

FCC 15.209 Wireless Power Transfer Report

for

Powertech Industrial Co Ltd

**10F, No. 407, Chung Shan Rd., Sec 2, Chung Ho City,
Taipei Hsien, 235, Taiwan**

Product Name : Qi Wireless Fast Charging Pad
Model Name : F9P00100ZD
FCC ID : NHS-F9P00100ZD

**Prepared by: : AUDIX Technology Corporation,
EMC Department**



The statement is based on a single evaluation of one sample of the above-mentioned products. It does not imply an assessment of the whole production and does not permit the use of the test lab logo.
The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, TAF or any government agencies.

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APPENDIX A TEST DATA AND PLOTS

APPENDIX B TEST PHOTOGRAPHS

TEST REPORT CERTIFICATION

Applicant : Powertech Industrial Co Ltd
Factory : DONGGUAN QUAN SHENG ELECTRIC CO LTD
EUT Description
(1) Product : Qi Wireless Fast Charging Pad
(2) Model : F9P00100ZD
(3) Power Supply : DC 5V/ 3A, DC 9V/2A, DC 12V/1.5A

Applicable Standards:

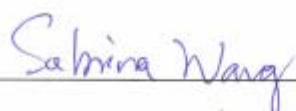
47 CFR FCC Part 15 Subpart C
ANSI C63.10:2013

Audix Technology Corp. tested the equipment mentioned in accordance with the requirements set forth in the above standards. Test results indicate that the equipment tested is capable of demonstrating compliance with the requirements as documented within this report.

Audix Technology Corp. does not assume responsibility for any conclusions and generalizations drawn from the test results with regard to other specimens and samples.

Date of Report: 2018. 09. 07

Reviewed by:



(Sabrina Wang/Administrator)

Approved by:



(Ben Cheng/Manager)

1. REVISION RECORD OF TEST REPORT

Edition No	Issued Data	Revision Summary	Report Number
0	2018. 09. 07	Original Report	EM-F180393

2. SUMMARY OF TEST RESULTS

Rule	Description	Results
15.207	Conducted Emission	PASS
15.209	Radio Spurious Emission	PASS
15.215 (c)	20dB Bandwidth	PASS
15.203	Antenna Requirement	Compliance

3. GENERAL INFORMATION

3.1. Description of Application

Applicant	Powertech Industrial Co Ltd 10F, No. 407, Chung Shan Rd., Sec 2, Chung Ho City, Taipei Hsien, 235, Taiwan
Factory	DONGGUAN QUAN SHENG ELECTRIC CO LTD CHU-TANG 2ND INDUSTRIAL PARK HOU-CHIEH TOWN DONGGUAN GUANGDONG 523963 CHINA
Product	Qi Wireless Fast Charging Pad
Model	F9P00100ZD

3.2. Description of EUT

Test Model	F9P00100ZD
Serial Number	N/A
Power Rating	DC 5V/ 3A, DC 9V/2A, DC 12V/1.5A (Refer to AC adapter rating)
RF Features	Wireless Power Transfer
Date of Receipt	2018. 08. 16
Date of Test	2018. 08. 30 ~ 09. 07
I/O Ports List	• USB Port x1
Accessories Supplied	• USB Cable: Shielded, Detachable , 1.0m

3.3. Antenna Information

Antenna Part Number	Manufacture	Antenna Type	Frequency (MHz)	Max Gain (dBi)
---	---	Loop Antenna	---	---

3.4. EUT Specifications Assessed in Current Report

Mode	Fundamental Range (MHz)	Modulation
WPC	110-205 kHz	FSK

3.5. Description of Key Components

None

3.6. Test Configuration

AC Conduction	
Test Case	(1) 10W Fast Charge with AC Adapter
	(2) 5W Charge with AC Adapter

Item		Test Frequency	Mode
Radiated Test Case	Radiated Spurious Emission	148.37kHz	10W Fast Charge with AC Adapter
		163.89kHz	5W Charge with AC Adapter
Conducted Test Case	20dB Bandwidth	148.37kHz	10W Fast Charge with AC Adapter
		163.89kHz	5W Charge with AC Adapter

Note: ☒ Mobile Device

☐ Portable Device, and 3 axis were assessed. The worst scenario for Radiated Spurious Emission as follow: ☐ Lie ☐ Side ☐ Stand

3.7. Tested Supporting System List

3.7.1. Support Peripheral Unit

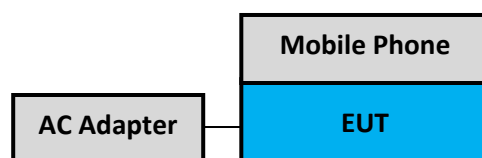
No.	Product	Brand	Model No.	Serial No.	Approval
1.	AC Adapter (10/5W)	Qualcomm	SOY-131QC3.0YS	N/A	N/A
2.	Mobile Phone (10W)	SAMSUNG	Galaxy S9	N/A	N/A
	Mobile Phone (5W)	APPLE	I phone X	N/A	N/A

3.7.2. Cable Lists

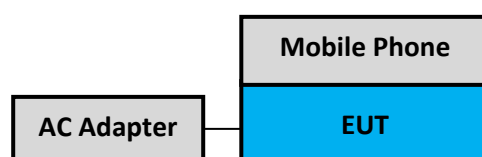
No.	Cable Description Of The Above Support Units
1.	AC Power Cable: Wall-mount, 2C
2.	N/A

3.8. Setup Configuration

3.8.1. EUT Configuration for Power Line and Radiated Emission



3.8.2. EUT Configuration for RF Conducted Test Items



3.9. Operating Condition of EUT

To Set EUT on RF function under continues transmitting.

3.10. Description of Test Facility

Name of Test Firm	Audix Technology Corporation / EMC Department No. 53-11, Dingfu, Linkou Dist., New Taipei City 244, Taiwan Tel: +886-2-26092133 Fax: +886-2-26099303 Website : www.audixtech.com Contact e-mail: attemc_report@audixtech.com
Accreditations	The laboratory is accredited by following organizations under ISO/IEC 17025:2005 (1) NVLAP(USA) NVLAP Lab Code 200077-0 (2) TAF(Taiwan) No. 1724
Test Facilities	(1) No. 8 Shielding Room (2) Semi-Anechoic Chamber (IC Test Site Registration No.: 5183B-1) (3) Fully Anechoic Chamber (IC Test Site Registration No.: 5183B-4)

3.11. Measurement Uncertainty

Test Item	Frequency Range	Uncertainty
Conduction Test	150kHz~30MHz	±3.50dB
Radiation Test (Distance: 3m)	30MHz~1000MHz	± 3.68dB
	Above 1GHz	± 5.82dB

Remark : Uncertainty = $ku_c(y)$

Test Item	Uncertainty
20dB Bandwidth	± 0.2kHz

4. MEASUREMENT EQUIPMENT LIST

4.1. Conducted Emission Measurement

Item	Type	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Interval
1.	Test Receiver	R&S	ESR3	101774	2018. 01. 24	1 Year
2.	A.M.N.	R&S	ENV4200	100169	2017. 11. 12	1 Year
3.	L.I.S.N.	Kyoritsu	KNW-407	8-855-9	2017. 12. 14	1 Year
4.	Pulse Limiter	R&S	ESH3-Z2	100354	2018. 01. 16	1 Year
5.	Signal Cable	Yeida	RG/58AU	CE-08	2017. 09. 22	1 Year
6.	Digital Thermo- Hygro Meter	iMax	HTC-1	No.8 S/R	2018. 04. 20	1 Year
7.	Test Software	Audix	e3	V.6.120424	N.C.R.	N.C.R.

4.2. Radiated Emission Measurement

Item	Type	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
1	Spectrum Analyzer	Agilent	N9010A-526	MY53400071	2018. 09. 12	1 Year
2	Test Receiver	R & S	ESCS30	100338	2018. 06. 20	1 Year
3	Amplifier	HP	8447D	2944A06305	2018. 01. 30	1 Year
4	Loop Antenna	R&S	HFH2-Z2	891847/27	2017. 12. 18	1 Year
5	Bilog Antenna	CHASE	CBL6112D	33821	2018. 01. 21	1 Year
6	Digital Thermo-Hygro Meter	iMax	HTC-1	No.1 3m A/C	2018. 04. 20	1 Year
7	Test Software	Audix	e3	V.6.110601	N.C.R.	N.C.R.

4.3. RF Conducted Measurement

Item	Type	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Interval
1	Spectrum Analyzer	Keysight	N9020B-544	MY57120357	2018. 01. 15	1 Year
2	Digital Thermo-Hygro Meter	Shenzhen Datronn Electronics	KT-905	RF	2018. 04. 20	1 Year

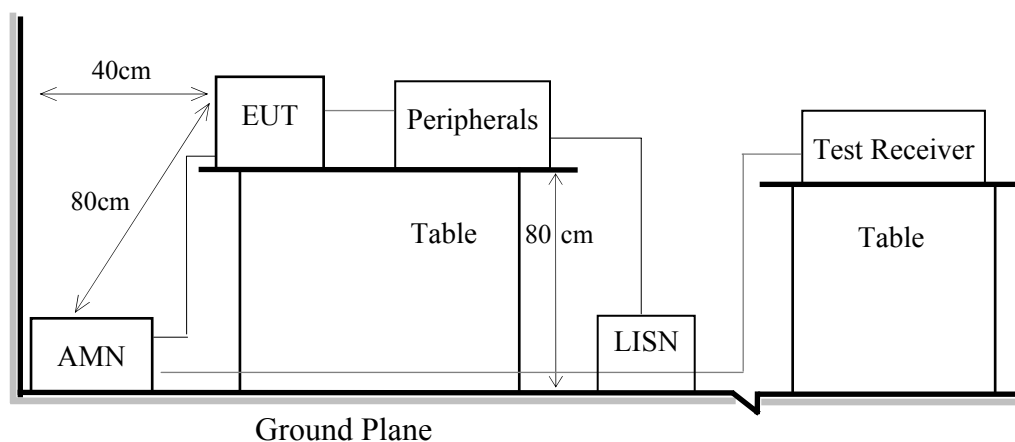
5. CONDUCTED EMISSION

5.1. Block Diagram of Test Setup

5.1.1. Block Diagram of EUT

Indicated as section 3.8

5.1.2. Shielded Room Setup Diagram



5.2. Conducted Emission Limit

Frequency	Conducted Limit	
	Quasi-Peak Level	Average Level
150kHz ~ 500kHz	66 ~ 56 dB μ V	56 ~ 46 dB μ V
500kHz ~ 5MHz	56 dB μ V	46 dB μ V
5MHz ~ 30MHz	60 dB μ V	50 dB μ V

Remark 1.: If the average limit is met when using a Quasi-Peak detector, the measurement using the average detector is not required.

2.: The lower limit applies to the band edges.

5.3. Test Procedure

- 5.3.1. To set up the EUT as indicated in ANSI C 63.10. The EUT was placed on the table which has 80 cm height to the ground and 40 cm distance to the conducting wall.
- 5.3.2. Power supplier of the EUT was connected to the AC mains through an Artificial Mains Network (A.M.N.).
- 5.3.3. The AC power supplies to all peripheral devices must be provided through line impedance stabilization network (L.I.S.N.)
- 5.3.4. Checking frequency range from 150 kHz to 30 MHz and record the emission which does not have 20 dB below limit.

5.4. Test Results

Please refer to Appendix A.

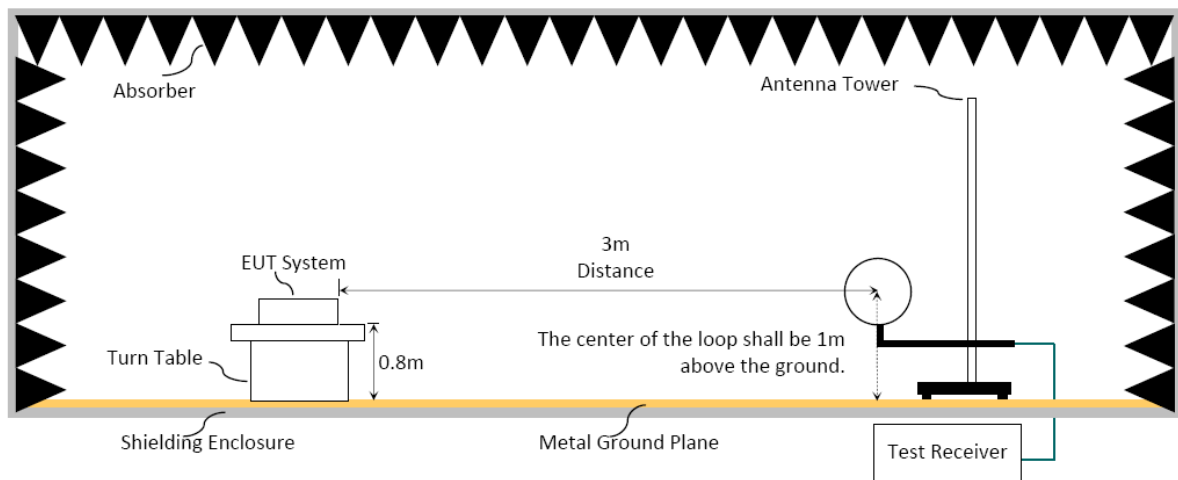
6. RADIATED SPURIOUS EMISSION

6.1. Block Diagram of Test Setup

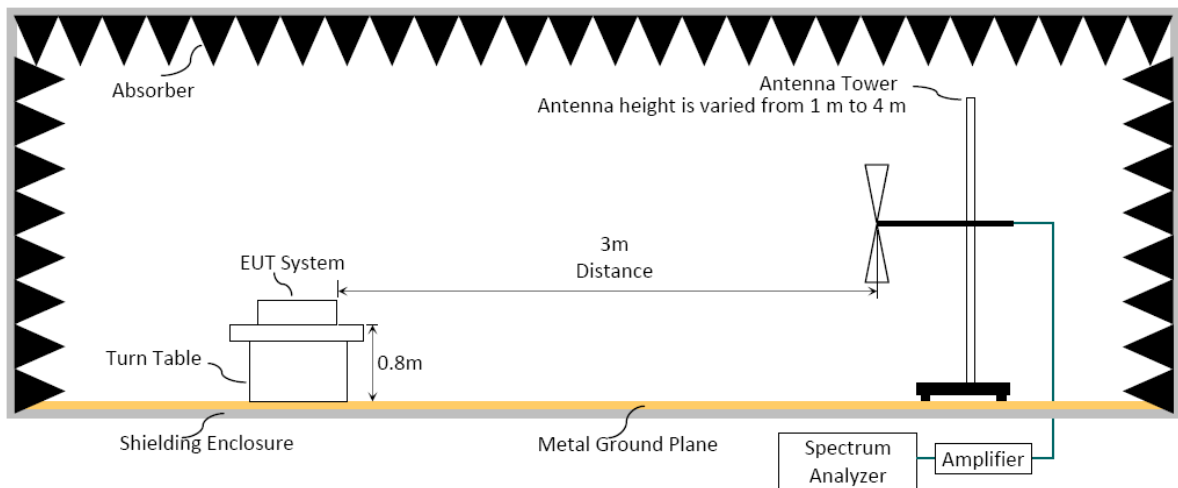
6.1.1. Block Diagram of EUT

Indicated as section 3.8

6.1.2. Setup Diagram for 9kHz-30MHz



6.1.3. Setup Diagram for 30-1000 MHz



6.2. Radiated Emission Limits

In any 100kHz bandwidth outside the frequency band, the radio frequency power produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level. In addition, radiated emissions which fall in restricted bands, as defined in Section 15.205 Section 8.10 table 6 must also comply with the radiated emission limits specified as below.

Frequency (MHz)	Distance (m)	Limits	
		dBμV/m	μV/m
0.009 - 0.490	300	67.6-20 log f(kHz)	2400/f kHz
0.490 - 1.705	30	87.6-20 log f(kHz)	24000/f kHz
1.705 - 30	30	29.5	30
30 - 88	3	40.0	100
88- 216	3	43.5	150
216- 960	3	46.0	200
Above 960	3	54.0	500
Above 1000	3	74.0 dBμV/m (Peak) 54.0 dBμV/m (Average)	

Remark : (1) $\text{dB}\mu\text{V/m} = 20 \log (\mu\text{V/m})$

- (2) The tighter limit applies to the edge between two frequency bands.
- (3) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.
- (4) Fundamental and emission fall within operation band are exempted from this section.
- (5) Pursuant to ANSI C63.10: 6.6.4.3, if the maximized peak measured value complies with the average limit, then it is unnecessary to perform an average measurement.

6.3. Test Procedure

Frequency Range 9kHz~30MHz:

The EUT setup on the turn table which has 0.8 m height to the ground. The turn table rotated 360 degrees and antenna fixed to 1 m to find the maximum emission level. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10-2013 regulation.

- (1) RBW = 9kHz with peak and average detector.
- (2) Detector: average and peak (10kHz-490kHz)
Q.P. (490kHz-30MHz)

Frequency Range 30MHz ~ 1000MHz:

The EUT setup on the turn table which has 0.8 m height to the ground. The turn table rotated 360 degrees and antenna varied from 1 m to 4 m to find the maximum emission level. Both horizontal and vertical polarization are required. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10: 2013 regulation.

Spectrum Analyzer is used for pre-testing with following setting:

- (1) RBW = 120KHz
- (2) VBW $\geq 3 \times$ RBW.
- (3) Detector = Peak.
- (4) Sweep time = auto.
- (5) Trace mode = max hold.
- (6) Allow sweeps to continue until the trace stabilizes.
- (7) When peak-detected value is lower than limit that the measurement using the Q.P. detector is not required. Otherwise using Q.P. for finally measurement.

6.4. Measurement Limit Formula

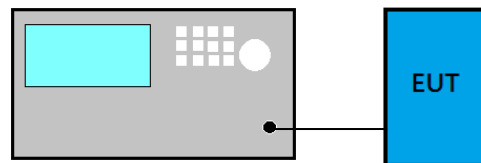
Frequency (MHz)	Formula
0.009 - 0.490MHz	3 Limit (dB μ V/m) = $20\log(2400/F^{\text{Note}}) + 40\log(300\text{m}/3\text{m})$
0.490 - 1.705MHz	3 Limit (dB μ V/m) = $20\log(24000/F^{\text{Note}}) + 40\log(300\text{m}/3\text{m})$
1.750- 30MHz	3 Limit (dB μ V/m) = $20\log(30) + 40\log(300\text{m}/3\text{m})$
Note: F is test frequency	

6.5. Test Results

Please refer to Appendix A.

7. 20dB BANDWIDTH

7.1. Block Diagram of Test Setup



7.2. Specification Limits

The 20dB bandwidth shall be specified in operating frequency band.

7.3. Test Procedure

Following measurement procedure:

- (1) Set RBW close to 1% of OBW.
- (2) Set the video bandwidth (VBW) $\geq 3 \times \text{RBW}$.
- (3) Detector = Peak.
- (4) Trace mode = max hold.
- (5) Sweep = auto couple.
- (6) Allow the trace to stabilize.
- (7) Setting channel bandwidth function x dB to -20 dB to record the final bandwidth.

7.4. Test Results

Please refer to Appendix A

8. DEVIATION TO TEST SPECIFICATIONS

【NONE】



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APPENDIX A

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APPDNDIX A

TEST DATA AND PLOTS

(Model: F9P00100ZD)

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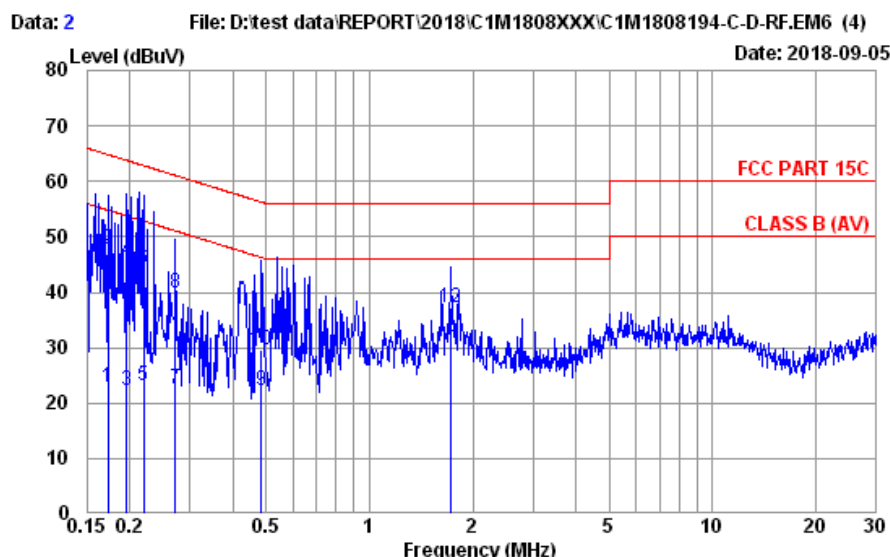
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A.1 CONDUCTED EMISSION

Test Date	2018/09/07	Temp./Hum.	27°C/56%
Test Voltage	AC 120V, 60Hz	Test Mode	10W Fast Charge with AC Adapter



Site no. : No.8 Shielded Room Data no. : 2
Condition : ENV4200 100169 LISN Phase : NEUTRAL
Limit : FCC PART 15C
Env. / Ins. : 27°C / 56% ESR3(1774) Engineer : Nick Du
EUT : F9P00100ZD
Power Rating : 120Vac/60Hz
Test Mode : 10W

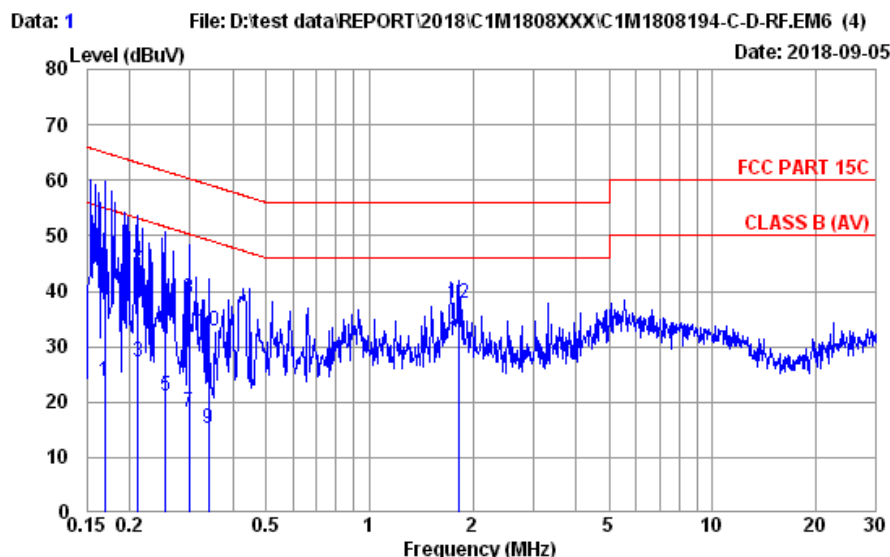
	Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Pulse Att. (dB)	Reading (dBμV)	Emission Level (dBμV)	Limits (dBμV)	Margin (dB)	Remark
1	0.173	10.55	0.03	9.98	2.27	22.83	64.81	41.98	Average
2	0.173	10.55	0.03	9.98	27.19	47.75	64.81	17.06	QP
3	0.195	10.52	0.03	9.98	1.66	22.19	63.80	41.61	Average
4	0.195	10.52	0.03	9.98	25.30	45.83	63.80	17.97	QP
5	0.220	10.51	0.03	9.98	2.72	23.24	62.83	39.59	Average
6	0.220	10.51	0.03	9.98	23.76	44.28	62.83	18.55	QP
7	0.272	10.48	0.03	9.98	2.09	22.58	61.07	38.49	Average
8	0.272	10.48	0.03	9.98	19.50	39.99	61.07	21.08	QP
9	0.484	10.43	0.04	9.98	1.80	22.25	56.27	34.02	Average
10	0.484	10.43	0.04	9.98	9.18	29.63	56.27	26.64	QP
11	1.725	10.45	0.07	9.99	9.58	30.09	56.00	25.91	Average
12	1.725	10.45	0.07	9.99	16.60	37.11	56.00	18.89	QP

Remarks: 1. Emission Level= AMN Factor + Cable Loss + Pulse Att. + Reading.

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Test Date	2018/09/07	Temp./Hum.	27°C/56%
Test Voltage	AC 120V, 60Hz	Test Mode	10W Fast Charge with AC Adapter



Site no. : No.8 Shielded Room Data no. : 1
Condition : ENV4200 100169 LISN Phase : LINE
Limit : FCC PART 15C
Env. / Ins. : 27°C / 56% ESR3(1774) Engineer : Nick Du
EUT : F9P00100ZD
Power Rating : 120Vac/60Hz
Test Mode : 10W

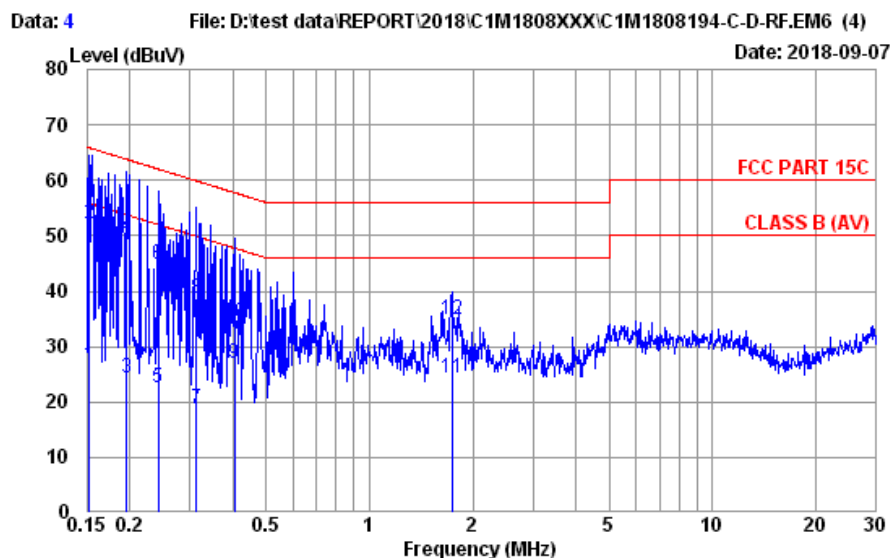
	Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Pulse Att. (dB)	Reading (dBμV)	Emission Level (dBμV)	Limits (dBμV)	Margin (dB)	Remark
1	0.169	10.60	0.03	9.98	2.99	23.60	64.99	41.39	Average
2	0.169	10.60	0.03	9.98	23.44	44.05	64.99	20.94	QP
3	0.212	10.55	0.03	9.98	6.79	27.35	63.14	35.79	Average
4	0.212	10.55	0.03	9.98	24.72	45.28	63.14	17.86	QP
5	0.255	10.52	0.03	9.98	0.67	21.20	61.60	40.40	Average
6	0.255	10.52	0.03	9.98	15.16	35.69	61.60	25.91	QP
7	0.299	10.50	0.04	9.98	-2.47	18.05	60.28	42.23	Average
8	0.299	10.50	0.04	9.98	18.06	38.58	60.28	21.70	QP
9	0.339	10.48	0.04	9.98	-5.19	15.31	59.22	43.91	Average
10	0.339	10.48	0.04	9.98	12.21	32.71	59.22	26.51	QP
11	1.819	10.47	0.07	9.99	10.40	30.93	56.00	25.07	Average
12	1.819	10.47	0.07	9.99	17.20	37.73	56.00	18.27	QP

Remarks: 1. Emission Level= AMN Factor + Cable Loss + Pulse Att. + Reading.

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Test Date	2018/09/07	Temp./Hum.	27°C/56%
Test Voltage	AC 120V, 60Hz	Test Mode	5W Charge with AC Adapter



Site no. : No.8 Shielded Room Data no. : 4
Condition : ENV4200 100169 LISN Phase : NEUTRAL
Limit : FCC PART 15C
Env. / Ins. : 27°C / 56% ESR3(1774) Engineer : Nick Du
EUT : F9P00100ZD
Power Rating : 120Vac/60Hz
Test Mode : 5W

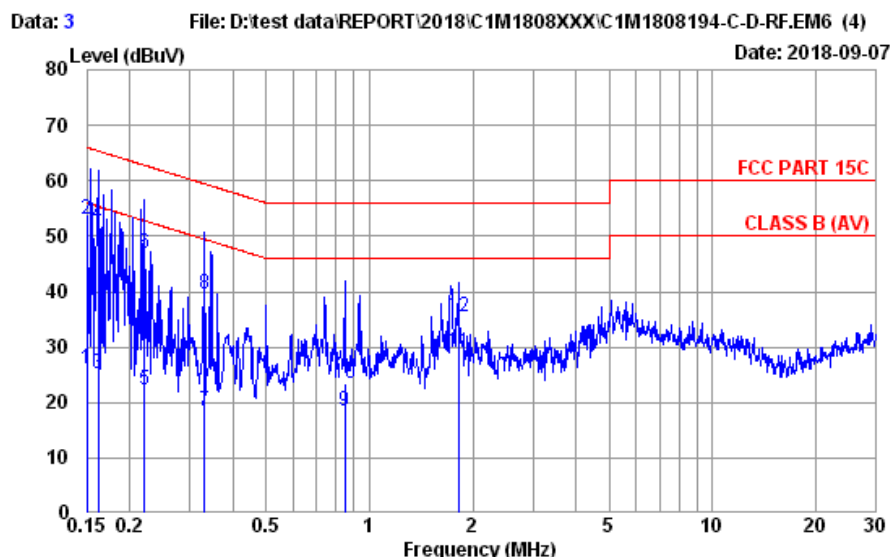
	Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Pulse Att. (dB)	Reading (dBμV)	Emission Level (dBμV)	Limits (dBμV)	Margin (dB)	Remark
1	0.153	10.57	0.03	9.98	5.95	26.53	65.86	39.33	Average
2	0.153	10.57	0.03	9.98	31.66	52.24	65.86	13.62	QP
3	0.195	10.52	0.03	9.98	3.77	24.30	63.80	39.50	Average
4	0.195	10.52	0.03	9.98	29.39	49.92	63.80	13.88	QP
5	0.242	10.50	0.03	9.98	2.13	22.64	62.04	39.40	Average
6	0.242	10.50	0.03	9.98	24.44	44.95	62.04	17.09	QP
7	0.313	10.46	0.04	9.98	-1.71	18.77	59.88	41.11	Average
8	0.313	10.46	0.04	9.98	18.33	38.81	59.88	21.07	QP
9	0.404	10.43	0.04	9.98	6.38	26.83	57.77	30.94	Average
10	0.404	10.43	0.04	9.98	13.84	34.29	57.77	23.48	QP
11	1.734	10.45	0.07	9.99	3.84	24.35	56.00	31.65	Average
12	1.734	10.45	0.07	9.99	14.34	34.85	56.00	21.15	QP

Remarks: 1. Emission Level= AMN Factor + Cable Loss + Pulse Att. + Reading.

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Test Date	2018/09/07	Temp./Hum.	27°C/56%
Test Voltage	AC 120V, 60Hz	Test Mode	5W Charge with AC Adapter



Site no. : No.8 Shielded Room Data no. : 3
Condition : ENV4200 100169 LISN Phase : LINE
Limit : FCC PART 15C
Env. / Ins. : 27°C / 56% ESR3(1774) Engineer : Nick Du
EUT : F9P00100ZD
Power Rating : 120Vac/60Hz
Test Mode : 5W

	Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Pulse Att. (dB)	Reading (dBμV)	Emission Level (dBμV)	Limits (dBμV)	Margin (dB)	Remark
1	0.150	10.63	0.03	9.98	5.39	26.03	65.99	39.96	Average
2	0.150	10.63	0.03	9.98	32.40	53.04	65.99	12.95	QP
3	0.162	10.61	0.03	9.98	4.70	25.32	65.38	40.06	Average
4	0.162	10.61	0.03	9.98	31.48	52.10	65.38	13.28	QP
5	0.221	10.54	0.03	9.98	1.67	22.22	62.79	40.57	Average
6	0.221	10.54	0.03	9.98	26.24	46.79	62.79	16.00	QP
7	0.330	10.48	0.04	9.98	-2.17	18.33	59.44	41.11	Average
8	0.330	10.48	0.04	9.98	18.98	39.48	59.44	19.96	QP
9	0.848	10.44	0.06	9.99	-1.93	18.56	56.00	37.44	Average
10	0.848	10.44	0.06	9.99	2.99	23.48	56.00	32.52	QP
11	1.819	10.47	0.07	9.99	8.61	29.14	56.00	26.86	Average
12	1.819	10.47	0.07	9.99	14.93	35.46	56.00	20.54	QP

Remarks: 1. Emission Level= AMN Factor + Cable Loss + Pulse Att. + Reading.

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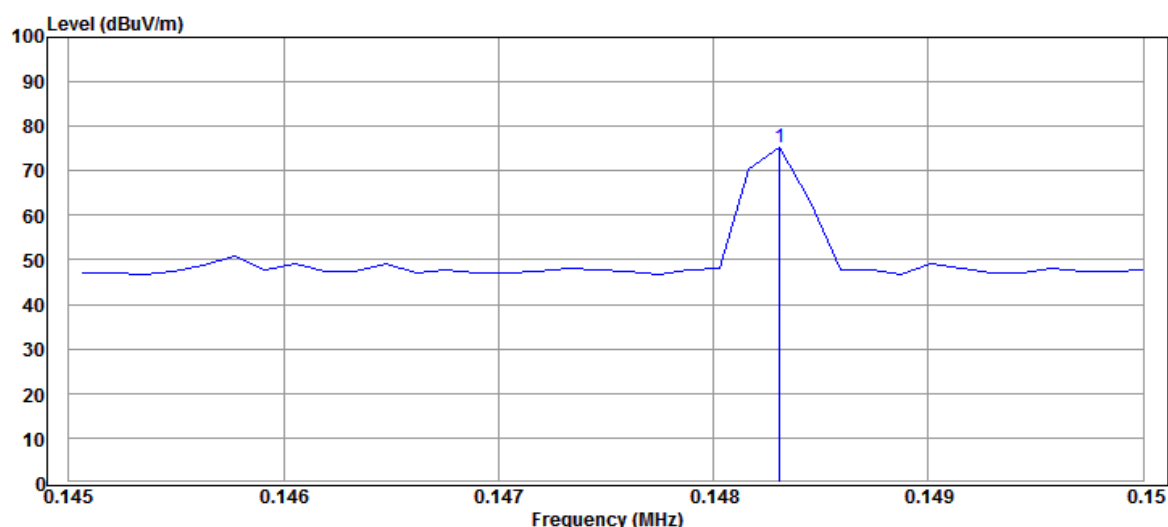
A.2 RADIATED SPURIOUS EMISSION

Test Date	2018/09/04 ~ 07	Temp./Hum.	23~24°C/54~56%
Test Voltage	AC 120V, 60Hz		

A.2.1. Frequency 9kHz~30MHz

Test Frequency	TX 148.37kHz	Test Mode	10W Fast Charge with AC Adapter
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Antenna at 0 Degree



Emission Frequency (kHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
148.37	18.86	0.10	56.74	75.70	104.18	28.48	Peak
296.74	18.80	0.10	30.20	49.10	98.16	49.06	Peak
445.11	18.72	0.10	34.98	53.80	94.63	40.83	Peak
591.66	18.75	0.13	26.32	45.20	72.16	26.96	QP

Note: 1. All emissions are lower than the ambient level cannot be measured.

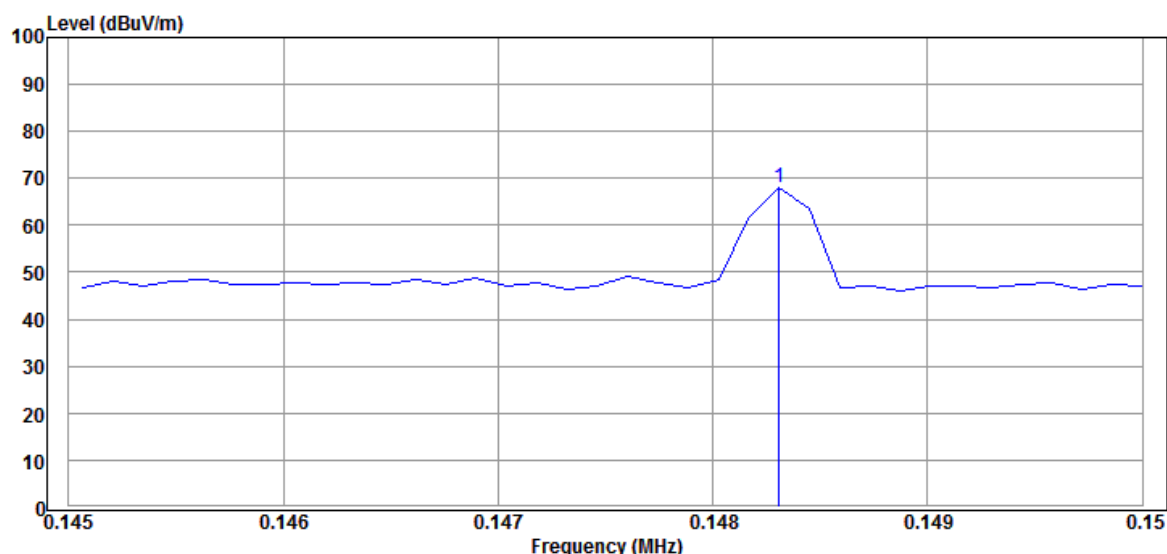
2. The Peak value has been compliance with Average limit, thus measurement with Average is not needed.

3. We only presented the measurement plots for fundamental frequency.

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Antenna at 90 Degree



Emission Frequency (kHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
148.37	18.86	0.10	49.34	68.30	104.18	35.88	Peak
296.74	18.81	0.10	29.79	48.70	98.16	49.46	Peak
445.11	18.72	0.10	27.38	46.20	94.63	48.43	Peak
591.66	18.75	0.13	32.42	51.30	72.16	20.86	QP

Note: 1. All emissions are lower than the ambient level cannot be measured.

2. The Peak value has been compliance with Average limit, thus measurement with Average is not needed.

3. We only presented the measurement plots for fundamental frequency.

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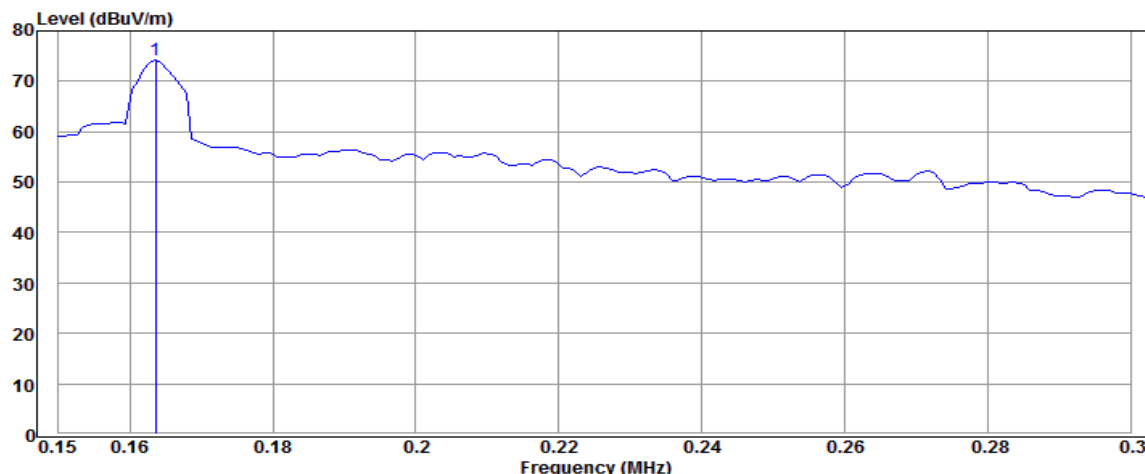
Test Frequency

TX 163.89kHz

Test Mode

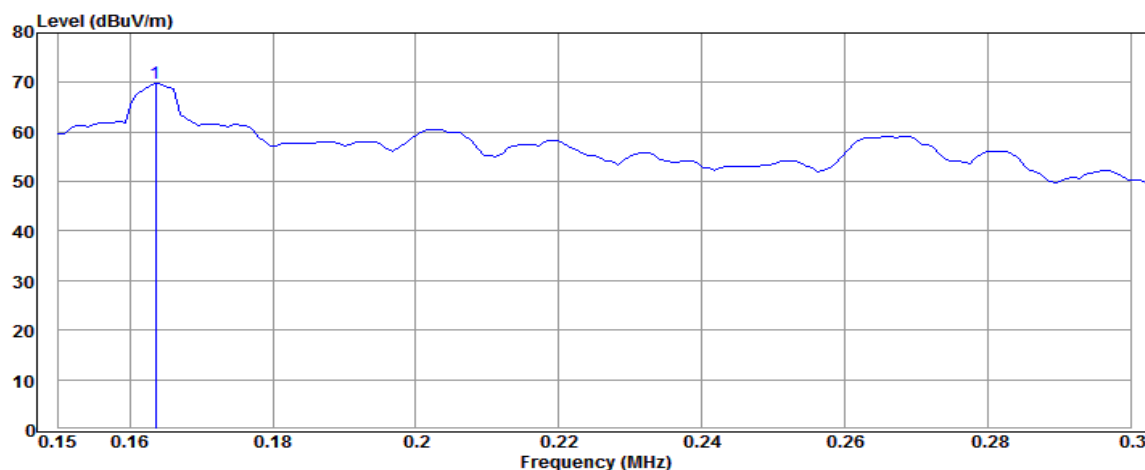
5W Charge with AC Adapter

Antenna at 0 Degree



Emission Frequency (kHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
163.89	18.85	0.10	55.85	74.80	103.31	28.51	Peak
327.78	18.78	0.10	29.08	47.96	97.29	49.33	Peak
491.67	18.70	0.10	25.10	43.90	73.77	29.87	QP
655.56	18.78	0.13	23.27	42.18	71.27	29.09	QP

Antenna at 90 Degree



Emission Frequency (kHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
163.89	18.85	0.10	50.53	69.48	103.31	33.83	Peak
327.78	18.78	0.10	28.48	47.36	97.29	49.93	Peak
491.67	18.70	0.10	27.36	46.16	73.77	27.61	QP
655.56	18.78	0.13	24.96	43.87	71.27	27.40	QP

Note: 1. All emissions are lower than the ambient level cannot be measured.

2. The Peak value has been compliance with Average limit, thus measurement with Average is not needed.

3. We only presented the measurement plots for fundamental frequency.

A.2.2. Frequency 30MHz ~ 1000MHz

Test Frequency	TX 148.37kHz	Test Mode	10W Fast Charge with AC Adapter
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Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
59.10	12.75	1.71	12.37	26.83	40.00	13.17	Peak
182.29	15.47	3.16	7.85	26.48	43.50	17.02	Peak
288.99	19.42	4.20	5.45	29.07	46.00	16.93	Peak
493.66	23.09	6.38	1.52	30.99	46.00	15.01	Peak
693.48	24.86	7.07	2.08	34.01	46.00	11.99	Peak
980.60	27.63	8.70	2.20	38.53	54.00	15.47	Peak

Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
30.97	24.27	1.22	10.20	35.69	40.00	4.31	Peak
60.07	12.54	1.73	24.40	38.67	40.00	1.33	Peak
83.35	14.45	2.05	19.53	36.03	40.00	3.97	Peak
107.60	18.02	2.36	12.79	33.17	43.50	10.33	Peak
796.30	25.88	7.59	3.56	37.03	46.00	8.97	Peak
981.57	27.66	8.72	2.08	38.46	54.00	15.54	Peak

Test Frequency	TX 163.89kHz	Test Mode	5W Charge with AC Adapter
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Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
61.04	12.57	1.75	12.05	26.37	40.00	13.63	Peak
132.82	18.16	2.64	5.77	26.57	43.50	16.93	Peak
276.38	19.34	4.08	4.86	28.28	46.00	17.72	Peak
617.82	24.69	6.82	2.64	34.15	46.00	11.85	Peak
927.25	27.08	8.35	2.58	38.01	46.00	7.99	Peak
968.96	27.52	8.63	1.58	37.73	54.00	16.27	Peak

Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
31.94	23.76	1.25	13.70	38.71	40.00	1.29	Peak
89.17	15.42	2.13	9.43	26.98	43.50	16.52	Peak
252.13	19.17	3.83	2.98	25.98	46.00	20.02	Peak
600.36	24.64	6.75	1.96	33.35	46.00	12.65	Peak
888.45	26.70	8.10	2.65	37.45	46.00	8.55	Peak
977.69	27.63	8.70	2.05	38.38	54.00	15.62	Peak

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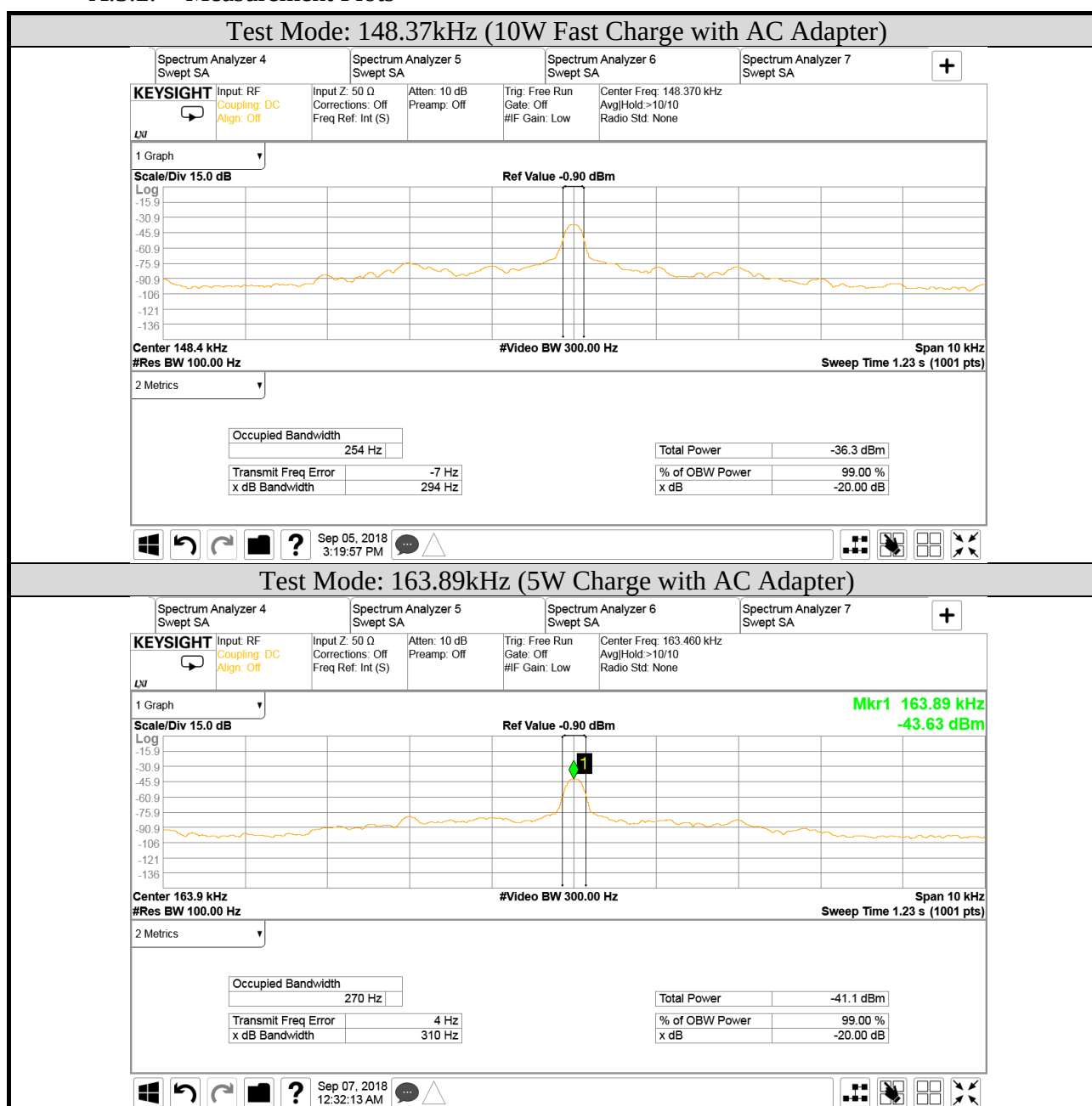
A.3 20dB BANDWIDTH

Test Date	2018/09/05 ~ 07	Temp./Hum.	23~24°C/54~56%
Test Voltage	AC 120V, 60Hz		

A.3.1. 20dB/99% Bandwidth Result

Centre Frequency	20 dB Bandwidth	99% Bandwidth
148.37 kHz	294 Hz	254 Hz
163.89 kHz	310 Hz	270 Hz

A.3.2. Measurement Plots





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APPENDIX B

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APPDNDIX B

TEST PHOTOGRAPHS

(Model: F9P00100ZD)