RF Exposure Lab

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CERTIFICATE OF COMPLIANCE
SAR EVALUATION

Dejero Labs Inc.	Dates of Test: Aug. 30, Sept. 16-23, 2021
412 Albert St., Suite 100	Test Report Number: SAR.20210910
Waterloo, ON N2L 3V3	Revision B
Canada	MRA Test Site Number: US1195

FCC ID:	Y99DEJ12G
IC Certificate:	12762A-DEJ12G
Model(s):	EG26xx
Contains Module:	Quectel Model EM12-G
Test Sample:	Engineering Unit Same as Production
Serial Number:	Eng 1 & Eng 2
Equipment Type:	Wireless Video Transceiver
Classification:	Portable Transmitter Next to Body
TX Frequency Range:	699 – 716 MHz, 777 – 787 MHz, 788 – 798 MHz, 814 – 849 MHz, 1710 – 1780 MHz, 1850 – 1915 MHz, 2305 – 2315 MHz, 2496 – 2690 MHz, 2412 – 2462 MHz, 5180 – 5320 MHz, 5500 – 5700 MHz, 5745 – 5825 MHz
Frequency Tolerance:	± 2.5 ppm
Maximum RF Output:	750 MHz (LTE) – 25.0 dBm, 850 MHz (UMTS) – 25.0 dBm, 850 MHz (LTE) – 25.0 dBm, 1750 MHz (UMTS) – 25.0 dBm; 1750 MHz (LTE) – 25.0 dBm, 1900 MHz (UMTS) – 25.0 dBm, 1900 MHz (LTE) – 25.0 dBm, 2300 MHz (LTE) – 25.0 dBm, 2500 MHz (LTE) – 25.0 dBm, 2450 MHz (b) – 21.0 dBm, 2450 MHz (g) – 21.0 dBm, 2450 MHz (n20) – 20.5 dBm, 2450 MHz (ax20) – 19.5 dBm, 2450 MHz (n40) – 17.5 dBm, 2450 MHz (ax40) – 17.5 dBm, 5250 MHz (a) – 21.0 dBm, 5250 MHz (n20) – 21.0 dBm, 5250 MHz (ax20) – 21.0 dBm, 5250 MHz (n40) – 20.5 dBm, 5250 MHz (ax40) – 20.5 dBm, 5250 MHz (ac/ax80) – 19.0 dBm, 5600 MHz (a) – 21.0 dBm, 5600 MHz (n20) – 21.0 dBm, 5600 MHz (ax20) – 21.0 dBm, 5600 MHz (n40) – 20.5 dBm, 5600 MHz (ax40) – 20.5 dBm, 5600 MHz (ac80) – 20.0 dBm, 5600 MHz (ax80) – 19.5 dBm, 5600 MHz (ac/ax160) – 15.5 dBm, 5800 MHz (a) – 21.0 dBm, 5800 MHz (n20) – 21.0 dBm, 5800 MHz (ax20) – 21.0 dBm, 5800 MHz (n40) – 20.5 dBm, 5800 MHz (ax40) – 20.5 dBm, 5800 MHz (ac/ax80) – 20.5 dBm Conducted
Signal Modulation:	WCDMA, QPSK, 16QAM, DSSS, OFDM
Antenna Type:	Internal
Application Type:	Certification
FCC Rule Parts:	Part 2, 15C, 15E, 22, 24
KDB Test Methodology:	KDB 447498 D01 v06, KDB 941225 D01 v03r01, KDB 941225 D05 v02r01
Industry Canada:	RSS-102 Issue 5, Safety Code 6
Maximum SAR Value:	1.47 W/kg Reported
Max. Simultaneous:	0.04 Separation Ratio
Separation Distance:	0 mm

This wireless mobile and/or portable device has been shown to be compliant for localized specific absorption rate (SAR) for uncontrolled environment/general exposure limits specified in ANSI/IEEE Std. C95.1-1992 and had been tested in accordance with the measurement procedures specified in IEEE 1528-2013 and IEC 62209-1528:2020 (See test report).

I attest to the accuracy of the data. All measurements were performed by myself or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

RF Exposure Lab, LLC certifies that no party to this application is subject to a denial of Federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. 853(a).

Jay M. Moulton
Vice President

ACCREDITED
Certificate # 2387.01

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Comment/Revision	Date
Original Release	October 5, 2021
Revision A – Add MRA Test Site Number	October 8, 2021
Revision B – Correct MRA Test Site Number	October 11, 2021

Note: The latest version supersedes all previous versions listed in the above table. The latest version shall be used.

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1. Introduction

This measurement report shows compliance of the Dejero Labs Inc. Model EG26xx FCC ID: Y99DEJ12G with FCC Part 2, 1093, ET Docket 93-62 Rules for mobile and portable devices and IC Certificate: 12762A-DEJ12G with RSS102 Issue 5 & Safety Code 6. The FCC have adopted the guidelines for evaluating the environmental effects of radio frequency radiation in ET Docket 93-62 on August 6, 1996 to protect the public and workers from the potential hazards of RF emissions due to FCC regulated portable devices. [1], [6]

The test results recorded herein are based on a single type test of Dejero Labs Inc. Model EG26xx and therefore apply only to the tested sample.

The test procedures and limits, as described in ANSI C95.1 – 1992 Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz [2], ANSI C95.3 – 2002 Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields [3], IEEE Std.1528 – 2003 Recommended Practice [4], and Industry Canada Safety Code 6 Limits of Human Exposure to Radiofrequency Electromagnetic Fields in the Frequency Range from 3kHz to 300 GHz were employed.

The following table indicates all the wireless technologies operating in the EG26xx Wireless Video Transceiver. The table also shows the tolerance for the power level for each mode (if applicable).

Band	Technology	Class	3GPP Nominal Power dBm	Tolerance dBm	Lower Tolerance dBm	Upper Tolerance dBm
Band 2 – 1900 MHz	LTE – FDD	3	23	±2.0	21.0	25.0
Band 4 – 1750 MHz	LTE – FDD	3	23	±2.0	21.0	25.0
Band 5 – 850 MHz	LTE – FDD	3	23	±2.0	21.0	25.0
Band 7 – 2600 MHz	LTE – FDD	3	23	±2.0	21.0	25.0
Band 12 – 700 MHz	LTE – FDD	3	23	±2.0	21.0	25.0
Band 13 – 782 MHz	LTE – FDD	3	23	±2.0	21.0	25.0
Band 14 – 793 MHz	LTE – FDD	3	23	±2.0	21.0	25.0
Band 17 – 700 MHz	LTE – FDD	3	23	±2.0	21.0	25.0
Band 25 – 1900 MHz	LTE – FDD	3	23	±2.0	21.0	25.0
Band 26 – 850 MHz	LTE – FDD	3	23	±2.0	21.0	25.0
Band 30 – 2300 MHz	LTE – FDD	3	23	±2.0	21.0	25.0
Band 41 – 2500 MHz	LTE – TDD	3	23	±2.0	21.0	25.0
Band 66 – 1750 MHz	LTE – FDD	3	23	±2.0	21.0	25.0
Band 2 – 1900 MHz	UMTS	3	24	+1.0/-3.0	21.0	25.0
Band 4 – 1750 MHz	UMTS	3	24	+1.0/-3.0	21.0	25.0
Band 5 – 850 MHz	UMTS	3	24	+1.0/-3.0	21.0	25.0
WLAN – 2.4 GHz	802.11bg	N/A	N/A	N/A	N/A	21.0
WLAN – 2.4 GHz	802.11n20	N/A	N/A	N/A	N/A	20.5
WLAN – 2.4 GHz	802.11ax20	N/A	N/A	N/A	N/A	19.5
WLAN – 2.4 GHz	802.11n40ax40	N/A	N/A	N/A	N/A	17.5
WLAN – 5 GHz Band I,IIA,IIC,III	802.11an20ax20	N/A	N/A	N/A	N/A	21.0
WLAN – 5 GHz Band I,IIA,IIC,III	802.11n40/ax40	N/A	N/A	N/A	N/A	20.5
WLAN – 5 GHz Band I,IIA	802.11ac80ax80	N/A	N/A	N/A	N/A	19.0
WLAN – 5 GHz Band IIC	802.11ax80	N/A	N/A	N/A	N/A	19.5
WLAN – 5 GHz Band IIC	802.11ac80	N/A	N/A	N/A	N/A	20.0
WLAN – 5 GHz Band III	802.11ac80ax80	N/A	N/A	N/A	N/A	20.5
WLAN – 5 GHz Band IIC	802.11ac160/ax160	N/A	N/A	N/A	N/A	15.5

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SAR Definition [5]

Specific Absorption Rate is defined as 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).

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

SAR is expressed in units of watts per kilogram (W/kg). *SAR* can be related to the electric field at a point by

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

where:

σ = conductivity of the tissue (S/m)

ρ = mass density of the tissue (kg/m^3)

E = rms electric field strength (V/m)

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2. SAR Measurement Setup

Robotic System

These measurements are performed using the DASY52 automated dosimetric assessment system. The DASY52 is made by Schmid & Partner Engineering AG (SPEAG) in Zurich, Switzerland and consists of high precision robotics system (Staubli), robot controller, Intel Core2 computer, near-field probe, probe alignment sensor, and the generic twin phantom containing the brain equivalent material. The robot is a six-axis industrial robot performing precise movements to position the probe to the location (points) of maximum electromagnetic field (EMF) (see Fig. 2.1).

System Hardware

A cell controller system contains the power supply, robot controller teach pendant (Joystick), and a remote control used to drive the robot motors. The PC consists of the HP Intel Core2 computer with Windows XP system and SAR Measurement Software DASY52, A/D interface card, monitor, mouse, and keyboard. The Staubli Robot is connected to the cell controller to allow software manipulation of the robot. A data acquisition electronic (DAE) circuit that performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. is connected to the Electro-optical coupler (EOC). The EOC performs the conversion from the optical into digital electric signal of the DAE and transfers data to the PC plug-in card.

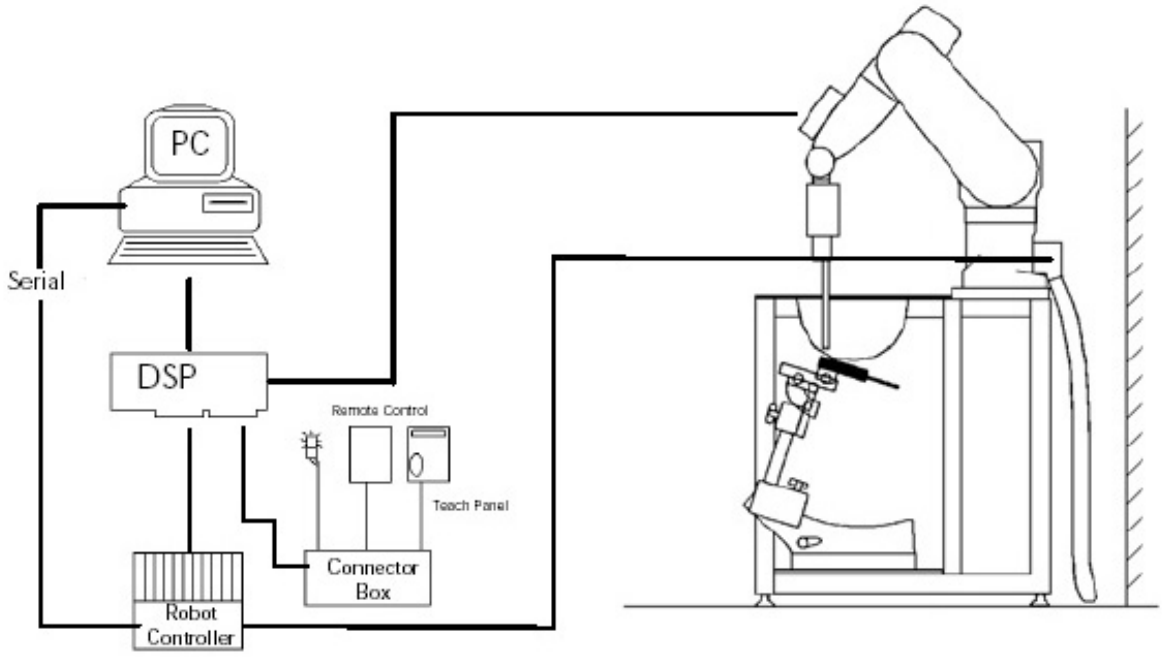

Figure 2.1 SAR Measurement System Setup

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System Electronics

The DAE4 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 PC-card is accomplished through an optical downlink for data and status information and an optical uplink for commands and clock lines. The mechanical probe mounting device includes two different sensor systems for frontal and sidewise probe contacts. They are also used for mechanical surface detection and probe collision detection. The robot uses its own controller with a built in VME-bus computer. The system is described in detail in.

Probe Measurement System

The SAR measurements were conducted with the dosimetric probe EX3DV4, designed in the classical triangular configuration (see Fig. 2.2) and optimized for dosimetric evaluation. The probe is constructed using the thick film technique; with printed resistive lines on ceramic substrates. The probe is equipped with an optical multi fiber line ending at the front of the probe tip. (see Fig. 2.3) It is connected to the EOC box on the robot arm and provides an automatic detection of the phantom surface. Half of the fibers are connected to a pulsed infrared transmitter, the other half to a synchronized receiver. As the probe approaches the surface, the reflection from the surface produces a coupling from the transmitting to the receiving fibers. This reflection increases first during the approach, reaches maximum and then decreases. If the probe is flatly touching the surface, the coupling is zero. The distance of the coupling maximum to the surface is independent of the surface reflectivity and largely independent of the surface to probe angle. The DASY52 software reads the reflection during a software approach and looks for the maximum using a 2nd order fitting. The approach is stopped at reaching the maximum.

DAE System

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Probe Specifications

Calibration: In air from 10 MHz to 6.0 GHz
In brain and muscle simulating tissue at Frequencies of 450 MHz, 835 MHz, 1750 MHz, 1900 MHz, 2450 MHz, 2600 MHz, 3500 MHz, 5200 MHz, 5300 MHz, 5600 MHz, 5800 MHz

Frequency: 10 MHz to 6 GHz

Linearity: ±0.2dB (30 MHz to 6 GHz)

Dynamic: 10 mW/kg to 100 W/kg

Range: Linearity: ±0.2dB

Dimensions: Overall length: 330 mm

Tip length: 20 mm

Body diameter: 12 mm

Tip diameter: 2.5 mm

Distance from probe tip to sensor center: 1 mm

Application: SAR Dosimetry Testing
Compliance tests of wireless device

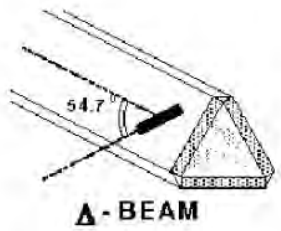

Figure 2.2 Triangular Probe Configurations

Figure 2.3 Probe Thick-Film Technique

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Probe Calibration Process

Dosimetric Assessment Procedure

Each probe is calibrated according to a dosimetric assessment procedure described in with accuracy better than +/- 10%. The spherical isotropy was evaluated with the procedure described in and found to be better than +/-0.25dB. The sensitivity parameters (Norm X, Norm Y, Norm Z), the diode compression parameter (DCP) and the conversion factor (Conv F) of the probe is tested.

Free Space Assessment

The free space E-field from amplified probe outputs is determined in a test chamber. This is performed in a TEM cell for frequencies below 1 GHz, and in a waveguide above 1GHz for free space. For the free space calibration, the probe is placed in the volumetric center of the cavity at the proper orientation with the field. The probe is then rotated 360 degrees until the three channels show the maximum reading. The power density readings equates to 1 mW/cm^2.

Temperature Assessment *

E-field temperature correlation calibration is performed in a flat phantom filled with the appropriate simulated brain tissue. The measured free space E-field in the medium, correlates to temperature rise in a dielectric medium. For temperature correlation calibration a RF transparent thermistor based temperature probe is used in conjunction with the E-field probe

$$SAR = C\frac{\Delta T}{\Delta t}$$

where:

Δt = exposure time (30 seconds),

C = heat capacity of tissue (brain or muscle),

ΔT = temperature increase due to RF exposure.

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

where:

σ = simulated tissue conductivity,

ρ = Tissue density (1.25 g/cm^3 for brain tissue)

SAR is proportional to ΔT / Δt , the initial rate of tissue heating, before thermal diffusion takes place.
Now it's possible to quantify the electric field in the simulated tissue by equating the thermally derived SAR to the E- field;

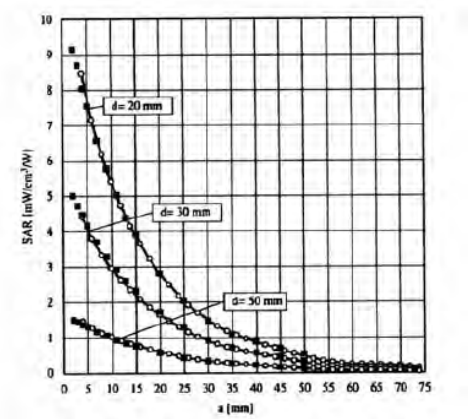

Figure 2.4 E-Field and Temperature Measurements at 900MHz

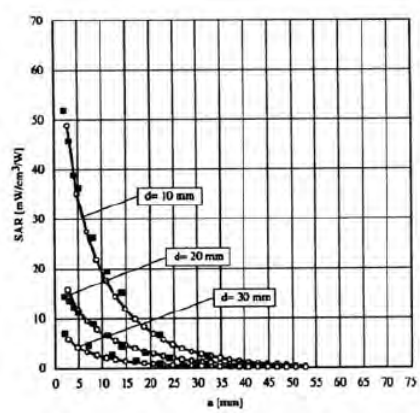

Figure 2.5 E-Field and Temperature Measurements at 1800MHz

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Data Extrapolation

The DASY52 software automatically executes the following procedures to calculate the field units from the microvolt readings at the probe connector. The first step of the evaluation is a linearization of the filtered input signal to account for the compression characteristics of the detector diode. The compensation depends on the input signal, the diode type and the DC-transmission factor from the diode to the evaluation electronics. If the exciting field is pulsed, the crest factor of the signal must be known to correctly compensate for peak power. The formula for each channel can be given like below;

$$V_i = U_i + U_i^2 \cdot \frac{cf}{dcp_i}$$

with
V_i = compensated signal of channel i (i=x,y,z)
U_i = input signal of channel i (i=x,y,z)
cf = crest factor of exciting field (DASY parameter)
dcp_i = diode compression point (DASY parameter)

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

E-field probes:

$$E_i = \sqrt{\frac{V_i}{Norm_i \cdot ConvF}}$$

with
V_i = compensated signal of channel i (i = x,y,z)
$Norm_i$ = sensor sensitivity of channel i (i = x,y,z) $\mu V/(V/m)^2$ for E-field probes
ConvF = sensitivity of enhancement in solution
E_i = electric field strength of channel i in V/m

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

$$E_{tot} = \sqrt{E_x^2 + E_y^2 + E_z^2}$$

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

$$SAR = E_{tot}^2 \cdot \frac{\sigma}{\rho \cdot 1000}$$

with
SAR = local specific absorption rate in W/g
E_{tot} = total field strength in V/m
σ = conductivity in [mho/m] or [Siemens/m]
ρ = equivalent tissue density in g/cm^3

The power flow density is calculated assuming the excitation field to be a free space field.

$$P_{pwe} = \frac{E_{tot}^2}{3770}$$

with
P_{pwe} = equivalent power density of a plane wave in W/cm^2
E_{tot} = total electric field strength in V/m

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Scanning procedure

- The DASY installation includes predefined files with recommended procedures for measurements and system check. They are read-only document files and destined as fully defined but unmeasured masks. All test positions (head or body-worn) are tested with the same configuration of test steps differing only in the grid definition for the different test positions.

- The „reference“ and „drift“ measurements are located at the beginning and end of the batch process. They measure the field drift at one single point in the liquid over the complete procedure. The indicated drift is mainly the variation of the DUT's output power and should vary max. +/- 5 %.

- The highest integrated SAR value is the main concern in compliance test applications. These values can mostly be found at the inner surface of the phantom and cannot be measured directly due to the sensor offset in the probe. To extrapolate the surface values, the measurement distances to the surface must be known accurately. A distance error of 0.5mm could produce SAR errors of 6% at 1800 MHz. Using predefined locations for measurements is not accurate enough. Any shift of the phantom (e.g., slight deformations after filling it with liquid) would produce high uncertainties. For an automatic and accurate detection of the phantom surface, the DASY5 system uses the mechanical surface detection. The detection is always at touch, but the probe will move backward from the surface the indicated distance before starting the measurement.

- The „area scan“ measures the SAR above the DUT or verification dipole on a parallel plane to the surface. It is used to locate the approximate location of the peak SAR with 2D spline interpolation. The robot performs a stepped movement along one grid axis while the local electrical field strength is measured by the probe. The probe is touching the surface of the SAM during acquisition of measurement values. The scan uses different grid spacings for different frequency measurements. Standard grid spacing for head measurements in frequency ranges ≤ 2GHz is 15 mm in x - and y- dimension. For higher frequencies a finer resolution is needed, thus for the grid spacing is reduced according the following table:

Area scan grid spacing for different frequency ranges	
Frequency range	Grid spacing
≤ 2 GHz	≤ 15 mm
2 – 4 GHz	≤ 12 mm
4 – 6 GHz	≤ 10 mm

Grid spacing and orientation have no influence on the SAR result. For special applications where the standard scan method does not find the peak SAR within the grid, e.g. mobile phones with flip cover, the grid can be adapted in orientation. Results of this coarse scan are shown in annex B.

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- A „zoom scan" measures the field in a volume around the 2D peak SAR value acquired in the previous „coarse" scan. It uses a fine meshed grid where the robot moves the probe in steps along all the 3 axis (x,y and z-axis) starting at the bottom of the Phantom. The grid spacing for the cube measurement is varied according to the measured frequency range, the dimensions are given in the following table:

Zoom scan grid spacing and volume for different frequency ranges			
Frequency range	Grid spacing for x, y axis	Grid spacing for z axis	Minimum zoom scan volume
≤ 2 GHz	≤ 8 mm	≤ 5 mm	≥ 30 mm
2 – 3 GHz	≤ 5 mm	≤ 5 mm	≥ 28 mm
3 – 4 GHz	≤ 5 mm	≤ 4 mm	≥ 28 mm
4 – 5 GHz	≤ 4 mm	≤ 3 mm	≥ 25 mm
5 – 6 GHz	≤ 4 mm	≤ 2 mm	≥ 22 mm

DASY is also able to perform repeated zoom scans if more than 1 peak is found during area scan. In this document, the evaluated peak 1g and 10g averaged SAR values are shown in the 2D-graphics in annex B. Test results relevant for the specified standard (see section 3) are shown in table form in section 7.

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Spatial Peak SAR Evaluation

The spatial peak SAR - value for 1 and 10 g is evaluated after the Cube measurements have been done. The basis of the evaluation are the SAR values measured at the points of the fine cube grid consisting of all points in the three directions x, y and z. The algorithm that finds the maximal averaged volume is separated into three different stages.

- The data between the dipole center of the probe and the surface of the phantom are extrapolated. This data cannot be measured since the center of the dipole is 1 to 2.7 mm away from the tip of the probe and the distance between the surface and the lowest measuring point is about 1 mm (see probe calibration sheet). The extrapolated data from a cube measurement can be visualized by selecting 'Graph Evaluated'.

- The maximum interpolated value is searched with a straight-forward algorithm. Around this maximum the SAR - values averaged over the spatial volumes (1g or 10 g) are computed using the 3d-spline interpolation algorithm. If the volume cannot be evaluated (i.e., if a part of the grid was cut off by the boundary of the measurement area) the evaluation will be started on the corners of the bottom plane of the cube.

- All neighbouring volumes are evaluated until no neighbouring volume with a higher average value is found.

Extrapolation

The extrapolation is based on a least square algorithm [W. Gander, Computermathematik, p.168-180]. Through the points in the first 3 cm along the z-axis, polynomials of order four are calculated. These polynomials are then used to evaluate the points between the surface and the probe tip. The points, calculated from the surface, have a distance of 1 mm from each other.

Interpolation

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

Volume Averaging

At First the size of the cube is calculated. Then the volume is integrated with the trapezoidal algorithm. 8000 points (20x20x20) are interpolated to calculate the average.

Advanced Extrapolation

DASY uses the advanced extrapolation option which is able to compensate boundary effects on E-field probes.

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SAM PHANTOM

The SAM Twin Phantom V4.0 is constructed of a fiberglass shell integrated in a wooden table. The shape of the shell is based on data from an anatomical study designed to determine the maximum exposure in at least 90% of all users. It enables the dosimetric evaluation of left and right hand phone usage as well as body mounted usage at the flat phantom region. A cover prevents the evaporation of the liquid. Reference markings on the Phantom allow the complete setup of all predefined phantom positions and measurement grids by manually teaching three points in the robot. (see Fig. 2.6)

Phantom Specification

Phantom: SAM Twin Phantom (V4.0)
Shell Material: Vivac Composite
Thickness: 2.0 ± 0.2 mm

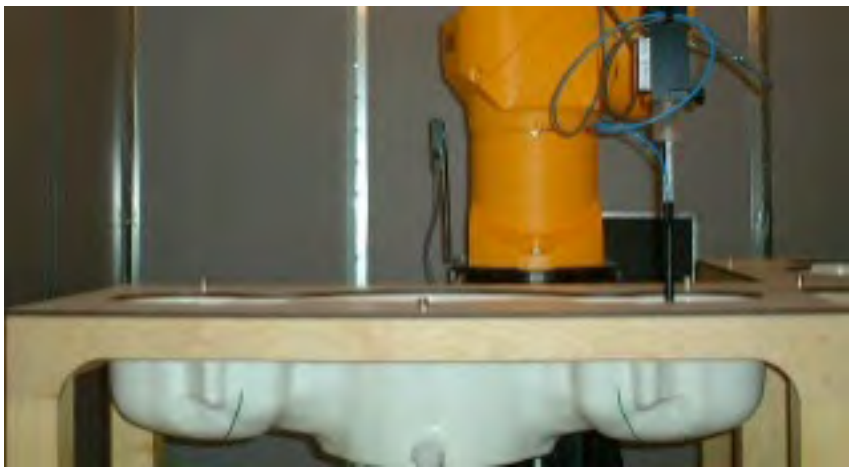

Figure 2.6 SAM Twin Phantom

Device Holder for Transmitters

In combination with the SAM Twin Phantom V4.0 the Mounting Device (see Fig. 2.7), enables the rotation of the mounted transmitter in spherical coordinates whereby the rotation point is the ear opening. The devices can be easily, accurately, and repeat ably be positioned according to the FCC, CENELEC, IEC and IEEE specifications. The device holder can be locked at different phantom locations (left head, right head, flat phantom).

Figure 2.7 Mounting Device

Note: A simulating human hand is not used due to the complex anatomical and geometrical structure of the hand that may produce infinite number of configurations. To produce the worst-case condition (the hand absorbs antenna output power), the hand is omitted during the tests.

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3. Probe and Dipole Calibration

See Appendix D and E.

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4. Phantom & Simulating Tissue Specifications

Head & Body Simulating Mixture Characterization

The head and body mixtures consist of the material based on the table listed below. The mixture is calibrated to obtain proper dielectric constant (permittivity) and conductivity of the desired tissue. Body tissue parameters that have not been specified in P1528 are derived from the issue dielectric parameters computed from the 4-Cole-Cole equations.

Table 4.1 Typical Composition of Ingredients for Tissue

Ingredients		Simulating Tissue					
		750 MHz Head	900 MHz Head	1750 MHz Head	1900 MHz Head	2300 MHz Head	2550 MHz Head
Mixing Percentage							
Water		Proprietary Purchased from Speag	Proprietary Purchased from Speag	Proprietary Purchased from Speag	Proprietary Purchased from Speag	Proprietary Purchased from Speag	Proprietary Purchased from Speag
Sugar							
Salt							
HEC							
Bactericide							
DGBE							
Dielectric Constant	Target	41.94	41.50	40.08	40.00	39.47	39.07
Conductivity (S/m)	Target	0.89	0.97	1.37	1.40	1.67	1.91

Ingredients		Simulating Tissue			
		2450 MHz Head	5250 MHz Head	5600 MHz Head	5785 MHz Head
Mixing Percentage					
Water		Proprietary Mixture Procured from Speag			
Sugar					
Salt					
HEC					
Bactericide					
DGBE					
Dielectric Constant	Target	39.20	35.93	35.53	35.36
Conductivity (S/m)	Target	1.80	4.71	5.07	5.22

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5. ANSI/IEEE C95.1 – 1992 RF Exposure Limits [2]

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.

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. This 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.

Table 5.1 Human Exposure Limits

	UNCONTROLLED ENVIRONMENT General Population (W/kg) or (mW/g)	CONTROLLED ENVIROMENT Professional Population (W/kg) or (mW/g)
SPATIAL PEAK SAR[1] Head	1.60	8.00
SPATIAL AVERAGE SAR[2] Whole Body	0.08	0.40
SPATIAL PEAK SAR[3] Hands, Feet, Ankles, Wrists	4.00	20.00

[1] The Spatial Peak value of the SAR averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.
[2] The Spatial Average value of the SAR averaged over the whole body.
[3] The Spatial Peak value of the SAR averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.

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6. Measurement Uncertainty

Measurement uncertainty table is not required per KDB 865664 D01 v01r04 section 2.8.2 page 12. SAR measurement uncertainty analysis is required in the SAR report only when the highest measured SAR in a frequency band is ≥ 1.5 W/kg for 1-g SAR. The equivalent ratio (1.5/1.6) should be applied to extremity and occupational exposure conditions. The highest reported value is less than 1.5 W/kg. Therefore, the measurement uncertainty table is not required.

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7. System Validation

Tissue Verification

Table 7.1 Measured Tissue Parameters

		750 MHz Head		900 MHz Head		900 MHz Head	
Date(s)		Sep. 18, 2021		Sep. 16, 2021		Sep. 16, 2021	
Liquid Temperature (˚C)	20.0	Target	Measured	Target	Measured	Target	Measured
Dielectric Constant: ε		41.94	41.35	41.50	41.12	41.50	41.27
Conductivity: σ		0.89	0.91	0.97	0.99	0.97	0.97
		900 MHz Head		1750 MHz Head		1900 MHz Head	
Date(s)		Sep. 18, 2021		Sep. 20, 2021		Sep. 20, 2021	
Liquid Temperature (˚C)	20.0	Target	Measured	Target	Measured	Target	Measured
Dielectric Constant: ε		41.50	40.86	40.08	39.77	40.00	39.82
Conductivity: σ		0.97	0.96	1.37	1.38	1.40	1.38
		2300 MHz Head		2550 MHz Head		2450 MHz Head	
Date(s)		Sep. 23, 2021		Sep. 22, 2021		Aug. 30, 2021	
Liquid Temperature (˚C)	20.0	Target	Measured	Target	Measured	Target	Measured
Dielectric Constant: ε		39.47	38.18	39.07	38.69	39.20	38.34
Conductivity: σ		1.67	1.69	1.91	1.93	1.80	1.81
		5250 MHz Head		5600 MHz Head		5750 MHz Head	
Date(s)		Aug. 30, 2021		Aug. 30, 2021		Aug. 30, 2021	
Liquid Temperature (˚C)	20.0	Target	Measured	Target	Measured	Target	Measured
Dielectric Constant: ε		35.93	34.77	35.53	34.35	35.36	34.18
Conductivity: σ		4.71	4.73	5.07	5.11	5.22	5.28

See Appendix A for data printout.

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Test System Verification

Prior to assessment, the system is verified to the ±10% of the specifications at the test frequency by using the system kit. Power is normalized to 1 watt. (Graphic Plots Attached)

Table 7.2 System Dipole Validation Target & Measured

	Test Frequency	Targeted SAR_{1g} (W/kg)	Measure SAR_{1g} (W/kg)	Tissue Used for Verification	Deviation Target and Fast SAR to SAR (%)	Plot Number
18-Sep-2021	750 MHz	8.57	8.58	Head	+ 0.12	1
16-Sep-2021	900 MHz	11.20	11.40	Head	+ 1.79	2
16-Sep-2021	900 MHz	11.20	11.50	Head	+ 2.68	3
18-Sep-2021	900 MHz	11.20	11.30	Head	+ 0.89	4
20-Sep-2021	1750 MHz	37.70	37.90	Head	+ 0.53	5
20-Sep-2021	1900 MHz	40.40	41.20	Head	+ 1.98	6
23-Sep-2021	2300 MHz	49.60	49.80	Head	+ 0.40	7
22-Sep-2021	2550 MHz	55.30	56.10	Head	+ 1.45	8
30-Aug-2021	2450 MHz	54.10	54.60	Head	+ 0.92	9
30-Aug-2021	5250 MHz	79.50	80.30	Head	+ 1.01	10
30-Aug-2021	5600 MHz	83.20	83.50	Head	+ 0.36	11
30-Aug-2021	5750 MHz	80.50	80.50	Head	+ 0.00	12

See Appendix A for data plots.

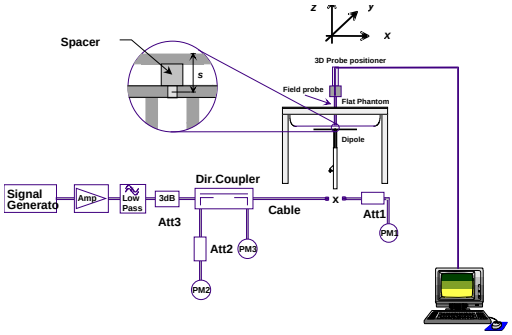

Figure 7.1 Dipole Validation Test Setup

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8. SAR Test Data Summary

See Measurement Result Data Pages

See Appendix B for SAR Test Data Plots.
See Appendix C for SAR Test Setup Photos.

Procedures Used To Establish Test Signal

The device was either placed into simulated transmit mode using the manufacturer's test codes or the actual transmission is activated through a base station simulator or similar equipment. See data pages for actual procedure used in measurement.

Device Test Condition

In order to verify that the device was tested at full power, conducted output power measurements were performed before and after each SAR measurement to confirm the output power unless otherwise noted. If a conducted power deviation of more than 5% occurred, the test was repeated. The power drift of each test is measured at the start of the test and again at the end of the test. The drift percentage is calculated by the formula ((end/start)-1)*100 and rounded to three decimal places. The drift percentage is calculated into the resultant SAR value on the data sheet for each test.

The EUT was tested on the end of the device where the antennas are located and on each side next to the antenna. All measurements for the device were conducted with the side of the device 10 mm from the phantom. The 10 mm gap was to simulate the closest distance the side can get to the user when installed in the carrying bag which is the normal use for the device. The carrying bag is made of all nylon and Styrofoam.

This device can contain one cellular modem and one WiFi modem. The primary cellular modem is the Quectel model EM12-G modem. The EM12-G modem had a change in ID issued to the FCC and ISED IDs listed in this report. The WiFi modem is Intel model AX200NGW. The WiFi modem is a 2x2 configuration. The WiFi modem is listed as a "Contains FCC ID: PD9-AX200NG and IC: 1000M-AX200NG."

The EM12-G module was tested for all 8 antennas as this module can be installed in any slot and be attached to any one of the 8 antennas. Please see the pictures below showing the antenna locations.

The device was on a minimum of 10 cm of Styrofoam during each test.

The WCDMA testing was conducted using 12.2 kbps RMC configured in Test Loop Mode 1. The HSPA testing was conducted with HS-DPCCH, E-DPCCH and E-DPDCH all enabled and a 12.2 kbps RMC. FRC was configured according to HS-DPCCH Sub-Test 1 using H-set 1 and QPSK.

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Antennas Located at the Bottom of the Unit

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Antennas Located at the Top of the Unit

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9. LTE Document Checklist

1) Identify the operating frequency range of each LTE transmission band used by the device

LTE Operating Band	Uplink (transmit)	Downlink (Receive)	Duplex mode (FDD/TDD)
	Low - high	Low - high	
4 & 66	1710-1780	2110-2200	FDD
5 & 26	814-849	859-894	FDD
13	777-787	746-756	FDD
12 & 17	699-716	729-746	FDD
14	788-798	758-768	FDD
2 & 25	1850-1910	1930-1990	FDD
30	2305-2315	2350-2360	FDD
7	2500-2570	2620-2690	FDD
41	2496-2690	2496-2690	TDD

2) Identify the channel bandwidths used in each frequency band; 1.4, 3, 5, 10, 15, 20 MHz etc

LTE Band Class	Bandwidth (MHz)	Frequency or Freq. Band (MHz)
4	1.4, 3, 5, 10, 15, 20	1710-1755
66	1.4, 3, 5, 10, 15, 20	1710-1780
5	1.4, 3, 5, 10	824-849
26	1.4, 3, 5, 10, 15	814-849
13	5, 10	777-787
12	1.4, 3, 5, 10	699-716
17	5, 10	704-716
14	5, 10	788-798
2	1.4, 3, 5, 10, 15, 20	1850-1910
25	1.4, 3, 5, 10, 15, 20	1850-1915
30	5, 10	3550-3700
7	5, 10, 15, 20	2500-2570
41	5, 10, 15, 20	2496-2690

3) Identify the high, middle and low (H, M, L) channel numbers and frequencies in each LTE frequency band

LTE Band Class	Bandwidth (MHz)	Frequency (MHz)/Channel #					
		Low		Mid		High	
4	1.4	1710.7	19957	1732.5	20175	1754.3	20393
4	3	1711.5	19965	1732.5	20175	1753.5	20385
4	5	1712.5	19975	1732.5	20175	1752.5	20375
4	10	1715.0	20000	1732.5	20175	1750.0	20350
4	15	1717.5	20025	1732.5	20175	1747.5	20325
4	20	1720.0	20050	1732.5	20175	1745.0	20300
66	1.4	1710.7	131979	1755.0	132422	1779.3	132665
66	3	1711.5	132987	1755.0	132422	1778.5	132657

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66	5	1712.5	131997	1755.0	132422	1777.4	132646
66	10	1716.1	132033	1755.0	132422	1774.9	132621
66	15	1717.5	132047	1755.0	132422	1772.4	132596
66	20	1720.0	132072	1755.0	132422	1769.9	132571
5	1.4	824.7	20407	836.5	20525	848.3	20643
5	3	825.5	20415	836.5	20525	847.5	20635
5	5	826.5	20425	836.5	20525	846.5	20625
5	10	829.0	20450	836.5	20525	844.0	20600
26	1.4	814.7	26697	831.5	26865	848.3	27033
26	3	815.5	26705	831.5	26865	847.5	27025
26	5	816.5	26715	831.5	26865	846.5	27015
26	10	819.0	26740	831.5	26865	844.0	26990
26	15	821.5	24765	831.5	26865	841.5	26995
13	5	779.5	23205	782.0	23230	784.5	23255
13	10	-----	-----	782.0	23230	-----	-----
12	1.4	699.7	23017	707.5	23095	715.3	23173
12	3	700.5	23025	707.5	23095	714.5	23165
12	5	701.5	23035	707.5	23095	713.5	23155
12	10	704.0	23060	707.5	23095	711.0	23130
17	5	706.5	23755	710.0	23790	713.5	23825
17	10	709.0	23780	710.0	23790	711.0	23800
14	5	790.5	23305	793.0	23330	795.5	23355
14	10	-----	-----	793.0	23330	-----	-----
2	1.4	1850.7	18607	1880.0	18900	1909.3	19193
2	3	1851.5	18615	1880.0	18900	1908.5	19185
2	5	1852.5	18625	1880.0	18900	1907.5	19175
2	10	1855.0	18650	1880.0	18900	1905.0	19150
2	15	1857.5	18675	1880.0	18900	1902.5	19125
2	20	1860.0	18700	1880.0	18900	1900.0	19100
25	1.4	1850.7	26047	1882.5	26365	1914.3	26683
25	3	1851.5	26055	1882.5	26365	1913.5	26675
25	5	1852.5	26065	1882.5	26365	1912.5	26665
25	10	1855.0	26090	1882.5	26365	1910.0	26640
25	15	1857.5	26115	1882.5	26365	1907.5	26615
25	20	1860.0	26140	1882.5	26365	1905.0	26590
30	5	2307.5	27685	2310.0	27710	2312.5	27735
30	10	-----	-----	2310.0	27710	-----	-----
7	5	2502.5	20775	2535	21100	2567.5	21425
7	10	2505.0	20800	2535	21100	2565.0	21400
7	15	2507.5	20825	2535	21100	2562.5	21375
7	20	2510.0	20850	2535	21100	2560.0	21350
41	5	2498.5	39675	2593	40620	2687.5	41565
41	10	2501.0	39700	2593	40620	2685.0	41540
41	15	2503.5	39725	2593	40620	2682.5	41515
41	20	2506.0	39750	2593	40620	2680.0	41490

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4) Specify the UE category and uplink modulations used:
   - UE Category: 3
   - Uplink modulations: QPSK and 16QAM

5) Include descriptions of the LTE transmitter and antenna implementation; and also identify whether it is a standalone transmitter operating independently of other wireless transmitters in the device or sharing hardware components and/or antenna(s) with other transmitters etc

   The device has 10 antennas:
   - WWAN Main (6-Transmit and 8-Receive) Antenna
   - WiFi Antenna (2-Transmit/Receive)

6) Identify the LTE voice/data requirements in each operating mode and exposure condition with respect to head and body test configurations, antenna locations, handset flip-cover or slide positions, antenna diversity conditions etc

   The device is a data only device. Data mode was tested in each operating mode and exposure condition in the body configuration. See test setup photos to see all configurations tested.

7) Identify if Maximum Power Reduction (MPR) is optional or mandatory, i.e. built-in by design:

   a) Only mandatory MPR may be considered during SAR testing, when the maximum output power is permanently limited by the MPR implemented within the UE; and only for the applicable RB (resource block) configurations specified in LTE standards

   MPR is mandatory, built-in by design on all production units. It was enabled during testing.

Modulation	Channel Bandwidth/transmission Bandwidth Configuration (RB)						MPR (dB)
	1.4 MHz	3.0 MHZ	5 MHz	10 MHz	15 MHz	20 MHz	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1
16QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1
16QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2

   b) A-MPR (additional MPR) must be disabled

   A-MPR was disabled during testing.

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8) Include the maximum average conducted output power on the required test channels for each channel bandwidth and UL modulation used in each frequency band:

The maximum average conducted output power for the testing is listed on pages 45-83 of this report. The below table shows the factory set point with the allowable tolerance.

Band	Technology	Class	3GPP Nominal Power dBm	Tolerance dBm	Lower Tolerance dBm	Upper Tolerance dBm
Band 2 – 1900 MHz	LTE – FDD	3	23	±2.0	21.0	25.0
Band 4 – 1750 MHz	LTE – FDD	3	23	±2.0	21.0	25.0
Band 5 – 850 MHz	LTE – FDD	3	23	±2.0	21.0	25.0
Band 7 – 2600 MHz	LTE – FDD	3	23	±2.0	21.0	25.0
Band 12 – 700 MHz	LTE – FDD	3	23	±2.0	21.0	25.0
Band 13 – 782 MHz	LTE – FDD	3	23	±2.0	21.0	25.0
Band 14 – 793 MHz	LTE – FDD	3	23	±2.0	21.0	25.0
Band 17 – 700 MHz	LTE – FDD	3	23	±2.0	21.0	25.0
Band 25 – 1900 MHz	LTE – FDD	3	23	±2.0	21.0	25.0
Band 26 – 850 MHz	LTE – FDD	3	23	±2.0	21.0	25.0
Band 30 – 2300 MHz	LTE – FDD	3	23	±2.0	21.0	25.0
Band 41 – 2500 MHz	LTE – TDD	3	23	±2.0	21.0	25.0
Band 66 – 1750 MHz	LTE – FDD	3	23	±2.0	21.0	25.0
Band 2 – 1900 MHz	UMTS	3	24	+1.0/-3.0	21.0	25.0
Band 4 – 1750 MHz	UMTS	3	24	+1.0/-3.0	21.0	25.0
Band 5 – 850 MHz	UMTS	3	24	+1.0/-3.0	21.0	25.0

9) Identify all other U.S. wireless operating modes (3G, Wi-Fi, WiMax, Bluetooth etc), device/exposure configurations (head and body, antenna and handset flip-cover or slide positions, antenna diversity conditions etc.) and frequency bands used for these modes

Other wireless modes:

Band	Technology	Class	3GPP Nominal Power dBm	Tolerance dBm	Lower Tolerance dBm	Upper Tolerance dBm
WLAN – 2.4 GHz	802.11bg	N/A	N/A	N/A	N/A	21.0
WLAN – 2.4 GHz	802.11n20	N/A	N/A	N/A	N/A	20.5
WLAN – 2.4 GHz	802.11ax20	N/A	N/A	N/A	N/A	19.5
WLAN – 2.4 GHz	802.11n40ax40	N/A	N/A	N/A	N/A	17.5
WLAN – 5 GHz Band I,IIA,IIC,III	802.11an20ax20	N/A	N/A	N/A	N/A	21.0
WLAN – 5 GHz Band I,IIA,IIC,III	802.11n40/ax40	N/A	N/A	N/A	N/A	20.5
WLAN – 5 GHz Band I,IIA	802.11ac80ax80	N/A	N/A	N/A	N/A	19.0
WLAN – 5 GHz Band IIC	802.11ax80	N/A	N/A	N/A	N/A	19.5
WLAN – 5 GHz Band IIC	802.11ac80	N/A	N/A	N/A	N/A	20.0
WLAN – 5 GHz Band III	802.11ac80ax80	N/A	N/A	N/A	N/A	20.5
WLAN – 5 GHz Band IIC	802.11ac160/ax160	N/A	N/A	N/A	N/A	15.5

10) Include the maximum average conducted output power measured for the other wireless modes and frequency bands.

The maximum average conducted output power measured for the testing is listed on pages 31-35 of this report. The table in item 9 shows the factory set point with the allowable tolerance.

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11) When power reduction is applied to certain wireless modes to satisfy SAR compliance for simultaneous transmission conditions, other equipment certification or operating requirements, include the maximum average conducted output power measured in each power reduction mode applicable to the simultaneous voice/data transmission configurations for such wireless configurations and frequency bands; and also include details of the power reduction implementation and measurement setup

    Power reduction is not required to satisfy SAR compliance.

12) Include descriptions of the test equipment, test software, built-in test firmware etc. required to support testing the device when power reduction is applied to one or more transmitters/antennas for simultaneous voice/data transmission

    Power reduction is not required to satisfy SAR compliance.

13) When appropriate, include a SAR test plan proposal with respect to the above

    Power reduction is not required to satisfy SAR compliance.

14) If applicable, include preliminary SAR test data and/or supporting information in laboratory testing inquiries to address specific issues and concerns or for requesting further test reduction considerations appropriate for the device; for example, simultaneous transmission configurations.

    Not applicable.

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10. FCC 3G Measurement Procedures

Power measurements were performed using a base station simulator under average power.

10.1 Procedures Used to Establish RF Signal for SAR

The device was placed into a simulated call using a base station simulator in a screen room. Such test signals offer a consistent means for testing SAR and recommended for evaluating SAR. The SAR measurement software calculates a reference point at the start and end of the test to check for power drifts. If conducted power deviations of more than 5% occurred, the tests were repeated.

10.2 SAR Measurement Conditions for WCDMA/HSDPA/HSUPA

Configure the call box 8960 to support all WCDMA tests in respect to the 3GPP 34.121 (listed in Table below). Measure the power at Ch4132, 4182 and 4233 for US cell; Ch9262, 9400 and 9538 for US PCS band.

For Rel99

- Set a Test Mode 1 loop back with a 12.2kbps Reference Measurement Channel (RMC).
- Set and send continuously Up power control commands to the device
- Measure the power at the device antenna connector using the power meter with average detector.

For HSDPA Rel 6

- Establish a Test Mode 1 look back with both 1 12.2kbps RMC channel and a H-Set1 Fixed Reference Channel (FRC). With the 8960 this is accomplished by setting the signal Channel Coding to “Fixed Reference Channel” and configuring for HSET-1 QKSP.
- Set beta values and HSDPA settings for HSDPA Subtest1 according to Table below.
- Send continuously Up power control commands to the device
- Measure the power at the device antenna connector using the power meter with modulated average detector.
- Repeat the measurement for the HSDPA Subtest2, 3 and 4 as given in Table below.

For HSUPA Rel 6

- Use UL RMC 12.2kbps and FRC H-Set1 QPSK, Test Mode 1 loop back. With the 8960 this is accomplished by setting the signal Channel Coding to “E-DCH Test Channel” and configuring the equipment category to Cat5_10ms.
- Set the Absolute Grant for HSUPA Subtest1 according to Table below.
- Set the device power to be at least 5dB lower than the Maximum output power
- Send power control bits to give one TPC_cmd = +1 command to the device. If device doesn’t send any E-DPCH data with decreased E-TFCI within 500ms, then repeat this process until the decreased E-TFCI is reported.
- Confirm that the E-TFCI transmitted by the device is equal to the target E-TFCI in Table below. If the E-TFCI transmitted by the device is not equal to the target E-TFCI, then send power control bits to give one TPC_cmd = -1 command to the UE. If UE sends any E-DPCH data with decreased E-TFCI within 500 ms, send new power control bits to give one TPC_cmd = -1 command to the UE. Then confirm that the E-TFCI transmitted by the UE is equal to the target E-TFCI in Table below.
- Measure the power using the power meter with modulated average detector.
- Repeat the measurement for the HSUPA Subtest2, 3, 4 and 5 as given in Table below.

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Conducted Powers

3GPP Release Version	Mode	Cellular Band [dBm]			Sub-Test (See Table Below)	MPR
		4132	4183	4233		
99	WCDMA	24.69	24.56	24.58	-	-
6	HSDPA	24.52	24.87	24.63	1	0
6		24.73	24.70	24.68	2	0
6		24.31	24.46	24.22	3	0.5
6		24.33	24.36	24.49	4	0.5
6	HSUPA	24.73	24.82	24.88	1	0
6		22.80	22.57	22.55	2	2
6		23.82	23.70	23.80	3	1
6		22.66	22.69	22.61	4	2
6		24.89	24.97	24.63	5	0

3GPP Release Version	Mode	PCS Band [dBm]			Sub-Test (See Table Below)	MPR
		9262	9400	9538		
99	WCDMA	24.98	24.93	24.87	-	-
6	HSDPA	24.52	24.52	24.67	1	0
6		24.69	24.57	24.89	2	0
6		24.05	24.29	24.25	3	0.5
6		24.30	24.38	24.01	4	0.5
6	HSUPA	24.67	24.80	24.52	1	0
6		22.90	22.54	22.97	2	2
6		23.88	23.63	23.77	3	1
6		22.63	22.77	22.71	4	2
6		24.71	24.77	24.59	5	0

3GPP Release Version	Mode	AWS Band [dBm]			Sub-Test (See Table Below)	MPR
		1312	1413	1513		
99	WCDMA	24.88	24.90	24.77	-	-
6	HSDPA	24.74	24.88	24.96	1	0
6		24.73	24.83	24.81	2	0
6		24.45	24.40	24.11	3	0.5
6		24.29	24.14	24.43	4	0.5
6	HSUPA	24.96	24.74	24.51	1	0
6		22.67	22.57	22.70	2	2
6		23.84	23.75	23.74	3	1
6		22.53	22.97	22.72	4	2
6		24.57	24.79	24.70	5	0

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Sub-Test Setup for Release 6 HSDPA

Sub-Test	β_c	β_d	B_c/β_d	β_{hs}
1	2/15	15/15	2/15	4/15
2	12/15	15/15	15/15	24/15
3	15/15	8/15	15/8	30/15
4	15/15	4/15	15/4	30/15
Δ_{ack}, Δ_{nack} and Δ_{cqi} = 8				

Sub-Test Setup for Release 6 HSUPA

Sub-Test	β_c	β_d	B_c/β_d	β_{hs}	B_{ec}	B_{ed}	MPR	AG Index	E-TFCI
1	11/15	15/15	11/15	22/15	209/225	1039/225	0.0	20	75
2	6/15	15/15	6/15	12/15	12/15	94/75	2.0	12	67
3	15/15	9/15	15/9	30/15	30/15	47/15	1.0	15	92
4	2/15	15/15	2/15	4/15	2/15	56/15	2.0	17	71
5	15/15	15/15	15/15	30/15	24/15	134/15	0.0	21	81
Δ_{ack}, Δ_{nack} and Δ_{cqi} = 8									

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Band	Mode	Bandwidth (MHz)	Channel	Frequency (MHz)	Data Rate	Antenna	Avg Power (dBm)	Tune-up Pwr (dBm)
2450 MHz	802.11b	20	1	2412	1 Mbps	Tx0	20.00	20.00
			6	2437			21.00	21.00
			11	2462			19.00	19.00
			1	2412		Tx1	19.50	19.50
			6	2437			21.00	21.00
			11	2462			19.45	19.50
	802.11g	20	1	2412	6 Mbps	Tx0	Not Required	17.00
			6	2437				20.50
			11	2462				15.50
			1	2412		Tx1		17.00
			6	2437				21.00
			11	2462				15.00
	802.11n	20	1	2412	HT0	Tx0		17.00
			6	2437				20.50
			11	2462				17.00
			1	2412		Tx1		17.50
			6	2437				20.50
			11	2462				17.00
	802.11n	40	3	2422	HT0	Tx0		16.50
			6	2437				17.00
			9	2442				16.00
			3	2422		Tx1		17.50
			6	2437				17.00
			9	2442				15.50
5.15-5.25 GHz	802.11a	20	36	5180	6 Mbps	Tx0	Not Required	19.00
			40	5200				21.00
			44	5220				21.00
			48	5240				21.00
			36	5180		Tx1		19.00
			40	5200				21.00
			44	5220				21.00
			48	5240				21.00
	802.11n	20	36	5180	HT0	Tx0		19.00
			40	5200				21.00
			44	5220				21.00
			48	5240				21.00
			36	5180		Tx1		19.00
			40	5200				21.00
			44	5220				21.00
			48	5240				21.00
	802.11n	40	38	5190	HT0	Tx0		18.50
			46	5230				20.50
			38	5190	HT0	Tx1		18.50
			46	5230				20.50
	802.11ac	80	42	5210	VHT0	Tx0		19.00
						Tx1		19.00
5.25-5.35 GHz	802.11a	20	52	5260	6 Mbps	Tx0	20.95	21.00
			56	5280			21.00	21.00
			60	5300			21.00	21.00
			64	5320			18.50	18.50
			52	5260		Tx1	21.00	21.00
			56	5280			20.80	21.00
			60	5300			21.00	21.00
			64	5320			18.50	18.50
	802.11n	20	54	5270	HT0	Tx0	Not Required	21.00
			56	5280				21.00
			60	5300				21.00
			64	5320				18.00
			52	5260		Tx1		21.00
			56	5280				21.00
			60	5300				21.00
			64	5320				18.00
	802.11n	40	54	5270	HT0	Tx0		20.50
			62	5310				17.50
			54	5270	HT0	Tx1		20.50
			62	5310				17.00
	802.11ac	80	58	5290	VHT0	Tx0		18.50
						Tx1		18.50

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Band	Mode	Bandwidth (MHz)	Channel	Frequency (MHz)	Data Rate	Antenna	Avg Power (dBm)	Tune-up Pwr (dBm)
5600 MHz	802.11a	20	100	5500	6 Mbps	Tx0	19.00	19.00
			104	5520			21.00	21.00
			108	5540			20.90	21.00
			112	5560			20.90	21.00
			116	5580			21.00	21.00
			120	5600			20.90	21.00
			124	5620			21.00	21.00
			128	5640			21.00	21.00
			132	5660			20.90	21.00
			136	5680			21.00	21.00
			140	5700			21.00	21.00
			100	5500		Tx1	19.00	19.00
			104	5520			21.00	21.00
			108	5540			21.00	21.00
			112	5560			20.90	21.00
			116	5580			21.00	21.00
			120	5600			21.00	21.00
			124	5620			21.00	21.00
			128	5640			20.90	21.00
			132	5660			21.00	21.00
			136	5680			21.00	21.00
			140	5700			20.90	21.00
	802.11n	20	100	5500	HT0	Tx0	Not Required	19.00
			104	5520				21.00
			108	5540				21.00
			112	5560				21.00
			116	5580				21.00
			120	5600				21.00
			124	5620				21.00
			128	5640				21.00
			132	5660				21.00
			136	5680				21.00
			140	5700				21.00
			100	5500		Tx1		19.00
			104	5520				21.00
			108	5540				21.00
			112	5560				21.00
			116	5580				21.00
			120	5600				21.00
			124	5620				21.00
			128	5640				21.00
			132	5660				21.00
			136	5680				21.00
			140	5700				21.00
	802.11n	40	102	5510	HT0	Tx0		18.50
			110	5550				20.50
			118	5580				20.50
			126	5610				20.50
			136	5680				20.50
			102	5510		Tx1		18.50
			110	5550				20.50
			118	5580				20.50
			126	5610				20.50
			136	5680				20.50
	802.11ac	80	106	5530	VHT0	Tx0		18.50
			122	5610				19.50
			138	5690				20.50
			106	5530		Tx1		19.00
			122	5610				20.00
			138	5690				20.50

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Band	Mode	Bandwidth (MHz)	Channel	Frequency (MHz)	Data Rate	Antenna	Avg Power (dBm)	Tune-up Pwr (dBm)
5800 MHz	802.11a	20	149	5745	6 Mbps	Tx0	21.00	21.00
			153	5765			20.90	21.00
			157	5785			21.00	21.00
			161	5805			20.80	21.00
			165	5825			21.00	21.00
			149	5745		Tx1	21.00	21.00
			153	5765			21.00	21.00
			157	5785			21.00	21.00
			161	5805			21.90	21.00
			165	5825			21.00	21.00
	802.11n	20	149	5745	HT0	Tx0	Not Required	21.00
			153	5765				21.00
			157	5785				21.00
			161	5805				21.00
			165	5825				21.00
			149	5745		Tx1		21.00
			153	5765				21.00
			157	5785				21.00
			161	5805				21.00
			165	5825				21.00
	802.11n	40	152	5760	HT0	Tx0		20.50
			159	5795				20.50
			152	5760		Tx1		20.50
			159	5795				20.50
	802.11ac	80	155	5775	VHT0	Tx0		19.00
						Tx1		19.00

Band	Mode	Chan+nel	Frequency (MHz)	Data Rate	Antenna	Avg Power (dBm)	Tune-up Pwr (dBm)
2450 MHz	Bluetooth v4.0	0	2402	Basic Rate GFSK	Chain B	10.40	11.00
		39	2441			10.47	11.00
		78	2480			10.42	11.00
		0	2402	EDR π/4 DQPSK		Not Required	10.50
		39	2441				10.50
		78	2480				10.50
		0	2402	EDR 8-DPSK			10.50
		39	2441				10.50
		78	2480				10.50
		0	2402	Low Energy GFSK			6.00
		20	2441				6.00
		39	2480				6.00

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Figure 10.1 Test Reduction Table – WCDMA

Band/ Frequency (MHz)	Technology	Position/Antenna	Required Channel	Tested/ Reduced
Band 5 824-849 MHz	WCDMA[2]	All/All	4132	Reduced[1]
			4183	Tested
			4233	Reduced[1]
Band 2 1850-1910 MHz		Top, Bottom, Left, Right/All	9262	Reduced[1]
			9400	Tested
			9538	Reduced[1]
	WCDMA	Front, Back/T1	9262	Tested
			9400	Tested
			9538	Tested
		Front, Back /T2	9262	Tested
			9400	Tested
			9538	Tested
		Front, Back /T3	9262	Reduced[1]
			9400	Tested
			9538	Reduced[1]
		Front, Back /T4	9262	Tested
			9400	Tested
			9538	Tested
		Front, Back /B1	9262	Tested
			9400	Tested
			9538	Tested
		Front, Back /B2	9262	Tested
			9400	Tested
			9538	Tested
		Front, Back /B3	9262	Reduced[1]
			9400	Tested
			9538	Reduced[1]
		Front, Back /B4	9262	Tested
			9400	Tested
			9538	Tested
Band 4 1710-1755 MHz	WCDMA[2]	Top, Bottom, Left, Right/All	1312	Reduced[1]
			1413	Tested
			1513	Reduced[1]
	WCDMA	Front, Back/T1	1312	Reduced[1]
			1413	Tested
			1513	Reduced[1]
		Front, Back /T2	1312	Reduced[1]
			1413	Tested
			1513	Reduced[1]
		Front, Back /T3	1312	Reduced[1]
			1413	Tested
			1513	Reduced[1]
		Front, Back /T4	1312	Reduced[1]
			1413	Tested
			1513	Reduced[1]
		Front, Back /B1	1312	Reduced[1]
			1413	Tested
			1513	Reduced[1]
		Front, Back /B2	1312	Tested
			1413	Tested
			1513	Tested
		Front, Back /B3	1312	Reduced[1]
			1413	Tested
			1513	Reduced[1]
		Front, Back /B4	1312	Tested
			1413	Tested
			1513	Tested

Reduced[1] – When the mid channel is 3 dB (0.8 W/kg) below the limit, the remaining channels are not required per KDB 447498 D01 v06 section 4.3.3 page 14.

Reduced[2] – All reductions were the same for each side listed where the antenna was close enough to require testing. For all other sides, the testing was reduced per KDB447498 D01 v06 section 4.3.1 1) page 11.

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Figure 10.3 Test Reduction Table – 2.4 GHz Tx0

Mode	Side	Required Channel	Tested/Reduced
802.11b	Bottom	2 – 2417 MHz	Reduced[2]
		6 – 2437 MHz	Tested
		10 – 2457 MHz	Tested
802.11g	Bottom	2 – 2417 MHz	Reduced[3]
		6 – 2437 MHz	Reduced[3]
		10 – 2457 MHz	Reduced[3]
802.11n	Bottom	2 – 2417 MHz	Reduced[3]
		6 – 2437 MHz	Reduced[3]
		10 – 2457 MHz	Reduced[3]

Reduced[1] – When the reported SAR is ≤ 0.4 W/kg, SAR is not required for the remaining test configuration per KDB 248227 D01 v02r02 section 5.1.1 1) page 9.
Reduced[2] – When the reported SAR is >0.4 W/kg, test the next highest configuration until the SAR value is ≤ 0.8 W/kg per KDB 248227 D01 v02r02 section 5.1.1 2) page 9.
Reduced[3] – When the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg, SAR is not required per KDB 248227 D01 v02r02 section 5.2.2 2) page 10.

Figure 10.4 Test Reduction Table – 2.4 GHz Tx1

Mode	Side	Required Channel	Tested/Reduced
802.11b	Top	2 – 2417 MHz	Reduced[1]
		6 – 2437 MHz	Tested
		10 – 2457 MHz	Reduced[1]
802.11g	Top	2 – 2417 MHz	Reduced[3]
		6 – 2437 MHz	Reduced[3]
		10 – 2457 MHz	Reduced[3]
802.11n	Top	2 – 2417 MHz	Reduced[3]
		6 – 2437 MHz	Reduced[3]
		10 – 2457 MHz	Reduced[3]

Reduced[1] – When the reported SAR is ≤ 0.4 W/kg, SAR is not required for the remaining test configuration per KDB 248227 D01 v02r02 section 5.1.1 1) page 9.
Reduced[2] – When the reported SAR is >0.4 W/kg, test the next highest configuration until the SAR value is ≤ 0.8 W/kg per KDB 248227 D01 v02r02 section 5.1.1 2) page 9.
Reduced[3] – When the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg, SAR is not required per KDB 248227 D01 v02r02 section 5.2.2 2) page 10.

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Figure 10.5 Test Reduction Table – 5.1 GHz Tx0

Mode	Side	Required Channel	Tested/Reduced
802.11a 5150 MHz	Laptop Mode	36 – 5180 MHz	Reduced[1]
		40 – 5200 MHz	Reduced[1]
		44 – 5220 MHz	Reduced[1]
		48 – 5240 MHz	Reduced[1]
802.11n 5150 MHz	Laptop Mode	36 – 5180 MHz	Reduced[1]
		40 – 5200 MHz	Reduced[1]
		44 – 5220 MHz	Reduced[1]
		48 – 5240 MHz	Reduced[1]
802.11ac 5210 MHz	Laptop Mode	42 – 5210 MHz	Reduced[1]

Reduced[1] – When the adjusted SAR is ≤ 1.2 W/kg for UNII-2A, SAR is not required for the UNII-1 band with lower or equal maximum output power in that test configuration per KDB 248227 D01 v02 section 5.3.1 2) page 11.

Figure 10.6 Test Reduction Table – 5.1 GHz Tx1

Mode	Side	Required Channel	Tested/Reduced
802.11a 5150 MHz	Laptop Mode	36 – 5180 MHz	Reduced[1]
		40 – 5200 MHz	Reduced[1]
		44 – 5220 MHz	Reduced[1]
		48 – 5240 MHz	Reduced[1]
802.11n 5150 MHz	Laptop Mode	36 – 5180 MHz	Reduced[1]
		40 – 5200 MHz	Reduced[1]
		44 – 5220 MHz	Reduced[1]
		48 – 5240 MHz	Reduced[1]
802.11ac 5210 MHz	Laptop Mode	42 – 5210 MHz	Reduced[1]

Reduced[1] – When the adjusted SAR is ≤ 1.2 W/kg for UNII-2A, SAR is not required for the UNII-1 band with lower or equal maximum output power in that test configuration per KDB 248227 D01 v02 section 5.3.1 2) page 11.

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Figure 10.7 Test Reduction Table – 5.2 GHz Tx0

Mode	Side	Required Channel	Tested/Reduced
802.11a 5250 MHz	Laptop Mode	52 – 5260 MHz	Reduced[1]
		56 – 5280 MHz	Reduced[1]
		60 – 5300 MHz	Tested
		64 – 5320 MHz	Reduced[1]
802.11n 5250 MHz	Laptop Mode	52 – 5260 MHz	Reduced[1]
		56 – 5280 MHz	Reduced[1]
		60 – 5300 MHz	Reduced[1]
		64 – 5320 MHz	Reduced[1]
802.11ac 5210 MHz	Laptop Mode	58 – 5290 MHz	Reduced[1]

Reduced[1] – When the reported SAR is ≤ 0.4 W/kg, SAR is not required for the remaining test configuration per KDB 248227 D01 v02r02 section 5.1.1 1) page 9.
Reduced[2] – When the reported SAR is >0.4 W/kg, test the next highest configuration until the SAR value is ≤ 0.8 W/kg per KDB 248227 D01 v02r02 section 5.1.1 2) page 9.

Figure 10.8 Test Reduction Table – 5.2 GHz Tx1

Mode	Side	Required Channel	Tested/Reduced
802.11a 5250 MHz	Laptop Mode	52 – 5260 MHz	Reduced[1]
		56 – 5280 MHz	Reduced[1]
		60 – 5300 MHz	Tested
		64 – 5320 MHz	Reduced[1]
802.11n 5250 MHz	Laptop Mode	52 – 5260 MHz	Reduced[1]
		56 – 5280 MHz	Reduced[1]
		60 – 5300 MHz	Reduced[1]
		64 – 5320 MHz	Reduced[1]
802.11ac 5210 MHz	Laptop Mode	58 – 5290 MHz	Reduced[1]

Reduced[1] – When the reported SAR is ≤ 0.4 W/kg, SAR is not required for the remaining test configuration per KDB 248227 D01 v02r02 section 5.1.1 1) page 9.
Reduced[2] – When the reported SAR is >0.4 W/kg, test the next highest configuration until the SAR value is ≤ 0.8 W/kg per KDB 248227 D01 v02r02 section 5.1.1 2) page 9.

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Figure 10.9 Test Reduction Table – 5.6 GHz Tx0

Mode	Side	Required Channel	Tested/Reduced
802.11a 5600 MHz	Laptop Back	100 – 5500 MHz	Reduced[1]
		104 – 5520 MHz	Reduced[1]
		108 – 5540 MHz	Reduced[1]
		112 – 5560 MHz	Reduced[1]
		116 – 5580 MHz	Reduced[1]
		120 – 5600 MHz	Reduced[1]
		124 – 5620 MHz	Tested
		128 – 5640 MHz	Reduced[1]
		132 – 5660 MHz	Reduced[1]
		136 – 5680 MHz	Reduced[1]
		140 – 5700 MHz	Reduced[1]

Reduced[1] – When the reported SAR is ≤ 0.4 W/kg, SAR is not required for the remaining test configuration per KDB 248227 D01 v02r02 section 5.1.1 1) page 9.
Reduced[2] – When the reported SAR is >0.8 W/kg, test the next highest configuration until the SAR value is ≤ 1.2 W/kg per KDB 248227 D01 v02r02 section 5.1.1 3) page 9.

Figure 10.10 Test Reduction Table – 5.6 GHz Tx1

Mode	Side	Required Channel	Tested/Reduced
802.11a 5600 MHz	Laptop Back	100 – 5500 MHz	Reduced[1]
		104 – 5520 MHz	Reduced[1]
		108 – 5540 MHz	Reduced[1]
		112 – 5560 MHz	Reduced[1]
		116 – 5580 MHz	Reduced[1]
		120 – 5600 MHz	Reduced[1]
		124 – 5620 MHz	Tested
		128 – 5640 MHz	Reduced[1]
		132 – 5660 MHz	Reduced[1]
		136 – 5680 MHz	Reduced[1]
		140 – 5700 MHz	Reduced[1]

Reduced[1] – When the reported SAR is ≤ 0.4 W/kg, SAR is not required for the remaining test configuration per KDB 248227 D01 v02r02 section 5.1.1 1) page 9.
Reduced[2] – When the reported SAR is >0.8 W/kg, test the next highest configuration until the SAR value is ≤ 1.2 W/kg per KDB 248227 D01 v02r02 section 5.1.1 3) page 9.

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Figure 10.11 Test Reduction Table – 5.6 GHz Tx0

Mode	Side	Required Channel	Tested/Reduced
802.11n 5600 MHz	Laptop Mode	100 – 5500 MHz	Reduced[1]
		104 – 5520 MHz	Reduced[1]
		108 – 5540 MHz	Reduced[1]
		112 – 5560 MHz	Reduced[1]
		116 – 5580 MHz	Reduced[1]
		120 – 5600 MHz	Reduced[1]
		124 – 5620 MHz	Reduced[1]
		128 – 5640 MHz	Reduced[1]
		132 – 5660 MHz	Reduced[1]
		136 – 5680 MHz	Reduced[1]
		140 – 5700 MHz	Reduced[1]

Reduced[1] – When the reported SAR is ≤ 0.4 W/kg, SAR is not required for the remaining test configuration per KDB 248227 D01 v02r02 section 5.1.1 1) page 9.
Reduced[2] – When the reported SAR is >0.8 W/kg, test the next highest configuration until the SAR value is ≤ 1.2 W/kg per KDB 248227 D01 v02r02 section 5.1.1 3) page 9.

Figure 10.12 Test Reduction Table – 5.6 GHz Tx1

Mode	Side	Required Channel	Tested/Reduced
802.11n 5600 MHz	Laptop Mode	100 – 5500 MHz	Reduced[1]
		104 – 5520 MHz	Reduced[1]
		108 – 5540 MHz	Reduced[1]
		112 – 5560 MHz	Reduced[1]
		116 – 5580 MHz	Reduced[1]
		120 – 5600 MHz	Reduced[1]
		124 – 5620 MHz	Reduced[1]
		128 – 5640 MHz	Reduced[1]
		132 – 5660 MHz	Reduced[1]
		136 – 5680 MHz	Reduced[1]
		140 – 5700 MHz	Reduced[1]

Reduced[1] – When the reported SAR is ≤ 0.4 W/kg, SAR is not required for the remaining test configuration per KDB 248227 D01 v02r02 section 5.1.1 1) page 9.
Reduced[2] – When the reported SAR is >0.8 W/kg, test the next highest configuration until the SAR value is ≤ 1.2 W/kg per KDB 248227 D01 v02r02 section 5.1.1 3) page 9.

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Figure 10.13 Test Reduction Table – 5.6 GHz Tx0

Mode	Side	Required Channel	Tested/Reduced
802.11ac 5600 MHz	Laptop Mode	106 – 5530 MHz	Reduced[1]
		122 – 5610 MHz	Reduced[1]
		138 – 5690 MHz	Reduced[1]

Reduced[1] – When the reported SAR is ≤ 0.4 W/kg, SAR is not required for the remaining test configuration per KDB 248227 D01 v02r02 section 5.1.1 1) page 9.
Reduced[2] – When the reported SAR is >0.8 W/kg, test the next highest configuration until the SAR value is ≤ 1.2 W/kg per KDB 248227 D01 v02r02 section 5.1.1 3) page 9.

Figure 10.14 Test Reduction Table – 5.6 GHz Tx1

Mode	Side	Required Channel	Tested/Reduced
802.11ac 5600 MHz	Laptop Mode	106 – 5530 MHz	Reduced[1]
		122 – 5610 MHz	Reduced[1]
		138 – 5690 MHz	Reduced[1]

Reduced[1] – When the reported SAR is ≤ 0.4 W/kg, SAR is not required for the remaining test configuration per KDB 248227 D01 v02r02 section 5.1.1 1) page 9.
Reduced[2] – When the reported SAR is >0.8 W/kg, test the next highest configuration until the SAR value is ≤ 1.2 W/kg per KDB 248227 D01 v02r02 section 5.1.1 3) page 9.

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Figure 10.15 Test Reduction Table – 5.8 GHz Tx0

Mode	Side	Required Channel	Tested/Reduced
802.11a 5800 MHz	Laptop Mode	149 – 5745 MHz	Reduced[1]
		153 – 5765 MHz	Reduced[1]
		157 – 5785 MHz	Tested
		161 – 5805 MHz	Reduced[1]
		165 – 5825 MHz	Reduced[1]
802.11n 5800 MHz	Laptop Mode	149 – 5745 MHz	Reduced[1]
		153 – 5765 MHz	Reduced[1]
		157 – 5785 MHz	Reduced[1]
		161 – 5805 MHz	Reduced[1]
		165 – 5825 MHz	Reduced[1]
802.11ac 5775 MHz	Laptop Mode	155 – 5775 MHz	Reduced[1]

Reduced[1] – When the reported SAR is ≤ 0.4 W/kg, SAR is not required for the remaining test configuration per KDB 248227 D01 v02r02 section 5.1.1 1) page 9.
Reduced[2] – When the reported SAR is >0.8 W/kg, test the next highest configuration until the SAR value is ≤ 1.2 W/kg per KDB 248227 D01 v02r02 section 5.1.1 3) page 9.

Figure 10.16 Test Reduction Table – 5.8 GHz Tx1

Mode	Side	Required Channel	Tested/Reduced
802.11a 5800 MHz	Laptop Mode	149 – 5745 MHz	Reduced[1]
		153 – 5765 MHz	Reduced[1]
		157 – 5785 MHz	Tested
		161 – 5805 MHz	Reduced[1]
		165 – 5825 MHz	Reduced[1]
802.11n 5800 MHz	Laptop Mode	149 – 5745 MHz	Reduced[1]
		153 – 5765 MHz	Reduced[1]
		157 – 5785 MHz	Reduced[1]
		161 – 5805 MHz	Reduced[1]
		165 – 5825 MHz	Reduced[1]
802.11ac 5775 MHz	Laptop Mode	155 – 5775 MHz	Reduced[1]

Reduced[1] – When the reported SAR is ≤ 0.4 W/kg, SAR is not required for the remaining test configuration per KDB 248227 D01 v02r02 section 5.1.1 1) page 9.
Reduced[2] – When the reported SAR is >0.8 W/kg, test the next highest configuration until the SAR value is ≤ 1.2 W/kg per KDB 248227 D01 v02r02 section 5.1.1 3) page 9.

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11.1 SAR Measurement Conditions for LTE Bands

11.1.1 LTE Functionality

The follow table identifies all the channel bandwidths in each frequency band supported by this device.

LTE Band Class	Bandwidth (MHz)	Frequency or Freq. Band (MHz)
4	1.4, 3, 5, 10, 15, 20	1710-1755
66	1.4, 3, 5, 10, 15, 20	1710-1780
5	1.4, 3, 5, 10	824-849
26	1.4, 3, 5, 10, 15	814-849
13	5, 10	777-787
12	1.4, 3, 5, 10	699-716
17	5, 10	704-716
14	5, 10	788-798
2	1.4, 3, 5, 10, 15, 20	1850-1910
25	1.4, 3, 5, 10, 15, 20	1850-1915
30	5, 10	3550-3700
7	5, 10, 15, 20	2500-2570
41	5, 10, 15, 20	2496-2690

11.1.2 Test Conditions

All SAR measurements for LTE were performed using the Anritsu MT8820C. A closed loop power control setting allowed the UE to transmit at the maximum output power during the SAR measurements. The Figure 11.1 table indicates all the test reduction utilized for this report.

MPR was enabled for this device. A-MPR was disabled for all SAR test measurements.

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Conducted Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
4	QPSK	1.4 MHz	6	0	19957	1710.7	23.6
					20175	1732.5	23.7
					20393	1754.3	23.6
			3	1	19957	1710.7	25.0
					20175	1732.5	24.7
					20393	1754.3	24.7
			1	0	19957	1710.7	24.5
					20175	1732.5	25.0
					20393	1754.3	24.3
			1	5	19957	1710.7	24.3
					20175	1732.5	24.6
					20393	1754.3	24.3
		3 MHz	15	0	19965	1711.5	23.9
					20175	1732.5	23.6
					20385	1753.5	23.6
			8	3	19965	1711.5	23.3
					20175	1732.5	23.9
					20385	1753.5	23.5
			1	0	19965	1711.5	24.8
					20175	1732.5	24.6
					20385	1753.5	24.6
			1	14	19965	1711.5	24.4
					20175	1732.5	24.4
					20385	1753.5	24.9
		5 MHz	25	0	19975	1712.5	23.9
					20175	1732.5	23.7
					20375	1752.5	23.7
			12	6	19975	1712.5	23.6
					20175	1732.5	23.3
					20375	1752.5	23.9
			1	0	19975	1712.5	24.8
					20175	1732.5	24.5
					20375	1752.5	24.9
			1	24	19975	1712.5	24.5
					20175	1732.5	24.4
					20375	1752.5	24.9

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Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
4	QPSK	10 MHz	50	0	20000	1715	23.8
					20175	1732.5	23.7
					20350	1750	23.8
			25	12	20000	1715	23.3
					20175	1732.5	23.7
					20350	1750	23.3
			1	0	20000	1715	24.6
					20175	1732.5	24.7
					20350	1750	25.0
			1	24	20000	1715	24.5
					20175	1732.5	24.6
					20350	1750	24.5
		15 MHz	75	0	20025	1717.5	23.9
					20175	1732.5	23.8
					20325	1747.5	23.9
			36	19	20025	1717.5	23.5
					20175	1732.5	23.4
					20325	1747.5	23.7
			1	0	20025	1717.5	24.4
					20175	1732.5	24.4
					20325	1747.5	24.5
			1	74	20025	1717.5	24.7
					20175	1732.5	25.0
					20325	1747.5	24.9
		20 MHz	100	0	20050	1720	23.6
					20175	1732.5	23.8
					20300	1745	23.4
			50	25	20050	1720	23.8
					20175	1732.5	23.6
					20300	1745	23.7
			1	0	20050	1720	24.7
					20175	1732.5	24.4
					20300	1745	24.5
			1	99	20050	1720	24.6
					20175	1732.5	24.4
					20300	1745	24.9

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Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
4	16QAM	1.4 MHz	6	0	19957	1710.7	22.3
					20175	1732.5	22.4
					20393	1754.3	22.8
			3	1	19957	1710.7	23.6
					20175	1732.5	23.8
					20393	1754.3	23.6
			1	0	19957	1710.7	23.5
					20175	1732.5	23.6
					20393	1754.3	23.9
			1	5	19957	1710.7	23.4
					20175	1732.5	23.5
					20393	1754.3	23.8
		3 MHz	15	0	19965	1711.5	22.9
					20175	1732.5	22.4
					20385	1753.5	22.5
			8	3	19965	1711.5	22.8
					20175	1732.5	22.4
					20385	1753.5	22.4
			1	0	19965	1711.5	24.0
					20175	1732.5	23.6
					20385	1753.5	23.9
			1	14	19965	1711.5	23.4
					20175	1732.5	23.8
					20385	1753.5	23.6
		5 MHz	25	0	19975	1712.5	22.6
					20175	1732.5	22.8
					20375	1752.5	22.3
			12	6	19975	1712.5	22.4
					20175	1732.5	22.4
					20375	1752.5	22.4
			1	0	19975	1712.5	23.8
					20175	1732.5	23.6
					20375	1752.5	23.5
			1	24	19975	1712.5	23.6
					20175	1732.5	23.4
					20375	1752.5	23.4

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Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
4	16QAM	10 MHz	50	0	20000	1715	22.6
					20175	1732.5	22.6
					20350	1750	22.8
			25	12	20000	1715	22.7
					20175	1732.5	22.4
					20350	1750	22.5
			1	0	20000	1715	23.5
					20175	1732.5	23.9
					20350	1750	23.9
			1	24	20000	1715	23.5
					20175	1732.5	23.5
					20350	1750	23.7
		15 MHz	75	0	20025	1717.5	22.9
					20175	1732.5	22.5
					20325	1747.5	22.7
			36	19	20025	1717.5	22.7
					20175	1732.5	22.3
					20325	1747.5	22.9
			1	0	20025	1717.5	23.5
					20175	1732.5	23.7
					20325	1747.5	23.7
			1	74	20025	1717.5	23.6
					20175	1732.5	23.6
					20325	1747.5	24.0
		20 MHz	100	0	20050	1720	22.6
					20175	1732.5	22.8
					20300	1745	22.5
			50	25	20050	1720	23.0
					20175	1732.5	22.8
					20300	1745	22.6
			1	0	20050	1720	23.9
					20175	1732.5	23.9
					20300	1745	23.6
			1	99	20050	1720	23.8
					20175	1732.5	23.8
					20300	1745	23.5

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Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
5	QPSK	1.4 MHz	6	0	20407	824.7	23.3
					20525	836.5	23.8
					20643	848.3	23.8
			3	1	20407	824.7	24.6
					20525	836.5	24.7
					20643	848.3	24.9
			1	0	20407	824.7	24.9
					20525	836.5	24.9
					20643	848.3	24.8
			1	5	20407	824.7	24.3
					20525	836.5	24.9
					20643	848.3	24.7
		3 MHz	15	0	20415	825.5	23.9
					20525	836.5	23.9
					20635	847.5	23.9
			8	3	20415	825.5	23.7
					20525	836.5	23.6
					20635	847.5	23.4
			1	0	20415	825.5	24.9
					20525	836.5	24.8
					20635	847.5	24.6
			1	14	20415	825.5	24.4
					20525	836.5	24.3
					20635	847.5	24.8
		5 MHz	25	0	20425	826.5	23.9
					20525	836.5	23.6
					20625	846.5	23.4
			12	6	20425	826.5	23.8
					20525	836.5	23.3
					20625	846.5	23.8
			1	0	20425	826.5	24.9
					20525	836.5	24.9
					20625	846.5	24.8
			1	24	20425	826.5	24.4
					20525	836.5	24.7
					20625	846.5	25.0

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Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
5	QPSK	10 MHz	50	0	20450	829	23.9
					20525	836.5	23.4
					20600	844	23.7
			25	12	20450	829	23.4
					20525	836.5	23.5
					20600	844	23.6
			1	0	20450	829	24.4
					20525	836.5	24.6
					20600	844	24.3
			1	24	20450	829	25.0
					20525	836.5	24.7
					20600	844	24.5
	16QAM	1.4 MHz	6	0	20407	824.7	22.5
					20525	836.5	22.8
					20643	848.3	22.5
			3	1	20407	824.7	23.6
					20525	836.5	23.5
					20643	848.3	23.4
			1	0	20407	824.7	23.9
					20525	836.5	23.7
					20643	848.3	23.3
			1	5	20407	824.7	23.8
					20525	836.5	23.7
					20643	848.3	23.7
		3 MHz	15	0	20415	825.5	23.0
					20525	836.5	22.6
					20635	847.5	22.8
			8	3	20415	825.5	22.8
					20525	836.5	22.3
					20635	847.5	22.9
			1	0	20415	825.5	23.9
					20525	836.5	23.9
					20635	847.5	23.6
			1	14	20415	825.5	23.6
					20525	836.5	23.6
					20635	847.5	23.3

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Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
5	16QAM	5 MHz	25	0	20425	826.5	22.9
					20525	836.5	22.7
					20625	846.5	22.5
			12	6	20425	826.5	23.0
					20525	836.5	22.6
					20625	846.5	22.7
			1	0	20425	826.5	23.7
					20525	836.5	23.9
					20625	846.5	23.4
			1	24	20425	826.5	24.0
					20525	836.5	23.7
					20625	846.5	23.4
		10 MHz	50	0	20450	829	22.7
					20525	836.5	22.9
					20600	844	22.6
			25	12	20450	829	22.4
					20525	836.5	22.4
					20600	844	22.5
			1	0	20450	829	23.8
					20525	836.5	23.4
					20600	844	23.8
			1	24	20450	829	23.9
					20525	836.5	23.4
					20600	844	23.7

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Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
13	QPSK	5 MHz	25	0	23205	779.5	23.8
					23230	782.0	24.0
					23255	784.5	23.4
			12	6	23205	779.5	23.4
					23230	782.0	24.0
					23255	784.5	23.8
			1	0	23205	779.5	24.8
					23230	782.0	24.3
					23255	784.5	24.6
			1	24	23205	779.5	24.3
					23230	782.0	24.6
					23255	784.5	24.3
		10 MHz	50	0	23230	782.0	23.8
			25	13	23230	782.0	23.4
			1	24	23230	782.0	24.5
			1	49	23230	782.0	24.8
	16QAM	5 MHz	25	0	23205	779.5	22.6
					23230	782.0	22.8
					23255	784.5	22.9
			12	6	23205	779.5	22.7
					23230	782.0	22.5
					23255	784.5	22.9
			1	0	23205	779.5	23.7
					23230	782.0	23.9
					23255	784.5	23.7
			1	24	23205	779.5	23.7
					23230	782.0	23.7
					23255	784.5	23.9
		10 MHz	50	0	23230	782.0	22.7
			25	13	23230	782.0	22.5
			1	24	23230	782.0	23.4
			1	49	23230	782.0	23.9

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Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
26	QPSK	1.4 MHz	6	0	26697	814.7	23.5
					26865	831.5	23.8
					27033	848.3	23.4
			3	1	26697	814.7	24.7
					26865	831.5	24.8
					27033	848.3	24.9
			1	0	26697	814.7	24.6
					26865	831.5	24.4
					27033	848.3	24.9
			1	5	26697	814.7	24.6
					26865	831.5	24.6
					27033	848.3	24.9
		3 MHz	15	0	26705	815.5	23.3
					26865	831.5	23.5
					27025	847.5	23.7
			8	3	26705	815.5	23.8
					26865	831.5	23.7
					27025	847.5	23.6
			1	0	26705	815.5	24.5
					26865	831.5	24.8
					27025	847.5	24.6
			1	14	26705	815.5	24.6
					26865	831.5	24.3
					27025	847.5	24.7
		5 MHz	25	0	26715	816.5	24.0
					26865	831.5	23.4
					27015	846.5	23.4
			12	6	26715	816.5	23.9
					26865	831.5	23.4
					27015	846.5	24.0
			1	0	26715	816.5	24.8
					26865	831.5	24.6
					27015	846.5	24.5
			1	24	26715	816.5	24.5
					26865	831.5	24.9
					27015	846.5	24.8

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Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
26	QPSK	10 MHz	50	0	26740	819.0	23.3
					26865	831.5	23.5
					26990	844.0	23.8
			25	12	26740	819.0	24.0
					26865	831.5	23.9
					26990	844.0	23.9
			1	0	26740	819.0	24.7
					26865	831.5	24.6
					26990	844.0	24.8
			1	24	26740	819.0	24.4
					26865	831.5	24.6
					26990	844.0	25.0
		15 MHz	75	0	24765	821.5	23.7
					26865	831.5	23.9
					26995	841.5	23.5
			36	19	24765	821.5	24.0
					26865	831.5	23.4
					26995	841.5	23.4
			1	37	24765	821.5	24.3
					26865	831.5	24.7
					26995	841.5	24.4
			1	74	24765	821.5	24.3
					26865	831.5	24.4
					26995	841.5	24.4

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Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
26	16QAM	1.4 MHz	6	0	26697	814.7	22.5
					26865	831.5	22.4
					27033	848.3	22.5
			3	1	26697	814.7	23.4
					26865	831.5	23.7
					27033	848.3	23.3
			1	0	26697	814.7	23.6
					26865	831.5	23.9
					27033	848.3	23.8
			1	5	26697	814.7	23.4
					26865	831.5	23.6
					27033	848.3	23.8
		3 MHz	15	0	26705	815.5	22.6
					26865	831.5	22.9
					27025	847.5	22.5
			8	3	26705	815.5	22.8
					26865	831.5	22.8
					27025	847.5	22.3
			1	0	26705	815.5	23.9
					26865	831.5	23.6
					27025	847.5	23.5
			1	14	26705	815.5	23.5
					26865	831.5	23.4
					27025	847.5	23.7
		5 MHz	25	0	26715	816.5	22.6
					26865	831.5	22.6
					27015	846.5	22.6
			12	6	26715	816.5	22.6
					26865	831.5	22.8
					27015	846.5	22.8
			1	0	26715	816.5	24.0
					26865	831.5	23.9
					27015	846.5	23.7
			1	24	26715	816.5	23.9
					26865	831.5	23.6
					27015	846.5	23.7

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Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
26	16QAM	10 MHz	50	0	26740	819.0	22.9
					26865	831.5	22.4
					26990	844.0	22.9
			25	12	26740	819.0	22.3
					26865	831.5	23.0
					26990	844.0	22.3
			1	0	26740	819.0	23.9
					26865	831.5	23.7
					26990	844.0	23.5
			1	24	26740	819.0	23.7
					26865	831.5	23.5
					26990	844.0	23.9
		15 MHz	75	0	24765	821.5	22.6
					26865	831.5	22.6
					26995	841.5	22.4
			36	19	24765	821.5	22.4
					26865	831.5	22.4
					26995	841.5	22.4
			1	0	24765	821.5	23.5
					26865	831.5	23.7
					26995	841.5	23.6
			1	74	24765	821.5	23.5
					26865	831.5	23.4
					26995	841.5	23.9

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Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
12	QPSK	1.4 MHz	6	0	23017	699.7	23.9
					23095	707.5	23.9
					23173	715.3	23.6
			3	1	23017	699.7	24.4
					23095	707.5	25.0
					23173	715.3	24.5
			1	0	23017	699.7	24.6
					23095	707.5	24.4
					23173	715.3	24.8
			1	5	23017	699.7	24.4
					23095	707.5	24.7
					23173	715.3	24.7
		3 MHz	15	0	23025	700.5	23.9
					23095	707.5	23.6
					23165	714.5	23.8
			8	3	23025	700.5	23.6
					23095	707.5	23.9
					23165	714.5	23.9
			1	0	23025	700.5	24.8
					23095	707.5	24.8
					23165	714.5	24.6
			1	14	23025	700.5	24.5
					23095	707.5	24.4
					23165	714.5	24.6
		5 MHz	25	0	23035	701.5	23.5
					23095	707.5	23.4
					23155	713.5	23.8
			12	6	23035	701.5	23.8
					23095	707.5	23.5
					23155	713.5	23.7
			1	0	23035	701.5	24.3
					23095	707.5	24.4
					23155	713.5	24.6
			1	24	23035	701.5	25.0
					23095	707.5	24.6
					23155	713.5	24.4

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Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
12	QPSK	10 MHz	50	0	23060	704.0	23.9
					23095	707.5	23.5
					23130	711.0	23.9
			25	12	23060	704.0	23.7
					23095	707.5	23.3
					23130	711.0	23.7
			1	12	23060	704.0	24.6
					23095	707.5	25.0
					23130	711.0	24.5
			1	24	23060	704.0	24.6
					23095	707.5	24.9
					23130	711.0	25.0
	16QAM	1.4 MHz	6	0	23017	699.7	22.7
					23095	707.5	22.3
					23173	715.3	22.7
			3	1	23017	699.7	23.5
					23095	707.5	23.9
					23173	715.3	23.8
			1	0	23017	699.7	23.3
					23095	707.5	23.6
					23173	715.3	23.5
			1	5	23017	699.7	23.3
					23095	707.5	24.0
					23173	715.3	23.6
		3 MHz	15	0	23025	700.5	22.9
					23095	707.5	22.6
					23165	714.5	22.8
			8	3	23025	700.5	22.7
					23095	707.5	22.6
					23165	714.5	22.6
			1	0	23025	700.5	23.9
					23095	707.5	23.4
					23165	714.5	23.7
			1	14	23025	700.5	23.5
					23095	707.5	23.7
					23165	714.5	23.9

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Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
12	16QAM	5 MHz	25	0	23035	701.5	22.3
					23095	707.5	22.9
					23155	713.5	22.9
			12	6	23035	701.5	22.9
					23095	707.5	23.0
					23155	713.5	22.7
			1	0	23035	701.5	23.9
					23095	707.5	23.6
					23155	713.5	23.9
			1	24	23035	701.5	23.8
					23095	707.5	23.4
					23155	713.5	23.9
		10 MHz	50	0	23060	704.0	22.5
					23095	707.5	22.7
					23130	711.0	22.5
			25	12	23060	704.0	23.0
					23095	707.5	22.5
					23130	711.0	23.0
			1	0	23060	704.0	23.4
					23095	707.5	23.4
					23130	711.0	23.5
			1	24	23060	704.0	23.6
					23095	707.5	23.5
					23130	711.0	23.5

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Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
7	QPSK	5 MHz	25	0	20775	2502.5	23.7
					21100	2535.0	23.4
					21425	2567.5	23.7
			12	6	20775	2502.5	23.3
					21100	2535.0	23.7
					21425	2567.5	23.5
			1	0	20775	2502.5	24.8
					21100	2535.0	24.8
					21425	2567.5	24.9
			1	24	20775	2502.5	24.6
					21100	2535.0	24.3
					21425	2567.5	24.9

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Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
7	QPSK	10 MHz	50	0	20800	2505.0	23.8
					21100	2535.0	24.0
					21400	2565.0	23.4
			25	12	20800	2505.0	23.4
					21100	2535.0	23.4
					21400	2565.0	23.5
			1	0	20800	2505.0	24.5
					21100	2535.0	24.4
					21400	2565.0	24.4
			1	24	20800	2505.0	24.9
					21100	2535.0	24.4
					21400	2565.0	24.6
		15 MHz	75	0	20825	2507.5	23.8
					21100	2535.0	23.7
					21375	2562.5	23.5
			36	19	20825	2507.5	23.3
					21100	2535.0	24.0
					21375	2562.5	23.3
			1	0	20825	2507.5	24.5
					21100	2535.0	24.8
					21375	2562.5	24.5
			1	74	20825	2507.5	25.0
					21100	2535.0	24.7
					21375	2562.5	25.0
		20 MHz	100	0	20850	2510.0	23.9
					21100	2535.0	23.9
					21350	2560.0	23.9
			50	25	20850	2510.0	23.8
					21100	2535.0	23.9
					21350	2560.0	23.4
			1	0	20850	2510.0	24.7
					21100	2535.0	24.9
					21350	2560.0	24.7
			1	49	20850	2510.0	24.6
					21100	2535.0	24.4
					21350	2560.0	24.5

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Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
7	16QAM	5 MHz	25	0	20775	2502.5	22.8
					21100	2535.0	22.8
					21425	2567.5	22.7
			12	6	20775	2502.5	22.4
					21100	2535.0	22.4
					21425	2567.5	22.3
			1	0	20775	2502.5	23.7
					21100	2535.0	23.9
					21425	2567.5	23.6
			1	24	20775	2502.5	23.7
					21100	2535.0	23.5
					21425	2567.5	23.8

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Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
7	16QAM	10 MHz	50	0	20800	2505.0	22.8
					21100	2535.0	22.9
					21400	2565.0	22.7
			25	12	20800	2505.0	22.4
					21100	2535.0	22.6
					21400	2565.0	22.4
			1	0	20800	2505.0	23.9
					21100	2535.0	23.5
					21400	2565.0	24.0
			1	24	20800	2505.0	23.6
					21100	2535.0	23.8
					21400	2565.0	23.9
		15 MHz	75	0	20825	2507.5	22.9
					21100	2535.0	23.0
					21375	2562.5	22.6
			36	19	20825	2507.5	22.4
					21100	2535.0	22.6
					21375	2562.5	22.3
			1	0	20825	2507.5	23.6
					21100	2535.0	23.4
					21375	2562.5	23.5
			1	74	20825	2507.5	23.6
					21100	2535.0	23.4
					21375	2562.5	23.6
		20 MHz	100	0	20850	2510.0	22.6
					21100	2535.0	22.8
					21350	2560.0	22.5
			50	25	20850	2510.0	22.6
					21100	2535.0	22.4
					21350	2560.0	22.7
			1	0	20850	2510.0	23.9
					21100	2535.0	23.8
					21350	2560.0	23.4
			1	99	20850	2510.0	23.8
					21100	2535.0	23.9
					21350	2560.0	23.8

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Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
41	QPSK	5 MHz	25	0	39675	2498.5	23.9
					40185	2549.5	23.7
					40620	2593.0	23.9
					41055	2636.5	23.6
					41565	2687.5	23.8
			12	6	39675	2498.5	23.8
					40185	2549.5	23.7
					40620	2593.0	23.8
					41055	2636.5	23.9
					41565	2687.5	24.0
			1	0	39675	2498.5	24.5
					40185	2549.5	24.6
					40620	2593.0	24.7
					41055	2636.5	24.5
					41565	2687.5	24.8
			1	12	39675	2498.5	24.8
					40185	2549.5	24.7
					40620	2593.0	24.9
					41055	2636.5	24.3
					41565	2687.5	24.8
		10 MHz	50	0	39700	2501.0	23.7
					40185	2549.5	23.6
					40620	2593.0	23.4
					41055	2636.5	23.3
					41540	2685.0	24.0
			25	12	39700	2501.0	23.6
					40185	2549.5	23.7
					40620	2593.0	23.9
					41055	2636.5	23.4
					41540	2685.0	23.5
			1	0	39700	2501.0	25.0
					40185	2549.5	24.6
					40620	2593.0	24.7
					41055	2636.5	24.5
					41540	2685.0	24.8
			1	24	39700	2501.0	24.7
					40185	2549.5	24.8
					40620	2593.0	24.7
					41055	2636.5	24.5
					41540	2685.0	24.6

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Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
41	QPSK	15 MHz	75	0	39725	2503.5	23.7
					40185	2549.5	23.6
					40620	2593.0	23.5
					41055	2636.5	23.4
					41515	2682.5	23.5
			36	19	39725	2503.5	23.4
					40185	2549.5	23.7
					40620	2593.0	23.8
					41055	2636.5	23.5
					41515	2682.5	23.5
			1	0	39725	2503.5	24.5
					40185	2549.5	24.7
					40620	2593.0	24.9
					41055	2636.5	24.8
					41515	2682.5	24.6
			1	35	39725	2503.5	24.7
					40185	2549.5	24.5
					40620	2593.0	24.7
					41055	2636.5	24.6
					41515	2682.5	24.6
		20 MHz	100	0	39750	2506.0	23.6
					40185	2549.5	23.5
					40620	2593.0	23.7
					41055	2636.5	23.7
					51490	2680.0	23.9
			50	24	39750	2506.0	23.3
					40185	2549.5	23.5
					40620	2593.0	23.7
					41055	2636.5	23.6
					51490	2680.0	23.8
			1	0	39750	2506.0	24.8
					40185	2549.5	24.7
					40620	2593.0	24.5
					41055	2636.5	24.5
					51490	2680.0	25.0
			1	49	39750	2506.0	24.5
					40185	2549.5	24.7
					40620	2593.0	24.6
					41055	2636.5	24.5
					51490	2680.0	24.6

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Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
41	16QAM	5 MHz	25	0	39675	2498.5	22.4
					40185	2549.5	22.7
					40620	2593.0	22.8
					41055	2636.5	22.3
					41565	2687.5	22.8
			12	6	39675	2498.5	22.6
					40185	2549.5	22.9
					40620	2593.0	22.3
					41055	2636.5	22.8
					41565	2687.5	22.5
			1	0	39675	2498.5	23.9
					40185	2549.5	23.9
					40620	2593.0	23.5
					41055	2636.5	23.4
					41565	2687.5	23.7
			1	12	39675	2498.5	23.7
					40185	2549.5	23.6
					40620	2593.0	23.6
					41055	2636.5	23.6
					41565	2687.5	23.8
		10 MHz	50	0	39700	2501.0	23.0
					40185	2549.5	22.7
					40620	2593.0	23.0
					41055	2636.5	22.5
					41540	2685.0	22.9
			25	12	39700	2501.0	22.8
					40185	2549.5	22.6
					40620	2593.0	22.6
					41055	2636.5	22.4
					41540	2685.0	22.5
			1	0	39700	2501.0	23.8
					40185	2549.5	23.6
					40620	2593.0	23.4
					41055	2636.5	23.4
					41540	2685.0	23.6
			1	24	39700	2501.0	23.7
					40185	2549.5	23.6
					40620	2593.0	23.4
					41055	2636.5	23.8
					41540	2685.0	23.9

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Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
41	16QAM	15 MHz	75	0	39725	2503.5	22.6
					40185	2549.5	22.6
					40620	2593.0	22.3
					41055	2636.5	22.3
					41515	2682.5	22.9
			36	19	39725	2503.5	22.4
					40185	2549.5	22.6
					40620	2593.0	22.4
					41055	2636.5	22.9
					41515	2682.5	22.5
			1	0	39725	2503.5	23.7
					40185	2549.5	23.4
					40620	2593.0	23.5
					41055	2636.5	23.9
					41515	2682.5	24.0
			1	35	39725	2503.5	24.0
					40185	2549.5	24.0
					40620	2593.0	23.4
					41055	2636.5	23.4
					41515	2682.5	23.5
		20 MHz	100	0	39750	2506.0	22.8
					40185	2549.5	22.8
					40620	2593.0	22.3
					41055	2636.5	22.4
					51490	2680.0	22.8
			50	24	39750	2506.0	22.4
					40185	2549.5	22.9
					40620	2593.0	23.0
					41055	2636.5	22.8
					51490	2680.0	22.4
			1	0	39750	2506.0	24.0
					40185	2549.5	23.4
					40620	2593.0	23.4
					41055	2636.5	23.8
					51490	2680.0	23.7
			1	49	39750	2506.0	24.0
					40185	2549.5	23.3
					40620	2593.0	23.9
					41055	2636.5	23.5
					51490	2680.0	23.7

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Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
66	QPSK	1.4 MHz	6	0	131979	1710.7	23.5
					132422	1755.0	23.4
					132665	1779.3	23.9
			3	1	131979	1710.7	24.4
					132422	1755.0	24.8
					132665	1779.3	24.3
			1	0	131979	1710.7	24.8
					132422	1755.0	24.4
					132665	1779.3	24.7
			1	5	131979	1710.7	24.5
					132422	1755.0	24.8
					132665	1779.3	24.7
		3 MHz	15	0	132987	1711.5	24.0
					132422	1755.0	23.9
					132657	1778.5	23.6
			8	3	132987	1711.5	23.8
					132422	1755.0	23.4
					132657	1778.5	23.8
			1	0	132987	1711.5	24.5
					132422	1755.0	24.4
					132657	1778.5	24.8
			1	14	132987	1711.5	24.6
					132422	1755.0	24.5
					132657	1778.5	24.3
		5 MHz	25	0	131997	1712.5	23.7
					132422	1755.0	23.9
					132646	1777.5	24.0
			12	6	131997	1712.5	23.4
					132422	1755.0	23.5
					132646	1777.5	23.7
			1	0	131997	1712.5	24.3
					132422	1755.0	25.0
					132646	1777.5	24.5
			1	24	131997	1712.5	24.4
					132422	1755.0	24.4
					132646	1777.5	24.6

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Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
66	QPSK	10 MHz	50	0	132033	1716.1	23.5
					132422	1755.0	23.8
					132621	1775.0	23.5
			25	12	132033	1716.1	23.5
					132422	1755.0	23.7
					132621	1775.0	23.9
			1	0	132033	1716.1	24.9
					132422	1755.0	24.5
					132621	1775.0	24.3
			1	24	132033	1716.1	24.8
					132422	1755.0	24.8
					132621	1775.0	25.0
		15 MHz	75	0	132047	1717.5	23.5
					132422	1755.0	23.9
					132596	1772.5	23.6
			36	19	132047	1717.5	23.4
					132422	1755.0	24.0
					132596	1772.5	23.5
			1	0	132047	1717.5	24.4
					132422	1755.0	25.0
					132596	1772.5	25.0
			1	74	132047	1717.5	24.9
					132422	1755.0	24.7
					132596	1772.5	24.4
		20 MHz	100	0	132072	1720.0	23.5
					132422	1755.0	23.4
					132571	1770.0	23.5
			50	25	132072	1720.0	23.8
					132422	1755.0	23.9
					132571	1770.0	23.7
			1	0	132072	1720.0	24.7
					132422	1755.0	24.3
					132571	1770.0	24.7
			1	99	132072	1720.0	24.5
					132422	1755.0	24.8
					132571	1770.0	24.7

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Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
66	16QAM	1.4 MHz	6	0	131979	1710.7	22.8
					132422	1755.0	22.7
					132665	1779.3	22.7
			3	1	131979	1710.7	23.7
					132422	1755.0	23.5
					132665	1779.3	23.7
			1	0	131979	1710.7	24.0
					132422	1755.0	23.5
					132665	1779.3	23.9
			1	5	131979	1710.7	24.0
					132422	1755.0	23.4
					132665	1779.3	23.6
		3 MHz	15	0	132987	1711.5	22.6
					132422	1755.0	22.6
					132657	1778.5	22.6
			8	3	132987	1711.5	22.8
					132422	1755.0	22.9
					132657	1778.5	22.8
			1	0	132987	1711.5	23.6
					132422	1755.0	23.4
					132657	1778.5	23.9
			1	14	132987	1711.5	23.6
					132422	1755.0	23.5
					132657	1778.5	24.0
		5 MHz	25	0	131997	1712.5	22.4
					132422	1755.0	22.6
					132646	1777.5	22.9
			12	6	131997	1712.5	22.8
					132422	1755.0	22.5
					132646	1777.5	22.5
			1	0	131997	1712.5	24.0
					132422	1755.0	23.9
					132646	1777.5	23.9
			1	24	131997	1712.5	23.5
					132422	1755.0	23.3
					132646	1777.5	23.7

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Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
66	16QAM	10 MHz	50	0	132033	1716.1	22.5
					132422	1755.0	23.0
					132621	1775.0	22.9
			25	12	132033	1716.1	22.9
					132422	1755.0	22.7
					132621	1775.0	22.6
			1	0	132033	1716.1	23.8
					132422	1755.0	23.9
					132621	1775.0	23.9
			1	24	132033	1716.1	23.8
					132422	1755.0	23.5
					132621	1775.0	23.9
		15 MHz	75	0	132047	1717.5	22.9
					132422	1755.0	22.8
					132596	1772.5	22.6
			36	19	132047	1717.5	22.5
					132422	1755.0	22.6
					132596	1772.5	22.8
			1	0	132047	1717.5	23.6
					132422	1755.0	23.9
					132596	1772.5	23.7
			1	74	132047	1717.5	23.4
					132422	1755.0	23.5
					132596	1772.5	23.7
		20 MHz	100	0	132072	1720.0	22.4
					132422	1755.0	22.8
					132571	1770.0	22.9
			50	25	132072	1720.0	22.8
					132422	1755.0	22.9
					132571	1770.0	22.6
			1	0	132072	1720.0	23.9
					132422	1755.0	23.6
					132571	1770.0	23.7
			1	99	132072	1720.0	23.4
					132422	1755.0	23.4
					132571	1770.0	23.6

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Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
2	QPSK	1.4 MHz	6	0	18607	1850.7	23.3
					18900	1880.0	23.7
					19193	1909.3	23.5
			3	1	18607	1850.7	25.0
					18900	1880.0	24.9
					19193	1909.3	24.8
			1	0	18607	1850.7	24.4
					18900	1880.0	24.6
					19193	1909.3	24.9
			1	5	18607	1850.7	24.7
					18900	1880.0	24.6
					19193	1909.3	24.9
		3 MHz	15	0	18615	1851.5	23.5
					18900	1880.0	23.3
					19185	1908.5	23.6
			8	3	18615	1851.5	23.9
					18900	1880.0	23.5
					19185	1908.5	23.4
			1	0	18615	1851.5	24.4
					18900	1880.0	24.5
					19185	1908.5	24.6
			1	14	18615	1851.5	24.9
					18900	1880.0	24.5
					19185	1908.5	24.7
		5 MHz	25	0	18625	1852.5	23.7
					18900	1880.0	23.5
					19175	1907.5	24.0
			12	6	18625	1852.5	23.4
					18900	1880.0	23.9
					19175	1907.5	23.7
			1	0	18625	1852.5	24.6
					18900	1880.0	25.0
					19175	1907.5	24.7
			1	24	18625	1852.5	24.5
					18900	1880.0	24.5
					19175	1907.5	24.8

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Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
2	QPSK	10 MHz	50	0	18650	1855.0	23.3
					18900	1880.0	23.9
					19150	1905.0	23.3
			25	12	18650	1855.0	23.3
					18900	1880.0	23.8
					19150	1905.0	23.3
			1	0	18650	1855.0	24.4
					18900	1880.0	24.6
					19150	1905.0	24.3
			1	24	18650	1855.0	24.8
					18900	1880.0	24.7
					19150	1905.0	25.0
		15 MHz	75	0	18675	1857.5	24.0
					18900	1880.0	23.5
					19125	1902.5	23.4
			36	19	18675	1857.5	23.9
					18900	1880.0	23.3
					19125	1902.5	23.5
			1	0	18675	1857.5	24.5
					18900	1880.0	24.6
					19125	1902.5	24.8
			1	74	18675	1857.5	24.8
					18900	1880.0	25.0
					19125	1902.5	24.4
		20 MHz	100	0	18700	1860.0	23.5
					18900	1880.0	23.8
					19100	1900.0	23.8
			50	25	18700	1860.0	23.8
					18900	1880.0	23.7
					19100	1900.0	23.8
			1	0	18700	1860.0	24.5
					18900	1880.0	24.3
					19100	1900.0	24.7
			1	49	18700	1860.0	24.6
					18900	1880.0	24.6
					19100	1900.0	24.8

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Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
2	16QAM	1.4 MHz	6	0	18607	1850.7	22.7
					18900	1880.0	22.5
					19193	1909.3	22.7
			3	1	18607	1850.7	23.7
					18900	1880.0	23.7
					19193	1909.3	23.7
			1	0	18607	1850.7	23.3
					18900	1880.0	23.5
					19193	1909.3	23.4
			1	5	18607	1850.7	24.0
					18900	1880.0	23.5
					19193	1909.3	23.9
		3 MHz	15	0	18615	1851.5	22.4
					18900	1880.0	22.6
					19185	1908.5	22.5
			8	3	18615	1851.5	22.5
					18900	1880.0	22.5
					19185	1908.5	22.9
			1	0	18615	1851.5	23.7
					18900	1880.0	23.5
					19185	1908.5	23.7
			1	14	18615	1851.5	23.6
					18900	1880.0	23.9
					19185	1908.5	23.3
		5 MHz	25	0	18625	1852.5	22.5
					18900	1880.0	23.0
					19175	1907.5	22.8
			12	6	18625	1852.5	22.4
					18900	1880.0	22.8
					19175	1907.5	22.9
			1	0	18625	1852.5	23.6
					18900	1880.0	23.5
					19175	1907.5	23.8
			1	24	18625	1852.5	23.4
					18900	1880.0	23.6
					19175	1907.5	23.7

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Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
2	16QAM	10 MHz	50	0	18650	1855.0	22.4
					18900	1880.0	22.8
					19150	1905.0	22.5
			25	12	18650	1855.0	22.9
					18900	1880.0	22.6
					19150	1905.0	22.5
			1	0	18650	1855.0	24.0
					18900	1880.0	23.7
					19150	1905.0	23.8
			1	24	18650	1855.0	23.8
					18900	1880.0	23.5
					19150	1905.0	23.7
		15 MHz	75	0	18675	1857.5	22.7
					18900	1880.0	22.9
					19125	1902.5	22.7
			36	19	18675	1857.5	22.9
					18900	1880.0	22.5
					19125	1902.5	22.8
			1	0	18675	1857.5	23.6
					18900	1880.0	23.6
					19125	1902.5	23.7
			1	74	18675	1857.5	23.3
					18900	1880.0	23.4
					19125	1902.5	23.6
		20 MHz	100	0	18700	1860.0	23.0
					18900	1880.0	22.7
					19100	1900.0	22.8
			50	25	18700	1860.0	22.9
					18900	1880.0	22.9
					19100	1900.0	22.4
			1	0	18700	1860.0	23.6
					18900	1880.0	24.0
					19100	1900.0	23.4
			1	99	18700	1860.0	23.7
					18900	1880.0	23.7
					19100	1900.0	23.5

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Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
30	QPSK	5 MHz	25	0	27685	2307.5	23.5
					27710	2310.0	23.4
					27735	2312.5	23.7
			12	6	27685	2307.5	24.0
					27710	2310.0	23.6
					27735	2312.5	23.6
			1	0	27685	2307.5	24.4
					27710	2310.0	24.6
					27735	2312.5	24.4
			1	24	27685	2307.5	24.9
					27710	2310.0	24.9
					27735	2312.5	24.5
		10 MHz	50	0	27710	2310.0	23.5
			25	13	27710	2310.0	23.9
			1	24	27710	2310.0	24.4
			1	49	27710	2310.0	25.0
	16QAM	5 MHz	25	0	27685	2307.5	22.5
					27710	2310.0	22.6
					27735	2312.5	23.0
			12	6	27685	2307.5	23.0
					27710	2310.0	23.0
					27735	2312.5	22.8
			1	0	27685	2307.5	24.0
					27710	2310.0	23.4
					27735	2312.5	23.7
			1	24	27685	2307.5	23.7
					27710	2310.0	23.9
					27735	2312.5	23.3
		10 MHz	50	0	27710	2310.0	22.7
			25	13	27710	2310.0	22.4
			1	24	27710	2310.0	23.6
			1	49	27710	2310.0	23.8

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Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
14	QPSK	5 MHz	25	0	23305	790.5	23.5
					23330	793.0	23.6
					23355	795.5	23.9
			12	6	23305	790.5	23.7
					23330	793.0	23.7
					23355	795.5	23.9
			1	0	23305	790.5	24.3
					23330	793.0	25.0
					23355	795.5	24.5
			1	24	23305	790.5	24.7
					23330	793.0	24.6
					23355	795.5	24.9
		10 MHz	50	0	23330	793.0	23.5
			25	13	23330	793.0	23.9
			1	24	23330	793.0	24.5
			1	49	23330	793.0	24.8
	16QAM	5 MHz	25	0	23305	790.5	22.4
					23330	793.0	22.6
					23355	795.5	22.5
			12	6	23305	790.5	22.8
					23330	793.0	22.6
					23355	795.5	22.5
			1	0	23305	790.5	23.6
					23330	793.0	23.4
					23355	795.5	23.4
			1	24	23305	790.5	24.0
					23330	793.0	24.0
					23355	795.5	23.9
		10 MHz	50	0	23330	793.0	22.6
			25	13	23330	793.0	22.8
			1	24	23330	793.0	23.8
			1	49	23330	793.0	23.9

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Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
17	QPSK	5 MHz	25	0	23755	706.5	23.7
					23790	710.0	23.4
					23825	713.5	23.6
			12	6	23755	706.5	24.0
					23790	710.0	23.3
					23825	713.5	23.7
			1	0	23755	706.5	24.7
					23790	710.0	24.9
					23825	713.5	24.8
			1	24	23755	706.5	24.6
					23790	710.0	24.4
					23825	713.5	24.6
		10 MHz	50	0	23780	709.0	23.4
					23790	710.0	23.4
					23800	711.0	23.6
			25	12	23780	709.0	23.7
					23790	710.0	23.7
					23800	711.0	23.7
			1	12	23780	709.0	24.3
					23790	710.0	24.7
					23800	711.0	24.3
			1	24	23780	709.0	24.7
					23790	710.0	24.6
					23800	711.0	24.4

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Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
17	16QAM	5 MHz	25	0	23755	706.5	23.0
					23790	710.0	22.8
					23825	713.5	22.7
			12	6	23755	706.5	22.9
					23790	710.0	22.4
					23825	713.5	22.9
			1	0	23755	706.5	23.8
					23790	710.0	23.7
					23825	713.5	23.4
			1	24	23755	706.5	23.8
					23790	710.0	23.5
					23825	713.5	23.5
		10 MHz	50	0	23780	709.0	22.4
					23790	710.0	22.3
					23800	711.0	22.7
			25	12	23780	709.0	22.9
					23790	710.0	22.4
					23800	711.0	22.3
			1	12	23780	709.0	23.7
					23790	710.0	23.9
					23800	711.0	23.9
			1	24	23780	709.0	23.6
					23790	710.0	23.3
					23800	711.0	23.9

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Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
25	QPSK	1.4 MHz	6	0	26047	1850.7	23.3
					26365	1882.5	23.7
					26683	1914.3	23.8
			3	1	26047	1850.7	24.6
					26365	1882.5	24.8
					26683	1914.3	24.4
			1	0	26047	1850.7	24.8
					26365	1882.5	24.8
					26683	1914.3	24.3
			1	5	26047	1850.7	24.7
					26365	1882.5	24.3
					26683	1914.3	25.0
		3 MHz	15	0	26055	1851.5	23.9
					26365	1882.5	23.6
					26675	1913.5	23.6
			8	3	26055	1851.5	23.3
					26365	1882.5	23.4
					26675	1913.5	23.9
			1	0	26055	1851.5	24.8
					26365	1882.5	24.5
					26675	1913.5	24.7
			1	14	26055	1851.5	24.3
					26365	1882.5	24.9
					26675	1913.5	24.4
		5 MHz	25	0	26065	1852.5	23.5
					26365	1882.5	23.9
					26665	1912.5	23.8
			12	6	26065	1852.5	23.3
					26365	1882.5	23.6
					26665	1912.5	23.9
			1	0	26065	1852.5	24.5
					26365	1882.5	24.4
					26665	1912.5	24.8
			1	24	26065	1852.5	24.3
					26365	1882.5	24.5
					26665	1912.5	24.5

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Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
25	QPSK	10 MHz	50	0	26090	1855.0	23.4
					26365	1882.5	24.0
					26640	1910.0	23.8
			25	12	26090	1855.0	24.0
					26365	1882.5	24.0
					26640	1910.0	23.3
			1	0	26090	1855.0	24.5
					26365	1882.5	24.9
					26640	1910.0	24.9
			1	24	26090	1855.0	24.5
					26365	1882.5	24.6
					26640	1910.0	24.5
		15 MHz	75	0	26115	1857.5	24.0
					26365	1882.5	24.0
					26615	1907.5	23.4
			36	19	26115	1857.5	23.4
					26365	1882.5	23.4
					26615	1907.5	23.6
			1	0	26115	1857.5	24.9
					26365	1882.5	24.7
					26615	1907.5	24.5
			1	74	26115	1857.5	24.5
					26365	1882.5	24.7
					26615	1907.5	24.7
		20 MHz	100	0	26140	1860.0	23.3
					26365	1882.5	23.5
					26590	1905.0	23.6
			50	25	26140	1860.0	23.8
					26365	1882.5	23.6
					26590	1905.0	23.7
			1	0	26140	1860.0	24.4
					26365	1882.5	24.5
					26590	1905.0	24.9
			1	49	26140	1860.0	24.6
					26365	1882.5	24.9
					26590	1905.0	24.5

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Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
25	16QAM	1.4 MHz	6	0	26047	1850.7	22.3
					26365	1882.5	22.4
					26683	1914.3	22.6
			3	1	26047	1850.7	23.3
					26365	1882.5	23.5
					26683	1914.3	23.5
			1	0	26047	1850.7	23.5
					26365	1882.5	23.5
					26683	1914.3	23.9
			1	5	26047	1850.7	23.6
					26365	1882.5	23.7
					26683	1914.3	23.9
		3 MHz	15	0	26055	1851.5	22.8
					26365	1882.5	22.8
					26675	1913.5	22.8
			8	3	26055	1851.5	22.9
					26365	1882.5	22.4
					26675	1913.5	22.4
			1	0	26055	1851.5	23.4
					26365	1882.5	23.6
					26675	1913.5	23.7
			1	14	26055	1851.5	23.9
					26365	1882.5	23.8
					26675	1913.5	23.3
		5 MHz	25	0	26065	1852.5	22.7
					26365	1882.5	22.6
					26665	1912.5	22.6
			12	6	26065	1852.5	22.4
					26365	1882.5	22.4
					26665	1912.5	22.5
			1	0	26065	1852.5	23.3
					26365	1882.5	23.3
					26665	1912.5	23.5
			1	24	26065	1852.5	23.7
					26365	1882.5	23.8
					26665	1912.5	24.0

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Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
25	16QAM	10 MHz	50	0	26090	1855.0	22.8
					26365	1882.5	22.3
					26640	1910.0	22.4
			25	12	26090	1855.0	22.8
					26365	1882.5	22.5
					26640	1910.0	22.5
			1	0	26090	1855.0	23.5
					26365	1882.5	23.8
					26640	1910.0	23.6
			1	24	26090	1855.0	23.4
					26365	1882.5	23.8
					26640	1910.0	23.7
		15 MHz	75	0	26115	1857.5	22.4
					26365	1882.5	22.8
					26615	1907.5	22.5
			36	19	26115	1857.5	22.5
					26365	1882.5	22.6
					26615	1907.5	22.9
			1	0	26115	1857.5	23.6
					26365	1882.5	23.5
					26615	1907.5	23.5
			1	74	26115	1857.5	23.7
					26365	1882.5	23.9
					26615	1907.5	23.4
		20 MHz	100	0	26140	1860.0	22.6
					26365	1882.5	22.4
					26590	1905.0	23.0
			50	25	26140	1860.0	22.3
					26365	1882.5	23.0
					26590	1905.0	22.5
			1	0	26140	1860.0	23.6
					26365	1882.5	23.5
					26590	1905.0	23.4
			1	99	26140	1860.0	23.4
					26365	1882.5	23.3
					26590	1905.0	24.0

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Table 11.1 Test Reduction Table – LTE

Band/ Frequency (MHz)	Side/ Antenna	Required Test Channel	Bandwidth	Modulation	RB Allocation	RB Offset	Tested/ Reduced
Band 25 1850-1915 MHz	Top, Bottom, Left, Right/All	26140	20 MHz	QPSK	50	0	Reduced[6]
		26365					Tested
		26590					Reduced[6]
		26140			100	0	Reduced[1]
		26365					Reduced[1]
		26590					Reduced[1]
		26140			1	49	Reduced[2]
		26365					Tested
		26590					Reduced[2]
		26140				99	Reduced[2]
		26365					Reduced[2]
		26590					Reduced[2]
		26140		16QAM	50	25	Reduced[3]
		26365					Reduced[3]
		26590					Reduced[3]
		26140			100	0	Reduced[1]
		26365					Reduced[1]
		26590					Reduced[1]
		26140			1	49	Reduced[4]
		26365					Reduced[4]
		26590					Reduced[4]
		26140				99	Reduced[4]
		26365					Reduced[4]
		26590					Reduced[4]
		All lower bandwidths (15 MHz, 10 MHz, 5 MHz, 3 MHz, 1.4 MHz)					Reduced[5]
	Front, Back/T1,T3, T4,B1,B2,B3, B4	26140	20 MHz	QPSK	50	25	Reduced[6]
		26365					Tested
		26590					Reduced[6]
		26140			100	0	Reduced[1]
		26365					Reduced[1]
		26590					Reduced[1]
		26140			1	49	Reduced[2]
		26365					Tested
		26590					Reduced[2]
		26140				99	Reduced[2]
		26365					Reduced[2]
		26590					Reduced[2]
		26140		16QAM	50	25	Reduced[3]
		26365					Reduced[3]
		26590					Reduced[3]
		26140			100	0	Reduced[1]
		26365					Reduced[1]
		26590					Reduced[1]
		26140			1	49	Reduced[4]
		26365					Reduced[4]
		26590					Reduced[4]
		26140				99	Reduced[4]
		26365					Reduced[4]
		26590					Reduced[4]
		All lower bandwidths (15 MHz, 10 MHz, 5 MHz, 3 MHz, 1.4 MHz)					Reduced[5]

Reduced[1] – If the SAR value in the 50% RB testing is less than 1.45 W/kg, the 100% RB testing is reduced per KDB941225 D05 3) A) I) page 4.

Reduced[2] - If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 3) B) I) page 4.

Reduced[3] - If the SAR value in the 50% RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) A) I) page 4.

Reduced[4]- If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) B) I) page 5.

Reduced[5]- If the conducted power is within ±0.5 dB, all testing where the SAR value is less than 1.45 W/kg is reduced per KDB941225 D05 5) B) I) page 5.

Reduced[6]- If the SAR value measured on the middle channel is less than 0.8 W/kg and the conducted power is within ±0.5 dB, the remaining channels are reduced per KDB941225 D05 page 4 footnote 2.

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Band/ Frequency (MHz)	Side/ Antenna	Required Test Channel	Bandwidth	Modulation	RB Allocation	RB Offset	Tested/ Reduced
Band 25 1850-1915 MHz	Front, Back/ T2	26140	20 MHz	QPSK	50	0	Tested
		26365					Tested
		26590					Tested
		26140			100	0	Reduced[1]
		26365					Tested
		26590					Reduced[1]
		26140			1	49	Tested
		26365					Tested
		26590					Tested
		26140				99	Reduced[2]
		26365					Reduced[2]
		26590					Reduced[2]
		26140		16QAM	50	25	Reduced[3]
		26365					Reduced[3]
		26590					Reduced[3]
		26140			100	0	Reduced[1]
		26365					Reduced[1]
		26590					Reduced[1]
		26140			1	49	Reduced[4]
		26365					Reduced[4]
		26590					Reduced[4]
		26140				99	Reduced[4]
		26365					Reduced[4]
		26590					Reduced[4]
		All lower bandwidths (15 MHz, 10 MHz, 5 MHz, 3 MHz, 1.4 MHz)					Reduced[5]

Reduced[1] – If the SAR value in the 50% RB testing is less than 1.45 W/kg, the 100% RB testing is reduced per KDB941225 D05 3) A) I) page 4.

Reduced[2] - If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 3) B) I) page 4.

Reduced[3] - If the SAR value in the 50% RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) A) I) page 4.

Reduced[4]- If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) B) I) page 5.

Reduced[5]- If the conducted power is within ±0.5 dB, all testing where the SAR value is less than 1.45 W/kg is reduced per KDB941225 D05 5) B) I) page 5.

Reduced[6]- If the SAR value measured on the middle channel is less than 0.8 W/kg and the conducted power is within ±0.5 dB, the remaining channels are reduced per KDB941225 D05 page 4 footnote 2.

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Band/ Frequency (MHz)	Side/ Antenna	Required Test Channel	Bandwidth	Modulation	RB Allocation	RB Offset	Tested/ Reduced
Band 66 1710-1780 MHz	Top, Bottom, Left, Right/All	132072	20 MHz	QPSK	50	0	Reduced[6]
		132322					Tested
		132572					Reduced[6]
		132072			100	0	Reduced[1]
		132322					Reduced[1]
		132572					Reduced[1]
		132072			1	49	Reduced[2]
		132322					Tested
		132572					Reduced[2]
		132072				99	Reduced[2]
		132322					Reduced[2]
		132572					Reduced[2]
		132072		16QAM	50	25	Reduced[3]
		132322					Reduced[3]
		132572					Reduced[3]
		132072			100	0	Reduced[1]
		132322					Reduced[1]
		132572					Reduced[1]
		132072			1	49	Reduced[4]
		132322					Reduced[4]
		132572					Reduced[4]
		132072				99	Reduced[4]
		132322					Reduced[4]
		132572					Reduced[4]
		All lower bandwidths (15 MHz, 10 MHz, 5 MHz, 3 MHz, 1.4 MHz)					Reduced[5]
	Front, Back/T1,T3, B1,B2,B3,B4	132072	20 MHz	QPSK	50	25	Reduced[6]
		132322					Tested
		132572					Reduced[6]
		132072			100	0	Reduced[1]
		132322					Reduced[1]
		132572					Reduced[1]
		132072			1	49	Reduced[2]
		132322					Tested
		132572					Reduced[2]
		132072				99	Reduced[2]
		132322					Reduced[2]
		132572					Reduced[2]
		132072		16QAM	50	25	Reduced[3]
		132322					Reduced[3]
		132572					Reduced[3]
		132072			100	0	Reduced[1]
		132322					Reduced[1]
		132572					Reduced[1]
		132072			1	49	Reduced[4]
		132322					Reduced[4]
		132572					Reduced[4]
		132072				99	Reduced[4]
		132322					Reduced[4]
		132572					Reduced[4]
		All lower bandwidths (15 MHz, 10 MHz, 5 MHz, 3 MHz, 1.4 MHz)					Reduced[5]

Reduced[1] – If the SAR value in the 50% RB testing is less than 1.45 W/kg, the 100% RB testing is reduced per KDB941225 D05 3) A) I) page 4.

Reduced[2] - If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 3) B) I) page 4.

Reduced[3] - If the SAR value in the 50% RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) A) I) page 4.

Reduced[4]- If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) B) I) page 5.

Reduced[5]- If the conducted power is within ±0.5 dB, all testing where the SAR value is less than 1.45 W/kg is reduced per KDB941225 D05 5) B) I) page 5.

Reduced[6]- If the SAR value measured on the middle channel is less than 0.8 W/kg and the conducted power is within ±0.5 dB, the remaining channels are reduced per KDB941225 D05 page 4 footnote 2.

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Band/ Frequency (MHz)	Side/ Antenna	Required Test Channel	Bandwidth	Modulation	RB Allocation	RB Offset	Tested/ Reduced
Band 66 1710-1780 MHz	Front, Back/ T2,T4	132072	20 MHz	QPSK	50	0	Tested
		132322					Tested
		132572					Tested
		132072			100	0	Reduced[1]
		132322					Tested
		132572					Reduced[1]
		132072			1	49	Tested
		132322					Tested
		132572					Tested
		132072				99	Reduced[2]
		132322					Reduced[2]
		132572					Reduced[2]
		132072		16QAM	50	25	Reduced[3]
		132322					Reduced[3]
		132572					Reduced[3]
		132072			100	0	Reduced[1]
		132322					Reduced[1]
		132572					Reduced[1]
		132072			1	49	Reduced[4]
		132322					Reduced[4]
		132572					Reduced[4]
		132072				99	Reduced[4]
		132322					Reduced[4]
		132572					Reduced[4]
		All lower bandwidths (15 MHz, 10 MHz, 5 MHz, 3 MHz, 1.4 MHz)					Reduced[5]

Reduced[1] – If the SAR value in the 50% RB testing is less than 1.45 W/kg, the 100% RB testing is reduced per KDB941225 D05 3) A) I) page 4.

Reduced[2] - If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 3) B) I) page 4.

Reduced[3] - If the SAR value in the 50% RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) A) I) page 4.

Reduced[4]- If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) B) I) page 5.

Reduced[5]- If the conducted power is within ±0.5 dB, all testing where the SAR value is less than 1.45 W/kg is reduced per KDB941225 D05 5) B) I) page 5.

Reduced[6]- If the SAR value measured on the middle channel is less than 0.8 W/kg and the conducted power is within ±0.5 dB, the remaining channels are reduced per KDB941225 D05 page 4 footnote 2.

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Band/ Frequency (MHz)	Side/ Antenna	Required Test Channel	Bandwidth	Modulation	RB Allocation	RB Offset	Tested/ Reduced
Band 26 814-849 MHz	Top, Bottom, Left, Right/All	24765	15 MHz	QPSK	36	0	Reduced[6]
		26865					Tested
		26995					Reduced[6]
		24765			75	19	Reduced[1]
		26865					Reduced[1]
		26995					Reduced[1]
		24765			1	37	Reduced[2]
		26865					Tested
		26995					Reduced[2]
		24765				74	Reduced[2]
		26865					Reduced[2]
		26995					Reduced[2]
		24765		16QAM	36	0	Reduced[3]
		26865					Reduced[3]
		26995					Reduced[3]
		24765			75	19	Reduced[1]
		26865					Reduced[1]
		26995					Reduced[1]
		24765			1	37	Reduced[4]
		26865					Reduced[4]
		26995					Reduced[4]
		24765				74	Reduced[4]
		26865					Reduced[4]
		26995					Reduced[4]
		All lower bandwidths (10 MHz, 5 MHz, 3 MHz, 1.4 MHz)					Reduced[5]
	Front, Back/All	24765	15 MHz	QPSK	36	0	Reduced[6]
		26865					Tested
		26995					Reduced[6]
		24765			75	19	Reduced[1]
		26865					Reduced[1]
		26995					Reduced[1]
		24765			1	37	Reduced[2]
		26865					Tested
		26995					Reduced[2]
		24765				74	Reduced[2]
		26865					Reduced[2]
		26995					Reduced[2]
		24765		16QAM	36	0	Reduced[3]
		26865					Reduced[3]
		26995					Reduced[3]
		24765			75	19	Reduced[1]
		26865					Reduced[1]
		26995					Reduced[1]
		24765			1	37	Reduced[4]
		26865					Reduced[4]
		26995					Reduced[4]
		24765				74	Reduced[4]
		26865					Reduced[4]
		26995					Reduced[4]
		All lower bandwidths (10 MHz, 5 MHz, 3 MHz, 1.4 MHz)					Reduced[5]

Reduced[1] – If the SAR value in the 50% RB testing is less than 1.45 W/kg, the 100% RB testing is reduced per KDB941225 D05 3) A) I) page 4.

Reduced[2] - If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 3) B) I) page 4.

Reduced[3] - If the SAR value in the 50% RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) A) I) page 4.

Reduced[4]- If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) B) I) page 5.

Reduced[5]- If the conducted power is within ±0.5 dB, all testing where the SAR value is less than 1.45 W/kg is reduced per KDB941225 D05 5) B) I) page 5.

Reduced[6]- If the SAR value measured on the middle channel is less than 0.8 W/kg and the conducted power is within ±0.5 dB, the remaining channels are reduced per KDB941225 D05 page 4 footnote 2.

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Band/ Frequency (MHz)	Side/ Antenna	Required Test Channel	Bandwidth	Modulation	RB Allocation	RB Offset	Tested/ Reduced
Band 7 2500-2570 MHz	Top, Bottom, /All	20850	20 MHz	QPSK	50	0	Tested
		21100					Tested
		21350					Tested
		20850			100	0	Reduced[1]
		21100					Tested
		21350					Reduced[1]
		20850			1	49	Tested
		21100					Tested
		21350					Tested
		20850				99	Reduced[2]
		21100					Reduced[2]
		21350					Reduced[2]
		20850		16QAM	50	25	Reduced[3]
		21100					Reduced[3]
		21350					Reduced[3]
		20850			100	0	Reduced[1]
		21100					Reduced[1]
		21350					Reduced[1]
		20850			1	49	Reduced[4]
		21100					Reduced[4]
		21350					Reduced[4]
		20850				99	Reduced[4]
		21100					Reduced[4]
		21350					Reduced[4]
		All lower bandwidths (15 MHz, 10 MHz, 5 MHz)					Reduced[5]
	Left, Right/All	20850	20 MHz	QPSK	50	25	Reduced[6]
		21100					Tested
		21350					Reduced[6]
		20850			100	0	Reduced[1]
		21100					Reduced[1]
		21350					Reduced[1]
		20850			1	49	Reduced[2]
		21100					Tested
		21350					Reduced[2]
		20850				99	Reduced[2]
		21100					Reduced[2]
		21350					Reduced[2]
		20850		16QAM	50	25	Reduced[3]
		21100					Reduced[3]
		21350					Reduced[3]
		20850			100	0	Reduced[1]
		21100					Reduced[1]
		21350					Reduced[1]
		20850			1	49	Reduced[4]
		21100					Reduced[4]
		21350					Reduced[4]
		20850				99	Reduced[4]
		21100					Reduced[4]
		21350					Reduced[4]
		All lower bandwidths (15 MHz, 10 MHz, 5 MHz)					Reduced[5]

Reduced[1] – If the SAR value in the 50% RB testing is less than 1.45 W/kg, the 100% RB testing is reduced per KDB941225 D05 3) A) I) page 4.

Reduced[2] - If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 3) B) I) page 4.

Reduced[3] - If the SAR value in the 50% RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) A) I) page 4.

Reduced[4]- If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) B) I) page 5.

Reduced[5]- If the conducted power is within ±0.5 dB, all testing where the SAR value is less than 1.45 W/kg is reduced per KDB941225 D05 5) B) I) page 5.

Reduced[6]- If the SAR value measured on the middle channel is less than 0.8 W/kg and the conducted power is within ±0.5 dB, the remaining channels are reduced per KDB941225 D05 page 4 footnote 2.

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Band/ Frequency (MHz)	Side/ Antenna	Required Test Channel	Bandwidth	Modulation	RB Allocation	RB Offset	Tested/ Reduced
Band 7 2500-2570 MHz	Front, Back /T1,T4	20850	20 MHz	QPSK	50	0	Reduced[1]
		21100					Tested
		21350					Reduced[1]
		20850			100	0	Reduced[1]
		21100					Tested
		21350					Reduced[1]
		20850			1	49	Tested
		21100					Tested
		21350					Tested
		20850				99	Reduced[2]
		21100					Reduced[2]
		21350					Reduced[2]
		20850		16QAM	50	25	Reduced[3]
		21100					Reduced[3]
		21350					Reduced[3]
		20850			100	0	Reduced[1]
		21100					Reduced[1]
		21350					Reduced[1]
		20850			1	49	Reduced[4]
		21100					Reduced[4]
		21350					Reduced[4]
		20850				99	Reduced[4]
		21100					Reduced[4]
		21350					Reduced[4]
		All lower bandwidths (15 MHz, 10 MHz, 5 MHz)					Reduced[5]
	Front, Back /T2,T3,B1, B2,B3	20850	20 MHz	QPSK	50	25	Reduced[6]
		21100					Tested
		21350					Reduced[6]
		20850			100	0	Reduced[1]
		21100					Reduced[1]
		21350					Reduced[1]
		20850			1	49	Reduced[2]
		21100					Tested
		21350					Reduced[2]
		20850				99	Reduced[2]
		21100					Reduced[2]
		21350					Reduced[2]
		20850		16QAM	50	25	Reduced[3]
		21100					Reduced[3]
		21350					Reduced[3]
		20850			100	0	Reduced[1]
		21100					Reduced[1]
		21350					Reduced[1]
		20850			1	49	Reduced[4]
		21100					Reduced[4]
		21350					Reduced[4]
		20850				99	Reduced[4]
		21100					Reduced[4]
		21350					Reduced[4]
		All lower bandwidths (15 MHz, 10 MHz, 5 MHz)					Reduced[5]

Reduced[1] – If the SAR value in the 50% RB testing is less than 1.45 W/kg, the 100% RB testing is reduced per KDB941225 D05 3) A) I) page 4.

Reduced[2] - If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 3) B) I) page 4.

Reduced[3] - If the SAR value in the 50% RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) A) I) page 4.

Reduced[4]- If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) B) I) page 5.

Reduced[5]- If the conducted power is within ±0.5 dB, all testing where the SAR value is less than 1.45 W/kg is reduced per KDB941225 D05 5) B) I) page 5.

Reduced[6]- If the SAR value measured on the middle channel is less than 0.8 W/kg and the conducted power is within ±0.5 dB, the remaining channels are reduced per KDB941225 D05 page 4 footnote 2.

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Band/ Frequency (MHz)	Side/ Antenna	Required Test Channel	Bandwidth	Modulation	RB Allocation	RB Offset	Tested/ Reduced
Band 7 2500-2570 MHz	Front, Back/ B4	20850	20 MHz	QPSK	50	0	Tested
		21100					Tested
		21350					Tested
		20850			100	0	Reduced[1]
		21100					Tested
		21350					Reduced[1]
		20850			1	49	Tested
		21100					Tested
		21350					Tested
		20850				99	Reduced[2]
		21100					Reduced[2]
		21350					Reduced[2]
		20850		16QAM	50	25	Reduced[3]
		21100					Reduced[3]
		21350					Reduced[3]
		20850			100	0	Reduced[1]
		21100					Reduced[1]
		21350					Reduced[1]
		20850			1	49	Reduced[4]
		21100					Reduced[4]
		21350					Reduced[4]
		20850				99	Reduced[4]
		21100					Reduced[4]
		21350					Reduced[4]
		All lower bandwidths (15 MHz, 10 MHz, 5 MHz)					Reduced[5]

Reduced[1] – If the SAR value in the 50% RB testing is less than 1.45 W/kg, the 100% RB testing is reduced per KDB941225 D05 3) A) I) page 4.

Reduced[2] - If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 3) B) I) page 4.

Reduced[3] - If the SAR value in the 50% RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) A) I) page 4.

Reduced[4]- If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) B) I) page 5.

Reduced[5]- If the conducted power is within ±0.5 dB, all testing where the SAR value is less than 1.45 W/kg is reduced per KDB941225 D05 5) B) I) page 5.

Reduced[6]- If the SAR value measured on the middle channel is less than 0.8 W/kg and the conducted power is within ±0.5 dB, the remaining channels are reduced per KDB941225 D05 page 4 footnote 2.

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Band/ Frequency (MHz)	Side/ Antenna	Required Test Channel	Bandwidth	Modulation	RB Allocation	RB Offset	Tested/ Reduced
Band 41 2496-2690 MHz	Top, Bottom, /T1	39750	20 MHz	QPSK	50	0	Reduced[6]
		40620					Tested
		41490					Reduced[6]
		39750			100	0	Reduced[1]
		40620					Reduced[1]
		41490					Reduced[1]
		39750			1	49	Reduced[2]
		40620					Tested
		41490					Reduced[2]
		39750				99	Reduced[2]
		40620					Reduced[2]
		41490					Reduced[2]
		39750		16QAM	50	25	Reduced[3]
		40620					Reduced[3]
		41490					Reduced[3]
		39750			100	0	Reduced[1]
		40620					Reduced[1]
		41490					Reduced[1]
		39750			1	49	Reduced[4]
		40620					Reduced[4]
		41490					Reduced[4]
		39750				99	Reduced[4]
		40620					Reduced[4]
		41490					Reduced[4]
		All lower bandwidths (15 MHz, 10 MHz, 5 MHz)					Reduced[5]
	Top, Bottom /T2,T3, B1,B2,B3,B4	39750	20 MHz	QPSK	50	0	Reduced[6]
		40620					Tested
		41490					Reduced[6]
		39750			100	0	Reduced[1]
		40620					Reduced[1]
		41490					Reduced[1]
		39750			1	49	Tested
		40620					Tested
		41490					Tested
		39750				99	Reduced[2]
		40620					Reduced[2]
		41490					Reduced[2]
		39750		16QAM	50	25	Reduced[3]
		40620					Reduced[3]
		41490					Reduced[3]
		39750			100	0	Reduced[1]
		40620					Reduced[1]
		41490					Reduced[1]
		39750			1	49	Reduced[4]
		40620					Reduced[4]
		41490					Reduced[4]
		39750				99	Reduced[4]
		40620					Reduced[4]
		41490					Reduced[4]
		All lower bandwidths (15 MHz, 10 MHz, 5 MHz)					Reduced[5]

Reduced[1] – If the SAR value in the 50% RB testing is less than 1.45 W/kg, the 100% RB testing is reduced per KDB941225 D05 3) A) I) page 4.

Reduced[2] - If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 3) B) I) page 4.

Reduced[3] - If the SAR value in the 50% RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) A) I) page 4.

Reduced[4]- If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) B) I) page 5.

Reduced[5]- If the conducted power is within ±0.5 dB, all testing where the SAR value is less than 1.45 W/kg is reduced per KDB941225 D05 5) B) I) page 5.

Reduced[6]- If the SAR value measured on the middle channel is less than 0.8 W/kg and the conducted power is within ±0.5 dB, the remaining channels are reduced per KDB941225 D05 page 4 footnote 2.

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Band/ Frequency (MHz)	Side/ Antenna	Required Test Channel	Bandwidth	Modulation	RB Allocation	RB Offset	Tested/ Reduced
Band 41 2496-2690 MHz	Top, Bottom, /T4	39750	20 MHz	QPSK	50	0	Tested
		40620					Tested
		41490					Tested
		39750			100	0	Reduced[1]
		40620					Tested
		41490					Reduced[1]
		39750			1	49	Tested
		40620					Tested
		41490					Tested
		39750				99	Reduced[2]
		40620					Reduced[2]
		41490					Reduced[2]
		39750		16QAM	50	25	Reduced[3]
		40620					Reduced[3]
		41490					Reduced[3]
		39750			100	0	Reduced[1]
		40620					Reduced[1]
		41490					Reduced[1]
		39750			1	49	Reduced[4]
		40620					Reduced[4]
		41490					Reduced[4]
		39750				99	Reduced[4]
		40620					Reduced[4]
		41490					Reduced[4]
		All lower bandwidths (15 MHz, 10 MHz, 5 MHz)					Reduced[5]
	Left, Right, Front, Back /All	39750	20 MHz	QPSK	50	0	Reduced[6]
		40620					Tested
		41490					Reduced[6]
		39750			100	0	Reduced[1]
		40620					Reduced[1]
		41490					Reduced[1]
		39750			1	49	Reduced[6]
		40620					Tested
		41490					Reduced[6]
		39750				99	Reduced[2]
		40620					Reduced[2]
		41490					Reduced[2]
		39750		16QAM	50	25	Reduced[3]
		40620					Reduced[3]
		41490					Reduced[3]
		39750			100	0	Reduced[1]
		40620					Reduced[1]
		41490					Reduced[1]
		39750			1	49	Reduced[4]
		40620					Reduced[4]
		41490					Reduced[4]
		39750				99	Reduced[4]
		40620					Reduced[4]
		41490					Reduced[4]
		All lower bandwidths (15 MHz, 10 MHz, 5 MHz)					Reduced[5]

Reduced[1] – If the SAR value in the 50% RB testing is less than 1.45 W/kg, the 100% RB testing is reduced per KDB941225 D05 3) A) I) page 4.

Reduced[2] - If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 3) B) I) page 4.

Reduced[3] - If the SAR value in the 50% RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) A) I) page 4.

Reduced[4]- If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) B) I) page 5.

Reduced[5]- If the conducted power is within ±0.5 dB, all testing where the SAR value is less than 1.45 W/kg is reduced per KDB941225 D05 5) B) I) page 5.

Reduced[6]- If the SAR value measured on the middle channel is less than 0.8 W/kg and the conducted power is within ±0.5 dB, the remaining channels are reduced per KDB941225 D05 page 4 footnote 2.

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Band/ Frequency (MHz)	Side/ Antenna	Required Test Channel	Bandwidth	Modulation	RB Allocation	RB Offset	Tested/ Reduced
Band 12 699-716 MHz	All/All	23060	10 MHz	QPSK	25	12	Reduced[6]
		23095					Tested
		23129					Reduced[6]
		23060			50	0	Reduced[1]
		23095					Reduced[1]
		23129					Reduced[1]
		23060			1	24	Reduced[2]
		23095					Tested
		23129					Reduced[2]
		23060				49	Reduced[2]
		23095					Reduced[2]
		23129					Reduced[2]
		23060		16QAM	25	12	Reduced[3]
		23095					Reduced[3]
		23129					Reduced[3]
		23060			50	0	Reduced[1]
		23095					Reduced[1]
		23129					Reduced[1]
		23060			1	24	Reduced[4]
		23095					Reduced[4]
		23129					Reduced[4]
		23060				49	Reduced[4]
		23095					Reduced[4]
		23129					Reduced[4]
		All lower bandwidths (5 MHz, 3 MHz, 1.4 MHz)					Reduced[5]

Reduced[1] – If the SAR value in the 50% RB testing is less than 1.45 W/kg, the 100% RB testing is reduced per KDB941225 D05 3) A) I) page 4.

Reduced[2] - If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 3) B) I) page 4.

Reduced[3] - If the SAR value in the 50% RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) A) I) page 4.

Reduced[4]- If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) B) I) page 5.

Reduced[5]- If the conducted power is within ±0.5 dB, all testing where the SAR value is less than 1.45 W/kg is reduced per KDB941225 D05 5) B) I) page 5.

Reduced[6]- If the SAR value measured on the middle channel is less than 0.8 W/kg and the conducted power is within ±0.5 dB, the remaining channels are reduced per KDB941225 D05 page 4 footnote 2.

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Band/ Frequency (MHz)	Side/ Antenna	Required Test Channel	Bandwidth	Modulation	RB Allocation	RB Offset	Tested/ Reduced
Band 13 777-787 MHz	All/All	23230	10 MHz	QPSK	25	12	Tested
		23230			50	0	Reduced[1]
		23230			1	24	Tested
		23230				49	Reduced[2]
		23230		16QAM	25	12	Reduced[3]
		23230			50	0	Reduced[1]
		23230			1	24	Reduced[4]
		23230				49	Reduced[4]
		All lower bandwidths (5 MHz)					Reduced[5]
Band 14 788-798 MHz	All/All	23330	10 MHz	QPSK	25	12	Tested
		23330			50	0	Reduced[1]
		23330			1	24	Tested
		23330				49	Reduced[2]
		23330		16QAM	25	12	Reduced[3]
		23330			50	0	Reduced[1]
		23330			1	24	Reduced[4]
		23330				49	Reduced[4]
		All lower bandwidths (5 MHz)					Reduced[5]

Reduced[1] – If the SAR value in the 50% RB testing is less than 1.45 W/kg, the 100% RB testing is reduced per KDB941225 D05 3) A) I) page 4.

Reduced[2] - If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 3) B) I) page 4.

Reduced[3] - If the SAR value in the 50% RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) A) I) page 4.

Reduced[4]- If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) B) I) page 5.

Reduced[5]- If the conducted power is within ±0.5 dB, all testing where the SAR value is less than 1.45 W/kg is reduced per KDB941225 D05 5) B) I) page 5.

Reduced[6]- If the SAR value measured on the middle channel is less than 0.8 W/kg and the conducted power is within ±0.5 dB, the remaining channels are reduced per KDB941225 D05 page 4 footnote 2.

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Band/ Frequency (MHz)	Side/ Antenna	Required Test Channel	Bandwidth	Modulation	RB Allocation	RB Offset	Tested/ Reduced
Band 30 2305-2315 MHz	Top, Bottom, Right, Left/All	23230	10 MHz	QPSK	25	12	Tested
		23230			50	0	Reduced[1]
		23230			1	24	Tested
		23230				49	Reduced[2]
		23230		16QAM	25	12	Reduced[3]
		23230			50	0	Reduced[1]
		23230			1	24	Reduced[4]
		23230				49	Reduced[4]
		All lower bandwidths (10 MHz, 5 MHz)					Reduced[5]
	Front, Back/ T1,T2,T3,T4, B2, B3,B4	23330	10 MHz	QPSK	25	12	Tested
		23330			50	0	Reduced[1]
		23330			1	24	Tested
		23330				49	Reduced[2]
		23330		16QAM	25	12	Reduced[3]
		23330			50	0	Reduced[1]
		23330			1	24	Reduced[4]
		23330				49	Reduced[4]
		All lower bandwidths (10 MHz, 5 MHz)					Reduced[5]
	Front, Back/ B1	23330	10 MHz	QPSK	25	12	Tested
		23330			50	0	Tested
		23330			1	24	Tested
		23330				49	Reduced[2]
		23330		16QAM	25	12	Reduced[3]
		23330			50	0	Reduced[1]
		23330			1	24	Reduced[4]
		23330				49	Reduced[4]
		All lower bandwidths (10 MHz, 5 MHz)					Reduced[5]

Reduced[1] – If the SAR value in the 50% RB testing is less than 1.45 W/kg, the 100% RB testing is reduced per KDB941225 D05 3) A) I) page 4.

Reduced[2] - If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 3) B) I) page 4.

Reduced[3] - If the SAR value in the 50% RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) A) I) page 4.

Reduced[4]- If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) B) I) page 5.

Reduced[5]- If the conducted power is within ±0.5 dB, all testing where the SAR value is less than 1.45 W/kg is reduced per KDB941225 D05 5) B) I) page 5.

Reduced[6]- If the SAR value measured on the middle channel is less than 0.8 W/kg and the conducted power is within ±0.5 dB, the remaining channels are reduced per KDB941225 D05 page 4 footnote 2.

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SAR Data Summary –LTE Band 13

MEASUREMENT RESULTS

Gap	Plot	Position/ Antenna	Frequency MHz	Frequency Ch.	BW/ Modulation	RB Size	RB Offset	MPR Target	End Power (dBm)	Measured SAR (W/kg)	Reported SAR (W/kg)
10 mm	-----	Top/T1	782	23230	10 MHz/QPSK	1	24	0	24.8	0.205	0.22
	-----	Top/T1	782	23230	10 MHz/QPSK	25	12	1	23.4	0.164	0.19
	-----	Top/T2	782	23230	10 MHz/QPSK	1	24	0	24.8	0.167	0.18
	-----	Top/T2	782	23230	10 MHz/QPSK	25	12	1	23.4	0.134	0.15
	-----	Top/T3	782	23230	10 MHz/QPSK	1	24	0	24.8	0.188	0.20
	-----	Top/T3	782	23230	10 MHz/QPSK	25	12	1	23.4	0.145	0.17
	-----	Top/T4	782	23230	10 MHz/QPSK	1	24	0	24.8	0.197	0.21
	-----	Top/T4	782	23230	10 MHz/QPSK	25	12	1	23.4	0.159	0.18
	-----	Bottom/B1	782	23230	10 MHz/QPSK	1	24	0	24.8	0.211	0.22
	-----	Bottom/B1	782	23230	10 MHz/QPSK	25	12	1	23.4	0.172	0.20
	-----	Bottom/B2	782	23230	10 MHz/QPSK	1	24	0	24.8	0.170	0.18
	-----	Bottom/B2	782	23230	10 MHz/QPSK	25	12	1	23.4	0.138	0.16
	-----	Bottom/B3	782	23230	10 MHz/QPSK	1	24	0	24.8	0.165	0.17
	-----	Bottom/B3	782	23230	10 MHz/QPSK	25	12	1	23.4	0.122	0.14
	-----	Bottom/B4	782	23230	10 MHz/QPSK	1	24	0	24.8	0.169	0.18
	-----	Bottom/B4	782	23230	10 MHz/QPSK	25	12	1	23.4	0.135	0.16
	-----	Left/T1	782	23230	10 MHz/QPSK	1	24	0	24.8	0.464	0.49
	-----	Left/T1	782	23230	10 MHz/QPSK	25	12	1	23.4	0.366	0.42
	-----	Right/T2	782	23230	10 MHz/QPSK	1	24	0	24.8	0.393	0.41
	-----	Right/T2	782	23230	10 MHz/QPSK	25	12	1	23.4	0.371	0.43
	-----	Left/T3	782	23230	10 MHz/QPSK	1	24	0	24.8	0.388	0.41
	-----	Left/T3	782	23230	10 MHz/QPSK	25	12	1	23.4	0.361	0.41
	-----	Right/T4	782	23230	10 MHz/QPSK	1	24	0	24.8	0.442	0.46
	-----	Right/T4	782	23230	10 MHz/QPSK	25	12	1	23.4	0.355	0.41
	-----	Left/B1	782	23230	10 MHz/QPSK	1	24	0	24.8	0.534	0.56
	-----	Left/B1	782	23230	10 MHz/QPSK	25	12	1	23.4	0.432	0.50
	-----	Right/B2	782	23230	10 MHz/QPSK	1	24	0	24.8	0.446	0.47
	-----	Right/B2	782	23230	10 MHz/QPSK	25	12	1	23.4	0.362	0.42
	-----	Left/B3	782	23230	10 MHz/QPSK	1	24	0	24.8	0.482	0.51
	-----	Left/B3	782	23230	10 MHz/QPSK	25	12	1	23.4	0.371	0.43
	-----	Right/B4	782	23230	10 MHz/QPSK	1	24	0	24.8	0.458	0.48
	-----	Right/B4	782	23230	10 MHz/QPSK	25	12	1	23.4	0.369	0.42
	1	Back/T1	782	23230	10 MHz/QPSK	1	24	0	24.8	0.557	0.58
	-----	Back/T1	782	23230	10 MHz/QPSK	25	12	1	23.4	0.452	0.52
	-----	Back/T2	782	23230	10 MHz/QPSK	1	24	0	24.8	0.494	0.52
	-----	Back/T2	782	23230	10 MHz/QPSK	25	12	1	23.4	0.395	0.45
	-----	Front/T3	782	23230	10 MHz/QPSK	1	24	0	24.8	0.453	0.47
	-----	Front/T3	782	23230	10 MHz/QPSK	25	12	1	23.4	0.322	0.37
	-----	Front/T4	782	23230	10 MHz/QPSK	1	24	0	24.8	0.320	0.34
	-----	Front/T4	782	23230	10 MHz/QPSK	25	12	1	23.4	0.256	0.29
	-----	Back/B1	782	23230	10 MHz/QPSK	1	24	0	24.8	0.475	0.50
	-----	Back/B1	782	23230	10 MHz/QPSK	25	12	1	23.4	0.379	0.44
	-----	Back/B2	782	23230	10 MHz/QPSK	1	24	0	24.8	0.481	0.50
	-----	Back/B2	782	23230	10 MHz/QPSK	25	12	1	23.4	0.385	0.44
	-----	Front/B3	782	23230	10 MHz/QPSK	1	24	0	24.8	0.463	0.48
	-----	Front/B3	782	23230	10 MHz/QPSK	25	12	1	23.4	0.392	0.45
	-----	Front/B4	782	23230	10 MHz/QPSK	1	24	0	24.8	0.485	0.51
	-----	Front/B4	782	23230	10 MHz/QPSK	25	12	1	23.4	0.390	0.45

Body
1.6 W/kg (mW/g)
averaged over 1 gram

1. SAR Measurement
   Phantom Configuration ☐Left Head ☒Eli4 ☐Right Head
   SAR Configuration ☐Head ☒Body
2. Test Signal Call Mode ☐Test Code ☒Base Station Simulator
3. Test Configuration ☐With Belt Clip ☐Without Belt Clip ☒N/A
4. Tissue Depth is at least 15.0 cm

Jay M. Moulton
Vice President

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SAR Data Summary –LTE Band 12

MEASUREMENT RESULTS

Gap	Plot	Position/ Antenna	Frequency MHz	Frequency Ch.	BW/ Modulation	RB Size	RB Offset	MPR Target	End Power (dBm)	Measured SAR (W/kg)	Reported SAR (W/kg)
10 mm	-----	Top/T1	707.5	23095	10 MHz/QPSK	1	24	0	24.9	0.180	0.18
	-----	Top/T1	707.5	23095	10 MHz/QPSK	25	12	1	23.3	0.149	0.18
	-----	Top/T2	707.5	23095	10 MHz/QPSK	1	24	0	24.9	0.134	0.14
	-----	Top/T2	707.5	23095	10 MHz/QPSK	25	12	1	23.3	0.111	0.13
	-----	Top/T3	707.5	23095	10 MHz/QPSK	1	24	0	24.9	0.128	0.13
	-----	Top/T3	707.5	23095	10 MHz/QPSK	25	12	1	23.3	0.103	0.12
	-----	Top/T4	707.5	23095	10 MHz/QPSK	1	24	0	24.9	0.199	0.20
	-----	Top/T4	707.5	23095	10 MHz/QPSK	25	12	1	23.3	0.159	0.19
	-----	Bottom/B1	707.5	23095	10 MHz/QPSK	1	24	0	24.9	0.127	0.13
	-----	Bottom/B1	707.5	23095	10 MHz/QPSK	25	12	1	23.3	0.104	0.12
	-----	Bottom/B2	707.5	23095	10 MHz/QPSK	1	24	0	24.9	0.135	0.14
	-----	Bottom/B2	707.5	23095	10 MHz/QPSK	25	12	1	23.3	0.111	0.13
	-----	Bottom/B3	707.5	23095	10 MHz/QPSK	1	24	0	24.9	0.124	0.13
	-----	Bottom/B3	707.5	23095	10 MHz/QPSK	25	12	1	23.3	0.106	0.12
	-----	Bottom/B4	707.5	23095	10 MHz/QPSK	1	24	0	24.9	0.135	0.14
	-----	Bottom/B4	707.5	23095	10 MHz/QPSK	25	12	1	23.3	0.108	0.13
	-----	Left/T1	707.5	23095	10 MHz/QPSK	1	24	0	24.9	0.158	0.16
	-----	Left/T1	707.5	23095	10 MHz/QPSK	25	12	1	23.3	0.128	0.15
	-----	Right/T2	707.5	23095	10 MHz/QPSK	1	24	0	24.9	0.204	0.21
	-----	Right/T2	707.5	23095	10 MHz/QPSK	25	12	1	23.3	0.167	0.20
	-----	Left/T3	707.5	23095	10 MHz/QPSK	1	24	0	24.9	0.197	0.20
	-----	Left/T3	707.5	23095	10 MHz/QPSK	25	12	1	23.3	0.155	0.18
	-----	Right/T4	707.5	23095	10 MHz/QPSK	1	24	0	24.9	0.120	0.12
	-----	Right/T4	707.5	23095	10 MHz/QPSK	25	12	1	23.3	0.0960	0.11
	-----	Left/B1	707.5	23095	10 MHz/QPSK	1	24	0	24.9	0.153	0.16
	-----	Left/B1	707.5	23095	10 MHz/QPSK	25	12	1	23.3	0.123	0.15
	-----	Right/B2	707.5	23095	10 MHz/QPSK	1	24	0	24.9	0.139	0.14
	-----	Right/B2	707.5	23095	10 MHz/QPSK	25	12	1	23.3	0.113	0.13
	-----	Left/B3	707.5	23095	10 MHz/QPSK	1	24	0	24.9	0.122	0.13
	-----	Left/B3	707.5	23095	10 MHz/QPSK	25	12	1	23.3	0.104	0.12
	-----	Right/B4	707.5	23095	10 MHz/QPSK	1	24	0	24.9	0.0913	0.09
	-----	Right/B4	707.5	23095	10 MHz/QPSK	25	12	1	23.3	0.0768	0.09
	-----	Back/T1	707.5	23095	10 MHz/QPSK	1	24	0	24.9	0.278	0.28
	-----	Back/T1	707.5	23095	10 MHz/QPSK	25	12	1	23.3	0.219	0.26
	-----	Back/T2	707.5	23095	10 MHz/QPSK	1	24	0	24.9	0.173	0.18
	-----	Back/T2	707.5	23095	10 MHz/QPSK	25	12	1	23.3	0.148	0.17
	-----	Front/T3	707.5	23095	10 MHz/QPSK	1	24	0	24.9	0.164	0.17
	-----	Front/T3	707.5	23095	10 MHz/QPSK	25	12	1	23.3	0.138	0.16
	-----	Front/T4	707.5	23095	10 MHz/QPSK	1	24	0	24.9	0.169	0.17
	-----	Front/T4	707.5	23095	10 MHz/QPSK	25	12	1	23.3	0.137	0.16
	-----	Back/B1	707.5	23095	10 MHz/QPSK	1	24	0	24.9	0.180	0.18
	-----	Back/B1	707.5	23095	10 MHz/QPSK	25	12	1	23.3	0.145	0.17
	-----	Back/B2	707.5	23095	10 MHz/QPSK	1	24	0	24.9	0.219	0.22
	-----	Back/B2	707.5	23095	10 MHz/QPSK	25	12	1	23.3	0.181	0.21
	-----	Front/B3	707.5	23095	10 MHz/QPSK	1	24	0	24.9	0.195	0.20
	-----	Front/B3	707.5	23095	10 MHz/QPSK	25	12	1	23.3	0.177	0.21
	2	Front/B4	707.5	23095	10 MHz/QPSK	1	24	0	24.9	0.318	0.33
	-----	Front/B4	707.5	23095	10 MHz/QPSK	25	12	1	23.3	0.253	0.30

Body
1.6 W/kg (mW/g)
averaged over 1 gram

1. SAR Measurement
   Phantom Configuration ☐Left Head ☒Eli4 ☐Right Head
   SAR Configuration ☐Head ☒Body
2. Test Signal Call Mode ☐Test Code ☒Base Station Simulator
3. Test Configuration ☐With Belt Clip ☐Without Belt Clip ☒N/A
4. Tissue Depth is at least 15.0 cm

Jay M. Moulton
Vice President

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SAR Data Summary –LTE Band 14

MEASUREMENT RESULTS

Gap	Plot	Position/ Antenna	Frequency MHz	Frequency Ch.	BW/ Modulation	RB Size	RB Offset	MPR Target	End Power (dBm)	Measured SAR (W/kg)	Reported SAR (W/kg)
10 mm	-----	Top/T1	793.0	23330	10 MHz/QPSK	1	24	0	24.8	0.265	0.28
	-----	Top/T1	793.0	23330	10 MHz/QPSK	25	12	1	23.9	0.214	0.22
	-----	Top/T2	793.0	23330	10 MHz/QPSK	1	24	0	24.8	0.151	0.16
	-----	Top/T2	793.0	23330	10 MHz/QPSK	25	12	1	23.9	0.127	0.13
	-----	Top/T3	793.0	23330	10 MHz/QPSK	1	24	0	24.8	0.166	0.17
	-----	Top/T3	793.0	23330	10 MHz/QPSK	25	12	1	23.9	0.134	0.14
	-----	Top/T4	793.0	23330	10 MHz/QPSK	1	24	0	24.8	0.212	0.22
	-----	Top/T4	793.0	23330	10 MHz/QPSK	25	12	1	23.9	0.170	0.17
	-----	Bottom/B1	793.0	23330	10 MHz/QPSK	1	24	0	24.8	0.252	0.26
	-----	Bottom/B1	793.0	23330	10 MHz/QPSK	25	12	1	23.9	0.202	0.21
	-----	Bottom/B2	793.0	23330	10 MHz/QPSK	1	24	0	24.8	0.175	0.18
	-----	Bottom/B2	793.0	23330	10 MHz/QPSK	25	12	1	23.9	0.143	0.15
	-----	Bottom/B3	793.0	23330	10 MHz/QPSK	1	24	0	24.8	0.169	0.18
	-----	Bottom/B3	793.0	23330	10 MHz/QPSK	25	12	1	23.9	0.135	0.14
	-----	Bottom/B4	793.0	23330	10 MHz/QPSK	1	24	0	24.8	0.179	0.19
	-----	Bottom/B4	793.0	23330	10 MHz/QPSK	25	12	1	23.9	0.144	0.15
	-----	Left/T1	793.0	23330	10 MHz/QPSK	1	24	0	24.8	0.423	0.44
	-----	Left/T1	793.0	23330	10 MHz/QPSK	25	12	1	23.9	0.335	0.34
	-----	Right/T2	793.0	23330	10 MHz/QPSK	1	24	0	24.8	0.369	0.39
	-----	Right/T2	793.0	23330	10 MHz/QPSK	25	12	1	23.9	0.297	0.30
	-----	Left/T3	793.0	23330	10 MHz/QPSK	1	24	0	24.8	0.384	0.40
	-----	Left/T3	793.0	23330	10 MHz/QPSK	25	12	1	23.9	0.311	0.32
	-----	Right/T4	793.0	23330	10 MHz/QPSK	1	24	0	24.8	0.447	0.47
	-----	Right/T4	793.0	23330	10 MHz/QPSK	25	12	1	23.9	0.363	0.37
	-----	Left/B1	793.0	23330	10 MHz/QPSK	1	24	0	24.8	0.422	0.44
	-----	Left/B1	793.0	23330	10 MHz/QPSK	25	12	1	23.9	0.347	0.36
	-----	Right/B2	793.0	23330	10 MHz/QPSK	1	24	0	24.8	0.420	0.44
	-----	Right/B2	793.0	23330	10 MHz/QPSK	25	12	1	23.9	0.346	0.35
	-----	Left/B3	793.0	23330	10 MHz/QPSK	1	24	0	24.8	0.388	0.41
	-----	Left/B3	793.0	23330	10 MHz/QPSK	25	12	1	23.9	0.321	0.33
	-----	Right/B4	793.0	23330	10 MHz/QPSK	1	24	0	24.8	0.373	0.39
	-----	Right/B4	793.0	23330	10 MHz/QPSK	25	12	1	23.9	0.299	0.31
	-----	Back/T1	793.0	23330	10 MHz/QPSK	1	24	0	24.8	0.450	0.47
	-----	Back/T1	793.0	23330	10 MHz/QPSK	25	12	1	23.9	0.363	0.37
	-----	Back/T2	793.0	23330	10 MHz/QPSK	1	24	0	24.8	0.293	0.31
	-----	Back/T2	793.0	23330	10 MHz/QPSK	25	12	1	23.9	0.238	0.24
	-----	Front/T3	793.0	23330	10 MHz/QPSK	1	24	0	24.8	0.305	0.32
	-----	Front/T3	793.0	23330	10 MHz/QPSK	25	12	1	23.9	0.244	0.25
	-----	Front/T4	793.0	23330	10 MHz/QPSK	1	24	0	24.8	0.386	0.40
	-----	Front/T4	793.0	23330	10 MHz/QPSK	25	12	1	23.9	0.310	0.32
	-----	Back/B1	793.0	23330	10 MHz/QPSK	1	24	0	24.8	0.516	0.54
	-----	Back/B1	793.0	23330	10 MHz/QPSK	25	12	1	23.9	0.417	0.43
	3	Back/B2	793.0	23330	10 MHz/QPSK	1	24	0	24.8	0.540	0.57
	-----	Back/B2	793.0	23330	10 MHz/QPSK	25	12	1	23.9	0.439	0.45
	-----	Front/B3	793.0	23330	10 MHz/QPSK	1	24	0	24.8	0.519	0.54
	-----	Front/B3	793.0	23330	10 MHz/QPSK	25	12	1	23.9	0.422	0.43
	-----	Front/B4	793.0	23330	10 MHz/QPSK	1	24	0	24.8	0.513	0.54
	-----	Front/B4	793.0	23330	10 MHz/QPSK	25	12	1	23.9	0.423	0.43

Body
1.6 W/kg (mW/g)
averaged over 1 gram

1. SAR Measurement
   Phantom Configuration ☐Left Head ☒Eli4 ☐Right Head
   SAR Configuration ☐Head ☒Body
2. Test Signal Call Mode ☐Test Code ☒Base Station Simulator
3. Test Configuration ☐With Belt Clip ☐Without Belt Clip ☒N/A
4. Tissue Depth is at least 15.0 cm

Jay M. Moulton
Vice President

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SAR Data Summary – 850 MHz Body – UMTS Band 5

MEASUREMENT RESULTS

Gap	Plot	Frequency		Modulation	Position/ Antenna	End Power	RMC	Test Set Up	Measured SAR	Reported SAR
		MHz	Ch.			(dBm)			(W/kg)	(W/kg)
10 mm	-----	836.6	4183	WCDMA	Top/T1	24.56	12.2 kbps	Test Loop 1	0.249	0.28
	-----	836.6	4183		Top/T2	24.56	12.2 kbps	Test Loop 1	0.195	0.22
	-----	836.6	4183		Top/T3	24.56	12.2 kbps	Test Loop 1	0.201	0.22
	-----	836.6	4183		Top/T4	24.56	12.2 kbps	Test Loop 1	0.173	0.19
	-----	836.6	4183		Bottom/B1	24.56	12.2 kbps	Test Loop 1	0.210	0.23
	-----	836.6	4183		Bottom/B2	24.56	12.2 kbps	Test Loop 1	0.181	0.20
	-----	836.6	4183		Bottom/B3	24.56	12.2 kbps	Test Loop 1	0.192	0.21
	-----	836.6	4183		Bottom/B4	24.56	12.2 kbps	Test Loop 1	0.218	0.24
	-----	836.6	4183		Left/T1	24.56	12.2 kbps	Test Loop 1	0.273	0.30
	-----	836.6	4183		Right/T2	24.56	12.2 kbps	Test Loop 1	0.389	0.43
	-----	836.6	4183		Left/T3	24.56	12.2 kbps	Test Loop 1	0.377	0.42
	-----	836.6	4183		Right/T4	24.56	12.2 kbps	Test Loop 1	0.390	0.43
	4	836.6	4183		Left/B1	24.56	12.2 kbps	Test Loop 1	0.404	0.45
	-----	836.6	4183		Right/B2	24.56	12.2 kbps	Test Loop 1	0.370	0.41
	-----	836.6	4183		Left/B3	24.56	12.2 kbps	Test Loop 1	0.382	0.42
	-----	836.6	4183		Right/B4	24.56	12.2 kbps	Test Loop 1	0.399	0.44
	-----	836.6	4183		Back/T1	24.56	12.2 kbps	Test Loop 1	0.321	0.36
	-----	836.6	4183		Back/T2	24.56	12.2 kbps	Test Loop 1	0.302	0.33
	-----	836.6	4183		Front/T3	24.56	12.2 kbps	Test Loop 1	0.305	0.34
	-----	836.6	4183		Front/T4	24.56	12.2 kbps	Test Loop 1	0.307	0.34
	-----	836.6	4183		Back/B1	24.56	12.2 kbps	Test Loop 1	0.318	0.35
	-----	836.6	4183		Back/B2	24.56	12.2 kbps	Test Loop 1	0.325	0.36
	-----	836.6	4183		Front/B3	24.56	12.2 kbps	Test Loop 1	0.318	0.35
	-----	836.6	4183		Front/B4	24.56	12.2 kbps	Test Loop 1	0.335	0.37

Body
1.6 W/kg (mW/g)
averaged over 1 gram

1. SAR Measurement
   Phantom Configuration ☐Left Head ☒Eli4 ☐Right Head
   SAR Configuration ☐Head ☒Body
2. Test Signal Call Mode ☐Test Code ☒Base Station Simulator
3. Test Configuration ☐With Belt Clip ☐Without Belt Clip ☒N/A
4. Tissue Depth is at least 15.0 cm

Jay M. Moulton
Vice President

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SAR Data Summary –LTE Band 26

MEASUREMENT RESULTS

Gap	Plot	Position/ Antenna	Frequency MHz	Frequency Ch.	BW/ Modulation	RB Size	RB Offset	MPR Target	End Power (dBm)	Measured SAR (W/kg)	Reported SAR (W/kg)
10 mm	-----	Top/T1	831.5	26865	15 MHz/QPSK	1	37	0	24.7	0.191	0.21
	-----	Top/T1	831.5	26865	15 MHz/QPSK	37	18	1	23.4	0.154	0.18
	-----	Top/T2	831.5	26865	15 MHz/QPSK	1	37	0	24.7	0.171	0.18
	-----	Top/T2	831.5	26865	15 MHz/QPSK	37	18	1	23.4	0.140	0.16
	-----	Top/T3	831.5	26865	15 MHz/QPSK	1	37	0	24.7	0.166	0.18
	-----	Top/T3	831.5	26865	15 MHz/QPSK	37	18	1	23.4	0.135	0.16
	-----	Top/T4	831.5	26865	15 MHz/QPSK	1	37	0	24.7	0.160	0.17
	-----	Top/T4	831.5	26865	15 MHz/QPSK	37	18	1	23.4	0.130	0.15
	-----	Bottom/B1	831.5	26865	15 MHz/QPSK	1	37	0	24.7	0.119	0.13
	-----	Bottom/B1	831.5	26865	15 MHz/QPSK	37	18	1	23.4	0.0969	0.11
	-----	Bottom/B2	831.5	26865	15 MHz/QPSK	1	37	0	24.7	0.135	0.14
	-----	Bottom/B2	831.5	26865	15 MHz/QPSK	37	18	1	23.4	0.112	0.13
	-----	Bottom/B3	831.5	26865	15 MHz/QPSK	1	37	0	24.7	0.122	0.13
	-----	Bottom/B3	831.5	26865	15 MHz/QPSK	37	18	1	23.4	0.105	0.12
	-----	Bottom/B4	831.5	26865	15 MHz/QPSK	1	37	0	24.7	0.140	0.15
	-----	Bottom/B4	831.5	26865	15 MHz/QPSK	37	18	1	23.4	0.114	0.13
	-----	Left/T1	831.5	26865	15 MHz/QPSK	1	37	0	24.7	0.432	0.46
	-----	Left/T1	831.5	26865	15 MHz/QPSK	37	18	1	23.4	0.368	0.42
	-----	Right/T2	831.5	26865	15 MHz/QPSK	1	37	0	24.7	0.389	0.42
	-----	Right/T2	831.5	26865	15 MHz/QPSK	37	18	1	23.4	0.323	0.37
	-----	Left/T3	831.5	26865	15 MHz/QPSK	1	37	0	24.7	0.377	0.40
	-----	Left/T3	831.5	26865	15 MHz/QPSK	37	18	1	23.4	0.365	0.42
	-----	Right/T4	831.5	26865	15 MHz/QPSK	1	37	0	24.7	0.448	0.48
	-----	Right/T4	831.5	26865	15 MHz/QPSK	37	18	1	23.4	0.364	0.42
	5	Left/B1	831.5	26865	15 MHz/QPSK	1	37	0	24.7	0.512	0.55
	-----	Left/B1	831.5	26865	15 MHz/QPSK	37	18	1	23.4	0.411	0.47
	-----	Right/B2	831.5	26865	15 MHz/QPSK	1	37	0	24.7	0.396	0.42
	-----	Right/B2	831.5	26865	15 MHz/QPSK	37	18	1	23.4	0.323	0.37
	-----	Left/B3	831.5	26865	15 MHz/QPSK	1	37	0	24.7	0.388	0.42
	-----	Left/B3	831.5	26865	15 MHz/QPSK	37	18	1	23.4	0.331	0.38
	-----	Right/B4	831.5	26865	15 MHz/QPSK	1	37	0	24.7	0.379	0.41
	-----	Right/B4	831.5	26865	15 MHz/QPSK	37	18	1	23.4	0.305	0.35
	-----	Back/T1	831.5	26865	15 MHz/QPSK	1	37	0	24.7	0.484	0.52
	-----	Back/T1	831.5	26865	15 MHz/QPSK	37	18	1	23.4	0.391	0.45
	-----	Back/T2	831.5	26865	15 MHz/QPSK	1	37	0	24.7	0.428	0.46
	-----	Back/T2	831.5	26865	15 MHz/QPSK	37	18	1	23.4	0.348	0.40
	-----	Front/T3	831.5	26865	15 MHz/QPSK	1	37	0	24.7	0.419	0.45
	-----	Front/T3	831.5	26865	15 MHz/QPSK	37	18	1	23.4	0.339	0.39
	-----	Front/T4	831.5	26865	15 MHz/QPSK	1	37	0	24.7	0.414	0.44
	-----	Front/T4	831.5	26865	15 MHz/QPSK	37	18	1	23.4	0.335	0.38
	-----	Back/B1	831.5	26865	15 MHz/QPSK	1	37	0	24.7	0.455	0.49
	-----	Back/B1	831.5	26865	15 MHz/QPSK	37	18	1	23.4	0.369	0.42
	-----	Back/B2	831.5	26865	15 MHz/QPSK	1	37	0	24.7	0.405	0.43
	-----	Back/B2	831.5	26865	15 MHz/QPSK	37	18	1	23.4	0.328	0.38
	-----	Front/B3	831.5	26865	15 MHz/QPSK	1	37	0	24.7	0.411	0.44
	-----	Front/B3	831.5	26865	15 MHz/QPSK	37	18	1	23.4	0.332	0.38
	-----	Front/B4	831.5	26865	15 MHz/QPSK	1	37	0	24.7	0.420	0.45
	-----	Front/B4	831.5	26865	15 MHz/QPSK	37	18	1	23.4	0.345	0.40

Body
1.6 W/kg (mW/g)
averaged over 1 gram

1. SAR Measurement
   Phantom Configuration ☐Left Head ☒Eli4 ☐Right Head
   SAR Configuration ☐Head ☒Body
2. Test Signal Call Mode ☐Test Code ☒Base Station Simulator
3. Test Configuration ☐With Belt Clip ☐Without Belt Clip ☒N/A
4. Tissue Depth is at least 15.0 cm

Jay M. Moulton
Vice President

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SAR Data Summary – 1750 MHz Body – UMTS Band 4

MEASUREMENT RESULTS

Gap	Plot	Frequency MHz	Frequency Ch.	Modulation	Position/ Antenna	End Power (dBm)	RMC	Test Set Up	Measured SAR (W/kg)	Reported SAR (W/kg)
10 mm	-----	1732.6	1413	WCDMA	Top/T1	24.90	12.2 kbps	Test Loop 1	0.309	0.32
	-----	1732.6	1413		Top/T2	24.90	12.2 kbps	Test Loop 1	0.726	0.74
	-----	1732.6	1413		Top/T3	24.90	12.2 kbps	Test Loop 1	0.655	0.67
	-----	1732.6	1413		Top/T4	24.90	12.2 kbps	Test Loop 1	0.726	0.74
	-----	1732.6	1413		Bottom/B1	24.90	12.2 kbps	Test Loop 1	0.347	0.36
	-----	1732.6	1413		Bottom/B2	24.90	12.2 kbps	Test Loop 1	0.280	0.29
	-----	1732.6	1413		Bottom/B3	24.90	12.2 kbps	Test Loop 1	0.297	0.30
	-----	1732.6	1413		Bottom/B4	24.90	12.2 kbps	Test Loop 1	0.236	0.24
	-----	1732.6	1413		Left/T1	24.90	12.2 kbps	Test Loop 1	0.333	0.34
	-----	1732.6	1413		Right/T2	24.90	12.2 kbps	Test Loop 1	0.292	0.30
	-----	1732.6	1413		Left/T3	24.90	12.2 kbps	Test Loop 1	0.256	0.26
	-----	1732.6	1413		Right/T4	24.90	12.2 kbps	Test Loop 1	0.241	0.25
	-----	1732.6	1413		Left/B1	24.90	12.2 kbps	Test Loop 1	0.184	0.19
	-----	1732.6	1413		Right/B2	24.90	12.2 kbps	Test Loop 1	0.308	0.32
	-----	1732.6	1413		Left/B3	24.90	12.2 kbps	Test Loop 1	0.325	0.33
	-----	1732.6	1413		Right/B4	24.90	12.2 kbps	Test Loop 1	0.366	0.37
	-----	1732.6	1413		Back/T1	24.90	12.2 kbps	Test Loop 1	0.466	0.48
	-----	1732.6	1413		Back/T2	24.90	12.2 kbps	Test Loop 1	0.639	0.65
	-----	1732.6	1413		Front/T3	24.90	12.2 kbps	Test Loop 1	0.622	0.64
	-----	1732.6	1413		Front/T4	24.90	12.2 kbps	Test Loop 1	0.627	0.64
	-----	1732.6	1413		Back/B1	24.90	12.2 kbps	Test Loop 1	0.686	0.70
	-----	1712.4	1312		Back/B2	24.88	12.2 kbps	Test Loop 1	1.15	1.18
	6	1732.6	1413			24.90	12.2 kbps	Test Loop 1	1.27	1.30
	-----	1752.6	1513			24.77	12.2 kbps	Test Loop 1	1.13	1.19
	-----	1732.6	1413		Front/B3	24.90	12.2 kbps	Test Loop 1	0.711	0.73
	-----	1712.4	1312		Front/B4	24.88	12.2 kbps	Test Loop 1	1.11	1.14
	-----	1732.6	1413			24.90	12.2 kbps	Test Loop 1	1.09	1.12
	-----	1752.6	1513			24.77	12.2 kbps	Test Loop 1	1.08	1.14
	-----	1732.6	1413		Repeat	24.90	12.2 kbps	Test Loop 1	1.25	1.28

Body
1.6 W/kg (mW/g)
averaged over 1 gram

1. SAR Measurement
   Phantom Configuration ☐Left Head ☒Eli4 ☐Right Head
   SAR Configuration ☐Head ☒Body
2. Test Signal Call Mode ☐Test Code ☒Base Station Simulator
3. Test Configuration ☐With Belt Clip ☐Without Belt Clip ☒N/A
4. Tissue Depth is at least 15.0 cm

Jay M. Moulton
Vice President

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SAR Data Summary –LTE Band 66

MEASUREMENT RESULTS

Gap	Plot	Position/ Antenna	Frequency MHz	Frequency Ch.	BW/ Modulation	RB Size	RB Offset	MPR Target	End Power (dBm)	Measured SAR (W/kg)	Reported SAR (W/kg)
10 mm	-----	Top/T1	1745.0	132322	20 MHz/QPSK	1	49	0	24.8	0.173	0.18
	-----	Top/T1	1745.0	132322	20 MHz/QPSK	50	24	1	23.9	0.143	0.15
	-----	Top/T2	1745.0	132322	20 MHz/QPSK	1	49	0	24.8	0.193	0.20
	-----	Top/T2	1745.0	132322	20 MHz/QPSK	50	24	1	23.9	0.157	0.16
	-----	Top/T3	1745.0	132322	20 MHz/QPSK	1	49	0	24.8	0.182	0.19
	-----	Top/T3	1745.0	132322	20 MHz/QPSK	50	24	1	23.9	0.153	0.16
	-----	Top/T4	1745.0	132322	20 MHz/QPSK	1	49	0	24.8	0.216	0.23
	-----	Top/T4	1745.0	132322	20 MHz/QPSK	50	24	1	23.9	0.177	0.18
	-----	Bottom/B1	1745.0	132322	20 MHz/QPSK	1	49	0	24.8	0.413	0.43
	-----	Bottom/B1	1745.0	132322	20 MHz/QPSK	50	24	1	23.9	0.335	0.34
	-----	Bottom/B2	1745.0	132322	20 MHz/QPSK	1	49	0	24.8	0.230	0.24
	-----	Bottom/B2	1745.0	132322	20 MHz/QPSK	50	24	1	23.9	0.180	0.18
	-----	Bottom/B3	1745.0	132322	20 MHz/QPSK	1	49	0	24.8	0.205	0.21
	-----	Bottom/B3	1745.0	132322	20 MHz/QPSK	50	24	1	23.9	0.185	0.19
	-----	Bottom/B4	1745.0	132322	20 MHz/QPSK	1	49	0	24.8	0.187	0.20
	-----	Bottom/B4	1745.0	132322	20 MHz/QPSK	50	24	1	23.9	0.165	0.17
	-----	Left/T1	1745.0	132322	20 MHz/QPSK	1	49	0	24.8	0.216	0.23
	-----	Left/T1	1745.0	132322	20 MHz/QPSK	50	24	1	23.9	0.173	0.18
	-----	Right/T2	1745.0	132322	20 MHz/QPSK	1	49	0	24.8	0.410	0.43
	-----	Right/T2	1745.0	132322	20 MHz/QPSK	50	24	1	23.9	0.331	0.34
	-----	Left/T3	1745.0	132322	20 MHz/QPSK	1	49	0	24.8	0.405	0.42
	-----	Left/T3	1745.0	132322	20 MHz/QPSK	50	24	1	23.9	0.324	0.33
	-----	Right/T4	1745.0	132322	20 MHz/QPSK	1	49	0	24.8	0.421	0.44
	-----	Right/T4	1745.0	132322	20 MHz/QPSK	50	24	1	23.9	0.354	0.36
	-----	Left/B1	1745.0	132322	20 MHz/QPSK	1	49	0	24.8	0.354	0.37
	-----	Left/B1	1745.0	132322	20 MHz/QPSK	50	24	1	23.9	0.292	0.30
	-----	Right/B2	1745.0	132322	20 MHz/QPSK	1	49	0	24.8	0.314	0.33
	-----	Right/B2	1745.0	132322	20 MHz/QPSK	50	24	1	23.9	0.322	0.33
	-----	Left/B3	1745.0	132322	20 MHz/QPSK	1	49	0	24.8	0.411	0.43
	-----	Left/B3	1745.0	132322	20 MHz/QPSK	50	24	1	23.9	0.368	0.38
	-----	Right/B4	1745.0	132322	20 MHz/QPSK	1	49	0	24.8	0.530	0.56
	-----	Right/B4	1745.0	132322	20 MHz/QPSK	50	24	1	23.9	0.432	0.44
	-----	Back/T1	1745.0	132322	20 MHz/QPSK	1	49	0	24.8	0.557	0.58
	-----	Back/T1	1745.0	132322	20 MHz/QPSK	50	24	1	23.9	0.472	0.48
	-----	Back/T2	1720.0	132072	20 MHz/QPSK	1	49	0	24.8	0.513	0.54
	-----	Back/T2	1745.0	132322	20 MHz/QPSK	50	24	1	23.9	0.423	0.43
	-----	Front/T3	1745.0	132322	20 MHz/QPSK	1	49	0	24.8	0.661	0.69
	-----	Front/T3	1745.0	132322	20 MHz/QPSK	50	24	1	23.9	0.534	0.55
	-----	Front/T4	1745.0	132322	20 MHz/QPSK	1	49	0	24.8	0.718	0.75
	-----	Front/T4	1745.0	132322	20 MHz/QPSK	50	24	1	23.9	0.682	0.70
	-----	Back/B1	1745.0	132322	20 MHz/QPSK	1	49	0	24.8	0.603	0.63
	-----	Back/B1	1745.0	132322	20 MHz/QPSK	50	24	1	23.9	0.495	0.51
	-----	Back/B2	1720.0	132072	20 MHz/QPSK	1	49	0	24.5	1.01	1.13
	7		1745.0	132322	20 MHz/QPSK	1	49	0	24.8	1.11	1.16
	-----		1770.0	132571	20 MHz/QPSK	1	49	0	24.7	1.06	1.14
	-----		1720.0	132072	20 MHz/QPSK	50	24	1	23.8	0.873	0.91
	-----		1745.0	132322	20 MHz/QPSK	50	24	1	23.9	0.932	0.95
	-----		1770.0	132571	20 MHz/QPSK	50	24	1	23.7	0.892	0.96
	-----		1745.0	132322	20 MHz/QPSK	100	0	1	23.4	0.698	0.80
	-----	Front/B3	1745.0	132322	20 MHz/QPSK	1	49	0	24.8	0.697	0.73
	-----	Front/B3	1745.0	132322	20 MHz/QPSK	50	24	1	23.9	0.511	0.52
	-----	Front/B4	1745.0	132322	20 MHz/QPSK	1	49	0	24.8	0.743	0.78
	-----	Front/B4	1745.0	132322	20 MHz/QPSK	50	24	1	23.9	0.591	0.61
	-----	Repeat	1720.0	132072	20 MHz/QPSK	1	49	0	24.8	1.09	1.14

Body
1.6 W/kg (mW/g)
averaged over 1 gram

1. SAR Measurement
   Phantom Configuration ☐Left Head ☒Eli4 ☐Right Head
   SAR Configuration ☐Head ☒Body
2. Test Signal Call Mode ☐Test Code ☒Base Station Simulator
3. Test Configuration ☐With Belt Clip ☐Without Belt Clip ☒N/A
4. Tissue Depth is at least 15.0 cm

Jay M. Moulton
Vice President

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SAR Data Summary – 1900 MHz Body – UMTS Band 2

MEASUREMENT RESULTS

Gap	Plot	Frequency MHz	Frequency Ch.	Modulation	Position/ Antenna	End Power (dBm)	RMC	Test Set Up	Measured SAR (W/kg)	Reported SAR (W/kg)
10 mm	-----	1880.0	9400	WCDMA	Top/T1	24.93	12.2 kbps	Test Loop 1	0.366	0.37
	-----	1880.0	9400		Top/T2	24.93	12.2 kbps	Test Loop 1	0.226	0.23
	-----	1880.0	9400		Top/T3	24.93	12.2 kbps	Test Loop 1	0.298	0.30
	-----	1880.0	9400		Top/T4	24.93	12.2 kbps	Test Loop 1	0.324	0.33
	-----	1880.0	9400		Bottom/B1	24.93	12.2 kbps	Test Loop 1	0.266	0.27
	-----	1880.0	9400		Bottom/B2	24.93	12.2 kbps	Test Loop 1	0.297	0.30
	-----	1880.0	9400		Bottom/B3	24.93	12.2 kbps	Test Loop 1	0.335	0.34
	-----	1880.0	9400		Bottom/B4	24.93	12.2 kbps	Test Loop 1	0.358	0.36
	-----	1880.0	9400		Left/T1	24.93	12.2 kbps	Test Loop 1	0.565	0.57
	-----	1880.0	9400		Right/T2	24.93	12.2 kbps	Test Loop 1	0.545	0.55
	-----	1880.0	9400		Left/T3	24.93	12.2 kbps	Test Loop 1	0.497	0.51
	-----	1880.0	9400		Right/T4	24.93	12.2 kbps	Test Loop 1	0.467	0.47
	-----	1880.0	9400		Left/B1	24.93	12.2 kbps	Test Loop 1	0.331	0.34
	-----	1880.0	9400		Right/B2	24.93	12.2 kbps	Test Loop 1	0.270	0.27
	-----	1880.0	9400		Left/B3	24.93	12.2 kbps	Test Loop 1	0.329	0.33
	-----	1880.0	9400		Right/B4	24.93	12.2 kbps	Test Loop 1	0.375	0.38
	-----	1852.4	9262		Back/T1	24.98	12.2 kbps	Test Loop 1	0.908	0.91
	-----	1880.0	9400			24.93	12.2 kbps	Test Loop 1	0.804	0.82
	-----	1907.6	9538			24.87	12.2 kbps	Test Loop 1	0.812	0.84
	8	1852.4	9262		Back/T2	24.98	12.2 kbps	Test Loop 1	1.24	1.25
	-----	1880.0	9400			24.93	12.2 kbps	Test Loop 1	1.17	1.19
	-----	1907.6	9538			24.87	12.2 kbps	Test Loop 1	1.12	1.15
	-----	1852.4	9262		Front/T3	24.98	12.2 kbps	Test Loop 1	0.968	0.97
	-----	1880.0	9400			24.93	12.2 kbps	Test Loop 1	0.924	0.94
	-----	1907.6	9538			24.87	12.2 kbps	Test Loop 1	0.911	0.94
	-----	1852.4	9262		Front/T4	24.98	12.2 kbps	Test Loop 1	0.857	0.86
	-----	1880.0	9400			24.93	12.2 kbps	Test Loop 1	0.837	0.85
	-----	1907.6	9538			24.87	12.2 kbps	Test Loop 1	0.827	0.85
	-----	1852.4	9262		Back/B1	24.98	12.2 kbps	Test Loop 1	0.866	0.87
	-----	1880.0	9400			24.93	12.2 kbps	Test Loop 1	0.887	0.90
	-----	1907.6	9538			24.87	12.2 kbps	Test Loop 1	0.872	0.90
	-----	1852.4	9262		Back/B2	24.98	12.2 kbps	Test Loop 1	1.09	1.10
	-----	1880.0	9400			24.93	12.2 kbps	Test Loop 1	0.938	0.95
	-----	1907.6	9538			24.87	12.2 kbps	Test Loop 1	1.11	1.14
	-----	1852.4	9262		Front/B3	24.98	12.2 kbps	Test Loop 1	1.04	1.04
	-----	1880.0	9400			24.93	12.2 kbps	Test Loop 1	1.03	1.05
	-----	1907.6	9538			24.87	12.2 kbps	Test Loop 1	1.01	1.04
	-----	1852.4	9262		Front/B4	24.98	12.2 kbps	Test Loop 1	1.20	1.21
	-----	1880.0	9400			24.93	12.2 kbps	Test Loop 1	1.12	1.14
	-----	1907.6	9538			24.87	12.2 kbps	Test Loop 1	1.12	1.15
	-----	1852.4	9262		Repeat	24.98	12.2 kbps	Test Loop 1	1.22	1.23
						Body 1.6 W/kg (mW/g) averaged over 1 gram				

1. SAR Measurement
   Phantom Configuration ☐Left Head ☒Eli4 ☐Right Head
   SAR Configuration ☐Head ☒Body
2. Test Signal Call Mode ☐Test Code ☒Base Station Simulator
3. Test Configuration ☐With Belt Clip ☐Without Belt Clip ☒N/A
4. Tissue Depth is at least 15.0 cm

Jay M. Moulton
Vice President

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SAR Data Summary –LTE Band 25

MEASUREMENT RESULTS

Gap	Plot	Position/ Antenna	Frequency MHz	Frequency Ch.	BW/ Modulation	RB Size	RB Offset	MPR Target	End Power (dBm)	Measured SAR (W/kg)	Reported SAR (W/kg)
10 mm	-----	Top/T1	1882.5	26365	20 MHz/QPSK	1	49	0	24.9	0.439	0.45
	-----	Top/T1	1882.5	26365	20 MHz/QPSK	50	24	1	23.6	0.351	0.39
	-----	Top/T2	1882.5	26365	20 MHz/QPSK	1	49	0	24.9	0.431	0.44
	-----	Top/T2	1882.5	26365	20 MHz/QPSK	50	24	1	23.6	0.344	0.38
	-----	Top/T3	1882.5	26365	20 MHz/QPSK	1	49	0	24.9	0.392	0.40
	-----	Top/T3	1882.5	26365	20 MHz/QPSK	50	24	1	23.6	0.341	0.37
	-----	Top/T4	1882.5	26365	20 MHz/QPSK	1	49	0	24.9	0.365	0.37
	-----	Top/T4	1882.5	26365	20 MHz/QPSK	50	24	1	23.6	0.302	0.33
	-----	Bottom/B1	1882.5	26365	20 MHz/QPSK	1	49	0	24.9	0.315	0.32
	-----	Bottom/B1	1882.5	26365	20 MHz/QPSK	50	24	1	23.6	0.251	0.28
	-----	Bottom/B2	1882.5	26365	20 MHz/QPSK	1	49	0	24.9	0.348	0.36
	-----	Bottom/B2	1882.5	26365	20 MHz/QPSK	50	24	1	23.6	0.281	0.31
	-----	Bottom/B3	1882.5	26365	20 MHz/QPSK	1	49	0	24.9	0.377	0.39
	-----	Bottom/B3	1882.5	26365	20 MHz/QPSK	50	24	1	23.6	0.296	0.32
	-----	Bottom/B4	1882.5	26365	20 MHz/QPSK	1	49	0	24.9	0.396	0.41
	-----	Bottom/B4	1882.5	26365	20 MHz/QPSK	50	24	1	23.6	0.317	0.35
	-----	Left/T1	1882.5	26365	20 MHz/QPSK	1	49	0	24.9	0.309	0.32
	-----	Left/T1	1882.5	26365	20 MHz/QPSK	50	24	1	23.6	0.245	0.27
	-----	Right/T2	1882.5	26365	20 MHz/QPSK	1	49	0	24.9	0.334	0.34
	-----	Right/T2	1882.5	26365	20 MHz/QPSK	50	24	1	23.6	0.282	0.31
	-----	Left/T3	1882.5	26365	20 MHz/QPSK	1	49	0	24.9	0.369	0.38
	-----	Left/T3	1882.5	26365	20 MHz/QPSK	50	24	1	23.6	0.301	0.33
	-----	Right/T4	1882.5	26365	20 MHz/QPSK	1	49	0	24.9	0.463	0.47
	-----	Right/T4	1882.5	26365	20 MHz/QPSK	50	24	1	23.6	0.371	0.41
	-----	Left/B1	1882.5	26365	20 MHz/QPSK	1	49	0	24.9	0.231	0.24
	-----	Left/B1	1882.5	26365	20 MHz/QPSK	50	24	1	23.6	0.180	0.20
	-----	Right/B2	1882.5	26365	20 MHz/QPSK	1	49	0	24.9	0.214	0.22
	-----	Right/B2	1882.5	26365	20 MHz/QPSK	50	24	1	23.6	0.172	0.19
	-----	Left/B3	1882.5	26365	20 MHz/QPSK	1	49	0	24.9	0.226	0.23
	-----	Left/B3	1882.5	26365	20 MHz/QPSK	50	24	1	23.6	0.192	0.21
	-----	Right/B4	1882.5	26365	20 MHz/QPSK	1	49	0	24.9	0.266	0.27
	-----	Right/B4	1882.5	26365	20 MHz/QPSK	50	24	1	23.6	0.214	0.24
	-----	Back/T1	1882.5	26365	20 MHz/QPSK	1	49	0	24.9	0.756	0.77
	-----	Back/T1	1882.5	26365	20 MHz/QPSK	50	24	1	23.6	0.601	0.66
	9	Back/T2	1860.0	26140	20 MHz/QPSK	1	49	0	24.6	0.992	1.09
	-----		1882.5	26365	20 MHz/QPSK	1	49	0	24.9	0.985	1.01
	-----		1905.0	26590	20 MHz/QPSK	1	49	0	24.5	0.967	1.09
	-----		1860.0	26140	20 MHz/QPSK	50	24	1	23.8	0.803	0.84
	-----		1882.5	26365	20 MHz/QPSK	50	24	1	23.6	0.804	0.88
	-----		1905.0	26590	20 MHz/QPSK	50	24	1	23.7	0.803	0.86
	-----		1882.5	26365	20 MHz/QPSK	100	0	1	23.5	0.723	0.81
	-----	Front/T3	1882.5	26365	20 MHz/QPSK	1	49	0	24.9	0.711	0.73
	-----	Front/T3	1882.5	26365	20 MHz/QPSK	50	24	1	23.6	0.583	0.64
	-----	Front/T4	1882.5	26365	20 MHz/QPSK	1	49	0	24.9	0.757	0.78
	-----	Front/T4	1882.5	26365	20 MHz/QPSK	50	24	1	23.6	0.607	0.67
	-----	Back/B1	1882.5	26365	20 MHz/QPSK	1	49	0	24.9	0.563	0.58
	-----	Back/B1	1882.5	26365	20 MHz/QPSK	50	24	1	23.6	0.445	0.49
	-----	Back/B2	1882.5	26365	20 MHz/QPSK	1	49	0	24.9	0.584	0.60
	-----	Back/B2	1882.5	26365	20 MHz/QPSK	50	24	1	23.6	0.470	0.52
	-----	Front/B3	1882.5	26365	20 MHz/QPSK	1	49	0	24.9	0.618	0.63
	-----	Front/B3	1882.5	26365	20 MHz/QPSK	50	24	1	23.6	0.526	0.58
	-----	Front/B4	1882.5	26365	20 MHz/QPSK	1	49	0	24.9	0.769	0.79
	-----	Front/B4	1882.5	26365	20 MHz/QPSK	50	24	1	23.6	0.619	0.68
	-----	Repeat	1860.0	26140	20 MHz/QPSK	1	49	0	24.6	0.981	1.08

Body
1.6 W/kg (mW/g)
averaged over 1 gram

1. SAR Measurement
   Phantom Configuration ☐Left Head ☒Eli4 ☐Right Head
   SAR Configuration ☐Head ☒Body
2. Test Signal Call Mode ☐Test Code ☒Base Station Simulator
3. Test Configuration ☐With Belt Clip ☐Without Belt Clip ☒N/A
4. Tissue Depth is at least 15.0 cm

Jay M. Moulton
Vice President

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SAR Data Summary –LTE Band 30

MEASUREMENT RESULTS

Gap	Plot	Position/ Antenna	Frequency MHz	Frequency Ch.	BW/ Modulation	RB Size	RB Offset	MPR Target	End Power (dBm)	Measured SAR (W/kg)	Reported SAR (W/kg)
10 mm	-----	Top/T1	2310.0	27710	10 MHz/QPSK	1	24	0	25.0	0.745	0.75
	-----	Top/T1	2310.0	27710	10 MHz/QPSK	25	12	1	23.9	0.490	0.50
	-----	Top/T2	2310.0	27710	10 MHz/QPSK	1	24	0	25.0	0.570	0.57
	-----	Top/T2	2310.0	27710	10 MHz/QPSK	25	12	1	23.9	0.457	0.47
	-----	Top/T3	2310.0	27710	10 MHz/QPSK	1	24	0	25.0	0.611	0.61
	-----	Top/T3	2310.0	27710	10 MHz/QPSK	25	12	1	23.9	0.502	0.51
	-----	Top/T4	2310.0	27710	10 MHz/QPSK	1	24	0	25.0	0.670	0.67
	-----	Top/T4	2310.0	27710	10 MHz/QPSK	25	12	1	23.9	0.545	0.56
	-----	Bottom/B1	2310.0	27710	10 MHz/QPSK	1	24	0	25.0	0.780	0.78
	-----	Bottom/B1	2310.0	27710	10 MHz/QPSK	25	12	1	23.9	0.630	0.64
	-----	Bottom/B2	2310.0	27710	10 MHz/QPSK	1	24	0	25.0	0.580	0.58
	-----	Bottom/B2	2310.0	27710	10 MHz/QPSK	25	12	1	23.9	0.469	0.48
	-----	Bottom/B3	2310.0	27710	10 MHz/QPSK	1	24	0	25.0	0.628	0.63
	-----	Bottom/B3	2310.0	27710	10 MHz/QPSK	25	12	1	23.9	0.486	0.50
	-----	Bottom/B4	2310.0	27710	10 MHz/QPSK	1	24	0	25.0	0.695	0.70
	-----	Bottom/B4	2310.0	27710	10 MHz/QPSK	25	12	1	23.9	0.560	0.57
	-----	Left/T1	2310.0	27710	10 MHz/QPSK	1	24	0	25.0	0.105	0.11
	-----	Left/T1	2310.0	27710	10 MHz/QPSK	25	12	1	23.9	0.0850	0.09
	-----	Right/T2	2310.0	27710	10 MHz/QPSK	1	24	0	25.0	0.0950	0.10
	-----	Right/T2	2310.0	27710	10 MHz/QPSK	25	12	1	23.9	0.0780	0.08
	-----	Left/T3	2310.0	27710	10 MHz/QPSK	1	24	0	25.0	0.102	0.10
	-----	Left/T3	2310.0	27710	10 MHz/QPSK	25	12	1	23.9	0.0950	0.10
	-----	Right/T4	2310.0	27710	10 MHz/QPSK	1	24	0	25.0	0.118	0.12
	-----	Right/T4	2310.0	27710	10 MHz/QPSK	25	12	1	23.9	0.0970	0.10
	-----	Left/B1	2310.0	27710	10 MHz/QPSK	1	24	0	25.0	0.122	0.12
	-----	Left/B1	2310.0	27710	10 MHz/QPSK	25	12	1	23.9	0.099	0.10
	-----	Right/B2	2310.0	27710	10 MHz/QPSK	1	24	0	25.0	0.115	0.12
	-----	Right/B2	2310.0	27710	10 MHz/QPSK	25	12	1	23.9	0.0940	0.10
	-----	Left/B3	2310.0	27710	10 MHz/QPSK	1	24	0	25.0	0.111	0.11
	-----	Left/B3	2310.0	27710	10 MHz/QPSK	25	12	1	23.9	0.0950	0.10
	-----	Right/B4	2310.0	27710	10 MHz/QPSK	1	24	0	25.0	0.121	0.12
	-----	Right/B4	2310.0	27710	10 MHz/QPSK	25	12	1	23.9	0.0970	0.10
	-----	Back/T1	2310.0	27710	10 MHz/QPSK	1	24	0	25.0	0.690	0.69
	-----	Back/T1	2310.0	27710	10 MHz/QPSK	25	12	1	23.9	0.560	0.57
	-----	Back/T2	2310.0	27710	10 MHz/QPSK	1	24	0	25.0	0.575	0.58
	-----	Back/T2	2310.0	27710	10 MHz/QPSK	25	12	1	23.9	0.461	0.47
	-----	Front/T3	2310.0	27710	10 MHz/QPSK	1	24	0	25.0	0.448	0.45
	-----	Front/T3	2310.0	27710	10 MHz/QPSK	25	12	1	23.9	0.369	0.38
	-----	Front/T4	2310.0	27710	10 MHz/QPSK	1	24	0	25.0	0.376	0.38
	-----	Front/T4	2310.0	27710	10 MHz/QPSK	25	12	1	23.9	0.300	0.31
	10	Back/B1	2310.0	27710	10 MHz/QPSK	1	24	0	25.0	1.01	1.01
	-----	Back/B1	2310.0	27710	10 MHz/QPSK	25	12	1	23.9	0.815	0.83
	-----	Back/B2	2310.0	27710	10 MHz/QPSK	1	24	0	25.0	0.545	0.55
	-----	Back/B2	2310.0	27710	10 MHz/QPSK	25	12	1	23.9	0.446	0.46
	-----	Front/B3	2310.0	27710	10 MHz/QPSK	1	24	0	25.0	0.523	0.52
	-----	Front/B3	2310.0	27710	10 MHz/QPSK	25	12	1	23.9	0.437	0.45
	-----	Front/B4	2310.0	27710	10 MHz/QPSK	1	24	0	25.0	0.510	0.51
	-----	Front/B4	2310.0	27710	10 MHz/QPSK	25	12	1	23.9	0.402	0.41
	-----	Repeat	2310.0	27710	10 MHz/QPSK	1	24	0	25.0	0.992	0.99

Body
1.6 W/kg (mW/g)
averaged over 1 gram

1. SAR Measurement
   Phantom Configuration ☐Left Head ☒Eli4 ☐Right Head
   SAR Configuration ☐Head ☒Body
2. Test Signal Call Mode ☐Test Code ☒Base Station Simulator
3. Test Configuration ☐With Belt Clip ☐Without Belt Clip ☒N/A
4. Tissue Depth is at least 15.0 cm

Jay M. Moulton
Vice President

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SAR Data Summary –LTE Band 7

MEASUREMENT RESULTS

Gap	Plot	Position/ Antenna	Frequency MHz	Frequency Ch.	BW/ Modulation	RB Size	RB Offset	MPR Target	End Power (dBm)	Measured SAR (W/kg)	Reported SAR (W/kg)
10 mm	-----	Top/T1	2510	20850	20 MHz/QPSK	1	49	0	24.6	1.05	1.15
	-----		2535	21100	20 MHz/QPSK	1	49	0	24.4	1.18	1.36
	-----		2560	21350	20 MHz/QPSK	1	49	0	24.5	1.17	1.31
	-----		2510	20850	20 MHz/QPSK	50	24	1	23.8	0.857	0.90
	-----		2535	21100	20 MHz/QPSK	50	24	1	23.9	0.940	0.96
	-----		2560	21350	20 MHz/QPSK	50	24	1	23.4	0.918	1.05
	-----	Top/T2	2510	20850	20 MHz/QPSK	1	49	0	24.6	1.10	1.21
	-----		2535	21100	20 MHz/QPSK	1	49	0	24.4	0.951	1.09
	-----		2560	21350	20 MHz/QPSK	1	49	0	24.5	1.07	1.20
	-----		2510	20850	20 MHz/QPSK	50	24	1	23.8	0.731	0.77
	-----		2535	21100	20 MHz/QPSK	50	24	1	23.9	0.685	0.70
	-----		2560	21350	20 MHz/QPSK	50	24	1	23.4	0.704	0.81
	-----	Top/T3	2510	20850	20 MHz/QPSK	1	49	0	24.6	1.08	1.18
	-----		2535	21100	20 MHz/QPSK	1	49	0	24.4	1.12	1.29
	-----		2560	21350	20 MHz/QPSK	1	49	0	24.5	1.06	1.19
	-----		2510	20850	20 MHz/QPSK	50	24	1	23.8	0.932	0.98
	-----		2535	21100	20 MHz/QPSK	50	24	1	23.9	0.951	0.97
	-----		2560	21350	20 MHz/QPSK	50	24	1	23.4	0.944	1.08
	-----	Top/T4	2510	20850	20 MHz/QPSK	1	49	0	24.6	1.11	1.22
	-----		2535	21100	20 MHz/QPSK	1	49	0	24.4	1.17	1.34
	-----		2560	21350	20 MHz/QPSK	1	49	0	24.5	1.11	1.25
	-----		2510	20850	20 MHz/QPSK	50	24	1	23.8	0.940	0.98
	-----		2535	21100	20 MHz/QPSK	50	24	1	23.9	0.960	0.98
	-----		2560	21350	20 MHz/QPSK	50	24	1	23.4	0.970	1.11
	-----	Bottom/B1	2510	20850	20 MHz/QPSK	1	49	0	24.6	0.922	1.01
	-----		2535	21100	20 MHz/QPSK	1	49	0	24.4	1.06	1.22
	-----		2560	21350	20 MHz/QPSK	1	49	0	24.5	1.05	1.18
	-----		2510	20850	20 MHz/QPSK	50	24	1	23.8	0.767	0.80
	-----		2535	21100	20 MHz/QPSK	50	24	1	23.9	0.430	0.44
	-----		2560	21350	20 MHz/QPSK	50	24	1	23.4	0.770	0.88
	-----	Bottom/B2	2510	20850	20 MHz/QPSK	1	49	0	24.6	1.27	1.39
	-----		2535	21100	20 MHz/QPSK	1	49	0	24.4	1.26	1.45
	11		2560	21350	20 MHz/QPSK	1	49	0	24.5	1.31	1.47
	-----		2510	20850	20 MHz/QPSK	50	24	1	23.8	1.06	1.11
	-----		2535	21100	20 MHz/QPSK	50	24	1	23.9	1.04	1.06
	-----		2560	21350	20 MHz/QPSK	50	24	1	23.4	1.07	1.23
	-----		2560	21350	20 MHz/QPSK	100	0	1	23.9	0.852	0.87
	-----	Bottom/B3	2510	20850	20 MHz/QPSK	1	49	0	24.6	1.02	1.12
	-----		2535	21100	20 MHz/QPSK	1	49	0	24.4	1.06	1.22
	-----		2560	21350	20 MHz/QPSK	1	49	0	24.5	1.03	1.16
	-----		2510	20850	20 MHz/QPSK	50	24	1	23.8	0.851	0.89
	-----		2535	21100	20 MHz/QPSK	50	24	1	23.9	0.839	0.86
	-----		2560	21350	20 MHz/QPSK	50	24	1	23.4	0.844	0.97
	-----	Bottom/B4	2510	20850	20 MHz/QPSK	1	49	0	24.6	1.15	1.26
	-----		2535	21100	20 MHz/QPSK	1	49	0	24.4	1.15	1.32
	-----		2560	21350	20 MHz/QPSK	1	49	0	24.5	1.19	1.34
	-----		2510	20850	20 MHz/QPSK	50	24	1	23.8	0.972	1.02
	-----		2535	21100	20 MHz/QPSK	50	24	1	23.9	0.925	0.95
	-----		2560	21350	20 MHz/QPSK	50	24	1	23.4	0.983	1.13
									Body 1.6 W/kg (mW/g) averaged over 1 gram		

1. SAR Measurement
   Phantom Configuration ☐Left Head ☒Eli4 ☐Right Head
   SAR Configuration ☐Head ☒Body
2. Test Signal Call Mode ☐Test Code ☒Base Station Simulator
3. Test Configuration ☐With Belt Clip ☐Without Belt Clip ☒N/A
4. Tissue Depth is at least 15.0 cm

Jay M. Moulton
Vice President

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SAR Data Summary –LTE Band 7 (continued)

MEASUREMENT RESULTS

Gap	Plot	Position/ Antenna	Frequency MHz	Frequency Ch.	BW/ Modulation	RB Size	RB Offset	MPR Target	End Power (dBm)	Measured SAR (W/kg)	Reported SAR (W/kg)
10 mm	-----	Left/T1	2535	21100	20 MHz/QPSK	1	49	0	24.4	0.296	0.34
	-----	Left/T1	2535	21100	20 MHz/QPSK	50	24	1	23.9	0.236	0.24
	-----	Right/T2	2535	21100	20 MHz/QPSK	1	49	0	24.4	0.412	0.47
	-----	Right/T2	2535	21100	20 MHz/QPSK	50	24	1	23.9	0.337	0.35
	-----	Left/T3	2535	21100	20 MHz/QPSK	1	49	0	24.4	0.426	0.39
	-----	Left/T3	2535	21100	20 MHz/QPSK	50	24	1	23.9	0.321	0.33
	-----	Right/T4	2535	21100	20 MHz/QPSK	1	49	0	24.4	0.441	0.51
	-----	Right/T4	2535	21100	20 MHz/QPSK	50	24	1	23.9	0.354	0.36
	-----	Left/B1	2535	21100	20 MHz/QPSK	1	49	0	24.4	0.281	0.32
	-----	Left/B1	2535	21100	20 MHz/QPSK	50	24	1	23.9	0.227	0.23
	-----	Right/B2	2535	21100	20 MHz/QPSK	1	49	0	24.4	0.302	0.35
	-----	Right/B2	2535	21100	20 MHz/QPSK	50	24	1	23.9	0.246	0.25
	-----	Left/B3	2535	21100	20 MHz/QPSK	1	49	0	24.4	0.311	0.36
	-----	Left/B3	2535	21100	20 MHz/QPSK	50	24	1	23.9	0.259	0.27
	-----	Right/B4	2535	21100	20 MHz/QPSK	1	49	0	24.4	0.337	0.39
	-----	Right/B4	2535	21100	20 MHz/QPSK	50	24	1	23.9	0.273	0.28
	-----	Back/T1	2510	20850	20 MHz/QPSK	1	49	0	24.6	0.795	0.87
	-----		2535	21100	20 MHz/QPSK	1	49	0	24.4	0.899	1.03
	-----		2560	21350	20 MHz/QPSK	1	49	0	24.5	0.994	1.12
	-----		2535	21100	20 MHz/QPSK	50	24	1	23.9	0.742	0.76
	-----	Back/T2	2535	21100	20 MHz/QPSK	1	49	0	24.4	0.428	0.49
	-----		2535	21100	20 MHz/QPSK	50	24	1	23.9	0.343	0.35
	-----	Front/T3	2510	20850	20 MHz/QPSK	1	49	0	24.6	0.811	0.89
	-----		2535	21100	20 MHz/QPSK	1	49	0	24.4	0.851	0.98
	-----		2560	21350	20 MHz/QPSK	1	49	0	24.5	0.864	0.97
	-----		2535	21100	20 MHz/QPSK	50	24	1	23.9	0.621	0.64
	-----	Front/T4	2510	20850	20 MHz/QPSK	1	49	0	24.6	0.814	0.89
	-----		2535	21100	20 MHz/QPSK	1	49	0	24.4	0.860	0.99
	-----		2560	21350	20 MHz/QPSK	1	49	0	24.5	0.908	1.02
	-----		2535	21100	20 MHz/QPSK	50	24	1	23.9	0.680	0.70
	-----	Back/B1	2535	21100	20 MHz/QPSK	1	49	0	24.4	0.730	0.84
	-----		2535	21100	20 MHz/QPSK	50	24	1	23.9	0.591	0.61
	-----	Back/B2	2535	21100	20 MHz/QPSK	1	49	0	24.4	0.596	0.68
	-----		2535	21100	20 MHz/QPSK	50	24	1	23.9	0.381	0.39
	-----	Front/B3	2510	20850	20 MHz/QPSK	1	49	0	24.6	1.02	1.12
	-----		2535	21100	20 MHz/QPSK	1	49	0	24.4	1.06	1.22
	-----		2560	21350	20 MHz/QPSK	1	49	0	24.5	1.05	1.18
	-----		2510	20850	20 MHz/QPSK	50	24	1	23.8	0.904	0.95
	-----		2535	21100	20 MHz/QPSK	50	24	1	23.9	0.908	0.93
	-----		2560	21350	20 MHz/QPSK	50	24	1	23.4	0.914	1.05
	-----	Front/B4	2510	20850	20 MHz/QPSK	1	49	0	24.6	1.10	1.21
	-----		2535	21100	20 MHz/QPSK	1	49	0	24.4	1.14	1.31
	-----		2560	21350	20 MHz/QPSK	1	49	0	24.5	1.14	1.28
	-----		2510	20850	20 MHz/QPSK	50	24	1	23.8	0.852	0.89
	-----		2535	21100	20 MHz/QPSK	50	24	1	23.9	0.869	0.89
	-----		2560	21350	20 MHz/QPSK	50	24	1	23.4	0.887	1.02
	-----	Repeat	2560	21350	20 MHz/QPSK	1	49	0	24.5	1.29	1.45
						Body 1.6 W/kg (mW/g) averaged over 1 gram					

1. SAR Measurement
   Phantom Configuration ☐Left Head ☒Eli4 ☐Right Head
   SAR Configuration ☐Head ☒Body
2. Test Signal Call Mode ☐Test Code ☒Base Station Simulator
3. Test Configuration ☐With Belt Clip ☐Without Belt Clip ☒N/A
4. Tissue Depth is at least 15.0 cm

Jay M. Moulton
Vice President

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SAR Data Summary –LTE Band 41

MEASUREMENT RESULTS

Gap	Plot	Position/ Antenna	Frequency MHz	Frequency Ch.	BW/ Modulation	RB Size	RB Offset	MPR Target	End Power (dBm)	Measured SAR (W/kg)	Reported SAR (W/kg)
10 mm	-----	Top/T1	2593.0	40620	20 MHz/QPSK	1	49	0	24.6	0.762	0.84
	-----		2593.0	40620	20 MHz/QPSK	50	24	1	23.7	0.617	0.66
	-----	Top/T2	2506.0	39750	20 MHz/QPSK	1	49	0	24.5	0.570	0.64
	-----		2549.5	40185	20 MHz/QPSK	1	49	0	24.7	0.771	0.83
	-----		2593.0	40620	20 MHz/QPSK	1	49	0	24.6	0.876	0.96
	-----		2636.5	41055	20 MHz/QPSK	1	49	0	24.5	0.852	0.96
	-----		2680.0	41490	20 MHz/QPSK	1	49	0	24.6	0.932	1.02
	-----		2593.0	40620	20 MHz/QPSK	50	24	1	23.7	0.707	0.76
	-----	Top/T3	2506.0	39750	20 MHz/QPSK	1	49	0	24.5	0.556	0.62
	-----		2549.5	40185	20 MHz/QPSK	1	49	0	24.7	0.856	0.92
	-----		2593.0	40620	20 MHz/QPSK	1	49	0	24.6	0.889	0.97
	-----		2636.5	41055	20 MHz/QPSK	1	49	0	24.5	0.843	0.95
	-----		2680.0	41490	20 MHz/QPSK	1	49	0	24.6	0.851	0.93
	-----		2506.0	39750	20 MHz/QPSK	50	24	1	23.3	0.499	0.59
	-----		2549.5	40185	20 MHz/QPSK	50	24	1	23.5	0.668	0.75
	-----		2593.0	40620	20 MHz/QPSK	50	24	1	23.7	0.742	0.80
	-----		2636.5	41055	20 MHz/QPSK	50	24	1	23.6	0.722	0.79
	-----		2680.0	41490	20 MHz/QPSK	50	24	1	23.8	0.729	0.76
	-----	Top/T4	2506.0	39750	20 MHz/QPSK	1	49	0	24.5	0.643	0.72
	-----		2549.5	40185	20 MHz/QPSK	1	49	0	24.7	0.782	0.84
	12		2593.0	40620	20 MHz/QPSK	1	49	0	24.6	0.979	1.07
	-----		2636.5	41055	20 MHz/QPSK	1	49	0	24.5	0.952	1.07
	-----		2680.0	41490	20 MHz/QPSK	1	49	0	24.6	0.944	1.04
	-----		2506.0	39750	20 MHz/QPSK	50	24	1	23.3	0.518	0.61
	-----		2549.5	40185	20 MHz/QPSK	50	24	1	23.5	0.711	1.00
	-----		2593.0	40620	20 MHz/QPSK	50	24	1	23.7	0.759	0.81
	-----		2636.5	41055	20 MHz/QPSK	50	24	1	23.6	0.723	1.00
	-----		2680.0	41490	20 MHz/QPSK	50	24	1	23.8	0.718	0.95
	-----		2593.0	40620	20 MHz/QPSK	100	0	1	23.7	0.592	0.80
	-----	Bottom/B1	2506.0	39750	20 MHz/QPSK	1	49	0	24.5	0.527	0.59
	-----		2549.5	40185	20 MHz/QPSK	1	49	0	24.7	0.801	0.86
	-----		2593.0	40620	20 MHz/QPSK	1	49	0	24.6	0.824	0.72
	-----		2636.5	41055	20 MHz/QPSK	1	49	0	24.5	0.783	0.88
	-----		2680.0	41490	20 MHz/QPSK	1	49	0	24.6	0.765	0.84
	-----		2593.0	40620	20 MHz/QPSK	50	24	1	23.7	0.653	0.88
	-----	Bottom/B2	2506.0	39750	20 MHz/QPSK	1	49	0	24.5	0.814	0.91
	-----		2549.5	40185	20 MHz/QPSK	1	49	0	24.7	0.856	0.92
	-----		2593.0	40620	20 MHz/QPSK	1	49	0	24.6	0.898	0.78
	-----		2636.5	41055	20 MHz/QPSK	1	49	0	24.5	0.866	0.77
	-----		2680.0	41490	20 MHz/QPSK	1	49	0	24.6	0.850	0.74
	-----		2593.0	40620	20 MHz/QPSK	50	24	1	23.7	0.739	0.79
	-----	Bottom/B3	2506.0	39750	20 MHz/QPSK	1	49	0	24.5	0.688	0.61
	-----		2549.5	40185	20 MHz/QPSK	1	49	0	24.7	0.853	0.91
	-----		2593.0	40620	20 MHz/QPSK	1	49	0	24.6	0.884	0.97
	-----		2636.5	41055	20 MHz/QPSK	1	49	0	24.5	0.822	0.92
	-----		2680.0	41490	20 MHz/QPSK	1	49	0	24.6	0.856	0.94
	-----		2593.0	40620	20 MHz/QPSK	50	24	1	23.7	0.787	1.06

Body
1.6 W/kg (mW/g)
averaged over 1 gram

1. SAR Measurement
   Phantom Configuration ☐Left Head ☒Eli4 ☐Right Head
   SAR Configuration ☐Head ☒Body
2. Test Signal Call Mode ☐Test Code ☒Base Station Simulator
3. Test Configuration ☐With Belt Clip ☐Without Belt Clip ☒N/A
4. Tissue Depth is at least 15.0 cm

Jay M. Moulton
Vice President

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SAR Data Summary –LTE Band 41 (continued)

MEASUREMENT RESULTS

Gap	Plot	Position/ Antenna	Frequency MHz	Frequency Ch.	BW/ Modulation	RB Size	RB Offset	MPR Target	End Power (dBm)	Measured SAR (W/kg)	Reported SAR (W/kg)
10 mm	-----	Bottom/B4	2506.0	39750	20 MHz/QPSK	1	49	0	24.5	0.713	0.80
	-----		2549.5	40185	20 MHz/QPSK	1	49	0	24.7	0.854	0.92
	-----		2593.0	40620	20 MHz/QPSK	1	49	0	24.6	0.942	1.03
	-----		2636.5	41055	20 MHz/QPSK	1	49	0	24.5	0.902	1.01
	-----		2680.0	41490	20 MHz/QPSK	1	49	0	24.6	0.879	0.96
	-----		2593.0	40620	20 MHz/QPSK	50	24	1	23.7	0.787	0.84
	-----	Left/T1	2593.0	40620	20 MHz/QPSK	1	49	0	24.6	0.151	0.17
	-----	Left/T1	2593.0	40620	20 MHz/QPSK	50	24	1	23.7	0.122	0.13
	-----	Right/T2	2593.0	40620	20 MHz/QPSK	1	49	0	24.6	0.174	0.19
	-----	Right/T2	2593.0	40620	20 MHz/QPSK	50	24	1	23.7	0.139	0.15
	-----	Left/T3	2593.0	40620	20 MHz/QPSK	1	49	0	24.6	0.168	0.18
	-----	Left/T3	2593.0	40620	20 MHz/QPSK	50	24	1	23.7	0.146	0.16
	-----	Right/T4	2593.0	40620	20 MHz/QPSK	1	49	0	24.6	0.179	0.20
	-----	Right/T4	2593.0	40620	20 MHz/QPSK	50	24	1	23.7	0.144	0.15
	-----	Left/B1	2593.0	40620	20 MHz/QPSK	1	49	0	24.6	0.136	0.15
	-----	Left/B1	2593.0	40620	20 MHz/QPSK	50	24	1	23.7	0.111	0.12
	-----	Right/B2	2593.0	40620	20 MHz/QPSK	1	49	0	24.6	0.115	0.13
	-----	Right/B2	2593.0	40620	20 MHz/QPSK	50	24	1	23.7	0.0941	0.10
	-----	Left/B3	2593.0	40620	20 MHz/QPSK	1	49	0	24.6	0.119	0.13
	-----	Left/B3	2593.0	40620	20 MHz/QPSK	50	24	1	23.7	0.102	0.11
	-----	Right/B4	2593.0	40620	20 MHz/QPSK	1	49	0	24.6	0.122	0.13
	-----	Right/B4	2593.0	40620	20 MHz/QPSK	50	24	1	23.7	0.107	0.11
	-----	Back/T1	2593.0	40620	20 MHz/QPSK	1	49	0	24.6	0.645	0.71
	-----	Back/T1	2593.0	40620	20 MHz/QPSK	50	24	1	23.7	0.531	0.57
	-----	Back/T2	2593.0	40620	20 MHz/QPSK	1	49	0	24.6	0.494	0.54
	-----	Back/T2	2593.0	40620	20 MHz/QPSK	50	24	1	23.7	0.397	0.43
	-----	Front/T3	2593.0	40620	20 MHz/QPSK	1	49	0	24.6	0.668	0.73
	-----	Front/T3	2593.0	40620	20 MHz/QPSK	50	24	1	23.7	0.547	0.59
	-----	Front/T4	2593.0	40620	20 MHz/QPSK	1	49	0	24.6	0.678	0.74
	-----	Front/T4	2593.0	40620	20 MHz/QPSK	50	24	1	23.7	0.550	0.59
	-----	Back/B1	2593.0	40620	20 MHz/QPSK	1	49	0	24.6	0.445	0.49
	-----	Back/B1	2593.0	40620	20 MHz/QPSK	50	24	1	23.7	0.366	0.39
	-----	Back/B2	2593.0	40620	20 MHz/QPSK	1	49	0	24.6	0.277	0.30
	-----	Back/B2	2593.0	40620	20 MHz/QPSK	50	24	1	23.7	0.226	0.24
	-----	Front/B3	2593.0	40620	20 MHz/QPSK	1	49	0	24.6	0.359	0.39
	-----	Front/B3	2593.0	40620	20 MHz/QPSK	50	24	1	23.7	0.302	0.32
	-----	Front/B4	2593.0	40620	20 MHz/QPSK	1	49	0	24.6	0.389	0.43
	-----	Front/B4	2593.0	40620	20 MHz/QPSK	50	24	1	23.7	0.315	0.34
	-----	Repeat	2593.0	40620	20 MHz/QPSK	1	49	0	24.6	0.961	1.05

Body
1.6 W/kg (mW/g)
averaged over 1 gram

1. SAR Measurement
   Phantom Configuration ☐Left Head ☒Eli4 ☐Right Head
   SAR Configuration ☐Head ☒Body
2. Test Signal Call Mode ☐Test Code ☒Base Station Simulator
3. Test Configuration ☐With Belt Clip ☐Without Belt Clip ☒N/A
4. Tissue Depth is at least 15.0 cm

Jay M. Moulton
Vice President

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SAR Data Summary – 2450 MHz Body 802.11b

MEASUREMENT RESULTS									
Plot	Gap	Position	Frequency		Modulation	Antenna	End Power	Measured SAR (W/kg)	Reported SAR (W/kg)
			MHz	Ch.			(dBm)		
13	0 mm	Bottom	2437	6	DSSS	Tx0	21.00	0.620	0.62
-----			2462	11	DSSS		21.00	0.612	0.61
-----		Top	2437	6	DSSS	Tx1	21.00	0.270	0.27
							Body 1.6 W/kg (mW/g) averaged over 1 gram		

1. Battery is fully charged for all tests.
   Power Measured ☒Conducted ☐ERP ☐EIRP
2. SAR Measurement
   Phantom Configuration ☐Left Head ☒Eli4 ☐Right Head
   SAR Configuration ☐Head ☒Body
3. Test Signal Call Mode ☒Test Code ☐Base Station Simulator
4. Test Configuration ☐With Belt Clip ☐Without Belt Clip ☒N/A
5. Tissue Depth is at least 15.0 cm

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Vice President

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SAR Data Summary – 5250 MHz Body 802.11a

MEASUREMENT RESULTS									
Plot	Gap	Position	Frequency		Modulation	Antenna	End Power	Measured SAR (W/kg)	Reported SAR (W/kg)
			MHz	Ch.			(dBm)		
14	0 mm	Bottom	5300	60	OFDM	Tx0	21.00	0.290	0.29
-----		Top	5300	60	OFDM	Tx1	21.00	0.160	0.16
							Body 1.6 W/kg (mW/g) averaged over 1 gram		

1. Battery is fully charged for all tests.
   Power Measured ☒Conducted ☐ERP ☐EIRP
2. SAR Measurement
   Phantom Configuration ☐Left Head ☒Eli4 ☐Right Head
   SAR Configuration ☐Head ☒Body
3. Test Signal Call Mode ☒Test Code ☐Base Station Simulator
4. Test Configuration ☐With Belt Clip ☐Without Belt Clip ☒N/A
5. Tissue Depth is at least 15.0 cm

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Vice President

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SAR Data Summary – 5600 MHz Body 802.11a

MEASUREMENT RESULTS									
Plot	Gap	Position	Frequency		Modulation	Antenna	End Power	Measured SAR	Reported SAR
			MHz	Ch.			(dBm)	(W/kg)	(W/kg)
15	0 mm	Bottom	5620	124	OFDM	Tx0	21.00	0.289	0.29
-----		Top	5620	124	OFDM	Tx1	21.00	0.194	0.19
					Body 1.6 W/kg (mW/g) averaged over 1 gram				

1. Battery is fully charged for all tests.
   Power Measured ☒Conducted ☐ERP ☐EIRP
2. SAR Measurement
   Phantom Configuration ☐Left Head ☒Eli4 ☐Right Head
   SAR Configuration ☐Head ☒Body
3. Test Signal Call Mode ☒Test Code ☐Base Station Simulator
4. Test Configuration ☐With Belt Clip ☐Without Belt Clip ☒N/A
5. Tissue Depth is at least 15.0 cm

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Vice President

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SAR Data Summary – 5800 MHz Body 802.11a

MEASUREMENT RESULTS									
Plot	Gap	Position	Frequency		Modulation	Antenna	End Power	Measured SAR (W/kg)	Reported SAR (W/kg)
			MHz	Ch.			(dBm)		
16	0 mm	Bottom	5785	157	OFDM	Tx0	21.00	0.309	0.31
-----		Top	5785	157	OFDM	Tx1	21.00	0.103	0.10
							Body 1.6 W/kg (mW/g) averaged over 1 gram		

1. Battery is fully charged for all tests.
   Power Measured ☒Conducted ☐ERP ☐EIRP
2. SAR Measurement
   Phantom Configuration ☐Left Head ☒Eli4 ☐Right Head
   SAR Configuration ☐Head ☒Body
3. Test Signal Call Mode ☒Test Code ☐Base Station Simulator
4. Test Configuration ☐With Belt Clip ☐Without Belt Clip ☒N/A
5. Tissue Depth is at least 15.0 cm

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Vice President

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SAR Data Summary – Simultaneous Evaluation

The cellular antennas can transmit simultaneously with each other and with the WiFi antennas. The highest SAR value measured for each side/antenna was used to determine the simultaneous for each side. All values listed in red are estimated values based on the formula in KDB447498 D01 v06 section 4.3.2 b) on page 14. Using the highest reported SAR to calculate the simultaneous Tx using sum of two pairs each side (per KDB447498 D01 v06 section 4.3.2 c), the highlighted pairs produce the worst case simultaneous which is above the limit of 1.6 W/kg. If the pair that is evaluated meets the simultaneous SPLSR limit all other pairs will also meet the requirement. Therefore, only the highlighted pairs were evaluated. The highest value is 0.04 which meets the requirements of KDB 447498 D01 v06 section 4.3.2 c) on page 15. The calculation is shown below.

Side	T1	T2	T3	T4	B1	B2	B3	B4	WiFi
Top	1.36	1.21	1.29	1.34	0.40	0.40	0.40	0.40	0.27
Bottom	0.40	0.40	0.40	0.40	1.22	1.47	1.22	1.34	0.62
Left	0.57	0.40	0.51	0.40	0.56	0.40	0.51	0.40	0.40
Right	0.40	0.55	0.40	0.51	0.40	0.47	0.40	0.48	0.40
Back	1.12	1.25	0.40	0.40	0.90	1.30	0.40	0.40	0.40
Front	0.40	0.40	0.98	1.02	0.40	0.40	1.22	1.31	0.40

MEASUREMENT RESULTS –

Position	Antenna	Maxima			Antenna	Maxima			SAR_1	SAR_2	SAR Total
		X	Y	Z		X	Y	Z			
Top	T1	-32.00	69.00	-0.81	T4	19.00	-64.00	-0.71	1.36	1.34	2.70
Bottom	B1	39.26	75.28	-1.36	B2	-45.62	-67.23	-1.39	1.22	1.47	2.69
Back	T1	64.22	109.22	-1.36	T2	-54.00	102.00	-1.45	1.12	1.25	2.37
Front	B3	59.22	-105.87	-1.49	B4	-44.07	-105.82	-2.45	1.22	1.31	2.53
Bottom	WiFi	-8.36	7.00	-2.97	B2	-45.62	-67.23	-1.39	0.62	1.47	2.09

Body
1.6 W/kg (mW/g)
averaged over 1 gram

Top – 142.44 mm SPLSR=0.03
Bottom – 165.87 mm SPLSR=0.03
Back – 118.44 mm SPLSR=0.03
Front – 103.29 mm SPLSR=0.02
Bottom – 83.07 mm SPLSR=0.04

Simultaneous Separation Ratio Calculation

$(SAR_1 + SAR_2)^{1.5}/R_i \leq 0.04$ rounded to two digits

Simultaneous Separation Ratio Calculation

$(SAR_1 + SAR_2)^{1.5}/R_i \leq 0.04$ rounded to two digits

$(1.36 + 1.34)^{1.5}/142.44 = 0.03$, for the Top
$(1.22 + 1.47)^{1.5}/165.87 = 0.03$, for the Bottom
$(1.12 + 1.47)^{1.5}/118.44 = 0.03$, for the Back
$(1.22 + 0.31)^{1.5}/103.29 = 0.04$, for the Front
$(0.62 + 1.47)^{1.5}/83.07 = 0.04$, for the Bottom

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12. Test Equipment List

Table 12.1 Equipment Specifications

Type	Calibration Due Date	Calibration Done Date	Serial Number
Staubli Robot TX60L	N/A	N/A	F07/55M6A1/A/01
Measurement Controller CS8c	N/A	N/A	1012
ELI4 & ELI5 Flat Phantom	N/A	N/A	1065, 2037
Device Holder	N/A	N/A	N/A
Data Acquisition Electronics 4	01/13/2022	01/13/2021	1321
Data Acquisition Electronics 4	04/22/2022	04/22/2021	1416
SPEAG E-Field Probe EX3DV4	02/23/2021	02/23/2021	3662
SPEAG E-Field Probe EX3DV4	04/16/2022	04/16/2021	7531
Speag Validation Dipole D750V3	06/04/2022	06/04/2021	1053
Speag Validation Dipole D900V2	06/04/2022	06/04/2021	1d128
Speag Validation Dipole D1750V2	06/03/2022	06/03/2021	1061
Speag Validation Dipole D1900V2	06/04/2022	06/04/2021	5d147
Speag Validation Dipole D2300V2	06/03/2022	06/03/2021	1060
Speag Validation Dipole D2550V2	06/03/2022	06/03/2021	1003
Speag Validation Dipole D2450V2	06/03/2022	06/03/2021	881
Speag Validation Dipole D5GHzV2	06/08/2022	06/08/2021	1119
Agilent N1911A Power Meter	03/16/2022	03/16/2021	GB45100254
Agilent N1922A Power Sensor	03/17/2022	03/17/2021	MY45240464
Agilent 8561E Spectrum Analyzer	03/15/2022	03/15/2021	3135A01724
Agilent (HP) 8350B Signal Generator	03/16/2022	03/16/2021	2749A10226
Agilent (HP) 83525A RF Plug-In	03/16/2022	03/16/2021	2647A01172
Agilent (HP) 8753C Vector Network Analyzer	03/15/2022	03/15/2021	3135A01724
Agilent (HP) 85047A S-Parameter Test Set	03/15/2022	03/15/2021	2904A00595
Anritsu MT8820C	08/06/2022	08/06/2021	6201381721
Anritsu MT8820C	04/23/2022	04/23/2021	6201176199
Agilent 778D Dual Directional Coupler	N/A	N/A	MY48220184
MiniCircuits BW-N20W5+ Fixed 20 dB Attenuator	N/A	N/A	N/A
MiniCircuits SPL-10.7+ Low Pass Filter	N/A	N/A	R8979513746
Aprel Dielectric Probe Assembly	N/A	N/A	0011
Head Equivalent Matter (750 MHz)	N/A	N/A	N/A
Head Equivalent Matter (900 MHz)	N/A	N/A	N/A
Head Equivalent Matter (1750 MHz)	N/A	N/A	N/A
Head Equivalent Matter (1900 MHz)	N/A	N/A	N/A
Head Equivalent Matter (2300 MHz)	N/A	N/A	N/A
Head Equivalent Matter (2550 MHz)	N/A	N/A	N/A
Head Equivalent Matter (2450 MHz)	N/A	N/A	N/A
Head Equivalent Matter (3-6 GHz)	N/A	N/A	N/A

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13. Conclusion

The SAR measurement indicates that the EUT complies with the RF radiation exposure limits of the FCC/IC. These measurements are taken to simulate the RF effects exposure under worst-case conditions. Precise laboratory measures were taken to assure repeatability of the tests. The tested device complies with the requirements in respect to all parameters subject to the test. The test results and statements relate only to the item(s) tested.

Please note that the absorption and distribution of electromagnetic energy in the body is a very complex phenomena that depends on the mass, shape, and size of the body; the orientation of the body with respect to the field vectors; and, the electrical properties of both the body and the environment. Other variables that may play a substantial role in possible biological effects are those that characterize the environment (e.g. ambient temperature, air velocity, relative humidity, and body insulation) and those that characterize the individual (e.g. age, gender, activity level, debilitation, or disease). Because innumerable factors may interact to determine the specific biological outcome of an exposure to electromagnetic fields, any protection guide shall consider maximal amplification of biological effects as a result of field-body interactions, environmental conditions, and physiological variables.

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14. References

[1] Federal Communications Commission, ET Docket 93-62, Guidelines for Evaluating the Environmental Effects of Radio Frequency Radiation, August 1996

[2] ANSI/IEEE C95.1 – 1992, American National Standard Safety Levels with respect to Human Exposure to Radio Frequency Electromagnetic Fields, 300kHz to 100GHz, New York: IEEE, 1992.

[3] ANSI/IEEE C95.3 – 2002, IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields – RF and Microwave, New York: IEEE, 2002.

[4] International Electrotechnical Commission, IEC 62209-2 (Edition 1.0), Human Exposure to radio frequency fields from hand-held and body mounted wireless communication devices – Human models, instrumentation, and procedures – Part 2: Procedure to determine the specific absorption rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz), March 2010.

[5] IEEE Standard 1528 – 2013, IEEE Recommended Practice for Determining the Peak-Spatial Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communication Devices: Measurement Techniques, June 2013.

[6] Industry Canada, RSS – 102 Issue 5, Radio Frequency Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands), March 2015.

[7] Health Canada, Safety Code 6, Limits of Human Exposure to Radiofrequency Electromagnetic Fields in the Frequency Range from 3kHz to 300 GHz, 2009.

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Appendix A – System Validation Plots and Data

```
************************************************************
Test Result for UIM Dielectric Parameter
Sat 18/Sep/2021
Freq   Frequency(GHz)
FCC_eH Limits for Head Epsilon
FCC_sH Limits for Head Sigma
Test_e Epsilon  of  UIM
Test_s Sigma of UIM
************************************************************
```

Freq	FCC_eH	FCC_sH	Test_e	Test_s
0.7000	42.20	0.89	41.65	0.87
0.7040	42.18	0.89	41.622	0.874*
0.7075	42.163	0.89	41.598	0.878*
0.7100	42.15	0.89	41.58	0.88
0.7110	42.145	0.89	41.575	0.881*
0.7130	42.135	0.89	41.565	0.883*
0.7200	42.10	0.89	41.53	0.89
0.7255	42.073	0.89	41.492	0.896*
0.7300	42.05	0.89	41.46	0.90
0.7380	42.002	0.89	41.412	0.90*
0.7400	41.99	0.89	41.40	0.90
0.7500	41.94	0.89	41.35	0.91
0.7600	41.89	0.89	41.29	0.92
0.7700	41.84	0.89	41.23	0.93
0.7800	41.79	0.90	41.17	0.93
0.7820	41.778	0.90	41.158	0.932*
0.7900	41.73	0.90	41.11	0.94
0.7930	41.715	0.90	41.098	0.94*
0.8000	41.68	0.90	41.07	0.94

* value interpolated

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****
Test Result for UIM Dielectric Parameter
Thu 16/Sep/2021
Freq Frequency(GHz)
eH Limits for Head Epsilon
sH Limits for Head Sigma
Test_e Epsilon of UIM
Test_s Sigma of UIM
****

Freq	eH	sH	Test_e	Test_s
0.8000	41.68	0.90	41.30	0.90
0.8100	41.63	0.90	41.25	0.91
0.8200	41.58	0.90	41.19	0.92
0.8215	41.573	0.90	41.198	0.92*
0.8225	41.568	0.90	41.203	0.92*
0.8264	41.548	0.90	41.222	0.92*
0.8300	41.53	0.90	41.24	0.92
0.8315	41.526	0.902	41.236	0.922*
0.8324	41.523	0.902	41.233	0.922*
0.8350	41.515	0.905	41.225	0.925*
0.8366	41.51	0.907	41.22	0.927*
0.8375	41.508	0.908	41.218	0.928*
0.8400	41.50	0.91	41.21	0.93
0.8415	41.50	0.912	41.207	0.932*
0.8420	41.50	0.912	41.206	0.932*
0.8426	41.50	0.913	41.205	0.933*
0.8466	41.50	0.917	41.197	0.937*
0.8470	41.50	0.917	41.196	0.937*
0.8500	41.50	0.92	41.19	0.94
0.8520	41.50	0.922	41.186	0.942*
0.8600	41.50	0.93	41.17	0.95
0.8700	41.50	0.94	41.15	0.96
0.8800	41.50	0.95	41.14	0.97
0.8824	41.50	0.952	41.138	0.972*
0.8900	41.50	0.96	41.13	0.98
0.8975	41.50	0.968	41.123	0.988*
0.8976	41.50	0.968	41.122	0.988*
0.9000	41.50	0.97	41.12	0.99
0.9100	41.50	0.98	41.11	1.00
0.9126	41.497	0.98	41.107	1.00*
0.9200	41.49	0.98	41.10	1.00
0.9300	41.47	0.99	41.08	1.01
0.9400	41.45	0.99	41.07	1.02
0.9500	41.43	0.99	41.05	1.03

* value interpolated

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```
************************************************************
Test Result for UIM Dielectric Parameter
Thu 16/Sep/2021
Freq   Frequency(GHz)
eH Limits for Head Epsilon
sH Limits for Head Sigma
Test_e Epsilon  of  UIM
Test_s Sigma of UIM
************************************************************
```

Freq	eH	sH	Test_e	Test_s
0.8000	41.68	0.90	41.02	0.91
0.8100	41.63	0.90	40.97	0.92
0.8200	41.58	0.90	40.91	0.93
0.8215	41.573	0.90	40.918	0.93*
0.8225	41.568	0.90	40.923	0.93*
0.8264	41.548	0.90	40.942	0.93*
0.8300	41.53	0.90	40.96	0.93
0.8315	41.526	0.902	40.956	0.932*
0.8324	41.523	0.902	40.953	0.932*
0.8350	41.515	0.905	40.945	0.935*
0.8366	41.51	0.907	40.94	0.937*
0.8375	41.508	0.908	40.938	0.938*
0.8400	41.50	0.91	40.93	0.94
0.8415	41.50	0.912	40.927	0.942*
0.8420	41.50	0.912	40.926	0.942*
0.8426	41.50	0.913	40.925	0.943*
0.8466	41.50	0.917	40.917	0.947*
0.8470	41.50	0.917	40.916	0.947*
0.8500	41.50	0.92	40.91	0.95
0.8520	41.50	0.922	40.906	0.952*
0.8600	41.50	0.93	40.89	0.96
0.8700	41.50	0.94	41.30	0.94
0.8800	41.50	0.95	41.29	0.95
0.8824	41.50	0.952	41.288	0.952*
0.8900	41.50	0.96	41.28	0.96
0.8975	41.50	0.968	41.273	0.968*
0.8976	41.50	0.968	41.272	0.968*
0.9000	41.50	0.97	41.27	0.97
0.9100	41.50	0.98	41.26	0.98
0.9126	41.497	0.98	41.257	0.98*
0.9200	41.49	0.98	41.25	0.98
0.9300	41.47	0.99	41.24	0.99
0.9400	41.45	0.99	41.22	0.99
0.9500	41.43	0.99	41.20	1.00

* value interpolated

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```
************************************************************
Test Result for UIM Dielectric Parameter
Sat 18/Sep/2021
Freq   Frequency(GHz)
eH     Limits for Head Epsilon
sH     Limits for Head Sigma
Test_e Epsilon  of  UIM
Test_s Sigma of UIM
************************************************************
```

Freq	eH	sH	Test_e	Test_s
0.8000	41.68	0.90	41.03	0.88
0.8100	41.63	0.90	40.98	0.89
0.8200	41.58	0.90	40.92	0.90
0.8215	41.573	0.90	40.928	0.90*
0.8225	41.568	0.90	40.933	0.90*
0.8264	41.548	0.90	40.952	0.90*
0.8300	41.53	0.90	40.97	0.90
0.8315	41.526	0.902	40.966	0.902*
0.8324	41.523	0.902	40.963	0.902*
0.8350	41.515	0.905	40.955	0.905*
0.8366	41.51	0.907	40.95	0.907*
0.8375	41.508	0.908	40.948	0.908*
0.8400	41.50	0.91	40.94	0.91
0.8415	41.50	0.912	40.937	0.912*
0.8420	41.50	0.912	40.936	0.912*
0.8426	41.50	0.913	40.935	0.913*
0.8466	41.50	0.917	40.927	0.917*
0.8470	41.50	0.917	40.926	0.917*
0.8500	41.50	0.92	40.92	0.92
0.8520	41.50	0.922	40.916	0.922*
0.8600	41.50	0.93	40.90	0.93
0.8700	41.50	0.94	40.89	0.94
0.8800	41.50	0.95	40.88	0.94
0.8824	41.50	0.952	40.878	0.942*
0.8900	41.50	0.96	40.87	0.95
0.8975	41.50	0.968	40.863	0.958*
0.8976	41.50	0.968	40.862	0.958*
0.9000	41.50	0.97	40.86	0.96
0.9100	41.50	0.98	40.85	0.97
0.9126	41.497	0.98	40.847	0.97*
0.9200	41.49	0.98	40.84	0.97
0.9300	41.47	0.99	40.83	0.98
0.9400	41.45	0.99	40.81	0.98
0.9500	41.43	0.99	40.80	0.99

* value interpolated

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************************************************************
Test Result for UIM Dielectric Parameter
Mon 20/Sep/2021
Freq   Frequency(GHz)
eH Limits for Head Epsilon
sH Limits for Head Sigma
Test_e Epsilon  of  UIM
Test_s Sigma of UIM
************************************************************
```

Freq	eH	sH	Test_e	Test_s
1.7000	40.16	1.34	39.87	1.34
1.7100	40.14	1.35	39.85	1.35
1.7124	40.138	1.35	39.845	1.352*
1.7200	40.13	1.35	39.83	1.36
1.7300	40.11	1.36	39.81	1.36
1.7326	40.105	1.363	39.805	1.363*
1.7400	40.09	1.37	39.79	1.37
1.7450	40.085	1.37	39.78	1.375*
1.7475	40.083	1.37	39.775	1.378*
1.7476	40.082	1.37	39.775	1.378*
1.7500	40.08	1.37	39.77	1.38
1.7524	40.075	1.372	39.765	1.382*
1.7526	40.075	1.373	39.765	1.383*
1.7599	40.06	1.38	39.75	1.39*
1.7600	40.06	1.38	39.75	1.39
1.7674	40.053	1.38	39.735	1.397*
1.7700	40.05	1.38	39.73	1.40
1.7749	40.04	1.385	39.72	1.40*
1.7750	40.04	1.385	39.72	1.40*
1.7800	40.03	1.39	39.71	1.40
1.7824	40.028	1.39	39.705	1.402*
1.7826	40.027	1.39	39.705	1.403*
1.7900	40.02	1.39	39.69	1.41

* value interpolated

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************************************************************
Test Result for UIM Dielectric Parameter
Mon 20/Sep/2021
Freq   Frequency(GHz)
FCC_eH Limits for Head Epsilon
FCC_sH Limits for Head Sigma
Test_e Epsilon  of  UIM
Test_s Sigma of UIM
************************************************************
```

Freq	FCC_eH	FCC_sH	Test_e	Test_s
1.8500	40.00	1.40	39.88	1.36
1.8524	40.00	1.40	39.875	1.36*
1.8600	40.00	1.40	39.86	1.36
1.8700	40.00	1.40	39.84	1.37
1.8800	40.00	1.40	39.83	1.37
1.8825	40.00	1.40	39.828	1.373*
1.8900	40.00	1.40	39.82	1.38
1.9000	40.00	1.40	39.82	1.38
1.9050	40.00	1.40	39.81	1.385*
1.9076	40.00	1.40	39.805	1.388*
1.9100	40.00	1.40	39.80	1.39
1.9200	40.00	1.40	39.79	1.39
1.9224	40.00	1.40	39.788	1.392*
1.9300	40.00	1.40	39.78	1.40
1.9400	40.00	1.40	39.77	1.40
1.9500	40.00	1.40	39.75	1.41
1.9600	40.00	1.40	39.74	1.42
1.9700	40.00	1.40	39.73	1.42
1.9776	40.00	1.40	39.715	1.428*
1.9800	40.00	1.40	39.71	1.43
1.9900	40.00	1.40	39.70	1.44

* value interpolated

```
************************************************************
Test Result for UIM Dielectric Parameter
Thu 23/Sep/2021
Freq   Frequency(GHz)
FCC_eH Limits for Head Epsilon
FCC_sH Limits for Head Sigma
Test_e Epsilon  of  UIM
Test_s Sigma of UIM
************************************************************
```

Freq	FCC_eH	FCC_sH	Test_e	Test_s
2.2900	39.48	1.66	38.2	1.68
2.3000	39.47	1.67	38.18	1.69
2.3100	39.45	1.68	38.16	1.70
2.3200	39.43	1.68	38.14	1.71
2.3300	39.41	1.69	38.12	1.72
2.3400	39.40	1.70	38.10	1.73
2.3500	39.38	1.71	38.08	1.74
2.3600	39.36	1.72	38.06	1.75
2.3700	39.34	1.73	38.05	1.76
2.3800	39.32	1.74	38.03	1.77
2.3900	39.31	1.75	38.01	1.78
2.4000	39.29	1.76	37.99	1.79
2.4100	39.27	1.76	37.98	1.80

* value interpolated

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************************************************************
Test Result for UIM Dielectric Parameter
Wed 22/Sep/2021
Freq   Frequency(GHz)
FCC_eH Limits for Head Epsilon
FCC_sH Limits for Head Sigma
Test_e Epsilon  of  UIM
Test_s Sigma of UIM
************************************************************
```

Freq	FCC_eH	FCC_sH	Test_e	Test_s
2.4900	39.15	1.84	38.83	1.85
2.5000	39.14	1.85	38.81	1.86
2.5060	39.128	1.862	38.792	1.866*
2.5100	39.12	1.87	38.78	1.87
2.5200	39.11	1.88	38.76	1.89
2.5300	39.10	1.89	38.74	1.90
2.5350	39.095	1.895	38.725	1.905*
2.5400	39.09	1.90	38.71	1.91
2.5495	39.071	1.91	38.691	1.929*
2.5500	39.07	1.91	38.69	1.93
2.5600	39.06	1.92	38.67	1.94
2.5700	39.05	1.93	38.64	1.95
2.5800	39.03	1.94	38.62	1.97
2.5900	39.02	1.95	38.59	1.98
2.5930	39.017	1.953	38.593	1.98*
2.5950	39.015	1.955	38.595	1.98*
2.6000	39.01	1.96	38.60	1.98
2.6100	39.00	1.97	38.58	1.99
2.6200	38.98	1.99	38.57	2.00
2.6300	38.97	2.00	38.55	2.01
2.6365	38.964	2.007	38.537	2.017*
2.6400	38.96	2.01	38.53	2.02
2.6500	38.95	2.02	38.51	2.03
2.6600	38.93	2.03	38.50	2.04
2.6700	38.92	2.04	38.48	2.05
2.6800	38.91	2.05	38.46	2.06
2.6900	38.89	2.06	38.44	2.07
2.7000	38.88	2.07	38.43	2.08

* value interpolated

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************************************************************
Test Result for UIM Dielectric Parameter
Mon 30/Aug/2021
Freq   Frequency(GHz)
FCC_eH Limits for Head Epsilon
FCC_sH Limits for Head Sigma
Test_e Epsilon  of  UIM
Test_s Sigma of UIM
************************************************************
```

Freq	FCC_eH	FCC_sH	Test_e	Test_s
2.4100	39.26	1.76	38.44	1.76
2.4120	39.258	1.762	38.436	1.762*
2.4200	39.25	1.77	38.42	1.77
2.4300	39.24	1.78	38.40	1.78
2.4370	39.226	1.787	38.393	1.794*
2.4400	39.22	1.79	38.39	1.80
2.4420	39.216	1.792	38.38	1.802*
2.4500	39.20	1.80	38.34	1.81
2.4600	39.19	1.81	38.34	1.82
2.4620	39.186	1.812	38.336	1.822*
2.4700	39.17	1.82	38.32	1.83
2.4720	39.168	1.822	38.316	1.836*
2.4800	39.16	1.83	38.30	1.86

* value interpolated

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************************************************************
Test Result for UIM Dielectric Parameter
Mon 30/Aug/2021
Freq   Frequency(GHz)
FCC_eH Limits for Head Epsilon
FCC_sH Limits for Head Sigma
Test_e Epsilon  of  UIM
Test_s Sigma of UIM
************************************************************
```

Freq	FCC_eH	FCC_sH	Test_e	Test_s
5.1000	36.10	4.55	34.94	4.56
5.1200	36.08	4.57	34.92	4.58
5.1400	36.05	4.59	34.89	4.60
5.1600	36.03	4.61	34.87	4.63
5.1800	36.01	4.63	34.85	4.65
5.2000	35.99	4.65	34.82	4.67
5.2200	35.96	4.68	34.80	4.69
5.2400	35.94	4.70	34.78	4.71
5.2500	35.93	4.71	34.765	4.725*
5.2600	35.92	4.72	34.75	4.74
5.2800	35.89	4.74	34.72	4.76
5.3000	35.87	4.76	34.69	4.78
5.3200	35.85	4.78	34.67	4.80
5.3400	35.83	4.80	34.65	4.83
5.3600	35.80	4.82	34.63	4.85
5.3800	35.78	4.84	34.60	4.87
5.4000	35.76	4.86	34.58	4.89
5.4200	35.73	4.88	34.56	4.92
5.4400	35.71	4.90	34.55	4.94
5.4600	35.69	4.92	34.52	4.96
5.4800	35.67	4.94	34.49	4.98
5.5000	35.64	4.96	34.46	5.00
5.5200	35.62	4.98	34.44	5.02
5.5400	35.60	5.00	34.42	5.04
5.5600	35.57	5.02	34.40	5.07
5.5800	35.55	5.04	34.37	5.09
5.6000	35.53	5.07	34.35	5.11
5.6200	35.51	5.09	34.32	5.13
5.6400	35.48	5.11	34.30	5.16
5.6600	35.46	5.13	34.28	5.18
5.6800	35.44	5.15	34.26	5.20
5.7000	35.41	5.17	34.23	5.22
5.7200	35.39	5.19	34.21	5.25
5.7400	35.37	5.21	34.19	5.27
5.7450	35.365	5.215	34.185	5.275*
5.7500	35.36	5.22	34.18	5.28*
5.7600	35.35	5.23	34.17	5.29
5.7800	35.32	5.25	34.15	5.31
5.7850	35.315	5.255	34.14	5.315*
5.8000	35.30	5.27	34.11	5.33
5.8200	35.28	5.29	34.09	5.36
5.8250	35.273	5.295	34.085	5.365*
5.8400	35.25	5.31	34.07	5.38
5.8600	35.23	5.33	34.05	5.40

* value interpolated

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RF Exposure Lab

Plot 1

DUT: Dipole 750 MHz D750V3; Type: D750V3; Serial: D750V3 - SN 1053

Communication System: CW; Frequency: 750 MHz; Duty Cycle: 1:1
Medium: HSL750; Medium parameters used (interpolated): f = 750 MHz; σ = 0.91 S/m; ε_r = 41.35; ρ = 1000 kg/m^3
Phantom section: Flat Section

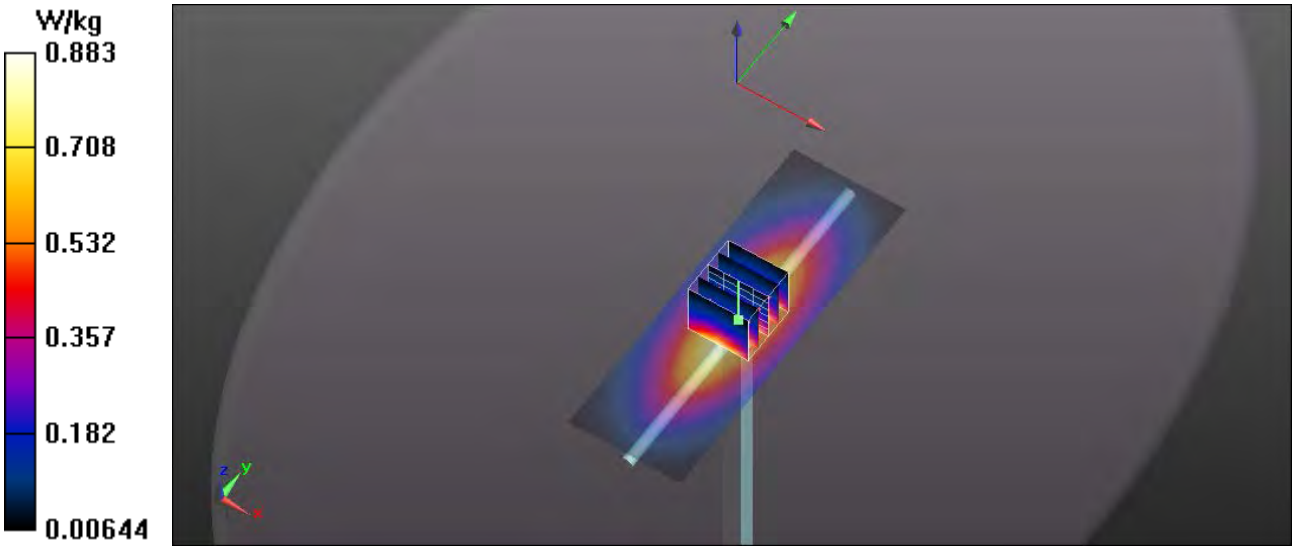
Test Date: Date: 9/18/2021; Ambient Temp: 23 °C; Tissue Temp: 21 °C

Probe: EX3DV4 – SN3662; ConvF(9.38, 9.38, 9.38); Calibrated: 2/23/2021;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1416; Calibrated: 4/22/2021
Phantom: ELI v5.0; Type: QDOVA002AA; Serial: 2037
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

Procedure Notes:

750 MHz Head/Verification/Area Scan (41x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.875 W/kg

750 MHz Head/Verification /Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 32.697 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 1.923 mW/g
P_{in}= 100 mW
SAR(1 g) = 0.858 mW/g; SAR(10 g) = 0.552 mW/g
Maximum value of SAR (measured) = 0.883 W/kg



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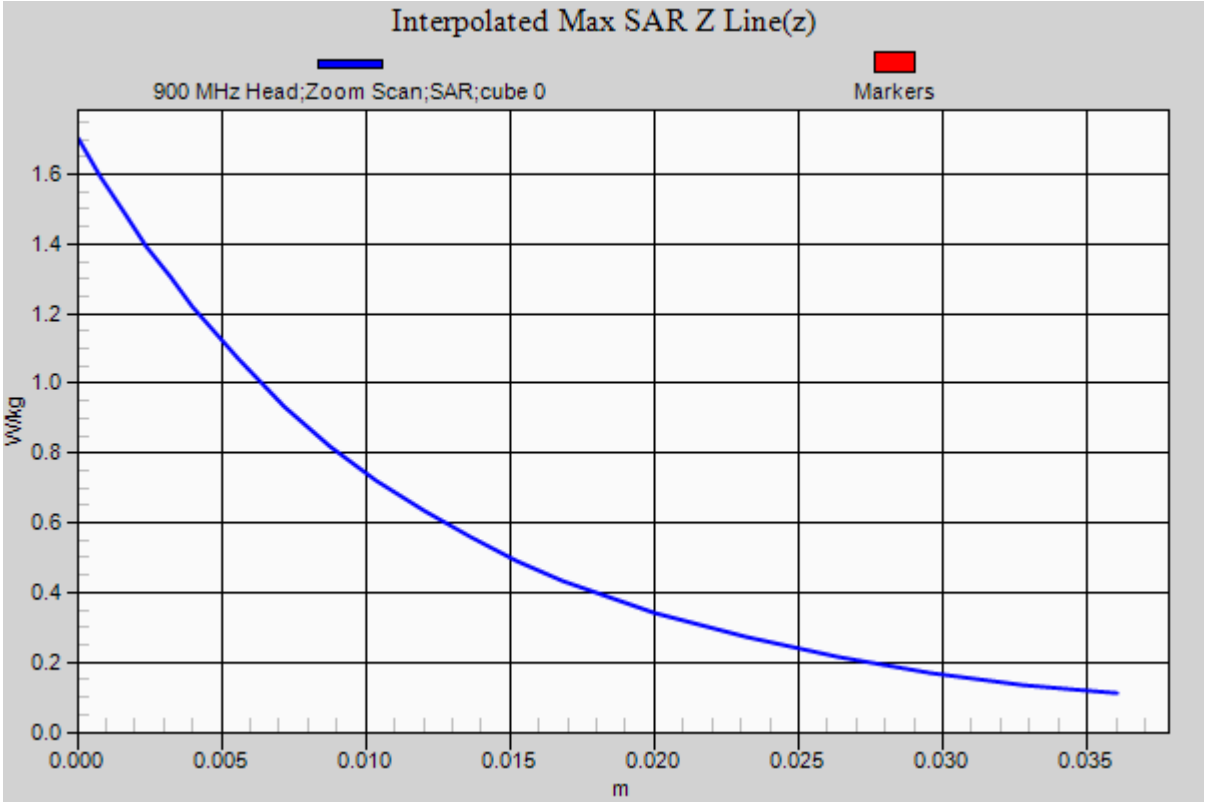

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RF Exposure Lab

Plot 2

DUT: Dipole 900 MHz D900V2; Type: D900V2; Serial: D900V2 - SN: 1d128

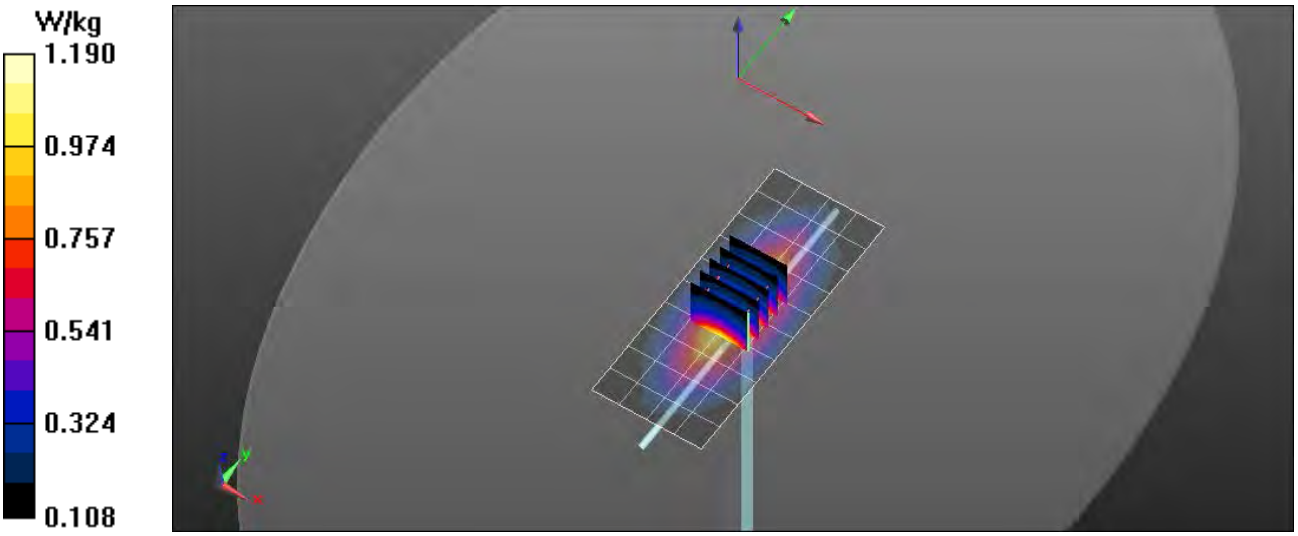
Communication System: CW; Frequency: 900 MHz; Duty Cycle: 1:1
Medium: HSL900; Medium parameters used: f = 900 MHz; σ = 0.99 S/m; ε_r = 41.12; ρ = 1000 kg/m^3
Phantom section: Flat Section

Test Date: Date: 9/16/2021; Ambient Temp: 23 °C; Tissue Temp: 21 °C
Probe: EX3DV4 – SN7531; ConvF(10.16, 10.16, 10.16); Calibrated: 4/16/2021;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1321; Calibrated: 1/13/2021
Phantom: ELI v4.0; Type: QDOVA001BB; Serial: 1065
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

Procedure Notes:

900 MHz/Verification/Area Scan (5x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.14 W/kg

900 MHz/Verification/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 33.692 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 1.44 W/kg
P_{in}= 100 mW
SAR(1 g) = 1.14 W/kg; SAR(10 g) = 0.722 W/kg
Maximum value of SAR (measured) = 1.19 W/kg



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