

# **Test Report**

**Report No.:** MTi241106009-01E1

**Date of issue:** 2024-12-02

**Applicant:** youqujile shenzhen chuangyi electronic technology co.,ltd

**Product name:** Wireless Charger

**Model(s):** CS02, CS03, CS04, CS05, CS06, CS07, CS08

FCC ID: 2BF7P-WCSCH

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



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Test Result Certification			
Applicant: youqujile shenzhen chuangyi electronic technology co.,ltd			
Address:	Room 101, Building A, No.5 Yanhe Rd, 3rd Industry Zone, Bantian ST, Longgang, Shenzhen, China		
Manufacturer:	youqujile shenzhen chuangyi electronic technology co.,ltd		
Address:	Room 101, Building A, No.5 Yanhe Rd, 3rd Industry Zone, Bantian ST, Longgang, Shenzhen, China		
Product description			
Product name: Wireless Charger			
Trade mark:	N/A		
Model name:	CS02		
Series Model(s):	CS03, CS04, CS05, CS06, CS07, CS08		
Standards:	47 CFR Part 15C		
Test Method:	ANSI C63.10-2013		
Date of Test			
Date of test:	2024-11-08 to 2024-11-18		
Test result:	Pass		

Test Engineer	:	Yanice Xie
		(Yanice.Xie)
Reviewed By		Dowid. Cee
		(David Lee)
Approved By	:	leon chen
		(Leon Chen)



## 1 General Description

## 1.1 Description of the EUT

Product name:	Wireless Charger
Model name:	CS02
Series Model(s):	CS03, CS04, CS05, CS06, CS07, CS08
Model difference:	All the models are the same circuit and module, except the model name.
Electrical rating:	Input: DC 9V/2A, 12V/1.5A Wireless output: Phone:5W/7.5W/10W/15W Max Earphone:5W Watch:2.5W
Accessories:	Cable:USB-A to Type-C 1m
Hardware version:	V1.0
Software version:	V1.0
Test sample(s) number:	MTi241106009-01S1001
RF specification	
Operating frequency range:	Coil 1 (Phone): 115-205kHz Coil 2 (Earphone): 115-205kHz Coil 3 (Watch): 300-350kHz
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(2.5W)		
Mode2	Wireless output Phone(7.5W)+Earphone(5W)+Watch(2.5W)		
Mode3	Wireless output Phone(10W)+Earphone(5W)		
Mode4	Wireless output Phone(10W)+Watch(2.5W))		
Mode5	Wireless output Phone(7.5W)+Earphone(5W)		
Mode6	Wireless output Phone(7.5W)+Watch(2.5W)		
Mode7	Wireless output Phone(5W)+Earphone(5W)		
Mode8	Wireless output Phone(5W)+Watch(2.5W)		
Mode9	Wireless output Earphone(5W)+Watch(2.5W)		
Mode10	Wireless output Phone(5W)		
Mode11	Wireless output Phone(7.5W)		
Mode12	Wireless output Phone(10W)		
Mode13	Wireless output Phone(15W)		
Mode14	Wireless Output Watch(2.5W)		
Mode15	Wireless Output Earphone (5W)		
Mode16 Standby			



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		
Adapter	/	/	Lenovo		
wireless charging load	YBZ1.1	/	YBZ		
Air Pods	MQD83CH/A	/	Apple		
Watch iWatch SE FH7PP6		FH7PP6BAG91J6	Apple		
Support cable list					
Description Length (m) From To			То		
/	/	/	/		

#### 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	Requirement	Result
1	Antenna requirement	47 CFR Part 15.203	Pass
2	Conducted Emission at AC power line	47 CFR Part 15.207(a)	Pass
3	20dB Occupied Bandwidth	47 CFR Part 15.215(c)	Pass
4	Emissions in frequency bands (below 30MHz)	47 CFR Part 15.209	Pass
5	Emissions in frequency bands (30MHz - 1GHz)	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

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 frequency bands (below 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)

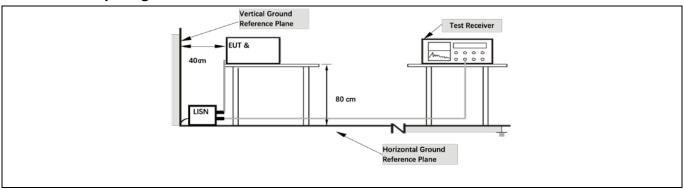
## 6.1 Conducted Emission at AC power line

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	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 section 6.2, standard test method for ac power-line conducted emissions from unlicensed wireless devices					

#### 6.1.1 E.U.T. Operation:

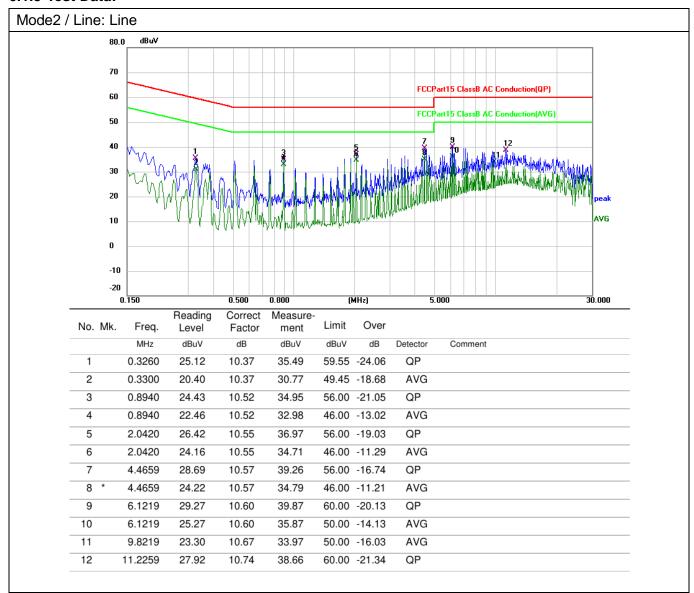
Operating Environment:						
Temperature:	25.9 °C	Humidity:	44 %	Atmospheric Pressure:	101 kPa	
Pre test mode:	Pre test mode: Mode1, Mode2, Mode3, Mode4, Mode5, Mode6, Mode7, Mode8, Mode9, Mode10, Mode11, Mode12, Mode13, Mode14, Mode15, Mode16					
Final test mode:  All of the listed pre-test mode were tested, only the data of the worst mode (Mode2) is recorded in the report				of the worst mode		

#### 6.1.2 Test Setup Diagram:

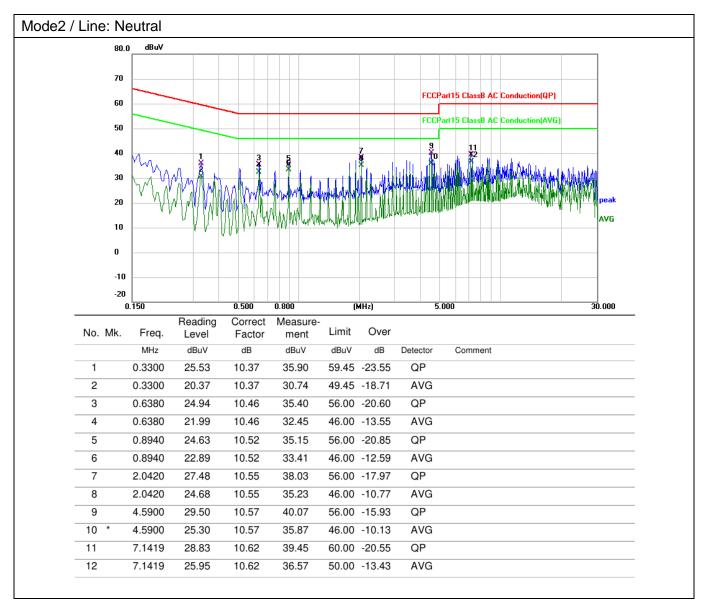




#### 6.1.3 Test Data:









## 6.2 20dB Occupied Bandwidth

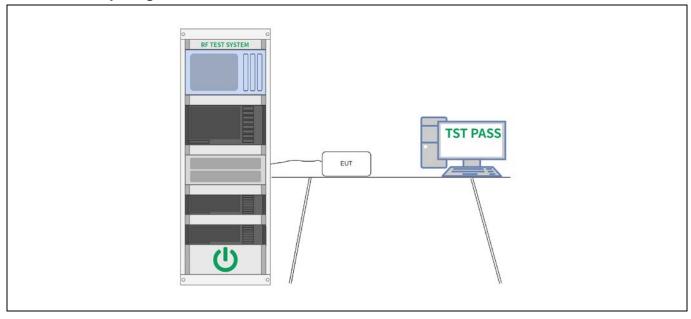
Test Limit:  Refer altern 15.21 ensur other opera section	to 47 CFR 15.215(c), intentional radiators operating under the ative provisions to the general emission limits, as contained in §§ 7 through 15.257 and in subpart E of this part, must be designed to e that the 20 dB bandwidth of the emission, or whatever bandwidth may wise be specified in the specific rule section under which the equipment tes, is contained within the frequency band designated in the rule in under which the equipment is operated.
	C63.10-2013, section 6.9.2
cente shall l b) The 5% of times c) Set from 6 gener (OBW d) Ste tolera e) The than 7 requir at the refere f) Set g) De carrie spect the re h) De Altern of the i) If th the El trace Other j) Plac freque or slig marke as po betwe of the below delta amplit emiss k) The meas	e dynamic range of the instrument at the selected RBW shall be more 10 dB below the target "-xx dB down" requirement; that is, if the ement calls for measuring the -20 dB OBW, the instrument noise floor selected RBW shall be at least 30 dB below the ince value.  detection mode to peak and trace mode to max hold. determine the reference value: Set the EUT to transmit an unmodulated or or modulated signal, as applicable. Allow the trace to stabilize. Set the rum analyzer marker to the highest level of the displayed trace (this is ference value). The instrument is calculation may be made by using the marker-delta function instrument.  The instrument is determined by an unmodulated carrier, then turn but modulation ON, and either clear the existing trace or start a new on the spectrum analyzer and allow the new trace to stabilize. Wise, the trace from step g) shall be used for step j). The two markers, one at the lowest frequency and the other at the highest ency of the envelope of the spectral display, such that each marker is at a leftly below the "-xx dB down amplitude" determined in step h). If a set is below this "-xx dB down amplitude" determined in step h). If a set is below this "-xx dB down amplitude" determined in step h). If a set is below this "-xx dB down amplitude" and the it had be as close estable to this value. The occupied bandwidth is the frequency difference then the two markers. Alternatively, set a marker at the lowest frequency envelope of the spectral display, such that the marker is at or slightly the "-xx dB down amplitude" determined in step h). Reset the marker-function and move the marker to the other side of the emission until the marker amplitude is at the same level as the reference marker tunde. The marker-delta frequency reading at this point is the specified the bandwidth.  The marker-delta frequency reading at this point is the specified the occupied bandwidth shall be reported by providing plot(s) of the curing instrument display; the plot axes and the scale units per division b



## 6.2.1 E.U.T. Operation:

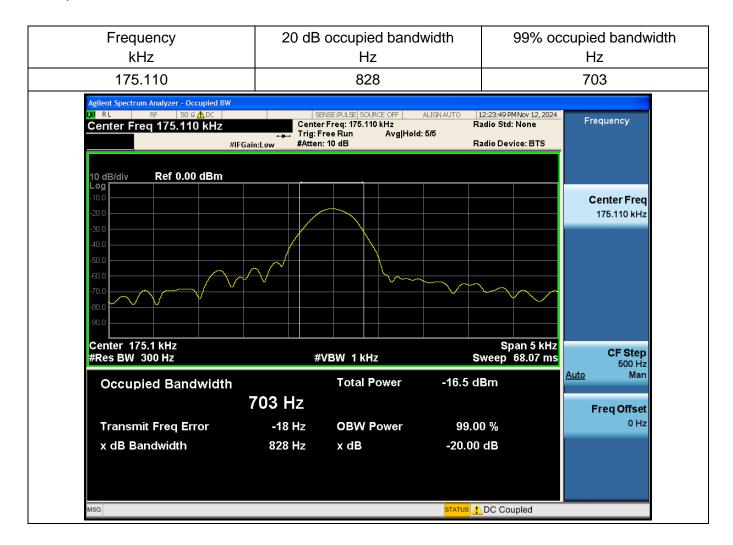
Operating Environment:						
Temperature:	25 °C		Humidity:	55 %	Atmospheric Pressure:	101 kPa
Pre test mode:	Pre test mode: Mode1, Mode2, Mode3, Mode4, Mode5, Mode6, Mode7, Mode8, Mode9, Mode10, Mode11, Mode12, Mode13, Mode14, Mode15, Mode16					•
Final test mode:  All of the listed pre-test mode were tested, only the data of the worst mode (Mode13, Mode14, Mode15) is recorded in the report					of the worst mode	

## 6.2.2 Test Setup Diagram:

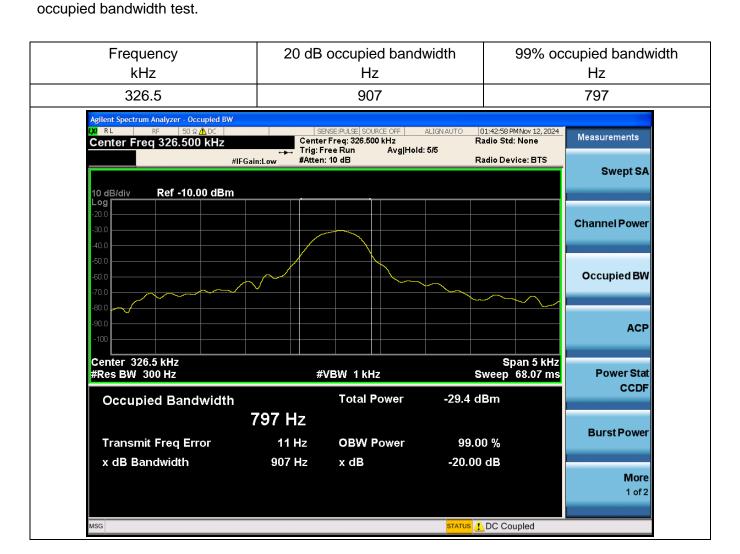


#### 6.2.3 Test Data:

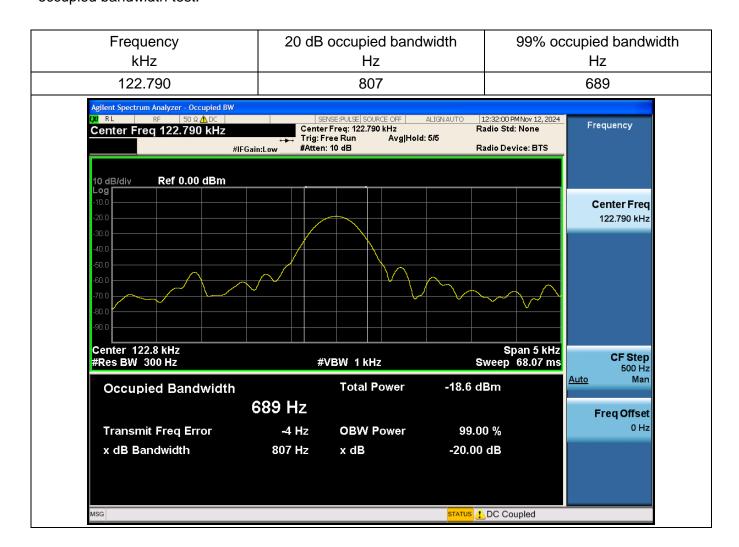
**Note:** Because the measured signal is CW-like, adjusting the RBW per C63.10 would not be practical since measurement bandwidth will always follow the RBW. The RBW is set to 300 Hz to perform the occupied bandwidth test.



**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



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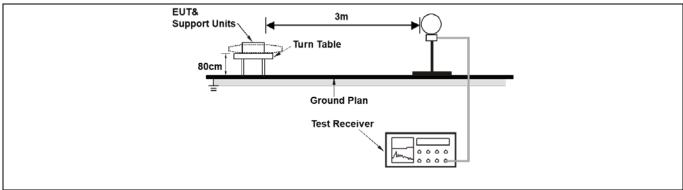
## 6.3 Emissions in frequency bands (below 30MHz)

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		
	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 9–90 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	tion 6.4			
Procedure:	ANSI C63.10-2013 sec	tion 6.4			

## 6.3.1 E.U.T. Operation:

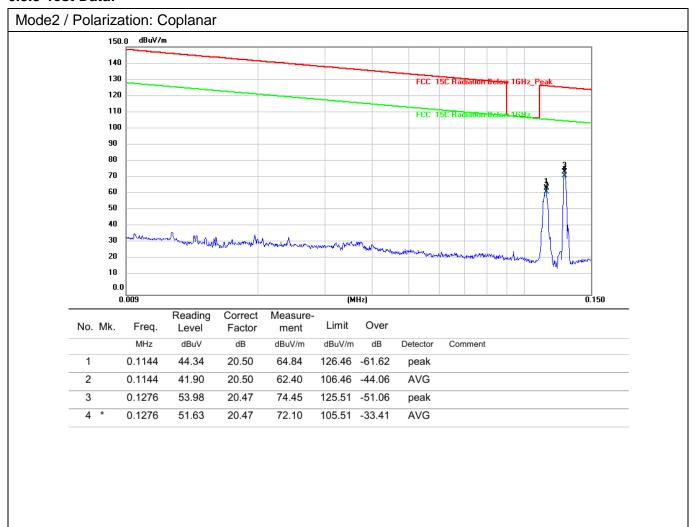
Operating Environment:						
Temperature: 22.5 °C Humidity: 43 % Atmospheric Pressure: 101 kPa					101 kPa	
Pre test mode: Mode1, Mode2, Mode3, Mode4, Mode5, Mode6, Mode7, Mode8, Mode9, Mode10, Mode11, Mode12, Mode13, Mode14, Mode15, Mode16						
Final test mode:  All of the listed pre-test mode were tested, only the data of the worst mode (Mode2) is recorded in the report				of the worst mode		

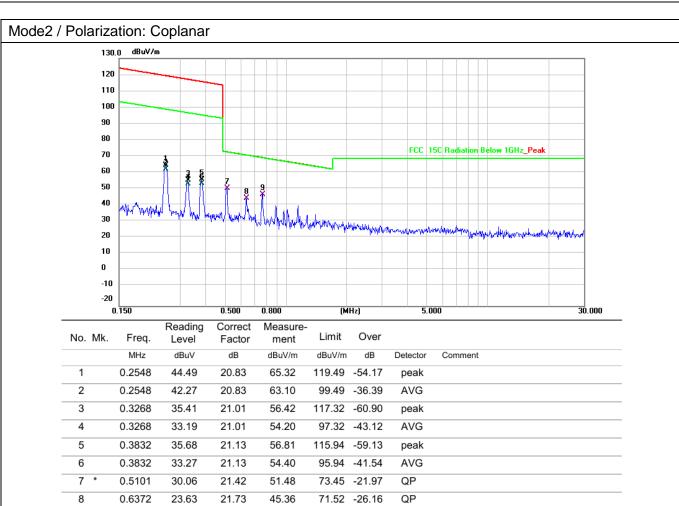
## 6.3.2 Test Setup Diagram:





#### 6.3.3 Test Data:





69.92 -22.21

QP

47.71

0.7669

9

25.66

22.05



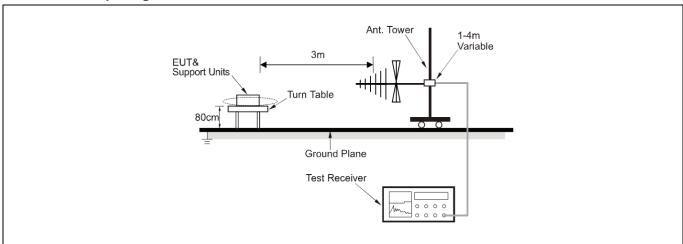
## 6.4 Emissions in frequency bands (30MHz - 1GHz)

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		
	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 9–90 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 section 6.5				
Procedure:	ANSI C63.10-2013 sec	tion 6.5			

## 6.4.1 E.U.T. Operation:

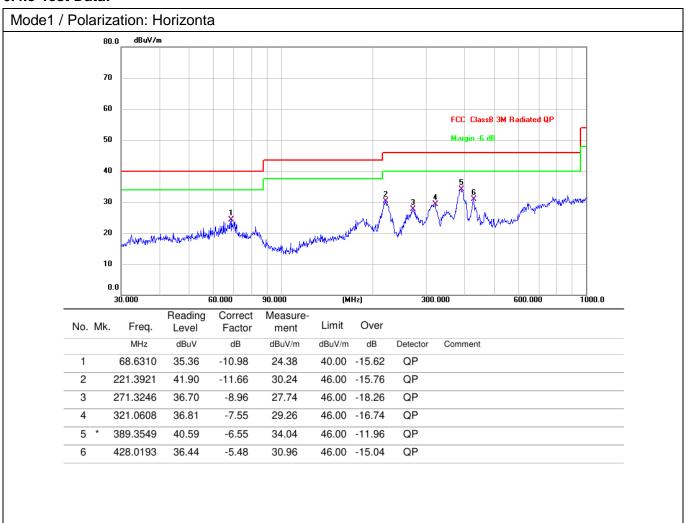
Operating Environment:						
Temperature:	nperature: 26 °C Humidity: 54 % Atmospheric Pressure: 98.3 kPa					
Pre test mode:	Pre test mode: Mode1, Mode2, Mode3, Mode4, Mode5, Mode6, Mode7, Mode8, Mode9, Mode10, Mode11, Mode12, Mode13, Mode14, Mode15, Mode16					
Final test mode	st mode:  All of the listed pre-test mode were tested, only the data of the worst mode (Mode1) is recorded in the report					of the worst mode

## 6.4.2 Test Setup Diagram:





#### 6.4.3 Test Data:



6

393.4723

45.00

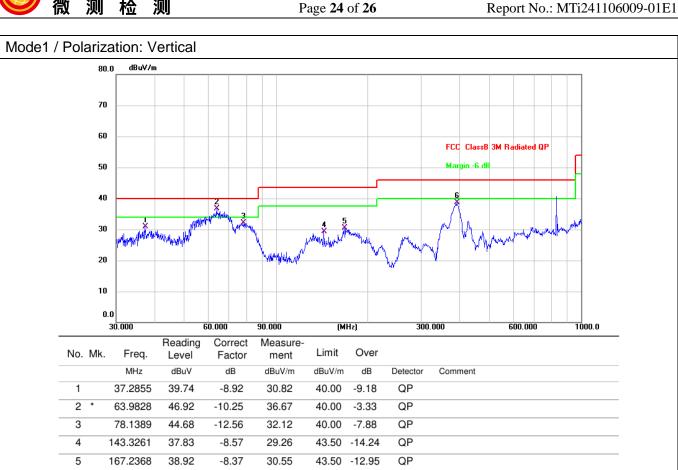
-6.33

38.67

46.00

-7.33

QP





## Photographs of the test setup

Refer to Appendix - Test Setup Photos



## Photographs of the EUT

Refer to Appendix - EUT Photos

----End of Report----