



# FCC SAR TEST REPORT

**FCC ID** : XNAWUP01  
**Equipment** : Data Hub  
**Brand Name** : Withings  
**Model Name** : WUP01  
**Applicant** : Withings SA  
2 rue Maurice Hartmann  
92130 Issy-Les-Moulineaux  
France  
**Manufacturer** : Withings SA  
2 rue Maurice Hartmann  
92130 Issy-Les-Moulineaux  
France  
**Standard** : FCC 47 CFR Part 2 (2.1093)  
ANSI/IEEE C95.1-1992  
IEEE 1528-2013

The product was received on Apr. 27, 2020 and testing was started from Apr. 30, 2020 and completed on May 08, 2020. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Approved by: Cona Huang / Deputy Manager

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## History of this test report



## 1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for Withings SA, Data Hub, WUP01, are as follows.

Equipment Class	Frequency Band	Highest SAR Summary	
		Body-worn (Separation 15mm)	Highest Simultaneous Transmission 1g SAR (W/kg)
		1g SAR (W/kg)	
Licensed	Cat-M1	Cat-M1 LTE Band 12 / 17	0.027
		Cat-M1 LTE Band 13	0.027
		Cat-M1 LTE Band 14	0.027
		Cat-M1 LTE Band 2 / 25	0.272
		Cat-M1 LTE Band 5 / 26	0.037
		Cat-M1 LTE Band 4 / 66	0.833
	NB-IOT	NB-IOT LTE Band 12 / 17	0.008
		NB-IOT LTE Band 13	0.006
		NB-IOT LTE Band 14	0.015
		NB-IOT LTE Band 2 / 25	0.130
		NB-IOT LTE Band 5 / 26	0.020
		NB-IOT LTE Band 4 / 66	0.219
DTS	WLAN	2.4GHz WLAN	0.699
DSS	2.4GHz Band	Bluetooth	0.056
Date of Testing:		2020/4/30 ~ 2020/5/8	

Sportun Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 1190) and the FCC designation No. TW1190 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC test. 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 C95.1-1992, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013 and FCC KDB publications.

Reviewed by: Jason Wang

Report Producer: Daisy Peng

## 2. Guidance Applied

The Specific Absorption Rate (SAR) testing specification, method, and procedure for this device is in accordance with the following standards:

- FCC 47 CFR Part 2 (2.1093)
- ANSI/IEEE C95.1-1992
- IEEE 1528-2013
- FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
- FCC KDB 865664 D02 SAR Reporting v01r02
- FCC KDB 447498 D01 General RF Exposure Guidance v06
- FCC KDB 248227 D01 802.11 Wi-Fi SAR v02r02
- FCC KDB 941225 D05 SAR for LTE Devices v02r05



### 3. Equipment Under Test (EUT) Information

#### 3.1 General Information

Product Feature & Specification	
Equipment Name	Data Hub
Brand Name	Withings
Model Name	WUP01
FCC ID	XNAWUP01
S / N	0024E49EA4BC
Wireless Technology and Frequency Range	LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 14: 788 MHz ~ 798 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 25: 1850 MHz ~ 1915 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 66: 1710 MHz ~ 1780 MHz WLAN 2.4GHz Band: 2400 MHz ~ 2483.5 MHz Bluetooth: 2400 MHz ~ 2483.5 MHz
Mode	LTE: BPSK, QPSK, 16QAM WLAN: 802.11b/g/n HT20 Bluetooth BR/EDR/LE
HW Version	v5a
SW Version	v120
EUT Stage	Identical Prototype



## 4. RF Exposure Limits

### 4.1 Uncontrolled Environment

Uncontrolled Environments are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure. The general population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity.

### 4.2 Controlled Environment

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). In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. The exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

#### Limits for Occupational/Controlled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.4	8.0	20.0

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

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.08	1.6	4.0

1. Whole-Body SAR is averaged over the entire body, partial-body SAR is averaged over any 1gram of tissue defined as a tissue volume in the shape of a cube. SAR for hands, wrists, feet and ankles is averaged over any 10 grams of tissue defined as a tissue volume in the shape of a cube.



## 5. Specific Absorption Rate (SAR)

### 5.1 Introduction

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

### 5.2 SAR Definition

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

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

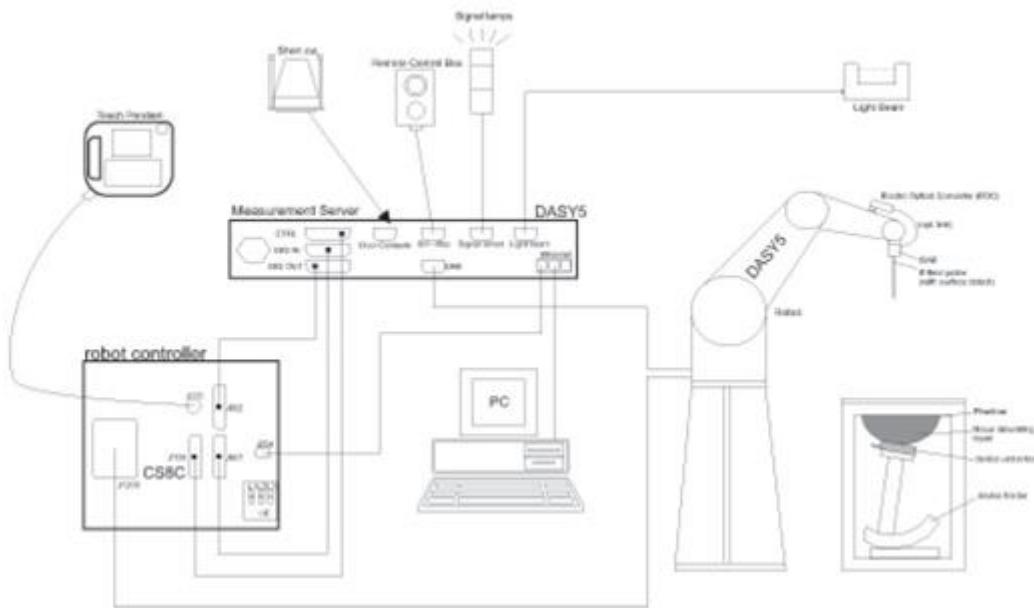
SAR is expressed in units of Watts per kilogram (W/kg)

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

Where: σ is the conductivity of the tissue, ρ is the mass density of the tissue and E is the RMS electrical field strength.

## **6. *System Description and Setup***

**The DASY system used for performing compliance tests consists of the following items:**



- A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic Field probe optimized and calibrated for the targeted measurement.
- 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 from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- 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.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running WinXP or Win7 and the DASY5 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

### 6.1 E-Field Probe

The SAR measurement is conducted with the dosimetric probe (manufactured by SPEAG).The probe is specially designed and calibrated for use in liquid with high permittivity. The dosimetric probe has special calibration in liquid at different frequency. This probe has a built in optical surface detection system to prevent from collision with phantom.

#### <ES3DV3 Probe>

<b>Construction</b>	Symmetric design with triangular core Interleaved sensors Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
<b>Frequency</b>	10 MHz – 4 GHz; Linearity: $\pm 0.2$ dB (30 MHz – 4 GHz)	
<b>Directivity</b>	$\pm 0.2$ dB in TSL (rotation around probe axis) $\pm 0.3$ dB in TSL (rotation normal to probe axis)	
<b>Dynamic Range</b>	5 $\mu$ W/g – >100 mW/g; Linearity: $\pm 0.2$ dB	
<b>Dimensions</b>	Overall length: 337 mm (tip: 20 mm) Tip diameter: 3.9 mm (body: 12 mm) Distance from probe tip to dipole centers: 3.0 mm	

#### <EX3DV4 Probe>

<b>Construction</b>	Symmetric design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
<b>Frequency</b>	10 MHz – >6 GHz Linearity: $\pm 0.2$ dB (30 MHz – 6 GHz)	
<b>Directivity</b>	$\pm 0.3$ dB in TSL (rotation around probe axis) $\pm 0.5$ dB in TSL (rotation normal to probe axis)	
<b>Dynamic Range</b>	10 $\mu$ W/g – >100 mW/g Linearity: $\pm 0.2$ dB (noise: typically <1 $\mu$ W/g)	
<b>Dimensions</b>	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	

### 6.2 Data Acquisition Electronics (DAE)

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

The input impedance of the DAE is 200 M $\Omega$ ; the inputs are symmetrical and floating. Common mode rejection is above 80 dB.



Fig 5.1 Photo of DAE

### 6.3 Phantom

#### <SAM Twin Phantom>

<b>Shell Thickness</b>	2 ± 0.2 mm; Center ear point: 6 ± 0.2 mm	 A photograph of the SAM Twin Phantom. It is a rectangular white phantom housed in a clear acrylic frame. A black device holder is mounted inside, holding a black device. A white cover is visible on top of the phantom.
<b>Filling Volume</b>	Approx. 25 liters	
<b>Dimensions</b>	Length: 1000 mm; Width: 500 mm; Height: adjustable feet	
<b>Measurement Areas</b>	Left Hand, Right Hand, Flat Phantom	

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

#### <ELI Phantom>

<b>Shell Thickness</b>	2 ± 0.2 mm (sagging: <1%)	 A photograph of the ELI Phantom. It is a white phantom with a red circular top. A black device holder is mounted inside, holding a black device.
<b>Filling Volume</b>	Approx. 30 liters	

The ELI phantom is intended for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30 MHz to 6 GHz. ELI4 is fully compatible with standard and all known tissue simulating liquids.

## 6.4 Device Holder

### <Mounting Device for Hand-Held Transmitter>

In combination with the Twin SAM V5.0/V5.0c or ELI phantoms, the Mounting Device for Hand-Held Transmitters enables rotation of the mounted transmitter device to specified spherical coordinates. At the heads, the rotation axis is at the ear opening. Transmitter devices can be easily and accurately positioned according to IEC 62209-1, IEEE 1528, FCC, or other specifications. The device holder can be locked for positioning at different phantom sections (left head, right head, flat). And upgrade kit to Mounting Device to enable easy mounting of wider devices like big smart-phones, e-books, small tablets, etc. It holds devices with width up to 140 mm.



Mounting Device for Hand-Held  
Transmitters



Mounting Device Adaptor for Wide-Phones

### <Mounting Device for Laptops and other Body-Worn Transmitters>

The extension is lightweight and made of POM, acrylic glass and foam. It fits easily on the upper part of the mounting device in place of the phone positioned. The extension is fully compatible with the SAM Twin and ELI phantoms.



Mounting Device for Laptops



## 7. Measurement Procedures

The measurement procedures are as follows:

### <Conducted power measurement>

- (a) For WWAN power measurement, use base station simulator to configure EUT WWAN transmission in conducted 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

### <SAR measurement>

- (a) Use base station simulator to configure EUT WWAN transmission in radiated connection, and engineering software to configure EUT WLAN/BT continuously transmission, at maximum RF power, in the highest power channel.
- (b) Place the EUT in the positions as Appendix D demonstrates.
- (c) Set scan area, grid size and other setting on the DASY software.
- (d) Measure SAR results for the highest power channel on each testing position.
- (e) Find out the largest SAR result on these testing positions of each band
- (f) Measure SAR results for other channels in worst SAR testing position if the reported SAR of highest power channel is larger than 0.8 W/kg

According to the test standard, the recommended procedure for assessing the peak spatial-average SAR value consists of the following steps:

- (a) Power reference measurement
- (b) Area scan
- (c) Zoom scan
- (d) Power drift measurement

### 7.1 Spatial Peak SAR Evaluation

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

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

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

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



## 7.2 Power Reference Measurement

The Power Reference Measurement and Power Drift Measurements are for monitoring the power drift of the device under test in the batch process. The minimum distance of probe sensors to surface determines the closest measurement point to phantom surface. This distance cannot be smaller than the distance of sensor calibration points to probe tip as defined in the probe properties.

## 7.3 Area Scan

The area scan is used as a fast scan in two dimensions to find the area of high field values, before doing a fine measurement around the hot spot. The sophisticated interpolation routines implemented in DASY software can find the maximum found in the scanned area, within a range of the global maximum. The range (in dB0) is specified in the standards for compliance testing. For example, a 2 dB range is required in IEEE standard 1528 and IEC 62209 standards, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard (Japan), if only one zoom scan follows the area scan, then only the absolute maximum will be taken as reference. For cases where multiple maximums are detected, the number of zoom scans has to be increased accordingly.

Area scan parameters extracted from FCC KDB 865664 D01v01r04 SAR measurement 100 MHz to 6 GHz.

	$\leq 3$ GHz	$> 3$ GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface	$5 \pm 1$ mm	$\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5$ mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location	$30^\circ \pm 1^\circ$	$20^\circ \pm 1^\circ$
	$\leq 2$ GHz: $\leq 15$ mm $2 - 3$ GHz: $\leq 12$ mm	$3 - 4$ GHz: $\leq 12$ mm $4 - 6$ GHz: $\leq 10$ mm
Maximum area scan spatial resolution: $\Delta x_{\text{Area}}$ , $\Delta y_{\text{Area}}$	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 $\leq$ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	



## 7.4 Zoom Scan

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

Zoom scan parameters extracted from FCC KDB 865664 D01v01r04 SAR measurement 100 MHz to 6 GHz.

		$\leq 3$ GHz	$> 3$ GHz
Maximum zoom scan spatial resolution: $\Delta x_{Zoom}$ , $\Delta y_{Zoom}$		$\leq 2$ GHz: $\leq 8$ mm $2 - 3$ GHz: $\leq 5$ mm*	$3 - 4$ GHz: $\leq 5$ mm* $4 - 6$ GHz: $\leq 4$ mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$	$\leq 5$ mm	$3 - 4$ GHz: $\leq 4$ mm $4 - 5$ GHz: $\leq 3$ mm $5 - 6$ GHz: $\leq 2$ mm
		$\leq 4$ mm	$3 - 4$ GHz: $\leq 3$ mm $4 - 5$ GHz: $\leq 2.5$ mm $5 - 6$ GHz: $\leq 2$ mm
	graded grid	$\Delta z_{Zoom}(n>1)$ : between subsequent points	$\leq 1.5 \cdot \Delta z_{Zoom}(n-1)$
Minimum zoom scan volume	x, y, z	$\geq 30$ mm	$3 - 4$ GHz: $\geq 28$ mm $4 - 5$ GHz: $\geq 25$ mm $5 - 6$ GHz: $\geq 22$ mm

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

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

## 7.5 Volume Scan Procedures

The volume scan is used to assess overlapping SAR distributions for antennas transmitting in different frequency bands. It is equivalent to an oversized zoom scan used in standalone measurements. The measurement volume will be used to enclose all the simultaneous transmitting antennas. For antennas transmitting simultaneously in different frequency bands, the volume scan is measured separately in each frequency band. In order to sum correctly to compute the 1g aggregate SAR, the EUT remains in the same test position for all measurements and all volume scan use the same spatial resolution and grid spacing. When all volume scan were completed, the software, SEMCAD postprocessor can combine and subsequently superpose these measurement data to calculating the multiband SAR.

## 7.6 Power Drift Monitoring

All SAR testing is under the EUT installed full charged battery and transmit maximum output power. In DASY measurement software, the power reference measurement and power drift measurement procedures are used for monitoring the power drift of EUT during SAR test. Both these procedures measure the field at a specified reference position before and after the SAR testing. The software will calculate the field difference in dB. If the power drifts more than 5%, the SAR will be retested.



## 8. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit	D750V3	1107	Mar. 08, 2019	Mar. 06, 2021
SPEAG	835MHz System Validation Kit	D835V2	4d167	Nov. 25, 2019	Nov. 24, 2020
SPEAG	1750MHz System Validation Kit	D1750V2	1112	Mar. 07, 2019	Mar. 05, 2021
SPEAG	1900MHz System Validation Kit	D1900V2	5d185	Mar. 07, 2019	Mar. 05, 2021
SPEAG	2450MHz System Validation Kit	D2450V2	736	Aug. 31, 2018	Aug. 29, 2020
SPEAG	Data Acquisition Electronics	DAE4	699	Feb. 26, 2020	Feb. 25, 2021
SPEAG	Data Acquisition Electronics	DAE4	853	Jul. 18, 2019	Jul. 17, 2020
SPEAG	Data Acquisition Electronics	DAE4	916	Dec. 17, 2019	Dec. 16, 2020
SPEAG	Dosimetric E-Field Probe	ES3DV3	3169	May. 24, 2019	May. 23, 2020
SPEAG	Dosimetric E-Field Probe	ES3DV3	3184	Sep. 25, 2019	Sep. 24, 2020
SPEAG	Dosimetric E-Field Probe	EX3DV4	7515	Oct. 22, 2019	Oct. 21, 2020
RCPTWN	Thermometer	HTC-1	TM685-1	Nov. 12, 2019	Nov. 11, 2020
RCPTWN	Thermometer	HTC-1	TM560-2	Nov. 12, 2019	Nov. 11, 2020
Anritsu	Radio Communication Analyzer	MT8821C	6201341950	Oct. 31, 2019	Oct. 30, 2020
R&S	BT Base Station	CBT32	100519	Jun. 04, 2019	Jun. 03, 2020
SPEAG	Device Holder	N/A	N/A	N/A	N/A
Anritsu	Signal Generator	MG3710A	6201502524	Nov. 20, 2019	Nov. 19, 2020
Agilent	ENA Network Analyzer	E5071C	MY46104758	Sep. 06, 2019	Sep. 05, 2020
SPEAG	Dielectric Probe Kit	DAK-3.5	1126	Sep. 18, 2019	Sep. 17, 2020
LINE SEIKI	Digital Thermometer	DTM3000-spezial	3169	Sep. 10, 2019	Sep. 09, 2020
Anritsu	Power Meter	ML2495A	1036004	Aug. 08, 2019	Aug. 07, 2020
Anritsu	Power Sensor	MA2411B	1027253	Aug. 08, 2019	Aug. 07, 2020
Anritsu	Power Meter	ML2495A	1419002	May. 29, 2019	May. 28, 2020
Anritsu	Power Sensor	MA2411B	1339124	May. 29, 2019	May. 28, 2020
Agilent	Spectrum Analyzer	E4408B	MY44211028	Aug. 27, 2019	Aug. 26, 2020
Anritsu	Spectrum Analyzer	MS2830A	6201396378	Jun. 27, 2019	Jun. 26, 2020
Mini-Circuits	Power Amplifier	ZVE-8G+	6418	Oct. 16, 2019	Oct. 15, 2020
Mini-Circuits	Power Amplifier	ZVE-8G+	6382	Aug. 12, 2019	Aug. 11, 2020
ATM	Dual Directional Coupler	C122H-10	P610410z-02	Note 1	
Woken	Attenuator 1	WK0602-XX	N/A	Note 1	
PE	Attenuator 2	PE7005-10	N/A	Note 1	
PE	Attenuator 3	PE7005- 3	N/A	Note 1	

**General Note:**

- Prior to system verification and validation, the path loss from the signal generator to the system check source and the power meter, which includes the amplifier, cable, attenuator and directional coupler, was measured by the network analyzer. The reading of the power meter was offset by the path loss difference between the path to the power meter and the path to the system check source to monitor the actual power level fed to the system check source.
- Referring to KDB 865664 D01v01r04, the dipole calibration interval can be extended to 3 years with justification. The dipoles are also not physically damaged, or repaired during the interval.
- The justification data of dipole D750V2, SN: 1107, D1750V2, SN: 1112, D1900V2, SN: 5d185 and D2450V2, SN: 736 can be found in appendix C. The return loss is < -20dB, within 20% of prior calibration, the impedance is within 5 ohm of prior calibration.

## 9. System Verification

### 9.1 Tissue Simulating Liquids

For the measurement of the field distribution inside the SAM phantom with DASY, the phantom must be filled with around 25 liters of homogeneous body tissue simulating liquid. For head SAR testing, the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15 cm, which is shown in Fig. 10.1. For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm, which is shown in Fig. 10.2.



Fig 10.1 Photo of Liquid Height for Head SAR



Fig 10.2 Photo of Liquid Height for Body SAR



## 9.2 Tissue Verification

The following tissue formulations are provided for reference only as some of the parameters have not been thoroughly verified. The composition of ingredients may be modified accordingly to achieve the desired target tissue parameters required for routine SAR evaluation.

Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity ( $\sigma$ )	Permittivity ( $\epsilon_r$ )
750	41.1	57.0	0.2	1.4	0.2	0	0.89	41.9
835	40.3	57.9	0.2	1.4	0.2	0	0.90	41.5
900	40.3	57.9	0.2	1.4	0.2	0	0.97	41.5
1800, 1900, 2000	55.2	0	0	0.3	0	44.5	1.40	40.0
2450	55.0	0	0	0	0	45.0	1.80	39.2
2600	54.8	0	0	0.1	0	45.1	1.96	39.0

Simulating Liquid for 5GHz, Manufactured by SPEAG

Ingredients	(% by weight)
Water	64~78%
Mineral oil	11~18%
Emulsifiers	9~15%
Additives and Salt	2~3%

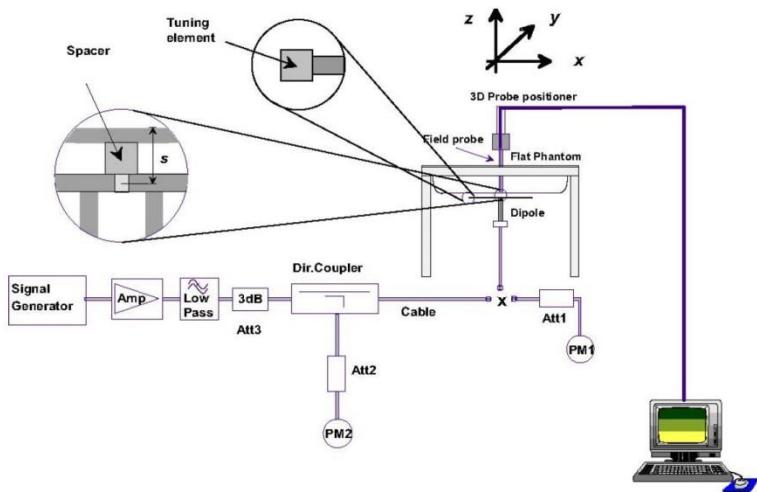
### < Tissue Dielectric Parameter Check Results >

Frequency (MHz)	Liquid Temp. (°C)	Conductivity ( $\sigma$ )	Permittivity ( $\epsilon_r$ )	Conductivity Target ( $\sigma$ )	Permittivity Target ( $\epsilon_r$ )	Delta ( $\sigma$ ) (%)	Delta ( $\epsilon_r$ ) (%)	Limit (%)	Date
750	22.8	0.887	40.616	0.89	41.90	-0.34	-3.06	±5	2020/4/30
835	22.6	0.933	42.602	0.90	41.50	3.67	2.66	±5	2020/5/3
1750	22.2	1.385	41.221	1.37	40.10	1.09	2.80	±5	2020/5/4
1750	22.5	1.378	41.929	1.37	40.10	0.58	4.56	±5	2020/5/8
1900	22.2	1.438	41.026	1.40	40.00	2.71	2.57	±5	2020/5/4
1900	22.5	1.433	40.080	1.40	40.00	2.36	0.20	±5	2020/5/8
2450	22.8	1.809	39.022	1.80	39.20	0.50	-0.45	±5	2020/4/30

### **9.3 System Performance Check Results**

Comparing to the original SAR value provided by SPEAG, the verification data should be within its specification of 10 %. Below table shows the target SAR and measured SAR after normalized to 1W input power. The table below indicates the system performance check can meet the variation criterion and the plots can be referred to Appendix A of this report.

Date	Frequency (MHz)	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 1g SAR (W/kg)	Targeted 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Deviation (%)
2020/4/30	750	250	D750V3-1107	ES3DV3 - SN3184	DAE4 Sn916	1.99	8.32	7.96	-4.33
2020/5/3	835	250	D835V2-4d167	ES3DV3 - SN3184	DAE4 Sn916	2.29	9.55	9.16	-4.08
2020/5/4	1750	250	D1750V2-1112	ES3DV3 - SN3169	DAE4 Sn699	8.55	36.70	34.2	-6.81
2020/5/8	1750	250	D1750V2-1112	EX3DV4 - SN7515	DAE4 Sn853	8.81	36.70	35.24	-3.98
2020/5/4	1900	250	D1900V2-5d185	ES3DV3 - SN3169	DAE4 Sn699	9.77	39.40	39.08	-0.81
2020/5/8	1900	250	D1900V2-5d185	EX3DV4 - SN7515	DAE4 Sn853	9.94	39.40	39.76	0.91
2020/4/30	2450	250	D2450V2-736	ES3DV3 - SN3184	DAE4 Sn916	12.70	52.70	50.8	-3.61



**Fig 8.3.1 System Performance Check Setup**



**Fig 8.3.2 Setup Photo**



## **10. LTE Cat M1 / NBLoT Output Power (Unit: dBm)**

### **<LTE Conducted Power>**

#### **General Note:**

1. Anritsu MT8820C base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05v02r05, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05v02r05, for Cat M1 and NBLoT with the largest channel bandwidth and measure SAR for QPSK with highest RB allocation of each required test channel.
4. Per KDB 941225 D05v02r05, 16QAM output power for each RB allocation configuration is > not  $\frac{1}{2}$  dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is  $\leq 1.45$  W/kg; Per KDB 941225 D05v02r05, 16QAM SAR testing is not required.
5. Per KDB 941225 D05v02r05, Smaller bandwidth output power for each RB allocation configuration is > not  $\frac{1}{2}$  dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is  $\leq 1.45$  W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.

Cat M1<LTE Band 2>

LTE Band 2								
Test Frequency ID	N <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power				EUT	
			Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
Low Range	18700	1860	QPSK	1	0	0	-85	22.79
			QPSK	1	5	0	-85	22.83
			QPSK	1	0	7	-85	22.51
			QPSK	1	5	7	-85	22.63
			QPSK	1	0	15	-85	22.86
			QPSK	1	5	15	-85	22.92
			QPSK	3	0	0	-85	22.67
			QPSK	3	3	15	-85	22.74
			QPSK	6	0	0	-85	22.74
			QPSK	6	0	15	-85	22.91
			16QAM	1	0	0	-85	22.47
			16QAM	1	5	0	-85	22.47
			16QAM	1	0	7	-85	22.55
			16QAM	1	5	7	-85	22.83
			16QAM	1	0	15	-85	22.39
			16QAM	1	5	15	-85	22.46
			16QAM	3	0	0	-85	22.81
			16QAM	3	3	15	-85	22.87
			16QAM	5	0	0	-85	22.62
			16QAM	5	0	15	-85	22.81
Mid. Range	18900	1880	QPSK	1	0	0	-85	22.88
			QPSK	1	5	0	-85	22.86
			QPSK	1	0	7	-85	22.89
			QPSK	1	5	7	-85	22.87
			QPSK	1	0	15	-85	22.73
			QPSK	1	5	15	-85	23.02
			QPSK	3	0	0	-85	22.93
			QPSK	3	3	15	-85	22.96
			QPSK	6	0	0	-85	22.87
			QPSK	6	0	15	-85	23.02
			16QAM	1	0	0	-85	22.97
			16QAM	1	5	0	-85	22.77
			16QAM	1	0	7	-85	22.57
			16QAM	1	5	7	-85	22.86
			16QAM	1	0	15	-85	22.76
			16QAM	1	5	15	-85	22.85
			16QAM	3	0	0	-85	22.86
			16QAM	3	3	15	-85	22.74
			16QAM	5	0	0	-85	22.76
			16QAM	5	0	15	-85	22.93
High Range	19100	1900	QPSK	1	0	0	-85	22.88
			QPSK	1	5	0	-85	22.97
			QPSK	1	0	7	-85	23.02
			QPSK	1	5	7	-85	22.99
			QPSK	1	0	15	-85	22.96
			QPSK	1	5	15	-85	22.96
			QPSK	3	0	0	-85	22.88
			QPSK	3	3	15	-85	22.98
			QPSK	6	0	0	-85	23.02
			QPSK	6	0	15	-85	23.03
			16QAM	1	0	0	-85	23.14
			16QAM	1	5	0	-85	23.01
			16QAM	1	0	7	-85	22.96
			16QAM	1	5	7	-85	22.99
			16QAM	1	0	15	-85	22.71
			16QAM	1	5	15	-85	22.71
			16QAM	3	0	0	-85	22.99
			16QAM	3	3	15	-85	22.97
			16QAM	5	0	0	-85	22.91
			16QAM	5	0	15	-85	22.96



## FCC SAR TEST REPORT

Report No. : FA031828

LTE Band 2								
BW (MHz): 15			Test Configuration Initial of Power				EUT	
Test Frequency ID	N <sub>UL</sub>	Frequency of Uplink (MHz)	Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
			QPSK	1	0	0	-85	22.67
Low Range	18675	1857.5	QPSK	1	5	0	-85	22.71
			QPSK	1	0	5	-85	22.66
			QPSK	1	5	5	-85	22.75
			QPSK	1	0	11	-85	22.81
			QPSK	1	5	11	-85	22.85
			QPSK	3	0	0	-85	22.91
			QPSK	3	3	11	-85	22.92
			QPSK	6	0	0	-85	22.74
			QPSK	6	0	11	-85	22.89
			16QAM	1	0	0	-85	22.97
			16QAM	1	5	0	-85	22.74
			16QAM	1	0	5	-85	22.87
			16QAM	1	5	5	-85	22.41
			16QAM	1	0	11	-85	22.81
			16QAM	1	5	11	-85	22.71
			16QAM	3	0	0	-85	22.69
			16QAM	3	3	11	-85	23.01
			16QAM	5	0	0	-85	22.68
			16QAM	5	0	11	-85	22.76
Mid. Range	18900	1880	QPSK	1	0	0	-85	22.91
			QPSK	1	5	0	-85	22.88
			QPSK	1	0	5	-85	22.77
			QPSK	1	5	5	-85	22.89
			QPSK	1	0	11	-85	22.78
			QPSK	1	5	11	-85	22.84
			QPSK	3	0	0	-85	22.91
			QPSK	3	3	11	-85	23.02
			QPSK	6	0	0	-85	22.95
			QPSK	6	0	11	-85	22.93
			16QAM	1	0	0	-85	23.08
			16QAM	1	5	0	-85	23.04
			16QAM	1	0	5	-85	22.64
			16QAM	1	5	5	-85	22.75
			16QAM	1	0	11	-85	22.87
			16QAM	1	5	11	-85	22.67
			16QAM	3	0	0	-85	22.84
			16QAM	3	3	11	-85	22.78
			16QAM	5	0	0	-85	22.68
			16QAM	5	0	11	-85	22.92
High Range	19125	1902.5	QPSK	1	0	0	-85	23.01
			QPSK	1	5	11	-85	22.88
			QPSK	1	0	5	-85	23.02
			QPSK	1	5	5	-85	22.87
			QPSK	1	0	11	-85	22.91
			QPSK	1	5	11	-85	22.87
			QPSK	3	0	0	-85	22.87
			QPSK	3	3	11	-85	23.01
			QPSK	6	0	0	-85	23.03
			QPSK	6	0	11	-85	23.02
			16QAM	1	0	0	-85	23.18
			16QAM	1	5	0	-85	22.64
			16QAM	1	0	5	-85	23.04
			16QAM	1	5	5	-85	22.88
			16QAM	1	0	11	-85	22.08
			16QAM	1	5	11	-85	22.59
			16QAM	3	0	0	-85	22.98
			16QAM	3	3	11	-85	22.61
			16QAM	5	0	0	-85	22.94
			16QAM	5	0	11	-85	22.86



LTE Band 2								
BW (MHz): 10	N <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power				EUT	
			Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
Low Range	18650	1855	QPSK	1	0	0	-85	22.66
			QPSK	1	5	0	-85	22.55
			QPSK	1	0	3	-85	22.87
			QPSK	1	5	3	-85	22.76
			QPSK	1	0	7	-85	22.78
			QPSK	1	5	7	-85	22.81
			QPSK	4	0	0	-85	22.67
			QPSK	4	2	7	-85	22.89
			QPSK	6	0	0	-85	21.77
			QPSK	6	0	7	-85	21.91
			16QAM	1	0	0	-85	22.04
			16QAM	1	5	0	-85	22.57
			16QAM	1	0	3	-85	22.67
			16QAM	1	5	3	-85	22.73
			16QAM	1	0	7	-85	22.95
			16QAM	1	5	7	-85	22.14
			16QAM	4	2	0	-85	21.97
			16QAM	4	2	7	-85	21.97
			16QAM	5	0	0	-85	21.61
			16QAM	5	0	7	-85	21.66
Mid. Range	18900	1880	QPSK	1	0	0	-85	22.72
			QPSK	1	5	0	-85	22.71
			QPSK	1	0	3	-85	22.74
			QPSK	1	5	3	-85	22.67
			QPSK	1	0	7	-85	22.74
			QPSK	1	5	7	-85	22.72
			QPSK	4	0	0	-85	22.82
			QPSK	4	2	7	-85	22.93
			QPSK	6	0	0	-85	21.87
			QPSK	6	0	7	-85	21.89
			16QAM	1	0	0	-85	22.99
			16QAM	1	5	0	-85	22.15
			16QAM	1	0	3	-85	22.01
			16QAM	1	5	3	-85	21.85
			16QAM	1	0	7	-85	22.45
			16QAM	1	5	7	-85	22.64
			16QAM	4	2	0	-85	21.97
			16QAM	4	2	7	-85	21.99
			16QAM	5	0	0	-85	21.64
			16QAM	5	0	7	-85	21.87
High Range	19150	1905	QPSK	1	0	0	-85	23.02
			QPSK	1	5	0	-85	22.95
			QPSK	1	5	7	-85	22.64
			QPSK	1	0	3	-85	22.98
			QPSK	1	5	3	-85	22.95
			QPSK	1	0	7	-85	22.87
			QPSK	4	0	0	-85	23.01
			QPSK	4	2	7	-85	22.96
			QPSK	6	0	0	-85	22.02
			QPSK	6	0	7	-85	21.89
			16QAM	1	0	0	-85	23.11
			16QAM	1	5	0	-85	22.97
			16QAM	1	0	3	-85	22.91
			16QAM	1	5	3	-85	22.99
			16QAM	1	0	7	-85	22.77
			16QAM	1	5	7	-85	22.56
			16QAM	4	2	0	-85	22.03
			16QAM	4	2	7	-85	22.21
			16QAM	5	0	0	-85	21.77
			16QAM	5	0	7	-85	21.79

**FCC SAR TEST REPORT**

Report No. : FA031828

LTE Band 2								
BW (MHz): 5	N <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power				EUT	
			Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
Low Range	18625	1852.5	QPSK	1	0	0	-85	22.51
			QPSK	1	5	0	-85	22.56
			QPSK	1	0	1	-85	22.59
			QPSK	1	5	1	-85	22.65
			QPSK	1	0	3	-85	22.62
			QPSK	1	5	3	-85	22.68
			QPSK	3	0	0	-85	21.81
			QPSK	3	3	3	-85	21.76
			QPSK	6	0	0	-85	21.84
			QPSK	6	0	1	-85	21.89
			QPSK	6	0	3	-85	21.92
			16QAM	1	0	0	-85	21.95
			16QAM	1	5	0	-85	21.97
			16QAM	1	0	1	-85	21.98
			16QAM	1	5	1	-85	21.99
			16QAM	1	0	3	-85	21.97
			16QAM	1	5	3	-85	21.99
			16QAM	3	0	0	-85	21.49
			16QAM	3	3	3	-85	21.74
			16QAM	5	0	0	-85	20.32
			16QAM	5	0	1	-85	20.3
			16QAM	5	0	3	-85	20.41
Mid. Range	18900	1880	QPSK	1	0	0	-85	22.78
			QPSK	1	5	0	-85	22.78
			QPSK	1	0	1	-85	22.73
			QPSK	1	5	1	-85	22.79
			QPSK	1	0	3	-85	22.83
			QPSK	1	5	3	-85	22.86
			QPSK	3	0	0	-85	21.99
			QPSK	3	3	3	-85	21.93
			QPSK	6	0	0	-85	21.99
			QPSK	6	0	1	-85	21.98
			QPSK	6	0	3	-85	22.14
			16QAM	1	0	0	-85	22.17
			16QAM	1	5	0	-85	22.13
			16QAM	1	0	1	-85	22.21
			16QAM	1	5	1	-85	22.13
			16QAM	1	0	3	-85	22.17
			16QAM	1	5	3	-85	22.22
			16QAM	3	0	0	-85	21.61
			16QAM	3	3	3	-85	21.81
			16QAM	5	0	0	-85	20.47
			16QAM	5	0	1	-85	20.36
			16QAM	5	0	3	-85	20.64

**FCC SAR TEST REPORT**

Report No. : FA031828

LTE Band 2								
BW (MHz): 5	N <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power			EUT		
			Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
High Range	19175	1907.5	QPSK	1	0	0	-85	22.69
			QPSK	1	5	0	-85	22.72
			QPSK	1	0	1	-85	22.83
			QPSK	1	5	1	-85	22.91
			QPSK	1	0	3	-85	22.71
			QPSK	1	5	3	-85	22.74
			QPSK	3	0	0	-85	22
			QPSK	3	3	3	-85	22.79
			QPSK	6	0	0	-85	21.94
			QPSK	6	0	1	-85	22.02
			QPSK	6	0	3	-85	21.99
			16QAM	1	0	0	-85	22.02
			16QAM	1	5	0	-85	22.03
			16QAM	1	0	1	-85	22.07
			16QAM	1	5	1	-85	22.04
			16QAM	1	0	3	-85	22.07
			16QAM	1	5	3	-85	22.04
			16QAM	3	0	0	-85	21.54
			16QAM	3	3	3	-85	21.59
			16QAM	5	0	0	-85	20.41
			16QAM	5	0	1	-85	20.58
			16QAM	5	0	3	-85	20.42



LTE Band 2									
BW (MHz): 3	Test Frequency ID	N.u.	Frequency of Uplink (MHz)	Test Configuration Initial of Power			EUT		
				Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
Low Range	18615	1851.5		QPSK	1	0	0	-85	22.67
				QPSK	1	5	0	-85	22.71
				QPSK	1	0	1	-85	22.74
				QPSK	1	5	1	-85	22.78
				QPSK	3	3	0	-85	21.82
				QPSK	3	3	1	-85	21.85
				QPSK	6	0	0	-85	20.93
				QPSK	6	0	1	-85	20.94
				16QAM	1	0	0	-85	21.02
				16QAM	1	5	0	-85	20.98
				16QAM	1	0	1	-85	20.99
				16QAM	1	5	1	-85	21.03
				16QAM	3	0	0	-85	20.54
				16QAM	3	3	1	-85	20.8
				16QAM	5	0	0	-85	20.32
				16QAM	5	0	1	-85	20.46
Mid. Range	18900	1880		QPSK	1	0	0	-85	22.93
				QPSK	1	5	0	-85	22.87
				QPSK	1	0	1	-85	22.82
				QPSK	1	5	1	-85	23.04
				QPSK	3	3	0	-85	21.95
				QPSK	3	3	1	-85	21.97
				QPSK	6	0	0	-85	21.1
				QPSK	6	0	1	-85	20.97
				16QAM	1	0	0	-85	21.13
				16QAM	1	5	0	-85	21.17
				16QAM	1	0	1	-85	21.52
				16QAM	1	5	1	-85	21.37
				16QAM	3	0	0	-85	20.72
				16QAM	3	3	1	-85	21.11
				16QAM	5	0	0	-85	20.45
				16QAM	5	0	1	-85	20.97
High Range	19185	1908.5		QPSK	1	0	0	-85	22.77
				QPSK	1	5	0	-85	22.73
				QPSK	1	0	1	-85	22.63
				QPSK	1	5	1	-85	22.75
				QPSK	3	3	0	-85	21.87
				QPSK	3	3	1	-85	21.97
				QPSK	6	0	0	-85	21.03
				QPSK	6	0	1	-85	20.81
				16QAM	1	0	0	-85	21.78
				16QAM	1	5	0	-85	21.39
				16QAM	1	0	1	-85	21.82
				16QAM	1	5	1	-85	21.34
				16QAM	3	0	0	-85	20.97
				16QAM	3	3	1	-85	20.87
				16QAM	5	0	0	-85	20.88
				16QAM	5	0	1	-85	20.85

<LTE Band 4>

LTE Band 4								
BW (MHz): 20	Test Frequency ID	NUL	Frequency of Uplink (MHz)	Test Configuration Initial of Power			EUT	
				Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)
Low Range	20050	1720	QPSK	1	0	0	-85	23.01
				1	5	0	-85	22.84
				1	0	7	-85	22.91
				1	5	7	-85	22.96
				1	0	15	-85	22.85
				1	5	15	-85	22.88
				3	0	0	-85	23.01
				3	3	15	-85	22.86
				6	0	0	-85	22.97
				6	0	15	-85	22.89
				1	0	0	-85	22.99
				1	5	0	-85	22.87
				1	0	7	-85	22.93
				1	5	7	-85	22.9
				1	0	15	-85	23.03
				1	5	15	-85	23.02
				3	0	0	-85	22.91
				3	3	15	-85	22.93
				5	0	0	-85	22.78
				5	0	15	-85	22.88
Mid. Range	20175	1732.5	QPSK	1	0	0	-85	22.97
				1	5	0	-85	22.88
				1	0	7	-85	22.86
				1	5	7	-85	22.74
				1	0	15	-85	22.71
				1	5	15	-85	22.74
				3	0	0	-85	22.99
				3	3	15	-85	22.76
				6	0	0	-85	22.91
				6	0	15	-85	22.93
				1	0	0	-85	22.89
				1	5	0	-85	22.96
				1	0	7	-85	22.93
				1	5	7	-85	22.97
				1	0	15	-85	23.01
				1	5	15	-85	22.93
				3	0	0	-85	22.87
				3	3	15	-85	22.94
				5	0	0	-85	22.68
				5	0	15	-85	22.75
High Range	20300	1745	QPSK	1	0	0	-85	22.85
				1	5	0	-85	22.87
				1	0	7	-85	22.77
				1	5	7	-85	22.87
				1	0	15	-85	22.81
				1	5	15	-85	22.77
				3	0	0	-85	22.95
				3	3	15	-85	22.69
				6	0	0	-85	22.87
				6	0	15	-85	22.78
				1	0	0	-85	23.02
				1	5	0	-85	23.05
				1	0	7	-85	22.98
				1	5	7	-85	22.97
				1	0	15	-85	22.57
				1	5	15	-85	22.21
				3	0	0	-85	22.77
				3	3	15	-85	22.72
				5	0	0	-85	22.68
				5	0	15	-85	22.69

**FCC SAR TEST REPORT**

Report No. : FA031828

LTE Band 4								
Test Frequency ID	N <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power				EUT	
			Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
Low Range	20025	1717.5	QPSK	1	0	0	-85	22.96
			QPSK	1	5	0	-85	22.91
			QPSK	1	0	5	-85	22.93
			QPSK	1	5	5	-85	22.92
			QPSK	1	0	11	-85	22.92
			QPSK	1	5	11	-85	22.93
			QPSK	3	0	0	-85	23.01
			QPSK	3	3	11	-85	22.94
			QPSK	6	0	0	-85	23.05
			QPSK	6	0	11	-85	22.95
			16QAM	1	0	0	-85	23.01
			16QAM	1	5	0	-85	23.02
			16QAM	1	0	5	-85	23.04
			16QAM	1	5	5	-85	23
			16QAM	1	0	11	-85	22.99
			16QAM	1	5	11	-85	23
			16QAM	3	0	0	-85	22.69
			16QAM	3	3	11	-85	22.9
			16QAM	5	0	0	-85	22.56
			16QAM	5	0	11	-85	22.84
Mid. Range	20175	1732.5	QPSK	1	0	0	-85	22.82
			QPSK	1	5	0	-85	22.93
			QPSK	1	0	5	-85	22.87
			QPSK	1	5	5	-85	22.91
			QPSK	1	0	11	-85	22.93
			QPSK	1	5	11	-85	22.87
			QPSK	3	0	0	-85	22.98
			QPSK	3	3	11	-85	22.94
			QPSK	6	0	0	-85	22.91
			QPSK	6	0	11	-85	22.98
			16QAM	1	0	0	-85	22.87
			16QAM	1	5	0	-85	23.02
			16QAM	1	0	5	-85	23.01
			16QAM	1	5	5	-85	22.99
			16QAM	1	0	11	-85	23.01
			16QAM	1	5	11	-85	23.02
			16QAM	3	0	0	-85	22.97
			16QAM	3	3	11	-85	22.91
			16QAM	5	0	0	-85	22.76
			16QAM	5	0	11	-85	22.82
High Range	20325	1747.5	QPSK	1	0	0	-85	22.76
			QPSK	1	5	11	-85	22.72
			QPSK	1	0	5	-85	22.71
			QPSK	1	5	5	-85	22.77
			QPSK	1	0	11	-85	22.76
			QPSK	3	0	0	-85	22.91
			QPSK	3	3	11	-85	22.75
			QPSK	6	0	0	-85	22.84
			QPSK	6	0	11	-85	22.85
			16QAM	1	0	0	-85	23.03
			16QAM	1	5	0	-85	23.01
			16QAM	1	0	5	-85	22.45
			16QAM	1	5	5	-85	22.47
			16QAM	1	0	11	-85	22.33
			16QAM	1	5	11	-85	21.84
			16QAM	3	0	0	-85	22.89
			16QAM	3	3	11	-85	22.65
			16QAM	5	0	0	-85	22.52
			16QAM	5	0	11	-85	22.65
			16QAM	5	0	11	-85	22.86

**FCC SAR TEST REPORT**

Report No. : FA031828

LTE Band 4								
Test Frequency ID	N <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power				EUT	
			Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
Low Range	20000	1715	QPSK	1	0	0	-85	22.76
			QPSK	1	5	0	-85	22.96
			QPSK	1	0	3	-85	22.99
			QPSK	1	5	3	-85	22.87
			QPSK	1	0	7	-85	22.81
			QPSK	1	5	7	-85	22.85
			QPSK	4	0	0	-85	22.86
			QPSK	4	2	7	-85	22.83
			QPSK	6	0	0	-85	21.81
			QPSK	6	0	7	-85	21.92
			16QAM	1	0	0	-85	23.05
			16QAM	1	5	0	-85	22.99
			16QAM	1	0	3	-85	23.01
			16QAM	1	5	3	-85	23.01
			16QAM	1	0	7	-85	22.98
			16QAM	1	5	7	-85	22.93
			16QAM	4	2	0	-85	22.16
			16QAM	4	2	7	-85	22.23
			16QAM	5	0	0	-85	21.59
			16QAM	5	0	7	-85	21.68
Mid. Range	20175	1732.5	QPSK	1	0	0	-85	22.91
			QPSK	1	5	0	-85	22.96
			QPSK	1	0	3	-85	22.89
			QPSK	1	5	3	-85	22.83
			QPSK	1	0	7	-85	22.86
			QPSK	1	5	7	-85	22.78
			QPSK	4	0	0	-85	22.87
			QPSK	4	2	7	-85	22.88
			QPSK	6	0	0	-85	21.94
			QPSK	6	0	7	-85	21.92
			16QAM	1	0	0	-85	22.97
			16QAM	1	5	0	-85	22.43
			16QAM	1	0	3	-85	23.06
			16QAM	1	5	3	-85	23.02
			16QAM	1	0	7	-85	22.04
			16QAM	1	5	7	-85	22.97
			16QAM	4	2	0	-85	22.17
			16QAM	4	2	7	-85	22.1
			16QAM	5	0	0	-85	21.56
			16QAM	5	0	7	-85	21.72
High Range	20350	1750	QPSK	1	0	0	-85	22.71
			QPSK	1	5	0	-85	22.76
			QPSK	1	5	7	-85	22.77
			QPSK	1	0	3	-85	22.72
			QPSK	1	5	3	-85	22.76
			QPSK	1	0	7	-85	22.73
			QPSK	4	0	0	-85	22.68
			QPSK	4	2	7	-85	22.78
			QPSK	6	0	0	-85	21.87
			QPSK	6	0	7	-85	21.87
			16QAM	1	0	0	-85	22.91
			16QAM	1	5	0	-85	22.96
			16QAM	1	0	3	-85	22.13
			16QAM	1	5	3	-85	21.97
			16QAM	1	0	7	-85	21.97
			16QAM	1	5	7	-85	21.96
			16QAM	4	2	0	-85	22.08
			16QAM	4	2	7	-85	22.98
			16QAM	5	0	0	-85	21.65
			16QAM	5	0	7	-85	21.54



LTE Band 4								
Test Frequency ID	N <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power				EUT	
			Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
Low Range	19975	1712.5	QPSK	1	0	0	-85	22.77
			QPSK	1	5	0	-85	22.75
			QPSK	1	0	1	-85	22.67
			QPSK	1	5	1	-85	22.69
			QPSK	1	0	3	-85	22.76
			QPSK	1	5	3	-85	22.81
			QPSK	3	0	0	-85	21.74
			QPSK	3	3	3	-85	21.97
			QPSK	6	0	0	-85	21.92
			QPSK	6	0	1	-85	21.79
			QPSK	6	0	3	-85	21.96
			16QAM	1	0	0	-85	23.12
			16QAM	1	5	0	-85	23.18
			16QAM	1	0	1	-85	22.35
			16QAM	1	5	1	-85	22.84
			16QAM	1	0	3	-85	22.89
			16QAM	1	5	3	-85	22.23
			16QAM	3	0	0	-85	21.72
			16QAM	3	3	3	-85	21.84
			16QAM	5	0	0	-85	20.86
			16QAM	5	0	1	-85	20.48
			16QAM	5	0	3	-85	20.58
Mid. Range	20175	1732.5	QPSK	1	0	0	-85	22.79
			QPSK	1	5	0	-85	22.84
			QPSK	1	0	1	-85	22.86
			QPSK	1	5	1	-85	22.81
			QPSK	1	0	3	-85	22.98
			QPSK	1	5	3	-85	22.94
			QPSK	3	0	0	-85	21.79
			QPSK	3	3	3	-85	21.91
			QPSK	6	0	0	-85	21.68
			QPSK	6	0	1	-85	21.76
			QPSK	6	0	3	-85	21.87
			16QAM	1	0	0	-85	23.01
			16QAM	1	5	0	-85	22.99
			16QAM	1	0	1	-85	22.98
			16QAM	1	5	1	-85	22.17
			16QAM	1	0	3	-85	22.96
			16QAM	1	5	3	-85	22.23
			16QAM	3	0	0	-85	21.76
			16QAM	3	3	3	-85	21.86
			16QAM	5	0	0	-85	20.47
			16QAM	5	0	1	-85	20.42
			16QAM	5	0	3	-85	20.44

**FCC SAR TEST REPORT**

Report No. : FA031828

LTE Band 4								
BW (MHz): 5	N <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power				EUT	
			Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
High Range	20375	1752.5	QPSK	1	0	0	-85	22.67
			QPSK	1	5	0	-85	22.97
			QPSK	1	0	1	-85	22.89
			QPSK	1	5	1	-85	22.71
			QPSK	1	0	3	-85	22.91
			QPSK	1	5	3	-85	22.67
			QPSK	3	0	0	-85	21.77
			QPSK	3	3	3	-85	21.94
			QPSK	6	0	0	-85	21.81
			QPSK	6	0	1	-85	21.78
			QPSK	6	0	3	-85	22.01
			16QAM	1	0	0	-85	22.17
			16QAM	1	5	0	-85	22.83
			16QAM	1	0	1	-85	22.14
			16QAM	1	5	1	-85	22.13
			16QAM	1	0	3	-85	22.13
			16QAM	1	5	3	-85	22.23
			16QAM	3	0	0	-85	21.56
			16QAM	3	3	3	-85	21.96
			16QAM	5	0	0	-85	20.42
			16QAM	5	0	1	-85	20.44
			16QAM	5	0	3	-85	20.44

**FCC SAR TEST REPORT**

Report No. : FA031828

LTE Band 4									
BW (MHz): 3	Test Frequency ID	N <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power			EUT		
				Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
Low Range	19965	1711.5		QPSK	1	0	0	-85	22.92
				QPSK	1	5	0	-85	22.91
				QPSK	1	0	1	-85	22.84
				QPSK	1	5	1	-85	22.92
				QPSK	3	3	0	-85	21.93
				QPSK	3	3	1	-85	21.81
				QPSK	6	0	0	-85	21.01
				QPSK	6	0	1	-85	20.94
				16QAM	1	0	0	-85	21.11
				16QAM	1	5	0	-85	21.12
				16QAM	1	0	1	-85	22.87
				16QAM	1	5	1	-85	22.86
				16QAM	3	0	0	-85	20.58
				16QAM	3	3	1	-85	20.55
				16QAM	5	0	0	-85	20.39
				16QAM	5	0	1	-85	20.32
Mid. Range	20175	1732.5		QPSK	1	0	0	-85	22.81
				QPSK	1	5	0	-85	22.78
				QPSK	1	0	1	-85	22.82
				QPSK	1	5	1	-85	22.84
				QPSK	3	3	0	-85	21.84
				QPSK	3	3	1	-85	21.82
				QPSK	6	0	0	-85	20.94
				QPSK	6	0	1	-85	20.96
				16QAM	1	0	0	-85	20.99
				16QAM	1	5	0	-85	20.98
				16QAM	1	0	1	-85	21.02
				16QAM	1	5	1	-85	20.84
				16QAM	3	0	0	-85	20.47
				16QAM	3	3	1	-85	20.44
				16QAM	5	0	0	-85	21.19
				16QAM	5	0	1	-85	21.12
High Range	20385	1753.5		QPSK	1	0	0	-85	22.59
				QPSK	1	5	0	-85	22.58
				QPSK	1	0	1	-85	22.68
				QPSK	1	5	1	-85	22.71
				QPSK	3	3	0	-85	21.61
				QPSK	3	3	1	-85	21.77
				QPSK	6	0	0	-85	20.76
				QPSK	6	0	1	-85	20.89
				16QAM	1	0	0	-85	20.85
				16QAM	1	5	0	-85	20.87
				16QAM	1	0	1	-85	20.95
				16QAM	1	5	1	-85	20.99
				16QAM	3	0	0	-85	20.43
				16QAM	3	3	1	-85	20.75
				16QAM	5	0	0	-85	20.3
				16QAM	5	0	1	-85	20.31

**FCC SAR TEST REPORT**

Report No. : FA031828

LTE Band 4								
Test Frequency ID	NUL	Frequency of Uplink (MHz)	Test Configuration Initial of Power				EUT	
			Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
Low Range	19957	1710.7	QPSK	1	0	0	-85	24.08
			QPSK	1	5	0	-85	23.69
			QPSK	3	3	0	-85	21.96
			QPSK	6	0	0	-85	21.12
			16QAM	1	0	0	-85	21.57
			16QAM	1	5	0	-85	21.64
			16QAM	3	0	0	-85	20.77
			16QAM	5	0	0	-85	20.41
			QPSK	1	0	0	-85	24.04
Mid. Range	20175	1732.5	QPSK	1	5	0	-85	23.62
			QPSK	3	3	0	-85	21.99
			QPSK	6	0	0	-85	21.14
			16QAM	1	0	0	-85	21.56
			16QAM	1	5	0	-85	21.64
			16QAM	3	0	0	-85	20.81
High Range	20393	1754.3	16QAM	5	0	0	-85	20.47
			QPSK	1	0	0	-85	23.85
			QPSK	1	5	0	-85	23.47
			QPSK	3	3	0	-85	21.88
			QPSK	6	0	0	-85	20.97
			16QAM	1	0	0	-85	21.37
			16QAM	1	5	0	-85	21.51
			16QAM	3	0	0	-85	20.68
			16QAM	5	0	0	-85	20.37

<LTE Band 5>

LTE Band 5									
BW (MHz): 10	Test Frequency ID	Nul.	Frequency of Uplink (MHz)	Test Configuration Initial of Power			EUT		
				Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
Low Range	20450	829		QPSK	1	0	0	-85	22.75
				QPSK	1	5	0	-85	22.67
				QPSK	1	0	3	-85	22.63
				QPSK	1	5	3	-85	22.61
				QPSK	1	0	7	-85	22.61
				QPSK	1	5	7	-85	22.57
				QPSK	4	0	0	-85	22.71
				QPSK	4	2	7	-85	22.91
				QPSK	6	0	0	-85	21.74
				QPSK	6	0	7	-85	21.69
				16QAM	1	0	0	-85	22.76
				16QAM	1	5	0	-85	22.71
				16QAM	1	0	3	-85	22.71
				16QAM	1	5	3	-85	22.65
				16QAM	1	0	7	-85	22.61
				16QAM	1	5	7	-85	22.56
				16QAM	4	2	0	-85	22.75
				16QAM	4	2	7	-85	22.71
				16QAM	5	0	0	-85	21.76
				16QAM	5	0	7	-85	21.77
Mid. Range	20525	836.5		QPSK	1	0	0	-85	22.72
				QPSK	1	5	0	-85	22.66
				QPSK	1	0	3	-85	22.62
				QPSK	1	5	3	-85	22.68
				QPSK	1	0	7	-85	22.51
				QPSK	1	5	7	-85	22.46
				QPSK	4	0	0	-85	22.71
				QPSK	4	2	7	-85	22.71
				QPSK	6	0	0	-85	21.88
				QPSK	6	0	7	-85	21.64
				16QAM	1	0	0	-85	22.72
				16QAM	1	5	0	-85	22.67
				16QAM	1	0	3	-85	22.77
				16QAM	1	5	3	-85	22.69
				16QAM	1	0	7	-85	22.57
				16QAM	1	5	7	-85	22.49
				16QAM	4	2	0	-85	22.85
				16QAM	4	2	7	-85	22.74
				16QAM	5	0	0	-85	21.79
				16QAM	5	0	7	-85	21.678
High Range	20600	844		QPSK	1	0	0	-85	22.57
				QPSK	1	5	0	-85	22.58
				QPSK	1	5	7	-85	22.87
				QPSK	1	0	3	-85	22.87
				QPSK	1	5	3	-85	22.81
				QPSK	1	0	7	-85	22.94
				QPSK	4	0	0	-85	22.55
				QPSK	4	2	7	-85	22.89
				QPSK	6	0	0	-85	21.53
				QPSK	6	0	7	-85	21.99
				16QAM	1	0	0	-85	22.67
				16QAM	1	5	0	-85	22.55
				16QAM	1	0	3	-85	22.79
				16QAM	1	5	3	-85	22.59
				16QAM	1	0	7	-85	22.96
				16QAM	1	5	7	-85	22.82
				16QAM	4	2	0	-85	22.61
				16QAM	4	2	7	-85	22.73
				16QAM	5	0	0	-85	21.67
				16QAM	5	0	7	-85	21.96



LTE Band 5								
Test Frequency ID	N <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power				EUT	
			Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
Low Range	20425	826.5	QPSK	1	0	0	-85	22.82
			QPSK	1	5	0	-85	22.81
			QPSK	1	0	1	-85	22.79
			QPSK	1	5	1	-85	22.77
			QPSK	1	0	3	-85	22.78
			QPSK	1	5	3	-85	22.71
			QPSK	3	0	0	-85	21.98
			QPSK	3	3	3	-85	21.77
			QPSK	6	0	0	-85	21.99
			QPSK	6	0	1	-85	21.92
			QPSK	6	0	3	-85	21.97
			16QAM	1	0	0	-85	22.62
			16QAM	1	5	0	-85	22.69
			16QAM	1	0	1	-85	22.67
			16QAM	1	5	1	-85	22.68
			16QAM	1	0	3	-85	22.64
			16QAM	1	5	3	-85	22.66
			16QAM	3	0	0	-85	21.77
			16QAM	3	3	3	-85	21.79
			16QAM	5	0	0	-85	21.81
			16QAM	5	0	1	-85	21.83
			16QAM	5	0	3	-85	21.82
Mid. Range	20525	836.5	QPSK	1	0	0	-85	22.69
			QPSK	1	5	0	-85	22.64
			QPSK	1	0	1	-85	22.66
			QPSK	1	5	1	-85	22.45
			QPSK	1	0	3	-85	22.67
			QPSK	1	5	3	-85	22.56
			QPSK	3	0	0	-85	21.81
			QPSK	3	3	3	-85	21.64
			QPSK	6	0	0	-85	21.84
			QPSK	6	0	1	-85	21.87
			QPSK	6	0	3	-85	21.79
			16QAM	1	0	0	-85	22.49
			16QAM	1	5	0	-85	22.47
			16QAM	1	0	1	-85	22.57
			16QAM	1	5	1	-85	22.53
			16QAM	1	0	3	-85	22.55
			16QAM	1	5	3	-85	22.46
			16QAM	3	0	0	-85	21.69
			16QAM	3	3	3	-85	21.67
			16QAM	5	0	0	-85	21.73
			16QAM	5	0	1	-85	21.66
			16QAM	5	0	3	-85	21.68

**FCC SAR TEST REPORT**

Report No. : FA031828

LTE Band 5								
Test Frequency ID	N <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power				EUT	
			Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
High Range	20625	846.5	QPSK	1	0	0	-85	22.69
			QPSK	1	5	0	-85	22.63
			QPSK	1	0	1	-85	22.91
			QPSK	1	5	1	-85	22.78
			QPSK	1	0	3	-85	22.59
			QPSK	1	5	3	-85	22.51
			QPSK	3	0	0	-85	21.71
			QPSK	3	3	3	-85	21.59
			QPSK	6	0	0	-85	21.71
			QPSK	6	0	1	-85	22.1
			QPSK	6	0	3	-85	21.77
			16QAM	1	0	0	-85	22.42
			16QAM	1	5	0	-85	22.31
			16QAM	1	0	1	-85	22.82
			16QAM	1	5	1	-85	22.75
			16QAM	1	0	3	-85	22.42
			16QAM	1	5	3	-85	22.35
			16QAM	3	0	0	-85	21.47
			16QAM	3	3	3	-85	21.58
			16QAM	5	0	0	-85	21.61
			16QAM	5	0	1	-85	21.97
			16QAM	5	0	3	-85	21.69

**FCC SAR TEST REPORT**

Report No. : FA031828

LTE Band 5									
BW (MHz): 3	Test Frequency ID	N <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration		Initial of Power	EUT		
				Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
Low Range	20415	825.5	825.5	QPSK	1	0	0	-85	22.87
				QPSK	1	5	0	-85	22.76
				QPSK	1	0	1	-85	22.79
				QPSK	1	5	1	-85	22.69
				QPSK	3	3	0	-85	21.65
				QPSK	3	3	1	-85	21.57
				QPSK	6	0	0	-85	20.66
				QPSK	6	0	1	-85	20.58
				16QAM	1	0	0	-85	22.75
				16QAM	1	5	0	-85	22.65
				16QAM	1	0	1	-85	22.67
				16QAM	1	5	1	-85	22.58
				16QAM	3	0	0	-85	21.59
				16QAM	3	3	1	-85	21.62
				16QAM	5	0	0	-85	21.57
				16QAM	5	0	1	-85	21.49
Mid. Range	20525	836.5	836.5	QPSK	1	0	0	-85	22.76
				QPSK	1	5	0	-85	22.59
				QPSK	1	0	1	-85	22.87
				QPSK	1	5	1	-85	22.74
				QPSK	3	3	0	-85	21.62
				QPSK	3	3	1	-85	21.65
				QPSK	6	0	0	-85	20.71
				QPSK	6	0	1	-85	20.78
				16QAM	1	0	0	-85	22.57
				16QAM	1	5	0	-85	22.73
				16QAM	1	0	1	-85	22.93
				16QAM	1	5	1	-85	22.67
				16QAM	3	0	0	-85	21.68
				16QAM	3	3	1	-85	21.71
				16QAM	5	0	0	-85	21.66
				16QAM	5	0	1	-85	21.61
High Range	20635	20635	20635	QPSK	1	0	0	-85	22.81
				QPSK	1	5	0	-85	22.73
				QPSK	1	0	1	-85	22.77
				QPSK	1	5	1	-85	22.69
				QPSK	3	3	0	-85	21.62
				QPSK	3	3	1	-85	21.56
				QPSK	6	0	0	-85	20.68
				QPSK	6	0	1	-85	20.55
				16QAM	1	0	0	-85	22.64
				16QAM	1	5	0	-85	22.54
				16QAM	1	0	1	-85	22.49
				16QAM	1	5	1	-85	22.63
				16QAM	3	0	0	-85	21.67
				16QAM	3	3	1	-85	21.73
				16QAM	5	0	0	-85	21.7
				16QAM	5	0	1	-85	21.68

**FCC SAR TEST REPORT**

Report No. : FA031828

LTE Band 5								
Test Frequency ID	NuL	Frequency of Uplink (MHz)	Test Configuration Initial of Power				EUT	
			Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
Low Range	20407	824.7	QPSK	1	0	0	-85	23.98
			QPSK	1	5	0	-85	23.43
			QPSK	3	3	0	-85	21.81
			QPSK	6	0	0	-85	21.01
			16QAM	1	0	0	-85	21.38
			16QAM	1	5	0	-85	21.53
			16QAM	3	0	0	-85	20.78
			16QAM	6	0	0	-85	20.69
Mid. Range	20525	836.5	QPSK	1	0	0	-85	23.89
			QPSK	1	5	0	-85	23.44
			QPSK	3	3	0	-85	21.77
			QPSK	6	0	0	-85	20.97
			16QAM	1	0	0	-85	21.35
			16QAM	1	5	0	-85	21.42
			16QAM	3	0	0	-85	20.74
			16QAM	5	0	0	-85	20.4
High Range	20643	848.3	QPSK	1	0	0	-85	23.88
			QPSK	1	5	0	-85	23.43
			QPSK	3	3	0	-85	21.84
			QPSK	6	0	0	-85	20.99
			16QAM	1	0	0	-85	21.37
			16QAM	1	5	0	-85	21.47
			16QAM	3	0	0	-85	20.69
			16QAM	6	0	0	-85	20.44

<LTE Band 12>

LTE Band 12									
BW (MHz): 10	Test Frequency ID	N <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power			EUT		
				Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
Low Range	23060	704		QPSK	1	0	0	-85	23.02
				QPSK	1	5	0	-85	23.01
				QPSK	1	0	3	-85	23.04
				QPSK	1	5	3	-85	23.03
				QPSK	1	0	7	-85	23.02
				QPSK	1	5	7	-85	23.01
				QPSK	4	0	0	-85	22.91
				QPSK	4	2	7	-85	23.05
				QPSK	6	0	0	-85	21.89
				QPSK	6	0	7	-85	21.76
				16QAM	1	0	0	-85	23.01
				16QAM	1	5	0	-85	22.99
				16QAM	1	0	3	-85	22.91
				16QAM	1	5	3	-85	22.96
				16QAM	1	0	7	-85	23.04
				16QAM	1	5	7	-85	22.98
				16QAM	4	2	0	-85	23.02
				16QAM	4	2	7	-85	23.01
				16QAM	6	0	0	-85	21.97
				16QAM	6	0	7	-85	21.88
Mid. Range	23095	707.5		QPSK	1	0	0	-85	23.07
				QPSK	1	5	0	-85	23.04
				QPSK	1	0	3	-85	23.02
				QPSK	1	5	3	-85	23.01
				QPSK	1	0	7	-85	23.05
				QPSK	1	5	7	-85	22.99
				QPSK	4	0	0	-85	22.98
				QPSK	4	2	7	-85	23.01
				QPSK	6	0	0	-85	21.88
				QPSK	6	0	7	-85	21.78
				16QAM	1	0	0	-85	22.99
				16QAM	1	5	0	-85	22.94
				16QAM	1	0	3	-85	22.91
				16QAM	1	5	3	-85	23.01
				16QAM	1	0	7	-85	22.95
				16QAM	1	5	7	-85	23.02
				16QAM	4	2	0	-85	22.96
				16QAM	4	2	7	-85	21.67
				16QAM	6	0	0	-85	21.87
				16QAM	6	0	7	-85	21.89
High Range	23130	711		QPSK	1	0	0	-85	23.12
				QPSK	1	5	0	-85	23.11
				QPSK	1	5	7	-85	23.05
				QPSK	1	0	3	-85	23.07
				QPSK	1	5	3	-85	23.09
				QPSK	1	0	7	-85	22.98
				QPSK	4	0	0	-85	22.95
				QPSK	4	2	7	-85	22.97
				QPSK	6	0	0	-85	21.87
				QPSK	6	0	7	-85	21.99
				16QAM	1	0	0	-85	23.04
				16QAM	1	5	0	-85	23.12
				16QAM	1	0	3	-85	23.09
				16QAM	1	5	3	-85	22.98
				16QAM	1	0	7	-85	22.95
				16QAM	1	5	7	-85	22.94
				16QAM	4	2	0	-85	22.99
				16QAM	6	0	0	-85	21.87
				16QAM	6	0	7	-85	21.78

**FCC SAR TEST REPORT**

Report No. : FA031828

LTE Band 12								
BW (MHz): 5	N <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power				EUT	
			Modulation	RB Size	RB Offset	Narrowband Index		
Low Range	23035	701.5	QPSK	1	0	0	-85	23.01
			QPSK	1	5	0	-85	22.95
			QPSK	1	0	1	-85	22.95
			QPSK	1	5	1	-85	22.89
			QPSK	1	0	3	-85	22.86
			QPSK	1	5	3	-85	22.91
			QPSK	3	0	0	-85	21.01
			QPSK	3	3	3	-85	21.93
			QPSK	6	0	0	-85	21.99
			QPSK	6	0	1	-85	21.02
			QPSK	6	0	3	-85	21.98
			16QAM	1	0	0	-85	23.17
			16QAM	1	5	0	-85	23.02
			16QAM	1	0	1	-85	22.91
			16QAM	1	5	1	-85	22.94
			16QAM	1	0	3	-85	22.98
			16QAM	1	5	3	-85	22.94
			16QAM	3	0	0	-85	22.04
			16QAM	3	3	3	-85	22.02
			16QAM	5	0	0	-85	22.02
			16QAM	5	0	1	-85	22.03
			16QAM	5	0	3	-85	22.01
Mid. Range	23095	707.5	QPSK	1	0	0	-85	22.89
			QPSK	1	5	0	-85	22.77
			QPSK	1	0	1	-85	22.98
			QPSK	1	5	1	-85	22.94
			QPSK	1	0	3	-85	22.97
			QPSK	1	5	3	-85	22.9
			QPSK	3	0	0	-85	21.95
			QPSK	3	3	3	-85	21.89
			QPSK	6	0	0	-85	21.92
			QPSK	6	0	1	-85	21.89
			QPSK	6	0	3	-85	21.76
			16QAM	1	0	0	-85	22.97
			16QAM	1	5	0	-85	22.91
			16QAM	1	0	1	-85	22.94
			16QAM	1	5	1	-85	22.88
			16QAM	1	0	3	-85	22.88
			16QAM	1	5	3	-85	22.79
			16QAM	3	0	0	-85	21.96
			16QAM	3	3	3	-85	21.87
			16QAM	5	0	0	-85	21.98
			16QAM	5	0	1	-85	21.76
			16QAM	5	0	3	-85	21.79

**FCC SAR TEST REPORT**

Report No. : FA031828

LTE Band 12								
Test Frequency ID	N <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power				EUT	
			Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
High Range	23155	713.5	QPSK	1	0	0	-85	22.98
			QPSK	1	5	0	-85	22.98
			QPSK	1	0	1	-85	22.96
			QPSK	1	5	1	-85	22.93
			QPSK	1	0	3	-85	22.94
			QPSK	1	5	3	-85	22.89
			QPSK	3	0	0	-85	21.94
			QPSK	3	3	3	-85	21.99
			QPSK	6	0	0	-85	21.87
			QPSK	6	0	1	-85	21.85
			QPSK	6	0	3	-85	21.84
			16QAM	1	0	0	-85	23.01
			16QAM	1	5	0	-85	22.99
			16QAM	1	0	1	-85	22.96
			16QAM	1	5	1	-85	22.97
			16QAM	1	0	3	-85	22.87
			16QAM	1	5	3	-85	22.89
			16QAM	3	0	0	-85	21.94
			16QAM	3	3	3	-85	21.85
			16QAM	6	0	0	-85	21.67
			16QAM	6	0	1	-85	21.74
			16QAM	6	0	3	-85	21.59



LTE Band 12								
BW (MHz): 3	Nul	Frequency of Uplink (MHz)	Test Configuration Initial of Power				EUT	
			Modulation	RB Size	RB Offset	Narrowband Index		
Low Range	23025	700.5	QPSK	1	0	0	-85	23.65
			QPSK	1	5	0	-85	23.82
			QPSK	1	0	1	-85	23.77
			QPSK	1	5	1	-85	23.81
			QPSK	3	3	0	-85	23.51
			QPSK	3	3	1	-85	23.61
			QPSK	6	0	0	-85	23.52
			QPSK	6	0	1	-85	22.99
			16QAM	1	0	0	-85	22.64
			16QAM	1	5	0	-85	22.76
			16QAM	1	0	1	-85	22.88
			16QAM	1	5	1	-85	22.67
			16QAM	3	0	0	-85	21.84
			16QAM	3	3	1	-85	21.81
			16QAM	5	0	0	-85	21.43
			16QAM	5	0	1	-85	21.44
Mid. Range	23095	707.5	QPSK	1	0	0	-85	23.67
			QPSK	1	5	0	-85	23.66
			QPSK	1	0	1	-85	23.81
			QPSK	1	5	1	-85	23.79
			QPSK	3	3	0	-85	23.49
			QPSK	3	3	1	-85	23.52
			QPSK	6	0	0	-85	23.24
			QPSK	6	0	1	-85	22.96
			16QAM	1	0	0	-85	22.56
			16QAM	1	5	0	-85	22.66
			16QAM	1	0	1	-85	22.57
			16QAM	1	5	1	-85	22.78
			16QAM	3	0	0	-85	21.79
			16QAM	3	3	1	-85	21.8
			16QAM	5	0	0	-85	21.53
			16QAM	5	0	1	-85	21.44
High Range	23165	714.5	QPSK	1	0	0	-85	23.79
			QPSK	1	5	0	-85	23.83
			QPSK	1	0	1	-85	23.85
			QPSK	1	5	1	-85	23.72
			QPSK	3	3	0	-85	23.56
			QPSK	3	3	1	-85	23.61
			QPSK	6	0	0	-85	23.26
			QPSK	6	0	1	-85	23.31
			16QAM	1	0	0	-85	22.88
			16QAM	1	5	0	-85	22.78
			16QAM	1	0	1	-85	22.68
			16QAM	1	5	1	-85	22.74
			16QAM	3	0	0	-85	21.81
			16QAM	3	3	1	-85	21.67
			16QAM	6	0	0	-85	21.54
			16QAM	6	0	1	-85	21.63



LTE Band 12								
Test Frequency ID	N <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power				EUT	
			Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
Low Range	23017	699.7	QPSK	1	0	0	-85	24.21
			QPSK	1	5	0	-85	23.77
			QPSK	3	3	0	-85	22.17
			QPSK	6	0	0	-85	21.26
			16QAM	1	0	0	-85	23.57
			16QAM	1	5	0	-85	22.82
			16QAM	3	0	0	-85	22.11
			16QAM	5	0	0	-85	22.1
Mid. Range	23095	707.5	QPSK	1	0	0	-85	23.91
			QPSK	1	5	0	-85	23.77
			QPSK	3	3	0	-85	22.16
			QPSK	6	0	0	-85	21.25
			16QAM	1	0	0	-85	23.57
			16QAM	1	5	0	-85	23.81
			16QAM	3	0	0	-85	22.06
			16QAM	5	0	0	-85	22.09
High Range	23173	715.3	QPSK	1	0	0	-85	24.13
			QPSK	1	5	0	-85	23.67
			QPSK	3	3	0	-85	22.06
			QPSK	6	0	0	-85	21.13
			16QAM	1	0	0	-85	23.49
			16QAM	1	5	0	-85	23.72
			16QAM	3	0	0	-85	21.99
			16QAM	5	0	0	-85	21.87

<LTE Band 13>

LTE Band 13								
BW (MHz): 10	N <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power			EUT		
			Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
Mid. Range	23230	782	QPSK	1	0	0	-85	23.02
			QPSK	1	5	0	-85	23.01
			QPSK	1	0	3	-85	23.17
			QPSK	1	5	3	-85	23.24
			QPSK	1	0	7	-85	23.27
			QPSK	1	5	7	-85	23.24
			QPSK	4	0	0	-85	23.15
			QPSK	4	2	7	-85	23.17
			QPSK	6	0	0	-85	22.55
			QPSK	6	0	7	-85	22.84
			16QAM	1	0	0	-85	22.49
			16QAM	1	5	0	-85	23.01
			16QAM	1	0	3	-85	23.19
			16QAM	1	5	3	-85	23.12
			16QAM	1	0	7	-85	22.77
			16QAM	1	5	7	-85	22.89
			16QAM	4	2	0	-85	22.15
			16QAM	4	2	7	-85	22.81
			16QAM	5	0	0	-85	22.02
			16QAM	5	0	7	-85	22.78

**FCC SAR TEST REPORT**

Report No. : FA031828

LTE Band 13								
Test Frequency ID	NUL	Frequency of Uplink (MHz)	Test Configuration			Initial of Power		
			Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
Low Range	23205	779.5	QPSK	1	0	0	-85	23.21
			QPSK	1	5	0	-85	23.24
			QPSK	1	0	1	-85	23.42
			QPSK	1	5	1	-85	23.38
			QPSK	1	0	3	-85	22.41
			QPSK	1	5	3	-85	23.38
			QPSK	3	0	0	-85	22.52
			QPSK	3	3	3	-85	22.54
			QPSK	6	0	0	-85	22.57
			QPSK	6	0	1	-85	22.59
			QPSK	6	0	3	-85	22.78
			16QAM	1	0	0	-85	22.59
			16QAM	1	5	0	-85	22.56
			16QAM	1	0	1	-85	22.58
			16QAM	1	5	1	-85	22.58
			16QAM	1	0	3	-85	22.77
			16QAM	1	5	3	-85	22.73
			16QAM	3	0	0	-85	22.34
			16QAM	3	3	3	-85	22.46
			16QAM	5	0	0	-85	20.94
			16QAM	5	0	1	-85	21.17
			16QAM	5	0	3	-85	21.18
Mid. Range	23230	782	QPSK	1	0	0	-85	23.32
			QPSK	1	5	0	-85	23.36
			QPSK	1	0	1	-85	23.39
			QPSK	1	5	1	-85	23.33
			QPSK	1	0	3	-85	23.49
			QPSK	1	5	3	-85	23.67
			QPSK	3	0	0	-85	22.64
			QPSK	3	3	3	-85	22.63
			QPSK	6	0	0	-85	22.62
			QPSK	6	0	1	-85	22.67
			QPSK	6	0	3	-85	22.88
			16QAM	1	0	0	-85	22.75
			16QAM	1	5	0	-85	22.61
			16QAM	1	0	1	-85	22.71
			16QAM	1	5	1	-85	22.69
			16QAM	1	0	3	-85	22.83
			16QAM	1	5	3	-85	22.83
			16QAM	3	0	0	-85	22.22
			16QAM	3	3	3	-85	22.45
			16QAM	5	0	0	-85	20.97
			16QAM	5	0	1	-85	21.05
			16QAM	5	0	3	-85	21.27

**FCC SAR TEST REPORT**

Report No. : FA031828

LTE Band 13								
BW (MHz): 5	NUL	Frequency of Uplink (MHz)	Test Configuration Initial of Power				EUT	
			Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
High Range	23255	784.5	QPSK	1	0	0	-85	23.41
			QPSK	1	5	0	-85	23.42
			QPSK	1	0	1	-85	23.47
			QPSK	1	5	1	-85	23.49
			QPSK	1	0	3	-85	23.66
			QPSK	1	5	3	-85	23.54
			QPSK	3	0	0	-85	22.79
			QPSK	3	3	3	-85	22.6
			QPSK	6	0	0	-85	22.78
			QPSK	6	0	1	-85	22.77
			QPSK	6	0	3	-85	22.93
			16QAM	1	0	0	-85	22.77
			16QAM	1	5	0	-85	22.77
			16QAM	1	0	1	-85	22.83
			16QAM	1	5	1	-85	22.76
			16QAM	1	0	3	-85	22.94
			16QAM	1	5	3	-85	22.88
			16QAM	3	0	0	-85	22.43
			16QAM	3	3	3	-85	22.59
			16QAM	5	0	0	-85	21.15
			16QAM	5	0	1	-85	21.22
			16QAM	5	0	3	-85	21.48



# FCC SAR TEST REPORT

Report No. : FA031828

## <LTE Band 14>

LTE Band 14								
BW (MHz): 10	N <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power			EUT		
			Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
Mid. Range	23330	793	QPSK	1	0	0	-85	23.51
			QPSK	1	5	0	-85	23.38
			QPSK	1	0	3	-85	23.12
			QPSK	1	5	3	-85	23.39
			QPSK	1	0	7	-85	23.34
			QPSK	1	5	7	-85	23.45
			QPSK	4	0	0	-85	23.47
			QPSK	4	2	7	-85	23.33
			QPSK	6	0	0	-85	22.89
			QPSK	6	0	7	-85	22.61
			16QAM	1	0	0	-85	23.14
			16QAM	1	5	0	-85	23.25
			16QAM	1	0	3	-85	23.06
			16QAM	1	5	3	-85	23.22
			16QAM	1	0	7	-85	23.14
			16QAM	1	5	7	-85	23.33
			16QAM	4	2	0	-85	23.03
			16QAM	4	2	7	-85	23.27
			16QAM	6	0	0	-85	22.77
			16QAM	6	0	7	-85	22.56

**FCC SAR TEST REPORT**

Report No. : FA031828

LTE Band 14								
Test Frequency ID	N <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power				EUT	
			Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
Low Range	23305	790.5	QPSK	1	0	0	-85	23.55
			QPSK	1	5	0	-85	23.54
			QPSK	1	0	1	-85	23.51
			QPSK	1	5	1	-85	23.48
			QPSK	1	0	3	-85	23.47
			QPSK	1	5	3	-85	23.46
			QPSK	3	0	0	-85	22.83
			QPSK	3	3	3	-85	22.59
			QPSK	6	0	0	-85	22.82
			QPSK	6	0	1	-85	22.84
			QPSK	6	0	3	-85	22.79
			16QAM	1	0	0	-85	22.83
			16QAM	1	5	0	-85	22.85
			16QAM	1	0	1	-85	22.91
			16QAM	1	5	1	-85	22.87
			16QAM	1	0	3	-85	22.84
			16QAM	1	5	3	-85	22.81
			16QAM	3	0	0	-85	22.45
			16QAM	3	3	3	-85	22.45
			16QAM	5	0	0	-85	21.36
			16QAM	5	0	1	-85	21.29
			16QAM	5	0	3	-85	21.17
Mid. Range	23330	793	QPSK	1	0	0	-85	23.48
			QPSK	1	5	0	-85	23.44
			QPSK	1	0	1	-85	23.45
			QPSK	1	5	1	-85	23.41
			QPSK	1	0	3	-85	23.43
			QPSK	1	5	3	-85	23.39
			QPSK	3	0	0	-85	22.76
			QPSK	3	3	3	-85	22.73
			QPSK	6	0	0	-85	22.79
			QPSK	6	0	1	-85	22.77
			QPSK	6	0	3	-85	22.69
			16QAM	1	0	0	-85	22.81
			16QAM	1	5	0	-85	22.78
			16QAM	1	0	1	-85	22.66
			16QAM	1	5	1	-85	22.68
			16QAM	1	0	3	-85	22.81
			16QAM	1	5	3	-85	22.77
			16QAM	3	0	0	-85	22.48
			16QAM	3	3	3	-85	22.33
			16QAM	5	0	0	-85	21.22
			16QAM	5	0	1	-85	21.24
			16QAM	5	0	3	-85	21.19

**FCC SAR TEST REPORT**

Report No. : FA031828

LTE Band 14									
BW (MHz): 5	Test Frequency ID	NUL	Frequency of Uplink (MHz)	Test Configuration Initial of Power			EUT		
				Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
High Range	23355	795.5		QPSK	1	0	0	-85	23.46
				QPSK	1	5	0	-85	23.48
				QPSK	1	0	1	-85	23.41
				QPSK	1	5	1	-85	23.44
				QPSK	1	0	3	-85	23.41
				QPSK	1	5	3	-85	23.39
				QPSK	3	0	0	-85	22.79
				QPSK	3	3	3	-85	22.75
				QPSK	6	0	0	-85	22.77
				QPSK	6	0	1	-85	22.79
				QPSK	6	0	3	-85	22.76
				16QAM	1	0	0	-85	22.82
				16QAM	1	5	0	-85	22.78
				16QAM	1	0	1	-85	22.87
				16QAM	1	5	1	-85	22.83
				16QAM	1	0	3	-85	22.69
				16QAM	1	5	3	-85	22.41
				16QAM	3	0	0	-85	22.39
				16QAM	3	3	3	-85	22.34
				16QAM	5	0	0	-85	21.36
				16QAM	5	0	1	-85	21.21
				16QAM	5	0	3	-85	21.22

<LTE Band 17>

LTE Band 17								
BW (MHz): 10	N <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power				EUT	
			Modulation	RB Size	RB Offset	Narrowband Index		
Low Range	23780	709	QPSK	1	0	0	-85	23.73
			QPSK	1	5	0	-85	23.42
			QPSK	1	0	3	-85	23.68
			QPSK	1	5	3	-85	23.73
			QPSK	1	0	7	-85	23.41
			QPSK	1	5	7	-85	23.39
			QPSK	4	0	0	-85	23.71
			QPSK	4	2	7	-85	23.52
			QPSK	6	0	0	-85	22.91
			QPSK	6	0	7	-85	22.85
			16QAM	1	0	0	-85	23.34
			16QAM	1	5	0	-85	23.12
			16QAM	1	0	3	-85	23.44
			16QAM	1	5	3	-85	23.26
			16QAM	1	0	7	-85	23.16
			16QAM	1	5	7	-85	22.98
			16QAM	4	2	0	-85	23.12
			16QAM	4	2	7	-85	23.02
			16QAM	5	0	0	-85	22.71
			16QAM	5	0	7	-85	22.52
Mid. Range	23790	710	QPSK	1	0	0	-85	23.71
			QPSK	1	5	0	-85	23.44
			QPSK	1	0	3	-85	23.64
			QPSK	1	5	3	-85	23.18
			QPSK	1	0	7	-85	23.44
			QPSK	1	5	7	-85	23.34
			QPSK	4	0	0	-85	23.67
			QPSK	4	2	7	-85	23.69
			QPSK	6	0	0	-85	22.91
			QPSK	6	0	7	-85	22.88
			16QAM	1	0	0	-85	23.38
			16QAM	1	5	0	-85	23.02
			16QAM	1	0	3	-85	23.41
			16QAM	1	5	3	-85	23.25
			16QAM	1	0	7	-85	23.22
			16QAM	1	5	7	-85	23.46
			16QAM	4	2	0	-85	22.69
			16QAM	4	2	7	-85	22.82
			16QAM	5	0	0	-85	22.72
			16QAM	5	0	7	-85	22.91
High Range	23800	711	QPSK	1	0	0	-85	23.42
			QPSK	1	5	0	-85	23.59
			QPSK	1	5	7	-85	23.57
			QPSK	1	0	3	-85	23.57
			QPSK	1	5	3	-85	23.61
			QPSK	1	0	7	-85	23.32
			QPSK	4	0	0	-85	23.64
			QPSK	4	2	7	-85	23.67
			QPSK	6	0	0	-85	22.87
			QPSK	6	0	7	-85	22.75
			16QAM	1	0	0	-85	23.03
			16QAM	1	5	0	-85	23.07
			16QAM	1	0	3	-85	23.16
			16QAM	1	5	3	-85	23.12
			16QAM	1	0	7	-85	23.27
			16QAM	1	5	7	-85	23.36
			16QAM	4	2	0	-85	23.01
			16QAM	4	2	7	-85	22.97
			16QAM	5	0	0	-85	22.76
			16QAM	5	0	7	-85	22.75

**FCC SAR TEST REPORT**

Report No. : FA031828

LTE Band 17								
Test Frequency ID	NuL	Frequency of Uplink (MHz)	Test Configuration Initial of Power				EUT	
			Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
High Range	23825	713.5	QPSK	1	0	0	-85	23.61
			QPSK	1	5	0	-85	23.67
			QPSK	1	0	1	-85	23.76
			QPSK	1	5	1	-85	23.68
			QPSK	1	0	3	-85	23.64
			QPSK	1	5	3	-85	23.61
			QPSK	3	0	0	-85	22.92
			QPSK	3	3	3	-85	22.79
			QPSK	6	0	0	-85	22.94
			QPSK	6	0	1	-85	22.97
			QPSK	6	0	3	-85	22.93
			16QAM	1	0	0	-85	22.97
			16QAM	1	5	0	-85	22.98
			16QAM	1	0	1	-85	23.04
			16QAM	1	5	1	-85	22.97
			16QAM	1	0	3	-85	22.94
			16QAM	1	5	3	-85	22.96
			16QAM	3	0	0	-85	22.56
			16QAM	3	3	3	-85	22.97
			16QAM	5	0	0	-85	21.33
			16QAM	5	0	1	-85	21.34
			16QAM	5	0	3	-85	21.45

<LTE Band 25>

LTE Band 25								
BW (MHz): 20	NUL	Frequency of Uplink (MHz)	Test Configuration Initial of Power			EUT		
			Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
Low Range	26140	1860	QPSK	1	0	0	-85	22.95
			QPSK	1	5	0	-85	22.98
			QPSK	1	0	7	-85	23.01
			QPSK	1	5	7	-85	23.02
			QPSK	1	0	15	-85	23.07
			QPSK	1	5	15	-85	23.01
			QPSK	3	0	0	-85	23.02
			QPSK	3	3	15	-85	22.92
			QPSK	6	0	0	-85	23.16
			QPSK	6	0	15	-85	22.99
			16QAM	1	0	0	-85	23.14
			16QAM	1	5	0	-85	23.16
			16QAM	1	0	7	-85	23.11
			16QAM	1	5	7	-85	23.06
			16QAM	1	0	15	-85	23.07
			16QAM	1	5	15	-85	23.02
			16QAM	3	0	0	-85	23.07
			16QAM	3	3	15	-85	22.94
			16QAM	5	0	0	-85	23.02
			16QAM	5	0	15	-85	23.12
Mid. Range	26365	1882.5	QPSK	1	0	0	-85	22.91
			QPSK	1	5	0	-85	23.05
			QPSK	1	0	7	-85	23.02
			QPSK	1	5	7	-85	23.01
			QPSK	1	0	15	-85	23.02
			QPSK	1	5	15	-85	22.99
			QPSK	3	0	0	-85	23.22
			QPSK	3	3	15	-85	23.02
			QPSK	6	0	0	-85	23.01
			QPSK	6	0	15	-85	23.13
			16QAM	1	0	0	-85	23.23
			16QAM	1	5	0	-85	23.15
			16QAM	1	0	7	-85	23.12
			16QAM	1	5	7	-85	23.13
			16QAM	1	0	15	-85	23.12
			16QAM	1	5	15	-85	23.18
			16QAM	3	0	0	-85	23.01
			16QAM	3	3	15	-85	23.17
			16QAM	5	0	0	-85	23.05
			16QAM	5	0	15	-85	23.03
High Range	26590	1905	QPSK	1	0	0	-85	23.21
			QPSK	1	5	0	-85	23.07
			QPSK	1	0	7	-85	23.01
			QPSK	1	5	7	-85	23.11
			QPSK	1	0	15	-85	22.97
			QPSK	1	5	15	-85	22.97
			QPSK	3	0	0	-85	23.32
			QPSK	3	3	15	-85	22.89
			QPSK	6	0	0	-85	23.17
			QPSK	6	0	15	-85	23.17
			16QAM	1	0	0	-85	23.21
			16QAM	1	5	0	-85	23.14
			16QAM	1	0	7	-85	23.14
			16QAM	1	5	7	-85	23.12
			16QAM	1	0	15	-85	23.09
			16QAM	1	5	15	-85	23.22
			16QAM	3	0	0	-85	23.23
			16QAM	3	3	15	-85	23.05
			16QAM	5	0	0	-85	23.3
			16QAM	5	0	15	-85	23.09



LTE Band 25								
BW (MHz): 15		NUL	Frequency of Uplink (MHz)	Test Configuration Initial of Power			EUT	
Test Frequency ID	Modulation			RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
Low Range	26115	1857.5	QPSK	1	0	0	-85	22.82
				1	5	0	-85	22.97
				1	0	5	-85	22.94
				1	5	5	-85	22.93
				1	0	11	-85	22.96
				1	5	11	-85	22.91
				3	0	0	-85	23.04
				3	3	11	-85	22.77
				6	0	0	-85	22.95
				6	0	11	-85	22.85
				16QAM	1	0	0	23.02
				16QAM	1	5	0	23.01
				16QAM	1	0	5	23.04
				16QAM	1	5	5	23.02
				16QAM	1	0	11	23.01
				16QAM	1	5	11	23.02
				16QAM	3	0	0	22.97
				16QAM	3	3	11	22.87
				16QAM	5	0	0	22.87
				16QAM	5	0	11	22.63
Mid. Range	26365	1882.5	QPSK	1	0	0	-85	23.04
				1	5	0	-85	23.02
				1	0	5	-85	23.05
				1	5	5	-85	23.07
				1	0	11	-85	23.13
				1	5	11	-85	23.07
				3	0	0	-85	23.18
				3	3	11	-85	23.02
				6	0	0	-85	23.04
				6	0	11	-85	23.07
				16QAM	1	0	0	23.01
				16QAM	1	5	0	23.07
				16QAM	1	0	5	23.14
				16QAM	1	5	5	23.13
				16QAM	1	0	11	23.04
				16QAM	1	5	11	23.04
				16QAM	3	0	0	23.12
				16QAM	3	3	11	23.03
				16QAM	5	0	0	23.04
				16QAM	5	0	11	22.88
High Range	26615	1907.5	QPSK	1	0	0	-85	23.17
				1	5	11	-85	22.97
				1	0	5	-85	23.13
				1	5	5	-85	23.02
				1	0	11	-85	23.01
				3	0	0	-85	23.18
				3	3	11	-85	22.96
				6	0	0	-85	23.06
				6	0	11	-85	23.27
				16QAM	1	0	0	23.12
				16QAM	1	5	0	23.17
				16QAM	1	0	5	23.08
				16QAM	1	5	5	23.16
				16QAM	1	0	11	23.08
				16QAM	1	5	11	23.05
				16QAM	3	0	0	23.13
				16QAM	3	3	11	22.99
				16QAM	5	0	0	23.07
				16QAM	5	0	11	23.02

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Report No. : FA031828

LTE Band 25								
Test Frequency ID	N <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power				EUT	
			Modulation	RB Size	RB Offset	Narrowband Index		
Low Range	26090	1855	QPSK	1	0	0	-85	23.14
			QPSK	1	5	0	-85	23.08
			QPSK	1	0	3	-85	23.17
			QPSK	1	5	3	-85	23.19
			QPSK	1	0	7	-85	23.14
			QPSK	1	5	7	-85	23.02
			QPSK	4	0	0	-85	23.02
			QPSK	4	2	7	-85	23.31
			QPSK	6	0	0	-85	22.23
			QPSK	6	0	7	-85	22.41
			16QAM	1	0	0	-85	23.11
			16QAM	1	5	0	-85	23.26
			16QAM	1	0	3	-85	22.92
			16QAM	1	5	3	-85	22.91
			16QAM	1	0	7	-85	22.95
			16QAM	1	5	7	-85	22.96
			16QAM	4	2	0	-85	22.18
			16QAM	4	2	7	-85	22.75
			16QAM	5	0	0	-85	21.88
			16QAM	5	0	7	-85	22.02
Mid. Range	26365	1882.5	QPSK	1	0	0	-85	23.31
			QPSK	1	5	0	-85	23.14
			QPSK	1	0	3	-85	23.11
			QPSK	1	5	3	-85	23.21
			QPSK	1	0	7	-85	23.19
			QPSK	1	5	7	-85	23.08
			QPSK	4	0	0	-85	23.26
			QPSK	4	2	7	-85	23.38
			QPSK	6	0	0	-85	22.23
			QPSK	6	0	7	-85	22.44
			16QAM	1	0	0	-85	23.17
			16QAM	1	5	0	-85	23.07
			16QAM	1	0	3	-85	22.91
			16QAM	1	5	3	-85	22.89
			16QAM	1	0	7	-85	22.87
			16QAM	1	5	7	-85	22.91
			16QAM	4	2	0	-85	22.58
			16QAM	4	2	7	-85	22.67
			16QAM	5	0	0	-85	22.13
			16QAM	5	0	7	-85	21.99
High Range	26640	1910	QPSK	1	0	0	-85	23.21
			QPSK	1	5	0	-85	23.35
			QPSK	1	5	7	-85	23.22
			QPSK	1	0	3	-85	23.09
			QPSK	1	5	3	-85	23.23
			QPSK	1	0	7	-85	23.24
			QPSK	4	0	0	-85	23.16
			QPSK	4	2	7	-85	23.35
			QPSK	6	0	0	-85	22.51
			QPSK	6	0	7	-85	22.41
			16QAM	1	0	0	-85	23.04
			16QAM	1	5	0	-85	23.16
			16QAM	1	0	3	-85	22.98
			16QAM	1	5	3	-85	22.89
			16QAM	1	0	7	-85	22.85
			16QAM	1	5	7	-85	22.94
			16QAM	4	2	0	-85	22.97
			16QAM	4	2	7	-85	22.65
			16QAM	6	0	0	-85	22.18
			16QAM	6	0	7	-85	21.94

**FCC SAR TEST REPORT**

Report No. : FA031828

LTE Band 25								
BW (MHz): 5	NUL	Frequency of Uplink (MHz)	Test Configuration Initial of Power				EUT	
			Modulation	RB Size	RB Offset	Narrowband Index		
Low Range	26065	1852.5	QPSK	1	0	0	-85	23.04
			QPSK	1	5	0	-85	23.07
			QPSK	1	0	1	-85	23.09
			QPSK	1	5	1	-85	23.13
			QPSK	1	0	3	-85	23.11
			QPSK	1	5	3	-85	23.12
			QPSK	3	0	0	-85	22.04
			QPSK	3	3	3	-85	22.26
			QPSK	6	0	0	-85	22.15
			QPSK	6	0	1	-85	22.28
			QPSK	6	0	3	-85	22.31
			16QAM	1	0	0	-85	23.16
			16QAM	1	5	0	-85	23.17
			16QAM	1	0	1	-85	22.75
			16QAM	1	5	1	-85	23.07
			16QAM	1	0	3	-85	22.85
			16QAM	1	5	3	-85	22.72
			16QAM	3	0	0	-85	22.12
			16QAM	3	3	3	-85	22.21
			16QAM	5	0	0	-85	20.91
			16QAM	5	0	1	-85	21.05
			16QAM	5	0	3	-85	20.97
Mid. Range	26365	1882.5	QPSK	1	0	0	-85	23.21
			QPSK	1	5	0	-85	23.14
			QPSK	1	0	1	-85	23.11
			QPSK	1	5	1	-85	23.14
			QPSK	1	0	3	-85	23.16
			QPSK	1	5	3	-85	23.09
			QPSK	3	0	0	-85	23.01
			QPSK	3	3	3	-85	22.27
			QPSK	6	0	0	-85	22.47
			QPSK	6	0	1	-85	22.25
			QPSK	6	0	3	-85	22.36
			16QAM	1	0	0	-85	23.07
			16QAM	1	5	0	-85	23.08
			16QAM	1	0	1	-85	22.77
			16QAM	1	5	1	-85	22.81
			16QAM	1	0	3	-85	22.89
			16QAM	1	5	3	-85	22.78
			16QAM	3	0	0	-85	22.21
			16QAM	3	3	3	-85	22.18
			16QAM	6	0	0	-85	21.25
			16QAM	6	0	1	-85	21.07
			16QAM	6	0	3	-85	20.99

**FCC SAR TEST REPORT**

Report No. : FA031828

LTE Band 25								
Test Frequency ID	N <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power				EUT	
			Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
High Range	26665	1912.5	QPSK	1	0	0	-85	23.01
			QPSK	1	5	0	-85	23.07
			QPSK	1	0	1	-85	23.02
			QPSK	1	5	1	-85	23.07
			QPSK	1	0	3	-85	23.11
			QPSK	1	5	3	-85	23.05
			QPSK	3	0	0	-85	22.06
			QPSK	3	3	3	-85	22.19
			QPSK	6	0	0	-85	22.17
			QPSK	6	0	1	-85	22.33
			QPSK	6	0	3	-85	22.18
			16QAM	1	0	0	-85	22.81
			16QAM	1	5	0	-85	22.97
			16QAM	1	0	1	-85	22.65
			16QAM	1	5	1	-85	22.79
			16QAM	1	0	3	-85	22.81
			16QAM	1	5	3	-85	22.67
			16QAM	3	0	0	-85	22.16
			16QAM	3	3	3	-85	22.14
			16QAM	5	0	0	-85	20.96
			16QAM	5	0	1	-85	20.95
			16QAM	5	0	3	-85	20.93

**FCC SAR TEST REPORT**

Report No. : FA031828

LTE Band 25								
Test Frequency ID	N <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power				EUT	
			Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
Low Range	26055	1851.5	QPSK	1	0	0	-85	23.04
			QPSK	1	5	0	-85	23.03
			QPSK	1	0	1	-85	22.96
			QPSK	1	5	1	-85	23
			QPSK	3	3	0	-85	22.18
			QPSK	3	3	1	-85	22.11
			QPSK	6	0	0	-85	21.24
			QPSK	6	0	1	-85	21.23
			16QAM	1	0	0	-85	21.32
			16QAM	1	5	0	-85	21.36
			16QAM	1	0	1	-85	21.37
			16QAM	1	5	1	-85	21.32
			16QAM	3	0	0	-85	20.97
			16QAM	3	3	1	-85	21.07
			16QAM	5	0	0	-85	20.76
			16QAM	5	0	1	-85	20.65
Mid. Range	26365	1882.5	QPSK	1	0	0	-85	23.28
			QPSK	1	5	0	-85	23.26
			QPSK	1	0	1	-85	22.98
			QPSK	1	5	1	-85	23.01
			QPSK	3	3	0	-85	22.36
			QPSK	3	3	1	-85	22.14
			QPSK	6	0	0	-85	21.49
			QPSK	6	0	1	-85	21.24
			16QAM	1	0	0	-85	21.54
			16QAM	1	5	0	-85	21.52
			16QAM	1	0	1	-85	21.33
			16QAM	1	5	1	-85	21.29
			16QAM	3	0	0	-85	21.06
			16QAM	3	3	1	-85	21.05
			16QAM	5	0	0	-85	20.82
			16QAM	5	0	1	-85	20.63
High Range	26675	1913.5	QPSK	1	0	0	-85	23.12
			QPSK	1	5	0	-85	23.12
			QPSK	1	0	1	-85	23.11
			QPSK	1	5	1	-85	23.09
			QPSK	3	3	0	-85	22.24
			QPSK	3	3	1	-85	22.21
			QPSK	6	0	0	-85	21.37
			QPSK	6	0	1	-85	21.42
			16QAM	1	0	0	-85	21.36
			16QAM	1	5	0	-85	21.42
			16QAM	1	0	1	-85	21.33
			16QAM	1	5	1	-85	21.24
			16QAM	3	0	0	-85	20.88
			16QAM	3	3	1	-85	20.94
			16QAM	5	0	0	-85	20.64
			16QAM	5	0	1	-85	20.55

**FCC SAR TEST REPORT**

Report No. : FA031828

LTE Band 25								
Test Frequency ID	N <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power				EUT	
			Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
Low Range	26047	1850.7	QPSK	1	0	0	-85	24.37
			QPSK	1	5	0	-85	23.95
			QPSK	3	3	0	-85	22.41
			QPSK	6	0	0	-85	21.49
			16QAM	1	0	0	-85	21.88
			16QAM	1	5	0	-85	22.01
			16QAM	3	0	0	-85	21.19
			16QAM	5	0	0	-85	20.78
			QPSK	1	0	0	-85	24.51
Mid. Range	26365	1882.5	QPSK	1	5	0	-85	24.13
			QPSK	3	3	0	-85	22.57
			QPSK	6	0	0	-85	21.73
			16QAM	1	0	0	-85	22.12
			16QAM	1	5	0	-85	22.18
			16QAM	3	0	0	-85	21.39
High Range	26683	1914.3	16QAM	5	0	0	-85	21.04
			QPSK	1	0	0	-85	24.31
			QPSK	1	5	0	-85	23.87
			QPSK	3	3	0	-85	22.42
			QPSK	6	0	0	-85	21.58
			16QAM	1	0	0	-85	21.94
			16QAM	1	5	0	-85	22.04
			16QAM	3	0	0	-85	21.18
			16QAM	5	0	0	-85	20.78

<LTE Band 26 Part 90>

LTE Band 26								
BW (MHz): 10	N <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power				EUT	
			Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
Mid. Range	819	8740	QPSK	1	0	0	-85	23.07
			QPSK	1	5	0	-85	23.13
			QPSK	1	0	3	-85	23.02
			QPSK	1	5	3	-85	23.27
			QPSK	1	0	7	-85	23.22
			QPSK	1	5	7	-85	23.24
			QPSK	4	0	0	-85	23.19
			QPSK	4	2	7	-85	23.64
			QPSK	6	0	0	-85	22.37
			QPSK	6	0	7	-85	22.72
			16QAM	1	0	0	-85	23.24
			16QAM	1	5	0	-85	23.12
			16QAM	1	0	3	-85	23.31
			16QAM	1	5	3	-85	23.14
			16QAM	1	0	7	-85	23.41
			16QAM	1	5	7	-85	23.55
			16QAM	4	2	0	-85	23.24
			16QAM	4	2	7	-85	23.41
			16QAM	5	0	0	-85	22.17
			16QAM	5	0	7	-85	22.61

**FCC SAR TEST REPORT**

Report No. : FA031828

LTE Band 26								
BW (MHz): 5	N <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power				EUT	
			Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
Low Range	26715	819	QPSK	1	0	0	-85	23.27
			QPSK	1	5	0	-85	23.37
			QPSK	1	0	1	-85	23.29
			QPSK	1	5	1	-85	23.24
			QPSK	1	0	3	-85	23.12
			QPSK	1	5	3	-85	23.16
			QPSK	3	0	0	-85	22.44
			QPSK	3	3	3	-85	22.21
			QPSK	6	0	0	-85	22.13
			QPSK	6	0	1	-85	22.34
			QPSK	6	0	3	-85	22.17
			16QAM	1	0	0	-85	23.28
			16QAM	1	5	0	-85	23.41
			16QAM	1	0	1	-85	23.31
			16QAM	1	5	1	-85	23.35
			16QAM	1	0	3	-85	23.26
			16QAM	1	5	3	-85	23.21
			16QAM	3	0	0	-85	22.37
			16QAM	3	3	3	-85	22.18
			16QAM	5	0	0	-85	22.29
			16QAM	5	0	1	-85	22.34
			16QAM	5	0	3	-85	22.24
Mid. Range	26740	819	QPSK	1	0	0	-85	23.57
			QPSK	1	5	0	-85	23.48
			QPSK	1	0	1	-85	23.33
			QPSK	1	5	1	-85	23.31
			QPSK	1	0	3	-85	23.25
			QPSK	1	5	3	-85	23.27
			QPSK	3	0	0	-85	22.87
			QPSK	3	3	3	-85	22.99
			QPSK	6	0	0	-85	22.58
			QPSK	6	0	1	-85	22.65
			QPSK	6	0	3	-85	22.33
			16QAM	1	0	0	-85	23.43
			16QAM	1	5	0	-85	23.42
			16QAM	1	0	1	-85	23.33
			16QAM	1	5	1	-85	23.42
			16QAM	1	0	3	-85	23.22
			16QAM	1	5	3	-85	23.19
			16QAM	3	0	0	-85	22.57
			16QAM	3	3	3	-85	22.46
			16QAM	5	0	0	-85	22.64
			16QAM	5	0	1	-85	22.67
			16QAM	5	0	3	-85	22.31

**FCC SAR TEST REPORT**

Report No. : FA031828

LTE Band 26								
BW (MHz): 5	N.u.	Frequency of Uplink (MHz)	Test Configuration Initial of Power				EUT	
			Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
High Range	26765	821.5	QPSK	1	0	0	-85	23.13
			QPSK	1	5	0	-85	23.01
			QPSK	1	0	1	-85	23.04
			QPSK	1	5	1	-85	23.11
			QPSK	1	0	3	-85	23.21
			QPSK	1	5	3	-85	23.18
			QPSK	3	0	0	-85	22.44
			QPSK	3	3	3	-85	22.39
			QPSK	6	0	0	-85	22.47
			QPSK	6	0	1	-85	22.45
			QPSK	6	0	3	-85	22.37
			16QAM	1	0	0	-85	23.53
			16QAM	1	5	0	-85	23.33
			16QAM	1	0	1	-85	23.34
			16QAM	1	5	1	-85	23.24
			16QAM	1	0	3	-85	23.16
			16QAM	1	5	3	-85	23.18
			16QAM	3	0	0	-85	22.25
			16QAM	3	3	3	-85	22.19
			16QAM	5	0	0	-85	22.31
			16QAM	5	0	1	-85	23.32
			16QAM	5	0	3	-85	23.25

**FCC SAR TEST REPORT**

Report No. : FA031828

LTE Band 26								
BW (MHz): 3	NUL	Frequency of Uplink (MHz)	Test Configuration Initial of Power			EUT		
			Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
Low Range	26705	815.5	QPSK	1	0	0	-85	23.16
			QPSK	1	5	0	-85	23.18
			QPSK	1	0	1	-85	23.39
			QPSK	1	5	1	-85	23.28
			QPSK	3	3	0	-85	22.9
			QPSK	3	3	1	-85	22.15
			QPSK	6	0	0	-85	21.47
			QPSK	6	0	1	-85	20.97
			16QAM	1	0	0	-85	23.34
			16QAM	1	5	0	-85	23.01
			16QAM	1	0	1	-85	23.13
			16QAM	1	5	1	-85	23.13
			16QAM	3	0	0	-85	22.37
			16QAM	3	3	1	-85	22.21
			16QAM	5	0	0	-85	22.01
			16QAM	5	0	1	-85	22.14
Mid. Range	26740	819	QPSK	1	0	0	-85	23.42
			QPSK	1	5	0	-85	23.46
			QPSK	1	0	1	-85	23.52
			QPSK	1	5	1	-85	23.33
			QPSK	3	3	0	-85	22.14
			QPSK	3	3	1	-85	22.17
			QPSK	6	0	0	-85	21.15
			QPSK	6	0	1	-85	20.87
			16QAM	1	0	0	-85	23.19
			16QAM	1	5	0	-85	23.16
			16QAM	1	0	1	-85	23.21
			16QAM	1	5	1	-85	23.05
			16QAM	3	0	0	-85	22.52
			16QAM	3	3	1	-85	22.16
			16QAM	5	0	0	-85	22.29
			16QAM	5	0	1	-85	22.03
High Range	26775	822.5	QPSK	1	0	0	-85	23.36
			QPSK	1	5	0	-85	23.45
			QPSK	1	0	1	-85	23.49
			QPSK	1	5	1	-85	23.36
			QPSK	3	3	0	-85	22.09
			QPSK	3	3	1	-85	22.11
			QPSK	6	0	0	-85	21.17
			QPSK	6	0	1	-85	20.91
			16QAM	1	0	0	-85	23.12
			16QAM	1	5	0	-85	23.09
			16QAM	1	0	1	-85	23.19
			16QAM	1	5	1	-85	23.07
			16QAM	3	0	0	-85	22.29
			16QAM	3	3	1	-85	22.13
			16QAM	5	0	0	-85	22.26
			16QAM	5	0	1	-85	21.93

**FCC SAR TEST REPORT**

Report No. : FA031828

LTE Band 26								
Test Frequency ID	N <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power				EUT	
			Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
Low Range	26697	814.7	QPSK	1	0	0	-85	23.67
			QPSK	1	5	0	-85	23.62
			QPSK	3	3	0	-85	22.06
			QPSK	6	0	0	-85	21.45
			16QAM	1	0	0	-85	23.28
			16QAM	1	5	0	-85	23.18
			16QAM	3	0	0	-85	22.27
Mid. Range	26740	819	16QAM	5	0	0	-85	22.29
			QPSK	1	0	0	-85	23.55
			QPSK	1	5	0	-85	23.54
			QPSK	3	3	0	-85	21.97
			QPSK	6	0	0	-85	21.37
			16QAM	1	0	0	-85	23.13
			16QAM	1	5	0	-85	23.18
High Range	26783	823.3	16QAM	3	0	0	-85	22.27
			16QAM	5	0	0	-85	22.18
			QPSK	1	0	0	-85	23.61
			QPSK	1	5	0	-85	23.51
			QPSK	3	3	0	-85	22.18
			QPSK	6	0	0	-85	21.39
			16QAM	1	0	0	-85	23.14

<LTE Band 26 Part 22>

LTE Band 26									
BW (MHz): 15	Test Frequency ID	N <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power			EUT		
				Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
Low Range	26865	831.5	831.5	QPSK	1	0	0	-85	23.15
				QPSK	1	5	0	-85	23.25
				QPSK	1	0	5	-85	23.13
				QPSK	1	5	5	-85	23.26
				QPSK	1	0	11	-85	23.18
				QPSK	1	5	11	-85	23.17
				QPSK	3	0	0	-85	23.36
				QPSK	3	3	11	-85	23.13
				QPSK	6	0	0	-85	23.11
				QPSK	6	0	11	-85	23.24
				16QAM	1	0	0	-85	23.31
				16QAM	1	5	0	-85	23.26
				16QAM	1	0	5	-85	23.33
				16QAM	1	5	5	-85	23.19
				16QAM	1	0	11	-85	23.02
				16QAM	1	5	11	-85	23.15
				16QAM	3	0	0	-85	23.17
				16QAM	3	3	11	-85	23.21
				16QAM	5	0	0	-85	23.12
				16QAM	5	0	11	-85	23.15
Mid. Range	26915	836.5	836.5	QPSK	1	0	0	-85	23.25
				QPSK	1	5	0	-85	23.22
				QPSK	1	0	5	-85	23.26
				QPSK	1	5	5	-85	23.24
				QPSK	1	0	11	-85	23.07
				QPSK	1	5	11	-85	23.09
				QPSK	3	0	0	-85	23.32
				QPSK	3	3	11	-85	23.02
				QPSK	6	0	0	-85	23.17
				QPSK	6	0	11	-85	23.18
				16QAM	1	0	0	-85	23.33
				16QAM	1	5	0	-85	23.19
				16QAM	1	0	5	-85	23.37
				16QAM	1	5	5	-85	23.41
				16QAM	1	0	11	-85	23.15
				16QAM	1	5	11	-85	23.24
				16QAM	3	0	0	-85	23.28
				16QAM	3	3	11	-85	23.15
				16QAM	5	0	0	-85	23.22
				16QAM	5	0	11	-85	23.22
High Range	26965	841.5	841.5	QPSK	1	0	0	-85	23.22
				QPSK	1	5	11	-85	23.31
				QPSK	1	0	5	-85	23.48
				QPSK	1	5	5	-85	23.44
				QPSK	1	0	11	-85	23.52
				QPSK	1	5	11	-85	23.45
				QPSK	3	0	0	-85	23.21
				QPSK	3	3	11	-85	23.43
				QPSK	6	0	0	-85	23.19
				QPSK	6	0	11	-85	23.17
				16QAM	1	0	0	-85	23.39
				16QAM	1	5	0	-85	23.25
				16QAM	1	0	5	-85	23.46
				16QAM	1	5	5	-85	23.44
				16QAM	1	0	11	-85	23.39
				16QAM	1	5	11	-85	23.38
				16QAM	3	0	0	-85	23.23
				16QAM	3	3	11	-85	23.27
				16QAM	5	0	0	-85	23.27
				16QAM	5	0	11	-85	23.18



LTE Band 26									
BW (MHz): 10	Test Frequency ID	N <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power			EUT		
				Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	
Low Range	26840	829		QPSK	1	0	0	-85	23.02
				QPSK	1	5	0	-85	23.16
				QPSK	1	0	3	-85	23.17
				QPSK	1	5	3	-85	23.14
				QPSK	1	0	7	-85	23.25
				QPSK	1	5	7	-85	23.29
				QPSK	4	0	0	-85	23.17
				QPSK	4	2	7	-85	23.38
				QPSK	6	0	0	-85	22.25
				QPSK	6	0	7	-85	22.67
				16QAM	1	0	0	-85	23.44
				16QAM	1	5	0	-85	23.1
				16QAM	1	0	3	-85	23.15
				16QAM	1	5	3	-85	23.14
				16QAM	1	0	7	-85	23.41
				16QAM	1	5	7	-85	23.34
				16QAM	4	2	0	-85	23.12
				16QAM	4	2	7	-85	23.39
				16QAM	5	0	0	-85	22.28
				16QAM	5	0	7	-85	22.47
Mid. Range	26915	836.5		QPSK	1	0	0	-85	23.02
				QPSK	1	5	0	-85	23.19
				QPSK	1	0	3	-85	23.18
				QPSK	1	5	3	-85	23.13
				QPSK	1	0	7	-85	23.31
				QPSK	1	5	7	-85	23.34
				QPSK	4	0	0	-85	23.18
				QPSK	4	2	7	-85	23.41
				QPSK	6	0	0	-85	22.47
				QPSK	6	0	7	-85	22.77
				16QAM	1	0	0	-85	23.48
				16QAM	1	5	0	-85	23.13
				16QAM	1	0	3	-85	23.13
				16QAM	1	5	3	-85	23.34
				16QAM	1	0	7	-85	23.51
				16QAM	1	5	7	-85	23.36
				16QAM	4	2	0	-85	23.16
				16QAM	4	2	7	-85	23.05
				16QAM	5	0	0	-85	22.45
				16QAM	5	0	7	-85	22.44
High Range	26990	844		QPSK	1	0	0	-85	23.12
				QPSK	1	5	0	-85	23.16
				QPSK	1	5	7	-85	23.23
				QPSK	1	0	3	-85	23.22
				QPSK	1	5	3	-85	23.25
				QPSK	1	0	7	-85	23.36
				QPSK	4	0	0	-85	23.11
				QPSK	4	2	7	-85	23.52
				QPSK	6	0	0	-85	22.47
				QPSK	6	0	7	-85	22.56
				16QAM	1	0	0	-85	23.43
				16QAM	1	5	0	-85	23.25
				16QAM	1	0	3	-85	23.11
				16QAM	1	5	3	-85	23.15
				16QAM	1	0	7	-85	23.2
				16QAM	1	5	7	-85	23.26
				16QAM	4	2	0	-85	23.21
				16QAM	4	2	7	-85	23.09
				16QAM	5	0	0	-85	22.37
				16QAM	5	0	7	-85	22.43



LTE Band 26									
BW (MHz): 5	Test Frequency ID	N <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power			EUT		
				Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
Low Range	26815	826.5	826.5	QPSK	1	0	0	-85	23.17
				QPSK	1	5	0	-85	23.18
				QPSK	1	0	1	-85	23.11
				QPSK	1	5	1	-85	23.17
				QPSK	1	0	3	-85	23.27
				QPSK	1	5	3	-85	23.32
				QPSK	3	0	0	-85	22.47
				QPSK	3	3	3	-85	22.18
				QPSK	6	0	0	-85	22.19
				QPSK	6	0	1	-85	22.42
				QPSK	6	0	3	-85	22.27
				16QAM	1	0	0	-85	23.17
				16QAM	1	5	0	-85	23.18
				16QAM	1	0	1	-85	23.14
				16QAM	1	5	1	-85	23.02
				16QAM	1	0	3	-85	23.21
				16QAM	1	5	3	-85	23.14
				16QAM	3	0	0	-85	22.36
				16QAM	3	3	3	-85	22.34
				16QAM	5	0	0	-85	22.37
				16QAM	5	0	1	-85	22.34
				16QAM	5	0	3	-85	22.37
Mid. Range	26915	836.5	836.5	QPSK	1	0	0	-85	23.31
				QPSK	1	5	0	-85	23.26
				QPSK	1	0	1	-85	23.27
				QPSK	1	5	1	-85	23.36
				QPSK	1	0	3	-85	23.25
				QPSK	1	5	3	-85	23.31
				QPSK	3	0	0	-85	22.67
				QPSK	3	3	3	-85	22.15
				QPSK	6	0	0	-85	22.25
				QPSK	6	0	1	-85	22.54
				QPSK	6	0	3	-85	22.21
				16QAM	1	0	0	-85	23.15
				16QAM	1	5	0	-85	23.14
				16QAM	1	0	1	-85	23.17
				16QAM	1	5	1	-85	23.21
				16QAM	1	0	3	-85	23.23
				16QAM	1	5	3	-85	23.11
				16QAM	3	0	0	-85	22.51
				16QAM	3	3	3	-85	22.43
				16QAM	5	0	0	-85	22.38
				16QAM	5	0	1	-85	22.31
				16QAM	5	0	3	-85	22.27



LTE Band 26							EUT		
BW (MHz): 5	Test Frequency ID	N <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power			EUT		
				Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
High Range	27015	846.5		QPSK	1	0	0	-85	23.27
				QPSK	1	5	0	-85	23.55
				QPSK	1	0	1	-85	23.33
				QPSK	1	5	1	-85	23.41
				QPSK	1	0	3	-85	23.22
				QPSK	1	5	3	-85	23.24
				QPSK	3	0	0	-85	22.87
				QPSK	3	3	3	-85	22.66
				QPSK	6	0	0	-85	22.47
				QPSK	6	0	1	-85	22.35
				QPSK	6	0	3	-85	22.11
				16QAM	1	0	0	-85	23.51
				16QAM	1	5	0	-85	23.47
				16QAM	1	0	1	-85	23.19
				16QAM	1	5	1	-85	23.32
				16QAM	1	0	3	-85	23.24
				16QAM	1	5	3	-85	23.15
				16QAM	3	0	0	-85	22.63
				16QAM	3	3	3	-85	22.55
				16QAM	5	0	0	-85	22.64
				16QAM	5	0	1	-85	22.33
				16QAM	5	0	3	-85	22.56



BW (MHz): 3			LTE Band 26					
Test Frequency ID	N <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power				EUT	
			Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
Low Range	26805	825.5	QPSK	1	0	0	-85	23.25
			QPSK	1	5	0	-85	23.46
			QPSK	1	0	1	-85	23.37
			QPSK	1	5	1	-85	23.48
			QPSK	3	3	0	-85	22.15
			QPSK	3	3	1	-85	22.12
			QPSK	6	0	0	-85	21.27
			QPSK	6	0	1	-85	21.19
			16QAM	1	0	0	-85	23.19
			16QAM	1	5	0	-85	23.01
			16QAM	1	0	1	-85	23.41
			16QAM	1	5	1	-85	23.43
			16QAM	3	0	0	-85	22.49
			16QAM	3	3	1	-85	22.14
			16QAM	5	0	0	-85	22.24
			16QAM	5	0	1	-85	22.37
Mid. Range	26915	836.5	QPSK	1	0	0	-85	23.41
			QPSK	1	5	0	-85	23.33
			QPSK	1	0	1	-85	23.42
			QPSK	1	5	1	-85	23.41
			QPSK	3	3	0	-85	23.39
			QPSK	3	3	1	-85	22.26
			QPSK	6	0	0	-85	21.18
			QPSK	6	0	1	-85	21.28
			16QAM	1	0	0	-85	23.22
			16QAM	1	5	0	-85	23.12
			16QAM	1	0	1	-85	23.21
			16QAM	1	5	1	-85	23.14
			16QAM	3	0	0	-85	22.42
			16QAM	3	3	1	-85	22.37
			16QAM	5	0	0	-85	22.34
			16QAM	5	0	1	-85	22.36
High Range	27025	847.5	QPSK	1	0	0	-85	23.55
			QPSK	1	5	0	-85	23.41
			QPSK	1	0	1	-85	23.35
			QPSK	1	5	1	-85	23.44
			QPSK	3	3	0	-85	22.29
			QPSK	3	3	1	-85	22.36
			QPSK	6	0	0	-85	21.32
			QPSK	6	0	1	-85	21.24
			16QAM	1	0	0	-85	23.26
			16QAM	1	5	0	-85	23.24
			16QAM	1	0	1	-85	23.51
			16QAM	1	5	1	-85	23.49
			16QAM	3	0	0	-85	22.52
			16QAM	3	3	1	-85	22.35
			16QAM	5	0	0	-85	22.43
			16QAM	5	0	1	-85	22.42



LTE Band 26								
Test Frequency ID	N <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power				EUT	
			Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
Low Range	26797	824.7	QPSK	1	0	0	-85	23.62
			QPSK	1	5	0	-85	23.64
			QPSK	3	3	0	-85	22.19
			QPSK	6	0	0	-85	21.37
			16QAM	1	0	0	-85	23.24
			16QAM	1	5	0	-85	23.15
			16QAM	3	0	0	-85	22.36
			16QAM	5	0	0	-85	22.12
Mid. Range	26915	836.5	QPSK	1	0	0	-85	23.41
			QPSK	1	5	0	-85	23.51
			QPSK	3	3	0	-85	22.14
			QPSK	6	0	0	-85	21.41
			16QAM	1	0	0	-85	23.27
			16QAM	1	5	0	-85	23.18
			16QAM	3	0	0	-85	22.43
			16QAM	5	0	0	-85	22.22
High Range	27033	848.3	QPSK	1	0	0	-85	23.79
			QPSK	1	5	0	-85	23.75
			QPSK	3	3	0	-85	22.27
			QPSK	6	0	0	-85	21.44
			16QAM	1	0	0	-85	23.33
			16QAM	1	5	0	-85	23.34
			16QAM	3	0	0	-85	22.46
			16QAM	5	0	0	-85	22.28

<LTE Band 66>

LTE Band 66									
BW (MHz): 20	Test Frequency ID	N <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power			EUT		
				Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
Low Range	132072	1720		QPSK	1	0	0	-85	23.11
				QPSK	1	5	0	-85	23.02
				QPSK	1	0	7	-85	23.02
				QPSK	1	5	7	-85	23.01
				QPSK	1	0	15	-85	23.02
				QPSK	1	5	15	-85	22.99
				QPSK	3	0	0	-85	23.14
				QPSK	3	3	15	-85	22.66
				QPSK	6	0	0	-85	22.76
				QPSK	6	0	15	-85	22.95
				16QAM	1	0	0	-85	22.67
				16QAM	1	5	0	-85	22.87
				16QAM	1	0	7	-85	23.01
				16QAM	1	5	7	-85	22.87
				16QAM	1	0	15	-85	22.84
				16QAM	1	5	15	-85	22.76
				16QAM	3	0	0	-85	23.09
				16QAM	3	3	15	-85	23.23
				16QAM	5	0	0	-85	23.07
				16QAM	5	0	15	-85	22.95
Mid. Range	132322	1745		QPSK	1	0	0	-85	22.97
				QPSK	1	5	0	-85	23.21
				QPSK	1	0	7	-85	22.95
				QPSK	1	5	7	-85	22.97
				QPSK	1	0	15	-85	22.91
				QPSK	1	5	15	-85	22.91
				QPSK	3	0	0	-85	23.19
				QPSK	3	3	15	-85	22.82
				QPSK	6	0	0	-85	23.01
				QPSK	6	0	15	-85	22.78
				16QAM	1	0	0	-85	23.03
				16QAM	1	5	0	-85	23.12
				16QAM	1	0	7	-85	22.87
				16QAM	1	5	7	-85	22.93
				16QAM	1	0	15	-85	23.13
				16QAM	1	5	15	-85	23.12
				16QAM	3	0	0	-85	22.87
				16QAM	3	3	15	-85	22.94
				16QAM	5	0	0	-85	22.84
				16QAM	5	0	15	-85	22.88
High Range	132572	1770		QPSK	1	0	0	-85	22.86
				QPSK	1	5	0	-85	22.79
				QPSK	1	0	7	-85	22.84
				QPSK	1	5	7	-85	22.87
				QPSK	1	0	15	-85	22.79
				QPSK	1	5	15	-85	22.81
				QPSK	3	0	0	-85	22.87
				QPSK	3	3	15	-85	22.75
				QPSK	6	0	0	-85	22.72
				QPSK	6	0	15	-85	22.65
				16QAM	1	0	0	-85	22.81
				16QAM	1	5	0	-85	22.88
				16QAM	1	0	7	-85	22.91
				16QAM	1	5	7	-85	23.02
				16QAM	1	0	15	-85	22.98
				16QAM	1	5	15	-85	22.99
				16QAM	3	0	0	-85	23.05
				16QAM	3	3	15	-85	23.01
				16QAM	5	0	0	-85	22.67
				16QAM	5	0	15	-85	22.5



LTE Band 66								
BW (MHz): 15	N <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power			EUT		
			Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	
Low Range	132047	1717.5	QPSK	1	0	0	-85	22.96
			QPSK	1	5	0	-85	23.03
			QPSK	1	0	5	-85	22.97
			QPSK	1	5	5	-85	23.04
			QPSK	1	0	11	-85	23.11
			QPSK	1	5	11	-85	23.05
			QPSK	3	0	0	-85	23.13
			QPSK	3	3	11	-85	22.88
			QPSK	6	0	0	-85	22.77
			QPSK	6	0	11	-85	22.54
			16QAM	1	0	0	-85	22.44
			16QAM	1	5	0	-85	22.17
			16QAM	1	0	5	-85	22.39
			16QAM	1	5	5	-85	22.56
			16QAM	1	0	11	-85	22.53
			16QAM	1	5	11	-85	22.47
			16QAM	3	0	0	-85	23.44
			16QAM	3	3	11	-85	22.61
			16QAM	5	0	0	-85	22.97
			16QAM	5	0	11	-85	22.45
Mid. Range	132322	1745	QPSK	1	0	0	-85	23.14
			QPSK	1	5	0	-85	23.1
			QPSK	1	0	5	-85	22.93
			QPSK	1	5	5	-85	22.92
			QPSK	1	0	11	-85	22.93
			QPSK	1	5	11	-85	22.91
			QPSK	3	0	0	-85	23.13
			QPSK	3	3	11	-85	22.94
			QPSK	6	0	0	-85	22.87
			QPSK	6	0	11	-85	23.02
			16QAM	1	0	0	-85	23.23
			16QAM	1	5	0	-85	23.19
			16QAM	1	0	5	-85	23.02
			16QAM	1	5	5	-85	23.16
			16QAM	1	0	11	-85	23.01
			16QAM	1	5	11	-85	23.12
			16QAM	3	0	0	-85	23.04
			16QAM	3	3	11	-85	23.11
			16QAM	5	0	0	-85	23.12
			16QAM	5	0	11	-85	22.67
High Range	132597	1772.5	QPSK	1	0	0	-85	22.78
			QPSK	1	5	11	-85	22.89
			QPSK	1	0	5	-85	22.91
			QPSK	1	5	5	-85	22.93
			QPSK	1	0	11	-85	22.87
			QPSK	1	5	11	-85	22.95
			QPSK	3	0	0	-85	23.04
			QPSK	3	3	11	-85	23.01
			QPSK	6	0	0	-85	22.84
			QPSK	6	0	11	-85	21.87
			16QAM	1	0	0	-85	22.96
			16QAM	1	5	0	-85	22.96
			16QAM	1	0	5	-85	22.95
			16QAM	1	5	5	-85	22.91
			16QAM	1	0	11	-85	22.89
			16QAM	1	5	11	-85	22.76
			16QAM	3	0	0	-85	23.01
			16QAM	3	3	11	-85	23.03
			16QAM	5	0	0	-85	22.84
			16QAM	5	0	11	-85	21.56



LTE Band 66									
BW (MHz): 10	Test Frequency ID	Nu.	Frequency of Uplink (MHz)	Test Configuration Initial of Power			EUT		
				Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
Low Range	132022	1715		QPSK	1	0	0	-85	23.01
				QPSK	1	5	0	-85	22.94
				QPSK	1	0	3	-85	23.02
				QPSK	1	5	3	-85	22.98
				QPSK	1	0	7	-85	23.04
				QPSK	1	5	7	-85	22.95
				QPSK	4	0	0	-85	23.01
				QPSK	4	2	7	-85	22.96
				QPSK	6	0	0	-85	22.04
				QPSK	6	0	7	-85	21.95
				16QAM	1	0	0	-85	23.18
				16QAM	1	5	0	-85	23.02
				16QAM	1	0	3	-85	23.01
				16QAM	1	5	3	-85	22.99
				16QAM	1	0	7	-85	22.94
				16QAM	1	5	7	-85	22.93
				16QAM	4	2	0	-85	21.95
				16QAM	4	2	7	-85	21.89
				16QAM	6	0	0	-85	21.82
				16QAM	6	0	7	-85	21.8
Mid. Range	132322	1745		QPSK	1	0	0	-85	23.01
				QPSK	1	5	0	-85	22.96
				QPSK	1	0	3	-85	23.01
				QPSK	1	5	3	-85	23.04
				QPSK	1	0	7	-85	23.01
				QPSK	1	5	7	-85	23.04
				QPSK	4	0	0	-85	23.15
				QPSK	4	2	7	-85	23.02
				QPSK	6	0	0	-85	21.91
				QPSK	6	0	7	-85	21.93
				16QAM	1	0	0	-85	23.12
				16QAM	1	5	0	-85	23.22
				16QAM	1	0	3	-85	23.32
				16QAM	1	5	3	-85	23.06
				16QAM	1	0	7	-85	23.04
				16QAM	1	5	7	-85	23.01
				16QAM	4	2	0	-85	23.01
				16QAM	4	2	7	-85	23.14
				16QAM	5	0	0	-85	22.11
				16QAM	5	0	7	-85	22.03
High Range	132622	1775		QPSK	1	0	0	-85	22.67
				QPSK	1	5	0	-85	22.65
				QPSK	1	5	7	-85	22.72
				QPSK	1	0	3	-85	22.7
				QPSK	1	5	3	-85	22.68
				QPSK	1	0	7	-85	22.71
				QPSK	4	0	0	-85	22.98
				QPSK	4	2	7	-85	22.88
				QPSK	6	0	0	-85	21.23
				QPSK	6	0	7	-85	21.18
				16QAM	1	0	0	-85	22.75
				16QAM	1	5	0	-85	22.88
				16QAM	1	0	3	-85	22.67
				16QAM	1	5	3	-85	22.75
				16QAM	1	0	7	-85	22.81
				16QAM	1	5	7	-85	22.69
				16QAM	4	2	0	-85	21.02
				16QAM	4	2	7	-85	21.33
				16QAM	6	0	0	-85	21.14
				16QAM	6	0	7	-85	20.87

**FCC SAR TEST REPORT**

Report No. : FA031828

LTE Band 66								
BW (MHz): 5	N <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power			EUT		
			Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
Low Range	131997	1712.5	QPSK	1	0	0	-85	22.97
			QPSK	1	5	0	-85	22.91
			QPSK	1	0	1	-85	22.94
			QPSK	1	5	1	-85	22.89
			QPSK	1	0	3	-85	21.89
			QPSK	1	5	3	-85	21.88
			QPSK	3	0	0	-85	21.77
			QPSK	3	3	3	-85	21.92
			QPSK	6	0	0	-85	21.84
			QPSK	6	0	1	-85	21.65
			QPSK	6	0	3	-85	21.55
			16QAM	1	0	0	-85	22.17
			16QAM	1	5	0	-85	23.06
			16QAM	1	0	1	-85	23.02
			16QAM	1	5	1	-85	23.01
			16QAM	1	0	3	-85	23.14
			16QAM	1	5	3	-85	23.12
			16QAM	3	0	0	-85	22.72
			16QAM	3	3	3	-85	22.87
			16QAM	5	0	0	-85	21.11
			16QAM	5	0	1	-85	21.32
			16QAM	5	0	3	-85	21.23
Mid. Range	132322	1745	QPSK	1	0	0	-85	23.07
			QPSK	1	5	0	-85	23.01
			QPSK	1	0	1	-85	23.13
			QPSK	1	5	1	-85	23.09
			QPSK	1	0	3	-85	23.13
			QPSK	1	5	3	-85	23.01
			QPSK	3	0	0	-85	22.37
			QPSK	3	3	3	-85	21.97
			QPSK	6	0	0	-85	21.83
			QPSK	6	0	1	-85	22.17
			QPSK	6	0	3	-85	22.25
			16QAM	1	0	0	-85	23.16
			16QAM	1	5	0	-85	23.14
			16QAM	1	0	1	-85	23.21
			16QAM	1	5	1	-85	23.04
			16QAM	1	0	3	-85	23.12
			16QAM	1	5	3	-85	23.12
			16QAM	3	0	0	-85	22.03
			16QAM	3	3	3	-85	22.02
			16QAM	5	0	0	-85	22.07
			16QAM	5	0	1	-85	22.14
			16QAM	5	0	3	-85	22.14

**FCC SAR TEST REPORT**

Report No. : FA031828

LTE Band 66									
BW (MHz): 5	Test Frequency ID	NuL	Frequency of Uplink (MHz)	Test Configuration Initial of Power			EUT		
				Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
High Range	132647	1777.5		QPSK	1	0	0	-85	22.93
				QPSK	1	5	0	-85	22.69
				QPSK	1	0	1	-85	22.73
				QPSK	1	5	1	-85	22.78
				QPSK	1	0	3	-85	22.67
				QPSK	1	5	3	-85	22.88
				QPSK	3	0	0	-85	21.84
				QPSK	3	3	3	-85	21.78
				QPSK	6	0	0	-85	21.79
				QPSK	6	0	1	-85	21.62
				QPSK	6	0	3	-85	21.68
				16QAM	1	0	0	-85	22.56
				16QAM	1	5	0	-85	23.02
				16QAM	1	0	1	-85	23.01
				16QAM	1	5	1	-85	23.07
				16QAM	1	0	3	-85	22.99
				16QAM	1	5	3	-85	22.91
				16QAM	3	0	0	-85	22.24
				16QAM	3	3	3	-85	22.21
				16QAM	5	0	0	-85	20.72
				16QAM	5	0	1	-85	20.66
				16QAM	5	0	3	-85	20.73

**FCC SAR TEST REPORT**

Report No. : FA031828

LTE Band 66									
BW (MHz): 3	Test Frequency ID	N <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power			EUT		
				Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
Low Range	131987	1711.5		QPSK	1	0	0	-85	23.02
				QPSK	1	5	0	-85	22.97
				QPSK	1	0	1	-85	23.12
				QPSK	1	5	1	-85	22.94
				QPSK	3	3	0	-85	21.99
				QPSK	3	3	1	-85	21.86
				QPSK	6	0	0	-85	20.83
				QPSK	6	0	1	-85	20.81
				16QAM	1	0	0	-85	22.02
				16QAM	1	5	0	-85	22.12
				16QAM	1	0	1	-85	22.02
				16QAM	1	5	1	-85	22.11
				16QAM	3	0	0	-85	21.67
				16QAM	3	3	1	-85	21.39
				16QAM	5	0	0	-85	20.76
				16QAM	5	0	1	-85	20.82
Mid. Range	132322	1745		QPSK	1	0	0	-85	23.12
				QPSK	1	5	0	-85	23.02
				QPSK	1	0	1	-85	23.32
				QPSK	1	5	1	-85	23.33
				QPSK	3	3	0	-85	21.99
				QPSK	3	3	1	-85	21.97
				QPSK	6	0	0	-85	20.91
				QPSK	6	0	1	-85	20.83
				16QAM	1	0	0	-85	23.03
				16QAM	1	5	0	-85	23.05
				16QAM	1	0	1	-85	23.14
				16QAM	1	5	1	-85	23.03
				16QAM	3	0	0	-85	22.18
				16QAM	3	3	1	-85	22.08
				16QAM	5	0	0	-85	21.97
				16QAM	5	0	1	-85	22.12
High Range	132657	1778.5		QPSK	1	0	0	-85	22.91
				QPSK	1	5	0	-85	22.95
				QPSK	1	0	1	-85	22.94
				QPSK	1	5	1	-85	22.89
				QPSK	3	3	0	-85	21.58
				QPSK	3	3	1	-85	21.54
				QPSK	6	0	0	-85	20.59
				QPSK	6	0	1	-85	20.43
				16QAM	1	0	0	-85	21.77
				16QAM	1	5	0	-85	21.78
				16QAM	1	0	1	-85	21.76
				16QAM	1	5	1	-85	21.33
				16QAM	3	0	0	-85	21.26
				16QAM	3	3	1	-85	21.56
				16QAM	5	0	0	-85	20.58
				16QAM	5	0	1	-85	20.44



LTE Band 66									
BW (MHz): 1.4	Test Frequency ID	N <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power			EUT		
				Modulation	RB Size	RB Offset	Narrowband Index	Cell Power (dBm/15 kHz)	Power (dBm)
Low Range	131979	1710.7		QPSK	1	0	0	-85	23.58
				QPSK	1	5	0	-85	23.53
				QPSK	3	3	0	-85	22.31
				QPSK	6	0	0	-85	21.18
				16QAM	1	0	0	-85	21.99
				16QAM	1	5	0	-85	22.02
				16QAM	3	0	0	-85	21.69
				16QAM	5	0	0	-85	21.16
Mid. Range	132322	1745		QPSK	1	0	0	-85	23.63
				QPSK	1	5	0	-85	23.54
				QPSK	3	3	0	-85	22.43
				QPSK	6	0	0	-85	21.24
				16QAM	1	0	0	-85	23.42
				16QAM	1	5	0	-85	23.37
				16QAM	3	0	0	-85	22.36
				16QAM	5	0	0	-85	22.37
High Range	132665	1779.3		QPSK	1	0	0	-85	23.17
				QPSK	1	5	0	-85	23.19
				QPSK	3	3	0	-85	22.02
				QPSK	6	0	0	-85	20.66
				16QAM	1	0	0	-85	21.71
				16QAM	1	5	0	-85	21.88
				16QAM	3	0	0	-85	21.32
				16QAM	5	0	0	-85	20.97

NB-IOT<LTE Band 2>

LTE Band 2								
Stand-alone	N <sub>UL</sub>	M <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power		EUT		
				Modulation	N <sub>tones</sub>	Sub-carrier Spacing (kHz)	Cell Power (dBm/15 kHz)	Power (dBm)
18601	0	1850.1	BPSK	1@0	3.75	-110	21.35	
			QPSK	1@0	15	-110	21.47	
			QPSK	3@3	15	-110	21.92	
			QPSK	12@0	15	-110	20.31	
18900	0	1880	BPSK	1@0	3.75	-110	22.15	
			BPSK	1@47	3.75	-110	22.37	
			QPSK	1@0	15	-110	22.89	
			QPSK	1@11	15	-110	22.94	
			QPSK	3@3	15	-110	23.14	
			QPSK	12@0	15	-110	22.8	
19199	0	1909.9	BPSK	1@47	3.75	-110	21.61	
			QPSK	1@11	15	-110	21.56	
			QPSK	3@3	15	-110	21.83	
			QPSK	12@0	15	-110	20.3	

<LTE Band 4>

LTE Band 4								
Stand-alone	N <sub>UL</sub>	M <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power		EUT		
				Modulation	N <sub>tones</sub>	Sub-carrier Spacing (kHz)	Cell Power (dBm/15 kHz)	Power (dBm)
19951	0	1710.1	BPSK	1@0	3.75	-110	20.62	
			QPSK	1@0	15	-110	21.14	
			QPSK	3@3	15	-110	21.23	
			QPSK	12@0	15	-110	20.33	
20175	0	1732.5	BPSK	1@0	3.75	-110	22.84	
			BPSK	1@47	3.75	-110	22.83	
			QPSK	1@0	15	-110	22.96	
			QPSK	1@11	15	-110	22.89	
			QPSK	3@3	15	-110	23.13	
			QPSK	12@0	15	-110	22.79	
20399	0	1754.9	BPSK	1@47	3.75	-110	21.25	
			QPSK	1@11	15	-110	21.21	
			QPSK	3@3	15	-110	21.33	
			QPSK	12@0	15	-110	20.31	

<LTE Band 5>

LTE Band 5									
Stand-alone				Test Configuration Initial of Power			EUT		
N <sub>UL</sub>	M <sub>UL</sub>	Frequency of Uplink (MHz)		Modulation	N <sub>tones</sub>	Sub-carrier Spacing (kHz)	Cell Power (dBm/15 kHz)	Power (dBm)	EUT
20401	0	824.1	BPSK	1@0	3.75	-110	21.66		
			QPSK	1@0	15	-110	21.81		
			QPSK	3@3	15	-110	22.02		
			QPSK	12@0	15	-110	20.67		
20525	0	836.5	BPSK	1@0	3.75	-110	23.46		
			BPSK	1@47	3.75	-110	23.42		
			QPSK	1@0	15	-110	23.55		
			QPSK	1@11	15	-110	23.4		
			QPSK	3@3	15	-110	23.72		
			QPSK	12@0	15	-110	23.41		
20649	0	848.9	BPSK	1@47	3.75	-110	22.35		
			QPSK	1@11	15	-110	22.21		
			QPSK	3@3	15	-110	22.75		
			QPSK	12@0	15	-110	20.68		

**<LTE Band 12>**

LTE Band 12							
Stand-alone	N <sub>UL</sub>	M <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power		EUT	
				Modulation	N <sub>tones</sub>	Sub-carrier Spacing (kHz)	Cell Power (dBm/15 kHz)
23011	0	699.1	BPSK	1@0	3.75	-110	22.93
			QPSK	1@0	15	-110	22.95
			QPSK	3@3	15	-110	22.96
			QPSK	12@0	15	-110	21.62
23095	0	707.5	BPSK	1@0	3.75	-110	24.26
			BPSK	1@47	3.75	-110	24.35
			QPSK	1@0	15	-110	24.36
			QPSK	1@11	15	-110	24.29
			QPSK	3@3	15	-110	24.51
			QPSK	12@0	15	-110	24.19
23179	0	715.9	BPSK	1@47	3.75	-110	22.84
			QPSK	1@11	15	-110	22.9
			QPSK	3@3	15	-110	22.91
			QPSK	12@0	15	-110	21.67

**<LTE Band 13>**

LTE Band 13							
Stand-alone	N <sub>UL</sub>	M <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power		EUT	
				Modulation	N <sub>tones</sub>	Sub-carrier Spacing (kHz)	Cell Power (dBm/15 kHz)
23181	0	777.1	BPSK	1@0	3.75	-110	22.24
			QPSK	1@0	15	-110	22.31
			QPSK	3@3	15	-110	22.33
			QPSK	12@0	15	-110	21.1
23230	0	782	BPSK	1@0	3.75	-110	23.45
			BPSK	1@47	3.75	-110	23.44
			QPSK	1@0	15	-110	23.5
			QPSK	1@11	15	-110	23.49
			QPSK	3@3	15	-110	23.49
			QPSK	12@0	15	-110	23.53
23279	0	786.9	BPSK	1@47	3.75	-110	22.31
			QPSK	1@11	15	-110	22.32
			QPSK	3@3	15	-110	22.34
			QPSK	12@0	15	-110	21.04

**<LTE Band 14>**

LTE Band 14							
Stand-alone	N <sub>UL</sub>	M <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power		EUT	
				Modulation	N <sub>tones</sub>	Sub-carrier Spacing (kHz)	Cell Power (dBm/15 kHz)
23301	0	790.1	BPSK	1@0	3.75	-110	23.72
			QPSK	1@0	15	-110	23.65
			QPSK	3@3	15	-110	23.83
			QPSK	12@0	15	-110	21.26
23330	0	793	BPSK	1@0	3.75	-110	23.64
			BPSK	1@47	3.75	-110	23.58
			QPSK	1@0	15	-110	23.59
			QPSK	1@11	15	-110	23.74
			QPSK	3@3	15	-110	23.64
			QPSK	12@0	15	-110	23.52
23359	0	795.9	BPSK	1@47	3.75	-110	23.42
			QPSK	1@11	15	-110	23.57
			QPSK	3@3	15	-110	23.6
			QPSK	12@0	15	-110	23.61

<LTE Band 17>

LTE Band 17								
Stand-alone	N <sub>UL</sub>	M <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power		EUT		
				Modulation	N <sub>tones</sub>	Sub-carrier Spacing (kHz)	Cell Power (dBm/15 kHz)	Power (dBm)
23731	0	704.1	BPSK	1@0	3.75	-110	22.23	
			QPSK	1@0	15	-110	22.46	
			QPSK	3@3	15	-110	22.34	
			QPSK	12@0	15	-110	21.62	
23790	0	710	BPSK	1@0	3.75	-110	24.21	
			BPSK	1@47	3.75	-110	24.3	
			QPSK	1@0	15	-110	24.27	
			QPSK	1@11	15	-110	24.18	
			QPSK	3@3	15	-110	24.38	
			QPSK	12@0	15	-110	24.22	
23849	0	715.9	BPSK	1@47	3.75	-110	22.34	
			QPSK	1@11	15	-110	22.4	
			QPSK	3@3	15	-110	22.39	
			QPSK	12@0	15	-110	21.67	

<LTE Band 25>

LTE Band 25								
Stand-alone	N <sub>UL</sub>	M <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power		EUT		
				Modulation	N <sub>tones</sub>	Sub-carrier Spacing (kHz)	Cell Power (dBm/15 kHz)	Power (dBm)
26041	0	1850.1	BPSK	1@0	3.75	-110	21.02	
			QPSK	1@0	15	-110	20.81	
			QPSK	3@3	15	-110	21.52	
			QPSK	12@0	15	-110	20.31	
26365	0	1882.5	BPSK	1@0	3.75	-110	22.44	
			BPSK	1@47	3.75	-110	22.31	
			QPSK	1@0	15	-110	23.15	
			QPSK	1@11	15	-110	22.45	
			QPSK	3@3	15	-110	22.52	
			QPSK	12@0	15	-110	22.39	
26689	0	1914.9	BPSK	1@47	3.75	-110	21.33	
			QPSK	1@11	15	-110	21.24	
			QPSK	3@3	15	-110	21.58	
			QPSK	12@0	15	-110	20.3	

<LTE Band 26 Part 90>

LTE Band 26								
Stand-alone	N <sub>UL</sub>	M <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power		EUT		
				Modulation	N <sub>tones</sub>	Sub-carrier Spacing (kHz)	Cell Power (dBm/15 kHz)	Power (dBm)
26691	0	814.1	BPSK	1@0	3.75	-110	16.15	
			QPSK	1@0	15	-110	14.41	
			QPSK	3@3	15	-110	23.15	
			QPSK	12@0	15	-110	16.6	
26740	0	819	BPSK	1@0	3.75	-110	23.02	
			BPSK	1@47	3.75	-110	23.04	
			QPSK	1@0	15	-110	23.1	
			QPSK	1@11	15	-110	23.15	
			QPSK	3@3	15	-110	23.28	
			QPSK	12@0	15	-110	23.17	
26789	0	823.9	BPSK	1@47	3.75	-110	16.47	
			QPSK	1@11	15	-110	14.79	
			QPSK	3@3	15	-110	23.21	
			QPSK	12@0	15	-110	16.54	



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### <LTE Band 26 Part 22>

LTE Band 26								
Stand-alone	N <sub>UL</sub>	M <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power		EUT		
				Modulation	N <sub>tones</sub>	Sub-carrier Spacing (kHz)	Cell Power (dBm/15 kHz)	Power (dBm)
26791	0	824.1		BPSK	1@0	3.75	-110	22.79
				QPSK	1@0	15	-110	22.71
				QPSK	3@3	15	-110	22.83
				QPSK	12@0	15	-110	20.68
26915	0	836.5		BPSK	1@0	3.75	-110	23.23
				BPSK	1@47	3.75	-110	23.27
				QPSK	1@0	15	-110	23.34
				QPSK	1@11	15	-110	23.21
				QPSK	3@3	15	-110	23.29
				QPSK	12@0	15	-110	23.09
27039	0	848.9		BPSK	1@47	3.75	-110	21.67
				QPSK	1@11	15	-110	21.78
				QPSK	3@3	15	-110	21.87
				QPSK	12@0	15	-110	20.58

### <LTE Band 66>

LTE Band 66								
Stand-alone	N <sub>UL</sub>	M <sub>UL</sub>	Frequency of Uplink (MHz)	Test Configuration Initial of Power		EUT		
				Modulation	N <sub>tones</sub>	Sub-carrier Spacing (kHz)	Cell Power (dBm/15 kHz)	Power (dBm)
131973	0	1710.1		BPSK	1@0	3.75	-110	21.48
				QPSK	1@0	15	-110	21.58
				QPSK	3@3	15	-110	21.66
				QPSK	12@0	15	-110	20.39
132322	0	1745		BPSK	1@0	3.75	-110	23.01
				BPSK	1@47	3.75	-110	23.07
				QPSK	1@0	15	-110	23.06
				QPSK	1@11	15	-110	23.11
				QPSK	3@3	15	-110	23.65
				QPSK	12@0	15	-110	23.22
132671	0	1779.9		BPSK	1@47	3.75	-110	21.54
				QPSK	1@11	15	-110	21.69
				QPSK	3@3	15	-110	21.7
				QPSK	12@0	15	-110	20.41



## 11. WiFi/Bluetooth Output Power (Unit: dBm)

### General Note:

1. Per KDB 248227 D01v02r02, SAR test reduction is determined according to 802.11 transmission mode configurations and certain exposure conditions with multiple test positions. In the 2.4 GHz band, separate SAR procedures are applied to DSSS and OFDM configurations to simplify DSSS test requirements. For OFDM, in both 2.4 and 5 GHz bands, an initial test configuration must be determined for each standalone and aggregated frequency band, according to the transmission mode configuration with the highest maximum output power specified for production units to perform SAR measurements. If the same highest maximum output power applies to different combinations of channel bandwidths, modulations and data rates, additional procedures are applied to determine which test configurations require SAR measurement. When applicable, an initial test position may be applied to reduce the number of SAR measurements required for next to the ear, UMPC mini-tablet or hotspot mode configurations with multiple test positions.
2. For 2.4 GHz 802.11b DSSS, either the initial test position procedure for multiple exposure test positions or the DSSS procedure for fixed exposure position is applied; these are mutually exclusive. For 2.4 GHz and 5 GHz OFDM configurations, the initial test configuration is applied to measure SAR using either the initial test position procedure for multiple exposure test position configurations or the initial test configuration procedures for fixed exposure test conditions. Based on the reported SAR of the measured configurations and maximum output power of the transmission mode configurations that are not included in the initial test configuration, the subsequent test configuration and initial test position procedures are applied to determine if SAR measurements are required for the remaining OFDM transmission configurations. In general, the number of test channels that require SAR measurement is minimized based on maximum output power measured for the test sample(s).
3. For OFDM transmission configurations in the 2.4 GHz and 5 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 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel for each frequency band.
4. DSSS and OFDM configurations are considered separately according to the required SAR procedures. SAR is measured in the initial test position using the 802.11 transmission mode configuration required by the DSSS procedure or initial test configuration and subsequent test configuration(s) according to the OFDM procedures. The initial test position procedure is described in the following:
  - a. When the reported SAR of the initial test position is  $\leq 0.4$  W/kg, further SAR measurement is not required for the other test positions in that exposure configuration and 802.11 transmission mode combinations within the frequency band or aggregated band.
  - b. When the reported SAR of the test position is  $> 0.4$  W/kg, SAR is repeated for the 802.11 transmission mode 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 report SAR is  $\leq 0.8$  W/kg or all required test position are tested.
  - c. For all positions/configurations, 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  $\leq 1.2$  W/kg or all required channels are tested.

<2.4GHz WLAN>

2.4GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
	802.11b 1Mbps	1	2412	19.02	19.50	99.29
		6	2437	20.14	20.50	
		11	2462	19.11	19.50	
	802.11g 6Mbps	1	2412	17.21	17.50	94.20
		6	2437	17.32	17.50	
		11	2462	16.35	16.50	
	802.11n-HT20 MCS0	1	2412	17.18	17.50	93.85
		6	2437	17.28	17.50	
		11	2462	16.01	16.50	

<2.4GHz Bluetooth>

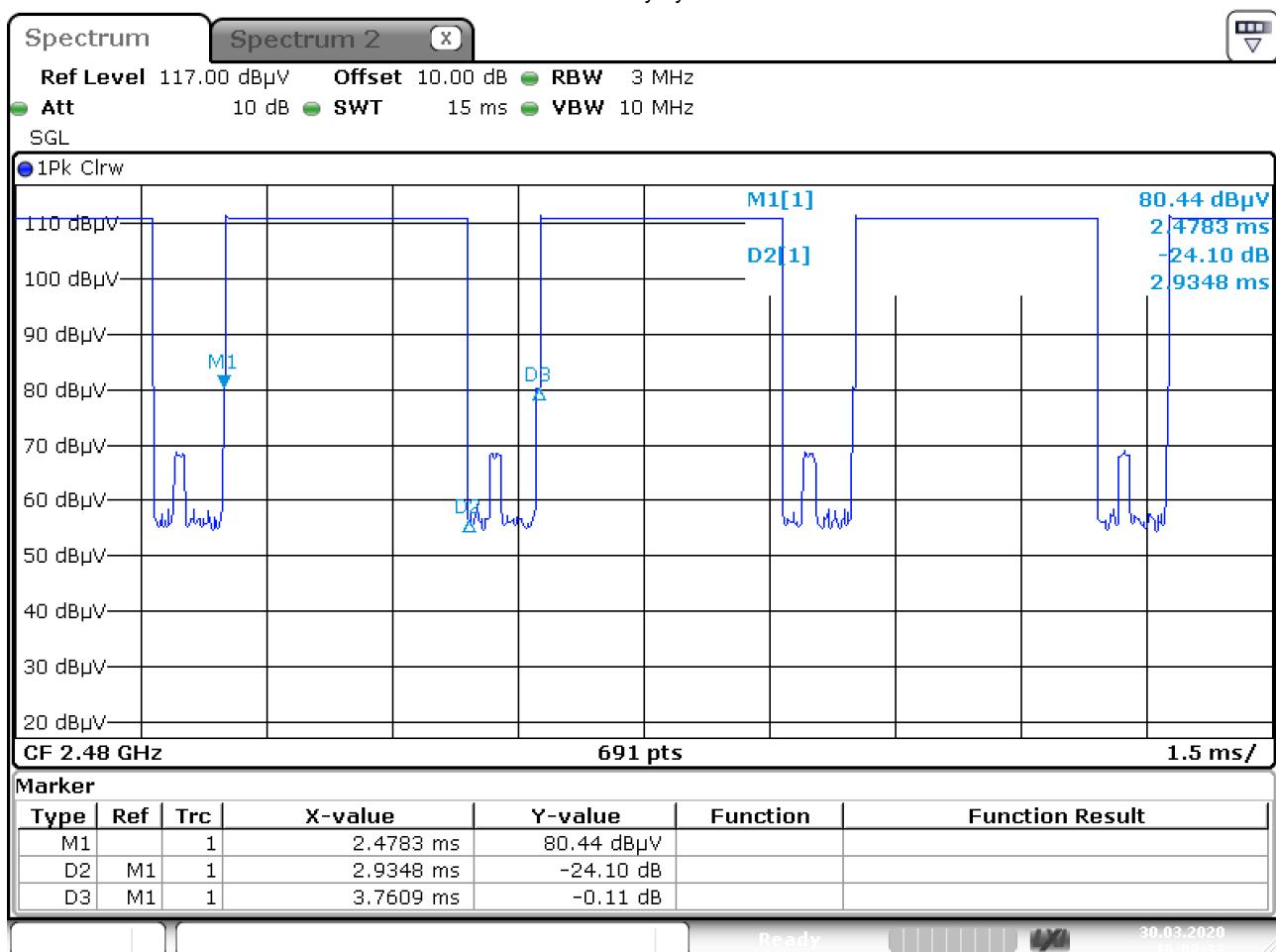
Mode	Channel	Frequency (MHz)	Average power (dBm)		
			1Mbps	2Mbps	3Mbps
BR / EDR	CH 00	2402	9.82	4.82	4.83
	CH 39	2441	10.03	5.12	5.13
	CH 78	2480	9.56	5.34	5.35
Tune-up Limit			10.50	5.50	5.50

Mode	Channel	Frequency (MHz)	Average power (dBm)	
			GFSK	
LE	CH 00	2402	8.98	
	CH 19	2440	9.07	
	CH 39	2480	8.73	
Tune-up Limit			9.50	

**General Note:**

1. For 2.4GHz Bluetooth SAR testing was selected 1Mbps due to its highest average power and duty cycle is 78.03% considered in SAR testing, and the duty cycle would be scaled to theoretical 83.3% in reported SAR calculation.

BT Duty cycle





## 12. Antenna Location



Front View



## 13. SAR Test Results

**General Note:**

1. Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
  - a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
  - b. For SAR testing of WLAN signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)"
  - c. For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)\*Tune-up Scaling Factor
  - d. For WLAN/Bluetooth: Reported SAR(W/kg)= Measured SAR(W/kg)\* Duty Cycle scaling factor \* Tune-up scaling factor
2. Per KDB 447498 D01v06, for each exposure position, 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:
  - $\leq 0.8 \text{ W/kg}$  or  $2.0 \text{ W/kg}$ , for 1-g or 10-g respectively, when the transmission band is  $\leq 100 \text{ MHz}$
  - $\leq 0.6 \text{ W/kg}$  or  $1.5 \text{ W/kg}$ , for 1-g or 10-g respectively, when the transmission band is between  $100 \text{ MHz}$  and  $200 \text{ MHz}$
  - $\leq 0.4 \text{ W/kg}$  or  $1.0 \text{ W/kg}$ , for 1-g or 10-g respectively, when the transmission band is  $\geq 200 \text{ MHz}$
3. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is  $\geq 0.8 \text{ W/kg}$ .

**LTE Note:**

1. Per KDB 941225 D05v02r05, for Cat M1 and NB-IoT with the largest channel bandwidth and measure SAR for QPSK with highest RB allocation of each required test channel.
2. Per KDB 941225 D05v02r05, 16QAM output power for each RB allocation configuration is  $>$  not  $\frac{1}{2}$  dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is  $\leq 1.45 \text{ W/kg}$ ; Per KDB 941225 D05v02r05, 16QAM SAR testing is not required.
3. Per KDB 941225 D05v02r05, Smaller bandwidth output power for each RB allocation configuration is  $>$  not  $\frac{1}{2}$  dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is  $\leq 1.45 \text{ W/kg}$ ; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.

**WLAN Note:**

1. Per KDB 248227 D01v02r02, for 2.4GHz 802.11g/n SAR testing is not required when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is  $\leq 1.2 \text{ W/kg}$ .
2. Per KDB 248227 D01v02r02, U-NII-1 SAR testing is not required when the U-NII-2A band highest reported SAR for a test configuration is  $\leq 1.2 \text{ W/kg}$ , SAR is not required for U-NII-1 band.
3. When the reported SAR of the test position is  $> 0.4 \text{ W/kg}$ , SAR is repeated for the 802.11 transmission mode 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 report SAR is  $\leq 0.8 \text{ W/kg}$  or all required test position are tested.
4. For all positions / configurations, when the reported SAR is  $> 0.8 \text{ W/kg}$ , SAR is measured for these test positions / configurations on the subsequent next highest measured output power channel(s) until the reported SAR is  $\leq 1.2 \text{ W/kg}$  or all required channels are tested.
5. During SAR testing the WLAN transmission was verified using a spectrum analyzer.

**13.1 Body SAR****<FDD LTE SAR>**

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
01	Cat-M1 LTE Band 12	10M	QPSK	1	0	Front	15mm	23095	707.5	23.07	24.00	1.239	0	0.022	0.027
	Cat-M1 LTE Band 12	10M	QPSK	1	0	Back	15mm	23095	707.5	23.07	24.00	1.239	0.12	0.016	0.020
	Cat-M1 LTE Band 12	10M	QPSK	1	0	Left Side	15mm	23095	707.5	23.07	24.00	1.239	-0.18	0.005	0.006
	Cat-M1 LTE Band 12	10M	QPSK	1	0	Right Side	15mm	23095	707.5	23.07	24.00	1.239	-0.01	0.001	0.001
	Cat-M1 LTE Band 12	10M	QPSK	1	0	Top Side	15mm	23095	707.5	23.07	24.00	1.239	0.12	0.007	0.009
02	Cat-M1 LTE Band 13	10M	QPSK	1	0	Front	15mm	23230	782	23.27	24.00	1.183	-0.08	0.023	0.027
	Cat-M1 LTE Band 13	10M	QPSK	1	0	Back	15mm	23230	782	23.27	24.00	1.183	0.1	0.021	0.025
	Cat-M1 LTE Band 13	10M	QPSK	1	0	Left Side	15mm	23230	782	23.27	24.00	1.183	0.16	0.006	0.007
	Cat-M1 LTE Band 13	10M	QPSK	1	0	Right Side	15mm	23230	782	23.27	24.00	1.183	0.11	0.002	0.002
	Cat-M1 LTE Band 13	10M	QPSK	1	0	Top Side	15mm	23230	782	23.27	24.00	1.183	0.15	0.008	0.010
03	Cat-M1 LTE Band 14	10M	QPSK	1	0	Front	15mm	23330	793	23.51	24.00	1.119	0.06	0.024	0.027
	Cat-M1 LTE Band 14	10M	QPSK	1	0	Back	15mm	23330	793	23.51	24.00	1.119	0.08	0.022	0.025
	Cat-M1 LTE Band 14	10M	QPSK	1	0	Left Side	15mm	23330	793	23.51	24.00	1.119	0.12	0.005	0.006
	Cat-M1 LTE Band 14	10M	QPSK	1	0	Right Side	15mm	23330	793	23.51	24.00	1.119	0.09	0.002	0.002
	Cat-M1 LTE Band 14	10M	QPSK	1	0	Top Side	15mm	23330	793	23.51	24.00	1.119	0.1	0.009	0.010
	Cat-M1 LTE Band 25	20M	QPSK	3	0	Front	15mm	26590	1905	23.32	24.00	1.169	0.03	0.156	0.182
04	Cat-M1 LTE Band 25	20M	QPSK	3	0	Front	15mm	26140	1860	23.02	24.00	1.253	0.06	0.217	0.272
	Cat-M1 LTE Band 25	20M	QPSK	3	0	Front	15mm	26365	1882.5	23.22	24.00	1.197	0.11	0.194	0.232
	Cat-M1 LTE Band 25	20M	QPSK	3	0	Back	15mm	26590	1905	23.32	24.00	1.169	0.04	0.033	0.039
	Cat-M1 LTE Band 25	20M	QPSK	3	0	Left Side	15mm	26590	1905	23.32	24.00	1.169	-0.04	0.102	0.119
	Cat-M1 LTE Band 25	20M	QPSK	3	0	Right Side	15mm	26590	1905	23.32	24.00	1.169	0.01	0.001	0.001
	Cat-M1 LTE Band 25	20M	QPSK	3	0	Top Side	15mm	26590	1905	23.32	24.00	1.169	-0.17	0.004	0.004
05	Cat-M1 LTE Band 26	10M	QPSK	4	2	Front	15mm	26740	819	23.64	24.00	1.086	0.03	0.029	0.032
	Cat-M1 LTE Band 26	10M	QPSK	4	2	Back	15mm	26740	819	23.64	24.00	1.086	0.06	0.022	0.024
	Cat-M1 LTE Band 26	10M	QPSK	4	2	Left Side	15mm	26740	819	23.64	24.00	1.086	0.02	0.004	0.005
	Cat-M1 LTE Band 26	10M	QPSK	4	2	Right Side	15mm	26740	819	23.64	24.00	1.086	0.04	0.002	0.002
	Cat-M1 LTE Band 26	10M	QPSK	4	2	Top Side	15mm	26740	819	23.64	24.00	1.086	0.07	0.012	0.013
06	Cat-M1 LTE Band 26	15M	QPSK	1	0	Front	15mm	26915	836.5	23.07	24.00	1.239	-0.1	0.030	0.037
	Cat-M1 LTE Band 26	15M	QPSK	1	0	Back	15mm	26915	836.5	23.07	24.00	1.239	0.09	0.023	0.028
	Cat-M1 LTE Band 26	15M	QPSK	1	0	Left Side	15mm	26915	836.5	23.07	24.00	1.239	0.09	0.005	0.007
	Cat-M1 LTE Band 26	15M	QPSK	1	0	Right Side	15mm	26915	836.5	23.07	24.00	1.239	0.1	0.002	0.002
	Cat-M1 LTE Band 26	15M	QPSK	1	0	Top Side	15mm	26915	836.5	23.07	24.00	1.239	0.15	0.014	0.017
	Cat-M1 LTE Band 66	20M	QPSK	1	5	Front	15mm	132322	1745	23.21	24.00	1.199	0.08	0.628	0.753
07	Cat-M1 LTE Band 66	20M	QPSK	1	5	Front	15mm	132072	1720	23.02	24.00	1.253	-0.01	0.665	0.833
	Cat-M1 LTE Band 66	20M	QPSK	1	5	Front	15mm	132572	1770	22.79	24.00	1.321	0.01	0.425	0.562
	Cat-M1 LTE Band 66	20M	QPSK	1	5	Back	15mm	132322	1745	23.21	24.00	1.199	0.07	0.104	0.125
	Cat-M1 LTE Band 66	20M	QPSK	1	5	Left Side	15mm	132322	1745	23.21	24.00	1.199	-0.08	0.348	0.417
	Cat-M1 LTE Band 66	20M	QPSK	1	5	Right Side	15mm	132322	1745	23.21	24.00	1.199	-0.17	0.001	0.001
	Cat-M1 LTE Band 66	20M	QPSK	1	5	Top Side	15mm	132322	1745	23.21	24.00	1.199	0.15	0.005	0.006

**FCC SAR TEST REPORT****Report No. : FA031828**

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
08	NB-IOT LTE Band 12	15K	QPSK	3	3	Front	15mm	23095	707.5	24.51	24.00	0.889	0.16	0.009	0.008
	NB-IOT LTE Band 12	15K	QPSK	3	3	Front	15mm	23011	699.1	22.96	24.00	1.271	0.12	0.001	0.001
	NB-IOT LTE Band 12	15K	QPSK	3	3	Front	15mm	23179	715.9	22.91	24.00	1.285	0.11	0.001	0.001
	NB-IOT LTE Band 12	15K	QPSK	3	3	Back	15mm	23095	707.5	24.51	24.00	0.889	0.1	0.008	0.007
	NB-IOT LTE Band 12	15K	QPSK	3	3	Left Side	15mm	23095	707.5	24.51	24.00	0.889	0.1	0.002	0.002
	NB-IOT LTE Band 12	15K	QPSK	3	3	Right Side	15mm	23095	707.5	24.51	24.00	0.889	0.13	0.001	0.001
	NB-IOT LTE Band 12	15K	QPSK	3	3	Top Side	15mm	23095	707.5	24.51	24.00	0.889	0.18	0.003	0.003
09	NB-IOT LTE Band 13	15K	QPSK	12	0	Front	15mm	23230	782	23.53	24.00	1.114	0.16	0.005	0.006
	NB-IOT LTE Band 13	15K	QPSK	3	3	Front	15mm	23181	777.1	22.33	24.00	1.469	0.13	0.001	0.001
	NB-IOT LTE Band 13	15K	QPSK	3	3	Front	15mm	23279	786.9	22.34	24.00	1.466	0.11	0.001	0.002
	NB-IOT LTE Band 13	15K	QPSK	12	0	Back	15mm	23230	782	23.53	24.00	1.114	0.11	0.004	0.004
	NB-IOT LTE Band 13	15K	QPSK	12	0	Left Side	15mm	23230	782	23.53	24.00	1.114	0.14	0.001	0.002
	NB-IOT LTE Band 13	15K	QPSK	12	0	Right Side	15mm	23230	782	23.53	24.00	1.114	0.18	0.001	0.001
	NB-IOT LTE Band 13	15K	QPSK	12	0	Top Side	15mm	23230	782	23.53	24.00	1.114	0	0.002	0.002
10	NB-IOT LTE Band 14	15K	QPSK	3	3	Front	15mm	23301	790.1	23.83	24.00	1.040	0.15	0.010	0.010
	NB-IOT LTE Band 14	15K	QPSK	1	11	Front	15mm	23330	793	23.74	24.00	1.062	0.15	0.014	0.015
	NB-IOT LTE Band 14	15K	QPSK	12	0	Front	15mm	23359	795.9	23.61	24.00	1.094	0.14	0.006	0.006
	NB-IOT LTE Band 14	15K	QPSK	3	3	Back	15mm	23301	790.1	23.83	24.00	1.040	-0.15	0.009	0.009
	NB-IOT LTE Band 14	15K	QPSK	3	3	Left Side	15mm	23301	790.1	23.83	24.00	1.040	0.14	0.003	0.003
	NB-IOT LTE Band 14	15K	QPSK	3	3	Right Side	15mm	23301	790.1	23.83	24.00	1.040	0.13	0.000	0.001
	NB-IOT LTE Band 14	15K	QPSK	3	3	Top Side	15mm	23301	790.1	23.83	24.00	1.040	0.16	0.004	0.004
11	NB-IOT LTE Band 25	15K	QPSK	1	0	Front	15mm	26365	1882.5	23.15	24.00	1.216	0	0.107	0.130
	NB-IOT LTE Band 25	15K	QPSK	3	3	Front	15mm	26041	1850.1	21.52	24.00	1.770	-0.1	0.011	0.019
	NB-IOT LTE Band 25	15K	QPSK	3	3	Front	15mm	26689	1914.9	21.58	24.00	1.746	-0.01	0.001	0.002
	NB-IOT LTE Band 25	15K	QPSK	1	0	Back	15mm	26365	1882.5	23.15	24.00	1.216	0.1	0.021	0.026
	NB-IOT LTE Band 25	15K	QPSK	1	0	Left Side	15mm	26365	1882.5	23.15	24.00	1.216	0.17	0.058	0.071
	NB-IOT LTE Band 25	15K	QPSK	1	0	Right Side	15mm	26365	1882.5	23.15	24.00	1.216	0.1	0.001	0.001
	NB-IOT LTE Band 25	15K	QPSK	1	0	Top Side	15mm	26365	1882.5	23.15	24.00	1.216	0.1	0.001	0.001
12	NB-IOT LTE Band 26	15K	QPSK	3	3	Front	15mm	26740	819	23.28	24.00	1.180	0.16	0.011	0.013
	NB-IOT LTE Band 26	15K	QPSK	3	3	Front	15mm	26691	814.1	23.15	24.00	1.216	0.19	0.002	0.003
	NB-IOT LTE Band 26	15K	QPSK	3	3	Back	15mm	26789	823.9	23.21	24.00	1.199	0.11	0.012	0.014
	NB-IOT LTE Band 26	15K	QPSK	3	3	Left Side	15mm	26740	819	23.28	24.00	1.180	0.14	0.010	0.012
	NB-IOT LTE Band 26	15K	QPSK	3	3	Right Side	15mm	26740	819	23.28	24.00	1.180	0.13	0.004	0.005
	NB-IOT LTE Band 26	15K	QPSK	3	3	Top Side	15mm	26740	819	23.28	24.00	1.180	0.14	0.001	0.001
	NB-IOT LTE Band 26	15K	QPSK	3	3	Front	15mm	26915	836.5	23.34	24.00	1.180	0.13	0.004	0.005
13	NB-IOT LTE Band 26	15K	QPSK	1	0	Front	15mm	26915	836.5	23.34	24.00	1.164	-0.11	0.017	0.020
	NB-IOT LTE Band 26	15K	QPSK	3	3	Front	15mm	26791	824.1	22.83	24.00	1.309	0.12	0.013	0.017
	NB-IOT LTE Band 26	15K	QPSK	3	3	Front	15mm	27039	848.9	21.87	24.00	1.633	0.08	0.002	0.004
	NB-IOT LTE Band 26	15K	QPSK	1	0	Back	15mm	26915	836.5	23.34	24.00	1.164	0.12	0.010	0.012
	NB-IOT LTE Band 26	15K	QPSK	1	0	Left Side	15mm	26915	836.5	23.34	24.00	1.164	0.11	0.005	0.006
	NB-IOT LTE Band 26	15K	QPSK	1	0	Right Side	15mm	26915	836.5	23.34	24.00	1.164	0.17	0.001	0.001
	NB-IOT LTE Band 26	15K	QPSK	1	0	Top Side	15mm	26915	836.5	23.34	24.00	1.164	0.07	0.007	0.008
14	NB-IOT LTE Band 66	15K	QPSK	3	3	Front	15mm	132322	1745	23.65	24.00	1.084	0.15	0.202	0.219
	NB-IOT LTE Band 66	15K	QPSK	3	3	Front	15mm	131973	1710.1	21.66	24.00	1.714	-0.17	0.044	0.075
	NB-IOT LTE Band 66	15K	QPSK	3	3	Front	15mm	132671	1779.9	21.69	24.00	1.702	0	0.023	0.039
	NB-IOT LTE Band 66	15K	QPSK	3	3	Back	15mm	132322	1745	23.65	24.00	1.084	0.09	0.037	0.040
	NB-IOT LTE Band 66	15K	QPSK	3	3	Left Side	15mm	132322	1745	23.65	24.00	1.084	0	0.137	0.148
	NB-IOT LTE Band 66	15K	QPSK	3	3	Right Side	15mm	132322	1745	23.65	24.00	1.084	0	0.001	0.001
	NB-IOT LTE Band 66	15K	QPSK	3	3	Top Side	15mm	132322	1745	23.65	24.00	1.084	0	0.003	0.003

**<WLAN SAR>**

Plot No.	Band	Mode	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN2.4GHz	802.11b 1Mbps	Front	15mm	6	2437	20.14	20.50	1.086	99.29	1.007	-0.03	0.430	0.470
15	WLAN2.4GHz	802.11b 1Mbps	Back	15mm	6	2437	20.14	20.50	1.086	99.29	1.007	0.11	0.639	0.699
	WLAN2.4GHz	802.11b 1Mbps	Back	15mm	1	2412	19.02	19.50	1.117	99.29	1.007	0.16	0.352	0.396
	WLAN2.4GHz	802.11b 1Mbps	Back	15mm	11	2462	19.11	19.50	1.094	99.29	1.007	0.14	0.445	0.490
	WLAN2.4GHz	802.11b 1Mbps	Left Side	15mm	6	2437	20.14	20.50	1.086	99.29	1.007	0.02	0.015	0.016
	WLAN2.4GHz	802.11b 1Mbps	Right Side	15mm	6	2437	20.14	20.50	1.086	99.29	1.007	-0.16	0.324	0.354
	WLAN2.4GHz	802.11b 1Mbps	Top Side	15mm	6	2437	20.14	20.50	1.086	99.29	1.007	0.16	0.221	0.242

**<Bluetooth SAR>**

Plot No.	Band	Mode	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	Bluetooth	1Mbps	Front	15mm	39	2441	10.03	10.50	1.114	78.03	1.068	0.18	0.021	0.025
	Bluetooth	1Mbps	Back	15mm	39	2441	10.03	10.50	1.114	78.03	1.068	0.17	0.035	0.042
	Bluetooth	1Mbps	Back	15mm	0	2402	9.82	10.50	1.169	78.03	1.068	0.19	0.029	0.036
16	Bluetooth	1Mbps	Back	15mm	78	2480	9.56	10.50	1.242	78.03	1.068	0.16	0.042	0.056
	Bluetooth	1Mbps	Left Side	15mm	39	2441	10.03	10.50	1.114	78.03	1.068	0.01	0.001	0.001
	Bluetooth	1Mbps	Right Side	15mm	39	2441	10.03	10.50	1.114	78.03	1.068	0.16	0.021	0.025
	Bluetooth	1Mbps	Top Side	15mm	39	2441	10.03	10.50	1.114	78.03	1.068	0.17	0.015	0.018



## 14. Simultaneous Transmission Analysis

NO.	Simultaneous Transmission Configurations	Body-worn
1.	WWAN + WLAN2.4GHz	Yes
2.	WWAN + Bluetooth	Yes

**General Note:**

1. WLAN and Bluetooth share the same antenna, and cannot transmit simultaneously.
2. All licensed modes share the same antenna part and cannot transmit simultaneously
3. The Scaled SAR summation is calculated based on the same configuration and test position.
4. Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
  - i) Scalar SAR summation < 1.6W/kg.
  - ii) SPLSR =  $(\text{SAR1} + \text{SAR2})^{1.5} / (\text{min. separation distance, mm})$ , and the peak separation distance is determined from the square root of  $[(x1-x2)^2 + (y1-y2)^2 + (z1-z2)^2]$ , where  $(x1, y1, z1)$  and  $(x2, y2, z2)$  are the coordinates of the extrapolated peak SAR locations in the zoom scan.
  - iii) If  $\text{SPLSR} \leq 0.04$ , simultaneously transmission SAR measurement is not necessary.
  - iv) Simultaneously transmission SAR measurement, and the reported multi-band SAR < 1.6W/kg.

**14.1 Body Exposure Conditions**

WWAN Band	Exposure Position	1	2	3	1+2 Summed 1g SAR (W/kg)	1+3 Summed 1g SAR (W/kg)
		WWAN	2.4GHz WLAN	Bluetooth		
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)		
Cat-M1 LTE Band 12	Front	0.027	0.470	0.025	<b>0.497</b>	<b>0.052</b>
	Back	0.020	0.699	0.056	<b>0.719</b>	<b>0.076</b>
	Left side	0.006	0.016	0.001	<b>0.022</b>	<b>0.007</b>
	Right side	0.001	0.354	0.025	<b>0.355</b>	<b>0.026</b>
	Top side	0.009	0.242	0.018	<b>0.251</b>	<b>0.027</b>
Cat-M1 LTE Band 13	Front	0.027	0.470	0.025	<b>0.497</b>	<b>0.052</b>
	Back	0.025	0.699	0.056	<b>0.724</b>	<b>0.081</b>
	Left side	0.007	0.016	0.001	<b>0.023</b>	<b>0.008</b>
	Right side	0.002	0.354	0.025	<b>0.356</b>	<b>0.027</b>
	Top side	0.010	0.242	0.018	<b>0.252</b>	<b>0.028</b>
Cat-M1 LTE Band 14	Front	0.027	0.470	0.025	<b>0.497</b>	<b>0.052</b>
	Back	0.025	0.699	0.056	<b>0.724</b>	<b>0.081</b>
	Left side	0.006	0.016	0.001	<b>0.022</b>	<b>0.007</b>
	Right side	0.002	0.354	0.025	<b>0.356</b>	<b>0.027</b>
	Top side	0.010	0.242	0.018	<b>0.252</b>	<b>0.028</b>
Cat-M1 LTE Band 25	Front	0.272	0.470	0.025	<b>0.742</b>	<b>0.297</b>
	Back	0.039	0.699	0.056	<b>0.738</b>	<b>0.095</b>
	Left side	0.119	0.016	0.001	<b>0.135</b>	<b>0.120</b>
	Right side	0.001	0.354	0.025	<b>0.355</b>	<b>0.026</b>
	Top side	0.004	0.242	0.018	<b>0.246</b>	<b>0.022</b>
Cat-M1 LTE Band 26 Part 90	Front	0.032	0.470	0.025	<b>0.502</b>	<b>0.057</b>
	Back	0.024	0.699	0.056	<b>0.723</b>	<b>0.080</b>
	Left side	0.005	0.016	0.001	<b>0.021</b>	<b>0.006</b>
	Right side	0.002	0.354	0.025	<b>0.356</b>	<b>0.027</b>
	Top side	0.013	0.242	0.018	<b>0.255</b>	<b>0.031</b>
Cat-M1 LTE Band 26 Part 22	Front	0.037	0.470	0.025	<b>0.507</b>	<b>0.062</b>
	Back	0.028	0.699	0.056	<b>0.727</b>	<b>0.084</b>
	Left side	0.007	0.016	0.001	<b>0.023</b>	<b>0.008</b>
	Right side	0.002	0.354	0.025	<b>0.356</b>	<b>0.027</b>
	Top side	0.017	0.242	0.018	<b>0.259</b>	<b>0.035</b>
Cat-M1 LTE Band 26	Front	0.037	0.470	0.025	<b>0.507</b>	<b>0.062</b>
	Back	0.028	0.699	0.056	<b>0.727</b>	<b>0.084</b>
	Left side	0.007	0.016	0.001	<b>0.023</b>	<b>0.008</b>
	Right side	0.002	0.354	0.025	<b>0.356</b>	<b>0.027</b>
	Top side	0.017	0.242	0.018	<b>0.259</b>	<b>0.035</b>
Cat-M1 LTE Band 66	Front	0.833	0.470	0.025	<b>1.303</b>	<b>0.858</b>
	Back	0.125	0.699	0.056	<b>0.824</b>	<b>0.181</b>
	Left side	0.417	0.016	0.001	<b>0.433</b>	<b>0.418</b>
	Right side	0.001	0.354	0.025	<b>0.355</b>	<b>0.026</b>
	Top side	0.006	0.242	0.018	<b>0.248</b>	<b>0.024</b>

**FCC SAR TEST REPORT**

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WWAN Band	Exposure Position	1	2	3	1+2 Summed 1g SAR (W/kg)	1+3 Summed 1g SAR (W/kg)
		WWAN	2.4GHz WLAN	Bluetooth		
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)		
NB-IOT LTE Band 12	Front	0.008	0.470	0.025	<b>0.478</b>	<b>0.033</b>
	Back	0.007	0.699	0.056	<b>0.706</b>	<b>0.063</b>
	Left side	0.002	0.016	0.001	<b>0.018</b>	<b>0.003</b>
	Right side	0.001	0.354	0.025	<b>0.355</b>	<b>0.026</b>
	Top side	0.003	0.242	0.018	<b>0.245</b>	<b>0.021</b>
NB-IOT LTE Band 13	Front	0.006	0.470	0.025	<b>0.476</b>	<b>0.031</b>
	Back	0.004	0.699	0.056	<b>0.703</b>	<b>0.060</b>
	Left side	0.002	0.016	0.001	<b>0.018</b>	<b>0.003</b>
	Right side	0.001	0.354	0.025	<b>0.355</b>	<b>0.026</b>
	Top side	0.002	0.242	0.018	<b>0.244</b>	<b>0.020</b>
NB-IOT LTE Band 14	Front	0.015	0.470	0.025	<b>0.485</b>	<b>0.040</b>
	Back	0.009	0.699	0.056	<b>0.708</b>	<b>0.065</b>
	Left side	0.003	0.016	0.001	<b>0.019</b>	<b>0.004</b>
	Right side	0.001	0.354	0.025	<b>0.355</b>	<b>0.026</b>
	Top side	0.004	0.242	0.018	<b>0.246</b>	<b>0.022</b>
NB-IOT LTE Band 25	Front	0.130	0.470	0.025	<b>0.600</b>	<b>0.155</b>
	Back	0.026	0.699	0.056	<b>0.725</b>	<b>0.082</b>
	Left side	0.071	0.016	0.001	<b>0.087</b>	<b>0.072</b>
	Right side	0.001	0.354	0.025	<b>0.355</b>	<b>0.026</b>
	Top side	0.001	0.242	0.018	<b>0.243</b>	<b>0.019</b>
NB-IOT LTE Band 26 Part 90	Front	0.014	0.470	0.025	<b>0.484</b>	<b>0.039</b>
	Back	0.012	0.699	0.056	<b>0.711</b>	<b>0.068</b>
	Left side	0.005	0.016	0.001	<b>0.021</b>	<b>0.006</b>
	Right side	0.001	0.354	0.025	<b>0.355</b>	<b>0.026</b>
	Top side	0.005	0.242	0.018	<b>0.247</b>	<b>0.023</b>
NB-IOT LTE Band 26 Part 22	Front	0.020	0.470	0.025	<b>0.490</b>	<b>0.045</b>
	Back	0.012	0.699	0.056	<b>0.711</b>	<b>0.068</b>
	Left side	0.006	0.016	0.001	<b>0.022</b>	<b>0.007</b>
	Right side	0.001	0.354	0.025	<b>0.355</b>	<b>0.026</b>
	Top side	0.008	0.242	0.018	<b>0.250</b>	<b>0.026</b>
NB-IOT LTE Band 26	Front	0.020	0.470	0.025	<b>0.490</b>	<b>0.045</b>
	Back	0.012	0.699	0.056	<b>0.711</b>	<b>0.068</b>
	Left side	0.006	0.016	0.001	<b>0.022</b>	<b>0.007</b>
	Right side	0.001	0.354	0.025	<b>0.355</b>	<b>0.026</b>
	Top side	0.008	0.242	0.018	<b>0.250</b>	<b>0.026</b>
NB-IOT LTE Band 66	Front	0.219	0.470	0.025	<b>0.689</b>	<b>0.244</b>
	Back	0.040	0.699	0.056	<b>0.739</b>	<b>0.096</b>
	Left side	0.148	0.016	0.001	<b>0.164</b>	<b>0.149</b>
	Right side	0.001	0.354	0.025	<b>0.355</b>	<b>0.026</b>
	Top side	0.003	0.242	0.018	<b>0.245</b>	<b>0.021</b>

**Test Engineer : Charles Shen, Andy Chiang and Jack Yang**



## 15. Uncertainty Assessment

Per KDB 865664 D01 SAR measurement 100MHz to 6GHz, when the highest measured 1-g SAR within a frequency band is < 1.5 W/kg and the measured 10-g SAR within a frequency band is < 3.75 W/kg. The expanded SAR measurement uncertainty must be  $\leq 30\%$ , for a confidence interval of  $k = 2$ . If these conditions are met, extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval. For this device, the highest measured 1-g SAR is less 1.5W/kg. Therefore, the measurement uncertainty table is not required in this report.

## 16. References

- [1] FCC 47 CFR Part 2 "Frequency Allocations and Radio Treaty Matters; General Rules and Regulations"
- [2] ANSI/IEEE Std. C95.1-1992, "IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz", September 1992
- [3] IEEE Std. 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", Sep 2013
- [4] SPEAG DASY System Handbook
- [5] FCC KDB 248227 D01 v02r02, "SAR Guidance for IEEE 802.11 (WiFi) Transmitters", Oct 2015.
- [6] FCC KDB 447498 D01 v06, "Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies", Oct 2015
- [7] FCC KDB 941225 D05 v02r05, "SAR Evaluation Considerations for LTE Devices", Dec 2015
- [8] FCC KDB 865664 D01 v01r04, "SAR Measurement Requirements for 100 MHz to 6 GHz", Aug 2015.
- [9] FCC KDB 865664 D02 v01r02, "RF Exposure Compliance Reporting and Documentation Considerations" Oct 2015.