SAR TEST REPORT

For

CLIMAX TECHNOLOGY CO., LTD.

Mobile PERS GPS Locator

Test Model: Mobile Lite R35-C

Prepared for	:	CLIMAX TECHNOLOGY CO., LTD.
Address	:	No. 258, Sinhu 2nd Rd., Neihu District, Taipei City 114, Taiwan (R.O.C.)
Prepared by	:	Shenzhen LCS Compliance Testing Laboratory Ltd.
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Date of receipt of test sample	:	September 11, 2024
Number of tested samples	:	1
Sample No.	:	A240909109-1
Serial number	:	Prototype
Date of Test	:	September 11, 2024 ~ September 23, 2024
Date of Report	:	September 27, 2024

SAR TEST REPORT

Report Reference No. ....:	LCSA09054184E
Date Of Issue ....:	September 27, 2024
Testing Laboratory Name........... :	**Shenzhen LCS Compliance Testing Laboratory Ltd.**
Address .... :	101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China
Testing Location/ Procedure .... :	Full application of Harmonised standards ■ Partial application of Harmonised standards ☐ Other standard testing method ☐
Applicant's Name ....:	**CLIMAX TECHNOLOGY CO., LTD.**
Address ....:	No. 258, Sinhu 2nd Rd., Neihu District, Taipei City 114, Taiwan (R.O.C.)
Test Specification:	
Standard.....................................:	FCC 47CFR §2.1093, ANSI/IEEE C95.1-2019, IEEE 1528-2013
Test Report Form No. ....:	TRF-4-E-102 A/0
TRF Originator.............................:	Shenzhen LCS Compliance Testing Laboratory Ltd.
Master TRF ....:	Dated 2014-09

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Test Item Description. ....:	**Mobile PERS GPS Locator**
Trade Mark ....:	/
Model/Type Reference ....:	Mobile Lite R35-C
Ratings	DC 3.8V by Rechargeable Li-ion Battery, 160mAh
Result ....:	**Positive**

Compiled by:	**Supervised by:**	**Approved by:**
Jay Zhan	Cary Luo	Gavin Liang
Jay Zhan/ File administrators	Cary Luo / Technique principal	Gavin Liang/ Manager

LCS TESTING LABORATORY APPROVED

SAR -- TEST REPORT

Test Report No. :	**LCSA09054184E**	September 27, 2024 Date of issue

Type / Model.........................	:	Mobile Lite R35-C
EUT......................................	:	Mobile PERS GPS Locator
Applicant..............................	**:**	**CLIMAX TECHNOLOGY CO., LTD.**
Address.................................	:	No. 258, Sinhu 2nd Rd., Neihu District, Taipei City 114, Taiwan (R.O.C.)
Telephone.............................	:	/
Fax.......................................	:	/
Manufacturer.......................	**:**	**CLIMAX TECHNOLOGY CO., LTD.**
Address.................................	:	No. 258, Sinhu 2nd Rd., Neihu District, Taipei City 114, Taiwan (R.O.C.)
Telephone.............................	:	/
Fax.......................................	:	/
Factory.................................	**:**	**CLIMAX TECHNOLOGY CO., LTD.**
Address.................................	:	No. 258, Sinhu 2nd Rd., Neihu District, Taipei City 114, Taiwan (R.O.C.)
Telephone.............................	:	/
Fax.......................................	:	/

Test Result	**Positive**

The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

Revison History

Revision	Issue Date	Revision Content	Revised By
000	September 27, 2024	Initial Issue	---

TABLE OF CONTENTS

1. TEST STANDARDS AND TEST DESCRIPTION

1.1. Statement of Compliance

The maximum of results of SAR found during testing for Mobile Lite R35-C are follows:
<Highest Reported standalone SAR Summary>

Classment Class	Frequency Band	Maximum Reported SAR(W/kg)	
		Next to the Mouth 1g	Extremity 10g
PCB	LTE Band 2	0.464	0.674
	LTE Band 5	0.256	0..325
	LTE Band 12	0.276	0.520
	LTE Band 13	0.270	0.496
	LTE Band 66&4	0.729	0.922
	LTE Band 71	0.701	0.932
SAR Limited(w/kg)		1.6	4.0

Note

1) This device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6 W/kg) specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-2005, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013.

2) According to April 2015 TCB workshop, SAR test exclusion can be applied for testing overlapping LTE bands as follows:

a) The maximum output power, including tolerance, for the smaller band must be ≤ the larger band to qualify for the SAR test exclusion.

b) The channel bandwidth and other operating parameters for the smaller band must be fully supported by the larger band.

•LTE Band 4 (1710-1755 MHz) is covered by LTE band 66 (1710-1780 MHz) and has the same maximum tune-up power, so only LTE Band 66 needs to be tested.

1.2. Test Location

Company:	Shenzhen LCS Compliance Testing Laboratory Ltd.
Address:	101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China
Telephone:	(+86)755-82591330
Fax:	(+86)755-82591330
Web:	www.LCS-cert.com
E-mail:	webmaster@LCS-cert.com

1.3. Test Facility

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

Site Description

SAR Lab. : NVLAP Accreditation Code is 600167-0.
FCC Designation Number is CN5024.
CAB identifier is CN0071.
CNAS Registration Number is L4595.
Test Firm Registration Number: 254912.

1.4. Test Laboratory Environment

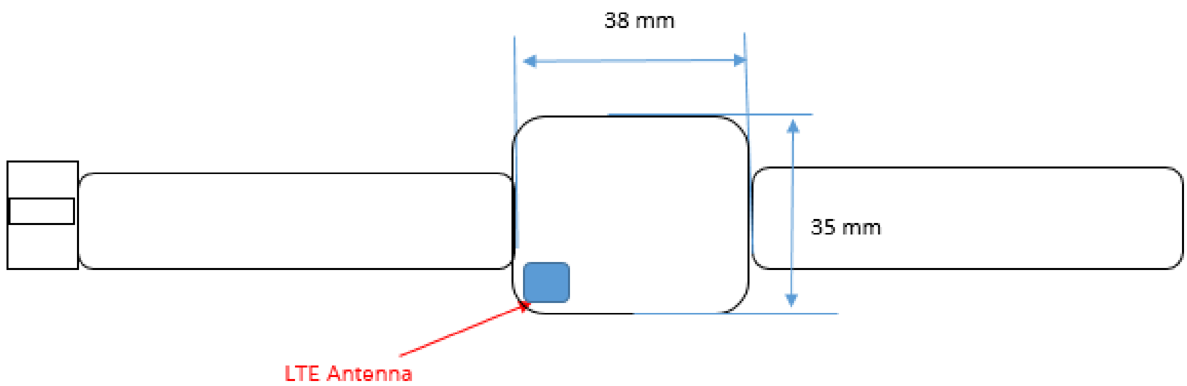
Temperature	Min. = 18°C, Max. = 25 °C
Relative humidity	Min. = 30%, Max. = 70%
Ground system resistance	< 0.5 Ω
Atmospheric pressure:	950-1050mbar
Ambient noise is checked and found very low and in compliance with requirement of standards. Reflection of surrounding objects is minimized and in compliance with requirement of standards.	

1.5. Product Description

The **CLIMAX TECHNOLOGY CO., LTD.**'s Model: Mobile Lite R35-C or the "EUT" as referred to in this report; more general information as follows, for more details, refer to the user's manual of the EUT.

EUT	: Mobile PERS GPS Locator
Test Model	: Mobile Lite R35-C
Ratings	: DC 3.8V by Rechargeable Li-ion Battery, 160mAh
Hardware Version	: /
Software Version	: /
LTE	:
Support Band	: ☒E-UTRA Band 2(U.S.-Band) ☒E-UTRA Band 4(U.S.-Band) ☒E-UTRA Band 5(U.S.-Band) ☒E-UTRA Band 12(U.S.-Band) ☒E-UTRA Band 13(U.S.-Band) ☒E-UTRA Band 66(U.S.-Band) ☒E-UTRA Band 71(U.S.-Band)
LTE Release Version	: R8
Type Of Modulation	: QPSK/16QAM
Antenna Description	: PCB Antenna -7.10dBi (max.) For E-UTRA Band 2 -16.21dBi (max.) For E-UTRA Band 4 -15.62dBi (max.) For E-UTRA Band 5 -12.91dBi (max.) For E-UTRA Band 12 -8.31dBi (max.) For E-UTRA Band 13 -15.56dBi (max.) For E-UTRA Band 66 -16.54dBi (max.) For E-UTRA Band 71
Power Class	: Class 3
Exposure category	: Uncontrolled Environment General Population

1.6. DUT Antenna Locations(Rear View)



1.7. Test Specification

Identity	Document Title
FCC 47CFR §2.1093	Radiofrequency Radiation Exposure Evaluation: Portable Devices
ANSI/IEEE C95.1-2019	IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz – 300 GHz.
IEEE 1528-2013	Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques
KDB 941225 D05	SAR for LTE Devices v02r05
KDB 941225 D06	Hotspot Mode SAR v02r01
KDB 447498 D01	General RF Exposure Guidance v06
KDB 865664 D01	SAR Measurement 100 MHz to 6 GHz v01r04
KDB 865664 D02	RF Exposure Reporting v01r02

1.8. RF exposure limits

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

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

1.9. Equipment list

Test Platform	SPEAG DASY5 Professional
Description	SAR Test System (Frequency range 300MHz-6GHz)
Software Reference	DASY52; SEMCAD X

Hardware Reference

	Equipment	Manufacturer	Model	Serial Number	Calibration Date	Due date of calibration
☒	PC	Lenovo	NA	NA	NA[1]	NA[1]
☒	Twin Phantom	SPEAG	SAM V5.0	1850	NA[1]	NA[1]
☒	ELI Phantom	SPEAG	ELI V6.0	2010	NA[1]	NA[1]
☒	DAE	SPEAG	DAE3	373	2024/1/3	2025/1/2
☒	E-Field Probe	SPEAG	EX3DV4	3805	2023/11/23	2024/11/22
☒	Validation Kits	SPEAG	D750V3	1191	2023/6/15	2026/6/14
☒	Validation Kits	SPEAG	D835V2	4d124	2023/10/24	2026/10/23
☒	Validation Kits	SPEAG	D1750V2	1035	2023/6/12	2026/6/11
☒	Validation Kits	SPEAG	D1900V2	5d055	2023/10/20	2026/10/19
☒	Agilent Network Analyzer	Agilent	8753E	SU38432944	2024/6/6	2025/6/5
☒	Dielectric Probe Kit	SPEAG	DAK3.5	1425	2024/6/6	2025/6/5
☒	Universal Radio Communication Tester	R&S	CMW500	42115	2023/10/29	2024/10/28
☒	Directional Coupler	MCLI/USA	4426-20	03746	2024/6/6	2025/6/5
☒	Power meter	Agilent	E4419B	MY45104493	2023/10/29	2024/10/28
☒	Power meter	Agilent	E4419B	MY45100308	2023/10/29	2024/10/28
☒	Power sensor	Agilent	E9301H	MY41495616	2023/10/29	2024/10/28
☒	Power sensor	Agilent	E9301H	MY41495234	2023/10/29	2024/10/28
☒	Signal Generator	Agilent	E4438C	MY49072627	2024/6/6	2025/6/5
☒	Broadband Preamplifier	/	BP-01M18G	P190501	2024/6/6	2025/6/5
☒	DC POWER SUPPLY	I-SHENG	SP-504	NA	2024/6/6	2025/6/5
☒	Speed reading thermometer	HTC-1	NA	LCS-E-138	2024/6/6	2025/6/5

Note: All the equipments are within the valid period when the tests are performed.

1" : NA as this is not measurement equipment.

2. SAR MEASUREMENTS SYSTEM CONFIGURATION

2.1. SAR Measurement System

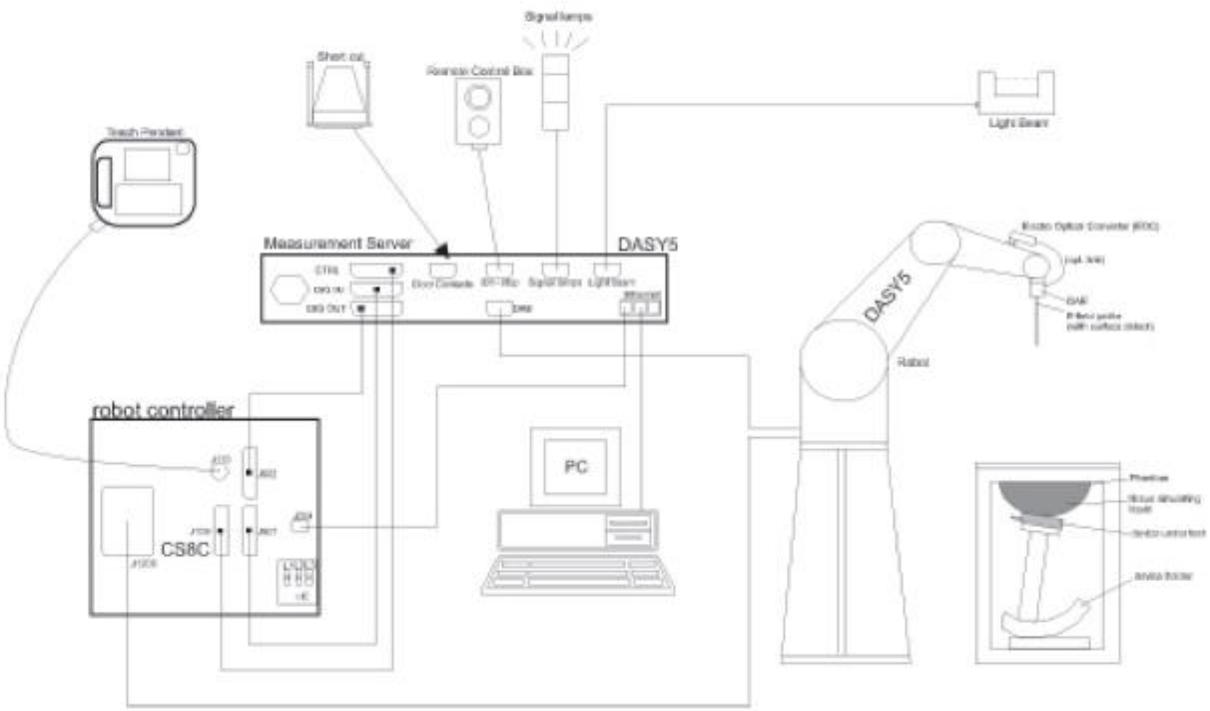
This SAR Measurement System uses a Computer-controlled 3-D stepper motor system (SPEAG DASY5 professional system). A E-field probe is used to determine the internal electric fields. The SAR can be obtained from the equation SAR= σ (|Ei|2)/ ρ where σ and ρ are the conductivity and mass density of the tissue-Simulate.

The DASY5 system for performing compliance tests consists of the following items:
A standard high precision 6-axis robot (Stabile RX family) with controller, teach pendant and software .An arm extension for accommodation the data acquisition electronics (DAE).

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

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

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



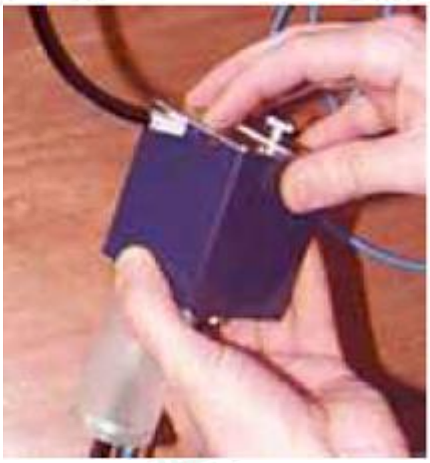
F-1. SAR Measurement System Configuration

- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- A probe alignment unit which improves the (absolute) accuracy of the probe positioning.
- A computer operating Windows 7.
- DASY5 software.
- Remote control with teach pendant and additional circuitry for robot safety such as warning lamps, etc.
- The SAM twin phantom enabling testing left-hand, right-hand and Body Worn usage.
- The device holder for handheld mobile phones.
- Tissue simulating liquid mixed according to the given recipes.
- Validation dipole kits allowing to validating the proper functioning of the system.

2.2. Isotropic E-field Probe EX3DV4

	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Calibration	ISO/IEC 17025 calibration service available.
Frequency	10 MHz to > 6 GHz Linearity: ± 0.2 dB (30 MHz to 6 GHz)
Directivity	± 0.3 dB in TSL (rotation around probe axis) ± 0.5 dB in TSL (rotation normal to probe axis)
Dynamic Range	10 μW/g to > 100 mW/g Linearity: ± 0.2 dB (noise: typically < 1 μW/g)
Dimensions	Overall length: 337 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm
Application	High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields); the only probe that enables compliance testing for frequencies up to 6 GHz with precision of better 30%.
Compatibility	DASY3, DASY4, DASY52 SAR and higher, EASY4/MRI

2.3. Data Acquisition Electronics (DAE)

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

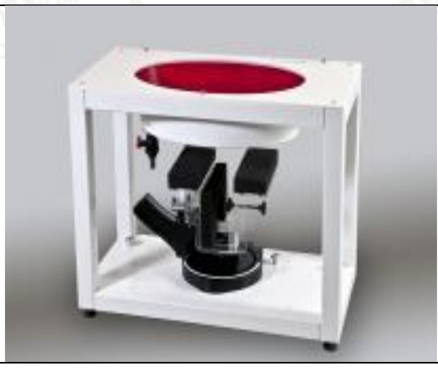
2.4. SAM Twin Phantom

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

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

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

2.5. ELI Phantom

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

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

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

2.6. Device Holder for Transmitters

F-2. **Device Holder for Transmitters**

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

2.7. Measurement procedure

2.7.1. Scanning procedure

Step 1: Power reference measurement

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

Step 2: Area scan

The SAR distribution at the exposed side of the head was measured at a distance of 4mm from the inner surface of the shell. The area covered the entire dimension of the head and the horizontal grid spacing was 15mm*15mm or 12mm*12mm or 10mm*10mm.Based on the area scan data, the area of the maximum absorption was determined by spline interpolation.

Step 3: Zoom scan

Around this point, a volume of 32mm*32mm*30mm (f≤2GHz), 30mm*30mm*30mm (f for 2-3GHz) and 24mm*24mm*22mm (f for 5-6GHz) was assessed by measuring 5x5x7 points (f≤2GHz), 7x7x7 points (f for 2-3GHz) and 7x7x12 points (f for 5-6GHz). On this basis of this data set, the spatial peak SAR value was evaluated with the following procedure:

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

The area and zoom scan resolutions specified in the table below must be applied to the SAR measurements Probe boundary effect error compensation is required for measurements with the probe tip closer than half a probe tip diameter to the phantom surface. Both the probe tip diameter and sensor offset distance must satisfy measurement protocols; to ensure probe boundary effect errors are minimized and the higher fields closest to the phantom surface can be correctly measured and extrapolated to the phantom surface for computing 1-g SAR. Tolerances of the post-processing algorithms must be verified by the test laboratory for the scan resolutions used in the SAR measurements, according to the reference distribution functions specified in IEEE Std. 1528-2013.

<table>
<tr><td colspan="3"></td><td>≤ 3 GHz</td><td>> 3 GHz</td></tr>
<tr><td colspan="3">Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface</td><td>5 ± 1 mm</td><td>½·δ·ln(2) ± 0.5 mm</td></tr>
<tr><td colspan="3">Maximum probe angle from probe axis to phantom surface normal at the measurement location</td><td>30° ± 1°</td><td>20° ± 1°</td></tr>
<tr><td colspan="3" rowspan="2">Maximum area scan spatial resolution: Δx_{Area}, Δy_{Area}</td><td>≤ 2 GHz: ≤ 15 mm
2 – 3 GHz: ≤ 12 mm</td><td>3 – 4 GHz: ≤ 12 mm
4 – 6 GHz: ≤ 10 mm</td></tr>
<tr><td colspan="2">When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.</td></tr>
<tr><td colspan="3">Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}</td><td>≤ 2 GHz: ≤ 8 mm
2 – 3 GHz: ≤ 5 mm*</td><td>3 – 4 GHz: ≤ 5 mm*
4 – 6 GHz: ≤ 4 mm*</td></tr>
<tr><td rowspan="3">Maximum zoom scan spatial resolution, normal to phantom surface</td><td colspan="2">uniform grid: $\Delta z_{Zoom}(n)$</td><td>≤ 5 mm</td><td>3 – 4 GHz: ≤ 4 mm
4 – 5 GHz: ≤ 3 mm
5 – 6 GHz: ≤ 2 mm</td></tr>
<tr><td rowspan="2">graded grid</td><td>$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface</td><td>≤ 4 mm</td><td>3 – 4 GHz: ≤ 3 mm
4 – 5 GHz: ≤ 2.5 mm
5 – 6 GHz: ≤ 2 mm</td></tr>
<tr><td>$\Delta z_{Zoom}(n>1)$: between subsequent points</td><td colspan="2">≤ $1.5 \cdot \Delta z_{Zoom}(n-1)$</td></tr>
<tr><td>Minimum zoom scan volume</td><td colspan="2">x, y, z</td><td>≥ 30 mm</td><td>3 – 4 GHz: ≥ 28 mm
4 – 5 GHz: ≥ 25 mm
5 – 6 GHz: ≥ 22 mm</td></tr>
</table>

Step 4: Power reference measurement (drift)

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

2.7.2. Data Storage

The DASY software stores the acquired data from the data acquisition electronics as raw data (in microvolt readings from the probe sensors), together with all necessary software parameters for the data evaluation (probe calibration data, liquid parameters and device frequency and modulation data) in measurement files with the extension ".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], [m W/g], [m W/cm²], [dBrel], etc.). Some of these units are not available in certain situations or show meaningless results, e.g., a SAR output in a lossless media will always be zero. Raw data can also be exported to perform the evaluation with other software packages.

2.7.3. Data Evaluation by SEMCAD

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

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

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

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

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

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

With Vi = compensated signal of channel i (i = x, y, z)
Ui = input signal of channel i (i = x, y, z)
cf = crest factor of exciting field (DASY parameter)
dcp i = diode compression point (DASY parameter)

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

E-field probes:

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

H-field probes:

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

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

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

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

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

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

with SAR = local specific absorption rate in mW/g
Etot = total field strength in V/m
σ= conductivity in [mho/m] or [Siemens/m]
ε= equivalent tissue density in g/cm3

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

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

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

3. SAR measurement variability and uncertainty

3.1. SAR measurement variability

Per KDB865664 D01 SAR measurement 100 MHz to 6 GHz v01r04, SAR measurement variability must be assessed for each frequency band, which is determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. The additional measurements are repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device should be returned to ambient conditions (normal room temperature) with the battery fully charged before it is re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.
1) Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg; steps 2) through 4) do not apply.
2) When the original highest measured SAR is ⩾ 0.80 W/kg, repeat that measurement once.
3) Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is ⩾ 1.45 W/kg (~ 10% from the 1-g SAR limit).
4) Perform a third repeated measurement only if the original, first or second repeated measurement is ⩾1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.
The same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds.

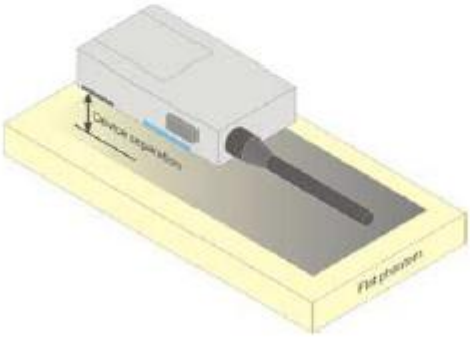
3.2. SAR measurement uncertainty

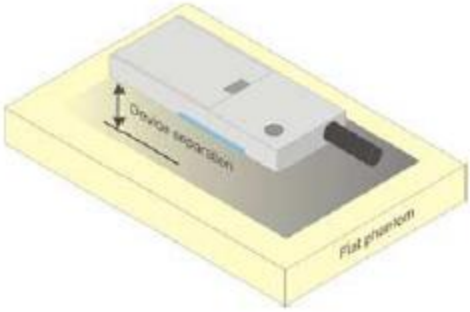
Per KDB865664 D01 SAR Measurement 100 MHz to 6 GHz, when the highest measured 1-g SAR within a frequency band is < 1.5 W/kg, the extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval. The equivalent ratio (1.5/1.6)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

4. Description of Test Position

4.1. Next to the Mouth Exposure Condition

Transmitters that are built-in within a wrist watch or similar wrist-worn devices typically operate in speaker mode for voice communication, with the device worn on the wrist and positioned next to the mouth. When SAR evaluation is required, next to the mouth use is evaluated with the front of the device positioned at 10 mm from a flat phantom filled with head tissue-equivalent medium. The wrist bands should be strapped together to represent normal use conditions.

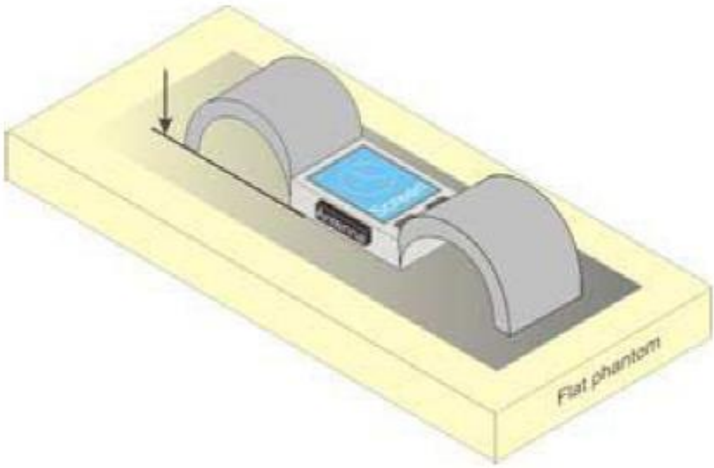




4.2. Extremity Exposure Condition

A limb-worn device is a unit whose intended use includes being strapped to the arm or leg of the user while transmitting (except in idle mode). The strap shall be opened so that it is divided into two parts as shown in the following. The device shall be positioned directly against the phantom surface with the strap straightened as much as possible and the back of the device towards the phantom. If the strap cannot normally be opened to allow placing in direct contact with the phantom surface, it may be necessary to break the strap of the device but ensuring to not damage the antenna.

The wrist bands should be strapped together to represent normal use conditions. SAR for wrist exposure is evaluated with the back of the device positioned in direct contact against a flat phantom filled with body tissue-equivalent medium. The wrist bands should be unstrapped and touching the phantom. The space introduced by the watch or wrist bands and the phantom must be representative of actual use conditions; otherwise, if applicable, the neck or a curved head region of the SAM phantom may be used, provided the device positioning and SAR probe access issues have been addressed through a KDB inquiry. When other device positioning and SAR measurement considerations are necessary, a KDB inquiry is also required for the test results to be acceptable; for example, devices with rigid wrist bands or electronic circuitry and/or antenna(s) incorporated in the wrist bands. These test configurations are applicable only to devices that are worn on the wrist and cannot support other use conditions; therefore, the operating restrictions must be fully demonstrated in both the test reports and user manuals.



5. SAR System Verification Procedure

5.1. Tissue Simulate Liquid

5.1.1. Recipes for Tissue Simulate Liquid

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

Ingredients (% by weight)	Frequency (MHz)				
	450	700-900	1750-2000	2300-2500	2500-2700
Water	38.56	40.30	55.24	55.00	54.92
Salt (NaCl)	3.95	1.38	0.31	0.2	0.23
Sucrose	56.32	57.90	0	0	0
HEC	0.98	0.24	0	0	0
Bactericide	0.19	0.18	0	0	0
Tween	0	0	44.45	44.80	44.85

Salt: 99^{+}% Pure Sodium Chloride
Sucrose: 98^{+}% Pure Sucrose
Water: De-ionized, 16 $M\Omega^{+}$ resistivity
HEC: Hydroxyethyl Cellulose
Tween: Polyoxyethylene (20) sorbitan monolaurate

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

Table 1： Recipe of Tissue Simulate Liquid

5.1.2. Measurement for Tissue Simulate Liquid

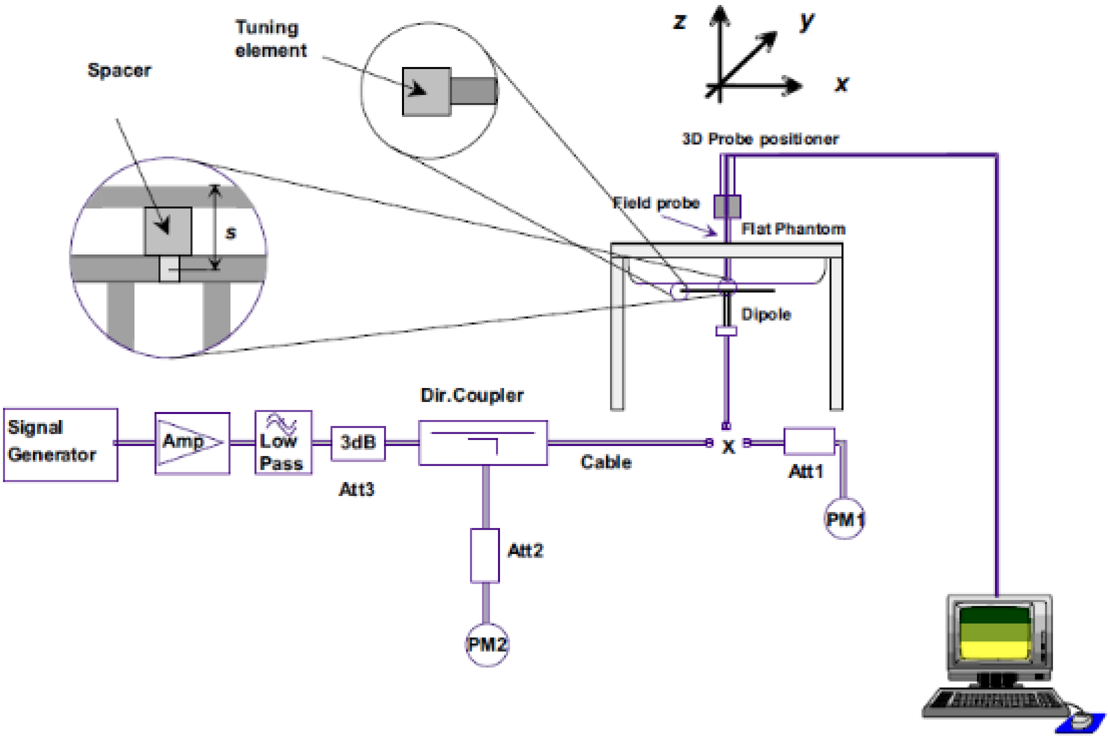
The dielectric properties for this Tissue Simulate Liquids were measured by using the DAKS. The Conductivity (σ) and Permittivity (ρ) are listed in bellow table. For the SAR measurement given in this report. The temperature variation of the Tissue Simulate Liquids was 22±2°C.

Tissue Type	Measured Frequency （MHz）	Target Tissue (±5%)		Measured Tissue		Liquid Temp. (℃)	Measured Date
		ε_r	σ(S/m)	ε_r	σ(S/m)		
750 Head	750	41.9 (39.81~44.00)	0.89 (0.85~0.93)	41.212	0.862	23.5	September 11, 2024
835 Head	835	41.5 (39.43~43.58)	0.9 (0.86~0.95)	40.574	0.936	21.4	September 16, 2024
1750 Head	1750	40.1 (38.10~42.11)	1.37 (1.30~1.44)	40.032	1.377	22.5	September 19, 2024
1900 Head	1900	40 (38.00~42.00)	1.4 (1.33~1.47)	39.666	1.432	23.2	September 23, 2024

Table 2： Measurement result of Tissue electric parameters

5.2. SAR System Check

The microwave circuit arrangement for system Check is sketched in F-1. The daily system accuracy verification occurs within the flat section of the SAM phantom. A SAR measurement was performed to see if the measured SAR was within +/- 10% from the target SAR values. The tests were conducted on the same days as the measurement of the EUT. The obtained results from the system accuracy verification are displayed in the following table (A power level of 250mW (below 3GHz) or 100mW (3-6GHz) was input to the dipole antenna). During the tests, the ambient temperature of the laboratory was in the range 22±2°C, the relative humidity was in the range 60% and the liquid depth above the ear reference points was above 15±0.5 cm in all the cases. It is seen that the system is operating within its specification, as the results are within acceptable tolerance of the reference values.



F-1. the microwave circuit arrangement used for SAR system check

5.2.1. Justification for Extended SAR Dipole Calibrations

1) Referring to KDB865664 D01 requirements for dipole calibration, instead of the typical annual calibration recommended by measurement standards, longer calibration intervals of up to three years may be considered when it is demonstrated that the SAR target, impedance and return loss of a dipole have remain stable according to the following requirements. Each measured dipole is expected to evaluate with the following criteria at least on annual interval in Appendix C.

a) There is no physical damage on the dipole;
b) System check with specific dipole is within 10% of calibrated value;
c) Return-loss is within 20% of calibrated measurement;
d) Impedance is within 5Ω from the previous measurement.

2) Network analyzer probe calibration against air, distilled water and a shorting block performed before measuring liquid parameters.

5.2.2. Summary System Check Result(s)

Validation Kit		Measured SAR 250mW	Measured SAR 250mW	Measured SAR (normalized to 1W)	Measured SAR (normalized to 1W)	Target SAR (normalized to 1W) (±10%)	Target SAR (normalized to 1W) (±10%)	Liquid Temp. (℃)	Measured Date
		1g (W/kg)	10g (W/kg)	1g (W/kg)	10g (W/kg)	1-g(W/kg)	10-g(W/kg)		
D750V3	Head	2.23	1.44	8.92	5.76	8.57 (7.71~9.43)	5.61 (5.05~6.17)	23.5	September 11, 2024
D835V2	Head	2.42	1.70	9.68	6.80	9.59 (8.63~10.55)	6.37 (5.73~7.01)	21.4	September 16, 2024
D1750V2	Head	9.04	4.66	36.16	18.64	35.9 (32.31~39.49)	18.9 (17.01~20.79)	22.5	September 19, 2024
D1900V2	Head	10.56	5.42	42.24	21.68	40.2 (36.18~44.22)	20.9 (18.81~22.99)	23.2	September 23, 2024

Table 3： Please see the Appendix A

6. SAR measurement procedure

The measurement procedures are as follows:

6.1. Conducted power measurement

a. For WWAN power measurement, use base station simulator connection with RF cable, at maximum power in each supported wireless interface and frequency band.
b. Read the WWAN RF power level from the base station simulator.
c. For WLAN/BT power measurement, use engineering software to configure EUT WLAN/BT continuously Transmission, at maximum RF power in each supported wireless interface and frequency band.
d. Connect EUT RF port through RF cable to the power meter, and measure WLAN/BT output power.

6.2. LTE Test Configuration

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 among RB offsets at the upper edge, middle and lower edge of each required test channel. When the reported SAR is ≤ 0.8 W/kg, testing of the remaining RB offset configurations and required test channels is not required for 1 RB allocation; otherwise, SAR is required for the remaining required test channels and only for the RB offset configuration with the highest output power for that channel.8 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.

QPSK with 50% RB allocation
The procedures required for 1 RB allocation in section 4.2.1 are applied to measure the SAR for QPSK with 50% RB allocation.9

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 sections 4.2.1 and 4.2.2 are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.

6.3. Power Reduction

The product without any power reduction.

6.4. Power Drift

To control the output power stability during the SAR test, SAR system calculates the power drift by measuring the E-field at the same location at the beginning and at the end of the measurement for each test position. This ensures that the power drift during one measurement is within ±0.2dB.

7. TEST CONDITIONS AND RESULTS

7.1. Conducted Power Results

According KDB 447498 D01 General RF Exposure Guidance v06 Section 4.1 2) states that “Unless it is specified differently in the published RF exposure KDB procedures, these requirements also apply to test reduction and test exclusion considerations. Time-averaged maximum conducted output power applies to SAR and, as required by § 2.1091(c), time-averaged ERP applies to MPE. When an antenna port is not available on the device to support conducted power measurement, such as FRS and certain Part 15 transmitters with built-in integral antennas, the maximum output power allowed for production units should be used to determine RF exposure test exclusion and compliance.”

7.1.1. Conducted Power Measurement Results(LTE Band 2)

BW(MHz)	Modulation	RB Size	RB offset	POWER(dBm) Low Ch18607/1850.7 MHz	POWER(dBm) Mid Ch18900/1880 MHz	POWER(dBm) High Ch19193/1909.3 MHz	Tune Up(dBm)
1.4	QPSK	1	0	23.65	23.5	23.52	24.00
1.4	QPSK	1	3	23.43	23.78	23.77	24.00
1.4	QPSK	1	5	23.72	23.62	23.57	24.00
1.4	QPSK	3	0	23.69	23.73	23.49	24.00
1.4	QPSK	3	1	23.91	23.89	23.8	24.00
1.4	QPSK	3	3	23.84	23.68	23.77	24.00
1.4	QPSK	6	0	22.63	22.74	22.7	23.00
1.4	16QAM	1	0	21.73	22.01	21.91	23.00
1.4	16QAM	1	3	22.12	22.11	22.22	23.00
1.4	16QAM	1	5	22.21	21.88	21.77	23.00
BW(MHz)	Modulation	RB Size	RB offset	POWER(dBm) Low Ch18615/1851.5 MHz	POWER(dBm) Mid Ch18900/1880 MHz	POWER(dBm) High Ch19185/1908.5 MHz	Tune Up(dBm)
3	QPSK	1	0	23.72	23.58	23.62	24.00
3	QPSK	1	7	23.91	23.64	23.75	24.00
3	QPSK	1	14	23.64	23.38	23.54	24.00
3	QPSK	8	0	22.72	22.5	22.38	23.00
3	QPSK	8	3	22.33	22.49	22.67	23.00
3	QPSK	8	7	22.61	22.81	22.38	23.00
3	QPSK	15	0	22.65	22.31	22.43	23.00
3	16QAM	1	0	21.99	22.25	21.77	23.00
3	16QAM	1	7	22.58	22.51	22.16	23.00
3	16QAM	1	14	22.17	22.06	21.93	23.00
BW(MHz)	Modulation	RB Size	RB offset	POWER(dBm) Low Ch18625/1852.5 MHz	POWER(dBm) Mid Ch18900/1880 MHz	POWER(dBm) High Ch19175/1907.5 MHz	Tune Up(dBm)
5	QPSK	1	0	23.17	23.42	23.41	24.00

5	QPSK	1	12	23.46	23.48	23.28	24.00
5	QPSK	1	24	23.28	23.21	23.49	24.00
5	QPSK	12	0	22.41	22.61	22.47	23.00
5	QPSK	12	6	22.32	22.56	22.47	23.00
5	QPSK	12	13	22.55	22.53	22.36	23.00
5	QPSK	25	0	22.39	22.56	22.37	23.00
5	16QAM	1	0	22.01	22.46	22.05	23.00
5	16QAM	1	12	22.43	22.43	22.32	23.00
5	16QAM	1	24	22.11	22.15	22.15	23.00
BW(MHz)	Modulation	RB Size	RB offset	POWER(dBm) Low Ch18650/1855MHz	POWER(dBm) Mid Ch18900/1880 MHz	POWER(dBm) High Ch19150/1905MHz	Tune Up(dBm)
10	QPSK	1	0	24.36	23.7	23.65	24.50
10	QPSK	1	24	24.05	23.6	23.74	24.50
10	QPSK	1	49	24.15	23.59	23.91	24.50
10	QPSK	25	0	22.85	22.57	22.79	23.00
10	QPSK	25	12	22.61	22.71	22.52	23.00
10	QPSK	25	25	22.76	22.72	22.41	23.00
10	QPSK	50	0	21.77	22.04	22.18	23.00
10	16QAM	1	0	22.37	22.33	22.31	23.00
10	16QAM	1	24	22.31	22.15	22.16	23.00
10	16QAM	1	49	22.18	22.21	22.22	23.00
BW(MHz)	Modulation	RB Size	RB offset	POWER(dBm) Low Ch18675/1857.5 MHz	POWER(dBm) Mid Ch18900/1880 MHz	POWER(dBm) High Ch19125/1902.5 MHz	Tune Up(dBm)
15	QPSK	1	0	23.73	23.61	23.52	24.00
15	QPSK	1	37	24	23.77	23.81	24.00
15	QPSK	1	74	24.26	23.73	23.54	24.50
15	QPSK	36	0	22.71	22.64	22.86	23.00
15	QPSK	36	19	22.72	22.73	22.65	23.00
15	QPSK	36	39	22.68	22.72	22.61	23.00
15	QPSK	75	0	22.74	22.57	22.39	23.00
15	16QAM	1	0	22.62	22.31	22.74	23.00
15	16QAM	1	37	22.51	22.17	22.51	23.00
15	16QAM	1	74	22.33	22.34	22.32	23.00
BW(MHz)	Modulation	RB Size	RB offset	POWER(dBm) Low Ch18700/1860MHz	POWER(dBm) Mid Ch18900/1880 MHz	POWER(dBm) High Ch19100/1900MHz	Tune Up(dBm)
20	QPSK	1	0	24.08	24.08	23.47	24.50
20	QPSK	1	49	23.74	23.72	23.98	24.00
20	QPSK	1	99	24.23	23.88	23.55	24.50

20	QPSK	50	0	22.84	23.2	22.74	24.00
20	QPSK	50	25	22.7	22.73	22.92	23.00
20	QPSK	50	50	22.59	22.7	22.49	23.00
20	QPSK	100	0	22.84	22.75	22.86	23.00
20	16QAM	1	0	22.41	22.57	22.28	23.00
20	16QAM	1	49	22.54	22.04	22.67	23.00
20	16QAM	1	99	22.91	22.65	22.11	23.00

7.1.2. Conducted Power Measurement Results(LTE Band 4)

BW(MHz)	Modulation	RB Size	RB offset	POWER(dBm) Low Ch19957/1710.7MHz	POWER(dBm) Mid Ch20175/1732.5MHz	POWER(dBm) High Ch20393/1754.3MHz	Tune Up(dBm)
1.4	QPSK	1	0	23.2	23.13	23.02	24.00
1.4	QPSK	1	3	23.43	23.25	23.12	24.00
1.4	QPSK	1	5	23.16	23.18	23.04	24.00
1.4	QPSK	3	0	23.55	23.63	23.32	24.00
1.4	QPSK	3	1	23.71	23.66	23.53	24.00
1.4	QPSK	3	3	23.44	23.58	23.27	24.00
1.4	QPSK	6	0	22.41	22.22	22.35	23.00
1.4	16QAM	1	0	22.04	21.33	21.82	23.00
1.4	16QAM	1	3	21.63	21.27	21.57	22.00
1.4	16QAM	1	5	21.61	21.65	21.46	22.00
BW(MHz)	Modulation	RB Size	RB offset	POWER(dBm) Low Ch19965/1711.5MHz	POWER(dBm) Mid Ch20175/1732.5MHz	POWER(dBm) High Ch20385/1753.5MHz	Tune Up(dBm)
3	QPSK	1	0	23.02	23.31	23.24	24.00
3	QPSK	1	7	23.3	23.57	23.32	24.00
3	QPSK	1	14	23.26	23.31	23.29	24.00
3	QPSK	8	0	22.86	22.64	22.45	23.00
3	QPSK	8	3	22.59	22.28	22.28	23.00
3	QPSK	8	7	22.73	22.64	22.17	23.00
3	QPSK	15	0	22.05	22.54	22.04	23.00
3	16QAM	1	0	21.57	21.74	21.75	22.00
3	16QAM	1	7	22.03	22.08	21.75	23.00
3	16QAM	1	14	21.89	21.51	21.58	22.00
BW(MHz)	Modulation	RB Size	RB offset	POWER(dBm) Low Ch19975/1712.5MHz	POWER(dBm) Mid Ch20175/1732.5MHz	POWER(dBm) High Ch20375/1752.5MHz	Tune Up(dBm)
5	QPSK	1	0	23.66	23.67	23.35	24.00
5	QPSK	1	12	23.64	23.58	23.31	24.00
5	QPSK	1	24	23.27	23.46	23.25	24.00
5	QPSK	12	0	22.44	22.76	22.5	23.00
5	QPSK	12	6	22.38	22.31	22.27	23.00
5	QPSK	12	13	22.21	22.24	22.13	23.00
5	QPSK	25	0	22.38	22.22	22.1	23.00
5	16QAM	1	0	21.75	22.14	21.53	23.00
5	16QAM	1	12	22.01	22.15	21.83	23.00

5	16QAM	1	24	21.75	21.57	21.93	22.00
BW(MHz)	Modulation	RB Size	RB offset	POWER(dBm) Low Ch20000/1715MHz	POWER(dBm) Mid Ch20175/1732.5MHz	POWER(dBm) High Ch20350/1750MHz	Tune Up(dBm)
10	QPSK	1	0	23.75	23.93	23.47	24.00
10	QPSK	1	24	23.05	23.21	23.07	24.00
10	QPSK	1	49	23.75	23.04	23.04	24.00
10	QPSK	25	0	22.37	22.35	22.12	23.00
10	QPSK	25	12	22.23	22.21	22.11	23.00
10	QPSK	25	25	22.34	22.3	22.11	23.00
10	QPSK	50	0	22.29	22.31	22.11	23.00
10	16QAM	1	0	21.73	21.87	22.02	23.00
10	16QAM	1	24	21.56	21.88	21.58	22.00
10	16QAM	1	49	21.68	22.01	21.78	23.00
BW(MHz)	Modulation	RB Size	RB offset	POWER(dBm) Low Ch20025/1717.5MHz	POWER(dBm) Mid Ch20175/1732.5MHz	POWER(dBm) High Ch20325/1747.5MHz	Tune Up(dBm)
15	QPSK	1	0	23.18	23.25	23.66	24.00
15	QPSK	1	37	23.84	23.61	23.67	24.00
15	QPSK	1	74	24.12	23.51	23.48	24.00
15	QPSK	36	0	22.68	22.65	22.63	23.00
15	QPSK	36	19	22.76	22.54	22.46	23.00
15	QPSK	36	39	22.53	22.52	22.08	23.00
15	QPSK	75	0	22.04	22.41	22.34	23.00
15	16QAM	1	0	22.55	22.22	22.42	23.00
15	16QAM	1	37	22.37	22.53	22.47	23.00
15	16QAM	1	74	22.59	22.55	22.35	23.00
BW(MHz)	Modulation	RB Size	RB offset	POWER(dBm) Low Ch20050/1720MHz	POWER(dBm) Mid Ch20175/1732.5MHz	POWER(dBm) High Ch20300/1745MHz	Tune Up(dBm)
20	QPSK	1	0	23.44	23.48	23.84	24.00
20	QPSK	1	49	23.16	23.09	23.17	24.00
20	QPSK	1	99	23.44	23.49	23.39	24.00
20	QPSK	50	0	22.25	22.14	22.41	23.00
20	QPSK	50	25	22.12	22.19	22.04	23.00
20	QPSK	50	50	22.35	22.15	22.04	23.00
20	QPSK	100	0	22.37	22.28	22.33	23.00
20	16QAM	1	0	22.44	22.69	22.18	23.00
20	16QAM	1	49	22.01	22.05	21.91	23.00
20	16QAM	1	99	22.09	22.15	22.11	23.00

7.1.3. Conducted Power Measurement Results(LTE Band 5)

BW(MHz)	Modulation	RB Size	RB offset	POWER(dBm) Low Ch20407/824.7 MHz	POWER(dBm) Mid Ch20525/836.5 MHz	POWER(dBm) High Ch20643/848.3 MHz	Tune Up(dBm)
1.4	QPSK	1	0	23.86	23.93	23.91	24.00
1.4	QPSK	1	3	23.59	24.09	23.77	24.50
1.4	QPSK	1	5	24.13	23.85	23.65	24.50
1.4	QPSK	3	0	23.65	24.06	24.26	24.50
1.4	QPSK	3	1	23.85	23.73	23.67	24.00
1.4	QPSK	3	3	23.57	24.06	23.99	24.50
1.4	QPSK	6	0	22.55	22.67	22.74	23.00
1.4	16QAM	1	0	22.19	22.6	22.66	23.00
1.4	16QAM	1	3	21.99	22.54	22.61	23.00
1.4	16QAM	1	5	22.02	22.45	22.15	23.00
BW(MHz)	Modulation	RB Size	RB offset	POWER(dBm) Low Ch20415/825.5 MHz	POWER(dBm) Mid Ch20525/836.5 MHz	POWER(dBm) High Ch20635/847.5 MHz	Tune Up(dBm)
3	QPSK	1	0	23.79	23.78	23.72	24.00
3	QPSK	1	7	23.95	24.25	24.09	24.50
3	QPSK	1	14	23.94	23.98	24.04	24.50
3	QPSK	8	0	23.06	23.16	23.22	24.00
3	QPSK	8	3	22.98	22.78	23.17	24.00
3	QPSK	8	7	22.77	22.63	23.08	24.00
3	QPSK	15	0	23.08	22.61	22.95	24.00
3	16QAM	1	0	21.99	22.11	22.17	23.00
3	16QAM	1	7	22.31	22.66	22.29	23.00
3	16QAM	1	14	22.54	22.13	22.09	23.00
BW(MHz)	Modulation	RB Size	RB offset	POWER(dBm) Low Ch20425/826.5 MHz	POWER(dBm) Mid Ch20525/836.5 MHz	POWER(dBm) High Ch20625/846.5 MHz	Tune Up(dBm)
5	QPSK	1	0	23.54	23.72	24.03	24.50
5	QPSK	1	12	23.79	23.87	23.85	24.00
5	QPSK	1	24	24.05	23.82	24.03	24.50
5	QPSK	12	0	23.19	23.23	23.1	24.00
5	QPSK	12	6	22.82	22.61	23.09	24.00
5	QPSK	12	13	22.91	22.97	23.09	24.00
5	QPSK	25	0	22.61	22.65	22.59	23.00
5	16QAM	1	0	22.59	22.04	22.21	23.00
5	16QAM	1	12	22.57	22.97	22.54	23.00

5	16QAM	1	24	22.56	22.02	22.41	23.00
BW(MHz)	Modulation	RB Size	RB offset	POWER(dBm) Low Ch20450/829MHz	POWER(dBm) Mid Ch20525/836.5 MHz	POWER(dBm) High Ch20600/844MHz	Tune Up(dBm)
10	QPSK	1	0	23.31	23.43	23.41	24.00
10	QPSK	1	24	23.84	23.7	23.66	24.00
10	QPSK	1	49	23.51	24.01	24.09	24.50
10	QPSK	25	0	23.12	22.67	22.58	24.00
10	QPSK	25	12	22.89	22.55	22.48	23.00
10	QPSK	25	25	22.73	22.73	22.61	23.00
10	QPSK	50	0	23.12	22.71	22.83	24.00
10	16QAM	1	0	22.15	22.49	22.23	23.00
10	16QAM	1	24	22.47	22.19	22.5	23.00
10	16QAM	1	49	22.04	22.44	22.76	23.00

7.1.4. Conducted Power Measurement Results(LTE Band 12)

BW(MHz)	Modulation	RB Size	RB offset	POWER(dBm) Low Ch23017/699.7 MHz	POWER(dBm) Mid Ch23095/707.5 MHz	POWER(dBm) High Ch23173/715.3 MHz	Tune Up(dBm)
1.4	QPSK	1	0	23.18	23.24	23.11	24.00
1.4	QPSK	1	3	23.45	23.44	23.28	24.00
1.4	QPSK	1	5	23.22	23.31	23.15	24.00
1.4	QPSK	3	0	23.3	23.39	23.21	24.00
1.4	QPSK	3	1	23.47	23.49	23.35	24.00
1.4	QPSK	3	3	23.32	23.36	23.25	24.00
1.4	QPSK	6	0	22.41	22.38	22.28	23.00
1.4	16QAM	1	0	21.83	22.1	21.39	23.00
1.4	16QAM	1	3	22.28	22.38	22	23.00
1.4	16QAM	1	5	21.85	21.95	22.01	23.00
BW(MHz)	Modulation	RB Size	RB offset	POWER(dBm) Low Ch23025/700.5 MHz	POWER(dBm) Mid Ch23095/707.5 MHz	POWER(dBm) High Ch23165/714.5 MHz	Tune Up(dBm)
3	QPSK	1	0	23.19	23.51	23.54	24.00
3	QPSK	1	7	23.46	23.52	23.35	24.00
3	QPSK	1	14	23.45	23.16	23.24	24.00
3	QPSK	8	0	22.46	22.47	22.42	23.00
3	QPSK	8	3	22.62	22.68	22.66	23.00
3	QPSK	8	7	22.69	22.44	22.64	23.00
3	QPSK	15	0	22.52	22.45	22.56	23.00
3	16QAM	1	0	22.58	22.59	22.33	23.00
3	16QAM	1	7	22.88	23.24	22.57	23.00
3	16QAM	1	14	22.74	22.32	22.01	23.00
BW(MHz)	Modulation	RB Size	RB offset	POWER(dBm) Low Ch23035/701.5 MHz	POWER(dBm) Mid Ch23095/707.5 MHz	POWER(dBm) High Ch23155/713.5 MHz	Tune Up(dBm)
5	QPSK	1	0	23.14	23.36	23.64	24.00
5	QPSK	1	12	23.63	23.56	23.34	24.00
5	QPSK	1	24	23.18	23.35	23.16	24.00
5	QPSK	12	0	22.58	22.45	22.41	23.00
5	QPSK	12	6	22.62	22.5	22.29	23.00
5	QPSK	12	13	22.49	22.38	22.39	23.00
5	QPSK	25	0	22.59	22.55	22.64	23.00
5	16QAM	1	0	21.94	22.04	22.2	23.00
5	16QAM	1	12	22.18	22.01	22.19	23.00
5	16QAM	1	24	21.66	21.75	21.66	22.00

BW(MHz)	Modulation	RB Size	RB offset	POWER(dBm) Low Ch23060/704MHz	POWER(dBm) Mid Ch23095/707.5 MHz	POWER(dBm) High Ch23130/711MHz	Tune Up(dBm)
10	QPSK	1	0	23.21	23.19	23.31	24.00
10	QPSK	1	24	23.55	23.22	23.6	24.00
10	QPSK	1	49	23.42	23.42	23.49	24.00
10	QPSK	25	0	22.26	22.38	22.33	23.00
10	QPSK	25	12	22.48	22.37	22.44	23.00
10	QPSK	25	25	22.65	22.71	22.69	23.00
10	QPSK	50	0	22.87	22.68	22.68	23.00
10	16QAM	1	0	22.35	22.61	22.64	23.00
10	16QAM	1	24	21.74	22.06	22.33	23.00
10	16QAM	1	49	21.81	21.73	21.88	22.00

7.1.5. Conducted Power Measurement Results(LTE Band 13)

BW(MHz)	Modulation	RB Size	RB offset	POWER(dBm) Low Ch23205/779.5MHz	POWER(dBm) Mid Ch23230/782MHz	POWER(dBm) High Ch23255/784.5MHz	Tune Up(dBm)
5	QPSK	1	0	23.72	23.91	23.74	24.00
5	QPSK	1	12	23.96	24.24	23.98	24.50
5	QPSK	1	24	23.71	23.67	23.73	24.00
5	QPSK	12	0	22.79	23.04	23.02	24.00
5	QPSK	12	6	22.98	22.99	22.93	23.00
5	QPSK	12	13	23.17	22.88	22.94	24.00
5	QPSK	25	0	23	23.21	22.94	24.00
5	16QAM	1	0	22.46	22.95	22.25	23.00
5	16QAM	1	12	22.71	22.45	22.78	23.00
5	16QAM	1	24	22.54	22.73	22.66	23.00

BW(MHz)	Modulation	RB Size	RB offset	POWER(dBm) Low&Mid&High Ch23230/782MHz	Tune Up(dBm)
10	QPSK	1	0	23.79	24.50
10	QPSK	1	24	23.91	24.50
10	QPSK	1	49	23.85	24.50
10	QPSK	25	0	22.81	23.00
10	QPSK	25	12	22.85	23.00
10	QPSK	25	25	22.83	23.00
10	QPSK	50	0	22.76	23.00
10	16QAM	1	0	22.64	23.00
10	16QAM	1	24	22.78	23.00
10	16QAM	1	49	22.33	23.00

7.1.6. Conducted Power Measurement Results(LTE Band 66)

BW(MHz)	Modulation	RB Size	RB offset	POWER(dBm) Low Ch131979/1710.7MHz	POWER(dBm) Mid Ch132322/1745MHz	POWER(dBm) High Ch132665/1779.3MHz	Tune Up(dBm)
1.4	QPSK	1	0	23.44	23.51	23.41	24.00
1.4	QPSK	1	3	23.28	23.42	23.59	24.00
1.4	QPSK	1	5	23.34	23.34	23.73	24.00
1.4	QPSK	3	0	23.22	23.31	23.27	24.00
1.4	QPSK	3	1	23.21	23.21	23.25	24.00
1.4	QPSK	3	3	23.24	23.18	23.34	24.00
1.4	QPSK	6	0	22.29	22.28	22.23	23.00
1.4	16QAM	1	0	22.43	22.58	22.09	23.00
1.4	16QAM	1	3	22.79	22.62	22.54	23.00
1.4	16QAM	1	5	22.57	22.44	21.92	23.00

BW(MHz)	Modulation	RB Size	RB offset	POWER(dBm) Low Ch131987/1711.5MHz	POWER(dBm) Mid Ch132322/1745MHz	POWER(dBm) High Ch132657/1778.5MHz	Tune Up(dBm)
3	QPSK	1	0	23.17	23.07	23.17	24.00
3	QPSK	1	7	23.18	23.04	23.01	24.00
3	QPSK	1	14	23.37	22.93	23.05	24.00
3	QPSK	8	0	22.22	22.22	22.28	23.00
3	QPSK	8	3	22.32	22.18	22.16	23.00
3	QPSK	8	7	22.46	22.12	22.31	23.00
3	QPSK	15	0	22.09	22.11	22.24	23.00
3	16QAM	1	0	22.57	22.61	22.34	23.00
3	16QAM	1	7	22.56	22.54	22.46	23.00
3	16QAM	1	14	22.55	22.56	22.51	23.00

BW(MHz)	Modulation	RB Size	RB offset	POWER(dBm) Low Ch131997/1712.5MHz	POWER(dBm) Mid Ch132322/1745MHz	POWER(dBm) High Ch132647/1777.5MHz	Tune Up(dBm)
5	QPSK	1	0	23.57	23.61	23.02	24.00
5	QPSK	1	12	23.63	23.22	23.24	24.00
5	QPSK	1	24	23.46	23.38	23.13	24.00
5	QPSK	12	0	22.41	22.61	22.45	23.00
5	QPSK	12	6	22.35	22.53	22.38	23.00
5	QPSK	12	13	22.45	22.43	22.33	23.00
5	QPSK	25	0	22.53	22.47	22.22	23.00
5	16QAM	1	0	22.07	22.18	21.89	23.00
5	16QAM	1	12	22.11	22.12	22.31	23.00

5	16QAM	1	24	22.17	22.01	21.92	23.00
BW(MHz)	Modulation	RB Size	RB offset	POWER(dBm) Low Ch132022/1715MHz	POWER(dBm) Mid Ch132322/1745 MHz	POWER(dBm) High Ch132622/1775 MHz	Tune Up(dBm)
10	QPSK	1	0	23.44	23.76	23.46	24.00
10	QPSK	1	24	23.18	23.38	23.33	24.00
10	QPSK	1	49	23.49	23.53	23.58	24.00
10	QPSK	25	0	22.61	22.77	22.39	23.00
10	QPSK	25	12	22.34	22.58	22.35	23.00
10	QPSK	25	25	22.57	22.63	22.45	23.00
10	QPSK	50	0	22.41	22.62	22.51	23.00
10	16QAM	1	0	22.84	22.85	22.41	23.00
10	16QAM	1	24	22.96	22.61	22.82	23.00
10	16QAM	1	49	22.79	22.81	22.46	23.00
BW(MHz)	Modulation	RB Size	RB offset	POWER(dBm) Low Ch132047/1717.5MHz	POWER(dBm) Mid Ch132322/1745 MHz	POWER(dBm) High Ch132597/1772.5MHz	Tune Up(dBm)
15	QPSK	1	0	24.11	23.07	23.29	24.50
15	QPSK	1	37	23.46	23.21	23.27	24.00
15	QPSK	1	74	23.82	23.16	23.36	24.00
15	QPSK	36	0	22.53	22.69	22.39	23.00
15	QPSK	36	19	22.49	22.38	22.22	23.00
15	QPSK	36	39	22.62	22.42	22.28	23.00
15	QPSK	75	0	22.65	22.56	22.36	23.00
15	16QAM	1	0	22.9	23.01	22.62	24.00
15	16QAM	1	37	22.89	22.76	22.61	23.00
15	16QAM	1	74	22.88	22.78	22.33	23.00
BW(MHz)	Modulation	RB Size	RB offset	POWER(dBm) Low Ch132072/1720MHz	POWER(dBm) Mid Ch132322/1745 MHz	POWER(dBm) High Ch132572/1770MHz	Tune Up(dBm)
20	QPSK	1	0	23.55	23.76	23.51	24.50
20	QPSK	1	49	23.68	23.5	23.69	24.50
20	QPSK	1	99	23.96	23.46	23.3	24.50
20	QPSK	50	0	22.51	23.07	22.21	24.00
20	QPSK	50	25	22.55	22.57	22.18	23.00
20	QPSK	50	50	22.6	22.43	22.24	23.00
20	QPSK	100	0	22.49	22.45	22.21	23.00
20	16QAM	1	0	23.05	22.12	22.43	24.00
20	16QAM	1	49	23.18	22.54	23.15	24.00
20	16QAM	1	99	23	22.64	22.78	24.00

7.1.7. Conducted Power Measurement Results(LTE Band 71)

BW(MHz)	Modulation	RB Size	RB offset	POWER(dBm) Low Ch133147/665.5MHz	POWER(dBm) Mid Ch133297/680.5MHz	POWER(dBm) High Ch133447/695.5MHz	Tune Up(dBm)
5	QPSK	1	0	23.33	23.19	22.88	24.00
5	QPSK	1	12	23.17	23.07	22.96	24.00
5	QPSK	1	24	23.28	23.4	22.81	24.00
5	QPSK	12	0	22.37	22.42	22.32	23.00
5	QPSK	12	6	22.31	22.28	22.19	23.00
5	QPSK	12	13	22.36	22.39	22.23	23.00
5	QPSK	25	0	22.11	22.28	22.43	23.00
5	16QAM	1	0	21.96	22.63	21.88	23.00
5	16QAM	1	12	22.13	22.03	22.1	23.00
5	16QAM	1	24	22.11	22.28	21.85	23.00
BW(MHz)	Modulation	RB Size	RB offset	POWER(dBm) Low Ch133172/668MHz	POWER(dBm) Mid Ch133297/680.5MHz	POWER(dBm) High Ch133422/693MHz	Tune Up(dBm)
10	QPSK	1	0	23.85	23.49	23.38	24.00
10	QPSK	1	24	23.14	23.33	23.29	24.00
10	QPSK	1	49	23.37	23.66	23.32	24.00
10	QPSK	25	0	22.36	22.49	22.46	23.00
10	QPSK	25	12	22.45	22.45	22.33	23.00
10	QPSK	25	25	22.51	22.48	22.34	23.00
10	QPSK	50	0	22.43	22.29	22.32	23.00
10	16QAM	1	0	23.15	22.61	22.52	24.00
10	16QAM	1	24	23.24	22.92	23.01	24.00
10	16QAM	1	49	23.12	22.63	22.84	24.00
BW(MHz)	Modulation	RB Size	RB offset	POWER(dBm) Low Ch133197/670.5MHz	POWER(dBm) Mid Ch133297/680.5MHz	POWER(dBm) High Ch133397/690.5MHz	Tune Up(dBm)
15	QPSK	1	0	23.86	23.26	23.53	24.00
15	QPSK	1	37	23.43	23.24	23.48	24.00
15	QPSK	1	74	23.62	23.42	23.61	24.00
15	QPSK	36	0	22.53	22.46	22.39	23.00
15	QPSK	36	19	22.55	22.38	22.38	23.00
15	QPSK	36	39	22.61	22.42	22.33	23.00
15	QPSK	75	0	22.51	22.38	22.37	23.00
15	16QAM	1	0	22.48	22.75	22.87	23.00
15	16QAM	1	37	23.61	22.89	22.75	24.00
15	16QAM	1	74	22.79	22.59	22.61	23.00

BW(MHz)	Modulation	RB Size	RB offset	POWER(dBm) Low Ch133222/673MHz	POWER(dBm) Mid Ch133297/680.5MHz	POWER(dBm) High Ch133372/688MHz	Tune Up(dBm)
20	QPSK	1	0	22.98	22.94	23.38	24.00
20	QPSK	1	49	23.44	23.38	23.79	24.00
20	QPSK	1	99	23	23.56	23.37	24.00
20	QPSK	50	0	22.41	22.47	22.42	23.00
20	QPSK	50	25	22.37	22.41	22.38	23.00
20	QPSK	50	50	22.43	22.36	22.55	23.00
20	QPSK	100	0	22.45	22.36	22.49	23.00
20	16QAM	1	0	22.82	22.82	22.24	23.00
20	16QAM	1	49	23.06	23.09	22.55	24.00
20	16QAM	1	99	22.87	22.96	22.43	23.00

7.2. SAR Measurement Results

The calculated SAR is obtained by the following formula:

Reported SAR=Measured SAR*$10^{(Ptarget-Pmeasured))/10}$

Scaling factor=$10^{(Ptarget-Pmeasured))/10}$

Reported SAR= Measured SAR* Scaling factor

Where

P_{target} is the power of manufacturing upper limit;

$P_{measured}$ is the measured power;

Measured SAR is measured SAR at measured power which including power drift)

Reported SAR which including Power Drift and Scaling factor

7.2.1. SAR Results [LTE Band 2]

Next to the Mouth

SAR Values [LTE Band 2]									
Ch/ Freq. (MHz)	BW.	Channel Type	Test Position	Conducted Power (dBm)	Maximum Allowed Power (dBm)	Power Drift (dB)	Scaling Factor	SAR_{1g} results(W/kg)	
								Measured	Reported
measured / reported SAR numbers - Body (distance 10mm)<1RB>									
18700/1860	20M	QPSK 1RB_99	Front	24.23	24.50	0.02	1.064	**0.436**	**0.464**
measured / reported SAR numbers - Body (distance 10mm)<50%RB>									
19100/1900	20M	QPSK 50RB_25	Front	22.92	23.00	-0.17	1.019	0.355	0.362

Extremity

SAR Values [LTE Band 2]									
Ch/ Freq. (MHz)	BW.	Channel Type	Test Position	Conducted Power (dBm)	Maximum Allowed Power (dBm)	Power Drift (dB)	Scaling Factor	SAR_{10-g} results(W/kg)	
								Measured	Reported
measured / reported SAR numbers - Body (distance 0mm)<1RB>									
18700/1860	20M	QPSK 1RB_99	Rear	24.23	24.50	0.03	1.064	**0.633**	**0.674**
measured / reported SAR numbers - Body (distance 0mm)<50%RB>									
19100/1900	20M	QPSK 50RB_25	Rear	22.92	23.00	0.08	1.019	0.535	0.545

Note:

1) The maximum Scaled SAR value is marked in bold. Graph results refer to Appendix B.
2) Per KDB447498 D01, 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:
   - ≤ 0.8W/kg for 1-g or 2.0W/kg for 10-g respectively, when the transmission band is ≤ 100MHz.
   - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz.
   - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz.

7.2.2. SAR Results [LTE Band 5]

Next to the Mouth

SAR Values [LTE Band 5]									
Ch/ Freq. (MHz)	BW.	Channel Type	Test Position	Conducted Power (dBm)	Maximum Allowed Power (dBm)	Power Drift (dB)	Scaling Factor	SAR$_{1-g}$ results(W/kg)	
								Measured	Reported
measured / reported SAR numbers - Body (distance 10mm)<1RB>									
20600/844	10M	QPSK 1RB_49	Front	24.09	24.50	0.09	1.099	**0.233**	**0.256**
measured / reported SAR numbers - Body (distance 10mm)<50%RB>									
20450/829	10M	QPSK 25RB_0	Front	23.12	24.00	-0.15	1.225	0.202	0.247

Extremity

SAR Values [LTE Band 5]									
Ch/ Freq. (MHz)	BW.	Channel Type	Test Position	Conducted Power (dBm)	Maximum Allowed Power (dBm)	Power Drift (dB)	Scaling Factor	SAR$_{10-g}$ results(W/kg)	
								Measured	Reported
measured / reported SAR numbers - Body (distance 10mm)<1RB>									
20600/844	10M	QPSK 1RB_49	Rear	24.09	24.50	-0.17	1.099	**0.296**	**0..325**
measured / reported SAR numbers - Body (distance 10mm)<50%RB>									
20450/829	10M	QPSK 25RB_0	Rear	23.12	24.00	-0.08	1.225	0.255	0.312

Note:

1) The maximum Scaled SAR value is marked in bold. Graph results refer to Appendix B.

2) Per KDB447498 D01, 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:

● ≤ 0.8W/kg for 1-g or 2.0W/kg for 10-g respectively, when the transmission band is ≤ 100MHz.

● ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz.

● ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz.

7.2.3. SAR Results [LTE Band 12]

Next to the Mouth

SAR Values [LTE Band 12]									
Ch/ Freq. (MHz)	BW.	Channel Type	Test Position	Conducted Power (dBm)	Maximum Allowed Power (dBm)	Power Drift (dB)	Scaling Factor	SAR_{1g} results(W/kg)	
								Measured	Reported
measured / reported SAR numbers - Body (distance 10mm)<1RB>									
23130/711	10M	QPSK 1RB_24	Front	23.60	24.00	0.02	1.096	**0.252**	**0.276**
measured / reported SAR numbers - Body (distance 10mm)< 50%RB >									
23095/707.5	10M	QPSK 25RB_25	Front	22.71	23.00	-0.14	1.069	0.198	0.212

Extremity

SAR Values [LTE Band 12]									
Ch/ Freq. (MHz)	BW.	Channel Type	Test Position	Conducted Power (dBm)	Maximum Allowed Power (dBm)	Power Drift (dB)	Scaling Factor	$SAR_{10\text{-}g}$ results(W/kg)	
								Measured	Reported
measured / reported SAR numbers - Body (distance 0mm)<1RB>									
23130/711	10M	QPSK 1RB_24	Rear	23.60	24.00	-0.15	1.096	**0.474**	**0.520**
measured / reported SAR numbers - Body (distance 0mm)< 50%RB >									
23095/707.5	10M	QPSK 25RB_25	Rear	22.71	23.00	-0.11	1.069	0.449	0.480

Note:

1) The maximum Scaled SAR value is marked in bold. Graph results refer to Appendix B.

2) Per KDB447498 D01, 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:

- ≤ 0.8W/kg for 1-g or 2.0W/kg for 10-g respectively, when the transmission band is ≤ 100MHz.
- ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz.
- ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz.

7.2.4. SAR Results [LTE Band 13]

Next to the Mouth

SAR Values [LTE Band 13]									
Ch/ Freq. (MHz)	BW.	Channel Type	Test Position	Conducted Power (dBm)	Maximum Allowed Power (dBm)	Power Drift (dB)	Scaling Factor	SAR_{1g} results(W/kg)	
								Measured	Reported
measured / reported SAR numbers - Body (distance 10mm)<1RB>									
23230/782	10M	QPSK 1RB_24	Front	23.91	24.50	-0.18	1.146	**0.236**	**0.270**
measured / reported SAR numbers - Body (distance 10mm)< 50%RB >									
23230/782	10M	QPSK 25RB_12	Front	22.85	23.00	0.15	1.035	0.174	0.180

Extremity

SAR Values [LTE Band 13]									
Ch/ Freq. (MHz)	BW.	Channel Type	Test Position	Conducted Power (dBm)	Maximum Allowed Power (dBm)	Power Drift (dB)	Scaling Factor	$SAR_{10\text{-}g}$ results(W/kg)	
								Measured	Reported
measured / reported SAR numbers - Body (distance 0mm)<1RB>									
23230/782	10M	QPSK 1RB_24	Rear	23.91	24.50	-0.11	1.146	**0.433**	**0.496**
measured / reported SAR numbers - Body (distance 0mm)< 50%RB >									
23230/782	10M	QPSK 25RB_12	Rear	22.85	23.00	-0.06	1.035	0.385	0.399

Note:

1) The maximum Scaled SAR value is marked in bold. Graph results refer to Appendix B.
2) Per KDB447498 D01, 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:
   - ≤ 0.8W/kg for 1-g or 2.0W/kg for 10-g respectively, when the transmission band is ≤ 100MHz.
   - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz.
   - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz.

7.2.5. SAR Results [LTE Band 66]

Next to the Mouth

SAR Values [LTE Band 66]									
Ch/ Freq. (MHz)	BW.	Channel Type	Test Position	Conducted Power (dBm)	Maximum Allowed Power (dBm)	Power Drift (dB)	Scaling Factor	SAR_{1g} results(W/kg)	
								Measured	Reported
measured / reported SAR numbers - Body (distance 10mm)<1RB>									
132072/1720	20M	QPSK 1RB_99	Front	23.96	24.50	-0.07	1.132	**0.644**	**0.729**
measured / reported SAR numbers - Body (distance 10mm)<50%RB>									
132072/1720	20M	QPSK 50RB_50	Front	22.60	23.00	-0.04	1.096	0.555	0.609

Extremity

SAR Values [LTE Band 66]									
Ch/ Freq. (MHz)	BW.	Channel Type	Test Position	Conducted Power (dBm)	Maximum Allowed Power (dBm)	Power Drift (dB)	Scaling Factor	$SAR_{10\text{-}g}$ results(W/kg)	
								Measured	Reported
measured / reported SAR numbers - Body (distance 0mm)<1RB>									
132072/1720	20M	QPSK 1RB_99	Rear	23.96	24.50	-0.19	1.132	**0.814**	**0.922**
measured / reported SAR numbers - Body (distance 0mm)<50%RB>									
132072/1720	20M	QPSK 50RB_50	Rear	22.60	23.00	-0.05	1.096	0.665	0.729

Note:

1) The maximum Scaled SAR value is marked in bold. Graph results refer to Appendix B.

2) Per KDB447498 D01, 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:

● ≤ 0.8W/kg for 1-g or 2.0W/kg for 10-g respectively, when the transmission band is ≤ 100MHz.

● ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz.

● ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz.

7.2.6. SAR Results [LTE Band 71]

Next to the Mouth

SAR Values [LTE Band 71]									
Ch/ Freq. (MHz)	BW.	Channel Type	Test Position	Conducted Power (dBm)	Maximum Allowed Power (dBm)	Power Drift (dB)	Scaling Factor	SAR_{1g} results(W/kg)	
								Measured	Reported
measured / reported SAR numbers - Body (distance 10mm)<1RB>									
133372/688	20M	QPSK 1RB_49	Front	23.79	24.00	-0.14	1.050	**0.668**	**0.701**
measured / reported SAR numbers - Body (distance 10mm)<50%RB>									
133372/688	20M	QPSK 50RB_50	Front	22.55	23.00	0.00	1.109	0.539	0.598

Extremity

SAR Values [LTE Band 71]									
Ch/ Freq. (MHz)	BW.	Channel Type	Test Position	Conducted Power (dBm)	Maximum Allowed Power (dBm)	Power Drift (dB)	Scaling Factor	$SAR_{10\text{-}g}$ results(W/kg)	
								Measured	Reported
measured / reported SAR numbers - Body (distance 0mm)<1RB>									
133372/688	20M	QPSK 1RB_49	Rear	23.79	24.00	-0.16	1.050	**0.888**	**0.932**
measured / reported SAR numbers - Body (distance 0mm)<50%RB>									
133372/688	20M	QPSK 50RB_50	Rear	22.55	23.00	-0.12	1.109	0.699	0.775

Note:

1) The maximum Scaled SAR value is marked in bold. Graph results refer to Appendix B.
2) Per KDB447498 D01, 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:
   - ≤ 0.8W/kg for 1-g or 2.0W/kg for 10-g respectively, when the transmission band is ≤ 100MHz.
   - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz.
   - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz.

8. SYSTEM CHECK RESULTS

Please see the Appendix A

9. CALIBRATION CERTIFICATE

Please see the Appendix C

10. PHOTOGRAPH

Please see the Appendix D

Appendix A: Detailed System Check Results

Appendix B: Detailed Test Results

Appendix C: Calibration certificate

Appendix D: Photographs