

Test Report

Report No.: MTi230815008-01E1

Date of issue: 2023-10-28

Applicant: Anker Innovations Limited

Product:

Anker MagGo Wireless Charging Station (15W, Foldable

3-in-1)

Model(s): A2557

FCC ID: 2AOKB-A2557

Shenzhen Microtest Co., Ltd.

http://www.mtitest.com



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Test Result Certification			
Applicant:	Anker Innovations Limited		
Address:	Room 1318-19, Hollywood Plaza 610 Nathan Road, Mongkok, Kowloon, Hong Kong		
Manufacturer:	Anker Innovations Limited		
Address:	Room 1318-19, Hollywood Plaza 610 Nathan Road, Mongkok, Kowloon, Hong Kong		
Product description			
Product name:	Anker MagGo Wireless Charging Station (15W, Foldable 3-in-1)		
Trademark:	ANKER		
Model name:	A2557		
Series Model:	N/A		
Standards:	47 CFR Part 15C		
Date of Test			
Date of test:	2023-08-28 to 2023-10-24		
Test result:	Pass		

Test Engineer	:	Yanice Xie
		(Yanice.Xie)
Reviewed By	:	leor chen
		(Leon Chen)
Approved By	:	Tom Xue
		(Tom Xue)



1 General Description

1.1 Description of the EUT

Product name: Anker MagGo Wireless Charging Station (15W, Foldable 3-in-1)	
Model name:	A2557
Series Model:	N/A
Model difference:	N/A
Electrical rating:	Input:12-3A/ 15V-2.66A Output:15W Max/5W Max/5W Max (Phone:15W Max/ Apple Watch:5W Max / TWS:5W Max)
Accessories:	1.Adaptor(model:ASPD53a-P40W20): Input:100-240V~50/60Hz 1.0A Output:5V=3A/ 9V=3A/ 12V=3A/ 15V=2.66A/ 20V=2A Manufacturer:Shenzhen Aquilstar Technology Co., Ltd. 2.Cable:Type-C to type-C 1.5m
Hardware version:	V1.3
Software version:	V1.0
Test sample(s) number:	MTi230815008-01S1001
RF specification	
Operating frequency range:	Transmitter 1 (Phone): 115 kHz – 205 kHz Transmitter 1 (Phone): 360 kHz Transmitter 2 (Earphone): 115 kHz – 205 kHz Transmitter 3 (Watch): 326.5 kHz Transmitter 3 (Watch):1.778 MHz
Modulation type:	ASK
Antenna type:	Coil Antenna

1.2 Description of test modes

No.	Emission test modes
Mode1	Wireless Output(Phone:5W)
Mode2	Wireless Output(Phone:7.5W)
Mode3	Wireless Output(Phone:15W)
Mode4	Wireless Output(Apple watch:3W)
Mode5	Wireless Output(Apple watch:5W)
Mode6	Wireless Output(TWS:5W)
Mode7	Wireless Output(Phone:5W+TWS:5W)
Mode8	Wireless Output(Phone:7.5W+TWS:5W)
Mode9	Wireless Output(Phone:15W+TWS:5W)
Mode9	Wireless Output(Phone:5W+Apple watch:3W)
Mode10	Wireless Output(Phone:7.5W+Apple watch:3W)
Mode11	Wireless Output(Phone:15W+Apple watch:3W)
Mode12	Wireless Output(Phone:5W+Apple watch:5W)
Mode13	Wireless Output(Phone:7.5W+Apple watch:5W)

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



Mode14	Wireless Output(Phone:15W+Apple watch:5W)
Mode15 Wireless Output(Apple watch:3W+TWS:5W Max)	
Mode16	Wireless Output(Apple watch:5W+TWS:5W Max)
Mode17	Wireless Output(Phone:5W+Apple watch:3W+TWS:5W)
Mode18	Wireless Output(Phone:7.5W+Apple watch:3W+TWS:5W)
Mode19	Wireless Output(Phone:15W+Apple watch:3W+TWS:5W)
Mode20	Wireless Output(Phone:5W+Apple watch:5W+TWS:5W)
Mode21	Wireless Output(Phone:7.5W+Apple watch:5W+TWS:5W)
Mode22	Wireless Output(Phone:15W+Apple watch:5W+TWS:5W)
Mode23	Standby

1.3 Environmental Conditions

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

	<u> </u>
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		
Wireless charging load	1	1	Yichong		
iWatch	iWatch S8	M0JVGQG1VP	APPLE		
Airpods	A1938	1	APPLE		
Support cable list					
Description	Length (m)	From	То		
1	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

. Due					
Conducted Emission at AC power line					
-04-25					
-05-04					
-06-02					
-04-25					
-04-24					
-04-24					
-04-24					
-04-25					
-04-25					
-05-04					
-04-24					
-05-04					
-04-25					
5-06-10					
-06-25					
-04-25					
5-06-10					
5-06-10					
-06-25					
-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.
Description of the antenna of EUT:	The antenna of the EUT is permanently attached.
Conclusion:	The EUT complies with the requirement of FCC PART 15.203.

6 Radio Spectrum Matter Test Results (RF)

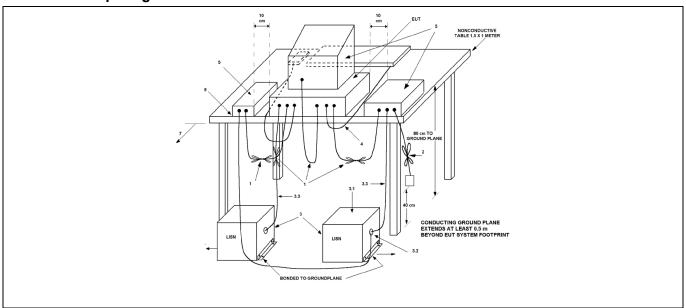
6.1 Conducted Emission at AC power line

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 ANSI C63.10-2020 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				
	Refer to ANSI C63.10-2020 sect line conducted emissions from u			er-	

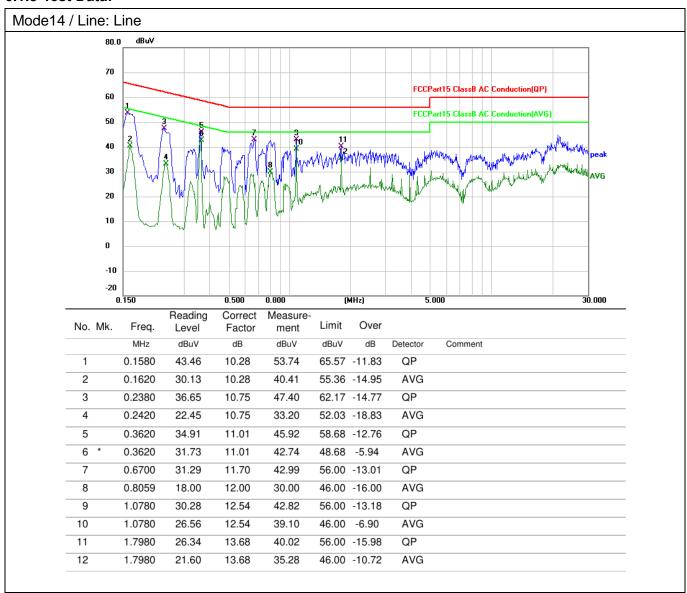
6.1.1 E.U.T. Operation:

Operating Environment:						
Temperature:	25.3 °C		Humidity:	57 %	Atmospheric Pressure:	100 kPa
Mode1, Mode2, Mode3, Mode4, Mode5, Mode6, Mode7, Mode8, Mode9, Pre test mode: Mode10, Mode11, Mode12, Mode13, Mode14, Mode15, Mode16, Mode17 Mode18, Mode19, Mode 20, Mode 21, Mode 22, Mode 23					Mode16, Mode17,	
Final test mode: All of the listed pre-test mode were tested, only the data of the worst mode (Mode14) is recorded in the report				of the worst mode		

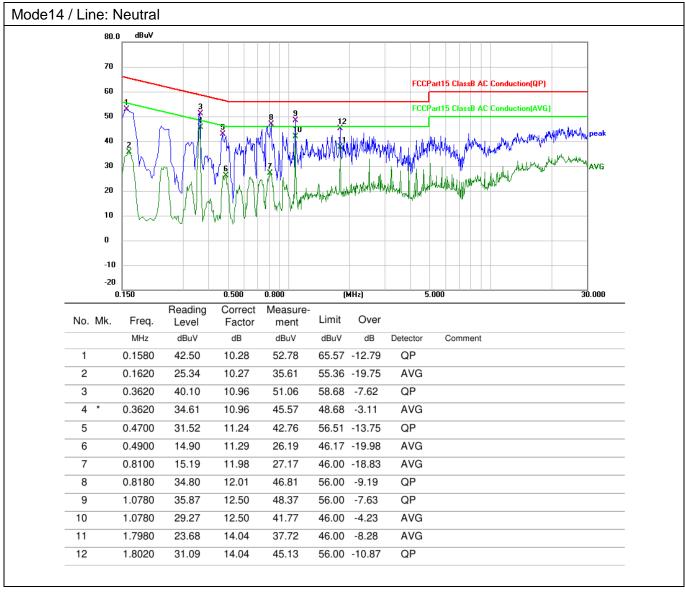
6.1.2 Test Setup Diagram:



6.1.3 Test Data:



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6.2 20dB Occupied Bandwidth

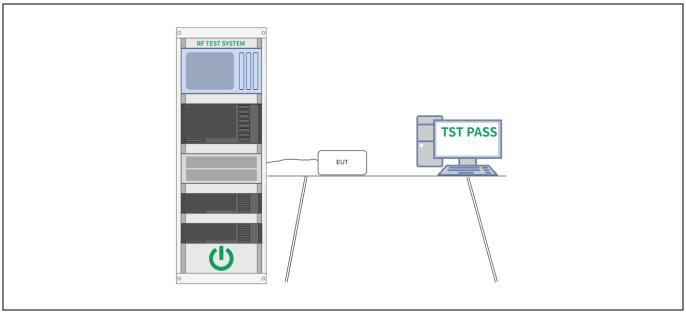
Test Requirement:	47 CFR Part 15.215(c)
Test Limit:	Refer to 47 CFR 15.215(c), intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in subpart E of this part, must be designed to ensure that the 20 dB bandwidth of 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 ANSI C63.10-2020, 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. for 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). If a marker is below this "-xx dB down amplitude" determined in step h). If a marker is below this "-xx dB down amplitude" value, then it shall be as close as possible to this value. The occupied bandwidth is the frequency difference between the two markers



6.2.1 E.U.T. Operation:

Operating Environment:						
Temperature:	22.5 °C		Humidity:	62.3 %	Atmospheric Pressure:	100 kPa
Pre test mode: Mode1, Mode2, Mode3, Mode4, Mode5, Mode6, Mode7, Mode8, Mode9, Mode10, Mode11, Mode12, Mode13, Mode14, Mode15, Mode16, Mode1 Mode18, Mode19, Mode 20, Mode 21, Mode 22, Mode 23					Mode16, Mode17,	
Final test mode.					ere tested, only the data orded in the report	of the worst mode

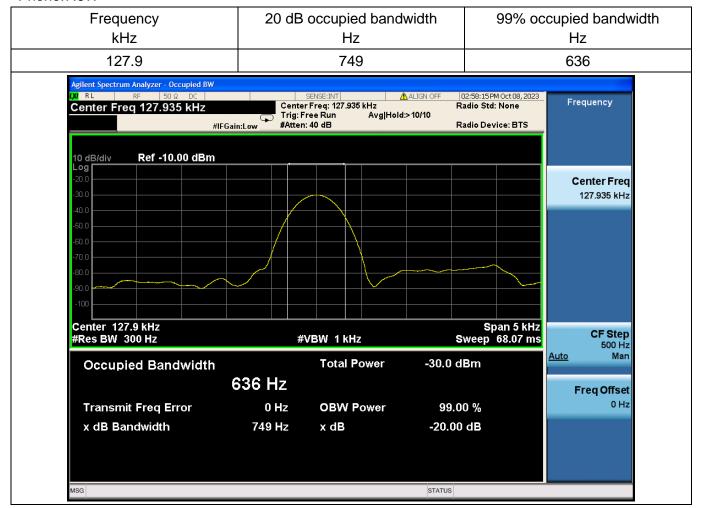
6.2.2 Test Setup Diagram:



6.2.3 Test Data:

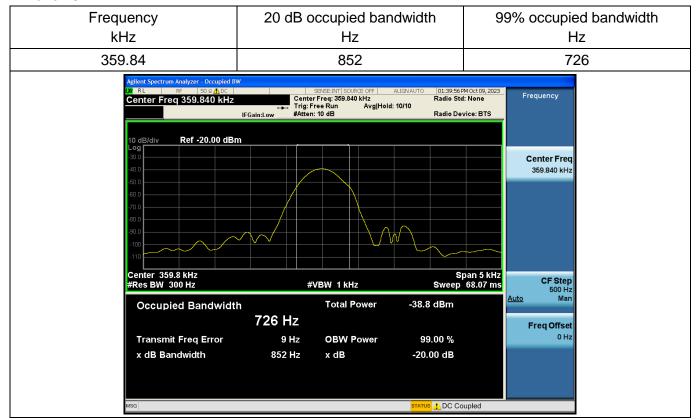
Note: Because the measured signal is CW-like, adjusting the RBW per C63.10 would not be practical since measurement bandwidth will always follow the RBW. The RBW is set to 300 Hz to perform the occupied bandwidth test.

Phone:7.5W



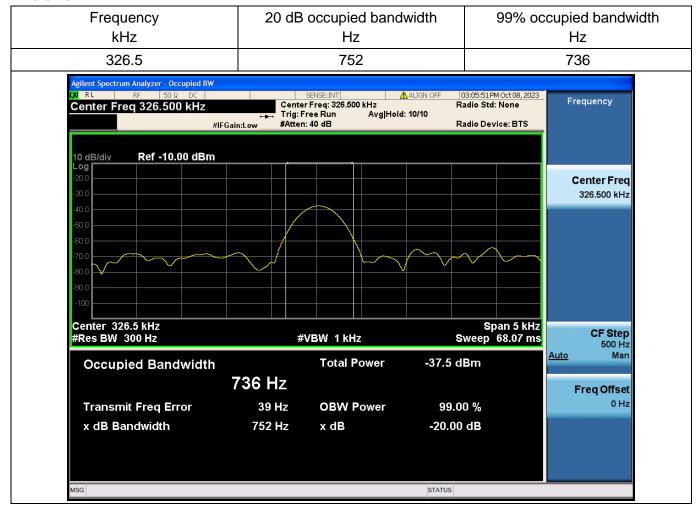
Note: Because the measured signal is CW-like, adjusting the RBW per C63.10 would not be practical since measurement bandwidth will always follow the RBW. The RBW is set to 300 Hz to perform the occupied bandwidth test.

Phone:15W



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.

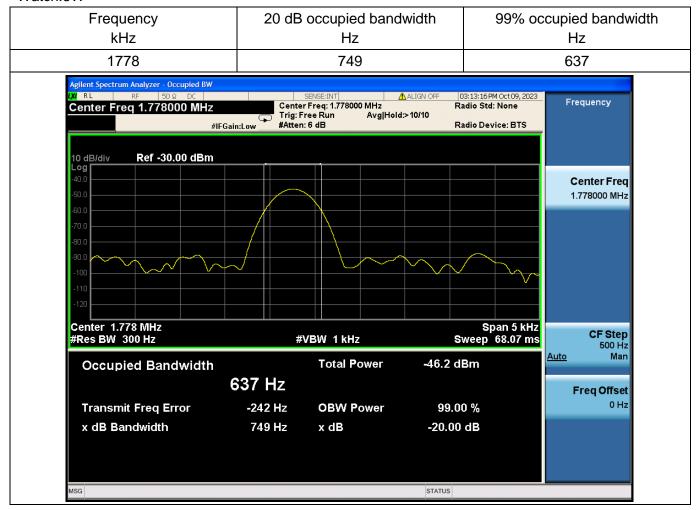
Watch:3W





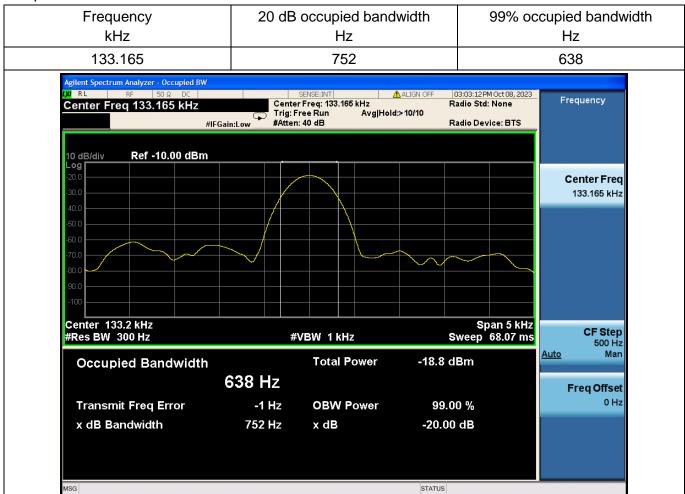
Note: Because the measured signal is CW-like, adjusting the RBW per C63.10 would not be practical since measurement bandwidth will always follow the RBW. The RBW is set to 300 Hz to perform the occupied bandwidth test.

Watch:5W



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.

Earphone:





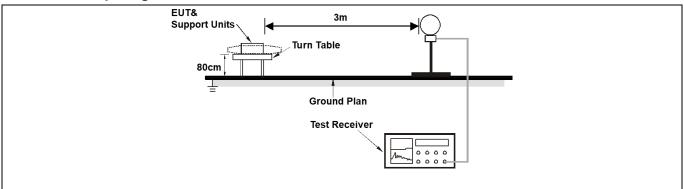
6.3 Emissions in frequency bands (below 30MHz)

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
	sections of this part, e. §§ 15.231 and 15.241. As shown in § 15.35(b limits in paragraphs (a) However, the peak field maximum permitted avany condition of modul (b)of this section, the parameter at 3 meters are sections.), for frequencies above 1000 and (b)of this section are ba d strength of any emission sh rerage limits specified above ation. For point-to-point oper heak field strength shall not e eters along the antenna azim	O MHz, the field strength sed on average limits. hall not exceed the by more than 20 dB under ration under paragraph xceed 2500
Test Method:	ANSI C63.10-2013 sed ANSI C63.10-2020 sed		
Procedure:	ANSI C63.10-2013 sed	ction 6.4	
	ANSI C63.10-2020 sed	ction 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, Mode8, Mode9 Mode10, Mode11, Mode12, Mode13, Mode14, Mode15, Mode16, Mode Mode18, Mode19, Mode 20, Mode 21, Mode 22, Mode 23					Mode16, Mode17,	
Final test mode.				ore-test mode worded in the rep	vere tested, only the data port	of the worst mode

6.3.2 Test Setup Diagram:

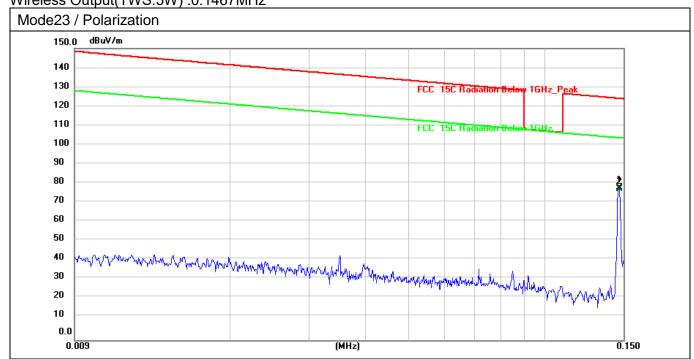


Address: 101, No. 7, Zone 2, Xinxing Industrial Park, Fuhai Avenue, Xinhe Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China Tel: (86-755)88850135 Fax: (86-755) 88850136 Web: www.mtitest.com E-mail: mti@51mti.com

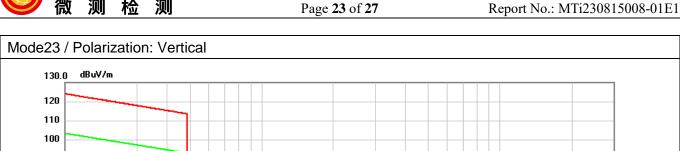


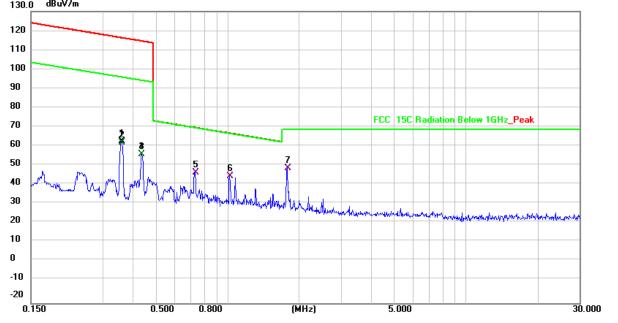
6.3.3 Test Data:

Wireless Output(Phone:15W): 0.3596MHz Wireless Output(Apple watch:5W): 1.7806MHz Wireless Output(TWS:5W): 0.1467MHz



No. Mk.	Freq.	Reading Level		Measure- ment		Over	
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1	0.1467	58.35	20.25	78.60	124.29	-45.69	peak
2 *	0.1467	57.55	20.25	77.80	104.29	-26.49	AVG





No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
	MHZ	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1	0.3596	43.19	20.33	63.52	116.49	-52.97	peak
2	0.3596	42.47	20.33	62.80	96.49	-33.69	AVG
3	0.4374	36.45	20.35	56.80	114.79	-57.99	peak
4	0.4374	36.45	20.35	56.80	94.79	-37.99	AVG
5	0.7309	26.93	20.46	47.39	70.34	-22.95	QP
6	1.0211	24.74	20.57	45.31	67.44	-22.13	QP
7 *	1.7806	28.89	20.63	49.52	69.50	-19.98	QP



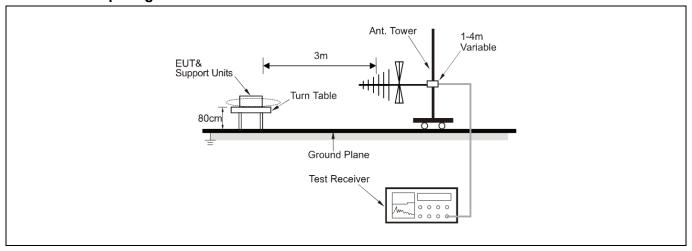
6.4 Emissions in frequency bands (30MHz - 1GHz)

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		
	limits in paragraphs (a) However, the peak field maximum permitted av any condition of modul (b)of this section, the p	~	sed on average limits. nall not exceed the by more than 20 dB under ation under paragraph xceed 2500		
Test Method:	ANSI C63.10-2013 section 6.5 ANSI C63.10-2020 section 6.5				
Procedure:	ANSI C63.10-2013 sec ANSI C63.10-2020 sec				

6.4.1 E.U.T. Operation:

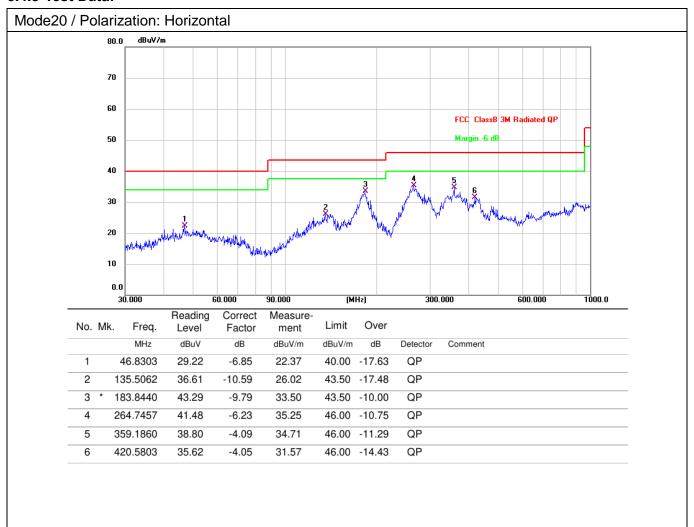
Operating Environment:					
Temperature:	22.5 °C	Humidity:	43 %	Atmospheric Pressure:	101 kPa
Pre test mode: Mode1, Mode2, Mode3, Mode4, Mode5, Mode6, Mode7, Mode8, Mode9, Mode10, Mode11, Mode12, Mode13, Mode14, Mode15, Mode16, Mode17, Mode18, Mode19, Mode 20, Mode 21, Mode 22, Mode 23					
Final test mode: All of the listed pre-test mode were tested, only the data of the worst mode (Mode20) is recorded in the report					of the worst mode

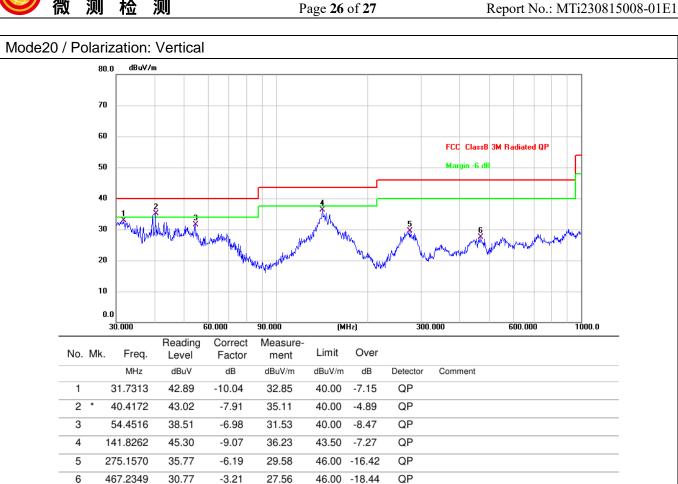
6.4.2 Test Setup Diagram:





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----