FCC SAR TEST REPORT

FCC ID : A4RG1KAW
Equipment : Wireless Device
Model Name : G1KAW
Applicant : Google LLC
1600 Amphitheatre Parkway,
Mountain View, CA, 94043 USA
Standard : FCC 47 CFR Part 2 (2.1093)

The product was received on Feb. 24, 2025 and testing was started from Feb. 27, 2025 and completed on May 22, 2025. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample provide by manufacturer and the test data has been evaluated in accordance with the test procedures given in 47 CFR Part 2.1093 and FCC KDB and has been pass the FCC requirement.

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

Approved by: Cona Huang / Deputy Manager

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History of this test report

Report No.	Version	Description	Issued Date
FA4D1914A	01	Initial issue of report	Apr. 10, 2025
FA4D1914A	02	Update section 11 and 12	Apr. 23, 2025
FA4D1914A	03	Update section 3.1	Apr. 25, 2025
FA4D1914A	04	Update section 12 and appendix B	May 13, 2025
FA4D1914A	05	Update section 8, 9,12, and appendix A, B, and C	May 22, 2025

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) for Google LLC, Wireless Device, G1KAW, are as follows.

Equipment Class	Frequency Band	Highest SAR Summary		Highest Simultaneous Transmission 1g SAR (W/kg)	Highest Simultaneous Transmission 10g SAR (W/kg)
		Next to mouth (Separation 10mm)	Extremity (Separation 0mm)		
		1g SAR (W/kg)	10g SAR (W/kg)		
Licensed	LTE Band 7	0.64	0.06	1.14	1.15
	LTE Band 12/17	< 0.01	0.91		
	LTE Band 13	< 0.01	0.91		
	LTE Band 2/25	0.18	0.06		
	LTE Band 5/26	< 0.01	1.06		
	LTE Band 4/66	0.51	0.09		
	LTE Band 71	< 0.01	0.61		
	NTN Band 23		0.08		
	NTN Band 255		0.09		
DTS	2.4GHz WLAN	0.57	0.05	1.08	1.11
NII	5GHz WLAN	0.53	0.08	1.14	1.15
DSS	Bluetooth	0.10	0.02		
Date of Testing:		2025/02/27 ~ 2025/05/21			

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation and the FCC designation No. TW3786 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC test. This device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6 W/kg for Partial-Body 1g SAR, 4.0 W/kg for Extremity 10g SAR) specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-1992, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013 and FCC KDB publications.

Reviewed by: Jason Wang
Report Producer: Paula Chen

2. Guidance Applied

The Specific Absorption Rate (SAR) testing specification, method, and procedure for this device is in accordance with the following standards, the below KDB standard may not including in the TAF code without accreditation.

- FCC 47 CFR Part 2 (2.1093)
- ANSI/IEEE C95.1-1992
- IEEE 1528-2013
- FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
- FCC KDB 865664 D02 SAR Reporting v01r02
- FCC KDB 447498 D01 General RF Exposure Guidance v06
- FCC KDB 248227 D01 802.11 Wi-Fi SAR v02r02
- FCC KDB 941225 D01 3G SAR Procedures v03r01
- FCC KDB 941225 D05 SAR for LTE Devices v02r05

3. Equipment Under Test (EUT) Information

3.1 General Information

Product Feature & Specification	
Equipment Name	Wireless Device
Model Name	G1KAW
FCC ID	A4RG1KAW
S / N	51161WRBNL31VL
Wireless Technology and Frequency Range	LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 25: 1850 MHz ~ 1915 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 66: 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 MHz NTN Band 23: 2000.1 MHz ~2019.9 MHz NTN Band 255: 1626.7 MHz ~ 1659.9 MHz WLAN 2.4 GHz Band: 2400 MHz ~ 2483.5 MHz WLAN 5.2 GHz Band: 5150 MHz ~ 5250 MHz WLAN 5.3 GHz Band: 5250 MHz ~ 5350 MHz WLAN 5.6 GHz Band: 5470 MHz ~ 5725 MHz WLAN 5.8 GHz Band: 5725 MHz ~ 5850 MHz WLAN 5.9 GHz Band: 5850 MHz ~ 5895 MHz Bluetooth: 2400 MHz ~ 2483.5 MHz NFC : 13.56 MHz (Rx only) UWB: 6489.6MHz, 7987.2MHz 60.5GHz
Mode	LTE: QPSK, 16QAM, 64QAM NTN: BPSK, QPSK WLAN: 802.11a/b/g/n/ac/ax HT20/HT40/VHT20/VHT40/VHT80//HE20/HE40/HE80 Bluetooth BR/EDR/LE/ CS ASK / CS GFSK NFC: ASK UWB: BPM-BPSK 60.5GHz: 2ASK

Remark:
1. 2.4GHz WLAN and Bluetooth cannot transmit simultaneously.
2. SAR test has performed with the metal strap 1 and 2, and with the non-metal strap 3.
3. The UWB output power is -13.5dBm and it is less than 1mW and exempt from RF Exposure testing.
4. 60GHz RFx is not applicable according the user case, and it will be away 20cm from human body during operation.

3.2 General LTE SAR Test and Reporting Considerations

Summarized necessary items addressed in KDB 941225 D05 v02r05	
FCC ID	A4RG1KAW
Equipment Name	Wireless Device
Operating Frequency Range of each LTE transmission band	LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 25: 1850 MHz ~ 1915 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 66: 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 MHz
Channel Bandwidth	LTE Band 2:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 4:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 5:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 7: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 12:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 13: 5MHz, 10MHz LTE Band 17: 5MHz, 10MHz LTE Band 25:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 26:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz LTE Band 66:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 71: 5MHz, 10MHz, 15MHz, 20MHz
uplink modulations used	QPSK / 16QAM / 64QAM
LTE Voice / Data requirements	Data only
LTE MPR permanently built-in by design	**Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3**

Modulation	Channel bandwidth / Transmission bandwidth (N_{RB})						MPR (dB)
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2
64 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 2
64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 3
256 QAM	≥ 1						≤ 5

LTE A-MPR	In the base station simulator configuration, Network Setting value is set to NS_01 to disable A-MPR during SAR testing and the LTE SAR tests was transmitting on all TTI frames (Maximum TTI)
Spectrum plots for RB configuration	A properly configured base station simulator was used for the SAR and power measurement; therefore, spectrum plots for each RB allocation and offset configuration are not included in the SAR report.

Transmission (H, M, L) channel numbers and frequencies in each LTE band

LTE Band 2

	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	18607	1850.7	18615	1851.5	18625	1852.5	18650	1855	18675	1857.5	18700	1860
M	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880
H	19193	1909.3	19185	1908.5	19175	1907.5	19150	1905	19125	1902.5	19100	1900

LTE Band 4

	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	19957	1710.7	19965	1711.5	19975	1712.5	20000	1715	20025	1717.5	20050	1720
M	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5
H	20393	1754.3	20385	1753.5	20375	1752.5	20350	1750	20325	1747.5	20300	1745

LTE Band 5

	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	20407	824.7	20415	825.5	20425	826.5	20450	829

M	20525	836.5	20525	836.5	20525	836.5	20525	836.5
H	20643	848.3	20635	847.5	20625	846.5	20600	844
LTE Band 7								
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	20775	2502.5	20800	2505	20825	2507.5	20850	2510
M	21100	2535	21100	2535	21100	2535	21100	2535
H	21425	2567.5	21400	2565	21375	2562.5	21350	2560
LTE Band 12								
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	23017	699.7	23025	700.5	23035	701.5	23060	704
M	23095	707.5	23095	707.5	23095	707.5	23095	707.5
H	23173	715.3	23165	714.5	23155	713.5	23130	711

LTE Band 13				
	Bandwidth 5 MHz		Bandwidth 10 MHz	
	Channel #	Freq.(MHz)	Channel #	Freq.(MHz)
L	23205	779.5	23230	782
M	23230	782		
H	23255	784.5		

LTE Band 17				
	Bandwidth 5 MHz		Bandwidth 10 MHz	
	Channel #	Freq.(MHz)	Channel #	Freq. (MHz)
L	23755	706.5	23780	709
M	23790	710	23790	710
H	23825	713.5	23800	711

LTE Band 25												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26047	1850.7	26055	1851.5	26065	1852.5	26090	1855	26115	1857.5	26140	1860
M	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880
H	26683	1914.3	26675	1913.5	26665	1912.5	26640	1910	26615	1907.5	26590	1905

LTE Band 26										
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26697	814.7	26705	815.5	26715	816.5	26740	819	26765	821.5
M	26865	831.5	26865	831.5	26865	831.5	26865	831.5	26865	831.5
H	27033	848.3	27025	847.5	27015	846.5	26990	844	26965	841.5

LTE Band 66												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	131979	1710.7	131987	1711.5	131997	1712.5	132022	1715	132047	1717.5	132072	1720
M	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745
H	132665	1779.3	132657	1778.5	132647	1777.5	132622	1775	132597	1772.5	132572	1770

LTE Band 71								
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	133147	665.5	133172	668	133197	670.5	133222	673
M	133297	680.5	133297	680.5	133297	680.5	133297	680.5
H	133447	695.5	133422	693	133397	690.5	133372	688

4. RF Exposure Limits

4.1 Uncontrolled Environment

Uncontrolled Environments are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure. The general population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity.

4.2 Controlled Environment

Controlled Environments are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e. as a result of employment or occupation). In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. The exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Limits for Occupational/Controlled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.4	8.0	20.0

Limits for General Population/Uncontrolled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.08	1.6	4.0

1. Whole-Body SAR is averaged over the entire body, partial-body SAR is averaged over any 1gram of tissue defined as a tissue volume in the shape of a cube. SAR for hands, wrists, feet and ankles is averaged over any 10 grams of tissue defined as a tissue volume in the shape of a cube.

4.3 RF Exposure limit for above 6GHz

According to ANSI/IEEE C95.1-1992, the criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in §1.1310.

Peak Spatially Averaged Power Density was evaluated over a circular area of 4cm^2 per interim FCC Guidance for near-field power density evaluations per October 2018 TCB Workshop notes

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f2)	6
30-300	61.4	0.163	1.0	6
300-1500			f/300	6
1500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f2)	30
30-300	27.5	0.073	0.2	30
300-1500			f/1500	30
1500-100,000			1.0	30

5. Specific Absorption Rate (SAR)

5.1 Introduction

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

5.2 SAR Definition

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

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

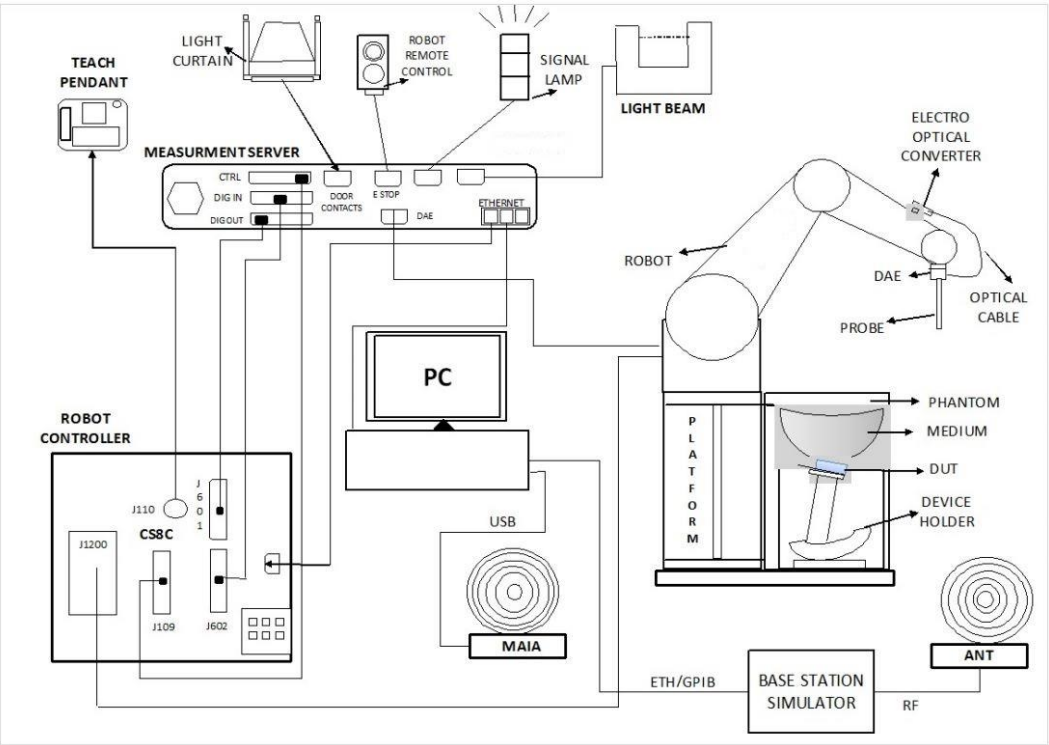
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

6. System Description and Setup

The DASY system used for performing compliance tests consists of the following items:



- The DASY system in SAR Configuration is shown above
- A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic Field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running windows software and the DASY software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

6.1 Test Site Location

The SAR measurement facilities used to collect data are within both Sporton Lab list below test site location are accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 1190 and 3786) and the FCC designation No. TW1190 and TW3786 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC test.

Laboratory	EMC & Wireless Communications Laboratory		Wensan Laboratory				
Test Site Location	TW1190 No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan		TW3786 No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan				
Test Site No.	SAR01-HY	SAR03-HY	SAR08-HY	SAR09-HY	SAR15-HY	SAR18-HY	SAR21-HY
	SAR04-HY	SAR05-HY	SAR11-HY	SAR12-HY	SAR16-HY	SAR19-HY	SAR22-HY
	SAR06-HY	SAR10-HY	SAR13-HY	SAR14-HY	SAR17-HY	SAR20-HY	

6.2 E-Field Probe

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

<ES3DV3 Probe>

Construction	Symmetric design with triangular core Interleaved sensors Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
Frequency	4 MHz – 4 GHz; Linearity: ±0.2 dB (30 MHz – 4 GHz)	
Directivity	±0.2 dB in TSL (rotation around probe axis) ±0.3 dB in TSL (rotation normal to probe axis)	
Dynamic Range	5 μW/g – >100 mW/g; Linearity: ±0.2 dB	
Dimensions	Overall length: 337 mm (tip: 20 mm) Tip diameter: 3.9 mm (body: 12 mm) Distance from probe tip to dipole centers: 3.0 mm	

<EX3DV4 Probe>

Construction	Symmetric design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
Frequency	4 MHz – >6 GHz Linearity: ±0.2 dB (30 MHz – 6 GHz)	
Directivity	±0.3 dB in TSL (rotation around probe axis) ±0.5 dB in TSL (rotation normal to probe axis)	
Dynamic Range	10 μW/g – >100 mW/g Linearity: ±0.2 dB (noise: typically <1 μW/g)	
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	

6.3 Data Acquisition Electronics (DAE)

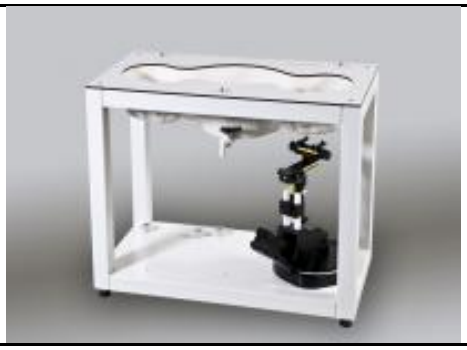
The data acquisition electronics (DAE) consists of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder and control logic unit. Transmission to the measurement server is accomplished through an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

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

Fig 5.1 Photo of DAE

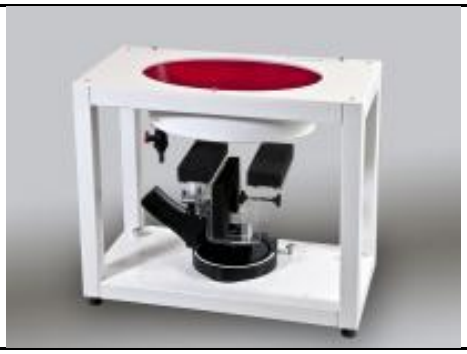
6.4 Phantom

<SAM Twin Phantom>

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

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

<ELI Phantom>

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

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

6.5 Device Holder

<Mounting Device for Hand-Held Transmitter>

In combination with the Twin SAM V5.0/V5.0c or ELI phantoms, the Mounting Device for Hand-Held Transmitters enables rotation of the mounted transmitter device to specified spherical coordinates. At the heads, the rotation axis is at the ear opening. Transmitter devices can be easily and accurately positioned according to IEC 62209-1, IEEE 1528, FCC, or other specifications. The device holder can be locked for positioning at different phantom sections (left head, right head, flat). And upgrade kit to Mounting Device to enable easy mounting of wider devices like big smart-phones, e-books, small tablets, etc. It holds devices with width up to 140 mm.

Mounting Device for Hand-Held Transmitters

Mounting Device Adaptor for Wide-Phones

<Mounting Device for Laptops and other Body-Worn Transmitters>

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

Mounting Device for Laptops

7. Measurement Procedures

The measurement procedures are as follows:

(a) Use base station simulator to configure EUT WWAN transmission in radiated connection, and engineering software to configure EUT WLAN/BT continuously transmission, at maximum RF power, in the highest power channel.
(b) Place the EUT in the positions as Appendix D demonstrates.
(c) Set scan area, grid size and other setting on the DASY software.
(d) Measure SAR results for the highest power channel on each testing position.
(e) Find out the largest SAR result on these testing positions of each band
(f) Measure SAR results for other channels in worst SAR testing position if the reported SAR of highest power channel is larger than 0.8 W/kg

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

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

7.1 Spatial Peak SAR Evaluation

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

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

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

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

7.2 Power Reference Measurement

The Power Reference Measurement and Power Drift Measurements are for monitoring the power drift of the device under test in the batch process. The minimum distance of probe sensors to surface determines the closest measurement point to phantom surface. This distance cannot be smaller than the distance of sensor calibration points to probe tip as defined in the probe properties.

7.3 Area Scan

The area scan is used as a fast scan in two dimensions to find the area of high field values, before doing a fine measurement around the hot spot. The sophisticated interpolation routines implemented in DASY software can find the maximum found in the scanned area, within a range of the global maximum. The range (in dB0 is specified in the standards for compliance testing. For example, a 2 dB range is required in IEEE standard 1528 and IEC 62209 standards, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard (Japan), if only one zoom scan follows the area scan, then only the absolute maximum will be taken as reference. For cases where multiple maximums are detected, the number of zoom scans has to be increased accordingly.

Area scan parameters extracted from FCC KDB 865664 D01v01r04 SAR measurement 100 MHz to 6 GHz.

	≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface	5 ± 1 mm	½·δ·ln(2) ± 0.5 mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location	30° ± 1°	20° ± 1°
Maximum area scan spatial resolution: Δx_{Area}, Δy_{Area}	≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
	When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	

7.4 Zoom Scan

Zoom scans are used assess the peak spatial SAR values within a cubic averaging volume containing 1 gram and 10 gram of simulated tissue. The zoom scan measures points (refer to table below) within a cube shoes base faces are centered on the maxima found in a preceding area scan job within the same procedure. When the measurement is done, the zoom scan evaluates the averaged SAR for 1 gram and 10 gram and displays these values next to the job's label.

Zoom scan parameters extracted from FCC KDB 865664 D01v01r04 SAR measurement 100 MHz to 6 GHz.

			≤ 3 GHz	> 3 GHz
Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}			≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	$\leq 1.5 \cdot \Delta z_{Zoom}(n-1)$	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm

Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.

* When zoom scan is required and the *reported* SAR from the *area scan based 1-g SAR estimation* procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.

7.5 Volume Scan Procedures

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

7.6 Power Drift Monitoring

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

8. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit(2)	D750V3	1107	Jun. 22, 2022	Jun. 19, 2025
SPEAG	835MHz System Validation Kit(2)	D835V2	4d167	Nov. 24, 2022	Nov. 21, 2025
SPEAG	1640MHz System Validation Kit(2)	D1640V2	346	Aug. 19, 2022	Aug. 16, 2025
SPEAG	1750MHz System Validation Kit(2)	D1750V2	1068	Nov. 21, 2022	Nov. 18, 2025
SPEAG	1750MHz System Validation Kit(2)	D1750V2	1112	Jun. 22, 2022	Jun. 19, 2025
SPEAG	1900MHz System Validation Kit(2)	D1900V2	5d093	Mar. 25, 2022	Mar. 22, 2025
SPEAG	2000MHz System Validation Kit	D2000V2	1010	Aug. 16, 2024	Aug. 15, 2025
SPEAG	2450MHz System Validation Kit(2)	D2450V2	929	Nov. 21, 2022	Nov. 18, 2025
SPEAG	2600MHz System Validation Kit	D2600V2	1008	Aug. 15, 2024	Aug. 14, 2025
SPEAG	2600MHz System Validation Kit(2)	D2600V2	1089	Mar. 24, 2022	Mar. 21, 2025
SPEAG	5GHz System Validation Kit	D5GHzV2	1128	Sep. 17, 2024	Sep. 16, 2025
SPEAG	Data Acquisition Electronics	DAE4	656	Jan. 16, 2025	Jan. 15, 2026
SPEAG	Data Acquisition Electronics	DAE4	661	May. 16, 2024	May. 15, 2025
SPEAG	Data Acquisition Electronics	DAE4	703	Apr. 22, 2024	Apr. 21, 2025
SPEAG	Data Acquisition Electronics	DAE4	1647	Oct. 15, 2024	Oct. 14, 2025
SPEAG	Data Acquisition Electronics	DAE4	1694	Nov. 19, 2024	Nov. 18, 2025
SPEAG	Data Acquisition Electronics	DAE4	1776	Feb. 12, 2025	Feb. 11, 2026
SPEAG	Data Acquisition Electronics	DAE4	1794	Feb. 15, 2024	Feb. 14, 2025
SPEAG	Dosimetric E-Field Probe	EX3DV4	3931	Nov. 19, 2024	Nov. 18, 2025
SPEAG	Dosimetric E-Field Probe	EX3DV4	7439	Aug. 21, 2024	Aug. 20, 2025
SPEAG	Dosimetric E-Field Probe	EX3DV4	7700	Jan. 22, 2025	Jan. 21, 2026
SPEAG	Dosimetric E-Field Probe	EX3DV4	7785	Nov. 28, 2024	Nov. 27, 2025
SPEAG	Dosimetric E-Field Probe	EX3DV4	7791	Feb. 19, 2025	Feb. 18, 2026
SPEAG	Dosimetric E-Field Probe	EX3DV4	7814	Jun. 20, 2024	Jun. 19, 2025
Testo	Hygro meter	608-H1	45196600	Oct. 28, 2024	Oct. 27, 2025
Anritsu	Radio Communication Analyzer	MT8821C	6201341950	Nov. 12, 2024	Nov. 11, 2025
R&S	BT Base Station	CBT	101136	Oct. 20, 2024	Oct. 19, 2025
SPEAG	Device Holder	N/A	N/A	N/A	N/A
Anritsu	Signal Generator	MG3710A	6201502524	Sep. 24, 2024	Sep. 23, 2025
Keysight	ENA Network Analyzer	E5071C	MY46104758	Oct. 20, 2024	Oct. 19, 2025
SPEAG	Dielectric Probe Kit	DAK-3.5	1126	Sep. 17, 2024	Sep. 16, 2025
LINE SEIKI	Digital Thermometer	DTM3000-spezial	3690	Aug. 07, 2024	Aug. 06, 2025
Anritsu	Power Meter	ML2495A	1419002	Aug. 13, 2024	Aug. 12, 2025
Anritsu	Power Sensor	MA2411B	1911176	Aug. 13, 2024	Aug. 12, 2025
Anritsu	Spectrum Analyzer	MS2830A	6201396378	Jul. 09, 2024	Jul. 08, 2025
Mini-Circuits	Power Amplifier	ZVE-8G+	6418	Oct. 23, 2024	Oct. 22, 2025
ATM	Dual Directional Coupler	C122H-10	P610410z-02	Note 1	
Warison	Directional Coupler	WCOU-10-50S-10	WR889BMC4B1	Note 1	
Woken	Attenuator 1	WK0602-XX	N/A	Note 1	
PE	Attenuator 2	PE7005-10	N/A	Note 1	
PE	Attenuator 3	PE7005- 3	N/A	Note 1	

General Note:

1. Prior to system verification and validation, the path loss from the signal generator to the system check source and the power meter, which includes the amplifier, cable, attenuator and directional coupler, was measured by the network analyzer. The reading of the power meter was offset by the path loss difference between the path to the power meter and the path to the system check source to monitor the actual power level fed to the system check source.
2. The dipole calibration interval can be extended to 3 years with justification according to KDB 865664 D01. The dipoles are also not physically damaged, or repaired during the interval. The justification data in appendix C can be found which the return loss is < -20dB, within 20% of prior calibration, the impedance is within 5 ohm of prior calibration for each dipole.

9. System Verification

9.1 Tissue Verification

The tissue dielectric parameters of tissue-equivalent media used for SAR measurements must be characterized within a temperature range of 18℃ to 25℃, measured with calibrated instruments and apparatuses, such as network analyzers and temperature probes. The temperature of the tissue-equivalent medium during SAR measurement must also be within 18℃ to 25℃ and within ± 2℃ of the temperature when the tissue parameters are characterized. The tissue dielectric measurement system must be calibrated before use. The dielectric parameters must be measured before the tissue-equivalent medium is used in a series of SAR measurements.
The liquid tissue depth was at least 15cm in the phantom for all SAR testing

<Tissue Dielectric Parameter Check Results>

Frequency (MHz)	Liquid Temp. (℃)	Conductivity (σ)	Permittivity (ε_r)	Conductivity Target (σ)	Permittivity Target (ε_r)	Delta (σ) (%)	Delta (ε_r) (%)	Limit (%)	Date
750	22.5	0.888	41.678	0.89	41.90	-0.22	-0.53	±5	2025/2/27
750	22.5	0.873	42.636	0.89	41.90	-1.91	1.76	±5	2025/3/7
835	22.5	0.922	41.382	0.90	41.50	2.44	-0.28	±5	2025/2/27
835	22.5	0.905	42.340	0.90	41.50	0.56	2.02	±5	2025/3/7
1640	22.6	1.292	40.173	1.31	40.23	-1.37	-0.14	±5	2025/3/13
1750	22.5	1.353	40.703	1.37	40.10	-1.24	1.50	±5	2025/2/27
1750	22.5	1.368	40.637	1.37	40.10	-0.15	1.34	±5	2025/3/7
1900	22.5	1.429	39.155	1.40	40.00	2.07	-2.11	±5	2025/2/27
2000	22.6	1.434	39.193	1.40	40.00	2.43	-2.02	±5	2025/3/13
2450	22.5	1.832	38.635	1.80	39.20	1.78	-1.44	±5	2025/3/9
2450	22.3	1.767	39.070	1.80	39.20	-1.83	-0.33	±5	2025/3/12
2600	22.5	1.997	38.933	1.96	39.00	1.89	-0.17	±5	2025/2/27
2600	22.8	1.995	39.158	1.96	39.00	1.79	0.41	±5	2025/5/21
5250	22.3	4.651	36.158	4.71	35.95	-1.25	0.58	±5	2025/3/12
5600	22.3	5.018	35.647	5.07	35.50	-1.03	0.41	±5	2025/3/12
5800	22.3	5.233	35.393	5.27	35.30	-0.70	0.26	±5	2025/3/12
5800	22.3	5.233	35.393	5.27	35.30	-0.70	0.26	±5	2025/3/12

9.2 System Performance Check Results

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

Test Site	Date	Frequency (MHz)	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 1g SAR (W/kg)	Targeted 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Deviation (%)	Measured 10g SAR (W/kg)	Targeted 10g SAR (W/kg)	Normalized 10g SAR (W/kg)	Deviation (%)
SAR-11	2025/2/27	750	50	D750V3-1107	EX3DV4 - SN3931	DAE4 Sn703	0.430	8.540	8.6	0.70	0.287	5.570	5.74	3.05
SAR-12	2025/3/7	750	50	D750V3-1107	EX3DV4 - SN7791	DAE4 Sn1776	0.393	8.540	7.86	-7.96	0.265	5.570	5.3	-4.85
SAR-11	2025/2/27	835	50	D835V2-4d167	EX3DV4 - SN3931	DAE4 Sn703	0.497	9.800	9.94	1.43	0.334	6.380	6.68	4.70
SAR-12	2025/3/7	835	50	D835V2-4d167	EX3DV4 - SN7791	DAE4 Sn1776	0.485	9.800	9.7	-1.02	0.323	6.380	6.46	1.25
SAR-13	2025/3/13	1640	50	D1640V2-346	EX3DV4 - SN7785	DAE4 Sn1694	1.630	34.600	32.6	-5.78	0.898	18.600	17.96	-3.44
SAR-11	2025/2/27	1750	50	D1750V2-1112	EX3DV4 - SN3931	DAE4 Sn703	1.860	36.900	37.2	0.81	1.010	19.400	20.2	4.12
SAR-12	2025/3/7	1750	50	D1750V2-1068	EX3DV4 - SN7791	DAE4 Sn1776	1.790	36.700	35.8	-2.45	0.963	19.300	19.26	-0.21
SAR-11	2025/2/27	1900	50	D1900V2-5d093	EX3DV4 - SN3931	DAE4 Sn703	1.840	39.900	36.8	-7.77	0.968	20.700	19.36	-6.47
SAR-15	2025/3/13	2000	50	D2000V2-1010	EX3DV4 - SN7700	DAE4 Sn656	1.930	40.200	38.6	-3.98	0.995	20.900	19.9	-4.78
SAR-12	2025/3/9	2450	50	D2450V2-929	EX3DV4 - SN7791	DAE4 Sn1776	2.450	52.400	49	-6.49	1.150	24.700	23	-6.88
SAR-14	2025/3/12	2450	50	D2450V2-929	EX3DV4 - SN7439	DAE4 Sn661	2.380	52.400	47.6	-9.16	1.120	24.700	22.4	-9.31
SAR-11	2025/2/27	2600	50	D2600V2-1089	EX3DV4 - SN3931	DAE4 Sn703	2.990	55.400	59.8	7.94	1.350	24.600	27	9.76
SAR-11	2025/5/21	2600	50	D2600V2-1008	EX3DV4 - SN3931	DAE4 Sn1794	2.630	55.700	52.6	-5.57	1.200	25.300	24	-5.14
SAR-16	2025/3/12	5250	50	D5GHzV2-1128-5250	EX3DV4 - SN7814	DAE4 Sn1647	3.650	77.500	73	-5.81	1.030	22.200	20.6	-7.21
SAR-16	2025/3/12	5600	50	D5GHzV2-1128-5600	EX3DV4 - SN7814	DAE4 Sn1647	3.910	81.700	78.2	-4.28	1.090	23.500	21.8	-7.23
SAR-16	2025/3/12	5800	50	D5GHzV2-1128-5800	EX3DV4 - SN7814	DAE4 Sn1647	3.580	78.600	71.6	-8.91	1.020	22.500	20.4	-9.33
SAR-14	2025/3/12	5800	100	D5GHzV2-1128-5800	EX3DV4 - SN7439	DAE4 Sn661	8.160	78.600	81.6	3.82	2.290	22.500	22.9	1.78

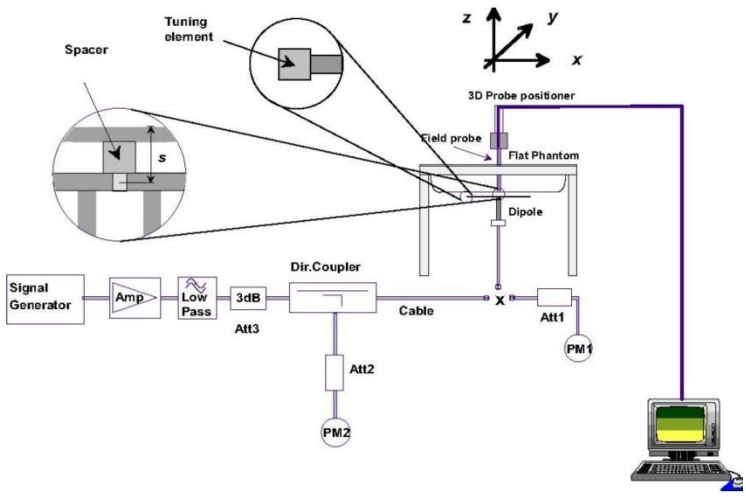


Fig 8.3.1 System Performance Check Setup

Fig 8.3.2 Setup Photo

10. LTE/NTN Output Power (Unit: dBm)

<LTE Conducted Power>

General Note:

1. A Base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05v02r05, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
4. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05v02r05, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
6. Per KDB 941225 D05v02r05, 16QAM output power for each RB allocation configuration is > not ½ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM SAR testing is not required.
7. Per KDB 941225 D05v02r05, Smaller bandwidth output power for each RB allocation configuration is > not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
8. For LTE B4/B5/B12/B17/B26/B71 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
9. LTE band 2/4/5/17 SAR test was covered by Band 25/66/26/12; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
    a. the maximum output power, including tolerance, for the smaller band is ≤ the larger band to qualify for the SAR test exclusion
    b. the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band

<LTE Band 2_Ant 0_Index 0>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				18700	18900	19100	
Frequency (MHz)				1860	1880	1900	
20	QPSK	1	0	23.31	23.35	23.30	24
20	QPSK	1	49	23.08	23.14	23.13	
20	QPSK	1	99	23.16	23.18	23.22	
20	QPSK	50	0	22.12	22.30	22.23	23
20	QPSK	50	24	22.15	22.17	22.15	
20	QPSK	50	50	22.08	22.15	22.02	
20	QPSK	100	0	22.17	22.22	22.18	
20	16QAM	1	0	22.46	22.60	22.54	23
20	16QAM	1	49	22.41	22.30	22.52	
20	16QAM	1	99	22.43	22.36	22.08	
20	16QAM	50	0	21.12	21.34	21.19	22
20	16QAM	50	24	21.16	21.19	21.13	
20	16QAM	50	50	21.11	21.17	21.02	
20	16QAM	100	0	21.14	21.18	21.21	
20	64QAM	1	0	21.44	21.55	21.53	22
20	64QAM	1	49	21.30	21.32	21.31	
20	64QAM	1	99	21.33	21.35	21.24	
20	64QAM	50	0	20.13	20.26	20.23	21
20	64QAM	50	24	20.12	20.18	20.17	
20	64QAM	50	50	20.06	20.15	20.04	
20	64QAM	100	0	20.15	20.17	20.20	
Channel				18675	18900	19125	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1902.5	
15	QPSK	1	0	23.31	23.34	23.33	24
15	QPSK	1	37	23.28	23.17	23.30	
15	QPSK	1	74	23.12	23.11	22.99	
15	QPSK	36	0	22.23	22.35	22.18	23
15	QPSK	36	20	22.15	22.27	22.17	
15	QPSK	36	39	22.16	22.23	22.14	
15	QPSK	75	0	22.15	22.25	22.19	
15	16QAM	1	0	22.55	22.66	22.71	23
15	16QAM	1	37	22.34	22.31	22.32	
15	16QAM	1	74	22.40	22.30	22.25	
15	16QAM	36	0	21.26	21.33	21.19	22
15	16QAM	36	20	21.17	21.25	21.21	
15	16QAM	36	39	21.18	21.19	21.18	
15	16QAM	75	0	21.13	21.24	21.19	
15	64QAM	1	0	21.52	21.64	21.62	22
15	64QAM	1	37	21.32	21.10	21.16	
15	64QAM	1	74	21.33	21.36	21.24	
15	64QAM	36	0	20.25	20.37	20.19	21
15	64QAM	36	20	20.16	20.25	20.18	
15	64QAM	36	39	20.16	20.25	20.19	
15	64QAM	75	0	20.10	20.21	20.15	
Channel				18650	18900	19150	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1905	
10	QPSK	1	0	23.34	23.33	23.30	24
10	QPSK	1	25	23.21	23.21	23.16	
10	QPSK	1	49	23.19	23.31	23.30	
10	QPSK	25	0	22.20	22.36	22.38	23
10	QPSK	25	12	22.23	22.36	22.30	
10	QPSK	25	25	22.13	22.25	22.26	
10	QPSK	50	0	22.22	22.33	22.26	
10	16QAM	1	0	22.56	22.75	22.67	23
10	16QAM	1	25	22.40	22.45	22.40	
10	16QAM	1	49	22.49	22.53	22.44	

10	16QAM	25	0	21.22	21.38	21.39	22
10	16QAM	25	12	21.23	21.37	21.34	
10	16QAM	25	25	21.11	21.27	21.30	
10	16QAM	50	0	21.21	21.39	21.37	
10	64QAM	1	0	21.47	21.71	21.63	22
10	64QAM	1	25	21.27	21.40	21.32	
10	64QAM	1	49	21.37	21.46	21.41	
10	64QAM	25	0	20.23	20.30	20.34	21
10	64QAM	25	12	20.26	20.37	20.28	
10	64QAM	25	25	20.11	20.27	20.31	
10	64QAM	50	0	20.21	20.36	20.29	
Channel				18625	18900	19175	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1907.5	
5	QPSK	1	0	23.26	23.31	23.30	24
5	QPSK	1	12	23.09	23.21	23.29	
5	QPSK	1	24	23.15	23.18	23.23	
5	QPSK	12	0	22.20	22.34	22.34	23
5	QPSK	12	7	22.14	22.30	22.26	
5	QPSK	12	13	22.13	22.25	22.25	
5	QPSK	25	0	22.15	22.32	22.32	
5	16QAM	1	0	22.48	22.59	22.76	23
5	16QAM	1	12	22.33	22.44	22.49	
5	16QAM	1	24	22.42	22.52	22.43	
5	16QAM	12	0	21.21	21.35	21.40	22
5	16QAM	12	7	21.19	21.33	21.33	
5	16QAM	12	13	21.17	21.28	21.29	
5	16QAM	25	0	21.20	21.37	21.34	
5	64QAM	1	0	21.46	21.57	21.67	22
5	64QAM	1	12	21.29	21.41	21.53	
5	64QAM	1	24	21.36	21.44	21.57	
5	64QAM	12	0	20.22	20.37	20.40	21
5	64QAM	12	7	20.21	20.37	20.37	
5	64QAM	12	13	20.18	20.33	20.33	
5	64QAM	25	0	20.20	20.32	20.34	
Channel				18615	18900	19185	Tune-up limit (dBm)
Frequency (MHz)				1851.5	1880	1908.5	
3	QPSK	1	0	23.22	23.34	23.17	24
3	QPSK	1	8	23.15	23.31	23.17	
3	QPSK	1	14	23.09	23.25	23.20	
3	QPSK	8	0	22.17	22.30	22.31	23
3	QPSK	8	4	22.16	22.31	22.31	
3	QPSK	8	7	22.11	22.28	22.29	
3	QPSK	15	0	22.15	22.30	22.27	
3	16QAM	1	0	22.48	22.54	22.60	23
3	16QAM	1	8	22.44	22.56	22.67	
3	16QAM	1	14	22.41	22.49	22.54	
3	16QAM	8	0	21.21	21.33	21.35	22
3	16QAM	8	4	21.20	21.36	21.37	
3	16QAM	8	7	21.17	21.33	21.34	
3	16QAM	15	0	21.17	21.36	21.32	
3	64QAM	1	0	21.34	21.48	21.46	22
3	64QAM	1	8	21.34	21.48	21.43	
3	64QAM	1	14	21.28	21.39	21.39	
3	64QAM	8	0	20.19	20.34	20.31	21
3	64QAM	8	4	20.19	20.35	20.30	
3	64QAM	8	7	20.19	20.32	20.25	
3	64QAM	15	0	20.17	20.31	20.21	
Channel				18607	18900	19193	Tune-up limit (dBm)
Frequency (MHz)				1850.7	1880	1909.3	
1.4	QPSK	1	0	23.20	23.24	23.14	24
1.4	QPSK	1	3	23.18	23.25	23.27	
1.4	QPSK	1	5	23.09	23.20	23.15	
1.4	QPSK	3	0	23.17	23.26	23.17	

1.4	QPSK	3	1	23.17	23.25	23.20	
1.4	QPSK	3	3	23.18	23.24	23.28	
1.4	QPSK	6	0	22.14	22.26	22.25	23
1.4	16QAM	1	0	22.47	22.62	22.50	23
1.4	16QAM	1	3	22.48	22.59	22.49	
1.4	16QAM	1	5	22.39	22.58	22.40	
1.4	16QAM	3	0	22.29	22.31	22.24	
1.4	16QAM	3	1	22.31	22.32	22.27	
1.4	16QAM	3	3	22.24	22.26	22.24	
1.4	16QAM	6	0	21.19	21.46	21.52	22
1.4	64QAM	1	0	21.32	21.46	21.44	22
1.4	64QAM	1	3	21.36	21.50	21.49	
1.4	64QAM	1	5	21.29	21.39	21.31	
1.4	64QAM	3	0	21.28	21.39	21.29	
1.4	64QAM	3	1	21.26	21.39	21.30	
1.4	64QAM	3	3	21.21	21.39	21.26	
1.4	64QAM	6	0	20.10	20.25	20.11	21

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BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				20050	20175	20300	
Frequency (MHz)				1720	1732.5	1745	
20	QPSK	1	0	23.53	23.56	23.28	24
20	QPSK	1	49	23.35	23.24	23.14	
20	QPSK	1	99	23.31	23.10	23.00	
20	QPSK	50	0	22.40	22.45	22.22	23
20	QPSK	50	24	22.35	22.38	22.20	
20	QPSK	50	0	22.25	22.19	22.08	
20	QPSK	100	0	22.30	22.35	22.18	
20	16QAM	1	0	22.61	22.46	22.54	23
20	16QAM	1	49	22.33	22.34	22.38	
20	16QAM	1	99	22.34	22.34	22.18	
20	16QAM	50	0	21.43	21.30	21.26	22
20	16QAM	50	24	21.38	21.18	21.23	
20	16QAM	50	50	21.39	21.17	21.11	
20	16QAM	100	0	21.37	21.20	21.19	
20	64QAM	1	0	21.72	21.56	21.46	22
20	64QAM	1	49	21.47	21.37	21.39	
20	64QAM	1	99	21.43	21.29	21.16	
20	64QAM	50	0	20.47	20.29	20.24	21
20	64QAM	50	24	20.37	20.15	20.21	
20	64QAM	50	50	20.38	20.16	20.07	
20	64QAM	100	0	20.33	20.17	20.21	
Channel				20025	20175	20325	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1732.5	1747.5	
15	QPSK	1	0	23.39	23.16	23.29	24
15	QPSK	1	37	23.21	23.25	23.15	
15	QPSK	1	74	23.26	23.30	23.17	
15	QPSK	36	0	22.46	22.29	22.20	23
15	QPSK	36	20	22.42	22.22	22.16	
15	QPSK	36	39	22.45	22.28	22.19	
15	QPSK	75	0	22.40	22.22	22.12	
15	16QAM	1	0	22.61	22.45	22.49	23
15	16QAM	1	37	22.46	22.40	22.43	
15	16QAM	1	74	22.41	22.54	22.38	
15	16QAM	36	0	21.43	21.29	21.20	22
15	16QAM	36	20	21.40	21.24	21.17	

15	16QAM	36	39	21.39	21.30	21.22	
15	16QAM	75	0	21.40	21.24	21.13	
15	64QAM	1	0	21.70	21.46	21.46	22
15	64QAM	1	37	21.74	21.40	21.41	
15	64QAM	1	74	21.64	21.40	21.37	
15	64QAM	36	0	20.46	20.31	20.17	21
15	64QAM	36	20	20.45	20.26	20.20	
15	64QAM	36	39	20.47	20.30	20.22	
15	64QAM	75	0	20.37	20.22	20.11	
Channel				20000	20175	20350	Tune-up limit (dBm)
Frequency (MHz)				1715	1732.5	1750	
10	QPSK	1	0	23.43	23.53	23.52	24
10	QPSK	1	25	23.31	23.50	23.36	
10	QPSK	1	49	23.44	23.49	23.44	
10	QPSK	25	0	22.52	22.44	22.48	23
10	QPSK	25	12	22.48	22.46	22.46	
10	QPSK	25	25	22.37	22.41	22.42	
10	QPSK	50	0	22.43	22.42	22.46	
10	16QAM	1	0	22.64	22.57	22.74	23
10	16QAM	1	25	22.52	22.53	22.60	
10	16QAM	1	49	22.57	22.62	22.61	
10	16QAM	25	0	21.53	21.44	21.49	22
10	16QAM	25	12	21.48	21.41	21.48	
10	16QAM	25	25	21.40	21.40	21.43	
10	16QAM	50	0	21.48	21.44	21.51	
10	64QAM	1	0	21.56	21.64	21.71	22
10	64QAM	1	25	21.46	21.53	21.56	
10	64QAM	1	49	21.54	21.60	21.53	
10	64QAM	25	0	20.48	20.46	20.47	21
10	64QAM	25	12	20.48	20.45	20.49	
10	64QAM	25	25	20.43	20.41	20.44	
10	64QAM	50	0	20.42	20.44	20.49	
Channel				19975	20175	20375	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1732.5	1752.5	
5	QPSK	1	0	23.52	23.50	23.50	24
5	QPSK	1	12	23.46	23.32	23.47	
5	QPSK	1	24	23.53	23.38	23.41	
5	QPSK	12	0	22.40	22.49	22.55	23
5	QPSK	12	7	22.38	22.42	22.46	
5	QPSK	12	13	22.41	22.41	22.47	
5	QPSK	25	0	22.39	22.42	22.48	
5	16QAM	1	0	22.81	22.79	22.85	23
5	16QAM	1	12	22.57	22.51	22.92	
5	16QAM	1	24	22.71	22.61	22.65	
5	16QAM	12	0	21.43	21.50	21.60	22
5	16QAM	12	7	21.39	21.43	21.53	
5	16QAM	12	13	21.45	21.47	21.51	
5	16QAM	25	0	21.40	21.44	21.51	
5	64QAM	1	0	21.72	21.74	21.78	22
5	64QAM	1	12	21.92	21.76	21.57	
5	64QAM	1	24	21.67	21.56	21.58	
5	64QAM	12	0	20.50	20.53	20.64	21
5	64QAM	12	7	20.44	20.47	20.54	
5	64QAM	12	13	20.52	20.48	20.59	
5	64QAM	25	0	20.40	20.47	20.51	
Channel				19965	20175	20385	Tune-up limit (dBm)
Frequency (MHz)				1711.5	1732.5	1753.5	
3	QPSK	1	0	23.41	23.43	23.49	24
3	QPSK	1	8	23.47	23.37	23.46	
3	QPSK	1	14	23.48	23.36	23.45	
3	QPSK	8	0	22.44	22.50	22.51	23
3	QPSK	8	4	22.40	22.43	22.49	
3	QPSK	8	7	22.39	22.45	22.38	

3	QPSK	15	0	22.41	22.38	22.48	
3	16QAM	1	0	22.69	22.78	22.76	23
3	16QAM	1	8	22.76	22.73	22.85	
3	16QAM	1	14	22.91	22.72	22.63	
3	16QAM	8	0	21.44	21.52	21.57	22
3	16QAM	8	4	21.46	21.46	21.59	
3	16QAM	8	7	21.39	21.47	21.48	
3	16QAM	15	0	21.44	21.44	21.53	
3	64QAM	1	0	21.57	21.63	21.68	22
3	64QAM	1	8	21.56	21.55	21.68	
3	64QAM	1	14	21.64	21.60	21.53	
3	64QAM	8	0	20.47	20.58	20.54	21
3	64QAM	8	4	20.43	20.51	20.56	
3	64QAM	8	7	20.42	20.48	20.42	
3	64QAM	15	0	20.42	20.43	20.51	
Channel				19957	20175	20393	Tune-up limit (dBm)
Frequency (MHz)				1710.7	1732.5	1754.3	
1.4	QPSK	1	0	23.25	23.33	23.31	24
1.4	QPSK	1	3	23.33	23.30	23.28	
1.4	QPSK	1	5	23.33	23.25	23.26	
1.4	QPSK	3	0	23.37	23.44	23.47	
1.4	QPSK	3	1	23.37	23.45	23.48	
1.4	QPSK	3	3	23.35	23.55	23.53	
1.4	QPSK	6	0	22.34	22.34	22.39	23
1.4	16QAM	1	0	22.68	22.71	22.69	23
1.4	16QAM	1	3	22.81	22.74	22.81	
1.4	16QAM	1	5	22.87	22.65	22.66	
1.4	16QAM	3	0	22.38	22.34	22.39	
1.4	16QAM	3	1	22.42	22.32	22.38	
1.4	16QAM	3	3	22.34	22.35	22.36	
1.4	16QAM	6	0	21.55	21.49	21.52	22
1.4	64QAM	1	0	21.47	21.59	21.58	22
1.4	64QAM	1	3	21.55	21.55	21.54	
1.4	64QAM	1	5	21.50	21.54	21.58	
1.4	64QAM	3	0	21.48	21.54	21.61	
1.4	64QAM	3	1	21.50	21.59	21.60	
1.4	64QAM	3	3	21.46	21.55	21.59	
1.4	64QAM	6	0	20.33	20.40	20.41	21

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BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				20450	20525	20600	
Frequency (MHz)				829	836.5	844	
10	QPSK	1	0	22.98	23.05	22.94	24
10	QPSK	1	25	22.93	22.96	22.87	
10	QPSK	1	49	22.89	23.00	22.85	
10	QPSK	25	0	21.90	21.92	21.91	23
10	QPSK	25	12	21.88	21.90	21.88	
10	QPSK	25	25	21.78	21.89	21.85	
10	QPSK	50	0	21.87	21.94	21.90	
10	16QAM	1	0	22.00	22.07	22.09	23
10	16QAM	1	25	22.01	22.05	22.06	
10	16QAM	1	49	22.31	22.22	22.31	
10	16QAM	25	0	20.77	20.90	20.83	22
10	16QAM	25	12	20.86	20.93	20.92	
10	16QAM	25	25	20.88	20.91	20.96	
10	16QAM	50	0	20.90	20.96	20.93	
10	64QAM	1	0	21.02	21.00	20.99	22

10	64QAM	1	25	20.98	20.95	20.96	
10	64QAM	1	49	21.24	21.14	21.17	
10	64QAM	25	0	19.78	19.87	19.82	21
10	64QAM	25	12	19.89	19.93	19.96	
10	64QAM	25	25	19.90	19.95	19.94	
10	64QAM	50	0	19.90	19.92	19.94	
Channel				20425	20525	20625	Tune-up limit (dBm)
Frequency (MHz)				826.5	836.5	846.5	
5	QPSK	1	0	22.83	22.88	22.79	24
5	QPSK	1	12	22.67	22.75	22.86	
5	QPSK	1	24	22.81	22.78	22.83	
5	QPSK	12	0	21.65	21.63	21.81	23
5	QPSK	12	7	21.61	21.72	21.82	
5	QPSK	12	13	21.72	21.81	21.56	
5	QPSK	25	0	21.62	21.66	21.86	
5	16QAM	1	0	21.83	21.79	21.80	23
5	16QAM	1	12	21.95	22.02	21.86	
5	16QAM	1	24	22.18	22.05	22.05	
5	16QAM	12	0	20.67	20.76	20.58	22
5	16QAM	12	7	20.76	20.82	20.67	
5	16QAM	12	13	20.71	20.77	20.85	
5	16QAM	25	0	20.84	20.79	20.90	
5	64QAM	1	0	20.75	20.92	20.85	22
5	64QAM	1	12	20.82	20.69	20.92	
5	64QAM	1	24	20.94	20.96	21.00	
5	64QAM	12	0	19.66	19.74	19.79	21
5	64QAM	12	7	19.74	19.90	19.74	
5	64QAM	12	13	19.67	19.90	19.67	
5	64QAM	25	0	19.87	19.63	19.66	
Channel				20415	20525	20635	Tune-up limit (dBm)
Frequency (MHz)				825.5	836.5	847.5	
3	QPSK	1	0	22.76	22.88	22.69	24
3	QPSK	1	8	22.65	22.68	22.63	
3	QPSK	1	14	22.80	22.98	22.80	
3	QPSK	8	0	21.80	21.85	21.64	23
3	QPSK	8	4	21.80	21.63	21.74	
3	QPSK	8	7	21.61	21.77	21.58	
3	QPSK	15	0	21.82	21.70	21.70	
3	16QAM	1	0	21.70	22.03	21.80	23
3	16QAM	1	8	21.91	21.90	21.91	
3	16QAM	1	14	22.06	22.08	22.09	
3	16QAM	8	0	20.51	20.66	20.74	22
3	16QAM	8	4	20.75	20.65	20.63	
3	16QAM	8	7	20.62	20.65	20.89	
3	16QAM	15	0	20.83	20.72	20.89	
3	64QAM	1	0	20.93	20.89	20.83	22
3	64QAM	1	8	20.71	20.82	20.68	
3	64QAM	1	14	21.09	20.99	21.08	
3	64QAM	8	0	19.61	19.57	19.79	21
3	64QAM	8	4	19.67	19.69	19.95	
3	64QAM	8	7	19.88	19.92	19.81	
3	64QAM	15	0	19.85	19.64	19.68	
Channel				20407	20525	20643	Tune-up limit (dBm)
Frequency (MHz)				824.7	836.5	848.3	
1.4	QPSK	1	0	22.61	22.77	22.75	24
1.4	QPSK	1	3	22.63	22.84	22.83	
1.4	QPSK	1	5	22.59	22.80	22.77	
1.4	QPSK	3	0	22.72	22.82	22.79	
1.4	QPSK	3	1	22.74	22.84	22.80	
1.4	QPSK	3	3	22.82	22.81	22.81	
1.4	QPSK	6	0	21.69	21.80	21.76	23
1.4	16QAM	1	0	21.95	22.06	22.08	23
1.4	16QAM	1	3	22.03	22.15	22.07	

1.4	16QAM	1	5	21.96	22.27	21.96	
1.4	16QAM	3	0	21.67	21.80	21.78	
1.4	16QAM	3	1	21.64	21.85	21.82	
1.4	16QAM	3	3	21.65	21.79	21.75	
1.4	16QAM	6	0	20.79	20.97	20.95	22
1.4	64QAM	1	0	20.84	20.96	20.89	22
1.4	64QAM	1	3	20.85	21.00	21.00	
1.4	64QAM	1	5	20.87	20.96	20.89	
1.4	64QAM	3	0	20.84	20.91	20.89	
1.4	64QAM	3	1	20.86	20.95	20.91	
1.4	64QAM	3	3	20.83	20.93	20.85	
1.4	64QAM	6	0	19.68	19.78	19.78	21

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BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				20850	21100	21350	
Frequency (MHz)				2510	2535	2560	
20	QPSK	1	0	22.85	23.04	22.82	23.5
20	QPSK	1	49	22.80	22.80	22.65	
20	QPSK	1	99	22.74	22.61	22.75	
20	QPSK	50	0	21.82	21.92	21.62	22.5
20	QPSK	50	24	21.76	21.78	21.52	
20	QPSK	50	50	21.78	21.66	21.59	
20	QPSK	100	0	21.70	21.82	21.52	
20	16QAM	1	0	21.89	22.10	21.84	22.5
20	16QAM	1	49	21.90	21.80	21.75	
20	16QAM	1	99	22.23	21.99	21.82	
20	16QAM	50	0	20.78	20.75	20.47	21.5
20	16QAM	50	24	20.82	20.69	20.51	
20	16QAM	50	50	20.92	20.69	20.59	
20	16QAM	100	0	20.77	20.66	20.50	
20	64QAM	1	0	20.81	21.01	20.74	21.5
20	64QAM	1	49	20.91	20.76	20.66	
20	64QAM	1	99	21.18	20.93	20.84	
20	64QAM	50	0	19.74	19.72	19.44	20.5
20	64QAM	50	24	19.78	19.65	19.49	
20	64QAM	50	50	19.89	19.66	19.56	
20	64QAM	100	0	19.77	19.70	19.52	
Channel				20825	21100	21375	Tune-up limit (dBm)
Frequency (MHz)				2507.5	2535	2562.5	
15	QPSK	1	0	22.42	22.66	22.38	23.5
15	QPSK	1	37	22.84	22.69	22.50	
15	QPSK	1	74	22.92	22.70	22.48	
15	QPSK	36	0	21.66	21.72	21.48	22.5
15	QPSK	36	20	21.86	21.71	21.53	
15	QPSK	36	39	21.92	21.72	21.63	
15	QPSK	75	0	21.82	21.67	21.56	
15	16QAM	1	0	21.60	21.90	21.68	22.5
15	16QAM	1	37	21.98	21.89	21.75	
15	16QAM	1	74	22.11	22.07	21.73	
15	16QAM	36	0	20.64	20.71	20.47	21.5
15	16QAM	36	20	20.83	20.67	20.55	
15	16QAM	36	39	20.87	20.71	20.61	
15	16QAM	75	0	20.82	20.68	20.50	
15	64QAM	1	0	20.71	20.75	20.57	21.5

15	64QAM	1	37	20.82	20.94	20.66	
15	64QAM	1	74	21.13	20.95	20.74	
15	64QAM	36	0	19.63	19.69	19.44	20.5
15	64QAM	36	20	19.88	19.69	19.53	
15	64QAM	36	39	19.87	19.70	19.60	
15	64QAM	75	0	19.78	19.65	19.52	
Channel				20800	21100	21400	Tune-up limit (dBm)
Frequency (MHz)				2505	2535	2565	
10	QPSK	1	0	22.76	22.83	22.62	23.5
10	QPSK	1	25	22.76	22.65	22.72	
10	QPSK	1	49	22.91	22.77	22.95	
10	QPSK	25	0	21.60	21.65	21.52	22.5
10	QPSK	25	12	21.63	21.65	21.58	
10	QPSK	25	25	21.75	21.67	21.60	
10	QPSK	50	0	21.62	21.66	21.57	
10	16QAM	1	0	21.64	21.97	21.79	22.5
10	16QAM	1	25	21.82	21.83	21.69	
10	16QAM	1	49	21.97	21.96	21.73	
10	16QAM	25	0	20.61	20.64	20.54	21.5
10	16QAM	25	12	20.66	20.68	20.59	
10	16QAM	25	25	20.78	20.69	20.60	
10	16QAM	50	0	20.63	20.68	20.58	
10	64QAM	1	0	20.72	20.94	20.73	21.5
10	64QAM	1	25	20.79	20.74	20.76	
10	64QAM	1	49	20.93	20.84	20.89	
10	64QAM	25	0	19.58	19.63	19.52	20.5
10	64QAM	25	12	19.63	19.69	19.58	
10	64QAM	25	25	19.72	19.69	19.62	
10	64QAM	50	0	19.61	19.66	19.62	
Channel				20775	21100	21425	Tune-up limit (dBm)
Frequency (MHz)				2502.5	2535	2567.5	
5	QPSK	1	0	22.73	22.77	22.75	23.5
5	QPSK	1	12	22.71	22.69	22.66	
5	QPSK	1	24	22.70	22.73	22.78	
5	QPSK	12	0	21.55	21.62	21.56	22.5
5	QPSK	12	7	21.62	21.64	21.57	
5	QPSK	12	13	21.53	21.63	21.56	
5	QPSK	25	0	21.63	21.65	21.59	
5	16QAM	1	0	21.78	21.97	21.87	22.5
5	16QAM	1	12	21.85	21.88	21.78	
5	16QAM	1	24	21.87	21.88	21.87	
5	16QAM	12	0	20.55	20.65	20.59	21.5
5	16QAM	12	7	20.61	20.64	20.59	
5	16QAM	12	13	20.55	20.62	20.55	
5	16QAM	25	0	20.62	20.65	20.62	
5	64QAM	1	0	20.73	20.87	20.81	21.5
5	64QAM	1	12	20.79	20.85	20.79	
5	64QAM	1	24	20.74	20.79	20.75	
5	64QAM	12	0	19.58	19.72	19.65	20.5
5	64QAM	12	7	19.62	19.72	19.63	
5	64QAM	12	13	19.56	19.70	19.64	
5	64QAM	25	0	19.60	19.66	19.61	

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BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				20850	21100	21350	
Frequency (MHz)				2510	2535	2560	
20	QPSK	1	0	18.72	18.95	18.59	20.5
20	QPSK	1	49	18.67	18.60	18.56	
20	QPSK	1	99	18.90	18.81	18.89	
20	QPSK	50	0	18.57	18.70	18.71	20.5
20	QPSK	50	24	18.63	18.60	18.53	
20	QPSK	50	50	18.67	18.62	18.68	
20	QPSK	100	0	18.51	18.65	18.64	
20	16QAM	1	0	18.93	18.88	18.86	20.5
20	16QAM	1	49	18.67	18.89	18.86	
20	16QAM	1	99	18.80	18.85	18.79	
20	16QAM	50	0	18.78	18.66	18.70	20.5
20	16QAM	50	24	18.55	18.59	18.54	
20	16QAM	50	50	18.64	18.66	18.65	
20	16QAM	100	0	18.62	18.64	18.51	
20	64QAM	1	0	18.87	18.94	18.83	20.5
20	64QAM	1	49	18.76	18.69	18.69	
20	64QAM	1	99	18.92	18.92	18.90	
20	64QAM	50	0	18.72	18.65	18.64	20.5
20	64QAM	50	24	18.68	18.60	18.60	
20	64QAM	50	50	18.67	18.65	18.59	
20	64QAM	100	0	18.72	18.64	18.58	
Channel				20825	21100	21375	Tune-up limit (dBm)
Frequency (MHz)				2507.5	2535	2562.5	
15	QPSK	1	0	18.70	18.90	18.64	20.5
15	QPSK	1	37	18.57	18.53	18.51	
15	QPSK	1	74	18.85	18.77	18.68	
15	QPSK	36	0	18.54	18.60	18.70	20.5
15	QPSK	36	20	18.59	18.58	18.52	
15	QPSK	36	39	18.56	18.56	18.61	
15	QPSK	75	0	18.54	18.63	18.62	
15	16QAM	1	0	18.71	18.78	18.70	20.5
15	16QAM	1	37	18.85	18.88	18.68	
15	16QAM	1	74	18.72	18.76	18.82	
15	16QAM	36	0	18.66	18.62	18.60	20.5
15	16QAM	36	20	18.62	18.50	18.66	
15	16QAM	36	39	18.57	18.63	18.62	
15	16QAM	75	0	18.50	18.56	18.67	
15	64QAM	1	0	18.74	18.85	18.79	20.5
15	64QAM	1	37	18.67	18.65	18.56	
15	64QAM	1	74	18.74	18.88	18.74	
15	64QAM	36	0	18.64	18.62	18.54	20.5
15	64QAM	36	20	18.50	18.56	18.67	
15	64QAM	36	39	18.69	18.64	18.71	
15	64QAM	75	0	18.66	18.61	18.57	
Channel				20800	21100	21400	Tune-up limit (dBm)
Frequency (MHz)				2505	2535	2565	
10	QPSK	1	0	18.69	18.86	18.68	20.5
10	QPSK	1	25	18.52	18.50	18.55	
10	QPSK	1	49	18.77	18.73	18.77	
10	QPSK	25	0	18.64	18.60	18.70	20.5
10	QPSK	25	12	18.58	18.55	18.67	
10	QPSK	25	25	18.59	18.53	18.70	
10	QPSK	50	0	18.52	18.64	18.70	
10	16QAM	1	0	18.90	18.83	18.79	20.5
10	16QAM	1	25	18.85	18.79	18.73	
10	16QAM	1	49	18.84	18.80	18.91	

10	16QAM	25	0	18.67	18.57	18.67	20.5
10	16QAM	25	12	18.57	18.55	18.68	
10	16QAM	25	25	18.58	18.56	18.61	
10	16QAM	50	0	18.66	18.62	18.68	
10	64QAM	1	0	18.84	18.92	18.76	20.5
10	64QAM	1	25	18.65	18.67	18.64	
10	64QAM	1	49	18.79	18.86	18.76	
10	64QAM	25	0	18.59	18.57	18.52	20.5
10	64QAM	25	12	18.55	18.58	18.57	
10	64QAM	25	25	18.72	18.65	18.65	
10	64QAM	50	0	18.71	18.63	18.56	
Channel				20775	21100	21425	Tune-up limit (dBm)
Frequency (MHz)				2502.5	2535	2567.5	
5	QPSK	1	0	18.67	18.85	18.60	20.5
5	QPSK	1	12	18.54	18.50	18.55	
5	QPSK	1	24	18.84	18.72	18.71	
5	QPSK	12	0	18.72	18.64	18.62	20.5
5	QPSK	12	7	18.59	18.54	18.61	
5	QPSK	12	13	18.67	18.53	18.68	
5	QPSK	25	0	18.66	18.58	18.68	
5	16QAM	1	0	18.74	18.78	18.73	20.5
5	16QAM	1	12	18.67	18.84	18.79	
5	16QAM	1	24	18.69	18.79	18.90	
5	16QAM	12	0	18.54	18.57	18.65	20.5
5	16QAM	12	7	18.55	18.56	18.54	
5	16QAM	12	13	18.55	18.59	18.66	
5	16QAM	25	0	18.59	18.56	18.59	
5	64QAM	1	0	18.90	18.90	18.69	20.5
5	64QAM	1	12	18.55	18.61	18.62	
5	64QAM	1	24	18.69	18.82	18.72	
5	64QAM	12	0	18.62	18.57	18.67	20.5
5	64QAM	12	7	18.56	18.51	18.56	
5	64QAM	12	13	18.73	18.65	18.63	
5	64QAM	25	0	18.53	18.60	18.54	

<LTE Band 12_Ant 1_Index 0>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				23060	23095	23130	
Frequency (MHz)				704	707.5	711	
10	QPSK	1	0	23.39	23.40	23.27	24
10	QPSK	1	25	23.35	23.21	23.22	
10	QPSK	1	49	22.81	22.75	23.03	
10	QPSK	25	0	22.19	22.20	22.14	23
10	QPSK	25	12	22.13	22.14	22.07	
10	QPSK	25	25	22.11	22.13	22.06	
10	QPSK	50	0	22.11	22.18	22.09	
10	16QAM	1	0	22.19	22.13	22.32	23
10	16QAM	1	25	22.17	22.26	22.39	
10	16QAM	1	49	22.05	21.86	21.89	
10	16QAM	25	0	21.07	21.06	21.09	22
10	16QAM	25	12	21.14	21.18	21.21	
10	16QAM	25	25	21.12	21.23	21.15	
10	16QAM	50	0	21.15	21.12	21.18	
10	64QAM	1	0	21.35	21.26	21.27	22
10	64QAM	1	25	21.40	21.25	21.29	
10	64QAM	1	49	20.94	20.84	21.00	
10	64QAM	25	0	20.05	20.04	20.09	21
10	64QAM	25	12	20.18	20.20	20.18	
10	64QAM	25	25	20.12	20.20	20.12	

10	64QAM	50	0	20.08	20.08	20.21	
Channel				23035	23095	23155	Tune-up limit (dBm)
Frequency (MHz)				701.5	707.5	713.5	
5	QPSK	1	0	23.24	23.12	23.26	24
5	QPSK	1	12	23.19	23.05	22.96	
5	QPSK	1	24	22.79	22.59	22.82	
5	QPSK	12	0	22.05	22.15	21.89	23
5	QPSK	12	7	22.01	22.08	21.83	
5	QPSK	12	13	21.91	21.89	21.77	
5	QPSK	25	0	21.92	21.88	21.80	
5	16QAM	1	0	22.10	22.02	22.12	23
5	16QAM	1	12	22.11	22.05	22.16	
5	16QAM	1	24	21.83	21.63	21.79	
5	16QAM	12	0	20.77	20.88	20.89	22
5	16QAM	12	7	20.89	21.03	21.17	
5	16QAM	12	13	21.01	21.02	21.06	
5	16QAM	25	0	20.86	21.00	20.92	
5	64QAM	1	0	21.15	21.12	21.09	22
5	64QAM	1	12	21.37	21.22	21.26	
5	64QAM	1	24	20.85	20.63	20.98	
5	64QAM	12	0	19.92	20.01	20.07	21
5	64QAM	12	7	19.91	19.94	20.01	
5	64QAM	12	13	19.92	20.14	20.04	
5	64QAM	25	0	19.80	19.98	20.17	
Channel				23025	23095	23165	Tune-up limit (dBm)
Frequency (MHz)				700.5	707.5	714.5	
3	QPSK	1	0	23.12	23.37	23.03	24
3	QPSK	1	8	23.21	23.13	22.99	
3	QPSK	1	14	22.70	22.54	22.94	
3	QPSK	8	0	21.89	22.10	21.85	23
3	QPSK	8	4	22.03	22.03	21.86	
3	QPSK	8	7	21.98	21.85	21.94	
3	QPSK	15	0	21.94	22.13	21.96	
3	16QAM	1	0	21.98	21.89	22.12	23
3	16QAM	1	8	22.00	22.15	22.21	
3	16QAM	1	14	21.95	21.58	21.74	
3	16QAM	8	0	21.04	20.84	20.98	22
3	16QAM	8	4	20.90	21.01	20.91	
3	16QAM	8	7	21.06	21.01	21.03	
3	16QAM	15	0	21.09	21.01	20.91	
3	64QAM	1	0	21.14	21.10	20.99	22
3	64QAM	1	8	21.15	21.15	21.02	
3	64QAM	1	14	20.81	20.78	20.70	
3	64QAM	8	0	20.03	19.93	19.82	21
3	64QAM	8	4	19.90	19.90	19.96	
3	64QAM	8	7	20.11	20.03	20.06	
3	64QAM	15	0	19.81	20.01	20.00	
Channel				23017	23095	23173	Tune-up limit (dBm)
Frequency (MHz)				699.7	707.5	715.3	
1.4	QPSK	1	0	23.01	23.08	22.41	24
1.4	QPSK	1	3	23.15	23.15	22.49	
1.4	QPSK	1	5	23.01	23.10	22.37	
1.4	QPSK	3	0	23.06	23.14	22.72	
1.4	QPSK	3	1	23.05	23.11	22.70	
1.4	QPSK	3	3	23.07	23.17	22.78	
1.4	QPSK	6	0	21.97	22.10	21.64	23
1.4	16QAM	1	0	22.22	22.33	21.87	23
1.4	16QAM	1	3	22.25	22.41	21.99	
1.4	16QAM	1	5	22.23	22.43	21.79	
1.4	16QAM	3	0	22.00	22.15	21.59	
1.4	16QAM	3	1	22.04	22.16	21.58	
1.4	16QAM	3	3	22.02	22.14	21.51	
1.4	16QAM	6	0	21.24	21.27	20.77	22

1.4	64QAM	1	0	21.17	21.22	20.72	22
1.4	64QAM	1	3	21.23	21.28	20.81	
1.4	64QAM	1	5	21.17	21.29	20.69	
1.4	64QAM	3	0	21.14	21.26	20.78	
1.4	64QAM	3	1	21.12	21.22	20.83	
1.4	64QAM	3	3	21.15	21.28	20.73	
1.4	64QAM	6	0	19.97	20.11	19.63	21

<LTE Band 13_Ant 1_Index 0>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					23230		
Frequency (MHz)					782		
10	QPSK	1	0		23.18		24
10	QPSK	1	25		22.95		
10	QPSK	1	49		23.15		
10	QPSK	25	0		22.18		23
10	QPSK	25	12		22.08		
10	QPSK	25	25		21.96		
10	QPSK	50	0		22.14		
10	16QAM	1	0		22.38		23
10	16QAM	1	25		22.20		
10	16QAM	1	49		22.35		
10	16QAM	25	0		21.17		22
10	16QAM	25	12		21.08		
10	16QAM	25	25		21.00		
10	16QAM	50	0		21.21		
10	64QAM	1	0		21.34		22
10	64QAM	1	25		21.16		
10	64QAM	1	49		21.30		
10	64QAM	25	0		20.14		21
10	64QAM	25	12		20.05		
10	64QAM	25	25		19.98		
10	64QAM	50	0		20.15		
Channel				23205	23230	23255	Tune-up limit (dBm)
Frequency (MHz)				779.5	782	784.5	
5	QPSK	1	0	23.05	23.06	23.12	24
5	QPSK	1	12	22.86	22.92	22.76	
5	QPSK	1	24	22.86	23.12	23.05	
5	QPSK	12	0	21.96	21.97	22.13	23
5	QPSK	12	7	21.96	22.00	22.02	
5	QPSK	12	13	21.87	21.87	21.71	
5	QPSK	25	0	22.00	22.02	21.96	
5	16QAM	1	0	22.08	22.35	22.28	23
5	16QAM	1	12	22.15	22.19	21.99	
5	16QAM	1	24	22.13	22.27	22.11	
5	16QAM	12	0	20.88	20.98	20.91	22
5	16QAM	12	7	20.92	20.83	20.96	
5	16QAM	12	13	20.84	20.75	20.76	
5	16QAM	25	0	21.01	20.95	20.99	
5	64QAM	1	0	21.22	21.14	21.23	22
5	64QAM	1	12	21.02	21.07	21.04	
5	64QAM	1	24	21.12	21.05	21.02	
5	64QAM	12	0	20.00	20.11	19.93	21
5	64QAM	12	7	20.00	19.99	19.94	
5	64QAM	12	13	19.70	19.82	19.89	
5	64QAM	25	0	20.08	20.12	19.99	

<LTE Band 17_Ant 1_Index 0>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				23780	23790	23800	
Frequency (MHz)				709	710	711	
10	QPSK	1	0	23.54	23.22	23.21	24
10	QPSK	1	25	23.21	23.01	23.01	
10	QPSK	1	49	23.40	23.12	23.18	
10	QPSK	25	0	22.20	22.21	22.21	23
10	QPSK	25	12	22.16	22.13	22.10	
10	QPSK	25	25	22.11	22.17	22.14	
10	QPSK	50	0	22.23	22.21	22.20	
10	16QAM	1	0	22.41	22.45	22.46	23
10	16QAM	1	25	22.42	22.29	22.31	
10	16QAM	1	49	22.29	22.31	22.32	
10	16QAM	25	0	21.22	21.12	21.20	22
10	16QAM	25	12	21.20	21.18	21.08	
10	16QAM	25	25	21.16	21.14	21.11	
10	16QAM	50	0	21.21	21.25	21.30	
10	64QAM	1	0	21.47	21.36	21.40	22
10	64QAM	1	25	21.29	21.21	21.20	
10	64QAM	1	49	21.38	21.26	21.20	
10	64QAM	25	0	20.21	20.11	20.17	21
10	64QAM	25	12	20.19	20.17	20.07	
10	64QAM	25	25	20.11	20.12	20.10	
10	64QAM	50	0	20.19	20.17	20.21	
Channel				23755	23790	23825	Tune-up limit (dBm)
Frequency (MHz)				706.5	710	713.5	
5	QPSK	1	0	23.26	23.15	22.98	24
5	QPSK	1	12	23.09	22.91	22.90	
5	QPSK	1	24	23.11	23.00	23.06	
5	QPSK	12	0	22.18	22.00	22.00	23
5	QPSK	12	7	21.87	22.11	21.82	
5	QPSK	12	13	21.84	22.06	22.07	
5	QPSK	25	0	22.22	22.09	22.14	
5	16QAM	1	0	22.21	22.18	22.21	23
5	16QAM	1	12	22.22	22.16	22.27	
5	16QAM	1	24	22.25	22.24	22.02	
5	16QAM	12	0	21.11	20.98	20.95	22
5	16QAM	12	7	21.18	21.07	20.81	
5	16QAM	12	13	21.10	21.07	20.95	
5	16QAM	25	0	20.92	21.06	21.11	
5	64QAM	1	0	21.29	21.35	21.16	22
5	64QAM	1	12	21.02	21.14	20.91	
5	64QAM	1	24	21.19	21.02	21.14	
5	64QAM	12	0	20.14	20.08	20.10	21
5	64QAM	12	7	19.97	20.13	20.00	
5	64QAM	12	13	19.99	20.04	20.09	
5	64QAM	25	0	19.89	20.09	20.14	

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BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				26140	26340	26590	
Frequency (MHz)				1860	1880	1905	
20	QPSK	1	0	23.51	23.36	23.47	24
20	QPSK	1	49	23.20	23.07	23.24	
20	QPSK	1	99	23.05	22.85	22.97	
20	QPSK	50	0	22.29	22.20	22.26	23
20	QPSK	50	24	22.22	22.12	22.25	
20	QPSK	50	50	22.14	22.06	22.17	
20	QPSK	100	0	22.23	22.15	22.19	
20	16QAM	1	0	22.69	22.69	22.71	23
20	16QAM	1	49	22.50	22.34	22.48	
20	16QAM	1	99	22.42	22.15	22.21	
20	16QAM	50	0	21.27	21.26	21.32	22
20	16QAM	50	24	21.28	21.14	21.35	
20	16QAM	50	50	21.21	21.10	21.23	
20	16QAM	100	0	21.30	21.15	21.34	
20	64QAM	1	0	21.66	21.54	21.69	22
20	64QAM	1	49	21.39	21.24	21.42	
20	64QAM	1	99	21.27	21.13	21.27	
20	64QAM	50	0	20.29	20.24	20.29	21
20	64QAM	50	24	20.24	20.09	20.31	
20	64QAM	50	50	20.18	20.07	20.20	
20	64QAM	100	0	20.26	20.14	20.41	
Channel				26115	26340	26615	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1907.5	
15	QPSK	1	0	23.16	23.09	23.21	24
15	QPSK	1	37	23.09	23.16	23.26	
15	QPSK	1	74	23.35	23.29	23.35	
15	QPSK	36	0	22.34	22.28	22.32	23
15	QPSK	36	20	22.35	22.24	22.37	
15	QPSK	36	39	22.32	22.21	22.38	
15	QPSK	75	0	22.25	22.21	22.38	
15	16QAM	1	0	22.45	22.45	22.67	23
15	16QAM	1	37	22.41	22.43	22.38	
15	16QAM	1	74	22.66	22.49	22.55	
15	16QAM	36	0	21.35	21.28	21.30	22
15	16QAM	36	20	21.34	21.25	21.33	
15	16QAM	36	39	21.36	21.21	21.31	
15	16QAM	75	0	21.35	21.23	21.34	
15	64QAM	1	0	21.40	21.30	21.40	22
15	64QAM	1	37	21.32	21.16	21.10	
15	64QAM	1	74	21.54	21.50	21.57	
15	64QAM	36	0	20.39	20.33	20.36	21
15	64QAM	36	20	20.40	20.26	20.40	
15	64QAM	36	39	20.36	20.24	20.36	
15	64QAM	75	0	20.29	20.19	20.38	
Channel				26090	26340	26640	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1910	
10	QPSK	1	0	23.46	23.34	23.40	24
10	QPSK	1	25	23.22	23.16	23.21	
10	QPSK	1	49	23.33	23.27	23.35	
10	QPSK	25	0	22.29	22.25	22.39	23
10	QPSK	25	12	22.28	22.26	22.37	
10	QPSK	25	25	22.31	22.25	22.31	
10	QPSK	50	0	22.26	22.24	22.35	
10	16QAM	1	0	22.67	22.62	22.63	23
10	16QAM	1	25	22.48	22.36	22.41	
10	16QAM	1	49	22.69	22.46	22.60	

10	16QAM	25	0	21.33	21.25	21.38	22
10	16QAM	25	12	21.30	21.30	21.39	
10	16QAM	25	25	21.31	21.30	21.38	
10	16QAM	50	0	21.30	21.27	21.38	
10	64QAM	1	0	21.57	21.59	21.55	22
10	64QAM	1	25	21.32	21.29	21.33	
10	64QAM	1	49	21.50	21.43	21.49	
10	64QAM	25	0	20.32	20.23	20.33	21
10	64QAM	25	12	20.27	20.31	20.40	
10	64QAM	25	25	20.31	20.30	20.39	
10	64QAM	50	0	20.26	20.27	20.35	
Channel				26065	26340	26665	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1912.5	
5	QPSK	1	0	23.46	23.37	23.36	24
5	QPSK	1	12	23.32	23.37	23.34	
5	QPSK	1	24	23.34	23.33	23.31	
5	QPSK	12	0	22.31	22.22	22.36	23
5	QPSK	12	7	22.28	22.21	22.31	
5	QPSK	12	13	22.28	22.17	22.28	
5	QPSK	25	0	22.29	22.27	22.35	
5	16QAM	1	0	22.68	22.60	22.68	23
5	16QAM	1	12	22.58	22.48	22.53	
5	16QAM	1	24	22.59	22.55	22.58	
5	16QAM	12	0	21.37	21.30	21.42	22
5	16QAM	12	7	21.31	21.29	21.36	
5	16QAM	12	13	21.36	21.23	21.33	
5	16QAM	25	0	21.32	21.26	21.38	
5	64QAM	1	0	21.61	21.51	21.58	22
5	64QAM	1	12	21.50	21.46	21.42	
5	64QAM	1	24	21.48	21.46	21.46	
5	64QAM	12	0	20.41	20.30	20.45	21
5	64QAM	12	7	20.37	20.30	20.42	
5	64QAM	12	13	20.37	20.24	20.36	
5	64QAM	25	0	20.35	20.27	20.44	
Channel				26055	26340	26675	Tune-up limit (dBm)
Frequency (MHz)				1851.5	1880	1913.5	
3	QPSK	1	0	23.27	23.20	23.42	24
3	QPSK	1	8	23.25	23.18	23.44	
3	QPSK	1	14	23.22	23.12	23.31	
3	QPSK	8	0	22.28	22.25	22.33	23
3	QPSK	8	4	22.27	22.27	22.35	
3	QPSK	8	7	22.27	22.19	22.29	
3	QPSK	15	0	22.23	22.24	22.35	
3	16QAM	1	0	22.57	22.46	22.61	23
3	16QAM	1	8	22.57	22.51	22.58	
3	16QAM	1	14	22.51	22.44	22.59	
3	16QAM	8	0	21.36	21.31	21.36	22
3	16QAM	8	4	21.37	21.31	21.36	
3	16QAM	8	7	21.32	21.26	21.33	
3	16QAM	15	0	21.33	21.28	21.38	
3	64QAM	1	0	21.53	21.42	21.53	22
3	64QAM	1	8	21.50	21.43	21.47	
3	64QAM	1	14	21.46	21.31	21.41	
3	64QAM	8	0	20.40	20.30	20.36	21
3	64QAM	8	4	20.35	20.29	20.41	
3	64QAM	8	7	20.35	20.27	20.36	
3	64QAM	15	0	20.31	20.25	20.36	
Channel				26047	26340	26683	Tune-up limit (dBm)
Frequency (MHz)				1850.7	1880	1914.3	
1.4	QPSK	1	0	23.25	23.17	23.28	24
1.4	QPSK	1	3	23.27	23.18	23.25	
1.4	QPSK	1	5	23.21	23.16	23.25	
1.4	QPSK	3	0	23.28	23.23	23.31	

1.4	QPSK	3	1	23.32	23.25	23.26	
1.4	QPSK	3	3	23.28	23.28	23.28	
1.4	QPSK	6	0	22.24	22.19	22.32	23
1.4	16QAM	1	0	22.57	22.50	22.63	23
1.4	16QAM	1	3	22.63	22.54	22.64	
1.4	16QAM	1	5	22.56	22.47	22.57	
1.4	16QAM	3	0	22.27	22.19	22.27	
1.4	16QAM	3	1	22.28	22.24	22.26	
1.4	16QAM	3	3	22.25	22.17	22.26	
1.4	16QAM	6	0	21.39	21.27	21.36	22
1.4	64QAM	1	0	21.45	21.40	21.44	22
1.4	64QAM	1	3	21.45	21.44	21.47	
1.4	64QAM	1	5	21.41	21.39	21.45	
1.4	64QAM	3	0	21.42	21.37	21.45	
1.4	64QAM	3	1	21.43	21.41	21.45	
1.4	64QAM	3	3	21.41	21.35	21.41	
1.4	64QAM	6	0	20.29	20.22	20.29	21

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BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				26765	26865	26965	
Frequency (MHz)				821.5	831.5	841.5	
15	QPSK	1	0	22.46	22.66	22.45	24
15	QPSK	1	37	22.45	22.50	22.36	
15	QPSK	1	74	22.41	22.53	22.52	
15	QPSK	36	0	21.71	21.69	21.59	23
15	QPSK	36	20	21.59	21.46	21.38	
15	QPSK	36	39	21.32	21.25	21.24	
15	QPSK	75	0	21.57	21.47	21.41	
15	16QAM	1	0	21.66	21.69	21.69	23
15	16QAM	1	37	21.68	21.63	21.48	
15	16QAM	1	74	21.83	21.71	21.78	
15	16QAM	36	0	20.71	20.67	20.57	22
15	16QAM	36	20	20.53	20.42	20.38	
15	16QAM	36	39	20.28	20.22	20.25	
15	16QAM	75	0	20.57	20.48	20.44	
15	64QAM	1	0	20.74	20.82	20.61	22
15	64QAM	1	37	20.46	20.36	20.62	
15	64QAM	1	74	20.94	20.81	20.80	
15	64QAM	36	0	19.72	19.67	19.58	21
15	64QAM	36	20	19.59	19.49	19.41	
15	64QAM	36	39	19.30	19.27	19.25	
15	64QAM	75	0	19.49	19.40	19.42	
Channel				26740	26865	26990	Tune-up limit (dBm)
Frequency (MHz)				819	831.5	844	
10	QPSK	1	0	22.33	22.40	22.42	24
10	QPSK	1	25	22.26	22.46	22.29	
10	QPSK	1	49	22.39	22.45	22.45	
10	QPSK	25	0	21.56	21.56	21.40	23
10	QPSK	25	12	21.42	21.43	21.27	
10	QPSK	25	25	21.22	21.19	21.12	
10	QPSK	50	0	21.45	21.34	21.35	
10	16QAM	1	0	21.60	21.60	21.56	23
10	16QAM	1	25	21.66	21.56	21.45	
10	16QAM	1	49	21.66	21.66	21.75	
10	16QAM	25	0	20.64	20.58	20.50	22
10	16QAM	25	12	20.50	20.28	20.25	
10	16QAM	25	25	20.14	20.05	20.23	
10	16QAM	50	0	20.45	20.42	20.27	
10	64QAM	1	0	20.64	20.72	20.58	22
10	64QAM	1	25	20.44	20.22	20.52	
10	64QAM	1	49	20.85	20.67	20.60	
10	64QAM	25	0	19.66	19.48	19.48	21
10	64QAM	25	12	19.55	19.32	19.36	
10	64QAM	25	25	19.20	19.25	19.23	
10	64QAM	50	0	19.30	19.26	19.41	
Channel				26715	26865	27015	Tune-up limit (dBm)
Frequency (MHz)				816.5	831.5	846.5	
5	QPSK	1	0	22.42	22.43	22.37	24
5	QPSK	1	12	22.27	22.42	22.24	
5	QPSK	1	24	22.23	22.35	22.33	
5	QPSK	12	0	21.65	21.67	21.55	23
5	QPSK	12	7	21.50	21.43	21.32	
5	QPSK	12	13	21.18	21.19	21.22	
5	QPSK	25	0	21.43	21.29	21.29	
5	16QAM	1	0	21.53	21.61	21.56	23
5	16QAM	1	12	21.60	21.60	21.30	
5	16QAM	1	24	21.75	21.60	21.63	

5	16QAM	12	0	20.61	20.52	20.38	22
5	16QAM	12	7	20.47	20.27	20.18	
5	16QAM	12	13	20.24	20.20	20.16	
5	16QAM	25	0	20.50	20.47	20.38	
5	64QAM	1	0	20.56	20.76	20.55	22
5	64QAM	1	12	20.40	20.29	20.59	
5	64QAM	1	24	20.77	20.71	20.72	
5	64QAM	12	0	19.53	19.60	19.40	21
5	64QAM	12	7	19.52	19.33	19.25	
5	64QAM	12	13	19.19	19.16	19.10	
5	64QAM	25	0	19.46	19.24	19.41	
Channel				26705	26865	27025	Tune-up limit (dBm)
Frequency (MHz)				815.5	831.5	847.5	
3	QPSK	1	0	22.27	22.50	22.32	24
3	QPSK	1	8	22.31	22.47	22.33	
3	QPSK	1	14	22.26	22.39	22.37	
3	QPSK	8	0	21.67	21.58	21.54	23
3	QPSK	8	4	21.48	21.40	21.28	
3	QPSK	8	7	21.26	21.24	21.08	
3	QPSK	15	0	21.42	21.43	21.28	
3	16QAM	1	0	21.58	21.50	21.65	23
3	16QAM	1	8	21.54	21.57	21.37	
3	16QAM	1	14	21.64	21.53	21.63	
3	16QAM	8	0	20.51	20.55	20.47	22
3	16QAM	8	4	20.50	20.24	20.19	
3	16QAM	8	7	20.11	20.07	20.12	
3	16QAM	15	0	20.54	20.37	20.28	
3	64QAM	1	0	20.64	20.64	20.58	22
3	64QAM	1	8	20.37	20.29	20.51	
3	64QAM	1	14	20.85	20.73	20.73	
3	64QAM	8	0	19.70	19.60	19.43	21
3	64QAM	8	4	19.54	19.38	19.21	
3	64QAM	8	7	19.25	19.25	19.22	
3	64QAM	15	0	19.36	19.27	19.40	
Channel				26697	26865	27033	Tune-up limit (dBm)
Frequency (MHz)				814.7	831.5	848.3	
1.4	QPSK	1	0	22.18	22.39	22.42	24
1.4	QPSK	1	3	22.23	22.43	22.38	
1.4	QPSK	1	5	22.23	22.40	22.32	
1.4	QPSK	3	0	22.50	22.56	22.61	
1.4	QPSK	3	1	22.41	22.60	22.56	
1.4	QPSK	3	3	22.49	22.62	22.51	
1.4	QPSK	6	0	21.74	21.90	21.91	23
1.4	16QAM	1	0	22.08	22.14	22.26	23
1.4	16QAM	1	3	22.16	22.27	22.31	
1.4	16QAM	1	5	22.07	22.19	22.19	
1.4	16QAM	3	0	21.77	21.86	21.90	
1.4	16QAM	3	1	21.69	21.87	21.86	
1.4	16QAM	3	3	21.71	21.84	21.86	
1.4	16QAM	6	0	20.87	21.04	21.05	22
1.4	64QAM	1	0	20.95	20.99	21.05	22
1.4	64QAM	1	3	20.95	21.08	21.03	
1.4	64QAM	1	5	20.90	21.01	20.98	
1.4	64QAM	3	0	21.03	21.05	21.12	
1.4	64QAM	3	1	20.92	21.08	21.15	
1.4	64QAM	3	3	20.92	21.05	21.13	
1.4	64QAM	6	0	19.72	19.91	19.94	21

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BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				132072	132322	132572	
Frequency (MHz)				1720	1745	1770	
20	QPSK	1	0	23.65	23.40	23.50	24
20	QPSK	1	49	23.47	23.15	23.09	
20	QPSK	1	99	23.45	23.30	23.21	
20	QPSK	50	0	22.43	22.35	22.22	23
20	QPSK	50	24	22.42	22.25	22.11	
20	QPSK	50	50	22.40	22.22	22.13	
20	QPSK	100	0	22.49	22.28	22.21	
20	16QAM	1	0	22.66	22.73	22.47	23
20	16QAM	1	49	22.39	22.53	22.20	
20	16QAM	1	99	22.50	22.46	22.12	
20	16QAM	50	0	21.39	21.41	21.23	22
20	16QAM	50	24	21.44	21.29	21.14	
20	16QAM	50	50	21.50	21.27	21.14	
20	16QAM	100	0	21.48	21.30	21.18	
20	64QAM	1	0	21.77	21.65	21.64	22
20	64QAM	1	49	21.58	21.42	21.26	
20	64QAM	1	99	21.56	21.47	21.25	
20	64QAM	50	0	20.38	20.36	20.23	21
20	64QAM	50	24	20.41	20.24	20.14	
20	64QAM	50	50	20.40	20.27	20.15	
20	64QAM	100	0	20.45	20.30	20.16	
Channel				132047	132322	132597	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1745	1772.5	
15	QPSK	1	0	23.35	23.40	23.10	24
15	QPSK	1	37	23.20	23.39	23.06	
15	QPSK	1	74	23.31	23.38	22.91	
15	QPSK	36	0	22.38	22.31	22.17	23
15	QPSK	36	20	22.40	22.31	22.14	
15	QPSK	36	39	22.45	22.25	22.08	
15	QPSK	75	0	22.36	22.28	22.12	
15	16QAM	1	0	22.54	22.65	22.40	23
15	16QAM	1	37	22.48	22.54	22.26	
15	16QAM	1	74	22.37	22.50	22.20	
15	16QAM	36	0	21.33	21.34	21.15	22
15	16QAM	36	20	21.31	21.31	21.13	
15	16QAM	36	39	21.38	21.26	21.05	
15	16QAM	75	0	21.31	21.27	21.12	
15	64QAM	1	0	21.67	21.67	21.41	22
15	64QAM	1	37	21.55	21.55	21.29	
15	64QAM	1	74	21.63	21.36	21.22	
15	64QAM	36	0	20.36	20.32	20.12	21
15	64QAM	36	20	20.38	20.31	20.11	
15	64QAM	36	39	20.44	20.24	20.04	
15	64QAM	75	0	20.31	20.25	20.07	
Channel				132022	132322	132622	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	QPSK	1	0	23.64	23.40	23.60	24
10	QPSK	1	25	23.56	23.28	23.59	
10	QPSK	1	49	23.51	23.33	23.50	
10	QPSK	25	0	22.41	22.41	22.25	23
10	QPSK	25	12	22.42	22.38	22.33	
10	QPSK	25	25	22.43	22.40	22.24	
10	QPSK	50	0	22.42	22.37	22.30	
10	16QAM	1	0	22.63	22.66	22.51	23
10	16QAM	1	25	22.43	22.53	22.33	

10	16QAM	1	49	22.49	22.52	22.29	
10	16QAM	25	0	21.44	21.42	21.29	22
10	16QAM	25	12	21.46	21.43	21.35	
10	16QAM	25	25	21.38	21.39	21.25	
10	16QAM	50	0	21.46	21.40	21.37	
10	64QAM	1	0	21.65	21.60	21.55	22
10	64QAM	1	25	21.50	21.48	21.44	
10	64QAM	1	49	21.54	21.45	21.41	
10	64QAM	25	0	20.43	20.34	20.26	21
10	64QAM	25	12	20.46	20.35	20.36	
10	64QAM	25	25	20.42	20.37	20.27	
10	64QAM	50	0	20.44	20.36	20.31	
Channel				131997	132322	132647	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	QPSK	1	0	23.50	23.44	23.63	24
5	QPSK	1	12	23.41	23.30	23.42	
5	QPSK	1	24	23.33	23.35	23.47	
5	QPSK	12	0	22.49	22.42	22.22	23
5	QPSK	12	7	22.44	22.37	22.21	
5	QPSK	12	13	22.38	22.36	22.21	
5	QPSK	25	0	22.45	22.39	22.28	
5	16QAM	1	0	22.75	22.73	22.59	23
5	16QAM	1	12	22.55	22.54	22.43	
5	16QAM	1	24	22.60	22.65	22.33	
5	16QAM	12	0	21.50	21.45	21.26	22
5	16QAM	12	7	21.43	21.37	21.26	
5	16QAM	12	13	21.42	21.34	21.24	
5	16QAM	25	0	21.43	21.38	21.28	
5	64QAM	1	0	21.67	21.68	21.65	22
5	64QAM	1	12	21.47	21.52	21.56	
5	64QAM	1	24	21.55	21.59	21.44	
5	64QAM	12	0	20.51	20.45	20.32	21
5	64QAM	12	7	20.46	20.40	20.32	
5	64QAM	12	13	20.43	20.36	20.28	
5	64QAM	25	0	20.45	20.35	20.28	
Channel				131987	132322	132657	Tune-up limit (dBm)
Frequency (MHz)				1711.5	1745	1778.5	
3	QPSK	1	0	23.41	23.31	23.30	24
3	QPSK	1	8	23.36	23.28	23.42	
3	QPSK	1	14	23.34	23.27	23.25	
3	QPSK	8	0	22.43	22.37	22.26	23
3	QPSK	8	4	22.47	22.37	22.25	
3	QPSK	8	7	22.41	22.34	22.26	
3	QPSK	15	0	22.41	22.35	22.25	
3	16QAM	1	0	22.76	22.71	22.40	23
3	16QAM	1	8	22.75	22.65	22.41	
3	16QAM	1	14	22.67	22.60	22.42	
3	16QAM	8	0	21.46	21.42	21.27	22
3	16QAM	8	4	21.47	21.42	21.30	
3	16QAM	8	7	21.44	21.37	21.22	
3	16QAM	15	0	21.42	21.37	21.30	
3	64QAM	1	0	21.57	21.58	21.49	22
3	64QAM	1	8	21.56	21.54	21.44	
3	64QAM	1	14	21.48	21.49	21.32	
3	64QAM	8	0	20.48	20.39	20.31	21
3	64QAM	8	4	20.46	20.42	20.28	
3	64QAM	8	7	20.48	20.35	20.23	
3	64QAM	15	0	20.41	20.36	20.19	
Channel				131979	132322	132665	Tune-up limit (dBm)
Frequency (MHz)				1710.7	1745	1779.3	
1.4	QPSK	1	0	23.35	23.27	23.25	24
1.4	QPSK	1	3	23.35	23.30	23.30	
1.4	QPSK	1	5	23.32	23.26	23.19	

1.4	QPSK	3	0	23.39	23.31	23.24	
1.4	QPSK	3	1	23.35	23.31	23.20	
1.4	QPSK	3	3	23.35	23.31	23.25	
1.4	QPSK	6	0	22.35	22.29	22.17	23
1.4	16QAM	1	0	22.62	22.65	22.38	23
1.4	16QAM	1	3	22.69	22.68	22.45	
1.4	16QAM	1	5	22.60	22.64	22.49	
1.4	16QAM	3	0	22.38	22.33	22.24	
1.4	16QAM	3	1	22.41	22.38	22.25	
1.4	16QAM	3	3	22.38	22.30	22.21	
1.4	16QAM	6	0	21.56	21.44	21.47	22
1.4	64QAM	1	0	21.48	21.46	21.42	22
1.4	64QAM	1	3	21.55	21.45	21.44	
1.4	64QAM	1	5	21.46	21.46	21.35	
1.4	64QAM	3	0	21.49	21.41	21.33	
1.4	64QAM	3	1	21.51	21.48	21.31	
1.4	64QAM	3	3	21.43	21.38	21.32	
1.4	64QAM	6	0	20.35	20.28	20.19	21

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BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				133222	133297	133372	
Frequency (MHz)				673	680.5	688	
20	QPSK	1	0	23.21	23.24	23.21	24
20	QPSK	1	49	23.18	23.14	23.17	
20	QPSK	1	99	23.14	23.16	23.18	
20	QPSK	50	0	22.24	22.30	22.24	23
20	QPSK	50	24	22.22	22.24	22.20	
20	QPSK	50	50	22.22	22.22	22.17	
20	QPSK	100	0	22.19	22.28	22.13	
20	16QAM	1	0	22.01	22.08	22.20	23
20	16QAM	1	49	22.24	22.35	22.29	
20	16QAM	1	99	22.49	22.46	22.32	
20	16QAM	50	0	21.23	21.14	21.21	22
20	16QAM	50	24	21.29	21.21	21.22	
20	16QAM	50	50	21.20	21.32	21.32	
20	16QAM	100	0	21.27	21.20	21.17	
20	64QAM	1	0	21.06	21.18	21.21	22
20	64QAM	1	49	21.31	21.36	21.37	
20	64QAM	1	99	21.46	21.48	21.38	
20	64QAM	50	0	20.12	20.10	20.15	21
20	64QAM	50	24	20.22	20.20	20.17	
20	64QAM	50	50	20.24	20.32	20.28	
20	64QAM	100	0	20.29	20.22	20.20	
Channel				133197	133297	133397	Tune-up limit (dBm)
Frequency (MHz)				670.5	680.5	690.5	
15	QPSK	1	0	23.01	23.15	23.05	24
15	QPSK	1	37	23.12	22.92	23.04	
15	QPSK	1	74	22.95	22.96	23.04	
15	QPSK	36	0	22.08	22.28	21.99	23
15	QPSK	36	20	22.06	22.09	21.98	
15	QPSK	36	39	22.12	22.10	21.94	
15	QPSK	75	0	22.04	22.27	21.90	
15	16QAM	1	0	22.00	21.96	21.95	23
15	16QAM	1	37	22.11	22.05	22.08	
15	16QAM	1	74	22.39	22.18	22.10	
15	16QAM	36	0	21.20	20.92	21.04	22
15	16QAM	36	20	21.00	21.07	21.20	
15	16QAM	36	39	20.96	21.19	21.26	
15	16QAM	75	0	21.01	21.02	21.03	
15	64QAM	1	0	21.01	20.88	20.97	22
15	64QAM	1	37	21.27	21.25	21.23	
15	64QAM	1	74	21.40	21.21	21.08	
15	64QAM	36	0	20.01	19.90	19.86	21
15	64QAM	36	20	19.98	20.01	19.95	
15	64QAM	36	39	20.00	20.12	20.22	
15	64QAM	75	0	20.25	20.20	20.18	
Channel				133172	133297	133422	Tune-up limit (dBm)
Frequency (MHz)				668	680.5	693	
10	QPSK	1	0	23.01	23.10	22.98	24
10	QPSK	1	25	23.16	22.92	22.95	
10	QPSK	1	49	23.07	22.95	22.98	
10	QPSK	25	0	21.96	22.17	22.03	23
10	QPSK	25	12	22.11	22.20	22.13	
10	QPSK	25	25	22.06	22.11	21.88	
10	QPSK	50	0	21.92	22.20	22.05	
10	16QAM	1	0	21.98	21.93	22.12	23
10	16QAM	1	25	22.05	22.32	22.27	
10	16QAM	1	49	22.25	22.22	22.10	

10	16QAM	25	0	21.21	20.89	21.17	22
10	16QAM	25	12	21.10	20.95	20.96	
10	16QAM	25	25	21.05	21.16	21.16	
10	16QAM	50	0	21.05	21.02	21.00	
10	64QAM	1	0	20.96	20.94	21.18	22
10	64QAM	1	25	21.07	21.30	21.12	
10	64QAM	1	49	21.28	21.38	21.12	
10	64QAM	25	0	19.98	19.80	20.02	21
10	64QAM	25	12	20.16	20.01	20.10	
10	64QAM	25	25	20.11	20.19	20.08	
10	64QAM	50	0	20.00	20.13	19.92	
Channel				133147	133297	133447	Tune-up limit (dBm)
Frequency (MHz)				665.5	680.5	695.5	
5	QPSK	1	0	22.91	23.01	23.02	24
5	QPSK	1	12	22.90	22.97	22.96	
5	QPSK	1	24	23.03	23.07	23.12	
5	QPSK	12	0	22.05	22.28	22.00	23
5	QPSK	12	7	22.13	22.11	21.99	
5	QPSK	12	13	22.18	22.17	21.95	
5	QPSK	25	0	22.09	22.20	21.89	
5	16QAM	1	0	21.79	22.06	22.03	23
5	16QAM	1	12	22.17	22.28	22.03	
5	16QAM	1	24	22.20	22.31	22.28	
5	16QAM	12	0	20.93	20.86	21.19	22
5	16QAM	12	7	21.06	21.14	21.17	
5	16QAM	12	13	21.07	21.05	21.16	
5	16QAM	25	0	20.97	21.10	20.91	
5	64QAM	1	0	20.89	21.08	21.01	22
5	64QAM	1	12	21.11	21.27	21.15	
5	64QAM	1	24	21.43	21.43	21.32	
5	64QAM	12	0	20.08	19.95	19.98	21
5	64QAM	12	7	19.93	20.11	20.04	
5	64QAM	12	13	20.10	20.07	20.16	
5	64QAM	25	0	20.14	19.99	20.11	

<Non-terrestrial Network Note>

General Note:

1. Due to test setup limitations, SAR testing for Non-terrestrial Network was performed using Factory Test Mode software to establish the connection.

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Sub-carrier Speacing (KHz)	Modulation	SC Size	SC Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				25501	25600	25699	
Frequency (MHz)				2000.1	2010	2019.9	
3.75	BPSK	1	0	23.30	22.87	22.72	24
3.75	BPSK	1	46	23.32	22.83	22.59	
3.75	QPSK	1	0	23.29	22.83	22.70	
3.75	QPSK	1	46	23.42	22.99	22.88	
15	BPSK	1	0	23.16	22.85	22.49	
15	BPSK	1	10	23.44	23.02	22.81	
15	QPSK	1	0	23.13	22.63	22.55	
15	QPSK	1	10	23.28	22.74	22.75	
15	QPSK	12	0	22.94	22.56	22.29	24

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Sub-carrier Speacing (KHz)	Modulation	SC Size	SC Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				261506	261674	261838	
Frequency (MHz)				1626.7	1643.5	1659.9	
3.75	BPSK	1	0	22.76	22.97	22.92	24
3.75	BPSK	1	46	22.88	23.16	23.12	
3.75	QPSK	1	0	22.84	22.94	23.02	
3.75	QPSK	1	46	23.04	23.26	23.10	
15	BPSK	1	0	22.70	22.99	22.88	
15	BPSK	1	10	22.98	23.27	23.17	
15	QPSK	1	0	22.80	22.97	23.04	
15	QPSK	1	10	22.90	23.18	23.05	
15	QPSK	12	0	22.78	23.06	23.18	24

11. WiFi/Bluetooth Output Power (Unit: dBm)

General Note:

1. The maximum output power specified for production units are determined for all applicable 802.11 transmission modes in each standalone and aggregated frequency band. Maximum output power is measured for the highest maximum output power configuration(s) in each frequency band according to the default power measurement procedures. For “Not required”, SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, additional output power measurements were not necessary.
2. Per KDB 248227 D01v02r02, SAR test reduction is determined according to 802.11 transmission mode configurations and certain exposure conditions with multiple test positions. In the 2.4 GHz band, separate SAR procedures are applied to DSSS and OFDM configurations to simplify DSSS test requirements. For OFDM, in both 2.4 and 5 GHz bands, an initial test configuration must be determined for each standalone and aggregated frequency band, according to the transmission mode configuration with the highest maximum output power specified for production units to perform SAR measurements. If the same highest maximum output power applies to different combinations of channel bandwidths, modulations and data rates, additional procedures are applied to determine which test configurations require SAR measurement. When applicable, an initial test position may be applied to reduce the number of SAR measurements required for next to the ear, UMPC mini-tablet or hotspot mode configurations with multiple test positions.
3. For 2.4 GHz 802.11b DSSS, either the initial test position procedure for multiple exposure test positions or the DSSS procedure for fixed exposure position is applied; these are mutually exclusive. For 2.4 GHz and 5 GHz OFDM configurations, the initial test configuration is applied to measure SAR using either the initial test position procedure for multiple exposure test position configurations or the initial test configuration procedures for fixed exposure test conditions. Based on the reported SAR of the measured configurations and maximum output power of the transmission mode configurations that are not included in the initial test configuration, the subsequent test configuration and initial test position procedures are applied to determine if SAR measurements are required for the remaining OFDM transmission configurations. In general, the number of test channels that require SAR measurement is minimized based on maximum output power measured for the test sample(s).
4. For OFDM transmission configurations in the 2.4 GHz and 5 GHz bands, When the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel for each frequency band.
5. DSSS and OFDM configurations are considered separately according to the required SAR procedures. SAR is measured in the initial test position using the 802.11 transmission mode configuration required by the DSSS procedure or initial test configuration and subsequent test configuration(s) according to the OFDM procedures.18 The initial test position procedure is described in the following:
   a. When the reported SAR of the initial test position is ≤ 0.4 W/kg, further SAR measurement is not required for the other test positions in that exposure configuration and 802.11 transmission mode combinations within the frequency band or aggregated band.
   b. When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is ≤ 0.8 W/kg or all required test position are tested.
   c. For all positions/configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.
6. Per 201904 TCBC workshops, General principles of FCC KDB Publication 248227 D01 can be applied to determine the SAR Initial Test Configurations and test reduction for 802.11ax SAR testing. For the table below the 802.11ax maximum power is SU (non-OFDMA), and the SU maximum power also higher than RU (OFDMA)
7. In applying the test guidance, the IEEE 802.11 mode with the maximum output power (out of all modes) should be considered for testing
8. For modes with the same maximum output power, the guidance from section 5.3.2 a) of FCC KDB Publication 248227 D01 should be applied, with 802.11ax being considered as the highest 802.11 mode for the appropriate frequency bands
9. When SAR testing for 802.11ax is required
   a. If the maximum output power is highest for OFDMA scenarios, choose the tone size with the maximum number of tones and the highest maximum output power
   b. Otherwise, consider the fully allocated channel for SAR testing
   c. When SAR testing is required on RU sizes less than the fully allocated channel, use the RU number closest to the middle of the channel, choosing the higher RU number when two RUs are equidistant to the middle of the channel

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
2.4GHz WLAN	802.11b 1Mbps	1	2412	20.80	21.00	98.32
		6	2437	20.90	21.00	
		11	2462	20.90	21.00	
	802.11g 6Mbps	1	2412	18.60	19.00	90.56
		6	2437	20.86	21.00	
		11	2462	17.80	19.00	
	802.11n-HT20 MCS0	1	2412	18.60	19.00	90.03
		6	2437	20.64	21.00	
		11	2462	17.50	19.00	
	802.11ac-VHT20 MCS0	1	2412	18.50	19.00	89.96
		6	2437	20.54	21.00	
		11	2462	17.40	19.00	
	802.11ax-HE20 MCS0	1	2412	17.50	19.00	87.43
		6	2437	20.74	21.00	
		11	2462	16.40	18.00	

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.2GHz WLAN	802.11a 6Mbps	36	5180	18.20	18.50	90.50
		40	5200	18.10	18.50	
		44	5220	18.20	18.50	
		48	5240	18.20	18.50	
	802.11n-HT20 MCS0	36	5180	18.40	18.50	89.91
		40	5200	18.30	18.50	
		44	5220	18.30	18.50	
		48	5240	18.30	18.50	
	802.11n-HT40 MCS0	38	5190	16.70	17.00	89.56
		46	5230	17.00	17.50	
	802.11ac-VHT20 MCS0	36	5180	18.30	18.50	90.02
		40	5200	18.20	18.50	
		44	5220	18.20	18.50	
		48	5240	18.20	18.50	
	802.11ac-VHT40 MCS0	38	5190	16.60	17.00	94.31
		46	5230	16.90	17.50	
	802.11ac-VHT80 MCS0	42	5210	16.40	16.50	88.80
	802.11ax-HE20 MCS0	36	5180	18.20	18.50	87.59
		40	5200	18.30	18.50	
		44	5220	18.20	18.50	
		48	5240	18.20	18.50	
	802.11ax-HE40 MCS0	38	5190	16.70	17.00	93.00
		46	5230	17.00	17.50	
	802.11ax-HE80 MCS0	42	5210	16.30	16.50	86.76

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.3GHz WLAN	802.11a 6Mbps	52	5260	18.40	18.50	90.50
		56	5280	18.20	18.50	
		60	5300	18.30	18.50	
		64	5320	16.40	18.00	
	802.11n-HT20 MCS0	52	5260	18.40	18.50	89.91
		56	5280	18.20	18.50	
		60	5300	18.20	18.50	
		64	5320	17.20	18.50	
	802.11n-HT40 MCS0	54	5270	16.90	17.50	89.56
		62	5310	14.60	15.50	
	802.11ac-VHT20 MCS0	52	5260	18.30	18.50	90.02
		56	5280	18.10	18.50	
		60	5300	18.10	18.50	
		64	5320	17.10	18.50	
	802.11ac-VHT40 MCS0	54	5270	16.80	17.50	94.31
		62	5310	14.50	15.50	
	802.11ac-VHT80 MCS0	58	5290	14.50	15.00	88.80
	802.11ax-HE20 MCS0	52	5260	18.40	18.50	87.59
		56	5280	18.30	18.50	
		60	5300	18.30	18.50	
		64	5320	16.60	18.00	
	802.11ax-HE40 MCS0	54	5270	17.00	17.50	93.00
		62	5310	14.50	15.50	
	802.11ax-HE80 MCS0	58	5290	14.60	15.00	86.76

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.5GHz WLAN	802.11a 6Mbps	100	5500	18.40	18.50	90.50
		116	5580	18.30	18.50	
		124	5620	18.30	18.50	
		132	5660	18.30	18.50	
		140	5700	16.20	16.50	
		144	5720	18.20	18.50	
	802.11n-HT20 MCS0	100	5500	18.00	18.50	89.91
		116	5580	18.30	18.50	
		124	5620	18.30	18.50	
		132	5660	18.30	18.50	
		140	5700	15.90	16.00	
		144	5720	18.30	18.50	
	802.11n-HT40 MCS0	102	5510	16.10	16.50	89.56
		110	5550	16.90	17.50	
		126	5630	17.20	17.50	
		134	5670	16.90	17.50	
		142	5710	17.10	17.50	
	802.11ac-VHT20 MCS0	100	5500	17.90	18.50	90.02
		116	5580	18.20	18.50	
		124	5620	18.20	18.50	
		132	5660	18.20	18.50	
		140	5700	15.80	16.00	
		144	5720	18.20	18.50	
	802.11ac-VHT40 MCS0	102	5510	16.00	16.50	94.31
		110	5550	16.80	17.50	
		126	5630	17.10	17.50	
		134	5670	16.80	17.50	
		142	5710	17.00	17.50	
	802.11ac-VHT80 MCS0	106	5530	15.30	16.50	88.80
		122	5610	16.40	16.50	
		138	5690	16.40	16.50	
	802.11ax-HE20 MCS0	100	5500	17.90	18.50	87.59
		116	5580	18.40	18.50	
		124	5620	18.00	18.50	
		132	5660	18.00	18.50	
		140	5700	15.20	16.00	
		144	5720	18.40	18.50	
	802.11ax-HE40 MCS0	102	5510	15.80	16.50	93.00
		110	5550	17.00	17.50	
		126	5630	17.20	17.50	
		134	5670	17.00	17.50	
		142	5710	17.20	17.50	
	802.11ax-HE80 MCS0	106	5530	15.40	16.50	86.76
		122	5610	16.50	16.50	
		138	5690	16.50	16.50	

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.8GHz WLAN	802.11a 6Mbps	149	5745	18.40	18.50	90.50
		157	5785	18.40	18.50	
		165	5825	18.40	18.50	
	802.11n-HT20 MCS0	149	5745	18.30	18.50	89.91
		157	5785	18.20	18.50	
		165	5825	18.30	18.50	
	802.11n-HT40 MCS0	151	5755	17.00	17.50	94.31
		159	5795	17.00	17.50	
	802.11ac-VHT20 MCS0	149	5745	18.20	18.50	90.02
		157	5785	18.10	18.50	
		165	5825	18.20	18.50	
	802.11ac-VHT40 MCS0	151	5755	16.90	17.50	89.56
		159	5795	16.90	17.50	
	802.11ac-VHT80 MCS0	155	5775	16.40	16.50	88.80
	802.11ax-HE20 MCS0	149	5745	18.40	18.50	87.59
		157	5785	18.30	18.50	
		165	5825	18.40	18.50	
	802.11ax-HE40 MCS0	151	5755	17.10	17.50	93.00
		159	5795	17.10	17.50	
	802.11ax-HE80 MCS0	155	5775	16.50	16.50	86.76

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.9GHz WLAN UNII 4	802.11a 6Mbps	169	5845	18.40	18.50	90.50
		173	5865	18.50	18.50	
		177	5885	18.50	18.50	
	802.11n-HT20 MCS0	169	5845	18.20	18.50	89.91
		173	5865	18.40	18.50	
		177	5885	18.20	18.50	
	802.11n-HT40 MCS0	167	5835	17.10	17.50	94.31
		175	5875	17.10	17.50	
	802.11ac-VHT20 MCS0	169	5845	18.10	18.50	90.02
		173	5865	18.30	18.50	
		177	5885	18.10	18.50	
	802.11ac-VHT40 MCS0	167	5835	17.00	17.50	89.56
		175	5875	17.00	17.50	
	802.11ac-VHT80 MCS0	171	5855	16.30	16.50	88.80
	802.11ax-HE20 MCS0	169	5845	18.30	18.50	87.59
		173	5865	18.50	18.50	
		177	5885	18.30	18.50	
	802.11ax-HE40 MCS0	167	5835	17.20	17.50	93.00
		175	5875	17.20	17.50	
	802.11ax-HE80 MCS0	171	5855	16.40	16.50	86.76

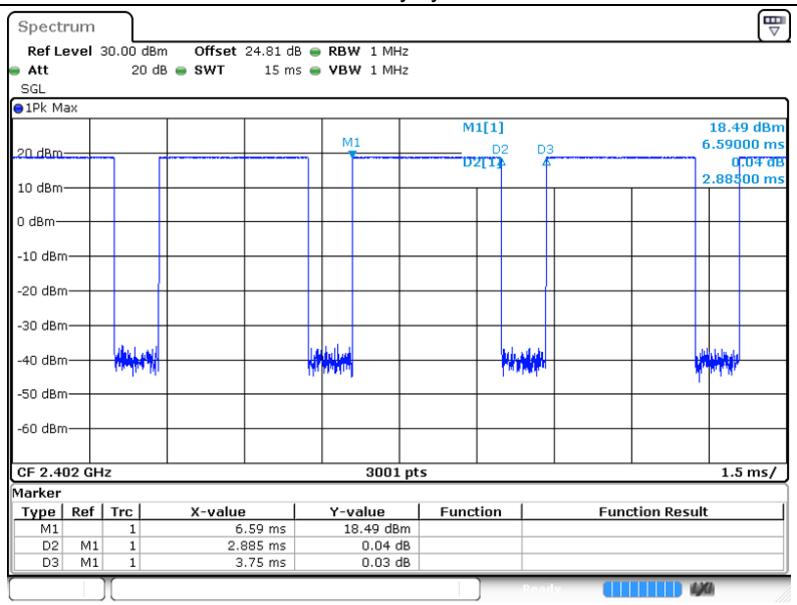
<2.4GHz Bluetooth>

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
Bluetooth	BR / EDR 1Mbps	0	2402	19.68	20.00	76.93
		39	2441	19.25	20.00	
		78	2480	19.49	20.00	
	BR / EDR 2Mbps	0	2402	16.19	17.00	77.07
		39	2441	15.29	17.00	
		78	2480	15.24	17.00	
	BR / EDR 3Mbps	0	2402	16.29	17.00	77.20
		39	2441	15.46	17.00	
		78	2480	15.37	17.00	
	LE 1Mbps	0	2402	18.65	20.00	60.48
		19	2440	18.55	20.00	
		39	2480	18.29	20.00	
	LE 2Mbps	0	2402	19.53	20.00	30.99
		19	2440	19.35	20.00	
		39	2480	19.22	20.00	
	BLE CS ASK 1Mbps	0	2402	18.58	20.00	30.38
		19	2440	19.19	20.00	
		39	2480	18.90	20.00	
	BLE CS ASK 2Mbps	0	2402	18.96	20.00	30.82
		19	2440	19.26	20.00	
		39	2480	19.06	20.00	
	BLE CS GFSK 1Mbps	0	2402	19.47	20.00	15.38
		39	2441	19.15	20.00	
		78	2480	19.13	20.00	
	BLE CS GFSK 2Mbps	2	2404	19.60	20.00	10.95
		39	2441	19.53	20.00	
		76	2478	19.48	20.00	

General Note:

1. For 2.4GHz Bluetooth SAR testing was selected 1Mbps due to its highest average power and low modulation and duty cycle is 76.93% considered in SAR testing, and the duty cycle would be scaled to theoretical 83.3% in reported SAR calculation.

BT Duty cycle



12. SAR Test Results

General Note:

1. Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
   a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
   b. For SAR testing of WLAN signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)"
   c. For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
   d. For WLAN/Bluetooth: Reported SAR(W/kg)= Measured SAR(W/kg)* Duty Cycle scaling factor * Tune-up scaling factor
2. Per KDB 447498 D01v06, for each exposure position, testing of other required channels within the operating mode of a frequency band is not required when the *reported* 1-g or 10-g SAR for the mid-band or highest output power channel is:
   - ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
   - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
   - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz
3. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥0.8W/kg.
4. Transmitters that are built-in within extremity devices typically operate in speaker mode for voice communication, with the device positioned next to the mouth. Next to the mouth exposure requires 1 -g SAR and the extremity condition requires 10-g extremity SAR. When SAR evaluation is required, next to the mouth use is evaluated with the front of the device positioned at 10 mm from a flat phantom filled with head tissue-equivalent medium. The device should be strapped together to represent normal use conditions. SAR for extremity exposure is evaluated with the back of the device positioned in direct contact against a flat phantom filled with body tissue-equivalent medium.

LTE Note:

1. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
2. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
3. Per KDB 941225 D05v02r05, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
4. Per KDB 941225 D05v02r05, 16QAM output power for each RB allocation configuration is > not ½ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM SAR testing is not required.
5. Per KDB 941225 D05v02r05, Smaller bandwidth output power for each RB allocation configuration is > not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
6. For LTE B4/B5/B12/B17/B26/B71 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
7. LTE band 2/4/5/17 SAR test was covered by Band 25/66/26/12; according to TCB workshop, SAR test for overlapping LTE bands can be reduced if
   a. The maximum output power, including tolerance, for the smaller band is ≤ the larger band to qualify for the SAR test exclusion.
   b. The channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band.

Non-terrestrial Network Note:

1. Due to test setup limitations, SAR testing for Non-terrestrial Network was performed using Factory Test Mode software to establish the connection.
2. The device only supports NTN NB-Iot, therefore, the highest SC output power is selected for RF exposure assessment.
3. The NTN NB-Iot doesn't support voice communication, therefore, only extremity exposure condition is considered for RF exposure assessment

WLAN Note:

1. Per KDB 248227 D01v02r02, for 2.4GHz 802.11g/n SAR testing is not required when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.
2. Per KDB 248227 D01v02r02, WLAN5.2GHz SAR testing is not required when the WLAN5.3GHz band highest reported SAR for a test configuration is ≤ 1.2 W/kg, SAR is not required for WLAN5.2GHz band.
3. When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is ≤ 0.8 W/kg or all required test position are tested.
4. For all positions / configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions / configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.
5. During SAR testing the WLAN transmission was verified using a spectrum analyzer.

12.1 Next to Mouth SAR

<LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Strap	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 7_Ant 0	20M	QPSK	1	0	Front	10mm	Strap 1	Index 0	21100	2535	23.04	23.50	1.112	0.08	0.487	0.541
	LTE Band 7_Ant 0	20M	QPSK	50	0	Front	10mm	Strap 1	index 0	21100	2535	21.92	22.50	1.143	0.01	0.363	0.415
	LTE Band 7_Ant 0	20M	QPSK	1	0	Front	10mm	Strap 2	index 0	21100	2535	23.04	23.50	1.112	0.03	0.393	0.437
	LTE Band 7_Ant 0	20M	QPSK	50	0	Front	10mm	Strap 2	index 0	21100	2535	21.92	22.50	1.143	0.09	0.292	0.334
1	LTE Band 7_Ant 0	20M	QPSK	1	0	Front	10mm	Strap 3	index 0	21100	2535	23.04	23.50	1.112	-0.02	0.576	0.640
	LTE Band 7_Ant 0	20M	QPSK	50	0	Front	10mm	Strap 3	index 0	21100	2535	21.92	22.50	1.143	0.1	0.403	0.461
	LTE Band 7_Ant 0	20M	QPSK	1	0	Front	10mm	Strap 1	index 1	21100	2535	18.95	20.50	1.429	0.08	0.255	0.364
	LTE Band 7_Ant 0	20M	QPSK	50	0	Front	10mm	Strap 1	index 1	21100	2535	18.70	20.50	1.514	0.01	0.245	0.371
	LTE Band 7_Ant 0	20M	QPSK	1	0	Front	10mm	Strap 2	index 1	21100	2535	18.95	20.50	1.429	0.02	0.192	0.274
	LTE Band 7_Ant 0	20M	QPSK	50	0	Front	10mm	Strap 2	index 1	21100	2535	18.70	20.50	1.514	-0.06	0.177	0.268
	LTE Band 7_Ant 0	20M	QPSK	1	0	Front	10mm	Strap 3	index 1	21100	2535	18.95	20.50	1.429	0.13	0.269	0.384
	LTE Band 7_Ant 0	20M	QPSK	50	0	Front	10mm	Strap 3	index 1	21100	2535	18.70	20.50	1.514	0.03	0.251	0.380
2	LTE Band 12_Ant 1	10M	QPSK	1	0	Front	10mm	Strap 1	index 0	23095	707.5	23.40	24.00	1.148	0	<0.001	<0.001
	LTE Band 12_Ant 1	10M	QPSK	25	0	Front	10mm	Strap 1	index 0	23095	707.5	22.20	23.00	1.202	0	<0.001	<0.001
	LTE Band 12_Ant 1	10M	QPSK	1	0	Front	10mm	Strap 2	index 0	23095	707.5	23.40	24.00	1.148	0	<0.001	<0.001
	LTE Band 12_Ant 1	10M	QPSK	25	0	Front	10mm	Strap 2	index 0	23095	707.5	22.20	23.00	1.202	0	<0.001	<0.001
	LTE Band 12_Ant 1	10M	QPSK	1	0	Front	10mm	Strap 3	index 0	23095	707.5	23.40	24.00	1.148	0	<0.001	<0.001
	LTE Band 12_Ant 1	10M	QPSK	25	0	Front	10mm	Strap 3	index 0	23095	707.5	22.20	23.00	1.202	0	<0.001	<0.001
3	LTE Band 13_Ant 1	10M	QPSK	1	0	Front	10mm	Strap 1	index 0	23230	782	23.18	24.00	1.208	0	<0.001	<0.001
	LTE Band 13_Ant 1	10M	QPSK	25	0	Front	10mm	Strap 1	index 0	23230	782	22.18	23.00	1.208	0	<0.001	<0.001
	LTE Band 13_Ant 1	10M	QPSK	1	0	Front	10mm	Strap 2	index 0	23230	782	23.18	24.00	1.208	0	<0.001	<0.001
	LTE Band 13_Ant 1	10M	QPSK	25	0	Front	10mm	Strap 2	index 0	23230	782	22.18	23.00	1.208	0	<0.001	<0.001
	LTE Band 13_Ant 1	10M	QPSK	1	0	Front	10mm	Strap 3	index 0	23230	782	23.18	24.00	1.208	0	<0.001	<0.001
	LTE Band 13_Ant 1	10M	QPSK	25	0	Front	10mm	Strap 3	index 0	23230	782	22.18	23.00	1.208	0	<0.001	<0.001

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Strap	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
4	LTE Band 25_Ant 0	20M	QPSK	1	0	Front	10mm	Strap 1	index 0	26140	1860	23.51	24.00	1.119	-0.16	0.161	0.180
	LTE Band 25_Ant 0	20M	QPSK	50	0	Front	10mm	Strap 1	index 0	26140	1860	22.29	23.00	1.178	-0.08	0.126	0.148
	LTE Band 25_Ant 0	20M	QPSK	1	0	Front	10mm	Strap 2	index 0	26140	1860	23.51	24.00	1.119	-0.08	0.145	0.162
	LTE Band 25_Ant 0	20M	QPSK	50	0	Front	10mm	Strap 2	index 0	26140	1860	22.29	23.00	1.178	-0.08	0.108	0.127
	LTE Band 25_Ant 0	20M	QPSK	1	0	Front	10mm	Strap 3	index 0	26140	1860	23.51	24.00	1.119	-0.08	0.079	0.088
	LTE Band 25_Ant 0	20M	QPSK	50	0	Front	10mm	Strap 3	index 0	26140	1860	22.29	23.00	1.178	0.1	0.060	0.071
5	LTE Band 26_Ant 1	15M	QPSK	1	0	Front	10mm	Strap 1	index 0	26865	831.5	22.66	24.00	1.361	0	<0.001	<0.001
	LTE Band 26_Ant 1	15M	QPSK	36	0	Front	10mm	Strap 1	index 0	26865	831.5	21.69	23.00	1.352	0	<0.001	<0.001
	LTE Band 26_Ant 1	15M	QPSK	1	0	Front	10mm	Strap 2	index 0	26865	831.5	22.66	24.00	1.361	0	<0.001	<0.001
	LTE Band 26_Ant 1	15M	QPSK	36	0	Front	10mm	Strap 2	index 0	26865	831.5	21.69	23.00	1.352	0	<0.001	<0.001
	LTE Band 26_Ant 1	15M	QPSK	1	0	Front	10mm	Strap 3	index 0	26865	831.5	22.66	24.00	1.361	0	<0.001	<0.001
	LTE Band 26_Ant 1	15M	QPSK	36	0	Front	10mm	Strap 3	index 0	26865	831.5	21.69	23.00	1.352	0	<0.001	<0.001
	LTE Band 66_Ant 0	20M	QPSK	1	0	Front	10mm	Strap 1	index 0	132072	1720	23.65	24.00	1.084	-0.12	0.361	0.391
	LTE Band 66_Ant 0	20M	QPSK	50	0	Front	10mm	Strap 1	index 0	132072	1720	22.43	23.00	1.140	0.12	0.274	0.312
6	LTE Band 66_Ant 0	20M	QPSK	1	0	Front	10mm	Strap 2	index 0	132072	1720	23.65	24.00	1.084	-0.05	0.471	0.511
	LTE Band 66_Ant 0	20M	QPSK	50	0	Front	10mm	Strap 2	index 0	132072	1720	22.43	23.00	1.140	-0.18	0.336	0.383
	LTE Band 66_Ant 0	20M	QPSK	1	0	Front	10mm	Strap 3	index 0	132072	1720	23.65	24.00	1.084	0.08	0.134	0.145
	LTE Band 66_Ant 0	20M	QPSK	50	0	Front	10mm	Strap 3	index 0	132072	1720	22.43	23.00	1.140	-0.17	0.104	0.119
7	LTE Band 71_Ant 1	20M	QPSK	1	0	Front	10mm	Strap 1	index 0	133297	680.5	23.24	24.00	1.191	0	<0.001	<0.001
	LTE Band 71_Ant 1	20M	QPSK	50	0	Front	10mm	Strap 1	index 0	133297	680.5	22.30	23.00	1.175	0	<0.001	<0.001
	LTE Band 71_Ant 1	20M	QPSK	1	0	Front	10mm	Strap 2	index 0	133297	680.5	23.24	24.00	1.191	0	<0.001	<0.001
	LTE Band 71_Ant 1	20M	QPSK	50	0	Front	10mm	Strap 2	index 0	133297	680.5	22.30	23.00	1.175	0	<0.001	<0.001
	LTE Band 71_Ant 1	20M	QPSK	1	0	Front	10mm	Strap 3	index 0	133297	680.5	23.24	24.00	1.191	0	<0.001	<0.001
	LTE Band 71_Ant 1	20M	QPSK	50	0	Front	10mm	Strap 3	index 0	133297	680.5	22.30	23.00	1.175	0	<0.001	<0.001

<WLAN SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Strap	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN2.4GHz	802.11b 1Mbps	Front	10mm	Strap 1	index 0	11	2462	20.90	21.00	1.023	98.32	1.017	0.1	0.456	0.475
	WLAN2.4GHz	802.11b 1Mbps	Front	10mm	Strap 2	index 0	11	2462	20.90	21.00	1.023	98.32	1.017	0.12	0.382	0.398
8	WLAN2.4GHz	802.11b 1Mbps	Front	10mm	Strap 3	index 0	11	2462	20.90	21.00	1.023	98.32	1.017	-0.18	0.546	0.568
	WLAN5GHz	802.11a 6Mbps	Front	10mm	Strap 1	index 0	52	5260	18.40	18.50	1.023	90.5	1.105	0.05	0.392	0.443
	WLAN5GHz	802.11a 6Mbps	Front	10mm	Strap 2	index 0	52	5260	18.40	18.50	1.023	90.5	1.105	0.02	0.328	0.371
9	WLAN5GHz	802.11a 6Mbps	Front	10mm	Strap 3	index 0	52	5260	18.40	18.50	1.023	90.5	1.105	-0.03	0.469	0.530
	WLAN5GHz	802.11a 6Mbps	Front	10mm	Strap 1	index 0	100	5500	18.40	18.50	1.023	90.5	1.105	-0.08	0.100	0.113
	WLAN5GHz	802.11a 6Mbps	Front	10mm	Strap 2	index 0	100	5500	18.40	18.50	1.023	90.5	1.105	-0.08	0.145	0.164
10	WLAN5GHz	802.11a 6Mbps	Front	10mm	Strap 3	index 0	100	5500	18.40	18.50	1.023	90.5	1.105	0.1	0.156	0.176
	WLAN5GHz	802.11a 6Mbps	Front	10mm	Strap 1	index 0	149	5745	18.40	18.50	1.023	90.5	1.105	-0.18	0.307	0.347
	WLAN5GHz	802.11a 6Mbps	Front	10mm	Strap 2	index 0	149	5745	18.40	18.50	1.023	90.5	1.105	0.1	0.286	0.323
11	WLAN5GHz	802.11a 6Mbps	Front	10mm	Strap 3	index 0	149	5745	18.40	18.50	1.023	90.5	1.105	0.02	0.392	0.443
	WLAN5GHz	802.11a 6Mbps	Front	10mm	Strap 1	index 0	173	5865	18.50	18.50	1.000	90.5	1.105	0.08	0.326	0.360
	WLAN5GHz	802.11a 6Mbps	Front	10mm	Strap 2	index 0	173	5865	18.50	18.50	1.000	90.5	1.105	-0.17	0.411	0.454
12	WLAN5GHz	802.11a 6Mbps	Front	10mm	Strap 3	index 0	173	5865	18.50	18.50	1.000	90.5	1.105	-0.01	0.470	0.519

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Strap	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	Bluetooth	1Mbps	Front	10mm	Strap 1	index 0	0	2402	19.68	20.00	1.076	76.93	1.083	0.14	0.067	0.078
	Bluetooth	1Mbps	Front	10mm	Strap 2	index 0	0	2402	19.68	20.00	1.076	76.93	1.083	0.11	0.072	0.084
13	Bluetooth	1Mbps	Front	10mm	Strap 3	index 0	0	2402	19.68	20.00	1.076	76.93	1.083	-0.03	0.086	0.100

12.2 Extremity SAR

<LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Strap	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	LTE Band 7_Ant 0	20M	QPSK	1	0	Back	0mm	Strap 1	index 0	21100	2535	23.04	23.50	1.112	0.12	0.034	0.038
	LTE Band 7_Ant 0	20M	QPSK	50	0	Back	0mm	Strap 1	index 0	21100	2535	21.92	22.50	1.143	0.08	0.025	0.029
	LTE Band 7_Ant 0	20M	QPSK	1	0	Back	0mm	Strap 2	index 0	21100	2535	23.04	23.50	1.112	0.1	0.027	0.030
	LTE Band 7_Ant 0	20M	QPSK	50	0	Back	0mm	Strap 2	index 0	21100	2535	21.92	22.50	1.143	0.12	0.020	0.023
14	LTE Band 7_Ant 0	20M	QPSK	1	0	Back	0mm	Strap 3	index 0	21100	2535	23.04	23.50	1.112	-0.03	0.053	0.059
	LTE Band 7_Ant 0	20M	QPSK	50	0	Back	0mm	Strap 3	index 0	21100	2535	21.92	22.50	1.143	-0.17	0.044	0.050
	LTE Band 7_Ant 0	20M	QPSK	1	0	Back	0mm	Strap 1	index 1	21100	2535	18.95	20.50	1.429	0	0.001	0.001
	LTE Band 7_Ant 0	20M	QPSK	50	0	Back	0mm	Strap 1	index 1	21100	2535	18.70	20.50	1.514	0	0.001	0.002
	LTE Band 7_Ant 0	20M	QPSK	1	0	Back	0mm	Strap 2	index 1	21100	2535	18.95	20.50	1.429	0	0.001	0.001
	LTE Band 7_Ant 0	20M	QPSK	50	0	Back	0mm	Strap 2	index 1	21100	2535	18.70	20.50	1.514	0	0.001	0.002
	LTE Band 7_Ant 0	20M	QPSK	1	0	Back	0mm	Strap 3	index 1	21100	2535	18.95	20.50	1.429	-0.02	0.017	0.024
	LTE Band 7_Ant 0	20M	QPSK	50	0	Back	0mm	Strap 3	index 1	21100	2535	18.70	20.50	1.514	0.11	0.015	0.023
	LTE Band 12_Ant 1	10M	QPSK	1	0	Back	0mm	Strap 1	index 0	23095	707.5	23.40	24.00	1.148	-0.11	0.718	0.824
	LTE Band 12_Ant 1	10M	QPSK	25	0	Back	0mm	Strap 1	index 0	23095	707.5	22.20	23.00	1.202	0.08	0.571	0.686
15	LTE Band 12_Ant 1	10M	QPSK	1	0	Back	0mm	Strap 2	index 0	23095	707.5	23.40	24.00	1.148	-0.01	0.794	0.912
	LTE Band 12_Ant 1	10M	QPSK	25	0	Back	0mm	Strap 2	index 0	23095	707.5	22.20	23.00	1.202	0.14	0.617	0.742
	LTE Band 12_Ant 1	10M	QPSK	1	0	Back	0mm	Strap 3	index 0	23095	707.5	23.40	24.00	1.148	0.01	0.406	0.466
	LTE Band 12_Ant 1	10M	QPSK	25	0	Back	0mm	Strap 3	index 0	23095	707.5	22.20	23.00	1.202	0.03	0.344	0.414
	LTE Band 13_Ant 1	10M	QPSK	1	0	Back	0mm	Strap 1	index 0	23230	782	23.18	24.00	1.208	-0.1	0.700	0.845
	LTE Band 13_Ant 1	10M	QPSK	25	0	Back	0mm	Strap 1	index 0	23230	782	22.18	23.00	1.208	-0.17	0.557	0.673
16	LTE Band 13_Ant 1	10M	QPSK	1	0	Back	0mm	Strap 2	index 0	23230	782	23.18	24.00	1.208	-0.06	0.757	0.914
	LTE Band 13_Ant 1	10M	QPSK	25	0	Back	0mm	Strap 2	index 0	23230	782	22.18	23.00	1.208	-0.05	0.606	0.732
	LTE Band 13_Ant 1	10M	QPSK	1	0	Back	0mm	Strap 3	index 0	23230	782	23.18	24.00	1.208	-0.03	0.396	0.478
	LTE Band 13_Ant 1	10M	QPSK	25	0	Back	0mm	Strap 3	index 0	23230	782	22.18	23.00	1.208	0.14	0.335	0.405
	LTE Band 25_Ant 0	20M	QPSK	1	0	Back	0mm	Strap 1	index 0	26140	1860	23.51	24.00	1.119	-0.18	0.032	0.036
	LTE Band 25_Ant 0	20M	QPSK	50	0	Back	0mm	Strap 1	index 0	26140	1860	22.29	23.00	1.178	0.1	0.025	0.029
	LTE Band 25_Ant 0	20M	QPSK	1	0	Back	0mm	Strap 2	index 0	26140	1860	23.51	24.00	1.119	0.18	0.030	0.034
	LTE Band 25_Ant 0	20M	QPSK	50	0	Back	0mm	Strap 2	index 0	26140	1860	22.29	23.00	1.178	0.14	0.021	0.025
17	LTE Band 25_Ant 0	20M	QPSK	1	0	Back	0mm	Strap 3	index 0	26140	1860	23.51	24.00	1.119	-0.1	0.056	0.063
	LTE Band 25_Ant 0	20M	QPSK	50	0	Back	0mm	Strap 3	index 0	26140	1860	22.29	23.00	1.178	0.12	0.042	0.049
	LTE Band 26_Ant 1	15M	QPSK	1	0	Back	0mm	Strap 1	index 0	26865	831.5	22.66	24.00	1.361	-0.12	0.740	1.007
	LTE Band 26_Ant 1	15M	QPSK	36	0	Back	0mm	Strap 1	index 0	26865	831.5	21.69	23.00	1.352	0.11	0.605	0.818
18	LTE Band 26_Ant 1	15M	QPSK	1	0	Back	0mm	Strap 2	index 0	26865	831.5	22.66	24.00	1.361	-0.06	0.775	1.055
	LTE Band 26_Ant 1	15M	QPSK	36	0	Back	0mm	Strap 2	index 0	26865	831.5	21.69	23.00	1.352	0.17	0.631	0.853
	LTE Band 26_Ant 1	15M	QPSK	1	0	Back	0mm	Strap 3	index 0	26865	831.5	22.66	24.00	1.361	-0.05	0.438	0.596
	LTE Band 26_Ant 1	15M	QPSK	36	0	Back	0mm	Strap 3	index 0	26865	831.5	21.69	23.00	1.352	0.18	0.365	0.494
	LTE Band 66_Ant 0	20M	QPSK	1	0	Back	0mm	Strap 1	index 0	132072	1720	23.65	24.00	1.084	-0.08	0.049	0.053
	LTE Band 66_Ant 0	20M	QPSK	50	0	Back	0mm	Strap 1	index 0	132072	1720	22.43	23.00	1.140	-0.08	0.039	0.044
	LTE Band 66_Ant 0	20M	QPSK	1	0	Back	0mm	Strap 2	index 0	132072	1720	23.65	24.00	1.084	0.1	0.040	0.043
	LTE Band 66_Ant 0	20M	QPSK	50	0	Back	0mm	Strap 2	index 0	132072	1720	22.43	23.00	1.140	-0.17	0.028	0.032
19	LTE Band 66_Ant 0	20M	QPSK	1	0	Back	0mm	Strap 3	index 0	132072	1720	23.65	24.00	1.084	-0.13	0.084	0.091
	LTE Band 66_Ant 0	20M	QPSK	1	0	Back	0mm	Strap 3	index 0	132322	1745	23.40	24.00	1.148	0.05	0.069	0.079
	LTE Band 66_Ant 0	20M	QPSK	1	0	Back	0mm	Strap 3	index 0	132572	1770	23.50	24.00	1.122	0.01	0.075	0.084
	LTE Band 66_Ant 0	20M	QPSK	50	0	Back	0mm	Strap 3	index 0	132072	1720	22.43	23.00	1.140	0.1	0.068	0.078
	LTE Band 71_Ant 1	20M	QPSK	1	0	Back	0mm	Strap 1	index 0	133297	680.5	23.24	24.00	1.191	-0.04	0.181	0.216
	LTE Band 71_Ant 1	20M	QPSK	50	0	Back	0mm	Strap 1	index 0	133297	680.5	22.30	23.00	1.175	0.08	0.144	0.169
20	LTE Band 71_Ant 1	20M	QPSK	1	0	Back	0mm	Strap 2	index 0	133297	680.5	23.24	24.00	1.191	-0.02	0.514	0.612
	LTE Band 71_Ant 1	20M	QPSK	50	0	Back	0mm	Strap 2	index 0	133297	680.5	22.30	23.00	1.175	-0.01	0.434	0.510
	LTE Band 71_Ant 1	20M	QPSK	1	0	Back	0mm	Strap 3	index 0	133297	680.5	23.24	24.00	1.191	0.01	0.131	0.156
	LTE Band 71_Ant 1	20M	QPSK	50	0	Back	0mm	Strap 3	index 0	133297	680.5	22.30	23.00	1.175	0.03	0.107	0.126

<NTN SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Strap	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	NTN Band 23_Ant 0	15K	BPSK	1	10	Back	0mm	Strap 1	index 0	25501	2000.1	23.44	24.00	1.138	0.03	0.031	0.035
	NTN Band 23_Ant 0	15K	BPSK	1	10	Back	0mm	Strap 2	index 0	25501	2000.1	23.44	24.00	1.138	-0.08	0.020	0.023
21	NTN Band 23_Ant 0	15K	BPSK	1	10	Back	0mm	Strap 3	index 0	25501	2000.1	23.44	24.00	1.138	-0.18	0.073	0.083
	NTN Band 255_Ant 0	15K	BPSK	1	10	Back	0mm	Strap 1	index 0	261674	1643.5	23.27	24.00	1.183	0.03	0.040	0.047
	NTN Band 255_Ant 0	15K	BPSK	1	10	Back	0mm	Strap 2	index 0	261674	1643.5	23.27	24.00	1.183	-0.08	0.032	0.038
22	NTN Band 255_Ant 0	15K	BPSK	1	10	Back	0mm	Strap 3	index 0	261674	1643.5	23.27	24.00	1.183	-0.11	0.072	0.085

<WLAN SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Strap	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	WLAN2.4GHz	802.11b 1Mbps	Back	0mm	Strap 1	index 0	11	2462	20.90	21.00	1.023	98.32	1.017	0.08	0.019	0.020
	WLAN2.4GHz	802.11b 1Mbps	Back	0mm	Strap 2	index 0	11	2462	20.90	21.00	1.023	98.32	1.017	0.01	0.015	0.016
23	WLAN2.4GHz	802.11b 1Mbps	Back	0mm	Strap 3	index 0	11	2462	20.90	21.00	1.023	98.32	1.017	-0.01	0.048	0.050
	WLAN5GHz	802.11a 6Mbps	Back	0mm	Strap 1	index 0	52	5260	18.40	18.50	1.023	90.5	1.105	0.18	0.030	0.034
	WLAN5GHz	802.11a 6Mbps	Back	0mm	Strap 2	index 0	52	5260	18.40	18.50	1.023	90.5	1.105	0.14	0.023	0.026
24	WLAN5GHz	802.11a 6Mbps	Back	0mm	Strap 3	index 0	52	5260	18.40	18.50	1.023	90.5	1.105	0.03	0.051	0.058
	WLAN5GHz	802.11a 6Mbps	Back	0mm	Strap 1	index 0	100	5500	18.40	18.50	1.023	90.5	1.105	0.17	0.053	0.060
	WLAN5GHz	802.11a 6Mbps	Back	0mm	Strap 2	index 0	100	5500	18.40	18.50	1.023	90.5	1.105	-0.05	0.040	0.045
25	WLAN5GHz	802.11a 6Mbps	Back	0mm	Strap 3	index 0	100	5500	18.40	18.50	1.023	90.5	1.105	-0.09	0.055	0.062
	WLAN5GHz	802.11a 6Mbps	Back	0mm	Strap 1	index 0	149	5745	18.40	18.50	1.023	90.5	1.105	0.1	0.043	0.049
	WLAN5GHz	802.11a 6Mbps	Back	0mm	Strap 2	index 0	149	5745	18.40	18.50	1.023	90.5	1.105	-0.17	0.034	0.038
26	WLAN5GHz	802.11a 6Mbps	Back	0mm	Strap 3	index 0	149	5745	18.40	18.50	1.023	90.5	1.105	-0.05	0.044	0.050
	WLAN5GHz	802.11a 6Mbps	Back	0mm	Strap 1	index 0	173	5865	18.50	18.50	1.000	90.5	1.105	0.08	0.046	0.051
	WLAN5GHz	802.11a 6Mbps	Back	0mm	Strap 2	index 0	173	5865	18.50	18.50	1.000	90.5	1.105	0.01	0.049	0.054
27	WLAN5GHz	802.11a 6Mbps	Back	0mm	Strap 3	index 0	173	5865	18.50	18.50	1.000	90.5	1.105	0.04	0.068	0.075

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Strap	Power Index	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	Bluetooth	1Mbps	Back	0mm	Strap 1	index 0	0	2402	19.68	20.00	1.076	76.93	1.083	0.06	0.016	0.019
	Bluetooth	1Mbps	Back	0mm	Strap 2	index 0	0	2402	19.68	20.00	1.076	76.93	1.083	-0.09	0.010	0.012
28	Bluetooth	1Mbps	Back	0mm	Strap 3	index 0	0	2402	19.68	20.00	1.076	76.93	1.083	0.07	0.020	0.023

13. Simultaneous Transmission Analysis

NO.	Simultaneous Transmission Configurations	Next to Mouth / Extremity
1.	WWAN + WLAN2.4GHz	Yes
2.	WWAN + WLAN5GHz + Bluetooth	Yes

General Note:

1. WLAN2.4GHz and Bluetooth share the same antenna, and cannot transmit simultaneously.
2. The worst case reported SAR for each configuration was used for SAR summation. Therefore, the following summations represent the absolute worst cases for simultaneous transmission.
3. The Scaled SAR summation is calculated based on the same configuration and test position.
4. Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
   i) Scalar SAR summation < 1.6W/kg.
   ii) SPLSR = (SAR1 + SAR2)^1.5 / (min. separation distance, mm), and the peak separation distance is determined from the square root of $[(x1-x2)^2 + (y1-y2)^2 + (z1-z2)^2]$, where (x1, y1, z1) and (x2, y2, z2) are the coordinates of the extrapolated peak SAR locations in the zoom scan.
   iii) If SPLSR ≤ 0.04, simultaneously transmission SAR measurement is not necessary.
   iv) Simultaneously transmission SAR measurement, and the reported multi-band SAR < 1.6W/kg.

13.1 Next to Mouth Exposure Conditions

Exposure Position	1	2	3	4	1+2 Summed 1g SAR (W/kg)	1+3+4 Summed 1g SAR (W/kg)
	Maximum WWAN	WLAN2.4GHz	WLAN5GHz	Bluetooth		
	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)		
Front at 10mm	0.511	0.568	0.530	0.100	**1.079**	**1.141**

13.2 Extremity Exposure Conditions

Exposure Position	1	2	3	4	1+2 Summed 10g SAR (W/kg)	1+3+4 Summed 10g SAR (W/kg)
	Maximum WWAN	WLAN2.4GHz	WLAN5GHz	Bluetooth		
	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)		
Back at 0mm	1.055	0.050	0.075	0.023	**1.105**	**1.153**

Test Engineer： Lev Lo

14. Uncertainty Assessment

Per KDB 865664 D01 SAR measurement 100MHz to 6GHz, when the highest measured 1-g SAR within a frequency band is < 1.5 W/kg and the measured 10-g SAR within a frequency band is < 3.75 W/kg. The expanded SAR measurement uncertainty must be ≤ 30%, for a confidence interval of k = 2. If these conditions are met, extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval. For this device, the highest measured 1-g SAR is less 1.5W/kg and highest measured 10-g SAR is less 3.75W/kg. Therefore, the measurement uncertainty table is not required in this report.
Declaration of Conformity:
The test results with all measurement uncertainty excluded is presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

15. References

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

[2] ANSI/IEEE Std. C95.1-1992, “IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz”, September 1992

[3] 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”, Sep 2013

[4] SPEAG DASY System Handbook

[5] FCC KDB 248227 D01 v02r02, “SAR Guidance for IEEE 802.11 (WiFi) Transmitters”, Oct 2015.

[6] FCC KDB 447498 D01 v06, “Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies”, Oct 2015

[7] FCC KDB 941225 D01 v03r01, “3G SAR MEAUREMENT PROCEDURES”, Oct 2015

[8] FCC KDB 941225 D05 v02r05, “SAR Evaluation Considerations for LTE Devices”, Dec 2015

[9] FCC KDB 865664 D01 v01r04, "SAR Measurement Requirements for 100 MHz to 6 GHz", Aug 2015.

[10] FCC KDB 865664 D02 v01r02, “RF Exposure Compliance Reporting and Documentation Considerations” Oct 2015.