

Test Report

Report No.: MTi231204020-19E1

Date of issue: 2024-01-04

Applicant: Shenzhen Caibo Technology Co., Ltd.

Product: 3 in 1 Magnetic Wireless Charger

Model(s): T6

FCC ID: 2AXTH-T6

Shenzhen Microtest Co., Ltd.

http://www.mtitest.com



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Test Result Certification				
Applicant:	Shenzhen Caibo Technology Co., Ltd.			
Address:	F4, Building 30, Fifth Industrial Zone, Huaide Cuigang Industrial Park, Fu Yong, Bao'an District, Shenzhen China.			
Manufacturer:	Shenzhen Caibo Technology Co., Ltd.			
Address:	F4, Building 30, Fifth Industrial Zone, Huaide Cuigang Industrial Park, Fu Yong, Bao'an District, Shenzhen China.			
Factory:	Shenzhen Caibo Technology Co., Ltd.			
Address:	F4, Building 30, Fifth Industrial Zone, Huaide Cuigang Industrial Park, Fu Yong, Bao'an District, Shenzhen China.			
Product description				
Product name:	3 in 1 Magnetic Wireless Charger			
Trademark:	KOAKUMA			
Model name:	T6			
Series Model(s):	N/A			
Standards:	47 CFR Part 15C			
Test Method:	ANSI C63.10-2013			
Date of Test				
Date of test:	2023-12-07 to 2023-12-14			
Test result:	Pass			

Test Engineer	:	Morlean Davy
		(Maleah Deng)
Reviewed By	:	leon chen
		(Leon Chen)
Approved By		Tom Xue
		(Tom Xue)



1 General Description

1.1 Description of the EUT

Product name:	3 in 1 Magnetic Wireless Charger
Model name:	T6
Series Model(s):	N/A
Model difference:	N/A
Electrical rating:	Input: 5V-3A, 9V-3A, 12V-3A MAX Wireless Output: phone: 5W,7.5W,10W,15W; Wireless Earbuds: 3W iWatch: 2.5W
Accessories:	N/A
Hardware version:	T6-9516-V2
Software version:	0x00422D05
Test sample(s) number:	MTi231204020-19S1001
RF specification	
Operating frequency range:	Transmitter1 (Phone): 115-205KHz Transmitter2 (Wireless Earbuds): 115-205KHz Transmitter3 (iWatch): 300-350KHz
Modulation type:	ASK
Antenna(s) type:	Coil Antenna
1.2 Description of test	madas

1.2 Description of test modes

No.	Emission test modes
Mode1	Wireless output(5W)+Wireless Earbuds(3W)+iWatch(2.5W)
Mode2 Wireless output(7.5W)+Wireless Earbuds(3W)+iWatch(2.	
Mode3	Wireless output(10W)+Wireless Earbuds(3W)+iWatch(2.5W)
Mode4	Wireless output(15W)+Wireless Earbuds(3W)+iWatch(2.5W)
Mode5	Wireless output(5W)+Wireless Earbuds(3W)
Mode6	Wireless output(7.5W)+Wireless Earbuds(3W)
Mode7	Wireless output(10W)+Wireless Earbuds(3W)
Mode8	Wireless output(15W)+Wireless Earbuds(3W)
Mode9	Wireless output(5W)+iWatch(2.5W)
Mode10	Wireless output(7.5W)+iWatch(2.5W)
Mode11	Wireless output(10W)+iWatch(2.5W)
Mode12	Wireless output(15W)+iWatch(2.5W)
Mode13	Wireless Earbuds(3W)+iWatch(2.5W)
Mode14	Wireless output(5W)
Mode15	Wireless output(7.5W)
Mode16	Wireless output(10W)

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Mode17	Wireless output(15W)	
Mode18	iWatch(2.5W)	
Mode19	Wireless Earbuds(3W)	
Mode20	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				
Lenovo Laptop Portable adapter (65W)	Portable adapter LS-65WTAQCPD		Lenovo				
iWatch	iwatch 7	1	apple				
airpods	airpods 3	1	apple				
wireless charging load	YBZ1.1	/	YBZ				
Support cable list							
Description	Length (m)	From	То				
/	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

No.	Equipment	Manufacturer	Model	Serial No.	Cal. date	Cal. Due
Conducted Emission at 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
		20dB Od	ccupied Bandwid	th		
1	Wideband Radio Communication Tester	Rohde&schwarz	CMW500	149155	2023-04-26	2024-04-25
2	ESG Series Analog Ssignal Generator	Agilent	E4421B	GB40051240	2023-04-25	2024-04-24
3	PXA Signal Analyzer	Agilent	N9030A	MY51350296	2023-04-25	2024-04-24
4	Synthesized Sweeper	Agilent	83752A	3610A01957	2023-04-25	2024-04-24
5	MXA Signal Analyzer	Agilent	N9020A	MY50143483	2023-04-26	2024-04-25
6	RF Control Unit	Tonscend	JS0806-1	19D8060152	2023-04-26	2024-04-25
7	Band Reject Filter Group	Tonscend	JS0806-F	19D8060160	2023-05-05	2024-05-04
8	ESG Vector Signal Generator	Agilent	N5182A	MY50143762	2023-04-25	2024-04-24
9	DC Power Supply	Agilent	E3632A	MY40027695	2023-05-05	2024-05-04
		Emissions in frequ	uency bands (bel	low 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	2023-06-26	2024-06-25
		Emissions in frequ	ency bands (30N	ЛНz - 1GHz)		
1	EMI Test Receiver	Rohde&schwarz	ESCI7	101166	2023-04-26	2024-04-25
2	TRILOG Broadband Antenna	schwarabeck	VULB 9163	9163-1338	2023-06-11	2025-06-10
3	Active Loop Antenna	Schwarzbeck	FMZB 1519 B	00066	2023-06-11	2025-06-10
4	Amplifier	Hewlett-Packard	8447F	3113A06184	2023-06-26	2024-06-25
5	Multi-device Controller	TuoPu	TPMDC	1	2023-05-04	2024-05-03



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)

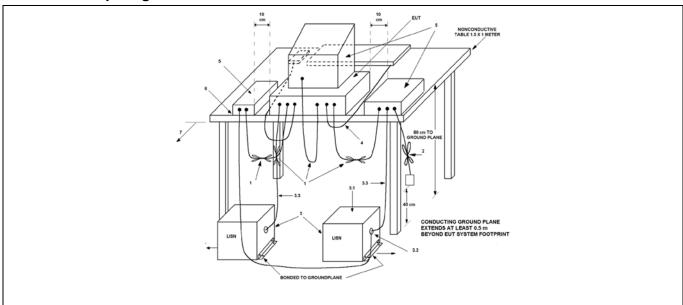
6.1 Conducted Emission at AC power line

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	<u>')</u>			
		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 section 6.2, standard test method for ac power-line conducted emissions from unlicensed wireless devices					

6.1.1 E.U.T. Operation:

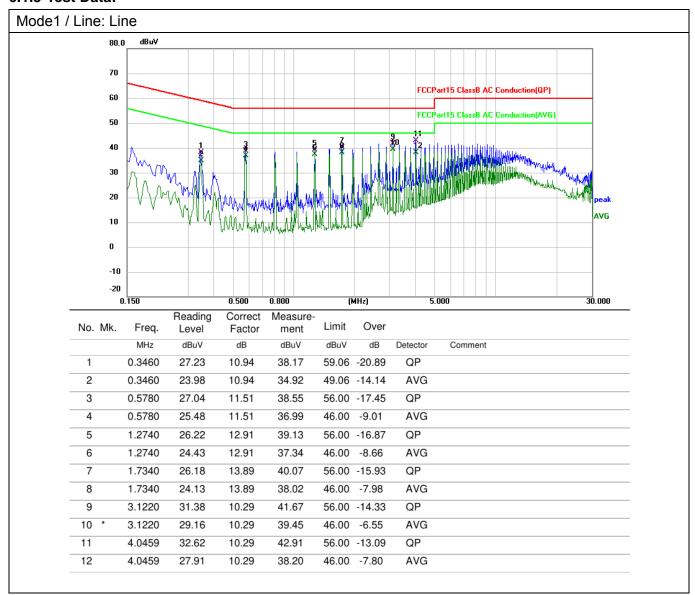
Operating Environment:							
Temperature:	25.3 °C		Humidity:	51 %	Atmospheric Pressure:	101 kPa	
Mode1, Mode2, Mode3, Mode4, Mode5, Mode6, Mode7, Mode8, Mode10, Mode11, Mode12, Mode13, Mode14, Mode15, Mode16, I Mode18, Mode19, Mode20							
Final test mode	All of the listed pre-test mode were tested, only the data of the worst mode (Mode1) is recorded in the report						

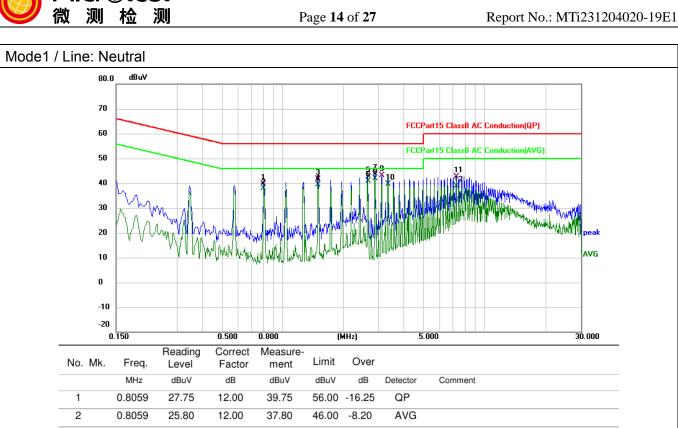
6.1.2 Test Setup Diagram:





6.1.3 Test Data:





No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	0.8059	27.75	12.00	39.75	56.00	-16.25	QP	
2	0.8059	25.80	12.00	37.80	46.00	-8.20	AVG	
3	1.4940	28.51	13.19	41.70	56.00	-14.30	QP	
4	1.4940	26.24	13.19	39.43	46.00	-6.57	AVG	
5	2.6580	32.47	10.18	42.65	56.00	-13.35	QP	
6	2.6580	30.58	10.18	40.76	46.00	-5.24	AVG	
7	2.8900	33.35	10.25	43.60	56.00	-12.40	QP	
8 *	2.8900	31.51	10.25	41.76	46.00	-4.24	AVG	
9	3.1180	32.91	10.27	43.18	56.00	-12.82	QP	
10	3.3500	29.42	10.27	39.69	46.00	-6.31	AVG	
11	7.2819	32.24	10.29	42.53	60.00	-17.47	QP	
12	7.2819	28.65	10.29	38.94	50.00	-11.06	AVG	



6.2 20dB Occupied Bandwidth

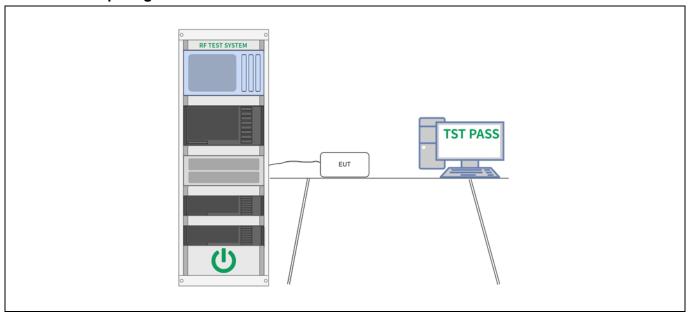
Test Requirement:	47 CFR Part 15.215(c)
Test Limit:	Refer to 47 CFR 15.215(c), intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in subpart E of this part, must be designed to ensure that the 20 dB bandwidth of 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
Procedure:	a) The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the EMI receiver or spectrum analyzer shall be between two times and five times the OBW. b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW and video bandwidth (VBW) shall be approximately three times RBW, unless otherwise specified by the applicable requirement. c) Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than [10 log (OBW/RBW)] below the reference level. Specific guidance is given in 4.1.5.2. d) Steps a) through c) might require iteration to adjust within the specified tolerances. e) The dynamic range of the instrument at the selected RBW shall be more than 10 dB below the target "-xx dB down" requirement; that is, if the requirement calls for measuring the -20 dB OBW, the instrument noise floor at the selected RBW shall be at least 30 dB below the reference value. f) Set detection mode to peak and trace mode to max hold. g) Determine the reference value: Set the EUT to transmit an unmodulated carrier or modulated signal, as applicable. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace (this is the reference value). h) Determine the "-xx dB down amplitude" using [(reference value) - xx]. Alternatively, this calculation may be made by using the marker-delta function of the instrument. i) If the reference value is determined by an unmodulated carrier, then turn the EUT modulation ON, and either clear the existing trace or start a new trace on the spectrum analyzer and allow the new trace to stabilize. Otherwise, the trace from step g) shall be used for step j). j) Place two markers, one at the lowest frequency and the other at the highest frequency of the envelope of the spectral display, such that each marker is at or slightly below the "-xx dB do



6.2.1 E.U.T. Operation:

Operating Environment:								
Temperature:	25 °C		Humidity:	59 %	Atmospheric Pressure:	99 kPa		
Mode1, Mode2, Mode3, Mode4, Mode5, Mode6, Mode7, Mode8, Mode10, Mode11, Mode12, Mode13, Mode14, Mode15, Mode16, Mode18, Mode19, Mode20								
Final test mode				ere tested, only the data recorded in the report	of the worst mode			

6.2.2 Test Setup Diagram:

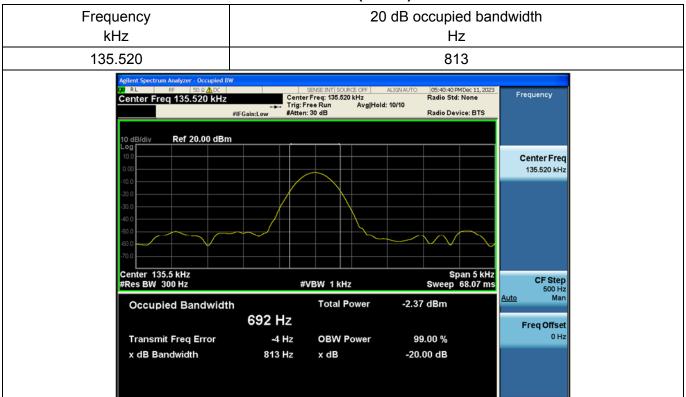




6.2.3 Test Data:

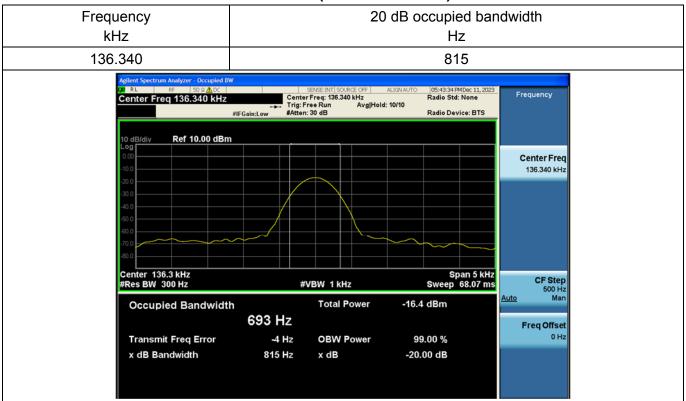
Note: Because the measured signal is CW-like, adjusting the RBW per C63.10 would not be practical since measurement bandwidth will always follow the RBW. The RBW is set to 300 Hz to perform the occupied bandwidth test.

Transmitter1(Phone):



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.

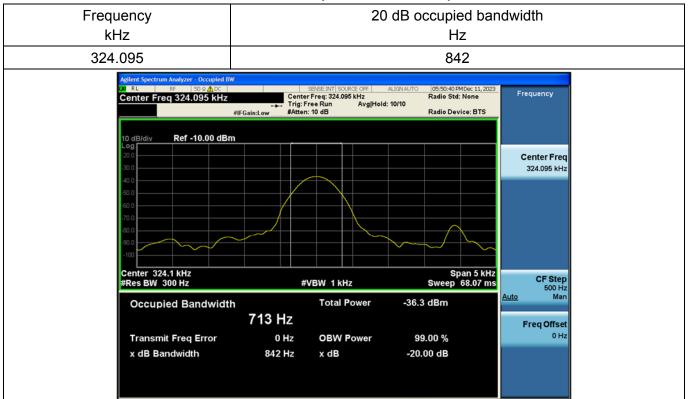
Transmitter2(Wireless Earbuds):





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.

Transmitter3(Wireless Earbuds):





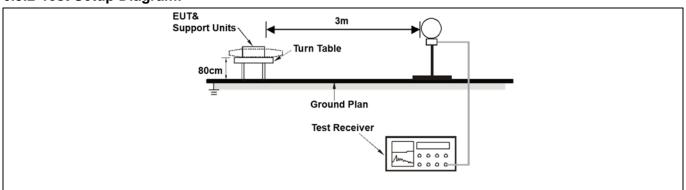
6.3 Emissions in frequency bands (below 30MHz)

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
Tost Mothod:	frequency bands 54-72 However, operation with sections of this part, e.g. In the emission table at The emission limits sho employing a CISPR quakHz, 110–490 kHz and three bands are based As shown in § 15.35(b) limits in paragraphs (a) However, the peak field maximum permitted avany condition of modula (b) of this section, the peak	erating under this section shat MHz, 76-88 MHz, 174-216 Min these frequency bands is g., §§ 15.231 and 15.241. Hove, the tighter limit applies with in the above table are basi-peak detector except for tabove 1000 MHz. Radiated con measurements employing for frequencies above 1000 and (b) of this section are basistrength of any emission shat erage limits specified above lation. For point-to-point operates along the antenna azimution 6.4	MHz or 470-806 MHz. permitted under other at the band edges. sed on measurements the frequency bands 9–90 emission limits in these g an average detector. MHz, the field strength sed on average limits. all not exceed the by more than 20 dB under ation under paragraph sceed 2500
Test Method: Procedure:			
Fiocedule:	ANSI C63.10-2013 sec	tion 6.4	

6.3.1 E.U.T. Operation:

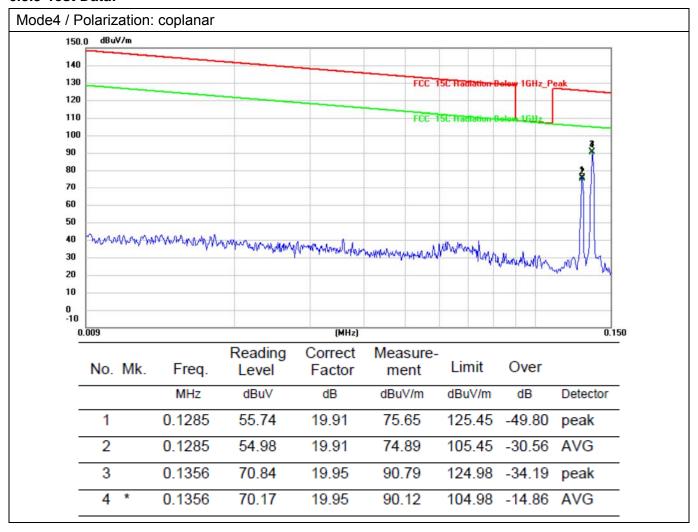
Operating Environment:								
Temperature:	22.5 °C		Humidity:	43 %	Atmospheric Pressure:	101 kPa		
Pre test mode: Mode1, Mode2, Mode3, Mode4, Mode5, Mode6, Mode7, Mode10, Mode10, Mode12, Mode13, Mode14, Mode15, Mode15, Mode18, Mode19, Mode20						•		
Final test mode			re-test mode with the report of the report o	vere tested, only the data ort	of the worst mode			

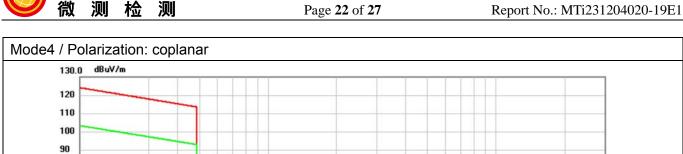
6.3.2 Test Setup Diagram:





6.3.3 Test Data:





3			FCC 15C Radiation Below	IGHz_Peak
3	5 ,			
Newhollow A. Ju	7 8	9 *		
LINE MY LANG	MANAMATINA MANAMATA	lalahda karan	orfundirilirasismas provinciamo montesa, monego mesquinas po	
	1.40tm(f)	Add a district intersected MATHERY PA	and many properties and some properties of the same of the south	models become instruction of the

No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1	0.2715	30.24	20.03	50.27	118.94	-68.67	peak
2	0.2715	28.60	20.03	48.63	98.94	-50.31	AVG
3	0.3240	54.92	19.97	74.89	117.42	-42.53	peak
4	0.3240	53.62	19.97	73.59	97.42	-23.83	AVG
5	0.4061	31.49	19.88	51.37	115.43	-64.06	peak
6	0.4061	30.95	19.88	50.83	95.43	-44.60	AVG
7	0.6790	25.79	19.73	45.52	70.97	-25.45	QP
8 *	0.8130	27.11	19.71	46.82	69.41	-22.59	QP
9	1.2161	21.50	19.69	41.19	65.93	-24.74	QP



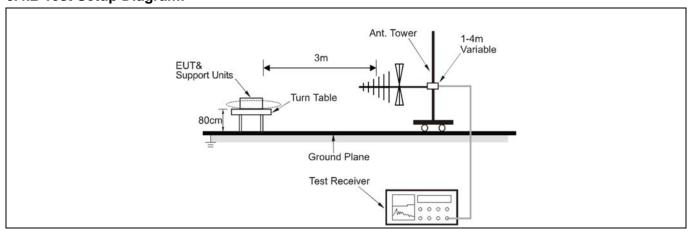
6.4 Emissions in frequency bands (30MHz - 1GHz)

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
Total Markhaul	frequency bands 54-72 However, operation with sections of this part, e.g. In the emission table at The emission limits sho employing a CISPR quakHz, 110–490 kHz and three bands are based As shown in § 15.35(b) limits in paragraphs (a)a However, the peak field maximum permitted ave any condition of modula (b)of this section, the peak	erating under this section she MHz, 76-88 MHz, 174-216 In these frequency bands is a., §§ 15.231 and 15.241. Shove, the tighter limit applies who in the above table are basi-peak detector except for above 1000 MHz. Radiated on measurements employing for frequencies above 1000 and (b)of this section are basistrength of any emission sherage limits specified above attion. For point-to-point oper eak field strength shall not extern along the antenna azimitian 6.5	MHz or 470-806 MHz. s permitted under other at the band edges. ased on measurements the frequency bands 9–90 emission limits in these g an average detector. MHz, the field strength sed on average limits. It is all not exceed the by more than 20 dB under ation under paragraph exceed 2500
Test Method: Procedure:			
Frocedure.	ANSI C63.10-2013 sec	tion 6.5	

6.4.1 E.U.T. Operation:

Operating Environment:								
Temperature:	22.5 °C		Humidity:	43 %	Atmospheric Pressure:	101 kPa		
Pre test mode: Mode1, Mode2, Mode3, Mode4, Mode5, Mode6, Mode7, Mode10, Mode10, Mode12, Mode13, Mode14, Mode15, Mode15, Mode18, Mode19, Mode20						•		
Final test mode			re-test mode with the report of the report o	vere tested, only the data ort	of the worst mode			

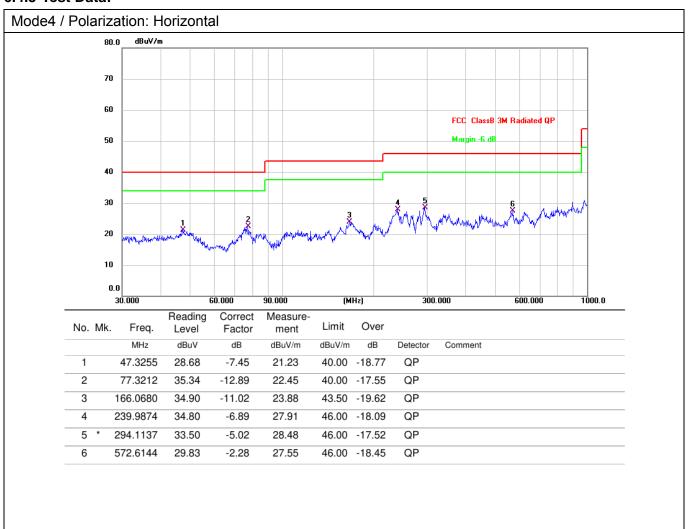
6.4.2 Test Setup Diagram:

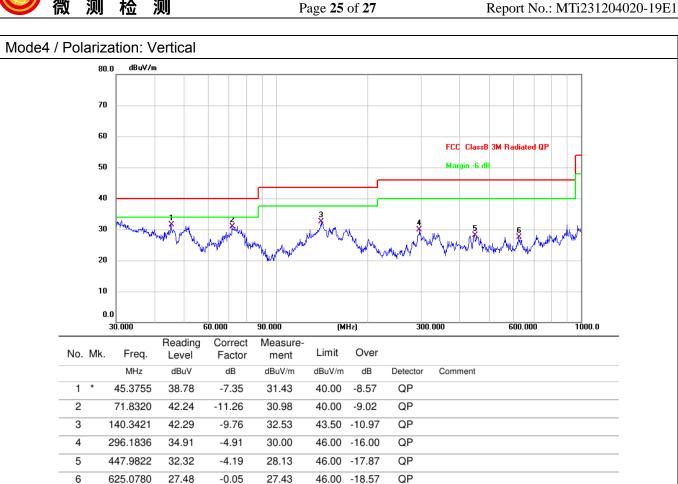


Address: 101, No. 7, Zone 2, Xinxing Industrial Park, Fuhai Avenue, Xinhe Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China Tel: (86-755)88850135 Fax: (86-755) 88850136 Web: www.mtitest.com E-mail: mti@51mti.com



6.4.3 Test Data:







Photographs of the test setup

Refer to Appendix - Test Setup Photos



Photographs of the EUT

Refer to Appendix - EUT Photos

----End of Report----