



RF Exposure Report

(Part 0: SAR and PD Characterization Evaluation)

FCC ID : A4RGVU6C
Equipment : Phone
Applicant : Google LLC
1600 Amphitheatre Parkway,
Mountain View, California, 94043 USA
Standard : FCC 47 CFR Part 2 (2.1093)

We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

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Approved by: Cona Huang / Deputy Manager

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1. Introduction

The FCC RF exposure limit is based on time-averaged RF exposure. SAR regulatory specifications are defined over certain measurement duration allowing for time-averaging. The Samsung S.LSI proprietary TAS (Time Average SAR) algorithm has been designed to meet the compliance limits over the required duration, while still allowing dynamic control of transmit power for meeting system performance.

This report shows SAR characterization of sub6GHz. The characterization is achieved by determination of P_{limit}. In the case of sub6GHz, power is measured by antenna connection port power. P_{limit} is the power level that corresponds to the exposure design target. Design target is defined as SAR_{design target} for sub6GHz.

The compliance test under static transmission and simultaneous transmission are performed and summarized in Part 1 report. The validation of TAS algorithm under the dynamic transmission scenarios are conducted are reported in Part 2. Terminologies for this report are listed up in the table below.

P _{max}	Maximum Tx power that can be transmitted physically from RFIC for a given RAT
SAR _{FCC_limit}	SAR limit specified by FCC 1.6 W/kg averaged over 1-gram, for head and body exposure, and 4 W/kg averaged over 10-gram, for extremity exposure
SAR _{target}	Target SAR level used in TAS algorithm. This SAR value should be less than FCC limit and should be determined after accounting for all uncertainties and other design considerations.
P _{limit}	The time-averaged RF power that corresponds to SAR _{target} .
SAR characterization	Characterization of SAR value for all sub6GHz technologies



2. Product Description

Product Feature & Specification	
Equipment Name	Phone
FCC ID	A4RGVU6C
Wireless Technology and Frequency Range	GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8 MHz 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 14: 788 MHz ~ 798 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 25: 1850 MHz ~ 1915 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 30: 2305 MHz ~ 2315 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 48: 3550 MHz ~ 3700 MHz LTE Band 66: 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 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 n14 : 788 MHz ~ 798 MHz 5G NR n25 : 1850 MHz ~ 1915 MHz 5G NR n30 : 2305 MHz ~ 2315 MHz 5G NR n38 : 2570 MHz ~ 2620 MHz 5G NR n41 : 2496 MHz ~ 2690 MHz 5G NR n48 : 3550 MHz ~ 3700 MHz 5G NR n66 : 1710 MHz ~ 1780 MHz 5G NR n71 : 663 MHz ~ 698 MHz 5G NR n77: 3450 MHz ~ 3550 MHz, 3700 MHz ~ 3980 MHz WLAN 2.4 GHz Band: 2400 MHz ~ 2483.5 MHz WLAN 5.2 GHz Band: 5150 MHz ~ 5250 MHz WLAN 5.3 GHz Band: 5250 MHz ~ 5350 MHz WLAN 5.6 GHz Band: 5470 MHz ~ 5725 MHz WLAN 5.8 GHz Band: 5725 MHz ~ 5850 MHz WLAN 5.8G UNII4 Band: 5850 MHz ~ 5895 MHz WLAN 6E: 5925 MHz ~ 6425 MHz, 6425 MHz ~ 6525 MHz, 6525 MHz ~ 6875 MHz, 6875 MHz ~ 7125 MHz Bluetooth: 2400 MHz ~ 2483.5 MHz NFC : 13.56 MHz WPT: 110KHz ~ 148.5KHz
Mode	GSM/GPRS/EGPRS RMC/AMR 12.2Kbps HSDPA HSUPA LTE: QPSK, 16QAM, 64QAM, 256QAM 5G NR: DFT-s-OFDM/CP-OFDM, Pi/2 BPSK/QPSK/16QAM/64QAM/256QAM WLAN: 802.11a/b/g/n/ac/ax HT20/HT40/VHT20/VHT40/VHT80/VHT160/HE20/HE40/HE80/HE160 Bluetooth BR/EDR/LE NFC : ASK WPT: ASK



3. SAR Characterization

SAR characterization must be performed 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 S.LSI TAS feature to control and manage RF exposure for $f < 6$ GHz.

3.1 SAR design target and uncertainty

Wireless technology/ band (No Accounting duty cycle)	Antenna	Duty cycle	Head		Hotspot	Body-worn		Body-worn/Extremity		power tolerance (dB)
			Standalone	Simultaneous	Simultaneous	Standalone	Simultaneous	Standalone	Simultaneous	
			Index 2	Index 3	Index 4	Index 5	Index 6	Index 5	Index 6	
			1g SAR design target (W/Kg)					10g SAR design target (W/Kg)		
GSM850 GSM/GPRS 1TX	0	12.50%	0.95	0.72	0.72	0.95	0.72	2.37	1.80	1.00
GSM850 GPRS 2TX	0	25.00%	0.95	0.72	0.72	0.95	0.72	2.37	1.80	1.00
GSM850 GPRS 3TX	0	37.50%	0.95	0.72	0.72	0.95	0.72	2.37	1.80	1.00
GSM850 GPRS 4TX	0	50.00%	0.95	0.72	0.72	0.95	0.72	2.37	1.80	1.00
GSM850 EDGE 1TX	0	12.50%	0.95	0.72	0.72	0.95	0.72	2.37	1.80	1.00
GSM850 EDGE 2TX	0	25.00%	0.95	0.72	0.72	0.95	0.72	2.37	1.80	1.00
GSM850 EDGE 3TX	0	37.50%	0.95	0.72	0.72	0.95	0.72	2.37	1.80	1.00
GSM850 EDGE 4TX	0	50.00%	0.95	0.72	0.72	0.95	0.72	2.37	1.80	1.00
GSM1900 GSM/GPRS 1TX	2	12.50%	0.95	0.72	0.72	0.95	0.72	2.37	1.80	1.00
GSM1900 GPRS 2TX	2	25.00%	0.95	0.72	0.72	0.95	0.72	2.37	1.80	1.00
GSM1900 GPRS 3TX	2	37.50%	0.95	0.72	0.72	0.95	0.72	2.37	1.80	1.00
GSM1900 GPRS 4TX	2	50.00%	0.95	0.72	0.72	0.95	0.72	2.37	1.80	1.00
GSM1900 EDGE 1TX	2	12.50%	0.95	0.72	0.72	0.95	0.72	2.37	1.80	1.00
GSM1900 EDGE 2TX	2	25.00%	0.95	0.72	0.72	0.95	0.72	2.37	1.80	1.00
GSM1900 EDGE 3TX	2	37.50%	0.95	0.72	0.72	0.95	0.72	2.37	1.80	1.00
GSM1900 EDGE 4TX	2	50.00%	0.95	0.72	0.72	0.95	0.72	2.37	1.80	1.00
WCDMA B2	2	100.00%	0.99	0.75	0.75	0.99	0.75	2.47	1.87	0.80
WCDMA B4	2	100.00%	0.99	0.75	0.75	0.99	0.75	2.47	1.87	0.80
WCDMA B5	0	100.00%	1.02	0.77	0.77	1.02	0.77	2.55	1.92	0.70
LTE B7	2	100.00%	0.97	0.73	0.73	0.97	0.73	2.42	1.82	0.90
LTE B12/B17	0	100.00%	1.02	0.77	0.77	1.02	0.77	2.55	1.92	0.70
LTE B13	0	100.00%	1.02	0.77	0.77	1.02	0.77	2.55	1.92	0.70
LTE B14	0	100.00%	1.02	0.77	0.77	1.02	0.77	2.55	1.92	0.70
LTE B25/B2	2	100.00%	0.99	0.75	0.75	0.99	0.75	2.47	1.87	0.80
LTE B26/B5	0	100.00%	1.02	0.77	0.77	1.02	0.77	2.55	1.92	0.70
LTE B30	2	100.00%	0.97	0.73	0.73	0.97	0.73	2.42	1.82	0.90
LTE B38 PC3	2	63.30%	0.97	0.73	0.73	0.97	0.73	2.42	1.82	0.90
LTE B38 PC2	2	43.30%	0.97	0.73	0.73	0.97	0.73	2.42	1.82	0.90
LTE B41 PC3	2	63.30%	0.97	0.73	0.73	0.97	0.73	2.42	1.82	0.90
LTE B41 PC2	2	43.30%	0.97	0.73	0.73	0.97	0.73	2.42	1.82	0.90
LTE B48 PC3	6	63.30%	0.93	0.70	0.70	0.93	0.70	2.32	1.75	1.10
LTE B66/B4	2	100.00%	0.99	0.75	0.75	0.99	0.75	2.47	1.87	0.80
LTE B71	0	100.00%	1.02	0.77	0.77	1.02	0.77	2.55	1.92	0.70
FR1 n5	0	100.00%	1.02	0.77	0.77	1.02	0.77	2.55	1.92	0.70
FR1 n7	2	100.00%	0.97	0.73	0.73	0.97	0.73	2.42	1.82	0.90
FR1 n12	0	100.00%	1.02	0.77	0.77	1.02	0.77	2.55	1.92	0.70
FR1 n14	0	100.00%	1.02	0.77	0.77	1.02	0.77	2.55	1.92	0.70
FR1 n25/n2	2	100.00%	0.99	0.75	0.75	0.99	0.75	2.47	1.87	0.80
FR1 n30	2	100.00%	0.97	0.73	0.73	0.97	0.73	2.42	1.82	0.90
FR1 n38 PC3	2	100.00%	0.97	0.73	0.73	0.97	0.73	2.42	1.82	0.90
FR1 n41 PC3	2	100.00%	0.97	0.73	0.73	0.97	0.73	2.42	1.82	0.90
FR1 n41 PC2	2	50.00%	0.97	0.73	0.73	0.97	0.73	2.42	1.82	0.90
FR1 n41 PC1.5 ULMIMO	2	25.00%	0.97	0.73	0.73	0.97	0.73	2.42	1.82	0.90
FR1 n48 PC3	6	100.00%	0.93	0.70	0.70	0.93	0.70	2.32	1.75	1.10



FR1 n66	2	100.00%	0.99	0.75	0.75	0.99	0.75	2.47	1.87	0.80
FR1 n71	0	100.00%	1.02	0.77	0.77	1.02	0.77	2.55	1.92	0.70
FR1 n77 PC3	6	100.00%	0.93	0.70	0.70	0.93	0.70	2.32	1.75	1.10
FR1 n77 PC2	6	50.00%	0.93	0.70	0.70	0.93	0.70	2.32	1.75	1.10
LTE B2 Sub	1	100.00%	0.99	0.75	0.75	0.99	0.75	2.47	1.87	0.80
LTE B66/B4 Sub	1	100.00%	0.99	0.75	0.75	0.99	0.75	2.47	1.87	0.80
FR1 n2 Sub	1	100.00%	0.99	0.75	0.75	0.99	0.75	2.47	1.87	0.80
FR1 n38 PC3 Sub	1	100.00%	0.97	0.73	0.73	0.97	0.73	2.42	1.82	0.90
FR1 n41 PC3 Sub	1	100.00%	0.97	0.73	0.73	0.97	0.73	2.42	1.82	0.90
FR1 n41 PC2 Sub	1	50.00%	0.97	0.73	0.73	0.97	0.73	2.42	1.82	0.90
FR1 n41 PC1.5 Sub UL MIMO	1	25.00%	0.97	0.73	0.73	0.97	0.73	2.42	1.82	0.90
FR1 n48 PC3 Sub UL MIMO	1	100.00%	0.93	0.70	0.70	0.93	0.70	2.32	1.75	1.10
FR1 n66 Sub	1	100.00%	0.99	0.75	0.75	0.99	0.75	2.47	1.87	0.80
FR1 n77 Sub	1	100.00%	0.93	0.70	0.70	0.93	0.70	2.32	1.75	1.10

The power table index 5 and 6 will be designed to meet both 1g and 10 SAR design target

Wireless technology/ band (No Accounting duty cycle)	Antenna	Duty cycle	Head		Hotspot	Body-worn		Body-worn/Extremity		power tolerance (dB)
			Standalone	Simultaneous	Simultaneous	Standalone	Simultaneous	Standalone	Simultaneous	
			Index 2	Index 3	Index 4	Index 5	Index 6	Index 5	Index 6	
			1g SAR design target (W/Kg)					10g SAR design target (W/Kg)		
GSM850 GSM/GPRS 1TX	1	12.50%	0.95	0.72	0.72	0.95	0.72	2.37	1.80	1.00
GSM850 GPRS 2TX	1	25.00%	0.95	0.72	0.72	0.95	0.72	2.37	1.80	1.00
GSM850 GPRS 3TX	1	37.50%	0.95	0.72	0.72	0.95	0.72	2.37	1.80	1.00
GSM850 GPRS 4TX	1	50.00%	0.95	0.72	0.72	0.95	0.72	2.37	1.80	1.00
GSM850 EDGE 1TX	1	12.50%	0.95	0.72	0.72	0.95	0.72	2.37	1.80	1.00
GSM850 EDGE 2TX	1	25.00%	0.95	0.72	0.72	0.95	0.72	2.37	1.80	1.00
GSM850 EDGE 3TX	1	37.50%	0.95	0.72	0.72	0.95	0.72	2.37	1.80	1.00
GSM850 EDGE 4TX	1	50.00%	0.95	0.72	0.72	0.95	0.72	2.37	1.80	1.00
GSM1900 GSM/GPRS 1TX	0	12.50%	0.83	0.62	0.62	0.83	0.62	2.07	1.55	1.60
GSM1900 GPRS 2TX	0	25.00%	0.83	0.62	0.62	0.83	0.62	2.07	1.55	1.60
GSM1900 GPRS 3TX	0	37.50%	0.83	0.62	0.62	0.83	0.62	2.07	1.55	1.60
GSM1900 GPRS 4TX	0	50.00%	0.83	0.62	0.62	0.83	0.62	2.07	1.55	1.60
GSM1900 EDGE 1TX	0	12.50%	0.83	0.62	0.62	0.83	0.62	2.07	1.55	1.60
GSM1900 EDGE 2TX	0	25.00%	0.83	0.62	0.62	0.83	0.62	2.07	1.55	1.60
GSM1900 EDGE 3TX	0	37.50%	0.83	0.62	0.62	0.83	0.62	2.07	1.55	1.60
GSM1900 EDGE 4TX	0	50.00%	0.83	0.62	0.62	0.83	0.62	2.07	1.55	1.60
WCDMA B2	0	100.00%	0.86	0.65	0.65	0.86	0.65	2.15	1.62	1.40
WCDMA B4	0	100.00%	0.86	0.65	0.65	0.86	0.65	2.15	1.62	1.40
WCDMA B5	1	100.00%	1.02	0.77	0.77	1.02	0.77	2.55	1.92	0.70
LTE B7	0	100.00%	0.84	0.64	0.64	0.84	0.64	2.10	1.60	1.50
LTE B12/B17	1	100.00%	1.02	0.77	0.77	1.02	0.77	2.55	1.92	0.70
LTE B13	1	100.00%	1.02	0.77	0.77	1.02	0.77	2.55	1.92	0.70
LTE B14	1	100.00%	1.02	0.77	0.77	1.02	0.77	2.55	1.92	0.70
LTE B25/B2	0	100.00%	0.86	0.65	0.65	0.86	0.65	2.15	1.62	1.40
LTE B26/B5	1	100.00%	1.02	0.77	0.77	1.02	0.77	2.55	1.92	0.70
LTE B30	0	100.00%	0.84	0.64	0.64	0.84	0.64	2.10	1.60	1.50
LTE B38 PC3	0	63.30%	0.97	0.73	0.73	0.97	0.73	2.42	1.82	0.90
LTE B38 PC2	0	43.30%	0.97	0.73	0.73	0.97	0.73	2.42	1.82	0.90
LTE B41 PC3	0	63.30%	0.97	0.73	0.73	0.97	0.73	2.42	1.82	0.90
LTE B41 PC2	0	43.30%	0.97	0.73	0.73	0.97	0.73	2.42	1.82	0.90
LTE B48 PC3	7	63.30%	0.83	0.62	0.62	0.83	0.62	2.07	1.55	1.60
LTE B66/B4	0	100.00%	0.86	0.65	0.65	0.86	0.65	2.15	1.62	1.40
LTE B71	1	100.00%	1.02	0.77	0.77	1.02	0.77	2.55	1.92	0.70
FR1 n5	1	100.00%	1.02	0.77	0.77	1.02	0.77	2.55	1.92	0.70
FR1 n7	0	100.00%	0.84	0.64	0.64	0.84	0.64	2.10	1.60	1.50



FR1 n12	1	100.00%	1.02	0.77	0.77	1.02	0.77	2.55	1.92	0.70
FR1 n14	1	100.00%	1.02	0.77	0.77	1.02	0.77	2.55	1.92	0.70
FR1 n25/n2	0	100.00%	0.86	0.65	0.65	0.86	0.65	2.15	1.62	1.40
FR1 n30	0	100.00%	0.84	0.64	0.64	0.84	0.64	2.10	1.60	1.50
FR1 n38 PC3	0	100.00%	0.97	0.73	0.73	0.97	0.73	2.42	1.82	0.90
FR1 n41 PC3	0	100.00%	0.97	0.73	0.73	0.97	0.73	2.42	1.82	0.90
FR1 n41 PC2	0	50.00%	0.97	0.73	0.73	0.97	0.73	2.42	1.82	0.90
FR1 n41 PC1.5 ULMIMO	0	25.00%	0.97	0.73	0.73	0.97	0.73	2.42	1.82	0.90
FR1 n48 PC3	7	100.00%	0.83	0.62	0.62	0.83	0.62	2.07	1.55	1.60
FR1 n66	0	100.00%	0.86	0.65	0.65	0.86	0.65	2.15	1.62	1.40
FR1 n71	1	100.00%	1.02	0.77	0.77	1.02	0.77	2.55	1.92	0.70
FR1 n77 PC3	7	100.00%	0.83	0.62	0.62	0.83	0.62	2.07	1.55	1.60
FR1 n77 PC2	7	50.00%	0.83	0.62	0.62	0.83	0.62	2.07	1.55	1.60
LTE B2 Sub	5	100.00%	0.86	0.65	0.65	0.86	0.65	2.15	1.62	1.40
LTE B66/B4 Sub	5	100.00%	0.86	0.65	0.65	0.86	0.65	2.15	1.62	1.40
FR1 n2 Sub	5	100.00%	0.86	0.65	0.65	0.86	0.65	2.15	1.62	1.40
FR1 n38 PC3 Sub	5	100.00%	0.97	0.73	0.73	0.97	0.73	2.42	1.82	0.90
FR1 n41 PC3 Sub	5	100.00%	0.97	0.73	0.73	0.97	0.73	2.42	1.82	0.90
FR1 n41 PC2 Sub	5	50.00%	0.97	0.73	0.73	0.97	0.73	2.42	1.82	0.90
FR1 n41 PC1.5 Sub ULMIMO	5	25.00%	0.97	0.73	0.73	0.97	0.73	2.42	1.82	0.90
FR1 n48 PC3 Sub ULMIMO	5	100.00%	0.83	0.62	0.62	0.83	0.62	2.07	1.55	1.60
FR1 n66 Sub	5	100.00%	0.86	0.65	0.65	0.86	0.65	2.15	1.62	1.40
FR1 n77 Sub	5	100.00%	0.83	0.62	0.62	0.83	0.62	2.07	1.55	1.60

The power table index 5 and 6 will be designed to meet both 1g and 10 SAR design target

Accounting for total uncertainty, SAR_design_target should meet the following condition:

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



3.2 SAR Characterization – Power Table

1. The Plimit values correspond to SAR_design_target.
2. GSM and WCDMA don't support time average feature of dynamic power varying, the power will be fixed at the static reduce power level at different exposure conditions for RF exposure compliance. For the GSM (TDD) Plimit power levels in the table correspond to the burst average power levels which don't account for TX duty cycle.

<P_{limit} for supported technologies and bands (P_{limit} corresponding to SAR design target)>

Wireless technology/ band (No Accounting duty cycle)	Antenna	Duty cycle	Mobile condition Index 1	Head		Hotspot	Body-worn/Extremity		P Max Burst average power (dBm)
				Standalone	Simultaneous	Simultaneous	Standalone	Simultaneous	
				Index 2	Index 3	Index 4	Index 5	Index 6	
				P limit					
Burst average power (dBm)									
GSM850 GSM/GPRS 1TX	0	12.50%	32.50	39.80	38.60	36.10	37.30	36.10	32.50
GSM850 GPRS 2TX	0	25.00%	31.50	36.80	35.60	33.10	34.30	33.10	31.50
GSM850 GPRS 3TX	0	37.50%	30.50	35.00	33.80	31.30	32.50	31.30	30.50
GSM850 GPRS 4TX	0	50.00%	29.50	33.80	32.60	30.10	31.30	30.10	29.50
GSM850 EDGE 1TX	0	12.50%	27.00	39.80	38.60	36.10	37.30	36.10	27.00
GSM850 EDGE 2TX	0	25.00%	26.50	36.80	35.60	33.10	34.30	33.10	26.50
GSM850 EDGE 3TX	0	37.50%	26.50	35.00	33.80	31.30	32.50	31.30	26.50
GSM850 EDGE 4TX	0	50.00%	24.50	33.80	32.60	30.10	31.30	30.10	24.50
GSM1900 GSM/GPRS 1TX	2	12.50%	30.00	36.00	34.80	32.40	33.80	32.60	30.00
GSM1900 GPRS 2TX	2	25.00%	28.50	33.00	31.80	29.40	30.80	29.60	28.50
GSM1900 GPRS 3TX	2	37.50%	28.00	31.20	30.00	27.60	29.00	27.80	28.00
GSM1900 GPRS 4TX	2	50.00%	27.00	30.00	28.80	26.40	27.80	26.60	27.00
GSM1900 EDGE 1TX	2	12.50%	25.00	36.00	34.80	32.40	33.80	32.60	25.00
GSM1900 EDGE 2TX	2	25.00%	24.00	33.00	31.80	29.40	30.80	29.60	24.00
GSM1900 EDGE 3TX	2	37.50%	24.00	31.20	30.00	27.60	29.00	27.80	24.00
GSM1900 EDGE 4TX	2	50.00%	23.00	30.00	28.80	26.40	27.80	26.60	23.00
WCDMA B2	2	100.00%	24.60	25.20	24.00	21.80	23.40	22.20	24.60
WCDMA B4	2	100.00%	24.60	27.80	26.60	22.20	23.40	22.20	24.60
WCDMA B5	0	100.00%	24.70	30.40	29.20	25.50	26.70	25.50	24.70

Wireless technology/ band (No Accounting duty cycle)	Antenna	Duty cycle	Mobile condition Index 1	Head		Hotspot	Body-worn/Extremity		P Max Burst average power (dBm)
				Standalone	Simultaneous	Simultaneous	Standalone	Simultaneous	
				Index 2	Index 3	Index 4	Index 5	Index 6	
				P limit					
Burst average power (dBm)									
GSM850 GSM/GPRS 1TX	1	12.50%	32.50	32.30	31.10	36.80	38.00	36.80	32.50
GSM850 GPRS 2TX	1	25.00%	31.50	29.30	28.10	33.80	35.00	33.80	31.50
GSM850 GPRS 3TX	1	37.50%	30.50	27.50	26.30	32.00	33.20	32.00	30.50
GSM850 GPRS 4TX	1	50.00%	29.50	26.30	25.10	30.80	32.00	30.80	29.50
GSM850 EDGE 1TX	1	12.50%	27.00	32.30	31.10	36.80	38.00	36.80	27.00
GSM850 EDGE 2TX	1	25.00%	26.50	29.30	28.10	33.80	35.00	33.80	26.50
GSM850 EDGE 3TX	1	37.50%	26.50	27.50	26.30	32.00	33.20	32.00	26.50
GSM850 EDGE 4TX	1	50.00%	24.50	26.30	25.10	30.80	32.00	30.80	24.50
GSM1900 GSM/GPRS 1TX	0	12.50%	29.20	46.70	45.50	27.40	28.60	27.40	29.20
GSM1900 GPRS 2TX	0	25.00%	27.70	43.70	42.50	24.40	25.60	24.40	27.70
GSM1900 GPRS 3TX	0	37.50%	27.20	41.90	40.70	22.60	23.80	22.60	27.20
GSM1900 GPRS 4TX	0	50.00%	26.20	40.70	39.50	21.40	22.60	21.40	26.20
GSM1900 EDGE 1TX	0	12.50%	24.20	46.70	45.50	27.40	28.60	27.40	24.20
GSM1900 EDGE 2TX	0	25.00%	23.20	43.70	42.50	24.40	25.60	24.40	23.20
GSM1900 EDGE 3TX	0	37.50%	23.20	41.90	40.70	22.60	23.80	22.60	23.20
GSM1900 EDGE 4TX	0	50.00%	22.20	40.70	39.50	21.40	22.60	21.40	22.20
WCDMA B2	0	100.00%	23.80	35.60	34.40	16.60	18.60	17.40	23.80
WCDMA B4	0	100.00%	23.80	35.50	34.30	16.90	19.00	17.80	23.80
WCDMA B5	1	100.00%	24.70	22.60	21.40	26.00	27.20	26.00	24.70



<P_{limit} for supported technologies and bands (P_{limit} corresponding to SAR design target)>

Wireless technology/ band (Accounting duty cycle)	Antenna	Duty cycle	Mobile condition	Head		Hotspot	Body-worn/Extremity		P Max Time-average power (dBm)
				Standalone	Simultaneous	Simultaneous	Standalone	Simultaneous	
			Index 1	Index 2	Index 3	Index 4	Index 5	Index 6	
			P limit						
LTE B7	2	100.00%	24.50	26.90	25.70	21.10	22.50	21.30	24.50
LTE B12/B17	0	100.00%	24.70	30.90	29.70	27.90	29.10	27.90	24.70
LTE B13	0	100.00%	24.70	29.50	28.30	25.10	27.10	25.90	24.70
LTE B14	0	100.00%	24.70	29.50	28.30	25.50	26.70	25.50	24.70
LTE B25/B2	2	100.00%	24.60	26.10	24.90	22.60	23.80	22.60	24.60
LTE B26/B5	0	100.00%	24.70	29.90	28.70	26.30	27.50	26.30	24.70
LTE B30	2	100.00%	23.40	26.60	25.40	21.20	22.50	21.30	23.40
LTE B38 PC3	2	63.30%	22.50	27.30	26.10	22.80	24.30	23.10	22.50
LTE B38 PC2	2	43.30%	22.50	27.30	26.10	22.80	24.30	23.10	22.40
LTE B41 PC3	2	63.30%	22.50	27.30	26.10	22.80	24.30	23.10	22.50
LTE B41 PC2	2	43.30%	22.50	27.30	26.10	22.80	24.30	23.10	22.40
LTE B48 PC3	6	63.30%	22.30	29.10	27.90	21.20	22.40	21.20	22.30
LTE B66/B4	2	100.00%	24.60	26.60	25.40	22.50	24.00	22.80	24.60
LTE B71	0	100.00%	24.70	32.10	30.90	27.80	30.10	28.90	24.70
FR1 n5	0	100.00%	24.70	29.30	28.10	28.60	29.80	28.60	24.70
FR1 n7	2	100.00%	24.50	27.40	26.20	20.70	23.30	22.10	24.50
FR1 n12	0	100.00%	24.70	31.10	29.90	27.80	29.00	27.80	24.70
FR1 n14	0	100.00%	24.70	30.70	29.50	26.40	27.60	26.40	24.70
FR1 n25/n2	2	100.00%	24.60	25.20	24.00	22.50	23.70	22.50	24.60
FR1 n30	2	100.00%	23.40	26.30	25.10	21.10	22.30	21.10	23.40
FR1 n38 PC3	2	100.00%	24.50	26.50	25.30	21.80	23.50	22.30	24.50
FR1 n41 PC3	2	100.00%	24.50	26.50	25.30	21.80	23.50	22.30	24.50
FR1 n41 PC2	2	50.00%	24.50	26.50	25.30	21.80	23.50	22.30	23.00
FR1 n41 PC1.5 ULMIMO	2	25.00%	24.50	26.50	25.30	21.80	23.50	22.30	19.00
FR1 n48 PC3	6	100.00%	24.30	28.40	27.20	21.60	22.80	21.60	24.30
FR1 n66	2	100.00%	24.60	32.40	31.20	22.50	23.70	22.50	24.60
FR1 n71	0	100.00%	24.70	31.70	30.50	28.10	29.30	28.10	24.70
FR1 n77 PC3	6	100.00%	23.00	30.60	29.40	21.80	23.00	21.80	23.00
FR1 n77 PC2	6	50.00%	23.00	30.60	29.40	21.80	23.00	21.80	23.00
LTE B2 Sub	1	100.00%	24.60	15.20	14.00	19.10	21.60	20.40	24.60
LTE B66/B4 Sub	1	100.00%	24.60	17.20	16.00	22.40	23.80	22.60	24.60
FR1 n2 Sub	1	100.00%	24.60	16.20	15.00	19.60	22.20	21.00	24.60
FR1 n38 PC3 Sub	1	100.00%	24.50	18.10	16.90	22.10	23.30	22.10	24.50
FR1 n41 PC3 Sub	1	100.00%	24.50	18.10	16.90	22.10	23.30	22.10	24.50
FR1 n41 PC2 Sub	1	50.00%	24.50	18.10	16.90	22.10	23.30	22.10	23.00
FR1 n41 PC1.5 Sub ULMIMO	1	25.00%	24.50	18.10	16.90	22.10	23.30	22.10	19.00
FR1 n48 PC3 Sub ULMIMO	1	100.00%	19.40	19.40	18.20	26.00	27.20	26.00	19.40
FR1 n66 Sub	1	100.00%	24.60	18.00	16.80	22.80	24.30	23.10	24.60
FR1 n77 Sub	1	100.00%	24.30	19.60	18.40	24.70	25.90	24.70	24.30

General Note:

1. In n41 PC1.5, the device only supports UL MIMO mode.
2. LTE and 5GNR TDD: P_{limit} power levels in the table correspond to the time-averaged power levels which accounts for TX duty cycle.
3. Maximum target power, P_{max}, is configured in NV settings in EUT to limit maximum transmitting power. This power is converted into peak power in NV settings for TDD schemes.



<P_{limit} for supported technologies and bands (P_{limit} corresponding to SAR design target)>

Wireless technology/ band (Accounting duty cycle)	Antenna	Duty cycle	Mobile condition	Head		Hotspot	Body-worn/Extremity		P Max Time-average power (dBm)
				Standalone	Simultaneous	Simultaneous	Standalone	Simultaneous	
			Index 1	Index 2	Index 3	Index 4	Index 5	Index 6	
			P limit						
LTE B7	0	100.00%	23.50	26.60	25.40	16.80	20.30	19.10	23.50
LTE B12/B17	1	100.00%	24.70	23.20	22.00	29.20	30.40	29.20	24.70
LTE B13	1	100.00%	24.70	22.60	21.40	27.50	28.70	27.50	24.70
LTE B14	1	100.00%	24.70	22.70	21.50	27.60	28.80	27.60	24.70
LTE B25/B2	0	100.00%	23.80	34.70	33.50	17.40	18.80	17.60	23.80
LTE B26/B5	1	100.00%	24.70	23.20	22.00	27.50	28.70	27.50	24.70
LTE B30	0	100.00%	23.00	29.20	28.00	16.50	19.70	18.50	23.00
LTE B38 PC3	0	63.30%	22.50	27.70	26.50	17.80	21.30	20.10	22.50
LTE B38 PC2	0	43.30%	22.50	27.70	26.50	17.80	21.30	20.10	22.40
LTE B41 PC3	0	63.30%	22.50	27.70	26.50	17.80	21.30	20.10	22.50
LTE B41 PC2	0	43.30%	22.50	27.70	26.50	17.80	21.30	20.10	22.40
LTE B48 PC3	7	63.30%	21.20	36.30	35.10	23.40	24.60	23.40	21.20
LTE B66/B4	0	100.00%	23.80	33.70	32.50	15.90	19.40	18.20	23.80
LTE B71	1	100.00%	24.70	23.70	22.50	30.30	31.50	30.30	24.70
FR1 n5	1	100.00%	24.70	23.60	22.40	26.90	28.10	26.90	24.70
FR1 n7	0	100.00%	23.50	28.00	26.80	16.20	19.70	18.50	23.50
FR1 n12	1	100.00%	24.70	23.60	22.40	28.70	29.90	28.70	24.70
FR1 n14	1	100.00%	24.70	23.00	21.80	29.30	30.50	29.30	24.70
FR1 n25/n2	0	100.00%	23.80	36.40	35.20	17.50	18.90	17.70	23.80
FR1 n30	0	100.00%	23.00	29.70	28.50	16.30	20.00	18.80	23.00
FR1 n38 PC3	0	100.00%	24.50	28.40	27.20	18.10	22.00	20.80	24.50
FR1 n41 PC3	0	100.00%	24.50	28.40	27.20	18.10	22.00	20.80	24.50
FR1 n41 PC2	0	50.00%	24.50	28.40	27.20	18.10	22.00	20.80	23.00
FR1 n41 PC1.5 ULMIMO	0	25.00%	24.50	28.40	27.20	18.10	22.00	20.80	19.00
FR1 n48 PC3	7	100.00%	23.20	32.40	31.20	19.40	20.60	19.40	23.20
FR1 n66	0	100.00%	23.80	36.90	35.70	16.60	19.30	18.10	23.80
FR1 n71	1	100.00%	24.70	23.40	22.20	29.80	31.00	29.80	24.70
FR1 n77 PC3	7	100.00%	21.90	31.00	29.80	21.90	23.10	21.90	21.90
FR1 n77 PC2	7	50.00%	21.90	31.00	29.80	21.90	23.10	21.90	21.90
LTE B2 Sub	5	100.00%	23.80	20.50	19.30	21.60	26.10	24.90	23.80
LTE B66/B4 Sub	5	100.00%	23.80	23.30	22.10	24.60	26.80	25.60	23.80
FR1 n2 Sub	5	100.00%	23.80	20.90	19.70	22.40	26.30	25.10	23.80
FR1 n38 PC3 Sub	5	100.00%	23.50	20.90	19.70	21.40	22.60	21.40	23.50
FR1 n41 PC3 Sub	5	100.00%	23.50	20.90	19.70	21.40	22.60	21.40	23.50
FR1 n41 PC2 Sub	5	50.00%	23.50	20.90	19.70	21.40	22.60	21.40	22.00
FR1 n41 PC1.5 Sub ULMIMO	5	25.00%	23.50	20.90	19.70	21.40	22.60	21.40	19.00
FR1 n48 PC3 Sub ULMIMO	5	100.00%	17.60	21.80	20.60	24.00	29.30	28.10	17.60
FR1 n66 Sub	5	100.00%	23.80	23.20	22.00	24.40	26.60	25.40	23.80
FR1 n77 Sub	5	100.00%	23.20	20.10	18.90	21.80	25.70	24.50	23.20

General Note:

1. In n41 PC1.5, the device only supports UL MIMO mode.
2. LTE and 5G NR TDD: P_{limit} power levels in the table correspond to the time-averaged power levels which accounts for TX duty cycle.
3. Maximum target power, P_{max}, is configured in NV settings in EUT to limit maximum transmitting power. This power is converted into peak power in NV settings for TDD schemes.