RF Exposure Lab

802 N. Twin Oaks Valley Road, Suite 105 • San Marcos, CA 92069 • U.S.A.
TEL (760) 471-2100 • FAX (760) 471-2121
http://www.rfexposurelab.com

CERTIFICATE OF COMPLIANCE
SAR EVALUATION

Juniper Systems		Dates of Test:	March 7-8 & March 29-April 1, 2022
1132 West 1700 North		Test Report Number:	SAR.20220401
Logan, UT 84321			Revision C

FCC ID:	VSF30805, N7NEM7455, VSF27065, VSF25589, VSF26593, FIH76007
IC Certificate:	7980A-30805, 7980A-EM7455, 7980A-27065, 7980A-25589, 7980A-26593, 1548A-76007
Model(s):	MS3
Test Sample:	Engineering Unit Same as Production
Serial Number:	Eng 1-7
Equipment Type:	Wireless Rugged Tablet
Classification:	Portable Transmitter Next to Body
TX Frequency Range:	699 – 716 MHz, 777 – 787 MHz, 814 – 849 MHz; 902 – 928 MHz; 1710 – 1755 MHz, 1850 – 1915 MHz, 2496 – 2690 MHz; 2412 – 2462 MHz, 5150 – 5350 MHz, 5500 – 5700 MHz; 5745 – 5825 MHz
Frequency Tolerance:	± 2.5 ppm
Maximum RF Output:	750 MHz (LTE) – 24.0 dBm, 850 MHz (WCDMA) – 24.0 dBm, 850 MHz (LTE) – 24.0 dBm, 900 MHz (Nano) – 28.0 dBm, 900 MHz (Micro) – 31.0 dBm, 900 MHz (Transcore) – 28.0 dBm, 1750 MHz (WCDMA) – 24.0 dBm, 1750 MHz (LTE) – 24.0 dBm, 1900 MHz (WCDMA) – 24.0 dBm, 1900 MHz (LTE) – 24.0 dBm, 2600 MHz (LTE) – 23.0 dBm2450 MHz (b) – 18.0 dB, 2450 MHz (g) – 18.0 dB, 2450 MHz (n) – 18.0 dB, 2450 MHz (ac) – 17.5 dB, 5250 MHz (a) – 15.0 dB, 5250 MHz (n) – 15.0 dB, 5250 MHz (ac) – 15.0 dB, 5600 MHz (a) – 15.0 dB, 5600 MHz (n) – 15.0 dB, 5600 MHz (ac) – 15.0 dB, 5800 MHz (a) – 15.0 dB, 5800 MHz (n) – 15.0 dB, 5800 MHz (ac) – 15.0 dB Conducted
Signal Modulation:	FHSS, WCDMA, QPSK, 16QAM, DSSS, OFDM
Antenna Type:	Internal
Application Type:	Certification
FCC Rule Parts:	Part 2, 15C, 15E, 22, 24, 27
KDB Test Methodology:	KDB 447498 D01 v07, KDB 248227 v02r02, KDB 616217 D01 v01r01, KDB 941225 D01 v03r01, D02 v02r01 & D05 v02r05
Industry Canada:	RSS-102 Issue 5, Safety Code 6
Max. Stand Alone SAR Value:	1.48 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 62209-1528:2020 (See test report).

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

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

Jay M. Moulton
Vice President

ACCREDITED
Testing Cert. # 2387.01

Table of Contents

Comment/Revision	Date
Original Release	April 8, 2022
Revision A – Correct FCC/ISED IDs and power for ac mode	May 17, 2022
Revision B – removed the comment on page 26 regarding the exclusion due to the antenna being 2.5 cm away and replace it with the exclusion due to the calculation in 47 CFR 1.1307, add the side is exclude based on the calculation in 47 CFR 1.1307 for the test reduction tables, corrected the SAR value for Band 41 and added a comment on page 26 as to why the RFID is assessed based on extremity SAR.	June 16, 2022
Revision C – Correct the simultaneous description of limit usage in the tables on pages 108-110	June 23, 2022

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

1. Introduction

This measurement report shows compliance of the Juniper Systems Model MS3 FCC ID: VSF30805, N7NEM7455, VSF27065, VSF25589, VSF26593 with FCC Part 2, 1093, ET Docket 93-62 Rules for mobile and portable devices and IC Certificate: 7980A-30805, 7980A-EM7455, 7980A-29579, 7980A-25589, 7980A-26593 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 Juniper Systems Model MS3 and therefore apply only to the tested sample.

The test procedures and limits, 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 MS3 Wireless Rugged Tablet. The table also shows the tolerance for the power level for each mode.

Band	Technology	Power	Calibrated Nominal Power dBm	Tolerance dBm	Lower Tolerance dBm	Upper Tolerance dBm
Band 12 – 750 MHz	LTE	Full	23.0	±1.0	22.0	24.0
Band 13 – 750 MHz	LTE	Full	23.0	±1.0	22.0	24.0
Band 5 – 835 MHz	LTE	Full	23.0	±1.0	22.0	24.0
Band 26 – 835 MHz	LTE	Full	23.0	±1.0	22.0	24.0
Band 4 – 1750 MHz	LTE	Full	23.0	±1.0	22.0	24.0
Band 4 – 1750 MHz	LTE	Backoff	22.0	±1.0	21.0	23.0
Band 2 – 1900 MHz	LTE	Full	23.0	±1.0	22.0	24.0
Band 2 – 1900 MHz	LTE	Backoff	21.0	±1.0	20.0	22.0
Band 25 – 1900 MHz	LTE	Full	22.5	±1.0	21.5	23.5
Band 25 – 1900 MHz	LTE	Backoff	21.0	±1.0	20.0	22.0
Band 7 – 2500 MHz	LTE	Full	22.0	±1.0	21.0	23.0
Band 7 – 2500 MHz	LTE	Backoff	21.0	±1.0	20.0	22.0
Band 41 – 2600 MHz	LTE	Full	23.0	±1.0	22.0	24.0
Band 5 – 850 MHz	WCDMA/HSPA	Full	23.0	±1.0	22.0	24.0
Band 4 – 1750 MHz	WCDMA/HSPA	Full	23.0	±1.0	22.0	24.0
Band 4 – 1750 MHz	WCDMA/HSPA	Backoff	22.0	±1.0	21.0	23.0
Band 2 – 1900 MHz	WCDMA/HSPA	Full	23.0	±1.0	22.0	24.0
Band 2 – 1900 MHz	WCDMA/HSPA	Backoff	21.0	±1.0	20.0	22.0
900 MHz – Micro	RFID	Full	30.0	±1.0	29.0	31.0
900 MHz – Nano	RFID	Full	27.0	±1.0	26.0	28.0
900 MHz – Transcore	RFID	Full	27.0	±1.0	26.0	28.0

Band	Technology	3GPP Nominal Power dBm	Calibrated Nominal Power dBm	Tolerance dBm	Lower Tolerance dBm	Upper Tolerance dBm
WLAN – 2.4 GHz	802.11b	N/A	16.5	±1.5	15.0	18.0
WLAN – 2.4 GHz	802.11g	N/A	16.5	±1.5	15.0	18.0
WLAN – 2.4 GHz	802.11n	N/A	16.5	±1.5	15.0	18.0
WLAN – 2.4 GHz	802.11ac	N/A	16.0	±1.5	14.5	17.5
WLAN – 5.0 GHz	802.11a	N/A	13.5	±1.5	12.0	15.0
WLAN – 5.0 GHz	802.11n	N/A	13.5	±1.5	12.0	15.0
WLAN – 5.0 GHz	802.11ac	N/A	13.0	±1.5	11.5	15.0
Bluetooth w/WiFi	802.15.1	N/A	N/A	N/A	N/A	11.0
Bluetooth Ext Range	802.15.1	N/A	17.0	±1.0	16.0	18.0

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)

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.

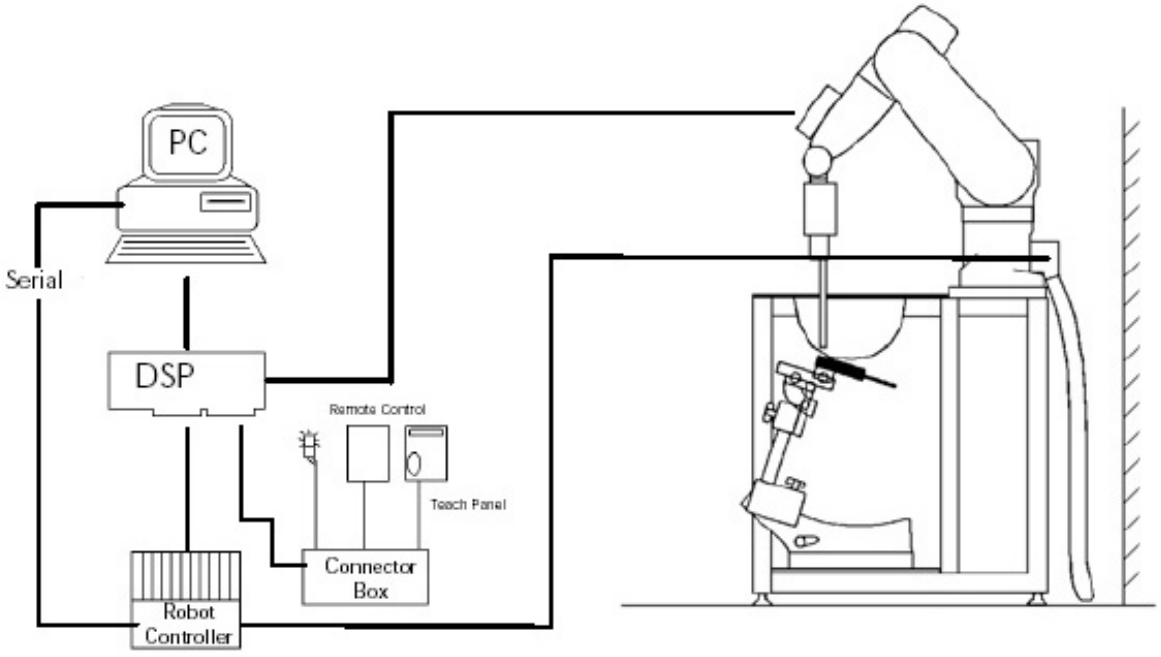


Figure 2.1 SAR Measurement System Setup

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

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

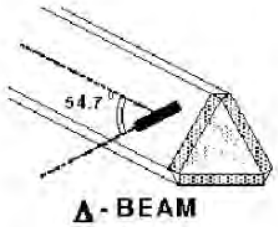


Figure 2.2 Triangular Probe Configurations

Figure 2.3 Probe Thick-Film Technique

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;

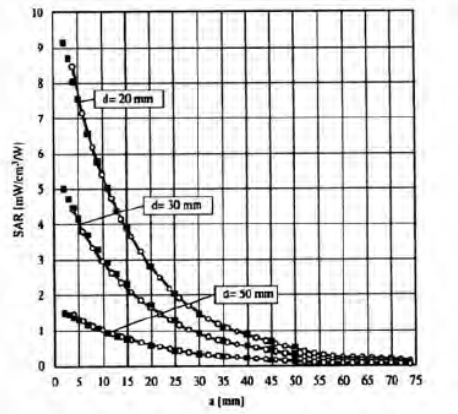


Figure 2.4 E-Field and Temperature Measurements at 900MHz

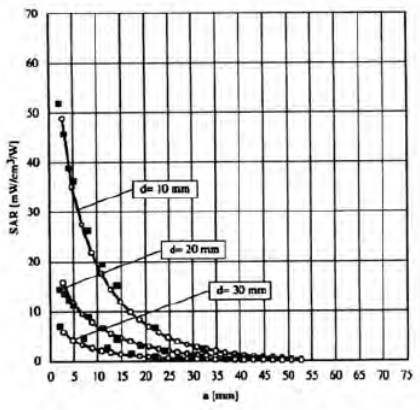


Figure 2.5 E-Field and Temperature Measurements at 1800MHz

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

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.

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.

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

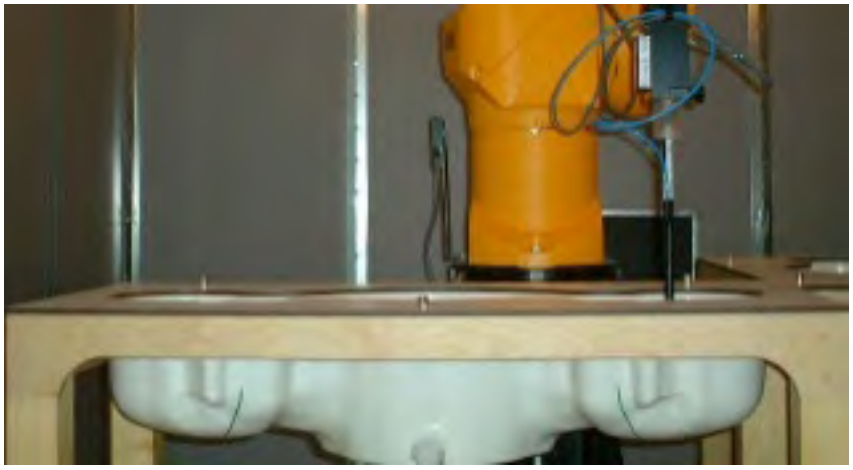


Figure 2.6 SAM Twin Phantom

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.

3. Probe and Dipole Calibration

See Appendix D and E.

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

Ingredients		Simulating Tissue			
		2450 MHz Head	5250 MHz Head	5600 MHz Head	5750 MHz Head
Mixing Percentage					
Water		Proprietary Purchased From Speag			
Sugar					
Salt					
HEC					
Bactericide					
DGBE					
Dielectric Constant	Target	39.20	35.93	35.53	35.36
Conductivity (S/m)	Target	1.80	4.71	5.07	5.22

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.

6. Measurement Uncertainty

Measurement uncertainty table is not required per KDB 865664 D01 v01 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.

7. System Validation

Tissue Verification

Table 7.1 Measured Tissue Parameters

		750 MHz Head		900 MHz Head		1750 MHz Head	
Date(s)		Apr. 1, 2022		Mar. 31, 2022		Mar. 30, 2022	
Liquid Temperature (˚C)	20.0	Target	Measured	Target	Measured	Target	Measured
Dielectric Constant: ε		41.94	41.60	41.50	41.55	40.08	39.55
Conductivity: σ		0.89	0.91	0.97	0.99	1.37	1.41
		1900 MHz Head		2550 MHz Head		900 MHz Head	
Date(s)		Mar. 29, 2022		Mar. 29, 2022		Mar. 29, 2022	
Liquid Temperature (˚C)	20.0	Target	Measured	Target	Measured	Target	Measured
Dielectric Constant: ε		40.00	39.81	39.07	38.95	41.50	41.34
Conductivity: σ		1.40	1.44	1.91	1.94	0.97	0.98
		2450 MHz Head		2450 MHz Head		5250 MHz Head	
Date(s)		Mar. 31, 2022		Mar. 8, 2022		Mar. 7, 2022	
Liquid Temperature (˚C)	20.0	Target	Measured	Target	Measured	Target	Measured
Dielectric Constant: ε		39.20	38.21	39.20	38.43	35.93	35.19
Conductivity: σ		1.80	1.81	1.80	1.83	4.71	4.74
		5600 MHz Head		5750 MHz Head			
Date(s)		Mar. 7, 2022		Mar. 7, 2022			
Liquid Temperature (˚C)	20.0	Target	Measured	Target	Measured		
Dielectric Constant: ε		35.53	34.35	35.36	34.18		
Conductivity: σ		5.07	5.11	5.22	5.28		

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
01-Apr-2022	750 MHz	8.57	8.65	Head	+ 0.93	1
31-Mar-2022	900 MHz	11.20	11.50	Head	+ 2.68	2
30-Mar-2022	1750 MHz	37.70	37.90	Head	+ 0.53	3
29-Mar-2022	1900 MHz	40.40	41.10	Head	+ 1.73	4
29-Mar-2022	2550 MHz	55.30	57.10	Head	+ 3.25	5
29-Mar-2022	900 MHz	11.20	11.40	Head	+ 1.79	6
31-Mar-2022	2450 MHz	54.10	52.10	Head	- 3.70	7
08-Mar-2022	2450 MHz	54.10	54.20	Head	+ 0.18	8
07-Mar-2022	5250 MHz	79.50	80.30	Head	+ 1.01	9
07-Mar-2022	5600 MHz	83.20	83.50	Head	+ 0.36	10
07-Mar-2022	5750 MHz	80.50	80.50	Head	+ 0.00	11

See Appendix A for data plots.

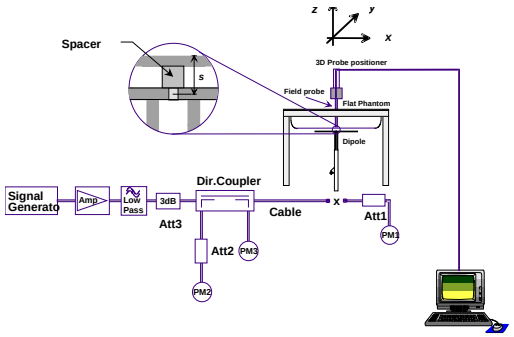


Figure 7.1 Dipole Validation Test Setup

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
25	1850-1915	1930-1995	FDD
26	814-849	859-894	FDD
41	2496-2690	2496-2690	TDD

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

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

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	1.4	824.7	20407	836.5	20525	848.3	20643
5	3	825.5	20415	836.5	20525	847.5	20635
5	5	826.5	20425	836.5	20525	846.5	20625
5	10	829.0	20450	836.5	20525	844.0	20600
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	1.4	699.7	23017	707.5	23095	715.3	23173
12	3	700.5	23025	707.5	23095	714.5	23165
12	5	701.5	23035	707.5	23095	713.5	23155
12	10	704.0	23060	707.5	23095	711.0	23130
13	5	779.5	23205	782.0	23230	784.5	23225
13	10	-----	-----	782.0	23230	-----	-----
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	26765	831.5	26865	841.5	26995
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

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
   - WLAN Primary (Transmit and Receive) Antenna
   - WLAN Secondary (Transmit and Receive) Antenna
   - WWAN Diversity (Receive Only) Antenna
   - RFID (Transmit and Receive) Antenna

   Transmission relationship
   - All transmission (TX) is limited to the WWAN, WLAN and RFID 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		RFID	
	TX	RX	TX	RX	TX	RX	TX	RX
#1 WWAN Main	**Yes**	**Yes**	**Yes**	**Yes**	No	No	No	No
#2 WLAN Primary	No	No	No	No	**Yes**	**Yes**	No	No
#2 WLAN Secondary	No	No	No	No	**Yes**	**Yes**	No	No
#3 (Diversity)	No	**Yes**	No	**Yes**	No	No	No	No
#4 RFID	No	No	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 mandatory, built-in by design on all production units. It was enabled during testing.

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

   b) A-MPR (additional MPR) must be disabled
   c) A-MPR was disabled during testing.

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 51-84 of this report. The below table shows the factory set point with the allowable tolerance.

Band	Technology	Power	Calibrated Nominal Power dBm	Tolerance dBm	Lower Tolerance dBm	Upper Tolerance dBm
Band 12 – 750 MHz	LTE	Full	23.0	±1.0	22.0	24.0
Band 13 – 750 MHz	LTE	Full	23.0	±1.0	22.0	24.0
Band 5 – 835 MHz	LTE	Full	23.0	±1.0	22.0	24.0
Band 26 – 835 MHz	LTE	Full	23.0	±1.0	22.0	24.0
Band 4 – 1750 MHz	LTE	Full	23.0	±1.0	22.0	24.0
Band 4 – 1750 MHz	LTE	Backoff	22.0	±1.0	21.0	23.0
Band 2 – 1900 MHz	LTE	Full	23.0	±1.0	22.0	24.0
Band 2 – 1900 MHz	LTE	Backoff	21.0	±1.0	20.0	22.0
Band 25 – 1900 MHz	LTE	Full	22.5	±1.0	21.5	23.5
Band 25 – 1900 MHz	LTE	Backoff	21.0	±1.0	20.0	22.0
Band 7 – 2500 MHz	LTE	Full	23.0	±1.0	22.0	24.0
Band 7 – 2500 MHz	LTE	Backoff	22.0	±1.0	21.0	23.0
Band 41 – 2600 MHz	LTE	Full	23.0	±1.0	22.0	24.0

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	Power	Calibrated Nominal Power dBm	Tolerance dBm	Lower Tolerance dBm	Upper Tolerance dBm
Band 5 – 850 MHz	WCDMA/HSPA	Full	23.0	±1.0	22.0	24.0
Band 4 – 1750 MHz	WCDMA/HSPA	Full	23.0	±1.0	22.0	24.0
Band 4 – 1750 MHz	WCDMA/HSPA	Backoff	22.0	±1.0	21.0	23.0
Band 2 – 1900 MHz	WCDMA/HSPA	Full	23.0	±1.0	22.0	24.0
Band 2 – 1900 MHz	WCDMA/HSPA	Backoff	21.0	±1.0	20.0	22.0
900 MHz – Micro	RFID	Full	30.0	±1.0	29.0	31.0
900 MHz – Nano	RFID	Full	27.0	±1.0	26.0	28.0
900 MHz – Transcore	RFID	Full	27.0	±1.0	26.0	28.0
WLAN – 2.4 GHz	802.11b	N/A	16.5	±1.5	15.0	18.0
WLAN – 2.4 GHz	802.11g	N/A	16.5	±1.5	15.0	18.0
WLAN – 2.4 GHz	802.11n	N/A	16.5	±1.5	15.0	18.0
WLAN – 2.4 GHz	802.11ac	N/A	16.0	±1.5	14.5	17.5
WLAN – 5.0 GHz	802.11a	N/A	13.5	±1.5	12.0	15.0
WLAN – 5.0 GHz	802.11n	N/A	13.5	±1.5	12.0	15.0
WLAN – 5.0 GHz	802.11ac	N/A	13.0	±1.5	11.5	14.5
Bluetooth w/WiFi	802.15.1	N/A	N/A	N/A	N/A	11.0
Bluetooth Ext Range	802.15.1	N/A	17.0	±1.0	16.0	18.0

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

The maximum average conducted output power measured for the testing is listed on pages 31-36 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.

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

TX Modes	WCDMA	LTE	WiFi	Bluetooth	RFID
1	**ON**	OFF	**ON**	OFF	OFF
2	OFF	**ON**	**ON**	OFF	OFF
3	**ON**	OFF	OFF	**ON**	OFF
4	OFF	**ON**	OFF	**ON**	OFF
5	**ON**	OFF	OFF	OFF	**ON**
6	OFF	**ON**	OFF	OFF	**ON**
7	OFF	OFF	**ON**	OFF	**ON**
8	OFF	OFF	OFF	**ON**	**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

A capacitive couple power sensor is included in the device. The sensor detects the body of a human at 8mm ± 1 mm. Only LTE bands 2, 4, 7 & 25 and WCDMA bands 2 & 4 are reduced to meet SAR. All other bands remain at full power.

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

No special equipment or software was required for the testing. AT commands internal to the firmware by the module manufacturer is used to reduce the power. The command used for the Sierra Wireless module is AT!SARBACKOFF.

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

Testing was conduct at 0 mm with the sensor operational for all measurements. The sensor was tested by moving the DUT away from the phantom and slowly moving it closer to see when the sensor would trip. The closest distance the sensor trip was 8mm ± 1 mm. The highest SAR value in each band was then tested at 7 mm with the sensor disabled to insure it would not trip.

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 and right side was 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, top, left and right sides were tested for the WLAN antennas. The remaining sides were not tested as the antenna was excluded per 47 CFR 1.1307. All further test reductions are shown on pages 49 for WCDMA bands, page 37-49 for WLAN/RFID and pages 85-92 for LTE bands. See the photo in Appendix C for a pictorial of the setups and antenna locations.

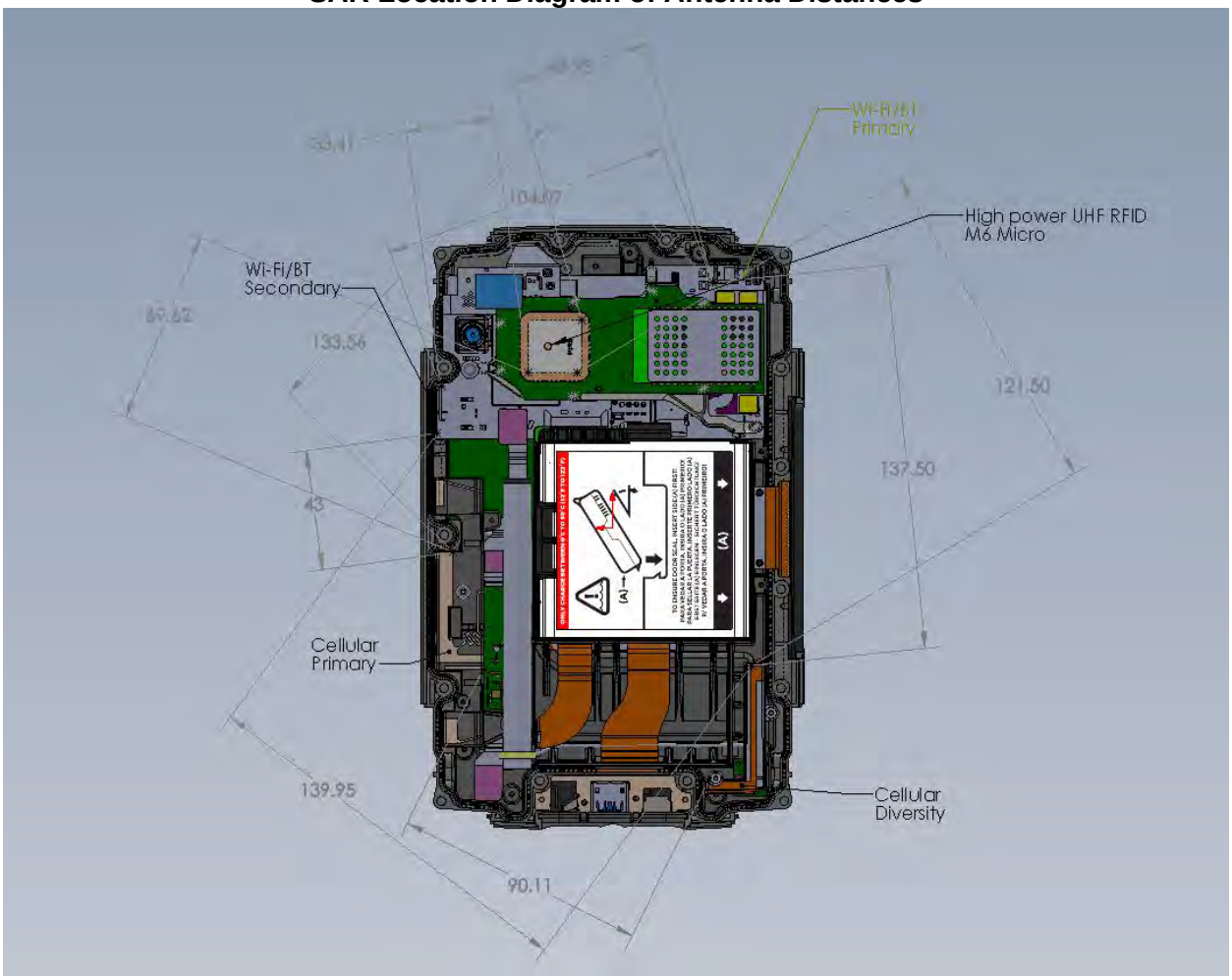
For the bands which utilize power reduction to meet SAR, the highest configuration in each bands and technology was re-tested with a gap. The power sensor triggers at 8 mm ± 1 mm; therefore, the measurements were conducted at 7 mm with the power sensor disabled.

We are applying extremity SAR for the RFID as the use case of the RFID radio requires the user to press a button or tap the screen to initiate a scan. Therefore, the device will be held in the hands away from the body.

The main antenna was evaluated for stand-alone SAR for the two BT options. Please see data sheet summary on page 104.

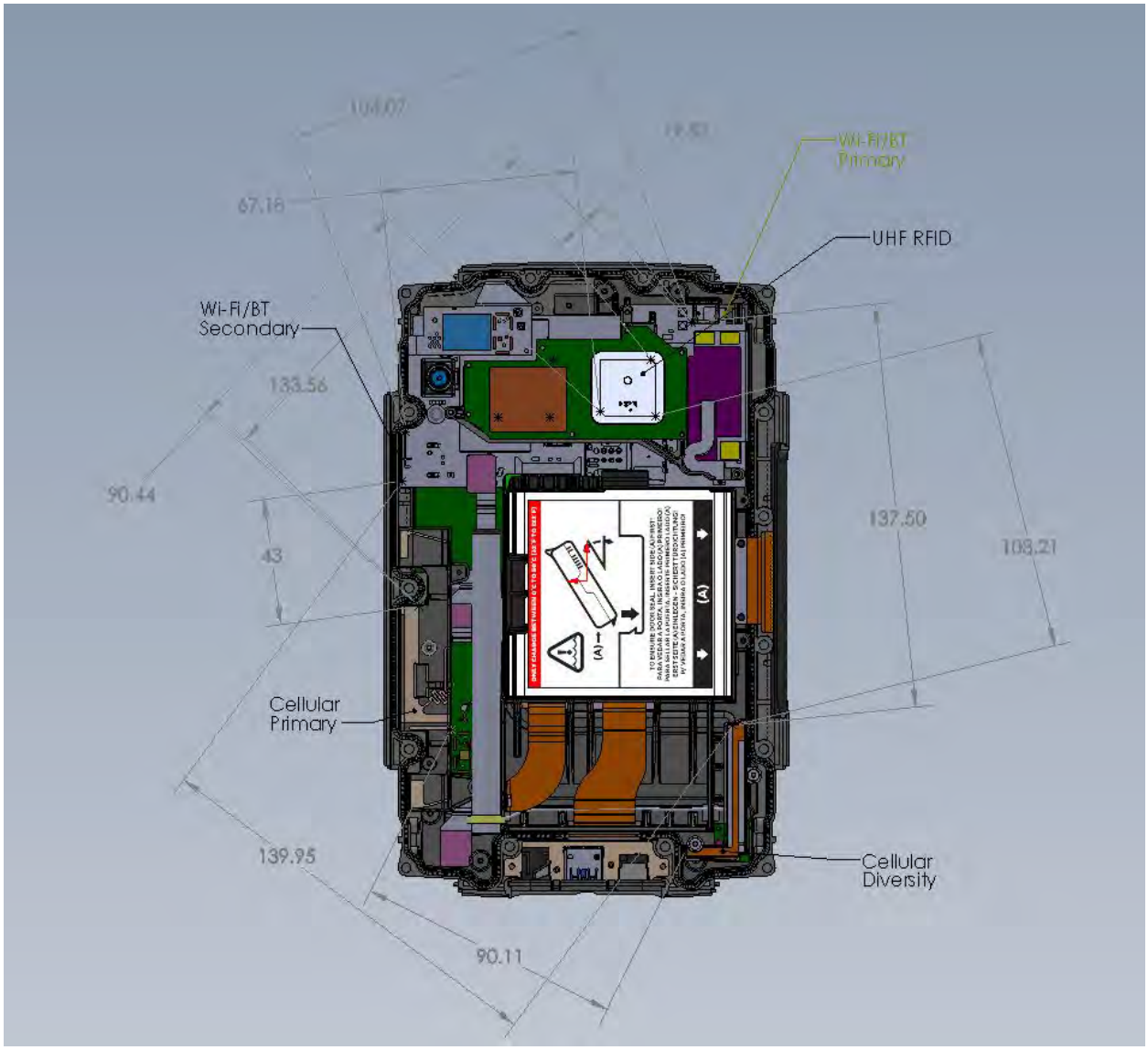
The WCDMA testing was conducted using 12.2 kbps RMC configured in Test Loop Mode 1. The HSPA testing was conducted with HS-DPCCH, E-DPCCH and E-DPDCH all enabled and a 12.2 kbps RMC. FRC was configured according to HS-DPCCH Sub-Test 1 using H-set 1 and QPSK.

Figure 9.1
SAR Location Diagram of Antenna Distances



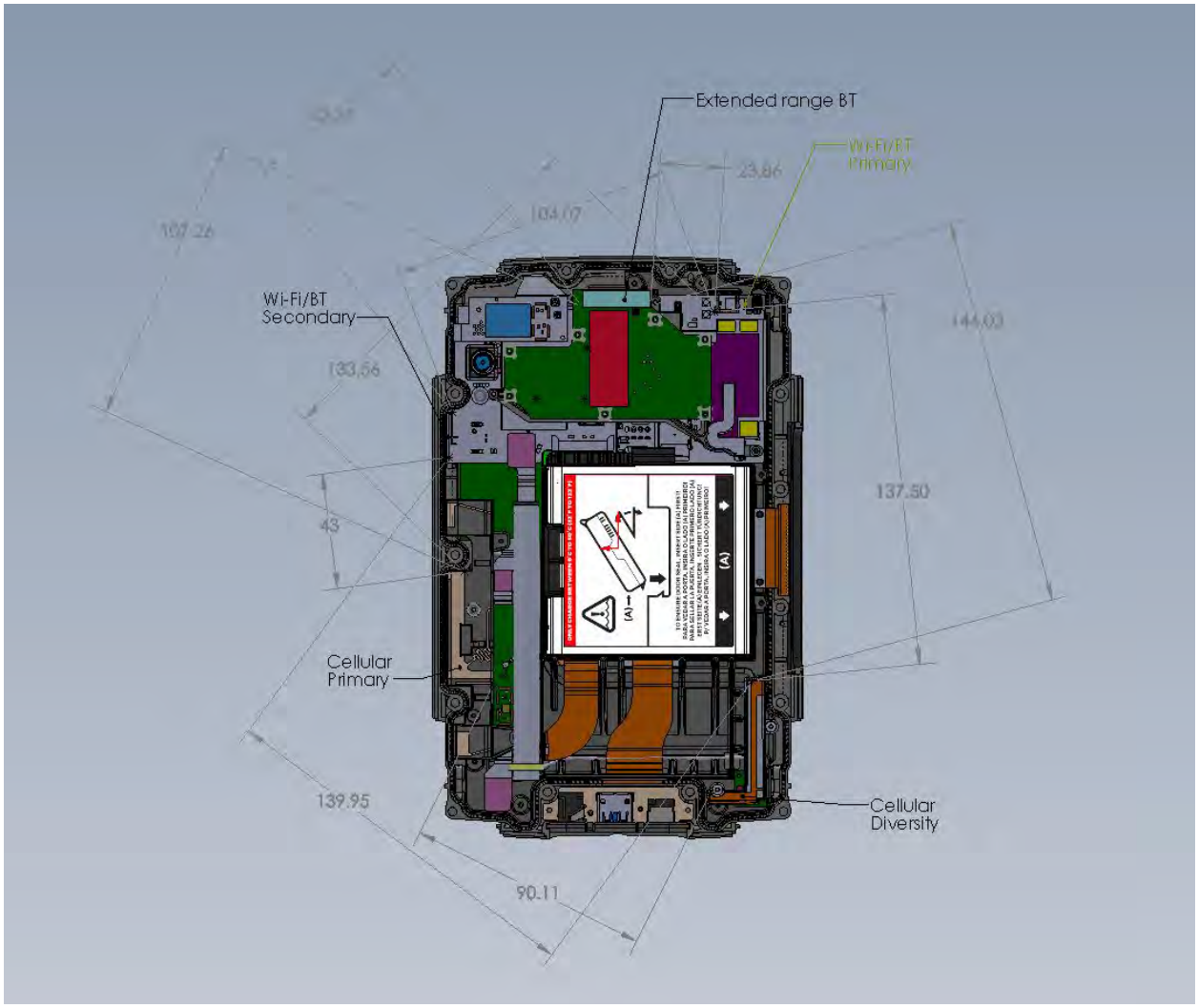
Antenna Distances

Cellular, WiFi and Micro RFID Configuration



Antenna Distances

Cellular, WiFi and Nano RFID Configuration



Antenna Distances

Cellular, WiFi and Extended Range BT Configuration

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.

Full Power Measurements

3GPP Release Version	Mode	Cellular Band [dBm]			Sub-Test (See Table Below)	MPR
		4132	4183	4233		
99	WCDMA	23.63	23.93	23.81	-	-
6	HSDPA	23.56	23.77	23.63	1	0
6		23.50	23.58	23.64	2	0
6		23.21	23.18	23.20	3	0.5
6		23.49	23.36	23.46	4	0.5
6	HSUPA	23.64	23.88	23.81	1	0
6		21.65	21.67	21.94	2	2
6		22.67	22.82	22.90	3	1
6		21.97	21.55	21.77	4	2
6		23.96	23.54	23.75	5	0

3GPP Release Version	Mode	AWS Band [dBm]			Sub-Test (See Table Below)	MPR
		1312	1413	1513		
99	WCDMA	23.55	23.80	23.62	-	-
6	HSDPA	23.89	24.00	23.65	1	0
6		23.74	23.62	23.62	2	0
6		23.32	23.14	23.49	3	0.5
6		23.32	23.17	23.04	4	0.5
6	HSUPA	23.94	23.58	23.58	1	0
6		21.98	21.91	21.68	2	2
6		22.74	22.65	22.57	3	1
6		21.52	21.68	21.53	4	2
6		23.71	24.00	23.62	5	0

3GPP Release Version	Mode	PCS Band [dBm]			Sub-Test (See Table Below)	MPR
		9262	9400	9538		
99	WCDMA	23.51	23.96	23.55	-	-
6	HSDPA	23.78	23.63	23.72	1	0
6		23.92	23.75	23.86	2	0
6		23.20	23.26	23.48	3	0.5
6		23.41	23.44	23.41	4	0.5
6	HSUPA	24.00	23.74	23.68	1	0
6		21.68	21.93	21.51	2	2
6		22.78	22.72	22.74	3	1
6		21.80	21.80	21.56	4	2
6		23.93	23.63	23.81	5	0

Backed Off Power Measurements

3GPP Release Version	Mode	AWS Band [dBm]			Sub-Test (See Table Below)	MPR
		1312	1413	1513		
99	WCDMA	22.80	22.66	22.75	-	-
6	HSDPA	22.77	22.76	22.76	1	0
6		22.55	22.80	22.58	2	0
6		22.07	22.22	22.29	3	0.5
6		22.30	22.01	22.33	4	0.5
6	HSUPA	22.91	22.92	22.53	1	0
6		20.72	20.64	20.81	2	2
6		21.77	21.92	21.59	3	1
6		20.94	20.77	20.97	4	2
6		22.60	22.52	22.83	5	0

3GPP Release Version	Mode	PCS Band [dBm]			Sub-Test (See Table Below)	MPR
		9262	9400	9538		
99	WCDMA	21.50	21.87	21.81	-	-
6	HSDPA	21.78	21.58	21.66	1	0
6		21.66	21.61	21.70	2	0
6		21.45	21.22	21.04	3	0.5
6		21.19	21.18	21.33	4	0.5
6	HSUPA	21.63	21.92	21.85	1	0
6		19.65	19.68	19.97	2	2
6		20.95	20.69	20.53	3	1
6		19.79	19.75	19.86	4	2
6		21.62	21.86	21.79	5	0

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									

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	Primary	17.01	18.00
			7	2442			17.08	18.00
			13	2472			17.02	18.00
			1	2412		Secondary	16.89	18.00
			7	2442			16.96	18.00
			13	2472			16.90	18.00
	802.11g	20	1	2412	6 Mbps	Primary	16.21	18.00
			7	2442			16.26	18.00
			13	2472			16.24	18.00
			1	2412		Secondary	16.31	18.00
			7	2442			16.39	18.00
			13	2472			16.34	18.00
	802.11n	20	1	2412	HT0	Primary	16.44	18.00
			7	2442			16.49	18.00
			13	2472			16.41	18.00
			1	2412		Secondary	16.36	18.00
			7	2442			16.38	18.00
			13	2472			16.30	18.00
	802.11n	40	3	2422	HT0	Primary	16.26	17.50
			7	2442			16.33	17.50
			11	2462			16.27	17.50
			3	2422		Secondary	16.31	17.50
			7	2442			16.40	17.50
			11	2462			16.35	17.50
5.15-5.25 GHz	802.11a	20	36	5180	6 Mbps	Primary	14.12	15.00
			40	5200			14.18	15.00
			44	5220			14.20	15.00
			48	5240			14.14	15.00
			36	5180		Secondary	14.06	15.00
			40	5200			14.09	15.00
			44	5220			14.11	15.00
			48	5240			14.05	15.00
	802.11n	20	36	5180	HT0	Primary	13.92	15.00
			40	5200			13.96	15.00
			44	5220			13.97	15.00
			48	5240			13.90	15.00
			36	5180		Secondary	13.89	15.00
			40	5200			13.95	15.00
			44	5220			13.99	15.00
			48	5240			13.93	15.00
	802.11n	40	40	5200	HT0	Primary	13.26	15.00
			46	5230			13.33	15.00
			40	5200	HT0	Secondary	13.20	15.00
			46	5230			13.29	15.00
	802.11ac	80	42	5210	VHT0	Primary	13.22	15.00
						Secondary	13.26	15.00
5.25-5.35 GHz	802.11a	20	52	5260	6 Mbps	Primary	14.06	15.00
			56	5280			14.10	15.00
			60	5300			14.13	15.00
			64	5320			14.02	15.00
			52	5260		Secondary	14.00	15.00
			56	5280			14.03	15.00
			60	5300			14.06	15.00
			64	5320			14.02	15.00
	802.11n	20	52	5260	HT0	Primary	13.92	15.00
			56	5280			13.96	15.00
			60	5300			13.94	15.00
			64	5320			13.90	15.00
			52	5260		Secondary	13.88	15.00
			56	5280			13.91	15.00
			60	5300			13.97	15.00
			64	5320			13.84	15.00
	802.11n	40	54	5270	HT0	Primary	13.29	15.00
			60	5300			13.31	15.00
			54	5270	HT0	Secondary	13.37	15.00
			60	5300			13.35	15.00
	802.11ac	80	58	5290	VHT0	Primary	13.39	15.00
						Secondary	13.32	15.00

Band	Mode	Bandwidth (MHz)	Channel	Frequency (MHz)	Data Rate	Antenna	Avg Power (dBm)	Tune-up Pwr (dBm)
5600 MHz	802.11a	20	100	5500	6 Mbps	Primary	14.22	15.00
			104	5520			14.30	15.00
			108	5540			14.28	15.00
			112	5560			14.26	15.00
			116	5580			14.32	15.00
			120	5600			14.21	15.00
			124	5620			14.34	15.00
			128	5640			14.18	15.00
			132	5660			14.22	15.00
			136	5680			14.33	15.00
			140	5700			14.20	15.00
			100	5500		Secondary	14.06	15.00
			104	5520			14.15	15.00
			108	5540			14.09	15.00
			112	5560			14.11	15.00
			116	5580			14.19	15.00
			120	5600			14.05	15.00
			124	5620			14.22	15.00
			128	5640			14.02	15.00
			132	5660			14.00	15.00
			136	5680			14.20	15.00
			140	5700			14.06	15.00
	802.11n	20	100	5500	HT0	Primary	13.88	15.00
			104	5520			13.82	15.00
			108	5540			13.81	15.00
			112	5560			13.79	15.00
			116	5580			13.83	15.00
			120	5600			13.77	15.00
			124	5620			13.85	15.00
			128	5640			13.89	15.00
			132	5660			13.92	15.00
			136	5680			13.96	15.00
			140	5700			13.91	15.00
			100	5500		Secondary	13.90	15.00
			104	5520			13.84	15.00
			108	5540			13.87	15.00
			112	5560			13.88	15.00
			116	5580			13.86	15.00
			120	5600			13.95	15.00
			124	5620			13.92	15.00
			128	5640			13.90	15.00
			132	5660			13.98	15.00
			136	5680			13.84	15.00
			140	5700			13.83	15.00
	802.11n	40	102	5510	HT0	Primary	13.22	15.00
			110	5550			13.26	15.00
			118	5590			13.30	15.00
			126	5630			13.24	15.00
			138	5690			13.20	15.00
			102	5510		Secondary	13.19	15.00
			110	5550			13.14	15.00
			118	5590			13.23	15.00
			126	5630			13.11	15.00
			138	5690			13.16	15.00
	802.11ac	80	106	5530	VHT0	Primary	13.23	15.00
			122	5610			13.21	15.00
			138	5690			13.15	15.00
			106	5530		Secondary	13.11	15.00
			122	5610			13.16	15.00
			138	5690			13.19	15.00

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	Primary	14.40	15.00
			153	5765			14.35	15.00
			157	5785			14.45	15.00
			161	5805			14.31	15.00
			165	5825			14.42	15.00
			150	5750		Secondary	14.21	15.00
			153	5765			14.14	15.00
			157	5785			14.28	15.00
			161	5805			14.19	15.00
			165	5825			14.24	15.00
	802.11n	20	150	5750	HT0	Primary	13.97	15.00
			153	5765			13.88	15.00
			157	5785			14.06	15.00
			161	5805			13.95	15.00
			164	5820			14.00	15.00
			150	5750		Secondary	13.87	15.00
			153	5765			13.92	15.00
			157	5785			13.96	15.00
			161	5805			13.91	15.00
			164	5820			13.84	15.00
	802.11n	40	152	5760	HT0	Primary	13.39	15.00
			159	5795			13.43	15.00
			152	5760		Secondary	13.22	15.00
			159	5795			13.26	15.00
	802.11ac	80	155	5775	VHT0	Primary	13.14	15.00
						Secondary	13.16	15.00

Band	Mode	Channel	Frequency (MHz)	Data Rate	Antenna	Avg Power (dBm)	Tune-up Pwr (dBm)
2450 MHz	Bluetooth v4.0	0	2402	Basic Rate GFSK	Chain B	10.31	11.00
		39	2441			10.38	11.00
		78	2480			10.25	11.00
		0	2402	EDR π/4 DQPSK		10.02	11.00
		39	2441			10.09	11.00
		78	2480			10.06	11.00
		0	2402	EDR 8-DPSK		9.19	10.00
		39	2441			9.36	10.00
		78	2480			9.23	10.00
		0	2402	Low Energy GFSK		7.22	8.00
		39	2441			7.29	8.00
		78	2480			7.21	8.00

Band	Mode	Channel	Frequency (MHz)	Data Rate	Antenna	Avg Power (dBm)	Tune-up Pwr (dBm)
2450 MHz	Bluetooth v4.0	0	2402	Basic Rate GFSK	Chain B	16.42	17.00
		39	2441			16.44	17.00
		78	2480			16.39	17.00
		0	2402	EDR π/4 DQPSK		16.27	17.00
		39	2441			16.29	17.00
		78	2480			16.22	17.00
		0	2402	EDR 8-DPSK		16.26	17.00
		39	2441			16.24	17.00
		78	2480			16.28	17.00
		0	2402	Low Energy GFSK		16.23	17.00
		39	2441			16.24	17.00
		78	2480			16.26	17.00

RFID Power Measurements

Band	Mode	Version	Channel	Frequency (MHz)	Antenna	Avg Power (dBm)	Tune-up Pwr (dBm)
900 MHz	FM	Micro	1	917.5	Main	30.11	31.00
			2	920.0		30.19	31.00
			3	922.5		30.08	31.00
		Nano	1	917.4		27.26	28.00
			2	922.2		27.28	28.00
			3	927.2		27.20	28.00
		Transcore	1	902.75		27.33	28.00
			2	914.75		27.39	28.00
			3	927.25		27.34	28.00

Figure 9.1 Test Reduction Table – WiFi 2.4 GHz Primary

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

Reduced[1] – When the reported SAR is ≤ 0.4 W/kg, SAR is not required for the remaining test configuration per KDB 248227 D01 v02r02 section 5.1.1 1) page 9.
Reduced[2] – When the 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[3] – The side is excluded using the formula in 47 CFR 1.1307.

Figure 9.2 Test Reduction Table – WiFi 2.4 GHz Secondary

Mode	Side	Required Channel	Tested/Reduced
802.11b	Back	1 – 2412 MHz	Reduced[1]
		6 – 2437 MHz	Tested
		11 – 2462 MHz	Reduced[1]
	Right	1 – 2412 MHz	Reduced[1]
		6 – 2437 MHz	Tested
		11 – 2462 MHz	Reduced[1]
	Remaining Sides		Reduced[3]
802.11g	Back	1 – 2412 MHz	Reduced[2]
		6 – 2437 MHz	Reduced[2]
		11 – 2462 MHz	Reduced[2]
	Right	1 – 2412 MHz	Reduced[2]
		6 – 2437 MHz	Reduced[2]
		11 – 2462 MHz	Reduced[2]
	Remaining Sides		Reduced[3]
802.11n	Back	1 – 2412 MHz	Reduced[2]
		6 – 2437 MHz	Reduced[2]
		11 – 2462 MHz	Reduced[2]
	Right	1 – 2412 MHz	Reduced[2]
		6 – 2437 MHz	Reduced[2]
		11 – 2462 MHz	Reduced[2]
	Remaining Sides		Reduced[3]

Reduced[1] – When the reported SAR is ≤ 0.4 W/kg, SAR is not required for the remaining test configuration per KDB 248227 D01 v02r02 section 5.1.1 1) page 9.
Reduced[2] – When the 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[3] – The side is excluded using the formula in 47 CFR 1.1307.

Figure 9.3 Test Reduction Table – WiFi 5.1 GHz Primary

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]
	Left	36 – 5180 MHz	Reduced[1]
		40 – 5200 MHz	Reduced[1]
		44 – 5220 MHz	Reduced[1]
		48 – 5240 MHz	Reduced[1]
	Remaining Sides		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]
	Left	36 – 5180 MHz	Reduced[1]
		40 – 5200 MHz	Reduced[1]
		44 – 5220 MHz	Reduced[1]
		48 – 5240 MHz	Reduced[1]
	Remaining Sides		Reduced[2]
802.11ac 5150 MHz	Back	42 – 5210 MHz	Reduced[1]
	Top	42 – 5210 MHz	Reduced[1]
	Left	42 – 5210 MHz	Reduced[1]
	Remaining Sides		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[3] – The side is excluded using the formula in 47 CFR 1.1307.

Figure 9.4 Test Reduction Table – WiFi 5.1 GHz Secondary

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]
	Remaining Sides		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]
	Remaining Sides		Reduced[2]
802.11ac 5150 MHz	Back	42 – 5210 MHz	Reduced[1]
	Right	42 – 5210 MHz	Reduced[1]
	Remaining Sides		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[3] – The side is excluded using the formula in 47 CFR 1.1307.

Figure 9.5 Test Reduction Table – WiFi 5.2 GHz Primary

Mode	Side	Required Channel	Tested/Reduced
802.11a 5250 MHz	Back	52 – 5260 MHz	Reduced[2]
		56 – 5280 MHz	Tested
		60 – 5300 MHz	Tested
		64 – 5320 MHz	Reduced[2]
	Top	52 – 5260 MHz	Reduced[2]
		56 – 5280 MHz	Tested
		60 – 5300 MHz	Tested
		64 – 5320 MHz	Reduced[2]
	Left	52 – 5260 MHz	Reduced[2]
		56 – 5280 MHz	Tested
		60 – 5300 MHz	Tested
		64 – 5320 MHz	Reduced[2]
	Remaining Sides		Reduced[3]
802.11n 5250 MHz	Back	52 – 5260 MHz	Reduced[2]
		56 – 5280 MHz	Reduced[2]
		60 – 5300 MHz	Reduced[2]
		64 – 5320 MHz	Reduced[2]
	Top	52 – 5260 MHz	Reduced[2]
		56 – 5280 MHz	Reduced[2]
		60 – 5300 MHz	Reduced[2]
		64 – 5320 MHz	Reduced[2]
	Left	52 – 5260 MHz	Reduced[2]
		56 – 5280 MHz	Reduced[2]
		60 – 5300 MHz	Reduced[2]
		64 – 5320 MHz	Reduced[2]
	Remaining Sides		Reduced[3]
802.11ac 5250 MHz	Back	58 – 5290 MHz	Reduced[2]
	Top	58 – 5290 MHz	Reduced[2]
	Left	58 – 5290 MHz	Reduced[2]
	Remaining Sides		Reduced[3]

Reduced[1] – When the reported SAR is ≤ 0.4 W/kg, SAR is not required for the remaining test configuration per KDB 248227 D01 v02r02 section 5.1.1 1) page 9.
Reduced[2] – When the reported SAR is >0.4 W/kg, test the next highest configuration until the SAR value is ≤ 1.2 W/kg per KDB 248227 D01 v02r02 section 5.1.1 2) page 9.
Reduced[3] – The side is excluded using the formula in 47 CFR 1.1307.

Figure 9.6 Test Reduction Table – WiFi 5.2 GHz Secondary

Mode	Side	Required Channel	Tested/Reduced
802.11a 5250 MHz	Back	52 – 5260 MHz	Reduced[1]
		56 – 5280 MHz	Reduced[1]
		60 – 5300 MHz	Tested
		64 – 5320 MHz	Reduced[1]
	Right	52 – 5260 MHz	Reduced[2]
		56 – 5280 MHz	Reduced[2]
		60 – 5300 MHz	Tested
		64 – 5320 MHz	Reduced[2]
	Remaining Sides		Reduced[3]
802.11n 5250 MHz	Back	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[2]
		56 – 5280 MHz	Reduced[2]
		60 – 5300 MHz	Reduced[2]
		64 – 5320 MHz	Reduced[2]
	Remaining Sides		Reduced[3]
	Back	58 – 5290 MHz	Reduced[1]
	Right	58 – 5290 MHz	Reduced[2]
	Remaining Sides		Reduced[3]

Reduced[1] – When the reported SAR is ≤ 0.4 W/kg, SAR is not required for the remaining test configuration per KDB 248227 D01 v02r02 section 5.1.1 1) page 9.
Reduced[2] – When the reported SAR is >0.4 W/kg, test the next highest configuration until the SAR value is ≤ 1.2 W/kg per KDB 248227 D01 v02r02 section 5.1.1 2) page 9.
Reduced[3] – The side is excluded using the formula in 47 CFR 1.1307.

Figure 9.7 Test Reduction Table – WiFi 5.6 GHz Primary

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[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]
	Left	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]
	Remaining Sides		Reduced[3]

Reduced[1] – When the reported SAR is ≤ 0.4 W/kg, SAR is not required for the remaining test configuration per KDB 248227 D01 v02r02 section 5.1.1 1) page 9.
Reduced[2] – When the reported SAR is >0.4 W/kg, test the next highest configuration until the SAR value is ≤ 1.2 W/kg per KDB 248227 D01 v02r02 section 5.1.1 2) page 9.
Reduced[3] – The side is excluded using the formula in 47 CFR 1.1307.

Figure 9.8 Test Reduction Table – WiFi 5.6 GHz Primary

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[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]
	Left	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]
	Remaining Sides		Reduced[3]
802.11ac 5600 MHz	Back	106 – 5530 MHz	Reduced[2]
		122 – 5610 MHz	Reduced[2]
		138 – 5690 MHz	Reduced[2]
	Top	106 – 5530 MHz	Reduced[2]
		122 – 5610 MHz	Reduced[2]
		138 – 5690 MHz	Reduced[2]
	Left	106 – 5530 MHz	Reduced[2]
		122 – 5610 MHz	Reduced[2]
		138 – 5690 MHz	Reduced[2]
	Remaining Sides		Reduced[3]

Reduced[1] – When the reported SAR is ≤ 0.4 W/kg, SAR is not required for the remaining test configuration per KDB 248227 D01 v02r02 section 5.1.1 1) page 9.
Reduced[2] – When the reported SAR is >0.4 W/kg, test the next highest configuration until the SAR value is ≤ 1.2 W/kg per KDB 248227 D01 v02r02 section 5.1.1 2) page 9.
Reduced[3] – The side is excluded using the formula in 47 CFR 1.1307.

Figure 9.9 Test Reduction Table – WiFi 5.6 GHz Secondary

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

Reduced[1] – When the reported SAR is ≤ 0.4 W/kg, SAR is not required for the remaining test configuration per KDB 248227 D01 v02r02 section 5.1.1 1) page 9.
Reduced[2] – When the reported SAR is >0.4 W/kg, test the next highest configuration until the SAR value is ≤ 1.2 W/kg per KDB 248227 D01 v02r02 section 5.1.1 2) page 9.
Reduced[3] – The side is excluded using the formula in 47 CFR 1.1307.

Figure 9.10 Test Reduction Table – WiFi 5.6 GHz Secondary

Mode	Side	Required Channel	Tested/Reduced
802.11n 5600 MHz	Back	100 – 5500 MHz	Reduced[1]
		104 – 5520 MHz	Reduced[1]
		108 – 5540 MHz	Reduced[1]
		112 – 5560 MHz	Reduced[1]
		116 – 5580 MHz	Reduced[1]
		120 – 5600 MHz	Reduced[1]
		124 – 5620 MHz	Reduced[1]
		128 – 5640 MHz	Reduced[1]
		132 – 5660 MHz	Reduced[1]
		136 – 5680 MHz	Reduced[1]
		140 – 5700 MHz	Reduced[1]
	Right	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]
	Remaining Sides		Reduced[3]
802.11ac 5600 MHz	Back	106 – 5530 MHz	Reduced[1]
		122 – 5610 MHz	Reduced[1]
		138 – 5690 MHz	Reduced[1]
	Right	106 – 5530 MHz	Reduced[2]
		122 – 5610 MHz	Reduced[2]
		138 – 5690 MHz	Reduced[2]
	Remaining Sides		Reduced[3]

Reduced[1] – When the reported SAR is ≤ 0.4 W/kg, SAR is not required for the remaining test configuration per KDB 248227 D01 v02r02 section 5.1.1 1) page 9.
Reduced[2] – When the reported SAR is >0.4 W/kg, test the next highest configuration until the SAR value is ≤ 1.2 W/kg per KDB 248227 D01 v02r02 section 5.1.1 2) page 9.
Reduced[3] – The side is excluded using the formula in 47 CFR 1.1307.

Figure 9.11 Test Reduction Table – WiFi 5.8 GHz Primary

Mode	Side	Required Channel	Tested/Reduced
802.11a 5800 MHz	Back	149 – 5745 MHz	Reduced[2]
		153 – 5765 MHz	Reduced[2]
		157 – 5785 MHz	Tested
		161 – 5805 MHz	Reduced[2]
		165 – 5825 MHz	Tested
	Top	149 – 5745 MHz	Reduced[2]
		153 – 5765 MHz	Reduced[2]
		157 – 5785 MHz	Tested
		161 – 5805 MHz	Reduced[2]
		165 – 5825 MHz	Tested
	Left	149 – 5745 MHz	Reduced[2]
		153 – 5765 MHz	Reduced[2]
		157 – 5785 MHz	Tested
		161 – 5805 MHz	Reduced[2]
		165 – 5825 MHz	Tested
	Remaining Sides		Reduced[3]
802.11n 5800 MHz	Back	149 – 5745 MHz	Reduced[2]
		153 – 5765 MHz	Reduced[2]
		157 – 5785 MHz	Reduced[2]
		161 – 5805 MHz	Reduced[2]
		165 – 5825 MHz	Reduced[2]
	Top	149 – 5745 MHz	Reduced[2]
		153 – 5765 MHz	Reduced[2]
		157 – 5785 MHz	Reduced[2]
		161 – 5805 MHz	Reduced[2]
		165 – 5825 MHz	Reduced[2]
	Left	149 – 5745 MHz	Reduced[2]
		153 – 5765 MHz	Reduced[2]
		157 – 5785 MHz	Reduced[2]
		161 – 5805 MHz	Reduced[2]
		165 – 5825 MHz	Reduced[2]
	Remaining Sides		Reduced[3]
802.11ac 5800 MHz	Back	155 – 5775 MHz	Reduced[2]
	Top	155 – 5775 MHz	Reduced[2]
	Left	155 – 5775 MHz	Reduced[2]
	Remaining Sides		Reduced[3]

Reduced[1] – When the reported SAR is ≤ 0.4 W/kg, SAR is not required for the remaining test configuration per KDB 248227 D01 v02r02 section 5.1.1 1) page 9.
Reduced[2] – When the reported SAR is >0.4 W/kg, test the next highest configuration until the SAR value is ≤ 1.2 W/kg per KDB 248227 D01 v02r02 section 5.1.1 2) page 9.
Reduced[3] – The side is excluded using the formula in 47 CFR 1.1307.

Figure 9.12 Test Reduction Table – WiFi 5.8 GHz Secondary

Mode	Side	Required Channel	Tested/Reduced
802.11a 5800 MHz	Back	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[1]
		153 – 5765 MHz	Reduced[1]
		157 – 5785 MHz	Tested
		161 – 5805 MHz	Reduced[1]
		165 – 5825 MHz	Reduced[1]
	Remaining Sides		Reduced[3]
802.11n 5800 MHz	Back	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[1]
		153 – 5765 MHz	Reduced[1]
		157 – 5785 MHz	Reduced[1]
		161 – 5805 MHz	Reduced[1]
		165 – 5825 MHz	Reduced[1]
	Remaining Sides		Reduced[3]
802.11ac 5800 MHz	Back	155 – 5775 MHz	Reduced[1]
	Right	155 – 5775 MHz	Reduced[1]
	Remaining Sides		Reduced[3]

Reduced[1] – When the reported SAR is ≤ 0.4 W/kg, SAR is not required for the remaining test configuration per KDB 248227 D01 v02r02 section 5.1.1 1) page 9.
Reduced[2] – When the reported SAR is >0.4 W/kg, test the next highest configuration until the SAR value is ≤ 1.2 W/kg per KDB 248227 D01 v02r02 section 5.1.1 2) page 9.
Reduced[3] – The side is excluded using the formula in 47 CFR 1.1307.

Figure 9.13 Test Reduction Table – 3G 850 MHz

Band/ Frequency (MHz)	Technology	Side	Required Channel	Tested/ Reduced
Band 5 824-849 MHz	WCDMA	Back	4132	Reduced[1]
			4183	Tested
			4233	Reduced[1]
		Right	4132	Tested
			4183	Tested
			4233	Tested
		Remaining Sides		Reduced[2]
Band 4 1710-1755 MHz		Back	1312	Reduced[1]
			1413	Tested
			1513	Reduced[1]
		Right	1312	Tested
			1413	Tested
			1513	Tested
		Remaining Sides		Reduced[2]
Band 2 1850-1910 MHz		Back	9262	Reduced[1]
			9400	Tested
			9538	Reduced[1]
		Right	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 v07 section 4.3.3 page 14.
Reduced[2] – The side is excluded using the formula in 47 CFR 1.1307.

Figure 9.14 Test Reduction Table – RFID Extremity

Module	Technology	Side	Required Frequency	Tested/ Reduced
Micro	FHSS	Back	917.5	Reduced[1]
			920.0	Tested
			922.5	Reduced[1]
		Right	917.5	Reduced[1]
			920.0	Tested
			922.5	Reduced[1]
		Top	917.5	Reduced[1]
			920.0	Tested
			922.5	Reduced[1]
		Remaining Sides		Reduced[2]
Nano		Back	917.4	Reduced[1]
			922.2	Tested
			927.2	Reduced[1]
		Left	917.4	Reduced[1]
			922.2	Tested
			927.2	Reduced[1]
		Top	917.4	Reduced[1]
			922.2	Tested
			927.2	Reduced[1]
		Remaining Sides		Reduced[2]
Transcore		Back	902.75	Reduced[1]
			914.75	Tested
			927.25	Reduced[1]
		Right	902.75	Reduced[1]
			914.75	Tested
			927.25	Reduced[1]
		Top	902.75	Reduced[1]
			914.75	Tested
			927.25	Reduced[1]
		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 v07 section 4.3.3 page 14.
Reduced[2] – The side is excluded using the formula in 47 CFR 1.1307.

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 MHz
4	1.4, 3, 5, 10, 15, 20	1710-1755 MHz
5	1.4, 3, 5, 10	824-849 MHz
7	5, 10, 15, 20	2500-2570 MHz
12	1.4, 3, 5, 10	699-716 MHz
13	5, 10	777-787 MHz
25	1.4, 3, 5, 10, 15, 20	1850-1915 MHz
26	1.4, 3, 5, 10, 15	814-849 MHz
41	5, 10, 15, 20	2496-2690 MHz

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.

Table 9.1.1 LTE Full Power Measurements

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
2	1.4 MHz	1	0	18607	1850.7	23.3	22.8
				18900	1880.0	23.4	22.9
				19193	1909.3	23.8	22.8
			3	18607	1850.7	23.6	22.2
				18900	1880.0	23.5	22.6
				19193	1909.3	23.9	22.6
			5	18607	1850.7	23.7	22.4
				18900	1880.0	23.7	22.5
				19193	1909.3	23.2	22.4
		3	0	18607	1850.7	23.3	22.7
				18900	1880.0	23.5	22.5
				19193	1909.3	23.7	22.6
			1	18607	1850.7	23.2	22.8
				18900	1880.0	23.2	22.7
				19193	1909.3	23.6	22.8
			3	18607	1850.7	23.6	22.7
				18900	1880.0	23.2	22.8
				19193	1909.3	23.8	22.8
		6	0	18607	1850.7	22.4	21.8
				18900	1880.0	22.5	21.7
				19193	1909.3	22.5	21.4
	3 MHz	1	0	18615	1851.5	23.7	22.3
				18900	1880.0	23.2	22.2
				19185	1908.5	23.6	22.9
			7	18615	1851.5	23.6	22.9
				18900	1880.0	23.3	22.3
				19185	1908.5	23.7	22.7
			14	18615	1851.5	23.7	22.8
				18900	1880.0	23.4	22.3
				19185	1908.5	23.8	22.3
		8	0	18615	1851.5	22.6	21.8
				18900	1880.0	22.6	21.7
				19185	1908.5	22.5	21.4
			7	18615	1851.5	22.5	21.5
				18900	1880.0	22.6	21.3
				19185	1908.5	22.3	21.2
			14	18615	1851.5	22.5	21.9
				18900	1880.0	22.5	21.8
				19185	1908.5	22.8	21.6
		15	0	18615	1851.5	22.7	21.6
				18900	1880.0	22.8	21.8
				19185	1908.5	22.2	21.8

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
2	5 MHz	1	0	18625	1852.5	23.5	22.9
				18900	1880.0	23.4	22.9
				19175	1907.5	23.4	22.3
			12	18625	1852.5	23.6	22.6
				18900	1880.0	23.6	22.2
				19175	1907.5	23.5	22.5
			24	18625	1852.5	23.9	22.8
				18900	1880.0	23.6	22.7
				19175	1907.5	23.9	22.3
		12	0	18625	1852.5	22.8	21.6
				18900	1880.0	22.3	21.5
				19175	1907.5	22.3	21.8
			6	18625	1852.5	22.3	21.7
				18900	1880.0	22.6	21.5
				19175	1907.5	22.6	21.4
			13	18625	1852.5	22.6	21.5
				18900	1880.0	22.8	21.7
				19175	1907.5	22.5	21.5
		25	0	18625	1852.5	22.4	21.7
				18900	1880.0	22.8	21.2
				19175	1907.5	22.8	21.5
	10 MHz	1	0	18650	1855.0	23.5	22.5
				18900	1880.0	23.9	22.9
				19150	1905.0	23.5	22.8
			24	18650	1855.0	23.7	22.8
				18900	1880.0	23.4	22.6
				19150	1905.0	23.8	22.9
			49	18650	1855.0	23.7	22.5
				18900	1880.0	23.8	22.9
				19150	1905.0	23.5	22.3
		25	0	18650	1855.0	22.6	21.4
				18900	1880.0	22.6	21.6
				19150	1905.0	22.8	21.4
			13	18650	1855.0	22.7	21.7
				18900	1880.0	22.6	21.5
				19150	1905.0	22.3	21.7
			25	18650	1855.0	22.8	21.5
				18900	1880.0	22.5	21.7
				19150	1905.0	22.2	21.5
		50	0	18650	1855.0	22.5	21.3
				18900	1880.0	22.7	21.2
				19150	1905.0	22.6	21.3

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
2	15 MHz	1	0	18675	1857.5	23.4	22.7
				18900	1880.0	23.6	22.4
				19125	1902.5	23.4	22.5
			37	18675	1857.5	23.3	22.5
				18900	1880.0	23.7	22.5
				19125	1902.5	23.3	22.4
			74	18675	1857.5	23.5	22.5
				18900	1880.0	23.6	22.2
				19125	1902.5	23.4	22.6
		36	0	18675	1857.5	22.8	21.8
				18900	1880.0	22.8	21.5
				19125	1902.5	22.4	21.7
			19	18675	1857.5	22.4	21.3
				18900	1880.0	22.4	21.5
				19125	1902.5	22.2	21.6
			39	18675	1857.5	22.6	21.9
				18900	1880.0	22.9	21.9
				19125	1902.5	22.4	21.5
		75	0	18675	1857.5	22.4	21.5
				18900	1880.0	22.3	21.5
				19125	1902.5	22.6	21.5
	20 MHz	1	0	18700	1860.0	23.2	22.7
				18900	1880.0	23.2	22.8
				19100	1900.0	23.5	22.8
			49	18700	1860.0	23.7	22.8
				18900	1880.0	23.5	22.9
				19100	1900.0	23.6	22.9
			99	18700	1860.0	23.2	22.6
				18900	1880.0	23.5	22.6
				19100	1900.0	23.8	22.8
		50	0	18700	1860.0	22.5	21.7
				18900	1880.0	22.3	21.8
				19100	1900.0	22.8	21.3
			24	18700	1860.0	22.4	21.2
				18900	1880.0	22.9	21.9
				19100	1900.0	22.6	21.9
			50	18700	1860.0	22.7	21.8
				18900	1880.0	22.4	21.2
				19100	1900.0	22.2	21.9
		100	0	18700	1860.0	22.3	21.7
				18900	1880.0	22.5	21.3
				19100	1900.0	22.8	21.8

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
4	1.4 MHz	1	0	19957	1710.7	23.2	22.5
				20175	1732.5	23.7	22.8
				20393	1754.3	23.7	22.5
			3	19957	1710.7	23.6	22.6
				20175	1732.5	23.9	22.8
				20393	1754.3	23.6	22.5
			5	19957	1710.7	23.9	22.4
				20175	1732.5	23.6	22.5
				20393	1754.3	23.7	22.5
		3	0	19957	1710.7	23.8	22.9
				20175	1732.5	23.5	22.3
				20393	1754.3	23.4	22.8
			1	19957	1710.7	23.7	22.7
				20175	1732.5	23.9	22.8
				20393	1754.3	23.8	22.9
			3	19957	1710.7	23.2	22.7
				20175	1732.5	23.3	22.5
				20393	1754.3	23.5	22.4
		6	0	19957	1710.7	22.8	21.8
				20175	1732.5	22.4	21.5
				20393	1754.3	22.9	21.7
	3 MHz	1	0	19965	1711.5	23.7	22.5
				20175	1732.5	23.3	22.7
				20385	1753.5	23.5	22.8
			7	19965	1711.5	23.8	22.4
				20175	1732.5	23.7	22.7
				20385	1753.5	23.7	22.6
			14	19965	1711.5	23.6	22.7
				20175	1732.5	23.8	22.7
				20385	1753.5	23.8	22.7
		8	0	19965	1711.5	22.3	21.6
				20175	1732.5	22.8	21.9
				20385	1753.5	22.3	21.5
			7	19965	1711.5	22.4	21.7
				20175	1732.5	22.5	21.3
				20385	1753.5	22.3	21.6
			14	19965	1711.5	22.4	21.6
				20175	1732.5	22.4	21.7
				20385	1753.5	22.9	21.6
		15	0	19965	1711.5	22.2	21.8
				20175	1732.5	22.9	21.2
				20385	1753.5	22.7	21.5

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
4	5 MHz	1	0	19975	1712.5	23.3	22.3
				20175	1732.5	23.6	22.2
				20375	1752.5	23.7	22.9
			12	19975	1712.5	23.8	22.4
				20175	1732.5	23.5	22.3
				20375	1752.5	23.2	22.8
			24	19975	1712.5	23.8	22.8
				20175	1732.5	23.7	22.3
				20375	1752.5	23.8	22.6
		12	0	19975	1712.5	22.8	21.7
				20175	1732.5	22.5	21.8
				20375	1752.5	22.5	21.7
			6	19975	1712.5	22.6	21.3
				20175	1732.5	22.5	21.8
				20375	1752.5	22.3	21.7
			13	19975	1712.5	22.8	21.6
				20175	1732.5	22.2	21.8
				20375	1752.5	22.3	21.7
		25	0	19975	1712.5	22.7	21.6
				20175	1732.5	22.5	21.3
				20375	1752.5	22.8	21.7
	10 MHz	1	0	20000	1715.0	23.3	22.2
				20175	1732.5	23.7	22.8
				20350	1750.0	23.4	22.7
			24	20000	1715.0	23.5	22.6
				20175	1732.5	23.4	22.2
				20350	1750.0	23.8	22.8
			49	20000	1715.0	23.5	22.9
				20175	1732.5	23.6	22.6
				20350	1750.0	23.3	22.7
		25	0	20000	1715.0	22.6	21.9
				20175	1732.5	22.5	21.3
				20350	1750.0	22.8	21.7
			13	20000	1715.0	22.9	21.9
				20175	1732.5	22.7	21.3
				20350	1750.0	22.4	21.2
			25	20000	1715.0	22.4	21.6
				20175	1732.5	22.5	21.8
				20350	1750.0	22.3	21.4
		50	0	20000	1715.0	22.5	21.3
				20175	1732.5	22.9	21.3
				20350	1750.0	22.5	21.3

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
4	15 MHz	1	0	20025	1717.5	23.7	22.4
				20175	1732.5	23.5	22.6
				20325	1747.5	23.6	22.8
			37	20025	1717.5	23.6	22.9
				20175	1732.5	23.8	22.3
				20325	1747.5	23.3	22.2
			74	20025	1717.5	23.3	22.4
				20175	1732.5	23.6	22.3
				20325	1747.5	23.6	22.8
		36	0	20025	1717.5	22.6	21.7
				20175	1732.5	22.6	21.8
				20325	1747.5	22.9	21.7
			19	20025	1717.5	22.5	21.3
				20175	1732.5	22.3	21.7
				20325	1747.5	22.8	21.7
			39	20025	1717.5	22.4	21.3
				20175	1732.5	22.8	21.5
				20325	1747.5	22.4	21.4
		75	0	20025	1717.5	22.7	21.4
				20175	1732.5	22.8	21.7
				20325	1747.5	22.7	21.5
	20 MHz	1	0	20050	1720.0	23.3	22.8
				20175	1732.5	23.8	22.7
				20300	1745.0	23.6	22.2
			49	20050	1720.0	23.3	22.7
				20175	1732.5	23.8	22.5
				20300	1745.0	23.6	22.7
			99	20050	1720.0	23.9	22.7
				20175	1732.5	23.9	22.8
				20300	1745.0	23.5	22.8
		50	0	20050	1720.0	22.6	21.7
				20175	1732.5	22.3	21.4
				20300	1745.0	22.2	21.9
			24	20050	1720.0	22.6	21.4
				20175	1732.5	22.2	21.9
				20300	1745.0	22.7	21.5
			50	20050	1720.0	22.6	21.4
				20175	1732.5	22.6	21.8
				20300	1745.0	22.5	21.7
		100	0	20050	1720.0	22.3	21.5
				20175	1732.5	22.6	21.3
				20300	1745.0	22.7	21.9

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
5	1.4 MHz	1	0	20407	824.7	23.6	22.4
				20525	836.5	23.4	22.3
				20643	848.3	23.8	22.2
			3	20407	824.7	23.3	22.6
				20525	836.5	23.5	22.4
				20643	848.3	23.3	22.7
			5	20407	824.7	23.8	22.9
				20525	836.5	23.6	22.7
				20643	848.3	23.4	22.6
		3	0	20407	824.7	23.4	22.8
				20525	836.5	23.9	22.6
				20643	848.3	23.5	22.8
			1	20407	824.7	23.5	22.6
				20525	836.5	23.7	22.3
				20643	848.3	23.6	22.4
			3	20407	824.7	23.7	22.2
				20525	836.5	23.7	22.5
				20643	848.3	23.7	22.9
		6	0	20407	824.7	22.7	21.6
				20525	836.5	22.3	21.6
				20643	848.3	22.5	21.3
	3 MHz	1	0	20415	825.5	23.8	22.6
				20525	836.5	23.9	22.3
				20635	847.5	23.8	22.9
			7	20415	825.5	23.5	22.5
				20525	836.5	23.6	22.7
				20635	847.5	23.5	22.6
			14	20415	825.5	23.4	22.6
				20525	836.5	23.6	22.9
				20635	847.5	23.4	22.5
		8	0	20415	825.5	22.6	21.4
				20525	836.5	22.3	21.3
				20635	847.5	22.3	21.7
			7	20415	825.5	22.5	21.5
				20525	836.5	22.6	21.7
				20635	847.5	22.8	21.8
			14	20415	825.5	22.3	21.6
				20525	836.5	22.4	21.8
				20635	847.5	22.3	21.6
		15	0	20415	825.5	22.3	21.4
				20525	836.5	22.8	21.4
				20635	847.5	22.6	21.5

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
5	5 MHz	1	0	20425	826.5	23.6	22.5
				20525	836.5	23.7	22.5
				20625	846.5	23.8	22.5
			12	20425	826.5	23.3	22.5
				20525	836.5	23.8	22.7
				20625	846.5	23.3	22.7
			24	20425	826.5	23.2	22.2
				20525	836.5	23.3	22.5
				20625	846.5	23.5	22.2
		12	0	20425	826.5	22.6	21.5
				20525	836.5	22.7	21.3
				20625	846.5	22.5	21.3
			6	20425	826.5	22.4	21.5
				20525	836.5	22.9	21.5
				20625	846.5	22.8	21.8
			13	20425	826.5	22.7	21.7
				20525	836.5	22.7	21.3
				20625	846.5	22.4	21.8
		25	0	20425	826.5	22.7	21.9
				20525	836.5	22.6	21.5
				20625	846.5	22.5	21.6
	10 MHz	1	0	20450	829.0	23.8	22.4
				20525	836.5	23.2	22.4
				20600	844.0	23.2	22.5
			24	20450	829.0	23.6	22.2
				20525	836.5	23.6	22.5
				20600	844.0	23.3	22.8
			49	20450	829.0	23.4	22.4
				20525	836.5	23.5	22.3
				20600	844.0	23.7	22.6
		25	0	20450	829.0	22.6	21.3
				20525	836.5	22.4	21.4
				20600	844.0	22.4	21.5
			13	20450	829.0	22.5	21.7
				20525	836.5	22.5	21.8
				20600	844.0	22.4	21.3
			25	20450	829.0	22.5	21.5
				20525	836.5	22.8	21.4
				20600	844.0	22.6	21.2
		50	0	20450	829.0	22.3	21.2
				20525	836.5	22.6	21.4
				20600	844.0	22.8	21.9

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
7	5 MHz	1	0	20775	2502.5	22.9	21.4
				21100	2535.0	22.8	21.7
				21425	2567.5	22.6	21.8
			12	20775	2502.5	23.0	22.0
				21100	2535.0	22.7	21.4
				21425	2567.5	22.7	21.5
			24	20775	2502.5	22.9	21.4
				21100	2535.0	22.3	21.5
				21425	2567.5	22.4	21.4
		12	0	20775	2502.5	21.5	20.6
				21100	2535.0	21.5	20.7
				21425	2567.5	21.3	20.3
			6	20775	2502.5	21.8	20.6
				21100	2535.0	21.4	20.5
				21425	2567.5	21.4	20.9
			13	20775	2502.5	21.5	20.8
				21100	2535.0	21.8	20.6
				21425	2567.5	21.6	20.9
		25	0	20775	2502.5	21.4	20.6
				21100	2535.0	21.4	20.8
				21425	2567.5	21.9	20.7
	10 MHz	1	0	20800	2505.0	22.5	21.8
				21100	2535.0	22.7	21.8
				21400	2565.0	22.4	21.7
			24	20800	2505.0	22.4	21.7
				21100	2535.0	22.6	21.7
				21400	2565.0	22.5	21.5
			49	20800	2505.0	22.8	21.5
				21100	2535.0	22.4	22.0
				21400	2565.0	22.8	21.5
		25	0	20800	2505.0	21.7	20.5
				21100	2535.0	21.4	20.8
				21400	2565.0	21.4	20.8
			13	20800	2505.0	21.5	20.8
				21100	2535.0	21.7	20.4
				21400	2565.0	22.0	20.4
			25	20800	2505.0	21.6	20.3
				21100	2535.0	21.9	20.3
				21400	2565.0	21.9	20.8
		50	0	20800	2505.0	22.0	20.4
				21100	2535.0	21.3	20.7
				21400	2565.0	21.8	20.5

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
7	15 MHz	1	0	20825	2507.5	22.4	21.9
				21100	2535.0	22.4	21.3
				21375	2562.5	22.6	21.8
			37	20825	2507.5	22.9	21.5
				21100	2535.0	22.5	22.0
				21375	2562.5	22.9	21.4
			74	20825	2507.5	22.8	21.8
				21100	2535.0	22.6	21.9
				21375	2562.5	22.5	21.8
		36	0	20825	2507.5	21.6	20.9
				21100	2535.0	21.3	20.6
				21375	2562.5	21.6	20.9
			19	20825	2507.5	21.9	20.4
				21100	2535.0	21.8	20.9
				21375	2562.5	22.0	20.6
			39	20825	2507.5	21.4	20.3
				21100	2535.0	21.8	20.9
				21375	2562.5	21.8	20.5
		75	0	20825	2507.5	21.9	20.8
				21100	2535.0	21.6	20.7
				21375	2562.5	22.0	20.4
	20 MHz	1	0	20850	2510.0	22.6	21.5
				21100	2535.0	22.9	21.9
				21350	2560.0	22.5	21.3
			49	20850	2510.0	22.6	21.5
				21100	2535.0	22.6	21.4
				21350	2560.0	22.5	21.9
			99	20850	2510.0	22.9	21.6
				21100	2535.0	22.4	21.6
				21350	2560.0	22.8	21.9
		50	0	20850	2510.0	21.9	20.9
				21100	2535.0	21.7	20.9
				21350	2560.0	21.5	20.8
			24	20850	2510.0	21.4	20.7
				21100	2535.0	21.9	20.4
				21350	2560.0	21.9	21.0
			50	20850	2510.0	21.6	20.7
				21100	2535.0	21.4	20.5
				21350	2560.0	21.9	20.5
		100	0	20850	2510.0	21.6	20.6
				21100	2535.0	22.0	20.7
				21350	2560.0	21.6	20.8

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
12	1.4 MHz	1	0	23017	699.7	23.6	22.8
				23095	707.5	23.3	22.8
				23173	715.3	23.6	22.7
			3	23017	699.7	23.3	22.7
				23095	707.5	23.4	22.4
				23173	715.3	23.6	22.8
			5	23017	699.7	23.7	22.5
				23095	707.5	23.5	22.9
				23173	715.3	23.5	22.3
		3	0	23017	699.7	23.6	22.5
				23095	707.5	23.4	22.5
				23173	715.3	23.2	22.7
			1	23017	699.7	23.5	22.3
				23095	707.5	23.2	22.3
				23173	715.3	23.7	22.5
			3	23017	699.7	23.4	22.4
				23095	707.5	23.5	22.3
				23173	715.3	23.6	22.4
		6	0	23017	699.7	22.2	21.7
				23095	707.5	22.3	21.8
				23173	715.3	22.2	21.2
	3 MHz	1	0	23025	700.5	23.4	22.4
				23095	707.5	23.4	22.4
				23165	714.5	23.7	22.4
			7	23025	700.5	23.3	22.6
				23095	707.5	23.4	22.7
				23165	714.5	23.3	22.3
			14	23025	700.5	23.4	22.2
				23095	707.5	23.6	22.5
				23165	714.5	23.9	22.3
		8	0	23025	700.5	22.2	21.5
				23095	707.5	22.4	21.9
				23165	714.5	22.7	21.6
			7	23025	700.5	22.8	21.6
				23095	707.5	22.7	21.9
				23165	714.5	22.8	21.8
			14	23025	700.5	22.7	21.2
				23095	707.5	22.9	21.5
				23165	714.5	22.8	21.7
		15	0	23025	700.5	22.5	21.3
				23095	707.5	22.6	21.3
				23165	714.5	22.2	21.3

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
12	5 MHz	1	0	23035	701.5	23.9	22.7
				23095	707.5	23.4	22.6
				23155	713.5	23.7	22.4
			12	23035	701.5	23.5	22.5
				23095	707.5	23.5	22.9
				23155	713.5	23.5	22.5
			24	23035	701.5	23.6	22.3
				23095	707.5	23.8	22.7
				23155	713.5	23.9	22.2
		12	0	23035	701.5	22.5	21.7
				23095	707.5	22.2	21.4
				23155	713.5	22.5	21.6
			6	23035	701.5	22.4	21.5
				23095	707.5	22.9	21.3
				23155	713.5	22.4	21.9
			13	23035	701.5	22.8	21.4
				23095	707.5	22.8	21.2
				23155	713.5	22.6	21.4
		25	0	23035	701.5	22.5	21.8
				23095	707.5	22.7	21.7
				23155	713.5	22.7	21.2
	10 MHz	1	0	23060	704.0	23.9	22.4
				23095	707.5	23.4	22.7
				23130	711.0	23.2	22.8
			24	23060	704.0	23.8	22.3
				23095	707.5	23.6	22.6
				23130	711.0	23.3	22.4
			49	23060	704.0	23.6	22.6
				23095	707.5	23.8	22.7
				23130	711.0	23.7	22.7
		25	0	23060	704.0	22.2	21.5
				23095	707.5	22.9	21.2
				23130	711.0	22.5	21.4
			13	23060	704.0	22.8	21.5
				23095	707.5	22.3	21.8
				23130	711.0	22.4	21.9
			25	23060	704.0	22.5	21.6
				23095	707.5	22.6	21.7
				23130	711.0	22.3	21.4
		50	0	23060	704.0	22.8	21.7
				23095	707.5	22.8	21.3
				23130	711.0	22.2	21.8

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
13	5 MHz	1	0	23205	779.5	23.7	22.7
				23230	782.0	23.4	22.5
				23129	784.5	23.8	22.6
			12	23205	779.5	23.5	22.8
				23230	782.0	23.5	22.9
				23129	784.5	23.2	22.6
			24	23205	779.5	23.8	22.6
				23230	782.0	23.5	22.7
				23129	784.5	23.6	22.7
		12	0	23205	779.5	22.3	21.5
				23230	782.0	22.6	21.6
				23129	784.5	22.8	21.3
			6	23205	779.5	22.8	21.5
				23230	782.0	22.4	21.6
				23129	784.5	22.3	21.4
			13	23205	779.5	22.5	21.3
				23230	782.0	22.7	21.6
				23129	784.5	22.3	21.5
		25	0	23205	779.5	22.8	21.8
				23230	782.0	22.7	21.8
				23129	784.5	22.7	21.9
	10 MHz	1	0	23230	782.0	23.7	22.5
			24	23230	782.0	23.2	22.2
			49	23230	782.0	23.8	22.4
		25	0	23230	782.0	22.8	21.2
			13	23230	782.0	22.2	21.6
			25	23230	782.0	22.9	21.6
		50	0	23230	782.0	22.3	21.5

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
25	1.4 MHz	1	0	26047	1850.7	23.8	22.5
				26365	1882.5	23.8	22.3
				26683	1914.3	23.8	22.3
			3	26047	1850.7	23.2	22.9
				26365	1882.5	23.2	22.8
				26683	1914.3	23.6	22.9
			5	26047	1850.7	23.4	22.6
				26365	1882.5	23.6	22.4
				26683	1914.3	23.8	22.3
		3	0	26047	1850.7	23.9	22.4
				26365	1882.5	23.7	22.8
				26683	1914.3	23.8	22.3
			1	26047	1850.7	23.6	22.4
				26365	1882.5	23.8	22.4
				26683	1914.3	23.9	22.6
			3	26047	1850.7	23.7	22.6
				26365	1882.5	23.4	22.2
				26683	1914.3	23.4	22.4
		6	0	26047	1850.7	22.7	21.7
				26365	1882.5	22.4	21.8
				26683	1914.3	22.8	21.5
	3 MHz	1	0	26055	1851.5	23.4	22.3
				26365	1882.5	23.7	22.7
				26675	1913.5	23.3	22.3
			7	26055	1851.5	23.6	22.4
				26365	1882.5	23.6	22.5
				26675	1913.5	23.4	22.6
			14	26055	1851.5	23.7	22.3
				26365	1882.5	23.7	22.6
				26675	1913.5	23.8	22.8
		8	0	26055	1851.5	22.5	21.9
				26365	1882.5	22.8	21.7
				26675	1913.5	22.8	21.6
			7	26055	1851.5	22.7	21.8
				26365	1882.5	22.4	21.8
				26675	1913.5	22.2	21.3
			14	26055	1851.5	22.6	21.4
				26365	1882.5	22.9	21.3
				26675	1913.5	22.5	21.6
		15	0	26055	1851.5	22.4	21.7
				26365	1882.5	22.4	21.7
				26675	1913.5	22.2	21.3

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
25	5 MHz	1	0	26065	1852.5	23.4	22.7
				26365	1882.5	23.6	22.7
				26665	1912.5	23.2	22.6
			12	26065	1852.5	23.4	22.4
				26365	1882.5	23.7	22.5
				26665	1912.5	23.7	22.8
			24	26065	1852.5	23.4	22.7
				26365	1882.5	23.3	22.6
				26665	1912.5	23.6	22.4
		12	0	26065	1852.5	22.5	21.7
				26365	1882.5	22.6	21.3
				26665	1912.5	22.9	21.3
			6	26065	1852.5	22.4	21.7
				26365	1882.5	22.7	21.4
				26665	1912.5	22.8	21.6
			13	26065	1852.5	22.9	21.7
				26365	1882.5	22.8	21.4
				26665	1912.5	22.6	21.7
		25	0	26065	1852.5	22.6	21.8
				26365	1882.5	22.8	21.3
				26665	1912.5	22.3	21.6
	10 MHz	1	0	26090	1855.0	23.9	22.7
				26365	1882.5	23.7	22.5
				26640	1910.0	23.3	22.2
			24	26090	1855.0	23.9	22.8
				26365	1882.5	23.2	22.7
				26640	1910.0	23.7	22.5
			49	26090	1855.0	23.2	22.6
				26365	1882.5	23.4	22.5
				26640	1910.0	23.3	22.2
		25	0	26090	1855.0	22.3	21.3
				26365	1882.5	22.8	21.6
				26640	1910.0	22.7	21.6
			13	26090	1855.0	22.3	21.2
				26365	1882.5	22.2	21.7
				26640	1910.0	22.5	21.6
			25	26090	1855.0	22.8	21.3
				26365	1882.5	22.6	21.3
				26640	1910.0	22.3	21.9
		50	0	26090	1855.0	22.3	21.5
				26365	1882.5	22.5	21.8
				26640	1910.0	22.6	21.9

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
25	15 MHz	1	0	26115	1857.5	23.8	22.6
				26365	1882.5	23.6	22.5
				26615	1907.5	23.3	22.4
			37	26115	1857.5	23.6	22.8
				26365	1882.5	23.8	22.2
				26615	1907.5	23.3	22.8
			74	26115	1857.5	23.4	22.4
				26365	1882.5	23.8	22.5
				26615	1907.5	23.8	22.5
		36	0	26115	1857.5	22.6	21.7
				26365	1882.5	22.4	21.9
				26615	1907.5	22.6	21.2
			19	26115	1857.5	22.4	21.9
				26365	1882.5	22.9	21.6
				26615	1907.5	22.4	21.9
			39	26115	1857.5	22.8	21.6
				26365	1882.5	22.8	21.3
				26615	1907.5	22.5	21.5
		75	0	26115	1857.5	22.3	21.4
				26365	1882.5	22.9	21.4
				26615	1907.5	22.7	21.6
	20 MHz	1	0	26140	1860.0	23.6	22.6
				26365	1882.5	23.3	22.3
				26590	1905.0	23.2	22.9
			49	26140	1860.0	23.3	22.3
				26365	1882.5	23.9	22.5
				26590	1905.0	23.3	22.6
			99	26140	1860.0	23.7	22.7
				26365	1882.5	23.8	22.4
				26590	1905.0	23.6	22.7
		50	0	26140	1860.0	22.5	21.3
				26365	1882.5	22.4	21.6
				26590	1905.0	22.6	21.7
			24	26140	1860.0	22.8	21.8
				26365	1882.5	22.5	21.3
				26590	1905.0	22.6	21.3
			50	26140	1860.0	22.4	21.7
				26365	1882.5	22.7	21.3
				26590	1905.0	22.7	21.5
		100	0	26140	1860.0	22.4	21.6
				26365	1882.5	22.7	21.6
				26590	1905.0	22.6	21.9

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
26	1.4 MHz	1	0	26697	814.7	23.3	22.8
				26865	831.5	23.5	22.7
				27033	848.3	23.5	22.4
			3	26697	814.7	23.5	22.5
				26865	831.5	23.6	22.8
				27033	848.3	23.7	22.7
			5	26697	814.7	23.3	22.7
				26865	831.5	23.3	22.5
				27033	848.3	23.6	22.7
		3	0	26697	814.7	23.6	22.7
				26865	831.5	23.5	22.7
				27033	848.3	23.7	22.8
			1	26697	814.7	23.2	22.6
				26865	831.5	23.5	22.2
				27033	848.3	23.4	22.6
			3	26697	814.7	23.7	22.5
				26865	831.5	23.5	22.8
				27033	848.3	23.5	22.3
		6	0	26697	814.7	22.8	21.7
				26865	831.5	22.4	21.2
				27033	848.3	22.4	21.8
	3 MHz	1	0	26705	815.5	23.8	22.2
				26865	831.5	23.4	22.3
				27025	847.5	23.8	22.5
			7	26705	815.5	23.5	22.3
				26865	831.5	23.8	22.8
				27025	847.5	23.6	22.6
			14	26705	815.5	23.9	22.5
				26865	831.5	23.8	22.8
				27025	847.5	23.7	22.9
		8	0	26705	815.5	22.4	21.3
				26865	831.5	22.8	21.5
				27025	847.5	22.5	21.3
			7	26705	815.5	22.2	21.4
				26865	831.5	22.5	21.4
				27025	847.5	22.4	21.3
			14	26705	815.5	22.7	21.7
				26865	831.5	22.8	21.5
				27025	847.5	22.5	21.6
		15	0	26705	815.5	22.5	21.8
				26865	831.5	22.6	21.5
				27025	847.5	22.2	21.4

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
26	5 MHz	1	0	26715	816.5	23.6	22.7
				26865	831.5	23.9	22.6
				27015	846.5	23.3	22.3
			12	26715	816.5	23.6	22.7
				26865	831.5	23.8	22.4
				27015	846.5	23.7	22.6
			24	26715	816.5	23.6	22.8
				26865	831.5	23.3	22.4
				27015	846.5	23.2	22.3
		12	0	26715	816.5	22.2	21.6
				26865	831.5	22.8	21.5
				27015	846.5	22.5	21.8
			6	26715	816.5	22.7	21.5
				26865	831.5	22.8	21.2
				27015	846.5	22.5	21.6
			13	26715	816.5	22.5	21.2
				26865	831.5	22.4	21.5
				27015	846.5	22.7	21.7
		25	0	26715	816.5	22.4	21.3
				26865	831.5	22.9	21.3
				27015	846.5	22.7	21.3
	10 MHz	1	0	26740	819.0	23.7	22.3
				26865	831.5	23.4	22.4
				26990	844.0	23.4	22.3
			24	26740	819.0	23.9	22.7
				26865	831.5	23.3	22.5
				26990	844.0	23.5	22.7
			49	26740	819.0	23.7	22.6
				26865	831.5	23.8	22.3
				26990	844.0	23.2	22.3
		25	0	26740	819.0	22.5	21.5
				26865	831.5	22.3	21.5
				26990	844.0	22.8	21.8
			13	26740	819.0	22.5	21.8
				26865	831.5	22.4	21.7
				26990	844.0	22.6	21.3
			25	26740	819.0	22.6	21.5
				26865	831.5	22.2	21.4
				26990	844.0	22.5	21.9
		50	0	26740	819.0	22.6	21.7
				26865	831.5	22.7	21.4
				26990	844.0	22.4	21.5

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
26	15 MHz	1	0	26765	821.5	23.4	22.6
				26865	831.5	23.7	22.2
				26965	841.5	23.6	22.4
			37	26765	821.5	23.6	22.6
				26865	831.5	23.5	22.7
				26965	841.5	23.6	22.5
			74	26765	821.5	23.6	22.4
				26865	831.5	23.5	22.3
				26965	841.5	23.5	22.9
		36	0	26765	821.5	22.8	21.2
				26865	831.5	22.8	21.2
				26965	841.5	22.5	21.2
			19	26765	821.5	22.8	21.6
				26865	831.5	22.5	21.4
				26965	841.5	22.5	21.2
			39	26765	821.5	22.2	21.7
				26865	831.5	22.7	21.3
				26965	841.5	22.9	21.2
		75	0	26765	821.5	22.4	21.7
				26865	831.5	22.7	21.6
				26965	841.5	22.4	21.4

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
41	5 MHz	1	0	39675	2498.5	22.4	21.6
				40148	2545.8	22.4	21.7
				40620	2593.0	22.7	21.5
				41093	2640.3	22.3	21.5
				41565	2687.5	22.3	21.8
			12	39675	2498.5	22.2	21.7
				40148	2545.8	22.3	21.7
				40620	2593.0	22.4	21.6
				41093	2640.3	22.5	21.4
				41565	2687.5	22.7	21.8
			24	39675	2498.5	22.3	21.6
				40148	2545.8	22.4	21.3
				40620	2593.0	22.2	21.4
				41093	2640.3	22.2	21.2
				41565	2687.5	22.3	21.8
		12	0	39675	2498.5	21.4	20.4
				40148	2545.8	21.4	20.9
				40620	2593.0	21.6	20.7
				41093	2640.3	21.9	20.7
				41565	2687.5	21.5	20.4
			6	39675	2498.5	21.2	20.7
				40148	2545.8	21.6	20.9
				40620	2593.0	21.7	20.9
				41093	2640.3	21.5	20.3
				41565	2687.5	21.5	20.2
			13	39675	2498.5	21.8	20.4
				40148	2545.8	21.3	20.7
				40620	2593.0	21.7	20.8
				41093	2640.3	21.7	20.3
				41565	2687.5	21.3	20.8
		25	0	39675	2498.5	21.5	20.5
				40148	2545.8	21.9	20.8
				40620	2593.0	21.3	20.8
				41093	2640.3	21.6	20.3
				41565	2687.5	21.4	20.7

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
41	10 MHz	1	0	39700	2501.0	22.5	21.7
				40160	2547.0	22.2	21.3
				40620	2593.0	22.6	21.3
				41080	2639.0	22.2	21.5
				41540	2685.0	22.5	21.4
			24	39700	2501.0	22.4	21.7
				40160	2547.0	22.2	21.8
				40620	2593.0	22.6	21.2
				41080	2639.0	22.7	21.8
				41540	2685.0	22.6	21.3
			49	39700	2501.0	22.5	21.7
				40160	2547.0	22.2	21.3
				40620	2593.0	22.3	21.7
				41080	2639.0	22.8	21.3
				41540	2685.0	22.5	21.8
		25	0	39700	2501.0	21.8	20.2
				40160	2547.0	21.4	20.4
				40620	2593.0	21.2	20.5
				41080	2639.0	21.7	20.7
				41540	2685.0	21.5	20.2
			13	39700	2501.0	21.4	20.5
				40160	2547.0	21.5	20.3
				40620	2593.0	21.6	20.8
				41080	2639.0	21.8	20.5
				41540	2685.0	21.8	20.4
			25	39700	2501.0	21.4	20.6
				40160	2547.0	21.8	20.9
				40620	2593.0	21.8	20.6
				41080	2639.0	21.7	20.2
				41540	2685.0	21.3	20.7
		50	0	39700	2501.0	21.4	20.8
				40160	2547.0	21.2	20.4
				40620	2593.0	21.8	20.7
				41080	2639.0	21.7	20.6
				41540	2685.0	21.5	20.8

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
41	15 MHz	1	0	39725	2503.5	22.2	21.3
				40173	2548.3	22.2	21.7
				40620	2593.0	22.2	21.9
				41068	2637.8	22.9	21.8
				41515	2682.5	22.3	21.6
			37	39725	2503.5	22.7	21.4
				40173	2548.3	22.6	21.5
				40620	2593.0	22.3	21.4
				41068	2637.8	22.3	21.3
				41515	2682.5	22.5	21.4
			74	39725	2503.5	22.2	21.5
				40173	2548.3	22.2	21.7
				40620	2593.0	22.2	21.5
				41068	2637.8	22.8	21.8
				41515	2682.5	22.2	21.7
		36	0	39725	2503.5	21.5	20.6
				40173	2548.3	21.8	20.5
				40620	2593.0	21.7	20.3
				41068	2637.8	21.3	20.2
				41515	2682.5	21.5	20.9
			19	39725	2503.5	21.7	20.6
				40173	2548.3	21.5	20.2
				40620	2593.0	21.4	20.8
				41068	2637.8	21.8	20.5
				41515	2682.5	21.4	20.4
			39	39725	2503.5	21.8	20.6
				40173	2548.3	21.4	20.2
				40620	2593.0	21.4	20.6
				41068	2637.8	21.8	20.9
				41515	2682.5	21.2	20.7
		75	0	39725	2503.5	21.2	20.4
				40173	2548.3	21.9	20.3
				40620	2593.0	21.7	20.7
				41068	2637.8	21.6	20.7
				41515	2682.5	21.4	20.7

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
41	20 MHz	1	0	39750	2506.0	22.4	21.5
				40185	2549.5	22.3	21.5
				40620	2593.0	22.2	21.9
				41055	2636.5	22.6	21.7
				41490	2680.0	22.6	21.6
			49	39750	2506.0	22.8	21.4
				40185	2549.5	22.9	21.6
				40620	2593.0	22.5	21.8
				41055	2636.5	22.9	21.2
				41490	2680.0	22.6	21.8
			99	39750	2506.0	22.5	21.5
				40185	2549.5	22.5	21.9
				40620	2593.0	22.2	21.6
				41055	2636.5	22.2	21.7
				41490	2680.0	22.6	21.6
		50	0	39750	2506.0	21.8	20.8
				40185	2549.5	21.8	20.7
				40620	2593.0	21.2	20.7
				41055	2636.5	21.4	20.2
				41490	2680.0	21.9	20.3
			24	39750	2506.0	21.9	20.6
				40185	2549.5	21.8	20.4
				40620	2593.0	21.6	20.7
				41055	2636.5	21.2	20.5
				41490	2680.0	21.9	20.5
			50	39750	2506.0	21.5	20.4
				40185	2549.5	21.3	20.8
				40620	2593.0	21.8	20.4
				41055	2636.5	21.2	20.5
				41490	2680.0	21.4	20.7
		100	0	39750	2506.0	21.3	20.8
				40185	2549.5	21.3	20.9
				40620	2593.0	21.6	20.7
				41055	2636.5	21.7	20.6
				41490	2680.0	21.6	20.3

Table 9.1.2 LTE Backoff Power Measurements

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
2	1.4 MHz	1	0	18607	1850.7	21.9	20.6
				18900	1880.0	21.6	20.4
				19193	1909.3	21.3	20.6
			3	18607	1850.7	21.7	20.3
				18900	1880.0	21.8	20.8
				19193	1909.3	21.6	20.9
			5	18607	1850.7	21.6	20.8
				18900	1880.0	21.4	20.3
				19193	1909.3	21.6	20.6
		3	0	18607	1850.7	21.8	20.4
				18900	1880.0	21.7	20.3
				19193	1909.3	21.3	20.4
			1	18607	1850.7	21.3	20.5
				18900	1880.0	21.5	20.6
				19193	1909.3	21.6	20.7
			3	18607	1850.7	21.9	20.5
				18900	1880.0	21.8	20.6
				19193	1909.3	21.3	20.7
		6	0	18607	1850.7	20.5	19.6
				18900	1880.0	20.3	19.4
				19193	1909.3	20.4	19.7
	3 MHz	1	0	18615	1851.5	21.2	20.2
				18900	1880.0	21.6	20.4
				19185	1908.5	21.8	20.5
			7	18615	1851.5	21.7	20.4
				18900	1880.0	21.3	20.4
				19185	1908.5	21.5	20.3
			14	18615	1851.5	21.6	20.2
				18900	1880.0	21.6	20.8
				19185	1908.5	21.9	20.5
		8	0	18615	1851.5	20.7	19.7
				18900	1880.0	20.2	19.7
				19185	1908.5	20.8	19.3
			7	18615	1851.5	20.7	19.3
				18900	1880.0	20.7	19.8
				19185	1908.5	20.3	19.8
			14	18615	1851.5	20.8	19.2
				18900	1880.0	20.4	19.2
				19185	1908.5	20.8	19.4
		15	0	18615	1851.5	20.9	19.6
				18900	1880.0	20.7	19.7
				19185	1908.5	20.4	19.5

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
2	5 MHz	1	0	18625	1852.5	21.3	20.2
				18900	1880.0	21.7	20.9
				19175	1907.5	21.7	20.6
			12	18625	1852.5	21.6	20.6
				18900	1880.0	21.4	20.6
				19175	1907.5	21.3	20.8
			24	18625	1852.5	21.7	20.9
				18900	1880.0	21.7	20.5
				19175	1907.5	21.4	20.5
		12	0	18625	1852.5	20.9	19.6
				18900	1880.0	20.8	19.5
				19175	1907.5	20.3	19.5
			6	18625	1852.5	20.6	19.3
				18900	1880.0	20.7	19.2
				19175	1907.5	20.2	19.8
			13	18625	1852.5	20.3	19.5
				18900	1880.0	20.6	19.6
				19175	1907.5	20.3	19.8
		25	0	18625	1852.5	20.5	19.7
				18900	1880.0	20.5	19.4
				19175	1907.5	20.7	19.9
	10 MHz	1	0	18650	1855.0	21.2	20.6
				18900	1880.0	21.3	20.5
				19150	1905.0	21.8	20.3
			24	18650	1855.0	21.9	20.5
				18900	1880.0	21.5	20.8
				19150	1905.0	21.2	20.6
			49	18650	1855.0	21.7	20.9
				18900	1880.0	21.2	20.6
				19150	1905.0	21.3	20.7
		25	0	18650	1855.0	20.5	19.6
				18900	1880.0	20.8	19.9
				19150	1905.0	20.2	19.6
			13	18650	1855.0	20.6	19.8
				18900	1880.0	20.8	19.4
				19150	1905.0	20.3	19.8
			25	18650	1855.0	20.6	19.5
				18900	1880.0	20.7	19.3
				19150	1905.0	20.5	19.4
		50	0	18650	1855.0	20.7	19.4
				18900	1880.0	20.4	19.5
				19150	1905.0	20.5	19.4

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
2	15 MHz	1	0	18675	1857.5	21.8	20.8
				18900	1880.0	21.5	20.8
				19125	1902.5	21.9	20.4
			37	18675	1857.5	21.5	20.4
				18900	1880.0	21.8	20.4
				19125	1902.5	21.8	20.8
			74	18675	1857.5	21.4	20.5
				18900	1880.0	21.7	20.5
				19125	1902.5	21.5	20.8
		36	0	18675	1857.5	20.5	19.3
				18900	1880.0	20.6	19.3
				19125	1902.5	20.3	19.6
			19	18675	1857.5	20.7	19.2
				18900	1880.0	20.6	19.9
				19125	1902.5	20.4	19.5
			39	18675	1857.5	20.5	19.6
				18900	1880.0	20.6	19.7
				19125	1902.5	20.9	19.6
		75	0	18675	1857.5	20.8	19.9
				18900	1880.0	20.5	19.3
				19125	1902.5	20.5	19.7
	20 MHz	1	0	18700	1860.0	21.3	20.7
				18900	1880.0	21.4	20.9
				19100	1900.0	21.2	20.5
			49	18700	1860.0	21.9	20.6
				18900	1880.0	21.7	20.4
				19100	1900.0	21.6	20.9
			99	18700	1860.0	21.8	20.7
				18900	1880.0	21.6	20.2
				19100	1900.0	21.4	20.9
		50	0	18700	1860.0	20.3	19.8
				18900	1880.0	20.8	19.2
				19100	1900.0	20.6	19.4
			24	18700	1860.0	20.7	19.5
				18900	1880.0	20.9	19.6
				19100	1900.0	20.5	19.3
			50	18700	1860.0	20.3	19.3
				18900	1880.0	20.4	19.6
				19100	1900.0	20.6	19.5
		100	0	18700	1860.0	20.7	19.4
				18900	1880.0	20.4	19.7
				19100	1900.0	20.5	19.8

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
4	1.4 MHz	1	0	19957	1710.7	22.6	21.4
				20175	1732.5	22.8	21.6
				20393	1754.3	22.5	21.7
			3	19957	1710.7	22.6	21.2
				20175	1732.5	22.6	21.2
				20393	1754.3	22.6	21.8
			5	19957	1710.7	22.5	21.6
				20175	1732.5	22.3	21.8
				20393	1754.3	22.2	21.6
		3	0	19957	1710.7	22.6	21.5
				20175	1732.5	22.3	21.7
				20393	1754.3	22.7	21.7
			1	19957	1710.7	22.8	21.6
				20175	1732.5	22.3	21.9
				20393	1754.3	22.2	21.5
			3	19957	1710.7	22.5	21.5
				20175	1732.5	22.6	21.3
				20393	1754.3	22.3	21.4
		6	0	19957	1710.7	21.9	20.3
				20175	1732.5	21.5	20.7
				20393	1754.3	21.4	20.3
	3 MHz	1	0	19965	1711.5	22.7	21.5
				20175	1732.5	22.6	21.9
				20385	1753.5	22.6	21.3
			7	19965	1711.5	22.5	21.7
				20175	1732.5	22.4	21.4
				20385	1753.5	22.8	21.4
			14	19965	1711.5	22.5	21.5
				20175	1732.5	22.3	21.7
				20385	1753.5	22.3	21.8
		8	0	19965	1711.5	21.8	20.2
				20175	1732.5	21.5	20.8
				20385	1753.5	21.6	20.3
			7	19965	1711.5	21.6	20.6
				20175	1732.5	21.2	20.4
				20385	1753.5	21.2	20.7
			14	19965	1711.5	21.2	20.7
				20175	1732.5	21.5	20.7
				20385	1753.5	21.7	20.3
		15	0	19965	1711.5	21.7	20.3
				20175	1732.5	21.4	20.6
				20385	1753.5	21.4	20.5

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
4	5 MHz	1	0	19975	1712.5	22.5	21.2
				20175	1732.5	22.5	21.9
				20375	1752.5	22.5	21.6
			12	19975	1712.5	22.4	21.4
				20175	1732.5	22.2	21.7
				20375	1752.5	22.9	21.8
			24	19975	1712.5	22.8	21.4
				20175	1732.5	22.2	21.4
				20375	1752.5	22.6	21.7
		12	0	19975	1712.5	21.8	20.6
				20175	1732.5	21.3	20.2
				20375	1752.5	21.5	20.6
			6	19975	1712.5	21.4	20.5
				20175	1732.5	21.3	20.6
				20375	1752.5	21.8	20.6
			13	19975	1712.5	21.8	20.7
				20175	1732.5	21.4	20.7
				20375	1752.5	21.7	20.2
		25	0	19975	1712.5	21.5	20.7
				20175	1732.5	21.7	20.8
				20375	1752.5	21.6	20.6
	10 MHz	1	0	20000	1715.0	22.3	21.3
				20175	1732.5	22.3	21.7
				20350	1750.0	22.8	21.6
			24	20000	1715.0	22.8	21.4
				20175	1732.5	22.8	21.6
				20350	1750.0	22.4	21.8
			49	20000	1715.0	22.4	21.3
				20175	1732.5	22.5	21.7
				20350	1750.0	22.3	21.7
		25	0	20000	1715.0	21.6	20.5
				20175	1732.5	21.4	20.3
				20350	1750.0	21.3	20.6
			13	20000	1715.0	21.8	20.6
				20175	1732.5	21.2	20.9
				20350	1750.0	21.7	20.7
			25	20000	1715.0	21.6	20.7
				20175	1732.5	21.3	20.6
				20350	1750.0	21.2	20.2
		50	0	20000	1715.0	21.2	20.4
				20175	1732.5	21.5	20.6
				20350	1750.0	21.4	20.3

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
4	15 MHz	1	0	20025	1717.5	22.7	21.4
				20175	1732.5	22.4	21.3
				20325	1747.5	22.9	21.8
			37	20025	1717.5	22.6	21.4
				20175	1732.5	22.8	21.5
				20325	1747.5	22.8	21.2
			74	20025	1717.5	22.9	21.4
				20175	1732.5	22.3	21.6
				20325	1747.5	22.7	21.2
		36	0	20025	1717.5	21.3	20.4
				20175	1732.5	21.3	20.6
				20325	1747.5	21.8	20.6
			19	20025	1717.5	21.5	20.8
				20175	1732.5	21.4	20.2
				20325	1747.5	21.6	20.3
			39	20025	1717.5	21.7	20.7
				20175	1732.5	21.6	20.5
				20325	1747.5	21.6	20.9
		75	0	20025	1717.5	21.2	20.6
				20175	1732.5	21.4	20.9
				20325	1747.5	21.4	20.9
	20 MHz	1	0	20050	1720.0	22.6	21.4
				20175	1732.5	22.3	21.9
				20300	1745.0	22.4	21.7
			49	20050	1720.0	22.8	21.9
				20175	1732.5	22.9	21.6
				20300	1745.0	22.8	21.5
			99	20050	1720.0	22.4	21.4
				20175	1732.5	22.4	21.5
				20300	1745.0	22.6	21.8
		50	0	20050	1720.0	21.8	20.5
				20175	1732.5	21.7	20.3
				20300	1745.0	21.2	20.2
			24	20050	1720.0	21.9	20.6
				20175	1732.5	21.3	20.3
				20300	1745.0	21.8	20.4
			50	20050	1720.0	21.7	20.6
				20175	1732.5	21.4	20.4
				20300	1745.0	21.7	20.6
		100	0	20050	1720.0	21.7	20.7
				20175	1732.5	21.2	20.2
				20300	1745.0	21.5	20.5

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
7	5 MHz	1	0	20775	2502.5	21.8	20.6
				21100	2535.0	21.9	20.3
				21425	2567.5	21.5	20.3
			12	20775	2502.5	21.8	20.5
				21100	2535.0	21.4	20.6
				21425	2567.5	21.2	20.7
			24	20775	2502.5	21.5	20.5
				21100	2535.0	21.8	20.7
				21425	2567.5	21.5	20.8
		12	0	20775	2502.5	20.7	19.8
				21100	2535.0	20.8	19.9
				21425	2567.5	20.5	19.8
			6	20775	2502.5	20.6	19.5
				21100	2535.0	20.5	19.5
				21425	2567.5	20.6	19.7
			13	20775	2502.5	20.3	19.8
				21100	2535.0	20.7	19.7
				21425	2567.5	20.8	19.4
		25	0	20775	2502.5	20.3	19.7
				21100	2535.0	20.2	19.4
				21425	2567.5	20.9	19.2
	10 MHz	1	0	20800	2505.0	21.8	20.6
				21100	2535.0	21.5	20.7
				21400	2565.0	21.4	20.8
			24	20800	2505.0	21.3	20.2
				21100	2535.0	21.8	20.4
				21400	2565.0	21.4	20.8
			49	20800	2505.0	21.6	20.7
				21100	2535.0	21.4	20.4
				21400	2565.0	21.3	20.9
		25	0	20800	2505.0	20.9	19.5
				21100	2535.0	20.5	19.6
				21400	2565.0	20.7	19.2
			13	20800	2505.0	20.3	19.5
				21100	2535.0	20.7	19.2
				21400	2565.0	20.5	19.2
			25	20800	2505.0	20.3	19.5
				21100	2535.0	20.4	19.4
				21400	2565.0	20.9	19.4
		50	0	20800	2505.0	20.2	19.7
				21100	2535.0	20.8	19.2
				21400	2565.0	20.8	19.3

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
7	15 MHz	1	0	20825	2507.5	21.4	20.5
				21100	2535.0	21.3	20.3
				21375	2562.5	21.5	20.9
			37	20825	2507.5	21.5	20.8
				21100	2535.0	21.3	20.5
				21375	2562.5	21.3	20.7
			74	20825	2507.5	21.5	20.8
				21100	2535.0	21.5	20.4
				21375	2562.5	21.7	20.7
		36	0	20825	2507.5	20.9	19.8
				21100	2535.0	20.6	19.8
				21375	2562.5	20.6	19.5
			19	20825	2507.5	20.4	19.7
				21100	2535.0	20.9	19.6
				21375	2562.5	20.7	19.4
			39	20825	2507.5	20.6	19.5
				21100	2535.0	20.8	19.5
				21375	2562.5	20.2	19.3
		75	0	20825	2507.5	20.8	19.7
				21100	2535.0	20.8	19.6
				21375	2562.5	20.8	19.7
	20 MHz	1	0	20850	2510.0	21.7	20.6
				21100	2535.0	21.5	20.2
				21350	2560.0	21.6	20.8
			49	20850	2510.0	21.3	20.6
				21100	2535.0	21.4	20.8
				21350	2560.0	21.9	20.7
			99	20850	2510.0	21.5	20.7
				21100	2535.0	21.2	20.4
				21350	2560.0	21.5	20.4
		50	0	20850	2510.0	20.8	19.8
				21100	2535.0	20.8	19.3
				21350	2560.0	20.8	19.6
			24	20850	2510.0	20.3	19.5
				21100	2535.0	20.6	19.8
				21350	2560.0	20.9	19.3
			50	20850	2510.0	20.5	19.3
				21100	2535.0	20.4	19.3
				21350	2560.0	20.3	19.8
		100	0	20850	2510.0	20.6	19.3
				21100	2535.0	20.8	19.5
				21350	2560.0	20.6	19.7

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
25	1.4 MHz	1	0	26047	1850.7	21.6	20.2
				26365	1882.5	21.7	20.8
				26683	1914.3	21.5	20.2
			3	26047	1850.7	21.7	20.9
				26365	1882.5	21.3	20.9
				26683	1914.3	21.6	20.4
			5	26047	1850.7	21.3	20.7
				26365	1882.5	21.6	20.4
				26683	1914.3	21.8	20.3
		3	0	26047	1850.7	21.7	20.4
				26365	1882.5	21.6	20.3
				26683	1914.3	21.5	20.4
			1	26047	1850.7	21.5	20.2
				26365	1882.5	21.4	20.5
				26683	1914.3	21.2	20.3
			3	26047	1850.7	21.4	20.3
				26365	1882.5	21.7	20.2
				26683	1914.3	21.6	20.8
		6	0	26047	1850.7	20.5	19.5
				26365	1882.5	20.6	19.6
				26683	1914.3	20.7	19.5
	3 MHz	1	0	26055	1851.5	21.8	20.5
				26365	1882.5	21.6	20.6
				26675	1913.5	21.5	20.5
			7	26055	1851.5	21.4	20.3
				26365	1882.5	21.6	20.8
				26675	1913.5	21.8	20.5
			14	26055	1851.5	21.8	20.8
				26365	1882.5	21.6	20.8
				26675	1913.5	21.3	20.7
		8	0	26055	1851.5	20.6	19.4
				26365	1882.5	20.8	19.8
				26675	1913.5	20.8	19.7
			7	26055	1851.5	20.4	19.5
				26365	1882.5	20.7	19.5
				26675	1913.5	20.3	19.6
			14	26055	1851.5	20.5	19.3
				26365	1882.5	20.6	19.7
				26675	1913.5	20.8	19.4
		15	0	26055	1851.5	20.3	19.8
				26365	1882.5	20.2	19.3
				26675	1913.5	20.8	19.6

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
25	5 MHz	1	0	26065	1852.5	21.4	20.5
				26365	1882.5	21.6	20.4
				26665	1912.5	21.3	20.8
			12	26065	1852.5	21.7	20.7
				26365	1882.5	21.2	20.4
				26665	1912.5	21.5	20.2
			24	26065	1852.5	21.7	20.6
				26365	1882.5	21.3	20.9
				26665	1912.5	21.8	20.8
		12	0	26065	1852.5	20.9	19.7
				26365	1882.5	20.7	19.5
				26665	1912.5	20.8	19.8
			6	26065	1852.5	20.7	19.4
				26365	1882.5	20.8	19.4
				26665	1912.5	20.4	19.4
			13	26065	1852.5	20.6	19.6
				26365	1882.5	20.9	19.5
				26665	1912.5	20.3	19.5
		25	0	26065	1852.5	20.8	19.3
				26365	1882.5	20.7	19.8
				26665	1912.5	20.3	19.6
	10 MHz	1	0	26090	1855.0	21.3	20.6
				26365	1882.5	21.4	20.3
				26640	1910.0	21.4	20.8
			24	26090	1855.0	21.5	20.8
				26365	1882.5	21.5	20.4
				26640	1910.0	21.4	20.9
			49	26090	1855.0	21.8	20.6
				26365	1882.5	21.4	20.7
				26640	1910.0	21.9	20.2
		25	0	26090	1855.0	20.7	19.8
				26365	1882.5	20.4	19.4
				26640	1910.0	20.2	19.7
			13	26090	1855.0	20.8	19.6
				26365	1882.5	20.4	19.8
				26640	1910.0	20.4	19.3
			25	26090	1855.0	20.4	19.2
				26365	1882.5	20.7	19.5
				26640	1910.0	20.8	19.5
		50	0	26090	1855.0	20.4	19.5
				26365	1882.5	20.3	19.5
				26640	1910.0	20.8	19.5

Band	Bandwidth	RB Size	RB Offset	Channel	Frequency	QPSK	16QAM
25	15 MHz	1	0	26115	1857.5	21.3	20.7
				26365	1882.5	21.4	20.3
				26615	1907.5	21.5	20.4
			37	26115	1857.5	21.3	20.5
				26365	1882.5	21.5	20.3
				26615	1907.5	21.5	20.4
			74	26115	1857.5	21.8	20.6
				26365	1882.5	21.6	20.3
				26615	1907.5	21.3	20.2
		36	0	26115	1857.5	20.4	19.4
				26365	1882.5	20.6	19.5
				26615	1907.5	20.5	19.4
			19	26115	1857.5	20.5	19.3
				26365	1882.5	20.7	19.7
				26615	1907.5	20.5	19.3
			39	26115	1857.5	20.5	19.4
				26365	1882.5	20.8	19.3
				26615	1907.5	20.4	19.8
		75	0	26115	1857.5	20.5	19.6
				26365	1882.5	20.8	19.5
				26615	1907.5	20.5	19.3
	20 MHz	1	0	26140	1860.0	21.7	20.8
				26365	1882.5	21.9	20.5
				26590	1905.0	21.5	20.3
			49	26140	1860.0	21.6	20.5
				26365	1882.5	21.6	20.7
				26590	1905.0	21.6	20.8
			99	26140	1860.0	21.5	20.4
				26365	1882.5	21.5	20.8
				26590	1905.0	21.5	20.7
		50	0	26140	1860.0	20.6	19.5
				26365	1882.5	20.4	19.9
				26590	1905.0	20.6	19.8
			24	26140	1860.0	20.3	19.7
				26365	1882.5	20.4	19.3
				26590	1905.0	20.7	19.6
			50	26140	1860.0	20.2	19.8
				26365	1882.5	20.2	19.7
				26590	1905.0	20.7	19.7
		100	0	26140	1860.0	20.8	19.6
				26365	1882.5	20.3	19.4
				26590	1905.0	20.4	19.6

Table 9.1.3 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	24	Reduced[7]
		26365					Tested
		26590					Reduced[7]
		26140			100	0	Reduced[1]
		26365					Reduced[1]
		26590					Reduced[1]
		26140			1	49	Reduced[7]
		26365					Tested
		26590					Reduced[7]
		26140				99	Reduced[2]
		26365					Reduced[2]
		26590					Reduced[2]
		26140		16QAM	50	24	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]
	Right	26140	20 MHz	QPSK	50	24	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	24	Reduced[3]
		26365					Reduced[3]
		26590					Reduced[3]
		26140			100	0	Reduced[1]
		26365					Tested
		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]
	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] – All remaining sides are reduced based on the calculations in 47 CFR 1307.
Reduced[7]- If the SAR value measured on the middle channel is less than 0.8 W/kg and the conducted power is within ±0.5 dB, the remaining channels are reduced per KDB941225 D05 page 4 footnote 2.

Band/ Frequency (MHz)	Side	Required Test Channel	Bandwidth	Modulation	RB Allocation	RB Offset	Tested/ Reduced
Band 4 1710-1755 MHz	Back	18700	20 MHz	QPSK	50	24	Reduced[7]
		18900					Tested
		19100					Reduced[7]
		18700			100	0	Reduced[1]
		18900					Reduced[1]
		19100					Reduced[1]
		18700			1	49	Reduced[7]
		18900					Tested
		19100					Reduced[7]
		18700				99	Reduced[2]
		18900					Reduced[2]
		19100					Reduced[2]
		18700		16QAM	50	24	Reduced[3]
		18900					Reduced[3]
		19100					Reduced[3]
		18700			100	0	Reduced[1]
		18900					Reduced[1]
		19100					Reduced[1]
		18700			1	49	Reduced[4]
		18900					Reduced[4]
		19100					Reduced[4]
		18700				99	Reduced[4]
		18900					Reduced[4]
		19100					Reduced[4]
		All lower bandwidths (15 MHz, 10 MHz, 5 MHz, 3 MHz, 1.4 MHz)					Reduced[5]
	Right	18700	20 MHz	QPSK	50	24	Tested
		18900					Tested
		19100					Tested
		18700			100	0	Reduced[1]
		18900					Reduced[1]
		19100					Reduced[1]
		18700			1	49	Tested
		18900					Tested
		19100					Tested
		18700				99	Reduced[2]
		18900					Reduced[2]
		19100					Reduced[2]
		18700		16QAM	50	24	Reduced[3]
		18900					Reduced[3]
		19100					Reduced[3]
		18700			100	0	Reduced[1]
		18900					Tested
		19100					Reduced[1]
		18700			1	49	Reduced[4]
		18900					Reduced[4]
		19100					Reduced[4]
		18700				99	Reduced[4]
		18900					Reduced[4]
		19100					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] – All remaining sides are reduced based on the calculations in 47 CFR 1307.
Reduced[7]- If the SAR value measured on the middle channel is less than 0.8 W/kg and the conducted power is within ±0.5 dB, the remaining channels are reduced per KDB941225 D05 page 4 footnote 2.

Band/ Frequency (MHz)	Side	Required Test Channel	Bandwidth	Modulation	RB Allocation	RB Offset	Tested/ Reduced
Band 26 814-849 MHz	Back	26740	15 MHz	QPSK	25	12	Reduced[7]
		26865					Tested
		26990					Reduced[7]
		26740			50	0	Reduced[1]
		26865					Reduced[1]
		26990					Reduced[1]
		26740			1	24	Reduced[7]
		26865					Tested
		26990					Reduced[7]
		26740				24	Reduced[2]
		26865					Reduced[2]
		26990					Reduced[2]
		26740		16QAM	25	12	Reduced[3]
		26865					Reduced[3]
		26990					Reduced[3]
		26740			50	0	Reduced[1]
		26865					Reduced[1]
		26990					Reduced[1]
		26740			1	24	Reduced[4]
		26865					Reduced[4]
		26990					Reduced[4]
		26740				49	Reduced[4]
		26865					Reduced[4]
		26990					Reduced[4]
		All lower bandwidths (5 MHz)					Reduced[5]
	Right	26740	15 MHz	QPSK	25	12	Tested
		26865					Tested
		26990					Tested
		26740			50	0	Reduced[1]
		26865					Reduced[1]
		26990					Reduced[1]
		26740			1	24	Tested
		26865					Tested
		26990					Tested
		26740				24	Reduced[2]
		26865					Reduced[2]
		26990					Reduced[2]
		26740		16QAM	25	12	Reduced[3]
		26865					Reduced[3]
		26990					Reduced[3]
		26740			50	0	Reduced[1]
		26865					Tested
		26990					Reduced[1]
		26740			1	24	Reduced[4]
		26865					Reduced[4]
		26990					Reduced[4]
		26740				49	Reduced[4]
		26865					Reduced[4]
		26990					Reduced[4]
		All lower bandwidths (5 MHz)					Reduced[5]
	All remaining sides						Reduced[7]

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] – All remaining sides are reduced based on the calculations in 47 CFR 1307.
Reduced[7]- If the SAR value measured on the middle channel is less than 0.8 W/kg and the conducted power is within ±0.5 dB, the remaining channels are reduced per KDB941225 D05 page 4 footnote 2.

Band/ Frequency (MHz)	Side	Required Test Channel	Bandwidth	Modulation	RB Allocation	RB Offset	Tested/ Reduced
Band 13 777-787 MHz	Back	23095	10 MHz	QPSK	25	12	Tested
		23095			50	0	Reduced[1]
		23095			1	24	Tested
		23095				49	Reduced[2]
		23095		16QAM	25	12	Reduced[3]
		23095			50	0	Reduced[1]
		23095			1	12	Reduced[4]
		23095				49	Reduced[4]
		All lower bandwidths (5 MHz)					Reduced[5]
	Right	23095	10 MHz	QPSK	25	12	Tested
		23095			50	0	Tested
		23095			1	24	Tested
		23095				49	Reduced[2]
		23095		16QAM	25	12	Reduced[3]
		23095			50	0	Reduced[1]
		23095			1	12	Reduced[4]
		23095				49	Reduced[4]
		All lower bandwidths (5 MHz)					Reduced[5]
	All remaining sides						Reduced[7]

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] – All remaining sides are reduced based on the calculations in 47 CFR 1307.
Reduced[7]- If the SAR value measured on the middle channel is less than 0.8 W/kg and the conducted power is within ±0.5 dB, the remaining channels are reduced per KDB941225 D05 page 4 footnote 2.

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[6]
		23095					Tested
		23129					Reduced[6]
		23060			50	0	Reduced[1]
		23095					Reduced[1]
		23129					Reduced[1]
		23060			1	24	Reduced[6]
		23095					Tested
		23129					Reduced[6]
		23060				49	Reduced[1]
		23095					Reduced[2]
		23129					Reduced[2]
		23060		16QAM	25	12	Reduced[3]
		23095					Reduced[3]
		23129					Reduced[3]
		23060			50	0	Reduced[1]
		23095					Reduced[1]
		23129					Reduced[1]
		23060			1	24	Reduced[4]
		23095					Reduced[4]
		23129					Reduced[4]
		23060				49	Reduced[4]
		23095					Reduced[4]
		23129					Reduced[4]
		All lower bandwidths (5 MHz)					Reduced[5]
	Right	23060	10 MHz	QPSK	25	12	Reduced[6]
		23095					Tested
		23129					Reduced[6]
		23060			50	0	Reduced[1]
		23095					Tested
		23129					Reduced[1]
		23060			1	24	Tested
		23095					Tested
		23129					Tested
		23060				49	Reduced[1]
		23095					Reduced[2]
		23129					Reduced[2]
		23060		16QAM	25	12	Reduced[3]
		23095					Reduced[3]
		23129					Reduced[3]
		23060			50	0	Reduced[1]
		23095					Reduced[1]
		23129					Reduced[1]
		23060			1	24	Reduced[4]
		23095					Reduced[4]
		23129					Reduced[4]
		23060				49	Reduced[4]
		23095					Reduced[4]
		23129					Reduced[4]
		All lower bandwidths (5 MHz)					Reduced[5]
	All remaining sides						Reduced[7]

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] – All remaining sides are reduced based on the calculations in 47 CFR 1307.
Reduced[7]- If the SAR value measured on the middle channel is less than 0.8 W/kg and the conducted power is within ±0.5 dB, the remaining channels are reduced per KDB941225 D05 page 4 footnote 2.

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	0	Reduced[7]
		21100					Tested
		21350					Reduced[7]
		20850			100	0	Reduced[1]
		21100					Reduced[1]
		21350					Reduced[1]
		20850			1	49	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	49	Reduced[4]
		21100					Reduced[4]
		21350					Reduced[4]
		20850				99	Reduced[4]
		21100					Reduced[4]
		21350					Reduced[4]
		All lower bandwidths (15 MHz, 10 MHz, 5 MHz, 3 MHz, 1.4 MHz)					Reduced[5]
	Right	20850	20 MHz	QPSK	50	25	Tested
		21100					Tested
		21350					Tested
		20850			100	0	Reduced[1]
		21100					Tested
		21350					Reduced[1]
		20850			1	49	Tested
		21100					Tested
		21350					Tested
		20850				99	Reduced[2]
		21100					Reduced[2]
		21350					Reduced[2]
		20850		16QAM	50	25	Reduced[3]
		21100					Reduced[3]
		21350					Reduced[3]
		20850			100	0	Reduced[1]
		21100					Reduced[1]
		21350					Reduced[1]
		20850			1	49	Reduced[4]
		21100					Reduced[4]
		21350					Reduced[4]
		20850				99	Reduced[4]
		21100					Reduced[4]
		21350					Reduced[4]
		All lower bandwidths (15 MHz, 10 MHz, 5 MHz, 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] – All remaining sides are reduced based on the calculations in 47 CFR 1307.
Reduced[7]- If the SAR value measured on the middle channel is less than 0.8 W/kg and the conducted power is within ±0.5 dB, the remaining channels are reduced per KDB941225 D05 page 4 footnote 2.

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	0	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	49	Reduced[7]
		40135					Reduced[7]
		40620					Tested
		41105					Reduced[7]
		41490					Reduced[7]
		39750				99	Reduced[2]
		40135					Reduced[2]
		40620					Reduced[2]
		41105					Reduced[2]
		41490					Reduced[2]
		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	49	Reduced[4]
		40135					Reduced[4]
		40620					Reduced[4]
		41105					Reduced[4]
		41490					Reduced[4]
		39750				99	Reduced[4]
		40135					Reduced[4]
		40620					Reduced[4]
		41105					Reduced[4]
		41490					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] – All remaining sides are reduced based on the calculations in 47 CFR 1307.
Reduced[7]- If the SAR value measured on the middle channel is less than 0.8 W/kg and the conducted power is within ±0.5 dB, the remaining channels are reduced per KDB941225 D05 page 4 footnote 2.

Band/ Frequency (MHz)	Side	Required Test Channel	Bandwidth	Modulation	RB Allocation	RB Offset	Tested/ Reduced
Band 41 2496-2690 MHz	Right	39750	20 MHz	QPSK	50	0	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	49	Reduced[7]
		40135					Reduced[7]
		40620					Tested
		41105					Reduced[7]
		41490					Reduced[7]
		39750				99	Reduced[2]
		40135					Reduced[2]
		40620					Reduced[2]
		41105					Reduced[2]
		41490					Reduced[2]
		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	49	Reduced[4]
		40135					Reduced[4]
		40620					Reduced[4]
		41105					Reduced[4]
		41490					Reduced[4]
		39750				99	Reduced[4]
		40135					Reduced[4]
		40620					Reduced[4]
		41105					Reduced[4]
		41490					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] – All remaining sides are reduced based on the calculations in 47 CFR 1307.
Reduced[7]- If the SAR value measured on the middle channel is less than 0.8 W/kg and the conducted power is within ±0.5 dB, the remaining channels are reduced per KDB941225 D05 page 4 footnote 2.

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	23.6	0.331	0.36
	-----		707.5	23095	10 MHz/QPSK	25	12	1	22.3	0.263	0.31
	-----	Right	704.0	23060	10 MHz/QPSK	1	24	0	23.8	0.960	1.01
	-----		707.5	23095	10 MHz/QPSK	1	24	0	23.6	0.988	1.08
	1		711.0	23130	10 MHz/QPSK	1	24	0	23.3	1.00	1.18
	-----		707.5	23095	10 MHz/QPSK	25	12	1	22.3	0.784	0.92
	-----		707.5	23095	10 MHz/QPSK	50	0	1	22.8	0.691	0.72
	-----	Repeat	711.0	23130	10 MHz/QPSK	1	24	0	23.3	0.986	1.16

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

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

Jay M. Moulton
Vice President

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	782.0	23230	10 MHz/QPSK	1	24	0	23.2	0.418	0.50
	-----		782.0	23230	10 MHz/QPSK	25	12	1	22.2	0.321	0.39
	2	Right	782.0	23230	10 MHz/QPSK	1	24	0	23.2	1.20	1.44
	-----		782.0	23230	10 MHz/QPSK	25	12	1	22.2	0.954	1.15
	-----		782.0	23230	10 MHz/QPSK	50	0	1	22.3	0.877	1.03
	-----	Repeat	782.0	23230	10 MHz/QPSK	1	24	0	23.2	1.18	1.42

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

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

Jay M. Moulton
Vice President

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	----	836.6	4183	WCDMA	Back	23.93	12.2 kbps	Test Loop 1	0.427	0.43
	----	826.4	4132	WCDMA	Right	23.63	12.2 kbps	Test Loop 1	1.18	1.29
	----	836.6	4183	WCDMA		23.93	12.2 kbps	Test Loop 1	1.20	1.22
	3	846.4	4233	WCDMA		23.81	12.2 kbps	Test Loop 1	1.28	1.34
	----	846.4	4233	WCDMA	Repeat	23.81	12.2 kbps	Test Loop 1	1.26	1.32

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

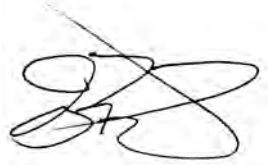
1. Battery is fully charged for all tests.
   Power Measured ☒Conducted ☐ERP ☐EIRP
2. SAR Measurement
   Phantom Configuration ☐Left Head ☒Eli4 ☐Right Head
   SAR Configuration ☐Head ☒Body
3. Test Signal Call Mode ☒Test Code ☐Base Station Simulator
4. Test Configuration ☐With Belt Clip ☐Without Belt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

Jay M. Moulton
Vice President

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 (W/kg)	Reported SAR (W/kg)
			MHz	Ch.					(dBm)		
0 mm	-----	Back	831.5	26865	10 MHz/QPSK	1	37	0	23.2	0.420	0.51
	-----		831.5	26865	10 MHz/QPSK	36	19	1	22.5	0.328	0.37
	-----	Right	819.0	26740	10 MHz/QPSK	1	37	0	23.6	1.05	1.15
	-----		831.5	26865	10 MHz/QPSK	1	37	0	23.5	1.16	1.30
	4		844.0	26990	10 MHz/QPSK	1	37	0	23.6	1.26	1.38
	-----		819.0	26740	10 MHz/QPSK	36	19	1	22.8	0.858	0.90
	-----		831.5	26865	10 MHz/QPSK	36	19	1	22.5	0.915	1.03
	-----		844.0	26990	10 MHz/QPSK	36	19	1	22.5	0.980	1.10
	-----		831.5	26865	10 MHz/QPSK	75	0	1	22.7	0.836	0.90
	-----	Repeated	844.0	26990	10 MHz/QPSK	1	37	0	23.6	1.24	1.36
									Head **1.6 W/kg (mW/g)** averaged over 1 gram		

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



Jay M. Moulton
Vice President

Note: Band 5 LTE is fully within the frequency band of B26. Therefore, Band 5 was not tested for standalone SAR.

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	----	1732.6	1413	WCDMA	Back	22.66	12.2 kbps	Test Loop 1	0.497	0.54
	5	1712.4	1312	WCDMA	Right	22.80	12.2 kbps	Test Loop 1	1.29	1.35
	----	1732.6	1413	WCDMA		22.66	12.2 kbps	Test Loop 1	1.24	1.34
	----	1752.6	1513	WCDMA		22.75	12.2 kbps	Test Loop 1	1.26	1.34
	----	1712.4	1312	WCDMA	Repeat	22.80	12.2 kbps	Test Loop 1	1.27	1.33
7 mm	----	1752.6	1513	WCDMA	Right	23.55	12.2 kbps	Test Loop 1	1.05	1.17

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

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

Jay M. Moulton
Vice President

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	Reported SAR
			MHz	Ch.					(dBm)	(W/kg)	(W/kg)
0 mm	-----	Back	1732.5	20175	20 MHz/QPSK	1	49	0	22.9	0.502	0.51
	-----		1732.5	20175	20 MHz/QPSK	50	24	1	21.3	0.405	0.48
	-----	Right	1720.0	20050	20 MHz/QPSK	1	49	0	22.8	1.26	1.32
	-----		1732.5	20175	20 MHz/QPSK	1	49	0	22.9	1.28	1.31
	6		1745.0	20300	20 MHz/QPSK	1	49	0	22.8	1.29	1.35
	-----		1720.0	20050	20 MHz/QPSK	50	24	1	21.9	1.03	1.05
	-----		1732.5	20175	20 MHz/QPSK	50	24	1	21.3	1.03	1.21
	-----		1745.0	20300	20 MHz/QPSK	50	24	1	21.8	1.05	1.10
	-----		1732.5	20175	20 MHz/QPSK	100	0	1	21.2	0.942	1.13
	-----	Repeated	1745.0	20300	20 MHz/QPSK	1	49	0	22.8	1.27	1.33
7 mm	-----	Right	1745.0	20300	20 MHz/QPSK	1	49	0	23.6	1.08	1.18

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

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

Jay M. Moulton
Vice President

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	----	1880.0	9400	WCDMA	Back	21.87	12.2 kbps	Test Loop 1	0.403	0.42
	7	1852.4	9262	WCDMA	Right	21.50	12.2 kbps	Test Loop 1	1.32	1.48
	----	1880.0	9400	WCDMA		21.87	12.2 kbps	Test Loop 1	1.25	1.29
	----	1907.6	9538	WCDMA		21.81	12.2 kbps	Test Loop 1	1.28	1.34
	----	1852.4	9262	WCDMA	Repeat	21.50	12.2 kbps	Test Loop 1	1.30	1.46
7 mm	----	1852.4	9262	WCDMA	Right	23.51	12.2 kbps	Test Loop 1	1.16	1.30

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

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

Jay M. Moulton
Vice President

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	1882.5	26365	20 MHz/QPSK	1	49	0	21.6	0.402	0.44
	-----		1882.5	26365	20 MHz/QPSK	50	24	1	20.4	0.321	0.37
	-----	Right	1860.0	26140	20 MHz/QPSK	1	49	0	21.6	1.07	1.17
	8		1882.5	26365	20 MHz/QPSK	1	49	0	21.6	1.19	1.31
	-----		1905.0	26590	20 MHz/QPSK	1	49	0	21.6	1.14	1.25
	-----		1860.0	26140	20 MHz/QPSK	50	24	1	20.3	0.872	1.03
	-----		1882.5	26365	20 MHz/QPSK	50	24	1	20.4	0.950	1.09
	-----		1905.0	26590	20 MHz/QPSK	50	24	1	20.7	0.928	0.99
	-----		1882.5	26365	20 MHz/QPSK	100	0	1	20.3	0.823	0.97
	-----	Repeated	1882.5	26365	20 MHz/QPSK	1	49	0	21.6	1.17	1.28
7 mm	-----	Right	1882.5	26365	20 MHz/QPSK	1	49	0	23.9	0.987	1.01

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

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

Jay M. Moulton
Vice President

Note: Band 2 LTE is fully within the frequency band of B25. Therefore, Band 2 was not tested for standalone SAR.

SAR Data Summary – 2600 MHz Body – LTE Band 7

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	2560.0	21350	20 MHz/QPSK	1	49	0	21.4	0.209	0.24
	-----		2510.0	20850	20 MHz/QPSK	50	24	1	20.6	0.169	0.19
	9	Right	2510.0	20850	20 MHz/QPSK	1	49	0	21.3	1.25	1.47
	-----		2535.0	21100	20 MHz/QPSK	1	49	0	21.4	1.13	1.30
	-----		2560.0	21350	20 MHz/QPSK	1	49	0	21.9	0.885	0.91
	-----		2510.0	20850	20 MHz/QPSK	50	24	1	20.3	1.04	1.22
	-----		2535.0	21100	20 MHz/QPSK	50	24	1	20.6	0.906	0.99
	-----		2560.0	21350	20 MHz/QPSK	50	24	1	20.9	0.702	0.72
	-----		2535.0	21100	20 MHz/QPSK	100	0	1	20.8	0.842	0.88
	-----	Repeat	2510.0	20850	20 MHz/QPSK	1	49	0	21.3	1.23	1.45
7 mm	-----	Right	2510.0	20850	20 MHz/QPSK	1	49	0	22.6	1.15	1.26

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

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

Jay M. Moulton
Vice President

SAR Data Summary – 2550 MHz Body – LTE Band 41

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	2593.0	40620	20 MHz/QPSK	1	49	0	22.5	0.084	0.09
	-----		2593.0	40620	20 MHz/QPSK	50	24	1	21.6	0.0686	0.08
	10	Right	2593.0	40620	20 MHz/QPSK	1	49	0	22.5	0.496	0.56
	-----		2593.0	40620	20 MHz/QPSK	50	24	1	21.6	0.398	0.44

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

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

Jay M. Moulton
Vice President

SAR Data Summary – RFID

MEASUREMENT RESULTS									
Gap	**Plot**	**Frequency**		**Modulation**	**Position**	**End Power**	**Module**	**Measured SAR (W/kg)**	**Reported SAR (W/kg)**
		MHz	**Ch.**			**(dBm)**			
0 mm	11	920.0	2	FM	Back	30.19	Micro	1.06	1.28
	----	920.0	2	FM	Right	30.19		0.148	0.18
	----	920.0	2	FM	Top	30.19		0.412	0.50
	12	922.2	2	FM	Back	27.28	Nano	1.01	1.19
	----	922.2	2	FM	Right	27.28		0.180	0.21
	----	922.2	2	FM	Top	27.28		0.0977	0.12
	13	914.75	2	FM	Back	27.39	Transcore	0.895	1.03
	----	914.75	2	FM	Right	27.39		0.210	0.24
	----	914.75	2	FM	Top	27.39		0.246	0.28
						Extremity 4.0 W/kg (mW/g) averaged over 10 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

SAR Data Summary – 2450 MHz Body 802.11b and Bluetooth

MEASUREMENT RESULTS									
Gap	**Plot**	**Position**	**Frequency**		**Modulation**	**Antenna**	**End Power**	**Measured SAR (W/kg)**	**Reported SAR (W/kg)**
			MHz	**Ch.**			**(dBm)**		
0 mm	-----	Back	2437	6	DSSS	Primary	17.08	0.151	0.19
	-----	Top	2412	1	DSSS		17.01	0.348	0.44
	14		2437	6	DSSS		17.08	0.374	0.46
	-----		2462	11	DSSS		17.02	0.359	0.45
	-----	Left	2437	6	DSSS		17.08	0.319	0.39
	-----	Back	2437	6	OFDM	Secondary	16.96	0.0374	0.05
	-----	Right	2437	6	OFDM		16.96	0.307	0.39
	-----	Back	2442	39	GFSK	Secondary	10.38	0.0094	0.01
	-----	Right	2442	39	GFSK		10.38	0.0768	0.09
	-----	Back	2442	39	GFSK	Extended Range	16.44	0.0142	0.02
	-----	Top	2442	39	GFSK		16.44	0.169	0.19
						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

SAR Data Summary – 5250 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	5280	56	OFDM	Primary	14.10	0.427	0.53
	-----		5300	60	OFDM		14.13	0.430	0.53
	-----	Top	5280	56	OFDM		14.10	0.611	0.75
	-----		5300	60	OFDM		14.13	0.637	0.78
	15	Left	5280	56	OFDM		14.10	0.795	0.98
	-----		5300	60	OFDM		14.13	0.781	0.95
	-----	Back	5300	60	OFDM	Secondary	14.13	0.0413	0.05
	-----	Right	5280	56	OFDM		14.10	0.434	0.53
	-----		5300	60	OFDM		14.13	0.428	0.52
	-----	Repeat	5280	56	OFDM	Primary	14.10	0.778	0.96
						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

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	Primary	14.32	0.400	0.47
	-----		5620	124	OFDM		14.34	0.426	0.50
	-----	Top	5580	116	OFDM		14.32	0.684	0.80
	-----		5620	124	OFDM		14.34	0.711	0.83
	-----	Left	5580	116	OFDM		14.32	0.727	0.85
	16		5620	124	OFDM		14.34	0.872	1.02
	-----	Back	5620	124	OFDM	Secondary	14.22	0.0668	0.08
	-----	Right	5580	116	OFDM		14.19	0.444	0.54
	-----		5620	124	OFDM		14.22	0.454	0.54
	-----	Repeat	5620	124	OFDM	Primary	14.34	0.859	1.00

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

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	Primary	14.45	0.448	0.51
	-----		5825	165	OFDM		14.42	0.446	0.51
	-----	Top	5785	157	OFDM		14.45	0.664	0.75
	-----		5825	165	OFDM		14.42	0.615	0.70
	-----	Left	5785	157	OFDM		14.45	0.935	1.06
	17		5825	165	OFDM		14.42	0.976	1.12
	-----	Back	5785	157	OFDM	Secondary	14.28	0.0321	0.04
	-----	Right	5785	157	OFDM		14.28	0.364	0.43
	-----	Repeat	5825	165	OFDM	Primary	14.42	0.955	1.09
						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

SAR Data Summary – Simultaneous Transmit (WWAN-RFID)

MEASUREMENT RESULTS				
Plot	**Position**	**SAR (W/kg) WWAN**	**SAR (W/kg) RFID**	**Total SAR (W/kg)**
-----	----	0.96	1.19	2.15
			Extremity 4.0 W/kg (mW/g) averaged over 10 gram	

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 (WiFi (P)-RFID)

MEASUREMENT RESULTS				
Plot	**Position**	**SAR (W/kg) WiFi(P)**	**SAR (W/kg) RFID**	**Total SAR (W/kg)**
-----	----	0.29	1.19	1.48
			Extremity 4.0 W/kg (mW/g) averaged over 10 gram	

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 (WiFi (S)-RFID)

MEASUREMENT RESULTS				
Plot	**Position**	**SAR (W/kg) WiFi(S)**	**SAR (W/kg) RFID**	**Total SAR (W/kg)**
-----	----	0.15	1.19	1.34
			Extremity 4.0 W/kg (mW/g) averaged over 10 gram	

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 (BT-RFID)

MEASUREMENT RESULTS				
Plot	**Position**	**SAR (W/kg) BT**	**SAR (W/kg) RFID**	**Total SAR (W/kg)**
-----	----	0.09	1.19	1.28
		Extremity 4.0 W/kg (mW/g) averaged over 10 gram		

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 (BT-WWAN)

MEASUREMENT RESULTS				
Plot	**Position**	**SAR (W/kg) BT**	**SAR (W/kg) WWAN**	**Total SAR (W/kg)**
-----	----	0.16	1.48	1.64
		Body 1.6 W/kg (mW/g) averaged over 1 gram		

The cellular and BT antennas are a minimum of 107 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

$(1.43 + 1.29)^{1.5}/133.56 = 0.02$

SAR Data Summary – Simultaneous Transmit (WiFi (P)-BT)

MEASUREMENT RESULTS				
Plot	**Position**	**SAR (W/kg) WiFi(P)**	**SAR (W/kg) BT**	**Total SAR (W/kg)**
-----	----	1.12	0.16	1.28
		Body 1.6 W/kg (mW/g) averaged over 1 gram		

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 (WWAN-WiFi(P))

MEASUREMENT RESULTS				
Plot	**Position**	**SAR (W/kg) WWAN**	**SAR (W/kg) WiFi(P)**	**Total SAR (W/kg)**
-----	----	1.48	1.12	2.60
			Body 1.6 W/kg (mW/g) averaged over 1 gram	

The cellular and WiFi(P) antennas are a minimum of 133.56 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

$(1.43 + 1.29)^{1.5}/133.56 = 0.03$

SAR Data Summary – Simultaneous Transmit (WWAN-WiFi(S))

MEASUREMENT RESULTS				
Plot	**Position**	**SAR (W/kg) WWAN**	**SAR (W/kg) WiFi(S)**	**Total SAR (W/kg)**
-----	Back	1.48	0.54	2.02
			Body 1.6 W/kg (mW/g) averaged over 1 gram	

The cellular and WiFi(S) hotspots are a minimum of 73 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

$(1.43 + 0.33)^{1.5}/53 = 0.04$

SAR Data Summary – Simultaneous Transmit (WiFi(P)-WiFi(S))

MEASUREMENT RESULTS				
Plot	**Position**	**SAR (W/kg) WiFi(P)**	**SAR (W/kg) WiFi(S)**	**Total SAR (W/kg)**
-----	Back	1.19	0.54	1.73
			Body 1.6 W/kg (mW/g) averaged over 1 gram	

The WiFi(P) and WiFi(S) antennas are a minimum of 104.07 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

$(1.29 + 0.33)^{1.5}/104.07 = 0.02$