

Test Report

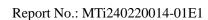
Report No.: MTi240220014-01E1 Date of issue: 2024-03-06 **Applicant:** JinXuan Electronics (Hong Kong) Company Limited **Product:** 15W Wireless Charger GAR157, GAR157N, GAR157N-1, GAR157N-2 GAR157N-3, GAR157B, GAR157B-1 GAR157B-2, GAR157B-3, GAR157-UK GAR157N-UK, GAR157N-UK-1, GAR157N-UK-2, GAR157N-UK-3, GAR157B-UK GAR157B-UK-1, GAR157B-UK-2, GAR157B-UK-3 GAR157-EU, GAR157N-EU, GAR157N-EU-1 GAR157N-EU-2, GAR157N-EU-3, GAR157B-EU, GAR157B-EU-1 Model(s): GAR157B-EU-2, GAR157B-EU-3 GAR157-US, GAR157N-US, GAR157N-US-1 GAR157N-US-2, GAR157N-US-3 GAR157B-US, GAR157B-US-1 GAR157B-US-2, GAR157B-US-3 GAR157-KR, GAR157N-KR, GAR157N-KR-1 GAR157N-KR-2, GAR157N-KR-3 GAR157B-KR, GAR157B-KR-1 GAR157B-KR-2, GAR157B-KR-3 FCC ID: 2A9HV-GAR157

Shenzhen Microtest Co., Ltd.

http://www.mtitest.com

The test report is only used for customer scientific research, teaching, internal quality control and other purposes, and is for internal reference only.







Instructions

- 1. This test report shall not be partially reproduced without the written consent of the laboratory.
- 2. The test results in this test report are only responsible for the samples submitted
- 3. This test report is invalid without the seal and signature of the laboratory.
- 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	6 7 7
2	Sum	mary of Test Result	8
3	Test	Facilities and accreditations	9
	3.1	Test laboratory	9
4	List o	of test equipment	10
5	Radio	o Spectrum Matter Test Results (RF)	11
	5.1 5.2 5.3 5.4 5.5	Antenna requirement Conducted Emission at AC power line 20dB Occupied Bandwidth Emissions in frequency bands (below 30MHz) Emissions in frequency bands (30MHz - 1GHz)	
Pho	otogra	aphs of the test setup	24
Pho	otogra	aphs of the EUT	25

Test Result Certification			
Applicant:	JinXuan Electronics (Hong Kong) Company Limited		
Address: ROOM 07 7/F PROSPER COMM BLDG 9 YIN CHONG STRE			
Manufacturer:	Jinxuan Electronics(Shenzhen) Co., Ltd.		
Address:	Room 901, Block A, Phase I, Galaxy World , Longgang District, Shenzhen City, Guangdong Province, China		
Product description			
Product name:	15W Wireless Charger		
Trademark:	1HORA, INORA, INORA		
Model name:	GAR157		
Series Model:	GAR157N, GAR157N-1, GAR157N-2, GAR157N-3, GAR157B, GAR157B-1, GAR157B-2, GAR157B-3, GAR157-UK, GAR157N-UK, GAR157N-UK-1, GAR157N-UK-2, GAR157N-UK-3, GAR157B-UK, GAR157B-UK-1, GAR157B-UK-2, GAR157B-UK-3, GAR157-EU, GAR157N-EU, GAR157N-EU-1, GAR157N-EU-2, GAR157N-EU-3, GAR157B-EU, GAR157B-EU-1, GAR157B-EU-2, GAR157B-EU-3, GAR157-US, GAR157N-US, GAR157B-US-1, GAR157N-US-2, GAR157N-US-3, GAR157B-US, GAR157B-US-1, GAR157B-US-2, GAR157B-US-3, GAR157-KR, GAR157N-KR, GAR157N-KR-1, GAR157N-KR-2, GAR157N-KR-3, GAR157B-KR, GAR157B-KR-1, GAR157B-KR-2, GAR157B-KR-3		
Standards:	47 CFR Part 15C		
Date of Test			
Date of test:	2024-02-21 to 2024-03-06		
Test result:	Pass		

Test Engineer	:	Dowid. Cee
		(David Lee)
Reviewed By	:	(cov chen
		(Leon Chen)
Approved By	••	Tom Kne
		(Tom Xue)



1 General Description

1.1 Description of the EUT

Product name:	15W Wireless Charger
Model name:	GAR157
Series Model:	GAR157N, GAR157N-1, GAR157N-2 GAR157N-3, GAR157B, GAR157B-1 GAR157B-2, GAR157B-3, GAR157B-1 GAR157B-2, GAR157B-3, GAR157B-UK GAR157N-UK, GAR157N-UK-1, GAR157N-UK-2, GAR157N-UK-3, GAR157B-UK GAR157B-UK-1, GAR157N-UK-2, GAR157B-UK-3 GAR157B-U, GAR157N-EU, GAR157N-EU-1 GAR157N-EU-2, GAR157N-EU-3, GAR157B-EU, GAR157B-EU-1 GAR157B-EU-2, GAR157B-EU-3 GAR157B-EU-2, GAR157B-EU-3 GAR157-US, GAR157N-US, GAR157N-US-1 GAR157N-US-2, GAR157N-US-3 GAR157B-US, GAR157B-US-1 GAR157B-US, GAR157B-US-1 GAR157B-US-2, GAR157N-KR, GAR157N-KR-1 GAR157N-KR-2, GAR157N-KR-3 GAR157B-KR, GAR157B-KR-1 GAR157B-KR, GAR157B-KR-1 GAR157B-KR-2, GAR157B-KR-3
Model difference:	All the models are the same circuit and module, except the model name.
Electrical rating:	Input: DC5V2A, 9V2A Wireless output: 5W, 7.5W, 10W, 15W
Accessories:	USB-A to USB-C Cable 100cm
Hardware version:	HKWP21291A-15 REV: 1.0
Software version:	9HE5
Test sample(s) number:	MTi240220014-01S1001
RF specification	·
Operating frequency range:	Coil 1: 115 kHz – 205 kHz Coil 2: 115 kHz – 205 kHz
Modulation type:	ASK
Antenna type:	Coil Antenna



1.2 Description of test modes

No.	Emission test modes
Mode1	Coil1 Wireless output(5W)
Mode2	Coil1 Wireless output(7.5W)
Mode3	Coil1 Wireless output(10W)
Mode4	Coil1 Wireless output(15W)
Mode5	Coil2 Wireless output(5W)
Mode6	Coil2 Wireless output(7.5W)
Mode7	Coil2 Wireless output(10W)
Mode8	Coil2 Wireless output(15W)
Mode9	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

Support equipment list					
Description	Model Serial No. Manu		Manufacturer		
Load	YBZ1.1 / YBZ		YBZ		
Adapter	LS-65WTAQCPD	/	Lenovo		
Support cable list					
Description	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	Standard	Requirement	Result
1	Conducted Emission at AC power line	47 CFR Part 15C	47 CFR Part 15.207(a)	Pass
2	20dB Occupied Bandwidth	47 CFR Part 15C	47 CFR Part 15.215(c)	Pass
3	Emissions in frequency bands (below 30MHz)	47 CFR Part 15C	47 CFR Part 15.209	Pass
4	Emissions in frequency bands (30MHz - 1GHz)	47 CFR Part 15C	47 CFR Part 15.209	Pass
5	Antenna requirement	47 CFR Part 15C	47 CFR Part 15.203	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 Oc	cupied 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	iency bands (bel	ow 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 frequency bands (30MHz - 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	Amplifier	Hewlett-Packard	8447F	3113A06184	2023-06-26	2024-06-25
4	Multi-device Controller	TuoPu	TPMDC	/	2023-05-04	2024-05-03



5 Radio Spectrum Matter Test Results (RF)

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 c 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.	

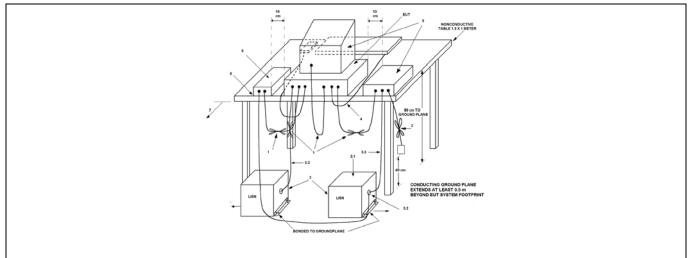
5.2 Conducted Emission at AC power line

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 μ H/50 ohms line impedance stabilization network (LISN).					
Test Limit:	Frequency of emission (MHz)	Conducted limit (dBµ\	/)			
		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 section 6.2, standard test method for ac power- line conducted emissions from unlicensed wireless devices					

5.2.1 E.U.T. Operation:

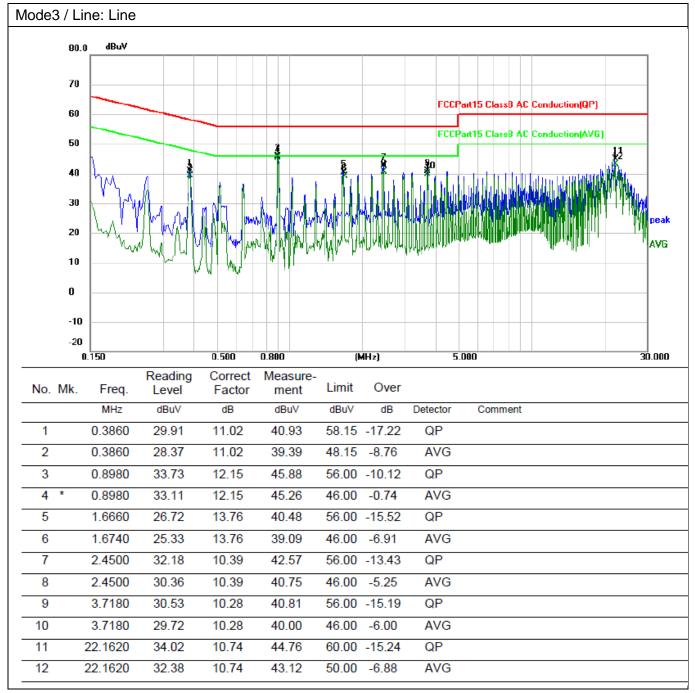
Operating Environment:							
Temperature: 15.9 °C Humidity: 21.4 % Atmospheric Pressure: 100 kPa					100 kPa		
Test mode:	Test mode: Mode1, Mode2, Mode3, Mode4, Mode5, Mode6, Mode7, Mode8, Mode9					Mode8, Mode9	
Final test mode: Mode3							

5.2.2 Test Setup Diagram:

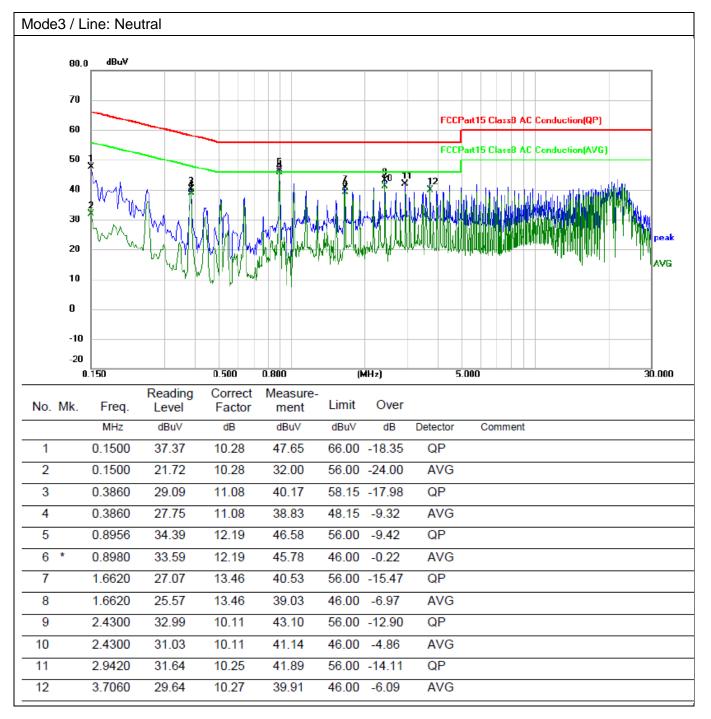




5.2.3 Test Data:









5.3 20dB Occupied Bandwidth

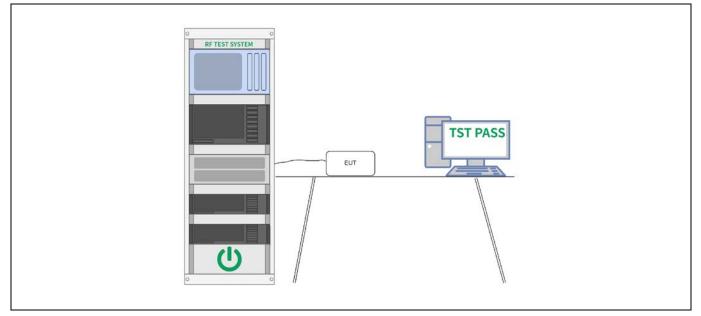
Test Requirement:	47 CFR Part 15.215(c)
Test Limit:	Refer to 47 CFR 15.215(c), intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in subpart E of this part, must be designed to ensure that the 20 dB bandwidth of 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



5.3.1 E.U.T. Operation:

Operating Environment:						
Temperature:	Temperature:23.9 °CHumidity:57.1 %Atmospheric Pressure:101 kPa					
Test mode: Mode1, Mode2, Mode3, Mode4, Mode5, Mode6, Mode7, Mode8					Mode8	
Final test mode: Mode4, Mode8						

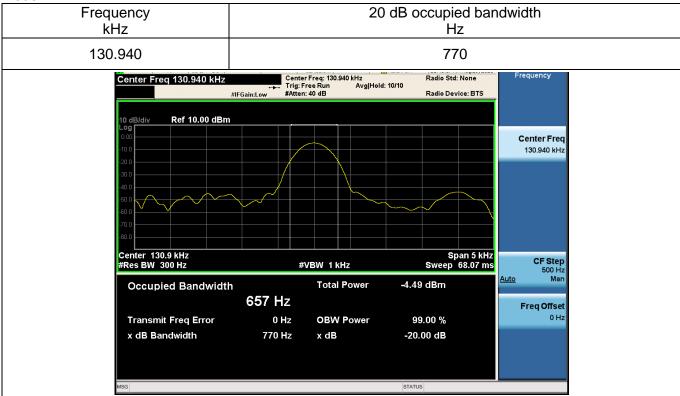
5.3.2 Test Setup Diagram:



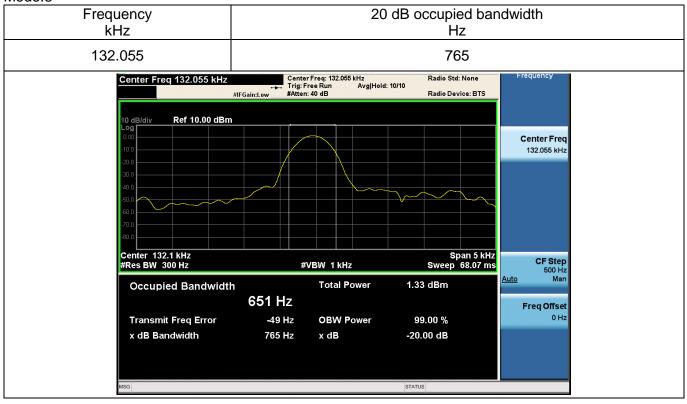


5.3.3 Test Data:





Mode:8





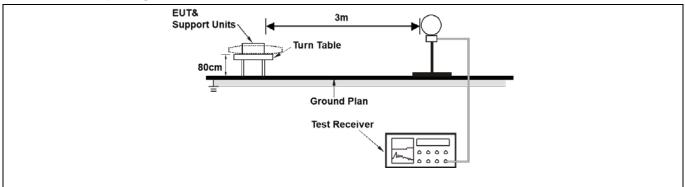
5.4 Emissions in frequency bands (below 30MHz)

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				
	sections of this part, e.g §§ 15.231 and 15.241. As shown in § 15.35(b) limits in paragraphs (a) However, the peak field maximum permitted av	, for frequencies above 1000 and (b)of this section are bas I strength of any emission sh erage limits specified above	0 MHz, the field strength sed on average limits. hall not exceed the by more than 20 dB under				
any condition of modulation. For point-to-point operation under p (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					

5.4.1 E.U.T. Operation:

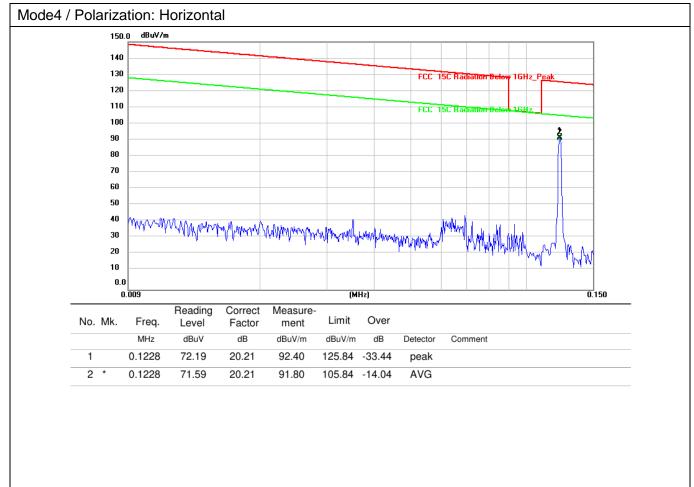
Operating Environment:							
Temperature:	Temperature:22.5 °CHumidity:43 %Atmospheric Pressure:101 kPa						
Test mode:	Test mode: Mode1, Mode2, Mode3, Mode4, Mode5, Mode6, Mode7, Mode8, Mode9					Mode8, Mode9	
Final test mode: Mode4							

5.4.2 Test Setup Diagram:

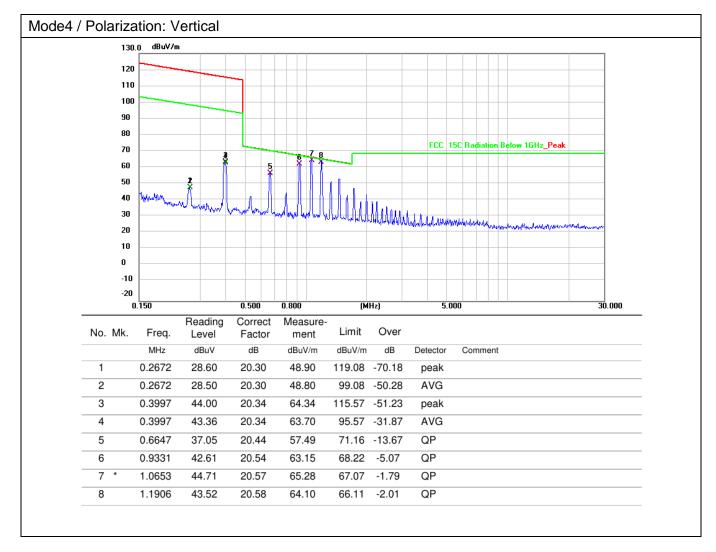




5.4.3 Test Data:









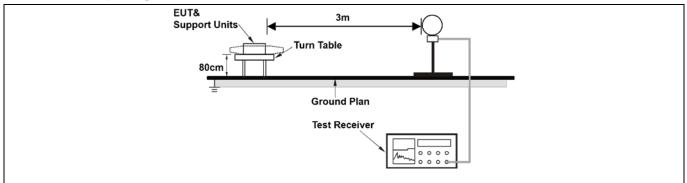
5.5 Emissions in frequency bands (30MHz - 1GHz)

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				
	sections of this part, e.g., §§ 15.231 and 15.241. 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 6.5					
Procedure:	ANSI C63.10-2013 sec	tion 6.5					

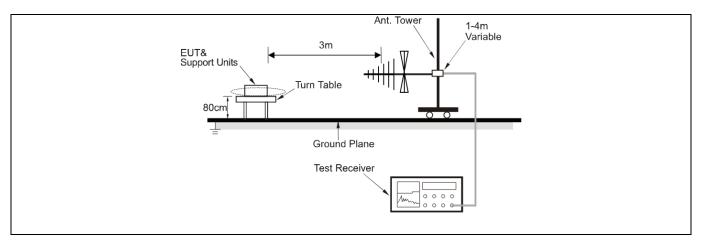
5.5.1 E.U.T. Operation:

Operating Environment:							
Temperature:	Temperature:22.5 °CHumidity:43 %Atmospheric Pressure:101 kPa						
Test mode:	Test mode: Mode1, Mode2, Mode3, Mode4, Mode5, Mode6, Mode7, Mode8, Mode9						
Final test mode: Mode2							

5.5.2 Test Setup Diagram:

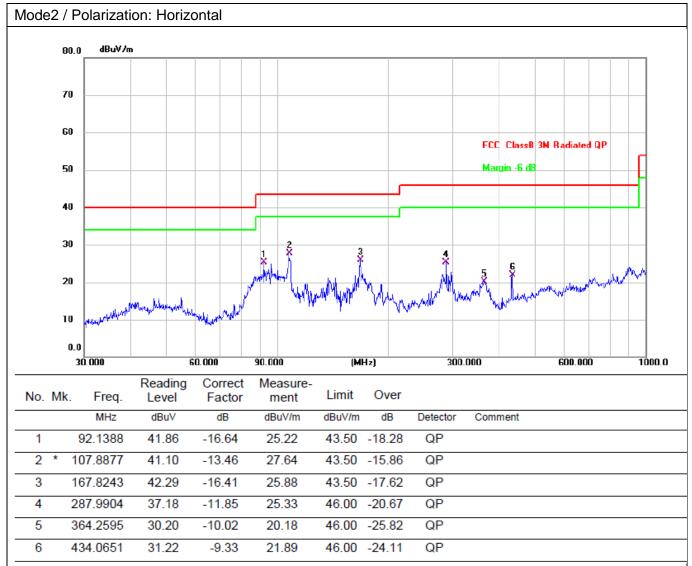




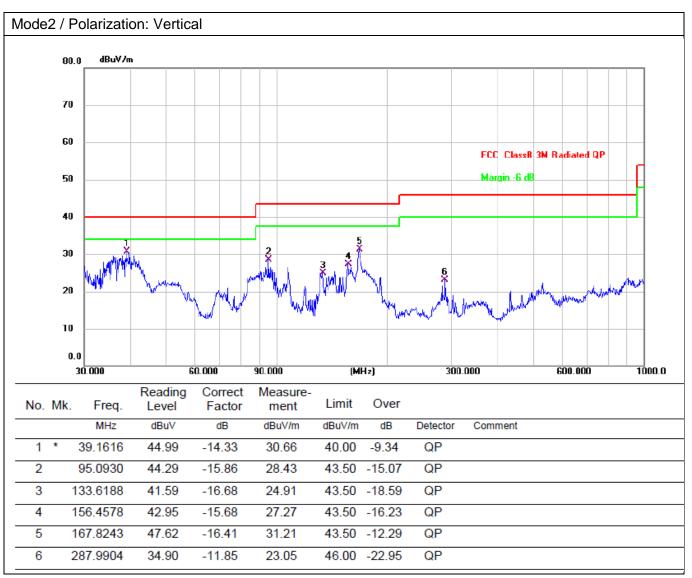




5.5.3 Test Data:









Photographs of the test setup

Refer to Appendix - Test Setup Photos



Photographs of the EUT

Refer to Appendix - EUT Photos

----End of Report----