

RF Exposure Report

(Part 0: SAR Char Evaluation)

APPLICANT : Guangdong OPPO Mobile Telecommunications Corp., Ltd.
EQUIPMENT : Mobile Phone
BRAND NAME : OPPO
MODEL NAME : CPH2737
FCC ID : R9C-OP24321
STANDARD : FCC 47 CFR PART 2 (2.1093)

We, Sporton International Inc. (Shenzhen), would like to declare that the tested sample has been evaluated in accordance with the test procedures given in 47 CFR Part 2.1093 and FCC KDB and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. (Shenzhen), the test report shall not be reproduced except in full.

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Table of Contents

1. Introduction	4
2. Product Description	5
3. SAR Characterization.....	6
3.1 SAR design target and uncertainty.....	6
3.2 SAR Char Table	9

History of this test report

Report No.	Version	Description	Issued Date
FA521816D	01	Initial issue of report	Apr. 22, 2025

1. Introduction

The RF exposure limit is defined based on time-averaged RF exposure. The product implements MediaTek TA-SAR feature which controls the instantaneous transmitting power for WWAN and WLAN/BT transmitter to ensure the product in compliance with RF exposure limit over a defined time window. To control and manage transmitting power in real time and to ensure at all times the time-averaged RF exposure is compliant to the regulation requirement. TA-SAR 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 TA-SAR algorithm. Both SAR char will be entered via the MediaTek's NV suggestion to enable the TA-SAR Feature.

Terminologies in this report

P_{limit}	The time-averaged RF power which corresponds to SAR_design_target.
P_{max}	Maximum target power level
SAR_design_target:	The design target for SAR compliance. It should be less than regulatory power density limit to account for all device design related uncertainty.
SAR char	P_{limit} for all the technologies/bands for all applicable ECI



2. Product Description

Product Feature & Specification	
Equipment Name	Mobile Phone
Brand Name	OPPO
Model Name	CPH2737
FCC ID	R9C-OP24321
Wireless Technology and Frequency Range	GSM850: 824 MHz ~ 849 MHz GSM1900: 1850MHz ~ 1910MHz WCDMA Band II: 1850 MHz ~ 1910 MHz WCDMA Band IV: 1710 MHz ~ 1755 MHz WCDMA Band V: 824 MHz ~ 849 MHz LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 66: 1710 MHz ~ 1780 MHz 5G NR n2 : 1850 MHz ~ 1910 MHz 5G NR n5 : 824 MHz ~ 849 MHz 5G NR n7 : 2500 MHz ~ 2570 MHz 5G NR n12 : 699 MHz ~ 716 MHz 5G NR n26: 814 MHz ~ 849 MHz 5G NR n38 : 2570 MHz ~ 2620 MHz 5G NR n41 : 2496 MHz ~ 2690 MHz 5G NR n66 : 1710 MHz ~ 1780 MHz 5G NR n77: 3700 MHz ~ 3980 MHz, 3450MHz ~ 3550MHz 5G NR n78: 3700 MHz ~ 3800 MHz, 3450MHz ~ 3550MHz WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz WLAN 5.3GHz Band: 5260 MHz ~ 5320 MHz WLAN 5.5GHz Band: 5500 MHz ~ 5700 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz WLAN U-NII 5: 5945 MHz ~ 6425 MHz WLAN U-NII 6: 6425 MHz ~ 6525 MHz WLAN U-NII 7: 6525 MHz ~ 6875 MHz WLAN U-NII 8: 6875 MHz ~ 7125 MHz Bluetooth: 2402 MHz ~ 2480 MHz NFC : 13.56 MHz
Mode	GSM/GPRS/EGPRS RMC/AMR 12.2Kbps HSDPA HSUPA DC-HSDPA HSPA+ (16QAM uplink is supported) LTE: QPSK, 16QAM, 64QAM, 256QAM 5G NR: DFT-s-OFDM/CP-OFDM, Pi/2 BPSK/QPSK/16QAM/64QAM/256QAM WLAN 2.4GHz 802.11b/g/n HT20/HT40 WLAN 2.4GHz 802.11ac VHT20/VHT40 WLAN 2.4GHz 802.11ax HE20/HE40 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac VHT20/VHT40/VHT80/VHT160 WLAN 5GHz 802.11ax HE20/HE40/HE80/HE160 WLAN 6GHz 802.11a WLAN 6GHz 802.11ax HE20/HE40/HE80/HE160 Bluetooth BR/EDR/LE NFC: ASK

3. SAR Characterization

SAR char must be generated to cover all radio configurations and usage scenarios that the wireless device supports for operating at WWAN and WLAN/BT bands. It will then be used as input for TA-SAR algorithm to control and manage RF exposure for WWAN and WLAN/BT bands.

3.1 SAR design target and uncertainty

SAR design Target:

Band	Antenna	ECI5	ECI10	ECI3	ECI8	ECI8	ECI3	ECI8
		Head Standalone (Receive on)	Head Simultaneous (Receive on)	Body worn Standalone (Receive off)	Body worn Simultaneous (Receive off)	Hotspot (Receive off)	Extremity Standalone (Receive off)	Extremity Simultaneous (Receive off)
GSM850	ANT 0	0.64	0.57	0.29	0.21	0.32	2.28	1.61
GSM850	ANT 1	0.91	0.91	0.91	0.91	0.91	2.28	2.28
GSM1900	ANT 5	0.91	0.91	0.91	0.91	0.91	2.28	2.28
GSM1900	ANT 6	0.74	0.66	0.21	0.17	0.45	2.28	1.81
WCDMA II	ANT 5	0.91	0.91	0.18	0.18	0.52	2.28	2.28
WCDMA II	ANT 6	0.51	0.42	0.16	0.10	0.32	2.28	1.44
WCDMA IV	ANT 5	0.91	0.91	0.22	0.22	0.57	2.28	2.28
WCDMA IV	ANT 6	0.53	0.42	0.29	0.21	0.42	2.28	1.61
WCDMA IV	ANT 11	0.57	0.50	0.10	0.07	0.17	2.28	1.61
WCDMA IV	ANT 7	0.51	0.45	0.09	0.06	0.14	2.28	1.44
WCDMA V	ANT 0	0.58	0.46	0.10	0.06	0.23	2.28	1.44
WCDMA V	ANT 1	0.91	0.91	0.22	0.18	0.44	2.28	1.81
LTE Band 2	ANT 5	0.91	0.91	0.20	0.20	0.73	2.28	2.28
LTE Band 2	ANT 6	0.58	0.46	0.18	0.13	0.39	2.28	1.61
LTE Band 2	ANT 11	0.91	0.72	0.14	0.09	0.31	2.28	1.44
LTE Band 2	ANT 7	0.42	0.33	0.07	0.04	0.19	2.28	1.44
LTE Band 4	ANT 5	0.91	0.91	0.21	0.21	0.59	2.28	2.28
LTE Band 4	ANT 6	0.57	0.46	0.31	0.22	0.47	2.28	1.61
LTE Band 4	ANT 11	0.84	0.75	0.13	0.09	0.28	2.28	1.44
LTE Band 4	ANT 7	0.39	0.31	0.08	0.06	0.19	2.28	1.61
LTE Band 66	ANT 5	0.91	0.91	0.21	0.21	0.59	2.28	2.28
LTE Band 66	ANT 6	0.57	0.46	0.31	0.20	0.47	2.28	1.44
LTE Band 66	ANT 11	0.85	0.75	0.13	0.08	0.24	2.28	1.44
LTE Band 66	ANT 7	0.49	0.39	0.10	0.06	0.23	2.28	1.44
LTE Band 5	ANT 1	0.91	0.91	0.19	0.15	0.36	2.28	1.81
LTE Band 5	ANT 0	0.65	0.58	0.27	0.17	0.50	2.28	1.44
LTE Band 26	ANT 1	0.91	0.91	0.19	0.17	0.36	2.28	2.03
LTE Band 26	ANT 0	0.65	0.58	0.27	0.17	0.50	2.28	1.44
LTE Band 7	ANT 5	0.91	0.91	0.18	0.18	0.60	2.28	2.28
LTE Band 7	ANT 6	0.66	0.52	0.14	0.09	0.28	2.28	1.44
LTE Band 7	ANT 11	0.85	0.68	0.15	0.09	0.34	2.28	1.44
LTE Band 7	ANT 7	0.87	0.55	0.91	0.57	0.54	2.28	1.44
LTE Band 12/17	ANT 1	0.91	0.91	0.27	0.21	0.29	2.28	1.81
LTE Band 12/17	ANT 0	0.62	0.55	0.22	0.15	0.47	2.28	1.61
LTE Band 13	ANT 1	0.91	0.91	0.91	0.91	0.91	2.28	2.28
LTE Band 13	ANT 0	0.46	0.37	0.91	0.91	0.91	2.28	2.28
LTE Band 38	ANT 5	0.91	0.91	0.14	0.14	0.57	2.28	2.28
LTE Band 38	ANT 6	0.66	0.59	0.12	0.08	0.28	2.28	1.61
LTE Band 38	ANT 11	0.37	0.33	0.13	0.09	0.29	2.28	1.61
LTE Band 38	ANT 7	0.62	0.49	0.17	0.12	0.39	2.28	1.61
LTE Band 41_PC3	ANT 5	0.91	0.91	0.18	0.18	0.86	2.28	2.28

LTE Band 41_PC2	ANT 5	0.91	0.91	0.17	0.17	0.74	2.28	2.28
LTE Band 41_PC3	ANT 6	0.70	0.56	0.13	0.08	0.30	2.28	1.44
LTE Band 41_PC2	ANT 6	0.64	0.57	0.10	0.07	0.26	2.28	1.61
LTE Band 41_PC3	ANT 11	0.16	0.15	0.06	0.04	0.14	2.28	1.44
LTE Band 41_PC2	ANT 11	0.14	0.11	0.05	0.03	0.12	2.28	1.61
LTE Band 41_PC3	ANT 7	0.70	0.62	0.91	0.72	0.36	2.28	2.28
LTE Band 41_PC2	ANT 7	0.65	0.58	0.91	0.72	0.33	2.28	1.81
n2	ANT 5	0.91	0.91	0.24	0.24	0.70	2.28	2.28
n2	ANT 6	0.68	0.54	0.19	0.12	0.42	2.28	1.44
n5/26	ANT 1	0.91	0.91	0.22	0.17	0.43	2.28	1.81
n5/26	ANT 0	0.55	0.49	0.25	0.18	0.52	2.28	1.61
n7	ANT 5	0.91	0.91	0.21	0.21	0.63	2.28	2.28
n7	ANT 6	0.74	0.66	0.16	0.10	0.38	2.28	1.44
n7	ANT 11	0.73	0.65	0.15	0.10	0.34	2.28	1.61
n7	ANT 7	0.59	0.53	0.19	0.13	0.61	2.28	1.61
n12	ANT 1	0.91	0.91	0.18	0.11	0.15	2.28	1.44
n12	ANT 0	0.46	0.37	0.17	0.11	0.32	2.28	1.44
n66	ANT 5	0.91	0.91	0.21	0.21	0.69	2.28	2.28
n66	ANT 6	0.58	0.52	0.30	0.21	0.48	2.28	1.61
n66	ANT 11	0.86	0.68	0.13	0.09	0.27	2.28	1.61
n66	ANT 7	0.58	0.46	0.11	0.07	0.25	2.28	1.44
n38	ANT 5	0.91	0.91	0.20	0.20	0.61	2.28	2.28
n38	ANT 6	0.79	0.63	0.16	0.10	0.50	2.28	1.44
n38	ANT 11	0.41	0.36	0.07	0.05	0.19	2.28	1.44
n38	ANT 7	0.80	0.57	0.18	0.12	0.34	2.28	1.44
n41_PC3	ANT 5	0.91	0.91	0.21	0.21	0.67	2.28	2.28
n41_PC2	ANT 5	0.91	0.91	0.21	0.21	0.67	2.28	2.28
n41_PC3	ANT 6	0.83	0.66	0.12	0.08	0.38	2.28	1.44
n41_PC2	ANT 6	0.83	0.66	0.12	0.08	0.38	2.28	1.44
n41_PC3	ANT 11	0.38	0.33	0.11	0.08	0.26	2.28	1.61
n41_PC2	ANT 11	0.38	0.33	0.11	0.08	0.26	2.28	1.61
n41_PC3	ANT 7	0.71	0.56	0.14	0.09	0.30	2.28	1.44
n41_PC2	ANT 7	0.71	0.56	0.14	0.09	0.30	2.28	1.44
n77	ANT 9	0.88	0.62	0.18	0.11	0.21	2.28	1.44
n77	ANT 8	0.75	0.53	0.16	0.10	0.21	2.28	1.44
n77	ANT 6	0.75	0.59	0.06	0.04	0.14	2.28	1.44
n77	ANT 0	0.29	0.26	0.15	0.09	0.38	2.28	1.44
n78_PC3	ANT 9	0.87	0.62	0.20	0.14	0.24	2.28	1.61
n78_PC2	ANT 9	0.87	0.62	0.20	0.14	0.24	2.28	1.61
n78_PC3	ANT 8	0.74	0.53	0.34	0.21	0.33	2.28	1.44
n78_PC2	ANT 8	0.74	0.53	0.34	0.21	0.33	2.28	1.44
n78_PC3	ANT 6	0.73	0.65	0.08	0.06	0.19	2.28	1.61
n78_PC2	ANT 6	0.73	0.65	0.08	0.05	0.19	2.28	1.44
n78_PC3	ANT 0	0.27	0.22	0.10	0.07	0.29	2.28	1.61
n78_PC2	ANT 0	0.27	0.22	0.10	0.07	0.29	2.28	1.61

Band	Antenna	Head Standalone	Head Simultaneous WWAN+BT 2.4G+BT 5/6G+BT	Head Simultaneous 2.4G+5/6G+BT WWAN+2.4G+BT WWAN+5/6G+BT WWAN+2.4G+5/6G+BT	Hotspot Standalone Simultaneous WWAN+BT 2.4G+BT 5/6G+BT	Hotspot Simultaneous 2.4G+5/6G+BT WWAN+2.4G+BT WWAN+5/6G+BT WWAN+2.4G+5/6G+BT	Body worn Standalone Simultaneous WWAN+BT 2.4G+BT 5/6G+BT	Body worn Simultaneous 2.4G+5/6G+BT WWAN+2.4G+BT WWAN+5/6G+BT WWAN+2.4G+5/6G+BT	Extremity Standalone Simultaneous WWAN+BT 2.4G+BT 5/6G+BT	Extremity Simultaneous 2.4G+5/6G+BT WWAN+2.4G+BT WWAN+5/6G+BT WWAN+2.4G+5/6G+BT
Bluetooth	Ant 12	0.80	0.51	0.14	0.66	0.28	0.16	0.07	2.28	0.91



Band	Antenna	Head Standalone 2.4G+5G/6G	Head Simultaneous 2.4G+BT 2.4G+5G/6G+BT	Head Simultaneous 2.4G+WWAN 2.4G+WWAN+5G/6G	Head Simultaneous 2.4G+WWAN+BT	Head Simultaneous 2.4G+WWAN+5G/6G+BT	Hotspot Standalone 2.4G+5G/6G	Hotspot Simultaneous 2.4G+BT 2.4G+5G/6G+BT 2.4G+WWAN+5G/6G	Hotspot Simultaneous 2.4G+WWAN+BT	Hotspot Simultaneous 2.4G+WWAN+5G/6G+BT	Extremity Standalone 2.4G+5G/6G	Extremity Simultaneous 2.4G+BT 2.4G+5G/6G+BT 2.4G+WWAN+5G/6G	Extremity Simultaneous 2.4G+WWAN+BT	Extremity Simultaneous 2.4G+WWAN+5G/6G+BT	Body worn Standalone 2.4G+5G/6G	Body worn Simultaneous 2.4G+BT 2.4G+5G/6G+BT 2.4G+WWAN+5G/6G	Body worn Simultaneous 2.4G+WWAN+BT	Body worn Simultaneous 2.4G+WWAN+5G/6G+BT
WLAN2.4GHz	Ant 12	0.69	0.45	0.39	0.32	0.25	0.64	0.36	0.29	0.26	1.50	0.84	0.67	0.60	0.21	0.12	0.10	0.08
WLAN2.4GHz	Ant 7	0.69	0.45	0.39	0.32	0.25	0.64	0.36	0.29	0.26	1.50	0.84	0.67	0.60	0.21	0.12	0.10	0.08
WLAN2.4GHz	Ant 12+7	0.69	0.45	0.39	0.32	0.25	0.64	0.36	0.29	0.26	1.50	0.84	0.67	0.60	0.21	0.12	0.10	0.08

Band	Antenna	Head Standalone 2.4G+5G/6G	Head Simultaneous 2.4G+BT 2.4G+5G/6G+BT	Head Simultaneous 5G/6G+WWAN 5G/6G+WWAN+5G/6G+BT	Hotspot Standalone 2.4G+5G/6G	Hotspot Simultaneous 5G/6G+WWAN 2.4G+WWAN+5G/6G	Hotspot Simultaneous 5G/6G+WWAN+BT	Hotspot Simultaneous 5G/6G+WWAN+5G/6G+BT	Extremity Standalone 2.4G+5G/6G	Extremity Simultaneous 5G/6G+WWAN 2.4G+WWAN+5G/6G	Extremity Simultaneous 5G/6G+WWAN+BT	Extremity Simultaneous 5G/6G+WWAN+5G/6G+BT	Body worn Standalone 2.4G+5G/6G	Body worn Simultaneous 2.4G+BT 2.4G+5G/6G+BT 2.4G+WWAN+5G/6G	Body worn Simultaneous 5G/6G+WWAN 2.4G+WWAN+5G/6G	Body worn Simultaneous 5G/6G+WWAN+BT	Body worn Simultaneous 5G/6G+WWAN+5G/6G+BT
WLAN5.2GHz	Ant 9	0.77	0.50	0.18	0.34	0.31	0.21	0.21	2.28	2.03	1.61	1.61	0.14	0.12	0.10	0.10	0.10
WLAN5.2GHz	Ant 8	0.77	0.50	0.18	0.34	0.31	0.21	0.21	2.28	2.03	1.61	1.61	0.14	0.12	0.10	0.10	0.10
WLAN5.2GHz	Ant 9+8	0.77	0.50	0.18	0.34	0.31	0.21	0.21	2.28	2.03	1.61	1.61	0.14	0.12	0.10	0.10	0.10
WLAN5.3GHz	Ant 9	0.77	0.50	0.18					1.34	1.19	0.95	0.95	0.14	0.12	0.10	0.10	0.10
WLAN5.3GHz	Ant 8	0.77	0.50	0.18					1.34	1.19	0.95	0.95	0.14	0.12	0.10	0.10	0.10
WLAN5.3GHz	Ant 9+8	0.77	0.50	0.18					1.34	1.19	0.95	0.95	0.14	0.12	0.10	0.10	0.10
WLAN5.5GHz	Ant 9	0.60	0.60	0.23					1.35	1.35	1.35	1.35	0.10	0.10	0.10	0.10	0.10
WLAN5.5GHz	Ant 8	0.60	0.60	0.23					1.35	1.35	1.35	1.35	0.10	0.10	0.10	0.10	0.10
WLAN5.5GHz	Ant 9+8	0.60	0.60	0.23					1.35	1.35	1.35	1.35	0.10	0.10	0.10	0.10	0.10
WLAN5.8GHz	Ant 9	0.70	0.49	0.22	0.22	0.22	0.22	0.16	2.28	2.28	2.28	1.81	0.08	0.08	0.08	0.06	0.06
WLAN5.8GHz	Ant 8	0.70	0.49	0.22	0.22	0.22	0.22	0.16	2.28	2.28	2.28	1.81	0.08	0.08	0.08	0.06	0.06
WLAN5.8GHz	Ant 9+8	0.70	0.49	0.22	0.22	0.22	0.22	0.16	2.28	2.28	2.28	1.81	0.08	0.08	0.08	0.06	0.06

Band	Antenna	Head Standalone/Simultaneous	Extremity Standalone/Simultaneous	Body worn Standalone/Simultaneous
WLAN6GHz U-NII-5	Ant 9	0.06	0.06	0.01
WLAN6GHz U-NII-5	Ant 8	0.06	0.06	0.01
WLAN6GHz U-NII-5	Ant 9+8	0.06	0.06	0.01
WLAN6GHz U-NII-6	Ant 9	0.03	0.02	0.01
WLAN6GHz U-NII-6	Ant 8	0.03	0.02	0.01
WLAN6GHz U-NII-6	Ant 9+8	0.03	0.02	0.01
WLAN6GHz U-NII-7	Ant 9	0.04	0.02	0.01
WLAN6GHz U-NII-7	Ant 8	0.04	0.02	0.01
WLAN6GHz U-NII-7	Ant 9+8	0.04	0.02	0.01
WLAN6GHz U-NII-8	Ant 9	0.03	0.03	0.00
WLAN6GHz U-NII-8	Ant 8	0.03	0.03	0.00
WLAN6GHz U-NII-8	Ant 9+8	0.03	0.03	0.00

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

$$SAR_{design_target} < SAR_{regulatory_limit} \times 10^{\frac{-total\ uncertainty}{10}}$$

3.2 SAR Char Table

SAR char must be generated to cover all radio configurations and usage scenarios that the wireless device supports for operating at WWAN and WLAN/BT bands. It will then be used as input for TA-SAR algorithm to control and manage RF exposure for WWAN and WLAN/BT bands.

<P_{limit} for supported technologies and bands>

Band	Antenna	ECI3 Extremity Body worn Standalone (Receive off)	ECI5 Head Standalone (Receive on)	ECI8 Extremity Body worn Simultaneous Hotspot (Receive off)	ECI10 Head Simultaneous (Receive on)	Pmax*	Total Uncertainty dB (k=2)
GSM850	ANT 0	23.10	21.10	21.60	20.60	23.60	1.2
GSM850	ANT 1	32.40	30.70	28.40	30.70	24.00	1.2
GSM1900	ANT 5	26.40	31.50	21.60	31.50	21.30	1.2
GSM1900	ANT 6	27.20	17.00	19.50	16.50	20.50	1.2
WCDMA II	ANT 5	18.60	30.10	18.60	30.10	22.60	1.2
WCDMA II	ANT 6	19.70	15.60	17.70	14.70	22.20	1.2
WCDMA IV	ANT 5	19.60	31.10	19.60	31.10	23.60	1.2
WCDMA IV	ANT 6	19.20	15.20	17.70	14.20	23.20	1.2
WCDMA IV	ANT 11	19.60	18.10	18.10	17.60	23.10	1.2
WCDMA IV	ANT 7	18.90	15.40	16.90	14.90	20.40	1.2
WCDMA V	ANT 0	21.70	22.70	19.70	21.70	23.20	1.2
WCDMA V	ANT 1	30.30	29.00	22.60	29.00	23.60	1.2
LTE Band 2	ANT 5	18.60	30.80	18.60	30.80	22.60	1.2
LTE Band 2	ANT 6	19.70	15.70	18.20	14.70	22.20	1.2
LTE Band 2	ANT 11	19.50	17.50	17.50	16.50	22.00	1.2
LTE Band 2	ANT 7	17.20	14.20	15.20	13.20	19.70	1.2
LTE Band 4	ANT 5	19.80	31.40	19.80	31.40	23.80	1.2
LTE Band 4	ANT 6	18.90	15.40	17.40	14.40	23.40	1.2
LTE Band 4	ANT 11	21.80	19.80	19.80	19.30	23.30	1.2
LTE Band 4	ANT 7	18.10	15.10	16.60	14.10	20.60	1.2
LTE Band 66	ANT 5	19.80	31.40	19.80	31.40	23.80	1.2
LTE Band 66	ANT 6	19.90	15.90	17.90	14.90	23.40	1.2
LTE Band 66	ANT 11	20.70	19.70	18.70	19.20	23.20	1.2
LTE Band 66	ANT 7	19.10	15.60	17.10	14.60	20.60	1.2
LTE Band 5	ANT 1	31.00	29.20	22.80	29.20	23.80	1.2
LTE Band 5	ANT 0	20.80	18.80	18.80	18.30	23.30	1.2
LTE Band 26	ANT 1	31.00	29.20	23.30	29.20	23.80	1.2
LTE Band 26	ANT 0	21.80	19.80	19.80	19.30	23.30	1.2
LTE Band 7	ANT 5	18.30	30.10	18.30	30.10	23.80	1.2
LTE Band 7	ANT 6	18.30	15.30	16.30	14.30	23.30	1.2
LTE Band 7	ANT 11	18.20	16.20	16.20	15.20	23.20	1.2
LTE Band 7	ANT 7	25.90	16.30	17.80	14.30	19.80	1.2
LTE Band 12/17	ANT 1	28.10	30.50	21.60	30.50	22.60	1.2
LTE Band 12/17	ANT 0	21.60	19.60	20.10	19.10	22.10	1.2
LTE Band 13	ANT 1	29.10	30.70	24.60	30.70	22.60	1.2
LTE Band 13	ANT 0	28.80	20.10	27.80	19.10	22.10	1.2
LTE Band 38	ANT 5	18.30	30.60	18.30	30.60	21.80	1.2
LTE Band 38	ANT 6	17.20	15.20	15.70	14.70	21.20	1.2
LTE Band 38	ANT 11	17.20	12.70	15.70	12.20	21.20	1.2
LTE Band 38	ANT 7	27.80	14.80	16.30	13.80	17.80	1.2
LTE Band 41_PC3	ANT 5	19.50	30.20	19.50	30.20	19.60	1.2
LTE Band 41_PC2	ANT 5	19.50	30.20	19.50	30.20	21.00	1.2
LTE Band 41_PC3	ANT 6	17.50	15.00	16.00	14.50	19.10	1.2
LTE Band 41_PC2	ANT 6	17.50	15.00	16.00	14.50	20.50	1.2
LTE Band 41_PC3	ANT 11	16.90	12.90	15.40	11.90	19.00	1.2



LTE Band 41_PC2	ANT 11	16.90	12.90	15.40	11.90	20.40	1.2
LTE Band 41_PC3	ANT 7	26.40	15.00	16.00	14.50	15.60	1.2
LTE Band 41_PC2	ANT 7	26.40	15.00	16.00	14.50	17.00	1.2
n2	ANT 5	20.00	29.90	20.00	29.90	23.00	1.2
n2	ANT 6	20.60	16.60	18.60	15.60	22.60	1.2
n5/26	ANT 1	30.60	29.00	23.50	29.00	24.50	1.2
n5/26	ANT 0	22.10	19.60	20.60	19.10	24.10	1.2
n7	ANT 5	18.70	29.10	18.70	29.10	24.20	1.2
n7	ANT 6	18.70	15.20	16.70	14.70	23.70	1.2
n7	ANT 11	18.10	15.60	16.60	15.10	23.60	1.2
n7	ANT 7	27.00	15.20	18.70	14.70	20.20	1.2
n12	ANT 1	21.00	30.80	19.00	30.80	23.00	1.2
n12	ANT 0	20.60	18.60	18.60	17.60	22.60	1.2
n66	ANT 5	20.70	31.10	20.70	31.10	24.20	1.2
n66	ANT 6	19.40	15.40	17.90	14.90	23.40	1.2
n66	ANT 11	21.10	20.10	19.60	19.10	23.60	1.2
n66	ANT 7	19.80	16.30	17.80	15.30	21.30	1.2
n38	ANT 5	18.70	28.70	18.70	28.70	24.20	1.2
n38	ANT 6	19.10	15.60	17.10	14.60	23.60	1.2
n38	ANT 11	18.60	16.60	16.60	16.10	23.60	1.2
n38	ANT 7	18.40	15.40	16.40	13.90	20.40	1.2
n41_PC3	ANT 5	19.00	28.90	19.00	28.90	22.00	1.2
n41_PC2	ANT 5	19.00	28.90	19.00	28.90	25.00	1.2
n41_PC3	ANT 6	17.50	15.50	15.50	14.50	21.50	1.2
n41_PC2	ANT 6	17.50	15.50	15.50	14.50	24.50	1.2
n41_PC3	ANT 11	16.40	12.90	14.90	12.40	21.40	1.2
n41_PC2	ANT 11	16.40	12.90	14.90	12.40	24.40	1.2
n41_PC3	ANT 7	18.00	15.00	16.00	14.00	18.00	1.2
n41_PC2	ANT 7	18.00	15.00	16.00	14.00	21.00	1.2
n77	ANT 9	18.00	15.00	16.00	13.50	23.00	1.2
n77	ANT 8	19.00	15.50	17.00	14.00	23.00	1.2
n77	ANT 6	19.00	18.00	17.00	17.00	21.00	1.2
n77	ANT 0	18.50	14.00	16.50	13.50	20.00	1.2
n78_PC3	ANT 9	18.50	15.00	17.00	13.50	23.00	1.2
n78_PC2	ANT 9	18.50	15.00	17.00	13.50	26.00	1.2
n78_PC3	ANT 8	19.50	15.00	17.50	13.50	23.00	1.2
n78_PC2	ANT 8	19.50	15.00	17.50	13.50	26.00	1.2
n78_PC3	ANT 6	20.50	18.00	18.50	17.50	20.00	1.2
n78_PC2	ANT 6	20.50	18.00	18.50	17.50	23.00	1.2
n78_PC3	ANT 0	17.00	13.50	15.50	12.50	20.00	1.2
n78_PC2	ANT 0	17.00	13.50	15.50	12.50	23.00	1.2



Bluetooth								
Band	Antenna	Head Standalone	Head_Simultaneous WWAN+BT 2.4G+BT 5/6G+BT	Head_Simultaneous 2.4G+5/6G+BT WWAN+2.4G+BT WWAN+5/6G+BT WWAN+2.4G+5/6G+BT	Hotspot/Body worn_Standalone Simultaneous WWAN+BT 2.4G+BT 5/6G+BT	Hotspot/Body worn_Simultaneous 2.4G+5/6G+BT WWAN+2.4G+BT WWAN+5/6G+BT WWAN+2.4G+5/6G+BT	Pmax*	Total Uncertainty dB (k=2)
Bluetooth	Ant 12	15.7	13.2	8.7	16.7	12.7	16.7	1.2

WLAN2.4GHz												
Band	Antenna	Head Standalone Simultaneous 2.4G+5G/6G	Head Simultaneous 2.4G+BT 2.4G+5G/ 6G+BT	Head Simultaneous 2.4G+WWAN 2.4G+WWAN+ 5G/6G	Head Simultaneous 2.4G+ WWAN+BT	Head Simultaneous 2.4G+WWAN+ 5G/6G+BT	Hotspot/ Extremity/ Body worn Standalone Simultaneous 2.4G+5G/6G	Hotspot/ Extremity/ Body worn Simultaneous 2.4G+BT 2.4G+5G/ 6G+BT 2.4G+WWAN 2.4G+ WWAN+5G/6G	Hotspot/ Extremity/ Body worn Simultaneous 2.4G+ WWAN+BT	Hotspot/ Extremity/ Body worn Simultaneous 2.4G+WWAN+ 5G/6G+BT	Pmax*	Total Uncertainty dB (k=2)
WLAN2.4GHz	Ant 12	13.3	11.3	10.8	9.8	8.8	17.3	14.8	13.8	13.3	24.3	1.2
WLAN2.4GHz	Ant 7	13.3	11.3	10.8	9.8	8.8	17.3	14.8	13.8	13.3	24.3	1.2
WLAN2.4GHz	Ant 12+7	13.3	11.3	10.8	9.8	8.8	17.3	14.8	13.8	13.3	27.3	1.2

WLAN5GHz														
Band	Antenna	Head Standalone	Head Simultaneous 2.4G+5G/6G 5G/6G+BT 2.4G+ 5G/6G+BT	Head Simultaneous 5G/6G+WWAN 5G/6G+ WWAN+BT 2.4G+WWAN+ 5G/6G 2.4G+WWAN+ 5G/6G+BT	Hotspot Standalone Simultaneous 2.4G+5G/6G 5G/6G+BT 2.4G+ 5G/6G+BT	Hotspot Simultaneous 5G/6G+ WWAN 2.4G+WWAN +5G/6G	Hotspot Simultaneous 5G/6G+ WWAN+BT	Hotspot Simultaneous 2.4G+WWAN+ 5G/6G+BT	Extremity/ Body worn Standalone Simu ltaneous 2.4G+5G/6G 5G/6G+BT 2.4G+ 5G/6G+BT	Extremity/ Body worn Simultaneous 5G/6G+WWAN 2.4G+WWAN +5G/6G	Extremity /Body worn Simultaneous 5G/6G+ WWAN+BT	Extremity/ Body worn Simultaneous 2.4G+ WWAN+ 5G/6G+BT	Pmax*	Total Uncertainty dB (k=2)
WLAN5.2GHz	Ant 9	14.3	12.3	8.3	15.3	14.8	13.8	13.8	15.3	14.8	13.8	13.8	15.3	1.2
WLAN5.2GHz	Ant 8	14.3	12.3	8.3	15.3	14.8	13.8	13.8	15.3	14.8	13.8	13.8	15.3	1.2
WLAN5.2GHz	Ant 9+8	14.3	12.3	8.3	15.3	14.8	13.8	13.8	15.3	14.8	13.8	13.8	18.3	1.2
WLAN5.3GHz	Ant 9	14.3	12.3	8.3					15.3	14.8	13.8	13.8	16.3	1.2
WLAN5.3GHz	Ant 8	14.3	12.3	8.3					15.3	14.8	13.8	13.8	16.3	1.2
WLAN5.3GHz	Ant 9+8	14.3	12.3	8.3					15.3	14.8	13.8	13.8	19.3	1.2
WLAN5.5GHz	Ant 9	14.3	14.3	10.8					14.3	14.3	14.3	14.3	14.3	1.2
WLAN5.5GHz	Ant 8	14.3	14.3	10.8					14.3	14.3	14.3	14.3	14.3	1.2
WLAN5.5GHz	Ant 9+8	14.3	14.3	10.8					14.3	14.3	14.3	14.3	17.3	1.2
WLAN5.8GHz	Ant 9	12.8	11.8	8.3	12.8	12.8	12.8	11.8	12.8	12.8	12.8	11.8	12.8	1.2
WLAN5.8GHz	Ant 8	12.8	11.8	8.3	12.8	12.8	12.8	11.8	12.8	12.8	12.8	11.8	12.8	1.2
WLAN5.8GHz	Ant 9+8	12.8	11.8	8.3	12.8	12.8	12.8	11.8	12.8	12.8	12.8	11.8	15.8	1.2

WLAN6GHz				
Band	Antenna	Head/Extremity/Body worn Standalone/Simultaneous	Pmax*	Total Uncertainty dB (k=2)
WLAN6GHz U-NII-5	Ant 9	5.8	7.8	1.2
WLAN6GHz U-NII-5	Ant 8	5.8	7.8	1.2
WLAN6GHz U-NII-5	Ant 9+8	5.8	10.8	1.2
WLAN6GHz U-NII-6	Ant 9	6.8	12.8	1.2
WLAN6GHz U-NII-6	Ant 8	6.8	12.8	1.2
WLAN6GHz U-NII-6	Ant 9+8	6.8	15.8	1.2
WLAN6GHz U-NII-7	Ant 9	7.8	12.8	1.2
WLAN6GHz U-NII-7	Ant 8	7.8	12.8	1.2
WLAN6GHz U-NII-7	Ant 9+8	7.8	15.8	1.2
WLAN6GHz U-NII-8	Ant 9	6.8	12.8	1.2
WLAN6GHz U-NII-8	Ant 8	6.8	12.8	1.2
WLAN6GHz U-NII-8	Ant 9+8	6.8	15.8	1.2

Note: 1) *P_{max} is used for RF tune up procedure. The maximum allowed output power is equal to Pmax + 1.2 dB device uncertainty.

2) All P_{limit} 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 & NR TDD&WLAN/BT).

3) The max allowed output power is the P_{limit} + 1.2 dB device uncertainty, and if P_{limit} is higher than Pmax, the device output power will be Pmax instead.

GSM/FDD/TDD	Duty Cycle	Time average calculation factor(dB)
GSM 1TX	12.50%	-9.0
GSM 2TX	25%	-6.0
GSM 3TX	37.50%	-4.3
GSM 4TX	50%	-3.0
FDD LTE	100%	0.0
TDD LTE	63.30%	-2.0
TDD HPUE	43.30%	-3.6
NR FDD/TDD	100%	0.0
NR TDD HPUE	100%	0.0