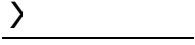
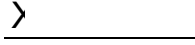


Test Report No.: Prüfbericht-Nr.:	US21UPY0.003 Rev.:03 Part 2	Order No.: Auftrags-Nr.:	P00230106 234174290	Page 1 of 42 Seite 1 von 42
Client Reference No.: Kunden-Referenz-Nr.:	2229228	Order date: Auftragsdatum:	6/14/2021	
Client: Auftraggeber:	Satellite Tracking of People, LLC 5353 W Sam Houston Parkway N, Suite 190 Houston, Texas, 77041			
Test item: Prüfgegenstand:	BLUbase			
Identification/ Type No.: Bezeichnung / Typ-Nr.	BLUbase V1			
Order content: Auftrags-Inhalt:	Radio Compliance Test Report			
Test specification: Prüfgrundlage:	FCC 47 CFR Part 15.247:2021, RSS-247:2020			
Date of sample receipt: Wareneingangsdatum:	7/11/2021	See Test Setup Exhibit for Photos		
Test sample No: Prüfmuster-Nr.:	24-010668, 24-010669			
Testing period: Prüfzeitraum:	7/14/2021- 8/5/2021			
Testing laboratory: Prüflaboratorium:	TUV Rheinland of North America 710 Resende Road, Building 199 Webster, NY 14580			
Test result*: Prüfergebnis*:	Pass			
tested by: Alexander Sowinski geprüft von:		authorized by: Richard Decker genehmigt von:		
Date: 7/28/2022 Datum:		Issue Date: 7/28/2022 Ausstellungsdatum:		
Position / Stellung:	Expert	Position / Stellung:	Expert	
Others / Sonstiges:				
Condition of the test item at delivery: Zustand des Prüfgegenstandes bei Anlieferung:		Test sample complete and undamaged		
* Legend:	P(ass) = passed a.m. test specification(s)	F(ail) = failed a.m. test specification(s)	N/A = not applicable	N/T = not tested
* Legende:	P(ass) = entspricht o.g. Prüfgrundlage(n)	F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	N/A = nicht anwendbar	N/T = nicht getestet
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. 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.				

Test report no.: US21UPY0.002 Rev.:03 Part 2

Page 2 of 42
Seite 2 von 42

Prüfbericht-Nr.:

Remarks
Anmerkungen

1	The equipment used during the specified testing period was calibrated according to our test laboratory calibration program. The equipment fulfils the requirements included in the relevant standards. The traceability of the test equipment used is ensured by compliance with the regulations of our management system. Detailed information regarding test conditions, equipment and measurement uncertainty is available in the test laboratory and could be provided on request. <i>Alle eingesetzten Prüfmittel waren zum angegebenen Prüfzeitraum gemäß eines festgelegten Kalibrierungsprogramms unseres Prüfhauses kalibriert. Sie entsprechen den in den Prüfprogrammen hinterlegten Anforderungen. Die Rückverfolgbarkeit der eingesetzten Prüfmittel ist durch die Einhaltung der Regelungen unseres Managementsystems gegeben. Detaillierte Informationen bezüglich Prüfkonditionen, Prüfequipment und Messunsicherheiten sind im Prüflabor vorhanden und können auf Wunsch bereitgestellt werden.</i>
2	As contractually agreed, this document has been signed digitally only. TÜV Rheinland has not verified and unable to verify which legal or other pertaining requirements are applicable for this document. Such verification is within the responsibility of the user of this document. Upon request by its client, TÜV Rheinland can confirm the validity of the digital signature by a separate document. Such request shall be addressed to our Sales department. An environmental fee for such additional service will be charged. <i>Wie vertraglich vereinbart, wurde dieses Dokument nur digital unterzeichnet. Der TÜV Rheinland hat nicht überprüft, welche rechtlichen oder sonstigen diesbezüglichen Anforderungen für dieses Dokument gelten. Diese Überprüfung liegt in der Verantwortung des Benutzers dieses Dokuments. Auf Verlangen des Kunden kann der TÜV Rheinland die Gültigkeit der digitalen Signatur durch ein gesondertes Dokument bestätigen. Diese Anfrage ist an unseren Vertrieb zu richten. Eine Umweltgebühr für einen solchen zusätzlichen Service wird erhoben.</i>
3	Test clauses with remark of * are subcontracted to qualified subcontractors and described under the respective test clause in the report. Deviations of testing specification(s) or customer requirements are listed in specific test clause in the report. <i>Prüfklausel mit der Note * wurden an qualifizierte Unterauftragnehmer vergeben und sind unter der jeweiligen Prüfklausel des Berichts beschrieben. Abweichungen von Prüfspezifikation(en) oder Kundenanforderungen sind in der jeweiligen Prüfklausel im Bericht aufgeführt.</i>
4	The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. The report must not be used by the client to claim product certification, approval, or endorsement by A2LA.
5	Radio Compliance Test Report. The above product was found to be Compliant to the above test standard(s).

Test report no .: US21UPY0.003 Rev.:03 Part 2

Page 3 of 42
Seite 3 von 42

Prüfbericht-Nr.:

Product description
Produktbeschreibung

1	Product details: <i>Produktdetails:</i>	BLUbase is our small, lightweight (RF) transceiver. Working in tandem with BLUband, BLUbase receives, enters, and leaves records from BLUband.
2	Dimensions / Weight: <i>Maße / Gewicht:</i>	11 cm x 11 cm x 3 cm / 0.16 kg
3	Operating elements: <i>Bedienelemente:</i>	AC Mains 100-240 VAC, 50/60Hz. Transmit bands 903-927 MHz.
4	Equipment / Accessories: <i>Ausstattung / Zubehör:</i>	None.
5	Used materials: <i>Verwendete Materialien:</i>	None.
6	Other: <i>Sonstiges:</i>	Test sample(s), as well sample information, description, product details and intended usage was provided by customer.
7	Test sample obtaining: <i>Prüfmusterbereitstellung:</i>	☒ Sending by customer ☐ Sampling by TÜV Rheinland Group ☐ others:

Test report no.: US21UPY0.003 Rev.:03 Part 2

Page 4 of 42
Seite 4 von 42

Prüfbericht-Nr.:

Revisions

Date mm/dd/yy	Name	Page Number of Change	Describe Change
08/12/2021	Rev.:01	N/A	Original Document
12/09/2021	Rev.:02	All	Updated FCC ID, Operating Bands
07/28/2022	Rev.:03	All	Updated Operating Band

Test report no.: US21UPY0.003 Rev.:03 Part 2

Page 5 of 42
Seite 5 von 42

Prüfbericht-Nr.:

TABLE OF CONTENTS

1 General Information..... 6

1.1 Scope 6

1.2 Purpose..... 6

1.3 Summary of Test Results..... 7

1.4 Transmitter Spurious Emissions 8

Test report no.: US21UPY0.003 Rev.:03 Part 2

Page 6 of 42
Seite 6 von 42

Prüfbericht-Nr.:

1 General Information

1.1 Scope

This report is intended to document the status of conformance based on the results of testing performed on the BLUbase, Model Number: BLUbase V1, manufactured by Satellite Tracking of People, LLC. This report only applies to the specific samples tested under the stated test conditions. It is the responsibility of the manufacturer to assure that additional production units of this model are manufactured with identical or EMI equivalent electrical and mechanical components.

1.2 Purpose

Testing was performed to evaluate the Radio performance of the EUT (Equipment Under Test) in accordance with the applicable requirements, procedures, and criteria defined in the application of regulations and application of standards listed in this report.

Test report no.: US21UPY0.003 Rev.:03 Part 2

Page 7 of 42
Seite 7 von 42

Prüfbericht-Nr.:

1.3 Summary of Test Results

Applicant:	Satellite Tracking of People, LLC 5353 W Sam Houston Parkway N, Suite 190 Houston, Texas, 77041	Tel:	713-354-9393	Contact:	Mark Kirincic
		Fax:	--	e-mail:	mkirincic@securustechnologies.com
Description:	BLUbase	Test Voltage/Freq.:	120VAC 60Hz		
Model Number:	BLUbase V1				
Serial Number:	24-010668, 24-010669	Test Engineer:	Alexander Sowinski		
Standards	Description	Severity Level or Limit		Criteria	Test Result
FCC 47 CFR Part 15.247:2021, RSS-247:2020 Radio Standard	Operation within the bands 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz.	See Basic Sections Below		See Below	Complies
FCC 47 CFR Part 15.203, RSS-Gen (6.8)	Antenna Requirements	Per Standards		Report	Complies
FCC 47 CFR Part 15.247 (b.3), RSS-247 (5.4)	Transmitter Output Power	EIRP < 1 Watt (30 dBm)		Limit	Complies
FCC 47 CFR Part 15.247 (a.2), RSS-247 (5.2)	Occupied Bandwidth	6dB OBW > 500 kHz		Limit	Complies
FCC 47 CFR Part 15.247 (e), RSS-247 (5.2)	Power Spectral Density	PSD < 8dBm / 3kHz band		Limit	Complies
FCC 47 CFR Part 15.247 (d), RSS-247 (5.5)	Out of Band Emissions	< 20 dBr / 100kHz band		Limit	Complies
FCC CFR 15.209, RSS-Gen (8.9)	Transmitter Spurious Emissions	Class B, 30 - 1000 MHz Class B, 1000 - 18000 MHz		Limit	Complies
FCC CFR 15.207, RSS-Gen (8.8)	AC Line Conducted Emissions	Class B, 150 kHz – 30 MHz		Limit	Complies

Test report no.: US21UPY0.003 Rev.:03 Part 2

Page 8 of 42
Seite 8 von 42

Prüfbericht-Nr.:

1.4 Transmitter Spurious Emissions

This test measures the electromagnetic levels of spurious signals generated by the EUT that radiated from the EUT and may affect the performance of other nearby electronic equipment.

1.4.1 Over View of Test

Results	Complies (as tested per this report)					Date	08/03/2021
Standard	FCC CFR 15.209, RSS-Gen (8.9)						
Product Model	BLUbase V1			Serial#	24-010669		
Configuration	See test plan for details.						
Test Set-up	Tested 3 meters semi- anechoic chamber placed on turn-table, see test plans for details.						
EUT Powered By	120V60Hz	Temp	22°C	Humidity	54%	Pressure	1002 mbar
Frequency Range	30 - 1000 MHz @ 3 meters 1000 - 18000 MHz @ 3 meters						
Channel Frequencies	Low Channel: 903 MHz Mid Channel: 915 MHz High Channel: 927 MHz			Power Setting @ Channel		14 dBm	
Perf. Criteria	Class B (Below Limit)			Perf. Verification		Readings Under Limit	
Mod. to EUT	None			Test Performed By		Alexander Sowinski	

1.4.2 Test Procedure

Radiated emissions tests were performed using the procedures of FCC 47 CFR Part 15.209 and/or ANSI C63.10 including methods for signal maximizations and EUT configuration. The photos included with the report show the EUT in its maximized configuration. Further radiated emission tests were performed per the procedures stated in the other emissions standards listed in this report. A notch filter was installed along the signal path to protect the measurement equipment.

The frequency range 30 – 18000 MHz investigated for radiated emissions. No spurious emissions were discovered below 30MHz or above 18 GHz.

1.4.3 Deviations

There were no deviations from the test methodology listed in the test plan for the radiated emission test.

1.4.4 Final Test

All final radiated emissions measurements were below (in compliance) the limits.

Test report no.: US21UPY0.003 Rev.:03 Part 2

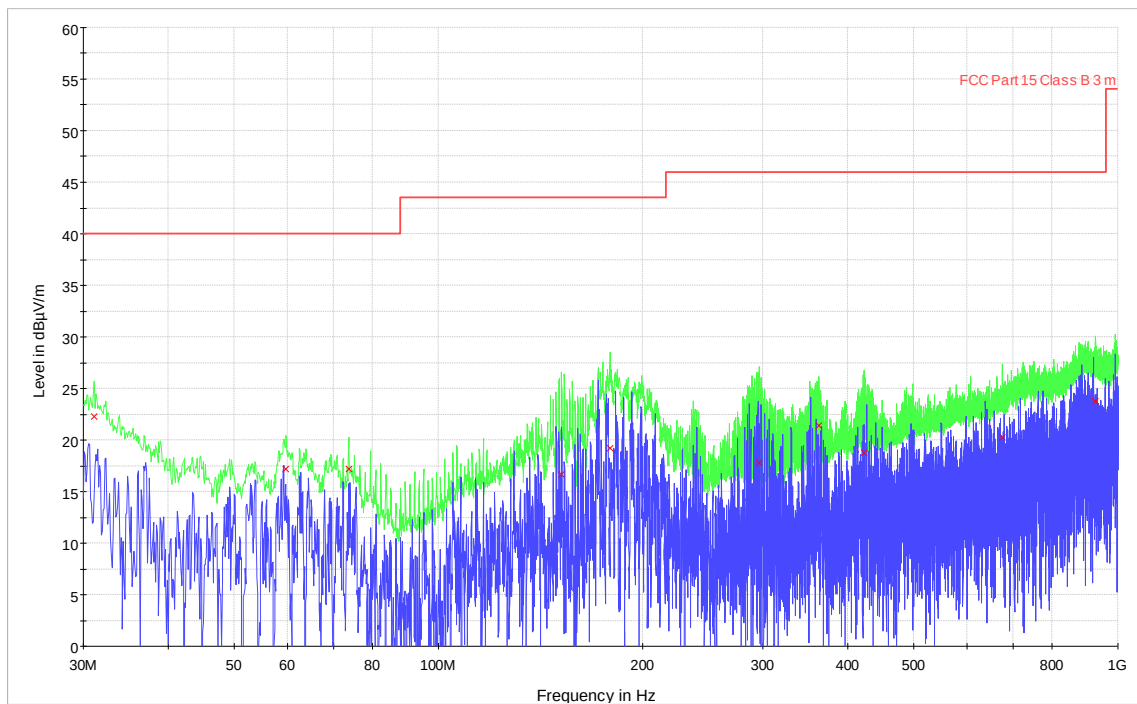
Page 9 of 42
Seite 9 von 42

Prüfbericht-Nr.:

1.4.5 Final Graphs

NOTES: LoRa Low Channel (903 MHz)

Radiated Emissions 30 – 1000 MHz
Vertical

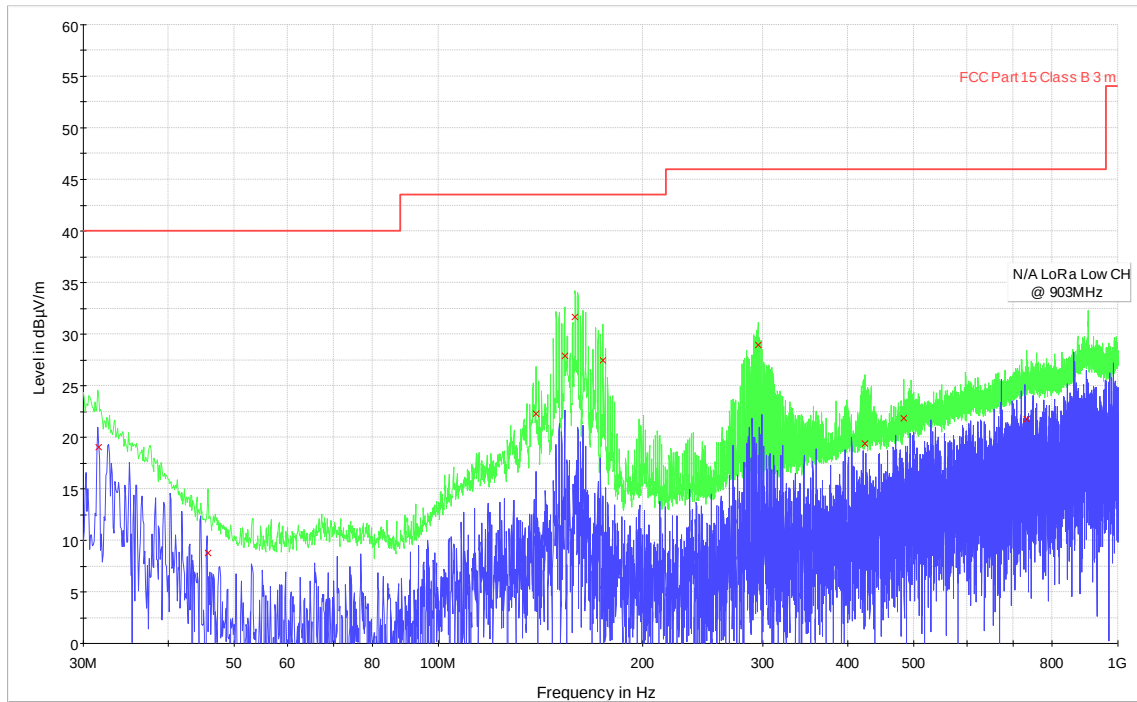


Test report no.: US21UPY0.003 Rev.:03 Part 2

Page 10 of 42
Seite 10 von 42

Prüfbericht-Nr.:

NOTES: LoRa Low Channel (903 MHz)
Radiated Emissions 30 – 1000 MHz
Horizontal



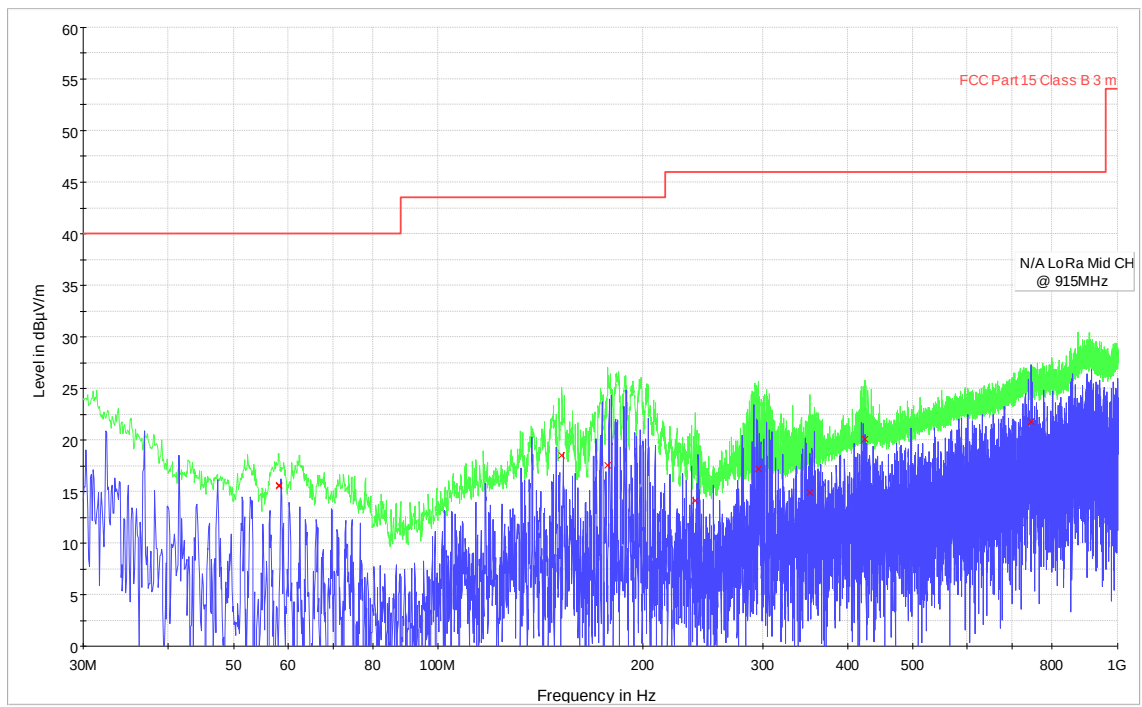
Test report no.: US21UPY0.003 Rev.:03 Part 2

Page 11 of 42
Seite 11 von 42

Prüfbericht-Nr.:

NOTES: LoRa Mid Channel (915 MHz)

Radiated Emissions 30 – 1000 MHz
Vertical

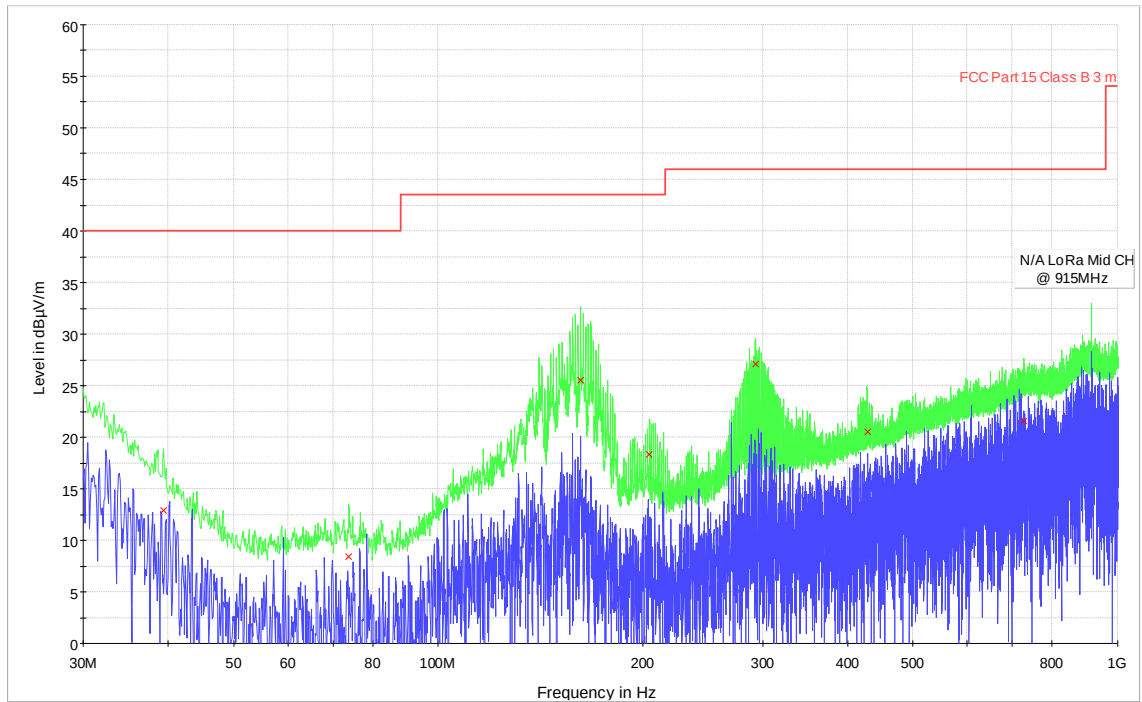


Test report no.: US21UPY0.003 Rev.:03 Part 2

Page 12 of 42
Seite 12 von 42

Prüfbericht-Nr.:

NOTES: LoRa Mid Channel (915 MHz)
Radiated Emissions 30 – 1000 MHz
Horizontal



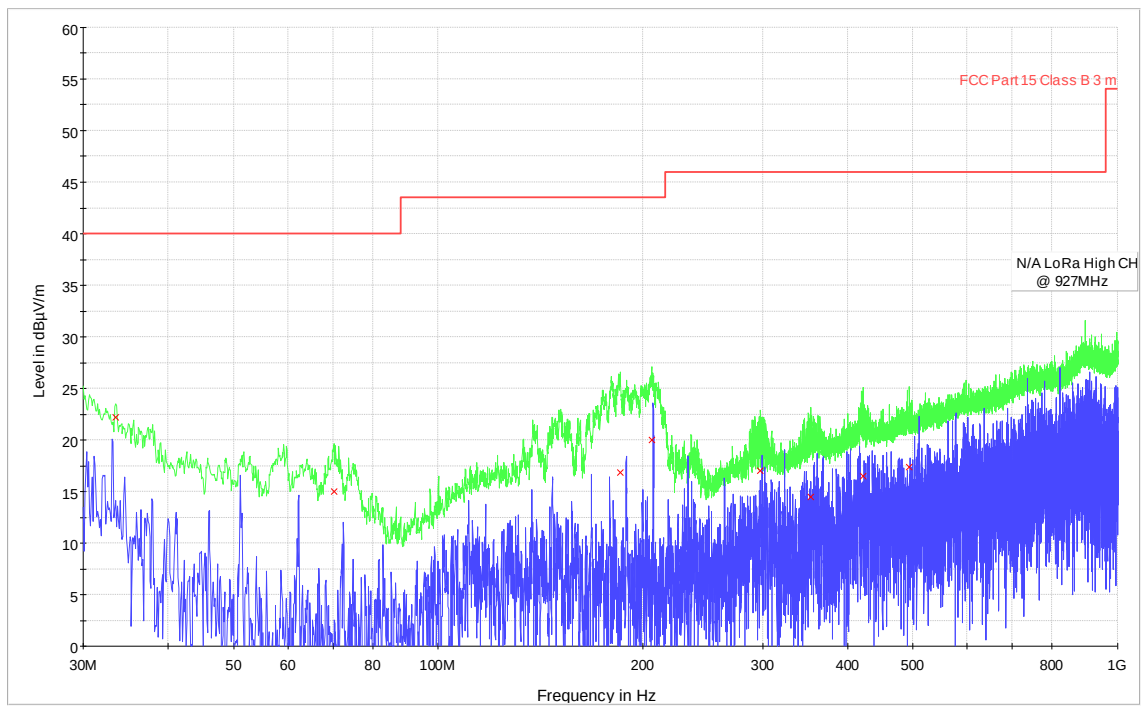
Test report no.: US21UPY0.003 Rev.:03 Part 2

Page 13 of 42
Seite 13 von 42

Prüfbericht-Nr.:

NOTES: LoRa High Channel (927 MHz)

Radiated Emissions 30 – 1000 MHz
Vertical

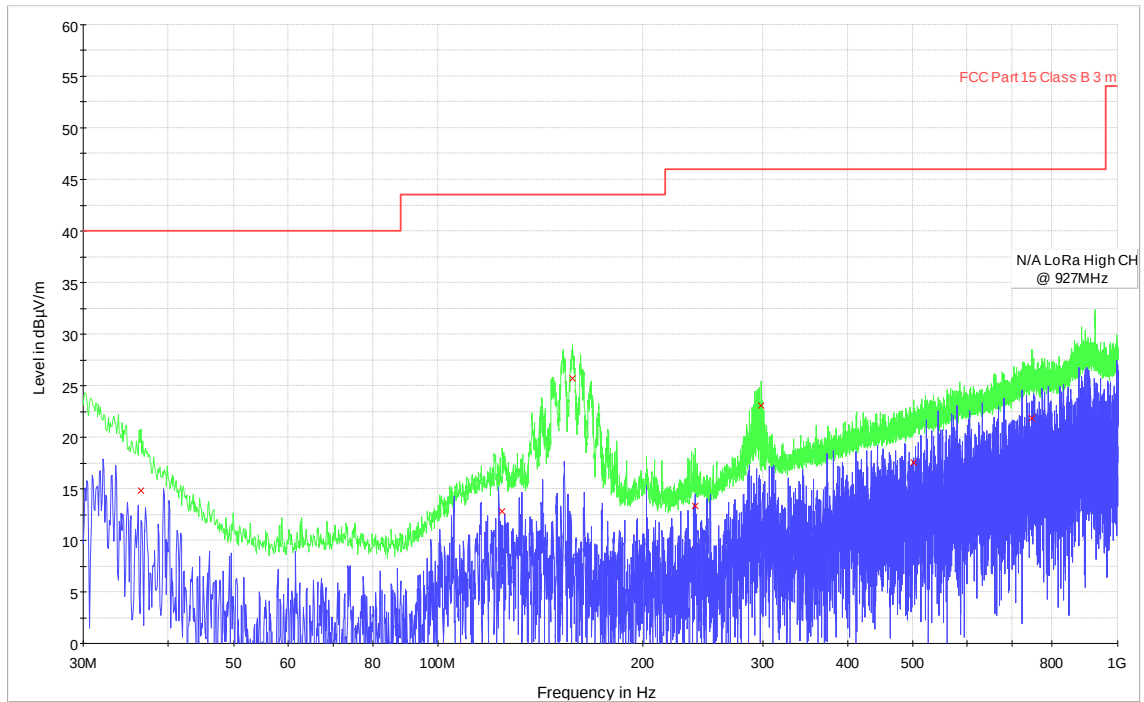


Test report no.: US21UPY0.003 Rev.:03 Part 2

Page 14 of 42
Seite 14 von 42

Prüfbericht-Nr.:

NOTES: LoRa High Channel (927 MHz)
Radiated Emissions 30 – 1000 MHz
Horizontal



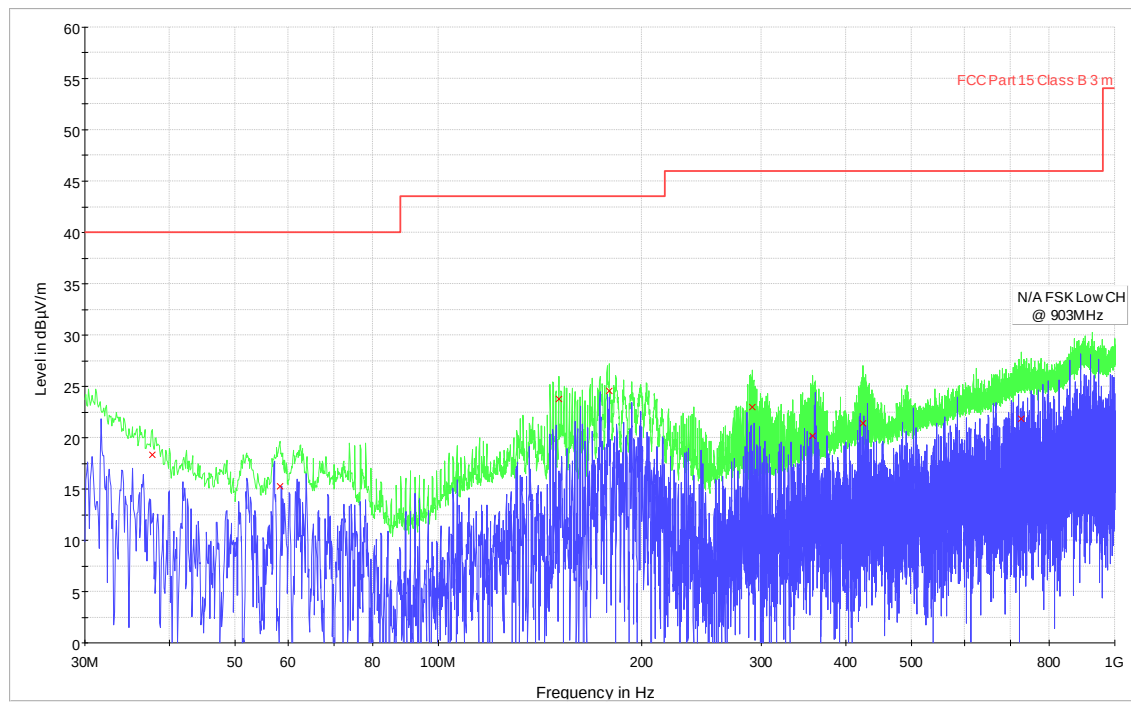
Test report no.: US21UPY0.003 Rev.:03 Part 2

Page 15 of 42
Seite 15 von 42

Prüfbericht-Nr.:

NOTES: FSK Low Channel (903 MHz)

Radiated Emissions 30 – 1000 MHz
Vertical



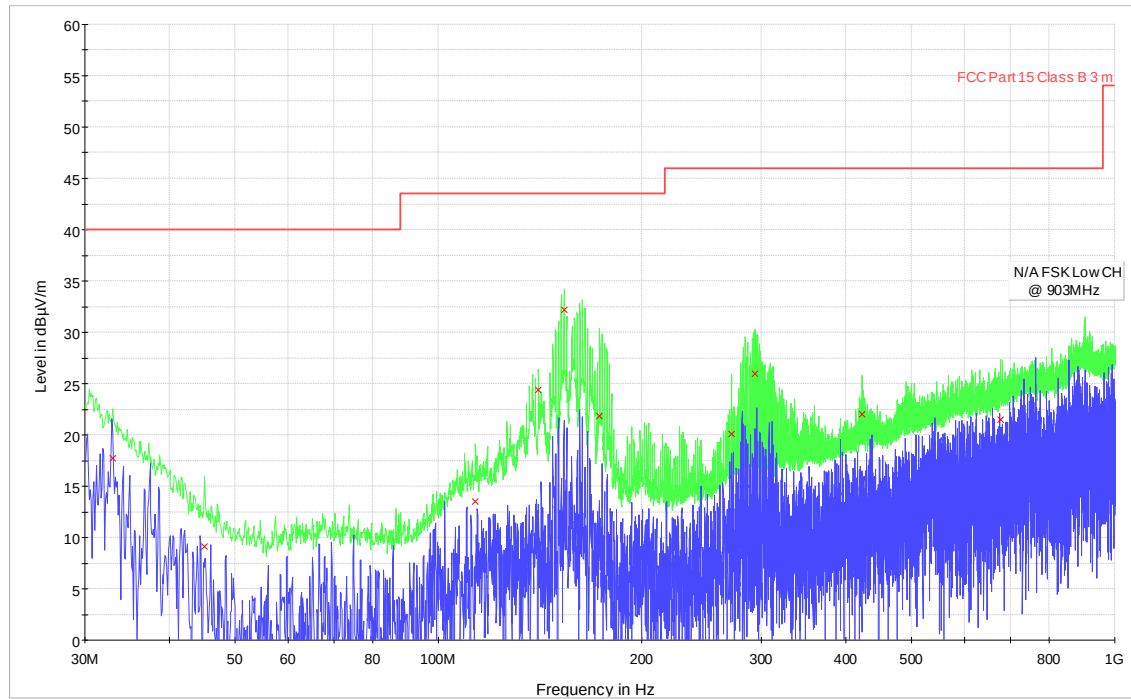
Test report no.: US21UPY0.003 Rev.:03 Part 2

Page 16 of 42
Seite 16 von 42

Prüfbericht-Nr.:

NOTES: FSK Low Channel (903 MHz)

Radiated Emissions 30 – 1000 MHz
Horizontal



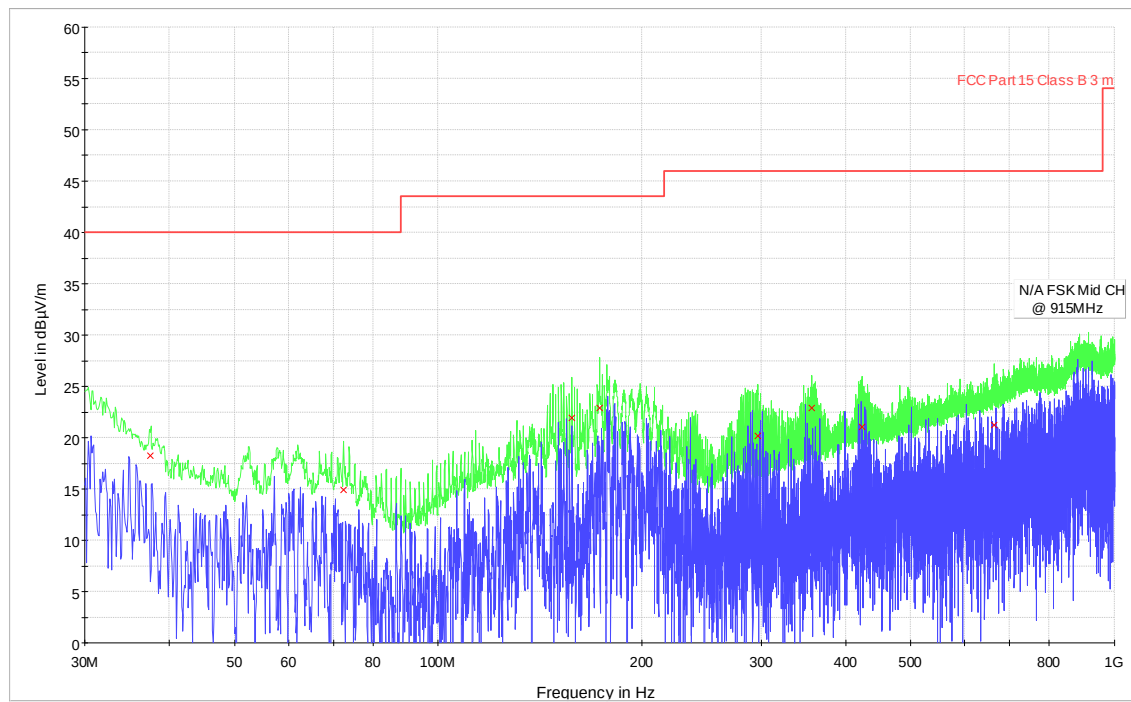
Test report no.: US21UPY0.003 Rev.:03 Part 2

Page 17 of 42
Seite 17 von 42

Prüfbericht-Nr.:

NOTES: FSK Mid Channel (915 MHz)

Radiated Emissions 30 – 1000 MHz
Vertical



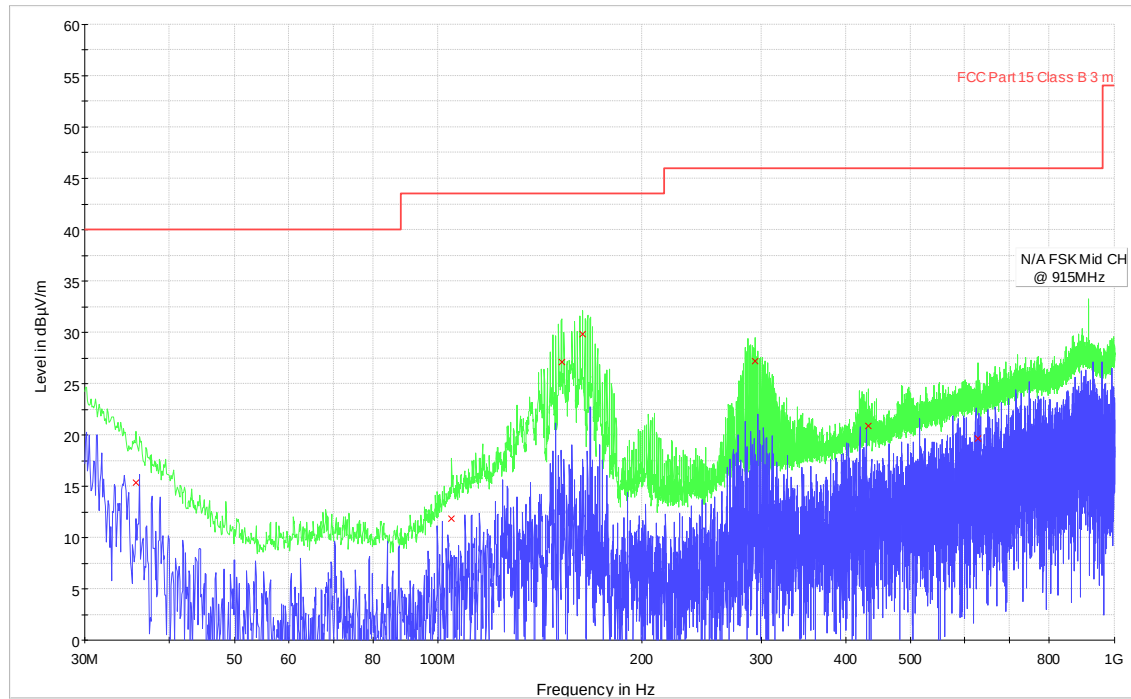
Test report no.: US21UPY0.003 Rev.:03 Part 2

Page 18 of 42
Seite 18 von 42

Prüfbericht-Nr.:

NOTES: FSK Mid Channel (915 MHz)

Radiated Emissions 30 – 1000 MHz
Horizontal



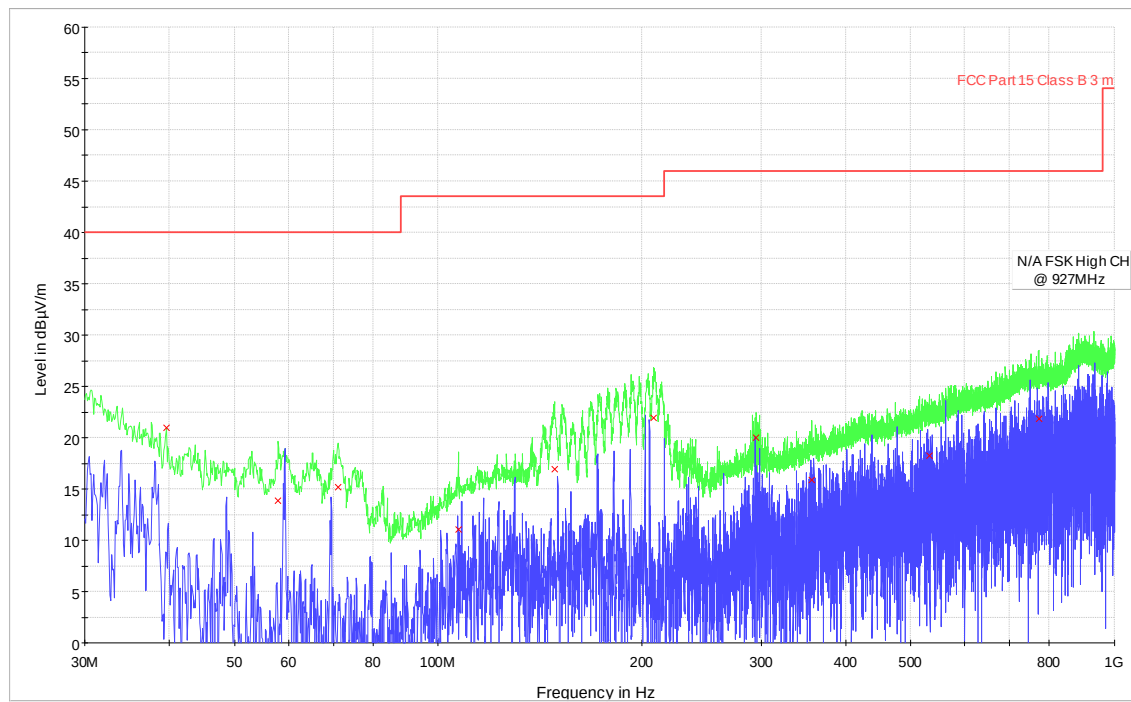
Test report no.: US21UPY0.003 Rev.:03 Part 2

Page 19 of 42
Seite 19 von 42

Prüfbericht-Nr.:

NOTES: FSK High Channel (927 MHz)

Radiated Emissions 30 – 1000 MHz
Vertical



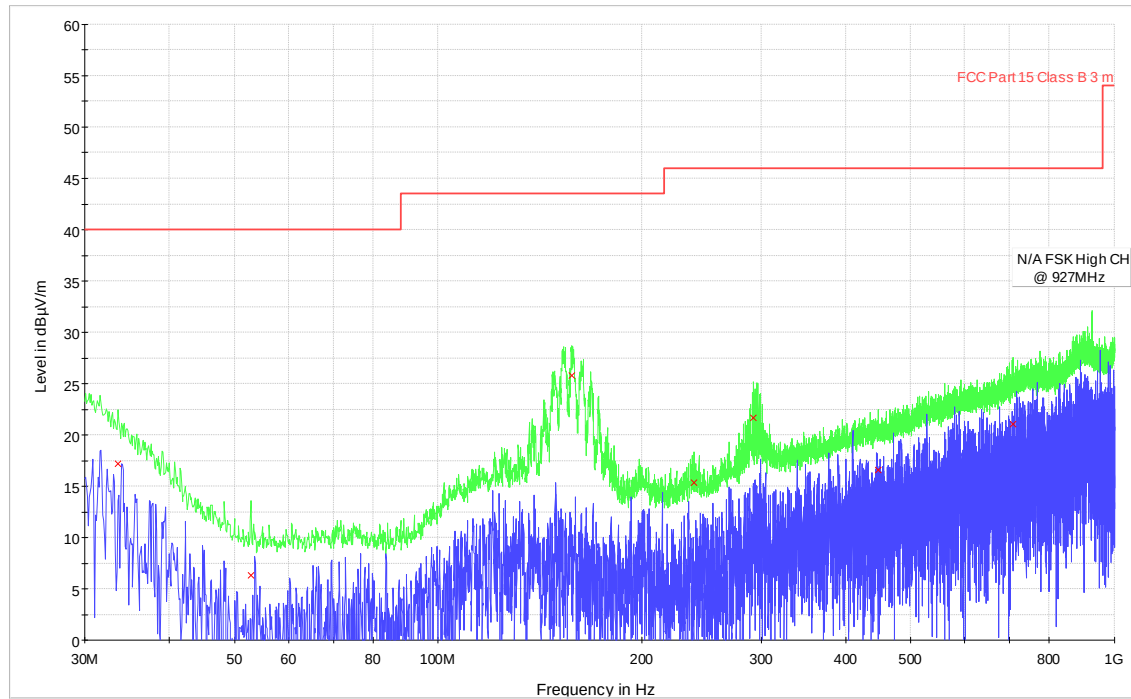
Test report no.: US21UPY0.003 Rev.:03 Part 2

Page 20 of 42
Seite 20 von 42

Prüfbericht-Nr.:

NOTES: FSK High Channel (927 MHz)

Radiated Emissions 30 – 1000 MHz
Horizontal



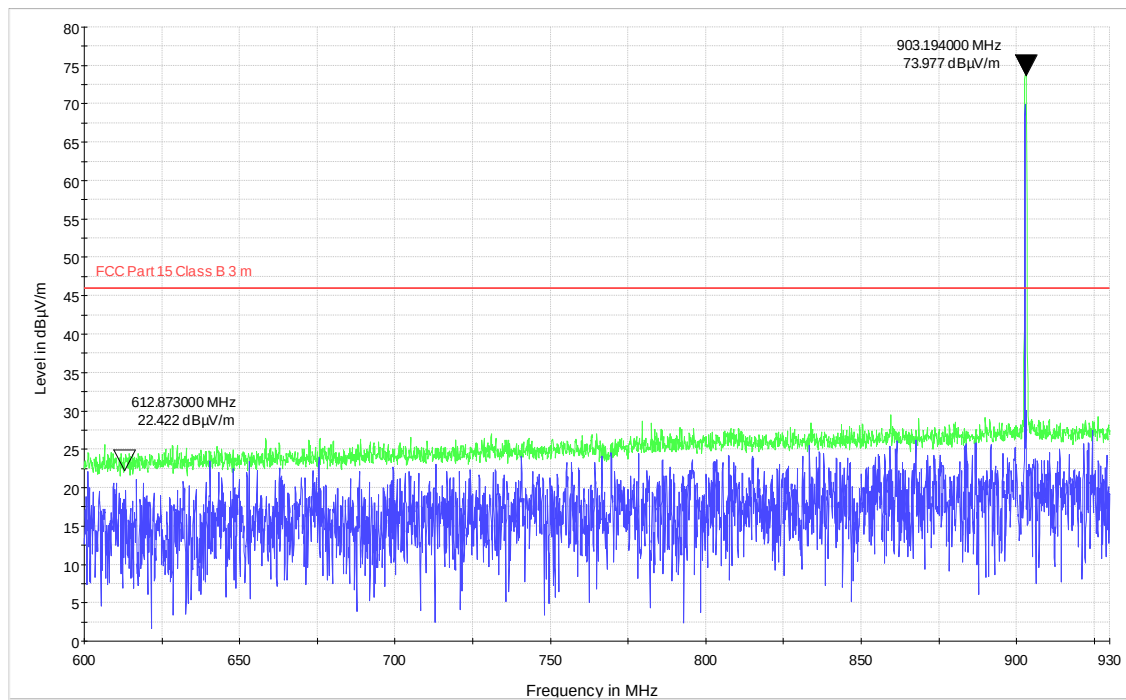
Test report no.: US21UPY0.003 Rev.:03 Part 2

Page 21 of 42
Seite 21 von 42

Prüfbericht-Nr.:

NOTES: LoRa Low Channel (903 MHz)

**Radiated Emissions Band Edge
Worst Case - Horizontal**



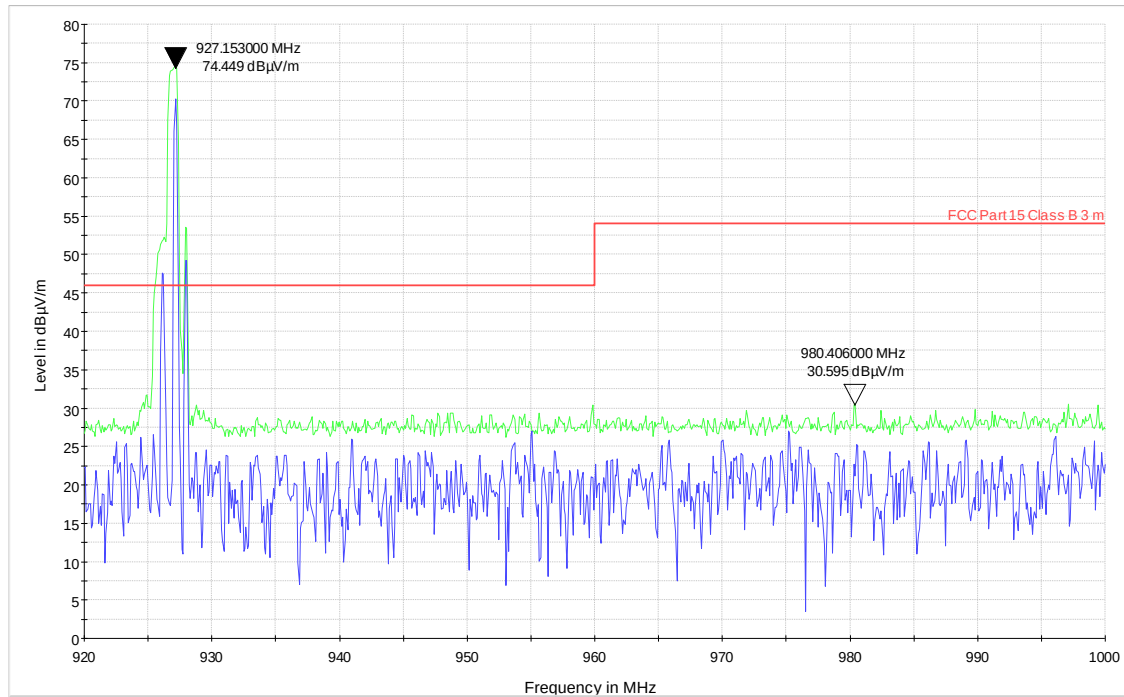
Test report no.: US21UPY0.003 Rev.:03 Part 2

Page 22 of 42
Seite 22 von 42

Prüfbericht-Nr.:

NOTES: LoRa High Channel (927 MHz)

**Radiated Emissions Band Edge
Worst Case - Horizontal**



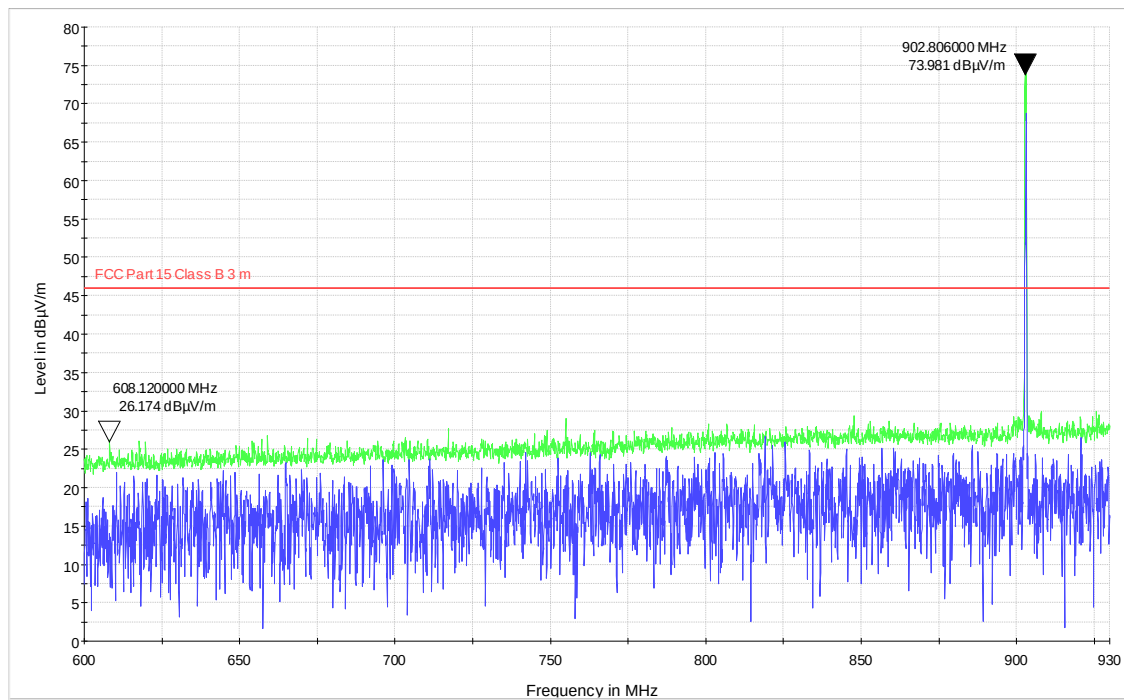
Test report no.: US21UPY0.003 Rev.:03 Part 2

Page 23 of 42
Seite 23 von 42

Prüfbericht-Nr.:

NOTES: FSK Low Channel (903 MHz)

**Radiated Emissions Band Edge
Worst Case - Horizontal**



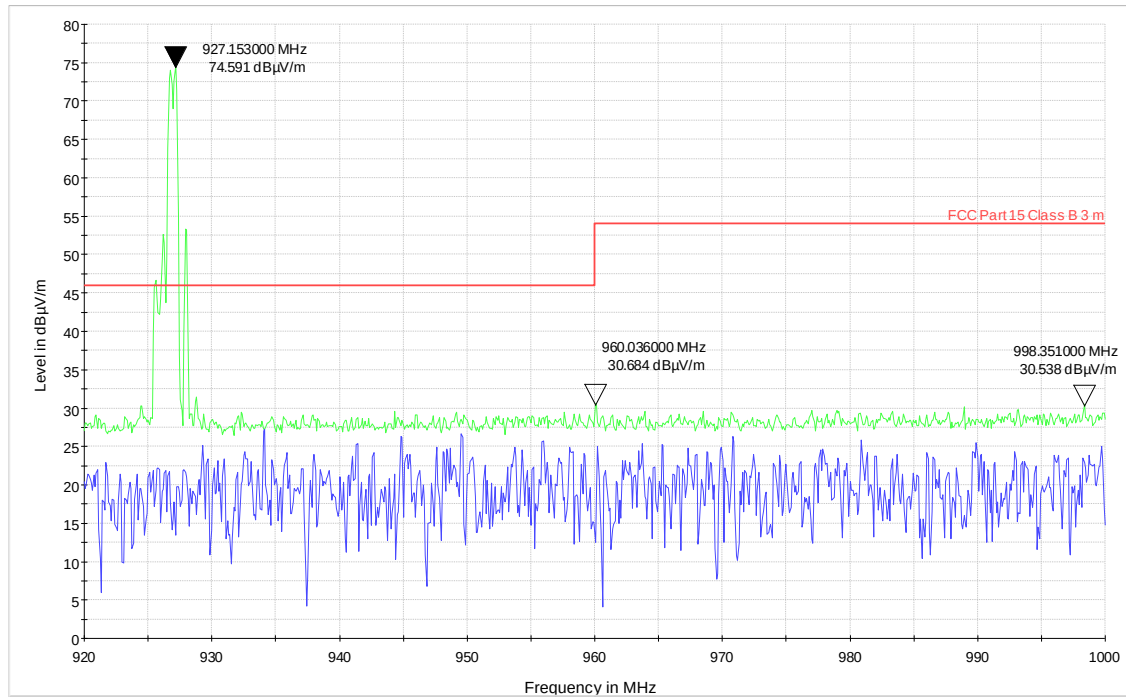
Test report no.: US21UPY0.003 Rev.:03 Part 2

Page 24 of 42
Seite 24 von 42

Prüfbericht-Nr.:

NOTES: FSK High Channel (927 MHz)

**Radiated Emissions Band Edge
Worst Case - Horizontal**



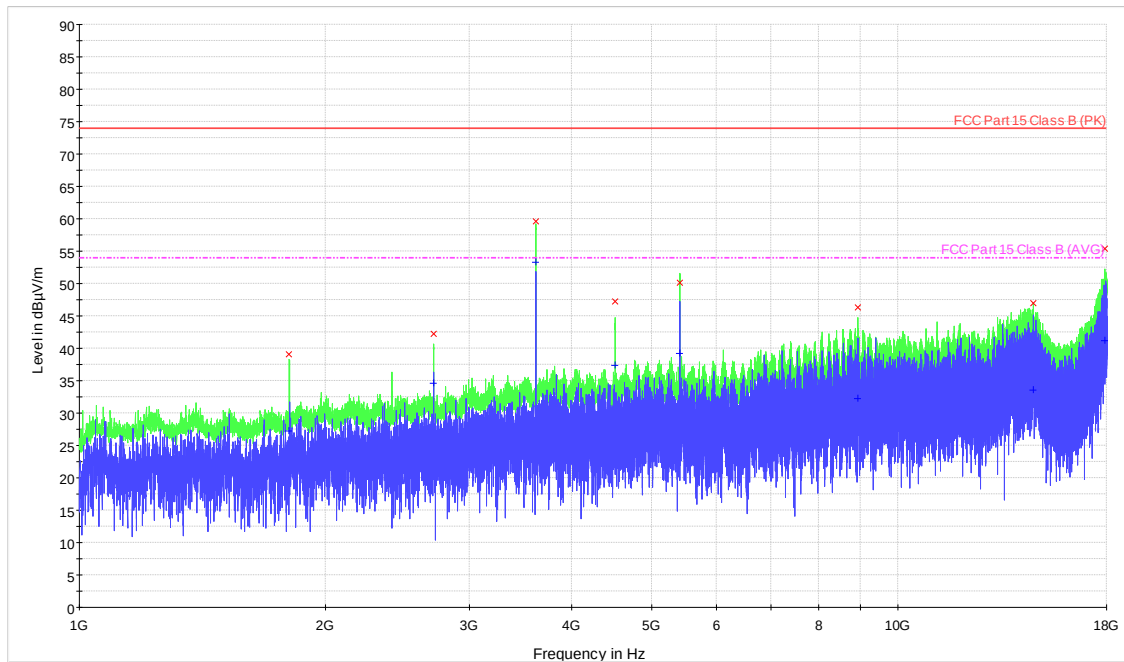
Test report no.: US21UPY0.003 Rev.:03 Part 2

Page 25 of 42
Seite 25 von 42

Prüfbericht-Nr.:

NOTES: LoRa Low Channel (903 MHz)

Radiated Emissions 1 – 18 GHz
Vertical



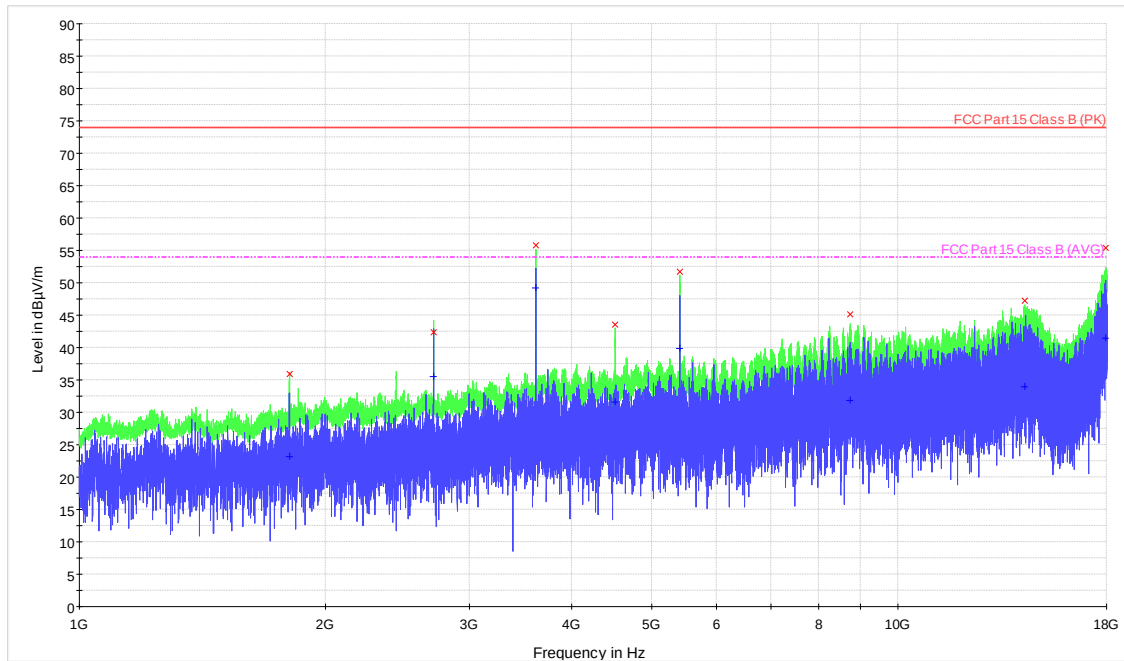
Test report no.: US21UPY0.003 Rev.:03 Part 2

Page 26 of 42
Seite 26 von 42

Prüfbericht-Nr.:

NOTES: LoRa Low Channel (903 MHz)

**Radiated Emissions 1 – 18 GHz
Horizontal**



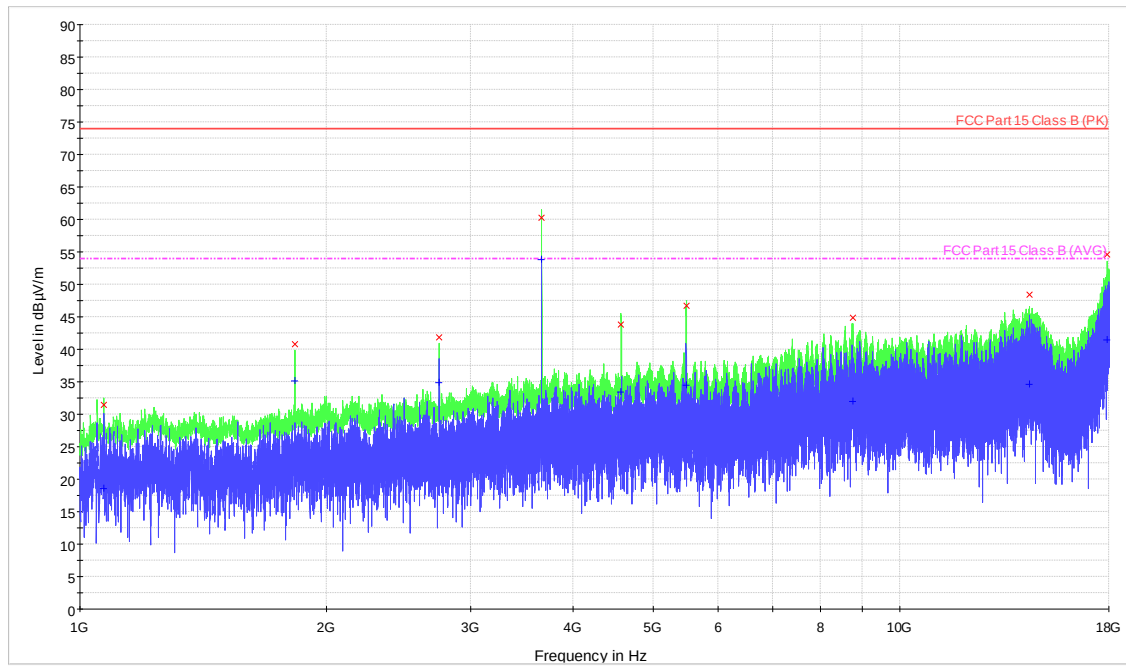
Test report no.: US21UPY0.003 Rev.:03 Part 2

Page 27 of 42
Seite 27 von 42

Prüfbericht-Nr.:

NOTES: LoRa Mid Channel (915 MHz)

Radiated Emissions 1 – 18 GHz
Vertical



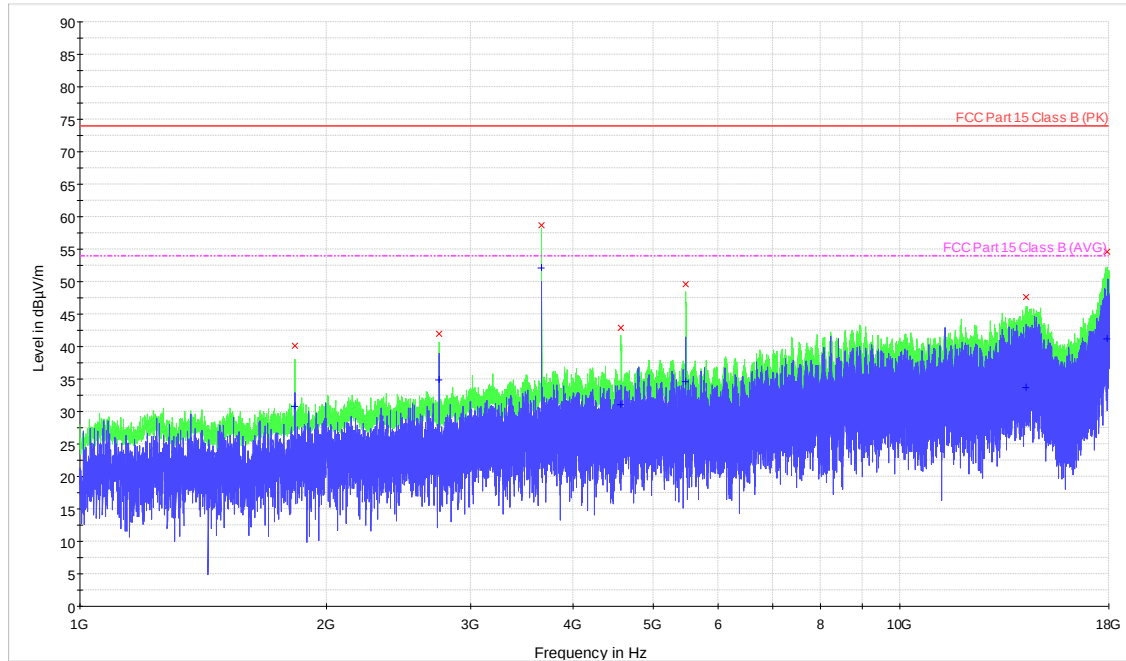
Test report no.: US21UPY0.003 Rev.:03 Part 2

Page 28 of 42
Seite 28 von 42

Prüfbericht-Nr.:

NOTES: LoRa Mid Channel (915 MHz)

**Radiated Emissions 1 – 18 GHz
Horizontal**



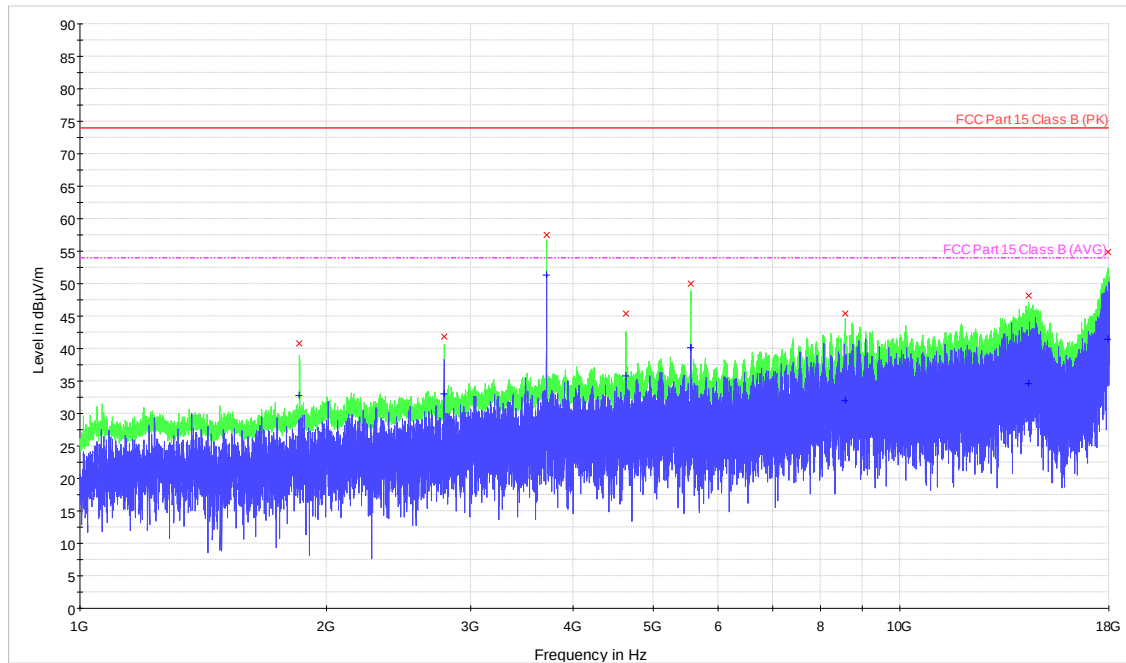
Test report no.: US21UPY0.003 Rev.:03 Part 2

Page 29 of 42
Seite 29 von 42

Prüfbericht-Nr.:

NOTES: LoRa High Channel (927 MHz)

Radiated Emissions 1 – 18 GHz
Vertical



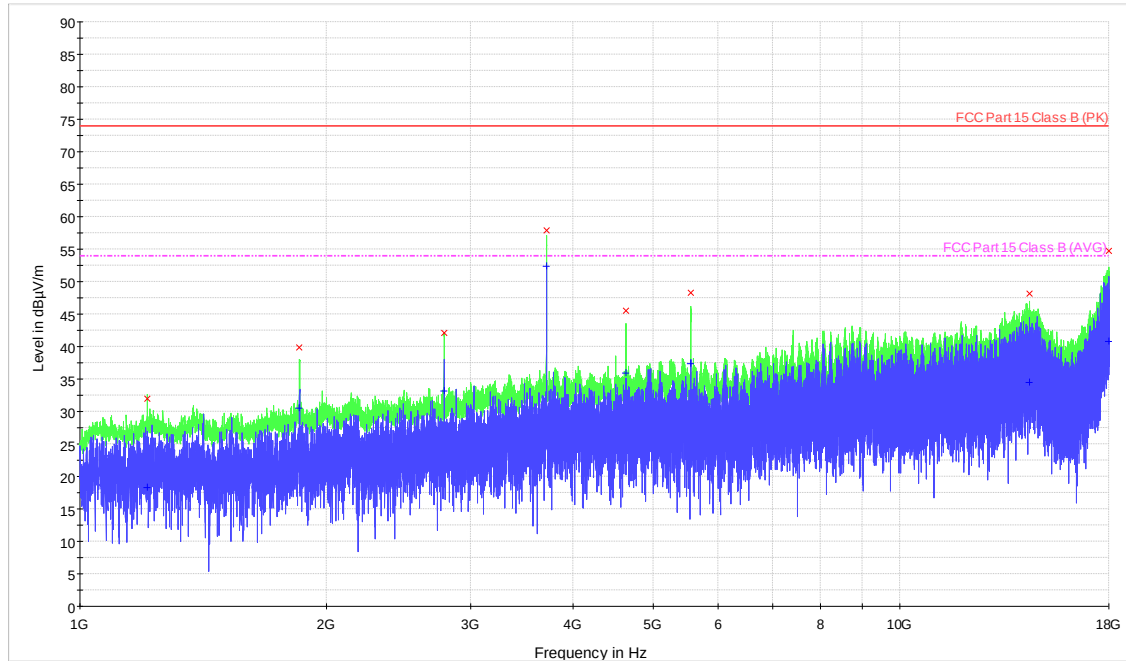
Test report no.: US21UPY0.003 Rev.:03 Part 2

Page 30 of 42
Seite 30 von 42

Prüfbericht-Nr.:

NOTES: LoRa High Channel (927 MHz)

**Radiated Emissions 1 – 18 GHz
Horizontal**



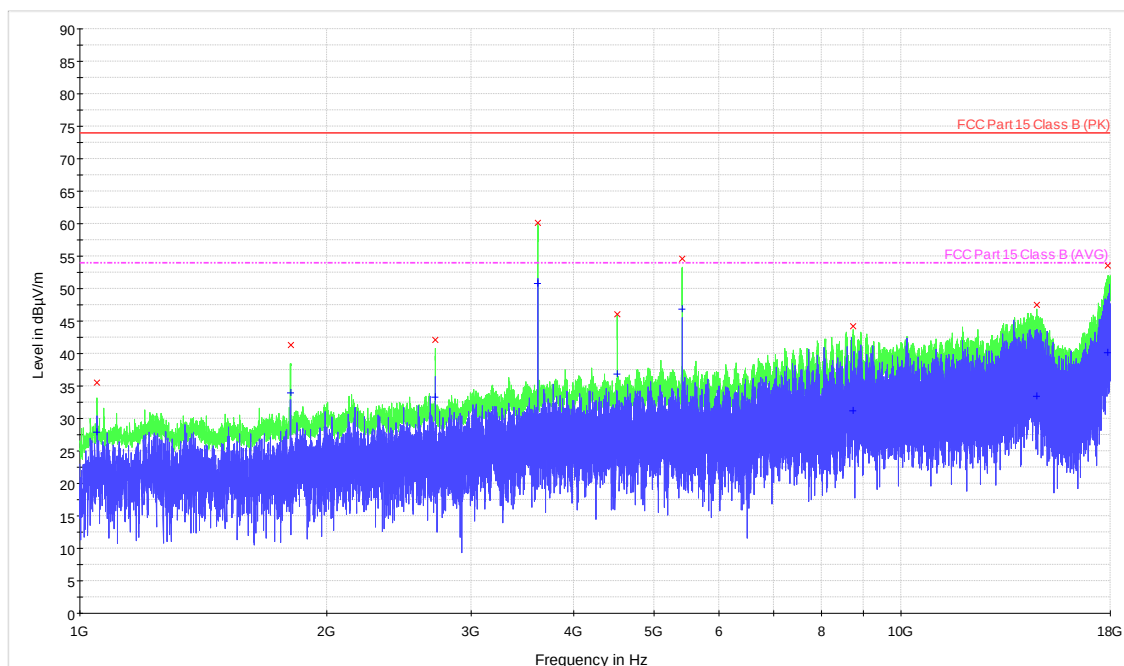
Test report no.: US21UPY0.003 Rev.:03 Part 2

Page 31 of 42
Seite 31 von 42

Prüfbericht-Nr.:

NOTES: FSK Low Channel (903 MHz)

Radiated Emissions 1 – 18 GHz
Vertical



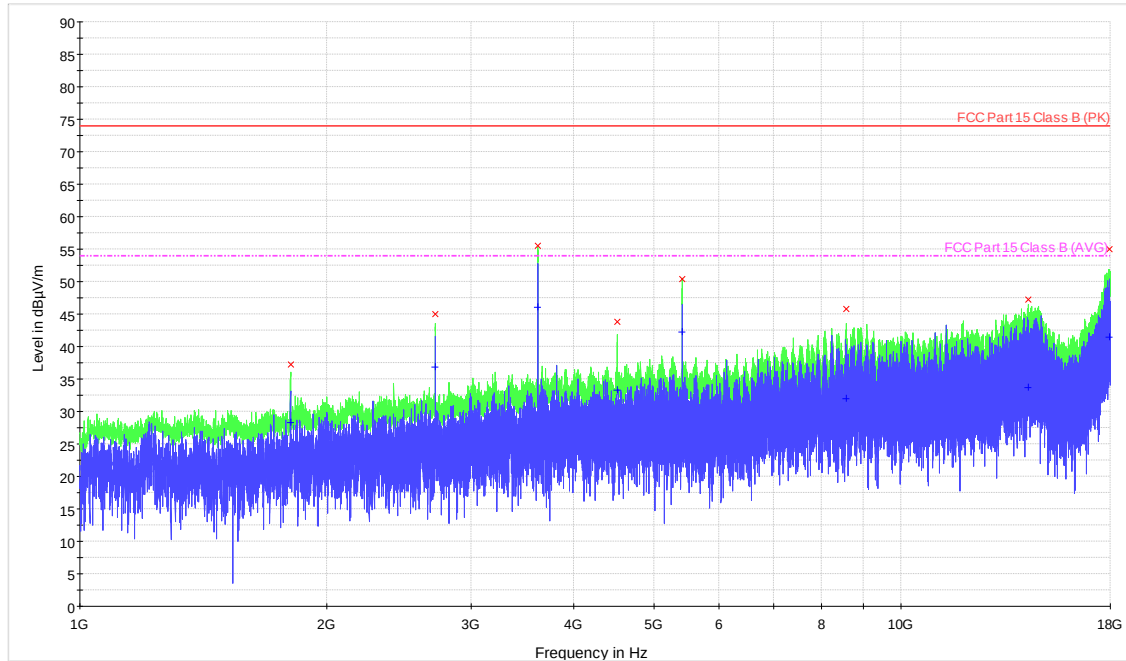
Test report no.: US21UPY0.003 Rev.:03 Part 2

Page 32 of 42
Seite 32 von 42

Prüfbericht-Nr.:

NOTES: FSK Low Channel (903 MHz)

**Radiated Emissions 1 – 18 GHz
Horizontal**



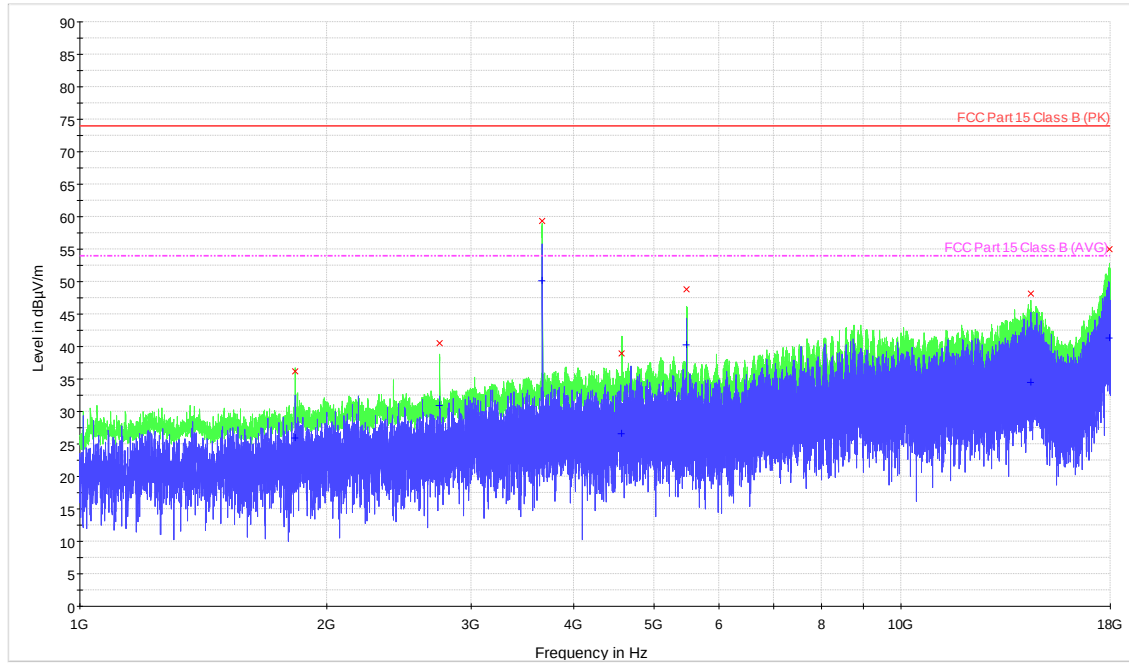
Test report no.: US21UPY0.003 Rev.:03 Part 2

Page 33 of 42
Seite 33 von 42

Prüfbericht-Nr.:

NOTES: FSK Mid Channel (915 MHz)

**Radiated Emissions 1 – 18 GHz
Vertical**



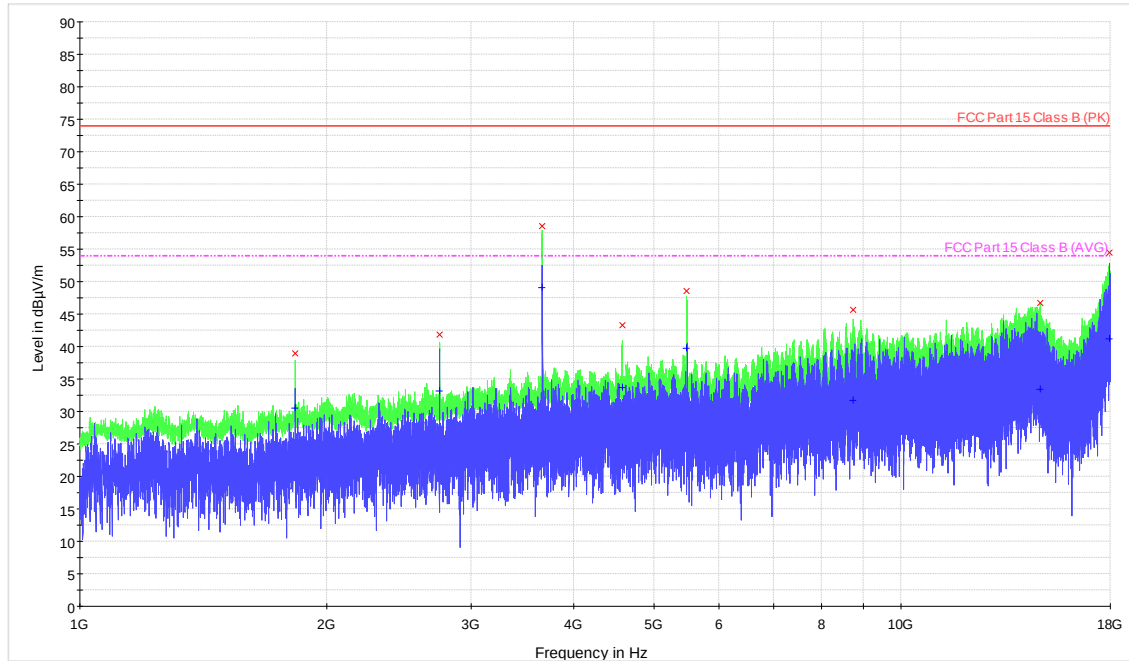
Test report no.: US21UPY0.003 Rev.:03 Part 2

Page 34 of 42
Seite 34 von 42

Prüfbericht-Nr.:

NOTES: FSK Mid Channel (915 MHz)

**Radiated Emissions 1 – 18 GHz
Horizontal**



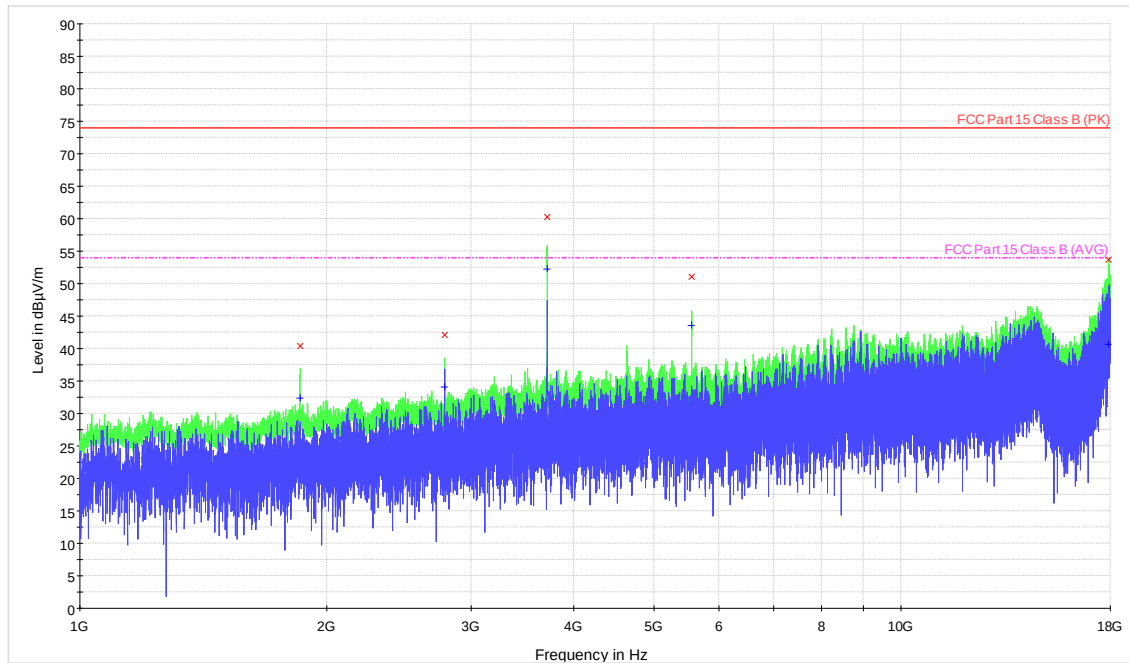
Test report no.: US21UPY0.003 Rev.:03 Part 2

Page 35 of 42
Seite 35 von 42

Prüfbericht-Nr.:

NOTES: FSK High Channel (927 MHz)

**Radiated Emissions 1 – 18 GHz
Vertical**



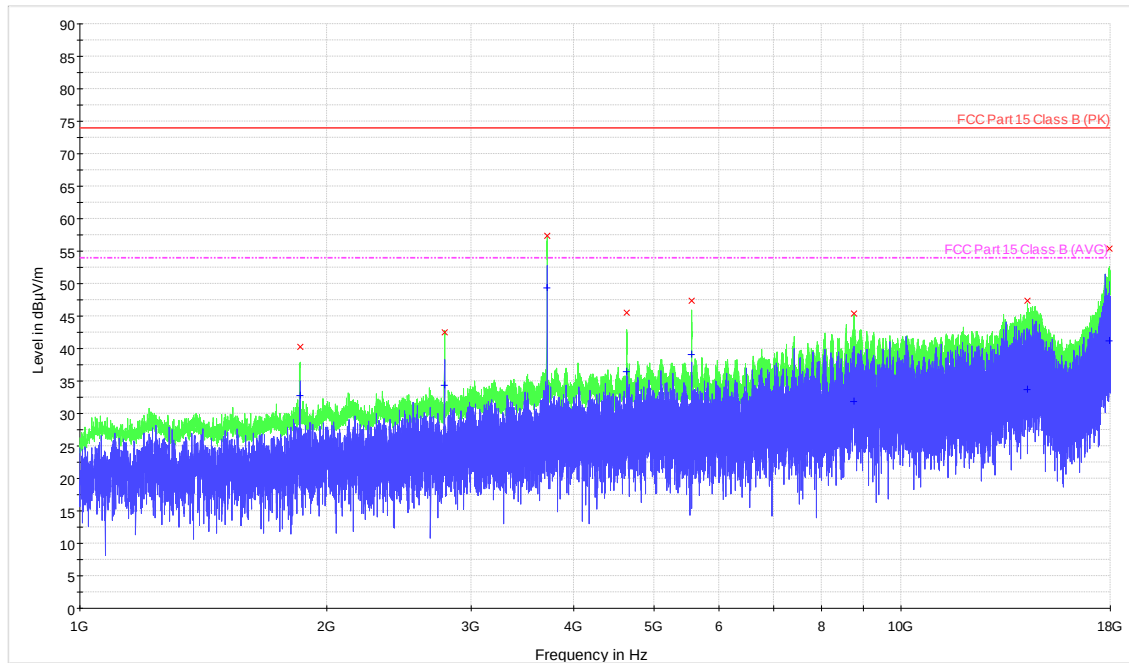
Test report no.: US21UPY0.003 Rev.:03 Part 2

Page 36 of 42
Seite 36 von 42

Prüfbericht-Nr.:

NOTES: FSK High Channel (927 MHz)

**Radiated Emissions 1 – 18 GHz
Horizontal**



Test report no.: US21UPY0.003 Rev.:03 Part 2

Page 37 of 42
Seite 37 von 42

Prüfbericht-Nr.:

1.4.6 Final Tabulated Data

30-1000 MHz (LoRa Low Channel 903 MHz) –

Frequency MHz	QuasiPeak dBμV/m	Height cm	Pol	Azimuth deg	Limit - QPK dBμV/m	Margin - QPK dB
31.16	22.3	100.0	V	191.0	40.0	-17.7
31.56	19.0	150.0	H	242.0	40.0	-21.0
45.72	8.8	150.0	H	335.0	40.0	-31.2
59.60	17.2	100.0	V	42.0	40.0	-22.8
73.76	17.2	100.0	V	154.0	40.0	-22.8
139.12	22.3	150.0	H	98.0	43.5	-21.2
151.72	16.7	100.0	V	244.0	43.5	-26.8
153.28	27.9	150.0	H	141.0	43.5	-15.6
158.92	31.7	150.0	H	72.0	43.5	-11.8
174.64	27.4	150.0	H	347.0	43.5	-16.1
178.72	19.2	100.0	V	2.0	43.5	-24.3
295.20	29.0	150.0	H	264.0	46.0	-17.0
296.64	17.9	100.0	V	238.0	46.0	-28.1
363.20	21.4	100.0	V	57.0	46.0	-24.6
422.84	18.8	100.0	V	116.0	46.0	-27.2
424.48	19.4	150.0	H	260.0	46.0	-26.6
484.04	21.8	150.0	H	85.0	46.0	-24.2
675.04	20.3	100.0	V	141.0	46.0	-25.7
734.04	21.7	150.0	H	80.0	46.0	-24.3
927.64	23.8	100.0	V	293.0	46.0	-22.2

30-1000 MHz (LoRa Mid Channel 915 MHz) –

Frequency MHz	QuasiPeak dBμV/m	Height cm	Pol	Azimuth deg	Limit - QPK dBμV/m	Margin - QPK dB
39.40	12.9	150.0	H	316.0	40.0	-27.1
58.24	15.6	100.0	V	77.0	40.0	-24.4
58.24	15.6	100.0	V	2.0	40.0	-24.4
73.84	8.4	150.0	H	14.0	40.0	-31.6
152.04	18.5	100.0	V	355.0	43.5	-25.0
161.92	25.6	150.0	H	330.0	43.5	-17.9
177.52	17.5	100.0	V	143.0	43.5	-26.0
204.60	18.3	150.0	H	31.0	43.5	-25.2
238.64	14.1	100.0	V	29.0	46.0	-31.9
292.76	27.1	150.0	H	226.0	46.0	-18.9
295.48	17.2	100.0	V	220.0	46.0	-28.8
352.32	14.9	100.0	V	125.0	46.0	-31.1
424.68	20.1	100.0	V	221.0	46.0	-25.9
427.80	20.5	150.0	H	164.0	46.0	-25.5
728.40	21.6	150.0	H	184.0	46.0	-24.4
746.04	21.7	100.0	V	41.0	46.0	-24.3

Test report no.: US21UPY0.003 Rev.:03 Part 2

Page 38 of 42
Seite 38 von 42

Prüfbericht-Nr.:

30-1000 MHz (LoRa High Channel 927 MHz) –

Frequency	QuasiPeak	Height	Pol	Azimuth	Limit - QPK	Margin - QPK
MHz	dBµV/m	cm		deg	dBµV/m	dB
33.48	22.2	100.0	V	9.0	40.0	-17.8
36.48	14.8	150.0	H	178.0	40.0	-25.2
70.16	15.0	100.0	V	200.0	40.0	-25.0
124.20	12.8	150.0	H	301.0	43.5	-30.7
157.44	25.7	150.0	H	82.0	43.5	-17.8
185.20	16.8	100.0	V	11.0	43.5	-26.7
205.96	20.0	100.0	V	116.0	43.5	-23.5
238.56	13.3	150.0	H	355.0	46.0	-32.7
298.12	17.0	100.0	V	107.0	46.0	-29.0
298.32	23.0	150.0	H	266.0	46.0	-23.0
353.40	14.5	100.0	V	153.0	46.0	-31.5
421.48	16.5	100.0	V	307.0	46.0	-29.5
493.96	17.4	100.0	V	181.0	46.0	-28.6
501.12	17.5	150.0	H	217.0	46.0	-28.5
747.32	21.8	150.0	H	85.0	46.0	-24.2

30-1000 MHz (FSK Low Channel 903 MHz) –

Frequency	QuasiPeak	Height	Pol	Azimuth	Limit - QPK	Margin - QPK
MHz	dBµV/m	cm		deg	dBµV/m	dB
33.00	17.7	150.0	H	272.0	40.0	-22.3
37.76	18.4	100.0	V	37.0	40.0	-21.6
45.04	9.1	150.0	H	55.0	40.0	-30.9
58.24	15.2	100.0	V	201.0	40.0	-24.8
113.40	13.5	150.0	H	2.0	43.5	-30.0
140.56	24.4	150.0	H	149.0	43.5	-19.1
150.56	23.8	100.0	V	91.0	43.5	-19.7
153.28	32.2	150.0	H	211.0	43.5	-11.3
173.08	21.8	150.0	H	313.0	43.5	-21.7
179.00	24.6	100.0	V	327.0	43.5	-18.9
271.16	20.1	150.0	H	244.0	46.0	-25.9
291.24	23.0	100.0	V	-2.0	46.0	-23.0
293.84	26.0	150.0	H	57.0	46.0	-20.0
357.76	20.2	100.0	V	198.0	46.0	-25.8
423.04	22.0	150.0	H	68.0	46.0	-24.0
424.48	21.4	100.0	V	260.0	46.0	-24.6
678.64	21.5	150.0	H	143.0	46.0	-24.5
727.52	21.9	100.0	V	136.0	46.0	-24.1

Test report no.: US21UPY0.003 Rev.:03 Part 2

Page 39 of 42
Seite 39 von 42

Prüfbericht-Nr.:

30-1000 MHz (FSK Mid Channel 915 MHz) –

Frequency	QuasiPeak	Height	Pol	Azimuth	Limit - QPK	Margin - QPK
MHz	dBµV/m	cm		deg	dBµV/m	dB
35.72	15.4	150.0	H	237.0	40.0	-24.6
37.56	18.3	100.0	V	54.0	40.0	-21.7
72.40	14.9	100.0	V	354.0	40.0	-25.1
104.68	11.8	150.0	H	-2.0	43.5	-31.7
152.12	27.1	150.0	H	315.0	43.5	-16.4
157.64	22.0	100.0	V	164.0	43.5	-21.5
163.36	29.9	150.0	H	9.0	43.5	-13.6
173.28	22.9	100.0	V	174.0	43.5	-20.6
294.24	27.2	150.0	H	166.0	46.0	-18.8
296.76	20.2	100.0	V	-2.0	46.0	-25.8
356.52	22.9	100.0	V	351.0	46.0	-23.1
423.44	21.0	100.0	V	161.0	46.0	-25.0
431.96	20.9	150.0	H	167.0	46.0	-25.1
627.32	19.6	150.0	H	108.0	46.0	-26.4
663.20	21.2	100.0	V	266.0	46.0	-24.8

30-1000 MHz (FSK High Channel 927 MHz) –

Frequency	QuasiPeak	Height	Pol	Azimuth	Limit - QPK	Margin - QPK
MHz	dBµV/m	cm		deg	dBµV/m	dB
33.60	17.2	150.0	H	257.0	40.0	-22.8
39.60	20.9	100.0	V	139.0	40.0	-19.1
52.88	6.3	150.0	H	160.0	40.0	-33.7
57.92	13.9	100.0	V	182.0	40.0	-26.1
71.04	15.2	100.0	V	2.0	40.0	-24.8
107.12	11.0	100.0	V	113.0	43.5	-32.5
148.52	16.9	100.0	V	187.0	43.5	-26.6
157.44	25.8	150.0	H	309.0	43.5	-17.7
208.28	21.9	100.0	V	22.0	43.5	-21.6
238.64	15.4	150.0	H	109.0	46.0	-30.6
292.68	21.7	150.0	H	351.0	46.0	-24.3
295.40	20.0	100.0	V	110.0	46.0	-26.0
356.40	15.9	100.0	V	239.0	46.0	-30.1
447.60	16.6	150.0	H	40.0	46.0	-29.4
531.80	18.3	100.0	V	38.0	46.0	-27.7
707.64	21.1	150.0	H	241.0	46.0	-24.9
772.24	21.8	100.0	V	241.0	46.0	-24.2

Test report no.: US21UPY0.003 Rev.:03 Part 2

Page 40 of 42
Seite 40 von 42

Prüfbericht-Nr.:

1-18GHz (LoRa Low Channel 903 MHz) –

Frequency MHz	MaxPeak dBµV/m	CAverage dBµV/m	Height cm	Pol	Azimuth deg	Limit - PK dBµV/m	Margin - PK dB	Limit - AVG dBµV/m	Margin - AVG dB
1805.10	39.0	27.2	250.0	V	298.0	74.0	-35.0	54.0	-26.8
1806.50	35.9	23.2	350.0	H	75.0	74.0	-38.1	54.0	-30.8
2708.50	42.3	34.7	250.0	V	228.0	74.0	-31.7	54.0	-19.3
2708.80	42.4	35.5	350.0	H	294.0	74.0	-31.6	54.0	-18.5
3612.00	59.6	53.2	250.0	V	57.0	74.0	-14.4	54.0	-0.8
3612.00	55.7	49.2	350.0	H	40.0	74.0	-18.3	54.0	-4.8
4514.60	47.2	37.4	250.0	V	16.0	74.0	-26.8	54.0	-16.6
4515.60	43.5	31.6	350.0	H	150.0	74.0	-30.5	54.0	-22.4
5416.30	51.8	39.8	350.0	H	158.0	74.0	-22.2	54.0	-14.2
5416.60	50.1	39.2	250.0	V	167.0	74.0	-23.9	54.0	-14.8
8754.40	45.1	31.8	350.0	H	18.0	74.0	-28.9	54.0	-22.2
8939.00	46.3	32.3	250.0	V	87.0	74.0	-27.7	54.0	-21.7
14293.70	47.3	34.0	350.0	H	356.0	74.0	-26.7	54.0	-20.0
14656.10	47.0	33.5	250.0	V	168.0	74.0	-27.0	54.0	-20.5
17928.90	55.4	41.2	250.0	V	353.0	74.0	-18.6	54.0	-12.8
17937.80	55.4	41.5	350.0	H	278.0	74.0	-18.6	54.0	-12.5

1-18GHz (LoRa Mid Channel 915 MHz) –

Frequency MHz	MaxPeak dBµV/m	CAverage dBµV/m	Height cm	Pol	Azimuth deg	Limit - PK dBµV/m	Margin - PK dB	Limit - AVG dBµV/m	Margin - AVG dB
1069.70	31.5	18.6	210.0	V	263.0	74.0	-42.5	54.0	-35.4
1829.30	40.2	30.8	350.0	H	131.0	74.0	-33.8	54.0	-23.2
1829.90	40.8	35.2	210.0	V	132.0	74.0	-33.2	54.0	-18.8
2744.50	41.8	34.9	210.0	V	31.0	74.0	-32.2	54.0	-19.1
2744.90	42.0	34.8	350.0	H	334.0	74.0	-32.0	54.0	-19.2
3660.00	60.3	53.8	210.0	V	281.0	74.0	-13.7	54.0	-0.2
3660.00	58.7	52.1	350.0	H	183.0	74.0	-15.3	54.0	-1.9
4573.70	42.9	31.1	350.0	H	17.0	74.0	-31.1	54.0	-22.9
4574.40	43.8	33.4	210.0	V	191.0	74.0	-30.2	54.0	-20.6
5488.00	49.6	34.6	350.0	H	89.0	74.0	-24.4	54.0	-19.4
5490.70	46.7	34.5	210.0	V	136.0	74.0	-27.3	54.0	-19.5
8763.60	44.9	32.0	210.0	V	315.0	74.0	-29.1	54.0	-22.0
14278.40	47.7	33.7	350.0	H	314.0	74.0	-26.3	54.0	-20.3
14394.30	48.4	34.7	210.0	V	335.0	74.0	-25.6	54.0	-19.3
17926.90	54.6	41.1	350.0	H	204.0	74.0	-19.4	54.0	-12.9
17935.10	54.6	41.5	210.0	V	202.0	74.0	-19.4	54.0	-12.5

Test report no.: US21UPY0.003 Rev.:03 Part 2

Page 41 of 42
Seite 41 von 42

Prüfbericht-Nr.:

1-18GHz (LoRa High Channel 927 MHz) –

Frequency MHz	MaxPeak dBμV/m	CAverage dBμV/m	Height cm	Pol	Azimuth deg	Limit - PK dBμV/m	Margin - PK dB	Limit - AVG dBμV/m	Margin - AVG dB
1209.10	32.0	18.3	350.0	H	300.0	74.0	-42.0	54.0	-35.7
1853.40	40.8	32.8	230.0	V	229.0	74.0	-33.2	54.0	-21.2
1853.40	39.8	30.6	350.0	H	41.0	74.0	-34.2	54.0	-23.4
2781.30	41.9	33.0	230.0	V	246.0	74.0	-32.1	54.0	-21.0
2781.30	42.1	33.1	350.0	H	93.0	74.0	-31.9	54.0	-20.9
3707.40	58.0	52.4	350.0	H	175.0	74.0	-16.0	54.0	-1.6
3708.00	57.6	51.3	230.0	V	261.0	74.0	-16.4	54.0	-2.7
4634.30	45.6	36.0	350.0	H	229.0	74.0	-28.4	54.0	-18.0
4634.60	45.4	35.8	230.0	V	349.0	74.0	-28.6	54.0	-18.2
5560.40	48.3	37.4	350.0	H	44.0	74.0	-25.7	54.0	-16.6
5562.50	50.1	40.2	230.0	V	76.0	74.0	-23.9	54.0	-13.8
8582.00	45.4	31.9	230.0	V	211.0	74.0	-28.6	54.0	-22.1
14382.10	48.2	34.6	230.0	V	79.0	74.0	-25.8	54.0	-19.4
14396.00	48.2	34.4	350.0	H	135.0	74.0	-25.8	54.0	-19.6
17940.50	54.9	41.4	230.0	V	103.0	74.0	-19.1	54.0	-12.6
17984.40	54.7	40.8	350.0	H	267.0	74.0	-19.3	54.0	-13.2

1-18GHz (FSK Low Channel 903 MHz) –

Frequency MHz	MaxPeak dBμV/m	CAverage dBμV/m	Height cm	Pol	Azimuth deg	Limit - PK dBμV/m	Margin - PK dB	Limit - AVG dBμV/m	Margin - AVG dB
1050.00	35.5	27.9	330.0	V	292.0	74.0	-38.5	54.0	-26.1
1805.50	41.3	33.9	330.0	V	205.0	74.0	-32.7	54.0	-20.1
1805.80	37.3	28.3	350.0	H	10.0	74.0	-36.7	54.0	-25.7
2708.20	42.1	33.3	330.0	V	70.0	74.0	-31.9	54.0	-20.7
2708.20	45.0	36.8	350.0	H	351.0	74.0	-29.0	54.0	-17.2
3612.00	60.1	50.8	330.0	V	58.0	74.0	-13.9	54.0	-3.2
3612.00	55.6	46.0	350.0	H	86.0	74.0	-18.4	54.0	-8.0
4513.90	46.1	36.9	330.0	V	159.0	74.0	-27.9	54.0	-17.1
4515.30	43.8	33.3	350.0	H	106.0	74.0	-30.2	54.0	-20.7
5416.30	54.6	46.8	330.0	V	286.0	74.0	-19.4	54.0	-7.2
5416.30	50.4	42.3	350.0	H	143.0	74.0	-23.6	54.0	-11.7
8583.70	45.8	32.0	350.0	H	174.0	74.0	-28.2	54.0	-22.0
8749.30	44.2	31.2	330.0	V	306.0	74.0	-29.8	54.0	-22.8
14294.70	47.3	33.7	350.0	H	212.0	74.0	-26.7	54.0	-20.3
14642.20	47.4	33.5	330.0	V	186.0	74.0	-26.6	54.0	-20.5
17865.00	53.5	40.1	330.0	V	343.0	74.0	-20.5	54.0	-13.9
17961.20	55.0	41.4	350.0	H	95.0	74.0	-19.0	54.0	-12.6

Test report no.: US21UPY0.003 Rev.:03 Part 2

Page 42 of 42
Seite 42 von 42

Prüfbericht-Nr.:

1-18GHz (FSK Mid Channel 915 MHz) –

Frequency	MaxPeak	CAverage	Height	Pol	Azimuth	Limit - PK	Margin - PK	Limit - AVG	Margin - AVG
MHz	dBµV/m	dBµV/m	cm		deg	dBµV/m	dB	dBµV/m	dB
1829.30	36.3	25.9	220.0	V	170.0	74.0	-37.7	54.0	-28.1
1829.60	38.9	30.5	350.0	H	15.0	74.0	-35.1	54.0	-23.5
2744.20	41.9	33.1	350.0	H	225.0	74.0	-32.1	54.0	-20.9
2745.60	40.5	30.9	220.0	V	257.0	74.0	-33.5	54.0	-23.1
3660.00	59.4	50.1	220.0	V	73.0	74.0	-14.6	54.0	-3.9
3660.00	58.5	49.1	350.0	H	349.0	74.0	-15.5	54.0	-4.9
4573.70	39.0	26.5	220.0	V	314.0	74.0	-35.0	54.0	-27.5
4575.40	43.3	33.7	350.0	H	327.0	74.0	-30.7	54.0	-20.3
5488.30	48.9	40.2	220.0	V	97.0	74.0	-25.1	54.0	-13.8
5488.30	48.5	39.8	350.0	H	194.0	74.0	-25.5	54.0	-14.2
8756.40	45.6	31.7	350.0	H	134.0	74.0	-28.4	54.0	-22.3
14414.70	48.2	34.5	220.0	V	112.0	74.0	-25.8	54.0	-19.5
14792.10	46.7	33.4	350.0	H	241.0	74.0	-27.3	54.0	-20.6
17955.50	54.9	41.4	220.0	V	245.0	74.0	-19.1	54.0	-12.6
17961.90	54.5	41.3	350.0	H	89.0	74.0	-19.5	54.0	-12.7

1-18GHz (FSK High Channel 927 MHz) –

Frequency	MaxPeak	CAverage	Height	Pol	Azimuth	Limit - PK	Margin - PK	Limit - AVG	Margin - AVG
MHz	dBµV/m	dBµV/m	cm		deg	dBµV/m	dB	dBµV/m	dB
1854.10	40.5	32.3	325.0	V	26.0	74.0	-33.5	54.0	-21.7
1854.10	40.2	32.7	350.0	H	347.0	74.0	-33.8	54.0	-21.3
2780.20	42.1	34.0	270.0	V	158.0	74.0	-31.9	54.0	-20.0
2780.20	42.4	34.3	350.0	H	308.0	74.0	-31.6	54.0	-19.7
3708.00	60.3	52.3	350.0	V	66.0	74.0	-13.7	54.0	-1.7
3708.00	57.4	49.3	350.0	H	105.0	74.0	-16.6	54.0	-4.7
4635.60	45.5	36.5	350.0	H	224.0	74.0	-28.5	54.0	-17.5
5560.40	51.1	43.5	300.0	V	72.0	74.0	-22.9	54.0	-10.5
5560.40	47.4	39.0	350.0	H	286.0	74.0	-26.6	54.0	-15.0
8764.60	45.4	31.9	350.0	H	98.0	74.0	-28.6	54.0	-22.1
14278.00	47.3	33.6	350.0	H	137.0	74.0	-26.7	54.0	-20.4
17907.50	53.7	40.6	325.0	V	308.0	74.0	-20.3	54.0	-13.4
17954.10	55.4	41.2	350.0	H	236.0	74.0	-18.6	54.0	-12.8