

FCC SAR TEST REPORT PART 0

Application No.: SUCR2507000669WM
Applicant: Guangdong OPPO Mobile Telecommunications Corp., Ltd.
Manufacturer: NO.18 HaiBin Road, Wusha Village, Chang'an Town, DongGuan City, Guangdong Province, P.R. China
EUT Description: Guangdong OPPO Mobile Telecommunications Corp., Ltd.
Model No.: NO.18 HaiBin Road, Wusha Village, Chang'an Town, DongGuan City, Guangdong Province, P.R. China
Trade Mark: Mobile Phone
Standards: FCC 47CFR §2.1093
Date of Receipt: 2025-07-17
Date of Test: 2025-08-15 to 2025-09-02
Date of Issue: 2025-09-08
Test conclusion: **PASS**

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Revision Record			
Version	Description	Date	Remark
01	Original	2025-09-08	/

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CONTENTS

1	General Information	4
1.1	Details of Client	4
1.2	Test Location.....	4
1.3	Test Facility	4
1.4	General Description of EUT	5
1.5	Time-Averaging for SAR	7
2	SAR CHARACTERIZATION	8
2.1	ECI and SAR Determination.....	8
2.2	SAR Design Target And Uncertainty	9
2.3	SAR Char	10

1 General Information

1.1 Details of Client

Applicant:	Guangdong OPPO Mobile Telecommunications Corp., Ltd.
Address:	NO.18 HaiBin Road, Wusha Village, Chang'an Town, DongGuan City, Guangdong Province, P.R. China
Manufacturer:	Guangdong OPPO Mobile Telecommunications Corp., Ltd.
Address:	NO.18 HaiBin Road, Wusha Village, Chang'an Town, DongGuan City, Guangdong Province, P.R. China

1.2 Test Location

Company:	SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.
Address:	South of No. 6 Plant, No. 1, Runsheng Road, Suzhou Industrial Park, Suzhou Area, China (Jiangsu) Pilot Free Trade Zone
Post code:	215000

1.3 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **A2LA (Certificate No. 6336.01)**

SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 6336.01.

- **Innovation, Science and Economic Development Canada**

SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0120.

IC#: 27594.

- **FCC –Designation Number: CN1312**

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Designation Number: CN1312.

Test Firm Registration Number: 717327

1.4 General Description of EUT

Product Name:	Mobile Phone		
Model No.:	CPH2797		
Trade Mark:	OPPO		
Product Phase:	production unit		
Device Type:	portable device		
Exposure Category:	uncontrolled environment / general population		
IMEI:	863215080044555/863215080044548 863215080044498/863215080044480		
Hardware Version:	11		
Software Version:	Color OS 16.0		
Antenna Type:	WWAN/BT/WLAN/GNSS: IFA Antenna; NFC/WPT: Loop Antenna		
Device Operating Configurations:			
Modulation Mode:	GSM: GMSK,8PSK; WCDMA: QPSK,16QAM LTE: QPSK,16QAM,64QAM,256QAM 5G NR: DFT-s-OFDM(QPSK,16QAM,64QAM,256QAM) CP-OFDM(QPSK,16QAM,64QAM,256QAM) WIFI: DSSS,OFDM,OFDMA; BT: GFSK, $\pi/4$ DQPSK,8DPSK NFC: ASK		
Device Class:	B		
GPRS Multi-slots Class:	33	EGPRS Multi-slots Class:	33
HSDPA UE Category:	24	HSUPA UE Category:	6
DC-HSDPA UE Category:	24		
Power Class:	4, tested with power level 5(GSM850)		
	1, tested with power level 0(GSM1900)		
	3, tested with power control “all 1”(WCDMA Band)		
	3, tested with power control “max power”(LTE Band)		
Frequency Bands:	Band	Tx(MHz)	
	GSM850	824~849	
	GSM1900	1850~1910	
	WCDMA Band II	1850~1910	
	WCDMA Band IV	1710~1755	
	WCDMA Band V	824~849	
	LTE Band 2	1850 ~1910	
	LTE Band 4	1710~1755	
	LTE Band 5	824~849	
	LTE Band 7	2500~2570	
	LTE Band 12	699~716	
	LTE Band 13	777~787	
	LTE Band 17	704-716	
	LTE Band 26	814~849	
	LTE Band 38	2570~2620	
	LTE Band 41	2496~2690	
	LTE Band 66	1710~1780	
	NR Band n2	1850 ~1910	

	NR Band n5	824~849
	NR Band n7	2500~2570
	NR Band n12	699~716
	NR Band n26	814~849
	NR Band n38	2570~2620
	NR Band n41	2496~2690
	NR Band n66	1710~1780
	NR Band n77	3450~3550
		3700~3980
	NR Band n78	3450~3550
		3700~3800
	WIFI 2.4G	2412~2462
	WIFI 5G	5150~5250
		5250~5350
		5470~5725
		5725~5850
	WIFI 6E	5925~6425
		6425~6525
		6525~6875
		6875~7125
	BT	2402~2480
	NFC	13.56
RF Cable:	☒ Provided by applicant ☐ Provided by the laboratory	
Battery Information:	Model:	BLPD37
	Normal Voltage:	3.75V
	Rated capacity:	6840mAh
	Manufacturer:	Dongguan NVT Technology Co., Ltd.
Note: *Since the above data and/or information is provided by the client relevant results or conclusions of this report are only made for these data and/or information, SGS is not responsible for the authenticity, integrity and results of the data and information and/or the validity of the conclusion.		

1.5 Time-Averaging for SAR

The equipment under test (EUT) is a portable handset, it supports 2G/3G/4G/5G NR/BT/WLAN/NFC bands, but only 2G/3G/4G/5G NR/WIFI/BT are enabled with Mediatek TAS feature to control and manage transmitting power in real time and to ensure at all times the time-averaged RF exposure is in compliance with the FCC requirement.

This part 0 report describes the procedures for the SAR char generation, and the parameters obtained.

Nomenclature for Part 0 Report:

Technology	Term	Description
WWAN/WLAN/BT	P_{limit}	Power level that corresponds to the exposure design target (SAR_{design_target}) after accounting for all device design related uncertainties
	P_{max}	Maximum tune up output power
	SAR_{design_target}	Target SAR level < FCC SAR limit after accounting for all device design related uncertainties
	$SAR\ Char$	Table containing P_{limit} for all technologies and bands

2 SAR CHARACTERIZATION

2.1 ECI and SAR Determination

This device uses different State to configure different time averaged power levels based on certain exposure scenarios. Depending on the detection scheme implemented in the smart phone, the worst-case SAR was determined by measurements for the relevant exposure conditions for that State. Detailed descriptions of the detection mechanisms are included in the operational 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.

The State conditions used in Table 1 represent different exposure scenarios.

Exposure conditions	Description	State (ECI)
Body_worn	▪ Device being used with a body-worn accessory	3
Hotspot	▪ Device transmits in hotspot mode near body ▪ Hotspot Mode Active	3
Phablet (Product specific 10g SAR)	▪ Device is held with hand	3
Head	▪ Device positioned next to head ▪ Receiver Active	5

Table 1: State and Corresponding Exposure Scenarios

2.2 SAR Design Target And Uncertainty

SAR_design_target is determined by ensuring that it is less than FCC SAR limit after accounting for total device designed related uncertainties specified by the manufacturer.

$$\text{SAR_design_target} < \text{SAR}_{\text{regulatory_limit}} \times 10^{\frac{-\text{total uncertainty}}{10}}$$

Exposure position	Frequency band	SAR Regulatory Limit W/kg(1g)	SAR design target W/kg(1g)
Head	WWAN/WLAN/BT	1.6	1.2
Body worn/Hotsopt	WWAN/WLAN/BT	1.6	1.2
Exposure position	Frequency band	SAR Regulatory Limit W/kg(10g)	SAR design target W/kg(10g)
Product specific 10g SAR	WLAN/WLAN/BT	4.0	3.0

2.3 SAR Char

The TAS algorithm maintains the time-averaged transmit power, in turn, time-averaged RF exposure of SAR_{design_target}, below the predefined time-averaged power limit, for each characterized technology and band. MTK-TA allows the device to transmit at higher power instantaneously, as high as P_{max} , when needed, but enforces power limiting to maintain time-averaged transmit power to P_{limit} . Below table shows P_{limit} and maximum tune up output power P_{max} configured for this EUT for various transmit conditions.

P_{limit} for supported technologies and bands

Band	Mode	Antenna	P_{max} *	Uncertainty	Stand-alone		P_{limit} (average)	
					receiver off	receiver on	receiver off	receiver on
					Body-SAR	Head-SAR	Body-SAR	Head-SAR
					sar_state3	sar_state5	sar_state3	sar_state5
GSM 850	GPRS 4TS	0	23.6	1.2	4.5	3.5	19.1	20.1
	GPRS 4TS	1	24.0	1.2	2.0	0.0	22.0	24.0
GSM 1900	GPRS 4TS	5	21.0	1.2	1.5	0.0	19.5	21.0
	GPRS 4TS	6	20.0	1.2	2.0	4.0	18.0	16.0
WCDMA_B2	RMC	5	23.2	1.2	5.0	0.0	18.2	23.2
	RMC	6	22.3	1.2	6.0	6.5	16.3	15.8
WCDMA_B4	RMC	5	24.0	1.2	6.0	0.0	18.0	24.0
	RMC	6	23.0	1.2	6.0	7.5	17.0	15.5
WCDMA_B5	RMC	0	24.1	1.2	5.5	4.5	18.6	19.6
	RMC	1	24.5	1.2	3.0	0.5	21.5	24.0
LTE_B2	QPSK	5	23.7	1.2	5.0	0.0	18.7	23.7
	QPSK	6	22.8	1.2	5.5	6.5	17.3	16.3
LTE_B4	QPSK	5	24.7	1.2	6.0	0.0	18.7	24.7
	QPSK	6	23.7	1.2	5.5	7.5	18.2	16.2
	QPSK	4	23.5	1.2	4.0	4.5	19.5	19.0
	QPSK	7	22.5	1.2	3.0	5.5	19.5	17.0
LTE_B7	QPSK	5	23.0	1.2	6.5	0.0	16.5	23.0
	QPSK	6	22.0	1.2	8.0	7.0	14.0	15.0
	QPSK	4	23.2	1.2	7.0	6.0	16.2	17.2
	QPSK	7	22.3	1.2	6.5	5.5	15.8	16.8
LTE_B12(B17)	QPSK	0	23.9	1.2	5.0	2.0	18.9	21.9
	QPSK	1	24.6	1.2	1.5	0.0	23.1	24.6
LTE_B13	QPSK	0	23.8	1.2	5.0	2.0	18.8	21.8
	QPSK	1	24.7	1.2	1.5	0.0	23.2	24.7
LTE_B26(B5)	QPSK	0	24.3	1.2	5.0	4	19.3	20.3
	QPSK	1	24.7	1.2	2.5	1.0	22.2	23.7
LTE_B66	QPSK	5	24.7	1.2	6.0	0.0	18.7	24.7
	QPSK	6	23.7	1.2	6.5	8.0	17.2	15.7
	QPSK	4	23.5	1.2	6.0	6.5	17.5	17.0
	QPSK	7	22.5	1.2	2.0	4.0	20.5	18.5
LTE_B41 PC2	QPSK	5	23.2	1.2	6.0	0.0	17.2	23.2
	QPSK	6	21.8	1.2	7.0	5.0	14.8	16.8
	QPSK	4	22.5	1.2	5.5	7.5	17.0	15.0
	QPSK	7	21.5	1.2	3.0	5.0	18.5	16.5
LTE_B41 PC3(B38)	QPSK	5	21.0	1.2	2.3	0.0	18.7	21.0
	QPSK	6	19.6	1.2	3.3	1.3	16.3	18.3
	QPSK	4	22.0	1.2	3.5	5.5	18.5	16.5

	QPSK	7	21.0	1.2	1.0	3.0	20.0	18.0
NR5G_N2	QPSK	5	23.7	1.2	4.0	0.0	19.7	23.7
	QPSK	6	22.8	1.2	5.0	5.0	17.8	17.8
NR5G_N7	QPSK	5	23.0	1.2	5.5	0.0	17.5	23.0
	QPSK	6	22.0	1.2	7.5	6.0	14.5	16.0
	QPSK	4	22.8	1.2	6.5	6.0	16.3	16.8
	QPSK	7	21.9	1.2	5.5	5.0	16.4	16.9
NR5G_N12	QPSK	0	23.9	1.2	3.0	0.0	20.9	23.9
	QPSK	1	24.6	1.2	0.5	0.0	24.1	24.6
NR5G_N26(N5)	QPSK	0	24.3	1.2	1.5	2.0	22.8	22.3
	QPSK	1	24.7	1.2	0.0	0.0	24.7	24.7
NR5G_N66	QPSK	5	24.7	1.2	4.5	0.0	20.2	24.7
	QPSK	6	23.7	1.2	4.5	6.0	19.2	17.7
	QPSK	4	23.5	1.2	4.0	4.0	19.5	19.5
	QPSK	7	22.5	1.2	0.0	3.5	22.5	19.0
NR5G_N38	QPSK	5	24.1	1.2	5.5	0.0	18.6	24.1
	QPSK	6	22.7	1.2	7.0	5.0	15.7	17.7
	QPSK	4	23.2	1.2	6.5	8.0	16.7	15.2
	QPSK	7	22.8	1.2	3.0	6.0	19.8	16.8
NR5G_N41 PC2	QPSK	5	26.3	1.2	10.0	0.0	16.3	26.3
	QPSK	6	24.9	1.2	10.5	9.0	14.4	15.9
	QPSK	4	26.0	1.2	10.0	9.5	16.0	16.5
	QPSK	7	25.3	1.2	6.0	8.0	19.3	17.3
NR5G_N41 PC3	QPSK	5	23.0	1.2	10.0	0.0	13.0	23.0
	QPSK	6	21.6	1.2	10.5	9.0	11.1	12.6
	QPSK	4	24.0	1.2	10.0	9.5	14.0	14.5
	QPSK	7	23.0	1.2	6.0	8.0	17.0	15.0
NR5G_N77 PC2	QPSK	6	23.5	1.2	6.5	6.5	17.0	17.0
	QPSK	10	23.9	1.2	8.0	9.5	15.9	14.4
	QPSK	8	25.0	1.2	8.0	10.0	17.0	15.0
	QPSK	9	23.5	1.2	6.0	6.0	17.5	17.5
NR5G_N77 PC3	QPSK	6	21.7	1.2	6.5	6.5	15.2	15.2
	QPSK	10	22.7	1.2	8.0	9.5	14.7	13.2
	QPSK	8	22.8	1.2	8.0	10.0	14.8	12.8
	QPSK	9	22.3	1.2	6.0	6.0	16.3	16.3
NR5G_N78 PC2	QPSK	6	24.3	1.2	9.5	9.0	14.8	15.3
	QPSK	10	25.0	1.2	11.0	9.0	14.0	16.0
	QPSK	8	25.8	1.2	11.5	11.0	14.3	14.8
	QPSK	9	24.2	1.2	10.0	10.5	14.2	13.7
NR5G_N78 PC3	QPSK	6	21.5	1.2	9.5	9.0	12.0	12.5
	QPSK	10	22.2	1.2	11.0	9.0	11.2	13.2
	QPSK	8	23.0	1.2	11.5	11.0	11.5	12.0
	QPSK	9	21.4	1.2	10.0	10.5	11.4	10.9

Band	Mode	Antenna	P _{max} *	Uncertainty	Stand-alone		P _{limit} (average)	
					receiver off	receiver on	receiver off	receiver on
					Body-SAR	Head-SAR	Body-SAR	Head-SAR
WIFI2.4G	802.11b	12	22.0	1.2	7.5	9.0	14.5	13.0
	802.11b	7	22.0	1.2	7.5	9.0	14.5	13.0
	802.11b	MIMO	22.0	1.2	7.5	9.0	14.5	13.0
5G_B1	802.11ac VHT80	10	17.0	1.2	3.5	6.0	13.5	11.0
	802.11ac VHT80	8	17.0	1.2	3.5	6.0	13.5	11.0
	802.11ac VHT80	MIMO	17.0	1.2	3.5	6.0	13.5	11.0
5G_B2	802.11ac VHT160	10	16.0	1.2	3.0	5.0	13.0	11.0
	802.11ac VHT160	8	16.0	1.2	3.0	5.0	13.0	11.0
	802.11ac VHT160	MIMO	16.0	1.2	3.0	5.0	13.0	11.0
5G_B3	802.11ac VHT160	10	17.0	1.2	2.5	6.5	14.5	10.5
	802.11ac VHT160	8	17.0	1.2	2.5	6.5	14.5	10.5
	802.11ac VHT160	MIMO	17.0	1.2	2.5	6.5	14.5	10.5
5G_B4	802.11ac VHT80	10	18.0	1.2	3.5	7.0	14.5	11.0
	802.11ac VHT80	8	18.0	1.2	3.5	7.0	14.5	11.0
	802.11ac VHT80	MIMO	18.0	1.2	3.5	7.0	14.5	11.0
6G B5	802.11be EHT320	10	14.0	1.2	9.0	9.0	5.0	5.0
	802.11be EHT320	8	14.0	1.2	9.0	9.0	5.0	5.0
	802.11be EHT320	MIMO	14.0	1.2	9.0	9.0	5.0	5.0
6G B6	802.11be EHT320	10	14.0	1.2	8.0	8.0	6.0	6.0
	802.11be EHT320	8	14.0	1.2	8.0	8.0	6.0	6.0
	802.11be EHT320	MIMO	14.0	1.2	8.0	8.0	6.0	6.0
6G B7	802.11be EHT320	10	14.0	1.2	8.0	8.0	6.0	6.0
	802.11be EHT320	8	14.0	1.2	8.0	8.0	6.0	6.0
	802.11be EHT320	MIMO	14.0	1.2	8.0	8.0	6.0	6.0
6G B8	802.11be EHT320	10	14.0	1.2	7.5	7.5	6.5	6.5
	802.11be EHT320	8	14.0	1.2	7.5	7.5	6.5	6.5
	802.11be EHT320	MIMO	14.0	1.2	7.5	7.5	6.5	6.5
BT	DH5	12	18.0	1.2	1.0	3.0	17.0	15.0
	DH5	7	18.0	1.2	1.0	3.0	17.0	15.0

Note:

- 1) *P_{max} is used for RF tune up procedure. The maximum allowed output power is equal to P_{max} + Total uncertainty.
- 2) The max allowed output power is the P_{limit} + Total uncertainty, and if P_{limit} is higher than P_{max}, the device output power will be P_{max} instead.
- 3) The following table is duty cycle and factor used for calculating time average power.

Mode	Duty Cycle	Time Average calculation Factor
GSM 1TX	12.5%	-9.0
GSM 2TX	25.0%	-6.0
GSM 3TX	37.5%	-4.3
GSM 4TX	50.0%	-3.0
LTE FDD	100.0%	0.0
LTE TDD	63.3%	-2.0
LTE TDD HPUE	43.3%	-3.5
NR FDD	100.0%	0.0
NR TDD	100.0%	0.0
NR TDD HPUE	100.0%	0.0

- End of the Report -