



SAR TEST REPORT

No. I20Z61601-SEM01

For

TCL Communication Ltd.

5G NR/ LTE/WCDMA/GSM Mobile Phone

Model name: T790B

With

Hardware Version: PIO

Software Version: v2.0.1A.I.R

FCC ID: 2ACCJN044

Issued Date: 2020-11-4

Note:

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REPORT HISTORY

Report Number	Revision	Issue Date	Description
I20Z61601-SEM01	Rev.0	2020-10-21	Initial creation of test report
I20Z61601-SEM01	Rev.1	2020-11-4	Updated section4.1 added 5G NR frequency Updated section5.2 and added TCB workshop guidance Updated page28, page72. Updated section9 add the CA/ENDC/WIFI MIMO measurement procedures

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1 Test Laboratory

1.1 Testing Location

Company Name:	CTTL(Shouxiang)
Address:	No. 51 Shouxiang Science Building, Xueyuan Road, Haidian District, Beijing, P. R. China100191

1.2 Testing Environment

Temperature:	18°C~25°C,
Relative humidity:	30%~ 70%
Ground system resistance:	< 0.5 Ω
Ambient noise & Reflection:	< 0.012 W/kg

1.3 Project Data

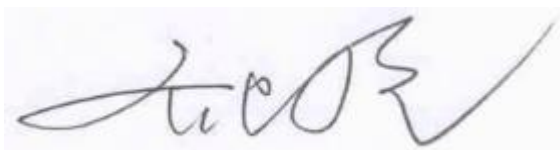
Project Leader:	Qi Dianyuan
Test Engineer:	Lin Xiaojun
Testing Start Date:	October 11, 2020
Testing End Date:	October 19, 2020

1.4 Signature



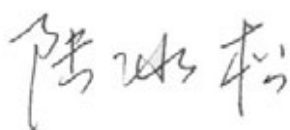
Lin Xiaojun

(Prepared this test report)



Qi Dianyuan

(Reviewed this test report)



Lu Bingsong

Deputy Director of the laboratory
(Approved this test report)

2 Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for TCL Communication Ltd. 5G NR/ LTE/WCDMA/GSM Mobile Phone T790B are as follows:

Table 2.1: Highest Reported SAR (1g)

Exposure Configuration	Technology Band	Highest Reported SAR 1g(W/kg)	Equipment Class
Head (Separation Distance 0mm)	GSM 850	0.58	PCE
	PCS 1900	1.10	
	UMTS FDD 2	1.00	
	UMTS FDD 5	0.46	
	LTE Band 2	1.24	
	LTE Band 5	1.15	
	LTE Band 7	0.52	
	LTE Band 12	0.82	
	LTE Band 66	0.91	
	WLAN 2.4 GHz-SISO	0.16	DTS
	WLAN 2.4 GHz-MIMO	0.40	
	WLAN 5 GHz-SISO	0.16	UNII
	WLAN 5 GHz-MIMO	0.20	
Hotspot (Separation Distance 10mm)	GSM 850	0.39	PCE
	PCS 1900	0.61	
	UMTS FDD 2	0.64	
	UMTS FDD 5	0.31	
	LTE Band 2	1.18	
	LTE Band 5	0.49	
	LTE Band 7	0.40	
	LTE Band 12	0.46	
	LTE Band 66	0.79	
	WLAN 2.4 GHz-SISO	0.40	DTS
	WLAN 2.4 GHz-MIMO	0.38	
	WLAN 5 GHz-SISO	0.40	UNII
	WLAN 5 GHz-MIMO	0.57	

The SAR values found for the Mobile Phone are below the maximum recommended levels of 1.6 W/kg as averaged over any 1g tissue according to the ANSI C95.1-1992.

For body operation, this device has been tested and meets FCC RF exposure guidelines when used with any accessory that contains no metal and which provides a minimum separation distance of 10 mm for hotspot and 15mm for body worn between this device and the body of the user. Use of other accessories may not ensure compliance with FCC RF exposure guidelines.

The EUT battery must be fully charged and checked periodically during the test to ascertain uniform power output.

The measurement together with the test system set-up is described in annex C of this test report. A detailed description of the equipment under test can be found in chapter 4 of this test report. The highest reported SAR value is obtained at the case of (**Table 2.1**), and the values are: **1.24 W/kg(1g)**.

Table 2.2: The sum of reported SAR values for Main antenna and WiFi2.4G SISO +5G SISO

	Position	Band	Cellular antenna	WiFi2.4G SISO	WiFi 5G SISO	Sum
Highest reported SAR value for Head	Right Cheek	LTE Band2	1.24	0.05	0.07	1.36

Note1: we have evaluated and chose the highest value of WiFi 2.4G and 5G in the above table.

Table 2.3: The sum of reported SAR values for Main antenna + WiFi-2.4G MIMO

	Position	Band	Cellular antenna	WiFi-2.4G MIMO	Sum
Maximum reported SAR value for Body	Rear 10mm	LTE Band2	1.18	0.38	1.56

Note1: we have evaluated and chose the highest value of WiFi 2.4G and 5G in the above table.

According to the above tables, the highest sum of reported SAR values is **1.56W/kg (1g)**. The detail for simultaneous transmission consideration is described in chapter 13.

3 Client Information

3.1 Applicant Information

Company Name:	TCL Communication Ltd.
Address/Post:	5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Shatin, NT, Hong Kong
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Contact Person:	Gong Zhizhou
E-mail:	zhizhou.gong@tcl.com
Telephone:	0086-755-36611722
Fax:	0086-75536612000-81722

4 Equipment Under Test (EUT) and Ancillary Equipment (AE)

4.1 About EUT

Description:	5G NR/ LTE/WCDMA/GSM Mobile Phone
Model name:	T790B
Operating mode(s):	GSM850/1900, WCDMA850/1900 LTE Band 2/3/4/5/7/12/28/66, BT, Wi-Fi(2.4G/5G),NR5G
Tested Tx Frequency:	825 – 848.8 MHz (GSM 850)
	1850.2 – 1910 MHz (GSM 1900)
	826.4–846.6 MHz (WCDMA 850 Band V)
	1852.4–1907.6 MHz (WCDMA1900 Band II)
	1860 – 1900 MHz (LTE Band 2)
	824– 849 MHz (LTE Band 5)
	2502.5 – 2567.5 MHz (LTE Band 7)
	699.7 – 715.3 MHz (LTE Band 12)
	1710.7 – 1779.3 MHz (LTE Band 66)
	2412 – 2462 MHz (Wi-Fi 2.4G)
	5150-5825 MHz (Wi-Fi 5G)
	2500-2570 MHz (5G n7)
GPRS/EGPRS Multislot Class:	12
GPRS capability Class:	B
Test device Production information:	Production unit
Device type:	Portable device
Antenna type:	Integrated antenna
Accessories/Body-worn configurations:	Headset
Hotspot mode:	Support

4.2 Internal Identification of EUT used during the test

EUT ID*	IMEI	HW	SW Version
EUT1	015852000001484	PIO	v2.0.1A.I.R
EUT2	015852000001302	PIO	v2.0.1A.I.R
EUT3	015852000000189	PIO	v2.0.1A.I.R
EUT4	0158520000000379	PIO	v2.0.1A.I.R
EUT5	015852000002557	PIO	v2.0.1A.I.R
EUT6	015852000002508	PIO	v2.0.1A.I.R
EUT7	015852000002466	PIO	v2.0.1A.I.R
EUT8	015852000002565	PIO	v2.0.1A.I.R
EUT9	015852000000387	PIO	v2.0.1A.I.R
EUT10	015852000000395	PIO	v2.0.1A.I.R

*EUT ID: is used to identify the test sample in the lab internally.

Note: It is performed to test SAR with the EUT1-4 and conducted power with the EUT5-8.

4.3 Internal Identification of AE used during the test

AE ID*	Description	Model	SN	Manufacturer
AE1	Battery	TLp043E7	/	VEKEN
AE2	Headset	WH35	/	Juwei

*AE ID: is used to identify the test sample in the lab internally.

5 TEST METHODOLOGY

5.1 Applicable Limit Regulations

ANSI C95.1–1992:IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.

It specifies the maximum exposure limit of **1.6 W/kg** as averaged over any 1 gram of tissue for portable devices being used within 20 cm of the user in the uncontrolled environment.

5.2 Applicable Measurement Standards

IEEE 1528–2013: Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques.

KDB447498 D01: General RF Exposure Guidance v06: Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies.

KDB648474 D04 Handset SAR v01r03: SAR Evaluation Considerations for Wireless Handsets.

KDB941225 D01 SAR test for 3G devices v03r01: SAR Measurement Procedures for 3G Devices

KDB941225 D05 SAR for LTE Devices v02r05: SAR Evaluation Considerations for LTE Devices

KDB941225 D06 Hotspot Mode SAR v02r01: SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities

KDB248227 D01 802.11 Wi-Fi SAR v02r02: SAR GUIDANCE FOR IEEE 802.11 (Wi-Fi) TRANSMITTERS

KDB865664 D01SAR measurement 100 MHz to 6 GHz v01r04: SAR Measurement Requirements for 100 MHz to 6 GHz.

KDB865664 D02RF Exposure Reporting v01r02: RF Exposure Compliance Reporting and Documentation Considerations

TCB Workshop: Updates on Guidelines for 5G Equipment Authorization : October 2020

TCB Workshop: RF Exposure Procedures: October 2018

6 Specific Absorption Rate (SAR)

6.1 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.

6.2 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:

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

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

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

$$SAR = c \left(\frac{\delta T}{\delta t} \right)$$

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

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

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

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

7 Tissue Simulating Liquids

7.1 Targets for tissue simulating liquid

Table 7.1: Targets for tissue simulating liquid

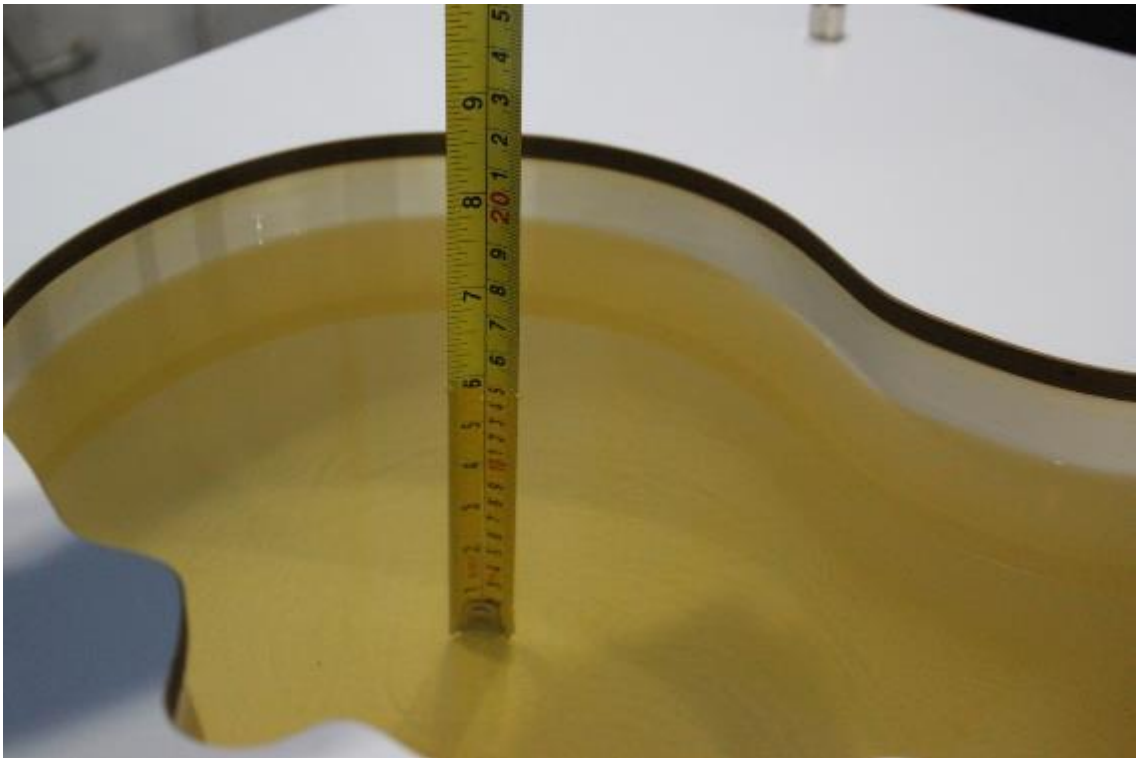
Frequency(MHz)	Liquid Type	Conductivity(σ)	$\pm 5\%$ Range	Permittivity(ϵ)	$\pm 5\%$ Range
750	Head	0.89	0.85~0.93	41.94	39.8~44.0
835	Head	0.90	0.86~0.95	41.50	39.4~43.6
1750	Head	1.37	1.30~1.44	40.08	38.1~42.1
1900	Head	1.40	1.33~1.47	40.00	38.0~42.0
2450	Head	1.80	1.71~1.89	39.20	37.2~41.2
2600	Head	1.96	1.86~2.06	39.01	37.1~41.0
5250	Head	4.71	4.47~4.95	35.93	34.13~37.73
5600	Head	5.07	4.82~5.32	35.53	33.8~37.3
5750	Head	5.22	4.96~5.48	35.36	33.59~37.13

7.2 Dielectric Performance

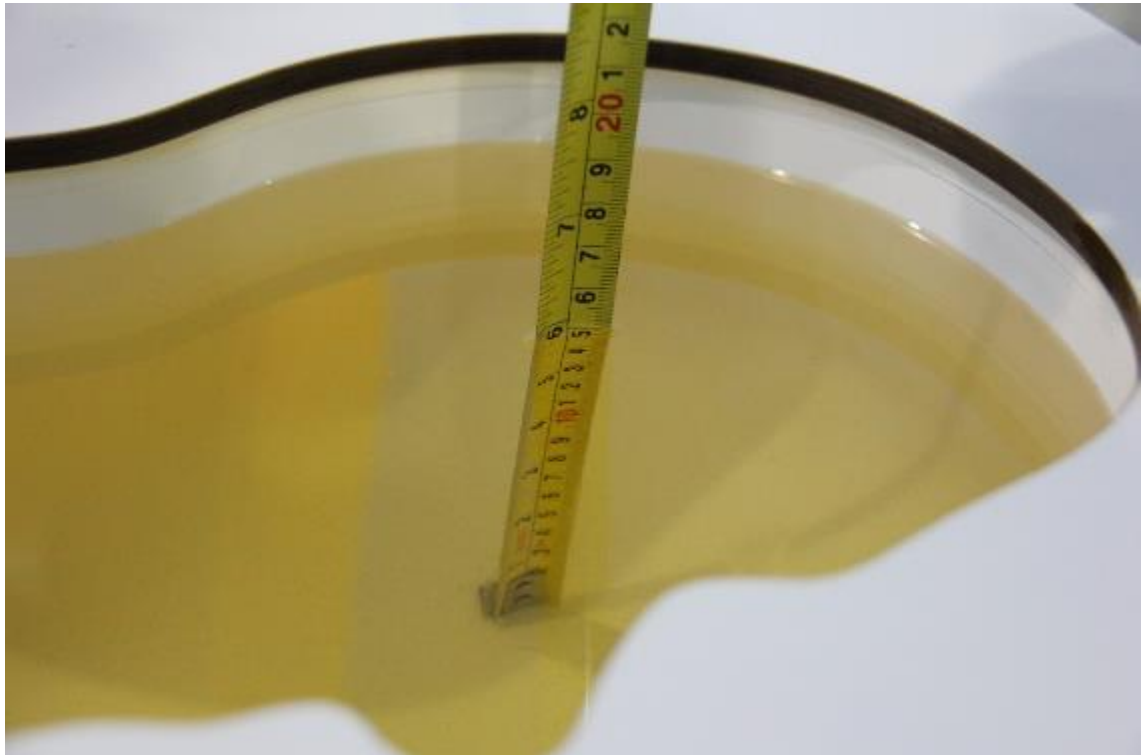
Table 7.2: Dielectric Performance of Tissue Simulating Liquid

Measurement Date yyyy/mm/dd	Frequency	Type	Permittivity ϵ	Drift (%)	Conductivity σ (S/m)	Drift (%)
2020/10/11	750 MHz	Head	42.07	0.31	0.897	0.79
2020/10/12	835 MHz	Head	41.45	-0.12	0.884	-1.78
2020/10/13	1750 MHz	Head	39.44	-1.60	1.374	0.29
2020/10/14	1900 MHz	Head	39.33	-1.68	1.382	-1.29
2020/10/15	2450 MHz	Head	39.22	0.05	1.813	0.72
2020/10/16	2600 MHz	Head	38.4	-1.56	1.96	0.00
2020/10/17	5250 MHz	Head	35.43	-1.39	4.701	-0.19
2020/10/18	5600 MHz	Head	35.18	-0.99	5.024	-0.91
2020/10/19	5750 MHz	Head	36.01	1.84	5.248	0.54

Note: The liquid temperature is 22.0°C



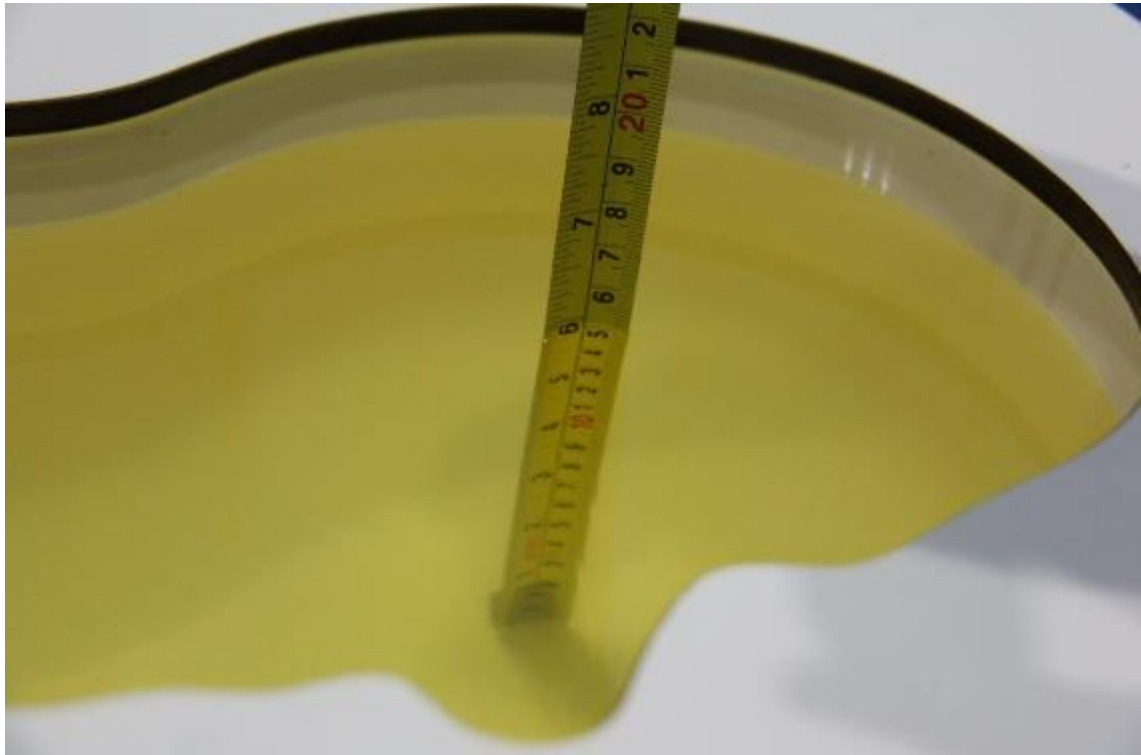
Picture 7-1 Liquid depth in the Head Phantom (750MHz)



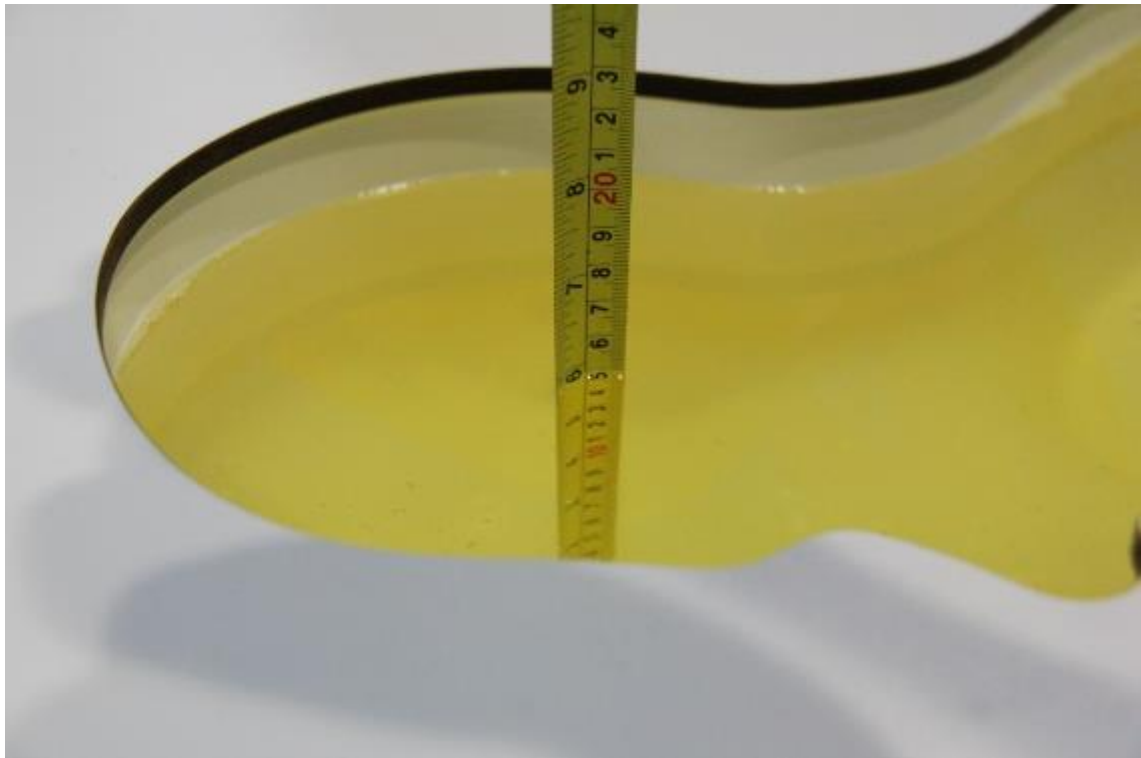
Picture 7-2 Liquid depth in the Head Phantom (835 MHz)



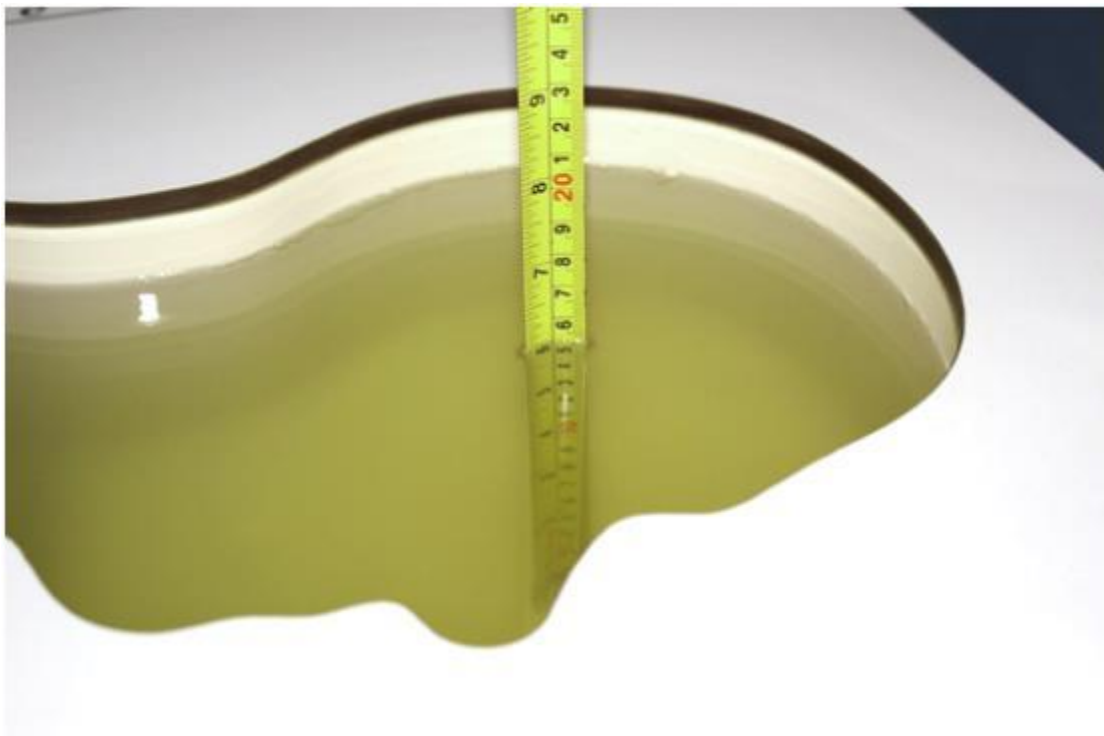
Picture 7-3 Liquid depth in the Head Phantom (1750 MHz)



Picture 7-4 Liquid depth in the Head Phantom (1900 MHz)



Picture 7-5 Liquid depth in the Head Phantom (2450MHz)



Picture 7-6 Liquid depth in the Head Phantom (2600 MHz)

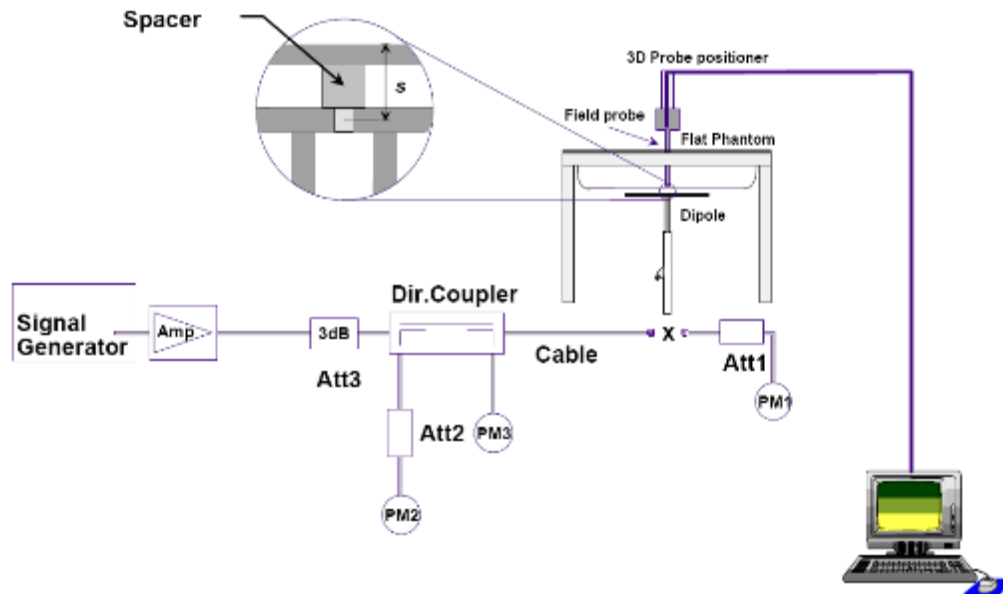


Picture 7-7 Liquid depth in the Head Phantom (5GHz)

8 System verification

8.1 System Setup

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



Picture 8.1 System Setup for System Evaluation



Picture 8.2 Photo of Dipole Setup

8.2 System Verification

SAR system verification is required to confirm measurement accuracy, according to the tissue dielectric media, probe calibration points and other system operating parameters required for measuring the SAR of a test device. The system verification must be performed for each frequency band and within the valid range of each probe calibration point required for testing the device.

The system verification results are required that the area scan estimated 1-g SAR is within 3% of the zoom scan 1-g SAR. The details are presented in annex B.

Table 8.1: System Verification of Head

Measurement Date (yyyy-mm-dd)	Frequency	Target value (W/kg)		Measured value (W/kg)		Deviation	
		10 g Average	1 g Average	10 g Average	1 g Average	10 g Average	1 g Average
2020/10/11	750 MHz	5.53	8.47	5.6	8.44	1.27%	-0.35%
2020/10/12	835 MHz	6.25	9.60	6.2	9.68	-0.80%	0.83%
2020/10/13	1750 MHz	19.1	36.5	19.04	36	-0.31%	-1.37%
2020/10/14	1900 MHz	20.6	39.6	20.96	39.68	1.75%	0.20%
2020/10/15	2450 MHz	24.5	52.5	24.28	51.76	-0.90%	-1.41%
2020/10/16	2600 MHz	25.3	57.0	25.44	55.88	0.55%	-1.96%
2020/10/17	5250 MHz	22.9	80.5	23.3	80.8	1.66%	0.37%
2020/10/18	5600 MHz	23.6	83.3	23.7	82.3	0.34%	-1.18%
2020/10/19	5750 MHz	22.7	80.4	22.7	80.6	0.09%	0.20%

9 Measurement Procedures

9.1 Tests to be performed

In order to determine the highest value of the peak spatial-average SAR of a handset, all device positions, configurations and operational modes shall be tested for each frequency band according to steps 1 to 3 below. A flowchart of the test process is shown in picture 9.1.

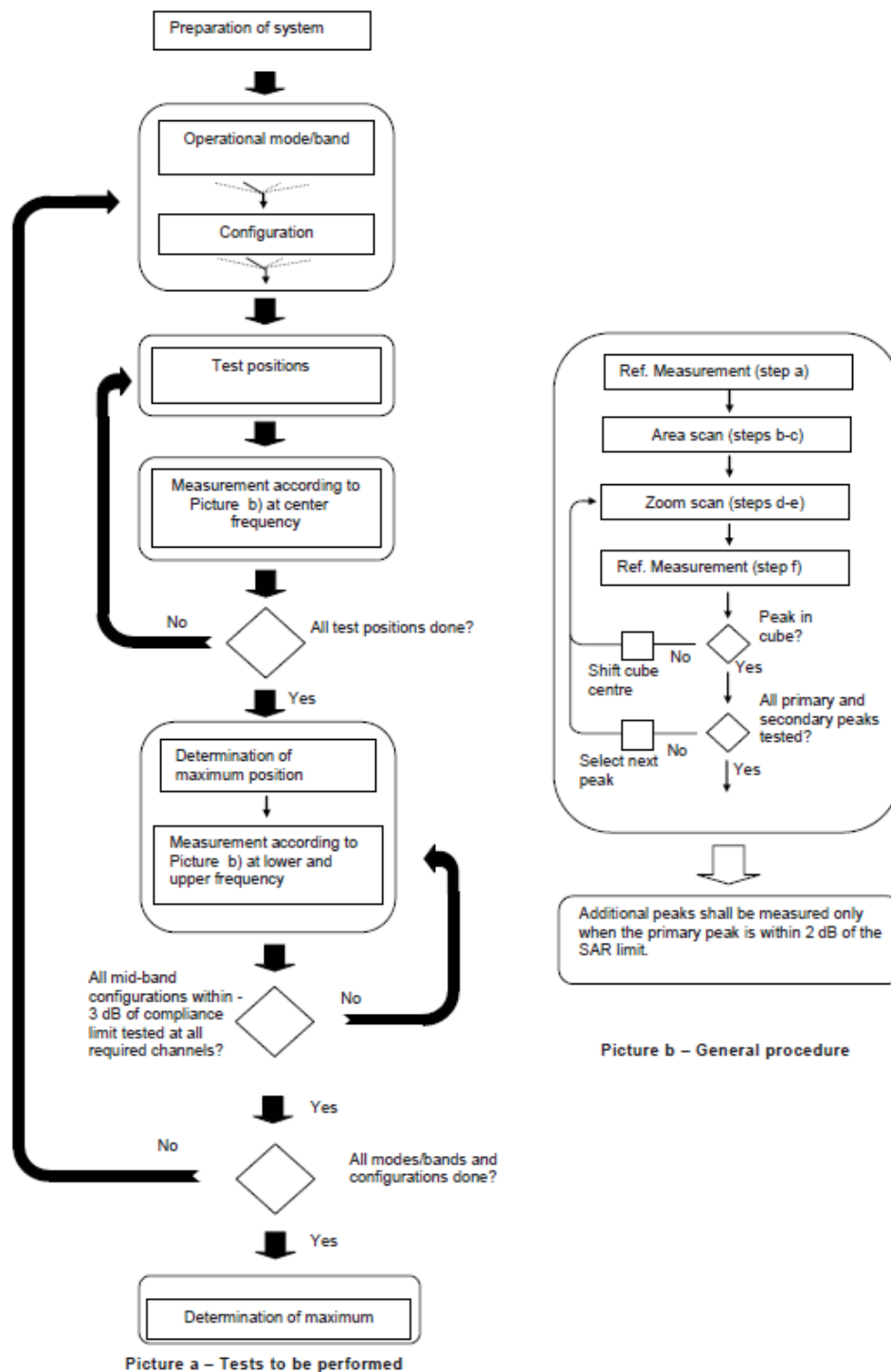
Step 1: The tests described in 9.2 shall be performed at the channel that is closest to the centre of the transmit frequency band (f_c) for:

- a) all device positions (cheek and tilt, for both left and right sides of the SAM phantom, as described in annex D),
- b) all configurations for each device position in a), e.g., antenna extended and retracted, and
- c) all operational modes, e.g., analogue and digital, for each device position in a) and configuration in b) in each frequency band.

If more than three frequencies need to be tested according to 11.1 (i.e., $N_c > 3$), then all frequencies, configurations and modes shall be tested for all of the above test conditions.

Step 2: For the condition providing highest peak spatial-average SAR determined in Step 1, perform all tests described in 9.2 at all other test frequencies, i.e., lowest and highest frequencies. In addition, for all other conditions (device position, configuration and operational mode) where the peak spatial-average SAR value determined in Step 1 is within 3 dB of the applicable SAR limit, it is recommended that all other test frequencies shall be tested as well.

Step 3: Examine all data to determine the highest value of the peak spatial-average SAR found in Steps 1 to 2.



Picture 9.1Block diagram of the tests to be performed

9.2 General Measurement Procedure

The area and zoom scan resolutions specified in the table below must be applied to the SAR measurements and fully documented in SAR reports to qualify for TCB approval. Probe boundary effect error compensation is required for measurements with the probe tip closer than half a probe tip diameter to the phantom surface. Both the probe tip diameter and sensor offset distance must satisfy measurement protocols; to ensure probe boundary effect errors are minimized and the higher fields closest to the phantom surface can be correctly measured and extrapolated to the phantom surface for computing 1-g SAR. Tolerances of the post-processing algorithms must be verified by the test laboratory for the scan resolutions used in the SAR measurements, according to the reference distribution functions specified in IEEE Std 1528-2003. The results should be documented as part of the system validation records and may be requested to support test results when all the measurement parameters in the following table are not satisfied.

			≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface			5 ± 1 mm	$\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5$ mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location			$30^\circ \pm 1^\circ$	$20^\circ \pm 1^\circ$
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 $\leq$ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	
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 1 st 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 <u>reported</u> 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.				

9.3 WCDMA Measurement Procedures for SAR

The following procedures are applicable to WCDMA handsets operating under 3GPP Release99, Release 5 and Release 6. The default test configuration is to measure SAR with an established radio link between the DUT and a communication test set using a 12.2kbps RMC (reference measurement channel) configured in Test Loop Mode 1. SAR is selectively confirmed for other physical channel configurations (DPCCH & DPDCH_n), HSDPA and HSPA (HSUPA/HSDPA) modes according to output power, exposure conditions and device operating capabilities. Both uplink and downlink should be configured with the same RMC or AMR, when required. SAR for Release 5 HSDPA and Release 6 HSPA are measured using the applicable FRC (fixed reference channel) and E-DCH reference channel configurations. Maximum output power is verified according to applicable versions of 3GPP TS 34.121 and SAR must be measured according to these maximum output conditions. When Maximum Power Reduction (MPR) is not implemented according to Cubic Metric (CM) requirements for Release 6 HSPA, the following procedures do not apply.

For Release 5 HSDPA Data Devices:

Sub-test	β_c	β_d	β_d (SF)	β_c / β_d	β_{hs}	CM/dB
1	2/15	15/15	64	2/15	4/15	0.0
2	12/15	15/15	64	12/15	24/25	1.0
3	15/15	8/15	64	15/8	30/15	1.5
4	15/15	4/15	64	15/4	30/15	1.5

For Release 6 HSPA Data Devices

Sub-test	β_c	β_d	β_d (SF)	β_c / β_d	β_{hs}	β_{ec}	β_{ed}	β_{ed} (SF)	β_{ed} (codes)	CM (dB)	MPR (dB)	AG Index	E-TFCI
1	11/15	15/15	64	11/15	22/15	209/225	1039/225	4	1	1.5	1.5	20	75
2	6/15	15/15	64	6/15	12/15	12/15	12/15	4	1	1.5	1.5	12	67
3	15/15	9/15	64	15/9	30/15	30/15	$\beta_{ed1}:47/15$ $\beta_{ed2}:47/15$	4	2	1.5	1.5	15	92
4	2/15	15/15	64	2/15	4/15	4/15	56/75	4	1	1.5	1.5	17	71
5	15/15	15/15	64	15/15	24/15	30/15	134/15	4	1	1.5	1.5	21	81

Rel.8 DC-HSDPA (Cat 24)

SAR test exclusion for Rel.8 DC-HSDPA must satisfy the SAR test exclusion requirements of Rel.5 HSDPA. SAR test exclusion for DC-HSDPA devices is determined by power measurements according to the H-Set 12, Fixed Reference Channel (FRC) configuration in Table C.8.1.12 of 3GPP TS 34.121-1. A primary and a secondary serving HS-DSCH Cell are required to perform the power measurement and for the results to qualify for SAR test exclusion.

9.4 SAR Measurement for LTE

SAR tests for LTE are performed with a base station simulator, Rohde & Schwarz CMW500. Closed loop power control was used so the UE transmits with maximum output power during SAR testing. All powers were measured with the CMW 500.

It is performed for conducted power and SAR based on the KDB941225 D05.

SAR is evaluated separately according to the following procedures for the different test positions in each exposure condition – head, body, body-worn accessories and other use conditions. The procedures in the following subsections are applied separately to test each LTE frequency band.

1) QPSK with 1 RB allocation

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 among RB offsets at the upper edge, middle and lower edge of each required test channel. When the reported SAR is ≤ 0.8 W/kg, testing of the remaining RB offset configurations and required test channels is not required for 1 RB allocation; otherwise, SAR is required for the remaining required test channels and only for the RB offset configuration with the highest output power for that channel. When the reported SAR of a required test channel is > 1.45 W/kg, SAR is required for all three RB offset configurations for that required test channel.

2) QPSK with 50% RB allocation

The procedures required for 1 RB allocation in 1) are applied to measure the SAR for QPSK with 50% RB allocation.

3) QPSK with 100% RB allocation

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 in 1) and 2) 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.

TDD test:

TDD testing is performed using guidance from FCC KDB 941225 D05 v02r05 and the SAR test guidance provided in April 2013 TCB works hop notes. TDD is tested at the highest duty factor using UL-DL configuration 0 with special subframe configuration 6 and applying the FDD LTE procedures in KDB 941225 D05 v02r05. SAR testing is performed using the extended cyclic prefix listed in 3GPP TS 36.211.

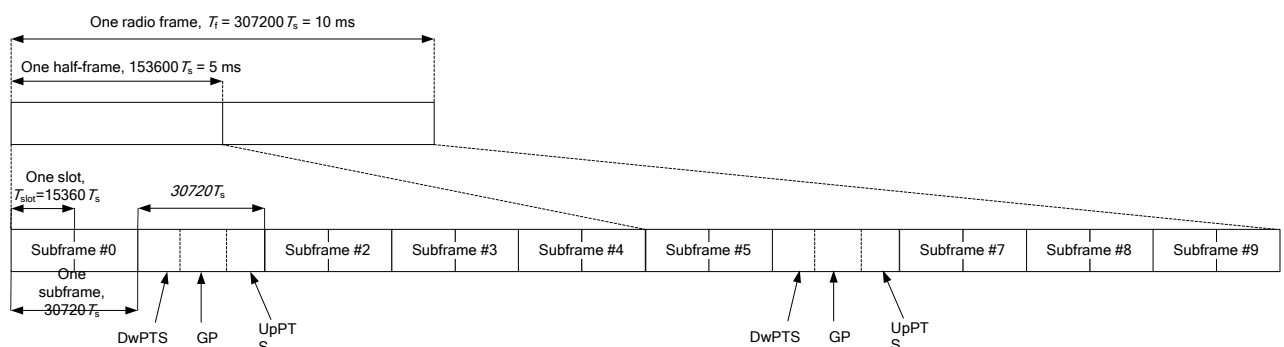


Figure 9.2: Frame structure type 2 (for 5 ms switch-point periodicity)

Table 9.1: Configuration of special subframe (lengths of DwPTS/GP/UpPTS)

Special subframe configuration	Normal cyclic prefix in downlink			Extended cyclic prefix in downlink		
	DwPTS	UpPTS		DwPTS	UpPTS	
		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink
0	$6592 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$	$7680 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$
1	$19760 \cdot T_s$			$20480 \cdot T_s$		
2	$21952 \cdot T_s$			$23040 \cdot T_s$		
3	$24144 \cdot T_s$			$25600 \cdot T_s$		
4	$26336 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$	$7680 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$
5	$6592 \cdot T_s$			$20480 \cdot T_s$		
6	$19760 \cdot T_s$			$23040 \cdot T_s$		
7	$21952 \cdot T_s$			$12800 \cdot T_s$		
8	$24144 \cdot T_s$			-	-	
9	$13168 \cdot T_s$			-	-	

Table 9.2: Uplink-downlink configurations

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

Duty factor is calculated by:

$$\begin{aligned}
 \text{Duty factor} &= \text{uplink frame} \cdot 6 + \text{UpPTS} \cdot 2 / \text{one frame length} \\
 &= (30720 \cdot T_s \cdot 6 + 5120 \cdot T_s \cdot 2) / 307200 \cdot T_s \\
 &= 0.633
 \end{aligned}$$

According to the KDB 447498 D01, SAR should be evaluated at more than 3 frequencies for devices supporting transmit bands wider than 100MHz. Oct.2014 FCC-TCB conference notes (Dec. 2014 rev.) specifies the 5 test channels to use for 3GPP band 41 SAR evaluation.

9.5 Bluetooth & Wi-Fi Measurement Procedures for SAR

Normal network operating configurations are not suitable for measuring the SAR of 802.11 transmitters in general. Unpredictable fluctuations in network traffic and antenna diversity conditions can introduce undesirable variations in SAR results. The SAR for these devices should be measured using chipset based test mode software to ensure that the results are consistent and reliable.

Chipset based test mode software is hardware dependent and generally varies among manufacturers. The device operating parameters established in a test mode for SAR measurements must be identical to those programmed in production units, including output power levels, amplifier gain settings and other RF performance tuning parameters. The test frequencies should correspond to actual channel frequencies defined for domestic use. SAR for devices with switched diversity should be measured with only one antenna transmitting at a time during each SAR measurement, according to a fixed modulation and data rate. The same data pattern should be used for all measurements.

9.6 CA/EN-DC/WIFI MIMO Measurement Procedures for SAR

The following procedures are applicable to LTE Downlink Carrier Aggregation : According to KDB941225 D05A V01R02, Uplink maximum output power is measured with downlink carrier aggregation active, using the channel with highest measured maximum output power when downlink carrier aggregation is inactive. SAR test is not required since maximum output power when downlink carrier aggregation active is not more than ¼ dB higher than the maximum output power measured when downlink carrier aggregation inactive.

This device supports Downlink Carrier Aggregation: DL-2CA: 7C,66A-66A,4A-7A,5A-7A,4A-5A,5A-66A,7A-66A. DL-3CA: 4A-7C,7A-66A-66A,5A-7C,5A-66A-66A DL-4CA7C-66A-66A.

We have evaluated the output power values of downlink carrier aggregation, They are all not more than ¼ dB higher than the maximum output power measured when downlink carrier aggregation inactive. The test states as follows:

Audio receiver is active(DSI3)

2CA	3CA	4CA
DL LTE CA Class	DL LTE CA Class	DL LTE CA Class
CA_5A-4A	CA_5A-7C	CA_66A-66A-7C
CA_5A-7A	CA_5A-66A-66A	CA_7C-66A-66A
CA_5A-66A	CA_66A-66A-5A	/
CA_66A-5A	CA_66A-66A-7A	/
CA_66A-7A	CA_7C-4A	/
CA_66A-66A	CA_7C-5A	/
CA_7A-4A	CA_7A-66A-66A	/
CA_7A-5A	/	/
CA_7C	/	/
CA_7A-66A	/	/

Audio receiver is inactive, WiFi hotspot is inactive (DSI1)

2CA	3CA	4CA
DL LTE CA Class	DL LTE CA Class	DL LTE CA Class
CA_7A-4A	CA_7C-4A	CA_7C-66A-66A
CA_7A-5A	CA_7C-5A	CA_66A-66A-7C
CA_7C	CA_7A-66A-66A	/
CA_7A-66A	CA_5A-7C	/
CA_5A-4A	CA_5A-66A-66A	/
CA_5A-7A	/	/
CA_5A-66A	/	/
CA_66A-5A	/	/
CA_66A-7A	/	/
CA_66A-66A	/	/

Note:LTEB4 and LTE B66 have the same tune up power, and the frequency of B66 can cover the frequency of B4, so B4 does not need to be tested.

The following procedures are applicable to LTE Uplink Carrier Aggregation: According to TCB Workshop April 2018.

For the inter-band Uplink CA: Provide the single uplink SAR values we have obtained for the relevant SAR configurations and frequency bands that employ inter-band uplink carrier aggregation.

1.If the single uplink 1-g SAR values for each band are both less than 0.8 W/kg and the algebraic summation of the 1 g SAR values are less than 1.45 W/kg, additional measurements are not needed

2.If one of the single uplink 1-g SAR values is greater than 0.8 W/kg, instead of algebraically summing the 1-g SAR values, sum up the SAR distributions, similar to the enlarged zoom scan (volume scan) procedures found in KDB Pub. 865664 D01.SAR Measurement 100MHz to 6GHz v01r04.

For the intra-band Uplink CA: According to TCB Workshop SAR for UL CA is required in each exposure condition (highest standalone head test position, body etc.) and frequency band combination. When the maximum output for UL CA is≤ standalone LTE mode (without CA)

-PCC is configured according to the highest standalone SAR configuration tested

-SCC are configured according to procedures used for power measurement and parameters similar to that used for the PCC

When the reported SAR for UL CA configurations > 1.2W/kg, UL CA SAR is also required for all required test channels(PCC based)

UL CA SAR is also required for standalone SAR configurations > 1.2W/kg when they are scaled to

This device supports Carrier Aggregation on uplink for: CA_5A-66A /CA_4A-5A/ CA_5A-7A/CA_7C
The conducted power for band 7C. please refer to page 72, and SAR results please refer to Table 14.1-13 and14.1-14

The conducted power - head for B5,B66 please refer to page 65 Level C1-head

The conducted power - body of B66 please refer to page 72 Level C1-body

The conducted power - body of B5,B7 please refer to Power Level B1

The conducted power - head of B7 please refer to Power Level A1

The standalone SAR results please refer to 14.1 the values marked “Note: The data is used for CA &ENDC.” And The CA SAR results please refer to 13.15

The following procedures are applicable to EN-DC Measurement Procedures: According to 5G and RF Exposure Policies FCC in TCB Workshop October 2020.

1.If the single uplink 1-g SAR values for each band are both less than 0.8 W/kg and the algebraic summation of the 1 g SAR values are less than 1.45 W/kg, additional measurements are not needed

2.If one of the single uplink 1-g SAR values is greater than 0.8 W/kg, instead of algebraically summing the 1-g SAR values, sum up the SAR distributions, similar to the enlarged zoom scan (volume scan) procedures found in KDB Pub. 865664 D01.

3. If the algebraic sum of the 1-g SAR values is greater than 1.45 W/kg, additional measurements might be needed, PAG is required and KDB inquiry is needed for additional testing guidance.

This device supports DC_66A_n7A, DC_5A_n7A:

N7 is only for ENDC doesn't support SA . Some AT commands or test scripts are supplied to fix the operation state and choose the antenna, then we will set the Antenna to the MAX transmit power level and test the SAR results of N7.

N7 supports scs:15kHz . Bandwidth: 5M,10M,15M,20M

CP-OFDM: QPSK,16QAM,64QAM,256QAM

DFT-s-OFDM: PI/2 BPSK, QPSK,16QAM,64QAM,256QAM

The conducted power and standalone SAR results for LTEB66 LTEB5 are same as CA

The ENDC SAR results please refer to 13.15

WIFI MIMO SAR Test : Antennan4 and antenna5 worked in MIMO mode. Some AT commands or test scripts are supplied to fix the operation state and choose the antenna, then we will set the Antenna to the MAX transmit power level and test the SAR with MIMO mode in all applicable RF exposure conditions.

9.7 Power Drift

To control the output power stability during the SAR test, DASY4 system calculates the power drift by measuring the E-field at the same location at the beginning and at the end of the measurement for each test position. These drift values can be found in section 14 labeled as: (Power Drift [dB]). This ensures that the power drift during one measurement is within 5%.

10 Area Scan Based 1-g SAR

10.1 Requirement of KDB

According to the KDB447498 D01 v05, when the implementation is based the specific polynomial fit

algorithm as presented at the 29th Bioelectromagnetics Society meeting (2007) and the estimated 1-gSAR is ≤ 1.2 W/kg, a zoom scan measurement is not required provided it is also not needed for any other purpose; for example, if the peak SAR location required for simultaneous transmission SAR test exclusion can be determined accurately by the SAR system or manually to discriminate between distinctive peaks and scattered noisy SAR distributions from area scans.

There must not be any warning or alert messages due to various measurement concerns identified

by the SAR system; for example, noise in measurements, peaks too close to scan boundary, peaks are too sharp, spatial resolution and uncertainty issues etc. The SAR system verification must also demonstrate that the area scan estimated 1-g SAR is within 3% of the zoom scan 1-g SAR (See Annex B). When all the SAR results for each exposure condition in a frequency band and wireless mode are based on estimated 1-g SAR, the 1-g SAR for the highest SAR configuration must be determined by a zoom scan.

10.2 Fast SAR Algorithms

The approach is based on the area scan measurement applying a frequency dependent attenuation parameter. This attenuation parameter was empirically determined by analyzing a large number of phones. The MOTOROLA FAST SAR was developed and validated by the MOTOROLA Research Group in Ft. Lauderdale.

In the initial study, an approximation algorithm based on Linear fit was developed. The accuracy of the algorithm has been demonstrated across a broad frequency range (136-2450 MHz) and for both 1- and 10-g averaged SAR using a sample of 264 SAR measurements from 55 wireless handsets. For the sample size studied, the root-mean-squared errors of the algorithm are 1.2% and 5.8% for 1- and 10-g averaged SAR, respectively. The paper describing the algorithm in detail is expected to be published in August 2004 within the Special Issue of Transactions on MTT.

In the second step, the same research group optimized the fitting algorithm to an Polynomial fit whereby the frequency validity was extended to cover the range 30-6000MHz. Details of this study can be found in the BEMS 2007 Proceedings.

Both algorithms are implemented in DASY software.

11 Conducted Output Power

Table1: Summary of Receiver detection mechanism

Antenna	Receiver on (head scenario)	Receiver off (Body scenario)	Low power (For CA &ENDC)
Main antenna	Power Level A1	Power Level B1	Power Level C1

There are three mode for SAR test, Receiver on for head SAR, Receiver off for body test ,and Low power for CA &ENDC only for LTEB5 (head) and LTEB66(head &body) .

Power Level A1: Audio receiver is active (DSI3)

Power Level B1: Audio receiver is inactive, WiFi hotspot is inactive(DSI1).

Power Level C1:only for CA &ENDC mode , Level C1 -head: Audio receiver is active(DSI3)

Level C1 -body: Audio receiver is inactive, wifi hotspot is inactive (DSI1)

11.1 GSM Measurement result

During the process of testing, the EUT was controlled via Agilent Digital Radio Communication tester (E5515C) to ensure the maximum power transmission and proper modulation. This result contains conducted output power for the EUT. In all cases, the measured peak output power should be greater and within 5% than EMI measurement.

Table 11.1-1: The conducted power measurement results for GSM, GPRS and EGPRS- Level A1

GSM 850 Speech (GMSK)	Measured Power (dBm)			Tune up	calculation	Averaged Power (dBm)		
	251	190	128			251	190	128
1 Txslot	28.84	28.95	28.39	30.50	/	/	/	/
GSM 850 GPRS (GMSK)	Measured Power (dBm)				calculation	Averaged Power (dBm)		
	251	190	128			251	190	128
1 Txslot	28.82	28.69	29.16	30.50	-9.03	19.79	19.66	20.13
2 Txslots	27.93	27.78	28.18	29.50	-6.02	21.91	21.76	22.16
3Txslots	26.58	26.76	26.87	28.20	-4.26	22.32	22.50	22.61
4 Txslots	25.17	25.34	25.36	26.80	-3.01	22.16	22.33	22.35
GSM 850 EGPRS (GMSK)	Measured Power (dBm)				calculation	Averaged Power (dBm)		
	251	190	128			251	190	128
1 Txslot	28.63	29.29	29.04	30.50	-9.03	19.60	20.26	20.01
2 Txslots	27.75	28.09	27.80	29.50	-6.02	21.73	22.07	21.78
3Txslots	26.50	26.79	26.76	28.20	-4.26	22.24	22.53	22.50
4 Txslots	25.22	25.39	25.25	26.80	-3.01	22.21	22.38	22.24
GSM 850 EGPRS (8PSK)	Measured Power (dBm)				calculation	Averaged Power (dBm)		
	251	190	128			251	190	128
1 Txslot	25.70	25.97	26.09	27.00	-9.03	16.67	16.94	17.06
2 Txslots	23.76	23.76	23.72	25.00	-6.02	17.74	17.74	17.70
3Txslots	22.21	22.30	22.20	24.00	-4.26	17.95	18.04	17.94
4 Txslots	21.33	21.56	21.33	22.80	-3.01	18.32	18.55	18.32

NOTES:

1) Division Factors

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

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

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

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

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

Table 11.1-2: The conducted power measurement results for GSM, GPRS and EGPRS- Level B1

GSM 850 Speech (GMSK)	Measured Power (dBm)			Tune up	calculation	Averaged Power (dBm)		
	251	190	128			251	190	128
1 Txslot	32.00	32.29	32.10	33.50	/	/	/	/
GSM 850 GPRS (GMSK)	Measured Power (dBm)				calculation	Averaged Power (dBm)		
	251	190	128			251	190	128
1 Txslot	31.85	32.15	32.10	33.50	-9.03	22.82	23.12	23.07
2 Txslots	29.04	29.09	29.02	30.50	-6.02	23.02	23.07	23.00
3Txslots	27.64	28.13	28.13	28.20	-4.26	23.38	23.87	23.87
4 Txslots	26.33	26.39	26.36	26.80	-3.01	23.32	23.38	23.35
GSM 850 EGPRS (GMSK)	Measured Power (dBm)				calculation	Averaged Power (dBm)		
	251	190	128			251	190	128
1 Txslot	32.04	32.02	31.98	33.50	-9.03	23.01	22.99	22.95
2 Txslots	28.97	28.90	28.86	30.50	-6.02	22.95	22.88	22.84
3Txslots	27.83	27.93	27.95	28.20	-4.26	23.57	23.67	23.69
4 Txslots	26.11	26.20	26.19	26.80	-3.01	23.10	23.19	23.18
GSM 850 EGPRS (8PSK)	Measured Power (dBm)				calculation	Averaged Power (dBm)		
	251	190	128			251	190	128
1 Txslot	26.13	26.43	26.13	27.00	-9.03	17.10	17.40	17.10
2 Txslots	25.47	25.37	25.41	26.20	-6.02	19.45	19.35	19.39
3Txslots	23.91	23.93	23.81	25.00	-4.26	19.65	19.67	19.55
4 Txslots	22.00	22.02	22.13	22.80	-3.01	18.99	19.01	19.12

NOTES:

1) Division Factors

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

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

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

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

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

According to the conducted power as above, the body measurements are performed with

3Txslots for GSM850

Table 11.1-3: The conducted power measurement results for GSM, GPRS and EGPRS Level A1/B1

PCS1900 Speech (GMSK)	Measured Power (dBm)			Tune up	calculation	Averaged Power (dBm)		
	810	661	512			810	661	512
1 Txslot	29.23	28.95	29.39	30.00	/	/	/	/
PCS1900 GPRS (GMSK)	Measured Power (dBm)				calculation	Averaged Power (dBm)		
	810	661	512			810	661	512
1 Txslot	28.96	28.83	28.83	30.00	-9.03	19.93	19.80	19.80
2 Txslots	26.10	26.29	26.08	27.70	-6.02	20.08	20.27	20.06
3Txslots	25.20	24.71	25.06	26.00	-4.26	20.94	20.45	20.80
4 Txslots	23.84	23.33	23.73	24.50	-3.01	20.83	20.32	20.72
PCS1900 EGPRS (GMSK)	Measured Power (dBm)				calculation	Averaged Power (dBm)		
	810	661	512			810	661	512
1 Txslot	28.94	29.06	29.03	30.00	-9.03	19.91	20.03	20.00
2 Txslots	26.42	26.61	26.30	27.70	-6.02	20.40	20.59	20.28
3Txslots	25.51	24.93	25.28	26.00	-4.26	21.25	20.67	21.02
4 Txslots	24.12	23.58	23.93	24.50	-3.01	21.11	20.57	20.92
PCS1900 EGPRS (8PSK)	Measured Power (dBm)				calculation	Averaged Power (dBm)		
	810	661	512			810	661	512
1 Txslot	25.66	25.82	25.53	27.00	-9.03	16.63	16.79	16.50
2 Txslots	25.03	25.15	24.87	26.00	-6.02	19.01	19.13	18.85
3Txslots	24.05	24.14	23.92	25.00	-4.26	19.79	19.88	19.66
4 Txslots	22.02	22.09	21.83	23.00	-3.01	19.01	19.08	18.82

NOTES:

1) Division Factors

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

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

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

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

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

According to the conducted power as above, the body measurements are performed with 3Txslots for GSM1900.

11.2 WCDMA Measurement result

Table 11.2-1: The conducted Power for WCDMA Level A1

Item	band	FDDV result			
	ARFCN	4132 (826.4MHz)	4182 (836.4MHz)	4233 (846.6MHz)	Tune up
WCDMA	1	20.38	20.44	20.38	22.00
HSUPA	1	19.45	19.47	19.50	21.00
	2	17.75	17.78	17.80	19.00
	3	18.75	18.76	18.77	20.00

	4	17.73	17.79	17.76	19.00
	5	19.44	19.56	19.53	21.00
DC-HSDPA	1	19.48	19.51	19.49	21.00
	2	19.46	19.52	19.50	21.00
	3	18.98	19.02	19.00	20.50
	4	18.95	19.02	18.99	20.50
Item	band	FDDII result			
	ARFCN	9262 (1852.4MHz)	9400 (1880MHz)	9538 (1907.6MHz)	
WCDMA	1	19.35	19.29	19.20	21.00
HSUPA	1	18.43	18.36	18.27	20.00
	2	16.36	16.35	16.29	18.00
	3	17.33	17.32	17.24	19.00
	4	16.45	16.37	16.31	18.00
	5	18.39	18.37	18.25	20.00
DC-HSDPA	1	18.4	18.38	18.28	20.00
	2	18.39	18.37	18.29	20.00
	3	17.89	17.86	17.80	19.50
	4	17.9	17.87	17.79	19.50

Table 11.2-2: The conducted Power for WCDMA Level B1

Item	band	FDDV result			
	ARFCN	4132 (826.4MHz)	4182 (836.4MHz)	4233 (846.6MHz)	Tune up
WCDMA	1	23.38	23.42	23.40	24.00
HSUPA	1	22.39	22.44	22.42	24.00
	2	20.42	20.49	20.46	22.00
	3	21.38	21.41	21.43	23.00
	4	20.34	20.43	20.41	22.00
	5	22.42	22.50	22.47	24.00
DC-HSDPA	1	22.39	22.45	22.46	24.00
	2	22.40	22.43	22.47	24.00
	3	21.92	21.96	21.97	23.50
	4	21.93	21.95	21.96	23.50
Item	band	FDDII result			
	ARFCN	9262 (1852.4MHz)	9400 (1880MHz)	9538 (1907.6MHz)	
WCDMA	1	21.21	21.29	21.17	22.50
HSUPA	1	20.41	20.37	20.28	22.00
	2	18.38	18.46	18.29	20.00
	3	19.43	19.32	19.30	21.00
	4	18.39	18.41	18.31	20.00
	5	20.39	20.38	20.31	22.00
DC-HSDPA	1	20.4	20.36	20.29	22.00
	2	20.38	20.39	20.28	22.00
	3	19.85	19.87	19.81	21.50

	4	19.86	19.85	19.79	21.50
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11.3 LTE Measurement result

Maximum Target Power for Production Unit – [Power Level A1](#)

LTE Band 2				
Modulation	BW (MHz)	RB size	Target MPR	Target Power
QPSK	20	≤ 18	3	20+/-1
QPSK	20	> 18	3	20+/-1
16QAM	20	≤ 18	3	20+/-1
16QAM	20	> 18	3	20+/-1
64QAM	20	≤ 18	3	20+/-1
64QAM	20	> 18	3	20+/-1
QPSK	15	≤ 16	3	20+/-1
QPSK	15	> 16	3	20+/-1
16QAM	15	≤ 16	3	20+/-1
16QAM	15	> 16	3	20+/-1
64QAM	15	≤ 16	3	20+/-1
64QAM	15	> 16	3	20+/-1
QPSK	10	≤ 12	3	20+/-1
QPSK	10	> 12	3	20+/-1
16QAM	10	≤ 12	3	20+/-1
16QAM	10	> 12	3	20+/-1
64QAM	10	≤ 12	3	20+/-1
64QAM	10	> 12	3	20+/-1
QPSK	5	≤ 8	3	20+/-1
QPSK	5	> 8	3	20+/-1
16QAM	5	≤ 8	3	20+/-1
16QAM	5	> 8	3	20+/-1
64QAM	5	≤ 8	3	20+/-1
64QAM	5	> 8	3	20+/-1

LTE Band 5				
Modulation	BW (MHz)	RB size	Target MPR	Target Power
QPSK	10	≤ 12	2	21.4+/- 1
QPSK	10	> 12	2	21.4+/- 1
16QAM	10	≤ 12	2	21.4+/- 1
16QAM	10	> 12	2	21.4+/- 1
64QAM	10	≤ 12	2	21.4+/- 1
64QAM	10	> 12	3	20.4+/- 1

QPSK	5	≤ 8	2	21.4+/- 1
QPSK	5	> 8	2	21.4+/- 1
16QAM	5	≤ 8	2	21.4+/- 1
16QAM	5	> 8	2	21.4+/- 1
64QAM	5	≤ 8	2	21.4+/- 1
64QAM	5	> 8	3	20.4+/- 1

LTE Band 7				
Modulation	BW (MHz)	RB size	Target MPR	Target Power
QPSK	20	≤ 18	0	23+/- 1
QPSK	20	> 18	1	22+/- 1
16QAM	20	≤ 18	1	22+/- 1
16QAM	20	> 18	2	21+/- 1
64QAM	20	≤ 18	2	21+/- 1
64QAM	20	> 18	3	20+/- 1
QPSK	15	≤ 16	0	23+/- 1
QPSK	15	> 16	1	22+/- 1
16QAM	15	≤ 16	1	22+/- 1
16QAM	15	> 16	2	21+/- 1
64QAM	15	≤ 16	2	21+/- 1
64QAM	15	> 16	3	20+/- 1
QPSK	10	≤ 12	0	23+/- 1
QPSK	10	> 12	1	22+/- 1
16QAM	10	≤ 12	1	22+/- 1
16QAM	10	> 12	2	21+/- 1
64QAM	10	≤ 12	2	21+/- 1
64QAM	10	> 12	3	20+/- 1
QPSK	5	≤ 8	0	23+/- 1
QPSK	5	> 8	1	22+/- 1
16QAM	5	≤ 8	1	22+/- 1
16QAM	5	> 8	2	21+/- 1
64QAM	5	≤ 8	2	21+/- 1
64QAM	5	> 8	3	20+/- 1

LTE Band 12				
Modulation	BW (MHz)	RB size	Target MPR	Target Power
QPSK	10	≤ 12	2	21.3+/- 1
QPSK	10	> 12	2	21.3+/- 1
16QAM	10	≤ 12	2	21.3+/- 1

16QAM	10	> 12	2	21.3+/- 1
64QAM	10	≤ 12	2	21.3+/- 1
64QAM	10	> 12	3	20.3+/- 1
QPSK	5	≤ 8	2	21.3+/- 1
QPSK	5	> 8	2	21.3+/- 1
16QAM	5	≤ 8	2	21.3+/- 1
16QAM	5	> 8	2	21.3+/- 1
64QAM	5	≤ 8	2	21.3+/- 1
64QAM	5	> 8	3	20.3+/- 1

LTE Band 66				
Modulation	BW (MHz)	RB size	Target MPR	Target Power
QPSK	20	≤ 18	2	21+/-1
QPSK	20	> 18	2	21+/-1
16QAM	20	≤ 18	2	21+/-1
16QAM	20	> 18	2	21+/- 1
64QAM	20	≤ 18	2	21+/- 1
64QAM	20	> 18	3	20+/- 1
QPSK	15	≤ 16	2	21+/-1
QPSK	15	> 16	2	21+/-1
16QAM	15	≤ 16	2	21+/-1
16QAM	15	> 16	2	21+/- 1
64QAM	15	≤ 16	2	21+/- 1
64QAM	15	> 16	3	20+/- 1
QPSK	10	≤ 12	2	21+/-1
QPSK	10	> 12	2	21+/-1
16QAM	10	≤ 12	2	21+/-1
16QAM	10	> 12	2	21+/- 1
64QAM	10	≤ 12	2	21+/- 1
64QAM	10	> 12	3	20+/- 1
QPSK	5	≤ 8	2	21+/-1
QPSK	5	> 8	2	21+/-1
16QAM	5	≤ 8	2	21+/-1
16QAM	5	> 8	2	21+/- 1
64QAM	5	≤ 8	2	21+/- 1
64QAM	5	> 8	3	20+/- 1

Maximum Target Power for Production Unit – Power Level B1

LTE Band 2				
Modulation	BW (MHz)	RB size	Target MPR	Target Power
QPSK	20	≤ 18	1.5	21.5+/-1
QPSK	20	> 18	1.5	21.5+/-1
16QAM	20	≤ 18	1.5	21.5+/-1
16QAM	20	> 18	2	21+/- 1
64QAM	20	≤ 18	2	21+/- 1
64QAM	20	> 18	3	20+/- 1
QPSK	15	≤ 16	1.5	21.5+/-1
QPSK	15	> 16	1.5	21.5+/-1
16QAM	15	≤ 16	1.5	21.5+/-1
16QAM	15	> 16	2	21+/- 1
64QAM	15	≤ 16	2	21+/- 1
64QAM	15	> 16	3	20+/- 1
QPSK	10	≤ 12	1.5	21.5+/-1
QPSK	10	> 12	1.5	21.5+/-1
16QAM	10	≤ 12	1.5	21.5+/-1
16QAM	10	> 12	2	21+/- 1
64QAM	10	≤ 12	2	21+/- 1
64QAM	10	> 12	3	20+/- 1
QPSK	5	≤ 8	1.5	21.5+/-1
QPSK	5	> 8	1.5	21.5+/-1
16QAM	5	≤ 8	1.5	21.5+/-1
16QAM	5	> 8	2	21+/- 1
64QAM	5	≤ 8	2	21+/- 1
64QAM	5	> 8	3	20+/- 1

LTE Band 5				
Modulation	BW (MHz)	RB size	Target MPR	Target Power
QPSK	10	≤ 12	0	23.4+/- 1
QPSK	10	> 12	1	22.4+/- 1
16QAM	10	≤ 12	1	22.4+/- 1
16QAM	10	> 12	2	21.4+/- 1
64QAM	10	≤ 12	2	21.4+/- 1
64QAM	10	> 12	3	20.4+/- 1
QPSK	5	≤ 8	0	23.4+/- 1

QPSK	5	> 8	1	22.4+/- 1
16QAM	5	≤ 8	1	22.4+/- 1
16QAM	5	> 8	2	21.4+/- 1
64QAM	5	≤ 8	2	21.4+/- 1
64QAM	5	> 8	3	20.4+/- 1

LTE Band 7				
Modulation	BW (MHz)	RB size	Target MPR	Target Power
QPSK	20	≤ 18	6	17+/-1
QPSK	20	> 18	6	17+/-1
16QAM	20	≤ 18	6	17+/-1
16QAM	20	> 18	6	17+/-1
64QAM	20	≤ 18	6	17+/-1
64QAM	20	> 18	6	17+/-1
QPSK	15	≤ 16	6	17+/-1
QPSK	15	> 16	6	17+/-1
16QAM	15	≤ 16	6	17+/-1
16QAM	15	> 16	6	17+/-1
64QAM	15	≤ 16	6	17+/-1
64QAM	15	> 16	6	17+/-1
QPSK	10	≤ 12	6	17+/-1
QPSK	10	> 12	6	17+/-1
16QAM	10	≤ 12	6	17+/-1
16QAM	10	> 12	6	17+/-1
64QAM	10	≤ 12	6	17+/-1
64QAM	10	> 12	6	17+/-1
QPSK	5	≤ 8	6	17+/-1
QPSK	5	> 8	6	17+/-1
16QAM	5	≤ 8	6	17+/-1
16QAM	5	> 8	6	17+/-1
64QAM	5	≤ 8	6	17+/-1
64QAM	5	> 8	6	17+/-1

LTE Band 12				
Modulation	BW (MHz)	RB size	Target MPR	Target Power
QPSK	10	≤ 12	0	23.3+/- 1
QPSK	10	> 12	1	22.3+/- 1
16QAM	10	≤ 12	1	22.3+/- 1
16QAM	10	> 12	2	21.3+/- 1

64QAM	10	≤ 12	2	21.3+/- 1
64QAM	10	> 12	3	20.3+/- 1
QPSK	5	≤ 8	0	23.3+/- 1
QPSK	5	> 8	1	22.3+/- 1
16QAM	5	≤ 8	1	22.3+/- 1
16QAM	5	> 8	2	21.3+/- 1
64QAM	5	≤ 8	2	21.3+/- 1
64QAM	5	> 8	3	20.3+/- 1

LTE Band 66				
Modulation	BW (MHz)	RB size	Target MPR	Target Power
QPSK	20	≤ 18	0	23+/- 1
QPSK	20	> 18	1	22+/- 1
16QAM	20	≤ 18	1	22+/- 1
16QAM	20	> 18	2	21+/- 1
64QAM	20	≤ 18	2	21+/- 1
64QAM	20	> 18	3	20+/- 1
QPSK	15	≤ 16	0	23+/- 1
QPSK	15	> 16	1	22+/- 1
16QAM	15	≤ 16	1	22+/- 1
16QAM	15	> 16	2	21+/- 1
64QAM	15	≤ 16	2	21+/- 1
64QAM	15	> 16	3	20+/- 1
QPSK	10	≤ 12	0	23+/- 1
QPSK	10	> 12	1	22+/- 1
16QAM	10	≤ 12	1	22+/- 1
16QAM	10	> 12	2	21+/- 1
64QAM	10	≤ 12	2	21+/- 1
64QAM	10	> 12	3	20+/- 1
QPSK	5	≤ 8	0	23+/- 1
QPSK	5	> 8	1	22+/- 1
16QAM	5	≤ 8	1	22+/- 1
16QAM	5	> 8	2	21+/- 1
64QAM	5	≤ 8	2	21+/- 1
64QAM	5	> 8	3	20+/- 1

Maximum Target Power for Production Unit – Level C1

Level C1 - Head

LTE Band 5 for CA &ENDC				
Modulation	BW (MHz)	RB size	Target MPR	Target Power
QPSK	10	≤ 12	4.4	19+/- 1
QPSK	10	> 12	4.4	19+/- 1
16QAM	10	≤ 12	4.4	19+/- 1
16QAM	10	> 12	4.4	19+/- 1
64QAM	10	≤ 12	4.4	19+/- 1
64QAM	10	> 12	4.4	19+/- 1
QPSK	5	≤ 8	4.4	19+/- 1
QPSK	5	> 8	4.4	19+/- 1
16QAM	5	≤ 8	4.4	19+/- 1
16QAM	5	> 8	4.4	19+/- 1
64QAM	5	≤ 8	4.4	19+/- 1
64QAM	5	> 8	4.4	19+/- 1

Level C1 -Head

LTE Band 66 for CA&ENDC				
Modulation	BW (MHz)	RB size	Target MPR	Target Power
QPSK	20	≤ 18	2	19+/- 1
QPSK	20	> 18	2	19+/- 1
16QAM	20	≤ 18	2	19+/- 1
16QAM	20	> 18	2	19+/- 1
64QAM	20	≤ 18	2	19+/- 1
64QAM	20	> 18	2	19+/- 1
QPSK	15	≤ 16	2	19+/- 1
QPSK	15	> 16	2	19+/- 1
16QAM	15	≤ 16	2	19+/- 1
16QAM	15	> 16	2	19+/- 1
64QAM	15	≤ 16	2	19+/- 1
64QAM	15	> 16	2	19+/- 1
QPSK	10	≤ 12	2	19+/- 1
QPSK	10	> 12	2	19+/- 1
16QAM	10	≤ 12	2	19+/- 1
16QAM	10	> 12	2	19+/- 1
64QAM	10	≤ 12	2	19+/- 1

64QAM	10	> 12	2	19+/- 1
QPSK	5	≤ 8	2	19+/- 1
QPSK	5	> 8	2	19+/- 1
16QAM	5	≤ 8	2	19+/- 1
16QAM	5	> 8	2	19+/- 1
64QAM	5	≤ 8	2	19+/- 1
64QAM	5	> 8	2	19+/- 1

Level C1 - Body

LTE Band 66 for CA&ENDC				
Modulation	BW (MHz)	RB size	Target MPR	Target Power
QPSK	20	≤ 18	2	21+/- 1
QPSK	20	> 18	2	21+/- 1
16QAM	20	≤ 18	2	21+/- 1
16QAM	20	> 18	2	21+/- 1
64QAM	20	≤ 18	2	21+/- 1
64QAM	20	> 18	2	21+/- 1
QPSK	15	≤ 16	2	21+/- 1
QPSK	15	> 16	2	21+/- 1
16QAM	15	≤ 16	2	21+/- 1
16QAM	15	> 16	2	21+/- 1
64QAM	15	≤ 16	2	21+/- 1
64QAM	15	> 16	2	21+/- 1
QPSK	10	≤ 12	2	21+/- 1
QPSK	10	> 12	2	21+/- 1
16QAM	10	≤ 12	2	21+/- 1
16QAM	10	> 12	2	21+/- 1
64QAM	10	≤ 12	2	21+/- 1
64QAM	10	> 12	2	21+/- 1
QPSK	5	≤ 8	2	21+/- 1
QPSK	5	> 8	2	21+/- 1
16QAM	5	≤ 8	2	21+/- 1
16QAM	5	> 8	2	21+/- 1
64QAM	5	≤ 8	2	21+/- 1
64QAM	5	> 8	2	21+/- 1

Power Level A1

Table 11.3-1: The conducted Power for LTE

Band 2					
Bandwidth (MHz)	RB allocation	Frequency (MHz)	QPSK	16QAM	64QAM
	RB offset (Start RB)		Actual output power (dBm)	Actual output power (dBm)	Actual output power (dBm)
1.4 MHz	1RB High (5)	1909.3	19.25	19.43	19.65
		1880	19.32	19.38	19.50
		1850.7	19.28	19.76	19.51
	1RB Middle (3)	1909.3	19.28	19.39	19.35
		1880	19.37	19.45	19.50
		1850.7	19.30	19.79	19.61
	1RB Low (0)	1909.3	19.22	19.39	19.36
		1880	19.33	19.42	19.42
		1850.7	19.27	19.79	19.38
	3RB High (3)	1909.3	19.22	19.45	19.56
		1880	19.26	19.37	19.55
		1850.7	19.28	19.47	19.57
	3RB Middle (1)	1909.3	19.26	19.55	19.50
		1880	19.27	19.42	19.58
		1850.7	19.35	19.56	19.57
	3RB Low (0)	1909.3	19.18	19.46	19.52
		1880	19.22	19.35	19.49
		1850.7	19.31	19.50	19.46
	6RB (0)	1909.3	19.31	19.54	19.42
		1880	19.31	19.53	19.50
		1850.7	19.36	19.29	19.51
3 MHz	1RB High (14)	1908.5	19.38	19.44	19.70
		1880	19.43	19.51	19.78
		1851.5	19.39	19.80	19.78
	1RB Middle (7)	1908.5	19.30	19.45	19.76
		1880	19.42	19.53	19.67
		1851.5	19.39	19.81	19.45
	1RB Low (0)	1908.5	19.28	19.47	19.62
		1880	19.28	19.47	19.67
		1851.5	19.36	19.79	19.39
	8RB High (7)	1908.5	19.39	19.44	19.43
		1880	19.45	19.58	19.44
		1851.5	19.44	19.56	19.54
	8RB Middle (4)	1908.5	19.46	19.47	19.53
		1880	19.44	19.61	19.55
		1851.5	19.41	19.57	19.57
	8RB	1908.5	19.38	19.43	19.47

	Low (0)	1880	19.36	19.54	19.39
		1851.5	19.39	19.52	19.42
	15RB (0)	1908.5	19.40	19.38	19.49
		1880	19.37	19.43	19.45
		1851.5	19.44	19.47	19.45
5 MHz	1RB High (24)	1907.5	19.44	19.67	19.83
		1880	19.56	19.72	19.83
		1852.5	19.33	19.72	19.27
	1RB Middle (12)	1907.5	19.45	19.83	19.51
		1880	19.50	19.69	19.56
		1852.5	19.38	19.78	19.62
	1RB Low (0)	1907.5	19.43	19.67	19.49
		1880	19.45	19.58	19.42
		1852.5	19.28	19.71	19.55
	12RB High (13)	1907.5	19.46	19.50	19.35
		1880	19.47	19.51	19.32
		1852.5	19.37	19.57	19.33
	12RB Middle (6)	1907.5	19.45	19.50	19.37
		1880	19.39	19.50	19.38
		1852.5	19.42	19.55	19.43
	12RB Low (0)	1907.5	19.43	19.50	19.28
		1880	19.36	19.45	19.24
		1852.5	19.37	19.51	19.27
	25RB (0)	1907.5	19.42	19.39	19.36
		1880	19.42	19.43	19.21
		1852.5	19.41	19.50	19.37
10 MHz	1RB High (49)	1905	19.50	19.32	19.67
		1880	19.54	19.77	19.81
		1855	19.25	19.40	19.63
	1RB Middle (24)	1905	19.45	19.37	19.71
		1880	19.45	19.72	19.78
		1855	19.24	19.31	19.57
	1RB Low (0)	1905	19.31	19.07	19.66
		1880	19.29	19.68	19.66
		1855	19.40	19.33	19.64
	25RB High (25)	1905	19.48	19.45	19.73
		1880	19.48	19.54	19.74
		1855	19.40	19.57	19.63
	25RB Middle (12)	1905	19.45	19.44	19.60
		1880	19.40	19.49	19.60
		1855	19.43	19.54	19.61
	25RB Low (0)	1905	19.39	19.36	19.52
		1880	19.36	19.48	19.55
		1855	19.41	19.51	19.61
50RB (0)	1905	19.37	19.33	19.61	
	1880	19.40	19.43	19.64	
	1855	19.44	19.47	19.55	
15 MHz	1RB	1902.5	19.37	19.81	19.72

	High (74)	1880	19.32	19.72	19.85
		1857.5	19.34	19.43	19.73
	1RB Middle (37)	1902.5	19.41	19.79	19.75
		1880	19.39	19.75	19.71
		1857.5	19.36	19.39	19.75
	1RB Low (0)	1902.5	19.39	19.83	19.63
		1880	19.39	19.71	19.64
		1857.5	19.38	19.36	19.75
	36RB High (38)	1902.5	19.47	19.53	19.80
		1880	19.47	19.43	19.72
		1857.5	19.48	19.44	19.84
	36RB Middle (19)	1902.5	19.39	19.40	19.56
		1880	19.39	19.34	19.72
		1857.5	19.46	19.47	19.75
	36RB Low (0)	1902.5	19.34	19.39	19.73
		1880	19.37	19.30	19.79
		1857.5	19.32	19.35	19.72
	75RB (0)	1902.5	19.33	19.36	19.65
		1880	19.34	19.36	19.66
		1857.5	19.42	19.42	19.70
20 MHz	1RB High (99)	1900	19.34	19.66	19.71
		1880	19.37	19.73	19.52
		1860	19.31	19.74	19.52
	1RB Middle (50)	1900	19.35	19.67	19.72
		1880	19.39	19.73	19.56
		1860	19.32	19.70	19.61
	1RB Low (0)	1900	19.28	19.69	19.55
		1880	19.31	19.63	19.54
		1860	19.24	19.67	19.73
	50RB High (50)	1900	19.47	19.50	19.59
		1880	19.43	19.44	19.59
		1860	19.42	19.39	19.63
	50RB Middle (25)	1900	19.46	19.52	19.62
		1880	19.36	19.39	19.60
		1860	19.43	19.38	19.63
	50RB Low (0)	1900	19.37	19.39	19.48
		1880	19.31	19.30	19.45
		1860	19.28	19.24	19.47
	100RB (0)	1900	19.36	19.37	19.57
		1880	19.31	19.33	19.57
		1860	19.41	19.43	19.56

Band 5					
Bandwidth (MHz)	RB allocation	Frequency (MHz)	QPSK	16QAM	64QAM
	RB offset (Start RB)		Actual output power (dBm)	Actual output power (dBm)	Actual output power (dBm)
1.4 MHz	1RB High (5)	848.3	20.92	21.38	21.25
		836.5	21.00	21.00	21.33
		824.7	20.94	21.11	21.49
	1RB Middle (3)	848.3	21.01	21.41	21.39
		836.5	21.03	21.41	21.45
		824.7	21.01	21.21	21.42
	1RB Low (0)	848.3	20.99	21.40	21.36
		836.5	21.00	20.98	21.33
		824.7	20.93	21.11	21.36
	3RB High (3)	848.3	20.90	21.19	21.30
		836.5	20.96	21.17	21.30
		824.7	20.96	21.07	21.34
	3RB Middle (1)	848.3	20.95	21.23	21.34
		836.5	20.98	21.19	21.35
		824.7	21.01	21.12	21.44
	3RB Low (0)	848.3	20.94	21.21	21.29
		836.5	20.91	21.15	21.32
		824.7	20.93	21.00	21.29
	6RB (0)	848.3	20.96	20.94	20.72
		836.5	21.00	21.15	20.65
		824.7	21.01	21.17	20.79
3 MHz	1RB High (14)	847.5	20.97	21.45	21.34
		836.5	21.05	21.04	21.23
		825.5	21.01	20.98	21.28
	1RB Middle (7)	847.5	21.02	21.46	21.18
		836.5	21.04	21.09	21.37
		825.5	21.04	20.95	21.22
	1RB Low (0)	847.5	21.05	21.38	21.25
		836.5	21.10	21.15	21.40
		825.5	21.07	21.03	21.37
	8RB High (7)	847.5	21.02	21.10	21.08
		836.5	21.10	21.09	21.11
		825.5	21.09	21.23	21.10
	8RB Middle (4)	847.5	21.12	21.19	21.13
		836.5	21.05	21.11	21.02
		825.5	21.11	21.25	21.09
	8RB Low (0)	847.5	21.02	21.15	21.08
		836.5	21.11	21.10	21.09
		825.5	21.07	21.19	21.08
	15RB (0)	847.5	21.10	21.20	21.04
		836.5	21.07	21.01	21.04

5 MHz	1RB High (24)	825.5	21.17	21.21	21.07
		846.5	20.98	21.41	21.22
		836.5	20.99	21.23	21.28
		825.5	21.02	21.31	21.33
	1RB Middle (12)	846.5	21.01	21.43	21.30
		836.5	21.05	21.23	21.33
		825.5	21.03	21.31	21.31
	1RB Low (0)	846.5	21.06	21.41	21.37
		836.5	21.12	21.32	21.43
		825.5	21.05	21.34	21.45
	12RB High (13)	846.5	21.10	21.24	20.78
		836.5	21.13	21.15	20.71
		825.5	21.15	21.19	20.79
	12RB Middle (6)	846.5	21.04	21.25	20.72
		836.5	21.10	21.16	20.80
		825.5	21.19	21.31	20.82
	12RB Low (0)	846.5	21.09	21.25	20.72
		836.5	21.12	21.19	20.81
		825.5	21.16	21.22	20.76
	25RB (0)	846.5	21.04	21.15	20.77
		836.5	21.09	21.06	20.71
		825.5	21.16	21.18	20.80
10 MHz	1RB High (49)	844	20.92	20.96	21.21
		836.5	20.94	20.95	21.27
		829	21.04	21.23	21.29
	1RB Middle (24)	844	20.98	20.97	21.25
		836.5	21.00	20.85	21.43
		829	21.03	21.20	21.48
	1RB Low (0)	844	20.92	21.01	21.16
		836.5	20.95	20.99	21.23
		829	20.78	21.38	21.23
	25RB High (25)	844	21.01	21.15	20.66
		836.5	21.04	21.06	20.67
		829	21.06	21.13	20.70
	25RB Middle (12)	844	21.06	21.15	20.65
		836.5	21.04	21.05	20.58
		829	21.10	21.16	20.72
	25RB Low (0)	844	20.93	21.06	20.62
		836.5	20.99	21.05	20.67
		829	21.00	21.11	20.68
	50RB (0)	844	21.02	21.12	20.65
		836.5	21.01	21.00	20.69
		829	21.08	21.13	20.61

Band 7					
Bandwidth (MHz)	RB allocation	Frequency (MHz)	QPSK	16QAM	64QAM
	RB offset (Start RB)		Actual output power (dBm)	Actual output power (dBm)	Actual output power (dBm)
5 MHz	1RB High (24)	2567.5	23.52	22.71	21.64
		2535	23.57	22.85	21.81
		2502.5	23.58	22.99	21.69
	1RB Middle (12)	2567.5	23.53	22.75	21.90
		2535	23.58	22.77	21.93
		2502.5	23.49	22.99	21.62
	1RB Low (0)	2567.5	23.52	22.83	21.96
		2535	23.52	22.77	21.92
		2502.5	23.47	22.99	21.72
	12RB High (13)	2567.5	22.74	21.79	20.74
		2535	22.73	21.81	20.93
		2502.5	22.72	21.87	20.76
	12RB Middle (6)	2567.5	22.74	21.78	20.91
		2535	22.67	21.74	20.87
		2502.5	22.71	21.84	20.70
	12RB Low (0)	2567.5	22.71	21.78	20.90
		2535	22.67	21.75	20.83
		2502.5	22.66	21.82	20.76
	25RB (0)	2567.5	22.79	21.67	20.93
		2535	22.69	21.69	20.86
		2502.5	22.69	21.75	20.64
10 MHz	1RB High (49)	2565	23.61	22.99	21.66
		2535	23.68	22.68	21.99
		2505	23.57	22.55	21.90
	1RB Middle (24)	2565	23.57	22.93	21.98
		2535	23.67	22.62	21.84
		2505	23.41	22.54	21.80
	1RB Low (0)	2565	23.53	22.98	21.97
		2535	23.61	22.67	21.90
		2505	23.47	22.65	21.63
	25RB High (25)	2565	22.70	21.78	20.86
		2535	22.70	21.86	20.90
		2505	22.69	21.71	20.71
	25RB Middle (12)	2565	22.65	21.71	20.90
		2535	22.62	21.79	20.80
		2505	22.73	21.76	20.67
	25RB Low (0)	2565	22.63	21.73	20.83
		2535	22.61	21.78	20.76
		2505	22.57	21.65	20.67
	50RB (0)	2565	22.61	21.64	20.87
		2535	22.64	21.72	20.82
		2505	22.71	21.67	20.73
15 MHz	1RB	2562.5	23.47	22.97	21.69

	High (74)	2535	23.63	22.75	21.89
		2507.5	23.70	22.99	21.66
	1RB Middle (37)	2562.5	23.65	22.99	21.98
		2535	23.63	22.74	21.96
		2507.5	23.66	22.99	21.83
	1RB Low (0)	2562.5	23.66	22.99	21.89
		2535	23.58	22.67	21.88
		2507.5	23.69	22.99	21.80
	36RB High (38)	2562.5	22.70	21.74	20.87
		2535	22.73	21.75	20.95
		2507.5	22.73	21.79	20.74
	36RB Middle (19)	2562.5	22.72	21.73	20.87
		2535	22.69	21.72	20.88
		2507.5	22.76	21.83	20.73
	36RB Low (0)	2562.5	22.66	21.59	20.89
		2535	22.63	21.69	20.84
		2507.5	22.63	21.74	20.70
	75RB (0)	2562.5	22.73	21.73	20.92
		2535	22.64	21.70	20.88
		2507.5	22.71	21.76	20.68
20 MHz	1RB High (99)	2560	23.51	23.00	21.67
		2535	23.57	22.93	21.98
		2510	23.57	23.00	21.66
	1RB Middle (50)	2560	23.52	23.00	21.91
		2535	23.59	22.96	21.96
		2510	23.50	22.99	21.82
	1RB Low (0)	2560	23.53	22.98	21.96
		2535	23.46	22.93	21.87
		2510	23.53	23.00	21.76
	50RB High (50)	2560	22.71	21.70	20.82
		2535	22.77	21.73	20.95
		2510	22.72	21.75	20.69
	50RB Middle (25)	2560	22.74	21.75	20.90
		2535	22.69	21.68	20.89
		2510	22.74	21.78	20.79
	50RB Low (0)	2560	22.63	21.65	20.88
		2535	22.70	21.68	20.85
		2510	22.64	21.67	20.60
	100RB (0)	2560	22.73	21.73	20.92
		2535	22.69	21.69	20.90
		2510	22.73	21.79	20.77

Band 12					
Bandwidth (MHz)	RB allocation	Frequency (MHz)	QPSK	16QAM	64QAM
	RB offset (Start RB)		Actual output power (dBm)	Actual output power (dBm)	Actual output power (dBm)
1.4 MHz	1RB High (5)	715.3	20.49	20.61	20.86
		707.5	20.68	20.81	20.98
		699.7	20.62	21.00	20.91
	1RB Middle (3)	715.3	20.59	20.70	20.95
		707.5	20.75	20.89	21.15
		699.7	20.69	21.06	21.13
	1RB Low (0)	715.3	20.60	20.70	21.05
		707.5	20.69	20.79	21.05
		699.7	20.68	21.10	21.05
	3RB High (3)	715.3	20.57	20.82	20.93
		707.5	20.65	20.74	20.94
		699.7	20.66	20.82	20.91
	3RB Middle (1)	715.3	20.62	20.88	21.00
		707.5	20.60	20.78	20.92
		699.7	20.73	20.88	20.99
	3RB Low (0)	715.3	20.57	20.83	20.94
		707.5	20.56	20.81	20.93
		699.7	20.69	20.77	21.07
	6RB (0)	715.3	20.65	20.79	20.57
		707.5	20.70	20.77	20.56
		699.7	20.68	20.71	20.51
3 MHz	1RB High (14)	714.5	20.66	20.55	20.95
		707.5	20.77	21.15	21.17
		700.5	20.61	20.75	20.97
	1RB Middle (7)	714.5	20.63	20.60	20.93
		707.5	20.78	21.07	21.11
		700.5	20.64	20.75	21.12
	1RB Low (0)	714.5	20.71	20.73	21.07
		707.5	20.76	21.07	21.11
		700.5	20.79	20.90	21.05
	8RB High (7)	714.5	20.70	20.82	20.64
		707.5	20.79	20.86	20.69
		700.5	20.72	20.79	20.59
	8RB Middle (4)	714.5	20.76	20.87	20.74
		707.5	20.76	20.86	20.66
		700.5	20.81	20.82	20.68
	8RB Low (0)	714.5	20.73	20.85	20.60
		707.5	20.78	20.82	20.69
		700.5	20.81	20.85	20.66
	15RB (0)	714.5	20.75	20.71	20.59
		707.5	20.74	20.81	20.60
		700.5	20.79	20.72	20.61

5 MHz	1RB High (24)	713.5	20.69	21.01	20.99
		707.5	20.78	20.97	21.16
		701.5	20.84	20.97	21.15
	1RB Middle (12)	713.5	20.67	21.08	21.06
		707.5	20.78	20.97	21.11
		701.5	20.80	20.96	21.05
	1RB Low (0)	713.5	20.67	21.12	21.03
		707.5	20.80	20.96	21.18
		701.5	20.87	21.00	21.15
	12RB High (13)	713.5	20.77	20.89	20.58
		707.5	20.80	20.83	20.66
		701.5	20.78	20.84	20.61
	12RB Middle (6)	713.5	20.75	20.88	20.73
		707.5	20.80	20.87	20.69
		701.5	20.79	20.91	20.67
	12RB Low (0)	713.5	20.81	20.88	20.77
		707.5	20.82	20.89	20.75
		701.5	20.76	20.87	20.63
	25RB (0)	713.5	20.77	20.80	20.59
		707.5	20.77	20.77	20.65
		701.5	20.86	20.82	20.65
10 MHz	1RB High (49)	711	20.60	21.00	20.73
		707.5	20.53	20.65	20.79
		704	20.72	20.71	20.92
	1RB Middle (24)	711	20.65	21.01	20.86
		707.5	20.57	20.69	21.10
		704	20.68	20.59	20.86
	1RB Low (0)	711	20.76	21.11	20.98
		707.5	20.65	20.71	20.84
		704	20.75	20.67	20.84
	25RB High (25)	711	20.73	20.79	20.76
		707.5	20.69	20.81	20.85
		704	20.76	20.77	20.78
	25RB Middle (12)	711	20.69	20.83	20.74
		707.5	20.72	20.83	20.78
		704	20.79	20.82	20.76
	25RB Low (0)	711	20.73	20.85	20.79
		707.5	20.74	20.85	20.80
		704	20.80	20.83	20.71
	50RB (0)	711	20.68	20.72	20.66
		707.5	20.67	20.72	20.67
		704	20.78	20.75	20.72

Band 66					
Bandwidth (MHz)	RB allocation	Frequency (MHz)	QPSK	16QAM	64QAM
	RB offset (Start RB)		Actual output power (dBm)	Actual output power (dBm)	Actual output power (dBm)
1.4 MHz	1RB High (5)	1779.3	20.06	20.30	20.88
		1745	20.22	20.37	21.00
		1710.7	20.17	20.63	20.90
	1RB Middle (3)	1779.3	20.15	20.31	20.96
		1745	20.23	20.41	21.00
		1710.7	20.25	20.72	20.98
	1RB Low (0)	1779.3	20.08	20.24	20.90
		1745	20.25	20.37	20.95
		1710.7	20.20	20.66	20.93
	3RB High (3)	1779.3	20.15	20.37	20.85
		1745	20.18	20.33	20.90
		1710.7	20.19	20.43	20.90
	3RB Middle (1)	1779.3	20.14	20.42	20.89
		1745	20.17	20.33	20.72
		1710.7	20.19	20.48	20.94
	3RB Low (0)	1779.3	20.10	20.38	20.87
		1745	20.14	20.31	20.91
		1710.7	20.18	20.44	20.94
	6RB (0)	1779.3	20.19	20.41	20.77
		1745	20.22	20.41	20.81
		1710.7	20.28	20.22	20.78
3 MHz	1RB High (14)	1778.5	20.15	20.28	20.96
		1745	20.25	20.25	20.96
		1711.5	20.26	20.75	20.95
	1RB Middle (7)	1778.5	20.13	20.27	20.98
		1745	20.21	20.24	20.96
		1711.5	20.30	20.69	20.85
	1RB Low (0)	1778.5	20.17	20.36	20.98
		1745	20.17	20.22	20.96
		1711.5	20.30	20.75	20.99
	8RB High (7)	1778.5	20.30	20.32	20.88
		1745	20.29	20.44	20.96
		1711.5	20.33	20.40	20.91
	8RB Middle (4)	1778.5	20.34	20.37	20.91
		1745	20.34	20.46	20.96
		1711.5	20.40	20.46	20.93
	8RB Low (0)	1778.5	20.29	20.32	20.94
		1745	20.28	20.39	20.93
		1711.5	20.32	20.41	20.94
	15RB (0)	1778.5	20.30	20.27	20.82
		1745	20.30	20.37	20.84

		1711.5	20.35	20.43	20.81
5 MHz	1RB High (24)	1777.5	20.23	20.39	20.79
		1745	20.34	20.48	20.94
		1712.5	20.21	20.86	20.88
		1777.5	20.22	20.40	20.86
	1RB Middle (12)	1745	20.33	20.47	20.91
		1712.5	20.24	20.86	20.92
		1777.5	20.26	20.42	20.83
	1RB Low (0)	1745	20.30	20.45	20.90
		1712.5	20.27	20.82	20.94
		1777.5	20.26	20.34	20.69
	12RB High (13)	1745	20.32	20.42	20.63
		1712.5	20.31	20.52	20.73
		1777.5	20.34	20.38	20.85
	12RB Middle (6)	1745	20.26	20.37	20.82
		1712.5	20.36	20.56	20.83
		1777.5	20.28	20.39	20.79
	12RB Low (0)	1745	20.24	20.36	20.74
		1712.5	20.35	20.52	20.78
		1777.5	20.31	20.27	20.80
	25RB (0)	1745	20.27	20.32	20.73
		1712.5	20.36	20.43	20.82
		1775	20.19	20.65	20.85
10 MHz	1RB High (49)	1745	20.25	20.29	20.87
		1715	20.30	20.54	20.90
		1775	20.26	20.67	20.83
		1745	20.21	20.26	20.89
	1RB Middle (24)	1715	20.22	20.27	20.73
		1775	20.21	20.73	20.88
		1745	20.31	20.30	20.85
	1RB Low (0)	1715	20.32	20.34	20.90
		1775	20.24	20.27	20.81
		1745	20.27	20.42	20.87
	25RB High (25)	1715	20.27	20.35	20.82
		1775	20.24	20.33	20.69
		1745	20.25	20.36	20.74
	25RB Middle (12)	1715	20.32	20.42	20.71
		1775	20.27	20.34	20.66
		1745	20.25	20.39	20.78
	25RB Low (0)	1715	20.31	20.38	20.72
		1775	20.31	20.25	20.62
		1745	20.23	20.37	20.63
	50RB (0)	1715	20.34	20.35	20.66
15 MHz	1RB High (74)	1772.5	20.25	20.60	20.96
		1745	20.28	20.68	21.00
		1717.5	20.20	20.18	19.82
	1RB Middle	1772.5	20.27	20.65	21.00
		1745	20.32	20.78	20.87

	(37)	1717.5	20.21	20.25	20.88
	1RB Low (0)	1772.5	20.31	20.63	20.94
		1745	20.29	20.74	20.71
		1717.5	20.22	20.19	20.71
	36RB High (38)	1772.5	20.28	20.30	20.72
		1745	20.27	20.31	20.88
		1717.5	20.33	20.31	20.73
	36RB Middle (19)	1772.5	20.27	20.31	20.76
		1745	20.26	20.25	20.81
		1717.5	20.37	20.35	20.78
	36RB Low (0)	1772.5	20.26	20.31	20.77
		1745	20.25	20.21	20.75
		1717.5	20.24	20.22	20.77
	75RB (0)	1772.5	20.23	20.24	20.64
		1745	20.24	20.22	20.79
		1717.5	20.31	20.32	20.77
20 MHz	1RB High (99)	1770	20.38	20.95	20.95
		1745	20.52	20.95	20.99
		1720	20.51	20.87	19.45
	1RB Middle (50)	1770	20.31	20.97	20.83
		1745	20.49	20.83	20.97
		1720	20.43	20.85	20.95
	1RB Low (0)	1770	20.35	20.89	20.97
		1745	20.47	20.87	20.96
		1720	20.50	20.98	20.83
	50RB High (50)	1770	20.48	20.51	20.80
		1745	20.57	20.60	20.95
		1720	20.56	20.48	19.85
	50RB Middle (25)	1770	20.45	20.49	20.91
		1745	20.50	20.57	20.94
		1720	20.58	20.53	20.83
	50RB Low (0)	1770	20.47	20.45	20.81
		1745	20.51	20.58	20.90
		1720	20.48	20.45	20.91
	100RB (0)	1770	20.41	20.51	20.91
		1745	20.51	20.55	20.89
		1720	20.58	20.56	20.76

Power Level B1

Table 11.3-1: The conducted Power for LTE

Band 2					
Bandwidth (MHz)	RB allocation	Frequency (MHz)	QPSK	16QAM	64QAM
	RB offset (Start RB)		Actual output power (dBm)	Actual output power (dBm)	Actual output power (dBm)
1.4 MHz	1RB High (5)	1909.3	20.70	20.92	20.62
		1880	20.79	20.91	21.04
		1850.7	20.78	21.32	21.09
	1RB Middle (3)	1909.3	20.78	20.95	20.98
		1880	20.85	20.98	21.17
		1850.7	20.82	21.30	21.15
	1RB Low (0)	1909.3	20.67	20.88	21.01
		1880	20.80	20.87	21.02
		1850.7	20.79	21.39	21.14
	3RB High (3)	1909.3	20.71	20.96	21.18
		1880	20.75	20.85	21.15
		1850.7	20.76	20.97	21.23
	3RB Middle (1)	1909.3	20.76	21.03	21.10
		1880	20.77	20.89	21.21
		1850.7	20.79	21.04	21.21
	3RB Low (0)	1909.3	20.67	20.96	21.19
		1880	20.72	20.85	21.23
		1850.7	20.76	21.00	21.12
	6RB (0)	1909.3	20.80	21.03	20.60
		1880	20.82	21.04	20.67
		1850.7	20.82	20.74	20.66
3 MHz	1RB High (14)	1908.5	20.82	20.95	21.17
		1880	20.91	21.01	21.15
		1851.5	20.90	21.33	21.15
	1RB Middle (7)	1908.5	20.78	20.96	21.13
		1880	20.83	20.99	21.24
		1851.5	20.91	21.36	21.12
	1RB Low (0)	1908.5	20.79	20.95	21.26
		1880	20.76	20.98	21.12
		1851.5	20.86	21.33	21.18
	8RB High (7)	1908.5	20.90	20.93	20.64
		1880	20.92	21.07	20.60
		1851.5	20.94	21.04	20.60
	8RB Middle (4)	1908.5	20.96	21.00	20.69
		1880	20.93	21.10	20.67
		1851.5	20.94	21.09	20.74
	8RB Low (0)	1908.5	20.89	20.94	20.59
		1880	20.84	21.00	20.55

	15RB (0)	1851.5	20.88	21.01	20.70
		1908.5	20.92	20.88	20.60
		1880	20.85	20.93	20.59
		1851.5	20.90	20.99	20.69
5 MHz	1RB High (24)	1907.5	20.96	21.24	21.21
		1880	21.02	21.21	21.03
		1852.5	20.89	21.56	21.16
	1RB Middle (12)	1907.5	20.91	21.30	21.23
		1880	21.00	21.17	21.20
		1852.5	20.81	21.58	21.21
	1RB Low (0)	1907.5	20.89	21.24	21.17
		1880	20.90	21.10	21.04
		1852.5	20.78	21.41	21.16
	12RB High (13)	1907.5	20.92	21.01	20.61
		1880	20.95	21.03	20.67
		1852.5	20.93	21.09	20.78
	12RB Middle (6)	1907.5	20.96	21.04	20.73
		1880	20.86	21.00	20.68
		1852.5	20.95	21.08	20.67
	12RB Low (0)	1907.5	20.92	20.95	20.68
		1880	20.82	20.93	20.70
		1852.5	20.88	21.03	20.77
	25RB (0)	1907.5	20.92	20.89	20.63
		1880	20.90	20.92	20.64
		1852.5	20.94	20.99	20.75
10 MHz	1RB High (49)	1905	20.67	20.93	21.19
		1880	21.02	20.84	21.16
		1855	20.94	21.26	21.21
	1RB Middle (24)	1905	20.77	20.81	21.11
		1880	20.93	20.91	21.12
		1855	20.84	21.28	21.20
	1RB Low (0)	1905	20.70	20.95	21.23
		1880	20.89	20.78	21.19
		1855	20.86	21.24	21.21
	25RB High (25)	1905	20.94	21.07	20.79
		1880	20.95	20.99	20.78
		1855	20.94	21.02	20.85
	25RB Middle (12)	1905	20.97	21.09	20.70
		1880	20.93	20.90	20.54
		1855	20.94	21.03	20.81
	25RB Low (0)	1905	20.83	20.95	20.58
		1880	20.91	20.89	20.49
		1855	20.94	21.07	20.64
	50RB (0)	1905	20.85	20.84	20.60
		1880	20.84	20.83	20.54
		1855	20.91	20.99	20.71
15 MHz	1RB High (74)	1902.5	20.91	21.39	21.19
		1880	20.90	21.50	21.01

	1RB Middle (37)	1857.5	20.87	20.87	21.21
		1902.5	20.89	21.29	21.16
		1880	20.86	21.57	21.18
	1RB Low (0)	1857.5	20.86	20.88	21.13
		1902.5	20.89	21.36	21.21
		1880	20.88	21.54	21.09
	36RB High (38)	1857.5	20.86	20.91	21.09
		1902.5	20.99	21.02	20.61
		1880	20.96	20.96	20.62
	36RB Middle (19)	1857.5	20.97	20.95	20.68
		1902.5	20.91	20.94	20.56
		1880	20.91	20.88	20.72
	36RB Low (0)	1857.5	20.98	20.92	20.73
		1902.5	20.85	20.88	20.60
		1880	20.87	20.80	20.56
	75RB (0)	1857.5	20.81	20.81	20.59
		1902.5	20.89	20.89	20.57
		1880	20.83	20.87	20.69
20 MHz	1RB High (99)	1857.5	20.92	20.89	20.67
		1900	20.80	21.11	21.13
		1880	20.75	21.15	21.27
	1RB Middle (50)	1860	20.76	21.17	21.21
		1900	20.78	21.24	21.19
		1880	20.74	21.29	21.11
	1RB Low (0)	1860	20.69	21.16	21.27
		1900	20.74	21.24	21.22
		1880	20.76	21.28	21.28
	50RB High (50)	1860	20.63	21.16	21.26
		1900	20.96	21.00	20.69
		1880	20.92	20.94	20.67
	50RB Middle (25)	1860	20.92	20.94	20.68
		1900	20.96	20.99	20.66
		1880	20.84	20.85	20.68
	50RB Low (0)	1860	20.89	20.89	20.67
		1900	20.84	20.84	20.68
		1880	20.82	20.75	20.66
	100RB (0)	1860	20.80	20.77	20.68
		1900	20.87	20.90	20.57
		1880	20.80	20.82	20.64
		1860	20.88	20.87	20.69

Band 5					
Bandwidth (MHz)	RB allocation	Frequency (MHz)	QPSK	16QAM	64QAM
	RB offset (Start RB)		Actual output power (dBm)	Actual output power (dBm)	Actual output power (dBm)
1.4 MHz	1RB High (5)	848.3	23.33	22.69	21.83
		836.5	23.37	22.43	21.96
		824.7	23.44	22.63	21.91
	1RB Middle (3)	848.3	23.42	22.83	22.17
		836.5	23.45	22.51	22.07
		824.7	23.48	22.68	22.11
	1RB Low (0)	848.3	23.30	22.86	22.11
		836.5	23.35	22.40	21.99
		824.7	23.35	22.53	22.03
	3RB High (3)	848.3	23.39	22.70	21.90
		836.5	23.37	22.65	22.05
		824.7	23.38	22.48	21.98
	3RB Middle (1)	848.3	23.48	22.69	22.03
		836.5	23.38	22.62	22.00
		824.7	23.47	22.54	21.98
	3RB Low (0)	848.3	23.42	22.68	21.97
		836.5	23.36	22.58	21.93
		824.7	23.37	22.42	22.01
	6RB (0)	848.3	22.38	21.39	20.98
		836.5	22.42	21.56	20.87
		824.7	22.46	21.64	20.94
3 MHz	1RB High (14)	847.5	23.46	23.01	22.03
		836.5	23.43	22.45	22.10
		825.5	23.46	22.40	22.19
	1RB Middle (7)	847.5	23.44	22.79	21.94
		836.5	23.43	22.44	22.05
		825.5	23.41	22.34	22.08
	1RB Low (0)	847.5	23.36	22.93	22.05
		836.5	23.50	22.58	22.18
		825.5	23.52	22.44	22.22
	8RB High (7)	847.5	22.46	21.52	21.05
		836.5	22.51	21.56	21.03
		825.5	22.57	21.65	21.08
	8RB Middle (4)	847.5	22.54	21.58	21.06
		836.5	22.49	21.59	21.04
		825.5	22.59	21.72	21.12
	8RB Low (0)	847.5	22.47	21.54	21.00
		836.5	22.51	21.58	21.09
		825.5	22.53	21.64	21.01
	15RB (0)	847.5	22.55	21.56	21.05
		836.5	22.53	21.46	21.04
		825.5	22.63	21.66	21.01
5 MHz	1RB High (24)	846.5	23.42	22.82	22.08
		836.5	23.40	22.84	22.22
		825.5	23.45	22.78	22.23

	1RB Middle (12)	846.5	23.30	22.83	22.19
		836.5	23.45	22.88	22.05
		825.5	23.44	22.80	22.04
	1RB Low (0)	846.5	23.41	22.88	22.29
		836.5	23.50	22.96	22.24
		825.5	23.55	22.92	22.22
	12RB High (13)	846.5	22.49	21.65	20.94
		836.5	22.54	21.65	21.01
		825.5	22.57	21.58	21.00
	12RB Middle (6)	846.5	22.47	21.60	21.03
		836.5	22.55	21.64	21.05
		825.5	22.62	21.66	21.21
	12RB Low (0)	846.5	22.53	21.63	21.02
		836.5	22.57	21.65	21.07
		825.5	22.59	21.66	21.05
	25RB (0)	846.5	22.49	21.51	20.97
		836.5	22.53	21.53	21.01
		825.5	22.59	21.63	21.05
10 MHz	1RB High (49)	844	23.41	22.63	22.05
		836.5	23.29	22.80	22.07
		829	23.46	22.96	22.07
	1RB Middle (24)	844	23.37	22.70	22.25
		836.5	23.44	22.85	22.08
		829	23.39	22.78	22.15
	1RB Low (0)	844	23.36	22.75	22.33
		836.5	23.45	22.88	22.17
		829	23.27	22.89	22.02
	25RB High (25)	844	22.52	21.56	21.04
		836.5	22.57	21.61	21.05
		829	22.56	21.64	20.91
	25RB Middle (12)	844	22.50	21.50	21.02
		836.5	22.50	21.56	21.07
		829	22.64	21.71	21.02
	25RB Low (0)	844	22.49	21.50	21.10
		836.5	22.55	21.61	20.98
		829	22.53	21.64	21.02
	50RB (0)	844	22.48	21.52	21.02
		836.5	22.51	21.52	21.01
		829	22.61	21.65	21.14

Band 7					
Bandwidth (MHz)	RB allocation	Frequency (MHz)	QPSK	16QAM	64QAM
	RB offset (Start RB)		Actual output power (dBm)	Actual output power (dBm)	Actual output power (dBm)
5 MHz	1RB High (24)	2567.5	16.61	16.74	16.93
		2535	16.66	16.78	16.95
		2502.5	16.50	16.98	16.81
	1RB Middle (12)	2567.5	16.54	16.70	16.96
		2535	16.60	16.69	16.96
		2502.5	16.51	16.97	16.72
	1RB Low (0)	2567.5	16.56	16.73	16.98
		2535	16.56	16.72	16.84
		2502.5	16.44	16.97	16.78
	12RB High (13)	2567.5	16.62	16.68	16.83
		2535	16.62	16.69	16.97
		2502.5	16.60	16.77	16.74
	12RB Middle (6)	2567.5	16.61	16.68	16.88
		2535	16.60	16.67	16.82
		2502.5	16.57	16.74	16.64
	12RB Low (0)	2567.5	16.66	16.66	16.87
		2535	16.60	16.69	16.84
		2502.5	16.60	16.73	16.65
	25RB (0)	2567.5	16.60	16.58	16.91
		2535	16.61	16.63	16.80
		2502.5	16.62	16.69	16.66
10 MHz	1RB High (49)	2565	16.41	16.66	16.94
		2535	16.59	16.49	16.89
		2505	16.52	16.98	16.74
	1RB Middle (24)	2565	16.40	16.53	16.96
		2535	16.48	16.48	16.98
		2505	16.48	16.90	16.71
	1RB Low (0)	2565	16.40	16.54	16.90
		2535	16.48	16.45	16.95
		2505	16.44	16.84	16.70
	25RB High (25)	2565	16.65	16.74	16.90
		2535	16.64	16.66	16.90
		2505	16.66	16.70	16.74
	25RB Middle (12)	2565	16.59	16.70	16.81
		2535	16.65	16.64	16.83
		2505	16.66	16.70	16.70
	25RB Low (0)	2565	16.60	16.66	16.87
		2535	16.61	16.62	16.80
		2505	16.56	16.59	16.66
	50RB (0)	2565	16.54	16.61	16.89
		2535	16.56	16.53	16.89
		2505	16.60	16.63	16.72
15 MHz	1RB High (74)	2562.5	16.55	16.89	16.96
		2535	16.62	16.98	17.01

	1RB Middle (37)	2507.5	16.56	17.01	16.79
		2562.5	16.51	16.54	16.91
		2535	16.61	16.97	16.94
		2507.5	16.57	17.01	16.77
	1RB Low (0)	2562.5	16.51	16.52	16.87
		2535	16.62	16.96	16.96
		2507.5	16.59	17.01	16.62
	36RB High (38)	2562.5	16.69	16.63	16.97
		2535	16.68	16.73	16.91
		2507.5	16.68	16.63	16.67
	36RB Middle (19)	2562.5	16.64	16.65	16.86
		2535	16.64	16.67	16.81
		2507.5	16.66	16.62	16.71
	36RB Low (0)	2562.5	16.56	16.54	16.90
		2535	16.63	16.65	16.81
		2507.5	16.58	16.53	16.64
	75RB (0)	2562.5	16.61	16.61	16.90
		2535	16.58	16.59	16.88
		2507.5	16.61	16.63	16.64
20 MHz	1RB High (99)	2560	16.69	16.89	16.95
		2535	16.71	16.95	16.96
		2510	16.68	17.06	16.72
	1RB Middle (50)	2560	16.58	16.93	16.86
		2535	16.56	16.96	17.04
		2510	16.53	17.05	16.76
	1RB Low (0)	2560	16.67	16.88	16.84
		2535	16.61	16.88	16.84
		2510	16.59	17.03	16.72
	50RB High (50)	2560	16.61	16.58	16.87
		2535	16.70	16.65	16.91
		2510	16.72	16.60	16.73
	50RB Middle (25)	2560	16.68	16.57	16.86
		2535	16.67	16.54	16.89
		2510	16.63	16.60	16.66
	50RB Low (0)	2560	16.59	16.54	16.82
		2535	16.57	16.58	16.84
		2510	16.49	16.57	16.64
	100RB (0)	2560	16.52	16.56	16.88
		2535	16.51	16.52	16.82
		2510	16.56	16.63	16.61

Band 12					
Bandwidth (MHz)	RB allocation	Frequency (MHz)	QPSK	16QAM	64QAM
	RB offset (Start RB)		Actual output power (dBm)	Actual output power (dBm)	Actual output power (dBm)
1.4 MHz	1RB High (5)	715.3	23.15	22.24	21.79
		707.5	23.31	22.49	22.00
		699.7	23.25	22.67	21.81
	1RB Middle (3)	715.3	23.26	22.35	21.80
		707.5	23.38	22.54	21.90
		699.7	23.36	22.76	21.99
	1RB Low (0)	715.3	23.16	22.28	21.95
		707.5	23.31	22.48	21.87
		699.7	23.30	22.78	21.98
	3RB High (3)	715.3	23.20	22.49	21.86
		707.5	23.28	22.37	21.89
		699.7	23.25	22.43	21.89
	3RB Middle (1)	715.3	23.25	22.53	21.98
		707.5	23.25	22.37	21.99
		699.7	23.38	22.55	21.92
	3RB Low (0)	715.3	23.20	22.52	21.93
		707.5	23.23	22.33	21.91
		699.7	23.34	22.50	21.97
	6RB (0)	715.3	22.34	21.44	20.79
		707.5	22.41	21.59	20.88
		699.7	22.37	21.24	20.78
3 MHz	1RB High (14)	714.5	23.26	22.28	21.80
		707.5	23.34	22.31	21.90
		700.5	23.33	22.76	22.11
	1RB Middle (7)	714.5	23.21	22.36	21.93
		707.5	23.31	22.32	22.11
		700.5	23.39	22.80	21.99
	1RB Low (0)	714.5	23.33	22.45	21.97
		707.5	23.33	22.36	22.06
		700.5	23.45	22.93	22.15
	8RB High (7)	714.5	22.35	21.44	20.92
		707.5	22.45	21.57	20.96
		700.5	22.35	21.47	20.84
	8RB Middle (4)	714.5	22.40	21.49	20.98
		707.5	22.42	21.53	20.94
		700.5	22.39	21.54	20.88
	8RB Low (0)	714.5	22.37	21.45	20.91
		707.5	22.43	21.56	20.98
		700.5	22.41	21.52	20.97
	15RB (0)	714.5	22.35	21.33	20.79
		707.5	22.46	21.49	20.90
		700.5	22.41	21.46	20.88
5 MHz	1RB	713.5	23.52	22.76	21.85

	High (24)	707.5	23.42	22.58	22.13
		701.5	23.41	22.56	22.06
	1RB Middle (12)	713.5	23.28	22.88	21.98
		707.5	23.39	22.57	22.08
		701.5	23.43	22.54	22.03
	1RB Low (0)	713.5	23.29	22.94	21.96
		707.5	23.45	22.58	22.21
		701.5	23.45	22.62	22.13
	12RB High (13)	713.5	22.42	21.56	20.92
		707.5	22.47	21.51	20.97
		701.5	22.40	21.45	20.90
	12RB Middle (6)	713.5	22.44	21.56	21.00
		707.5	22.49	21.50	20.97
		701.5	22.43	21.51	20.97
	12RB Low (0)	713.5	22.42	21.57	20.98
		707.5	22.51	21.53	21.07
		701.5	22.39	21.49	20.88
	25RB (0)	713.5	22.42	21.47	20.90
		707.5	22.42	21.39	20.92
		701.5	22.47	21.45	20.92
10 MHz	1RB High (49)	711	23.24	22.73	21.79
		707.5	23.23	22.34	21.89
		704	23.34	22.41	22.25
	1RB Middle (24)	711	23.37	22.75	21.95
		707.5	23.32	22.42	21.97
		704	23.25	22.35	22.12
	1RB Low (0)	711	23.32	22.78	22.06
		707.5	23.26	22.42	21.91
		704	23.31	22.36	22.05
	25RB High (25)	711	22.44	21.49	20.92
		707.5	22.45	21.54	20.96
		704	22.44	21.43	20.93
	25RB Middle (12)	711	22.45	21.50	21.00
		707.5	22.47	21.54	20.98
		704	22.51	21.49	21.01
	25RB Low (0)	711	22.50	21.56	21.03
		707.5	22.46	21.57	21.00
		704	22.46	21.46	20.83
	50RB (0)	711	22.41	21.47	20.99
		707.5	22.41	21.47	20.86
		704	22.45	21.43	20.87

Band 66					
Bandwidth (MHz)	RB allocation	Frequency (MHz)	QPSK	16QAM	64QAM
	RB offset (Start RB)		Actual output power (dBm)	Actual output power (dBm)	Actual output power (dBm)
1.4 MHz	1RB High (5)	1779.3	23.33	22.44	21.87
		1745	23.45	22.64	21.83
		1710.7	23.43	22.82	21.82
	1RB Middle (3)	1779.3	23.37	22.48	21.93
		1745	23.49	22.69	21.91
		1710.7	23.59	22.95	21.96
	1RB Low (0)	1779.3	23.34	22.35	21.86
		1745	23.48	22.64	21.99
		1710.7	23.48	22.92	21.90
	3RB High (3)	1779.3	23.37	22.66	21.88
		1745	23.40	22.49	21.94
		1710.7	23.46	22.77	21.91
	3RB Middle (1)	1779.3	23.40	22.67	21.90
		1745	23.42	22.52	21.93
		1710.7	23.54	22.78	22.00
	3RB Low (0)	1779.3	23.35	22.63	21.84
		1745	23.42	22.48	21.83
		1710.7	23.49	22.75	21.92
	6RB (0)	1779.3	22.45	21.57	20.68
		1745	22.50	21.63	20.80
		1710.7	22.51	21.45	20.75
3 MHz	1RB High (14)	1778.5	23.41	22.43	21.93
		1745	23.45	22.41	22.01
		1711.5	23.57	22.98	22.09
	1RB Middle (7)	1778.5	23.35	22.44	21.81
		1745	23.38	22.44	21.87
		1711.5	23.45	22.92	21.80
	1RB Low (0)	1778.5	23.40	22.53	21.88
		1745	23.36	22.42	21.97
		1711.5	23.57	22.96	21.89
	8RB High (7)	1778.5	22.50	21.56	20.82
		1745	22.52	21.69	20.83
		1711.5	22.56	21.61	20.81
	8RB Middle (4)	1778.5	22.53	21.62	20.86
		1745	22.58	21.71	20.91
		1711.5	22.59	21.63	20.89
	8RB Low (0)	1778.5	22.50	21.58	20.84
		1745	22.49	21.61	20.84
		1711.5	22.58	21.62	20.82
	15RB (0)	1778.5	22.52	21.51	20.81
		1745	22.54	21.56	20.80

		1711.5	22.58	21.68	20.84
5 MHz	1RB High (24)	1777.5	23.43	22.58	21.89
		1745	23.52	22.68	21.94
		1712.5	23.53	23.00	21.82
		1712.5	23.53	23.00	21.82
	1RB Middle (12)	1777.5	23.46	22.56	21.77
		1745	23.51	22.65	21.93
		1712.5	23.56	22.95	21.80
	1RB Low (0)	1777.5	23.49	22.67	22.00
		1745	23.49	22.65	21.96
		1712.5	23.63	22.97	21.96
	12RB High (13)	1777.5	22.53	21.58	20.81
		1745	22.56	21.63	20.87
		1712.5	22.64	21.76	20.85
	12RB Middle (6)	1777.5	22.56	21.62	20.88
		1745	22.54	21.60	20.91
		1712.5	22.68	21.77	20.93
	12RB Low (0)	1777.5	22.57	21.62	20.82
		1745	22.49	21.59	20.84
		1712.5	22.64	21.75	20.88
	25RB (0)	1777.5	22.52	21.49	20.81
		1745	22.48	21.56	20.86
		1712.5	22.63	21.64	20.89
10 MHz	1RB High (49)	1775	23.33	22.50	21.99
		1745	23.46	22.58	21.93
		1715	23.49	22.88	21.79
		1715	23.49	22.88	21.79
	1RB Middle (24)	1775	23.41	22.55	21.86
		1745	23.36	22.58	21.83
		1715	23.52	22.86	21.98
	1RB Low (0)	1775	23.44	22.53	21.85
		1745	23.44	22.54	21.97
		1715	23.47	22.87	21.92
	25RB High (25)	1775	22.53	21.70	20.82
		1745	22.54	21.60	21.01
		1715	22.51	21.67	20.82
	25RB Middle (12)	1775	22.50	21.57	20.77
		1745	22.55	21.58	20.88
		1715	22.62	21.61	21.00
	25RB Low (0)	1775	22.47	21.59	20.76
		1745	22.52	21.58	20.79
		1715	22.58	21.62	20.80
	50RB (0)	1775	22.45	21.53	20.83
		1745	22.46	21.48	20.81
		1715	22.56	21.61	20.83
15 MHz	1RB High (74)	1772.5	23.44	22.82	21.92
		1745	23.52	22.95	21.91
		1717.5	22.01	21.01	19.93
	1RB Middle	1772.5	23.48	22.87	21.95
		1745	23.55	22.91	21.93

	(37)	1717.5	23.47	22.60	21.97
	1RB Low (0)	1772.5	23.46	22.93	21.79
		1745	23.52	22.89	22.00
		1717.5	23.39	22.52	21.79
	36RB High (38)	1772.5	22.52	21.53	20.81
		1745	22.51	21.58	20.88
		1717.5	22.56	21.61	20.77
	36RB Middle (19)	1772.5	22.50	21.57	20.78
		1745	22.49	21.54	20.81
		1717.5	22.58	21.63	20.82
	36RB Low (0)	1772.5	22.51	21.53	20.77
		1745	22.49	21.48	20.73
		1717.5	22.48	21.55	20.80
	75RB (0)	1772.5	22.43	21.54	20.84
		1745	22.48	21.49	20.89
		1717.5	22.57	21.56	20.77
20 MHz	1RB High (99)	1770	23.42	22.84	21.94
		1745	23.47	22.85	21.94
		1720	23.42	22.84	19.36
	1RB Middle (50)	1770	23.42	22.86	21.91
		1745	23.49	22.96	21.92
		1720	23.47	22.97	21.95
	1RB Low (0)	1770	23.47	22.79	21.30
		1745	23.55	22.98	22.00
		1720	23.11	22.71	22.00
	50RB High (50)	1770	22.49	21.51	20.78
		1745	22.60	21.63	20.84
		1720	21.40	20.54	19.70
	50RB Middle (25)	1770	22.57	21.49	20.90
		1745	22.54	21.57	20.86
		1720	22.48	21.51	20.71
	50RB Low (0)	1770	22.51	21.44	20.87
		1745	22.56	21.56	20.76
		1720	22.55	21.56	20.75
	100RB (0)	1770	22.60	21.57	20.76
		1745	22.53	21.57	20.77
		1720	22.18	21.32	20.75

Level C1-Head

Band 5					
Bandwidth (MHz)	RB allocation	Frequency (MHz)	QPSK	16QAM	64QAM
	RB offset (Start RB)		Actual output power (dBm)	Actual output power (dBm)	Actual output power (dBm)
1.4 MHz	1RB High (5)	848.3	18.28	18.65	18.57
		836.5	18.31	18.41	18.69
		824.7	18.33	18.51	18.65
	1RB Middle (3)	848.3	18.34	18.79	18.70
		836.5	18.41	18.49	18.78
		824.7	18.42	18.62	18.71
	1RB Low (0)	848.3	18.33	18.76	18.67
		836.5	18.36	18.39	18.64
		824.7	18.32	18.47	18.60
	3RB High (3)	848.3	18.28	18.56	18.58
		836.5	18.33	18.58	18.58
		824.7	18.31	18.44	18.52
	3RB Middle (1)	848.3	18.35	18.62	18.71
		836.5	18.36	18.57	18.64
		824.7	18.42	18.52	18.67
	3RB Low (0)	848.3	18.31	18.60	18.62
		836.5	18.30	18.55	18.55
		824.7	18.38	18.48	18.66
	6RB (0)	848.3	18.34	18.31	18.44
		836.5	18.31	18.52	18.54
		824.7	18.38	18.53	18.45
3 MHz	1RB High (14)	847.5	18.33	18.76	18.72
		836.5	18.38	18.45	18.74
		825.5	18.40	18.39	18.63
	1RB Middle (7)	847.5	18.34	18.80	18.67
		836.5	18.39	18.46	18.52
		825.5	18.37	18.37	18.68
	1RB Low (0)	847.5	18.41	18.82	18.80
		836.5	18.43	18.56	18.68
		825.5	18.47	18.39	18.73
	8RB High (7)	847.5	18.40	18.45	18.54
		836.5	18.45	18.53	18.61
		825.5	18.49	18.63	18.56
	8RB Middle (4)	847.5	18.42	18.52	18.58
		836.5	18.45	18.53	18.58
		825.5	18.51	18.65	18.61
	8RB Low (0)	847.5	18.43	18.52	18.55
		836.5	18.43	18.52	18.54
		825.5	18.43	18.58	18.59
	15RB (0)	847.5	18.43	18.48	18.58
		836.5	18.43	18.39	18.59
		825.5	18.55	18.58	18.58
5 MHz	1RB	846.5	18.30	18.50	18.47

	High (24)	836.5	18.36	18.63	18.52
		825.5	18.40	18.82	18.58
	1RB Middle (12)	846.5	18.34	18.50	18.55
		836.5	18.41	18.63	18.64
		825.5	18.45	18.87	18.57
	1RB Low (0)	846.5	18.37	18.58	18.65
		836.5	18.42	18.70	18.77
		825.5	18.46	18.83	18.62
	12RB High (13)	846.5	18.42	18.47	18.39
		836.5	18.46	18.52	18.40
		825.5	18.50	18.64	18.48
	12RB Middle (6)	846.5	18.49	18.55	18.48
		836.5	18.45	18.58	18.50
		825.5	18.48	18.68	18.39
	12RB Low (0)	846.5	18.41	18.54	18.45
		836.5	18.46	18.60	18.45
		825.5	18.51	18.67	18.45
	25RB (0)	846.5	18.47	18.41	18.42
		836.5	18.45	18.51	18.42
		825.5	18.50	18.57	18.46
10 MHz	1RB High (49)	844	18.22	18.78	18.55
		836.5	18.22	18.38	18.47
		829	18.42	18.47	18.49
	1RB Middle (24)	844	18.32	18.79	18.52
		836.5	18.36	18.45	18.47
		829	18.40	18.44	18.61
	1RB Low (0)	844	18.33	18.82	18.48
		836.5	18.41	18.50	18.59
		829	18.31	18.37	18.55
	25RB High (25)	844	18.43	18.49	18.40
		836.5	18.45	18.59	18.53
		829	18.48	18.53	18.34
	25RB Middle (12)	844	18.45	18.53	18.45
		836.5	18.44	18.55	18.42
		829	18.52	18.54	18.50
	25RB Low (0)	844	18.36	18.42	18.41
		836.5	18.42	18.59	18.38
		829	18.46	18.48	18.46
	50RB (0)	844	18.49	18.47	18.48
		836.5	18.47	18.44	18.46
		829	18.50	18.46	18.44

Level C1-head

Band 66					
Bandwidth (MHz)	RB allocation	Frequency (MHz)	QPSK	16QAM	64QAM
	RB offset (Start RB)		Actual output power (dBm)	Actual output power (dBm)	Actual output power (dBm)
1.4 MHz	1RB High (5)	1779.3	18.31	18.45	18.80
		1745	18.46	18.59	18.84
		1710.7	18.35	18.80	18.82
	1RB Middle (3)	1779.3	18.33	18.48	18.75
		1745	18.48	18.66	18.76
		1710.7	18.47	18.89	18.89
	1RB Low (0)	1779.3	18.27	18.43	18.74
		1745	18.45	18.59	18.80
		1710.7	18.41	18.82	18.87
	3RB High (3)	1779.3	18.31	18.57	18.65
		1745	18.42	18.54	18.72
		1710.7	18.39	18.60	18.71
	3RB Middle (1)	1779.3	18.33	18.63	18.73
		1745	18.43	18.55	18.81
		1710.7	18.40	18.68	18.80
	3RB Low (0)	1779.3	18.29	18.54	18.68
		1745	18.36	18.55	18.78
		1710.7	18.38	18.63	18.79
	6RB (0)	1779.3	18.39	18.55	18.58
		1745	18.46	18.64	18.65
		1710.7	18.45	18.40	18.61
3 MHz	1RB High (14)	1778.5	18.37	18.47	18.80
		1745	18.47	18.47	18.80
		1711.5	18.47	18.70	18.81
	1RB Middle (7)	1778.5	18.29	18.44	18.85
		1745	18.42	18.45	18.81
		1711.5	18.46	18.88	18.71
	1RB Low (0)	1778.5	18.37	18.56	18.77
		1745	18.36	18.41	18.82
		1711.5	18.47	18.89	18.75
	8RB High (7)	1778.5	18.47	18.52	18.65
		1745	18.55	18.67	18.72
		1711.5	18.50	18.58	18.80
	8RB Middle (4)	1778.5	18.53	18.60	18.74
		1745	18.52	18.63	18.74
		1711.5	18.57	18.60	18.73
	8RB Low (0)	1778.5	18.45	18.50	18.72
		1745	18.51	18.60	18.70
		1711.5	18.54	18.63	18.71
	15RB	1778.5	18.50	18.49	18.67

	(0)	1745	18.51	18.54	18.66
		1711.5	18.53	18.63	18.69
5 MHz	1RB High (24)	1777.5	18.44	18.58	18.83
		1745	18.45	18.78	18.83
		1712.5	18.47	18.72	18.70
		1777.5	18.47	18.58	18.70
	1RB Middle (12)	1745	18.50	18.86	18.82
		1712.5	18.48	18.64	18.78
		1777.5	18.51	18.65	18.72
	1RB Low (0)	1745	18.36	18.76	18.76
		1712.5	18.49	18.65	18.75
		1777.5	18.48	18.58	18.67
	12RB High (13)	1745	18.55	18.69	18.81
		1712.5	18.51	18.59	18.74
		1777.5	18.51	18.61	18.78
	12RB Middle (6)	1745	18.53	18.68	18.74
		1712.5	18.56	18.64	18.77
		1777.5	18.49	18.57	18.72
	12RB Low (0)	1745	18.50	18.67	18.73
		1712.5	18.52	18.61	18.71
		1777.5	18.45	18.51	18.72
	25RB (0)	1745	18.50	18.53	18.71
		1712.5	18.50	18.50	18.76
		1775	18.38	18.40	18.87
10 MHz	1RB High (49)	1745	18.48	18.39	18.87
		1715	18.49	18.83	18.85
		1775	18.36	18.45	18.74
	1RB Middle (24)	1745	18.47	18.45	18.75
		1715	18.41	18.83	18.70
		1775	18.30	18.48	18.66
	1RB Low (0)	1745	18.41	18.48	18.71
		1715	18.44	18.88	18.87
		1775	18.47	18.55	18.63
	25RB High (25)	1745	18.54	18.56	18.80
		1715	18.48	18.54	18.76
		1775	18.42	18.53	18.62
	25RB Middle (12)	1745	18.49	18.51	18.77
		1715	18.55	18.62	18.79
		1775	18.42	18.54	18.61
	25RB Low (0)	1745	18.49	18.50	18.60
		1715	18.53	18.61	18.65
		1775	18.40	18.55	18.68
	50RB (0)	1745	18.52	18.44	18.60
		1715	18.57	18.60	18.72
		1772.5	18.36	18.36	18.73
15 MHz	1RB High (74)	1745	18.46	18.82	18.67
		1717.5	18.40	18.76	18.80
		1772.5	18.40	18.39	18.72
	1RB	1772.5	18.40	18.39	18.72

	Middle (37)	1745	18.48	18.72	18.80
		1717.5	18.47	18.73	18.62
	1RB Low (0)	1772.5	18.41	18.43	18.88
		1745	18.45	18.85	18.80
		1717.5	18.41	18.85	18.77
	36RB High (38)	1772.5	18.46	18.47	18.64
		1745	18.51	18.57	18.73
		1717.5	18.51	18.47	18.68
	36RB Middle (19)	1772.5	18.42	18.42	18.56
		1745	18.44	18.53	18.75
		1717.5	18.51	18.54	18.80
	36RB Low (0)	1772.5	18.42	18.46	18.61
		1745	18.42	18.47	18.72
		1717.5	18.40	18.41	18.73
	75RB (0)	1772.5	18.38	18.41	18.59
		1745	18.45	18.42	18.61
		1717.5	18.49	18.50	18.70
20 MHz	1RB High (99)	1770	18.28	18.84	18.74
		1745	18.41	18.77	18.68
		1720	18.33	18.75	18.63
	1RB Middle (50)	1770	18.27	18.80	18.78
		1745	18.37	18.87	18.77
		1720	18.27	18.74	18.75
	1RB Low (0)	1770	18.40	18.76	18.85
		1745	18.38	18.72	18.75
		1720	18.37	18.80	18.79
	50RB High (50)	1770	18.45	18.50	18.77
		1745	18.41	18.50	18.73
		1720	18.50	18.52	18.68
	50RB Middle (25)	1770	18.41	18.43	18.70
		1745	18.45	18.44	18.71
		1720	18.55	18.59	18.77
	50RB Low (0)	1770	18.42	18.48	18.64
		1745	18.44	18.42	18.63
		1720	18.43	18.46	18.68
	100RB (0)	1770	18.37	18.41	18.72
		1745	18.43	18.52	18.65
		1720	18.53	18.56	18.74

Level C1-Body

Band 66					
Bandwidth (MHz)	RB allocation	Frequency (MHz)	QPSK	16QAM	64QAM
	RB offset (Start RB)		Actual output power (dBm)	Actual output power (dBm)	Actual output power (dBm)
1.4 MHz	1RB High (5)	1779.3	20.35	20.40	20.95
		1745	20.44	20.59	20.89
		1710.7	20.39	20.84	20.87
	1RB Middle (3)	1779.3	20.40	20.50	20.97
		1745	20.48	20.66	20.96
		1710.7	20.48	20.94	20.95
	1RB Low (0)	1779.3	20.33	20.43	20.96
		1745	20.44	20.59	20.94
		1710.7	20.41	20.84	20.95
	3RB High (3)	1779.3	20.31	20.55	20.85
		1745	20.41	20.51	20.84
		1710.7	20.39	20.59	20.81
	3RB Middle (1)	1779.3	20.34	20.61	20.96
		1745	20.42	20.52	20.95
		1710.7	20.43	20.67	20.94
	3RB Low (0)	1779.3	20.28	20.56	20.91
		1745	20.35	20.51	20.80
		1710.7	20.38	20.63	20.81
	6RB (0)	1779.3	20.38	20.55	20.77
		1745	20.44	20.60	20.65
		1710.7	20.44	20.38	20.66
3 MHz	1RB High (14)	1778.5	20.39	20.38	20.92
		1745	20.49	20.91	20.93
		1711.5	20.42	20.53	20.94
	1RB Middle (7)	1778.5	20.33	20.34	20.92
		1745	20.51	20.88	20.94
		1711.5	20.37	20.49	20.94
	1RB Low (0)	1778.5	20.35	20.42	20.93
		1745	20.45	20.85	20.91
		1711.5	20.45	20.59	20.97
	8RB High (7)	1778.5	20.41	20.57	20.77
		1745	20.54	20.63	20.87
		1711.5	20.53	20.61	20.86
	8RB Middle (4)	1778.5	20.46	20.61	20.82
		1745	20.49	20.59	20.83
		1711.5	20.55	20.65	20.91
	8RB Low (0)	1778.5	20.46	20.61	20.76
		1745	20.49	20.58	20.77
		1711.5	20.52	20.61	20.86
	15RB	1778.5	20.48	20.55	20.81

	(0)	1745	20.48	20.54	20.79
		1711.5	20.55	20.54	20.89
5 MHz	1RB High (24)	1777.5	20.47	20.62	20.93
		1745	20.40	20.78	20.98
		1712.5	20.46	20.68	20.87
		1777.5	20.49	20.62	20.95
	1RB Middle (12)	1745	20.48	20.98	20.95
		1712.5	20.48	20.67	20.94
		1777.5	20.52	20.67	20.93
	1RB Low (0)	1745	20.36	20.98	20.97
		1712.5	20.51	20.68	20.93
		1777.5	20.47	20.55	20.82
	12RB High (13)	1745	20.52	20.69	20.81
		1712.5	20.52	20.60	20.78
		1777.5	20.53	20.57	20.81
	12RB Middle (6)	1745	20.51	20.71	20.88
		1712.5	20.59	20.64	20.78
		1777.5	20.50	20.57	20.87
	12RB Low (0)	1745	20.50	20.64	20.86
		1712.5	20.56	20.63	20.82
		1777.5	20.44	20.51	20.85
	25RB (0)	1745	20.50	20.55	20.81
		1712.5	20.55	20.51	20.85
		1775	20.31	20.36	20.89
10 MHz	1RB High (49)	1745	20.50	20.86	20.97
		1715	20.28	20.42	20.91
		1775	20.38	20.40	20.96
	1RB Middle (24)	1745	20.46	20.96	20.87
		1715	20.38	20.47	20.77
		1775	20.43	20.43	20.91
	1RB Low (0)	1745	20.40	20.90	20.89
		1715	20.50	20.50	20.93
		1775	20.46	20.51	20.90
	25RB High (25)	1745	20.52	20.61	20.89
		1715	20.51	20.64	20.88
		1775	20.46	20.49	20.65
	25RB Middle (12)	1745	20.49	20.56	20.76
		1715	20.56	20.63	20.88
		1775	20.47	20.49	20.78
	25RB Low (0)	1745	20.49	20.54	20.82
		1715	20.50	20.67	20.87
		1775	20.41	20.44	20.64
	50RB (0)	1745	20.53	20.49	20.77
		1715	20.54	20.57	20.86
		1772.5	20.56	20.31	20.96
15 MHz	1RB High (74)	1745	20.43	20.91	20.89
		1717.5	20.50	20.92	20.89
		1772.5	20.42	20.43	20.90
	1RB	1772.5	20.42	20.43	20.90

	Middle (37)	1745	20.52	20.96	20.91
		1717.5	20.47	20.97	20.96
	1RB Low (0)	1772.5	20.49	20.46	20.96
		1745	20.49	20.93	20.91
		1717.5	20.46	20.81	20.83
	36RB High (38)	1772.5	20.53	20.53	20.79
		1745	20.57	20.63	20.85
		1717.5	20.53	20.48	20.76
	36RB Middle (19)	1772.5	20.46	20.50	20.73
		1745	20.50	20.56	20.78
		1717.5	20.55	20.54	20.82
	36RB Low (0)	1772.5	20.40	20.47	20.76
		1745	20.49	20.53	20.89
		1717.5	20.43	20.43	20.87
	75RB (0)	1772.5	20.46	20.45	20.73
		1745	20.48	20.51	20.70
		1717.5	20.50	20.52	20.86
20 MHz	1RB High (99)	1770	20.40	20.85	20.84
		1745	20.45	20.93	20.78
		1720	20.43	20.94	20.53
	1RB Middle (50)	1770	20.31	20.88	20.76
		1745	20.45	20.91	20.99
		1720	20.41	20.87	20.87
	1RB Low (0)	1770	20.44	20.84	20.83
		1745	20.50	20.97	20.85
		1720	20.48	20.91	20.92
	50RB High (50)	1770	20.49	20.54	20.84
		1745	20.53	20.58	20.90
		1720	20.56	20.55	20.86
	50RB Middle (25)	1770	20.48	20.53	20.84
		1745	20.49	20.51	20.84
		1720	20.56	20.58	20.88
	50RB Low (0)	1770	20.47	20.51	20.84
		1745	20.46	20.48	20.77
		1720	20.50	20.48	20.79
	100RB (0)	1770	20.47	20.48	20.80
		1745	20.48	20.46	20.73
		1720	20.55	20.60	20.74

Uplink maximum output power is measured with downlink carrier aggregation active, using the channel with highest measured maximum output power when downlink carrier aggregation is inactive. SAR test is not required since maximum output power when downlink carrier aggregation active is not more than ¼ dB higher than the maximum output power measured when downlink carrier aggregation inactive.

We have evaluated the output power values of downlink carrier aggregation, They are all not higher than the maximum output power.

The device supports Intra-band uplink LTE Carrier Aggregation (CA) CA_B7C. The conducted power measurement results of LTE CA are provided as follow.

All other uplink communications are identical to the release 8 specifications. Other LTE Rel.10 or higher features are not supported, including Enhanced SC-FDMA or Uplink MIMO etc.

Normal power										
UL LTE CA Class	PCC					SCC				Power
	PCC Band	UL channel	DL channel	RB	RB OFFSET	SCC Band	DL channel	RB	RB OFFSET	conducted power (dBm)
CA 7C	20M	21350	3350	1	0	20M	3152	1	99	23.69
CA 7C	20M	21350	3350	1	0	15M	3179	1	74	23.65
CA 7C	20M	21350	3350	1	0	10M	3206	1	49	23.55
CA 7C	20M	20850	2850	1	99	20M	3048	1	0	23.46
CA 7C	20M	20850	2850	1	99	15M	3021	1	0	23.37
CA 7C	20M	20850	2850	1	99	10M	2994	1	0	23.70
CA 7C	15M	20825	2825	1	74	10M	2945	1	0	23.52
CA 7C	15M	20825	2825	1	74	15M	2975	1	0	23.54
CA 7C	15M	21375	3375	1	0	15M	3225	1	74	23.63

Low Power										
UL LTE CA Class	PCC					SCC				Power
	PCC Band	UL channel	DL channel	RB	RB OFFSET	SCC Band	DL channel	RB	RB OFFSET	conducted power (dBm)
CA 7C	20M	21350	3350	1	0	20M	3152	1	99	17.25
CA 7C	20M	21350	3350	1	0	15M	3179	1	74	17.21
CA 7C	20M	21350	3350	1	0	10M	3206	1	49	17.16
CA 7C	20M	20850	2850	1	99	20M	3048	1	0	17.16
CA 7C	20M	20850	2850	1	99	15M	3021	1	0	17.19
CA 7C	20M	20850	2850	1	99	10M	2994	1	0	17.11
CA 7C	15M	20825	2825	1	74	10M	2945	1	0	17.10
CA 7C	15M	20825	2825	1	74	15M	2975	1	0	17.14
CA 7C	15M	21375	3375	1	0	15M	3225	1	74	17.23

11.4 Wi-Fi and BT Measurement result

The maximum output power of BT is 11.40dBm.

The maximum tune up of BT is 12dBm.

Note: Low power for WLAN by Simultaneous transmission.

The conducted output power for WiFi 2.4G Antenna4 normal power is as following:

FCC		
802.11b	Channel\data rate	1Mbps
WLAN2450	11(2462MHz)	18.16
	6(2437(MHz)	18.26
	1(2412MHz)	17.70
Tune up		18.00
802.11g	Channel\data rate	6Mbps
WLAN2450	11(2462MHz)	17.66
	6(2437(MHz)	17.52
	1(2412MHz)	17.64
Tune up		17.70
802.11n-20MHz	Channel\data rate	MCS0
WLAN2450	11(2462MHz)	16.95
	6(2437(MHz)	16.92
	1(2412MHz)	16.80
Tune up		17.00
802.11n-40MHz	Channel\data rate	MCS0
WLAN2450	9(2452MHz)	17.35
	6(2437MHz)	17.49
	3(2422MHz)	17.64
Tune up		17.70

The conducted output power for WiFi 2.4G MIMO normal power is as following:

FCC		
802.11b	Channel\data rate	1Mbps
WLAN2450	11(2462MHz)	21.60
	6(2437(MHz)	21.53
	1(2412MHz)	20.86
Tune up		22.00
802.11g	Channel\data rate	6Mbps
WLAN2450	11(2462MHz)	20.94
	6(2437(MHz)	20.71
	1(2412MHz)	20.94
Tune up		21.00
802.11n-20MHz	Channel\data rate	MCS0
WLAN2450	11(2462MHz)	20.43
	6(2437(MHz)	19.98
	1(2412MHz)	19.97
Tune up		21.00
802.11n-40MHz	Channel\data rate	MCS0
WLAN2450	9(2452MHz)	20.57
	6(2437MHz)	20.67
	3(2422MHz)	20.54
Tune up		21.00

The conducted output power for WiFi 2.4G Antenna4 low power is as following:

FCC		
802.11b	Channel\data rate	1Mbps
WLAN2450	11(2462MHz)	13.98
	6(2437(MHz)	14.27
	1(2412MHz)	13.61
Tune up	/	15.00

The conducted output power for WiFi 5G Antenna5 normal power is as following:

802.11a(dBm)	
Channel\data rate	6Mbps
36(5180 MHz)	16.85
40(5200 MHz)	16.98
44(5220 MHz)	16.69
48(5240 MHz)	16.27
Tune up	18.00
52(5260 MHz)	15.65
56(5280 MHz)	15.46
60(5300 MHz)	15.16
64(5320 MHz)	15.49
Tune up	17.00
100(5500 MHz)	16.03
104(5520 MHz)	15.98
108(5540 MHz)	15.67
112(5560 MHz)	15.71
116(5580 MHz)	15.66
Tune up	16.50
120(5600 MHz)	15.82
124(5620 MHz)	16.49
128(5640 MHz)	16.66
132(5660 MHz)	16.27
136(5680 MHz)	16.17
140(5700 MHz)	16.19
144(5720 MHz)	16.23
149(5745 MHz)	16.15
153(5765 MHz)	15.99
157(5785 MHz)	15.62
161(5805 MHz)	15.51
165(5825 MHz)	15.07
Tune up	17.00

The conducted output power for WiFi 5G MIMO normal power is as following:

802.11a(dBm)	
Channel\data rate	6Mbps
36(5180 MHz)	19.79
40(5200 MHz)	19.77
44(5220 MHz)	19.00
48(5240 MHz)	19.00
tune up	21.00
52(5260 MHz)	18.46
56(5280 MHz)	18.60
60(5300 MHz)	18.62
64(5320 MHz)	18.94
tune up	20.00
100(5500 MHz)	18.81
104(5520 MHz)	18.56
108(5540 MHz)	18.34
112(5560 MHz)	18.64
116(5580 MHz)	18.79
120(5600 MHz)	19.01
124(5620 MHz)	19.44
128(5640 MHz)	19.55
132(5660 MHz)	18.90
136(5680 MHz)	18.85
140(5700 MHz)	18.93
144(5720 MHz)	18.99
tune up	20.00
149(5745 MHz)	19.24
153(5765 MHz)	18.94
157(5785 MHz)	18.66
161(5805 MHz)	18.32
165(5825 MHz)	18.12
tune up	20.00

The conducted output power for WiFi 5G Antenna5 low power is as following:

802.11a(dBm)	
Channel\data rate	6Mbps
36(5180 MHz)	13.87
40(5200 MHz)	13.98
44(5220 MHz)	13.57
48(5240 MHz)	13.20
52(5260 MHz)	12.51
56(5280 MHz)	12.50
60(5300 MHz)	12.50
64(5320 MHz)	12.51
100(5500 MHz)	13.07
104(5520 MHz)	12.86
108(5540 MHz)	12.55
112(5560 MHz)	12.53
116(5580 MHz)	12.58
120(5600 MHz)	12.72
124(5620 MHz)	13.26
128(5640 MHz)	13.98
132(5660 MHz)	13.62
136(5680 MHz)	13.61
140(5700 MHz)	13.50
144(5720 MHz)	13.50
149(5745 MHz)	13.34
153(5765 MHz)	13.35
157(5785 MHz)	13.23
161(5805 MHz)	12.71
165(5825 MHz)	12.59
tune up	14.50

The conducted output power for WiFi 5G MIMO Low power is as following:

802.11a(dBm)	
Channel\data rate	6Mbps
	2200
36(5180 MHz)	16.75
40(5200 MHz)	16.67
44(5220 MHz)	16.67
48(5240 MHz)	16.35
Tune up	18.00
52(5260 MHz)	15.74
56(5280 MHz)	15.55
60(5300 MHz)	15.60
64(5320 MHz)	15.80
Tune up	17.50
100(5500 MHz)	15.79
104(5520 MHz)	15.52
108(5540 MHz)	15.21
112(5560 MHz)	15.53
116(5580 MHz)	15.75
120(5600 MHz)	15.98
124(5620 MHz)	16.40
128(5640 MHz)	16.75
132(5660 MHz)	16.73
136(5680 MHz)	16.72
140(5700 MHz)	16.57
144(5720 MHz)	16.47
Tune up	18.00
149(5745 MHz)	16.45
153(5765 MHz)	16.28
157(5785 MHz)	16.09
161(5805 MHz)	16.01
165(5825 MHz)	15.30
tune up	17.00

11.4 NR 5G Measurement result

Maximum Target Power for Production Unit – Level A1

n7 for B66+n7				
Modulation		MPR (dB)		
		Edge RB allocations	Outer RB allocations	Inner RB allocations
DFT-s-OFDM	Pi/2 BPSK	$\leq 3.5^1$	$\leq 1.2^1$	$\leq 0.2^1$
		$\leq 0.5^2$	$\leq 0.5^2$	0
	QPSK	≤ 1		0
	16 QAM	≤ 2		≤ 1
	64 QAM	≤ 2.5		
CP-OFDM	256 QAM	≤ 4.5		
	QPSK	≤ 3		≤ 1.5
	16 QAM	≤ 3		≤ 2
	64 QAM	≤ 3.5		
	256 QAM	≤ 6.5		

n7 for B5+n7				
Modulation		MPR (dB)		
		Edge RB allocations	Outer RB allocations	Inner RB allocations
DFT-s-OFDM	Pi/2 BPSK	$\leq 3.5^1$	$\leq 1.2^1$	$\leq 0.2^1$
		$\leq 0.5^2$	$\leq 0.5^2$	0
	QPSK	≤ 1		0
	16 QAM	≤ 2		≤ 1
	64 QAM	≤ 2.5		
CP-OFDM	256 QAM	≤ 4.5		
	QPSK	≤ 3		≤ 1.5
	16 QAM	≤ 3		≤ 2
	64 QAM	≤ 3.5		
	256 QAM	≤ 6.5		

Maximum Target Power for Production Unit – Level B1

n7 for B66+n7				
Modulation		MPR (dB)		
		Edge RB allocations	Outer RB allocations	Inner RB allocations
DFT-s-OFDM	Pi/2 BPSK	$\leq 3.5^{\pm}$	$\leq 1.2^{\pm}$	$\leq 0.2^{\pm}$
		0	0	0
	QPSK	0		0
	16 QAM	≤ 1		0
	64 QAM	≤ 1.5		
CP-OFDM	256 QAM	≤ 3.5		
	QPSK	≤ 2		≤ 0.5
	16 QAM	≤ 2		≤ 1
	64 QAM	≤ 2.5		
	256 QAM	≤ 5.5		

n7 for B5+n7				
Modulation		MPR (dB)		
		Edge RB allocations	Outer RB allocations	Inner RB allocations
DFT-s-OFDM	Pi/2 BPSK	$\leq 3.5^{\pm}$	$\leq 1.2^{\pm}$	$\leq 0.2^{\pm}$
		0	0	0
	QPSK	0		0
	16 QAM	0		0
	64 QAM	0		
CP-OFDM	256 QAM	0		
	QPSK	0		0
	16 QAM	0		0
	64 QAM	0		
	256 QAM	≤ 0.5		

Power Level A1

DC_5A_n7A

No.	Test Freq Description	5G-n7							Tune up	Power Results (dBm)
		SCS (kHz)	NR BW (MHz)	Modulation	RB allocation		NR Test Freq. (MHz)	NR Test CH.		
1	High	15	5	DFT-s-OFDM QPSK	Edge_1RB_Right	1@24	2567.5	513500	24	23.16
2	Middle	15	5	DFT-s-OFDM QPSK	Inner_Full	12@6	2535	507000	25	24.50
3	Low	15	5	DFT-s-OFDM QPSK	Edge_1RB_Left	1@0	2502.5	500500	24	22.18
4	High	15	20	DFT-s-OFDM QPSK	Edge_1RB_Right	1@105	2560	512000	24	23.18
5	Middle	15	20	DFT-s-OFDM QPSK	Inner_Full	50@25	2535	507000	25	24.70
6	Low	15	20	DFT-s-OFDM QPSK	Edge_1RB_Left	1@0	2510	502000	24	22.02

According to the table above, the maximum power configuration is selected as the default test configuration

No.	Test Freq Description	5G-n7							Tune up	Power Results (dBm)
		SCS (kHz)	NR BW (MHz)	Modulation	RB allocation		NR Test Freq. (MHz)	NR Test CH.		
1	Middle	15	20	DFT-s-OFDM PI/2 BPSK1	Inner_Full	50@25	2535	507000	24.75	24.48
2	Middle	15	20	DFT-s-OFDM 16QAM	Inner_Full	50@25	2535	507000	24	23.97
3	Middle	15	20	DFT-s-OFDM 64QAM	Inner_Full	50@25	2535	507000	22.5	22.46
4	Middle	15	20	DFT-s-OFDM 256QAM	Inner_Full	50@25	2535	507000	20.5	20.29
5	Middle	15	20	CP-OFDM QPSK	Inner_Full	50@25	2535	507000	23.5	23.44
6	Middle	15	20	CP-OFDM 16QAM	Inner_Full	50@25	2535	507000	23	22.90
7	Middle	15	20	CP-OFDM 64QAM	Inner_Full	50@25	2535	507000	21.5	21.31
8	Middle	15	20	CP-OFDM 256QAM	Inner_Full	50@25	2535	507000	18.5	18.18
9	Middle	15	20	DFT-s-OFDM QPSK	Edge_Full_Right	2@104	2535	507000	24	23.10
10	Middle	15	20	DFT-s-OFDM QPSK	Edge_Full_Left	2@0	2535	507000	24	23.21
11	Middle	15	20	DFT-s-OFDM QPSK	Inner_1RB_Right	1@104	2535	507000	25	23.96
12	Middle	15	20	DFT-s-OFDM QPSK	Inner_1RB_Left	1@1	2535	507000	25	23.99
13	Middle	15	20	DFT-s-OFDM QPSK	Outer_Full	100@0	2535	507000	24	23.94
14	Middle	15	10	DFT-s-OFDM QPSK	Inner_Full	25@12	2535	507000	25	24.68
15	Middle	15	15	DFT-s-OFDM QPSK	Inner_Full	36@18	2535	507000	25	24.65

DC_66A_n7A

No.	Test Freq Description	5G-n7							Tune up	Power Results (dBm)
		SCS (kHz)	NR BW (MHz)	Modulation	RB allocation		NR Test Freq. (MHz)	NR Test CH.		
1	High	15	5	DFT-s-OFDM QPSK	Edge_1RB_Right	1@24	2567.5	513500	24	22.97
2	Middle	15	5	DFT-s-OFDM QPSK	Inner_Full	12@6	2535	507000	25	24.34
3	Low	15	5	DFT-s-OFDM QPSK	Edge_1RB_Left	1@0	2502.5	500500	24	22.87
4	High	15	20	DFT-s-OFDM QPSK	Edge_1RB_Right	1@105	2560	512000	24	22.98
5	Middle	15	20	DFT-s-OFDM QPSK	Inner_Full	50@25	2535	507000	25	24.68
6	Low	15	20	DFT-s-OFDM QPSK	Edge_1RB_Left	1@0	2510	502000	24	22.86

According to the table above, the maximum power configuration is selected as the default test configuration

No.	Test Freq Description	5G-n7							Tune up	Power Results (dBm)
		SCS (kHz)	NR BW (MHz)	Modulation	RB allocation		NR Test Freq. (MHz)	NR Test CH.		
1	Middle	15	20	DFT-s-OFDM PI/2 BPSK1	Inner_Full	50@25	2535	507000	24.75	24.36
2	Middle	15	20	DFT-s-OFDM 16QAM	Inner_Full	50@25	2535	507000	24	23.96
3	Middle	15	20	DFT-s-OFDM 64QAM	Inner_Full	50@25	2535	507000	22.5	22.36
4	Middle	15	20	DFT-s-OFDM 256QAM	Inner_Full	50@25	2535	507000	20.5	20.27
5	Middle	15	20	CP-OFDM QPSK	Inner_Full	50@25	2535	507000	23.5	23.41
6	Middle	15	20	CP-OFDM 16QAM	Inner_Full	50@25	2535	507000	23	22.99
7	Middle	15	20	CP-OFDM 64QAM	Inner_Full	50@25	2535	507000	21.5	21.37
8	Middle	15	20	CP-OFDM 256QAM	Inner_Full	50@25	2535	507000	18.5	18.15
9	Middle	15	20	DFT-s-OFDM QPSK	Edge_Full_Right	2@104	2535	507000	24	23.08
10	Middle	15	20	DFT-s-OFDM QPSK	Edge_Full_Left	2@0	2535	507000	24	23.1
11	Middle	15	20	DFT-s-OFDM QPSK	Inner_1RB_Right	1@104	2535	507000	25	23.87
12	Middle	15	20	DFT-s-OFDM QPSK	Inner_1RB_Left	1@1	2535	507000	25	23.86
13	Middle	15	20	DFT-s-OFDM QPSK	Outer_Full	100@0	2535	507000	24	23.92
14	Middle	15	10	DFT-s-OFDM QPSK	Inner_Full	25@12	2535	507000	25	24.49
15	Middle	15	15	DFT-s-OFDM QPSK	Inner_Full	36@18	2535	507000	25	24.64

Power Level B1

DC_5A_n7A										
No.	Test Freq Description	5G-n7							Tune up	Power Results (dBm)
		SCS (kHz)	NR BW (MHz)	Modulation	RB allocation		NR Test Freq. (MHz)	NR Test CH.		
1	High	15	5	DFT-s-OFDM QPSK	Edge_1RB_Right	1@24	2567.5	513500	19	18.28
2	Middle	15	5	DFT-s-OFDM QPSK	Inner_Full	12@6	2535	507000	19	18.45
3	Low	15	5	DFT-s-OFDM QPSK	Edge_1RB_Left	1@0	2502.5	500500	19	18.25
4	High	15	20	DFT-s-OFDM QPSK	Edge_1RB_Right	1@105	2560	512000	19	18.16
5	Middle	15	20	DFT-s-OFDM QPSK	Inner_Full	50@25	2535	507000	19	18.64
6	Low	15	20	DFT-s-OFDM QPSK	Edge_1RB_Left	1@0	2510	502000	19	18.25

According to the table above, the maximum power configuration is selected as the default test configuration

5G-n7										
No.	Test Freq Description	SCS (kHz)	NR BW (MHz)	Modulation	RB allocation		NR Test Freq. (MHz)	NR Test CH.	Tune up	Power Results (dBm)
1	Middle	15	20	DFT-s-OFDM Pi/2 BPSK1	Inner_Full	50@25	2535	507000	19	18.42
2	Middle	15	20	DFT-s-OFDM 16QAM	Inner_Full	50@25	2535	507000	19	18.50
3	Middle	15	20	DFT-s-OFDM 64QAM	Inner_Full	50@25	2535	507000	19	18.62
4	Middle	15	20	DFT-s-OFDM 256QAM	Inner_Full	50@25	2535	507000	19	18.58
5	Middle	15	20	CP-OFDM QPSK	Inner_Full	50@25	2535	507000	19	18.56
6	Middle	15	20	CP-OFDM 16QAM	Inner_Full	50@25	2535	507000	19	18.61
7	Middle	15	20	CP-OFDM 64QAM	Inner_Full	50@25	2535	507000	19	18.61
8	Middle	15	20	CP-OFDM 256QAM	Inner_Full	50@25	2535	507000	19	18.24
9	Middle	15	20	DFT-s-OFDM QPSK	Edge_Full_Right	2@104	2535	507000	19	18.15
10	Middle	15	20	DFT-s-OFDM QPSK	Edge_Full_Left	2@0	2535	507000	19	18.19
11	Middle	15	20	DFT-s-OFDM QPSK	Inner_1RB_Right	1@104	2535	507000	19	18.09
12	Middle	15	20	DFT-s-OFDM QPSK	Inner_1RB_Left	1@1	2535	507000	19	18.19
13	Middle	15	20	DFT-s-OFDM QPSK	Outer_Full	100@0	2535	507000	19	18.50
14	Middle	15	10	DFT-s-OFDM QPSK	Inner_Full	25@12	2535	507000	19	18.60
15	Middle	15	15	DFT-s-OFDM QPSK	Inner_Full	36@18	2535	507000	19	18.51

DC_66A_n7A										
No.	Test Freq Description	5G-n7							Tune up	Power Results (dBm)
		SCS (kHz)	NR BW (MHz)	Modulation	RB allocation		NR Test Freq. (MHz)	NR Test CH.		
1	High	15	5	DFT-s-OFDM QPSK	Edge_1RB_Right	1@24	2567.5	513500	24	22.76
2	Middle	15	5	DFT-s-OFDM QPSK	Inner_Full	12@6	2535	507000	24	23.48
3	Low	15	5	DFT-s-OFDM QPSK	Edge_1RB_Left	1@0	2502.5	500500	24	22.70
4	High	15	20	DFT-s-OFDM QPSK	Edge_1RB_Right	1@105	2560	512000	24	22.92
5	Middle	15	20	DFT-s-OFDM QPSK	Inner_Full	50@25	2535	507000	24	23.88
6	Low	15	20	DFT-s-OFDM QPSK	Edge_1RB_Left	1@0	2510	502000	24	22.79

According to the table above, the maximum power configuration is selected as the default test configuration

5G-n7										
No.	Test Freq Description	SCS (kHz)	NR BW (MHz)	Modulation	RB allocation		NR Test Freq. (MHz)	NR Test CH.	Tune up	Power Results (dBm)
1	Middle	15	20	DFT-s-OFDM Pi/2 BPSK1	Inner_Full	50@25	2535	507000	24	23.53
2	Middle	15	20	DFT-s-OFDM 16QAM	Inner_Full	50@25	2535	507000	24	23.76
3	Middle	15	20	DFT-s-OFDM 64QAM	Inner_Full	50@25	2535	507000	22.5	22.31
4	Middle	15	20	DFT-s-OFDM 256QAM	Inner_Full	50@25	2535	507000	20.5	20.21
5	Middle	15	20	CP-OFDM QPSK	Inner_Full	50@25	2535	507000	23.5	23.39
6	Middle	15	20	CP-OFDM 16QAM	Inner_Full	50@25	2535	507000	23	22.98
7	Middle	15	20	CP-OFDM 64QAM	Inner_Full	50@25	2535	507000	21.5	21.39
8	Middle	15	20	CP-OFDM 256QAM	Inner_Full	50@25	2535	507000	18.5	18.15
9	Middle	15	20	DFT-s-OFDM QPSK	Edge_Full_Right	2@104	2535	507000	24	23.14
10	Middle	15	20	DFT-s-OFDM QPSK	Edge_Full_Left	2@0	2535	507000	24	23.06
11	Middle	15	20	DFT-s-OFDM QPSK	Inner_1RB_Right	1@104	2535	507000	24	23.02
12	Middle	15	20	DFT-s-OFDM QPSK	Inner_1RB_Left	1@1	2535	507000	24	22.93
13	Middle	15	20	DFT-s-OFDM QPSK	Outer_Full	100@0	2535	507000	24	23.86
14	Middle	15	10	DFT-s-OFDM QPSK	Inner_Full	25@12	2535	507000	24	23.70
15	Middle	15	15	DFT-s-OFDM QPSK	Inner_Full	36@18	2535	507000	24	23.80

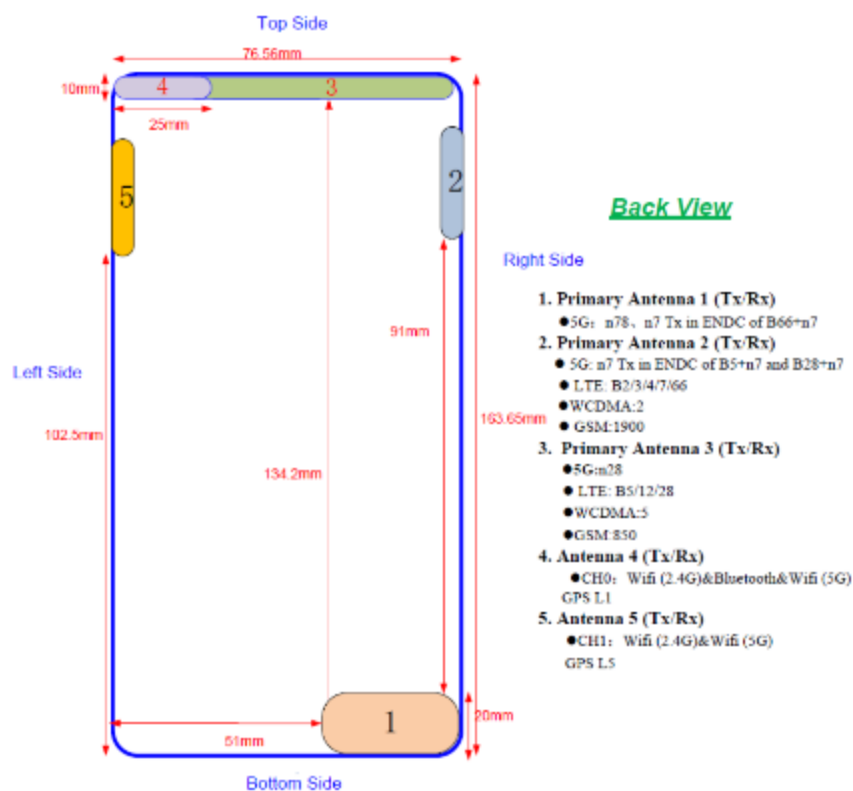
12 Simultaneous TX SAR Considerations

12.1 Introduction

The following procedures adopted from “FCC SAR Considerations for Cell Phones with Multiple Transmitters” are applicable to handsets with built-in unlicensed transmitters such as 802.11 a/b/g and Bluetooth devices which may simultaneously transmit with the licensed transmitter.

For this device, the BT and Wi-Fi can transmit simultaneous with other transmitters.

12.2 Transmit Antenna Separation Distances



Picture 12.1 Antenna Locations

12.3 SAR Measurement Positions

According to the KDB941225 D06 Hot Spot SAR v01, the edges with less than 2.5 cm distance to the antennas need to be tested for SAR.

SAR measurement positions						
Mode	Front	Rear	Left edge	Right edge	Top edge	Bottom edge
ANT1	Yes	Yes	Yes	No	No	Yes
ANT2	Yes	Yes	Yes	No	Yes	No
ANT3	Yes	Yes	Yes	Yes	Yes	No
ANT4	Yes	Yes	No	Yes	Yes	No
ANT5	Yes	Yes	No	Yes	Yes	No

12.4 Standalone SAR Test Exclusion Considerations

Standalone 1-g head or body SAR evaluation by measurement or numerical simulation is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied. The 1-g SAR test exclusion threshold for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

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

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

Table 12.1: Standalone SAR test exclusion considerations

Band/Mode	F(GHz)	Position	SAR test exclusion threshold(mW)	RF output power		SAR test exclusion
				dBm	mW	
Bluetooth	2.441	Head	9.60	12	15.85	No
		Body	19.20	12	15.85	Yes
2.4GHz WLAN	2.45	Head	9.58	22	158.49	No
		Body	19.17	22	158.49	No
5GHz WLAN	5.2	Head	6.58	21	125.89	No
		Body	13.16	21	125.89	No
	5.3	Head	6.52	20	100	No
		Body	13.03	20	100	No
	5.6	Head	6.34	20	100	No
		Body	12.68	20	100	No
	5.8	Head	6.23	20	100	No
		Body	12.46	20	100	No