



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: PY7-53752E

REPORT NUMBER: R14311587-S3

ISSUE DATE: 2022-08-23

Prepared for
Sony Corporation
1-7-1 Konan Minato-ku
Tokyo, 108-0075, Japan

Prepared by
UL LLC
12 LABORATORY DR.
RESEARCH TRIANGLE PARK, NC 27709 USA
TEL: (919) 549-1400



Revision History

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
<u>V1</u>	<u>2022-08-05</u>	<u>Initial Issue</u>	<u>Niklas Haydon</u>
<u>V2</u>	<u>2022-08-10</u>	<u>Updated top distance to 20cm in section 5.4, added data reuse section</u>	<u>Niklas Haydon</u>
<u>V3</u>	<u>2022-08-23</u>	<u>Removed duplicate sections, updated sections 6.2 and 6.4</u>	<u>Niklas Haydon</u>

TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS	4
2. TEST METHODOLOGY	5
3. FACILITIES AND ACCREDITATION	5
4. DECISION RULES AND MEASUREMENT UNCERTAINTY	6
4.1. METROLOGICAL TRACEABILITY	6
4.2. DECISION RULES.....	6
4.3. MEASUREMENT UNCERTAINTY.....	6
5. EQUIPMENT UNDER TEST	7
5.1. DESCRIPTION OF EUT	7
5.2. DESCRIPTION OF TEST SETUP.....	7
6. REUSE OF TEST DATA.....	9
6.1. INTRODUCTION	9
6.2. DEVICES DIFFERENCES	9
6.3. REFERENCE DETAIL	9
6.4. SPOT CHECK VERIFICATION RESULTS SUMMARY.....	9
7. TEST AND MEASUREMENT EQUIPMENT	10
8. MAXIMUM PERMISSIBLE RF EXPOSURE TEST RESULTS.....	11
8.1. FCC LIMITS.....	11
8.2. SUMMARY OF TEST RESULTS	12
8.3. DETAILED TEST RESULTS.....	13
9. SETUP PHOTO	13

1. ATTESTATION OF TEST RESULTS

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

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

SERIAL NUMBER: QV7700ETD8(Server), QV7700KKD8(Client)

DATE TESTED: 2022-08-01, 2022-08-03

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.

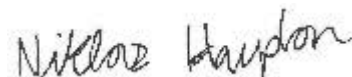
This document may not be altered or revised in any way unless done so by UL LLC and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL LLC will constitute fraud and shall nullify the document.

Approved & Released For
UL LLC By:



Francisco de Anda
Staff Engineer
Consumer Technology Division
UL LLC

Prepared By:



Niklas Haydon
Operations Leader
Consumer Technology Division
UL LLC

2. TEST METHODOLOGY

All testing / calculations were made in accordance with FCC KDB 447498 D01, KDB 447498 D03, KDB 680106 D01 v03r01, KDB 484596 D01 v01.

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. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
Wall Charger	Sony	AC-0540-JP	1821W34210931	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

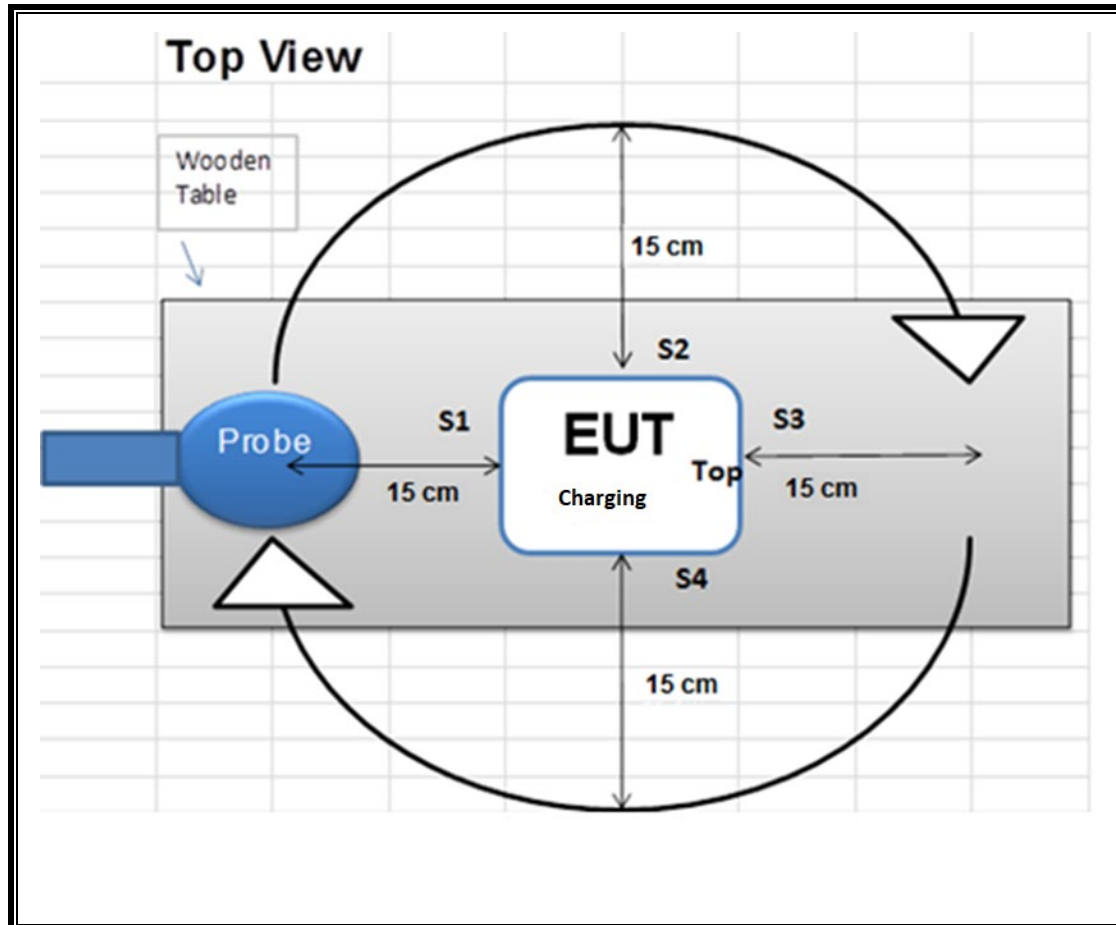
The following configuration is tested. This evaluation was a spot check of a model variant covered under 1M2207200079-18.PY7. The worst-case configuration and load condition from 1M2207200079-18.PY7 was used.

Configuration	Mode
1	Operating with server (source) and client (load) with perpendicular positioning Note: Measurements were made when the battery level of the client was at a state of 50%

Please refer to R14311587-SP3 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.



6. REUSE OF TEST DATA

6.1. INTRODUCTION

According to the manufacturer, FCC ID: PY7-58692W and FCC ID: PY7-53752E unlicensed radios (WLAN/BT/BLE/WPT) are electrically identical. The FCC ID: PY7-58692W test data shall remain representative of FCC ID: PY7-53752E so, FCC ID: PY7-53752E leverages test data from FCC ID: PY7-58692W

The applicant takes full responsibility that the test data as referenced in this section represents compliance for this FCC ID.

6.2. DEVICES DIFFERENCES

Difference between PY7-58692W and PY7-53752E:

Sony Corporation hereby declares that the hardware of WLAN 2.4GHz , WLAN 5GHz, Bluetooth, GPS and WPT is identical among PY7-58692W and PY7-53752E. The change is related only to the cellular and NFC radios. Therefore the following report/data of PY7-58692W may represent for PY7-53752E.

6.3. REFERENCE DETAIL

Equipment Class	Reference FCC ID	Report Title/Section
DCD	PY7-58692W	1M2207200079-18.PY7 RF Exposure E-H-field Measurement FCC Report

6.4. SPOT CHECK VERIFICATION RESULTS SUMMARY

PY7-58692W

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	0.989	0.16%	1.63	0.116	7.12%

PY7-53752E

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	0.854	0.14%	1.63	0.040	2.45%

The delta did not exceed 30% above PY7-58692W.

7. 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

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:	2022-08-01, 2022-08-03
------------	-------------	--------------	------------------------

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	0.854	0.14%	1.63	0.040	2.45%

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	Electric Field Reading				Magnetic Field Limit	Magnetic Field Reading			
			(V/m)	(V/m)				(A/m)	(A/m)			
			FCC	Location	Peak	Duty Cycle %	FCC Average	FCC	Location	Peak	Duty Cycle %	FCC Average
1	Operating Power 50% Charging	15 cm for S1-S4 and 20cm for Top	614	S1	0.854	100.00	0.854	1.63	S1	0.033	100	0.033
				S2	0.431		0.431		S2	0.035		0.035
				S3	0.735		0.735		S3	0.040		0.040
				S4	0.482		0.482		S4	0.035		0.035
				Top	0.538		0.538		Top	0.031		0.031
				Max	0.854		0.854		Max	0.040		0.040

9. SETUP PHOTO

Please refer to R4311587-SP3 for setup photos.

END OF REPORT