RF Exposure Lab

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CERTIFICATE OF COMPLIANCE
SAR EVALUATION

Aegex Technologies	Dates of Test: February 4-13, 2019
84 Peachtree St. NW	Test Report Number: SAR.20190202
Atlanta, GA 30303	Revision A

FCC ID:	2AGVY-AEGEX10-LTB01
IC Certificate:	21074-AEG10-LTB1
Model(s):	aegex10
Test Sample:	Engineering Unit Same as Production
Serial Number:	BT72407113
Equipment Type:	Wireless Intrinsically Safe Tablet
Classification:	Portable Transmitter Next to Body
TX Frequency Range:	699 – 716 MHz, 777 – 787 MHz, 814 – 849 MHz; 1710 – 1780 MHz, 1850 – 1915 MHz, 2305 – 2315 MHz, 2500 – 2570 MHz, 2496 – 2690 MHz, 2412 – 2462 MHz, 2402 – 2480 MHz
Frequency Tolerance:	± 2.5 ppm
Maximum RF Output:	750 MHz (LTE) – 24.5 dBm, 850 MHz (WCDMA) – 24.5 dBm, 850 MHz (LTE) – 24.5 dBm, 1750 MHz (WCDMA) – 24.5 dBm, 1750 MHz (LTE) – 24.5 dBm, 1900 MHz (WCDMA) – 24.5 dBm, 1900 MHz (LTE) – 24.5 dBm, 2300 MHz (LTE) – 24.5 dBm, 2500 MHz (LTE) – 24.5 dBm, 2600 MHz (LTE) – 24.5 dBm, 2450 MHz (b) – 15.0 dBm, 2450 MHz (g) – 15.0 dBm, 2450 MHz (n20) – 15.0 dBm, 2450 MHz (n40) – 13.0 dBm, 2450 MHz (ac) – 13.0 dBm, 5250 MHz (a) – 10.0 dBm, 5250 MHz (n20) – 10.0 dBm, 5250 MHz (n40) – 8.0 dBm, 5250 MHz (ac) – 8.0 dBm, 5600 MHz (a) – 10.0 dBm, 5600 MHz (n20) – 10.0 dBm, 5600 MHz (n40) – 8.0 dBm, 5600 MHz (ac) – 8.0 dBm, 5800 MHz (a) – 10.0 dBm, 5800 MHz (n20) – 10.0 dBm, 5800 MHz (n40) – 8.0 dBm, 5800 MHz (ac) – 8.0 dBm Conducted
Signal Modulation:	WCDMA, QPSK, 16QAM, DSSS, OFDM
Antenna Type:	Internal
Application Type:	Certification
FCC Rule Parts:	Part 2, 15C, 22, 24, 27
KDB Test Methodology:	KDB 447498 D01 v06, KDB 248227 v02r02, KDB 616217 D04 v01r02, KDB 941225 D01 v03r01, KDB 941225 D02 v02r01 & KDB 941225 D05 v02r05
Industry Canada:	RSS-102 Issue 5, Safety Code 6
Max. Stand Alone SAR Value:	1.41 W/kg Reported
Max. Simultaneous SAR Value:	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 62209-2:2010 (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
Testing Cert. # 2387.01

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1. Introduction

This measurement report shows compliance of the Aegex Technologies Model aegex10 FCC ID: 2AGVY-AEGEX10-LTB01 with FCC Part 2, 1093, ET Docket 93-62 Rules for mobile and portable devices and IC Certificate: 21074-AEG10-LTB1 with RSS102 Issue 5 & Safety Code 6. The FCC has 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 Aegex Technologies Model aegex10 and therefore apply only to the tested sample.

The test procedures, as described in ANSI C95.1 – 1999 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 – 2013 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 aegex10 Wireless Intrinsically Safe Tablet. The table also shows the tolerance for the power level for each mode.

Band	Technology	Class	3GPP Nominal Power dBm	Calibrated Nominal Power dBm	Tolerance dBm	Lower Tolerance dBm	Upper Tolerance dBm
Band 12 – 750 MHz	LTE	3	23.0	23.5	±1.0	22.5	24.5
Band 12 – 750 MHz	LTE - Reduced	3	23.0	17.0	±1.0	16.0	18.0
Band 13 – 750 MHz	LTE	3	23.0	23.5	±1.0	22.5	24.5
Band 13 – 750 MHz	LTE - Reduced	3	23.0	17.0	±1.0	16.0	18.0
Band 17 – 750 MHz	LTE	3	23.0	23.5	±1.0	22.5	24.5
Band 17 – 750 MHz	LTE - Reduced	3	23.0	17.0	±1.0	16.0	18.0
Band 5 – 850 MHz	WCDMA/HSPA	3	23.0	23.5	±1.0	22.5	24.5
Band 5 – 850 MHz	WCDMA/HSPA - Reduced	3	23.0	17.0	±1.0	16.0	18.0
Band 5 – 835 MHz	LTE	3	23.0	23.5	±1.0	22.5	24.5
Band 5 – 835 MHz	LTE - Reduced	3	23.0	17.0	±1.0	16.0	18.0
Band 26 – 835 MHz	LTE	3	23.0	23.5	±1.0	22.5	24.5
Band 26 – 835 MHz	LTE - Reduced	3	23.0	17.0	±1.0	16.0	18.0
Band 4 – 1750 MHz	WCDMA/HSPA	3	23.0	23.5	±1.0	22.5	24.5
Band 4 – 1750 MHz	WCDMA/HSPA - Reduced	3	23.0	13.0	±1.0	12.0	14.0
Band 4 – 1750 MHz	LTE	3	23.0	23.5	±1.0	22.5	24.5
Band 4 – 1750 MHz	LTE - Reduced	3	23.0	17.0	±1.0	16.0	18.0
Band 66 – 1750 MHz	LTE	3	23.0	23.5	±1.0	22.5	24.5
Band 66 – 1750 MHz	LTE - Reduced	3	23.0	17.0	±1.0	16.0	18.0
Band 2 – 1900 MHz	WCDMA/HSPA	3	23.0	23.5	±1.0	22.5	24.5
Band 2 – 1900 MHz	WCDMA/HSPA - Reduced	3	23.0	13.0	±1.0	12.0	14.0
Band 2 – 1900 MHz	LTE	3	23.0	23.5	±1.0	22.5	24.5
Band 2 – 1900 MHz	LTE - Reduced	3	23.0	17.0	±1.0	16.0	18.0
Band 25 – 1900 MHz	LTE	3	23.0	23.5	±1.0	22.5	24.5
Band 25 – 1900 MHz	LTE - Reduced	3	23.0	17.0	±1.0	16.0	18.0
Band 30 – 2300 MHz	LTE	3	23.0	23.5	±1.0	22.5	24.5
Band 30 – 2300 MHz	LTE - Reduced	3	23.0	17.0	±1.0	16.0	18.0
Band 7 – 2500 MHz	LTE	3	23.0	23.5	±1.0	22.5	24.5
Band 7 – 2500 MHz	LTE - Reduced	3	23.0	14.0	±1.0	13.0	15.0
Band 41 – 2500 MHz	LTE	3	23.0	23.5	±1.0	22.5	24.5
Band 41 – 2500 MHz	LTE - Reduced	3	23.0	17.0	±1.0	16.0	18.0
WLAN – 2.4 GHz	802.11bgn20	N/A	18.0	13.5	±1.5	12.0	15.0
WLAN – 2.4 GHz	802.11n40ac	N/A	18.0	11.5	±1.5	10.0	13.0
WLAN – 5 GHz	802.11an20	N/A	16.5	8.5	±1.5	7.0	10.0
WLAN – 5 GHz	802.11n40ac	N/A	16.5	6.5	±1.5	5.0	8.0
Bluetooth	802.15.1	N/A	N/A	N/A	N/A	N/A	4.0

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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.

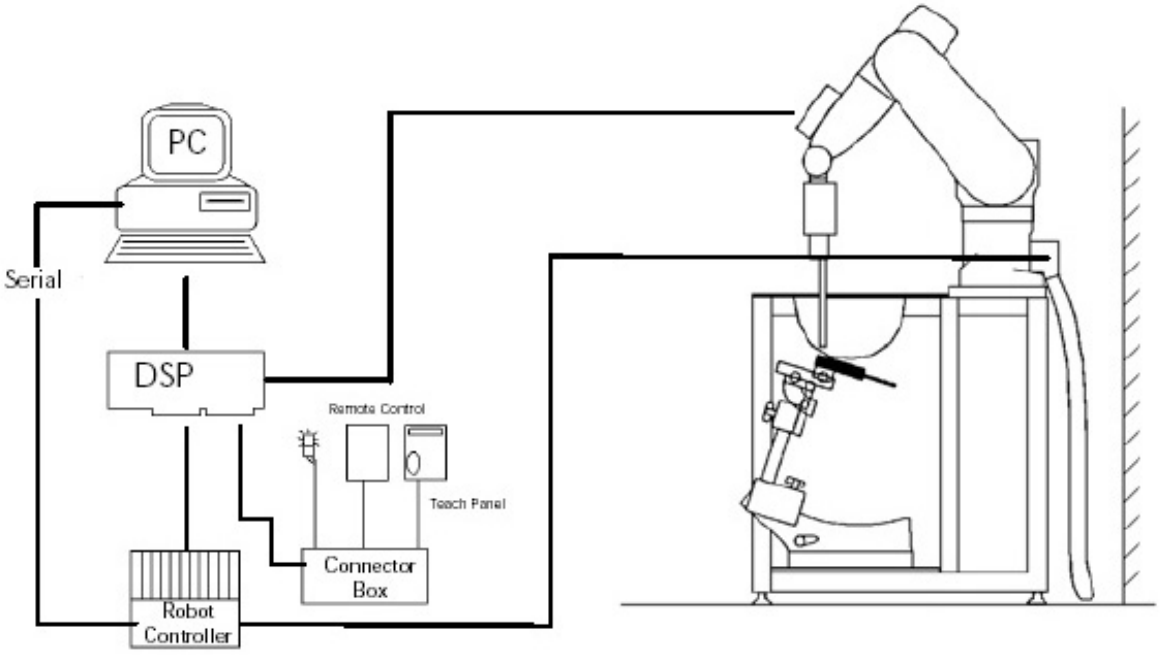

Figure 2.1 SAR Measurement System Setup

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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

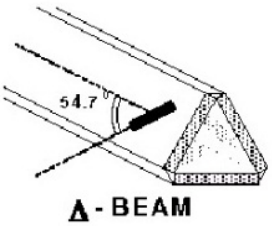

Figure 2.2 Triangular Probe Configurations

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

$$SAR = C\frac{\Delta T}{\Delta t} \qquad SAR = \frac{|E|^2 \cdot \sigma}{\rho}$$

where:

Δt = exposure time (30 seconds),

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

ΔT = temperature increase due to RF exposure.

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;

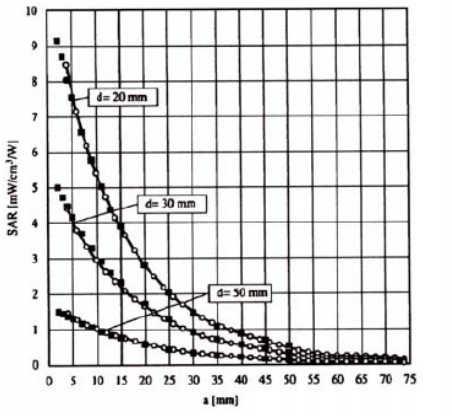

Figure 2.4 E-Field and Temperature Measurements at 900MHz

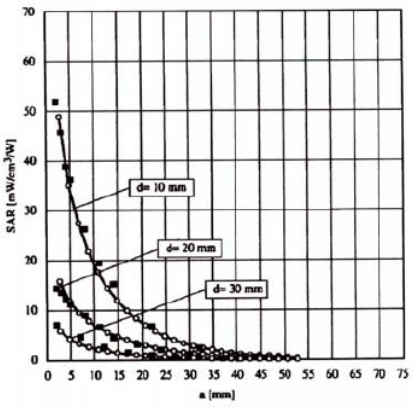

Figure 2.5 E-Field and Temperature Measurements at 1800MHz

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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.

- 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

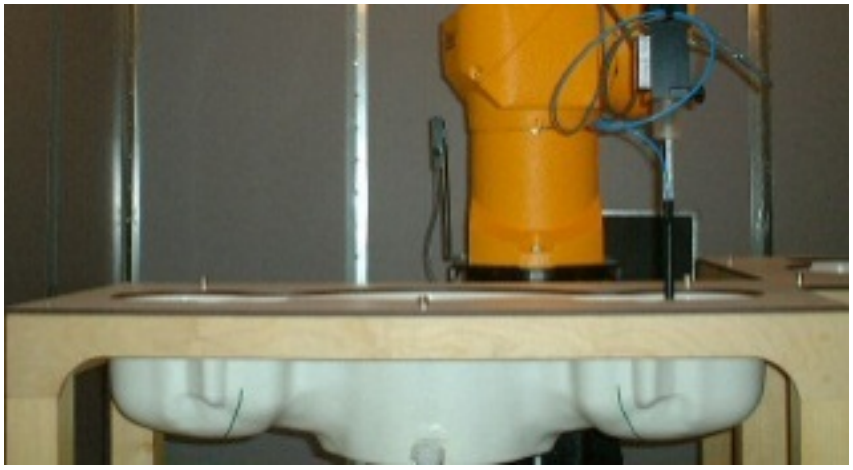

Figure 2.6 SAM Twin Phantom

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 IEEE1528 – 2013 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 Body	835 MHz Body	1750 MHz Body	1900 MHz Body	2300 MHz Body	2550 MHz Body	2450 MHz Body	5 GHz Body
Mixing Percentage									
Water		Proprietary Purchased From Speag	52.50	Proprietary Purchased From Speag	69.91	Proprietary Purchased From Speag	Proprietary Purchased From Speag	73.20	Proprietary Purchased From Speag
Sugar			45.00		0.00			0.00	
Salt			1.40		0.13			0.10	
HEC			1.00		0.00			0.00	
Bactericide			0.10		0.00			0.00	
DGBE			0.00		29.96			26.70	
Dielectric Constant	Target	55.53	55.20	53.43	53.30	52.90	52.57	52.70	Various
Conductivity (S/m)	Target	0.96	0.97	1.49	1.52	1.81	2.09	1.95	Various

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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 Body		835 MHz Body		1750 MHz Body	
Date(s)		Feb. 7, 2019		Feb. 5, 2019		Feb. 7, 2019	
Liquid Temperature (˚C)	20.0	Target	Measured	Target	Measured	Target	Measured
Dielectric Constant: ε		55.35	55.57	55.20	55.91	53.43	53.32
Conductivity: σ		0.96	0.99	0.97	0.99	1.49	1.52
		1900 MHz Body		2300 MHz Body		2550 MHz Body	
Date(s)		Feb. 4, 2019		Feb. 13, 2019		Feb. 12, 2019	
Liquid Temperature (˚C)	20.0	Target	Measured	Target	Measured	Target	Measured
Dielectric Constant: ε		53.30	52.07	52.90	52.63	52.57	52.47
Conductivity: σ		1.52	1.47	1.81	1.84	2.09	2.12
		2450 MHz Body		5250 MHz Body		5600 MHz Body	
Date(s)		Feb. 13, 2019		Feb. 8, 2019		Feb. 8, 2019	
Liquid Temperature (˚C)	20.0	Target	Measured	Target	Measured	Target	Measured
Dielectric Constant: ε		52.70	52.64	48.95	48.96	48.47	48.43
Conductivity: σ		1.95	1.96	5.36	5.35	5.77	5.74
		5750 MHz Body					
Date(s)		Feb. 8, 2019					
Liquid Temperature (˚C)	20.0	Target	Measured				
Dielectric Constant: ε		48.27	48.21				
Conductivity: σ		5.94	5.91				

See Appendix A for data printout.

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 (%)	Plot Number
07-Feb-2019	750 MHz	8.55	8.65	Body	+ 1.17	1
05-Feb-2019	835 MHz	9.57	9.53	Body	- 0.42	2
07-Feb-2019	1750 MHz	36.50	36.90	Body	+ 1.10	3
04-Feb-2019	1900 MHz	39.90	39.80	Body	- 0.25	4
13-Feb-2019	2300 MHz	47.30	48.20	Body	+ 1.90	5
12-Feb-2019	2550 MHz	52.40	53.10	Body	+ 1.34	6
13-Feb-2019	2450 MHz	51.00	52.00	Body	+ 1.96	7
08-Feb-2019	5250 MHz	76.80	77.60	Body	+ 1.04	8
08-Feb-2019	5600 MHz	79.50	79.10	Body	- 0.50	9
08-Feb-2019	5750 MHz	76.20	76.60	Body	+ 0.52	10

See Appendix A for data plots.

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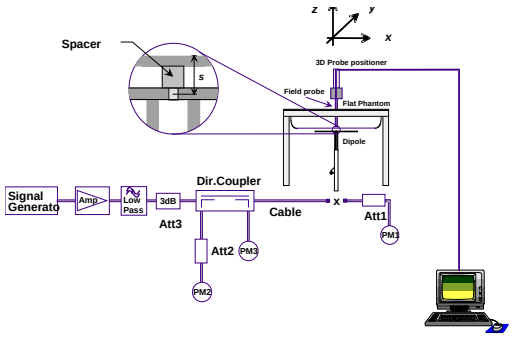

Figure 7.1 Dipole Validation Test Setup

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8. LTE Document Checklist

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

LTE Operating Band	Uplink (transmit) Low - high	Downlink (Receive) Low - high	Duplex mode (FDD/TDD)
2	1850-1910	1930-1990	FDD
4	1710-1755	2110-2155	FDD
5	824-849	869-894	FDD
7	2500-2570	2620-2690	FDD
12	699-716	729-746	FDD
13	777-787	746-756	FDD
17	704-716	734-746	FDD
25	1850-1915	1930-1995	FDD
26	814-849	859-894	FDD
30	2305-2315	2350-2360	FDD
41	2496-2690	2496-2690	TDD
66	1710-1780	2110-2200	FDD

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)
2	1.4, 3, 5, 10, 15, 20	1850-1910
4	1.4, 3, 5, 10, 15, 20	1710-1755
5	5, 10	824-849
7	5, 10, 15, 20	2500-2570
12	5, 10	699-716
13	5, 10	777-787
17	5, 10	704-716
25	1.4, 3, 5, 10, 15, 20	1850-1915
26	1.4, 3, 5, 10, 15	814-849
30	5, 10	2305-2315
41	5, 10, 15, 20	2496-2690
66	1.4, 3, 5, 10, 15, 20	1710-1780

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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	
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
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
5	5	826.5	20425	836.5	20525	846.5	20625
5	10	829.0	20450	836.5	20525	844.0	20600
7	5	2502.5	20775	2535.0	21100	2567.5	21425
7	10	2505.0	20800	2535.0	21100	2565.0	21400
7	15	2507.5	20825	2535.0	21100	2562.5	21375
7	20	2510.0	20850	2535.0	21100	2560.0	21350
12	5	701.5	23035	707.5	23095	713.5	23155
12	10	704.0	23060	707.5	23095	711.0	23129
13	5	779.5	23205	782.0	23230	784.5	23225
13	10	-----	-----	782.0	23230	-----	-----
17	5	706.5	23755	710.0	23790	713.5	23824
17	10	709.0	23780	710.0	23790	711.0	23799
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
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
30	5	2307.5	27685	2310	27710	2312.5	27735
30	10	-----	-----	2310	27710	-----	-----
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
66	1.4	1710.7	132015	1755.0	132422	1779.3	132665
66	3	1711.5	132007	1755.0	132422	1778.5	132657
66	5	1712.5	131997	1755.0	132422	1777.5	132647
66	10	1716.1	132033	1755.0	132422	1775.0	132622
66	15	1717.5	132047	1755.0	132422	1772.5	132597
66	20	1720.0	132072	1755.0	132422	1770.0	132572

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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 4 antennas:
   - WWAN Main (Transmit and Receive) Antenna
   - WWAN Diversity (Receive Only) Antenna
   - WLAN Main (Transmit and Receive) Antenna
   - WLAN Aux (Transmit and Receive) Antenna

   Transmission relationship
   - All transmission (TX) is limited to the WWAN and WLAN antennas only
   - The device is unable to transmit WCDMA/HSPA and LTE simultaneously.
   - The Diversity antenna is receive only antenna which is reserved for the WWAN operation.
   - Rx is simultaneous on Main and Diversity
   - Simultaneous Tx with the WWAN and WLAN/BT is allowed.

Antenna port	WCDMA/HSPA		LTE		802.11 b/g/n/BT	
	TX	RX	TX	RX	TX	RX
#1 WWAN Main	**Yes**	**Yes**	**Yes**	**Yes**	No	No
#2 WWAN Diversity	**No**	**Yes**	**No**	**Yes**	No	No
#2 WLAN Main	No	No	No	No	**Yes**	**Yes**
#3 WLAN Aux	No	No	No	No	**Yes**	**Yes**

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. 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 optional. It was disabled 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
   c) A-MPR was disabled during testing.

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

The maximum average conducted output power measured for the testing is listed on pages 49-96 of this report. The below table shows the factory set point with the allowable tolerance.

Band	Technology	Class	3GPP Nominal Power dBm	Calibrated Nominal Power dBm	Tolerance dBm	Lower Tolerance dBm	Upper Tolerance dBm
Band 12 – 750 MHz	LTE	3	23.0	23.5	±1.0	22.5	24.5
Band 12 – 750 MHz	LTE - Reduced	3	23.0	17.0	±1.0	16.0	18.0
Band 13 – 750 MHz	LTE	3	23.0	23.5	±1.0	22.5	24.5
Band 13 – 750 MHz	LTE - Reduced	3	23.0	17.0	±1.0	16.0	18.0
Band 17 – 750 MHz	LTE	3	23.0	23.5	±1.0	22.5	24.5
Band 17 – 750 MHz	LTE - Reduced	3	23.0	17.0	±1.0	16.0	18.0
Band 5 – 835 MHz	LTE	3	23.0	23.5	±1.0	22.5	24.5
Band 5 – 835 MHz	LTE - Reduced	3	23.0	17.0	±1.0	16.0	18.0
Band 26 – 835 MHz	LTE	3	23.0	23.5	±1.0	22.5	24.5
Band 26 – 835 MHz	LTE - Reduced	3	23.0	17.0	±1.0	16.0	18.0
Band 4 – 1750 MHz	LTE	3	23.0	23.5	±1.0	22.5	24.5
Band 4 – 1750 MHz	LTE - Reduced	3	23.0	17.0	±1.0	16.0	18.0
Band 66 – 1750 MHz	LTE	3	23.0	23.5	±1.0	22.5	24.5
Band 66 – 1750 MHz	LTE - Reduced	3	23.0	17.0	±1.0	16.0	18.0
Band 2 – 1900 MHz	LTE	3	23.0	23.5	±1.0	22.5	24.5
Band 2 – 1900 MHz	LTE - Reduced	3	23.0	17.0	±1.0	16.0	18.0
Band 25 – 1900 MHz	LTE	3	23.0	23.5	±1.0	22.5	24.5
Band 25 – 1900 MHz	LTE - Reduced	3	23.0	17.0	±1.0	16.0	18.0
Band 30 – 2300 MHz	LTE	3	23.0	23.5	±1.0	22.5	24.5
Band 30 – 2300 MHz	LTE - Reduced	3	23.0	17.0	±1.0	16.0	18.0
Band 7 – 2500 MHz	LTE	3	23.0	23.5	±1.0	22.5	24.5
Band 7 – 2500 MHz	LTE - Reduced	3	23.0	14.0	±1.0	13.0	15.0
Band 41 – 1900 MHz	LTE	3	23.0	23.5	±1.0	22.5	24.5
Band 41 – 1900 MHz	LTE - Reduced	3	23.0	17.0	±1.0	16.0	18.0

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	Calibrated Nominal Power dBm	Tolerance dBm	Lower Tolerance dBm	Upper Tolerance dBm
Band 5 – 850 MHz	WCDMA/HSPA	3	23.0	23.5	±1.0	22.5	24.5
Band 5 – 850 MHz	WCDMA/HSPA - Reduced	3	23.0	17.0	±1.0	16.0	18.0
Band 4 – 1750 MHz	WCDMA/HSPA	3	23.0	23.5	±1.0	22.5	24.5
Band 4 – 1750 MHz	WCDMA/HSPA - Reduced	3	23.0	13.0	±1.0	12.0	14.0
Band 2 – 1900 MHz	WCDMA/HSPA	3	23.0	23.5	±1.0	22.5	24.5
Band 2 – 1900 MHz	WCDMA/HSPA - Reduced	3	23.0	13.0	±1.0	12.0	14.0
WLAN – 2.4 GHz	802.11bgn20	N/A	18.0	13.5	±1.5	12.0	15.0
WLAN – 2.4 GHz	802.11n40ac	N/A	18.0	11.5	±1.5	10.0	13.0
WLAN – 5 GHz	802.11an20	N/A	16.5	8.5	±1.5	7.0	10.0
WLAN – 5 GHz	802.11n40ac	N/A	16.5	6.5	±1.5	5.0	8.0
Bluetooth	802.15.1	N/A	N/A	N/A	N/A	N/A	4.0

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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 27-32 of this report. The table in item 9 shows the factory set point with the allowable tolerance.

11) Identify the simultaneous transmission conditions for the voice and data configurations supported by all wireless modes, device configurations and frequency bands, for the head and body exposure conditions and device operating configurations (handset flip or cover positions, antenna diversity conditions etc.)

The device is unable to transmit WCDMA & LTE simultaneously and WLAN & Bluetooth simultaneously.

The device is able to transmit WWAN and WLAN/BT simultaneously.

TX Modes	WCDMA	LTE	802.11 a/b/g/n	Bluetooth
1	**ON**	OFF	**ON**	OFF
2	OFF	**ON**	**ON**	OFF
3	**ON**	OFF	OFF	**ON**
4	OFF	**ON**	OFF	**ON**

12) 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 required to satisfy SAR compliance for the cellular bands. There are two inductive sensors located on each side of the main antenna. The sensors were measured to determine the distance from the device which they would become active. Both sensors become active at 16 ± 1 mm.

13) 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

Testing at the 0 mm distance did not require any special settings. The power sensor would always be active during this testing. AT commands were used to deactivate the sensors to insure the device could still meet the SAR limits at the minimum distance -1 mm. No special software or firmware was required.

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9. 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 testing was conducted on all edges closest to each antenna. The back, left and top sides were tested for the WWAN antenna. The remaining sides were not tested as the WWAN antenna was more than 2.5 cm from the side. The back, left and top sides were tested for the WLAN Main antenna and the back and left was tested for the WLAN Aux antenna. The remaining sides were not tested as the antenna was more than 2.5 cm from these sides. All further test reductions are shown on page 47 for WCDMA bands, page 33-46 for WLAN/BT and pages 97-111 for LTE bands. The testing was conducted with the tablet at 0 mm from the phantom. The highest SAR value in each band/mode was re-tested with the power sensor deactivated with a gap of 14 mm which is the lowest tolerance of the hysteresis -1 mm. See the photo in Appendix C for a pictorial of the setups and antenna locations.

The Bluetooth was excluded due to low transmit power. The maximum Tx power for Bluetooth is 4.0 dBm (2.5 mW). The minimum distance the user can get to the antenna is 0 mm. Please see the calculations below.

For FCC, [(max. power, mW)/(min. distance, mm)]*$\sqrt{f_{(GHz)}} \leq 3.0$. Therefore, the calculation is (2.5/5)*$\sqrt{2.48}$ = 0.79 which is less than 3.0.

For ISED, at 0 mm distance the maximum Tx power must be below 4 mW which 2.5 mW is less than 4 mW.

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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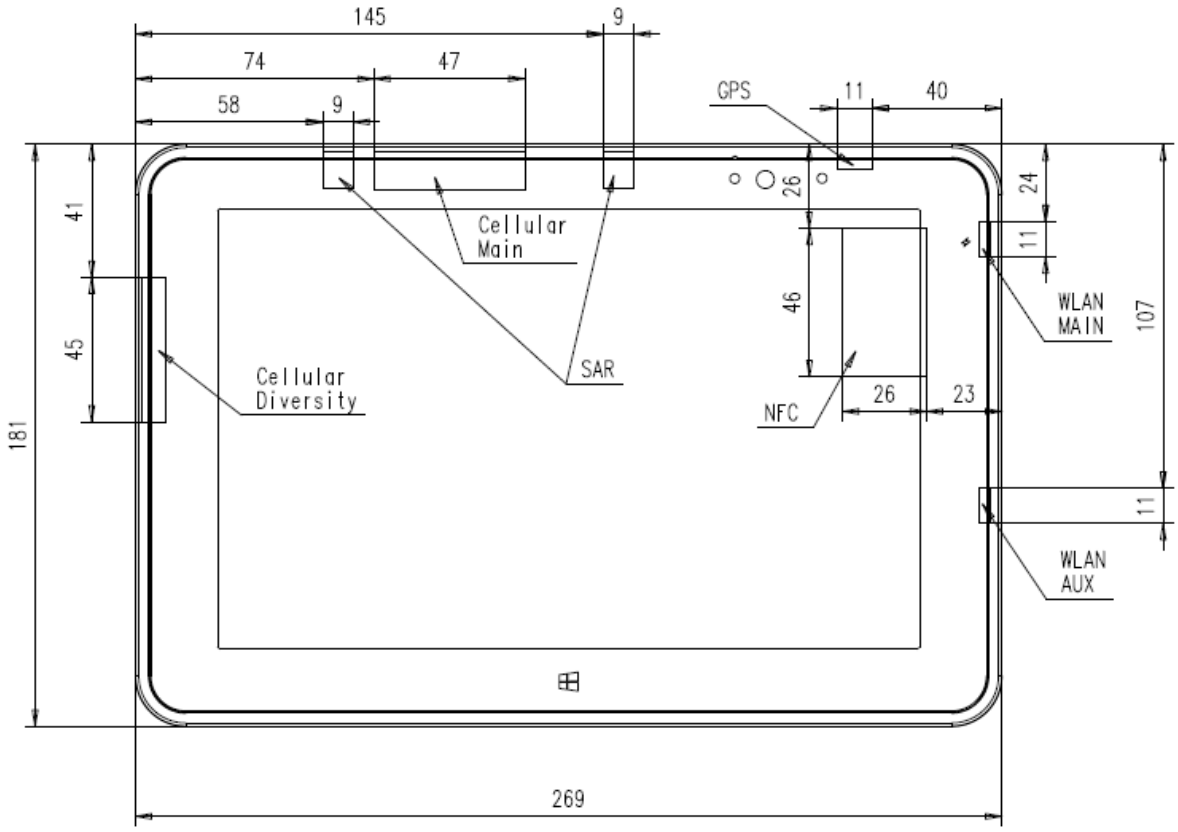
Figure 9.1
SAR Location Diagram of Antenna Distances



Antenna Distances

WWAN main to WLAN main (mm):	160 mm
WWAN main to WLAN aux (mm):	190 mm

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9.1 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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3GPP Release Version	Mode	Cellular Band [dBm]			Sub-Test (See Table Below)	MPR
		4132	4183	4233		
99	WCDMA	23.75	23.89	23.82	-	-
6	HSDPA	23.79	23.82	23.71	1	0
6		23.72	23.79	23.75	2	0
6		23.42	23.47	23.36	3	0.5
6		23.41	23.44	23.39	4	0.5
6	HSUPA	23.71	23.81	23.75	1	0
6		21.91	21.90	21.88	2	2
6		22.95	22.93	22.91	3	1
6		21.84	21.90	21.89	4	2
6		23.69	23.80	23.74	5	0

3GPP Release Version	Mode	AWS Band [dBm]			Sub-Test (See Table Below)	MPR
		1312	1413	1513		
99	WCDMA	23.88	23.90	23.95	-	-
6	HSDPA	23.79	23.82	23.76	1	0
6		23.81	23.75	23.79	2	0
6		23.36	23.34	23.36	3	0.5
6		23.41	23.31	23.39	4	0.5
6	HSUPA	23.84	23.82	23.75	1	0
6		21.97	22.01	21.89	2	2
6		22.94	23.05	22.94	3	1
6		21.99	21.95	22.03	4	2
6		23.82	23.80	23.71	5	0

3GPP Release Version	Mode	PCS Band [dBm]			Sub-Test (See Table Below)	MPR
		9262	9400	9538		
99	WCDMA	23.92	23.97	23.95	-	-
6	HSDPA	23.81	23.85	23.79	1	0
6		23.75	23.79	23.74	2	0
6		23.42	23.36	23.38	3	0.5
6		23.44	23.36	23.40	4	0.5
6	HSUPA	23.88	23.85	23.72	1	0
6		21.92	22.05	21.93	2	2
6		22.91	23.03	22.99	3	1
6		21.95	21.97	22.00	4	2
6		23.85	23.81	23.78	5	0

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3GPP Release Version	Mode	Cellular Band [dBm]			Sub-Test (See Table Below)	MPR
		4132	4183	4233		
99	WCDMA	17.81	17.93	17.88	-	-
6	HSDPA	17.82	17.76	17.73	1	0
6		17.79	17.75	17.70	2	0
6		17.55	17.38	17.42	3	0.5
6		17.54	17.32	17.38	4	0.5
6	HSUPA	17.68	17.77	17.69	1	0
6		15.41	15.68	15.77	2	2
6		16.87	16.75	16.82	3	1
6		15.80	15.81	15.91	4	2
6		17.72	17.73	17.74	5	0

3GPP Release Version	Mode	AWS Band [dBm]			Sub-Test (See Table Below)	MPR
		1312	1413	1513		
99	WCDMA	13.88	13.90	13.95	-	-
6	HSDPA	13.79	13.82	13.76	1	0
6		13.81	13.75	13.79	2	0
6		13.36	13.34	13.36	3	0.5
6		13.41	13.31	13.39	4	0.5
6	HSUPA	13.84	13.82	13.75	1	0
6		11.97	12.01	11.89	2	2
6		12.94	13.05	12.94	3	1
6		11.99	11.95	12.03	4	2
6		13.82	13.80	13.71	5	0

3GPP Release Version	Mode	PCS Band [dBm]			Sub-Test (See Table Below)	MPR
		9262	9400	9538		
99	WCDMA	13.92	13.97	13.95	-	-
6	HSDPA	13.81	13.85	13.79	1	0
6		13.75	13.79	13.74	2	0
6		13.42	13.36	13.38	3	0.5
6		13.44	13.36	13.40	4	0.5
6	HSUPA	13.88	13.85	13.72	1	0
6		11.92	12.05	11.93	2	2
6		12.91	13.03	12.99	3	1
6		11.95	11.97	12.00	4	2
6		13.85	13.81	13.78	5	0

Reduced Power Measurements

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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	Main	14.95	15.00
			6	2437			15.00	15.00
			11	2462			15.00	15.00
			1	2412		Aux	14.94	15.00
			6	2437			15.00	15.00
			11	2462			15.00	15.00
	802.11g	20	1	2412	6 Mbps	Main	14.97	15.00
			6	2437			14.94	15.00
			11	2462			14.94	15.00
			1	2412		Aux	14.89	15.00
			6	2437			14.86	15.00
			11	2462			14.92	15.00
	802.11n	20	1	2412	HT0	Main	14.95	15.00
			6	2437			14.87	15.00
			11	2462			14.90	15.00
			1	2412		Aux	14.91	15.00
			6	2437			14.88	15.00
			11	2462			14.89	15.00
	802.11n	40	3	2422	HT0	Main	12.95	13.00
			6	2437			12.87	13.00
			9	2452			12.90	13.00
			3	2422		Aux	12.91	13.00
			6	2437			12.88	13.00
			9	2452			12.89	13.00
5.15-5.25 GHz	802.11a	20	36	5180	6 Mbps	Main	9.92	10.00
			40	5200			10.00	10.00
			44	5220			10.00	10.00
			48	5240			9.97	10.00
			36	5180		Aux	9.99	10.00
			40	5200			10.00	10.00
			44	5220			10.00	10.00
			48	5240			9.94	10.00
	802.11n	20	36	5180	HT0	Main	9.91	10.00
			40	5200			9.88	10.00
			44	5220			9.89	10.00
			46	5230			9.85	10.00
			36	5180		Aux	9.84	10.00
			40	5200			9.88	10.00
			44	5220			9.89	10.00
			46	5230			9.83	10.00
	802.11n	40	38	5190	HT0	Main	7.92	8.00
			46	5230			7.94	8.00
			38	5190	HT0	Aux	7.98	8.00
			46	5230			7.95	8.00
	802.11ac	80	42	5210	VHT0	Main	7.92	8.00
						Aux	7.94	8.00
5.25-5.35 GHz	802.11a	20	52	5260	6 Mbps	Main	9.95	10.00
			56	5280			10.00	10.00
			60	5300			10.00	10.00
			63	5315			9.97	10.00
			52	5260		Aux	9.94	10.00
			56	5280			10.00	10.00
			60	5300			10.00	10.00
			63	5315			9.98	10.00
	802.11n	20	54	5270	HT0	Main	9.92	10.00
			56	5280			9.89	10.00
			60	5300			9.88	10.00
			62	5310			9.90	10.00
			52	5260		Aux	9.91	10.00
			56	5280			9.83	10.00
			60	5300			9.86	10.00
			62	5310			9.89	10.00
	802.11n	40	54	5270	HT0	Main	7.82	8.00
			62	5310			7.84	8.00
			54	5270	HT0	Aux	7.89	8.00
			60	5300			7.90	8.00
	802.11ac	80	58	5290	VHT0	Main	7.85	8.00
						Aux	7.91	8.00

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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	102	5510	6 Mbps	Main	9.92	10.00
			104	5520			10.00	10.00
			108	5540			9.95	10.00
			112	5560			9.97	10.00
			116	5580			10.00	10.00
			120	5600			9.91	10.00
			124	5620			10.00	10.00
			128	5640			9.98	10.00
			132	5660			9.94	10.00
			136	5680			10.00	10.00
			138	5690			9.90	10.00
			100	5500		Aux	9.89	10.00
			104	5520			10.00	10.00
			108	5540			9.92	10.00
			112	5560			9.97	10.00
			116	5580			10.00	10.00
			120	5600			9.93	10.00
			124	5620			10.00	10.00
			128	5640			9.91	10.00
			132	5660			9.88	10.00
			136	5680			10.00	10.00
			138	5690			9.94	10.00
	802.11n	20	102	5510	HT0	Main	9.88	10.00
			104	5520			9.83	10.00
			108	5540			9.85	10.00
			112	5560			9.86	10.00
			116	5580			9.84	10.00
			120	5600			9.90	10.00
			124	5620			9.91	10.00
			128	5640			9.94	10.00
			132	5660			9.81	10.00
			136	5680			9.89	10.00
			138	5690			9.88	10.00
			100	5500		Aux	9.92	10.00
			104	5520			9.90	10.00
			108	5540			9.87	10.00
			112	5560			9.89	10.00
			116	5580			9.83	10.00
			120	5600			9.86	10.00
			124	5620			9.90	10.00
			128	5640			9.94	10.00
			132	5660			9.91	10.00
			136	5680			9.86	10.00
			138	5690			9.89	10.00
	802.11n	40	102	5510	HT0	Main	7.95	8.00
			110	5550			7.90	8.00
			118	5580			7.92	8.00
			126	5610			7.87	8.00
			134	5670			7.88	8.00
			102	5510		Aux	7.94	8.00
			110	5550			7.90	8.00
			118	5580			7.83	8.00
			126	5610			7.88	8.00
			134	5670			7.85	8.00
	802.11ac	80	106	5530	VHT0	Main	7.88	8.00
			122	5610			7.92	8.00
			138	5690			7.86	8.00
			106	5530		Aux	7.88	8.00
			122	5610			7.91	8.00
			138	5690			7.88	8.00

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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	Main	10.00	10.00
			153	5765			9.92	10.00
			157	5785			10.00	10.00
			161	5805			9.94	10.00
			165	5825			10.00	10.00
			150	5750		Aux	10.00	10.00
			153	5765			9.93	10.00
			157	5785			10.00	10.00
			161	5805			9.94	10.00
			165	5825			10.00	10.00
	802.11n	20	150	5750	HT0	Main	9.88	10.00
			153	5765			9.87	10.00
			157	5785			9.90	10.00
			161	5805			9.92	10.00
			164	5820			9.94	10.00
			150	5750		Aux	9.95	10.00
			153	5765			9.90	10.00
			157	5785			9.89	10.00
			161	5805			9.85	10.00
			164	5820			9.87	10.00
	802.11n	40	152	5760	HT0	Main	7.92	8.00
			159	5795			7.95	8.00
			152	5760		Aux	7.93	8.00
			159	5795			7.90	8.00
	802.11ac	80	155	5775	VHT0	Main	7.92	8.00
						Aux	7.94	8.00

Band	Mode	Channel	Frequency (MHz)	Data Rate	Antenna	Avg Power (dBm)	Tune-up Pwr (dBm)
2450 MHz	Bluetooth v5.0	0	2402	Basic Rate GFSK	Chain A	3.92	4.00
		39	2441			4.00	4.00
		78	2480			3.83	4.00
		0	2402	EDR π/4 DQPSK		3.88	4.00
		39	2441			4.00	4.00
		78	2480			3.93	4.00
		0	2402	EDR 8-DPSK		3.94	4.00
		39	2441			3.96	4.00
		78	2480			3.91	4.00
		0	2402	Low Energy GFSK		3.95	4.00
		39	2441			3.97	4.00
		78	2480			3.96	4.00

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Figure 9.2 Test Reduction Table – 2.4 GHz Main

Mode	Side	Required Channel	Tested/Reduced
802.11b	Back	1 – 2412 MHz	Reduced[2]
		6 – 2437 MHz	Tested
		11 – 2462 MHz	Tested
	Top	1 – 2412 MHz	Reduced[1]
		6 – 2437 MHz	Tested
		11 – 2462 MHz	Reduced[1]
	Right	1 – 2412 MHz	Reduced[2]
		6 – 2437 MHz	Tested
		11 – 2462 MHz	Tested
	Left, Bottom	1 – 2412 MHz	Reduced[4]
		6 – 2437 MHz	Reduced[4]
		11 – 2462 MHz	Reduced[4]
802.11g	Back	1 – 2412 MHz	Reduced[3]
		6 – 2437 MHz	Reduced[3]
		11 – 2462 MHz	Reduced[3]
	Top	1 – 2412 MHz	Reduced[3]
		6 – 2437 MHz	Reduced[3]
		11 – 2462 MHz	Reduced[3]
	Right	1 – 2412 MHz	Reduced[3]
		6 – 2437 MHz	Reduced[3]
		11 – 2462 MHz	Reduced[3]
	Left, Bottom	1 – 2412 MHz	Reduced[4]
		6 – 2437 MHz	Reduced[4]
		11 – 2462 MHz	Reduced[4]
802.11n	Back	1 – 2412 MHz	Reduced[3]
		6 – 2437 MHz	Reduced[3]
		11 – 2462 MHz	Reduced[3]
	Top	1 – 2412 MHz	Reduced[3]
		6 – 2437 MHz	Reduced[3]
		11 – 2462 MHz	Reduced[3]
	Right	1 – 2412 MHz	Reduced[3]
		6 – 2437 MHz	Reduced[3]
		11 – 2462 MHz	Reduced[3]
	Left, Bottom	1 – 2412 MHz	Reduced[4]
		6 – 2437 MHz	Reduced[4]
		11 – 2462 MHz	Reduced[4]

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.
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.
Reduced[4] – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.

Calculations for test exclusion for Bottom and Left.

Maximum power: 31.6 mW
Bottom Edge distance: 146 mm
Left Side distance: 259 mm

The closest distance is from the bottom side. Therefore, if the bottom side is excluded the left would also be excluded.

[{[(3.0)/(√2.462)]*50 mm}]+[{146-50 mm}*10]=1055 mW which is greater than 31.6 mW

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Figure 9.3 Test Reduction Table – 2.4 GHz Aux

Mode	Side	Required Channel	Tested/Reduced
802.11b	Back	1 – 2412 MHz	Reduced[2]
		6 – 2437 MHz	Tested
		11 – 2462 MHz	Tested
	Right	1 – 2412 MHz	Reduced[2]
		6 – 2437 MHz	Tested
		11 – 2462 MHz	Tested
	Left, Bottom, Top	1 – 2412 MHz	Reduced[4]
		6 – 2437 MHz	Reduced[4]
		11 – 2462 MHz	Reduced[4]
802.11g	Back	1 – 2412 MHz	Reduced[3]
		6 – 2437 MHz	Reduced[3]
		11 – 2462 MHz	Reduced[3]
	Right	1 – 2412 MHz	Reduced[3]
		6 – 2437 MHz	Reduced[3]
		11 – 2462 MHz	Reduced[3]
	Left, Bottom, Top	1 – 2412 MHz	Reduced[4]
		6 – 2437 MHz	Reduced[4]
		11 – 2462 MHz	Reduced[4]
802.11n	Back	1 – 2412 MHz	Reduced[3]
		6 – 2437 MHz	Reduced[3]
		11 – 2462 MHz	Reduced[3]
	Right	1 – 2412 MHz	Reduced[3]
		6 – 2437 MHz	Reduced[3]
		11 – 2462 MHz	Reduced[3]
	Left, Bottom, Top	1 – 2412 MHz	Reduced[4]
		6 – 2437 MHz	Reduced[4]
		11 – 2462 MHz	Reduced[4]

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.
Reduced[4] – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.

Calculations for test exclusion for Top, Left and Bottom.

Maximum power: 31.6 mW
Top Edge distance: 107 mm
Bottom Side distance: 63 mm
Left Side distance: 259 mm

The closest distance is from the bottom side. Therefore, if the bottom side is excluded the left and top would also be excluded.

[{[(3.0)/(√2.462)]*50 mm}]+[{63-50 mm}*10]=225 mW which is greater than 31.6 mW

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Figure 9.4 Test Reduction Table – 5.1 GHz Main

Mode	Side	Required Channel	Tested/Reduced
802.11a 5150 MHz	Back	36 – 5180 MHz	Reduced[1]
		40 – 5200 MHz	Reduced[1]
		44 – 5220 MHz	Reduced[1]
		48 – 5240 MHz	Reduced[1]
	Top	36 – 5180 MHz	Reduced[1]
		40 – 5200 MHz	Reduced[1]
		44 – 5220 MHz	Reduced[1]
		48 – 5240 MHz	Reduced[1]
	Right	36 – 5180 MHz	Reduced[1]
		40 – 5200 MHz	Reduced[1]
		44 – 5220 MHz	Reduced[1]
		48 – 5240 MHz	Reduced[1]
	Left, Bottom	36 – 5180 MHz	Reduced[2]
		40 – 5200 MHz	Reduced[2]
		44 – 5220 MHz	Reduced[2]
		48 – 5240 MHz	Reduced[2]
802.11n 5150 MHz	Back	36 – 5180 MHz	Reduced[1]
		40 – 5200 MHz	Reduced[1]
		44 – 5220 MHz	Reduced[1]
		48 – 5240 MHz	Reduced[1]
	Top	36 – 5180 MHz	Reduced[1]
		40 – 5200 MHz	Reduced[1]
		44 – 5220 MHz	Reduced[1]
		48 – 5240 MHz	Reduced[1]
	Right	36 – 5180 MHz	Reduced[1]
		40 – 5200 MHz	Reduced[1]
		44 – 5220 MHz	Reduced[1]
		48 – 5240 MHz	Reduced[1]
	Left, Bottom	36 – 5180 MHz	Reduced[2]
		40 – 5200 MHz	Reduced[2]
		44 – 5220 MHz	Reduced[2]
		48 – 5240 MHz	Reduced[2]
802.11ac 5210 MHz	Back	42 – 5210 MHz	Reduced[1]
	Top	42 – 5210 MHz	Reduced[3]
	Right	42 – 5210 MHz	Reduced[1]
	Left, Bottom	42 – 5210 MHz	Reduced[2]

Reduced[1] – When the adjusted SAR is ≤ 1.2 W/kg, SAR is not required for the UNII-1 with the same or lower maximum output power in that test configuration per KDB 248227 D01 v02r02 section 5.3.1 1) page 11.
Reduced[2] – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.

Calculations for test exclusion for Bottom and Left.

Maximum power: 10.0 mW
Bottom Edge distance: 146 mm
Left Side distance: 259 mm

The closest distance is from the bottom side. Therefore, if the bottom side is excluded the left would also be excluded.

[{[(3.0)/(√5.24)]*50 mm}]+[{146-50 mm}*10]=1025 mW which is greater than 10.0 mW

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Figure 9.5 Test Reduction Table – 5.1 GHz Aux

Mode	Side	Required Channel	Tested/Reduced
802.11a 5150 MHz	Back	36 – 5180 MHz	Reduced[1]
		40 – 5200 MHz	Reduced[1]
		44 – 5220 MHz	Reduced[1]
		48 – 5240 MHz	Reduced[1]
	Right	36 – 5180 MHz	Reduced[1]
		40 – 5200 MHz	Reduced[1]
		44 – 5220 MHz	Reduced[1]
		48 – 5240 MHz	Reduced[1]
	Left, Bottom, Top	36 – 5180 MHz	Reduced[2]
		40 – 5200 MHz	Reduced[2]
		44 – 5220 MHz	Reduced[2]
		48 – 5240 MHz	Reduced[2]
802.11n 5150 MHz	Back	36 – 5180 MHz	Reduced[1]
		40 – 5200 MHz	Reduced[1]
		44 – 5220 MHz	Reduced[1]
		48 – 5240 MHz	Reduced[1]
	Right	36 – 5180 MHz	Reduced[1]
		40 – 5200 MHz	Reduced[1]
		44 – 5220 MHz	Reduced[1]
		48 – 5240 MHz	Reduced[1]
	Left, Bottom, Top	36 – 5180 MHz	Reduced[2]
		40 – 5200 MHz	Reduced[2]
		44 – 5220 MHz	Reduced[2]
		48 – 5240 MHz	Reduced[2]
802.11ac 5210 MHz	Back	42 – 5210 MHz	Reduced[1]
	Right	42 – 5210 MHz	Reduced[1]
	Left, Bottom, Top	42 – 5210 MHz	Reduced[2]

Reduced[1] – When the adjusted SAR is ≤ 1.2 W/kg, SAR is not required for the UNII-1 with the same or lower maximum output power in that test configuration per KDB 248227 D01 v02r02 section 5.3.1 1) page 11.
Reduced[2] – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.
Reduced[3] – 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.

Calculations for test exclusion for Top, Left and Bottom.

Maximum power: 10.0 mW
Top Edge distance: 107 mm
Bottom Side distance: 63 mm
Left Side distance: 259 mm

The closest distance is from the bottom side. Therefore, if the bottom side is excluded the left and top would also be excluded.

[{[(3.0)/(√5.24)]*50 mm}]+[{63-50 mm}*10]=195 mW which is greater than 10.0 mW

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Figure 9.6 Test Reduction Table – 5.2 GHz Main

Mode	Side	Required Channel	Tested/Reduced
802.11a 5250 MHz	Back	52 – 5260 MHz	Reduced[4]
		56 – 5280 MHz	Tested
		60 – 5300 MHz	Tested
		64 – 5320 MHz	Reduced[4]
	Top	52 – 5260 MHz	Reduced[1]
		56 – 5280 MHz	Reduced[1]
		60 – 5300 MHz	Tested
		64 – 5320 MHz	Reduced[1]
	Right	52 – 5260 MHz	Reduced[4]
		56 – 5280 MHz	Tested
		60 – 5300 MHz	Tested
		64 – 5320 MHz	Reduced[4]
	Left, Bottom	52 – 5260 MHz	Reduced[2]
		56 – 5280 MHz	Reduced[2]
		60 – 5300 MHz	Reduced[2]
		64 – 5320 MHz	Reduced[2]
802.11n 5250 MHz	Back	52 – 5260 MHz	Reduced[4]
		56 – 5280 MHz	Reduced[4]
		60 – 5300 MHz	Reduced[4]
		64 – 5320 MHz	Reduced[4]
	Top	52 – 5260 MHz	Reduced[1]
		56 – 5280 MHz	Reduced[1]
		60 – 5300 MHz	Reduced[1]
		64 – 5320 MHz	Reduced[1]
	Right	52 – 5260 MHz	Reduced[4]
		56 – 5280 MHz	Reduced[4]
		60 – 5300 MHz	Reduced[4]
		64 – 5320 MHz	Reduced[4]
	Left, Bottom	52 – 5260 MHz	Reduced[2]
		56 – 5280 MHz	Reduced[2]
		60 – 5300 MHz	Reduced[2]
		64 – 5320 MHz	Reduced[2]
802.11ac 5210 MHz	Back	58 – 5290 MHz	Reduced[4]
	Top	58 – 5290 MHz	Reduced[1]
	Right	58 – 5290 MHz	Reduced[4]
	Left, Bottom	58 – 5290 MHz	Reduced[2]

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 antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.
Reduced[3] – 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.
Reduced[4] – 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.

Calculations for test exclusion for Bottom and Left.

Maximum power: 10.0 mW
Bottom Edge distance: 146 mm
Left Side distance: 259 mm

The closest distance is from the bottom side. Therefore, if the bottom side is excluded the left would also be excluded.

[{[(3.0)/(√5.32)]*50 mm}]+[{146-50 mm}*10]=1025 mW which is greater than 10.0 mW

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Figure 9.7 Test Reduction Table – 5.2 GHz Aux

Mode	Side	Required Channel	Tested/Reduced
802.11a 5250 MHz	Back	52 – 5260 MHz	Reduced[4]
		56 – 5280 MHz	Tested
		60 – 5300 MHz	Tested
		64 – 5320 MHz	Reduced[4]
	Right	52 – 5260 MHz	Reduced[1]
		56 – 5280 MHz	Reduced[1]
		60 – 5300 MHz	Tested
		64 – 5320 MHz	Reduced[1]
	Left, Bottom, Top	52 – 5260 MHz	Reduced[2]
		56 – 5280 MHz	Reduced[2]
		60 – 5300 MHz	Reduced[2]
		64 – 5320 MHz	Reduced[2]
802.11n 5250 MHz	Back	52 – 5260 MHz	Reduced[4]
		56 – 5280 MHz	Reduced[4]
		60 – 5300 MHz	Reduced[4]
		64 – 5320 MHz	Reduced[4]
	Right	52 – 5260 MHz	Reduced[1]
		56 – 5280 MHz	Reduced[1]
		60 – 5300 MHz	Reduced[1]
		64 – 5320 MHz	Reduced[1]
	Left, Bottom, Top	52 – 5260 MHz	Reduced[2]
		56 – 5280 MHz	Reduced[2]
		60 – 5300 MHz	Reduced[2]
		64 – 5320 MHz	Reduced[2]
802.11ac 5210 MHz	Back	58 – 5290 MHz	Reduced[4]
	Right	58 – 5290 MHz	Reduced[1]
	Left, Bottom, Top	58 – 5290 MHz	Reduced[2]

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 antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.
Reduced[3] – 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.
Reduced[4] – 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.

Calculations for test exclusion for Top, Left and Bottom.

Maximum power: 10.0 mW
Top Edge distance: 107 mm
Bottom Side distance: 63 mm
Left Side distance: 259 mm

The closest distance is from the bottom side. Therefore, if the bottom side is excluded the left and top would also be excluded.

[{[(3.0)/(√5.32)]*50 mm}]+[{63-50 mm}*10]=195 mW which is greater than 10.0 mW

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Figure 9.8 Test Reduction Table – 5.6 GHz Main

Mode	Side	Required Channel	Tested/Reduced
802.11a 5600 MHz	Back	100 – 5500 MHz	Reduced[2]
		104 – 5520 MHz	Reduced[2]
		108 – 5540 MHz	Reduced[2]
		112 – 5560 MHz	Reduced[2]
		116 – 5580 MHz	Tested
		120 – 5600 MHz	Reduced[2]
		124 – 5620 MHz	Tested
		128 – 5640 MHz	Reduced[2]
		132 – 5660 MHz	Reduced[2]
		136 – 5680 MHz	Reduced[2]
		140 – 5700 MHz	Reduced[2]
	Top	100 – 5500 MHz	Reduced[4]
		104 – 5520 MHz	Reduced[4]
		108 – 5540 MHz	Reduced[4]
		112 – 5560 MHz	Reduced[4]
		116 – 5580 MHz	Reduced[4]
		120 – 5600 MHz	Reduced[4]
		124 – 5620 MHz	Tested
		128 – 5640 MHz	Reduced[4]
		132 – 5660 MHz	Reduced[4]
		136 – 5680 MHz	Reduced[4]
		140 – 5700 MHz	Reduced[4]
	Right	100 – 5500 MHz	Reduced[1]
		104 – 5520 MHz	Reduced[1]
		108 – 5540 MHz	Reduced[1]
		112 – 5560 MHz	Reduced[1]
		116 – 5580 MHz	Tested
		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]
	Left, Bottom	100 – 5500 MHz	Reduced[3]
		104 – 5520 MHz	Reduced[3]
		108 – 5540 MHz	Reduced[3]
		112 – 5560 MHz	Reduced[3]
		116 – 5580 MHz	Reduced[3]
		120 – 5600 MHz	Reduced[3]
		124 – 5620 MHz	Reduced[3]
		128 – 5640 MHz	Reduced[3]
		132 – 5660 MHz	Reduced[3]
		136 – 5680 MHz	Reduced[3]
		140 – 5700 MHz	Reduced[3]

Reduced[1] – 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[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.
Reduced[3] – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.
Reduced[4] – 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.

Calculations for test exclusion for Bottom and Left.

Maximum power: 10.0 mW
Bottom Edge distance: 146 mm
Left Side distance: 259 mm

The closest distance is from the bottom side. Therefore, if the bottom side is excluded the left would also be excluded.

[{[(3.0)/(√5.70)]*50 mm}]+[{146-50 mm}*10]=1022 mW which is greater than 10.0 mW

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Figure 9.9 Test Reduction Table – 5.6 GHz Main

Mode	Side	Required Channel	Tested/Reduced
802.11n 5600 MHz	Back	100 – 5500 MHz	Reduced[2]
		104 – 5520 MHz	Reduced[2]
		108 – 5540 MHz	Reduced[2]
		112 – 5560 MHz	Reduced[2]
		116 – 5580 MHz	Reduced[2]
		120 – 5600 MHz	Reduced[2]
		124 – 5620 MHz	Reduced[2]
		128 – 5640 MHz	Reduced[2]
		132 – 5660 MHz	Reduced[2]
		136 – 5680 MHz	Reduced[2]
		140 – 5700 MHz	Reduced[2]
	Top	100 – 5500 MHz	Reduced[4]
		104 – 5520 MHz	Reduced[4]
		108 – 5540 MHz	Reduced[4]
		112 – 5560 MHz	Reduced[4]
		116 – 5580 MHz	Reduced[4]
		120 – 5600 MHz	Reduced[4]
		124 – 5620 MHz	Reduced[4]
		128 – 5640 MHz	Reduced[4]
		132 – 5660 MHz	Reduced[4]
		136 – 5680 MHz	Reduced[4]
		140 – 5700 MHz	Reduced[4]
	Right	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]
	Left, Bottom	100 – 5500 MHz	Reduced[3]
		104 – 5520 MHz	Reduced[3]
		108 – 5540 MHz	Reduced[3]
		112 – 5560 MHz	Reduced[3]
		116 – 5580 MHz	Reduced[3]
		120 – 5600 MHz	Reduced[3]
		124 – 5620 MHz	Reduced[3]
		128 – 5640 MHz	Reduced[3]
		132 – 5660 MHz	Reduced[3]
		136 – 5680 MHz	Reduced[3]
		140 – 5700 MHz	Reduced[3]

Reduced[1] – 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[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.
Reduced[3] – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.
Reduced[4] – 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.

Calculations for test exclusion for Bottom and Left.

Maximum power: 10.0 mW
Bottom Edge distance: 146 mm
Left Side distance: 259 mm

The closest distance is from the bottom side. Therefore, if the bottom side is excluded the left would also be excluded.

[{[(3.0)/(√5.70)]*50 mm}]+[{146-50 mm}*10]=1022 mW which is greater than 10.0 mW

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Figure 9.10 Test Reduction Table – 5.6 GHz Main

Mode	Side	Required Channel	Tested/Reduced
802.11ac 5600 MHz	Back	106 – 5530 MHz	Reduced[2]
		122 – 5610 MHz	Reduced[2]
		138 – 5690 MHz	Reduced[2]
	Bottom	106 – 5530 MHz	Reduced[4]
		122 – 5610 MHz	Reduced[4]
		138 – 5690 MHz	Reduced[4]
	Laptop	106 – 5530 MHz	Reduced[1]
		122 – 5610 MHz	Reduced[1]
		138 – 5690 MHz	Reduced[1]
	Left, Right, Top	106 – 5530 MHz	Reduced[3]
		122 – 5610 MHz	Reduced[3]
		138 – 5690 MHz	Reduced[3]

Reduced[1] – 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[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.
Reduced[3] – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.
Reduced[4] – 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.

Calculations for test exclusion for Bottom and Left.

Maximum power: 10.0 mW
Bottom Edge distance: 146 mm
Left Side distance: 259 mm

The closest distance is from the bottom side. Therefore, if the bottom side is excluded the left would also be excluded.

[{[(3.0)/(√5.70)]*50 mm}]+[{146-50 mm}*10]=1022 mW which is greater than 10.0 mW

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Figure 9.11 Test Reduction Table – 5.6 GHz Aux

Mode	Side	Required Channel	Tested/Reduced
802.11a 5600 MHz	Back	100 – 5500 MHz	Reduced[2]
		104 – 5520 MHz	Reduced[2]
		108 – 5540 MHz	Reduced[2]
		112 – 5560 MHz	Reduced[2]
		116 – 5580 MHz	Tested
		120 – 5600 MHz	Reduced[2]
		124 – 5620 MHz	Tested
		128 – 5640 MHz	Reduced[2]
		132 – 5660 MHz	Reduced[2]
		136 – 5680 MHz	Tested
		140 – 5700 MHz	Reduced[2]
	Right	100 – 5500 MHz	Reduced[1]
		104 – 5520 MHz	Reduced[1]
		108 – 5540 MHz	Reduced[1]
		112 – 5560 MHz	Reduced[1]
		116 – 5580 MHz	Tested
		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]
	Left, Bottom, Top	100 – 5500 MHz	Reduced[3]
		104 – 5520 MHz	Reduced[3]
		108 – 5540 MHz	Reduced[3]
		112 – 5560 MHz	Reduced[3]
		116 – 5580 MHz	Reduced[3]
		120 – 5600 MHz	Reduced[3]
		124 – 5620 MHz	Reduced[3]
		128 – 5640 MHz	Reduced[3]
		132 – 5660 MHz	Reduced[3]
		136 – 5680 MHz	Reduced[3]
		140 – 5700 MHz	Reduced[3]

Reduced[1] – 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[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.
Reduced[3] – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.
Reduced[4] – 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.

Calculations for test exclusion for Top, Left and Bottom.

Maximum power: 10.0 mW
Top Edge distance: 107 mm
Bottom Side distance: 63 mm
Left Side distance: 259 mm

The closest distance is from the bottom side. Therefore, if the bottom side is excluded the left and top would also be excluded.

[{[(3.0)/(√5.70)]*50 mm}]+[{63-50 mm}*10]=192 mW which is greater than 10.0 mW

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Figure 9.12 Test Reduction Table – 5.6 GHz Aux

Mode	Side	Required Channel	Tested/Reduced
802.11n 5600 MHz	Back	100 – 5500 MHz	Reduced[2]
		104 – 5520 MHz	Reduced[2]
		108 – 5540 MHz	Reduced[2]
		112 – 5560 MHz	Reduced[2]
		116 – 5580 MHz	Reduced[2]
		120 – 5600 MHz	Reduced[2]
		124 – 5620 MHz	Reduced[2]
		128 – 5640 MHz	Reduced[2]
		132 – 5660 MHz	Reduced[2]
		136 – 5680 MHz	Reduced[2]
		140 – 5700 MHz	Reduced[2]
	Right	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]
	Left, Bottom, Top	100 – 5500 MHz	Reduced[3]
		104 – 5520 MHz	Reduced[3]
		108 – 5540 MHz	Reduced[3]
		112 – 5560 MHz	Reduced[3]
		116 – 5580 MHz	Reduced[3]
		120 – 5600 MHz	Reduced[3]
		124 – 5620 MHz	Reduced[3]
		128 – 5640 MHz	Reduced[3]
		132 – 5660 MHz	Reduced[3]
		136 – 5680 MHz	Reduced[3]
		140 – 5700 MHz	Reduced[3]

Reduced[1] – 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[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.
Reduced[3] – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.
Reduced[4] – 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.

Calculations for test exclusion for Top, Left and Bottom.

Maximum power: 10.0 mW
Top Edge distance: 107 mm
Bottom Side distance: 63 mm
Left Side distance: 259 mm

The closest distance is from the bottom side. Therefore, if the bottom side is excluded the left and top would also be excluded.

[{[(3.0)/(√5.70)]*50 mm}]+[{63-50 mm}*10]=192 mW which is greater than 10.0 mW

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Figure 9.13 Test Reduction Table – 5.6 GHz Aux

Mode	Side	Required Channel	Tested/Reduced
802.11ac 5600 MHz	Back	106 – 5530 MHz	Reduced[2]
		122 – 5610 MHz	Reduced[2]
		138 – 5690 MHz	Reduced[2]
	Right	106 – 5530 MHz	Reduced[1]
		122 – 5610 MHz	Reduced[1]
		138 – 5690 MHz	Reduced[1]
	Left, Bottom, Top	106 – 5530 MHz	Reduced[3]
		122 – 5610 MHz	Reduced[3]
		138 – 5690 MHz	Reduced[3]

Reduced[1] – 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[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.
Reduced[3] – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.
Reduced[4] – 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.

Calculations for test exclusion for Top, Left and Bottom.

Maximum power: 10.0 mW
Top Edge distance: 107 mm
Bottom Side distance: 63 mm
Left Side distance: 259 mm

The closest distance is from the bottom side. Therefore, if the bottom side is excluded the left and top would also be excluded.

[{[(3.0)/(√5.70)]*50 mm}]+[{63-50 mm}*10]=192 mW which is greater than 10.0 mW

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Figure 9.14 Test Reduction Table – 5.8 GHz Main

Mode	Side	Required Channel	Tested/Reduced
802.11a 5800 MHz	Back	149 – 5745 MHz	Reduced[3]
		153 – 5765 MHz	Reduced[3]
		157 – 5785 MHz	Tested
		161 – 5805 MHz	Reduced[3]
		165 – 5825 MHz	Tested
	Top	149 – 5745 MHz	Reduced[1]
		153 – 5765 MHz	Reduced[1]
		157 – 5785 MHz	Tested
		161 – 5805 MHz	Reduced[1]
		165 – 5825 MHz	Reduced[1]
	Right	149 – 5745 MHz	Reduced[3]
		153 – 5765 MHz	Reduced[3]
		157 – 5785 MHz	Tested
		161 – 5805 MHz	Reduced[3]
		165 – 5825 MHz	Tested
	Left, Bottom	149 – 5745 MHz	Reduced[4]
		153 – 5765 MHz	Reduced[4]
		157 – 5785 MHz	Reduced[4]
		161 – 5805 MHz	Reduced[4]
		165 – 5825 MHz	Reduced[4]
802.11n 5800 MHz	Back	149 – 5745 MHz	Reduced[3]
		153 – 5765 MHz	Reduced[3]
		157 – 5785 MHz	Reduced[3]
		161 – 5805 MHz	Reduced[3]
		165 – 5825 MHz	Reduced[3]
	Top	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]
	Right	149 – 5745 MHz	Reduced[3]
		153 – 5765 MHz	Reduced[3]
		157 – 5785 MHz	Reduced[3]
		161 – 5805 MHz	Reduced[3]
		165 – 5825 MHz	Reduced[3]
	Left, Bottom	149 – 5745 MHz	Reduced[4]
		153 – 5765 MHz	Reduced[4]
		157 – 5785 MHz	Reduced[4]
		161 – 5805 MHz	Reduced[4]
		165 – 5825 MHz	Reduced[4]
802.11ac 5800 MHz	Back	155 – 5775 MHz	Reduced[3]
	Top	155 – 5775 MHz	Reduced[1]
	Right	155 – 5775 MHz	Reduced[3]
	Left, Bottom	155 – 5775 MHz	Reduced[4]

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 next highest output power channel until SAR ≤ 0.8 W/kg then all remaining test configurations are not required per KDB 248227 D01 v02r02 section 5.1.1 2) page 9.
Reduced[3] – 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.
Reduced[4] – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.

Calculations for test exclusion for Bottom and Left.

Maximum power: 10.0 mW
Bottom Edge distance: 146 mm
Left Side distance: 259 mm

The closest distance is from the bottom side. Therefore, if the bottom side is excluded the left would also be excluded.

[{[(3.0)/(√5.825)]*50 mm}]+[{146-50 mm}*10]=1022 mW which is greater than 10.0 mW

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Figure 9.15 Test Reduction Table – 5.8 GHz Aux

Mode	Side	Required Channel	Tested/Reduced
802.11a 5800 MHz	Back	149 – 5745 MHz	Reduced[3]
		153 – 5765 MHz	Reduced[3]
		157 – 5785 MHz	Tested
		161 – 5805 MHz	Reduced[3]
		165 – 5825 MHz	Tested
	Right	149 – 5745 MHz	Reduced[3]
		153 – 5765 MHz	Reduced[3]
		157 – 5785 MHz	Tested
		161 – 5805 MHz	Reduced[3]
		165 – 5825 MHz	Tested
	Left, Bottom, Top	149 – 5745 MHz	Reduced[4]
		153 – 5765 MHz	Reduced[4]
		157 – 5785 MHz	Reduced[4]
		161 – 5805 MHz	Reduced[4]
		165 – 5825 MHz	Reduced[4]
802.11n 5800 MHz	Back	149 – 5745 MHz	Reduced[3]
		153 – 5765 MHz	Reduced[3]
		157 – 5785 MHz	Reduced[3]
		161 – 5805 MHz	Reduced[3]
		165 – 5825 MHz	Reduced[3]
	Right	149 – 5745 MHz	Reduced[3]
		153 – 5765 MHz	Reduced[3]
		157 – 5785 MHz	Reduced[3]
		161 – 5805 MHz	Reduced[3]
		165 – 5825 MHz	Reduced[3]
	Left, Bottom, Top	149 – 5745 MHz	Reduced[4]
		153 – 5765 MHz	Reduced[4]
		157 – 5785 MHz	Reduced[4]
		161 – 5805 MHz	Reduced[4]
		165 – 5825 MHz	Reduced[4]
802.11ac 5800 MHz	Back	155 – 5775 MHz	Reduced[3]
	Right	155 – 5775 MHz	Reduced[3]
	Left, Bottom, Top	155 – 5775 MHz	Reduced[4]

vReduced[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 next highest output power channel until SAR ≤ 0.8 W/kg then all remaining test configurations are not required per KDB 248227 D01 v02r02 section 5.1.1 2) page 9.
Reduced[3] – 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.
Reduced[4] – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.

Calculations for test exclusion for Top, Left and Bottom.

Maximum power: 10.0 mW
Top Edge distance: 107 mm
Bottom Side distance: 63 mm
Left Side distance: 259 mm

The closest distance is from the bottom side. Therefore, if the bottom side is excluded the left and top would also be excluded.

[{[(3.0)/(√5.825)]*50 mm}]+[{63-50 mm}*10]=192 mW which is greater than 10.0 mW

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Figure 9.16 Test Reduction Table – 3G WCDMA

Band/ Frequency (MHz)	Technology	Side	Required Channel	Tested/ Reduced
Band 26 814-849 MHz	WCDMA	Back	4132	Reduced[1]
			4183	Tested
			4233	Reduced[1]
		Left	4132	Reduced[1]
			4183	Tested
			4233	Reduced[1]
		Top	4132	Reduced[1]
			4183	Tested
			4233	Reduced[1]
		Remaining Sides		Reduced[2]
Band 66 1710-1780 MHz		Back	1312	Tested
			1413	Tested
			1513	Tested
		Left	1312	Reduced[1]
			1413	Tested
			1513	Reduced[1]
		Top	1312	Tested
			1413	Tested
			1513	Tested
		Remaining Sides		Reduced[2]
Band 25 1850-1915 MHz		Back	9262	Tested
			9400	Tested
			9538	Tested
		Left	9262	Reduced[1]
			9400	Tested
			9538	Reduced[1]
		Top	9262	Tested
			9400	Tested
			9538	Tested
		Remaining Sides		Reduced[2]

Reduced[1] – When the mid channel is 3 dB below the limit, the remaining channels are not required per KDB 447498 D01 v06 section 4.3.3 page 14.
Reduced[2] – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.

Calculations for test exclusion for Right and Bottom.

Maximum power: 281.8 mW
Closest Distance to Right: 148 mm
Closest Distance to Bottom: 161 mm

The closest distance is from the right side. Therefore, if the right side is excluded the bottom side would also be excluded.

[{[(3.0)/(√0.849)]*50 mm}]+[{148-50 mm}*10]=1142 mW which is greater than 281.8 mW

[{[(3.0)/(√1.78)]*50 mm}]+[{148-50 mm}*10]=1092 mW which is greater than 281.8 mW

[{[(3.0)/(√1.915)]*50 mm}]+[{148-50 mm}*10]=1088 mW which is greater than 281.8 mW

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9.1.1 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)
2	1.4, 3, 5, 10, 15, 20	1850-1910
4	1.4, 3, 5, 10, 15, 20	1710-1755
5	5, 10	824-849
7	5, 10, 15, 20	2500-2570
12	5, 10	699-716
13	5, 10	777-787
17	5, 10	704-716
25	1.4, 3, 5, 10, 15, 20	1850-1915
26	1.4, 3, 5, 10, 15	814-849
30	5, 10	2305-2315
41	5, 10, 15, 20	2496-2690
66	1.4, 3, 5, 10, 15, 20	1710-1780

9.1.2 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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Table 9.1.1 LTE Power Measurements – Full Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
25	QPSK	1.4 MHz	6	0	26047	1850.7	23.95
					26365	1882.5	23.20
					26683	1914.3	23.19
			3	1	26047	1850.7	24.00
					26365	1882.5	24.00
					26683	1914.3	23.70
			1	0	26047	1850.7	24.00
					26365	1882.5	23.61
					26683	1914.3	23.85
			1	5	26047	1850.7	23.99
					26365	1882.5	24.00
					26683	1914.3	23.99
		3 MHz	15	0	26055	1851.5	24.01
					26365	1882.5	24.11
					26675	1913.5	23.91
			8	3	26055	1851.5	23.95
					26365	1882.5	24.05
					26675	1913.5	24.81
			1	0	26055	1851.5	24.00
					26365	1882.5	23.74
					26675	1913.5	23.99
			1	14	26055	1851.5	23.99
					26365	1882.5	23.73
					26675	1913.5	24.00
		5 MHz	25	0	26065	1852.5	23.93
					26365	1882.5	23.98
					26665	1912.5	23.92
			12	6	26065	1852.5	23.83
					26365	1882.5	24.13
					26665	1912.5	23.88
			1	0	26065	1852.5	23.95
					26365	1882.5	23.56
					26665	1912.5	23.32
			1	24	26065	1852.5	23.45
					26365	1882.5	23.36
					26665	1912.5	23.98

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Table 9.1.2 LTE Power Measurements – Full Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
25	QPSK	10 MHz	50	0	26090	1855.0	23.52
					26365	1882.5	23.55
					26640	1910.0	23.57
			25	12	26090	1855.0	23.30
					26365	1882.5	23.95
					26640	1910.0	23.42
			1	0	26090	1855.0	23.95
					26365	1882.5	23.30
					26640	1910.0	23.23
			1	24	26090	1855.0	23.46
					26365	1882.5	24.00
					26640	1910.0	23.35
		15 MHz	75	0	26115	1857.5	23.38
					26365	1882.5	23.51
					26615	1907.5	23.46
			36	19	26115	1857.5	23.16
					26365	1882.5	23.86
					26615	1907.5	23.31
			1	0	26115	1857.5	23.89
					26365	1882.5	23.38
					26615	1907.5	23.42
			1	74	26115	1857.5	23.48
					26365	1882.5	23.31
					26615	1907.5	24.00
		20 MHz	100	0	26140	1860.0	23.50
					26365	1882.5	23.52
					26590	1905.0	23.40
			50	25	26140	1860.0	23.89
					26365	1882.5	23.91
					26590	1905.0	23.92
			1	0	26140	1860.0	23.98
					26365	1882.5	23.97
					26590	1905.0	23.94
			1	49	26140	1860.0	24.13
					26365	1882.5	24.15
					26590	1905.0	24.23

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Table 9.1.3 LTE Power Measurements – Full Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
25	16QAM	1.4 MHz	6	0	26047	1850.7	22.96
					26365	1882.5	22.11
					26683	1914.3	22.92
			3	1	26047	1850.7	22.95
					26365	1882.5	22.14
					26683	1914.3	22.88
			1	0	26047	1850.7	22.94
					26365	1882.5	22.12
					26683	1914.3	22.91
			1	5	26047	1850.7	22.91
					26365	1882.5	22.10
					26683	1914.3	22.93
		3 MHz	15	0	26055	1851.5	22.98
					26365	1882.5	22.14
					26675	1913.5	22.92
			8	3	26055	1851.5	22.76
					26365	1882.5	22.10
					26675	1913.5	22.82
			1	0	26055	1851.5	22.92
					26365	1882.5	22.63
					26675	1913.5	22.75
			1	14	26055	1851.5	22.69
					26365	1882.5	22.39
					26675	1913.5	22.74
		5 MHz	25	0	26065	1852.5	22.01
					26365	1882.5	22.96
					26665	1912.5	22.01
			12	6	26065	1852.5	22.84
					26365	1882.5	22.21
					26665	1912.5	22.88
			1	0	26065	1852.5	22.79
					26365	1882.5	22.44
					26665	1912.5	22.37
			1	24	26065	1852.5	22.21
					26365	1882.5	22.07
					26665	1912.5	22.75

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Table 9.1.4 LTE Power Measurements – Full Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
25	16QAM	10 MHz	50	0	26090	1855.0	22.30
					26365	1882.5	22.62
					26640	1910.0	22.53
			25	12	26090	1855.0	22.17
					26365	1882.5	22.81
					26640	1910.0	22.42
			1	0	26090	1855.0	22.77
					26365	1882.5	22.19
					26640	1910.0	22.07
			1	24	26090	1855.0	22.24
					26365	1882.5	22.96
					26640	1910.0	22.25
		15 MHz	75	0	26115	1857.5	22.35
					26365	1882.5	22.25
					26615	1907.5	22.46
			36	19	26115	1857.5	22.17
					26365	1882.5	22.64
					26615	1907.5	22.23
			1	0	26115	1857.5	22.79
					26365	1882.5	22.07
					26615	1907.5	22.21
			1	74	26115	1857.5	22.13
					26365	1882.5	22.96
					26615	1907.5	22.76
		20 MHz	100	0	26140	1860.0	22.54
					26365	1882.5	22.50
					26590	1905.0	22.32
			50	25	26140	1860.0	22.39
					26365	1882.5	22.54
					26590	1905.0	22.16
			1	0	26140	1860.0	22.68
					26365	1882.5	22.38
					26590	1905.0	22.74
			1	99	26140	1860.0	22.01
					26365	1882.5	22.71
					26590	1905.0	22.68

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Table 9.1.5 LTE Power Measurements – Full Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
66	QPSK	1.4 MHz	6	0	131979	1710.7	23.67
					132322	1745.0	23.06
					132665	1779.3	23.61
			3	1	131979	1710.7	23.99
					132322	1745.0	23.00
					132665	1779.3	23.99
			1	0	131979	1710.7	23.98
					132322	1745.0	23.58
					132665	1779.3	23.99
			1	5	131979	1710.7	23.98
					132322	1745.0	23.93
					132665	1779.3	24.00
		3 MHz	15	0	131987	1711.5	23.11
					132322	1745.0	23.09
					132657	1778.5	23.15
			8	3	131987	1711.5	23.02
					132322	1745.0	23.93
					132657	1778.5	23.07
			1	0	131987	1711.5	24.00
					132322	1745.0	23.40
					132657	1778.5	23.53
			1	14	131987	1711.5	23.34
					132322	1745.0	23.99
					132657	1778.5	23.94
		5 MHz	25	0	131997	1712.5	23.49
					132322	1745.0	23.19
					132647	1777.5	23.87
			12	6	131997	1712.5	23.44
					132322	1745.0	23.13
					132647	1777.5	23.64
			1	0	131997	1712.5	23.99
					132322	1745.0	23.31
					132647	1777.5	23.67
			1	24	131997	1712.5	23.19
					132322	1745.0	24.00
					132647	1777.5	23.99

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Table 9.1.6 LTE Power Measurements – Full Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
66	QPSK	10 MHz	50	0	132022	1715.0	23.36
					132322	1745.0	23.99
					132622	1775.0	23.80
			25	12	132022	1715.0	23.92
					132322	1745.0	23.04
					132622	1775.0	23.57
			1	0	132022	1715.0	24.00
					132322	1745.0	23.31
					132622	1775.0	23.60
			1	24	132022	1715.0	23.14
					132322	1745.0	23.92
					132622	1775.0	23.67
		15 MHz	75	0	132047	1717.5	23.29
					132322	1745.0	23.67
					132597	1772.5	23.62
			36	19	132047	1717.5	23.01
					132322	1745.0	23.17
					132597	1772.5	23.64
			1	0	132047	1717.5	23.99
					132322	1745.0	23.13
					132597	1772.5	23.38
			1	74	132047	1717.5	23.18
					132322	1745.0	23.45
					132597	1772.5	23.60
		20 MHz	100	0	132072	1720.0	23.23
					132322	1745.0	23.68
					132572	1770.0	23.52
			50	25	132072	1720.0	23.35
					132322	1745.0	23.00
					132572	1770.0	23.91
			1	0	132072	1720.0	24.00
					132322	1745.0	23.90
					132572	1770.0	23.98
			1	49	132072	1720.0	24.18
					132322	1745.0	24.26
					132572	1770.0	24.00

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Table 9.1.7 LTE Power Measurements – Full Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
66	16QAM	1.4 MHz	6	0	131979	1710.7	22.51
					132322	1745.0	22.02
					132665	1779.3	22.52
			3	1	131979	1710.7	22.44
					132322	1745.0	22.90
					132665	1779.3	22.25
			1	0	131979	1710.7	22.39
					132322	1745.0	22.52
					132665	1779.3	22.25
			1	5	131979	1710.7	22.09
					132322	1745.0	22.05
					132665	1779.3	22.21
		3 MHz	15	0	131987	1711.5	22.12
					132322	1745.0	22.19
					132657	1778.5	22.22
			8	3	131987	1711.5	22.02
					132322	1745.0	22.05
					132657	1778.5	22.27
			1	0	131987	1711.5	22.20
					132322	1745.0	22.22
					132657	1778.5	22.51
			1	14	131987	1711.5	22.18
					132322	1745.0	22.32
					132657	1778.5	22.50
		5 MHz	25	0	131997	1712.5	22.53
					132322	1745.0	22.19
					132647	1777.5	22.94
			12	6	131997	1712.5	22.51
					132322	1745.0	22.00
					132647	1777.5	22.59
			1	0	131997	1712.5	22.40
					132322	1745.0	22.03
					132647	1777.5	22.33
			1	24	131997	1712.5	22.62
					132322	1745.0	22.26
					132647	1777.5	22.33

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Table 9.1.8 LTE Power Measurements – Full Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
66	16QAM	10 MHz	50	0	132022	1715.0	22.37
					132322	1745.0	22.06
					132622	1775.0	22.69
			25	12	132022	1715.0	22.11
					132322	1745.0	22.96
					132622	1775.0	22.44
			1	0	132022	1715.0	22.35
					132322	1745.0	22.91
					132622	1775.0	22.26
			1	24	132022	1715.0	22.00
					132322	1745.0	22.83
					132622	1775.0	22.33
		15 MHz	75	0	132047	1717.5	22.23
					132322	1745.0	22.58
					132597	1772.5	22.61
			36	19	132047	1717.5	22.13
					132322	1745.0	22.17
					132597	1772.5	22.55
			1	0	132047	1717.5	22.38
					132322	1745.0	22.79
					132597	1772.5	22.15
			1	74	132047	1717.5	22.96
					132322	1745.0	22.32
					132597	1772.5	22.19
		20 MHz	100	0	132072	1720.0	22.30
					132322	1745.0	22.65
					132572	1770.0	22.57
			50	25	132072	1720.0	22.21
					132322	1745.0	22.12
					132572	1770.0	22.58
			1	0	132072	1720.0	22.20
					132322	1745.0	22.13
					132572	1770.0	22.75
			1	99	132072	1720.0	22.94
					132322	1745.0	22.35
					132572	1770.0	22.24

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Table 9.1.9 LTE Power Measurements – Full Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
26	QPSK	1.4 MHz	6	0	26697	814.7	23.51
					26865	831.5	23.60
					27033	848.3	23.48
			3	1	26697	814.7	23.81
					26865	831.5	23.80
					27033	848.3	23.14
			1	0	26697	814.7	23.98
					26865	831.5	24.01
					27033	848.3	24.12
			1	5	26697	814.7	23.98
					26865	831.5	23.81
					27033	848.3	23.87
		3 MHz	15	0	26705	815.5	23.01
					26865	831.5	23.06
					27025	847.5	23.18
			8	3	26705	815.5	23.76
					26865	831.5	23.85
					27025	847.5	23.97
			1	0	26705	815.5	23.91
					26865	831.5	23.97
					27025	847.5	24.00
			1	14	26705	815.5	23.89
					26865	831.5	24.00
					27025	847.5	24.00
		5 MHz	25	0	26715	816.5	23.01
					26865	831.5	23.05
					27015	846.5	23.11
			12	6	26715	816.5	23.87
					26865	831.5	23.91
					27015	846.5	23.93
			1	0	26715	816.5	23.96
					26865	831.5	23.97
					27015	846.5	24.00
			1	24	26715	816.5	23.89
					26865	831.5	23.94
					27015	846.5	24.00

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Table 9.1.10 LTE Power Measurements – Full Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
26	QPSK	10 MHz	50	0	26740	819.0	23.65
					26865	831.5	23.58
					26990	844.0	23.49
			25	12	26740	819.0	23.66
					26865	831.5	23.68
					26990	844.0	23.59
			1	0	26740	819.0	23.98
					26865	831.5	23.91
					26990	844.0	24.00
			1	24	26740	819.0	24.13
					26865	831.5	24.11
					26990	844.0	24.18
		15 MHz	75	0	26765	821.5	23.94
					26865	831.5	23.91
					26965	841.5	23.88
			36	19	26765	821.5	23.87
					26865	831.5	23.92
					26965	841.5	23.95
			1	0	26765	821.5	24.01
					26865	831.5	24.03
					26965	841.5	24.15
			1	37	26765	821.5	24.11
					26865	831.5	24.20
					26965	841.5	24.17

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Table 9.1.11 LTE Power Measurements – Full Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
26	16QAM	1.4 MHz	6	0	26697	814.7	22.51
					26865	831.5	22.60
					27033	848.3	22.48
			3	1	26697	814.7	22.81
					26865	831.5	22.80
					27033	848.3	22.14
			1	0	26697	814.7	22.98
					26865	831.5	22.01
					27033	848.3	22.12
			1	5	26697	814.7	22.98
					26865	831.5	22.81
					27033	848.3	22.87
		3 MHz	15	0	26705	815.5	22.01
					26865	831.5	22.06
					27025	847.5	22.18
			8	3	26705	815.5	22.76
					26865	831.5	22.85
					27025	847.5	22.97
			1	0	26705	815.5	22.91
					26865	831.5	22.97
					27025	847.5	22.00
			1	14	26705	815.5	22.89
					26865	831.5	22.00
					27025	847.5	22.00
		5 MHz	25	0	26715	816.5	22.01
					26865	831.5	22.05
					27015	846.5	22.11
			12	6	26715	816.5	22.87
					26865	831.5	22.91
					27015	846.5	22.93
			1	0	26715	816.5	22.96
					26865	831.5	22.97
					27015	846.5	22.00
			1	24	26715	816.5	22.89
					26865	831.5	22.94
					27015	846.5	22.00

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Table 9.1.12 LTE Power Measurements – Full Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
26	16QAM	10 MHz	50	0	26740	819.0	22.65
					26865	831.5	22.58
					26990	844.0	22.49
			25	12	26740	819.0	22.66
					26865	831.5	22.68
					26990	844.0	22.59
			1	0	26740	819.0	22.98
					26865	831.5	22.91
					26990	844.0	22.00
			1	24	26740	819.0	22.13
					26865	831.5	22.11
					26990	844.0	22.18
		15 MHz	75	0	26765	821.5	22.94
					26865	831.5	22.91
					26965	841.5	22.88
			36	19	26765	821.5	22.87
					26865	831.5	22.92
					26965	841.5	22.95
			1	0	26765	821.5	22.01
					26865	831.5	22.03
					26965	841.5	22.15
			1	74	26765	821.5	22.11
					26865	831.5	22.20
					26965	841.5	22.17

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Table 9.1.13 LTE Power Measurements – Full Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
12	QPSK	5 MHz	25	0	23035	701.5	23.19
					23095	707.5	23.20
					23155	713.5	23.15
			12	6	23035	701.5	24.00
					23095	707.5	24.00
					23155	713.5	24.00
			1	0	23035	701.5	24.00
					23095	707.5	24.00
					23155	713.5	24.00
			1	24	23035	701.5	24.00
					23095	707.5	24.00
					23155	713.5	24.00
		10 MHz	50	0	23060	704.0	23.08
					23095	707.5	23.15
					23129	711.0	23.21
			25	12	23060	704.0	24.00
					23095	707.5	24.00
					23129	711.0	24.00
			1	0	23060	704.0	24.00
					23095	707.5	24.00
					23129	711.0	24.00
			1	24	23060	704.0	24.00
					23095	707.5	24.00
					23129	711.0	24.00

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Table 9.1.14 LTE Power Measurements – Full Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
12	16QAM	5 MHz	25	0	23035	701.5	22.29
					23095	707.5	22.23
					23155	713.5	22.19
			12	6	23035	701.5	23.10
					23095	707.5	23.08
					23155	713.5	23.13
			1	0	23035	701.5	23.18
					23095	707.5	23.24
					23155	713.5	23.26
			1	24	23035	701.5	23.29
					23095	707.5	23.18
					23155	713.5	23.27
		10 MHz	50	0	23060	704.0	22.14
					23095	707.5	22.26
					23129	711.0	22.30
			25	12	23060	704.0	23.05
					23095	707.5	23.08
					23129	711.0	23.14
			1	0	23060	704.0	23.07
					23095	707.5	23.18
					23129	711.0	23.15
			1	24	23060	704.0	23.22
					23095	707.5	23.27
					23129	711.0	23.20

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Table 9.1.15 LTE Power Measurements – Full Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
13	QPSK	5 MHz	25	0	23205	779.5	23.35
					23255	784.5	23.35
			12	6	23205	779.5	23.46
					23255	784.5	23.47
			1	0	23205	779.5	23.45
					23255	784.5	23.40
			1	24	23205	779.5	23.49
					23255	784.5	23.44
		10 MHz	50	0	23230	782.0	23.26
			25	13	23230	782.0	23.51
			1	0	23230	782.0	24.28
			1	24	23230	782.0	24.16
	16QAM	5 MHz	25	0	23205	779.5	22.33
					23255	784.5	22.32
			12	6	23205	779.5	22.58
					23255	784.5	22.66
			1	0	23205	779.5	23.48
					23255	784.5	23.55
			1	24	23205	779.5	23.64
					23255	784.5	23.57
		10 MHz	50	0	23230	782.0	22.20
			25	13	23230	782.0	22.48
			1	0	23230	782.0	23.38
			1	24	23230	782.0	23.30

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Table 9.1.16 LTE Power Measurements – Full Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
30	QPSK	5 MHz	25	0	27685	2307.5	23.41
					27735	2312.5	23.46
			12	6	27685	2307.5	23.52
					27735	2312.5	23.56
			1	0	27685	2307.5	23.54
					27735	2312.5	23.43
			1	24	27685	2307.5	23.58
					27735	2312.5	23.41
		10 MHz	50	0	27710	2310	23.36
			25	13	27710	2310	23.59
			1	0	27710	2310	24.16
			1	24	27710	2310	24.19
	16QAM	5 MHz	25	0	27685	2307.5	22.35
					27735	2312.5	22.32
			12	6	27685	2307.5	22.66
					27735	2312.5	22.71
			1	0	27685	2307.5	22.55
					27735	2312.5	22.66
			1	24	27685	2307.5	22.68
					27735	2312.5	22.61
		10 MHz	50	0	27710	2310	22.25
			25	13	27710	2310	22.56
			1	0	27710	2310	22.42
			1	24	27710	2310	22.39

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Table 9.1.17 LTE Power Measurements – Full Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
7	QPSK	5 MHz	25	0	20775	2502.5	23.39
					21100	2535.0	23.38
					21425	2567.5	23.26
			12	6	20775	2502.5	23.16
					21100	2535.0	23.34
					21425	2567.5	23.22
			1	0	20775	2502.5	23.03
					21100	2535.0	23.08
					21425	2567.5	23.05
			1	24	20775	2502.5	24.16
					21100	2535.0	24.24
					21425	2567.5	24.17

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Table 9.1.18 LTE Power Measurements – Full Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
7	QPSK	10 MHz	50	0	20800	2505.0	23.19
					21100	2535.0	23.23
					21400	2565.0	23.36
			25	12	20800	2505.0	23.25
					21100	2535.0	23.37
					21400	2565.0	23.42
			1	0	20800	2505.0	23.05
					21100	2535.0	23.06
					21400	2565.0	23.04
			1	24	20800	2505.0	23.08
					21100	2535.0	23.03
					21400	2565.0	23.06
		15 MHz	75	0	20825	2507.5	23.12
					21100	2535.0	23.21
					21375	2562.5	23.28
			36	19	20825	2507.5	23.26
					21100	2535.0	23.21
					21375	2562.5	23.24
			1	0	20825	2507.5	23.07
					21100	2535.0	23.08
					21375	2562.5	23.03
			1	74	20825	2507.5	23.02
					21100	2535.0	23.09
					21375	2562.5	23.06
		20 MHz	100	0	20850	2510.0	23.20
					21100	2535.0	23.24
					21350	2560.0	23.38
			50	25	20850	2510.0	23.13
					21100	2535.0	23.15
					21350	2560.0	23.32
			1	0	20850	2510.0	23.04
					21100	2535.0	23.06
					21350	2560.0	23.09
			1	49	20850	2510.0	23.07
					21100	2535.0	23.05
					21350	2560.0	23.03

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Table 9.1.19 LTE Power Measurements – Full Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
7	16QAM	5 MHz	25	0	20775	2502.5	22.39
					21100	2535.0	22.38
					21425	2567.5	22.26
			12	6	20775	2502.5	22.16
					21100	2535.0	22.34
					21425	2567.5	22.22
			1	0	20775	2502.5	22.03
					21100	2535.0	22.08
					21425	2567.5	22.05
			1	24	20775	2502.5	22.16
					21100	2535.0	22.24
					21425	2567.5	22.17

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Table 9.1.20 LTE Power Measurements – Full Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
7	16QAM	10 MHz	50	0	20800	2505.0	22.19
					21100	2535.0	22.23
					21400	2565.0	22.36
			25	12	20800	2505.0	22.25
					21100	2535.0	22.37
					21400	2565.0	22.42
			1	0	20800	2505.0	22.05
					21100	2535.0	22.06
					21400	2565.0	22.04
			1	24	20800	2505.0	22.08
					21100	2535.0	22.03
					21400	2565.0	22.06
		15 MHz	75	0	20825	2507.5	22.12
					21100	2535.0	22.21
					21375	2562.5	22.28
			36	19	20825	2507.5	22.26
					21100	2535.0	22.21
					21375	2562.5	22.24
			1	0	20825	2507.5	22.07
					21100	2535.0	22.08
					21375	2562.5	22.03
			1	74	20825	2507.5	22.02
					21100	2535.0	22.09
					21375	2562.5	22.06
		20 MHz	100	0	20850	2510.0	22.20
					21100	2535.0	22.24
					21350	2560.0	22.38
			50	25	20850	2510.0	22.13
					21100	2535.0	22.15
					21350	2560.0	22.32
			1	0	20850	2510.0	22.04
					21100	2535.0	22.06
					21350	2560.0	22.09
			1	49	20850	2510.0	22.07
					21100	2535.0	22.05
					21350	2560.0	22.03

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Table 9.1.21 LTE Power Measurements – Full Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
41	QPSK	5 MHz	25	0	39675	2498.5	23.31
					40620	2593.0	23.33
					41565	2687.5	23.25
			12	6	39675	2498.5	23.18
					40620	2593.0	23.39
					41565	2687.5	23.26
			1	0	39675	2498.5	23.04
					40620	2593.0	23.07
					41565	2687.5	23.05
			1	24	39675	2498.5	24.17
					40620	2593.0	24.24
					41565	2687.5	24.16

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Table 9.1.22 LTE Power Measurements – Full Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
41	QPSK	10 MHz	50	0	39700	2501.0	23.13
					40620	2593.0	23.26
					41540	2685.0	23.39
			25	12	39700	2501.0	23.22
					40620	2593.0	23.35
					41540	2685.0	23.48
			1	0	39700	2501.0	23.01
					40620	2593.0	23.04
					41540	2685.0	23.07
			1	24	39700	2501.0	23.05
					40620	2593.0	23.03
					41540	2685.0	23.06
		15 MHz	75	0	39725	2503.5	23.11
					40620	2593.0	23.22
					41515	2682.5	23.28
			36	19	39725	2503.5	23.25
					40620	2593.0	23.24
					41515	2682.5	23.29
			1	0	39725	2503.5	23.06
					40620	2593.0	23.03
					41515	2682.5	23.04
			1	74	39725	2503.5	23.07
					40620	2593.0	23.05
					41515	2682.5	23.08
		20 MHz	100	0	39750	2506.0	23.23
					40620	2593.0	23.21
					41490	2680.0	23.39
			50	25	39750	2506.0	23.16
					40620	2593.0	23.15
					41490	2680.0	23.34
			1	0	39750	2506.0	23.08
					40620	2593.0	23.02
					41490	2680.0	23.09
			1	49	39750	2506.0	23.66
					40620	2593.0	23.54
					41490	2680.0	23.67

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Table 9.1.23 LTE Power Measurements – Full Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
41	16QAM	5 MHz	25	0	39675	2498.5	22.32
					40620	2593.0	22.26
					41565	2687.5	22.18
			12	6	39675	2498.5	22.32
					40620	2593.0	22.25
					41565	2687.5	22.49
			1	0	39675	2498.5	22.04
					40620	2593.0	22.07
					41565	2687.5	22.13
			1	24	39675	2498.5	22.06
					40620	2593.0	22.02
					41565	2687.5	22.14

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Table 9.1.24 LTE Power Measurements – Full Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
41	16QAM	10 MHz	50	0	39700	2501.0	22.26
					40620	2593.0	22.13
					41540	2685.0	22.35
			25	12	39700	2501.0	22.38
					40620	2593.0	22.27
					41540	2685.0	22.42
			1	0	39700	2501.0	22.36
					40620	2593.0	22.29
					41540	2685.0	22.28
			1	24	39700	2501.0	22.34
					40620	2593.0	22.11
					41540	2685.0	22.20
		15 MHz	75	0	39725	2503.5	22.12
					40620	2593.0	22.05
					41515	2682.5	22.13
			36	19	39725	2503.5	22.36
					40620	2593.0	22.37
					41515	2682.5	22.29
			1	0	39725	2503.5	22.25
					40620	2593.0	22.36
					41515	2682.5	22.32
			1	74	39725	2503.5	22.18
					40620	2593.0	22.03
					41515	2682.5	22.26
		20 MHz	100	0	39750	2506.0	22.25
					40620	2593.0	22.18
					41490	2680.0	22.39
			50	25	39750	2506.0	22.13
					40620	2593.0	22.00
					41490	2680.0	22.21
			1	0	39750	2506.0	22.37
					40620	2593.0	22.45
					41490	2680.0	22.26
			1	99	39750	2506.0	22.15
					40620	2593.0	22.28
					41490	2680.0	22.27

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Table 9.1.25 LTE Power Measurements – Reduced Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
25	QPSK	1.4 MHz	6	0	26047	1850.7	17.95
					26365	1882.5	17.20
					26683	1914.3	17.19
			3	1	26047	1850.7	17.00
					26365	1882.5	17.00
					26683	1914.3	17.70
			1	0	26047	1850.7	17.00
					26365	1882.5	17.61
					26683	1914.3	17.85
			1	5	26047	1850.7	17.99
					26365	1882.5	17.00
					26683	1914.3	17.99
		3 MHz	15	0	26055	1851.5	17.01
					26365	1882.5	17.11
					26675	1913.5	17.91
			8	3	26055	1851.5	17.95
					26365	1882.5	17.05
					26675	1913.5	17.81
			1	0	26055	1851.5	17.00
					26365	1882.5	17.74
					26675	1913.5	17.99
			1	14	26055	1851.5	17.99
					26365	1882.5	17.73
					26675	1913.5	17.00
		5 MHz	25	0	26065	1852.5	17.93
					26365	1882.5	17.98
					26665	1912.5	17.92
			12	6	26065	1852.5	17.83
					26365	1882.5	17.13
					26665	1912.5	17.88
			1	0	26065	1852.5	17.95
					26365	1882.5	17.56
					26665	1912.5	17.32
			1	24	26065	1852.5	17.45
					26365	1882.5	17.36
					26665	1912.5	17.98

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Table 9.1.26 LTE Power Measurements – Reduced Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
25	QPSK	10 MHz	50	0	26090	1855.0	17.52
					26365	1882.5	17.55
					26640	1910.0	17.57
			25	12	26090	1855.0	17.30
					26365	1882.5	17.95
					26640	1910.0	17.42
			1	0	26090	1855.0	17.95
					26365	1882.5	17.30
					26640	1910.0	17.23
			1	24	26090	1855.0	17.46
					26365	1882.5	17.00
					26640	1910.0	17.35
		15 MHz	75	0	26115	1857.5	17.38
					26365	1882.5	17.51
					26615	1907.5	17.46
			36	19	26115	1857.5	17.17
					26365	1882.5	17.86
					26615	1907.5	17.31
			1	0	26115	1857.5	17.89
					26365	1882.5	17.38
					26615	1907.5	17.42
			1	74	26115	1857.5	17.48
					26365	1882.5	17.31
					26615	1907.5	17.00
		20 MHz	100	0	26140	1860.0	17.50
					26365	1882.5	17.52
					26590	1905.0	17.40
			50	25	26140	1860.0	17.89
					26365	1882.5	17.91
					26590	1905.0	17.92
			1	0	26140	1860.0	17.98
					26365	1882.5	17.97
					26590	1905.0	17.94
			1	49	26140	1860.0	17.98
					26365	1882.5	17.92
					26590	1905.0	17.93

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Table 9.1.27 LTE Power Measurements – Reduced Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
25	16QAM	1.4 MHz	6	0	26047	1850.7	16.96
					26365	1882.5	16.11
					26683	1914.3	16.92
			3	1	26047	1850.7	16.95
					26365	1882.5	16.14
					26683	1914.3	16.88
			1	0	26047	1850.7	16.94
					26365	1882.5	16.12
					26683	1914.3	16.91
			1	5	26047	1850.7	16.91
					26365	1882.5	16.10
					26683	1914.3	16.93
		3 MHz	15	0	26055	1851.5	16.98
					26365	1882.5	16.14
					26675	1913.5	16.92
			8	3	26055	1851.5	16.76
					26365	1882.5	16.10
					26675	1913.5	16.82
			1	0	26055	1851.5	16.92
					26365	1882.5	16.63
					26675	1913.5	16.75
			1	14	26055	1851.5	16.69
					26365	1882.5	16.39
					26675	1913.5	16.74
		5 MHz	25	0	26065	1852.5	16.01
					26365	1882.5	16.96
					26665	1912.5	16.01
			12	6	26065	1852.5	16.84
					26365	1882.5	16.21
					26665	1912.5	16.88
			1	0	26065	1852.5	16.79
					26365	1882.5	16.44
					26665	1912.5	16.37
			1	24	26065	1852.5	16.21
					26365	1882.5	16.07
					26665	1912.5	16.75

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Table 9.1.28 LTE Power Measurements – Reduced Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
25	16QAM	10 MHz	50	0	26090	1855.0	16.30
					26365	1882.5	16.62
					26640	1910.0	16.53
			25	12	26090	1855.0	16.17
					26365	1882.5	16.81
					26640	1910.0	16.42
			1	0	26090	1855.0	16.77
					26365	1882.5	16.19
					26640	1910.0	16.07
			1	24	26090	1855.0	16.24
					26365	1882.5	16.96
					26640	1910.0	16.25
		16 MHz	75	0	26115	1857.5	16.35
					26365	1882.5	16.25
					26615	1907.5	16.46
			36	19	26115	1857.5	16.17
					26365	1882.5	16.64
					26615	1907.5	16.23
			1	0	26115	1857.5	16.79
					26365	1882.5	16.07
					26615	1907.5	16.21
			1	74	26115	1857.5	16.13
					26365	1882.5	16.96
					26615	1907.5	16.76
		20 MHz	100	0	26140	1860.0	16.54
					26365	1882.5	16.50
					26590	1905.0	16.32
			50	25	26140	1860.0	16.39
					26365	1882.5	16.54
					26590	1905.0	16.16
			1	0	26140	1860.0	16.68
					26365	1882.5	16.38
					26590	1905.0	16.74
			1	99	26140	1860.0	16.01
					26365	1882.5	16.71
					26590	1905.0	16.68

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Table 9.1.29 LTE Power Measurements – Reduced Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
66	QPSK	1.4 MHz	6	0	131979	1710.7	17.67
					132322	1745.0	17.06
					132665	1779.3	17.61
			3	1	131979	1710.7	17.99
					132322	1745.0	17.00
					132665	1779.3	17.99
			1	0	131979	1710.7	17.98
					132322	1745.0	17.58
					132665	1779.3	17.99
			1	5	131979	1710.7	17.98
					132322	1745.0	17.93
					132665	1779.3	17.22
		3 MHz	15	0	131987	1711.5	17.11
					132322	1745.0	17.09
					132657	1778.5	17.15
			8	3	131987	1711.5	17.02
					132322	1745.0	17.93
					132657	1778.5	17.07
			1	0	131987	1711.5	17.24
					132322	1745.0	17.40
					132657	1778.5	17.53
			1	14	131987	1711.5	17.34
					132322	1745.0	17.99
					132657	1778.5	17.94
		5 MHz	25	0	131997	1712.5	17.49
					132322	1745.0	17.19
					132647	1777.5	17.87
			12	6	131997	1712.5	17.44
					132322	1745.0	17.13
					132647	1777.5	17.64
			1	0	131997	1712.5	17.99
					132322	1745.0	17.31
					132647	1777.5	17.67
			1	24	131997	1712.5	17.19
					132322	1745.0	17.16
					132647	1777.5	17.99

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Table 9.1.30 LTE Power Measurements – Reduced Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
66	QPSK	10 MHz	50	0	132022	1715.0	17.36
					132322	1745.0	17.99
					132622	1775.0	17.80
			25	12	132022	1715.0	17.92
					132322	1745.0	17.04
					132622	1775.0	17.57
			1	0	132022	1715.0	17.35
					132322	1745.0	17.31
					132622	1775.0	17.60
			1	24	132022	1715.0	17.14
					132322	1745.0	17.92
					132622	1775.0	17.67
		15 MHz	75	0	132047	1717.5	17.29
					132322	1745.0	17.67
					132597	1772.5	17.62
			36	19	132047	1717.5	17.01
					132322	1745.0	17.17
					132597	1772.5	17.64
			1	0	132047	1717.5	17.99
					132322	1745.0	17.13
					132597	1772.5	17.38
			1	74	132047	1717.5	17.18
					132322	1745.0	17.45
					132597	1772.5	17.60
		20 MHz	100	0	132072	1720.0	17.23
					132322	1745.0	17.68
					132572	1770.0	17.52
			50	25	132072	1720.0	17.35
					132322	1745.0	17.00
					132572	1770.0	17.91
			1	0	132072	1720.0	17.82
					132322	1745.0	17.90
					132572	1770.0	17.98
			1	49	132072	1720.0	17.88
					132322	1745.0	17.92
					132572	1770.0	17.85

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Table 9.1.31 LTE Power Measurements – Reduced Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
66	16QAM	1.4 MHz	6	0	131979	1710.7	16.51
					132322	1745.0	16.02
					132665	1779.3	16.52
			3	1	131979	1710.7	16.44
					132322	1745.0	16.90
					132665	1779.3	16.25
			1	0	131979	1710.7	16.39
					132322	1745.0	16.52
					132665	1779.3	16.25
			1	5	131979	1710.7	16.09
					132322	1745.0	16.05
					132665	1779.3	16.21
		3 MHz	15	0	131987	1711.5	16.12
					132322	1745.0	16.19
					132657	1778.5	16.22
			8	3	131987	1711.5	16.02
					132322	1745.0	16.05
					132657	1778.5	16.27
			1	0	131987	1711.5	16.20
					132322	1745.0	16.22
					132657	1778.5	16.51
			1	14	131987	1711.5	16.18
					132322	1745.0	16.32
					132657	1778.5	16.50
		5 MHz	25	0	131997	1712.5	16.53
					132322	1745.0	16.19
					132647	1777.5	16.94
			12	6	131997	1712.5	16.51
					132322	1745.0	16.00
					132647	1777.5	16.59
			1	0	131997	1712.5	16.40
					132322	1745.0	16.03
					132647	1777.5	16.33
			1	24	131997	1712.5	16.62
					132322	1745.0	16.26
					132647	1777.5	16.33

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Table 9.1.32 LTE Power Measurements – Reduced Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
66	16QAM	10 MHz	50	0	132022	1715.0	16.37
					132322	1745.0	16.06
					132622	1775.0	16.69
			25	12	132022	1715.0	16.11
					132322	1745.0	16.96
					132622	1775.0	16.44
			1	0	132022	1715.0	16.35
					132322	1745.0	16.91
					132622	1775.0	16.26
			1	24	132022	1715.0	16.00
					132322	1745.0	16.83
					132622	1775.0	16.33
		15 MHz	75	0	132047	1717.5	16.23
					132322	1745.0	16.58
					132597	1772.5	16.61
			36	19	132047	1717.5	16.13
					132322	1745.0	16.17
					132597	1772.5	16.55
			1	0	132047	1717.5	16.38
					132322	1745.0	16.79
					132597	1772.5	16.15
			1	74	132047	1717.5	16.96
					132322	1745.0	16.32
					132597	1772.5	16.19
		20 MHz	100	0	132072	1720.0	16.30
					132322	1745.0	16.65
					132572	1770.0	16.57
			50	25	132072	1720.0	16.21
					132322	1745.0	16.12
					132572	1770.0	16.58
			1	0	132072	1720.0	16.20
					132322	1745.0	16.13
					132572	1770.0	16.75
			1	99	132072	1720.0	16.94
					132322	1745.0	16.35
					132572	1770.0	16.24

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Table 9.1.32 LTE Power Measurements – Reduced Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
26	QPSK	1.4 MHz	6	0	26697	814.7	17.51
					26865	831.5	17.60
					27033	848.3	17.48
			3	1	26697	814.7	17.81
					26865	831.5	17.80
					27033	848.3	17.14
			1	0	26697	814.7	17.98
					26865	831.5	17.01
					27033	848.3	17.12
			1	5	26697	814.7	17.98
					26865	831.5	17.81
					27033	848.3	17.87
		3 MHz	15	0	26705	815.5	17.01
					26865	831.5	17.06
					27025	847.5	17.18
			8	3	26705	815.5	17.76
					26865	831.5	17.85
					27025	847.5	17.97
			1	0	26705	815.5	17.91
					26865	831.5	17.97
					27025	847.5	17.47
			1	14	26705	815.5	17.89
					26865	831.5	17.36
					27025	847.5	17.15
		5 MHz	25	0	26715	816.5	17.01
					26865	831.5	17.05
					27015	846.5	17.11
			12	6	26715	816.5	17.87
					26865	831.5	17.91
					27015	846.5	17.93
			1	0	26715	816.5	17.96
					26865	831.5	17.97
					27015	846.5	17.00
			1	24	26715	816.5	17.89
					26865	831.5	17.94
					27015	846.5	17.23

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Table 9.1.34 LTE Power Measurements – Reduced Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
26	QPSK	10 MHz	50	0	26740	819.0	17.65
					26865	831.5	17.58
					26990	844.0	17.49
			25	12	26740	819.0	17.66
					26865	831.5	17.68
					26990	844.0	17.59
			1	0	26740	819.0	17.98
					26865	831.5	17.91
					26990	844.0	17.23
			1	24	26740	819.0	17.13
					26865	831.5	17.11
					26990	844.0	17.18
		15 MHz	75	0	26765	821.5	17.94
					26865	831.5	17.91
					26965	841.5	17.88
			36	19	26765	821.5	17.87
					26865	831.5	17.92
					26965	841.5	17.95
			1	0	26765	821.5	17.51
					26865	831.5	17.58
					26965	841.5	17.49
			1	37	26765	821.5	17.68
					26865	831.5	17.74
					26965	841.5	17.63

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Table 9.1.35 LTE Power Measurements – Reduced Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
26	16QAM	1.4 MHz	6	0	26697	814.7	16.51
					26865	831.5	16.60
					27033	848.3	16.48
			3	1	26697	814.7	16.81
					26865	831.5	16.80
					27033	848.3	16.14
			1	0	26697	814.7	16.98
					26865	831.5	16.01
					27033	848.3	16.12
			1	5	26697	814.7	16.98
					26865	831.5	16.81
					27033	848.3	16.87
		3 MHz	15	0	26705	815.5	16.01
					26865	831.5	16.06
					27025	847.5	16.18
			8	3	26705	815.5	16.76
					26865	831.5	16.85
					27025	847.5	16.97
			1	0	26705	815.5	16.91
					26865	831.5	16.97
					27025	847.5	16.00
			1	14	26705	815.5	16.89
					26865	831.5	16.00
					27025	847.5	16.00
		5 MHz	25	0	26715	816.5	16.01
					26865	831.5	16.05
					27015	846.5	16.11
			12	6	26715	816.5	16.87
					26865	831.5	16.91
					27015	846.5	16.93
			1	0	26715	816.5	16.96
					26865	831.5	16.97
					27015	846.5	16.00
			1	24	26715	816.5	16.89
					26865	831.5	16.94
					27015	846.5	16.00

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Table 9.1.36 LTE Power Measurements – Reduced Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
26	16QAM	10 MHz	50	0	26740	819.0	16.65
					26865	831.5	16.58
					26990	844.0	16.49
			25	12	26740	819.0	16.66
					26865	831.5	16.68
					26990	844.0	16.59
			1	0	26740	819.0	16.98
					26865	831.5	16.91
					26990	844.0	16.00
			1	24	26740	819.0	16.13
					26865	831.5	16.11
					26990	844.0	16.18
		15 MHz	75	0	26765	821.5	16.94
					26865	831.5	16.91
					26965	841.5	16.88
			36	19	26765	821.5	16.87
					26865	831.5	16.92
					26965	841.5	16.95
			1	0	26765	821.5	16.01
					26865	831.5	16.03
					26965	841.5	16.15
			1	74	26765	821.5	16.11
					26865	831.5	16.20
					26965	841.5	16.17

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Table 9.1.37 LTE Power Measurements – Reduced Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
12	QPSK	5 MHz	25	0	23035	701.5	17.19
					23095	707.5	17.20
					23155	713.5	17.15
			12	6	23035	701.5	17.22
					23095	707.5	17.28
					23155	713.5	17.33
			1	0	23035	701.5	17.56
					23095	707.5	17.42
					23155	713.5	17.51
			1	24	23035	701.5	17.68
					23095	707.5	17.63
					23155	713.5	17.59
		10 MHz	50	0	23060	704.0	17.08
					23095	707.5	17.15
					23129	711.0	17.21
			25	12	23060	704.0	17.29
					23095	707.5	17.33
					23129	711.0	17.38
			1	0	23060	704.0	17.88
					23095	707.5	17.85
					23129	711.0	17.83
			1	24	23060	704.0	17.92
					23095	707.5	17.87
					23129	711.0	17.86

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Table 9.1.38 LTE Power Measurements – Reduced Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
12	16QAM	5 MHz	25	0	23035	701.5	16.29
					23095	707.5	16.23
					23155	713.5	16.19
			12	6	23035	701.5	16.10
					23095	707.5	16.08
					23155	713.5	16.13
			1	0	23035	701.5	16.18
					23095	707.5	16.24
					23155	713.5	16.26
			1	24	23035	701.5	16.29
					23095	707.5	16.18
					23155	713.5	16.27
		10 MHz	50	0	23060	704.0	16.14
					23095	707.5	16.26
					23129	711.0	16.30
			25	12	23060	704.0	16.05
					23095	707.5	16.08
					23129	711.0	16.14
			1	0	23060	704.0	16.07
					23095	707.5	16.18
					23129	711.0	16.15
			1	24	23060	704.0	16.22
					23095	707.5	16.27
					23129	711.0	16.20

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Table 9.1.39 LTE Power Measurements – Reduced Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
13	QPSK	5 MHz	25	0	23205	779.5	17.35
					23255	784.5	17.35
			12	6	23205	779.5	17.46
					23255	784.5	17.47
			1	0	23205	779.5	17.45
					23255	784.5	17.40
			1	24	23205	779.5	17.49
					23255	784.5	17.44
		10 MHz	50	0	23230	782.0	17.26
			25	13	23230	782.0	17.51
			1	0	23230	782.0	17.82
			1	24	23230	782.0	17.86
	16QAM	5 MHz	25	0	23205	779.5	16.33
					23255	784.5	16.32
			12	6	23205	779.5	16.58
					23255	784.5	16.66
			1	0	23205	779.5	16.48
					23255	784.5	16.55
			1	24	23205	779.5	16.64
					23255	784.5	16.57
		10 MHz	50	0	23230	782.0	16.20
			25	13	23230	782.0	16.48
			1	0	23230	782.0	16.38
			1	24	23230	782.0	16.30

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Table 9.1.40 LTE Power Measurements – Reduced Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
30	QPSK	5 MHz	25	0	27685	2307.5	17.41
					27735	2312.5	17.46
			12	6	27685	2307.5	17.52
					27735	2312.5	17.56
			1	0	27685	2307.5	17.54
					27735	2312.5	17.43
			1	24	27685	2307.5	17.58
					27735	2312.5	17.41
		10 MHz	50	0	27710	2310	17.36
			25	13	27710	2310	17.59
			1	0	27710	2310	17.79
			1	24	27710	2310	17.71
	16QAM	5 MHz	25	0	27685	2307.5	16.35
					27735	2312.5	16.32
			12	6	27685	2307.5	16.66
					27735	2312.5	16.71
			1	0	27685	2307.5	16.55
					27735	2312.5	16.66
			1	24	27685	2307.5	16.68
					27735	2312.5	16.61
		10 MHz	50	0	27710	2310	16.25
			25	13	27710	2310	16.56
			1	0	27710	2310	16.42
			1	24	27710	2310	16.39

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Table 9.1.41 LTE Power Measurements – Reduced Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
7	QPSK	5 MHz	25	0	20775	2502.5	14.39
					21100	2535.0	14.38
					21425	2567.5	14.26
			12	6	20775	2502.5	14.16
					21100	2535.0	14.34
					21425	2567.5	14.22
			1	0	20775	2502.5	14.03
					21100	2535.0	14.08
					21425	2567.5	14.05
			1	24	20775	2502.5	14.46
					21100	2535.0	14.54
					21425	2567.5	14.47

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Table 9.1.42 LTE Power Measurements – Reduced Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
7	QPSK	10 MHz	50	0	20800	2505.0	14.19
					21100	2535.0	14.14
					21400	2565.0	14.36
			25	12	20800	2505.0	14.25
					21100	2535.0	14.37
					21400	2565.0	14.42
			1	0	20800	2505.0	14.05
					21100	2535.0	14.06
					21400	2565.0	14.04
			1	24	20800	2505.0	14.08
					21100	2535.0	14.03
					21400	2565.0	14.06
		15 MHz	75	0	20825	2507.5	14.12
					21100	2535.0	14.21
					21375	2562.5	14.28
			36	19	20825	2507.5	14.26
					21100	2535.0	14.21
					21375	2562.5	14.24
			1	0	20825	2507.5	14.07
					21100	2535.0	14.08
					21375	2562.5	14.03
			1	74	20825	2507.5	14.02
					21100	2535.0	14.09
					21375	2562.5	14.06
		20 MHz	100	0	20850	2510.0	14.20
					21100	2535.0	14.24
					21350	2560.0	14.38
			50	25	20850	2510.0	14.13
					21100	2535.0	14.15
					21350	2560.0	14.32
			1	0	20850	2510.0	14.04
					21100	2535.0	14.06
					21350	2560.0	14.09
			1	49	20850	2510.0	14.51
					21100	2535.0	14.56
					21350	2560.0	14.47

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Table 9.1.43 LTE Power Measurements – Reduced Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
7	16QAM	5 MHz	25	0	20775	2502.5	13.39
					21100	2535.0	13.38
					21425	2567.5	13.26
			12	6	20775	2502.5	13.16
					21100	2535.0	13.34
					21425	2567.5	13.22
			1	0	20775	2502.5	13.03
					21100	2535.0	13.08
					21425	2567.5	13.05
			1	24	20775	2502.5	13.16
					21100	2535.0	13.24
					21425	2567.5	13.17

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Table 9.1.44 LTE Power Measurements – Reduced Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
7	16QAM	10 MHz	50	0	20800	2505.0	13.19
					21100	2535.0	13.23
					21400	2565.0	13.36
			25	12	20800	2505.0	13.25
					21100	2535.0	13.37
					21400	2565.0	13.42
			1	0	20800	2505.0	13.05
					21100	2535.0	13.06
					21400	2565.0	13.04
			1	24	20800	2505.0	13.08
					21100	2535.0	13.03
					21400	2565.0	13.06
		15 MHz	75	0	20825	2507.5	13.13
					21100	2535.0	13.21
					21375	2562.5	13.28
			36	19	20825	2507.5	13.26
					21100	2535.0	13.21
					21375	2562.5	13.24
			1	0	20825	2507.5	13.07
					21100	2535.0	13.08
					21375	2562.5	13.03
			1	74	20825	2507.5	13.02
					21100	2535.0	13.09
					21375	2562.5	13.06
		20 MHz	100	0	20850	2510.0	13.20
					21100	2535.0	13.24
					21350	2560.0	13.38
			50	25	20850	2510.0	13.13
					21100	2535.0	13.15
					21350	2560.0	13.32
			1	0	20850	2510.0	13.04
					21100	2535.0	13.06
					21350	2560.0	13.09
			1	49	20850	2510.0	13.07
					21100	2535.0	13.05
					21350	2560.0	13.03

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Table 9.1.45 LTE Power Measurements – Reduced Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
41	QPSK	5 MHz	25	0	39675	2498.5	17.31
					40620	2593.0	17.33
					41565	2687.5	17.25
			12	6	39675	2498.5	17.18
					40620	2593.0	17.39
					41565	2687.5	17.26
			1	0	39675	2498.5	17.04
					40620	2593.0	17.07
					41565	2687.5	17.05
			1	24	39675	2498.5	17.27
					40620	2593.0	17.24
					41565	2687.5	17.36

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Table 9.1.46 LTE Power Measurements – Reduced Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
41	QPSK	10 MHz	50	0	39700	2501.0	17.13
					40620	2593.0	17.26
					41540	2685.0	17.39
			25	12	39700	2501.0	17.22
					40620	2593.0	17.35
					41540	2685.0	17.48
			1	0	39700	2501.0	17.01
					40620	2593.0	17.04
					41540	2685.0	17.07
			1	24	39700	2501.0	17.05
					40620	2593.0	17.03
					41540	2685.0	17.06
		15 MHz	75	0	39725	2503.5	17.11
					40620	2593.0	17.22
					41515	2682.5	17.28
			36	19	39725	2503.5	17.25
					40620	2593.0	17.24
					41515	2682.5	17.29
			1	0	39725	2503.5	17.06
					40620	2593.0	17.03
					41515	2682.5	17.04
			1	74	39725	2503.5	17.07
					40620	2593.0	17.05
					41515	2682.5	17.08
		20 MHz	100	0	39750	2506.0	17.23
					40620	2593.0	17.21
					41490	2680.0	17.39
			50	25	39750	2506.0	17.16
					40620	2593.0	17.15
					41490	2680.0	17.34
			1	0	39750	2506.0	17.08
					40620	2593.0	17.02
					41490	2680.0	17.09
			1	49	39750	2506.0	17.66
					40620	2593.0	17.54
					41490	2680.0	17.67

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Table 9.1.47 LTE Power Measurements – Reduced Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
41	16QAM	5 MHz	25	0	39675	2498.5	16.32
					40620	2593.0	16.26
					41565	2687.5	16.18
			12	6	39675	2498.5	16.32
					40620	2593.0	16.25
					41565	2687.5	16.49
			1	0	39675	2498.5	16.04
					40620	2593.0	16.07
					41565	2687.5	16.13
			1	24	39675	2498.5	16.06
					40620	2593.0	16.02
					41565	2687.5	16.14

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Table 9.1.48 LTE Power Measurements – Reduced Power

Band	Modulation	Bandwidth	RB Size	RB Offset	Channel	Frequency	Power
41	16QAM	10 MHz	50	0	39700	2501.0	16.26
					40620	2593.0	16.13
					41540	2685.0	16.35
			25	12	39700	2501.0	16.38
					40620	2593.0	16.27
					41540	2685.0	16.42
			1	0	39700	2501.0	16.36
					40620	2593.0	16.29
					41540	2685.0	16.28
			1	24	39700	2501.0	16.34
					40620	2593.0	16.11
					41540	2685.0	16.20
		15 MHz	75	0	39725	2503.5	16.12
					40620	2593.0	16.05
					41515	2682.5	16.13
			36	19	39725	2503.5	16.36
					40620	2593.0	16.37
					41515	2682.5	16.29
			1	0	39725	2503.5	16.25
					40620	2593.0	16.36
					41515	2682.5	16.32
			1	74	39725	2503.5	16.18
					40620	2593.0	16.03
					41515	2682.5	16.26
		20 MHz	100	0	39750	2506.0	16.25
					40620	2593.0	16.18
					41490	2680.0	16.39
			50	25	39750	2506.0	16.13
					40620	2593.0	16.00
					41490	2680.0	16.21
			1	0	39750	2506.0	16.37
					40620	2593.0	16.45
					41490	2680.0	16.26
			1	99	39750	2506.0	16.15
					40620	2593.0	16.28
					41490	2680.0	16.27

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Table 9.2.1 Test Reduction Table – LTE

Band/ Frequency (MHz)	Side	Required Test Channel	Bandwidth	Modulation	RB Allocation	RB Offset	Tested/ Reduced
Band 25 1850-1915 MHz	Back	26140	20 MHz	QPSK	50	0	Tested
		26365					Tested
		26590					Tested
		26140			100	0	Reduced[1]
		26365					Reduced[1]
		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]
	Left	26140	20 MHz	QPSK	50	25	Reduced[7]
		26365					Tested
		26590					Reduced[7]
		26140			100	0	Reduced[1]
		26365					Reduced[1]
		26590					Reduced[1]
		26140			1	0	Reduced[7]
		26365					Tested
		26590					Reduced[7]
		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	0	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] – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.
Reduced[7] – When the measured channel is less than 3 dB from the limit, the remaining channels are not required per KDB447498 D01 v06 section 4.3.3 page 14.

Maximum power: 281.8 mW
Closest Distance to Right: 148 mm
Closest Distance to Bottom: 161 mm

The closest distance is from the right side. Therefore, if the right side is excluded the bottom side would also be excluded.

[{[(3.0)/(√1.915)]*50 mm}]+[{148-50 mm}*10]=1068 mW which is greater than 281.8 mW

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Table 9.2.2 Test Reduction Table – LTE

Band/ Frequency (MHz)	Side	Required Test Channel	Bandwidth	Modulation	RB Allocation	RB Offset	Tested/ Reduced
Band 25 1850-1915 MHz	Top	26140	20 MHz	QPSK	50	0	Tested
		26365					Tested
		26590					Tested
		26140			100	0	Reduced[7]
		26365					Reduced[7]
		26590					Tested
		26140			1	0	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	0	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]
		All remaining sides					Reduced[6]

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] – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.
Reduced[7] – When the measured channel is less than 3 dB from the limit, the remaining channels are not required per KDB447498 D01 v06 section 4.3.3 page 14.

Maximum power: 281.8 mW
Closest Distance to Right: 148 mm
Closest Distance to Bottom: 161 mm

The closest distance is from the right side. Therefore, if the right side is excluded the bottom side would also be excluded.

[{[(3.0)/(√1.915)]*50 mm}]+[{148-50 mm}*10]=1068 mW which is greater than 281.8 mW

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Table 9.2.3 Test Reduction Table – LTE

Band/ Frequency (MHz)	Side	Required Test Channel	Bandwidth	Modulation	RB Allocation	RB Offset	Tested/ Reduced
Band 66 1710-1780 MHz	Back	132072	20 MHz	QPSK	50	25	Reduced[7]
		132322					Tested
		132572					Reduced[7]
		132072			100	0	Reduced[1]
		132322					Reduced[1]
		132572					Reduced[1]
		132072			1	0	Reduced[7]
		132322					Tested
		132572					Reduced[7]
		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	0	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]
	Left	132072	20 MHz	QPSK	50	25	Reduced[7]
		132322					Tested
		132572					Reduced[7]
		132072			100	0	Reduced[1]
		132322					Reduced[1]
		132572					Reduced[1]
		132072			1	0	Reduced[7]
		132322					Tested
		132572					Reduced[7]
		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	0	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]
	All remaining sides						Reduced[6]

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] – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.
Reduced[7] – When the measured channel is less than 3 dB from the limit, the remaining channels are not required per KDB447498 D01 v06 section 4.3.3 page 14.

Maximum power: 281.8 mW
Closest Distance to Right: 148 mm
Closest Distance to Bottom: 161 mm

The closest distance is from the right side. Therefore, if the right side is excluded the bottom side would also be excluded.

[{[(3.0)/(√1.78)]*50 mm}]+[{148-50 mm}*10]=1092 mW which is greater than 281.8 mW

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Table 9.2.4 Test Reduction Table – LTE

Band/ Frequency (MHz)	Side	Required Test Channel	Bandwidth	Modulation	RB Allocation	RB Offset	Tested/ Reduced
Band 66 1710-1780 MHz	Top	132072	20 MHz	QPSK	50	25	Tested
		132322					Tested
		132572					Tested
		132072			100	0	Reduced[1]
		132322					Tested
		132572					Reduced[1]
		132072			1	0	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	0	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]
		All remaining sides					Reduced[6]

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] – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.
Reduced[7] – When the measured channel is less than 3 dB from the limit, the remaining channels are not required per KDB447498 D01 v06 section 4.3.3 page 14.

Maximum power: 281.8 mW
Closest Distance to Right: 148 mm
Closest Distance to Bottom: 161 mm

The closest distance is from the right side. Therefore, if the right side is excluded the bottom side would also be excluded.

[{[(3.0)/(√1.78)]*50 mm}]+[{148-50 mm}*10]=1092 mW which is greater than 281.8 mW

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Table 9.2.5 Test Reduction Table – LTE

Band/ Frequency (MHz)	Side	Required Test Channel	Bandwidth	Modulation	RB Allocation	RB Offset	Tested/ Reduced
Band 26 814-849 MHz	Back	20450	10 MHz	QPSK	25	12	Reduced[7]
		20525					Tested
		20600					Reduced[7]
		20450			50	0	Reduced[7]
		20525					Tested
		20600					Reduced[7]
		20450			1	0	Tested
		20525					Tested
		20600					Tested
		20450				24	Reduced[2]
		20525					Reduced[2]
		20600					Reduced[2]
		20450		16QAM	25	12	Reduced[3]
		20525					Reduced[3]
		20600					Reduced[3]
		20450			50	0	Reduced[1]
		20525					Reduced[1]
		20600					Reduced[1]
		20450			1	0	Reduced[4]
		20525					Reduced[4]
		20600					Reduced[4]
		20450				24	Reduced[4]
		20525					Reduced[4]
		20600					Reduced[4]
		All lower bandwidths (5 MHz)					Reduced[5]
	Left	20450	10 MHz	QPSK	25	12	Reduced[7]
		20525					Tested
		20600					Reduced[7]
		20450			50	0	Reduced[1]
		20525					Reduced[1]
		20600					Reduced[1]
		20450			1	0	Reduced[7]
		20525					Tested
		20600					Reduced[7]
		20450				24	Reduced[2]
		20525					Reduced[2]
		20600					Reduced[2]
		20450		16QAM	25	12	Reduced[3]
		20525					Reduced[3]
		20600					Reduced[3]
		20450			50	0	Reduced[1]
		20525					Reduced[1]
		20600					Reduced[1]
		20450			1	0	Reduced[4]
		20525					Reduced[4]
		20600					Reduced[4]
		20450				24	Reduced[4]
		20525					Reduced[4]
		20600					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] – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.
Reduced[7] – When the measured channel is less than 3 dB from the limit, the remaining channels are not required per KDB447498 D01 v06 section 4.3.3 page 14.

Maximum power: 281.8 mW
Closest Distance to Right: 148 mm
Closest Distance to Bottom: 161 mm

The closest distance is from the right side. Therefore, if the right side is excluded the bottom side would also be excluded.

[{[(3.0)/(√0.849)]*50 mm}]+[{146-50 mm}*10]=1142 mW which is greater than 281.8 mW

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Table 9.2.6 Test Reduction Table – LTE

Band/ Frequency (MHz)	Side	Required Test Channel	Bandwidth	Modulation	RB Allocation	RB Offset	Tested/ Reduced
Band 26 814-849 MHz	Top	20450	10 MHz	QPSK	25	12	Reduced[7]
		20525					Tested
		20600					Reduced[7]
		20450			50	0	Reduced[1]
		20525					Reduced[1]
		20600					Reduced[1]
		20450			1	0	Reduced[7]
		20525					Tested
		20600					Reduced[7]
		20450				24	Reduced[2]
		20525					Reduced[2]
		20600					Reduced[2]
		20450		16QAM	25	12	Reduced[3]
		20525					Reduced[3]
		20600					Reduced[3]
		20450			50	0	Reduced[1]
		20525					Reduced[1]
		20600					Reduced[1]
		20450			1	0	Reduced[4]
		20525					Reduced[4]
		20600					Reduced[4]
		20450				24	Reduced[4]
		20525					Reduced[4]
		20600					Reduced[4]
		All lower bandwidths (5 MHz)					Reduced[5]
		All remaining sides					Reduced[6]

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] – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.
Reduced[7] – When the measured channel is less than 3 dB from the limit, the remaining channels are not required per KDB447498 D01 v06 section 4.3.3 page 14.

Maximum power: 281.8 mW
Closest Distance to Right: 148 mm
Closest Distance to Bottom: 161 mm

The closest distance is from the right side. Therefore, if the right side is excluded the bottom side would also be excluded.

[{[(3.0)/(√0.849)]*50 mm}]+[{146-50 mm}*10]=1142 mW which is greater than 281.8 mW

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Table 9.2.7 Test Reduction Table – LTE

Band/ Frequency (MHz)	Side	Required Test Channel	Bandwidth	Modulation	RB Allocation	RB Offset	Tested/ Reduced
Band 12 699-716 MHz	Back	23060	10 MHz	QPSK	25	12	Reduced[7]
		23095					Tested
		23129					Reduced[7]
		23060			50	0	Reduced[1]
		23095					Reduced[1]
		23129					Reduced[1]
		23060			1	0	Reduced[7]
		23095					Tested
		23129					Reduced[7]
		23060				24	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	0	Reduced[4]
		23095					Reduced[4]
		23129					Reduced[4]
		23060				24	Reduced[4]
		23095					Reduced[4]
		23129					Reduced[4]
		All lower bandwidths (5 MHz)					Reduced[5]
	Left	23060	10 MHz	QPSK	25	12	Reduced[7]
		23095					Tested
		23129					Reduced[7]
		23060			50	0	Reduced[1]
		23095					Reduced[1]
		23129					Reduced[1]
		23060			1	0	Reduced[7]
		23095					Tested
		23129					Reduced[7]
		23060				24	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	0	Reduced[4]
		23095					Reduced[4]
		23129					Reduced[4]
		23060				24	Reduced[4]
		23095					Reduced[4]
		23129					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] – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.
Reduced[7] – When the measured channel is less than 3 dB from the limit, the remaining channels are not required per KDB447498 D01 v06 section 4.3.3 page 14.

Maximum power: 281.8 mW
Closest Distance to Right: 148 mm
Closest Distance to Bottom: 161 mm

The closest distance is from the right side. Therefore, if the right side is excluded the bottom side would also be excluded.

[{[(3.0)/(√0.716)]*50 mm}]+[{146-50 mm}*10]=1157 mW which is greater than 281.8 mW

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Table 9.2.8 Test Reduction Table – LTE

Band/ Frequency (MHz)	Side	Required Test Channel	Bandwidth	Modulation	RB Allocation	RB Offset	Tested/ Reduced
Band 12 699-716 MHz	Top	23060	10 MHz	QPSK	25	12	Reduced[7]
		23095					Tested
		23129					Reduced[7]
		23060			50	0	Reduced[1]
		23095					Reduced[1]
		23129					Reduced[1]
		23060			1	0	Reduced[7]
		23095					Tested
		23129					Reduced[7]
		23060				24	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	0	Reduced[4]
		23095					Reduced[4]
		23129					Reduced[4]
		23060				24	Reduced[4]
		23095					Reduced[4]
		23129					Reduced[4]
		All lower bandwidths (5 MHz)					Reduced[5]
		All remaining sides					Reduced[6]

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] – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.
Reduced[7] – When the measured channel is less than 3 dB from the limit, the remaining channels are not required per KDB447498 D01 v06 section 4.3.3 page 14.

Maximum power: 281.8 mW
Closest Distance to Right: 148 mm
Closest Distance to Bottom: 161 mm

The closest distance is from the right side. Therefore, if the right side is excluded the bottom side would also be excluded.

[{[(3.0)/(√0.716)]*50 mm}]+[{146-50 mm}*10]=1157 mW which is greater than 281.8 mW

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Table 9.2.9 Test Reduction Table – LTE

Band/ Frequency (MHz)	Side	Required Test Channel	Bandwidth	Modulation	RB Allocation	RB Offset	Tested/ Reduced
Band 13 777-787 MHz	Back	23230	10 MHz	QPSK	25	12	Tested
		23230			50	0	Reduced[1]
		23230			1	0	Reduced[7]
		23230				24	Tested
		23230		16QAM	25	12	Reduced[3]
		23230			50	0	Reduced[1]
		23230			1	0	Reduced[4]
		23230				24	Reduced[4]
		All lower bandwidths (5 MHz)					Reduced[5]
	Left	23230	10 MHz	QPSK	25	12	Tested
		23230			50	0	Reduced[1]
		23230			1	0	Reduced[7]
		23230				24	Tested
		23230		16QAM	25	12	Reduced[3]
		23230			50	0	Reduced[1]
		23230			1	0	Reduced[4]
		23230				24	Reduced[4]
		All lower bandwidths (5 MHz)					Reduced[5]
	Top	23230	10 MHz	QPSK	25	12	Tested
		23230			50	0	Reduced[1]
		23230			1	0	Reduced[7]
		23230				24	Tested
		23230		16QAM	25	12	Reduced[3]
		23230			50	0	Reduced[1]
		23230			1	0	Reduced[4]
		23230				24	Reduced[4]
		All lower bandwidths (5 MHz)					Reduced[5]
	All remaining sides						Reduced[6]

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] – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.
Reduced[7] – When the measured channel is less than 3 dB from the limit, the remaining channels are not required per KDB447498 D01 v06 section 4.3.3 page 14.

Maximum power: 281.8 mW
Closest Distance to Right: 148 mm
Closest Distance to Bottom: 161 mm

The closest distance is from the right side. Therefore, if the right side is excluded the bottom side would also be excluded.

[{[(3.0)/(√0.787)]*50 mm}]+[{146-50 mm}*10]=1149 mW which is greater than 281.8 mW

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Table 9.2.10 Test Reduction Table – LTE

Band/ Frequency (MHz)	Side	Required Test Channel	Bandwidth	Modulation	RB Allocation	RB Offset	Tested/ Reduced
Band 30 2305-2315 MHz	Back	27710	10 MHz	QPSK	25	12	Tested
		27710			50	0	Reduced[1]
		27710			1	0	Reduced[7]
		27710				24	Tested
		27710		16QAM	25	12	Reduced[3]
		27710			50	0	Reduced[1]
		27710			1	0	Reduced[4]
		27710				24	Reduced[4]
		All lower bandwidths (5 MHz)					Reduced[5]
	Left	27710	10 MHz	QPSK	25	12	Tested
		27710			50	0	Reduced[1]
		27710			1	0	Reduced[7]
		27710				24	Tested
		27710		16QAM	25	12	Reduced[3]
		27710			50	0	Reduced[1]
		27710			1	0	Reduced[4]
		27710				24	Reduced[4]
		All lower bandwidths (5 MHz)					Reduced[5]
	Top	27710	10 MHz	QPSK	25	12	Tested
		27710			50	0	Tested
		27710			1	0	Reduced[7]
		27710				24	Tested
		27710		16QAM	25	12	Reduced[3]
		27710			50	0	Reduced[1]
		27710			1	0	Reduced[4]
		27710				24	Reduced[4]
		All lower bandwidths (5 MHz)					Reduced[5]
	All remaining sides						Reduced[6]

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] – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.
Reduced[7] – When the measured channel is less than 3 dB from the limit, the remaining channels are not required per KDB447498 D01 v06 section 4.3.3 page 14.

Maximum power: 281.8 mW
Closest Distance to Right: 148 mm
Closest Distance to Bottom: 161 mm

The closest distance is from the right side. Therefore, if the right side is excluded the bottom side would also be excluded.

[{[(3.0)/(√2.315)]*50 mm}]+[{146-50 mm}*10]=1078 mW which is greater than 281.8 mW

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Table 9.2.11 Test Reduction Table – LTE

Band/ Frequency (MHz)	Side	Required Test Channel	Bandwidth	Modulation	RB Allocation	RB Offset	Tested/ Reduced
Band 7 2500-2570 MHz	Back	20850	20 MHz	QPSK	50	25	Reduced[7]
		21100					Tested
		21350					Reduced[7]
		20850			100	0	Reduced[1]
		21100					Reduced[1]
		21350					Reduced[1]
		20850			1	0	Reduced[7]
		21100					Tested
		21350					Reduced[7]
		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	0	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	20850	20 MHz	QPSK	50	25	Reduced[7]
		21100					Tested
		21350					Reduced[7]
		20850			100	0	Reduced[1]
		21100					Reduced[1]
		21350					Reduced[1]
		20850			1	0	Reduced[7]
		21100					Tested
		21350					Reduced[7]
		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	0	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] – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.
Reduced[7] – When the measured channel is less than 3 dB from the limit, the remaining channels are not required per KDB447498 D01 v06 section 4.3.3 page 14.

Maximum power: 281.8 mW
Closest Distance to Right: 148 mm
Closest Distance to Bottom: 161 mm

The closest distance is from the right side. Therefore, if the right side is excluded the bottom side would also be excluded.

[{[(3.0)/(√2.57)]*50 mm}]+[{146-50 mm}*10]=1073 mW which is greater than 281.8 mW

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Table 9.2.12 Test Reduction Table – LTE

Band/ Frequency (MHz)	Side	Required Test Channel	Bandwidth	Modulation	RB Allocation	RB Offset	Tested/ Reduced
Band 7 2500-2570 MHz	Top	20850	20 MHz	QPSK	50	25	Tested
		21100					Tested
		21350					Tested
		20850			100	0	Tested
		21100					Reduced[7]
		21350					Reduced[7]
		20850			1	0	Reduced[7]
		21100					Tested
		21350					Reduced[7]
		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	0	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]
		All remaining sides					Reduced[6]

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] – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.
Reduced[7] – When the measured channel is less than 3 dB from the limit, the remaining channels are not required per KDB447498 D01 v06 section 4.3.3 page 14.

Maximum power: 281.8 mW
Closest Distance to Right: 148 mm
Closest Distance to Bottom: 161 mm

The closest distance is from the right side. Therefore, if the right side is excluded the bottom side would also be excluded.

[{[(3.0)/(√2.57)]*50 mm}]+[{146-50 mm}*10]=1073 mW which is greater than 281.8 mW

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Table 9.2.13 Test Reduction Table – LTE

Band/ Frequency (MHz)	Side	Required Test Channel	Bandwidth	Modulation	RB Allocation	RB Offset	Tested/ Reduced
Band 41 2496-2690 MHz	Back	39750	20 MHz	QPSK	50	25	Reduced[7]
		40135					Reduced[7]
		40620					Tested
		41105					Reduced[7]
		41490					Reduced[7]
		39750			100	0	Reduced[1]
		40135					Reduced[1]
		40620					Reduced[1]
		41105					Reduced[1]
		41490					Reduced[1]
		39750			1	0	Reduced[7]
		40135					Reduced[7]
		40620					Reduced[7]
		41105					Reduced[7]
		41490					Reduced[7]
		39750				49	Reduced[7]
		40135					Reduced[7]
		40620					Tested
		41105					Reduced[7]
		41490					Reduced[7]
		39750		16QAM	50	25	Reduced[3]
		40135					Reduced[3]
		40620					Reduced[3]
		41105					Reduced[3]
		41490					Reduced[3]
		39750			100	0	Reduced[1]
		40135					Reduced[1]
		40620					Reduced[1]
		41105					Reduced[1]
		41490					Reduced[1]
		39750			1	0	Reduced[4]
		40135					Reduced[4]
		40620					Reduced[4]
		41105					Reduced[4]
		41490					Reduced[4]
		39750				49	Reduced[4]
		40135					Reduced[4]
		40620					Reduced[4]
		41105					Reduced[4]
		41490					Reduced[4]
		All lower bandwidths (15 MHz, 10 MHz, 5 MHz)					Reduced[5]
		All remaining sides					Reduced[6]

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] – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.
Reduced[7] – When the measured channel is less than 3 dB from the limit, the remaining channels are not required per KDB447498 D01 v06 section 4.3.3 page 14.

Maximum power: 281.8 mW
Closest Distance to Right: 148 mm
Closest Distance to Bottom: 161 mm

The closest distance is from the right side. Therefore, if the right side is excluded the bottom side would also be excluded.

[{[(3.0)/(√2.69)]*50 mm}]+[{146-50 mm}*10]=1071 mW which is greater than 281.8 mW

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Table 9.2.14 Test Reduction Table – LTE

Band/ Frequency (MHz)	Side	Required Test Channel	Bandwidth	Modulation	RB Allocation	RB Offset	Tested/ Reduced
Band 41 2496-2690 MHz	Left	39750	20 MHz	QPSK	50	25	Reduced[7]
		40135					Reduced[7]
		40620					Tested
		41105					Reduced[7]
		41490					Reduced[7]
		39750			100	0	Reduced[1]
		40135					Reduced[1]
		40620					Reduced[1]
		41105					Reduced[1]
		41490					Reduced[1]
		39750			1	0	Reduced[7]
		40135					Reduced[7]
		40620					Reduced[7]
		41105					Reduced[7]
		41490					Reduced[7]
		39750				49	Reduced[7]
		40135					Reduced[7]
		40620					Tested
		41105					Reduced[7]
		41490					Reduced[7]
		39750		16QAM	50	25	Reduced[3]
		40135					Reduced[3]
		40620					Reduced[3]
		41105					Reduced[3]
		41490					Reduced[3]
		39750			100	0	Reduced[1]
		40135					Reduced[1]
		40620					Reduced[1]
		41105					Reduced[1]
		41490					Reduced[1]
		39750			1	0	Reduced[4]
		40135					Reduced[4]
		40620					Reduced[4]
		41105					Reduced[4]
		41490					Reduced[4]
		39750				49	Reduced[4]
		40135					Reduced[4]
		40620					Reduced[4]
		41105					Reduced[4]
		41490					Reduced[4]
		All lower bandwidths (15 MHz, 10 MHz, 5 MHz)					Reduced[5]
		All remaining sides					Reduced[6]

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] – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.
Reduced[7] – When the measured channel is less than 3 dB from the limit, the remaining channels are not required per KDB447498 D01 v06 section 4.3.3 page 14.

Maximum power: 281.8 mW
Closest Distance to Right: 148 mm
Closest Distance to Bottom: 161 mm

The closest distance is from the right side. Therefore, if the right side is excluded the bottom side would also be excluded.

[{[(3.0)/(√2.69)]*50 mm}]+[{146-50 mm}*10]=1071 mW which is greater than 281.8 mW

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Table 9.2.15 Test Reduction Table – LTE

Band/ Frequency (MHz)	Side	Required Test Channel	Bandwidth	Modulation	RB Allocation	RB Offset	Tested/ Reduced
Band 41 2496-2690 MHz	Top	39750	20 MHz	QPSK	50	25	Reduced[7]
		40135					Reduced[7]
		40620					Tested
		41105					Reduced[7]
		41490					Reduced[7]
		39750			100	0	Reduced[1]
		40135					Reduced[1]
		40620					Reduced[1]
		41105					Reduced[1]
		41490					Reduced[1]
		39750			1	0	Reduced[7]
		40135					Reduced[7]
		40620					Reduced[7]
		41105					Reduced[7]
		41490					Reduced[7]
		39750				49	Reduced[7]
		40135					Reduced[7]
		40620					Tested
		41105					Reduced[7]
		41490					Reduced[7]
		39750		16QAM	50	25	Reduced[3]
		40135					Reduced[3]
		40620					Reduced[3]
		41105					Reduced[3]
		41490					Reduced[3]
		39750			100	0	Reduced[1]
		40135					Reduced[1]
		40620					Reduced[1]
		41105					Reduced[1]
		41490					Reduced[1]
		39750			1	0	Reduced[4]
		40135					Reduced[4]
		40620					Reduced[4]
		41105					Reduced[4]
		41490					Reduced[4]
		39750				49	Reduced[4]
		40135					Reduced[4]
		40620					Reduced[4]
		41105					Reduced[4]
		41490					Reduced[4]
		All lower bandwidths (15 MHz, 10 MHz, 5 MHz)					Reduced[5]
		All remaining sides					Reduced[6]

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] – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.
Reduced[7] – When the measured channel is less than 3 dB from the limit, the remaining channels are not required per KDB447498 D01 v06 section 4.3.3 page 14.

Maximum power: 281.8 mW
Closest Distance to Right: 148 mm
Closest Distance to Bottom: 161 mm

The closest distance is from the right side. Therefore, if the right side is excluded the bottom side would also be excluded.

[{[(3.0)/(√2.69)]*50 mm}]+[{146-50 mm}*10]=1071 mW which is greater than 281.8 mW

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SAR Data Summary – 750 MHz Body – LTE Band 12

MEASUREMENT RESULTS

Gap	Plot	Position	Frequency		BW/ Modulation	RB Size	RB Offset	MPR Target	End Power (dBm)	Measured SAR (W/kg)	Reported SAR (W/kg)
			MHz	Ch.							
0 mm	-----	Back	707.5	23095	10 MHz/QPSK	1	24	0	17.87	0.283	0.29
	1		707.5	23095	10 MHz/QPSK	25	12	0	17.33	0.286	0.33
	-----	Left	707.5	23095	10 MHz/QPSK	1	24	0	17.87	0.253	0.26
	-----		707.5	23095	10 MHz/QPSK	25	12	0	17.33	0.164	0.19
	-----	Top	707.5	23095	10 MHz/QPSK	1	24	0	17.87	0.190	0.20
	-----		707.5	23095	10 MHz/QPSK	25	12	0	17.33	0.193	0.23
14 mm	-----	Back	707.5	23095	10 MHz/QPSK	25	12	0	24.00	0.103	0.12

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 – 750 MHz Body – LTE Band 13

MEASUREMENT RESULTS

Gap	Plot	Position	Frequency		BW/ Modulation	RB Size	RB Offset	MPR Target	End Power (dBm)	Measured SAR (W/kg)	Reported SAR (W/kg)
			MHz	Ch.							
0 mm	-----	Back	782	23230	10 MHz/QPSK	1	24	0	17.86	0.215	0.22
	2		782	23230	10 MHz/QPSK	25	12	0	17.51	0.226	0.25
	-----	Left	782	23230	10 MHz/QPSK	1	24	0	17.86	0.146	0.15
	-----		782	23230	10 MHz/QPSK	25	12	0	17.51	0.0967	0.11
	-----	Top	782	23230	10 MHz/QPSK	1	24	0	17.86	0.161	0.17
	-----		782	23230	10 MHz/QPSK	25	12	0	17.51	0.142	0.16
14 mm	-----	Back	782	23230	10 MHz/QPSK	25	12	0	23.51	0.0978	0.12

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

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Vice President

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SAR Data Summary – 835 MHz Body - WCDMA

MEASUREMENT RESULTS

Gap	Plot	Frequency		Modulation	Position	End Power	RMC	Test Set Up	Measured SAR	Reported SAR
		MHz	Ch.			(dBm)			(W/kg)	(W/kg)
0 mm	3	836.6	4183	WCDMA	Back	17.93	12.2 kbps	Test Loop 1	0.205	0.21
	----	836.6	4183	WCDMA	Left	17.93	12.2 kbps	Test Loop 1	0.188	0.19
	----	836.6	4183	WCDMA	Top	17.93	12.2 kbps	Test Loop 1	0.153	0.16
14 mm	----	836.6	4183	WCDMA	Back	23.89	12.2 kbps	Test Loop 1	0.123	0.14

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

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SAR Data Summary – 835 MHz Body – LTE Band 26

MEASUREMENT RESULTS

Gap	Plot	Position	Frequency		BW/ Modulation	RB Size	RB Offset	MPR Target	End Power	Measured SAR	Reported SAR
			MHz	Ch.					(dBm)	(W/kg)	(W/kg)
0 mm	4	Back	821.5	26765	15 MHz/QPSK	1	37	0	17.68	1.07	1.15
	-----		831.5	26865	15 MHz/QPSK	1	37	0	17.74	0.893	0.95
	-----		841.5	26965	15 MHz/QPSK	1	37	0	17.63	0.820	0.89
	-----		831.5	26865	15 MHz/QPSK	36	37	0	17.92	0.555	0.57
	-----	Left	831.5	26865	15 MHz/QPSK	1	37	0	17.74	0.0445	0.05
	-----		831.5	26865	15 MHz/QPSK	36	37	0	17.92	0.0446	0.05
	-----	Top	831.5	26865	15 MHz/QPSK	1	37	0	17.74	0.117	0.12
	-----		831.5	26865	15 MHz/QPSK	36	37	0	17.92	0.119	0.12
	-----	Back	821.5	26765	15 MHz/QPSK	75	0	0	17.94	0.478	0.48
14 mm	-----	Back	821.5	26765	15 MHz/QPSK	1	37	0	24.20	0.732	0.78
0 mm	-----	Repeat	821.5	26765	15 MHz/QPSK	1	37	0	17.68	1.04	1.12

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

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SAR Data Summary – 1750 MHz Body - WCDMA

MEASUREMENT RESULTS

Gap	Plot	Frequency		Rev Level/ Modulation	Position	End Power	RMC	Test Set Up	Measured SAR	Reported SAR
		MHz	Ch.			(dBm)			(W/kg)	(W/kg)
0 mm	----	1712.4	1312	WCDMA	Back	13.88	12.2 kbps	Test Loop 1	0.685	0.70
	----	1732.6	1413	WCDMA		13.90	12.2 kbps	Test Loop 1	0.760	0.78
	----	1752.6	1513	WCDMA		13.95	12.2 kbps	Test Loop 1	0.800	0.81
	----	1732.6	1413	WCDMA	Left	13.90	12.2 kbps	Test Loop 1	0.107	0.11
	----	1712.4	1312	WCDMA	Top	13.88	12.2 kbps	Test Loop 1	0.881	0.91
	----	1732.6	1413	WCDMA		13.90	12.2 kbps	Test Loop 1	1.04	1.06
	5	1752.6	1513	WCDMA		13.95	12.2 kbps	Test Loop 1	1.18	1.19
14 mm	----	1752.6	1513	WCDMA	Top	23.90	12.2 kbps	Test Loop 1	1.02	1.17
0 mm	----	1752.6	1513	WCDMA	Repeat	13.95	12.2 kbps	Test Loop 1	1.16	1.17

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 – LTE Band 66

MEASUREMENT RESULTS

Gap	Plot	Position	Frequency		BW/ Modulation	RB Size	RB Offset	MPR Target	End Power	Measured SAR (W/kg)	Reported SAR (W/kg)
			MHz	Ch.					(dBm)		
0 mm	-----	Back	1745	132322	20 MHz/QPSK	1	49	0	17.92	0.687	0.70
	-----		1720	132072	20 MHz//QPSK	50	24	0	17.35	0.698	0.81
	-----		1745	132322	20 MHz/QPSK	50	24	0	17.00	0.710	0.89
	-----		1770	132572	20 MHz/QPSK	50	24	0	17.91	0.732	0.75
	-----	Left	1745	132322	20 MHz/QPSK	1	49	0	17.92	0.336	0.34
	-----		1745	132322	20 MHz/QPSK	50	24	0	17.00	0.214	0.27
	-----	Top	1720	132072	20 MHz/QPSK	1	49	0	17.88	0.737	0.76
	-----		1745	132322	20 MHz/QPSK	1	49	0	17.92	0.819	0.83
	-----		1770	132572	20 MHz/QPSK	1	49	0	17.85	0.938	0.97
	-----		1720	132072	20 MHz//QPSK	50	24	0	17.35	0.744	0.86
	-----		1745	132322	20 MHz/QPSK	50	24	0	17.00	0.847	1.07
	6		1770	132572	20 MHz/QPSK	50	24	0	17.91	0.964	0.98
	-----	Top	1770	132572	20 MHz/QPSK	100	0	0	17.68	0.735	0.79
14 mm	-----	Top	1770	132572	20 MHz/QPSK	50	24	0	23.91	0.621	0.71
0 mm	-----	Repeat	1770	132572	20 MHz/QPSK	1	49	0	17.91	0.951	0.97

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

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SAR Data Summary – 1900 MHz Body - WCDMA

MEASUREMENT RESULTS

Gap	Plot	Frequency		Rev Level/ Modulation	Position	End Power	RMC	Test Set Up	Measured SAR	Reported SAR
		MHz	Ch.			(dBm)			(W/kg)	(W/kg)
0 mm	----	1852.4	9262	WCDMA	Back	13.92	12.2 kbps	Test Loop 1	1.10	1.12
	----	1880.0	9400	WCDMA		13.97	12.2 kbps	Test Loop 1	1.09	1.10
	----	1907.6	9538	WCDMA		13.95	12.2 kbps	Test Loop 1	1.17	1.18
	----	1880.0	9400	WCDMA	Left	13.97	12.2 kbps	Test Loop 1	0.594	0.60
	----	1852.4	9262	WCDMA	Top	13.92	12.2 kbps	Test Loop 1	1.32	1.35
	----	1880.0	9400	WCDMA		13.97	12.2 kbps	Test Loop 1	1.33	1.34
	7	1907.6	9538	WCDMA		13.95	12.2 kbps	Test Loop 1	1.38	1.40
14 mm	----	1907.6	9538	WCDMA	Top	23.95	12.2 kbps	Test Loop 1	1.13	1.28
0 mm	----	1907.6	9538	WCDMA	Repeat	13.95	12.2 kbps	Test Loop 1	1.35	1.37

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

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SAR Data Summary – 1900 MHz Body – LTE Band 25

MEASUREMENT RESULTS

Gap	Plot	Position	Frequency		BW/ Modulation	RB Size	RB Offset	MPR Target	End Power	Measured SAR	Reported SAR
			MHz	Ch.					(dBm)	(W/kg)	(W/kg)
0 mm	-----	Back	1860	26140	20 MHz/QPSK	1	49	0	17.98	0.949	0.95
	-----		1882.5	26365	20 MHz/QPSK	1	49	0	17.92	0.949	0.97
	-----		1905	26590	20 MHz/QPSK	1	49	0	17.93	1.02	1.04
	-----		1860	26140	20 MHz/QPSK	50	24	0	17.89	0.969	0.99
	-----		1882.5	26365	20 MHz/QPSK	50	24	0	17.91	0.977	1.00
	-----		1905	26590	20 MHz/QPSK	50	24	0	17.92	1.05	1.07
	-----	Left	1882.5	26365	20 MHz/QPSK	1	49	0	17.92	0.375	0.38
	-----		1882.5	26365	20 MHz/QPSK	50	24	0	17.91	0.248	0.25
	-----	Top	1860	26140	20 MHz/QPSK	1	49	0	17.98	1.16	1.17
	-----		1882.5	26365	20 MHz/QPSK	1	49	0	17.92	1.17	1.19
	-----		1905	26590	20 MHz/QPSK	1	49	0	17.93	1.23	1.25
	-----		1860	26140	20 MHz/QPSK	50	24	0	17.89	1.20	1.23
	-----		1882.5	26365	20 MHz/QPSK	50	24	0	17.91	1.22	1.25
	8		1905	26590	20 MHz/QPSK	50	24	0	17.92	1.29	1.31
	-----		1860	26140	20 MHz/QPSK	100	0	0	17.50	1.07	1.20
	-----		1882.5	26365	20 MHz/QPSK	100	0	0	17.52	1.14	1.27
	-----		1905	26590	20 MHz/QPSK	100	0	0	17.40	1.11	1.27
14 mm	-----	Top	1905	26590	20 MHz/QPSK	50	24	0	23.92	0.926	1.06
0 mm	-----	Repeat	1905	26590	20 MHz/QPSK	50	24	0	17.92	1.27	1.29

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

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SAR Data Summary – 2300 MHz Body – LTE Band 30

MEASUREMENT RESULTS

Gap	Plot	Position	Frequency		BW/ Modulation	RB Size	RB Offset	MPR Target	End Power (dBm)	Measured SAR (W/kg)	Reported SAR (W/kg)
			MHz	Ch.							
0 mm	-----	Back	2355	27710	10 MHz/QPSK	1	24	0	17.71	0.798	0.85
	-----		2355	27710	10 MHz/QPSK	25	12	0	17.59	0.820	0.90
	-----	Left	2355	27710	10 MHz/QPSK	1	24	0	17.71	0.0397	0.04
	-----		2355	27710	10 MHz/QPSK	25	12	0	17.59	0.0403	0.04
	9	Top	2355	27710	10 MHz/QPSK	1	24	0	17.71	1.28	1.37
	-----		2355	27710	10 MHz/QPSK	25	12	0	17.59	1.23	1.35
	-----		2355	27710	10 MHz/QPSK	50	0	0	17.36	1.03	1.19
14 mm	-----	Top	2355	27710	10 MHz/QPSK	1	24	0	24.19	0.692	0.74
0 mm	-----	Repeat	2355	27710	10 MHz/QPSK	1	24	0	17.71	1.26	1.35

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

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SAR Data Summary – 2500 MHz Body – LTE Band 7

MEASUREMENT RESULTS

Gap	Plot	Position	Frequency		BW/ Modulation	RB Size	RB Offset	MPR Target	End Power	Measured SAR	Reported SAR
			MHz	Ch.					(dBm)	(W/kg)	(W/kg)
0 mm	-----	Back	2535	21100	20 MHz/QPSK	1	49	0	14.56	0.573	0.63
	-----		2535	21100	20 MHz/QPSK	50	24	0	14.15	0.595	0.72
	-----	Left	2535	21100	20 MHz/QPSK	1	49	0	14.56	0.0111	0.01
	-----		2535	21100	20 MHz/QPSK	50	24	0	14.15	0.0102	0.01
	-----	Top	2510	20850	20 MHz/QPSK	1	49	0	14.51	0.756	0.85
	-----		2535	21100	20 MHz/QPSK	1	49	0	14.56	0.731	0.81
	-----		2560	21350	20 MHz/QPSK	1	49	0	14.47	0.719	0.81
	10		2510	20850	20 MHz/QPSK	50	24	0	14.13	1.15	1.41
	-----		2535	21100	20 MHz/QPSK	50	24	0	14.15	1.07	1.30
	-----		2560	21350	20 MHz/QPSK	50	24	0	14.32	0.962	1.13
	-----		2510	20850	20 MHz/QPSK	100	0	0	14.20	0.823	0.99
	-----		2535	21100	20 MHz/QPSK	100	0	0	14.24	0.859	1.02
	-----		2560	21350	20 MHz/QPSK	100	0	0	14.38	0.804	0.93
14 mm	-----	Top	2510	20850	20 MHz/QPSK	50	24	0	23.07	0.823	1.14
0 mm	-----	Repeat	2510	20850	20 MHz/QPSK	50	24	0	14.13	1.12	1.37

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

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SAR Data Summary – 2600 MHz Body – LTE Band 41

MEASUREMENT RESULTS

Gap	Plot	Position	Frequency		BW/ Modulation	RB Size	RB Offset	MPR Target	End Power (dBm)	Measured SAR (W/kg)	Reported SAR (W/kg)
			MHz	Ch.							
0 mm	-----	Back	2593	40620	20 MHz/QPSK	1	49	0	17.54	0.148	0.17
	-----		2593	40620	20 MHz/QPSK	50	24	0	17.15	0.152	0.19
	-----	Left	2593	40620	20 MHz/QPSK	1	49	0	17.54	0.00533	0.01
	-----		2593	40620	20 MHz/QPSK	50	24	0	17.15	0.00581	0.01
	-----	Top	2593	40620	20 MHz/QPSK	1	49	0	17.54	0.328	0.37
	11		2593	40620	20 MHz/QPSK	50	24	0	17.15	0.338	0.41
14 mm	-----	Top	2593	40620	20 MHz/QPSK	50	24	0	23.15	0.135	0.18

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

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SAR Data Summary – 2450 MHz Body 802.11b

MEASUREMENT RESULTS

Gap	Plot	Position	Frequency		Modulation	Antenna	End Power	Measured SAR	Reported SAR
			MHz	Ch.			(dBm)	(W/kg)	(W/kg)
0 mm	-----	Back	2437	6	DSSS	Main	15.00	0.93	0.93
	12		2462	11	DSSS		15.00	1.07	1.07
	-----	Right	2437	6	DSSS		15.00	0.842	0.84
	-----		2462	11	DSSS		15.00	0.797	0.80
	-----	Top	2437	6	DSSS		15.00	0.108	0.11
	-----	Back	2437	6	DSSS	Aux	15.00	0.783	0.78
	-----		2462	11	DSSS		15.00	0.746	0.75
	-----	Right	2437	6	DSSS		15.00	0.642	0.64
	-----		2462	11	DSSS		15.00	0.597	0.60
	-----	Repeat	2462	11	DSSS	Main	15.00	1.05	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

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SAR Data Summary – 5250 MHz Body 802.11a

MEASUREMENT RESULTS

Gap	Plot	Position	Frequency		Modulation	Antenna	End Power	Measured SAR	Reported SAR
			MHz	Ch.			(dBm)	(W/kg)	(W/kg)
0 mm	-----	Back	5280	56	OFDM	Main	10.00	0.630	0.63
	13		5300	60	OFDM		10.00	0.716	0.72
	-----	Right	5280	56	OFDM		10.00	0.592	0.59
	-----		5300	60	OFDM		10.00	0.611	0.61
	-----	Top	5300	60	OFDM		10.00	0.183	0.18
	-----	Back	5280	56	OFDM	Aux	10.00	0.519	0.52
	-----		5300	60	OFDM		10.00	0.520	0.52
	-----	Right	5280	56	OFDM		10.00	0.392	0.39
	-----		5300	60	OFDM		10.00	0.416	0.42

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

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SAR Data Summary – 5600 MHz Body 802.11a

MEASUREMENT RESULTS

Gap	Plot	Position	Frequency		Modulation	Antenna	End Power	Measured SAR (W/kg)	Reported SAR (W/kg)
			MHz	Ch.			(dBm)		
0 mm	-----	Back	5580	116	OFDM	Main	10.00	0.892	0.89
	-----		5620	124	OFDM		10.00	0.879	0.88
	-----	Right	5580	116	OFDM		10.00	0.597	0.60
	-----		5620	124	OFDM		10.00	0.621	0.62
	-----	Top	5620	124	OFDM		10.00	0.243	0.24
	-----	Back	5580	116	OFDM	Aux	10.00	1.08	1.08
	14		5620	124	OFDM		10.00	1.15	1.15
	-----	Right	5580	116	OFDM		10.00	0.786	0.79
	-----		5620	124	OFDM		10.00	0.735	0.74
	-----	Repeat	5620	124	OFDM	Aux	10.00	1.13	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

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SAR Data Summary – 5800 MHz Body 802.11a

MEASUREMENT RESULTS

Gap	Plot	Position	Frequency		Modulation	Antenna	End Power	Measured SAR (W/kg)	Reported SAR (W/kg)
			MHz	Ch.			(dBm)		
0 mm	-----	Back	5785	157	OFDM	Main	10.00	1.07	1.07
	15		5825	165	OFDM		10.00	1.16	1.16
	-----	Right	5785	157	OFDM		10.00	0.842	0.84
	-----		5825	165	OFDM		10.00	0.796	0.80
	-----	Top	5785	157	OFDM		10.00	0.176	0.18
	-----	Back	5785	157	OFDM	Aux	10.00	0.965	0.97
	-----		5825	165	OFDM		10.00	0.919	0.92
	-----	Right	5785	157	OFDM		10.00	0.639	0.64
	-----		5825	165	OFDM		10.00	0.702	0.70
	-----	Repeat	5825	165	OFDM	Main	10.00	1.14	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

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SAR Data Summary – Simultaneous Transmit (WWAN-WLAN Main)

MEASUREMENT RESULTS

Frequency		Modulation	Frequency		Modulation	SAR_1	SAR_2	SAR Total
MHz	Ch.		MHz	Ch.				
2510	20850	QPSK	2462	11	DSSS	1.41	1.07	2.48
2510	20850	QPSK	5300	60	OFDM	1.41	0.72	2.13
2510	20850	QPSK	5580	116	OFDM	1.41	0.89	2.30
2510	20850	QPSK	5825	165	OFDM	1.41	1.16	2.57

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

The worst case condition is in the 5.8 GHz band. The WWAN and WLAN Main antennas are a minimum of 160 mm apart. Using the highest reported SAR to calculate the simultaneous Tx using peak separation ratio, the highest ratio would be 0.03 which meets the requirements of KDB 447498 section 4.3.2 3) on page 13. The calculation is shown below.

Simultaneous Separation Ratio Calculation

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

$(1.41 + 1.16)^{1.5}/160 = 0.03$

SAR Data Summary – Simultaneous Transmit (WWAN-WLAN Aux)

MEASUREMENT RESULTS

Frequency		Modulation	Frequency		Modulation	SAR_1	SAR_2	SAR Total
MHz	Ch.		MHz	Ch.				
2510	20850	QPSK	2437	6	DSSS	1.41	0.78	2.19
2510	20850	QPSK	5300	60	OFDM	1.41	0.52	1.93
2510	20850	QPSK	5620	124	OFDM	1.41	1.15	2.56
2510	20850	QPSK	5785	157	OFDM	1.41	0.97	2.38

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

The worst case condition is in the 5.6 GHz band. The WWAN and WLAN Aux antennas are a minimum of 190 mm apart. Using the highest reported SAR to calculate the simultaneous Tx using peak separation ratio, the highest ratio would be 0.02 which meets the requirements of KDB 447498 section 4.3.2 3) on page 13. The calculation is shown below.

Simultaneous Separation Ratio Calculation

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

$(1.41 + 1.15)^{1.5}/190 = 0.02$

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SAR Data Summary – Simultaneous Transmit (WWAN-BT Main)

MEASUREMENT RESULTS								
Frequency		**Modulation**	**Frequency**		**Modulation**	**SAR_1**	**SAR_2**	**SAR Total**
MHz	**Ch.**		**MHz**	**Ch.**				
2510	20850	QPSK	2440	39	DSSS	1.41	0.11	1.52
					Body 1.6 W/kg (mW/g) averaged over 1 gram			

The BT SAR was calculated per KDB447498 D01 v06 section 4.3.2 b) 1). The formula is listed below.

[(max. power, mW)/(min. distance, mm)]*[$\sqrt{f_{(GHz)}}$/x], where x=7.5 for 1 gram SAR
(2.5/5)*($\sqrt{2.48}$/7.5)=0.11

The sum of the two transmitters is less than the limit; therefore, the simultaneous transmission meets the requirements of KDB447498 D01 v06 section 4.3.2 page 11.

SAR Data Summary – Simultaneous Transmit (MIMO)

MEASUREMENT RESULTS								
Frequency		**Modulation**	**Frequency**		**Modulation**	**SAR_1**	**SAR_2**	**SAR Total**
MHz	**Ch.**		**MHz**	**Ch.**				
2462	11	DSSS	2437	6	DSSS	1.07	0.78	1.85
5300	60	OFDM	5300	60	OFDM	0.72	0.52	1.24
5580	116	OFDM	5620	124	OFDM	0.89	1.15	2.04
5825	165	OFDM	5785	157	OFDM	1.16	0.97	2.13
					Body 1.6 W/kg (mW/g) averaged over 1 gram			

The worst case condition is in the 5.8 GHz band. The WLAN antennas are a minimum of 72 mm apart. Using the highest reported SAR to calculate the simultaneous Tx using peak separation ratio, the highest ratio would be 0.04 which meets the requirements of KDB 447498 section 4.3.2 3) on page 13. The calculation is shown below.

Simultaneous Separation Ratio Calculation

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

$(1.16 + 0.97)^{1.5}/72 = 0.04$

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10. Test Equipment List

Table 10.1 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
ELI5 Flat Phantom	N/A	N/A	2037
Device Holder	N/A	N/A	N/A
Data Acquisition Electronics 4	01/10/2020	01/10/2019	1321
SPEAG E-Field Probe EX3DV4	04/20/2019	04/20/2018	3662
Speag Validation Dipole D750V3	07/13/2019	07/13/2018	1016
Speag Validation Dipole D835V2	07/13/2019	07/13/2018	4d089
Speag Validation Dipole D1750V2	07/20/2019	07/20/2018	1018
Speag Validation Dipole D1900V2	07/13/2019	07/13/2018	5d116
Speag Validation Dipole D2300V2	08/20/2019	08/20/2018	1060
Speag Validation Dipole D2450V2	07/12/2019	07/12/2018	829
Speag Validation Dipole D2550V2	07/12/2019	07/12/2018	1003
Speag Validation Dipole D5GHzV2	07/19/2019	07/19/2018	1085
Agilent N1911A Power Meter	05/20/2019	03/20/2017	GB45100254
Agilent N1922A Power Sensor	06/21/2019	06/21/2017	MY45240464
Advantest R3261A Spectrum Analyzer	03/26/2019	03/20/2017	31720068
Agilent (HP) 8350B Signal Generator	03/26/2019	03/20/2017	2749A10226
Agilent (HP) 83525A RF Plug-In	03/26/2019	03/20/2017	2647A01172
Agilent (HP) 8753C Vector Network Analyzer	03/26/2019	03/20/2017	3135A01724
Agilent (HP) 85047A S-Parameter Test Set	03/26/2019	03/20/2017	2904A00595
Agilent (HP) 8960 Base Station Sim.	03/30/2019	03/30/2017	MY48360364
Anritsu MT8820C	07/27/2019	07/27/2017	6201176199
Aprel Dielectric Probe Assembly	N/A	N/A	0011
Body Equivalent Matter (750 MHz)	N/A	N/A	N/A
Body Equivalent Matter (835 MHz)	N/A	N/A	N/A
Body Equivalent Matter (1750 MHz)	N/A	N/A	N/A
Body Equivalent Matter (1900 MHz)	N/A	N/A	N/A
Body Equivalent Matter (2300 MHz)	N/A	N/A	N/A
Body Equivalent Matter (2550 MHz)	N/A	N/A	N/A
Body Equivalent Matter (2450 MHz)	N/A	N/A	N/A
Body Equivalent Matter (5 GHz)	N/A	N/A	N/A

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11. 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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12. 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 – 1992, IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields – RF and Microwave, New York: IEEE, 1992.

[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
Thu 07/Feb/2019
Freq   Frequency(GHz)
FCC_eH Limits for Head Epsilon
FCC_sH Limits for Head Sigma
FCC_eB Limits for Body Epsilon
FCC_sB Limits for Body Sigma
Test_e Epsilon  of  UIM
Test_s Sigma of UIM
**************************************************************
Freq         FCC_eB FCC_sB Test_e Test_s
0.7000       55.73  0.96   55.72  0.97
0.7040       55.714 0.96   55.708 0.974*
0.7075       55.70  0.96   55.698 0.978*
0.7100       55.69  0.96   55.69  0.98
0.7110       55.686 0.96   55.687 0.98*
0.7200       55.65  0.96   55.66  0.98
0.7300       55.61  0.96   55.63  0.98
0.7400       55.57  0.96   55.60  0.99
0.7500       55.53  0.96   55.57  0.99
0.7600       55.49  0.96   55.54  0.99
0.7700       55.45  0.96   55.50  1.00
0.7800       55.41  0.97   55.46  1.00
0.7820       55.404 0.97   55.452 1.00*
0.7900       55.38  0.97   55.42  1.00
0.8000       55.34  0.97   55.38  1.01

* value interpolated

**************************************************************
Test Result for UIM Dielectric Parameter
Tue 05/Feb/2019
Freq   Frequency(GHz)
FCC_eH Limits for Head Epsilon
FCC_sH Limits for Head Sigma
FCC_eB Limits for Body Epsilon
FCC_sB Limits for Body Sigma
Test_e Epsilon  of  UIM
Test_s Sigma of UIM
**************************************************************
Freq         FCC_eB FCC_sB Test_e Test_s
0.8050       55.32  0.97   56.05  0.96
0.8150       55.28  0.97   56.00  0.98
0.8190       55.264 0.97   55.98  0.98*
0.8250       55.24  0.97   55.95  0.98
0.8264       55.234 0.97   55.944 0.981*
0.8315       55.214 0.97   55.924 0.987*
0.8350       55.20  0.97   55.91  0.99
0.8366       55.195 0.972  55.902 0.99*
0.8440       55.173 0.979  55.879 0.995*
0.8466       55.165 0.982  55.857 0.992*
0.8550       55.14  0.99   55.84  1.00
0.8650       55.11  1.01   55.80  1.01
0.8750       55.08  1.02   55.78  1.03
0.8850       55.05  1.03   55.73  1.03
0.8950       55.02  1.04   55.70  1.04

* value interpolated
```


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```
************************************************************
Test Result for UIM Dielectric Parameter
Wed 06/Feb/2019
Freq   Frequency(GHz)
FCC_eH Limits for Head Epsilon
FCC_sH Limits for Head Sigma
FCC_eB Limits for Body Epsilon
FCC_sB Limits for Body Sigma
Test_e Epsilon  of  UIM
Test_s Sigma of UIM
************************************************************
Freq         FCC_eB FCC_sB Test_e Test_s
1.7100       53.53  1.47   53.55  1.48
1.7124       53.525 1.47   53.543 1.482*
1.7200       53.51  1.47   53.52  1.49
1.7300       53.48  1.48   53.38  1.50
1.7326       53.475 1.48   53.375 1.503*
1.7400       53.46  1.48   53.36  1.51
1.7450       53.445 1.485  53.34  1.515*
1.7500       53.43  1.49   53.32  1.52
1.7526       53.425 1.49   53.315 1.523*
1.7600       53.41  1.49   53.30  1.53
1.7700       53.38  1.50   53.27  1.55
1.7800       53.35  1.51   53.23  1.55

* value interpolated

************************************************************
Test Result for UIM Dielectric Parameter
Mon 04/Feb/2019
Freq   Frequency(GHz)
FCC_eH Limits for Head Epsilon
FCC_sH Limits for Head Sigma
FCC_eB Limits for Body Epsilon
FCC_sB Limits for Body Sigma
Test_e Epsilon  of  UIM
Test_s Sigma of UIM
************************************************************
Freq         FCC_eB FCC_sB Test_e Test_s
1.8400       53.30  1.52   52.04  1.43
1.8500       53.30  1.52   52.03  1.44
1.8524       53.30  1.52   52.03  1.44*
1.8600       53.30  1.52   52.03  1.44
1.8700       53.30  1.52   52.14  1.45
1.8800       53.30  1.52   52.10  1.45
1.8825       53.30  1.52   52.118 1.453*
1.8900       53.30  1.52   52.17  1.46
1.9000       53.30  1.52   52.07  1.47
1.9050       53.30  1.52   52.095 1.485*
1.9076       53.30  1.52   52.108 1.493*
1.9100       53.30  1.52   52.12  1.50
1.9200       53.30  1.52   52.00  1.50

* value interpolated
```


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```
************************************************************
Test Result for UIM Dielectric Parameter
Wed 13/Feb/2019
Freq   Frequency(GHz)
FCC_eH Limits for Head Epsilon
FCC_sH Limits for Head Sigma
FCC_eB Limits for Body Epsilon
FCC_sB Limits for Body Sigma
Test_e Epsilon  of  UIM
Test_s Sigma of UIM
************************************************************
Freq         FCC_eB FCC_sB Test_e Test_s
2.2900       52.91  1.80   52.65  1.83
2.3000       52.90  1.81   52.63  1.84
2.3100       52.89  1.82   52.61  1.85
2.3200       52.87  1.83   52.59  1.86
2.3300       52.86  1.84   52.58  1.87
2.3400       52.85  1.84   52.56  1.88
2.3500       52.83  1.85   52.54  1.89


************************************************************
Test Result for UIM Dielectric Parameter
Tue 12/Feb/2019
Freq   Frequency(GHz)
FCC_eH Limits for Head Epsilon
FCC_sH Limits for Head Sigma
FCC_eB Limits for Body Epsilon
FCC_sB Limits for Body Sigma
Test_e Epsilon  of  UIM
Test_s Sigma of UIM
************************************************************
Freq         FCC_eB FCC_sB Test_e Test_s
2.4900       52.65  2.01   52.60  2.02
2.5000       52.64  2.02   52.58  2.03
2.5060       52.628 2.032  52.562 2.042*
2.5100       52.62  2.04   52.55  2.05
2.5200       52.61  2.05   52.52  2.07
2.5300       52.60  2.06   52.50  2.09
2.5350       52.595 2.07   52.495 2.10*
2.5400       52.59  2.08   52.49  2.11
2.5495       52.571 2.09   52.471 2.12*
2.5500       52.57  2.09   52.47  2.12
2.5600       52.56  2.11   52.45  2.14
2.5700       52.55  2.12   52.43  2.16
2.5800       52.53  2.13   52.42  2.17
2.5900       52.52  2.15   52.39  2.19
2.5930       52.517 2.153  52.387 2.196*
2.6000       52.51  2.16   52.38  2.21
2.6100       52.50  2.18   52.35  2.22
2.6200       52.48  2.19   52.33  2.25
2.6300       52.47  2.21   52.32  2.27
2.6365       52.464 2.217  52.307 2.283*
2.6400       52.46  2.22   52.30  2.29
2.6500       52.45  2.23   52.29  2.30
2.6600       52.43  2.25   52.27  2.32
2.6700       52.42  2.26   52.25  2.34
2.6800       52.41  2.28   52.23  2.35
2.6900       52.39  2.29   52.20  2.37
2.7000       52.38  2.30   52.19  2.38
2.8000       52.37  2.31   52.17  2.39

* value interpolated
```


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```
**********************************************************
Test Result for UIM Dielectric Parameter
Wed 13/Feb/2019
Freq   Frequency(GHz)
FCC_eH Limits for Head Epsilon
FCC_sH Limits for Head Sigma
FCC_eB Limits for Body Epsilon
FCC_sB Limits for Body Sigma
Test_e Epsilon  of  UIM
Test_s Sigma of UIM
**********************************************************
Freq         FCC_eB FCC_sB Test_e Test_s
2.4100       52.75  1.91   52.71  1.92
2.4120       52.742 1.918  52.706 1.922*
2.4200       52.74  1.92   52.69  1.93
2.4300       52.73  1.93   52.68  1.94
2.4370       52.716 1.937  52.666 1.947*
2.4400       52.71  1.94   52.66  1.95
2.4500       52.70  1.95   52.64  1.96
2.4600       52.69  1.96   52.63  1.98
2.4620       52.687 1.963  52.626 1.982*
2.4700       52.67  1.98   52.61  1.99
2.4800       52.66  1.99   52.60  2.00

* value interpolated
```


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************************************************************
Test Result for UIM Dielectric Parameter
Fri 08/Feb/2019
Freq   Frequency(GHz)
FCC_eH Limits for Head Epsilon
FCC_sH Limits for Head Sigma
FCC_eB Limits for Body Epsilon
FCC_sB Limits for Body Sigma
Test_e Epsilon  of  UIM
Test_s Sigma of UIM
************************************************************
```

Freq	FCC_eB	FCC_sB	Test_e	Test_s
5.1000	49.15	5.18	49.08	5.20
5.1200	49.12	5.21	49.05	5.22
5.1400	49.10	5.23	49.02	5.24
5.1600	49.07	5.25	48.99	5.26
5.1800	49.04	5.28	48.96	5.28
5.2000	49.01	5.30	48.93	5.30
5.2100	49.00	5.31	48.915	5.31*
5.2200	48.99	5.32	48.90	5.32
5.2400	48.96	5.35	48.97	5.34
5.2500	48.945	5.36	48.955	5.35*
5.2600	48.93	5.37	48.94	5.36
5.2800	48.91	5.39	48.91	5.38
5.2900	48.895	5.405	48.895	5.395*
5.3000	48.88	5.42	48.88	5.41
5.3200	48.85	5.44	48.85	5.43
5.3400	48.82	5.46	48.82	5.45
5.3600	48.80	5.49	48.79	5.47
5.3800	48.77	5.51	48.76	5.49
5.4000	48.74	5.53	48.73	5.51
5.4200	48.72	5.56	48.70	5.53
5.4400	48.69	5.58	48.67	5.56
5.4600	48.66	5.60	48.64	5.58
5.4800	48.63	5.63	48.61	5.60
5.5000	48.61	5.65	48.58	5.62
5.5200	48.58	5.67	48.55	5.65
5.5400	48.55	5.70	48.52	5.67
5.5600	48.53	5.72	48.49	5.69
5.5800	48.50	5.74	48.46	5.71
5.6000	48.47	5.77	48.43	5.74
5.6100	48.455	5.78	48.415	5.75*
5.6200	48.44	5.79	48.40	5.76
5.6400	48.42	5.81	48.37	5.78
5.6600	48.39	5.84	48.34	5.81
5.6800	48.36	5.86	48.31	5.83
5.7000	48.34	5.88	48.28	5.85
5.7200	48.31	5.91	48.25	5.88
5.7400	48.28	5.93	48.22	5.90
5.7450	48.273	5.935	48.213	5.905*
5.7500	48.265	5.94	48.205	5.91*
5.7600	48.25	5.95	48.19	5.92
5.7750	48.235	5.973	48.168	5.943*
5.7800	48.23	5.98	48.16	5.95
5.7850	48.223	5.985	48.153	5.955*
5.8000	48.20	6.00	48.13	5.97
5.8200	48.17	6.02	48.10	5.99
5.8250	48.165	6.028	48.093	5.998*
5.8400	48.15	6.05	48.07	6.02

* value interpolated

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Plot 1

DUT: Dipole 750 MHz D750V3; Type: D750V3; Serial: D750V3 - SN:1016

Communication System: CW; Frequency: 750 MHz; Duty Cycle: 1:1
Medium: MSL750; Medium parameters used: f = 750 MHz; σ = 0.99 S/m; ε_r = 55.57; ρ = 1000 kg/m^3
Phantom section: Flat Section

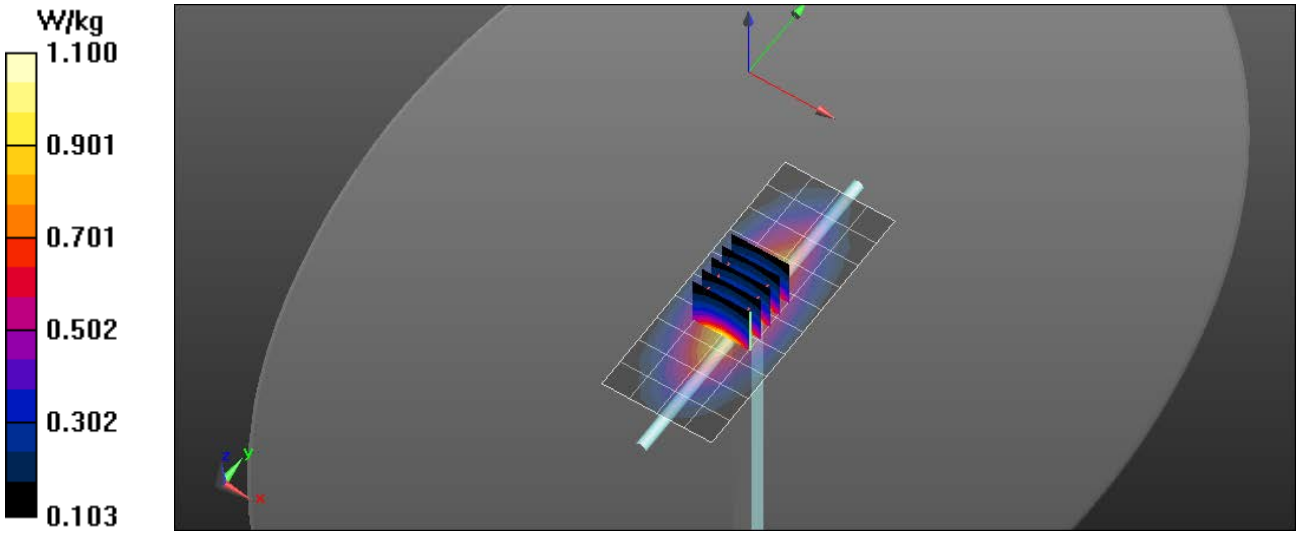
Test Date: Date: 2/7/2019; Ambient Temp: 23 °C; Tissue Temp: 21 °C

Probe: EX3DV4 - SN3662; ConvF(9.62, 9.62, 9.62); Calibrated: 4/20/2018;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1321; Calibrated: 1/10/2019
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/Verification/Area Scan (5x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.08 W/kg

750 MHz/Verification/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 31.227 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 1.30 W/kg
SAR(1 g) = 0.865 W/kg; SAR(10 g) = 0.569 W/kg
Maximum value of SAR (measured) = 1.10 W/kg



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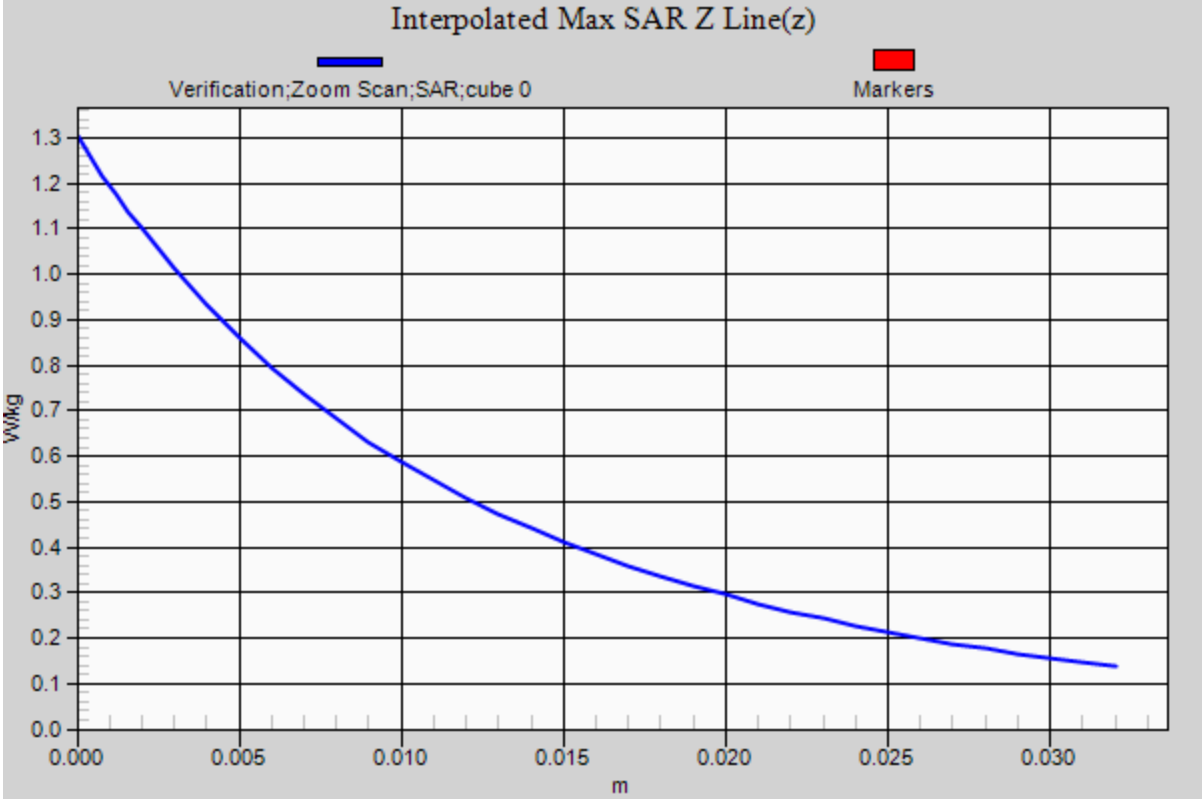

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Plot 2

DUT: Dipole 835 MHz D835V2; Type: D835V2; Serial: D835V2 - SN:4d089

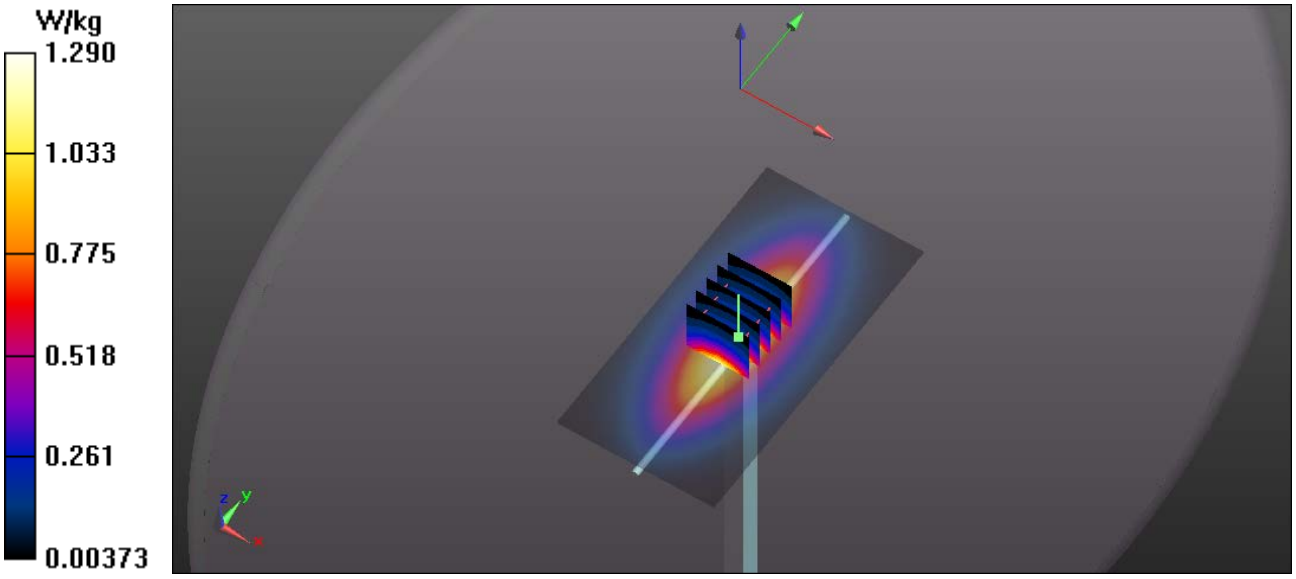
Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium: MSL835; Medium parameters used: f = 835 MHz; σ = 0.99 S/m; ε_r = 55.91; ρ = 1000 kg/m^3
Phantom section: Flat Section

Test Date: Date: 2/5/2019; Ambient Temp: 23 °C; Tissue Temp: 21 °C
Probe: EX3DV4 - SN3662; ConvF(9.21, 9.21, 9.21); Calibrated: 4/20/2018;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1321; Calibrated: 1/10/2019
Phantom: ELI v5.0; Type: QDOVA002AA; Serial: 2037
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

Procedure Notes:

835 MHz Body/Verification/Area Scan (81x161x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.29 W/kg

835 MHz Body/Verification/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 52.612 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 1.47 W/kg
SAR(1 g) = 0.953 W/kg; SAR(10 g) = 0.632 W/kg
Maximum value of SAR (measured) = 1.29 W/kg



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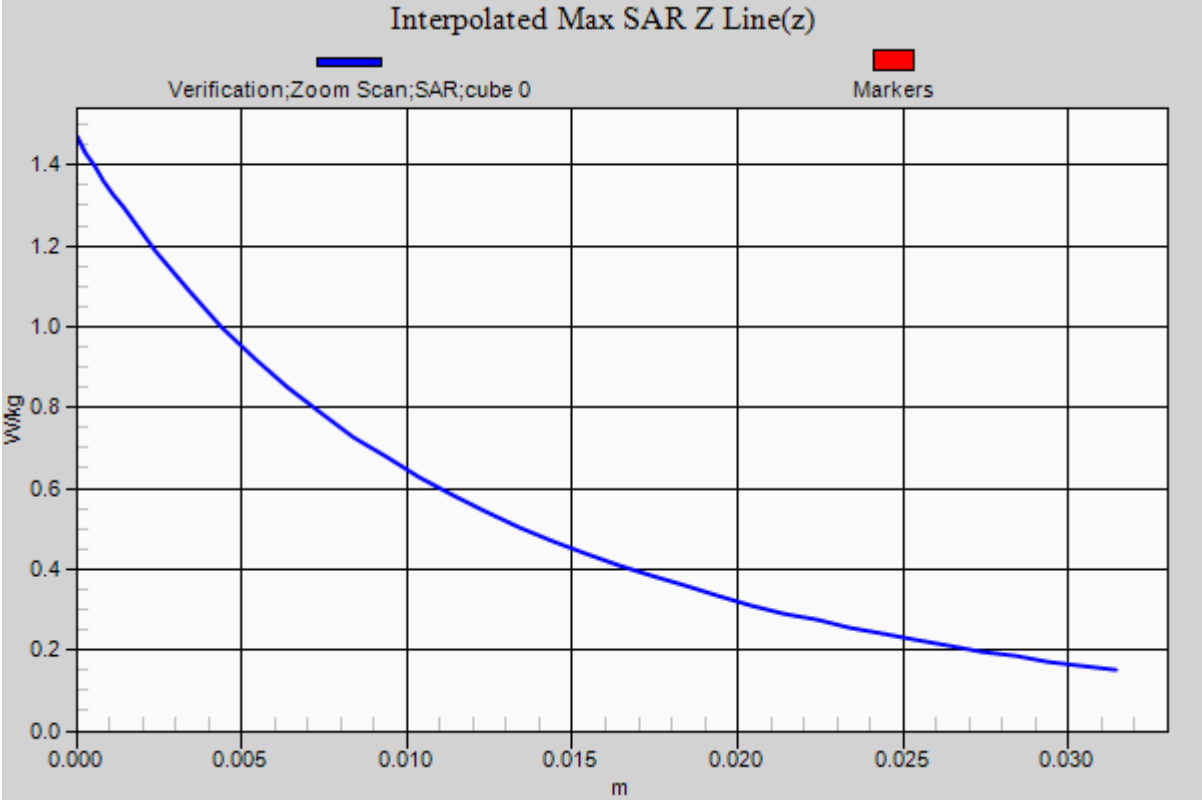

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RF Exposure Lab

Plot 3

DUT: Dipole 1750 MHz D1750V2; Type: D1750V2; Serial: D1750V2 - SN:1018

Communication System: CW; Frequency: 1750 MHz; Duty Cycle: 1:1
Medium: MSL1750; Medium parameters used: f = 1750 MHz; σ = 1.52 S/m; ε_r = 53.32; ρ = 1000 kg/m^3
Phantom section: Flat Section

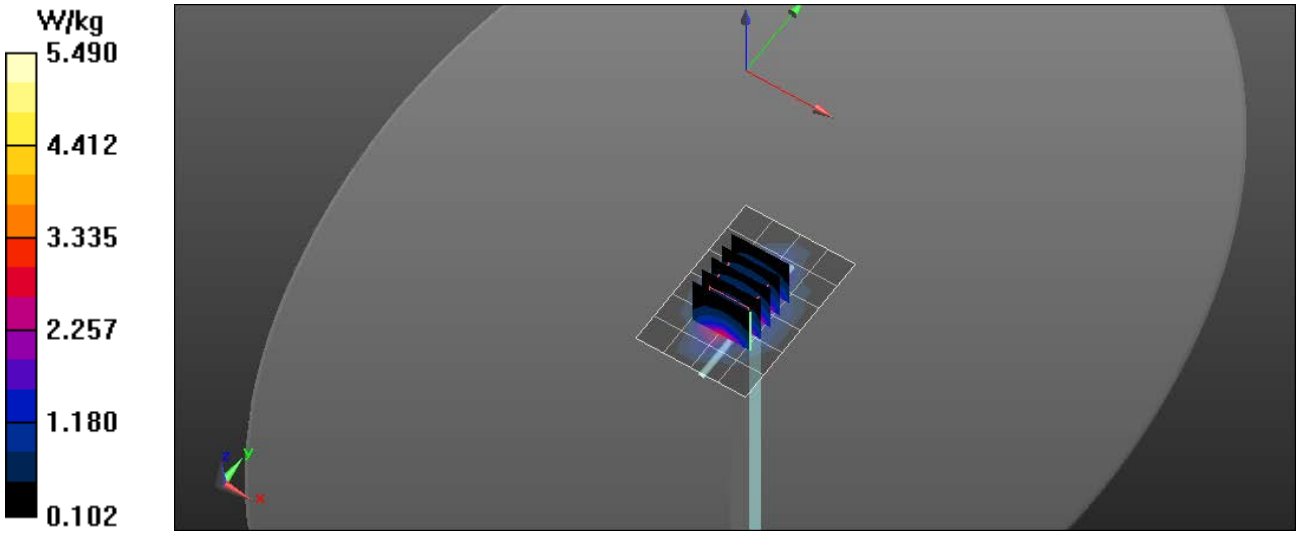
Test Date: Date: 2/6/2019; Ambient Temp: 23 °C; Tissue Temp: 21 °C

Probe: EX3DV4 - SN3662; ConvF(7.96, 7.96, 7.96); Calibrated: 4/20/2018;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1321; Calibrated: 1/10/2019
Phantom: ELI v5.0; Type: QDOVA002AA; Serial: 2037
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

Procedure Notes:

1750 MHz/Verification/Area Scan (5x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 5.33 W/kg

1750 MHz/Verification/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 31.227 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 6.89 W/kg
SAR(1 g) = 3.69 W/kg; SAR(10 g) = 2.03 W/kg
Maximum value of SAR (measured) = 5.49 W/kg



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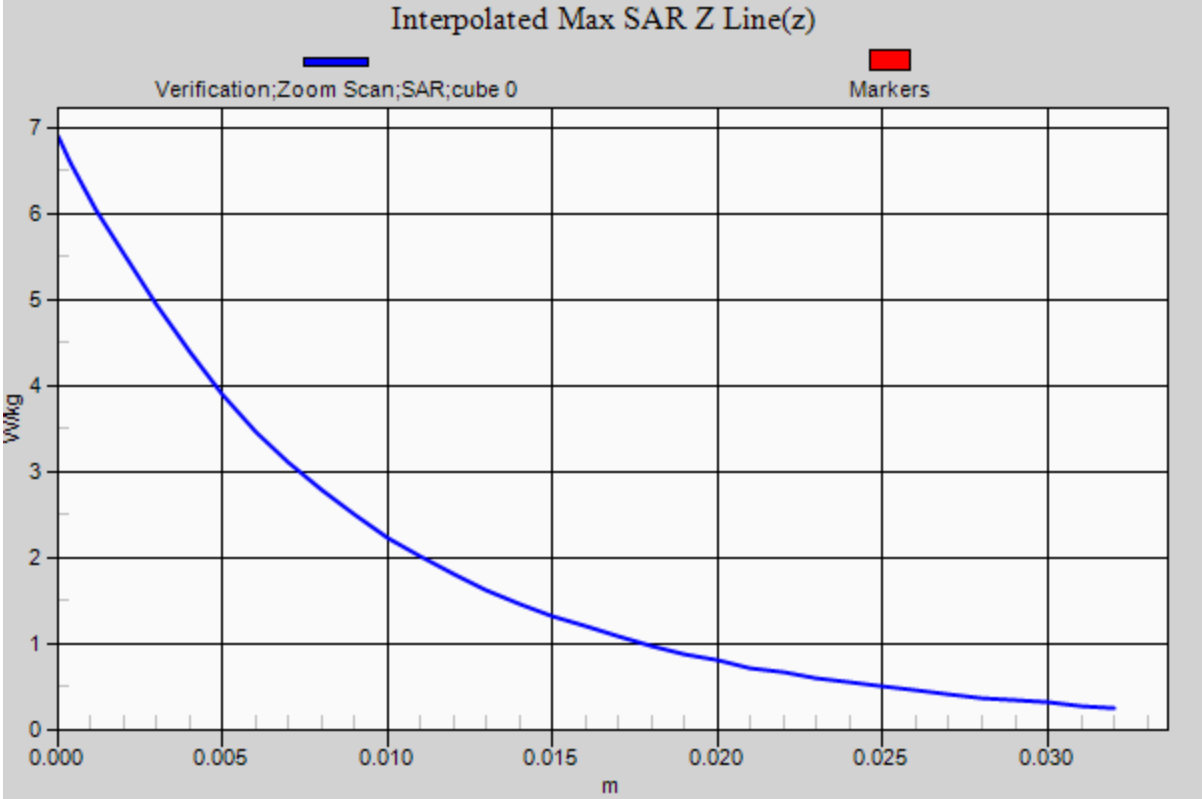

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RF Exposure Lab

Plot 4

DUT: Dipole 1900 MHz D1900V2; Type: D1900V2; Serial: D1900V2 - SN:5d116

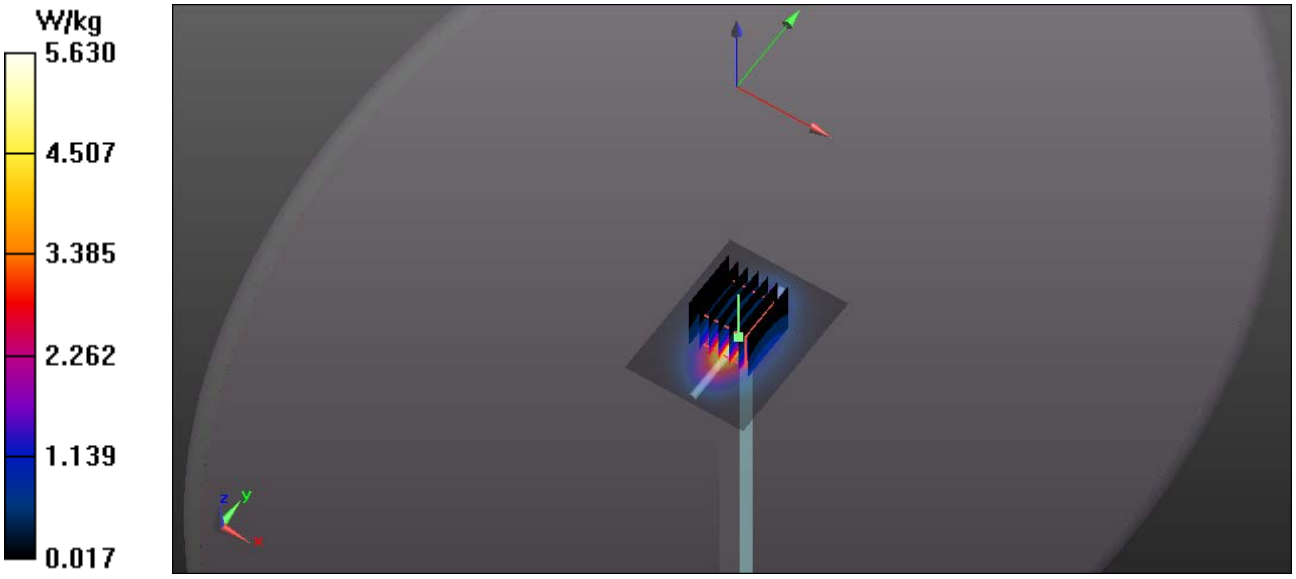
Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: MSL1900; Medium parameters used: f = 1900 MHz; σ = 1.47 S/m; ε_r = 52.07; ρ = 1000 kg/m^3
Phantom section: Flat Section

Test Date: Date: 2/4/2019; Ambient Temp: 23 °C; Tissue Temp: 21 °C
Probe: EX3DV4 - SN3662; ConvF(7.61, 7.61, 7.61); Calibrated: 4/20/2018;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1321; Calibrated: 1/10/2019
Phantom: ELI v5.0; Type: QDOVA002AA; Serial: 2037
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

Procedure Notes:

1900 MHz Body/Verification/Area Scan (61x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 5.63 W/kg

1900 MHz Body/Verification/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 52.612 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 6.68 W/kg
SAR(1 g) = 3.98 W/kg; SAR(10 g) = 1.92 W/kg
Maximum value of SAR (measured) = 5.63 W/kg



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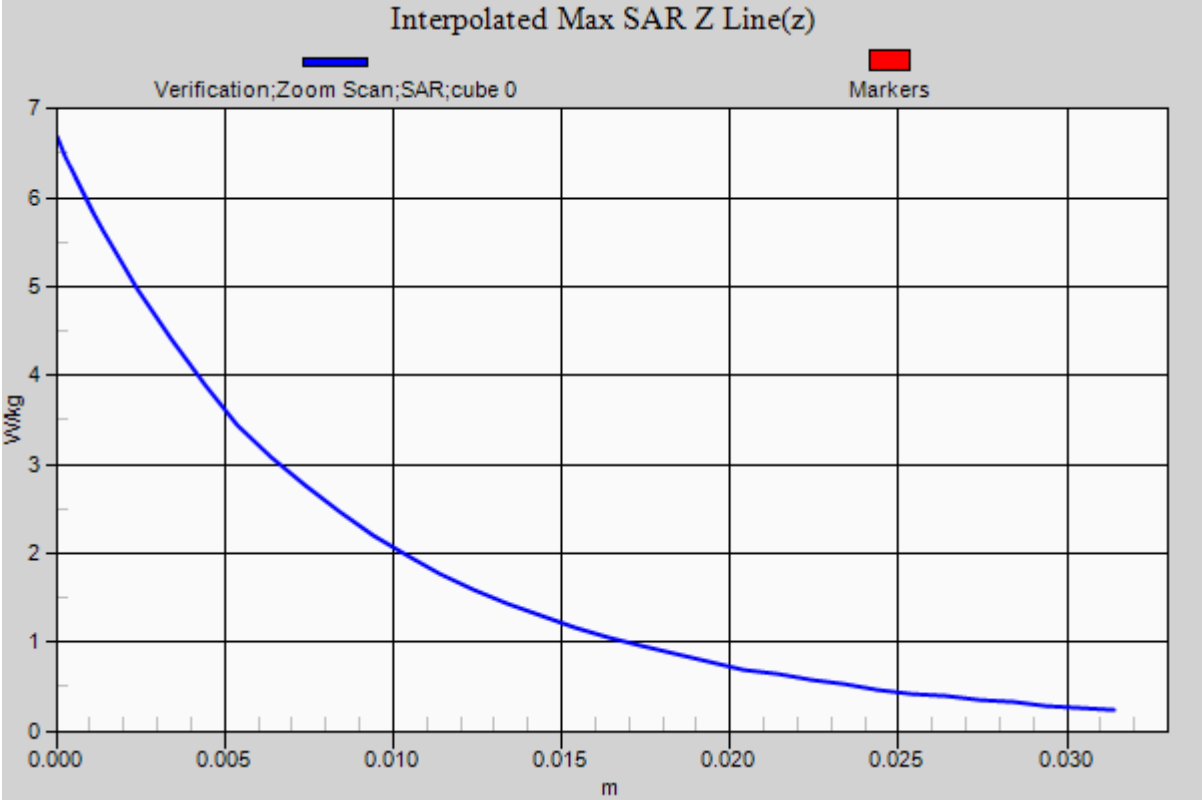

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Plot 5

DUT: Dipole 2300 MHz D2300V2; Type: D2300V2; Serial: D2300V2 - SN:1060

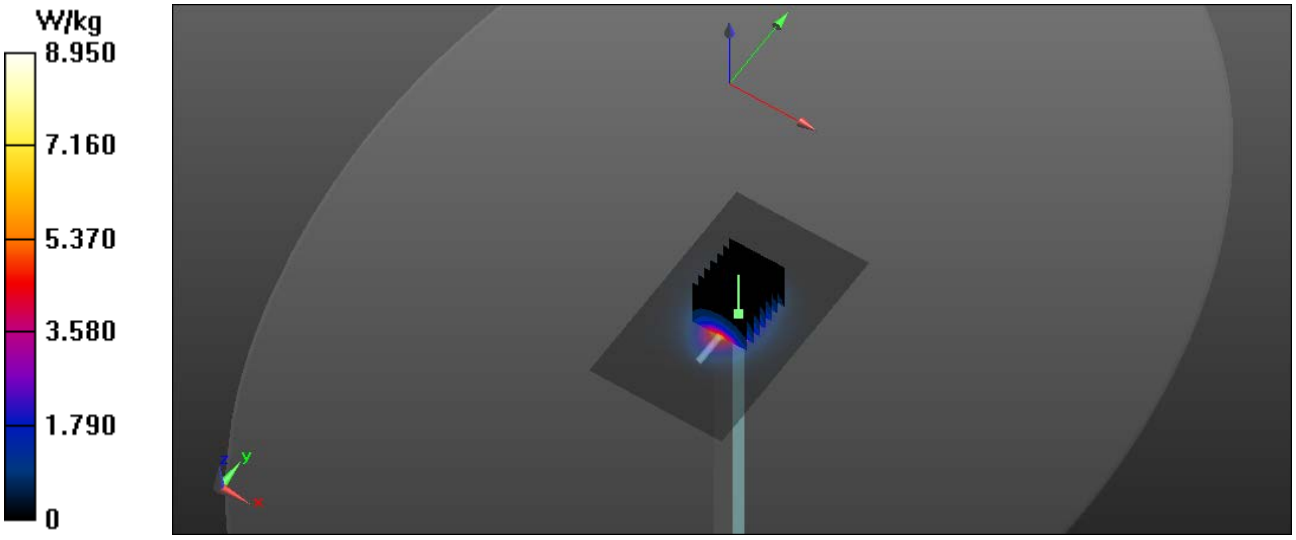
Communication System: CW; Frequency: 2300 MHz; Duty Cycle: 1:1
Medium: MSL2300; Medium parameters used: f = 2300 MHz; σ = 1.84 S/m; ε_r = 52.63; ρ = 1000 kg/m^3
Phantom section: Flat Section

Test Date: Date: 2/13/2019; Ambient Temp: 23 °C; Tissue Temp: 21 °C
Probe: EX3DV4 - SN3662; ConvF(7.33, 7.33, 7.33); Calibrated: 4/20/2018;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1321; Calibrated: 1/10/2019
Phantom: ELI v5.0; Type: QDOVA002AA; Serial: 2037
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

Procedure Notes:

Body Verification/2300 MHz/Area Scan (61x101x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 8.95 W/kg

Body Verification/2300 MHz/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 53.597 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 11.18 W/kg
P_{in}= 100 mW
SAR(1 g) = 4.82 W/kg; SAR(10 g) = 2.2 W/kg
Maximum value of SAR (measured) = 8.71 W/kg



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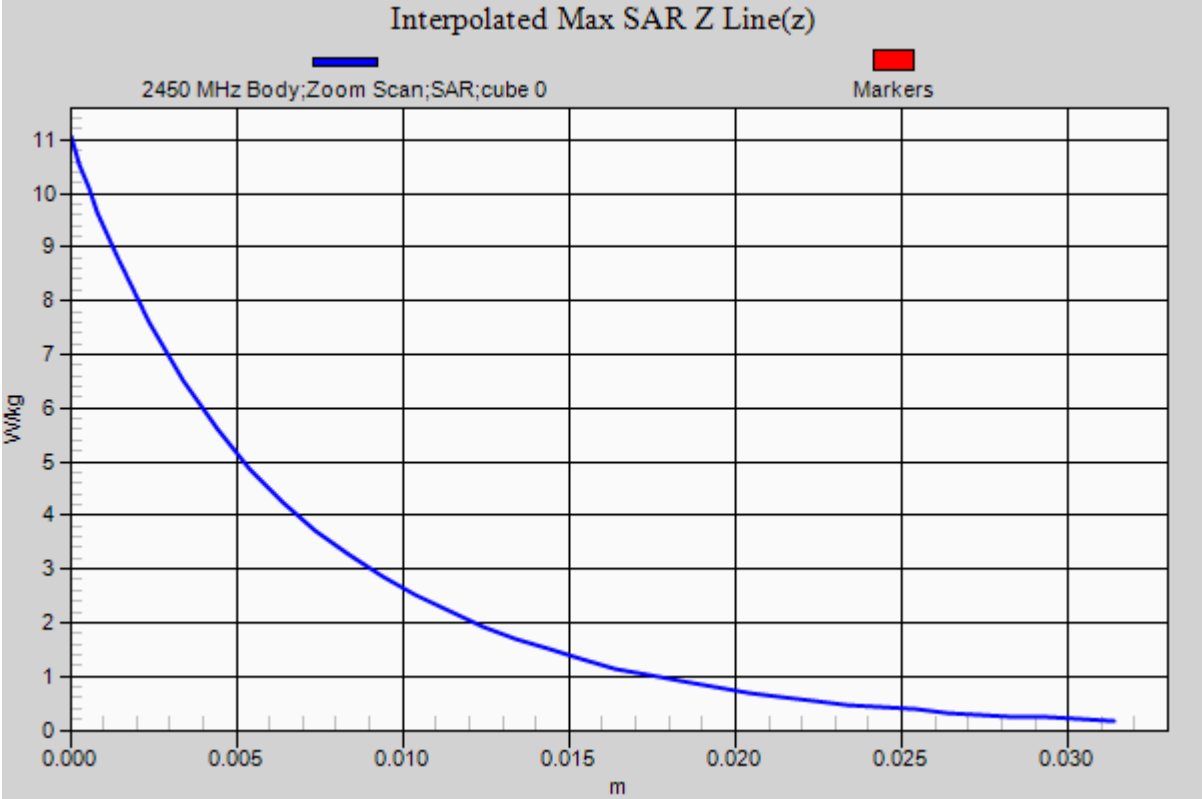

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Plot 6

DUT: Dipole 2550 MHz D2550V2; Type: D2550V2; Serial: D2550V2 - SN:1003

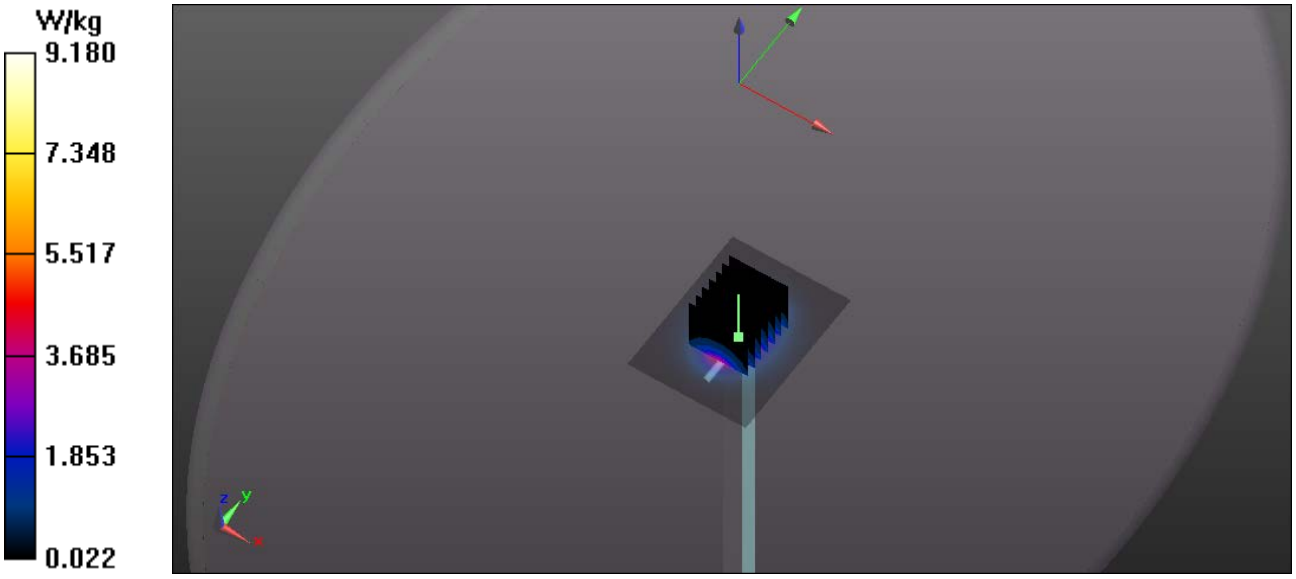
Communication System: CW; Frequency: 2550 MHz; Duty Cycle: 1:1
Medium: MSL2600; Medium parameters used: f = 2550 MHz; σ = 2.12 S/m; ε_r = 52.47; ρ = 1000 kg/m^3
Phantom section: Flat Section

Test Date: Date: 2/12/2019; Ambient Temp: 23 °C; Tissue Temp: 21 °C
Probe: EX3DV4 - SN3662; ConvF(7.15, 7.15, 7.15); Calibrated: 4/20/2018;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1321; Calibrated: 1/10/2019
Phantom: ELI v5.0; Type: QDOVA002AA; Serial: 2037
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

Procedure Notes:

2550 MHz Body/Verification/Area Scan (61x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 9.18 W/kg

2550 MHz Body/Verification/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 54.541 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 11.5 W/kg
SAR(1 g) = 5.31 W/kg; SAR(10 g) = 2.42 W/kg
Maximum value of SAR (measured) = 8.98 W/kg



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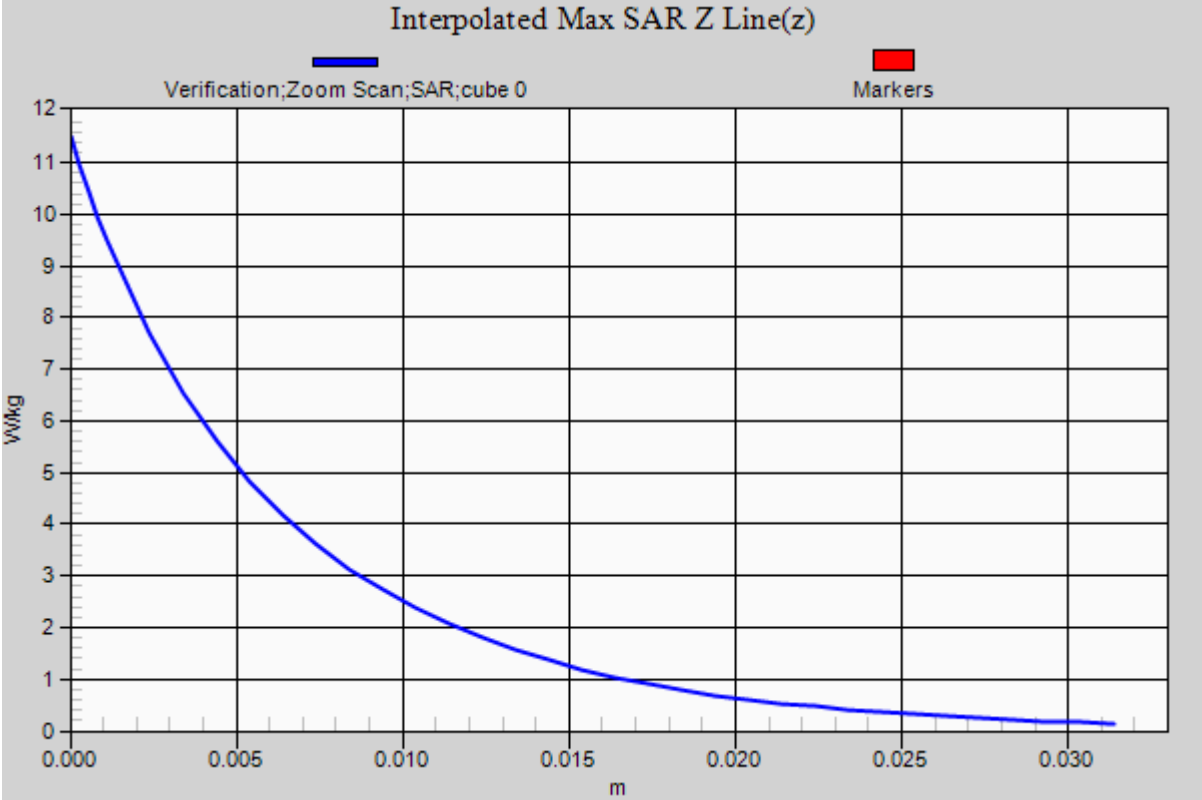

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Plot 7

DUT: Dipole 2450 MHz D2450V2; Type: D2450V2; Serial: D2450V2 - SN:829

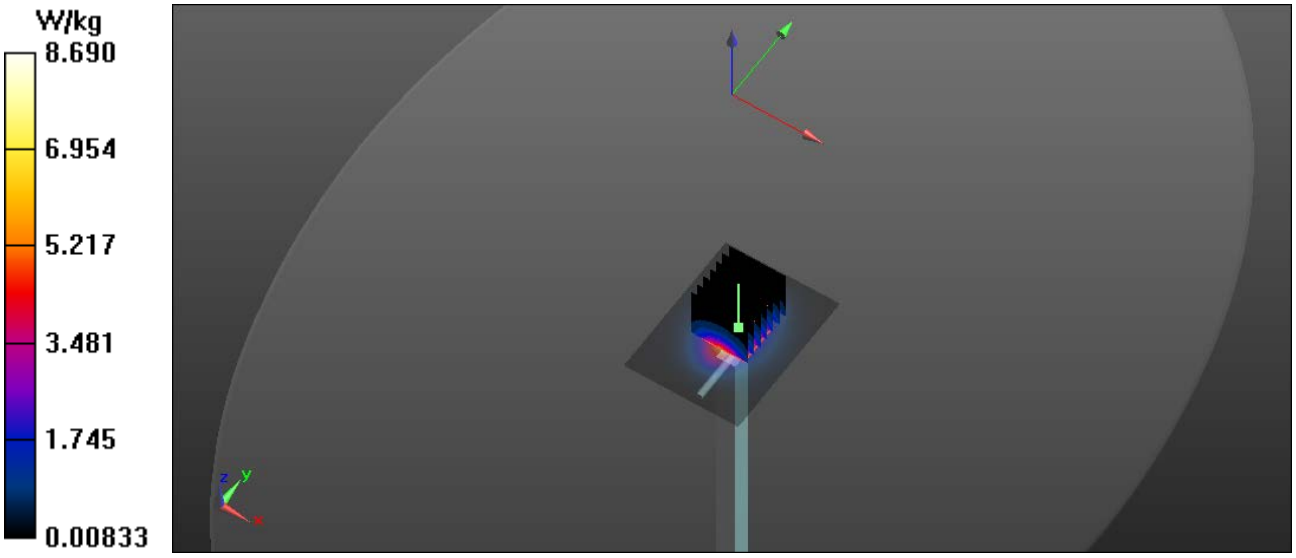
Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: MSL2450; Medium parameters used: f = 2450 MHz; σ = 1.96 S/m; ε_r = 52.64; ρ = 1000 kg/m^3
Phantom section: Flat Section

Test Date: Date: 2/13/2019; Ambient Temp: 23 °C; Tissue Temp: 21 °C
Probe: EX3DV4 - SN3662; ConvF(7.29, 7.29, 7.29); Calibrated: 4/20/2018;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1321; Calibrated: 1/10/2019
Phantom: ELI v5.0; Type: QDOVA002AA; Serial: 2037
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

Procedure Notes:

2450 MHz Body/Verification/Area Scan (61x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 8.68 W/kg

2450 MHz Body/Verification/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 55.751 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 10.7 W/kg
SAR(1 g) = 5.2 W/kg; SAR(10 g) = 2.4 W/kg
Maximum value of SAR (measured) = 5.91 W/kg



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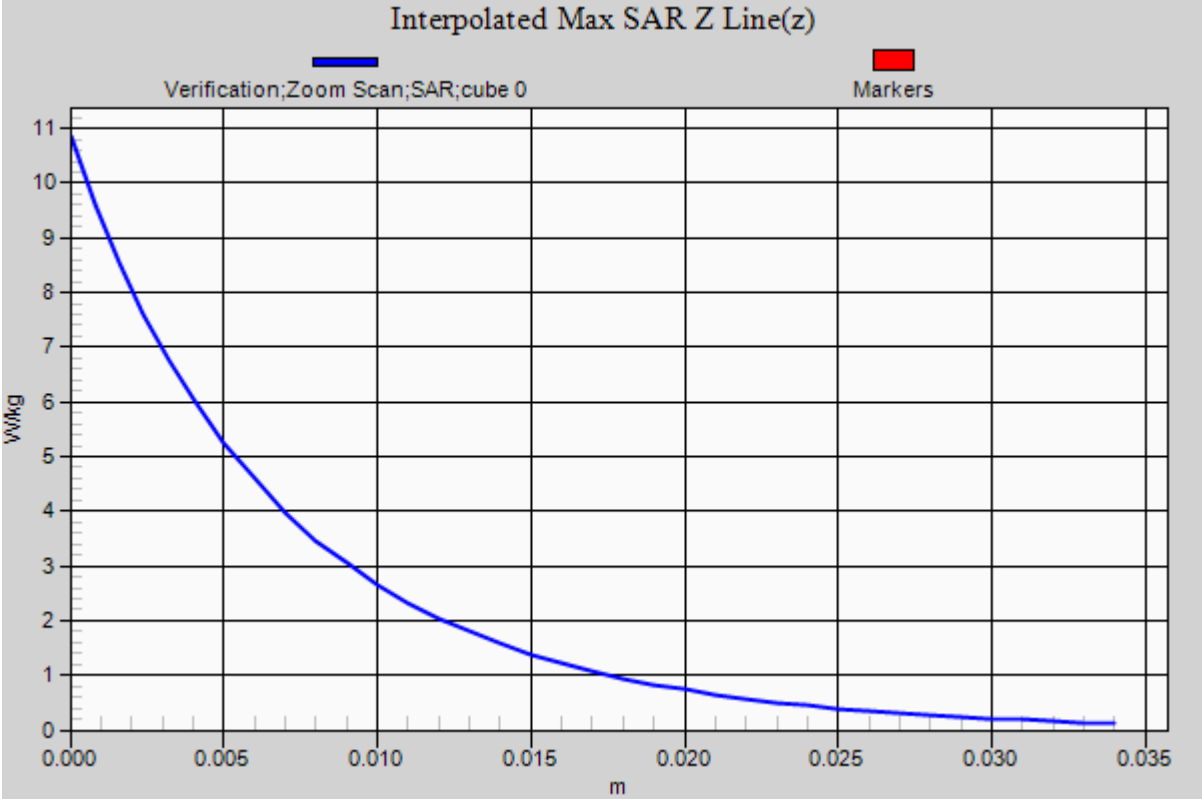

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Plot 8

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:1085

Communication System: CW; Frequency: 5250 MHz; Duty Cycle: 1:1
Medium: MSL 3-6 GHz; Medium parameters used (interpolated): f = 5250 MHz; σ = 5.35 S/m; ε_r = 48.955; ρ = 1000 kg/m^3
Phantom section: Flat Section

Test Date: Date: 2/8/2019; Ambient Temp: 23 °C; Tissue Temp: 21 °C
Probe: EX3DV4 - SN3662; ConvF(4.46, 4.46, 4.46); Calibrated: 4/20/2018;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1321; Calibrated: 1/10/2019
Phantom: ELI v5.0; Type: QDOVA002AA; Serial: 2037
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

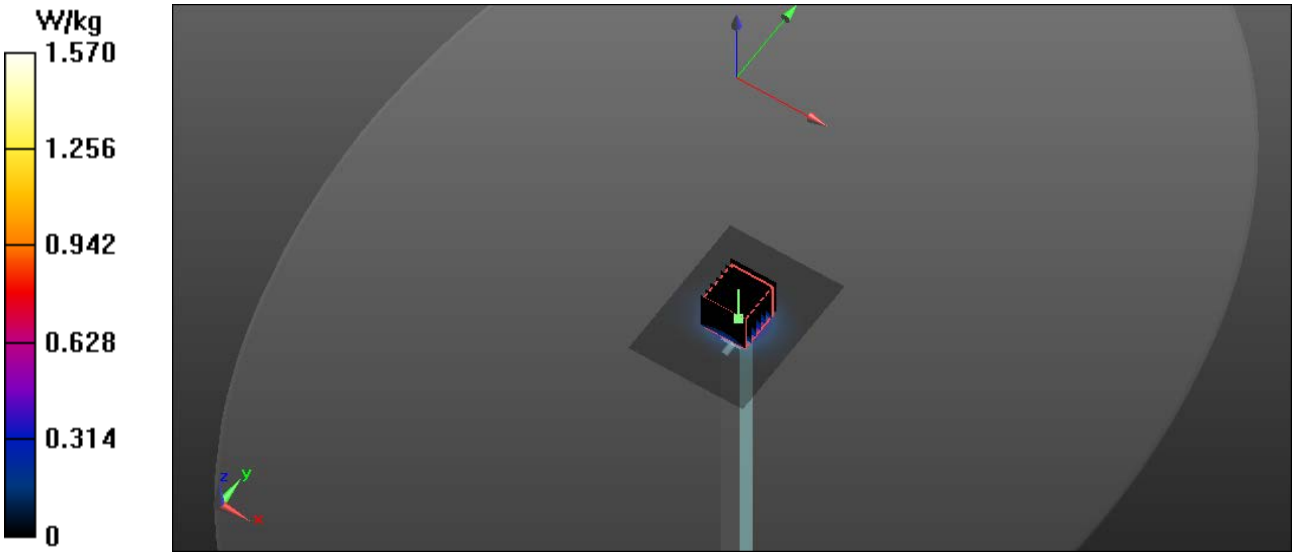
Procedure Notes:

5200 MHz Body/Verification/Area Scan (61x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 1.55 W/kg

5200 MHz Body/Verification/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 55.759 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 3.09 W/kg
SAR(1 g) = 0.776 W/kg; SAR(10 g) = 0.225 W/kg

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.58 W/kg



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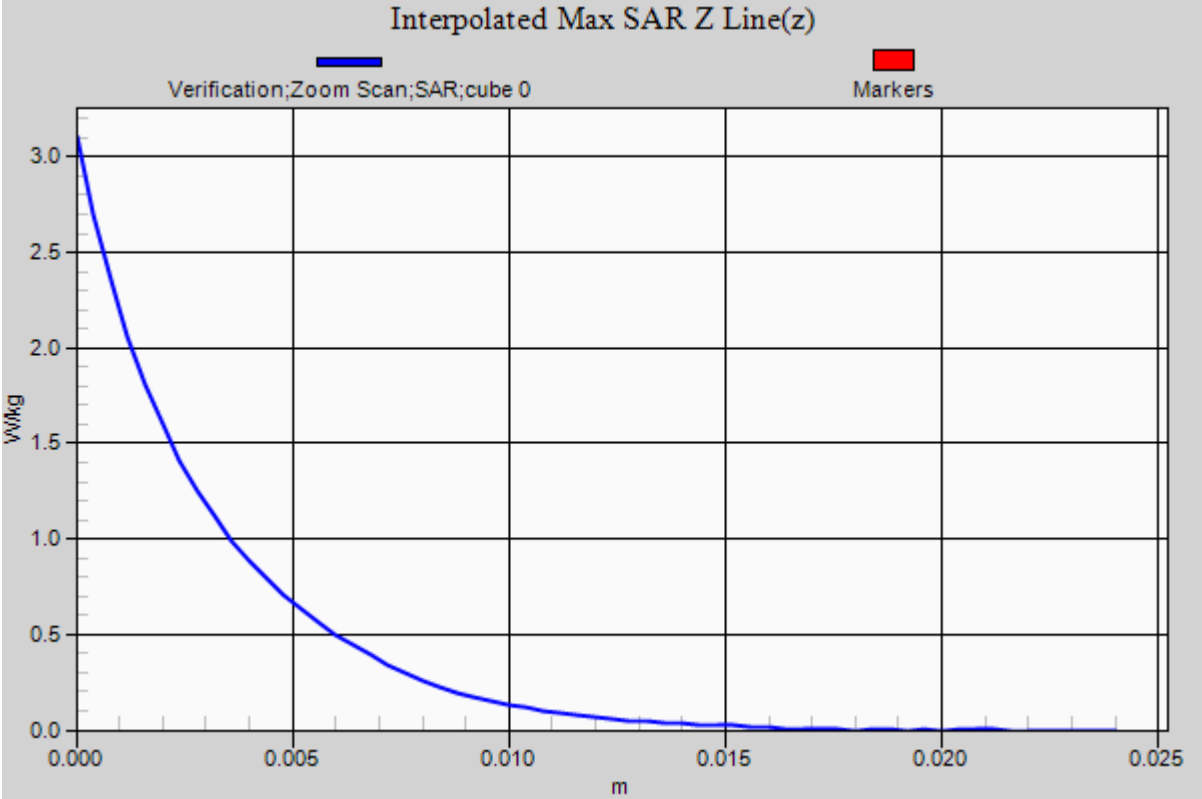

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Plot 9

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:1085

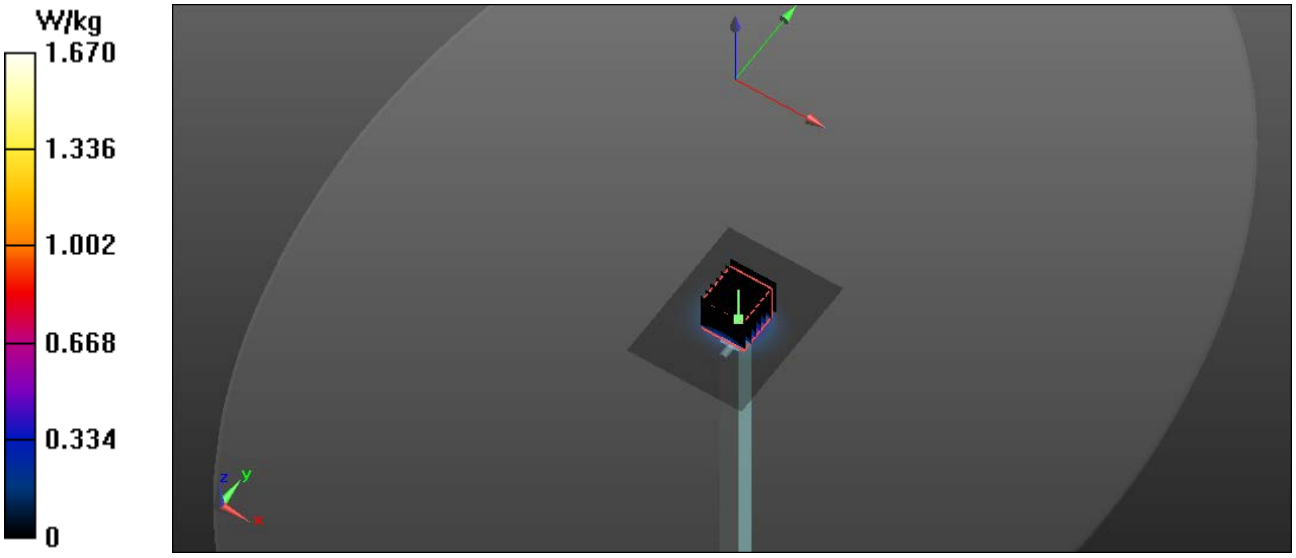
Communication System: CW; Frequency: 5600 MHz; Duty Cycle: 1:1
Medium: MSL 3-6 GHz; Medium parameters used: f = 5600 MHz; σ = 5.74 S/m; ε_r = 48.43; ρ = 1000 kg/m^3
Phantom section: Flat Section

Test Date: Date: 2/8/2019; Ambient Temp: 23 °C; Tissue Temp: 21 °C
Probe: EX3DV4 - SN3662; ConvF(3.91, 3.91, 3.91); Calibrated: 4/20/2018;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1321; Calibrated: 1/10/2019
Phantom: ELI v5.0; Type: QDOVA002AA; Serial: 2037
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

Procedure Notes:

5600 MHz Body/Verification/Area Scan (61x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.68 W/kg

5600 MHz Body/Verification/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 55.852 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 3.37 W/kg
SAR(1 g) = 0.791 W/kg; SAR(10 g) = 0.218 W/kg
Maximum value of SAR (measured) = 1.71 W/kg



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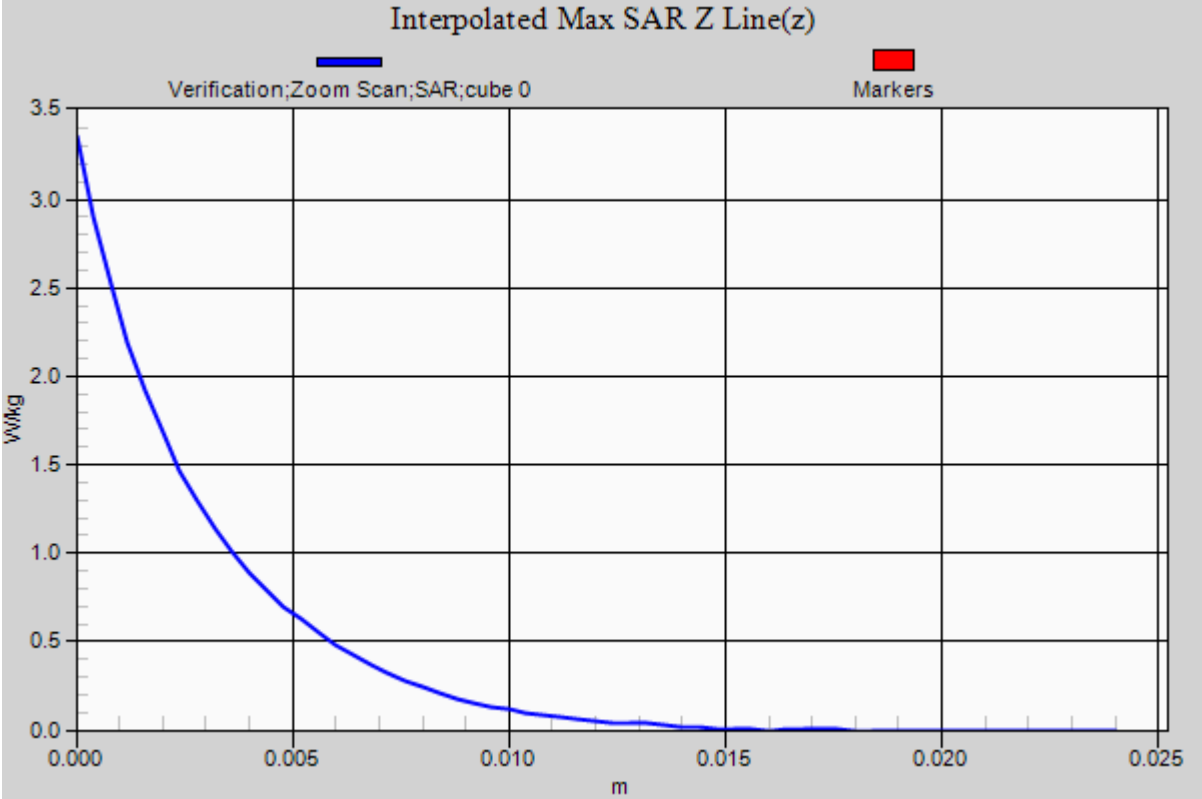

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RF Exposure Lab

Plot 10

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:1085

Communication System: CW; Frequency: 5750 MHz; Duty Cycle: 1:1
Medium: MSL 3-6 GHz; Medium parameters used (interpolated: f = 5750 MHz; σ = 5.91 S/m; ε_r = 48.205; ρ = 1000 kg/m^3
Phantom section: Flat Section

Test Date: Date: 2/8/2019; Ambient Temp: 23 °C; Tissue Temp: 21 °C
Probe: EX3DV4 - SN3662; ConvF(4.08, 4.08, 4.08); Calibrated: 4/20/2018;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1321; Calibrated: 1/10/2019
Phantom: ELI v5.0; Type: QDOVA002AA; Serial: 2037
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

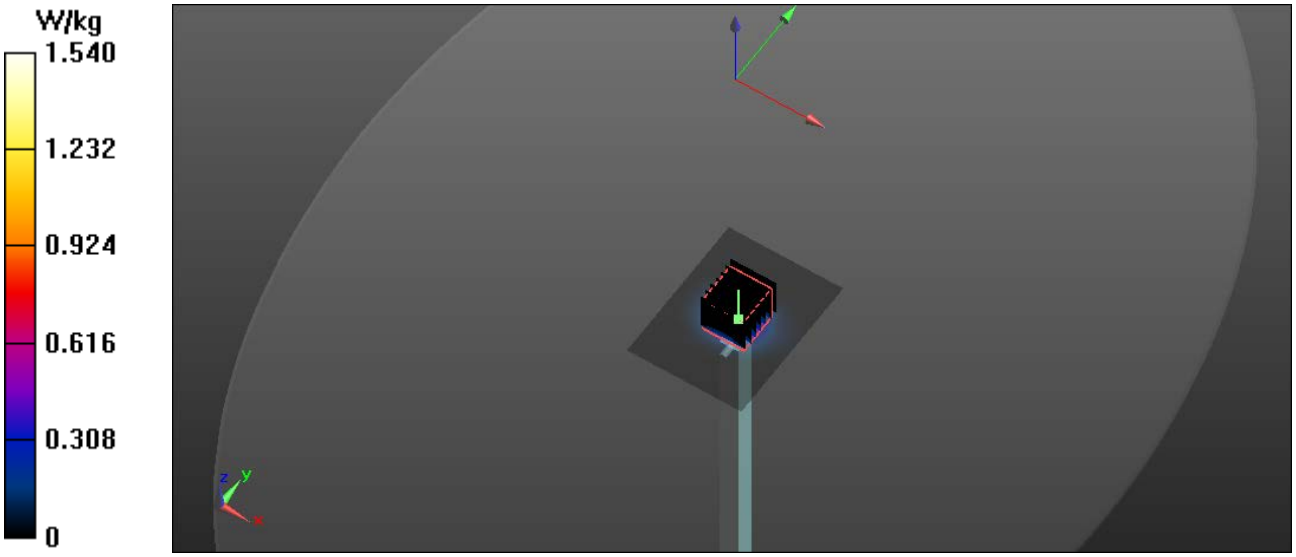
Procedure Notes:

5800 MHz Body/Verification/Area Scan (61x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 1.54 W/kg

5800 MHz Body/Verification/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 55.812 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 3.19 W/kg
SAR(1 g) = 0.766 W/kg; SAR(10 g) = 0.219 W/kg

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.57 W/kg



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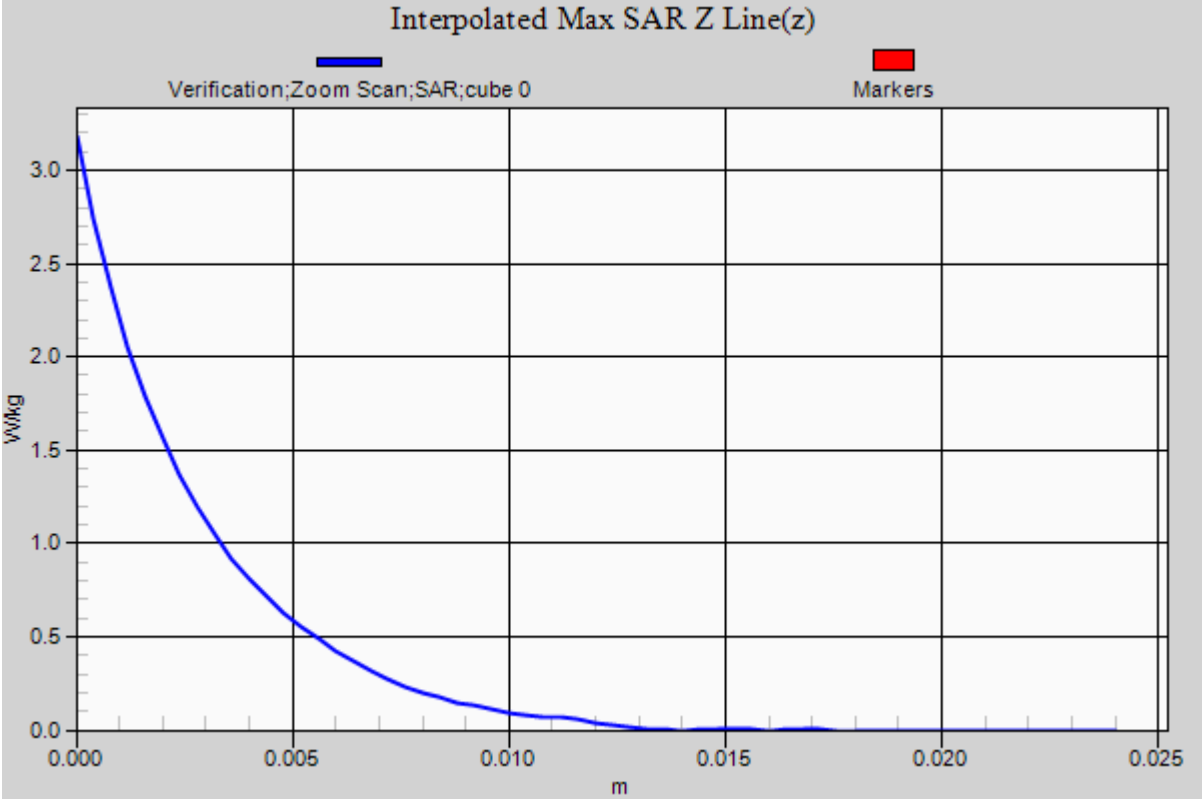

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Appendix B – SAR Test Data Plots

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RF Exposure Lab

Plot 1

DUT: aegex10; Type: Tablet PC; Serial: BT72407113

Communication System: LTE (SC-FDMA, 50% RB, 10 MHz, QPSK); Frequency: 707.5 MHz; Duty Cycle: 1:1
Medium: MSL750; Medium parameters used (interpolated): f = 707.5 MHz; σ = 0.978 S/m; ε_r = 55.698; ρ = 1000 kg/m^3
Phantom section: Flat Section

Test Date: Date: 2/7/2019; Ambient Temp: 23 °C; Tissue Temp: 21 °C

Probe: EX3DV4 - SN3662; ConvF(9.8, 9.8, 9.8); Calibrated: 4/20/2018;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1321; Calibrated: 1/10/2019
Phantom: ELI v5.0; Type: QDOVA002AA; Serial: 2037
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

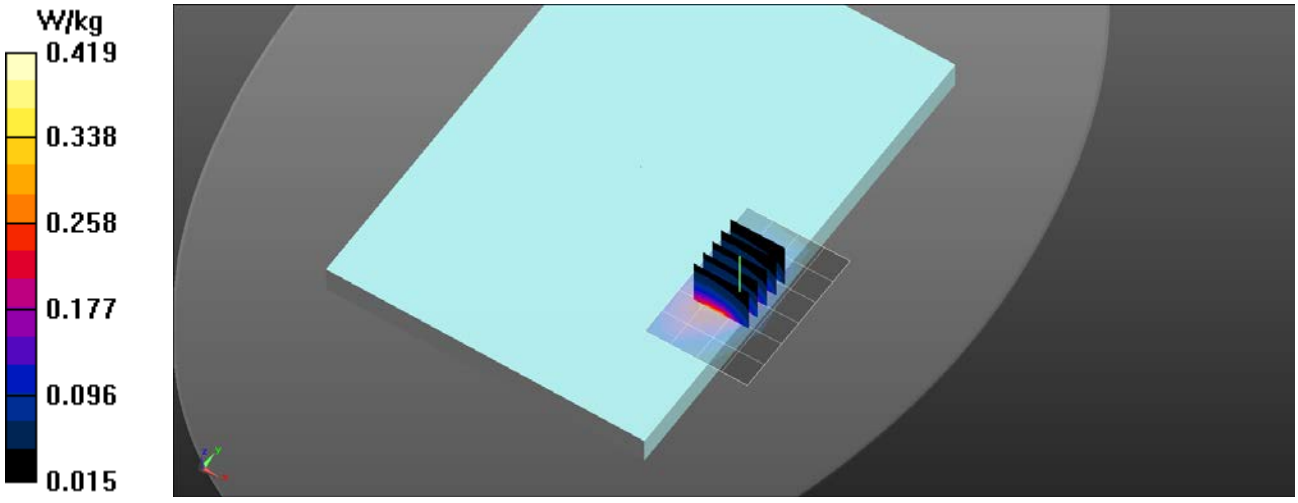
Procedure Notes:

Band 12 LTE/Back 25 RB 12 Offset Mid/Area Scan (5x7x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.297 W/kg

Band 12 LTE/Back 25 RB 12 Offset Mid/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.334 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.554 W/kg
SAR(1 g) = 0.286 W/kg

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.419 W/kg



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RF Exposure Lab

Plot 2

DUT: aegex10; Type: Tablet PC; Serial: BT72407113

Communication System: LTE (SC-FDMA, 50% RB, 10 MHz, QPSK); Frequency: 782 MHz; Duty Cycle: 1:1
Medium: MSL750; Medium parameters used (interpolated): f = 782 MHz; σ = 1 S/m; ε_r = 55.452; ρ = 1000 kg/m^3
Phantom section: Flat Section

Test Date: Date: 2/8/2019; Ambient Temp: 23 °C; Tissue Temp: 21 °C

Probe: EX3DV4 - SN3662; ConvF(9.8, 9.8, 9.8); Calibrated: 4/20/2018;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1321; Calibrated: 1/10/2019
Phantom: ELI v5.0; Type: QDOVA002AA; Serial: 2037
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

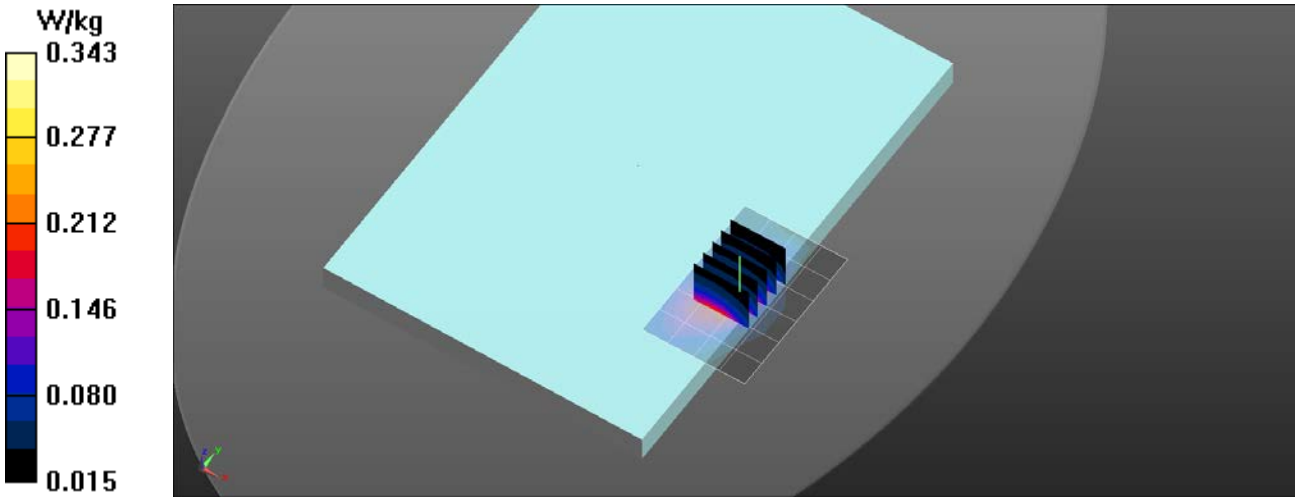
Procedure Notes:

Band 13 LTE/Back 25 RB 12 Offset Mid/Area Scan (5x7x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.297 W/kg

Band 13 LTE/Back 25 RB 12 Offset Mid/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.774 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 0.437 W/kg
SAR(1 g) = 0.226 W/kg

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.343 W/kg



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RF Exposure Lab

Plot 3

DUT: aegex10; Type: Tablet PC; Serial: BT72407113

Communication System: UMTS (WCDMA); Frequency: 836.6 MHz; Duty Cycle: 1:1
Medium: MSL835; Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.99 S/m; ε_r = 55.902; ρ = 1000 kg/m^3
Phantom section: Flat Section

Test Date: Date: 2/6/2019; Ambient Temp: 23 °C; Tissue Temp: 21 °C

Probe: EX3DV4 - SN3662; ConvF(9.21, 9.21, 9.21); Calibrated: 4/20/2018;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1321; Calibrated: 1/10/2019
Phantom: ELI v5.0; Type: QDOVA002AA; Serial: 2037
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

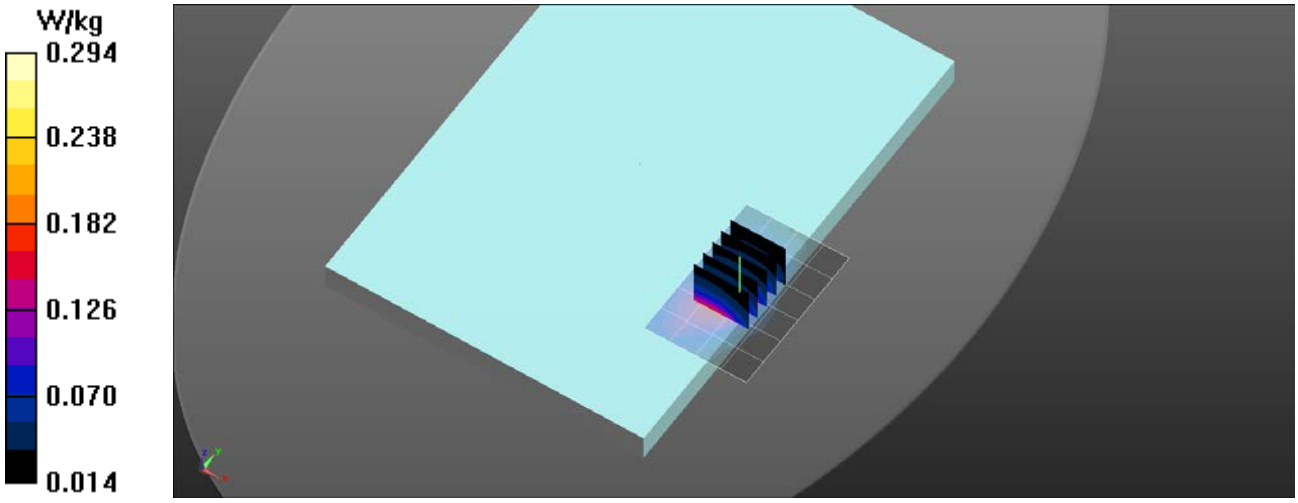
Procedure Notes:

Band 5 UMTS/Back Mid/Area Scan (5x7x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.227 W/kg

Band 5 UMTS/Back Mid/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.319 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 0.405 W/kg
SAR(1 g) = 0.205 W/kg

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.294 W/kg



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