TEST REPORT FOR SAR TESTING

Report No：SRTC2021-9004(F)-21022602(H)

Product Name: Ufi

Applicant: ZTE CORPORATION

Manufacturer: ZTE CORPORATION

Specification: Part 2.1093

IEEE Std 1528

KDB Procedures

FCC ID:SRQ-A101ZT

The State Radio_monitoring_center Testing Center (SRTC)

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1. GENERAL INFORMATION

1.1 Notes of the test report

The test report may only be reproduced or published in full. Reproduction or publication of extracts from the report requires the prior written permission of The State Radio_monitoring_center Testing Center (SRTC).

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)
Address:	15th Building, No.30 Shixing Street, Shijingshan District, Beijing P.R. China
City:	Beijing
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1.3 Applicant's details

Company:	ZTE CORPORATION
Address:	ZTE Plaza, #55 Keji Road South, Hi-Tech, Industrial Park, Nanshan District,Guangdong
City:	Shenzhen
Country or Region:	China
Contacted person:	Gong Yu

1.4 Manufacturer's details

Company:	ZTE CORPORATION
Address:	ZTE Plaza, #55 Keji Road South, Hi-Tech, Industrial Park, Nanshan District,Guangdong
City:	Shenzhen
Country or Region:	China
Contacted person:	Gong Yu

1.5 Test Environment

Date of Receipt of test sample at SRTC:	2021.03.04
Testing Start Date:	2021.03.04
Testing End Date:	2021.04.15

Environmental Data:	Temperature (°C)	Humidity (%)
Ambient	22~23	32~37

Normal Supply Voltage (Vdc.):	3.8

2. DESCRIPTION OF THE DEVICE UNDER TEST

2.1 Final Equipment Build Status

Wireless Technology and Frequency Bands	☐ GSM Band: GSM850/1900 ☒ WCDMA Band: FDD II/IV ☒ LTE Band: 2/4/12/17/41 ☒ Wi-Fi Band: 2.4GHz/5GHz(UNII-1) ☒ BT/BLE
Mode	GSM ☐ GPRS (GMSK) ☐ EGPRS (GMSK/8PSK) WCDMA ☒ UMTS Rel. 99 ☒ HSDPA (Rel. 5) ☒ HSUPA (Rel. 6) ☐ HSPA+ (Rel. 7) ☐ DC-HSDPA (Rel. 8) LTE ☒ QPSK ☒ 16QAM ☒ 64QAM Wi-Fi2.4GHz (802.11b/g/n/ax) ☒ 802.11b ☒ 802.11g ☒ 802.11n (20MHz/40MHz) ☒ 802.11ax (20MHz/40MHz) Wi-Fi5GHz ☒ 802.11a ☒ 802.11n (20MHz/40MHz) ☒ 802.11ac (20MHz/40MHz/80MHz) ☒ 802.11ax (20MHz/40MHz/80MHz) Bluetooth ☒ BR(GFSK) ☒ EDR(π/4 DQPSK , 8-DPSK) ☒ BLE(GFSK) NFC Phones with built-in NFC functions do not require separate SAR testing and can generally be tested according to the SAR measurement procedures normally required for the phone. Influences of the hardware introduced by the built-in NFC functions are inherently considered through testing of the other transmitters that require SAR evaluation.
Duty Cycle*	GPRS: 12.5% (1 Slot), 25% (2 Slots), 37.5% (3 Slots), 50% (4 Slots) EDGE(GMSK/8PSK) 12.5% (1 Slot), 25% (2 Slots), 37.5% (3 Slots), 50% (4 Slots) WCDMA: 100% LTE(FDD): 100% BT: DH5:80% 2DH5:100% 3DH5:80% BLE: 1M:67% WIFI2.4GHz: 11b:97.16% 11g:48.40% 11n20:99.32% 11n40:99.32% 11ax20:99.25% 11ax40:99.23% WIFI5.2GHz: 11a:98.20% 11n20:99.43% 11n40:99.26% 11ac20:99.31% 11ac40:99.23% 11ac80:99.19% 11ax20:99.29% 11ax40:99.31% 11ax80:99.26%
DTM	Not Supported
Note	For licensed cellular network duty cycle is inherent.

	For unlicensed network WLAN Duty cycle is depends on the data traffic, and the traffic allocation in operating mode could be the most conservative condition which with 100% duty cycle. SAR measurement also use non signalling mode, so the duty factor shall be taken into consideration.

2.2 Support Equipment

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

State of sample	Ufi
H/W Version S/W Version	mk6A 1.0.1.0
IMEI	866794050001925 866794050002329
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.

3. REFERENCE SPECIFICATION

Specification	Version	Title
Part 2.1093	2020	Radio frequency 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
KDB 447498 D01	v06	General RF Exposure Guidance
KDB 447498 D02	v02r01	SAR MEASUREMENT PROCEDURES FOR USB DONGLE TRANSMITTERS
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 is large than 15cm in the used SAM phantoms in flat section, and the depth of the tissue simulant was 15.0 ± 0.5 cm measured from the ear reference point during system checking and device measurements.

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 ± 0.02mm. 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.
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 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. All tests were carried out using simulants whose dielectric parameters were within ± 10% below 3GHz and ± 5% above 3GHz of the recommended values when use DASY system according to KDB865664D01. All tests were carried out within 24 hours of measuring the dielectric parameters.

Tissue Stimulant Recipes	
Name	Broadband tissue-equivalent liquid
Type	HBBL600-6000V6 Simulating Liquid
Note: The stimulant could be the same for head and body.	

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 Dasy system.

Device holder supplied by SPEAG

4.6.2 Test Exposure Conditions

4.6.2.1 Head Configuration

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 "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 normally determined according to the actual scene which might be the worst use condition for general exposure. The device’s front and rear were oriented facing the phantom since these orientations give higher results for most regular portable devices.

4.6.2.3 Hotspot Configuration

Hotspot mode SAR is measured for all edges and surfaces of the device with a transmitting antenna located within 25 mm from that surface or edge; for the data modes, wireless technologies and frequency bands supporting hotspot mode.

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~4GHz) and 10mm x 10mm (from 4GHz~6GHz) measurement grid used when two staggered one-dimensional cubic splines are used to estimate the maximum SAR location.
When the reported 1g-SAR estimated by area scan is less than 1.40 w/kg.
Zoom scan was performed by using the configuration mentioned below or more conservative scan area and step 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.
Below 3GHz：32mmX32mmX30mm scan area with 8 mm X8 mm X5 mm steps
2GHz-3GHz：32mmX32mmX30mm scan area with 8 mm X8 mm X5 mm steps
3GHz-4GHz：28mmX28mmX28mm scan area with 7 mm X7 mm X4 mm steps
4GHz-5GHz： 25mmX25mmX24mm scan area with 5 mm X5 mm X3 mm steps
5GHz-6GHz： 25mmX25mmX22mm scan area with 5 mm X5 mm X2 mm steps

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/Body-Worn/Hotspot exposure conditions 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.

Standalone Transmission Summary(1g- SAR)					
Exposure Position	Frequency Band	SAR Result(W/kg)	Highest SAR Result(W/kg)	Limit(W/kg)	Result
Body-Worn (10mm Gap)	WCDMA Band II	0.89	0.89	1.60	Pass
	WCDMA Band IV	0.85			
	LTE Band 2	0.67			
	LTE Band 4	0.74			
	LTE Band 12	0.46			
	LTE Band 17	0.48			
	LTE Band 41	0.60			
	WLAN 2.4GHz	0.33			
	WLAN 5.2GHz	0.70			
Hotspot (10mm Gap)	WCDMA Band II	0.89	1.04		
	WCDMA Band IV	0.85			
	LTE Band 2	0.67			
	LTE Band 4	1.03			
	LTE Band 12	0.46			
	LTE Band 17	0.48			
	LTE Band 41	0.60			
	WLAN 2.4GHz	0.33			
	WLAN 5.2GHz	0.70			

Simultaneous Transmission Summary

Simultaneous Transmission Summary(1g- SAR)					
Exposure Position	Mode	SAR Result(W/kg)	Highest SAR Result(W/kg)	Limit(W/kg)	Result
Body-Worn	WIFI 2.4G+WIFI 5.2G+WCDMA Band4	1.15	1.15	1.6	pass
Hotspot	WIFI 2.4G+WIFI 5.2G+WCDMA Band4	1.15			

This Test Report Is Approved by: Mr. Peng Zhen	Review by: Mr. Li Bin
Tested and issued by: Mr. Du Wei	Approved date: 2021.04.21

6 TEST RESULT

6.1 Measurement result

WCDMA Measurement result

Release 99

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

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
	RMC mode AMR mode	12.2kbps RMC 12.2kbps RMC in 3.4 kbps SRB
	Power Control Algorithm	Algorithm2
	βc/βd	8/15

Release 5

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	β_{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: $\triangle_{ACK}$, $\triangle_{NACK}$ and $\triangle_{CQI}$ =8⇔ $A_{hs}=\beta_{hs}/\beta_c=30/15 \Leftrightarrow \beta_{hs}=30/15*\beta_c$.

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 $\beta_d=15/15$.

Release 6

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	β_{hs}(1)	β_{ec}	β_{ed}	β_{ed} (SF)	β_{ed} (codes)	CM(2) (dB)	MPR (dB)	AG(4) Index	E-TFCI
1	11/15(3)	15/15 (3)	64	11/15(3)	22/15	209/225	1039/225	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	β_{ed1}:47/15 β_{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: $\triangle_{ACK}$, $\triangle_{NACK}$ and $\triangle_{CQI}$ =8⇔$A_{hs}=\beta_{hs}/\beta_c=30/15$⇔$\beta_{hs}=30/15*\beta_c$.

Note2: CM=1 for β_c/β_d =12/15, β_{hs}/β_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 β_c=10/15 and β_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 β_c=14/15 and β_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.

Release 7

The following 1 Sub-test was completed according to Release 7 procedures in section 5.2 of 3GPP TS34.121.

Table C.11.1.4: β **values for transmitter characteristics tests with HS-DPCCH and E-DCH with 16QAM**

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	$\beta_{ed}1$: 30/15 $\beta_{ed}2$: 30/15	$\beta_{ed}3$: 24/15 $\beta_{ed}4$: 24/15	3.5	2.5	14	105	105

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_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 β_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 signalled to use the extrapolation algorithm.

elease 8

Table E.5.0: Levels for HSDPA connection setup

Parameter During Connection setup	Unit	Value
P-CPICH_Ec/Ior	dB	-10
P-CCPCH and SCH_Ec/Ior	dB	-12
PICH _Ec/Ior	dB	-15
HS-PDSCH	dB	off
HS-SCCH_1	dB	off
DPCH_Ec/Ior	dB	-5
OCNS_Ec/Ior	dB	-3.1

Table C.8.1.12: Fixed Reference Channel H-Set 12

Parameter	Unit	Value
Nominal Avg. Inf. Bit Rate	kbps	60
Inter-TTI Distance	TTI's	1
Number of HARQ Processes	Processes	6
Information Bit Payload (N_{INF})	Bits	120
Number Code Blocks	Blocks	1
Binary Channel Bits Per TTI	Bits	960
Total Available SML's in UE	SML's	19200
Number of SML's per HARQ Proc.	SML's	3200
Coding Rate		0.15
Number of Physical Channel Codes	Codes	1
Modulation		QPSK
Note 1: The RMC is intended to be used for DC-HSDPA mode and both cells shall transmit with identical parameters as listed in the table. Note 2: Maximum number of transmission is limited to 1, i.e., retransmission is not allowed. The redundancy and constellation version 0 shall be used.		

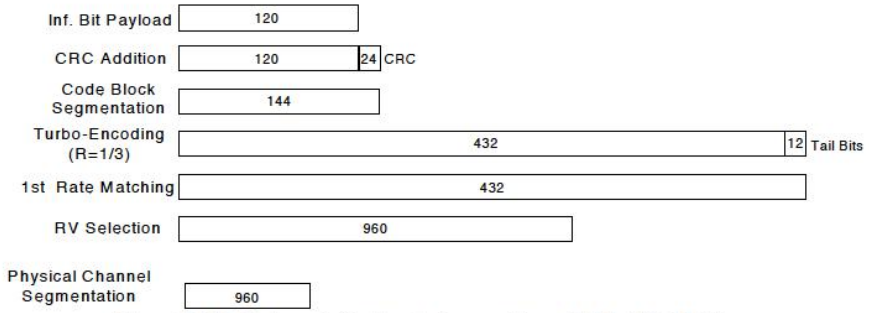


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

The following 4 Sub-tests for HSDPA were completed according to Release 8 procedures in section 5.2 of 3GPP TS34.121.

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{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: $\triangle_{ACK}$, $\triangle_{NACK}$ and $\triangle_{CQI}$ =8⇔ $A_{hs}=\beta_{hs}/\beta_c=30/15$⇔$\beta_{hs}=30/15*\beta_c$.
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 $\beta_d=15/15$.

WCDMA

WCDMA band II

Mode		Carrier frequency (MHz)	Channel No.	RF Power Output (dBm)	Tune-up Tolerance (dBm)
Release 99	RMC,12.2kbps	1852.4	9262	23.20	23.3
		1880	9400	23.05	
		1907.6	9538	23.30	
HSDPA	Subtest1	1852.4	9262	22.28	22.33
		1880	9400	22.12	
		1907.6	9538	22.33	
	Subtest2	1852.4	9262	22.28	22.33
		1880	9400	22.12	
		1907.6	9538	22.33	
	Subtest3	1852.4	9262	22.28	22.33
		1880	9400	22.12	
		1907.6	9538	22.33	
	Subtest4	1852.4	9262	22.28	22.33
		1880	9400	22.12	
		1907.6	9538	22.33	
HSUPA	Subtest1	1852.4	9262	22.24	22.31
		1880	9400	22.10	
		1907.6	9538	22.31	
	Subtest2	1852.4	9262	22.24	22.31
		1880	9400	22.10	
		1907.6	9538	22.31	
	Subtest3	1852.4	9262	22.24	22.31
		1880	9400	22.10	
		1907.6	9538	22.31	
	Subtest4	1852.4	9262	22.24	22.31
		1880	9400	22.10	
		1907.6	9538	22.31	
	Subtest5	1852.4	9262	22.24	22.31
		1880	9400	22.10	
		1907.6	9538	22.31	

WCDMA band IV

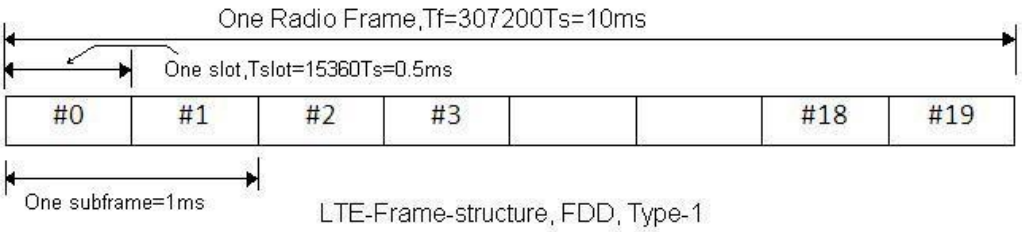
Mode		Carrier frequency (MHz)	Channel No.	RF Power Output (dBm)	Tune-up Tolerance (dBm)
Release 99	RMC,12.2kbps	1712.4	1312	23.68	25
		1732.6	1412	23.69	
		1752.6	1513	23.58	
HSDPA	Subtest1	1712.4	1312	22.64	24
		1732.6	1412	22.65	
		1752.6	1513	22.57	
	Subtest2	1712.4	1312	22.64	24
		1732.6	1412	22.65	
		1752.6	1513	22.57	
	Subtest3	1712.4	1312	22.64	23.5
		1732.6	1412	22.65	
		1752.6	1513	22.57	
	Subtest4	1712.4	1312	22.64	23.5
		1732.6	1412	22.65	
		1752.6	1513	22.57	
HSUPA	Subtest1	1712.4	1312	22.69	24
		1732.6	1412	22.68	
		1752.6	1513	22.52	
	Subtest2	1712.4	1312	22.69	22
		1732.6	1412	22.68	
		1752.6	1513	22.52	
	Subtest3	1712.4	1312	22.69	23
		1732.6	1412	22.68	
		1752.6	1513	22.52	
	Subtest4	1712.4	1312	22.69	22
		1732.6	1412	22.68	
		1752.6	1513	22.52	
	Subtest5	1712.4	1312	22.69	24
		1732.6	1412	22.68	
		1752.6	1513	22.52	

Note: UMTS SAR was tested under Rel.99 RMC 12.2kbps mode per KDB Publication 941225 D01.for other higher release configuration, SAR was not required since any average output power was not more than 0.25 dB higher than the RMC level.

LTE Measurement result

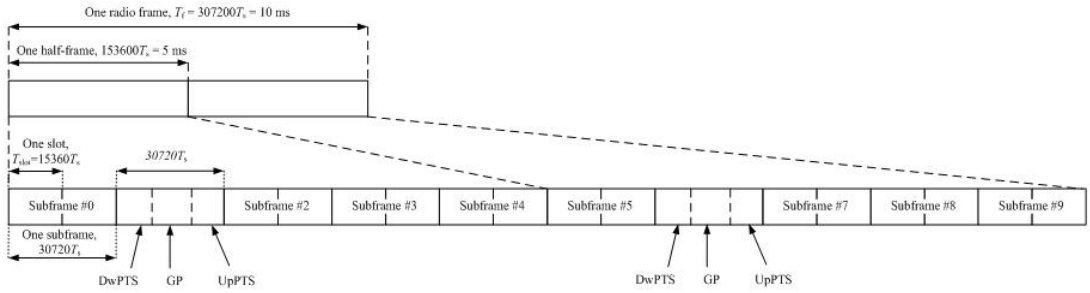
General description:

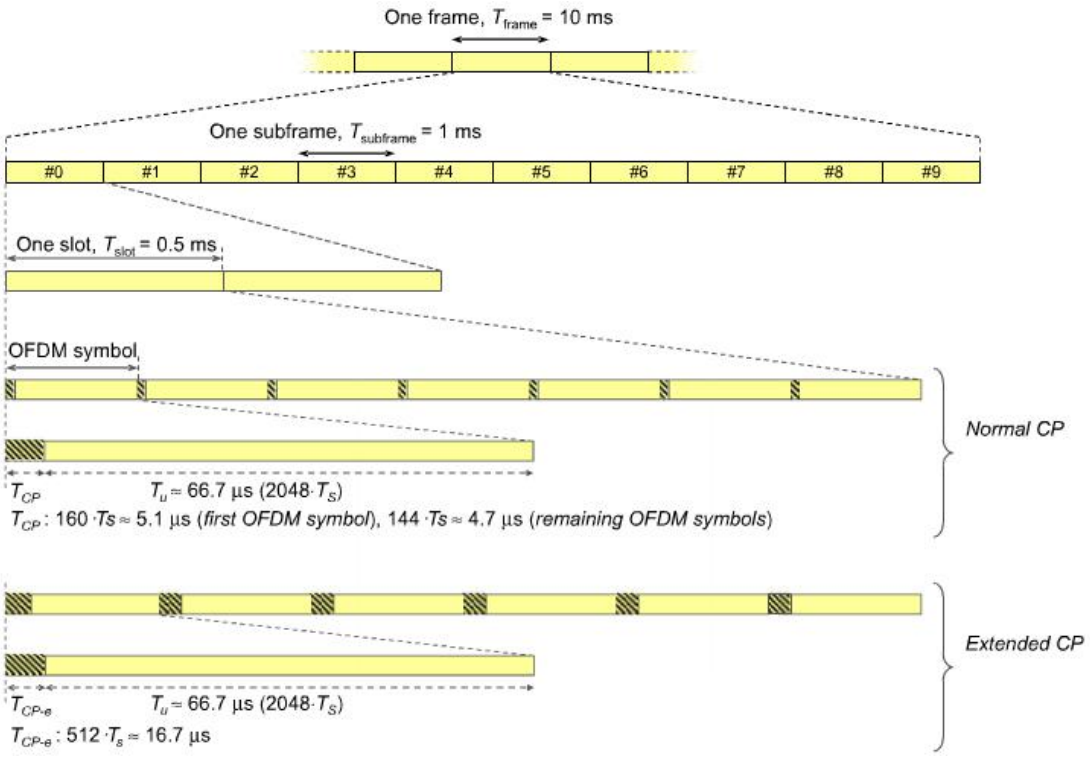
FDD-LTE frame structure



Type 1 is used as LTE FDD frame structure. As shown in the figure above, an LTE TDD frame is made of total 20 slots, each of 0.5ms. Two consecutive time slots will form one subframe. 10 such subframes form one radio frame. One subframe duration is about 1 ms.and the duty cycle is inherent as100%

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	$26336 \cdot T_s$			$7680 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$
5	$6592 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$	$20480 \cdot T_s$		
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 30720Ts=1ms, 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*3+5120)/(30720*5)=63.3% which we used to evaluate the SAR compliance (worst case)

LTE band 2

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)	Tune-up Tolerance (dBm)
QPSK	1850.7	18607	1.4	1	0	22.44	22.50
				1	3	22.48	22.50
				1	5	22.45	22.50
				3	0	22.52	23.00
				3	1	22.49	23.00
				3	3	22.48	23.00
				6	0	21.59	21.59
	1880	18900		1	0	22.21	22.50
				1	3	22.23	22.50
				1	5	22.23	22.50
				3	0	22.17	22.50
				3	1	22.16	22.50
				3	3	22.23	22.50
				6	0	21.23	21.23
	1909.3	19193		1	0	22.36	22.50
				1	3	22.30	22.50
				1	5	22.33	22.50
				3	0	22.37	22.50
				3	1	22.42	22.50
				3	3	22.35	22.50
				6	0	21.41	21.41
16QAM	1850.7	18607		1	0	21.62	22.00
				1	3	21.62	22.00
				1	5	21.61	22.00
				3	0	21.78	22.00
				3	1	21.85	22.00
				3	3	21.86	22.00
				6	0	20.64	20.64
	1880	18900		1	0	21.29	21.50
				1	3	21.39	21.50
				1	5	21.39	21.50
				3	0	21.15	21.50
				3	1	21.16	21.50
				3	3	21.15	21.50
				6	0	20.26	20.26
	1909.3	19193		1	0	21.48	22.00

				1	3	21.50	22.00
				1	5	21.57	22.00
				3	0	21.53	22.00
				3	1	21.49	22.00
				3	3	21.48	22.00
				6	0	20.36	20.36
64QAM	1850.7	18607	1.4	1	0	20.6	21.00
				1	3	20.6	21.00
				1	5	20.63	21.00
				3	0	20.56	21.00
				3	1	20.64	21.00
				3	3	20.56	21.00
				6	0	20.60	20.60
	1880	18900		1	0	20.32	20.50
				1	3	20.30	20.50
				1	5	20.26	20.50
				3	0	20.31	20.50
				3	1	20.26	20.50
				3	3	20.30	20.50
				6	0	20.25	20.25
	1909.3	19193		1	0	20.33	20.50
				1	3	20.28	20.50
				1	5	20.33	20.50
				3	0	20.39	20.50
				3	1	20.33	20.50
				3	3	20.39	20.50
				6	0	20.32	20.32

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)	Tune-up Tolerance (dBm)
QPSK	1851.5	18615	3	1	0	22.52	23.00
				1	8	22.53	23.00
				1	14	22.53	23.00
				8	0	21.60	22.00
				8	4	21.65	22.00
				8	7	21.65	22.00
				15	0	21.61	21.61
	1880	18900		1	0	22.25	22.50
				1	8	22.29	22.50
				1	14	22.29	22.50
				8	0	21.31	21.50
				8	4	21.36	21.50
				8	7	21.35	21.50
				15	0	21.37	21.37
	1908.5	19185		1	0	22.43	22.50
				1	8	22.44	22.50
				1	14	22.49	22.50
				8	0	21.46	22.00
				8	4	21.47	22.00
				8	7	21.51	22.00
				15	0	21.46	21.46
16QAM	1851.5	18615		1	0	22.25	22.50
				1	8	22.18	22.50
				1	14	22.27	22.50
				8	0	20.83	21.00
				8	4	20.78	21.00
				8	7	20.79	21.00
				15	0	20.72	20.72
	1880	18900		1	0	21.52	22.00
				1	8	21.53	22.00
				1	14	21.41	22.00
				8	0	20.28	20.50
				8	4	20.31	20.50
				8	7	20.36	20.50
				15	0	20.34	20.34
	1908.5	19185		1	0	21.63	22.00
				1	8	21.59	22.00

				1	14	21.69	22.00
				8	0	20.54	21.00
				8	4	20.53	21.00
				8	7	20.54	21.00
				15	0	20.58	20.58
64QAM	1851.5	18615	3	1	0	20.72	21.00
				1	8	20.72	21.00
				1	14	20.72	21.00
				8	0	20.71	21.00
				8	4	20.71	21.00
				8	7	20.72	21.00
				15	0	20.72	20.72
	1880	18900		1	0	20.34	20.50
				1	8	20.34	20.50
				1	14	20.26	20.50
				8	0	20.26	20.50
				8	4	20.27	20.50
				8	7	20.28	20.50
				15	0	20.34	20.34
	1908.5	19185		1	0	20.72	21.00
				1	8	20.57	21.00
				1	14	20.62	21.00
				8	0	20.57	21.00
				8	4	20.57	21.00
				8	7	20.57	21.00
				15	0	20.57	20.57

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)	Tune-up Tolerance (dBm)
QPSK	2498.5	39675	5	1	0	25.01	25.50
				1	12	25.09	25.50
				1	24	25.08	25.50
				12	0	24.11	24.50
				12	7	24.10	24.50
				12	13	24.09	24.50
				25	0	24.12	24.12
	2593	40620		1	0	24.99	25.50
				1	12	25.06	25.50
				1	24	25.09	25.50
				12	0	24.11	24.50
				12	7	24.17	24.50
				12	13	24.16	24.50
				25	0	24.11	24.11
	2687.5	41565		1	0	24.66	25.00
				1	12	24.66	25.00
				1	24	24.65	25.00
				12	0	23.72	24.00
				12	7	23.74	24.00
				12	13	23.73	24.00
				25	0	23.76	23.76
16QAM	2498.5	39675		1	0	24.54	25.00
				1	12	24.56	25.00
				1	24	24.53	25.00
				12	0	23.04	23.50
				12	7	23.06	23.50
				12	13	23.06	23.50
				25	0	23.14	23.14
	2593	40620		1	0	24.28	24.50
				1	12	24.34	24.50
				1	24	24.31	24.50
				12	0	23.11	23.50
				12	7	23.13	23.50
				12	13	23.20	23.50
				25	0	23.13	23.13
	2687.5	41565		1	0	24.14	24.50

				1	12	24.06	24.50
				1	24	24.09	24.50
				12	0	22.82	23.00
				12	7	22.76	23.00
				12	13	22.76	23.00
				25	0	22.77	22.77
64QAM	2498.5	39675	5	1	0	23.13	23.50
				1	12	23.13	23.50
				1	24	23.12	23.50
				12	0	23.12	23.50
				12	7	23.11	23.50
				12	13	23.12	23.50
				25	0	23.11	23.11
	2593	40620		1	0	23.13	23.50
				1	12	23.13	23.50
				1	24	23.15	23.50
				12	0	23.14	23.50
				12	7	23.14	23.50
				12	13	23.13	23.50
				25	0	23.13	23.13
	2687.5	41565		1	0	22.76	23.00
				1	12	22.77	23.00
				1	24	22.77	23.00
				12	0	22.76	23.00
				12	7	22.75	23.00
				12	13	22.76	23.00
				25	0	22.76	22.76

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)	Tune-up Tolerance (dBm)
QPSK	2501	39700	10	1	0	25.01	25.50
				1	25	25.01	25.50
				1	49	25.04	25.50
				25	0	24.16	24.50
				25	12	24.13	24.50
				25	25	24.13	24.50
				50	0	24.06	24.06
	2593	40620		1	0	25.00	25.00
				1	25	24.96	25.00
				1	49	24.99	25.00
				25	0	24.10	24.50
				25	12	24.16	24.50
				25	25	24.17	24.50
				50	0	24.20	24.20
	2685	41540		1	0	24.74	25.00
				1	25	24.73	25.00
				1	49	24.75	25.00
				25	0	23.72	24.00
				25	12	23.79	24.00
				25	25	23.77	24.00
				50	0	23.70	23.70
16QAM	2501	39700		1	0	24.40	24.50
				1	25	24.43	24.50
				1	49	24.35	24.50
				25	0	23.26	23.50
				25	12	23.14	23.50
				25	25	23.24	23.50
				50	0	23.12	23.12
	2593	40620		1	0	24.33	24.50
				1	25	24.22	24.50
				1	49	24.15	24.50
				25	0	23.14	23.50
				25	12	23.20	23.50
				25	25	23.26	23.50
				50	0	23.18	23.18
	2685	41540		1	0	23.74	24.00
				1	25	23.76	24.00

				1	49	23.76	24.00
				25	0	22.74	23.00
				25	12	22.84	23.00
				25	25	22.76	23.00
				50	0	22.80	22.80
64QAM	2501	39700	10	1	0	23.12	23.50
				1	25	23.12	23.50
				1	49	23.16	23.50
				25	0	23.11	23.50
				25	12	23.11	23.50
				25	25	23.12	23.50
				50	0	23.11	23.11
	2593	40620		1	0	23.18	23.50
				1	25	23.17	23.50
				1	49	23.17	23.50
				25	0	23.17	23.50
				25	12	23.23	23.50
				25	25	23.17	23.50
				50	0	23.17	23.17
	2685	41540		1	0	22.71	23.00
				1	25	22.78	23.00
				1	49	22.73	23.00
				25	0	22.80	23.00
				25	12	22.70	23.00
				25	25	22.75	23.00
				50	0	22.70	22.70

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)	Tune-up Tolerance (dBm)
QPSK	2503.5	39725	15	1	0	24.93	25.00
				1	37	24.92	25.00
				1	74	24.88	25.00
				36	0	24.14	24.50
				36	29	24.08	24.50
				36	30	24.06	24.50
				75	0	24.08	24.08
	2593	40620		1	0	25.11	25.50
				1	37	25.15	25.50
				1	74	25.11	25.50
				36	0	24.13	24.50
				36	29	24.20	24.50
				36	30	24.11	24.50
				75	0	24.17	24.17
	2682.5	41515		1	0	24.77	25.00
				1	37	24.67	25.00
				1	74	24.69	25.00
				36	0	23.78	24.00
				36	29	23.82	24.00
				36	30	23.74	24.00
				75	0	23.77	23.77
16QAM	2503.5	39725		1	0	24.36	24.50
				1	37	24.31	24.50
				1	74	24.26	24.50
				36	0	23.18	23.50
				36	29	23.12	23.50
				36	30	23.13	23.50
				75	0	23.13	23.13
	2593	40620		1	0	24.13	24.50
				1	37	24.18	24.50
				1	74	24.21	24.50
				36	0	23.04	23.50
				36	29	23.15	23.50
				36	30	23.14	23.50
				75	0	23.11	23.11
	2682.5	41515		1	0	24.22	24.50
				1	37	24.18	24.50

				1	74	24.11	24.50
				36	0	23.13	23.50
				36	29	23.18	23.50
				36	30	23.12	23.50
				75	0	23.10	23.10
64QAM	2503.5	39725	15	1	0	23.20	23.50
				1	37	23.19	23.50
				1	74	23.12	23.50
				36	0	23.18	23.50
				36	29	23.10	23.50
				36	30	23.15	23.50
				75	0	23.19	23.19
	2593	40620		1	0	23.21	23.50
				1	37	23.10	23.50
				1	74	23.17	23.50
				36	0	23.13	23.50
				36	29	23.14	23.50
				36	30	23.17	23.50
				75	0	23.17	23.17
	2682.5	41515		1	0	23.13	23.50
				1	37	23.10	23.50
				1	74	23.07	23.50
				36	0	23.09	23.50
				36	29	23.04	23.50
				36	30	23.06	23.50
				75	0	23.11	23.11

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)	Tune-up Tolerance (dBm)
QPSK	2506	39750	20	1	0	24.95	25.00
				1	49	24.95	25.00
				1	99	24.94	25.00
				50	0	24.07	24.50
				50	24	24.07	24.50
				50	50	24.13	24.50
				100	0	24.13	24.13
	2593	40620		1	0	25.27	25.50
				1	49	25.11	25.50
				1	99	25.11	25.50
				50	0	24.1	24.50
				50	24	24.13	24.50
				50	50	24.12	24.50
				100	0	24.19	24.19
	2680	41490		1	0	24.83	25.00
				1	49	24.74	25.00
				1	99	24.71	25.00
				50	0	23.76	24.00
				50	24	23.81	24.00
				50	50	23.78	24.00
				100	0	23.76	23.76
16QAM	2506	39750		1	0	24.21	24.50
				1	49	24.25	24.50
				1	99	24.21	24.50
				50	0	23.16	23.50
				50	24	23.07	23.50
				50	50	23.09	23.50
				100	0	23.14	23.14
	2593	40620		1	0	24.19	24.50
				1	49	24.23	24.50
				1	99	24.23	24.50
				50	0	23.08	23.50
				50	24	23.06	23.50
				50	50	23.09	23.50
				100	0	23.18	23.18
	2680	41490		1	0	23.51	24.00
				1	49	23.38	24.00

				1	99	23.38	24.00
				50	0	22.78	23.00
				50	24	22.84	23.00
				50	50	22.84	23.00
				100	0	22.69	22.69
64QAM	2506	39750	20	1	0	23.11	23.50
				1	49	23.14	23.50
				1	99	23.14	23.50
				50	0	23.13	23.50
				50	24	23.13	23.50
				50	50	23.13	23.50
				100	0	23.13	23.13
	2593	40620		1	0	23.19	23.50
				1	49	23.11	23.50
				1	99	23.14	23.50
				50	0	23.17	23.50
				50	24	23.14	23.50
				50	50	23.14	23.50
				100	0	23.17	23.17
	2680	41490		1	0	22.81	23.00
				1	49	22.77	23.00
				1	99	22.77	23.00
				50	0	22.71	23.00
				50	24	22.69	23.00
				50	50	22.70	23.00
				100	0	22.68	22.68

LTE band 4

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)	Tune-up Tolerance (dBm)
QPSK	1710.7	19957	1.4	1	0	22.93	23.50
				1	3	23.04	23.50
				1	5	23.14	23.50
				3	0	23.10	23.50
				3	1	23.10	23.50
				3	3	23.10	23.50
				6	0	22.14	22.50
	1732.5	20175		1	0	23.01	23.50
				1	3	23.02	23.50
				1	5	23.01	23.50
				3	0	23.02	23.50
				3	1	23.06	23.50
				3	3	23.12	23.50
				6	0	22.15	22.50
	1754.3	20393		1	0	23.28	23.50
				1	3	23.29	23.50
				1	5	23.28	23.50
				3	0	23.23	23.50
				3	1	23.28	23.50
				3	3	23.21	23.50
				6	0	22.26	22.50
16QAM	1710.7	19957		1	0	22.28	22.50
				1	3	22.36	22.50
				1	5	22.26	22.50
				3	0	22.09	22.50
				3	1	22.09	22.50
				3	3	22.12	22.50
				6	0	21.18	21.50
	1732.5	20175		1	0	22.17	22.50
				1	3	22.21	22.50
				1	5	22.31	22.50
				3	0	22.32	22.50
				3	1	22.30	22.50
				3	3	22.19	22.50
				6	0	21.02	21.50
	1754.3	20393		1	0	22.32	22.50

				1	3	22.38	22.50
				1	5	22.38	22.50
				3	0	22.45	23.00
				3	1	22.61	23.00
				3	3	22.55	23.00
				6	0	21.32	21.50
64QAM	1710.7	19957	1.4	1	0	21.19	21.50
				1	3	21.21	21.50
				1	5	21.19	21.50
				3	0	21.24	21.50
				3	1	21.18	21.50
				3	3	21.21	21.50
				6	0	21.21	21.50
	1732.5	20175		1	0	21.08	21.50
				1	3	21.03	21.50
				1	5	21.08	21.50
				3	0	21.08	21.50
				3	1	21.02	21.50
				3	3	21.03	21.50
				6	0	21.08	21.50
	1754.3	20393		1	0	21.32	21.50
				1	3	21.33	21.50
				1	5	21.33	21.50
				3	0	21.33	21.50
				3	1	21.33	21.50
				3	3	21.33	21.50
				6	0	21.33	21.50

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)	Tune-up Tolerance (dBm)
QPSK	1711.5	19965	3	1	0	23.03	23.50
				1	8	23.12	23.50
				1	14	23.14	23.50
				8	0	22.24	22.50
				8	4	22.21	22.50
				8	7	22.21	22.50
				15	0	22.17	22.50
	1732.5	20175		1	0	23.08	23.50
				1	8	23.22	23.50
				1	14	23.21	23.50
				8	0	22.20	22.50
				8	4	22.22	22.50
				8	7	22.22	22.50
				15	0	22.20	22.50
	1753.5	20385		1	0	23.31	23.50
				1	8	23.37	23.50
				1	14	23.37	23.50
				8	0	22.38	22.50
				8	4	22.40	22.50
				8	7	22.43	22.50
				15	0	22.43	22.50
16QAM	1711.5	19965		1	0	22.82	23.00
				1	8	22.77	23.00
				1	14	22.88	23.00
				8	0	21.39	21.50
				8	4	21.40	21.50
				8	7	21.40	21.50
				15	0	21.30	21.50
	1732.5	20175		1	0	22.29	22.50
				1	8	22.40	22.50
				1	14	22.29	22.50
				8	0	21.19	21.50
				8	4	21.25	21.50
				8	7	21.22	21.50
				15	0	21.11	21.50
	1753.5	20385		1	0	22.50	23.00
				1	8	22.51	23.00

				1	14	22.51	23.00
				8	0	21.46	21.50
				8	4	21.42	21.50
				8	7	21.41	21.50
				15	0	21.47	21.50
64QAM	1711.5	19965	3	1	0	21.30	21.50
				1	8	21.36	21.50
				1	14	21.29	21.50
				8	0	21.30	21.50
				8	4	21.30	21.50
				8	7	21.30	21.50
				15	0	21.30	21.50
	1732.5	20175		1	0	21.11	21.50
				1	8	21.12	21.50
				1	14	21.11	21.50
				8	0	21.11	21.50
				8	4	21.12	21.50
				8	7	21.12	21.50
				15	0	21.12	21.50
	1753.5	20385		1	0	21.46	21.50
				1	8	21.46	21.50
				1	14	21.47	21.50
				8	0	21.47	22.00
				8	4	21.47	22.00
				8	7	21.53	22.00
				15	0	21.47	21.50

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)	Tune-up Tolerance (dBm)
QPSK	1712.5	19975	5	1	0	23.01	23.50
				1	12	23.08	23.50
				1	24	23.11	23.50
				12	0	22.25	22.50
				12	7	22.20	22.50
				12	13	22.20	22.50
				25	0	22.19	22.50
	1732.5	20175		1	0	23.04	23.50
				1	12	23.25	23.50
				1	24	23.25	23.50
				12	0	22.10	22.50
				12	7	22.24	22.50
				12	13	22.20	22.50
				25	0	22.15	22.50
	1752.5	20375		1	0	23.32	23.50
				1	12	23.37	23.50
				1	24	23.36	23.50
				12	0	22.38	22.50
				12	7	22.43	22.50
				12	13	22.44	22.50
				25	0	22.36	22.50
16QAM	1712.5	19975		1	0	22.51	23.00
				1	12	22.50	23.00
				1	24	22.50	23.00
				12	0	21.34	21.50
				12	7	21.31	21.50
				12	13	21.32	21.50
				25	0	21.23	21.50
	1732.5	20175		1	0	22.30	22.50
				1	12	22.33	22.50
				1	24	22.19	22.50
				12	0	21.08	21.50
				12	7	21.24	21.50
				12	13	21.30	21.50
				25	0	21.24	21.50
	1752.5	20375		1	0	22.39	22.50
				1	12	22.39	22.50

				1	24	22.39	22.50
				12	0	21.36	21.50
				12	7	21.43	21.50
				12	13	21.44	21.50
				25	0	21.52	22.00
64QAM	1712.5	19975	5	1	0	21.31	21.50
				1	12	21.22	21.50
				1	24	21.26	21.50
				12	0	21.23	21.50
				12	7	21.28	21.50
				12	13	21.33	21.50
				25	0	21.29	21.50
	1732.5	20175		1	0	21.15	21.50
				1	12	21.24	21.50
				1	24	21.19	21.50
				12	0	21.24	21.50
				12	7	21.22	21.50
				12	13	21.23	21.50
				25	0	21.20	21.50
	1752.5	20375		1	0	21.49	21.50
				1	12	21.48	21.50
				1	24	21.47	21.50
				12	0	21.49	21.50
				12	7	21.50	21.50
				12	13	21.49	21.50
				25	0	21.45	21.50

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)	Tune-up Tolerance (dBm)
QPSK	1715	20000	10	1	0	22.94	23.50
				1	25	23.04	23.50
				1	49	22.92	23.50
				25	0	22.18	22.50
				25	12	22.13	22.50
				25	25	22.18	22.50
				50	0	22.21	22.50
	1732.5	20175		1	0	23.12	23.50
				1	25	23.03	23.50
				1	49	23.24	23.50
				25	0	22.11	22.50
				25	12	22.26	22.50
				25	25	22.25	22.50
				50	0	22.14	22.50
	1750	20350		1	0	23.26	23.50
				1	25	23.25	23.50
				1	49	23.21	23.50
				25	0	22.25	22.50
				25	12	22.35	22.50
				25	25	22.41	22.50
				50	0	22.25	22.50
16QAM	1715	20000		1	0	22.47	22.50
				1	25	22.28	22.50
				1	49	22.25	22.50
				25	0	21.22	21.50
				25	12	21.25	21.50
				25	25	21.23	21.50
				50	0	21.28	21.50
	1732.5	20175		1	0	22.26	22.50
				1	25	22.27	22.50
				1	49	22.34	22.50
				25	0	21.21	21.50
				25	12	21.39	21.50
				25	25	21.30	21.50
				50	0	21.21	21.50
	1750	20350		1	0	22.81	23.00
				1	25	22.89	23.00

				1	49	22.89	23.00
				25	0	21.36	22.00
				25	12	21.53	22.00
				25	25	21.53	22.00
				50	0	21.26	21.50
64QAM	1715	20000	10	1	0	21.24	21.50
				1	25	21.28	21.50
				1	49	21.16	21.50
				25	0	21.26	21.50
				25	12	21.25	21.50
				25	25	21.26	21.50
				50	0	21.24	21.50
	1732.5	20175		1	0	21.21	21.50
				1	25	21.10	21.50
				1	49	21.21	21.50
				25	0	21.24	21.50
				25	12	21.19	21.50
				25	25	21.23	21.50
				50	0	21.23	21.50
	1750	20350		1	0	21.32	21.50
				1	25	21.39	21.50
				1	49	21.39	21.50
				25	0	21.25	21.50
				25	12	21.20	21.50
				25	25	21.35	21.50
				50	0	21.35	21.50

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)	Tune-up Tolerance (dBm)
QPSK	1717.5	20025	15	1	0	23.15	23.50
				1	37	22.95	23.50
				1	74	22.98	23.50
				36	0	22.19	22.50
				36	29	22.19	22.50
				36	30	22.16	22.50
				75	0	22.20	22.50
	1732.5	20175		1	0	23.14	23.50
				1	37	23.06	23.50
				1	74	23.08	23.50
				36	0	22.19	22.50
				36	29	22.28	22.50
				36	30	22.23	22.50
				75	0	22.17	22.50
	1747.5	20325		1	0	23.24	23.50
				1	37	23.24	23.50
				1	74	23.23	23.50
				36	0	22.32	22.50
				36	29	22.39	22.50
				36	30	22.39	22.50
				75	0	22.34	22.50
16QAM	1717.5	20025		1	0	22.64	23.00
				1	37	22.23	23.00
				1	74	22.26	23.00
				36	0	21.29	21.50
				36	29	21.18	21.50
				36	30	21.18	21.50
				75	0	21.24	21.50
	1732.5	20175		1	0	22.84	23.00
				1	37	22.78	23.00
				1	74	22.68	23.00
				36	0	21.24	21.50
				36	29	21.28	21.50
				36	30	21.22	21.50
				75	0	21.08	21.50
	1747.5	20325		1	0	22.88	23.00
				1	37	22.80	23.00

				1	74	22.95	23.00
				36	0	21.38	21.50
				36	29	21.42	21.50
				36	30	21.41	21.50
				75	0	21.28	21.50
64QAM	1717.5	20025	15	1	0	21.27	21.50
				1	37	21.27	21.50
				1	74	21.27	21.50
				36	0	21.31	21.50
				36	29	21.29	21.50
				36	30	21.29	21.50
				75	0	21.33	21.50
	1732.5	20175		1	0	21.17	21.50
				1	37	21.10	21.50
				1	74	21.07	21.50
				36	0	21.19	21.50
				36	29	21.16	21.50
				36	30	21.17	21.50
				75	0	21.17	21.50
	1747.5	20325		1	0	21.35	21.50
				1	37	21.35	21.50
				1	74	21.33	21.50
				36	0	21.33	21.50
				36	29	21.30	21.50
				36	30	21.33	21.50
				75	0	21.33	21.50

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)	Tune-up Tolerance (dBm)
QPSK	1720	20050	20	1	0	22.95	23.50
				1	49	23.12	23.50
				1	99	23.00	23.50
				50	0	22.26	22.50
				50	24	22.12	22.50
				50	50	22.12	22.50
				100	0	22.26	22.50
	1732.5	20175		1	0	23.27	23.50
				1	49	23.31	23.50
				1	99	23.30	23.50
				50	0	22.26	22.50
				50	24	22.22	22.50
				50	50	22.28	22.50
				100	0	22.25	22.50
	1745	20300		1	0	23.33	23.50
				1	49	23.21	23.50
				1	99	23.24	23.50
				50	0	22.34	22.50
				50	24	22.37	22.50
				50	50	22.37	22.50
				100	0	22.47	22.50
16QAM	1720	20050		1	0	22.61	23.00
				1	49	22.48	23.00
				1	99	22.25	23.00
				50	0	21.19	21.50
				50	24	21.15	21.50
				50	50	21.15	21.50
				100	0	21.24	21.50
	1732.5	20175		1	0	22.80	23.00
				1	49	22.49	23.00
				1	99	22.59	23.00
				50	0	21.22	21.50
				50	24	21.22	21.50
				50	50	21.26	21.50
				100	0	21.34	21.50
	1745	20300		1	0	22.96	23.00
				1	49	22.83	23.00

				1	99	22.98	23.00
				50	0	21.32	21.50
				50	24	21.37	21.50
				50	50	21.38	21.50
				100	0	21.36	21.50
64QAM	1720	20050	20	1	0	21.25	21.50
				1	49	21.28	21.50
				1	99	21.28	21.50
				50	0	21.23	21.50
				50	24	21.23	21.50
				50	50	21.24	21.50
				100	0	21.24	21.50
	1732.5	20175		1	0	21.21	21.50
				1	49	21.23	21.50
				1	99	21.26	21.50
				50	0	21.30	21.50
				50	24	21.28	21.50
				50	50	21.26	21.50
				100	0	21.23	21.50
	1745	20300		1	0	21.41	21.50
				1	49	21.38	21.50
				1	99	21.38	21.50
				50	0	21.40	21.50
				50	24	21.41	21.50
				50	50	21.40	21.50
				100	0	21.41	21.50

LTE band 12

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)	Tune-up Tolerance (dBm)
QPSK	699.7	23017	1.4	1	0	23.16	23.50
				1	3	23.14	23.50
				1	5	23.19	23.50
				3	0	23.18	23.50
				3	1	23.10	23.50
				3	3	23.21	23.50
				6	0	22.25	22.50
	707.5	23095		1	0	23.16	23.50
				1	3	23.16	23.50
				1	5	23.19	23.50
				3	0	23.17	23.50
				3	1	23.16	23.50
				3	3	23.12	23.50
				6	0	22.14	22.50
	715.3	23173		1	0	23.06	23.50
				1	3	23.07	23.50
				1	5	22.95	23.50
				3	0	23.06	23.50
				3	1	23.02	23.50
				3	3	23.07	23.50
				6	0	22.15	22.50
16QAM	699.7	23017		1	0	22.39	22.50
				1	3	22.31	22.50
				1	5	22.31	22.50
				3	0	22.53	23.00
				3	1	22.50	23.00
				3	3	22.50	23.00
				6	0	21.29	21.50
	707.5	23095		1	0	22.31	22.50
				1	3	22.32	22.50
				1	5	22.39	22.50
				3	0	22.09	22.50
				3	1	22.15	22.50
				3	3	22.22	22.50
				6	0	21.18	21.50

	715.3	23173		1	0	22.26	22.50
				1	3	22.26	22.50
				1	5	22.26	22.50
				3	0	22.21	22.50
				3	1	22.18	22.50
				3	3	22.17	22.50
				6	0	21.07	21.50
64QAM	699.7	23017	1.4	1	0	21.28	21.50
				1	3	21.27	21.50
				1	5	21.27	21.50
				3	0	21.26	21.50
				3	1	21.31	21.50
				3	3	21.25	21.50
				6	0	21.30	21.50
	707.5	23095		1	0	21.15	21.50
				1	3	21.18	21.50
				1	5	21.18	21.50
				3	0	21.18	21.50
				3	1	21.21	21.50
				3	3	21.25	21.50
				6	0	21.20	21.50
	715.3	23173		1	0	21.00	21.50
				1	3	21.02	21.50
				1	5	21.00	21.50
				3	0	21.02	21.50
				3	1	21.00	21.50
				3	3	20.98	21.50
				6	0	21.03	21.50

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)	Tune-up Tolerance (dBm)
QPSK	700.5	23025	3	1	0	23.36	23.50
				1	8	23.23	23.50
				1	14	23.23	23.50
				8	0	22.38	22.50
				8	4	22.36	22.50
				8	7	22.36	22.50
				15	0	22.38	22.50
	707.5	23095		1	0	23.35	23.50
				1	8	23.28	23.50
				1	14	23.28	23.50
				8	0	22.34	22.50
				8	4	22.32	22.50
				8	7	22.28	22.50
				15	0	22.30	22.50
	714.5	23165		1	0	23.16	23.50
				1	8	23.16	23.50
				1	14	23.16	23.50
				8	0	22.18	22.50
				8	4	22.17	22.50
				8	7	22.17	22.50
				15	0	22.17	22.50
16QAM	700.5	23025		1	0	23.07	23.50
				1	8	22.89	23.50
				1	14	22.95	23.50
				8	0	21.55	22.00
				8	4	21.55	22.00
				8	7	21.56	22.00
				15	0	21.48	21.50
	707.5	23095		1	0	22.52	23.00
				1	8	22.39	23.00
				1	14	22.49	23.00
				8	0	21.29	21.50
				8	4	21.31	21.50
				8	7	21.26	21.50
				15	0	21.29	21.50
	714.5	23165		1	0	22.42	22.50
				1	8	22.30	22.50

				1	14	22.29	22.50
				8	0	21.26	21.50
				8	4	21.22	21.50
				8	7	21.26	21.50
				15	0	21.26	21.50
64QAM	700.5	23025	3	1	0	21.44	21.50
				1	8	21.49	21.50
				1	14	21.45	21.50
				8	0	21.49	21.50
				8	4	21.44	21.50
				8	7	21.48	21.50
				15	0	21.44	21.50
	707.5	23095		1	0	21.26	21.50
				1	8	21.29	21.50
				1	14	21.24	21.50
				8	0	21.29	21.50
				8	4	21.29	21.50
				8	7	21.28	21.50
				15	0	21.29	21.50
	714.5	23165		1	0	21.28	21.50
				1	8	21.23	21.50
				1	14	21.22	21.50
				8	0	21.23	21.50
				8	4	21.23	21.50
				8	7	21.29	21.50
				15	0	21.28	21.50

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)	Tune-up Tolerance (dBm)
QPSK	701.5	23035	5	1	0	23.30	23.50
				1	12	23.30	23.50
				1	24	23.29	23.50
				12	0	22.41	22.50
				12	7	22.31	22.50
				12	13	22.36	22.50
				25	0	22.33	22.50
	707.5	23095		1	0	23.33	23.50
				1	12	23.27	23.50
				1	24	23.23	23.50
				12	0	22.30	22.50
				12	7	22.29	22.50
				12	13	22.29	22.50
				25	0	22.31	22.50
	713.5	23155		1	0	23.20	23.50
				1	12	23.11	23.50
				1	24	23.09	23.50
				12	0	22.29	22.50
				12	7	22.21	22.50
				12	13	22.17	22.50
				25	0	22.19	22.50
16QAM	701.5	23035		1	0	22.40	22.50
				1	12	22.33	22.50
				1	24	22.40	22.50
				12	0	21.42	21.50
				12	7	21.37	21.50
				12	13	21.37	21.50
				25	0	21.42	21.50
	707.5	23095		1	0	22.66	23.00
				1	12	22.57	23.00
				1	24	22.57	23.00
				12	0	21.44	21.50
				12	7	21.35	21.50
				12	13	21.39	21.50
				25	0	21.31	21.50
	713.5	23155		1	0	22.23	22.50
				1	12	22.19	22.50

				1	24	22.18	22.50
				12	0	21.23	21.50
				12	7	21.17	21.50
				12	13	21.22	21.50
				25	0	21.27	21.50
64QAM	701.5	23035	5	1	0	21.40	22.00
				1	12	21.41	22.00
				1	24	21.52	22.00
				12	0	21.44	22.00
				12	7	21.40	22.00
				12	13	21.52	22.00
				25	0	21.47	21.50
	707.5	23095		1	0	21.30	21.50
				1	12	21.30	21.50
				1	24	21.29	21.50
				12	0	21.30	21.50
				12	7	21.29	21.50
				12	13	21.29	21.50
				25	0	21.32	21.50
	713.5	23155		1	0	21.27	21.50
				1	12	21.32	21.50
				1	24	21.30	21.50
				12	0	21.32	21.50
				12	7	21.29	21.50
				12	13	21.27	21.50
				25	0	21.28	21.50

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)	Tune-up Tolerance (dBm)
QPSK	704	23060	10	1	0	23.25	23.50
				1	25	23.18	23.50
				1	49	23.27	23.50
				25	0	22.36	22.50
				25	12	22.34	22.50
				25	25	22.34	22.50
				50	0	22.36	22.50
	707.5	23095		1	0	23.35	23.50
				1	25	23.20	23.50
				1	49	23.19	23.50
				25	0	22.31	22.50
				25	12	22.23	22.50
				25	25	22.38	22.50
				50	0	22.33	22.50
	711	23130		1	0	23.25	23.50
				1	25	23.05	23.50
				1	49	23.14	23.50
				25	0	22.33	22.50
				25	12	22.22	22.50
				25	25	22.25	22.50
				50	0	22.39	22.50
16QAM	704	23060		1	0	22.92	23.00
				1	25	22.87	23.00
				1	49	22.76	23.00
				25	0	21.40	21.50
				25	12	21.37	21.50
				25	25	21.40	21.50
				50	0	21.44	21.50
	707.5	23095		1	0	22.41	22.50
				1	25	22.40	22.50
				1	49	22.43	22.50
				25	0	21.35	21.50
				25	12	21.34	21.50
				25	25	21.40	21.50
				50	0	21.33	21.50
	711	23130		1	0	22.90	23.00
				1	25	22.75	23.00

				1	49	22.72	23.00
				25	0	21.35	21.50
				25	12	21.38	21.50
				25	25	21.38	21.50
				50	0	21.39	21.50
64QAM	704	23060	10	1	0	21.37	21.50
				1	25	21.37	21.50
				1	49	21.36	21.50
				25	0	21.37	21.50
				25	12	21.35	21.50
				25	25	21.42	21.50
				50	0	21.42	21.50
	707.5	23095		1	0	21.27	21.50
				1	25	21.27	21.50
				1	49	21.27	21.50
				25	0	21.44	21.50
				25	12	21.26	21.50
				25	25	21.39	21.50
				50	0	21.30	21.50
	711	23130		1	0	21.36	21.50
				1	25	21.39	21.50
				1	49	21.32	21.50
				25	0	21.32	21.50
				25	12	21.38	21.50
				25	25	21.33	21.50
				50	0	21.34	21.50

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Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)	Tune-up Tolerance (dBm)
QPSK	706.5	23755	5	1	0	23.08	23.50
				1	12	23.18	23.50
				1	24	23.16	23.50
				12	0	22.18	22.50
				12	7	22.19	22.50
				12	13	22.19	22.50
				25	0	22.23	22.50
	710	23790		1	0	23.12	23.50
				1	12	23.08	23.50
				1	24	23.08	23.50
				12	0	22.17	22.50
				12	7	22.15	22.50
				12	13	22.15	22.50
				25	0	22.11	22.50
	713.5	23825		1	0	23.16	23.50
				1	12	23.15	23.50
				1	24	23.04	23.50
				12	0	22.13	22.50
				12	7	22.16	22.50
				12	13	22.11	22.50
				25	0	22.14	22.50
16QAM	706.5	23755		1	0	22.30	22.50
				1	12	22.26	22.50
				1	24	22.35	22.50
				12	0	21.18	21.50
				12	7	21.18	21.50
				12	13	21.17	21.50
				25	0	21.23	21.50
	710	23790		1	0	22.16	22.50
				1	12	22.19	22.50
				1	24	22.18	22.50
				12	0	21.17	21.50
				12	7	21.22	21.50
				12	13	21.22	21.50
				25	0	21.24	21.50
	713.5	23825		1	0	22.47	22.50

				1	12	22.39	22.50
				1	24	22.42	22.50
				12	0	21.22	21.50
				12	7	21.20	21.50
				12	13	21.20	21.50
				25	0	21.13	21.50
64QAM	706.5	23755	5	1	0	21.28	21.50
				1	12	21.22	21.50
				1	24	21.22	21.50
				12	0	21.27	21.50
				12	7	21.28	21.50
				12	13	21.22	21.50
				25	0	21.27	21.50
	710	23790		1	0	21.22	21.50
				1	12	21.18	21.50
				1	24	21.23	21.50
				12	0	21.29	21.50
				12	7	21.25	21.50
				12	13	21.30	21.50
				25	0	21.23	21.50
	713.5	23825		1	0	21.17	21.50
				1	12	21.19	21.50
				1	24	21.16	21.50
				12	0	21.08	21.50
				12	7	21.13	21.50
				12	13	21.17	21.50
				25	0	21.18	21.50

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)	Tune-up Tolerance (dBm)
QPSK	709	23780	10	1	0	23.14	23.50
				1	25	23.10	23.50
				1	49	23.05	23.50
				25	0	22.20	22.50
				25	12	22.19	22.50
				25	25	22.26	22.50
				50	0	22.30	22.50
	710	23790		1	0	23.06	23.50
				1	25	23.06	23.50
				1	49	23.09	23.50
				25	0	22.09	22.50
				25	12	22.16	22.50
				25	25	22.16	22.50
				50	0	22.17	22.50
	711	23800		1	0	23.15	23.50
				1	25	23.08	23.50
				1	49	23.11	23.50
				25	0	22.15	22.50
				25	12	22.17	22.50
				25	25	22.21	22.50
				50	0	22.11	22.50
16QAM	709	23780		1	0	22.78	23.00
				1	25	22.68	23.00
				1	49	22.67	23.00
				25	0	21.21	21.50
				25	12	21.31	21.50
				25	25	21.36	21.50
				50	0	21.27	21.50
	710	23790		1	0	22.28	22.50
				1	25	22.28	22.50
				1	49	22.28	22.50
				25	0	21.19	21.50
				25	12	21.21	21.50
				25	25	21.18	21.50
				50	0	21.23	21.50
	711	23800		1	0	22.30	22.50
				1	25	22.20	22.50

				1	49	22.26	22.50
				25	0	21.27	21.50
				25	12	21.33	21.50
				25	25	21.17	21.50
				50	0	21.18	21.50
64QAM	709	23780	10	1	0	21.19	21.50
				1	25	21.21	21.50
				1	49	21.29	21.50
				25	0	21.26	21.50
				25	12	21.22	21.50
				25	25	21.25	21.50
				50	0	21.29	21.50
	710	23790		1	0	21.16	21.50
				1	25	21.20	21.50
				1	49	21.16	21.50
				25	0	21.17	21.50
				25	12	21.24	21.50
				25	25	21.21	21.50
				50	0	21.16	21.50
	711	23800		1	0	21.18	21.50
				1	25	21.20	21.50
				1	49	21.20	21.50
				25	0	21.25	21.50
				25	12	21.18	21.50
				25	25	21.18	21.50
				50	0	21.17	21.50

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Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)	Tune-up Tolerance (dBm)
QPSK	1850.7	18607	1.4	1	0	22.44	22.50
				1	3	22.48	22.50
				1	5	22.45	22.50
				3	0	22.52	23.00
				3	1	22.49	23.00
				3	3	22.48	23.00
				6	0	21.59	22.00
	1880	18900		1	0	22.21	22.50
				1	3	22.23	22.50
				1	5	22.23	22.50
				3	0	22.17	22.50
				3	1	22.16	22.50
				3	3	22.23	22.50
				6	0	21.23	21.50
	1909.3	19193		1	0	22.36	22.50
				1	3	22.3	22.50
				1	5	22.33	22.50
				3	0	22.37	22.50
				3	1	22.42	22.50
				3	3	22.35	22.50
				6	0	21.41	21.50
16QAM	1850.7	18607		1	0	21.62	22.00
				1	3	21.62	22.00
				1	5	21.61	22.00
				3	0	21.78	22.00
				3	1	21.85	22.00
				3	3	21.86	22.00
				6	0	20.64	21.00
	1880	18900		1	0	21.29	21.50
				1	3	21.39	21.50
				1	5	21.39	21.50
				3	0	21.15	21.50
				3	1	21.16	21.50
				3	3	21.15	21.50
				6	0	20.26	20.50
	1909.3	19193		1	0	21.48	22.00

				1	3	21.5	22.00
				1	5	21.57	22.00
				3	0	21.53	22.00
				3	1	21.49	22.00
				3	3	21.48	22.00
				6	0	20.36	20.50
64QAM	1850.7	18607	1.4	1	0	20.6	21.00
				1	3	20.6	21.00
				1	5	20.63	21.00
				3	0	20.56	21.00
				3	1	20.64	21.00
				3	3	20.56	21.00
				6	0	20.6	21.00
	1880	18900		1	0	20.32	20.50
				1	3	20.3	20.50
				1	5	20.26	20.50
				3	0	20.31	20.50
				3	1	20.26	20.50
				3	3	20.3	20.50
				6	0	20.25	20.50
	1909.3	19193		1	0	20.33	20.50
				1	3	20.28	20.50
				1	5	20.33	20.50
				3	0	20.39	20.50
				3	1	20.33	20.50
				3	3	20.39	20.50
				6	0	20.32	20.50

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)	Tune-up Tolerance (dBm)
QPSK	1851.5	18615	3	1	0	22.52	23.00
				1	8	22.53	23.00
				1	14	22.53	23.00
				8	0	21.6	22.00
				8	4	21.65	22.00
				8	7	21.65	22.00
				15	0	21.61	22.00
	1880	18900		1	0	22.25	22.50
				1	8	22.29	22.50
				1	14	22.29	22.50
				8	0	21.31	21.50
				8	4	21.36	21.50
				8	7	21.35	21.50
				15	0	21.37	21.50
	1908.5	19185		1	0	22.43	22.50
				1	8	22.44	22.50
				1	14	22.49	22.50
				8	0	21.46	22.00
				8	4	21.47	22.00
				8	7	21.51	22.00
				15	0	21.46	21.50
16QAM	1851.5	18615		1	0	22.25	22.50
				1	8	22.18	22.50
				1	14	22.27	22.50
				8	0	20.83	21.00
				8	4	20.78	21.00
				8	7	20.79	21.00
				15	0	20.72	21.00
	1880	18900		1	0	21.52	22.00
				1	8	21.53	22.00
				1	14	21.41	22.00
				8	0	20.28	20.50
				8	4	20.31	20.50
				8	7	20.36	20.50
				15	0	20.34	20.50
	1908.5	19185		1	0	21.63	22.00
				1	8	21.59	22.00

				1	14	21.69	22.00
				8	0	20.54	21.00
				8	4	20.53	21.00
				8	7	20.54	21.00
				15	0	20.58	21.00
64QAM	1851.5	18615	3	1	0	20.72	21.00
				1	8	20.72	21.00
				1	14	20.72	21.00
				8	0	20.71	21.00
				8	4	20.71	21.00
				8	7	20.72	21.00
				15	0	20.72	21.00
	1880	18900		1	0	20.34	20.50
				1	8	20.34	20.50
				1	14	20.26	20.50
				8	0	20.26	20.50
				8	4	20.27	20.50
				8	7	20.28	20.50
				15	0	20.34	20.50
	1908.5	19185		1	0	20.72	21.00
				1	8	20.57	21.00
				1	14	20.62	21.00
				8	0	20.57	21.00
				8	4	20.57	21.00
				8	7	20.57	21.00
				15	0	20.57	21.00

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)	Tune-up Tolerance (dBm)
QPSK	1852.5	18625	5	1	0	22.57	23.00
				1	12	22.58	23.00
				1	24	22.51	23.00
				12	0	21.69	22.00
				12	7	21.65	22.00
				12	13	21.65	22.00
				25	0	21.66	22.00
	1880	18900		1	0	22.18	22.50
				1	12	22.33	22.50
				1	24	22.32	22.50
				12	0	21.25	21.50
				12	7	21.37	21.50
				12	13	21.37	21.50
				25	0	21.39	21.50
	1907.5	19175		1	0	22.36	22.50
				1	12	22.48	22.50
				1	24	22.41	22.50
				12	0	21.43	21.50
				12	7	21.44	21.50
				12	13	21.47	21.50
				25	0	21.45	21.50
16QAM	1852.5	18625		1	0	21.79	22.00
				1	12	21.82	22.00
				1	24	21.74	22.00
				12	0	20.88	21.00
				12	7	20.84	21.00
				12	13	20.86	21.00
				25	0	20.9	21.00
	1880	18900		1	0	21.4	22.00
				1	12	21.55	22.00
				1	24	21.49	22.00
				12	0	20.42	21.00
				12	7	20.56	21.00
				12	13	20.55	21.00
				25	0	20.6	21.00
	1907.5	19175		1	0	21.57	22.00
				1	12	21.73	22.00

				1	24	21.59	22.00
				12	0	20.65	21.00
				12	7	20.64	21.00
				12	13	20.73	21.00
				25	0	20.67	21.00
64QAM	1852.5	18625	5	1	0	20.75	21.00
				1	12	20.73	21.00
				1	24	20.73	21.00
				12	0	20.73	21.00
				12	7	20.73	21.00
				12	13	20.72	21.00
				25	0	20.74	21.00
	1880	18900		1	0	20.37	20.50
				1	12	20.43	20.50
				1	24	20.42	20.50
				12	0	20.33	20.50
				12	7	20.37	20.50
				12	13	20.39	20.50
				25	0	20.33	20.50
	1907.5	19175		1	0	22.36	22.50
				1	12	22.5	22.50
				1	24	22.48	22.50
				12	0	22.39	23.00
				12	7	22.55	23.00
				12	13	22.54	23.00
				25	0	22.46	22.50

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)	Tune-up Tolerance (dBm)
QPSK	1855	18650	10	1	0	22.54	23.00
				1	25	22.44	23.00
				1	49	22.34	23.00
				25	0	21.59	22.00
				25	12	21.6	22.00
				25	25	21.57	22.00
				50	0	21.7	22.00
	1880	18900		1	0	22.23	22.50
				1	25	22.31	22.50
				1	49	22.31	22.50
				25	0	21.24	21.50
				25	12	21.38	21.50
				25	25	21.38	21.50
				50	0	21.36	21.50
	1905	19150		1	0	22.33	23.00
				1	25	22.47	23.00
				1	49	22.53	23.00
				25	0	21.45	22.00
				25	12	21.53	22.00
				25	25	21.5	22.00
				50	0	21.39	21.50
16QAM	1855	18650		1	0	22.17	22.50
				1	25	22.02	22.50
				1	49	21.95	22.50
				25	0	20.75	21.00
				25	12	20.63	21.00
				25	25	20.68	21.00
				50	0	20.62	21.00
	1880	18900		1	0	21.61	22.00
				1	25	21.35	22.00
				1	49	21.56	22.00
				25	0	20.27	20.50
				25	12	20.43	20.50
				25	25	20.37	20.50
				50	0	20.36	20.36
	1905	19150		1	0	21.51	22.00
				1	25	21.61	22.00

				1	49	21.61	22.00
				25	0	20.51	21.00
				25	12	20.63	21.00
				25	25	20.71	21.00
				50	0	20.49	20.49
64QAM	1855	18650	10	1	0	20.66	21.00
				1	25	20.64	21.00
				1	49	20.64	21.00
				25	0	20.65	21.00
				25	12	20.64	21.00
				25	25	20.63	21.00
				50	0	20.57	20.57
	1880	18900		1	0	20.4	20.50
				1	25	20.41	20.50
				1	49	20.44	20.50
				25	0	20.44	20.50
				25	12	20.4	20.50
				25	25	20.43	20.50
				50	0	20.4	20.40
	1905	19150		1	0	20.5	20.50
				1	25	20.47	20.50
				1	49	20.47	20.50
				25	0	20.49	21.00
				25	12	20.54	21.00
				25	25	20.49	21.00
				50	0	20.49	20.49

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)	Tune-up Tolerance (dBm)
QPSK	1857.5	18675	15	1	0	22.65	23.00
				1	37	22.41	23.00
				1	74	22.48	23.00
				36	0	21.64	22.00
				36	29	21.53	22.00
				36	30	21.52	22.00
				75	0	21.58	21.58
	1880	18900		1	0	22.35	22.50
				1	37	22.33	22.50
				1	74	22.33	22.50
				36	0	21.28	21.50
				36	29	21.37	21.50
				36	30	21.4	21.50
				75	0	21.37	21.37
	1902.5	19125		1	0	22.31	22.50
				1	37	22.48	22.50
				1	74	22.41	22.50
				36	0	21.42	22.00
				36	29	21.56	22.00
				36	30	21.57	22.00
				75	0	21.43	21.43
16QAM	1857.5	18675		1	0	22.27	22.50
				1	37	22.09	22.50
				1	74	22.09	22.50
				36	0	20.67	21.00
				36	29	20.57	21.00
				36	30	20.59	21.00
				75	0	20.64	20.64
	1880	18900		1	0	21.47	22.00
				1	37	21.61	22.00
				1	74	21.49	22.00
				36	0	20.31	20.50
				36	29	20.48	20.50
				36	30	20.43	20.50
				75	0	20.46	20.46
	1902.5	19125		1	0	21.88	22.50
				1	37	22	22.50

				1	74	22.08	22.50
				36	0	20.33	21.00
				36	29	20.56	21.00
				36	30	20.52	21.00
				75	0	20.41	20.41
64QAM	1857.5	18675	15	1	0	20.64	21.00
				1	37	20.64	21.00
				1	74	20.63	21.00
				36	0	20.63	21.00
				36	29	20.57	21.00
				36	30	20.63	21.00
				75	0	20.63	20.63
	1880	18900		1	0	20.35	20.50
				1	37	20.39	20.50
				1	74	20.35	20.50
				36	0	20.36	20.50
				36	29	20.45	20.50
				36	30	20.35	20.50
				75	0	20.36	20.36
	1902.5	19125		1	0	20.45	20.50
				1	37	20.4	20.50
				1	74	20.4	20.50
				36	0	20.46	20.50
				36	29	20.35	20.50
				36	30	20.42	20.50
				75	0	20.4	20.40

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)	Tune-up Tolerance (dBm)
QPSK	1860	18700	20	1	0	22.57	23.00
				1	49	22.35	23.00
				1	99	22.34	23.00
				50	0	21.62	22.00
				50	24	21.52	22.00
				50	50	21.58	22.00
				100	0	21.56	21.56
	1880	18900		1	0	22.46	22.50
				1	49	22.29	22.50
				1	99	22.43	22.50
				50	0	21.27	21.50
				50	24	21.39	21.50
				50	50	21.47	21.50
				100	0	21.39	21.39
	1900	19100		1	0	22.31	22.50
				1	49	22.43	22.50
				1	99	22.4	22.50
				50	0	21.38	22.00
				50	24	21.59	22.00
				50	50	21.58	22.00
				100	0	21.57	21.57
16QAM	1860	18700		1	0	21.99	22.00
				1	49	21.74	22.00
				1	99	21.71	22.00
				50	0	20.62	21.00
				50	24	20.51	21.00
				50	50	20.52	21.00
				100	0	20.63	20.63
	1880	18900		1	0	21.6	22.00
				1	49	21.61	22.00
				1	99	21.58	22.00
				50	0	20.28	20.50
				50	24	20.44	20.50
				50	50	20.43	20.50
				100	0	20.38	20.38
	1900	19100		1	0	21.99	22.50
				1	49	22.08	22.50

				1	99	22.23	22.50
				50	0	20.44	21.00
				50	24	20.54	21.00
				50	50	20.53	21.00
				100	0	20.49	20.49
64QAM	1860	18700	20	1	0	20.59	21.00
				1	49	20.59	21.00
				1	99	20.59	21.00
				50	0	20.6	21.00
				50	24	20.59	21.00
				50	50	20.59	21.00
				100	0	20.6	20.60
	1880	18900		1	0	20.37	20.50
				1	49	20.43	20.50
				1	99	20.42	20.50
				50	0	20.44	20.50
				50	24	20.46	20.50
				50	50	20.46	20.50
				100	0	20.45	20.45
	1900	19100		1	0	20.55	21.00
				1	49	20.49	21.00
				1	99	20.51	21.00
				50	0	20.48	21.00
				50	24	20.59	21.00
				50	50	20.52	21.00
				100	0	20.52	20.52

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Mode	Tones/ RU Index	Freq(MHz)	Chain	Peak power output (dBm)	Average power output (dBm)	Tune-up Tolerance (dBm)
802.11b	NA	2412MHz	Chain0	20.19	17.27	17.5
	NA		Chain1	20.04	17.01	17.5
	NA	2437MHz	Chain0	20.43	17.32	17.5
	NA		Chain1	20.03	17.00	17.0
	NA	2462MHz	Chain0	20.05	16.92	17.0
	NA		Chain1	20.50	17.44	17.5
802.11g	NA	2412MHz	Chain0	23.75	13.46	13.5
	NA		Chain1	23.71	13.37	13.5
	NA	2437MHz	Chain0	24.03	13.67	14.0
	NA		Chain1	23.84	13.51	14.0
	NA	2462MHz	Chain0	23.76	13.43	13.5
	NA		Chain1	24.05	13.74	14.0
802.11n20M	NA	2412MHz	Chain0	22.17	13.58	14.0
	NA		Chain1	22.03	13.51	14.0
	NA		MIMO	25.11	16.56	17.0
	NA	2437MHz	Chain0	22.49	13.86	14.0
	NA		Chain1	22.25	13.72	14.0
	NA		MIMO	25.38	16.80	17.0
	NA	2462MHz	Chain0	22.23	13.62	14.0
	NA		Chain1	22.59	13.99	14.0
	NA		MIMO	25.42	16.82	17.0
802.11n40M	NA	2422MHz	Chain0	22.64	14.15	14.5
	NA		Chain1	22.53	14.13	14.5
	NA		MIMO	25.60	17.15	17.5
	NA	2437MHz	Chain0	22.55	14.19	14.5
	NA		Chain1	22.53	14.07	14.5
	NA		MIMO	25.55	17.14	17.5
	NA	2452MHz	Chain0	22.49	14.11	14.5
	NA		Chain1	22.64	14.19	14.5
	NA		MIMO	25.58	17.16	17.5

Mode	Tones/ RU Index	Freq(MHz)	Chain	Peak power output (dBm)	Average power output (dBm)	Tune-up Tolerance (dBm)
802.11ax20M	26T/0	2412MHz	Chain0	26.75	15.08	15.5
			Chain1	27.25	15.65	16.0
			MIMO	30.02	18.38	18.5
		2437MHz	Chain0	27.02	15.42	15.5
			Chain1	27.13	15.56	16.0
			MIMO	30.09	18.50	18.5
		2462MHz	Chain0	27.29	16.28	16.5
			Chain1	28.10	16.94	17.0
			MIMO	30.72	19.63	20.0
	26T/4	2412MHz	Chain0	27.36	15.87	16.0
			Chain1	27.19	15.88	16.0
			MIMO	30.29	18.89	19.0
		2437MHz	Chain0	27.86	16.39	16.5
			Chain1	27.64	16.22	16.5
			MIMO	30.76	19.32	19.5
		2462MHz	Chain0	26.83	15.24	15.5
			Chain1	27.82	16.43	16.5
			MIMO	30.36	18.89	19.0
	26T/8	2412MHz	Chain0	27.31	15.24	15.5
			Chain1	27.53	15.22	15.5
			MIMO	30.43	18.24	18.5
		2437MHz	Chain0	28.52	16.68	17.0
			Chain1	28.15	16.19	16.5
			MIMO	31.35	19.45	19.5
		2462MHz	Chain0	27.47	15.53	16.0
			Chain1	27.97	16.30	16.5
			MIMO	30.74	18.94	19.0
	52T/37	2412MHz	Chain0	26.74	15.53	16.0
			Chain1	27.52	15.97	16.0
			MIMO	30.16	18.77	19.0
		2437MHz	Chain0	27.19	15.70	16.0
			Chain1	26.94	15.58	16.0
			MIMO	30.08	18.65	19.0
		2462MHz	Chain0	27.27	16.20	16.5

			Chain1	27.71	16.81	17.0
			MIMO	30.51	19.53	20.0
	52T/39	2412MHz	Chain0	27.18	15.82	16.0
			Chain1	26.87	15.73	16.0
			MIMO	30.04	18.79	19.0
		2437MHz	Chain0	27.70	16.77	17.0
			Chain1	27.32	16.39	16.5
			MIMO	30.52	19.59	20.0
		2462MHz	Chain0	26.53	15.36	15.5
			Chain1	27.44	16.50	16.5
			MIMO	30.02	18.98	19.0
	52T/40	2412MHz	Chain0	26.76	15.33	15.5
			Chain1	26.72	15.31	15.5
			MIMO	29.75	18.33	18.5
		2437MHz	Chain0	28.33	16.58	17.0
			Chain1	27.49	16.12	16.5
			MIMO	30.94	19.37	19.5
		2462MHz	Chain0	26.85	15.48	15.5
			Chain1	27.55	16.39	16.5
			MIMO	30.22	18.97	19.0
	106T/53	2412MHz	Chain0	27.20	15.96	16.0
			Chain1	27.32	16.30	16.5
			MIMO	30.27	19.14	19.5
		2437MHz	Chain0	27.20	15.97	16.0
			Chain1	27.23	16.02	16.5
			MIMO	30.23	19.01	19.5
		2462MHz	Chain0	27.14	16.16	16.5
			Chain1	27.88	16.65	17.0
			MIMO	30.54	19.42	19.5
	106T/54	2412MHz	Chain0	26.98	15.69	16.0
			Chain1	27.08	15.78	16.0
			MIMO	30.04	18.75	19.0
		2437MHz	Chain0	27.88	16.76	17.0
			Chain1	27.52	16.37	16.5
			MIMO	30.71	19.58	20.0
		2462MHz	Chain0	26.69	15.54	16.0
			Chain1	27.91	16.41	16.5
			MIMO	30.35	19.01	19.5

	242T/61	2412MHz	Chain0	22.13	11.71	12.0
			Chain1	22.06	11.74	12.0
			MIMO	25.11	14.74	15.0
		2437MHz	Chain0	21.69	7.80	8.0
			Chain1	22.29	11.91	12.0
			MIMO	25.01	13.33	13.5
		2462MHz	Chain0	22.06	11.82	12.0
			Chain1	22.69	12.27	12.5
			MIMO	25.40	15.06	15.5

Mode	Tones/ RU Index	Freq(MHz)	Chain	Peak power output (dBm)	Average power output (dBm)	Tune-up Tolerance (dBm)
802.11ax40M	26T/0	2422MHz	Chain0	22.12	11.02	11.5
			Chain1	27.96	16.85	17.0
			MIMO	28.97	17.86	18.0
		2437MHz	Chain0	27.01	16.09	16.5
			Chain1	26.79	15.75	16.0
			MIMO	29.91	18.93	19.0
		2452MHz	Chain0	27.83	17.14	17.5
			Chain1	28.00	17.04	17.5
			MIMO	30.93	20.10	20.5
	26T/10	2422MHz	Chain0	22.67	11.80	12.0
			Chain1	28.23	17.31	17.5
			MIMO	29.30	18.39	18.5
		2437MHz	Chain0	28.76	17.85	18.0
			Chain1	28.48	17.54	18.0
			MIMO	31.63	20.71	21.0
		2452MHz	Chain0	27.88	16.95	17.0
			Chain1	27.93	17.04	17.5
			MIMO	30.92	20.01	20.5
	26T/17	2422MHz	Chain0	22.96	17.32	17.5
			Chain1	28.49	17.70	18.0
			MIMO	29.56	20.52	21.0
		2437MHz	Chain0	27.51	16.27	16.5
			Chain1	27.86	16.45	16.5
			MIMO	30.70	19.37	19.5

		2452MHz	Chain0	27.25	15.92	16.0
			Chain1	27.61	16.21	16.5
			MIMO	30.44	19.08	19.5
	52T/37	2422MHz	Chain0	27.40	16.64	17.0
			Chain1	27.76	17.08	17.5
			MIMO	30.59	19.88	20.0
		2437MHz	Chain0	26.87	16.10	16.5
			Chain1	26.65	15.85	16.0
			MIMO	29.77	18.99	19.0
		2452MHz	Chain0	27.85	17.27	17.5
			Chain1	27.80	17.18	17.5
			MIMO	30.84	20.24	20.5
	52T/41	2422MHz	Chain0	27.49	16.67	17.0
			Chain1	28.03	17.25	17.5
			MIMO	30.78	19.98	20.0
		2437MHz	Chain0	28.22	17.78	18.0
			Chain1	28.02	17.51	18.0
			MIMO	31.13	20.66	21.0
		2452MHz	Chain0	27.85	17.00	17.0
			Chain1	27.76	17.16	17.5
			MIMO	30.82	20.09	20.5
	52T/44	2422MHz	Chain0	27.83	17.32	17.5
			Chain1	28.69	17.82	18.0
			MIMO	31.29	20.59	21.0
		2437MHz	Chain0	27.22	16.58	17.0
			Chain1	27.65	16.66	17.0
			MIMO	30.45	19.63	20.0
		2452MHz	Chain0	26.88	16.03	16.5
			Chain1	27.12	16.29	16.5
			MIMO	30.01	19.17	19.5
	106T/53	2422MHz	Chain0	28.09	17.04	17.5
			Chain1	28.31	17.36	17.5
			MIMO	31.21	20.21	20.5
		2437MHz	Chain0	27.46	16.44	16.5
			Chain1	27.24	16.23	16.5
			MIMO	30.36	19.35	19.5
		2452MHz	Chain0	28.49	17.64	18.0
			Chain1	28.18	17.52	18.0

			MIMO	31.35	20.59	21.0
	106T/55	2422MHz	Chain0	27.72	16.91	17.0
			Chain1	28.39	17.50	17.5
			MIMO	31.08	20.23	20.5
		2437MHz	Chain0	28.74	17.86	18.0
			Chain1	28.25	17.60	18.0
			MIMO	31.51	20.74	21.0
		2452MHz	Chain0	27.83	16.93	17.0
			Chain1	27.97	17.13	17.5
			MIMO	30.91	20.04	20.5
	106T/56	2422MHz	Chain0	28.29	17.43	17.5
			Chain1	28.69	17.98	18.0
			MIMO	31.50	20.72	21.0
		2437MHz	Chain0	28.20	17.07	17.5
			Chain1	27.84	17.08	17.5
			MIMO	31.03	20.09	20.5
		2452MHz	Chain0	27.14	16.05	16.5
			Chain1	27.50	16.45	16.5
			MIMO	30.33	19.26	19.5
	242T/61	2422MHz	Chain0	27.58	16.96	17.0
			Chain1	28.05	17.22	17.5
			MIMO	30.83	20.10	20.5
		2437MHz	Chain0	27.67	16.86	17.0
			Chain1	27.61	16.80	17.0
			MIMO	30.65	19.84	20.0
		2452MHz	Chain0	28.42	17.85	18.0
			Chain1	28.23	17.50	17.5
			MIMO	31.34	20.69	21.0
	242T/62	2422MHz	Chain0	28.02	17.14	17.5
			Chain1	28.44	17.78	18.0
			MIMO	31.25	20.48	20.5
		2437MHz	Chain0	28.24	17.47	17.5
			Chain1	28.04	17.30	17.5
			MIMO	31.15	20.40	20.5
		2452MHz	Chain0	27.43	16.45	16.5
			Chain1	27.61	16.78	17.0
			MIMO	30.53	19.63	20.0
	484T/65	2422MHz	Chain0	22.39	12.26	12.5

			Chain1	22.32	12.18	12.5
			MIMO	25.37	15.23	15.5
		2437MHz	Chain0	22.15	12.12	12.5
			Chain1	22.32	12.13	12.5
			MIMO	25.25	15.14	15.5
		2452MHz	Chain0	22.35	12.06	12.5
			Chain1	22.48	12.31	12.5
			MIMO	25.43	15.20	15.5

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Mode	Tones/ RUIndex	Freq (MHz)	Chain	Conducted average power output(dBm)	EIRP (dBm)	Tune-up Tolerance (dBm)
802.11a	NA	5180	Chain0	16.08	18.08	18.50
			Chain1	15.38	17.38	17.50
			MIMO	18.75	20.75	21.00
		5220	Chain0	15.88	17.88	18.00
			Chain1	15.39	17.39	17.50
			MIMO	18.65	20.65	21.00
		5240	Chain0	15.78	17.78	18.00
			Chain1	15.24	17.24	17.50
			MIMO	18.53	20.53	21.00
802.11n20M		5180	Chain0	15.80	17.80	18.00
			Chain1	15.20	17.20	17.50
			MIMO	18.52	20.52	21.00
		5240	Chain0	15.44	17.44	17.50
			Chain1	14.92	16.92	17.00
			MIMO	18.20	20.20	20.50
802.11n40M		5190	Chain0	16.11	18.11	18.50
			Chain1	15.60	17.60	18.00
			MIMO	18.87	20.87	21.00
		5230	Chain0	15.97	17.97	18.00
			Chain1	15.54	17.54	18.00
			MIMO	18.77	20.77	21.00
802.11ac20M		5180	Chain0	16.00	18.00	18.00
			Chain1	15.40	17.40	17.50
			MIMO	18.72	20.72	21.00
		5220	Chain0	15.72	17.72	18.00
			Chain1	15.22	17.22	17.50
			MIMO	18.49	20.49	20.50
		5240	Chain0	15.59	17.59	18.00
			Chain1	15.10	17.10	17.50
			MIMO	18.36	20.36	20.50
802.11ac40M		5190	Chain0	16.25	18.25	18.50
			Chain1	15.78	17.78	18.00
			MIMO	19.03	21.03	21.50
		5230	Chain0	16.21	18.21	18.50

			Chain1	15.77	17.77	18.00
			MIMO	19.01	21.01	21.50
802.11ac80M		5210	Chain0	16.07	18.07	18.50
			Chain1	15.63	17.63	18.00
			MIMO	18.87	20.87	21.00

Mode	Tones/ RUIndex	Freq (MHz)	Chain	Conducted average power output(dBm)	EIRP (dBm)	Tune-up Tolerance (dBm)
802.11ax20M	26T/0	5180	Chain0	5.45	7.45	7.50
			Chain1	5.50	7.50	7.50
			MIMO	8.49	10.49	10.50
		5220	Chain0	6.04	8.04	8.50
			Chain1	5.71	7.71	8.00
			MIMO	8.89	10.89	11.00
		5240	Chain0	5.92	7.92	8.00
			Chain1	4.91	6.91	7.00
			MIMO	8.45	10.45	10.50
	26T/4	5180	Chain0	5.67	7.67	8.00
			Chain1	5.41	7.41	7.50
			MIMO	8.55	10.55	11.00
		5220	Chain0	6.04	8.04	8.50
			Chain1	5.63	7.63	8.00
			MIMO	8.85	10.85	11.00
		5240	Chain0	5.94	7.94	8.00
			Chain1	5.15	7.15	7.50
			MIMO	8.57	10.57	11.00
	26T/8	5180	Chain0	5.63	7.63	8.00
			Chain1	5.29	7.29	7.50
			MIMO	8.47	10.47	10.50
		5220	Chain0	5.94	7.94	8.00
			Chain1	5.49	7.49	7.50
			MIMO	8.73	10.73	11.00
		5240	Chain0	5.52	7.52	8.00
			Chain1	4.86	6.86	7.00
			MIMO	8.21	10.21	10.50
	52T/37	5180	Chain0	5.63	7.63	8.00
			Chain1	5.62	7.62	8.00

			MIMO	8.64	10.64	11.00
		5220	Chain0	6.28	8.28	8.50
			Chain1	5.79	7.79	8.00
			MIMO	9.05	11.05	11.50
		5240	Chain0	5.93	7.93	8.00
			Chain1	5.29	7.29	7.50
			MIMO	8.63	10.63	11.00
	52T/39	5180	Chain0	5.59	7.59	8.00
			Chain1	5.52	7.52	8.00
			MIMO	8.57	10.57	11.00
		5220	Chain0	6.07	8.07	8.50
			Chain1	5.76	7.76	8.00
			MIMO	8.93	10.93	11.00
		5240	Chain0	6.00	8.00	8.00
			Chain1	5.21	7.21	7.50
			MIMO	8.63	10.63	11.00
	52T/40	5180	Chain0	5.40	7.40	7.50
			Chain1	5.50	7.50	7.50
			MIMO	8.46	10.46	10.50
		5220	Chain0	5.96	7.96	8.00
			Chain1	5.57	7.57	8.00
			MIMO	8.78	10.78	11.00
		5240	Chain0	5.78	7.78	8.00
			Chain1	4.93	6.93	7.00
			MIMO	8.39	10.39	10.50
	106T/53	5180	Chain0	9.65	11.65	12.00
			Chain1	9.34	11.34	11.50
			MIMO	12.51	14.51	15.00
		5220	Chain0	9.78	11.78	12.00
			Chain1	9.47	11.47	11.50
			MIMO	12.64	14.64	15.00
		5240	Chain0	9.62	11.62	12.00
			Chain1	9.04	11.04	11.50
			MIMO	12.35	14.35	14.50
	106T/54	5180	Chain0	9.54	11.54	12.00
			Chain1	9.23	11.23	11.50
			MIMO	12.40	14.40	14.50
		5220	Chain0	9.65	11.65	12.00
			Chain1	9.22	11.22	11.50

			MIMO	12.45	14.45	14.50
		5240	Chain0	9.70	11.70	12.00
			Chain1	8.94	10.94	11.00
			MIMO	12.35	14.35	14.50
	242T/61	5180	Chain0	15.99	17.99	18.00
			Chain1	15.54	17.54	18.00
			MIMO	18.78	20.78	21.00
		5220	Chain0	15.70	17.70	18.00
			Chain1	15.44	17.44	17.50
			MIMO	18.58	20.58	21.00
		5240	Chain0	15.79	17.79	18.00
			Chain1	15.34	17.34	17.50
			MIMO	18.58	20.58	21.00

Mode	Tones/ RUIndex	Freq (MHz)	Chain	Conducted average power output(dBm)	EIRP (dBm)	Tune-up Tolerance (dBm)
802.11ax40M	26T/0	5190	Chain0	6.36	8.36	8.50
			Chain1	6.29	8.29	8.50
			MIMO	9.34	11.34	11.50
		5230	Chain0	6.91	8.91	9.00
			Chain1	6.42	8.42	8.50
			MIMO	9.68	11.68	12.00
	26T/10	5190	Chain0	6.82	8.82	9.00
			Chain1	6.70	8.70	9.00
			MIMO	9.77	11.77	12.00
		5230	Chain0	7.13	9.13	9.50
			Chain1	6.85	8.85	9.00
			MIMO	10.00	12.00	12.00
	26T/17	5190	Chain0	6.22	8.22	8.50
			Chain1	6.13	8.13	8.50
			MIMO	9.19	11.19	11.50
		5230	Chain0	6.37	8.37	8.50
			Chain1	5.79	7.79	8.00
			MIMO	9.10	11.10	11.50
	52T/37	5190	Chain0	6.60	8.60	9.00
			Chain1	6.34	8.34	8.50
			MIMO	9.48	11.48	11.50

		5230	Chain0	6.93	8.93	9.00
			Chain1	6.23	8.23	8.50
			MIMO	9.60	11.60	12.00
	52T/41	5190	Chain0	6.94	8.94	9.00
			Chain1	6.68	8.68	9.00
			MIMO	9.82	11.82	12.00
		5230	Chain0	7.23	9.23	9.50
			Chain1	6.71	8.71	9.00
			MIMO	9.99	11.99	12.00
	52T/44	5190	Chain0	6.41	8.41	8.50
			Chain1	6.19	8.19	8.50
			MIMO	9.31	11.31	11.50
		5230	Chain0	6.49	8.49	8.50
			Chain1	6.25	8.25	8.50
			MIMO	9.38	11.38	11.50
	106T/53	5190	Chain0	10.69	12.69	13.00
			Chain1	10.16	12.16	12.50
			MIMO	13.44	15.44	15.50
		5230	Chain0	10.57	12.57	13.00
			Chain1	10.31	12.31	12.50
			MIMO	13.45	15.45	15.50
	106T/55	5190	Chain0	10.77	12.77	13.00
			Chain1	10.37	12.37	12.50
			MIMO	13.58	15.58	16.00
		5230	Chain0	10.57	12.57	13.00
			Chain1	10.38	12.38	12.50
			MIMO	13.49	15.49	15.50
	106T/56	5190	Chain0	10.49	12.49	12.50
			Chain1	10.04	12.04	12.50
			MIMO	13.28	15.28	15.50
		5230	Chain0	10.22	12.22	12.50
			Chain1	9.98	11.98	12.00
			MIMO	13.11	15.11	15.50
	242T/61	5190	Chain0	10.66	12.66	13.00
			Chain1	10.27	12.27	12.50
			MIMO	13.48	15.48	15.50
		5230	Chain0	10.65	12.65	13.00
			Chain1	10.34	12.34	12.50
			MIMO	13.51	15.51	16.00

	242T/62	5190	Chain0	10.51	12.51	13.00
			Chain1	10.24	12.24	12.50
			MIMO	13.39	15.39	15.50
		5230	Chain0	10.32	12.32	12.50
			Chain1	10.09	12.09	12.50
			MIMO	13.22	15.22	15.50
	484T/65	5190	Chain0	16.23	18.23	18.50
			Chain1	15.61	17.61	18.00
			MIMO	18.94	20.94	21.00
		5230	Chain0	16.10	18.10	18.50
			Chain1	15.63	17.63	18.00
			MIMO	18.88	20.88	21.00

Mode	Tones/ RUIndex	Freq (MHz)	Chain	Conducted average power output(dBm)	EIRP (dBm)	Tune-up Tolerance (dBm)
802.11ax80M	26T/0	5210	Chain0	6.76	8.76	9.00
			Chain1	7.05	9.05	9.50
			MIMO	9.92	11.92	12.00
	26T/18		Chain0	7.28	9.28	9.50
			Chain1	6.11	8.11	8.50
			MIMO	9.74	11.74	12.00
	26T/36		Chain0	6.10	8.10	8.50
			Chain1	5.71	7.71	8.00
			MIMO	8.92	10.92	11.00
	52T/37		Chain0	6.96	8.96	9.00
			Chain1	6.33	8.33	8.50
			MIMO	9.67	11.67	12.00
	52T/45		Chain0	7.00	9.00	9.00
			Chain1	6.60	8.60	9.00
			MIMO	9.81	11.81	12.00
	52T/52		Chain0	6.33	8.33	8.50
			Chain1	5.79	7.79	8.00
			MIMO	9.08	11.08	11.50
	106T/53		Chain0	10.66	12.66	13.00
			Chain1	9.96	11.96	12.00
			MIMO	13.33	15.33	15.50
	106T/57		Chain0	10.66	12.66	13.00

			Chain1	10.13	12.13	12.50
			MIMO	13.41	15.41	15.50
	106T/60		Chain0	10.00	12.00	12.00
			Chain1	9.52	11.52	12.00
			MIMO	12.78	14.78	15.00
	242T/61		Chain0	10.76	12.76	13.00
			Chain1	10.32	12.32	12.50
			MIMO	13.56	15.56	16.00
	242T/63		Chain0	10.55	12.55	13.00
			Chain1	10.10	12.10	12.50
			MIMO	13.34	15.34	15.50
	242T/64		Chain0	10.14	12.14	12.50
			Chain1	9.76	11.76	12.00
			MIMO	12.96	14.96	15.00
	484T/65		Chain0	10.79	12.79	13.00
			Chain1	10.14	12.14	12.50
			MIMO	13.49	15.49	15.50
	484T/66		Chain0	10.09	12.09	12.50
			Chain1	9.72	11.72	12.00
			MIMO	12.92	14.92	15.00
	996T/67		Chain0	16.10	18.10	18.50
			Chain1	15.40	17.40	17.50
			MIMO	18.77	20.77	21.00

Bluetooth

Modulation type	Conducted Peak Power(dBm)			Tune-up Tolerance (dBm)
	2402MHz	2440MHz	2480MHz	
GFSK	3.65	3.8	3.27	4.0
π4DQPSK	4.67	4.77	4.27	5.0
8DPSK	4.62	4.73	4.25	5.0

Modulation type	Conducted Average Power(dBm)			Tune-up Tolerance (dBm)
	2402MHz	2440MHz	2480MHz	
GFSK	3.84	3.95	3.42	4.0
π4DQPSK	0.18	0.24	-0.19	0.5
8DPSK	1.17	1.25	0.84	1.5

BLE

Modulation type	Conducted Peak Power(dBm)			Tune-up Tolerance (dBm)
	2402MHz	2440MHz	2480MHz	
GFSK (LE 1Mbps)	1.65	1.73	1.31	2.0

Modulation type	Conducted Average Power(dBm)			Tune-up Tolerance (dBm)
	2402MHz	2440MHz	2480MHz	
GFSK (LE 1Mbps)	1.44	1.52	1.1	2.0

6.2 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

Mothod1:

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:

[(max. power of channel, including tune-up tolerance, mW) / (min. test separation distance, mm)] · [√f (GHz)] ≤ 3.0 for 1-g SAR, where

- ·f(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 [(max. power of channel, including tune-up tolerance, mW)/(60/√f(GHz) mW)] ·[20 mm/(min.test separation distance, mm)] ≤ 1.0 for 1-g SAR; also see Appendix A for approximate exclusion threshold values at selected frequencies and distances.

Mothod2:

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.

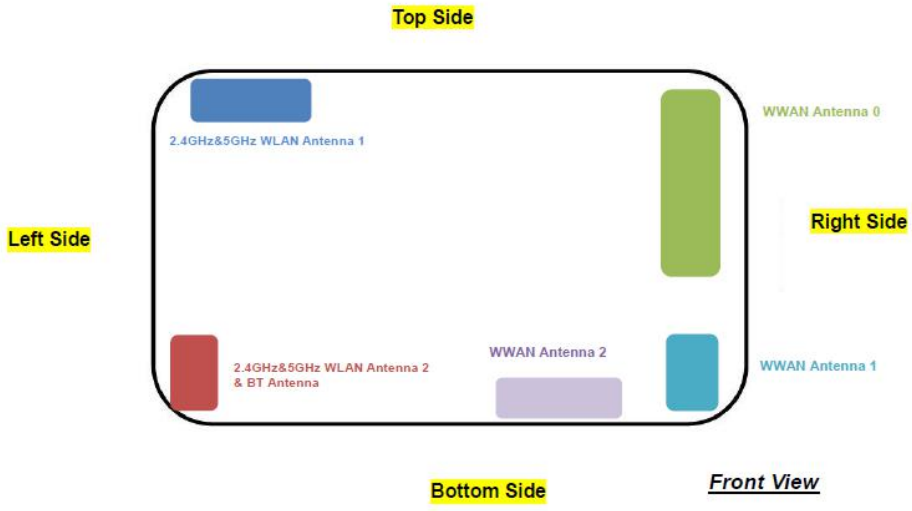
MHz	5	10	15	20	25	mm
150	39	77	116	155	194	*SAR Test Exclusion Threshold* (mW)
300	27	55	82	110	137	
450	22	45	67	89	112	
835	16	33	49	66	82	
900	16	32	47	63	79	
1500	12	24	37	49	61	
1900	11	22	33	44	54	
2450	10	19	29	38	48	
3600	8	16	24	32	40	
5200	7	13	20	26	33	
5400	6	13	19	26	32	
5800	6	12	19	25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

Summary of Transmitters

Band/Mode	Max conducted power adjusted for tune-up tolerance(mW)	Exposure condition	SAR test exclusion threshold (mW)	Standalone SAR Required
BT/BLE	2.48	Body-worn/Hotspot	19	No

6.3 RF exposure conditions

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



All of Implementation antenna

WWAN Antenna 0: WCDMA Band: 2/4	LTE Band: 1/2/3/4/8/12/17/28/41
WWAN Antenna 1: LTE B42	5G n77/n78
WWAN Antenna 2: LTE B1/3/11	5G NSA n3
WLAN Antenna 1:WLAN2.4GHz &5GHz	
WLAN Antenna 2: WLAN 2.4GHz &5GHz	Bluetooth

Note:LTE B1/3-ant 2 when EN-DC mode supported,they will work normally.Standlone mode will be disabled.

6.3.1 Hotspot Exposure conditions

For WWAN Antenna 0

Test Configurations	SAR Required	Antenna-to-edge(s) distances
Back	Yes*	＜25mm
Front	Yes*	＜25mm
Top	Yes	＜25mm
Bottom	No	＞25mm
Left	No	＞25mm
Right	Yes	＜25mm

For WWAN Antenna 1

Test Configurations	SAR Required	Antenna-to-edge(s) distances
Back	Yes*	＜25mm
Front	Yes*	＜25mm
Top	No	＞25mm
Bottom	Yes	＜25mm
Left	No	＞25mm
Right	Yes	＜25mm

For WWAN Antenna 2

Test Configurations	SAR Required	Antenna-to-edge(s) distances
Back	Yes*	＜25mm
Front	Yes*	＜25mm
Top	No	＞25mm
Bottom	Yes	＜25mm
Left	No	＞25mm
Right	Yes	＜25mm

For 2.4GHz & 5GHz WLAN Antenna 1

Test Configurations	SAR Required	Antenna-to-edge(s) distances
Back	Yes*	＜25mm
Front	Yes*	＜25mm
Top	Yes	＜25mm
Bottom	No	＞25mm
Left	Yes	＜25mm
Right	No	＞25mm

For 2.4GHz & 5GHz WLAN Antenna 2

Test Configurations	SAR Required	Antenna-to-edge(s) distances
Back	Yes*	＜25mm
Front	Yes*	＜25mm
Top	No	＞25mm
Bottom	Yes	＜25mm
Left	Yes	＜25mm
Right	No	＞25mm

Note*: For hotspot mode, it's not necessary test Rear and Front position for several bands which there is no "hotspot power reduction" scheme. Because we already test these positions without hotspot mode in Body Exposure conditions.

6.4 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 analyser. 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.

Freq. (MHz)	Liquid parameters	measured	Target	Delta (%)	Tolerance (%)
750	εr	40.463	41.90	-3.430	±10
	σ[S/m]	0.916	0.89	2.943	±10
835	εr	42.189	41.50	1.661	±10
	σ[S/m]	0.896	0.90	-0.403	±10
1800	εr	40.975	40.00	2.438	±10
	σ[S/m]	1.368	1.40	-2.264	±10
2000	εr	38.598	40.00	-3.506	±10
	σ[S/m]	1.385	1.40	-1.072	±10
2450	εr	38.895	39.20	-0.779	±10
	σ[S/m]	1.749	1.80	-2.834	±10
2600	εr	38.543	39.00	-1.173	±10
	σ[S/m]	1.947	1.96	-0.653	±10
5200	εr	34.273	36.00	-4.798	±10
	σ[S/m]	4.844	4.66	3.948	±10
5300	εr	37.663	35.90	4.911	±10
	σ[S/m]	4.617	4.76	-2.997	±10
5600	εr	35.799	35.50	0.843	±10
	σ[S/m]	4.935	5.07	-2.656	±10

Note: For DASY system, the conservative tolerance 5% could expand to 10% when the frequency under 3GHz

A system check measurement was made following once the determination of the dielectric parameters of the simulant, using the dipole validation kit. The system checking results (dielectric parameters and SAR values) are given in the table below.

Freq. (MHz)	SAR measured (normalized to 1W)		Target (Ref. Value)	Delta (%)	Tolerance (%)
750	1g	8.40	8.26	1.69	±10
835	1g	9.08	9.37	-3.09	±10
1800	1g	37.36	38.9	-3.96	±10
2000	1g	41.60	40.3	3.23	±10
2450	1g	52.80	52.4	0.76	±10
2600	1g	56.80	56.6	0.35	±10
5200	1g	74.44	75.9	-1.92	±10
5300	1g	76.95	78.1	-1.47	±10
5600	1g	79.61	80.1	-0.61	±10

6.5 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., Nc > 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.

Duty Factor = 1 / Duty Cycle(%)

For cellular network:

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

For WLAN

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

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

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

Mode		Duty cycle	Duty factor	Note
Licensed Frequency	GSM 850	25%	N/A	According to the theory, we configured duty cycle with relevant value on the communication tester, so correction factor do not need such as “duty factor”
	GSM 1900	37.5%		
	WCDMA Band	100%		
	FDD-LTE Band	100%		

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

Mode: WCDMA BAND II

fL (MHz)= 1852.4MHz fM (MHz)= 1880.0MHz fH (MHz)= 1907.6MHz

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

Test case				Meas power(dBm)	Tune-up(dBm)	Scaling factor	Meas SAR(w/kg)		Report SAR(w/kg)	
Mode	Exposure condition	Position	Channel				First	Second	First	Second
RMC	Body-worn	Back	L	23.20	23.50	1.07	0.79	---	0.85	---
			M	23.05	23.50	1.11	0.80	---	0.89	---
			H	23.30	23.50	1.05	0.78	---	0.82	---
		Front	L	23.20	23.50	1.07	---	---	---	---
			M	23.05	23.50	1.11	0.40	---	0.44	---
			H	23.30	23.50	1.05	---	---	---	---
	Hotspot	Back	L	23.20	23.50	1.07	0.79	---	0.85	---
			M	23.05	23.50	1.11	0.80	---	0.89	---
			H	23.30	23.50	1.05	0.78	---	0.82	---
		Front	L	23.20	23.50	1.07	---	---	---	---
			M	23.05	23.50	1.11	0.40	---	0.44	---
			H	23.30	23.50	1.05	---	---	---	---
		Top	L	23.20	23.50	1.07	---	---	---	---
			M	23.05	23.50	1.11	0.20	---	0.22	---
			H	23.30	23.50	1.05	---	---	---	---
		Bottom	L	23.20	23.50	1.07	---	---	---	---
			M	23.05	23.50	1.11	0.08	---	0.09	---
			H	23.30	23.50	1.05	---	---	---	---
		Left	L	23.20	23.50	1.07	---	---	---	---
			M	23.05	23.50	1.11	---	---	---	---
			H	23.30	23.50	1.05	---	---	---	---
		Right	L	23.20	23.50	1.07	---	---	---	---
			M	23.05	23.50	1.11	0.45	---	0.50	---
			H	23.30	23.50	1.05	---	---	---	---

Mode: WCDMA BAND IV

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

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

Test case				Meas power(dBm)	Tune-up(dBm)	Scaling factor	Meas SAR(w/kg)		Report SAR(w/kg)	
Mode	Exposure condition	Position	Channel				First	Second	First	Second
RMC	Body-worn	Back	L	23.68	24.00	1.08	0.79	---	0.85	---
			M	23.69	24.00	1.07	0.80	---	0.89	---
			H	23.58	24.00	1.10	0.78	---	0.82	---
		Front	L	23.68	24.00	1.08	---	---	---	---
			M	23.69	24.00	1.07	0.33	---	0.35	---
			H	23.58	24.00	1.10	---	---	---	---
	Hotspot	Back	L	23.68	24.00	1.08	0.79	---	0.85	---
			M	23.69	24.00	1.07	0.80	---	0.89	---
			H	23.58	24.00	1.10	0.78	---	0.82	---
		Front	L	23.68	24.00	1.08	---	---	---	---
			M	23.69	24.00	1.07	0.33	---	0.35	---
			H	23.58	24.00	1.10	---	---	---	---
		Top	L	23.68	24.00	1.08	---	---	---	---
			M	23.69	24.00	1.07	0.12	---	0.13	---
			H	23.58	24.00	1.10	---	---	---	---
		Bottom	L	23.68	24.00	1.08	---	---	---	---
			M	23.69	24.00	1.07	0.04	---	0.04	---
			H	23.58	24.00	1.10	---	---	---	---
		Left	L	23.68	24.00	1.08	---	---	---	---
			M	23.69	24.00	1.07	---	---	---	---
			H	23.58	24.00	1.10	---	---	---	---
		Right	L	23.68	24.00	1.08	---	---	---	---
			M	23.69	24.00	1.07	0.42	---	0.45	---
			H	23.58	24.00	1.10	---	---	---	---

Mode: LTE Band 2

fL (MHz)= 1860MHz fM (MHz)= 1880MHz fH (MHz)= 1900MHz

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

Test case				Meas power(dBm)	Tune-up(dBm)	Scaling factor	Meas SAR(w/kg)		Report SAR(w/kg)	
Mode	Exposure condition	Position	Channel				First	Second	First	Second
QPSK 1RB	Body-worn	Back	L	24.95	25.50	1.14	---	---	---	---
			M	25.27	25.50	1.05	0.64	---	0.67	---
			H	24.83	25.50	1.17	---	---	---	---
		Front	L	24.95	25.50	1.14	---	---	---	---
			M	25.27	25.50	1.05	0.31	---	0.33	---
			H	24.83	25.50	1.17	---	---	---	---
	Hotspot	Back	L	24.95	25.50	1.14	---	---	---	---
			M	25.27	25.50	1.05	0.64	---	0.67	---
			H	24.83	25.50	1.17	---	---	---	---
		Front	L	24.95	25.50	1.14	---	---	---	---
			M	25.27	25.50	1.05	0.31	---	0.33	---
			H	24.83	25.50	1.17	---	---	---	---
		Top	L	24.95	25.50	1.14	---	---	---	---
			M	25.27	25.50	1.05	0.14	---	0.15	---
			H	24.83	25.50	1.17	---	---	---	---
		Bottom	L	24.95	25.50	1.14	---	---	---	---
			M	25.27	25.50	1.05	0.06	---	0.06	---
			H	24.83	25.50	1.17	---	---	---	---
		Left	L	24.95	25.50	1.14	---	---	---	---
			M	25.27	25.50	1.05	---	---	---	---
			H	24.83	25.50	1.17	---	---	---	---
		Right	L	24.95	25.50	1.14	---	---	---	---
			M	25.27	25.50	1.05	0.35	---	0.37	---
			H	24.83	25.50	1.17	---	---	---	---
QPSK 50%RB	Body-worn	Back	L	24.13	24.50	1.09	---	---	---	---
			M	24.13	24.50	1.09	0.59	---	0.64	---
			H	23.81	24.50	1.17	---	---	---	---
		Front	L	24.13	24.50	1.09	---	---	---	---
			M	24.13	24.50	1.09	0.29	---	0.32	---
			H	23.81	24.50	1.17	---	---	---	---
	Hotspot	Back	L	24.13	24.50	1.09	---	---	---	---
			M	24.13	24.50	1.09	0.59	---	0.64	---
			H	23.81	24.50	1.17	---	---	---	---
		Front	L	24.13	24.50	1.09	---	---	---	---
			M	24.13	24.50	1.09	0.29	---	0.32	---
			H	23.81	24.50	1.17	---	---	---	---

		Top	L	24.13	24.50	1.09	---	---	---	---
			M	24.13	24.50	1.09	0.11	---	0.11	---
			H	23.81	24.50	1.17	---	---	---	---
		Bottom	L	24.13	24.50	1.09	---	---	---	---
			M	24.13	24.50	1.09	0.03	---	0.03	---
			H	23.81	24.50	1.17	---	---	---	---
		Left	L	24.13	24.50	1.09	---	---	---	---
			M	24.13	24.50	1.09	---	---	---	---
			H	23.81	24.50	1.17	---	---	---	---
		Right	L	24.13	24.50	1.09	---	---	---	---
			M	24.13	24.50	1.09	0.32	---	0.35	---
			H	23.81	24.50	1.17	---	---	---	---

Mode: LTE Band 4

fL (MHz)= 1720MHz fM (MHz)= 1732.5MHz fH (MHz)= 1745MHz

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

Test case				Meas power(dBm)	Tune-up(dBm)	Scaling factor	Meas SAR(w/kg)		Report SAR(w/kg)	
Mode	Exposure condition	Position	Channel				First	Second	First	Second
QPSK 1RB	Body-worn	Back	L	23.12	23.50	1.09	---	---	---	---
			M	23.31	23.50	1.04	0.71	---	0.74	---
			H	23.33	23.50	1.04	---	---	---	---
		Front	L	23.12	23.50	1.09	---	---	---	---
			M	23.31	23.50	1.04	0.29	---	0.30	---
			H	23.33	23.50	1.04	---	---	---	---
	Hotspot	Back	L	23.12	23.50	1.09	---	---	---	---
			M	23.31	23.50	1.04	0.71	---	0.74	---
			H	23.33	23.50	1.04	---	---	---	---
		Front	L	23.12	23.50	1.09	---	---	---	---
			M	23.31	23.50	1.04	0.29	---	0.30	---
			H	23.33	23.50	1.04	---	---	---	---
		Top	L	23.12	23.50	1.09	---	---	---	---
			M	23.31	23.50	1.04	0.11	---	0.11	---
			H	23.33	23.50	1.04	---	---	---	---
		Bottom	L	23.12	23.50	1.09	---	---	---	---
			M	23.31	23.50	1.04	0.05	---	0.05	---
			H	23.33	23.50	1.04	---	---	---	---
		Left	L	23.12	23.50	1.09	---	---	---	---
			M	23.31	23.50	1.04	---	---	---	---
			H	23.33	23.50	1.04	---	---	---	---
		Right	L	23.12	23.50	1.09	---	---	---	---
			M	23.31	23.50	1.04	0.37	---	0.38	---
			H	23.33	23.50	1.04	---	---	---	---
QPSK 50%RB	Body-worn	Back	L	22.26	22.50	1.06	---	---	---	---
			M	22.28	22.50	1.05	0.60	---	0.63	---
			H	22.37	22.50	1.03	---	---	---	---
		Front	L	22.26	22.50	1.06	---	---	---	---
			M	22.28	22.50	1.05	0.28	---	0.29	---
			H	22.37	22.50	1.03	---	---	---	---
	Hotspot	Back	L	22.26	22.50	1.06	---	---	---	---
			M	22.28	22.50	1.05	0.60	---	0.63	---
			H	22.37	22.50	1.03	---	---	---	---
		Front	L	22.26	22.50	1.06	---	---	---	---
			M	22.28	22.50	1.05	0.28	---	0.29	---
			H	22.37	22.50	1.03	---	---	---	---

		Top	L	22.26	22.50	1.06	---	---	---	---
			M	22.28	22.50	1.05	0.10	---	1.03	---
			H	22.37	22.50	1.03	---	---	---	---
		Bottom	L	22.26	22.50	1.06	---	---	---	---
			M	22.28	22.50	1.05	0.03	---	0.03	---
			H	22.37	22.50	1.03	---	---	---	---
		Left	L	22.26	22.50	1.06	---	---	---	---
			M	22.28	22.50	1.05	---	---	---	---
			H	22.37	22.50	1.03	---	---	---	---
		Right	L	22.26	22.50	1.06	---	---	---	---
			M	22.28	22.50	1.05	0.36	---	0.38	---
			H	22.37	22.50	1.03	---	---	---	---

Mode: LTE Band 12

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

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

Test case				Meas power(dBm)	Tune-up(dBm)	Scaling factor	Meas SAR(w/kg)		Report SAR(w/kg)	
Mode	Exposure condition	Position	Channel				First	Second	First	Second
QPSK 1RB	Body-worn	Back	L	23.27	23.50	1.05	---	---	---	---
			M	23.35	23.50	1.04	0.44	---	0.46	---
			H	23.25	23.50	1.06	---	---	---	---
		Front	L	23.27	23.50	1.05	---	---	---	---
			M	23.35	23.50	1.04	0.25	---	0.26	---
			H	23.25	23.50	1.06	---	---	---	---
	Hotspot	Back	L	23.27	23.50	1.05	---	---	---	---
			M	23.35	23.50	1.04	0.44	---	0.46	---
			H	23.25	23.50	1.06	---	---	---	---
		Front	L	23.27	23.50	1.05	---	---	---	---
			M	23.35	23.50	1.04	0.25	---	0.26	---
			H	23.25	23.50	1.06	---	---	---	---
		Top	L	23.27	23.50	1.05	---	---	---	---
			M	23.35	23.50	1.04	0.20	---	0.21	---
			H	23.25	23.50	1.06	---	---	---	---
		Bottom	L	23.27	23.50	1.05	---	---	---	---
			M	23.35	23.50	1.04	0.20	---	0.21	---
			H	23.25	23.50	1.06	---	---	---	---
		Left	L	23.27	23.50	1.05	---	---	---	---
			M	23.35	23.50	1.04	---	---	---	---
			H	23.25	23.50	1.06	---	---	---	---
		Right	L	23.27	23.50	1.05	---	---	---	---
			M	23.35	23.50	1.04	0.10	---	0.10	---
			H	23.25	23.50	1.06	---	---	---	---
QPSK 50%RB	Body-worn	Back	L	22.36	22.50	1.03	---	---	---	---
			M	22.38	22.50	1.03	0.41	---	0.42	---
			H	22.33	22.50	1.04	---	---	---	---
		Front	L	22.36	22.50	1.03	---	---	---	---
			M	22.38	22.50	1.03	0.22	---	0.23	---
			H	22.33	22.50	1.04	---	---	---	---
	Hotspot	Back	L	22.36	22.50	1.03	---	---	---	---
			M	22.38	22.50	1.03	0.41	---	0.42	---
			H	22.33	22.50	1.04	---	---	---	---
		Front	L	22.36	22.50	1.03	---	---	---	---
			M	22.38	22.50	1.03	0.22	---	0.23	---
			H	22.33	22.50	1.04	---	---	---	---

		Top	L	22.36	22.50	1.03	---	---	---	---
			M	22.38	22.50	1.03	0.19	---	0.20	---
			H	22.33	22.50	1.04	---	---	---	---
		Bottom	L	22.36	22.50	1.03	---	---	---	---
			M	22.38	22.50	1.03	0.19	---	0.20	---
			H	22.33	22.50	1.04	---	---	---	---
		Left	L	22.36	22.50	1.03	---	---	---	---
			M	22.38	22.50	1.03	---	---	---	---
			H	22.33	22.50	1.04	---	---	---	---
		Right	L	22.36	22.50	1.03	---	---	---	---
			M	22.38	22.50	1.03	0.09	---	0.09	---
			H	22.33	22.50	1.04	---	---	---	---

Mode: LTE Band 17

fL (MHz)= 709 MHz fM (MHz)= 710MHz fH (MHz)=711MHz

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

Test case				Meas power(dBm)	Tune-up(dBm)	Scaling factor	Meas SAR(w/kg)		Report SAR(w/kg)	
Mode	Exposure condition	Position	Channel				First	Second	First	Second
QPSK 1RB	Body-worn	Back	L	23.14	23.50	1.09	---	---	---	---
			M	23.09	23.50	1.10	0.44	---	0.48	---
			H	23.15	23.50	1.08	---	---	---	---
		Front	L	23.14	23.50	1.09	---	---	---	---
			M	23.09	23.50	1.10	0.25	---	0.28	---
			H	23.15	23.50	1.08	---	---	---	---
	Hotspot	Back	L	23.14	23.50	1.09	---	---	---	---
			M	23.09	23.50	1.10	0.44	---	0.48	---
			H	23.15	23.50	1.08	---	---	---	---
		Front	L	23.14	23.50	1.09	---	---	---	---
			M	23.09	23.50	1.10	0.25	---	0.28	---
			H	23.15	23.50	1.08	---	---	---	---
		Top	L	23.14	23.50	1.09	---	---	---	---
			M	23.09	23.50	1.10	0.23	---	0.25	---
			H	23.15	23.50	1.08	---	---	---	---
		Bottom	L	23.14	23.50	1.09	---	---	---	---
			M	23.09	23.50	1.10	0.21	---	0.23	---
			H	23.15	23.50	1.08	---	---	---	---
		Left	L	23.14	23.50	1.09	---	---	---	---
			M	23.09	23.50	1.10	---	---	---	---
			H	23.15	23.50	1.08	---	---	---	---
		Right	L	23.14	23.50	1.09	---	---	---	---
			M	23.09	23.50	1.10	0.12	---	0.13	---
			H	23.15	23.50	1.08	---	---	---	---
QPSK 50%RB	Body-worn	Back	L	22.26	22.50	1.06	---	---	---	---
			M	22.16	22.50	1.08	0.42	---	0.45	---
			H	22.21	22.50	1.07	---	---	---	---
		Front	L	22.26	22.50	1.06	---	---	---	---
			M	22.16	22.50	1.08	0.22	---	0.24	---
			H	22.21	22.50	1.07	---	---	---	---
	Hotspot	Back	L	22.26	22.50	1.06	---	---	---	---
			M	22.16	22.50	1.08	0.42	---	0.45	---
			H	22.21	22.50	1.07	---	---	---	---
		Front	L	22.26	22.50	1.06	---	---	---	---
			M	22.16	22.50	1.08	0.22	---	0.24	---
			H	22.21	22.50	1.07	---	---	---	---

		Top	L	22.26	22.50	1.06	---	---	---	---
			M	22.16	22.50	1.08	0.20	---	0.22	---
			H	22.21	22.50	1.07	---	---	---	---
		Bottom	L	22.26	22.50	1.06	---	---	---	---
			M	22.16	22.50	1.08	0.20	---	0.22	---
			H	22.21	22.50	1.07	---	---	---	---
		Left	L	22.26	22.50	1.06	---	---	---	---
			M	22.16	22.50	1.08	---	---	---	---
			H	22.21	22.50	1.07	---	---	---	---
		Right	L	22.26	22.50	1.06	---	---	---	---
			M	22.16	22.50	1.08	0.10	---	0.11	---
			H	22.21	22.50	1.07	---	---	---	---

Mode: LTE Band 41

fL (MHz)= 2506 MHz fM (MHz)= 2593MHz fH (MHz)= 2680MHz

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

Test case				Meas power(dBm)	Tune-up(dBm)	Scaling factor	Meas SAR(w/kg)		Report SAR(w/kg)	
Mode	Exposure condition	Position	Channel				First	Second	First	Second
QPSK 1RB	Body-worn	Back	L	22.57	23.00	1.10	---	---	---	---
			M	22.46	23.00	1.13	0.53	---	0.60	---
			H	22.43	23.00	1.14	---	---	---	---
		Front	L	22.57	23.00	1.10	---	---	---	---
			M	22.46	23.00	1.13	0.12	---	0.14	---
			H	22.43	23.00	1.14	---	---	---	---
	Hotspot	Back	L	22.57	23.00	1.10	---	---	---	---
			M	22.46	23.00	1.13	0.53	---	0.60	---
			H	22.43	23.00	1.14	---	---	---	---
		Front	L	22.57	23.00	1.10	---	---	---	---
			M	22.46	23.00	1.13	0.12	---	0.14	---
			H	22.43	23.00	1.14	---	---	---	---
		Top	L	22.57	23.00	1.10	---	---	---	---
			M	22.46	23.00	1.13	0.16	---	0.18	---
			H	22.43	23.00	1.14	---	---	---	---
		Bottom	L	22.57	23.00	1.10	---	---	---	---
			M	22.46	23.00	1.13	---	---	---	---
			H	22.43	23.00	1.14	---	---	---	---
		Left	L	22.57	23.00	1.10	---	---	---	---
			M	22.46	23.00	1.13	---	---	---	---
			H	22.43	23.00	1.14	---	---	---	---
		Right	L	22.57	23.00	1.10	---	---	---	---
			M	22.46	23.00	1.13	0.38	---	0.43	---
			H	22.43	23.00	1.14	---	---	---	---
QPSK 50%RB	Body-worn	Back	L	21.62	22.00	1.09	---	---	---	---
			M	21.47	22.00	1.13	0.46	---	0.52	---
			H	21.59	22.00	1.10	---	---	---	---
		Front	L	21.62	22.00	1.09	---	---	---	---
			M	21.47	22.00	1.13	0.10	---	0.11	---
			H	21.59	22.00	1.10	---	---	---	---
	Hotspot	Back	L	21.62	22.00	1.09	---	---	---	---
			M	21.47	22.00	1.13	0.46	---	0.52	---
			H	21.59	22.00	1.10	---	---	---	---
		Front	L	21.62	22.00	1.09	---	---	---	---
			M	21.47	22.00	1.13	0.10	---	0.11	---
			H	21.59	22.00	1.10	---	---	---	---

		Top	L	21.62	22.00	1.09	---	---	---	---
			M	21.47	22.00	1.13	0.13	---	0.15	---
			H	21.59	22.00	1.10	---	---	---	---
		Bottom	L	21.62	22.00	1.09	---	---	---	---
			M	21.47	22.00	1.13	---	---	---	---
			H	21.59	22.00	1.10	---	---	---	---
		Left	L	21.62	22.00	1.09	---	---	---	---
			M	21.47	22.00	1.13	---	---	---	---
			H	21.59	22.00	1.10	---	---	---	---
		Right	L	21.62	22.00	1.09	---	---	---	---
			M	21.47	22.00	1.13	0.35	---	0.40	---
			H	21.59	22.00	1.10	---	---	---	---

Mode: Wi-Fi 2.4GHz SISO 1

fL (MHz)=2412MHz fM (MHz)=2437MHz fH (MHz)= 2462MHz

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

Test case				Meas power(dBm)	Tune-up(dBm)	Scaling factor	Duty factor	Meas SAR(w/kg)		Report SAR(w/kg)	
Mode	Exposure condition	Position	Channel					First	Second	First	Second
802.11 ax40M	Body-worn	Back	L	16.91	18.00	1.29	1.01	---	---	---	---
			M	17.86	18.00	1.03	1.01	0.16	---	0.17	---
			H	16.93	18.00	1.28	1.01	---	---	---	---
		Front	L	16.91	18.00	1.29	1.01	---	---	---	---
			M	17.86	18.00	1.03	1.01	0.10	---	0.10	---
			H	16.93	18.00	1.28	1.01	---	---	---	---
	Hotspot	Back	L	16.91	18.00	1.29	1.01	---	---	---	---
			M	17.86	18.00	1.03	1.01	0.16	---	0.17	---
			H	16.93	18.00	1.28	1.01	---	---	---	---
		Front	L	16.91	18.00	1.29	1.01	---	---	---	---
			M	17.86	18.00	1.03	1.01	0.10	---	0.10	---
			H	16.93	18.00	1.28	1.01	---	---	---	---
		Top	L	16.91	18.00	1.29	1.01	---	---	---	---
			M	17.86	18.00	1.03	1.01	---	---	---	---
			H	16.93	18.00	1.28	1.01	---	---	---	---
		Bottom	L	16.91	18.00	1.29	1.01	---	---	---	---
			M	17.86	18.00	1.03	1.01	0.06	---	0.06	---
			H	16.93	18.00	1.28	1.01	---	---	---	---
		Left	L	16.91	18.00	1.29	1.01	---	---	---	---
			M	17.86	18.00	1.03	1.01	0.08	---	0.08	---
			H	16.93	18.00	1.28	1.01	---	---	---	---
		Right	L	16.91	18.00	1.29	1.01	---	---	---	---
			M	17.86	18.00	1.03	1.01	---	---	---	---
			H	16.93	18.00	1.28	1.01	---	---	---	---

Mode: Wi-Fi 2.4GHz SISO 2

fL (MHz)=2412MHz fM (MHz)=2437MHz fH (MHz)= 2462MHz

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

Test case				Meas power(dBm)	Tune-up(dBm)	Scaling factor	Duty factor	Meas SAR(w/kg)		Report SAR(w/kg)	
Mode	Exposure condition	Position	Channel					First	Second	First	Second
802.11ax 40M	Body-worn	Back	L	17.98	18.00	1.00	1.01	---	---	---	---
			M	17.08	18.00	1.24	1.01	0.09	---	0.11	---
			H	16.45	18.00	1.43	1.01	---	---	---	---
		Front	L	17.98	18.00	1.00	1.01	---	---	---	---
			M	17.08	18.00	1.24	1.01	0.11	---	0.14	---
			H	16.45	18.00	1.43	1.01	---	---	---	---
	Hotspot	Back	L	17.98	18.00	1.00	1.01	---	---	---	---
			M	17.08	18.00	1.24	1.01	0.09	---	0.11	---
			H	16.45	18.00	1.43	1.01	---	---	---	---
		Front	L	17.98	18.00	1.00	1.01	---	---	---	---
			M	17.08	18.00	1.24	1.01	0.11	---	0.14	---
			H	16.45	18.00	1.43	1.01	---	---	---	---
		Top	L	17.98	18.00	1.00	1.01	---	---	---	---
			M	17.08	18.00	1.24	1.01	0.08	---	0.10	---
			H	16.45	18.00	1.43	1.01	---	---	---	---
		Bottom	L	17.98	18.00	1.00	1.01	---	---	---	---
			M	17.08	18.00	1.24	1.01	---	---	---	---
			H	16.45	18.00	1.43	1.01	---	---	---	---
		Left	L	17.98	18.00	1.00	1.01	---	---	---	---
			M	17.08	18.00	1.24	1.01	0.01	---	0.01	---
			H	16.45	18.00	1.43	1.01	---	---	---	---
		Right	L	17.98	18.00	1.00	1.01	---	---	---	---
			M	17.08	18.00	1.24	1.01	---	---	---	---
			H	16.45	18.00	1.43	1.01	---	---	---	---

Mode: Wi-Fi 2.4GHz MIMO

fL (MHz)=2412MHz fM (MHz)=2437MHz fH (MHz)= 2462MHz

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

Test case				Meas power(dBm)	Tune-up(dBm)	Scaling factor	Duty factor	Meas SAR(w/kg)		Report SAR(w/kg)	
Mode	Exposure condition	Position	Channel					First	Second	First	Second
802.11 ax40M	Body-worn	Back	L	20.23	21.00	1.19	1.01	---	---	---	---
			M	20.74	21.00	1.06	1.01	0.31	---	0.33	---
			H	20.04	21.00	1.25	1.01	---	---	---	---
		Front	L	20.23	21.00	1.19	1.01	---	---	---	---
			M	20.74	21.00	1.06	1.01	0.17	---	0.18	---
			H	20.04	21.00	1.25	1.01	---	---	---	---
	Hotspot	Back	L	20.23	21.00	1.19	1.01	---	---	---	---
			M	20.74	21.00	1.06	1.01	0.31	---	0.33	---
			H	20.04	21.00	1.25	1.01	---	---	---	---
		Front	L	20.23	21.00	1.19	1.01	---	---	---	---
			M	20.74	21.00	1.06	1.01	0.17	---	0.18	---
			H	20.04	21.00	1.25	1.01	---	---	---	---
		Top	L	20.23	21.00	1.19	1.01	---	---	---	---
			M	20.74	21.00	1.06	1.01	0.12	---	0.13	---
			H	20.04	21.00	1.25	1.01	---	---	---	---
		Bottom	L	20.23	21.00	1.19	1.01	---	---	---	---
			M	20.74	21.00	1.06	1.01	0.10	---	0.11	---
			H	20.04	21.00	1.25	1.01	---	---	---	---
		Left	L	20.23	21.00	1.19	1.01	---	---	---	---
			M	20.74	21.00	1.06	1.01	0.12	---	0.13	---
			H	20.04	21.00	1.25	1.01	---	---	---	---
		Right	L	20.23	21.00	1.19	1.01	---	---	---	---
			M	20.74	21.00	1.06	1.01	---	---	---	---
			H	20.04	21.00	1.25	1.01	---	---	---	---

Mode: Wi-Fi5GHz UNII-1 SISO 1

fL (MHz)=5180MHz fM (MHz)=5200MHz fH (MHz)= 5240MHz

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

Test case				Meas power(dBm)	Tune-up(dBm)	Scaling factor	Duty factor	Meas SAR(w/kg)		Report SAR(w/kg)	
Mode	Exposure condition	Position	Channel					First	Second	First	Second
802.11 ac40M	Body-worn	Back	L	18.25	18.50	1.06	1.01	---	---	---	---
			M	18.21	18.50	1.07	1.01	0.20	---	0.22	---
			H	18.07	18.50	1.10	1.01	---	---	---	---
		Front	L	18.25	18.50	1.06	1.01	---	---	---	---
			M	18.21	18.50	1.07	1.01	0.29	---	0.31	---
			H	18.07	18.50	1.10	1.01	---	---	---	---
	Hotspot	Back	L	18.25	18.50	1.06	1.01	---	---	---	---
			M	18.21	18.50	1.07	1.01	0.20	---	0.22	---
			H	18.07	18.50	1.10	1.01	---	---	---	---
		Front	L	18.25	18.50	1.06	1.01	---	---	---	---
			M	18.21	18.50	1.07	1.01	0.29	---	0.31	---
			H	18.07	18.50	1.10	1.01	---	---	---	---
		Top	L	18.25	18.50	1.06	1.01	---	---	---	---
			M	18.21	18.50	1.07	1.01	---	---	---	---
			H	18.07	18.50	1.10	1.01	---	---	---	---
		Bottom	L	18.25	18.50	1.06	1.01	---	---	---	---
			M	18.21	18.50	1.07	1.01	0.20	---	0.22	---
			H	18.07	18.50	1.10	1.01	---	---	---	---
		Left	L	18.25	18.50	1.06	1.01	---	---	---	---
			M	18.21	18.50	1.07	1.01	0.01	---	0.01	---
			H	18.07	18.50	1.10	1.01	---	---	---	---
		Right	L	18.25	18.50	1.06	1.01	---	---	---	---
			M	18.21	18.50	1.07	1.01	---	---	---	---
			H	18.07	18.50	1.10	1.01	---	---	---	---

Mode: Wi-Fi5GHz UNII-1 SISO 2

fL (MHz)=5180MHz fM (MHz)=5200MHz fH (MHz)= 5240MHz

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

Test case				Meas power(dBm)	Tune-up(dBm)	Scaling factor	Duty factor	Meas SAR(w/kg)		Report SAR(w/kg)	
Mode	Exposure condition	Position	Channel					First	Second	First	Second
802.11 ac40M	Body-worn	Back	L	17.78	18.00	1.05	1.01	---	---	---	---
			M	17.77	18.00	1.05	1.01	0.12	---	0.13	---
			H	17.63	18.00	1.09	1.01	---	---	---	---
		Front	L	17.78	18.00	1.05	1.01	---	---	---	---
			M	17.77	18.00	1.05	1.01	0.13	---	0.14	---
			H	17.63	18.00	1.09	1.01	---	---	---	---
	Hotspot	Back	L	17.78	18.00	1.05	1.01	---	---	---	---
			M	17.77	18.00	1.05	1.01	0.12	---	0.13	---
			H	17.63	18.00	1.09	1.01	---	---	---	---
		Front	L	17.78	18.00	1.05	1.01	---	---	---	---
			M	17.77	18.00	1.05	1.01	0.13	---	0.14	---
			H	17.63	18.00	1.09	1.01	---	---	---	---
		Top	L	17.78	18.00	1.05	1.01	---	---	---	---
			M	17.77	18.00	1.05	1.01	0.31	---	0.33	---
			H	17.63	18.00	1.09	1.01	---	---	---	---
		Bottom	L	17.78	18.00	1.05	1.01	---	---	---	---
			M	17.77	18.00	1.05	1.01	---	---	---	---
			H	17.63	18.00	1.09	1.01	---	---	---	---
		Left	L	17.78	18.00	1.05	1.01	---	---	---	---
			M	17.77	18.00	1.05	1.01	0.08	---	0.08	---
			H	17.63	18.00	1.09	1.01	---	---	---	---
		Right	L	17.78	18.00	1.05	1.01	---	---	---	---
			M	17.77	18.00	1.05	1.01	---	---	---	---
			H	17.63	18.00	1.09	1.01	---	---	---	---

Mode: Wi-Fi5GHz UNII-1 MIMO

fL (MHz)=5180MHz fM (MHz)=5200MHz fH (MHz)= 5240MHz

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

Test case				Meas power(dBm)	Tune-up(dBm)	Scaling factor	Duty factor	Meas SAR(w/kg)		Report SAR(w/kg)	
Mode	Exposure condition	Position	Channel					First	Second	First	Second
802.11 ac40M	Body-worn	Back	L	21.03	21.50	1.11	1.01	---	---	---	---
			M	21.01	21.50	1.12	1.01	0.62	---	0.70	---
			H	20.87	21.50	1.16	1.01	---	---	---	---
		Front	L	21.03	21.50	1.11	1.01	---	---	---	---
			M	21.01	21.50	1.12	1.01	0.34	---	0.38	---
			H	20.87	21.50	1.16	1.01	---	---	---	---
	Hotspot	Back	L	21.03	21.50	1.11	1.01	---	---	---	---
			M	21.01	21.50	1.12	1.01	0.62	---	0.70	---
			H	20.87	21.50	1.16	1.01	---	---	---	---
		Front	L	21.03	21.50	1.11	1.01	---	---	---	---
			M	21.01	21.50	1.12	1.01	0.34	---	0.38	---
			H	20.87	21.50	1.16	1.01	---	---	---	---
		Top	L	21.03	21.50	1.11	1.01	---	---	---	---
			M	21.01	21.50	1.12	1.01	0.40	---	0.45	---
			H	20.87	21.50	1.16	1.01	---	---	---	---
		Bottom	L	21.03	21.50	1.11	1.01	---	---	---	---
			M	21.01	21.50	1.12	1.01	0.39	---	0.44	---
			H	20.87	21.50	1.16	1.01	---	---	---	---
		Left	L	21.03	21.50	1.11	1.01	---	---	---	---
			M	21.01	21.50	1.12	1.01	0.26	---	0.29	---
			H	20.87	21.50	1.16	1.01	---	---	---	---
		Right	L	21.03	21.50	1.11	1.01	---	---	---	---
			M	21.01	21.50	1.12	1.01	---	---	---	---
			H	20.87	21.50	1.16	1.01	---	---	---	---

6.6 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 (~ 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.

6.7 Simultaneous Transmission SAR Analysis

NO.	Simultaneous Transmission Configurations	5G UFI
		Body
1.	WWAN + WLAN2.4GHz SISO/MIMO	Yes
2.	WWAN + WLAN5GHz SISO/MIMO	Yes
3.	WWAN + Bluetooth	Yes
4.	WLAN2.4GHz SISO + WLAN5GHz SISO	Yes
5.	WLAN2.4GHz MIMO + WLAN5GHz MIMO	Yes
6.	WLAN2.4GHz SISO + WLAN5GHz MIMO	Yes
7.	WLAN2.4GHz MIMO + WLAN5GHz SISO	Yes
8.	WWAN + WLAN2.4GHz SISO + WLAN5GHz SISO	Yes
9.	WWAN + WLAN2.4GHz MIMO + WLAN5GHz MIMO	Yes
10.	WWAN + WLAN2.4GHz SISO + WLAN5GHz MIMO	Yes
11.	WWAN + WLAN2.4GHz MIMO + WLAN5GHz SISO	Yes

6.8 Simultaneous Transmission SAR Analysis

Antenna numbers of Simultaneous Transmission	Antennas of Simultaneous Transmission	Simultaneous Transmission Modes
3	WWAN Antenna 0+WLAN Antenna 1+WLAN Antenna 2	Celluar2/3/4G+ WIFI 2.4GHz MIMO+WIFI 5GHz MIMO

The summation of following condition exceed limit 1.6, but this method is the most conservative which is over estimate. So according to KDB447498D01 4.3.2.c)

When the sum of SAR is larger than the limit, SAR test exclusion is determined by the SAR to peak location separation ratio. The ratio is determined by (SAR1 + SAR2)^1.5/Ri, rounded to two decimal digits, and must be ≤ 0.04 for all antenna pairs in the configuration to qualify for 1-g SAR test exclusion. SAR1 and SAR2 are the highest reported or estimated SAR values for each antenna in the pair, and Ri is the separation distance in mm between the peak SAR locations for the antenna pair.

Mode1	Mode2	SAR1	SAR2	Distance	Splsr	Limit	Result
WiFi 2.4G MIMO+ WiFi 5.2G MIMO	WCDMA 2	1.03	0.89	108.73	0.024	0.04	PASS
	WCDMA 4	1.03	0.85	110.86	0.023		
	LTE 2	1.03	0.67	101.41	0.022		
	LTE 4	1.03	0.74	107.70	0.022		
	LTE 41	1.03	0.60	114.63	0.018		

The worst combined result is similar to standalone SAR value. So there is no risk for the condition mentioned above. The antenna pairs qualify for simultaneous transmission SAR test exclusion, enlarged zoom scan and volume scan post-processing procedures do not apply. And we adopt the following result which using summation method as final worst case for Simultaneous Transmission

Position of worst case	Unlicensed band	Licensed band	Simultaneous SAR(w/kg)
Back	WIFI 2.4G+WIFI 5.2G	WCDMA 2	1.04
		WCDMA 4	1.15
		LTE 2	0.90
		LTE 4	1.05
		LTE 41	0.93

According to the above tables, SAR values＜1.6W/kg meet the compliance.

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_i) 1g	(c_i) 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	$\sqrt{3}$	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	±2.0 %	R	$\sqrt{3}$	1	1	±1.2 %	±1.2 %	∞
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	±0.8 %	R	$\sqrt{3}$	1	1	±0.5 %	±0.5 %	∞
Probe Positioning	±6.7 %	R	$\sqrt{3}$	1	1	±3.9 %	±3.9 %	∞
Max. SAR Eval.	±4.0 %	R	$\sqrt{3}$	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	$\sqrt{3}$	1	1	±2.9 %	±2.9 %	∞
Power Scaling^p	±0 %	R	$\sqrt{3}$	1	1	±0.0 %	±0.0 %	∞
Phantom and Setup								
Phantom Uncertainty	±6.6 %	R	$\sqrt{3}$	1	1	±3.8 %	±3.8 %	∞
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						±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	720	2020.09.30	2021.09.29
Dosimetric E-field Probe	EX3DV4	3708	2020.10.30	2021.10.29
Dipole Validation Kit	D750V3	1101	2020.10.16	2021.10.15
Dipole Validation Kit	D835V2	4d023	2020.10.16	2021.10.15
Dipole Validation Kit	D1800V2	2d084	2020.09.18	2021.09.17
Dipole Validation Kit	D2000V2	1009	2020.10.14	2021.10.13
Dipole Validation Kit	D2450V2	738	2020.10.13	2021.10.12
Dipole Validation Kit	D2600V2	1166	2019.11.08	2022.11.07
Dipole Validation Kit	D5GHzV2	1079	2020.10.10	2023.10.09

Additional test equipment used in testing:

Test Equipment	Model	Serial Number	Calibration date	Calibration Due data
Signal Generator	E4428C	MY45280865	2020.08.20	2021.08.19
Signal Generator	SML 03	103514	2020.08.20	2021.08.19
Power meter	E4417A	MY45101182	2020.08.20	2021.08.19
Power Sensor	E4412A	MY41502214	2020.08.20	2021.08.19
Power Sensor	E4412A	MY41502130	2020.08.20	2021.08.19
Power meter	E4417A	MY45101004	2020.08.20	2021.08.19
Power Sensor	E9300B	MY41496001	2020.08.20	2021.08.19
Power Sensor	E9300B	MY41496003	2020.08.20	2021.08.19
Communication Tester	E5515C	MY48367401	2020.08.20	2021.08.19
Communication Tester	CMW500	161702	2020.08.20	2021.08.19
Communication Tester	MT8820C	6201300660	2020.08.20	2021.08.19
Communication Tester	MT8821C	6201547819	2020.08.20	2021.08.19
Vector Network Analyzer	VNA R140	0011213	2020.09.18	2021.09.17
Dielectric Parameter Probe	DAKS-3.5	1042	2020.09.17	2021.09.16
Vector Network Analyzer	E5071C	MY43030474	2020.08.20	2021.08.19
Calibration Kit	85054D	MY39200751	2020.08.20	2021.08.19

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 μW/g to > 100 W/kg Linearity: ± 0.2 dB (noise: typically < 1 μW/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%.

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×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

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 deviates within 5 Ω from the previous measurement. (Data from the last calibration report)

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

Dipole450 TSL Parameters		
Parameters	Measured data	Target (Ref. Value)
Impedance	59.1Ω+0.06jΩ	55.5Ω+6.40jΩ
Return loss	-21.6 dB	-21.9 dB

Dipole750 TSL Parameters		
Parameters	Measured data	Target (Ref. Value)
Impedance	53.8Ω-4.02jΩ	53.7Ω-1.63jΩ
Return loss	-25.5 dB	-28.2dB

Dipole835 TSL Parameters		
Parameters	Measured data	Target (Ref. Value)
Impedance	54.5Ω-6.16jΩ	52.6Ω-2.37jΩ
Return loss	-34.1 dB	-29.3dB

Dipole900 TSL Parameters		
Parameters	Measured data	Target (Ref. Value)
Impedance	53.0Ω-5.24jΩ	49.1Ω-6.69jΩ
Return loss	-23.2 dB	-23.4dB

Dipole1450 TSL Parameters		
Parameters	Measured data	Target (Ref. Value)
Impedance	54.7Ω+3.95jΩ	52.4Ω-1.35jΩ
Return loss	-33.1 dB	-31.5dB

Dipole1800 TSL Parameters		
Parameters	Measured data	Target (Ref. Value)
Impedance	44.2Ω+5.06jΩ	48.9Ω-2.71jΩ
Return loss	-31.8 dB	-30.6dB

Dipole2000 TSL Parameters		
Parameters	Measured data	Target (Ref. Value)
Impedance	51.9Ω-3.37jΩ	49.4Ω-2.46jΩ
Return loss	-28.4 dB	-31.9dB

Dipole2450 TSL Parameters		
Parameters	Measured data	Target (Ref. Value)
Impedance	53.2Ω-9.98jΩ	53.3Ω+6.38jΩ
Return loss	-19.9 dB	-23.1dB

Dipole2600 TSL Parameters		
Parameters	Measured data	Target (Ref. Value)
Impedance	50.4Ω+6.71jΩ	47.9Ω-7.80jΩ
Return loss	-23.5 dB	-21.7dB

Dipole3500 TSL Parameters		
Parameters	Measured data	Target (Ref. Value)
Impedance	53.3Ω-10.48jΩ	52.6Ω+3.5jΩ
Return loss	-29.5 dB	-27.4dB

Dipole3700 TSL Parameters		
Parameters	Measured data	Target (Ref. Value)
Impedance	46.0Ω+6.99jΩ	48.3Ω+1.1jΩ
Return loss	-34.5 dB	-33.6dB

Dipole3900 TSL Parameters (3900MHz)		
Parameters	Measured data	Target (Ref. Value)
Impedance	51.8Ω-11.48jΩ	48.3Ω-4.9jΩ
Return loss	-28.7 dB	-25.6dB

Dipole3900 TSL Parameters (4100MHz)		
Parameters	Measured data	Target (Ref. Value)
Impedance	51.6Ω+9.70jΩ	59.0Ω-0.8jΩ
Return loss	-17.1 dB	-21.6dB

Dipole4200 TSL Parameters		
Parameters	Measured data	Target (Ref. Value)
Impedance	43.9Ω+1.52jΩ	48.3Ω+1.10jΩ
Return loss	-33.5 dB	-33.6dB

Dipole4600 TSL Parameters (4500MHz)

Parameters	Measured data	Target (Ref. Value)
Impedance	46.0Ω-1.14jΩ	46.4Ω-4.5jΩ
Return loss	-27.2 dB	-24.5dB

Dipole4600 TSL Parameters (4600MHz)		
Parameters	Measured data	Target (Ref. Value)
Impedance	49.0Ω-7.87jΩ	51.8Ω-6.35jΩ
Return loss	-20.7 dB	-23.8dB

Dipole4600 TSL Parameters (4700MHz)		
Parameters	Measured data	Target (Ref. Value)
Impedance	55.0Ω+0.91jΩ	55.9Ω-3.20jΩ
Return loss	-26.2 dB	-24.0dB

Dipole4900 TSL Parameters		
Parameters	Measured data	Target (Ref. Value)
Impedance	45.8Ω-1.40jΩ	50.6Ω-5.2jΩ
Return loss	-26.7 dB	-25.7dB

Dipole5GHz TSL Parameters (5200MHz)		
Parameters	Measured data	Target (Ref. Value)
Impedance	51.2Ω+13.89jΩ	50.2Ω-10.0jΩ
Return loss	-17.0 dB	-20.0dB

Dipole5GHz TSL Parameters (5300MHz)		
Parameters	Measured data	Target (Ref. Value)
Impedance	52.0Ω-11.40jΩ	47.2Ω-7.33jΩ
Return loss	-18.4 dB	-21.9dB

Dipole5GHz TSL Parameters (5500MHz)		
Parameters	Measured data	Target (Ref. Value)
Impedance	51.6Ω+6.61jΩ	52.0Ω-7.96jΩ
Return loss	-18.6 dB	-21.9dB

Dipole5GHz TSL Parameters (5600MHz)		
Parameters	Measured data	Target (Ref. Value)
Impedance	53.6Ω+7.31jΩ	55.7Ω-3.78jΩ
Return loss	-22.1 dB	-23.8dB

Dipole5GHz TSL Parameters (5800MHz)		
Parameters	Measured data	Target (Ref. Value)

Impedance	51.6Ω-5.96jΩ	53.7Ω-5.87jΩ
Return loss	-19.0 dB	-23.5dB