FCC SAR Test Report

APPLICANT	:	**ZTE CORPORATION**
EQUIPMENT	:	**CDMA/LTE Dual-Mode Digital Mobile Phone**
BRAND NAME	:	**ZTE**
MODEL NAME	:	**N910**
FCC ID	:	**Q78-ZTEN910**
STANDARD	:	**FCC 47 CFR Part 2 (2.1093)** **IEEE C95.1-1991** **IEEE 1528-2003** **FCC OET Bulletin 65 Supplement C (Edition 01-01)**

The product was received on Nov. 07, 2011 and completely tested on Feb. 20, 2012. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures and shown the compliance with the applicable technical standards.

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

Reviewed by:

Jones Tsai

Jones Tsai / Manager

Testing Laboratory 1190

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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA1N0701	Rev. 01	Initial issue of report	Feb. 16, 2012
FA1N0701	Rev. 02	Add 3 Head SAR test cases and the relative assessments.	Feb. 21, 2012
FA1N0701	Rev. 03	Apply scale SAR compensated for WLAN for simultaneous transmission assessment.	Mar. 27, 2012

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **ZTE CORPORATION CDMA/LTE DUAL-MODE DIGITAL MOBILE PHONE, ZTE, N910**, are as follows.

<Standalone SAR>

Band	Position	SAR_{1g} (W/kg)
CDMA2000 BC0	Head	0.522
	Hotspot (1 cm Gap)	1.29
	Body-worn (1 cm Gap)	1.29
CDMA2000 BC15	Head	1.23
	Hotspot (1 cm Gap)	1.34
	Body-worn (1 cm Gap)	1.34
CDMA2000 BC1	Head	1.39
	Hotspot (1 cm Gap)	1.3
	Body-worn (1 cm Gap)	1.3
LTE Band 4	Head	0.981
	Hotspot (1 cm Gap)	0.872
	Body-worn (1 cm Gap)	0.872
LTE Band 2	Head	0.927
	Hotspot (1 cm Gap)	1.1
	Body-worn (1 cm Gap)	1.1
WLAN 2.4G	Head	0.06
	Hotspot (1 cm Gap)	0.222
	Body-worn (1 cm Gap)	0.222

<Simultaneous transmission SAR>

Band	Position	Multi Band SAR_{1g} (W/kg)
LTE Band 4	Body-worn (1 cm Gap)	1.5
CDMA 2000 BC0		
WLAN 2.4G		
LTE Band 2	Body-worn (1 cm Gap)	1.5
CDMA 2000 BC0		
WLAN 2.4G		

This device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6 W/kg) specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-1991, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2003 and FCC OET Bulletin 65 Supplement C (Edition 01-01).

2. Administration Data

2.1 Testing Laboratory

Test Site	SPORTON INTERNATIONAL INC.
Test Site Location	No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL: +886-3-327-3456 FAX: +886-3-328-4978

2.2 Applicant

Company Name	ZTE CORPORATION
Address	ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District,Shenzhen, Guangdong, 518057, P.R.China

2.3 Manufacturer

Company Name	ZTE CORPORATION
Address	ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District,Shenzhen, Guangdong, 518057, P.R.China

2.4 Application Details

Date of Receipt of Application	Nov. 07, 2011
Date of Start during the Test	Jan. 03, 2012
Date of End during the Test	Feb. 20, 2012

3. General Information

3.1 Description of Device Under Test (DUT)

Product Feature & Specification	
DUT Type	CDMA/LTE DUAL-MODE DIGITAL MOBILE PHONE
Brand Name	ZTE
Model Name	N910
FCC ID	Q78-ZTEN910
Tx Frequency	CDMA2000 BC0: 824.70 MHz ~ 848.31 MHz CDMA2000 BC1: 1851.25 MHz ~ 1908.75 MHz CDMA2000 BC15: 1711.25 MHz ~ 1753.75 MHz LTE Band 2: 1850.7 MHz ~ 1909.3 MHz LTE Band 4: 1710.7 MHz ~ 1754.3 MHz 802.11b/g/n: 2412 MHz ~ 2462 MHz Bluetooth: 2402 MHz ~ 2480 MHz
Rx Frequency	CDMA2000 BC0: 869.70 MHz ~ 893.31 MHz CDMA2000 BC1: 1931.25 MHz ~ 1988.75 MHz CDMA2000 BC15: 2111.25 ~ 2153.75 MHz LTE Band 2 : 1930.7 MHz ~ 1989.3 MHz LTE Band 4 : 2100.7 MHz ~ 2154.3 MHz 802.11b/g/n: 2412 MHz ~ 2462 MHz Bluetooth: 2402 MHz ~ 2480 MHz
Maximum Output Power to Antenna	CDMA2000 BC0: 24.38 dBm CDMA2000 BC1: 24.20 dBm CDMA2000 BC15: 23.77 dBm LTE Band 2: 22.77 dBm LTE Band 4: 22.76 dBm 802.11b: 15.31 dBm 802.11g: 12.71 dBm 802.11n (BW 20MHz) (2.4GHz): 10.74 dBm Bluetooth: 2.23 dBm
Antenna Type	CDMA2000: Fixed Internal Antenna LTE: PIFA Antenna WLAN: PIFA Antenna
Type of Modulation	CDMA2000: QPSK LTE: QPSK / 16QAM (Uplink) 802.11b: DSSS (BPSK / QPSK / CCK) 802.11a/g/n: OFDM (BPSK / QPSK / 16QAM / 64QAM) Bluetooth (1Mbps): GFSK Bluetooth EDR (2Mbps): π/4-DQPSK Bluetooth EDR (3Mbps): 8-DPSK
DUT Stage	Identical Prototype
Remark: The above DUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.	

The table below summarized necessary items addressed in KDB 941225 D05 v01.

FCC ID	Q78-ZTEN910											
DUT Type	CDMA/LTE DUAL-MODE DIGITAL MOBILE PHONE											
Operating Frequency Range of each LTE transmission band	Band 2: TX: 1850.7 MHz ~ 1909.3 MHz, RX: 1930.7 MHz ~ 1989.3 MHz Band 4: TX: 1710.7 MHz ~ 1754.3 MHz, RX: 2110.7 MHz ~ 2154.3 MHz											
Channel Bandwidth	Band 2: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz Band 4: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz											
Transmission (H, M, L) channel numbers and frequencies in each LTE band												
Band 2												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	18607	1850.7	18615	1851.5	18625	1852.5	18650	1855	18675	1857.5	18700	1860
M	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880
H	19193	1909.3	19185	1908.5	19175	1907.5	19150	1905	19125	1902.5	19100	1900
Band 4												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	19957	1710.7	19965	1711.5	19975	1712.5	20000	1715	20025	1717.5	20050	1720
M	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5
H	20393	1754.3	20385	1753.5	20375	1752.5	20350	1750	20325	1747.5	20300	1745

UE category, uplink modulations used	Category 3, QPSK, and 16QAM	
LTE transmitter and antenna implementation (standalone or sharing hardware components / antennas)	LTE/DO Main Antenna: LTE share the antenna with EVDO.	
LTE Voice / Data requirements	Data only	
LTE MPR permanently built-in by design	Yes	
LTE A-MPR	Disabled during SAR testing. With CMW500, set NS value to NS_01 to disable A-MPR.	
LTE maximum averaged conducted output power	LTE Band 2: 22.77 dBm LTE Band 4: 22.76 dBm	
Other U.S. wireless operating modes / bands	CDMA2000 1xRTT	BC0: UL: 869.7~893.31MHz / DL: 824.7~848.31MHz BC1: UL: 1851.25~1908.75MHz / DL: 1931.25~1988.75MHz BC15: UL: 1711.25~1753.75MHz / DL: 2111.25 ~ 2153.75 MHz
	1xEVDO	BC1: UL: 1851.25~1908.75MHz / DL: 1931.25~1988.75MHz BC15: UL: 1711.25~1753.75MHz / DL: 2111.25 ~ 2153.75 MHz
	WLAN	2.4G: 2412 MHz ~ 2462 MHz
	Bluetooth	2402 MHz ~ 2480 MHz
Simultaneous transmission configurations	In Section 12.4	
Power reduction applied to satisfy SAR compliance	Yes, SVLTE/SVDO power reduction.	

The SVLTE and SVDO operating mode for all frequency bands, power reduction is needed for SAR compliance. The power reduction is implemented on this device and cannot be changed by end users or overridden by power control command from base stations.
The power reduction implementation is defined as following table.

CDMA2000 1x voice mode BC1/BC15	1xEVDO data mode BC1/BC15
P ≥ 15.5	17
15 ≤ P < 15.5	23
P < 15	23.5
CDMA2000 1x voice mode BC0	1xEVDO data mode BC1/BC15
P ≥ 16	17
16 ≤ P < 16.5	23
P < 16	23.5
CDMA2000 1x voice mode BC0/BC1/BC15	LTE data mode BC1/BC15
P ≥ 18.5	19
18 ≤ P < 18.5	23
P < 18	23

Table 3.1-A: Power Reduction Implementation (Unit: dBm)

CDMA 1xRTT		BC1 1xEVDO			BC15 1xEVDO		
		Output Power (dBm)			Output Power (dBm)		
Output Power Level (dBm)		Low Ch. 1851.25 MHz	Middle Ch. 1880 MHz	High Ch. 1908.75 MHz	Low Ch. 1711.25 MHz	Middle Ch. 1731.25 MHz	High Ch. 1753.75 MHz
BC0	11	23.5	23.5	23.5	23.5	23.5	23.5
	16	23	23	23	23	23	23
	17	17	17	17	17	17	17
	24	17	17	17	17	17	17
BC1/BC15	11	23.5	23.5	23.5	23.5	23.5	23.5
	15	23	23	23	23	23	23
	16	17	17	17	17	17	17
	24	17	17	17	17	17	17
CDMA 1xRTT		LTE Band 2 BW=1.4/3/5/10/15/20MHz QPSK 1RB			LTE Band 4 BW=1.4/3/5/10/15/20MHz QPSK 1RB		
		Output Power (dBm)			Output Power (dBm)		
Output Power Level (dBm)		Low Ch.	Middle Ch.	High Ch.	Low Ch.	Middle Ch.	High Ch.
BC0	11	23	23	23	23	23	23
	18	23	23	23	23	23	23
	19	19	19	19	19	19	19
	24	19	19	19	19	19	19
BC1/BC15	11	23	23	23	23	23	23
	18	23	23	23	23	23	23
	19	19	19	19	19	19	19
	24	19	19	19	19	19	19

Table 3.1-B: Target Power Reduction (Unit: dBm)

3.2 Product Photos

Please refer to Appendix D.

3.3 Applied Standards

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

- FCC 47 CFR Part 2 (2.1093)
- IEEE C95.1-1991
- IEEE 1528-2003
- FCC OET Bulletin 65 Supplement C (Edition 01-01)
- FCC KDB 447498 D01 v04
- FCC KDB 648474 D01 v01r05
- FCC KDB 941225 D01 v02
- FCC KDB 941225 D05 v01
- FCC KDB 941225 D06 v01
- FCC KDB 248227 D01 v01r02

3.4 Device Category and SAR Limits

This device belongs to portable device category because its radiating structure is allowed to be used within 20 centimeters of the body of the user. Limit for General Population/Uncontrolled exposure should be applied for this device, it is 1.6 W/kg as averaged over any 1 gram of tissue.

3.5 Test Conditions

3.5.1 Ambient Condition

Ambient Temperature	20 to 24 ℃
Humidity	< 60 %

3.5.2 Test Configuration

The device was controlled by using a base station emulator. Communication between the device and the emulator was established by air link. The distance between the DUT and the antenna of the emulator is larger than 50 cm and the output power radiated from the emulator antenna is at least 30 dB smaller than the output power of DUT. The DUT was set from the emulator to radiate maximum output power during all tests.

For WLAN SAR testing, WLAN engineering testing software installed on the DUT can provide continuous transmitting RF signal. This RF signal utilized in SAR measurement has almost 100% duty cycle and its crest factor is 1.

4. Specific Absorption Rate (SAR)

4.1 Introduction

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

4.2 SAR Definition

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

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

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

SAR measurement can be either related to the temperature elevation in tissue by

$$\mathbf{SAR} = \mathbf{C}\left(\frac{\boldsymbol{\delta}\mathbf{T}}{\boldsymbol{\delta}\mathbf{t}}\right)$$

Where: C is the specific heat capacity, δT is the temperature rise and δt is the exposure duration, or related to the electrical field in the tissue by

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

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

However for evaluating SAR of low power transmitter, electrical field measurement is typically applied.

5. SAR Measurement System

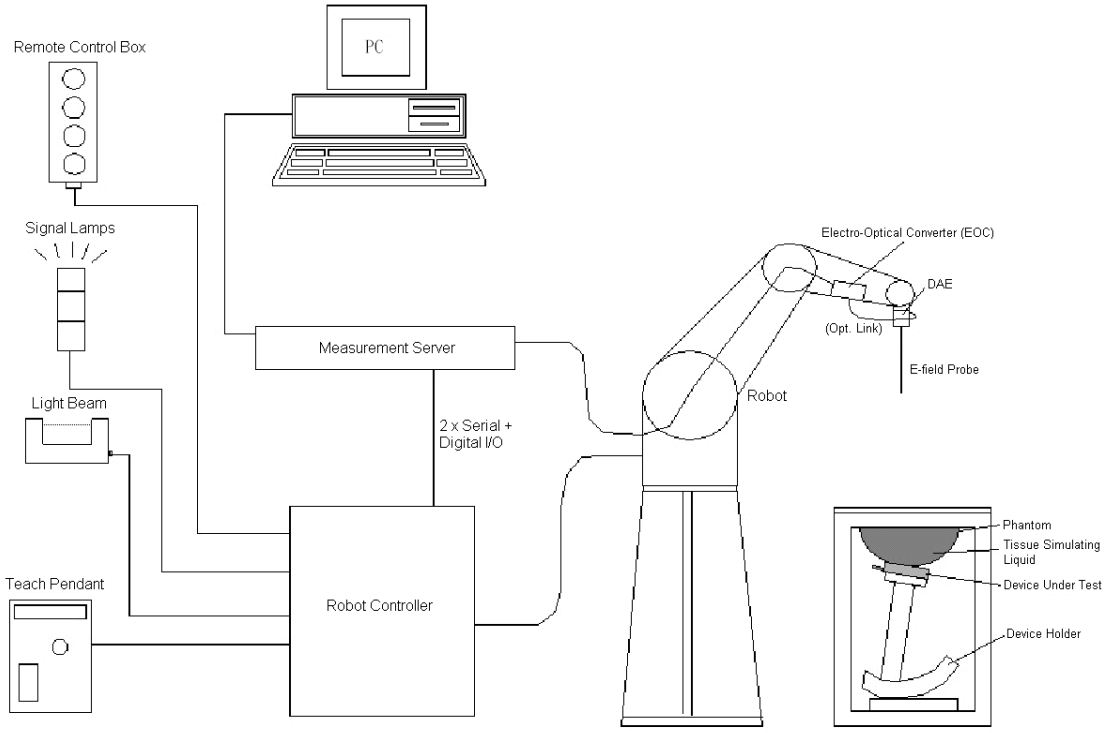


Fig 5.1 SPEAG DASY System Configurations

The DASY system for performance compliance tests is illustrated above graphically. This system consists of the following items:

- A standard high precision 6-axis robot with controller, a teach pendant and software
- A data acquisition electronic (DAE) attached to the robot arm extension
- A dosimetric probe equipped with an optical surface detector system
- The electro-optical converter (ECO) performs the conversion between optical and electrical signals
- A measurement server performs the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- A probe alignment unit which improves the accuracy of the probe positioning
- A computer operating Windows XP
- DASY software
- Remove control with teach pendant and additional circuitry for robot safety such as warming lamps, etc.
- The SAM twin phantom
- A device holder
- Tissue simulating liquid
- Dipole for evaluating the proper functioning of the system

Some of the components are described in details in the following sub-sections.

5.1 E-Field Probe

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

5.1.1 E-Field Probe Specification

<ET3DV6 Probe >

Construction	Symmetrical design with triangular core Built-in optical fiber for surface detection system. Built-in shielding against static charges. PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Frequency	10 MHz to 3 GHz; Linearity: ± 0.2 dB
Directivity	± 0.2 dB in HSL (rotation around probe axis) ± 0.4 dB in HSL (rotation normal to probe axis)
Dynamic Range	5 µW/g to 100 mW/g; Linearity: ± 0.2 dB
Dimensions	Overall length: 330 mm (Tip: 16 mm) Tip diameter: 6.8 mm (Body: 12 mm) Distance from probe tip to dipole centers: 2.7 mm

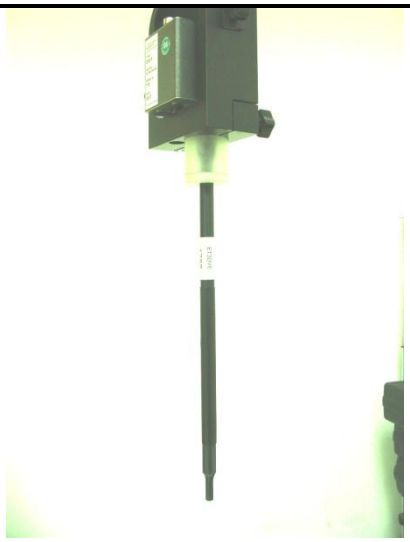


Fig 5.2 Photo of ET3DV6

<EX3DV4 Probe>

Construction	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Frequency	10 MHz to 6 GHz; Linearity: ± 0.2 dB
Directivity	± 0.3 dB in HSL (rotation around probe axis) ± 0.5 dB in tissue material (rotation normal to probe axis)
Dynamic Range	10 µW/g to 100 mW/g; Linearity: ± 0.2 dB (noise: typically < 1 µW/g)
Dimensions	Overall length: 330 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm

Fig 5.3 Photo of EX3DV4

5.1.2 E-Field Probe Calibration

Each probe needs to be calibrated according to a dosimetric assessment procedure with accuracy better than ± 10%. The spherical isotropy shall be evaluated and within ± 0.25 dB. The sensitivity parameters (NormX, NormY, and NormZ), the diode compression parameter (DCP) and the conversion factor (ConvF) of the probe are tested. The calibration data can be referred to appendix C of this report.

5.2 Data Acquisition Electronics (DAE)

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

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

Fig 5.4 Photo of DAE

5.3 Robot

The SPEAG DASY system uses the high precision robots (DASY4: RX90BL; DASY5: TX90XL) type from Stäubli SA (France). For the 6-axis controller system, the robot controller version (DASY4: CS7MB; DASY5: CS8c) from Stäubli is used. The Stäubli robot series have many features that are important for our application:

- High precision (repeatability ±0.035 mm)
- High reliability (industrial design)
- Jerk-free straight movements
- Low ELF interference (the closed metallic construction shields against motor control fields)

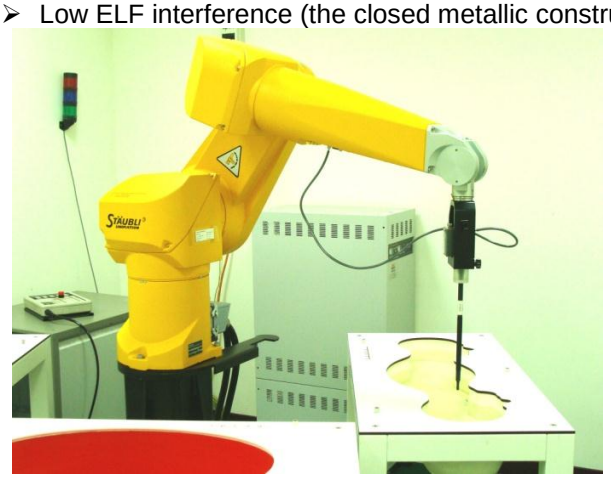


Fig 5.5 Photo of DASY4

Fig 5.6 Photo of DASY5

5.4 Measurement Server

The measurement server is based on a PC/104 CPU board with CPU (DASY4: 166 MHz, Intel Pentium; DASY5: 400 MHz, Intel Celeron), chipdisk (DASY4: 32 MB; DASY5: 128 MB), RAM (DASY4: 64 MB, DASY5: 128 MB). The necessary circuits for communication with the DAE electronic box, as well as the 16 bit AD converter system for optical detection and digital I/O interface are contained on the DASY I/O board, which is directly connected to the PC/104 bus of the CPU board.

The measurement server performs all the real-time data evaluation for field measurements and surface detection, controls robot movements and handles safety operations.

Fig 5.7 Photo of Server for DASY4

Fig 5.8 Photo of Server for DASY5

5.5 Phantom

<SAM Twin Phantom>

Shell Thickness	2 ± 0.2 mm; Center ear point: 6 ± 0.2 mm
Filling Volume	Approx. 25 liters
Dimensions	Length: 1000 mm; Width: 500 mm; Height: adjustable feet
Measurement Areas	Left Hand, Right Hand, Flat Phantom

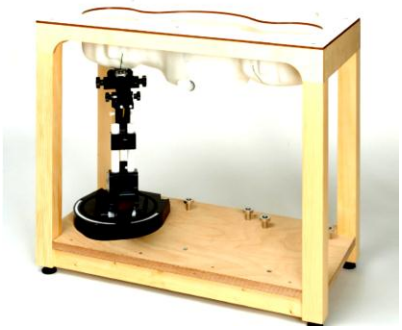


Fig 5.1 Photo of SAM Phantom

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

<ELI4 Phantom>

Shell Thickness	2 ± 0.2 mm (sagging: <1%)
Filling Volume	Approx. 30 liters
Dimensions	Major ellipse axis: 600 mm Minor axis: 400 mm

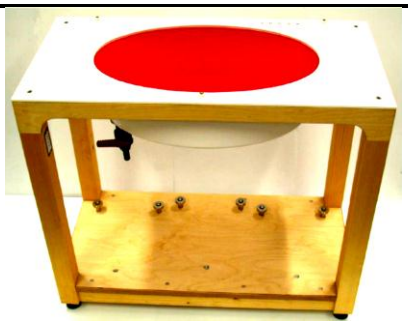


Fig 5.2 Photo of ELI4 Phantom

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

5.6 Device Holder

<Device Holder for SAM Twin Phantom>

The SAR in the phantom is approximately inversely proportional to the square of the distance between the source and the liquid surface. For a source at 5 mm distance, a positioning uncertainty of ± 0.5 mm would produce a SAR uncertainty of ± 20 %. Accurate device positioning is therefore crucial for accurate and repeatable measurements. The positions in which the devices must be measured are defined by the standards.

The DASY device holder is designed to cope with different positions given in the standard. It has two scales for the device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear reference points). The rotation center for both scales is the ear reference point (EPR). Thus the device needs no repositioning when changing the angles.

The DASY device holder is constructed of low-loss POM material having the following dielectric parameters: relative permittivity ε = 3 and loss tangent δ = 0.02. The amount of dielectric material has been reduced in the closest vicinity of the device, since measurements have suggested that the influence of the clamp on the test results could thus be lowered.

Fig 5.9 Device Holder

<Laptop Extension Kit>

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

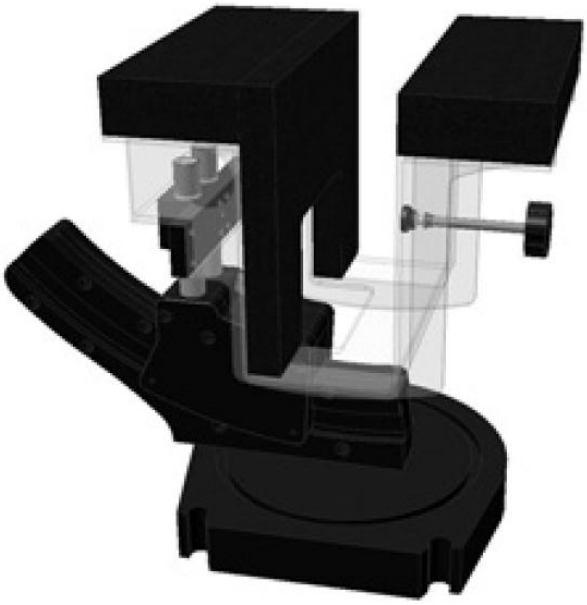


Fig 5.10 Laptop Extension Kit

5.7 Data Storage and Evaluation

5.7.1 Data Storage

The DASY software stores the assessed data from the data acquisition electronics as raw data (in microvolt readings from the probe sensors), together with all the necessary software parameters for the data evaluation (probe calibration data, liquid parameters and device frequency and modulation data) in measurement files. The post-processing software evaluates the desired unit and format for output each time the data is visualized or exported. This allows verification of the complete software setup even after the measurement and allows correction of erroneous parameter settings. For example, if a measurement has been performed with an incorrect crest factor parameter in the device setup, the parameter can be corrected afterwards and the data can be reevaluated.

The measured data can be visualized or exported in different units or formats, depending on the selected probe type (e.g., [V/m], [A/m], [mW/g]). Some of these units are not available in certain situations or give meaningless results, e.g., a SAR-output in a non-lose media, will always be zero. Raw data can also be exported to perform the evaluation with other software packages.

5.7.2 Data Evaluation

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

Probe parameters：	- Sensitivity	$Norm_i$, a_{i0}, a_{i1}, a_{i2}
	- Conversion factor	$ConvF_i$
	- Diode compression point	dcp_i
Device parameters：	- Frequency	f
	- Crest factor	cf
Media parameters：	- Conductivity	σ
	- Density	ρ

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

The first step of the evaluation is a linearization of the filtered input signal to account for the compression characteristics of the detector diode. The compensation depends on the input signal, the diode type and the DC-transmission factor from the diode to the evaluation electronics. If the exciting field is pulsed, the crest factor of the signal must be known to correctly compensate for peak power.

The formula for each channel can be given as：

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

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

H-field Probes：$$\mathbf{H_i = \sqrt{V_i} \cdot \frac{a_{i0} + a_{i1} f + a_{i2} f^2}{f}}$$

with V_i = compensated signal of channel i, (i = x, y, z)
$Norm_i$ = sensor sensitivity of channel i, (i = x, y, z), μV/(V/m)^2 for E-field Probes
ConvF = sensitivity enhancement in solution
a_{ij} = sensor sensitivity factors for H-field probes
f = carrier frequency [GHz]
E_i = electric field strength of channel i in V/m
H_i = magnetic field strength of channel i in A/m

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

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

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

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

with SAR = local specific absorption rate in mW/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

Note that the density is set to 1, to account for actual head tissue density rather than the density of the tissue simulating liquid.

5.8 Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	Dosimetric E-Field Probe	EX3DV4	3697	Sep. 02, 2011	Sep. 01, 2012
SPEAG	Data Acquisition Electronics	DAE4	1210	Nov. 18, 2011	Nov. 17, 2012
SPEAG	835MHz System Validation Kit	D835V2	4d091	Nov. 18, 2011	Nov. 17, 2012
SPEAG	1800MHz System Validation Kit	D1750V2	1023	Jun. 16, 2011	Jun. 15, 2012
SPEAG	1900MHz System Validation Kit	D1900V2	5d118	Nov. 21, 2011	Nov. 20, 2012
SPEAG	2450MHz System Validation Kit	D2450V2	840	Mar. 18, 2010	Mar. 17, 2012
SPEAG	SAM Twin Phantom	QD 000 P40 CB	TP-1477	NCR	NCR
SPEAG	SAM Twin Phantom	QD 000 P40 CB	TP-1479	NCR	NCR
Agilent	ENA Series Network Analyzer	E5071C	MY46111157	Apr. 07, 2011	Apr. 06, 2012
Agilent	Wireless Communication Test Set	E5515C	MY48367160	Oct. 26, 2011	Oct. 25, 2013
R&S	Universal Radio Communication Tester	CMU200	116456	Sep. 20, 2011	Sep. 19, 2013
Agilent	Dielectric Probe Kit	85070E	MY44300475	NCR	NCR
R&S	Signal Generator	SMR40	100455	Dec. 30, 2011	Dec. 29, 2012
R&S	Spectrum Analyzer	FSP30	101399	Jun. 02, 2011	Jun. 01, 2012
Agilent	Base Station	E5515C	GB47050646	Aug. 18, 2011	Aug. 17, 2012
AR	Amplifier	551G4	333096	NCR	NCR

Table 5.1 Test Equipment List

Note:

1. The calibration certificate of DASY can be referred to appendix C of this report.
2. Referring to KDB450824 D02, the dipole calibration interval can be extended to 3 years with justification. The dipoles are also not physically damaged, or repaired during the interval.
3. The justification data of dipole D2450V2, SN: 840, can be found in appendix C. The return loss is < -20dB, within 20% of prior calibration, the impedance is within 5 ohm of prior calibration.

6. Tissue Simulating Liquids

For the measurement of the field distribution inside the SAM phantom with DASY, the phantom must be filled with around 25 liters of homogeneous body tissue simulating liquid. For head SAR testing, the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15 cm, which is shown in Fig. 6.1. For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm, which is shown in Fig. 6.2.

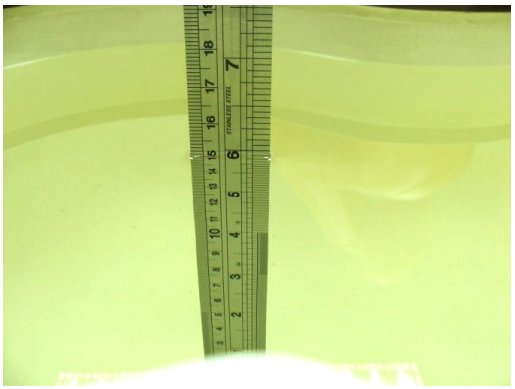


Fig 6.1 Photo of Liquid Height for Head SAR

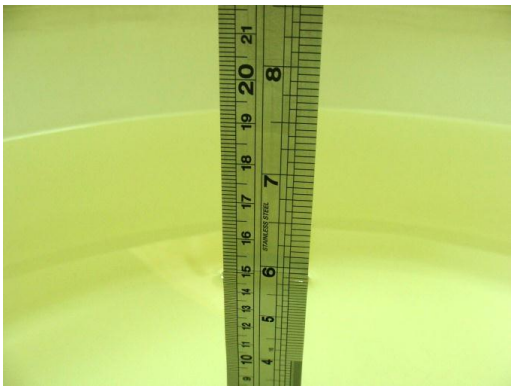


Fig 6.2 Photo of Liquid Height for Body SAR

The following table gives the recipes for tissue simulating liquid.

Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity (σ)	Permittivity (ε_r)
For Head								
750	41.1	57.0	0.2	1.4	0.2	0	0.89	41.9
835	40.3	57.9	0.2	1.4	0.2	0	0.90	41.5
900	40.3	57.9	0.2	1.4	0.2	0	0.97	41.5
1800, 1900, 2000	55.2	0	0	0.3	0	44.5	1.40	40.0
2450	55.0	0	0	0	0	45.0	1.80	39.2
For Body								
750	51.7	47.2	0	0.9	0.1	0	0.96	55.5
835	50.8	48.2	0	0.9	0.1	0	0.97	55.2
900	50.8	48.2	0	0.9	0.1	0	1.05	55.0
1800, 1900, 2000	70.2	0	0	0.4	0	29.4	1.52	53.3
2450	68.6	0	0	0	0	31.4	1.95	52.7

Table 6.1 Recipes of Tissue Simulating Liquid

The dielectric parameters of the liquids were verified prior to the SAR evaluation using an Agilent 85070D Dielectric Probe Kit and an Agilent Network Analyzer.

The following table shows the measuring results for simulating liquid.

Freq. (MHz)	Liquid Type	Temp. (℃)	Conductivity (σ)	Permittivity (ε_r)	Conductivity Target (σ)	Permittivity Target (ε_r)	Delta (σ) (%)	Delta (ε_r) (%)	Limit (%)	Date
835	Head	21.6	0.904	41.49	0.9	41.5	0.44	-0.02	±5	Jan. 09, 2012
835	Head	21.4	0.909	41.695	0.9	41.5	1.00	0.47	±5	Jan. 20, 2012
835	Body	21.7	0.976	54.388	0.97	55.2	0.62	-1.47	±5	Jan. 05, 2012
835	Body	21.3	0.977	54.388	0.97	55.2	0.72	-1.47	±5	Jan. 19, 2012
835	Body	21.5	0.976	54.382	0.97	55.2	0.62	-1.48	±5	Jan. 20, 2012
835	Body	21.4	0.976	54.369	0.97	55.2	0.62	-1.51	±5	Feb. 07, 2012
1750	Head	21.4	1.435	41.118	1.37	40.1	4.74	2.54	±5	Jan. 09, 2012
1750	Head	21.5	1.433	41.135	1.37	40.1	4.60	2.58	±5	Jan. 10, 2012
1750	Head	21.2	1.425	39.826	1.37	40.1	4.01	-0.68	±5	Jan. 11, 2012
1750	Head	21.6	1.412	40.129	1.37	40.1	3.07	0.07	±5	Jan. 20, 2012
1750	Head	21.4	1.42	41.312	1.37	40.1	3.65	3.02	±5	Feb. 20, 2012
1750	Body	21.3	1.503	55.462	1.49	53.4	0.87	3.86	±5	Jan. 04, 2012
1750	Body	21.5	1.474	55.376	1.49	53.4	-1.07	3.70	±5	Jan. 05, 2012
1750	Body	21.3	1.562	55.116	1.49	53.4	4.83	3.21	±5	Jan. 06, 2012
1750	Body	21.4	1.56	50.806	1.49	53.4	4.70	-4.86	±5	Jan. 07, 2012
1750	Body	21.5	1.472	55.459	1.49	53.4	-1.21	3.86	±5	Jan. 20, 2012
1750	Body	21.5	1.558	55.398	1.49	53.4	4.56	3.74	±5	Feb. 06, 2012
1900	Head	21.6	1.446	39.09	1.4	40.0	3.29	-2.27	±5	Jan. 07, 2012
1900	Head	21.2	1.412	39.311	1.4	40.0	0.86	-1.72	±5	Jan. 08, 2012
1900	Head	21.5	1.44	39.914	1.4	40.0	2.86	-0.21	±5	Jan. 09, 2012
1900	Head	21.2	1.427	41.191	1.4	40.0	1.93	2.98	±5	Jan. 20, 2012
1900	Head	21.3	1.449	39.097	1.4	40.0	3.50	-2.26	±5	Feb. 20, 2012
1900	Body	21.6	1.501	53.849	1.52	53.3	-1.25	1.03	±5	Jan. 04, 2012
1900	Body	21.4	1.522	52.386	1.52	53.3	0.13	-1.71	±5	Jan. 05, 2012
1900	Body	21.5	1.512	53.903	1.52	53.3	-0.53	1.13	±5	Jan. 06, 2012
1900	Body	21.3	1.519	53.569	1.52	53.3	-0.07	0.50	±5	Jan. 19, 2012
1900	Body	21.5	1.532	52.397	1.52	53.3	0.79	-1.69	±5	Jan. 20, 2012
1900	Body	21.3	1.516	53.868	1.52	53.3	-0.26	1.07	±5	Feb. 06, 2012
2450	Head	21.6	1.823	37.961	1.8	39.2	1.28	-3.16	±5	Jan. 16, 2012
2450	Body	21.3	2.002	53.464	1.95	52.7	2.67	1.45	±5	Jan. 16, 2012
2450	Body	21.6	1.951	53.859	1.95	52.7	0.05	2.20	±5	Jan. 19, 2012

Table 6.2 Measuring Results for Simulating Liquid

7. Uncertainty Assessment

The component of uncertainly may generally be categorized according to the methods used to evaluate them. The evaluation of uncertainly by the statistical analysis of a series of observations is termed a Type An evaluation of uncertainty. The evaluation of uncertainty by means other than the statistical analysis of a series of observation is termed a Type B evaluation of uncertainty. Each component of uncertainty, however evaluated, is represented by an estimated standard deviation, termed standard uncertainty, which is determined by the positive square root of the estimated variance.

A Type A evaluation of standard uncertainty may be based on any valid statistical method for treating data. This includes calculating the standard deviation of the mean of a series of independent observations; using the method of least squares to fit a curve to the data in order to estimate the parameter of the curve and their standard deviations; or carrying out an analysis of variance in order to identify and quantify random effects in certain kinds of measurement.

A type B evaluation of standard uncertainty is typically based on scientific judgment using all of the relevant information available. These may include previous measurement data, experience and knowledge of the behavior and properties of relevant materials and instruments, manufacture's specification, data provided in calibration reports and uncertainties assigned to reference data taken from handbooks. Broadly speaking, the uncertainty is either obtained from an outdoor source or obtained from an assumed distribution, such as the normal distribution, rectangular or triangular distributions indicated in Table 7.1

Uncertainty Distributions	Normal	Rectangular	Triangular	U-Shape
Multi-plying Factor[(a)]	1/k[(b)]	$1/\sqrt{3}$	$1/\sqrt{6}$	$1/\sqrt{2}$

(a) standard uncertainty is determined as the product of the multiplying factor and the estimated range of variations in the measured quantity

(b) κ is the coverage factor

Table 7.1 Standard Uncertainty for Assumed Distribution

The combined standard uncertainty of the measurement result represents the estimated standard deviation of the result. It is obtained by combining the individual standard uncertainties of both Type A and Type B evaluation using the usual "root-sum-squares" (RSS) methods of combining standard deviations by taking the positive square root of the estimated variances.

Expanded uncertainty is a measure of uncertainty that defines an interval about the measurement result within which the measured value is confidently believed to lie. It is obtained by multiplying the combined standard uncertainty by a coverage factor. Typically, the coverage factor ranges from 2 to 3. Using a coverage factor allows the true value of a measured quantity to be specified with a defined probability within the specified uncertainty range. For purpose of this document, a coverage factor two is used, which corresponds to confidence interval of about 95 %. The DASY uncertainty Budget is showed in Table 7.2.

Error Description	Uncertainty Value (±%)	Probability Distribution	Divisor	Ci (1g)	Standard Uncertainty (1g)
Measurement System					
Probe Calibration	6.0	Normal	1	1	± 6.0 %
Axial Isotropy	4.7	Rectangular	√3	0.7	± 1.9 %
Hemispherical Isotropy	9.6	Rectangular	√3	0.7	± 3.9 %
Boundary Effects	1.0	Rectangular	√3	1	± 0.6 %
Linearity	4.7	Rectangular	√3	1	± 2.7 %
System Detection Limits	1.0	Rectangular	√3	1	± 0.6 %
Readout Electronics	0.3	Normal	1	1	± 0.3 %
Response Time	0.8	Rectangular	√3	1	± 0.5 %
Integration Time	2.6	Rectangular	√3	1	± 1.5 %
RF Ambient Noise	3.0	Rectangular	√3	1	± 1.7 %
RF Ambient Reflections	3.0	Rectangular	√3	1	± 1.7 %
Probe Positioner	0.4	Rectangular	√3	1	± 0.2 %
Probe Positioning	2.9	Rectangular	√3	1	± 1.7 %
Max. SAR Eval.	1.0	Rectangular	√3	1	± 0.6 %
Test Sample Related					
Device Positioning	2.9	Normal	1	1	± 2.9 %
Device Holder	3.6	Normal	1	1	± 3.6 %
Power Drift	5.0	Rectangular	√3	1	± 2.9 %
Phantom and Setup					
Phantom Uncertainty	4.0	Rectangular	√3	1	± 2.3 %
Liquid Conductivity (Target)	5.0	Rectangular	√3	0.64	± 1.8 %
Liquid Conductivity (Meas.)	2.5	Normal	1	0.64	± 1.6 %
Liquid Permittivity (Target)	5.0	Rectangular	√3	0.6	± 1.7 %
Liquid Permittivity (Meas.)	2.5	Normal	1	0.6	± 1.5 %
Combined Standard Uncertainty					± 11.0 %
Coverage Factor for 95 %					K = 2
Expanded Uncertainty					**± 22.0 %**

Table 7.2 Uncertainty Budget of DASY for frequency range 300 MHz to 3 GHz

8. SAR Measurement Evaluation

Each DASY system is equipped with one or more system validation kits. These units, together with the predefined measurement procedures within the DASY software, enable the user to conduct the system performance check and system validation. System validation kit includes a dipole, tripod holder to fix it underneath the flat phantom and a corresponding distance holder.

8.1 Purpose of System Performance check

The system performance check verifies that the system operates within its specifications. System and operator errors can be detected and corrected. It is recommended that the system performance check be performed prior to any usage of the system in order to guarantee reproducible results. The system performance check uses normal SAR measurements in a simplified setup with a well characterized source. This setup was selected to give a high sensitivity to all parameters that might fail or vary over time. The system check does not intend to replace the calibration of the components, but indicates situations where the system uncertainty is exceeded due to drift or failure.

8.2 System Setup

In the simplified setup for system evaluation, the DUT is replaced by a calibrated dipole and the power source is replaced by a continuous wave that comes from a signal generator. The calibrated dipole must be placed beneath the flat phantom section of the SAM twin phantom with the correct distance holder. The distance holder should touch the phantom surface with a light pressure at the reference marking and be oriented parallel to the long side of the phantom. The equipment setup is shown below:

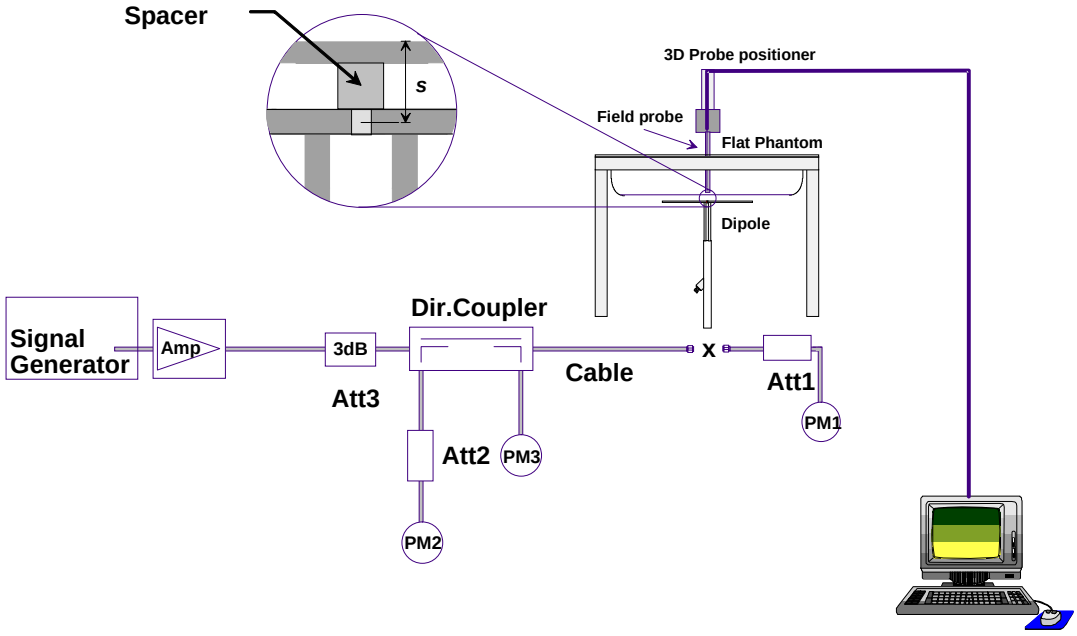


Fig 8.1 System Setup for System Evaluation

1. Signal Generator
2. Amplifier
3. Directional Coupler
4. Power Meter
5. Calibrated Dipole

The output power on dipole port must be calibrated to 24 dBm (250 mW) before dipole is connected.

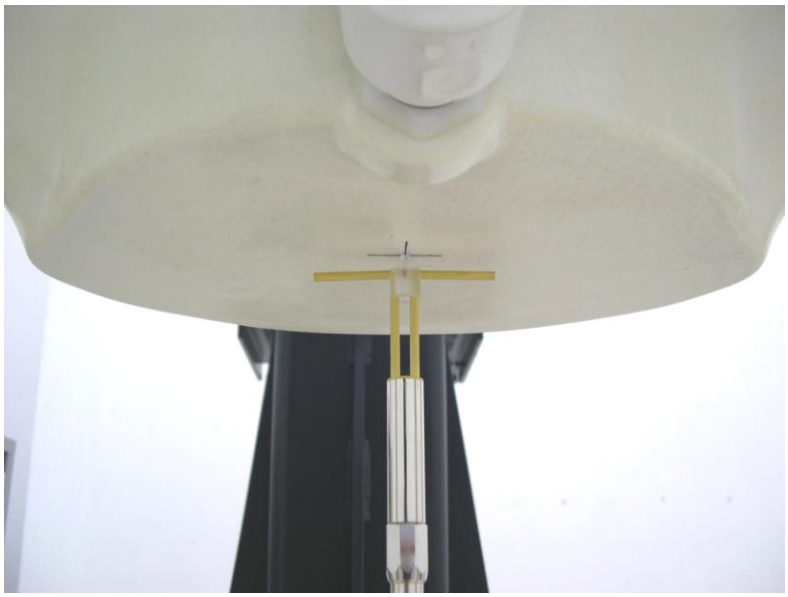


Fig 8.2 Photo of Dipole Setup

8.3 Validation Results

Comparing to the original SAR value provided by SPEAG, the validation data should be within its specification of 10 %. Table 8.1 shows the target SAR and measured SAR after normalized to 1W input power. The table below indicates the system performance check can meet the variation criterion and the plots can be referred to Appendix A of this report.

Measurement Date	Frequency (MHz)	Liquid Type	Targeted SAR_{1g} (W/kg)	Measured SAR_{1g} (W/kg)	Normalized SAR_{1g} (W/kg)	Deviation (%)
Jan. 09, 2012	835	Head	9.4	2.25	9.00	-4.26
Jan. 20, 2012	835	Head	9.4	2.26	9.04	-3.83
Jan. 05, 2012	835	Body	9.42	2.39	9.56	1.49
Jan. 19, 2012	835	Body	9.42	2.37	9.48	0.64
Jan. 20, 2012	835	Body	9.42	2.3	9.20	-2.34
Feb. 07, 2012	835	Body	9.42	2.29	9.16	-2.76
Jan. 09, 2012	1750	Head	36.2	9.01	36.04	-0.44
Jan. 10, 2012	1750	Head	36.2	9.0	36.00	-0.55
Jan. 11, 2012	1750	Head	36.2	8.95	35.80	-1.10
Jan. 20, 2012	1750	Head	36.2	9.28	37.12	2.54
Feb. 20, 2012	1750	Head	36.2	9.14	36.56	0.99
Jan. 04, 2012	1750	Body	36.8	9.86	39.44	7.17
Jan. 05, 2012	1750	Body	36.8	9.33	37.32	1.41
Jan. 06, 2012	1750	Body	36.8	9.87	39.48	7.28
Jan. 07, 2012	1750	Body	36.8	9.83	39.32	6.85
Jan. 20, 2012	1750	Body	36.8	9.03	36.12	-1.85
Feb. 06, 2012	1750	Body	36.8	9.87	39.48	7.28
Jan. 07, 2012	1900	Head	40.3	10.2	40.80	1.24
Jan. 08, 2012	1900	Head	40.3	9.75	39.00	-3.23
Jan. 09, 2012	1900	Head	40.3	9.72	38.88	-3.52
Jan. 20, 2012	1900	Head	40.3	10.1	40.40	0.25
Feb. 20, 2012	1900	Head	40.3	10.2	40.80	1.24
Jan. 04, 2012	1900	Body	41.8	10.2	40.80	-2.39
Jan. 05, 2012	1900	Body	41.8	10.4	41.60	-0.48
Jan. 06, 2012	1900	Body	41.8	10.8	43.20	3.35
Jan. 19, 2012	1900	Body	41.8	10.3	41.20	-1.44
Jan. 20, 2012	1900	Body	41.8	10.1	40.40	-3.35
Feb. 06, 2012	1900	Body	41.8	10.7	42.80	2.39
Jan. 16, 2012	2450	Head	52.7	13.9	55.60	5.50
Jan. 16, 2012	2450	Body	52.1	13.9	55.60	6.72
Jan. 19, 2012	2450	Body	52.1	12.9	51.60	-0.96

Table 8.1 Target and Measurement SAR after Normalized

9. DUT Testing Position

This DUT was tested in ten different positions. They are right cheek, right tilted, left cheek, left tilted, Front of the DUT with phantom 1 cm gap, Back of the DUT with phantom 1 cm gap, Top Side of the DUT with phantom 1 cm gap, Bottom Side of the DUT with phantom 1 cm gap, Right Side of the DUT with phantom 1 cm gap, and Left Side of the DUT with phantom 1 cm gap, as illustrated below:

9.1 Define two imaginary lines on the handset

(a) The vertical centerline passes through two points on the front side of the handset - the midpoint of the width w_t of the handset at the level of the acoustic output, and the midpoint of the width w_b of the bottom of the handset.

(b) The horizontal line is perpendicular to the vertical centerline and passes through the center of the acoustic output. The horizontal line is also tangential to the face of the handset at point A.

(c) The two lines intersect at point A. Note that for many handsets, point A coincides with the center of the acoustic output; however, the acoustic output may be located elsewhere on the horizontal line. Also note that the vertical centerline is not necessarily parallel to the front face of the handset, especially for clamshell handsets, handsets with flip covers, and other irregularly shaped handsets.

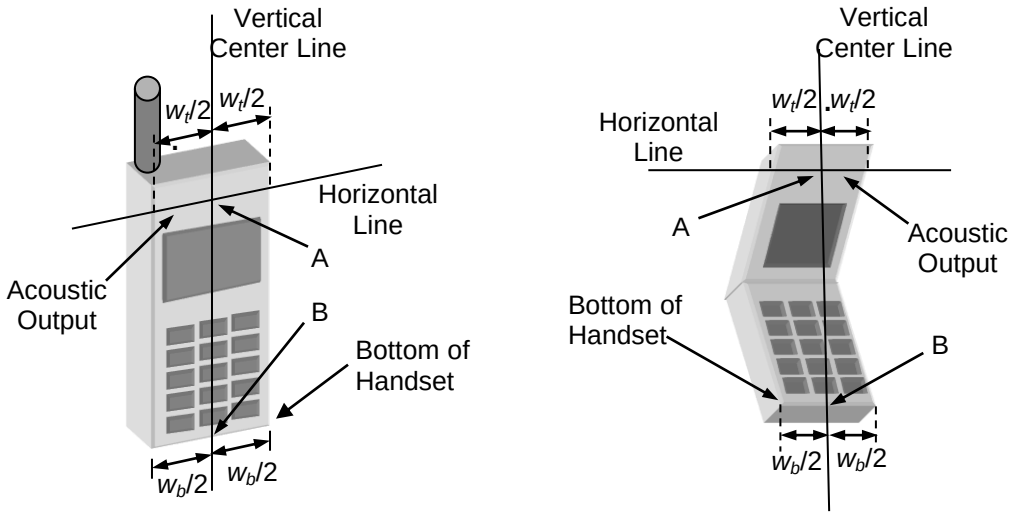


Fig 9.1 Illustration for Handset Vertical and Horizontal Reference Lines

9.2 Cheek Position

(a) To position the device with the vertical center line of the body of the device and the horizontal line crossing the center piece in a plane parallel to the sagittal plane of the phantom. While maintaining the device in this plane, align the vertical center line with the reference plane containing the three ear and mouth reference point (M: Mouth, RE: Right Ear, and LE: Left Ear) and align the center of the ear piece with the line RE-LE.

(b) To move the device towards the phantom with the ear piece aligned with the line LE-RE until the phone touched the ear. While maintaining the device in the reference plane and maintaining the phone contact with the ear, move the bottom of the phone until any point on the front side is in contact with the cheek of the phantom or until contact with the ear is lost (see Fig. 9.2).

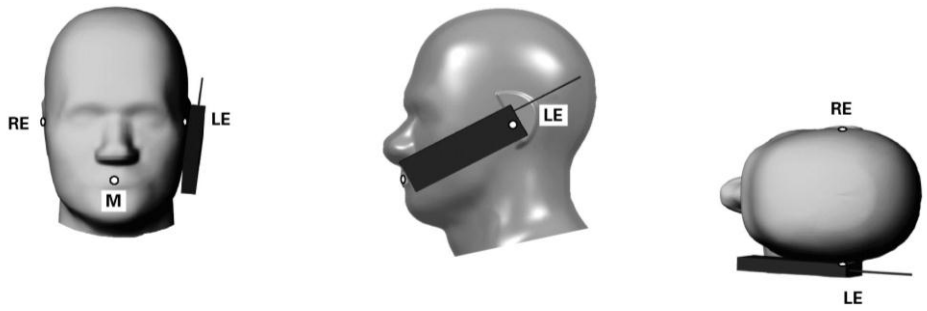


Fig 9.2 Illustration for Cheek Position

9.3 Tilted Position

(a) To position the device in the “cheek” position described above.

(b) While maintaining the device the reference plane described above and pivoting against the ear, moves it outward away from the mouth by an angle of 15 degrees or until contact with the ear is lost (see Fig. 9.3).

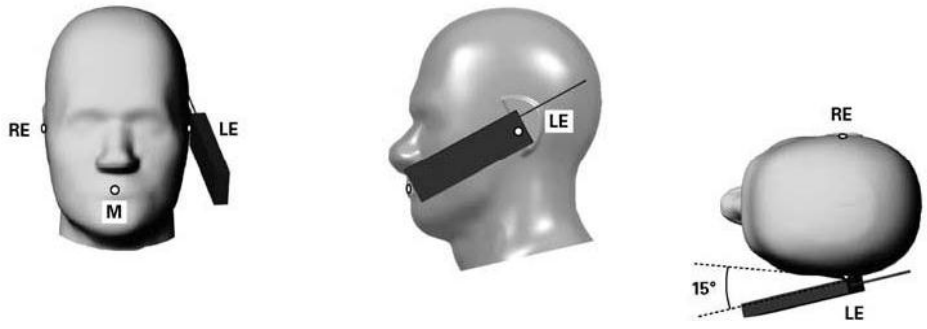


Fig 9.3 Illustration for Tilted Position

9.4 Body Worn Position

(a) To position the device parallel to the phantom surface with either keypad up or down.

(b) To adjust the device parallel to the flat phantom.

(c) To adjust the distance between the device surface and the flat phantom to 1 cm.

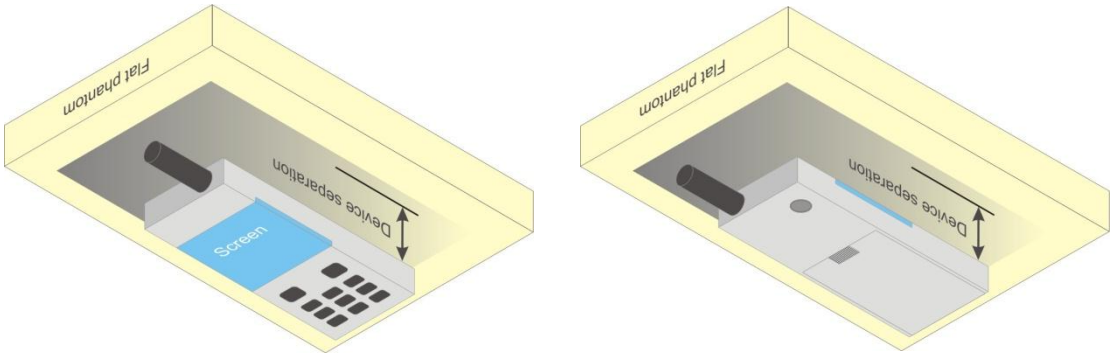


Fig 9.4 Illustration for Body Worn Position

<DUT Setup Photos>

Please refer to Appendix E for the test setup photos.

10. Measurement Procedures

The measurement procedures are as follows:

(a) Use base station simulator (if applicable) or engineering software to transmit RF power continuously (continuous Tx) in the highest power channel.
(b) Keep DUT to radiate maximum output power or 100% duty factor (if applicable)
(c) Measure output power through RF cable and power meter.
(d) Place the DUT in the positions as Appendix E demonstrates.
(e) Set scan area, grid size and other setting on the DASY software.
(f) Measure SAR results for the highest power channel on each testing position.
(g) Find out the largest SAR result on these testing positions of each band
(h) Measure SAR results for other channels in worst SAR testing position if the SAR of highest power channel is larger than 0.8 W/kg

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

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

10.1 Spatial Peak SAR Evaluation

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

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

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

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

10.2 Area & Zoom Scan Procedures

First Area Scan is used to locate the approximate location(s) of the local peak SAR value(s). The measurement grid within an Area Scan is defined by the grid extent, grid step size and grid offset. Next, in order to determine the EM field distribution in a three-dimensional spatial extension, Zoom Scan is required. The Zoom Scan measures 5x5x7 points with step size 8, 8 and 5 mm for 300 MHz to 3 GHz, and 8x8x8 points with step size 4, 4 and 2.5 mm for 3 GHz to 6 GHz. The Zoom Scan is performed around the highest E-field value to determine the averaged SAR-distribution over 10 g.

10.3 Volume Scan Procedures

The volume scan is used for assess overlapping SAR distributions for antennas transmitting in different frequency bands. It is equivalent to an oversized zoom scan used in standalone measurements. The measurement volume will be used to enclose all the simultaneous transmitting antennas. For antennas transmitting simultaneously in different frequency bands, the volume scan is measured separately in each frequency band. In order to sum correctly to compute the 1g aggregate SAR, the DUT remain in the same test position for all measurements and all volume scan use the same spatial resolution and grid spacing (step-size is 4, 4 and 2.5 mm). When all volume scan were completed, the software, SEMCAD postprocessor can combine and subsequently superpose these measurement data to calculating the multiband SAR.

10.4 SAR Averaged Methods

In DASY, the interpolation and extrapolation are both based on the modified Quadratic Shepard's method. The interpolation scheme combines a least-square fitted function method and a weighted average method which are the two basic types of computational interpolation and approximation.

Extrapolation routines are used to obtain SAR values between the lowest measurement points and the inner phantom surface. The extrapolation distance is determined by the surface detection distance and the probe sensor offset. The uncertainty increases with the extrapolation distance. To keep the uncertainty within 1% for the 1 g and 10 g cubes, the extrapolation distance should not be larger than 5 mm.

10.5 Power Drift Monitoring

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

11. SAR Test Configurations

11.1 Conducted Power (Unit: dBm)

Band	CDMA2000 BC0			CDMA2000 BC1			CDMA2000 BC15		
Channel	1013	384	777	25	600	1175	25	425	875
Frequency	824.7	836.52	848.31	1851.25	1880	1908.75	1711.25	1731.25	1753.75
CDMA2000 1x Voice Mode Full Power (24dBm)									
1xRTT RC1+SO55	24.35	24.02	23.95	24.16	23.86	24.02	**23.77**	23.68	23.74
1xRTT RC3+SO55	**24.38**	24.07	23.99	24.18	23.79	23.98	23.73	23.65	23.72
1xRTT RC3+SO32(+F-SCH)	24.37	24.06	23.99	24.19	23.81	24.01	23.74	23.65	23.70
1xRTT RC3+SO32(+SCH)	24.37	24.04	24.01	**24.20**	23.82	24.01	23.75	23.66	23.72
CDMA2000 1x Voice Mode Reduce Power (18.5dBm)									
1xRTT RC1+SO55	18.76	18.58	18.74	19.02	18.54	18.85	18.68	18.58	18.57
1xRTT RC3+SO55	18.78	18.55	18.72	19.07	18.56	18.86	18.69	18.59	18.60
1xRTT RC3+SO32(+F-SCH)	18.76	18.57	18.76	19.02	18.57	18.84	18.65	18.55	18.53
1xRTT RC3+SO32(+SCH)	18.77	15.57	18.74	19.05	18.56	18.82	18.67	18.56	18.55
CDMA2000 1x Voice Mode Reduce Power (18dBm)									
1xRTT RC1+SO55	17.35	17.60	17.96	17.50	17.90	17.60	18.16	18.02	17.45
1xRTT RC3+SO55	17.39	17.56	17.90	17.50	17.95	17.61	18.26	18.06	17.42
1xRTT RC3+SO32(+F-SCH)	17.41	17.52	17.96	17.61	17.93	17.62	18.20	18.03	17.45
1xRTT RC3+SO32(+SCH)	17.38	17.63	17.98	17.63	18.01	17.58	18.25	18.10	17.52
CDMA2000 1x Voice Mode Reduce Power (16.5dBm) for BC0									
1xRTT RC1+SO55	16.50	16.24	16.40						
1xRTT RC3+SO55	16.60	16.25	16.41						
1xRTT RC3+SO32(+F-SCH)	16.55	16.22	16.39						
1xRTT RC3+SO32(+SCH)	16.58	16.22	16.40						
CDMA2000 1x Voice Mode Reduce Power (15.5dBm) for BC0									
1xRTT RC1+SO55	15.35	15.56	15.58						
1xRTT RC3+SO55	15.33	15.60	15.56						
1xRTT RC3+SO32(+F-SCH)	15.34	15.59	15.50						
1xRTT RC3+SO32(+SCH)	15.38	15.35	15.36						
CDMA2000 1x Voice Mode Reduce Power (15.5dBm) for BC1/BC15									
1xRTT RC1+SO55				15.57	15.53	15.58	15.66	15.55	15.53
1xRTT RC3+SO55				15.57	15.55	15.55	15.63	15.52	15.50
1xRTT RC3+SO32(+F-SCH)				15.55	15.53	15.52	15.64	15.55	15.52
1xRTT RC3+SO32(+SCH)				15.60	15.55	15.57	15.62	15.50	15.51
CDMA2000 1x Voice Mode Reduce Power (15dBm) for BC1/BC15									
1xRTT RC1+SO55				15.01	15.01	15.36	15.03	15.18	15.00
1xRTT RC3+SO55				15.05	15.00	15.30	15.06	15.16	15.02
1xRTT RC3+SO32(+F-SCH)				15.12	15.20	15.38	15.11	15.19	15.07
1xRTT RC3+SO32(+SCH)				15.28	15.26	15.28	15.22	15.20	15.09

Note:

1. According to KDB 941225 D01, Head SAR is measured on RC3+SO55. Head SAR for RC1-SO55 is not required because the maximum average output power of RC1 is less than 1/4 dB higher than RC3-SO55.

2. The power measurements are based on the power reduction implementation configuration. Use RF engineering tool, with the pre-defined setting command, to measure reduced power.

Band	CDMA2000 BC0			CDMA2000 BC1			CDMA2000 BC15		
Channel	1013	384	777	25	600	1175	25	425	875
Frequency	824.7	836.52	848.31	1851.25	1880	1908.75	1711.25	1731.25	1753.75
EVDO data mode Full Power (23.5dBm)									
1xEVDO RTAP 9.6				23.09	23.19	23.25	23.29	23.35	23.18
1xEVDO RTAP 38.4				23.09	23.22	23.24	23.28	23.31	23.19
1xEVDO RTAP 153.6				23.11	23.09	23.14	23.27	23.26	23.13
1xEVDO RETAP 128				23.12	23.21	23.15	23.11	23.24	22.14
1xEVDO RETAP 2048				23.13	23.22	23.21	23.19	23.37	23.16
1xEVDO RETAP 4096				23.09	23.17	23.15	23.15	23.34	23.13
EVDO data mode Reduce Power (23dBm)									
1xEVDO RTAP 9.6				22.74	22.80	22.67	22.74	22.86	22.84
1xEVDO RTAP 38.4				22.70	22.73	22.72	22.76	22.78	22.75
1xEVDO RTAP 153.6				22.70	22.79	22.80	22.86	22.82	22.83
1xEVDO RETAP 128				22.76	22.72	22.67	22.80	22.82	22.80
1xEVDO RETAP 2048				22.66	22.73	22.66	22.80	22.81	22.78
1xEVDO RETAP 4096				22.57	22.78	22.57	22.95	22.85	22.75
EVDO data mode Reduce Power (17dBm)									
1xEVDO RTAP 9.6				17.60	17.34	17.75	17.24	17.04	17.30
1xEVDO RTAP 38.4				17.62	17.32	17.77	17.26	17.10	17.29
1xEVDO RTAP 153.6				17.66	17.30	17.71	17.31	17.06	17.28
1xEVDO RETAP 128				17.67	17.33	17.71	17.28	17.04	17.28
1xEVDO RETAP 2048				17.66	17.30	17.72	17.22	17.05	17.24
1xEVDO RETAP 4096				17.69	17.34	17.71	17.31	17.05	17.26

Note:

1. Referring to KDB 941225 D01, in Hotspot mode SAR is tested with RTAP 153.6kbps (Ev-Do). If RETAP (4096 bits) power is less than 1/4dB higher than RTAP 153.6kbps, SAR tests with RETAP setting are not necessary.
2. The power measurements are based on the power reduction implementation configuration. Use RF engineering tool, with the pre-defined setting command, to measure reduced power.

<LTE band 2, low channel>

Frequency [MHz]	Uplink Channel Number	BW [MHz]	RB Size	RB Offset	Mod	Maximum Average Power (dBm)	Maximum Power MPR Result (dB)	Reduced Average Power (dBm)	Reduced Power MPR Result (dB)	3GPP MPR (dB)
1860	18700	20	1	0	QPSK	22.52	0.00	19.06	0.00	0.00
1860	18700	20	1	99	QPSK	22.33	0.19	18.89	0.17	0.00
1860	18700	20	50	25	QPSK	21.56	0.96	17.88	1.18	1.00
1860	18700	20	100	0	QPSK	21.39	1.13	17.77	1.29	1.00
1860	18700	20	1	0	16-QAM	22.04	0.48	18.55	0.51	1.00
1860	18700	20	1	99	16-QAM	21.94	0.58	18.33	0.73	1.00
1860	18700	20	50	25	16-QAM	20.72	1.80	17.26	1.80	2.00
1860	18700	20	100	0	16-QAM	20.56	1.96	17.03	2.03	2.00
1857.5	18675	15	1	0	QPSK	22.61	0.07	19.11	0.03	0.00
1857.5	18675	15	1	74	QPSK	22.68	0.00	19.14	0.00	0.00
1857.5	18675	15	36	18	QPSK	21.51	1.17	18.03	1.11	1.00
1857.5	18675	15	75	0	QPSK	21.38	1.30	17.84	1.30	1.00
1857.5	18675	15	1	0	16-QAM	22.07	0.61	18.43	0.71	1.00
1857.5	18675	15	1	74	16-QAM	21.99	0.69	18.32	0.82	1.00
1857.5	18675	15	36	18	16-QAM	20.61	2.07	17.20	1.94	2.00
1857.5	18675	15	75	0	16-QAM	20.46	2.22	17.01	2.13	2.00
1855	18650	10	1	0	QPSK	22.58	0.05	19.09	0.06	0.00
1855	18650	10	1	49	QPSK	22.63	0.00	19.15	0.00	0.00
1855	18650	10	25	13	QPSK	21.58	1.05	18.01	1.14	1.00
1855	18650	10	50	0	QPSK	21.49	1.14	17.99	1.16	1.00
1855	18650	10	1	0	16-QAM	21.95	0.68	18.33	0.82	1.00
1855	18650	10	1	49	16-QAM	22.00	0.63	18.32	0.83	1.00
1855	18650	10	25	13	16-QAM	20.85	1.78	17.22	1.93	2.00
1855	18650	10	50	0	16-QAM	20.49	2.14	17.06	2.09	2.00
1852.5	18625	5	1	0	QPSK	22.20	0.10	18.64	0.01	0.00
1852.5	18625	5	1	24	QPSK	22.30	0.00	18.65	0.00	0.00
1852.5	18625	5	12	6	QPSK	21.48	0.82	17.88	0.77	1.00
1852.5	18625	5	25	0	QPSK	21.49	0.81	17.90	0.75	1.00
1852.5	18625	5	1	0	16-QAM	21.89	0.41	18.23	0.42	1.00
1852.5	18625	5	1	24	16-QAM	22.09	0.21	18.44	0.21	1.00
1852.5	18625	5	12	6	16-QAM	20.54	1.76	17.02	1.63	2.00
1852.5	18625	5	25	0	16-QAM	21.00	1.30	17.55	1.10	2.00
1851.5	18615	3	1	0	QPSK	22.42	0.17	18.89	0.20	0.00
1851.5	18615	3	1	14	QPSK	22.59	0.00	19.09	0.00	0.00
1851.5	18615	3	8	4	QPSK	21.51	1.08	17.97	1.12	1.00
1851.5	18615	3	15	0	QPSK	21.43	1.16	17.95	1.14	1.00
1851.5	18615	3	1	0	16-QAM	21.94	0.65	18.40	0.69	1.00
1851.5	18615	3	1	14	16-QAM	22.39	0.20	18.75	0.34	1.00
1851.5	18615	3	8	4	16-QAM	20.82	1.77	17.15	1.94	2.00
1851.5	18615	3	15	0	16-QAM	20.30	2.29	16.79	2.30	2.00
1850.7	18607	1.4	1	0	QPSK	21.96	0.46	18.51	0.42	0.00
1850.7	18607	1.4	1	5	QPSK	22.42	0.00	18.93	0.00	0.00
1850.7	18607	1.4	3	2	QPSK	22.35	0.07	18.87	0.06	1.00
1850.7	18607	1.4	6	0	QPSK	21.20	1.22	17.63	1.30	1.00
1850.7	18607	1.4	1	0	16-QAM	21.89	0.53	18.39	0.54	1.00
1850.7	18607	1.4	1	5	16-QAM	21.80	0.62	18.39	0.54	1.00
1850.7	18607	1.4	3	2	16-QAM	21.46	0.96	18.01	0.92	2.00
1850.7	18607	1.4	6	0	16-QAM	20.40	2.02	16.91	2.02	2.00

<LTE band 2, middle channel>

Frequency [MHz]	Uplink Channel Number	BW [MHz]	RB Size	RB Offset	Mod	Maximum Average Power (dBm)	Maximum Power MPR Result (dB)	Reduced Average Power (dBm)	Reduced Power MPR Result (dB)	3GPP MPR (dB)
1880	18900	20	1	0	QPSK	22.68	0.00	19.10	0.00	0.00
1880	18900	20	1	99	QPSK	22.66	0.02	19.06	0.04	0.00
1880	18900	20	50	25	QPSK	21.50	1.18	18.15	0.95	1.00
1880	18900	20	100	0	QPSK	21.61	1.07	18.14	0.96	1.00
1880	18900	20	1	0	16-QAM	22.07	0.61	18.49	0.61	1.00
1880	18900	20	1	99	16-QAM	21.97	0.71	18.44	0.66	1.00
1880	18900	20	50	25	16-QAM	20.59	2.09	17.23	1.87	2.00
1880	18900	20	100	0	16-QAM	20.54	2.14	17.08	2.02	2.00
1880	18900	15	1	0	QPSK	22.34	0.13	18.85	0.05	0.00
1880	18900	15	1	74	QPSK	22.47	0.00	18.90	0.00	0.00
1880	18900	15	36	18	QPSK	21.57	0.90	18.00	0.90	1.00
1880	18900	15	75	0	QPSK	21.64	0.83	18.01	0.89	1.00
1880	18900	15	1	0	16-QAM	21.98	0.49	18.45	0.45	1.00
1880	18900	15	1	74	16-QAM	21.91	0.56	18.51	0.39	1.00
1880	18900	15	36	18	16-QAM	20.78	1.69	17.35	1.55	2.00
1880	18900	15	75	0	16-QAM	20.72	1.75	17.07	1.83	2.00
1880	18900	10	1	0	QPSK	22.30	0.00	18.72	0.02	0.00
1880	18900	10	1	49	QPSK	22.30	0.00	18.74	0.00	0.00
1880	18900	10	25	13	QPSK	21.50	0.80	18.00	0.74	1.00
1880	18900	10	50	0	QPSK	21.34	0.96	17.91	0.83	1.00
1880	18900	10	1	0	16-QAM	21.97	0.33	18.43	0.31	1.00
1880	18900	10	1	49	16-QAM	21.99	0.31	18.34	0.40	1.00
1880	18900	10	25	13	16-QAM	20.80	1.50	17.12	1.62	2.00
1880	18900	10	50	0	16-QAM	20.66	1.64	17.10	1.64	2.00
1880	18900	5	1	0	QPSK	22.35	0.00	18.69	0.00	0.00
1880	18900	5	1	24	QPSK	22.25	0.10	18.59	0.10	0.00
1880	18900	5	12	6	QPSK	21.42	0.93	17.80	0.89	1.00
1880	18900	5	25	0	QPSK	21.43	0.92	17.85	0.84	1.00
1880	18900	5	1	0	16-QAM	21.82	0.53	18.08	0.61	1.00
1880	18900	5	1	24	16-QAM	21.56	0.79	18.04	0.65	1.00
1880	18900	5	12	6	16-QAM	20.45	1.90	16.83	1.86	2.00
1880	18900	5	25	0	16-QAM	20.82	1.53	17.16	1.53	2.00
1880	18900	3	1	0	QPSK	22.36	0.00	18.72	0.00	0.00
1880	18900	3	1	14	QPSK	22.01	0.35	18.52	0.20	0.00
1880	18900	3	8	4	QPSK	21.37	0.99	17.76	0.96	1.00
1880	18900	3	15	0	QPSK	21.19	1.17	17.73	0.99	1.00
1880	18900	3	1	0	16-QAM	21.74	0.62	18.21	0.51	1.00
1880	18900	3	1	14	16-QAM	21.67	0.69	18.17	0.55	1.00
1880	18900	3	8	4	16-QAM	20.61	1.75	17.02	1.70	2.00
1880	18900	3	15	0	16-QAM	20.44	1.92	16.78	1.94	2.00
1880	18900	1.4	1	0	QPSK	22.30	0.05	18.65	0.25	0.00
1880	18900	1.4	1	5	QPSK	22.15	0.20	18.63	0.27	0.00
1880	18900	1.4	3	2	QPSK	22.35	0.00	18.90	0.00	1.00
1880	18900	1.4	6	0	QPSK	21.35	1.00	17.82	1.08	1.00
1880	18900	1.4	1	0	16-QAM	21.89	0.46	18.39	0.51	1.00
1880	18900	1.4	1	5	16-QAM	21.93	0.42	18.39	0.51	1.00
1880	18900	1.4	3	2	16-QAM	21.72	0.63	18.24	0.66	2.00
1880	18900	1.4	6	0	16-QAM	20.62	1.73	17.08	1.82	2.00

<LTE band 2, high channel>

Frequency [MHz]	Uplink Channel Number	BW [MHz]	RB Size	RB Offset	Mod	Maximum Average Power (dBm)	Maximum Power MPR Result (dB)	Reduced Average Power (dBm)	Reduced Power MPR Result (dB)	3GPP MPR (dB)
1900	19100	20	1	0	QPSK	22.52	0.00	19.05	0.00	0.00
1900	19100	20	1	99	QPSK	22.44	0.08	18.88	0.17	0.00
1900	19100	20	50	25	QPSK	21.29	1.23	17.79	1.26	1.00
1900	19100	20	100	0	QPSK	21.30	1.22	17.76	1.29	1.00
1900	19100	20	1	0	16-QAM	22.08	0.44	18.66	0.39	1.00
1900	19100	20	1	99	16-QAM	21.87	0.65	18.35	0.70	1.00
1900	19100	20	50	25	16-QAM	20.57	1.95	17.05	2.00	2.00
1900	19100	20	100	0	16-QAM	20.39	2.13	16.89	2.16	2.00
1902.5	19125	15	1	0	QPSK	22.77	0.00	19.25	0.00	0.00
1902.5	19125	15	1	74	QPSK	22.66	0.11	19.05	0.20	0.00
1902.5	19125	15	36	18	QPSK	21.65	1.12	18.15	1.10	1.00
1902.5	19125	15	75	0	QPSK	21.55	1.22	18.00	1.25	1.00
1902.5	19125	15	1	0	16-QAM	22.28	0.49	18.74	0.51	1.00
1902.5	19125	15	1	74	16-QAM	22.23	0.54	18.56	0.69	1.00
1902.5	19125	15	36	18	16-QAM	20.81	1.96	17.12	2.13	2.00
1902.5	19125	15	75	0	16-QAM	20.54	2.23	16.96	2.29	2.00
1905	19150	10	1	0	QPSK	22.30	0.03	18.80	0.00	0.00
1905	19150	10	1	49	QPSK	22.33	0.00	18.78	0.02	0.00
1905	19150	10	25	13	QPSK	21.35	0.98	17.90	0.90	1.00
1905	19150	10	50	0	QPSK	21.37	0.96	17.89	0.91	1.00
1905	19150	10	1	0	16-QAM	21.98	0.35	18.45	0.35	1.00
1905	19150	10	1	49	16-QAM	21.86	0.47	18.35	0.45	1.00
1905	19150	10	25	13	16-QAM	20.87	1.46	17.35	1.45	2.00
1905	19150	10	50	0	16-QAM	20.53	1.80	17.02	1.78	2.00
1907.5	19175	5	1	0	QPSK	22.69	0.00	19.05	0.00	0.00
1907.5	19175	5	1	24	QPSK	22.55	0.14	18.95	0.10	0.00
1907.5	19175	5	12	6	QPSK	21.41	1.28	17.96	1.09	1.00
1907.5	19175	5	25	0	QPSK	21.45	1.24	17.78	1.27	1.00
1907.5	19175	5	1	0	16-QAM	21.98	0.71	18.33	0.72	1.00
1907.5	19175	5	1	24	16-QAM	21.54	1.15	18.11	0.94	1.00
1907.5	19175	5	12	6	16-QAM	20.50	2.19	17.00	2.05	2.00
1907.5	19175	5	25	0	16-QAM	21.02	1.67	17.35	1.70	2.00
1908.5	19185	3	1	0	QPSK	22.15	0.18	18.66	0.01	0.00
1908.5	19185	3	1	14	QPSK	22.15	0.18	18.67	0.00	0.00
1908.5	19185	3	8	4	QPSK	21.21	1.12	17.64	1.03	1.00
1908.5	19185	3	15	0	QPSK	21.12	1.21	17.62	1.05	1.00
1908.5	19185	3	1	0	16-QAM	21.82	0.51	18.20	0.47	1.00
1908.5	19185	3	1	14	16-QAM	22.00	0.33	18.32	0.35	1.00
1908.5	19185	3	8	4	16-QAM	20.66	1.67	17.03	1.64	2.00
1908.5	19185	3	15	0	16-QAM	20.15	2.18	16.72	1.95	2.00
1909.3	19193	1.4	1	0	QPSK	22.40	0.29	18.84	0.01	0.00
1909.3	19193	1.4	1	5	QPSK	22.50	0.19	18.85	0.00	0.00
1909.3	19193	1.4	3	2	QPSK	22.44	0.25	18.84	0.01	1.00
1909.3	19193	1.4	6	0	QPSK	21.39	1.30	17.75	1.10	1.00
1909.3	19193	1.4	1	0	16-QAM	22.16	0.53	18.50	0.35	1.00
1909.3	19193	1.4	1	5	16-QAM	21.97	0.72	18.32	0.53	1.00
1909.3	19193	1.4	3	2	16-QAM	21.60	1.09	18.08	0.77	2.00
1909.3	19193	1.4	6	0	16-QAM	20.63	2.06	17.18	1.67	2.00

<LTE band 4, low channel>

Frequency [MHz]	Uplink Channel Number	BW [MHz]	RB Size	RB Offset	Mod	Maximum Average Power (dBm)	Maximum Power MPR Result (dB)	Reduced Average Power (dBm)	Reduced Power MPR Result (dB)	3GPP MPR (dB)
1720	20050	20	1	0	QPSK	22.60	0.08	19.11	0.02	0.00
1720	20050	20	1	99	QPSK	22.68	0.00	19.13	0.00	0.00
1720	20050	20	50	25	QPSK	21.59	1.09	18.11	1.02	1.00
1720	20050	20	100	0	QPSK	21.46	1.22	18.04	1.09	1.00
1720	20050	20	1	0	16-QAM	21.89	0.79	18.22	0.91	1.00
1720	20050	20	1	99	16-QAM	21.99	0.69	18.36	0.77	1.00
1720	20050	20	50	25	16-QAM	20.64	2.04	17.19	1.94	2.00
1720	20050	20	100	0	16-QAM	20.55	2.13	17.02	2.11	2.00
1717.5	20025	15	1	0	QPSK	22.52	0.17	19.08	0.09	0.00
1717.5	20025	15	1	74	QPSK	22.69	0.00	19.17	0.00	0.00
1717.5	20025	15	36	18	QPSK	21.48	1.21	18.06	1.11	1.00
1717.5	20025	15	75	0	QPSK	21.45	1.24	18.01	1.16	1.00
1717.5	20025	15	1	0	16-QAM	21.88	0.81	18.35	0.82	1.00
1717.5	20025	15	1	74	16-QAM	22.01	0.68	17.99	1.18	1.00
1717.5	20025	15	36	18	16-QAM	20.75	1.94	17.33	1.84	2.00
1717.5	20025	15	75	0	16-QAM	20.45	2.24	16.99	2.18	2.00
1715	20000	10	1	0	QPSK	22.58	0.00	18.99	0.02	0.00
1715	20000	10	1	49	QPSK	22.58	0.00	19.01	0.00	0.00
1715	20000	10	25	13	QPSK	21.43	1.15	17.99	1.02	1.00
1715	20000	10	50	0	QPSK	21.31	1.27	17.72	1.29	1.00
1715	20000	10	1	0	16-QAM	21.88	0.70	18.42	0.59	1.00
1715	20000	10	1	49	16-QAM	21.86	0.72	18.29	0.72	1.00
1715	20000	10	25	13	16-QAM	20.86	1.72	17.41	1.60	2.00
1715	20000	10	50	0	16-QAM	20.59	1.99	17.09	1.92	2.00
1712.5	19975	5	1	0	QPSK	22.27	0.00	18.66	0.00	0.00
1712.5	19975	5	1	24	QPSK	22.26	0.01	18.59	0.07	0.00
1712.5	19975	5	12	6	QPSK	21.43	0.84	17.76	0.90	1.00
1712.5	19975	5	25	0	QPSK	21.45	0.82	17.83	0.83	1.00
1712.5	19975	5	1	0	16-QAM	21.95	0.32	18.44	0.22	1.00
1712.5	19975	5	1	24	16-QAM	21.41	0.86	17.89	0.77	1.00
1712.5	19975	5	12	6	16-QAM	20.37	1.90	16.84	1.82	2.00
1712.5	19975	5	25	0	16-QAM	20.92	1.35	17.34	1.32	2.00
1711.5	19965	3	1	0	QPSK	22.58	0.00	19.08	0.07	0.00
1711.5	19965	3	1	14	QPSK	22.57	0.01	19.15	0.00	0.00
1711.5	19965	3	8	4	QPSK	21.86	0.72	18.18	0.97	1.00
1711.5	19965	3	15	0	QPSK	21.76	0.82	18.13	1.02	1.00
1711.5	19965	3	1	0	16-QAM	21.95	0.63	18.52	0.63	1.00
1711.5	19965	3	1	14	16-QAM	22.24	0.34	18.68	0.47	1.00
1711.5	19965	3	8	4	16-QAM	20.80	1.78	17.39	1.76	2.00
1711.5	19965	3	15	0	16-QAM	20.57	2.01	17.12	2.03	2.00
1710.7	19957	1.4	1	0	QPSK	22.58	0.00	19.09	0.07	0.00
1710.7	19957	1.4	1	5	QPSK	22.41	0.17	18.93	0.23	0.00
1710.7	19957	1.4	3	2	QPSK	22.42	0.16	19.16	0.00	1.00
1710.7	19957	1.4	6	0	QPSK	21.58	1.00	18.15	1.01	1.00
1710.7	19957	1.4	1	0	16-QAM	22.13	0.45	18.57	0.59	1.00
1710.7	19957	1.4	1	5	16-QAM	22.04	0.54	18.39	0.77	1.00
1710.7	19957	1.4	3	2	16-QAM	21.91	0.67	18.31	0.85	2.00
1710.7	19957	1.4	6	0	16-QAM	20.74	1.84	17.15	2.01	2.00

<LTE band 4, middle channel>

Frequency [MHz]	Uplink Channel Number	BW [MHz]	RB Size	RB Offset	Mod	Maximum Average Power (dBm)	Maximum Power MPR Result (dB)	Reduced Average Power (dBm)	Reduced Power MPR Result (dB)	3GPP MPR (dB)
1732.5	20175	20	1	0	QPSK	22.69	0.00	19.02	0.00	0.00
1732.5	20175	20	1	99	QPSK	22.35	0.34	18.83	0.19	0.00
1732.5	20175	20	50	25	QPSK	21.42	1.27	17.96	1.06	1.00
1732.5	20175	20	100	0	QPSK	21.39	1.30	17.87	1.15	1.00
1732.5	20175	20	1	0	16-QAM	21.98	0.71	18.58	0.44	1.00
1732.5	20175	20	1	99	16-QAM	21.62	1.07	18.22	0.80	1.00
1732.5	20175	20	50	25	16-QAM	20.65	2.04	17.16	1.86	2.00
1732.5	20175	20	100	0	16-QAM	20.45	2.24	16.81	2.21	2.00
1732.5	20175	15	1	0	QPSK	22.76	0.00	19.11	0.00	0.00
1732.5	20175	15	1	74	QPSK	22.35	0.41	18.86	0.25	0.00
1732.5	20175	15	36	18	QPSK	21.56	1.20	18.06	1.05	1.00
1732.5	20175	15	75	0	QPSK	21.47	1.29	17.98	1.13	1.00
1732.5	20175	15	1	0	16-QAM	22.18	0.58	18.66	0.45	1.00
1732.5	20175	15	1	74	16-QAM	21.66	1.10	18.17	0.94	1.00
1732.5	20175	15	36	18	16-QAM	20.72	2.04	17.23	1.88	2.00
1732.5	20175	15	75	0	16-QAM	20.48	2.28	16.92	2.19	2.00
1732.5	20175	10	1	0	QPSK	22.35	0.00	18.79	0.00	0.00
1732.5	20175	10	1	49	QPSK	22.11	0.24	18.55	0.24	0.00
1732.5	20175	10	25	13	QPSK	21.34	1.01	17.68	1.11	1.00
1732.5	20175	10	50	0	QPSK	21.36	0.99	17.86	0.93	1.00
1732.5	20175	10	1	0	16-QAM	22.08	0.27	18.56	0.23	1.00
1732.5	20175	10	1	49	16-QAM	21.67	0.68	18.19	0.60	1.00
1732.5	20175	10	25	13	16-QAM	20.81	1.54	17.36	1.43	2.00
1732.5	20175	10	50	0	16-QAM	20.56	1.79	17.03	1.76	2.00
1732.5	20175	5	1	0	QPSK	22.43	0.00	18.86	0.00	0.00
1732.5	20175	5	1	24	QPSK	22.23	0.20	18.63	0.23	0.00
1732.5	20175	5	12	6	QPSK	21.37	1.06	17.77	1.09	1.00
1732.5	20175	5	25	0	QPSK	21.35	1.08	17.69	1.17	1.00
1732.5	20175	5	1	0	16-QAM	21.87	0.56	18.22	0.64	1.00
1732.5	20175	5	1	24	16-QAM	21.53	0.90	18.01	0.85	1.00
1732.5	20175	5	12	6	16-QAM	20.36	2.07	16.88	1.98	2.00
1732.5	20175	5	25	0	16-QAM	20.79	1.64	17.23	1.63	2.00
1732.5	20175	3	1	0	QPSK	22.62	0.00	19.18	0.00	0.00
1732.5	20175	3	1	14	QPSK	22.61	0.01	19.13	0.05	0.00
1732.5	20175	3	8	4	QPSK	21.50	1.12	17.96	1.22	1.00
1732.5	20175	3	15	0	QPSK	21.56	1.06	17.92	1.26	1.00
1732.5	20175	3	1	0	16-QAM	22.09	0.53	18.42	0.76	1.00
1732.5	20175	3	1	14	16-QAM	21.62	1.00	18.21	0.97	1.00
1732.5	20175	3	8	4	16-QAM	20.76	1.86	17.16	2.02	2.00
1732.5	20175	3	15	0	16-QAM	20.76	1.86	17.17	2.01	2.00
1732.5	20175	1.4	1	0	QPSK	22.57	0.06	18.91	0.10	0.00
1732.5	20175	1.4	1	5	QPSK	22.63	0.00	18.98	0.03	0.00
1732.5	20175	1.4	3	2	QPSK	22.53	0.10	19.01	0.00	1.00
1732.5	20175	1.4	6	0	QPSK	21.52	1.11	18.02	0.99	1.00
1732.5	20175	1.4	1	0	16-QAM	22.14	0.49	18.52	0.49	1.00
1732.5	20175	1.4	1	5	16-QAM	22.36	0.27	18.68	0.33	1.00
1732.5	20175	1.4	3	2	16-QAM	21.95	0.68	18.32	0.69	2.00
1732.5	20175	1.4	6	0	16-QAM	20.64	1.99	17.21	1.80	2.00

<LTE band 4, high channel>

Frequency [MHz]	Uplink Channel Number	BW [MHz]	RB Size	RB Offset	Mod	Maximum Average Power (dBm)	Maximum Power MPR Result (dB)	Reduced Average Power (dBm)	Reduced Power MPR Result (dB)	3GPP MPR (dB)
1745	20300	20	1	0	QPSK	22.25	0.00	18.65	0.00	0.00
1745	20300	20	1	99	QPSK	22.15	0.10	18.49	0.16	0.00
1745	20300	20	50	25	QPSK	21.24	1.01	17.68	0.97	1.00
1745	20300	20	100	0	QPSK	21.18	1.07	17.55	1.10	1.00
1745	20300	20	1	0	16-QAM	21.80	0.45	18.36	0.29	1.00
1745	20300	20	1	99	16-QAM	21.90	0.35	18.43	0.22	1.00
1745	20300	20	50	25	16-QAM	20.34	1.91	16.88	1.77	2.00
1745	20300	20	100	0	16-QAM	20.32	1.93	16.76	1.89	2.00
1747.5	20325	15	1	0	QPSK	22.49	0.01	19.01	0.05	0.00
1747.5	20325	15	1	74	QPSK	22.50	0.00	19.06	0.00	0.00
1747.5	20325	15	36	18	QPSK	21.22	1.28	17.79	1.27	1.00
1747.5	20325	15	75	0	QPSK	21.20	1.30	17.78	1.28	1.00
1747.5	20325	15	1	0	16-QAM	21.81	0.69	18.26	0.80	1.00
1747.5	20325	15	1	74	16-QAM	21.75	0.75	18.15	0.91	1.00
1747.5	20325	15	36	18	16-QAM	20.35	2.15	16.89	2.17	2.00
1747.5	20325	15	75	0	16-QAM	20.21	2.29	16.79	2.27	2.00
1750	20350	10	1	0	QPSK	21.98	0.17	18.46	0.30	0.00
1750	20350	10	1	49	QPSK	22.15	0.00	18.76	0.00	0.00
1750	20350	10	25	13	QPSK	21.22	0.93	17.66	1.10	1.00
1750	20350	10	50	0	QPSK	21.29	0.86	17.70	1.06	1.00
1750	20350	10	1	0	16-QAM	21.66	0.49	18.20	0.56	1.00
1750	20350	10	1	49	16-QAM	21.88	0.27	18.23	0.53	1.00
1750	20350	10	25	13	16-QAM	20.48	1.67	17.03	1.73	2.00
1750	20350	10	50	0	16-QAM	20.31	1.84	16.66	2.10	2.00
1752.5	20375	5	1	0	QPSK	22.42	0.04	18.88	0.03	0.00
1752.5	20375	5	1	24	QPSK	22.46	0.00	18.91	0.00	0.00
1752.5	20375	5	12	6	QPSK	21.29	1.17	17.69	1.22	1.00
1752.5	20375	5	25	0	QPSK	21.33	1.13	17.76	1.15	1.00
1752.5	20375	5	1	0	16-QAM	21.75	0.71	18.20	0.71	1.00
1752.5	20375	5	1	24	16-QAM	21.49	0.97	18.00	0.91	1.00
1752.5	20375	5	12	6	16-QAM	20.34	2.12	16.79	2.12	2.00
1752.5	20375	5	25	0	16-QAM	20.69	1.77	17.00	1.91	2.00
1753.5	20385	3	1	0	QPSK	22.42	-0.27	19.02	0.01	0.00
1753.5	20385	3	1	14	QPSK	22.41	-0.26	19.03	0.00	0.00
1753.5	20385	3	8	4	QPSK	21.46	0.69	17.90	1.13	1.00
1753.5	20385	3	15	0	QPSK	21.32	0.83	17.91	1.12	1.00
1753.5	20385	3	1	0	16-QAM	21.60	0.55	18.15	0.88	1.00
1753.5	20385	3	1	14	16-QAM	21.85	0.30	18.36	0.67	1.00
1753.5	20385	3	8	4	16-QAM	20.38	1.77	16.90	2.13	2.00
1753.5	20385	3	15	0	16-QAM	20.53	1.62	16.90	2.13	2.00
1754.3	20393	1.4	1	0	QPSK	22.19	0.27	18.76	0.21	0.00
1754.3	20393	1.4	1	5	QPSK	22.45	0.01	18.89	0.08	0.00
1754.3	20393	1.4	3	2	QPSK	22.32	0.14	18.97	0.00	1.00
1754.3	20393	1.4	6	0	QPSK	21.48	0.98	17.88	1.09	1.00
1754.3	20393	1.4	1	0	16-QAM	21.84	0.62	18.25	0.72	1.00
1754.3	20393	1.4	1	5	16-QAM	22.01	0.45	18.35	0.62	1.00
1754.3	20393	1.4	3	2	16-QAM	21.82	0.64	18.17	0.80	2.00
1754.3	20393	1.4	6	0	16-QAM	20.47	1.99	16.95	2.02	2.00

Note:

1. Per KDB 941225, if the output power variation across the band < 0.5dB, test middle channel SAR first and determine further test reduction based on the SAR results.
2. The power measurements are based on the power reduction implementation configuration. Use RF engineering tool, with the pre-defined setting command, to measure reduced power.

LTE Target MPR level

The device implements maximum power reduction per 3GPP 36.101 requirements where the MPR target is as below table. The MPR settings are implemented configured into firmware and cannot be disabled by the end user or LTE carrier network.

Modulation	Channel bandwidth / Transmission bandwidth configuration [RB]						MPR Target (dB)	3GPP MPR (dB)
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz		
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	1	≤ 1
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	1	≤ 1
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	2	≤ 2

Note: The measurement result showed some difference from the target MPR level, due to expected 0.5dB measurement tolerance

<WLAN>

Mode	Channel	Frequency (MHz)	Average power (dBm)			
			Data Rate (bps)			
			1M	2M	5.5M	11M
802.11b	CH 01	2412 MHz	13.59	13.42	13.57	13.56
	CH 06	2437 MHz	14.19	14.15	14.13	14.16
	CH 11	2462 MHz	15.31	15.29	15.22	15.29

Mode	Channel	Frequency (MHz)	Average power (dBm)							
			Data Rate (bps)							
			6M	9M	12M	18M	24M	36M	48M	54M
802.11g	CH 01	2412 MHz	11.14	10.91	10.96	10.94	11.02	11.08	11.06	11.03
	CH 06	2437 MHz	11.73	11.61	11.59	11.50	11.48	11.41	11.54	11.57
	CH 11	2462 MHz	12.71	12.67	12.68	12.60	12.64	12.60	12.65	12.63

Mode	Channel	Frequency (MHz)	Average power (dBm)							
			Data Rate (bps)							
			MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
802.11n 20M	CH 01	2412 MHz	8.65	8.71	8.74	8.80	8.80	8.84	8.85	8.88
	CH 06	2437 MHz	9.59	9.63	9.59	9.65	9.68	9.60	9.63	9.70
	CH 11	2462 MHz	10.39	10.48	10.53	10.55	10.67	10.73	10.71	10.74

Note:

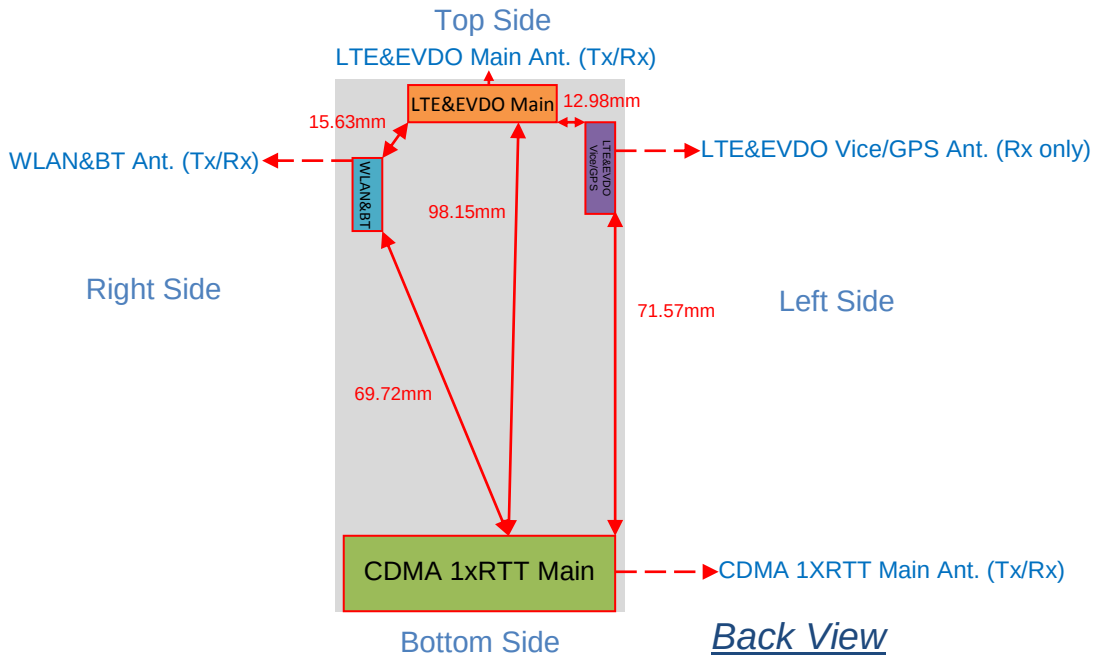
1. Per 2010/10 TCB workshop and KDB 248227, choose the highest output power channel to test SAR and determine further SAR exclusion. 802.11b CH11, 1Mbps is chosen.
2. Per KDB 248227, 11g and 11n output power is less than 1/4 dB higher than 11b mode, thus the SAR can be excluded.

<Bluetooth>

Band	Bluetooth		
Channel	0	39	78
Frequency	2402	2441	2480
Average Power	1.71	2.23	1.97

Note: Bluetooth output power (2.23dBm) ≤ P_{Ref}(10.8dBm)

11.2 Exposure Positions Consideration



Antennas	Wireless Interface
LTE&EVDO Main	LTE: band 2/4 (Tx/Rx) CDMA2000 EVDO: BC 1/15 (Tx/Rx)
LTE&EVDO Vice GPS Ant	LTE: band 2/4 (Rx only) CDMA2000 EVDO: BC 1/15 (Rx only) GPS receiving only
WLAN/BT	WLAN 2.4GHz (Tx/Rx) Bluetooth (Tx/Rx)
CDMA 1xRTT Main	CDMA2000 1xRTT BC 0/1/15 (Tx/Rx)

Hotspot side for SAR assessment Test distance: 10 mm						
Antennas	**Back**	**Front**	**Top Side**	**Bottom Side**	**Right Side**	**Left Side**
LTE&EVDO Main	YES	YES	YES	NO	YES	YES
WLAN&BT	YES	YES	YES	NO	YES	NO
CDMA 1xRTT Main	YES	YES	NO	YES	YES	YES

Note:

1. Head/Body-worn/Hotspot mode SAR assessments are required.
2. Referring to KDB 941225 D06, when the overall device length and width are ≥ 9cm*5cm, the test distance is 10 mm. SAR must be measured for all sides and surfaces with a transmitting antenna located within 25mm from that surface or edge.
3. For LTE&EVDO Main antenna, SAR measurements at Bottom side are not required since the distance between DUT and flat phantom > 25mm. LTE and 1xEVDO cannot transmit simultaneously.
4. For WLAN&BT antenna, SAR measurements Bottom side and Left side are not required since the distance between DUT and flat phantom > 25mm. WLAN and Bluetooth cannot transmit simultaneously.
5. For CDMA 1xRTT Main antenna, SAR measurements at Top side are not required since the distance between DUT and flat phantom > 25mm.
6. Bluetooth output power (2.23dBm) ≤ P_{Ref}(10.8dBm). Based on the output power, plus WLAN2.4G/BT operates at the same frequency where BT output power is far less than 802.11b output power (max: 15.31dBm; min: 13.42dBm), therefore SAR measurements for WLAN2.4G/BT antenna are based on WLAN2.4G in SAR assessment.

12. SAR Test Results

12.1 Test Records for Head SAR Test

<CDMA2000>

Plot No.	Antenna	Band	Mode	Test Position	Ch.	Output Power (dBm)	SAR_{1g} (W/kg)	Power Drift (dB)
169	1xRTT	CDMA 2000 BC0	RC3 SO55	Right Cheek	1013	23.98	**0.522**	0.06
170	1xRTT	CDMA 2000 BC0	RC3 SO55	Right Tilted	1013	23.98	0.337	-0.02
171	1xRTT	CDMA 2000 BC0	RC3 SO55	Left Cheek	1013	23.98	0.391	0.06
172	1xRTT	CDMA 2000 BC0	RC3 SO55	Left Tilted	1013	23.98	0.302	0.05
228	1xRTT	CDMA 2000 BC0	RC3 SO55	Right Tilted	1013	16.6	0.047	-0.04
240	1xRTT	CDMA 2000 BC0	RC3 SO55	Right Tilted	1013	18.78	0.097	-0.02
229	1xRTT	CDMA 2000 BC0	RC3 SO55	Left Tilted	1013	16.6	0.038	0.06
241	1xRTT	CDMA 2000 BC0	RC3 SO55	Left Tilted	1013	18.78	0.096	0.03
181	1xRTT	CDMA 2000 BC15	RC3 SO55	Right Cheek	25	23.73	0.481	0.06
182	1xRTT	CDMA 2000 BC15	RC3 SO55	Right Tilted	25	23.73	0.284	0.05
183	1xRTT	CDMA 2000 BC15	RC3 SO55	Left Cheek	25	23.73	0.536	0.07
184	1xRTT	CDMA 2000 BC15	RC3 SO55	Left Tilted	25	23.73	0.329	0.06
230	1xRTT	CDMA 2000 BC15	RC3 SO55	Right Tilted	25	15.63	0.038	-0.02
242	1xRTT	CDMA 2000 BC15	RC3 SO55	Right Tilted	25	18.69	0.091	-0.10
231	1xRTT	CDMA 2000 BC15	RC3 SO55	Left Tilted	25	15.63	0.044	0.03
243	1xRTT	CDMA 2000 BC15	RC3 SO55	Left Tilted	25	18.69	0.104	0.02
266	1xRTT	CDMA 2000 BC15	RC3 SO55	Left Cheek	25	15.63	0.069	0.02
173	EVDO/LTE	CDMA 2000 BC15	RTAP 153.6	Right Cheek	25	23.27	0.682	0.02
174	EVDO/LTE	CDMA 2000 BC15	RTAP 153.6	Right Tilted	25	23.27	0.873	0.08
175	EVDO/LTE	CDMA 2000 BC15	RTAP 153.6	Left Cheek	25	23.27	0.775	-0.04
176	EVDO/LTE	CDMA 2000 BC15	RTAP 153.6	Left Tilted	25	23.27	0.971	0.02
179	EVDO/LTE	CDMA 2000 BC15	RTAP 153.6	Right Tilted	425	23.26	1.1	0.02
180	EVDO/LTE	CDMA 2000 BC15	RTAP 153.6	Right Tilted	875	23.13	1.13	0.03
177	EVDO/LTE	CDMA 2000 BC15	RTAP 153.6	Left Tilted	425	23.26	1.22	0.03
178	EVDO/LTE	CDMA 2000 BC15	RTAP 153.6	Left Tilted	875	23.13	**1.23**	0.06
267	EVDO/LTE	CDMA 2000 BC15	RTAP 153.6	Left Cheek	600	17.3	0.24	-0.07
185	1xRTT	CDMA 2000 BC1	RC3 SO55	Right Cheek	25	24.16	0.419	0.06
186	1xRTT	CDMA 2000 BC1	RC3 SO55	Right Tilted	25	24.16	0.331	0.05
187	1xRTT	CDMA 2000 BC1	RC3 SO55	Left Cheek	25	24.16	0.635	0.08
188	1xRTT	CDMA 2000 BC1	RC3 SO55	Left Tilted	25	24.16	0.33	0.09
226	1xRTT	CDMA 2000 BC1	RC3 SO55	Right Tilted	25	15.57	0.035	-0.04
244	1xRTT	CDMA 2000 BC1	RC3 SO55	Right Tilted	25	19.07	0.094	0.10
227	1xRTT	CDMA 2000 BC1	RC3 SO55	Left Tilted	25	15.57	0.057	0.08
245	1xRTT	CDMA 2000 BC1	RC3 SO55	Left Tilted	25	19.07	0.089	0.10
268	1xRTT	CDMA 2000 BC1	RC3 SO55	Left Cheek	25	15.57	0.085	0.08
157	EVDO/LTE	CDMA 2000 BC1	RTAP 153.6	Right Cheek	1175	23.14	1.09	-0.01
158	EVDO/LTE	CDMA 2000 BC1	RTAP 153.6	Right Tilted	1175	23.14	1.23	-0.03
159	EVDO/LTE	CDMA 2000 BC1	RTAP 153.6	Left Cheek	1175	23.14	0.854	0.05
160	EVDO/LTE	CDMA 2000 BC1	RTAP 153.6	Left Tilted	1175	23.14	1.05	0.06
161	EVDO/LTE	CDMA 2000 BC1	RTAP 153.6	Right Cheek	25	23.12	1.09	0.0012
162	EVDO/LTE	CDMA 2000 BC1	RTAP 153.6	Right Cheek	600	23.21	1.13	0.02
163	EVDO/LTE	CDMA 2000 BC1	RTAP 153.6	Right Tilted	25	23.12	**1.39**	0.02
164	EVDO/LTE	CDMA 2000 BC1	RTAP 153.6	Right Tilted	600	23.21	1.36	0.10
165	EVDO/LTE	CDMA 2000 BC1	RTAP 153.6	Left Cheek	25	23.12	0.973	0.05
166	EVDO/LTE	CDMA 2000 BC1	RTAP 153.6	Left Cheek	600	23.21	1.03	0.06
167	EVDO/LTE	CDMA 2000 BC1	RTAP 153.6	Left Tilted	25	23.12	0.965	0.06
168	EVDO/LTE	CDMA 2000 BC1	RTAP 153.6	Left Tilted	600	23.21	1.29	0.02
224	EVDO/LTE	CDMA 2000 BC1	RTAP 153.6	Right Tilted	25	17.66	0.355	-0.05
225	EVDO/LTE	CDMA 2000 BC1	RTAP 153.6	Left Tilted	600	17.3	0.289	-0.10

Note:

1. Per KDB 648474, if the highest output channel SAR for each exposure position ≤ 0.8 W/kg other channels SAR tests are not necessary.
2. EVDO Head SAR is evaluated to account for hotspot mode configuration in head position.
3. Reduced power SAR is repeated for simultaneous transmission analysis. The simultaneous transmission analysis starts from each wireless interface maximum power standalone SAR. Only the test cases which cannot pass 1g summation or SPLSR will be repeated with reduced power. ,

<LTE >

Plot No.	Antenna	Band	BW(MHz)	RB Size	RB Offset	Test Position	Ch.	Output Power (dBm)	SAR_{1g} (W/kg)	Power Drift (dB)
189	EVDO/LTE	LTE Band IV QPSK	20	50	25	Right Cheek	20175	21.42	0.513	0.08
190	EVDO/LTE	LTE Band IV QPSK	20	50	25	Right Tilted	20175	21.42	0.654	0.05
191	EVDO/LTE	LTE Band IV QPSK	20	50	25	Left Cheek	20175	21.42	0.615	0.09
192	EVDO/LTE	LTE Band IV QPSK	20	50	25	Left Tilted	20175	21.42	0.808	0.03
193	EVDO/LTE	LTE Band IV QPSK	20	50	25	Left Tilted	20050	21.59	0.623	0.04
194	EVDO/LTE	LTE Band IV QPSK	20	50	25	Left Tilted	20300	21.24	0.735	-0.06
195	EVDO/LTE	LTE Band IV QPSK	20	1	0	Right Cheek	20175	22.69	0.562	0.08
196	EVDO/LTE	LTE Band IV QPSK	20	1	0	Right Tilted	20175	22.69	0.727	0.10
197	EVDO/LTE	LTE Band IV QPSK	20	1	0	Left Cheek	20175	22.69	0.643	0.04
198	EVDO/LTE	LTE Band IV QPSK	20	1	0	Left Tilted	20175	22.69	0.803	0.03
199	EVDO/LTE	LTE Band IV QPSK	20	1	99	Right Cheek	20175	22.35	0.674	0.06
200	EVDO/LTE	LTE Band IV QPSK	20	1	99	Right Tilted	20175	22.35	0.873	-0.01
201	EVDO/LTE	LTE Band IV QPSK	20	1	99	Left Cheek	20175	22.35	0.752	0.04
202	EVDO/LTE	LTE Band IV QPSK	20	1	99	Left Tilted	20175	22.35	**0.981**	0.08
203	EVDO/LTE	LTE Band IV 16QAM	20	50	25	Right Cheek	20175	20.65	0.455	0.09
204	EVDO/LTE	LTE Band IV 16QAM	20	50	25	Right Tilted	20175	20.65	0.564	0.02
205	EVDO/LTE	LTE Band IV 16QAM	20	50	25	Left Cheek	20175	20.65	0.477	0.0016
206	EVDO/LTE	LTE Band IV 16QAM	20	50	25	Left Tilted	20175	20.65	0.622	0.02
207	EVDO/LTE	LTE Band IV 16QAM	20	1	0	Right Cheek	20050	21.89	0.475	-0.08
208	EVDO/LTE	LTE Band IV 16QAM	20	1	0	Right Tilted	20050	21.89	0.575	-0.03
209	EVDO/LTE	LTE Band IV 16QAM	20	1	0	Left Cheek	20050	21.89	0.531	0.08
210	EVDO/LTE	LTE Band IV 16QAM	20	1	0	Left Tilted	20050	21.89	0.612	0.04
211	EVDO/LTE	LTE Band IV 16QAM	20	1	99	Right Cheek	20050	21.99	0.471	0.08
212	EVDO/LTE	LTE Band IV 16QAM	20	1	99	Right Tilted	20050	21.99	0.578	0.08
213	EVDO/LTE	LTE Band IV 16QAM	20	1	99	Left Cheek	20050	21.99	0.514	0.03
214	EVDO/LTE	LTE Band IV 16QAM	20	1	99	Left Tilted	20050	21.99	0.61	0.09
133	EVDO/LTE	LTE Band II QPSK	20	50	25	Right Cheek	18900	21.5	0.565	0.03
134	EVDO/LTE	LTE Band II QPSK	20	50	25	Right Tilted	18900	21.5	0.659	0.02
135	EVDO/LTE	LTE Band II QPSK	20	50	25	Left Cheek	18900	21.5	0.5	0.06
136	EVDO/LTE	LTE Band II QPSK	20	50	25	Left Tilted	18900	21.5	0.623	0.01
137	EVDO/LTE	LTE Band II QPSK	20	1	0	Right Cheek	18900	22.68	0.716	0.02
138	EVDO/LTE	LTE Band II QPSK	20	1	0	Right Tilted	18900	22.68	0.835	0.05
139	EVDO/LTE	LTE Band II QPSK	20	1	0	Left Cheek	18900	22.68	0.61	0.04
140	EVDO/LTE	LTE Band II QPSK	20	1	0	Left Tilted	18900	22.68	0.754	0.04
141	EVDO/LTE	LTE Band II QPSK	20	1	99	Right Cheek	18900	22.66	0.815	0.09
142	EVDO/LTE	LTE Band II QPSK	20	1	99	Right Tilted	18900	22.66	**0.927**	-0.02
143	EVDO/LTE	LTE Band II QPSK	20	1	99	Left Cheek	18900	22.66	0.668	0.03
144	EVDO/LTE	LTE Band II QPSK	20	1	99	Left Tilted	18900	22.66	0.823	0.06
145	EVDO/LTE	LTE Band II 16QAM	20	50	25	Right Cheek	18900	20.59	0.567	0.01
146	EVDO/LTE	LTE Band II 16QAM	20	50	25	Right Tilted	18900	20.59	0.634	0.08
147	EVDO/LTE	LTE Band II 16QAM	20	50	25	Left Cheek	18900	20.59	0.464	0.06
148	EVDO/LTE	LTE Band II 16QAM	20	50	25	Left Tilted	18900	20.59	0.592	0.09
149	EVDO/LTE	LTE Band II 16QAM	20	1	0	Right Cheek	19100	22.08	0.762	0.03
150	EVDO/LTE	LTE Band II 16QAM	20	1	0	Right Tilted	19100	22.08	0.891	0.02
151	EVDO/LTE	LTE Band II 16QAM	20	1	0	Left Cheek	19100	22.08	0.619	0.03
152	EVDO/LTE	LTE Band II 16QAM	20	1	0	Left Tilted	19100	22.08	0.784	0.02
153	EVDO/LTE	LTE Band II 16QAM	20	1	99	Right Cheek	19100	21.87	0.676	0.06
154	EVDO/LTE	LTE Band II 16QAM	20	1	99	Right Tilted	19100	21.87	0.783	0.04
155	EVDO/LTE	LTE Band II 16QAM	20	1	99	Left Cheek	19100	21.87	0.624	0.07
156	EVDO/LTE	LTE Band II 16QAM	20	1	99	Left Tilted	19100	21.87	0.673	0.07

Note:

1. Considering the users may install 3rd party software to enable VOIP, LTE Head SAR is also evaluated. Because FCC has not published uniform procedures for VOIP in LTE, therefore all channels and modes and modulations required under the other KDB pub 941225 D05 FCC LTE procedures were used for the held-near-head testing.
2. Per KDB 941225 D05, for LTE, if the smaller bandwidth output power is within +/- ½dB of the largest bandwidth, and the maximum SAR of the largest bandwidth is ≤ 1.45 W/kg, SAR for smaller bandwidth can be excluded.
3. Per KDB 941225 D05, if the measured 50%-RB QPSK 1g-SAR for the middle or highest output power channel is ≤ 0.8W/kg, remaining 2 channels SAR tests can be excluded. Otherwise, 50% RB allocation of the remaining 2 channels SAR tests are necessary.
4. Per KDB 941225 D05, for LTE, if 50%-RB QPSK SAR ≤ 1.45 W/kg, 100%-RB QPSK SAR can be excluded; if 50%-RB 16QAM SAR ≤ 1.45 W/kg, 100%-RB 16QAM SAR can be excluded.
5. If SAR of 1 RB allocation is ≤ 1.45W/kg, SAR of 1 RB allocation of remaining channels can be excluded.
6. Per KDB 648474, if the highest output channel SAR for each exposure position is ≤ 0.8 W/kg, other channels SAR tests are not necessary.

7. Reduced power SAR is repeated for simultaneous transmission analysis. The simultaneous transmission analysis starts from each wireless interface maximum power standalone SAR. Only the test cases which cannot pass 1g summation or SPLSR will be repeated with reduced power.
8. If the maximum average conducted output power for a 1 RB allocation is > ½ dB higher than the 50% RB allocation, instead of using the highest SAR channel measured for QPSK and 50% RB allocation, measure SAR on the highest output power channel for the 1 RB allocation.
9. If the maximum average conducted output power for a 1 RB allocation is > ½ dB higher than the 50% RB allocation, instead of using the highest SAR channel measured for 16QAM and 50% RB measure SAR on the highest output power channel for the 1 RB allocation.

<WLAN>

Plot No.	Antenna	Band	Mode	Test Position	Ch.	Output Power (dBm)	SAR_{1g} (W/kg)	Power Drift (dB)
215	WLAN/BT	802.11b	-	Right Cheek	11	15.31	0.026	0.07
216	WLAN/BT	802.11b	-	Right Tilted	11	15.31	0.022	0.061
217	WLAN/BT	802.11b	-	Left Cheek	11	15.31	**0.06**	0.05
218	WLAN/BT	802.11b	-	Left Tilted	11	15.31	0.033	0.07

Note: Per KDB 648474, if the highest output channel SAR for each exposure position ≤ 0.8 W/kg other channels SAR tests are not necessary.

12.2 Test Records for Hotspot SAR Test

<CDMA2000>

Plot No.	Antenna	Band	Mode	Test Position	Gap (cm)	Ch.	Output Power (dBm)	SAR_{1g} (W/kg)	Power Drift (dB)
31	1xRTT	CDMA 2000 BC0	RC3 SO32	Front	1 cm	1013	24.37	0.68	0.02
32	1xRTT	CDMA 2000 BC0	RC3 SO32	Back	1 cm	1013	24.37	**1.29**	0.02
33	1xRTT	CDMA 2000 BC0	RC3 SO32	Left Side	1 cm	1013	24.37	0.766	-0.02
34	1xRTT	CDMA 2000 BC0	RC3 SO32	Right Side	1 cm	1013	24.37	0.745	-0.02
35	1xRTT	CDMA 2000 BC0	RC3 SO32	Bottom Side	1 cm	1013	24.37	0.134	-0.09
36	1xRTT	CDMA 2000 BC0	RC3 SO32	Back	1 cm	384	24.36	1.08	-0.03
37	1xRTT	CDMA 2000 BC0	RC3 SO32	Back	1 cm	777	23.99	1.04	0.0089
232	1xRTT	CDMA 2000 BC0	RC3 SO32	Back	1 cm	1013	16.6	0.178	-0.10
246	1xRTT	CDMA 2000 BC0	RC3 SO32	Back	1 cm	1013	18.78	0.253	-0.13
264	1xRTT	CDMA 2000 BC0	RC3 SO32	Back	1 cm	1013	15.38	0.162	-0.07
41	1xRTT	CDMA 2000 BC15	RC3 SO32	Front	1 cm	25	23.74	0.816	-0.06
42	1xRTT	CDMA 2000 BC15	RC3 SO32	Back	1 cm	25	23.74	1.23	-0.08
43	1xRTT	CDMA 2000 BC15	RC3 SO32	Left Side	1 cm	25	23.74	0.473	-0.07
44	1xRTT	CDMA 2000 BC15	RC3 SO32	Right Side	1 cm	25	23.74	0.206	0.09
45	1xRTT	CDMA 2000 BC15	RC3 SO32	Bottom Side	1 cm	25	23.74	0.468	0.02
46	1xRTT	CDMA 2000 BC15	RC3 SO32	Front	1 cm	425	23.65	0.798	0.06
47	1xRTT	CDMA 2000 BC15	RC3 SO32	Front	1 cm	875	23.7	0.841	0.03
48	1xRTT	CDMA 2000 BC15	RC3 SO32	Back	1 cm	425	23.65	1.24	0.04
49	1xRTT	CDMA 2000 BC15	RC3 SO32	Back	1 cm	875	23.7	**1.34**	0.0017
248	1xRTT	CDMA 2000 BC15	RC3 SO32	Back	1 cm	875	15.51	0.179	-0.07
265	1xRTT	CDMA 2000 BC15	RC3 SO32	Back	1 cm	875	15.09	0.158	-0.06
1	EVDO/LTE	CDMA 2000 BC15	RTAP 153.6	Front	1 cm	25	23.27	0.527	0.06
2	EVDO/LTE	CDMA 2000 BC15	RTAP 153.6	Back	1 cm	25	23.27	0.939	0.01
3	EVDO/LTE	CDMA 2000 BC15	RTAP 153.6	Left Side	1 cm	25	23.27	0.153	-0.04
4	EVDO/LTE	CDMA 2000 BC15	RTAP 153.6	Right Side	1 cm	25	23.27	0.229	-0.13
5	EVDO/LTE	CDMA 2000 BC15	RTAP 153.6	Top Side	1 cm	25	23.27	0.734	0.07
6	EVDO/LTE	CDMA 2000 BC15	RTAP 153.6	Back	1 cm	425	23.26	1.02	0.06
7	EVDO/LTE	CDMA 2000 BC15	RTAP 153.6	Back	1 cm	875	23.13	1.21	-0.03
234	EVDO/LTE	CDMA 2000 BC15	RTAP 153.6	Back	1 cm	875	17.29	0.322	0.02
252	EVDO/LTE	CDMA 2000 BC15	RTAP 153.6	Back	1 cm	875	22.26	1.04	-0.08
21	1xRTT	CDMA 2000 BC1	RC3 SO32	Front	1 cm	25	24.19	0.637	0.05
22	1xRTT	CDMA 2000 BC1	RC3 SO32	Back	1 cm	25	24.19	1.07	-0.04
23	1xRTT	CDMA 2000 BC1	RC3 SO32	Left Side	1 cm	25	24.19	0.362	0.01
24	1xRTT	CDMA 2000 BC1	RC3 SO32	Right Side	1 cm	25	24.19	0.2	0.06
25	1xRTT	CDMA 2000 BC1	RC3 SO32	Bottom Side	1 cm	25	24.19	0.403	0.02
26	1xRTT	CDMA 2000 BC1	RC3 SO32	Back	1 cm	600	23.81	0.839	0.09
27	1xRTT	CDMA 2000 BC1	RC3 SO32	Back	1 cm	1175	24.01	0.875	0.07
250	1xRTT	CDMA 2000 BC1	RC3 SO32	Back	1 cm	25	15.6	0.143	-0.08
269	1xRTT	CDMA 2000 BC1	RC3 SO32	Back	1 cm	25	15.12	0.122	0.17
11	EVDO/LTE	CDMA 2000 BC1	RTAP 153.6	Front	1 cm	25	23.11	0.573	-0.06
12	EVDO/LTE	CDMA 2000 BC1	RTAP 153.6	Back	1 cm	25	23.11	**1.3**	0.01
13	EVDO/LTE	CDMA 2000 BC1	RTAP 153.6	Left Side	1 cm	25	23.11	0.191	0.05
14	EVDO/LTE	CDMA 2000 BC1	RTAP 153.6	Right Side	1 cm	25	23.11	0.276	0.0089
15	EVDO/LTE	CDMA 2000 BC1	RTAP 153.6	Top Side	1 cm	25	23.11	1	-0.02
16	EVDO/LTE	CDMA 2000 BC1	RTAP 153.6	Back	1 cm	600	23.09	1.27	0.02
17	EVDO/LTE	CDMA 2000 BC1	RTAP 153.6	Back	1 cm	1175	23.14	1.21	0.03
236	EVDO/LTE	CDMA 2000 BC1	RTAP 153.6	Back	1 cm	25	17.66	0.373	-0.02
254	EVDO/LTE	CDMA 2000 BC1	RTAP 153.6	Back	1 cm	25	22.14	1.07	0.07

Note:

1. Per KDB 941225 D06, for DUT dimension ≥ 9cm*5cm, the test distance is 1cm. SAR must be measured for all surfaces and sides with a transmitting antenna located within 2.5cm from that surface or edge.
2. As in (1), SAR for Front / Back / Right Side / Left Side / Top Side / Bottom Side is necessary.
3. Per KDB 648474, if the highest output channel SAR for each exposure position ≤ 0.8 W/kg other channels SAR tests are not necessary.
4. Reduced power SAR is repeated for simultaneous transmission analysis. The simultaneous transmission analysis starts from each wireless interface maximum power standalone SAR. Only the test cases which cannot pass 1g summation or SPLSR will be repeated with reduced power.

<LTE>

Plot No.	Antenna	Band	BW(MHz)	RB Size	RB Offset	Test Position	Gap (cm)	Ch.	Output Power (dBm)	SAR1g (W/kg)	Power Drift (dB)
93	EVDO/LTE	LTE Band IV QPSK	20	50	25	Front	1 cm	20175	21.42	0.363	0.09
94	EVDO/LTE	LTE Band IV QPSK	20	50	25	Back	1 cm	20175	21.42	0.57	0.01
95	EVDO/LTE	LTE Band IV QPSK	20	50	25	Left Side	1 cm	20175	21.42	0.106	0.03
96	EVDO/LTE	LTE Band IV QPSK	20	50	25	Right Side	1 cm	20175	21.42	0.143	0.03
97	EVDO/LTE	LTE Band IV QPSK	20	50	25	Top Side	1 cm	20175	21.42	0.53	0.01
99	EVDO/LTE	LTE Band IV QPSK	20	1	0	Front	1 cm	20175	22.69	0.413	-0.08
100	EVDO/LTE	LTE Band IV QPSK	20	1	0	Back	1 cm	20175	22.69	0.655	0.08
101	EVDO/LTE	LTE Band IV QPSK	20	1	0	Left Side	1 cm	20175	22.69	0.12	0.07
102	EVDO/LTE	LTE Band IV QPSK	20	1	0	Right Side	1 cm	20175	22.69	0.167	0.09
103	EVDO/LTE	LTE Band IV QPSK	20	1	0	Top Side	1 cm	20175	22.69	0.533	0.07
105	EVDO/LTE	LTE Band IV QPSK	20	1	99	Front	1 cm	20175	22.35	0.481	-0.09
106	EVDO/LTE	LTE Band IV QPSK	20	1	99	Back	1 cm	20175	22.35	**0.872**	0.09
107	EVDO/LTE	LTE Band IV QPSK	20	1	99	Left Side	1 cm	20175	22.35	0.133	0.09
108	EVDO/LTE	LTE Band IV QPSK	20	1	99	Right Side	1 cm	20175	22.35	0.181	0.10
109	EVDO/LTE	LTE Band IV QPSK	20	1	99	Top Side	1 cm	20175	22.35	0.705	0.07
112	EVDO/LTE	LTE Band IV 16QAM	20	50	25	Front	1 cm	20175	20.65	0.3	0.09
113	EVDO/LTE	LTE Band IV 16QAM	20	50	25	Back	1 cm	20175	20.65	0.48	0.07
114	EVDO/LTE	LTE Band IV 16QAM	20	50	25	Left Side	1 cm	20175	20.65	0.102	0.02
115	EVDO/LTE	LTE Band IV 16QAM	20	50	25	Right Side	1 cm	20175	20.65	0.122	0.05
116	EVDO/LTE	LTE Band IV 16QAM	20	50	25	Top Side	1 cm	20175	20.65	0.421	0.02
119	EVDO/LTE	LTE Band IV 16QAM	20	1	0	Front	1 cm	20050	21.95	0.309	0.06
120	EVDO/LTE	LTE Band IV 16QAM	20	1	0	Back	1 cm	20050	21.95	0.564	0.03
121	EVDO/LTE	LTE Band IV 16QAM	20	1	0	Left Side	1 cm	20050	21.95	0.103	0.02
122	EVDO/LTE	LTE Band IV 16QAM	20	1	0	Right Side	1 cm	20050	21.95	0.14	0.08
123	EVDO/LTE	LTE Band IV 16QAM	20	1	0	Top Side	1 cm	20050	21.95	0.438	0.06
126	EVDO/LTE	LTE Band IV 16QAM	20	1	99	Front	1 cm	20050	21.62	0.366	0.02
127	EVDO/LTE	LTE Band IV 16QAM	20	1	99	Back	1 cm	20050	21.62	0.611	0.08
128	EVDO/LTE	LTE Band IV 16QAM	20	1	99	Left Side	1 cm	20050	21.62	0.123	0.03
129	EVDO/LTE	LTE Band IV 16QAM	20	1	99	Right Side	1 cm	20050	21.62	0.155	0.05
130	EVDO/LTE	LTE Band IV 16QAM	20	1	99	Top Side	1 cm	20050	21.62	0.508	0.09
238	EVDO/LTE	LTE Band IV QPSK	20	1	99	Back	1 cm	20175	18.83	0.486	0.01
51	EVDO/LTE	LTE Band II QPSK	20	50	25	Front	1 cm	18900	21.5	0.337	-0.05
52	EVDO/LTE	LTE Band II QPSK	20	50	25	Back	1 cm	18900	21.5	0.735	0.05
53	EVDO/LTE	LTE Band II QPSK	20	50	25	Left Side	1 cm	18900	21.5	0.125	-0.05
54	EVDO/LTE	LTE Band II QPSK	20	50	25	Right Side	1 cm	18900	21.5	0.181	-0.08
55	EVDO/LTE	LTE Band II QPSK	20	50	25	Top Side	1 cm	18900	21.5	0.658	-0.05
59	EVDO/LTE	LTE Band II QPSK	20	1	0	Front	1 cm	18900	22.68	0.41	-0.01
60	EVDO/LTE	LTE Band II QPSK	20	1	0	Back	1 cm	18900	22.68	0.919	0.06
61	EVDO/LTE	LTE Band II QPSK	20	1	0	Left Side	1 cm	18900	22.68	0.177	0.05
62	EVDO/LTE	LTE Band II QPSK	20	1	0	Right Side	1 cm	18900	22.68	0.218	0.07
63	EVDO/LTE	LTE Band II QPSK	20	1	0	Top Side	1 cm	18900	22.68	0.796	0.03
67	EVDO/LTE	LTE Band II QPSK	20	1	99	Front	1 cm	18900	22.66	0.432	0.05
68	EVDO/LTE	LTE Band II QPSK	20	1	99	Back	1 cm	18900	22.66	**1.1**	0.03
69	EVDO/LTE	LTE Band II QPSK	20	1	99	Left Side	1 cm	18900	22.66	0.21	0.04
70	EVDO/LTE	LTE Band II QPSK	20	1	99	Right Side	1 cm	18900	22.66	0.255	-0.04
71	EVDO/LTE	LTE Band II QPSK	20	1	99	Top Side	1 cm	18900	22.66	0.862	0.02
75	EVDO/LTE	LTE Band II 16QAM	20	50	25	Front	1 cm	18900	20.59	0.284	0.05
76	EVDO/LTE	LTE Band II 16QAM	20	50	25	Back	1 cm	18900	20.59	0.642	0.05
77	EVDO/LTE	LTE Band II 16QAM	20	50	25	Left Side	1 cm	18900	20.59	0.101	-0.01
78	EVDO/LTE	LTE Band II 16QAM	20	50	25	Right Side	1 cm	18900	20.59	0.142	0.07
79	EVDO/LTE	LTE Band II 16QAM	20	50	25	Top Side	1 cm	18900	20.59	0.503	0.09
81	EVDO/LTE	LTE Band II 16QAM	20	1	0	Front	1 cm	19100	22.08	0.358	0.01
82	EVDO/LTE	LTE Band II 16QAM	20	1	0	Back	1 cm	19100	22.08	0.808	0.04
83	EVDO/LTE	LTE Band II 16QAM	20	1	0	Left Side	1 cm	19100	22.08	0.141	0.03
84	EVDO/LTE	LTE Band II 16QAM	20	1	0	Right Side	1 cm	19100	22.08	0.192	0.02
85	EVDO/LTE	LTE Band II 16QAM	20	1	0	Top Side	1 cm	19100	22.08	0.674	0.05
87	EVDO/LTE	LTE Band II 16QAM	20	1	99	Front	1 cm	19100	21.87	0.308	-0.05
88	EVDO/LTE	LTE Band II 16QAM	20	1	99	Back	1 cm	19100	21.87	0.735	-0.06
89	EVDO/LTE	LTE Band II 16QAM	20	1	99	Left Side	1 cm	19100	21.87	0.14	0.07
90	EVDO/LTE	LTE Band II 16QAM	20	1	99	Right Side	1 cm	19100	21.87	0.173	-0.04
91	EVDO/LTE	LTE Band II 16QAM	20	1	99	Top Side	1 cm	19100	21.87	0.613	0.10
239	EVDO/LTE	LTE Band II QPSK	20	1	99	Back	1 cm	18900	19.06	0.572	0.05

Note:

1. Per KDB 941225 D06, for DUT dimension ≥ 9cm*5cm, the test distance is 1cm. SAR must be measured for all surfaces and sides with a transmitting antenna located within 2.5cm from that surface or edge.
2. As in (1), SAR for Front/Back/Top Side/ Left Side/Right Side is necessary for LTE Band 2; SAR for Front/Back/Top Side/ Left Side/Right Side is necessary for LTE Band 4.
3. Per KDB 941225 D05, for LTE, if the smaller bandwidth output power is within +/- ½ dB of the largest bandwidth, and the maximum SAR of the largest bandwidth is < 1.45 W/kg, SAR for smaller bandwidth can be excluded. Therefore LTE 5MHz bandwidth SAR tests are excluded.
4. Per KDB 941225 D05, if the measured 50%-RB 1g-SAR for the middle or highest output power channel is ≤ 0.8W/kg, remaining 2 channels SAR tests can be excluded. Otherwise, 50% RB allocation of the remaining 2 channels SAR tests are necessary.
5. Per KDB 941225 D05, for LTE, if 50%-RB QPSK/16QAM SAR < 1.45 W/kg, 100%-RB SAR can be excluded.
6. If SAR of 1 RB allocation is ≤ 1.45W/kg, SAR of 1 RB allocation of remaining channels can be excluded.
7. Per KDB 648474, if the highest output channel SAR for each exposure position is ≤ 0.8 W/kg, other channels SAR tests are not necessary
8. Reduced power SAR is repeated for simultaneous transmission analysis. The simultaneous transmission analysis starts from each wireless interface maximum power standalone SAR. Only the test cases which cannot pass 1g summation or SPLSR will be repeated with reduced power.

<WLAN>

Plot No.	Antenna	Band	Mode	Test Position	Gap (cm)	Ch.	Output Power (dBm)	SAR_{1g} (W/kg)	Power Drift (dB)
219	WLAN/BT	802.11b	-	Front	1 cm	11	15.31	0.016	0.07
220	WLAN/BT	802.11b	-	Back	1 cm	11	15.31	**0.222**	0.061
221	WLAN/BT	802.11b	-	Right Side	1 cm	11	15.31	0.131	0.05
222	WLAN/BT	802.11b	-	Top Side	1 cm	11	15.31	0.017	0.07

Note:

1. Per KDB 941225 D06, for DUT dimension ≥ 9cm*5cm, the test distance is 1cm. SAR must be measured for all surfaces and sides with a transmitting antenna located within 2.5cm from that surface or edge.
2. As in (1), SAR for Front/Back/Top Side/Right Side is necessary.
3. Per KDB 648474, if the highest output channel SAR for each exposure position ≤ 0.8 W/kg other channels SAR tests are not necessary.

12.3 Test Records for Body-worn SAR Test

<CDMA2000>

Plot No.	Antenna	Band	Mode	Test Position	Gap (cm)	Ch.	Ear-phone	Output Power (dBm)	SAR_{1g} (W/kg)	Power Drift (dB)
31	1xRTT	CDMA 2000 BC0	RC3 SO32	Front	1 cm	1013	-	24.37	0.68	0.02
32	1xRTT	CDMA 2000 BC0	RC3 SO32	Back	1 cm	1013	-	24.37	**1.29**	0.02
36	1xRTT	CDMA 2000 BC0	RC3 SO32	Back	1 cm	384	-	24.36	1.08	-0.03
37	1xRTT	CDMA 2000 BC0	RC3 SO32	Back	1 cm	777	-	23.99	1.04	0.0089
38	1xRTT	CDMA 2000 BC0	RC3 SO32	Back	1 cm	1013	V	24.37	0.944	-0.03
39	1xRTT	CDMA 2000 BC0	RC3 SO32	Back	1 cm	384	V	24.36	0.884	-0.07
40	1xRTT	CDMA 2000 BC0	RC3 SO32	Back	1 cm	777	V	23.99	0.802	-0.11
232	1xRTT	CDMA 2000 BC0	RC3 SO32	Back	1 cm	1013	-	16.6	0.178	-0.10
246	1xRTT	CDMA 2000 BC0	RC3 SO32	Back	1 cm	1013	-	18.78	0.253	-0.13
233	1xRTT	CDMA 2000 BC0	RC3 SO32	Back	1 cm	1013	V	16.6	0.148	0.04
247	1xRTT	CDMA 2000 BC0	RC3 SO32	Back	1 cm	1013	V	18.78	0.212	0.04
262	1xRTT	CDMA 2000 BC0	RC3 SO32	Back	1 cm	1013	V	15.38	0.128	-0.03
264	1xRTT	CDMA 2000 BC0	RC3 SO32	Back	1 cm	1013	-	15.38	0.162	-0.07
41	1xRTT	CDMA 2000 BC15	RC3 SO32	Front	1 cm	25	-	23.74	0.816	-0.06
42	1xRTT	CDMA 2000 BC15	RC3 SO32	Back	1 cm	25	-	23.74	1.23	-0.08
46	1xRTT	CDMA 2000 BC15	RC3 SO32	Front	1 cm	425	-	23.65	0.798	0.06
47	1xRTT	CDMA 2000 BC15	RC3 SO32	Front	1 cm	875	-	23.7	0.841	0.03
48	1xRTT	CDMA 2000 BC15	RC3 SO32	Back	1 cm	425	-	23.65	1.24	0.04
49	1xRTT	CDMA 2000 BC15	RC3 SO32	Back	1 cm	875	-	23.7	**1.34**	0.0017
50	1xRTT	CDMA 2000 BC15	RC3 SO32	Back	1 cm	875	V	23.7	1.3	-0.05
57	1xRTT	CDMA 2000 BC15	RC3 SO32	Back	1 cm	25	V	23.74	1.15	-0.04
58	1xRTT	CDMA 2000 BC15	RC3 SO32	Back	1 cm	425	V	23.65	1.2	0.01
248	1xRTT	CDMA 2000 BC15	RC3 SO32	Back	1 cm	875	-	15.51	0.179	-0.07
249	1xRTT	CDMA 2000 BC15	RC3 SO32	Back	1 cm	875	V	15.51	0.148	0.09
263	1xRTT	CDMA 2000 BC15	RC3 SO32	Back	1 cm	875	V	15.09	0.103	-0.04
265	1xRTT	CDMA 2000 BC15	RC3 SO32	Back	1 cm	875	-	15.09	0.158	-0.06
1	EVDO/LTE	CDMA 2000 BC15	RTAP 153.6	Front	1 cm	25	-	23.27	0.527	0.06
2	EVDO/LTE	CDMA 2000 BC15	RTAP 153.6	Back	1 cm	25	-	23.27	0.939	0.01
6	EVDO/LTE	CDMA 2000 BC15	RTAP 153.6	Back	1 cm	425	-	23.26	1.02	0.06
7	EVDO/LTE	CDMA 2000 BC15	RTAP 153.6	Back	1 cm	875	-	23.13	1.21	-0.03
8	EVDO/LTE	CDMA 2000 BC15	RTAP 153.6	Back	1 cm	875	V	23.13	1.28	-0.01
9	EVDO/LTE	CDMA 2000 BC15	RTAP 153.6	Back	1 cm	25	V	23.27	0.974	0.0034
10	EVDO/LTE	CDMA 2000 BC15	RTAP 153.6	Back	1 cm	425	V	23.26	1.08	0.03
234	EVDO/LTE	CDMA 2000 BC15	RTAP 153.6	Back	1 cm	875	-	17.29	0.322	0.02
235	EVDO/LTE	CDMA 2000 BC15	RTAP 153.6	Back	1 cm	875	V	17.29	0.394	0.07
252	EVDO/LTE	CDMA 2000 BC15	RTAP 153.6	Back	1 cm	875	-	22.26	1.04	-0.08
253	EVDO/LTE	CDMA 2000 BC15	RTAP 153.6	Back	1 cm	875	V	22.26	1.06	0.05
21	1xRTT	CDMA 2000 BC1	RC3 SO32	Front	1 cm	25	-	24.19	0.637	0.05
22	1xRTT	CDMA 2000 BC1	RC3 SO32	Back	1 cm	25	-	24.19	1.07	-0.04
26	1xRTT	CDMA 2000 BC1	RC3 SO32	Back	1 cm	600	-	23.81	0.839	0.09
27	1xRTT	CDMA 2000 BC1	RC3 SO32	Back	1 cm	1175	-	24.01	0.875	0.07
28	1xRTT	CDMA 2000 BC1	RC3 SO32	Back	1 cm	25	V	24.19	1.02	0.03
29	1xRTT	CDMA 2000 BC1	RC3 SO32	Back	1 cm	600	V	23.81	0.835	-0.09
30	1xRTT	CDMA 2000 BC1	RC3 SO32	Back	1 cm	1175	V	24.01	0.864	0.06
250	1xRTT	CDMA 2000 BC1	RC3 SO32	Back	1 cm	25	-	15.6	0.143	-0.08
251	1xRTT	CDMA 2000 BC1	RC3 SO32	Back	1 cm	25	V	15.6	0.122	0.02
269	1xRTT	CDMA 2000 BC1	RC3 SO32	Back	1 cm	25	-	15.12	0.122	0.17
270	1xRTT	CDMA 2000 BC1	RC3 SO32	Back	1 cm	25	V	15.12	0.109	0.046
11	EVDO/LTE	CDMA 2000 BC1	RTAP 153.6	Front	1 cm	25	-	23.11	0.573	-0.06
12	EVDO/LTE	CDMA 2000 BC1	RTAP 153.6	Back	1 cm	25	-	23.11	**1.3**	0.01
16	EVDO/LTE	CDMA 2000 BC1	RTAP 153.6	Back	1 cm	600	-	23.09	1.27	0.02
17	EVDO/LTE	CDMA 2000 BC1	RTAP 153.6	Back	1 cm	1175	-	23.14	1.21	0.03
18	EVDO/LTE	CDMA 2000 BC1	RTAP 153.6	Back	1 cm	25	V	23.11	**1.3**	-0.07
19	EVDO/LTE	CDMA 2000 BC1	RTAP 153.6	Back	1 cm	600	V	23.09	1.22	0.04
20	EVDO/LTE	CDMA 2000 BC1	RTAP 153.6	Back	1 cm	1175	V	23.14	1.11	0.05
236	EVDO/LTE	CDMA 2000 BC1	RTAP 153.6	Back	1 cm	25	-	17.66	0.373	-0.02
237	EVDO/LTE	CDMA 2000 BC1	RTAP 153.6	Back	1 cm	25	V	17.66	0.362	0.07
254	EVDO/LTE	CDMA 2000 BC1	RTAP 153.6	Back	1 cm	25	-	22.14	1.07	0.07
255	EVDO/LTE	CDMA 2000 BC1	RTAP 153.6	Back	1 cm	25	V	22.14	1.14	-0.09

Note:
1. "V" in the earphone column means the earphone is plugged during SAR testing.
2. Per KDB 648474, if the highest output channel SAR for each exposure position ≤ 0.8 W/kg, other channels SAR tests are not necessary.
3. Reduced power SAR is repeated for simultaneous transmission analysis. The simultaneous transmission analysis starts from each wireless interface maximum power standalone SAR. Only the test cases which cannot pass 1g summation or SPLSR will be repeated with reduced power.

<LTE >

Plot No.	Antenna	Band	BW(MHz)	RB Size	RB Offset	Test Position	Gap (cm)	Ch.	Ear-phone	Output Power (dBm)	SAR_{1g} (W/kg)	Power Drift (dB)
93	EVDO/LTE	LTE Band IV QPSK	20	50	25	Front	1 cm	20175	-	21.42	0.363	0.09
94	EVDO/LTE	LTE Band IV QPSK	20	50	25	Back	1 cm	20175	-	21.42	0.57	0.01
98	EVDO/LTE	LTE Band IV QPSK	20	50	25	Back	1 cm	20175	v	21.42	0.54	0.01
99	EVDO/LTE	LTE Band IV QPSK	20	1	0	Front	1 cm	20175	-	22.69	0.413	-0.08
100	EVDO/LTE	LTE Band IV QPSK	20	1	0	Back	1 cm	20175	-	22.69	0.655	0.08
104	EVDO/LTE	LTE Band IV QPSK	20	1	0	Back	1 cm	20175	v	22.69	0.664	0.08
105	EVDO/LTE	LTE Band IV QPSK	20	1	99	Front	1 cm	20175	-	22.35	0.481	-0.09
106	EVDO/LTE	LTE Band IV QPSK	20	1	99	Back	1 cm	20175	-	22.35	**0.872**	0.09
110	EVDO/LTE	LTE Band IV QPSK	20	1	99	Back	1 cm	20175	v	22.35	0.763	0.03
112	EVDO/LTE	LTE Band IV 16QAM	20	50	25	Front	1 cm	20175	-	20.65	0.3	0.09
113	EVDO/LTE	LTE Band IV 16QAM	20	50	25	Back	1 cm	20175	-	20.65	0.48	0.07
117	EVDO/LTE	LTE Band IV 16QAM	20	50	25	Back	1 cm	20175	v	20.65	0.437	0.09
119	EVDO/LTE	LTE Band IV 16QAM	20	1	0	Front	1 cm	20050	-	21.95	0.309	0.06
120	EVDO/LTE	LTE Band IV 16QAM	20	1	0	Back	1 cm	20050	-	21.95	0.564	0.03
124	EVDO/LTE	LTE Band IV 16QAM	20	1	0	Back	1 cm	20050	v	21.95	0.518	0.07
126	EVDO/LTE	LTE Band IV 16QAM	20	1	99	Front	1 cm	20050	-	21.62	0.366	0.02
127	EVDO/LTE	LTE Band IV 16QAM	20	1	99	Back	1 cm	20050	-	21.62	0.611	0.08
131	EVDO/LTE	LTE Band IV 16QAM	20	1	99	Back	1 cm	20050	v	21.62	0.545	0.09
238	EVDO/LTE	LTE Band IV QPSK	20	1	99	Back	1 cm	20175	-	18.83	0.486	0.01
51	EVDO/LTE	LTE Band II QPSK	20	50	25	Front	1 cm	18900	-	21.5	0.337	-0.05
52	EVDO/LTE	LTE Band II QPSK	20	50	25	Back	1 cm	18900	-	21.5	0.735	0.05
56	EVDO/LTE	LTE Band II QPSK	20	50	25	Back	1 cm	18900	v	21.5	0.672	0.07
59	EVDO/LTE	LTE Band II QPSK	20	1	0	Front	1 cm	18900	-	22.68	0.41	-0.01
60	EVDO/LTE	LTE Band II QPSK	20	1	0	Back	1 cm	18900	-	22.68	0.919	0.06
64	EVDO/LTE	LTE Band II QPSK	20	1	0	Back	1 cm	18900	v	22.68	0.818	0.05
65	EVDO/LTE	LTE Band II QPSK	20	1	0	Back	1 cm	18700	v	22.52	0.876	0.10
66	EVDO/LTE	LTE Band II QPSK	20	1	0	Back	1 cm	19100	v	22.52	0.866	0.06
67	EVDO/LTE	LTE Band II QPSK	20	1	99	Front	1 cm	18900	-	22.66	0.432	0.05
68	EVDO/LTE	LTE Band II QPSK	20	1	99	Back	1 cm	18900	-	22.66	**1.1**	0.03
72	EVDO/LTE	LTE Band II QPSK	20	1	99	Back	1 cm	18900	v	22.66	0.881	0.03
73	EVDO/LTE	LTE Band II QPSK	20	1	99	Back	1 cm	18700	v	22.33	0.853	0.02
74	EVDO/LTE	LTE Band II QPSK	20	1	99	Back	1 cm	19100	v	22.44	0.768	0.05
75	EVDO/LTE	LTE Band II 16QAM	20	50	25	Front	1 cm	18900	-	20.59	0.284	0.05
76	EVDO/LTE	LTE Band II 16QAM	20	50	25	Back	1 cm	18900	-	20.59	0.642	0.05
80	EVDO/LTE	LTE Band II 16QAM	20	50	25	Back	1 cm	18900	v	20.59	0.592	0.07
81	EVDO/LTE	LTE Band II 16QAM	20	1	0	Front	1 cm	19100	-	22.08	0.358	0.01
82	EVDO/LTE	LTE Band II 16QAM	20	1	0	Back	1 cm	19100	-	22.08	0.808	0.04
86	EVDO/LTE	LTE Band II 16QAM	20	1	0	Back	1 cm	19100	v	22.08	0.781	-0.09
87	EVDO/LTE	LTE Band II 16QAM	20	1	99	Front	1 cm	19100	-	21.87	0.308	0.05
88	EVDO/LTE	LTE Band II 16QAM	20	1	99	Back	1 cm	19100	-	21.87	0.735	-0.06
92	EVDO/LTE	LTE Band II 16QAM	20	1	99	Back	1 cm	19100	v	21.87	0.695	0.03
239	EVDO/LTE	LTE Band II QPSK	20	1	99	Back	1 cm	18900	-	19.06	0.572	0.05

Note:
1. "V" in the earphone column means the earphone is plugged during SAR testing.
2. Per KDB 941225 D05, for LTE, if the smaller bandwidth output power is within +/- ½ dB of the largest bandwidth, and the maximum SAR of the largest bandwidth is ≤ 1.45 W/kg, SAR for smaller bandwidth can be excluded.
3. Per KDB 941225 D05, if the measured 50%-RB 1g-SAR for the middle or highest output power channel is ≤ 0.8W/kg, remaining 2 channels SAR tests can be excluded. Otherwise, 50% RB allocation of the remaining 2 channels SAR tests are necessary.
4. Per KDB 941225 D05, for LTE, if 50%-RB QPSK SAR ≤ 1.45 W/kg, 100%-RB QPSK SAR can be excluded; if 50%-RB 16QAM SAR ≤ 1.45 W/kg, 100%-RB 16QAM SAR can be excluded.
5. If SAR of 1 RB allocation is ≤ 1.45W/kg, SAR of 1 RB allocation of remaining channels can be excluded.
6. Per KDB 648474, if the highest output channel SAR for each exposure position is ≤ 0.8 W/kg, other channels SAR tests are not necessary.
7. Reduced power SAR is repeated for simultaneous transmission analysis. The simultaneous transmission analysis starts from each wireless interface maximum power standalone SAR. Only the test cases which cannot pass 1g summation or SPLSR will be repeated with reduced power.

<WLAN>

Plot No.	Antenna	Band	Mode	Test Position	Gap (cm)	Ch.	Ear-phone	Output Power (dBm)	SAR_{1g} (W/kg)	Power Drift (dB)
219	WLAN/BT	802.11b	-	Front	1 cm	11	-	15.31	0.016	0.04
220	WLAN/BT	802.11b	-	Back	1 cm	11	-	15.31	**0.222**	0.04
223	WLAN/BT	802.11b	-	Back	1 cm	11	v	15.31	0.158	0.0067

Note:
1. Per KDB 648474, if the highest output channel SAR for each exposure position ≤ 0.8 W/kg other channels SAR tests are not necessary.
2. "V" in the earphone column means the earphone is plugged during SAR testing.

12.4 Simultaneous Multi-band Transmission

	Position	Applicable Combination
Simultaneous Transmission	Head	CDMA1x (voice) + EVDO (data) + WLAN
		CDMA1x (voice) + LTE (data) + WLAN
		CDMA1x (voice) + WLAN
		CDMA1x (voice) + EVDO (data) + BT
		CDMA1x (voice) + LTE (data) + BT
		CDMA1x (voice) + BT
	Hotspot	CDMA1x (data) + WLAN
		EVDO (data) + WLAN
		LTE (data) + WLAN
	Body-worn	CDMA1x (voice) + EVDO (data) + WLAN
		CDMA1x (voice) + LTE (data) + WLAN
		CDMA1x (voice) + WLAN
		EVDO (data) + WLAN
		LTE (data) + WLAN
		CDMA1x (voice) + EVDO (data) + BT
		CDMA1x (voice) + LTE (data) + BT
		CDMA1x (voice) + BT
		EVDO (data) + BT
		LTE (data) + BT

Note:

1. WLAN and BT share the same antenna, but cannot transmit simultaneously.
2. Due to WLAN output power (15.31dBm) is less than tune-up upper limit power 0.69dB (1.17x), scale SAR compensated for WLAN is considered in simultaneous transmission assessement.

The implemented power combinations:

Power combination	CDMA20001x voice mode	EVDO data mode
SVDO Mode	24	17
	15.5	23
	15	23.5
Power combination	CDMA20001x voice mode	LTE data mode
SVLTE Mode	24	19
	18.5	23
	18	23

Alternative combinations – For analysis purpose only

Power combination	CDMA20001x voice mode	EVDO data mode
#1	24	23.5
#2	24	17
#3	15.5	23.5
#4	15.5	23
#5	15	23.5
Power combination	CDMA20001x voice mode	LTE data mode
#6	24	23
#7	24	19
#8	18.5	23

Note: Alternative combinations #1/#3/#6 are not implemented in DUT SVLTE/SVDO power reduction design, those are made for simultaneous transmission exclusion analysis only.

Analysis Procedure:

Step1

1. Per KDB 941225 D05, maximum power standalone SAR of 1xRTT/EVDO/LTE is used for simultaneous transmission analysis.
2. Start analysis from full power combination (Alternative Power combination #1/#6).
3. If 1g-SAR scalar summation < 1.6W/kg, simultaneous SAR measurement and further evaluations are not necessary.
4. If 1g-SAR summation >1.6W/kg, SPLSR calculation is necessary.
5. If SPLSR < 0.3, further evaluation (step2) is not required. Otherwise, step2 analysis is required.

Step2

6. For the cases from step1, SPLSR > 0.3, power combination #2/#3/#7/#8 are used in further step2 analysis.
7. If 1g-SAR scalar summation < 1.6W/kg, simultaneous SAR measurement and further evaluations are not necessary.
8. If 1g-SAR summation >1.6W/kg, SPLSR calculation is necessary.
9. If power combination #2/#3/#7/#8 resulting SPLSR < 0.3, further evaluation is not required.
10. If power combination #2/#7 resulting SPLSR > 0.3, volume scan measurement will be implement directly.
11. If power combination #8 resulting SPLSR > 0.3, volume scan measurement will be implement directly.
12. If power combination #3 resulting SPLSR >0.3, the further analysis will be based on the real implemented power configuration:

Power combination	CDMA20001x voice mode	EVDO data mode
#4	15.5	23
#5	15	23.5

13. If the analysis in (10) shows SPLSR > 0.3, volume scan measurement is required.

Table 12.4-A1: Head SAR analysis <Step 1>

	Position	Applicable Combination
Simultaneous Transmission	Head	CDMA1x (voice) + EVDO (data) + WLAN
		CDMA1x (voice) + LTE (data) + WLAN
		CDMA1x (voice) + WLAN
		CDMA1x (voice) + EVDO (data) + BT
		CDMA1x (voice) + LTE (data) + BT
		CDMA1x (voice) + BT

Position	SVDO/SVLTE Power setting	EVDO BC15	EVDO BC1	CDMA BC0	CDMA BC15	CDMA BC1	WLAN 2.4G	Scale SAR	SAR Sum	Scale Sum	SPLSR	EVDO +CDMA	CDMA +Wifi	EVDO +Wifi	Remark	Case No.
Right Cheek	EVDO(23.5dbm) 1XRTT(24dbm)	0.682		0.522			0.026	0.030	1.23	1.23	-	-	-	-	Pass	
Right Tilted		1.13		0.337			0.022	0.026	1.49	1.49	-	-	-	-	Pass	
Left Cheek		0.775		0.391			0.06	0.070	1.23	1.24	-	-	-	-	Pass	
Left Tilted		1.23		0.302			0.033	0.039	1.57	1.58	-	-	-	-	Pass	
Right Cheek	EVDO(23.5dbm) 1XRTT(24dbm)	0.682			0.481		0.026	0.030	1.19	1.19	-	-	-	-	Pass	
Right Tilted		1.13			0.284		0.022	0.026	1.44	1.44	-	-	-	-	Pass	
Left Cheek		0.775			0.536		0.06	0.070	1.37	1.38	-	-	-	-	Pass	
Left Tilted		1.23			0.329		0.033	0.039	1.59	**1.60**	Required	-	-	-	**Note2**	**#A1-9**
Right Cheek	EVDO(23.5dbm) 1XRTT(24dbm)	0.682				0.419	0.026	0.030	1.13	1.13	-	-	-	-	Pass	
Right Tilted		1.13				0.331	0.022	0.026	1.48	1.48	-	-	-	-	Pass	
Left Cheek		0.775				0.635	0.06	0.070	1.47	1.48	-	-	-	-	Pass	
Left Tilted		1.23				0.33	0.033	0.039	1.59	**1.60**	Required	-	-	-	**Note2**	**#A1-10**
Right Cheek	EVDO(23.5dbm) 1XRTT(24dbm)		1.13	0.522			0.026	0.030	**1.68**	**1.68**	Required	0.23	0.22	0.15	Pass	#D01
Right Tilted			1.39	0.337			0.022	0.026	**1.75**	**1.75**	Required	0.40	0.10	0.55	**Note1**	**#A1-1**
Left Cheek			1.03	0.391			0.06	0.070	**1.48**	**1.49**	-	-	-	-	Pass	
Left Tilted			1.29	0.302			0.033	0.039	**1.63**	**1.64**	Required	0.34	0.09	0.59	**Note1**	**#A1-2**
Right Cheek	EVDO(23.5dbm) 1XRTT(24dbm)		1.13		0.481		0.026	0.030	**1.64**	**1.64**	Required	0.21	0.25	0.15	Pass	#D02
Right Tilted			1.39		0.284		0.022	0.026	**1.70**	**1.70**	Required	0.85	0.15	0.55	**Note1**	**#A1-3**
Left Cheek			1.03		0.536		0.06	0.070	**1.63**	**1.64**	Required	-	-	-	**Note2**	**#A1-7**
Left Tilted			1.29		0.329		0.033	0.039	**1.65**	**1.66**	Required	0.66	0.26	0.59	**Note1**	**#A1-4**
Right Cheek	EVDO(23.5dbm) 1XRTT(24dbm)		1.13			0.419	0.026	0.030	**1.58**	**1.58**	-	-	-	-	Pass	
Right Tilted			1.39			0.331	0.022	0.026	**1.74**	**1.74**	Required	2.08	0.15	0.55	**Note1**	**#A1-5**
Left Cheek			1.03			0.635	0.06	0.070	**1.73**	**1.74**	Required	-	-	-	**Note2**	**#A1-8**
Left Tilted			1.29			0.33	0.033	0.039	**1.65**	**1.66**	Required	0.80	0.13	0.59	**Note1**	**#A1-6**

Position	SVDO/SVLTE Power setting	LTE band IV	LTE band II	CDMA BC0	CDMA BC15	CDMA BC1	WLAN 2.4G	Scale SAR	SAR Sum	Scale Sum	SPLSR	LTE +CDMA	CDMA +Wifi	LTE +Wifi	Remark	Case No.
Right Cheek	LTE(23dbm) 1XRTT(24dbm)	0.674		0.522			0.026	0.030	1.36	1.36	-	-	-	-	Pass	
Right Tilted		0.873		0.337			0.022	0.026	1.29	1.29	-	-	-	-	Pass	
Left Cheek		0.752		0.391			0.06	0.070	1.45	1.46	-	-	-	-	Pass	
Left Tilted		0.981		0.302			0.033	0.039	1.34	1.35	-	-	-	-	Pass	
Right Cheek	LTE(23dbm) 1XRTT(24dbm)	0.674			0.481		0.026	0.030	1.36	1.36	-	-	-	-	Pass	
Right Tilted		0.873			0.284		0.022	0.026	1.29	1.29	-	-	-	-	Pass	
Left Cheek		0.752			0.536		0.06	0.070	1.45	1.46	-	-	-	-	Pass	
Left Tilted		0.981			0.329		0.033	0.039	1.34	1.35	-	-	-	-	Pass	
Right Cheek	LTE(23dbm) 1XRTT(24dbm)	0.674				0.419	0.026	0.030	1.36	1.36	-				Pass	
Right Tilted		0.873				0.331	0.022	0.026	1.29	1.29	-				Pass	
Left Cheek		0.752				0.635	0.06	0.070	1.45	1.46	-				Pass	
Left Tilted		0.981				0.33	0.033	0.039	1.34	1.35	-				Pass	
Right Cheek	LTE(23dbm) 1XRTT(24dbm)		0.815	0.522			0.026	0.030	1.36	1.36	-				Pass	
Right Tilted			0.927	0.337			0.022	0.026	1.29	1.29	-				Pass	
Left Cheek			0.668	0.391			0.06	0.070	1.45	1.46	-				Pass	
Left Tilted			0.823	0.302			0.033	0.039	1.34	1.35	-				Pass	
Right Cheek	LTE(23dbm) 1XRTT(24dbm)		0.815		0.481		0.026	0.030	1.36	1.36	-				Pass	
Right Tilted			0.927		0.284		0.022	0.026	1.29	1.29	-				Pass	
Left Cheek			0.668		0.536		0.06	0.070	1.45	1.46	-				Pass	
Left Tilted			0.823		0.329		0.033	0.039	1.34	1.35	-				Pass	
Right Cheek	LTE(23dbm) 1XRTT(24dbm)		0.815			0.419	0.026	0.030	1.36	1.36	-				Pass	
Right Tilted			0.927			0.331	0.022	0.026	1.29	1.29	-				Pass	
Left Cheek			0.668			0.635	0.06	0.070	1.45	1.46	-				Pass	
Left Tilted			0.823			0.33	0.033	0.039	1.34	1.35	-				Pass	

Note:
1. For those SPLSR results > 0.3 configurations in Step 1, further evaluations in Step 2 are required.
2. Perform further evaluations in Step2 directly.

Table 12.4-A2: Head SAR analysis <Step 2>

Position	SVDO/SVLTE Power setting	EVDO BC15	EVDO BC1	CDMA BC0	CDMA BC15	CDMA BC1	WLAN 2.4G	Scale SAR	SAR Sum	Scale Sum	SPLSR	EVDO +CDMA	CDMA +Wifi	EVDO +Wifi	Remark	Case No.
Right Tilted	EVDO(23.5dbm) 1XRTT(24dbm)		1.39	0.337			0.022	0.026	**1.75**	**1.75**	Required	0.40	0.10	0.55	**Note1**	**#A1-1**
	EVDO(17dbm) 1XRTT(24dbm)		0.355	0.337			0.022	0.026	0.71	0.71	-	-	-	-	Pass	
	EVDO(23.5dbm) 1XRTT(15.5dbm)		1.39	0.047			0.022	0.026	1.46	0.146	-	-	-	-	Pass	
Left Tilted	EVDO(23.5dbm) 1XRTT(24dbm)		1.29	0.302			0.033	0.039	**1.63**	**1.64**	Required	0.34	0.09	0.59	**Note1**	**#A1-2**
	EVDO(17dbm) 1XRTT(24dbm)		0.289	0.302			0.033	0.039	0.62	0.63	-	-	-	-	Pass	
	EVDO(23.5dbm) 1XRTT(15.5dbm)		1.29	0.038			0.033	0.039	1.36	1.37	-	-	-	-	Pass	
Right Tilted	EVDO(23.5dbm) 1XRTT(24dbm)		1.39		0.284		0.022	0.026	**1.70**	**1.70**	Required	0.85	0.15	0.55	**Note1**	**#A1-3**
	EVDO(17dbm) 1XRTT(24dbm)		0.355		0.284		0.022	0.026	0.66	0.66	-	-	-	-	Pass	
	EVDO(23.5dbm) 1XRTT(15.5dbm)		1.39		0.038		0.022	0.026	1.45	1.45	-	-	-	-	Pass	
Left Tilted	EVDO(23.5dbm) 1XRTT(24dbm)		1.29		0.329		0.033	0.039	**1.65**	**1.66**	Required	0.66	0.26	0.59	**Note1**	**#A1-4**
	EVDO(17dbm) 1XRTT(24dbm)		0.289		0.329		0.033	0.039	0.65	0.66	-	-	-	-	Pass	
	EVDO(23.5dbm) 1XRTT(15.5dbm)		1.29		0.044		0.033	0.039	1.37	1.38	-	-	-	-	Pass	
Right Tilted	EVDO(23.5dbm) 1XRTT(24dbm)		1.39			0.331	0.022	0.026	**1.74**	**1.74**	Required	2.08	0.15	0.55	**Note1**	**#A1-5**
	EVDO(17dbm) 1XRTT(24dbm)		0.355			0.331	0.022	0.026	0.71	0.71	-	-	-	-	Pass	
	EVDO(23.5dbm) 1XRTT(15.5dbm)		1.39			0.035	0.022	0.026	1.45	1.45	-	-	-	-	Pass	
Left Tilted	EVDO(23.5dbm) 1XRTT(24dbm)		1.29			0.33	0.033	0.039	**1.65**	**1.66**	Required	0.80	0.13	0.59	**Note1**	**#A1-6**
	EVDO(17dbm) 1XRTT(24dbm)		0.289			0.33	0.033	0.039	0.65	0.66	-	-	-	-	Pass	
	EVDO(23.5dbm) 1XRTT(15.5dbm)		1.29			0.057	0.033	0.039	1.38	1.39	-	-	-	-	Pass	
Left Cheek	EVDO(23.5dbm) 1XRTT(24dbm)		1.03		0.536		0.06	0.07	**1.63**	**1.64**	Required	0.21	0.10	0.18	**Note1**	**#A1-7**
	EVDO(17dbm) 1XRTT(24dbm)		0.24		0.536		0.06	0.07	0.84	0.85	-	-	-	-	Pass	
	EVDO(23.5dbm) 1XRTT(15.5dbm)		1.03		0.069		0.06	0.07	1.16	1.17	-	-	-	-	Pass	
Left Cheek	EVDO(23.5dbm) 1XRTT(24dbm)		1.03			0.635	0.06	0.07	**1.73**	**1.74**	Required	0.23	0.12	0.18	**Note1**	**#A1-8**
	EVDO(17dbm) 1XRTT(24dbm)		0.24			0.635	0.06	0.07	0.94	0.95	-	-	-	-	Pass	
	EVDO(23.5dbm) 1XRTT(15.5dbm)		1.03			0.085	0.06	0.07	1.18	1.19	-	-	-	-	Pass	
Left Tilted	EVDO(23.5dbm) 1XRTT(24dbm)	1.23			0.329		0.033	0.039	**1.59**	**1.60**	Required				**Note2**	**#A1-9**
	EVDO(17dbm) 1XRTT(24dbm)	0.24			0.329		0.033	0.039	0.60	0.61	-	-	-	-	Pass	
	EVDO(23.5dbm) 1XRTT(15.5dbm)	1.23			0.044		0.033	0.039	1.31	1.31	-	-	-	-	Pass	
Left Tilted	EVDO(23.5dbm) 1XRTT(24dbm)	1.23				0.33	0.033	0.039	**1.59**	**1.60**	Required				**Note2**	**#A1-10**
	EVDO(17dbm) 1XRTT(24dbm)	0.24				0.33	0.033	0.039	0.60	0.61	-	-	-	-	Pass	
	EVDO(23.5dbm) 1XRTT(15.5dbm)	1.23				0.057	0.033	0.039	1.32	1.33	-	-	-	-	Pass	

Note:

1. These power combinations, analyzed in step 1, are listed here for reference purpose.
2. Sum of SAR < 1.6W/kg in all Step 2 cases, therefore no further evaluation steps for Head SAR are required.

Table 12.4-B1: Hotspot mode SAR analysis <Step 1>

Refer to Exposure Positions Consideration in section 11.2

Hotspot side for SAR assessment						
Antennas	Back	Front	Top Side	Bottom Side	Right Side	Left Side
LTE&EVDO Main	YES	YES	YES	NO	YES	YES
WLAN&BT	YES	YES	YES	NO	YES	NO
CDMA 1xRTT Main	YES	YES	NO	YES	YES	YES

	Position	Applicable Combination
Simultaneous Transmission	Hotspot	CDMA1x (data) + WLAN
		EVDO (data) + WLAN
		LTE (data) + WLAN

Position	EVDO BC15	EVDO BC1	LTE Band IV	LTE Band II	CDMA BC0	CDMA BC15	CDMA BC1	WLAN 2.4G	Scale SAR	SAR Sum	Scale Sum	SPLSR	LTE +CDMA	CDMA +Wifi	LTE +Wifi	Remark	Case No
Front	0.527							0.0156	0.018	0.54	0.54	-				Pass	
Back	1.21							0.222	0.260	1.43	1.47	-				Pass	
Left Side	0.153								0.000	0.15	0.15	-				Pass	
Right Side	0.229							0.131	0.154	0.36	0.38	-				Pass	
Top Side	0.734							0.017	0.020	0.75	0.75	-				Pass	
Bottom Side									0.000	0.00	0.00	-				Pass	
Front		0.573						0.0156	0.018	0.59	0.59	-				Pass	
Back		1.3						0.222	0.260	1.52	1.56	-				Pass	
Left Side		0.191							0.000	0.19	0.19	-				Pass	
Right Side		0.276						0.131	0.154	0.41	0.43	-				Pass	
Top Side		1						0.017	0.020	1.02	1.02	-				Pass	
Bottom Side									0.000	0.00	0.00	-				Pass	
Front			0.481					0.0156	0.018	0.50	0.50	-				Pass	
Back			0.872					0.222	0.260	1.09	1.13	-				Pass	
Left Side			0.133						0.000	0.13	0.13	-				Pass	
Right Side			0.181					0.131	0.154	0.31	0.33	-				Pass	
Top Side			0.705					0.017	0.020	0.72	0.72	-				Pass	
Bottom Side									0.000	0.00	0.00	-				Pass	
Front				0.432				0.0156	0.018	0.45	0.45	-				Pass	
Back				1.1				0.222	0.260	1.32	1.36	-				Pass	
Left Side				0.21					0.000	0.21	0.21	-				Pass	
Right Side				0.255				0.131	0.154	0.39	0.41	-				Pass	
Top Side				0.862				0.017	0.020	0.88	0.88	-				Pass	
Bottom Side									0.000	0.00	0.00	-				Pass	
Front					0.68			0.0156	0.018	0.70	0.70	-				Pass	
Back					1.29			0.222	0.260	1.51	1.55	-				Pass	
Left Side					0.766				0.000	0.77	0.77	-				Pass	
Right Side					0.745			0.131	0.154	0.88	0.90	-				Pass	
Top Side								0.017	0.020	0.02	0.02	-				Pass	
Bottom Side					0.134				0.000	0.13	0.13	-				Pass	
Front						0.841		0.0156	0.018	0.86	0.86	-				Pass	
Back						1.34		0.222	0.260	**1.56**	**1.60**	Required		**0.25**		Pass	#D19
Left Side						0.473			0.000	0.47	0.47	-				Pass	
Right Side						0.206		0.131	0.154	0.34	0.36	-				Pass	
Top Side								0.017	0.020	0.02	0.02	-				Pass	
Bottom Side						0.468			0.000	0.47	0.47	-				Pass	
Front							0.637	0.0156	0.018	0.65	0.65	-				Pass	
Back							1.07	0.222	0.260	1.29	1.33	-				Pass	
Left Side							0.362		0.000	0.36	0.36	-				Pass	
Right Side							0.2	0.131	0.154	0.33	0.35	-				Pass	
Top Side								0.017	0.020	0.02	0.02	-				Pass	
Bottom Side							0.403		0.000	0.40	0.40	-				Pass	

Note:
1. SPLSR < 0.3 in Step 1, further evaluations in Step 2 are not required.

Table 12.4-C1: Body-worn SAR analysis <Step 1>

	Position	Applicable Combination
Simultaneous Transmission	Body-worn	CDMA1x (voice) + EVDO (data) + WLAN
		CDMA1x (voice) + LTE (data) + WLAN
		CDMA1x (voice) + WLAN
		EVDO (data) + WLAN
		LTE (data) + WLAN
		CDMA1x (voice) + EVDO (data) + BT
		CDMA1x (voice) + LTE (data) + BT
		CDMA1x (voice) + BT
		EVDO (data) + BT
		LTE (data) + BT

Position	SVDO/SVLTE Power setting	EVDO BC15	EVDO BC1	CDMA BC0	CDMA BC15	CDMA BC1	WLAN 2.4G	Scale SAR	SAR Sum	Scale Sum	SPLSR	EVDO +CDMA	CDMA +Wifi	EVDO +Wifi	Remark	Case No
Back (Earphone)	EVDO(23.5dbm) 1XRTT(24dbm)	1.28		0.944			0.158	0.185	**2.38**	**2.41**	Required	0.30	0.24	0.32	Note1	#C1-1
		1.28			1.3		0.158	0.185	**2.74**	**2.77**	Required	0.29	0.23	0.32	Note1	#C1-2
		1.28				1.02	0.158	0.185	**2.46**	**2.49**	Required	0.26	0.19	0.32	Note1	#C1-3
	EVDO(23.5dbm) 1XRTT(24dbm)		1.3	0.944			0.158	0.185	**2.40**	**2.43**	Required	0.31	0.24	0.33	Note1	#C1-4
			1.3		1.3		0.158	0.185	**2.76**	**2.79**	Required	0.29	0.23	0.33	Note1	#C1-5
			1.3			1.02	0.158	0.185	**2.48**	**2.51**	Required	0.27	0.19	0.33	Note1	#C1-6
Back	EVDO(23.5dbm) 1XRTT(24dbm)	1.21		1.29			0.222	0.260	**2.72**	**2.76**	Required	0.38	0.37	0.33	Note1	#C1-7
		1.21			1.34		0.222	0.260	**2.77**	**2.81**	Required	0.29	0.25	0.33	Note1	#C1-8
		1.21				1.07	0.222	0.260	**2.50**	**2.54**	Required	0.27	0.22	0.33	Note1	#C1-9
	EVDO(23.5dbm) 1XRTT(24dbm)		1.3	1.29			0.222	0.260	**2.81**	**2.85**	Required	0.38	0.37	0.35	Note1	#C1-10
			1.3		1.34		0.222	0.260	**2.86**	**2.90**	Required	0.30	0.25	0.35	Note1	#C1-11
			1.3			1.07	0.222	0.260	**2.59**	**2.63**	Required	0.28	0.22	0.35	Note1	#C1-12
Front	EVDO(23.5dbm) 1XRTT(24dbm)	0.527		0.68			0.0156	0.018	1.22	1.22	-				Pass	
		0.527			0.841		0.0156	0.018	1.38	1.38	-				Pass	
		0.527				0.637	0.0156	0.018	1.18	1.18	-				Pass	
	EVDO(23.5dbm) 1XRTT(24dbm)		0.573	0.68			0.0156	0.018	1.27	1.27	-				Pass	
			0.573		0.841		0.0156	0.018	1.43	1.43	-				Pass	
			0.573			0.637	0.0156	0.018	1.23	1.23	-				Pass	

Position	SVDO/SVLTE Power setting	LTE band IV	LTE band II	CDMA BC0	CDMA BC15	CDMA BC1	WLAN 2.4G	Scale SAR	SAR Sum	Scale Sum	SPLSR	LTE +CDMA	CDMA +Wifi	LTE +Wifi	Remark	Case No
Back (Earphone)	LTE(23dbm) 1XRTT(24dbm)	0.763		0.944			0.158	0.185	**1.87**	**1.90**	Required	0.24	0.25	0.21	Pass	#D03
		0.763			1.3		0.158	0.185	**2.22**	**2.25**	Required	0.23	0.23	0.21	Pass	#D04
		0.763				1.02	0.158	0.185	**1.94**	**1.97**	Required	0.21	0.19	0.21	Pass	#D05
	LTE(23dbm) 1XRTT(24dbm)		0.881	0.944			0.158	0.185	**1.98**	**2.01**	Required	0.24	0.25	0.23	Pass	#D06
			0.881		1.3		0.158	0.185	**2.34**	**2.37**	Required	0.24	0.23	0.23	Pass	#D07
			0.881			1.02	0.158	0.185	**2.06**	**2.09**	Required	0.21	0.19	0.23	Pass	#D08
Back	LTE(23dbm) 1XRTT(24dbm)	0.872		1.29			0.222	0.260	**2.38**	**2.42**	Required	0.32	0.37	0.25	Note1	#C1-13
		0.872			1.34		0.222	0.260	**2.43**	**2.47**	Required	0.25	0.25	0.25	Pass	#D09
		0.872				1.07	0.222	0.260	**2.16**	**2.20**	Required	0.23	0.21	0.25	Pass	#D10
	LTE(23dbm) 1XRTT(24dbm)		1.1	1.29			0.222	0.260	**2.61**	**2.65**	Required	0.34	0.37	0.29	Note1	#C1-14
			1.1		1.34		0.222	0.260	**2.66**	**2.70**	Required	0.27	0.25	0.29	Pass	#D11
			1.1			1.07	0.222	0.260	**2.39**	**2.43**	Required	0.25	0.21	0.29	Pass	#D12
Front	LTE(23dbm) 1XRTT(24dbm)	0.481		0.68			0.0156	0.018	1.18	1.18	-				Pass	
		0.481			0.841		0.0156	0.018	1.34	1.34	-				Pass	
		0.481				0.637	0.0156	0.018	1.13	1.13	-				Pass	
	LTE(23dbm) 1XRTT(24dbm)		0.432	0.68			0.0156	0.018	1.13	1.13	-				Pass	
			0.432		0.841		0.0156	0.018	1.29	1.29	-				Pass	
			0.432			0.637	0.0156	0.018	1.08	1.08	-				Pass	

Note: For those SPLSR results > 0.3 configurations in Step 1, further Step 2 evaluations are required.

Table 12.4-C2: Body-worn SAR analysis <Step 2>

Position	SVDO/SVLTE Power setting	EVDO BC15	EVDO BC1	CDMA BC0	CDMA BC15	CDMA BC1	WLAN 2.4G	Scale SAR	SAR Sum	Scale Sum	SPLSR	EVDO +CDMA	CDMA +Wifi	EVDO +Wifi	Remark	Case No
Back (Earphone)	EVDO(23.5dbm) 1XRTT(24dbm)	1.28		0.944			0.158	0.185	**2.38**	**2.41**	Required	0.30	0.24	0.32	Note1	#C1-1
	EVDO(17dbm) 1XRTT(24dbm)	0.394		0.944			0.158	0.185	1.50	1.53	-	-	-	-	Pass	
	EVDO(23.5dbm) 1XRTT(15.5dbm)	1.28		0.148			0.158	0.185	**1.59**	**1.62**	Required	-	-	-	Note2	
	EVDO(23dbm) 1XRTT(15.5dbm)	1.06		0.148			0.158	0.185	1.37	1.59	-	-	-	-	Pass	
	EVDO(23.5dbm) 1XRTT(15dbm)	1.28		0.128			0.158	0.185	1.57	1.59	-	-	-	-	Pass	
Back (Earphone)	EVDO(23.5dbm) 1XRTT(24dbm)	1.28			1.3		0.158	0.185	**2.74**	**2.77**	Required	0.29	0.23	0.32	Note1	#C1-2
	EVDO(17dbm) 1XRTT(24dbm)	0.394			1.3		0.158	0.185	**1.85**	**1.88**	Required	0.19	0.23	0.13	Pass	#D13
	EVDO(23.5dbm) 1XRTT(15.5dbm)	1.28			0.148		0.158	0.185	**1.59**	**1.61**	Required	0.15	0.05	0.32	Note2	
	EVDO(23dbm) 1XRTT(15.5dbm)	1.06			0.148		0.158	0.185	1.37	1.40	-	-	-	-	Pass	
	EVDO(23.5dbm) 1XRTT(15dbm)	1.28			0.103		0.158	0.185	1.54	1.57	-	-	-	-	Pass	
Back (Earphone)	EVDO(23.5dbm) 1XRTT(24dbm)	1.28				1.02	0.158	0.185	**2.46**	**2.49**	Required	0.26	0.19	0.32	Note1	#C1-3
	EVDO(17dbm) 1XRTT(24dbm)	0.394				1.02	0.158	0.185	**1.57**	**1.60**	Required	0.17	0.19	0.13	Pass	#D20
	EVDO(23.5dbm) 1XRTT(15.5dbm	1.28				0.122	0.158	0.185	1.56	1.59	-	-	-	-	Pass	
	EVDO(23dbm) 1XRTT(15.5dbm)	1.06				0.122	0.158	0.185	1.34	1.37	-	-	-	-	Pass	
	EVDO(23.5dbm) 1XRTT(15dbm)	1.28				0.109	0.158	0.185	1.55	1.57	-	-	-	-	Pass	
Back (Earphone)	EVDO(23.5dbm) 1XRTT(24dbm)		1.3	0.944			0.158	0.185	**2.40**	**2.43**	Required	0.31	0.24	0.33	Note1	#C1-4
	EVDO(17dbm) 1XRTT(24dbm)		0.362	0.944			0.158	0.185	1.46	1.49	-	-	-	-	Pass	
	EVDO(23.5dbm) 1XRTT(15.5dbm)		1.3	0.148			0.158	0.185	**1.61**	**1.64**	Required	0.20	0.07	0.33	Note2	
	EVDO(23dbm) 1XRTT(15.5dbm)		1.14	0.148			0.158	0.185	1.45	1.48	-	-	-	-	Pass	
	EVDO(23.5dbm) 1XRTT(15dbm)		1.3	0.128			0.158	0.185	**1.59**	**1.62**	Required	-	-	-	Volume scan	#E-8
Back (Earphone)	EVDO(23.5dbm) 1XRTT(24dbm)		1.3		1.3		0.158	0.185	**2.76**	**2.79**	Required	0.29	0.23	0.33	Note1	#C1-5
	EVDO(17dbm) 1XRTT(24dbm)		0.362		1.3		0.158	0.185	**1.82**	**1.85**	Required	0.19	0.23	0.13	Pass	#D14
	EVDO(23.5dbm) 1XRTT(15.5dbm)		1.3		0.148		0.158	0.185	**1.61**	**1.64**	Required	0.16	0.04	0.33	Note2	
	EVDO(23dbm) 1XRTT(15.5dbm)		1.14		0.148		0.158	0.185	1.45	1.48	-	-	-	-	Pass	
	EVDO(23.5dbm) 1XRTT(15dbm)		1.3		0.103		0.158	0.185	1.56	1.59	-	-	-	-	Pass	
Back (Earphone)	EVDO(23.5dbm) 1XRTT(24dbm)		1.3			1.02	0.158	0.185	**2.48**	**2.51**	Required	0.27	0.19	0.33	Note1	#C1-6
	EVDO(17dbm) 1XRTT(24dbm)		0.362			1.02	0.158	0.185	1.54	1.57	-	-	-	-	Pass	
	EVDO(23.5dbm) 1XRTT(15.5dbm)		1.3			0.122	0.158	0.185	**1.58**	**1.61**	Required	0.16	0.05	0.33	Note2	
	EVDO(23dbm) 1XRTT(15.5dbm)		1.14			0.122	0.158	0.185	1.42	1.45	-	-	-	-	Pass	
	EVDO(23.5dbm) 1XRTT(15dbm)		1.3			0.109	0.158	0.185	1.57	1.59	-	-	-	-	Pass	
Back	EVDO(23.5dbm) 1XRTT(24dbm)	1.21		1.29			0.222	0.260	**2.72**	**2.76**	Required	0.38	0.37	0.33	Note1	#C1-7
	EVDO(17dbm) 1XRTT(24dbm)	0.322		1.29			0.222	0.260	**1.83**	**1.87**	Required	0.23	0.37	0.13	Volume Scan	#E-1
	EVDO(23.5dbm) 1XRTT(15.5dbm)	1.21		0.178			0.222	0.260	**1.61**	**1.65**	Required	0.20	0.10	0.33	Note2	
	EVDO(23dbm) 1XRTT(15.5dbm)	1.04		0.178			0.222	0.260	1.44	1.48	-	-	-	-	Pass	
	EVDO(23.5dbm) 1XRTT(15dbm)	1.21		0.162			0.222	0.260	**1.59**	**1.63**	Required	-	-	-	Volume scan	#E-9
Back	EVDO(23.5dbm) 1XRTT(24dbm)	1.21			1.34		0.222	0.260	**2.77**	**2.81**	Required	0.29	0.25	0.33	Note1	#C1-8
	EVDO(17dbm) 1XRTT(24dbm)	0.322			1.34		0.222	0.260	**1.88**	**1.92**	Required	0.18	0.25	0.13	Pass	#D15
	(EVDO(23.5dbm) 1XRTT(15.5dbm)	1.21			0.179		0.222	0.260	**1.61**	**1.65**	Required	0.16	0.06	0.33	Note2	
	EVDO(23dbm) 1XRTT(15.5dbm)	1.04			0.179		0.222	0.260	1.44	1.48	-	-	-	-	Pass	
	EVDO(23.5dbm) 1XRTT(15dbm)	1.21			0.158		0.222	0.260	**1.59**	**1.63**	Required	-	-	-	Volume scan	#E-10

Table 12.4-C2: Body-worn SAR analysis <Step 2> (continue)

Position	SVDO/SVLTE Power setting	EVDO BC15	EVDO BC1	CDMA BC0	CDMA BC15	CDMA BC1	WLAN 2.4G	Scale SAR	SAR Sum	Scale Sum	SPLSR	EVDO +CDMA	CDMA +Wifi	EVDO +Wifi	Remark	Case No
Back	EVDO(23.5dbm) 1XRTT(24dbm)	1.21				1.07	0.222	0.260	**2.50**	**2.54**	Required	0.27	0.22	0.33	Note1	#C1-9
	EVDO(17dbm) 1XRTT(24dbm)	0.322				1.07	0.222	0.260	**1.61**	**1.65**	Required	0.16	0.22	0.13	Pass	#D16
	EVDO(23.5dbm) 1XRTT(15.5dbm)	1.21				0.143	0.222	0.260	**1.58**	**1.61**	Required	0.15	0.06	0.33	Note2	
	EVDO(23dbm) 1XRTT(15.5dbm)	1.04				0.143	0.222	0.260	1.40	1.44	-	-	-	-	Pass	
	EVDO(23.5dbm) 1XRTT(15dbm)	1.21				0.122	0.222	0.260	1.55	1.59	-	-	-	-	Pass	
Back	EVDO(23.5dbm) 1XRTT(24dbm)		1.3	1.29			0.222	0.260	**2.81**	**2.85**	Required	0.38	0.37	0.35	Note1	#C1-10
	EVDO(17dbm) 1XRTT(24dbm)		0.373	1.29			0.222	0.260	**1.89**	**1.93**	Required	0.24	0.37	0.13	Volume Scan	#E-2
	EVDO(23.5dbm) 1XRTT(15.5dbm)		1.3	0.178			0.222	0.260	**1.70**	**1.74**	Required	0.21	0.10	0.35	Note2	
	EVDO(23dbm) 1XRTT(15.5dbm)		1.07	0.178			0.222	0.260	1.47	1.51	-	-	-	-	Pass	
	EVDO(23.5dbm) 1XRTT(15dbm)														Volume Scan	#E-3
Back	EVDO(23.5dbm) 1XRTT(24dbm)		1.3		1.34		0.222	0.260	**2.86**	**2.90**	Required	0.3	0.25	0.35	Note1	#C1-11
	EVDO(17dbm) 1XRTT(24dbm)		0.373		1.34		0.222	0.260	**1.94**	**1.98**	Required	0.19	0.25	0.14	Pass	#D17
	EVDO(23.5dbm) 1XRTT(15.5dbm)		1.3		0.179		0.222	0.260	**1.70**	**1.74**	Required	0.16	0.06	0.35	Note2	
	EVDO(23dbm) 1XRTT(15.5dbm)		1.07		0.179		0.222	0.260	1.47	1.51	-	-	-	-	Pass	
	EVDO(23.5dbm) 1XRTT(15dbm)														Volume Scan	#E-4
Back	EVDO(23.5dbm) 1XRTT(24dbm)		1.3			1.07	0.222	0.260	**2.59**	**2.63**	Required	0.28	0.22	0.35	Note1	#C1-12
	EVDO(17dbm) 1XRTT(24dbm)		0.373			1.07	0.222	0.260	**1.67**	**1.71**	Required	0.17	0.22	0.14	Pass	#D18
	EVDO(23.5dbm) 1XRTT(15.5dbm)		1.3			0.143	0.222	0.260	**1.67**	**1.71**	Required	0.16	0.06	0.35	Note2	
	EVDO(23dbm) 1XRTT(15.5dbm)		1.07			0.143	0.222	0.260	1.44	1.48	-	-	-	-	Pass	
	EVDO(23.5dbm) 1XRTT(15.5dbm)														Volume Scan	#E-5

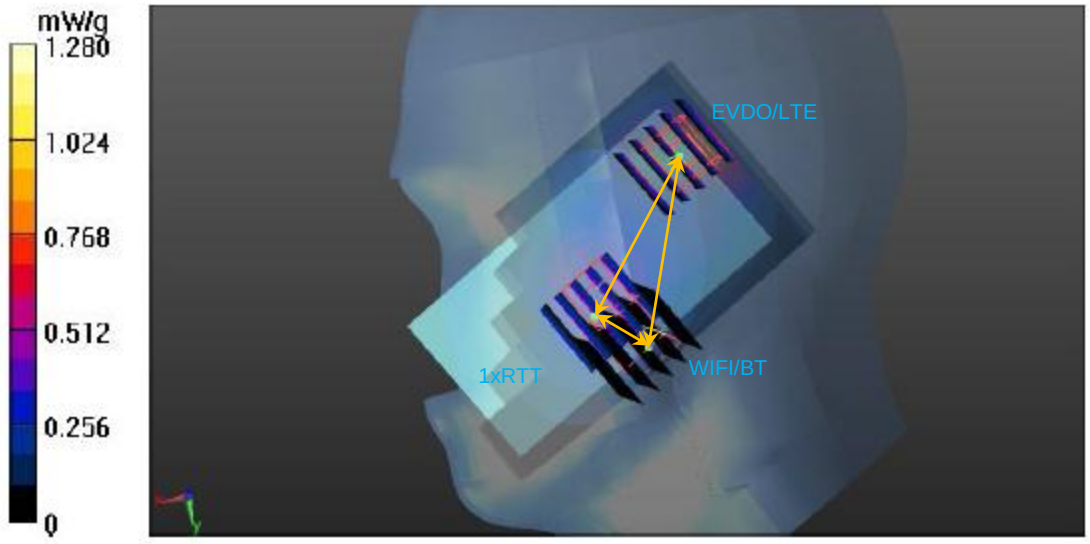
Position	SVDO/SVLTE Power setting	LTE band IV	LTE band II	CDMA BC0	CDMA BC15	CDMA BC1	WLAN 2.4G	Scaled SAR	SAR Sum	Scaled Sum	SPLSR	LTE +CDMA	CDMA +Wifi	LTE +Wifi	Remark	Case No
Back	LTE(23dbm) 1XRTT(24dbm)	0.872		1.29			0.222	0.260	**2.38**	**2.42**	Required	0.32	0.37	0.25	Note1	#C1-13
	LTE(19dbm) 1XRTT(24dbm)	0.486		1.29			0.222	0.260	**2.00**	**2.04**	Required	0.25	0.37	0.16	Volume Scan	#E-6
	LTE(23dbm) 1XRTT(18.5dbm)	0.872		0.178			0.222	0.260	1.27	1.31	-	-	-	-	Pass	
	LTE(23dbm) 1XRTT(18.5dbm)														Pass	
	LTE(23dbm) 1XRTT(18dbm)														Pass	
Back	LTE(23dbm) 1XRTT(24dbm)		1.1	1.29			0.222	0.260	**2.61**	**2.65**	Required	0.34	0.37	0.29	Note1	#C1-14
	LTE(19dbm) 1XRTT(24dbm)		0.572	1.29			0.222	0.260	**2.08**	**2.12**	Required	0.26	0.37	0.12	Volume Scan	#E-7
	LTE(23dbm) 1XRTT(18.5dbm)		1.1	0.178			0.222	0.260	1.50	1.54	-	-	-	-	Pass	
	LTE(23dbm) 1XRTT(18.5dbm)														Pass	
	LTE(23dbm) 1XRTT(18dbm)														Pass	

Note:

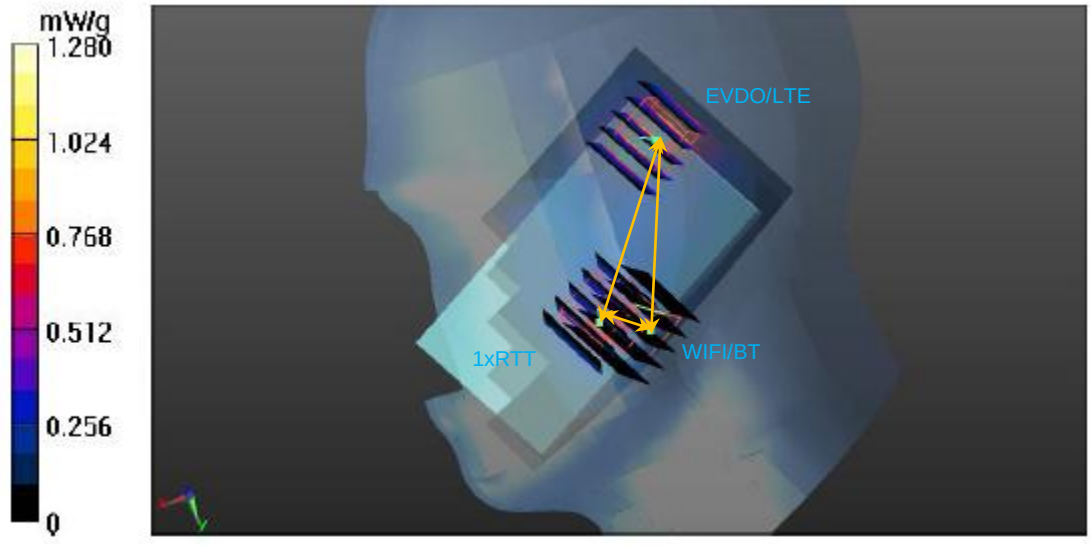
1. Cases from step 1 are reference here.
2. Further analysis based on power combination #4/#5 is required. The purple color indicates the relative rows.

12.5 Simultaneous SAR analysis - SPLSR calculation

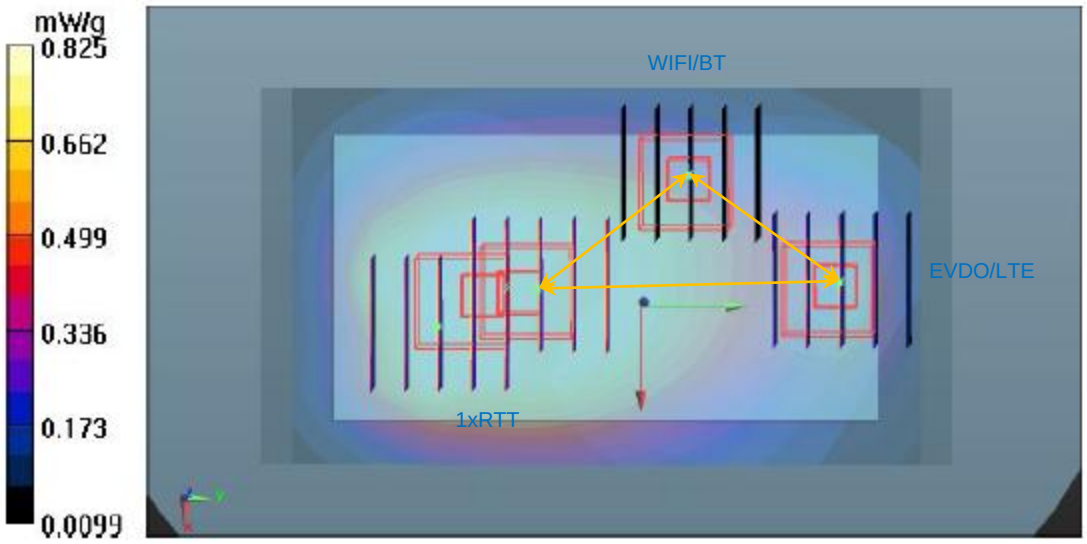
Position	SVDO/SVLTE	EVDO BC1			CDMA BC0			WLAN 2.4G			SAR	Pair SAR	Distance	SPLSR	Pair SAR	Distance	SPLSR	Pair SAR	Distance	SPLSR	Remark	Case
	Power setting	#162			#169			#215			Sum	EVDO+CDMA	EVDO+CDMA	EVDO+CDMA	CDMA+Wifi	CDMA+Wifi	CDMA+Wifi	EVDO+Wifi	EVDO+Wifi	EVDO+Wifi		No.
Right Cheek	EVDO(23.5dbm) 1XRTT(24dbm)	1.13			0.522			0.030			**1.68**	1.65	7.07	**0.23**	0.55	2.51	**0.22**	1.16	7.66	**0.15**	**Pass**	#D01
	peak ordinate (m)	0.0216	-0.321	-0.17	0.066	-0.266	-0.171	0.0476	-0.249	-0.17												



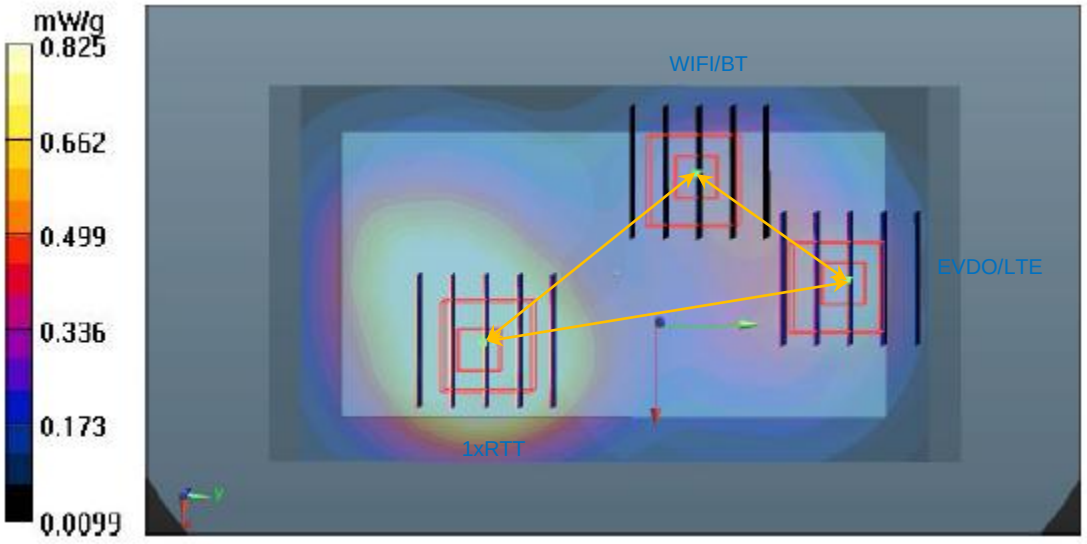
Position	SVDO/SVLTE	EVDO BC1			CDMA BC15			WLAN 2.4G			SAR	Pair SAR	Distance	SPLSR	Pair SAR	Distance	SPLSR	Pair SAR	Distance	SPLSR	Remark	Case
	Power setting	#162			#181			#215			Sum	EVDO+CDMA	EVDO+CDMA	EVDO+CDMA	CDMA+Wifi	CDMA+Wifi	CDMA+Wifi	EVDO+Wifi	EVDO+Wifi	EVDO+Wifi		No.
Right Cheek	EVDO(23.5dbm) 1XRTT(24dbm)	1.13			0.481			0.030			**1.64**	1.61	7.61	**0.21**	0.51	2.08	**0.25**	1.16	7.66	**0.15**	**Pass**	#D02
	peak ordinate (m)	0.0216	-0.321	-0.17	0.0658	-0.259	-0.17	0.0476	-0.249	-0.17												



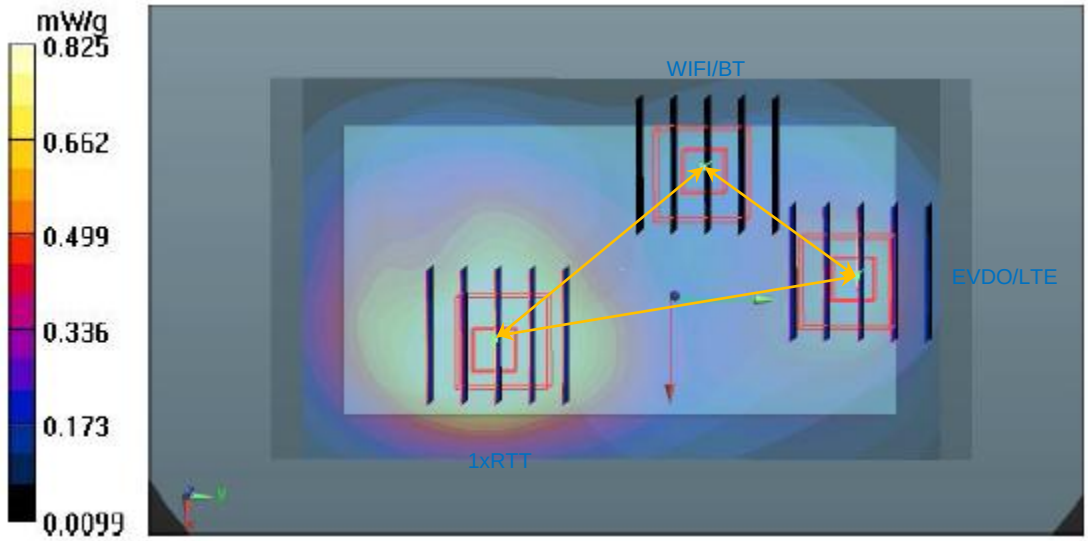
Position	SVDO/SVLTE	LTE Band IV			CDMA BC0			WLAN 2.4G			SAR	Pair SAR	Distance	SPLSR	Pair SAR	Distance	SPLSR	Pair SAR	Distance	SPLSR	Remark	Case
	Power setting	#110			#38			#223			Sum	LTE+CDMA	LTE+CDMA	LTE+CDMA	CDMA+Wifi	CDMA+Wifi	CDMA+Wifi	LTE+Wifi	LTE+Wifi	LTE+Wifi		No.
Back (Earphone)	LTE(23dbm) 1XRTT(24dbm)	0.763			0.944			0.185			**1.89**	1.71	7.20	**0.24**	1.13	4.50	**0.25**	0.95	4.41	**0.21**	Pass	#D03
	peak ordinate (m)	-0.0155	0.0555	-0.203	-0.014	-0.0165	-0.203	-0.041	0.0195	-0.203												



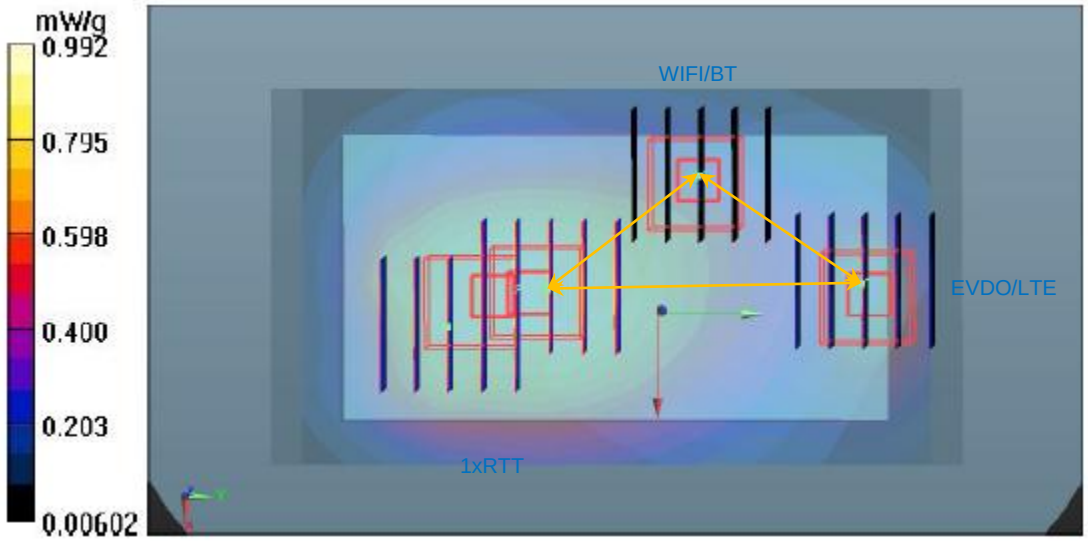
Position	SVDO/SVLTE	LTE Band IV			CDMA BC15			WLAN 2.4G			SAR	Pair SAR	Distance	SPLSR	Pair SAR	Distance	SPLSR	Pair SAR	Distance	SPLSR	Remark	Case
	Power setting	#110			#50			#223			Sum	LTE+CDMA	LTE+CDMA	LTE+CDMA	CDMA+Wifi	CDMA+Wifi	CDMA+Wifi	LTE+Wifi	LTE+Wifi	LTE+Wifi		No.
Back (Earphone)	LTE(23dbm) 1XRTT(24dbm)	0.763			1.3			0.185			**2.25**	2.06	8.83	**0.23**	1.49	6.51	**0.23**	0.95	4.41	**0.21**	Pass	#D04
	peak ordinate (m)	-0.0155	0.0555	-0.203	-0.0005	-0.0315	-0.203	-0.041	0.0195	-0.203												



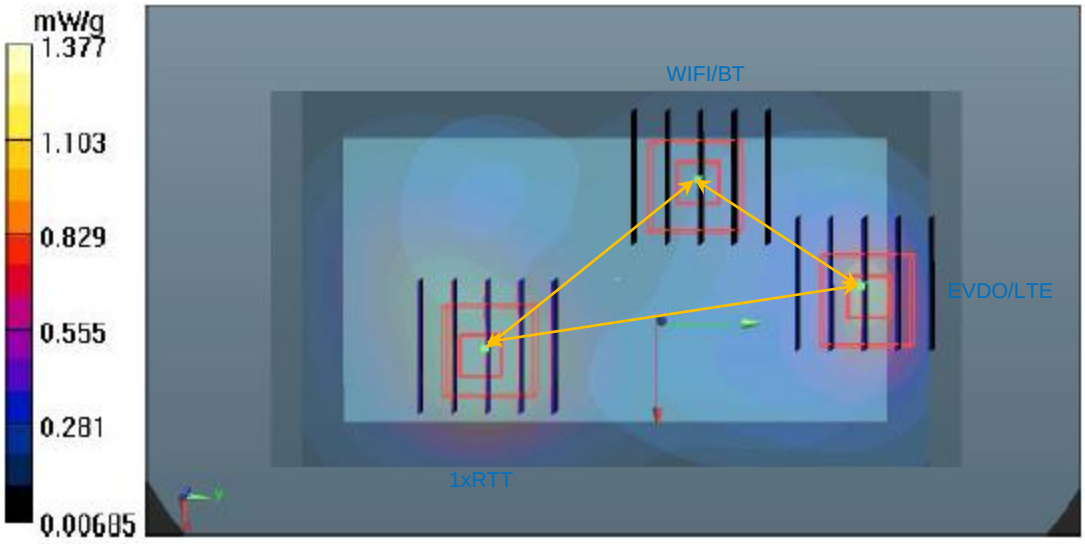
Position	SVDO/SVLTE	LTE Band IV			CDMA BC1			WLAN 2.4G			SAR	Pair SAR	Distance	SPLSR	Pair SAR	Distance	SPLSR	Pair SAR	Distance	SPLSR	Remark	Case
	Power setting	#110			#28			#223			Sum	LTE+CDMA	LTE+CDMA	LTE+CDMA	CDMA+Wifi	CDMA+Wifi	CDMA+Wifi	LTE+Wifi	LTE+Wifi	LTE+Wifi		No.
Back (Earphone)	LTE(23dbm) 1XRTT(24dbm)	0.763			1.02			0.185			**1.97**	1.78	8.56	**0.21**	1.21	6.38	**0.19**	0.95	4.41	**0.21**	Pass	#D05
	peak ordinate (m)	-0.0155	0.0555	-0.203	0.001	-0.0285	-0.201	-0.041	0.0195	-0.203												



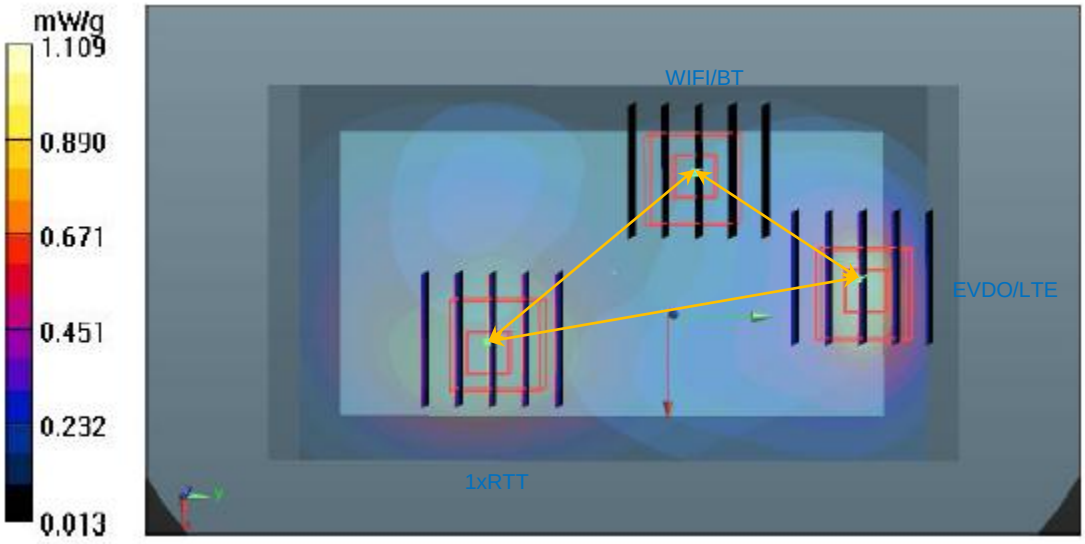
Position	SVDO/SVLTE	LTE Band II			CDMA BC0			WLAN 2.4G			SAR	Pair SAR	Distance	SPLSR	Pair SAR	Distance	SPLSR	Pair SAR	Distance	SPLSR	Remark	Case
	Power setting	#72			#38			#223			Sum	LTE+CDMA	LTE+CDMA	LTE+CDMA	CDMA+Wifi	CDMA+Wifi	CDMA+Wifi	LTE+Wifi	LTE+Wifi	LTE+Wifi		No.
Back (Earphone)	LTE(23dbm) 1XRTT(24dbm)	0.881			0.944			0.185			**2.01**	1.83	7.50	**0.24**	1.13	4.50	**0.25**	1.04	4.66	**0.23**	Pass	#D06
	peak ordinate (m)	-0.0155	0.0585	-0.201	-0.014	-0.0165	-0.203	-0.041	0.0195	-0.203												



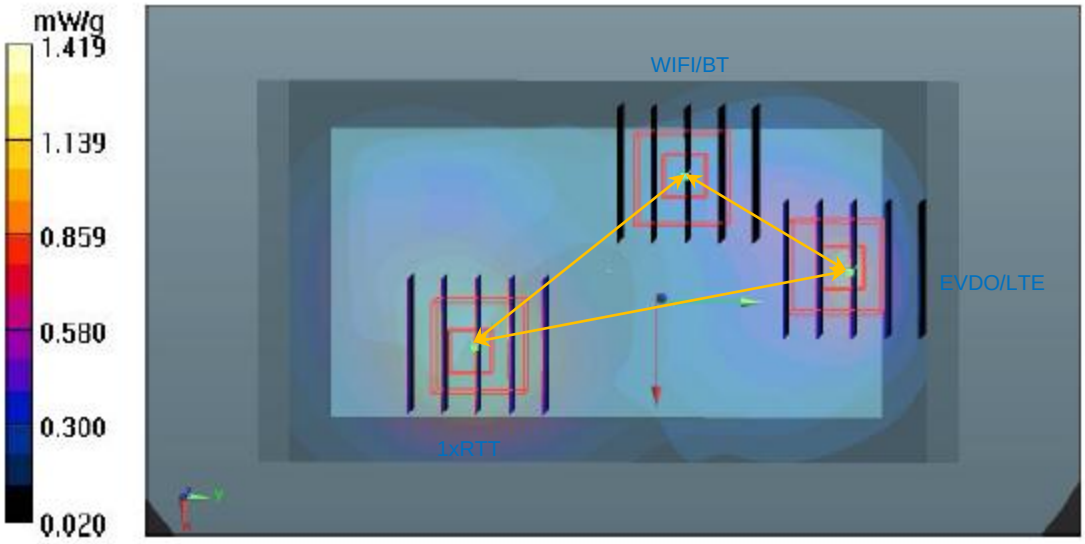
Position	SVDO/SVLTE	LTE Band II			CDMA BC15			WLAN 2.4G			SAR	Pair SAR	Distance	SPLSR	Pair SAR	Distance	SPLSR	Pair SAR	Distance	SPLSR	Remark	Case
	Power setting	#72			#50			#223			Sum	LTE+CDMA	LTE+CDMA	LTE+CDMA	CDMA+Wifi	CDMA+Wifi	CDMA+Wifi	LTE+Wifi	LTE+Wifi	LTE+Wifi		No.
Back (Earphone)	LTE(23dbm) 1XRTT(24dbm)	0.881			1.3			0.185			**2.37**	2.18	9.13	**0.24**	1.49	6.51	**0.23**	1.07	4.66	**0.23**	Pass	#D07
	peak ordinate (m)	-0.0155	0.0585	-0.201	-0.0005	-0.0315	-0.203	-0.041	0.0195	-0.203												



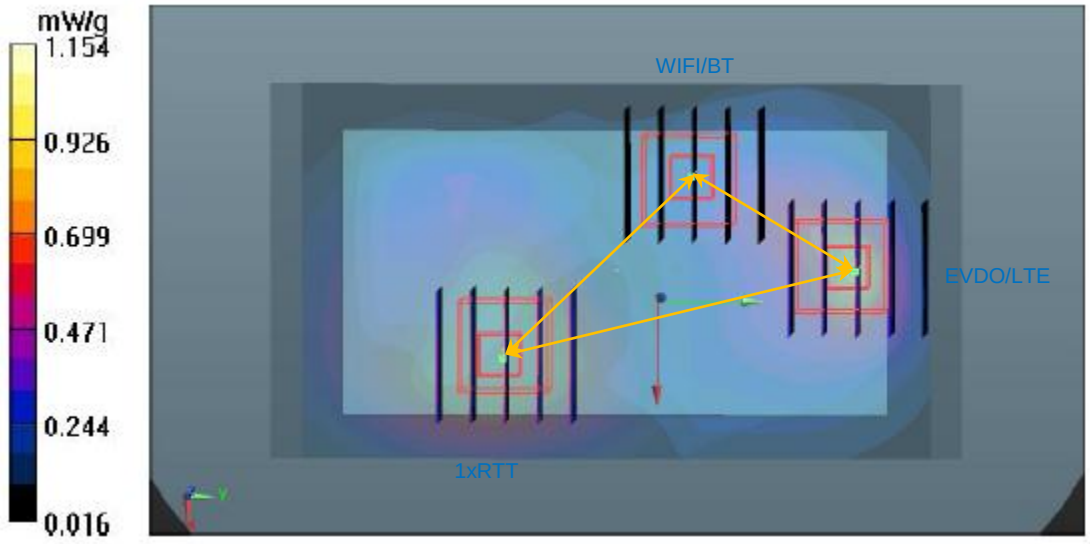
Position	SVDO/SVLTE	LTE Band II			CDMA BC1			WLAN 2.4G			SAR	Pair SAR	Distance	SPLSR	Pair SAR	Distance	SPLSR	Pair SAR	Distance	SPLSR	Remark	Case
	Power setting	#72			#28			#223			Sum	LTE+CDMA	LTE+CDMA	LTE+CDMA	CDMA+Wifi	CDMA+Wifi	CDMA+Wifi	LTE+Wifi	LTE+Wifi	LTE+Wifi		No.
Back (Earphone)	LTE(23dbm) 1XRTT(24dbm)	0.881			1.02			0.185			**2.09**	1.90	8.86	**0.21**	1.21	6.38	**0.19**	1.07	4.66	**0.23**	Pass	#D08
	peak ordinate (m)	-0.0155	0.0585	-0.201	0.001	-0.0285	-0.201	-0.041	0.0195	-0.203												



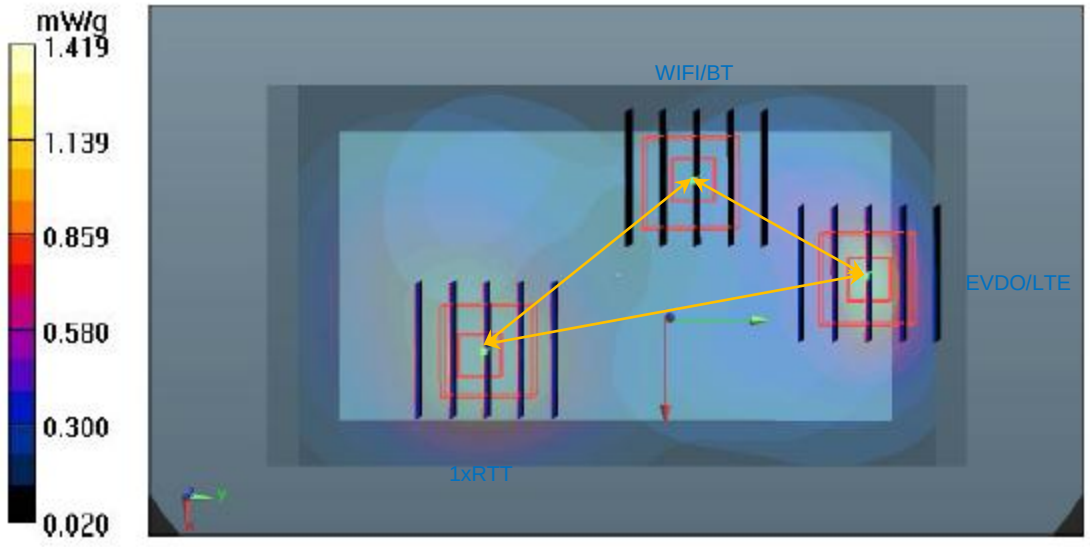
Position	SVDO/SVLTE	LTE Band IV			CDMA BC15			WLAN 2.4G			SAR	Pair SAR	Distance	SPLSR	Pair SAR	Distance	SPLSR	Pair SAR	Distance	SPLSR	Remark	Case
	Power setting	#106			#49			#220			Sum	LTE+CDMA	LTE+CDMA	LTE+CDMA	CDMA+Wifi	CDMA+Wifi	CDMA+Wifi	LTE+Wifi	LTE+Wifi	LTE+Wifi		No.
Back	LTE(23dbm) 1XRTT(24dbm)	0.872			1.34			0.26			2.47	2.21	9.03	0.25	1.60	6.40	0.25	1.13	4.50	0.25	Pass	#D09
	peak ordinate (m)	-0.017	0.057	-0.203	0.001	-0.0315	-0.203	-0.0395	0.018	-0.203												



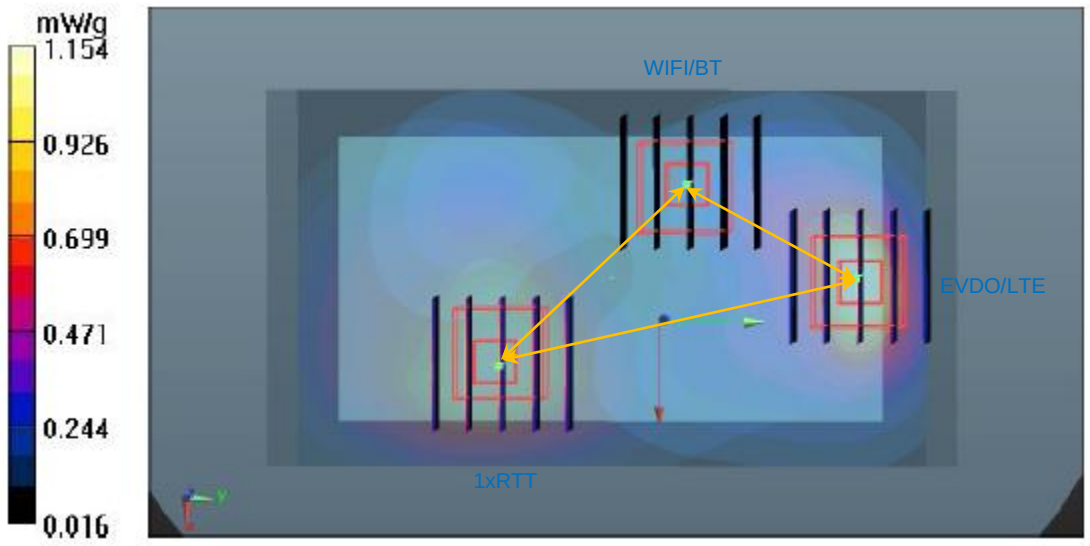
Position	SVDO/SVLTE	LTE Band IV			CDMA BC1			WLAN 2.4G			SAR	Pair SAR	Distance	SPLSR	Pair SAR	Distance	SPLSR	Pair SAR	Distance	SPLSR	Remark	Case
	Power setting	#106			#22			#220			Sum	LTE+CDMA	LTE+CDMA	LTE+CDMA	CDMA+Wifi	CDMA+Wifi	CDMA+Wifi	LTE+Wifi	LTE+Wifi	LTE+Wifi		No.
Back	LTE(23dbm) 1XRTT(24dbm)	0.872			1.07			0.26			2.20	1.94	8.84	0.23	1.33	6.47	0.21	1.13	4.50	0.25	Pass	#D10
	peak ordinate (m)	-0.017	0.057	-0.203	0.0055	-0.0285	-0.201	-0.0395	0.018	-0.203												



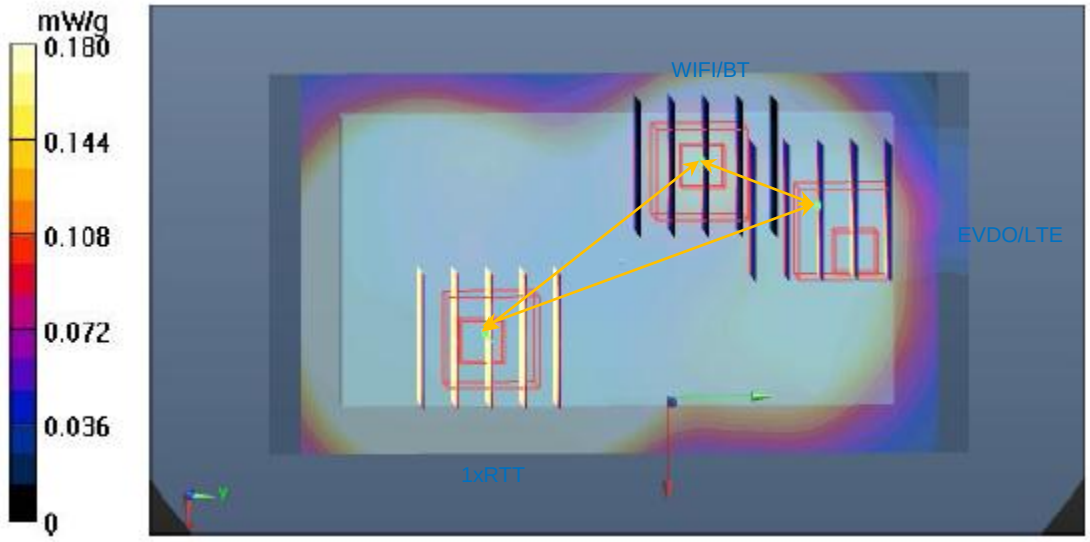
Position	SVDO/SVLTE	LTE Band II			CDMA BC15			WLAN 2.4G			SAR	Pair SAR	Distance	SPLSR	Pair SAR	Distance	SPLSR	Pair SAR	Distance	SPLSR	Remark	Case
	Power setting	#68			#49			#220			Sum	LTE+CDMA	LTE+CDMA	LTE+CDMA	CDMA+Wifi	CDMA+Wifi	CDMA+Wifi	LTE+Wifi	LTE+Wifi	LTE+Wifi		No.
Back	LTE(23dbm) 1XRTT(24dbm)	1.1			1.34			0.26			**2.70**	2.44	9.18	**0.27**	1.60	6.40	**0.25**	1.36	4.64	**0.29**	Pass	#D11
	peak ordinate (m)	-0.017	0.0585	-0.201	0.001	-0.0315	-0.203	-0.0395	0.018	-0.203												



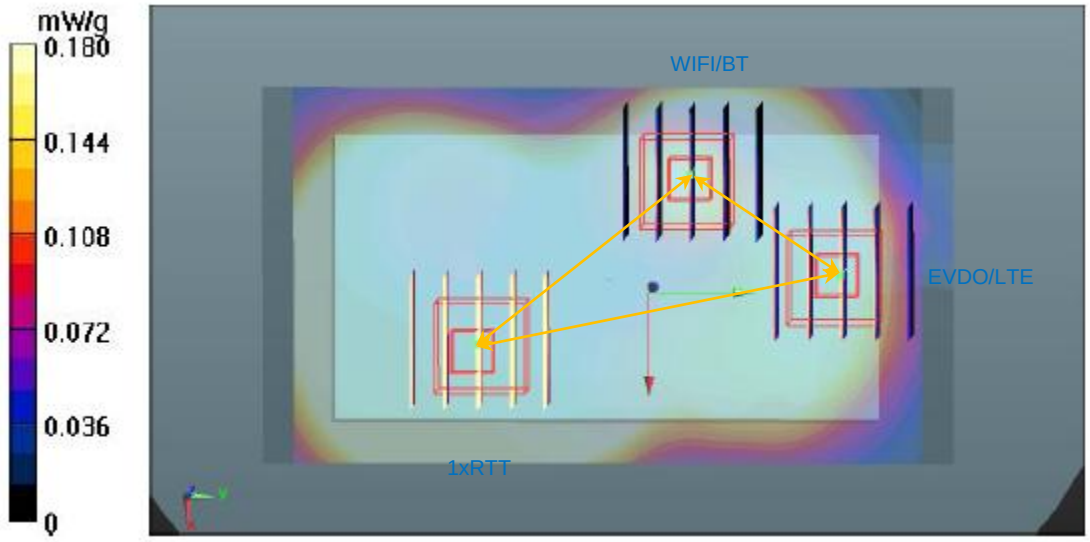
Position	SVDO/SVLTE	LTE Band II			CDMA BC1			WLAN 2.4G			SAR	Pair SAR	Distance	SPLSR	Pair SAR	Distance	SPLSR	Pair SAR	Distance	SPLSR	Remark	Case
	Power setting	#68			#22			#220			Sum	LTE+CDMA	LTE+CDMA	LTE+CDMA	CDMA+Wifi	CDMA+Wifi	CDMA+Wifi	LTE+Wifi	LTE+Wifi	LTE+Wifi		No.
Back	LTE(23dbm) 1XRTT(24dbm)	1.1			1.07			0.26			**2.43**	2.17	8.99	**0.25**	1.33	6.47	**0.21**	1.36	4.64	**0.29**	Pass	#D12
	peak ordinate (m)	-0.017	0.0585	-0.201	0.0055	-0.0285	-0.201	-0.0395	0.018	-0.203												



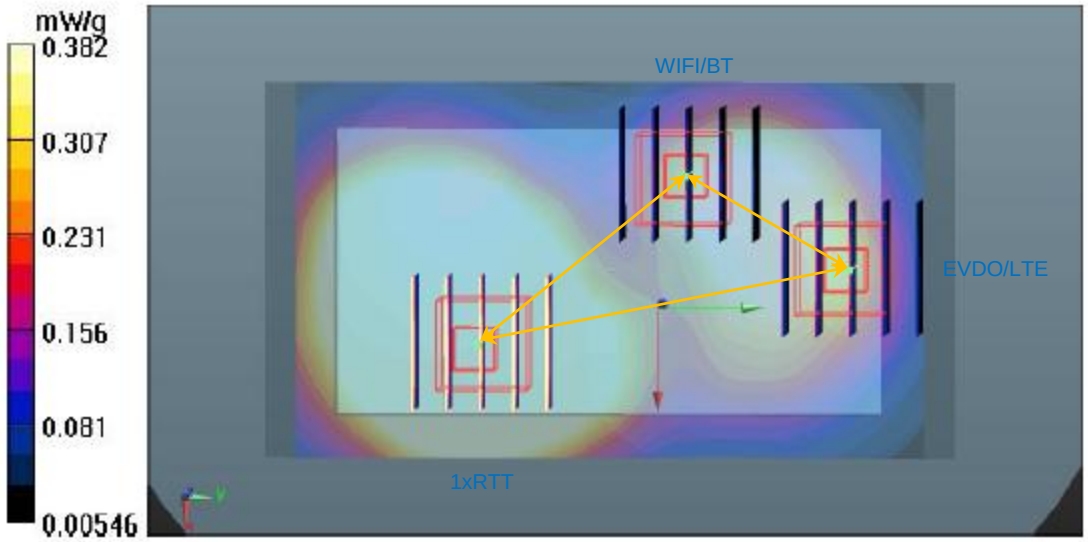
Position	SVDO/SVLTE	EVDO BC15			CDMA BC15			WLAN 2.4G			SAR	Pair SAR	Distance	SPLSR	Pair SAR	Distance	SPLSR	Pair SAR	Distance	SPLSR	Remark	Case
	Power setting	#235			#50			#223			Sum	EVDO+CDMA	EVDO+CDMA	EVDO+CDMA	CDMA+Wifi	CDMA+Wifi	CDMA+Wifi	EVDO+Wifi	EVDO+Wifi	EVDO+Wifi		No.
Back (Earphone)	EVDO(17dbm) 1XRTT(24dbm)	0.394			1.3			0.185			**1.88**	1.69	8.71	**0.19**	1.49	6.51	**0.23**	0.58	4.39	**0.13**	Pass	#D13
	peak ordinate (m)	-0.0145	0.0545	-0.203	-0.0005	-0.0315	-0.203	-0.041	0.0195	-0.203												



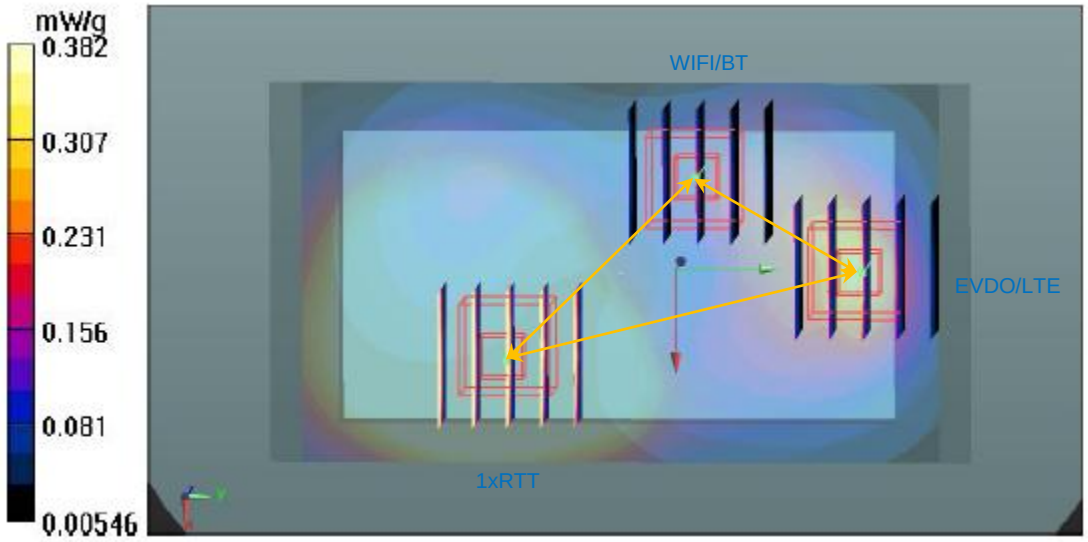
Position	SVDO/SVLTE	EVDO BC1			CDMA BC15			WLAN 2.4G			SAR	Pair SAR	Distance	SPLSR	Pair SAR	Distance	SPLSR	Pair SAR	Distance	SPLSR	Remark	Case
	Power setting	#237			#50			#223			Sum	EVDO+CDMA	EVDO+CDMA	EVDO+CDMA	CDMA+Wifi	CDMA+Wifi	CDMA+Wifi	EVDO+Wifi	EVDO+Wifi	EVDO+Wifi		No.
Back (Earphone)	EVDO(17dbm) 1XRTT(24dbm)	0.362			1.3			0.185			**1.85**	1.66	8.86	**0.19**	1.49	6.51	**0.23**	0.55	4.33	**0.13**	Pass	#D14
	peak ordinate (m)	-0.017	0.0555	-0.203	-0.0005	-0.0315	-0.203	-0.041	0.0195	-0.203												



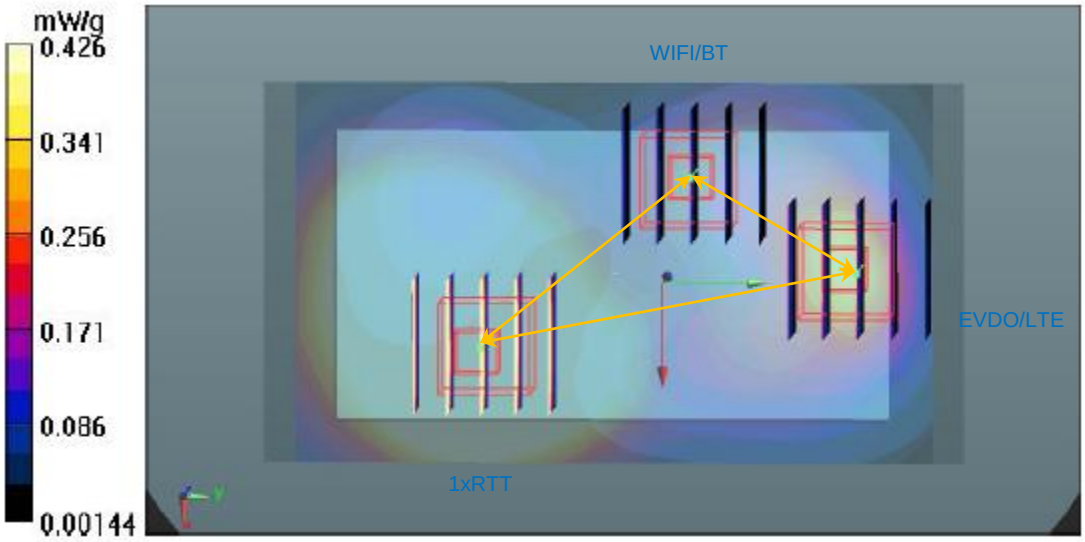
Position	SVDO/SVLTE	EVDO BC15			CDMA BC15			WLAN 2.4G			SAR	Pair SAR	Distance	SPLSR	Pair SAR	Distance	SPLSR	Pair SAR	Distance	SPLSR	Remark	Case
	Power setting	#234			#49			#220			Sum	EVDO+CDMA	EVDO+CDMA	EVDO+CDMA	CDMA+Wifi	CDMA+Wifi	CDMA+Wifi	EVDO+Wifi	EVDO+Wifi	EVDO+Wifi		No.
Back	EVDO(17dbm) 1XRTT(24dbm)	0.322			1.34			0.26			**1.92**	1.66	9.03	**0.18**	1.60	6.40	**0.25**	0.58	4.50	**0.13**	Pass	#D15
	peak ordinate (m)	-0.017	0.057	-0.203	0.001	-0.0315	-0.203	-0.0395	0.018	-0.203												



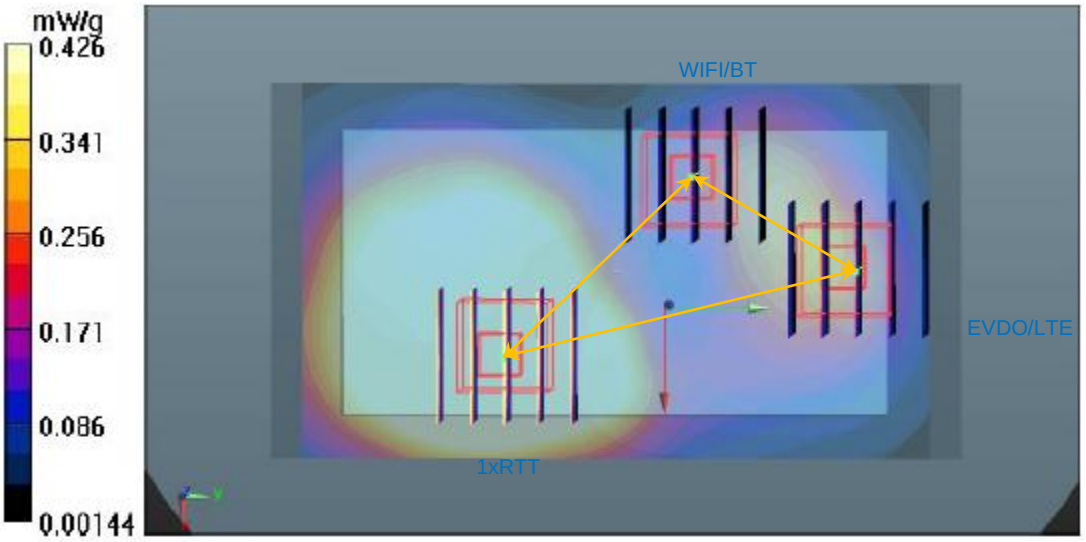
Position	SVDO/SVLTE	EVDO BC15			CDMA BC1			WLAN 2.4G			SAR	Pair SAR	Distance	SPLSR	Pair SAR	Distance	SPLSR	Pair SAR	Distance	SPLSR	Remark	Case
	Power setting	#234			#22			#220			Sum	EVDO+CDMA	EVDO+CDMA	EVDO+CDMA	CDMA+Wifi	CDMA+Wifi	CDMA+Wifi	EVDO+Wifi	EVDO+Wifi	EVDO+Wifi		No.
Back	EVDO(17dbm) 1XRTT(24dbm)	0.322			1.07			0.26			**1.65**	1.39	8.52	**0.16**	1.33	6.16	**0.22**	0.58	4.50	**0.13**	Pass	#D16
	peak ordinate (m)	-0.017	0.057	-0.203	0.004	-0.0255	-0.201	-0.0395	0.018	-0.203												



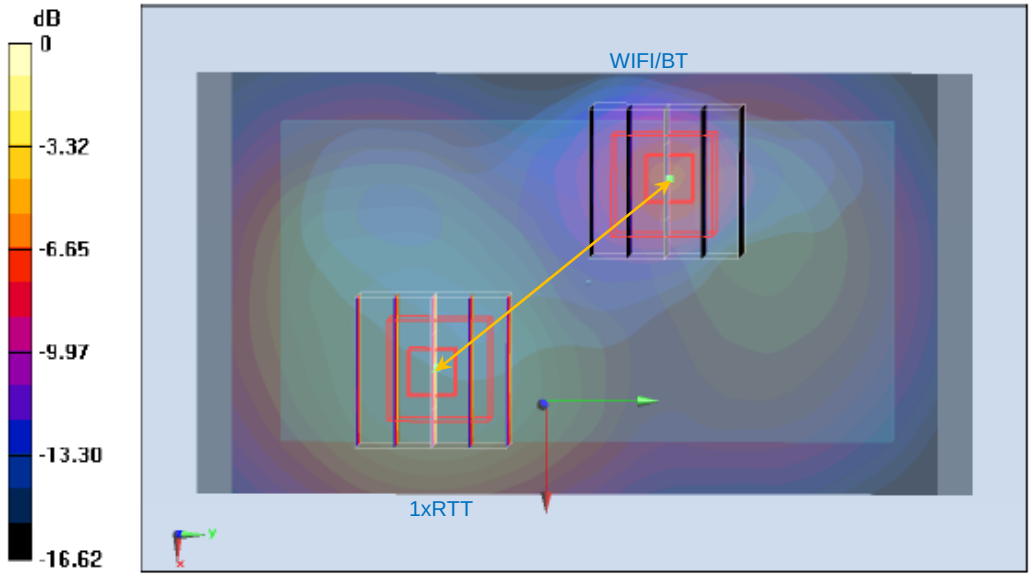
Position	SVDO/SVLTE	EVDO BC1			CDMA BC15			WLAN 2.4G			SAR	Pair SAR	Distance	SPLSR	Pair SAR	Distance	SPLSR	Pair SAR	Distance	SPLSR	Remark	Case
	Power setting	#236			#49			#220			Sum	EVDO+CDMA	EVDO+CDMA	EVDO+CDMA	CDMA+Wifi	CDMA+Wifi	CDMA+Wifi	EVDO+Wifi	EVDO+Wifi	EVDO+Wifi		No.
Back	EVDO(17dbm) 1XRTT(24dbm)	0.373			1.34			0.26			**1.97**	1.71	9.03	**0.19**	1.60	6.40	**0.25**	0.63	4.50	**0.14**	Pass	#D17
	peak ordinate (m)	-0.017	0.057	-0.203	0.001	-0.0315	-0.203	-0.0395	0.018	-0.203												



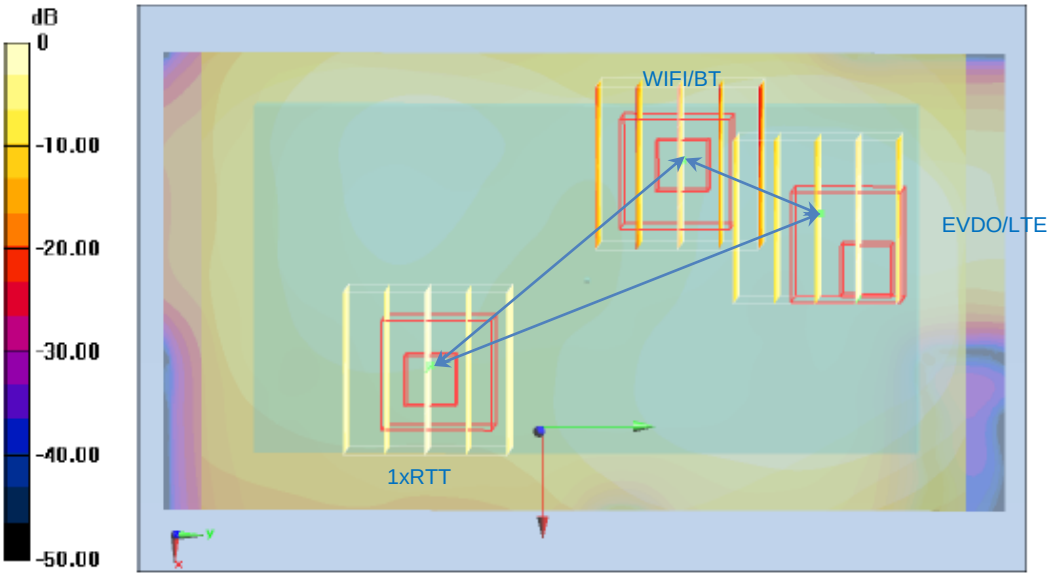
Position	SVDO/SVLTE	EVDO BC1			CDMA BC1			WLAN 2.4G			SAR	Pair SAR	Distance	SPLSR	Pair SAR	Distance	SPLSR	Pair SAR	Distance	SPLSR	Remark	Case
	Power setting	#236			#22			#220			Sum	EVDO+CDMA	EVDO+CDMA	EVDO+CDMA	CDMA+Wifi	CDMA+Wifi	CDMA+Wifi	EVDO+Wifi	EVDO+Wifi	EVDO+Wifi		No.
Back	EVDO(17dbm) 1XRTT(24dbm)	0.373			1.07			0.26			**1.70**	1.44	8.52	**0.17**	1.33	6.16	**0.22**	0.63	4.50	**0.14**	Pass	#D18
	peak ordinate (m)	-0.017	0.057	-0.203	0.004	-0.0255	-0.201	-0.0395	0.018	-0.203												



Position	SVDO/SVLTE	CDMA BC15			WLAN 2.4G			SAR	Distance	SPLSR	Remark	Case
	Power setting	#49			#220			Sum	CDMA+Wifi	CDMA+Wifi		No.
Back	N/A	1.34			0.26			**1.60**	6.4	**0.25**	Pass	#D19
	peak ordinate (m)	0.001	-0.0315	-0.203	-0.0395	0.018	-0.203					



Position	SVDO/SVLTE	EVDO BC15			CDMA BC1			WLAN 2.4G			SAR	Pair SAR	Distance	SPLSR	Pair SAR	Distance	SPLSR	Pair SAR	Distance	SPLSR	Remark	Case
	Power setting	#235			#28			#223			Sum	EVDO+CDMA	EVDO+CDMA	EVDO+CDMA	CDMA+Wifi	CDMA+Wifi	CDMA+Wifi	EVDO+Wifi	EVDO+Wifi	EVDO+Wifi		No.
Back (Earphone)	EVDO(17dbm) 1XRTT(24dbm)	0.394			1.02			0.185			**1.60**	1.41	8.45	**0.17**	1.21	6.38	**0.19**	0.58	4.39	**0.13**	Pass	#D20
	peak ordinate (m)	-0.0145	0.0545	-0.203	0.001	-0.0285	-0.201	-0.041	0.0195	-0.203												



Note: The distance unit is in cm here.

12.6 Volume scan test results

Table 12.6-E: Volume Scan test summary

Case No.	Plot No.	Band	Mode	Test Position	Gap (cm)	Ch.	Ear-phone	Output Power (dBm)	SAR_{1g} (W/kg)	Sacaling Factor	Multi Band SAR_{1g} (W/kg)	Remark
#E-1	234	CDMA 2000 BC15	RTAP 153.6	Back	1 cm	875	-	17.29	0.31	1	1.49	Pass
	32	CDMA 2000 BC0	RC3 SO32	Back	1 cm	1013	-	24.37	1.4	1		
	220	802.11b	-	Back	1 cm	11	-	-	0.221	1.17		
#E-2	236	CDMA 2000 BC1	RTAP 153.6	Back	1 cm	25	-	17.66	0.393	1	1.48	Pass
	32	CDMA 2000 BC0	RC3 SO32	Back	1 cm	1013	-	24.37	1.4	1		
	220	802.11b	-	Back	1 cm	11	-	-	0.221	1.17		
#E-3	12	CDMA 2000 BC1	RTAP 153.6	Back	1 cm	25	-	23.11	1.28	1	1.32	Pass
	260	CDMA 2000 BC0	RC3 SO32	Back	1 cm	1013	-	15.34	0.182	1		
	220	802.11b	-	Back	1 cm	11	-	-	0.221	1.17		
#E-4	12	CDMA 2000 BC1	RTAP 153.6	Back	1 cm	25	-	23.11	1.28	1	1.31	Pass
	258	CDMA 2000 BC15	RC3 SO32	Back	1 cm	875	-	15.07	0.119	1		
	220	802.11b	-	Back	1 cm	11	-	-	0.221	1.17		
#E-5	12	CDMA 2000 BC1	RTAP 153.6	Back	1 cm	25	-	23.11	1.28	1	1.32	Pass
	256	CDMA 2000 BC1	RC3 SO32	Back	1 cm	25	-	15.12	0.143	1		
	220	802.11b	-	Back	1 cm	11	-	-	0.221	1.17		
#E-6	238	LTE Band IV QPSK	1RB, 99 offset	Back	1 cm	20175	-	18.83	0.451	1	1.50	Pass
	32	CDMA 2000 BC0	RC3 SO32	Back	1 cm	1013	-	24.37	1.4	1		
	220	802.11b	-	Back	1 cm	11	-	-	0.221	1.17		
#E-7	239	LTE Band II QPSK	1RB, 99 offset	Back	1 cm	18900	-	19.06	0.544	1	1.50	Pass
	32	CDMA 2000 BC0	RC3 SO32	Back	1 cm	1013	-	24.37	1.4	1		
	220	802.11b	-	Back	1 cm	11	-	-	0.221	1.17		
#E-8	18	CDMA 2000 BC1	RTAP 153.6	Back	1 cm	25	-	23.11	1.26	1	1.26	Pass
	262	CDMA 2000 BC0	RC3 SO32	Back	1 cm	1013	-	15.38	0.128	1		
	223	802.11b	-	Back	1 cm	11	-	-	0.191	1.17		
#E-9	07	CDMA 2000 BC15	RTAP 153.6	Back	1 cm	875	-	23.13	1.22	1	1.26	Pass
	264	CDMA 2000 BC0	RC3 SO32	Back	1 cm	1013	-	15.38	0.182	1		
	220	802.11b	-	Back	1 cm	11	-	-	0.221	1.17		
#E-10	07	CDMA 2000 BC1	RTAP 153.6	Back	1 cm	875	-	23.13	1.22	1	1.26	Pass
	265	CDMA 2000 BC15	RC3 SO32	Back	1 cm	875	-	15.09	0.119	1		
	220	802.11b	-	Back	1 cm	11	-	-	0.221	1.17		

Test Engineer : Mark Qu and Shibao Han

13. References

[1] FCC 47 CFR Part 2 “Frequency Allocations and Radio Treaty Matters; General Rules and Regulations”

[2] IEEE Std. C95.1-1991, “IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz”, 1991

[3] IEEE Std. 1528-2003, “Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques”, December 2003

[4] FCC OET Bulletin 65 (Edition 97-01) Supplement C (Edition 01-01), “Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields”, June 2001

[5] SPEAG DASY System Handbook

[6] FCC KDB 248227 D01 v01r02, “SAR Measurement Procedures for 802.11 a/b/g Transmitters”, May 2007

[7] FCC KDB 447498 D01 v04, “Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies”, November 2009

[8] FCC KDB 648474 D01 v01r05, “SAR Evaluation Considerations for Handsets with Multiple Transmitters and Antennas”, September 2008

[9] FCC KDB 941225 D01 v02, “SAR Measurement Procedures for 3G Devices – CDMA 2000 / Ev-Do / WCDMA / HSDPA / HSPA”, October 2007

[10] FCC KDB 941225 D02 v02 "3GPP R6 HSPA and R7 HSPA+ SAR Guidance", December 2009.

[11] FCC KDB 941225 D03 v01, “Recommended SAR Test Reduction Procedures for GSM / GPRS / EDGE”, December 2008

[12] FCC KDB 941225 D04 v01, “Evaluating SAR for GSM/(E)GPRS Dual Transfer Mode”, January 27 2010

[13] FCC KDB 941225 D05 v01, “SAR Test Considerations for LTE Handsets and Data Modems”, December 2010

[14] FCC KDB 941225 D06 v01, "SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities", April 2011

[15] FCC KDB 388624 D02, "Permit But Ask List", April 2011.