FCC Test Report

Equipment	:	**amor H100 cloud gateway**
Brand Name	:	**LEADTEK**
Model No.	:	**8Z61**
FCC ID	:	**I2I8Z61**
Standard	:	**47 CFR FCC Part 15.249**
Operating Band	:	**2400 MHz – 2483.5 MHz**
Applicant	:	**Leadtek Research Inc. 18F., No. 166, Jian-Yi Rd., Chung-Ho Dist., New Taipei City 23511, Taiwan, R.O.C.**
Manufacturer	:	**Leadtek Research Inc. 5F, No. 4, Alley 11, Lane 327, Sec. 2, Chung Shan Rd., Chung-Ho Dist., New Taipei City 23511, Taiwan, R.O.C.**

The product sample received on Apr. 28, 2015 and completely tested on Dec. 10, 2015. 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**
1.1.2	15.203	Antenna Requirement	Antenna connector mechanism complied	FCC 15.203	Complied
3.1	15.207	AC Power-line Conducted Emissions	[dBuV]: 0.1655880MHz 47.35 (Margin 7.83dB) - AV 60.56 (Margin 4.62dB) - QP	FCC 15.207	Complied
3.2	15.215(c)	Emission Bandwidth	0.3054 MHz; fall in band	Information only	Complied
3.3	15.249(a)	Fundamental Emissions	[dBuV/m at 3m]: 2420.00MHz 87.50 (Margin 26.50dB) - PK 86.85 (Margin 7.15dB) - AV	[dBuV/m at 3m]: average: 94	Complied
3.4	15.249(a)/ (d)	Transmitter Radiated Unwanted Emissions	[dBuV/m at 3m]:4840.00MHz 52.99 (Margin 1.01dB) - AV 55.74 (Margin 18.26dB) - PK	Harmonics: 54 dBuV/m@3m Other band: 50 dB or FCC 15.209, whichever is the lesser attenuation.	Complied

Revision History

Report No.	Version	Description	Issued Date
FR471543-03	Rev. 01	Initial issue of report	Dec. 21, 2015

1 General Description

1.1 Information

1.1.1 RF General Information

RF General Information					
Frequency Range (MHz)	**Modulation**	**Ch. Frequency (MHz)**	**Channel Number**	**Fundamental Field Strength (dBuV/m)**	**Co-location**
2400-2483.5	GFSK…	2402-2480	40	86.85	N/A
Note 1: Field strength performed average level at 3m. (FCC 922-928->QP, Other AV; NCC All AV) Note 2: Co-location, Co-location is generally defined as simultaneously transmitting (co-transmitting) antennas within 20 cm of each other. (i.e., EUT has simultaneously co-transmitting that operating 2.4GHz and 5GHz.)					

1.1.2 Antenna Information

Antenna Category	
☒	Integral antenna (antenna permanently attached)
	☐ Temporary RF connector provided
	☒ No temporary RF connector provided Transmit chains bypass antenna and soldered temporary RF connector provided for connected measurement. In case of conducted measurements the transmitter shall be connected to the measuring equipment via a suitable attenuator and correct for all losses in the RF path.

1.1.3 Type of EUT

Identify EUT	
EUT Serial Number	N/A
Presentation of Equipment	☒ Production ; ☐ Pre-Production ; ☐ 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:

1.1.4 Test Signal Duty Cycle

Operated Mode for Worst Duty Cycle	
☐ Operated normally mode for worst duty cycle	
☒ Operated test mode for worst duty cycle	
Test Signal Duty Cycle (x)	**Duty Cycle Correction Factor [dB] = (20 log x)**
☒ 100%	0
If worst duty < 100%, average emission = peak emission + 20 log x	

1.1.5 EUT Operational Condition

Supply Voltage	☒ AC mains	☒ DC	
Type of DC Source	☒ External DC adapter	☒ From System	☐ Li-ion Battery

1.2 Accessories and Support Equipment

Accessories Information				
AC Adapter	Brand Name	GME Technology Co., Ltd	Model Name	GME6A-050100FGu
	Power Rating	I/P:100 ~ 240Vac; O/P:5Vdc,1A		
Li-ion battery	Brand Name	SPRINGPOWER	Model Name	LF524
	Power Rating	3.7Vdc, 1500mAh		
USB Cable	Brand Name	WAL	Model Name	G100
	Signal Line	1 meter, non-shielded cable, w/o ferrite core		
LCD Panel	Brand Name	Shenzhen Xuri Opto	Model Name	G100

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

Support Equipment - AC Conduction and Radiated Emission		
Equipment	**Brand Name**	**Model Name**
Notebook	DELL	E5530

1.3 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

1.4 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 site registered number [636805] with FCC.						
Test Condition		**Test Site No.**		**Test Engineer**		**Test Environment**
Radiated Emission (Verify adapter 2 and Radiated Unwanted Emissions below 1GHz)		03CH03-HY		Joe		21.4°C / 57.4%

1.5 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		±2.2 dB
Emission bandwidth,		±1.4 %
Unwanted emissions, conducted	30 – 1000 MHz	±0.5 dB
	1 – 18 GHz	±0.6 dB
	18 – 40 GHz	±0.8 dB
	40 – 200 GHz	N/A
All emissions, radiated	30 – 1000 MHz	±2.5 dB
	1 – 18 GHz	±3.5 dB
	18 – 40 GHz	±3.8 dB
	40 – 200 GHz	N/A
Temperature		±0.8 °C
Humidity		±3 %
DC and low frequency voltages		±3 %
Time		±1.4 %
Duty Cycle		±1.4 %

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)**
GFSK-Transmit	86.85

2.2 Test Channel Frequencies Configuration

Test Channel Frequencies Configuration	
Test Mode	**Test Channel Frequencies (MHz)**
GFSK-Transmit	2401-(F1), 2420-(F2), 2440-(F3)

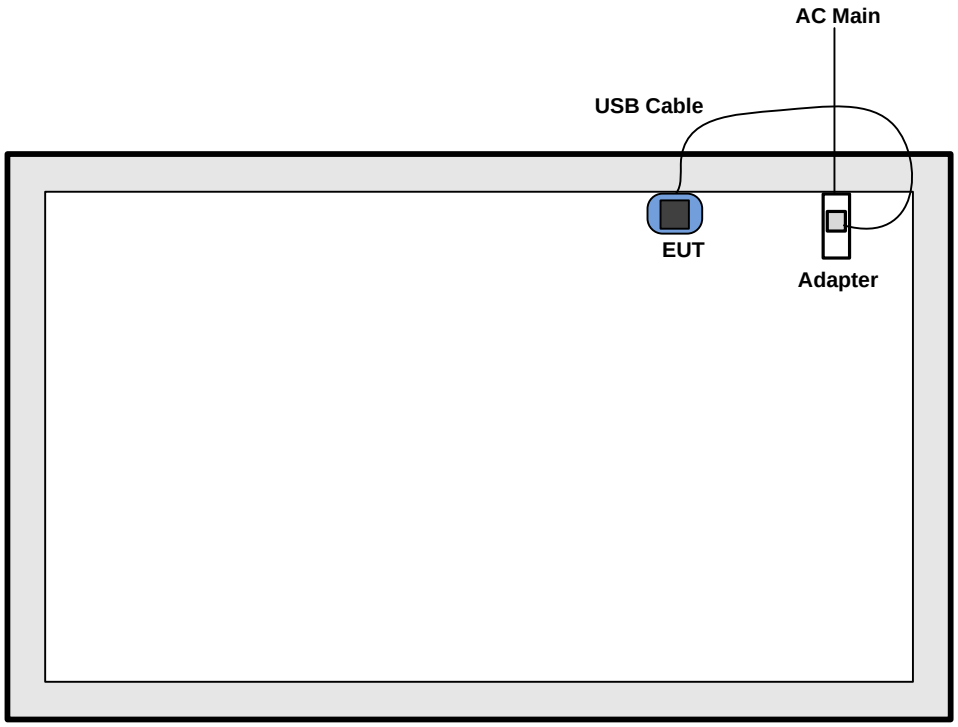
2.3 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral. Test Voltage: 120Vac / 60Hz
Operating Mode	Operating Mode Description
1	EUT transmitted with Adapter 1 via USB Cable
2	EUT transmitted with Notebook via USB Cable
For operating mode 1 is the worst case and it was record in this test report.	

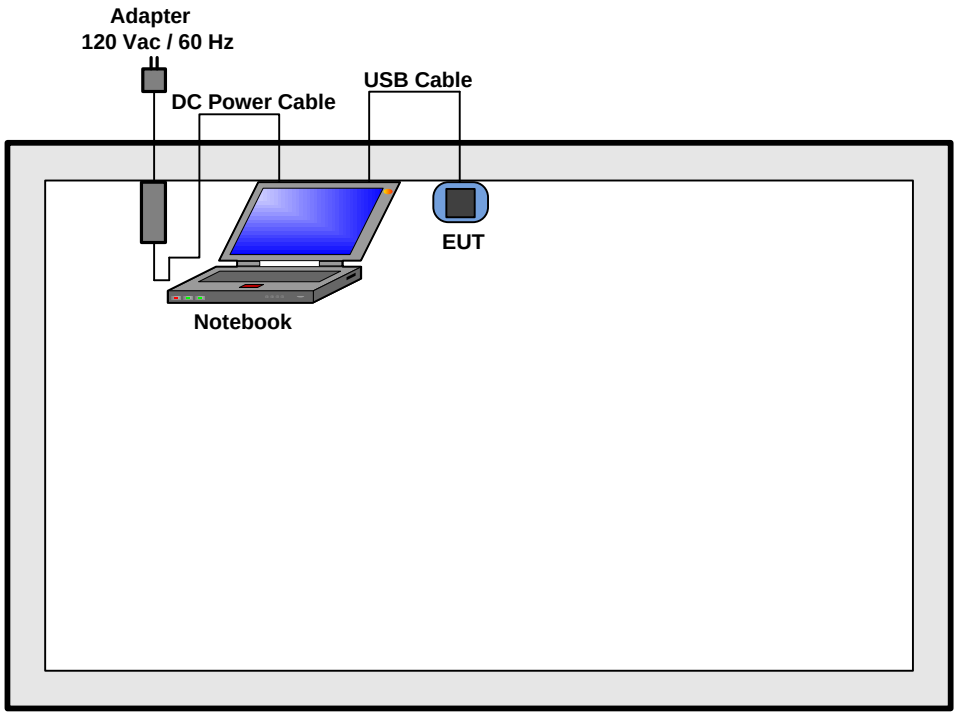
The Worst Case Mode for Following Conformance Tests	
Tests Item	Emission Bandwidth, Fundamental Emissions, Radiated Unwanted Emissions
Test Condition	Radiated measurement
User Position	☒ EUT will be placed in fixed position.
	☐ EUT will be placed in mobile position and operating multiple positions. EUT shall be performed three orthogonal planes.
	☐ EUT will be a hand-held or body-worn battery-powered devices and operating multiple positions. EUT shall be performed two or three orthogonal planes.
Operating Mode	Operating Mode Description
1	EUT transmitted with Adapter 1 via USB Cable
2	EUT transmitted with Notebook via USB Cable
The operating mode 2 is the worst case and it was record in this test report.	
Test Mode	GFSK-Transmit
Orthogonal Planes of EUT	**X Plane**
	

2.4 Test Setup Diagram

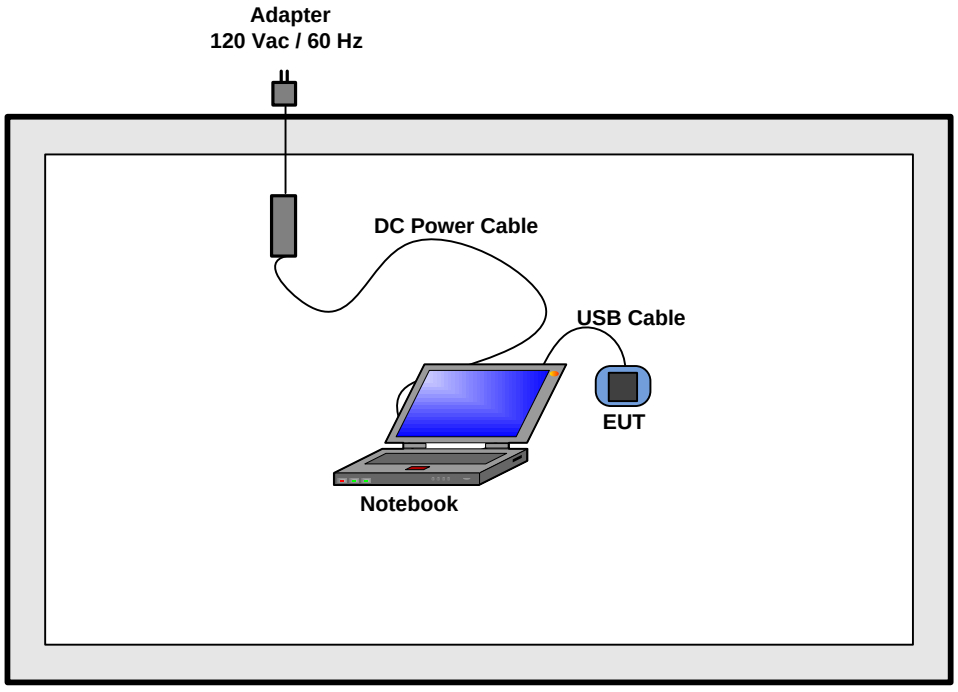
Test Setup Diagram – AC Line Conducted Emission Test(Mode 1)



Test Setup Diagram - Radiated Test Below 1GHz (Mode 2)



Test Setup Diagram - Radiated Test Above 1GHz (Mode 2)



3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

AC Power-line Conducted Emissions Limit		
Frequency Emission (MHz)	**Quasi-Peak**	**Average**
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50
Note 1: * Decreases with the logarithm of the frequency.		

3.1.2 Measuring Instruments

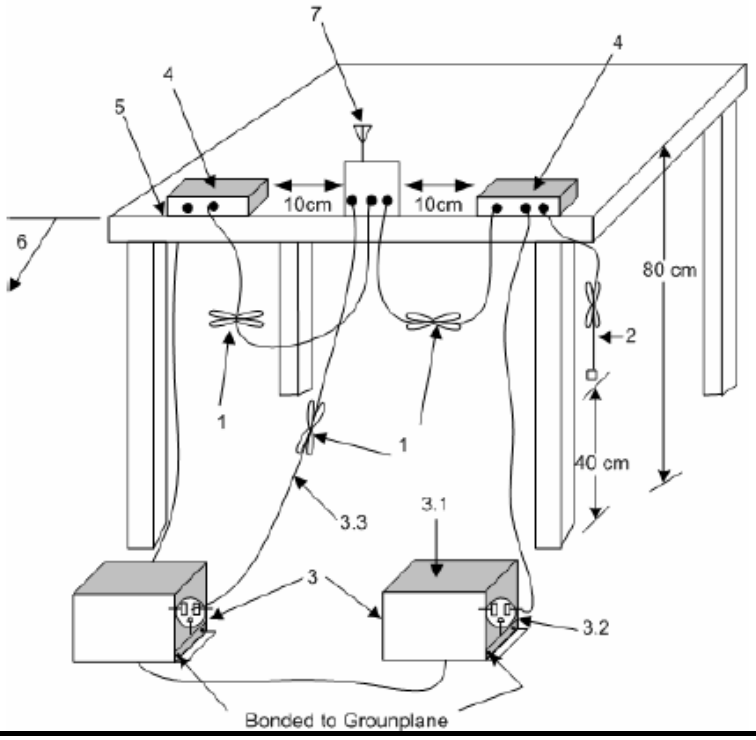
Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

Test Method
☒ Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions.

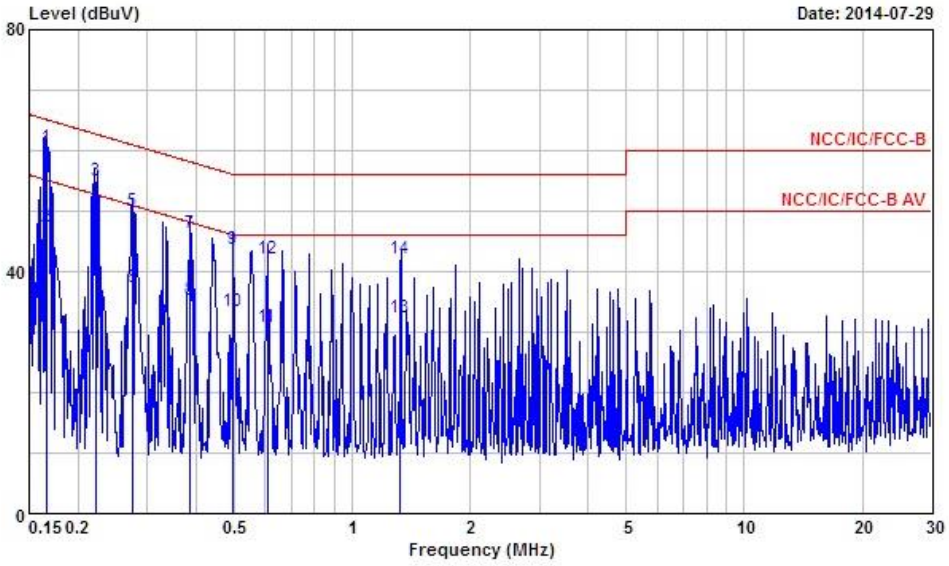
3.1.4 Test Setup

AC Power-line Conducted Emissions



3.1.5 Test Result of AC Power-line Conducted Emissions

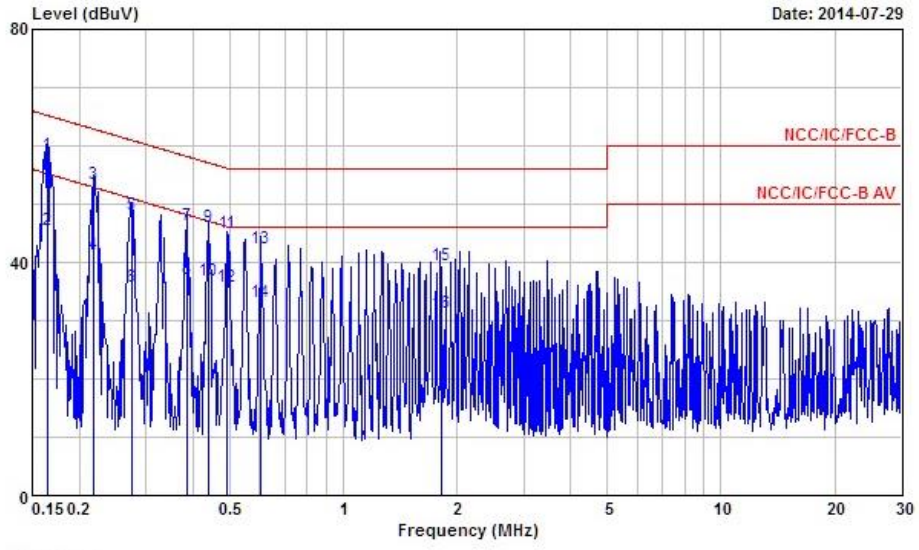
AC Power-line Conducted Emissions Result			
Operating Mode	1	**Power Phase**	Neutral
Operating Function	EUT transmitted with Adapter 1 via USB Cable		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	@0.1655880	60.56	-4.62	65.18	60.31	0.02	0.23	QP
2	@0.1655880	47.35	-7.83	55.18	47.10	0.02	0.23	Average
3	@0.2214870	54.93	-7.83	62.76	54.71	0.02	0.20	QP
4	@0.2214870	42.31	-10.45	52.76	42.09	0.02	0.20	Average
5	@0.2762730	50.01	-10.92	60.93	49.79	0.02	0.20	QP
6	@0.2762730	37.35	-13.58	50.93	37.13	0.02	0.20	Average
7	@0.3872360	46.40	-11.72	58.12	46.17	0.03	0.20	QP
8	@0.3872360	35.29	-12.83	48.12	35.06	0.03	0.20	Average
9	@0.4976340	43.75	-12.29	56.04	43.54	0.03	0.18	QP
10	@0.4976340	33.46	-12.58	46.04	33.25	0.03	0.18	Average
11	0.6072510	30.71	-15.29	46.00	30.52	0.04	0.15	Average
12	@0.6072510	42.14	-13.86	56.00	41.95	0.04	0.15	QP
13	@ 1.324	32.24	-13.76	46.00	32.01	0.05	0.18	Average
14	@ 1.324	42.03	-13.97	56.00	41.80	0.05	0.18	QP

Note 1: “>20dB” means emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found emissions (No emissions were detected.)

AC Power-line Conducted Emissions Result			
Operating Mode	1	**Power Phase**	Line
Operating Function	EUT transmitted with Adapter 1 via USB Cable		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	@0.1641380	58.33	-6.92	65.25	58.07	0.03	0.23	QP
2	@0.1641380	45.43	-9.82	55.25	45.17	0.03	0.23	Average
3	@0.2185070	53.33	-9.55	62.88	53.10	0.03	0.20	QP
4	@0.2185070	41.31	-11.57	52.88	41.08	0.03	0.20	Average
5	@0.2758730	48.04	-12.90	60.94	47.81	0.03	0.20	QP
6	0.2758730	35.66	-15.28	50.94	35.43	0.03	0.20	Average
7	@0.3851900	46.41	-11.76	58.17	46.18	0.03	0.20	QP
8	@0.3851900	37.07	-11.10	48.17	36.84	0.03	0.20	Average
9	@0.4374210	45.96	-11.15	57.11	45.74	0.03	0.19	QP
10	@0.4374210	36.91	-10.20	47.11	36.69	0.03	0.19	Average
11	@0.4914980	44.95	-11.19	56.14	44.73	0.04	0.18	QP
12	@0.4914980	35.71	-10.43	46.14	35.49	0.04	0.18	Average
13	@0.6043130	42.29	-13.71	56.00	42.10	0.04	0.15	QP
14	@0.6043130	33.09	-12.91	46.00	32.90	0.04	0.15	Average
15	1.812	39.41	-16.59	56.00	39.07	0.07	0.27	QP
16	1.812	31.24	-14.76	46.00	30.90	0.07	0.27	Average

Note 1: “>20dB” means emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found emissions (No emissions were detected.)

3.2 Emission Bandwidth

3.2.1 Emission Bandwidth Limit

Emission Bandwidth Limit
☒ Emission bandwidth falls completely within authorized band.

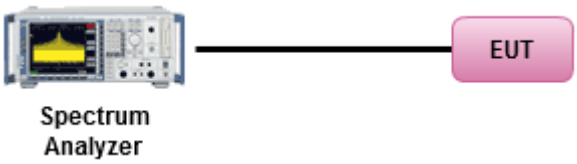
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

Test Method
☒ Refer as ANSI C63.10, clause 6.9.2 for 20 dB emission bandwidth and 99% occupied bandwidth measurement.

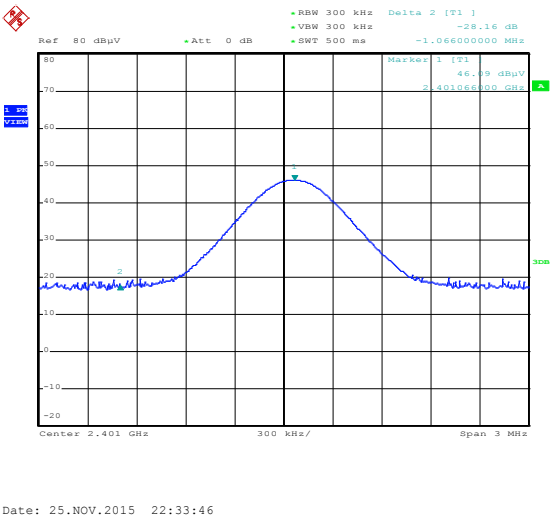
3.2.4 Test Setup

Emission Bandwidth


3.2.5 Test Result of Emission Bandwidth

Emission Bandwidth Result					
Modulation Mode	**Frequency (MHz)**	**99% Bandwidth (MHz)**	**20dB BW (MHz)**	**F_L at 20dB BW (MHz)**	**F_H at 20dB BW (MHz)**
GFSK-Transmit	2401	0.2503	2400.8263	-	0.2952
GFSK-Transmit	2420	0.2575	-	-	0.2996
GFSK-Transmit	2440	0.2633	-	2440.1274	0.3054
Limit		**N/A**	**2400**	**2483.5**	**N/A**
Result		**Complied**			

Worst Emission Bandwidth Plots



3.3 Fundamental Emissions

3.3.1 Fundamental Emissions Limit

Fundamental Emissions E-Field Strength Limit (3m)	
☐	902-928 MHz Band: 94 dBuV/m (quasi peak)
☒	2400-2483.5 MHz Band: 94 dBuV/m (average)
☐	5725-5785 MHz Band: 94 dBuV/m (average)

3.3.2 Measuring Instruments

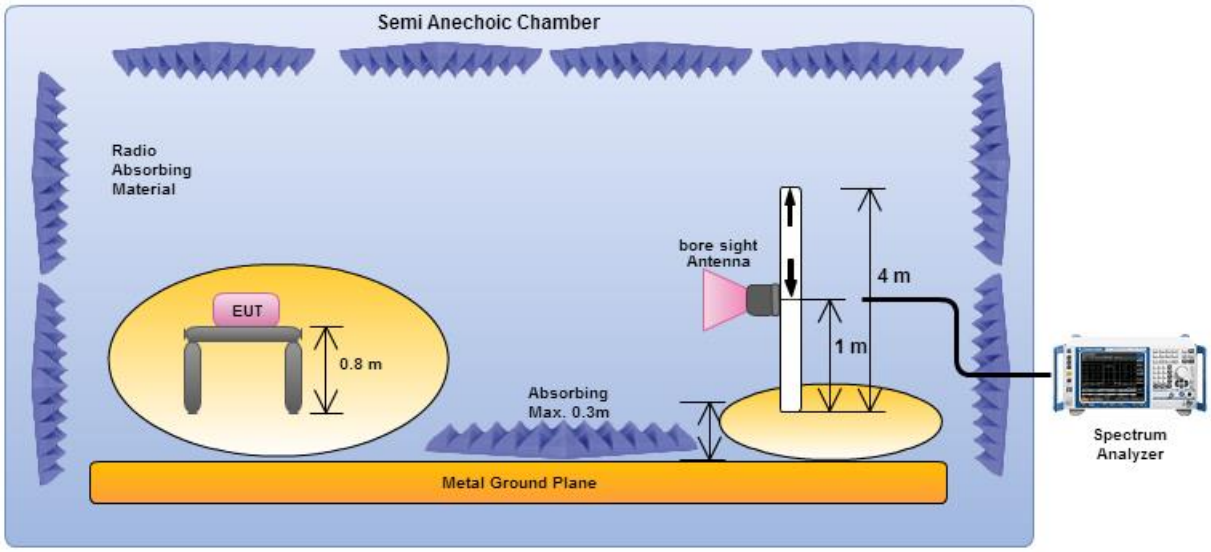
Refer a test equipment and calibration data table in this test report.

3.3.3 Test Procedures

☒	The average emission levels shall be measured in [by duty cycle correction factor].	
☒	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.
☒	Refer as ANSI C63.10, clause 6.6 for radiated emissions and test distance is 3m.	

3.3.4 Test Setup

Fundamental Emissions



3.3.5 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**
GFSK-Transmit	2401	81.41	32.59	114	peak
GFSK-Transmit	2401	80.70	13.30	94	average
GFSK-Transmit	2420	87.50	26.50	114	peak
GFSK-Transmit	2420	86.85	7.15	94	average
GFSK-Transmit	2440	83.23	30.77	114	peak
GFSK-Transmit	2440	82.52	11.48	94	average
Result		**Complied**			
Note 1: Measurement worst emissions of receive antenna polarization: Horizontal					

3.4 Transmitter Radiated Unwanted Emissions

3.4.1 Transmitter Radiated Unwanted Emissions Limit

Transmitter Radiated Unwanted Emissions Limit
Harmonics:
☒ 54 dBuV/m (average)
Other Unwanted Emissions:
☒ 50 dB below the level of the fundamental or FCC 15.209, whichever is the lesser attenuation.

3.4.2 Measuring Instruments

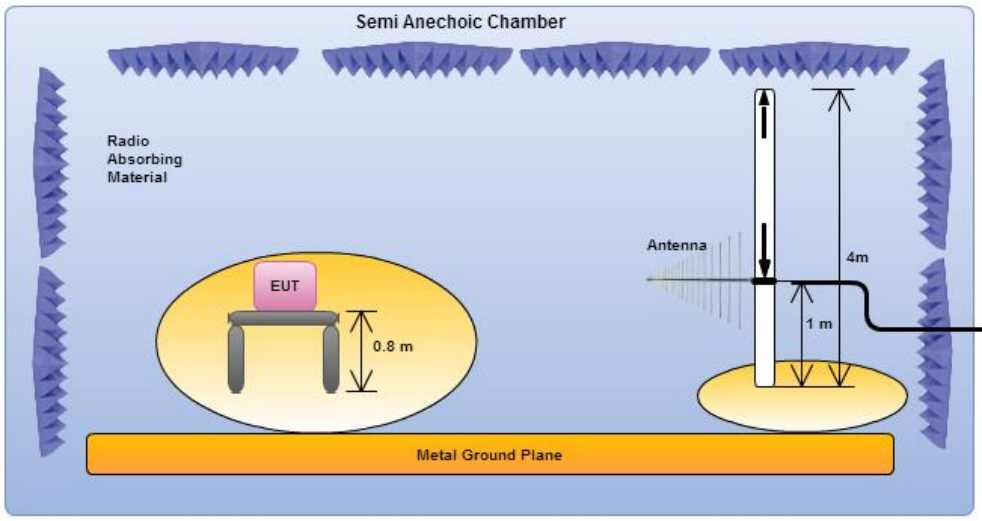
Refer a test equipment and calibration data table in this test report.

3.4.3 Test Procedures

Test Method – General Information	
☐	Measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).
☒	The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].
☒	Refer as ANSI C63.10, clause 6.10 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.

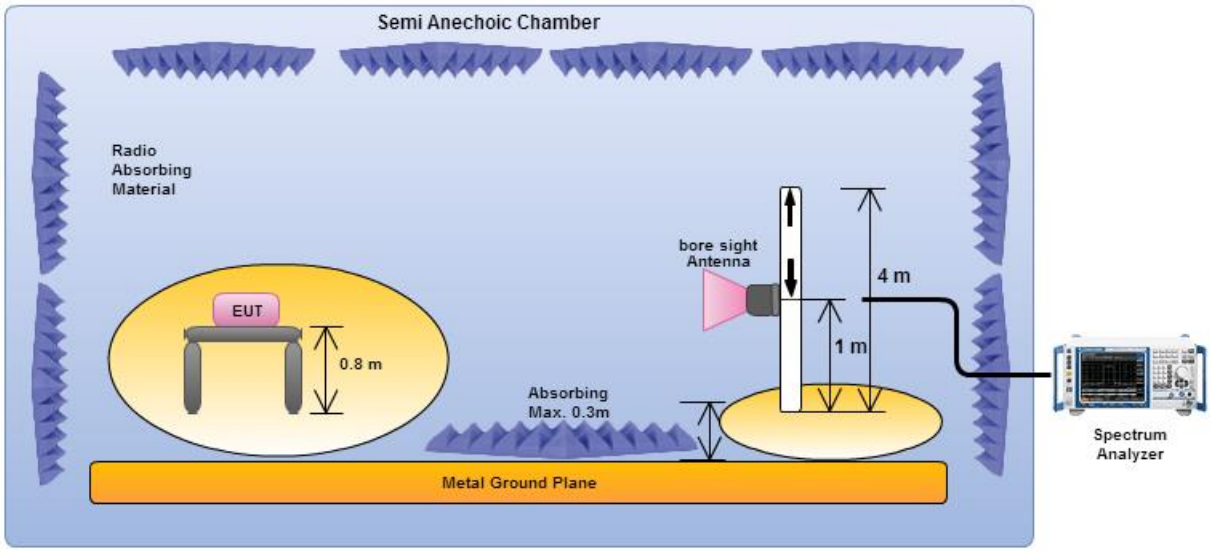
3.4.4 Test Setup

Transmitter Radiated Unwanted Emissions (below 1GHz)



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



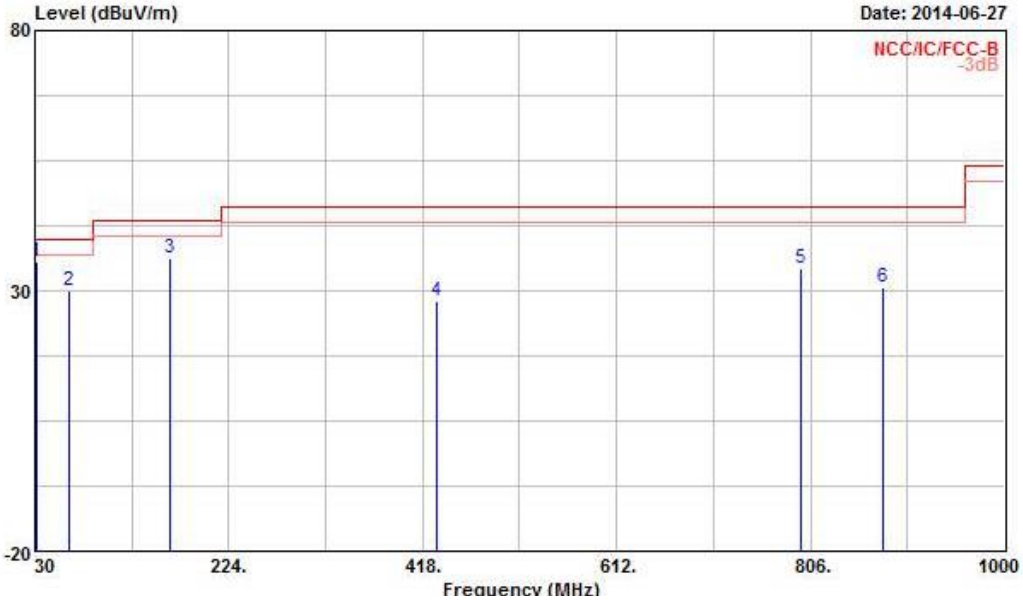
Electric field tests shall be performed in the frequency range of 1 GHz to 10th harmonic of highest fundamental frequency or 40 GHz using a calibrated horn antenna.

3.4.5 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.

3.4.6 Transmitter Radiated Unwanted Emissions (Below 1GHz)

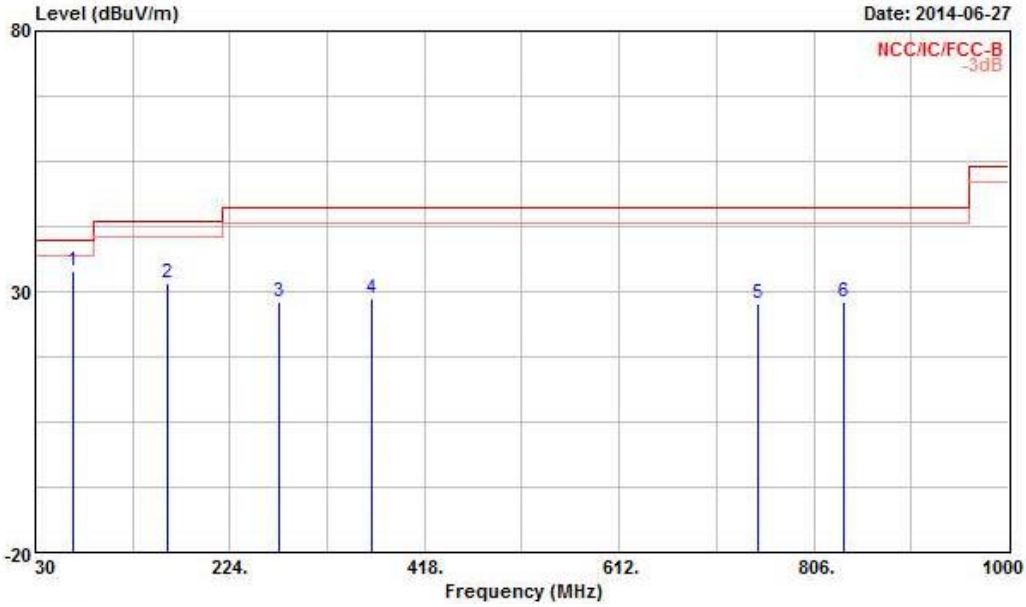
Transmitter Radiated Unwanted Emissions (Below 1GHz)			
Operating Mode	2	**Polarization**	V
Operating Function	EUT transmitted with Notebook via USB Cable		



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1 @	31.940	35.66	-4.34	40.00	45.10	17.57	0.76	27.77	Peak	---	---
2	63.950	29.92	-10.08	40.00	50.16	6.25	1.08	27.57	Peak	---	---
3	164.830	36.41	-7.09	43.50	52.15	9.95	1.85	27.54	Peak	---	---
4	431.580	27.99	-18.01	46.00	36.29	16.72	3.05	28.07	Peak	---	---
5	796.300	34.32	-11.68	46.00	38.15	19.94	4.31	28.08	Peak	---	---
6	877.780	30.75	-15.25	46.00	33.59	20.47	4.53	27.84	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.

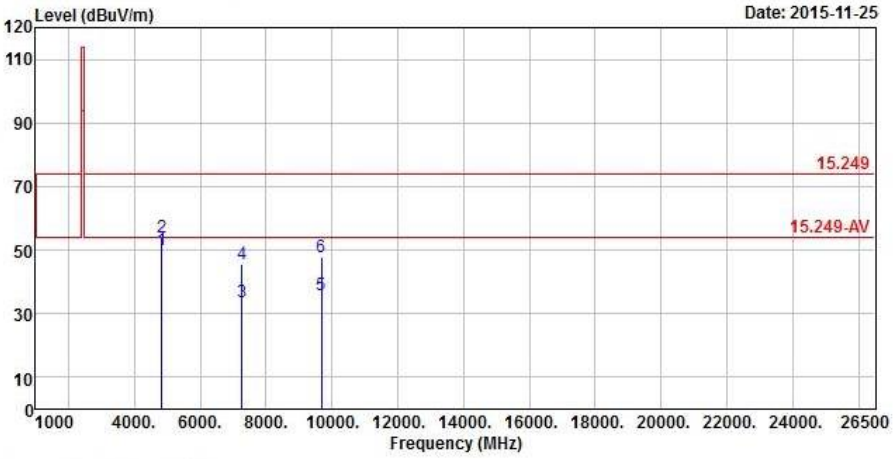
Transmitter Radiated Unwanted Emissions (Below 1GHz)			
Operating Mode	2	**Polarization**	H
Operating Function	EUT transmitted with Notebook via USB Cable		



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1 @	66.860	33.89	-6.11	40.00	54.12	6.26	1.10	27.59	Peak	---	---
2	160.950	31.54	-11.96	43.50	47.14	10.12	1.83	27.55	Peak	---	---
3	272.500	28.07	-17.93	46.00	39.94	12.94	2.42	27.23	Peak	---	---
4	365.620	28.71	-17.29	46.00	38.65	14.88	2.83	27.65	Peak	---	---
5	749.740	27.71	-18.29	46.00	31.94	19.80	4.16	28.19	Peak	---	---
6	835.100	27.92	-18.08	46.00	31.19	20.23	4.46	27.96	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)

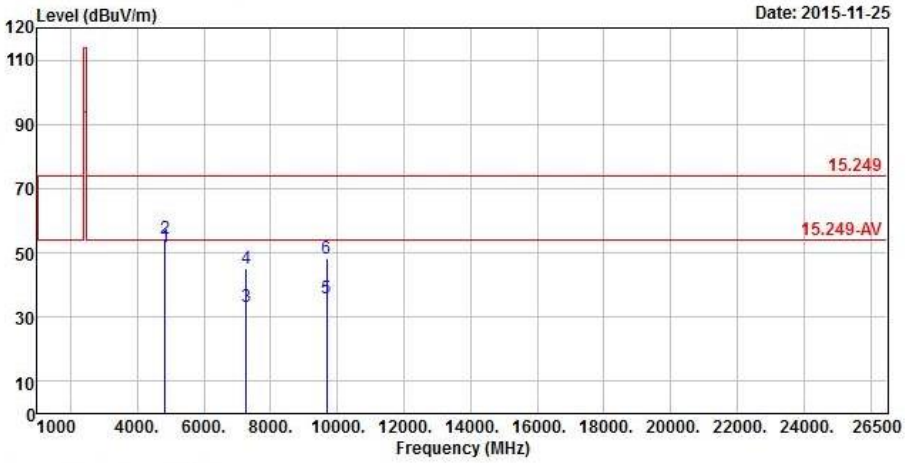
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	GFSK-Transmit	**Test Freq. (FX)**	F1
Operating Function	Transmit	**Polarization**	V



	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	4840.000	50.23	-3.77	54.00	45.85	34.33	4.70	34.65	Average
2	4840.000	54.10	-19.90	74.00	49.72	34.33	4.70	34.65	Peak
3	7260.000	33.56	-20.44	54.00	27.17	35.90	5.42	34.93	Average
4	7260.000	45.81	-28.19	74.00	39.42	35.90	5.42	34.93	Peak
5	9680.000	35.92	-18.08	54.00	27.92	36.91	6.38	35.29	Average
6	9680.000	47.78	-26.22	74.00	39.78	36.91	6.38	35.29	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.

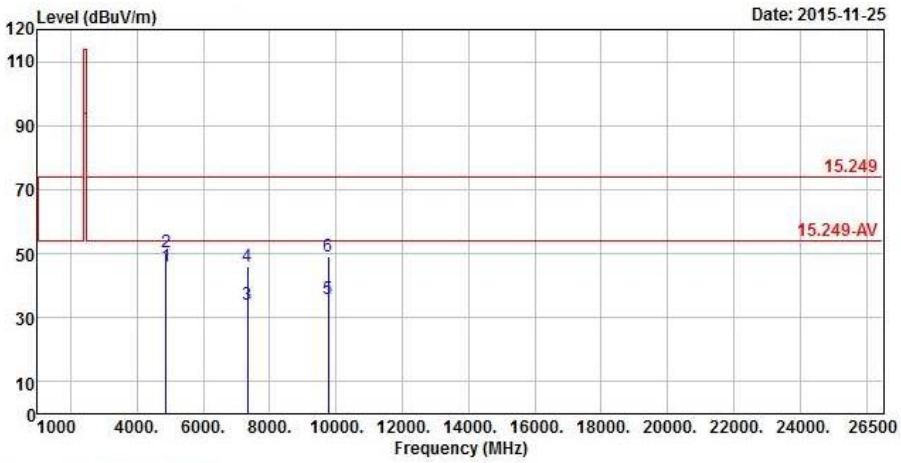
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	GFSK-Transmit	**Test Freq. (FX)**	F1
Operating Function	Transmit	**Polarization**	H



	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	4840.000	51.80	-2.20	54.00	47.42	34.33	4.70	34.65	Average
2	4840.000	54.59	-19.41	74.00	50.21	34.33	4.70	34.65	Peak
3	7260.000	33.06	-20.94	54.00	26.67	35.90	5.42	34.93	Average
4	7260.000	45.11	-28.89	74.00	38.72	35.90	5.42	34.93	Peak
5	9680.000	35.86	-18.14	54.00	27.86	36.91	6.38	35.29	Average
6	9680.000	48.43	-25.57	74.00	40.43	36.91	6.38	35.29	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.

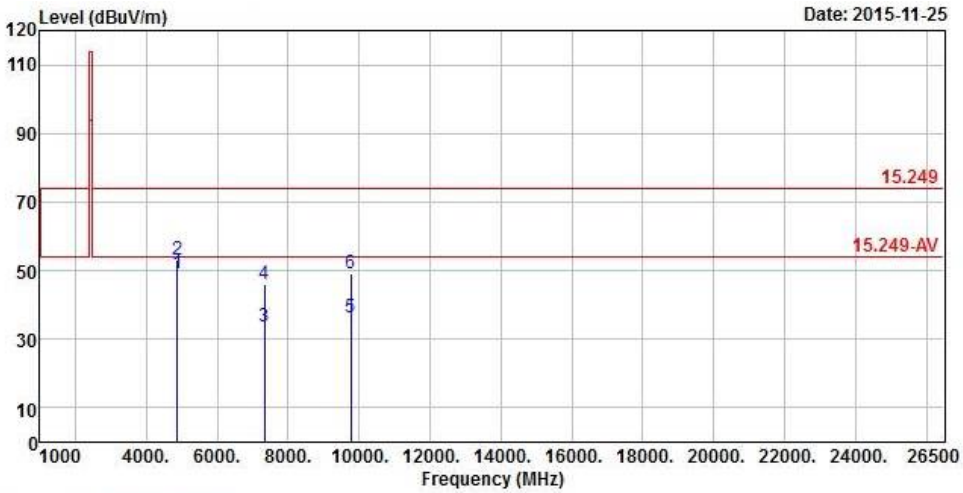
Transmitter Radiated Unwanted Emissions (Above 1GHz)			
Modulation Mode	GFSK-Transmit	**Test Freq. (FX)**	F2
Operating Function	Transmit	**Polarization**	V



	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	4880.000	46.11	-7.89	54.00	41.71	34.32	4.73	34.65	Average
2	4880.000	50.32	-23.68	74.00	45.92	34.32	4.73	34.65	Peak
3	7320.000	33.90	-20.10	54.00	27.45	35.93	5.47	34.95	Average
4	7320.000	46.01	-27.99	74.00	39.56	35.93	5.47	34.95	Peak
5	9760.000	36.06	-17.94	54.00	27.96	36.96	6.44	35.30	Average
6	9760.000	49.28	-24.72	74.00	41.18	36.96	6.44	35.30	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)			
Modulation Mode	GFSK-Transmit	**Test Freq. (FX)**	F2
Operating Function	Transmit	**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	4880.000	49.20	-4.80	54.00	44.80	34.32	4.73	34.65	Average
2	4880.000	53.16	-20.84	74.00	48.76	34.32	4.73	34.65	Peak
3	7320.000	33.79	-20.21	54.00	27.34	35.93	5.47	34.95	Average
4	7320.000	46.20	-27.80	74.00	39.75	35.93	5.47	34.95	Peak
5	9760.000	36.13	-17.87	54.00	28.03	36.96	6.44	35.30	Average
6	9760.000	49.13	-24.87	74.00	41.03	36.96	6.44	35.30	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.

4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30MHz ~ 1GHz 3m	Nov. 29, 2014	Radiation
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	1GHz ~ 18GHz 3m	Dec. 17, 2014	Radiation
Amplifier	HP	8447D	2944A08033	10kHz ~ 1.3GHz	May 11, 2015	Radiation
Amplifier	Agilent	8449B	3008A02120	1GHz ~ 26.5GHz	Sep. 02, 2015	Radiation
Spectrum	R&S	FSP40	100004	9kHz ~ 40GHz	Apr. 02, 2015	Radiation
Bilog Antenna	SCHAFFNER	CBL 6112D	22237	30MHz ~ 1GHz	Sep. 18, 2015	Radiation
Horn Antenna	ETS・LINDGREN	3115	6741	1GHz ~ 18GHz	Jul. 15, 2015	Radiation
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA9170154	18GHz ~ 40GHz	Jan. 27, 2015	Radiation
RF Cable-R03m	Jye Bao	RG142	CB021	9kHz ~ 1GHz	Oct. 28, 2015	Radiation
RF Cable-R03m	Jye Bao	RG142	CB021	9kHz ~ 1GHz	Nov. 15, 2014	Radiation
RF Cable-high	SUHNER	SUCOFLEX 106	03CH03-HY	1GHz ~ 40GHz	Dec. 12, 2014	Radiation
Turn Table	EM Electronics	EM Electronics	060615	0 ~ 360 degree	N/A	Radiation
Antenna Mast	MF	MF-7802	MF780208179	1 ~ 4 m	N/A	Radiation

Note: Calibration Interval of instruments listed above is one year.

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Loop Antenna	R&S	HFH2-Z2	100330	9 kHz~30 MHz	Nov.16, 2015	Radiation

Note: Calibration Interval of instruments listed above is two year.