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PART 1 RF EXPOSURE REPORT

FCC ID:	**A3LSMS741B**
Model (s):	SM-S741B/DS, SM-S741B
Device Type:	Portable Handset
Report Issue Date:	July 11, 2026

Samsung Electronics Co., Ltd.
129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea

Certification

FCC Equipment Class	Head SAR [W/kg]	Body-worn SAR [W/kg]	Hotspot SAR [W/kg]	Phablet SAR [W/kg]	1g Simultaneous Tx SAR [W/kg]	10g Simultaneous Tx SAR [W/kg]	psPD over 4cm^2 [W/m^2]
PCE	1.07	1.23	0.96	-	1.33	1.48	-
DTS	0.46	0.50	0.50	-			-
NII	0.34	0.61	0.61	0.99			-
6CD/6VL	0.24	0.12	0.12	0.24			7.32
DSS	0.17	0.55	0.55	0.49			-
DXX	-	-	-	< 0.10			-
FCC Limit	**1.6**	**1.6**	**1.6**	**4.0**	**1.6**	**4.0**	**10.0**

The measurement evaluations presented in this report are based on the maximum performance of the tested device(s), which has been shown to be capable of compliance for localized specific absorption rate (SAR) for uncontrolled environment/ general population exposure federal limits in 47CFR § 1.1310 and has been tested in accordance with the measurement procedures specified within this report.

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This document has been revised and replaces all previously issued versions of this document with the same Test Report S/N.

Steve Liu
President

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1. DUT Specifics

1.1. Device under Test

The device under test is a wireless device, incorporating the technologies listed in Table 1-1 below. The manufacturer has confirmed that the device is within operational tolerances expected for production units and has the same physical, mechanical, and thermal characteristics expected for production units. The serial number of the device used for each test is indicated alongside the results.

1.2. Maximum SAR per Mode

Table 1-1 Maximum SAR Summary

FCC Equipment Class	Band/Mode	Frequency (MHz)	Head SAR [W/kg]	Body-worn SAR [W/kg]	Hotspot SAR [W/kg]	Phablet SAR [W/kg]
PCE	GSM 850	824 - 849 MHz	0.383	1.234	0.602	-
PCE	GSM 1900	1850 - 1910 MHz	0.100	0.763	0.815	-
PCE	UMTS Band 5	824 - 849 MHz	0.566	0.830	0.830	-
PCE	UMTS Band 4	1710 - 1755 MHz	0.268	0.853	0.853	-
PCE	UMTS Band 2	1850 - 1910 MHz	0.112	0.634	0.634	-
PCE	LTE Band 12	699 - 716 MHz	0.611	0.790	0.790	-
PCE	LTE Band 17	704 - 716 MHz	-	-	-	-
PCE	LTE Band 13	777 - 787 MHz	0.627	0.656	0.656	-
PCE	LTE Band 26	814 - 849 MHz	0.493	0.902	0.902	-
PCE	LTE Band 5	824 - 849 MHz	-	-	-	-
PCE	LTE Band 66	1710 - 1780 MHz	0.904	0.955	0.955	-
PCE	LTE Band 4	1710 - 1755 MHz	-	-	-	-
PCE	LTE Band 25	1850 - 1915 MHz	0.712	0.709	0.709	-
PCE	LTE Band 2	1850 - 1910 MHz	-	-	-	-
PCE	LTE Band 41	2496 - 2690 MHz	0.817	0.544	0.544	-
PCE	NR Band n5	824 - 849 MHz	0.516	0.826	0.826	-
PCE	NR Band n66	1710 - 1780 MHz	1.073	0.937	0.937	-
PCE	NR Band n25	1850 - 1915 MHz	0.726	0.778	0.778	-
PCE	NR Band n2	1850 - 1910 MHz	-	-	-	-
PCE	NR Band n41	2496 - 2690 MHz	0.896	0.484	0.484	-
PCE	NR Band n77	3450 - 3550 MHz 3700 - 3980 MHz	0.776	0.636	0.636	-
DTS	2.4 GHz WIFI	2412 - 2472 MHz	0.462	0.499	0.499	-
NII	5 GHz WIFI	5180 - 5885 MHz	0.335	0.612	0.612	0.985
6CD/6VL	6 GHz WIFI	5935 - 7115 MHz	0.240	0.115	0.115	0.240
DSS	2.4 GHz Bluetooth	2402 - 2480 MHz	0.174	0.545	0.545	0.491
DXX	NFC	13.56 MHz	-	-	-	0.000

1.3. LTE and NR Supported Bandwidths and Modulations

Table 1-2 LTE and NR Bands and Modulations

Band	Bandwidth (MHz)	UL Modulation	SCS (kHz)
LTE Band 12	10, 5, 3, 1.4	QPSK, 16QAM, 64QAM, 256QAM	N/A
LTE Band 17	10, 5	QPSK, 16QAM, 64QAM, 256QAM	N/A
LTE Band 13	10, 5	QPSK, 16QAM, 64QAM, 256QAM	N/A
LTE Band 26	15, 10, 5, 3, 1.4	QPSK, 16QAM, 64QAM, 256QAM	N/A
LTE Band 5	10, 5, 3, 1.4	QPSK, 16QAM, 64QAM, 256QAM	N/A
LTE Band 66	20, 15, 10, 5, 3, 1.4	QPSK, 16QAM, 64QAM, 256QAM	N/A
LTE Band 4	20, 15, 10, 5, 3, 1.4	QPSK, 16QAM, 64QAM, 256QAM	N/A
LTE Band 25	20, 15, 10, 5, 3, 1.4	QPSK, 16QAM, 64QAM,256QAM	N/A
LTE Band 2	20, 15, 10, 5, 3, 1.4	QPSK, 16QAM, 64QAM,256QAM	N/A
LTE Band 41	20, 15, 10, 5	QPSK, 16QAM, 64QAM,256QAM	N/A
NR Band n5	20, 15, 10, 5	DFT-s-OFDM: π/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM CP-OFDM: QPSK, 16QAM, 64QAM, 256QAM	15
NR Band n66	40, 35, 30, 25, 20, 15, 10, 5	DFT-s-OFDM: π/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM CP-OFDM: QPSK, 16QAM, 64QAM, 256QAM	15
NR Band n25	40, 35, 30, 25, 20, 15, 10, 5	DFT-s-OFDM: π/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM CP-OFDM: QPSK, 16QAM, 64QAM, 256QAM	15
NR Band n2	40, 35, 30, 25, 20, 15, 10, 5	DFT-s-OFDM: π/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM CP-OFDM: QPSK, 16QAM, 64QAM, 256QAM	15
NR Band n41	100, 90, 80, 70, 60, 50, 40, 30, 25, 20, 15, 10	DFT-s-OFDM: π/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM CP-OFDM: QPSK, 16QAM, 64QAM, 256QAM	30
NR Band n77 PC2	100, 90, 80, 70, 60, 50, 40, 30, 25, 20, 15, 10	DFT-s-OFDM: π/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM CP-OFDM: QPSK, 16QAM, 64QAM, 256QAM	30

1.4. Time-Averaging Algorithm for RF Exposure Compliance

This device is enabled with the S.LSI feature for WWAN and FastConnect for WLAN. This feature implements a time-averaging algorithm in real time to control and manage transmitting power and ensure the time-averaged RF exposure is in compliance with FCC requirements all the time.

Note that NFC/BT operations are not enabled with time averaging algorithm for this device.

The S.LSI and FastConnect algorithms maintain the time-averaged transmit power, in turn, time-averaged RF exposure of SAR_design_target, below the predefined time-averaged power limit (i.e., Plimit for sub-6 radio), for each characterized technology and band. Characterization is achieved by determining Plimit for WWAN/WLAN that corresponds to the exposure design targets after accounting for all device design related uncertainties. The SAR characterization is denoted as SAR Char in this report.

S.LSI and FastConnect allow the device to transmit at higher power instantaneously, as high as Pmax, when needed, but enforces power limiting to maintain time-averaged transmit power to Plimit. Below table shows Plimit settings and maximum tune up output power Pmax configured for this EUT for various transmit conditions (RSI for S.LSI and DSI for FastConnect).

Note that the device uncertainty for Sub-6 WWAN/WLAN is 1.0 dB for this EUT.

*Note all Plimit and maximum tune up output power Pmax levels entered in above Table correspond to average power levels after accounting for duty cycle in the case of modulation schemes (e.g. LTE TDD, GPRS and WLAN/BT).
The maximum time-averaged output power (dBm) for any Sub6 WWAN/WLAN technology, band, and DSI/RSI = minimum of the "Plimit" and "Maximum tune up output power Pmax", +1dB device uncertainty. SAR values in this report were scaled to this maximum time-averaged output power to determine compliance per KDB Publication 447498 D04v01.

Table 1-3 DSI/RSI Description

Scenario	Description	SAR Test Cases
Head (DSI = 1) for FastConnect (RSI =1) for S.LSI	_ Device positioned next to ear _ Receiver Active	*Head SAR per KDB Publication 648474 D04*
Body-worn (DSI = 0) for FastConnect (RSI = 0) for S.LSI	_ Device being used with a body-worn accessory	*Body-worn SAR per KDB Publication 648474 D04*
Hotspot (DSI = 0) for FastConnect (RSI = 0) for S.LSI	_ Device transmits in hotspot mode near body _ Hotspot Mode Active	*Hotspot SAR per KDB Publication 941225 D06*
Phablet (DSI = 0) for FastConnect (RSI = 0) for S.LSI	_ Device is held to hand	*Phablet SAR per KDB Publication 648474 D04 & KDB Publication 616217 D04*

Table 1-4 S.LSI SAR Char

Band/Mode	SRS #	Antenna	Antenna Group	Exposure Scenario		Body-worn/ Hotspot/ Phablet	Head
				Maximum Tune-Up Output Power		RSI 0	RSI 1
				Pmax Burst (dBm)	Pmax Frame Avg (dBm)	Plimit (dBm)	Plimit (dBm)
GSM 850	-	A	AG0	32.5	24.3	20.3	27.4
GSM 850	-	E	AG1	32.0	23.3	19.8	19.8
GSM 1900	-	A	AG0	29.5	20.8	16.3	26.6
UMTS Band 5	-	A	AG0	24.0	24.0	21.5	27.0
UMTS Band 5	-	E	AG1	23.0	23.0	19.5	19.5
UMTS Band 4	-	A	AG0	24.0	24.0	16.0	26.0
UMTS Band 2	-	A	AG0	24.0	24.0	16.0	21.0
LTE Band 12	-	A	AG0	24.5	24.5	21.5	27.7
LTE Band 12	-	E	AG1	23.5	23.5	19.5	19.5
LTE Band 17	-	A	AG0	24.5	24.5	21.5	27.7
LTE Band 17	-	E	AG1	23.5	23.5	19.5	19.5
LTE Band 13	-	A	AG0	24.5	24.5	21.5	27.1
LTE Band 13	-	E	AG1	23.5	23.5	19.5	19.5
LTE Band 26	-	A	AG0	24.5	24.5	21.5	27.3
LTE Band 26	-	E	AG1	23.5	23.5	18.5	18.5
LTE Band 5	-	A	AG0	24.5	24.5	21.5	27.3
LTE Band 5	-	E	AG1	23.5	23.5	18.5	18.5
LTE Band 66	-	A	AG0	24.0	24.0	16.0	26.6
LTE Band 66	-	F	AG1	24.0	24.0	17.0	17.0
LTE Band 4	-	A	AG0	24.0	24.0	16.0	26.6
LTE Band 4	-	F	AG1	24.0	24.0	17.0	17.0
LTE Band 25	-	A	AG0	24.0	24.0	16.5	25.3
LTE Band 25	-	F	AG1	23.5	23.5	17.5	17.5
LTE Band 2	-	A	AG0	24.0	24.0	16.5	25.3
LTE Band 2	-	F	AG1	23.5	23.5	17.5	17.5
LTE Band 41	-	B	AG0	24.0	22.0	16.0	36.5
LTE Band 41	-	F	AG1	24.0	22.0	15.5	15.5
LTE Band 41 PC2	-	B	AG0	26.0	22.4	16.0	36.5
LTE Band 41 PC2	-	F	AG1	24.0	20.4	15.5	15.5
NR Band n5	-	A	AG0	24.5	24.5	21.5	26.7
NR Band n5	-	E	AG1	23.5	23.5	18.5	18.5
NR Band n66	-	A	AG0	24.0	24.0	16.0	25.8
NR Band n66	-	F	AG1	23.0	23.0	17.0	17.0
NR Band n25	-	A	AG0	24.0	24.0	16.5	26.4
NR Band n25	-	F	AG1	23.0	23.0	17.5	17.5
NR Band n2	-	A	AG0	24.0	24.0	16.5	26.4
NR Band n2	-	F	AG1	23.0	23.0	17.5	17.5
NR Band n41 PC3 Default	-	B	AG0	24.0	24.0	16.0	16.0
NR Band n41 PC3 Default	SRS #0	B	AG0	16.0	16.0	9.0	9.0
NR Band n41 PC3 Default	SRS #2	D	AG0	16.0	16.0	9.0	9.0
NR Band n41 PC3 Default	SRS #3	E	AG1	16.0	16.0	9.0	9.0
NR Band n41 PC3 Default	SRS #1	F	AG1	16.0	16.0	9.0	9.0
NR Band n41 PC3 Switching	SRS #1	B	AG0	16.0	16.0	9.0	9.0
NR Band n41 PC3 Switching	SRS #3	D	AG0	16.0	16.0	9.0	9.0
NR Band n41 PC3 Switching	SRS #2	E	AG1	16.0	16.0	9.0	9.0
NR Band n41 PC3 Switching	-	F	AG1	24.0	24.0	16.0	16.0
NR Band n41 PC3 Switching	SRS #0	F	AG1	16.0	16.0	9.0	9.0
NR Band n77 PC2	SRS #1	C	AG0	22.0	22.0	12.0	12.0
NR Band n77 PC2	SRS #3	D	AG0	22.0	22.0	12.0	12.0
NR Band n77 PC2	-	F	AG1	26.5	26.5	14.0	14.0
NR Band n77 PC2	SRS #2	I	AG1	22.0	22.0	12.0	12.0

Table 1-5 FastConnect SAR Char

Band/Mode	Antenna	Antenna Group	Exposure Scenario		Body-worn/ Hotspot/ Phablet	Head
			Maximum Tune-Up Output Power		DSI 0	DSI 1
			Pmax Burst (dBm)	Pmax Frame Avg (dBm)	Plimit (dBm)	Plimit (dBm)
2.4 GHz WIFI	H	AG1	20.0	20.0	15.0	12.5
2.4 GHz WIFI	J	AG1	20.0	20.0	15.0	12.5
2.4 GHz WIFI	MIMO (H&J)	AG1	20.0	20.0	15.0	12.5
5 GHz WIFI	E	AG1	18.0	18.0	13.0	10.5
5 GHz WIFI	H	AG1	18.0	18.0	13.0	10.5
5 GHz WIFI	MIMO (H&E)	AG1	18.0	18.0	13.0	10.5
6 GHz WIFI	E	AG1	16.0	16.0	8.0	12.0
6 GHz WIFI	H	AG1	16.0	16.0	8.0	12.0
6 GHz WIFI	MIMO (H&E)	AG1	16.0	16.0	8.0	12.0

1.5. Maximum Time-Averaged Power From Manufacturer

The manufacturer has confirmed that this device follows the below target output power specifications and tolerances. SAR values were scaled to the maximum allowed power (including tolerance) to determine compliance per KDB Publication 447498 D04v01.

Tolerance +1/-1.5dB is applicable to all WWAN bands/modes

Tolerance +1dB is applicable to all WLAN/BT

Table 1-6 GSM Target RF Output Power

GSM 850	Voice in dBm	GPRS/EDGE Data (GMSK) in dBm				EDGE Data (8-PSK) in dBm			
Antenna: A	GSM (1 Tx Slot)	GPRS (1 Tx Slot)	GPRS (2 Tx Slots)	GPRS (3 Tx Slots)	GPRS (4 Tx Slots)	EDGE (1 Tx Slot)	EDGE (2 Tx Slots)	EDGE (3 Tx Slots)	EDGE (4 Tx Slots)
Pmax/RSI 1	32.5	32.5	30.5	28.5	27.5	26.5	24.0	22.5	21.0
RSI 0	29.5	29.5	26.5	24.7	23.5	26.5	24.0	22.5	21.0

GSM 850	Voice in dBm	GPRS/EDGE Data (GMSK) in dBm				EDGE Data (8-PSK) in dBm			
Antenna: E	GSM (1 Tx Slot)	GPRS (1 Tx Slot)	GPRS (2 Tx Slots)	GPRS (3 Tx Slots)	GPRS (4 Tx Slots)	EDGE (1 Tx Slot)	EDGE (2 Tx Slots)	EDGE (3 Tx Slots)	EDGE (4 Tx Slots)
Pmax	32.0	32.0	30.0	28.0	27.0	26.0	24.0	22.0	20.5
RSI 0/RSI 1	29.0	29.0	26.0	24.2	23.0	26.0	24.0	22.0	20.5

GSM 1900	Voice in dBm	GPRS/EDGE Data (GMSK) in dBm				EDGE Data (8-PSK) in dBm			
Antenna: A	GSM (1 Tx Slot)	GPRS (1 Tx Slot)	GPRS (2 Tx Slots)	GPRS (3 Tx Slots)	GPRS (4 Tx Slots)	EDGE (1 Tx Slot)	EDGE (2 Tx Slots)	EDGE (3 Tx Slots)	EDGE (4 Tx Slots)
Pmax/RSI 1	29.5	29.5	26.5	25.0	24.0	25.0	22.5	20.5	19.5
RSI 0	25.5	25.5	22.5	20.7	19.5	25.0	22.5	20.5	19.5

Table 1-7 UMTS Target RF Output Power

UMTS Band 5				
Antenna A				
Power Level	Modulated Average Output Power (in dBm)			
	3GPP WCDMA Rel 99	3GPP HSDPA Rel 5	3GPP HSUPA Rel 6	3GPP DC-HSDPA Rel 8
Pmax/RSI 1	24.0	23.0	22.0	23.0
RSI 0	21.5	20.5	19.5	20.5

UMTS Band 5				
Antenna E				
Power Level	Modulated Average Output Power (in dBm)			
	3GPP WCDMA Rel 99	3GPP HSDPA Rel 5	3GPP HSUPA Rel 6	3GPP DC-HSDPA Rel 8
Pmax	23.0	22.5	21.5	22.5
RSI 0/RSI 1	19.5	19.0	18.0	19.0

UMTS Band 4				
Antenna A				
Power Level	Modulated Average Output Power (in dBm)			
	3GPP WCDMA Rel 99	3GPP HSDPA Rel 5	3GPP HSUPA Rel 6	3GPP DC-HSDPA Rel 8
Pmax/RSI 1	24.0	20.0	21.5	20.0
RSI 0	16.0	13.5	11.5	13.5

UMTS Band 2				
Antenna A				
Power Level	Modulated Average Output Power (in dBm)			
	3GPP WCDMA Rel 99	3GPP HSDPA Rel 5	3GPP HSUPA Rel 6	3GPP DC-HSDPA Rel 8
Pmax	24.0	22.5	22.5	22.5
RSI 0	16.0	14.5	14.5	14.5
RSI 1	21.0	19.5	19.5	19.5

Table 1-8 LTE Target RF Output Power

LTE Modulated Average Nominal Power [dBm]				
Device State			RSI 0	RSI 1
Band/Mode	Antenna	Pmax (dBm)	Body-worn/ Hotspot/ Phablet	Head
LTE Band 12	A	24.5	21.5	24.5
LTE Band 12	E	23.5	19.5	19.5
LTE Band 17	A	24.5	21.5	24.5
LTE Band 17	E	23.5	19.5	19.5
LTE Band 13	A	24.5	21.5	24.5
LTE Band 13	E	23.5	19.5	19.5
LTE Band 26	A	24.5	21.5	24.5
LTE Band 26	E	23.5	18.5	18.5
LTE Band 5	A	24.5	21.5	24.5
LTE Band 5	E	23.5	18.5	18.5
LTE Band 66	A	24.0	16.0	24.0
LTE Band 66	F	24.0	17.0	17.0
LTE Band 4	A	24.0	16.0	24.0
LTE Band 4	F	24.0	17.0	17.0
LTE Band 25	A	24.0	16.5	24.0
LTE Band 25	F	23.5	17.5	17.5
LTE Band 2	A	24.0	16.5	24.0
LTE Band 2	F	23.5	17.5	17.5
LTE Band 41	B	24.0	18.0	24.0
LTE Band 41	F	24.0	17.5	17.5
LTE Band 41 PC2	B	26.0	19.6	26.0
LTE Band 41 PC2	F	24.0	19.1	19.1

Table 1-9 NR Target RF Output Power

NR Modulated Average Nominal Power [dBm]					
Device State				RSI 0	RSI 1
Band/Mode	SRS #	Antenna	Pmax (dBm)	Body-worn/ Hotspot/ Phablet	Head
NR Band n5	-	A	24.5	21.5	24.5
NR Band n5	-	E	23.5	18.5	18.5
NR Band n66	-	A	24.0	16.0	24.0
NR Band n66	-	F	23.0	17.0	17.0
NR Band n25	-	A	24.0	16.5	24.0
NR Band n25	-	F	23.0	17.5	17.5
NR Band n2	-	A	24.0	16.5	24.0
NR Band n2	-	F	23.0	17.5	17.5
NR Band n41 PC3 Default	-	B	24.0	16.0	16.0
NR Band n41 PC3 Default	SRS #0	B	16.0	9.0	9.0
NR Band n41 PC3 Default	SRS #2	D	16.0	9.0	9.0
NR Band n41 PC3 Default	SRS #3	E	16.0	9.0	9.0
NR Band n41 PC3 Default	SRS #1	F	16.0	9.0	9.0
NR Band n41 PC3 Switching	SRS #1	B	16.0	9.0	9.0
NR Band n41 PC3 Switching	SRS #3	D	16.0	9.0	9.0
NR Band n41 PC3 Switching	SRS #2	E	16.0	9.0	9.0
NR Band n41 PC3 Switching	-	F	24.0	16.0	16.0
NR Band n41 PC3 Switching	SRS #0	F	16.0	9.0	9.0
NR Band n77 PC2	SRS #1	C	22.0	12.0	12.0
NR Band n77 PC2	SRS #3	D	22.0	12.0	12.0
NR Band n77 PC2	-	F	26.5	14.0	14.0
NR Band n77 PC2	SRS #2	I	22.0	12.0	12.0

Table 1-10 2.4 GHz WLAN Target RF Output Power

2.4 GHz WIFI Maximum Power [dBm] - SISO, or SISO in MIMO (H&J) mode							
Power Level	Antenna	Mode / Channel	802.11b (CDD + STBC)	802.11g (CDD + STBC)	802.11n (CDD +STBC,SDM)	802.11ac (CDD +STBC,SDM)	802.11ax SU (CDD +STBC,SDM)
Pmax	H, J	All	20	18	18	16	16
		11		16	15	14	14
		12	5	5	5	5	5
		13	-4	-4	-4	-4	-4
DSI 1	H,J	All	12.5				
DSI 0	H,J	All	15				

Table 1-11 5 GHz WLAN Target RF Output Power

5 GHz WIFI Maximum Power [dBm] - SISO, or SISO in MIMO (H&E) mode							
Power Level	Antenna	Channel Bandwidth [MHz]	Band	802.11a (CDD + STBC)	802.11n (CDD + STBC, SDM)	802.11ac (CDD + STBC,SDM)	802.11ax SU (CDD + STBC,SDM)
Pmax	H, E	20	All	18	18	18	18
			UNII-1	17	17	15	15
			UNII-2A	17	17	15	15
		40	All		14	14	14
			UNII-1		13	13	13
			UNII-2A		13	13	13
		80	All			14	14
			UNII-1			12	12
			UNII-2A			12	12
		160	UNII1/2A			13	13
			UNII-2C			11	11
DSI 1	H, E	All		10.5			
DSI 0	H, E	All		13			

Table 1-12 6 GHz WLAN Target RF Output Power

6.5 GHz WIFI Maximum Power [dBm] - SISO, or SISO in MIMO (H&E) mode										
Power Level	Antenna	Channel Bandwidth [MHz]	Band	Mode	802.11a (CDD + STBC)			802.11ax SU (CDD + STBC,SDM)		
				Channel	LPI	SP	VLP	LPI	SP	VLP
Pmax	H, E	20	UNII-5	All	11	16	5	12	16	5
				2	6	6	5	3	3	3
			UNII-6	All	11	N/A	5	12	N/A	5
			UNII-7	All	11	16	5	12	16	5
			UNII-8	All	11	N/A	5	12	N/A	5
				233	9	N/A	5	10	N/A	5
		40	All	All				12	16	5
		80	All	All				12	16	5
		160	All	All				12	16	5
DSI 1	H, E	All	All	All	12					
DSI 0	H, E	All	All	All	8					

Note: For 2.4/5/6 GHz WLAN, IEEE 802.11ax RU measurements are addressed in the associated EMC test report. Per April 2019 TCB Workshop Notes, SAR testing was not required for 802.11ax when applying the initial test configuration procedures of KDB 248227, with 802.11ax considered a higher order 802.11 mode.

Table 1-13 2.4 GHz Bluetooth Target RF Output Power

2.4 GHz Bluetooth Maximum Power [dBm]					
Power Level	Mode	Data Rate	H	J	H/J in MIMO
Max	Bluetooth BR	1Mbps	17	17	14
	Bluetooth EDR	2Mbps	13	14	11.5
	Bluetooth EDR	3Mbps	13	14	11.5
	BLE	1Mbps	15.5	15.5	14
	BLE	2Mbps	15.5	15.5	14
	BLE LR s8	125kbps	10	10	N/A
	BLE LR s2	500kbps	10	10	N/A
Red 1	Bluetooth BR	1Mbps	11	11	11
	Bluetooth EDR	2Mbps	11	11	11
	Bluetooth EDR	3Mbps	11	11	11
	BLE	1Mbps	11	11	11
	BLE	2Mbps	11	11	11
	BLE LR s8	125kbps	10	10	N/A
	BLE LR s2	500kbps	10	10	N/A
Red 2	Bluetooth BR	1Mbps	14	14	14
	Bluetooth EDR	2Mbps	13	14	11.5
	Bluetooth EDR	3Mbps	13	14	11.5
	BLE	1Mbps	14	14	14
	BLE	2Mbps	14	14	14
	BLE LR s8	125kbps	10	10	N/A
	BLE LR s2	500kbps	10	10	N/A

Red 1 Condition: RCV ON

Red 2 conditions: Simultaneous transmission with Cellular, 5 GHz WIFI, or/and 6 GHz WIFI.

1.6. Surfaces Required for Testing

Surfaces Required for Testing

Antennas	Back	Front	Top	Bottom	Right	Left
A	Yes	Yes	No	Yes	Yes	Yes
B	Yes	Yes	No	Yes	No	Yes
C	Yes	Yes	No	Yes	No	Yes
D	Yes	Yes	No	Yes	Yes	No
E	Yes	Yes	Yes	No	Yes	No
F	Yes	Yes	Yes	No	No	Yes
H	Yes	Yes	Yes	No	No	Yes
I	Yes	Yes	No	No	No	Yes
J	Yes	Yes	Yes	No	Yes	No
MIMO (H&E)	Yes	Yes	Yes	No	Yes	Yes
MIMO (H&J)	Yes	Yes	Yes	No	Yes	Yes
NFC	Yes	Yes	Yes	No	No	Yes

Note: Particular DUT edges were not required to be evaluated if the edges were greater than 2.5 cm from the transmitting antenna according to FCC KDB Publication 941225 D06v02r01 Section III. The distances between the transmit antennas and the edges of the device are included in the filing.

1.7. Test Guidance Applied

- IEEE 1528-2013
- FCC KDB Publication 941225 D01v03r01, D05v02r05, D05Av01r02, D06v02r01 (2G/3G/4G and Hotspot)
- FCC KDB Publication 248227 D01v02r02 (SAR Considerations for 802.11 Devices)
- FCC KDB Publication 447498 D04v01 (General SAR Guidance)
- FCC KDB Publication 865664 D01v01r04, D02v01r02 (SAR Measurements up to 6 GHz)
- FCC KDB Publication 648474 D04v01r03 (Phablet Procedures)
- October 2013 TCB Workshop Notes (GPRS Testing Considerations)
- April 2019 TCB Workshop Notes (IEEE 802.11ax)
- October 2024 TCB Workshop Notes (LTE Downlink Carrier Aggregation)
- IEC/IEEE 63195-1:2022
- IEC 62479:2010
- SPEAG DASY8 Application Note (Interim Procedures for Devices Operating between 6-10 GHz) (April 2023)
- October 2020 TCB Workshop Notes (6-8 GHz Testing)
- FCC KDB Publication 484596 v03 (Data Referencing)

2. Data Referencing Summary

Per manufacturer declaration, there are two models with high degree of similarity, reference model SM-S741U and variant model SM-S741B. The reference and variant models use the same material, form factor, circuit design, and components, including antennas and their locations.

The test results outlined in this report were conducted in accordance with the FCC KDB Publication 484596 v03, using the reference model test results as the basis for spot-check testing of all the applicable antenna, frequency band, and exposure conditions. Full testing was performed for cases where the antenna, frequency band, exposure conditions, and conducted power did not meet the criteria specified in the plan. Please refer to Section 4 for the full testing results, Section 3 for the spot-check test results, and Report SN 2026.014.01 for details on the reference model test results.

Table 2-1 Data Referencing Summary

Band/Mode	Antenna	Data referencing Verdict
GSM 850	A	DR
GSM 850	E	DR
GSM 1900	A	DR
UMTS Band 5	A	DR
UMTS Band 5	E	DR
UMTS Band 4	A	DR
UMTS Band 2	A	DR
LTE Band 12/17	A	DR
LTE Band 12/17	E	DR
LTE Band 13	A	DR
LTE Band 13	E	DR
LTE Band 26/5	A	DR
LTE Band 26/5	E	DR
LTE Band 66/4	A	DR
LTE Band 66/4	E	DR
LTE Band 25/2	A	DR
LTE Band 25/2	F	DR
LTE Band 41	B	DR
LTE Band 41	F	DR
NR Band n5	A	DR
NR Band n5	E	DR
NR Band n66	A	DR
NR Band n66	F	DR
NR Band n25	A	DR
NR Band n25	F	DR
NR Band n41	B	DR
NR Band n41	F	DR
NR Band n41	D	DR
NR Band n41	E	DR
NR Band n77	F	DR
NR Band n77	C	DR
NR Band n77	I	DR
NR Band n77	D	DR
2.4 GHz WIFI	H	DR
2.4 GHz WIFI	J	DR
2.4 GHz WIFI	MIMO (H&J)	DR
5 GHz WIFI	H	DR
5 GHz WIFI	E	DR
5 GHz WIFI	MIMO (H&E)	DR
6 GHz WIFI	H	DR
6 GHz WIFI	E	DR
6 GHz WIFI	MIMO (H&E)	DR
2.4 GHz Bluetooth	H	DR
2.4 GHz Bluetooth	J	DR
2.4 GHz Bluetooth	MIMO (H&J)	DR
NFC	NFC	FT

- DR: Data referencing Reference Model
- FT: Fully tested

3. SAR Data Referencing

Table 3-1

Exposure Condition	Band/Mode	Antenna	Additional Information	DUT SN	Power Drift [dB]	Maximum Duty Cycle [%]	Configured/ Measured Duty Cycle [%]	Frequency [MHz]	Channel	Modulation/Configuration	RB/Tone Size or Data Rate [Mbps]	RB/Tone Offset or # of Tx slots, or BW [MHz]	Maximum Allowed Power [dBm]	Measured Conducted Power [dBm]	Maximum Allowed Power 2nd Ant [dBm]	Measured Conducted Power 2nd Ant [dBm]	Separation Distance [mm]	Position	Measured 1g SAR [W/kg]	Reported 1g SAR [W/kg]	Measured 10g SAR [W/kg]	Reported 10g SAR [W/kg]	Reference Model Reported 1g SAR [W/kg]	Reference Model Reported 10g SAR [W/kg]	TERr	TERv	dTER	M	dTERmax	Reuse Verdict
Body-worn	GSM 850	A	-	0607M	-0.03	12.0%	12.0%	836.6	190	GSM, 1 Tx Slot	N/A	1 Tx Slot	30.50	29.35	-	-	5	Back	0.947	1.234	-	-	1.016	-	0.635	0.771	0.21	0.37	0.25	OK
Body-worn	GSM 850	E	-	0607M	0.04	12.0%	12.0%	848.8	251	GSM, 1 Tx Slot	N/A	1 Tx Slot	30.00	28.89	-	-	5	Back	0.419	0.541	-	-	0.605	-	0.378	0.338	0.11	0.62	0.37	OK
Hotspot	GSM 1900	A	-	0607M	-0.02	48.1%	48.1%	1909.8	810	GPRS, 4 Tx Slots	N/A	4 Tx Slots	21.00	19.01	-	-	5	Back	0.397	0.628	-	-	0.815	-	0.509	0.393	0.23	0.49	0.25	OK
Body-worn/Hotspot	UMTS Band 5	A	-	0443M	0.00	100.0%	100.0%	826.4	4132	RMC	N/A	N/A	22.50	21.64	-	-	5	Back	0.681	0.830	-	-	0.691	-	0.432	0.519	0.20	0.57	0.32	OK
Body-worn/Hotspot	UMTS Band 5	E	-	0607M	0.00	100.0%	100.0%	826.4	4132	RMC	N/A	N/A	20.50	19.64	-	-	5	Back	0.436	0.531	-	-	0.736	-	0.460	0.332	0.28	0.54	0.29	OK
Body-worn/Hotspot	UMTS Band 4	A	-	0607M	0.00	100.0%	100.0%	1712.4	1312	RMC	N/A	N/A	17.00	15.70	-	-	5	Back	0.632	0.853	-	-	0.673	-	0.421	0.533	0.27	0.58	0.33	OK
Body-worn/Hotspot	UMTS Band 2	A	-	0607M	0.03	100.0%	100.0%	1852.4	9262	RMC	N/A	N/A	17.00	15.73	-	-	5	Back	0.473	0.634	-	-	0.554	-	0.346	0.396	0.14	0.65	0.40	OK
Body-worn/Hotspot	LTE Band 12	A	-	0658M	0.00	100.0%	100.0%	707.5	23095	QPSK - 10 MHz	1	49	22.50	21.40	-	-	5	Back	0.613	0.790	-	-	0.720	-	0.450	0.494	0.10	0.55	0.30	OK
Head	LTE Band 12	E	-	0443M	0.01	100.0%	100.0%	707.5	23095	QPSK - 10 MHz	1	0	20.50	18.69	-	-	0	Left Cheek	0.402	0.610	-	-	0.631	-	0.382	0.381	0.00	0.62	0.37	OK
Body-worn/Hotspot	LTE Band 13	A	-	0443M	0.00	100.0%	100.0%	782	23230	QPSK - 10 MHz	1	49	22.50	21.38	-	-	5	Back	0.507	0.656	-	-	0.651	-	0.407	0.410	0.01	0.59	0.34	OK
Head	LTE Band 13	E	-	0443M	0.00	100.0%	100.0%	782	23230	QPSK - 10 MHz	25	0	20.50	18.80	-	-	0	Left Cheek	0.363	0.534	-	-	0.627	-	0.392	0.334	0.15	0.61	0.36	OK
Body-worn/Hotspot	LTE Band 26	A	-	0607M	-0.01	100.0%	100.0%	831.5	26865	QPSK - 15 MHz	1	0	22.50	21.55	-	-	5	Back	0.725	0.902	-	-	0.797	-	0.498	0.564	0.13	0.50	0.25	OK
Head	LTE Band 26	E	-	0607M	0.00	100.0%	100.0%	831.5	26865	QPSK - 15 MHz	1	0	19.50	18.55	-	-	0	Left Cheek	0.396	0.493	-	-	0.484	-	0.303	0.308	0.02	0.70	0.45	OK
Body-worn/Hotspot	LTE Band 66	A	-	0443M	-0.04	100.0%	100.0%	1770	132572	QPSK - 20 MHz	50	50	17.00	16.15	-	-	5	Back	0.785	0.955	-	-	0.784	-	0.490	0.597	0.22	0.51	0.26	OK
Head	LTE Band 66	F	-	0443M	0.01	100.0%	100.0%	1720	132072	QPSK - 20 MHz	100	0	18.00	17.26	-	-	0	Right Tilt	0.762	0.904	-	-	0.830	-	0.519	0.565	0.09	0.48	0.25	OK
Body-worn/Hotspot	LTE Band 25	A	-	0607M	0.00	100.0%	100.0%	1860	26140	QPSK - 20 MHz	50	0	17.50	15.86	-	-	5	Back	0.486	0.709	-	-	0.653	-	0.408	0.443	0.09	0.59	0.34	OK
Head	LTE Band 25	F	-	0443M	0.02	100.0%	100.0%	1860	26140	QPSK - 20 MHz	1	50	18.50	17.45	-	-	0	Right Tilt	0.477	0.607	-	-	0.712	-	0.445	0.379	0.15	0.56	0.31	OK
Body-worn/Hotspot	LTE Band 41	B	-	0658M	-0.12	63.3%	63.3%	2636.5	41055	QPSK - 20 MHz	50	25	19.00	17.42	-	-	5	Back	0.378	0.544	-	-	0.377	-	0.236	0.340	0.44	0.76	0.50	OK
Head	LTE Band 41	F	-	0658M	0.02	63.3%	63.3%	2593	40620	QPSK - 20 MHz	50	25	18.50	17.07	-	-	0	Right Cheek	0.470	0.653	-	-	0.817	-	0.511	0.408	0.20	0.49	0.25	OK
Body-worn/Hotspot	NR Band n5	A	-	0443M	0.02	100.0%	100.0%	836.5	167300	DFT-s-OFDM QPSK, 20 MHz	1	104	22.50	20.70	-	-	5	Back	0.546	0.826	-	-	0.799	-	0.499	0.516	0.03	0.50	0.25	OK
Head	NR Band n5	E	-	0443M	0.02	100.0%	100.0%	836.5	167300	DFT-s-OFDM QPSK, 20 MHz	1	1	19.50	19.05	-	-	0	Left Tilt	0.452	0.501	-	-	0.516	-	0.323	0.313	0.03	0.68	0.43	OK
Body-worn/Hotspot	NR Band n66	A	-	0624M	0.02	100.0%	100.0%	1745	349000	DFT-s-OFDM QPSK, 40 MHz	216	0	17.00	15.99	-	-	5	Back	0.580	0.732	-	-	0.937	-	0.586	0.458	0.22	0.41	0.25	OK
Head	NR Band n66	F	-	0624M	0.00	100.0%	100.0%	1745	349000	DFT-s-OFDM QPSK, 40 MHz	1	1	18.00	16.19	-	-	0	Right Tilt	0.707	1.073	-	-	0.917	-	0.573	0.671	0.17	0.43	0.25	OK
Body-worn/Hotspot	NR Band n25	A	-	0658M	-0.06	100.0%	100.0%	1882.5	376500	DFT-s-OFDM QPSK, 40 MHz	1	108	17.50	16.97	-	-	5	Back	0.601	0.679	-	-	0.778	-	0.486	0.424	0.13	0.51	0.26	OK
Head	NR Band n25	F	-	0658M	0.01	100.0%	100.0%	1882.5	376500	DFT-s-OFDM QPSK, 40 MHz	108	0	18.50	17.72	-	-	0	Right Cheek	0.449	0.537	-	-	0.726	-	0.454	0.336	0.26	0.55	0.30	OK
Body-worn/Hotspot	NR Band n41 PC3 Default	B	-	0658M	-0.03	100.0%	100.0%	2592.99	518598	DFT-s-OFDM QPSK, 100 MHz	135	138	17.00	15.57	-	-	5	Back	0.280	0.389	-	-	0.409	-	0.256	0.243	0.05	0.74	0.49	OK
Head	NR Band n41 PC3 Default	E	-	0607M	0.01	100.0%	100.0%	2592.99	518598	DFT-s-OFDM QPSK, 100 MHz	1	1	10.00	9.47	-	-	0	Left Cheek	0.112	0.127	-	-	0.172	-	0.108	0.079	0.26	0.89	0.50	OK
Body-worn/Hotspot	NR Band n41 PC3 Switching	D	-	0658M	0.01	100.0%	100.0%	2592.99	518598	DFT-s-OFDM QPSK, 100 MHz	1	1	10.00	9.36	-	-	5	Back	0.206	0.239	-	-	0.241	-	0.151	0.149	0.01	0.85	0.50	OK
Head	NR Band n41 PC3 Switching	F	-	0658M	0.08	100.0%	100.0%	2592.99	518598	DFT-s-OFDM QPSK, 100 MHz	270	0	17.00	15.69	-	-	0	Right Tilt	0.513	0.694	-	-	0.896	-	0.560	0.434	0.23	0.44	0.25	OK
Body-worn/Hotspot	NR Band n77 DoD PC2	C	-	0607M	-0.01	100.0%	100.0%	3500.01	633334	DFT-s-OFDM QPSK, 100 MHz	1	1	13.00	12.17	-	-	5	Back	0.151	0.183	-	-	0.216	-	0.135	0.114	0.15	0.87	0.50	OK
Body-worn/Hotspot	NR Band n77 PC2	D	-	0482M	-0.15	100.0%	100.0%	3930	662000	DFT-s-OFDM QPSK, 100 MHz	1	1	13.00	12.02	-	-	5	Back	0.474	0.594	-	-	0.565	-	0.353	0.371	0.05	0.65	0.40	OK
Head	NR Band n77 DoD PC2	F	-	0607M	0.01	100.0%	100.0%	3500.01	633334	DFT-s-OFDM QPSK, 100 MHz	1	1	15.00	13.97	-	-	0	Right Tilt	0.553	0.701	-	-	0.776	-	0.485	0.438	0.10	0.52	0.27	OK
Head	NR Band n77 PC2	I	-	0482M	-0.15	100.0%	100.0%	3750	650000	DFT-s-OFDM QPSK, 100 MHz	1	1	13.00	12.30	-	-	0	Right Cheek	0.226	0.266	-	-	0.215	-	0.134	0.166	0.24	0.87	0.50	OK
Body-worn/Hotspot	2.4 GHz WIFI	H	-	0607M	0.20	100.0%	99.2%	2412	1	IEEE 802.11b - 22 MHz	1	22	16.00	15.12	-	-	5	Back	0.310	0.383	-	-	0.403	-	0.252	0.239	0.05	0.75	0.50	OK
Head	2.4 GHz WIFI	J	-	0607M	-0.10	100.0%	98.8%	2462	11	IEEE 802.11b - 22 MHz	1	22	13.50	13.11	-	-	0	Left Cheek	0.125	0.136	-	-	0.238	-	0.149	0.085	0.43	0.85	0.50	OK
Body-worn/Hotspot	2.4 GHz WIFI	MIMO (H&J)	-	0607M	-0.11	100.0%	99.0%	2412	1	IEEE 802.11b - 22 MHz	1	22	16.00	15.90	16.00	15.15	5	Back	0.361	0.443	-	-	0.499	-	0.312	0.277	0.11	0.69	0.44	OK
Body-worn/Hotspot	5 GHz WIFI	E	-	0607M	0.18	100.0%	96.7%	5270	54	IEEE 802.11n - 40 MHz	13.5	40	14.00	13.05	-	-	5	Back	0.206	0.265	-	-	0.480	-	0.300	0.166	0.45	0.70	0.45	OK
Body-worn/Hotspot	5 GHz WIFI	H	-	0607M	0.03	100.0%	95.4%	5775	155	IEEE 802.11ac - 80 MHz	29.3	80	14.00	13.46	-	-	5	Back	0.288	0.342	-	-	0.515	-	0.322	0.214	0.34	0.68	0.43	OK
Body-worn/Hotspot	5 GHz WIFI	MIMO (H&E)	-	3051M	0.07	100.0%	91.5%	5855	171	IEEE 802.11ac - 80 MHz	58.5	80	14.00	13.55	14.00	13.11	5	Back	0.456	0.612	-	-	0.571	-	0.357	0.383	0.07	0.64	0.39	OK
Head	6 GHz WIFI	E	-	3082M	-0.13	100.0%	99.4%	5985	7	IEEE 802.11ax - 80 MHz	30.6	80	13.00	12.45	-	-	0	Left Cheek	0.092	0.105	-	-	0.161	-	0.101	0.066	0.35	0.92	0.50	OK
Head	6 GHz WIFI	H	-	3082M	-0.13	100.0%	99.4%	5985	7	IEEE 802.11ax - 80 MHz	30.6	80	13.00	12.40	-	-	0	Right Cheek	0.139	0.161	-	-	0.222	-	0.139	0.101	0.27	0.86	0.50	OK
Head	6 GHz WIFI	MIMO (H&E)	-	0607M	-0.13	100.0%	99.3%	5985	7	IEEE 802.11ax - 80 MHz	61.3	80	13.00	12.74	13.00	12.48	0	Right Cheek	0.211	0.240	-	-	0.174	-	0.109	0.150	0.38	0.89	0.50	OK
Body-worn/Hotspot	2.4 GHz Bluetooth	H	-	0607M	0.17	79.0%	76.9%	2441	39	FHSS	1	N/A	18.00	17.04	-	-	5	Back	0.115	0.404	-	-	0.545	-	0.341	0.253	0.26	0.66	0.41	OK
Body-worn/Hotspot	2.4 GHz Bluetooth	J	-	3082M	-0.05	79.0%	76.9%	2402	0	FHSS	1	N/A	18.00	17.00	-	-	5	Front	0.069	0.089	-	-	0.178	-	0.111	0.056	0.50	0.89	0.50	OK
Phablet	2.4 GHz Bluetooth LE	MIMO (H&J)	-	0607M	-0.03	87.0%	85.3%	2440	17	DSSS	1	N/A	12.00	10.90	12.00	10.52	0	Left	-	-	0.342	0.491	-	0.403	0.101	0.123	0.22	0.90	0.50	OK

4. DUT Test Results

4.1. LTE SAR Data

Table 4-1

Exposure Condition	Band/Mode	Antenna	DUT SN	Power Drift [dB]	Maximum Duty Cycle [%]	Configured Duty Cycle [%]	Frequency [MHz]	Channel	Modulation/Configuration	RB Size	RB Offset	Maximum Allowed Power [dBm]	Measured Conducted Power [dBm]	MPR [dB]	Separation Distance [mm]	Position	Measured 1g SAR [W/kg]	Reported 1g SAR [W/kg]	Worst case SAR Linear Deviation from PC3	Part0 Frame Avg Plimit [dBm]	Part0 Overal Frame Avg Plimit [dBm]	Test Plot
Body-worn/Hotspot	LTE Band 41	B	0658M	-0.12	63.3%	63.3%	2636.5	41055	QPSK - 20 MHz	50	25	19.00	17.42	0	5	Back	0.378	0.544	-	19.65	19.65	2
Body-worn/Hotspot	LTE Band 41	B	0658M	0.19	43.3%	43.3%	2636.5	41055	QPSK, PC2 - 20 MHz	50	25	20.60	19.11	0	5	Back	0.360	0.507	-0.057	19.91		-
Head	LTE Band 41	F	0658M	0.02	63.3%	63.3%	2593	40620	QPSK - 20 MHz	50	25	18.50	17.07	0	0	Right Cheek	0.470	0.653	-	18.36	17.39	1
Head	LTE Band 41	F	0658M	0.02	43.3%	43.3%	2593	40620	QPSK, PC2 - 20 MHz	50	25	20.10	19.62	0	0	Right Cheek	0.461	0.515	-0.203	19.34		-

4.2. NFC SAR Data

Table 4-2

Exposure Condition	Band/Mode	Antenna	Additional Information	DUT SN	Power Drift [dB]	Frequency [MHz]	Data Rate	Type	Separation Distance [mm]	Position	Measured 10g SAR [W/kg]	Reported 10g SAR [W/kg]	Test Plot
Phablet	NFC	NFC	Tilted Left	0658M	-0.14	13.56	106k	Type B	0	Back	0.000	0.000	3
Phablet	NFC	NFC	-	0658M	-0.08	13.56	106k	Type B	0	Front	0.000	0.000	-
Phablet	NFC	NFC	-	0658M	-0.08	13.56	106k	Type B	0	Top	0.000	0.000	-
Phablet	NFC	NFC	-	0658M	-0.08	13.56	106k	Type B	0	Left	0.000	0.000	-

4.3. 6.5 GHz WIFI PD Data

Table 4-3

Band/Mode	Antenna	DUT SN	Power Drift [dB]	Maximum Duty Cycle [%]	Measured Duty Cycle [%]	Frequency [MHz]	Channel	Modulation/Configuration	Data Rate (Mbps)	Maximum Allowed Power [dBm]	Measured Conducted Power [dBm]	Maximum Allowed Power 2nd Ant [dBm]	Measured Conducted Power 2nd Ant [dBm]	IEC 62479 Uncertainty Scaling Factor	Separation Distance [mm]	Position	Measured Normal psPD [W/m^2]	Scaled Normal psPD [W/m^2]	Measured Total psPD [W/m^2]	Scaled Total psPD [W/m^2]	Test Plot
6 GHz WIFI	H	0607M	0.20	100.0%	99.4%	5985	7	IEEE 802.11ax 80 MHz	30.6	13.00	12.40	N/A	N/A	1.129	2	Front	1.650	2.152	2.980	3.887	-
6 GHz WIFI	E	0607M	-0.12	100.0%	99.4%	5985	7	IEEE 802.11ax 80 MHz	30.6	13.00	12.45	N/A	N/A	1.129	2	Front	1.060	1.367	2.120	2.733	-
6 GHz WIFI	MIMO (H&E)	0607M	0.16	100.0%	99.3%	5985	7	IEEE 802.11ax 80 MHz	61.3	13.00	12.74	13.00	12.48	1.129	2	Front	2.720	3.488	5.340	6.847	-
6 GHz WIFI	H	0607M	-0.09	100.0%	99.4%	5985	7	IEEE 802.11ax 80 MHz	30.6	9.00	8.57	N/A	N/A	1.129	2	Left	3.310	4.151	5.470	6.860	4
6 GHz WIFI	E	0607M	-0.06	100.0%	99.4%	7025	215	IEEE 802.11ax 80 MHz	30.6	9.00	8.94	N/A	N/A	1.129	2	Back	0.647	0.745	1.020	1.175	-
6 GHz WIFI	MIMO (H&E)	0607M	0.17	100.0%	99.3%	5985	7	IEEE 802.11ax 80 MHz	61.3	9.00	8.69	9.00	7.87	1.129	2	Left	2.670	3.940	4.960	7.319	-

4.4. General SAR Testing Notes:

1. The test data reported are the worst-case SAR values according to test procedures specified in IEEE 1528-2013 and FCC KDB Publication 447498 D04v01.
2. Liquid tissue depth was at least 15.0 cm for all frequencies.
3. SAR results were scaled to the maximum allowed power to demonstrate compliance per FCC KDB Publication 447498 D04v01.
4. Batteries are fully charged at the beginning of the SAR measurements.
5. DUT was tested using a fixed spacing for body-worn accessory testing. A separation distance of 5 mm was considered because the manufacturer has determined that there will be body-worn accessories available for users to support this separation distance When the body-worn SAR is > 1.2 W/kg, additional body-worn SAR evaluations using a headset cable is required on the configuration with the highest reported SAR.
6. Per FCC KDB Publication 648474 D04v01r03, this device is considered a “phablet.” Therefore, phablet SAR tests were required when the wireless router mode does not apply or when the wireless router 1g SAR was > 1.2 W/kg (when scaled to the maximum output power).
7. Per FCC KDB Publication 941225 D07, when 1-g SAR is tested at 5mm for a surface/edge, 10-g SAR is not required.
8. Unless otherwise noted, when 10g SAR measurement is considered, a factor of 2.5 is applied to the 1g thresholds for the equivalent test cases.
9. Please refer to Simultaneous Transmission analysis appendix for adjusted SAR calculation method.

4.5. GSM Notes:

1. Body-Worn accessory testing is typically associated with voice operations. Therefore, GSM voice was evaluated for body-worn SAR.
2. Justification for reduced test configurations per KDB Publication 941225 D01v03r01 and October 2013 TCB Workshop Notes: The source-based frame-averaged output power was evaluated for all GPRS/EDGE slot configurations. The configuration with the highest target frame averaged output power was evaluated for hotspot SAR. When the maximum frame-averaged powers are equivalent

across two or more slots (within 0.25 dB), the configuration with the most number of time slots was tested.

3. Per FCC KDB Publication 447498 D04v01, if the reported (scaled) SAR measured at the highest output power channel for each test configuration is ≤ 0.8 W/kg for 1g evaluations then testing at the other channels is not required for such test configuration(s).

4.6. UMTS Notes:

1. UMTS mode was tested under RMC 12.2 kbps with HSPA Inactive per KDB Publication 941225 D01v03r01. AMR and HSPA SAR tests were not required per the 3G Test Reduction Procedure in KDB Publication 941225 D01v03r01.
2. Per FCC KDB Publication 447498 D04v01, if the reported (scaled) SAR measured at the highest output power channel for each test configuration is ≤ 0.8 W/kg for 1g evaluations then testing at the other channels is not required for such test configuration(s).

4.7. LTE Notes:

1. LTE test configurations are determined according to SAR Evaluation Considerations for LTE Devices in FCC KDB Publication 941225 D05v02r05. The general test procedures used for testing can be found in Section 11.5.
2. LTE SAR for the higher modulations and lower bandwidths were not tested since the maximum average output power of all required channels and configurations was not more than 0.5 dB higher than the highest bandwidth; and the reported LTE SAR for the highest bandwidth was less than 1.45 W/kg for all configurations according to FCC KDB 941225 D05v02r05.
3. MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS36.101 Section 6.2.3 – 6.2.5 under Table 6.2.3-1.
4. A-MPR was disabled for all SAR tests by setting NS=01 and MCC=001 on the base station simulator. SAR tests were performed with the same number of RB and RB offsets transmitting on all TTI frames (maximum TTI).
5. Per FCC KDB Publication 447498 D04v01, when the reported 1g SAR measured at the highest output power channel in a given a test configuration was > 0.6 W/kg for LTE Band 41, testing at the other channels was required for such test configurations.
6. TDD LTE was tested per the guidance provided in FCC KDB Publication 941225 D05v02r05. Testing was performed using UL-DL configuration 0 with 6 UL subframes and 2 S subframes using extended cyclic prefix only and special subframe configuration 6. SAR tests were performed at maximum output power and worst-case transmission duty factor in extended cyclic prefix. Per 3GPP 36.211 Section 4, the duty factor for special subframe configuration 6 using extended cyclic prefix is 0.633.
7. This device supports LTE Carrier Aggregation (CA) in the downlink. Per October 2024 TCB Workshop Notes, LTE DLCA evaluation is not required.
8. This device supports Power Class 2 and Power Class 3 operation for LTE Band 41. The duty

cycle for UL-DL Configuration 1 is 0.433. Per May 2017 TCB Workshop Notes, all SAR tests are performed using Power Class 3. On the Power Class 3 configuration with highest SAR for each exposure condition, Power Class 2 SAR is additionally evaluated. No additional SAR measurements are required when the linearity between Power Class 2 and Power Class 3 SAR results and their respective frame averaged powers is < 10% and all reported SAR values are < 1.4 W/kg for 1g and/or < 3.5 W/kg for 10g. Linearity results are shown in Standalone SAR table when applicable.

4.8. NR Notes:

1. SAR testing for NR TDD was performed using test mode software to establish connections.
2. Per FCC Guidance, NR modulations and RB Sizes/Offsets were selected for testing such that configurations with the highest output power were evaluated for SAR tests.
3. NR implementation supports SA and EN-DC mode. Per FCC Guidance, SAR tests for NR bands and LTE anchor bands in EN-DC mode were performed separately due to limitations in SAR probe calibration factors.
4. Per FCC KDB Publication 447498 D04v01, when the reported NR Band n77 C-Band 1g SAR measured at the highest output power channel in each test configuration was > 0.4 W/kg, testing at the other channels was required for such test configurations.
5. Simultaneous transmission analysis for EN-DC operations is addressed in the associated Part 2 algorithm validation Test Report.
6. Per FCC Guidance, C-band for NR n77 (3700 – 3980 MHz) was fully tested according to FCC procedures. For each exposure condition and antenna, the worst-case position was additionally evaluated for NR n77 DoD band (3450 – 3550 MHz).
7. This device uses two transmit pathways for NR n41 operations. For each exposure condition and antenna, the pathway with the highest target power was fully evaluated. The worst case position for each antenna and exposure condition was additionally evaluated using the other pathway.

4.9. WLAN Notes:

1. Since U-NII-1 and U-NII-2A bands have the same maximum output power and the highest reported SAR for U-NII-2A is less than 1.2 W/kg, SAR is not required for U-NII-1 band according to FCC KDB Publication 248227 D01v02r02.
2. Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02 for 2.4 GHz WIFI operations, the initial test configuration was selected according to the 802.11 transmission modes with the highest maximum allowed powers. SAR for other 802.11 modes was not required due to the maximum allowed powers and the highest reported SAR.
3. Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02 for 5 GHz WIFI operations, the initial test configuration was selected according to the transmission mode with the highest maximum allowed powers. Other transmission modes were not investigated since the highest reported SAR for initial test configuration adjusted by the ratio of maximum

output powers is less than 1.2 W/kg for 1g evaluations.

4. Per KDB Publication 248227 D01v02r02, SAR for MIMO was evaluated by following the simultaneous SAR provisions from KDB Publication 447498 D04v01 making a measurement with both antennas transmitting simultaneously or by evaluating the summation of the 1g or 10g SAR values of each antenna.
5. When the maximum reported 1g averaged SAR is ≤ 0.8 W/kg, SAR testing on additional channels was not required. Otherwise, SAR for the next highest output power channel was required until the reported SAR result was ≤ 1.20 W/kg for 1g evaluations or all test channels were measured. When there are multiple untested channels having the same subsequent highest average RF output power, the channel with higher frequency is considered for SAR measurements.
6. The device was configured to transmit continuously at the required data rate, channel bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools. Procedures used to measure the duty factor are identical to that in the associated Part 15 test reports.
7. Per KDB Publication 248227 D01v02r02, channels 12 and 13 are not required for SAR testing when their maximum outpower is not higher than channel 1, 6 and 11.
8. For 6 GHz WIFI Operations:
   - Per FCC Guidance, both SAR and Power Density measurements were performed to demonstrate compliance.
   - Per FCC Guidance, SAR was performed using 6.5 GHz SAR probe calibration factor for WIFI 6E. Per October 2020 TCB workshop notes, 5 channels were tested for WIFI 6E.
   - Per October 2020 TCB Workshop notes, absorbed power density (APD) using a 4cm2 averaging area is reported based on SAR measurements for 6 GHz WIFI.
   - Power density was calculated by repeated E-field measurements on two measurement planes separated by $\lambda/4$.
   - Per FCC guidance and equipment manufacturer guidance, power density results were scaled according to IEC 62479:2010 for the portion of the measurement uncertainty > 30%. Total expanded uncertainty of 1.55 dB (42.9%) was used to determine the psPD measurement scaling factor.

4.10. Bluetooth Note:

1. Per October 2016 TCB Workshop Notes, the reported SAR was scaled to the 87.0% transmission duty factor for Bluetooth LE and 79% for Bluetooth to determine compliance.
2. The highest frame average power configurations between Bluetooth and Bluetooth LE were evaluated for SAR.

4.11. NFC Note:

1. NFC was evaluated for phablet condition based on the expected use conditions of NFC operations (hand-held operations only).

5. DUT SAR Measurement Variability Requirement

Per FCC KDB Publication 865664 D01v01r04, SAR measurement variability was assessed for each frequency band, which was determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. These additional measurements were repeated after the completion of all measurements requiring the same tissue-equivalent medium in a frequency band. The test device was returned to ambient conditions (normal room temperature) with the battery fully charged before it was re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.

Refer to Reference Model report for Variability data.

6. General Introduction

Title 47 of the Code of Federal Regulations (CFR) pertains to United States Federal regulation for Telecommunications. The **Federal Communications Commission (FCC)** is the agency responsible for implementing and enforcing these regulations. The rules define a **radiofrequency device** as any device which in its operation is capable of emitting radiofrequency energy by radiation, conduction, or other means.

47CFR §2.1093(b) states, "A **portable device** is defined as a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that the RF source's radiating structure(s) **is/are within 20 centimeters of the body of the user**."

Also, 47CFR §2.1093(d)(6) states, that General population/uncontrolled exposure limits defined in §1.1310 "apply to portable devices intended for use by consumers or persons who are exposed as a consequence of their employment and may not be fully aware of the potential for exposure or cannot exercise control over their exposure."

47CFR §2.1093(d)(2) states that evaluation of compliance within FCC's SAR limits can be demonstrated by laboratory measurements. This test report serves this purpose.

7. Background on Radiofrequency (RF) Exposure Limits

7.1. Controlled Environment

Controlled environments are defined as locations where the RF field intensities have been adequately characterized by means of measurement or calculation and exposure is incurred by persons who are: aware of the potential for RF field exposure, cognizant of the intensity of the RF fields in their environment, aware

of the potential health risks associated with RF field exposure and able to control their risk using mitigation strategies. In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. This exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

7.2. Uncontrolled Environment

Uncontrolled environments are defined as locations where either insufficient assessment of RF fields have been conducted or where persons who are allowed access to these areas have not received proper RF field awareness/safety training and have no means to assess or, if required, to mitigate their exposure to RF fields. The general population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed, or in which persons who may not be made fully aware of the potential for exposure, or cannot exercise control over their exposure. Members of the general public would fall under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity.

7.3. RF Exposure Limits for 100kHz – 6 GHz

Table 7-1 Human Exposure to RF Radiation Limits in 47 CFR §1.1310 - SAR Basic Restrictions for frequencies 100kHz ~ 6 GHz

Environment	Condition	**SAR**	Averaging volume
Uncontrolled / General Population	Head, Neck Trunk	**1.6 W/kg**	1g cube
	Extremity	**4.0 W/kg**	10g cube
Controlled	Head/Trunk	**8 W/kg**	1g cube
	Extremity / Limbs	**20 W/kg**	10g cube

7.4. RF Exposure Limits for 6 - 100 GHz

Per FCC 47 CFR §1.1310, the power density limits are applied for frequencies between 6 GHz and 100 GHz as shown below. Note that 10 W/m^2 is equivalent to 1 mW/cm^2.

Table 7-2 Human Exposure to RF Radiation Limits in 47 CFR §1.1310

Environment	Power Density (W/m^2)	Average Time (minutes)
Uncontrolled / General Population	10	30
Controlled	50	6

7.5. General FCC Policy on Human Exposure to RF

Quoted from the FCC OET website:

The FCC is required by the National Environmental Policy Act of 1969, among other things, to evaluate the effect of emissions from FCC-regulated transmitters on the quality of the human environment. Several organizations, such as the American National Standards Institute (ANSI), the Institute of Electrical and Electronics Engineers, Inc. (IEEE) ,and the National Council on Radiation Protection and Measurements (NRCP) have issued recommendations for human exposure to RF electromagnetic fields.

On August 1, 1996, the Commission adopted the NCRP's recommended Maximum Permissible Exposure limits for field strength and power density for the transmitters operating at frequencies of 300 kHz to 100 GHz. In addition, the Commission adopted the specific absorption rate (SAR) limits for devices operating within close proximity to the body as specified within the ANSI/IEEE C95.1-1992 guidelines. (See Report and Order, FCC 96-326)

The Commission's requirements are detailed in Parts 1 and 2 of the FCC's Rules and Regulations [47 C.F.R. 1.1307(b), 1.1310, 2.1091, 2.1093]. The potential hazards associated with RF electromagnetic fields are discussed in the FCC's RF Safety FAQ.

8. RF Safety Laboratory SAR Measurement System

8.1. SAR Measurement Hardware and Software

Peak spatially averaged SAR (psSAR) measurements are performed using a DASY8 robot system with cDASY8 module SAR software. The DASY8 is made by SPEAG in Switzerland and consists of a 6-axis robot, robot controller, computer, dosimetric probe, probe alignment light beam unit, and various SAR phantoms.

8.2. E-Field Probe

Manufacturer	Schmid & Partner Engineering AG

Model	EX3DV4
Description	Smallest isotropic electric (E-) field probe for high precision specific absorption rate (SAR) measurements
Frequency Range	4 MHz - 10.0 GHz
Dynamic Range	10 µW/g – >100 mW/g
Overall Length (mm)	337
Body Diameter (mm)	12
Tip Length (mm)	9
Tip Diameter (mm)	2.5
Probe Tip to Sensor X Calibration Point (mm)	1
Probe Tip to Sensor Y Calibration Point (mm)	1
Applications	High precision dosimetric measurements in any exposure scenario (e.g. very strong gradient fields); the only probe that enables compliance testing for frequencies up to 6 GHz with precision of better than 30%
Compatibility	DASY8 robot + cDASY8 module SAR software

8.3. Peak Spatially Averaged SAR (psSAR) Measurements

SAR Evaluations are performed using the following procedure compliant to FCC KDB Publication 865664 D01v01r04 and IEEE 1528:2013:

1. The SAR distribution at the exposed side of the head or body was measured at a distance no greater than 5.0 mm from the inner surface of the shell. The area covered the entire dimension of the device-head and body interface, and the horizontal grid resolution was determined per FCC KDB Publication 865664 D01v01r04 and IEEE 1528:2013.
2. The point SAR measurement was taken at the maximum SAR region determined from Step 1 to enable the monitoring of SAR fluctuations/drifts during the 1g/10g cube evaluation. SAR at this fixed point was measured and used as a reference value.
3. Based on the area scan data, the peak of the region with maximum SAR was determined by spline interpolation. Around this point, a volume was assessed according to the measurement resolution and volume size requirements of FCC KDB Publication 865664 D01v01r04 and IEEE 1528:2013. On the basis of this data set, the spatial peak SAR value was evaluated with the following procedure (see references or the DASY manual online for more details):

a. SAR values at the inner surface of the phantom are extrapolated from the measured values along the line away from the surface with spacing no greater than the area scan and zoomscan resolutions specified in FCC KDB Publication 865664 D01v01v04 section 2.7.1 and IEEE 1528:2013 table 6. The extrapolation was based on a least-squares algorithm. A polynomial of the fourth order was calculated through the points in the z-axis (normal to the phantom shell).
b. After the maximum interpolated values were calculated between the points in the cube, the SAR was averaged over the spatial volume (1g or 10g) using a 3D-Spline interpolation algorithm. The 3D-spline is composed of three one-dimensional splines with the "Not a knot" condition (in x, y, and z directions). The volume was then integrated with the trapezoidal algorithm. One thousand points (10 x 10 x 10) were obtained through interpolation, in order to calculate the averaged SAR.
c. All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.
d. The zoom scan is confirmed to meet both of the following parameters if the result is > 0.1 W/kg. If the result does not meet the below parameters, it is re-measured with a finer resolution scan until the below parameters are met.
   (1) The smallest horizontal distance from the local SAR peaks to all points 3 dB below the SAR peak shall be larger than the horizontal grid steps in both x- and y-directions.
   (2) The ratio of the SAR at the second measured point (M2) to the SAR at the closest measured point (Ml) at the x-y location of the measured maximum SAR value shall be at least 30%

4. The SAR reference value, at the same location as step 2, was re-measured after the zoom scan was complete to calculate the SAR drift. If the drift deviated by more than 5%, the SAR test and drift measurements were repeated.

8.4. Head Reference Points

8.4.1. Ear Reference Point

Figure 7 shows the front, back and side views of the SAM Twin Phantom. The point "M" is the reference point for the center of the mouth, "LE" is the left ear reference point (ERP), and "RE" is the right ERP. The ERP is 15mm posterior to the entrance to the ear canal (EEC) along the B-M line (Back-Mouth), as shown in Figure 8. The plane passing through the two ear canals and M is defined as the Reference Plane. The line N-F (Neck-Front), also called the Reference Pivoting Line, is not perpendicular to the reference plane. Line B-M is perpendicular to the N-F line. Both N-F and B-M lines are marked on the external phantom shell to facilitate handset positioning.

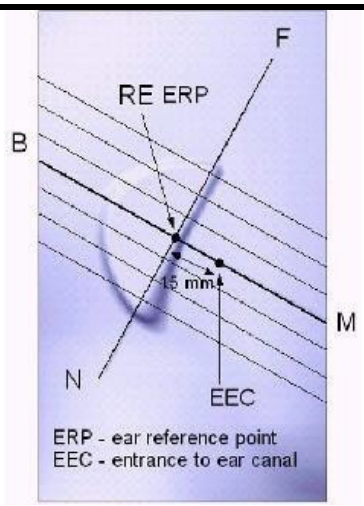

Figure 7 -Side View of ERP

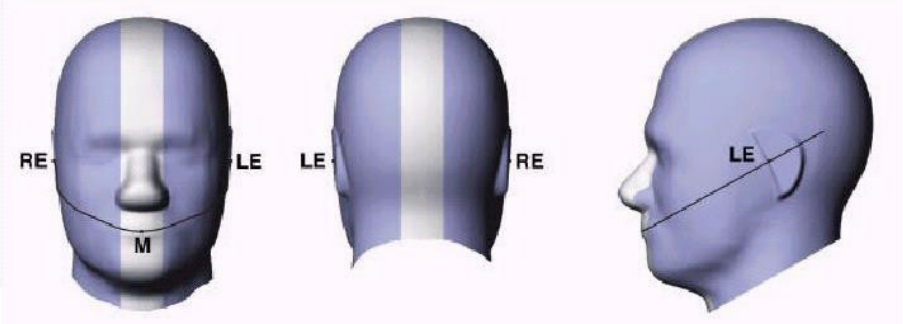

Figure 8 - SAM Twin Phantom

8.4.2. Handset Reference Point

Two imaginary lines on the handset were established: the vertical centerline and the horizontal line. The test device was placed in a normal operating position with the acoustic output located along the "vertical centerline" on the front of the device aligned to the "ear reference point" (See Figure 9). The acoustic output was than located at the same level as the center of the ear reference point. The test device was positioned so that the "vertical centerline" was bisecting the front surface of the handset at its top and bottom edges, positioning the "ear reference point" on the outer surface of the both the left and right head phantoms on the ear reference point.

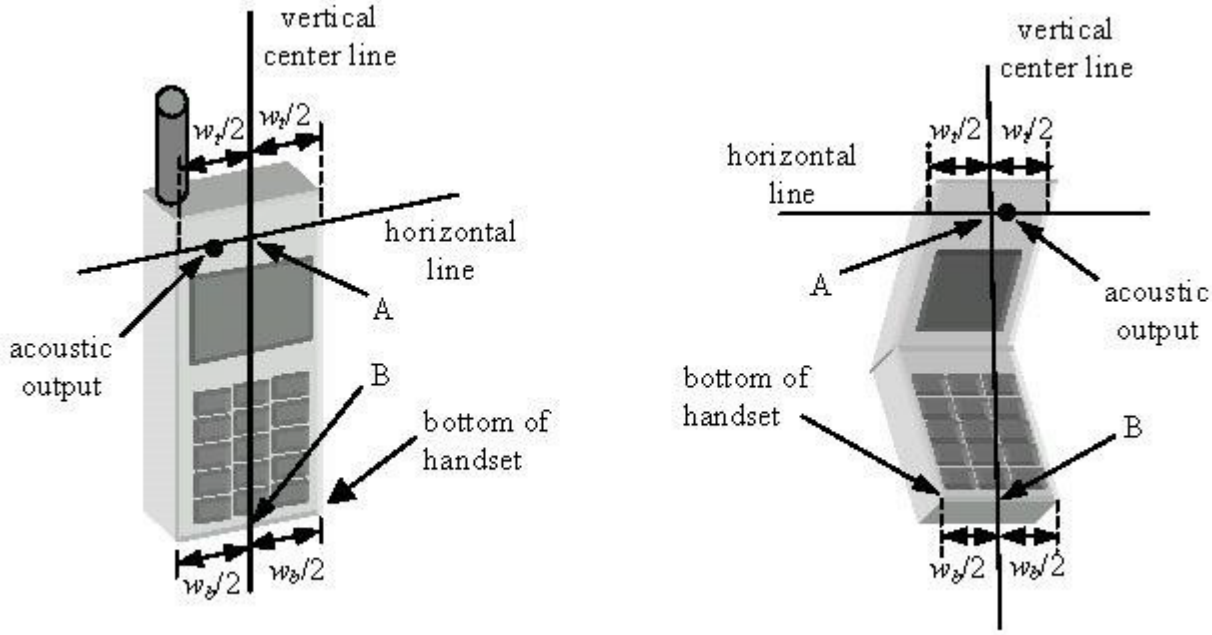

Figure 9 - Handset Reference Points

8.5. Test Positions

8.5.1. Device Holder

The device holder is made out of low-loss POM material having the following dielectric parameters: relative permittivity ε = 3 and loss tangent δ = 0.02.

8.5.2. Positioning for Cheek

- The test device was positioned with the device close to the surface of the phantom such that point A is on the (virtual) extension of the line passing through points RE and LE on the phantom, such that the plane defined by the vertical center line and the horizontal line of the phone is approximately parallel to the sagittal plane of the phantom.
- The handset was translated towards the phantom along the line passing through RE & LE until the handset touches the pinna.
- While maintaining the handset in this plane, the handset was rotated around the LE-RE line until the vertical centerline was in the reference plane.
- The phone was then rotated around the vertical centerline until the phone (horizontal line) was symmetrical was respect to the line NF.
- While maintaining the vertical centerline in the reference plane, keeping point A on the line passing through RE and LE, and maintaining the device contact with the ear, the device was rotated about the NF line until any point on the handset made contact with a phantom point below the ear (cheek).

8.5.3. Positioning for Tilt

With the test device aligned in the “Cheek Position”:

- While maintaining the orientation of the phone, the phone was retracted parallel to the reference plane far enough to enable a rotation of the phone by 15degrees.
- The phone was then rotated around the horizontal line by 15 degrees.
- While maintaining the orientation of the phone, the phone was moved parallel to the reference plane until any part of the handset touched the head. (In this position, point A was located on the line RE-LE). The tilted position is obtained when the contact is on the pinna. If the contact was at any location other than the pinna, the angle of the phone would then be reduced. In this situation, the tilted position was obtained when any part of the phone was in contact of the ear as well as a second part of the phone was in contact with the head.

8.5.4. Body-Worn Accessory Configurations

Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration. Per FCC KDB Publication 648474 D04v01r03, Body-worn accessory exposure is typically related to voice mode operations when

handsets are carried in body-worn accessories. The body-worn accessory procedures in FCC KDB Publication 447498 D04v01 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-worn accessory test separation distance is greater than or equal to that required for hotspot mode, when applicable. When the reported SAR for a body-worn accessory, measured without a headset connected to the handset, is > 1.2 W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a headset attached to the handset.

Accessories for Body-worn operation configurations are divided into two categories: those that do not contain metallic components and those that do contain metallic components. When multiple accessories that do not contain metallic components are supplied with the device, the device is tested with only the accessory that dictates the closest spacing to the body. Then multiple accessories that contain metallic components are tested with the device with each accessory. If multiple accessories share an identical metallic component (i.e. the same metallic belt-clip used with different holsters with no other metallic components) only the accessory that dictates the closest spacing to the body is tested.

Body-worn accessories may not always be supplied or available as options for some devices intended to be authorized for body-worn use. In this case, a test configuration with a separation distance between the back of the device and the flat phantom is used. Test position spacing was documented.

Transmitters that are designed to operate in front of a person's face, as in push-to-talk configurations, are tested for SAR compliance with the front of the device positioned to face the flat phantom in head fluid. For devices that are carried next to the body such as a shoulder, waist or chest-worn transmitters, SAR compliance is tested with the accessories, including headsets and microphones, attached to the device and positioned against a flat phantom in a normal use configuration.

8.5.5. Extremity Exposure Configurations

Devices that are designed or intended for use on extremities or mainly operated in extremity only exposure conditions; i.e., hands, wrists, feet and ankles, may require extremity SAR evaluation. When the device also operates in close proximity to the user's body, SAR compliance for the body is also required. The 1g body and 10g extremity SAR Exclusion Thresholds found in KDB Publication 447498 D04v01 should be applied to determine SAR test requirements.

Per KDB Publication 447498 D04v01, Cell phones (handsets) are not normally designed to be used on extremities or operated in extremity only exposure conditions. The maximum output power levels of handsets generally do not require extremity SAR testing to show compliance. Therefore, extremity SAR was not evaluated for this device.

8.5.6. Wireless Router Configurations

Some battery-operated handsets have the capability to transmit and receive user data through simultaneous transmission of WIFI simultaneously with a separate licensed transmitter. The FCC has provided guidance in FCC KDB Publication 941225 D06v02r01 where SAR test considerations for handsets (L x W ≥ 9 cm x 5 cm) are based on a composite test separation distance of 10 mm from the front, back and edges of the device containing transmitting antennas within 2.5 cm of their edges, determined from general mixed use conditions for this type of devices. Since the hotspot SAR results may overlap with the body-worn accessory SAR requirements, the more conservative configurations can be considered, thus excluding some body-worn accessory SAR tests.

When the user enables the personal wireless router functions for the handset, actual operations include simultaneous transmission of both the WIFI transmitter and another licensed transmitter. Both transmitters often do not transmit at the same transmitting frequency and thus cannot be evaluated for SAR under actual use conditions due to the limitations of the SAR assessment probes. Therefore, SAR must be evaluated for each frequency transmission and mode separately and spatially summed with the WIFI transmitter according to FCC KDB Publication 447498 D04v01 procedures. The “Portable Hotspot” feature on the handset was NOT activated during SAR assessments, to ensure the SAR measurements were evaluated for a single transmission frequency RF signal at a time.

8.5.7. Phablet Configurations

For smart phones with a display diagonal dimension > 150 mm or an overall diagonal dimension > 160 mm that provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets that support voice calls next to the ear, the phablets procedures outlined in KDB Publication 648474 D01v06r03 should be applied to evaluate SAR compliance. A device marketed as phablets, regardless of form factors and operating characteristics must be tested as a phablet to determine SAR compliance. In addition to the normally required head and body-worn accessory SAR test procedures required for handsets, the UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna <=25 mm from that surface or edge, in direct contact with the phantom, for 10g SAR. The UMPC mini-tablet 1g SAR at 5 mm is not required. When hotspot mode applies, 10g SAR is required only for the surfaces and edges with hotspot mode 1g SAR > 1.2 W/kg.

8.6. RF Safety Laboratory SAR System Measurement Uncertainty

SAR Uncertainty for DUTs According to 62209-1528 (Frequencies: 4 MHz - 10 GHz)										
Symbol	Input Quantity (Xi) (Source of Uncertainty)	62209-1528 Ref	Unc. (xi)	Prob. Dist. PDFi	Div(qi)	ci (1g)	ci (10g)	Std Unc (1g)	Std. Unc (10g)	vi
Measurement System Errors										
CF	Probe Calibration	8.4.1.1	18.6%	N (k=2)	2	1	1	9.30%	9.3%	∞
CFdrift	Probe Calibration Drift	8.4.1.2	1.7%	R	√3	1	1	1.0%	1.0%	∞
LIN	Probe Linearity and Detection Limit	8.4.1.3	4.7%	R	√3	1	1	2.7%	2.7%	∞
BBS	Broadband Signal	8.4.1.4	2.8%	R	√3	1	1	1.6%	1.6%	∞
ISO	Probe Isotropy	8.4.1.5	7.6%	R	√3	1	1	4.4%	4.4%	∞
DAE	Other probe and data acquisition errors	8.4.1.6	2.4%	N	1	1	1	2.4%	2.4%	∞
AMB	RF Ambient and Noise	8.4.1.7	1.8%	N	1	1	1	1.8%	1.8%	∞
Δxyz	Probe Positioning Errors	8.4.1.8	0.005 mm	N	1	0.5	0.5	0.3%	0.3%	
DAT	Data Processing Errors	8.4.1.9	3.5%	N	1	1	1	3.5%	3.5%	∞
Phantom and Device Errors										
LIQ(σ)	Measurement of Phantom Conductivity	8.4.2.1	2.5%	N	1	0.78	0.71	2.0%	1.8%	∞
LIQ(Tc)	Temperature Effects (Medium)	8.4.2.2	5.4%	R	√3	0.78	0.71	2.4%	2.2%	∞
EPS	Shell Permittivity	8.4.2.3	14.0%	R	√3	0.5	0.5	4.0%	4.0%	∞
DIS	Distance between the radiating element of the DUT and the phantom medium	8.4.2.4	2.0%	N	1	2	2	4.0%	4.0%	∞
Dxyz	Repeatability of Positioning the DUT or source against the phantom	8.4.2.5	1.0%	N	1	1	1	1.0%	1.0%	5
H	Device Holder Effects	8.4.2.6	3.6%	N	1	1	1	3.6%	3.6%	8
MOD	Effect of Operating mode on probe sensitivity	8.4.2.7	2.4%	R	√3	1	1	1.4%	1.4%	∞
RFdrift	Variation in SAR due to Drift in ouptput of DUT	8.4.2.9	2.5%	N	1	1	1	2.5%	2.5%	∞
VAL	Validation Antenna Uncertainty (Validation measurement only)	8.4.2.10	0.0%	N	1	1	1	0.0%	0.0%	∞
Pin	Uncertianty in Accepted Power (Validation Measurement only)	8.4.2.11	0.0%	N	1	1	1	0.0%	0.0%	∞
Correction to the SAR Results										
C(ε',σ)	Phantom Deviation from Target (ε',σ)	8.4.3.1	1.9%	N	1	1	0.84	1.9%	1.6%	∞
C(R)	SAR Scaling	8.4.3.2	0.0%	R	√3	1	1	0.0%	0.0%	∞
u(ΔS AR)	Combined Uncertainty							14.3%	14.3%	∞
U	Expanded Uncertainty and Effective Degrees of Freedom (k=2)							28.7%	28.5%	

9. RF Safety Laboratory Power Density Measurement System

9.1. Power Density Measurement Hardware and Software

Peak spatially averaged power density (psPD) measurements are performed using a DASY8 robot system with cDASY8 module mmWave software. The DASY8 is made by SPEAG in Switzerland and consists of a 6-axis robot, robot controller, computer, dosimetric probe, and probe alignment light beam unit.

9.2. E-Field Probe

Manufacturer	Schmid & Partner Engineering AG
Model	EUmmWVx
Description	E-field probe for high precision power density (PD) measurements
Frequency Range	750 MHz - 110 GHz
Dynamic Range	< 20 - 10,000 V/m with PRE-10 (min < 50 - 3,000 V/m)
Overall Length (mm)	320
Body Diameter (mm)	8
Tip Length (mm)	23
Tip Diameter (mm)	8
Probe Tip to Sensor X Calibration Point (mm)	1.5
Probe Tip to Sensor Y Calibration Point (mm)	1.5
Applications	High precision dosimetric measurements of devices and transmitters above 6 GHz
Compatibility	DASY8 robot + cDASY8 module mmWave software

9.3. Peak Spatially Averaged Power Density (psPD) Measurements

Electromagnetic field reconstruction is based on Maxwell's equations and uses the Gerchberg-Saxton algorithm to calculate power density. The general measurement procedure is as follows:

1. Measure the local E-field at a point within the measurement region and where the field is higher than the noise level. This reference level will be used to assess output DUT drift during the measurement.
2. Measure the E-field over the measurement region. Measurement techniques are determined by the measurement system manufacturer. In the near-field, a step size of λ/4 or less is required.
3. Check that the peak is captured. Calculate the psPD on the evaluation surface from the measured fields and ensure the psPD is accurately calculated according to the equation below. Averaging area, A, and averaging shape is specified by the applicable exposure limits or regulatory requirements.

$$psPD = \frac{1}{2A_{av}} \iint_{A_{av}} \|Re\{E \times H\}\| dA$$

4. Measure the local E-field at the same location chosen in the first step. The DUT drift is estimated as the difference between the squared amplitude of the field values taken. When measurement drift was greater than 5%, the psPD measurement and drift measurements were repeated.

9.4. RF Safety Laboratory Power Density System Measurement Uncertainty

Power Density Uncertainty for DUTs
According to IEC/IEEE 63195

Symbol	Description	Unc. (+/- dB)	Probab. Distri.	Div.	ci	Std. Unc. (+/- dB)	vi
Measurement System							
CAL	Calibration	0.49	N	1	1	0.49	∞
COR	Probe correction	0.00	R	√3	1	0.00	∞
FRS	Frequency Response	0.20	R	√3	1	0.12	∞
SCC	Sensor cross coupling	0.00	R	√3	1	0.00	∞
ISO	Isotropy	0.50	R	√3	1	0.29	∞
LIN	Linearity	0.20	R	√3	1	0.12	∞
PSC	Probe scattering	0.00	R	√3	1	0.00	∞
PPO	Probe postitioning offset	0.30	R	√3	1	0.17	∞
PPR	Probe positioning repeatability	0.04	R	√3	1	0.02	∞
SMO	Sensor mechanical offset	0.00	R	√3	1	0.00	∞
PSR	Probe spatial resolution	0.00	R	√3	1	0.00	∞
FLD	Field impedance dependance	0.00	R	√3	1	0.00	∞
MED	Measurement drift	0.05	R	√3	1	0.03	∞
APN	Amplitude and phase noise	0.04	R	√3	1	0.02	∞
TR	Measurement area truncation	0.00	R	√3	1	0.00	∞
DAQ	Data acquisition	0.03	N	1	1	0.03	∞
SMP	Sampling	0.00	R	√3	1	0.00	∞
REC	Field reconstruction	0.60	R	√3	1	0.35	∞
SNR	Signal-to-noise raio	0.00	R	√3	1	0.00	∞
TRA	FTE/MEO	0.00	R	√3	1	0.00	∞
SCA	Power density scaling	0.00	R	√3	1	0.00	∞
SAV	Spatial averaging	0.10	R	√3	1	0.06	∞
DUT and Environmental							
PC	Probe coupling with DUT	0.00	R	√3	1	0.00	∞
MOD	Modulation response	0.40	R	√3	1	0.23	∞
IT	Integration time	0.00	R	√3	1	0.00	∞
RT	Response time	0.00	R	√3	1	0.00	∞
DH	Device holder influence	0.10	R	√3	1	0.06	∞
DA	DUT alignment	0.00	R	√3	1	0.00	∞
AC	RF ambient conditions	0.04	R	√3	1	0.02	∞
TEM	Laboratory temperatures	0.05	R	√3	1	0.03	∞
REF	Laboratory reflections	0.04	R	√3	1	0.02	∞
MSI	Immunity / secondary reception	0.00	R	√3	1	0.00	∞
DRI	Drift of the DUT	0.21	R	√3	1	0.12	∞
					Combined Standard Uncertainty	0.76	∞
					Expanded Standard Uncertainty and Effective Degrees of Freedom (k=2)	1.52	

10. Technology Specific Test Setup Requirements

10.1. Measured and Reported SAR

Per FCC KDB Publication 447498 D04v01, when SAR is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance. For simultaneous transmission, the measured aggregate SAR must be scaled according to the sum of the differences between the maximum tune-up tolerance and actual power used to test each transmitter. When SAR is measured at or scaled to the maximum tune-up tolerance limit, the results are referred to as *reported* SAR. The highest *reported* SAR results are identified on the grant of equipment authorization according to procedures in KDB 690783 D01v01r03.

10.2. 3G SAR Test Reduction Procedure

In FCC KDB Publication 941225 D01v03r01, certain transmission modes within a frequency band and wireless mode evaluated for SAR are defined as primary modes. The equivalent modes considered for SAR test reduction are denoted as secondary modes. When the maximum output power including tune-up tolerance specified for production units in a secondary mode is ≤ 0.25 dB higher than the primary mode or when the highest reported SAR of the primary mode, scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode, is ≤ 1.2 W/kg, SAR measurements are not required for the secondary mode. These criteria are referred to as the 3G SAR test reduction procedure. When the 3G SAR test reduction procedure is not satisfied, SAR measurements are additionally required for the secondary mode.

10.3. Procedures Used to Establish RF Signal for SAR

The following procedures are according to FCC KDB Publication 941225 D01v03r01 “3G SAR Measurement Procedures.”

The device is placed into a simulated call using a base station simulator in a RF shielded chamber. Establishing connections in this manner ensure a consistent means for testing SAR and are recommended for evaluating SAR. Devices under test are evaluated prior to testing, with a fully charged battery and were configured to operate at maximum output power. In order to verify that the device is tested throughout the SAR test at maximum output power, the SAR measurement system measures a “point SAR” at an arbitrary reference point at the start and end of the 1 gram SAR evaluation, to assess for any power drifts during the evaluation.

10.4. SAR Measurement Conditions for UMTS

10.4.1. Output Power Verification

Maximum output power is verified on the High, Middle and Low channels according to the general descriptions in section 5.2 of 3GPP TS 34.121, using the appropriate RMC with TPC (transmit power control) set to all "1s" or applying the required inner loop power control procedures to maintain maximum output power while HSUPA is active. Results for all applicable physical channel configurations (DPCCH, DPDCHn and spreading codes, HS-DPCCH etc) are tabulated in this test report. All configurations that are not supported by the DUT or cannot be measured due to technical or equipment limitations are identified.

10.4.2. Head SAR Measurements

SAR for next to the ear head exposure is measured using a 12.2 kbps RMC with TPC bits configured to all "1's". The 3G SAR test reduction procedure is applied to AMR configurations with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured for 12.2 kbps AMR in 3.4 kbps SRB (signaling radio bearer) using the highest reported SAR configuration in 12.2 kbps RMC for head exposure.

10.4.3. Body SAR Measurements

SAR for body exposure configurations is measured using the 12.2 kbps RMC with the TPC bits all "1s". The 3G SAR test reduction procedure is applied to other spreading codes and multiple DPDCHn configurations supported by the handset with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured using an applicable RMC configuration with the corresponding spreading code or DPDCHn, for the highest reported SAR configuration in 12.2 kbps RMC.

10.4.4. SAR Measurements with Rel 5 HSDPA

The 3G SAR test reduction procedure is applied to HSDPA body configurations with 12.2 kbps RMC as the primary mode. Otherwise, Body SAR for HSDPA is measured using an FRC with H-Set 1 in Sub-test 1 and a 12.2 kbps RMC configured in Test Loop Mode 1, for the highest reported SAR configuration in 12.2 kbps RMC without HSDPA. Handsets with both HSDPA and HSUPA are tested according to Release 6 HSPA test procedures.

10.4.5. SAR Measurements with Rel 6 HSUPA

The 3G SAR test reduction procedure is applied to HSPA (HSUPA/HSDPA with RMC) body configurations with 12.2 kbps RMC as the primary mode. Otherwise, Body SAR for HSPA is measured with E-DCH Sub- test 5, using H-Set 1 and QPSK for FRC and a 12.2 kbps RMC configured in Test Loop Mode 1 and power control algorithm 2, according to the highest reported body SAR configuration in 12.2 kbps RMC without HSPA.

When VOIP applies to head exposure, the 3G SAR test reduction procedure is applied with 12.2 kbps RMC as the primary mode; otherwise, the same HSPA configuration used for body SAR measurements are applied to head exposure testing.

10.4.6. SAR Measurement Conditions for DC-HSDPA

SAR is required for Rel. 8 DC-HSDPA when SAR is required for Rel. 5 HSDPA; otherwise, the 3G SAR test reduction procedure is applied to DC-HSDPA with 12.2 kbps RMC as the primary mode. Power is measured for DC-HSDPA according to the H-Set 12, FRC configuration in Table C.8.1.12 of 3GPP TS 34.121-1 to determine SAR test reduction. A primary and a secondary serving HS-DSCH Cell are required to perform the power measurement and for the results to be acceptable.

10.5. SAR Measurement Conditions for LTE

LTE modes are tested according to FCC KDB 941225 D05v02r05 publication. Establishing connections with base station simulators ensure a consistent means for testing SAR and are recommended for evaluating SAR. The R&S CMW500 or Anritsu MT8000A simulators are used for LTE output power measurements and SAR testing. Closed loop power control was used so the UE transmits with maximum output power during SAR testing. SAR tests were performed with the same number of RB and RB offsets transmitting on all TTI frames (maximum TTI).

10.5.1. Spectrum Plots for RB Configurations

A properly configured base station simulator was used for SAR tests and power measurements. Therefore, spectrum plots for RB configurations were not required to be included in this report.

10.5.2. MPR and A-MPR

MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS36.101 Section 6.2.3 – 6.2.5 under Table 6.2.3-1.

A-MPR (Additional MPR) has been disabled for all SAR tests by setting NS=01 on the base station simulator.

10.5.3. Required RB Size and RB Offsets for SAR Testing

According to FCC KDB 941225 D05v02r05:

1. Per Section 5.2.1, SAR is required for QPSK 1 RB Allocation for the largest bandwidth
    a. The required channel and offset combination with the highest maximum output power is required for SAR.

b. When the reported SAR is ≤ 0.8 W/kg, testing of the remaining RB offset configurations and required test channels is not required. Otherwise, SAR is required for the remaining required test channels using the RB offset configuration with highest output power for that channel.

c. When the reported SAR for a required test channel is > 1.45 W/kg, SAR is required for all RB offset configurations for that channel.

2. Per Section 5.2.2, SAR is required for 50% RB allocation using the largest bandwidth following the same procedures outlined in Section 5.2.1.

3. Per Section 5.2.3, QPSK SAR is not required for the 100% allocation when the highest maximum output power for the 100% allocation is less than the highest maximum output power of the 1 RB and 50% RB allocations and the reported SAR for the 1 RB and 50% RB allocations is < 0.8 W/kg.

4. Per Section 5.2.4 and 5.3, SAR tests for higher order modulations and lower bandwidths configurations are not required when the conducted power of the required test configurations determined by Sections 5.2.1 through 5.2.3 is less than or equal to ½ dB higher than the equivalent configuration using QPSK modulation and when the QPSK SAR for those configurations is <1.45 W/kg.

5. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

10.5.4. TDD

LTE TDD testing is performed using the SAR test guidance provided in FCC KDB 941225 D05v02r045. TDD is tested at the highest duty factor using UL-DL configuration 0 with special subframe configuration 6 and applying the FDD LTE procedures in KDB 941225 D05v02r05. SAR testing is performed using the extended cyclic prefix listed in 3GPP TS 36.211 Section 4.

10.6. SAR Testing with 802.11 Transmitters

The normal network operating configurations of 802.11 transmitters are not suitable for SAR measurements. Unpredictable fluctuations in network traffic and antenna diversity conditions can introduce undesirable variations in SAR results. The SAR for these devices should be measured using chipset based test mode software to ensure the results are consistent and reliable. See KDB Publication 248227 D01v02r02 for more details.

10.6.1. General Device Setup

Chipset based test mode software is hardware dependent and generally varies among manufacturers. The device operating parameters established in test mode for SAR measurements must be identical to those programmed in production units, including output power levels, amplifier gain settings and other RF performance tuning parameters.

A periodic duty factor is required for current generation SAR systems to measure SAR. When 802.11 frame gaps are accounted for in the transmission, a maximum transmission duty factor of 92 - 96% is typically achievable in most test mode configurations. A minimum transmission duty factor of 85% is required to avoid certain hardware and device implementation issues related to wide range SAR scaling. The reported SAR is scaled to 100% duty factor to determine compliance at the maximum tune-up tolerance limit.

10.6.2. Initial Test Position Procedure

The test position with the highest extrapolated (peak) SAR is used as the initial test position. When reported SAR for the initial test position is ≤ 0.4 W/kg, no additional testing for the remaining test positions is required. Otherwise, SAR is evaluated at the subsequent highest peak SAR positions until the reported SAR result is ≤ 0.8 W/kg or all test positions are measured. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

10.6.3. 2.4 GHz SAR Test Requirements

SAR is measured for 2.4 GHz 802.11b DSSS using either the fixed test position or, when applicable, the initial test position procedure. SAR test reduction is determined according to the following:

1) When the reported SAR of the highest measured maximum output power channel for the exposure configuration is ≤ 0.8 W/kg, no further SAR testing is required for 802.11b DSSS in that exposure configuration.

2) When the reported SAR is > 0.8 W/kg, SAR is required for that position using the next highest measured output power channel. When any reported SAR is > 1.2 W/kg, SAR is required for the third channel; i.e., all channels require testing. When there are multiple untested channels having the same subsequent highest average RF output power, the channel with higher frequency from the lowest 802.11 mode is considered for SAR measurements.

2.4 GHz 802.11 g/n OFDM are additionally evaluated for SAR if the highest reported SAR for 802.11b, adjusted by the ratio of the OFDM to DSSS specified maximum output power, is > 1.2 W/kg. When SAR is required for OFDM modes in 2.4 GHz band, the Initial Test Configuration Procedures should be followed. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

10.6.4. OFDM Transmission Mode and SAR Test Channel Selection

When the same maximum output power was specified for multiple OFDM transmission mode configurations in a frequency band or aggregated band, SAR is measured using the configuration with the largest channel bandwidth, lowest order modulation and lowest data rate. When the maximum output power of a channel is the same for equivalent OFDM configurations; for example, 802.11a,

802.11n or 802.11g and 802.11n with the same channel bandwidth, modulation and data rate etc., the lower order 802.11 mode i.e., then 802.11n or 802.11g then 802.11n, is used for SAR measurement.

10.6.5. Initial Test Configuration Procedure

For OFDM, an initial test configuration is determined for each frequency band and aggregated band, according to the transmission mode with the highest maximum output power specified for SAR measurements. When the same maximum output power is specified for multiple OFDM transmission mode configurations in a frequency band or aggregated band, SAR is measured using the configuration(s) with the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order IEEE 802.11 mode. The channel of the transmission mode with the highest average RF output conducted power will be the initial test configuration.

When the reported SAR is ≤ 0.8 W/kg, no additional measurements on other test channels are required. Otherwise, SAR is evaluated using the subsequent highest average RF output channel until the reported SAR result is ≤ 1.2 W/kg or all channels are measured. When there are multiple untested channels having the same subsequent highest average RF output power, the channel with higher frequency from the lowest 802.11 mode is considered for SAR measurements. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

10.6.6. Subsequent Test Configuration Procedures

For OFDM configurations in each frequency band and aggregated band, SAR is evaluated for initial test configuration using the fixed test position or the initial test position procedure. When the highest reported SAR (for the initial test configuration), adjusted by the ratio of the specified maximum output power of the subsequent test configuration to initial test configuration, is ≤ 1.2 W/kg, no additional SAR tests for the subsequent test configurations are required. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

11. Equipment List

Manufacturer	Model	Description	Serial Number	Calibration Date	Calibration Due	CBT
Amplifier Research	1554G8AM1	RF Broadband Amplifier (4 - 8 GHz)	554497	-	-	✓
Amplifier Research	5S1G4	RF Broadband Amplifier (800 MHz - 4.2 GHz)	331258	-	-	✓
Rohde & Schwarz	SMCV100B	R&S SMCV100B Vector Signal Generator (VSG)	103882	12/30/25	12/30/27	-
SPEAG	Powersource1	Signal Generator	4341	1/6/26	1/6/27	-
Anritsu	MA24118A	Microwave USB Power Sensor (10MHz - 18 GHz)	2123431	1/22/26	1/22/27	-
Anritsu	MA24118A	Microwave USB Power Sensor (10MHz - 18 GHz)	2123500	1/22/26	1/22/27	-
Rohde & Schwarz	NRP8S	Power Sensor 10 MHz - 8 GHz	114184	3/12/26	3/12/27	-
Rohde & Schwarz	NRP8S	Power Sensor 10 MHz - 8 GHz	114183	3/12/26	3/12/27	-
Rohde & Schwarz	NRP8S	Power Sensor 10 MHz - 8 GHz	114343	4/1/26	4/1/27	-
Anritsu	MT8000A	MT8000A Radio Communication Test Station	6262261936	8/21/25	8/21/27	-
Rohde & Schwarz	CMW500	CMW500 Radio Communication Test Station	1201.0002K50-167186-cf	-	-	-
Rohde & Schwarz	CMW500	CMW500 Radio Communication Test Station	1201.0002K50-165091-bW	-	-	-
Rohde & Schwarz	CMW500	CMW500 Radio Communication Test Station	1201.0002K50-171214-yJ	-	-	-
Anritsu	MT8820C	Radio Communication Test Station	6201342024	-	-	-
Anritsu	MT8820C	Radio Communication Test Station	6201179629	-	-	-
Anritsu	MT8820C	Radio Communication Test Station	6201342019	-	-	-
Anritsu	S820E	Vector Network Analyzer	2348026	1/13/26	1/13/28	-
Control Company	4040	Ambient Thermometer	250440190	7/17/25	7/17/27	-
Control Company	4040	Ambient Thermometer	250440191	7/17/25	7/17/27	-
Control Company	4040	Ambient Thermometer	250440199	7/17/25	7/17/27	-
Control Company	4352	Long Stem Liquid Thermometer	250257657	4/23/25	4/23/27	-
Control Company	4352	Long Stem Liquid Thermometer	250257660	4/23/25	4/23/27	-
Control Company	4352	Long Stem Liquid Thermometer	250257665	4/23/25	4/23/27	-
Micro-Coax	UFB205A-0-0240-30x30	SMA M-F RF test Cable (DC - 18 GHz)	-	-	-	✓
Mini-Circuits	BW-N20W20+	20dB RF Fixed Attenuator (DC - 18 GHz)	-	-	-	✓
Mini-Circuits	BW-N20W20+	20dB RF Fixed Attenuator (DC - 18 GHz)	-	-	-	✓
Mini-Circuits	BW-S3W2+	3dB RF Fixed Attenuator (DC - 18 GHz)	-	-	-	✓
Mini-Circuits	BW-S3W2+	3dB RF Fixed Attenuator (DC - 18 GHz)	-	-	-	✓
Mini-Circuits	CBL-6FT-SMNM+	Precision Test Cable SMA/N (DC - 18 GHz)	3318	-	-	✓
Mini-Circuits	CBL-6FT-SMNM+	Precision Test Cable SMA/N (DC - 18 GHz)	3335	-	-	✓
Mini-Circuits	CBL-6FT-SMNM+	Precision Test Cable SMA/N (DC - 18 GHz)	3329	-	-	✓
Mini-Circuits	NF-SF50+	RF Adapter N Male to SMA Female (DC - 18 GHz)	-	-	-	✓
Mini-Circuits	VLF-8400+	Coaxial Low Pass Filter (DC - 8.4 GHz)	-	-	-	✓
Mini-Circuits	VLF-6000+	Coaxial Low Pass Filter (DC - 6 GHz)	-	-	-	✓
Mini-Circuits	VLF-3000+	Coaxial Low Pass Filter (DC - 3 GHz)	-	-	-	✓
Mini-Circuits	VLF-1000+	Coaxial Low Pass Filter (DC - 1 GHz)	-	-	-	✓
Narda	24785-20	20 dB SMA Fixed Attenuator (DC - 4.0 GHz)	-	-	-	✓
Narda	4226-20 (26733)	20 dB SMA Directional Coupler (0.5 - 18 GHz)	201	-	-	✓
Mitutoyo	CD-4"AX	Digital Caliper	B23243217	8/28/25	8/28/27	-
SPEAG	DAK-12	DAK-12 Dielectric Probe	1194	10/10/25	10/10/26	-
SPEAG	DAK-3.5	DAK-3.5 Dielectric Probe	1349	8/5/25	8/5/26	-
SPEAG	10 GHz System Verification Source	10 GHz System Verification Source	1074	9/15/25	9/15/26	-
SPEAG	EUmmWV4	mmWave Measurement Probe	9690	9/17/25	9/17/26	-
SPEAG	CLA13	13 MHz System Validation Source	1041	10/11/24	10/11/26	-
SPEAG	D750V3	750 MHz System Validation Dipole	1235	10/11/23	10/11/26	-
SPEAG	D835V2	835 MHz System Validation Dipole	4d311	10/9/23	10/9/26	-
SPEAG	D1750V2	1750 MHz System Validation Dipole	1205	10/11/23	10/11/26	-
SPEAG	D1900V2	1900 MHz System Validation Dipole	5d252	10/6/23	10/6/26	-
SPEAG	D2450V2	2450 MHz System Validation Dipole	1112	11/15/24	11/15/26	-
SPEAG	D2600V2	2600 MHz System Validation Dipole	1215	11/15/24	11/15/26	-
SPEAG	D3500V2	3500 MHz System Validation Dipole	1154	10/2/23	10/2/26	-
SPEAG	D3700V2	3700 MHz System Validation Dipole	1130	10/12/23	10/12/26	-
SPEAG	D3900V2	3900 MHz System Validation Dipole	1101	10/2/23	10/2/26	-
SPEAG	D5GHzV2	5GHz System Validation Dipole	1396	11/15/24	11/15/26	-
SPEAG	D6.5GHzV2	6.5GHz System Validation Dipole	1104	11/14/24	11/14/26	-
SPEAG	DAE4ip	Data Acquisition Electronics with Integ. Power	1843	7/30/25	7/30/26	-
SPEAG	DAE4ip	Data Acquisition Electronics with Integ. Power	1862	1/8/26	1/8/27	-
SPEAG	DAE4ip	Data Acquisition Electronics with Integ. Power	1844	11/5/25	11/5/26	-
SPEAG	DAE4ip	Data Acquisition Electronics with Integ. Power	1933	1/7/26	1/7/27	-
SPEAG	DAE4ip	Data Acquisition Electronics with Integ. Power	1839	6/9/26	6/9/27	-
SPEAG	DAE4ip	Data Acquisition Electronics with Integ. Power	1838	12/4/25	12/4/26	-
SPEAG	DAE4ip	Data Acquisition Electronics with Integ. Power	1905	5/8/26	5/8/27	-
SPEAG	EX3DV4	SAR Measurement Probe	7872	8/8/25	8/8/26	-
SPEAG	EX3DV4	SAR Measurement Probe	7971	4/14/26	4/14/27	-
SPEAG	EX3DV4	SAR Measurement Probe	7853	11/7/25	11/7/26	-
SPEAG	EX3DV4	SAR Measurement Probe	7969	1/13/26	1/13/27	-
SPEAG	EX3DV4	SAR Measurement Probe	7836	6/10/26	6/10/27	-
SPEAG	EX3DV4	SAR Measurement Probe	7857	12/9/25	12/9/26	-
SPEAG	SE UMS 171 E	MAIA Modulation and Interference Analyzer	1814	-	-	-
SPEAG	SE UMS 171 E	MAIA Modulation and Interference Analyzer	1817	-	-	-
SPEAG	SE UMS 171 EA	MAIA Modulation and Interference Analyzer	1820	-	-	-
SPEAG	SE UMS 171 EA	MAIA Modulation and Interference Analyzer	1815	-	-	-
SPEAG	SE UMS 171 EA	MAIA Modulation and Interference Analyzer	0	-	-	-
SPEAG	SE UMS 176 C	ANT Wideband Communication Antenna	1579	-	-	-
SPEAG	SE UMS 176 C	ANT Wideband Communication Antenna	1601	-	-	-
SPEAG	SE UMS 176 C	ANT Wideband Communication Antenna	1610	-	-	-
SPEAG	SE UMS 176 C	ANT Wideband Communication Antenna	1590	-	-	-

✓Note: Components calibrated before testing. Prior to testing, the measurement paths containing a cable, attenuator, coupler or filter were connected to a calibrated source (i.e. a signal generator, power sensor, or VNA) to determine the losses of the measurement path. The power meter offset was then adjusted to compensate for the measurement system losses. This level offset is stored within the power meter before measurements are made. This calibration verification procedure applies to the system verification and output power measurements. The calibrated reading is then taken directly from the power meter after compensation of the losses for all final power measurements.

12. Conclusion

The SAR evaluation indicates that the DUT is capable of compliance with the RF radiation exposure limits of the FCC, with respect to all parameters subject to this test. These measurements were taken to simulate the RF effects of RF exposure under worst-case conditions. Precise laboratory measures were taken to assure repeatability of the tests. The results and statements relate only to the item(s) tested.