

Test Report

Report No.: MTi240125021-01E1

Date of issue: 2024-04-26

Applicant: Shenzhen Cospro Technology USA Inc

Product: GRINDER

Model(s): QIC-301, QIC-201

FCC ID: 2BGC6-QIC301

Shenzhen Microtest Co., Ltd.

<http://www.mtitest.com>

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Test Result Certification	
Applicant:	Shenzhen Cospro Technology USA Inc
Address:	17870 CASTLETON ST.SUITE 258CITY OF INDUSTRY, CA 91748
Manufacturer:	SHENZHEN POWERQI TECHNOLOGY CO., LTD
Address:	Room 201,302,401 of A4 Building,Block A, Fangxing Science and Technology Park No.13 Baonan Road Longgang Community, Longgang Street,Longgang District,Shenzhen City
Product description	
Product name:	GRINDER
Trademark:	COSPRO
Model name:	QIC-301
Series Model(s):	QIC-201
Standards:	47 CFR Part 18
Test Standards:	FCC/OST MP-5 (1986)
Date of Test	
Date of test:	2024-02-29 to 2024-03-29
Test result:	Pass

Test Engineer	:	<i>Yanice Xie</i>
		(Yanice.Xie)
Reviewed By	:	<i>David. Lee</i>
		(David Lee)
Approved By	:	<i>Leon Chen</i>
		(Leon Chen)

1 General Description

1.1 Description of the EUT

Product name:	GRINDER
Model name:	QIC-301
Series Model(s):	QIC-201
Model difference:	All the models are the same circuit and module, except the model name.QIC-201 is less a burnisher than QIC-301.
Electrical rating:	Input:DC 5V Wireless Output: Coil1/ Coil2/ Coil3:5W
Accessories:	1.Apater: Model: XY-CU01200500200U02 Input: AC100V-240V 50/60Hz Output: DC 5V/2A 2.Burnisher*3 for QIC-301, Burnisher*2 for QIC-201
Hardware version:	V10
Software version:	V1.0
Test sample(s) number:	MTi240125021-01S1001
RF specification:	
Operation frequency:	Coil1/ Coil2/ Coil3:115 kHz – 205 kHz
Modulation type:	Load modulation
Antenna type:	Coil Antenna

1.2 Description of test modes

For test, the EUT has been pre-tested under the following test modes, Only the worst case data will be shown in the report.

No.	Emission test modes
Mode1	Wireless Charging(Coil1)
Mode2	Wireless Charging(Coil2)
Mode3	Wireless Charging(Coil3)
Mode4	Standby

Notes:The wireless charging base can only charge a burnisher,and when it is fully charged one burnisher, it automatically jumps to the next burnisher.So,the test report is only shown the wroost mode.

1.3 Environmental Conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15°C ~ 35°C
Humidity:	20% RH ~ 75% RH
Atmospheric pressure:	98 kPa ~ 101 kPa

1.4 Description of support units

Support equipment list			
Description	Model	Serial No.	Manufacturer
/	/	/	/
Support cable list			
Description	Length (m)	From	To
/	/	/	/

1.5 Measurement uncertainty

Measurement	Uncertainty
Conducted emissions (150kHz~30MHz)	±3.1dB
Radiated emissions (9kHz~30MHz)	±4.3dB
Temperature	±1 °C
Humidity	± 5 %

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

2 Summary of Test Result

No.	Item	Standard	Requirement	Result
1	Conducted Emissions on AC Power Line	47 CFR Part 18	18.307	Pass
2	Radiated Emissions (9kHz-30MHz)	47 CFR Part 18	18.305	Pass

3 Test Facilities and accreditations

3.1 Test laboratory

Test laboratory:	Shenzhen Microtest Co., Ltd.
Test site location:	101, No.7, Zone 2, Xinxing Industrial Park, Fuhai Avenue, Xinhe Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China
Telephone:	(86-755)88850135
Fax:	(86-755)88850136
CNAS Registration No.:	CNAS L5868
FCC Registration No.:	448573
IC Registration No.:	21760
CABID:	CN0093

4 List of test equipment

No.	Equipment	Manufacturer	Model	Serial No.	Cal. date	Cal. Due
Conducted Emissions on AC Power Line						
1	EMI Test Receiver	Rohde&schwarz	ESCI3	101368	2023-04-26	2024-04-25
2	Artificial mains network	Schwarzbeck	NSLK 8127	183	2023-05-05	2024-05-04
3	Artificial Mains Network	Rohde & Schwarz	ESH2-Z5	100263	2023-06-03	2024-06-02
Radiated Emissions (9kHz-30MHz)						
1	EMI Test Receiver	Rohde&schwarz	ESCI7	101166	2023-04-26	2024-04-25
2	Active Loop Antenna	Schwarzbeck	FMZB 1519 B	00066	2023-06-11	2025-06-10
3	Amplifier	Hewlett-Packard	8447F	3113A06184	2023-04-25	2024-04-24

5 Emission Test Results (EMI)

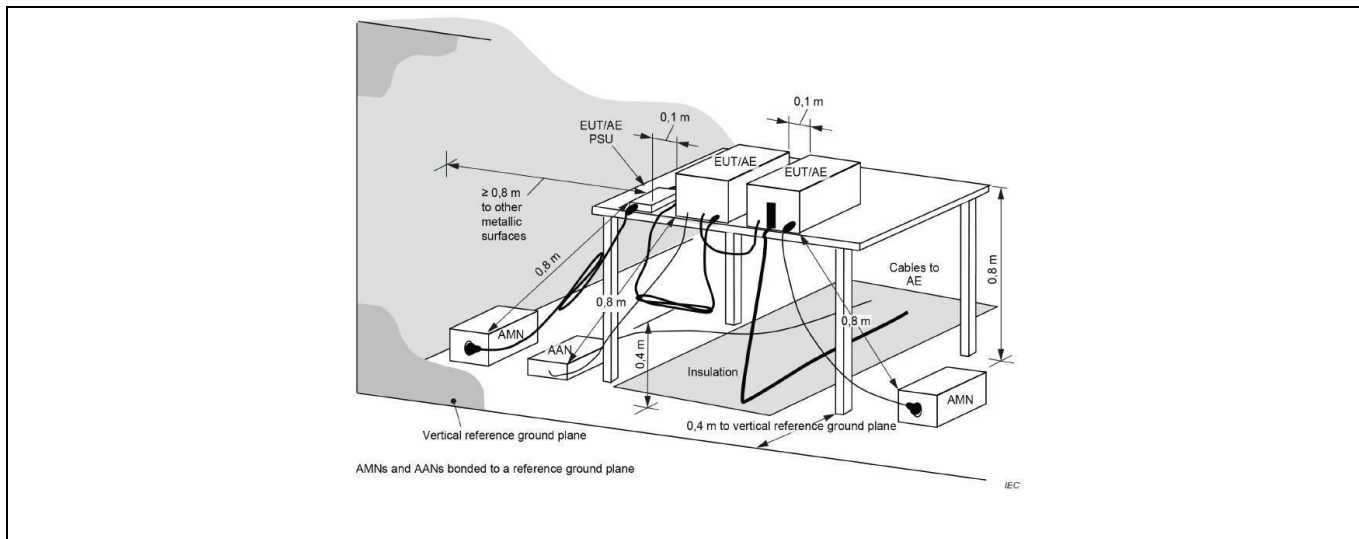
5.1 Conducted Emissions on AC Power Line

Test Requirement:	18.307
Test Method:	MP-5 Clause 7
Procedure:	An initial pre-scan was performed with peak detector. Quasi-Peak or Average measurement were performed at the frequencies with maximized peak emission were detected. Remark: Level= Read Level+ Cable Loss+ LISN Factor

5.1.1 E.U.T. Operation:

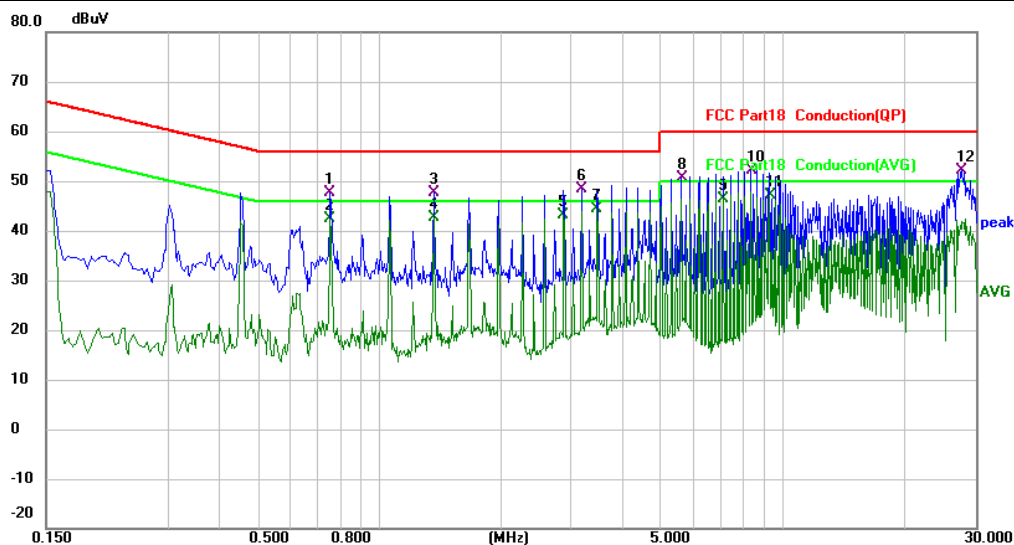
Operating Environment:					
Temperature:	25.9 °C	Humidity:	44 %	Atmospheric Pressure:	101 kPa
Pre test mode:	Mode1, Mode2, Mode3, Mode4				
Final test mode:	All of the listed pre-test mode were tested, only the data of the worst mode (Mode1) is recorded in the report				

5.1.2 Test Setup Diagram:



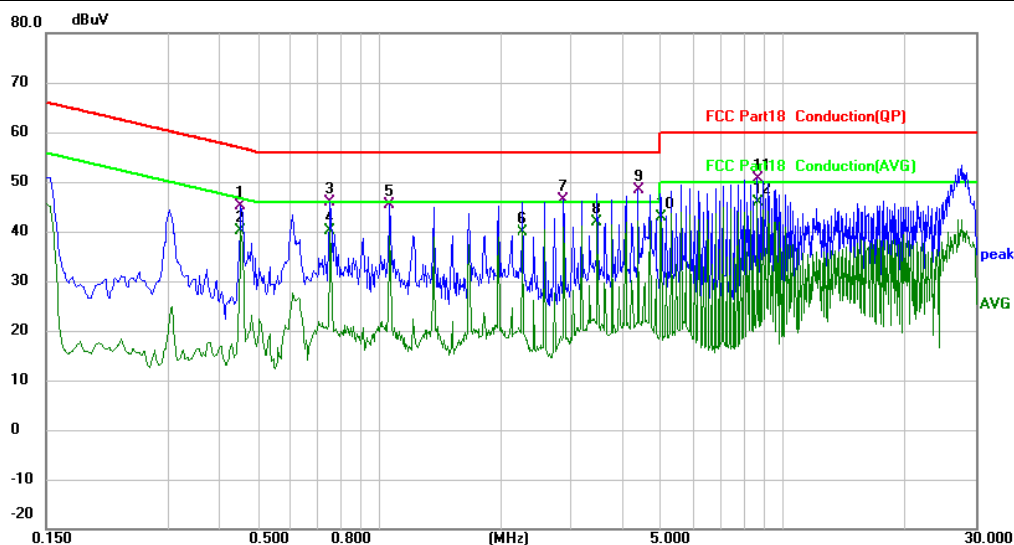
5.1.3 Test Data:

Mode1 / Line: Line



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.7580	35.47	12.09	47.56	56.00	-8.44	QP	
2		0.7580	30.34	12.09	42.43	46.00	-3.57	AVG	
3		1.3660	34.35	13.37	47.72	56.00	-8.28	QP	
4		1.3660	29.16	13.37	42.53	46.00	-3.47	AVG	
5		2.8820	32.50	10.65	43.15	46.00	-2.85	AVG	
6		3.1860	37.85	10.64	48.49	56.00	-7.51	QP	
7	*	3.4900	33.68	10.65	44.33	46.00	-1.67	AVG	
8		5.6140	40.00	10.66	50.66	60.00	-9.34	QP	
9		7.1300	35.80	10.70	46.50	50.00	-3.50	AVG	
10		8.3460	41.51	10.72	52.23	60.00	-7.77	QP	
11		9.2540	36.39	10.74	47.13	50.00	-2.87	AVG	
12		27.6060	41.19	11.00	52.19	60.00	-7.81	QP	

Mode1 / Line: Neutral



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.4540	33.74	11.40	45.14	56.80	-11.66	QP	
2		0.4540	28.72	11.40	40.12	46.80	-6.68	AVG	
3		0.7580	33.70	12.09	45.79	56.00	-10.21	QP	
4		0.7580	28.03	12.09	40.12	46.00	-5.88	AVG	
5		1.0620	32.72	12.74	45.46	56.00	-10.54	QP	
6		2.2740	29.14	10.64	39.78	46.00	-6.22	AVG	
7		2.8820	35.69	10.65	46.34	56.00	-9.66	QP	
8		3.4860	31.18	10.65	41.83	46.00	-4.17	AVG	
9		4.3980	37.68	10.65	48.33	56.00	-7.67	QP	
10		5.0020	32.11	10.65	42.76	50.00	-7.24	AVG	
11		8.6420	39.78	10.73	50.51	60.00	-9.49	QP	
12	*	8.6420	35.16	10.73	45.89	50.00	-4.11	AVG	

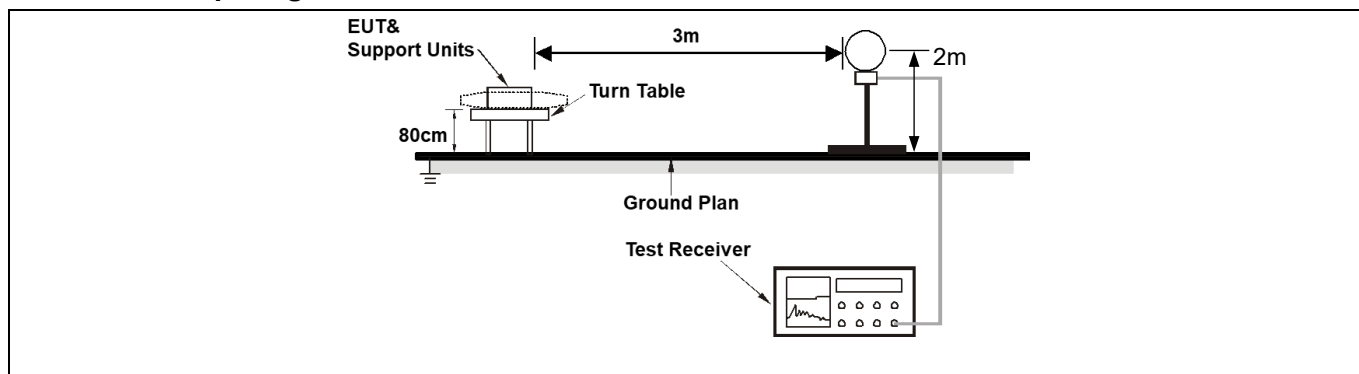
5.2 Radiated Emissions (9kHz-30MHz)

Test Requirement:	18.305				
Test Limit:	Operating frequency	RF Power generated by equipment (watts)	Field strength limit (uV/m)	Distance (meters)	
	Any ISM frequency	Below 500	25	300	
		500 or more	$25 \times \text{SQRT}(\text{power}/500)$	300 (1)	
	Any non-ISM frequency	Below 500	15	300	
		500 or more	$15 \times \text{SQRT}(\text{power}/500)$	300 (1)	
	On or below 5,725 MHz	Any	10	1,600	
	Above 5,725 MHz	Any	(2)	(2)	
	Any ISM frequency	Any	25	300	
	Any non-ISM frequency	Any	15	300	
	Below 490 kHz	Below 500	$2,400/F(\text{kHz})$	300	
		500 or more	$2,400/F(\text{kHz}) \times \text{SQRT}(\text{power}/500)$	300 (3)	
	490 to 1,600 kHz	Any	$24,000/F(\text{kHz})$	30	
	Above 1,600 kHz	Any	15	30	
	Below 90 kHz	Any	1,500	30 (4)	
	On or above 90 kHz	Any	300	30 (4)	
	(1) Field strength may not exceed 10 $\mu\text{V}/\text{m}$ at 1600 meters. Consumer equipment operating below 1000 MHz is not permitted the increase in field strength otherwise permitted here for power over 500 watts. (2) Reduced to the greatest extent possible. (3) Field strength may not exceed 10 $\mu\text{V}/\text{m}$ at 1600 meters. Consumer equipment is not permitted the increase in field strength otherwise permitted here for over 500 watts. (4) Induction cooking ranges manufactured prior to February 1, 1980, shall be subject to the field strength limits for miscellaneous ISM equipment.				
Test Method:	MP-5 Clause 5/6				
Procedure:	Frequency range: 9KHz-30MHz For a loop antenna. The antenna height shall be set at around 2 meters. An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Average measurements were conducted based on the peak sweep graph. The EUT was measured by loop antenna with 2 orthogonal polarities. The red line show in graphic is the limit in standard used in this section. Level=Read Level + Antenna Factor + Cable Loss - Preamp Factor				

5.2.1 E.U.T. Operation:

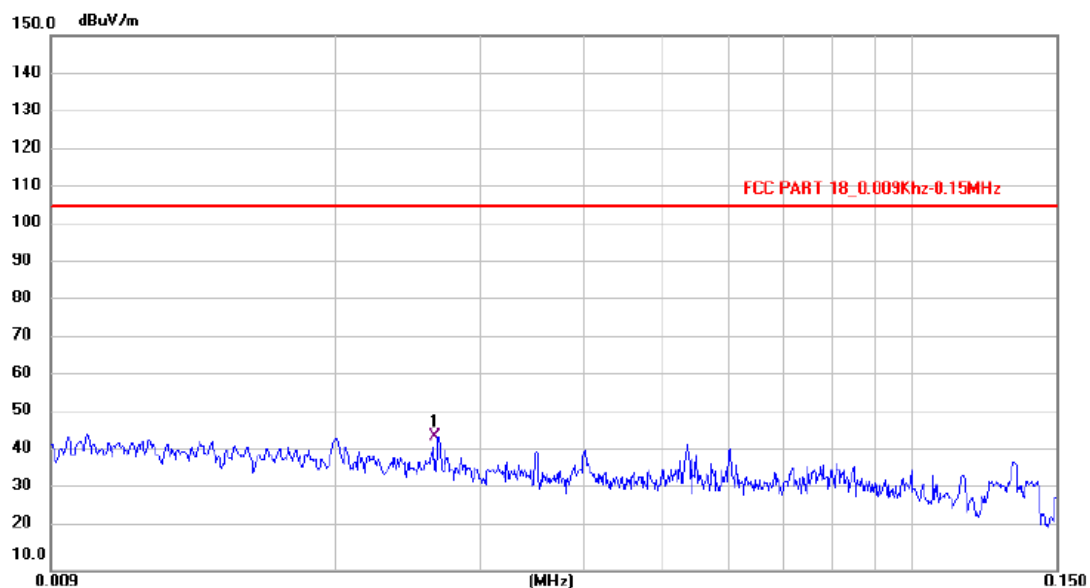
Operating Environment:					
Temperature:	27.2 °C	Humidity:	44.8 %	Atmospheric Pressure:	98 kPa
Pre test mode:	Mode1, Mode2, Mode3, Mode4				
Final test mode:	All of the listed pre-test mode were tested, only the data of the worst mode (Mode1) is recorded in the report				

5.2.1 Test Setup Diagram:



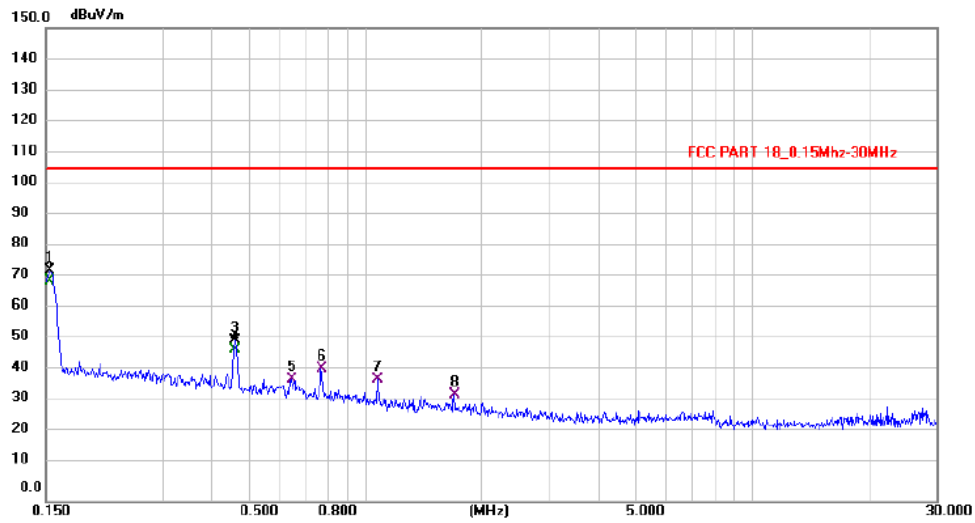
5.2.2 Test Data:

Mode1 / Polarization: coaxial



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0263	24.06	21.06	45.12	105.50	-60.38	Peak	

Mode1 / Polarization: coaxial



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	0.1539	52.92	20.27	73.19	105.50	-32.31	peak	
2	X	0.1539	49.83	20.27	70.10	105.50	-35.40	AVG	
3		0.4612	30.69	20.36	51.05	105.50	-54.45	peak	
4	X	0.4612	27.94	20.36	48.30	105.50	-57.20	AVG	
5		0.6440	18.22	20.43	38.65	105.50	-66.85	QP	
6		0.7711	21.77	20.48	42.25	105.50	-63.25	QP	
7		1.0766	18.37	20.57	38.94	105.50	-66.56	QP	
8		1.6981	13.38	20.62	34.00	105.50	-71.50	QP	

Photographs of the test setup

Refer to Appendix - Test Setup Photos.

Photographs of the EUT

Refer to Appendix - EUT Photos

---End of Report---