FCC Test Report

Equipment	:	**Switch Wireless Alvor**
Brand Name	:	**ALVOR ELECTRONICS**
Model No.	:	**LUZ 10**
FCC ID	:	**2AJXT-LIGHT10**
Standard	:	**47 CFR FCC Part 15.231**
RF Specification	:	**SRD**
Operating Band	:	**433.92MHz**
Operation	:	**Manually operated within 5 sec**
Applicant	:	**ALVOR ELECTRONICS** 3100 North Course Lane #410, 33069 Pompano Beach FL, USA
Manufacturer	:	**TOPS ASIA (H.K) LTD** 202, bld B, Qinye business centre, Baoan district, Shenzhen city, China

The product sample received on Sep. 29, 2016 and completely tested on Nov. 23, 2016. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by:

Kevin Liang / Assistant Manager

Testing Laboratory
1190

Table of Contents

Summary of Test Result

Conformance Test Specifications					
Report Clause	**Ref. Std. Clause**	**Description**	**Measured**	**Limit**	**Result**
1.1.3	15.203	Antenna Requirement	Antenna connector mechanism complied	FCC 15.203	Complied
-	15.207	AC Power-line Conducted Emissions	N/A	FCC 15.207	N/A
3.1	15.231(c)	Emission Bandwidth	47.47 kHz	Fc(70~900MHz): BW ≤ fc x 0.25%	Complied
3.2	15.231(b)/(e)	Fundamental Emissions	[dBuV/m at 3m]: 67.33 (Margin 13.50 dB) - AV	[dBuV/m at 3m]: average:80.83	Complied
3.3	15.231(b)/(e)	Transmitter Radiated Unwanted Emissions	[dBuV/m at 3m]: 867.760 MHz 55.54 (Margin 5.29 dB) - AV	FCC 15.231 (b)/(e) or FCC 15.209, whichever limit permits higher field strength.	Complied
3.4	15.231(a)/(e)	Operation Restriction	Operated time and silent time are less than limits.	Manually operated within 5 sec	Complied

Revision History

Report No.	Version	Description	Issued Date
FR690908	Rev. 01	Initial issue of report	Dec. 02, 2016

1 General Description

1.1 Information

1.1.1 Product Details

The difference between the report no. : N/A	
The Difference	N/A

Evaluated Test Items	N/A

1.1.2 RF General Information

RF General Information				
Frequency Range (MHz)	**Modulation**	**Ch. Frequency (MHz)**	**Channel Number**	**Fundamental Field Strength (dBuV/m)**
433.92	ASK	433.92	1	67.33
Note 1: Field strength performed average level at 3m.				

1.1.3 Antenna Information

Antenna Category	
☒	Integral antenna (antenna permanently attached)
☐	External antenna (dedicated antennas) ; Unique antenna connector

Antenna General Information		
No.	**Ant. Cat.**	**Ant. Type**
1	Integral	PCB

1.1.4 Type of EUT

Identify EUT	
EUT Serial Number	N/A
HW Version / SW Version	N/A
Presentation of Equipment	☐ Production ; ☐ Pre-Production ; ☒ Identical Prototype

Type of EUT	
☒	Stand-alone
☐	Combined (EUT where the radio part is fully integrated within another device) Combined Equipment - Brand Name / Model No.: …
☐	Plug-in radio (EUT intended for a variety of host systems) Host System - Brand Name / Model No.: …
☐	Other:

1.1.5 EUT Operational Condition

Supply Voltage	☐ AC mains	☒ DC	
Type of DC Source	☐ Internal DC supply	☐ External adapter	☒ Battery

1.1.6 Test Signal Duty Cycle

Operated Mode for Worst Duty Cycle	
☒ Operated normally mode for worst duty cycle	
Test Signal Duty Cycle (x)	**Duty Cycle Correction Factor [dB] – (20 log x)**
☒ 100%	0

1.2 Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR FCC Part 15
- ANSI C63.10-2013

1.3 Testing Location Information

Testing Location					
☒	HWA YA	ADD : No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C. TEL : 886-3-327-3456 FAX : 886-3-327-0973			
Test Condition		**Test Site No.**	**Test Engineer**	**Test Environment**	**Test Date**
RF Conducted		TH07-HY	Candy	24.3°C / 61.5%	23/11/2016
Radiated Emission		03CH03-HY	Jeff	24.2°C / 56%	22/11/2016

Test site registered number [553509] with FCC.

1.4 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)

Measurement Uncertainty		
Test Item		**Uncertainty**
AC power-line conducted emissions		±2.3 dB
Emission bandwidth, 6dB bandwidth		±0.6 %
RF output power, conducted		±0.1 dB
Power density, conducted		±0.6 dB
Unwanted emissions, conducted	9 – 150 kHz	±0.4 dB
	0.15 – 30 MHz	±0.4 dB
	30 – 1000 MHz	±0.6 dB
	1 – 18 GHz	±0.5 dB
	18 – 40 GHz	±0.5 dB
	40 – 200 GHz	N/A
All emissions, radiated	9 – 150 kHz	±2.5 dB
	0.15 – 30 MHz	±2.3 dB
	30 – 1000 MHz	±2.6 dB
	1 – 18 GHz	±3.6 dB
	18 – 40 GHz	±3.8 dB
	40 – 200 GHz	N/A
Temperature		±0.8 °C
Humidity		±5 %
DC and low frequency voltages		±0.9%
Time		±1.4 %
Duty Cycle		±0.6 %

2 Test Configuration of EUT

2.1 The Worst Case Modulation Configuration

Modulation Used for Conformance Testing	
Test Mode	**Field Strength (dBuV/m at 3 m)**
ASK	67.33

2.2 Test Channel Frequencies Configuration

Test Channel Frequencies Configuration	
Test Mode	**Test Channel Frequencies (MHz)**
ASK	433.92

2.3 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests			
Tests Item	Emission Bandwidth, Fundamental Emissions, Radiated Unwanted Emissions		
Test Condition	Radiated measurement		
User Position	☐ EUT will be placed in fixed position.		
	☒ EUT will be placed in mobile position and operating multiple positions.		
	☐ EUT will be a hand-held or body-worn battery-powered devices and operating multiple positions.		
Operating Mode	☒ 1. Battery Mode		
Test Mode	ASK		
Orthogonal Planes of EUT	**X Plane**	**Y Plane**	**Z Plane**
			
Worst Planes of EUT			V

The Worst Case Mode for Following Conformance Tests	
Tests Item	Operation Restriction (silent time and operated time)
Test Condition	Radiated measurement
Test Mode	Operated normally mode for worst duty cycle condition.

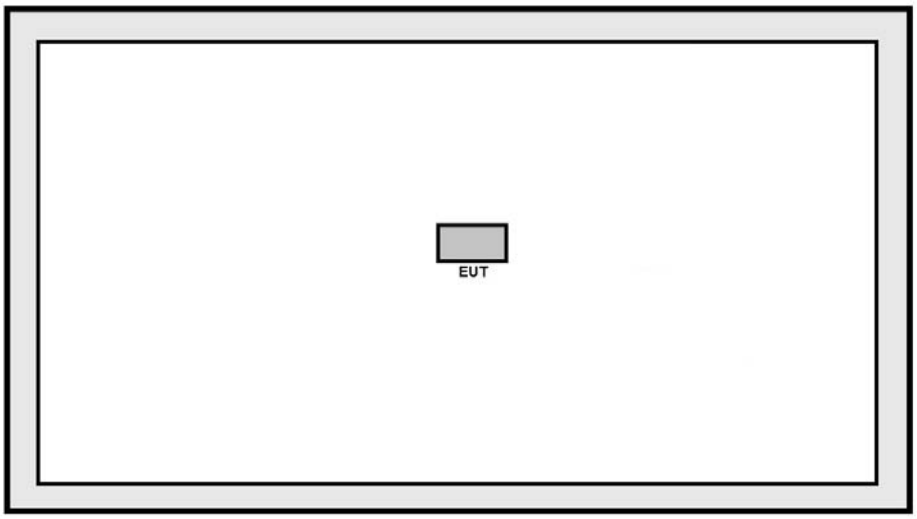
2.4 Accessories Information

Accessories Information				
Li-ion Battery	Brand Name	Panasonic	Model Name	CR2032
	Power Rating	3 Vdc, 225 mAh		

Note: Regarding to more detail and other information, please refer to user manual.

2.5 Test Setup Diagram

Test Setup Diagram - Radiated Test



3 Transmitter Test Result

3.1 Emission Bandwidth

3.1.1 Emission Bandwidth Limit

Emission Bandwidth Limit
☒ Emission bandwidth falls completely within authorized band.
☒ Fc(70~900MHz): BW ≤ fc x 0.25%
☐ Fc(>900MHz): BW ≤ fc x 0.5%

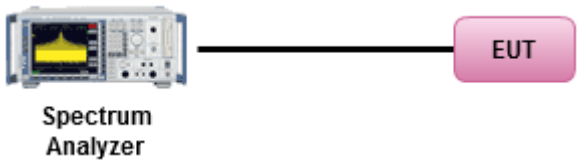
3.1.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

Test Method
☒ Refer as ANSI C63.10, clause 6.9.3 for 20 dB emission bandwidth and 99% occupied bandwidth measurement.

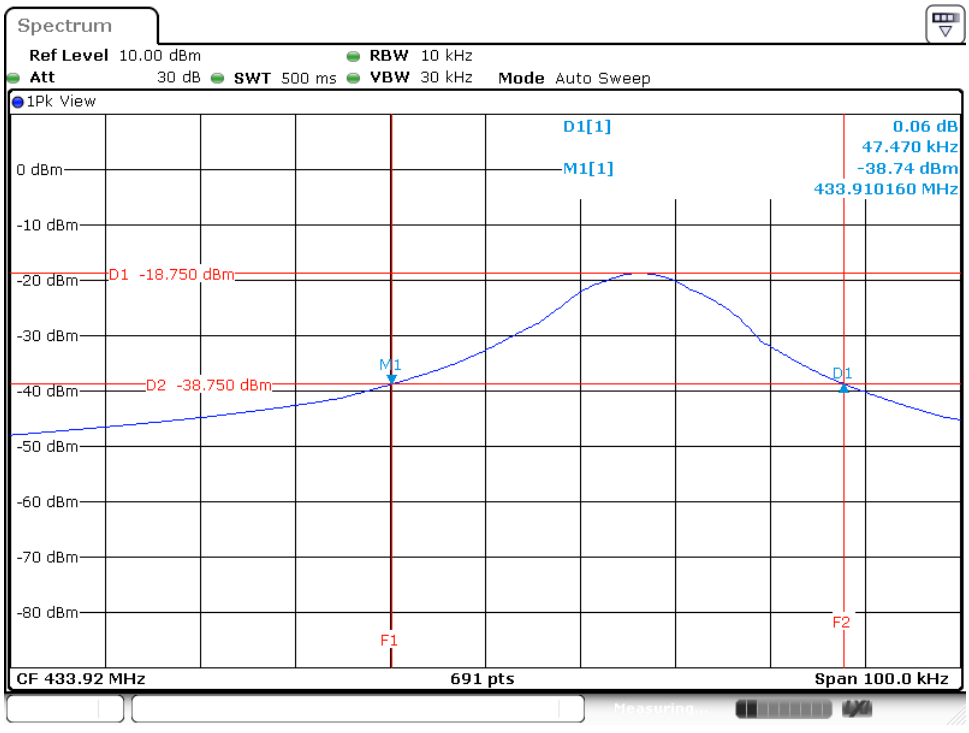
3.1.4 Test Setup

Emission Bandwidth


3.1.5 Test Result of Emission Bandwidth

Emission Bandwidth Result			
Modulation Mode	**Frequency (MHz)**	**99% Bandwidth (kHz)**	**20dB BW (kHz)**
ASK	433.92	57.16	47.47
Limit		**N/A**	**1084.8**
Result		**Complied**	

Worst Emission Bandwidth Plots



3.2 Fundamental Emissions

3.2.1 Fundamental Emissions Limit

For manually operated within 5 sec, activated automatically within 5 sec, periodic transmissions		
Frequency Band (MHz)	**Fundamental Limit (uV/m) at 3m**	**Fundamental Limit (dBuV/m) at 3m**
40.66-40.70	2250	67
70-130	1250	61.9
130-174	1250-3750(**)	61.9-71.5
174-260	3750	71.5
260-470	3750-12500(**)	71.5-81.9
Above 470	12500	81.9
**1. Linear interpolations. Based on the average value of the measured emissions.		

For periodic transmissions (lower field strength)		
Frequency Band (MHz)	**Fundamental Limit (uV/m) at 3m**	**Fundamental Limit (dBuV/m) at 3m**
40.66-40.70	1000	60
70-130	500	54
130-174	500-1500(**)	54-63.5
174-260	1500	63.5
260-470	1500-5000(**)	63.5-74
Above 470	5000	74
** 1. Linear interpolations. Based on the average value of the measured emissions.		

3.2.2 Measuring Instruments

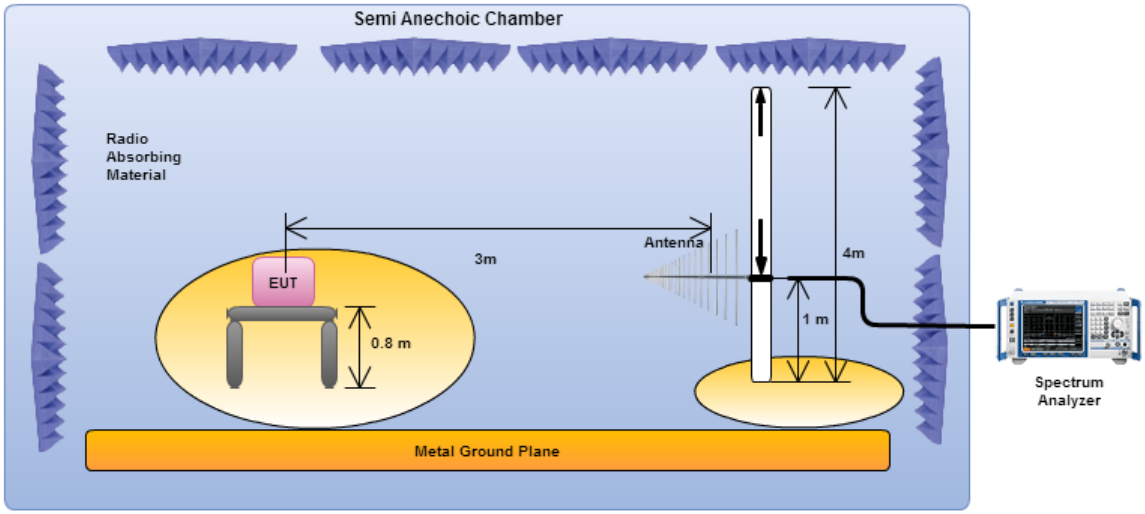
Refer a test equipment and calibration data table in this test report.

3.2.3 Test Procedures

☒	For the transmitter emissions shall be measured using following options below:
☐	Refer as ANSI C63.10, clause 4.1.4.2.3 (Reduced VBW) – Duty cycle ≥ 100%.
☒	Refer as ANSI C63.10, clause 4.1.4.2.4 average value of pulsed emissions. Adjusted by a “duty cycle correction factor”, derived from 20log (dwell time/100 ms). Average emission = peak emission + 20 log (duty cycle).
☒	Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak limit.
☒	For radiated measurement, refer as ANSI C63.10, clause 6.5 for radiated emissions

3.2.4 Test Setup

Fundamental Emissions



3.2.5 Test Result of Fundamental Emissions

Field Strength of Fundamental Emissions Result					
Modulation Mode	**Frequency (MHz)**	**Fundamental (dBuV/m)@3m**	**Margin (dB)**	**Limit (dBuV/m)@3m**	**Type**
ASK	433.92	67.33	13.50	80.83	Average
Result		**Complied**			

Note 1: Measurement worst emissions of receive antenna polarization: Vertical
Note 2: If duty cycle < 100%, average emission = peak emission + 20 log (duty cycle).

3.3 Transmitter Radiated Unwanted Emissions

3.3.1 Transmitter Radiated Unwanted Emissions Limit

For manually operated within 5 sec, activated automatically within 5 sec, periodic transmissions		
Unwanted emissions limit follow this table or the general limits FCC 15.209, whichever limit permits higher field strength.		
Frequency Band (MHz)	**Spurious Limit (uV/m) at 3m**	**Spurious Limit (dBuV/m) at 3m**
40.66-40.70	225	47
70-130	125	41.9
130-174	125-375(**)	41.9-51.5
174-260	375	51.5
260-470	375-1250(**)	51.5-61.9
Above 470	1250	61.9
**1. Linear interpolations. Based on the average value of the measured emissions.		

For periodic transmissions (lower field strength)		
Unwanted emissions limit follow this table or the general limits FCC 15.209, whichever limit permits higher field strength.		
Frequency Band (MHz)	**Spurious Limit (uV/m) at 3m**	**Spurious Limit (dBuV/m) at 3m**
40.66-40.70	100	40
70-130	50	34
130-174	50-150(**)	34-43.5
174-260	150	43.5
260-470	150-500(**)	43.5-54
Above 470	500	54
** 1. Linear interpolations Based on the average value of the measured emissions.		

3.3.2 Measuring Instruments

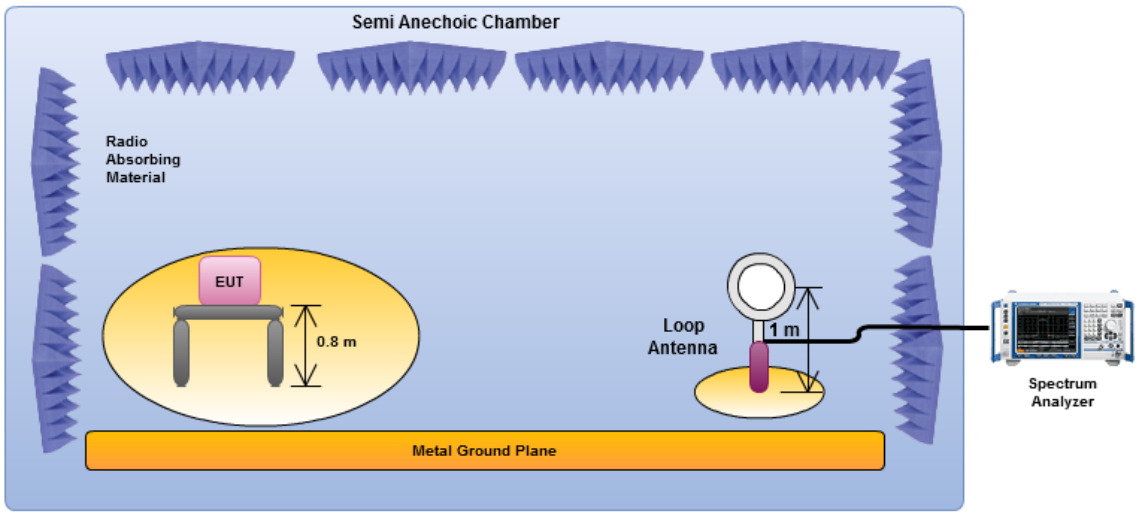
Refer a test equipment and calibration data table in this test report.

3.3.3 Test Procedures

Test Method – General Information	
☒	The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].
☐	Refer as ANSI C63.10, clause 6.10.3 bandedge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.
☒	For the transmitter unwanted emissions shall be measured using following options below:
☐	Refer as ANSI C63.10, clause 4.1.4.2.3 (Reduced VBW) – Duty cycle ≥ 100%.
☒	Refer as ANSI C63.10, clause 4.1.4.2.4 average value of pulsed emissions. Adjusted by a "duty cycle correction factor", derived from 20log (dwell time/100 ms). Average emission = peak emission + 20 log (duty cycle).
☒	Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak limit.
☒	For the transmitter bandedge emissions shall be measured using following options below:
☒	Refer as ANSI C63.10, clause 6.10 for band-edge testing.
☐	Refer as ANSI C63.10, clause 6.10.6.2 for marker-delta method for band-edge measurements.
☒	For radiated measurement.
☒	Refer as ANSI C63.10, clause 6.4 for radiated emissions below 30 MHz and test distance is 3m.
☒	Refer as ANSI C63.10, clause 6.5 for radiated emissions 30 MHz to 1 GHz and test distance is 3m.
☒	Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1 GHz and test distance is 3m.
☒	The any unwanted emissions level shall not exceed the fundamental emission level.
☒	All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.

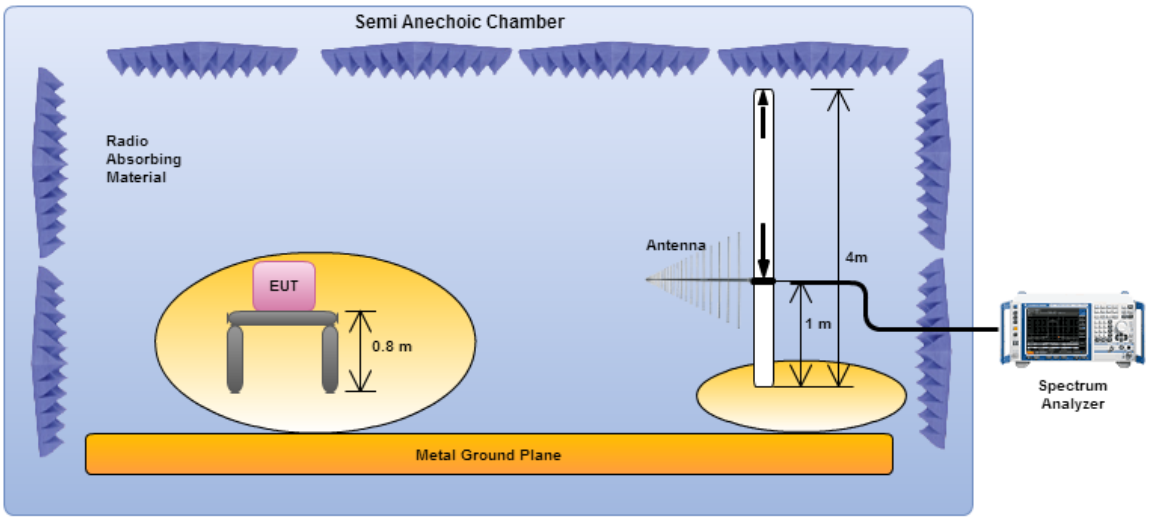
3.3.4 Test Setup

Transmitter Spurious and Out of Band Emissions (9 kHz - 30 MHz)



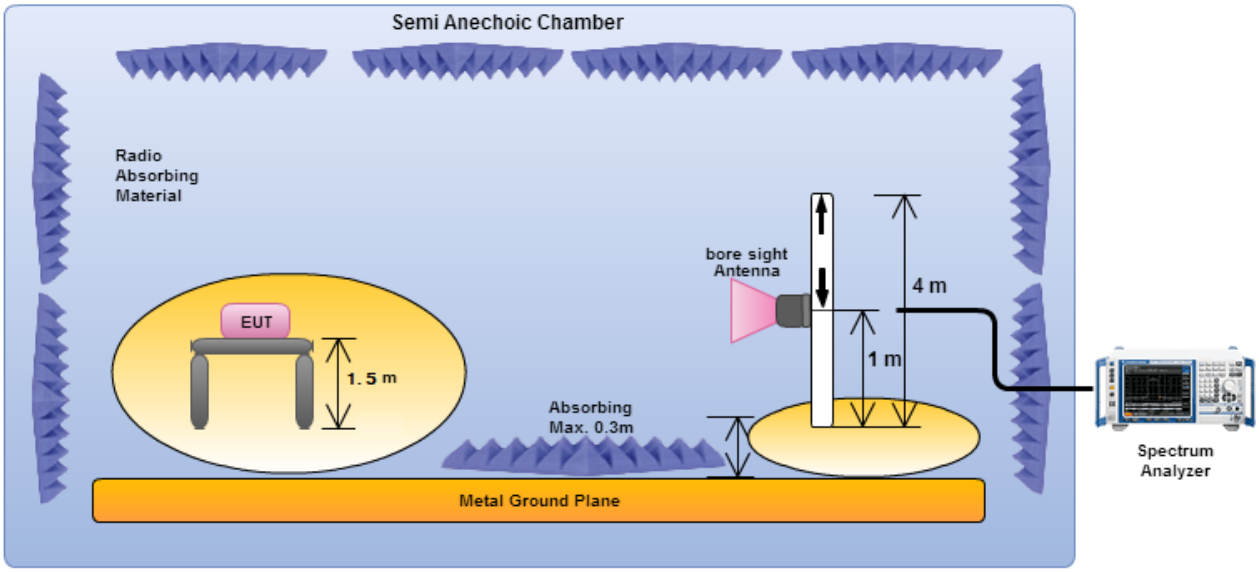
Magnetic field tests shall be performed in the frequency range of 9 kHz to 30 MHz using a calibrated loop antenna.

Transmitter Radiated Unwanted Emissions (below 1GHz)



Electric field tests shall be performed in the frequency range of 30 MHz to 1000 MHz using a calibrated bi-log antenna.

Transmitter Radiated Unwanted Emissions (Above 1GHz)



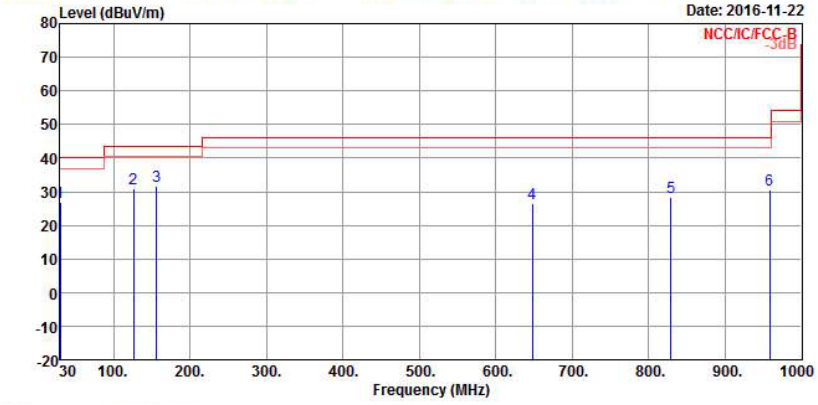
Electric field tests shall be performed in the frequency range of 1 GHz to 10th harmonic of highest fundamental frequency or 40 GHz using a calibrated horn antenna.

3.3.5 Transmitter Radiated Unwanted Emissions (Below 30MHz)

All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.

3.3.6 Transmitter Radiated Unwanted Emissions (Below 1GHz)

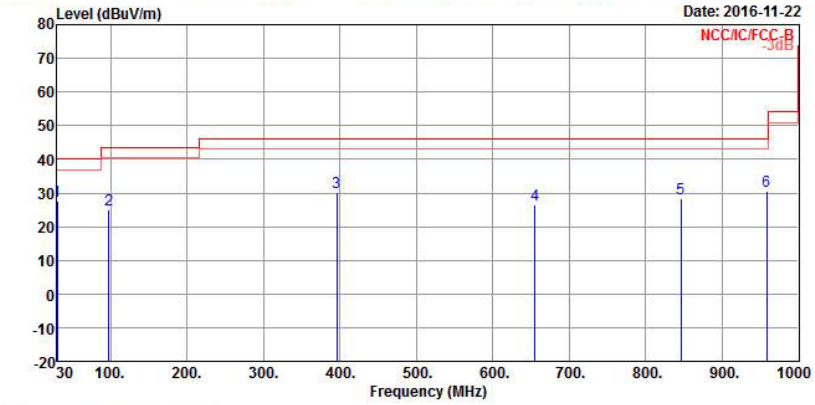
Transmitter Radiated Unwanted Emissions (Below 1GHz)			
Operating Mode	1	**Test Freq.**	433.92
Operating Function	ASK	**Polarization**	V



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	30.000	26.98	-13.02	40.00	31.73	22.02	0.78	27.55	Peak
2	125.880	30.97	-12.53	43.50	39.41	17.09	1.74	27.27	Peak
3	155.960	31.82	-11.68	43.50	41.77	15.23	1.95	27.13	Peak
4	648.000	26.60	-19.40	46.00	26.33	24.01	4.24	27.98	Peak
5	829.000	28.52	-17.48	46.00	26.51	25.07	4.64	27.70	Peak
6	958.000	30.37	-15.63	46.00	26.73	25.81	5.19	27.36	Peak

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: If duty cycle < 100%, average emission = peak emission + 20 log (duty cycle).
Note 5: No level of unwanted emissions exceeds the level of the fundamental emission.

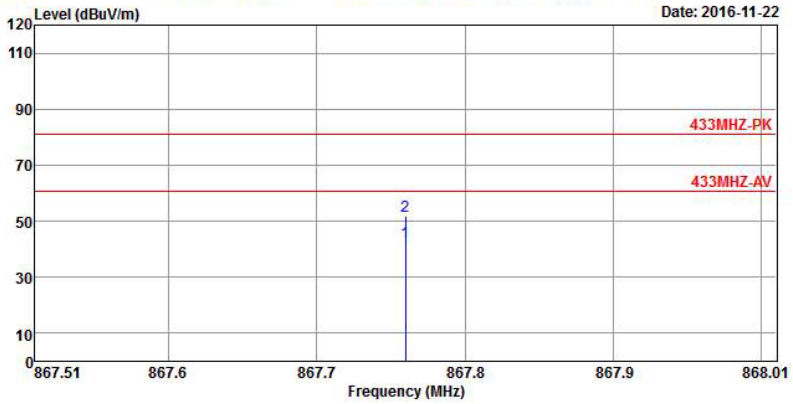
Transmitter Radiated Unwanted Emissions (Below 1GHz)			
Operating Mode	1	**Test Freq.**	433.92
Operating Function	ASK	**Polarization**	H



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	30.000	27.77	-12.23	40.00	32.52	22.02	0.78	27.55	Peak
2	97.680	24.88	-18.62	43.50	35.22	15.53	1.53	27.40	Peak
3	395.660	30.17	-15.83	46.00	32.86	20.78	3.23	26.70	Peak
4	655.000	26.59	-19.41	46.00	26.29	24.01	4.26	27.97	Peak
5	846.000	28.51	-17.49	46.00	26.27	25.22	4.68	27.66	Peak
6	958.000	30.51	-15.49	46.00	26.87	25.81	5.19	27.36	Peak

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: If duty cycle < 100%, average emission = peak emission + 20 log (duty cycle).
Note 5: No level of unwanted emissions exceeds the level of the fundamental emission.

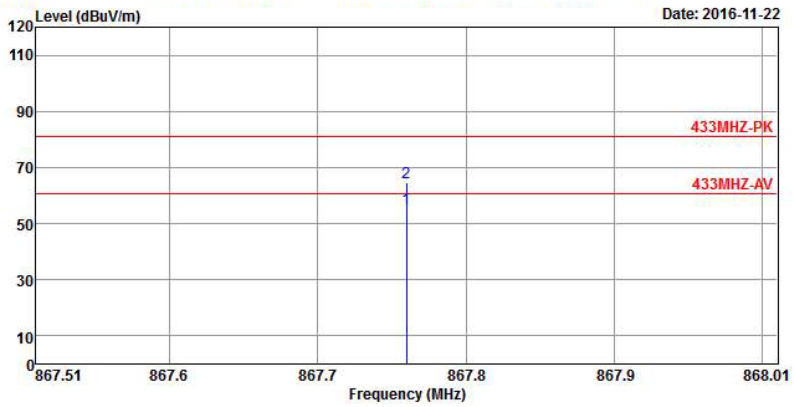
Transmitter Radiated Unwanted Emissions (Below 1GHz)			
Operating Mode	1	**Test Freq.**	433.92
Operating Function	ASK	**Polarization**	V



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	867.760	42.52	-18.31	60.83	40.01	25.33	4.78	27.60	Average
2	867.760	51.62	-29.21	80.83	49.11	25.33	4.78	27.60	Peak

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: If duty cycle < 100%, average emission = peak emission + 20 log (duty cycle).
Note 5: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Below 1GHz)			
Operating Mode	1	**Test Freq.**	433.92
Operating Function	ASK	**Polarization**	H

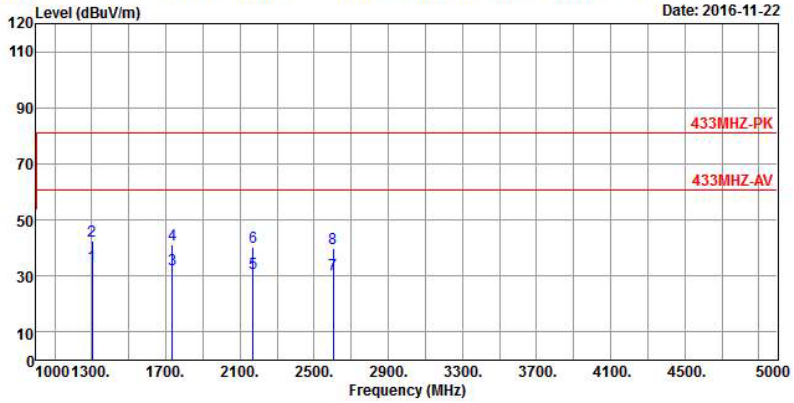


	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	867.760	55.54	-5.29	60.83	53.03	25.33	4.78	27.60	Average
2	867.760	64.64	-16.19	80.83	62.13	25.33	4.78	27.60	Peak

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found spurious emissions (No spurious emissions were detected.)
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 4: If duty cycle < 100%, average emission = peak emission + 20 log (duty cycle).
Note 5: No level of unwanted emissions exceeds the level of the fundamental emission.

3.3.7 Transmitter Radiated Unwanted Emissions (Above 1GHz)

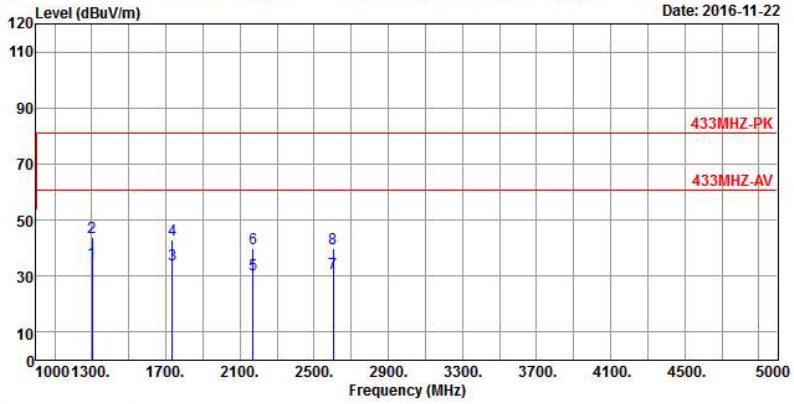
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Operating Mode	1	**Test Freq.**	433.92
Operating Function	ASK	**Polarization**	V



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	1301.640	33.55	-27.28	60.83	38.18	25.10	2.82	32.55	Average
2	1301.640	42.65	-38.18	80.83	47.28	25.10	2.82	32.55	Peak
3	1735.520	32.29	-28.54	60.83	34.57	25.88	3.22	31.38	Average
4	1735.520	41.39	-39.44	80.83	43.67	25.88	3.22	31.38	Peak
5	2169.400	31.09	-29.74	60.83	31.72	26.67	3.64	30.94	Average
6	2169.400	40.19	-40.64	80.83	40.82	26.67	3.64	30.94	Peak
7	2603.280	30.71	-30.12	60.83	29.81	27.65	4.00	30.75	Average
8	2603.280	39.81	-41.02	80.83	38.91	27.65	4.00	30.75	Peak

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 3: For the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 4: If duty cycle < 100%, average emission = peak emission + 20 log (duty cycle).
Note 5: No level of unwanted emissions exceeds the level of the fundamental emission.

Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Operating Mode	1	**Test Freq.**	433.92
Operating Function	ASK	**Polarization**	H



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	1301.640	34.84	-25.99	60.83	39.47	25.10	2.82	32.55	Average
2	1301.640	43.94	-36.89	80.83	48.57	25.10	2.82	32.55	Peak
3	1735.520	34.07	-26.76	60.83	36.35	25.88	3.22	31.38	Average
4	1735.520	43.17	-37.66	80.83	45.45	25.88	3.22	31.38	Peak
5	2169.400	30.68	-30.15	60.83	31.31	26.67	3.64	30.94	Average
6	2169.400	39.78	-41.05	80.83	40.41	26.67	3.64	30.94	Peak
7	2603.280	30.88	-29.95	60.83	29.98	27.65	4.00	30.75	Average
8	2603.280	39.98	-40.85	80.83	39.08	27.65	4.00	30.75	Peak

Note 1: “>20dB” means spurious emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
Note 3: For the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
Note 4: If duty cycle < 100%, average emission = peak emission + 20 log (duty cycle).
Note 5: No level of unwanted emissions exceeds the level of the fundamental emission.

3.4 Operation Restriction

3.4.1 Operation Restriction Limit

Operation Restriction Limit	
☒	Manually operated: manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 sec of being released.
☐	Activated automatically: transmitter activated automatically shall cease transmission within 5 sec after activation.
☐	Periodic transmissions: permitted with total transmission time of 2 sec per hour or less.
☐	Periodic transmissions (lower field strength): each transmission is not greater than 1 sec and the silent period between transmissions is at least 30 times the duration of the transmission but in no case less than 10 sec.

3.4.2 Measuring Instruments

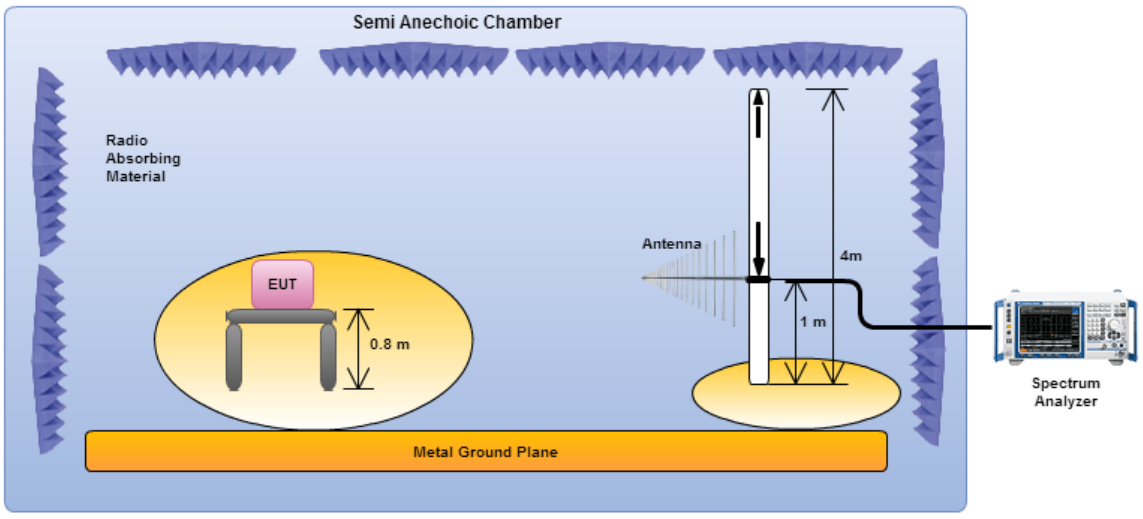
Refer a test equipment and calibration data table in this test report. Activated automatically within 5 sec

3.4.3 Test Procedures

Test Method	
☒	Refer as ANSI C63.10, clause 7.4 for periodic operation measurement.

3.4.4 Test Setup

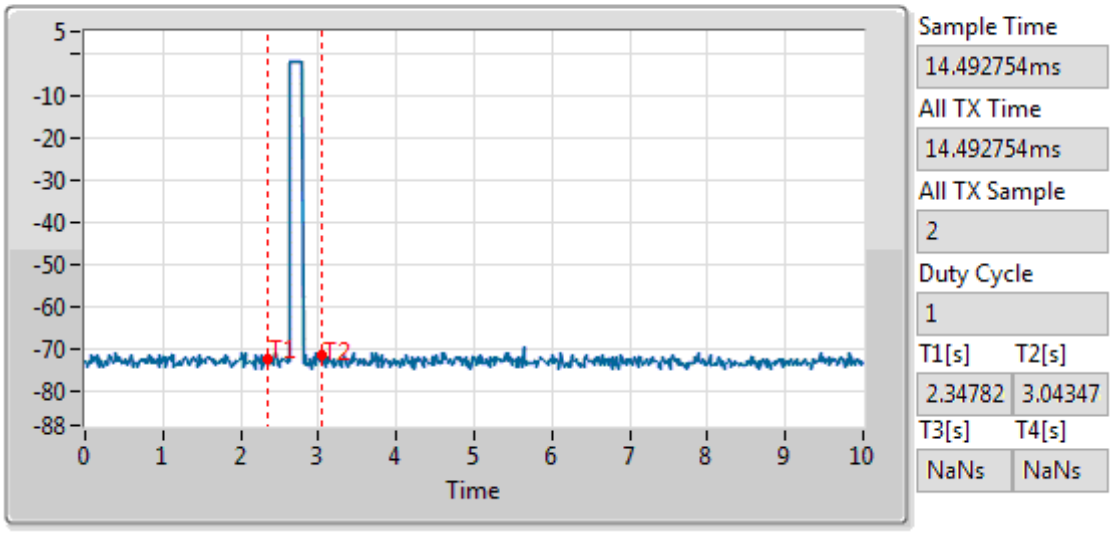
Operation Restriction



3.4.5 Test Result of Operation Restriction

Operation Restriction Limit	
☒	Manually operated: manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 sec of being released.
☐	Activated automatically: transmitter activated automatically shall cease transmission within 5 sec after activation.
☐	Periodic transmissions: permitted with total transmission time of 2 sec per hour or less.
☐	Periodic transmissions (lower field strength): each transmission is not greater than 1 sec and the silent period between transmissions is at least 30 times the duration of the transmission but in no case less than 10 sec.

Operation Time Restriction Plots



4 Test Equipment and Calibration Data

< Conducted Test >

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Spectrum Analyzer	R&S	FSV 40	101500	9 kHz ~ 40 GHz	12/05/2016	11/05/2017

< Radiated Test >

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30 MHz ~ 1 GHz 3m	28/11/2015	27/11/2016
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	1 GHz ~ 18 GHz 3m	16/12/2015	15/12/2016
Amplifier	HP	8447D	2944A08033	10 kHz ~ 1.3 GHz	10/05/2016	09/05/2017
Amplifier	Keysight	83017A	MY53270197	1 GHz ~ 26.5 GHz	29/08/2016	28/08/2017
Spectrum	R&S	FSV40	101513	9 kHz ~ 40 GHz	16/02/2016	15/02/2017
Bilog Antenna	SCHAFFNER	CBL 6112B	2723	30 MHz ~ 1 GHz	01/10/2016	30/09/2017
Horn Antenna	SCHWARZBECK	BBHA9120D	1531	1 GHz ~ 18 GHz	22/04/2016	21/04/2017
Loop Antenna	TESEQ	HLA 6120	31244	9 kHz ~ 30 MHz	02/02/2015	01/02/2017