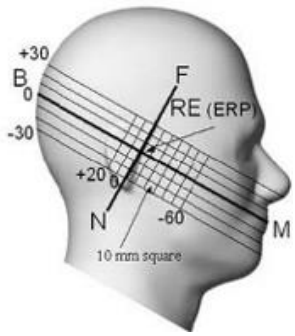
Note: The centre strip including the nose region has a different thickness tolerance.



F-3. Sagittally bisected phantom with extended perimeter (shown placed on its side as used for SAR measurements)

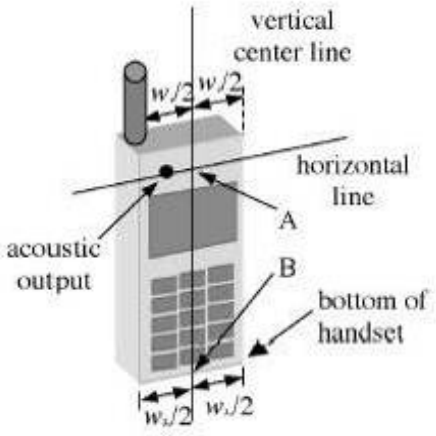


F-4. Close-up side view of phantom, showing the ear region, N-F and B-M lines, and seven cross-sectional plane locations

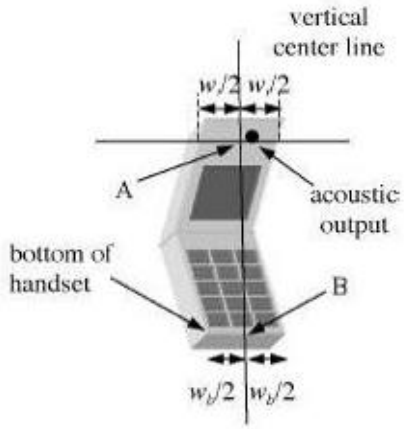


F-5. Side view of the phantom showing relevant markings and seven cross-sectional plane locations

5.1.2 EUT constructions



F-6. Handset vertical and horizontal reference lines-“fixed case”



F-7. Handset vertical and horizontal reference lines-“clam-shell case”

5.1.3 Definition of the “cheek” position

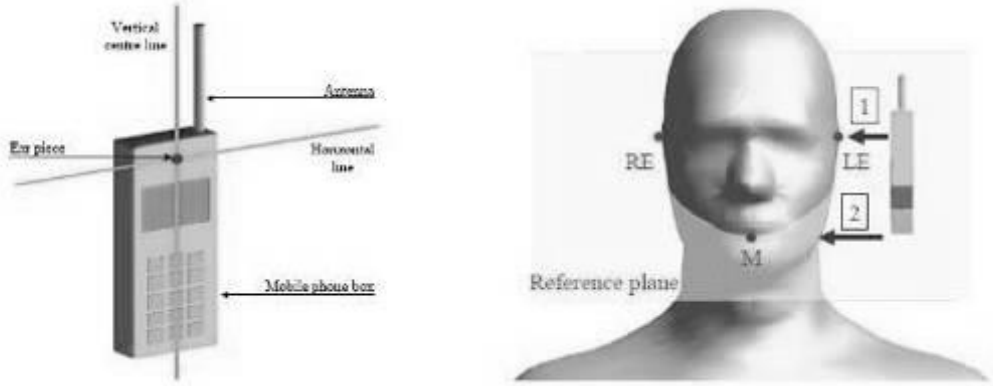
a) Position the device with the vertical centre line of the body of the device and the horizontal line crossing the centre of the ear piece in a plane parallel to the sagittal plane of the phantom (“initial position”). While maintaining the device in this plane, align the vertical centre line with the reference plane containing the three ear and mouth reference points (M, RE and LE) and align the centre of the ear piece with the line RE-LE.

b) Translate the mobile phone box towards the phantom with the ear piece aligned with the line LE-RE until telephone touches the ear. While maintaining the device in the reference plane and maintaining the phone contact with the ear, move the bottom of the box until any point on the front side is in contact with the cheek of the phantom or until contact with the ear is lost.

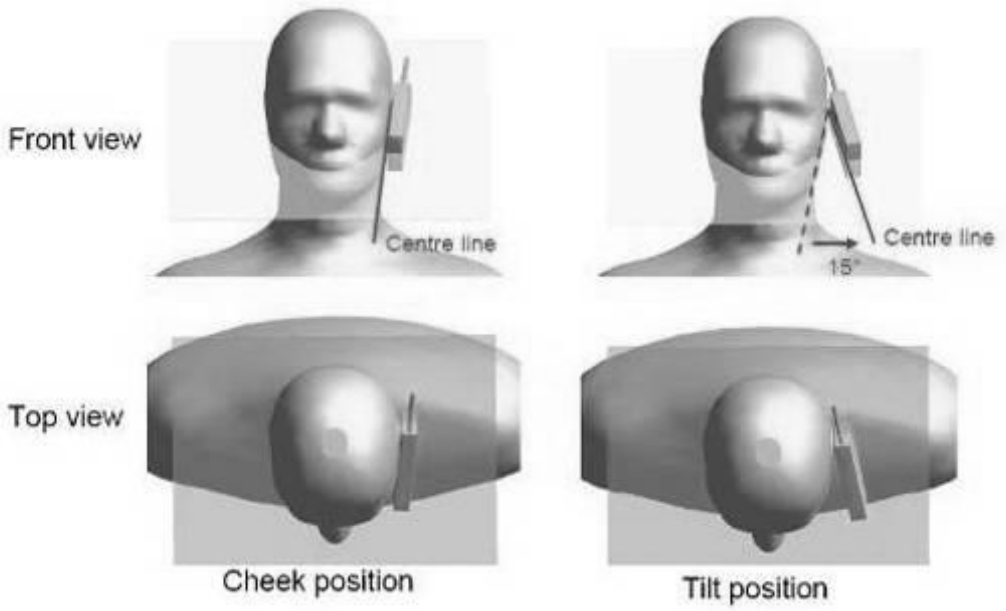
5.1.4 Definition of the “tilted” position

a) Position the device in the “cheek” position described above;

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



F-8. **Definition of the reference lines and points, on the phone and on the phantom and initial position**



F-9. **“Cheek” and “tilt” positions of the mobile phone on the left side**

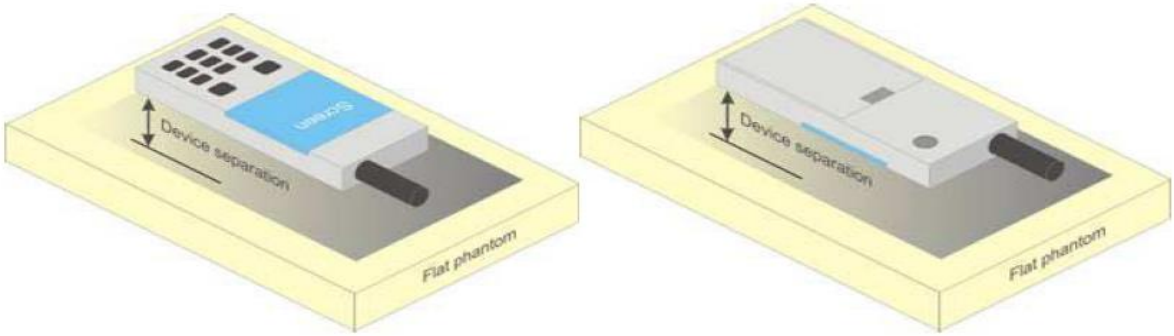
5.2 The Body Test Position

5.2.1 Body-worn accessory exposure conditions

Body-worn operating configurations should be tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in normal use configurations.
Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration. Per FCC KDB Publication 648474 D04, Body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in FCC KDB Publication 447498 D04 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-worn accessory test separation distance is greater than or equal to that required for hotspot mode, when applicable. When the reported SAR for a body-worn accessory, measured without a headset connected to the handset, is > 1.2 W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a headset attached to the handset.

Accessories for Body-worn operation configurations are divided into two categories: those that do not contain metallic components and those that do contain metallic components. When multiple accessories that do not contain metallic components are supplied with the device, the device is tested with only the accessory that dictates the closest spacing to the body. Then multiple accessories that contain metallic components are tested with the device with each accessory. If multiple accessories share an identical metallic component (i.e. the same metallic belt-clip used with different holsters with no other metallic components) only the accessory that dictates the closest spacing to the body is tested.

Body-worn accessories may not always be supplied or available as options for some devices intended to be authorized for body-worn use. In this case, a test configuration with a separation distance between the back of the device and the flat phantom is used. Test position spacing was documented. Transmitters that are designed to operate in front of a person's face, as in push-to-talk configurations, are tested for SAR compliance with the front of the device positioned to face the flat phantom in head fluid. For devices that are carried next to the body such as a shoulder, waist or chest-worn transmitters, SAR compliance is tested with the accessories, including headsets and microphones, attached to the device and positioned against a flat phantom in a normal use configuration.



F-11.Test positions for body-worn devices

5.2.1 Wireless Router exposure conditions

Some battery-operated handsets have the capability to transmit and receive user data through simultaneous transmission of WIFI simultaneously with a separate licensed transmitter. The FCC has provided guidance in FCC KDB Publication 941225 D06 where SAR test considerations for handsets (L x W ≥ 9 cm x 5 cm) are based on a composite test separation distance of 10 mm from the front, back and edges of the device containing transmitting antennas within 2.5 cm of their edges, determined from general mixed-use conditions for this type of devices. For devices with form factors smaller than 9 cm x 5 cm, a test separation distance of 5 mm is required.

6 SAR System Verification Procedure

6.1 Tissue Simulate Liquid

6.1.1 Recipes for Tissue Simulate Liquid

The bellowing tables give the recipes for tissue simulating liquids to be used in different frequency bands：

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

HSL5GHz is composed of the following ingredients：
Water：50-65%
Mineral oil：10-30%
Emulsifiers：8-25%
Sodium salt：0-1.5%

MSL5GHz is composed of the following ingredients：
Water：64-78%
Mineral oil：11-18%
Emulsifiers：9-15%
Sodium salt：2-3%

Table 1： Recipe of Tissue Simulate Liquid

6.1.2 Test Liquids Confirmation

Simulated tissue liquid parameter confirmation

The dielectric parameters were checked prior to assessment using the SPEAG DAKS dielectric probe kit. The dielectric parameters measured are reported in each correspondent section.

IEEE SCC-34/SC-2 P1528 recommended tissue dielectric parameters

The head tissue dielectric parameters recommended by the IEEE SCC-34/SC-2 in P1528 have been incorporated in the following table. These head parameters are derived from planar layer models simulating the highest expected SAR for the dielectric properties and tissue thickness variations in a human head. Other head and body tissue parameters that have not been specified in P1528 are derived from the tissue dielectric parameters computed from the 4-Cole-Cole equations and extrapolated according to the head parameters specified in P1528

Target Frequency (MHz)	Head		Body	
	ε_r	σ (S/m)	ε_r	σ (S/m)
150	52.3	0.76	61.9	0.80
300	45.3	0.87	58.2	0.92
450	43.5	0.87	56.7	0.94
835	41.5	0.90	55.2	0.97
900	41.5	0.97	55.0	1.05
915	41.5	0.98	55.0	1.06
1450	40.5	1.20	54.0	1.30
1610	40.3	1.29	53.8	1.40
1800-2000	40.0	1.40	53.3	1.52
2450	39.2	1.80	52.7	1.95
3000	38.5	2.40	52.0	2.73
5800	35.3	5.27	48.2	6.00

(ε_r = relative permittivity, σ = conductivity and ρ = 1000 kg/m^3)

6.1.3 Measurement for Tissue Simulate Liquid

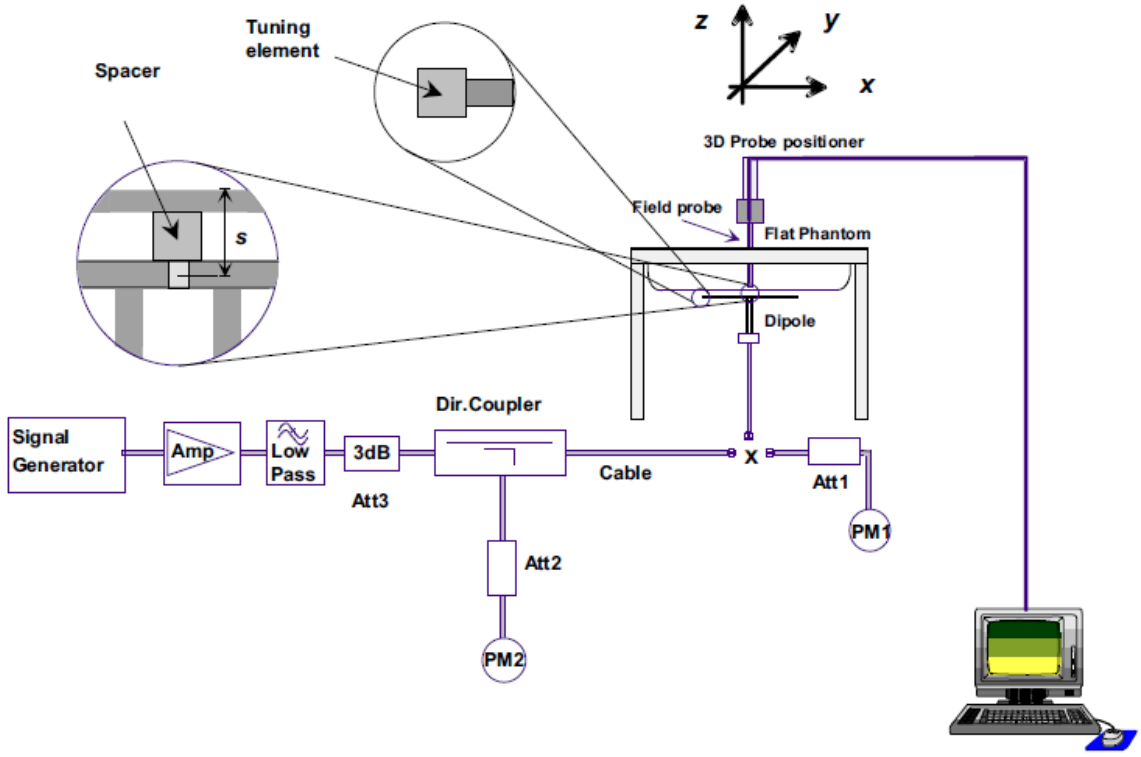
The Conductivity (σ) and Permittivity (ρ) are listed in Table 2. For the SAR measurement given in this report. The temperature variation of the Tissue Simulate Liquids was 22±2°C.

Measurement for Tissue Simulate Liquid									
Tissue Type	Measured Frequency（MHz）	Measured Tissue		Target Tissue (±5%)		Deviation (Within ±5%)		Liquid Temp. (℃)	Test Date
		ε_r	σ(S/m)	ε_r	σ(S/m)	ε_r	σ(S/m)		
750 Head	750	43.500	0.871	41.90	0.89	3.82%	-2.13%	22.1	2024/6/1
835 Head	835	42.900	0.927	41.50	0.90	3.37%	3.00%	22.3	2024/6/1
1750 Head	1750	40.000	1.410	40.10	1.37	-0.25%	2.92%	21.9	2024/5/31
1900 Head	1900	39.900	1.430	40.00	1.40	-0.25%	2.14%	21.8	2024/5/30
2450 Head	2450	38.100	1.870	39.20	1.80	-2.81%	3.89%	22.3	2024/5/28
2600 Head	2600	37.500	2.040	39.00	1.96	-3.85%	4.08%	22.2	2024/5/29
5250 Head	5250	37.000	4.870	35.90	4.66	3.06%	4.51%	21.9	2024/6/7
5600 Head	5600	36.000	5.290	35.50	5.07	1.41%	4.34%	21.9	2024/6/7
5750 Head	5750	35.600	5.460	35.40	5.22	0.56%	4.60%	21.9	2024/6/7

Table 2： Measurement result of Tissue electric parameters

6.2 SAR System Check

The microwave circuit arrangement for system Check is sketched as below. The daily system accuracy verification occurs within the flat section of the SAM phantom. A SAR measurement was performed to see if the measured SAR was within +/- 10% from the target SAR values. The tests were conducted on the same days as the measurement of the EUT. The obtained results from the system accuracy verification are displayed in the following table (A power level of 250mW (below 3GHz) or 100mW (3-6GHz) was input to the dipole antenna). During the tests, the ambient temperature of the laboratory was in the range 22±2°C, the relative humidity was in the range 70% and the liquid depth above the ear reference points was above 15±0.5 cm in all the cases. It is seen that the system is operating within its specification, as the results are within acceptable tolerance of the reference values.



F-10. the microwave circuit arrangement used for SAR system check

6.2.1 Summary System Check Result(s)

SAR System Validation Result(s)											
Validation Kit		Measured SAR 250mW	Measured SAR 250mW	Measured SAR (normalized to 1W)	Measured SAR (normalized to 1W)	Target SAR (normalized to 1W)	Target SAR (normalized to 1W)	Deviation (Within ±10%)		Liquid Temp. (℃)	Test Date
		1g (W/kg)	10g (W/kg)	1g (W/kg)	10g (W/kg)	1-g(W/kg)	10-g(W/kg)	1-g(W/kg)	10-g(W/kg)		
D750V3	Head	2.01	1.32	8.04	5.28	8.37	5.53	-3.94%	-4.52%	22.1	2024/6/1
D835V2	Head	2.49	1.61	9.96	6.44	9.53	6.29	4.51%	2.38%	22.3	2024/6/1
D1750V2	Head	8.55	4.61	34.20	18.44	36.60	19.30	-6.56%	-4.46%	21.9	2024/5/31
D1900V2	Head	10.1	5.25	40.40	21.00	39.50	20.60	2.28%	1.94%	21.8	2024/5/30
D2450V2	Head	12.60	5.82	50.40	23.28	52.20	24.30	-3.45%	-4.20%	22.3	2024/5/28
D2600V2	Head	14.60	6.52	58.40	26.08	57.70	25.80	1.21%	1.09%	22.2	2024/5/29
Validation Kit		Measured SAR 100mW	Measured SAR 100mW	Measured SAR (normalized to 1W)	Measured SAR (normalized to 1W)	Target SAR (normalized to 1W)	Target SAR (normalized to 1W)	Deviation (Within ±10%)		Liquid Temp. (℃)	Test Date
		1g (W/kg)	10g (W/kg)	1g (W/kg)	10g (W/kg)	1-g(W/kg)	10-g(W/kg)	1-g(W/kg)	10-g(W/kg)		
D5GHzV2	Head(5.25GHz)	8.21	2.37	82.10	23.70	77.30	22.10	6.21%	7.24%	21.9	2024/6/7
	Head(5.6GHz)	8.52	2.41	85.20	24.10	81.30	23.10	4.80%	4.33%	21.9	2024/6/7
	Head(5.75GHz)	7.45	2.12	74.50	21.20	77.10	21.30	-3.37%	-0.47%	21.9	2024/6/7

Table 3： SAR System Check Result

6.2.2 Detailed System Check Results

Please see the Appendix A

7 Test results and Measurement Data

7.1 3G SAR Test Reduction Procedure

In the following procedures, the mode tested for SAR is referred to as the primary mode. The equivalent modes considered for SAR test reduction are denoted as secondary modes. Both primary and secondary modes must be in the same frequency band. When the maximum output power for production units in a secondary mode is ≤ ¼ dB higher than the primary mode or when the highest measured SAR of the primary mode is scaled by the ratio of specified maximum output power of secondary to primary mode and the adjusted SAR is ≤ 1.5 W/kg, SAR measurement is not required for the secondary mode. This is referred to as the 3G SAR test reduction procedure in the following SAR test guidance, where the primary mode is identified in the applicable wireless mode test procedures and the secondary mode is wireless mode being considered for SAR test reduction by that procedure. When the 3G SAR test reduction procedure is not satisfied, it is identified as “otherwise” in the applicable procedures; SAR measurement is required for the secondary mode.

7.2 Operation Configurations

7.2.1 GSM Test Configuration

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

SAR test reduction for GPRS and EDGE modes is determined by the source-based time-averaged output power specified for production units. The data mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power, the higher number time-slot configuration should be tested.

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

The 3G SAR test reduction procedure is applied to 8-PSK EDGE with GMSK GPRS/EDGE as the primary mode.

7.2.2 WCDMA Test Configuration

1）. Output Power Verification

Maximum output power is verified on the high, middle and low channels according to procedures described in section 5.2 of 3GPP TS 34.121, using the appropriate RMC or AMR with TPC (transmit power control) set to all “1’s” for WCDMA/HSDPA or by applying the required inner loop power control procedures to maintain maximum output power while HSUPA is active. Results for all applicable physical channel configurations (DPCCH, DPDCHn and spreading codes, HSDPA, HSPA) are required in the SAR report. All configurations that are not supported by the handset or cannot be measured due to technical or equipment limitations must be clearly identified.

2）. Head SAR

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

3）. Body SAR

SAR for body configurations is measured using a 12.2 kbps RMC with TPC bits configured to all “1’s”. The 3G SAR test reduction procedure is applied to other spreading codes and multiple DPDCHn configurations supported by the handset with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured using an applicable RMC configuration with the corresponding spreaing code or DPDCHn, for the highest reported body-worn accessory exposure SAR configuration in 12.2 kbps RMC. When more than 2 DPDCHn are supported by the handset, it may be necessary to configure additional DPDCHn using FTM (Factory Test Mode) or other chipset based test approaches with parameters similar to those used in 384 kbps and 768 kbps RMC.

4）. HSDPA / HSUPA

RMC 12.2kbps setting is used to evaluate SAR. If the maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA is ≤ ¼ dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA.

a) HSDPA

HSDPA is configured according to the applicable UE category of a test device. The number of HS-DSCH/HS-PDSCHs, HARQ processes, minimum inter-TTI interval, transport block sizes and RV coding sequence are defined by the H-set. To maintain a consistent test configuration and stable transmission conditions, QPSK is used in the H-set for SAR testing. HS-DPCCH should be configured with a CQI feedback cycle of 4 ms and a CQI repetition factor of 2 to maintain a constant rate of active CQI slots. DPCCH and DPDCH gain factors(βc, βd), and HS-DPCCH power offset parameters (ΔACK, ΔNACK, ΔCQI) are set according to values indicated in the following table The CQI value is determined by the UE category, transport block size, number of HS-PDSCHs and modulation used in the H-set.

Sub-test	βc	Bd	βd(SF)	βc/βd	βhs	CM(dB)	MPR (dB)
1	2/15	15/15	64	2/15	4/15	0.0	0
2	12/15(3)	15/15(3)	64	12/15(3)	24/15	1.0	0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5

Note1: △ACK, △NACK and △CQI= 8 Ahs = βhs/βc=30/15 βhs=30/15*βc

Note2: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 5.13.1.A,and HSDPA EVM with phase discontinuity in clause 5.13.1AA, △ACK and △NACK= 8 (Ahs=30/15) with βhs=30/15*βc,and △CQI=

7 (Ahs=24/15) with βhs=24/15*βc.

Note3: CM=1 forβc/βd =12/15, βhs/βc=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.

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

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

Table 2： settings of required H-Set 1 QPSK acc. to 3GPP 34.121

HS-DSCH Category	Maximum HS-DSCH Codes Received	Minimum Inter-TTI Interval	MaximumH S-DSCH Transport BlockBits/HS-DSCH TTI	Total Soft Channel Bits
1	5	3	7298	19200
2	5	3	7298	28800
3	5	2	7298	28800
4	5	2	7298	38400
5	5	1	7298	57600
6	5	1	7298	67200
7	10	1	14411	115200
8	10	1	14411	134400
9	15	1	25251	172800
10	15	1	27952	172800
11	5	2	3630	14400
12	5	1	3630	28800
13	15	1	34800	259200
14	15	1	42196	259200
15	15	1	23370	345600
16	15	1	27952	345600

Table 3： HSDPA UE category

b) HSUPA

Due to inner loop power control requirements in HSUPA, a commercial communication test set should be used for the output power and SAR tests. The 12.2 kbps RMC, FRC H-set 1 and E-DCH configurations for HSUPA should be configured according to the values indicated below as well as other applicable procedures described in the „WCDMA Handset" and „Release 5 HSUPA Data Device" sections of 3G device.

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{hs}(1)	β_{ec}	β_{ed}	β_{ed} (SF)	β_{ed} (codes)	CM(2) (dB)	MPR (dB)	AG(4) Index	E-TFCI
1	11/15(3)	15/15(3)	64	11/15(3)	22/15	209/225	1039/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	β_{ed1}:47/15 β_{ed2}:47/15	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(4)	15/15(4)	64	15/15(4)	30/15	24/15	134/15	4	1	1.0	0.0	21	81

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

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

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

Note 4 : For subtest 5 the β_c/β_d ratio of 15/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 14/15$ and $\beta_d = 15/15$

Note 5 : Testing UE using E-DPDCH Physical Layer category 1 Sub-test 3 is not required according to TS 25.306 Table 5.1g

Note 6: β_{ed} can not be set directly; it is set by Absolute Grant Value.

Table 4： Subtests for WCDMA Release 6 HSUPA

UE E-DCH Category	Maximum E-DCH Codes Transmitted	Number of HARQ Processes	E-DCH TTI(ms)	Minimum Speading Factor	Maximum E-DCH Transport Block Bits	Max Rate (Mbps)
1	1	4	10	4	7110	0.7296
2	2	8	2	4	2798	1.4592
	2	4	10	4	14484	
3	2	4	10	4	14484	1.4592
4	2	8	2	2	5772	2.9185
	2	4	10	2	20000	2.00
5	2	4	10	2	20000	2.00
6 (No DPDCH)	4	8	10	2SF2&2SF4	11484	5.76
	4	4	2		20000	2.00
7 (No DPDCH)	4	8	2	2SF2&2SF4	22996	?
	4	4	10		20000	?

NOTE: When 4 codes are transmitted in parallel, two codes shall be transmitted with SF2 and two with SF4.UE categories 1 to 6 support QPSK only. UE category 7 supports QPSK and 16QAM.(TS25.306-7.3.0).

Table 5： HSUPA UE category

7.2.3 WiFi Test Configuration

For the 802.11b/g/n SAR tests, a communication link is set up with the test mode software for Wi-Fi mode test. The Absolute Radio Frequency Channel Number (ARFCN) is allocated to 1, 7 and 13 respectively in the case of 2450 MHz during the test at the each test frequency channel, the EUT is operated at the RF continuous emission mode. Each channel should be tested at the lowest rate.802.11b/g/n operating modes are tested independently according to the service requirements in each frequency band. 802.11b/g/n modes are tested on channel 1, 7, 13; However if output power reduction is necessary for channels 1 and/or 13 to meet restricted band requirements the highest output channel closest to each of these channels must be tested instead.

SAR is not required for 802.11g/n channels when the maximum average output power is less than 0.25dB higher than that measured on the corresponding 802.11b channels.

For the 802.11a SAR tests, a communication link is set up with the test mode software for WiFi mode test. 802.11a operating modes are tested independently according to the service requirements in each 5G WiFi frequency band. During the test, at the each test frequency channel, the EUT is operated at the RF continuous emission mode. Each channel should be tested at the lowest data rate.

For each frequency band of WiFi5G, SAR tests at higher data rates and higher order modulations (including 802.11ac/n) were not required since the maximum average output power for each of these configurations is not more than 1/4dB higher than the tested channel for the lowest data rate of 802.11a mode. Or SAR can tests at the maximum Power Channel.

7.2.4 LTE Test Configuration

LTE modes were tested according to FCC KDB 941225 D05 publication. Please see notes after the tabulated SAR data for required test configurations. Establishing connections with base station simulators ensure a consistent means for testing SAR and are recommended for evaluating SAR [4]. The R&S CMW500 was used for LTE output power measurements and SAR testing. Max power control was used so the UE transmits with maximum output power during SAR testing. SAR must be measured with the maximum TTI (transmit time interval) supported by the device in each LTE configuration.

A) Spectrum Plots for RB Configurations

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

B) MPR

MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS36.101 V13.5.0 (201609) Section 6.2.3 – 6.2.5 under Table 6.2.3-1.

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

C) A-MPR

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

D) Largest channel bandwidth standalone SAR test requirements

1) QPSK with 1 RB allocation

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

2) QPSK with 50% RB allocation

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

3) QPSK with 100% RB allocation

For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation in 1) and 2) are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.

4) Higher order modulations

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

E) Other channel bandwidth standalone SAR test requirements

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

7.2.5 Bluetooth Test Configuration

For the Bluetooth SAR tests, a communication link is set up with the test mode software for BT mode test. Bluetooth USES frequency hopping technology to divide the transmitted data into packets and transmit the packets respectively through 79 designated Bluetooth channels, 1MHz Bandwidth, frequency hops at 1600 hops/second per the Bluetooth standard. The Radio Frequency Channel Number (RFCN) is allocated to 0, 39 and 78 respectively in the case of 2402~2480 MHz during the test at each test frequency channel, the EUT is operated at the RF continuous emission mode.

7.2.6 DUT Antenna Locations

Please see the Appendix D

7.3 Measurement of RF conducted Power

7.3.1 Conducted Power of GSM

GSM 850										
Burst Output Power(dBm)					Tune up	Division Factors	Frame-Average Output Power(dBm)			Tune up
Channel		128	190	251			128	190	251	
GSM(GMSK)	GSM	32.44	32.55	32.78	33.5	-9.03	23.41	23.52	23.75	24.47
GPRS/EGPRS (GMSK)	1 TX Slot	32.59	32.57	32.73	33.5	-9.03	23.56	23.54	23.7	24.47
	2 TX Slots	32.07	32.08	32.24	33.0	-6.02	26.05	26.06	26.22	26.98
	3 TX Slots	30.61	30.57	30.74	31.5	-4.26	26.35	26.31	26.48	27.24
	4 TX Slots	29.41	29.9	29.89	30.5	-3.01	26.4	26.89	26.88	27.49
EGPRS(8PSK)	1 TX Slot	25.12	24.93	24.78	25.5	-9.03	16.09	15.9	15.75	16.47
	2 TX Slots	23.76	23.87	23.66	24.0	-6.02	17.74	17.85	17.64	17.98
	3 TX Slots	21.83	21.63	21.63	22.0	-4.26	17.57	17.37	17.37	17.74
	4 TX Slots	20.84	20.67	20.54	21.0	-3.01	17.83	17.66	17.53	17.99
GSM 1900										
Burst Output Power(dBm)					Tune up	Division Factors	Frame-Average Output Power(dBm)			Tune up
Channel		512	661	810			512	661	810	
GSM(GMSK)	GSM	29.16	29.21	29.34	30.0	-9.03	20.13	20.18	20.31	20.97
GPRS/EGPRS (GMSK)	1 TX Slot	29.21	29.2	29.31	30.0	-9.03	20.18	20.17	20.28	20.97
	2 TX Slots	28.54	28.66	28.77	29.5	-6.02	22.52	22.64	22.75	23.48
	3 TX Slots	26.98	27.01	27.14	27.5	-4.26	22.72	22.75	22.88	23.24
	4 TX Slots	25.83	26.18	26.17	27.0	-3.01	22.82	23.17	23.16	23.99
EGPRS(8PSK)	1 TX Slot	24.32	24.28	24.39	25.0	-9.03	15.29	15.25	15.36	15.97
	2 TX Slots	23.96	23.88	23.45	25.0	-6.02	17.94	17.86	17.43	18.98
	3 TX Slots	21.65	21.78	21.26	22.0	-4.26	17.39	17.52	17	17.74
	4 TX Slots	20.86	20.6	20.23	21.0	-3.01	17.85	17.59	17.22	17.99

Table 6： Conducted Power of GSM

7.3.2 Conducted Power of WCDMA

WCDMA Band II					
Average Conducted Power(dBm)					
Channel		9262	9400	9538	Tune up
WCDMA	12.2kbps RMC	22.96	22.86	22.9	23.5
HSDPA	Subtest 1	20.62	20.66	20.78	21
	Subtest 2	20.61	20.66	20.77	21
	Subtest 3	20.69	20.67	20.74	21
	Subtest 4	20.74	20.66	20.77	21
HSUPA	Subtest 1	18.52	18.03	18.38	19.5
	Subtest 2	18	18.13	18.63	19.5
	Subtest 3	18.51	18.12	18.63	19.5
	Subtest 4	18.04	18.18	18.15	19.5
	Subtest 5	18.61	18.56	18.62	19.5

WCDMA Band IV					
Average Conducted Power(dBm)					
Channel		1312	1412	1513	Tune up
WCDMA	12.2kbps RMC	23.08	23.14	23.17	24
HSDPA	Subtest 1	20.82	20.93	20.81	21.5
	Subtest 2	20.82	20.93	20.81	21.5
	Subtest 3	20.81	20.93	20.8	21.5
	Subtest 4	20.82	20.93	20.81	21.5
HSUPA	Subtest 1	18.63	18.39	18.34	19.5
	Subtest 2	18.36	18.94	18.4	19.5
	Subtest 3	18.3	18.38	18.88	19.5
	Subtest 4	18.82	18.39	18.64	19.5
	Subtest 5	18.83	18.92	18.9	19.5

WCDMA Band V					
Average Conducted Power(dBm)					
Channel		4132	4182	4233	Tune up
WCDMA	12.2kbps RMC	22.81	22.93	22.83	23.5
HSDPA	Subtest 1	20.94	21.04	20.92	21.5
	Subtest 2	20.95	21.05	20.92	21.5
	Subtest 3	20.94	21.04	20.94	21.5
	Subtest 4	20.97	21.06	20.95	21.5
HSUPA	Subtest 1	18.57	18.3	18.48	19.5
	Subtest 2	18.56	18.82	18.48	19.5
	Subtest 3	18.85	18.29	18.46	19.5
	Subtest 4	18.28	18.8	18.7	19.5
	Subtest 5	18.55	18.62	18.23	19.5

Table 7： Conducted Power of WCDMA

7.3.3 Conducted Power of LTE

LTE Band 2				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 18607	Channel 18900	Channel 19193	Tune up
1.4MHz	QPSK	1	0	22.54	22.63	22.69	23
		1	2	22.62	22.71	22.83	23
		1	5	22.55	22.62	22.76	23
		3	0	22.64	22.68	22.76	23
		3	2	22.67	22.74	22.79	23
		3	3	22.65	22.69	22.77	23
		6	0	21.6	21.71	21.75	23
	16QAM	1	0	21.53	21.82	21.65	23
		1	2	21.64	21.89	21.84	23
		1	5	21.54	21.76	21.76	23
		3	0	21.8	21.65	21.81	23
		3	2	21.84	21.68	21.8	23
		3	3	21.81	21.69	21.77	23
		6	0	20.6	20.7	20.68	21
Bandwidth	Modulation	RB size	RB offset	Channel 18615	Channel 18900	Channel 19185	Tune up
3MHz	QPSK	1	0	22.59	22.68	22.65	23
		1	7	22.76	22.86	22.54	23
		1	14	22.55	22.66	22.29	23
		8	0	21.62	21.69	21.25	22
		8	4	21.65	21.73	21.31	22
		8	7	21.6	21.67	21.24	22
		15	0	21.62	21.67	21.26	22
	16QAM	1	0	22.16	21.63	21.27	22
		1	7	22.32	21.88	21.45	22
		1	14	22.11	21.52	21.23	22
		8	0	20.72	20.31	20.39	21
		8	4	20.8	20.65	20.44	21
		8	7	20.75	20.43	20.41	21
		15	0	20.63	20.5	20.34	21
Bandwidth	Modulation	RB size	RB offset	Channel 18625	Channel 18900	Channel 19175	Tune up
5MHz	QPSK	1	0	22.46	22.43	22.15	23
		1	13	22.48	22.34	22.34	23
		1	24	22.16	22.08	22.17	23
		12	0	21.31	21.16	21.22	22
		12	6	21.58	21.24	21.31	22

		12	13	21.62	21.24	21.25	22
		25	0	21.55	21.22	21.23	22
	16QAM	1	0	21.02	21.36	21.26	22
		1	13	21.16	21.52	21.42	22
		1	24	21.08	21.32	21.22	22
		12	0	20.37	20.27	20.26	21
		12	6	20.55	20.33	20.32	21
		12	13	20.67	20.28	20.24	21
		25	0	20.56	20.23	20.32	21
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				18650	18900	19150	
10MHz	QPSK	1	0	22.04	22.21	22.2	23
		1	25	22.24	22.33	22.44	23
		1	49	22.13	22.1	22.22	23
		25	0	21.09	21.19	21.32	22
		25	13	21.12	21.2	21.25	22
		25	25	21.12	21.22	21.31	22
		50	0	21.06	21.21	21.34	22
	16QAM	1	0	21.63	21.28	21.21	22
		1	25	21.83	21.49	21.39	22
		1	49	21.67	21.29	21.25	22
		25	0	20.18	20.25	20.4	21
		25	13	20.23	20.27	20.38	21
		25	25	20.23	20.29	20.44	21
		50	0	20.12	20.24	20.38	21
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				18675	18900	19125	
15MHz	QPSK	1	0	22.07	22.14	22.11	23
		1	38	22.22	22.24	22.25	23
		1	74	22.05	22.08	22.17	23
		36	0	21.18	21.25	21.38	22
		36	18	21.18	21.26	21.33	22
		36	39	21.14	21.27	21.36	22
		75	0	21.12	21.23	21.4	22
	16QAM	1	0	21.59	21.32	21.48	22
		1	38	21.8	21.39	21.6	22
		1	74	21.62	21.24	21.52	22
		36	0	20.22	20.24	20.37	21
		36	18	20.29	20.27	20.32	21
		36	39	20.16	20.3	20.31	21
		75	0	20.18	20.29	20.37	21
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel	Tune up
				18700	18900	19100	

20MHz	QPSK	1	0	22.05	22.11	22.05	23
		1	50	22.36	22.38	22.36	23
		1	99	22.02	22	22.11	23
		50	0	21.14	21.19	21.29	22
		50	25	21.18	21.32	21.3	22
		50	50	20.98	21.26	21.25	22
		100	0	21.08	21.23	21.3	22
	16QAM	1	0	21.3	21.32	21.59	22
		1	50	21.65	21.56	21.91	22
		1	99	21.31	21.23	21.67	22
		50	0	20.18	20.26	20.3	21
		50	25	20.18	20.27	20.37	21
		50	50	20	20.29	20.28	21
		100	0	20.12	20.29	20.35	21

LTE Band 4				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 19957	Channel 20175	Channel 20393	Tune up
1.4MHz	QPSK	1	0	22.09	22.24	22.07	23
		1	2	22.19	22.34	22.17	23
		1	5	22.12	22.23	22.03	23
		3	0	22.18	22.26	22.2	23
		3	2	22.21	22.31	22.17	23
		3	3	22.16	22.26	22.2	23
		6	0	21.17	21.25	21.16	23
	16QAM	1	0	21.21	21.2	21.1	23
		1	2	21.36	21.31	21.18	23
		1	5	21.23	21.24	21.09	23
		3	0	21.1	21.31	21.32	23
		3	2	21.14	21.33	21.37	23
		3	3	21.12	21.29	21.35	23
		6	0	20.22	20.22	20.21	21
Bandwidth	Modulation	RB size	RB offset	Channel 19965	Channel 20175	Channel 20385	Tune up
3MHz	QPSK	1	0	22.23	22.29	22.24	23
		1	7	22.33	22.44	22.36	23
		1	14	22.17	22.28	22.18	23
		8	0	21.19	21.28	21.23	22
		8	4	21.23	21.33	21.26	22
		8	7	21.2	21.28	21.2	22
		15	0	21.17	21.26	21.17	22

	16QAM	1	0	21.72	21.41	21.2	22
		1	7	21.85	21.62	21.44	22
		1	14	21.68	21.4	21.2	22
		8	0	20.33	20.31	20.33	21
		8	4	20.43	20.34	20.35	21
		8	7	20.38	20.31	20.29	21
		15	0	20.3	20.28	20.28	21
Bandwidth	Modulation	RB size	RB offset	Channel 19975	Channel 20175	Channel 20375	Tune up
5MHz	QPSK	1	0	22.14	22.19	22.17	23
		1	13	22.27	22.32	22.28	23
		1	24	22.14	22.18	22.09	23
		12	0	21.2	21.24	21.25	22
		12	6	21.22	21.31	21.25	22
		12	13	21.22	21.24	21.15	22
		25	0	21.19	21.27	21.19	22
	16QAM	1	0	20.98	21.43	21.27	22
		1	13	21.11	21.59	21.37	22
		1	24	20.97	21.43	21.23	22
		12	0	20.2	20.33	20.23	21
		12	6	20.25	20.4	20.28	21
		12	13	20.2	20.33	20.17	21
		25	0	20.24	20.32	20.26	21
Bandwidth	Modulation	RB size	RB offset	Channel 20000	Channel 20175	Channel 20350	Tune up
10MHz	QPSK	1	0	22.2	22.24	22.24	23
		1	25	22.34	22.35	22.42	23
		1	49	22.23	22.27	22.2	23
		25	0	21.21	21.34	21.32	22
		25	13	21.2	21.29	21.22	22
		25	25	21.29	21.29	21.14	22
		50	0	21.19	21.33	21.23	22
	16QAM	1	0	21.7	21.37	21.23	22
		1	25	21.87	21.61	21.38	22
		1	49	21.74	21.38	21.17	22
		25	0	20.3	20.39	20.45	21
		25	13	20.3	20.37	20.35	21
		25	25	20.37	20.39	20.27	21
		50	0	20.3	20.38	20.31	21
Bandwidth	Modulation	RB size	RB offset	Channel 20025	Channel 20175	Channel 20325	Tune up
15MHz	QPSK	1	0	22.17	22.28	22.25	23

		1	38	22.27	22.39	22.28	23
		1	74	22.19	22.23	22.15	23
		36	0	21.28	21.36	21.4	22
		36	18	21.32	21.41	21.34	22
		36	39	21.33	21.35	21.2	22
		75	0	21.32	21.35	21.31	22
	16QAM	1	0	21.69	21.41	21.61	22
		1	38	21.79	21.52	21.62	22
		1	74	21.74	21.32	21.47	22
		36	0	20.28	20.45	20.35	21
		36	18	20.34	20.48	20.3	21
		36	39	20.34	20.48	20.24	21
		75	0	20.43	20.51	20.31	21
Bandwidth	Modulation	RB size	RB offset	Channel 20050	Channel 20175	Channel 20300	Tune up
20MHz	QPSK	1	0	22.11	22.14	22.12	23
		1	50	22.43	22.53	22.45	23
		1	99	22.16	22.2	22.03	23
		50	0	21.15	21.28	21.34	22
		50	25	21.31	21.38	21.28	22
		50	50	21.29	21.23	21.1	22
		100	0	21.27	21.31	21.26	22
	16QAM	1	0	21.3	21.39	21.67	22
		1	50	21.65	21.73	21.93	22
		1	99	21.41	21.39	21.64	22
		50	0	20.16	20.34	20.4	21
		50	25	20.31	20.42	20.33	21
		50	50	20.29	20.34	20.19	21
		100	0	20.37	20.45	20.28	21

LTE Band 5				**Conducted Power(dBm)**			
Bandwidth	Modulation	RB size	RB offset	Channel 20407	Channel 20525	Channel 20643	Tune up
1.4MHz	QPSK	1	0	22.11	22.12	22.05	23
		1	2	22.19	22.23	22.16	23
		1	5	22.03	22.09	22.03	23
		3	0	22.27	22.24	22.15	23
		3	2	22.21	22.27	22.17	23
		3	3	22.21	22.22	22.18	23
		6	0	21.08	21.17	21.1	23
	16QAM	1	0	21.11	21.3	21.08	23

		1	2	21.22	21.43	21.25	23
		1	5	21.08	21.29	21.13	23
		3	0	21.42	21.28	21.23	23
		3	2	21.46	21.25	21.25	23
		3	3	21.41	21.27	21.18	23
		6	0	20.22	20.27	20.11	21
Bandwidth	Modulation	RB size	RB offset	Channel 20415	Channel 20525	Channel 20635	Tune up
3MHz	QPSK	1	0	22.15	22.18	22.11	23
		1	7	22.25	22.26	22.27	23
		1	14	22.14	22.11	22.11	23
		8	0	21.11	21.18	21.13	22
		8	4	21.14	21.19	21.13	22
		8	7	21.08	21.12	21.07	22
		15	0	21.15	21.18	21.1	22
	16QAM	1	0	21.8	21.39	21.13	22
		1	7	21.92	21.47	21.31	22
		1	14	21.74	21.33	21.12	22
		8	0	20.38	20.25	20.27	21
		8	4	20.41	20.27	20.3	21
		8	7	20.39	20.22	20.24	21
		15	0	20.31	20.27	20.26	21
Bandwidth	Modulation	RB size	RB offset	Channel 20425	Channel 20525	Channel 20625	Tune up
5MHz	QPSK	1	0	22.1	22.1	22.09	23
		1	13	22.22	22.21	22.21	23
		1	24	22.12	22.07	22.06	23
		12	0	21.14	21.18	21.14	22
		12	6	21.18	21.23	21.19	22
		12	13	21.22	21.16	21.08	22
		25	0	21.17	21.19	21.13	22
	16QAM	1	0	21	21.39	21.19	22
		1	13	21.14	21.5	21.3	22
		1	24	20.98	21.39	21.11	22
		12	0	20.22	20.29	20.21	21
		12	6	20.3	20.37	20.27	21
		12	13	20.31	20.26	20.17	21
		25	0	20.27	20.3	20.24	21
Bandwidth	Modulation	RB size	RB offset	Channel 20450	Channel 20525	Channel 20600	Tune up
10MHz	QPSK	1	0	22.16	22.2	22.19	23
		1	25	22.36	22.39	22.34	23

		1	49	22.17	22.18	22.12	23
		25	0	21.22	21.27	21.25	22
		25	13	21.19	21.21	21.23	22
		25	25	21.2	21.19	21.15	22
		50	0	21.25	21.22	21.21	22
	16QAM	1	0	21.8	21.38	21.21	22
		1	25	21.97	21.54	21.35	22
		1	49	21.79	21.37	21.13	22
		25	0	20.41	20.4	20.47	21
		25	13	20.38	20.38	20.4	21
		25	25	20.41	20.33	20.32	21
		50	0	20.35	20.32	20.36	21

LTE Band 7				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 20775	Channel 21100	Channel 21425	Tune up
5MHz	QPSK	1	0	22.44	22.46	22.53	23.5
		1	13	22.54	22.56	22.67	23.5
		1	24	22.44	22.44	22.55	23.5
		12	0	21.46	21.6	21.68	22.5
		12	6	21.56	21.6	21.66	22.5
		12	13	21.55	21.53	21.54	22.5
		25	0	21.51	21.53	21.62	22.5
	16QAM	1	0	21.35	21.76	21.64	22.5
		1	13	21.39	21.85	21.72	22.5
		1	24	21.32	21.7	21.62	22.5
		12	0	20.42	20.56	20.68	21.5
		12	6	20.54	20.63	20.63	21.5
		12	13	20.54	20.55	20.5	21.5
		25	0	20.57	20.55	20.65	21.5
Bandwidth	Modulation	RB size	RB offset	Channel 20800	Channel 21100	Channel 21400	Tune up
10MHz	QPSK	1	0	22.48	22.49	22.57	23.5
		1	25	22.67	22.7	22.78	23.5
		1	49	22.42	22.47	22.61	23.5
		25	0	21.48	21.61	21.74	22.5
		25	13	21.59	21.63	21.68	22.5
		25	25	21.63	21.62	21.55	22.5
		50	0	21.54	21.62	21.64	22.5
	16QAM	1	0	22.09	21.72	21.6	22.5
		1	25	22.21	21.91	21.81	22.5

		1	49	22.03	21.67	21.62	22.5
		25	0	20.54	20.65	20.8	21.5
		25	13	20.62	20.64	20.77	21.5
		25	25	20.7	20.66	20.66	21.5
		50	0	20.58	20.62	20.66	21.5
Bandwidth	Modulation	RB size	RB offset	Channel 20825	Channel 21100	Channel 21375	Tune up
15MHz	QPSK	1	0	22.43	22.48	22.52	23.5
		1	38	22.53	22.56	22.63	23.5
		1	74	22.38	22.38	22.48	23.5
		36	0	21.49	21.57	21.67	22.5
		36	18	21.54	21.62	21.67	22.5
		36	39	21.58	21.62	21.58	22.5
		75	0	21.51	21.64	21.61	22.5
	16QAM	1	0	21.99	21.71	21.89	22.5
		1	38	22.11	21.75	22	22.5
		1	74	21.96	21.65	21.79	22.5
		36	0	20.46	20.64	20.61	21.5
		36	18	20.55	20.65	20.61	21.5
		36	39	20.54	20.63	20.51	21.5
		75	0	20.55	20.62	20.6	21.5
Bandwidth	Modulation	RB size	RB offset	Channel 20850	Channel 21100	Channel 21350	Tune up
20MHz	QPSK	1	0	22.39	22.38	22.44	23.5
		1	50	22.65	22.78	22.71	23.5
		1	99	22.29	22.38	22.4	23.5
		50	0	21.4	21.61	21.59	22.5
		50	25	21.51	21.63	21.64	22.5
		50	50	21.48	21.55	21.41	22.5
		100	0	21.46	21.59	21.5	22.5
	16QAM	1	0	21.68	21.64	22.01	22.5
		1	50	21.96	21.93	22.25	22.5
		1	99	21.6	21.63	21.94	22.5
		50	0	20.34	20.58	20.61	21.5
		50	25	20.51	20.64	20.66	21.5
		50	50	20.47	20.57	20.4	21.5
		100	0	20.47	20.61	20.52	21.5

LTE FDD Band 12				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel 23017	Channel 23095	Channel 23173	Tune up
1.4MHz	QPSK	1	0	21.91	21.98	21.9	23
		1	2	22	22.06	21.98	23
		1	5	21.94	21.97	21.91	23
		3	0	22.06	22.09	22.07	23
		3	2	22.08	22.08	22.06	23
		3	3	22.08	22.1	22.06	23
		6	0	21.04	21	20.99	23
	16QAM	1	0	21.15	21.05	21.03	23
		1	2	21.28	21.15	21.1	23
		1	5	21.24	21.11	21	23
		3	0	21.15	21.27	21.35	23
		3	2	21.18	21.25	21.38	23
		3	3	21.19	21.23	21.37	23
		6	0	20.1	20	20.08	21
Bandwidth	Modulation	RB size	RB offset	Channel 23025	Channel 23095	Channel 23165	Tune up
3MHz	QPSK	1	0	22.02	22.11	22.05	23
		1	7	22.11	22.18	22.19	23
		1	14	21.99	22.07	22.05	23
		8	0	21.09	21.11	21.16	22
		8	4	21.13	21.16	21.15	22
		8	7	21.04	21.11	21.13	22
		15	0	21.11	21.12	21.15	22
	16QAM	1	0	21.75	21.34	21.17	22
		1	7	21.84	21.44	21.29	22
		1	14	21.77	21.31	21.16	22
		8	0	20.33	20.12	20.25	21
		8	4	20.38	20.19	20.27	21
		8	7	20.31	20.14	20.25	21
		15	0	20.24	20.16	20.25	21
Bandwidth	Modulation	RB size	RB offset	Channel 23035	Channel 23095	Channel 23155	Tune up
5MHz	QPSK	1	0	21.99	22.01	21.96	23
		1	13	22.08	22.08	22.06	23
		1	24	22.05	21.97	21.99	23
		12	0	21.26	21.04	21.29	22
		12	6	21.22	21.17	21.17	22
		12	13	21.13	21.19	21.16	22

		25	0	21.19	21.14	21.2	22
	16QAM	1	0	20.96	21.39	21.2	22
		1	13	20.95	21.44	21.24	22
		1	24	21	21.39	21.15	22
		12	0	20.32	20.12	20.29	21
		12	6	20.23	20.27	20.18	21
		12	13	20.13	20.24	20.18	21
		25	0	20.27	20.2	20.29	21
Bandwidth	Modulation	RB size	RB offset	Channel 23060	Channel 23095	Channel 23130	Tune up
10MHz	QPSK	1	0	21.95	22.01	22.03	23
		1	25	22.24	22.23	22.2	23
		1	49	22	21.96	22.05	23
		25	0	21.45	21.07	21.05	22
		25	13	21.23	21.19	21.19	22
		25	25	21.43	21.2	21.03	22
		50	0	21.43	21.17	21.04	22
	16QAM	1	0	21.7	21.3	21.16	22
		1	25	21.94	21.47	21.31	22
		1	49	21.74	21.32	21.17	22
		25	0	20.54	20.16	20.21	21
		25	13	20.33	20.29	20.32	21
		25	25	20.54	20.29	20.14	21
		50	0	20.5	20.23	20.1	21

LTE FDD Band 17				**Conducted Power(dBm)**			
Bandwidth	Modulation	RB size	RB offset	Channel 23755	Channel 23790	Channel 23825	Tune up
5MHz	QPSK	1	0	22.08	22	21.99	23
		1	13	22.19	22.15	22.18	23
		1	24	22.08	21.96	22.01	23
		12	0	21.13	21.12	21.32	22
		12	6	21.25	21.23	21.24	22
		12	13	21.32	21.1	21.24	22
		25	0	21.24	21.12	21.23	22
	16QAM	1	0	20.99	21.4	21.23	22
		1	13	21.2	21.55	21.37	22
		1	24	21.04	21.37	21.2	22
		12	0	20.18	20.2	20.32	21
		12	6	20.27	20.31	20.25	21
		12	13	20.35	20.18	20.23	21

		25	0	20.28	20.13	20.31	21
Bandwidth	Modulation	RB size	RB offset	Channel 23780	Channel 23790	Channel 23800	Tune up
10MHz	QPSK	1	0	22.03	22.02	22.11	23
		1	25	22.21	22.19	22.19	23
		1	49	22.08	22.05	22.12	23
		25	0	21.01	20.99	21.09	22
		25	13	21.24	21.2	21.19	22
		25	25	21.05	20.99	21.05	22
		50	0	21.11	21.01	21.08	22
	16QAM	1	0	21.72	21.32	21.22	22
		1	25	21.95	21.44	21.29	22
		1	49	21.77	21.29	21.17	22
		25	0	20.16	20.1	20.24	21
		25	13	20.33	20.27	20.33	21
		25	25	20.18	20.1	20.17	21
		50	0	20.16	20.08	20.12	21

LTE Band 38				**Conducted Power(dBm)**			Tune up
Bandwidth	Modulation	RB size	RB offset	Channel 37775	Channel 38000	Channel 38225	
5MHz	QPSK	1	0	22.56	23.06	23.13	24
		1	13	22.68	23.29	23.27	24
		1	24	22.53	23.01	23.15	24
		12	0	21.67	22.15	22.2	23
		12	6	21.77	22.18	22.28	23
		12	13	21.65	22.14	22.19	23
		25	0	21.65	22.16	22.23	23
	16QAM	1	0	21.76	22.19	22.47	23
		1	13	21.81	22.22	22.2	23
		1	24	21.63	22.08	22.11	23
		12	0	21.02	21.19	21.18	22
		12	6	21.23	21.22	21.22	22
		12	13	21.1	21.15	21.2	22
		25	0	21.24	21.16	21.16	22
Bandwidth	Modulation	RB size	RB offset	Channel 37800	Channel 38000	Channel 38200	Tune up
10MHz	QPSK	1	0	23.19	23.2	23.1	24
		1	25	23.37	23.38	23.4	24
		1	49	23.17	23.19	23.12	24
		25	0	22.3	22.22	22.17	23

		25	13	22.24	22.26	22.23	23
		25	25	22.21	22.17	22.24	23
		50	0	22.21	22.21	22.22	23
	16QAM	1	0	22.17	22.07	21.8	23
		1	25	22.42	22.24	22.57	23
		1	49	22.19	21.99	22.13	23
		25	0	21.31	21.31	21.2	22
		25	13	21.24	21.27	21.19	22
		25	25	21.21	21.26	21.25	22
		50	0	21.19	21.26	21.24	22
Bandwidth	Modulation	RB size	RB offset	Channel 37825	Channel 38000	Channel 38175	Tune up
15MHz	QPSK	1	0	23.14	23.19	23.05	24
		1	38	23.21	23.23	23.14	24
		1	74	23.09	23.11	23.15	24
		36	0	22.2	22.15	22.18	23
		36	18	22.22	22.17	22.21	23
		36	39	22.2	22.14	22.19	23
		75	0	22.21	22.17	22.17	23
	16QAM	1	0	22.11	21.93	22.13	23
		1	38	22.25	22.07	22.2	23
		1	74	21.89	21.97	22.47	23
		36	0	21.21	21.17	21.17	22
		36	18	21.17	21.15	21.13	22
		36	39	21.17	21.18	21.18	22
		75	0	21.17	21.19	21.22	22
Bandwidth	Modulation	RB size	RB offset	Channel 37850	Channel 38000	Channel 38150	Tune up
20MHz	QPSK	1	0	23.11	23.17	23.1	24
		1	50	23.22	23.29	23.26	24
		1	99	23.09	23.07	23.09	24
		50	0	22.12	22.17	22.15	23
		50	25	22.14	22.19	22.17	23
		50	50	22.11	22.11	22.1	23
		100	0	22.13	22.18	22.11	23
	16QAM	1	0	22.1	21.85	22.09	23
		1	50	22.65	22.47	22.35	23
		1	99	22.07	21.7	22.09	23
		50	0	21.18	21.18	21.19	22
		50	25	21.2	21.3	21.25	22
		50	50	21.14	21.12	21.17	22
		100	0	21.19	21.19	21.14	22

LTE Band 41 Full power				Conducted Power(dBm)					
Bandwidth	Modulation	RB size	RB offset	Channel 39675	Channel 40148	Channel 40620	Channel 41093	Channel 41565	Tune up
5MHz	QPSK	1	0	23.05	23.07	22.95	23.2	22.69	24.00
		1	13	23.09	23.07	22.91	23.13	22.78	24.00
		1	24	23.06	23.01	23.03	23.2	22.68	24.00
		12	0	22.42	22.46	22.29	22.42	22.04	23.00
		12	6	22.44	22.48	22.22	22.35	22.03	23.00
		12	13	22.48	22.54	22.25	22.33	22.12	23.00
		25	0	22.35	22.46	22.21	22.43	22.13	23.00
	16QAM	1	0	22.45	22.42	22.23	22.26	22.06	23.00
		1	13	22.36	22.42	22.32	22.32	22.02	23.00
		1	24	22.43	22.43	22.14	22.24	22.07	23.00
		12	0	21.77	21.88	21.43	21.51	21.31	22.00
		12	6	21.73	21.96	21.37	21.6	21.29	22.00
		12	13	21.72	21.85	21.39	21.42	21.37	22.00
		25	0	21.37	21.35	21.27	21.34	21.27	22.00
Bandwidth	Modulation	RB size	RB offset	Channel 39700	Channel 40160	Channel 40620	Channel 41080	Channel 41540	Tune up
10MHz	QPSK	1	0	23.07	23.12	23.02	23.24	22.72	24.00
		1	25	23.01	23.14	23.05	23.2	22.76	24.00
		1	49	23.06	23.12	22.97	23.26	22.7	24.00
		25	0	22.42	22.36	22.37	22.62	22.07	23.00
		25	13	22.47	22.46	22.37	22.59	22.13	23.00
		25	25	22.4	22.34	22.39	22.5	22.16	23.00
		50	0	22.42	22.36	22.36	22.48	22.19	23.00
	16QAM	1	0	22.34	22.29	22.37	22.48	22.16	23.00
		1	25	22.43	22.19	22.34	22.38	22.15	23.00
		1	49	22.35	22.19	22.32	22.44	22.22	23.00
		25	0	21.55	21.68	21.73	21.75	21.4	22.00
		25	13	21.55	21.76	21.7	21.77	21.5	22.00
		25	25	21.56	21.65	21.74	21.81	21.3	22.00
		50	0	21.42	21.4	21.37	21.43	21.41	22.00
Bandwidth	Modulation	RB size	RB offset	Channel 39725	Channel 40173	Channel 40620	Channel 41068	Channel 41515	Tune up
15MHz	QPSK	1	0	23.15	23.15	23.02	23.3	22.73	24.00
		1	38	23.16	23.15	22.98	23.33	22.77	24.00
		1	74	23.19	23.09	23.09	23.4	22.8	24.00
		36	0	22.42	22.54	22.32	22.61	22.09	23.00
		36	18	22.44	22.48	22.33	22.64	21.99	23.00

		36	39	22.46	22.63	22.23	22.68	21.94	23.00
		75	0	22.41	22.44	22.27	22.41	21.95	23.00
	16QAM	1	0	22.39	22.43	22.21	22.43	21.86	23.00
		1	38	22.3	22.41	22.19	22.42	21.83	23.00
		1	74	22.38	22.41	22.17	22.41	21.88	23.00
		36	0	21.78	22	21.58	21.93	21.06	22.00
		36	18	21.72	21.97	21.64	21.85	20.97	22.00
		36	39	21.68	21.99	21.52	21.69	21.07	22.00
		75	0	21.4	21.35	21.39	21.37	20.91	22.00
Bandwidth	Modulation	RB size	RB offset	Channel 39750	Channel 40185	Channel 40620	Channel 41055	Channel 41490	Tune up
20MHz	QPSK	1	0	23.28	23.16	23.18	23.3	22.77	24.00
		1	50	23.15	23.09	23.11	23.29	22.74	24.00
		1	99	23.22	23.11	23.1	23.21	22.68	24.00
		50	0	22.52	22.49	22.36	22.62	22.22	23.00
		50	25	22.5	22.42	22.3	22.58	22.21	23.00
		50	50	22.51	22.38	22.24	22.57	22.14	23.00
		100	0	22.47	22.46	22.28	22.45	22.21	23.00
	16QAM	1	0	22.48	22.3	22.18	22.42	22.07	23.00
		1	50	22.5	22.38	22.14	22.45	22.12	23.00
		1	99	22.46	22.25	22.24	22.41	22.03	23.00
		50	0	21.76	21.6	21.48	21.77	21.28	22.00
		50	25	21.86	21.59	21.56	21.75	21.32	22.00
		50	50	21.74	21.59	21.51	21.78	21.26	22.00
		100	0	21.42	21.39	21.5	21.43	21.22	22.00

Table 8： Conducted Power of LTE

7.3.4 Conducted Power of WIFI and BT

Mode	Channel	Frequency(MHz)	Data Rate(Mbps)	Average Power (dBm)	Tune up
802.11b	1	2412	1	15.68	16
	6	2437		15.56	16
	11	2462		15.15	16
802.11g	1	2412	6	14.50	15
	6	2437		14.57	15
	11	2462		14.13	15
802.11n HT20 SISO	1	2412	6.5	14.32	15
	6	2437		14.70	15
	11	2462		13.91	15
802.11n HT40 SISO	3	2422	13.5	14.98	15
	6	2437		14.79	15
	9	2452		14.51	15

5GHz	mode	Channel	Frequency(MHz)	Data Rate(Mbps)	Average Power (dBm)	Tune up
802.11a	U-NII-1	36	5180	6	13.03	14
		40	5200		13.17	14
		48	5240		13.13	14
	U-NII-2A	52	5260		13.19	14
		60	5300		13.48	14
		64	5320		13.42	14
	U-NII-2C	100	5500		13.1	14
		116	5580		12.98	14
		140	5700		12.86	14
	U-NII-3	149	5745		13.09	14
		157	5785		13.16	14
		165	5825		13.03	14
5GHz	mode	Channel	Frequency(MHz)	Data Rate(Mbps)	Average Power (dBm)	Tune up
802.11n-HT20	U-NII-1	36	5180	MCS0	13.11	14
		40	5200		13.23	14
		48	5240		13.17	14
	U-NII-2A	52	5260		13.08	14
		60	5300		13.24	14

		64	5320		13.12	14
	U-NII-2C	100	5500		12.63	14
		116	5580		12.33	14
		140	5700		12.44	14
	U-NII-3	149	5745		13.04	14
		157	5785		13.05	14
		165	5825		13.08	14
5GHz	mode	Channel	Frequency(MHz)	Data Rate(Mbps)	Average Power (dBm)	Tune up
802.11n-HT40	U-NII-1	38	5190	MCS0	12.38	13
		46	5230		12.25	13
	U-NII-2A	54	5270		12.29	13
		62	5310		12.33	13
	U-NII-2C	102	5510		11.89	13
		110	5550		12.02	13
		134	5670		11.6	13
	U-NII-3	151	5755		12.06	13
		159	5795		12.19	13
5GHz	mode	Channel	Frequency(MHz)	Data Rate(Mbps)	Average Power (dBm)	Tune up
802.11ac 20M	U-NII-1	36	5180	MCS0	12.06	13
		40	5200		12.1	13
		48	**5240**		12.14	13
	U-NII-2A	52	5260		12.08	13
		60	5300		12.1	13
		64	5320		12.29	13
	U-NII-2C	100	5500		11.78	13
		116	5580		11.39	13
		140	5700		11.34	13
	U-NII-3	149	5745		12.02	13
		157	5785		12.02	13
		165	5825		11.89	13
5GHz	mode	Channel	Frequency(MHz)	Data Rate(Mbps)	Average Power (dBm)	Tune up
802.11ac 40M	U-NII-1	38	5190	MCS0	12.15	13
		46	5230		12.29	13
	U-NII-2A	54	5270		12.18	13
		62	5310		12.23	13
	U-NII-2C	102	5510		11.87	13
		110	5550		11.87	13

		134	5670		11.66	13
	U-NII-3	151	5755		12.1	13
		159	5795		12.15	13
5GHz	mode	Channel	Frequency(MHz)	Data Rate(Mbps)	Average Power (dBm)	Tune up
802.11ac 80M	U-NII-1	42	5210	MCS0	12.23	13
	U-NII-2A	58	5290		12.04	13
	U-NII-2C	106	5530		11.91	13
		122	5610		11.73	13
	U-NII-3	155	5775		12.11	13

Table 6： Conducted Power of WIFI

BT			Average Conducted Power(dBm)	Tune up (dBm)
Modulation	Channel	Frequency(MHz)		
GFSK	0	2402	5.12	5.5
	39	2441	4.80	5.5
	78	2480	4.00	5.5
π/4DQPSK	0	2402	4.52	5.0
	39	2441	4.29	5.0
	78	2480	3.46	5.0
8DPSK	0	2402	4.52	5.0
	39	2441	4.28	5.0
	78	2480	3.49	5.0

BLE			Average Conducted Power(dBm)	Tune up (dBm)
Modulation	Channel	Frequency(MHz)		
GFSK1M	0	2402	-3.26	-3.0
	19	2440	-3.17	-3.0
	39	2480	-4.16	-3.0
BLE			Average Conducted Power(dBm)	Tune up (dBm)
Modulation	Channel	Frequency(MHz)		
GFSK2M	0	2402	-3.24	-3.0
	19	2440	-3.13	-3.0
	39	2480	-4.12	-3.0

Table 7： Conducted Power of BT

7.4 Measurement of SAR Data

7.4.1 SAR Result of GSM850

GSM850 SAR Test Record											
Test position	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data											
Left cheek	GPRS 4TS	190/836.6	1:2.075	0.310	0.222	-0.01	29.90	30.50	1.148	0.356	22.4
Left tilted	GPRS 4TS	190/836.6	1:2.075	0.189	0.138	0.16	29.90	30.50	1.148	0.217	22.4
Right cheek	GPRS 4TS	190/836.6	1:2.075	0.480	0.359	0.02	29.90	30.50	1.148	**0.551**	22.4
Right tilted	GPRS 4TS	190/836.6	1:2.075	0.178	0.123	-0.06	29.90	30.50	1.148	0.204	22.4
Body/Hotspot Test data(Separate 10mm)											
Front side	GPRS 4TS	190/836.6	1:2.075	0.164	0.106	-0.01	29.90	30.50	1.148	0.188	22.4
Back side	GPRS 4TS	190/836.6	1:2.075	0.217	0.121	0.04	29.90	30.50	1.148	**0.249**	22.4
Left side	GPRS 4TS	190/836.6	1:2.075	0.100	0.067	-0.18	29.90	30.50	1.148	0.115	22.4
Right side	GPRS 4TS	190/836.6	1:2.075	0.190	0.092	0.03	29.90	30.50	1.148	0.218	22.4
Top side	GPRS 4TS	190/836.6	1:2.075	0.003	0.001	0.18	29.90	30.50	1.148	0.003	22.4
Bottom side	GPRS 4TS	190/836.6	1:2.075	0.156	0.085	-0.18	29.90	30.50	1.148	0.179	22.4

Table 8： SAR result of GSM850.

7.4.2 SAR Result of GSM1900

GSM1900 SAR Test Record											
Test position	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data											
Left cheek	GPRS 4TS	661/1880	1:2.075	0.128	0.077	-0.08	26.18	27.00	1.208	0.155	22.4
Left tilted	GPRS 4TS	661/1880	1:2.075	0.055	0.033	0.03	26.18	27.00	1.208	0.066	22.4
Right cheek	GPRS 4TS	661/1880	1:2.075	0.216	0.136	0.06	26.18	27.00	1.208	**0.261**	22.4
Right tilted	GPRS 4TS	661/1880	1:2.075	0.066	0.037	0.05	26.18	27.00	1.208	0.080	22.4
Body/Hotspot Test data(Separate 10mm)											
Front side	GPRS 4TS	661/1880	1:2.075	0.190	0.106	-0.11	26.18	27.00	1.208	0.229	22.4
Back side	GPRS 4TS	661/1880	1:2.075	0.386	0.213	-0.09	26.18	27.00	1.208	0.466	22.4
Left side	GPRS 4TS	661/1880	1:2.075	0.164	0.088	0.08	26.18	27.00	1.208	0.198	22.4
Right side	GPRS 4TS	661/1880	1:2.075	0.092	0.049	-0.11	26.18	27.00	1.208	0.111	22.4
Top side	GPRS 4TS	661/1880	1:2.075	0.005	0.002	0.17	26.18	27.00	1.208	0.006	22.4
Bottom side	GPRS 4TS	661/1880	1:2.075	0.415	0.228	0.02	26.18	27.00	1.208	**0.501**	22.4

Table 9： SAR result of GSM1900.

7.4.3 SAR Result of WCDMA Band II

WB2 SAR Test Record											
Test position	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data											
Left cheek	RMC	9262/1852.4	1:1	0.136	0.084	-0.19	22.96	23.50	1.132	0.154	22.4
Left tilted	RMC	9262/1852.4	1:1	0.072	0.044	0.04	22.96	23.50	1.132	0.082	22.4
Right cheek	RMC	9262/1852.4	1:1	0.211	0.133	0.02	22.96	23.50	1.132	**0.239**	22.4
Right tilted	RMC	9262/1852.4	1:1	0.078	0.048	0.09	22.96	23.50	1.132	0.088	22.4
Body/Hotspot Test data(Separate 10mm)											
Front side	RMC	9262/1852.4	1:1	0.194	0.112	0.18	22.96	23.50	1.132	0.220	22.3
Back side	RMC	9262/1852.4	1:1	0.348	0.200	-0.01	22.96	23.50	1.132	**0.394**	22.2
Left side	RMC	9262/1852.4	1:1	0.185	0.106	0.19	22.96	23.50	1.132	0.209	22.3
Right side	RMC	9262/1852.4	1:1	0.135	0.081	0.04	22.96	23.50	1.132	0.153	22.3
Top side	RMC	9262/1852.4	1:1	0.022	0.010	0.01	22.96	23.50	1.132	0.025	22.3
Bottom side	RMC	9262/1852.4	1:1	0.301	0.162	-0.09	22.96	23.50	1.132	0.341	22.3

Table 10：SAR result of WCDMA Band II.

7.4.4 SAR Result of WCDMA Band IV

WB4 SAR Test Record											
Test position	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data											
Left cheek	RMC	1513/1752.6	1:1	0.183	0.115	-0.12	23.17	24.00	1.211	0.222	22.4
Left tilted	RMC	1513/1752.6	1:1	0.106	0.065	0.11	23.17	24.00	1.211	0.128	22.4
Right cheek	RMC	1513/1752.6	1:1	0.279	0.177	0.04	23.17	24.00	1.211	**0.338**	22.4
Right tilted	RMC	1513/1752.6	1:1	0.098	0.060	0.04	23.17	24.00	1.211	0.119	22.4
Body/Hotspot Test data(Separate 10mm)											
Front side	RMC	1513/1752.6	1:1	0.293	0.194	-0.02	23.17	24.00	1.211	**0.355**	22.2
Back side	RMC	1513/1752.6	1:1	0.284	0.163	-0.14	23.17	24.00	1.211	0.344	22.3
Left side	RMC	1513/1752.6	1:1	0.177	0.101	0.18	23.17	24.00	1.211	0.214	22.3
Right side	RMC	1513/1752.6	1:1	0.157	0.094	-0.12	23.17	24.00	1.211	0.190	22.3
Top side	RMC	1513/1752.6	1:1	0.049	0.030	-0.08	23.17	24.00	1.211	0.059	22.3
Bottom side	RMC	1513/1752.6	1:1	0.234	0.131	0.03	23.17	24.00	1.211	0.283	22.3

Table 11：SAR result of WCDMA Band IV.

7.4.5 SAR Result of WCDMA Band V

WB5 SAR Test Record											
Test position	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data											
Left cheek	RMC	4182/836.4	1:1	0.264	0.192	-0.15	22.93	23.50	1.140	0.301	22.4
Left tilted	RMC	4182/836.4	1:1	0.195	0.143	0.12	22.93	23.50	1.140	0.222	22.4
Right cheek	RMC	4182/836.4	1:1	0.360	0.272	-0.10	22.93	23.50	1.140	**0.410**	22.2
Right tilted	RMC	4182/836.4	1:1	0.191	0.138	-0.07	22.93	23.50	1.140	0.218	22.4
Body/Hotspot Test data(Separate 10mm)											
Front side	RMC	4182/836.4	1:1	0.214	0.153	0.18	22.93	23.50	1.140	0.244	22.3
Back side	RMC	4182/836.4	1:1	0.352	0.204	-0.05	22.93	23.50	1.140	**0.401**	22.2
Left side	RMC	4182/836.4	1:1	0.095	0.064	0.17	22.93	23.50	1.140	0.108	22.3
Right side	RMC	4182/836.4	1:1	0.229	0.154	0.19	22.93	23.50	1.140	0.261	22.3
Top side	RMC	4182/836.4	1:1	0.012	0.003	0.15	22.93	23.50	1.140	0.014	22.3
Bottom side	RMC	4182/836.4	1:1	0.149	0.084	0.13	22.93	23.50	1.140	0.170	22.3

Table 12：SAR result of WCDMA Band V.

7.4.6 SAR Result of LTE band 2

LTE Band 2 SAR Test Record												
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data (1RB)												
Left cheek	20	QPSK 1_50	18900/1880	1:1	0.158	0.097	0.04	22.38	23.00	1.153	0.182	22.4
Left tilted	20	QPSK 1_50	18900/1880	1:1	0.076	0.046	0.07	22.38	23.00	1.153	0.088	22.4
Right cheek	20	QPSK 1_50	18900/1880	1:1	0.211	0.130	0.07	22.38	23.00	1.153	**0.243**	22.2
Right tilted	20	QPSK 1_50	18900/1880	1:1	0.099	0.058	-0.05	22.38	23.00	1.153	0.114	22.4
Head Test Data (50%RB)												
Left cheek	20	QPSK 50_25	18900/1880	1:1	0.127	0.077	-0.14	21.32	22.00	1.169	0.149	22.4
Left tilted	20	QPSK 50_25	18900/1880	1:1	0.062	0.038	0.05	21.32	22.00	1.169	0.073	22.4
Right cheek	20	QPSK 50_25	18900/1880	1:1	0.129	0.077	0.03	21.32	22.00	1.169	0.151	22.4
Right tilted	20	QPSK 50_25	18900/1880	1:1	0.078	0.046	-0.12	21.32	22.00	1.169	0.091	22.4
Body/Hotspot Test data (Separate 10mm 1RB)												
Front side	20	QPSK 1_50	18900/1880	1:1	0.278	0.159	0.14	22.38	23.00	1.153	0.321	22.3
Back side	20	QPSK 1_50	18900/1880	1:1	0.362	0.208	-0.13	22.38	23.00	1.153	**0.418**	22.2
Left side	20	QPSK 1_50	18900/1880	1:1	0.229	0.133	-0.06	22.38	23.00	1.153	0.264	22.3
Right side	20	QPSK 1_50	18900/1880	1:1	0.156	0.093	0.18	22.38	23.00	1.153	0.180	22.3
Top side	20	QPSK 1_50	18900/1880	1:1	0.041	0.016	0.12	22.38	23.00	1.153	0.047	22.3
Bottom side	20	QPSK 1_50	18900/1880	1:1	0.352	0.200	-0.08	22.38	23.00	1.153	0.406	22.3
Body/Hotspot Test data (Separate 10mm 50%RB)												
Front side	20	QPSK 50_25	18900/1880	1:1	0.175	0.101	-0.11	21.32	22.00	1.169	0.205	22.3
Back side	20	QPSK 50_25	18900/1880	1:1	0.288	0.162	0.16	21.32	22.00	1.169	0.337	22.3
Left side	20	QPSK 50_25	18900/1880	1:1	0.178	0.102	0.15	21.32	22.00	1.169	0.208	22.3
Right side	20	QPSK 50_25	18900/1880	1:1	0.124	0.074	0.07	21.32	22.00	1.169	0.145	22.3
Top side	20	QPSK 50_25	18900/1880	1:1	0.033	0.012	0.05	21.32	22.00	1.169	0.039	22.3
Bottom side	20	QPSK 50_25	18900/1880	1:1	0.262	0.151	0.18	21.32	22.00	1.169	0.306	22.3

Table 13：SAR Result of LTE Band 2.

7.4.7 SAR Result of LTE band 4

LTE Band 4 SAR Test Record												
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data (1RB)												
Left cheek	20	QPSK 1_50	20175/1732.5	1:1	0.194	0.122	-0.08	22.53	23.00	1.114	0.216	22.4
Left tilted	20	QPSK 1_50	20175/1732.5	1:1	0.120	0.075	0.06	22.53	23.00	1.114	0.134	22.4
Right cheek	20	QPSK 1_50	20175/1732.5	1:1	0.265	0.165	0.14	22.53	23.00	1.114	**0.295**	22.2
Right tilted	20	QPSK 1_50	20175/1732.5	1:1	0.113	0.070	-0.12	22.53	23.00	1.114	0.126	22.4
Head Test Data (50%RB)												
Left cheek	20	QPSK 50_25	20175/1732.5	1:1	0.156	0.098	0.06	21.38	22.00	1.153	0.180	22.4
Left tilted	20	QPSK 50_25	20175/1732.5	1:1	0.096	0.060	-0.12	21.38	22.00	1.153	0.111	22.4
Right cheek	20	QPSK 50_25	20175/1732.5	1:1	0.213	0.128	0.11	21.38	22.00	1.153	**0.246**	22.4
Right tilted	20	QPSK 50_25	20175/1732.5	1:1	0.089	0.055	-0.15	21.38	22.00	1.153	0.103	22.4
Body/Hotspot Test data (Separate 10mm 1RB)												
Front side	20	QPSK 1_50	20175/1732.5	1:1	0.314	0.209	0.00	22.53	23.00	1.114	**0.350**	22.2
Back side	20	QPSK 1_50	20175/1732.5	1:1	0.309	0.203	-0.05	22.53	23.00	1.114	0.344	22.3
Left side	20	QPSK 1_50	20175/1732.5	1:1	0.171	0.103	-0.16	22.53	23.00	1.114	0.191	22.3
Right side	20	QPSK 1_50	20175/1732.5	1:1	0.164	0.099	-0.16	22.53	23.00	1.114	0.183	22.3
Top side	20	QPSK 1_50	20175/1732.5	1:1	0.053	0.032	-0.11	22.53	23.00	1.114	0.059	22.3
Bottom side	20	QPSK 1_50	20175/1732.5	1:1	0.238	0.130	0.14	22.53	23.00	1.114	0.265	22.3
Body/Hotspot Test data (Separate 10mm 50%RB)												
Front side	20	QPSK 50_25	20175/1732.5	1:1	0.272	0.173	0.12	21.38	22.00	1.153	**0.314**	22.3
Back side	20	QPSK 50_25	20175/1732.5	1:1	0.245	0.162	-0.14	21.38	22.00	1.153	0.283	22.3
Left side	20	QPSK 50_25	20175/1732.5	1:1	0.150	0.091	-0.06	21.38	22.00	1.153	0.173	22.3
Right side	20	QPSK 50_25	20175/1732.5	1:1	0.122	0.074	0.13	21.38	22.00	1.153	0.141	22.3
Top side	20	QPSK 50_25	20175/1732.5	1:1	0.043	0.026	0.02	21.38	22.00	1.153	0.050	22.3
Bottom side	20	QPSK 50_25	20175/1732.5	1:1	0.190	0.105	-0.10	21.38	22.00	1.153	0.219	22.3

Table 14：SAR Result of LTE Band 4.

7.4.8 SAR Result of LTE band 5

LTE Band 5 SAR Test Record												
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data (1RB)												
Left cheek	10	QPSK 1_25	20525/836.5	1:1	0.267	0.192	-0.05	22.39	23.00	1.151	0.307	22.4
Left tilted	10	QPSK 1_25	20525/836.5	1:1	0.175	0.128	0.12	22.39	23.00	1.151	0.201	22.4
Right cheek	10	QPSK 1_25	20525/836.5	1:1	0.366	0.278	-0.05	22.39	23.00	1.151	**0.421**	22.2
Right tilted	10	QPSK 1_25	20525/836.5	1:1	0.193	0.140	0.19	22.39	23.00	1.151	0.222	22.4
Head Test Data (50%RB)												
Left cheek	10	QPSK 25_0	20525/836.5	1:1	0.211	0.153	-0.17	21.27	22.00	1.183	0.250	22.4
Left tilted	10	QPSK 25_0	20525/836.5	1:1	0.140	0.103	0.06	21.27	22.00	1.183	0.166	22.4
Right cheek	10	QPSK 25_0	20525/836.5	1:1	0.279	0.196	-0.19	21.27	22.00	1.183	**0.330**	22.4
Right tilted	10	QPSK 25_0	20525/836.5	1:1	0.155	0.112	0.15	21.27	22.00	1.183	0.183	22.4
Body/Hotspot Test data (Separate 10mm 1RB)												
Front side	10	QPSK 1_25	20525/836.5	1:1	0.210	0.150	-0.06	22.39	23.00	1.151	0.242	22.3
Back side	10	QPSK 1_25	20525/836.5	1:1	0.377	0.216	-0.04	22.39	23.00	1.151	**0.434**	22.2
Left side	10	QPSK 1_25	20525/836.5	1:1	0.094	0.063	-0.18	22.39	23.00	1.151	0.108	22.3
Right side	10	QPSK 1_25	20525/836.5	1:1	0.238	0.160	0.13	22.39	23.00	1.151	0.274	22.3
Top side	10	QPSK 1_25	20525/836.5	1:1	0.006	0.001	0.03	22.39	23.00	1.151	0.007	22.3
Bottom side	10	QPSK 1_25	20525/836.5	1:1	0.142	0.082	0.04	22.39	23.00	1.151	0.163	22.3
Body/Hotspot Test data (Separate 10mm 50%RB)												
Front side	10	QPSK 25_0	20525/836.5	1:1	0.172	0.123	-0.17	21.27	22.00	1.183	0.203	22.3
Back side	10	QPSK 25_0	20525/836.5	1:1	0.244	0.142	0.16	21.27	22.00	1.183	**0.289**	22.3
Left side	10	QPSK 25_0	20525/836.5	1:1	0.075	0.050	-0.07	21.27	22.00	1.183	0.089	22.3
Right side	10	QPSK 25_0	20525/836.5	1:1	0.195	0.132	0.06	21.27	22.00	1.183	0.231	22.3
Top side	10	QPSK 25_0	20525/836.5	1:1	0.005	0.001	0.04	21.27	22.00	1.183	0.006	22.3
Bottom side	10	QPSK 25_0	20525/836.5	1:1	0.120	0.069	-0.06	21.27	22.00	1.183	0.142	22.3

Table 15：SAR Result of LTE Band 5.

7.4.9 SAR Result of LTE band 7

LTE Band 7 SAR Test Record												
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data (1RB)												
Left cheek	20	QPSK 1_50	21100/2535	1:1	0.469	0.257	-0.02	22.78	23.50	1.180	**0.554**	22.2
Left tilted	20	QPSK 1_50	21100/2535	1:1	0.161	0.090	-0.05	22.78	23.50	1.180	0.190	22.4
Right cheek	20	QPSK 1_50	21100/2535	1:1	0.366	0.204	-0.15	22.78	23.50	1.180	0.432	22.4
Right tilted	20	QPSK 1_50	21100/2535	1:1	0.244	0.134	-0.05	22.78	23.50	1.180	0.288	22.4
Head Test Data (50%RB)												
Left cheek	20	QPSK 50_25	21350/2560	1:1	0.431	0.218	0.11	21.64	22.50	1.219	**0.525**	22.4
Left tilted	20	QPSK 50_25	21350/2560	1:1	0.131	0.073	0.14	21.64	22.50	1.219	0.160	22.4
Right cheek	20	QPSK 50_25	21350/2560	1:1	0.329	0.182	0.15	21.64	22.50	1.219	0.401	22.4
Right tilted	20	QPSK 50_25	21350/2560	1:1	0.207	0.112	-0.07	21.64	22.50	1.219	0.252	22.4
Body/Hotspot Test data (Separate 10mm 1RB)												
Front side	20	QPSK 1_50	21100/2535	1:1	0.530	0.280	0.03	22.78	23.50	1.180	0.626	22.3
Back side	20	QPSK 1_50	21100/2535	1:1	0.543	0.283	0.18	22.78	23.50	1.180	0.641	22.3
Left side	20	QPSK 1_50	21100/2535	1:1	0.551	0.283	-0.03	22.78	23.50	1.180	0.650	22.3
Right side	20	QPSK 1_50	21100/2535	1:1	0.202	0.111	-0.08	22.78	23.50	1.180	0.238	22.3
Top side	20	QPSK 1_50	21100/2535	1:1	0.076	0.044	-0.12	22.78	23.50	1.180	0.090	22.3
Bottom side	20	QPSK 1_50	21100/2535	1:1	0.797	0.383	0.02	22.78	23.50	1.180	0.941	22.3
Bottom side	20	QPSK 1_50	20850/2510	1:1	0.950	0.466	0.02	22.65	23.50	1.216	**1.155**	22.2
Bottom side-Repeat	20	QPSK 1_50	20850/2510	1:1	0.932	0.459	0.04	22.65	23.50	1.216	1.133	22.2
Bottom side	20	QPSK 1_50	21350/2560	1:1	0.733	0.349	0.14	22.71	23.50	1.199	0.879	22.3
Body/Hotspot Test data (Separate 10mm 50%RB)												
Front side	20	QPSK 50_25	21350/2560	1:1	0.444	0.234	0.10	21.64	22.50	1.219	0.541	22.3
Back side	20	QPSK 50_25	21350/2560	1:1	0.415	0.212	-0.14	21.64	22.50	1.219	0.506	22.3
Left side	20	QPSK 50_25	21350/2560	1:1	0.446	0.235	-0.01	21.64	22.50	1.219	0.544	22.3
Right side	20	QPSK 50_25	21350/2560	1:1	0.193	0.106	-0.15	21.64	22.50	1.219	0.235	22.3
Top side	20	QPSK 50_25	21350/2560	1:1	0.074	0.042	0.15	21.64	22.50	1.219	0.090	22.3
Bottom side	20	QPSK 50_25	21350/2560	1:1	0.586	0.279	0.18	21.64	22.50	1.219	0.714	22.3
Body/Hotspot Test data (Separate 10mm 100%RB)												
Bottom side	20	QPSK 100_0	21350/2560	1:1	0.550	0.261	-0.16	21.59	22.50	1.233	0.678	22.3

Test Position	Channel/ Frequency	Measured SAR (1g)	1st Repeated	Ratio	2nd Repeated	2nd Repeated	3rd Repeated
	(MHz)		SAR (1g)		SAR (1g)	SAR (1g)	SAR (1g)
Bottom side	20850/2510	0.95	0.932	1.019313305	N/A	N/A	N/A
Note: 1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.							

2) A second repeated measurement was preformed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).
3) A third repeated measurement was preformed only if the original, first or second repeated measurement was ⩾ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.
4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg
5) The same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds. The repeated measurement results must be clearly identified in the SAR report.

Table 16：SAR Result of LTE Band 7.

7.4.10 SAR Result of LTE band 12

LTE Band 12 SAR Test Record												
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data (1RB)												
Left cheek	10	QPSK 1_25	23060/704	1:1	0.132	0.097	-0.11	22.24	23.00	1.191	0.157	22.4
Left tilted	10	QPSK 1_25	23060/704	1:1	0.076	0.056	-0.08	22.24	23.00	1.191	0.091	22.4
Right cheek	10	QPSK 1_25	23060/704	1:1	0.185	0.144	0.01	22.24	23.00	1.191	**0.220**	22.2
Right tilted	10	QPSK 1_25	23060/704	1:1	0.083	0.061	-0.17	22.24	23.00	1.191	0.099	22.4
Head Test Data (50%RB)												
Left cheek	10	QPSK 25_0	23060/704	1:1	0.101	0.075	-0.07	21.45	22.00	1.135	0.115	22.4
Left tilted	10	QPSK 25_0	23060/704	1:1	0.056	0.041	-0.16	21.45	22.00	1.135	0.064	22.4
Right cheek	10	QPSK 25_0	23060/704	1:1	0.124	0.088	0.06	21.45	22.00	1.135	0.141	22.4
Right tilted	10	QPSK 25_0	23060/704	1:1	0.061	0.045	-0.02	21.45	22.00	1.135	0.069	22.4
Body/Hotspot Test data (Separate 10mm 1RB)												
Front side	10	QPSK 1_25	23060/704	1:1	0.189	0.135	-0.09	22.24	23.00	1.191	0.225	22.3
Back side	10	QPSK 1_25	23060/704	1:1	0.314	0.238	0.01	22.24	23.00	1.191	**0.374**	22.2
Left side	10	QPSK 1_25	23060/704	1:1	0.155	0.105	0.09	22.24	23.00	1.191	0.185	22.3
Right side	10	QPSK 1_25	23060/704	1:1	0.240	0.163	0.04	22.24	23.00	1.191	0.286	22.3
Top side	10	QPSK 1_25	23060/704	1:1	0.006	0.001	0.00	22.24	23.00	1.191	0.007	22.3
Bottom side	10	QPSK 1_25	23060/704	1:1	0.064	0.037	0.15	22.24	23.00	1.191	0.076	22.3
Body/Hotspot Test data (Separate 10mm 50%RB)												
Front side	10	QPSK 25_0	23060/704	1:1	0.149	0.107	0.03	21.45	22.00	1.135	0.169	22.3
Back side	10	QPSK 25_0	23060/704	1:1	0.260	0.184	-0.01	21.45	22.00	1.135	**0.295**	22.3
Left side	10	QPSK 25_0	23060/704	1:1	0.123	0.083	0.03	21.45	22.00	1.135	0.140	22.3
Right side	10	QPSK 25_0	23060/704	1:1	0.185	0.126	0.03	21.45	22.00	1.135	0.210	22.3
Top side	10	QPSK 25_0	23060/704	1:1	0.005	0.001	0.08	21.45	22.00	1.135	0.006	22.3
Bottom side	10	QPSK 25_0	23060/704	1:1	0.056	0.031	-0.01	21.45	22.00	1.135	0.064	22.3

Table 17：SAR Result of LTE Band 12.

7.4.11 SAR Result of LTE band 17

LTE Band 17 SAR Test Record												
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data (1RB)												
Left cheek	10	QPSK 1_25	23780/709	1:1	0.157	0.115	0.12	22.21	23.00	1.199	0.188	22.4
Left tilted	10	QPSK 1_25	23780/709	1:1	0.079	0.058	-0.11	22.21	23.00	1.199	0.095	22.4
Right cheek	10	QPSK 1_25	23780/709	1:1	0.213	0.166	0.11	22.21	23.00	1.199	**0.255**	22.2
Right tilted	10	QPSK 1_25	23780/709	1:1	0.101	0.074	0.04	22.21	23.00	1.199	0.121	22.4
Head Test Data (50%RB)												
Left cheek	10	QPSK 25_13	23780/709	1:1	0.125	0.091	-0.19	21.24	22.00	1.191	0.149	22.4
Left tilted	10	QPSK 25_13	23780/709	1:1	0.064	0.047	0.14	21.24	22.00	1.191	0.076	22.4
Right cheek	10	QPSK 25_13	23780/709	1:1	0.148	0.104	-0.04	21.24	22.00	1.191	0.176	22.4
Right tilted	10	QPSK 25_13	23780/709	1:1	0.079	0.059	0.16	21.24	22.00	1.191	0.094	22.4
Body/Hotspot Test data (Separate 10mm 1RB)												
Front side	10	QPSK 1_25	23780/709	1:1	0.208	0.151	-0.18	22.21	23.00	1.199	0.249	22.3
Back side	10	QPSK 1_25	23780/709	1:1	0.354	0.267	0.00	22.21	23.00	1.199	**0.425**	22.2
Left side	10	QPSK 1_25	23780/709	1:1	0.160	0.108	-0.09	22.21	23.00	1.199	0.192	22.3
Right side	10	QPSK 1_25	23780/709	1:1	0.263	0.178	0.09	22.21	23.00	1.199	0.315	22.3
Top side	10	QPSK 1_25	23780/709	1:1	0.003	0.001	-0.09	22.21	23.00	1.199	0.004	22.3
Bottom side	10	QPSK 1_25	23780/709	1:1	0.079	0.045	0.02	22.21	23.00	1.199	0.095	22.3
Body/Hotspot Test data (Separate 10mm 50%RB)												
Front side	10	QPSK 25_13	23780/709	1:1	0.167	0.120	0.10	21.24	22.00	1.191	0.199	22.3
Back side	10	QPSK 25_13	23780/709	1:1	0.282	0.198	-0.13	21.24	22.00	1.191	**0.336**	22.3
Left side	10	QPSK 25_13	23780/709	1:1	0.134	0.091	0.03	21.24	22.00	1.191	0.160	22.3
Right side	10	QPSK 25_13	23780/709	1:1	0.219	0.147	-0.17	21.24	22.00	1.191	0.261	22.3
Top side	10	QPSK 25_13	23780/709	1:1	0.004	0.001	-0.08	21.24	22.00	1.191	0.005	22.3
Bottom side	10	QPSK 25_13	23780/709	1:1	0.066	0.035	0.09	21.24	22.00	1.191	0.079	22.3

Table 18：SAR Result of LTE Band 17.

7.4.12 SAR Result of LTE band 38

LTE Band 38 SAR Test Record												
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data (1RB)												
Left cheek	20	QPSK 1_50	38000/2595	1:1.58	0.323	0.174	0.08	23.29	24.00	1.178	**0.380**	22.2
Left tilted	20	QPSK 1_50	38000/2595	1:1.58	0.079	0.045	0.11	23.29	24.00	1.178	0.093	22.4
Right cheek	20	QPSK 1_50	38000/2595	1:1.58	0.229	0.126	-0.07	23.29	24.00	1.178	0.270	22.4
Right tilted	20	QPSK 1_50	38000/2595	1:1.58	0.142	0.077	0.04	23.29	24.00	1.178	0.167	22.4
Head Test Data (50%RB)												
Left cheek	20	QPSK 50_25	38000/2595	1:1.58	0.258	0.137	-0.11	22.19	23.00	1.205	**0.311**	22.4
Left tilted	20	QPSK 50_25	38000/2595	1:1.58	0.064	0.035	-0.09	22.19	23.00	1.205	0.077	22.4
Right cheek	20	QPSK 50_25	38000/2595	1:1.58	0.182	0.100	-0.19	22.19	23.00	1.205	0.219	22.4
Right tilted	20	QPSK 50_25	38000/2595	1:1.58	0.113	0.062	-0.18	22.19	23.00	1.205	0.136	22.4
Body/Hotspot Test data (Separate 10mm 1RB)												
Front side	20	QPSK 1_50	38000/2595	1:1.58	0.306	0.160	0.11	23.29	24.00	1.178	0.360	22.3
Back side	20	QPSK 1_50	38000/2595	1:1.58	0.245	0.128	0.17	23.29	24.00	1.178	0.289	22.3
Left side	20	QPSK 1_50	38000/2595	1:1.58	0.297	0.156	-0.06	23.29	24.00	1.178	0.350	22.3
Right side	20	QPSK 1_50	38000/2595	1:1.58	0.140	0.077	0.00	23.29	24.00	1.178	0.165	22.3
Top side	20	QPSK 1_50	38000/2595	1:1.58	0.052	0.029	0.17	23.29	24.00	1.178	0.061	22.3
Bottom side	20	QPSK 1_50	38000/2595	1:1.58	0.447	0.216	-0.01	23.29	24.00	1.178	**0.526**	22.2
Body/Hotspot Test data (Separate 10mm 50%RB)												
Front side	20	QPSK 50_25	38000/2595	1:1.58	0.243	0.127	-0.09	22.19	23.00	1.205	0.293	22.3
Back side	20	QPSK 50_25	38000/2595	1:1.58	0.240	0.123	0.13	22.19	23.00	1.205	0.289	22.3
Left side	20	QPSK 50_25	38000/2595	1:1.58	0.245	0.125	0.13	22.19	23.00	1.205	0.295	22.3
Right side	20	QPSK 50_25	38000/2595	1:1.58	0.112	0.060	-0.06	22.19	23.00	1.205	0.135	22.3
Top side	20	QPSK 50_25	38000/2595	1:1.58	0.056	0.016	0.19	22.19	23.00	1.205	0.067	22.3
Bottom side	20	QPSK 50_25	38000/2595	1:1.58	0.274	0.131	0.00	22.19	23.00	1.205	0.330	22.3

Table 19：SAR Result of LTE Band 38.

7.4.13 SAR Result of LTE band 41

LTE Band 41 SAR Test Record												
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data (1RB)												
Left cheek	20	QPSK 1_0	41055/2636.5	1:1.58	0.294	0.158	-0.09	23.30	24.00	1.175	**0.345**	22.2
Left tilted	20	QPSK 1_0	41055/2636.5	1:1.58	0.080	0.046	-0.10	23.30	24.00	1.175	0.094	22.4
Right cheek	20	QPSK 1_0	41055/2636.5	1:1.58	0.212	0.117	0.04	23.30	24.00	1.175	0.249	22.4
Right tilted	20	QPSK 1_0	41055/2636.5	1:1.58	0.126	0.068	-0.12	23.30	24.00	1.175	0.148	22.4
Head Test Data (50%RB)												
Left cheek	20	QPSK 50_0	41055/2636.5	1:1.58	0.249	0.128	0.14	22.62	23.00	1.091	**0.272**	22.4
Left tilted	20	QPSK 50_0	41055/2636.5	1:1.58	0.074	0.041	-0.07	22.62	23.00	1.091	0.081	22.4
Right cheek	20	QPSK 50_0	41055/2636.5	1:1.58	0.176	0.097	0.02	22.62	23.00	1.091	0.192	22.4
Right tilted	20	QPSK 50_0	41055/2636.5	1:1.58	0.110	0.058	-0.04	22.62	23.00	1.091	0.120	22.4
Body/Hotspot Test data (Separate 10mm 1RB)												
Front side	20	QPSK 1_0	41055/2636.5	1:1.58	0.251	0.114	-0.150	23.30	24.00	1.175	0.295	22.3
Back side	20	QPSK 1_0	41055/2636.5	1:1.58	0.261	0.130	-0.12	23.30	24.00	1.175	0.307	22.3
Left side	20	QPSK 1_0	41055/2636.5	1:1.58	0.269	0.141	0.04	23.30	24.00	1.175	**0.316**	22.2
Right side	20	QPSK 1_0	41055/2636.5	1:1.58	0.132	0.072	0.02	23.30	24.00	1.175	0.155	22.3
Top side	20	QPSK 1_0	41055/2636.5	1:1.58	0.046	0.022	0.04	23.30	24.00	1.175	0.054	22.3
Bottom side	20	QPSK 1_0	41055/2636.5	1:1.58	0.246	0.098	-0.19	23.30	24.00	1.175	0.289	22.3
Body/Hotspot Test data (Separate 10mm 50%RB)												
Front side	20	QPSK 50_0	41055/2636.5	1:1.58	0.243	0.122	-0.16	22.62	23.00	1.091	0.265	22.3
Back side	20	QPSK 50_0	41055/2636.5	1:1.58	0.205	0.102	-0.04	22.62	23.00	1.091	0.224	22.3
Left side	20	QPSK 50_0	41055/2636.5	1:1.58	0.251	0.130	0.15	22.62	23.00	1.091	**0.274**	22.3
Right side	20	QPSK 50_0	41055/2636.5	1:1.58	0.111	0.061	0.05	22.62	23.00	1.091	0.121	22.3
Top side	20	QPSK 50_0	41055/2636.5	1:1.58	0.036	0.016	-0.06	22.62	23.00	1.091	0.039	22.3
Bottom side	20	QPSK 50_0	41055/2636.5	1:1.58	0.238	0.113	0.00	22.62	23.00	1.091	0.260	22.3

Table 20：SAR Result of LTE Band 41.

7.4.14 SAR Result of WIFI 2.4G

Wi-Fi 2.4G SAR Test Record												
Test position	Test mode	Test ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 10-g (W/kg)	Liquid Temp.(℃)
Head Test Data												
Left cheek	802.11b	1/2412	99.56%	1.004	0.473	0.213	0.04	15.68	16.00	1.076	**0.511**	22.4
Left tilted	802.11b	1/2412	99.56%	1.004	0.343	0.176	0.11	15.68	16.00	1.076	0.371	22.4
Right cheek	802.11b	1/2412	99.56%	1.004	0.224	0.118	0.02	15.68	16.00	1.076	0.242	22.4
Right tilted	802.11b	1/2412	99.56%	1.004	0.199	0.102	-0.19	15.68	16.00	1.076	0.215	22.4
Body/Hotspot Test data(Separate 10mm)												
Front side	802.11b	1/2412	99.56%	1.004	0.098	0.055	0.13	15.68	16.00	1.076	0.106	22.4
Back side	802.11b	1/2412	99.56%	1.004	0.124	0.067	0.01	15.68	16.00	1.076	**0.134**	22.4
Left side	802.11b	1/2412	99.56%	1.004	0.040	0.014	0.02	15.68	16.00	1.076	0.043	22.4
Right side	802.11b	1/2412	99.56%	1.004	0.070	0.037	-0.15	15.68	16.00	1.076	0.076	22.4
Top side	802.11b	1/2412	99.56%	1.004	0.082	0.043	0.02	15.68	16.00	1.076	0.089	22.4
Bottom side	802.11b	1/2412	99.56%	1.004	0.003	0.001	-0.01	15.68	16.00	1.076	0.003	22.4

Table 21：SAR Result of WIFI 2.4G.

7.4.15 SAR Result of WIFI 5G

Wi-Fi 5G SAR Test Record												
Test position	Test mode	Test ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data of U-NII-2A												
Left cheek	802.11a	60/5300	97.08%	1.030	0.549	0.201	0.02	13.48	14.00	1.127	0.637	22.4
Left tilted	802.11a	60/5300	97.08%	1.030	0.389	0.142	0.16	13.48	14.00	1.127	0.452	22.4
Right cheek	802.11a	60/5300	97.08%	1.030	0.310	0.112	0.10	13.48	14.00	1.127	0.360	22.4
Right tilted	802.11a	60/5300	97.08%	1.030	0.236	0.088	-0.05	13.48	14.00	1.127	0.274	22.4
Head Test Data of U-NII-2C												
Left cheek	802.11a	100/5500	97.08%	1.030	0.572	0.214	0.02	13.10	14.00	1.230	0.725	22.4
Left tilted	802.11a	100/5500	97.08%	1.030	0.460	0.155	0.02	13.10	14.00	1.230	0.583	22.4
Right cheek	802.11a	100/5500	97.08%	1.030	0.198	0.115	0.16	13.10	14.00	1.230	0.251	22.4
Right tilted	802.11a	100/5500	97.08%	1.030	0.272	0.101	-0.19	13.10	14.00	1.230	0.345	22.4
Head Test Data of U-NII-3												
Left cheek	802.11a	157/5785	97.08%	1.030	0.585	0.223	0.06	13.16	14.00	1.213	**0.731**	22.4
Left tilted	802.11a	157/5785	97.08%	1.030	0.531	0.180	-0.17	13.16	14.00	1.213	0.664	22.4
Right cheek	802.11a	157/5785	97.08%	1.030	0.331	0.128	0.14	13.16	14.00	1.213	0.414	22.4
Right tilted	802.11a	157/5785	97.08%	1.030	0.308	0.117	-0.10	13.16	14.00	1.213	0.385	22.4
Body Test data of U-NII-1 (Separate 10mm)												
Front side	802.11a	40/5200	97.08%	1.030	0.124	0.048	0.02	13.17	14.00	1.211	0.155	22.4
Back side	802.11a	40/5200	97.08%	1.030	0.080	0.033	0.05	13.17	14.00	1.211	0.100	22.4
Left side	802.11a	40/5200	97.08%	1.030	0.048	0.013	-0.11	13.17	14.00	1.211	0.060	22.4
Right side	802.11a	40/5200	97.08%	1.030	0.139	0.056	-0.09	13.17	14.00	1.211	0.173	22.4
Top side	802.11a	40/5200	97.08%	1.030	0.062	0.021	0.07	13.17	14.00	1.211	0.077	22.4
Bottom side	802.11a	40/5200	97.08%	1.030	0.046	0.012	0.13	13.17	14.00	1.211	0.057	22.4
Body Test data of U-NII-3 (Separate 10mm)												
Front side	802.11a	157/5785	97.08%	1.030	0.155	0.075	0.08	13.16	14.00	1.213	**0.194**	22.4
Back side	802.11a	157/5785	97.08%	1.030	0.108	0.043	-0.06	13.16	14.00	1.213	0.135	22.4
Left side	802.11a	157/5785	97.08%	1.030	0.047	0.013	-0.15	13.16	14.00	1.213	0.059	22.4
Right side	802.11a	157/5785	97.08%	1.030	0.131	0.067	-0.16	13.16	14.00	1.213	0.164	22.4
Top side	802.11a	157/5785	97.08%	1.030	0.094	0.036	-0.01	13.16	14.00	1.213	0.117	22.4
Bottom side	802.11a	157/5785	97.08%	1.030	0.003	0.003	0.06	13.16	14.00	1.213	0.004	22.4
Test position	Test mode	Test ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 10-g (W/kg)	Liquid Temp.(℃)
Product specific 10gSAR Test data of U-NII-2A (Separate 0mm)												
Front side	802.11a	60/5300	97.08%	1.030	0.634	0.200	0.03	13.48	14.00	1.127	**0.232**	22.4
Back side	802.11a	60/5300	97.08%	1.030	0.234	0.087	0.04	13.48	14.00	1.127	0.101	22.4
Left side	802.11a	60/5300	97.08%	1.030	0.071	0.015	-0.13	13.48	14.00	1.127	0.017	22.4
Right side	802.11a	60/5300	97.08%	1.030	0.584	0.195	0.07	13.48	14.00	1.127	0.226	22.4

Top side	802.11a	60/5300	97.08%	1.030	0.290	0.098	-0.09	13.48	14.00	1.127	0.114	22.4
Bottom side	802.11a	60/5300	97.08%	1.030	0.068	0.014	-0.01	13.48	14.00	1.127	0.016	22.4
Product specific 10gSAR Test data of U-NII-2C (Separate 0mm)												
Front side	802.11a	100/5500	97.08%	1.030	0.495	0.152	0.05	13.10	14.00	1.230	0.193	22.4
Back side	802.11a	100/5500	97.08%	1.030	0.119	0.044	0.08	13.10	14.00	1.230	0.056	22.4
Left side	802.11a	100/5500	97.08%	1.030	0.060	0.015	-0.06	13.10	14.00	1.230	0.019	22.4
Right side	802.11a	100/5500	97.08%	1.030	0.376	0.125	-0.18	13.10	14.00	1.230	0.158	22.4
Top side	802.11a	100/5500	97.08%	1.030	0.174	0.062	0.02	13.10	14.00	1.230	0.079	22.4
Bottom side	802.11a	100/5500	97.08%	1.030	0.061	0.013	-0.11	13.10	14.00	1.230	0.016	22.4

Table 22：SAR Result of WIFI 5G.

7.4.16 SAR Result of BT

Bluetooth SAR Test Record												
Ant9 Test Record												
Test position	Test mode	Test ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Head Test Data												
Left cheek	DH5	0/2402	57.82%	1.730	0.050	0.020	0.06	5.12	5.50	1.091	**0.094**	22.4
Left tilted	DH5	0/2402	57.82%	1.730	0.043	0.022	-0.06	5.12	5.50	1.091	0.081	22.4
Right cheek	DH5	0/2402	57.82%	1.730	0.005	0.003	0.08	5.12	5.50	1.091	0.009	22.4
Right tilted	DH5	0/2402	57.82%	1.730	0.002	0.001	0.12	5.12	5.50	1.091	0.004	22.4
Body/Hotspot Test data (Separate 10mm)												
Front side	DH5	0/2402	57.82%	1.730	0.006	0.005	0.05	5.12	5.50	1.091	0.011	22.4
Back side	DH5	0/2402	57.82%	1.730	0.013	0.006	0.01	5.12	5.50	1.091	**0.025**	22.4
Left side	DH5	0/2402	57.82%	1.730	0.002	0.001	-0.08	5.12	5.50	1.091	0.004	22.4
Right side	DH5	0/2402	57.82%	1.730	0.003	0.002	-0.17	5.12	5.50	1.091	0.006	22.4
Top side	DH5	0/2402	57.82%	1.730	0.005	0.004	-0.10	5.12	5.50	1.091	0.009	22.4
Bottom side	DH5	0/2402	57.82%	1.730	0.003	0.002	0.04	5.12	5.50	1.091	0.006	22.4

Table 23：SAR Result of BT.

7.5 Multiple Transmitter Evaluation

7.5.1 Simultaneous SAR test evaluation

NO.	Simultaneous Transmission Configuration	Head	Body/Hotspot
1	WWAN + WIFI 2.4GHz	Yes	Yes
2	WWAN + WIFI 5GHz	Yes	Yes
3	WWAN + BT	Yes	Yes
4	WWAN + WIFI 5GHz + BT	Yes	Yes

7.5.2 Simultaneous Transmission SAR Summation Scenario for Head

Test position		SARmax (W/kg)				Summed SAR			
		Main	WiFi 2.4G	WiFi 5G	BT				
		1	2	3	4	1+2	1+3	1+4	1+3+4
GSM850	Left cheek	0.356	0.511	0.731	0.094	0.867	1.087	0.450	1.181
	Left tilted	0.217	0.371	0.664	0.081	0.588	0.881	0.298	0.962
	Right cheek	0.551	0.242	0.414	0.009	0.793	0.965	0.560	0.974
	Right tilted	0.204	0.215	0.385	0.004	0.419	0.589	0.208	0.593
GSM1900	Left cheek	0.155	0.511	0.731	0.094	0.666	0.886	0.249	0.980
	Left tilted	0.066	0.371	0.664	0.081	0.437	0.730	0.147	0.811
	Right cheek	0.261	0.242	0.414	0.009	0.503	0.675	0.270	0.684
	Right tilted	0.080	0.215	0.385	0.004	0.295	0.465	0.084	0.469
W B2	Left cheek	0.154	0.511	0.731	0.094	0.665	0.885	0.248	0.979
	Left tilted	0.082	0.371	0.664	0.081	0.453	0.746	0.163	0.827
	Right cheek	0.239	0.242	0.414	0.009	0.481	0.653	0.248	0.662
	Right tilted	0.088	0.215	0.385	0.004	0.303	0.473	0.092	0.477
W B4	Left cheek	0.222	0.511	0.731	0.094	0.733	0.953	0.316	1.047
	Left tilted	0.128	0.371	0.664	0.081	0.499	0.792	0.209	0.873
	Right cheek	0.338	0.242	0.414	0.009	0.580	0.752	0.347	0.761
	Right tilted	0.119	0.215	0.385	0.004	0.334	0.504	0.123	0.508
W B5	Left cheek	0.301	0.511	0.731	0.094	0.812	1.032	0.395	1.126
	Left tilted	0.222	0.371	0.664	0.081	0.593	0.886	0.303	0.967
	Right cheek	0.410	0.242	0.414	0.009	0.652	0.824	0.419	0.833
	Right tilted	0.218	0.215	0.385	0.004	0.433	0.603	0.222	0.607
LTE B2	Left cheek	0.182	0.511	0.731	0.094	0.693	0.913	0.276	1.007
	Left tilted	0.088	0.371	0.664	0.081	0.459	0.752	0.169	0.833
	Right cheek	0.243	0.242	0.414	0.009	0.485	0.657	0.252	0.666
	Right tilted	0.114	0.215	0.385	0.004	0.329	0.499	0.118	0.503
LTE B4	Left cheek	0.216	0.511	0.731	0.094	0.727	0.947	0.310	1.041
	Left tilted	0.134	0.371	0.664	0.081	0.505	0.798	0.215	0.879
	Right cheek	0.295	0.242	0.414	0.009	0.537	0.709	0.304	0.718
	Right tilted	0.126	0.215	0.385	0.004	0.341	0.511	0.130	0.515
LTE B5	Left cheek	0.307	0.511	0.731	0.094	0.818	1.038	0.401	1.132
	Left tilted	0.201	0.371	0.664	0.081	0.572	0.865	0.282	0.946
	Right cheek	0.421	0.242	0.414	0.009	0.663	0.835	0.430	0.844
	Right tilted	0.222	0.215	0.385	0.004	0.437	0.607	0.226	0.611
LTE B7	Left cheek	0.554	0.511	0.731	0.094	1.065	1.285	0.648	**1.379**
	Left tilted	0.190	0.371	0.664	0.081	0.561	0.854	0.271	0.935
	Right cheek	0.432	0.242	0.414	0.009	0.674	0.846	0.441	0.855
	Right tilted	0.288	0.215	0.385	0.004	0.503	0.673	0.292	0.677
LTE B12	Left cheek	0.157	0.511	0.731	0.094	0.668	0.888	0.251	0.982
	Left tilted	0.091	0.371	0.664	0.081	0.462	0.755	0.172	0.836
	Right cheek	0.220	0.242	0.414	0.009	0.462	0.634	0.229	0.643
	Right tilted	0.099	0.215	0.385	0.004	0.314	0.484	0.103	0.488

LTE B17	Left cheek	0.188	0.511	0.731	0.094	0.699	0.919	0.282	1.013
	Left tilted	0.095	0.371	0.664	0.081	0.466	0.759	0.176	0.840
	Right cheek	0.255	0.242	0.414	0.009	0.497	0.669	0.264	0.678
	Right tilted	0.121	0.215	0.385	0.004	0.336	0.506	0.125	0.510
LTE B38	Left cheek	0.380	0.511	0.731	0.094	0.891	1.111	0.474	1.205
	Left tilted	0.093	0.371	0.664	0.081	0.464	0.757	0.174	0.838
	Right cheek	0.270	0.242	0.414	0.009	0.512	0.684	0.279	0.693
	Right tilted	0.167	0.215	0.385	0.004	0.382	0.552	0.171	0.556
LTE B41	Left cheek	0.345	0.511	0.731	0.094	0.856	1.076	0.439	1.170
	Left tilted	0.094	0.371	0.664	0.081	0.465	0.758	0.175	0.839
	Right cheek	0.249	0.242	0.414	0.009	0.491	0.663	0.258	0.672
	Right tilted	0.148	0.215	0.385	0.004	0.363	0.533	0.152	0.537

7.5.3 Simultaneous Transmission SAR Summation Scenario for Body&Hotspot

Test position		SARmax (W/kg)				Summed SAR			
		Main	WiFi 2.4G	WiFi 5G	BT				
		1	2	3	4	1+2	1+3	1+4	1+3+4
GSM850	Front side	0.188	0.106	0.194	0.011	0.294	0.382	0.199	0.393
	Back side	0.249	0.134	0.135	0.025	0.383	0.384	0.274	0.409
	Left side	0.115	0.043	0.060	0.004	0.158	0.175	0.119	0.179
	Right side	0.218	0.076	0.173	0.006	0.294	0.391	0.224	0.397
	Top side	0.003	0.089	0.117	0.009	0.092	0.120	0.012	0.129
	Bottom side	0.179	0.003	0.057	0.006	0.182	0.236	0.185	0.242
GSM1900	Front side	0.229	0.106	0.194	0.011	0.335	0.423	0.240	0.434
	Back side	0.466	0.134	0.135	0.025	0.600	0.601	0.491	0.626
	Left side	0.198	0.043	0.060	0.004	0.241	0.258	0.202	0.262
	Right side	0.111	0.076	0.173	0.006	0.187	0.284	0.117	0.290
	Top side	0.006	0.089	0.117	0.009	0.095	0.123	0.015	0.132
	Bottom side	0.501	0.003	0.057	0.006	0.504	0.558	0.507	0.564
W B2	Front side	0.220	0.106	0.194	0.011	0.326	0.414	0.231	0.425
	Back side	0.394	0.134	0.135	0.025	0.528	0.529	0.419	0.554
	Left side	0.209	0.043	0.060	0.004	0.252	0.269	0.213	0.273
	Right side	0.153	0.076	0.173	0.006	0.229	0.326	0.159	0.332
	Top side	0.025	0.089	0.117	0.009	0.114	0.142	0.034	0.151
	Bottom side	0.341	0.003	0.057	0.006	0.344	0.398	0.347	0.404
W B4	Front side	0.355	0.106	0.194	0.011	0.461	0.549	0.366	0.560
	Back side	0.344	0.134	0.135	0.025	0.478	0.479	0.369	0.504
	Left side	0.214	0.043	0.060	0.004	0.257	0.274	0.218	0.278
	Right side	0.190	0.076	0.173	0.006	0.266	0.363	0.196	0.369
	Top side	0.059	0.089	0.117	0.009	0.148	0.176	0.068	0.185
	Bottom side	0.283	0.003	0.057	0.006	0.286	0.340	0.289	0.346
W B5	Front side	0.244	0.106	0.194	0.011	0.350	0.438	0.255	0.449
	Back side	0.401	0.134	0.135	0.025	0.535	0.536	0.426	0.561
	Left side	0.108	0.043	0.060	0.004	0.151	0.168	0.112	0.172
	Right side	0.261	0.076	0.173	0.006	0.337	0.434	0.267	0.440
	Top side	0.014	0.089	0.117	0.009	0.103	0.131	0.023	0.140
	Bottom side	0.170	0.003	0.057	0.006	0.173	0.227	0.176	0.233
LTE B2	Front side	0.321	0.106	0.194	0.011	0.427	0.515	0.332	0.526
	Back side	0.418	0.134	0.135	0.025	0.552	0.553	0.443	0.578
	Left side	0.264	0.043	0.060	0.004	0.307	0.324	0.268	0.328
	Right side	0.180	0.076	0.173	0.006	0.256	0.353	0.186	0.359
	Top side	0.047	0.089	0.117	0.009	0.136	0.164	0.056	0.173
	Bottom side	0.406	0.003	0.057	0.006	0.409	0.463	0.412	0.469
LTE B4	Front side	0.350	0.106	0.194	0.011	0.456	0.544	0.361	0.555
	Back side	0.344	0.134	0.135	0.025	0.478	0.479	0.369	0.504
	Left side	0.191	0.043	0.060	0.004	0.234	0.251	0.195	0.255
	Right side	0.183	0.076	0.173	0.006	0.259	0.356	0.189	0.362
	Top side	0.059	0.089	0.117	0.009	0.148	0.176	0.068	0.185

	Bottom side	0.265	0.003	0.057	0.006	0.268	0.322	0.271	0.328
LTE B5	Front side	0.242	0.106	0.194	0.011	0.348	0.436	0.253	0.447
	Back side	0.434	0.134	0.135	0.025	0.568	0.569	0.459	0.594
	Left side	0.108	0.043	0.060	0.004	0.151	0.168	0.112	0.172
	Right side	0.274	0.076	0.173	0.006	0.350	0.447	0.280	0.453
	Top side	0.007	0.089	0.117	0.009	0.096	0.124	0.016	0.133
	Bottom side	0.163	0.003	0.057	0.006	0.166	0.220	0.169	0.226
LTE B7	Front side	0.626	0.106	0.194	0.011	0.732	0.820	0.637	0.831
	Back side	0.641	0.134	0.135	0.025	0.775	0.776	0.666	0.801
	Left side	0.650	0.043	0.060	0.004	0.693	0.710	0.654	0.714
	Right side	0.238	0.076	0.173	0.006	0.314	0.411	0.244	0.417
	Top side	0.090	0.089	0.117	0.009	0.179	0.207	0.099	0.216
	Bottom side	1.155	0.003	0.057	0.006	1.158	1.212	1.161	**1.218**
LTE B12	Front side	0.225	0.106	0.194	0.011	0.331	0.419	0.236	0.430
	Back side	0.374	0.134	0.135	0.025	0.508	0.509	0.399	0.534
	Left side	0.185	0.043	0.060	0.004	0.228	0.245	0.189	0.249
	Right side	0.286	0.076	0.173	0.006	0.362	0.459	0.292	0.465
	Top side	0.007	0.089	0.117	0.009	0.096	0.124	0.016	0.133
	Bottom side	0.076	0.003	0.057	0.006	0.079	0.133	0.082	0.139
LTE B17	Front side	0.249	0.106	0.194	0.011	0.355	0.443	0.260	0.454
	Back side	0.425	0.134	0.135	0.025	0.559	0.560	0.450	0.585
	Left side	0.192	0.043	0.060	0.004	0.235	0.252	0.196	0.256
	Right side	0.315	0.076	0.173	0.006	0.391	0.488	0.321	0.494
	Top side	0.005	0.089	0.117	0.009	0.094	0.122	0.014	0.131
	Bottom side	0.095	0.003	0.057	0.006	0.098	0.152	0.101	0.158
LTE B38	Front side	0.360	0.106	0.194	0.011	0.466	0.554	0.371	0.565
	Back side	0.289	0.134	0.135	0.025	0.423	0.424	0.314	0.449
	Left side	0.350	0.043	0.060	0.004	0.393	0.410	0.354	0.414
	Right side	0.165	0.076	0.173	0.006	0.241	0.338	0.171	0.344
	Top side	0.067	0.089	0.117	0.009	0.156	0.184	0.076	0.193
	Bottom side	0.526	0.003	0.057	0.006	0.529	0.583	0.532	0.589
LTE B41	Front side	0.295	0.106	0.194	0.011	0.401	0.489	0.306	0.500
	Back side	0.307	0.134	0.135	0.025	0.441	0.442	0.332	0.467
	Left side	0.316	0.043	0.060	0.004	0.359	0.376	0.320	0.380
	Right side	0.155	0.076	0.173	0.006	0.231	0.328	0.161	0.334
	Top side	0.054	0.089	0.117	0.009	0.143	0.171	0.063	0.180
	Bottom side	0.289	0.003	0.057	0.006	0.292	0.346	0.295	0.352

8 Equipment list

Test Platform	SPEAG DASY Professional
Description	SAR Test System (Frequency range 300MHz-6GHz)
Software Reference	DASY8 Module SAR V16.2.4.2524

Hardware Reference

Equipment		Manufacturer	Model	Inventory no	Calibration Date	Due date of calibration
☒	DAE	SPEAG	DAE4ip	SZ-WSR-M-074	2023/7/14	2024/7/13
☒	DAE	SPEAG	DAE4ip	SZ-WSR-M-078	2023/9/12	2024/9/11
☒	E-Field Probe	SPEAG	EX3DV4	SZ-WSR-M-027	2023/6/5	2024/6/4
☒	E-Field Probe	SPEAG	EX3DV4	SZ-WSR-M-075	2023/7/17	2024/7/16
☒	Validation Kits	SPEAG	D750V3	SZ-WSR-M-032	2022/6/6	2025/6/5
☒	Validation Kits	SPEAG	D835V2	SZ-WSR-M-033	2022/11/2	2025/11/1
☒	Validation Kits	SPEAG	D1750V2	SZ-WSR-M-035	2022/06/17	2025/06/16
☒	Validation Kits	SPEAG	D1900V2	SZ-WSR-M-036	2022/11/02	2025/11/01
☒	Validation Kits	SPEAG	D2450V2	SZ-WSR-M-039	2022/11/02	2025/11/01
☒	Validation Kits	SPEAG	D2600V2	SZ-WSR-M-040	2022/6/14	2025/6/13
☒	Validation Kits	SPEAG	D5GHZV2	SZ-WSR-M-046	2022/11/1	2025/10/31
☒	Test software	SPEAG	DASY8	SZ-WSR-S-006	NCR	NCR
☒	Dielectric parameter probes	SPEAG	DAKS-3.5	SZ-WSR-M-053	2023/06/15	2024/06/14
☒	Vector Network Analyzer and Vector Reflectometer	SPEAG	DAKS_VNA R140	SZ-WSR-M-054	2023/6/7	2024/6/6
☒	Vector Network Analyzer and Vector Reflectometer	SPEAG	DAKS_VNA R60	SZ-WSR-M-091	2023/7/31	2024/7/30
☒	Radio Communication Analyzer	Anritsu	MT8820C	SZ-WSR-M-005	2024/01/30	2025/01/29
☒	RF Bi-Directional Coupler	Agilent	86205-60001	SZ-WSR-A-004	NCR	NCR
☒	Signal Generator	Agilent	N5171B	SZ-WSR-M-006	2024/1/30	2025/1/29
☒	Preamplifier	Mini-Circuits	ZHL-42W	SZ-WSR-A-001	NCR	NCR
☒	Preamplifier	Compliance Directions Systems Inc.	AMP28-3W	SZ-WSR-A-002	NCR	NCR
☒	Power Meter	Agilent	E4416A	SZ-WSR-M-007	2024/01/30	2025/01/29
☒	Power Sensor	Agilent	8481H	SZ-WSR-M-008	2024/01/30	2025/01/29
☒	Power Sensor	R&S	NRP-Z92	SZ-WSR-M-009	2024/01/30	2025/01/29
☒	Attenuator	SHX	TS2-3dB	SZ-WSR-A-012	NCR	NCR
☒	Humidity and Temperature Indicator	CHIGAO	HTC-1	SZ-WSR-M-001	2024/1/31	2025/1/30

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9 Calibration certificate

Please see the Appendix C

10 Photographs

Please see the Appendix D

Appendix A: Detailed System Check Results

Appendix B: Detailed Test Results

Appendix C: Calibration certificate

Appendix D: Photograph

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