

**FCC Part 1 Subpart I
FCC Part 2 Subpart J**

TEST REPORT

FOR

GSM/WCDMA/LTE/5G Phone with BT, DTS/UNII a/b/g/n/ac/ax, GPS, WPT & NFC

FCC ID: PY7-76732V

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**Prepared for
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REVISION HISTORY

Rev.	Issue Date	Revisions	Revised By
V1	2023-06-30	Initial Issue	Brian Kiewra

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: Sony Corporation
1-7-1 Konan Minato-ku
Tokyo, 108-0075, Japan

EUT DESCRIPTION: GSM/WCDMA/LTE/5G Phone with BT, DTS/UNII a/b/g/n/ac/ax, GPS, WPT & NFC

SERIAL NUMBER: QV770028HJ (Source), QV770005HJ (Load), QV770066HJ (Load), QV77000RHJ (Load)

SAMPLE RECEIPT DATE: 2023-05-26

DATE TESTED: 2023-06-06 to 2023-06-09

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 1 SUBPART I & PART 2 SUBPART J	Complies

UL LLC tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise.

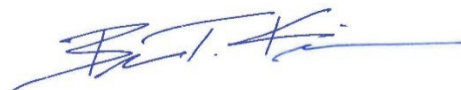
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Approved & Released
For UL LLC By:



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2. TEST METHODOLOGY

All testing / calculations were made in accordance with FCC KDB 447498 D01, KDB 447498 D03, KDB 680106 D01 v03r01.

3. FACILITIES AND ACCREDITATION

UL LLC is accredited by A2LA, certification # 0751.06, for all testing performed within the scope of this report. Testing was performed at the locations noted below.

	Address	ISED CABID	ISED Company Number	FCC Registration
<input type="checkbox"/>	Building: 12 Laboratory Dr RTP, NC 27709, U.S.A	US0067	2180C	825374
<input checked="" type="checkbox"/>	Building: 2800 Perimeter Park Dr. Suite B Morrisville, NC 27560, U.S.A		27265	

4. DECISION RULES AND MEASUREMENT UNCERTAINTY

4.1. METROLOGICAL TRACEABILITY

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. DECISION RULES

For all tests where the applicable $U_{LAB} \leq U_{MAX}$ the Decision Rule is based on Simple Acceptance in accordance with ISO Guide 98-4: 2012 Clause 8.2, where $U_{MAX} = 30\%$ (0.3) for RF Exposure evaluations. (Measurement uncertainty is not taken into account when stating conformity with a specified requirement.)

For all tests where the applicable $U_{LAB} > U_{MAX}$ the Decision Rule is based on Guarded Acceptance in accordance with ISO Guide 98-4: 2012 Clause 8.3.2, with a guard band equal to $(U_{LAB} - U_{MAX})$, where $U_{MAX} = 30\%$ (0.3) for RF Exposure evaluations. (Test results are adjusted by the value of the guard band to determine conformity with a specified requirement.)

4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	U_{Lab}
Magnetic Field using Exposure Level Meter	± 0.80 dB
Electric Field using Exposure Level Meter	± 0.91 dB
Time	3.39%

Uncertainty figures are valid to a confidence level of 95%, $k = 2$.

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a GSM/WCDMA/LTE/5G Phone with BT, DTS/UNII a/b/g/n/ac/ax, GPS, WPT & NFC. This test report covers WPT testing. The device can function as a WPT charger operating from 111-148kHz.

While WPT is functioning, the device is limited to mobile use conditions and was evaluated for desktop applications.

5.2. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
Power Supply	Sony	XQZ-UC11	1821W34209742	NA
USB-C	Sony	XQZ-UB1	NA	NA

I/O CABLES

I/O Cable List						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	USB	1	USB-C	Non-Shielded	<3m	Connected to power supply

TEST SETUP

The following five configurations are tested:

Configuration	Mode	Descriptions
1	Standby (Power Detecting)	EUT Alone powered by AC/DC adapter (worst-case over battery)
2	Operating with server (source) and client (load) aligned (With EUT charging) Note: Measurements were made when the battery level of the client was at a state of <10%, 50%, and 100%. Spot check worst-case battery level with 5 mm air gap.	EUT powered by AC/DC adapter
3	Operating with server (source) and client (load) aligned, with 90° rotation between them. (With EUT charging) Note: Measurements were made when the battery level of the client was at a state of <10%, 50%, and 100%.	EUT powered by AC/DC adapter
4	Same as configuration 2, with a worst case misalignment between the server and client.	EUT powered by AC/DC adapter
5	Same as configuration 3, with a worst case misalignment between the server and client.	EUT powered by AC/DC adapter

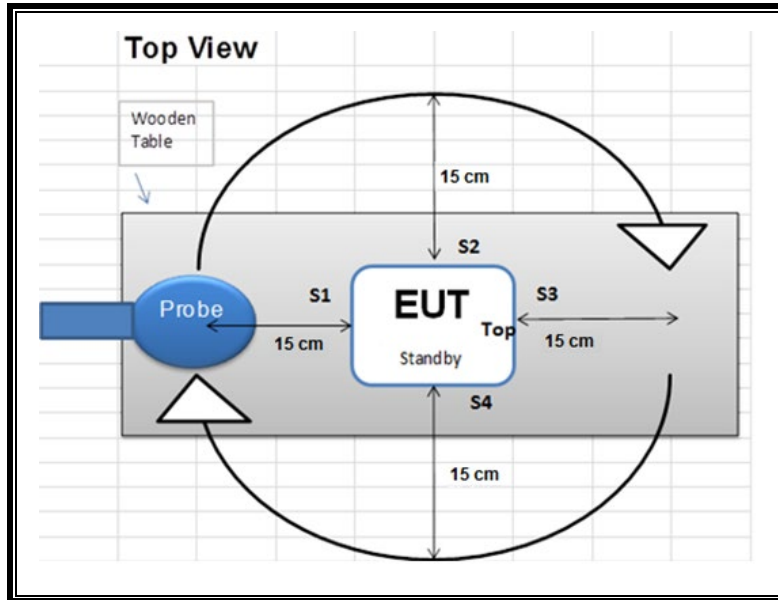
SETUP DIAGRAMS

Please refer to R14777340-EP4 for setup diagrams.

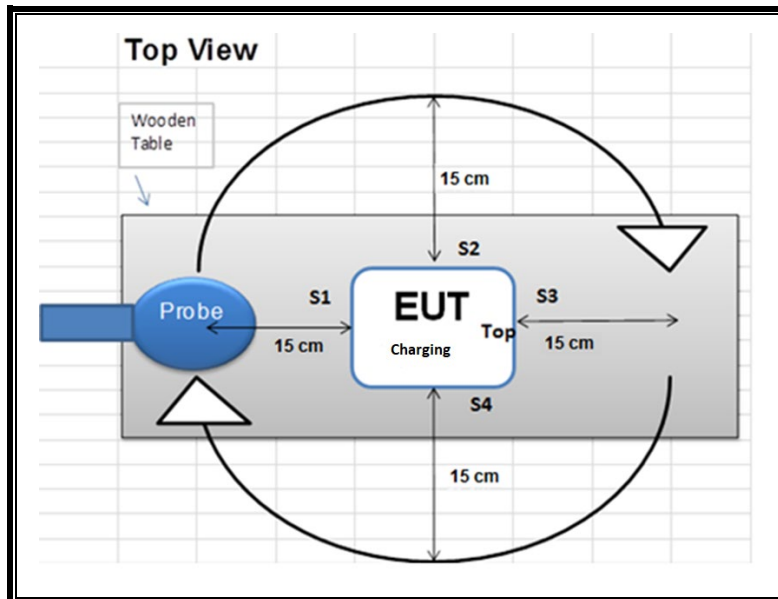
MEASUREMENT SETUP

The measurement was taken using a probe placed 15cm surrounding the device and 20cm above the top surface of the EUT.
Measurements were taken from the top and all sides of the EUT per KDB 680106 D01 v03r01.

CONFIGURATION 1



CONFIGURATIONS 2-5



Note: This diagram is meant to represent load stacked on EUT.

6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment were used for the tests documented in this report:

Test Equipment List					
Description	Manufacturer	Model	Equip. ID	Cal Date	Cal Due
Electric and Magnetic Field Probe	Narda	EHP-200AC	FA0001	2022-07-20	2023-07-20
Spectrum Analyzer	Keysight	N9030A	SA0026	2022-08-02	2023-08-02

7. DUTY CYCLE

LIMITS

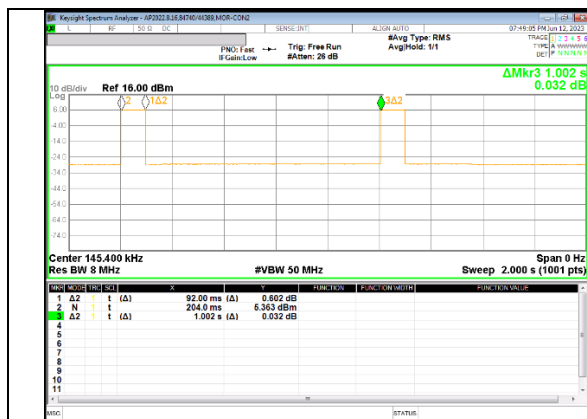
None; for reporting purposes only.

PROCEDURE

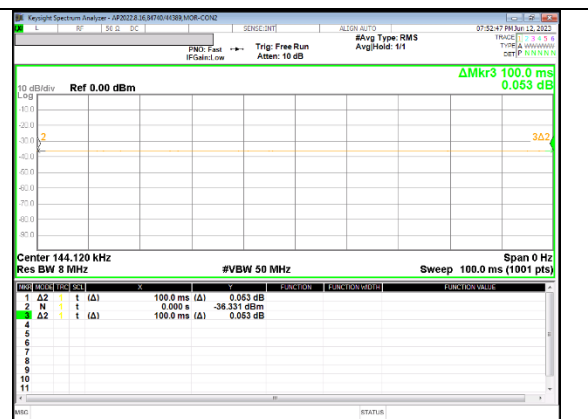
Zero-Span Spectrum Analyzer Method.

ON TIME AND DUTY CYCLE RESULTS

Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)
Standby (Config 1)	92.00	1002.00	0.0918	9.18%
Operating(Config 2+3)	100.00	100.00	1.00	100.00%



STANDBY MODE



OPERATING MODE

Tested By: 84740/44389

8. MAXIMUM PERMISSIBLE RF EXPOSURE TEST RESULTS

8.1. FCC LIMITS

§1.1310 The criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio-frequency (RF) radiation as specified in §1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of §2.1093 of this chapter.

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
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
300–1500 .....	.....	.....	f/300	6
1500–100,000 .....	.....	.....	5	6
(B) 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

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)—Continued

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
30–300	27.5	0.073	0.2	30
300–1500 .....	.....	.....	f/1500	30
1500–100,000 .....	.....	.....	1.0	30

f = frequency in MHz

* = Plane-wave equivalent power density

NOTE 1 TO TABLE 1: Occupational/controlled 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. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

NOTE 2 TO TABLE 1: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.

Note: The limit at 300 kHz was used for devices operating between 100-300 kHz.

8.2. SUMMARY OF TEST RESULTS

RESULTS

ID:	84740/21193	Date:	2023-06-06 to 2023-06-09
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Note: Both magnetic and electric field strengths have been investigated from 9 kHz to 30 MHz at 15cm surrounding the device and 20cm above the top surface of the EUT operation frequency at 111-148 kHz.

The inductive wireless power transfer device meets all of the following requirements:

- ☒ Power transfer frequency is less than 1 MHz
- ☒ Output power from each primary coil is less than or equal to 15 watts.
- ☒ The transfer system includes only single primary and secondary coils. This includes charging systems that may have multiple primary coils and clients that are able to detect and allow coupling only between individual pairs of coils.
- ☒ Client device is placed directly in contact with the transmitter.
- ☒ Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).
- ☒ The aggregate H-field strengths at 15 cm surrounding the device and 20 cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.

FCC RF EXPOSURE SUMMARY OF RESULTS

Electric Field			Magnetic Field		
FCC Limit (V/m)	Maximum Average Reading (V/m)	Percentage (%)	FCC Limit (A/m)	Maximum Average Reading (A/m)	Percentage (%)
614	4.182	0.68%	1.63	0.147	9.02%

Note: since the E and H field are lower than the limit by more than 50% of the limit then a PAG is not required.

8.3. DETAILED TEST RESULTS

E- FIELD AND H- FIELD MEASUREMENTS

Note: Peak measurements were performed. RMS values were calculated from the peak measurement. Please refer to the formula for calculating the RMS values: [Field Strength x $\sqrt{\text{Duty Cycle}}$].

Config	Test Mode	Meas Dist (cm)	E field Limit (V/m)	Electric Field Reading				Magnetic Field Limit (A/m)	Magnetic Field Reading			
				(V/m)					(A/m)			
			FCC	Location	Peak	Duty Cycle %	FCC Average	FCC	Location	Peak	Duty Cycle %	FCC Average
1	Standby	15 cm surrounding the device (S1 -S4) and 20 cm above the top surface of the EUT	614	S1	0.420	9.18	0.127	1.63	S1	0.076	9.18	0.023
				S2	0.385		0.117		S2	0.048		0.014
				S3	0.423		0.128		S3	0.063		0.019
				S4	0.486		0.147		S4	0.034		0.010
				Top	0.341		0.103		Top	0.331		0.100
Max	0.486			0.147	Max	0.331	0.100					
2	Operating Power <10% Charging			S1	0.690	100.00	0.690		S1	0.042	100.00	0.042
				S2	0.606		0.606		S2	0.015		0.015
				S3	0.621		0.621		S3	0.033		0.033
				S4	0.571		0.571		S4	0.013		0.013
				Top	0.616		0.616		Top	0.012		0.012
				Max	0.690		0.690		Max	0.042		0.042
	Operating Power 50% Charging			S1	0.696	100.00	0.696		S1	0.038	100.00	0.038
				S2	0.601		0.601		S2	0.014		0.014
				S3	0.645		0.645		S3	0.032		0.032
				S4	0.565		0.565		S4	0.013		0.013
				Top	0.766		0.766		Top	0.012		0.012
				Max	0.766		0.766		Max	0.038		0.038
	Operating Power 100 % Charged			S1	0.901	100.00	0.901		S1	0.049	100.00	0.049
				S2	0.754		0.754		S2	0.014		0.014
				S3	0.816		0.816		S3	0.044		0.044
				S4	0.589		0.589		S4	0.014		0.014
				Top	0.721		0.721		Top	0.013		0.013
				Max	0.901		0.901		Max	0.049		0.049
	Operating Power 100 % Charged with 5 mm air gap			S1	0.819	100.00	0.819		S1	0.123	100.00	0.123
				S2	0.681		0.681		S2	0.018		0.018
				S3	0.697		0.697		S3	0.134		0.134
				S4	0.608		0.608		S4	0.020		0.020
				Top	0.707		0.707		Top	0.023		0.023
				Max	0.819		0.819		Max	0.134		0.134
3	Operating Power <10% Charging			S1	3.340	100.00	3.340		S1	0.032	100.00	0.032
				S2	0.658		0.658		S2	0.014		0.014
				S3	2.264		2.264		S3	0.022		0.022
				S4	0.552		0.552		S4	0.014		0.014
				Top	1.138		1.138		Top	0.011		0.011
				Max	3.340		3.340		Max	0.032		0.032
	Operating Power 50% Charging			S1	4.182	100.00	4.182		S1	0.032	100.00	0.032
				S2	0.775		0.775		S2	0.014		0.014
				S3	2.623		2.623		S3	0.020		0.020
				S4	0.560		0.560		S4	0.013		0.013
				Top	1.924		1.924		Top	0.012		0.012
				Max	4.182		4.182		Max	0.032		0.032
	Operating Power 100 % Charged			S1	3.988	100.00	3.988		S1	0.020	100.00	0.020
				S2	0.686		0.686		S2	0.014		0.014
				S3	3.627		3.627		S3	0.019		0.019
				S4	0.675		0.675		S4	0.013		0.013
				Top	0.709		0.709		Top	0.012		0.012
				Max	3.988		3.988		Max	0.020		0.020

Config	Test Mode	Meas Dist (cm)	E field Limit (V/m)	Electric Field Reading				Magnetic Field Limit (A/m)	Magnetic Field Reading			
				(V/m)					(A/m)			
			FCC	Location	Peak	Duty Cycle %	FCC Average	FCC	Location	Peak	Duty Cycle %	FCC Average
4	Operating Power <10% Charging	15 cm surrounding the device (S1 -S4) and 20 cm above the top surface of the EUT	614	S1	0.387	100.00	0.387	1.63	S1	0.067	100.00	0.067
				S2	0.377		0.377		S2	0.051		0.051
				S3	0.410		0.410		S3	0.065		0.065
				S4	0.427		0.427		S4	0.032		0.032
				Top	0.405		0.405		Top	0.015		0.015
				Max	0.427		0.427		Max	0.067		0.067
	Operating Power 50% Charging			S1	0.514	100.00	0.514		S1	0.050	100.00	0.050
				S2	0.442		0.442		S2	0.053		0.053
				S3	0.493		0.493		S3	0.147		0.147
				S4	0.529		0.529		S4	0.070		0.070
				Top	0.481		0.481		Top	0.014		0.014
				Max	0.529		0.529		Max	0.147		0.147
	Operating Power 100 % Charged			S1	0.513	100.00	0.513		S1	0.045	100.00	0.045
				S2	0.481		0.481		S2	0.035		0.035
				S3	0.530		0.530		S3	0.099		0.099
				S4	0.540		0.540		S4	0.040		0.040
				Top	0.430		0.430		Top	0.019		0.019
				Max	0.540		0.540		Max	0.099		0.099
5	Operating Power <10% Charging	S1	0.681	100.00	0.681	S1	0.031	100.00	0.031			
		S2	0.454		0.454	S2	0.025		0.025			
		S3	0.571		0.571	S3	0.037		0.037			
		S4	0.483		0.483	S4	0.024		0.024			
		Top	0.447		0.447	Top	0.017		0.017			
		Max	0.681		0.681	Max	0.037		0.037			
	Operating Power 50% Charging	S1	0.936	100.00	0.936	S1	0.055	100.00	0.055			
		S2	0.381		0.381	S2	0.032		0.032			
		S3	0.672		0.672	S3	0.019		0.019			
		S4	0.467		0.467	S4	0.026		0.026			
		Top	0.776		0.776	Top	0.016		0.016			
		Max	0.936		0.936	Max	0.055		0.055			
	Operating Power 100 % Charged	S1	0.476	100.00	0.476	S1	0.026	100.00	0.026			
		S2	0.361		0.361	S2	0.027		0.027			
		S3	0.425		0.425	S3	0.054		0.054			
S4		0.392	0.392		S4	0.029	0.029					
Top		0.477	0.477		Top	0.014	0.014					
Max		0.477	0.477		Max	0.054	0.054					

Note: QV770005HJ used for 0% state. QV770066HJ used for 50% state. QV77000RHJ used for 100% state

9. SETUP PHOTO

Please refer to R14777340-EP4 for setup photos.

END OF REPORT