

FCC 47 CFR § 2.1093

RF EXPOSURE EVALUATION REPORT (Wireless Power Transfer)

FOR

GSM/WCDMA/LTE/NR Phone + BT/BLE, DTS/UNII a/b/g/n/ac/ax/be, NFC, UWB and WPT

MODEL NUMBER: SC-57G, SCG41

FCC ID: A3LSMF971JPN

REPORT NUMBER: S-4792147635-S2V1

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TL-637

Revision History

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V1	2026-05-22	Initial Issue	--

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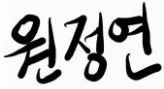
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1. Attestation of SAR Characterization

Applicant Name	SAMSUNG ELECTRONICS CO.,LTD.
FCC ID	A3LSMF971JPN
Model Number	SC-57G, SCG41
Applicable Standards	FCC 47 CFR § 2.1093
Exposure Category	1g_SAR limit (W/kg)
General population / Uncontrolled exposure	1.6
RF Exposure Conditions	The Highest Reported SAR (W/kg)
	< 0.10
Date Tested	2026-03-08 to 2026-04-24
Test Results	Pass

UL Korea, Ltd. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL Korea, Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Korea, Ltd. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Korea, Ltd. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by IAS, any agency of the Federal Government, or any agency of any government

Approved & Released By: 	Prepared By: 
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1.1. Data Referencing

Per manufacturer declaration, there are two portable handset devices FCC ID: A3LSMF971U and FCC ID: A3LSMF971JPN, with high degree of similarity, reference model FCC ID: A3LSMF971U and variant model FCC ID: A3LSMF971JPN.

The only difference between the reference and the variant model is:

Based on H/W, FCC ID: A3LSMS971JPN is a fully de-populated model of FCC ID: A3LSMF971U. The table below shows performed data-referencing.

Data Referencing has been applied to the following table:

Reference Device FCC ID: A3LSMF971U	Variant Device FCC ID: A3LSMF971JPN	
Mode	Folder Close	Folder Open
Charging Mode DUT to Phone (Horizontal)	Y	Y
Charging Mode DUT to Phone (Vertical)	Y	Y
Charging Mode DUT to Watch	Y	Y
Standby	Y	Y

Based on the Data Referencing Test plan, testing was done fully on the reference model FCC ID: A3LSMF971U, while spot-check verification has been performed on variant model FCC: A3LSMF971JPN. The spot-check verification has been performed on the overall worst-case condition. The reference and variant model comparison data summary include Sec. 9.

2. Test Specification, Methods and Procedures

The tests documented in this report were performed in accordance with FCC 47 CFR § 2.1093.

- 447498 D04 Interim General RF Exposure Guidance v01
- 484596 D01 Referencing Test Data v03
- 680106 D01 Wireless Power Transfer v04

In addition to the above, the following information was used:

- [TCB workshop](#) October, 2023; 4.2 Wireless Power Transfer
- DASY6 MODULE WPT SYSTEM HANDBOOK
- DASY8/6 Module WPT and SAR Application note
- DASY8/6 Module WPT PIA Inquiry Compliance testing against SAR and MPE Limits (V1.2)

3. Facilities and Accreditation

The test sites and measurement facilities used to collect data are located at

Suwon
SAR 1 Room

UL Korea, Ltd. is accredited by IAS, Laboratory Code TL-637.

The full scope of accreditation can be viewed at;

<https://www.iasonline.org/wp-content/uploads/2017/05/TL-637-cert-New.pdf>.

4. H-field Measurement System & Test Equipment

4.1. Measurement System

DASY system Module WPT - MAGPy Probe is optimized for evaluation of compliance for wireless power transfer (WPT) systems and any other sources operating in the 3 kHz - 10 MHz frequency range. Module WPT V3.2 are compatible with the DASY8/6 systems and in addition has been extended for easy evaluations of pulsed sources.

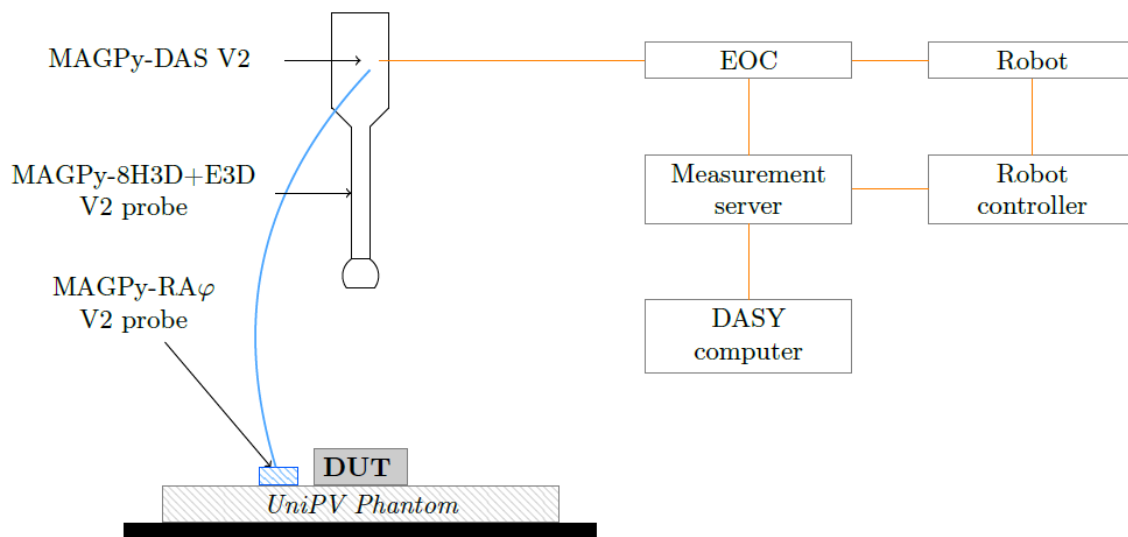


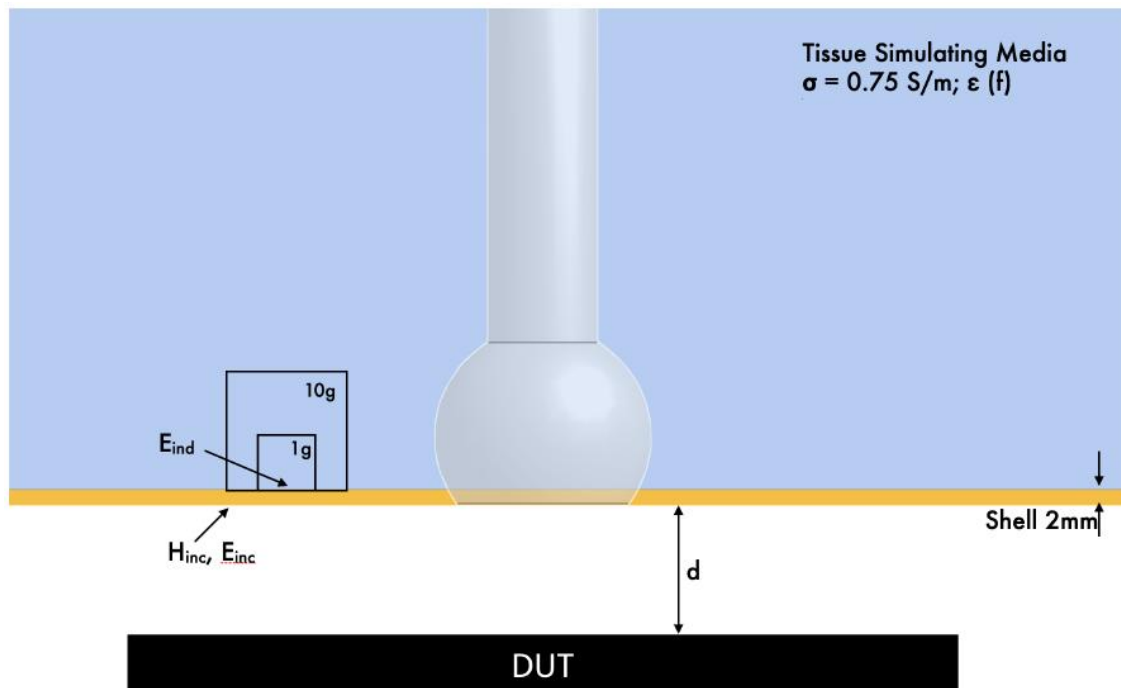
Figure : Typical measurement setup with DASY system Module WPT-MAGPy

DASYsystem Module WPT – MAGPy's Specifications

System	DASY8/6 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 DASY8 robot via the emergency stop (MAGPy-ES). It measures the incident electric and magnetic fields (E-Field, H-Field) in a volume from the surface of the DUT using advanced field reconstructions to obtain a high-resolution (mm range) field distribution. The induced electric (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., ISED Canada SPR-002
Basic Components	The basic components of DASY8/6 Module WPT are: Platform and DASY8/6 TX2-90XL Robot DASY8/6 Measurement Server EOC8 Light-Beam Unit Quick Adapter Change System (QACSV1) DASY8/6 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-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 cm² - Sensor size: 51 mm x 51 mm x 0.2 mm

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 cm²-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) (arm length: 50mm) 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
Software	Software components: • DASY8 Module WPT application programming interface (API) • WPT /6backend • Jupyter Notebook GUI • Sim4Life plugin (vector potential reconstruction, P-EM-QS solver)

4.2. Simulated SAR based on DASY module WPT S/W



Distance used in the tables for simulation and compliance evaluation results is defined as the spacing between the top surface of the DUT and the bottom surface of the fictive phantom shell (with a thickness of 2 mm). In this case, the evaluation is made at distance d . Typically $d = 0$, i.e., at the DUT surface. The evaluation locations of the incident E/H-fields as well as the SAR are also illustrated. Finally, 1-g_SAR is simulated through incident E/H-field. ($\sigma = 0.75 \text{ S/m}$, $\rho = 1000 \text{ Kg/m}^3$, $\epsilon_r = 55$)

4.3. Test Equipment

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal Date	Cal. Due Date
Probe	SPEAG	MAGPy-8H3D+E3D	3071	2025-08-12	2026-08-12
	SPEAG	MAGPy-DAS	2050	2025-08-12	2026-08-12
System verification Source	SPEAG	V-Coil350/85	1019	2025-08-15	2026-08-15
	SPEAG	V-Coil50/400	1014	2025-08-15	2026-08-15

5. Measurement Uncertainty

5.1. Incident E/H-field Measurement Uncertainty

DASY8 Uncertainty Budget for Peak Incident <i>H</i> -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%)

DASY8 Uncertainty Budget for Incident <i>E</i> -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%)

Notes:

The uncertainties of Incident E/H-field used the data provided by Equipment manufacturer.

5.2. 1-g SAR Simulation Uncertainty

DASY8 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%)

Notes:

The uncertainties of 1-g SAR used the data provided by Equipment manufacturer.

6. DUT Information

The EUT has WPT (Wireless Power Transfer) feature which has inductive charging coil to charge phone or watch. The charging frequency is between 110 kHz to 148 kHz, and the maximum power consumption is 9.0 W in charging status. According to manufacturer's guide, Charging mode tests are assessed between 110 kHz and 148 kHz and Standby mode operates at 145 kHz.

7. RF Exposure Conditions (Test Configurations)

RF Exposure Conditions	Test categories	Mode (Scanning)	Test Configurations	Internal E-field and SAR evaluation distance	DUT test Position	Note
SAR	Direct exposure from the WPT source	Standby mode	Only WPT Source	0 cm	Above DUT	

Notes:

The spot-check verification has been performed on the worst-case conditions for both F/O and F/C based on the Reference model.

8. System verification



System check performed using 85 kHz verification source according to test system and procedure Manufacturer guide(DASY8 Modules WPT System Handbook (SW Module WPT V3.2)). And The deviation of measured values from the target values of calibration report should be less than the expanded uncertainty.

Reference Target SAR Values

The reference SAR values can be obtained from the calibration certificate of system validation dipoles.

Verification Source	Serial No.	Cal. Date	Cal.due date	Target values at 0mm distance	
				Measured/Extrapolated	Simulated (Local)
				H-field (A/m)	1-g SAR (W/kg)
V-coil350/85	1019	2025-08-15	2026-08-15	220.00	0.00736
V-coil50/400	1014	2025-08-15	2026-08-15	284.00	0.00782

System verification Results

SAR 1 Room

Date Tested	System Source		H-field (A/m) (Extrapolated at 0mm)		Deviation ($\pm 16.6\%$)	1-g SAR (Simulated at 0mm)			Deviation ($\pm 33.9\%$)	Plot No.
	Type	Serial #	Test results	Target		Test results	Test results	Target		
2026-03-16	V-coil350/85	1019	213.00	220.00	-3.18	7.40	0.00740	0.00736	0.54	
2026-03-16	V-coil50/400	1014	255.00	284.00	-10.21	7.27	0.00727	0.00782	-7.03	
2026-03-20	V-coil350/85	1019	204.00	220.00	-7.27	6.84	0.00684	0.00736	-7.07	
2026-03-20	V-coil50/400	1014	239.00	284.00	-15.85	5.97	0.00597	0.00782	-23.66	1
2026-03-23	V-coil350/85	1019	224.00	220.00	1.82	8.40	0.00840	0.00736	14.13	2
2026-03-23	V-coil50/400	1014	246.00	284.00	-13.38	6.31	0.00631	0.00782	-19.31	

Notes:

The deviation of measured values from the target values of calibration report should be less than the expanded uncertainty

9. Spot-Check Verification for H-field and SAR Data Referencing

Mode	Operating Frequency (kHz)	Test configuration	Reference Worst-Case		Variant Test (Spot-check)		Relative Difference (dTER)	Spot-Check Parameter		Pass / Fail	Pass Criterion
			1-g SAR(W/kg)	TERR	1-g SAR(W/kg)	TERv		Margin (M)	dTERMAX(M)		
F/C Standby	145	Above DUT	0.002	0.001	0.002	0.001	0.005	0.999	0.500	Pass	$dTER \leq dTER_{max}(m)$
F/O Standby	145	Above DUT	0.002	0.001	0.002	0.001	0.071	0.999	0.500	Pass	$dTER \leq dTER_{max}(m)$

Detailed Spot-Check Data

Mode	Operating Freq. (kHz)	Test Configuration	Simulated Dist. (cm)	H-field strength (A/m)	1-g SAR Result (mW/kg)	1-g SAR Result (W/kg)	Scaling Factor	Reported 1-g SAR result (W/kg)	Plot No.
F/C Standby	145	Above DUT	0.0	605.00	2.04	0.00204	1	0.00204	1
F/O Standby	145	Above DUT	0.0	615.00	1.97	0.00197	1	0.00197	2

Note:

Numerical modeling was considered for 1-g SAR according to KDB 680106 D01 and manufacturer guide.

Conclusion:

All of the test results are satisfied the FCC limit. (1.6 W/kg for 1-g SAR)

Appendixes

Refer to separated files for the following appendixes.

S-4792147635-S2 FCC Report RFx WPT App A Photos

S-4792147635-S2 FCC Report RFx WPT App B Test Plots

S-4792147635-S2 FCC Report RFx WPT App C System Plots

S-4792147635-S2 FCC Report RFx WPT App D Probe Certi

S-4792147635-S2 FCC Report RFx WPT App E Source Certi

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