



FCC Part 1 Subpart I
FCC Part 2 Subpart J

TEST REPORT

FOR

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

FCC ID: PY7-24116L

REPORT NUMBER: R14176161-E3V2

ISSUE DATE: 2022-04-05

Prepared for
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Revision History

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
<u>V1</u>	<u>2022-03-25</u>	<u>Initial Issue</u>	<u>Richard Jankovics</u>
<u>V2</u>	<u>2022-04-05</u>	<u>Added Reference Detail and updated referenced report version to Section 5, removed model number from Section 1</u>	<u>Richard Jankovics</u>

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: Sony Corporation
 1-7-1 Konan Minato-ku
 Tokyo, 108-0076, Japan

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

SERIAL NUMBER: QV7700L7BB

DATE TESTED: 2022-03-03

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.

This document may not be altered or revised in any way unless done so by UL LLC and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL LLC will constitute fraud and shall nullify the document.

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 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 110-148kHz.

5.2. MODEL DIFFERENCES

The hardware of WLAN 2.4GHz, WLAN 5GHz, Bluetooth, GPS and WPT is identical between the model covered in this report (FCC ID:PY7-24116L) and the model covered under UL report R14176139-E8V3 (FCC ID: PY7-83262V). Therefore the test data of WPT from R14176139-E8V3 may also represent the equipment under evaluation in this report. Spot checks in this report were completed to ensure continued compliance of the model evaluated.

5.3. REFERENCE DETAIL

Equipment Class	Reference FCC ID	Report Title/Section
DCD	PY7-83262V	R14176139-E8V3 FCC Report WPT RF Exposure_Final/All

5.4. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
Wall Charger	Sony	AC-0540-JP	4640477	NA

I/O CABLES

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	USB-C	2	USB-C	USB	< 3	Goes to wall charger

TEST SETUP

The following configuration is tested. This evaluation was a spot check of a model variant covered under UL report R14176139-E8V3. The worst-case configuration and load condition (configuration 4 at <10% charge state) was utilized. Worst-case E-field results from R14176139-E8V3 was < 1% of the limit, so worst-case was based on H-field results.

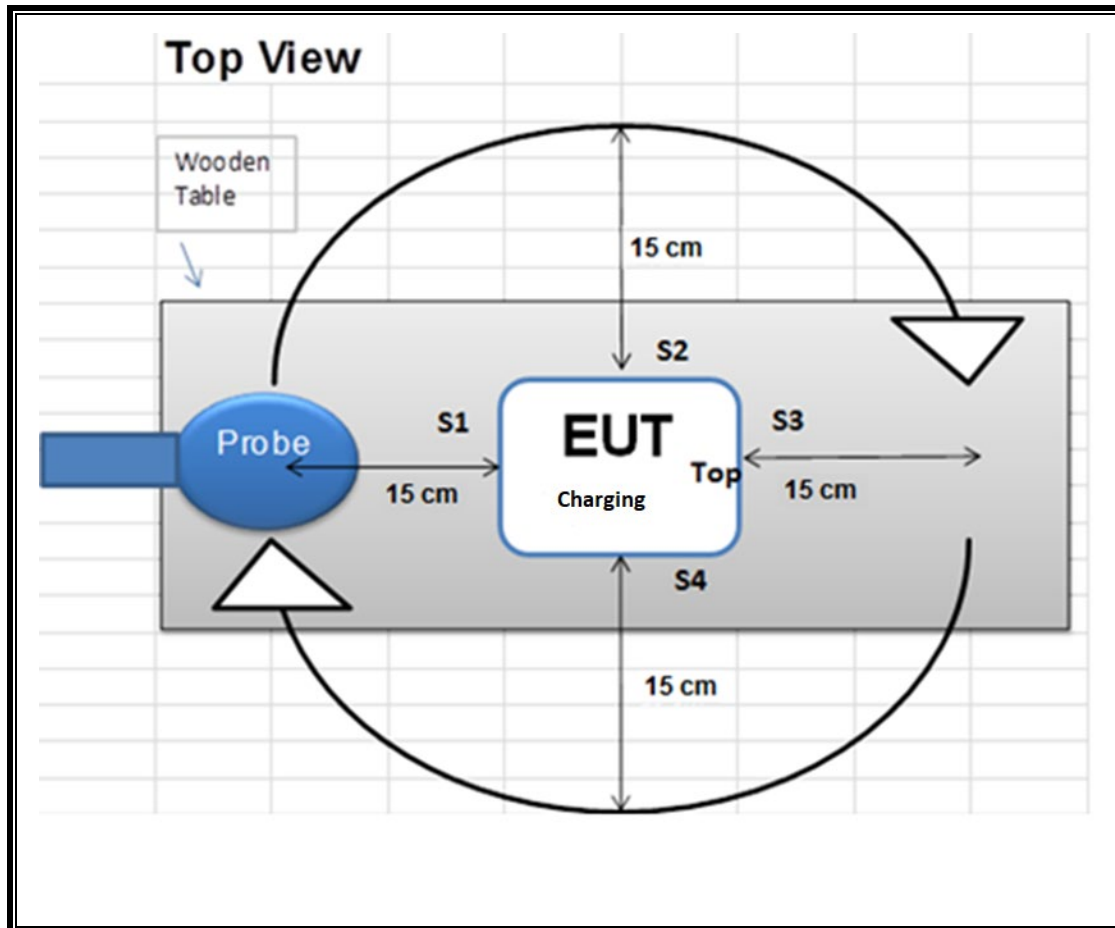
Configuration	Mode	Descriptions
4	Operating with server (source) and client (load) with a worst case misalignment between the server and client. Note: Measurements were made when the battery level of the client was at a state of <10%.	EUT powered by AC/DC adapter

Please refer to R14176161-EP1V1 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 4



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	2021-07-14	2022-07-14
Spectrum Analyzer	Agilent	N9030A	SA0025	2021-04-01	2022-04-01

7. DUTY CYCLE

LIMITS

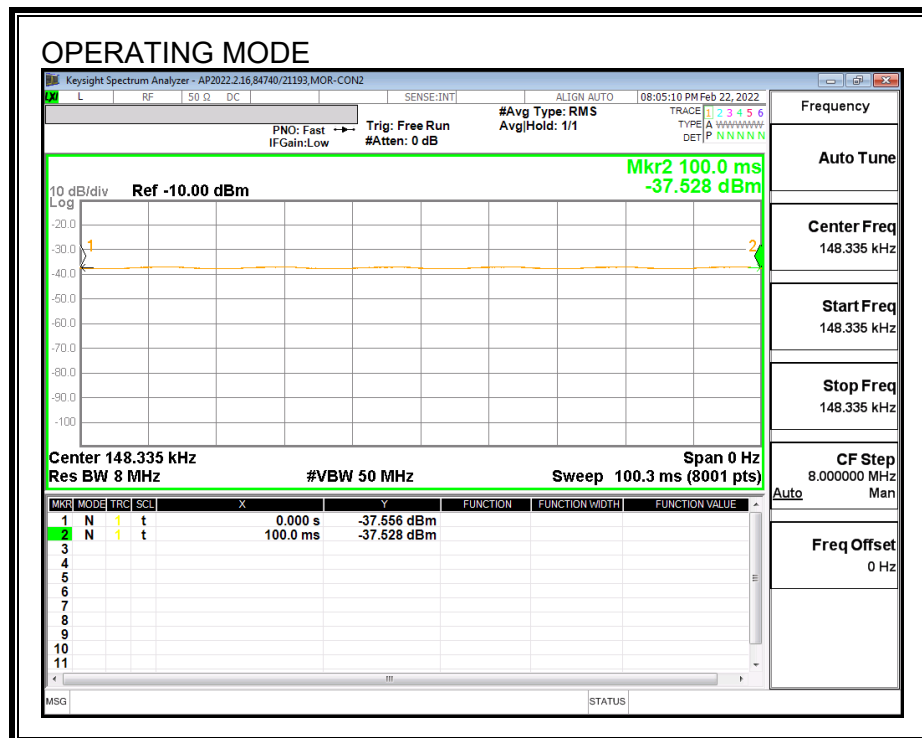
None; for reporting purposes only.

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 (%)
Operating(Config 4)	100.00	100.00	1.00	100.00%



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:	2022-03-03
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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 110-148 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	0.704	0.11%	1.63	0.072	4.42%

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 √Duty Cycle].

Config	Test Mode	Meas Dist (cm)	E field Limit (V/m)	Electric Field Reading (V/m)				Magnetic Field Limit (A/m)	Magnetic Field Reading (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		S1	0.704	100.00	0.704		S1	0.065	100	0.072		
				S2	0.403				S2	0.037				
				S3	0.444				S3	0.072				
				S4	0.454				S4	0.046				
				Top	0.603				Top	0.019				
				Max	0.704				Max	0.072				

9. SETUP PHOTO

Please refer to R14176161-EP1V1 for setup photos.

END OF REPORT