FCC 47 CFR PART 15 SUBPART C
ANSI C63.10: 2013

TEST REPORT

For

Halo Transmitter

Model: HALO906TXCA

Data Applies To: N/A

Brand:

Test Report Number:
T191014N03-RP1

Issued to

Instant Care, Inc.
2080 Wineridge Pl.Suite A,Escondido,California,United States, 92029

Issued by
Compliance Certification Services Inc.
Tainan Lab.
No.8,Jiucengling, Xinhua Dist., Tainan City 712, Taiwan (R.O.C.)
TEL: (06) 580-2201
FAX: (06) 580-2202
Issued Date: November 07, 2019

REVISION HISTORY

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	November 01, 2019	Initial Issue	ALL	Gina Lin
01	November 07, 2019	See the following note rev.01	Page 4, 7 Page 15~16 Page 18~19 Page 27~28	Gina Lin

Note:

※ Rev.00 Issue Date: November 01, 2019
Original Report

※ Rev.01 Issue Date: November 07, 2019
Update TEST RESULT CERTIFICATION.
Revise Test Procedure.
Update test data of 20dB Bandwidth & DUTY CYCLE & SPURIOUS EMISSION.

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1. TEST RESULT CERTIFICATION

Product:	Halo Transmitter
Model:	HALO906TXCA
Data Applies To:	N/A
Brand Name:	Instant Care
Applicant:	**Instant Care, Inc.**
	2080 Wineridge Pl.Suite A,Escondido,California,United States, 92029
Manufacturer:	**Vision Automobile Electronics Industrial Co., Ltd.**
	No.78, Gongye 3rd Rd., Technology Industrial Park, Tainan , Taiwan , 70955
Tested:	October 09, 2019

APPLICABLE STANDARDS	
STANDARD	**TEST RESULT**
FCC 47 CFR Part 15 Subpart C ANSI C63.10: 2013	No non-compliance noted

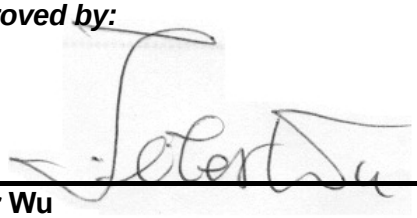
Statements of Conformity
Determining compliance shall be based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

FCC Standard Section	Report Section	Test Item	Result
15.215(c)	7.1	20dB BANDWIDTH	Pass
-	7.3	DUTY CYCLE	-
15.249(a)	7.4	SPURIOUS EMISSION	Pass
15.207(a)	7.5	POWERLINE CONDUCTED EMISSIONS	N/A

We hereby certify that:

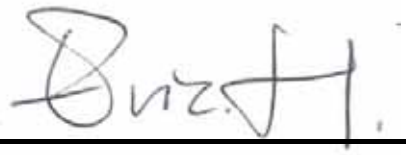
The above equipment was tested by Compliance Certification Services Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10: 2013 and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements emission limits of FCC Rules Part 15.107, 15.109,15.207, 15.209 and 15.249. The test results of this report relate only to the tested sample identified in this report.

Approved by:



Jeter Wu
Assistant Manager

Reviewed by:



Eric Huang
Section Manager

2. EUT DESCRIPTION

Product	Halo Transmitter
Model Number	HALO906TXCA
Data Applies To	N/A
Brand Name	
Received Date	October 14, 2019
Reported Date	October 22, 2019
Operation Frequency	906MHz± 20kHz
Transmit Peak Power	92.097dBuV/m
Transmit Data Rate	19.2Kbps
Type of Modulation	FSK
Number of Channels	1 Channel
Power Supply	DC 3V (Powered from battery)
Antenna Type	Type: PCB Antenna Model: HALO906TXCA Manufacturer: N/A Gain: -3.6 dBi
MCU CHIP Brand /Model	(U1) Microchip / PIC16LF1823
RF Module Brand /Model	(U2) TI / CC115L
Hardware Version	Rev.0
Software Version	ISW7405-13-C02
Temperature Range	-20°C ~ +60°C

Remark:

1. Client consigns only one model sample to test (Model Number: **HALO906TXCA**). Therefore, the testing Lab. just guarantees the unit, which has been tested.
2. This submittal(s) (test report) is intended for FCC ID: **XO8-HALO906ANEL** filing to comply with Section 15.107 & 15.109 (FCC Part 15, Subpart B) and Section 15.207, 15.209, 15.249.
3. For more details, please refer to the User's manual of the EUT.

3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10 and FCC CFR 47 2.1046, 2.1047, 2.1049, 2.1051, 2.1053, 2.1055, 2.1057, 15.207, 15.209 and 15.249.

3.1 EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

3.2 EUT EXERCISE

The EUT was operated in the engineering mode to fix the TX frequency that was for the purpose of the measurements.

According to its specifications, the EUT must comply with the requirements of the Section 15.107 and 15.109 under the FCC Rules Part 15 Subpart B and Section 15.207, 15.209, 15.249 under the FCC Rules Part 15 Subpart C.

3.3 GENERAL TEST PROCEDURES

Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.10 Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-peak and average detector modes.

Radiated Emissions

The EUT is placed on a turn table, which is 0.8 m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna, which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the maximum emissions, exploratory radiated emission measurements were made according to the requirements in Section 13.1.4.1 of ANSI C63.10.

3.4 FCC PART 15.205 RESTRICTED BANDS OF OPERATIONS

1. Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1]0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 -	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.52525	2655 - 2900	22.01 - 23.12
8.41425 - 8.41475	156.7 - 156.9	3260 - 3267	23.6 - 24.0
12.29 - 12.293	162.0125 - 167.17	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	167.72 - 173.2	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	240 - 285	3600 - 4400	([2])
13.36 - 13.41	322 - 335.4		

[1] Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

[2] Above 38.6

2. Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

3.5 DESCRIPTION OF TEST MODES

The EUT (**Model: HALO906TXCA**) had been tested under engineering test mode condition and the EUT staying in continuous transmitting mode.

Note：

The field strength of spurious emission was measured in the following position:

1) The field strength of spurious emission was measured in the following position: EUT stand-up position (Y axis), lie-down position (X, Z axis). The worst emission was found in stand-up position (Y axis) and the worst case was recorded.

4. INSTRUMENT CALIBRATION

4.1 MEASURING INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

4.2 MEASUREMENT EQUIPMENT USED

Equipment Used for Emissions Measurement

For 7.3

Chamber Room #966					
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Date**	**Calibration Due**
Active Loop Antenna	ETS-LINDREN	6502	8905-2356	08/02/2019	08/01/2021
Amplifier	HP	8447F	2443A01671	01/25/2019	01/24/2020
Bi-Log Antenna	Sunol	JB1	A070506-2	08/26/2019	08/25/2020
Cable	Rosnol+Suhner	SUCOFLEX 104PEA	SN25737 /4PEA	05/28/2019	05/27/2020
Double Ridged Guide Horn Antenna	ETS-LINDGREN	3116	00078900	03/29/2019	03/28/2021
EMI Test Receiver	R&S	ESCI	100960	11/07/2018	11/06/2019
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY54430216	07/18/2019	07/17/2020
Horn Antenna	Com-Power	AH-118	071032	04/30/2019	04/29/2020
Pre-Amplifier	EMCI	EMC012645	980098	01/25/2019	01/24/2020
Pre-Amplifier	MITEQ	AMF-6F-1800 4000-37-8P	985646	06/18/2019	06/17/2020
Hi-Pass Filter	MICRO-TRONICS	BRM50702-01	018	N.C.R	N.C.R
Software	Excel(ccs-o6-2019 v1.2)				

For 7.1~7.2

Chamber Room #966					
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Date**	**Calibration Due**
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY54430216	07/18/2019	07/17/2020
SMA Cable + 10dB Attenuator	CCS	SMA+10dB ATT	SMA/10dB	01/25/2019	01/24/2020
Software	Excel(ccs-o6-2019 v1.2)				

Remark: Each piece of equipment is scheduled for calibration once a year.

4.3 MEASUREMENT UNCERTAINTY

Parameter	Uncertainty
Radiated Emission, 30 to 200 MHz Test Site : CB966	±3.1dB
Radiated Emission, 200 to 1000 MHz Test Site : CB966	±2.7dB
Radiated Emission, 1 to 6 GHz	± 2.7dB
Radiated Emission, 6 to 18 GHz	± 2.7dB
Radiated Emission, 18 to 26.5 GHz	± 2.7dB
Radiated Emission, 26 to 40 GHz	± 3.7dB
Power Line Conducted Emission	± 2.0dB

Uncertainty figures are valid to a confidence level of 95%, k=2

5. FACILITIES AND ACCREDITATIONS

5.1 FACILITIES

All measurement facilities used to collect the measurement data are located at

☒ No.8,Jiucengling, Xinhua Dist., Tainan City 712, Taiwan (R.O.C.)

The sites are constructed in conformance with the requirements of ANSI C63.7:1992, ANSI C63.10: 2013 and CISPR Publication 22.

5.2 EQUIPMENT

Radiated emissions are measured with one or more of the following types of linearly polarized antennas: tuned dipole, biconical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements.

Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers.

Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, “Radio Interference Measuring Apparatus and Measurement Methods.”

5.3 LABORATORY ACCREDITATIONS LISTING

The test facilities used to perform radiated and conducted emissions tests are accredited by Taiwan Accreditation Foundation for the specific scope of accreditation under Lab Code: 1109 to perform Electromagnetic Interference tests according to FCC PART 15 AND CISPR 22 requirements. No part of this report may be used to claim or imply product endorsement by TAF or any agency of the Government. In addition, the test facilities are listed with Federal Communications Commission (registration no: TW1109).

5.4 TABLE OF ACCREDITATIONS AND LISTINGS

Our laboratories are accredited and approved by the following accreditation body according to ISO/IEC 17025.

Taiwan	TAF

The measuring facility of laboratories has been authorized or registered by the following approval agencies.

Canada	Industry Canada
Germany	TUV NORD
Taiwan	BSMI
USA	FCC
Japan	VCCI

Copies of granted accreditation certificates are available for downloading from our web site, http:///www.ccsrf.com

6. SETUP OF EQUIPMENT UNDER TEST

6.1 SETUP CONFIGURATION OF EUT

See test photographs attached in Appendix I for the actual connections between EUT and support equipment.

6.2 SUPPORT EQUIPMENT

【RF】

No.	Product	Manufacturer	Model No.	Certify No.	Signal cable
1	N/A	N/A	N/A	N/A	N/A

No.	Signal cable description	
A	N/A	N/A

【EMC】

No.	Product	Manufacturer	Model No.	Certify No.	Signal cable
1	N/A	N/A	N/A	N/A	N/A

No.	Signal cable description	
A	N/A	N/A

Remark:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer’s requirements and conditions for the intended use.

6.3 CONFIGURATION OF SYSTEM UNDER TEST

【RF】

6.4 EUT OPERATING CONDITION

RF Setup

1. Set up a whole system as the setup diagram.
2. Turn on power.

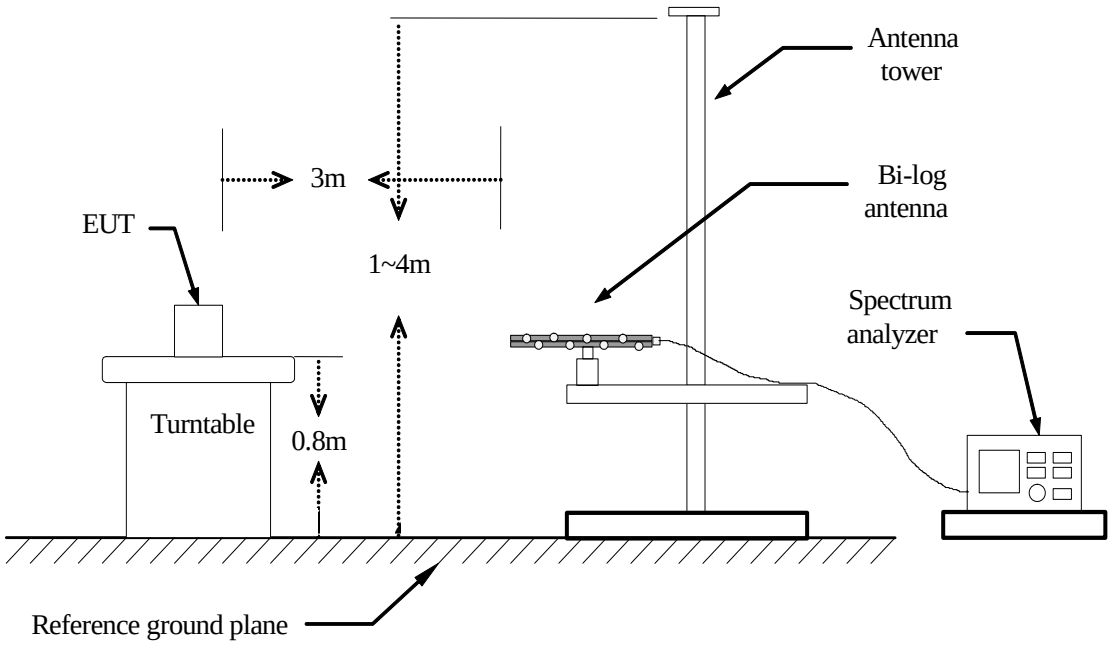
7. FCC PART 15.249 REQUIREMENTS

7.1 20 dB BANDWIDTH

LIMIT

None; for reporting purposes only.

TEST CONFIGURATION



TEST PROCEDURE

1. The EUT is placed on a turntable, which is 0.8m above ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Set the spectrum analyzer in the following setting as:
   RBW is set to 10 kHz and VBW is set 300kHz.

TEST RESULTS

No non-compliance noted.

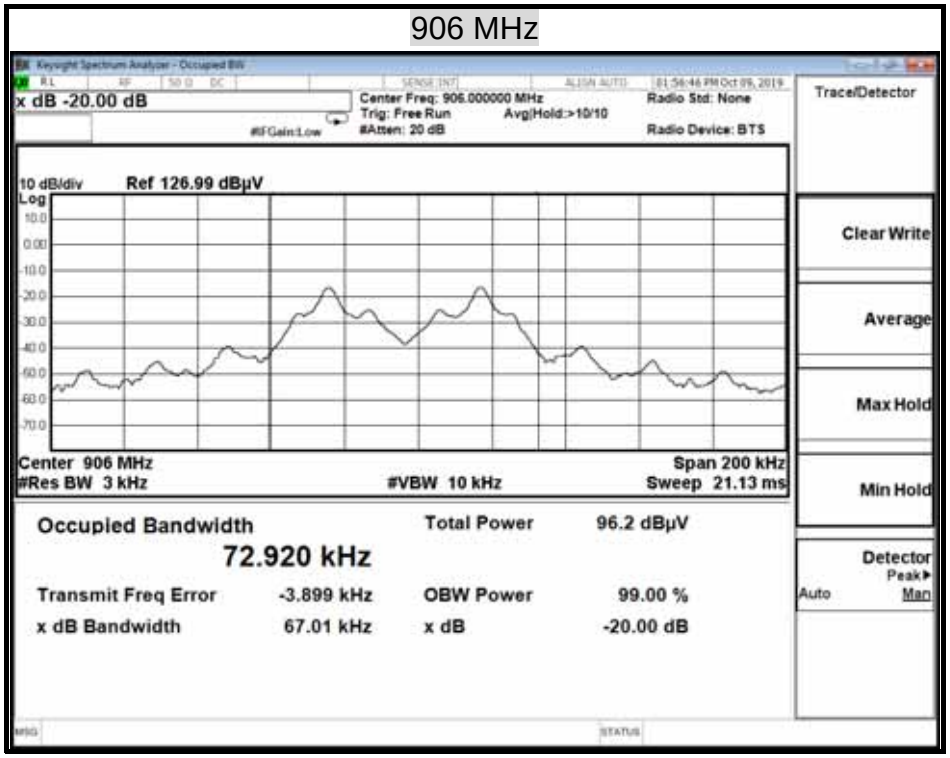
TEST DATA

Operation Mode: TX
Temperature: 26.8°C
Humidity: 60% RH
Test Date: 2019/10/09
Tested by: Ted Huang
Polarity: Ver. / Hor.

Frequency (MHz)	20 dB Bandwidth (kHz)
906	67.01

TEST PLOT

906 MHz

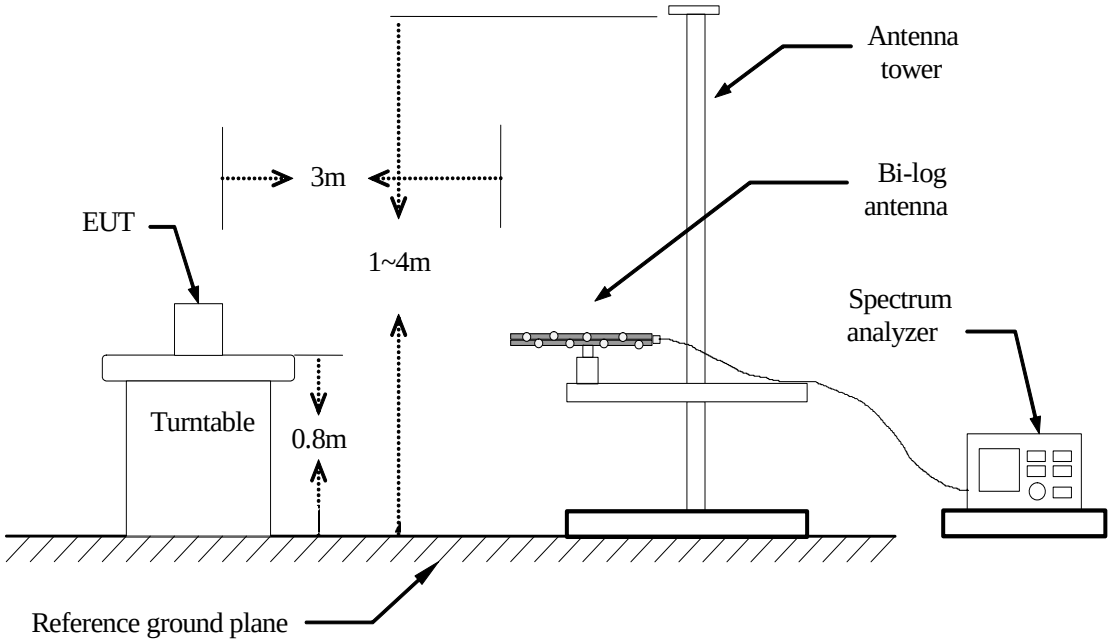


7.2 DUTY CYCLE

LIMIT

Nil (No dedicated limit specified in the Rules)

TEST CONFIGURATION



TEST PROCEDURE

1. Place the EUT on the table and set it in transmitting mode.
2. Set center frequency of spectrum analyzer = operating frequency.
3. Set the spectrum analyzer as RBW, VBW=100KHz, Span = 0Hz, a suitable Sweep Time.
4. Repeat above procedures until all frequency measured were complete.

TEST RESULTS

No non-compliance noted.

TEST DATA

Operation Mode: TX
Temperature: 26.8°C
Humidity: 60% RH

Test Date: 2019/10/09
Tested by: Ted Huang
Polarity: Ver. / Hor.

906 MHz

	us	Times	Ton	Total Ton time(ms)
Ton1	15000.000	1	15000.000	15.000
Ton2		0	0.000	
Ton3		0	0.000	
Tp				105.600

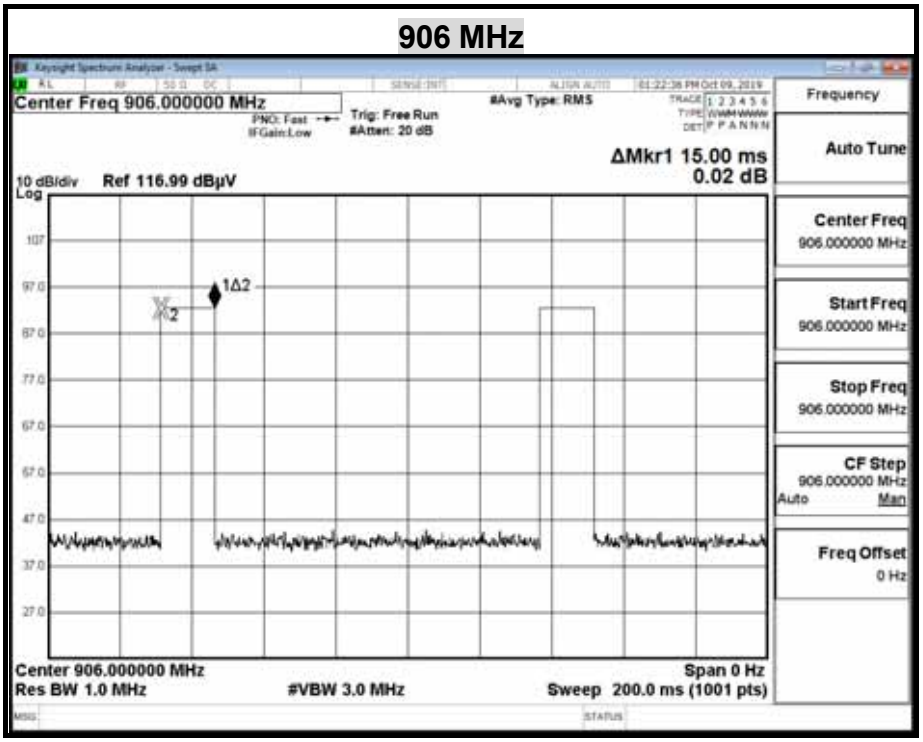
Ton	15.000
Tp(Ton+Toff)	105.600
Duty Cycle	0.142
Duty Factor	-16.95

14.20454545 %

TEST PLOT

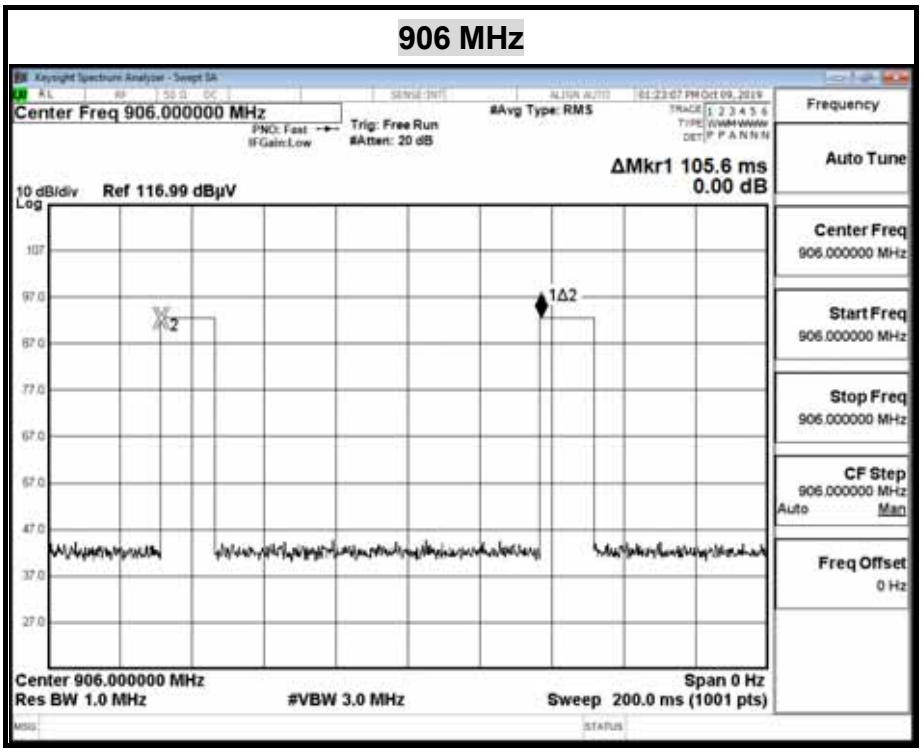
Ton

906 MHz



Tp

906 MHz



7.3 SPURIOUS EMISSION

LIMIT

1. In the section 15.249(a):
   Except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental Frequency (MHz)	Field Strength of Fundamental Field Strength (mV/m)	Field Strength of Harmonics (μV/m)
902-928 MHz	50	500
2400 - 2483.5 MHz	50	500
5725 - 5875 MHz	50	500
24.0 - 24.25 GHz	250	2500

2. Except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (μV/m)	Measurement Distance (m)
30-88	100*	3
88-216	150*	3
216-960	200*	3
Above 960	500	3

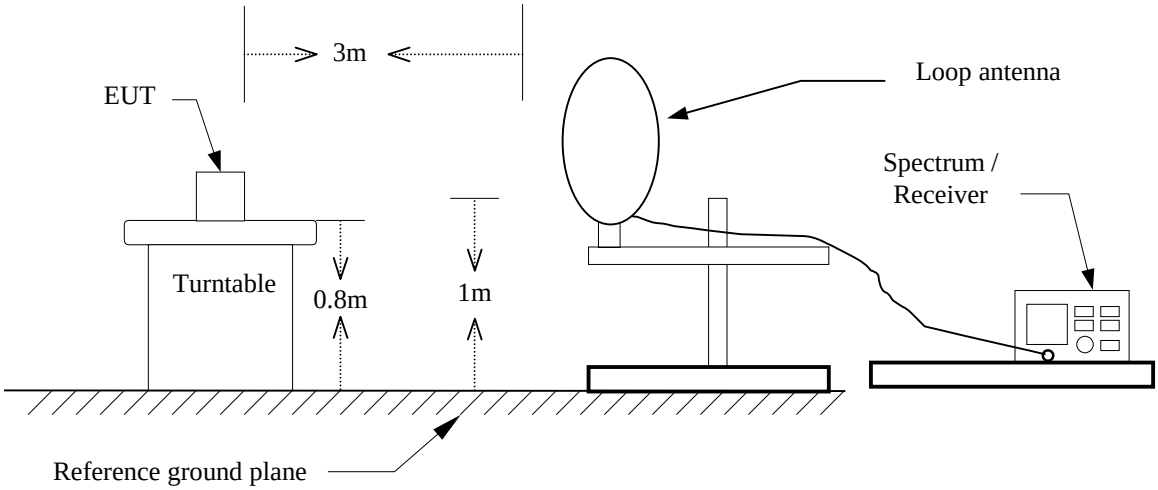
   Remark: Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

3. In the above emission table, the tighter limit applies at the band edges.

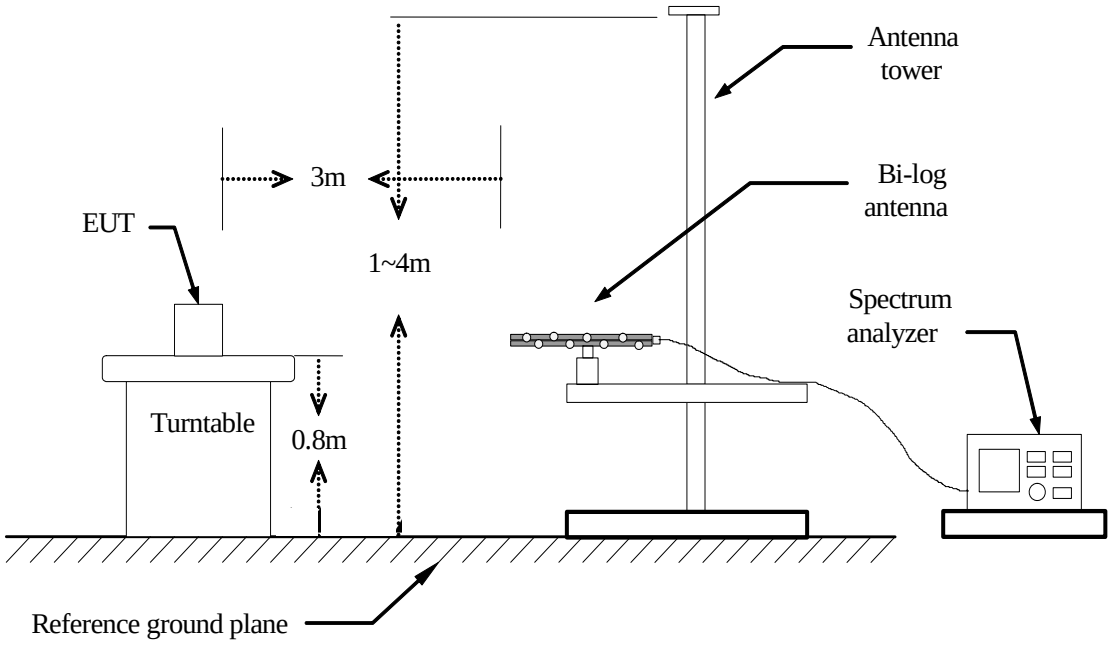
Frequency (MHz)	Field Strength (μV/m at 3-meter)	Field Strength (dBμV/m at 3-meter)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

TEST CONFIGURATION

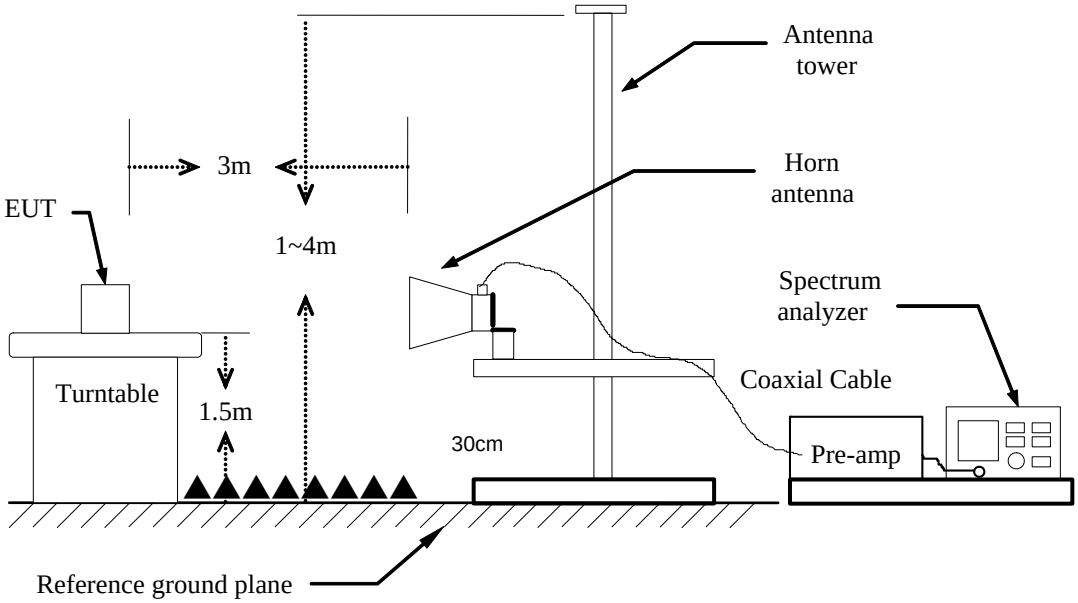
9kHz ~ 30MHz



30MHz ~ 1GHz



Above 1 GHz



TEST PROCEDURE

1. The EUT is placed on a turntable, which is 0.8/1.5m above ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Set the spectrum analyzer in the following setting as:
   Below 1GHz:
   RBW=100kHz / VBW=300kHz / Sweep=AUTO
   Above 1GHz:
   (a) PEAK: RBW=VBW=1MHz / Sweep=AUTO
   (b) AVERAGE: Peak Level + Duty Factor
7. Repeat above procedures until the measurements for all frequencies are complete.

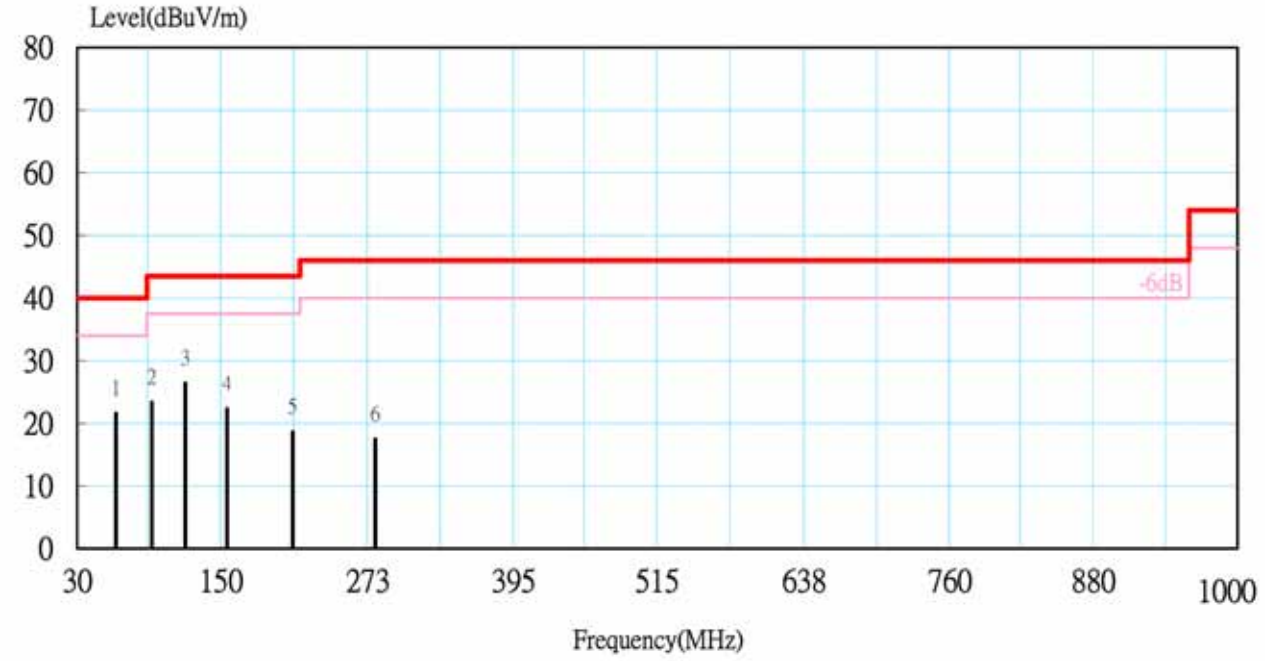
Below 1 GHz

Operation Mode: TX **Test Date:** 2019/10/09

Temperature: 25.2°C **Tested by:** Ted Huang

Humidity: 62% RH **Polarity:** Ver. / Hor.

Vertical



No.	Freq-Uency (MHz)	Meter Reading at 3 m Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Emission at 3 m Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Mode PK/QP
1	62.54	12.45	8.10	1.11	21.67	40.00	-18.33	QP
2	92.56	13.64	8.39	1.40	23.43	43.50	-20.07	QP
3	120.32	10.55	14.31	1.61	26.47	43.50	-17.03	QP
4	155.86	7.78	12.68	1.92	22.38	43.50	-21.12	QP
5	210.35	3.22	13.13	2.33	18.69	43.50	-24.81	QP
6	279.85	1.25	13.40	2.88	17.53	46.00	-28.47	QP

Remark:

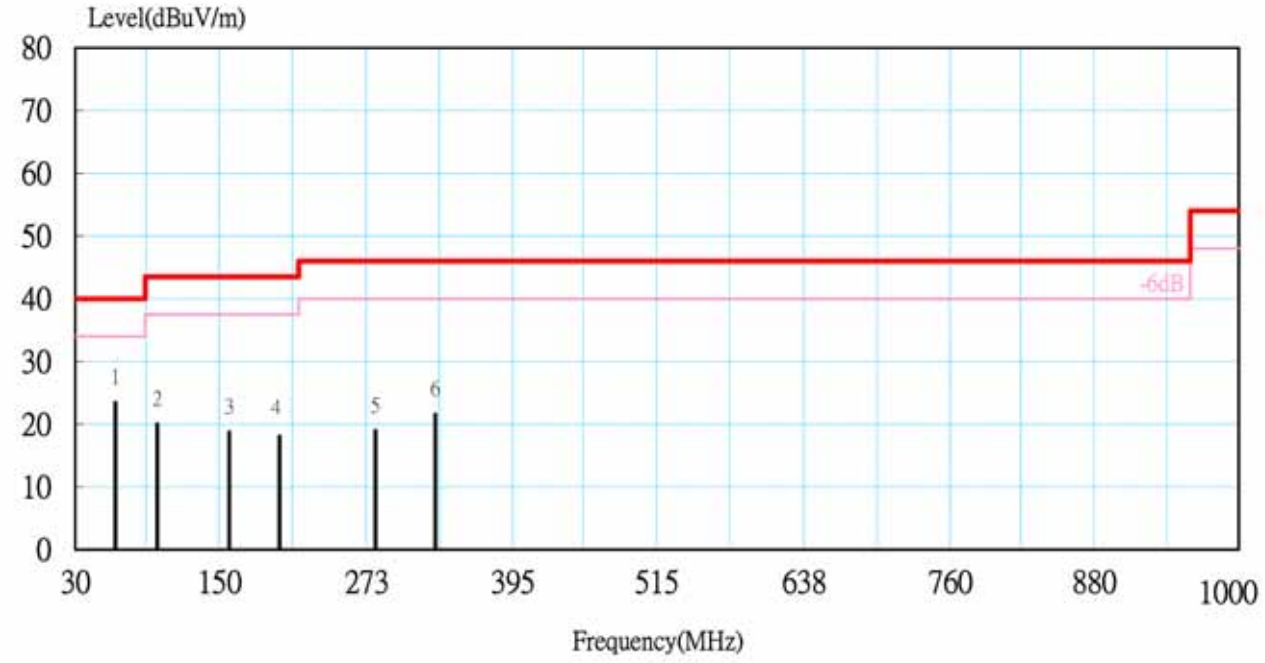
1. No emission found between lowest internal used/generated frequency to 30MHz (9kHz~30MHz).
2. Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using peak/quasi-peak detector mode.
3. Quasi-peak test would be performed if the peak result were greater than the quasi-peak limit or as required by the applicant.
4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
5. Margin (dB) = Remark result (dBuV/m) – Quasi-peak limit (dBuV/m).
6. That the limit for signals below 1GHz is a QP limit and peak readings are below the QP limit.
7. The fundamental signal is not shown in the test data because measurements at fundamental frequency are shown separately and were ignored during the 30 – 1000 MHz scan.

Operation Mode: TX **Test Date:** 2019/10/09

Temperature: 25.2°C **Tested by:** Ted Huang

Humidity: 62% RH **Polarity:** Ver. / Hor.

Horizontal



No.	Freq-Uency (MHz)	Meter Reading at 3 m Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Emission at 3 m Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Mode PK/QP
1	63.52	14.22	8.18	1.12	23.52	40.00	**-16.48**	QP
2	98.45	8.68	9.98	1.44	20.10	43.50	**-23.40**	QP
3	158.26	4.23	12.63	1.94	18.80	43.50	**-24.70**	QP
4	200.08	2.58	13.30	2.25	18.13	43.50	**-25.37**	QP
5	280.32	2.72	13.41	2.89	19.02	46.00	**-26.98**	QP
6	330.48	3.68	14.64	3.31	21.63	46.00	**-24.37**	QP

Remark:

1. No emission found between lowest internal used/generated frequency to 30MHz (9kHz~30MHz).
2. Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using peak/quasi-peak detector mode.
3. Quasi-peak test would be performed if the peak result were greater than the quasi-peak limit or as required by the applicant.
4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
5. Margin (dB) = Remark result (dBuV/m) – Quasi-peak limit (dBuV/m).
6. That the limit for signals below 1GHz is a QP limit and peak readings are below the QP limit.
7. The fundamental signal is not shown in the test data because measurements at fundamental frequency are shown separately and were ignored during the 30 – 1000 MHz scan.

The fundamental signal

Operation Mode:	TX CH Low	**Test Date:**	2019/10/09
Temperature:	26.8°C	**Tested by:**	Ted Huang
Humidity:	60% RH	**Polarity:**	Ver. / Hor.

Horizontal

906 MHz

Freq.	Reading	AF	Cable Loss	Pre-amp	Filter	Level	Limit	Margin	Mark
(MHz)	(dBµV)	(dB/m)	(dB)	(dB)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	(P/Q/A)
906.000	83.085	20.677	1.780	25.683	0.000	79.859	114.000	-34.141	P
906.000	82.960	20.677	1.780	25.683	0.000	79.734	94.000	-14.266	Q

Vertical

906 MHz

Freq.	Reading	AF	Cable Loss	Pre-amp	Filter	Level	Limit	Margin	Mark
(MHz)	(dBµV)	(dB/m)	(dB)	(dB)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	(P/Q/A)
906.000	95.323	20.677	1.780	25.683	0.000	92.097	114.000	-21.903	P
906.000	95.048	20.677	1.780	25.683	0.000	91.822	94.000	-2.178	Q

Remark:

Margin (dB) = Remark result (dBuV/m) – Quasi-peak limit (dBuV/m).

Above 1 GHz

Operation Mode: TX CH Low **Test Date:** 2019/10/09

Temperature: 26.8°C **Tested by:** Ted Huang

Humidity: 60% RH **Polarity:** Ver. / Hor.

Horizontal

906 MHz

	Freq.	Reading	AF	Cable Loss	Pre-amp	Filter	Level	Limit	Margin	Mark
	(MHz)	(dBμV)	(dB/m)	(dB)	(dB)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	(P/Q/A)
	1811.84	70.98	28.99	2.30	45.02	0.57	57.82	74.00	-16.18	P
	1811.84	-	-	-	-	-	40.87	54.00	-13.13	A
*	2718.11	58.06	30.26	3.53	44.46	0.35	47.73	74.00	-26.27	P
*	2718.11	-	-	-	-	-	30.78	54.00	-23.22	A
*	3624.02	58.57	30.52	3.82	44.26	0.26	48.92	74.00	-25.08	P
*	3624.02	-	-	-	-	-	31.97	54.00	-22.03	A
*	4530.14	56.42	32.30	4.02	44.31	0.29	48.73	74.00	-25.27	P
*	4530.14	-	-	-	-	-	31.77	54.00	-22.23	A
*	5436.11	58.96	33.90	4.42	44.61	0.25	52.92	74.00	-21.08	P
*	5436.11	-	-	-	-	-	35.97	54.00	-18.03	A
	6341.89	56.37	34.91	4.75	44.61	0.31	51.74	74.00	-22.26	P
	6341.89	-	-	-	-	-	34.79	54.00	-19.21	A
	7248.21	55.52	38.89	5.13	43.78	0.33	56.09	74.00	-17.91	P
	7248.21	-	-	-	-	-	39.14	54.00	-14.86	A
*	8153.95	54.25	39.08	5.50	42.76	0.66	56.73	74.00	-17.27	P
*	8153.95	-	-	-	-	-	39.78	54.00	-14.22	A
*	9059.77	55.62	38.42	5.79	42.10	0.65	58.38	74.00	-15.62	P
*	9059.77	-	-	-	-	-	41.43	54.00	-12.57	A

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m). Peak detector mode and average detector mode of the emission shown in Result column.
7. Average level=Peak level + Duty factor.

Operation Mode: TX CH Low **Test Date:** 2019/10/09
Temperature: 26.8°C **Tested by:** Ted Huang
Humidity: 60% RH **Polarity:** Ver. / Hor.

Vertical

906 MHz

	Freq.	Reading	AF	Cable Loss	Pre-amp	Filter	Level	Limit	Margin	Mark
	(MHz)	(dBμV)	(dB/m)	(dB)	(dB)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	(P/Q/A)
	1811.88	71.40	29.00	2.30	45.02	0.57	58.25	74.00	-15.75	P
	1811.88	-	-	-	-	-	41.30	54.00	-12.70	A
*	2717.87	67.67	30.26	3.53	44.46	0.35	57.34	74.00	-16.66	P
*	2717.87	-	-	-	-	-	40.39	54.00	-13.61	A
*	3624.01	60.62	30.52	3.82	44.26	0.26	50.96	74.00	-23.04	P
*	3624.01	-	-	-	-	-	34.01	54.00	-19.99	A
*	4530.14	56.83	32.30	4.02	44.31	0.29	49.14	74.00	-24.86	P
*	4530.14	-	-	-	-	-	32.18	54.00	-21.82	A
*	5435.84	60.13	33.90	4.42	44.61	0.25	54.09	74.00	-19.91	P
*	5435.84	-	-	-	-	-	37.14	54.00	-16.86	A
	6341.53	56.09	34.91	4.75	44.61	0.31	51.45	74.00	-22.55	P
	6341.53	-	-	-	-	-	34.50	54.00	-19.50	A
	7247.63	54.99	38.89	5.13	43.78	0.33	55.55	74.00	-18.45	P
	7247.63	-	-	-	-	-	38.60	54.00	-15.40	A
*	8153.95	54.39	39.08	5.50	42.76	0.66	56.88	74.00	-17.12	P
*	8153.95	-	-	-	-	-	39.92	54.00	-14.08	A
*	9060.20	55.63	38.42	5.79	42.10	0.65	58.39	74.00	-15.61	P
*	9060.20	-	-	-	-	-	41.44	54.00	-12.56	A

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m). Peak detector mode and average detector mode of the emission shown in Result column.
7. Average level=Peak level + Duty factor.

7.4 POWERLINE CONDUCTED EMISSIONS

LIMIT

According to §15.207(a), 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). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

Frequency Range (MHz)	Limits (dBμV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50

Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

MEASUREMENT EQUIPMENT USED

Conducted Emission room #1					
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
BNC Coaxial Cable	CCS	BNC50	11	02/25/2019	02/24/2020
EMI Test Receiver	R&S	ESCS 30	100348	02/19/2019	02/18/2020
LISN	SCHWARZBECK	NNLK8130	8130124	01/02/2019	01/01/2020
LISN	FCC	FCC-LISN-50-32-2	08009	06/12/2019	06/11/2020
Pulse Limiter	R&S	ESH3-Z2	100116	02/25/2019	02/24/2020
Test S/W	e3(6.101222)				

Remark: Each piece of equipment is scheduled for calibration once a year.

TEST RESULTS

※ This EUT is not connected to AC Source directly. No applicability for this test.

===End of Test Report===