Prüfbericht-Nr.: *Test report no.:*	**CN21VR2A 001**	**Auftrags-Nr.:** *Order no.:*	168306757	Seite 1 von 32 *Page 1 of 32*
Kunden-Referenz-Nr.: *Client reference no.:*	N/A	**Auftragsdatum:** *Order date:*	2021-02-07	
Auftraggeber: *Client:*	**SHENZHEN DBK ELECTRONICS CO.,LTD.** Room No .208-1, 308, 404-408 in Building Five, 2-4 Floor in Building Three, No.8 Qinghua Road, Zhu Village, Fucheng New Community, Guanlan Street, Longhua District, Shenzhen City, Guangdong Province, P.R.China			
Prüfgegenstand: *Test item:*	QI Wireless Charging Pad			
Bezeichnung / Typ-Nr.: *Identification / Type no.:*	BE-MQP10W22K, BE-xxxxxxxxxx, NS-xxxxxxxxxx, PT-xxxxxxxxxx, DX-xxxxxxxxxx, RF-xxxxxxxxxx("x" can be 0-9, A-Z, a-z, "-" or blank, for market purpose only, all models are identical except the model name or color) (Trademark: Best Buy essentials, INSIGNIA, MODAL, Platinum, DYNEX, Rocketfish)			
Auftrags-Inhalt: *Order content:*	Type test			
Prüfgrundlage: *Test specification:*	CFR47 FCC Part 15: Subpart C Section 15.207 CFR47 FCC Part 15: Subpart C Section 15.209 CFR47 FCC Part 15: Subpart B Section 15.107 CFR47 FCC Part 15: Subpart B Section 15.109			

Wareneingangsdatum: *Date of sample receipt:*	2021-02-20	Refer to photos document
Prüfmuster-Nr.: *Test sample no.:*	A002999016-001	
Prüfzeitraum: *Testing period:*	2021-02-21 – 2021-02-26	
Ort der Prüfung: *Place of testing:*	TÜV Rheinland (Shenzhen) Co., Ltd.	
Prüflaboratorium: *Testing laboratory:*	TÜV Rheinland (Shenzhen) Co., Ltd.	
Prüfergebnis*: *Test result*:*	Pass	

geprüft von: *tested by:*	X Alex Lan Signed by: Alex Lan	**genehmigt von:** *authorized by:*	X Winnie Hou
Datum: *Date:* 2021-04-06		**Ausstellungsdatum:** *Issue date:* 2021-04-06	
Stellung / Position	Senior Project Engineer	**Stellung** / Position	Department Manager

Sonstiges / *Other:* FCC ID: 2ARVRCP610L

Zustand des Prüfgegenstandes bei Anlieferung: *Condition of the test item at delivery:* Prüfmuster vollständig und unbeschädigt *Test item complete and undamaged:*

* Legende:	1 = sehr gut	2 = gut	3 = befriedigend	4 = ausreichend	5 = mangelhalt
	P(ass) = entspricht o.g. Prüfgrundlage(n)		F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	N/A = nicht anwendbar	N/T = nicht getestet
Legend:	*1 = very good*	*2 = good*	*3 = satisfactory*	*4 = sufficient*	*5 = poor*
	P(ass) = passed a.m. test specifications(s)		*F(ail) = failed a.m. test specifications(s)*	*N/A = not applicable*	*N/T = not tested*

TÜV Rheinland (Shenzhen) Co., Ltd. 1601 R&D Room, 1602-1604, 17-18F, Building 7 Site C, Vanke Cloud City Phase I, Xingke First Street, Xili Street, Xili Community, Nanshan District, Shenzhen 518052, P.R. China
Mail: service@de.tuv.com · Web: www.tuv.com

Test Summary

5.1.1 ANTENNA REQUIREMENT
RESULT: Pass

5.1.2 20DB BANDWIDTH
RESULT: Pass

5.1.3 RADIATED SPURIOUS EMISSION
RESULT: Pass

5.1.4 CONDUCTED EMISSION ON AC MAINS
RESULT: Pass

5.1.5 RADIATED EMISSION
RESULT: Pass

6.1.1 ELECTROMAGNETIC FIELDS
RESULT: Pass

Contents

1 General Remarks

1.1 Complementary Materials

None

2 Test Sites

2.1 Test Facilities

TÜV Rheinland (Shenzhen) Co., Ltd.

No. 362 Huanguan Road Middle, Longhua District, Shenzhen 518110, People's Republic of China

FCC Registration No.: 694916

IC Registration No.: 25069

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Radio Spectrum Testing				
Description	**Manufacturer**	**Model**	**Serial No.**	**Cal. Until**
Signal Analyzer	Rohde & Schwarz	FSV 40	101441	2021-08-20
OSP	Rohde & Schwarz	OSP 150	101017	2021-12-20
Control PC	DELL	OptiPlex 7050	FTJZ9P2	N/A
Test Software	Rohde & Schwarz	WMS32 (V10.40.10)	N/A	N/A
Shielding Room 8#	Albatross	SR8	APC17151-SR8	2023-07-23
Unwanted Emission Testing				
Description	**Manufacturer**	**Model**	**Serial No.**	**Cal. Until**
EMI Test Receiver	Rohde & Schwarz	ESR 7	102021	2021-08-19
Signal Analyzer	Rohde & Schwarz	FSV 40	101439	2021-08-21
System Controller Interface	Rohde & Schwarz	SCI-100	S10010038	N/A
Filterbank	Rohde & Schwarz	Wlan	100759	2021-08-21
OSP	Rohde & Schwarz	OSP 120	102040	N/A
Pre-amplifier	Rohde & Schwarz	SCU08F1	08320031	2021-08-20
Amplifier	Rohde & Schwarz	SCU-18F	180070	2021-08-20
Amplifier	Rohde & Schwarz	SCU40A	100475	2021-08-21
Trilog Broadband Antenna (30 MHz - 1 GHz)	Schwarzbeck	VULB9162	193	2021-09-02
Double-Ridged Antenna (1 -18 GHz)	ETS-LINDGREN	3117	00218717	2021-09-02
Wideband Ridged Horn Antenna (18-40 GHz)	Steatite	QMS-00880	19067	2021-09-02
Active Loop Antenna	Schwarzbeck	FMZB 1513	302	2021-09-01
Wideband Ridged Horn Antenna (12-18 GHz)	Steatite	QMS-00208	18313	2021-09-02
Test software	Rohde & Schwarz	V10.40.10-EMC32	N/A	N/A
Control PC	Dell	OptiPlex 7050	36NV9P2	N/A
3m Semi-Anechoic Chamber	Albatross	SAC-3m	APC17151-SAC	2021-06-07

Conducted Emission				
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Until**
EMI Test Receiver	R&S	ESR3	102428	2021-09-03
Artificial Mains Network	R&S	ENV216	102333	2021-08-19
Artificial Mains Network	R&S	ENV432	101411	2021-08-19
Impedance Stabilisation Network	R&S	ENY81	100323	2021-08-19
Impedance Stabilisation Network	R&S	ENY81-CA6	101810	2021-08-20
Current Probe	R&S	EZ-17	101247	2021-08-19
Voltage Probe	R&S	ESH2-Z3	100557	2021-08-19
Attenuator	R&S	ESH2Z31	100300	2021-08-19
EMC32 test software	R&S	EMC32(Ver.10.50.01)	N/A	N/A
Radiated Emission				
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Until**
3m SAC	ETS	SAC3	CT001632-Q1362	2021-08-23
EMI Test Receiver	R&S	ESR7	102111	2022-01-23
Horn Antenna	R&S	HF907	102706	2021-09-01
Preamplifier	FIT	SCU-18F	180077	2021-08-19
Active magnetic loop antenna	SCHWARZBECK	FMZB1519B	00080	2021-08-19
Trilog-Broadband antenna	SCHWARZBECK	VULB9168	0945	2021-08-19
Switching Controller Interface	R&S	OSP 120	102039	N/A
EMC32 test software	R&S	EMC32(Ver.10.50.01)	N/A	N/A

2.3 Traceability

All measurement equipment calibrations are traceable to NIM (National Institute of Metrology) or where calibration is performed in other countries, to equivalent nationally recognized standards organizations.

2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basics using in house standards or comparisons.

2.5 Measurement Uncertainty

The estimated combined standard uncertainty for radiated emissions and conducted emissions measurements as below table

Test	Parameters	Expanded uncertainty (U_{lab})	Expanded uncertainty (U_{cispr})
Conducted Emission	Level accuracy (9kHz to 150kHz) (150kHz to 30MHz)	± 3.70 dB ± 3.30 dB	± 3.8 dB ± 3.4 dB
Radiated Emission (3m SAC)	Level accuracy (30MHz to 1000MHz)	± 4.52 dB	± 6.3 dB
	Level accuracy (above 1000MHz)	± 4.37 dB	N/A
Radiated Emission (10m SAC)	Level accuracy (30MHz to 1000MHz)	± 4.66 dB	± 6.3 dB
	Level accuracy (above 1000MHz)	± 4.35 dB	N/A

2.6 Location of Original Data

The original copies of all test data taken during actual testing were in this report and delivered to the applicant. A copy has been retained in the TÜV Rheinland (Shenzhen) file for certification follow-up purposes.

2.7 Status of Facility Used for Testing

The TÜV Rheinland (Shenzhen) Co., Ltd.Test facility located at No. 362 Huanguan Road Middle, Longhua District, Shenzhen 518110, People's Republic of China is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

3 General Product Information

3.1 Product Function and Intended Use

The device is a QI Wireless Charging Pad, which supports wireless charging function.

All models are identical except the model name or color or trademark.

For details refer to the User Manual, Technical Description and Circuit Diagram.

3.2 Ratings and System Details

Table 2: Technical Specification of EUT

General Information of EUT	Value
Kind of Equipment	QI Wireless Charging Pad
Type Designation	BE-MQP10W22K, BE-xxxxxxxxxx, NS-xxxxxxxxxx, PT-xxxxxxxxxx, DX-xxxxxxxxxx, RF-xxxxxxxxxx("x" can be 0-9, A-Z, a-z, "-" or blank, for market purpose only, all models are identical except the model name or color)
FCC ID	2ARVRCP610L
Trade Mark	Best Buy essentials, INSIGNIA, MODAL, Platinum, DYNEX, Rocketfish
Input Voltage	DC 5V, 2A or DC 9V, 2A via AC/DC Adapter
Test Voltage	AC 120V, 60Hz
AC/DC Adapter	Model: USB-158Q3 Rating Input: AC 100-240V, 50/60Hz 0.4A Max Rating Output: DC 5V 3A, DC 9V 2A, DC 12V 1.5A
Technical Specification of WPT	
Operating Frequency	120-205KHz
Modulation	FSK
Antenna Type	Induction coil
Antenna Gain	0 dBi
Wireless output	10W maximum

3.3 Independent Operation Modes

The basic operation modes are:

A. On, Wireless charging

B. Off

3.4 Noise Generating and Noise Suppressing Parts

Refer to Circuit Diagram for further details.

3.5 Submitted Documents

- Block Diagram
- Schematics
- User Manual

4 Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

Emission: The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

Radio Spectrum: The equipment under test (EUT) was configured at its highest power output in order to measure its highest possible radiation and conducted level. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5&6. All testing were performed according to the procedures in ANSI C63.10: 2013 & ANSI C63.4: 2014

According to clause 3.1, all test were applied on model BE-MQP10W22K.

4.3 Special Accessories and Auxiliary Equipment

Table 3: List of Accessories and Auxiliary Equipment

Description	Manufacturer	Model	S/N
Electrical Load	YBZ	N/A	N/A

4.4 Countermeasures to Achieve EMC Compliance

The test sample which has been tested contained the noise suppression parts as described in the Technical Construction File (TCF).

No additional measures were employed to achieve compliance.

4.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test (Below 30MHz)

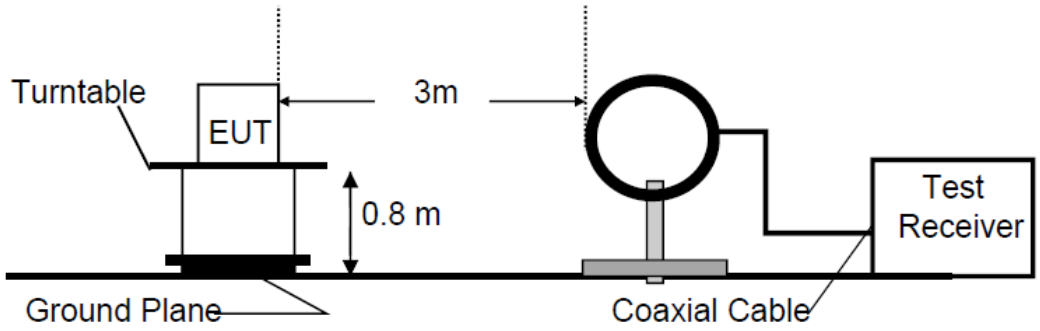


Diagram of Measurement Configuration for Radiation Test (Below 1GHz)

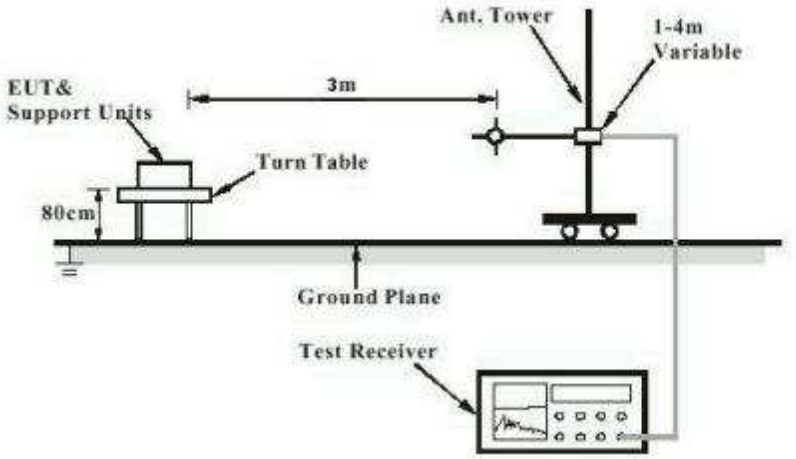


Diagram of Measurement Configuration for Radiation Test (Above 1GHz)

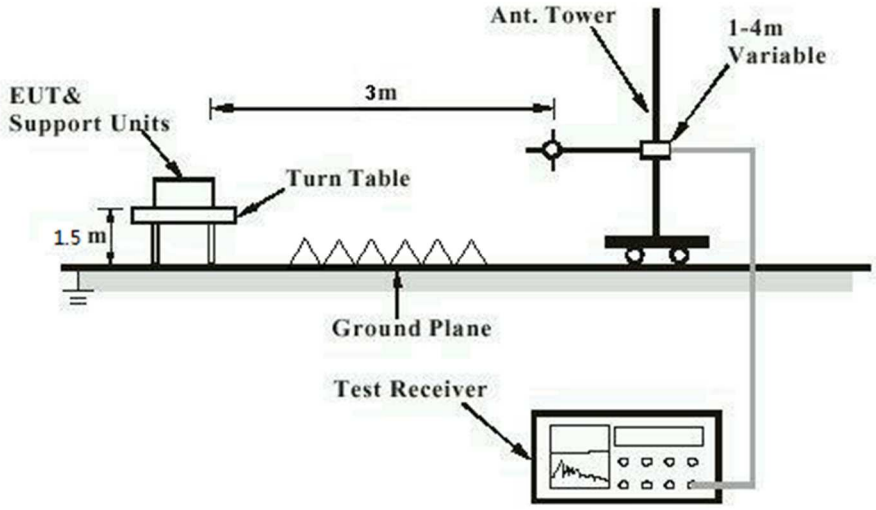


Diagram of Measurement Configuration for Conducted Transmitter Measurement

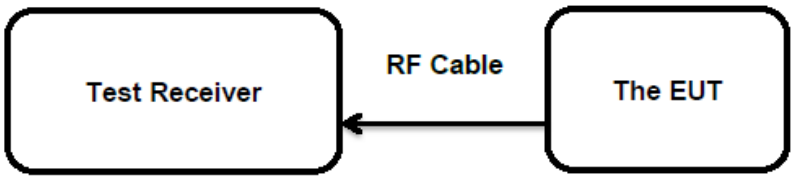
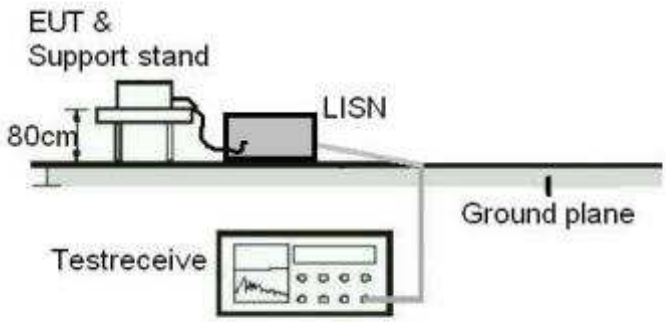


Diagram of Measurement Equipment Configuration for Mains Conduction Measurement



5 Test Results

5.1 Transmitter Requirement & Test Suites for WPT

5.1.1 Antenna Requirement

RESULT: **Pass**

Test Specification

Test standard	:	Part 15.203
Limit	:	the use of antennas with directional gains that do not exceed 6 dBi

According to the manufacturer declared, the EUT has one internal antenna, the directional gain of antenna is 0 dBi, and the antenna connector is designed with permanent attachment and no consideration of replacement. Therefore the EUT is considered sufficient to comply with the provision.

Refer to EUT Photo for further details.

5.1.2 20dB Bandwidth

RESULT: **Pass**

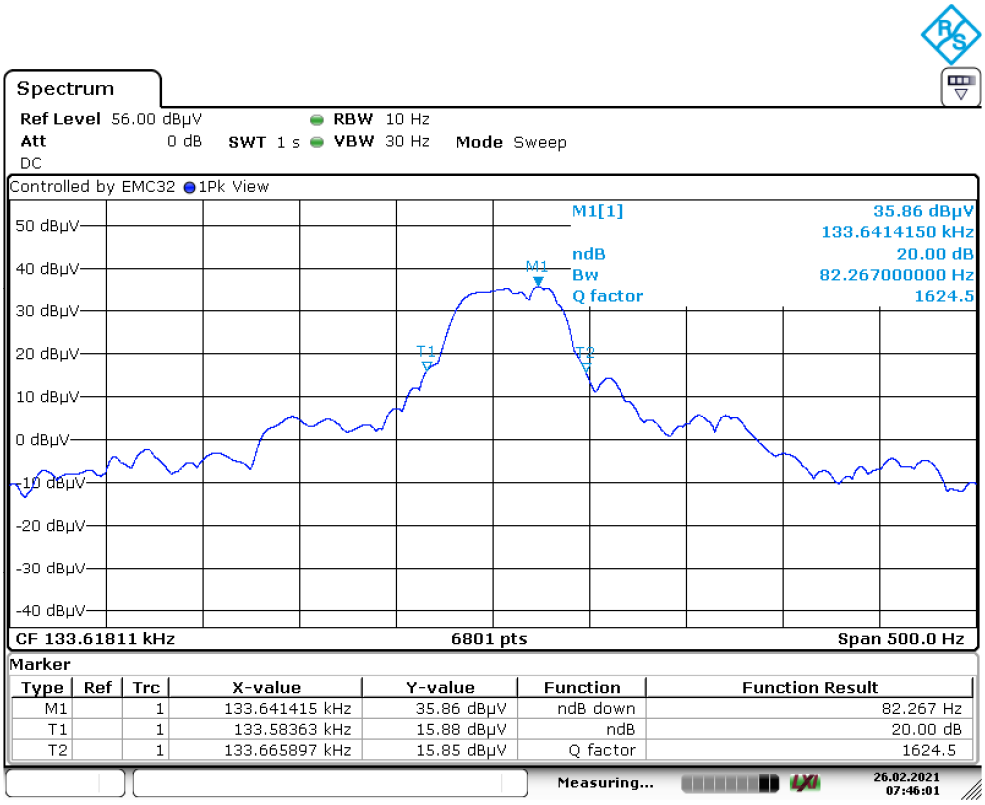
Test Specification

Test standard	:	FCC Part 15.215(c)
Basic standard	:	ANSI C63.10: 2013
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	26.02.2021
Input voltage	:	AC 120V, 60Hz
Operation mode	:	A
Ambient temperature	:	25 ℃
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

For details refer to following test result.



Date: 26.FEB.2021 07:46:01

5.1.3 Radiated Spurious Emission

RESULT: **Pass**

Test Specification

Test standard	:	FCC Part 15.201
Basic standard	:	ANSI C63.10: 2013
Limits	:	Refer to 15.209(a)
Kind of test site	:	3m Semi-anechoic Chamber

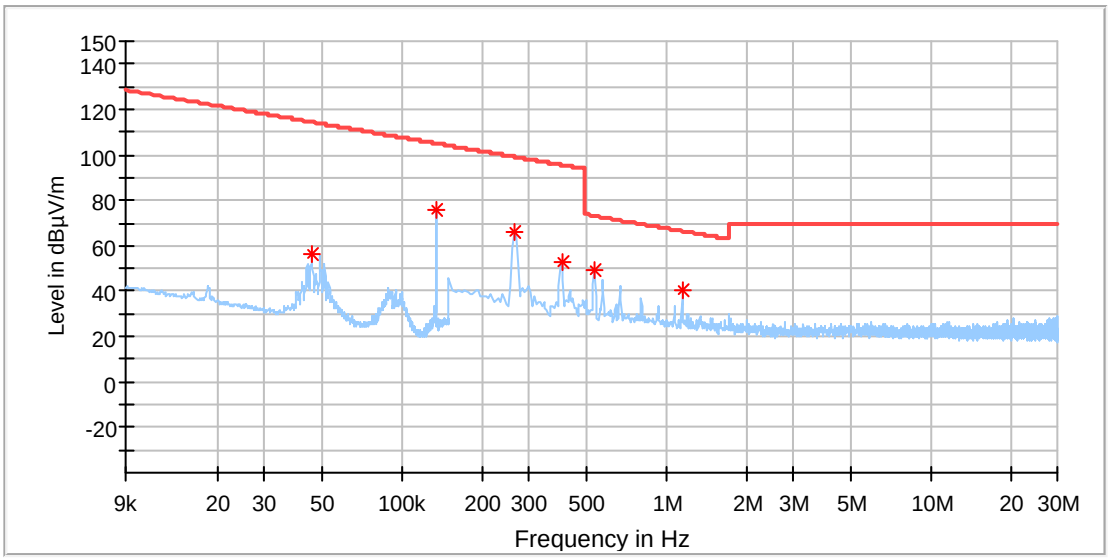
Test Setup

Date of testing	:	25.02.2021
Input voltage	:	AC 120V, 60Hz
Operation mode	:	A
Ambient temperature	:	23 ℃
Relative humidity	:	55 %
Atmospheric pressure	:	101 kPa

For details refer to following test result.

EUT Information

EUT Name:	QI Wireless Charging Pad
Model:	BE-MQP10W22K
Test Mode:	Charging
Test Voltage::	120V/60Hz
Remark:	Temp 23 Humi:55%
Test Standard:	FCC Part 15C
Tested By:	Alano Qu
Reviewed By:	Terry Yin

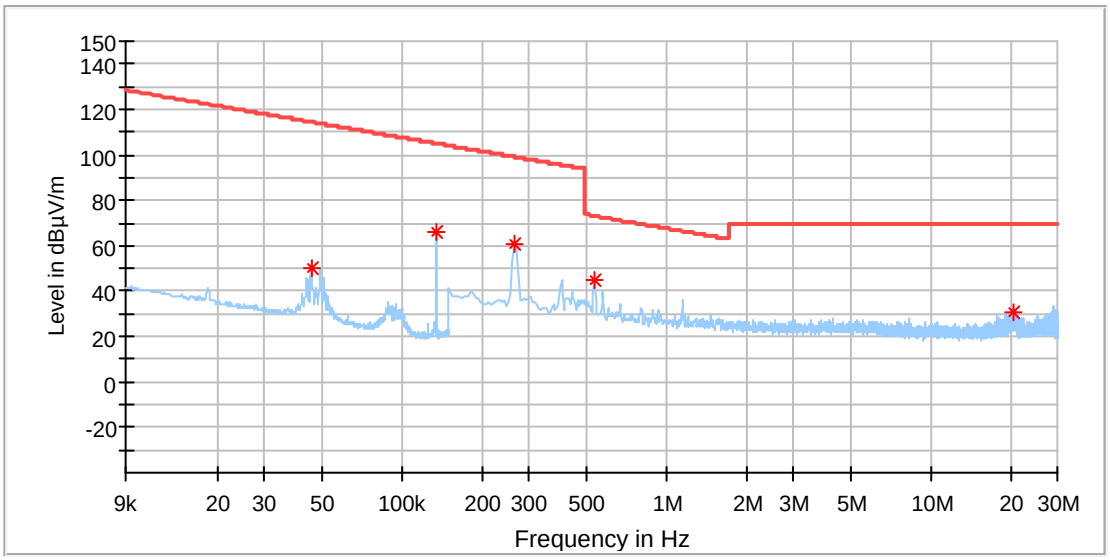


Critical_Freqs

Frequency (MHz)	Max Peak (dBuv/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Preamp (dB)	Trd Corr. (dB/m)
0.045459	56.59	114.44	57.85	100.0	X	91.0	20.0	0.0	20.0
0.133785	75.53	105.07	29.54	100.0	X	136.0	20.0	0.0	20.0
0.264133	65.69	99.17	33.47	100.0	X	266.0	20.0	0.0	20.0
0.400213	52.64	95.56	42.91	100.0	X	128.0	20.0	0.0	20.0
0.531905	49.45	73.09	23.64	100.0	X	262.0	20.0	0.0	20.0
1.146463	40.60	66.44	25.84	100.0	X	288.0	20.0	0.0	20.0

EUT Information

EUT Name:	QI Wireless Charging Pad
Model:	BE-MQP10W22K
Test Mode:	Charging
Test Voltage::	120V/60Hz
Remark:	Temp 23 Humi:55%
Test Standard:	FCC Part 15C
Tested By:	Alano Qu
Reviewed By:	Terry Yin

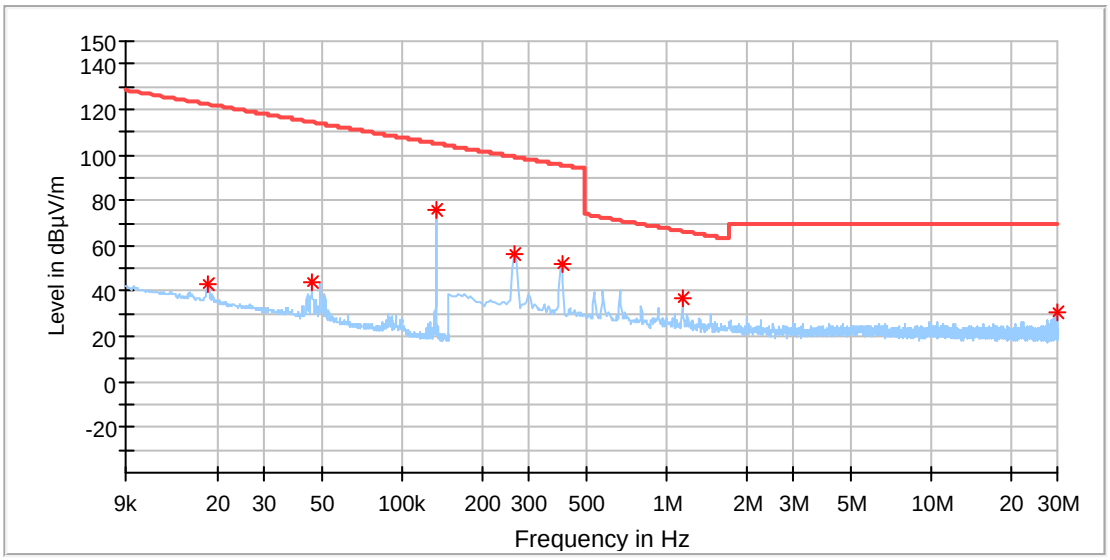


Critical_Freqs

Frequency (MHz)	Max Peak (dBuv/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Preamp (dB)	Trd Corr. (dB/m)
0.045358	50.48	114.46	63.98	100.0	X	48.0	20.0	0.0	20.0
0.133785	65.99	105.07	39.08	100.0	X	29.0	20.0	0.0	20.0
0.264133	61.10	99.17	38.06	100.0	X	185.0	20.0	0.0	20.0
0.531905	44.80	73.09	28.29	100.0	X	351.0	20.0	0.0	20.0
20.333868	30.53	69.50	38.97	100.0	X	77.0	20.0	0.0	20.0

EUT Information

EUT Name:	QI Wireless Charging Pad
Model:	BE-MQP10W22K
Test Mode:	Charging
Test Voltage::	120V/60Hz
Remark:	Temp 23 Humi:55%
Test Standard:	FCC Part 15C
Tested By:	Alano Qu
Reviewed By:	Terry Yin

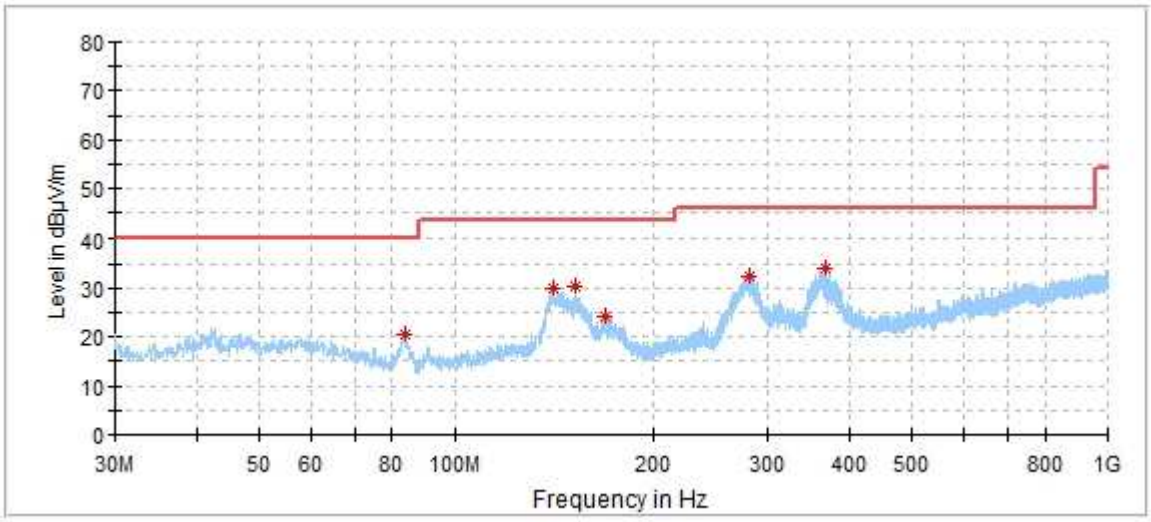


Critical_Freqs

Frequency (MHz)	Max Peak (dBuv/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Preamp (dB)	Trd Corr. (dB/m)
0.018366	42.76	122.31	79.54	100.0	X	236.0	20.0	0.0	20.0
0.045559	43.56	114.42	70.86	100.0	X	69.0	20.0	0.0	20.0
0.133684	75.61	105.08	29.46	100.0	X	102.0	20.0	0.0	20.0
0.264133	56.30	99.17	42.87	100.0	X	85.0	20.0	0.0	20.0
0.400213	51.72	95.56	43.83	100.0	X	119.0	20.0	0.0	20.0
1.146463	36.94	66.44	29.50	100.0	X	253.0	20.0	0.0	20.0
29.798074	30.30	69.50	39.20	100.0	X	284.0	20.0	0.0	20.0

EUT Information

EUT Name:	QI Wireless Charging Pad
Model	BE-MQP10W22K
Test Mode:	ON (10W Max)
Test Voltage:	AC 120V/60Hz
Test By:	Mac Xie
Review By:	Gary Chen
Remark:	3m Chamber

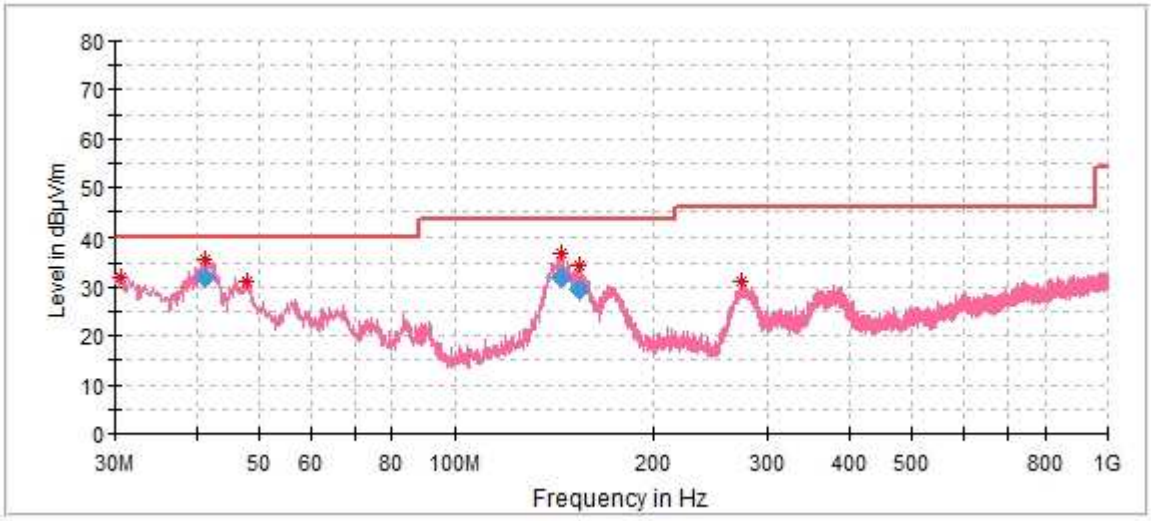


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
83.835000	20.56	40.00	19.44	300.0	H	187.0	15.3
140.871000	29.89	43.50	13.61	200.0	H	88.0	20.2
152.123000	30.24	43.50	13.26	200.0	H	108.0	20.9
169.486000	24.18	43.50	19.32	200.0	H	273.0	21.7
281.812000	32.54	46.00	13.46	100.0	H	76.0	20.0
367.366000	34.06	46.00	11.94	100.0	H	88.0	22.9

EUT Information

EUT Name:	QI Wireless Charging Pad
Model	BE-MQP10W22K
Test Mode:	ON (10W Max)
Test Voltage:	AC 120V/60Hz
Test By:	Mac Xie
Review By:	Gary Chen
Remark:	3m Chamber



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
30.582000	32.04	40.00	7.96	100.0	V	12.0	18.0
41.175000	35.71	40.00	4.29	100.0	V	303.0	20.0
48.042000	31.09	40.00	8.91	100.0	V	216.0	21.0
144.246000	36.87	43.50	6.63	100.0	V	26.0	20.0
153.986000	34.57	43.50	8.93	100.0	V	276.0	21.0
273.276000	31.35	46.00	14.65	100.0	V	123.0	20.0

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
41.175000	31.94	40.00	8.06	1000.0	120.000	100.0	V	303.0	20.0
144.246000	32.08	43.50	11.42	1000.0	120.000	100.0	V	26.0	20.0
153.986000	29.44	43.50	14.06	1000.0	120.000	100.0	V	276.0	21.0

5.1.4 Conducted Emission on AC Mains

RESULT: **Pass**

Test Specification

Test standard	:	FCC Part 15.207(a), FCC Part 15.107(a)
Basic standard	:	ANSI C63.4: 2014, ANSI C63.10: 2013
Frequency range	:	0.15 – 30MHz
Limits	:	FCC Part 15.207(a), FCC Part 15.107(a)
Kind of test site	:	Shielded Room

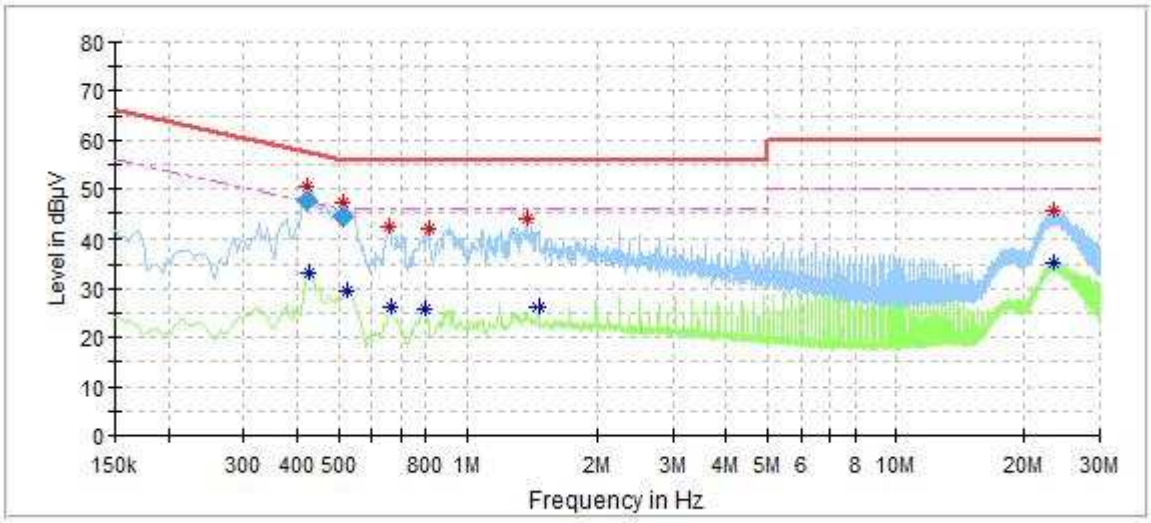
Test Setup

Date of testing	:	23.02.2021
Input voltage	:	AC 120V/60Hz
Operation mode	:	A
Earthing	:	Not connected
Ambient temperature	:	22 ℃
Relative humidity	:	55 %
Atmospheric pressure	:	101 kPa

For the measurement records, refer to the appendix C.

EUT Information

EUT Name:	QI Wireless Charging Pad
Model	BE-MQP10W22K
Test Mode:	ON (10W Max)
Test Voltage:	AC 120V/60Hz
Test By:	Mac Xie
Review By:	Gary Chen
Remark:	SR1



Critical_Freqs

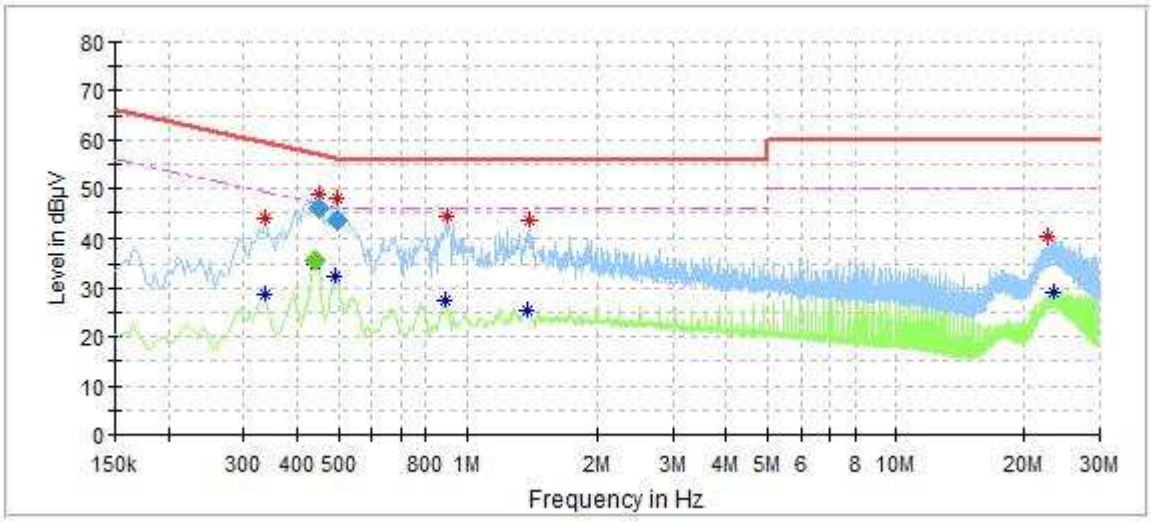
Frequency (MHz)	MaxPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.420500	50.51	---	57.18	6.66	L1	9.7
0.426000	---	33.07	47.33	14.26	L1	9.7
0.512000	47.38	---	56.00	8.62	L1	9.7
0.524000	---	29.41	46.00	16.59	L1	9.7
0.660000	42.10	---	56.00	13.90	L1	9.7
0.664000	---	26.41	46.00	19.59	L1	9.7
0.796000	---	25.68	46.00	20.32	L1	9.7
0.816000	41.92	---	56.00	14.08	L1	9.7
1.388000	44.10	---	56.00	11.90	L1	9.7
1.456000	---	26.27	46.00	19.73	L1	9.7
23.336000	---	35.14	50.00	14.86	L1	10.5
23.360000	45.68	---	60.00	14.32	L1	10.5

Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.420500	47.77	---	57.44	9.67	200.0	9.000	L1	9.7
0.512000	44.31	---	56.00	11.69	200.0	9.000	L1	9.7

EUT Information

EUT Name:	QI Wireless Charging Pad
Model:	BE-MQP10W22K
Test Mode:	ON (10W Max)
Test Voltage:	AC 120V/60Hz
Test By:	Mac Xie
Review By:	Gary Chen
Remark:	SR1



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.338000	43.94	---	59.25	15.32	N	9.7
0.338000	---	28.91	49.25	20.35	N	9.7
0.440500	---	34.92	47.02	12.11	N	9.7
0.448500	48.92	---	56.95	8.03	N	9.7
0.490000	---	32.33	46.17	13.84	N	9.7
0.496500	48.08	---	56.10	8.02	N	9.7
0.888000	---	27.54	46.00	18.46	N	9.7
0.904000	44.36	---	56.00	11.64	N	9.7
1.392000	---	25.59	46.00	20.41	N	9.7
1.400000	43.49	---	56.00	12.51	N	9.7
22.668000	40.05	---	60.00	19.95	N	10.5
23.460000	---	29.31	50.00	20.69	N	10.5

Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.440500	---	35.71	47.05	11.34	200.0	9.000	N	9.7
0.448500	45.89	---	56.90	11.01	200.0	9.000	N	9.7
0.496500	43.46	---	56.06	12.60	200.0	9.000	N	9.7

5.1.5 Radiated Emission

RESULT: **Pass**

Test Specification

Test standard	:	FCC Part 15.109(a)
Basic standard	:	ANSI C63.4: 2014
Frequency range	:	30 - 1000MHz *
Classification	:	Class B
Limit		FCC Part 15.109(a)
Kind of test site	:	3m Semi-anechoic Chamber

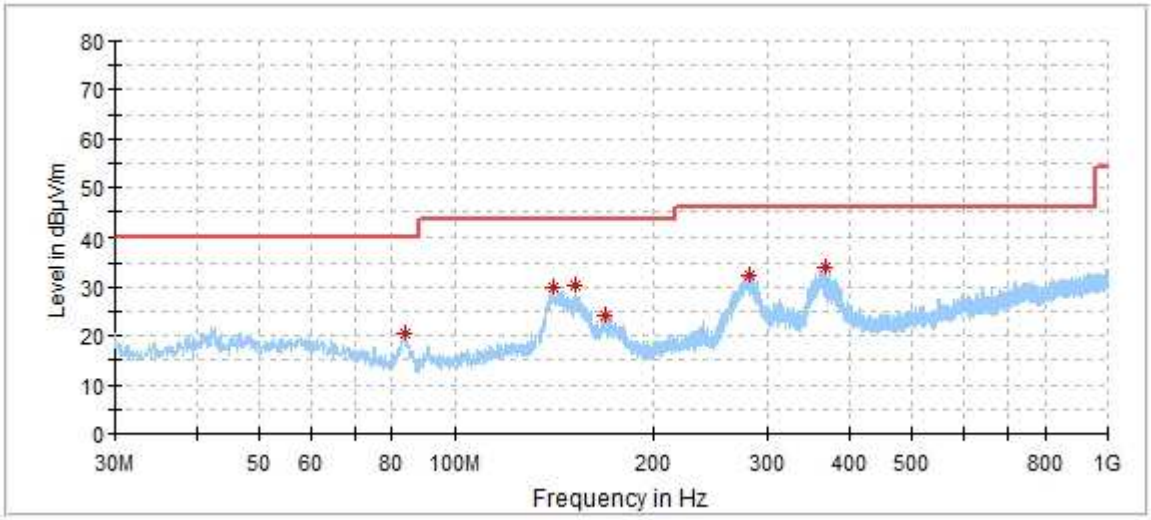
Test Setup

Date of testing	:	24.02.2021
Input voltage	:	AC 120V, 60Hz
Operation mode	:	A
Earthing	:	Not Connected
Ambient temperature	:	24.5 ℃
Relative humidity	:	59 %
Atmospheric pressure	:	101 kPa

Remark:*- The highest frequency of internal sources of EUT is less than 108MHz, the measurement shall only be made up to 1GHz.

EUT Information

EUT Name:	QI Wireless Charging Pad
Order No:	BE-MQP10W22K
Test Mode:	ON (10W Max)
Test Voltage:	AC 120V/60Hz
Test By:	Mac Xie
Review By:	Gary Chen
Remark:	3m Chamber

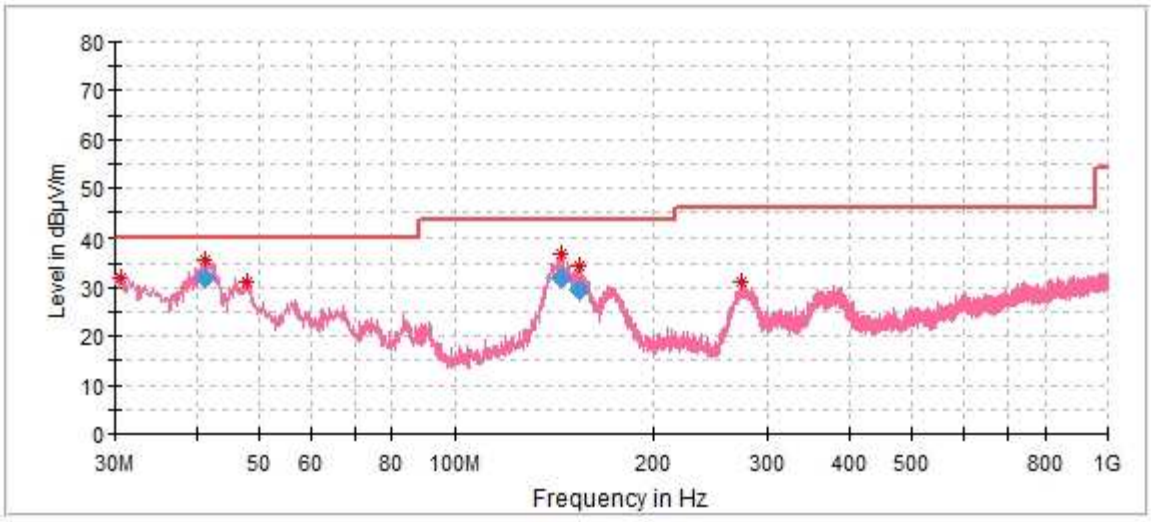


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
83.835000	20.56	40.00	19.44	300.0	H	187.0	15.3
140.871000	29.89	43.50	13.61	200.0	H	88.0	20.2
152.123000	30.24	43.50	13.26	200.0	H	108.0	20.9
169.486000	24.18	43.50	19.32	200.0	H	273.0	21.7
281.812000	32.54	46.00	13.46	100.0	H	76.0	20.0
367.366000	34.06	46.00	11.94	100.0	H	88.0	22.9

EUT Information

EUT Name:	QI Wireless Charging Pad
Model	BE-MQP10W22K
Test Mode:	ON (10W Max)
Test Voltage:	AC 120V/60Hz
Test By:	Mac Xie
Review By:	Gary Chen
Remark:	3m Chamber



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
30.582000	32.04	40.00	7.96	100.0	V	12.0	18.0
41.175000	35.71	40.00	4.29	100.0	V	303.0	20.0
48.042000	31.09	40.00	8.91	100.0	V	216.0	21.0
144.246000	36.87	43.50	6.63	100.0	V	26.0	20.0
153.986000	34.57	43.50	8.93	100.0	V	276.0	21.0
273.276000	31.35	46.00	14.65	100.0	V	123.0	20.0

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
41.175000	31.94	40.00	8.06	1000.0	120.000	100.0	V	303.0	20.0
144.246000	32.08	43.50	11.42	1000.0	120.000	100.0	V	26.0	20.0
153.986000	29.44	43.50	14.06	1000.0	120.000	100.0	V	276.0	21.0

6 Safety Human Exposure

6.1 Radio Frequency Exposure Compliance

6.1.1 Electromagnetic Fields

RESULT: **Pass**

Test Specification

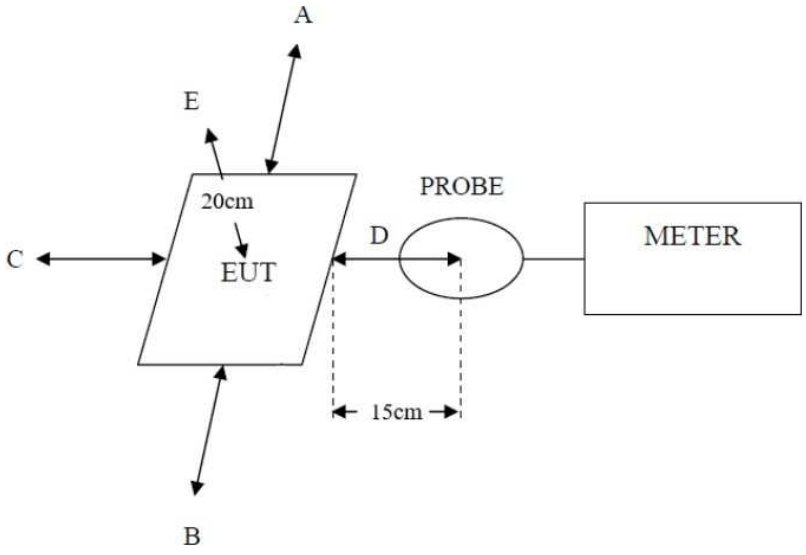
Test standard : CFR47 FCC Part 2: Subpart J Section 1.1310
FCC CFR 47 Part 1(1.1310) KDB 680106 D01 v03

According to the table 1 of FCC Part 2.1310, the reference limit as below:

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 Exposure				
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
300-1,500			f/300	6
1,500-100,000			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
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz * = Plane-wave equivalent power density

Test Setup:



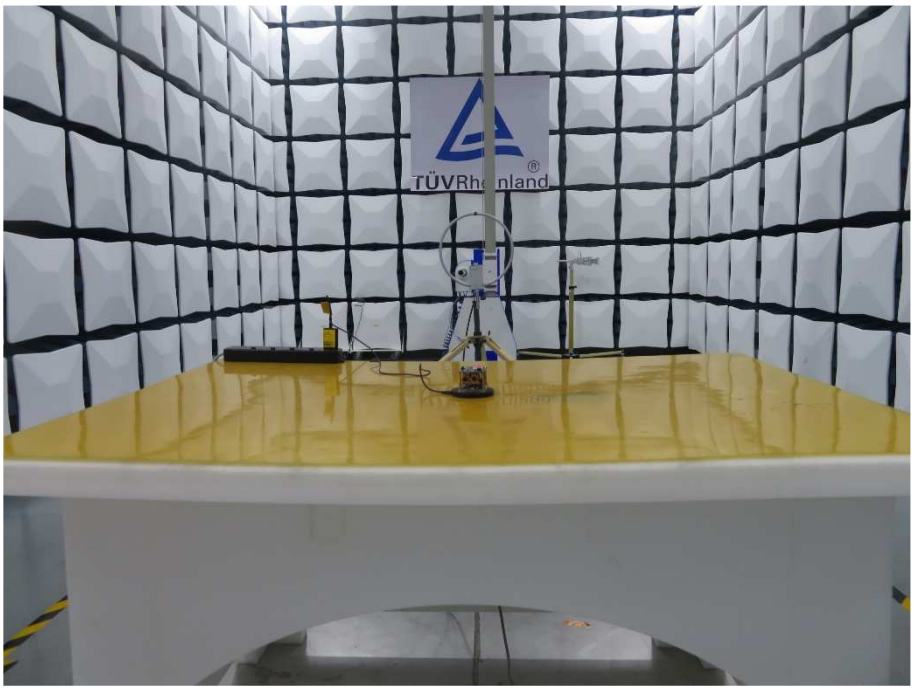
Test Result:

Table: H-Field Strength at 15 cm from the edges surrounding the EUT and 20cm from the top surface of the EUT

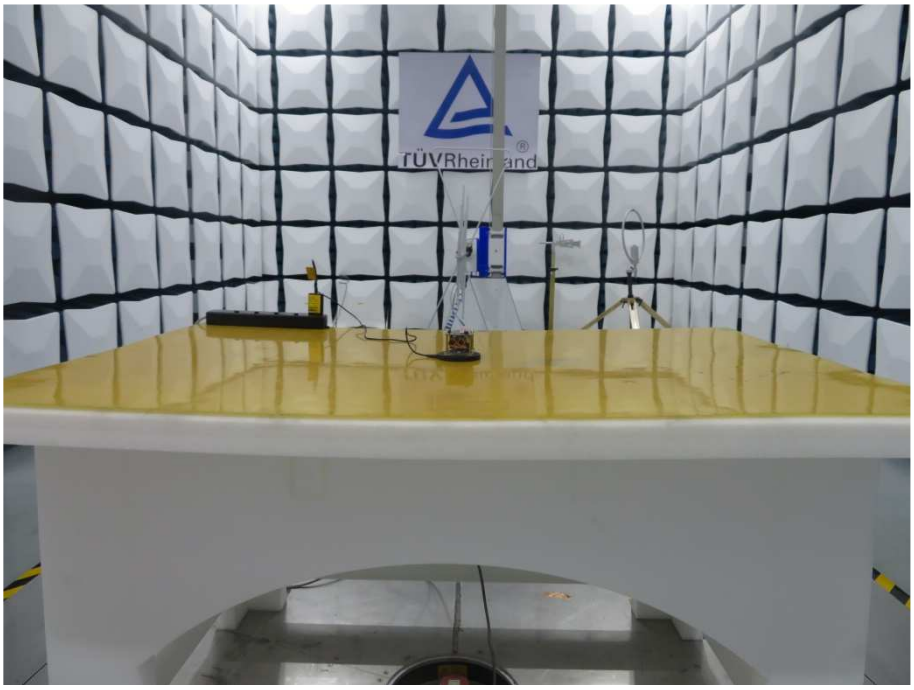
EUT Test Mode	Measured H-Field Strength Values (A/m)					50% Limit (A/m)	Limit (A/m)	Result
	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E			
Device working at the maximum power	0.462	0.662	0.426	0.570	0.650	0.815	1.63	Pass

7 Photographs of the Test Set-Up

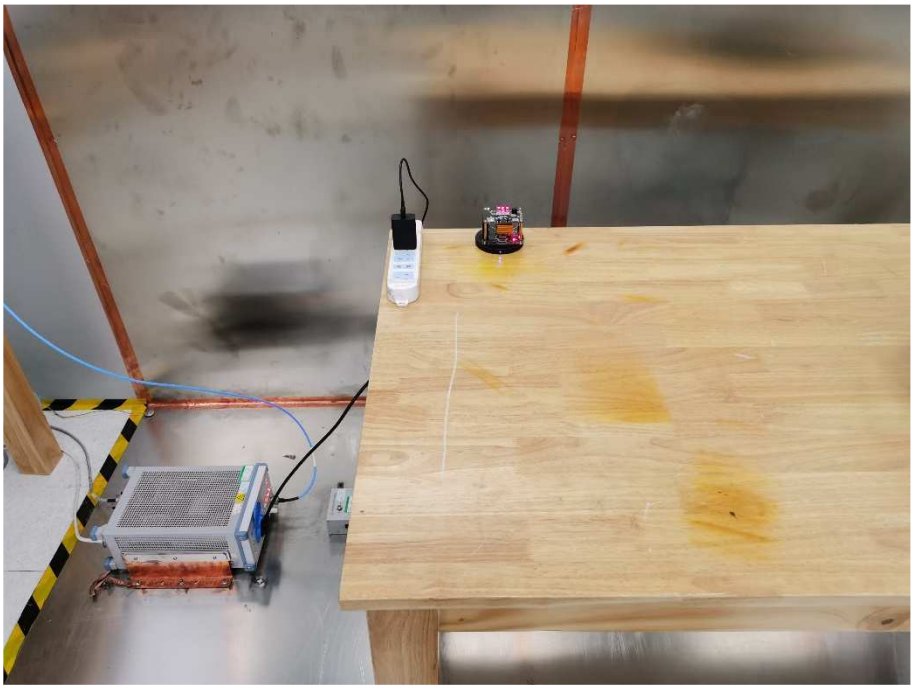
Photograph 1: Set-up for Radiated Spurious Emissions, below 30MHz



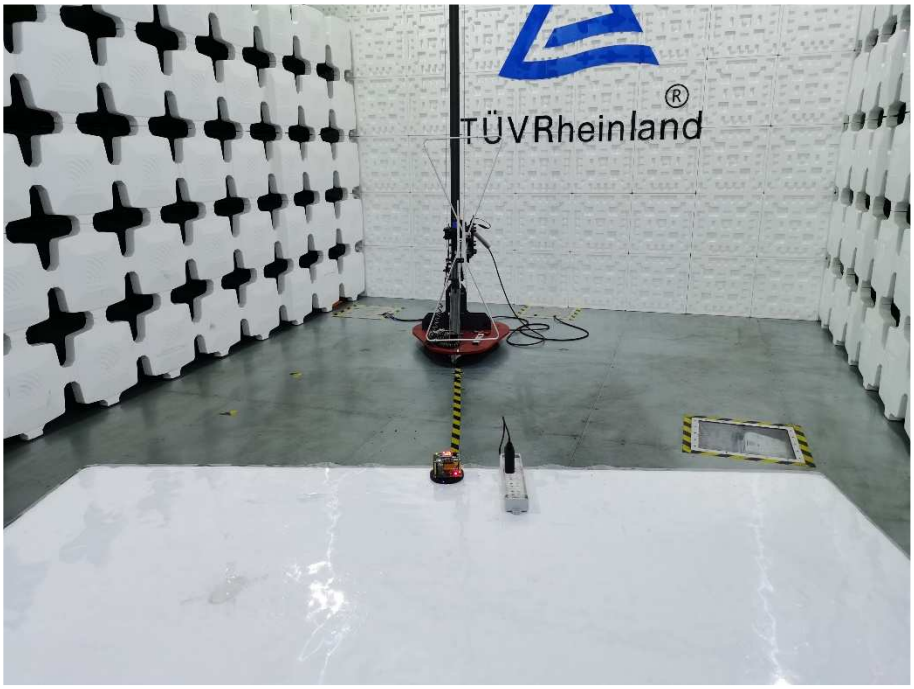
Photograph 2: Set-up for Radiated Spurious Emissions, above 30MHz



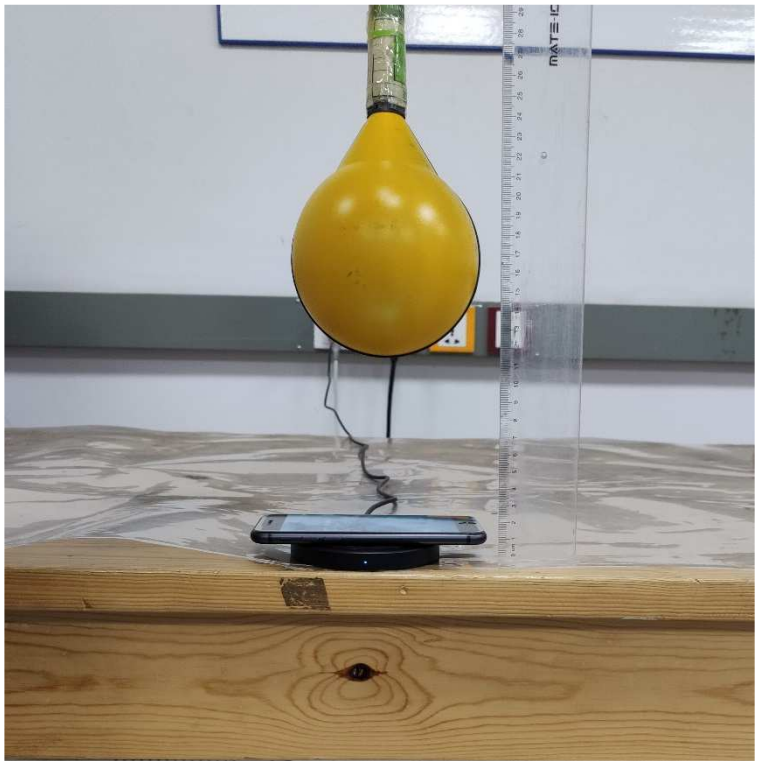
Photograph 3: Set-up for Conducted Emissions



Photograph 4: Set-up for Radiated Emissions, below 1GHz



Photograph 5: Set-up for RF Exposure



8 List of Tables

9 List of Photographs