



RF Exposure Report

(Part 0: SAR Characterization Evaluation)

FCC ID : A4RG4H7L
Equipment : Phone
Model Name : G4H7L, GV0BP
Applicant : Google LLC
1600 Amphitheatre Parkway,
Mountain View, CA, 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.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Approved by: Cona Huang / Deputy Manager

Sporton International Inc. Wensan Laboratory

No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan



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History of this test report

Report No.	Version	Description	Issued Date
FA550732A	01	Initial issue of report	Sep. 30, 2025

1. Introduction

The 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 Spatial Time Average SAR (S-TAS) with Non-Terrestrial Networks 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 Plimit. In the case of sub6GHz, power is measured by antenna connection port power. Plimit 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.

Pmax	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.
Plimit	The time-averaged RF power that corresponds to SAR_target.
SAR characterization	Characterization of SAR value for all sub6GHz technologies

2. 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.

2.1 SAR design target and uncertainty

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:

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

Wireless technology/ band	Antenna	Duty cycle	Head		Hotspot	Body		Extremity		Power tolerance (dBm)
			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 GPRS 1TX	0	12.50%	0.79	0.67	0.60	0.79	0.60	2.62	2.22	1
GSM850 GPRS 2TX	0	25.00%	0.79	0.67	0.60	0.79	0.60	2.62	2.22	1
GSM850 GPRS 3TX	0	37.50%	0.79	0.67	0.60	0.79	0.60	2.62	2.22	1
GSM850 GPRS 4TX	0	50.00%	0.79	0.67	0.60	0.79	0.60	2.62	2.22	1
GSM850 EDGE 1TX	0	12.50%	0.79	0.67	0.60	0.79	0.60	2.62	2.22	1
GSM850 EDGE 2TX	0	25.00%	0.79	0.67	0.60	0.79	0.60	2.62	2.22	1
GSM850 EDGE 3TX	0	37.50%	0.79	0.67	0.60	0.79	0.60	2.62	2.22	1
GSM850 EDGE 4TX	0	50.00%	0.79	0.67	0.60	0.79	0.60	2.62	2.22	1
GSM850 GPRS 1TX	1	12.50%	0.81	0.69	0.61	0.81	0.61	2.68	2.27	0.9
GSM850 GPRS 2TX	1	25.00%	0.81	0.69	0.61	0.81	0.61	2.68	2.27	0.9
GSM850 GPRS 3TX	1	37.50%	0.81	0.69	0.61	0.81	0.61	2.68	2.27	0.9
GSM850 GPRS 4TX	1	50.00%	0.81	0.69	0.61	0.81	0.61	2.68	2.27	0.9
GSM850 EDGE 1TX	1	12.50%	0.81	0.69	0.61	0.81	0.61	2.68	2.27	0.9
GSM850 EDGE 2TX	1	25.00%	0.81	0.69	0.61	0.81	0.61	2.68	2.27	0.9
GSM850 EDGE 3TX	1	37.50%	0.81	0.69	0.61	0.81	0.61	2.68	2.27	0.9
GSM850 EDGE 4TX	1	50.00%	0.81	0.69	0.61	0.81	0.61	2.68	2.27	0.9
GSM1900 GPRS 1TX	2	12.50%	0.89	0.75	0.67	0.89	0.67	2.94	2.49	0.5
GSM1900 GPRS 2TX	2	25.00%	0.79	0.67	0.60	0.79	0.60	2.62	2.22	1
GSM1900 GPRS 3TX	2	37.50%	0.79	0.67	0.60	0.79	0.60	2.62	2.22	1
GSM1900 GPRS 4TX	2	50.00%	0.79	0.67	0.60	0.79	0.60	2.62	2.22	1
GSM1900 EDGE 1TX	2	12.50%	0.79	0.67	0.60	0.79	0.60	2.62	2.22	1
GSM1900 EDGE 2TX	2	25.00%	0.79	0.67	0.60	0.79	0.60	2.62	2.22	1
GSM1900 EDGE 3TX	2	37.50%	0.79	0.67	0.60	0.79	0.60	2.62	2.22	1
GSM1900 EDGE 4TX	2	50.00%	0.79	0.67	0.60	0.79	0.60	2.62	2.22	1
GSM1900 GPRS 1TX	0	12.50%	0.91	0.77	0.69	0.91	0.69	3.00	2.55	0.4
GSM1900 GPRS 2TX	0	25.00%	0.81	0.69	0.61	0.81	0.61	2.68	2.27	0.9
GSM1900 GPRS 3TX	0	37.50%	0.81	0.69	0.61	0.81	0.61	2.68	2.27	0.9
GSM1900 GPRS 4TX	0	50.00%	0.81	0.69	0.61	0.81	0.61	2.68	2.27	0.9
GSM1900 EDGE 1TX	0	12.50%	0.81	0.69	0.61	0.81	0.61	2.68	2.27	0.9
GSM1900 EDGE 2TX	0	25.00%	0.81	0.69	0.61	0.81	0.61	2.68	2.27	0.9
GSM1900 EDGE 3TX	0	37.50%	0.81	0.69	0.61	0.81	0.61	2.68	2.27	0.9
GSM1900 EDGE 4TX	0	50.00%	0.81	0.69	0.61	0.81	0.61	2.68	2.27	0.9

Wireless technology/ band	Antenna	Duty cycle	Head		Hotspot	Body		Extremity		Power tolerance (dBm)
			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)	
WCDMA B2	2	100.00%	0.81	0.69	0.61	0.81	0.61	2.68	2.27	0.9
WCDMA B2	0	100.00%	0.81	0.69	0.61	0.81	0.61	2.68	2.27	0.9
WCDMA B4	2	100.00%	0.81	0.69	0.61	0.81	0.61	2.68	2.27	0.9
WCDMA B4	0	100.00%	0.81	0.69	0.61	0.81	0.61	2.68	2.27	0.9
WCDMA B5	0	100.00%	0.79	0.67	0.60	0.79	0.60	2.62	2.22	1
WCDMA B5	1	100.00%	0.83	0.70	0.63	0.83	0.63	2.74	2.32	0.8
LTE B7	2	100.00%	0.81	0.69	0.61	0.81	0.61	2.68	2.27	0.9
LTE B7	0	100.00%	0.81	0.69	0.61	0.81	0.61	2.68	2.27	0.9
LTE B12	0	100.00%	0.83	0.70	0.63	0.83	0.63	2.74	2.32	0.8
LTE B12	1	100.00%	0.83	0.70	0.63	0.83	0.63	2.74	2.32	0.8
LTE B17	0	100.00%	0.83	0.70	0.63	0.83	0.63	2.74	2.32	0.8
LTE B17	1	100.00%	0.83	0.70	0.63	0.83	0.63	2.74	2.32	0.8
LTE B2	2	100.00%	0.81	0.69	0.61	0.81	0.61	2.68	2.27	0.9
LTE B2	0	100.00%	0.81	0.69	0.61	0.81	0.61	2.68	2.27	0.9
LTE B5/B26	0	100.00%	0.83	0.70	0.63	0.83	0.63	2.74	2.32	0.8
LTE B5/B26	1	100.00%	0.83	0.70	0.63	0.83	0.63	2.74	2.32	0.8
LTE B38/B41(PC3)	2	63.30%	0.81	0.69	0.61	0.81	0.61	2.68	2.27	0.9
LTE B38/B41(PC3)	0	63.30%	0.81	0.69	0.61	0.81	0.61	2.68	2.27	0.9
LTE B38/B41(PC2)	2	43.30%	0.81	0.69	0.61	0.81	0.61	2.68	2.27	0.9
LTE B38/B41(PC2)	0	43.30%	0.81	0.69	0.61	0.81	0.61	2.68	2.27	0.9
LTE B4/B66	2	100.00%	0.81	0.69	0.61	0.81	0.61	2.68	2.27	0.9
LTE B4/B66	0	100.00%	0.81	0.69	0.81	0.81	0.81	2.68	2.27	0.9
FR1 n7	2	100.00%	0.81	0.69	0.61	0.81	0.61	2.68	2.27	0.9
FR1 n7	0	100.00%	0.81	0.69	0.61	0.81	0.61	2.68	2.27	0.9
FR1 n12	0	100.00%	0.83	0.70	0.63	0.83	0.63	2.74	2.32	0.8
FR1 n12	1	100.00%	0.83	0.70	0.63	0.83	0.63	2.74	2.32	0.8
FR1 n2	2	100.00%	0.81	0.69	0.61	0.81	0.61	2.68	2.27	0.9
FR1 n2	0	100.00%	0.81	0.69	0.61	0.81	0.61	2.68	2.27	0.9
FR1 n5/n26	0	100.00%	0.83	0.70	0.63	0.83	0.63	2.74	2.32	0.8
FR1 n5/n26	1	100.00%	0.83	0.70	0.63	0.83	0.63	2.74	2.32	0.8
FR1 n38/n41(PC3)	2	100.00%	0.81	0.69	0.61	0.81	0.61	2.68	2.27	0.9
FR1 n38/n41(PC3)	0	100.00%	0.81	0.69	0.61	0.81	0.61	2.68	2.27	0.9
FR1 n66	2	100.00%	0.81	0.69	0.61	0.81	0.61	2.68	2.27	0.9
FR1 n66	0	100.00%	0.81	0.69	0.81	0.81	0.81	2.68	2.27	0.9
FR1 n77/78(PC3)	6	100.00%	0.77	0.66	0.58	0.77	0.58	2.56	2.17	1.1
FR1 n77/78(PC3)	2	100.00%	0.78	0.66	0.77	0.77	0.77	2.56	2.17	1.1
FR1 n77/78(PC2)	6	50.00%	0.77	0.66	0.58	0.77	0.58	2.56	2.17	1.1
FR1 n77/78(PC2)	2	50.00%	0.78	0.66	0.77	0.77	0.77	2.56	2.17	1.1
NTN B23	5	83.00%				0.81		2.03		0.9
NTN B255	5	83.00%				0.81		2.03		0.9

2.2 SAR Characterization – Power Table

1. The Plimit values correspond to SAR_design_target.
2. GSM 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 Plimit power levels in the table correspond to the burst average power levels which don't account for TX duty cycle.
3. UMTS, LTE, FR1 and NTN: Plimit power levels in the table correspond to the time-averaged power levels which accounts for TX duty cycle.
4. Maximum target power, Pmax, 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 (No Accounting duty cycle)			Antenna	Duty cycle	Maximum Power condition	Head		Hotspot	Body / Extremity		P Max Burst average power (dBm)
						Standalone	Simultaneous	Simultaneous	Standalone	Simultaneous	
					Index 1	Index 2	Index 3	Index 4	Index 5	Index 6	
					Plimit						
					Burst average power (dBm)						
GPRS	B850	1TX	ANT0	12.50%	32.5	38.2	38.2	30.4	33.4	30.4	32.5
GPRS	B850	2TX	ANT0	25.00%	31.5	35.2	35.2	27.4	30.4	27.4	31.5
GPRS	B850	3TX	ANT0	37.50%	30.5	33.4	33.4	25.6	28.6	25.6	30.5
GPRS	B850	4TX	ANT0	50.00%	29.5	32.2	32.2	24.4	27.4	24.4	29.5
EGPRS	B850	1TX	ANT0	12.50%	26.5	38.2	38.2	30.4	33.4	30.4	26.5
EGPRS	B850	2TX	ANT0	25.00%	25.5	35.2	35.2	27.4	30.4	27.4	25.5
EGPRS	B850	3TX	ANT0	37.50%	24.5	33.4	33.4	25.6	28.6	25.6	24.5
EGPRS	B850	4TX	ANT0	50.00%	23.5	32.2	32.2	24.4	27.4	24.4	23.5
GPRS	B850	1TX	ANT1	12.50%	32.2	32.8	27.4	30.2	30.7	30.2	32.2
GPRS	B850	2TX	ANT1	25.00%	31.2	29.8	24.4	27.2	27.7	27.2	31.2
GPRS	B850	3TX	ANT1	37.50%	30.2	28.0	22.6	25.4	25.9	25.4	30.2
GPRS	B850	4TX	ANT1	50.00%	29.2	26.8	21.4	24.2	24.7	24.2	29.2
EGPRS	B850	1TX	ANT1	12.50%	26.2	32.8	27.4	30.2	30.7	30.2	26.2
EGPRS	B850	2TX	ANT1	25.00%	25.2	29.8	24.4	27.2	27.7	27.2	25.2
EGPRS	B850	3TX	ANT1	37.50%	24.2	28.0	22.6	25.4	25.9	25.4	24.2
EGPRS	B850	4TX	ANT1	50.00%	23.2	26.8	21.4	24.2	24.7	24.2	23.2
GPRS	B1900	1TX	ANT2	12.50%	29.5	33.5	32.0	25.2	26.4	25.2	29.5
GPRS	B1900	2TX	ANT2	25.00%	28.0	30.5	29.0	22.2	23.4	22.2	28.0
GPRS	B1900	3TX	ANT2	37.50%	27.5	28.7	27.2	20.4	21.6	20.4	27.5
GPRS	B1900	4TX	ANT2	50.00%	26.5	27.5	26.0	19.2	20.4	19.2	26.5
EGPRS	B1900	1TX	ANT2	12.50%	25.5	33.5	32.0	25.2	26.4	25.2	25.5
EGPRS	B1900	2TX	ANT2	25.00%	24.5	30.5	29.0	22.2	23.4	22.2	24.5
EGPRS	B1900	3TX	ANT2	37.50%	23.5	28.7	27.2	20.4	21.6	20.4	23.5
EGPRS	B1900	4TX	ANT2	50.00%	22.5	27.5	26.0	19.2	20.4	19.2	22.5
GPRS	B1900	1TX	ANT0	12.50%	28.7	35.0	35.0	28.5	28.7	28.5	28.7
GPRS	B1900	2TX	ANT0	25.00%	27.2	32.0	32.0	25.5	25.7	25.5	27.2
GPRS	B1900	3TX	ANT0	37.50%	26.7	30.2	30.2	23.7	23.9	23.7	26.7
GPRS	B1900	4TX	ANT0	50.00%	25.7	29.0	29.0	22.5	22.7	22.5	25.7
EGPRS	B1900	1TX	ANT0	12.50%	24.7	35.0	35.0	28.5	28.7	28.5	24.7
EGPRS	B1900	2TX	ANT0	25.00%	23.7	32.0	32.0	25.5	25.7	25.5	23.7
EGPRS	B1900	3TX	ANT0	37.50%	22.7	30.2	30.2	23.7	23.9	23.7	22.7
EGPRS	B1900	4TX	ANT0	50.00%	21.7	29.0	29.0	22.5	22.7	22.5	21.7



Wireless technology/ band (Accounting duty cycle)			Antenna	Duty cycle	Maximum Power condition	Head		Hotspot	Body / Extremity		P Max Time- average power (dBm)
						Standalone	Simultaneous	Simultaneous	Standalone	Simultaneous	
					Index 1	Index 2	Index 3	Index 4	Index 5	Index 6	
					Plimit						
Burst average power (dBm)											
WCDMA	B2	PC3	ANT2	100.00%	24.3	24.3	21.0	17.0	17.3	17.0	24.3
WCDMA	B2	PC3	ANT0	100.00%	23.8	26.3	26.3	18.1	18.4	18.1	23.8
WCDMA	B4	PC3	ANT2	100.00%	24.3	22.5	21.0	18.3	18.6	18.3	24.3
WCDMA	B4	PC3	ANT0	100.00%	23.8	28.1	28.1	17.9	18.6	17.9	23.8
WCDMA	B5	PC3	ANT0	100.00%	24.5	28.2	28.2	20.4	23.6	20.4	24.5
WCDMA	B5	PC3	ANT1	100.00%	24.2	22.9	17.7	20.7	21.9	20.7	24.2
LTE	B7	PC3	ANT2	100.00%	24.2	22.3	20.8	15.9	16.1	15.9	24.2
LTE	B7	PC3	ANT0	100.00%	23.7	24.9	24.9	17.4	18.6	17.4	23.7
LTE	B12	PC3	ANT0	100.00%	24.7	29.1	29.1	21.4	24.7	21.4	24.7
LTE	B12	PC3	ANT1	100.00%	24.5	21.7	17.5	23.2	24.4	23.2	24.5
LTE	B13	PC3	ANT0	100.00%	24.7	29.0	29.0	20.6	24.1	20.6	24.7
LTE	B17	PC3	ANT0	100.00%	24.5	29.1	29.1	21.4	24.5	21.4	24.5
LTE	B17	PC3	ANT1	100.00%	24.2	21.7	17.5	23.2	24.4	23.2	24.2
LTE	B2	PC3	ANT2	100.00%	24.3	22.8	21.3	17.0	17.3	17.0	24.3
LTE	B2	PC3	ANT0	100.00%	23.8	26.4	26.4	18.3	18.5	18.3	23.8
LTE	B5/B26	PC3	ANT0	100.00%	24.7	27.9	27.9	20.5	23.6	20.5	24.7
LTE	B5/B26	PC3	ANT1	100.00%	24.5	21.2	17.2	20.7	21.9	20.7	24.5
LTE	B38/B41	PC3	ANT2	63.30%	22.2	21.2	19.7	15.5	16.2	15.5	22.2
LTE	B38/B41	PC3	ANT0	63.30%	21.7	25.5	25.5	16.4	17.6	16.4	21.7
LTE	B38/B41	PC2	ANT2	43.30%	22.4	21.2	19.7	15.5	16.2	15.5	22.4
LTE	B38/B41	PC2	ANT0	43.30%	21.9	25.5	25.5	16.4	17.6	16.4	21.9
LTE	B4/B66	PC3	ANT2	100.00%	24.3	22.4	20.9	17.7	18.0	17.7	24.3
LTE	B4/B66	PC3	ANT0	100.00%	23.8	27.6	27.6	17.2	17.2	17.2	23.8
NR	N7	PC3	ANT2	100.00%	24.2	22.5	21.0	15.7	15.7	15.7	24.2
NR	N7	PC3	ANT0	100.00%	23.7	25.5	25.5	17.3	18.5	17.3	23.7
NR	N12	PC3	ANT0	100.00%	24.5	29.5	29.5	22.0	24.5	22.0	24.5
NR	N12	PC3	ANT1	100.00%	24.2	22.3	18.0	22.7	23.9	22.7	24.2
NR	N2	PC3	ANT2	100.00%	24.3	22.4	20.9	16.8	17.0	16.8	24.3
NR	N2	PC3	ANT0	100.00%	23.8	26.6	26.6	18.1	18.3	18.1	23.8
NR	N5/N26	PC3	ANT0	100.00%	24.5	28.4	28.4	20.0	23.5	20.0	24.5
NR	N5/N26	PC3	ANT1	100.00%	24.2	21.3	17.5	20.7	21.9	20.7	24.2
NR	N38/N41	PC3	ANT2	100.00%	24.2	24.2	20.5	15.2	15.5	15.2	24.2
NR	N38/N41	PC3	ANT0	100.00%	23.7	24.6	24.6	16.1	17.3	16.1	23.7
NR	N66	PC3	ANT2	100.00%	24.3	22.5	21.0	17.8	18.3	17.8	24.3
NR	N66	PC3	ANT0	100.00%	23.8	28.4	28.4	17.6	17.9	17.6	23.8
NR	N77/N78	PC3	ANT6	100.00%	24.0	25.3	25.3	15.5	15.7	15.5	24.0
NR	N77/N78	PC3	ANT2	100.00%	23.5	25.0	20.1	15.1	15.1	15.1	23.5
NR	N77/N78	PC2	ANT6	50.00%	23.0	25.3	25.3	15.5	15.7	15.5	23.0
NR	N77/N78	PC2	ANT2	50.00%	22.5	25.0	20.1	15.1	15.1	15.1	22.5
NTN	B23	PC3	ANT5	83.00%	21.7				17.3		21.7
NTN	B255	PC3	ANT5	83.00%	21.7				17.7		21.7