

Test Report

Report No.: MTi241226023-01E1

Date of issue: 2025-01-22

Applicant: Shenzhen Suiqi Innovation Technology Co.,Ltd.

Product name: 4-in-1 mag wireless charger

Model(s): TK-CW303

FCC ID: 2BLPO-TK-CW303

Shenzhen Microtest Co., Ltd. http://www.mtitest.cn



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Report No.: MTi241226023-01E1

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- 2. The test results in this test report are only responsible for the samples submitted
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- 4. This test report is invalid if transferred, altered, or tampered with in any form without authorization.
- 5. Any objection to this test report shall be submitted to the laboratory within 15 days from the date of receipt of the report.

Table of contents

1	Gene	eral Description	5
	1.1 1.2 1.3 1.4 1.5	Description of the EUT Description of test modes Environmental Conditions Description of support units Measurement uncertainty	
2	Sumi	mary of Test Result	8
3	Test	Facilities and accreditations	9
	3.1	Test laboratory	9
4	List	of test equipment	10
5	Evalu	uation Results (Evaluation)	11
	5.1	Antenna requirement	11
6	Radio	o Spectrum Matter Test Results (RF)	12
	6.1 6.2 6.3 6.4	Conducted Emission at AC power line	15 20
Ph	otogra	aphs of the test setup	28
Ph	otogra	aphs of the EUT	29



Test Result Certification				
Applicant:	Shenzhen Suiqi Innovation Technology Co.,Ltd.			
Address:	The 37th Floor, the east tower building of Galaxy twin towers ,COCO PARK WORLD, NO.8 Yaxing road, Bantian street, Longgang district, Shenzhen, China			
Manufacturer:	Shenzhen Suiqi Innovation Technology Co.,Ltd.			
Address:	The 37th Floor, the east tower building of Galaxy twin towers ,COCO PARK WORLD, NO.8 Yaxing road, Bantian street, Longgang district, Shenzhen, China			
Product description				
Product name:	4-in-1 mag wireless charger			
Trademark:	threekey			
Model name:	TK-CW303			
Series Model(s):	N/A			
Standards:	47 CFR Part 15C			
Test Method:	ANSI C63.10-2013			
Date of Test				
Date of test:	2025-01-11 to 2025-01-21			
Test result:	Pass			

Test Engineer	:	Letter. Lan.		
		(Letter Lan)		
Reviewed By	:	David. Cee		
		(David Lee)		
Approved By		leon chen		
		(Leon Chen)		



1 General Description

1.1 Description of the EUT

Product name:	4-in-1 magnetic wireless charger
Model name:	TK-CW303
Series Model(s):	N/A
Model difference:	N/A
Electrical rating:	Type-C Input: 20V=3.25A Retractable Cable Type-C Input: 20V=1.5A Retractable Cable Type-C Output: 15V=2.33A 35W Max Wireless Charging Output: 15W Max/ 5W Max/ 5W Max Total Output: 15W (iPhone)+ 5W (Apple Watch) +5W (Air pods)+ 30W(Retractable Cable)
Accessories:	N/A
Hardware version:	V4.0
Software version:	V1.0
Test sample(s) number:	MTi241226023-01S1001
RF specification	
Operating frequency range:	Coil 1 Phone: 115-205kHz (5W, 7.5W, 10W) Coil 1 Phone: 360 kHz(15W) Coil 2 Earphone: 115-205kHz(5W) Coil 3 Apple Watch: 300-350kHz(3W) Coil 3 Apple Watch: 1778kHz(5W)
Modulation type:	ASK
Antenna(s) type:	Coil

1.2 Description of test modes

No.	Emission test modes
Mode1	Wireless output phone(5W)+earphone(5W)+watch(3W)
Mode2	Wireless output phone(7.5W)+earphone(5W)+watch(3W)
Mode3	Wireless output phone(10W)+earphone(5W)+watch(3W)
Mode4	Wireless output phone(MPP:15W)+earphone(5W)+watch(3W)
Mode5	Wireless output phone(5W)+earphone(5W)+watch(5W)
Mode6	Wireless output phone(7.5W)+earphone(5W)+watch(5W)
Mode7	Wireless output phone(10W)+earphone(5W)+watch(5W)
Mode8	Wireless output phone(MPP:15W)+earphone(5W)+watch(5W)
Mode9	Wireless output phone(5W)+earphone(5W)
Mode10	Wireless output phone(7.5W)+earphone(5W)
Mode11	Wireless output phone(10W)+earphone(5W)
Mode12	Wireless output phone(MPP:15W)+earphone(5W)
Mode13	Wireless output phone(5W)+watch(3W)
Mode14	Wireless output phone(7.5W)+watch(3W)



Wireless output phone(10W)+watch(3W)		
Wireless output phone(MPP:15W)+watch(3W)		
Wireless output phone(5W)+watch(5W)		
Wireless output phone(7.5W)+watch(5W)		
Wireless output phone(10W)+watch(5W)		
Wireless output phone(MPP:15W)+watch(5W)		
Wireless output earphone(5W)+watch(3W)		
Wireless output phone(5W)		
Wireless output phone(7.5W)		
Wireless output phone(10W)		
Wireless output phone(MPP:15W)		
Wireless output watch(3W)		
Wireless output watch(5W)		
Wireless output earphone(5W)		
Stand by		



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

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Support equipment list						
Description	Model	Serial No.	Manufacturer			
Moible Phone	Moible Phone iPhone 15		Apple			
Moible Phone	Find X3	/	Орро			
Watch	watch S7	M0JVGQG1VP	Apple			
Air pods A2515		H6LDLEZ70C6L	Apple			
Adapter LS-65WTAQCPD		/	Lenovo			
Support cable list						
Description Length (m)		From	То			
1	1	/	1			

1.5 Measurement uncertainty

Measurement	Uncertainty
Conducted emissions (AMN 150kHz~30MHz)	±3.1dB
Occupied channel bandwidth	±3 %
Radiated spurious emissions (9kHz~30MHz)	±4.3dB
Radiated spurious emissions (30MHz~1GHz)	±4.7dB
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	Antenna requirement	47 CFR Part 15C	47 CFR Part 15.203	Pass
2	Conducted Emission at AC power line	47 CFR Part 15C	47 CFR Part 15.207(a)	Pass
3	20dB Occupied Bandwidth	47 CFR Part 15C	47 CFR Part 15.215(c)	Pass
4	Emissions in frequency bands (below 30MHz)	47 CFR Part 15C	47 CFR Part 15.209	Pass
5	Emissions in frequency bands (30MHz - 1GHz)	47 CFR Part 15C	47 CFR Part 15.209	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

	+ List of test equipment						
No.	Equipment	Manufacturer	Model	Serial No.	Cal. date	Cal. Due	
Conducted Emission at AC power line							
1	EMI Test Receiver	Rohde&schwarz	ESCI3	101368	2024-03-20	2025-03-19	
2	Artificial mains network	Schwarzbeck	NSLK 8127	183	2024-03-21	2025-03-20	
3	Artificial Mains Network	Rohde & Schwarz	ESH2-Z5	100263	2024-03-20	2025-03-19	
		20dB Od	cupied Bandwid	th			
1	Wideband Radio Communication Tester	Rohde&schwarz	CMW500	149155	2024-03-20	2025-03-19	
2	ESG Series Analog Ssignal Generator	Agilent	E4421B	GB40051240	2024-03-21	2025-03-20	
3	PXA Signal Analyzer	Agilent	N9030A	MY51350296	2024-03-21	2025-03-20	
4	Synthesized Sweeper	Agilent	83752A	3610A01957	2024-03-21	2025-03-20	
5	MXA Signal Analyzer	Agilent	N9020A	MY50143483	2024-03-21	2025-03-20	
6	RF Control Unit	Tonscend	JS0806-1	19D8060152	2024-03-21	2025-03-20	
7	Band Reject Filter Group	Tonscend	JS0806-F	19D8060160	2024-03-21	2025-03-20	
8	ESG Vector Signal Generator	Agilent	N5182A	MY50143762	2024-03-20	2025-03-19	
9	DC Power Supply	Agilent	E3632A	MY40027695	2024-03-21	2025-03-20	
		Emissions in frequ	ency bands (bel	ow 30MHz)			
1	EMI Test Receiver	Rohde&schwarz	ESCI7	101166	2024-03-20	2025-03-19	
2	Active Loop Antenna	Schwarzbeck	FMZB 1519 B	00066	2024-03-23	2025-03-22	
3	Amplifier	Hewlett-Packard	8447F	3113A06184	2024-03-20	2025-03-19	
Emissions in frequency bands (30MHz - 1GHz)							
1	EMI Test Receiver	Rohde&schwarz	ESCI7	101166	2024-03-20	2025-03-19	
2	TRILOG Broadband Antenna	schwarabeck	VULB 9163	9163-1338	2023-06-11	2025-06-10	
3	Active Loop Antenna	Schwarzbeck	FMZB 1519 B	00066	2024-03-23	2025-03-22	
4	Amplifier	Hewlett-Packard	8447F	3113A06184	2024-03-20	2025-03-19	



5 Evaluation Results (Evaluation)

5.1 Antenna requirement

Test Requirement:	Refer to 47 CFR Part 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.
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5.1.1 Conclusion:

The antenna of the EUT is permanently attached.
The EUT complies with the requirement of FCC PART 15.203.



6 Radio Spectrum Matter Test Results (RF)

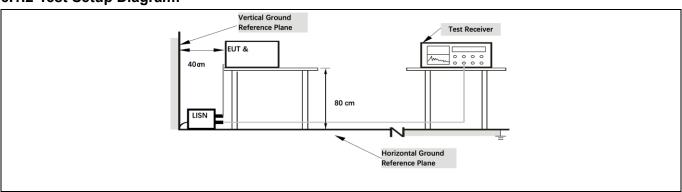
6.1 Conducted Emission at AC power line

Test Requirement:	Except as shown in paragraphs (b)and (c)of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 µH/50 ohms line impedance stabilization network (LISN).						
Test Limit:	Frequency of emission (MHz) Conducted limit (dBµV)						
		Quasi-peak	Average				
	0.15-0.5	66 to 56*	56 to 46*				
	0.5-5	56	46				
	5-30	60	50				
	*Decreases with the logarithm of the frequency.						
Test Method:	ANSI C63.10-2013 section 6.2						
Procedure:	Refer to ANSI C63.10-2013 secti line conducted emissions from un			ver-			

6.1.1 E.U.T. Operation:

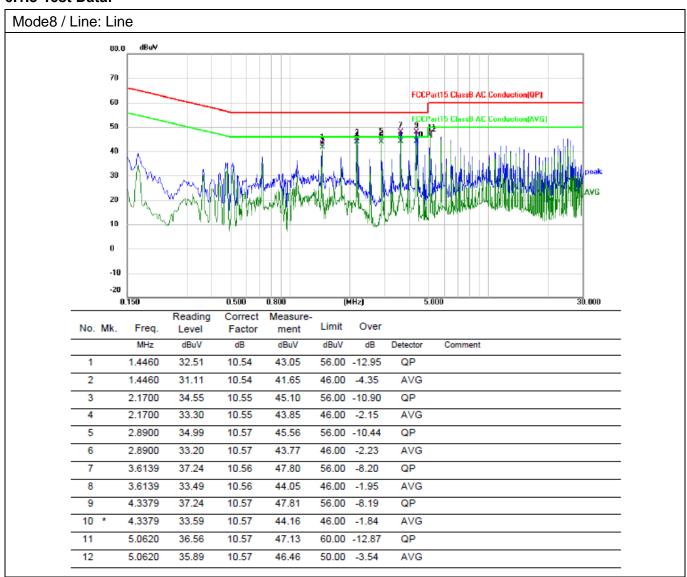
Operating Environment:						
Temperature:	Temperature: 21.1 °C		Humidity:	25 %	Atmospheric Pressure:	100 kPa
Pre test mode: Mode1, Mode2, Mode3, Mode4, Mode5, Mode6, Mode7, Mode8, Mode9, Mode10, Mode11, Mode12, Mode13, Mode14, Mode15, Mode16, Mode17, Mode18, Mode19, Mode20, Mode21, Mode22, Mode23, Mode24, Mode25, Mode26, Mode27, Mode28, Mode29						Mode16, Mode17,
Final test mode: All of the listed pre-test mode were tested, only the data of the worst mo (Mode8) is recorded in the report					of the worst mode	

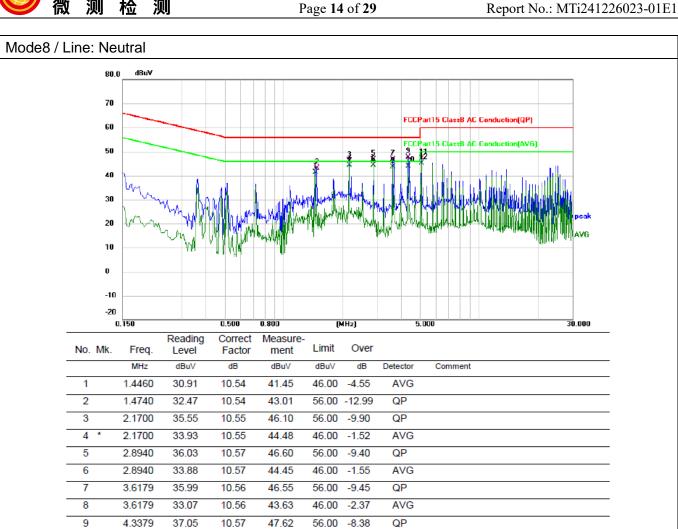
6.1.2 Test Setup Diagram:





6.1.3 Test Data:





43.94

47.17

45.18

10.57

10.57

10.57

4.3379

5.0620

5.0620

10

11

12

33.37

36.60

34.61

46.00

50.00

60.00 -12.83

-2.06

-4.82

AVG

QP

AVG



6.2 20dB Occupied Bandwidth

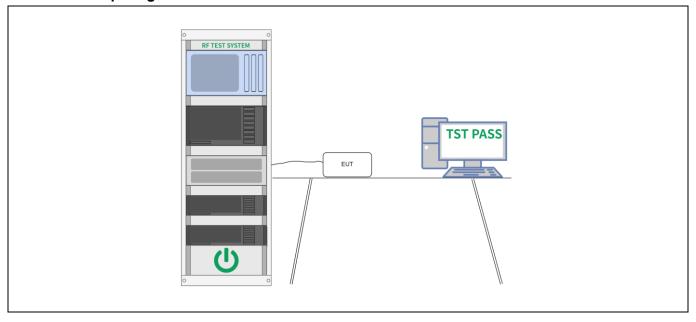
Test Requirement:	47 CFR Part 15.215(c)
Test Limit:	Refer to 47 CFR 15.215(c), intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.
Test Method:	ANSI C63.10-2013, section 6.9.2
Test Method: Procedure:	· · · · · · · · · · · · · · · · · · ·
	between the two markers. Alternatively, set a marker at the lowest frequency of the envelope of the spectral display, such that the marker is at or slightly below the "-xx dB down amplitude" determined in step h). Reset the marker-delta function and move the marker to the other side of the emission until the delta marker amplitude is at the same level as the reference marker amplitude. The marker-delta frequency reading at this point is the specified emission bandwidth. k) The occupied bandwidth shall be reported by providing plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s).



6.2.1 E.U.T. Operation:

Operating Environment:						
Temperature:	21.9 °C		Humidity:	22 %	Atmospheric Pressure:	101 kPa
Pre test mode:	Mode1, Mode2, Mode3, Mode4, Mode5, Mode6, Mode7, Mode8, Mode9, Mode10, Mode11, Mode12, Mode13, Mode14, Mode15, Mode16, Mode17					
Final test mode: Mode3, Mode8						

6.2.2 Test Setup Diagram:

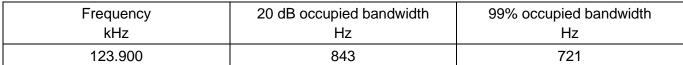




6.2.3 Test Data:

Note: Because the measured signal is CW-like, adjusting the RBW per C63.10 would not be practical since measurement bandwidth will always follow the RBW. The RBW is set to 300 Hz to perform the occupied bandwidth test.

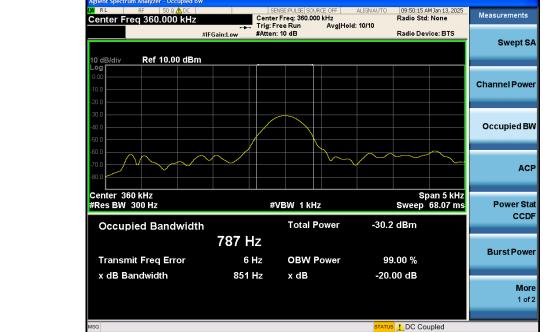
Phone (115kHz - 205kHz)





Phone (360kHz)

Frequency kHz	20 dB occupied bandwidth	99% occupied bandwidth Hz		
360	851	787		
Agilent Spectrum Analyzer - Occupied BV WR RL RF SOR ADC Center Freq 360,000 kHz	SENSE:PULSE SOURCE OFF ALIGN AUTO 09:50:15	5 AM 3an 13, 2025 td: None Measurements		



Page 18 of 29 Report No.: MTi241226023-01E1

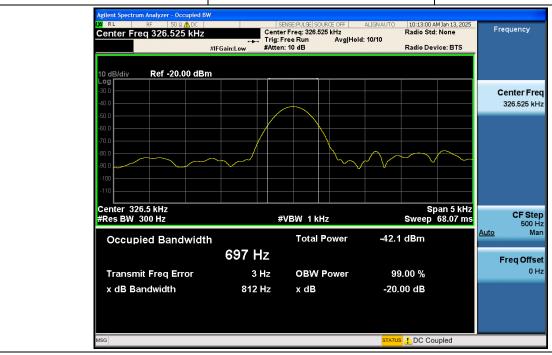
Earphone (115kHz – 205kHz)

Frequency	20 dB occupied bandwidth	99% occupied bandwidth
kHz	Hz	Hz
119.915	835	711

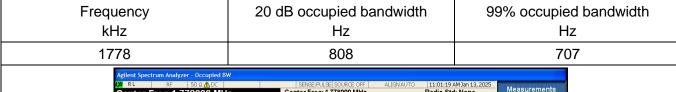


Apple Watch (300-350kHz)

Frequency	20 dB occupied bandwidth	99% occupied bandwidth	
kHz	Hz	Hz	
326.525	812	697	











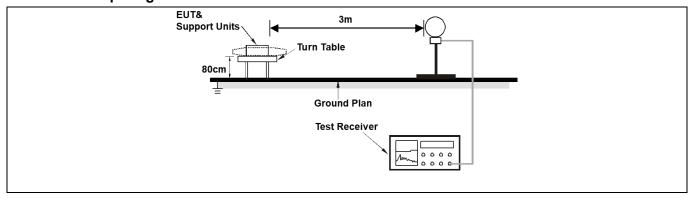
6.3 Emissions in frequency bands (below 30MHz)

Test Requirement:	47 CFR Part 15.209					
Test Limit:	Frequency (MHz)	Field strength	Measuremen			
		(microvolts/meter)	t distance			
			(meters)			
	0.009-0.490	2400/F(kHz)	300			
	0.490-1.705	24000/F(kHz)	30			
	1.705-30.0	30	30			
	30-88	100 **	3			
	88-216	150 **	3			
	216-960	200 **	3			
	Above 960	500	3			
	** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241. In the emission table above, the tighter limit applies at the band edges. The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-8 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector. As shown in § 15.35(b), for frequencies above 1000 MHz, the field strength limits in paragraphs (a)and (b)of this section are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB und any condition of modulation. For point-to-point operation under paragraph (b)of this section, the peak field strength shall not exceed 2500 millivolts/meter at 3 meters along the antenna azimuth.					
Test Method:	ANSI C63.10-2013 sec					
Procedure:	ANSI C63.10-2013 sec	tion 6.4				

6.3.1 E.U.T. Operation:

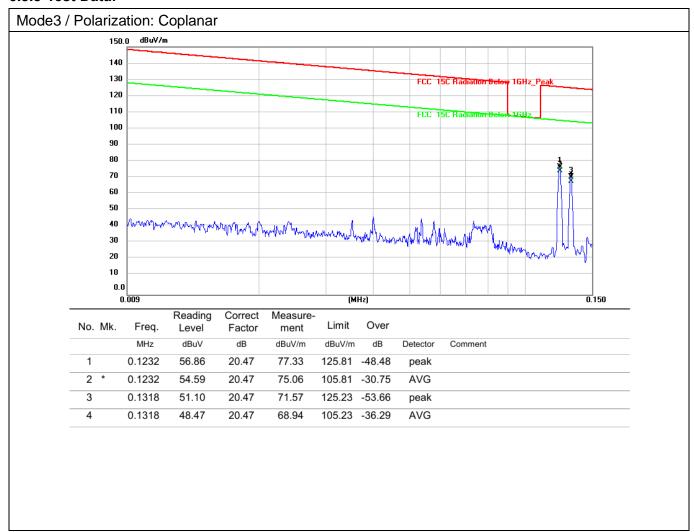
Operating Environment:						
Temperature:	26 °C		Humidity:	54 %	Atmospheric Pressure:	98.3 kPa
Pre test mode: Mode1, Mode2, Mode3, Mode4, Mode5, Mode6, Mode7, Mode8, Mode9, Mode10, Mode11, Mode12, Mode13, Mode14, Mode15, Mode16, Mode17, Mode18, Mode19, Mode20, Mode21, Mode22, Mode23, Mode24, Mode25, Mode26, Mode27, Mode28, Mode29						
Final test mode: All of the listed pre-test mode were tested, only the data of the worst mode (Mode3, Mode8) is recorded in the report						of the worst mode

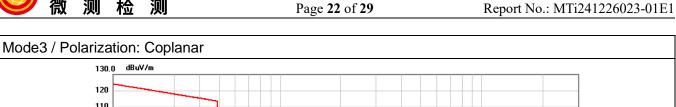
6.3.2 Test Setup Diagram:

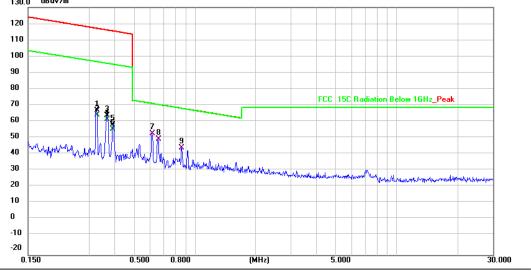




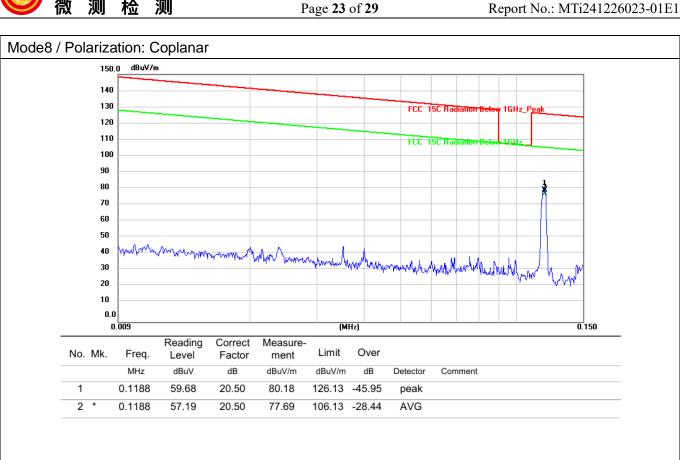
6.3.3 Test Data:







					•			
No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	0.3268	46.66	21.01	67.67	117.32	-49.65	peak	
2	0.3268	43.84	21.01	64.85	97.32	-32.47	AVG	
3	0.3673	43.38	21.10	64.48	116.31	-51.83	peak	
4	0.3673	41.03	21.10	62.13	96.31	-34.18	AVG	
5	0.3933	37.91	21.15	59.06	115.71	-56.65	peak	
6	0.3933	35.27	21.15	56.42	95.71	-39.29	AVG	
7 *	0.6140	32.04	21.67	53.71	71.85	-18.14	QP	
8	0.6578	28.41	21.78	50.19	71.25	-21.06	QP	
9	0.8618	22.90	22.26	45.16	68.91	-23.75	QP	



1.7780

2.5400

24.63

14.78

6

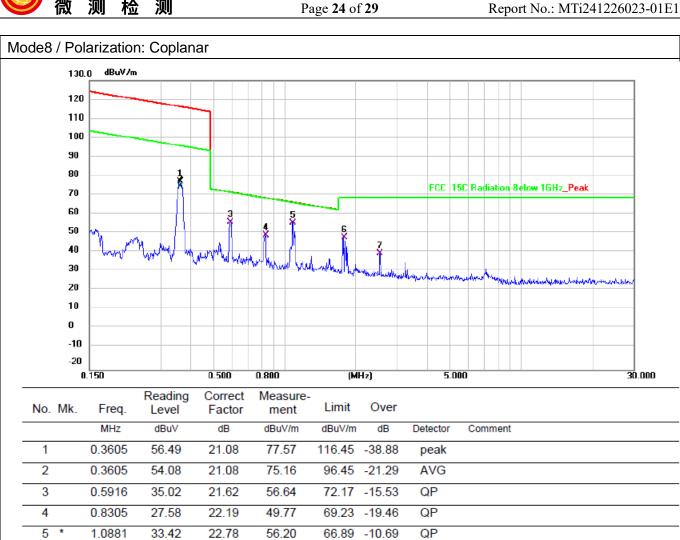
7

24.20

25.77

48.83

40.55



69.50

69.50

-20.67

-28.95

QP

QP



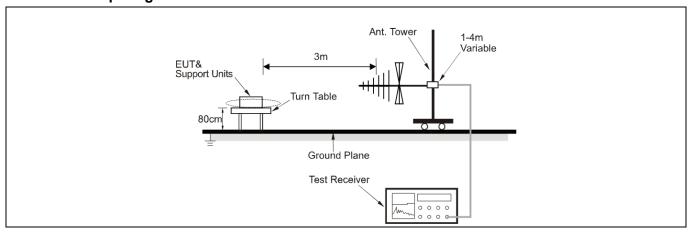
6.4 Emissions in frequency bands (30MHz - 1GHz)

Test Requirement:	47 CFR Part 15.209					
Test Limit:	Frequency (MHz)	Field strength (microvolts/meter)	Measuremen t distance (meters)			
	0.009-0.490	2400/F(kHz)	300			
	0.490-1.705	24000/F(kHz)	30			
	1.705-30.0	30	30			
	30-88	100 **	3			
	88-216	150 **	3			
	216-960	200 **	3			
	Above 960	500	3			
	** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241. In the emission table above, the tighter limit applies at the band edges. The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–9 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector. As shown in § 15.35(b), for frequencies above 1000 MHz, the field strength limits in paragraphs (a)and (b)of this section are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For point-to-point operation under paragraph (b)of this section, the peak field strength shall not exceed 2500 millivolts/meter at 3 meters along the antenna azimuth.					
Test Method:	ANSI C63.10-2013 sec	ion 6.5				
Procedure:	ANSI C63.10-2013 sec	ion 6.5				

6.4.1 E.U.T. Operation:

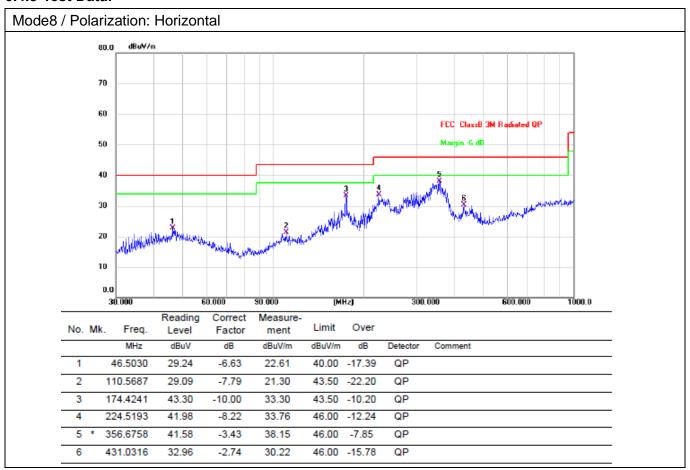
Operating Environment:						
Temperature:	23 °C		Humidity:	35 %	Atmospheric Pressure:	101 kPa
Pre test mode:		Mode1, Mode2, Mode3, Mode4, Mode5, Mode6, Mode7, Mode8, Mode9, Mode10, Mode11, Mode12, Mode13, Mode14, Mode15, Mode16, Mode17, Mode18, Mode19, Mode20, Mode21, Mode22, Mode23, Mode24, Mode25, Mode26, Mode27, Mode28, Mode29				
Final test mode:		All of the listed pre-test mode were tested, only the data of the worst mode (Mode8) is recorded in the report				

6.4.2 Test Setup Diagram:





6.4.3 Test Data:



5

6

224.5193

477.1694

34.40

35.28

-8.22

-2.20

26.18

33.08



46.00 -19.82

46.00 -12.92

QP

QP



Photographs of the test setup

Refer to Appendix - Test Setup Photos



Photographs of the EUT

Refer to Appendix - EUT Photos

----End of Report----