TEST REPORT

(Part 0: SAR Characterization)

Applicant:	Realme Chongqing Mobile Telecommunications Corp., Ltd.
Address:	No.178 Yulong Avenue, Yufengshan, Yubei District, Chongqing, China
Equipment Type:	Mobile Phone
Model Name:	RMX3988
Brand Name:	realme
FCC ID:	2AUYFRMX3988
Test Standard:	FCC 47 CFR Part 2.1093
Sample Arrival Date:	Jun. 04, 2024
Test Date:	Jul. 11, 2024 - Jul. 12, 2024
Date of Issue:	Jul. 23, 2024

ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

Tested by: Zhang Jiwei **Checked by:** Xu Rui **Approved by:** Tolan Tu (Testing Director)

Revision History

Version	Issue Date	Revisions Content
Rev. 01	Jul. 23, 2024	Initial Issue
Rev. 02	Jul. 23, 2024	Update FCC ID, add chapter 1 General Information.

TABLE OF CONTENTS

1 GENERAL INFORMATION

1.1 Test Laboratory

Name	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Phone Number	+86 755 6685 0100

1.2 Test Location

Name	Shenzhen BALUN Technology Co., Ltd.
Location	☐ Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
	☑ 1/F, Building B, Ganghongji High-tech Intelligent Industrial Park, No. 1008, Songbai Road, Yangguang Community, Xili Sub-district, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Accreditation Certificate	The laboratory is a testing organization accredited by FCC as a accredited testing laboratory. The designation number is CN1196.

1.3 Test Environment Condition

Ambient Temperature	18℃ to 25℃
Ambient Relative Humidity	30% to 70%

2 INTRPDUCTION

2.1 Time-Averaging for SAR

The equipment under test (EUT) is a smart phone. It contains the Qualcomm modem supporting 2G/3G/4G WWAN technologies. These WWAN modems enable Qualcomm's Smart Transmit feature to control and manage transmitting power, in real time, and to ensure the time-averaged RF exposure is always in compliance with the FCC requirement.

Base on Qualcomm's Smart Transmit cannot operate without SAR characterization at the device level, beforehand. This report describes the procedures for the SAR char generation, and the parameters obtained from SAR characterization (referred to as SAR char, respectively) will be used as input for Smart Transmit. Both SAR char will be entered via the Embedded File System (EFS) to enable the Smart Transmit Feature.

This EUT support WLAN/BT modem, and WLAN/BT is not enabled with Qualcomm's Smart Transmit feature.

All WWAN SAR data referenced within this report has been extracted from UL's SAR report: BL-SZ2441449-701.

2.2 Nomenclature for this Report

Technology	Term	Description
2/3/4/5G Sub-6 NR)	P_{limit}	The time-averaged RF power which corresponds to SAR_design_target.
	P_{max}	Maximum output power
	SAR_design_target	The design target for SAR compliance. It should be less than regulatory SAR limit to account for all device design related uncertainty.
	SAR Char	P_{limit} for all the technologies/bands for all applicable DSI

2.3 Bibliography

Report Description	Report Serial Number
FCC Part0 SAR Characterization Report	BL-SZ2441449-705
FCC Part1 SAR Test Report	BL-SZ2441449-701
FCC Part 2 RF Exposure Test Report	BL-SZ2441449-704

3 PRODUCT INFORMATION

3.1 Technical Information

Network and Wireless connectivity	2G Network GSM/GPRS/EDGE 850/1900 MHz 3G Network WCDMA/HSDPA/HSUPA Band 2/4/5 4G Network LTE FDD Band 2/4/5/7/12/13/17/26/66 LTE TDD Band 38/41 LTE CA Uplink (UL): CA_7C, CA_38C, CA_41C 5G Network SA: NR n5/n7/n38/n41/n66 NSA(EN-DC): DC_2A_n66A, DC_5A_n7A, DC_5A_n66A, DC_7A_n5A, DC_7A_n66A, DC_26A_n41A, DC_66A_n5A, DC_66A_n7A Bluetooth (BR+EDR+BLE) 2.4G WIFI 802.11b, 802.11g, 802.11n(HT20/40), VHT20/40 and 802.11ax(HE20/40) 5G WIFI 802.11a, 802.11n(HT20/40), 802.11ac(VHT20/40/80/160) and 802.11ax(HE20/40/80/160) U-NII-1/2A/2C/3, GPS, GLONASS, BDS, Galileo, SBAS, NFC
Note: The EUT is a mobile phone, which supports dual SIM card under the same transceiver. Each SIM supports GSM, WCDMA, LTE and NR, and both SIM share the same transmitting electro circuit, NV parameters, so only SIM1 was tested in this report.	

The requirement for the following technical information of the EUT was tested in this report:

Operating Mode	GSM, WCDMA, LTE, NR, 2.4G WLAN, 5G WLAN, Bluetooth		
Frequency Range	GSM 850	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	GSM 1900	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	WCDMA Band 2	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	WCDMA Band 4	TX: 1710 ~ 1755 MHz	RX: 2110 ~ 2155 MHz
	WCDMA Band 5	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	LTE Band 2	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	LTE Band 4	TX: 1710 ~ 1755 MHz	RX: 2110 ~ 2155 MHz
	LTE Band 5	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	LTE Band 7	TX: 2500 ~ 2570 MHz	RX: 2620 ~ 2690 MHz
	LTE Band 12	TX: 699 ~ 716 MHz	RX: 729 ~ 746 MHz
	LTE Band 13	TX: 777 ~ 787 MHz	RX: 746 ~ 756 MHz
	LTE Band 17	TX: 704 ~ 716 MHz	RX: 734 ~ 746 MHz
	LTE Band 26	TX: 814 ~ 849 MHz	RX: 859 ~ 894 MHz
		TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	LTE Band 66	TX: 1710 ~ 1780 MHz	RX: 2110 ~ 2180 MHz
	LTE Band 38	TX: 2570 ~ 2620 MHz	RX: 2570 ~ 2620 MHz

	LTE Band 41	TX: 2496 ~ 2690 MHz	RX: 2496 ~ 2690 MHz
	n5	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	n7	TX: 2500 ~ 2570 MHz	RX: 2620 ~ 2690 MHz
	n38	TX: 2570 ~ 2620 MHz	RX: 2570 ~ 2620 MHz
	n41	TX: 2496 ~ 2690 MHz	RX: 2496 ~ 2690 MHz
	n66	TX: 1710 ~ 1780 MHz	RX: 2110 ~ 2180 MHz
	802.11b/g /n(HT20/HT40)/VHT 20/40	2412 ~ 2462 MHz	
	802.11ax (HE20/40)	2412 ~ 2462 MHz	
	802.11a/ /n(HT20/HT40) /ac(VHT20/VHT40/ VHT80/VHT160)	5150 ~ 5250 MHz	
		5250 ~ 5350 MHz	
		5470 ~ 5725 MHz	
		5725 ~ 5850 MHz	
	802.11ax (HE20/40/80/160)	5150 ~ 5250 MHz	
		5250 ~ 5350 MHz	
		5470 ~ 5725 MHz	
		5725 ~ 5850 MHz	
	Bluetooth	2402 ~ 2480 MHz	
	NFC	13.56 MHz	
Antenna Type	WWAN: IFA Antenna WLAN: IFA Antenna Bluetooth: IFA Antenna NFC: LOOP Antenna		
DTM	N/A		
Hotspot Function	Support		
Power Reduction	Support		
Exposure Category	General Population/Uncontrolled exposure		
Product Type	Portable Device		
EUT Type	☒ Production unit	☐ Identical prototype	

4 SAR CHARACTERIZATIO

SAR char must be generated to cover all radio configurations and usage scenarios that the wireless device supports for operating at 6 GHz or below. It will then be used as input for Smart Transmit to control and manage RF exposure for f < 6 GHz.

4.1 DSI and SAR Determination

This device uses different Device State Index(DSI) to configure difference time averaged power levels based on certain exposure scenarios. Depending on the detection scheme implemented in the smartphone, the worse-case SAR was determined by measurement for the relevant exposure conditions for that DSI. Detailed descriptions of the detection mechanisms are included in the description.
When 1g SAR and 10g SAR exposure comparison is needed, the worst-case was determined from SAR normalized to 1g or 10g SAR limit.
This device state index(DSI) conditions used in below table represent different exposure scenarios.

Reduced level	Receiver state	Transmitting conditions	Antenna	Position
State2	On (head scenario)	WWAN Use Only	Ant.0	Head
			Ant.1	
			Ant.4	
State4	On (head scenario)	WWAN + 2.4GWIFI/5GWIFI/BT	Ant.0	Head
			Ant.1	
			Ant.4	
State6	On (head scenario)	WWAN + 5GWIFI +BT	Ant.0	Head
			Ant.1	
			Ant.4	
State1	Off (Body scenario)	WWAN Use Only	Ant.0	Front Side;Back Side；Left Edge;Right Edge;Top Edge;Bottom Edge
			Ant.1	
			Ant.4	
State3	Off (Body scenario)	WWAN + 2.4GWIFI/5GWIFI/BT	Ant.0	Front Side;Back Side；Left Edge;Right Edge;Top Edge;Bottom Edge
			Ant.1	
			Ant.4	
State5	Off (Body scenario)	WWAN + 5GWIFI +BT	Ant.0	Front Side;Back Side；Left Edge;Right Edge;Top Edge;Bottom Edge
			Ant.1	
			Ant.4	

4.2 SAR design Target and Uncertainty

Total Uncertainty:

The total device design and related uncertainty of the EUT is shown below (in dB), which includes TxAGC and device to device variation.

Total Uncertainty	Uncertainty dB(K=2)
	1.0

To account for total uncertainty, SAR_design_target should be determined as:

$$\text{SAR\_design\_target} < \text{SARregulat\_limit} \times 10^{\frac{-\text{total uncertainty}}{10}}$$

SAR design Target:

RF Exposure Conditions	Standalone SAR(W/Kg) WWAN Only	Simultaneous SAR (W/kg) WWAN + WLAN
Head(1g)	1.0	1.0
Body-worn(1g)	1.0	1.0
Hotspot(1g)	1.0	1.0
Limbs(10g)	2.5	2.5

4.3 SAR Char Table

The worst-case reported SAR for each antenna/technology/band/DSI is summarized in below table

Mode	Antenna	WWAN Antenna											
		Full Power	Receiver on			Receiver off							
			Head			Body-worn			Hotspot		Specific		
			Standalone	Simultaneous transmission		Standalone	Simultaneous transmission		Simultaneous transmission		Standalone	Simultaneous transmission	
				+2.4GWIFI /5GWIFI/BT	+5GWIFI+BT		+2.4GWIFI/ 5GWIFI/BT	+5GWIFI+BT	+2.4GWIFI /5GWIFI/BT	+5GWIFI+BT		+2.4GWIFI /5GWIFI/BT	+5GWIFI+BT
		Off	State2	State4	State6	State1	State3	State5	State3	State5	State1	State3	State5
GSM 850	Ant.0	33.50	33.50	33.50	33.50	33.50	33.50	33.50	33.50	33.50	33.50	33.50	33.50
GPRS850 1 Tx Slot	Ant.0	33.50	33.50	33.50	33.50	33.50	33.50	33.50	33.50	33.50	33.50	33.50	33.50
GPRS850 2 Tx Slot	Ant.0	31.50	31.50	31.50	31.50	31.50	31.50	31.50	31.50	31.50	31.50	31.50	31.50
GPRS850 3 Tx Slot	Ant.0	29.70	29.70	29.70	29.70	29.70	29.70	29.70	29.70	29.70	29.70	29.70	29.70
GPRS850 4 Tx Slot	Ant.0	28.50	28.50	28.50	28.50	28.50	28.50	28.50	28.50	28.50	28.50	28.50	28.50
EGPRS850 1 Tx Slot	Ant.0	28.50	28.50	28.50	28.50	28.50	28.50	28.50	28.50	28.50	28.50	28.50	28.50
EGPRS850 2 Tx Slot	Ant.0	26.00	26.00	26.00	26.00	26.00	26.00	26.00	26.00	26.00	26.00	26.00	26.00
EGPRS850 3 Tx Slot	Ant.0	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20
EGPRS850 4 Tx Slot	Ant.0	23.50	23.50	23.50	23.50	23.50	23.50	23.50	23.50	23.50	23.50	23.50	23.50
GSM1900	Ant.0	30.50	30.50	30.50	30.50	29.00	29.00	29.00	29.00	29.00	29.00	29.00	29.00
GPRS1900 1 Tx Slot	Ant.0	30.50	30.50	30.50	30.50	29.00	29.00	29.00	29.00	29.00	29.00	29.00	29.00
GPRS1900 2 Tx Slot	Ant.0	28.50	28.50	28.50	28.50	27.00	27.00	27.00	27.00	27.00	27.00	27.00	27.00
GPRS1900 3 Tx Slot	Ant.0	26.70	26.70	26.70	26.70	25.20	25.20	25.20	25.20	25.20	25.20	25.20	25.20
GPRS1900 4 Tx Slot	Ant.0	25.50	25.50	25.50	25.50	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00
EGPRS1900 1 Tx Slot	Ant.0	27.50	27.50	27.50	27.50	27.50	27.50	27.50	27.50	27.50	27.50	27.50	27.50
EGPRS1900 2 Tx Slot	Ant.0	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00
EGPRS1900 3 Tx Slot	Ant.0	23.20	23.20	23.20	23.20	23.20	23.20	23.20	23.20	23.20	23.20	23.20	23.20
EGPRS1900 4 Tx Slot	Ant.0	22.50	22.50	22.50	22.50	22.50	22.50	22.50	22.50	22.50	22.50	22.50	22.50
WCDMA Band2 RMC	Ant.1	23.90	20.40	20.40	20.40	21.90	21.90	21.90	21.90	21.90	21.90	21.90	21.90
WCDMA Band2 AMR	Ant.1	23.90	20.40	20.40	20.40	21.90	21.90	21.90	21.90	21.90	21.90	21.90	21.90
HSDPA Subtest-1	Ant.1	23.90	20.40	20.40	20.40	21.90	21.90	21.90	21.90	21.90	21.90	21.90	21.90
HSDPA Subtest-2	Ant.1	23.40	19.90	19.90	19.90	21.40	21.40	21.40	21.40	21.40	21.40	21.40	21.40
HSDPA Subtest-3	Ant.1	23.90	20.40	20.40	20.40	21.90	21.90	21.90	21.90	21.90	21.90	21.90	21.90
HSDPA Subtest-4	Ant.1	22.90	19.40	19.40	19.40	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90
DC-HSDPA Subtest-1	Ant.1	23.90	20.40	20.40	20.40	21.90	21.90	21.90	21.90	21.90	21.90	21.90	21.90
DC-HSDPA Subtest-2	Ant.1	23.40	19.90	19.90	19.90	21.40	21.40	21.40	21.40	21.40	21.40	21.40	21.40
DC-HSDPA Subtest-3	Ant.1	23.90	20.40	20.40	20.40	21.90	21.90	21.90	21.90	21.90	21.90	21.90	21.90
DC-HSDPA Subtest-4	Ant.1	22.90	19.40	19.40	19.40	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90
HSUPA Subtest-1	Ant.1	22.90	19.40	19.40	19.40	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90
HSUPA Subtest-2	Ant.1	22.90	19.40	19.40	19.40	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90
HSUPA Subtest-3	Ant.1	23.90	20.40	20.40	20.40	21.90	21.90	21.90	21.90	21.90	21.90	21.90	21.90
HSUPA Subtest-4	Ant.1	22.40	18.90	18.90	18.90	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40
HSUPA Subtest-5	Ant.1	23.90	20.40	20.40	20.40	21.90	21.90	21.90	21.90	21.90	21.90	21.90	21.90

HSPA+(16QAM)	Ant.1	21.90	18.40	18.40	18.40	19.90	19.90	19.90	19.90	19.90	19.90	19.90	19.90
WCDMA Band2 RMC	Ant.0	24.00	24.00	24.00	24.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00
WCDMA Band2 AMR	Ant.0	24.00	24.00	24.00	24.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00
HSDPA Subtest-1	Ant.0	24.00	24.00	24.00	24.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00
HSDPA Subtest-2	Ant.0	23.50	23.50	23.50	23.50	20.50	20.50	20.50	20.50	20.50	20.50	20.50	20.50
HSDPA Subtest-3	Ant.0	24.00	24.00	24.00	24.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00
HSDPA Subtest-4	Ant.0	23.00	23.00	23.00	23.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
DC-HSDPA Subtest-1	Ant.0	24.00	24.00	24.00	24.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00
DC-HSDPA Subtest-2	Ant.0	23.50	23.50	23.50	23.50	20.50	20.50	20.50	20.50	20.50	20.50	20.50	20.50
DC-HSDPA Subtest-3	Ant.0	24.00	24.00	24.00	24.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00
DC-HSDPA Subtest-4	Ant.0	23.00	23.00	23.00	23.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
HSUPA Subtest-1	Ant.0	23.00	23.00	23.00	23.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
HSUPA Subtest-2	Ant.0	23.00	23.00	23.00	23.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
HSUPA Subtest-3	Ant.0	24.00	24.00	24.00	24.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00
HSUPA Subtest-4	Ant.0	22.50	22.50	22.50	22.50	19.50	19.50	19.50	19.50	19.50	19.50	19.50	19.50
HSUPA Subtest-5	Ant.0	24.00	24.00	24.00	24.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00
HSPA+(16QAM)	Ant.0	22.00	22.00	22.00	22.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00
WCDMA Band4 RMC	Ant.1	23.90	22.40	22.40	22.40	21.90	21.90	21.90	21.90	21.90	21.90	21.90	21.90
WCDMA Band4 AMR	Ant.1	23.90	22.40	22.40	22.40	21.90	21.90	21.90	21.90	21.90	21.90	21.90	21.90
HSDPA Subtest-1	Ant.1	23.90	22.40	22.40	22.40	21.90	21.90	21.90	21.90	21.90	21.90	21.90	21.90
HSDPA Subtest-2	Ant.1	22.90	21.40	21.40	21.40	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90
HSDPA Subtest-3	Ant.1	23.90	22.40	22.40	22.40	21.90	21.90	21.90	21.90	21.90	21.90	21.90	21.90
HSDPA Subtest-4	Ant.1	22.40	20.90	20.90	20.90	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40
DC-HSDPA Subtest-1	Ant.1	23.90	22.40	22.40	22.40	21.90	21.90	21.90	21.90	21.90	21.90	21.90	21.90
DC-HSDPA Subtest-2	Ant.1	22.90	21.40	21.40	21.40	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90
DC-HSDPA Subtest-3	Ant.1	23.90	22.40	22.40	22.40	21.90	21.90	21.90	21.90	21.90	21.90	21.90	21.90
DC-HSDPA Subtest-4	Ant.1	22.40	20.90	20.90	20.90	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40
HSUPA Subtest-1	Ant.1	22.90	21.40	21.40	21.40	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90
HSUPA Subtest-2	Ant.1	22.90	21.40	21.40	21.40	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90
HSUPA Subtest-3	Ant.1	23.90	22.40	22.40	22.40	21.90	21.90	21.90	21.90	21.90	21.90	21.90	21.90
HSUPA Subtest-4	Ant.1	22.40	20.90	20.90	20.90	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40
HSUPA Subtest-5	Ant.1	23.90	22.40	22.40	22.40	21.90	21.90	21.90	21.90	21.90	21.90	21.90	21.90
HSPA+(16QAM)	Ant.1	21.90	20.40	20.40	20.40	19.90	19.90	19.90	19.90	19.90	19.90	19.90	19.90
WCDMA Band4 RMC	Ant.0	24.00	24.00	24.00	24.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00
WCDMA Band4 AMR	Ant.0	24.00	24.00	24.00	24.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00
HSDPA Subtest-1	Ant.0	24.00	24.00	24.00	24.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00
HSDPA Subtest-2	Ant.0	23.00	23.00	23.00	23.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
HSDPA Subtest-3	Ant.0	24.00	24.00	24.00	24.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00
HSDPA Subtest-4	Ant.0	22.50	22.50	22.50	22.50	19.50	19.50	19.50	19.50	19.50	19.50	19.50	19.50
DC-HSDPA Subtest-1	Ant.0	24.00	24.00	24.00	24.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00
DC-HSDPA Subtest-2	Ant.0	23.00	23.00	23.00	23.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
DC-HSDPA Subtest-3	Ant.0	24.00	24.00	24.00	24.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00
DC-HSDPA Subtest-4	Ant.0	22.50	22.50	22.50	22.50	19.50	19.50	19.50	19.50	19.50	19.50	19.50	19.50

HSUPA Subtest-1	Ant.0	23.00	23.00	23.00	23.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
HSUPA Subtest-2	Ant.0	23.00	23.00	23.00	23.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
HSUPA Subtest-3	Ant.0	24.00	24.00	24.00	24.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00
HSUPA Subtest-4	Ant.0	22.50	22.50	22.50	22.50	19.50	19.50	19.50	19.50	19.50	19.50	19.50	19.50
HSUPA Subtest-5	Ant.0	24.00	24.00	24.00	24.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00
HSPA+(16QAM)	Ant.0	22.00	22.00	22.00	22.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00
WCDMA Band5 RMC	Ant.1	24.40	24.40	24.40	24.40	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00
WCDMA Band5 AMR	Ant.1	24.40	24.40	24.40	24.40	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00
HSDPA Subtest-1	Ant.1	23.90	23.90	23.90	23.90	22.50	22.50	22.50	22.50	22.50	22.50	22.50	22.50
HSDPA Subtest-2	Ant.1	23.40	23.40	23.40	23.40	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00
HSDPA Subtest-3	Ant.1	23.40	23.40	23.40	23.40	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00
HSDPA Subtest-4	Ant.1	22.90	22.90	22.90	22.90	21.50	21.50	21.50	21.50	21.50	21.50	21.50	21.50
DC-HSDPA Subtest-1	Ant.1	23.90	23.90	23.90	23.90	22.50	22.50	22.50	22.50	22.50	22.50	22.50	22.50
DC-HSDPA Subtest-2	Ant.1	23.40	23.40	23.40	23.40	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00
DC-HSDPA Subtest-3	Ant.1	23.40	23.40	23.40	23.40	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00
DC-HSDPA Subtest-4	Ant.1	22.90	22.90	22.90	22.90	21.50	21.50	21.50	21.50	21.50	21.50	21.50	21.50
HSUPA Subtest-1	Ant.1	22.90	22.90	22.90	22.90	21.50	21.50	21.50	21.50	21.50	21.50	21.50	21.50
HSUPA Subtest-2	Ant.1	21.90	21.90	21.90	21.90	20.50	20.50	20.50	20.50	20.50	20.50	20.50	20.50
HSUPA Subtest-3	Ant.1	22.90	22.90	22.90	22.90	21.50	21.50	21.50	21.50	21.50	21.50	21.50	21.50
HSUPA Subtest-4	Ant.1	21.40	21.40	21.40	21.40	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
HSUPA Subtest-5	Ant.1	22.90	22.90	22.90	22.90	21.50	21.50	21.50	21.50	21.50	21.50	21.50	21.50
HSPA+(16QAM)	Ant.1	22.40	22.40	22.40	22.40	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00
WCDMA Band5 RMC	Ant.0	24.50	24.50	24.50	24.50	24.30	24.30	24.30	24.30	24.30	24.30	24.30	24.30
WCDMA Band5 AMR	Ant.0	24.50	24.50	24.50	24.50	24.30	24.30	24.30	24.30	24.30	24.30	24.30	24.30
HSDPA Subtest-1	Ant.0	24.00	24.00	24.00	24.00	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80
HSDPA Subtest-2	Ant.0	23.50	23.50	23.50	23.50	23.30	23.30	23.30	23.30	23.30	23.30	23.30	23.30
HSDPA Subtest-3	Ant.0	23.50	23.50	23.50	23.50	23.30	23.30	23.30	23.30	23.30	23.30	23.30	23.30
HSDPA Subtest-4	Ant.0	23.00	23.00	23.00	23.00	22.80	22.80	22.80	22.80	22.80	22.80	22.80	22.80
DC-HSDPA Subtest-1	Ant.0	24.00	24.00	24.00	24.00	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80
DC-HSDPA Subtest-2	Ant.0	23.50	23.50	23.50	23.50	23.30	23.30	23.30	23.30	23.30	23.30	23.30	23.30
DC-HSDPA Subtest-3	Ant.0	23.50	23.50	23.50	23.50	23.30	23.30	23.30	23.30	23.30	23.30	23.30	23.30
DC-HSDPA Subtest-4	Ant.0	23.00	23.00	23.00	23.00	22.80	22.80	22.80	22.80	22.80	22.80	22.80	22.80
HSUPA Subtest-1	Ant.0	23.00	23.00	23.00	23.00	22.80	22.80	22.80	22.80	22.80	22.80	22.80	22.80
HSUPA Subtest-2	Ant.0	22.00	22.00	22.00	22.00	21.80	21.80	21.80	21.80	21.80	21.80	21.80	21.80
HSUPA Subtest-3	Ant.0	23.00	23.00	23.00	23.00	22.80	22.80	22.80	22.80	22.80	22.80	22.80	22.80
HSUPA Subtest-4	Ant.0	21.50	21.50	21.50	21.50	21.30	21.30	21.30	21.30	21.30	21.30	21.30	21.30
HSUPA Subtest-5	Ant.0	23.00	23.00	23.00	23.00	22.80	22.80	22.80	22.80	22.80	22.80	22.80	22.80
HSPA+(16QAM)	Ant.0	22.50	22.50	22.50	22.50	22.30	22.30	22.30	22.30	22.30	22.30	22.30	22.30
LTE Band2	Ant.1	23.50	20.50	20.50	20.50	22.20	22.20	22.20	22.20	22.20	22.20	22.20	22.20
LTE Band2	Ant.0	23.50	23.50	23.50	23.50	20.70	20.70	20.70	20.70	20.70	20.70	20.70	20.70
LTE Band4	Ant.1	23.50	22.80	22.80	22.80	23.50	23.50	23.50	23.50	23.50	23.50	23.50	23.50
LTE Band4	Ant.0	23.50	23.50	23.50	23.50	21.80	21.80	21.80	21.80	21.80	21.80	21.80	21.80
LTE Band4	Ant.4	22.00	21.00	21.00	21.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00

LTE Band5	Ant.1	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50
LTE Band5	Ant.0	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50
LTE Band7	Ant.1	23.50	19.50	19.50	19.50	17.30	17.30	17.30	17.30	17.30	17.30	17.30	17.30
LTE Band7	Ant.0	23.50	23.50	23.50	23.50	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40
LTE Band7	Ant.4	21.50	19.80	19.80	19.80	21.50	21.50	21.50	21.50	21.50	21.50	21.50	21.50
LTE Band12	Ant.1	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50
LTE Band12	Ant.0	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50
LTE Band13	Ant.1	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50
LTE Band13	Ant.0	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50
LTE Band17	Ant.1	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50
LTE Band17	Ant.0	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50
LTE Band26	Ant.1	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50
LTE Band26	Ant.0	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50
LTE Band66	Ant.1	24.00	22.00	22.00	22.00	23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60
LTE Band66	Ant.0	24.00	24.00	24.00	24.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00
LTE Band66	Ant.4	22.50	18.30	18.30	18.30	22.50	22.50	22.50	22.50	22.50	22.50	22.50	22.50
LTE Band38	Ant.1	24.00	23.50	23.50	23.50	21.20	21.20	21.20	21.20	21.20	21.20	21.20	21.20
LTE Band38	Ant.0	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00
LTE Band38	Ant.4	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00
LTE Band41(PC3)	Ant.1	23.20	23.20	23.20	23.20	19.80	19.80	19.80	19.80	19.80	19.80	19.80	19.80
LTE Band41(PC3)	Ant.0	23.20	23.20	23.20	23.20	23.20	23.20	23.20	23.20	23.20	23.20	23.20	23.20
LTE Band41(PC3)	Ant.4	20.20	20.20	20.20	20.20	20.20	20.20	20.20	20.20	20.20	20.20	20.20	20.20
LTE Band41(PC2)	Ant.1	25.20	25.20	25.20	25.20	21.80	21.80	21.80	21.80	21.80	21.80	21.80	21.80
LTE Band41(PC2)	Ant.0	25.20	25.20	25.20	25.20	25.20	25.20	25.20	25.20	25.20	25.20	25.20	25.20
LTE Band41(PC2)	Ant.4	22.20	22.20	22.20	22.20	22.20	22.20	22.20	22.20	22.20	22.20	22.20	22.20
N5	Ant.1	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00
N5	Ant.0	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20
N7	Ant.1	23.70	21.00	21.00	21.00	18.20	18.20	18.20	18.20	18.20	18.20	18.20	18.20
N7	Ant.0	23.70	23.70	23.70	23.70	23.70	23.70	23.70	23.70	23.70	23.70	23.70	23.70
N7	Ant.4	21.70	20.20	20.20	20.20	21.70	21.70	21.70	21.70	21.70	21.70	21.70	21.70
N66	Ant.1	24.20	22.20	22.20	22.20	23.70	23.70	23.70	23.70	23.70	23.70	23.70	23.70
N66	Ant.0	24.20	24.20	24.20	24.20	21.60	21.60	21.60	21.60	21.60	21.60	21.60	21.60
N66	Ant.4	22.70	20.20	20.20	20.20	22.70	22.70	22.70	22.70	22.70	22.70	22.70	22.70
N38	Ant.1	24.20	21.00	21.00	21.00	20.20	20.20	20.20	20.20	20.20	20.20	20.20	20.20
N38	Ant.0	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20
N38	Ant.4	22.20	21.20	21.20	21.20	22.20	22.20	22.20	22.20	22.20	22.20	22.20	22.20
N41	Ant.1	25.70	19.10	19.10	19.10	17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50
N41	Ant.0	25.70	25.70	25.70	25.70	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00
N41	Ant.4	23.70	19.20	19.20	19.20	22.70	22.70	22.70	22.70	22.70	22.70	22.70	22.70

Mode	Band	Antenna	WWAN Antenna											
			Full Power	Receiver on			Receiver off							
				Head			Body-worn			Hotspot		Specific		
				Standalone	Simultaneous transmission		Standalone	Simultaneous transmission		Simultaneous transmission		Standalone	Simultaneous transmission	
					+2.4GWIFI/ 5GWIFI/BT	+5GWIFI+BT		+2.4GWIFI/ 5GWIFI/BT	+5GWIFI+BT	+2.4GWIFI/ 5GWIFI/BT	+5GWIFI+BT		+2.4GWIFI/ 5GWIFI/BT	+5GWIFI+BT
			Off	State2	State4	State6	State1	State3	State5	State3	State5	State1	State3	State5
DC_7A+n5A	n5	Ant.0	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20
	LTE Band7	Ant.1	23.30	19.30	19.30	19.30	17.10	17.10	17.10	17.10	17.10	17.10	17.10	17.10
	LTE Band7	Ant.4	21.30	19.60	19.60	19.60	21.30	21.30	21.30	21.30	21.30	21.30	21.30	21.30
DC_66A+n5A	n5	Ant.0	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20	24.20
	LTE Band66	Ant.1	22.80	20.80	20.80	20.80	22.40	22.40	22.40	22.40	22.40	22.40	22.40	22.40
	LTE Band66	Ant.4	22.80	18.60	18.60	18.60	22.80	22.80	22.80	22.80	22.80	22.80	22.80	22.80
DC_5A+n7A	n7	Ant.1	23.70	21.00	21.00	21.00	18.20	18.20	18.20	18.20	18.20	18.20	18.20	18.20
	n7	Ant.4	21.70	20.20	20.20	20.20	21.70	21.70	21.70	21.70	21.70	21.70	21.70	21.70
	LTE Band5	Ant.0	24.30	24.30	24.30	24.30	24.30	24.30	24.30	24.30	24.30	24.30	24.30	24.30
DC_66A+n7A	n7	Ant.1	23.70	21.00	21.00	21.00	18.20	18.20	18.20	18.20	18.20	18.20	18.20	18.20
	n7	Ant.4	21.70	20.20	20.20	20.20	21.70	21.70	21.70	21.70	21.70	21.70	21.70	21.70
	LTE Band66	Ant.0	23.80	23.80	23.80	23.80	21.80	21.80	21.80	21.80	21.80	21.80	21.80	21.80
DC_2A+n66A	n66	Ant.1	24.20	22.20	22.20	22.20	23.70	23.70	23.70	23.70	23.70	23.70	23.70	23.70
	n66	Ant.4	22.70	20.20	20.20	20.20	22.70	22.70	22.70	22.70	22.70	22.70	22.70	22.70
	LTE Band2	Ant.0	23.30	23.30	23.30	23.30	20.50	20.50	20.50	20.50	20.50	20.50	20.50	20.50
DC_5A+n66A	n66	Ant.1	24.20	22.20	22.20	22.20	23.70	23.70	23.70	23.70	23.70	23.70	23.70	23.70
	n66	Ant.4	22.70	20.20	20.20	20.20	22.70	22.70	22.70	22.70	22.70	22.70	22.70	22.70
	LTE Band5	Ant.0	24.30	24.30	24.30	24.30	24.30	24.30	24.30	24.30	24.30	24.30	24.30	24.30
DC_7A+n66A	n66	Ant.1	24.20	22.20	22.20	22.20	23.70	23.70	23.70	23.70	23.70	23.70	23.70	23.70
	n66	Ant.4	22.70	20.20	20.20	20.20	22.70	22.70	22.70	22.70	22.70	22.70	22.70	22.70
	LTE Band7	Ant.0	23.30	23.30	23.30	23.30	20.20	20.20	20.20	20.20	20.20	20.20	20.20	20.20
DC_26A+n41A	n41	Ant.1	25.70	19.10	19.10	19.10	17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50
	n41	Ant.4	23.70	19.20	19.20	19.20	22.70	22.70	22.70	22.70	22.70	22.70	22.70	22.70
	LTE Band26	Ant.0	24.30	24.30	24.30	24.30	24.30	24.30	24.30	24.30	24.30	24.30	24.30	24.30

Note:

1. *Pmax is used for RF tune up procedure. The maximum allowed output power is equal to Pmax - 2.0 dB uncertainty.

2. **Al Pmit power levels entered in the Table correspond to average power levels after accounting for duty cycle in the case TDD modulation schemes (for e.g., GSM & LTE TDD).

3. The max allowed outout power is the Pimt - 2dB device uncertainty, and if Pimt is higher than Pmax, the device outputpower will be Pmax instead.

4. The following table is duty cycle and factor used for calculating time average power.

GSM/FDD/TT	Duty Cycle(%)	Time average calculation factor(dB)
GSM 1TX	12.5	-9
GSM 2TX	25	-6
GSM 3TX	37.5	-4.3
GSM 4TX	50	-3
LTE FDD	100	0
LTE TDD	63.3	-2
NR FDD/TDD	100	0

--END OF REPORT--