

TEST REPORT FOR SAR TESTING

Report No.: SRTC2019-9004(F)-19012902(H)

Product Name: TD-LTE Wireless Data Terminal

Product Model: easytrans 900

Marketing Name: easytrans 900

Applicant: IFLYTEK CO., LTD.

Manufacturer: IFLYTEK CO., LTD.

Specification: Part 2.1093/IEEE Std 1528/KDB Procedures

FCC ID: 2AMI5-EASYTRANS-900

The State Radio_monitoring_center Testing Center (SRTC)

15th Building, No.30 Shixing Street, Shijingshan District, Beijing, P.R. China

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1. GENERAL INFORMATION

1.1 Notes of the test report

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The test results relate only to individual items of the samples which have been tested. The certification and accreditation identifiers used in this report shall not be applicable to the tested or calibrated samples thereof. The manufacturer shall not mark the tested samples or items (or a separate part of the item) with the identifiers of certification and accreditation to mislead relevant parties about the tested samples or items.

1.2 Information about the testing laboratory

Company:	The State Radio_monitoring_center Testing Center (SRTC)
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1.3 Applicant's details

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1.4 Manufacturer's details

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Country or Region:	China
Contacted person:	Yumei Tao
Tel:	+86-0-15056085095
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Email:	ymtao3@iflytek.com

1.5 Test Environment

Date of Receipt of test sample at SRTC:	2019.05.10
Testing Start Date:	2019.05.12
Testing End Date:	2019.05.22

Environmental Data:	Temperature (°C)	Humidity (%)
Ambient	21-23	40-45

Normal Supply Voltage (Vdc.):	3.85
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2. DESCRIPTION OF THE DEVICE UNDER TEST

2.1 Final Equipment Build Status

Wireless Technology and Frequency Bands	☒ GSM Band: GSM850/PCS1900 ☒ WCDMA Band: FDDII /IV/V ☒ CDMA2000 Band: BC0/BC1 ☒ LTE Band: 2/4/5/7/12/13/17/25/26/38/41/66 ☒ Bluetooth Band: 2.4GHz ☒ Wi-Fi Band: 2.4GHz/5GHz UNII-1/UNII-2A/UNII-2C/UNII-3
Mode	GSM ☐ Voice (GMSK) ☒ GPRS (GMSK) ☒ EGPRS (GMSK) WCDMA ☒ UMTS Rel. 99 (Voice & Data) ☒ HSDPA (Rel. 5) ☒ HSUPA (Rel. 6) ☒ HSPA+ (Rel.7) ☐ DC-HSDPA (Rel.8) CDMA2000 ☒ EVDO RevA LTE ☒ QPSK ☒ 16QAM ☒ 64QAM Bluetooth ☒ BR(GFSK) ☒ EDR ($\pi/4$ DQPSK, 8-DPSK) ☒ BLE(GFSK) Wi-Fi 2.4GHz ☒ 802.11b ☒ 802.11g ☒ 802.11n (20MHz/40MHz) 5GHz ☒ 802.11a ☐ 802.11ac ☒ 802.11an (20MHz/40MHz)
Duty Cycle	GSM Voice: 12.5%; GPRS: 12.5% (1 Slot), 25% (2 Slots), 37.5% (3 Slots), 50% (4 Slots) WCDMA: 100% Bluetooth: 32.25% (DH1), 66.68% (DH3), 77.52% (DH5) GFSK: 30.56% (DH1), 43.57% (DH3), 46.10% (DH5) $\pi/4$ DQPSK: 30.61%(DH1), 43.62% (DH3), 46.08% (DH5) 8-DPSK: 31.02%(DH1), 43.71% (DH3), 46.22% (DH5) BLE: 59.4% Wi-Fi 802.11b: 97.2%/11g: 93.5%/11n: 92.7%
GPRS/EGPRS Multi-Slot Class	☐ Class 8 - One Up ☒ Class 10 - Two Up ☐ Class 12 - Four Up
Mobile Phone Capability	☐ Class A - Mobile phones can be connected to both GPRS and GSM services simultaneously. ☒ Class B - Mobile phones can be attached to both GPRS and GSM services, using one service at a time. ☐ Class C - Mobile phones are attached to either GPRS or GSM voice service. You need to switch manually between services
DTM (Dual Transfer Mode)	Not Supported

2.2 Support Equipment

The following support equipment was used to exercise the DUT during testing:

State of sample	Normal
Headset	N/A
Battery	EASYTRANS 808 / DONGGUAN DRN NEW ENERGYCO., LTD/Li-Lon
IMEI	865531040033753
H/W Version	V1.0
S/W Version	V1.0
Notes	As the information described above, we use test sample offered by the customer. The relevant tests have been performed in order to verify in which combination case the EUT would have the worst features.

EUT Information

EUT	EUT1	EUT2	EUT3	EUT4	EUT5
Model	easytrans 900	JT-BLUE-DATA	JT-BLUE-WIFI	JT-GREY-DATA	JT-GREY-WIFI
Software Version	V8.1	V9.1	V9.2	V9.1	V9.2
Hardware Version	V1.0	V1.0	V1.0	V1.0	V1.0

Note: The software version, Model and Shell color are only a difference in user experience, the software differences, Model and Shell color listed above will not affect the RF performance of this products.

3. REFERENCE SPECIFICATION

Specification	Version	Title
Part 2.1093	2018	Radiofrequency radiation exposure evaluation: portable devices.
IEEE Std 1528	2013	IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques
IEEE Std 1528a	2005	IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques Amendment 1: CAD File for Human Head Model (SAM Phantom)
KDB 447498 D01	v06	General RF Exposure Guidance
KDB 648474 D04	v01r03	Handset SAR
KDB 941225 D01	v03r01	3G SAR Procedures
KDB 248227 D01	v02r02	SAR GUIDANCE FOR IEEE 802.11 (Wi-Fi) TRANSMITTERS
KDB 865664 D01	v01r04	SAR Measurement from 100 MHz to 6 GHz
KDB 865664 D02	v01r02	RF Exposure Reporting
KDB 941225 D05	v02r05	SAR for LTE Devices

4. TEST CONDITIONS

4.1 Picture to demonstrate the required liquid depth

The liquid depth in the used SAM phantoms



Liquid depth for SAR Measurement

4.2 Test Signal, Frequencies and Output Power

The device was put into operation by using a call tester. Communication between the device and the call tester was established by air link.

The device output power was set to maximum power level for all tests; a fully charged battery was used for every test sequence.

In all operating bands the measurements were performed on middle channel, and few of them were also performed on lowest and highest channels.

4.3 SAR Measurement Set-up

The system is based on a high precision robot (working range greater than 0.9m), which positions the probes with a positional repeatability of better than $\pm 0.02\text{mm}$. Special E-field probes have been developed for measurements close to material discontinuity, the sensors of which are directly loaded with a Schottky diode and connected via highly resistive lines (length = 300mm) to the data acquisition unit. A cell controller system contains the power supply, robot controller, teaches pendant (Joystick), and remote control, is used to drive the robot motors.

The PC consists of the Micron Pentium IV computer with Win7 system and SAR Measurement Software DASY5 Professional, A/D interface card, monitor, mouse, and

keyboard. The Stäubli Robot is connected to the cell controller to allow software manipulation of the robot.

A data acquisition electronic (DAE) circuit performs the signal amplification; signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. is connected to the Electro-optical coupler (EOC). The EOC performs the conversion from the optical into digital electric signal of the DAE and transfers data to the PC plug-in card. The DAE consists of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16bit AD-converter and a command decoder and control logic unit. Transmission to the PC-card is accomplished through an optical downlink for data and status information and an optical uplink for commands and clock lines.

The mechanical probe mounting device includes two different sensor systems for frontal and sidewise probe contacts. They are also used for mechanical surface detection and probe collision detection

The robot uses its own controller with a built in VME-bus computer.

4.4 Phantoms

The phantom used for all tests i.e. for both system checks and device testing, was the twin headed "SAM Phantom", manufactured by SPEAG. The phantom conforms to the requirements of IEEE 1528 - 2013.

System checking was performed using the flat section, whilst Head SAR tests used the left and right head profile sections. Body SAR testing also used the flat section between the head profiles.

The SPEAG device holder (see Section 5.1) was used to position the device in all tests whilst a tripod was used to position the validation dipoles against the flat section of phantom.

4.5 Tissue Simulants

Recommended values for the dielectric parameters of the tissue simulants are given in IEEE 1528 - 2013 and FCC Supplement C to OET Bulletin 65. All tests were carried out using simulants whose dielectric parameters were within $\pm 5\%$ of the recommended values. All tests were carried out within 24 hours of measuring the dielectric parameters.

The depth of the tissue simulant was 15.0 ± 0.5 cm measured from the ear reference point during system checking and device measurements.

4.5.1 Tissue Stimulant Recipes

The following tissue stimulants were used for Head and Body test:

Name	Broadband tissue-equivalent liquid
Type for Head	HBBL600-6000V6 Head Simulating Liquid
Type for Body	MBBL600-6000V6 Body Simulating Liquid

4.6 DESCRIPTION OF THE TEST PROCEDURE

4.6.1 Device Holder

The device was placed in the device holder (illustrated below) that is supplied by SPEAG as an integral part of the Dasy5 system.



Device holder supplied by SPEAG

4.6.2 Test positions

4.6.2.1 Against Phantom Head

Measurements were made in “cheek” and “tilt” positions on both the left hand and right-hand sides of the phantom.

The positions used in the measurements were according to IEEE 1528 - 2013 "IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques".

4.6.2.2 Body Worn Configuration

The device was placed in the SPEAG holder below the flat section of the phantom. The distance between the device and the phantom was kept at the separation distance using a separate flat spacer that was removed before the start of the measurements. And the distance is 10mm. The device was oriented with its antenna facing the phantom since this orientation gives higher results.

4.6.3 Scan Procedure

First, area scans were used for determination of the field distribution and the approximate location of the local peak SAR values. The SAR distribution is scanned along the inside surface, at least for an area larger than the projection of the handset and antenna. The angle between the probe axis and the surface normal line is recommended but not required to be less than 30°. The SAR distribution is first measured on a 2-D coarse grid. The scan region should cover all areas that are exposed and encompassed by the projection of the handset. There are 15 mm × 15 mm (equal or less than 2GHz), 12 mm × 12 mm (from 2GHz~3GHz) and 10mm x 10mm (above 5GHz) measurement grid used when two staggered one-dimensional cubic splines are used to estimate the maximum SAR location. Next, a zoom scan, a minimum of 7 x 7x7 points covering a volume of at least 30x30x30mm, was performed around the highest E-field value to determine the averaged SAR value. Drift was determined by measuring the same point at the start of the area scan and again at the end of the zoom scan.

4.6.4 SAR Averaging Methods

The maximum SAR value was averaged over a cube of tissue using interpolation and extrapolation.

The interpolation, extrapolation and maximum search routines within DASY5 are all based on the modified Quadratic Shepard's method (Robert J. Renka, Multivariate Interpolation of Large Sets of Scattered Data", University of North Texas ACM Transactions on Mathematical Software, vol. 14, no. 2, June 1988, pp. 139-148).

The interpolation scheme combines a least-square fitted function method with a weighted average method. A triradiate 3-D / bivariate 2-D quadratic function is computed for each measurement point and fitted to neighboring points by a least-square method. For the zoom scan, inverse distance weighting is incorporated to fit distant points more accurately. The interpolating function is finally calculated as a weighted average of the quadratics.

In the zoom scan, the interpolation function is used to extrapolate the Peak SAR from the deepest measurement points to the inner surface of the phantom.

5 RESULT SUMMARY

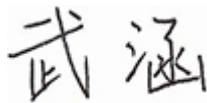
The maximum reported SAR values for Head configuration and Body Worn configuration are given as follows. The device conforms to the requirements of the standard(s) when the maximum reported SAR value is less than or equal to the limit.

Exposure Position	Frequency Band	1g-SAR Result(W/kg)	Highest 1g-SAR Result(W/kg)		Limit (W/kg)/1g	Result
Body-Worn (10mm Gap)	GSM 850	0.22	0.57	0.83	1.6	pass
	GSM 1900	0.20				
	WCDMA Band II	0.16				
	WCDMA Band IV	0.21				
	WCDMA Band V	0.30				
	CDMA BC0	0.32				
	CDMA BC1	0.57				
	LTE Band 2	0.17				
	LTE Band 4	0.17				
	LTE Band 5	0.22				
	LTE Band 7	0.22				
	LTE Band 12	0.20				
	LTE Band 13	0.40				
	LTE Band 17	0.19				
	LTE Band 25	0.14				
	LTE Band 26	0.25				
	LTE Band 38	0.13				
	LTE Band 41	0.13				
	LTE Band 66	0.18				
	Bluetooth	0.13				
	WLAN 2.4GHz	0.22				
	WLAN 5GHz Band(1&2A)	0.13				
	WLAN 5GHz Band(2C)	0.15				
	WLAN 5GHz Band (3)	0.08				
Hotspot (10mm Gap)	GSM 850	0.32	0.83	0.83	1.6	pass
	GSM 1900	0.36				
	WCDMA Band II	0.30				
	WCDMA Band IV	0.35				
	WCDMA Band V	0.30				
	CDMA BC0	0.35				
	CDMA BC1	0.83				
	LTE Band 2	0.31				
	LTE Band 4	0.26				
	LTE Band 5	0.41				
	LTE Band 7	0.23				
	LTE Band 12	0.20				
	LTE Band 13	0.48				
	LTE Band 17	0.23				
	LTE Band 25	0.31				
	LTE Band 26	0.37				
	LTE Band 38	0.15				
	LTE Band 41	0.15				
	LTE Band 66	0.22				
	WLAN 2.4GHz	0.22				
	WLAN 5GHz Band(1&2A)	0.13				
	WLAN 5GHz Band(2C)	0.15				
	WLAN 5GHz Band (3)	0.08				

Exposure Position	Frequency Band	10g-SAR Result(W/kg)	Highest 10g-SAR Result(W/kg)	Limit (W/kg)/1g	Result
Limb (0mm Gap)	GSM 850	0.35	0.76	4.0	pass
	GSM 1900	0.51			
	WCDMA Band II	0.55			
	WCDMA Band IV	0.57			
	WCDMA Band V	0.34			
	CDMA BC0	0.50			
	CDMA BC1	0.43			
	LTE Band 2	0.50			
	LTE Band 4	0.52			
	LTE Band 5	0.35			
	LTE Band 7	0.76			
	LTE Band 12	0.38			
	LTE Band 13	0.56			
	LTE Band 17	0.25			
	LTE Band 25	0.49			
	LTE Band 26	0.54			
	LTE Band 38	0.21			
	LTE Band 41	0.21			
	LTE Band 66	0.42			
	WLAN 2.4GHz	0.42			
	WLAN 5GHz Band(1&2A)	0.25			
	WLAN 5GHz Band(2C)	0.30			
	WLAN 5GHz Band (3)	0.18			

Simultaneous Transmission Summary

Exposure Position	Frequency Band	1g-SAR Result(W/kg)	Highest 1g-SAR Result(W/kg)		Limit (W/kg)/1g	Result
Body-Worn (10mm Gap)	GSM & Wi-Fi (2.4G/5G)	0.43	0.79	0.85	1.6	pass
	WCDMA & Wi-Fi (2.4G/5G)	0.51				
	CDMA & Wi-Fi (2.4G/5G)	0.79				
	LTE & Wi-Fi (2.4G/5G)	0.58				
	GSM & BT	0.35	0.70			
	WCDMA & BT	0.43				
	CDMA & BT	0.70				
	LTE & BT	0.53				
	GSM & BT& Wi-Fi 5G	0.49	0.85			
	WCDMA & BT& Wi-Fi 5G	0.57				
	CDMA & BT& Wi-Fi 5G	0.85				
	LTE & BT& Wi-Fi 5G	0.64				
hotspot (10mm Gap)	GSM & Wi-Fi (2.4G/5G)	0.43	0.84			
	WCDMA & Wi-Fi (2.4G/5G)	0.51				
	CDMA & Wi-Fi (2.4G/5G)	0.84				
	LTE & Wi-Fi (2.4G/5G)	0.58				

This Test Report Is Issued by: Mr. Peng Zhen 	Checked by: Mr. Li Bin 
Tested by: Miss. Wu Han 	Issued date: 20190528

6 TEST RESULT

6.1 Manufacturing Tolerance

GSM

GSM 850 GPRS				
Channel		128	189	251
1 Txslot	Tolerance (dBm)	29.5~33.5	29.5~33.5	29.5~33.5
2 Txslot	Tolerance (dBm)	27.5~31.5	27.5~31.5	27.5~31.5
3 Txslot	Tolerance (dBm)	25.5~29.5	25.5~29.5	25.5~29.5
4 Txslot	Tolerance (dBm)	23.5~27.5	23.5~27.5	23.5~27.5
GSM 850 EGPRS(GMSK)				
Channel		128	189	251
1 Txslot	Tolerance (dBm)	29.5~33.5	29.5~33.5	29.5~33.5
2 Txslot	Tolerance (dBm)	27.5~31.5	27.5~31.5	27.5~31.5
3 Txslot	Tolerance (dBm)	25.0~29.0	25.0~29.0	25.0~29.0
4 Txslot	Tolerance (dBm)	23.0~27.0	23.0~27.0	23.0~27.0
GSM 850 EGPRS(8PSK)				
Channel		128	189	251
1 Txslot	Tolerance (dBm)	22.5~26.5	22.5~26.5	22.5~26.5
2 Txslot	Tolerance (dBm)	21.5~25.5	21.5~25.5	21.5~25.5
3 Txslot	Tolerance (dBm)	19.5~23.5	19.5~23.5	19.5~23.5
4 Txslot	Tolerance (dBm)	18.0~22.0	18.0~22.0	18.0~22.0

GSM 1900 GPRS				
Channel		512	661	810
1 TX slot	Tolerance (dBm)	27.0~31.0	27.0~31.0	27.0~31.0
2 Txslot	Tolerance (dBm)	25.0~29.0	25.0~29.0	25.0~29.0
3 Txslot	Tolerance (dBm)	23.0~27.0	23.0~27.0	23.0~27.0
4 Txslot	Tolerance (dBm)	21.0~25.0	21.0~25.0	21.0~25.0
GSM 1900 EGPRS(GMSK)				
Channel		512	661	810
1 Txslot	Tolerance (dBm)	27.0~31.0	27.0~31.0	27.0~31.0
2 Txslot	Tolerance (dBm)	25.0~29.0	25.0~29.0	25.0~29.0
3 Txslot	Tolerance (dBm)	23.0~27.0	23.0~27.0	23.0~27.0
4 Txslot	Tolerance (dBm)	21.0~25.0	21.0~25.0	21.0~25.0
GSM 1900 EGPRS(8PSK)				
Channel		512	661	810
1 Txslot	Tolerance (dBm)	22.5~26.5	22.5~26.5	22.5~26.5
2 Txslot	Tolerance (dBm)	21.0~25.0	21.0~25.0	21.0~25.0
3 Txslot	Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
4 Txslot	Tolerance (dBm)	17.5~21.5	17.5~21.5	17.5~21.5

WCDMA

WCDMA Band II			
Channel	9262	9400	9538
Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0
WCDMA Band V			
Channel	4132	4183	4233
Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0
WCDMA Band IV			
Channel	1312	1412	1513
Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0

HSDPA Band II				
Channel		9262	9400	9538
Sub test 1	Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0
Sub test 2	Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0
Sub test 3	Tolerance (dBm)	19.5~23.5	19.5~23.5	19.5~23.5
Sub test 4	Tolerance (dBm)	19.5~23.5	19.5~23.5	19.5~23.5
HSDPA Band V				
Channel		4132	4183	4233
Sub test 1	Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0
Sub test 2	Tolerance (dBm)	19.5~23.5	19.5~23.5	19.5~23.5
Sub test 3	Tolerance (dBm)	19.5~23.5	19.5~23.5	19.5~23.5
Sub test 4	Tolerance (dBm)	19.5~23.5	19.5~23.5	19.5~23.5
HSDPA Band IV				
Channel		1312	1412	1513
Sub test 1	Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0
Sub test 2	Tolerance (dBm)	19.5~23.5	19.5~23.5	19.5~23.5
Sub test 3	Tolerance (dBm)	19.5~23.5	19.5~23.5	19.5~23.5
Sub test 4	Tolerance (dBm)	19.5~23.5	19.5~23.5	19.5~23.5

HSUPA Band II				
Channel		9262	9400	9538
Sub test 1	Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0
Sub test 2	Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0
Sub test 3	Tolerance (dBm)	19.5~23.5	19.5~23.5	19.5~23.5
Sub test 4	Tolerance (dBm)	19.5~23.5	19.5~23.5	19.5~23.5
Sub test 5	Tolerance (dBm)	19.5~23.5	19.5~23.5	19.5~23.5
HSUPA Band V				
Channel		4132	4183	4233
Sub test 1	Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0
Sub test 2	Tolerance (dBm)	19.5~23.5	19.5~23.5	19.5~23.5
Sub test 3	Tolerance (dBm)	19.5~23.5	19.5~23.5	19.5~23.5
Sub test 4	Tolerance (dBm)	19.5~23.5	19.5~23.5	19.5~23.5
Sub test 5	Tolerance (dBm)	19.5~23.5	19.5~23.5	19.5~23.5
HSUPA Band IV				
Channel		1312	1412	1513
Sub test 1	Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0
Sub test 2	Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0
Sub test 3	Tolerance (dBm)	19.5~23.5	19.5~23.5	19.5~23.5
Sub test 4	Tolerance (dBm)	19.5~23.5	19.5~23.5	19.5~23.5
Sub test 5	Tolerance (dBm)	19.5~23.5	19.5~23.5	19.5~23.5

HSPA+ Band II				
Channel		9262	9400	9538
QPSK	Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0
16QAM	Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
HSPA+ Band V				
Channel		4132	4183	4233
QPSK	Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0
16QAM	Tolerance (dBm)	18.5~22.5	18.5~22.5	18.5~22.5
HSPA+ Band IV				
Channel		1312	1412	1513
QPSK	Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0
16QAM	Tolerance (dBm)	18.5~22.5	18.5~22.5	18.5~22.5

CDMA

CDMA BC0				
MODE		1013	384	777
1X RTT BC0	Tolerance (dBm)	21.0~25.0	21.0~25.0	21.0~25.0
1X EVDO R0 BC0	Tolerance (dBm)	21.0~25.0	21.0~25.0	21.0~25.0
1X EVDO RA BC0	Tolerance (dBm)	21.0~25.0	21.0~25.0	21.0~25.0

CDMA BC1				
MODE		1013	384	777
1X RTT BC1	Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0
1X EVDO R0 BC1	Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0
1X EVDO RA BC1	Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0

LTE

Band 2 QPSK

20BW 1RB			
Channel	Channel 18700	Channel 18900	Channel 19100
Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0
20BW 50%RB			
Channel	Channel 18700	Channel 18900	Channel 19100
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
20BW 100%RB			
Channel	Channel 18700	Channel 18900	Channel 19100
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0

16QAM

20BW 1RB			
Channel	Channel 18700	Channel 18900	Channel 19100
Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0
20BW 50%RB			
Channel	Channel 18700	Channel 18900	Channel 19100
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
20BW 100%RB			
Channel	Channel 18700	Channel 18900	Channel 19100
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0

64QAM

20BW 1RB			
Channel	Channel 18700	Channel 18900	Channel 19100
Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0
20BW 50%RB			
Channel	Channel 18700	Channel 18900	Channel 19100
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
20BW 100%RB			
Channel	Channel 18700	Channel 18900	Channel 19100
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0

Band 4
QPSK

20BW 1RB			
Channel	Channel 20050	Channel 20175	Channel 20300
Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0
20BW 50%RB			
Channel	Channel 20050	Channel 20175	Channel 20300
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
20BW 100%RB			
Channel	Channel 20050	Channel 20175	Channel 20300
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0

16QAM

20BW 1RB			
Channel	Channel 20050	Channel 20175	Channel 20300
Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0
20BW 50%RB			
Channel	Channel 20050	Channel 20175	Channel 20300
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
20BW 100%RB			
Channel	Channel 20050	Channel 20175	Channel 20300
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0

64QAM

20BW 1RB			
Channel	Channel 20050	Channel 20175	Channel 20300
Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0
20BW 50%RB			
Channel	Channel 20050	Channel 20175	Channel 20300
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
20BW 100%RB			
Channel	Channel 20050	Channel 20175	Channel 20300
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0

Band 5
QPSK

10BW 1RB			
Channel	Channel 20450	Channel 20525	Channel 20600
Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0
10BW 50%RB			
Channel	Channel 20450	Channel 20525	Channel 20600
Tolerance (dBm)	19.5~23.5	19.5~23.5	19.5~23.5
10BW 100%RB			
Channel	Channel 20450	Channel 20525	Channel 20600
Tolerance (dBm)	19.5~23.5	19.5~23.5	19.5~23.5

16QAM

10BW 1RB			
Channel	Channel 20450	Channel 20525	Channel 20600
Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0
10BW 50%RB			
Channel	Channel 20450	Channel 20525	Channel 20600
Tolerance (dBm)	19.5~23.5	19.5~23.5	19.5~23.5
10BW 100%RB			
Channel	Channel 20450	Channel 20525	Channel 20600
Tolerance (dBm)	19.5~23.5	19.5~23.5	19.5~23.5

64QAM

10BW 1RB			
Channel	Channel 20450	Channel 20525	Channel 20600
Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0
10BW 50%RB			
Channel	Channel 20450	Channel 20525	Channel 20600
Tolerance (dBm)	19.5~23.5	19.5~23.5	19.5~23.5
10BW 100%RB			
Channel	Channel 20450	Channel 20525	Channel 20600
Tolerance (dBm)	19.5~23.5	19.5~23.5	19.5~23.5

Band 7

QPSK

20BW 1RB			
Channel	Channel 20850	Channel 21100	Channel 21350
Tolerance (dBm)	19.5~23.5	19.5~23.5	19.5~23.5
20BW 50%RB			
Channel	Channel 20850	Channel 21100	Channel 21350
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
20BW 100%RB			
Channel	Channel 20850	Channel 21100	Channel 21350
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0

16QAM

20BW 1RB			
Channel	Channel 20850	Channel 21100	Channel 21350
Tolerance (dBm)	19.5~23.5	19.5~23.5	19.5~23.5
20BW 50%RB			
Channel	Channel 20850	Channel 21100	Channel 21350
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
20BW 100%RB			
Channel	Channel 20850	Channel 21100	Channel 21350
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0

64QAM

20BW 1RB			
Channel	Channel 20850	Channel 21100	Channel 21350
Tolerance (dBm)	19.5~23.5	19.5~23.5	19.5~23.5
20BW 50%RB			
Channel	Channel 20850	Channel 21100	Channel 21350
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
20BW 100%RB			
Channel	Channel 20850	Channel 21100	Channel 21350
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0

Band 12
QPSK

10BW 1RB			
Channel	Channel 23060	Channel 23095	Channel 23130
Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0
10BW 50%RB			
Channel	Channel 23060	Channel 23095	Channel 23130
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
10BW 100%RB			
Channel	Channel 23060	Channel 23095	Channel 23130
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0

16QAM

10BW 1RB			
Channel	Channel 23060	Channel 23095	Channel 23130
Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0
10BW 50%RB			
Channel	Channel 23060	Channel 23095	Channel 23130
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
10BW 100%RB			
Channel	Channel 23060	Channel 23095	Channel 23130
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0

64QAM

10BW 1RB			
Channel	Channel 23060	Channel 23095	Channel 23130
Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0
10BW 50%RB			
Channel	Channel 23060	Channel 23095	Channel 23130
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
10BW 100%RB			
Channel	Channel 23060	Channel 23095	Channel 23130
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0

Band 13
QPSK

10BW 1RB			
Channel	Channel 23230	Channel 23230	Channel 23230
Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0
10BW 50%RB			
Channel	Channel 23230	Channel 23230	Channel 23230
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
10BW 100%RB			
Channel	Channel 23230	Channel 23230	Channel 23230
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0

16QAM

10BW 1RB			
Channel	Channel 23230	Channel 23230	Channel 23230
Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0
10BW 50%RB			
Channel	Channel 23230	Channel 23230	Channel 23230
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
10BW 100%RB			
Channel	Channel 23230	Channel 23230	Channel 23230
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0

64QAM

10BW 1RB			
Channel	Channel 23230	Channel 23230	Channel 23230
Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0
10BW 50%RB			
Channel	Channel 23230	Channel 23230	Channel 23230
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
10BW 100%RB			
Channel	Channel 23230	Channel 23230	Channel 23230
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0

Band 17
QPSK

10BW 1RB			
Channel	Channel 23780	Channel 23790	Channel 23800
Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0
10BW 50%RB			
Channel	Channel 23780	Channel 23790	Channel 23800
Tolerance (dBm)	18.5~22.5	18.5~22.5	18.5~22.5
10BW 100%RB			
Channel	Channel 23780	Channel 23790	Channel 23800
Tolerance (dBm)	18.5~22.5	18.5~22.5	18.5~22.5

16QAM

10BW 1RB			
Channel	Channel 23780	Channel 23790	Channel 23800
Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0
10BW 50%RB			
Channel	Channel 23780	Channel 23790	Channel 23800
Tolerance (dBm)	18.5~22.5	18.5~22.5	18.5~22.5
10BW 100%RB			
Channel	Channel 23780	Channel 23790	Channel 23800
Tolerance (dBm)	18.5~22.5	18.5~22.5	18.5~22.5

64QAM

10BW 1RB			
Channel	Channel 23780	Channel 23790	Channel 23800
Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0
10BW 50%RB			
Channel	Channel 23780	Channel 23790	Channel 23800
Tolerance (dBm)	18.5~22.5	18.5~22.5	18.5~22.5
10BW 100%RB			
Channel	Channel 23780	Channel 23790	Channel 23800
Tolerance (dBm)	18.5~22.5	18.5~22.5	18.5~22.5

Band 25
QPSK

20BW 1RB			
Channel	Channel 26140	Channel 26365	Channel 26590
Tolerance (dBm)	19.5~23.5	19.5~23.5	19.5~23.5
20BW 50%RB			
Channel	Channel 26140	Channel 26365	Channel 26590
Tolerance (dBm)	18.5~22.5	18.5~22.5	18.5~22.5
20BW 100%RB			
Channel	Channel 26140	Channel 26365	Channel 26590
Tolerance (dBm)	18.5~22.5	18.5~22.5	18.5~22.5

16QAM

20BW 1RB			
Channel	Channel 26140	Channel 26365	Channel 26590
Tolerance (dBm)	19.5~23.5	19.5~23.5	19.5~23.5
20BW 50%RB			
Channel	Channel 26140	Channel 26365	Channel 26590
Tolerance (dBm)	18.5~22.5	18.5~22.5	18.5~22.5
20BW 100%RB			
Channel	Channel 26140	Channel 26365	Channel 26590
Tolerance (dBm)	18.5~22.5	18.5~22.5	18.5~22.5

64QAM

20BW 1RB			
Channel	Channel 26140	Channel 26365	Channel 26590
Tolerance (dBm)	19.5~23.5	19.5~23.5	19.5~23.5
20BW 50%RB			
Channel	Channel 26140	Channel 26365	Channel 26590
Tolerance (dBm)	18.5~22.5	18.5~22.5	18.5~22.5
20BW 100%RB			
Channel	Channel 26140	Channel 26365	Channel 26590
Tolerance (dBm)	18.5~22.5	18.5~22.5	18.5~22.5

Band 26
QPSK

15BW 1RB			
Channel	Channel 26765	Channel 26865	Channel 26965
Tolerance (dBm)	18.5~22.5	18.5~22.5	18.5~22.5
15BW 50%RB			
Channel	Channel 26765	Channel 26865	Channel 26965
Tolerance (dBm)	18.5~22.5	18.5~22.5	18.5~22.5
15BW 100%RB			
Channel	Channel 26765	Channel 26865	Channel 26965
Tolerance (dBm)	18.5~22.5	18.5~22.5	18.5~22.5

16QAM

15BW 1RB			
Channel	Channel 26765	Channel 26865	Channel 26965
Tolerance (dBm)	18.5~22.5	18.5~22.5	18.5~22.5
15BW 50%RB			
Channel	Channel 26765	Channel 26865	Channel 26965
Tolerance (dBm)	18.5~22.5	18.5~22.5	18.5~22.5
15BW 100%RB			
Channel	Channel 26765	Channel 26865	Channel 26965
Tolerance (dBm)	18.5~22.5	18.5~22.5	18.5~22.5

64QAM

15BW 1RB			
Channel	Channel 26765	Channel 26865	Channel 26965
Tolerance (dBm)	18.5~22.5	18.5~22.5	18.5~22.5
15BW 50%RB			
Channel	Channel 26765	Channel 26865	Channel 26965
Tolerance (dBm)	18.5~22.5	18.5~22.5	18.5~22.5
15BW 100%RB			
Channel	Channel 26765	Channel 26865	Channel 26965
Tolerance (dBm)	18.5~22.5	18.5~22.5	18.5~22.5

Band 38

QPSK

20BW 1RB			
Channel	Channel 37850	Channel 38000	Channel 38150
Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0
20BW 50%RB			
Channel	Channel 37850	Channel 38000	Channel 38150
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
20BW 100%RB			
Channel	Channel 37850	Channel 38000	Channel 38150
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0

16QAM

20BW 1RB			
Channel	Channel 37850	Channel 38000	Channel 38150
Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0
20BW 50%RB			
Channel	Channel 37850	Channel 38000	Channel 38150
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
20BW 100%RB			
Channel	Channel 37850	Channel 38000	Channel 38150
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0

64QAM

20BW 1RB			
Channel	Channel 37850	Channel 38000	Channel 38150
Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0
20BW 50%RB			
Channel	Channel 37850	Channel 38000	Channel 38150
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
20BW 100%RB			
Channel	Channel 37850	Channel 38000	Channel 38150
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0

Band 41

QPSK

20BW 1RB			
Channel	Channel 40140	Channel 40620	Channel 41140
Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0
20BW 50%RB			
Channel	Channel 40140	Channel 40620	Channel 41140
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
20BW 100%RB			
Channel	Channel 40140	Channel 40620	Channel 41140
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0

16QAM

20BW 1RB			
Channel	Channel 40140	Channel 40620	Channel 41140
Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0
20BW 50%RB			
Channel	Channel 40140	Channel 40620	Channel 41140
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
20BW 100%RB			
Channel	Channel 40140	Channel 40620	Channel 41140
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0

64QAM

20BW 1RB			
Channel	Channel 40140	Channel 40620	Channel 41140
Tolerance (dBm)	20.0~24.0	20.0~24.0	20.0~24.0
20BW 50%RB			
Channel	Channel 40140	Channel 40620	Channel 41140
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
20BW 100%RB			
Channel	Channel 40140	Channel 40620	Channel 41140
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0

Band 66

QPSK

20BW 1RB			
Channel	Channel 132072	Channel 132322	Channel 132572
Tolerance (dBm)	20.5~24.5	20.5~24.5	20.5~24.5
20BW 50%RB			
Channel	Channel 132072	Channel 132322	Channel 132572
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
20BW 100%RB			
Channel	Channel 132072	Channel 132322	Channel 132572
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0

16QAM

20BW 1RB			
Channel	Channel 132072	Channel 132322	Channel 132572
Tolerance (dBm)	20.5~24.5	20.5~24.5	20.5~24.5
20BW 50%RB			
Channel	Channel 132072	Channel 132322	Channel 132572
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
20BW 100%RB			
Channel	Channel 132072	Channel 132322	Channel 132572
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0

64QAM

20BW 1RB			
Channel	Channel 132072	Channel 132322	Channel 132572
Tolerance (dBm)	20.5~24.5	20.5~24.5	20.5~24.5
20BW 50%RB			
Channel	Channel 132072	Channel 132322	Channel 132572
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0
20BW 100%RB			
Channel	Channel 132072	Channel 132322	Channel 132572
Tolerance (dBm)	19.0~23.0	19.0~23.0	19.0~23.0

Bluetooth

GFSK			
Channel	0	39	78
Tolerance (dBm)	4.0~8.0	4.0~8.0	4.0~8.0
$\pi/4$ DQPSK			
Channel	0	39	78
Tolerance (dBm)	1.5~5.5	1.5~5.5	1.5~5.5
8DPSK			
Channel	0	39	78
Tolerance (dBm)	1.5~5.5	1.5~5.5	1.5~5.5

Bluetooth (BLE)

GFSK			
Channel	0	19	39
Tolerance (dBm)	-3.5~0.5	-3.5~0.5	-3.5~0.5

WLAN 2.4GHz

802.11b			
Channel	1	6	11
Tolerance (dBm)	12.5~16.5	12.5~16.5	12.5~16.5
802.11g			
Channel	1	6	11
Tolerance (dBm)	9.0~13.0	9.0~13.0	9.0~13.0
802.11n HT20			
Channel	1	6	11
Tolerance (dBm)	9.0~13.0	9.0~13.0	9.0~13.0
802.11n HT40			
Channel	3	6	9
Tolerance (dBm)	7.5~11.5	7.5~11.5	7.5~11.5

WIFI-5GHz (U-NII 1)

802.11a	
Tolerance (dBm)	11.0~15.0
802.11n HT20	
Tolerance (dBm)	11.0~15.0
802.11n HT40	
Tolerance (dBm)	11.0~15.0

WIFI-5GHz (U-NII 2A)

802.11a	
Tolerance (dBm)	11.0~15.0
802.11n HT20	
Tolerance (dBm)	11.0~15.0
802.11n HT40	
Tolerance (dBm)	10.5~14.5

WIFI-5GHz (U-NII 2C)

802.11a	
Tolerance (dBm)	11.0~15.0
802.11n HT20	
Tolerance (dBm)	11.0~15.0
802.11n HT40	
Tolerance (dBm)	10.5~14.5

WIFI-5GHz (U-NII 3)

802.11a	
Tolerance (dBm)	11.0~15.0
802.11n HT20	
Tolerance (dBm)	11.0~15.0
802.11n HT40	
Tolerance (dBm)	10.5~14.5

6.2 GSM Measurement result

GPRS Measured Power

Mode	GPRS850			GPRS1900		
Channel	128	189	251	512	661	810
Frequency (MHz)	824.2	836.4	848.8	1850.2	1880.0	1909.8
4Downlink1uplinkPower(dBm)	33.22	33.26	33.28	30.68	30.65	30.61
3Downlink2uplinkPower(dBm)	31.33	31.38	31.33	28.83	28.88	28.84
2Downlink3uplinkPower(dBm)	28.93	28.99	29.05	26.74	26.78	26.73
1Downlink4uplinkPower(dBm)	27.02	27.06	27.09	24.92	24.97	24.93

GPRS Frame Average Power

Mode	GPRS850			GPRS1900		
Channel	128	189	251	512	661	810
Frequency (MHz)	824.2	836.4	848.8	1850.2	1880.0	1909.8
4Downlink1uplinkPower(dBm)	24.19	24.23	24.25	21.65	21.62	21.58
3Downlink2uplinkPower(dBm)	25.31	25.36	25.31	22.81	22.86	22.82
2Downlink3uplinkPower(dBm)	24.67	24.73	24.79	22.48	22.52	22.47
1Downlink4uplinkPower(dBm)	24.01	24.05	24.08	21.91	21.96	21.92

Division Factors (for Measured Power and Frame Average Power):

To average the power, the division factor is as follows:

1TX-slot (4Downlink1uplink) = 1 transmit time slot out of 8 time slots=> conducted power divided by (8/1) => -9.03dB

2TX-slots(3Downlink2uplink) = 2 transmit time slots out of 8 time slots=> conducted power divided by (8/2) => -6.02dB

3TX-slots (2Downlink3uplink) = 3 transmit time slots out of 8 time slots=> conducted power divided by (8/3) => -4.26dB

4TX-slots (1Downlink4uplink) = 4 transmit time slots out of 8 time slots=> conducted power divided by (8/4) => -3.01dB

According to the conducted power as above, the body measurements are performed with **2Txslots** (3Downlink2uplink) for GPRS850 and GPRS1900

EGPRS Measured Power

Mode	EGPRS850 (GMSK)			EGPRS1900 (GMSK)		
	EGPRS850 (8PSK)			EGPRS1900 (8PSK)		
Channel	128	189	251	512	661	810
Frequency(MHz)	824.2	836.4	848.8	1850.2	1880.0	1909.8
4Downlink1uplinkPower(dBm)	33.12	33.16	33.19	30.51	30.57	30.53
	26.29	26.35	26.42	26.13	26.08	26.14
3Downlink2uplinkPower(dBm)	31.19	31.23	31.27	28.73	28.79	28.76
	25.05	25.09	25.14	24.88	24.82	24.83
2Downlink3uplinkPower(dBm)	28.63	28.66	28.68	26.61	26.67	26.63
	23.33	23.37	23.43	22.51	22.44	22.41
1Downlink4uplinkPower(dBm)	26.79	26.84	26.87	24.81	24.86	24.82
	21.85	21.88	21.91	21.13	21.09	21.03

EGPRS Frame Average Power

Mode	EGPRS850 (GMSK)			EGPRS1900 (GMSK)		
	EGPRS850 (8PSK)			EGPRS1900 (8PSK)		
Channel	128	189	251	512	661	810
Frequency(MHz)	824.2	836.4	848.8	1850.2	1880.0	1909.8
4Downlink1uplinkPower(dBm)	24.09	24.13	24.16	21.48	21.54	21.50
	17.26	17.32	17.39	17.10	17.05	17.11
3Downlink2uplinkPower(dBm)	25.17	25.21	25.25	22.71	22.77	22.74
	19.03	19.07	19.12	18.86	18.80	18.81
2Downlink3uplinkPower(dBm)	24.37	24.40	24.42	22.35	22.41	22.37
	19.07	19.11	19.17	18.25	18.18	18.15
1Downlink4uplinkPower(dBm)	23.78	23.83	23.86	21.80	21.85	21.81
	18.84	18.87	18.90	18.12	18.08	18.02

Division Factors (for Measured Power and Averaged Power):

To average the power, the division factor is as follows:

1TX-slot (4Downlink1uplink) = 1 transmit time slot out of 8 time slots=> conducted power divided by (8/1) => -9.03dB

2TX-slots(3Downlink2uplink) = 2 transmit time slots out of 8 time slots=> conducted power divided by (8/2) => -6.02dB

3TX-slots (2Downlink3uplink) = 3 transmit time slots out of 8 time slots=> conducted power divided by (8/3) => -4.26dB

4TX-slots (1Downlink4uplink) = 4 transmit time slots out of 8 time slots=> conducted power divided by (8/4) => -3.01dB

According to the conducted power as above, the body measurements are performed with **2Txslots** (3Downlink2uplink) for EGPRS850 and EGPRS1900

6.3 WCDMA Measurement result

The following procedures are according to FCC KDB Publication 941225 D01.

Release 99

The following tests were completed according to the test requirements outlined in section 5.2 of the 3GPP TS34.121-1 specification. The DUT supports power Class 3, which has a nominal maximum output power of 24 dBm (+1.7/-3.7).

Mode	Subtest	Rel99
WCDMA General Settings	Loopback Mode	Test Mode 1
	Rel99 RMC	12.2kbps RMC
	Power Control Algorithm	Algorithm2
	β_c/β_d	8/15

HSDPA

The following 4 Sub-tests were completed according to Release 5 procedures in section 5.2 of 3GPP TS34.121.

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	$\beta_{hs}^{(1)}$	CM(dB) ⁽²⁾
1	2/15	15/15	64	2/15	4/15	0.0
2	12/15 ⁽³⁾	15/15 ⁽³⁾	64	12/15 ⁽³⁾	24/15	1.0
3	15/15	8/15	64	15/18	30/15	1.5
4	15/15	4/15	64	15/4	30/15	1.5

Note1: Δ_{ACK} , Δ_{NACK} and $\Delta_{CQI} = 8 \Leftrightarrow A_{hs} = \beta_{hs}/\beta_c = 30/15 \Leftrightarrow \beta_{hs} = 30/15 * \beta_c$.

Note2: CM=1 for $\beta_c/\beta_d = 12/15$, $\beta_{hs}/\beta_c = 24/15$.

Note3: For subtest 2 the β_c/β_d ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 11/15$ and $\beta_d = 15/15$.

HSUPA

The following 5 Sub-tests were completed according to Release 6 procedures in section 5.2 of 3GPP TS34.121.

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	$\beta_{hs}^{(1)}$	β_{ec}	β_{ed}	β_{ed} (SF)	β_{ed} (code s)	CM ⁽²⁾ (dB)	MPR (dB)	AG ⁽⁴⁾ Index	E-TFCI
1	11/15 ⁽³⁾	15/15 ⁽³⁾	64	11/15 ⁽³⁾	22/15	209/25	1039/25	4	1	1.0	2.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	$\beta_{ed1}: 47/15$ $\beta_{ed2}: 47/15$	4	2	2.0	2.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15 ⁽⁴⁾	15/15 ⁽⁴⁾	64	15/15 ⁽⁴⁾	30/15	24/15	134/15	4	1	1.0	2.0	21	81

Note1: Δ_{ACK} , Δ_{NACK} and $\Delta_{CQI} = 8 \leftrightarrow A_{hs} = \beta_{hs}/\beta_c = 30/15 \leftrightarrow \beta_{hs} = 30/15 * \beta_c$.

Note2: CM=1 for $\beta_c/\beta_d = 12/15$, $\beta_{hs}/\beta_c = 24/15$. For all other combinations of DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.

Note3: For subtest 1 the β_c/β_d ratio of 11/15 for the TFC during the measurement period(TF1,TF0) is achieved by setting the signaled gain factors for the reference TFC(TF1,TF1) to $\beta_c=10/15$ and $\beta_d=15/15$.

Note4: For subtest 5 the β_c/β_d ratio of 15/15 for the TFC during the measurement period(TF1,TF0) is achieved by setting the signaled gain factors for the reference TFC(TF1,TF1) to $\beta_c=14/15$ and $\beta_d=15/15$.

NOTE5: Testing UE using E-DPDCH Physical layer category 1 Sub-test 3 is not required according to TS 25.306 Table 5.1g.

NOTE6: β_{ed} can not be set directly; it is set by Absolute Grant Value.

HSPA+

Sub-test	β_c (Note3)	β_d	β_{hs} (Note1)	β_{ec}	β_{ed} (2xSF2) (Note 4)	β_{ed} (2xSF4) (Note 4)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 4)	E-TFCI (Note 5)	E-TFCI (boost)
1	1	0	30/15	30/15	$\beta_{ed1}: 30/15$ $\beta_{ed2}: 30/15$	$\beta_{ed3}: 24/15$ $\beta_{ed4}: 24/15$	3.5	2.5	14	105	105

Note 1: Δ_{ACK} , Δ_{NACK} and $\Delta_{CQI} = 30/15$ with $\beta_{hs} = 30/15 * \beta_c$.

Note 2: CM = 3.5 and the MPR is based on the relative CM difference, MPR = MAX(CM-1,0).

Note 3: DPDCH is not configured, therefore the β_c is set to 1 and $\beta_d = 0$ by default.

Note 4: β_{ed} can not be set directly; it is set by Absolute Grant Value.

Note 5: All the sub-tests require the UE to transmit 2SF2+2SF4 16QAM EDCH and they apply for UE using E-DPDCH category 7. E-DCH TTI is set to 2ms TTI and E-DCH table index = 2. To support these E-DCH configurations DPDCH is not allocated. The UE is signaled to use the extrapolation algorithm.

WCDMA band II

Mode		Carrier frequency (MHz)	Channel No.	RF Power Output (dBm)
Release 99	RMC, 12.2kbps	1852.4	9262	23.70
		1880.0	9400	23.63
		1907.6	9538	23.77
HSDPA	Subtest 1	1852.4	9262	23.56
		1880.0	9400	23.51
		1907.6	9538	23.59
	Subtest 2	1852.4	9262	23.53
		1880.0	9400	23.50
		1907.6	9538	23.55
	Subtest 3	1852.4	9262	23.46
		1880.0	9400	23.42
		1907.6	9538	23.48
	Subtest 4	1852.4	9262	23.44
		1880.0	9400	23.49
		1907.6	9538	23.47
HSUPA	Subtest 1	1852.4	9262	23.60
		1880.0	9400	23.55
		1907.6	9538	23.65
	Subtest 2	1852.4	9262	23.54
		1880.0	9400	23.47
		1907.6	9538	23.55
	Subtest 3	1852.4	9262	23.39
		1880.0	9400	23.33
		1907.6	9538	23.41
	Subtest 4	1852.4	9262	23.36
		1880.0	9400	23.29
		1907.6	9538	23.40
	Subtest 5	1852.4	9262	23.30
		1880.0	9400	23.27
		1907.6	9538	23.35
HSPA+	Subtest 1(QPSK)	1852.4	9262	23.64
		1880.0	9400	23.57
		1907.6	9538	23.69
	Subtest 1(16QAM)	1852.4	9262	22.65
		1880.0	9400	22.56
		1907.6	9538	22.74

WCDMA band V

Mode		Carrier frequency (MHz)	Channel No.	RF Power Output (dBm)
Release 99	RMC, 12.2kbps	826.4	4132	23.57
		836.6	4183	23.64
		846.6	4233	23.67
HSDPA	Subtest 1	826.4	4132	23.46
		836.6	4183	23.50
		846.6	4233	23.57
	Subtest 2	826.4	4132	23.42
		836.6	4183	23.45
		846.6	4233	23.48
	Subtest 3	826.4	4132	23.34
		836.6	4183	23.37
		846.6	4233	23.43
	Subtest 4	826.4	4132	23.25
		836.6	4183	23.28
		846.6	4233	23.31
HSUPA	Subtest 1	826.4	4132	23.51
		836.6	4183	23.55
		846.6	4233	23.58
	Subtest 2	826.4	4132	23.41
		836.6	4183	23.45
		846.6	4233	23.48
	Subtest 3	826.4	4132	23.37
		836.6	4183	23.39
		846.6	4233	23.41
	Subtest 4	826.4	4132	23.29
		836.6	4183	23.33
		846.6	4233	23.37
	Subtest 5	826.4	4132	23.21
		836.6	4183	23.26
		846.6	4233	23.30
HSPA+	Subtest 1(QPSK)	826.4	4132	23.55
		836.6	4183	23.59
		846.6	4233	23.62
	Subtest 1(16QAM)	826.4	4132	22.33
		836.6	4183	22.37
		846.6	4233	22.42

WCDMA band IV

Mode		Carrier frequency (MHz)	Channel No.	RF Power Output (dBm)
Release 99	RMC, 12.2kbps	1712.4	1312	23.69
		1732.4	1412	23.62
		1752.6	1513	23.67
HSDPA	Subtest 1	1712.4	1312	23.55
		1732.4	1412	23.51
		1752.6	1513	23.53
	Subtest 2	1712.4	1312	23.48
		1732.4	1412	23.41
		1752.6	1513	23.45
	Subtest 3	1712.4	1312	23.41
		1732.4	1412	23.36
		1752.6	1513	23.39
	Subtest 4	1712.4	1312	23.33
		1732.4	1412	23.27
		1752.6	1513	23.30
HSUPA	Subtest 1	1712.4	1312	23.66
		1732.4	1412	23.60
		1752.6	1513	23.63
	Subtest 2	1712.4	1312	23.51
		1732.4	1412	23.46
		1752.6	1513	23.49
	Subtest 3	1712.4	1312	23.45
		1732.4	1412	23.39
		1752.6	1513	23.44
	Subtest 4	1712.4	1312	23.38
		1732.4	1412	23.29
		1752.6	1513	22.34
	Subtest 5	1712.4	1312	23.29
		1732.4	1412	23.23
		1752.6	1513	23.26
HSPA+	Subtest 1(QPSK)	1712.4	1312	23.61
		1732.4	1412	23.52
		1752.6	1513	23.55
	Subtest 1(16QAM)	1712.4	1312	22.44
		1732.4	1412	22.36
		1752.6	1513	22.41

Note: UMTS SAR was tested under RMC 12.2 kbps with HSPA Inactive per KDB Publication 941225 D01. HSPA SAR was not required since the average output power of the HSPA subtests was not more than 0.25 dB higher than the RMC level and SAR was less than 1.2 W/kg.

6.4 CDMA Measurement result

General Note:

1. Per KDB 941225 D01v03r01, the data device SAR is tested with Ev-Do Rev 0 (RTAP 153.6kbps). If 1xRTT power is less than 1/4dB higher than Re v0, SAR tests with those settings are not necessary.
2. Per KDB 941225 D01 v03r01, in Hotspot mode EUT is tested as data device and SAR is tested with Ev-Do Rev 0 (RTAP 153.6kbps). If 1xRTT power is less than 1/4dB higher than Rev 0, SAR tests with those settings are not necessary.

The conducted power for CDMA

BC0

1X RTT BC0:

Carrier frequency (MHz)	Channel No.	Conducted Power (dBm)
824.70	1013	24.68
836.52	384	24.63
848.31	777	24.58

1X EVDO R0 BC0:

Carrier frequency (MHz)	Channel No.	Conducted Power (dBm)
824.70	1013	24.73
836.52	384	24.65
848.31	777	24.64

1X EVDO RA BC0:

Carrier frequency (MHz)	Channel No.	Conducted Power (dBm)
824.70	1013	24.71
836.52	384	24.61
848.31	777	24.57

BC1

1X RTT BC1:

Carrier frequency (MHz)	Channel No.	Conducted Power (dBm)
1851.25	25	23.62
1880.00	600	23.57
1908.75	1175	23.52

1X EVDO R0 BC1

Carrier frequency (MHz)	Channel No.	Conducted Power (dBm)
1851.25	25	23.72
1880.00	600	23.61
1908.75	1175	23.55

1X EVDO RA BC1:

Carrier frequency (MHz)	Channel No.	Conducted Power (dBm)
1851.25	25	23.64
1880.00	600	23.55
1908.75	1175	23.52

6.5 LTE Measurement result

LTE2

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1850.7	18607	1.4	1	0	23.44
				1	5	23.42
				3	2	22.50
				6	0	22.16
	1880	18900		1	0	23.43
				1	5	23.41
				3	2	22.31
				6	0	22.45
	1909.3	19193		1	0	23.31
				1	5	23.40
				3	2	22.48
				6	0	22.34
16QAM	1850.7	18607	1.4	1	0	22.22
				1	5	22.13
				3	2	21.59
				6	0	21.49
	1880	18900		1	0	22.18
				1	5	22.30
				3	2	21.72
				6	0	21.61
	1909.3	19193		1	0	22.12
				1	5	22.20
				3	2	21.68
				6	0	21.42
64QAM	1850.7	18607	1.4	1	0	22.02
				1	5	22.22
				3	2	21.55
				6	0	21.42
	1880	18900		1	0	22.00
				1	5	22.11
				3	2	21.47
				6	0	21.47
	1909.3	19193		1	0	22.09
				1	5	22.05
				3	2	21.62
				6	0	21.29

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1851.5	18615	3	1	0	23.24
				1	14	23.23
				8	4	22.20
				15	0	22.14
	1880	18900		1	0	23.39
				1	14	23.29
				8	4	22.41
				15	0	22.44
	1908.5	19185		1	0	23.41
				1	14	23.35
				8	4	22.45
				15	0	22.35
16QAM	1851.5	18615	3	1	0	22.04
				1	14	22.10
				8	4	21.69
				15	0	21.52
	1880	18900		1	0	22.25
				1	14	22.26
				8	4	21.55
				15	0	21.43
	1908.5	19185		1	0	22.24
				1	14	22.00
				8	4	21.50
				15	0	21.38
64QAM	1851.5	18615	3	1	0	21.89
				1	14	22.21
				8	4	21.48
				15	0	21.21
	1880	18900		1	0	22.04
				1	14	22.21
				8	4	21.49
				15	0	21.55
	1908.5	19185		1	0	22.02
				1	14	22.03
				8	4	21.55
				15	0	21.23

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1852.5	18625	5	1	0	23.37
				1	24	23.45
				12	6	22.41
				25	0	22.32
	1880	18900		1	0	23.33
				1	24	23.35
				12	6	22.48
				25	0	22.24
	1907.5	19175		1	0	23.34
				1	24	23.48
				12	6	22.39
				25	0	22.27
16QAM	1852.5	18625	5	1	0	22.21
				1	24	22.20
				12	6	21.53
				25	0	21.31
	1880	18900		1	0	22.17
				1	24	22.11
				12	6	21.52
				25	0	21.42
	1907.5	19175		1	0	22.07
				1	24	22.00
				12	6	21.67
				25	0	21.55
64QAM	1852.5	18625	5	1	0	22.23
				1	24	22.18
				12	6	21.49
				25	0	21.27
	1880	18900		1	0	22.16
				1	24	21.99
				12	6	21.66
				25	0	21.33
	1907.5	19175		1	0	22.10
				1	24	22.02
				12	6	21.58
				25	0	21.26

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1855	18650	10	1	0	23.20
				1	49	23.42
				24	12	22.22
				50	0	22.28
	1880	18900		1	0	23.55
				1	49	23.41
				24	12	22.41
				50	0	22.35
	1905	19150		1	0	23.49
				1	49	23.53
				24	12	22.17
				50	0	22.20
16QAM	1855	18650	10	1	0	22.01
				1	49	22.03
				24	12	21.70
				50	0	21.41
	1880	18900		1	0	22.16
				1	49	22.13
				24	12	21.70
				50	0	21.65
	1905	19150		1	0	22.04
				1	49	22.08
				24	12	21.52
				50	0	21.42
64QAM	1855	18650	10	1	0	22.05
				1	49	22.02
				24	12	21.38
				50	0	21.42
	1880	18900		1	0	22.03
				1	49	22.06
				24	12	21.42
				50	0	21.51
	1905	19150		1	0	22.16
				1	49	22.01
				24	12	21.58
				50	0	21.55

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1857.5	18675	15	1	0	23.27
				1	74	23.42
				40	18	22.44
				75	0	22.32
	1880	18900		1	0	23.36
				1	74	23.49
				40	18	22.25
				75	0	22.35
	1902.5	19125		1	0	23.43
				1	74	23.38
				40	18	22.26
				75	0	22.23
16QAM	1857.5	18675	15	1	0	22.07
				1	74	22.22
				40	18	21.72
				75	0	21.60
	1880	18900		1	0	22.21
				1	74	22.26
				40	18	21.66
				75	0	21.67
	1902.5	19125		1	0	22.28
				1	74	21.99
				40	18	21.69
				75	0	21.53
64QAM	1857.5	18675	15	1	0	22.11
				1	74	22.11
				40	18	21.57
				75	0	21.33
	1880	18900		1	0	22.03
				1	74	22.21
				40	18	21.63
				75	0	21.57
	1902.5	19125		1	0	22.08
				1	74	22.00
				40	18	21.46
				75	0	21.22

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1860	18700	20	1	0	23.55
				1	99	23.55
				50	25	22.48
				100	0	22.50
	1880	18900		1	0	23.56
				1	99	23.56
				50	25	22.53
				100	0	22.52
	1900	19100		1	0	23.56
				1	99	23.56
				50	25	22.50
				100	0	22.43
16QAM	1860	18700	20	1	0	22.29
				1	99	22.29
				50	25	21.77
				100	0	21.65
	1880	18900		1	0	22.32
				1	99	22.32
				50	25	21.78
				100	0	21.68
	1900	19100		1	0	22.29
				1	99	22.27
				50	25	21.71
				100	0	21.66
64QAM	1860	18700	20	1	0	22.18
				1	99	22.19
				50	25	21.71
				100	0	21.53
	1880	18900		1	0	22.24
				1	99	22.23
				50	25	21.74
				100	0	21.61
	1900	19100		1	0	22.21
				1	99	22.16
				50	25	21.74
				100	0	21.51

LTE4

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1710.7	19957	1.4	1	0	23.88
				1	5	23.80
				3	2	22.40
				6	0	22.50
	1732.5	20175		1	0	23.76
				1	5	23.78
				3	2	22.66
				6	0	22.48
	1754.3	20393		1	0	23.70
				1	5	23.69
				3	2	22.71
				6	0	22.49
16QAM	1710.7	19957	1.4	1	0	22.43
				1	5	22.37
				3	2	21.53
				6	0	21.69
	1732.5	20175		1	0	22.67
				1	5	22.63
				3	2	21.67
				6	0	21.73
	1754.3	20393		1	0	22.59
				1	5	22.64
				3	2	21.55
				6	0	21.50
64QAM	1710.7	19957	1.4	1	0	22.19
				1	5	22.39
				3	2	21.65
				6	0	21.68
	1732.5	20175		1	0	22.33
				1	5	22.33
				3	2	21.70
				6	0	21.43
	1754.3	20393		1	0	22.50
				1	5	22.45
				3	2	21.54
				6	0	21.40

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1711.5	19965	3	1	0	23.78
				1	14	23.66
				8	4	22.51
				15	0	22.56
	1732.5	20175		1	0	23.94
				1	14	23.97
				8	4	22.51
				15	0	22.63
	1753.5	20385		1	0	23.87
				1	14	23.86
				8	4	22.53
				15	0	22.62
16QAM	1711.5	19965	3	1	0	22.33
				1	14	22.54
				8	4	21.61
				15	0	21.63
	1732.5	20175		1	0	22.41
				1	14	22.49
				8	4	21.67
				15	0	21.51
	1753.5	20385		1	0	22.47
				1	14	22.51
				8	4	21.81
				15	0	21.39
64QAM	1711.5	19965	3	1	0	22.20
				1	14	22.39
				8	4	21.54
				15	0	21.51
	1732.5	20175		1	0	22.30
				1	14	22.46
				8	4	21.59
				15	0	21.52
	1753.5	20385		1	0	22.35
				1	14	22.42
				8	4	21.50
				15	0	21.59

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1712.5	19975	5	1	0	23.90
				1	24	23.70
				12	6	22.43
				25	0	22.68
	1732.5	20175		1	0	23.78
				1	24	23.80
				12	6	22.60
				25	0	22.50
	1752.5	20375		1	0	23.72
				1	24	23.79
				12	6	22.64
				25	0	22.71
16QAM	1712.5	19975	5	1	0	22.56
				1	24	22.62
				12	6	21.76
				25	0	21.62
	1732.5	20175		1	0	22.52
				1	24	22.55
				12	6	21.78
				25	0	21.51
	1752.5	20375		1	0	22.42
				1	24	22.54
				12	6	21.61
				25	0	21.69
64QAM	1712.5	19975	5	1	0	22.47
				1	24	22.49
				12	6	21.66
				25	0	21.58
	1732.5	20175		1	0	22.57
				1	24	22.65
				12	6	21.52
				25	0	21.58
	1752.5	20375		1	0	22.25
				1	24	22.39
				12	6	21.44
				25	0	21.59

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1715	20000	10	1	0	23.70
				1	49	23.75
				24	12	22.52
				50	0	22.56
	1732.5	20175		1	0	24.00
				1	49	23.79
				24	12	22.67
				50	0	22.49
	1750	20350		1	0	23.67
				1	49	23.68
				24	12	22.57
				50	0	22.68
16QAM	1715	20000	10	1	0	22.64
				1	49	22.43
				24	12	21.65
				50	0	21.50
	1732.5	20175		1	0	22.53
				1	49	22.58
				24	12	21.60
				50	0	21.53
	1750	20350		1	0	22.39
				1	49	22.30
				24	12	21.52
				50	0	21.51
64QAM	1715	20000	10	1	0	22.60
				1	49	22.42
				24	12	21.55
				50	0	21.53
	1732.5	20175		1	0	22.39
				1	49	22.61
				24	12	21.71
				50	0	21.49
	1750	20350		1	0	22.50
				1	49	22.44
				24	12	21.68
				50	0	21.46

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1717.5	20025	15	1	0	23.68
				1	74	23.69
				40	18	22.62
				75	0	22.71
	1732.5	20175		1	0	23.72
				1	74	23.94
				40	18	22.74
				75	0	22.72
	1747.5	20325		1	0	23.74
				1	74	23.80
				40	18	22.73
				75	0	22.54
16QAM	1717.5	20025	15	1	0	22.64
				1	74	22.30
				40	18	21.51
				75	0	21.57
	1732.5	20175		1	0	22.41
				1	74	22.57
				40	18	21.75
				75	0	21.51
	1747.5	20325		1	0	22.40
				1	74	22.58
				40	18	21.56
				75	0	21.58
64QAM	1717.5	20025	15	1	0	22.46
				1	74	22.30
				40	18	21.61
				75	0	21.50
	1732.5	20175		1	0	22.62
				1	74	22.39
				40	18	21.72
				75	0	21.46
	1747.5	20325		1	0	22.51
				1	74	22.24
				40	18	21.66
				75	0	21.56

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1720	20050	20	1	0	23.98
				1	99	23.98
				50	25	22.75
				100	0	22.67
	1732.5	20175		1	0	23.99
				1	99	23.99
				50	25	22.78
				100	0	22.77
	1745	20300		1	0	23.96
				1	99	23.96
				50	25	22.70
				100	0	22.70
16QAM	1720	20050	20	1	0	22.67
				1	99	22.59
				50	25	21.78
				100	0	21.73
	1732.5	20175		1	0	22.67
				1	99	22.67
				50	25	21.84
				100	0	21.74
	1745	20300		1	0	22.58
				1	99	22.67
				50	25	21.82
				100	0	21.69
64QAM	1720	20050	20	1	0	22.55
				1	99	22.55
				50	25	21.73
				100	0	21.68
	1732.5	20175		1	0	22.61
				1	99	22.61
				50	25	21.77
				100	0	21.70
	1745	20300		1	0	22.59
				1	99	22.60
				50	25	21.69
				100	0	21.70

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Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	824.7	20407	1.4	1	0	23.85
				1	5	23.87
				3	2	22.74
				6	0	22.70
	836.5	20525		1	0	23.83
				1	5	23.88
				3	2	22.91
				6	0	22.86
	848.3	20643		1	0	23.96
				1	5	23.76
				3	2	22.86
				6	0	22.70
16QAM	824.7	20407	1.4	1	0	22.70
				1	5	22.75
				3	2	21.86
				6	0	21.53
	836.5	20525		1	0	22.77
				1	5	22.79
				3	2	21.85
				6	0	21.85
	848.3	20643		1	0	22.82
				1	5	22.97
				3	2	21.77
				6	0	21.76
64QAM	824.7	20407	1.4	1	0	22.88
				1	5	22.71
				3	2	21.88
				6	0	21.53
	836.5	20525		1	0	22.69
				1	5	22.92
				3	2	21.67
				6	0	21.86
	848.3	20643		1	0	22.74
				1	5	22.65
				3	2	21.70
				6	0	21.78

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	825.5	20415	3	1	0	23.93
				1	14	23.71
				8	4	22.97
				15	0	22.71
	836.5	20525		1	0	23.96
				1	14	23.92
				8	4	22.93
				15	0	22.83
	847.5	20635		1	0	23.76
				1	14	23.60
				8	4	22.91
				15	0	22.69
16QAM	825.5	20415	3	1	0	22.87
				1	14	22.91
				8	4	21.91
				15	0	21.73
	836.5	20525		1	0	22.99
				1	14	22.96
				8	4	21.68
				15	0	21.72
	847.5	20635		1	0	22.96
				1	14	22.83
				8	4	21.90
				15	0	21.70
64QAM	825.5	20415	3	1	0	22.71
				1	14	22.76
				8	4	21.62
				15	0	21.57
	836.5	20525		1	0	22.90
				1	14	22.90
				8	4	21.87
				15	0	21.76
	847.5	20635		1	0	22.66
				1	14	22.70
				8	4	21.67
				15	0	21.64

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	826.5	20425	5	1	0	23.69
				1	24	23.76
				12	6	22.79
				25	0	22.68
	836.5	20525		1	0	23.83
				1	24	23.86
				12	6	22.99
				25	0	22.98
	846.5	20625		1	0	23.64
				1	24	23.89
				12	6	22.81
				25	0	22.88
16QAM	826.5	20425	5	1	0	22.66
				1	24	22.87
				12	6	21.79
				25	0	21.57
	836.5	20525		1	0	22.86
				1	24	22.99
				12	6	21.83
				25	0	21.67
	846.5	20625		1	0	22.84
				1	24	22.71
				12	6	21.76
				25	0	21.64
64QAM	826.5	20425	5	1	0	22.97
				1	24	22.78
				12	6	21.70
				25	0	21.56
	836.5	20525		1	0	22.81
				1	24	22.90
				12	6	21.81
				25	0	21.65
	846.5	20625		1	0	22.61
				1	24	22.77
				12	6	21.61
				25	0	21.59

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	829	20450	10	1	0	23.97
				1	49	23.97
				24	12	22.96
				50	0	22.96
	836.5	20525		1	0	23.98
				1	49	23.98
				24	12	23.03
				50	0	23.02
	844	20600		1	0	23.92
				1	49	23.92
				24	12	22.95
				50	0	22.96
16QAM	829	20450	10	1	0	22.92
				1	49	22.94
				24	12	21.90
				50	0	21.87
	836.5	20525		1	0	23.01
				1	49	23.01
				24	12	21.98
				50	0	21.88
	844	20600		1	0	22.99
				1	49	22.97
				24	12	21.91
				50	0	21.80
64QAM	829	20450	10	1	0	22.97
				1	49	22.87
				24	12	21.90
				50	0	21.80
	836.5	20525		1	0	22.98
				1	49	22.95
				24	12	21.97
				50	0	21.81
	844	20600		1	0	22.91
				1	49	22.93
				24	12	21.91
				50	0	21.75

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Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	2502.5	20775	5	1	0	23.11
				1	24	23.21
				12	6	22.39
				25	0	22.52
	2535	21100		1	0	23.07
				1	24	23.17
				12	6	22.60
				25	0	22.48
	2567.5	21425		1	0	23.00
				1	24	23.04
				12	6	22.46
				25	0	22.36
16QAM	2502.5	20775	5	1	0	22.21
				1	24	22.20
				12	6	21.60
				25	0	21.68
	2535	21100		1	0	22.20
				1	24	22.27
				12	6	21.64
				25	0	21.72
	2567.5	21425		1	0	22.14
				1	24	22.26
				12	6	21.61
				25	0	21.40
64QAM	2502.5	20775	5	1	0	22.19
				1	24	22.20
				12	6	21.57
				25	0	21.60
	2535	21100		1	0	22.27
				1	24	22.12
				12	6	21.70
				25	0	21.73
	2567.5	21425		1	0	22.19
				1	24	22.12
				12	6	21.59
				25	0	21.54

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	2505	20800	10	1	0	23.24
				1	49	23.06
				24	12	22.34
				50	0	22.37
	2535	21100		1	0	23.12
				1	49	23.07
				24	12	22.47
				50	0	22.38
	2565	21400		1	0	23.08
				1	49	23.11
				24	12	22.47
				50	0	22.43
16QAM	2505	20800	10	1	0	22.13
				1	49	22.21
				24	12	21.80
				50	0	21.48
	2535	21100		1	0	22.23
				1	49	22.37
				24	12	21.84
				50	0	21.51
	2565	21400		1	0	22.13
				1	49	22.38
				24	12	21.63
				50	0	21.60
64QAM	2505	20800	10	1	0	22.28
				1	49	22.27
				24	12	21.68
				50	0	21.51
	2535	21100		1	0	22.29
				1	49	22.08
				24	12	21.71
				50	0	21.69
	2565	21400		1	0	22.06
				1	49	22.12
				24	12	21.63
				50	0	21.40

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	2507.5	20825	15	1	0	23.26
				1	74	23.30
				40	18	22.55
				75	0	22.42
	2535	21100		1	0	23.08
				1	74	23.27
				40	18	22.54
				75	0	22.46
	2562.5	21375		1	0	23.07
				1	74	23.06
				40	18	22.53
				75	0	22.44
16QAM	2507.5	20825	15	1	0	22.27
				1	74	22.16
				40	18	21.73
				75	0	21.54
	2535	21100		1	0	22.11
				1	74	22.38
				40	18	21.81
				75	0	21.66
	2562.5	21375		1	0	22.22
				1	74	22.20
				40	18	21.72
				75	0	21.66
64QAM	2507.5	20825	15	1	0	22.10
				1	74	22.04
				40	18	21.59
				75	0	21.64
	2535	21100		1	0	22.00
				1	74	22.14
				40	18	21.76
				75	0	21.65
	2562.5	21375		1	0	22.03
				1	74	22.14
				40	18	21.81
				75	0	21.62

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	2510	20850	20	1	0	23.35
				1	99	23.35
				50	25	22.65
				100	0	22.59
	2535	21100		1	0	23.36
				1	99	23.36
				50	25	22.68
				100	0	22.67
	2560	21350		1	0	23.31
				1	99	23.31
				50	25	22.62
				100	0	22.66
16QAM	2510	20850	20	1	0	22.34
				1	99	22.37
				50	25	21.82
				100	0	21.66
	2535	21100		1	0	22.38
				1	99	22.38
				50	25	21.86
				100	0	21.76
	2560	21350		1	0	22.29
				1	99	22.33
				50	25	21.80
				100	0	21.72
64QAM	2510	20850	20	1	0	22.22
				1	99	22.31
				50	25	21.84
				100	0	21.69
	2535	21100		1	0	22.30
				1	99	22.33
				50	25	21.84
				100	0	21.74
	2560	21350		1	0	22.23
				1	99	22.29
				50	25	21.83
				100	0	21.67

LTE Band12

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	699.7	23017	1.4	1	0	23.44
				1	5	23.55
				3	2	22.76
				6	0	22.67
	707.5	23095		1	0	23.77
				1	5	23.64
				3	2	22.92
				6	0	22.89
	715.3	23173		1	0	23.50
				1	5	23.49
				3	2	22.71
				6	0	22.65
16QAM	699.7	23017	1.4	1	0	22.26
				1	5	22.21
				3	2	21.67
				6	0	21.63
	707.5	23095		1	0	22.22
				1	5	22.38
				3	2	21.77
				6	0	21.60
	715.3	23173		1	0	22.38
				1	5	22.14
				3	2	21.69
				6	0	21.62
64QAM	699.7	23017	1.4	1	0	22.15
				1	5	22.12
				3	2	21.88
				6	0	21.71
	707.5	23095		1	0	22.21
				1	5	22.32
				3	2	21.82
				6	0	21.74
	715.3	23173		1	0	22.30
				1	5	22.26
				3	2	21.74
				6	0	21.49

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	700.5	23025	3	1	0	23.62
				1	14	23.59
				8	4	22.70
				15	0	22.78
	707.5	23095		1	0	23.71
				1	14	23.71
				8	4	22.70
				15	0	22.75
	714.5	23165		1	0	23.62
				1	14	23.65
				8	4	22.90
				15	0	22.67
16QAM	700.5	23025	3	1	0	22.17
				1	14	22.31
				8	4	21.87
				15	0	21.67
	707.5	23095		1	0	22.31
				1	14	22.21
				8	4	21.79
				15	0	21.62
	714.5	23165		1	0	22.31
				1	14	22.18
				8	4	21.84
				15	0	21.53
64QAM	700.5	23025	3	1	0	22.15
				1	14	22.10
				8	4	21.73
				15	0	21.57
	707.5	23095		1	0	22.25
				1	14	22.29
				8	4	21.74
				15	0	21.68
	714.5	23165		1	0	22.11
				1	14	22.04
				8	4	21.73
				15	0	21.59

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	701.5	23035	5	1	0	23.58
				1	24	23.54
				12	6	22.89
				25	0	22.74
	707.5	23095		1	0	23.72
				1	24	23.62
				12	6	22.75
				25	0	22.71
	713.5	23155		1	0	23.76
				1	24	23.45
				12	6	22.93
				25	0	22.84
16QAM	701.5	23035	5	1	0	22.11
				1	24	22.17
				12	6	21.94
				25	0	21.67
	707.5	23095		1	0	22.39
				1	24	22.24
				12	6	21.85
				25	0	21.65
	713.5	23155		1	0	22.22
				1	24	22.31
				12	6	21.81
				25	0	21.52
64QAM	701.5	23035	5	1	0	22.01
				1	24	22.06
				12	6	21.66
				25	0	21.65
	707.5	23095		1	0	22.16
				1	24	22.12
				12	6	21.80
				25	0	21.78
	713.5	23155		1	0	22.34
				1	24	21.97
				12	6	21.64
				25	0	21.78

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	704	23060	10	1	0	23.74
				1	49	23.74
				24	12	22.98
				50	0	22.93
	707.5	23095		1	0	23.78
				1	49	23.78
				24	12	22.98
				50	0	22.97
	711	23130		1	0	23.76
				1	49	23.76
				24	12	22.94
				50	0	22.87
16QAM	704	23060	10	1	0	22.32
				1	49	22.37
				24	12	21.94
				50	0	21.86
	707.5	23095		1	0	22.4
				1	49	22.40
				24	12	21.96
				50	0	21.86
	711	23130		1	0	22.31
				1	49	22.37
				24	12	21.94
				50	0	21.80
64QAM	704	23060	10	1	0	22.28
				1	49	22.32
				24	12	21.88
				50	0	21.74
	707.5	23095		1	0	22.38
				1	49	22.33
				24	12	21.93
				50	0	21.82
	711	23130		1	0	22.35
				1	49	22.24
				24	12	21.85
				50	0	23.74

LTE Band13

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	779.5	23205	5	1	0	23.94
				1	24	23.96
				12	6	22.73
				25	0	22.70
	782	23230		1	0	23.94
				1	24	23.85
				12	6	22.86
				25	0	22.91
	784.5	23255		1	0	23.67
				1	24	23.92
				12	6	22.88
				25	0	22.87
16QAM	779.5	23205	5	1	0	22.71
				1	24	22.77
				12	6	21.69
				25	0	21.82
	782	23230		1	0	22.94
				1	24	22.73
				12	6	21.79
				25	0	21.63
	784.5	23255		1	0	22.75
				1	24	22.68
				12	6	21.84
				25	0	21.76
64QAM	779.5	23205	5	1	0	22.79
				1	24	22.82
				12	6	21.51
				25	0	21.59
	782	23230		1	0	22.88
				1	24	22.72
				12	6	21.82
				25	0	21.64
	784.5	23255		1	0	22.77
				1	24	22.63
				12	6	21.79
				25	0	21.54

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	782	23230	10	1	0	24.06
				1	49	24.06
				24	12	23.04
				50	0	23.03
16QAM	782	23230	10	1	0	23.01
				1	49	23.01
				24	12	21.95
				50	0	21.85
64QAM	782	23230	10	1	0	22.96
				1	49	22.94
				24	12	21.86
				50	0	21.78

LTE Band 17

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	706.5	23755	5	1	0	23.74
				1	24	23.61
				12	6	22.35
				25	0	22.36
	710	23790		1	0	23.56
				1	24	23.60
				12	6	22.31
				25	0	22.40
	713.5	23825		1	0	23.68
				1	24	23.55
				12	6	22.36
				25	0	22.36
16QAM	706.5	23755	5	1	0	22.24
				1	24	22.06
				12	6	21.22
				25	0	21.18
	710	23790		1	0	22.14
				1	24	22.27
				12	6	21.23
				25	0	21.40
	713.5	23825		1	0	22.18
				1	24	22.08
				12	6	21.18
				25	0	21.03
64QAM	709	23780	5	1	0	22.05
				1	24	22.23
				12	6	21.08
				25	0	21.11
	710	23790		1	0	22.10
				1	24	22.25
				12	6	21.39
				25	0	21.25
	711	23800		1	0	21.95
				1	24	22.16
				12	6	21.34
				25	0	21.02

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	709	23780	10	1	0	23.77
				1	49	23.77
				24	12	22.41
				50	0	22.42
	710	23790		1	0	23.78
				1	49	23.78
				24	12	22.48
				50	0	22.47
	711	23800		1	0	23.73
				1	49	23.73
				24	12	22.40
				50	0	22.40
16QAM	709	23780	10	1	0	22.26
				1	49	22.31
				24	12	21.44
				50	0	21.40
	710	23790		1	0	22.35
				1	49	22.35
				24	12	21.52
				50	0	21.42
	711	23800		1	0	22.28
				1	49	22.34
				24	12	21.45
				50	0	21.33
64QAM	709	23780	10	1	0	22.20
				1	49	22.26
				24	12	21.38
				50	0	21.25
	710	23790		1	0	22.26
				1	49	22.35
				24	12	21.42
				50	0	21.32
	711	23800		1	0	22.22
				1	49	22.33
				24	12	21.36
				50	0	21.28

LTE Band 25

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1850.7	26047	1.4	1	0	23.05
				1	5	23.03
				3	2	21.96
				6	0	22.02
	1882.5	26365		1	0	23.07
				1	5	23.09
				3	2	22.09
				6	0	21.93
	1914.3	26683		1	0	23.14
				1	5	22.92
				3	2	22.10
				6	0	22.05
16QAM	1850.7	26047	1.4	1	0	21.72
				1	5	21.74
				3	2	21.16
				6	0	21.16
	1882.5	26365		1	0	21.90
				1	5	21.86
				3	2	21.14
				6	0	21.11
	1914.3	26683		1	0	21.73
				1	5	21.79
				3	2	21.06
				6	0	21.10
64QAM	1850.7	26047	1.4	1	0	21.89
				1	5	21.69
				3	2	21.12
				6	0	21.10
	1882.5	26365		1	0	21.79
				1	5	21.78
				3	2	21.02
				6	0	21.09
	1914.3	26683		1	0	21.70
				1	5	21.77
				3	2	21.13
				6	0	20.89

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1851.5	26055	3	1	0	22.91
				1	14	22.85
				8	4	21.85
				15	0	22.02
	1882.5	26365		1	0	23.06
				1	14	22.89
				8	4	22.06
				15	0	21.95
	1913.5	26675		1	0	23.02
				1	14	22.85
				8	4	22.04
				15	0	22.08
16QAM	1851.5	26055	3	1	0	21.86
				1	14	21.91
				8	4	21.05
				15	0	21.08
	1882.5	26365		1	0	21.87
				1	14	21.95
				8	4	21.10
				15	0	21.11
	1913.5	26675		1	0	21.90
				1	14	21.85
				8	4	21.09
				15	0	21.05
64QAM	1851.5	26055	3	1	0	21.85
				1	14	21.84
				8	4	21.06
				15	0	21.05
	1882.5	26365		1	0	21.87
				1	14	21.87
				8	4	21.03
				15	0	21.06
	1913.5	26675		1	0	21.66
				1	14	21.70
				8	4	21.20
				15	0	21.13

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1852.5	26065	5	1	0	22.88
				1	24	22.79
				12	6	22.08
				25	0	21.91
	1882.5	26365		1	0	23.02
				1	24	23.16
				12	6	21.91
				25	0	22.14
	1912.5	26665		1	0	22.96
				1	24	22.85
				12	6	22.05
				25	0	22.01
16QAM	1852.5	26065	5	1	0	21.76
				1	24	21.79
				12	6	21.25
				25	0	20.98
	1882.5	26365		1	0	21.75
				1	24	21.97
				12	6	21.30
				25	0	21.22
	1912.5	26665		1	0	21.66
				1	24	21.71
				12	6	20.97
				25	0	20.91
64QAM	1852.5	26065	5	1	0	21.74
				1	24	21.86
				12	6	21.12
				25	0	21.07
	1882.5	26365		1	0	21.74
				1	24	21.71
				12	6	21.05
				25	0	21.12
	1912.5	26665		1	0	21.63
				1	24	21.68
				12	6	20.99
				25	0	20.99

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1855	26090	10	1	0	22.85
				1	49	23.03
				24	12	22.13
				50	0	21.99
	1882.5	26365		1	0	22.99
				1	49	22.91
				24	12	22.12
				50	0	22.07
	1910	26640		1	0	23.08
				1	49	22.98
				24	12	22.06
				50	0	22.15
16QAM	1855	26090	10	1	0	21.82
				1	49	21.77
				24	12	21.08
				50	0	21.04
	1882.5	26365		1	0	21.98
				1	49	21.75
				24	12	21.14
				50	0	21.11
	1910	26640		1	0	21.64
				1	49	21.80
				24	12	21.20
				50	0	21.15
64QAM	1855	26090	10	1	0	21.94
				1	49	21.79
				24	12	21.11
				50	0	21.00
	1882.5	26365		1	0	21.86
				1	49	21.67
				24	12	21.14
				50	0	20.97
	1910	26640		1	0	21.88
				1	49	21.57
				24	12	21.25
				50	0	21.13

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1857.5	26115	15	1	0	22.89
				1	74	22.90
				40	18	22.00
				75	0	22.03
	1882.5	26365		1	0	23.15
				1	74	23.17
				40	18	21.90
				75	0	21.90
	1907.5	26615		1	0	23.04
				1	74	22.94
				40	18	22.00
				75	0	21.93
16QAM	1857.5	26115	15	1	0	21.81
				1	74	21.67
				40	18	21.21
				75	0	21.00
	1882.5	26365		1	0	21.82
				1	74	21.78
				40	18	21.08
				75	0	20.98
	1907.5	26615		1	0	21.78
				1	74	21.86
				40	18	21.09
				75	0	21.10
64QAM	1857.5	26115	15	1	0	21.84
				1	74	21.85
				40	18	21.15
				75	0	21.04
	1882.5	26365		1	0	21.78
				1	74	21.76
				40	18	21.26
				75	0	21.12
	1907.5	26615		1	0	21.82
				1	74	21.78
				40	18	21.28
				75	0	20.83

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1860	26140	20	1	0	23.16
				1	99	23.16
				50	25	22.10
				100	0	22.07
	1882.5	26365		1	0	23.18
				1	99	23.18
				50	25	22.18
				100	0	22.17
	1905	26590		1	0	23.13
				1	99	23.13
				50	25	22.15
				100	0	22.17
16QAM	1860	26140	20	1	0	21.95
				1	99	21.93
				50	25	21.34
				100	0	21.20
	1882.5	26365		1	0	22.01
				1	99	22.01
				50	25	21.36
				100	0	21.26
	1905	26590		1	0	21.96
				1	99	21.94
				50	25	21.30
				100	0	21.17
64QAM	1860	26140	20	1	0	21.94
				1	99	21.89
				50	25	21.28
				100	0	21.16
	1882.5	26365		1	0	21.94
				1	99	21.94
				50	25	21.35
				100	0	21.21
	1905	26590		1	0	21.93
				1	99	21.87
				50	25	21.33
				100	0	21.13

LTE Band 26

			L	M	H
1.4M	QPSK	RB Size=1, RB Offset=0	22.38	22.32	22.25
		RB Size=1, RB Offset=2	22.29	22.24	22.15
		RB Size=1, RB Offset=5	21.99	21.93	21.85
		RB Size=3, RB Offset=0	22.59	22.53	22.46
		RB Size=3, RB Offset=1	22.71	22.66	22.58
		RB Size=3, RB Offset=2	21.87	21.87	21.83
		RB Size=6, RB Offset=0	22.53	22.49	22.39
	16QAM	RB Size=1, RB Offset=0	22.22	22.14	22.02
		RB Size=1, RB Offset=2	22.12	22.03	21.93
		RB Size=1, RB Offset=5	21.72	21.62	21.54
		RB Size=3, RB Offset=0	22.34	22.21	22.08
		RB Size=3, RB Offset=1	22.49	22.36	22.29
		RB Size=3, RB Offset=2	21.77	21.67	21.59
		RB Size=6, RB Offset=0	22.26	22.21	22.10
	64QAM	RB Size=1, RB Offset=0	22.09	22.26	22.03
		RB Size=1, RB Offset=2	22.05	22.14	21.90
		RB Size=1, RB Offset=5	22.19	22.33	22.06
		RB Size=3, RB Offset=0	21.56	21.84	21.61
		RB Size=3, RB Offset=1	21.50	21.73	21.55
		RB Size=3, RB Offset=2	21.64	21.94	21.71
		RB Size=1, RB Offset=0	22.09	22.26	22.03
3M	QPSK		L	M	H
		RB Size=1, RB Offset=0	22.30	22.31	22.23
		RB Size=1, RB Offset=7	22.09	22.10	22.00
		RB Size=1, RB Offset=14	22.72	22.72	22.60
		RB Size=8, RB Offset=0	22.32	22.25	22.17
		RB Size=8, RB Offset=4	21.84	21.85	21.74
		RB Size=8, RB Offset=7	21.52	21.53	21.46
		RB Size=15, RB Offset=0	21.62	21.57	21.51
	16QAM	RB Size=1, RB Offset=0	22.38	22.32	22.43
		RB Size=1, RB Offset=7	22.93	22.25	22.56
		RB Size=1, RB Offset=14	22.89	22.11	22.73
		RB Size=8, RB Offset=0	22.91	21.84	22.61
		RB Size=8, RB Offset=4	22.78	21.94	22.62
		RB Size=8, RB Offset=7	22.51	22.21	23.02
		RB Size=15, RB Offset=0	22.49	22.31	22.86
	64QAM	RB Size=1, RB Offset=0	22.01	22.28	22.03
		RB Size=1, RB Offset=7	21.91	22.16	21.93
		RB Size=1, RB Offset=14	22.13	22.33	22.12
		RB Size=8, RB Offset=0	21.64	21.97	21.69
		RB Size=8, RB Offset=4	21.55	21.85	21.62
		RB Size=8, RB Offset=7	21.71	22.05	21.80
		RB Size=15, RB Offset=0	21.35	21.62	21.42

			L	M	H
5M	QPSK	RB Size=1, RB Offset=0	22.21	22.32	22.36
		RB Size=1, RB Offset=12	22.30	21.99	22.49
		RB Size=1, RB Offset=24	22.56	22.26	22.46
		RB Size=12, RB Offset=0	22.77	21.84	22.62
		RB Size=12, RB Offset=6	22.49	21.97	22.75
		RB Size=12, RB Offset=11	22.67	21.91	23.08
		RB Size=25, RB Offset=0	22.60	21.86	22.80
	16QAM	RB Size=1, RB Offset=0	22.25	22.18	22.33
		RB Size=1, RB Offset=12	22.55	21.95	22.68
		RB Size=1, RB Offset=24	22.79	21.72	22.33
		RB Size=12, RB Offset=0	22.45	22.17	22.46
		RB Size=12, RB Offset=6	22.28	21.95	22.69
		RB Size=12, RB Offset=11	22.36	22.05	22.72
		RB Size=25, RB Offset=0	22.77	21.72	22.50
	64QAM	RB Size=1, RB Offset=0	22.26	22.4	22.21
		RB Size=1, RB Offset=12	22.19	22.33	22.12
		RB Size=1, RB Offset=24	22.36	22.46	22.31
		RB Size=12, RB Offset=0	21.63	21.92	21.66
		RB Size=12, RB Offset=6	21.57	21.87	21.55
		RB Size=12, RB Offset=11	21.75	21.96	21.76
		RB Size=1, RB Offset=0	22.26	22.4	22.21
10M	QPSK		L	M	H
		RB Size=1, RB Offset=0	22.15	22.13	22.28
		RB Size=1, RB Offset=24	22.52	21.87	22.76
		RB Size=1, RB Offset=49	22.38	21.86	22.49
		RB Size=25, RB Offset=0	22.31	21.94	22.58
		RB Size=25, RB Offset=12	22.23	21.83	22.46
		RB Size=25, RB Offset=24	22.63	22.10	22.87
		RB Size=50, RB Offset=0	22.38	21.78	22.77
	16QAM	RB Size=1, RB Offset=0	22.24	22.17	22.24
		RB Size=1, RB Offset=24	21.93	21.98	21.92
		RB Size=1, RB Offset=49	21.92	22.01	21.90
		RB Size=25, RB Offset=0	21.89	21.82	22.03
		RB Size=25, RB Offset=12	22.09	21.75	21.93
		RB Size=25, RB Offset=24	21.90	22.05	21.62
		RB Size=50, RB Offset=0	21.83	21.71	21.78
	64QAM	RB Size=1, RB Offset=0	22.15	22.31	22.17
		RB Size=1, RB Offset=24	22.06	22.19	22.12
		RB Size=1, RB Offset=49	22.19	22.39	22.25
		RB Size=25, RB Offset=0	21.61	21.94	21.63
		RB Size=25, RB Offset=12	21.49	21.82	21.54
		RB Size=25, RB Offset=24	21.70	22.02	21.75
		RB Size=50, RB Offset=0	21.24	21.56	21.34

15M			L	M	H
	QPSK	RB Size=1, RB Offset=0	22.11	22.13	22.21
		RB Size=1, RB Offset=37	21.78	21.84	22.13
		RB Size=1, RB Offset=74	21.86	21.77	21.89
		RB Size=36, RB Offset=0	21.84	21.76	22.17
		RB Size=36, RB Offset=18	21.71	21.82	21.94
		RB Size=36, RB Offset=37	21.78	21.69	21.85
		RB Size=75, RB Offset=0	22.06	21.82	22.07
	16QAM	RB Size=1, RB Offset=0	21.89	22.05	22.13
		RB Size=1, RB Offset=37	21.41	21.71	21.68
		RB Size=1, RB Offset=74	21.50	21.57	21.92
		RB Size=36, RB Offset=0	21.73	22.00	22.09
		RB Size=36, RB Offset=18	21.73	21.57	21.71
		RB Size=36, RB Offset=37	21.60	21.62	21.23
		RB Size=75, RB Offset=0	21.71	21.82	21.78
	64QAM	RB Size=1, RB Offset=0	21.52	21.45	21.33
		RB Size=1, RB Offset=37	21.27	21.18	21.10
		RB Size=1, RB Offset=74	21.11	21.05	21.00
		RB Size=36, RB Offset=0	21.87	21.81	21.77
		RB Size=36, RB Offset=18	21.92	21.86	21.82
		RB Size=36, RB Offset=37	21.49	21.42	21.31
		RB Size=75, RB Offset=0	21.94	21.90	21.86

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Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1710.7	131979	1.4	1	0	24.02
				1	5	23.87
				3	2	22.76
				6	0	22.75
	1745	132322		1	0	23.99
				1	5	23.98
				3	2	22.73
				6	0	22.61
	1779.3	132665		1	0	24.11
				1	5	23.88
				3	2	22.68
				6	0	22.59
16QAM	1710.7	131979	1.4	1	0	22.95
				1	5	22.95
				3	2	21.89
				6	0	21.87
	1745	132322		1	0	22.87
				1	5	22.90
				3	2	21.92
				6	0	21.74
	1779.3	132665		1	0	22.69
				1	5	22.85
				3	2	21.90
				6	0	21.69
64QAM	1710.7	131979	1.4	1	0	22.81
				1	5	22.86
				3	2	21.65
				6	0	21.58
	1745	132322		1	0	22.84
				1	5	22.85
				3	2	21.83
				6	0	21.81
	1779.3	132665		1	0	22.68
				1	5	22.85
				3	2	21.65
				6	0	21.72

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1711.5	131987	3	1	0	24.09
				1	14	23.84
				8	4	22.63
				15	0	22.59
	1745	132322		1	0	24.12
				1	14	24.07
				8	4	22.64
				15	0	22.79
	1778.5	132657		1	0	24.01
				1	14	23.91
				8	4	22.68
				15	0	22.63
16QAM	1711.5	131987	3	1	0	22.80
				1	14	22.78
				8	4	21.85
				15	0	21.84
	1745	132322		1	0	22.83
				1	14	22.75
				8	4	21.90
				15	0	21.65
	1778.5	132657		1	0	22.91
				1	14	22.64
				8	4	21.90
				15	0	21.82
64QAM	1711.5	131987	3	1	0	22.91
				1	14	22.71
				8	4	21.71
				15	0	21.80
	1745	132322		1	0	22.86
				1	14	22.89
				8	4	21.73
				15	0	21.62
	1778.5	132657		1	0	22.70
				1	14	22.54
				8	4	21.75
				15	0	21.72

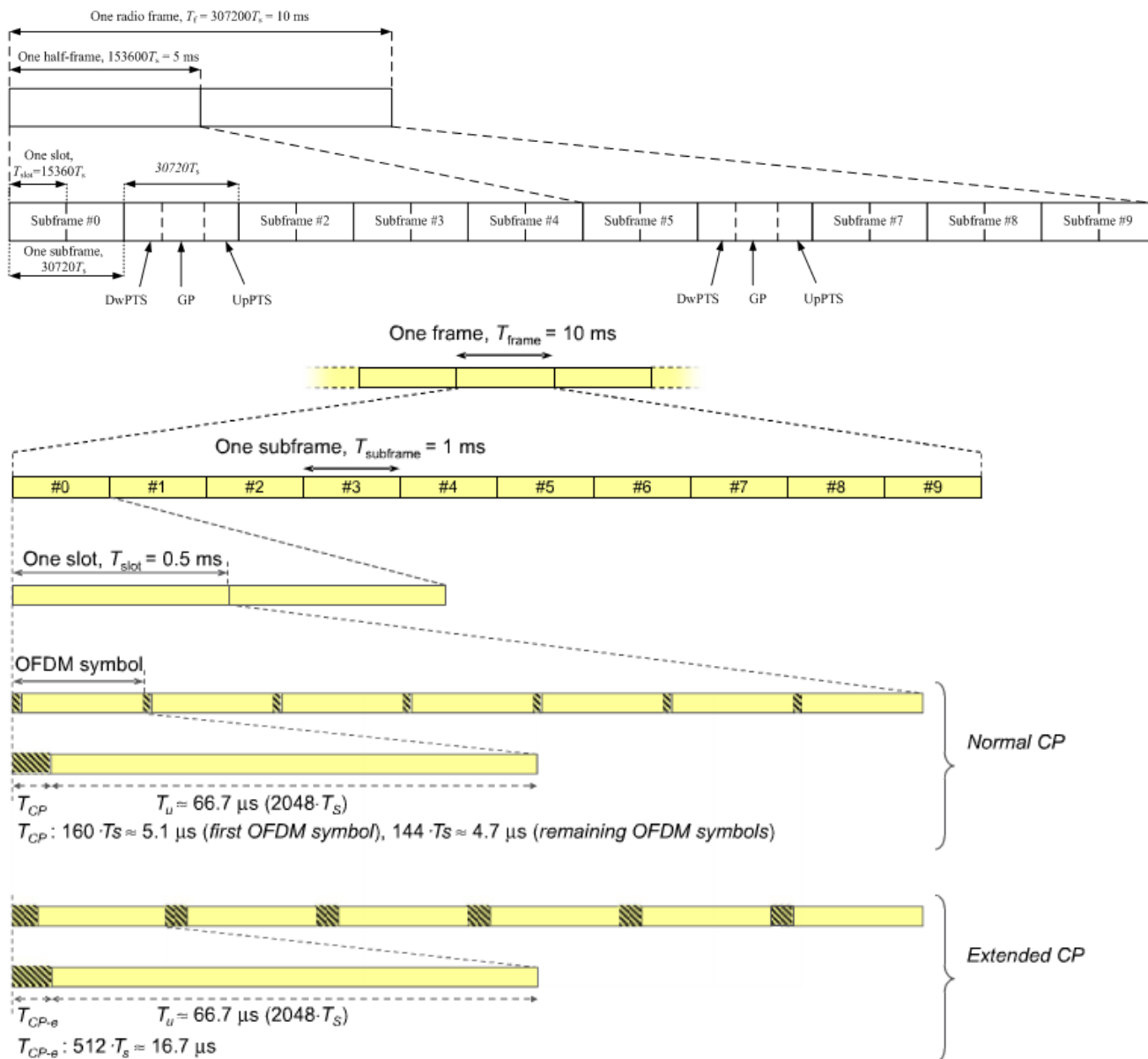
Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1712.5	131997	5	1	0	24.03
				1	24	24.00
				12	6	22.84
				25	0	22.79
	1745	132322		1	0	24.08
				1	24	23.95
				12	6	22.88
				25	0	22.77
	1777.5	132647		1	0	24.04
				1	24	24.01
				12	6	22.82
				25	0	22.74
16QAM	1712.5	131997	5	1	0	22.65
				1	24	22.88
				12	6	21.71
				25	0	21.71
	1745	132322		1	0	22.91
				1	24	22.98
				12	6	22.01
				25	0	21.71
	1777.5	132647		1	0	22.77
				1	24	22.70
				12	6	21.70
				25	0	21.78
64QAM	1712.5	131997	5	1	0	22.90
				1	24	22.80
				12	6	21.59
				25	0	21.88
	1745	132322		1	0	22.98
				1	24	22.92
				12	6	21.70
				25	0	21.88
	1777.5	132647		1	0	22.92
				1	24	22.81
				12	6	21.66
				25	0	21.60

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1715	132022	10	1	0	23.95
				1	49	23.98
				24	12	22.61
				50	0	22.83
	1745	132322		1	0	23.90
				1	49	24.01
				24	12	22.79
				50	0	22.85
	1775	132622		1	0	23.89
				1	49	23.96
				24	12	22.60
				50	0	22.64
16QAM	1715	132022	10	1	0	22.77
				1	49	22.83
				24	12	21.74
				50	0	21.80
	1745	132322		1	0	22.89
				1	49	22.94
				24	12	21.84
				50	0	21.72
	1775	132622		1	0	22.73
				1	49	22.70
				24	12	21.96
				50	0	21.62
64QAM	1715	132022	10	1	0	22.57
				1	49	22.79
				24	12	21.88
				50	0	21.51
	1745	132322		1	0	22.78
				1	49	22.86
				24	12	21.80
				50	0	21.81
	1775	132622		1	0	22.76
				1	49	22.89
				24	12	21.76
				50	0	21.57

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1717.5	132047	15	1	0	23.74
				1	74	23.98
				40	18	22.80
				75	0	22.70
	1745	132322		1	0	23.88
				1	74	23.95
				40	18	22.59
				75	0	22.69
	1772.5	132597		1	0	23.99
				1	74	24.02
				40	18	22.70
				75	0	22.68
16QAM	1717.5	132047	15	1	0	22.64
				1	74	22.68
				40	18	21.81
				75	0	21.75
	1745	132322		1	0	23.00
				1	74	22.96
				40	18	21.97
				75	0	21.88
	1772.5	132597		1	0	22.94
				1	74	22.78
				40	18	21.83
				75	0	21.83
64QAM	1717.5	132047	15	1	0	22.72
				1	74	22.71
				40	18	21.68
				75	0	21.68
	1745	132322		1	0	22.70
				1	74	22.75
				40	18	21.98
				75	0	21.82
	1772.5	132597		1	0	22.62
				1	74	22.76
				40	18	21.74
				75	0	21.84

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1720	132072	20	1	0	24.02
				1	99	24.02
				50	25	22.85
				100	0	22.79
	1745	132322		1	0	24.12
				1	99	24.12
				50	25	22.89
				100	0	22.88
	1770	132572		1	0	24.04
				1	99	24.04
				50	25	22.88
				100	0	22.83
16QAM	1720	132072	20	1	0	22.92
				1	99	22.91
				50	25	21.97
				100	0	21.86
	1745	132322		1	0	23.01
				1	99	23.01
				50	25	22.03
				100	0	21.93
	1770	132572		1	0	22.95
				1	99	22.98
				50	25	21.96
				100	0	21.90
64QAM	1720	132072	20	1	0	22.89
				1	99	22.87
				50	25	21.92
				100	0	21.83
	1745	132322		1	0	22.94
				1	99	22.93
				50	25	22.01
				100	0	21.90
	1770	132572		1	0	22.87
				1	99	22.88
				50	25	21.95
				100	0	21.86

TDD-LTE frame structure



Uplink-downlink configuration

Uplink-downlink configuration	Downlink-to-Uplink Switch-point periodicity	Subframe number									
		0	1	2	3	4	5	6	7	8	9
0	5 ms	D	S	U	U	U	D	S	U	U	U
1	5 ms	D	S	U	U	D	D	S	U	U	D
2	5 ms	D	S	U	D	D	D	S	U	D	D
3	10 ms	D	S	U	U	U	D	D	D	D	D
4	10 ms	D	S	U	U	D	D	D	D	D	D
5	10 ms	D	S	U	D	D	D	D	D	D	D
6	5 ms	D	S	U	U	U	D	S	U	U	D

Special sub-frame configuration

Special subframe configuration	Normal cyclic prefix in downlink			Extended cyclic prefix in downlink		
	DwPTS	UpPTS		DwPTS	UpPTS	
		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink
0	$6592 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$	$7680 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$
1	$19760 \cdot T_s$			$20480 \cdot T_s$		
2	$21952 \cdot T_s$			$23040 \cdot T_s$		
3	$24144 \cdot T_s$			$25600 \cdot T_s$		
4	$26336 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$	$7680 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$
5	$6592 \cdot T_s$			$20480 \cdot T_s$		
6	$19760 \cdot T_s$			$23040 \cdot T_s$		
7	$21952 \cdot T_s$			-	-	-
8	$24144 \cdot T_s$			-	-	-

Special sub-frame with cyclic prefix uplink

Special sub-frame configuration		Duty factor with normal cyclic prefix in uplink	Duty factor with extended cyclic prefix in uplink
Normal cyclic prefix in downlink	0~4	7.13%	8.33%
	5~9	14.3%	16.7%
Extended cyclic prefix in downlink	0~3	7.13%	8.33%
	4~7	14.3%	16.7%

So we perform SAR test with maximum duty factor equal to 63.3% by using uplink-downlink configuration 0.

Note: One sub-frame is $30720T_s=1\text{ms}$, when UpPTS(uplink) in special sub-frame with extended cyclic prefix, duty factor = $5120/30720=0.167$. There are 5 sub-frames in half frame(3up link), so the final duty factor is $(30720 \cdot 3 + 5120) / (30720 \cdot 5) = 63.3\%$ which we used to evaluate the SAR compliance (worst case)

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Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	2572.5	37775	5	1	0	23.61
				1	24	23.50
				12	6	22.56
				25	0	22.33
	2595	38000		1	0	23.48
				1	24	23.64
				12	6	22.44
				25	0	22.50
	2617.5	38225		1	0	23.56
				1	24	23.55
				12	6	22.35
				25	0	22.23
16QAM	2572.5	37775	5	1	0	22.10
				1	24	21.96
				12	6	21.20
				25	0	21.10
	2595	38000		1	0	22.10
				1	24	22.06
				12	6	21.23
				25	0	21.38
	2617.5	38225		1	0	22.10
				1	24	21.81
				12	6	21.20
				25	0	21.18
64QAM	2572.5	37775	5	1	0	21.90
				1	24	21.88
				12	6	21.15
				25	0	21.10
	2595	38000		1	0	21.95
				1	24	22.09
				12	6	21.14
				25	0	21.30
	2617.5	38225		1	0	21.84
				1	24	21.94
				12	6	21.19
				25	0	21.03

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	2575	37800	10	1	0	23.54
				1	49	23.49
				24	12	22.58
				50	0	22.49
	2595	38000		1	0	23.68
				1	49	23.65
				24	12	22.40
				50	0	22.52
	2615	38200		1	0	23.52
				1	49	23.47
				24	12	22.44
				50	0	22.29
16QAM	2575	37800	10	1	0	21.92
				1	49	21.88
				24	12	21.43
				50	0	21.13
	2595	38000		1	0	21.98
				1	49	21.94
				24	12	21.42
				50	0	21.37
	2615	38200		1	0	21.83
				1	49	21.91
				24	12	21.31
				50	0	21.18
64QAM	2575	37800	10	1	0	21.90
				1	49	22.00
				24	12	21.38
				50	0	21.07
	2595	38000		1	0	22.01
				1	49	22.11
				24	12	21.24
				50	0	21.10
	2615	38200		1	0	22.05
				1	49	21.80
				24	12	21.35
				50	0	21.15

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	2577.5	37825	15	1	0	23.41
				1	74	23.43
				40	18	22.33
				75	0	22.51
	2595	38000		1	0	23.59
				1	74	23.67
				40	18	22.57
				75	0	22.38
	2612.5	38175		1	0	23.71
				1	74	23.58
				40	18	22.38
				75	0	22.44
16QAM	2577.5	37825	15	1	0	21.84
				1	74	21.86
				40	18	21.09
				75	0	21.12
	2595	38000		1	0	22.00
				1	74	22.04
				40	18	21.42
				75	0	21.26
	2612.5	38175		1	0	21.88
				1	74	21.98
				40	18	21.24
				75	0	21.32
64QAM	2577.5	37825	15	1	0	21.93
				1	74	21.96
				40	18	21.18
				75	0	21.17
	2595	38000		1	0	22.02
				1	74	21.87
				40	18	21.21
				75	0	21.12
	2612.5	38175		1	0	22.04
				1	74	21.88
				40	18	21.01
				75	0	21.18

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	2580	37850	20	1	0	23.73
				1	99	23.73
				50	25	22.60
				100	0	22.58
	2595	38000		1	0	23.76
				1	99	23.76
				50	25	22.63
				100	0	22.62
	2610	38150		1	0	23.76
				1	99	23.76
				50	25	22.53
				100	0	22.54
16QAM	2580	37850	20	1	0	22.18
				1	99	22.15
				50	25	21.42
				100	0	21.30
	2595	38000		1	0	22.18
				1	99	22.18
				50	25	21.48
				100	0	21.38
	2610	38150		1	0	22.17
				1	99	22.12
				50	25	21.42
				100	0	21.36
64QAM	2580	37850	20	1	0	22.09
				1	99	22.03
				50	25	21.38
				100	0	21.33
	2595	38000		1	0	22.09
				1	99	22.09
				50	25	21.45
				100	0	21.37
	2610	38150		1	0	22.05
				1	99	22.04
				50	25	21.37
				100	0	21.32

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Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	2537.5	40065	5	1	0	23.81
				1	24	23.59
				12	6	22.44
				25	0	22.59
	2593	40620		1	0	23.84
				1	24	23.71
				12	6	22.38
				25	0	22.61
	2652.5	41215		1	0	23.74
				1	24	23.73
				12	6	22.41
				25	0	22.54
16QAM	2537.5	40065	5	1	0	21.94
				1	24	21.91
				12	6	21.35
				25	0	21.09
	2593	40620		1	0	22.09
				1	24	22.13
				12	6	21.33
				25	0	21.37
	2652.5	41215		1	0	22.10
				1	24	21.98
				12	6	21.28
				25	0	21.21
64QAM	2537.5	40065	5	1	0	22.04
				1	24	21.89
				12	6	21.35
				25	0	21.24
	2593	40620		1	0	22.01
				1	24	22.20
				12	6	21.27
				25	0	21.34
	2652.5	41215		1	0	22.13
				1	24	21.93
				12	6	21.30
				25	0	21.20

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	2540	40090	10	1	0	23.61
				1	49	23.66
				24	12	22.40
				50	0	22.40
	2593	40620		1	0	23.86
				1	49	23.90
				24	12	22.61
				50	0	22.54
	2650	41190		1	0	23.66
				1	49	23.55
				24	12	22.46
				50	0	22.38
16QAM	2540	40090	10	1	0	22.01
				1	49	22.19
				24	12	21.45
				50	0	21.25
	2593	40620		1	0	22.28
				1	49	22.07
				24	12	21.23
				50	0	21.22
	2650	41190		1	0	22.12
				1	49	22.14
				24	12	21.47
				50	0	21.15
64QAM	2540	40090	10	1	0	21.94
				1	49	22.14
				24	12	21.24
				50	0	21.30
	2593	40620		1	0	22.05
				1	49	22.22
				24	12	21.26
				50	0	21.19
	2650	41190		1	0	21.90
				1	49	21.93
				24	12	21.39
				50	0	21.14

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	2542.5	40115	15	1	0	23.84
				1	74	23.63
				40	18	22.37
				75	0	22.35
	2593	40620		1	0	23.81
				1	74	23.68
				40	18	22.53
				75	0	22.47
	2647.5	41165		1	0	23.68
				1	74	23.69
				40	18	22.54
				75	0	22.31
16QAM	2542.5	40115	15	1	0	22.15
				1	74	22.23
				40	18	21.29
				75	0	21.33
	2593	40620		1	0	22.26
				1	74	22.29
				40	18	21.32
				75	0	21.35
	2647.5	41165		1	0	22.05
				1	74	22.17
				40	18	21.36
				75	0	21.15
64QAM	2542.5	40115	15	1	0	22.02
				1	74	21.92
				40	18	21.40
				75	0	21.37
	2593	40620		1	0	22.05
				1	74	21.99
				40	18	21.29
				75	0	21.37
	2647.5	41165		1	0	21.98
				1	74	22.09
				40	18	21.37
				75	0	21.31

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted Average (dBm)
QPSK	2545	40140	20	1	0	23.87
				1	99	23.87
				50	25	22.62
				100	0	22.61
	2593	40620		1	0	23.92
				1	99	23.92
				50	25	22.67
				100	0	22.66
	2645	41140		1	0	23.85
				1	99	23.85
				50	25	22.66
				100	0	22.56
16QAM	2545	40140	20	1	0	22.20
				1	99	22.25
				50	25	21.45
				100	0	21.41
	2593	40620		1	0	22.29
				1	99	22.29
				50	25	21.53
				100	0	21.43
	2645	41140		1	0	22.24
				1	99	22.25
				50	25	21.44
				100	0	21.37
64QAM	2545	40140	20	1	0	22.26
				1	99	22.18
				50	25	21.42
				100	0	21.39
	2593	40620		1	0	22.29
				1	99	22.23
				50	25	21.51
				100	0	21.41
	2645	41140		1	0	22.27
				1	99	22.18
				50	25	21.42
				100	0	21.38

6.6 Bluetooth Measurement result

Modulation type	Average Power Output (dBm)		
	2402MHz (Ch0)	2441MHz (Ch39)	2480MHz (Ch78)
GFSK	7.32	7.95	7.24
$\pi/4$ DQPSK	4.65	5.31	4.86
8DPSK	4.54	5.28	4.81
Modulation type	Average Power Output (dBm)		
	2402MHz (Ch0)	2440MHz (Ch19)	2480MHz (Ch39)
GFSK (LE 1Mbps)	0.11	0.21	0.14

6.7 Wi-Fi Measurement result

WLAN2.4GHz

Modulation type	Average power output (dBm)		
	2412MHz	2437MHz	2462MHz
11b	16.11	16.18	16.31
11g	12.56	12.74	12.79
11n HT20	12.77	12.82	12.88
Modulation type	Average power output (dBm)		
	2422MHz	2437MHz	2452MHz
11n HT40	11.12	11.20	11.26

WLAN5GHz

Band	Test Mode	Frequency (MHz)	Average Power (dBm)
U-NII-1	802.11a	5180	14.59
	802.11a	5200	14.62
	802.11a	5240	14.66
	802.11n HT20	5180	14.67
	802.11n HT20	5200	14.77
	802.11n HT20	5240	14.73
	802.11n HT40	5190	14.53
	802.11n HT40	5230	14.57
U-NII-2A	802.11a	5260	14.62
	802.11a	5300	14.58
	802.11a	5320	14.64
	802.11n HT20	5260	14.75
	802.11n HT20	5300	14.79
	802.11n HT20	5320	14.69
	802.11n HT40	5270	14.44
	802.11n HT40	5310	14.47
U-NII-2C	802.11a	5500	14.72
	802.11a	5580	14.68
	802.11a	5700	14.65
	802.11n HT20	5500	14.73
	802.11n HT20	5580	14.77
	802.11n HT20	5700	14.74
	802.11n HT40	5510	14.41
	802.11n HT40	5670	14.44
U-NII-3	802.11a	5745	14.63
	802.11a	5785	14.58
	802.11a	5825	14.62
	802.11n HT20	5745	14.73
	802.11n HT20	5785	14.80
	802.11n HT20	5825	14.81
	802.11n HT40	5755	14.48
	802.11n HT40	5795	14.43

6.8 Standalone SAR Test Exclusion Considerations

Standalone 1-g head or body SAR evaluation by measurement or numerical simulation is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

SAR Test Exclusion Thresholds for 100 MHz – 6 GHz and ≤ 50 mm

According to the KDB447498 4.3.1 (1)

For 100 MHz to 6 GHz and test separation distances ≤ 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f} \text{ (GHz)}] \leq 3.0$ for 1-g SAR, where

- $f(\text{GHz})$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm, and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

This is equivalent to $[(\text{max. power of channel, including tune-up tolerance, mW}) / (60 / \sqrt{f}(\text{GHz}) \text{ mW})] \cdot [20 \text{ mm} / (\text{min. test separation distance, mm})] \leq 1.0$ for 1-g SAR; also see Appendix A for approximate exclusion threshold values at selected frequencies and distances.
According to the KDB447498 appendix A

Approximate SAR Test Exclusion Power Thresholds at Selected Frequencies and Test Separation Distances are illustrated in the following Table.

MHz	5	10	15	20	25	mm
150	39	77	116	155	194	SAR Test Exclusion Threshold (mW)
300	27	55	82	110	137	
450	22	45	67	89	112	
835	16	33	49	66	82	
900	16	32	47	63	79	
1500	12	24	37	49	61	
1900	11	22	33	44	54	
2450	10	19	29	38	48	
3600	8	16	24	32	40	
5200	7	13	20	26	33	
5400	6	13	19	26	32	
5800	6	12	19	25	31	

According to KDB 248227 D01 802 11 Wi-Fi SAR chapter 5.3.1 b)

For devices that operate in only one of the U-NII-1 and U-NII-2A bands, the normally required SAR procedures for OFDM configurations are applied. For devices that operate in both U-NII bands using the same transmitter and antenna(s), SAR test reduction is determined according to the following, with respect to the highest *reported* SAR and maximum output power specified for production units. The procedures are applied independently to each exposure configuration; for example, head, body, hotspot mode etc. When different maximum output power is specified for the bands, begin SAR measurement in the band with higher specified maximum output power. The highest *reported* SAR for the tested configuration is adjusted by the ratio of lower to higher specified maximum output power for the two bands. When the adjusted SAR is ≤ 1.2 W/kg, SAR is not required for the band with lower maximum output power in that test configuration; otherwise, each band is tested independently for SAR.

Power tolerance for WIFI-5GHz (U-NII 1) = 15.0dbm

Power tolerance for WIFI-5GHz (U-NII 2A) = 15.0dbm

Ratio of specified maximum output power = $15.0-15.0=0\text{db}=1$

Highest Reported SAR for WIFI-5GHz (U-NII 2A) =0.132

Adjusted SAR=0.132w/kg<1.2w/kg

So in this test report, WIFI 5GHz U-NII-1 do not need to perform SAR test, because we already consider the worst case WIFI 5GHz U-NII 2A.

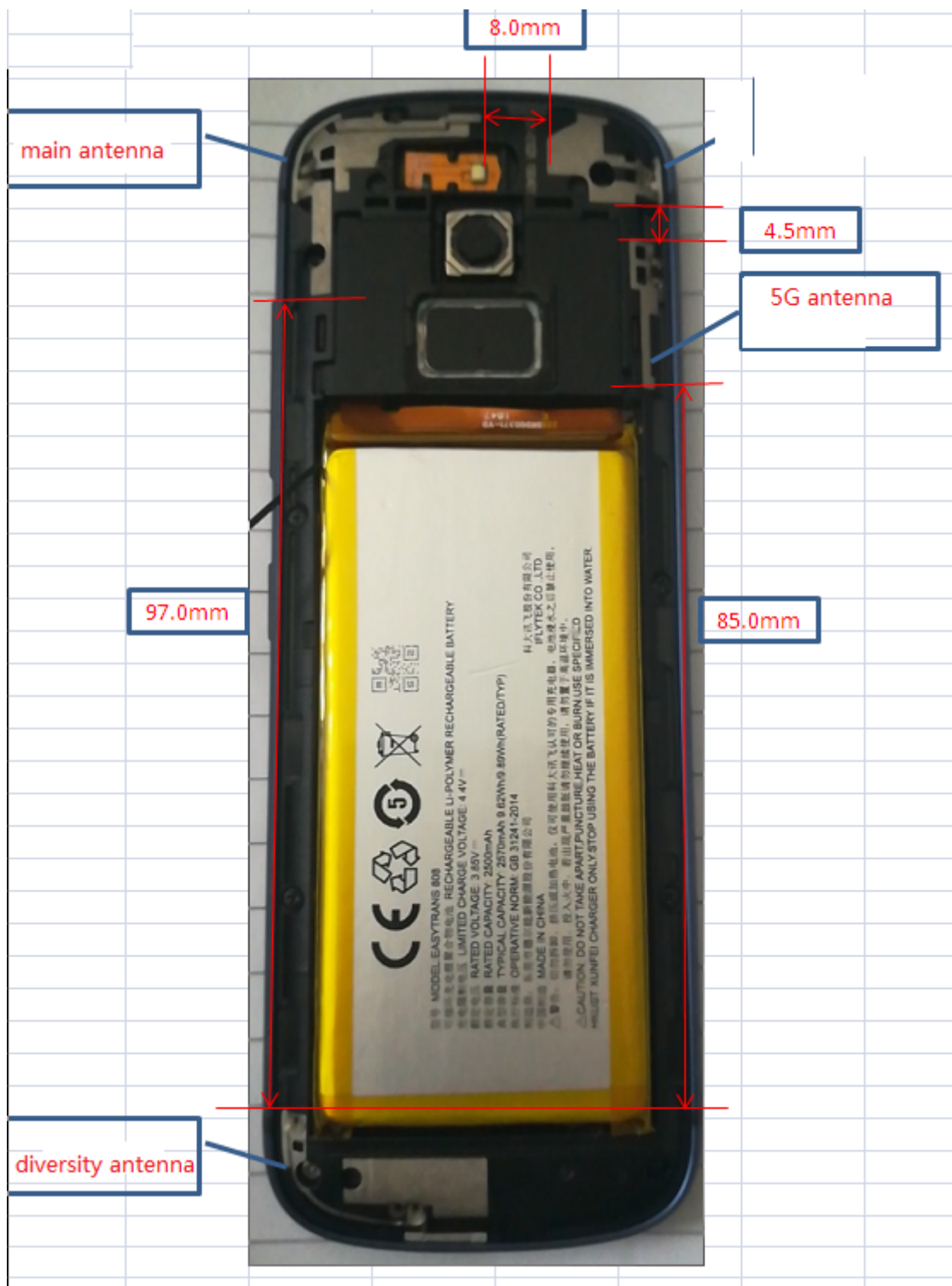
Summary of Transmitters

Band/Mode	Position	Max. RF output power (mW)	SAR test exclusion Threshold (mW)	SAR Required
2.4GHz BT/BLE	Body	19	6.24	No
2.4GHz Wi-Fi	Body	19	42.76	Yes
5GHz U-NII2A WI-FI (5300MHz)	Body	13	30.13	Yes
5GHz U-NII2C WI-FI (5580MHz)	Body	13	29.99	Yes
5GHz U-NII3 WI-FI (5785MHz)	Body	12	30.27	Yes

Note1: We notice that some conditions do not need to test body-worn & hotspot position , we consider that if we just test SAR value in head position but estimate SAR value in body position, the results are not reasonable and reliable, so we test all the mode describe above.

6.9 RF exposure conditions

Refer to the follow picture “Antenna Locations & Separation Distances” for the specific details of the antenna-to-antenna and antenna-to-edge(s) distances.



6.9.1 Body Exposure Conditions

Main Antenna

For WWAN

Test Configurations	SAR Required	Note
Back	yes	/
Front	yes	/

Wi-Fi Antenna

For WLAN

Test Configurations	SAR Required	Note
Back	yes	/
Front	yes	/

6.9.2 Hotspot Exposure conditions

Main Antenna

For WWAN

Test Configurations	Antenna-to-edge/surface	SAR Required
Back	<25 mm	Yes
Front	<25 mm	Yes
Top	<25 mm	Yes
Bottom	>25 mm	No
Left	<25 mm	Yes
Right	<25 mm	Yes

Wi-Fi Antenna

For WLAN

Test Configurations	Antenna-to-edge/surface	SAR Required
Back	<25 mm	Yes
Front	<25 mm	Yes
Top	<25 mm	Yes
Bottom	>25 mm	No
Left	<25 mm	Yes
Right	>25 mm	No

6.10 System Checking

The manufacturer calibrates the probes annually. Dielectric parameters of the tissue simulants were measured every day using the dielectric probe kit and the network analyzer. A system check measurement was made following the determination of the dielectric parameters of the simulant, using the dipole validation kit. A power level of 250 mW was supplied to the dipole antenna **except D5GHzV2 used 10mW**, which was placed under the flat section of the twin SAM phantom. The system checking results (dielectric parameters and SAR values) are given in the table below.

Date Tested	System dipole	T.S. Liquid	SAR measured (normalized to 1W)		Target (Ref. Value)	Delta (%)	Tolerance (%)
2019.05.12	D750V3	Body	1g	8.24	8.69	-5.2	±10
2019.05.13	D750V3	Body	1g	8.72	8.69	0.3	±10
2019.05.14	D835V2	Body	1g	9.48	9.47	0.1	±10
2019.05.15	D835V2	Body	1g	9.36	9.47	-1.2	±10
2019.05.16	D1800V2	Body	1g	38.68	39.7	-2.6	±10
2019.05.17	D2000V2	Body	1g	37.96	40.3	-5.8	±10
2019.05.18	D2450V2	Body	1g	52.0	52.3	-0.6	±10
2019.05.19	D2450V2	Body	1g	53.2	52.3	1.7	±10
2019.05.20	D5GHzV2	Body	1g	73.0	76.9	-5.1	±10
2019.05.21	D5GHzV2	Body	1g	81.0	80.7	0.4	±10
2019.05.22	D5GHzV2	Body	1g	75.0	77.5	-3.2	±10

According to KDB 865664 D01&IEEE 1528-2013, 2450MHz system check could cover the frequency range from 2205MHz to 2695 MHz

Tissue Simulants used in the Measurements

For the measurement of the following parameters the SPEAG DAKS-3.5 dielectric parameter probe is used, representing the open-ended coaxial probe measurement procedure.

Date Tested	Freq. (MHz)	Liquid parameters	measured	Target	Delta (%)	Tolerance (%)
2019.05.12	Body 750	ϵ_r	53.279	55.50	-4.0	± 5
		$\sigma[\text{S/m}]$	0.976	0.96	1.7	± 5
2019.05.13	Body 750	ϵ_r	54.321	55.50	-2.1	± 5
		$\sigma[\text{S/m}]$	0.954	0.96	-0.6	± 5
2019.05.14	Body 835	ϵ_r	54.541	55.20	-1.2	± 5
		$\sigma[\text{S/m}]$	0.975	0.97	0.5	± 5
2019.05.15	Body 835	ϵ_r	55.036	55.20	-0.3	± 5
		$\sigma[\text{S/m}]$	0.971	0.97	0.1	± 5
2019.05.16	Body 1800	ϵ_r	51.717	53.30	-3.0	± 5
		$\sigma[\text{S/m}]$	1.542	1.52	1.4	± 5
2019.05.17	Body 2000	ϵ_r	52.557	53.30	-1.4	± 5
		$\sigma[\text{S/m}]$	1.546	1.52	1.7	± 5
2019.05.18	Body 2450	ϵ_r	51.927	52.70	-1.5	± 5
		$\sigma[\text{S/m}]$	2.004	1.95	2.8	± 5
2019.05.19	Body 2450	ϵ_r	51.046	52.70	-3.1	± 5
		$\sigma[\text{S/m}]$	2.027	1.95	3.9	± 5
2019.05.20	Body 5300	ϵ_r	49.035	48.9	0.3	± 5
		$\sigma[\text{S/m}]$	5.355	5.42	-1.2	± 5
2019.05.21	Body 5600	ϵ_r	49.216	48.5	1.5	± 5
		$\sigma[\text{S/m}]$	5.627	5.77	-2.5	± 5
2019.05.22	Body 5800	ϵ_r	47.36	48.2	-1.7	± 5
		$\sigma[\text{S/m}]$	6.11	6.00	1.8	± 5
2019.05.22	Body 2600	ϵ_r	51.4	52.5	-2.1	± 5
		$\sigma[\text{S/m}]$	2.22	2.16	2.8	± 5

6.11 SAR TEST RESULT

In order to determine the largest value of the peak spatial-average SAR of a handset, all device positions, configurations, and operational modes should be tested for each frequency band according to Steps 1 to 3 below.

Step 1: The tests should be performed at the channel that is closest to the center of the transmit frequency band.

a) All device positions (cheek and tilt, for both left and right sides of the SAM phantom),
b) All configurations for each device position in a), e.g., antenna extended and retracted, and
c) All operational modes for each device position in item a) and configuration in item b) in each frequency band, e.g., analog and digital, If more than three frequencies need to be tested (i.e., $N_c > 3$), then all frequencies, configurations and modes shall be tested for all of the above test conditions.

Step 2: For the condition providing the highest peak spatial-average SAR determined in Step 1 for each frequency, perform all tests at all other test frequency channels, e.g., lowest and highest frequencies. In addition, for all other conditions (device position, configuration, and operational mode) where the peak spatial-average SAR value determined in Step 1 is within 3 dB of the applicable SAR limit, it is recommended that all other test frequencies should be tested as well.

Step 3: Examine all data to determine the largest value of the peak.

Note:

1. Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.

Scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.

Reported SAR (W/kg) = Measured SAR (W/kg) * Scaling Factor

2. Per KDB 447498 D01v06, for each exposure position, if the highest output channel reported SAR ≤ 0.8 W/kg, other channels SAR testing are not necessary.

3. The distance between the EUT and the phantom bottom is 10mm.

The measured and reported Head/body SAR values for the test device are tabulated below:

Mode: GSM 850(GPRS)

fL(MHz)=824.2MHz

fM(MHz)=836.5MHz

fH(MHz)= 848.8MHz

SAR Values (850MHz Band)

Limit of SAR (W/kg) :< 1.6W/kg (1g Average)/4.0 W/kg (10g Average)

Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					1g Average	1g Average
Back	GPRS 2TX (body-worn)	L	31.33	31.50	1.04	---	---
		M	31.38	31.50	1.03	0.196	0.202
		H	31.11	31.50	1.09	---	---
Front		L	31.33	31.50	1.04	---	---
		M	31.38	31.50	1.03	0.216	0.222
		H	31.11	31.50	1.09	---	---
Top	GPRS 2TX (hotspot)	L	31.33	31.50	1.04	---	---
		M	31.38	31.50	1.03	0.105	0.108
		H	31.11	31.50	1.09	---	---
Bottom		L	31.33	31.50	1.04	---	---
		M	31.38	31.50	1.03	0.004	0.004
		H	31.11	31.50	1.09	---	---
Left		L	31.33	31.50	1.04	---	---
		M	31.38	31.50	1.03	0.110	0.113
		H	31.11	31.50	1.09	---	---
Right		L	31.33	31.50	1.04	---	---
		M	31.38	31.50	1.03	0.314	0.323
		H	31.11	31.50	1.09	---	---
Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					10g Average	10g Average
Right	GPRS 2TX (Limb)	L	31.33	31.50	1.04	---	---
		M	31.38	31.50	1.03	0.339	0.349
		H	31.11	31.50	1.09	---	---

Mode: GSM1900(GPRS)

fL (MHz)=1850.2MHz fM (MHz)=1880.0MHz fH (MHz)=1909.8MHz

SAR Values (1900MHz Band)

Limit of SAR (W/kg) :< 1.6W/kg (1g Average)/4.0 W/kg (10g Average)

Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					1g Average	1g Average
Back	GPRS 2TX (body-worn)	L	28.83	29.00	1.04	---	---
		M	28.88	29.00	1.03	0.158	0.163
		H	28.84	29.00	1.04	---	---
Front		L	28.83	29.00	1.04	---	---
		M	28.88	29.00	1.03	0.194	0.200
		H	28.84	29.00	1.04	---	---
Top	GPRS 2TX (hotspot)	L	28.83	29.00	1.04	---	---
		M	28.88	29.00	1.03	0.209	0.215
		H	28.84	29.00	1.04	---	---
Bottom		L	28.83	29.00	1.04	---	---
		M	28.88	29.00	1.03	0.019	0.020
		H	28.84	29.00	1.04	---	---
Left		L	28.83	29.00	1.04	---	---
		M	28.88	29.00	1.03	0.015	0.015
		H	28.84	29.00	1.04	---	---
Right		L	28.83	29.00	1.04	---	---
		M	28.88	29.00	1.03	0.345	0.355
		H	28.84	29.00	1.04	---	---
Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					10g Average	10g Average
Right	GPRS 2TX (Limb)	L	28.83	29.00	1.04	---	---
		M	28.88	29.00	1.03	0.495	0.510
		H	28.84	29.00	1.04	---	---

Mode: WCDMA BANDII

fL (MHz)=1852.4MHz fM (MHz)=1880MHz fH (MHz)= 1907.6MHz

SAR Values (WCDMA BANDII)

Limit of SAR (W/kg) :< 1.6W/kg (1g Average)/4.0 W/kg (10g Average)

Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					1g Average	1g Average
Back	12.2KRMC (body-worn)	L	23.70	24.00	1.07	---	---
		M	23.63	24.00	1.09	0.150	0.164
		H	23.77	24.00	1.05	---	---
Front		L	23.70	24.00	1.07	---	---
		M	23.63	24.00	1.09	0.134	0.146
		H	23.77	24.00	1.05	---	---
Top	12.2KRMC (hotspot)	L	23.70	24.00	1.07	---	---
		M	23.63	24.00	1.09	0.186	0.203
		H	23.77	24.00	1.05	---	---
Bottom		L	23.70	24.00	1.07	---	---
		M	23.63	24.00	1.09	0.016	0.017
		H	23.77	24.00	1.05	---	---
Left		L	23.70	24.00	1.07	---	---
		M	23.63	24.00	1.09	0.016	0.017
		H	23.77	24.00	1.05	---	---
Right		L	23.70	24.00	1.07	---	---
		M	23.63	24.00	1.09	0.275	0.300
		H	23.77	24.00	1.05	---	---
Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					10g Average	10g Average
Right	12.2KRMC (Limb)	L	23.70	24.00	1.07	---	---
		M	23.63	24.00	1.09	0.505	0.550
		H	23.77	24.00	1.05	---	---

Mode: WCDMA BANDIV

fL (MHz)= 1712.4MHz fM (MHz)= 1732.4MHz fH (MHz)= 1752.6MHz

SAR Values (WCDMA BANDIV)

Limit of SAR (W/kg) :< 1.6W/kg (1g Average)/4.0 W/kg (10g Average)

Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					1g Average	1g Average
Back	12.2KRMC (body-worn)	L	23.69	24.00	1.07	---	---
		M	23.62	24.00	1.09	0.195	0.213
		H	23.67	24.00	1.08	---	---
Front		L	23.69	24.00	1.07	---	---
		M	23.62	24.00	1.09	0.187	0.204
		H	23.67	24.00	1.08	---	---
Top	12.2KRMC (hotspot)	L	23.69	24.00	1.07	---	---
		M	23.62	24.00	1.09	0.247	0.269
		H	23.67	24.00	1.08	---	---
Bottom		L	23.69	24.00	1.07	---	---
		M	23.62	24.00	1.09	0.022	0.024
		H	23.67	24.00	1.08	---	---
Left		L	23.69	24.00	1.07	---	---
		M	23.62	24.00	1.09	0.022	0.024
		H	23.67	24.00	1.08	---	---
Right		L	23.69	24.00	1.07	---	---
		M	23.62	24.00	1.09	0.317	0.346
		H	23.67	24.00	1.08	---	---
Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					10g Average	10g Average
Right	12.2KRMC (Limb)	L	23.69	24.00	1.07	---	---
		M	23.62	24.00	1.09	0.519	0.566
		H	23.67	24.00	1.08	---	---

Mode: WCDMA BANDV

fL (MHz)=826.4MHz fM (MHz)=836.4MHz fH (MHz)= 846.6MHz

SAR Values (WCDMA BANDV)

Limit of SAR (W/kg) :< 1.6W/kg (1g Average)/4.0 W/kg (10g Average)

Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					1g Average	1g Average
Back	12.2KRMC (body-worn)	L	23.57	24.00	1.10	---	---
		M	23.64	24.00	1.09	0.263	0.287
		H	23.67	24.00	1.08	---	---
Front		L	23.57	24.00	1.10	---	---
		M	23.64	24.00	1.09	0.271	0.295
		H	23.67	24.00	1.08	---	---
Top	12.2KRMC (hotspot)	L	23.57	24.00	1.10	---	---
		M	23.64	24.00	1.09	0.134	0.146
		H	23.67	24.00	1.08	---	---
Bottom		L	23.57	24.00	1.10	---	---
		M	23.64	24.00	1.09	0.005	0.005
		H	23.67	24.00	1.08	---	---
Left		L	23.57	24.00	1.10	---	---
		M	23.64	24.00	1.09	0.141	0.154
		H	23.67	24.00	1.08	---	---
Right		L	23.57	24.00	1.10	---	---
		M	23.64	24.00	1.09	0.144	0.157
		H	23.67	24.00	1.08	---	---
Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					10g Average	10g Average
Front	12.2KRMC (Limb)	L	23.57	24.00	1.10	---	---
		M	23.64	24.00	1.09	0.311	0.339
		H	23.67	24.00	1.08	---	---

Mode: CDMA BC0

fL (MHz)= 824.70MHz fM (MHz)= 836.52MHz fH (MHz)= 848.31MHz

SAR Values (CDMA BC0)

Limit of SAR (W/kg) :< 1.6W/kg (1g Average)/4.0 W/kg (10g Average)

Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					1g Average	1g Average
Back	1X EVDO R0 (body-worn)	L	23.69	24.00	1.07	---	---
		M	23.62	24.00	1.09	0.195	0.213
		H	23.67	24.00	1.08	---	---
Front		L	23.69	24.00	1.07	---	---
		M	23.62	24.00	1.09	0.187	0.204
		H	23.67	24.00	1.08	---	---
Top	1X EVDO R0 (hotspot)	L	23.69	24.00	1.07	---	---
		M	23.62	24.00	1.09	0.247	0.269
		H	23.67	24.00	1.08	---	---
Bottom		L	23.69	24.00	1.07	---	---
		M	23.62	24.00	1.09	0.022	0.024
		H	23.67	24.00	1.08	---	---
Left		L	23.69	24.00	1.07	---	---
		M	23.62	24.00	1.09	0.022	0.024
		H	23.67	24.00	1.08	---	---
Right		L	23.69	24.00	1.07	---	---
		M	23.62	24.00	1.09	0.317	0.346
		H	23.67	24.00	1.08	---	---
Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					10g Average	10g Average
Right	1X EVDO R0 (Limb)	L	23.69	24.00	1.07	---	---
		M	23.62	24.00	1.09	0.519	0.566
		H	23.67	24.00	1.08	---	---

Mode: CDMA BC1

fL (MHz)= 1851.25MHz fM (MHz)= 1880.00MHz fH (MHz)= 1908.75MHz

SAR Values (CDMA BC0)

Limit of SAR (W/kg) :< 1.6W/kg (1g Average)/4.0 W/kg (10g Average)

Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					1g Average	1g Average
Back	1X EVDO R0 (body-worn)	L	23.72	24.00	1.07	---	---
		M	23.61	24.00	1.09	0.521	0.568
		H	23.55	24.00	1.11	---	---
Front		L	23.72	24.00	1.07	---	---
		M	23.61	24.00	1.09	0.512	0.558
		H	23.55	24.00	1.11	---	---
Top	1X EVDO R0 (hotspot)	L	23.72	24.00	1.07	---	---
		M	23.61	24.00	1.09	0.291	0.317
		H	23.55	24.00	1.11	---	---
Bottom		L	23.72	24.00	1.07	---	---
		M	23.61	24.00	1.09	0.095	0.104
		H	23.55	24.00	1.11	---	---
Left		L	23.72	24.00	1.07	---	---
		M	23.61	24.00	1.09	0.268	0.292
		H	23.55	24.00	1.11	---	---
Right		L	23.72	24.00	1.07	---	---
		M	23.61	24.00	1.09	0.762	0.831
		H	23.55	24.00	1.11	---	---
Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					10g Average	10g Average
Right	1X EVDO R0 (Limb)	L	23.72	24.00	1.07	---	---
		M	23.61	24.00	1.09	0.391	0.426
		H	23.55	24.00	1.11	---	---

Mode: LTE Band 2

fL (MHz)= 1860MHz

fM (MHz)= 1880MHz

fH (MHz)=1900MHz

SAR Values (LTE BAND2)

Limit of SAR (W/kg) :< 1.6W/kg (1g Average)/4.0 W/kg (10g Average)

Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					1g Average	1g Average
Back	20BW 1RB (body-worn)	L	23.55	24.00	1.11	---	---
		M	23.56	24.00	1.11	0.144	0.160
		H	23.56	24.00	1.11	---	---
Front		L	23.55	24.00	1.11	---	---
		M	23.56	24.00	1.11	0.154	0.171
		H	23.56	24.00	1.11	---	---
Top	20BW 1RB (hotspot)	L	23.55	24.00	1.11	---	---
		M	23.56	24.00	1.11	0.182	0.202
		H	23.56	24.00	1.11	---	---
Bottom		L	23.55	24.00	1.11	---	---
		M	23.56	24.00	1.11	0.069	0.077
		H	23.56	24.00	1.11	---	---
Left		L	23.55	24.00	1.11	---	---
		M	23.56	24.00	1.11	0.071	0.079
		H	23.56	24.00	1.11	---	---
Right		L	23.55	24.00	1.11	---	---
		M	23.56	24.00	1.11	0.279	0.310
		H	23.56	24.00	1.11	---	---
Back	20BW 50%RB (body-worn)	L	22.48	23.00	1.13	---	---
		M	22.53	23.00	1.11	0.100	0.111
		H	22.50	23.00	1.12	---	---
Front		L	22.48	23.00	1.13	---	---
		M	22.53	23.00	1.11	0.142	0.158
		H	22.50	23.00	1.12	---	---
Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					10g Average	10g Average
Right	20BW 1RB (Limb)	L	23.55	24.00	1.11	---	---
		M	23.56	24.00	1.11	0.451	0.501
		H	23.56	24.00	1.11	---	---

Mode: LTE Band 4

fL (MHz)= 1710.7MHz fM (MHz)= 1732.5MHz fH (MHz)= 1754.3MHz

SAR Values (LTE BAND4)

Limit of SAR (W/kg) :< 1.6W/kg (1g Average)/4.0 W/kg (10g Average)

Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					1g Average	1g Average
Back	20BW 1RB (body-worn)	L	23.98	24.00	1.00	---	---
		M	23.99	24.00	1.00	0.152	0.152
		H	23.96	24.00	1.01	---	---
Front		L	23.98	24.00	1.00	---	---
		M	23.99	24.00	1.00	0.171	0.171
		H	23.96	24.00	1.01	---	---
Top	20BW 1RB (hotspot)	L	23.98	24.00	1.00	---	---
		M	23.99	24.00	1.00	0.199	0.199
		H	23.96	24.00	1.01	---	---
Bottom		L	23.98	24.00	1.00	---	---
		M	23.99	24.00	1.00	0.059	0.059
		H	23.96	24.00	1.01	---	---
Left		L	23.98	24.00	1.00	---	---
		M	23.99	24.00	1.00	0.085	0.085
		H	23.96	24.00	1.01	---	---
Right		L	23.98	24.00	1.00	---	---
		M	23.99	24.00	1.00	0.260	0.260
		H	23.96	24.00	1.01	---	---
Back	20BW 50%RB (body-worn)	L	22.75	23.00	1.06	---	---
		M	22.78	23.00	1.05	0.122	0.128
		H	22.70	23.00	1.07	---	---
Front		L	22.75	23.00	1.06	---	---
		M	22.78	23.00	1.05	0.140	0.147
		H	22.70	23.00	1.07	---	---
Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					10g Average	10g Average
Right	20BW 1RB (Limb)	L	23.98	24.00	1.00	---	---
		M	23.99	24.00	1.00	0.515	0.515
		H	23.96	24.00	1.01	---	---

Mode: LTE Band 5

fL (MHz)=829 MHz fM (MHz)=836.5MHz fH (MHz)= 844MHz

SAR Values (LTE BAND5)

Limit of SAR (W/kg) :< 1.6W/kg (1g Average)/4.0 W/kg (10g Average)

Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					1g Average	1g Average
Back	10BW 1RB (body-worn)	L	23.97	24.00	1.01	---	---
		M	23.98	24.00	1.00	0.216	0.216
		H	23.92	24.00	1.02	---	---
Front		L	23.97	24.00	1.01	---	---
		M	23.98	24.00	1.00	0.212	0.212
		H	23.92	24.00	1.02	---	---
Top	10BW 1RB (hotspot)	L	23.97	24.00	1.01	---	---
		M	23.98	24.00	1.00	0.115	0.115
		H	23.92	24.00	1.02	---	---
Bottom		L	23.97	24.00	1.01	---	---
		M	23.98	24.00	1.00	0.038	0.038
		H	23.92	24.00	1.02	---	---
Left		L	23.97	24.00	1.01	---	---
		M	23.98	24.00	1.00	0.091	0.091
		H	23.92	24.00	1.02	---	---
Right		L	23.97	24.00	1.01	---	---
		M	23.98	24.00	1.00	0.410	0.410
		H	23.92	24.00	1.02	---	---
Back	10BW 50%RB (body-worn)	L	22.96	23.50	1.13	---	---
		M	23.03	23.50	1.11	0.165	0.183
		H	22.95	23.50	1.14	---	---
Front		L	22.96	23.50	1.13	---	---
		M	23.03	23.50	1.11	0.162	0.180
		H	22.95	23.50	1.14	---	---
Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					10g Average	10g Average
Right	10BW 1RB (Limb)	L	23.97	24.00	1.01	---	---
		M	23.98	24.00	1.00	0.350	0.350
		H	23.92	24.00	1.02	---	---

Mode: LTE Band 7

fL (MHz)=2510 MHz

fM (MHz)=2535MHz

fH (MHz)= 2560MHz

SAR Values (LTE BAND7)

Limit of SAR (W/kg) :< 1.6W/kg (1g Average)/4.0 W/kg (10g Average)

Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					1g Average	1g Average
Back	20BW 1RB (body-worn)	L	23.35	23.50	1.04	---	---
		M	23.36	23.50	1.03	0.213	0.219
		H	23.31	23.50	1.04	---	---
Front		L	23.35	23.50	1.04	---	---
		M	23.36	23.50	1.03	0.215	0.221
		H	23.31	23.50	1.04	---	---
Top	20BW 1RB (hotspot)	L	23.35	23.50	1.04	---	---
		M	23.36	23.50	1.03	0.127	0.131
		H	23.31	23.50	1.04	---	---
Bottom		L	23.35	23.50	1.04	---	---
		M	23.36	23.50	1.03	0.014	0.014
		H	23.31	23.50	1.04	---	---
Left		L	23.35	23.50	1.04	---	---
		M	23.36	23.50	1.03	0.032	0.033
		H	23.31	23.50	1.04	---	---
Right		L	23.35	23.50	1.04	---	---
		M	23.36	23.50	1.03	0.220	0.227
		H	23.31	23.50	1.04	---	---
Back	20BW 50%RB (body-worn)	L	22.65	23.00	1.08	---	---
		M	22.68	23.00	1.08	0.185	0.200
		H	22.62	23.00	1.09	---	---
Front		L	22.65	23.00	1.08	---	---
		M	22.68	23.00	1.08	0.181	0.195
		H	22.62	23.00	1.09	---	---
Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					10g Average	10g Average
Right	20BW 1RB (Limb)	L	23.35	23.50	1.04	---	---
		M	23.36	23.50	1.03	0.740	0.762
		H	23.31	23.50	1.04	---	---

Mode: LTE Band 12

fL (MHz)=707.5 MHz fM (MHz)=704MHz fH (MHz)= 711MHz

SAR Values (LTE BAND12)

Limit of SAR (W/kg) :< 1.6W/kg (1g Average)/4.0 W/kg (10g Average)

Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					1g Average	1g Average
Back	10BW 1RB (body-worn)	L	23.74	24.00	1.06	---	---
		M	23.78	24.00	1.05	0.162	0.170
		H	23.76	24.00	1.06	---	---
Front		L	23.74	24.00	1.06	---	---
		M	23.78	24.00	1.05	0.186	0.195
		H	23.76	24.00	1.06	---	---
Top	10BW 1RB (hotspot)	L	23.74	24.00	1.06	---	---
		M	23.78	24.00	1.05	0.121	0.127
		H	23.76	24.00	1.06	---	---
Bottom		L	23.74	24.00	1.06	---	---
		M	23.78	24.00	1.05	0.035	0.037
		H	23.76	24.00	1.06	---	---
Left		L	23.74	24.00	1.06	---	---
		M	23.78	24.00	1.05	0.057	0.060
		H	23.76	24.00	1.06	---	---
Right		L	23.74	24.00	1.06	---	---
		M	23.78	24.00	1.05	0.142	0.149
		H	23.76	24.00	1.06	---	---
Back	10BW 50%RB (body-worn)	L	22.98	23.00	1.00	---	---
		M	22.98	23.00	1.00	0.120	0.120
		H	22.94	23.00	1.01	---	---
Front		L	22.98	23.00	1.00	---	---
		M	22.98	23.00	1.00	0.144	0.144
		H	22.94	23.00	1.01	---	---
Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					10g Average	10g Average
Front	10BW 1RB (Limb)	L	23.74	24.00	1.06	---	---
		M	23.78	24.00	1.05	0.361	0.379
		H	23.76	24.00	1.06	---	---

Mode: LTE Band 13

fL (MHz)=782 MHz fM (MHz)=782MHz fH (MHz)= 782MHz

SAR Values (LTE BAND13)

Limit of SAR (W/kg) :< 1.6W/kg (1g Average)/4.0 W/kg (10g Average)

Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					1g Average	1g Average
Back	10BW 1RB (body-worn)	L	24.06	24.50	1.11	---	---
		M	24.06	24.50	1.11	0.320	0.355
		H	24.06	24.50	1.11	---	---
Front		L	24.06	24.50	1.11	---	---
		M	24.06	24.50	1.11	0.363	0.403
		H	24.06	24.50	1.11	---	---
Top	10BW 1RB (hotspot)	L	24.06	24.50	1.11	---	---
		M	24.06	24.50	1.11	0.227	0.252
		H	24.06	24.50	1.11	---	---
Bottom		L	24.06	24.50	1.11	---	---
		M	24.06	24.50	1.11	0.071	0.079
		H	24.06	24.50	1.11	---	---
Left		L	24.06	24.50	1.11	---	---
		M	24.06	24.50	1.11	0.084	0.093
		H	24.06	24.50	1.11	---	---
Right		L	24.06	24.50	1.11	---	---
		M	24.06	24.50	1.11	0.428	0.475
		H	24.06	24.50	1.11	---	---
Back	10BW 50%RB (body-worn)	L	23.04	23.50	1.11	---	---
		M	23.04	23.50	1.11	0.244	0.271
		H	23.04	23.50	1.11	---	---
Front		L	23.04	23.50	1.11	---	---
		M	23.04	23.50	1.11	0.281	0.312
		H	23.04	23.50	1.11	---	---
Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					10g Average	10g Average
Right	10BW 1RB (Limb)	L	24.06	24.50	1.11	---	---
		M	24.06	24.50	1.11	0.505	0.561
		H	24.06	24.50	1.11	---	---

Mode: LTE Band 17

fL (MHz)= 706.5 MHz fM (MHz)= 710MHz fH (MHz)= 713.5MHz

SAR Values (LTE BAND17)

Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					1g Average	1g Average
Back	10BW 1RB (body-worn)	L	23.77	24.00	1.05	---	---
		M	23.78	24.00	1.05	0.153	0.161
		H	23.73	24.00	1.06	---	---
Front		L	23.77	24.00	1.05	---	---
		M	23.78	24.00	1.05	0.183	0.192
		H	23.73	24.00	1.06	---	---
Top	10BW 1RB (hotspot)	L	23.77	24.00	1.05	---	---
		M	23.78	24.00	1.05	0.118	0.124
		H	23.73	24.00	1.06	---	---
Bottom		L	23.77	24.00	1.05	---	---
		M	23.78	24.00	1.05	0.028	0.029
		H	23.73	24.00	1.06	---	---
Left		L	23.77	24.00	1.05	---	---
		M	23.78	24.00	1.05	0.062	0.065
		H	23.73	24.00	1.06	---	---
Right		L	23.77	24.00	1.05	---	---
		M	23.78	24.00	1.05	0.222	0.233
		H	23.73	24.00	1.06	---	---
Back	10BW 50%RB (body-worn)	L	22.41	22.50	1.02	---	---
		M	22.48	22.50	1.00	0.120	0.120
		H	22.40	22.50	1.02	---	---
Front		L	22.41	22.50	1.02	---	---
		M	22.48	22.50	1.00	0.156	0.156
		H	22.40	22.50	1.02	---	---
Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					10g Average	10g Average
Right	10BW 1RB (Limb)	L	23.77	24.00	1.05	---	---
		M	23.78	24.00	1.05	0.235	0.247
		H	23.73	24.00	1.06	---	---

Mode: LTE Band 25

fL (MHz)=1882.5 MHz

fM (MHz)=1860MHz

fH (MHz)= 1905MHz

SAR Values (LTE BAND25)

Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					1g Average	1g Average
Back	10BW 1RB (body-worn)	L	23.16	23.50	1.08	---	---
		M	23.18	23.50	1.08	0.127	0.137
		H	23.13	23.50	1.09	---	---
Front		L	23.16	23.50	1.08	---	---
		M	23.18	23.50	1.08	0.112	0.121
		H	23.13	23.50	1.09	---	---
Top	10BW 1RB (hotspot)	L	23.16	23.50	1.08	---	---
		M	23.18	23.50	1.08	0.172	0.186
		H	23.13	23.50	1.09	---	---
Bottom		L	23.16	23.50	1.08	---	---
		M	23.18	23.50	1.08	0.012	0.013
		H	23.13	23.50	1.09	---	---
Left		L	23.16	23.50	1.08	---	---
		M	23.18	23.50	1.08	0.039	0.042
		H	23.13	23.50	1.09	---	---
Right		L	23.16	23.50	1.08	---	---
		M	23.18	23.50	1.08	0.291	0.314
		H	23.13	23.50	1.09	---	---
Back	10BW 50%RB (body-worn)	L	22.10	22.50	1.10	---	---
		M	22.18	22.50	1.08	0.099	0.107
		H	22.15	22.50	1.08	---	---
Front		L	22.10	22.50	1.10	---	---
		M	22.18	22.50	1.08	0.083	0.090
		H	22.15	22.50	1.08	---	---
Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					10g Average	10g Average
Right	10BW 1RB (Limb)	L	23.16	23.50	1.08	---	---
		M	23.18	23.50	1.08	0.452	0.488
		H	23.13	23.50	1.09	---	---

Mode: LTE Band 26

fL (MHz)=831.5 MHz

fM (MHz)=821.5MHz

fH (MHz)= 841.5MHz

SAR Values (LTE BAND26)

Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					1g Average	1g Average
Back	15BW 1RB (body-worn)	L	23.76	24.00	1.06	---	---
		M	23.81	24.00	1.04	0.226	0.235
		H	23.79	24.00	1.05	---	---
Front		L	23.76	24.00	1.06	---	---
		M	23.81	24.00	1.04	0.232	0.241
		H	23.79	24.00	1.05	---	---
Top	15BW 1RB (hotspot)	L	23.76	24.00	1.06	---	---
		M	23.81	24.00	1.04	0.150	0.156
		H	23.79	24.00	1.05	---	---
Bottom		L	23.76	24.00	1.06	---	---
		M	23.81	24.00	1.04	0.028	0.029
		H	23.79	24.00	1.05	---	---
Left		L	23.76	24.00	1.06	---	---
		M	23.81	24.00	1.04	0.042	0.044
		H	23.79	24.00	1.05	---	---
Right		L	23.76	24.00	1.06	---	---
		M	23.81	24.00	1.04	0.337	0.350
		H	23.79	24.00	1.05	---	---
Back	15BW 50%RB (body-worn)	L	22.59	23.00	1.10	---	---
		M	22.68	23.00	1.08	0.183	0.198
		H	22.66	23.00	1.08	---	---
Front		L	22.59	23.00	1.10	---	---
		M	22.68	23.00	1.08	0.193	0.208
		H	22.66	23.00	1.08	---	---
Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					10g Average	10g Average
Right	15BW 1RB (Limb)	L	23.76	24.00	1.06	---	---
		M	23.81	24.00	1.04	0.492	0.512
		H	23.79	24.00	1.05	---	---

Mode: LTE Band 38

fL (MHz)= 2580 MHz

fM (MHz)= 2595MHz

fH (MHz)= 2610MHz

SAR Values (LTE BAND38)

Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					1g Average	1g Average
Back	20BW 1RB (body-worn)	L	23.73	24.00	1.06	---	---
		M	23.76	24.00	1.06	0.103	0.109
		H	23.76	24.00	1.06	---	---
Front		L	23.73	24.00	1.06	---	---
		M	23.76	24.00	1.06	0.125	0.133
		H	23.76	24.00	1.06	---	---
Top	20BW 1RB (hotspot)	L	23.73	24.00	1.06	---	---
		M	23.76	24.00	1.06	0.069	0.073
		H	23.76	24.00	1.06	---	---
Bottom		L	23.73	24.00	1.06	---	---
		M	23.76	24.00	1.06	0.013	0.014
		H	23.76	24.00	1.06	---	---
Left		L	23.73	24.00	1.06	---	---
		M	23.76	24.00	1.06	0.014	0.015
		H	23.76	24.00	1.06	---	---
Right		L	23.73	24.00	1.06	---	---
		M	23.76	24.00	1.06	0.141	0.149
		H	23.76	24.00	1.06	---	---
Back	20BW 50%RB (body-worn)	L	22.60	23.00	1.10	---	---
		M	22.63	23.00	1.09	0.097	0.106
		H	22.53	23.00	1.11	---	---
Front		L	22.60	23.00	1.10	---	---
		M	22.63	23.00	1.09	0.112	0.122
		H	22.53	23.00	1.11	---	---
Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					10g Average	10g Average
Right	20BW 1RB (Limb)	L	23.73	24.00	1.06	---	---
		M	23.76	24.00	1.06	0.197	0.209
		H	23.76	24.00	1.06	---	---

Mode: LTE Band 41

fL (MHz)= 2545MHz

fM (MHz)= 2593MHz

fH (MHz)= 2645MHz

SAR Values (LTE BAND41)

Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					1g Average	1g Average
Back	20BW 1RB (body-worn)	L	23.87	24.00	1.03	---	---
		M	23.92	24.00	1.02	0.111	0.113
		H	23.85	24.00	1.04	---	---
Front		L	23.87	24.00	1.03	---	---
		M	23.92	24.00	1.02	0.127	0.130
		H	23.85	24.00	1.04	---	---
Top	20BW 1RB (hotspot)	L	23.87	24.00	1.03	---	---
		M	23.92	24.00	1.02	0.071	0.072
		H	23.85	24.00	1.04	---	---
Bottom		L	23.87	24.00	1.03	---	---
		M	23.92	24.00	1.02	0.016	0.016
		H	23.85	24.00	1.04	---	---
Left		L	23.87	24.00	1.03	---	---
		M	23.92	24.00	1.02	0.014	0.014
		H	23.85	24.00	1.04	---	---
Right		L	23.87	24.00	1.03	---	---
		M	23.92	24.00	1.02	0.149	0.152
		H	23.85	24.00	1.04	---	---
Back	20BW 50%RB (body-worn)	L	22.62	23.00	1.09	---	---
		M	22.67	23.00	1.08	0.107	0.116
		H	22.66	23.00	1.08	---	---
Front		L	22.62	23.00	1.09	---	---
		M	22.67	23.00	1.08	0.114	0.123
		H	22.66	23.00	1.08	---	---
Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					10g Average	10g Average
Right	20BW 1RB (Limb)	L	23.87	24.00	1.03	---	---
		M	23.92	24.00	1.02	0.206	0.210
		H	23.85	24.00	1.04	---	---

Mode: LTE Band 66

fL (MHz)= 1720 MHz

fM (MHz)= 1745MHz

fH (MHz)= 1770MHz

SAR Values (LTE BAND66)

Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					1g Average	1g Average
Back	20BW 1RB (body-worn)	L	24.02	24.50	1.12	---	---
		M	24.12	24.50	1.09	0.167	0.182
		H	24.04	24.50	1.11	---	---
Front		L	24.02	24.50	1.12	---	---
		M	24.12	24.50	1.09	0.162	0.177
		H	24.04	24.50	1.11	---	---
Top	20BW 1RB (hotspot)	L	24.02	24.50	1.12	---	---
		M	24.12	24.50	1.09	0.193	0.210
		H	24.04	24.50	1.11	---	---
Bottom		L	24.02	24.50	1.12	---	---
		M	24.12	24.50	1.09	0.006	0.007
		H	24.04	24.50	1.11	---	---
Left		L	24.02	24.50	1.12	---	---
		M	24.12	24.50	1.09	0.004	0.004
		H	24.04	24.50	1.11	---	---
Right		L	24.02	24.50	1.12	---	---
		M	24.12	24.50	1.09	0.199	0.217
		H	24.04	24.50	1.11	---	---
Back	20BW 50%RB (body-worn)	L	22.85	23.00	1.04	---	---
		M	22.89	23.00	1.03	0.145	0.149
		H	22.88	23.00	1.03	---	---
Front		L	22.85	23.00	1.04	---	---
		M	22.89	23.00	1.03	0.141	0.145
		H	22.88	23.00	1.03	---	---
Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					10g Average	10g Average
Right	20BW 1RB (Limb)	L	24.02	24.50	1.12	---	---
		M	24.12	24.50	1.09	0.381	0.415
		H	24.04	24.50	1.11	---	---

Mode: Wi-Fi 2.4GHz

fL (MHz)=2412MHz fM (MHz)=2437MHz

fH (MHz)= 2462MHz

SAR Values (Wi-Fi 802.11b)

Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					1g Average	1g Average
Back	802.11b (body-worn)	L	16.11	16.50	1.09	---	---
		M	16.18	16.50	1.08	0.208	0.225
		H	16.31	16.50	1.04	---	---
Front		L	16.11	16.50	1.09	---	---
		M	16.18	16.50	1.08	0.030	0.032
		H	16.31	16.50	1.04	---	---
Top	802.11b (hotspot)	L	16.11	16.50	1.09	---	---
		M	16.18	16.50	1.08	0.077	0.083
		H	16.31	16.50	1.04	---	---
Bottom		L	16.11	16.50	1.09	---	---
		M	16.18	16.50	1.08	0.003	0.003
		H	16.31	16.50	1.04	---	---
Left		L	16.11	16.50	1.09	---	---
		M	16.18	16.50	1.08	0.048	0.052
		H	16.31	16.50	1.04	---	---
Right		L	16.11	16.50	1.09	---	---
		M	16.18	16.50	1.08	0.012	0.013
		H	16.31	16.50	1.04	---	---
Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					10g Average	10g Average
Back	802.11b (Limb)	L	16.11	16.50	1.09	---	---
		M	16.18	16.50	1.08	0.390	0.421
		H	16.31	16.50	1.04	---	---

Mode: WIFI UNII-1

fL (MHz)=5180MHz fM (MHz)=5200MHz fH (MHz)= 5240MHz
SAR Values (Wi-Fi 802.11n20)

Top	802.11n20 (hotspot)	L	14.67	15.00	1.08	---	---
		M	14.77	15.00	1.05	0.015	0.016
		H	14.73	15.00	1.06	---	---
Bottom		L	14.67	15.00	1.08	---	---
		M	14.77	15.00	1.05	0.002	0.002
		H	14.73	15.00	1.06	---	---
Left		L	14.67	15.00	1.08	---	---
		M	14.77	15.00	1.05	0.031	0.033
		H	14.73	15.00	1.06	---	---
Right		L	14.67	15.00	1.08	---	---
		M	14.77	15.00	1.05	0.003	0.003
		H	14.73	15.00	1.06	---	---

Mode: WIFI UNII-2A

fL (MHz)=5260MHz fM (MHz)=5300MHz fH (MHz)= 5320MHz
SAR Values (Wi-Fi 802.11a)

Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					1g Average	1g Average
Back	802.11a (body-worn)	L	14.75	15.00	1.06	---	---
		M	14.79	15.00	1.05	0.126	0.132
		H	14.69	15.00	1.07	---	---
Front		L	14.75	15.00	1.06	---	---
		M	14.79	15.00	1.05	0.022	0.023
		H	14.69	15.00	1.07	---	---
Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					10g Average	10g Average
Back	802.11a (Limb)	L	14.75	15.00	1.06	---	---
		M	14.79	15.00	1.05	0.239	0.251
		H	14.69	15.00	1.07	---	---

Mode: WIFI UNII-2C

fL (MHz)=5500MHz fM (MHz)=5580MHz fH (MHz)= 5700MHz

SAR Values (Wi-Fi 802.11a)

Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					1g Average	1g Average
Back	802.11a (body-worn)	L	14.73	15.00	1.06	---	---
		M	14.77	15.00	1.05	0.146	0.153
		H	14.74	15.00	1.06	---	---
Front		L	14.73	15.00	1.06	---	---
		M	14.77	15.00	1.05	0.031	0.033
		H	14.74	15.00	1.06	---	---
Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					10g Average	10g Average
Back	802.11a (Limb)	L	14.73	15.00	1.06	---	---
		M	14.77	15.00	1.05	0.284	0.298
		H	14.74	15.00	1.06	---	---

Mode: WIFI UNII-3

fL (MHz)=5745MHz fM (MHz)=5785MHz fH (MHz)= 5825MHz

SAR Values (Wi-Fi 802.11a)

Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					1g Average	1g Average
Back	802.11a (body-worn)	L	14.73	15.00	1.06	---	---
		M	14.80	15.00	1.05	0.080	0.083
		H	14.81	15.00	1.04	---	---
Front		L	14.73	15.00	1.06	---	---
		M	14.80	15.00	1.05	0.010	0.011
		H	14.81	15.00	1.04	---	---
Top	802.11a (hotspot)	L	14.73	15.00	1.06	---	---
		M	14.80	15.00	1.05	0.012	0.013
		H	14.81	15.00	1.04	---	---
Bottom		L	14.73	15.00	1.06	---	---
		M	14.80	15.00	1.05	0.002	0.002
		H	14.81	15.00	1.04	---	---
Left		L	14.73	15.00	1.06	---	---
		M	14.80	15.00	1.05	0.015	0.016
		H	14.81	15.00	1.04	---	---
Right		L	14.73	15.00	1.06	---	---
		M	14.80	15.00	1.05	0.001	0.001
		H	14.81	15.00	1.04	---	---
Test Case		Ch	Measure Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Measure Results (W/kg)	Reported Results (W/kg)
position	mode					10g Average	10g Average
Back	802.11a (Limb)	L	14.73	15.00	1.06	---	---
		M	14.80	15.00	1.05	0.173	0.182
		H	14.81	15.00	1.04	---	---

6.12 SAR Measurement Variability

SAR measurement variability must be assessed for each frequency band, which is determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. When both head and body tissue-equivalent media are required for SAR measurements in a frequency band, the variability measurement procedures should be applied to the tissue medium with the highest measured SAR, using the highest measured SAR configuration for that tissue-equivalent medium.

The following procedures are applied to determine if repeated measurements are required.

- 1) Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg; steps 2) through 4) do not apply.
- 2) When the original highest measured SAR is ≥ 0.80 W/kg, repeat that measurement once.
- 3) Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is ≥ 1.45 W/kg ($\sim 10\%$ from the 1-g SAR limit).
- 4) Perform a third repeated measurement only if the original, first or second repeated measurement is ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20 .

The Highest Reported SAR configuration in Each Frequency Band

Frequency band	Air interface	Body-worn(w/kg)	Hotspot(w/kg)
850 MHz	GSM850 WCDMA BAND5 LTE BAND5	≤ 0.8	≤ 0.8
1800/1900 MHz	GSM1900 WCDMA BAND2 LTE BAND4 LTE BAND2	> 0.8	> 0.8
2.4 GHz	WIFI 2.4 GHz LTE BAND7 LTE BAND38	≤ 0.8	≤ 0.8
5 GHz	WIFI 5 GHz	≤ 0.8	> 0.8

6.13 Simultaneous Transmission SAR Analysis

The sum of SAR values for GSM & Wi-Fi

	MAXIMUM SAR VALUE FOR BODY WORN	MAXIMUM SAR VALUE FOR HOTSPOT
GSM	0.202	0.202
Wi-Fi	0.225	0.225
Sum	0.427	0.427
Note	Back: GSM850+wifi2.4G	Back: GSM850+wifi2.4G

According to the above tables, the sum of SAR values for GSM and Wi-Fi < 1.6W/kg. So simultaneous transmission SAR are not required for Wi-Fi transmitter.

The sum of SAR values for WCDMA & Wi-Fi

	MAXIMUM SAR VALUE FOR BODY	MAXIMUM SAR VALUE FOR HOTSPOT
WCDMA	0.287	0.287
Wi-Fi	0.225	0.225
Sum	0.512	0.512
Note	Back: WCDMAV+ wifi2.4G	Back: WCDMAV+ wifi2.4G

According to the above tables, the sum of SAR values for WCDMA and Wi-Fi < 1.6W/kg. So simultaneous transmission SAR are not required for Wi-Fi transmitter.

The sum of SAR values for CDMA & Wi-Fi

	MAXIMUM SAR VALUE FOR BODY	MAXIMUM SAR VALUE FOR HOTSPOT
CDMA	0.568	0.831
Wi-Fi	0.225	0.013
Sum	0.793	0.844
Note	Back: CDMA BC1+ wifi2.4G	Right: CDMA BC1+ wifi2.4G

According to the above tables, the sum of SAR values for CDMA and Wi-Fi < 1.6W/kg. So simultaneous transmission SAR are not required for Wi-Fi transmitter.

The sum of SAR values for LTE & Wi-Fi

	MAXIMUM SAR VALUE FOR BODY	MAXIMUM SAR VALUE FOR HOTSPOT
LTE	0.355	0.355
Wi-Fi	0.225	0.225
Sum	0.580	0.580
Note	Back: LTE13 + wifi2.4G	Back: LTE13 + wifi2.4G

According to the above tables, the sum of SAR values for LTE and Wi-Fi < 1.6W/kg. So simultaneous transmission SAR are not required for Wi-Fi transmitter.

The sum of SAR values for GSM & Bluetooth

	MAXIMUM SAR VALUE FOR BODY WORN
GSM	0.222
Bluetooth	0.130
Sum	0.352
Note	Front: GSM850+BT

According to the above tables, the sum of SAR values for GSM and BT < 1.6W/kg. So simultaneous transmission SAR are not required for Wi-Fi transmitter.

The sum of SAR values for WCDMA & BT

	MAXIMUM SAR VALUE FOR BODY
WCDMA	0.295
Bluetooth	0.130
Sum	0.425
Note	Front: WCDMAV+ BT

According to the above tables, the sum of SAR values for WCDMA and BT < 1.6W/kg. So simultaneous transmission SAR are not required for Wi-Fi transmitter.

The sum of SAR values for CDMA & BT

	MAXIMUM SAR VALUE FOR BODY
CDMA	0.568
Bluetooth	0.130
Sum	0.698
Note	Back: CDMA BC1+ BT

According to the above tables, the sum of SAR values for CDMA and BT < 1.6W/kg. So simultaneous transmission SAR are not required for Wi-Fi transmitter.

The sum of SAR values for LTE& BT

	MAXIMUM SAR VALUE FOR BODY
LTE	0.403
Bluetooth	0.130
Sum	0.533
Note	Front: LTE13 + BT

According to the above tables, the sum of SAR values for LTE and BT < 1.6W/kg. So simultaneous transmission SAR are not required for Wi-Fi transmitter.

The sum of SAR values for GSM & Bluetooth & Wi-Fi5G

	MAXIMUM SAR VALUE FOR BODY WORN
GSM	0.202
Bluetooth	0.130
Wi-Fi5G	0.153
Sum	0.485
Note	Back: GSM850+BT+ Wi-Fi5G

According to the above tables, the sum of SAR values for GSM、BT and Wi-Fi5G < 1.6W/kg. So simultaneous transmission SAR are not required for Wi-Fi transmitter.

The sum of SAR values for WCDMA & Bluetooth & Wi-Fi5G

	MAXIMUM SAR VALUE FOR BODY
WCDMA	0.287
Bluetooth	0.130
Wi-Fi5G	0.153
Sum	0.570
Note	Back: WCDMAV+ BT+ Wi-Fi5G

According to the above tables, the sum of SAR values for WCDMA 、BT and Wi-Fi5G < 1.6W/kg. So simultaneous transmission SAR are not required for Wi-Fi transmitter.

The sum of SAR values for CDMA & Bluetooth & Wi-Fi5G

	MAXIMUM SAR VALUE FOR BODY
CDMA	0.568
Bluetooth	0.130
Wi-Fi5G	0.153
Sum	0.851
Note	Back: CDMA BC1+ BT+ Wi-Fi5G

According to the above tables, the sum of SAR values for CDMA 、BT and Wi-Fi5G < 1.6W/kg. So simultaneous transmission SAR are not required for Wi-Fi transmitter.

The sum of SAR values for LTE& Bluetooth & Wi-Fi5G

	MAXIMUM SAR VALUE FOR BODY
LTE	0.355
Bluetooth	0.130
Wi-Fi5G	0.153
Sum	0.638
Note	Back: LTE13 + BT+ Wi-Fi5G

According to the above tables, the sum of SAR values for LTE 、BT and Wi-Fi5G < 1.6W/kg. So simultaneous transmission SAR are not required for Wi-Fi transmitter.

7 MEASUREMENT UNCERTAINTY

(0.3 - 3 GHz range)								
Error Description	Uncert. value	Prob. Dist.	Div.	(c_i) 1g	(c_i) 10g	Std. Unc. (1g)	Std. Unc. (10g)	(v_i) v_{eff}
Measurement System								
Probe Calibration	±6.0 %	N	1	1	1	±6.0 %	±6.0 %	∞
Axial Isotropy	±4.7 %	R	$\sqrt{3}$	0.7	0.7	±1.9 %	±1.9 %	∞
Hemispherical Isotropy	±9.6 %	R	$\sqrt{3}$	0.7	0.7	±3.9 %	±3.9 %	∞
Boundary Effects	±1.0 %	R	$\sqrt{3}$	1	1	±0.6 %	±0.6 %	∞
Linearity	±4.7 %	R	$\sqrt{3}$	1	1	±2.7 %	±2.7 %	∞
System Detection Limits	±1.0 %	R	$\sqrt{3}$	1	1	±0.6 %	±0.6 %	∞
Modulation Response ^m	±2.4 %	R	$\sqrt{3}$	1	1	±1.4 %	±1.4 %	∞
Readout Electronics	±0.3 %	N	1	1	1	±0.3 %	±0.3 %	∞
Response Time	±0.8 %	R	$\sqrt{3}$	1	1	±0.5 %	±0.5 %	∞
Integration Time	±2.6 %	R	$\sqrt{3}$	1	1	±1.5 %	±1.5 %	∞
RF Ambient Noise	±3.0 %	R	$\sqrt{3}$	1	1	±1.7 %	±1.7 %	∞
RF Ambient Reflections	±3.0 %	R	$\sqrt{3}$	1	1	±1.7 %	±1.7 %	∞
Probe Positioner	±0.4 %	R	$\sqrt{3}$	1	1	±0.2 %	±0.2 %	∞
Probe Positioning	±2.9 %	R	$\sqrt{3}$	1	1	±1.7 %	±1.7 %	∞
Max. SAR Eval.	±2.0 %	R	$\sqrt{3}$	1	1	±1.2 %	±1.2 %	∞
Test Sample Related								
Device Positioning	±2.9 %	N	1	1	1	±2.9 %	±2.9 %	145
Device Holder	±3.6 %	N	1	1	1	±3.6 %	±3.6 %	5
Power Drift	±5.0 %	R	$\sqrt{3}$	1	1	±2.9 %	±2.9 %	∞
Power Scaling ^P	±0 %	R	$\sqrt{3}$	1	1	±0.0 %	±0.0 %	∞
Phantom and Setup								
Phantom Uncertainty	±6.1 %	R	$\sqrt{3}$	1	1	±3.5 %	±3.5 %	∞
SAR correction	±1.9 %	R	$\sqrt{3}$	1	0.84	±1.1 %	±0.9 %	∞
Liquid Conductivity (mea.) ^{DAK}	±2.5 %	R	$\sqrt{3}$	0.78	0.71	±1.1 %	±1.0 %	∞
Liquid Permittivity (mea.) ^{DAK}	±2.5 %	R	$\sqrt{3}$	0.26	0.26	±0.3 %	±0.4 %	∞
Temp. unc. - Conductivity ^{BB}	±3.4 %	R	$\sqrt{3}$	0.78	0.71	±1.5 %	±1.4 %	∞
Temp. unc. - Permittivity ^{BB}	±0.4 %	R	$\sqrt{3}$	0.23	0.26	±0.1 %	±0.1 %	∞
Combined Std. Uncertainty						±11.2 %	±11.1 %	361
Expanded STD Uncertainty						±22.3 %	±22.2 %	

(3 - 6 GHz range)								
Error Description	Uncert. value	Prob. Dist.	Div.	(c _s) 1g	(c _s) 10g	Std. Unc. (1g)	Std. Unc. (10g)	(v _i) v _{eff}
Measurement System								
Probe Calibration	±6.55 %	N	1	1	1	±6.55 %	±6.55 %	∞
Axial Isotropy	±4.7 %	R	√3	0.7	0.7	±1.9 %	±1.9 %	∞
Hemispherical Isotropy	±9.6 %	R	√3	0.7	0.7	±3.9 %	±3.9 %	∞
Boundary Effects	±2.0 %	R	√3	1	1	±1.2 %	±1.2 %	∞
Linearity	±4.7 %	R	√3	1	1	±2.7 %	±2.7 %	∞
System Detection Limits	±1.0 %	R	√3	1	1	±0.6 %	±0.6 %	∞
Modulation Response ^m	±2.4 %	R	√3	1	1	±1.4 %	±1.4 %	∞
Readout Electronics	±0.3 %	N	1	1	1	±0.3 %	±0.3 %	∞
Response Time	±0.8 %	R	√3	1	1	±0.5 %	±0.5 %	∞
Integration Time	±2.6 %	R	√3	1	1	±1.5 %	±1.5 %	∞
RF Ambient Noise	±3.0 %	R	√3	1	1	±1.7 %	±1.7 %	∞
RF Ambient Reflections	±3.0 %	R	√3	1	1	±1.7 %	±1.7 %	∞
Probe Positioner	±0.8 %	R	√3	1	1	±0.5 %	±0.5 %	∞
Probe Positioning	±6.7 %	R	√3	1	1	±3.9 %	±3.9 %	∞
Max. SAR Eval.	±4.0 %	R	√3	1	1	±2.3 %	±2.3 %	∞
Test Sample Related								
Device Positioning	±2.9 %	N	1	1	1	±2.9 %	±2.9 %	145
Device Holder	±3.6 %	N	1	1	1	±3.6 %	±3.6 %	5
Power Drift	±5.0 %	R	√3	1	1	±2.9 %	±2.9 %	∞
Power Scaling ^p	±0 %	R	√3	1	1	±0.0 %	±0.0 %	∞
Phantom and Setup								
Phantom Uncertainty	±6.6 %	R	√3	1	1	±3.8 %	±3.8 %	∞
SAR correction	±1.9 %	R	√3	1	0.84	±1.1 %	±0.9 %	∞
Liquid Conductivity (mea.) ^{DAK}	±2.5 %	R	√3	0.78	0.71	±1.1 %	±1.0 %	∞
Liquid Permittivity (mea.) ^{DAK}	±2.5 %	R	√3	0.26	0.26	±0.3 %	±0.4 %	∞
Temp. unc. - Conductivity ^{BB}	±3.4 %	R	√3	0.78	0.71	±1.5 %	±1.4 %	∞
Temp. unc. - Permittivity ^{BB}	±0.4 %	R	√3	0.23	0.26	±0.1 %	±0.1 %	∞
Combined Std. Uncertainty						±12.3 %	±12.2 %	748
Expanded STD Uncertainty						±24.6 %	±24.5 %	

8 TEST EQUIPMENTS

The measurements were performed using an automated near-field scanning system, DASY5, manufactured by Schmid & Partner Engineering AG (SPEAG) in Switzerland. The SAR extrapolation algorithm used in all measurements was the 'advanced extrapolation' algorithm.

The following table lists calibration dates of SPEAG components:

Test Equipment	Model	Serial Number	Calibration date	Calibration Due data
DAE	DAE4	546	2018.10.15	2019.10.14
DAE	DAE4	720	2018.10.15	2019.10.14
Dosimetric E-field Probe	ES3DV3	3127	2018.11.02	2019.11.01
Dosimetric E-field Probe	EX3DV4	3708	2018.10.22	2019.10.21
Dipole Validation Kit	D750V3	1101	2017.09.13	2020.09.12
Dipole Validation Kit	D835V2	4d023	2017.09.13	2020.09.12
Dipole Validation Kit	D1800V2	2d084	2017.09.15	2020.09.14
Dipole Validation Kit	D2000V2	1009	2018.02.01	2021.01.31
Dipole Validation Kit	D2450V2	738	2017.09.18	2020.09.17
Dipole Validation Kit	D5GHzV2	1079	2017.09.25	2020.09.24

According to KDB 865664 D01 section 3.2.2, instead of the typical annual calibration recommended by measurement standards, longer calibration intervals of up to three years may be considered when it is demonstrated that the **SAR target, impedance and return loss** of a dipole have remain stable according to the following requirements.

- 1) The test laboratory must ensure that the required supporting information and documentation are included in the SAR report to qualify for the three-year extended calibration interval; otherwise, the IEEE Std 1528-2013 recommended annual calibration applies.
- 2) Immediate re-calibration is required for the following conditions.
 - a) After a dipole is damaged and properly repaired to meet required specifications.
 - b) When the measured SAR deviates from the calibrated SAR value by more than 10% due to changes in physical, mechanical, electrical or other relevant dipole conditions; i.e., the error is not introduced by incorrect measurement procedures or other issues relating to the SAR measurement system.
 - c) When the most recent return-loss result, measured at least annually, deviates by more than 20% from the previous measurement (i.e. value in dB $\times$ 0.2) or not meeting the required 20 dB minimum return-loss requirement.
 - d) When the most recent measurement of the real or imaginary parts of the impedance, measured at least annually, deviates by more than 5 Ω from the previous measurement.

Dipole 750

SAR target

Refers to system check, measured SAR (1g and 10g) deviates from the Target SAR value of calibration report within 10%.

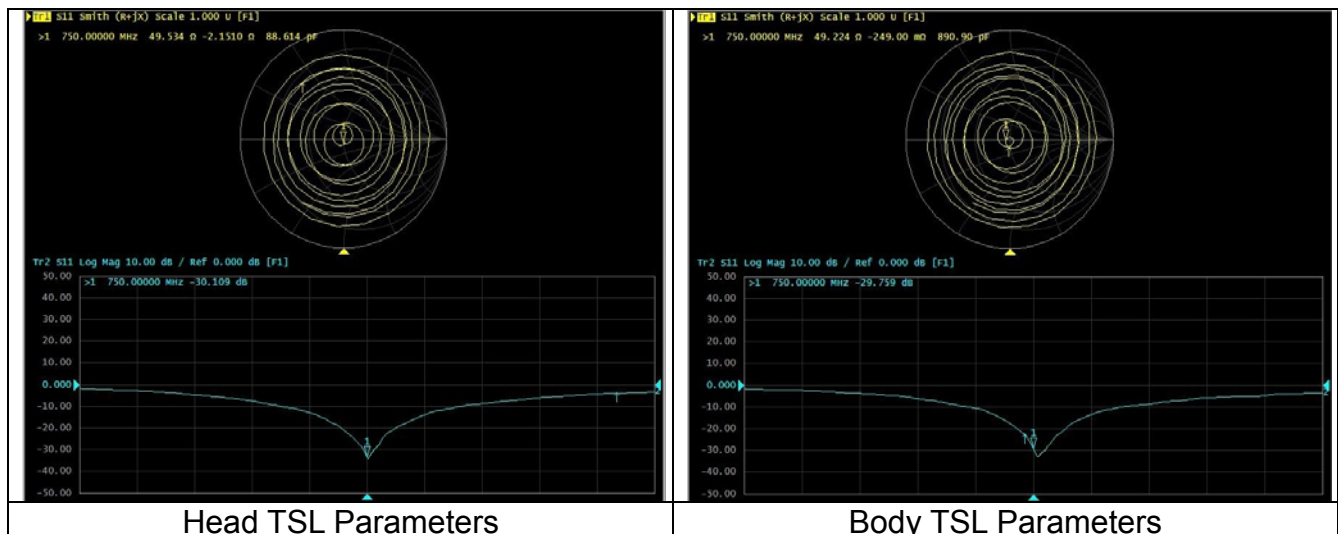
Impedance and Return loss measured by Network analyzer

The most recent measurement of the real or imaginary parts of the impedance (measured on 2018.8.20), deviates within 5 Ω from the previous measurement. (Data from the last calibration report)

The most recent return-loss result (measured on 2018.8.20) deviates within 20% from the previous measurement. (Data from the last calibration report)

Head TSL Parameters			
Parameters	Target (Ref. Value)	Measured data	Deviation
Impedance	53.9 Ω +0.24j Ω	49.5 Ω -2.15j Ω	<5 Ω
Return loss	-28.4dB	-29.8dB	<20%

Body TSL Parameters			
Parameters	Target (Ref. Value)	Measured data	Deviation
Impedance	52.0 Ω -2.22j Ω	49.2 Ω -0.25j Ω	<5 Ω
Return loss	-30.6dB	-30.1dB	<20%



Dipole 835

SAR target

Refers to system check, measured SAR (1g and 10g) deviates from the Target SAR value of calibration report within 10%.

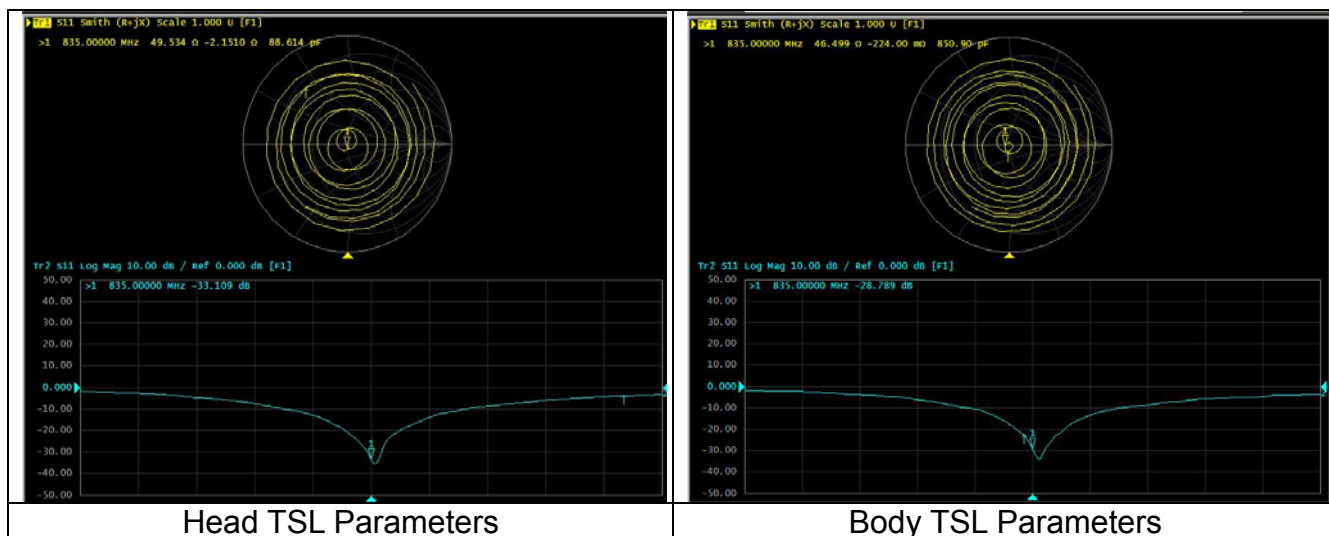
Impedance and Return loss measured by Network analyzer

The most recent measurement of the real or imaginary parts of the impedance (measured on 2018.8.20), deviates within 5 Ω from the previous measurement. (Data from the last calibration report)

The most recent return-loss result (measured on 2018.8.20) deviates within 20% from the previous measurement. (Data from the last calibration report)

Head TSL Parameters			
Parameters	Target (Ref. Value)	Measured data	Deviation
Impedance	51.0 Ω -2.79j Ω	49.5 Ω -2.15j Ω	<5 Ω
Return loss	-30.7 dB	-33.1 dB	<20%

Body TSL Parameters			
Parameters	Target (Ref. Value)	Measured data	Deviation
Impedance	46.6 Ω -3.61j Ω	49.5 Ω -0.22j Ω	<5 Ω
Return loss	-25.8dB	-28.8dB	<20%



Dipole1800

SAR target

Refers to system check, measured SAR (1g and 10g) deviates from the Target SAR value of calibration report within 10%.

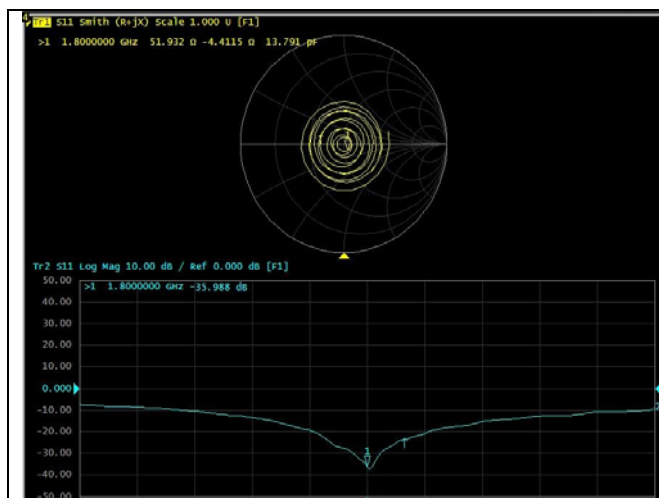
Impedance and Return loss measured by Network analyzer

The most recent measurement of the real or imaginary parts of the impedance (measured on 2018.8.20), deviates within 5 Ω from the previous measurement. (Data from the last calibration report)

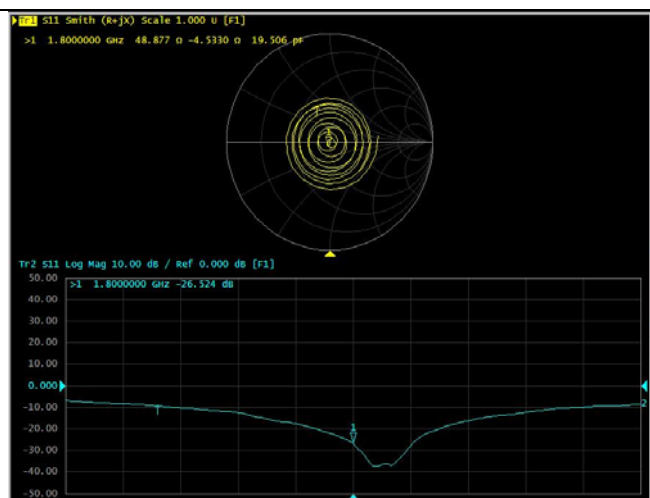
The most recent return-loss result (measured on 2018.8.20) deviates within 20% from the previous measurement. (Data from the last calibration report)

Head TSL Parameters			
Parameters	Target (Ref. Value)	Measured data	Deviation
Impedance	49.3 Ω -1.55j Ω	51.9 Ω -4.41j Ω	<5 Ω
Return loss	-35.4 dB	-36.0dB	<20%

Body TSL Parameters			
Parameters	Target (Ref. Value)	Measured data	Deviation
Impedance	46.0 Ω -1.32j Ω	48.9 Ω -4.53j Ω	<5 Ω
Return loss	-27.1dB	-26.5dB	<20%



Head TSL Parameters



Body TSL Parameters

Dipole2000

SAR target

Refers to system check, measured SAR (1g and 10g) deviates from the Target SAR value of calibration report within 10%.

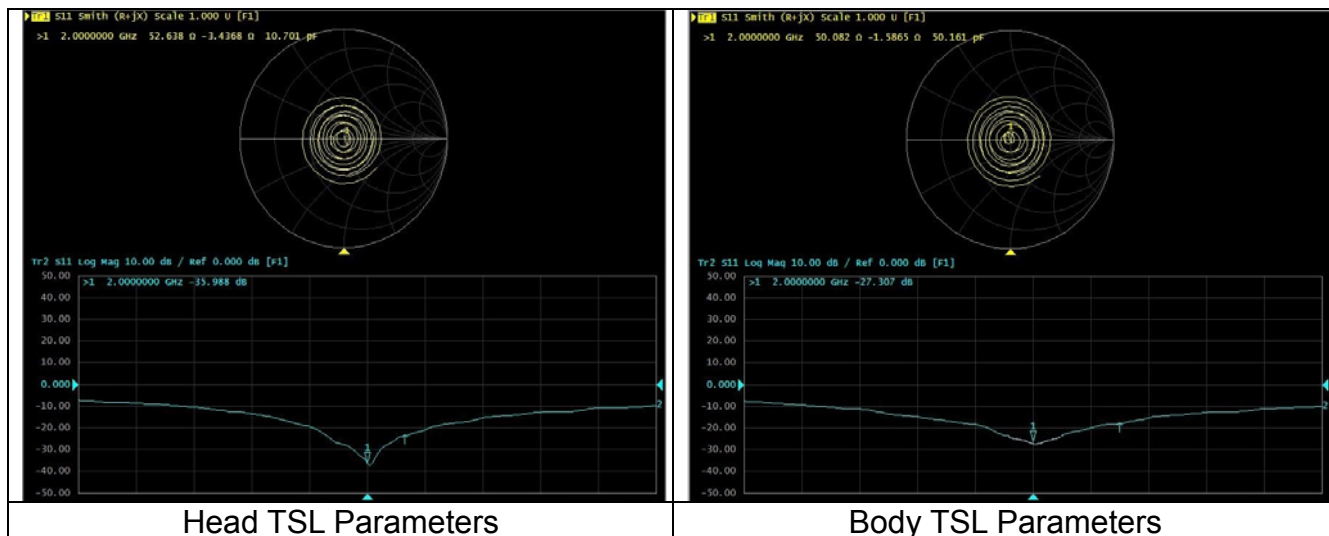
Impedance and Return loss measured by Network analyzer

The most recent measurement of the real or imaginary parts of the impedance (measured on 2018.8.20), deviates within 5 Ω from the previous measurement. (Data from the last calibration report)

The most recent return-loss result (measured on 2018.8.20) deviates within 20% from the previous measurement. (Data from the last calibration report)

Head TSL Parameters			
Parameters	Target (Ref. Value)	Measured data	Deviation
Impedance	49.8 Ω -2.08j Ω	52.6 Ω -3.44j Ω	<5 Ω
Return loss	-33.6dB	-36.0dB	<20%

Body TSL Parameters			
Parameters	Target (Ref. Value)	Measured data	Deviation
Impedance	46.3 Ω -1.63j Ω	50.1 Ω -1.59j Ω	<5 Ω
Return loss	-27.6dB	-27.3dB	<20%



Dipole2450

SAR target

Refers to system check, measured SAR (1g and 10g) deviates from the Target SAR value of calibration report within 10%.

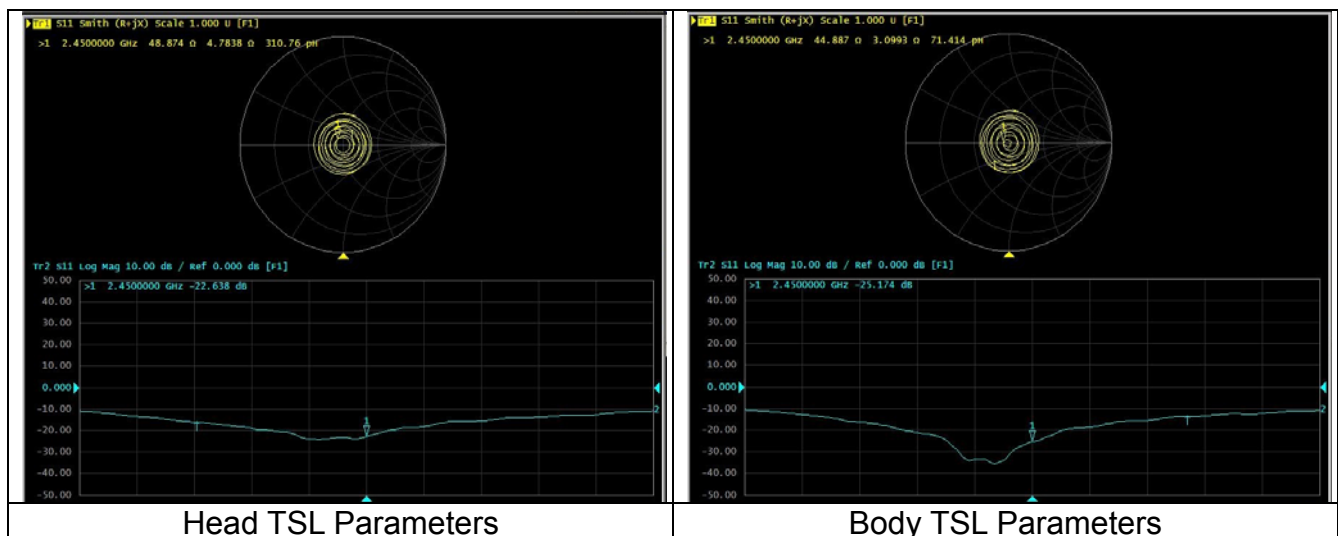
Impedance and Return loss measured by Network analyzer

The most recent measurement of the real or imaginary parts of the impedance (measured on 2018.8.20), deviates within 5 Ω from the previous measurement. (Data from the last calibration report)

The most recent return-loss result (measured on 2018.8.20) deviates within 20% from the previous measurement. (Data from the last calibration report)

Head TSL Parameters			
Parameters	Target (Ref. Value)	Measured data	Deviation
Impedance	51.3 Ω +5.92j Ω	48.9 Ω +4.78j Ω	<5 Ω
Return loss	-24.5 dB	-22.6dB	<20%

Body TSL Parameters			
Parameters	Target (Ref. Value)	Measured data	Deviation
Impedance	47.6 Ω +6.39j Ω	44.9 Ω +3.10j Ω	<5 Ω
Return loss	-23.1dB	-25.2dB	<20%



Dipole5GHz

SAR target

Refers to system check, measured SAR (1g and 10g) deviates from the Target SAR value of calibration report within 10%.

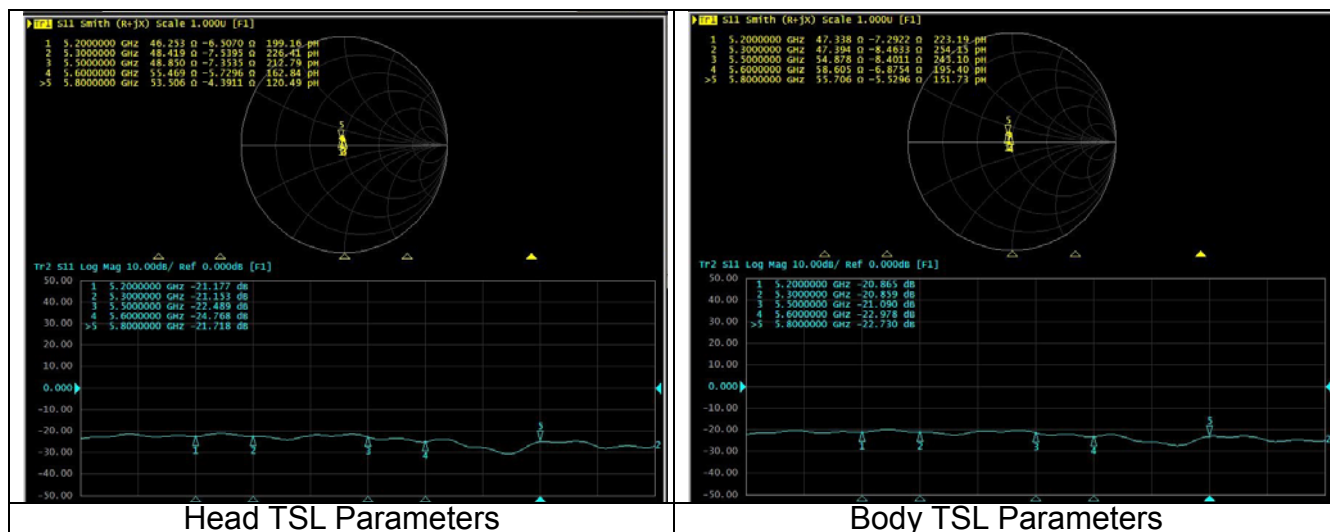
Impedance and Return loss measured by Network analyzer

The most recent measurement of the real or imaginary parts of the impedance (measured on 2018.8.20), deviates within 5 Ω from the previous measurement. (Data from the last calibration report)

The most recent return-loss result (measured on 2018.8.20) deviates within 20% from the previous measurement. (Data from the last calibration report)

Head TSL Parameters				
Parameters	Target (Ref. Value)	Measured data	Deviation	Frequency (MHz)
Impedance	47.6 Ω -8.77j Ω	46.3 Ω -6.51j Ω	<5 Ω	5200
Return loss	-20.7dB	-20.9dB	<20%	5200
Impedance	45.5 Ω -6.82j Ω	48.4 Ω -7.54j Ω	<5 Ω	5300
Return loss	-21.4dB	-20.9dB	<20%	5300
Impedance	50.7 Ω -7.14j Ω	48.9 Ω -7.35j Ω	<5 Ω	5500
Return loss	-23.0dB	-20.9dB	<20%	5500
Impedance	55.2 Ω -4.00j Ω	55.5 Ω -5.73j Ω	<5 Ω	5600
Return loss	-24.1dB	-20.9dB	<20%	5600
Impedance	52.2 Ω -8.20j Ω	53.5 Ω -4.39j Ω	<5 Ω	5800
Return loss	-21.6dB	-20.9dB	<20%	5800

Body TSL Parameters				
Parameters	Target (Ref. Value)	Measured data	Deviation	Frequency (MHz)
Impedance	50.8 Ω -10.10j Ω	47.3 Ω -7.29j Ω	<5 Ω	5200
Return loss	-20.0dB	-20.9dB	<20%	5200
Impedance	48.5 Ω -8.56j Ω	47.4 Ω -8.46j Ω	<5 Ω	5300
Return loss	-21.1dB	-20.9dB	<20%	5300
Impedance	54.9 Ω -6.85j Ω	54.9 Ω -8.40j Ω	<5 Ω	5500
Return loss	-21.9dB	-21.1dB	<20%	5500
Impedance	56.6 Ω -2.29j Ω	58.6 Ω -6.88j Ω	<5 Ω	5600
Return loss	-23.7dB	-23.0dB	<20%	5600
Impedance	56.7 Ω -8.10j Ω	55.7 Ω -5.53j Ω	<5 Ω	5800
Return loss	-20.2dB	-22.7dB	<20%	5800



Additional test equipment used in testing:

Test Equipment	Model	Serial Number	Calibration date	Calibration Due data
Signal Generator	E4428C	MY45280865	2018.08.20	2019.08.19
Signal Generator	SML 03	103514	2018.08.20	2019.08.19
Power meter	E4417A	MY45101182	2018.08.20	2019.08.19
Power Sensor	E4412A	MY41502214	2018.08.20	2019.08.19
Power Sensor	E4412A	MY41502130	2018.08.20	2019.08.19
Power meter	E4417A	MY45101004	2018.08.20	2019.08.19
Power Sensor	E9300B	MY41496001	2018.08.20	2019.08.19
Power Sensor	E9300B	MY41496003	2018.08.20	2019.08.19
Communication Tester	MT8820C	6201300660	2018.08.20	2019.08.19
Vector Network Analyzer	VNA R140	0011213	2018.10.17	2019.10.16
Dielectric Parameter Probe	DAKS-3.5	1042	2018.10.17	2019.10.16
Network Analyzer	E5072A	MY51100334	2018.03.01	2019.02.28
Directional coupler	AAMCS-UDC	000731	---	---
Measurement System	firmware		software	
DASY	DASY5PRO		Dasy52.10.1.1476	

Detailed information of Isotropic E-field Probe Type ES3DV3

Construction	Symmetrical design with triangular core Interleaved sensors Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Calibration	Calibration certificate in Appendix C
Frequency	10 MHz to 4 GHz; Linearity: ± 0.2 dB (30 MHz to 4 GHz)
Optical Surface Detection	± 0.2 mm repeatability in air and clear liquids over diffuse reflecting surfaces
Dimensions	Overall length: 337 mm (Tip: 20 mm) Tip diameter: 3.9 mm (Body: 12 mm) Distance from probe tip to dipole centers: 2.0 mm
Dynamic Range	5 μ W/g to > 100 W/kg; Linearity: ± 0.2 dB
Application	General dosimetry up to 4 GHz Dosimetry in strong gradient fields Compliance tests of mobile phones

Detailed information of Isotropic E-field Probe Type EX3DV4

Construction	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Calibration	Calibration certificate in Appendix C
Frequency	10 MHz to > 6 GHz Linearity: ± 0.2 dB (30 MHz to 6 GHz)
Optical Surface Detection	± 0.3 mm repeatability in air and clear liquids over diffuse reflecting surfaces
Dimensions	Overall length: 337 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm
Dynamic Range	10 μ W/g to > 100 W/kg Linearity: ± 0.2 dB (noise: typically < 1 μ W/g)
Application	High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields); the only probe that enables compliance testing for frequencies up to 6 GHz with precision of better 30%.

ANNEX A – TEST PLOTS

Please refer to the attachment.

ANNEX B – RELEVANT PAGES FROM CALIBRATION REPORTS

Please refer to the attachment.