SAR TEST REPORT

For

Mobile Phone

Model Number: RMX3624

FCC ID: 2AUYFRMX3624

Report Number: WT228001726

Test Laboratory	:	Shenzhen Academy of Metrology and Quality Inspection National Digital Electronic Product Testing Center
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Test report declaration

Applicant	:	Realme Chongqing Mobile Telecommunications Corp., Ltd.
Address	:	No.178 Yulong Avenue, Yufengshan, Yubei District, Chongqing, China
Manufacturer	:	Realme Chongqing Mobile Telecommunications Corp., Ltd.
Address	:	No.178 Yulong Avenue, Yufengshan, Yubei District, Chongqing, China
EUT Description	:	Mobile Phone
Model No.	:	RMX3624
Brand	:	realme
FCC ID	:	2AUYFRMX3624

Test Standards:

FCC 47CFR Part 2(2.1093) IEEE Std 1528-2013 KDB 447498 D01v06 KDB 248227 D01v02r02 KDB 865664 D01v01r04 KDB 865664 D02v01r02 KDB 648474 D04v01r03 KDB 941225 D01v03r01 KDB 941225 D05v02r05 KDB 941225 D06v02r01

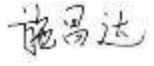
The EUT described above is tested by Shenzhen Academy of Metrology and Quality Inspection EMC Laboratory to determine the compliance of the applicable standards stated above. Shenzhen Academy of Metrology and Quality Inspection EMC Laboratory is assumed full responsibility for the accuracy of the test results.

The results documented in this report only apply to the tested sample, under the conditions and modes of operation as described herein.

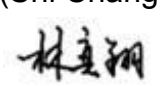
The test report shall not be reproduced in part without written approval of the laboratory.

Project Engineer:  Date: Jul. 23, 2022

(Zhang Qiang)

Checked by:  Date: Jul. 23, 2022

(Shi Chang Da)

Approved by:  Date: Jul. 23, 2022

(Lin YiXiang)

TABLE OF CONTENTS

1. REPORTED SAR SUMMARY

1.1. Statement of Compliance

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

Band		Highest SAR Summary			
		Head (Gap 0mm)	Hotspot (Gap10mm)	Body-worn (Gap15mm)	Extremity (Gap 0mm)
		1g SAR (W/kg)			10g SAR (W/kg)
GSM	GSM850	0.224	0.367	0.255	N/A
	PCS1900	0.066	0.635	0.205	N/A
WCDMA	WCDMA Band II	0.117	0.305	0.136	N/A
	WCDMA Band IV	0.212	0.511	0.267	N/A
	WCDMA Band V	0.249	0.293	0.249	N/A
LTE	LTE Band 2	0.113	0.301	0.118	N/A
	LTE Band 4	0.205	0.51	0.242	N/A
	LTE Band 5	0.261	0.237	0.231	N/A
	LTE Band 7	0.069	0.625	0.299	N/A
	LTE Band13	0.139	0.177	0.133	
	LTE Band 38	0.098	0.51	0.205	N/A
	LTE Band 41	0.041	0.684	0.221	N/A
	LTE Band 66	0.171	0.43	0.221	
WLAN	2.4GHzWLAN	0.793	0.755	0.261	N/A
2.4GHz Band	Bluetooth	0.163	0.072	0.011	N/A

Maximum Report SAR 1g(W/kg)	Head	0.793	Limit(W/kg): 1.6 W/kg
	Hotspot(10mm)	0.755	
	Body-worn(15mm)	0.299	

Highest Simultaneous SAR 1g(W/kg)	GSM850+2.4G WIFI	0.939	Limit(W/kg): 1.6 W/kg

Note:

1. This device is in compliance with Specific Absorption Rate (SAR) for general population or uncontrolled exposure limits (1.6W/kg as averaged over any 1 gram of tissue; specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-1992), and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013 and FCC KDB publications.
2. When the test result is a critical value, we will use the measurement uncertainty give the judgment result based on the 95% risk level.

1.2. RF exposure limits (ICNIRP Guidelines)

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

Table 2: RF exposure limits

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

Notes:

* The Spatial Peak value of the SAR averaged over any 1 grams 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 1 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 if employment or occupation.)

1.3. Ratings and System Details

EUT Description	Mobile Phone
Model No.	RMX3624
Brand	realme
EUT Supports Radios application:	GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 19098 MHz WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz WCDMA Band IV: 1712.4 MHz ~ 17526 MHz WCDMA Band V: 826.4 MHz ~ 846.6 MHz LTE Band 2: 1850.7 MHz ~ 1909.3 MHz LTE Band 4: 1710.7 MHz ~ 1754.3 MHz LTE Band 5: 824.7 MHz ~ 848.3 MHz LTE Band 7: 2502.5 MHz ~ 2567.5 MHz LTE Band 13: 779.5 MHz ~ 784. 5 MHz LTE Band 38: 2572.5 MHz ~ 2617.5 MHz LTE Band 41: 2498.5 MHz ~ 2687.5 MHz LTE Band 66: 1710.7 MHz ~ 1779.3 MHz WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz Bluetooth: 2402 MHz ~ 2480 MHz NFC: 13.56 MHz
Modulation Mode	GSM/GPRS/EGPRS AMR I RMC 12.2Kbps HSDPA HSUPA DC-HSDPA HSPA+ (16QAM uplink) LTE: QPSK, 16QAM, 64QAM WLAN 2.4GHz : 802.11b/g/n HT20/HT40 Bluetooth BR/EDR/L E NFC: ASK
Battery Specification	BLP877
Battery Applicant	Typical capacity 5000mAh; Rated capacity 4890mAh- Li-ion
Hardware version:	11
Software version:	S Edition

1.4.Test specification(s)

FCC 47CFR Part 2(2.1093)	Radiofrequency Radiation Exposure Evaluation: Portable Devices
IEEE Std 1528-2013	Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate(SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques
KDB 447498 D01v06	General RF Exposure Guidance No deviation
KDB 248227 D01v02r02	SAR Measurement Procedures for 802.11Transmitters
KDB 865664 D01v01r04	SAR Measurement 100 MHz to 6 GHz
KDB 865664 D02v01r02	RF Exposure Reporting
KDB 648474 D04v01r03	Handset SAR
KDB 941225 D01v03r01	3G SAR MEAUREMENT PROCEDURES
KDB 941225 D05v02r05	SAR Evaluation Consideration for LTEDevices
KDB 941225 D06v02r01	SAR Evaluation Procedures For PortableDevices With Wireless Router Capabilities
Note 1: The test item is not applicable. **Note 2:** Additions to, deviation, or exclusions from the method shall be judged in the "method determination" column of add, deviate or exclude from the specific method shall be explained in the "Remark" of the above table.	

1.5.List of Test and Measurement Instruments

	Equipment	Model No.	Serial No.	Manufacturer	Last Calibration Date	Period
☒	SAR test system	TX60L	F08/5AY8A1/A/01+F08/	SPEAG	NCR	NCR
☒	Electronic Data Transmitter	DAE4	1636	SPEAG	2021.12.30	1year
☒	SAR Probe	EX3DV4	7623	SPEAG	2022.01.24	1year
☒	Software	85070	--	Agilent	--	--
☒	Software	DASY5	--	SPEAG	--	--
☒	System Validation Dipole,835MHz	D835V2	4d141	SPEAG	2021.08.31	3year
☒	System Validation Dipole,1750MHz	D1750V2	1108	SPEAG	2020.01.03	3year
☒	System Validation Dipole,1900MHz	D1900V2	5d162	SPEAG	2021.09.01	3year
☒	System Validation Dipole,2450MHz	D2450V2	818	SPEAG	2021.08.26	3year
☒	System Validation Dipole,2600MHz	D2600V2	1074	SPEAG	2020.01.02	3year
☒	Dielectric Probe Kit	85070E	MY44300455	Agilent	NCR	NCR
☒	Dual-directional coupler,0.10-2.0GHz	778D	MY48220198	Agilent	NCR	NCR
☒	Dual-directional coupler,2.00-18GHz	772D	MY46151160	Agilent	NCR	NCR
☒	Power Amplifier	ZVE-8G	SC280800926	MINI-CIRCUITS	NCR	NCR
☒	Power Amplifier	ZHL42W	81709	MINI-CIRCUITS	NCR	NCR
☒	Signal Generator	SMR20	100047	R&S	2022.02.19	1year
☒	Power Sensor	NRP-Z21	102626	R&S	2022.05.12	1year
☒	Power Sensor	NRP-Z21	102627	R&S	2022.05.12	1year
☒	Call Tester	CMU 200	100110	R&S	2022.05.18	1year
☒	Network Analyzer	E5071C	MY46109550	Agilent	2022.02.19	1Year
☒	Flat Phantom	ELI4.0	TP-1904	SPEAG	NCR	NCR
☒	Twin Phantom	SAM	TP-1504	SPEAG	NCR	NCR
☒	Wideband Radio Communication	CMW500	125469	R&S	2022.05.18	1Year

	Tester					
☒	Precision Thermometer	--	--	--	2021.08.07	1Year

Table 3: List of Test and Measurement Equipment

Note: All the test equipments are calibrated once a year, except the dipoles, which are calibrated every three years. Moreover, we have self-calibration every year to the dipoles.

2. GENERAL INFORMATION

2.1. Report information

This report is not a certificate of quality; it only applies to the sample of the specific product/equipment given at the time of its testing. The results are not used to indicate or imply that they are application to the similar items. In addition, such results must not be used to indicate or imply that SMQ approves recommends or endorses the manufacture, supplier or use of such product/equipment, or that SMQ in any way guarantees the later performance of the product/equipment.

The sample/s mentioned in this report is/are supplied by Applicant, SMQ therefore assumes no responsibility for the accuracy of information on the brand name, model number, origin of manufacture or any information supplied.

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The lab will not be liable for any loss or damage resulting from false, inaccurate, ina ppropriate or incomplete product information provided by the applicant/manufacture r.

2.2. Laboratory Accreditation and Relationship to Customer

The testing report were performed by the Shenzhen Academy of Metrology and qua lity Inspection EMC Laboratory (Guangdong EMC compliance testing center), in the ir facilities located at NETC Building, No.4 Tongfa Rd., Xili, Nanshan, Shenzhen, C hina. At the time of testing, Laboratory is accredited by the following organizations: China National Accreditation Service for Conformity Assessment (CNAS) accredits the Laboratory for conformance to FCC standards, EMC international standards an d EN standards. The Registration Number is CNAS L0579.The Laboratory is Accre dited Testing Laboratory of FCC with Designation number

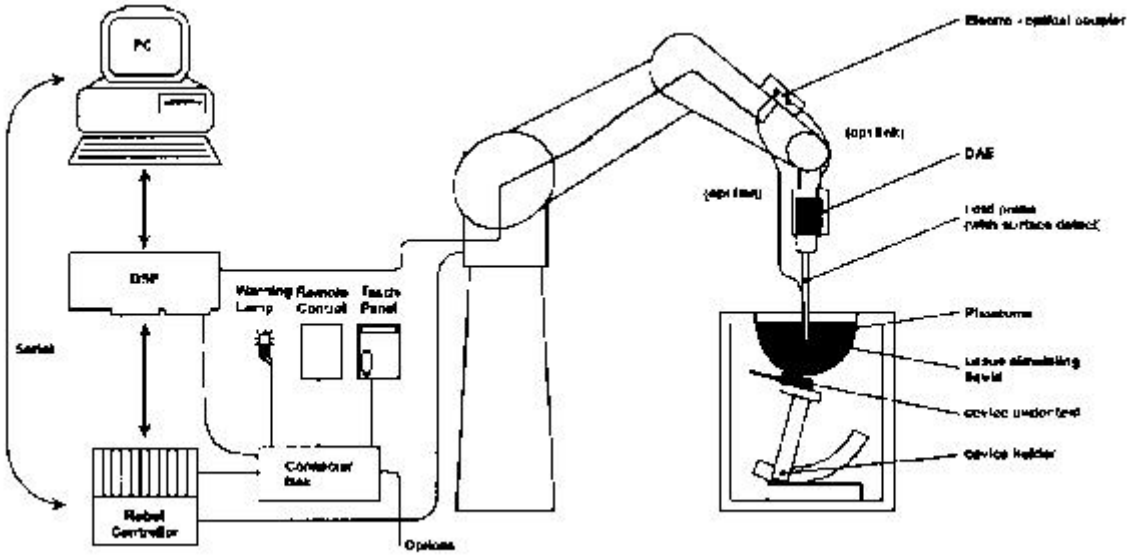
CN1165 and Site registration number 582918.The Laboratory is registered to perfor m emission tests with Innovation, Science and

Economic Development (ISED), and the registration number is 11177A.The Laborat ory is registered to perform emission tests with VCCI, and the registration number a re C-20048, G20076, R-20077, R-20078, and T-20047.

The Laboratory is Accredited Testing Laboratory of American Association for Labor atory Accreditation (A2LA) and certificate number is 3292.01.

3. SAR MEASUREMENT SYSTEM CONFIGURATION

3.1. SAR Measurement Set-up



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

- A standard high precision 6-axis robot (Stäubli RX family) with controller and software. An arm extension for accommodating the data acquisition electronics (DAE).
- A dosimetric probe, i.e. an isotropic E-field probe optimized and calibrated for usage in tissue simulating liquid. The probe is equipped with an optical surface detector system.
- A data acquisition electronic (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.
- A unit to operate the optical surface detector which is connected to the EOC.

• The Electro-Optical Coupler (EOC) performs the conversion from the optical into a digital electric signal of the DAE. The EOC is connected to the DASY5 measurement server.

• The DASY5 measurement server, which performs all real-time data evaluation for field measurements and surface detection, controls robot movements and handles safety operation. • A computer operating Windows XP.

• DASY5 software and SEMCAD data evaluation software.

Remote control with teach panel and additional circuitry for robot safety such as warning lamps, etc.

• The generic twin phantom enabling the testing of left-hand and right-hand usage.

• The device holder for handheld mobile phones.

• Tissue simulating liquid mixed according to the given recipes.

• System checks dipoles allowing validating the proper functioning of the system.

• Test environment

• The DASY5 measurement system is placed at the head end of a room with dimensions:

4.5 x 4 x 3 m³, the SAM phantom is placed in a distance of 1.3 m from the side walls and 1.1m from the rear wall.

Picture 1 of the photo documentation shows a complete view of the test environment.

3.2. Probe description

Isotropic E-Field Probe EX3DV4 for Dosimetric Measurements

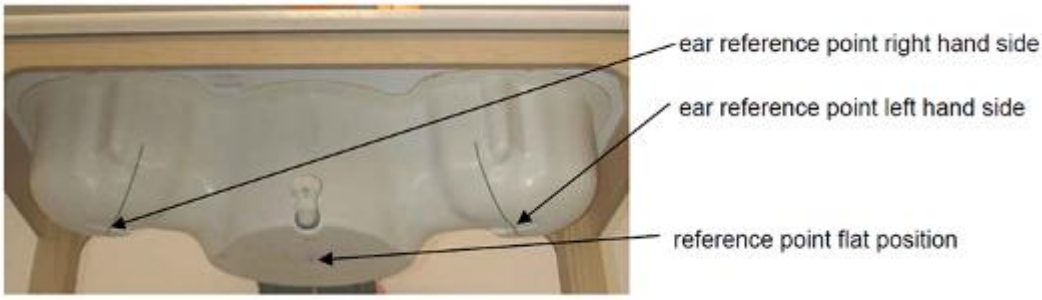
Construction	Symmetrical design with triangular core Interleaved sensors Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
Calibration	ISO/IEC 17025 calibration service available.	
Frequency	10 MHz to >6 GHz (dosimetry); Linearity: ± 0.2 dB (30 MHz to 6 GHz)	
Directivity	± 0.3 dB in HSL (rotation around probe axis) ± 0.5 dB in tissue material (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: 20mm) Tip length: 2.5 mm (Body: 12mm) Typical distance from probe tip to dipole centers: 1mm	
Application	High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields). Only probe which enables compliance testing for frequencies up to 6 GHz with precision of better 30%.	

3.3. Phantom description

The used SAM Phantom meets the requirements specified in Edition 01-01 of Supplement C to OET Bulletin 65 for Specific Absorption Rate (SAR) measurements.

The phantom consists of a fibreglass shell integrated in a wooden table. It allows left-hand and right-hand head as well as body-worn measurements with a maximum liquid depth of 18 cm in head position and 22 cm in planar position (body measurements). The thickness of the Phantom shell is 2 mm +/- 0.1 mm.



ELI4 Phantom

Shell Thickness	2mm+/- 0.2mm
Filling Volume	Approximately 30 liters
Measurement Areas	Flat phantom
The ELI4 phantom is in intended for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30MHz to 6GHz. ELI4 is fully compatible with the lastest draft of the standard IEC 62209-2 and all known tissue simulating liquids.	

The phantom shell material is resistant to all ingredients used in the tissue-equivalent liquid recipes. The shell of the phantom including ear spacers is constructed from low permittivity and low loss material, with a relative permittivity≤5 and a loss tangent ≤0.05.

3.4. Device holder description

The DASY5 device holder has two scales for device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear openings). The plane between the ear openings and the mouth tip has a rotation angle of 65°. The bottom plate contains three pair of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. This device holder is used for standard mobile phones or PDA's only. If necessary an additional support of polystyrene material is used.

Larger DUT's (e.g. notebooks) cannot be tested using this device holder. Instead a support of bigger polystyrene cubes and thin polystyrene plates is used to position the DUT in all relevant positions to find and measure spots with maximum SAR values.

Therefore those devices are normally only tested at the flat part of the SAM.

4. SAR MEASUREMENT PROCEDURE

4.1. Scanning procedure

- The DASY5 installation includes predefined files with recommended procedures for measurements and system check. They are read-only document files and destined as fully defined but unmeasured masks. All test positions (head or body-worn) are tested with the same configuration of test steps differing only in the grid definition for the different test positions.
- 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. The indicated drift is mainly the variation of the DUT's output power and should vary max. +/- 5 %.
- The surface check measurement tests the optical surface detection system of the DASY5 system by repeatedly detecting the surface with the optical and mechanical surface detector and comparing the results. The output gives the detecting heights of both systems, the difference between the two systems and the standard deviation of the detection repeatability. Air bubbles or refraction in the liquid due to separation of the sugar-water mixture gives poor repeatability (above ± 0.1mm). To prevent wrong results tests are only executed when the liquid is free of air bubbles. The difference between the optical surface detection and the actual surface depends on the probe and is specified with each probe. (It does not depend on the surface reflectivity or the probe angle to the surface within ± 30°.)
- The area scan measures the SAR above the DUT or verification dipole on a parallel plane to the surface. It is used to locate the approximate location of the peak SAR with 2D spline interpolation. The robot performs a stepped movement along one grid axis while the local electrical field strenth is measured by the probe. The probe is touching the surface of the SAM during acquisition of measurement values. The standard scan uses large grid spacing for faster measurement. Standard grid spacing for head measurements is 15 mm in x- and y- dimension(≤ 2GHz) , 12 mm in x- and y- dimension(2-4 GHz) and 10mm in x- and y- dimension(4-6GHz). If a finer resolution is needed, the grid spacing can be reduced. Grid spacing and orientation have no

influence on the SAR result. For special applications where the standard scan method does not find the peak SAR within the grid, e.g. mobile phones with flip cover, the grid can be adapted in orientation.

Results of this coarse scan are shown in Appendix B.

- A “zoom scan” measures the field in a volume around the 2D peak SAR value acquired in the previous “coarse” scan. This is a fine grid with maximum scan spatial resolution: Δxzoom, Δyzoom ≤2GHZ≤ 8 mm, 2-4GHz - ≤ 5 mm and 4-6 GHz-≤ 4 mm; Δzzoom ≤ 3GHz - ≤ 5 mm, 3-4 GHz- ≤ 4 mm and 4-6GHz-≤2mm where the robot additionally moves the probe along the z-axis away from the bottom of the Phantom. DASY5 is also able to perform repeated zoom scans if more than 1 peak is found during area scan. Test results relevant for the specified standard (see chapter 1.5.) are shown in table form in chapter 3.2.
- A Z-axis scan measures the total SAR value at the x-and y-position of the maximum SAR value found during the cube scan. The probe is moved away in z-direction from the bottom of the SAM phantom in 2mm steps. This measurement shows the continuity of the liquid and can – depending in the field strength- also show the liquid depth. A z-axis scan of the measurement with maximum SAR value is shown in Appendix B.

The following table summarizes the area scan and zoom scan resolutions per FCC KDB 865664D01:

Frequency	Maximum Area Scan resolution (Δxarea, Δyarea)	Maximum Zoom Scan spatial resolution(Δxzoom Δyzoom)	Maximum Zoom Scan spatial resolution			Minimum zoom scan volume (x,y,z)
			Uniform Grid	Graded Grad		
			Δzzoom(n)	Δzzoom(1)	Δzzoom(n>1)	
≤2GHz	≤15mm	≤8mm	≤5mm	≤4mm	≤1.5*Δzzoom(n-1)	≥30mm
2-3GHz	≤12mm	≤5mm	≤5mm	≤4mm	≤ 1.5*Δzzoom(n-1)	≥30mm
3-4GHz	≤10mm	≤5mm	≤4mm	≤3mm	≤ 1.5*Δzzoom(n-1)	≥28mm
4-5GHz	≤10mm	≤4mm	≤3mm	≤2.5mm	≤ 1.5*Δzzoom(n-1)	≥25mm

5-6GHz	≤10mm	≤4mm	≤2mm	≤2mm	≤ 1.5*Δzzoom(n-1)	≥22mm

Spatial Peak SAR Evaluation

- The spatial peak SAR - value for 1 and 10 g is evaluated after the Cube measurements have been done. The bases of the evaluation are the SAR values measured at the points of the fine cube grid consisting of 5 x 5 x 7 points (with 8mm horizontal resolution) or 7 x 7 x 7 points (with 5mm horizontal resolution).
- The algorithm that finds the maximal averaged volume is separated into three different stages.
- The data between the dipole center of the probe and the surface of the phantom are extrapolated. This data cannot be measured since the center of the dipole is 2.7 mm away from the tip of the probe and the distance between the surface and the lowest measuring point is about 1 mm (see probe calibration sheet). The extrapolated data from a cube measurement can be visualized by selecting 'Graph Evaluated'.
- The maximum interpolated value is searched with a straight-forward algorithm. Around this maximum the SAR - values averaged over the spatial volumes (1g or 10 g) are computed using the 3d-spline interpolation algorithm. If the volume cannot be evaluated (i.e., if a part of the grid was cut off by the boundary of the measurement area) the evaluation will be started on the corners of the bottom plane of the cube.
- All neighboring volumes are evaluated until no neigh boring volume with a higher average value is found.
- Extrapolation
- The extrapolation is based on a least square algorithm [W. Gander, Computermathematik, p.168-180]. Through the points in the first 3 cm along the z-axis, polynomials of order four are calculated. These polynomials are then used to evaluate the points between the surface and the probe tip. The points, calculated from the surface, have a distance of 1 mm from each other.

Interpolation

- The interpolation of the points is done with a 3d-Spline. The 3d-Spline is composed of three one-dimensional splines with the "Not a knot"-condition [W. Gander, Computermathematik, p.141-150] (x, y and z -direction) [Numerical Recipes in C, Second Edition, p.123ff].
- Volume Averaging
- At First the size of the cube is calculated. Then the volume is integrated with the trapezoidal

algorithm. 8000 points (20x20x20) are interpolated to calculate the average.

- Advanced Extrapolation
- DASY5 uses the advanced extrapolation option which is able to compansate boundary effects on E-field probes.

6.1.1. Data Storage and Evaluation

Data Storage

The DASY5 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 DAE4. 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], [mW/g], [mW/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.

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	σ
	- 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 DASY5 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:

$$V_i = U_i + U_{i2} \bullet cf/dcp_i$$

with V_i = compensated signal of channel i (i = x, y, z)
U_i = 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: $E_i = (V_i / Norm_i \bullet ConvF)^{1/2}$

H-field probes: $H_i = (V_i)^{1/2} \bullet (a_{i0} + a_{i1}f + a_{i2}f^2)/f$

with V_i = compensated signal of channel i (i = x, y, z)
$Norm_i$ = sensor sensitivity of channel i (i = x, y, z)
[mV/(V/m)2] for E-field Probes
ConvF = sensitivity enhancement in solution
a_{ij} = 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):

Etot = (Ex2 + EY2 + Ez2)1/2

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

SAR = (Etot2 • σ) / (ρ • 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]

ρ = 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.

Ppwe = Etot2 / 3770 or Ppwe = Htot2 • 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

7. SYSTEM VERIFICATION PROCEDURE

7.1. Tissue Verification

The simulating liquids should be checked at the beginning of a series of SAR measurements to determine of the dielectric parameter are within the tolerances of the specified target values. The measured conductivity and relative permittivity should be within ±5% of the target values.

The following materials are used for producing the tissue-equivalent materials

Ingredient (% by weight)	Head Tissue				
	750	835	1750	1900	2450
Water	34.4	41.45	52.64	55.24	62.7
Salt(NaCl)	0.79	1.45	0.36	0.306	0.5
Sugar	64.81	56.0	0.0	0.0	0.0
HEC	0.0	1.0	0.0	0.0	0.0
Bactericide	0.0	0.1	0.0	0.0	0.0
Triton X-100	0.0	0.0	0.0	0.0	0.0
DGBE	0.0	0.0	47.0	44.54	36.8

Table 4 : Tissue Dielectric Properties

Salt: 99+% Pure Sodium Chloride; Sugar”98+% Pure Sucrose; Water: De-ionized, 16MΩ+ resistivity

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

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

Tissue-equivalent liquid measurements:

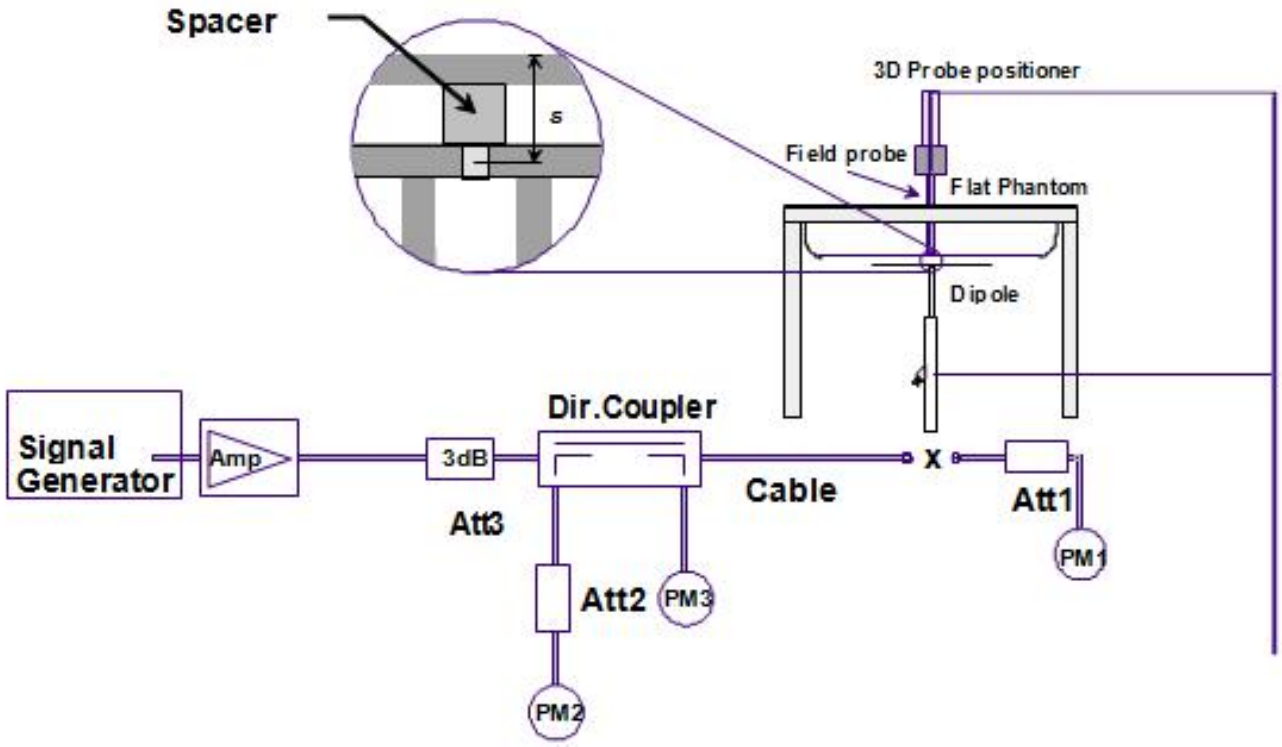
f/MHz	Date Tested	Dielectric Parameters	Target	Tolerance (%)	Temp (°C)
750	2022-07-16	εr =41.79	41.9 (39.81~44.00)	±5	20
		σ=0.90	0.89 (0.85~0.93)		
835	2022-07-13	εr =42.05	41.5 (39.43~43.58)	±5	20
		σ=0.94	0.90 (0.86~0.95)		
1750	2022-07-15	εr =39.50	40.1 (38.10~42.11)	±5	20
		σ=1.34	1.37 (1.30~1.44)		
1900	2022-07-17	εr =39.91	40.0 (38.00~42.00)	±5	20
		σ=1.42	1.40 (1.33~1.47)		
2450	2022-07-19	εr =39.96	39.2 (37.24~41.16)	±5	20
		σ=1.74	1.80 (1.71~1.89)		
2600	2022-07-21	εr =38.24	39.0 (37.05~40.95)	±5	20
		σ=1.93	1.96 (1.86~2.06)		

System check, Tissue-equivalent liquid:

f/MHz	Date Tested	SAR(W/kg), 1g	SAR(W/kg), 10g	Target 1g	Target 10g	Tolerance (%)	Temp (°C)
750	2022-07-16	8.48	5.36	8.66 (7.79~8.66)	5.83 (5.25~5.83)	±10	20
835	2022-07-13	9.56	6.16	9.44 (8.50 ~10.38)	6.12 (5.51 ~6.73)	±10	20
1750	2022-07-15	35.08	18.56	35.56 (32.01 ~39.11)	18.76 (16.89 ~20.63)	±10	20
1900	2022-07-17	39.16	20.04	39.32 (35.39 ~43.25)	20.04 (18.04 ~22.04)	±10	20
2450	2022-07-19	52.88	24.20	51.60 (46.44 ~56.76)	23.64 (21.28 ~26.00)	±10	20
2600	2022-07-21	55.60	24.60	56.80 (51.12 ~62.48)	25.16 (22.65 ~27.67)	±10	20

System Checking

The manufacturer calibrates the probes annually. A system check measurement was made following the determination of the dielectric parameters of the tissue-equivalent liquid, using the dipole validation kit. A power level of 250mW was supplied to the dipole antenna, which was placed under the flat section of the twin SAM phantom.



The system checking results (dielectric parameters and SAR values) are given in the table below.

The system check is performed for verifying the accuracy of the complete measurement system and performance of the software. The system check is performed with tissue equivalent material according to IEEE P1528 (described above). The following table shows system check results for all frequency bands and tissue liquids used during the tests (Graphic Plot(s)see Appendix A).

8. SAR MEASUREMENT VARIABILITY AND UNCERTAINTY

8.1. SAR measurement variability

Per KDB865664 D01 SAR measurement 100MHz to 6GHz 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 measurement 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; step2) through 4) do not apply.
2) When the original highest measured SAR is ≥0.8 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 ≥1.5W/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.

8.2. SAR measurement uncertainty

Per KDB865664 D01 SAR Measurement 100MHz to 6GHz v01r03, when the highest measured 1-g SAR within a frequency band is <1.5W/kg, the extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2003 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.

9. Test Configuration

The DUT is tested using a CMU 200 or E5515C communications tester as controller unit to set test channels and maximum output power to the DUT, as well as for measuring the conducted peak power.

Test positions as described in the tables above are in accordance with the specified test standard.

GSM Test Configuration

SAR tests for GSM 850 and PCS 1900, a communication link is set up with a System Simulator (SS) by air link. Using CMU 200 or E5515C the power level is set to “5” for GSM 850, set to “0” for PCS 1900. 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 timeslots is 5.

According to specification 3GPP TS 51.010, the maximum power of the GSM can do the power reduction for the multi-slot. The allowed power reduction in the multi-slot configuration is as following:

Output power of reductions:

Number of timeslots in uplink assignment	Permissible nominal reduction of maximum output power,(dB)
1	0
2	0 to 3,0
3	1,8 to 4,8
4	3,0 to 6,0

WCDMA Test Configuration

The following tests were completed according to the test requirements outlined in section 5.2 of the 3GPP TS34.121-1 specification. The EUT supports power Class 3, which has a nominal maximum output power of 24 dBm (+1.7/-3.7).

	Mode	Rel99
	Subtest	---

WCDMA General Settings	Loopback Mode	Test Mode 1
	Rel99 RMC	12.2kbps RMC
	Power Control Algorithm	Algorithm2
	β_c / β_d	8/15

Handsets with Release 5 HSDPA

The 3G SAR test reduction procedure is applied to HSDPA body-worn accessory configurations with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured for HSDPA using the HSDPA body SAR procedures in the “Release 5 HSDPA Data Devices” section of this document, for the highest reported SAR body-worn accessory exposure configuration in 12.2 kbps RMC. Handsets with both HSDPA and HSUPA are tested according to Release 6 HSPA test procedures.

HSDPA should be configured according to the UE category of a test device.The number of HSDSCH/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 with 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) should be set according to values indicated in the Table below. The CQI value is determined by the UE category, transport block size, number of HS-PDSCHs and modulation used in the H-set.

Sub-set	β_c	β_d	β_d (SF)	β_c/β_d	β_{hs} (note 1, note 2)	CM(dB) (note 3)	MPR(dB)
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15 (note 4)	15/15 (note 4)	64	12/15 (note 4)	24/15	1.0	0.0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5

Note1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI}= 8 $\Leftrightarrow A_{hs} = \beta_{hs}/\beta_c$=30/15 $\Leftrightarrow \beta_{hs}$=30/15*$\beta_c$

Note2: CM=1 for β_c/β_d =12/15, β_{hs}/β_c=24/15.

Note3: For subtest 2 the $\beta_c\beta_d$ ratio of 12/15 for the TFC during the measurement period(TF1,TF0) is achieved by setting the signaled gain factors for the reference TFC (TFC1,TF1) to β_c=11/15 and β_d=15/15.

HSUPA Test Configuration

The 3G SAR test reduction procedure is applied to HSPA (HSUPA/HSDPA with RMC)

body-worn accessory configurations with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured for HSPA using the HSPA body SAR procedures in the “Release 6 HSPA Data Devices” section of this document, for the highest reported body-worn accessory exposure SAR configuration in 12.2 kbps RMC. When VOIP is applicable for next to the ear head exposure in HSPA, the 3G SAR test reduction procedure is applied to HSPA with 12.2 kbps RMC as the primary mode; otherwise, the same HSPA configuration used for body-worn accessory measurements is tested for next to the ear head exposure.

Due to inner loop power control requirements in HSPA, a communication test set is required for output power and SAR tests. The 12.2 kbps RMC, FRC H-set 1 and E-DCH configurations for HSPA are configured according to the β values indicated in Table 2 and other applicable procedures described in the ‘WCDMA Handset’ and ‘Release 5 HSDPA Data Devices’ sections of this document

Sub-set	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}, ΔNACK and Δ_{CQI} = 8 $\Leftrightarrow$ $A_{hs} = \beta_{hs}/\beta_c$ = 30/15 $\Leftrightarrow$ β_{hs}= 30/15 *β_c.
Note 2: CM = 1 for βc/βd =12/15, β_{hs}/β_c =24/15. For all other combinations of DPDCH, DPCCH, HS- DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.
Note 3: For subtest 1 the βc/βd ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to βc = 10/15 and βd = 15/15.
Note 4: For subtest 5 the βc/βd ratio of 15/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to βc = 14/15 and βd = 15/15.
Note 5: Testing UE using E-DPDCH Physical Layer category 1 Sub-test 3 is not required according to TS 25.306 Figure 5.1g.
Note 6: βed can not be set directly; it is set by Absolute Grant Value.

UE E-DCH Category	Maximum E-DCH Codes Transmitted	Number of HARQ Processes	E-DCH TTI (ms)	Minimum Spreading 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	2	2 SF2 & 2 SF4	11484	5.76
	4	4	10		20000	2.00
7 (No DPDCH)	4	8	2	2 SF2 & 2 SF4	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 supports QPSK only. UE Category 7 supports QPSK and 16QAM. (TS25.306-7.3.0)						

HSPA, HSPA+ and DC-HSDPA Test Configuration

measurement is required for HSPA, HSPA+ or DC-HSDPA, a KDB inquiry is required to confirm that the wireless mode configurations in the test setup have remained stable throughout the SAR measurements.35 Without prior KDB confirmation to determine the SAR results are acceptable, a PBA is required for TCB approval. SAR test exclusion for HSPA, HSPA+ and DC-HSDPA is determined according to the following:

1) The HSPA procedures are applied to configure 3GPP Rel. 6 HSPA devices in the required Sub-test mode(s) to determine SAR test exclusion.

2) SAR is required for Rel. 7 HSPA+ when SAR is required for Rel. 6 HSPA; otherwise, the 3G SAR test reduction procedure is applied to (Up antenna) HSPA+ with 12.2 kbps RMC as the primary mode.36 Power is measured for HSPA+ that supports Up antenna 16 QAM according to configurations in Table C.11.1.4 of 3GPP TS 34.121-1 to determine SAR test reduction.

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

acceptable.

4) Regardless of whether a PBA is required, the following information must be verified and included in the SAR report for devices supporting HSPA, HSPA+ or DC-HSDPA: a) The output power measurement results and applicable release version(s) of 3GPP TS 34.121.

i) Power measurement difficulties due to test equipment setup or availability must be resolved between the grantee and its test lab.

b) The power measurement results are in agreement with the individual device implementation and specifications. When Enhanced MPR (E-MPR) applies, the normal MPR targets may be modified according to the Cubic Metric (CM) measured by the device, which must be taken into consideration.

c) The UE category, operating parameters, such as the β and Δ values used to configure the device for testing, power setback procedures described in 3GGPP TS 34.121 for the power measurements, and HSPA/HSPA+ channel conditions (active and stable) for the entire duration of the measurement according to the required E-TFCI and AG index values.

5) When SAR measurement is required, the test configurations, procedures and power measurement results must be clearly described to confirm that the required test parameters are used, including E-TFCI and AG index stability and output power conditions.

<table>
<tr><th>HS-DSCH category</th><th>Maximum number of HS-DSCH codes received</th><th>Minimum inter-TTI interval</th><th>Maximum number of bits of an HS-DSCH transport block received within an HS-DSCH TTI NOTE 1</th><th>Total number of soft channel bits</th><th>Supported modulations without MIMO operation or dual cell operation</th><th>Supported modulations with MIMO operation and without dual cell operation</th><th>Supported modulations with dual cell operation</th></tr>
<tr><td>Category 1</td><td>5</td><td>3</td><td>7298</td><td>19200</td><td rowspan="10">QPSK, 16QAM</td><td rowspan="13">Not applicable (MIMO not supported)</td><td rowspan="20">Not applicable (dual cell operation not supported)</td></tr>
<tr><td>Category 2</td><td>5</td><td>3</td><td>7298</td><td>28800</td></tr>
<tr><td>Category 3</td><td>5</td><td>2</td><td>7298</td><td>28800</td></tr>
<tr><td>Category 4</td><td>5</td><td>2</td><td>7298</td><td>38400</td></tr>
<tr><td>Category 5</td><td>5</td><td>1</td><td>7298</td><td>57600</td></tr>
<tr><td>Category 6</td><td>5</td><td>1</td><td>7298</td><td>67200</td></tr>
<tr><td>Category 7</td><td>10</td><td>1</td><td>14411</td><td>115200</td></tr>
<tr><td>Category 8</td><td>10</td><td>1</td><td>14411</td><td>134400</td></tr>
<tr><td>Category 9</td><td>15</td><td>1</td><td>20251</td><td>172800</td></tr>
<tr><td>Category 10</td><td>15</td><td>1</td><td>27952</td><td>172800</td></tr>
<tr><td>Category 11</td><td>5</td><td>2</td><td>3630</td><td>14400</td><td rowspan="2">QPSK</td></tr>
<tr><td>Category 12</td><td>5</td><td>1</td><td>3630</td><td>28800</td></tr>
<tr><td>Category 13</td><td>15</td><td>1</td><td>35280</td><td>259200</td><td rowspan="2">QPSK, 16QAM, 64QAM</td></tr>
<tr><td>Category 14</td><td>15</td><td>1</td><td>42192</td><td>259200</td></tr>
<tr><td>Category 15</td><td>15</td><td>1</td><td>23370</td><td>345600</td><td colspan="2">QPSK, 16QAM</td></tr>
<tr><td>Category 16</td><td>15</td><td>1</td><td>27952</td><td>345600</td><td colspan="2">QPSK, 16QAM</td></tr>
<tr><td rowspan="2">Category 17 NOTE 2</td><td rowspan="2">15</td><td rowspan="2">1</td><td>35280</td><td>259200</td><td>QPSK, 16QAM, 64QAM</td><td>-</td></tr>
<tr><td>23370</td><td>345600</td><td>-</td><td>QPSK, 16QAM</td></tr>
<tr><td rowspan="2">Category 18 NOTE 3</td><td rowspan="2">15</td><td rowspan="2">1</td><td>42192</td><td>259200</td><td>QPSK, 16QAM, 64QAM</td><td>-</td></tr>
<tr><td>27952</td><td>345600</td><td>-</td><td>QPSK, 16QAM</td></tr>
<tr><td>Category 19</td><td>15</td><td>1</td><td>35280</td><td>518400</td><td colspan="2" rowspan="2">QPSK, 16QAM, 64QAM</td></tr>
<tr><td>Category 20</td><td>15</td><td>1</td><td>42192</td><td>518400</td></tr>
<tr><td>Category 21</td><td>15</td><td>1</td><td>23370</td><td>345600</td><td rowspan="4">-</td><td rowspan="4">-</td><td>QPSK, 16QAM</td></tr>
<tr><td>Category 22</td><td>15</td><td>1</td><td>27952</td><td>345600</td></tr>
<tr><td>Category 23</td><td>15</td><td>1</td><td>35280</td><td>518400</td><td rowspan="2">QPSK, 16QAM, 64QAM</td></tr>
<tr><td>Category 24</td><td>15</td><td>1</td><td>42192</td><td>518400</td></tr>
</table>

LTE Test Configuration

SAR for LTE band exposure configurations is measured according to the procedures of KDB 941225 D05 SAR for LTE Devices v02r05. The CMW500 WideBand Radio Communication Tester was used for LTE output power measurements and SAR testing. Closed loop power control was used so the UE transmits with maximum output power during SAR testing.SAR test were performed with the same number of RB and RB offsets transmitting on all TTI frames (Maximum TTI)

1) Spectrum Plots for RB configurations

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

2) MPR

When MPR is implemented permanently within the UE, regardless of network

requirements, only those RB configurations allowed by 3GPP for the channel bandwidth and modulation combinations may be tested with MPR active. Configurations with RB allocations less than the RB thresholds required by 3GPP must be tested without MPR. The allowed Maximum Power Reduction (MPR) for the maximum output power due to higher order modulation and transmit bandwidth configuration (resource blocks) is specified in Table 6.2.3-1 of the 3GPP TS36.101:

Maximun Power Reduction(MRP) for Power Class 3

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

Configuration of special subframe (lengths of DwPTS/GP/UpPTS)

Special subframe configuration	Normal cyclic prefix in downlink			Extended cyclic prefix in downlink		
	DwPTS	UpPTS		DwPTS	UpPTS	
		rmal cyclic prefix in uplink	Extended cyclic prefix in uplink		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink
0	6592 T_S	2192 T_S	2560 T_S	7680 T_S	2192 T_S	2560 T_S
1	19760 T_S			20480 T_S		
2	21952 T_S			23040 T_S		
3	24144 T_S			25600 T_S		
4	26336 T_S			7680 T_S	4384 T_S	5120 T_S
5	6592 T_S	4384 T_S	5120 T_S	20480 T_S		
6	19760 T_S			23040 T_S		
7	21952 T_S			12800 T_S		

8	24144 T_S			-	-	-
9	13168 T_S			-	-	-

Uplink-downlink configurations

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

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

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

Calculated Duty Cycle = 5120 x [1/(15000 x 2048)] x 2 + 6 ms = 63.33%

Where Ts = 1/(15000 x 2048) seconds

LTE Test Configuration

SAR for LTE band exposure configurations is measured according to the procedures of KDB 941225 D05 SAR for LTE Devices v02r05. The CMW500 WideBand Radio Communication Tester was used for LTE output power measurements and SAR testing. Closed loop power control was used so the UE transmits with maximum output power during SAR testing.SAR test were performed with the same number of RB and RB offsets transmitting on all TTI frames (Maximum TTI)

1) Spectrum Plots for RB configurations

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

2) MPR

When MPR is implemented permanently within the UE, regardless of network requirements, only those RB configurations allowed by 3GPP for the channel bandwidth

and modulation combinations may be tested with MPR active. Configurations with RB allocations less than the RB thresholds required by 3GPP must be tested without MPR. The allowed Maximum Power Reduction (MPR) for the maximum output power due to higher order modulation and transmit bandwidth configuration (resource blocks) is specified in Table 6.2.3-1 of the 3GPP TS36.101:

Maximun Power Reduction(MRP) for Power Class 3

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

Configuration of special subframe (lengths of DwPTS/GP/UpPTS)

pecial subframe configuration	Normal cyclic prefix in downlink			Extended cyclic prefix in downlink		
	DwPTS	UpPTS		DwPTS	UpPTS	
		ɔrmal cyclic prefix in uplink	Extended cyclic prefix in uplink		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink
0	6592 T_S	2192 T_S	2560 T_S	7680 T_S	2192 T_S	2560 T_S
1	19760 T_S			20480 T_S		
2	21952 T_S			23040 T_S		
3	24144 T_S			25600 T_S		
4	26336 T_S			7680 T_S	4384 T_S	5120 T_S
5	6592 T_S	4384 T_S	5120 T_S	20480 T_S		
6	19760 T_S			23040 T_S		
7	21952 T_S			12800		

				T_S		
8	$24144\,T_S$			-	-	-
9	$13168\,T_S$			-	-	-

Uplink-downlink configurations

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

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

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

Calculated Duty Cycle = 5120 x [1/(15000 x 2048)] x 2 + 6 ms = 63.33%

Where Ts = 1/(15000 x 2048) seconds

3) **A-MPR**

A-MPR(Additional MPR) has been disabled for all SAR tests by using Network Signalling Value of “NS_01”on the base station simulator.

4) LTE procedures for SAR testing

A) Largest channel bandwidth standalone SAR test requirements

i) QPSK with 1 RB allocation

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

ii) QPSK with 50% RB allocation

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

iii) QPSK with 100% RB allocation

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

iv) Higher order modulations

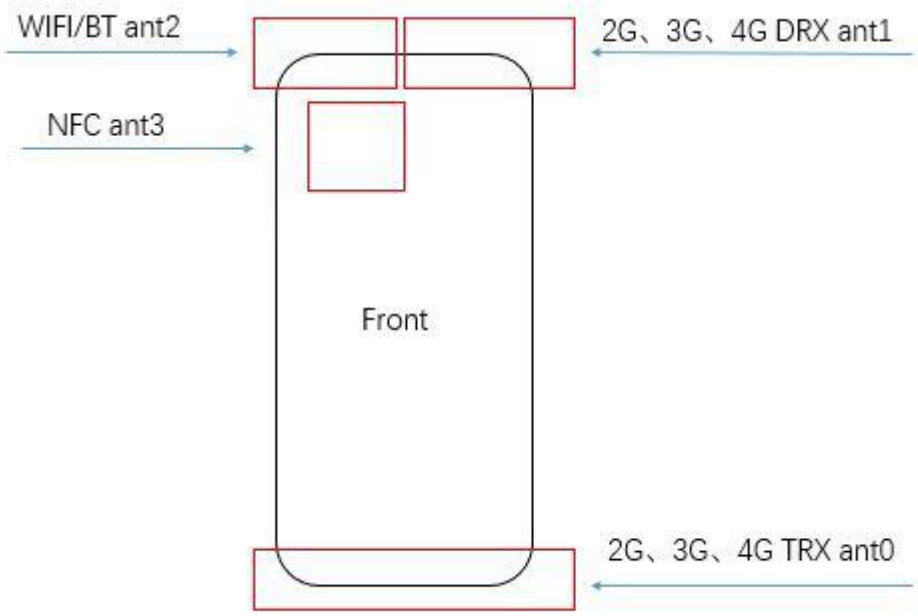
For each modulation besides QPSK; e.g., 16-QAM, 64-QAM, apply the QPSK procedures in above sections to determine the QAM configurations that may need SAR measurement. For each configuration identified as required for testing, SAR is required only when the highest maximum output power for the configuration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

B) Other channel bandwidth standalone SAR test requirements

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

10. AR TEST RESULTS

10.1. EUT Antenna Locations



ANT0	TX/RX :GSM850/1900 WCDMA2/4/5 LTE 2/4/5/7/13/38/41/66
ANT1	RX: SM850/1900 WCDMA2/4/5 LTE 2/4/5/7/13/38/41/66
ANT2	2.4GWIFI/BT/GPS
NFC	NFC:13.56MHz

11. TUNE-UP LIMIT

11.1. Tune-up Limit

The GSM850 power adjust procedure

GSM850	ANT0 Original power(dBm)	Tolerance(dBm)
GSM (GMSK, 1Tx-slot)	32.5	(±1)
GPRS (GMSK, 1Tx-slot)	32.5	(±1)
GPRS (GMSK, 2Tx-slot)	30.5	(±1)
GPRS (GMSK, 3Tx-slot)	28.5	(±1)
GPRS (GMSK, 4Tx-slot)	26.5	(±1)
EDGE (8PSK, 1Tx-slot)	26.0	(±1)
EDGE (8PSK, 2Tx-slot)	24.5	(±1)
EDGE (8PSK, 3Tx-slot)	22.0	(±1)
EDGE (8PSK, 4Tx-slot)	21.5	(±1)

The PCS1900 power adjust procedure

GSM 1900	ANT0 Original power	Tolerance(dBm)
GSM (GMSK, 1Tx-slot)	29.5	(±1)
GPRS (GMSK, 1Tx-slot)	29.5	(±1)
GPRS (GMSK, 2Tx-slot)	27.5	(±1)
GPRS (GMSK, 3Tx-slot)	26.0	(±1)
GPRS (GMSK, 4Tx-slot)	24.0	(±1)
EDGE (8PSK, 1Tx-slot)	26.5	(±1)
EDGE (8PSK, 2Tx-slot)	24.0	(±1)
EDGE (8PSK, 3Tx-slot)	22.0	(±1)
EDGE (8PSK, 4Tx-slot)	19.5	(±1)

The WCDMA Band 2 power adjust procedure

WCDMA Ⅱ	ANT0 Original power	ANT0 Single engine power reduction:(dBm)(Body)	ANT0 Simultaneous power reduction:(dBm)(Body)	Tolerance(dBm)
RMC 12.2K	23.0	20.0	19.0	(±1)
HSDPA/DC-HSDPA	23.0	20.0	19.0	(±1)
HSUDA Sub-test1	22.5	19.5	18.5	(±1)
HSUDA Sub-test2	21.5	18.5	17.5	(±1)
HSUDA Sub-test3	22.0	19.0	18.0	(±1)
HSUDA Sub-test4	20.5	17.5	16.5	(±1)
HSUPA Sub-test1	20.5	17.5	16.5	(±1)
HSUPA Sub-test2	21.0	18.0	17.0	(±1)
HSUPA Sub-test3	20.5	17.5	16.5	(±1)
HSUPA Sub-test4	22.0	19.0	18.0	(±1)
HSUPA Sub-test5	20.5	17.5	16.5	(±1)
HSPA+	23.0	20.0	19.0	(±1)

The WCDMA Band 4 power adjust procedure

WCDMA Ⅳ	ANT0 Original power	ANT0 Single engine power reduction:(dBm)(Body)	Tolerance(dBm)
RMC 12.2K	23.0	20.0	(±1)
HSDPA/DC-HSDPA	23.0	20.0	(±1)
HSUDA Sub-test1	22.5	19.5	(±1)
HSUDA Sub-test2	22.5	19.5	(±1)
HSUDA Sub-test3	22.5	19.5	(±1)
HSUDA Sub-test4	22.0	19.0	(±1)
HSUPA Sub-test1	22.5	19.5	(±1)
HSUPA Sub-test2	22.5	19.5	(±1)
HSUPA Sub-test3	22.5	19.5	(±1)
HSUPA Sub-test4	22.5	19.5	(±1)
HSUPA Sub-test5	20.5	17.5	(±1)
HSPA+	23.0	20.0	(±1)

The WCDMA Band 5 power adjust procedure

WCDMA V	ANT0 Original power	Tolerance(dBm)
RMC 12.2K	23.5	(±1)
HSDPA/DC-HSDPA	23.0	(±1)
HSUDA Sub-test1	22.5	(±1)
HSUDA Sub-test2	22.0	(±1)
HSUDA Sub-test3	22.0	(±1)
HSUDA Sub-test4	21.0	(±1)
HSUPA Sub-test1	21.0	(±1)
HSUPA Sub-test2	21.5	(±1)
HSUPA Sub-test3	21.0	(±1)
HSUPA Sub-test4	23.0	(±1)
HSUPA Sub-test5	20.5	(±1)
HSPA+	23.5	(±1)

The LTE Band 2power adjust procedure

LTE Band 2	ANT0 Original power	ANT0 Single engine power reduction:(dBm)(Body)	ANT0 Simultaneous power reduction:(dBm)(Body)	Tolerance(dBm)
1.4/3/5/10/15/20 MHz QPSK	23.0	20.0	19.5	[-2.0dB~+1dB]
1.4/3/5/10/15/20 MHz 16QAM	22.0	19.0	18.5	[-2.0dB~+1dB]

The LTE Band 4power adjust procedure

LTE Band 4	ANT0 Original power	ANT0 Single engine power reduction:(dBm)(Body)	Tolerance(dBm)
1.4/3/5/10/15/20 MHz QPSK	23.0	21.5	[-2.0dB~+1dB]
1.4/3/5/10/15/20 MHz 16QAM	22.0	19.5	[-2.0dB~+1dB]

The LTE Band 5power adjust procedure

LTE Band 5	ANT0 Original power	Tolerance(dBm)
1.4/3/5/10 MHz QPSK	23.5	[-2.0dB~+1dB]
1.4/3/5/10 MHz 16QAM	22.5	[-2.0dB~+1dB]

The LTE Band 7power adjust procedure

LTE Band 7	ANT0 Original power	ANT0 Single engine power reduction:(dBm)(Body)	ANT0 Simultaneous power reduction:(dBm)(Body)	Tolerance(dBm)
5/10/15/20 MHz QPSK	22.5	20.5	19.5	[-2.0dB~+1dB]
5/10/15/20 MHz 16QAM	21.5	19.5	18.5	[-2.0dB~+1dB]

The LTE Band 13power adjust procedure

LTE Band 13	ANT0/1 Original power	Tolerance(dBm)
5/10 MHz QPSK	23.5	[-2.0dB~+1dB]
5/10 MHz 16QAM	22.5	[-2.0dB~+1dB]

The LTE Band 66 power adjust procedure

LTE Band 66	ANT0 Original power	ANT0 Single engine power reduction:(dBm)(Body)	Tolerance(dBm)
1.4/3/5/10/15/20 MHz QPSK	23.0	20.0	[-2.0dB~+1dB]
1.4/3/5/10/15/20 MHz 16QAM	22.0	19.0	[-2.0dB~+1dB]

The LTE Band 38 power adjust procedure

LTE Band 38	ANT0 Original power	ANT0 Single engine power reduction:(dBm)(Body)	Tolerance(dBm)
5/10/15/20 MHz QPSK	23.0	22.0	[-2.0dB~+1dB]
5/10/15/20 MHz 16QAM	22.0	21.0	[-2.0dB~+1dB]

The LTE Band 41 power adjust procedure

LTE Band 41	ANT0 Original power	ANT0 Single engine power reduction:(dBm)(Body)	Tolerance(dBm)
5/10/15/20 MHz QPSK	23.0	22.0	[-2.0dB~+1dB]
5/10/15/20 MHz 16QAM	22.0	21.0	[-2.0dB~+1dB]

WLAN Original powe:

Band	Mode	channel	Target Power / conducted power(dBm)	Tolerance(dBm)
2.4G WLAN	802.11b	1	17	(±2)
		6	18	(±2)
		11	17	(±2)
	802.11g 6M	1	12	(±2)

		2	15	(±2)
		6	16	(±2)
		8	15	(±2)
		9	13	(±2)
		10	11	(±2)
		11	7	(±2)
	802.11g 54M	1	12	(±2)
		6	14	(±2)
		9	13	(±2)
		10	11	(±2)
		11	7	(±2)
	802.11n HT20 MCS0	1	9	(±2)
		6	15	(±2)
		8	14	(±2)
		9	12	(±2)
		10	11	(±2)
		11	7	(±2)
	802.11n HT20 MCS7	1	9	(±2)
		6	13	(±2)
		9	12	(±2)
		10	11	(±2)
		11	7	(±2)
	802.11n HT40 MCS0	3	7	(±2)
		4	9	(±2)
		5	11	(±2)
		6	13	(±2)
		7	10	(±2)
		8	9	(±2)
		9	7	(±2)
	802.11n HT40 MCS7	3	7	(±2)
		4	9	(±2)
		5	11	(±2)
		6	13	(±2)
		7	10	(±2)
		8	9	(±2)
		9	7	(±2)

WLAN Single engine power reduction(Head):

Band	Mode	channel	Target Power / conducted power(dBm)	Tolerance(dBm)
2.4G WLAN	802.11b	1	10	(±2)
		6	10	(±2)
		11	10	(±2)
	802.11g 6M	1	9	(±2)
		2	10	(±2)
		6	10	(±2)
		8	10	(±2)
		9	9	(±2)
		10	8	(±2)
		11	7	(±2)
	802.11g 54M	1	9	(±2)
		6	10	(±2)
		9	10	(±2)
		10	8	(±2)
		11	7	(±2)
	802.11n HT20 MCS0	1	9	(±2)
		6	10	(±2)
		8	10	(±2)
		9	9	(±2)
		10	8	(±2)
		11	7	(±2)
	802.11n HT20 MCS7	1	9	(±2)
		6	10	(±2)
		9	10	(±2)
		10	9	(±2)
		11	7	(±2)
	802.11n HT40 MCS0	3	7	(±2)
		4	9	(±2)
		5	9	(±2)
		6	10	(±2)
		7	10	(±2)
		8	9	(±2)
		9	7	(±2)
	802.11n HT40 MCS7	3	7	(±2)
		4	9	(±2)
		5	9	(±2)

		6	10	(±2)
		7	10	(±2)
		8	9	(±2)
		9	7	(±2)

WLAN Single engine power reduction(Body):

Band	Mode	channel	Target Power / conducted power(dBm)	Tolerance(dBm)
2.4G WLAN	802.11b	1	13	(±2)
		6	13	(±2)
		11	13	(±2)
	802.11g 6M	1	12	(±2)
		2	13	(±2)
		6	13	(±2)
		8	13	(±2)
		9	13	(±2)
		10	11	(±2)
		11	7	(±2)
	802.11g 54M	1	12	(±2)
		6	13	(±2)
		9	13	(±2)
		10	11	(±2)
		11	7	(±2)
	802.11n HT20 MCS0	1	9	(±2)
		6	13	(±2)
		8	13	(±2)
		9	12	(±2)
		10	11	(±2)
		11	7	(±2)
	802.11n HT20 MCS7	1	9	(±2)
		6	13	(±2)
		9	12	(±2)
		10	11	(±2)
		11	7	(±2)
	802.11n HT40 MCS0	3	7	(±2)
		4	9	(±2)
		5	11	(±2)
		6	13	(±2)
		7	10	(±2)

		8	9	(±2)
		9	7	(±2)
	802.11n HT40 MCS7	3	7	(±2)
		4	9	(±2)
		5	11	(±2)
		6	13	(±2)
		7	10	(±2)
		8	9	(±2)
		9	7	(±2)

The BT power adjust procedure

Wi-F5.8G Body	BR&EDR	BLE	Tolerance(dBm)
BT	9.5	5	(±2)

12. MEASUREMENT RESULTS

Result: Passed

Date of testing	:	2022.07.13~2022.07.21;
Ambient temperature	:	20℃~22℃
Relative humidity	:	50~68%

12.1. Conducted Power

For the measurements a Rohde & Schwarz Radio Communication Tester CMU 200 was used.
SAR drift measured at the same position in liquid before and after each SAR test.
Note: CMU200 measures GSM peak and average output power for active timeslots. For SAR the time based average power is relevant. The difference in between depends on the duty cycle of the TDMA signal:

No. of Timeslots	1	2	3	4
Duty Cycle	1:8.3	1:4.1	1:2.77	1:2.08
Time based avg. power compared to slotted avg. power	-9.00dB	-6.00 dB	-4.26dB	-3.00dB

The signalling modes differ as follows:

Mode	Coding scheme	Modulation
GPRS	CS1 to CS4	GMSK
EDGE	MCS1 to MCS4	GMSK
EDGE	MCS5 to MCS9	8PSK

Apart from modulation change (GMSK/8PSK) coding schemes differ in code rate without influence on the RF signal. Therefore one coding scheme per mode was selected for conducted power measurements.

Original power 0#ANT:

Band: GSM850	Burst Average Power (dBm)			Frame Average Power (dBm)		
Channel	128	190	251	128	190	251
GSM (CS)	32.47	32.39	32.35	23.47	23.39	23.35
GPRS/EDGE (GMSK, 1 Tx slot)	32.60	32.37	32.33	23.60	23.37	23.33
GPRS/EDGE (GMSK, 2 Tx slots)	30.88	30.73	30.67	24.88	24.73	24.67
GPRS/EDGE (GMSK, 3 Tx slots)	28.91	28.79	28.72	24.65	24.53	24.46
GPRS/EDGE (GMSK, 4 Tx slots)	26.90	26.75	26.71	23.90	23.75	23.71
EDGE (8PSK, 1 Tx slot)	26.60	26.22	26.27	17.60	17.22	17.27
EDGE (8PSK, 2 Tx slots)	25.19	25.06	25.02	19.19	19.06	19.02
EDGE (8PSK, 3 Tx slots)	22.68	22.57	22.49	18.42	18.31	18.23
EDGE (8PSK, 4 Tx slots)	22.15	22.20	22.11	19.15	19.20	19.11

Remark:

The conducted power of GSM850 is measured with RMS detector.

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

Per KDB941225 D01v03, the bolded GPRS 2 Tx mode was selected as the primary mode for SAR testing according to the highest frame- averaged output power table.

Band: DCS1900	Burst Average Power (dBm)			Frame Average Power (dBm)		
Channel	513	661	810	513	661	810
GSM (CS)	29.35	29.47	29.61	20.35	20.47	20.61
GPRS/EDGE (GMSK, 1 Tx slot)	29.45	29.52	29.67	20.45	20.52	20.67
GPRS/EDGE (GMSK, 2 Tx slots)	27.45	27.61	27.74	21.75	21.71	21.94
GPRS/EDGE (GMSK, 3 Tx slots)	25.94	26.04	26.13	21.68	21.78	21.87
GPRS/EDGE (GMSK, 4 Tx slots)	23.90	23.99	24.05	20.90	20.99	21.05
EDGE (8PSK, 1 Tx slot)	27.24	26.91	27.00	18.24	17.91	18.00
EDGE (8PSK, 2 Tx slots)	24.58	24.33	24.43	18.58	18.33	18.43
EDGE (8PSK, 3 Tx slots)	22.28	22.01	22.14	18.02	17.75	17.88
EDGE (8PSK, 4 Tx slots)	19.79	19.40	19.63	16.79	16.40	16.63

Remark:

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

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

Per KDB941225 D01v03, the bolded GPRS 2 Tx mode was selected as the primary mode for SAR testing according to the highest frame- averaged output power table.

UMTS Band V		Conducted Power (dBm)		
		4133	4175	4232
WCDMA	12.2kbps RMC	23.80	23.65	23.60
	64kbps RMC	23.73	23.60	23.55
	144kbps RMC	23.75	23.53	23.60
	384kbps RMC	23.79	23.64	23.60
HSDPA	Subtest 1	23.05	22.82	22.56
	Subtest 2	22.57	22.37	22.12
	Subtest 3	22.29	22.11	21.86
	Subtest 4	22.21	22.03	21.78
HSUPA	Subtest 1	20.67	21.17	21.06
	Subtest 2	21.23	20.89	20.77
	Subtest 3	21.33	21.25	21.12
	Subtest 4	20.92	20.69	20.59
	Subtest 5	23.40	23.13	23.08

Remark:

The conducted power of UMTS Band V is measured with RMS detector

Per KDB 941225 D01v03, When the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤0.25 dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and adjusted SAR is ≤ 1.2W/kg, SAR measurement is not required for the secondary mode.

UMTS Band II		Conducted Power (dBm)		
		9262	9400	9538
WCDMA	12.2kbps RMC	23.17	22.99	23.07
	64kbps RMC	22.95	22.90	23.03
	144kbps RMC	22.93	22.87	23.06
	384kbps RMC	22.91	22.91	23.03
HSDPA	Subtest 1	23.30	23.01	23.20
	Subtest 2	22.58	22.45	22.48
	Subtest 3	21.63	21.45	21.60
	Subtest 4	22.30	22.20	22.20
HSUPA	Subtest 1	19.89	19.93	20.08
	Subtest 2	20.77	20.68	20.90
	Subtest 3	20.96	20.64	20.90
	Subtest 4	20.75	20.44	20.70
	Subtest 5	22.85	22.57	22.66

Remark:

1) The conducted power of UMTS Band II is measured with RMS detector

2)Per KDB 941225 D01v03, When the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤0.25 dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and adjusted SAR is ≤ 1.2W/kg, SAR measurement is not required for the secondary mode.

UMTS Band IV		Conducted Power (dBm)		
		1312	1412	1513
WCDMA	12.2kbps RMC	23.46	23.38	23.50
	64kbps RMC	23.39	23.33	23.45
	144kbps RMC	23.41	23.25	23.50
	384kbps RMC	23.44	23.37	23.50
HSDPA	Subtest 1	23.11	22.97	23.17
	Subtest 2	22.84	22.69	22.89
	Subtest 3	22.72	22.57	22.77
	Subtest 4	22.75	22.58	22.79
HSUPA	Subtest 1	21.86	21.96	22.16
	Subtest 2	22.45	22.54	22.72
	Subtest 3	22.58	22.44	22.63
	Subtest 4	22.42	22.18	22.48
	Subtest 5	22.69	22.56	22.76

Remark:

1)The conducted power of UMTS Band V is measured with RMS detector

2)Per KDB 941225 D01v03, When the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤0.25 dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and adjusted SAR is ≤ 1.2W/kg, SAR measurement is not required for the secondary mode.

LTE BAND 2

Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				18607	18900	19193
1.4MHz	QPSK	1	0	22.92	22.92	23.03
		1	13	22.79	23.03	22.85
		1	24	23.03	23.01	23.01
		12	0	21.94	21.71	21.77
		12	6	21.77	21.85	21.81
		12	13	21.87	21.74	21.71
		25	0	21.94	21.85	21.83
	16QAM	1	0	21.26	21.46	21.77
		1	13	21.57	21.52	21.47
		1	24	21.43	21.47	21.62
		12	0	21.00	20.72	20.59
		12	6	21.27	21.02	21.11
		12	13	20.92	21.15	20.77
		25	0	20.83	20.83	21.11
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				18615	18900	19185
3MHz	QPSK	1	0	22.93	23.03	22.97
		1	13	23.01	22.79	22.85
		1	24	23.03	23.03	22.97
		12	0	21.74	21.76	21.85
		12	6	21.92	21.92	21.66
		12	13	21.62	21.92	21.77
		25	0	21.92	21.74	21.96
	16QAM	1	0	21.77	21.43	21.26
		1	13	21.74	21.58	21.45
		1	24	21.46	21.45	21.68
		12	0	21.11	21.22	21.22
		12	6	20.63	20.98	20.64
		12	13	20.98	20.92	21.06
		25	0	21.27	21.27	21.11

Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				18625	18900	19175
5MHz	QPSK	1	0	23.03	22.85	22.79
		1	13	23.03	22.78	22.97
		1	24	22.83	22.85	22.79
		12	0	21.92	21.87	21.94
		12	6	21.66	21.92	21.92
		12	13	21.62	21.76	21.77
		25	0	21.85	21.84	21.62
	16QAM	1	0	21.46	21.51	21.53
		1	13	21.46	21.53	21.77
		1	24	21.46	21.31	21.59
		12	0	20.70	20.72	20.77
		12	6	20.70	20.72	21.08
		12	13	20.98	20.87	21.22
		25	0	20.77	20.63	20.92
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				18650	18900	19150
10MHz	QPSK	1	0	22.83	23.05	22.84
		1	13	23.00	22.79	22.99
		1	24	22.91	22.86	22.94
		12	0	21.72	21.82	21.71
		12	6	21.74	21.59	21.84
		12	13	21.61	21.75	21.64
		25	0	21.75	21.75	21.75
	16QAM	1	0	21.26	21.52	21.41
		1	13	21.51	21.42	21.51
		1	24	21.42	21.42	21.20
		12	0	20.49	21.01	20.77
		12	6	20.62	20.79	20.51
		12	13	20.79	20.65	20.49
		25	0	20.42	20.66	20.71

Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				18675	18900	19125
15MHz	QPSK	1	0	22.78	22.93	22.79
		1	13	23.05	22.78	22.86
		1	24	22.92	22.96	22.83
		12	0	21.66	21.86	21.84
		12	6	21.74	21.82	21.52
		12	13	21.64	21.75	21.82
		25	0	21.82	21.75	21.82
	16QAM	1	0	21.42	21.46	21.42
		1	13	21.26	21.32	21.20
		1	24	21.42	21.42	21.26
		12	0	20.71	20.65	21.01
		12	6	20.77	20.87	20.66
		12	13	20.94	20.62	20.38
		25	0	20.77	20.79	20.94
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				18700	18900	19100
20MHz	QPSK	1	0	22.90	22.83	23.01
		1	50	23.19	23.16	23.18
		1	99	22.83	22.79	22.79
		50	0	21.62	21.85	21.82
		50	25	21.78	21.77	21.71
		50	50	21.92	21.84	21.77
		100	0	21.85	21.87	21.87
	16QAM	1	0	21.46	21.26	21.37
		1	50	21.26	21.77	21.72
		1	99	21.74	21.62	21.72
		50	0	21.00	21.27	20.77
		50	25	20.77	20.59	21.22
		50	50	20.87	21.21	21.02
		100	0	21.21	21.11	20.92

LTE BAND 4

Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				19957	20175	20393
1.4MHz	QPSK	1	0	22.70	22.83	22.79
		1	13	22.70	22.83	22.75
		1	24	22.75	22.75	22.75
		12	0	21.71	21.53	21.54
		12	6	21.73	21.67	21.53
		12	13	21.68	21.53	21.53
		25	0	21.63	21.62	21.63
	16QAM	1	0	21.29	21.20	21.45
		1	13	21.46	21.22	21.41
		1	24	21.36	21.36	21.36
		12	0	20.55	21.00	20.63
		12	6	20.76	20.46	20.81
		12	13	20.52	20.76	20.85
		25	0	20.89	20.41	20.70
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				19965	20175	20385
3MHz	QPSK	1	0	22.87	22.75	22.75
		1	13	22.76	22.75	22.80
		1	24	22.79	22.80	22.76
		12	0	21.44	21.69	21.63
		12	6	21.54	21.67	21.56
		12	13	21.69	21.69	21.56
		25	0	21.75	21.69	21.68
	16QAM	1	0	21.24	21.50	21.20
		1	13	21.54	21.42	21.12
		1	24	21.59	21.23	21.29
		12	0	20.85	20.58	20.70
		12	6	20.92	20.55	20.81
		12	13	21.08	20.99	20.85
		25	0	20.99	20.41	20.62

Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				19975	20175	20375
5MHz	QPSK	1	0	22.74	22.65	22.65
		1	13	22.75	22.76	22.87
		1	24	22.76	22.65	22.75
		12	0	21.54	21.78	21.75
		12	6	21.78	21.69	21.54
		12	13	21.56	21.63	21.56
		25	0	21.69	21.70	21.75
	16QAM	1	0	21.31	21.36	21.29
		1	13	21.46	21.23	21.59
		1	24	21.23	21.29	21.46
		12	0	20.69	20.82	20.99
		12	6	21.08	20.92	20.55
		12	13	20.85	20.85	20.97
		25	0	20.83	20.55	20.47
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				20000	20175	20350
10MHz	QPSK	1	0	22.74	22.79	22.67
		1	13	22.64	22.66	22.69
		1	24	22.61	22.60	22.64
		12	0	21.43	21.43	21.52
		12	6	21.58	21.37	21.44
		12	13	21.53	21.67	21.37
		25	0	21.43	21.52	21.57
	16QAM	1	0	21.32	21.18	20.97
		1	13	21.32	21.13	21.31
		1	24	21.31	21.30	21.34
		12	0	20.79	20.76	20.82
		12	6	20.71	20.65	20.60
		12	13	20.78	20.79	20.42
		25	0	20.64	20.20	20.41

Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				20025	20175	20325
15MHz	QPSK	1	0	22.60	22.78	22.67
		1	13	22.71	22.66	22.78
		1	24	22.57	22.74	22.78
		12	0	21.44	21.44	21.57
		12	6	21.46	21.53	21.46
		12	13	21.65	21.59	21.44
		25	0	21.44	21.59	21.59
	16QAM	1	0	21.20	21.34	21.09
		1	13	21.05	21.27	21.09
		1	24	21.25	21.35	21.09
		12	0	20.31	20.65	20.82
		12	6	20.60	20.65	20.60
		12	13	20.64	20.37	20.82
		25	0	20.65	20.82	20.26
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				20050	20175	20300
20MHz	QPSK	1	0	22.74	22.61	22.76
		1	50	23.02	23.01	22.97
		1	99	22.61	22.76	22.75
		50	0	21.69	21.63	21.56
		50	25	21.58	21.44	21.67
		50	50	21.44	21.54	21.69
		100	0	21.68	21.75	21.62
	16QAM	1	0	21.16	21.50	21.41
		1	50	21.37	21.20	21.46
		1	99	21.31	21.16	21.37
		50	0	20.92	20.92	21.03
		50	25	20.47	20.63	20.82
		50	50	20.99	20.86	20.52
		100	0	20.52	20.89	21.03

LTE BAND 5

Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				20407	20525	20643
1.4MHz	QPSK	1	0	23.60	23.45	23.52
		1	13	23.59	23.60	23.34
		1	24	23.47	23.48	23.45
		12	0	22.39	22.50	22.53
		12	6	22.33	22.36	22.31
		12	13	22.22	22.33	22.33
		25	0	22.26	22.40	22.53
	16QAM	1	0	21.90	22.04	22.04
		1	13	21.97	21.82	21.90
		1	24	22.06	22.13	21.90
		12	0	21.75	21.59	21.24
		12	6	21.16	21.33	21.75
		12	13	21.48	21.44	21.79
		25	0	21.32	21.43	21.51
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				20415	20525	20635
3MHz	QPSK	1	0	23.41	23.55	23.51
		1	13	23.45	23.51	23.47
		1	24	23.60	23.59	23.51
		12	0	22.27	22.26	22.42
		12	6	22.20	22.42	22.36
		12	13	22.23	22.34	22.50
		25	0	22.39	22.30	22.30
	16QAM	1	0	22.11	21.83	22.30
		1	13	22.20	21.97	22.20
		1	24	21.98	21.83	22.08
		12	0	21.24	21.32	21.38
		12	6	21.44	21.43	21.51
		12	13	21.51	21.48	21.62
		25	0	21.24	21.29	21.43

Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				20425	20525	20625
5MHz	QPSK	1	0	23.34	23.59	23.51
		1	13	23.32	23.40	23.47
		1	24	23.40	23.32	23.51
		12	0	22.23	22.20	22.11
		12	6	22.45	22.20	22.36
		12	13	22.24	22.32	22.11
		25	0	22.36	22.26	22.21
	16QAM	1	0	22.19	22.09	21.93
		1	13	21.83	21.71	21.92
		1	24	21.79	21.97	21.83
		12	0	21.44	21.26	21.43
		12	6	21.58	21.27	21.44
		12	13	21.54	21.41	20.99
		25	0	21.38	21.03	21.58
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				20450	20525	20600
10MHz	QPSK	1	0	23.41	23.52	23.60
		1	13	23.72	23.72	23.72
		1	24	23.48	23.41	23.50
		12	0	22.46	22.39	22.53
		12	6	22.26	22.22	22.26
		12	13	22.42	22.39	22.33
		25	0	22.31	22.46	22.30
	16QAM	1	0	21.83	22.03	22.04
		1	13	22.08	21.82	22.06
		1	24	22.30	22.13	21.97
		12	0	21.75	21.64	21.12
		12	6	21.62	21.47	21.32
		12	13	21.59	21.48	21.59
		25	0	21.48	21.79	21.51

LTE BAND 7

Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				20775	21100	21425
5MHz	QPSK	1	0	22.38	22.31	22.29
		1	13	22.43	22.37	22.34
		1	24	22.30	22.37	22.35
		12	0	21.34	21.35	21.35
		12	6	21.26	21.47	21.26
		12	13	21.25	21.29	21.25
		25	0	21.34	21.18	21.29
	16QAM	1	0	20.98	21.02	21.17
		1	13	21.03	20.96	21.29
		1	24	21.03	20.98	20.94
		12	0	20.43	20.67	20.30
		12	6	20.30	20.35	20.41
		12	13	20.67	20.67	20.41
		25	0	20.20	20.30	20.20
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				20800	21100	21400
10MHz	QPSK	1	0	22.39	22.37	22.49
		1	13	22.50	22.39	22.30
		1	24	22.32	22.46	22.27
		12	0	21.28	21.24	21.28
		12	6	21.37	21.25	20.99
		12	13	21.24	21.26	21.23
		25	0	21.14	21.08	21.19
	16QAM	1	0	21.07	20.83	20.73
		1	13	20.87	21.07	20.76
		1	24	20.83	20.97	20.76
		12	0	20.20	20.23	20.47
		12	6	20.14	20.47	20.22
		12	13	20.02	20.27	20.20
		25	0	20.27	20.26	20.20

Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				20825	21100	21375
15MHz	QPSK	1	0	22.28	22.32	22.32
		1	13	22.36	22.51	22.33
		1	24	22.28	22.32	22.37
		12	0	21.08	21.19	21.00
		12	6	21.38	20.99	21.19
		12	13	21.18	21.26	21.19
		25	0	21.38	21.16	21.14
	16QAM	1	0	20.85	20.93	20.87
		1	13	20.84	20.83	20.93
		1	24	20.73	21.13	20.85
		12	0	20.40	20.14	20.31
		12	6	20.20	19.93	20.09
		12	13	20.23	20.22	19.99
		25	0	19.93	20.23	19.93
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				20850	21100	21350
20MHz	QPSK	1	0	22.34	22.29	22.29
		1	50	22.73	22.70	22.67
		1	99	22.38	22.33	22.43
		50	0	21.18	21.22	21.38
		50	25	21.25	21.35	21.36
		50	50	21.25	21.42	21.26
		100	0	21.24	21.35	21.47
	16QAM	1	0	21.00	20.72	20.95
		1	50	21.29	21.12	21.02
		1	99	21.17	20.96	21.00
		50	0	20.04	20.23	20.20
		50	25	20.44	20.30	20.45
		50	50	20.32	20.45	20.77
		100	0	20.47	20.30	20.45

LTE Band 13

Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				23205	23230	23255
5MHz	QPSK	1	0	23.10	23.08	23.03
		1	13	23.18	23.13	23.04
		1	24	23.04	23.04	23.20
		12	0	21.75	21.89	22.02
		12	6	21.87	21.74	21.89
		12	13	21.78	21.72	22.09
		25	0	21.80	21.89	21.73
	16QAM	1	0	21.63	21.69	21.56
		1	13	21.75	21.67	21.44
		1	24	21.76	21.55	21.73
		12	0	20.71	20.86	20.72
		12	6	21.00	20.73	20.72
		12	13	20.58	21.07	21.08
		25	0	20.90	21.08	20.96
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				23230	23230	23230
10MHz	QPSK	1	0	22.99	23.08	23.09
		1	13	23.32	23.35	23.33
		1	24	23.04	22.96	23.04
		12	0	21.87	21.99	22.03
		12	6	22.10	21.82	21.94
		12	13	21.86	22.03	21.83
		25	0	22.01	21.85	21.98
	16QAM	1	0	21.71	21.56	21.84
		1	13	21.84	21.67	21.69
		1	24	21.59	21.86	22.01
		12	0	21.17	21.50	21.13
		12	6	21.02	21.29	21.33
		12	13	21.34	21.34	20.93
		25	0	20.79	21.28	21.11

LTE BAND 38

Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				37775	38000	38225
5MHz	QPSK	1	0	23.43	23.51	23.66
		1	13	23.54	23.57	23.58
		1	24	23.54	23.46	23.58
		12	0	22.40	22.32	22.48
		12	6	22.65	22.32	22.48
		12	13	22.22	22.47	22.50
		25	0	22.63	22.52	22.48
	16QAM	1	0	22.17	22.17	22.07
		1	13	21.95	22.31	22.51
		1	24	22.16	22.17	22.04
		12	0	21.84	21.42	21.42
		12	6	21.53	21.69	21.51
		12	13	21.36	21.94	21.96
		25	0	21.55	21.84	21.26
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				37800	38000	38200
10MHz	QPSK	1	0	23.59	23.63	23.70
		1	13	23.52	23.47	23.50
		1	24	23.42	23.63	23.64
		12	0	22.31	22.58	22.22
		12	6	22.31	22.40	22.38
		12	13	22.58	22.28	22.50
		25	0	22.37	22.40	22.30
	16QAM	1	0	22.03	21.96	22.37
		1	13	21.99	22.06	22.06
		1	24	22.01	22.28	21.75
		12	0	20.96	21.28	21.58
		12	6	21.32	21.30	21.05
		12	13	21.79	21.32	21.34
		25	0	21.21	21.75	21.34

Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				37825	38000	38175
15MHz	QPSK	1	0	23.41	23.48	23.59
		1	13	23.42	23.63	23.52
		1	24	23.45	23.67	23.44
		12	0	22.50	22.40	22.51
		12	6	22.39	22.28	22.29
		12	13	22.25	22.39	22.22
		25	0	22.39	22.38	22.37
	16QAM	1	0	22.37	22.08	21.75
		1	13	21.98	22.05	22.16
		1	24	22.40	22.17	22.01
		12	0	21.53	21.44	21.41
		12	6	21.28	21.15	21.24
		12	13	21.36	21.34	21.05
		25	0	21.15	21.05	20.96
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				37850	38000	38150
20MHz	QPSK	1	0	23.49	23.46	23.60
		1	50	23.82	23.86	23.83
		1	99	23.42	23.49	23.66
		50	0	22.50	22.65	22.40
		50	25	22.52	22.52	22.41
		50	50	22.47	22.60	22.41
		100	0	22.48	22.39	22.50
	16QAM	1	0	21.95	22.51	22.37
		1	50	22.16	22.51	22.39
		1	99	22.16	22.17	22.07
		50	0	21.41	21.75	21.74
		50	25	21.45	21.17	21.41
		50	50	21.26	21.62	21.54
		100	0	22.00	21.51	21.17

LTE BAND 41

Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				40065	40640	41215
5MHz	QPSK	1	0	23.52	23.54	23.51
		1	13	23.45	23.50	23.38
		1	24	23.51	23.47	23.43
		12	0	22.31	22.30	22.31
		12	6	22.26	22.31	22.24
		12	13	22.50	22.37	22.25
		25	0	22.55	22.24	22.24
	16QAM	1	0	22.08	21.87	21.94
		1	13	22.14	22.24	22.03
		1	24	22.08	21.90	21.98
		12	0	21.63	21.67	21.29
		12	6	21.27	21.81	21.25
		12	13	21.37	21.67	21.27
		25	0	21.37	21.67	21.81
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				40090	40640	41190
10MHz	QPSK	1	0	23.39	23.50	23.58
		1	13	23.53	23.38	23.57
		1	24	23.46	23.44	23.44
		12	0	22.24	22.21	22.27
		12	6	22.37	22.27	22.15
		12	13	22.35	22.27	22.35
		25	0	22.20	22.23	22.27
	16QAM	1	0	21.76	21.92	21.87
		1	13	22.24	21.79	21.96
		1	24	21.98	22.03	22.03
		12	0	21.08	21.04	21.29
		12	6	21.08	21.18	21.08
		12	13	20.99	21.19	21.21
		25	0	21.19	21.28	21.18

Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				40115	40640	41165
15MHz	QPSK	1	0	23.42	23.65	23.41
		1	13	23.39	23.39	23.39
		1	24	23.43	23.37	23.44
		12	0	22.26	22.24	22.40
		12	6	22.20	22.20	22.24
		12	13	22.27	22.27	22.23
		25	0	22.25	22.32	22.11
	16QAM	1	0	21.96	21.91	21.76
		1	13	22.05	21.87	21.79
		1	24	21.91	21.87	22.24
		12	0	21.44	21.61	21.46
		12	6	21.21	21.28	21.29
		12	13	21.28	21.46	21.18
		25	0	21.38	21.04	21.29
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				40140	40640	41140
20MHz	QPSK	1	0	23.51	23.54	23.51
		1	50	23.80	23.77	23.78
		1	99	23.52	23.38	23.64
		50	0	22.36	22.30	22.37
		50	25	22.55	22.34	22.47
		50	50	22.33	22.41	22.45
		100	0	22.50	22.54	22.50
	16QAM	1	0	22.35	22.35	21.93
		1	50	22.03	21.87	21.90
		1	99	21.90	21.98	21.90
		50	0	21.58	21.22	21.68
		50	25	21.58	21.48	21.82
		50	50	21.81	21.58	21.68
		100	0	21.40	21.42	21.82

LTE Band 66

Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				131979	132322	132665
1.4MHz	QPSK	1	0	23.33	23.20	23.17
		1	13	23.39	23.17	23.19
		1	24	23.23	23.23	23.46
		12	0	22.11	22.32	22.10
		12	6	22.14	22.32	22.21
		12	13	22.11	22.21	22.14
		25	0	22.11	22.21	22.17
	16QAM	1	0	21.81	21.81	21.91
		1	13	21.73	22.07	21.81
		1	24	21.97	21.82	21.83
		12	0	21.20	21.18	21.11
		12	6	21.21	21.29	21.33
		12	13	21.20	21.29	21.64
		25	0	21.33	21.39	21.11
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				131987	132322	132657
3MHz	QPSK	1	0	23.21	23.23	23.42
		1	13	23.24	23.33	23.20
		1	24	23.44	23.42	23.24
		12	0	22.14	22.05	22.30
		12	6	22.30	22.32	22.09
		12	13	22.11	22.19	22.32
		25	0	22.38	22.17	22.21
	16QAM	1	0	21.82	21.93	21.90
		1	13	21.73	21.88	21.90
		1	24	21.91	21.92	21.92
		12	0	21.01	21.11	21.39
		12	6	21.01	21.23	21.23
		12	13	21.40	21.30	21.37
		25	0	21.29	21.11	21.23

Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				131997	132322	132647
5MHz	QPSK	1	0	23.17	23.19	23.21
		1	13	23.44	23.29	23.21
		1	24	23.23	23.33	23.29
		12	0	22.14	22.14	22.21
		12	6	22.11	22.19	22.14
		12	13	22.14	22.19	22.32
		25	0	22.11	22.26	22.14
	16QAM	1	0	21.91	21.93	21.73
		1	13	22.14	21.81	21.69
		1	24	21.90	21.81	21.91
		12	0	21.20	21.29	21.37
		12	6	21.11	21.26	21.11
		12	13	21.09	21.20	21.11
		25	0	21.37	21.20	21.09
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				132022	132322	132622
10MHz	QPSK	1	0	23.30	23.45	23.38
		1	13	23.45	23.22	23.33
		1	24	23.38	23.33	23.43
		12	0	22.28	21.89	21.96
		12	6	22.04	22.00	22.18
		12	13	22.28	22.11	22.22
		25	0	21.99	22.05	21.98
	16QAM	1	0	21.87	21.74	22.06
		1	13	21.72	21.52	21.86
		1	24	21.96	21.81	21.58
		12	0	20.99	20.80	20.75
		12	6	21.30	20.97	21.06
		12	13	20.99	21.08	21.12
		25	0	21.00	21.00	20.99

Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				132047	132322	132597
15MHz	QPSK	1	0	23.22	23.28	23.32
		1	13	23.32	23.23	23.28
		1	24	23.38	23.39	23.21
		12	0	22.04	22.29	22.03
		12	6	22.22	22.22	22.13
		12	13	21.89	22.20	22.29
		25	0	22.22	22.28	22.22
	16QAM	1	0	21.71	21.70	21.87
		1	13	21.94	21.70	21.79
		1	24	21.62	21.62	21.96
		12	0	21.02	21.02	21.08
		12	6	21.16	21.30	21.18
		12	13	20.80	21.02	20.90
		25	0	20.99	21.18	21.00
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				132072	132322	132572
20MHz	QPSK	1	0	23.21	23.23	23.33
		1	50	23.60	23.61	23.57
		1	99	23.19	23.22	23.23
		50	0	22.09	22.38	22.21
		50	25	22.26	22.21	22.21
		50	50	22.38	22.30	22.14
		100	0	22.21	22.09	22.13
	16QAM	1	0	22.07	21.73	21.90
		1	50	21.93	21.85	21.93
		1	99	22.07	21.81	22.07
		50	0	21.58	21.01	21.64
		50	25	21.20	21.23	21.26
		50	50	21.29	21.19	21.23
		100	0	21.58	21.26	21.26

Power reduction(Body)

UMTS Band II		Conducted Power (dBm)		
		9262	9400	9538
WCDMA	12.2kbps RMC	20.24	19.98	20.01
	64kbps RMC	20.02	19.89	19.97
	144kbps RMC	20.00	19.86	20.00
	384kbps RMC	19.98	19.90	19.97
HSDPA	Subtest 1	20.49	20.23	20.51
	Subtest 2	19.83	19.67	19.87
	Subtest 3	18.93	18.78	18.99
	Subtest 4	19.60	19.44	19.64
HSUPA	Subtest 1	17.45	17.56	17.73
	Subtest 2	18.44	18.29	18.60
	Subtest 3	18.56	18.23	18.56
	Subtest 4	18.44	18.09	18.40
	Subtest 5	20.36	20.06	20.30

Remark:

1)The conducted power of UMTS Band V is measured with RMS detector

2)Per KDB 941225 D01v03, When the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤0.25 dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and adjusted SAR is ≤ 1.2W/kg, SAR measurement is not required for the secondary mode.

UMTS Band IV		Conducted Power (dBm)		
		1312	1412	1513
WCDMA	12.2kbps RMC	20.39	20.38	20.43
	64kbps RMC	20.32	20.33	20.38
	144kbps RMC	20.34	20.25	20.43
	384kbps RMC	20.37	20.37	20.43
HSDPA	Subtest 1	20.43	20.28	20.59
	Subtest 2	20.14	20.00	20.36
	Subtest 3	20.04	19.93	20.28
	Subtest 4	20.03	19.94	20.29
HSUPA	Subtest 1	19.54	19.48	19.75
	Subtest 2	20.19	20.12	20.47
	Subtest 3	20.03	19.92	20.31
	Subtest 4	20.14	19.94	20.19
	Subtest 5	20.13	20.06	20.40

Remark:

1)The conducted power of UMTS Band V is measured with RMS detector

2)Per KDB 941225 D01v03, When the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤0.25 dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and adjusted SAR is ≤ 1.2W/kg, SAR measurement is not required for the secondary mode.

LTE BAND 2

Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				18607	18900	19193
1.4MHz	QPSK	1	0	19.76	19.95	20.01
		1	13	19.79	20.01	19.76
		1	24	19.90	19.91	19.90
		12	0	18.85	18.79	18.84
		12	6	18.84	18.70	18.84
		12	13	18.85	18.56	18.89
		25	0	18.74	18.79	18.81
	16QAM	1	0	18.64	18.55	18.41
		1	13	18.65	18.32	18.41
		1	24	18.44	18.60	18.54
		12	0	18.08	17.98	17.85
		12	6	17.82	18.08	17.48
		12	13	17.81	17.74	18.01
		25	0	17.71	17.71	18.10
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				18615	18900	19185
3MHz	QPSK	1	0	19.76	19.92	19.91
		1	13	19.79	19.90	19.79
		1	24	19.87	19.79	19.95
		12	0	18.56	18.85	18.79
		12	6	18.81	18.76	18.88
		12	13	18.86	18.89	18.75
		25	0	18.71	18.85	18.89
	16QAM	1	0	18.47	18.44	18.43
		1	13	18.38	18.53	18.47
		1	24	18.63	18.53	18.65
		12	0	18.10	18.10	18.03
		12	6	17.99	18.08	17.63
		12	13	17.63	18.08	18.01
		25	0	17.74	17.52	18.10

Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				18625	18900	19175
5MHz	QPSK	1	0	19.79	19.95	19.79
		1	13	19.76	20.01	19.76
		1	24	19.95	20.03	19.87
		12	0	18.73	18.56	18.87
		12	6	18.87	18.79	18.89
		12	13	18.85	18.74	18.74
		25	0	18.74	18.86	18.85
	16QAM	1	0	18.58	18.44	18.18
		1	13	18.58	18.58	18.43
		1	24	18.43	18.44	18.44
		12	0	17.99	17.99	18.01
		12	6	17.85	18.10	17.82
		12	13	17.52	17.71	17.52
		25	0	17.85	17.48	17.99
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				18650	18900	19150
10MHz	QPSK	1	0	19.89	19.78	19.89
		1	13	19.76	20.02	19.89
		1	24	19.78	19.74	19.81
		12	0	18.61	18.64	18.65
		12	6	18.77	18.63	18.64
		12	13	18.73	18.52	18.66
		25	0	18.47	18.52	18.76
	16QAM	1	0	18.21	18.57	18.21
		1	13	18.43	18.53	18.32
		1	24	18.33	18.53	18.49
		12	0	17.64	17.64	17.53
		12	6	17.80	17.78	17.87
		12	13	17.67	17.78	17.51
		25	0	17.61	17.42	17.89

Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				18675	18900	19125
15MHz	QPSK	1	0	19.90	20.02	19.97
		1	13	19.89	19.93	19.81
		1	24	19.92	19.93	19.93
		12	0	18.58	18.63	18.75
		12	6	18.61	18.52	18.69
		12	13	18.47	18.47	18.63
		25	0	18.63	18.75	18.69
	16QAM	1	0	18.30	18.33	18.33
		1	13	18.57	18.49	18.07
		1	24	18.49	18.30	18.33
		12	0	17.84	17.87	17.80
		12	6	17.95	17.82	17.54
		12	13	17.77	17.64	17.60
		25	0	17.84	17.61	17.87
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				18700	18900	19100
20MHz	QPSK	1	0	19.94	20.01	19.90
		1	50	20.16	20.13	20.16
		1	99	19.95	19.79	19.95
		50	0	18.71	18.62	18.76
		50	25	18.70	18.76	18.90
		50	50	18.71	18.84	18.62
		100	0	18.76	18.89	18.68
	16QAM	1	0	18.63	18.32	18.68
		1	50	18.64	18.59	18.53
		1	99	18.18	18.38	18.32
		50	0	17.72	17.71	17.82
		50	25	17.85	17.71	17.63
		50	50	18.03	17.74	17.88
		100	0	17.99	17.99	17.63

LTE BAND 4

Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				19957	20175	20393
1.4MHz	QPSK	1	0	20.27	20.24	20.14
		1	13	20.20	20.20	20.13
		1	24	20.33	20.14	20.15
		12	0	19.10	19.23	19.10
		12	6	19.06	19.18	19.28
		12	13	19.23	19.10	19.28
		25	0	19.06	19.09	18.98
	16QAM	1	0	18.89	19.14	18.76
		1	13	18.89	18.67	18.67
		1	24	18.62	18.80	18.76
		12	0	18.46	17.96	18.12
		12	6	18.28	18.46	18.35
		12	13	18.28	18.28	18.23
		25	0	18.26	18.62	18.18
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				19965	20175	20385
3MHz	QPSK	1	0	20.27	20.35	20.23
		1	13	20.35	20.35	20.36
		1	24	20.35	20.15	20.39
		12	0	19.28	19.23	19.35
		12	6	19.15	19.10	19.15
		12	13	19.08	19.06	19.10
		25	0	19.10	19.18	19.07
	16QAM	1	0	19.08	18.77	18.62
		1	13	18.62	18.76	18.76
		1	24	18.76	18.77	18.83
		12	0	18.12	18.23	18.03
		12	6	18.12	17.96	18.62
		12	13	18.23	18.46	18.28
		25	0	18.62	18.03	18.18

Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				19975	20175	20375
5MHz	QPSK	1	0	20.27	20.11	20.36
		1	13	20.15	20.14	20.31
		1	24	20.35	20.20	20.20
		12	0	19.13	19.35	19.10
		12	6	19.28	19.28	19.10
		12	13	19.23	19.02	18.97
		25	0	19.18	19.23	19.07
	16QAM	1	0	18.76	19.14	18.85
		1	13	18.85	19.02	18.93
		1	24	18.97	18.83	18.97
		12	0	18.27	18.45	18.37
		12	6	18.37	18.12	18.23
		12	13	18.03	17.96	18.45
		25	0	18.07	18.37	18.28
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				20000	20175	20350
10MHz	QPSK	1	0	20.34	20.17	20.10
		1	13	20.35	20.38	20.17
		1	24	20.32	20.19	20.32
		12	0	19.03	19.08	19.08
		12	6	19.06	18.98	19.04
		12	13	19.00	18.92	19.19
		25	0	19.08	18.88	19.05
	16QAM	1	0	18.72	18.69	18.74
		1	13	18.72	18.78	18.72
		1	24	18.83	18.65	18.82
		12	0	18.34	17.75	18.16
		12	6	18.17	18.06	18.24
		12	13	17.82	18.34	18.41
		25	0	17.97	18.02	18.07

Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				20025	20175	20325
15MHz	QPSK	1	0	20.32	20.29	20.15
		1	13	20.35	20.34	20.11
		1	24	20.27	20.11	20.10
		12	0	19.18	19.00	19.03
		12	6	19.25	18.87	19.00
		12	13	18.87	19.18	19.00
		25	0	19.08	18.97	19.00
	16QAM	1	0	18.69	18.65	18.91
		1	13	18.56	18.74	18.52
		1	24	18.82	18.56	18.65
		12	0	17.74	17.82	18.07
		12	6	18.01	18.02	18.34
		12	13	18.10	17.92	17.97
		25	0	18.05	18.06	17.82
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				20050	20175	20300
20MHz	QPSK	1	0	20.11	20.36	20.18
		1	50	20.51	20.54	20.58
		1	99	20.27	20.31	20.33
		50	0	19.09	19.07	19.13
		50	25	19.18	19.18	19.13
		50	50	19.23	18.97	19.23
		100	0	19.06	19.10	19.18
	16QAM	1	0	18.93	18.93	18.89
		1	50	18.89	19.02	18.89
		1	99	18.80	18.83	18.82
		50	0	18.12	18.55	17.96
		50	25	18.31	18.03	18.13
		50	50	18.22	18.46	18.28
		100	0	18.13	18.31	18.55

LTE BAND 7

Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				20775	21100	21425
5MHz	QPSK	1	0	20.44	20.26	20.34
		1	13	20.25	20.47	20.34
		1	24	20.35	20.25	20.36
		12	0	19.36	19.14	19.32
		12	6	19.12	19.12	19.24
		12	13	19.33	19.24	19.24
		25	0	19.20	19.26	19.24
	16QAM	1	0	18.95	19.00	19.03
		1	13	18.83	19.16	19.02
		1	24	18.79	19.00	19.03
		12	0	18.44	18.14	18.40
		12	6	18.38	18.59	18.59
		12	13	18.60	18.28	18.44
		25	0	18.28	18.40	18.38
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				20800	21100	21400
10MHz	QPSK	1	0	20.31	20.48	20.47
		1	13	20.44	20.28	20.29
		1	24	20.29	20.50	20.24
		12	0	19.17	19.20	19.14
		12	6	19.10	19.26	19.23
		12	13	19.04	19.09	19.15
		25	0	19.30	19.20	19.16
	16QAM	1	0	18.91	18.97	18.77
		1	13	18.95	18.87	18.89
		1	24	18.81	18.91	18.68
		12	0	18.01	18.10	18.00
		12	6	17.97	18.10	18.34
		12	13	18.32	17.93	18.09
		25	0	18.07	18.39	18.04

Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				20825	21100	21375
15MHz	QPSK	1	0	20.24	20.31	20.31
		1	13	20.25	20.25	20.43
		1	24	20.43	20.46	20.28
		12	0	19.10	19.17	19.14
		12	6	18.96	19.26	19.04
		12	13	19.26	19.23	19.07
		25	0	19.23	19.17	19.10
	16QAM	1	0	18.77	19.05	18.77
		1	13	19.05	18.93	18.81
		1	24	18.77	18.77	18.79
		12	0	18.18	18.23	18.18
		12	6	18.11	18.13	17.99
		12	13	18.23	18.39	18.14
		25	0	18.00	17.93	18.04
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				20850	21100	21350
20MHz	QPSK	1	0	20.34	20.44	20.29
		1	50	20.62	20.66	20.62
		1	99	20.34	20.29	20.36
		50	0	19.06	19.27	19.26
		50	25	19.19	19.32	19.25
		50	50	19.27	19.20	19.40
		100	0	19.27	19.14	19.24
	16QAM	1	0	19.08	18.87	19.00
		1	50	18.98	18.98	18.97
		1	99	19.11	18.88	19.02
		50	0	18.31	18.48	18.47
		50	25	18.48	18.18	18.35
		50	50	18.34	18.32	18.38
		100	0	18.39	18.25	18.59

LTE BAND 38

Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				37775	38000	38225
5MHz	QPSK	1	0	22.70	22.62	22.59
		1	13	22.70	22.51	22.76
		1	24	22.69	22.55	22.59
		12	0	21.67	21.47	21.73
		12	6	21.32	21.59	21.30
		12	13	21.30	21.63	21.37
		25	0	21.39	21.40	21.73
	16QAM	1	0	20.96	21.02	21.08
		1	13	21.33	21.02	21.29
		1	24	21.34	21.29	21.08
		12	0	20.45	20.78	20.94
		12	6	20.45	20.78	20.78
		12	13	20.26	20.23	20.23
		25	0	20.23	20.69	20.68
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				37800	38000	38200
10MHz	QPSK	1	0	22.61	22.61	22.70
		1	13	22.71	22.61	22.47
		1	24	22.70	22.61	22.71
		12	0	21.63	21.46	21.57
		12	6	21.48	21.44	21.33
		12	13	21.46	21.26	21.26
		25	0	21.63	21.51	21.29
	16QAM	1	0	21.23	21.22	21.23
		1	13	20.97	21.26	21.18
		1	24	20.81	20.81	20.90
		12	0	20.54	20.55	20.06
		12	6	20.32	20.34	20.53
		12	13	20.83	20.34	20.57
		25	0	20.24	20.12	20.05

Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				37825	38000	38175
15MHz	QPSK	1	0	22.53	22.74	22.70
		1	13	22.70	22.60	22.49
		1	24	22.49	22.49	22.71
		12	0	21.53	21.48	21.29
		12	6	21.51	21.63	21.26
		12	13	21.63	21.46	21.63
		25	0	21.47	21.27	21.53
	16QAM	1	0	20.91	21.18	20.97
		1	13	20.81	21.14	21.18
		1	24	21.44	20.85	21.03
		12	0	20.32	20.12	20.06
		12	6	20.28	20.05	20.82
		12	13	20.57	20.05	20.69
		25	0	20.24	20.40	20.40
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				37850	38000	38150
20MHz	QPSK	1	0	22.54	22.59	22.69
		1	50	22.87	22.88	22.88
		1	99	22.64	22.75	22.71
		50	0	21.63	21.48	21.36
		50	25	21.32	21.62	21.58
		50	50	21.57	21.30	21.48
		100	0	21.32	21.73	21.40
	16QAM	1	0	21.08	21.33	21.25
		1	50	21.29	21.29	21.10
		1	99	21.29	21.54	21.53
		50	0	20.33	20.33	20.27
		50	25	20.27	20.76	20.69
		50	50	20.61	21.04	20.80
		100	0	20.23	20.33	20.45

LTE BAND 41

Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				40065	40640	41215
5MHz	QPSK	1	0	22.58	22.43	22.41
		1	13	22.41	22.44	22.43
		1	24	22.54	22.44	22.43
		12	0	21.29	21.28	21.45
		12	6	21.27	21.57	21.34
		12	13	21.27	21.50	21.32
		25	0	21.50	21.28	21.48
	16QAM	1	0	21.07	21.07	21.12
		1	13	21.22	20.95	21.27
		1	24	21.07	21.38	21.42
		12	0	20.32	20.73	20.22
		12	6	20.25	20.86	20.48
		12	13	20.48	20.32	20.44
		25	0	20.61	20.86	20.50
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				40090	40640	41190
10MHz	QPSK	1	0	22.51	22.43	22.51
		1	13	22.40	22.57	22.54
		1	24	22.54	22.53	22.43
		12	0	21.24	21.35	21.10
		12	6	21.47	21.10	21.10
		12	13	21.11	21.22	21.42
		25	0	21.50	21.30	21.18
	16QAM	1	0	21.31	21.01	21.01
		1	13	20.91	21.27	20.91
		1	24	20.91	21.08	20.86
		12	0	20.33	20.29	20.17
		12	6	20.23	20.18	20.37
		12	13	20.01	20.03	20.17
		25	0	20.18	20.40	20.48

Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				40115	40640	41165
15MHz	QPSK	1	0	22.48	22.46	22.45
		1	13	22.40	22.53	22.46
		1	24	22.51	22.51	22.40
		12	0	21.20	21.34	21.50
		12	6	21.35	21.35	21.17
		12	13	21.30	21.24	21.24
		25	0	21.37	21.47	21.20
	16QAM	1	0	21.08	21.27	20.73
		1	13	21.16	21.27	20.80
		1	24	20.84	21.28	20.88
		12	0	20.11	20.03	20.09
		12	6	20.33	20.70	20.18
		12	13	20.33	19.94	20.40
		25	0	20.18	20.65	20.40
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				40140	40640	41140
20MHz	QPSK	1	0	22.44	22.47	22.58
		1	50	22.78	22.74	22.76
		1	99	22.50	22.54	22.59
		50	0	21.28	21.32	21.57
		50	25	21.20	21.47	21.27
		50	50	21.45	21.34	21.57
		100	0	21.28	21.34	21.44
	16QAM	1	0	21.39	20.84	21.02
		1	50	20.97	21.27	20.91
		1	99	21.07	20.97	20.84
		50	0	20.73	20.24	20.25
		50	25	20.25	20.50	20.48
		50	50	20.38	20.88	20.81
		100	0	20.77	20.54	20.22

LTE Band 66

Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				131979	132322	132665
1.4MHz	QPSK	1	0	20.35	20.24	20.45
		1	13	20.32	20.45	20.31
		1	24	20.32	20.50	20.29
		12	0	19.24	19.45	19.13
		12	6	19.29	19.47	19.19
		12	13	19.22	19.26	19.26
		25	0	19.19	19.19	19.37
	16QAM	1	0	18.89	19.28	19.23
		1	13	18.99	19.22	18.99
		1	24	19.10	18.66	18.89
		12	0	18.31	18.23	18.66
		12	6	18.71	18.72	18.74
		12	13	18.44	18.27	18.22
		25	0	18.65	18.57	18.48
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				131987	132322	132657
3MHz	QPSK	1	0	20.44	20.28	20.45
		1	13	20.51	20.44	20.28
		1	24	20.28	20.50	20.24
		12	0	19.15	19.15	19.03
		12	6	19.15	19.03	19.47
		12	13	19.36	19.26	19.31
		25	0	19.27	19.31	19.26
	16QAM	1	0	19.23	18.96	19.12
		1	13	19.12	18.93	19.28
		1	24	19.17	18.93	19.12
		12	0	18.31	18.57	18.44
		12	6	18.06	18.57	18.57
		12	13	18.27	18.74	18.65
		25	0	18.66	18.31	18.58

Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				131997	132322	132647
5MHz	QPSK	1	0	20.32	20.45	20.51
		1	13	20.51	20.42	20.42
		1	24	20.28	20.31	20.42
		12	0	19.27	19.03	19.13
		12	6	19.15	19.24	19.37
		12	13	19.43	19.45	19.16
		25	0	19.30	19.47	19.15
	16QAM	1	0	18.99	19.12	19.07
		1	13	18.96	19.22	18.89
		1	24	19.28	18.99	19.18
		12	0	18.71	18.22	18.65
		12	6	18.27	18.48	17.96
		12	13	18.44	18.35	18.77
		25	0	18.48	18.57	18.77
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				132022	132322	132622
10MHz	QPSK	1	0	20.27	20.51	20.34
		1	13	20.27	20.27	20.36
		1	24	20.23	20.26	20.26
		12	0	19.16	19.27	19.05
		12	6	19.24	19.28	19.05
		12	13	18.93	19.03	19.21
		25	0	19.05	19.28	19.35
	16QAM	1	0	19.13	19.01	18.81
		1	13	18.78	18.88	18.64
		1	24	18.88	19.11	18.99
		12	0	18.11	18.12	18.51
		12	6	18.18	18.14	17.85
		12	13	18.50	18.10	18.44
		25	0	18.23	18.23	18.51

Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				132047	132322	132597
15MHz	QPSK	1	0	20.50	20.39	20.49
		1	13	20.28	20.44	20.27
		1	24	20.49	20.30	20.23
		12	0	19.26	19.24	19.21
		12	6	19.21	19.03	19.35
		12	13	19.35	19.19	19.26
		25	0	19.33	19.09	19.35
	16QAM	1	0	18.78	18.96	19.01
		1	13	18.88	18.64	18.81
		1	24	19.13	19.15	18.74
		12	0	18.20	18.02	18.27
		12	6	18.38	18.01	18.23
		12	13	18.50	18.45	18.18
		25	0	18.38	18.53	18.51
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				132072	132322	132572
20MHz	QPSK	1	0	20.28	20.28	20.32
		1	50	20.68	20.66	20.63
		1	99	20.32	20.50	20.28
		50	0	19.03	19.16	19.24
		50	25	19.13	19.30	19.45
		50	50	19.37	19.27	19.45
		100	0	19.29	19.24	19.26
	16QAM	1	0	19.07	19.07	18.89
		1	50	18.92	18.96	19.24
		1	99	18.92	19.07	18.75
		50	0	18.41	18.72	18.57
		50	25	18.66	18.35	18.77
		50	50	18.48	18.44	17.96
		100	0	18.72	18.27	18.65

WIFI Original power :

Chain 2

802.11b AVERAGE CONDUCTED POWER (dBm)					
Channel	Frequency (MHz)	Data Rate (Mbps)			
		1	2	5.5	11
CH 01	2,412	17.58	17.46	17.41	17.30
CH 06	2,437	18.01	17.67	17.64	17.70
CH 11	2,462	17.31	17.01	16.67	16.65

802.11g AVERAGE CONDUCTED POWER (dBm)									
Channel	Frequency (MHz)	Data Rate (Mbps)							
		6	9	12	18	24	36	48	54
CH 01	2,412	12.77	12.02	12.07	11.99	11.91	11.79	11.57	11.45
CH 06	2,437	16.37	16.18	16.15	16.21	16.26	15.93	15.65	15.50
CH 11	2,462	7.5	7.33	7.28	7.08	7.13	7.03	6.65	6.51

802.11n-HT20 AVERAGE CONDUCTED POWER (dBm)									
Channel	Frequency (MHz)	Data Rate							
		MCS 0	MCS 1	MCS 2	MCS 3	MCS 4	MCS 5	MCS 6	MCS 7
CH 01	2,412	10.1	10.05	9.62	9.43	8.59	8.04	7.69	7.44
CH 06	2,437	15.65	15.61	15.34	15.19	14.35	13.88	13.56	13.28
CH 11	2,462	7.79	7.80	7.56	6.97	6.20	5.65	5.36	5.22

BT

Bluetooth 2.4GHz Band Conducted Power		
Channel	Frequency(MHz)	Average Power (dBm)
CH 0	2,402	9.73
CH 39	2,441	10.49
CH 78	2,480	10.58

BLE2.4GHz Band Conducted Power		
Channel	Frequency(MHz)	Average Power (dBm)
CH 0	2,402	4.67
CH 20	2,441	5.08
CH 39	2,480	5.46

WIFI Power reduction (Head)

802.11b AVERAGE CONDUCTED POWER (dBm)					
Channel	Frequency (MHz)	Data Rate (Mbps)			
		1	2	5.5	11
CH 01	2,412	11.23	11.11	11.06	10.95
CH 06	2,437	11.39	11.05	11.02	11.08
CH 11	2,462	11.21	10.91	10.57	10.55

802.11g AVERAGE CONDUCTED POWER (dBm)									
Channel	Frequency (MHz)	Data Rate (Mbps)							
		6	9	12	18	24	36	48	54
CH 01	2,412	10.82	10.07	10.12	10.04	9.96	9.84	9.62	9.50
CH 06	2,437	10.92	10.73	10.70	10.76	10.81	10.48	10.20	10.05
CH 11	2,462	7.5	7.33	7.28	7.08	7.13	7.03	6.65	6.51

802.11n-HT20 AVERAGE CONDUCTED POWER (dBm)									
Channel	Frequency (MHz)	Data Rate							
		MCS 0	MCS 1	MCS 2	MCS 3	MCS 4	MCS 5	MCS 6	MCS 7
CH 01	2,412	10.1	9.37	9.34	9.28	9.15	8.93	8.81	8.45
CH 06	2,437	10.35	10.23	10.24	10.08	9.98	9.62	9.53	9.34
CH 11	2,462	7.79	7.58	7.35	7.47	7.34	7.01	6.79	6.42

WIFI Power reduction (Body)

802.11b AVERAGE CONDUCTED POWER (dBm)					
Channel	Frequency (MHz)	Data Rate (Mbps)			
		1	2	5.5	11
CH 01	2,412	13.56	13.44	13.39	13.28
CH 06	2,437	13.62	13.28	13.25	13.31
CH 11	2,462	13.53	13.23	12.89	12.87

802.11g AVERAGE CONDUCTED POWER (dBm)									
Channel	Frequency (MHz)	Data Rate (Mbps)							
		6	9	12	18	24	36	48	54
CH 01	2,412	13.56	12.81	12.86	12.78	12.70	12.58	12.36	12.24
CH 06	2,437	13.62	13.43	13.40	13.46	13.51	13.18	12.90	12.75
CH 11	2,462	13.53	13.36	13.31	13.11	13.16	13.06	12.68	12.54

802.11n-HT20 AVERAGE CONDUCTED POWER (dBm)									
Channel	Frequency (MHz)	Data Rate							
		MCS 0	MCS 1	MCS 2	MCS 3	MCS 4	MCS 5	MCS 6	MCS 7
CH 01	2,412	10.1	9.37	9.34	9.28	9.15	8.93	8.81	8.45
CH 06	2,437	13.55	13.43	13.44	13.28	13.18	12.82	12.73	12.54
CH 11	2,462	7.79	7.58	7.35	7.47	7.34	7.01	6.79	6.42

Remark:

Output Power Measurement Considerations for Wi-Fi 2.4 GHz band

1. 2.4 GHz 802.11b DSSS:

- Output power measurement is not required:

o When SAR Test Exclusion according to KDB 447498 D01 applies.

o When other power measurement reduction applies.

- Otherwise, output power measurement is required on:

o Channels 1, 6, and 11, when the output power specified for other channels is no higher than the abovementioned channels.

o The closest adjacent channels to the aforementioned channels, when the output power specified for these adjacent channels is higher.

- For ease of identification, 802.11b DSSS is identified as the Initial Test Configuration for the 2.4 GHz band.

2. 2.4 GHz 802.11g/n OFDM

- Output power measurement is not required:

o When SAR Test Exclusion according to KDB 447498 D01 applies.

o When SAR Test Exclusion procedures for 2.4 GHz 802.11g/n OFDM applies, according to the SAR measurement results from 802.11b DSSS; see Section 11 of the report for details.

- Otherwise, output power measurement is required for 2.4 GHz 802.11g/n OFDM, with the following considerations:

o If 40 MHz bandwidth configurations are supported, measure power for either Channel 6 or the highest specified output power channel.

o Output power measurement requirements for smaller bandwidth configurations are dependent on the SAR measurement results from the 40 MHz bandwidth configurations.

o If no 40 MHz bandwidth configurations are supported, then a channel selection process similar to 802.11b DSSS is applied.

- The output power measurement is required for 2.4 GHz 802.11g/n OFDM as a result of 802.11b DSSS reported SAR results, the required test configurations in 2.4 GHz 802.11g/n OFDM are identified as Subsequent Test Configurations with respect to the Initial Test Configuration status assigned to 802.11b DSSS.

- If, for a particular antenna or transmit diversity condition supported by the device, no 802.11b DSSS configurations are available, output power should also be measured as a default for

802.11g/n OFDM when SAR Test Exclusion according to KDB 447498 D01 does not apply; these 802.11g/n OFDM configurations are considered the Initial Test Configurations for the respective antenna/transmit diversity condition.

Initial Test Position SAR Test Reduction

For both DSSS and OFDM wireless modes, when an Initial Test Configuration is found to require SAR measurements, an Initial Test Position is established for each applicable exposure configuration (Head, Body, etc.) using either:

- Design implementation details from the manufacturer, or
- Investigative results by the test lab, obtained by performing area scans on the Initial Test Configuration for all applicable test positions and identifying the highest measured SAR from the area scan-only measurements.

Complete SAR scans are then performed on the established Initial Test Position on each exposure configuration, using the Initial Test Configuration. When the reported SAR for this Initial Test Position is: - ≤ 0.4 W/kg, further SAR measurement is not required for the other test positions in the exposure configuration and wireless mode combination within the frequency band or aggregated band. - > 0.4 W/kg, SAR is repeated using the same wireless mode test configuration tested in the initial test position to measure the subsequent next closest/smallest test separation distance and maximum coupling test position, on the highest maximum output power channel until the reported SAR is ≤ 0.8 W/kg or all required test positions are tested.

- For all positions/configurations tested using the initial test position and subsequent test positions, when the reported SAR is > 0.8 W/kg, measure the SAR for these test positions/configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required test channels are considered.

12.2. SAR measurement Results

General Notes:

1) Per KDB447498 D01v06, all measurement SAR results are scaled to the maximum tune-up tolerance limit to demonstrate compliant.
2) Per KDB447498 D01v06, testing of other required channels within the operating mode of a frequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is :≤0.8 W/kg or 2.0W/kg, for 1-g or 10-g respectively, when the transmission band is ≤100MHz. When the maximum output power variation across the required test channels is >1/2 dB, instead of the middle channel, the highest output power channel must be used.
3) Per KDB865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measure SAR is ≥0.8W/kg; if the deviation among the repeated measurement is ≤20%, and the measured SAR<1.45W/kg, only one repeated measurement is required.
4) Per KDB 941225 D06 Hotspot Mode SAR v02:r01, the DUT dimension is bigger than 9cm*5cm, so 10mm is chosen as the test separation distance for Hotspot mode. When the antenna-to-edge distance is greater than 2.5cm, such position does not need to be tested.
5) Per KDB648474 D04v01r03, SAR is evaluated without a headset connected to the device. When the standalone reported body-worn SAR is ≤1.2W/kg, no additional SAR evaluations using a headset are required.
6) Per KDB865664 D02v01r02, SAR plot is only required for the highest measured SAR in each exposure configuration, wireless mode and frequency band combination; plots are also required when the measured SAR is >1.5W/kg, or >7.0W/kg for occupational exposure. The published RF exposure KDB procedures may require additional plots; for example, to support SAR to peak location separation ratio test exclusion and/or volume scan plots-processing (refer to appendix B for details).

GSM Notes:

Per KDB941225 D01v03r01, SAR test reduction for GPRS and EDGE modes is determined by the source-based time-averaged output power specified for production units, including tune-up tolerance. 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 and tolerance, the higher number time-slot configuration should be tested.

UMTS Notes:

Per KDB 941225 D01v03r01, when maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤1/4dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤1.2 W/kg, SAR measurement is not required for the secondary mode..

Per KDB941225 D01v03, SAR is required for Rel. 8 DC-HSDPA when SAR is required for Rel. 5 HSDPA; otherwise, the 3G SAR test reduction procedure is applied to DC-HSDPA with 12.2 kbps RMC as the primary mode. Power is measured for DC-HSDPA according to the H-Set 12, FRC configuration in Table C.8.1.12 of 3GPP TS 34.121-1 to determine SAR test reduction. A primary and a secondary serving HS-DSCH Cell are required to perform the power measurement and for the results to be acceptable.

LTE Notes:

7) 1. Per KDB 941225 D05v02r05, 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 theupper edge, middle and lower edge of each required test channel.

8) 2. Per KDB 941225 D05v02r05, 50% RB alocation for QPSK SAR testing fllows 1RB QPSK allocation procedure.

9) 3. Per KDB 941225 D05v02r05, For QPSK with 100% RB alocation, 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

10) reported SAR for 1 RB and 50% RB allocation are≤0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 Wlkg, the remaining required test channels must also be tested.

11) 4. Per KDB 941225 D05v02r05, 16QAM output power for each RB allocation configuration is > not Vs dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is≤1.45 W/kg; Per KDB 941225 D05v02r05,16QAM SAR testing is not required.

12) 5. Per KDB 941225 D05v02r05, Smaller bandwidth output power for each RB alocation configuration is > not % dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is≤1.45 Wlkg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.

13) 6. ForLTEB41B5/B12/B17 1 B26 1 B381 B71 the maximum bandwidth does not support three non-overlapping channels,per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration,the middle channel of the group of overlapping channels should be selected for testing.

14) 7. LTE band 2/4/17/38 SAR test was covered by Band 25/66/12/41; according to TCB workshop, SAR test for overlapping LTE bands can be reduced if

15) a. The maximum output power, including tolerance, for the smaller band is≤the larger band to qualify for the SAR test exclusion.The channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band.

WLAN Notes

Per KDB 248227 D01v02r02, for all positions/configurations tested using the initial test position and subsequent test positions, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.

Per KDB 248227 D01v02r02, for 802.11g/n SAR testing is required. When the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is > 1.2 W/kg.

Per KDB 248227 D01v02r02, for OFDM transmission configurations in the 2.4 GHz bands, When the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11g/n mode is used for SAR measurement, on the highest measured output power channel for each frequency band.

12.3. GSM850 SAR results

Configuration	Power Level	Mode	Position	Dist.(mm)	Ch.	Freq.(MHz)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Meas SAR (W/kg)	1g Scaled SAR (W/kg)
Ant0	original Power	GSM (CS)	Left Cheek	0	190	836.6	32.39	33.5	1.291	0.170	0.220
	original Power	GSM (CS)	Left Tilt	0	190	836.6	32.39	33.5	1.291	0.113	0.146
	original Power	GSM (CS)	Right Cheek	0	190	836.6	32.39	33.5	1.291	0.171	0.222
	original Power	GSM (CS)	Right Tilt	0	190	836.6	32.39	33.5	1.291	0.116	0.150
	original Power	GSM (CS)	Right Cheek	0	128	824.2	32.47	33.5	1.268	0.177	0.224
	original Power	GSM (CS)	Right Cheek	0	251	848.8	32.35	33.5	1.303	0.170	0.222
Ant0	original Power	GPRS/EDGE (GMSK, 2 Tx slots)	Front	10	190	836.6	30.73	31.5	1.194	0.208	0.248
	original Power	GPRS/EDGE (GMSK, 2 Tx slots)	Back	10	190	836.6	30.73	31.5	1.194	0.307	0.367
	original Power	GPRS/EDGE (GMSK, 2 Tx slots)	Left	10	190	836.6	30.73	31.5	1.194	0.177	0.211
	original Power	GPRS/EDGE (GMSK, 2 Tx slots)	Right	10	190	836.6	30.73	31.5	1.194	0.249	0.297
	original Power	GPRS/EDGE (GMSK, 2 Tx slots)	Top	10	190	836.6	30.73	31.5	1.194	0.066	0.079
	original Power	GPRS/EDGE (GMSK, 2 Tx slots)	Bottom	10	190	836.6	30.73	31.5	1.194	0.238	0.284
	original Power	GPRS/EDGE (GMSK, 2 Tx slots)	Back	10	128	824.2	30.88	31.5	1.153	0.300	0.346
	original Power	GPRS/EDGE (GMSK, 2 Tx slots)	Back	10	251	848.8	30.67	31.5	1.211	0.300	0.363
Ant0	original Power	GPRS/EDGE (GMSK, 2 Tx slots)	Front	15	190	836.6	30.73	31.5	1.194	0.201	0.240
	original Power	GPRS/EDGE (GMSK, 2 Tx slots)	Back	15	190	836.6	30.73	31.5	1.194	0.214	0.256
	original Power	GPRS/EDGE (GMSK, 2 Tx slots)	Back	15	128	824.2	30.88	31.5	1.153	0.221	0.255
	original Power	GPRS/EDGE (GMSK, 2 Tx slots)	Back	15	251	848.8	30.67	31.5	1.211	0.205	0.248

12.4. PCS1900 SAR results

Configuration	Power Level	Mode	Position	Dist.(mm)	Ch.	Freq.(MHz)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Meas SAR (W/kg)	1g Scaled SAR (W/kg)
Ant0	original Power	GSM (CS)	Left Cheek	0	661	1880	29.47	30.5	1.268	0.052	0.066
	original Power	GSM (CS)	Left Tilt	0	661	1880	29.47	30.5	1.268	0.013	0.016
	original Power	GSM (CS)	Right Cheek	0	661	1880	29.47	30.5	1.268	0.046	0.058
	original Power	GSM (CS)	Right Tilt	0	661	1880	29.47	30.5	1.268	0.011	0.014
	original Power	GSM (CS)	Left Cheek	0	513	1850.4	29.35	30.5	1.303	0.047	0.061
	original Power	GSM (CS)	Left Cheek	0	810	1909.8	29.61	30.5	1.227	0.050	0.061
Ant0	original Power	GPRS/EDGE (GMSK, 2 Tx slots)	Front	10	661	1880	27.61	28.5	1.227	0.191	0.234
	original Power	GPRS/EDGE (GMSK, 2 Tx slots)	Back	10	661	1880	27.61	28.5	1.227	0.356	0.437
	original Power	GPRS/EDGE (GMSK, 2 Tx slots)	Left	10	661	1880	27.61	28.5	1.227	0.115	0.141
	original Power	GPRS/EDGE (GMSK, 2 Tx slots)	Right	10	661	1880	27.61	28.5	1.227	0.041	0.050
	original Power	GPRS/EDGE (GMSK, 2 Tx slots)	Top	10	661	1880	27.61	28.5	1.227	0.140	0.172
	original Power	GPRS/EDGE (GMSK, 2 Tx slots)	Bottom	10	661	1880	27.61	28.5	1.227	0.486	0.597
	original Power	GPRS/EDGE (GMSK, 2 Tx slots)	Bottom	10	513	1850.4	27.45	28.5	1.274	0.499	0.635
	original Power	GPRS/EDGE (GMSK, 2 Tx slots)	Bottom	10	810	1909.8	27.74	28.5	1.191	0.426	0.507
Ant0	original Power	GPRS/EDGE (GMSK, 2 Tx slots)	Front	15	661	1880	27.61	28.5	1.227	0.110	0.135
	original Power	GPRS/EDGE (GMSK, 2 Tx slots)	Back	15	661	1880	27.61	28.5	1.227	0.167	0.205
	original Power	GPRS/EDGE (GMSK, 2 Tx slots)	Back	15	513	1850.4	27.45	28.5	1.274	0.160	0.204
	original Power	GPRS/EDGE (GMSK, 2 Tx slots)	Back	15	810	1909.8	27.74	28.5	1.191	0.157	0.187

12.5. WCDMA II SAR results

Configuration	Power Level	Mode	Position	Dist.(mm)	Ch.	Freq.(MHz)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Meas SAR (W/kg)	1g Scaled SAR (W/kg)
Ant0	original Power	RMC	Left Cheek	0	9400	1880	22.99	24.0	1.262	0.089	0.112
	original Power	RMC	Left Tilt	0	9400	1880	22.99	24.0	1.262	0.050	0.063
	original Power	RMC	Right Cheek	0	9400	1880	22.99	24.0	1.262	0.085	0.107
	original Power	RMC	Right Tilt	0	9400	1880	22.99	24.0	1.262	0.044	0.056
	original Power	RMC	Left Cheek	0	9262	1852.4	23.17	24.0	1.211	0.097	0.117
	original Power	RMC	Left Cheek	0	9538	1907.6	23.07	24.0	1.239	0.079	0.098
Ant0	Power reduction	RMC	Front	10	9400	1880	19.98	21.0	1.265	0.069	0.087
	Power reduction	RMC	Back	10	9400	1880	19.98	21.0	1.265	0.148	0.187
	Power reduction	RMC	Left	10	9400	1880	19.98	21.0	1.265	0.050	0.063
	Power reduction	RMC	Right	10	9400	1880	19.98	21.0	1.265	0.010	0.013
	Power reduction	RMC	Top	10	9400	1880	19.98	21.0	1.265	0.005	0.006
	Power reduction	RMC	Bottom	10	9400	1880	19.98	21.0	1.265	0.205	0.259
	Power reduction	RMC	Bottom	10	9262	1852.4	20.24	21.0	1.191	0.256	0.305
	Power reduction	RMC	Bottom	10	9538	1907.6	20.01	21.0	1.256	0.222	0.279
Ant0	Power reduction	RMC	Front	15	9400	1880	19.98	21.0	1.265	0.047	0.059
	Power reduction	RMC	Back	15	9400	1880	19.98	21.0	1.265	0.099	0.125
	Power reduction	RMC	Back	15	9262	1852.4	20.24	21.0	1.191	0.114	0.136
	Power reduction	RMC	Back	15	9538	1907.6	20.01	21.0	1.256	0.099	0.124

12.6. WCDMA IV SAR results

Configuration	Power Level	Mode	Position	Dist.(mm)	Ch.	Freq.(MHz)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Meas SAR (W/kg)	1g Scaled SAR (W/kg)
Ant0	original Power	RMC	Left Cheek	0	1412	1732.4	23.38	24.0	1.153	0.123	0.142
	original Power	RMC	Left Tilt	0	1412	1732.4	23.38	24.0	1.153	0.054	0.062
	original Power	RMC	Right Cheek	0	1412	1732.4	23.38	24.0	1.153	0.165	0.190
	original Power	RMC	Right Tilt	0	1412	1732.4	23.38	24.0	1.153	0.012	0.014
	original Power	RMC	Right Cheek	0	1312	1712.4	23.46	24.0	1.132	0.187	0.212
	original Power	RMC	Right Cheek	0	1513	1752.6	23.50	24.0	1.122	0.166	0.186
Ant0	Power reduction	RMC	Front	10	1412	1732.4	20.38	21.0	1.153	0.161	0.186
	Power reduction	RMC	Back	10	1412	1732.4	20.38	21.0	1.153	0.308	0.355
	Power reduction	RMC	Left	10	1412	1732.4	20.38	21.0	1.153	0.079	0.091
	Power reduction	RMC	Right	10	1412	1732.4	20.38	21.0	1.153	0.014	0.016
	Power reduction	RMC	Top	10	1412	1732.4	20.38	21.0	1.153	0.006	0.007
	Power reduction	RMC	Bottom	10	1412	1732.4	20.38	21.0	1.153	0.329	0.379
	Power reduction	RMC	Bottom	10	1312	1712.4	20.39	21.0	1.151	0.444	0.511
	Power reduction	RMC	Bottom	10	1513	1752.6	20.43	21.0	1.140	0.357	0.407
Ant0	Power reduction	RMC	Front	15	1412	1732.4	20.38	21.0	1.153	0.082	0.095
	Power reduction	RMC	Back	15	1412	1732.4	20.38	21.0	1.153	0.165	0.190
	Power reduction	RMC	Back	15	1312	1712.4	20.39	21.0	1.151	0.232	0.267
	Power reduction	RMC	Back	15	1513	1752.6	20.43	21.0	1.140	0.190	0.217

12.7. WCDMA V SAR results

Configuration	Power Level	Mode	Position	Dist.(mm)	Ch.	Freq.(MHz)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Meas SAR (W/kg)	1g Scaled SAR (W/kg)
Ant0	original Power	RMC	Left Cheek	0	4175	835	23.65	24.5	1.216	0.205	0.249
	original Power	RMC	Left Tilt	0	4175	835	23.65	24.5	1.216	0.106	0.129
	original Power	RMC	Right Cheek	0	4175	835	23.65	24.5	1.216	0.198	0.241
	original Power	RMC	Right Tilt	0	4175	835	23.65	24.5	1.216	0.132	0.161
	original Power	RMC	Left Cheek	0	4133	826.6	23.80	24.5	1.175	0.200	0.235
	original Power	RMC	Left Cheek	0	4232	846.4	23.60	24.5	1.230	0.177	0.218
Ant0	original Power	RMC	Front	10	4175	835	23.65	24.5	1.216	0.147	0.179
	original Power	RMC	Back	10	4175	835	23.65	24.5	1.216	0.241	0.293
	original Power	RMC	Left	10	4175	835	23.65	24.5	1.216	0.111	0.135
	original Power	RMC	Right	10	4175	835	23.65	24.5	1.216	0.151	0.184
	original Power	RMC	Top	10	4175	835	23.65	24.5	1.216	0.057	0.069
	original Power	RMC	Bottom	10	4175	835	23.65	24.5	1.216	0.186	0.226
	original Power	RMC	Back	10	4133	826.6	23.80	24.5	1.175	0.216	0.254
	original Power	RMC	Back	10	4232	846.4	23.60	24.5	1.230	0.222	0.273
Ant0	original Power	RMC	Front	15	4175	835	23.65	24.5	1.216	0.152	0.185
	original Power	RMC	Back	15	4175	835	23.65	24.5	1.216	0.178	0.216
	original Power	RMC	Back	15	4133	826.6	23.80	24.5	1.175	0.212	0.249
	original Power	RMC	Back	15	4232	846.4	23.60	24.5	1.230	0.161	0.198

12.8. LTE Band 2 SAR results

Configuration	Power Level	BW	Modulation	RB Num	RB Start	Position	Dist. mm	Ch.	Freq. (MHz)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Meas SAR (W/kg)	1g Scaled SAR (W/kg)
Ant0	original Power	20MHz	QPSK	1	50	Left Cheek	0	18900	1880	23.16	24.0	1.213	0.087	0.106
	original Power	20MHz	QPSK	1	50	Left Tilt	0	18900	1880	23.16	24.0	1.213	0.056	0.068
	original Power	20MHz	QPSK	1	50	Right Cheek	0	18900	1880	23.16	24.0	1.213	0.090	0.109
	original Power	20MHz	QPSK	1	50	Right Tilt	0	18900	1880	23.16	24.0	1.213	0.045	0.055
	original Power	20MHz	QPSK	1	50	Right Cheek	0	18700	1860	23.19	24.0	1.205	0.094	0.113
	original Power	20MHz	QPSK	1	50	Right Cheek	0	19100	1900	23.18	24.0	1.208	0.081	0.098
Ant0	Power reduction	20MHz	QPSK	1	50	Front	10	18900	1880	20.13	21.0	1.222	0.073	0.089
	Power reduction	20MHz	QPSK	1	50	Back	10	18900	1880	20.13	21.0	1.222	0.202	0.247
	Power reduction	20MHz	QPSK	1	50	Left	10	18900	1880	20.13	21.0	1.222	0.053	0.065
	Power reduction	20MHz	QPSK	1	50	Right	10	18900	1880	20.13	21.0	1.222	0.015	0.018
	Power reduction	20MHz	QPSK	1	50	Top	10	18900	1880	20.13	21.0	1.222	0.010	0.012
	Power reduction	20MHz	QPSK	1	50	Bottom	10	18900	1880	20.16	21.0	1.213	0.189	0.229
	Power reduction	20MHz	QPSK	1	50	Back	10	18700	1860	20.16	21.0	1.213	0.248	0.301
Ant0	Power reduction	20MHz	QPSK	1	50	Front	15	18900	1880	20.13	21.0	1.222	0.049	0.060
	Power reduction	20MHz	QPSK	1	50	Back	15	18900	1880	20.13	21.0	1.222	0.095	0.116
	Power reduction	20MHz	QPSK	1	50	Back	15	18700	1860	20.16	21.0	1.213	0.097	0.118
	Power reduction	20MHz	QPSK	1	50	Back	15	19100	1900	20.16	21.0	1.213	0.092	0.112

12.9. LTE Band 4 SAR results

Configuration	Power Level	BW	Modulation	RB Num	RB Start	Position	Dist. mm	Ch.	Freq. (MHz)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Meas SAR (W/kg)	1g Scaled SAR (W/kg)
Ant0	original Power	20MHz	QPSK	1	50	Left Cheek	0	20175	1732.5	23.01	24.0	1.256	0.131	0.165
	original Power	20MHz	QPSK	1	50	Left Tilt	0	20175	1732.5	23.01	24.0	1.256	0.067	0.084
	original Power	20MHz	QPSK	1	50	Right Cheek	0	20175	1732.5	23.01	24.0	1.256	0.163	0.205
	original Power	20MHz	QPSK	1	50	Right Tilt	0	20175	1732.5	23.01	24.0	1.256	0.011	0.014
	original Power	20MHz	QPSK	1	50	Right Cheek	0	20050	1720	23.02	24.0	1.253	0.162	0.203
	original Power	20MHz	QPSK	1	50	Right Cheek	0	20300	1745	22.97	24.0	1.268	0.139	0.176
Ant0	Power reduction	20MHz	QPSK	1	50	Front	10	20175	1732.5	20.54	21.5	1.247	0.181	0.226
	Power reduction	20MHz	QPSK	1	50	Back	10	20175	1732.5	20.54	21.5	1.247	0.372	0.464
	Power reduction	20MHz	QPSK	1	50	Left	10	20175	1732.5	20.54	21.5	1.247	0.076	0.095
	Power reduction	20MHz	QPSK	1	50	Right	10	20175	1732.5	20.54	21.5	1.247	0.014	0.017
	Power reduction	20MHz	QPSK	1	50	Top	10	20175	1732.5	20.54	21.5	1.247	0.007	0.009
	Power reduction	20MHz	QPSK	1	50	Bottom	10	20175	1732.5	20.54	21.5	1.247	0.304	0.379
	Power reduction	20MHz	QPSK	1	50	Back	10	20050	1720	20.51	21.5	1.256	0.406	0.510
	Power reduction	20MHz	QPSK	1	50	Back	10	20300	1745	20.58	21.5	1.236	0.361	0.446
Ant0	Power reduction	20MHz	QPSK	1	50	Front	15	20175	1732.5	20.54	21.5	1.247	0.095	0.119
	Power reduction	20MHz	QPSK	1	50	Back	15	20175	1732.5	20.54	21.5	1.247	0.186	0.232
	Power reduction	20MHz	QPSK	1	50	Back	15	20050	1720	20.51	21.5	1.256	0.193	0.242
	Power reduction	20MHz	QPSK	1	50	Back	15	20300	1745	20.58	21.5	1.236	0.181	0.224

12.10. LTE Band 5 SAR results

Configuration	Power Level	BW	Modulation	RB Num	RB Start	Position	Dist. mm	Ch.	Freq. (MHz)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Meas SAR (W/kg)	1g Scaled SAR (W/kg)
Ant0	original Power	10MHz	QPSK	1	13	Left Cheek	0	20525	836.5	23.72	24.5	1.197	0.218	0.261
	original Power	10MHz	QPSK	1	13	Left Tilt	0	20525	836.5	23.72	24.5	1.197	0.097	0.116
	original Power	10MHz	QPSK	1	13	Right Cheek	0	20525	836.5	23.72	24.5	1.197	0.207	0.248
	original Power	10MHz	QPSK	1	13	Right Tilt	0	20525	836.5	23.72	24.5	1.197	0.153	0.183
	original Power	10MHz	QPSK	1	13	Left Cheek	0	20450	829	23.72	24.5	1.197	0.203	0.243
	original Power	10MHz	QPSK	1	13	Left Cheek	0	20600	844	23.72	24.5	1.197	0.184	0.220
Ant0	original Power	10MHz	QPSK	1	13	Front	10	20525	836.5	23.72	24.5	1.197	0.157	0.188
	original Power	10MHz	QPSK	1	13	Back	10	20525	836.5	23.72	24.5	1.197	0.189	0.226
	original Power	10MHz	QPSK	1	13	Left	10	20525	836.5	23.72	24.5	1.197	0.123	0.147
	original Power	10MHz	QPSK	1	13	Right	10	20525	836.5	23.72	24.5	1.197	0.164	0.196
	original Power	10MHz	QPSK	1	13	Top	10	20525	836.5	23.72	24.5	1.197	0.062	0.074
	original Power	10MHz	QPSK	1	13	Bottom	10	20525	836.5	23.72	24.5	1.197	0.139	0.166
	original Power	10MHz	QPSK	1	13	Back	10	20450	829	23.72	24.5	1.197	0.198	0.237
	original Power	10MHz	QPSK	1	13	Back	10	20600	844	23.72	24.5	1.197	0.192	0.230
Ant0	original Power	10MHz	QPSK	1	13	Front	0	20525	836.5	23.72	24.5	1.197	0.147	0.176
	original Power	10MHz	QPSK	1	13	Back	0	20525	836.5	23.72	24.5	1.197	0.179	0.214
	original Power	10MHz	QPSK	1	13	Back	0	20450	829	23.72	24.5	1.197	0.193	0.231
	original Power	10MHz	QPSK	1	13	Back	0	20600	844	23.72	24.5	1.197	0.159	0.190

12.11. LTE Band7 SAR results

Configuration	Power Level	BW	Modulation	RB Num	RB Start	Position	Dist. mm	Ch.	Freq. (MHz)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Meas SAR (W/kg)	1g Scaled SAR (W/kg)
Ant0	original Power	20MHz	QPSK	1	50	Left Cheek	0	21100	2535	22.70	23.5	1.202	0.015	0.018
	original Power	20MHz	QPSK	1	50	Left Tilt	0	21100	2535	22.70	23.5	1.202	0.005	0.006
	original Power	20MHz	QPSK	1	50	Right Cheek	0	21100	2535	22.70	23.5	1.202	0.049	0.059
	original Power	20MHz	QPSK	1	50	Right Tilt	0	21100	2535	22.70	23.5	1.202	0.010	0.012
	original Power	20MHz	QPSK	1	50	Right Cheek	0	20850	2510	22.73	23.5	1.194	0.058	0.069
	original Power	20MHz	QPSK	1	50	Right Cheek	0	21350	2560	22.67	23.5	1.211	0.042	0.051
Ant0	Power reduction	20MHz	QPSK	1	50	Front	10	21100	2535	20.66	21.5	1.213	0.161	0.195
	Power reduction	20MHz	QPSK	1	50	Back	10	21100	2535	20.66	21.5	1.213	0.322	0.391
	Power reduction	20MHz	QPSK	1	50	Left	10	21100	2535	20.66	21.5	1.213	0.012	0.015
	Power reduction	20MHz	QPSK	1	50	Right	10	21100	2535	20.66	21.5	1.213	0.043	0.052
	Power reduction	20MHz	QPSK	1	50	Top	10	21100	2535	20.66	21.5	1.213	0.008	0.010
	Power reduction	20MHz	QPSK	1	50	Bottom	10	21100	2535	20.66	21.5	1.213	0.461	0.559
	Power reduction	20MHz	QPSK	1	50	Bottom	10	20850	2510	20.62	21.5	1.225	0.511	0.626
	Power reduction	20MHz	QPSK	1	50	Bottom	10	21350	2560	20.62	21.5	1.225	0.451	0.552
Ant0	Power reduction	20MHz	QPSK	1	50	Front	15	21100	2535	20.66	21.5	1.213	0.099	0.120
	Power reduction	20MHz	QPSK	1	50	Back	15	21100	2535	20.66	21.5	1.213	0.195	0.237
	Power reduction	20MHz	QPSK	1	50	Back	15	20850	2510	20.62	21.5	1.225	0.244	0.299
	Power reduction	20MHz	QPSK	1	50	Back	15	21350	2560	20.62	21.5	1.225	0.182	0.223

12.12. LTE Band13 SAR results

Configuration	Power Level	BW	Modulation	RB Num	RB Start	Position	Dist. mm	Ch.	Freq. (MHz)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Meas SAR (W/kg)	1g Scaled SAR (W/kg)
Ant0	original Power	10MHz	QPSK	1	13	Left Cheek	0	23230	782	23.35	24.5	1.303	0.092	0.120
	original Power	10MHz	QPSK	1	13	Left Tilt	0	23230	782	23.35	24.5	1.303	0.054	0.070
	original Power	10MHz	QPSK	1	13	Right Cheek	0	23230	782	23.35	24.5	1.303	0.107	0.139
	original Power	10MHz	QPSK	1	13	Right Tilt	0	23230	782	23.35	24.5	1.303	0.063	0.082
	original Power	10MHz	QPSK	1	13	Right Cheek	0	23230	782	23.32	24.5	1.312	0.095	0.125
	original Power	10MHz	QPSK	1	13	Right Cheek	0	23230	782	23.33	24.5	1.309	0.092	0.120
Ant0	original Power	10MHz	QPSK	1	13	Front	10	23230	782	23.35	24.5	1.303	0.074	0.096
	original Power	10MHz	QPSK	1	13	Back	10	23230	782	23.35	24.5	1.303	0.101	0.132
	original Power	10MHz	QPSK	1	13	Left	10	23230	782	23.35	24.5	1.303	0.068	0.089
	original Power	10MHz	QPSK	1	13	Right	10	23230	782	23.35	24.5	1.303	0.136	0.177
	original Power	10MHz	QPSK	1	13	Top	10	23230	782	23.35	24.5	1.303	0.069	0.090
	original Power	10MHz	QPSK	1	13	Bottom	10	23230	782	23.35	24.5	1.303	0.079	0.103
	original Power	10MHz	QPSK	1	13	Right	10	23230	782	23.32	24.5	1.312	0.112	0.147
	original Power	10MHz	QPSK	1	13	Right	10	23230	782	23.33	24.5	1.309	0.121	0.158
Ant0	original Power	10MHz	QPSK	1	13	Front	15	23230	782	23.35	24.5	1.303	0.088	0.115
	original Power	10MHz	QPSK	1	13	Back	15	23230	782	23.35	24.5	1.303	0.102	0.133
	original Power	10MHz	QPSK	1	13	Back	15	23230	782	23.32	24.5	1.312	0.085	0.112
	original Power	10MHz	QPSK	1	13	Back	15	23230	782	23.33	24.5	1.309	0.087	0.114

12.13. LTE Band38 SAR results

Configuration	Power Level	BW	Modulation	RB Num	RB Start	Position	Dist. mm	Ch.	Freq. (MHz)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Meas SAR (W/kg)	1g Scaled SAR (W/kg)
Ant0	original Power	20MHz	QPSK	1	50	Left Cheek	0	38000	2595	23.86	24.0	1.033	0.012	0.012
	original Power	20MHz	QPSK	1	50	Left Tilt	0	38000	2595	23.86	24.0	1.033	0.004	0.004
	original Power	20MHz	QPSK	1	50	Right Cheek	0	38000	2595	23.86	24.0	1.033	0.041	0.042
	original Power	20MHz	QPSK	1	50	Right Tilt	0	38000	2595	23.86	24.0	1.033	0.095	0.098
	original Power	20MHz	QPSK	1	50	Right Tilt	0	37850	2580	23.82	24.0	1.042	0.081	0.084
	original Power	20MHz	QPSK	1	50	Right Tilt	0	38150	2610	23.83	24.0	1.040	0.088	0.092
Ant0	Power reduction	20MHz	QPSK	1	50	Front	10	38000	2595	22.88	23.0	1.028	0.148	0.152
	Power reduction	20MHz	QPSK	1	50	Back	10	38000	2595	22.88	23.0	1.028	0.300	0.308
	Power reduction	20MHz	QPSK	1	50	Left	10	38000	2595	22.88	23.0	1.028	0.018	0.019
	Power reduction	20MHz	QPSK	1	50	Right	10	38000	2595	22.88	23.0	1.028	0.049	0.050
	Power reduction	20MHz	QPSK	1	50	Top	10	38000	2595	22.88	23.0	1.028	0.078	0.080
	Power reduction	20MHz	QPSK	1	50	Bottom	10	38000	2595	22.88	23.0	1.028	0.438	0.450
	Power reduction	20MHz	QPSK	1	50	Bottom	10	37850	2580	22.87	23.0	1.030	0.495	0.510
	Power reduction	20MHz	QPSK	1	50	Bottom	10	38150	2610	22.88	23.0	1.028	0.414	0.426
Ant0	Power reduction	20MHz	QPSK	1	50	Front	15	38000	2595	22.88	23.0	1.028	0.072	0.074
	Power reduction	20MHz	QPSK	1	50	Back	15	38000	2595	22.88	23.0	1.028	0.167	0.172
	Power reduction	20MHz	QPSK	1	50	Back	15	37850	2580	22.87	23.0	1.030	0.148	0.152
	Power reduction	20MHz	QPSK	1	50	Back	15	38150	2610	22.88	23.0	1.028	0.199	0.205

12.14. LTE Band41 SAR results

Configuration	Power Level	BW	Modulation	RB Num	RB Start	Position	Dist. mm	Ch.	Freq. (MHz)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Meas SAR (W/kg)	1g Scaled SAR (W/kg)
Ant0	original Power	20MHz	QPSK	1	50	Left Cheek	0	40620	2593	23.77	24.0	1.054	0.034	0.036
	original Power	20MHz	QPSK	1	50	Left Tilt	0	40620	2593	23.77	24.0	1.054	0.007	0.007
	original Power	20MHz	QPSK	1	50	Right Cheek	0	40620	2593	23.77	24.0	1.054	0.012	0.013
	original Power	20MHz	QPSK	1	50	Right Tilt	0	40620	2593	23.77	24.0	1.054	0.005	0.005
	original Power	20MHz	QPSK	1	50	Left Cheek	0	39750	2506	23.80	24.0	1.047	0.030	0.031
	original Power	20MHz	QPSK	1	50	Left Cheek	0	41490	2680	23.78	24.0	1.052	0.039	0.041
Ant0	Power reduction	20MHz	QPSK	1	50	Front	10	40620	2593	22.74	23.0	1.062	0.152	0.161
	Power reduction	20MHz	QPSK	1	50	Back	10	40620	2593	22.74	23.0	1.062	0.301	0.320
	Power reduction	20MHz	QPSK	1	50	Left	10	40620	2593	22.74	23.0	1.062	0.015	0.016
	Power reduction	20MHz	QPSK	1	50	Right	10	40620	2593	22.74	23.0	1.062	0.044	0.047
	Power reduction	20MHz	QPSK	1	50	Top	10	40620	2593	22.74	23.0	1.062	0.049	0.052
	Power reduction	20MHz	QPSK	1	50	Bottom	10	40620	2593	22.74	23.0	1.062	0.438	0.465
	Power reduction	20MHz	QPSK	1	50	Bottom	10	39750	2506	22.78	23.0	1.052	0.650	0.684
	Power reduction	20MHz	QPSK	1	50	Bottom	10	41490	2680	22.76	23.0	1.057	0.359	0.379
Ant0	Power reduction	20MHz	QPSK	1	50	Front	15	40620	2593	22.74	23.0	1.062	0.076	0.081
	Power reduction	20MHz	QPSK	1	50	Back	15	40620	2593	22.74	23.0	1.062	0.153	0.162
	Power reduction	20MHz	QPSK	1	50	Back	15	39750	2506	22.78	23.0	1.052	0.210	0.221
	Power reduction	20MHz	QPSK	1	50	Back	15	41490	2680	22.76	23.0	1.057	0.154	0.163

12.15. LTE Band66 SAR results

Configuration	Power Level	BW	Modulation	RB Num	RB Start	Position	Dist. mm	Ch.	Freq. (MHz)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Meas SAR (W/kg)	1g Scaled SAR (W/kg)
Ant0	original Power	20MHz	QPSK	1	50	Left Cheek	0	132322	1745	23.61	24.0	1.094	0.136	0.149
	original Power	20MHz	QPSK	1	50	Left Tilt	0	132322	1745	23.61	24.0	1.094	0.064	0.070
	original Power	20MHz	QPSK	1	50	Right Cheek	0	132322	1745	23.61	24.0	1.094	0.152	0.166
	original Power	20MHz	QPSK	1	50	Right Tilt	0	132322	1745	23.61	24.0	1.094	0.001	0.001
	original Power	20MHz	QPSK	1	50	Right Cheek	0	132072	1720	23.60	24.0	1.096	0.156	0.171
	original Power	20MHz	QPSK	1	50	Right Cheek	0	132572	1770	23.57	24.0	1.104	0.114	0.126
Ant0	Power reduction	20MHz	QPSK	1	50	Front	10	132322	1745	20.66	21.0	1.081	0.163	0.176
	Power reduction	20MHz	QPSK	1	50	Back	10	132322	1745	20.66	21.0	1.081	0.356	0.385
	Power reduction	20MHz	QPSK	1	50	Left	10	132322	1745	20.66	21.0	1.081	0.076	0.082
	Power reduction	20MHz	QPSK	1	50	Right	10	132322	1745	20.66	21.0	1.081	0.001	0.001
	Power reduction	20MHz	QPSK	1	50	Top	10	132322	1745	20.66	21.0	1.081	0.036	0.039
	Power reduction	20MHz	QPSK	1	50	Bottom	10	132322	1745	20.66	21.0	1.081	0.339	0.367
	Power reduction	20MHz	QPSK	1	50	Back	10	132072	1720	20.68	21.0	1.076	0.399	0.430
	Power reduction	20MHz	QPSK	1	50	Back	10	132572	1770	20.63	21.0	1.089	0.317	0.345
Ant0	Power reduction	20MHz	QPSK	1	50	Front	15	132322	1745	20.66	21.0	1.081	0.089	0.096
	Power reduction	20MHz	QPSK	1	50	Back	15	132322	1745	20.66	21.0	1.081	0.180	0.195
	Power reduction	20MHz	QPSK	1	50	Back	15	132072	1720	20.68	21.0	1.076	0.205	0.221
	Power reduction	20MHz	QPSK	1	50	Back	15	132572	1770	20.63	21.0	1.089	0.160	0.174

12.16. BT SAR results

Config	Mode	Power Level	Position	Dist. (mm)	Ch.	Freq. (MHz)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Meas SAR (W/kg)	1g Scaled SAR (W/kg)
Ant2	BT	1	Left Cheek	0	39	2441	10.49	11.5	1.262	0.114	0.144
	BT	1	Left Tilt	0	39	2441	10.49	11.5	1.262	0.129	0.163
	BT	1	Right Cheek	0	39	2441	10.49	11.5	1.262	0.051	0.064
	BT	1	Right Tilt	0	39	2441	10.49	11.5	1.262	0.059	0.074
	BT	1	Left Tilt	0	0	2402	9.73	11.5	1.503	0.105	0.158
	BT	1	Left Tilt	0	78	2480	10.58	11.5	1.236	0.124	0.153
Ant2	BT	1	Front	10	39	2441	10.49	11.5	1.262	0.007	0.009
	BT	1	Back	10	39	2441	10.49	11.5	1.262	0.040	0.050
	BT	1	Left	10	39	2441	10.49	11.5	1.262	0.008	0.010
	BT	1	Right	10	39	2441	10.49	11.5	1.262	0.006	0.008
	BT	1	Top	10	39	2441	10.49	11.5	1.262	0.057	0.072
	BT	1	Bottom	10	39	2441	10.49	11.5	1.262	0.001	0.001
	BT	1	Top	10	0	2402	9.73	11.5	1.503	0.043	0.065
	BT	1	Top	10	78	2480	10.58	11.5	1.236	0.054	0.067
Ant2	BT	1	Front	15	39	2441	10.49	11.5	1.262	0.005	0.006
	BT	1	Back	15	39	2441	10.49	11.5	1.262	0.008	0.010
	BT	1	Back	15	0	2402	9.73	11.5	1.503	0.008	0.009
	BT	1	Back	15	78	2480	10.58	11.5	1.236	0.009	0.011

12.17. 2.4GWi-Fi SAR results

Config	Mode	Power Level	Position	Dist. (mm)	Ch.	Freq. (MHz)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Meas SAR (W/kg)	1g Scaled SAR (W/kg)
Ant2	802.11b	1	Left Cheek	0	6	2437	11.39	12.0	1.151	0.413	0.475
	802.11b	1	Left Tilt	0	6	2437	11.39	12.0	1.151	0.462	0.532
	802.11b	1	Right Cheek	0	6	2437	11.39	12.0	1.151	0.193	0.222
	802.11b	1	Right Tilt	0	6	2437	11.39	12.0	1.151	0.221	0.254
	802.11b	1	Left Tilt	0	1	2412	11.23	12.0	1.194	0.664	0.793
	802.11b	1	Left Tilt	0	11	2462	11.21	12.0	1.199	0.632	0.758
Ant2	802.11b	1	Front	10	6	2437	13.62	15.0	1.374	0.174	0.239
	802.11b	1	Back	10	6	2437	13.62	15.0	1.374	0.263	0.361
	802.11b	1	Left	10	6	2437	13.62	15.0	1.374	0.007	0.010
	802.11b	1	Right	10	6	2437	13.62	15.0	1.374	0.069	0.095
	802.11b	1	Top	10	6	2437	13.62	15.0	1.374	0.348	0.478
	802.11b	1	Bottom	10	6	2437	13.62	15.0	1.374	0.005	0.007
	802.11b	1	Top	10	1	2412	13.56	15.0	1.393	0.485	0.676
	802.11b	1	Top	10	11	2462	13.53	15.0	1.403	0.538	0.755
Ant2	802.11b	1	Front	15	6	2437	13.62	15.0	1.374	0.080	0.110
	802.11b	1	Back	15	6	2437	13.62	15.0	1.374	0.122	0.168
	802.11b	1	Back	15	1	2412	13.56	15.0	1.393	0.162	0.226
	802.11b	1	Back	15	11	2462	13.53	15.0	1.403	0.186	0.261

12.18. Repeated SAR results

Remark:

1. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is ⩾0.8W/kg.

2. Per KDB 865664 D01v01r04, if the ratio among the repeated measurement is ⩽ 1.2 and the measured SAR<1.45W/kg, only one repeated measurement is required.

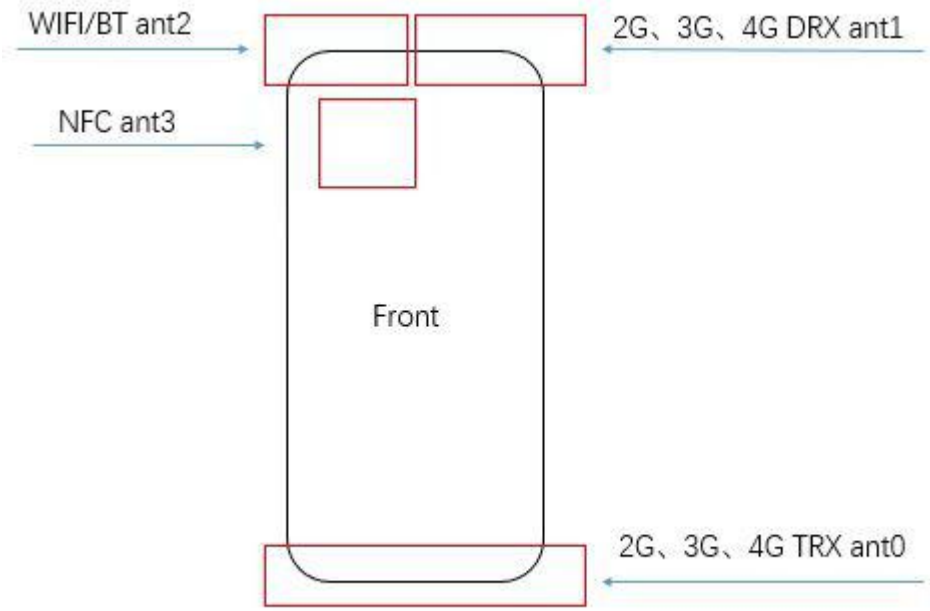
3. The ratio is the difference in percentage between original and repeated measured SAR.

4. All measurement SAR result is scaled-up to account for tune-up tolerance and is compliant.

Band	Mode	Test Position	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Scaling Factor	Measured SAR (W/kg)	Reported SAR (W/kg)
/	/	/	/	/	/	/	/	/	/

13. EXPOSURE POSITIONS CONSIDERATION

13.1. Multiple Transmitter Evaluation



	Distance of the Antenna to the EUT sufaceledge					
Antennas	Front	Back	Left	Right	Top	Bottom
ANT0	≤25mm	≤25mm	≤25mm	≤25mm	>25mm	≤25mm
ANT2	≤25mm	≤25mm	≤25mm	>25mm	≤25mm	>25mm

	Positions for SAR tests; Hotspot mode					
Antennas	Front	Back	Left	Right	Top	Bottom
ANT0	Yes	Yes	Yes	Yes	No	Yes
ANT2	Yes	Yes	Yes	No	Yes	No

13.2. Simultaneous Transmission Possibilities

The Simultaneous Transmission Possibilities of this device are as below:

No.	Configuration	Head	Body
1	WWAN+ WiFi2.4G	Yes	Yes
2.	WWAN+ BT	Yes	Yes

Table 7: Simultaneous Transmission Possibilities

Note:

1) Bluetooth share the same Tx antenna and can't transmit simultaneously.
2) 2G&3G&4G&5G can't transmit simultaneously.
3) Held to ear configurations are not applicable to Bluetooth and therefore were not considered for simultaneous transmission.

13.3. SAR Summation Scenario

Test Position		Left head touched	Left head tilted 15°	Righthead touched	Right head tilted 15°
	GSM850	0.22	0.146	0.224	0.15
	PCS1900	0.066	0.016	0.058	0.014
	WCDMA Band II	0.117	0.063	0.107	0.056
	WCDMA Band IV	0.142	0.062	0.212	0.014
	WCDMA Band V	0.249	0.129	0.241	0.161
	LTE Band 2	0.106	0.068	0.113	0.055
	LTE Band 4	0.165	0.084	0.205	0.014
	LTE Band 5	0.261	0.116	0.248	0.138
	LTE Band 7	0.018	0.006	0.069	0.012
	LTE Band13	0.12	0.07	0.139	0.082
	LTE Band 38	0.012	0.004	0.042	0.098
	LTE Band 41	0.041	0.007	0.013	0.005
	LTE Band 66	0.149	0.07	0.171	0.001
	WIFI2.4G	0.475	0.793	0.222	0.254
	BT	0.144	0.163	0.064	0.074
Σ1g SAR(W/kg)		0.736	0.939	0.47	0.415

Conclusion:

1) Simultaneous Transmission SAR evaluation is not required for WiFi and UMTS&GSM&LTE&NSA, because the sum of the 1g SAR is 0.939W/kg <1.6 W/kg.

2) One way of determining the threshold power level available to the secondary transmitter(Pavailable) is to calculate it from the measured peak spatial-average SAR of the primarytransmitter (SAR1) according to the equation:

Test Position		Front Side 10mm	Back Side 10mm	Left Side 10mm	Right Side 10mm	Top Side 10mm	Bottom Side 10mm	Front Side 15mm	Back Side 15mm
	GSM850	0.248	0.367	0.211	0.297	0.079	0.284	0.24	0.255
	PCS1900	0.234	0.437	0.141	0.05	0.172	0.635	0.135	0.205
	WCDMA Band I	0.087	0.187	0.063	0.013	0.006	0.305	0.059	0.136
	WCDMA Band IV	0.186	0.355	0.091	0.016	0.007	0.511	0.095	0.267
	WCDMA Band VIII	0.179	0.293	0.135	0.184	0.069	0.226	0.185	0.249
	LTE Band 2	0.089	0.301	0.065	0.018	0.012	0.229	0.06	0.118
	LTE Band 4	0.226	0.51	0.095	0.017	0.009	0.379	0.119	0.242
	LTE Band 5	0.188	0.237	0.147	0.196	0.074	0.166	0.176	0.231
	LTE Band 7	0.195	0.391	0.015	0.052	0.01	0.625	0.12	0.299
	LTE Band 13	0.096	0.132	0.089	0.177	0.09	0.103	0.115	0.133
	LTE Band 38	0.152	0.308	0.019	0.05	0.08	0.51	0.074	0.205
	LTE Band 41	0.161	0.32	0.016	0.047	0.052	0.684	0.081	0.221
	LTE Band 66	0.175	0.43	0.082	0.001	0.039	0.367	0.096	0.221
	WIFI2.4G	0.239	0.361	0.01	0.095	0.755	0.007	0.11	0.261
	BT	0.009	0.05	0.01	0.008	0.072	0.001	0.006	0.011
Σ1g SAR(W/kg)		0.487	0.871	0.221	0.392	0.927	0.691	0.35	0.56

Conclusion:

1) Simultaneous Transmission SAR evaluation is not required for WiFi and UMTS&GSM&LTE&NSA, because the sum of the 1g SAR is 0.927W/kg <1.6 W/kg.

2) One way of determining the threshold power level available to the secondary transmitter(Pavailable) is to calculate it from the measured peak spatial-average SAR of the primarytransmitter (SAR1) according to the equation:

13.4. Simultaneous Transmission Conclusion

The above numeral summed SAR results and SPLSR analysis is sufficient to determine that simultaneous cases will not exceed the SAR limit and therefore simultaneous transmission SAR with Volume Scan is not required per KDB 447498 D01v06

Appendix A. System Check Plots

(Pls see Appendix A)

Appendix B. MEASUREMENT SCANS

(Pls see Appendix B)

AppendixC RELEVANT PAGES FROM PROBE CALIBRATION REPORT(S)

(Pls see Appendix C)

Appendix D. RELEVANT PAGES FROM DAE&DIPOLE VALIDATION KIT REPORT(S)

(Pls see Appendix D)

Appendix E. Photographs of the Test Set-Up

(Pls see Appendix E)