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WPT RF EXPOSURE EVALUATION TEST REPORT

Applicant Name:
Samsung Electronics Co., Ltd.
129, Samsung-ro,
Yeongtong-gu, Suwon-si
Gyeonggi-do, 16677, Korea

Date of Testing:
3/27/2025 - 4/27/2025
Test Site/Location:
Element Washington DC LLC,
Columbia, MD, USA
Test Report Serial No.:
1M2502270019-21.A3L
Date of Issue:
5/7/2025

FCC ID: **A3LSMF966B**

APPLICANT: **SAMSUNG ELECTRONICS CO., LTD.**

Apparatus/Device:	Portable Handset
Application Type:	Certification
Model:	SM-F966B
Additional Model:	SM-F966B/DS
Device Serial No.:	Pre-production Sample [SN:0320M]
FCC Specification(s):	FCC 47 CFR Part 2.1093 KDB 680106 D01 v03r01

	Thermal Basic Restriction Peak Spatial SAR (W/kg)
WPT	<0.01
FCC Limit	1.6
Tested Distance	0mm
VERDICT	**Pass**

The device bearing the identifier specified above has been shown to comply with the applicable technical standards as indicated in the measurement report and has been tested in accordance with the measurement procedures specified in FCC 47 CFR Part 2.1093 and KDB 680106 D01 v03r01. These measurements were performed with no deviation from the standards. Test results reported herein relate only to the item(s) tested.

I authorize and attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

RJ Ortanez
Executive Vice President

ACCREDITED
CERT #2041.01

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1 DATA REFERENCING

1.1 Data Referencing

Reference Device		Variant Device	Key differences
FCC ID: A3LSMF966U		FCC ID: A3LSMF966B	See change documentation
Equipment Class	Mode	Data Referencing	Comments
DCD	WPT	Y	See Data Summary Section for reference and spot-check data

Per manufacturer declaration, there are two portable handset devices FCC ID: A3LSMF966U and FCC ID: A3LSMF966B, with high degree of similarity, reference model FCC ID: A3LSMF966U and variant model FCC ID: A3LSMF966B. Both models share the same material, form factor, circuit design, and components, including antennas and their locations. The reference and variant models use the same material, form factor, circuit design, and components, including antennas and their locations.

The reference model FCC ID: A3LSMF966U was fully tested and worst-case spot-check testing was performed on the variant model FCC ID: A3LSMF966B. The reference and variant model test data is included in Section 7.

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2 DEVICE UNDER TEST

2.1 Device Overview

Table 2-1
WPT Specifications

Item	Description
Mode(s) Evaluated	Ping Signal (Standby) Device to Device – Inline Device to Device – Offset Device to Earbuds Device to Watch
Operating Frequency	110-145kHz
Maximum Tx Power	9W
Modulation/Protocol	FSK/ASK
Maximum Duty Cycle	100%
# of Coil Turns	11
Tx Coil Diameter	12.5mm (Inner) / 42mm (Outer)

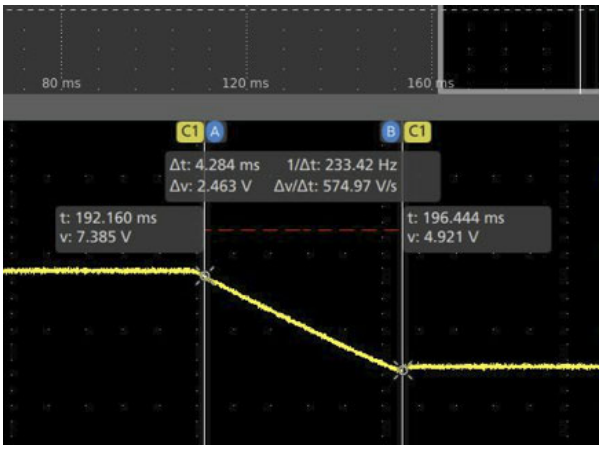

Figure 2-1 WPT Load Removal Power Down

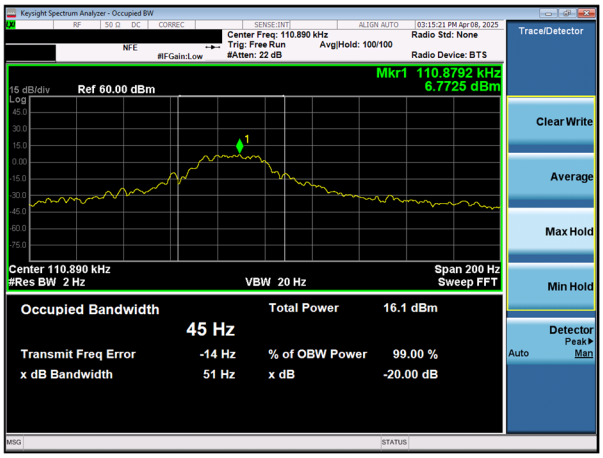

Figure 2-2 WPT Occupied Bandwidth

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3 MEASUREMENT SYSTEM

3.1 DASY6/8 Module WPT V2.6+

System	DASY6/8 Module WPT is composed of the isotropic probe MAGPy-8H3D+E3D Version 2, the reference probe (MAGPy-RAφ), and the data acquisition system (MAGPy-DAS) mounted to the DASY6/8 robot via the emergency stop (MAGPy-ES). It measures the incident electric (E-) and magnetic (H-) fields in a volume from the surface of the device under test (DUT) using advanced field reconstructions to obtain a high-resolution (mm range) field distribution. The induced E-field distributions and specific absorption rate (SAR) are assessed with Sim4Life's Quasi-Static EM Solver (P-EM-QS) using only the measured data. At each probe location, eight sets of isotropic H-field values and one set of isotropic E-field values are acquired in parallel. The dedicated graphical user interface (GUI) fully automates the testing workflow.
Applications	Laboratory evaluation of WPT systems and any other local electromagnetic source not requiring magnetic (H-) field volume scans exceeding 2000 mm × 1000 mm × 1500 mm: • Assessment of high-resolution H-field distribution (3 kHz – 10 MHz) • Assessment of high-resolution E-field distribution (3 kHz – 10 MHz) • Determination of the induced field and SAR distribution in the standard phantom (3 kHz – 4 MHz) • Demonstration of compliance (3 kHz – 4 MHz) with international standards and national regulations, e.g., IEC PAS 63184, FCC KDB 680106 D01, ISED Canada SPR-002
Basic Components	The basic components of DASY6/8 Module WPT are: • Platform and DASY6/8 TX-90XL or TX2-90XL Robot • DASY6/8 Measurement Server • EOC8 • Light-Beam Unit • Quick Adapter Change System (QACSV1) • DASY6/8 PC
MAGPy-DAS	The MAGPy-DAS includes: • 27 14-bit ADC channels with 25 MSPs • Peak detection stage • Hardware supervising unit • Data transfer to the backend • 22 tap FIR filter
MAGPy-8H3D+E3D V2	The MAGPy-8H3D+E3D probe consists of eight isotropic H-field sensors and one isotropic E-field sensor: Probe design: • Probe length: 335 mm • Probe tip diameter: 60 mm • 8H3D: eight isotropic 1 cm^2-H-field sensors, arranged at the corners of a 22 mm cube • First H-field sensor plane: 7.5 mm from the probe tip • E3D: one isotropic E-field sensor (dipole/monopole) Sensor specifications: • Frequency range: 3 kHz – 10 MHz • H-field dynamic range: 0.1 A/m – 3200 A/m (0.12 µT – 4 mT) • H-field extrapolation uncertainty: 0.6 dB (k = 2) • E-field dynamic range: 0.08 V/m – 2000 V/m

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MAGPy-RAφV2	Specifications of the MAGPy-RAφ reference amplitude and phase probe: • Frequency range: 3 kHz – 10 MHz • Dynamic range: 0.1 A/m – 3200 A/m (0.12 µT – 4 mT) • Loop coil area: 18.9 cm^2 • Sensor size: 51 mm × 51 mm × 0.2 mm
Software	Software components: • DASY6/8 Module WPT application programming interface (API) • WPT backend • Jupyter Notebook GUI • Sim4Life plugin (vector potential reconstruction, P-EM-QS solver)

Figure 3-1
DASY 6/8 Module WPT V2.6+ Test System

Figure 3-2
MAGPy-8H3D+E3 V2 Measurement Probe

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4 MEASUREMENT PROCEDURE

4.1 Measurement Procedure

Direct measurement (per FCC 47 CFR Part 2.1093 and KDB 680106 D01 v03r01) against the basic restrictions was employed for this report.

4.2 Measurement Distance

The measurement distance (spacing) is the manufacturer's declared separation distance obtained via information in the user manual. This shall be measured as the distance from the edge of the device to the edge of the measurement probe. Since it is possible for a user to touch the device while wirelessly charging, all testing was done at 0mm as a conservative approach.

4.3 Load Device Information

Table 4-1
WPT Load Devices

DUT Operating Mode	RX Device	S/N
Ping Signal (Standby)	N/A	N/A
Device to Device	SM-F966U	0510M
Device to Earbuds	SM-R530	6728A
Device to Watch	SM-R860	NJQ3A

An FTM test mode was activated for all testing to ensure DUT transmits WPT signal at max power regardless of battery level / positioning.

4.4 Measurement Personnel

All measurements in this report were performed by the following personnel:

Test Engineer: Justin DeVos

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5 RF EXPOSURE LIMITS

5.1 Limits for Maximum Permissible Exposure

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(i) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*(100)	≤6
3.0-30	1842/f	4.89/f	*(900/f^2)	<6
30-300	61.4	0.163	1.0	<6
300-1,500			f/300	<6
1,500-100,000			5	<6
(ii) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	<30
1.34-30	824/f	2.19/f	*(180/f^2)	<30
30-300	27.5	0.073	0.2	<30
300-1,500			f/1500	<30
1,500-100,000			1.0	<30

*f = frequency in MHz. * = Plane-wave equivalent power density.*

(1) Occupational/controlled exposure limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. The phrase fully aware in the context of applying these exposure limits means that an exposed person has received written and/or verbal information fully explaining the potential for RF exposure resulting from his or her employment. With the exception of transient persons, this phrase also means that an exposed person has received appropriate training regarding work practices relating to controlling or mitigating his or her exposure. In situations when an untrained person is transient through a location where occupational/controlled limits apply, he or she must be made aware of the potential for exposure and be supervised by trained personnel pursuant to § 1.1307(b)(2) of this part where use of time averaging is required to ensure compliance with the general population exposure limit. The phrase exercise control means that an exposed person is allowed and also knows how to reduce or avoid exposure by administrative or engineering work practices, such as use of personal protective equipment or time averaging of exposure.
(2) General population/uncontrolled exposure limits apply in situations in which the general public may be exposed, or in which persons who are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure. For example, RF sources intended for consumer use shall be subject to the limits for general population/uncontrolled exposure in this section.

5.2 Limits for Peak Spatial SAR

The SAR limits for general population/uncontrolled exposure are 0.08 W/kg, as averaged over the whole body, and a peak spatial-average SAR of 1.6 W/kg, averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube). Exceptions are the parts of the human body treated as extremities, such as hands, wrists, feet, ankles, and pinnae, where the peak spatial-average SAR limit is 4 W/kg, averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube). Exposure may be averaged over a time period not to exceed 30 minutes to determine compliance with general population/uncontrolled SAR limits.

**An evaluation again the limits for peak spatial SAR shall be performed when the DUT exceeds the limits for maximum permissible exposure.

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6 SYSTEM CHECK

Prior to testing, a system check was performed to verify that the test system operates as expected and measures RF exposure accurately. A known E-field/H-field source was used to verify readings of the measurement probe to ± 1.24dB of the known fields. A virtual half-space phantom with tissue properties ε_r = 55, σ = 0.75S/m, ρ = 1000kg/m^3.

6.1 System Check

Table 6-1
System Check – 4/7/2025

Test Date	Frequency	Distance	Value	Incident H-Field (A/m)	Induced Peak Current Density (A/m^2, RMS)	Induced Peak E-field (V/m)			Peak Spacial SAR (mW/kg)	
						Cube Avg.	Local	Line Avg.	1g Avg.	10g Avg.
4/7/2025	85kHz	0	Measurement	**238**	**2.16**	**3.09**	**3.14**	**3.13**	**5.57**	**4.36**
			Deviation (dB)	*0.88*	*-0.95*	*-0.91*	*-0.87*	*-0.92*	*-0.83*	*-0.58*
		2	Measurement	**205**	**2.09**	**2.93**	**2.97**	**2.97**	**5.28**	**4.09**
			Deviation (dB)	*0.39*	*-0.68*	*-0.82*	*-0.78*	*-0.81*	*-0.56*	*-0.41*
4/7/2025	400kHz	0	Measurement	**266**	**2.69**	**4.26**	**4.37**	**4.38**	**7.1**	**3.51**
			Deviation (dB)	*-0.16*	*-0.06*	*-0.02*	*-0.04*	*0.00*	*-0.11*	*-0.13*
		2	Measurement	**234**	**2.28**	**3.67**	**3.77**	**3.78**	**5.16**	**2.59**
			Deviation (dB)	*-0.15*	*-0.15*	*-0.07*	*-0.11*	*-0.07*	*-0.15*	*-0.16*

* A virtual half-space phantom with tissue properties ε_r = 55, σ = 0.75S/m, ρ = 1000kg/m^3 was used to calculate the results in Table 5-1 and Table 5-2.

Table 6-2
Equipment List

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
SPEAG	V-COIL350/85	85kHz MAGPy System Validation Source	8/26/2024	Annual	8/26/2025	1031
SPEAG	V-COIL50/400	400kHz MAGPy System Validation Source	8/28/2024	Annual	8/28/2025	1030
SPEAG	MAGPy-H3D / MAGPy-DAS	Magnetic Amplitude and Gradient Probe and Data Acquisition System	8/13/2024	Annual	8/13/2025	3116

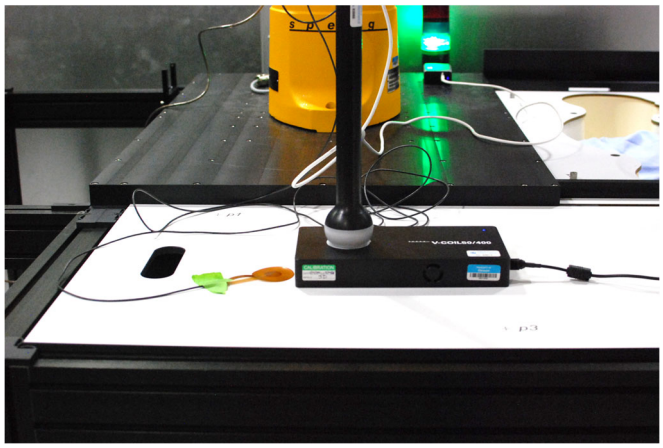

Figure 5-1
System Check Setup Photo

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7 DATA SUMMARY

7.1 A3LSMF966U Reference Data

Frequency (kHz)	Distance (mm)	Incident H-field (A/m)						Limit (A/m)
		EUT Sides						
		Top	Bottom	Left	Right	Front	Back	
145	0	1.430	3.860	8.280	6.560	2.360	384.000	1.63
145	2	1.280	3.470	7.330	5.820	2.110	334.000	1.63

Table 7-1. Standby (Ping) Incident H-Field – Folder Closed

Frequency (kHz)	Distance (mm)	Incident E-field (V/m)						Limit (V/m)
		EUT Sides						
		Top	Bottom	Left	Right	Front	Back	
145	0	3.740	5.230	7.470	14.800	12.700	29.700	614
145	2	3.450	4.710	6.790	13.200	11.700	28.100	614

Table 7-2. Standby (Ping) Incident E-Field – Folder Closed

Frequency (kHz)	Distance (mm)	SAR (mW/kg)						Limit (W/kg)
		EUT Sides						
		Top	Bottom	Left	Right	Front	Back	
145	0	0.000073	0.000542	0.003430	0.002350	0.000297	0.886000	1.6
145	2	0.000061	0.000459	0.002640	0.001830	0.000253	0.605000	1.6

Table 7-3. Standby (Ping) SAR – Folder Closed

Frequency (kHz)	Distance (mm)	Incident H-field (A/m)						Limit (A/m)
		EUT Sides						
		Top	Bottom	Left	Right	Front	Back	
145	0	1.270	3.950	0.262	6.650	1.970	367.000	1.63
145	2	1.140	3.530	0.231	5.660	1.740	317.000	1.63

Table 7-4. Standby (Ping) Incident H-Field – Folder Open

Frequency (kHz)	Distance (mm)	Incident E-field (V/m)						Limit (V/m)
		EUT Sides						
		Top	Bottom	Left	Right	Front	Back	
145	0	2.690	2.650	3.680	10.100	7.990	34.000	614
145	2	2.460	2.450	3.400	9.400	7.190	31.800	614

Table 7-5. Standby (Ping) Incident E-Field – Folder Open

Frequency (kHz)	Distance (mm)	SAR (mW/kg)						Limit (W/kg)
		EUT Sides						
		Top	Bottom	Left	Right	Front	Back	
145	0	0.000065	0.000571	0.000007	0.001770	0.000271	0.674000	1.6
145	2	0.000057	0.000495	0.000006	0.001430	0.000246	0.523000	1.6

Table 7-6. Standby (Ping) SAR – Folder Open

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Frequency (kHz)	Distance (mm)	Incident H-field (A/m)						Limit (A/m)
		EUT Sides						
		Top	Bottom	Left	Right	Front	Back	
112	0	0.546	0.959	4.800	5.270	1.400	1.430	1.63
112	2	0.484	0.847	4.170	4.560	1.250	1.270	1.63

Table 7-7. Device to Device Inline Incident H-Field – Folder Closed

Frequency (kHz)	Distance (mm)	Incident E-field (V/m)						Limit (V/m)
		EUT Sides						
		Top	Bottom	Left	Right	Front	Back	
112	0	9.690	19.200	9.450	11.200	27.500	31.000	614
112	2	8.900	17.400	8.900	10.500	25.200	28.100	614

Table 7-8. Device to Device Inline Incident E-Field – Folder Closed

Frequency (kHz)	Distance (mm)	SAR (mW/kg)						Limit (W/kg)
		EUT Sides						
		Top	Bottom	Left	Right	Front	Back	
112	0	0.000009	0.000022	0.000153	0.000261	0.000072	0.000069	1.6
112	2	0.000007	0.000018	0.000121	0.000206	0.000062	0.000060	1.6

Table 7-9. Device to Device Inline SAR – Folder Closed

Frequency (kHz)	Distance (mm)	Incident H-field (A/m)						Limit (A/m)
		EUT Sides						
		Top	Bottom	Left	Right	Front	Back	
112	0	0.449	0.392	0.238	4.080	1.820	2.920	1.63
112	2	0.385	0.343	0.189	3.610	1.610	2.590	1.63

Table 7-10. Device to Device Inline Incident H-Field – Folder Open

Frequency (kHz)	Distance (mm)	Incident E-field (V/m)						Limit (V/m)
		EUT Sides						
		Top	Bottom	Left	Right	Front	Back	
112	0	11.200	49.400	9.860	10.700	19.400	113.000	614
112	2	10.300	44.500	9.070	10.100	17.800	102.000	614

Table 7-11. Device to Device Inline Incident E-Field – Folder Open

Frequency (kHz)	Distance (mm)	SAR (mW/kg)						Limit (W/kg)
		EUT Sides						
		Top	Bottom	Left	Right	Front	Back	
112	0	0.000006	0.000005	0.000003	0.000161	0.000086	0.000317	1.6
112	2	0.000005	0.000004	0.000003	0.000126	0.000075	0.000281	1.6

Table 7-12. Device to Device Inline SAR – Folder Open

Frequency (kHz)	Distance (mm)	Incident H-field (A/m)						Limit (A/m)
		EUT Sides						
		Top	Bottom	Left	Right	Front	Back	
112	0	1.010	1.090	0.360	1.040	7.160	2.360	1.63
112	2	0.906	0.971	0.322	0.944	6.330	2.060	1.63

Table 7-13. Device to Device Offset Incident H-Field – Folder Closed

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Frequency (kHz)	Distance (mm)	Incident E-field (V/m)						Limit (V/m)
		EUT Sides						
		Top	Bottom	Left	Right	Front	Back	
112	0	36.100	38.500	13.400	9.860	32.000	62.900	614
112	2	32.500	34.600	12.500	9.250	29.300	56.700	614

Table 7-14. Device to Device Offset Incident E-Field – Folder Closed

Frequency (kHz)	Distance (mm)	SAR (mW/kg)						Limit (W/kg)
		EUT Sides						
		Top	Bottom	Left	Right	Front	Back	
112	0	0.000036	0.000030	0.000007	0.000054	0.000515	0.000102	1.6
112	2	0.000031	0.000025	0.000007	0.000046	0.000423	0.000085	1.6

Table 7-15. Device to Device Offset SAR – Folder Closed

Frequency (kHz)	Distance (mm)	Incident H-field (A/m)						Limit (A/m)
		EUT Sides						
		Top	Bottom	Left	Right	Front	Back	
112	0	0.609	1.660	0.443	0.315	9.280	9.270	1.63
112	2	0.545	1.470	0.380	0.280	8.170	8.110	1.63

Table 7-16. Device to Device Offset Incident H-Field – Folder Open

Frequency (kHz)	Distance (mm)	Incident E-field (V/m)						Limit (V/m)
		EUT Sides						
		Top	Bottom	Left	Right	Front	Back	
112	0	12.200	5.370	8.170	7.020	25.500	52.900	614
112	2	11.100	5.110	7.490	6.520	23.000	47.600	614

Table 7-17. Device to Device Offset Incident E-Field – Folder Open

Frequency (kHz)	Distance (mm)	SAR (mW/kg)						Limit (W/kg)
		EUT Sides						
		Top	Bottom	Left	Right	Front	Back	
112	0	0.000014	0.000091	0.000007	0.000008	0.000855	0.001000	1.6
112	2	0.000013	0.000076	0.000006	0.000007	0.000702	0.000870	1.6

Table 7-18. Device to Device Offset SAR – Folder Open

Frequency (kHz)	Distance (mm)	Incident H-field (A/m)						Limit (A/m)
		EUT Sides						
		Top	Bottom	Left	Right	Front	Back	
112	0	1.420	5.500	16.200	5.940	4.750	36.500	1.63
112	2	1.310	4.940	14.200	5.260	4.100	30.300	1.63

Table 7-19. Device to Earbuds Incident H-Field – Folder Closed

Frequency (kHz)	Distance (mm)	Incident E-field (V/m)						Limit (V/m)
		EUT Sides						
		Top	Bottom	Left	Right	Front	Back	
112	0	22.100	12.900	72.200	15.400	93.200	141.000	614
112	2	20.200	11.900	64.900	14.700	84.900	132.000	614

Table 7-20. Device to Earbuds Incident E-Field – Folder Closed

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Frequency (kHz)	Distance (mm)	SAR (mW/kg)						Limit (W/kg)
		EUT Sides						
		Top	Bottom	Left	Right	Front	Back	
112	0	0.000201	0.000636	0.010100	0.002140	0.001910	0.019300	1.6
112	2	0.000187	0.000537	0.008120	0.001740	0.001660	0.015200	1.6

Table 7-21. Device to Earbuds SAR – Folder Closed

Frequency (kHz)	Distance (mm)	Incident H-field (A/m)						Limit (A/m)
		EUT Sides						
		Top	Bottom	Left	Right	Front	Back	
112	0	3.650	10.600	0.620	10.600	6.890	30.600	1.63
112	2	3.310	9.520	0.552	9.380	5.960	27.300	1.63

Table 7-22. Device to Earbuds Incident H-Field – Folder Open

Frequency (kHz)	Distance (mm)	Incident E-field (V/m)						Limit (V/m)
		EUT Sides						
		Top	Bottom	Left	Right	Front	Back	
112	0	18.000	9.430	15.700	11.700	34.800	123.000	614
112	2	16.600	8.710	14.500	11.200	32.000	115.000	614

Table 7-23. Device to Earbuds Incident E-Field – Folder Open

Frequency (kHz)	Distance (mm)	SAR (mW/kg)						Limit (W/kg)
		EUT Sides						
		Top	Bottom	Left	Right	Front	Back	
112	0	0.000976	0.002920	0.000048	0.005170	0.002920	0.022700	1.6
112	2	0.000854	0.002440	0.000044	0.004180	0.002620	0.018100	1.6

Table 7-24. Device to Earbuds SAR – Folder Open

Frequency (kHz)	Distance (mm)	Incident H-field (A/m)						Limit (A/m)
		EUT Sides						
		Top	Bottom	Left	Right	Front	Back	
112	0	0.473	2.130	9.080	3.880	3.290	64.700	1.63
112	2	0.415	1.890	7.970	3.420	2.880	56.100	1.63

Table 7-25. Device to Watch Incident H-Field – Folder Closed

Frequency (kHz)	Distance (mm)	Incident E-field (V/m)						Limit (V/m)
		EUT Sides						
		Top	Bottom	Left	Right	Front	Back	
112	0	35.500	27.700	26.700	27.800	25.700	217.000	614
112	2	32.400	25.400	24.400	25.500	23.800	199.000	614

Table 7-26. Device to Watch Incident E-Field – Folder Closed

Frequency (kHz)	Distance (mm)	SAR (mW/kg)						Limit (W/kg)
		EUT Sides						
		Top	Bottom	Left	Right	Front	Back	
112	0	0.000005	0.000079	0.000688	0.000390	0.000237	0.027500	1.6
112	2	0.000004	0.000064	0.000526	0.000302	0.000199	0.019800	1.6

Table 7-27. Device to Watch SAR – Folder Closed

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Frequency (kHz)	Distance (mm)	Incident H-field (A/m)						Limit (A/m)
		EUT Sides						
		Top	Bottom	Left	Right	Front	Back	
112	0	4.910	1.380	0.884	9.650	17.800	56.600	1.63
112	2	4.480	1.220	0.782	8.140	15.800	48.700	1.63

Table 7-28. Device to Watch Incident H-Field – Folder Open

Frequency (kHz)	Distance (mm)	Incident E-field (V/m)						Limit (V/m)
		EUT Sides						
		Top	Bottom	Left	Right	Front	Back	
112	0	5.250	25.300	28.400	26.500	107.000	295.000	614
112	2	4.810	23.500	26.000	25.100	105.000	270.000	614

Table 7-29. Device to Watch Incident E-Field – Folder Open

Frequency (kHz)	Distance (mm)	SAR (mW/kg)						Limit (W/kg)
		EUT Sides						
		Top	Bottom	Left	Right	Front	Back	
112	0	0.001190	0.000040	0.000064	0.001280	0.005100	0.059000	1.6
112	2	0.001060	0.000036	0.000062	0.001030	0.004430	0.043900	1.6

Table 7-30. Device to Watch SAR – Folder Open

7.2 A3LSMF966B Spot-Check Data

Frequency (kHz)	Distance (mm)	Incident H-Field (A/m)	Incident E-Field (V/m)	SAR (mW/kg)
145	0	386.0	30.3	0.832
145	2	333.0	28.5	0.570

Table 7-31. A3LSMF966B Worst Case Spot-Check Data

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8 INFORMATIVE MEASUREMENT UNCERTAINTY

8.1 Uncertainty Budge of Peak Incident H-Field

DASY6 Uncertainty Budget for Peak Incident H-field
according to IEC/IEEE 63184

Item	Error Description	Unc. Value (±dB)	Probab. Distr.	Div.	(c_i)	Std. Unc. (±dB)
Measurement system						
1	Amplitude calibration uncertainty	0.35	N	1	1	0.35
2	Probe anisotropy	0.6	R	$\sqrt{3}$	1	0.35
3	Probe dynamic linearity	0.2	R	$\sqrt{3}$	1	0.12
4	Probe frequency domain response	0.3	R	$\sqrt{3}$	1	0.17
5	Probe frequency linear interp. fit	0.15	R	$\sqrt{3}$	1	0.09
6	Spatial averaging	0.1	R	$\sqrt{3}$	1	0.06
7	Parasitic E-field sensitivity	0.1	R	$\sqrt{3}$	1	0.06
8	Detection limit	0.15	R	$\sqrt{3}$	1	0.09
9	Readout electronics	0	N	1	1	0
10	Probe positioning	0.19	N	1	1	0.19
11	Repeatability	0.1	N	1	1	0.10
12	Surface field reconstruction	0.3	N	1	1	0.3
Combined uncertainty ($k = 1$)						0.67
Expanded uncertainty ($k = 2$)						**1.33 (16.6%)**

8.2 Uncertainty Budge of Peak Incident E-Field

DASY6 Uncertainty Budget for Incident E-field
according to IEC/IEEE 63184

Item	Error Description	Unc. Value (±dB)	Probab. Distr.	Div.	(c_i)	Std. Unc. (±dB)
Measurement system						
1	Amplitude calibration uncertainty	0.53	N	1	1	0.53
2	Probe anisotropy	0.8	R	$\sqrt{3}$	1	0.46
3	Probe dynamic linearity	1	R	$\sqrt{3}$	1	0.58
4	Probe frequency domain response	0.3	R	$\sqrt{3}$	1	0.17
5	Probe frequency linear interp. fit	0.15	R	$\sqrt{3}$	1	0.09
6	Parasitic H-field sensitivity	0.2	R	$\sqrt{3}$	1	0.12
7	Detection limit	0.15	R	$\sqrt{3}$	1	0.09
8	Readout electronics	0	N	1	1	0
9	Repeatability	0.1	N	1	1	0.10
Combined uncertainty ($k = 1$)						0.95
Expanded uncertainty ($k = 2$)						**1.89 (24.4%)**

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8.3 Uncertainty Budget of Cube Average E_{ind}

DASY6 Uncertainty Budget for Peak 2×2×2 mm³ Cube-Average E_{ind} according to IEC/IEEE 63184						
Item	Error Description	Unc. Value (±dB)	Probab. Distr.	Div.	(c_i)	Std. Unc. (±dB)
Measurement system						
1	Amplitude calibration uncertainty	0.35	N	1	1	0.35
2	Probe anisotropy	0.6	R	$\sqrt{3}$	1	0.35
3	Probe dynamic linearity	0.2	R	$\sqrt{3}$	1	0.12
4	Probe frequency domain response	0.3	R	$\sqrt{3}$	1	0.17
5	Probe frequency linear interp. fit	0.15	R	$\sqrt{3}$	1	0.09
6	Spatial averaging	0.1	R	$\sqrt{3}$	1	0.06
7	Parasitic E-field sensitivity	0.1	R	$\sqrt{3}$	1	0.06
8	Detection limit	0.15	R	$\sqrt{3}$	1	0.09
9	Readout electronics	0	N	1	1	0
10	Probe positioning	0.19	N	1	1	0.19
11	Repeatability	0.1	N	1	1	0.1
12	Surface field reconstruction	0.3	N	1	1	0.3
Numerical simulations						
13	Grid resolution	0.18	R	$\sqrt{3}$	1	0.10
14	Tissue parameters	0	R	$\sqrt{3}$	1	0
15	Exposure position	0	R	$\sqrt{3}$	1	0
16	Source representation	0.24	N	1	1	0.24
17	Convergence and power budget	0	R	$\sqrt{3}$	1	0
18	Boundary conditions	0.1	R	$\sqrt{3}$	1	0.06
19	Phantom loading/backscattering	0.1	R	$\sqrt{3}$	1	0.06
Combined uncertainty ($k = 1$)						0.72
Expanded uncertainty ($k = 2$)						**1.44 (18.0%)**

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8.4 Uncertainty Budge of Line Average E_{ind}

DASY6 Uncertainty Budget for Peak 5 mm Line-Average E_{ind} according to IEC/IEEE 63184						
Item	Error Description	Unc. Value (±dB)	Probab. Distr.	Div.	(c_i)	Std. Unc. (±dB)
Measurement system						
1	Amplitude calibration uncertainty	0.35	N	1	1	0.35
2	Probe anisotropy	0.6	R	$\sqrt{3}$	1	0.35
3	Probe dynamic linearity	0.2	R	$\sqrt{3}$	1	0.12
4	Probe frequency domain response	0.3	R	$\sqrt{3}$	1	0.17
5	Probe frequency linear interp. fit	0.15	R	$\sqrt{3}$	1	0.09
6	Spatial averaging	0.1	R	$\sqrt{3}$	1	0.06
7	Parasitic E-field sensitivity	0.1	R	$\sqrt{3}$	1	0.06
8	Detection limit	0.15	R	$\sqrt{3}$	1	0.09
9	Readout electronics	0	N	1	1	0
10	Probe positioning	0.19	N	1	1	0.19
11	Repeatability	0.1	N	1	1	0.1
12	Surface field reconstruction	0.3	N	1	1	0.3
Numerical simulations						
13	Grid resolution	0.25	R	$\sqrt{3}$	1	0.14
14	Tissue parameters	0	R	$\sqrt{3}$	1	0
15	Exposure position	0	R	$\sqrt{3}$	1	0
16	Source representation	0.27	N	1	1	0.27
17	Convergence and power budget	0	R	$\sqrt{3}$	1	0
18	Boundary conditions	0.1	R	$\sqrt{3}$	1	0.06
19	Phantom loading/backscattering	0.1	R	$\sqrt{3}$	1	0.06
Combined uncertainty ($k = 1$)						0.74
Expanded uncertainty ($k = 2$)						**1.48 (18.5%)**

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8.5 Uncertainty Budge of Local E_{ind}

DASY6 Uncertainty Budget for Peak Local E_{ind}
according to IEC/IEEE 63184

Item	Error Description	Unc. Value (±dB)	Probab. Distr.	Div.	(c_i)	Std. Unc. (±dB)
Measurement system						
1	Amplitude calibration uncertainty	0.35	N	1	1	0.35
2	Probe anisotropy	0.6	R	$\sqrt{3}$	1	0.35
3	Probe dynamic linearity	0.2	R	$\sqrt{3}$	1	0.12
4	Probe frequency domain response	0.3	R	$\sqrt{3}$	1	0.17
5	Probe frequency linear interp. fit	0.15	R	$\sqrt{3}$	1	0.09
6	Spatial averaging	0.1	R	$\sqrt{3}$	1	0.06
7	Parasitic E-field sensitivity	0.1	R	$\sqrt{3}$	1	0.06
8	Detection limit	0.15	R	$\sqrt{3}$	1	0.09
9	Readout electronics	0	N	1	1	0
10	Probe positioning	0.19	N	1	1	0.19
11	Repeatability	0.1	N	1	1	0.1
12	Surface field reconstruction	0.3	N	1	1	0.3
Numerical simulations						
13	Grid resolution	0.09	R	$\sqrt{3}$	1	0.05
14	Tissue parameters	0	R	$\sqrt{3}$	1	0
15	Exposure position	0	R	$\sqrt{3}$	1	0
16	Source representation	0.27	N	1	1	0.27
17	Convergence and power budget	0	R	$\sqrt{3}$	1	0
18	Boundary conditions	0.1	R	$\sqrt{3}$	1	0.06
19	Phantom loading/backscattering	0.1	R	$\sqrt{3}$	1	0.06
Combined uncertainty ($k = 1$)						0.73
Expanded uncertainty ($k = 2$)						**1.45 (18.2%)**

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8.6 Uncertainty Budge of Peak 1 cm^2 Area Average J_{ind}

DASY6 Uncertainty Budget for Peak 1 cm^2 Area-Average J_{ind}
according to IEC/IEEE 63184

Item	Error Description	Unc. Value (±dB)	Probab. Distr.	Div.	(c_i)	Std. Unc. (±dB)
Measurement system						
1	Amplitude calibration uncertainty	0.35	N	1	1	0.35
2	Probe anisotropy	0.6	R	$\sqrt{3}$	1	0.35
3	Probe dynamic linearity	0.2	R	$\sqrt{3}$	1	0.12
4	Probe frequency domain response	0.3	R	$\sqrt{3}$	1	0.17
5	Probe frequency linear interp. fit	0.15	R	$\sqrt{3}$	1	0.09
6	Spatial averaging	0.1	R	$\sqrt{3}$	1	0.06
7	Parasitic E-field sensitivity	0.1	R	$\sqrt{3}$	1	0.06
8	Detection limit	0.15	R	$\sqrt{3}$	1	0.09
9	Readout electronics	0	N	1	1	0
10	Probe positioning	0.19	N	1	1	0.19
11	Repeatability	0.1	N	1	1	0.1
12	Surface field reconstruction	0.3	N	1	1	0.3
Numerical simulations						
13	Grid resolution	0.12	R	$\sqrt{3}$	1	0.07
14	Tissue parameters	0	R	$\sqrt{3}$	1	0
15	Exposure position	0	R	$\sqrt{3}$	1	0
16	Source representation	0.1	N	1	1	0.1
17	Convergence and power budget	0	R	$\sqrt{3}$	1	0
18	Boundary conditions	0.1	R	$\sqrt{3}$	1	0.06
19	Phantom loading/backscattering	0.1	R	$\sqrt{3}$	1	0.06
Combined uncertainty ($k = 1$)						0.68
Expanded uncertainty ($k = 2$)						**1.36 (17.0%)**

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8.7 Uncertainty Budge of psSAR 1g

DASY6 Uncertainty Budget for psSAR1 g according to IEC/IEEE 63184						
Item	Error Description	Unc. Value (±dB)	Probab. Distr.	Div.	(c_i)	Std. Unc. (±dB)
Measurement system						
1	Amplitude calibration uncertainty	0.35	N	1	1	0.35
2	Probe anisotropy	0.6	R	$\sqrt{3}$	1	0.35
3	Probe dynamic linearity	0.2	R	$\sqrt{3}$	1	0.12
4	Probe frequency domain response	0.3	R	$\sqrt{3}$	1	0.17
5	Probe frequency linear interp. fit	0.15	R	$\sqrt{3}$	1	0.09
6	Spatial averaging	0.1	R	$\sqrt{3}$	1	0.06
7	Parasitic E-field sensitivity	0.1	R	$\sqrt{3}$	1	0.06
8	Detection limit	0.15	R	$\sqrt{3}$	1	0.09
9	Readout electronics	0	N	1	1	0
10	Probe positioning	0.19	N	1	1	0.19
11	Repeatability	0.1	N	1	1	0.1
12	Surface field reconstruction	0.2	N	1	1	0.2
Numerical simulations						
13	Grid resolution	0.02	R	$\sqrt{3}$	1	0.01
14	Tissue parameters	0	R	$\sqrt{3}$	1	0
15	Exposure position	0	R	$\sqrt{3}$	1	0
16	Source representation	0.09	N	1	1	0.09
17	Convergence and power budget	0	R	$\sqrt{3}$	1	0
18	Boundary conditions	0.1	R	$\sqrt{3}$	1	0.06
19	Phantom loading/backscattering	0.1	R	$\sqrt{3}$	1	0.06
Combined uncertainty ($k = 1$)						0.63
Expanded uncertainty ($k = 2$)						**1.27 (33.9%)**

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8.8 Uncertainty Budge of psSAR 10g

DASY6 Uncertainty Budget for psSAR10 g according to IEC/IEEE 63184						
Item	Error Description	Unc. Value (±dB)	Probab. Distr.	Div.	(c_i)	Std. Unc. (±dB)
Measurement system						
1	Amplitude calibration uncertainty	0.35	N	1	1	0.35
2	Probe anisotropy	0.6	R	$\sqrt{3}$	1	0.35
3	Probe dynamic linearity	0.2	R	$\sqrt{3}$	1	0.12
4	Probe frequency domain response	0.3	R	$\sqrt{3}$	1	0.17
5	Probe frequency linear interp. fit	0.15	R	$\sqrt{3}$	1	0.09
6	Spatial averaging	0.1	R	$\sqrt{3}$	1	0.06
7	Parasitic E-field sensitivity	0.1	R	$\sqrt{3}$	1	0.06
8	Detection limit	0.15	R	$\sqrt{3}$	1	0.09
9	Readout electronics	0	N	1	1	0
10	Probe positioning	0.19	N	1	1	0.19
11	Repeatability	0.1	N	1	1	0.1
12	Surface field reconstruction	0.2	N	1	1	0.2
Numerical simulations						
13	Grid resolution	0	R	$\sqrt{3}$	1	0
14	Tissue parameters	0	R	$\sqrt{3}$	1	0
15	Exposure position	0	R	$\sqrt{3}$	1	0
16	Source representation	0.04	N	1	1	0.04
17	Convergence and power budget	0	R	$\sqrt{3}$	1	0
18	Boundary conditions	0.1	R	$\sqrt{3}$	1	0.06
19	Phantom loading/backscattering	0.1	R	$\sqrt{3}$	1	0.06
Combined uncertainty ($k = 1$)						0.63
Expanded uncertainty ($k = 2$)						**1.25 (33.4%)**

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9 CONCLUSION

9.1 Measurement Conclusion

The RF exposure evaluation indicates that the DUT complies with the exposure limits presented in FCC 47 CFR Part 2.1093 and KDB 680106 D01 v03r01 with respect to all parameters subject to this test. The worst-case configuration was evaluated against and satisfies the requirement of peak special SAR < 1.6 W/kg. Precise laboratory measures were taken to assure repeatability of the tests. The results and statements relate only to the item(s) tested.

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