

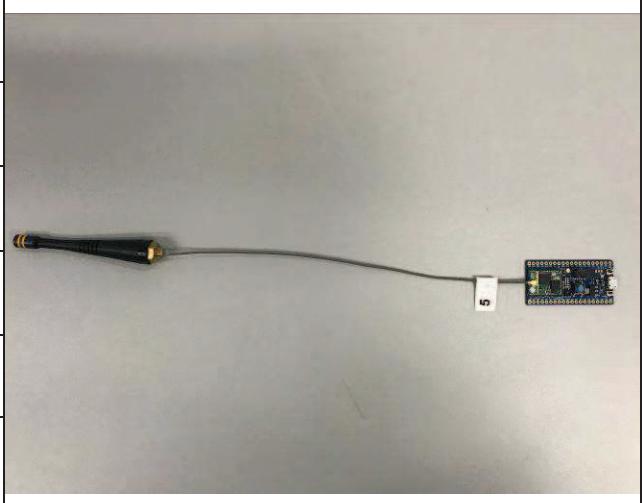
Prüfbericht-Nr.: <i>Test Report No.:</i>	50276345 001	Auftrags-Nr.: <i>Order No.:</i>	158113998	Seite 1 von 21 <i>Page 1 of 21</i>	
Kunden-Referenz-Nr.: <i>Client Reference No.:</i>	N/A	Auftragsdatum: <i>Order date:</i>	24.07.2019		
Auftraggeber: <i>Client:</i>	Miromico AG Gallusstrasse 4, CH-8006 Zürich, Switzerland				
Prüfgegenstand: <i>Test item:</i>	LoRa RF Module				
Bezeichnung / Typ-Nr.: <i>Identification / Type No.:</i>	FMLR-72-X-ST				
Auftrags-Inhalt: <i>Order content:</i>	FCC Certification				
Prüfgrundlage: <i>Test specification:</i>	FCC Part 15 Subpart C, ANSI C63.10-2013				
Wareneingangsdatum: <i>Date of receipt:</i>	27.09.2019				
Prüfmuster-Nr.: <i>Test sample No.:</i>	A000999321-001				
Prüfzeitraum: <i>Testing period:</i>	08.10.2019 - 27.03.2020				
Ort der Prüfung: <i>Place of testing:</i>	Hong Kong				
Prüflaboratorium: <i>Testing laboratory:</i>	TÜV Rheinland Hong Kong Ltd.				
Prüfergebnis*: <i>Test result*:</i>	Pass				
geprüft von / tested by:	kontrolliert von / reviewed by:				
18.05.2020	Mika Chan Project Manager		18.05.2020	Sharon Li Unit Senior Manager	
Datum <i>Date</i>	Name / Stellung <i>Name / Position</i>	Unterschrift <i>Signature</i>	Datum <i>Date</i>	Name / Stellung <i>Name / Position</i>	Unterschrift <i>Signature</i>
Sonstiges / Other: FCC ID: 2AUQE14DJC					
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>			Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i>		
<p>* Legende: 1 = sehr gut 2 = gut 3 = befriedigend 4 = ausreichend 5 = mangelhaft P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet</p> <p>Legend: 1 = very good 2 = good 3 = satisfactory 4 = sufficient 5 = poor P(ass) = passed a.m. test specification(s) F(ail) = failed a.m. test specification(s) N/A = not applicable N/T = not tested</p>					
<p>Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.</p> <p><i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i></p>					

Table of Content

	Page	
Cover Page	1	
Table of Content	2	
Product information.....	4	
Manufacturers declarations	4	
Product function and intended use	4	
Submitted documents.....	4	
Independent Operation Modes	4	
Related Submittal(s) Grants	4	
Remark	4	
Test Set-up and Operation Mode.....	5	
Principle of Configuration Selection	5	
Test Operation and Test Software.....	5	
Special Accessories and Auxiliary Equipment.....	5	
Countermeasures to achieve EMC Compliance.....	5	
Test Methodology	6	
Radiated Emission	6	
Field Strength Calculation.....	6	
Test Setup Diagram	7	
Test Facility	9	
Test Laboratory Information	9	
List of Test and Measurement Instruments.....	10	
Measurement Uncertainty	11	
Results FCC Part 15 – Subpart C	12	
FCC 15.203 – Antenna Requirement 1.....	Pass.....	12
FCC 15.204 – Antenna Requirement 2.....	N/A.....	12
FCC 15.207 – Conducted Emission on AC Mains	Pass.....	12
FCC 15.247 (a) – 20 dB Bandwidth	Pass.....	13
FCC 15.247(a)(1) – Carrier Frequency Separation.....	Pass.....	13
FCC 15.247 (a)(1)(iii) – Number of hopping channels.....	Pass.....	14
FCC 15.247 (a)(1)(iii) – Time of Occupancy (Dwell Time).....	Pass.....	14
FCC 15.247 (a) – Hopping Sequence	Pass.....	15

FCC 15.247 (a) – Equal Hopping Frequency Use	Pass.....	15
FCC 15.247 (a) – Receiver Input Bandwidth	Pass.....	15
FCC 15.247 (a) – Receiver Hopping Capability.....	Pass.....	15
FCC 15.247 (a)(2) – 6dB Bandwidth Measurement	Pass.....	16
FCC 15.247 (b)(1) – Peak Output Power.....	Pass.....	16
FCC 15.247(b)(3) – Maximum Peak Coudected Output Power	Pass.....	17
FCC 15.247(e) – Power Spectral Density.....	Pass.....	17
FCC 15.247(d) – Spurious Conducted Emissions.....	Pass.....	18
FCC 15.205 – Radiated Emissions in Restricted Frequency Bands.....	Pass.....	19
Appendix 1 – Test protocols		31 pages
Appendix 2 – Test setup		2 pages
Appendix 3 – EUT External Photos		3 pages
Appendix 4 – EUT Internal Photos		2 pages
Appendix 5 – RF exposure information.....		2 pages

Product information

Manufacturers declarations

Transceiver		
Operating frequency range	902.3 - 914.9 MHz	903.0 - 914.2 MHz
Type of modulation	FHSS modulation	DSSS modulation
Number of channels	64	8
Channel separation	200 KHz	1.6 MHz
Type of antenna	External Antenna	
Antenna gain (dBi)	1.6 dBi	
Power level	fix	
Type of equipment	stand alone radio device	
Connection to public utility power line	Yes	
Nominal voltage	V _{nor} : 3.3 VDC	
Independent Operation Modes	Transmitting	

Product function and intended use

The equipment under test (EUT) is a LoRa RF Module. It is powered by host devices.

FCC ID: 2AUQE14DJC

Models	Product description	Authorized Antenna
FMLR-72-X-ST	LoRa RF Module	Linx Technologies Inc. ANT-868-PW-QW-UFL

Submitted documents

Circuit Diagram
 Block Diagram
 Technical Description
 User manual
 Label

Independent Operation Modes

The basic operation modes are:

- Transmitting mode
- Receiving mode

For further information refer to User Manual

Related Submittal(s) Grants

This is a single application for certification of the transmitter.

Remark

The test results in this test report are only relevant to the tested sample and does not involve any assessment in the production.

For the test result of receiver function, please refer to the test report 60359944 001 issued by TÜV Rheinland Hong Kong Ltd.

Test Set-up and Operation Mode

Principle of Configuration Selection

Emission: The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

Test Operation and Test Software

Test operation should refer to test methodology.

- During test, Channel & Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. The RF output power was selected according to the instruction given by the manufacturer. The setting of the RF output power expected by the customer shall be fixed on the firmware of the final end product.

Special Accessories and Auxiliary Equipment

- USB to UART Interface Board (Provided by Applicant)
- DC power supply (Provided by TÜV)
Manufacturer: HEWLETT PACKARD
Model: E3617A

Countermeasures to achieve EMC Compliance

-

Test Methodology

Radiated Emission

The radiated emission measurements of the transmitter part were performed according to the procedures in ANSI C63.10-2013.

For measurement below 1GHz - the equipment under test (EUT) was placed at the middle of the 80 cm height turntable. For measurement above 1GHz - the EUT was placed at the middle of the 1.5 m height turntable and RF absorbing material was placed on ground plane between turntable and measuring antenna. During the testing, the EUT was operated standalone and arranged for maximum emissions. The EUT was tested in three orthogonal planes.

The investigation is performed with the EUT rotated 360°, the antenna height scanned between 1m and 4m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations. Repeat the measurement steps until the maximum emissions were obtained.

All radiated tests were performed at an antenna to EUT with 3 meters distance, unless stated otherwise in particular parts of this test report.

Field Strength Calculation

The field strength at 3 m was established by adding the meter reading of the spectrum analyzer to the factors associated with antenna correction factor, cable loss, preamplifiers and filter attenuation.

The equation is expressed as follow:

$$FS = R + AF + CF + FA - PA$$

Where FS = Field Strength in dBuV/m at 3 meters.

R = Reading of Spectrum Analyzer in dBuV.

AF = Antenna Factor in dB.

CF = Cable Attenuation Factor in dB.

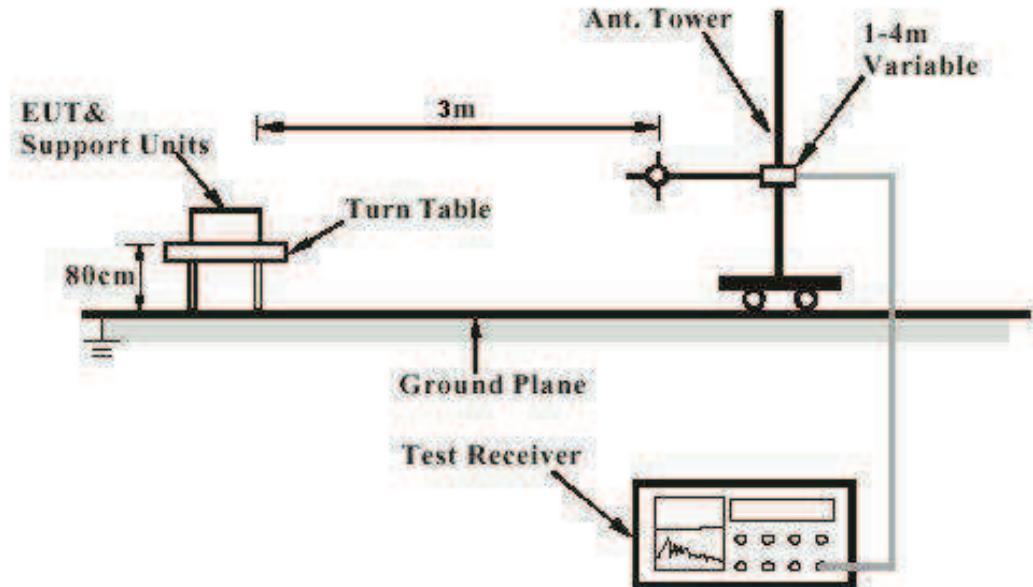
FA = Filter Attenuation Factor in dB.

PA = Preamplifier Factor in dB.

FA and PA are only be used for the measuring frequency above 1 GHz.

Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test



Note: Measurements above 1 GHz are done with a table height of 1.5m. In addition, there is RF absorbing material on the floor of the test site for above 1GHz measurement.

Diagram of Measurement Equipment Configuration for Mains Conduction Measurement (if applicable)

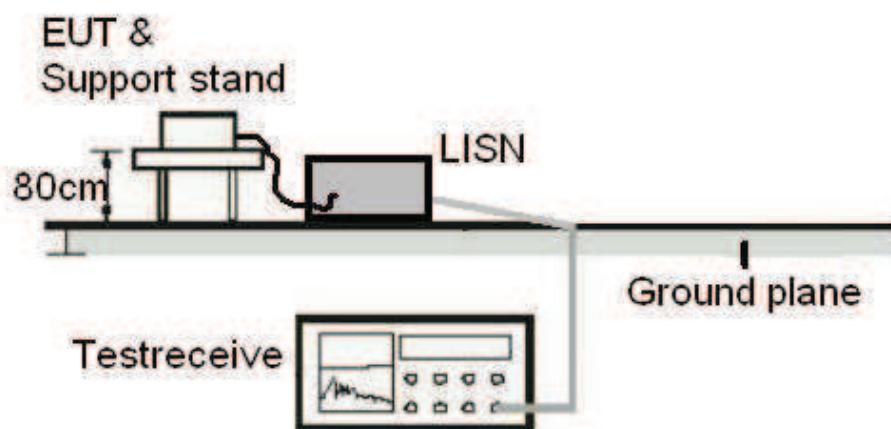
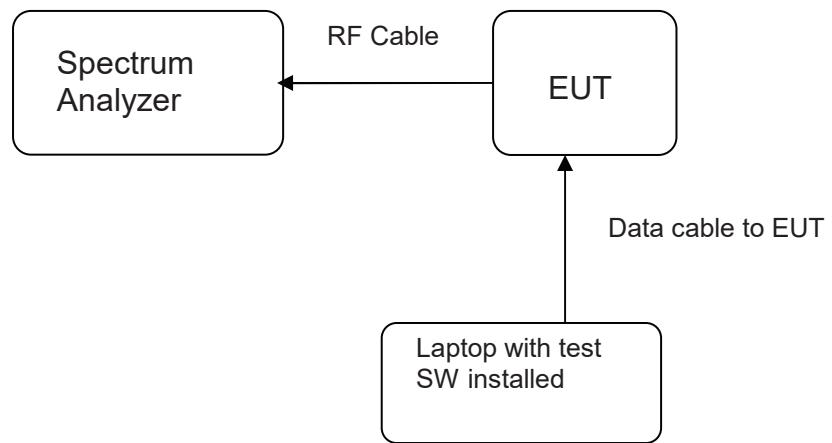


Diagram of Equipment Configuration for Antenna-port Conducted Measurement (if applicable)



Test Facility

Test Laboratory Information

TÜV Rheinland Hong Kong Ltd.

Address: 3-4, 11/F., Fou Wah Industrial Building, 10-16 Pun Shan Street, Tsuen Wan, N.T., Hong Kong

Tel.: +852 2192 1000

Fax: +852 2192 1001

Email service-gc@tuv.com

Web: www.tuv.com

The test facility is recognized or accredited by the following organizations:

FCC

Type	: Accredited Test Firm
Designation Number	: HK0013
Test Firm Registration Number	: 371735
Scope	: Intentional Radiators

List of Test and Measurement Instruments

Radiated Emission

Equipment	Manufacturer	Type	Cal. Date	Due Date
Semi-anechoic Chamber	Frankonia	Nil	23 Apr 2019	23 Apr 2020
Test Receiver	R & S	ESU26	21 Jun 2019	21 Jun 2020
Bi-conical Antenna	R & S	HK116	21 Mar 2018	21 Mar 2020
Log Periodic Antenna	R & S	HL223	22 Mar 2018	22 Mar 2020
Standard Gain Horn	ETS-Lindgren	3160-07	04 Sep 2018	04 Sep 2020
Standard Gain Horn	ETS-Lindgren	3160-08	26 Sep 2018	26 Sep 2020
Standard Gain Horn	ETS-Lindgren	3160-10	03 Oct 2018	03 Oct 2020
Double-Ridged Waveguide Horn	EMCO	3116	5 Oct 2018	5 Oct 2020
Double-Ridged Waveguide Horn	EMCO	3117	30 Aug 2018	30 Aug 2020
Coaxial cable	Huber+Suhner	CNM-NMCMILX800-473	04 Oct 2018	04 Oct 2020
High Frequency Cable	Pasternack	PE3VNA4001-3M	29 Jan 2019	29 Jan 2021
Microwave Preamplifier	COM-POWER Corporation	PAM-118A	25 Jun 2019	25 Jun 2020
Preamplifier 18GHz to 40GHz with cable (EMC656)	A.H. Systems, Inc.	PAM-1840VH	30 Jan 2019	30 Jan 2021
High Pass Filter (cutoff freq. =1000MHz)	Trilithic	23042	30 Oct 2019	30 Oct 2021

AC Mains Conducted Emission

Equipment	Manufacturer	Type	Cal. Date	Due Date
Test Receiver	R & S	ESU8	23 Aug 2019	23 Aug 2020
LISN	R&S	ENV216	29 Jul 2019	29 Jul 2020
Double Shield Cable	Huber+ Suhner	RG223/U-01	20 May 2019	20 May 2021

Radio Test

Equipment	Manufacturer	Type	Cal. Date	Due Date
Spectrum Analyzer	R & S	FSP30	26 Jun 2019	26 Jun 2020

Measurement Uncertainty

The estimated combined standard uncertainty for power-line conducted emissions measurements is $\pm 2.42\text{dB}$.

The estimated combined standard uncertainty for radiated emissions measurements is $\pm 4.81\text{dB}$ (9kHz to 30MHz) and $\pm 4.62\text{dB}$ (30MHz to 200MHz) and $\pm 5.67\text{dB}$ (200MHz to 1000MHz) and is $\pm 5.07\text{dB}$ (1GHz to 8.2GHz) and $\pm 4.58\text{dB}$ (8.2GHz to 12.4GHz) and $\pm 4.78\text{dB}$ (12.4GHz to 18GHz)

The estimated combined standard uncertainty for antenna conducted emission is $\pm 2.1\text{dB}$

The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor of $k=2$, which for the level of confidence is approximately 95%.

Results FCC Part 15 – Subpart C

FCC 15.203 – Antenna Requirement 1		Pass
FCC Requirement: No antenna other than that furnished by the responsible party shall be used with the device		
Results:	a) Antenna type: b) Manufacturer and model no: c) Peak Gain:	External antenna Linx Technologies Inc. ANT-868-PW-QW-UFL 1.6 dBi
Verdict:	Pass	

FCC 15.204 – Antenna Requirement 2		Pass
FCC Requirement: An intentional radiator may be operated only with the antenna with which it is authorized. If an antenna is marketed with the intentional radiator, it shall be of a type which is authorized with the intentional radiator.		
Results:	Only one authorized antenna can be used.	
Verdict:	Pass	

FCC 15.207 – Conducted Emission on AC Mains		Pass				
Test Specification	: ANSI C63.10-2013					
Test date	: 14.10.2019					
Mode of operation	: TX mode 907.8 MHz					
Port of testing	: AC Mains input port of power supply					
Supply voltage	: 120Vac 60Hz					
Temperature	: 23°C					
Humidity	: 50%					
Requirement:	15.207(a)					
Results:	Pass					
Live measurement						
Frequency range (MHz)	Frequency (MHz)	Quasi-peak dB μ V	Average dB μ V	Limit QP (dB μ V)	Limit AV (dB μ V)	Verdict
0,15 – 0,5	No peak found	---	---	66 - 56	56 - 46	Pass
> 0,5 - 5	No peak found	---	---	56	46	Pass
> 5 - 30	No peak found	---	---	60	50	Pass
Neutral measurement						
Frequency range (MHz)	Frequency (MHz)	Quasi-peak dB μ V	Average dB μ V	Limit QP (dB μ V)	Limit AV (dB μ V)	Verdict
0,15 – 0,5	No peak found	---	---	66 - 56	56 - 46	Pass
> 0,5 - 5	No peak found	---	---	56	46	Pass

> 5 - 30	No peak found	---	---	60	50	Pass
Results:	Pre-scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and data rate.					
	The radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150kHz to 30MHz does not exceed the limits. For test Results plots refer to Appendix 1, page 2.					

FCC 15.247 (a) – 20 dB Bandwidth		Pass	
FCC Requirement: N/A			
Test Specification : ANSI C63.10 – 2013			
Test date : 25.03.2020			
Mode of operation : Tx mode			
Port of testing : Temporary antenna port			
Supply voltage : 3.3VDC			
Temperature : 23°C			
Humidity : 50%			
Results: Pre-scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and packet types.			
For test protocols refer to Appendix 1.			
Frequency (MHz)	20 dB left (MHz)	20 dB right (MHz)	20dB bandwidth (KHz)
902.3	902.2276	902.3563	139.0
908.5	908.4160	908.5582	142.2
914.9	914.8166	914.9558	139.2

FCC 15.247(a)(1) – Carrier Frequency Separation		Pass
FCC Requirement:		
Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25kHz or the 2/3*20dB bandwidth of the hopping channel, whichever is greater.		
Test Specification : ANSI C63.10 – 2013		
Test date : 25.03.2020		
Mode of operation : Tx mode (hopping on)		
Port of testing : Temporary antenna port		
Supply voltage : 3.3VDC		
Temperature : 23°C		
Humidity : 50%		
Results: Pre-scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and packet types.		
For test Results plots refer to Appendix 1.		
Channel Separation (kHz)	Limit (kHz)	Verdict
200	94.8	Pass

FCC 15.247 (a)(1)(iii) – Number of hopping channels		Pass
FCC Requirement:		
For frequency hopping systems operating in the 902-928 MHz band: if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies; if the 20 dB bandwidth of the hopping channel is 250 kHz or greater, the system shall use at least 25 hopping frequencies.		
Test Specification : ANSI C63.10 – 2013 Test date : 25.03.2020 Mode of operation : Tx mode (hopping on) Port of testing : Temporary antenna port Supply voltage : 3.3VDC Temperature : 23°C Humidity : 50%		
Results:	For test Results plots refer to Appendix 1.	
No. of hopping channels	Limit	Verdict
64	50	Pass

FCC 15.247 (a)(1)(iii) – Time of Occupancy (Dwell Time)		Pass
FCC Requirement:		
For frequency hopping systems operating in the 902-928 MHz band: if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 20 second period; if the 20 dB bandwidth of the hopping channel is 250 kHz or greater, average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 10 second period.		
Test Specification : ANSI C63.10 – 2013 Test date : 25.03.2020 Mode of operation : Tx mode (hopping on) Port of testing : Temporary antenna port Supply voltage : 3.3VDC Temperature : 23°C Humidity : 50%		
Results:	Time period calculation = 20s Dwell time = $1 \times 371 \times 10^{-3} = 0.371 \text{ s}$ $\leq 0.4 \text{ s}$ For test protocols please refer to Appendix 1.	
Verdict:	Pass	

FCC 15.247 (a) – Hopping Sequence	Pass
FCC Requirement: The system radio frequency (RF) bandwidth is equal to the channel bandwidth multiplied by the number of channels in the hopset. The hopset shall be such that the near-term distribution of frequencies appears random, with sequential hops randomly distributed in both direction and magnitude of change in the hopset, while the long-term distribution appears evenly distributed.	
Refer to LoRa Specification	
FCC 15.247 (a) – Equal Hopping Frequency Use	Pass
FCC Requirement: Each of the transmitter's hopping channels is used equally on average.	
The system radio frequency (RF) bandwidth is equal to the channel bandwidth multiplied by the number of channels in the hopset. The hopset shall be such that the near-term distribution of frequencies appears random, with sequential hops randomly distributed in both direction and magnitude of change in the hopset, while the long-term distribution appears evenly distributed.	
Refer to LoRa Specification	
FCC 15.247 (a) – Receiver Input Bandwidth	Pass
FCC Requirement: The associated receiver(s) complies with the requirement that its input bandwidth matches the bandwidth of the transmitted signal.	
Refer to LoRa Specification	
FCC 15.247 (a) – Receiver Hopping Capability	Pass
FCC Requirement: The associated receiver has the ability to shift frequencies in synchronisation with the transmitted signals.	
Refer to LoRa Specification	

FCC 15.247 (a)(2) – 6dB Bandwidth Measurement		Pass	
FCC Requirement: Systems using digital modulation techniques may operate in the 902 – 928 MHz, 2400 – 2483.5 MHz, and 5725 – 5850 MHz bands. The minimum 6dB bandwidth shall be at least 500kHz.			
Test Specification : ANSI C63.10 – 2013 Test date : 25.03.2020 Mode of operation : Tx mode Port of testing : Temporary antenna port Supply voltage : 3.3VDC Temperature : 23°C Humidity : 50%			
Results: For test protocols please refer to Appendix 1			
Channel frequency (MHz)	6 dB left (MHz)	6 dB right (MHz)	6dB bandwidth (kHz)
903.0	902.588	903.344	756.0
907.8	907.384	908.164	780.0
914.2	913.788	914.572	784.0

FCC 15.247 (b)(1) – Peak Output Power		Pass	
Test Specification : ANSI C63.10 – 2013 Test date : 25.03.2020 Mode of operation : Tx mode Port of testing : Temporary antenna port Supply voltage : 3.3VDC Temperature : 23°C Humidity : 50%			
FCC :			
For frequency hopping systems operating in the 902-928 MHz band: 1 watt for systems employing at least 50 hopping channels; and, 0.25 watts for systems employing less than 50 hopping channels, but at least 25 hopping channels.			
Results: For test protocols please refer to Appendix 1.			
Frequency (MHz)	Maximum peak output power (dBm)	Limit (W/dBm)	Verdict
902.3	10.55	1 / 30.0	Pass
908.5	10.54	1 / 30.0	Pass
914.9	10.52	1 / 30.0	Pass

FCC 15.247(b)(3) – Maximum Peak Conducted Output Power		Pass	
FCC Requirement: For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850MHz bands: 1 Watt (30dBm)			
Test Specification : ANSI C63.10 – 2013 Test date : 25.03.2020 Mode of operation : Tx mode Port of testing : Temporary antenna port Supply voltage : 3.3VDC Temperature : 23°C Humidity : 50%			
Results: For test protocols please refer to Appendix 1			
Frequency (MHz)	Measured Output Power (dBm)	Limit (W/dBm)	Verdict
903.0	10.55	1 / 30.0	Pass
907.8	10.58	1 / 30.0	Pass
914.2	10.52	1 / 30.0	Pass

FCC 15.247(e) – Power Spectral Density		Pass	
FCC Requirement: For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.			
Test Specification : ANSI C63.10 – 2013 Test date : 25.03.2020 Mode of operation : Tx mode Port of testing : Temporary antenna port Supply voltage : 3.3VDC Temperature : 23°C Humidity : 50%			
Results: For test protocols please refer to Appendix 1.			
Operating frequency (MHz)	Power density (dBm)	Limit (dBm)	Verdict
903.0	6.62	8.0	Pass
907.8	6.68	8.0	Pass
914.2	7.30	8.0	Pass

FCC 15.247(d) – Spurious Conducted Emissions		Pass			
Test Specification	: ANSI C63.10 – 2013				
Test date	: 25.03.2020				
Mode of operation	: Tx mode				
Port of testing	: Temporary antenna port				
Supply voltage	: 3.3VDC				
Temperature	: 23°C				
Humidity	: 50%				
FCC Requirement: In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.					
Results: Pre-scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and data rate.		Only the worst cases of each operating frequency is shown below. For test protocols refer to Appendix 1			
Operating frequency (MHz)	Spurious frequency (MHz)	Spurious Level (dBm)	Reference value (dBm)	Delta (dB)	Verdict
902.3	902.0	-37.12	10.52	47.64	Pass
908.5	1816.0	-42.08	10.52	52.60	Pass
914.9	1828.0	-43.34	10.51	53.85	Pass
903.0	1804.0	-41.10	10.47	51.57	Pass
907.8	1816.0	-40.80	10.50	51.30	Pass
914.2	1828.0	-43.16	10.49	53.65	Pass

FCC 15.205 – Radiated Emissions in Restricted Frequency Bands			Pass
Test Specification : ANSI C63.10 – 2013 Test Date : 18.03.2020 Mode of operation : Tx mode Port of testing : Enclosure Frequency range : 9kHz – 25GHz Supply voltage : 3.3VDC Temperature : 23°C Humidity : 50%			
FCC Requirement: In any 100kHz bandwidth outside the frequency band at least 20dB below the highest level of the desired power. In addition, radiated emissions which fall in the restricted bands, as defined in section 15.205(a), must also comply with the radiated emission limits specified in section 15.205(c).			
Results: Pre-scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and data rate. All three transmit frequency modes comply with the field strength within the restricted bands. There is no spurious found below 30MHz.			
Mode: 902.3 MHz TX			Vertical Polarization
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m	
1804.564	49.1	74.0 / PK	
1804.564	47.7	54.0 / AV	
9022.509	56.3	74.0 / PK	
9022.509	50.1	54.0 / AV	
Mode: 902.3 MHz TX			Horizontal Polarization
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m	
1804.669	43.3	74.0 / PK	
1804.669	40.4	54.0 / AV	
9022.291	51.0	74.0 / PK	
9022.291	40.2	54.0 / AV	
Mode: 908.5 MHz TX			Vertical Polarization
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m	
1817.000	47.4	74.0 / PK	
1817.000	45.8	54.0 / AV	
9085.000	56.7	74.0 / PK	
9085.000	51.8	54.0 / AV	
Mode: 908.5 MHz TX			Horizontal Polarization
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m	
1817.000	42.3	74.0 / PK	
1817.000	39.0	54.0 / AV	
9084.290	42.3	74.0 / PK	
9084.290	39.0	54.0 / AV	

Mode: 914.9 MHz TX		Vertical Polarization	
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m	
1829.750	47.1	74.0 / PK	
1829.750	45.3	54.0 / AV	
9149.000	51.5	74.0 / PK	
9149.000	43.7	54.0 / AV	
Mode: 914.9 MHz TX		Horizontal Polarization	
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m	
1829.750	43.4	74.0 / PK	
1829.750	40.3	54.0 / AV	
9148.282	51.2	74.0 / PK	
9148.282	41.3	54.0 / AV	
Mode: 903.0MHz TX		Vertical Polarization	
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m	
1806.250	48.4	74.0 / PK	
1806.250	43.3	54.0 / AV	
8127.750	51.8	74.0 / PK	
8127.750	37.9	54.0 / AV	
9031.958	57.2	74.0 / PK	
9031.958	41.9	54.0 / AV	
Mode: 903.0 MHz TX		Horizontal Polarization	
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m	
1806.000	42.4	74.0 / PK	
1806.000	36.9	54.0 / AV	
9028.006	52.5	74.0 / PK	
9028.006	37.4	54.0 / AV	
Mode: 907.8 MHz TX		Vertical Polarization	
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m	
1815.378	47.9	74.0 / PK	
1815.378	43.3	54.0 / AV	
9074.669	52.8	74.0 / PK	
9074.669	32.9	54.0 / AV	
Mode: 907.8 MHz TX		Horizontal Polarization	
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m	
1815.778	44.1	74.0 / PK	
1815.778	38.4	54.0 / AV	
9077.378	51.6	74.0 / PK	
9077.378	37.5	54.0 / AV	
Mode: 914.2MHz TX		Vertical Polarization	
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m	
1828.750	45.9	74.0 / PK	
1828.750	39.2	54.0 / AV	

9142.535	52.7	74.0 / PK
9142.535	38.3	54.0 / AV
Mode: 914.2 MHz TX		Horizontal Polarization
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m
1828.319	45.0	74.0 / PK
1828.319	39.8	54.0 / AV
9143.073	51.1	74.0 / PK
9143.073	36.6	54.0 / AV