FCC PART 15, SUBPART B and C
TEST REPORT

for

HUMPRO-A SERIES HIGH POWER DATA TRANSCEIVER

MODELS: HUM-A-900-PRO-CAS and HUM-A-900-PRO-UFL

Prepared for

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DATE: MARCH 13, 2017

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GENERAL REPORT SUMMARY

This electromagnetic emission test report is generated by Compatible Electronics Inc., which is an independent testing and consulting firm. The test report is based on testing performed by Compatible Electronics personnel according to the measurement procedures described in the test specifications given below and in the "Test Procedures" section of this report.

The measurement data and conclusions appearing herein relate only to the sample tested and this report may not be reproduced without the written permission of Compatible Electronics, unless done so in full.

This report must not be used to claim product certification, approval or endorsement by NVLAP, NIST or any agency of the federal government.

Device Tested:	HumPRO-A Series High Power Data Transceiver Models: HUM-A-900-PRO-CAS and HUM-A-900-PRO-UFL S/N: N/A
Product Description:	The EUT is an RF Module.
Modifications:	The EUT was not modified in order to meet the specifications.
Customer:	Linx Technologies 159 Ort Lane Merlin, California 97532
Test Dates:	February 16, 22, 23, 27, 2016; and March 1, 2017

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Test Specifications covered by accreditation:

Test Specifications: ANSI C63.4: 2014 and ANSI C63.10: 2013

Emissions requirements:

CFR Title 47, Part 15, Subpart B; and
Subpart C, sections 15.205, 15.207, 15.209, and 15.247

SUMMARY OF TEST RESULTS

TEST	DESCRIPTION	RESULTS
1	Conducted RF Emissions, 150 kHz - 30 MHz	Complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and the limits of CFR Title 47, Part 15, Subpart C, section 15.207.
2	Radiated RF Emissions, 10 kHz – 9300 MHz	Complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and the limits of CFR Title 47, Part 15 Subpart C, 15.205, 15.209 and 15.247 (d)
3	20 dB Bandwidth	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247 (a)(1)(i)
4	Peak Power Output	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247 (b)(2)
5	RF Conducted Antenna Test	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247 (d)
6	Carrier Frequency Separation	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247 (a)(1)
7	Average Time of Occupancy	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247 (a)(1)(i)
8	Peak Power Spectral Density from the International Radiator to the Antenna	This test was not performed because the EUT is a frequency hopper.

1. PURPOSE

This document is a qualification test report based on the emissions tests performed on the HumPRO-A Series High Power Data Transceiver, Models: HUM-A-900-PRO-CAS and HUM-A-900-PRO-UFL. The emissions measurements were performed according to the measurement procedure described in ANSI C63.4 and ANSI C63.10. The tests were performed in order to determine whether the electromagnetic emissions from the equipment under test, referred to as EUT hereafter, are within the **Class B** specification limits defined by CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.207, 15.209, and 15.247.

2. ADMINISTRATIVE DATA

2.1 Location of Testing

The emissions tests described herein were performed at the test facility of Compatible Electronics, 114 Olinda Drive, Brea, California 92823.

2.2 Traceability Statement

The calibration certificates of all test equipment used during the test are on file at the location of the test. The calibration is traceable to the National Institute of Standards and Technology (NIST).

2.3 Cognizant Personnel

Linx Technologies

Joel Krawyczyk	Electrical Engineer
Chris Murphy	Engineering Manager

Compatible Electronics Inc.

Kyle Fujimoto	Test Engineer
James Ross	Test Engineer

2.4 Date Test Sample was Received

The test sample was received on January 11, 2017.

2.5 Disposition of the Test Sample

The test sample has not been returned to Linx Technologies as of the date of this test report.

2.6 Abbreviations and Acronyms

The following abbreviations and acronyms may be used in this document.

RF	Radio Frequency
EMI	Electromagnetic Interference
EUT	Equipment Under Test
P/N	Part Number
S/N	Serial Number
HP	Hewlett Packard
ITE	Information Technology Equipment
LISN	Line Impedance Stabilization Network
N/A	Not Applicable
Tx	Transmit
Rx	Receive

3. APPLICABLE DOCUMENTS

The following documents are referenced or used in the preparation of this emissions Test Report.

SPEC	TITLE
FCC Title 47, Part 15 Subpart C	FCC Rules – Radio frequency devices (including digital devices) – Intentional Radiators
FCC Title 47, Part 15 Subpart B	FCC Rules – Radio frequency devices (including digital devices) – Unintentional Radiators
EN 50147-2: 1997	Anechoic chambers. Alternative test site suitability with respect to site attenuation
ANSI C63.4 2014	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz
ANSI C63.10 2013	American National Standard for Testing Unlicensed Wireless Devices

4. DESCRIPTION OF TEST CONFIGURATION

Radiated Emissions: The HumPRO-A Series High Power Data Transceiver, Models: HUM-A-900-PRO-CAS and HUM-A-900-PRO-UFL (EUT) was directly connected to a host board. The host board was also connected to a DC Power supply. The EUT was checked in all three orthogonal axis and tested at the low, middle and high channels. The EUT was continuously transmitting or receiving depending on the test performed.

Conducted Emissions: The HumPRO-A Series High Power Data Transceiver, Models: HUM-A-900-PRO-CAS and HUM-A-900-PRO-UFL (EUT) was connected to a host board. The host board was also connected to an AC Adapter. The EUT was checked in all three orthogonal axis. The EUT was continuously transmitting or receiving depending on the test performed.

A laptop with a special UART cable was temporarily connected to the host board to program the EUT using the Linx Technologies PRORW.PY program to be able to change channels so that the low, middle, and high, channels could be tested; frequency hop; and select the low and high data rates.

The uSP and U.FL configurations were tested.

The X orientation is when the EUT is parallel to the ground. The Y orientation is when the EUT is perpendicular to the ground mounted vertically. The Z orientation is when the EUT is perpendicular to the ground mounted horizontally.

The input voltage was varied ±15%; the transmitting signal amplitude and frequency did not vary.

The final radiated as well as the conducted data for the EUT as was taken in the mode described above. Please see Appendix E for the data sheets.

4.1 Cable Construction and Termination

Cable 1 **All tests except for Conducted Emissions**
This is a 1-meter, unshielded cable connecting the host board to the DC power supply. The cable has (2) banana connectors at the DC power supply end and an SMA connector at the other end.

Cable 2 **HUM-A-900-PRO-UFL Only**
This is a 10-centimeter braid shielded cable connecting the EUT to the antenna. The cable has an U.FL connector at the EUT end and is hard wired a reverse polarity SMA connector at the antenna end. The shield of the cable is grounded to the chassis via the connectors.

Cable 3 **Conducted Emissions Only**
This is a 2-meter, unshielded, cable connecting the host board to the AC adapter to cable #4. The cable is hard wired into the AC Adapter and has alligator clips at the other end. This cable, along with cable #4 was bundled to a length of 1-meter.

Cable 4 **Conducted Emissions Only**
This is a 1-meter, unshielded cable connecting the host board to cable #3. The cable is connected to the alligator clips of cable #3 at the cable #3 end and has an SMA connector at the other end. This cable, along with cable #3 was bundled to a length of 1-meter.

5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID
HUMPRO-A SERIES HIGH POWER DATA TRANSCEIVER	LINX TECHNOLOGIES	HUM-A-900-PRO-CAS HUM-A-900-PRO-UFL	N/A	OJM-HUMA-900
TEST SOFTWARE	LINX TECHNOLOGIES	PRORW.PY	BASE HPRO VERSION	N/A
DC POWER SUPPLY*	HQ POWER	PS 603 U	N/A	N/A
AC ADAPTER**	CHI	CH-3635B	505010387	N/A
ANTENNA***	LINX TECHNOLOGIES	ANT-916-CW-HWR-RPS	N/A	N/A
SPLATCH ANTENNA****	LINX TECHNOLOGIES	ANT-916-uSP	N/A	N/A

*Only used for Conducted Emissions
**Only used for Conducted Emissions
***HUM-A-900-PRO-UFL version only
****HUM-A-900-PRO-CAS version only

5.2 Emissions Test Equipment

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CALIBRATION DATE	CAL. CYCLE
GENERAL TEST EQUIPMENT USED IN LAB D					
TDK TestLab	TDK RF Solutions, Inc.	9.22	700145	N/A	N/A
Computer	Hewlett Packard	p6716f	MXX1030PX0	N/A	N/A
LCD Monitor	Hewlett Packard	52031a	3CQ046N3MG	N/A	N/A
EMI Receiver, 20 Hz – 26.5 GHz	Agilent Technologies	N9038A	MY51210150	December 29, 2015	2 Year
RF RADIATED EMISSIONS TEST EQUIPMENT					
CombiLog Antenna	Com-Power	AC-220	61060	September 3, 2015	2 Year
Preamplifier	Com-Power	PAM-118A	551024	May 12, 2016	1 Year
Loop Antenna	Com-Power	AL-130R	121090	February 9, 2017	2 Year
Horn Antenna	Com-Power	AH-118	071175	February 26, 2016	2 Year
Antenna Mast	Com Power	AM-100	N/A	N/A	N/A
System Controller	Sunol Sciences Corporation	SC110V	112213-1	N/A	N/A
Turntable	Sunol Sciences Corporation	2011VS	N/A	N/A	N/A
Antenna-Mast	Sunol Sciences Corporation	TWR95-4	112213-3	N/A	N/A
RF CONDUCTED EMISSIONS TEST EQUIPMENT					
LISN	Com-Power	LI-215A	191951	June 9, 2015	2 Year
Transient Limiter	Com-Power	252A910	1	October 16, 2016	1 Year

6. TEST SITE DESCRIPTION

6.1 Test Facility Description

Please refer to section 2.1 and 7.1 of this report for emissions test location.

6.2 EUT Mounting, Bonding and Grounding

For frequencies 1 GHz and below: The EUT was mounted on a 1.0 by 1.5 meter non-conductive table 0.8 meters above the ground plane.

For frequencies above 1 GHz: The EUT was mounted on a 1.0 by 1.5 meter non-conductive table 1.5 meters above the ground plane.

The EUT was not grounded.

6.3 Measurement Uncertainty

The uncertainty values are in the table below.

The uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level, using a coverage factor of k=2

MEASUREMENT TYPE	PARTICULAR CONFIGURATION	UNCERTAINTY VALUES
RADIATED EMISSIONS	3-METER CHAMBER, COMBILOG ANTENNA	4.54 dB
RADIATED EMISSIONS	3-METER CHAMBER, HORN ANTENNA	3.70 dB
AC LINE CONDUCTED EMISSIONS	3-METER CHAMBER, COM-POWER LISN	2.88 dB

7. CHARACTERISTICS OF THE TRANSMITTER

The following sections describe the test methods and the specifications for the tests. Test results are also included in this section.

7.1 Channel Number and Frequencies

The FHSS uses 50 channels at the low data rate and 26 channels at the high data rate. It uses GFSK modulation. The channels are separated by approximately 375 kHz at the low data rate and 750 kHz at the high data rate.

Low Data Rate – Channel 0 = 902.97 MHz – Channel 63 = 926.65 MHz
High Data Rate – Channel 0 = 902.97 MHz – Channel 62 = 926.27 MHz

7.2 Antenna

The U.FL configuration is a ½ wave dipole with a gain of 1.2 dBi.
The uSP configuration is a chip antenna with a gain of 0.3 dBi.

8. TEST PROCEDURES

The following sections describe the test methods and the specifications for the tests. Test results are also included in this section.

8.1 RF Emissions

8.1.1 Conducted Emissions Test

The EMI Receiver was used as a measuring meter. A quasi-peak and/or average reading was taken only where indicated in the data sheets. A transient limiter was used for the protection of the EMI Receiver input stage, and the offset was adjusted accordingly to read the actual data measured. The LISN output was measured using the EMI Receiver. The output of the second LISN was terminated by a 50-ohm termination. The effective measurement bandwidth used for this test was 9 kHz.

Please see section 6.2 of this report for mounting, bonding, and grounding of the EUT. The EUT was powered through the LISN, which was bonded to the ground plane. The LISN power was filtered and the filter was bonded to the ground plane. The EUT was set up with the minimum distances from any conductive surfaces as specified in ANSI 63:4. The excess power cord was wrapped in a figure eight pattern to form a bundle not exceeding 0.4 meters in length.

The conducted emissions from the EUT were maximized for operating mode as well as cable placement. The final data was collected under program control by computer software. The final qualification data is located in Appendix E.

The EUT was tested at 120 VAC. The six highest emissions are listed in Table 1.0.

Test Results:

The EUT complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and the limits of CFR Title 47, Part 15, Subpart C, Section 15.207 for conducted emissions. Please see Appendix E for the data sheets.

8.1.2 Radiated Emissions Test

The EMI Receiver was used as the measuring meter. A built-in, internal preamplifier was used to increase the sensitivity of the instrument. The EMI Receiver was initially used with the Analyzer mode feature activated. In this mode, the EMI receiver can then record the actual frequency to be measured. This final reading is then taken accurately in the EMI Receiver mode, which takes into account the cable loss, amplifier gain and antenna factors, so that a true reading is compared to the true limit. A quasi-peak reading was taken only for those readings, which are marked accordingly on the data sheets. The effective measurement bandwidth used for the radiated emissions test was according to the frequency measured (200 Hz for 10 kHz to 150 kHz, 9 kHz for 150 kHz to 30 MHz, 120 kHz for 30 MHz to 1 GHz and 1 MHz for 1 GHz to 9.3 GHz).

The frequencies above 1 GHz were averaged by using the RMS detector function on the EMI Receiver.

The EMI test chamber of Compatible Electronics, Inc. was used for radiated emissions testing. This test site is in full compliance with ANSI C63.4 and EN 50147-2. Please see section 6.2 of this report for mounting, bonding and grounding of the EUT. The turntable supporting the EUT is remote controlled using a motor. The turntable permits EUT rotation of 360 degrees in order to maximize emissions. Also, the antenna mast allows height variation of the antenna from 1 meter to 4 meters. Data was collected in the worst case (highest emission) configuration of the EUT. At each reading, the EUT was rotated 360 degrees and the antenna height was varied from 1 to 4 meters (for E field radiated field strength). The gunsight method was used when measuring with the horn antenna in order to ensure accurate results.

The EUT was tested at a 3-meter test distance. The six highest emissions are listed in Table 2.0.

The measurement bandwidths and transducers used for the radiated emissions test were:

FREQUENCY RANGE	EFFECTIVE MEASUREMENT BANDWIDTH	TRANSDUCER
10 kHz to 150 kHz	200 Hz	Loop Antenna
150 kHz to 30 MHz	9 kHz	Loop Antenna
30 MHz to 1 GHz	120 kHz	CombiLog Antenna
1 GHz to 9.3 GHz	1 MHz	Horn Antenna

Test Results:

The EUT complies with the **Class B** limits of **CFR** Title 47, Part 15, Subpart B; and Subpart C sections 15.205, 15.209, and 15.247 (d) for radiated emissions.

8.1.3 RF Emissions Test Results

Table 1.0 CONDUCTED EMISSION RESULTS
HumPRO-A Series High Power Data Transceiver
Models: HUM-A-900-PRO-CAS and HUM-A-900-PRO-UFL

Frequency MHz	Average Corrected Reading* dBuV	Average Specification Limit dBuV	Delta (Cor. Reading – Spec. Limit) dB
28.562**	42.16	50.00	-7.84
27.826**	42.13	50.00	-7.87
28.094**	42.12	50.00	-7.88
28.374**	42.09	50.00	-7.91
28.738**	42.09	50.00	-7.91
28.414**	42.05	50.00	-7.95

Table 2.0 RADIATED EMISSION RESULTS
HumPRO-A Series High Power Data Transceiver
Models: HUM-A-900-PRO-CAS and HUM-A-900-PRO-UFL

Frequency MHz	EMI Reading* (dBuV/m)	Specification Limit (dBuV/m)	Delta (Cor. Reading – Spec. Limit) dB)
2708.91# (X-Axis)	53.18 (Average)	53.97	-0.79
2708.91# (Y-Axis)	52.82 (Average)	53.97	-1.15
2708.91# (Z-Axis)	52.46 (Average)	53.97	-1.51
2745.00# (X-Axis)	52.74 (Average)	53.97	-1.73
2708.91### (Z-Axis)	51.73 (Average)	53.97	-2.24
2745.00# (Y-Axis)	51.69 (Average)	53.97	-2.28

Notes:

**	White Lead – Transmit Mode – uSP – High Data Rate
(V)	Vertical
(H)	Horizontal
#	Low Data Rate – Vertical Polarization – U.FL
##	Low Data Rate – Horizontal Polarization – U.FL
###	High Data Rate – Horizontal Polarization – U.FL

8.2 20 dB Bandwidth

HUM-A-900-PRO-UFL: The 20 dB Bandwidth was measured using the EMI Receiver. The bandwidth was measured using a direct connection from the RF output of the EUT. The resolution bandwidth was ≥ 1 % of the bandwidth and the video bandwidth was ≥ RBW.

HUM-A-900-PRO-CAS: The 20 dB Bandwidth was measured by maximizing the fundamental per section 8.1.2 of the test report. Once the worst case emission for each channel was investigated, the resolution bandwidth was ≥ 1 % of the bandwidth and the video bandwidth was ≥ RBW and the 20 dB bandwidth measured.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (a)(1)(i). The 20 dB bandwidth is less than the separation between channels. Please see the data sheets located in Appendix E.

8.3 Peak Output Power

HUM-A-900-PRO-UFL: The Peak Output Power was measured using the EMI Receiver. The peak output power was measured using a direct connection from the RF output of the EUT. The resolution bandwidth was greater than 20 dB bandwidth and the video bandwidth was ≥ RBW. The cable loss was also added back into the reading using the reference level offset.

HUM-A-900-PRO-CAS: Since antenna conducted tests could not be performed on the EUT due to a lack of an antenna connector on the EUT, the peak output power was calculated by the following equation:

P = [(E*D)^2] / (30 G)
P = Power in Watts for which you are solving
E = the measured maximum field strength in V/m utilizing the widest available RBW.
G = the numeric gain of the transmitting antenna over an isotropic radiator.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (b)(2). The maximum peak output power is less than 1 watt for the low data rate and less than 250 mW for the high data rate. Please see the data sheets located in Appendix E.

8.4 RF Antenna Conducted Test

HUM-A-900-PRO-UFL: The RF antenna conducted test was performed using the EMI Receiver. The RF antenna conducted test measured using a direct connection from the RF out on the EUT into the input of the EMI Receiver. The resolution bandwidth was 100 kHz, and the video bandwidth was 300 kHz. The spans were wide enough to include all the harmonics and emissions that were produced by the intentional radiator.

HUM-A-900-PRO-CAS: The non-restricted band emissions were measured per section 8.1.2 of the test report. The resolution bandwidth was 100 kHz, and the video bandwidth was 300 kHz. The spans were wide enough to include all the harmonics and emissions that were produced by the intentional radiator.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (d). The RF power that is produced by the intentional radiator is at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of desired power. Please see the radiated emission data sheets located in Appendix E.

8.5 RF Band Edges

The RF band edges were taken at the edges of the ISM spectrum (902 MHz when the EUT was on the low channel and 928 MHz when the EUT was on the high channel) using the EMI Receiver. The RBW was set to 100 kHz and the VBW was set to 300 kHz. Plots of the fundamental were taken to ensure the amplitude at the band edges were at least 20 dB down from the peak of the fundamental emission. The plots were taken in both frequency hopping mode and single channel mode.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (d). The RF power at the band edges at 902 MHz and 928 MHz meet the requirements of FCC Title 47, Part 15, Subpart C section 15.247 (d). Please see the data sheets located in Appendix E.

8.6 Carrier Frequency Separation

The Channel Hopping Separation Test was measured using the EMI Receiver. The EUT was operating in its normal operating mode. The resolution bandwidth was less than 30% of the channel spacing, and the video bandwidth ≥ RBW. The frequency span was wide enough to include the peaks of two adjacent channels.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (a)(1). The Channel Hopping Separation is greater than the 20 dB bandwidth. Please see the data sheets located in Appendix E.

8.7 Number of Hopping Frequencies

The Number of Hopping Frequencies was measured using the EMI Receiver. The EUT was operating in its normal operating mode. The resolution bandwidth was less than 30% of the channel spacing, and the video bandwidth was ≥ RBW. The frequency span was wide enough to include all of the peaks in the frequency band of operation.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (a)(1) and 15.247 (a)(1)(i). Please see the data sheets located in Appendix E.

8.8 Average Time of Occupancy Test

The Average Time of Occupancy Test was measured using the EMI Receiver. The EUT was operating in normal operating mode. The frequency span was taken to 0 Hz to determine the time for each transmission and the number of transmissions over a 20 second period for the low data rate and over a 10 second period for the high data rate. The RBW was set to be less than the channel spacing. The plots were done for bow the low and high data rates.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (a)(1)(i). Please see the data sheets located in Appendix E.

9. CONCLUSIONS

The HumPRO-A Series High Power Data Transceiver, Models: HUM-A-900-PRO-CAS and HUM-A-900-PRO-UFL, as tested, meets all of the specification limits defined in FCC Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.207, 15.209, and 15.247.

APPENDIX A

LABORATORY ACCREDITATIONS AND RECOGNITIONS

LABORATORY ACCREDITATIONS AND RECOGNITIONS

NVLAP LAB CODES 200063-0, 200528-0, 200527-0

For US, Canada, Australia/New Zealand, Japan, Taiwan, Korea, and the European Union, Compatible Electronics is currently accredited by NVLAP to ISO/IEC 17025. Please follow the link to the NIST/NVLAP site for each of our facilities' NVLAP certificate and scope of accreditation

NVLAP listing links

Agoura Division / **Brea Division** / **Silverado/Lake Forest Division**

.Quote from ISO-ILAC-IAF Communiqué on 17025:

"A laboratory's fulfilment of the requirements of ISO/IEC 17025:2005 means the laboratory meets both the technical competence requirements and management system requirements that are necessary for it to consistently deliver technically valid test results and calibrations. The management system requirements in ISO/IEC 17025:2005 (Section 4) are written in language relevant to laboratory operations and meet the principles of ISO 9001:2008 Quality Management Systems — Requirements."

ANSI listing CETCB

Compatible Electronics has been nominated as a Conformity Assessment Body (CAB) for EMC under the US/EU Mutual Recognition Agreement (MRA).
US/EU MRA list NIST MRA site

Compatible Electronics has been nominated as a Conformity Assessment Body (CAB) for Taiwan/BSMI under the US/APEC (Asia-Pacific Economic Cooperation) Mutual Recognition Agreement (MRA).
APEC MRA list NIST MRA site

We are also listed for IT products by the following country/agency:

VCCI Support member: Please visit http://www.vcci.jp/vcci_e/

FCC Listing, from FCC OET site
FCC test lab search https://fjallfoss.fcc.gov/oetcf/eas/reports/TestFirmSearch.cfm

Compatible Electronics IC listing can be found at:
http://www.ic.gc.ca/eic/site/ic1.nsf/eng/home

APPENDIX B

MODIFICATIONS TO THE EUT

MODIFICATIONS TO THE EUT

The modifications listed below were made to the EUT to pass FCC Subpart B and FCC 15.247 specifications.

All the rework described below was implemented during the test in a method that could be reproduced in all the units by the manufacturer.

No modifications were made to the EUT during the testing.

APPENDIX C

ADDITIONAL MODELS COVERED UNDER THIS REPORT

ADDITIONAL MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST

HumPRO-A Series High Power Data Transceiver
Models: HUM-A-900-PRO-CAS and HUM-A-900-PRO-UFL
S/N: N/A

There are no additional models covered under this report.

APPENDIX D

DIAGRAMS AND CHARTS

FIGURE 1: CONDUCTED EMISSIONS TEST SETUP

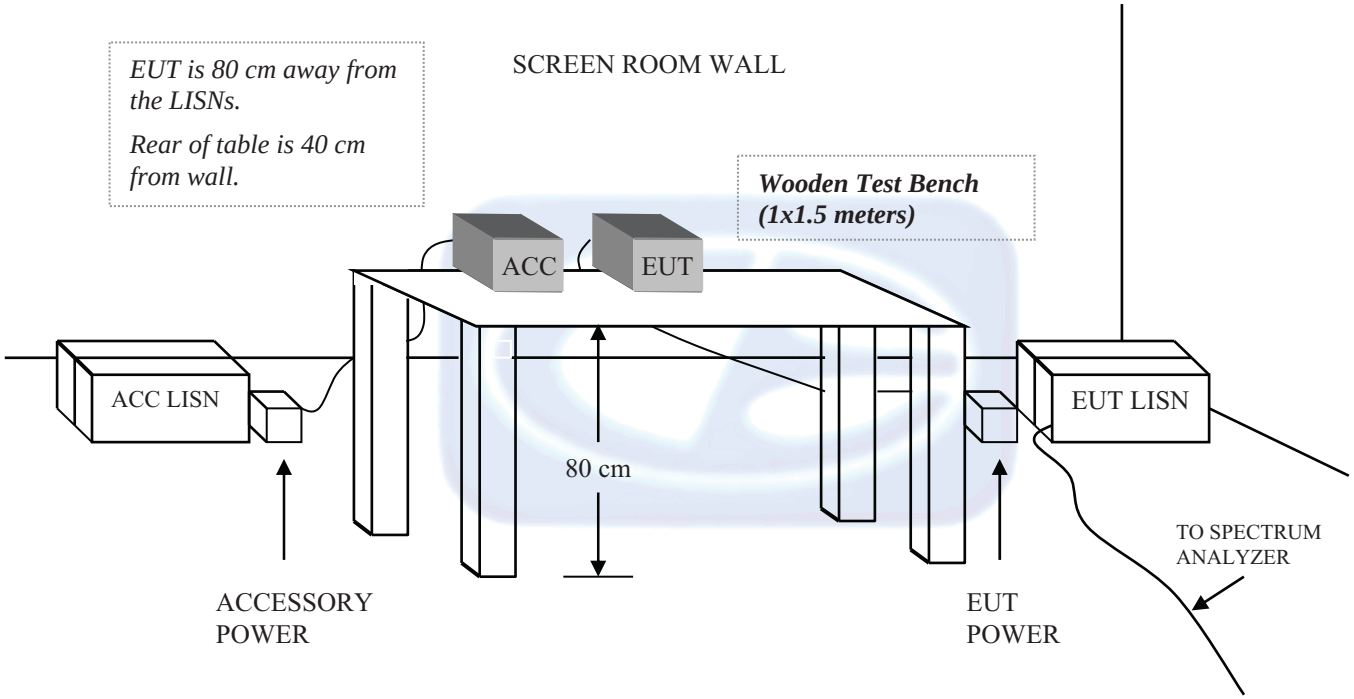
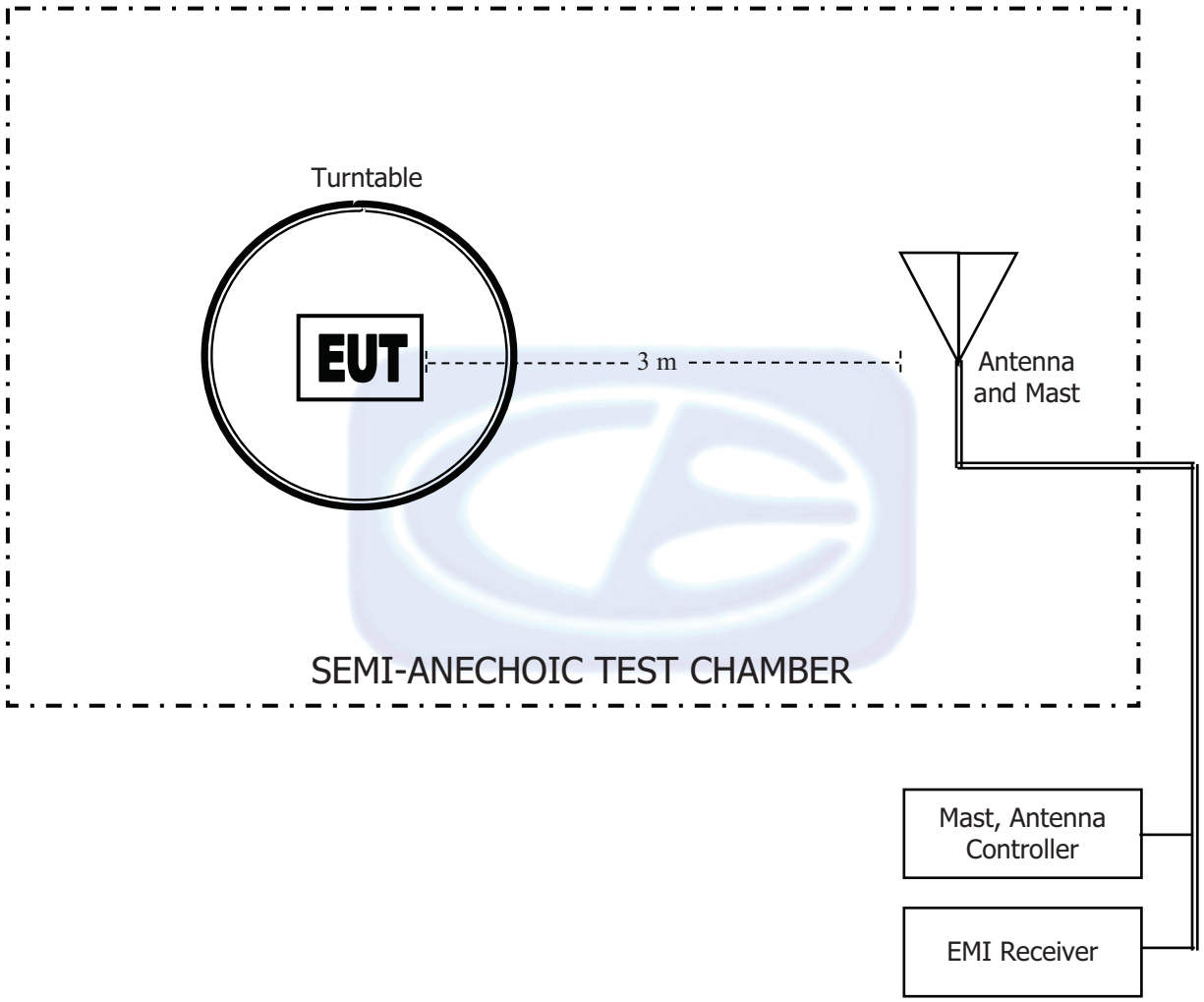


FIGURE 2: LAYOUT OF THE SEMI-ANECHOIC TEST CHAMBER



COM-POWER AL-130

LOOP ANTENNA

S/N: 121090

CALIBRATION DATE: FEBRUARY 9, 2017

FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)
0.009	-36.17	15.33
0.01	-35.86	15.64
0.02	-37.30	14.20
0.03	-36.58	14.92
0.04	-36.99	14.51
0.05	-37.66	13.84
0.06	-37.53	13.97
0.07	-37.64	13.86
0.08	-37.52	13.98
0.09	-37.62	13.88
0.1	-37.59	13.91
0.2	-37.79	13.71
0.3	-37.80	13.70
0.4	-37.70	13.80
0.5	-37.79	13.71
0.6	-37.79	13.71
0.7	-37.69	13.81
0.8	-37.49	14.01
0.9	-37.39	14.11
1	-37.39	14.11
2	-37.09	14.41
3	-37.09	14.41
4	-37.19	14.31
5	-36.98	14.52
6	-37.17	14.33
7	-37.05	14.45
8	-36.85	14.65
9	-36.84	14.66
10	-36.75	14.75
15	-37.16	14.34
20	-36.44	15.06
25	-37.88	13.62
30	-39.14	12.36

COM-POWER AC-220

COMBILOG ANTENNA

S/N: 61060

CALIBRATION DATE: SEPTEMBER 3, 2015

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	24.00	200	13.00
35	24.30	250	15.30
40	25.40	300	18.20
45	21.50	350	17.90
50	22.50	400	18.60
60	15.40	450	19.80
70	12.70	500	21.60
80	11.10	550	22.40
90	13.40	600	23.70
100	13.80	650	24.30
120	15.40	700	24.00
125	15.40	750	24.50
140	13.10	800	24.30
150	17.20	850	26.30
160	13.20	900	26.90
175	14.20	950	26.00
180	14.30	1000	25.60

COM POWER AH-118

HORN ANTENNA

S/N: 071175

CALIBRATION DATE: FEBRUARY 26, 2016

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	23.93	10.0	39.33
1.5	25.54	10.5	39.64
2.0	28.09	11.0	41.04
2.5	30.21	11.5	44.29
3.0	30.15	12.0	41.22
3.5	30.17	12.5	41.50
4.0	31.90	13.0	41.62
4.5	33.51	13.5	40.63
5.0	33.87	14.0	39.94
5.5	35.08	14.5	41.84
6.0	34.81	15.0	42.69
6.5	34.26	15.5	39.03
7.0	36.33	16.0	39.07
7.5	37.03	16.5	41.40
8.0	37.56	17.0	43.18
8.5	40.07	17.5	47.01
9.0	38.92	18.0	46.48
9.5	38.21		

COM-POWER PA-118

PREAMPLIFIER

S/N: 551024

CALIBRATION DATE: MAY 12, 2016

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	39.84	6.0	39.05
1.1	39.40	6.5	38.94
1.2	39.58	7.0	39.25
1.3	39.68	7.5	39.09
1.4	39.91	8.0	39.01
1.5	39.78	8.5	38.60
1.6	39.50	9.0	38.64
1.7	39.81	9.5	39.67
1.8	39.89	10.0	39.30
1.9	39.94	11.0	39.15
2.0	39.57	12.0	39.24
2.5	40.39	13.0	39.49
3.0	40.63	14.0	39.44
3.5	40.80	15.0	39.94
4.0	40.86	16.0	40.09
4.5	39.94	17.0	40.06
5.0	34.47	18.0	39.76
5.5	39.32		

FRONT VIEW

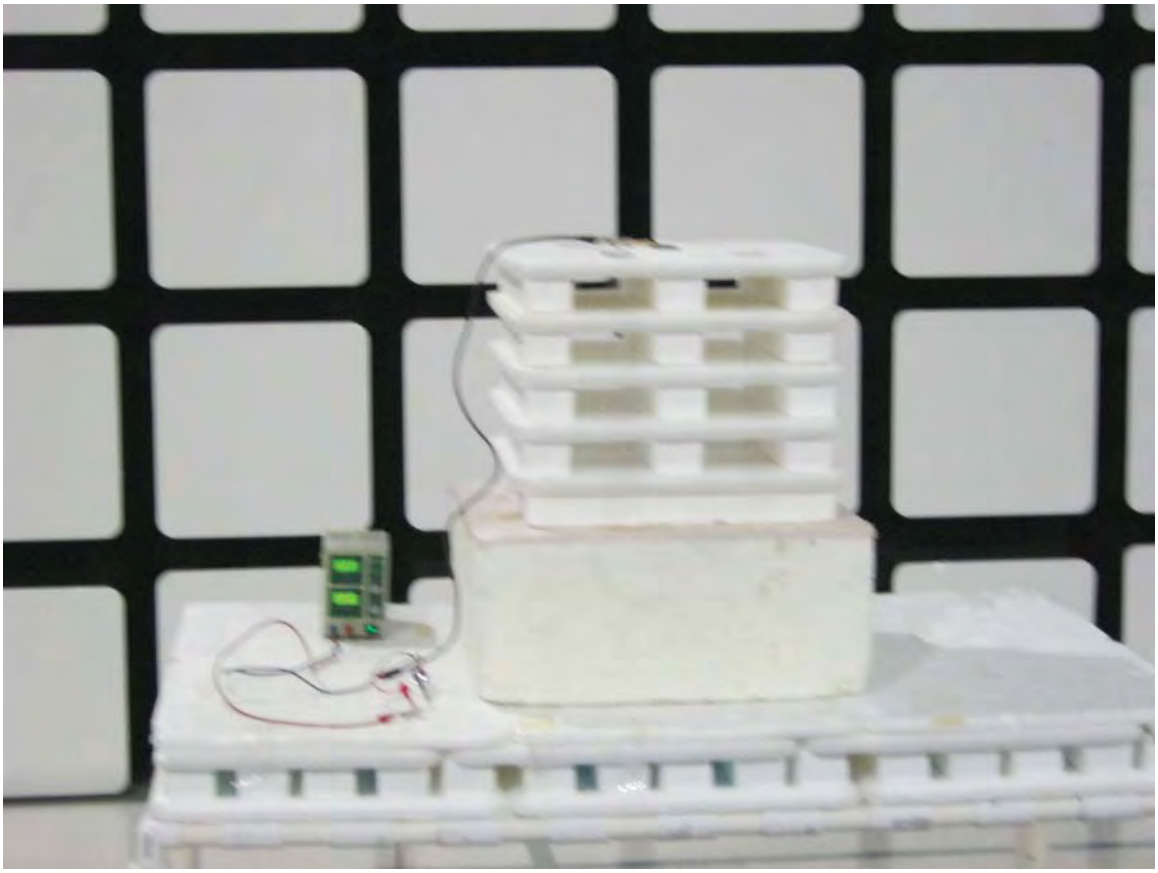
LINX TECHNOLOGIES
HUMPRO-A SERIES HIGH POWER DATA TRANSCEIVER
MODEL: HUM-A-900-PRO-CAS
FCC SUBPART B AND C – RADIATED EMISSIONS – BELOW 1 GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

LINX TECHNOLOGIES
HUMPRO-A SERIES HIGH POWER DATA TRANSCEIVER
MODEL: HUM-A-900-PRO-CAS
FCC SUBPART B AND C – RADIATED EMISSIONS – BELOW 1 GHz

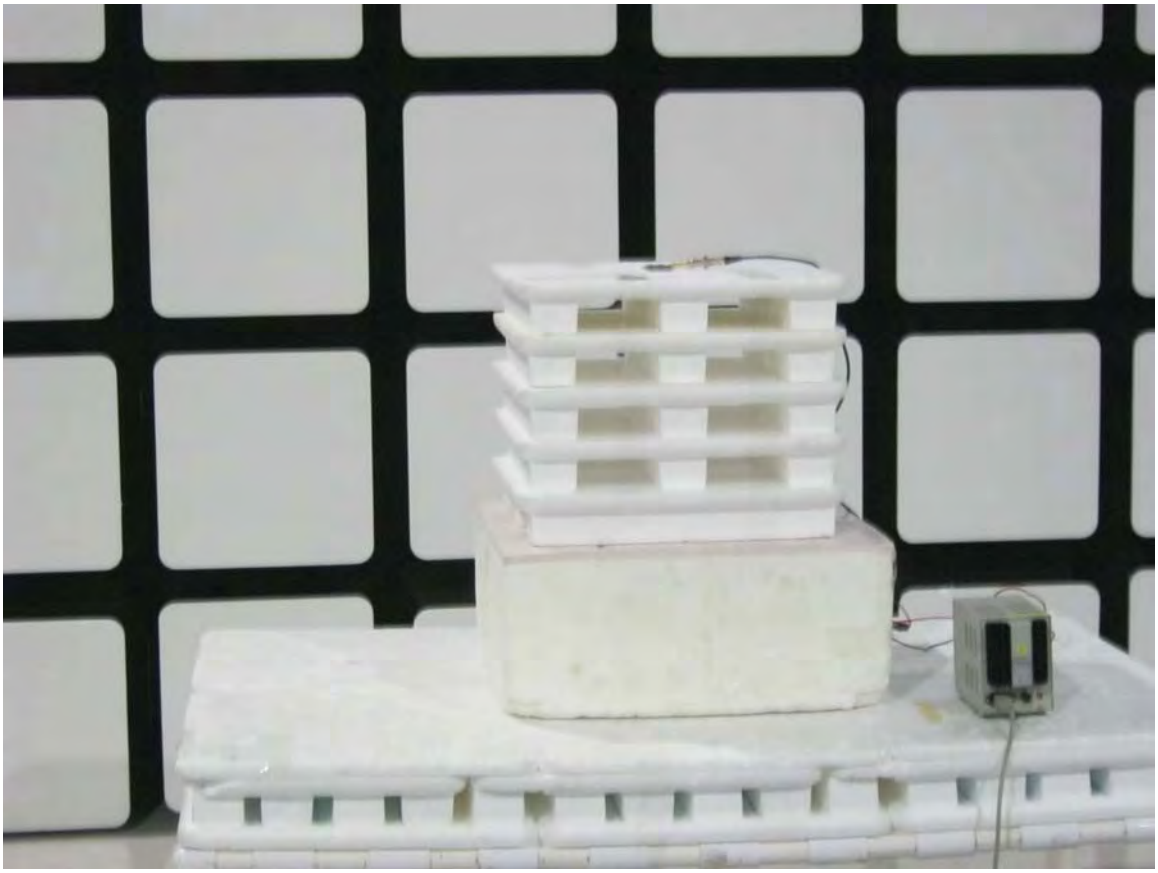
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



FRONT VIEW

LINX TECHNOLOGIES
HUMPRO-A SERIES HIGH POWER DATA TRANSCEIVER
MODEL: HUM-A-900-PRO-CAS
FCC SUBPART B AND C – RADIATED EMISSIONS – ABOVE 1 GHz

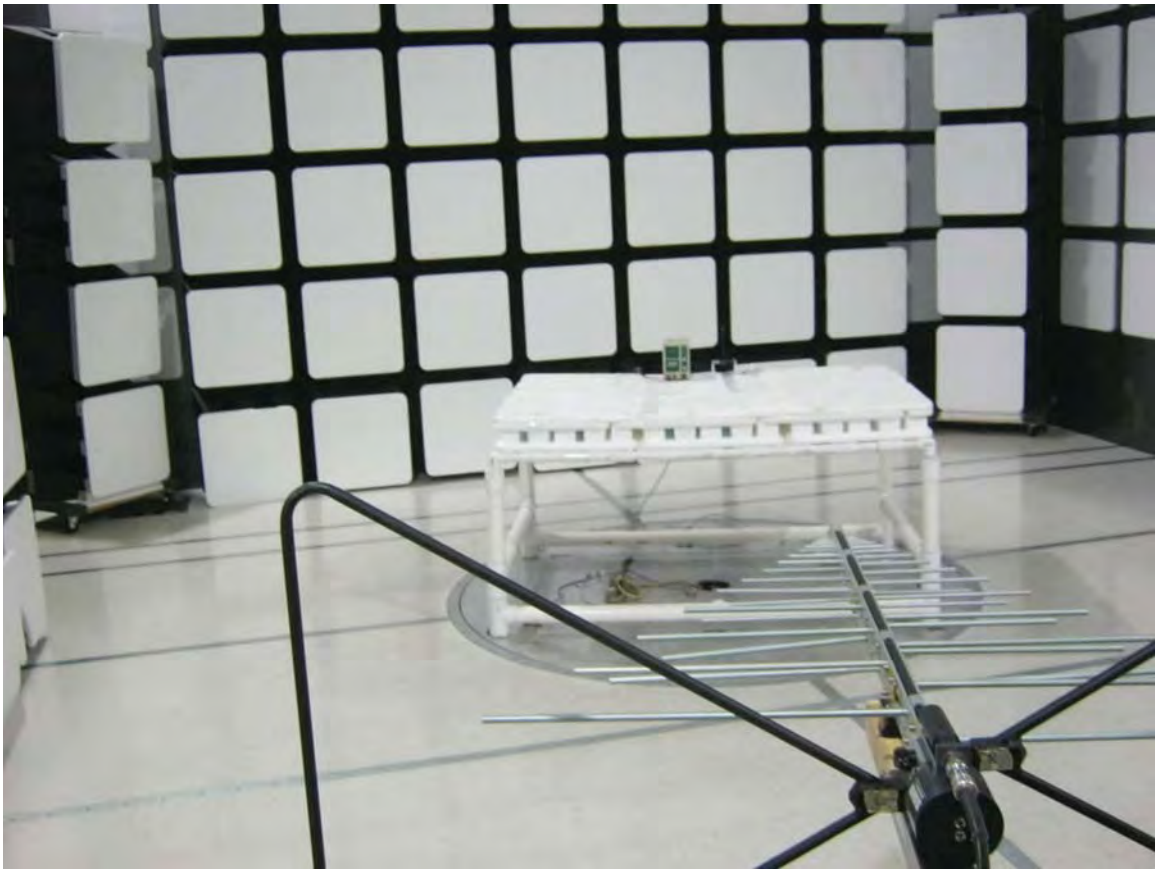
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

LINX TECHNOLOGIES
HUMPRO-A SERIES HIGH POWER DATA TRANSCEIVER
MODEL: HUM-A-900-PRO-CAS
FCC SUBPART B AND C – RADIATED EMISSIONS – ABOVE 1 GHz

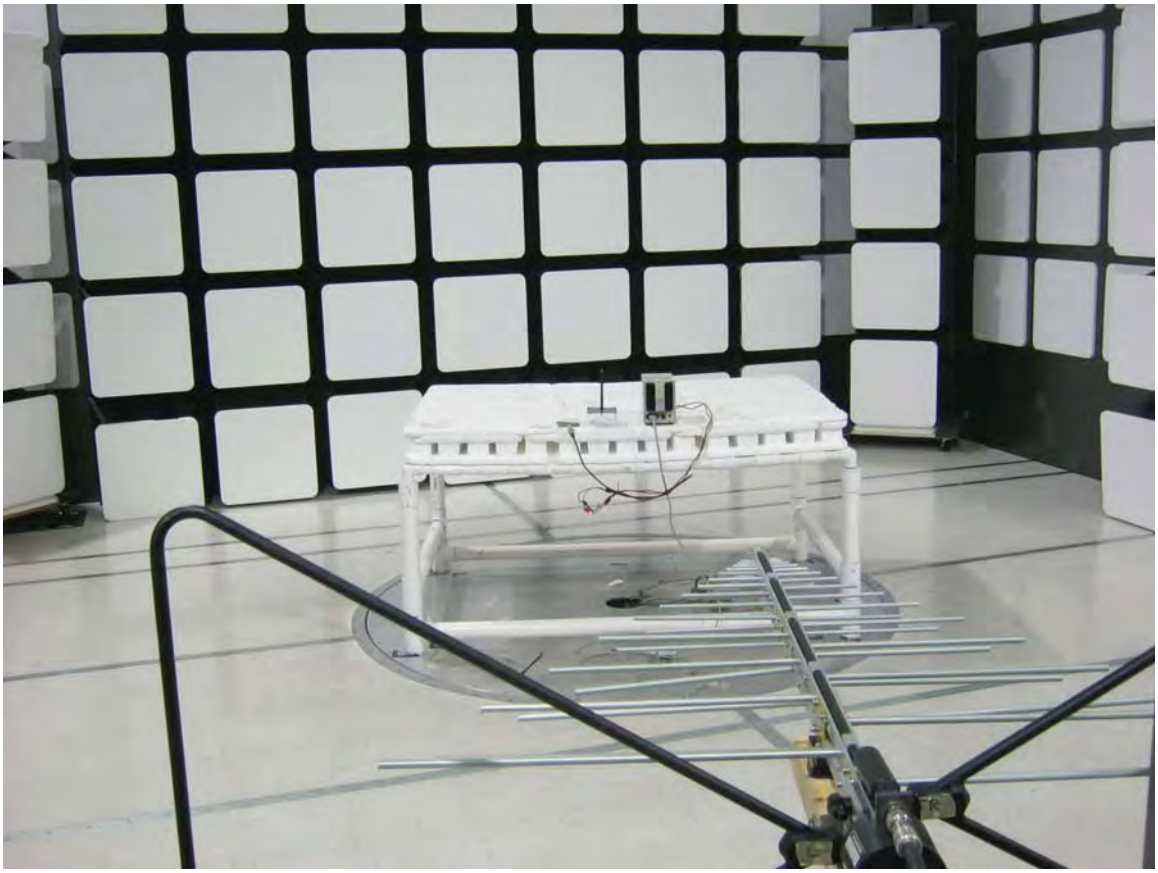
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



FRONT VIEW

LINX TECHNOLOGIES
HUMPRO-A SERIES HIGH POWER DATA TRANSCEIVER
MODEL: HUM-A-900-PRO-UFL
FCC SUBPART B AND C – RADIATED EMISSIONS – BELOW 1 GHz

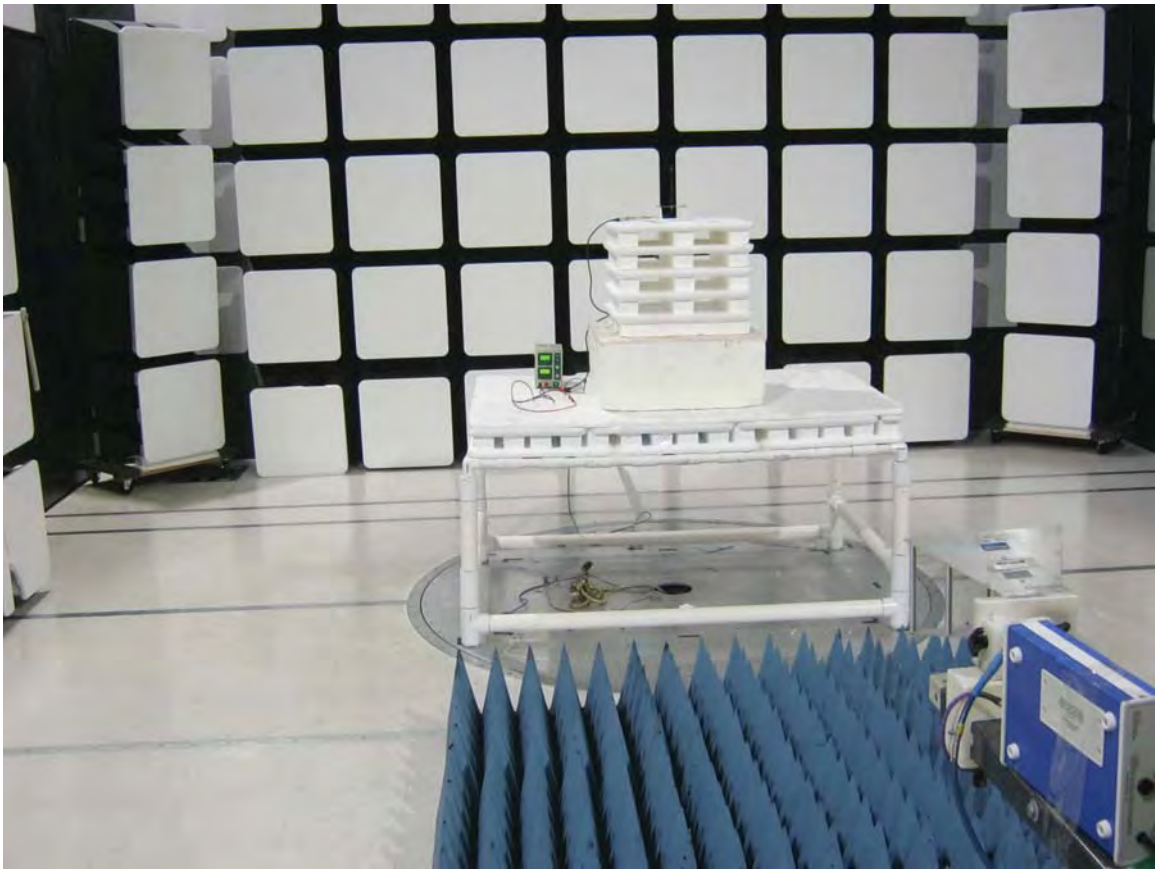
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

LINX TECHNOLOGIES
HUMPRO-A SERIES HIGH POWER DATA TRANSCEIVER
MODEL: HUM-A-900-PRO-UFL
FCC SUBPART B AND C – RADIATED EMISSIONS – BELOW 1 GHz

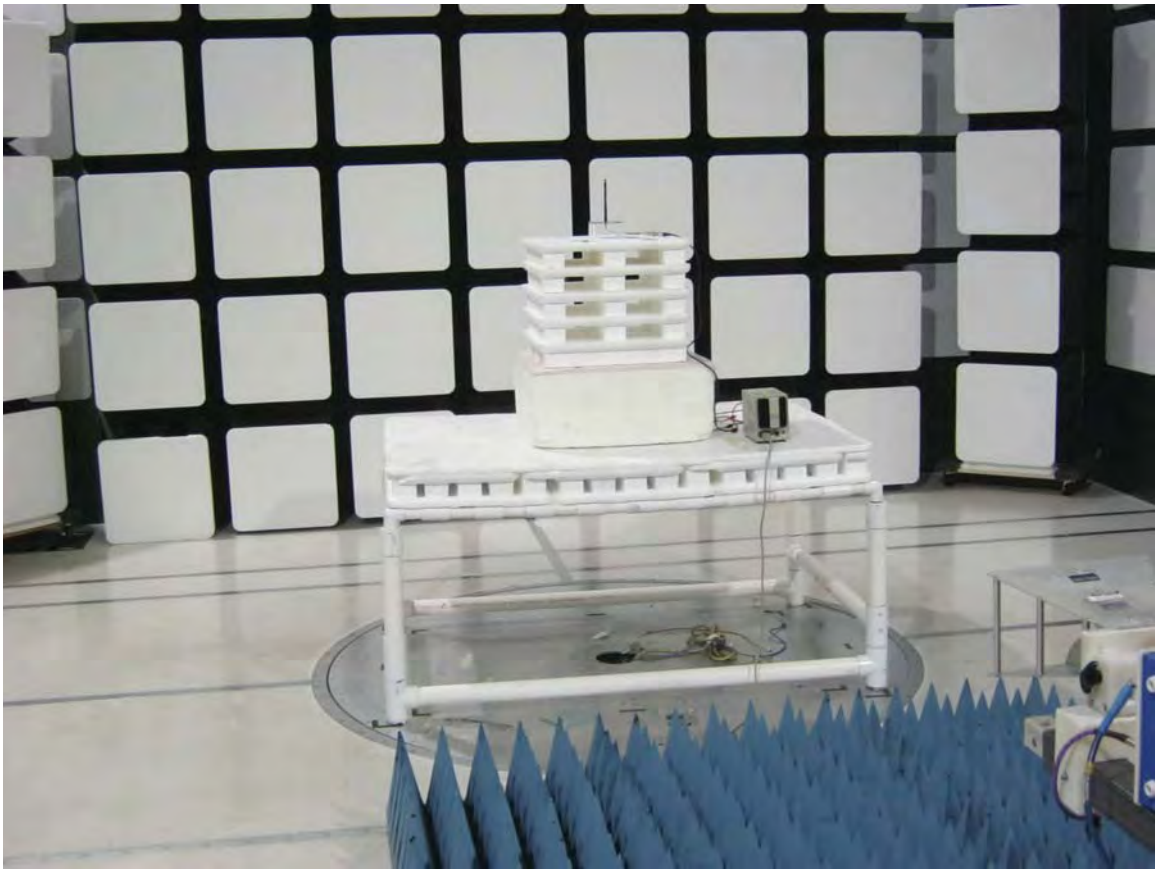
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



FRONT VIEW

LINX TECHNOLOGIES
HUMPRO-A SERIES HIGH POWER DATA TRANSCEIVER
MODEL: HUM-A-900-PRO-UFL
FCC SUBPART B AND C – RADIATED EMISSIONS – ABOVE 1 GHz

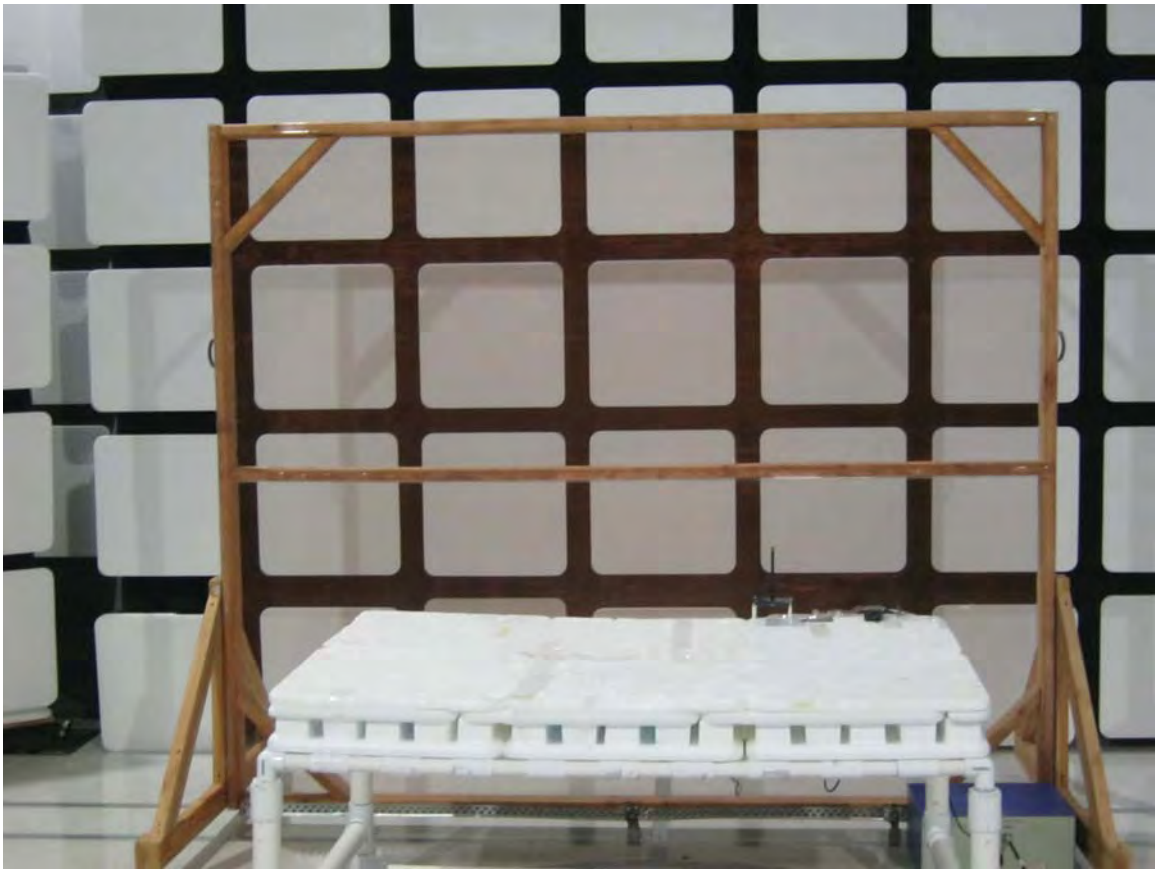
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

LINX TECHNOLOGIES
HUMPRO-A SERIES HIGH POWER DATA TRANSCEIVER
MODEL: HUM-A-900-PRO-UFL
FCC SUBPART B AND C – RADIATED EMISSIONS – ABOVE 1 GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



FRONT VIEW

LINX TECHNOLOGIES
HUMPRO-A SERIES HIGH POWER DATA TRANSCEIVER
MODEL: HUM-A-900-PRO-UFL
FCC SUBPART B AND C – CONDUCTED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

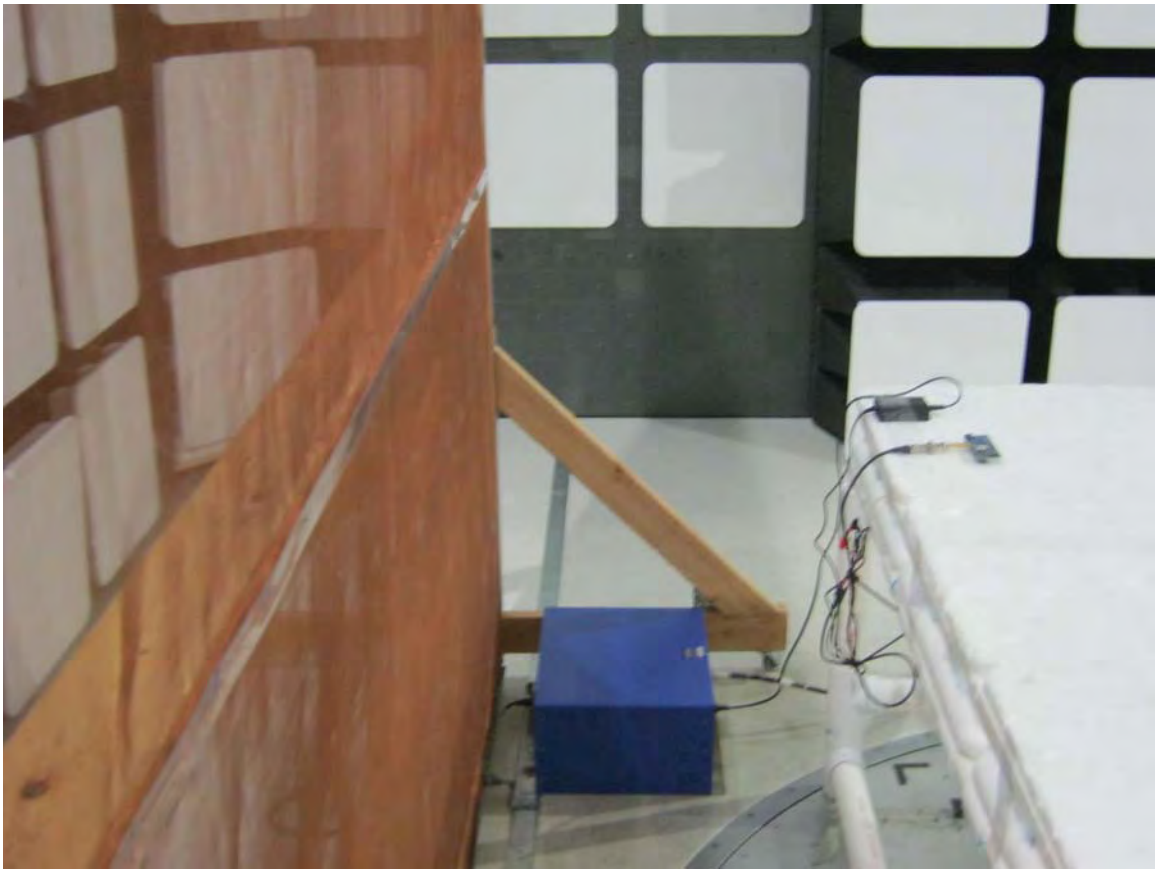
LINX TECHNOLOGIES
HUMPRO-A SERIES HIGH POWER DATA TRANSCEIVER
MODEL: HUM-A-900-PRO-UFL
FCC SUBPART B AND C – CONDUCTED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

FRONT VIEW

LINX TECHNOLOGIES
HUMPRO-A SERIES HIGH POWER DATA TRANSCEIVER
MODEL: HUM-A-900-PRO-CAS
FCC SUBPART B AND C – CONDUCTED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

LINX TECHNOLOGIES
HUMPRO-A SERIES HIGH POWER DATA TRANSCEIVER
MODEL: HUM-A-900-PRO-CAS
FCC SUBPART B AND C – CONDUCTED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

APPENDIX E

DATA SHEETS

RADIATED EMISSIONS DATA SHEETS

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-UFL

Date: 02/16/2017
Lab: D
Tested By: Kyle Fujimoto

Low Data Rate - U.FL
Harmonic Emissions - Power Level 9
Low Channel - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1805.94								**Not in Restricted**
1805.94								**Band - Done via Conducted**
2708.91	53.96	V	73.97	-20.01	Peak	314.75	143.40	
2708.91	53.18	V	53.97	-0.79	Avg	314.75	143.40	
3611.88	47.64	V	73.97	-26.33	Peak	192.00	111.46	
3611.88	44.59	V	53.97	-9.38	Avg	192.00	111.46	
4514.86	44.79	V	73.97	-29.18	Peak	118.00	175.52	
4514.86	39.43	V	53.97	-14.54	Avg	118.00	175.52	
5417.83	53.10	V	73.97	-20.87	Peak	124.75	143.34	
5417.83	50.84	V	53.97	-3.13	Avg	124.75	143.34	
6320.80								**Not in Restricted**
6320.80								**Band - Done via Conducted**
7223.77								**Not in Restricted**
7223.77								**Band - Done via Conducted**
8126.74	47.27	V	73.97	-26.70	Peak	179.00	127.76	
8126.74	39.58	V	53.97	-14.39	Avg	179.00	127.76	
9029.71	45.47	V	73.97	-28.50	Peak	260.00	127.52	
9029.71	34.70	V	53.97	-19.27	Avg	260.00	127.52	

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-UFL

Date: 02/16/2017
Lab: D
Tested By: Kyle Fujimoto

Low Data Rate - U.FL
Harmonic Emissions - Power Level 9
Low Channel - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1805.94								**Not in Restricted**
1805.94								**Band - Done via Conducted**
2708.91	53.48	V	73.97	-20.49	Peak	146.75	111.40	
2708.91	52.82	V	53.97	-1.15	Avg	146.75	111.40	
3611.88	46.55	V	73.97	-27.42	Peak	140.50	223.58	
3611.88	42.80	V	53.97	-11.17	Avg	140.50	223.58	
4514.86	42.70	V	73.97	-31.27	Peak	198.50	127.40	
4514.86	35.58	V	53.97	-18.39	Avg	198.50	127.40	
5417.83	53.19	V	73.97	-20.78	Peak	202.50	111.28	
5417.83	50.84	V	53.97	-3.13	Avg	202.50	111.28	
6320.80								**Not in Restricted**
6320.80								**Band - Done via Conducted**
7223.77								**Not in Restricted**
7223.77								**Band - Done via Conducted**
8126.74	47.74	V	73.97	-26.23	Peak	163.50	207.52	
8126.74	40.09	V	53.97	-13.88	Avg	163.50	207.52	
9029.71	51.43	V	73.97	-22.54	Peak	111.50	191.64	
9029.71	46.51	V	53.97	-7.46	Avg	111.50	191.64	

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-UFL

Date: 02/16/2017
Lab: D
Tested By: Kyle Fujimoto

Low Data Rate - U.FL
Harmonic Emissions - Power Level 9
Low Channel - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1805.94								**Not in Restricted**
1805.94								**Band - Done via Conducted**
2708.91	53.25	V	73.97	-20.72	Peak	138.25	111.46	
2708.91	52.46	V	53.97	-1.51	Avg	138.25	111.46	
3611.88	45.52	V	73.97	-28.45	Peak	194.75	143.52	
3611.88	41.45	V	53.97	-12.52	Avg	194.75	143.52	
4514.86	42.34	V	73.97	-31.63	Peak	186.00	239.70	
4514.86	34.49	V	53.97	-19.48	Avg	186.00	239.70	
5417.83	52.39	V	73.97	-21.58	Peak	223.50	239.70	
5417.83	49.94	V	53.97	-4.03	Avg	223.50	239.70	
6320.80								**Not in Restricted**
6320.80								**Band - Done via Conducted**
7223.77								**Not in Restricted**
7223.77								**Band - Done via Conducted**
8126.74	47.71	V	73.97	-26.26	Peak	160.00	207.58	
8126.74	40.67	V	53.97	-13.30	Avg	160.00	207.58	
9029.71	49.92	V	73.97	-24.05	Peak	112.50	239.58	
9029.71	44.50	V	53.97	-9.47	Avg	112.50	239.58	

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-UFL

Date: 02/16/2017
Lab: D
Tested By: Kyle Fujimoto

Low Data Rate - U.FL
Harmonic Emissions - Power Level 9
Low Channel - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1805.94								**Not in Restricted**
1805.94								**Band - Done via Conducted**
2708.91	48.20	H	73.97	-25.77	Peak	178.50	126.68	
2708.91	46.37	H	53.97	-7.60	Avg	178.50	126.68	
3611.88	46.56	H	73.97	-27.41	Peak	171.75	191.64	
3611.88	43.14	H	53.97	-10.83	Avg	171.75	191.64	
4514.86	42.94	H	73.97	-31.03	Peak	227.25	127.52	
4514.86	35.85	H	53.97	-18.12	Avg	227.25	127.52	
5417.83	51.47	H	73.97	-22.50	Peak	224.00	111.76	
5417.83	48.76	H	53.97	-5.21	Avg	224.00	111.76	
6320.80								**Not in Restricted**
6320.80								**Band - Done via Conducted**
7223.77								**Not in Restricted**
7223.77								**Band - Done via Conducted**
8126.74	45.14	H	73.97	-28.83	Peak	105.75	191.64	
8126.74	34.17	H	53.97	-19.80	Avg	105.75	191.64	
9029.71	47.64	H	73.97	-26.33	Peak	165.50	159.58	
9029.71	39.21	H	53.97	-14.76	Avg	165.50	159.58	

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-UFL

Date: 02/16/2017
Lab: D
Tested By: Kyle Fujimoto

Low Data Rate - U.FL
Harmonic Emissions - Power Level 9
Low Channel - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1805.94								**Not in Restricted**
1805.94								**Band - Done via Conducted**
2708.91	51.66	H	73.97	-22.31	Peak	134.75	223.46	
2708.91	50.34	H	53.97	-3.63	Avg	134.75	223.46	
3611.88	44.86	H	73.97	-29.11	Peak	183.75	175.46	
3611.88	40.29	H	53.97	-13.68	Avg	183.75	175.46	
4514.86	41.85	H	73.97	-32.12	Peak	196.25	159.40	
4514.86	34.26	H	53.97	-19.71	Avg	196.25	159.40	
5417.83	49.59	H	73.97	-24.38	Peak	218.75	111.28	
5417.83	45.37	H	53.97	-8.60	Avg	218.75	111.28	
6320.80								**Not in Restricted**
6320.80								**Band - Done via Conducted**
7223.77								**Not in Restricted**
7223.77								**Band - Done via Conducted**
8126.74	46.27	H	73.97	-27.70	Peak	66.00	239.82	
8126.74	35.17	H	53.97	-18.80	Avg	66.00	239.82	
9029.71	49.05	H	73.97	-24.92	Peak	151.25	127.70	
9029.71	42.13	H	53.97	-11.84	Avg	151.25	127.70	

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-UFL

Date: 02/16/2017
Lab: D
Tested By: Kyle Fujimoto

Low Data Rate - U.FL
Harmonic Emissions - Power Level 9
Low Channel - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1805.94								**Not in Restricted**
1805.94								**Band - Done via Conducted**
2708.91	50.08	H	73.97	-23.89	Peak	135.75	128.05	
2708.91	48.56	H	53.97	-5.41	Avg	135.75	128.05	
3611.88	39.31	H	73.97	-34.66	Peak	182.75	175.28	
3611.88	28.43	H	53.97	-25.54	Avg	182.75	175.28	
4514.86	41.48	H	73.97	-32.49	Peak	202.25	111.40	
4514.86	33.22	H	53.97	-20.75	Avg	202.25	111.40	
5417.83	49.63	H	73.97	-24.34	Peak	207.50	159.28	
5417.83	49.21	H	53.97	-4.76	Avg	207.50	159.28	
6320.80								**Not in Restricted**
6320.80								**Band - Done via Conducted**
7223.77								**Not in Restricted**
7223.77								**Band - Done via Conducted**
8126.74	45.46	H	73.97	-28.51	Peak	359.75	207.46	
8126.74	34.10	H	53.97	-19.87	Avg	359.75	207.46	
9029.71	45.12	H	73.97	-28.85	Peak	57.75	249.14	
9029.71	34.63	H	53.97	-19.34	Avg	57.75	249.14	

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-UFL

Date: 02/16/2017
Lab: D
Tested By: Kyle Fujimoto

Low Data Rate - U.FL
Harmonic Emissions - Power Level 9
Middle Channel - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1829.24								**Not in Restricted**
1829.24								**Band - Done via Conducted**
2743.86	53.32	V	73.97	-20.65	Peak	132.25	111.46	
2743.86	52.24	V	53.97	-1.73	Avg	132.25	111.46	
3658.48	48.10	V	73.97	-25.87	Peak	199.25	127.64	
3658.48	45.63	V	53.97	-8.34	Avg	199.25	127.64	
4573.10	43.02	V	73.97	-30.95	Peak	192.25	127.56	
4573.10	37.07	V	53.97	-16.90	Avg	192.25	127.56	
5487.72								**Not in Restricted**
5487.72								**Band - Done via Conducted**
6402.34								**Not in Restricted**
6402.34								**Band - Done via Conducted**
7316.96	44.56	V	73.97	-29.41	Peak	195.00	223.46	
7316.96	33.99	V	53.97	-19.98	Avg	195.00	223.46	
8231.58	45.01	V	73.97	-28.96	Peak	183.50	175.58	
8231.58	34.20	V	53.97	-19.77	Avg	183.50	175.58	
9146.20	46.07	V	73.97	-27.90	Peak	103.00	191.58	
9146.20	35.02	V	53.97	-18.95	Avg	103.00	191.58	

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-UFL

Date: 02/16/2017
Lab: D
Tested By: Kyle Fujimoto

Low Data Rate - U.FL
Harmonic Emissions - Power Level 9
Middle Channel - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1829.24								**Not in Restricted**
1829.24								**Band - Done via Conducted**
2743.86	52.83	V	73.97	-21.14	Peak	305.25	111.52	
2743.86	51.69	V	53.97	-2.28	Avg	305.25	111.52	
3658.48	46.65	V	73.97	-27.32	Peak	133.25	111.40	
3658.48	43.43	V	53.97	-10.54	Avg	133.25	111.40	
4573.10	42.76	V	73.97	-31.21	Peak	200.00	143.22	
4573.10	35.35	V	53.97	-18.62	Avg	200.00	143.22	
5487.72								**Not in Restricted**
5487.72								**Band - Done via Conducted**
6402.34								**Not in Restricted**
6402.34								**Band - Done via Conducted**
7316.96	44.32	V	73.97	-29.65	Peak	309.00	159.46	
7316.96	33.51	V	53.97	-20.46	Avg	309.00	159.46	
8231.58	44.97	V	73.97	-29.00	Peak	172.75	127.22	
8231.58	34.32	V	53.97	-19.65	Avg	172.75	127.22	
9146.20	47.09	V	73.97	-26.88	Peak	100.75	191.28	
9146.20	34.78	V	53.97	-19.19	Avg	100.75	191.28	

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-UFL

Date: 02/16/2017
Lab: D
Tested By: Kyle Fujimoto

Low Data Rate - U.FL
Harmonic Emissions - Power Level 9
Middle Channel - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1829.24								**Not in Restricted**
1829.24								**Band - Done via Conducted**
2743.86	50.48	V	73.97	-23.49	Peak	79.25	111.10	
2743.86	48.84	V	53.97	-5.13	Avg	79.25	111.10	
3658.48	47.57	V	73.97	-26.40	Peak	131.00	111.52	
3658.48	44.50	V	53.97	-9.47	Avg	131.00	111.52	
4573.10	43.53	V	73.97	-30.44	Peak	134.25	143.34	
4573.10	36.54	V	53.97	-17.43	Avg	134.25	143.34	
5487.72								**Not in Restricted**
5487.72								**Band - Done via Conducted**
6402.34								**Not in Restricted**
6402.34								**Band - Done via Conducted**
7316.96	43.60	V	73.97	-30.37	Peak	67.25	239.58	
7316.96	33.16	V	53.97	-20.81	Avg	67.25	239.58	
8231.58	48.20	V	73.97	-25.77	Peak	183.75	111.70	
8231.58	41.48	V	53.97	-12.49	Avg	183.75	111.70	
9146.20	45.92	V	73.97	-28.05	Peak	108.25	249.97	
9146.20	34.80	V	53.97	-19.17	Avg	108.25	249.97	

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-UFL

Date: 02/16/2017
Lab: D
Tested By: Kyle Fujimoto

Low Data Rate - U.FL
Harmonic Emissions - Power Level 9
Middle Channel - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1829.24								**Not in Restricted**
1829.24								**Band - Done via Conducted**
2743.86	50.56	H	73.97	-23.41	Peak	191.50	127.46	
2743.86	48.50	H	53.97	-5.47	Avg	191.50	127.46	
3658.48	48.13	H	73.97	-25.84	Peak	192.75	159.52	
3658.48	45.45	H	53.97	-8.52	Avg	192.75	159.52	
4573.10	43.27	H	73.97	-30.70	Peak	206.75	111.52	
4573.10	36.68	H	53.97	-17.29	Avg	206.75	111.52	
5487.72								**Not in Restricted**
5487.72								**Band - Done via Conducted**
6402.34								**Not in Restricted**
6402.34								**Band - Done via Conducted**
7316.96	44.03	H	73.97	-29.94	Peak	24.25	249.58	
7316.96	33.46	H	53.97	-20.51	Avg	24.25	249.58	
8231.58	44.65	H	73.97	-29.32	Peak	193.00	239.70	
8231.58	34.23	H	53.97	-19.74	Avg	193.00	239.70	
9146.20	47.09	H	73.97	-26.88	Peak	149.00	207.52	
9146.20	39.10	H	53.97	-14.87	Avg	149.00	207.52	

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-UFL

Date: 02/16/2017
Lab: D
Tested By: Kyle Fujimoto

Low Data Rate - U.FL
Harmonic Emissions - Power Level 9
Middle Channel - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1829.24								**Not in Restricted**
1829.24								**Band - Done via Conducted**
2743.86	52.17	H	73.97	-21.80	Peak	275.00	111.34	
2743.86	50.14	H	53.97	-3.83	Avg	275.00	111.34	
3658.48	47.53	H	73.97	-26.44	Peak	350.25	127.82	
3658.48	45.21	H	53.97	-8.76	Avg	350.25	127.82	
4573.10	43.69	H	73.97	-30.28	Peak	331.50	127.52	
4573.10	37.63	H	53.97	-16.34	Avg	331.50	127.52	
5487.72								**Not in Restricted**
5487.72								**Band - Done via Conducted**
6402.34								**Not in Restricted**
6402.34								**Band - Done via Conducted**
7316.96	48.47	H	73.97	-25.50	Peak	74.25	175.52	
7316.96	42.68	H	53.97	-11.29	Avg	74.25	175.52	
8231.58	50.24	H	73.97	-23.73	Peak	75.00	223.64	
8231.58	44.77	H	53.97	-9.20	Avg	75.00	223.64	
9146.20	47.08	H	73.97	-26.89	Peak	120.75	249.07	
9146.20	38.15	H	53.97	-15.82	Avg	120.75	249.07	

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Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-UFL

Date: 02/16/2017
Lab: D
Tested By: Kyle Fujimoto

Low Data Rate - U.FL
Harmonic Emissions - Power Level 9
Middle Channel - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1829.24								**Not in Restricted**
1829.24								**Band - Done via Conducted**
2743.86	50.46	H	73.97	-23.51	Peak	23.00	175.58	
2743.86	48.80	H	53.97	-5.17	Avg	23.00	175.58	
3658.48	48.14	H	73.97	-25.83	Peak	188.25	143.28	
3658.48	45.20	H	53.97	-8.77	Avg	188.25	143.28	
4573.10	41.17	H	73.97	-32.80	Peak	185.50	174.34	
4573.10	33.26	H	53.97	-20.71	Avg	185.50	174.34	
5487.72								**Not in Restricted**
5487.72								**Band - Done via Conducted**
6402.34								**Not in Restricted**
6402.34								**Band - Done via Conducted**
7316.96	43.76	H	73.97	-30.21	Peak	53.50	175.88	
7316.96	33.14	H	53.97	-20.83	Avg	53.50	175.88	
8231.58	44.35	H	73.97	-29.62	Peak	139.25	239.46	
8231.58	34.23	H	53.97	-19.74	Avg	139.25	239.46	
9146.20	45.86	H	73.97	-28.11	Peak	29.75	239.64	
9146.20	34.96	H	53.97	-19.01	Avg	29.75	239.64	

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-UFL

Date: 02/16/2017
Lab: D

Tested By: Kyle Fujimoto

Low Data Rate - U.FL
Harmonic Emissions - Power Level 9
High Channel - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1853.31		V	--	--	Peak			**Not in Restricted**
1853.31		V	--	--	Avg			**Band - Done via Conducted**
2779.96	49.95	V	73.97	-24.02	Peak	82.25	112.45	
2779.96	47.32	V	53.97	-6.65	Avg	82.25	112.45	
3706.61	43.25	V	73.97	-30.72	Peak	125.00	148.32	
3706.61	38.52	V	53.97	-15.45	Avg	125.00	148.32	
4633.27	41.22	V	73.97	-32.75	Peak	28.25	202.50	
4633.27	36.52	V	53.97	-17.45	Avg	28.25	202.20	
5559.92		V	--	--	Peak			**Not in Restricted**
5559.92		V	--	--	Avg			**Band - Done via Conducted**
6486.57		V	--	--	Peak			**Not in Restricted**
6486.57		V	--	--	Avg			**Band - Done via Conducted**
7413.22	43.56	V	73.97	-30.41	Peak	222.50	102.50	
7413.22	34.59	V	53.97	-19.38	Avg	222.50	102.50	
8339.88	46.87	V	73.97	-27.10	Peak	165.00	142.28	
8339.88	35.21	V	53.97	-18.76	Avg	165.00	142.28	
9266.53		V	73.97	-73.97	Peak			**Not in Restricted**
9266.53		V	53.97	-53.97	Avg			**Band - Done via Conducted**

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-UFL

Date: 02/16/2017
Lab: D
Tested By: Kyle Fujimoto

Low Data Rate - U.FL
Harmonic Emissions - Power Level 9
High Channel - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1853.31								**Not in Restricted**
1853.31								**Band - Done via Conducted**
2779.96	48.72	V	73.97	-25.25	Peak	184.00	111.76	
2779.96	46.92	V	53.97	-7.05	Avg	184.00	111.76	
3706.61	42.80	V	73.97	-31.17	Peak	24.75	127.82	
3706.61	38.14	V	53.97	-15.83	Avg	24.75	127.82	
4633.27	41.26	V	73.97	-32.71	Peak	49.25	111.58	
4633.27	32.18	V	53.97	-21.79	Avg	49.25	111.58	
5559.92								**Not in Restricted**
5559.92								**Band - Done via Conducted**
6486.57								**Not in Restricted**
6486.57								**Band - Done via Conducted**
7413.22	46.02	V	73.97	-27.95	Peak	58.25	111.40	
7413.22	38.88	V	53.97	-15.09	Avg	58.25	111.40	
8339.88	52.32	V	73.97	-21.65	Peak	59.50	191.64	
8339.88	48.70	V	53.97	-5.27	Avg	59.50	191.64	
9266.53								**Not in Restricted**
9266.53								**Band - Done via Conducted**

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-UFL

Date: 02/16/2017
Lab: D
Tested By: Kyle Fujimoto

Low Data Rate - U.FL
Harmonic Emissions - Power Level 9
High Channel - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1853.31								**Not in Restricted**
1853.31								**Band - Done via Conducted**
2779.96	51.94	V	73.97	-22.03	Peak	78.75	111.40	
2779.96	50.34	V	53.97	-3.63	Avg	78.75	111.40	
3706.61	47.43	V	73.97	-26.54	Peak	130.00	143.40	
3706.61	42.78	V	53.97	-11.19	Avg	130.00	143.40	
4633.27	43.53	V	73.97	-28.44	Peak	24.50	159.64	
4633.27	37.55	V	53.97	-16.42	Avg	24.50	159.64	
5559.92								**Not in Restricted**
5559.92								**Band - Done via Conducted**
6486.57								**Not in Restricted**
6486.57								**Band - Done via Conducted**
7413.22	45.23	V	73.97	-28.74	Peak	225.00	223.52	
7413.22	34.01	V	53.97	-19.96	Avg	225.00	223.52	
8339.88	45.75	V	73.97	-28.22	Peak	150.00	143.28	
8339.88	35.31	V	53.97	-18.66	Avg	150.00	143.28	
9266.53								**Not in Restricted**
9266.53								**Band - Done via Conducted**

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-UFL

Date: 02/16/2017
Lab: D
Tested By: Kyle Fujimoto

Low Data Rate - U.FL
Harmonic Emissions - Power Level 9
High Channel - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1853.31								**Not in Restricted**
1853.31								**Band - Done via Conducted**
2779.96	46.13	H	73.97	-27.84	Peak	195.25	191.52	
2779.96	42.84	H	53.97	-11.13	Avg	195.25	191.52	
3706.61	42.88	H	73.97	-31.09	Peak	191.25	111.16	
3706.61	37.43	H	53.97	-16.54	Avg	191.25	111.16	
4633.27	43.87	H	73.97	-30.10	Peak	312.25	127.46	
4633.27	36.76	H	53.97	-17.21	Avg	312.25	127.46	
5559.92								**Not in Restricted**
5559.92								**Band - Done via Conducted**
6486.57								**Not in Restricted**
6486.57								**Band - Done via Conducted**
7413.22	45.78	H	73.97	-28.19	Peak	0.25	159.40	
7413.22	37.11	H	53.97	-16.86	Avg	0.25	159.40	
8339.88	45.03	H	73.97	-28.94	Peak	304.50	239.64	
8339.88	34.61	H	53.97	-19.36	Avg	304.50	239.64	
9266.53								**Not in Restricted**
9266.53								**Band - Done via Conducted**

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-UFL

Date: 02/16/2017
Lab: D
Tested By: Kyle Fujimoto

Low Data Rate - U.FL
Harmonic Emissions - Power Level 9
High Channel - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1853.31								**Not in Restricted**
1853.31								**Band - Done via Conducted**
2779.96	52.53	H	73.97	-21.44	Peak	275.00	127.22	
2779.96	51.18	H	53.97	-2.79	Avg	275.00	127.22	
3706.61	44.08	H	73.97	-29.89	Peak	349.00	127.70	
3706.61	39.36	H	53.97	-14.61	Avg	349.00	127.70	
4633.27	43.34	H	73.97	-30.63	Peak	323.25	111.46	
4633.27	35.49	H	53.97	-18.48	Avg	323.25	111.46	
5559.92								**Not in Restricted**
5559.92								**Band - Done via Conducted**
6486.57								**Not in Restricted**
6486.57								**Band - Done via Conducted**
7413.22	43.83	H	73.97	-30.14	Peak	69.50	111.52	
7413.22	32.90	H	53.97	-21.07	Avg	69.50	111.52	
8339.88	47.49	H	73.97	-26.48	Peak	103.50	239.58	
8339.88	39.69	H	53.97	-14.28	Avg	103.50	239.58	
9266.53								**Not in Restricted**
9266.53								**Band - Done via Conducted**

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-UFL

Date: 02/16/2017
Lab: D
Tested By: Kyle Fujimoto

Low Data Rate - U.FL
Harmonic Emissions - Power Level 9
High Channel - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1853.31								**Not in Restricted**
1853.31								**Band - Done via Conducted**
2779.96	51.11	H	73.97	-22.86	Peak	140.75	239.70	
2779.96	49.51	H	53.97	-4.46	Avg	140.75	239.70	
3706.61	38.25	H	73.97	-35.72	Peak	190.75	127.46	
3706.61	27.23	H	53.97	-26.74	Avg	190.75	127.46	
4633.27	41.08	H	73.97	-32.89	Peak	61.25	143.46	
4633.27	30.13	H	53.97	-23.84	Avg	61.25	143.46	
5559.92								**Not in Restricted**
5559.92								**Band - Done via Conducted**
6486.57								**Not in Restricted**
6486.57								**Band - Done via Conducted**
7413.22	43.83	H	73.97	-30.14	Peak	34.75	239.76	
7413.22	32.93	H	53.97	-21.04	Avg	34.75	239.76	
8339.88	45.56	H	73.97	-28.41	Peak	208.75	191.64	
8339.88	34.41	H	53.97	-19.56	Avg	208.75	191.64	
9266.53								**Not in Restricted**
9266.53								**Band - Done via Conducted**

FCC 15.247 and FCC Class B

Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO- UFL

Date: 02/16/2017
Lab: D
Tested By: Kyle Fujimoto

Low Data Rate – U.FL
Non Harmonic Emissions from the Tx and Digital Portion - 10 kHz to 30 MHz
Non Harmonic Emissions from the Tx and Digital Portion - 1 GHz to 9.3 GHz

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
								No Emissions Detected
								from 10 kHz to 30 MHz
								for the digital portion
								of the EUT
								No Emissions Detected
								from 10 kHz to 30 MHz
								for the Non-Harmonic Emissions
								of the Transmitter for the EUT
								No Emissions Detected
								from 1 GHz to 9.3 GHz
								for the digital portion
								of the EUT
								No Emissions Detected
								from 1 GHz to 9.3 GHz
								for the Non-Harmonic Emissions
								of the Transmitter for the EUT
								Investigated in the X-Axis,
								Y-Axis, and Z-Axis

FCC Class B

Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO- UFL

Date: 02/16/2017

Lab: D
Tested By: Kyle Fujimoto

Low Data Rate – U.FL

Non Harmonic Emissions from Receiver - 1 GHz to 9.3 GHz

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
								No Emissions Detected
								from 1 GHz to 9.3 GHz
								for the receiver portion
								of the EUT
								Investigated in the X-Axis,
								Y-Axis, and Z-Axis

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-UFL

Date: 02/27/2017
Lab: D
Tested By: Kyle Fujimoto

High Data Rate - U.FL
Harmonic Emissions - Power Level 7
Low Channel - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1805.94								**Not in Restricted**
1805.94								**Band - Done via Conducted**
2708.91	52.70	V	73.97	-21.27	Peak	155.50	111.70	
2708.91	50.54	V	53.97	-3.43	Avg	155.50	111.70	
3611.88	47.59	V	73.97	-26.38	Peak	41.00	143.40	
3611.88	44.20	V	53.97	-9.77	Avg	41.00	143.40	
4514.86	37.62	V	73.97	-36.35	Peak	355.75	127.52	
4514.86	27.31	V	53.97	-26.66	Avg	355.75	127.52	
5417.83	46.46	V	73.97	-27.51	Peak	46.25	111.28	
5417.83	40.33	V	53.97	-13.64	Avg	46.25	111.28	
6320.80								**Not in Restricted**
6320.80								**Band - Done via Conducted**
7223.77								**Not in Restricted**
7223.77								**Band - Done via Conducted**
8126.74	44.65	V	73.97	-29.32	Peak	46.75	159.40	
8126.74	33.44	V	53.97	-20.53	Avg	46.75	159.40	
9029.71	47.81	V	73.97	-26.16	Peak	73.75	127.40	
9029.71	38.64	V	53.97	-15.33	Avg	73.75	127.40	

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-UFL

Date: 02/27/2017
Lab: D
Tested By: Kyle Fujimoto

High Data Rate - U.FL
Harmonic Emissions - Power Level 7
Low Channel - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1805.94								**Not in Restricted**
1805.94								**Band - Done via Conducted**
2708.91	51.58	V	73.97	-22.39	Peak	197.50	111.46	
2708.91	50.09	V	53.97	-3.88	Avg	197.50	111.46	
3611.88	46.88	V	73.97	-27.09	Peak	74.50	143.34	
3611.88	43.35	V	53.97	-10.62	Avg	74.50	143.34	
4514.86	38.69	V	73.97	-35.28	Peak	103.75	191.46	
4514.86	27.62	V	53.97	-26.35	Avg	103.75	191.46	
5417.83	42.63	V	73.97	-31.34	Peak	359.95	175.80	
5417.83	33.50	V	53.97	-20.47	Avg	359.95	175.80	
6320.80								**Not in Restricted**
6320.80								**Band - Done via Conducted**
7223.77								**Not in Restricted**
7223.77								**Band - Done via Conducted**
8126.74	47.97	V	73.97	-26.00	Peak	32.50	207.52	
8126.74	39.60	V	53.97	-14.37	Avg	32.50	207.52	
9029.71	52.52	V	73.97	-21.45	Peak	40.50	159.76	
9029.71	48.15	V	53.97	-5.82	Avg	40.50	159.76	

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Linx Technologies
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Model: HUM-A-900-PRO-UFL

Date: 02/27/2017
Lab: D
Tested By: Kyle Fujimoto

High Data Rate - U.FL
Harmonic Emissions - Power Level 7
Low Channel - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1805.94								**Not in Restricted**
1805.94								**Band - Done via Conducted**
2708.91	46.40	V	73.97	-27.57	Peak	174.75	111.52	
2708.91	44.03	V	53.97	-9.94	Avg	174.75	111.52	
3611.88	45.94	V	73.97	-28.03	Peak	347.75	159.46	
3611.88	41.42	V	53.97	-12.55	Avg	347.75	159.46	
4514.86	39.61	V	73.97	-34.36	Peak	239.25	223.64	
4514.86	28.27	V	53.97	-25.70	Avg	239.25	223.64	
5417.83	46.49	V	73.97	-27.48	Peak	33.75	207.94	
5417.83	40.06	V	53.97	-13.91	Avg	33.75	207.94	
6320.80								**Not in Restricted**
6320.80								**Band - Done via Conducted**
7223.77								**Not in Restricted**
7223.77								**Band - Done via Conducted**
8126.74	44.62	V	73.97	-29.35	Peak	94.50	207.88	
8126.74	33.64	V	53.97	-20.33	Avg	94.50	207.88	
9029.71	49.70	V	73.97	-24.27	Peak	215.25	249.92	
9029.71	43.33	V	53.97	-10.64	Avg	215.25	249.92	

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Lab: D
Tested By: Kyle Fujimoto

High Data Rate - U.FL
Harmonic Emissions - Power Level 7
Low Channel - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1805.94								**Not in Restricted**
1805.94								**Band - Done via Conducted**
2708.91	43.41	H	73.97	-30.56	Peak	335.00	111.58	
2708.91	39.00	H	53.97	-14.97	Avg	335.00	111.58	
3611.88	43.45	H	73.97	-30.52	Peak	25.25	127.64	
3611.88	37.77	H	53.97	-16.20	Avg	25.25	127.64	
4514.86	37.80	H	73.97	-36.17	Peak	346.00	239.82	
4514.86	27.31	H	53.97	-26.66	Avg	346.00	239.82	
5417.83	45.39	H	73.97	-28.58	Peak	72.00	127.40	
5417.83	38.35	H	53.97	-15.62	Avg	72.00	127.40	
6320.80								**Not in Restricted**
6320.80								**Band - Done via Conducted**
7223.77								**Not in Restricted**
7223.77								**Band - Done via Conducted**
8126.74	44.44	H	73.97	-29.53	Peak	65.50	191.46	
8126.74	33.53	H	53.97	-20.44	Avg	65.50	191.46	
9029.71	46.58	H	73.97	-27.39	Peak	183.00	159.34	
9029.71	37.53	H	53.97	-16.44	Avg	183.00	159.34	

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Lab: D
Tested By: Kyle Fujimoto

High Data Rate - U.FL
Harmonic Emissions - Power Level 7
Low Channel - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1805.94								**Not in Restricted**
1805.94								**Band - Done via Conducted**
2708.91	47.93	H	73.97	-26.04	Peak	280.50	111.46	
2708.91	45.23	H	53.97	-8.74	Avg	280.50	111.46	
3611.88	47.83	H	73.97	-26.14	Peak	7.00	143.28	
3611.88	43.11	H	53.97	-10.86	Avg	7.00	143.28	
4514.86	40.40	H	73.97	-33.57	Peak	346.00	191.82	
4514.86	31.26	H	53.97	-22.71	Avg	346.00	191.82	
5417.83	50.22	H	73.97	-23.75	Peak	0.25	143.34	
5417.83	46.09	H	53.97	-7.88	Avg	0.25	143.34	
6320.80								**Not in Restricted**
6320.80								**Band - Done via Conducted**
7223.77								**Not in Restricted**
7223.77								**Band - Done via Conducted**
8126.74	47.56	H	73.97	-26.41	Peak	77.00	208.00	
8126.74	39.55	H	53.97	-14.42	Avg	77.00	208.00	
9029.71	49.11	H	73.97	-24.86	Peak	53.00	111.58	
9029.71	42.53	H	53.97	-11.44	Avg	53.00	111.58	

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High Data Rate - U.FL
Harmonic Emissions - Power Level 7
Low Channel - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1805.94								**Not in Restricted**
1805.94								**Band - Done via Conducted**
2708.91	53.20	H	73.97	-20.77	Peak	325.00	175.76	
2708.91	51.73	H	53.97	-2.24	Avg	325.00	175.76	
3611.88	47.23	H	73.97	-26.74	Peak	26.50	159.58	
3611.88	43.59	H	53.97	-10.38	Avg	26.50	159.58	
4514.86	39.85	H	73.97	-34.12	Peak	42.25	111.58	
4514.86	30.83	H	53.97	-23.14	Avg	42.25	111.58	
5417.83	45.41	H	73.97	-28.56	Peak	59.25	111.79	
5417.83	39.14	H	53.97	-14.83	Avg	59.25	111.79	
6320.80								**Not in Restricted**
6320.80								**Band - Done via Conducted**
7223.77								**Not in Restricted**
7223.77								**Band - Done via Conducted**
8126.74	44.80	H	73.97	-29.17	Peak	66.75	249.92	
8126.74	33.27	H	53.97	-20.70	Avg	66.75	249.92	
9029.71	43.78	H	73.97	-30.19	Peak	188.50	223.76	
9029.71	33.39	H	53.97	-20.58	Avg	188.50	223.76	

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High Data Rate - U.FL
Harmonic Emissions - Power Level 7
Middle Channel - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1830.00								**Not in Restricted**
1830.00								**Band - Done via Conducted**
2745.00	51.02	V	73.97	-22.95	Peak	164.00	111.46	
2745.00	49.34	V	53.97	-4.63	Avg	164.00	111.46	
3660.00	45.35	V	73.97	-28.62	Peak	329.00	223.28	
3660.00	41.21	V	53.97	-12.76	Avg	329.00	223.28	
4575.00	40.72	V	73.97	-33.25	Peak	274.00	159.52	
4575.00	32.64	V	53.97	-21.33	Avg	274.00	159.52	
5490.00								**Not in Restricted**
5490.00								**Band - Done via Conducted**
6405.00								**Not in Restricted**
6405.00								**Band - Done via Conducted**
7320.00	43.45	V	73.97	-30.52	Peak	306.25	239.40	
7320.00	42.29	V	53.97	-11.68	Avg	306.25	239.40	
8235.00	44.22	V	73.97	-29.75	Peak	199.00	159.52	
8235.00	33.77	V	53.97	-20.20	Avg	199.00	159.52	
9150.00	48.90	V	73.97	-25.07	Peak	73.75	127.52	
9150.00	41.84	V	53.97	-12.13	Avg	73.75	127.52	

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High Data Rate - U.FL
Harmonic Emissions - Power Level 7
Middle Channel - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1830.00								**Not in Restricted**
1830.00								**Band - Done via Conducted**
2745.00	46.84	V	73.97	-27.13	Peak	143.25	111.58	
2745.00	44.02	V	53.97	-9.95	Avg	143.25	111.58	
3660.00	46.58	V	73.97	-27.39	Peak	29.50	127.64	
3660.00	43.60	V	53.97	-10.37	Avg	29.50	127.64	
4575.00	38.57	V	73.97	-35.40	Peak	131.75	191.64	
4575.00	27.66	V	53.97	-26.31	Avg	131.75	191.64	
5490.00								**Not in Restricted**
5490.00								**Band - Done via Conducted**
6405.00								**Not in Restricted**
6405.00								**Band - Done via Conducted**
7320.00	45.40	V	73.97	-28.57	Peak	47.25	127.82	
7320.00	36.19	V	53.97	-17.78	Avg	47.25	127.82	
8235.00	47.98	V	73.97	-25.99	Peak	43.75	111.46	
8235.00	39.83	V	53.97	-14.14	Avg	43.75	111.46	
9150.00	54.52	V	73.97	-19.45	Peak	45.25	159.52	
9150.00	50.21	V	53.97	-3.76	Avg	45.25	159.52	

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High Data Rate - U.FL
Harmonic Emissions - Power Level 7
Middle Channel - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1830.00								**Not in Restricted**
1830.00								**Band - Done via Conducted**
2745.00	46.25	V	73.97	-27.72	Peak	259.25	127.82	
2745.00	42.73	V	53.97	-11.24	Avg	259.25	127.82	
3660.00	42.76	V	73.97	-31.21	Peak	43.75	127.46	
3660.00	36.81	V	53.97	-17.16	Avg	43.75	127.46	
4575.00	40.70	V	73.97	-33.27	Peak	34.75	159.52	
4575.00	32.82	V	53.97	-21.15	Avg	34.75	159.52	
5490.00								**Not in Restricted**
5490.00								**Band - Done via Conducted**
6405.00								**Not in Restricted**
6405.00								**Band - Done via Conducted**
7320.00	43.20	V	73.97	-30.77	Peak	144.25	111.64	
7320.00	32.33	V	53.97	-21.64	Avg	144.25	111.64	
8235.00	43.56	V	73.97	-30.41	Peak	318.50	175.58	
8235.00	33.24	V	53.97	-20.73	Avg	318.50	175.58	
9150.00	49.49	V	73.97	-24.48	Peak	223.50	159.46	
9150.00	41.70	V	53.97	-12.27	Avg	223.50	159.46	

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High Data Rate - U.FL
Harmonic Emissions - Power Level 7
Middle Channel - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1830.00								**Not in Restricted**
1830.00								**Band - Done via Conducted**
2745.00	42.41	H	73.97	-31.56	Peak	200.75	127.52	
2745.00	36.56	H	53.97	-17.41	Avg	200.75	127.52	
3660.00	43.12	H	73.97	-30.85	Peak	2.25	159.46	
3660.00	38.43	H	53.97	-15.54	Avg	2.25	159.46	
4575.00	38.78	H	73.97	-35.19	Peak	209.25	207.64	
4575.00	27.94	H	53.97	-26.03	Avg	209.25	207.64	
5490.00								**Not in Restricted**
5490.00								**Band - Done via Conducted**
6405.00								**Not in Restricted**
6405.00								**Band - Done via Conducted**
7320.00	44.76	H	73.97	-29.21	Peak	172.75	111.52	
7320.00	33.48	H	53.97	-20.49	Avg	172.75	111.52	
8235.00	45.40	H	73.97	-28.57	Peak	160.25	223.64	
8235.00	33.68	H	53.97	-20.29	Avg	160.25	223.64	
9150.00	48.44	H	73.97	-25.53	Peak	132.25	127.34	
9150.00	40.41	H	53.97	-13.56	Avg	132.25	127.34	

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High Data Rate - U.FL
Harmonic Emissions - Power Level 7
Middle Channel - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1830.00								**Not in Restricted**
1830.00								**Band - Done via Conducted**
2745.00	43.79	H	73.97	-30.18	Peak	181.00	111.46	
2745.00	39.98	H	53.97	-13.99	Avg	181.00	111.46	
3660.00	48.39	H	73.97	-25.58	Peak	1.25	175.52	
3660.00	45.50	H	53.97	-8.47	Avg	1.25	175.52	
4575.00	39.58	H	73.97	-34.39	Peak	80.50	191.58	
4575.00	29.25	H	53.97	-24.72	Avg	80.50	191.58	
5490.00								**Not in Restricted**
5490.00								**Band - Done via Conducted**
6405.00								**Not in Restricted**
6405.00								**Band - Done via Conducted**
7320.00	48.61	H	73.97	-25.36	Peak	59.00	175.40	
7320.00	42.25	H	53.97	-11.72	Avg	59.00	175.40	
8235.00	47.83	H	73.97	-26.14	Peak	69.75	223.64	
8235.00	38.82	H	53.97	-15.15	Avg	69.75	223.64	
9150.00	50.18	H	73.97	-23.79	Peak	40.00	127.64	
9150.00	43.97	H	53.97	-10.00	Avg	40.00	127.64	

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Harmonic Emissions - Power Level 7
Middle Channel - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1830.00								**Not in Restricted**
1830.00								**Band - Done via Conducted**
2745.00	50.06	H	73.97	-23.91	Peak	31.75	111.52	
2745.00	48.11	H	53.97	-5.86	Avg	31.75	111.52	
3660.00	46.16	H	73.97	-27.81	Peak	28.25	127.64	
3660.00	42.93	H	53.97	-11.04	Avg	28.25	127.64	
4575.00	39.89	H	73.97	-34.08	Peak	127.25	127.70	
4575.00	27.82	H	53.97	-26.15	Avg	127.25	127.70	
5490.00								**Not in Restricted**
5490.00								**Band - Done via Conducted**
6405.00								**Not in Restricted**
6405.00								**Band - Done via Conducted**
7320.00	43.87	H	73.97	-30.10	Peak	205.00	143.52	
7320.00	32.36	H	53.97	-21.61	Avg	205.00	143.52	
8235.00	44.28	H	73.97	-29.69	Peak	257.00	223.88	
8235.00	33.34	H	53.97	-20.63	Avg	257.00	223.88	
9150.00	46.90	H	73.97	-27.07	Peak	14.75	223.64	
9150.00	37.22	H	53.97	-16.75	Avg	14.75	223.64	

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Harmonic Emissions - Power Level 7
High Channel - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1852.54								**Not in Restricted**
1852.54								**Band - Done via Conducted**
2778.81	45.94	V	73.97	-28.03	Peak	136.75	111.40	
2778.81	41.95	V	53.97	-12.02	Avg	136.75	111.40	
3705.08	45.14	V	73.97	-28.83	Peak	340.75	175.52	
3705.08	40.98	V	53.97	-12.99	Avg	340.75	175.52	
4631.35	44.23	V	73.97	-29.74	Peak	183.25	159.76	
4631.35	36.17	V	53.97	-17.80	Avg	183.25	159.76	
5557.62								**Not in Restricted**
5557.62								**Band - Done via Conducted**
6483.89								**Not in Restricted**
6483.89								**Band - Done via Conducted**
7410.16	43.73	V	73.97	-30.24	Peak	6.75	239.58	
7410.16	33.06	V	53.97	-20.91	Avg	6.75	239.58	
8336.43	45.92	V	73.97	-28.05	Peak	269.00	143.58	
8336.43	35.15	V	53.97	-18.82	Avg	269.00	143.58	
9262.70								**Not in Restricted**
9262.70								**Band - Done via Conducted**

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Harmonic Emissions - Power Level 7
High Channel - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1852.54								**Not in Restricted**
1852.54								**Band - Done via Conducted**
2778.81	42.90	V	73.97	-31.07	Peak	58.00	111.82	
2778.81	38.39	V	53.97	-15.58	Avg	58.00	111.82	
3705.08	44.71	V	73.97	-29.26	Peak	14.50	175.88	
3705.08	40.49	V	53.97	-13.48	Avg	14.50	175.88	
4631.35	40.71	V	73.97	-33.26	Peak	82.00	113.25	
4631.35	30.38	V	53.97	-23.59	Avg	82.00	113.25	
5557.62								**Not in Restricted**
5557.62								**Band - Done via Conducted**
6483.89								**Not in Restricted**
6483.89								**Band - Done via Conducted**
7410.16	45.84	V	73.97	-28.13	Peak	43.00	111.20	
7410.16	36.44	V	53.97	-17.53	Avg	43.00	111.20	
8336.43	47.96	V	73.97	-26.01	Peak	38.00	159.98	
8336.43	39.92	V	53.97	-14.05	Avg	38.00	159.98	
9262.70								**Not in Restricted**
9262.70								**Band - Done via Conducted**

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-UFL

Date: 02/27/2017
Lab: D
Tested By: Kyle Fujimoto

High Data Rate - U.FL
Harmonic Emissions - Power Level 7
High Channel - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1852.54								**Not in Restricted**
1852.54								**Band - Done via Conducted**
2778.81	45.58	V	73.97	-28.39	Peak	250.25	111.28	
2778.81	41.56	V	53.97	-12.41	Avg	250.25	111.28	
3705.08	47.76	V	73.97	-26.21	Peak	331.25	127.46	
3705.08	44.37	V	53.97	-9.60	Avg	331.25	127.46	
4631.35	43.98	V	73.97	-29.99	Peak	301.75	191.64	
4631.35	35.58	V	53.97	-18.39	Avg	301.75	191.64	
5557.62								**Not in Restricted**
5557.62								**Band - Done via Conducted**
6483.89								**Not in Restricted**
6483.89								**Band - Done via Conducted**
7410.16	47.99	V	73.97	-25.98	Peak	331.25	223.52	
7410.16	34.73	V	53.97	-19.24	Avg	331.25	223.52	
8336.43	44.79	V	73.97	-29.18	Peak	72.75	127.46	
8336.43	34.59	V	53.97	-19.38	Avg	72.75	127.46	
9262.70								**Not in Restricted**
9262.70								**Band - Done via Conducted**

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-UFL

Date: 02/27/2017
Lab: D
Tested By: Kyle Fujimoto

High Data Rate - U.FL
Harmonic Emissions - Power Level 7
High Channel - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1852.54								**Not in Restricted**
1852.54								**Band - Done via Conducted**
2778.81	45.00	H	73.97	-28.97	Peak	21.25	111.88	
2778.81	41.00	H	53.97	-12.97	Avg	21.25	111.88	
3705.08	44.78	H	73.97	-29.19	Peak	17.00	143.64	
3705.08	39.09	H	53.97	-14.88	Avg	17.00	143.64	
4631.35	41.02	H	73.97	-32.95	Peak	129.00	111.64	
4631.35	30.29	H	53.97	-23.68	Avg	129.00	111.64	
5557.62								**Not in Restricted**
5557.62								**Band - Done via Conducted**
6483.89								**Not in Restricted**
6483.89								**Band - Done via Conducted**
7410.16	44.10	H	73.97	-29.87	Peak	174.25	143.46	
7410.16	33.10	H	53.97	-20.87	Avg	174.25	143.46	
8336.43	45.08	H	73.97	-28.89	Peak	295.50	223.64	
8336.43	34.30	H	53.97	-19.67	Avg	295.50	223.64	
9262.70								**Not in Restricted**
9262.70								**Band - Done via Conducted**

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-UFL

Date: 02/27/2017
Lab: D
Tested By: Kyle Fujimoto

High Data Rate - U.FL
Harmonic Emissions - Power Level 7
High Channel - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1852.54								**Not in Restricted**
1852.54								**Band - Done via Conducted**
2778.81	45.77	H	73.97	-28.20	Peak	351.50	127.64	
2778.81	42.73	H	53.97	-11.24	Avg	351.50	127.64	
3705.08	47.11	H	73.97	-26.86	Peak	3.25	191.46	
3705.08	44.26	H	53.97	-9.71	Avg	3.25	191.46	
4631.35	41.68	H	73.97	-32.29	Peak	27.75	143.82	
4631.35	32.63	H	53.97	-21.34	Avg	27.75	143.82	
5557.62								**Not in Restricted**
5557.62								**Band - Done via Conducted**
6483.89								**Not in Restricted**
6483.89								**Band - Done via Conducted**
7410.16	48.39	H	73.97	-25.58	Peak	52.50	111.70	
7410.16	41.98	H	53.97	-11.99	Avg	52.50	111.70	
8336.43	45.76	H	73.97	-28.21	Peak	67.00	175.52	
8336.43	36.25	H	53.97	-17.72	Avg	67.00	175.52	
9262.70								**Not in Restricted**
9262.70								**Band - Done via Conducted**

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-UFL

Date: 02/27/2017
Lab: D
Tested By: Kyle Fujimoto

High Data Rate - U.FL
Harmonic Emissions - Power Level 7
High Channel - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1852.54								**Not in Restricted**
1852.54								**Band - Done via Conducted**
2778.81	44.76	H	73.97	-29.21	Peak	201.00	111.52	
2778.81	40.20	H	53.97	-13.77	Avg	201.00	111.52	
3705.08	48.01	H	73.97	-25.96	Peak	331.25	111.46	
3705.08	43.60	H	53.97	-10.37	Avg	331.25	111.46	
4631.35	44.88	H	73.97	-29.09	Peak	318.25	159.46	
4631.35	37.65	H	53.97	-16.32	Avg	318.25	159.46	
5557.62								**Not in Restricted**
5557.62								**Band - Done via Conducted**
6483.89								**Not in Restricted**
6483.89								**Band - Done via Conducted**
7410.16	48.57	H	73.97	-25.40	Peak	324.00	127.58	
7410.16	41.15	H	53.97	-12.82	Avg	324.00	127.58	
8336.43	45.33	H	73.97	-28.64	Peak	257.25	127.70	
8336.43	34.48	H	53.97	-19.49	Avg	257.25	127.70	
9262.70								**Not in Restricted**
9262.70								**Band - Done via Conducted**

FCC 15.247 and FCC Class B
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-UFL

Date: 03/01/2017
Lab: D
Tested By: Kyle Fujimoto

High Data Rate - U.FL
Non Harmonic Emissions from the Tx and Digital Portion - 9 kHz to 30 MHz
Non Harmonic Emissions from the Tx and Digital Portion - 1 GHz to 9.3 GHz

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
								No Emissions Detected
								from 9 kHz to 30 MHz
								for the digital portion
								of the EUT
								No Emissions Detected
								from 9 kHz to 30 MHz
								for the Non-Harmonic Emissions
								of the Transmitter for the EUT
								No Emissions Detected
								from 1 GHz to 9.3 GHz
								for the digital portion
								of the EUT
								No Emissions Detected
								from 1 GHz to 9.3 GHz
								for the Non-Harmonic Emissions
								of the Transmitter for the EUT
								Investigated in the X-Axis,
								Y-Axis, and Z-Axis

FCC 15.247 and FCC Class B

Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-UFL

Date: 03/01/2017
Lab: D
Tested By: Kyle Fujimoto

High Data Rate - U.FL
Non Harmonic Emissions from the Tx and Digital Portion - 10 kHz to 30 MHz
Non Harmonic Emissions from the Tx and Digital Portion - 1 GHz to 9.3 GHz

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
								No Emissions Detected
								from 1 GHz to 9.3 GHz
								for the receiver portion
								of the EUT
								Investigated in the X-Axis,
								Y-Axis, and Z-Axis

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-CAS

Date: 02/22/2017
Lab: D
Tested By: Kyle Fujimoto

Low Data Rate - uSP Splatch Antenna
Harmonic Emissions - Power Level 9
Low Channel - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1805.94	72.56	V	94.48	-21.92	Peak	120.25	102.50	**Not in Restricted**
								Band
2708.91	42.28	V	73.97	-31.69	Peak	57.50	127.52	
2708.91	37.82	V	53.97	-16.15	Avg	57.50	127.52	
3611.88	49.90	V	73.97	-24.07	Peak	277.75	111.70	
3611.88	46.40	V	53.97	-7.57	Avg	277.75	111.70	
4514.86	44.91	V	73.97	-29.06	Peak	268.75	143.58	
4514.86	39.36	V	53.97	-14.61	Avg	268.75	143.58	
5417.83	49.14	V	73.97	-24.83	Peak	306.50	175.52	
5417.83	44.94	V	53.97	-9.03	Avg	306.50	175.52	
6320.80	48.59	V	94.48	-45.89	Peak	305.50	112.25	**Not in Restricted**
								Band
7223.77	44.58	V	94.48	-49.90	Peak	307.50	113.50	**Not in Restricted**
								Band
8126.74	47.10	V	73.97	-26.87	Peak	254.75	143.58	
8126.74	37.63	V	53.97	-16.34	Avg	254.75	143.58	
9029.71	45.19	V	73.97	-28.78	Peak	74.00	127.58	
9029.71	34.28	V	53.97	-19.69	Avg	74.00	127.58	

*Note: The worst case fundamental measured is 114.48 dBuv/m using 100 kHz RBW for the low channel at the low data rate

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-CAS

Date: 02/22/2017
Lab: D
Tested By: Kyle Fujimoto

Low Data Rate - uSP Splatch Antenna
Harmonic Emissions - Power Level 9
Low Channel - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1805.94	70.59	V	94.48	-23.89	Peak	122.25	115.50	**Not in Restricted**
								Band
2708.91	42.27	V	73.97	-31.70	Peak	288.50	111.64	
2708.91	38.13	V	53.97	-15.84	Avg	288.50	111.64	
3611.88	48.75	V	73.97	-25.22	Peak	334.50	175.64	
3611.88	46.22	V	53.97	-7.75	Avg	334.50	175.64	
4514.86	44.13	V	73.97	-29.84	Peak	321.50	127.70	
4514.86	38.39	V	53.97	-15.58	Avg	321.50	127.70	
5417.83	48.65	V	73.97	-25.32	Peak	326.25	249.94	
5417.83	44.30	V	53.97	-9.67	Avg	326.25	249.94	
6320.80	46.58	V	94.48	-47.90	Peak	302.75	248.50	**Not in Restricted**
								Band
7223.77	45.21	V	94.48	-49.27	Peak	299.25	178.25	**Not in Restricted**
								Band
8126.74	52.28	V	73.97	-21.69	Peak	345.25	191.82	
8126.74	48.31	V	53.97	-5.66	Avg	345.25	191.82	
9029.71	50.89	V	73.97	-23.08	Peak	350.00	175.52	
9029.71	45.89	V	53.97	-8.08	Avg	350.00	175.52	

*Note: The worst case fundamental measured is 114.48 dBuv/m using 100 kHz RBW for the low channel at the low data rate

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-CAS

Date: 02/22/2017
Lab: D
Tested By: Kyle Fujimoto

Low Data Rate - uSP Splatch Antenna
Harmonic Emissions - Power Level 9
Low Channel - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1805.94	68.51	V	94.48	-25.97	Peak	116.50	101.50	**Not in Restricted**
								Band
2708.91	46.74	V	73.97	-27.23	Peak	293.25	127.46	
2708.91	44.26	V	53.97	-9.71	Avg	293.25	127.46	
3611.88	47.39	V	73.97	-26.58	Peak	0.00	111.46	
3611.88	44.38	V	53.97	-9.59	Avg	0.00	111.46	
4514.86	44.11	V	73.97	-29.86	Peak	303.75	175.52	
4514.86	38.43	V	53.97	-15.54	Avg	303.75	175.52	
5417.83	49.20	V	73.97	-24.77	Peak	327.75	127.76	
5417.83	45.03	V	53.97	-8.94	Avg	327.75	127.76	
6320.80	42.36	V	94.48	-52.12	Peak	326.25	113.75	**Not in Restricted**
								Band
7223.77	45.58	V	94.48	-48.90	Peak	328.00	114.25	**Not in Restricted**
								Band
8126.74	47.36	V	73.97	-26.61	Peak	24.00	191.64	
8126.74	39.88	V	53.97	-14.09	Avg	24.00	191.64	
9029.71	52.96	V	73.97	-21.01	Peak	332.50	191.58	
9029.71	49.20	V	53.97	-4.77	Avg	332.50	191.58	

*Note: The worst case fundamental measured is 114.48 dBuv/m using 100 kHz RBW for the low channel at the low data rate

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-CAS

Date: 02/22/2017
Lab: D
Tested By: Kyle Fujimoto

Low Data Rate - uSP Splatch Antenna
Harmonic Emissions - Power Level 9
Low Channel - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1805.94	70.26	H	94.48	-24.22	Peak	286.00	174.50	**Not in Restricted**
								Band
2708.91	44.47	H	73.97	-29.50	Peak	284.00	175.70	
2708.91	41.29	H	53.97	-12.68	Avg	284.00	175.70	
3611.88	49.58	H	73.97	-24.39	Peak	267.50	159.70	
3611.88	47.44	H	53.97	-6.53	Avg	267.50	159.70	
4514.86	43.40	H	73.97	-30.57	Peak	264.50	143.58	
4514.86	37.09	H	53.97	-16.88	Avg	264.50	143.58	
5417.83	46.47	H	73.97	-27.50	Peak	314.50	127.22	
5417.83	40.46	H	53.97	-13.51	Avg	314.50	127.22	
6320.80	45.28	H	94.48	-49.20	Peak	354.50	128.50	**Not in Restricted**
								Band
7223.77	44.32	H	94.48	-50.16	Peak	31.25	130.50	**Not in Restricted**
								Band
8126.74	45.03	H	73.97	-28.94	Peak	320.75	239.64	
8126.74	34.32	H	53.97	-19.65	Avg	320.75	239.64	
9029.71	44.90	H	73.97	-29.07	Peak	277.00	159.52	
9029.71	34.90	H	53.97	-19.07	Avg	277.00	159.52	

*Note: The worst case fundamental measured is 114.48 dBuv/m using 100 kHz RBW for the low channel at the low data rate

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-CAS

Date: 02/22/2017
Lab: D
Tested By: Kyle Fujimoto

Low Data Rate - uSP Splatch Antenna
Harmonic Emissions - Power Level 9
Low Channel - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1805.94	71.45	H	94.48	-23.03	Peak	352.25	158.25	**Not in Restricted**
								Band
2708.91	47.20	H	73.97	-26.77	Peak	351.25	159.70	
2708.91	44.94	H	53.97	-9.03	Avg	351.25	159.70	
3611.88	49.83	H	73.97	-24.14	Peak	228.00	143.28	
3611.88	47.58	H	53.97	-6.39	Avg	228.00	143.28	
4514.86	45.52	H	73.97	-28.45	Peak	224.00	159.10	
4514.86	40.51	H	53.97	-13.46	Avg	224.00	159.10	
5417.83	50.62	H	73.97	-23.35	Peak	268.25	143.58	
5417.83	47.67	H	53.97	-6.30	Avg	268.25	143.58	
6320.80	48.51	H	94.48	-45.97	Peak	351.25	157.25	**Not in Restricted**
								Band
7223.77	47.10	H	94.48	-47.38	Peak	348.25	155.25	**Not in Restricted**
								Band
8126.74	51.07	H	73.97	-22.90	Peak	0.00	222.86	
8126.74	46.15	H	53.97	-7.82	Avg	0.00	222.86	
9029.71	52.18	H	73.97	-21.79	Peak	332.50	111.34	
9029.71	48.04	H	53.97	-5.93	Avg	332.50	111.34	

*Note: The worst case fundamental measured is 114.48 dBuv/m using 100 kHz RBW for the low channel at the low data rate

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-CAS

Date: 02/22/2017
Lab: D
Tested By: Kyle Fujimoto

Low Data Rate - uSP Splatch Antenna
Harmonic Emissions - Power Level 9
Low Channel - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1805.94	69.54	H	94.48	-24.94	Peak	26.25	102.50	**Not in Restricted**
								Band
2708.91	46.26	H	73.97	-27.71	Peak	190.75	111.52	
2708.91	43.80	H	53.97	-10.17	Avg	190.75	111.52	
3611.88	49.75	H	73.97	-24.22	Peak	343.50	143.40	
3611.88	47.36	H	53.97	-6.61	Avg	343.50	143.40	
4514.86	42.51	H	73.97	-31.46	Peak	226.25	127.52	
4514.86	35.22	H	53.97	-18.75	Avg	226.25	127.52	
5417.83	52.23	H	73.97	-21.74	Peak	276.00	175.58	
5417.83	49.86	H	53.97	-4.11	Avg	276.00	175.58	
6320.80	42.26	H	94.48	-52.22	Peak	276.25	125.57	**Not in Restricted**
								Band
7223.77	43.28	H	94.48	-51.20	Peak	277.25	126.59	**Not in Restricted**
								Band
8126.74	52.28	H	73.97	-21.69	Peak	316.50	159.52	
8126.74	47.92	H	53.97	-6.05	Avg	316.50	159.52	
9029.71	51.10	H	73.97	-22.87	Peak	301.50	127.46	
9029.71	46.58	H	53.97	-7.39	Avg	301.50	127.46	

*Note: The worst case fundamental measured is 114.48 dBuv/m using 100 kHz RBW for the low channel at the low data rate

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-CAS

Date: 02/22/2017
Lab: D
Tested By: Kyle Fujimoto

Low Data Rate - uSP Splatch Antenna
Harmonic Emissions - Power Level 9
Middle Channel - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1829.24	71.58	V	95.25	-23.67	Peak	186.50	160.57	**Not in Restricted**
								Band
2743.86	43.70	V	73.97	-30.27	Peak	185.75	159.58	
2743.86	39.66	V	53.97	-14.31	Avg	185.75	159.58	
3658.48	47.28	V	73.97	-26.69	Peak	213.50	159.64	
3658.48	44.14	V	53.97	-9.83	Avg	213.50	159.64	
4573.10	43.97	V	73.97	-30.00	Peak	270.25	143.40	
4573.10	37.57	V	53.97	-16.40	Avg	270.25	143.40	
5487.72	42.26	V	95.25	-52.99	Peak	275.25	161.26	**Not in Restricted**
								Band
6402.34	43.58	V	95.25	-51.67	Peak	275.25	163.27	**Not in Restricted**
								Band
7316.96	44.28	V	73.97	-29.69	Peak	239.75	249.95	
7316.96	33.46	V	53.97	-20.51	Avg	239.75	249.95	
8231.58	48.65	V	73.97	-25.32	Peak	259.50	159.58	
8231.58	40.56	V	53.97	-13.41	Avg	259.50	159.58	
9146.20	45.56	V	73.97	-28.41	Peak	116.75	249.92	
9146.20	34.82	V	53.97	-19.15	Avg	116.75	249.92	

*Note: The worst case fundamental measured is 115.25 dBuv/m using 100 kHz RBW for the middle channel at the low data rate

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-CAS

Date: 02/22/2017
Lab: D
Tested By: Kyle Fujimoto

Low Data Rate - uSP Splatch Antenna
Harmonic Emissions - Power Level 9
Middle Channel - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1829.24	72.26	V	95.25	-22.99	Peak	334.50	112.58	**Not in Restricted**
								Band
2743.86	45.23	V	73.97	-28.74	Peak	332.50	111.40	
2743.86	42.03	V	53.97	-11.94	Avg	332.50	111.40	
3658.48	46.86	V	73.97	-27.11	Peak	303.25	175.64	
3658.48	43.68	V	53.97	-10.29	Avg	303.25	175.64	
4573.10	41.53	V	73.97	-32.44	Peak	314.25	127.34	
4573.10	32.60	V	53.97	-21.37	Avg	314.25	127.34	
5487.72	42.59	V	95.25	-52.66	Peak	258.50	113.54	**Not in Restricted**
								Band
6402.34	43.54	V	95.25	-51.71	Peak	259.50	116.54	**Not in Restricted**
								Band
7316.96	46.80	V	73.97	-27.17	Peak	331.25	175.28	
7316.96	39.29	V	53.97	-14.68	Avg	331.25	175.28	
8231.58	51.83	V	73.97	-22.14	Peak	309.00	111.16	
8231.58	47.05	V	53.97	-6.92	Avg	309.00	111.16	
9146.20	51.63	V	73.97	-22.34	Peak	332.50	159.58	
9146.20	46.67	V	53.97	-7.30	Avg	332.50	159.58	

*Note: The worst case fundamental measured is 115.25 dBuv/m using 100 kHz RBW for the middle channel at the low data rate

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-CAS

Date: 02/22/2017
Lab: D
Tested By: Kyle Fujimoto

Low Data Rate - uSP Splatch Antenna
Harmonic Emissions - Power Level 9
Middle Channel - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1829.24	64.59	V	95.25	-30.66	Peak	245.50	125.54	**Not in Restricted**
								Band
2743.86	49.76	V	73.97	-24.21	Peak	191.26	111.58	
2743.86	47.46	V	53.97	-6.51	Avg	191.26	111.58	
3658.48	47.26	V	73.97	-26.71	Peak	0.00	127.40	
3658.48	44.47	V	53.97	-9.50	Avg	0.00	127.40	
4573.10	44.10	V	73.97	-29.87	Peak	283.75	111.46	
4573.10	38.70	V	53.97	-15.27	Avg	283.75	111.46	
5487.72	41.25	V	95.25	-54.00	Peak	286.75	127.58	**Not in Restricted**
								Band
6402.34	42.39	V	95.25	-52.86	Peak	286.75	129.54	**Not in Restricted**
								Band
7316.96	45.20	V	73.97	-28.77	Peak	76.25	143.46	
7316.96	35.21	V	53.97	-18.76	Avg	76.25	143.46	
8231.58	53.73	V	73.97	-20.24	Peak	318.75	159.82	
8231.58	50.35	V	53.97	-3.62	Avg	318.75	159.82	
9146.20	51.54	V	73.97	-22.43	Peak	327.50	127.46	
9146.20	46.54	V	53.97	-7.43	Avg	327.50	127.46	

*Note: The worst case fundamental measured is 115.25 dBuv/m using 100 kHz RBW for the middle channel at the low data rate

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-CAS

Date: 02/22/2017
Lab: D
Tested By: Kyle Fujimoto

Low Data Rate - uSP Splatch Antenna
Harmonic Emissions - Power Level 9
Middle Channel - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1829.24	65.24	H	95.25	-30.01	Peak	221.50	169.25	**Not in Restricted**
								Band
2743.86	48.16	H	73.97	-25.81	Peak	280.00	143.70	
2743.86	46.02	H	53.97	-7.95	Avg	280.00	143.70	
3658.48	48.42	H	73.97	-25.55	Peak	265.75	143.52	
3658.48	45.72	H	53.97	-8.25	Avg	265.75	143.52	
4573.10	42.33	H	73.97	-31.64	Peak	272.25	111.40	
4573.10	35.42	H	53.97	-18.55	Avg	272.25	111.40	
5487.72	42.21	H	95.25	-53.04	Peak	265.25	184.26	**Not in Restricted**
								Band
6402.34	43.96	H	95.25	-51.29	Peak	285.00	202.58	**Not in Restricted**
								Band
7316.96	43.47	H	73.97	-30.50	Peak	246.25	127.52	
7316.96	33.40	H	53.97	-20.57	Avg	246.25	127.52	
8231.58	48.25	H	73.97	-25.72	Peak	276.25	223.70	
8231.58	39.83	H	53.97	-14.14	Avg	276.25	223.70	
9146.20	47.69	H	73.97	-26.28	Peak	89.75	175.52	
9146.20	39.39	H	53.97	-14.58	Avg	89.75	175.52	

*Note: The worst case fundamental measured is 115.25 dBuv/m using 100 kHz RBW for the middle channel at the low data rate

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-CAS

Date: 02/22/2017
Lab: D
Tested By: Kyle Fujimoto

Low Data Rate - uSP Splatch Antenna
Harmonic Emissions - Power Level 9
Middle Channel - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1829.24	64.25	H	95.25	-31.00	Peak	321.50	174.51	**Not in Restricted**
								Band
2743.86	49.32	H	73.97	-24.65	Peak	322.75	175.34	
2743.86	47.22	H	53.97	-6.75	Avg	322.75	175.34	
3658.48	48.02	H	73.97	-25.95	Peak	228.00	143.40	
3658.48	45.23	H	53.97	-8.74	Avg	228.00	143.40	
4573.10	43.87	H	73.97	-30.10	Peak	315.00	127.52	
4573.10	37.93	H	53.97	-16.04	Avg	315.00	127.52	
5487.72	42.58	H	95.25	-52.67	Peak	310.00	170.25	**Not in Restricted**
								Band
6402.34	41.65	H	95.25	-53.60	Peak	304.00	168.25	**Not in Restricted**
								Band
7316.96	49.55	H	73.97	-24.42	Peak	319.75	207.46	
7316.96	44.68	H	53.97	-9.29	Avg	319.75	207.46	
8231.58	52.49	H	73.97	-21.48	Peak	327.75	207.82	
8231.58	48.02	H	53.97	-5.95	Avg	327.75	207.82	
9146.20	49.60	H	73.97	-24.37	Peak	309.75	127.40	
9146.20	43.00	H	53.97	-10.97	Avg	309.75	127.40	

*Note: The worst case fundamental measured is 115.25 dBuv/m using 100 kHz RBW for the middle channel at the low data rate

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-CAS

Date: 02/22/2017
Lab: D
Tested By: Kyle Fujimoto

Low Data Rate - uSP Splatch Antenna
Harmonic Emissions - Power Level 9
Middle Channel - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1829.24	64.26	H	95.25	-30.99	Peak	312.50	126.54	**Not in Restricted**
								Band
2743.86	49.30	H	73.97	-24.67	Peak	315.50	127.58	
2743.86	47.42	H	53.97	-6.55	Avg	315.50	127.58	
3658.48	44.20	H	73.97	-29.77	Peak	305.00	143.34	
3658.48	39.59	H	53.97	-14.38	Avg	305.00	143.34	
4573.10	43.67	H	73.97	-30.30	Peak	324.00	175.64	
4573.10	37.19	H	53.97	-16.78	Avg	324.00	175.64	
5487.72	41.56	H	95.25	-53.69	Peak	333.50	128.56	**Not in Restricted**
								Band
6402.34	40.25	H	95.25	-55.00	Peak	305.25	129.75	**Not in Restricted**
								Band
7316.96	44.10	H	73.97	-29.87	Peak	76.75	175.46	
7316.96	33.30	H	53.97	-20.67	Avg	76.75	175.46	
8231.58	48.62	H	73.97	-25.35	Peak	360.00	127.52	
8231.58	40.17	H	53.97	-13.80	Avg	360.00	127.52	
9146.20	51.98	H	73.97	-21.99	Peak	329.75	127.52	
9146.20	46.27	H	53.97	-7.70	Avg	329.75	127.52	

*Note: The worst case fundamental measured is 115.25 dBuv/m using 100 kHz RBW for the middle channel at the low data rate

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-CAS

Date: 02/22/2017
Lab: D
Tested By: Kyle Fujimoto

Low Data Rate - uSP Splatch Antenna
Harmonic Emissions - Power Level 9
High Channel - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1853.31	66.45	V	94.48	-28.03	Peak	288.25	159.54	**Not in Restricted**
								Band
2779.96	46.23	V	73.97	-27.74	Peak	189.50	175.64	
2779.96	43.33	V	53.97	-10.64	Avg	189.50	175.64	
3706.61	45.35	V	73.97	-28.62	Peak	210.50	143.46	
3706.61	41.56	V	53.97	-12.41	Avg	210.50	143.46	
4633.27	44.53	V	73.97	-29.44	Peak	278.25	127.34	
4633.27	38.12	V	53.97	-15.85	Avg	278.25	127.34	
5559.92	42.59	V	94.48	-51.89	Peak	313.50	140.45	**Not in Restricted**
								Band
6486.57	43.54	V	94.48	-50.94	Peak	205.50	128.55	**Not in Restricted**
								Band
7413.22	44.30	V	73.97	-29.67	Peak	162.00	223.40	
7413.22	33.36	V	53.97	-20.61	Avg	162.00	223.40	
8339.88	49.44	V	73.97	-24.53	Peak	227.75	207.46	
8339.88	43.53	V	53.97	-10.44	Avg	227.75	207.46	
9266.53	48.54	V	94.48	-45.94	Peak	226.50	208.54	**Not in Restricted**
								Band

*Note: The worst case fundamental measured is 114.48 dBuv/m using 100 kHz RBW for the high channel at the low data rate

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Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-CAS

Date: 02/22/2017
Lab: D
Tested By: Kyle Fujimoto

Low Data Rate - uSP Splatch Antenna
Harmonic Emissions - Power Level 9
High Channel - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1853.31	62.58	V	94.48	-31.90	Peak	162.75	177.48	**Not in Restricted**
								Band
2779.96	52.01	V	73.97	-21.96	Peak	161.75	175.52	
2779.96	50.62	V	53.97	-3.35	Avg	161.75	175.52	
3706.61	43.70	V	73.97	-30.27	Peak	166.50	143.70	
3706.61	38.82	V	53.97	-15.15	Avg	166.50	143.70	
4633.27	43.98	V	73.97	-29.99	Peak	144.00	111.70	
4633.27	37.34	V	53.97	-16.63	Avg	144.00	111.70	
5559.92	45.56	V	94.48	-48.92	Peak	163.75	178.57	**Not in Restricted**
								Band
6486.57	46.25	V	94.48	-48.23	Peak	165.00	178.57	**Not in Restricted**
								Band
7413.22	47.29	V	73.97	-26.68	Peak	162.00	207.52	
7413.22	40.47	V	53.97	-13.50	Avg	162.00	207.52	
8339.88	44.89	V	73.97	-29.08	Peak	140.25	159.46	
8339.88	34.34	V	53.97	-19.63	Avg	140.25	159.46	
9266.53	34.58	V	94.48	-59.90	Peak	166.25	160.58	**Not in Restricted**
								Band

*Note: The worst case fundamental measured is 114.48 dBuv/m using 100 kHz RBW for the high channel at the low data rate

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-CAS

Date: 02/22/2017
Lab: D
Tested By: Kyle Fujimoto

Low Data Rate - uSP Splatch Antenna
Harmonic Emissions - Power Level 9
High Channel - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1853.31	69.54	V	94.48	-54.94	Peak	168.25	162.54	**Not in Restricted**
								Band
2779.96	50.72	V	73.97	-23.25	Peak	148.00	111.70	
2779.96	48.99	V	53.97	-4.98	Avg	148.00	111.70	
3706.61	44.39	V	73.97	-29.58	Peak	169.50	159.40	
3706.61	40.27	V	53.97	-13.70	Avg	169.50	159.40	
4633.27	44.73	V	73.97	-29.24	Peak	157.50	112.00	
4633.27	38.51	V	53.97	-15.46	Avg	157.50	112.00	
5559.92	39.50	V	94.48	-54.98	Peak	168.25	162.51	**Not in Restricted**
								Band
6486.57	35.25	V	94.48	-59.23	Peak	164.25	178.54	**Not in Restricted**
								Band
7413.22	48.08	V	73.97	-25.89	Peak	155.75	111.40	
7413.22	41.94	V	53.97	-12.03	Avg	155.75	111.40	
8339.88	54.59	V	73.97	-19.38	Peak	156.50	127.46	
8339.88	51.38	V	53.97	-2.59	Avg	156.50	127.46	
9266.53	34.68	V	94.48	-59.80	Peak	162.50	161.57	**Not in Restricted**
								Band

*Note: The worst case fundamental measured is 114.48 dBuv/m using 100 kHz RBW for the high channel at the low data rate

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-CAS

Date: 02/22/2017
Lab: D
Tested By: Kyle Fujimoto

Low Data Rate - uSP Splatch Antenna
Harmonic Emissions - Power Level 9
High Channel - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1853.31	62.24	H	94.48	-32.24	Peak	273.50	112.58	**Not in Restricted**
								Band
2779.96	51.34	H	73.97	-22.63	Peak	272.75	111.34	
2779.96	49.51	H	53.97	-4.46	Avg	272.75	111.34	
3706.61	44.17	H	73.97	-29.80	Peak	263.50	159.76	
3706.61	39.67	H	53.97	-14.30	Avg	263.50	159.76	
4633.27	44.01	H	73.97	-29.96	Peak	98.25	175.58	
4633.27	35.27	H	53.97	-18.70	Avg	98.25	175.58	
5559.92	42.68	H	94.48	-51.80	Peak	276.50	158.50	**Not in Restricted**
								Band
6486.57	43.54	H	94.48	-50.94	Peak	279.50	155.50	**Not in Restricted**
								Band
7413.22	47.61	H	73.97	-26.36	Peak	148.75	191.88	
7413.22	41.15	H	53.97	-12.82	Avg	148.75	191.88	
8339.88	49.92	H	73.97	-24.05	Peak	258.75	175.58	
8339.88	43.64	H	53.97	-10.33	Avg	258.75	175.58	
9266.53	41.25	H	94.48	-53.23	Peak	259.25	176.58	**Not in Restricted**
								Band

*Note: The worst case fundamental measured is 114.48 dBuv/m using 100 kHz RBW for the high channel at the low data rate

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-CAS

Date: 02/22/2017
Lab: D
Tested By: Kyle Fujimoto

Low Data Rate - uSP Splatch Antenna
Harmonic Emissions - Power Level 9
High Channel - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1853.31	65.24	H	94.48	-29.24	Peak	132.50	145.50	**Not in Restricted**
								Band
2779.96	52.71	H	73.97	-21.26	Peak	216.00	176.59	
2779.96	51.35	H	53.97	-2.62	Avg	216.00	176.59	
3706.61	43.55	H	73.97	-30.42	Peak	247.25	111.40	
3706.61	38.78	H	53.97	-15.19	Avg	247.25	111.40	
4633.27	45.36	H	73.97	-28.61	Peak	206.50	127.58	
4633.27	39.36	H	53.97	-14.61	Avg	206.50	127.58	
5559.92	41.58	H	94.48	-52.90	Peak	133.50	146.50	**Not in Restricted**
								Band
6486.57	42.67	H	94.48	-51.81	Peak	133.50	146.50	**Not in Restricted**
								Band
7413.22	44.78	H	73.97	-29.19	Peak	149.25	175.64	
7413.22	34.06	H	53.97	-19.91	Avg	149.25	175.64	
8339.88	45.49	H	73.97	-28.48	Peak	212.75	191.40	
8339.88	34.51	H	53.97	-19.46	Avg	212.75	191.40	
9266.53	40.25	H	94.48	-54.23	Peak	135.50	147.50	**Not in Restricted**
								Band

*Note: The worst case fundamental measured is 114.48 dBuv/m using 100 kHz RBW for the high channel at the low data rate

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-CAS

Date: 02/22/2017
Lab: D
Tested By: Kyle Fujimoto

Low Data Rate - uSP Splatch Antenna
Harmonic Emissions - Power Level 9
High Channel - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1853.31	71.21	H	94.48	-23.27	Peak	102.50	125.75	**Not in Restricted**
								Band
2779.96	50.72	H	73.97	-23.25	Peak	148.00	111.70	
2779.96	48.99	H	53.97	-4.98	Avg	148.00	111.70	
3706.61	44.39	H	73.97	-29.58	Peak	169.50	159.40	
3706.61	40.27	H	53.97	-13.70	Avg	169.50	159.40	
4633.27	45.35	H	73.97	-28.62	Peak	130.00	159.88	
4633.27	39.40	H	53.97	-14.57	Avg	130.00	159.88	
5559.92	41.20	H	94.48	-53.28	Peak	103.50	126.50	**Not in Restricted**
								Band
6486.57	40.26	H	94.48	-54.22	Peak	103.50	126.50	**Not in Restricted**
								Band
7413.22	48.13	H	73.97	-25.84	Peak	145.50	111.46	
7413.22	42.00	H	53.97	-11.97	Avg	145.50	111.46	
8339.88	54.25	H	73.97	-19.72	Peak	147.75	110.86	
8339.88	50.64	H	53.97	-3.33	Avg	147.75	110.86	
9266.53	35.58	H	94.48	-58.90	Peak	106.50	127.50	**Not in Restricted**
								Band

*Note: The worst case fundamental measured is 114.48 dBuv/m using 100 kHz RBW for the high channel at the low data rate

FCC 15.247 and FCC Class B

Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-CAS

Date: 02/222017
Lab: D
Tested By: Kyle Fujimoto

Low Data Rate - uSP Splatch Antenna
Non Harmonic Emissions from the Tx and Digital Portion - 10 kHz to 30 MHz
Non Harmonic Emissions from the Tx and Digital Portion - 1 GHz to 9.3 GHz

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
								No Emissions Detected
								from 10 kHz to 30 MHz
								for the digital portion
								of the EUT
								No Emissions Detected
								from 10 kHz to 30 MHz
								for the Non-Harmonic Emissions
								of the Transmitter for the EUT
								No Emissions Detected
								from 1 GHz to 9.3 GHz
								for the digital portion
								of the EUT
								No Emissions Detected
								from 1 GHz to 9.3 GHz
								for the Non-Harmonic Emissions
								of the Transmitter for the EUT
								Investigated in the X-Axis,
								Y-Axis, and Z-Axis

FCC Class B

Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-CAS

Date: 02/22/2017
Lab: D
Tested By: Kyle Fujimoto

Low Data Rate - uSP Splatch Antenna
Non Harmonic Emissions from Receiver - 1 GHz to 9.3 GHz

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
								No Emissions Detected
								from 1 GHz to 9.3 GHz
								for the receiver portion
								of the EUT
								Investigated in the X-Axis,
								Y-Axis, and Z-Axis

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-CAS

Date: 02/23/2017
Lab: D
Tested By: Kyle Fujimoto

High Data Rate - uSP Splatch Antenna
Harmonic Emissions - Power Level 7
Low Channel - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1805.94	67.89	V	93.86	-25.97	Peak	202.50	245.25	**Not in Restricted**
								Band
2708.91	48.54	V	73.97	-25.43	Peak	102.25	241.25	
2708.91	45.21	V	53.97	-8.76	Avg	102.25	241.25	
3611.88	49.21	V	73.97	-24.76	Peak	125.25	239.50	
3611.88	46.58	V	53.97	-7.39	Avg	125.25	239.50	
4514.86	40.69	V	73.97	-33.28	Peak	165.25	234.50	
4514.86	37.58	V	53.97	-16.39	Avg	165.25	234.50	
5417.83	44.26	V	73.97	-29.71	Peak	154.25	231.50	
5417.83	40.28	V	53.97	-13.69	Avg	154.25	231.50	
6320.80	41.25	V	93.86	-52.61	Peak	203.50	201.25	**Not in Restricted**
								Band
7223.77	40.36	V	93.86	-53.50	Peak	204.50	203.25	**Not in Restricted**
								Band
8126.74	43.59	V	73.97	-30.38	Peak	150.25	228.50	
8126.74	40.58	V	53.97	-13.39	Avg	150.25	228.50	
9029.71	38.59	V	73.97	-35.38	Peak	147.25	225.00	
9029.71	33.25	V	53.97	-20.72	Avg	147.25	225.00	

*Note: The worst case fundamental measured is 113.86 dBuv/m using 100 kHz RBW for the low channel at the high data rate

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-CAS

Date: 02/23/2017
Lab: D
Tested By: Kyle Fujimoto

High Data Rate - uSP Splatch Antenna
Harmonic Emissions - Power Level 7
Low Channel - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1805.94	73.54	V	93.86	-20.32	Peak	25.50	100.25	**Not in Restricted**
								Band
2708.91	49.58	V	73.97	-24.39	Peak	224.25	105.50	
2708.91	47.59	V	53.97	-6.38	Avg	224.25	105.50	
3611.88	49.58	V	73.97	-24.39	Peak	229.50	106.50	
3611.88	47.21	V	53.97	-6.76	Avg	229.50	106.50	
4514.86	42.59	V	73.97	-31.38	Peak	235.50	107.50	
4514.86	38.59	V	53.97	-15.38	Avg	235.50	107.50	
5417.83	45.21	V	73.97	-28.76	Peak	245.50	111.25	
5417.83	41.25	V	53.97	-12.72	Avg	245.50	111.25	
6320.80	39.58	V	93.86	-54.28	Peak	247.50	145.25	**Not in Restricted**
								Band
7223.77	40.59	V	93.86	-53.27	Peak	248.50	126.25	**Not in Restricted**
								Band
8126.74	44.68	V	73.97	-29.29	Peak	247.50	205.50	
8126.74	42.59	V	53.97	-11.38	Avg	247.50	205.50	
9029.71	39.25	V	73.97	-34.72	Peak	251.50	206.50	
9029.71	34.29	V	53.97	-19.68	Avg	251.50	206.50	

*Note: The worst case fundamental measured is 113.86 dBuv/m using 100 kHz RBW for the low channel at the high data rate

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-CAS

Date: 02/23/2017
Lab: D
Tested By: Kyle Fujimoto

High Data Rate - uSP Splatch Antenna
Harmonic Emissions - Power Level 7
Low Channel - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1805.94	68.54	V	93.86	-25.32	Peak	247.50	125.25	**Not in Restricted**
								Band
2708.91	50.29	V	73.97	-23.68	Peak	125.25	102.25	
2708.91	48.59	V	53.97	-5.38	Avg	125.25	102.25	
3611.88	50.23	V	73.97	-23.74	Peak	129.75	112.25	
3611.88	48.21	V	53.97	-5.76	Avg	129.75	112.25	
4514.86	43.29	V	73.97	-30.68	Peak	135.50	121.50	
4514.86	39.24	V	53.97	-14.73	Avg	135.50	121.50	
5417.83	46.59	V	73.97	-27.38	Peak	134.50	122.50	
5417.83	39.87	V	53.97	-14.10	Avg	134.50	122.50	
6320.80	38.70	V	93.86	-55.16	Peak	249.50	123.25	**Not in Restricted**
								Band
7223.77	41.15	V	93.86	-52.71	Peak	325.25	120.25	**Not in Restricted**
								Band
8126.74	45.69	V	73.97	-28.28	Peak	136.50	145.50	
8126.74	35.21	V	53.97	-18.76	Avg	136.50	145.50	
9029.71	40.29	V	73.97	-33.68	Peak	145.50	200.50	
9029.71	35.59	V	53.97	-18.38	Avg	145.50	200.50	

*Note: The worst case fundamental measured is 113.86 dBuv/m using 100 kHz RBW for the low channel at the high data rate

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-CAS

Date: 02/23/2017
Lab: D
Tested By: Kyle Fujimoto

High Data Rate - uSP Splatch Antenna
Harmonic Emissions - Power Level 7
Low Channel - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1805.94	70.24	H	93.86	-23.62	Peak	103.25	115.25	**Not in Restricted**
								Band
2708.91	48.26	H	73.97	-25.71	Peak	102.25	100.00	
2708.91	46.58	H	53.97	-7.39	Avg	102.25	100.00	
3611.88	49.28	H	73.97	-24.69	Peak	119.25	115.25	
3611.88	47.56	H	53.97	-6.41	Avg	119.25	115.25	
4514.86	44.29	H	73.97	-29.68	Peak	117.00	112.25	
4514.86	40.26	H	53.97	-13.71	Avg	117.00	112.25	
5417.83	45.29	H	73.97	-28.68	Peak	119.00	165.50	
5417.83	38.57	H	53.97	-15.40	Avg	119.00	165.50	
6320.80	47.25	H	93.86	-46.61	Peak	109.50	114.25	**Not in Restricted**
								Band
7223.77	43.58	H	93.86	-50.28	Peak	108.50	113.25	**Not in Restricted**
								Band
8126.74	44.59	H	73.97	-29.38	Peak	126.00	175.50	
8126.74	36.58	H	53.97	-17.39	Avg	126.00	175.50	
9029.71	41.29	H	73.97	-32.68	Peak	128.00	178.50	
9029.71	34.25	H	53.97	-19.72	Avg	128.00	178.50	

*Note: The worst case fundamental measured is 113.86 dBuv/m using 100 kHz RBW for the low channel at the high data rate

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-CAS

Date: 02/23/2017
Lab: D
Tested By: Kyle Fujimoto

High Data Rate - uSP Splatch Antenna
Harmonic Emissions - Power Level 7
Low Channel - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1805.94	70.24	H	93.86	-23.62	Peak	103.25	115.25	**Not in Restricted**
								Band
2708.91	46.25	H	73.97	-27.72	Peak	101.25	100.00	
2708.91	44.21	H	53.97	-9.76	Avg	101.25	100.00	
3611.88	47.26	H	73.97	-26.71	Peak	155.55	125.25	
3611.88	45.21	H	53.97	-8.76	Avg	155.55	125.25	
4514.86	42.59	H	73.97	-31.38	Peak	160.25	135.25	
4514.86	38.27	H	53.97	-15.70	Avg	160.25	135.25	
5417.83	44.26	H	73.97	-29.71	Peak	170.00	140.25	
5417.83	37.59	H	53.97	-16.38	Avg	170.00	140.25	
6320.80	47.25	H	93.86	-46.61	Peak	109.50	114.25	**Not in Restricted**
								Band
7223.77	43.58	H	93.86	-50.28	Peak	108.50	113.25	**Not in Restricted**
								Band
8126.74	43.28	H	73.97	-30.69	Peak	165.50	143.25	
8126.74	35.29	H	53.97	-18.68	Avg	165.50	143.25	
9029.71	39.26	H	73.97	-34.71	Peak	167.50	144.25	
9029.71	32.25	H	53.97	-21.72	Avg	167.50	144.25	

*Note: The worst case fundamental measured is 113.86 dBuv/m using 100 kHz RBW for the low channel at the high data rate

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-CAS

Date: 02/23/2017
Lab: D
Tested By: Kyle Fujimoto

High Data Rate - uSP Splatch Antenna
Harmonic Emissions - Power Level 7
Low Channel - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1805.94	70.24	H	93.86	-23.62	Peak	103.25	115.25	**Not in Restricted**
								Band
2708.91	47.59	H	73.97	-26.38	Peak	225.00	100.00	
2708.91	45.26	H	53.97	-8.71	Avg	225.00	100.00	
3611.88	48.21	H	73.97	-25.76	Peak	226.25	102.25	
3611.88	44.29	H	53.97	-9.68	Avg	226.25	102.25	
4514.86	43.58	H	73.97	-30.39	Peak	227.50	105.50	
4514.86	39.58	H	53.97	-14.39	Avg	227.50	105.50	
5417.83	45.26	H	73.97	-28.71	Peak	229.50	111.50	
5417.83	38.59	H	53.97	-15.38	Avg	229.50	111.50	
6320.80	47.25	H	93.86	-46.61	Peak	109.50	114.25	**Not in Restricted**
								Band
7223.77	43.58	H	93.86	-50.28	Peak	108.50	113.25	**Not in Restricted**
								Band
8126.74	44.29	H	73.97	-29.68	Peak	231.50	112.50	
8126.74	36.58	H	53.97	-17.39	Avg	231.50	112.50	
9029.71	40.26	H	73.97	-33.71	Peak	234.50	113.50	
9029.71	31.26	H	53.97	-22.71	Avg	234.50	113.50	

*Note: The worst case fundamental measured is 113.86 dBuv/m using 100 kHz RBW for the low channel at the high data rate

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-CAS

Date: 02/23/2017
Lab: D
Tested By: Kyle Fujimoto

High Data Rate - uSP Splatch Antenna
Harmonic Emissions - Power Level 7
Middle Channel - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1830.00	71.25	V	92.97	-21.72	Peak	105.50	254.25	**Not in Restricted**
1830.00								**Band**
2745.00	47.25	V	73.97	-26.72	Peak	102.25	235.00	
2745.00	44.26	V	53.97	-9.71	Avg	102.25	235.00	
3660.00	48.58	V	73.97	-25.39	Peak	100.25	240.25	
3660.00	45.26	V	53.97	-8.71	Avg	100.25	240.25	
4575.00	44.02	V	73.97	-29.95	Peak	103.25	249.25	
4575.00	38.29	V	53.97	-15.68	Avg	103.25	249.25	
5490.00	48.52	V	92.97	-44.45	Peak	326.25	225.21	**Not in Restricted**
5490.00								**Band**
6405.00	47.56	V	92.97	-45.41	Peak	320.25	214.25	**Not in Restricted**
6405.00								**Band**
7320.00	38.59	V	73.97	-35.38	Peak	101.25	248.25	
7320.00	34.58	V	53.97	-19.39	Avg	101.25	248.25	
8235.00	43.26	V	73.97	-30.71	Peak	103.50	157.25	
8235.00	35.28	V	53.97	-18.69	Avg	103.50	157.25	
9150.00	39.25	V	73.97	-34.72	Peak	104.50	154.50	
9150.00	30.29	V	53.97	-23.68	Avg	104.50	154.50	

*Note: The worst case fundamental measured is 112.97 dBuv/m using 100 kHz RBW for the middle channel at the high data rate

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-CAS

Date: 02/23/2017
Lab: D
Tested By: Kyle Fujimoto

High Data Rate - uSP Splatch Antenna
Harmonic Emissions - Power Level 7
Middle Channel - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1830.00	70.26	V	92.97	-22.71	Peak	106.50	254.25	**Not in Restricted**
1830.00								**Band**
2745.00	48.26	V	73.97	-25.71	Peak	299.50	225.00	
2745.00	45.25	V	53.97	-8.72	Avg	299.50	225.00	
3660.00	49.95	V	73.97	-24.02	Peak	302.25	239.25	
3660.00	47.10	V	53.97	-6.87	Avg	302.25	239.25	
4575.00	45.02	V	73.97	-28.95	Peak	359.25	235.25	
4575.00	36.12	V	53.97	-17.85	Avg	359.25	235.25	
5490.00	45.26	V	92.97	-47.71	Peak	320.25	224.21	**Not in Restricted**
5490.00								**Band**
6405.00	48.61	V	92.97	-44.36	Peak	310.26	210.25	**Not in Restricted**
6405.00								**Band**
7320.00	40.59	V	73.97	-33.38	Peak	345.50	248.25	
7320.00	33.29	V	53.97	-20.68	Avg	345.50	248.25	
8235.00	44.20	V	73.97	-29.77	Peak	265.50	157.25	
8235.00	34.29	V	53.97	-19.68	Avg	265.50	157.25	
9150.00	40.26	V	73.97	-33.71	Peak	245.50	154.50	
9150.00	31.29	V	53.97	-22.68	Avg	245.50	154.50	

*Note: The worst case fundamental measured is 112.97 dBuv/m using 100 kHz RBW for the middle channel at the high data rate

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-CAS

Date: 02/23/2017
Lab: D
Tested By: Kyle Fujimoto

High Data Rate - uSP Splatch Antenna
Harmonic Emissions - Power Level 7
Middle Channel - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1830.00	68.64	V	92.97	-24.33	Peak	100.50	234.25	**Not in Restricted**
1830.00								**Band**
2745.00	49.59	V	73.97	-24.38	Peak	359.25	235.00	
2745.00	46.58	V	53.97	-7.39	Avg	359.25	235.00	
3660.00	50.06	V	73.97	-23.91	Peak	181.50	240.25	
3660.00	47.58	V	53.97	-6.39	Avg	181.50	240.25	
4575.00	45.26	V	73.97	-28.71	Peak	223.25	249.25	
4575.00	36.54	V	53.97	-17.43	Avg	223.25	249.25	
5490.00	46.28	V	92.97	-46.69	Peak	215.25	205.25	**Not in Restricted**
5490.00								**Band**
6405.00	47.41	V	92.97	-45.56	Peak	220.25	200.25	**Not in Restricted**
6405.00								**Band**
7320.00	41.29	V	73.97	-32.68	Peak	225.00	248.25	
7320.00	34.24	V	53.97	-19.73	Avg	225.00	248.25	
8235.00	44.59	V	73.97	-29.38	Peak	229.00	157.25	
8235.00	35.26	V	53.97	-18.71	Avg	229.00	157.25	
9150.00	41.26	V	73.97	-32.71	Peak	235.00	154.50	
9150.00	32.26	V	53.97	-21.71	Avg	235.00	154.50	

*Note: The worst case fundamental measured is 112.97 dBuv/m using 100 kHz RBW for the middle channel at the high data rate

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-CAS

Date: 02/23/2017
Lab: D
Tested By: Kyle Fujimoto

High Data Rate - uSP Splatch Antenna
Harmonic Emissions - Power Level 7
Middle Channel - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1830.00	64.29	H	92.97	-28.68	Peak	104.50	251.25	**Not in Restricted**
1830.00								**Band**
2745.00	45.01	H	73.97	-28.96	Peak	26.25	235.00	
2745.00	39.05	H	53.97	-14.92	Avg	26.25	235.00	
3660.00	49.02	H	73.97	-24.95	Peak	198.00	240.25	
3660.00	46.50	H	53.97	-7.47	Avg	198.00	240.25	
4575.00	46.89	H	73.97	-27.08	Peak	206.50	249.25	
4575.00	37.59	H	53.97	-16.38	Avg	206.50	249.25	
5490.00	47.51	H	92.97	-45.46	Peak	305.50	275.25	**Not in Restricted**
5490.00								**Band**
6405.00	45.21	H	92.97	-47.76	Peak	310.25	210.25	**Not in Restricted**
6405.00								**Band**
7320.00	41.25	H	73.97	-32.72	Peak	332.25	248.25	
7320.00	34.25	H	53.97	-19.72	Avg	332.25	248.25	
8235.00	44.52	H	73.97	-29.45	Peak	345.50	157.25	
8235.00	34.19	H	53.97	-19.78	Avg	345.50	157.25	
9150.00	45.69	H	73.97	-28.28	Peak	202.50	154.50	
9150.00	35.64	H	53.97	-18.33	Avg	202.25	154.50	

*Note: The worst case fundamental measured is 112.97 dBuv/m using 100 kHz RBW for the middle channel at the high data rate

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-CAS

Date: 02/23/2017
Lab: D
Tested By: Kyle Fujimoto

High Data Rate - uSP Splatch Antenna
Harmonic Emissions - Power Level 7
Middle Channel - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1830.00	70.24	H	92.97	-22.73	Peak	106.50	204.56	**Not in Restricted**
1830.00								**Band**
2745.00	45.29	H	73.97	-28.68	Peak	15.25	235.00	
2745.00	39.24	H	53.97	-14.73	Avg	15.25	235.00	
3660.00	48.50	H	73.97	-25.47	Peak	178.25	240.25	
3660.00	45.10	H	53.97	-8.87	Avg	178.25	240.25	
4575.00	45.59	H	73.97	-28.38	Peak	201.25	249.25	
4575.00	36.48	H	53.97	-17.49	Avg	201.25	249.25	
5490.00	41.26	H	92.97	-51.71	Peak	320.25	205.25	**Not in Restricted**
5490.00								**Band**
6405.00	46.58	H	92.97	-46.39	Peak	310.25	179.25	**Not in Restricted**
6405.00								**Band**
7320.00	43.25	H	73.97	-30.72	Peak	301.25	248.25	
7320.00	33.25	H	53.97	-20.72	Avg	301.25	248.25	
8235.00	44.41	H	73.97	-29.56	Peak	335.50	157.25	
8235.00	34.02	H	53.97	-19.95	Avg	335.50	157.25	
9150.00	44.29	H	73.97	-29.68	Peak	186.50	154.50	
9150.00	34.26	H	53.97	-19.71	Avg	186.50	154.50	

*Note: The worst case fundamental measured is 112.97 dBuv/m using 100 kHz RBW for the middle channel at the high data rate

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-CAS

Date: 02/23/2017
Lab: D
Tested By: Kyle Fujimoto

High Data Rate - uSP Splatch Antenna
Harmonic Emissions - Power Level 7
Middle Channel - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1830.00	62.56	H	92.97	-30.41	Peak	104.50	241.25	**Not in Restricted**
1830.00								**Band**
2745.00	44.26	H	73.97	-29.71	Peak	11.25	210.25	
2745.00	38.26	H	53.97	-15.71	Avg	11.25	210.25	
3660.00	49.80	H	73.97	-24.17	Peak	125.25	146.25	
3660.00	46.28	H	53.97	-7.69	Avg	125.25	146.25	
4575.00	44.56	H	73.97	-29.41	Peak	145.75	148.50	
4575.00	35.49	H	53.97	-18.48	Avg	145.75	148.50	
5490.00	47.50	H	92.97	-45.47	Peak	331.00	210.25	**Not in Restricted**
5490.00								**Band**
6405.00	48.52	H	92.97	-44.45	Peak	335.00	245.25	**Not in Restricted**
6405.00								**Band**
7320.00	44.98	H	73.97	-28.99	Peak	222.25	248.25	
7320.00	34.26	H	53.97	-19.71	Avg	222.25	248.25	
8235.00	44.99	H	73.97	-28.98	Peak	241.50	157.25	
8235.00	34.56	H	53.97	-19.41	Avg	241.50	157.25	
9150.00	43.28	H	73.97	-30.69	Peak	182.50	154.50	
9150.00	33.26	H	53.97	-20.71	Avg	182.50	154.50	

*Note: The worst case fundamental measured is 112.97 dBuv/m using 100 kHz RBW for the middle channel at the high data rate

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-CAS

Date: 02/23/2017
Lab: D
Tested By: Kyle Fujimoto

High Data Rate - uSP Splatch Antenna
Harmonic Emissions - Power Level 7
High Channel - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1852.54	69.58	V	92.56	-22.98	Peak	102.50	202.57	**Not in Restricted**
								Band
2778.81	43.52	V	73.97	-30.45	Peak	179.25	175.34	
2778.81	37.55	V	53.97	-16.42	Avg	179.25	175.34	
3705.08	48.63	V	73.97	-25.34	Peak	223.50	127.88	
3705.08	45.59	V	53.97	-8.38	Avg	223.50	127.88	
4631.35	43.47	V	73.97	-30.50	Peak	202.25	159.70	
4631.35	34.41	V	53.97	-19.56	Avg	202.25	159.70	
5557.62	47.59	V	92.56	-44.97	Peak	145.50	123.58	**Not in Restricted**
								Band
6483.89	46.58	V	92.56	-45.98	Peak	146.50	122.58	**Not in Restricted**
								Band
7410.16	44.24	V	73.97	-29.73	Peak	57.25	249.92	
7410.16	33.85	V	53.97	-20.12	Avg	57.25	249.92	
8336.43	44.96	V	73.97	-29.01	Peak	184.00	175.70	
8336.43	34.44	V	53.97	-19.53	Avg	184.00	175.70	
9262.70	45.28	V	92.56	-47.28	Peak	194.00	176.50	**Not in Restricted**
								Band

*Note: The worst case fundamental measured is 112.56 dBuv/m using 100 kHz RBW for the high channel at the high data rate

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-CAS

Date: 02/23/2017
Lab: D
Tested By: Kyle Fujimoto

High Data Rate - uSP Splatch Antenna
Harmonic Emissions - Power Level 7
High Channel - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1852.54	71.46	V	92.56	--	Peak	254.25	102.75	**Not in Restricted**
								Band
2778.81	44.17	V	73.97	-29.80	Peak	202.00	223.76	
2778.81	39.46	V	53.97	-14.51	Avg	202.00	223.76	
3705.08	47.90	V	73.97	-26.07	Peak	162.25	159.28	
3705.08	44.68	V	53.97	-9.29	Avg	162.25	159.28	
4631.35	41.19	V	73.97	-32.78	Peak	121.50	127.46	
4631.35	29.90	V	53.97	-24.07	Avg	121.50	127.46	
5557.62	42.53	V	92.56	-50.03	Peak	131.50	128.45	**Not in Restricted**
								Band
6483.89	44.52	V	92.56	-48.04	Peak	132.50	129.46	**Not in Restricted**
								Band
7410.16	46.53	V	73.97	-27.44	Peak	132.75	249.52	
7410.16	36.06	V	53.97	-17.91	Avg	132.75	249.52	
8336.43	46.96	V	73.97	-27.01	Peak	117.75	175.58	
8336.43	37.93	V	53.97	-16.04	Avg	117.75	175.58	
9262.70	47.25	V	92.56	-45.31	Peak	118.25	176.65	**Not in Restricted**
								Band

*Note: The worst case fundamental measured is 112.56 dBuv/m using 100 kHz RBW for the high channel at the high data rate

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-CAS

Date: 02/23/2017
Lab: D
Tested By: Kyle Fujimoto

High Data Rate - uSP Splatch Antenna
Harmonic Emissions - Power Level 7
High Channel - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1852.54	70.83	V	92.56	--	Peak	168.00	101.46	**Not in Restricted**
								Band
2778.81	47.84	V	73.97	-26.13	Peak	158.00	175.94	
2778.81	44.88	V	53.97	-9.09	Avg	158.00	175.94	
3705.08	44.60	V	73.97	-29.37	Peak	221.25	127.34	
3705.08	38.58	V	53.97	-15.39	Avg	221.25	127.34	
4631.35	40.90	V	73.97	-33.07	Peak	180.75	111.52	
4631.35	30.47	V	53.97	-23.50	Avg	180.75	111.52	
5557.62	44.65	V	92.56	-47.91	Peak	102.54	158.25	**Not in Restricted**
								Band
6483.89	39.28	V	92.56	-53.28	Peak	103.50	159.25	**Not in Restricted**
								Band
7410.16	48.30	V	73.97	-25.67	Peak	147.75	159.64	
7410.16	41.61	V	53.97	-12.36	Avg	147.75	159.64	
8336.43	46.13	V	73.97	-27.84	Peak	145.00	175.46	
8336.43	35.50	V	53.97	-18.47	Avg	145.00	175.46	
9262.70	40.26	V	92.56	-52.30	Peak	155.00	185.45	**Not in Restricted**
								Band

*Note: The worst case fundamental measured is 112.56 dBuv/m using 100 kHz RBW for the high channel at the high data rate

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-CAS

Date: 02/23/2017
Lab: D
Tested By: Kyle Fujimoto

High Data Rate - uSP Splatch Antenna
Harmonic Emissions - Power Level 7
High Channel - X-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1852.54	72.35	H	92.56	-20.21	Peak	102.58	116.54	**Not in Restricted**
								Band
2778.81	47.26	H	73.97	-26.71	Peak	280.75	112.71	
2778.81	44.04	H	53.97	-9.93	Avg	280.75	112.71	
3705.08	46.97	H	73.97	-27.00	Peak	268.25	128.00	
3705.08	43.95	H	53.97	-10.02	Avg	268.25	128.00	
4631.35	40.65	H	73.97	-33.32	Peak	226.25	191.70	
4631.35	30.13	H	53.97	-23.84	Avg	226.25	191.70	
5557.62	42.68	H	92.56	-49.88	Peak	321.25	115.54	**Not in Restricted**
								Band
6483.89	43.58	H	92.56	-48.98	Peak	321.25	114.59	**Not in Restricted**
								Band
7410.16	44.38	H	73.97	-29.59	Peak	117.25	127.52	
7410.16	33.40	H	53.97	-20.57	Avg	117.25	127.52	
8336.43	45.14	H	73.97	-28.83	Peak	318.75	111.58	
8336.43	34.34	H	53.97	-19.63	Avg	318.75	111.58	
9262.70	41.57	H	92.56	-50.99	Peak	325.75	112.58	**Not in Restricted**
								Band

*Note: The worst case fundamental measured is 112.56 dBuv/m using 100 kHz RBW for the high channel at the high data rate

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-CAS

Date: 02/23/2017
Lab: D
Tested By: Kyle Fujimoto

High Data Rate - uSP Splatch Antenna
Harmonic Emissions - Power Level 7
High Channel - Y-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1852.54	64.28	H	92.56	-28.28	Peak	102.65	105.58	**Not in Restricted**
								Band
2778.81	48.77	H	73.97	-25.20	Peak	204.00	159.28	
2778.81	46.33	H	53.97	-7.64	Avg	204.00	159.28	
3705.08	47.56	H	73.97	-26.41	Peak	242.25	111.76	
3705.08	43.86	H	53.97	-10.11	Avg	242.25	111.76	
4631.35	43.20	H	73.97	-30.77	Peak	105.75	127.64	
4631.35	34.52	H	53.97	-19.45	Avg	105.75	127.64	
5557.62	42.69	H	92.56	-49.87	Peak	326.50	110.87	**Not in Restricted**
								Band
6483.89	43.57	H	92.56	-48.99	Peak	324.50	112.58	**Not in Restricted**
								Band
7410.16	48.35	H	73.97	-25.62	Peak	134.25	190.86	
7410.16	41.64	H	53.97	-12.33	Avg	134.25	190.86	
8336.43	46.08	H	73.97	-27.89	Peak	254.00	191.82	
8336.43	35.30	H	53.97	-18.67	Avg	254.00	191.82	
9262.70	42.22	H	92.56	-50.34	Peak	125.50	185.50	**Not in Restricted**
								Band

*Note: The worst case fundamental measured is 112.56 dBuv/m using 100 kHz RBW for the high channel at the high data rate

FCC 15.247
Linx Technologies
HumPro-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-CAS

Date: 02/23/2017
Lab: D
Tested By: Kyle Fujimoto

High Data Rate - uSP Splatch Antenna
Harmonic Emissions - Power Level 7
High Channel - Z-Axis

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1852.54	67.88	H	92.56	-24.68	Peak	126.50	241.25	**Not in Restricted**
								Band
2778.81	47.57	H	73.97	-26.40	Peak	303.00	111.52	
2778.81	44.34	H	53.97	-9.63	Avg	303.00	111.52	
3705.08	46.87	H	73.97	-27.10	Peak	153.50	207.70	
3705.08	43.36	H	53.97	-10.61	Avg	153.50	207.70	
4631.35	42.16	H	73.97	-31.81	Peak	109.00	127.52	
4631.35	31.65	H	53.97	-22.32	Avg	109.00	127.52	
5557.62	41.25	H	92.56	-51.31	Peak	221.25	102.54	**Not in Restricted**
								Band
6483.89	42.26	H	92.56	-50.30	Peak	226.50	101.68	**Not in Restricted**
								Band
7410.16	47.94	H	73.97	-26.03	Peak	139.25	111.46	
7410.16	40.86	H	53.97	-13.11	Avg	139.25	111.46	
8336.43	48.83	H	73.97	-25.14	Peak	155.00	111.64	
8336.43	40.78	H	53.97	-13.19	Avg	155.00	111.64	
9262.70	45.68	H	92.56	-46.88	Peak	315.00	100.53	**Not in Restricted**
								Band

*Note: The worst case fundamental measured is 112.56 dBuv/m using 100 kHz RBW for the high channel at the high data rate

FCC 15.247 and FCC Class B
Linx Technologies
HumPRO-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-CAS

Date: 02/23/2017
Lab: D
Tested By: Kyle Fujimoto

High Data Rate - uSP Splatch Antenna
Non-Harmonic Emissions and
Digital Portion of the EUT

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
								No Emissions Detected
								from 10 kHz to 30 MHz
								for the digital portion
								of the EUT
								No Emissions Detected
								from 10 kHz to 30 MHz
								for the Non-Harmonic Emissions
								of the Transmitter for the EUT
								No Emissions Detected
								from 1 GHz to 9.3 GHz
								for the digital portion
								of the EUT
								No Emissions Detected
								from 1 GHz to 9.3 GHz
								for the Non-Harmonic Emissions
								of the Transmitter for the EUT
								Investigated in the X-Axis,
								Y-Axis, and Z-Axis

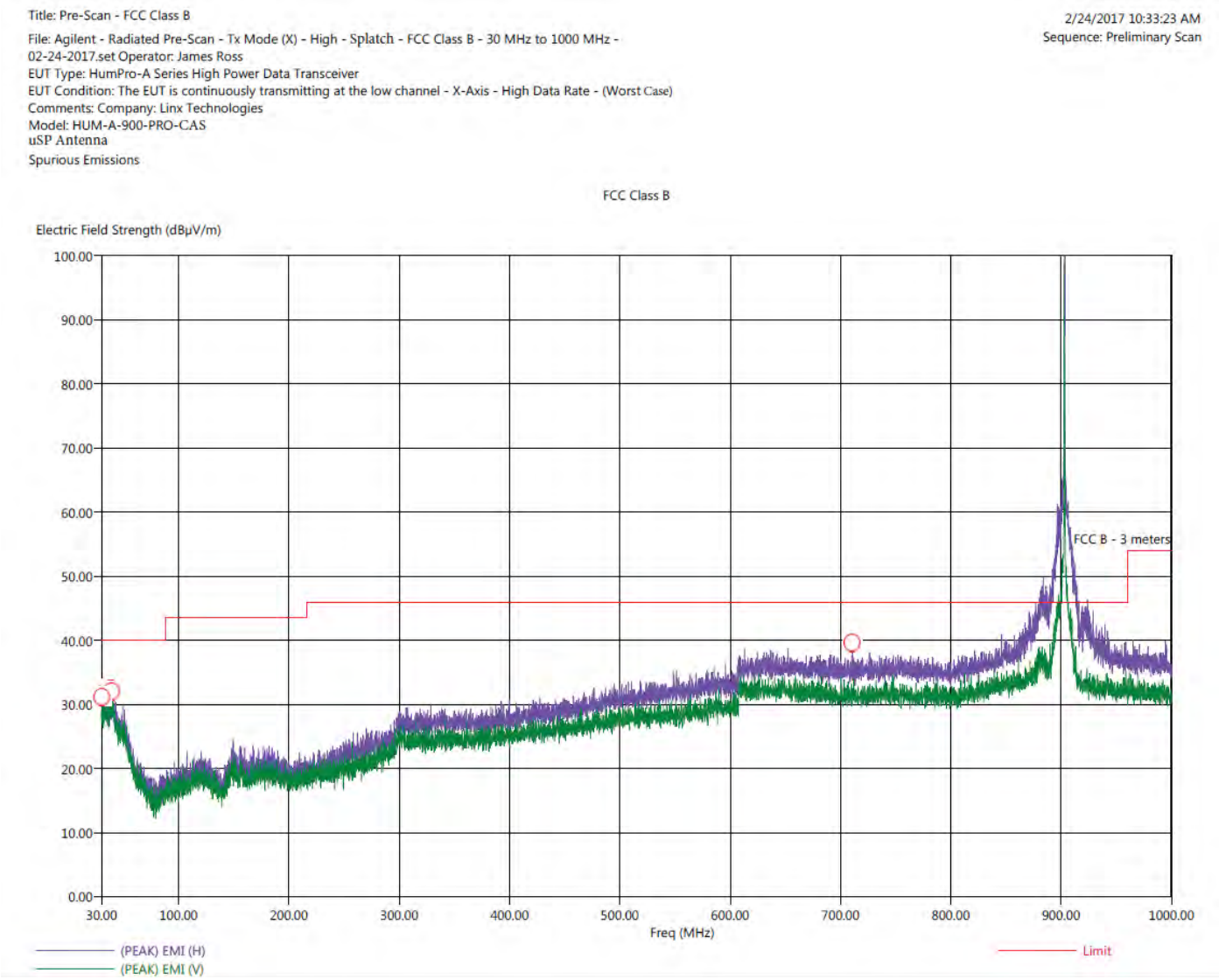
FCC Class B

Linx Technologies
HumPRO-A Series High Power Data Transceiver
Model: HUM-A-900-PRO-CAS

Date: 02/23/2017
Lab: D
Tested By: Kyle Fujimoto

High Data Rate - uSP Splatch Antenna
Receiver Portion of the EUT

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
								No Emissions Detected
								from 1 GHz to 9.3 GHz
								for the Receiver Portion
								of the EUT
								Investigated in the X-Axis,
								Y-Axis, and Z-Axis



Note: The emission above the limit line is from the transmitter and subject to the limits of FCC 15.247.

Title: Radiated Final - 30-1000 MHz - FCC Class B

2/24/2017 10:47:07 AM
Sequence: Final Measurements

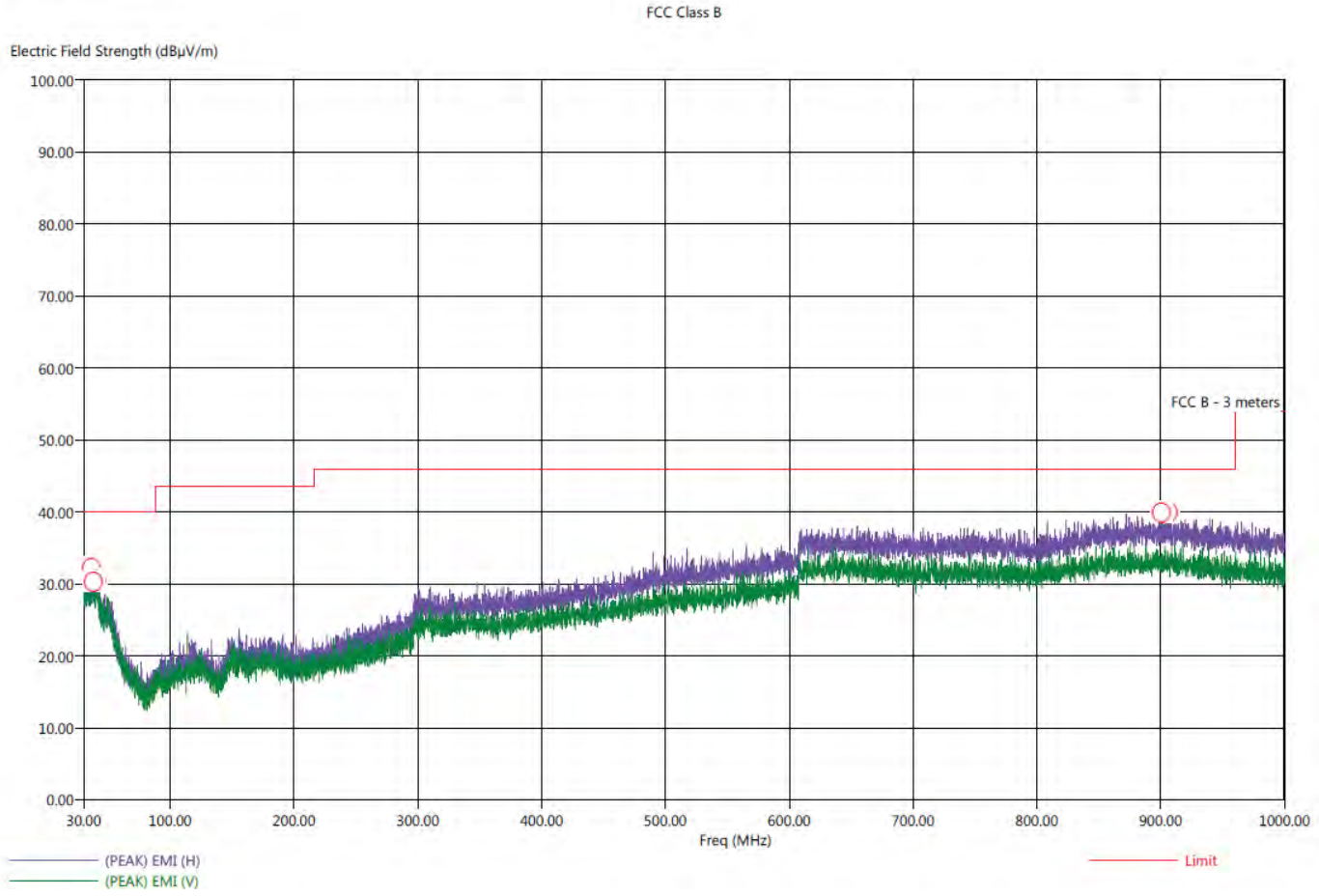
File: Agilent - Radiated Final Scan - Tx Mode - Splatch - FCC Class B - 30 MHz to 1000 MHz - 01-25-2017.set
Operator: James Ross
EUT Type: HumPro-A Series High Power Data Transceiver
EUT Condition: The EUT is continuously transmitting at the low channel - X-Axis - High Data Rate - (Worst Case)
Comments: Company: Linx Technologies
Model: HUM-A-900-PRO-CAS
uSP Antenna
Spurious Emissions

FCC Class B

Freq (MHz)	Pol	(PEAK) EMI (dBµV/m)	(QP) EMI (dBµV/m)	(PEAK) Margin (dB)	(QP) Margin (dB)	Limit (dBµV/m)	Twr Ht (cm)	Ttbl Agl (deg)
30.40	V	26.45	22.47	-13.55	-17.53	40.00	352.23	323.75
32.30	H	26.95	22.72	-13.05	-17.28	40.00	304.47	263.25
38.80	H	27.96	23.67	-12.04	-16.33	40.00	336.77	31.50
39.10	V	28.10	23.74	-11.90	-16.26	40.00	320.29	90.50
40.00	H	28.45	24.05	-11.55	-15.95	40.00	127.70	322.50
710.60	H	30.27	26.15	-15.73	-19.85	46.00	143.40	199.50

Title: Pre-Scan - FCC Class B
File: Agilent - Radiated Pre-Scan - Rx Mode (X) - High - Splatch - FCC Class B - 30 MHz to 1000 MHz - 02-24-2017.set
Operator: James Ross
EUT Type: HumPro-A Series High Power Data Transceiver
EUT Condition: The EUT is continuously receiving at the low channel - X-Axis - High Data Rate - (Worst Case)
Comments: Company: Linx Technologies
Model: HUM-A-900-PRO-CAS
uSP Antenna
Spurious Emissions

2/24/2017 2:34:23 PM
Sequence: Preliminary Scan



Title: Radiated Final - 30-1000 MHz - FCC Class B
File: Agilent - Radiated Final Scan - Rx Mode (X) - High - Splatch - FCC Class B - 30 MHz to 1000 MHz - 02-24-2017.set
Operator: James Ross
EUT Type: HumPro-A Series High Power Data Transceiver
EUT Condition: The EUT is continuously receiving at the low channel - X-Axis - High Data Rate (Worst Case)
Comments: Company: Linx Technologies
Model: HUM-A-900-PRO-CAS
uSP Antenna
Spurious Emissions

2/24/2017 2:46:19 PM
Sequence: Final Measurements

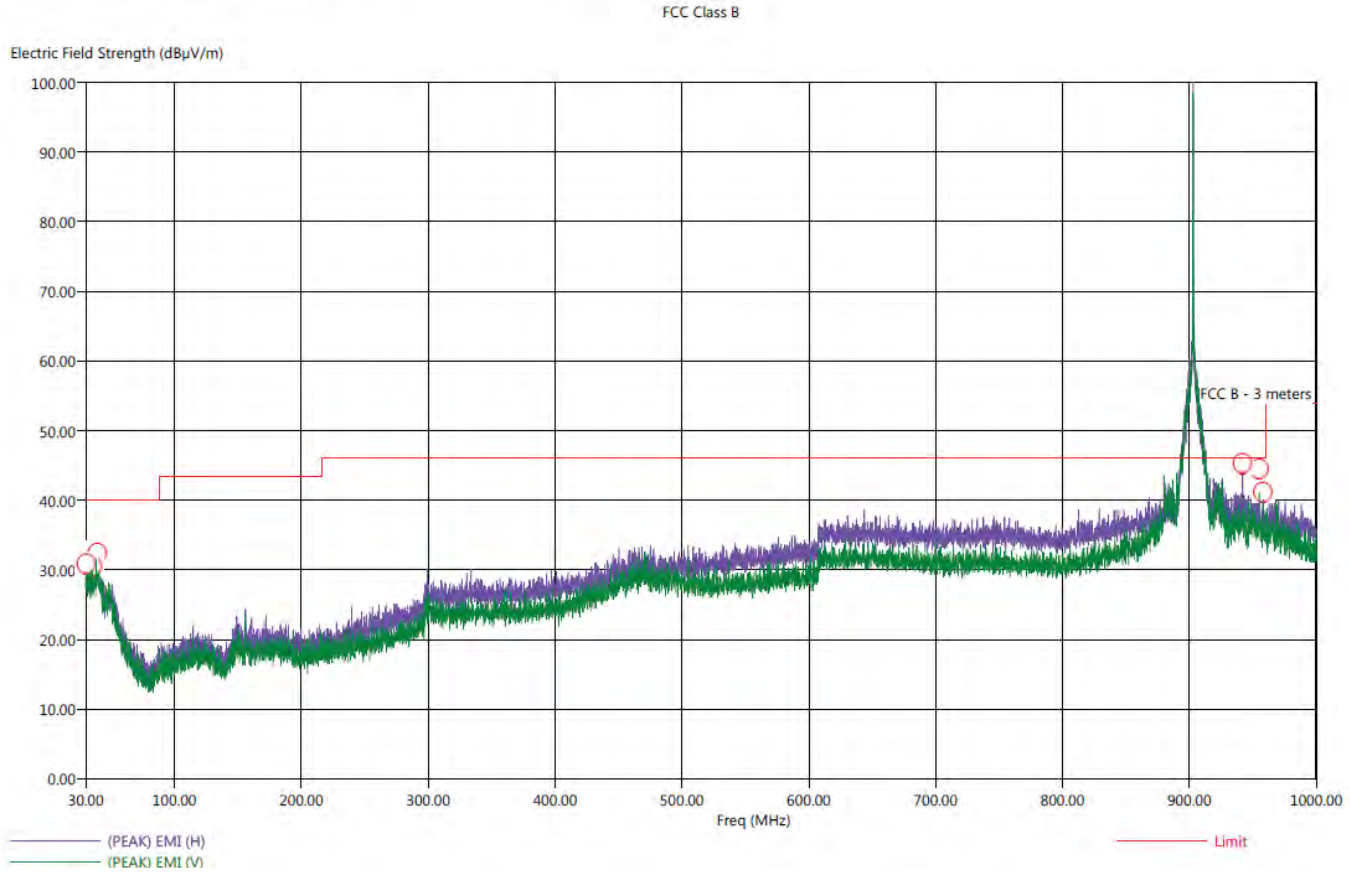
FCC Class B

Freq (MHz)	Pol	(PEAK) EMI (dBµV/m)	(QP) EMI (dBµV/m)	(PEAK) Margin (dB)	(QP) Margin (dB)	Limit (dBµV/m)	Twr Ht (cm)	Ttbl Agl (deg)
36.40	H	26.94	22.85	-13.06	-17.15	40.00	256.17	209.75
37.90	V	27.73	23.33	-12.27	-16.67	40.00	143.64	166.50
38.50	H	27.65	23.52	-12.35	-16.48	40.00	127.58	92.00
40.30	V	27.31	23.53	-12.69	-16.47	40.00	111.52	25.00
900.70	H	33.78	29.21	-12.22	-16.79	46.00	175.40	165.25
906.40	H	34.03	29.16	-11.97	-16.84	46.00	175.52	232.75

Title: Pre-Scan - FCC Class B
File: Agilent - Radiated Pre-Scan - Tx Mode (Y) - Low - UFL - FCC Class B - 30 MHz to 1000 MHz - 02-24-2017.set
Operator: James Ross
EUT Type: HumPro-A Series High Power Data Transceiver
EUT Condition: The EUT is continuously transmitting at the low channel - Y-Axis - Low Data Rate - Worst Case
Comments: Company: Linx Technologies
Model: HUM-A-900-PRO-UFL

2/24/2017 4:11:29 PM
Sequence: Preliminary Scan

Spurious Emissions - Y-Axis Worst Case
Note: Frequencies from 890 MHz to 928 MHz are from the Transmitter and not in the restricted band so subject to FCC 15.247 (d) limits instead.



Note: The emission above the limit line is from the transmitter and subject of FCC 15.247 limits.

Title: Radiated Final - 30-1000 MHz - FCC Class B
File: Agilent - Radiated Final Scan - Tx Mode (Y) - Low - UFL - FCC Class B - 30 MHz to 1000 MHz - 02-24-2017.set
Operator: James Ross
EUT Type: HumPro-A Series High Power Data Transceiver
EUT Condition: The EUT is continuously transmitting at the low channel - Y-Axis - Low Data Rate - Worst Case
Comments: Company: Linx Technologies
Model: HUM-A-900-PRO-UFL
Y-Axis Worst Case

2/27/2017 9:44:07 AM
Sequence: Final Measurements

Spurious Emissions

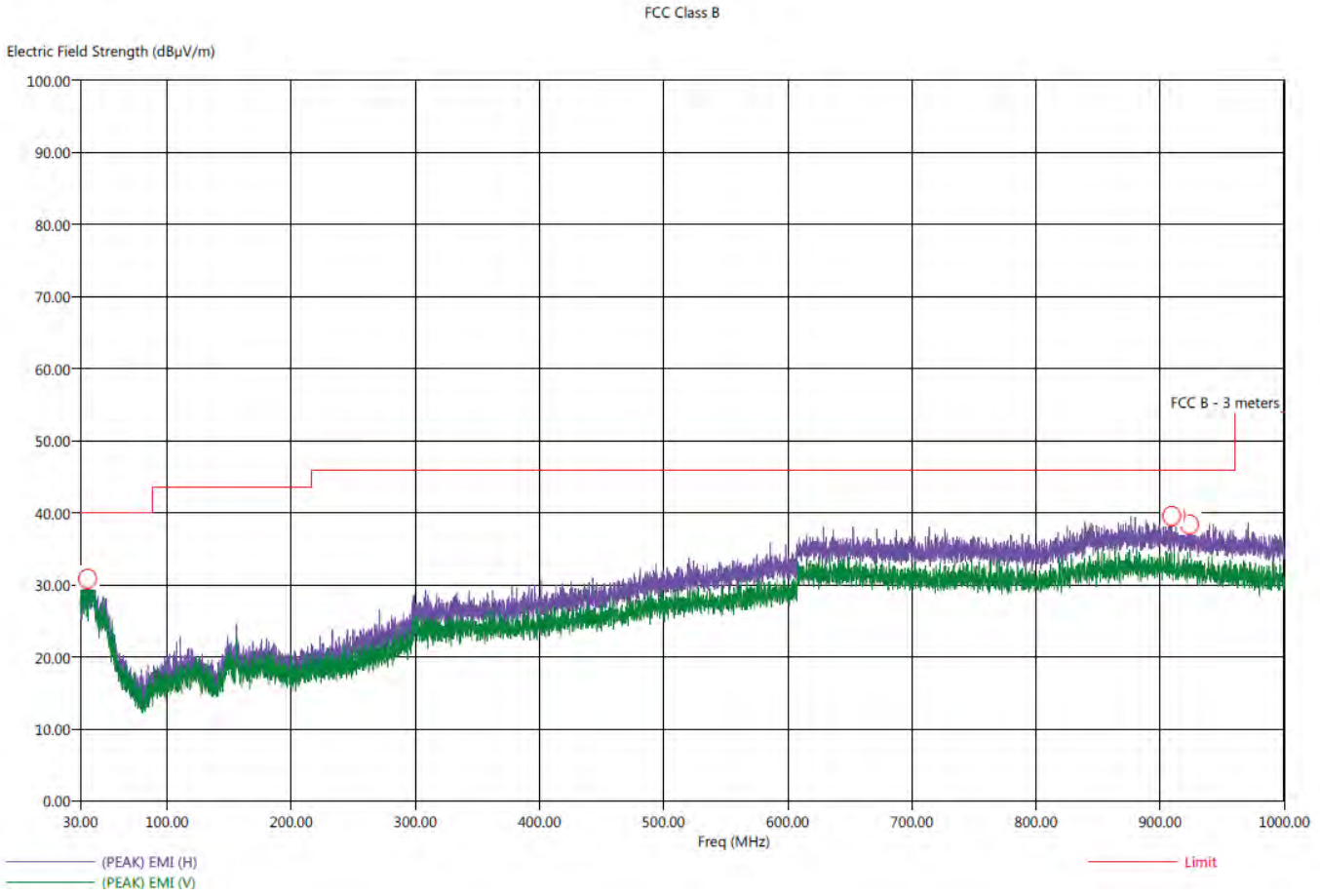
FCC Class B

Freq (MHz)	Pol	(PEAK) EMI (dBµV/m)	(QP) EMI (dBµV/m)	(PEAK) Margin (dB)	(QP) Margin (dB)	Limit (dBµV/m)	Twr Ht (cm)	Ttbl Agl (deg)
30.60	H	27.27	22.49	-12.73	-17.51	40.00	352.41	211.50
35.30	H	26.76	22.71	-13.24	-17.29	40.00	320.11	269.75
39.20	H	28.92	23.81	-11.08	-16.19	40.00	191.40	224.25
942.00	H	40.20	36.25	-5.80	-9.75	46.00	319.64	144.50
955.00	H	39.94	36.39	-6.06	-9.61	46.00	287.94	134.75
958.00	H	37.63	33.19	-8.37	-12.81	46.00	303.94	138.75

Title: Pre-Scan - FCC Class B
File: Agilent - Radiated Pre-Scan - Rx Mode (X) - Low - UFL - FCC Class B - 30 MHz to 1000 MHz - 02-27-2017.set
Operator: James Ross
EUT Type: HumPro-A Series High Power Data Transceiver
EUT Condition: The EUT is continuously receiving at the low channel - X-Axis - Low Data Rate - Worst Case
Comments: Company: Linx Technologies
Model: HUM-A-900-PRO-UFL

2/27/2017 11:16:35 AM
Sequence: Preliminary Scan

Spurious Emissions



Title: Radiated Final - 30-1000 MHz - FCC Class B
File: Agilent - Radiated Final Scan - Rx Mode (X) - Low - UFL - FCC Class B - 30 MHz to 1000 MHz - 02-24-2017.set
Operator: James Ross
EUT Type: HumPro-A Series High Power Data Transceiver
EUT Condition: The EUT is continuously receiving at the low channel - X-Axis - Low Data Rate - Worst Case
Comments: Company: Linx Technologies
Model: HUM-A-900-PRO-UFL
X-Axis Worst Case

2/27/2017 11:33:02 AM
Sequence: Final Measurements

Spurious Emissions

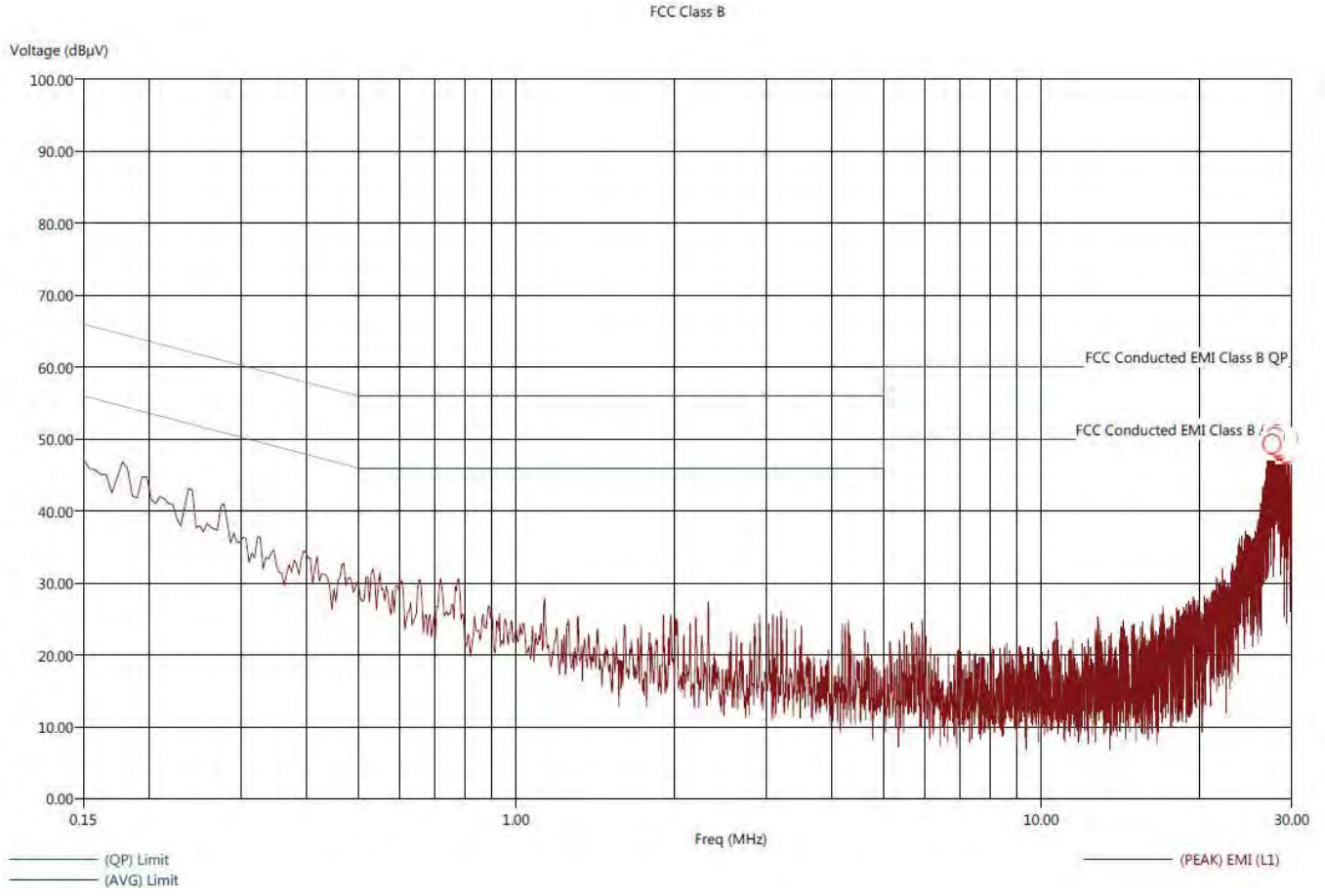
FCC Class B

Freq (MHz)	Pol	(PEAK) EMI (dBµV/m)	(QP) EMI (dBµV/m)	(PEAK) Margin (dB)	(QP) Margin (dB)	Limit (dBµV/m)	Twr Ht (cm)	Ttbl Agl (deg)
35.60	H	27.08	22.80	-12.92	-17.20	40.00	255.88	359.25
35.90	V	27.24	22.85	-12.76	-17.15	40.00	271.82	181.00
36.20	V	27.20	22.95	-12.80	-17.05	40.00	352.41	239.00
909.40	H	33.22	29.13	-12.78	-16.87	46.00	399.82	0.25
912.80	H	34.08	29.07	-11.92	-16.93	46.00	320.00	22.50
923.90	H	33.18	29.03	-12.82	-16.97	46.00	127.88	78.00

CONDUCTED EMISSIONS DATA SHEETS

Title: FCC Class B - Black Lead
File: 3 - CE - Pre-Scan - Black Lead - Tx Mode - High Data - u.fl.set
Operator: Kyle Fujimoto
EUT Type: HumPRO-A Series High Power Data Transceiver
EUT Condition: The EUT is continuously transmitting at the low channel
Comments: Customer: Linx Technologies
Model: HUM-A-900-PRO-UFL
ANT-916-CW-HWR-RPS Antenna
High Data Rate - Worst Case

3/2/2017 10:33:37 AM
Sequence: Preliminary Scan



Title: FCC Class B - Conducted Emissions - Black Lead
File: 3 - CE - Final Scan - Black Lead - Tx Mode - High Data - u.fl.set
Operator: Kyle Fujimoto
EUT Type: HumPRO-A Series High Power Data Transceiver
EUT Condition: The EUT is continuously transmitting at the low channel
Comments: Customer: Linx Technologies
Model: HUM-A-900-PRO-UFL
ANT-916-CW-HWR-RPS Antenna
High Data Rate - Worst Case

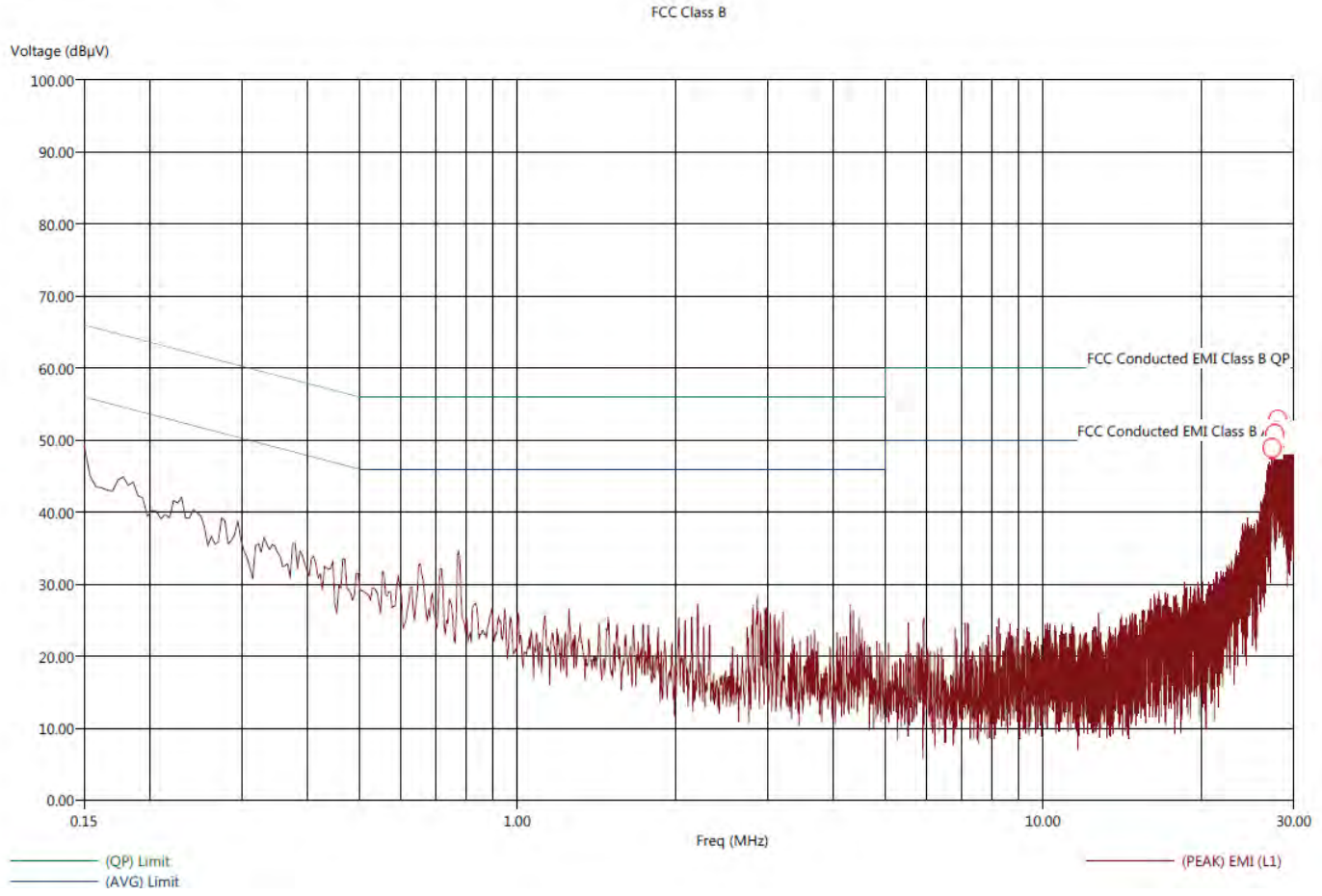
3/2/2017 10:36:18 AM
Sequence: Final Measurements

FCC Class B - Conducted Emissions - Black Lead

Freq (MHz)	(PEAK) EMI (dBµV)	(AVG) EMI (dBµV)	(PEAK) Margin AVL (dB)	(AVG) Margin AVL (dB)	(AVG) Limit (dBµV)	Cable (dB)	Transducer (dB)	Filter (dB)
27.52	52.48	40.34	2.48	-9.66	50.00	0.59	0.25	10.61
27.89	52.02	39.83	2.02	-10.17	50.00	0.59	0.26	10.62
27.91	52.73	39.75	2.73	-10.25	50.00	0.58	0.25	10.60
28.00	52.52	40.48	2.52	-9.52	50.00	0.58	0.25	10.60
28.03	52.85	40.53	2.85	-9.47	50.00	0.59	0.26	10.61
28.09	52.36	40.14	2.36	-9.86	50.00	0.59	0.26	10.61
28.21	52.06	39.91	2.06	-10.09	50.00	0.58	0.25	10.59
28.31	52.88	40.09	2.88	-9.91	50.00	0.59	0.26	10.61
28.42	52.13	40.51	2.13	-9.49	50.00	0.59	0.26	10.61
28.43	52.44	39.89	2.44	-10.11	50.00	0.59	0.26	10.62
28.44	52.42	40.61	2.42	-9.39	50.00	0.58	0.25	10.60
28.46	52.38	39.93	2.38	-10.07	50.00	0.59	0.26	10.61
28.48	52.65	39.97	2.65	-10.03	50.00	0.59	0.25	10.60
28.48	52.28	39.61	2.28	-10.39	50.00	0.59	0.26	10.62
28.52	51.81	39.62	1.81	-10.38	50.00	0.58	0.25	10.58
28.69	52.23	39.84	2.23	-10.16	50.00	0.58	0.25	10.59
28.81	52.63	40.42	2.63	-9.58	50.00	0.59	0.26	10.62
28.83	52.40	39.95	2.40	-10.05	50.00	0.59	0.26	10.62
29.09	52.83	40.21	2.83	-9.79	50.00	0.59	0.25	10.60
29.19	52.23	39.92	2.23	-10.08	50.00	0.59	0.26	10.61
29.22	52.06	39.77	2.06	-10.23	50.00	0.59	0.26	10.62
29.23	51.54	39.24	1.54	-10.76	50.00	0.59	0.26	10.63
29.26	52.42	40.28	2.42	-9.72	50.00	0.59	0.26	10.62
29.54	51.81	39.93	1.81	-10.07	50.00	0.59	0.26	10.63

Title: FCC Class B - White Lead
File: 4 - CE - Pre-Scan - White Lead - Tx Mode - High Data - u.fl.set
Operator: Kyle Fujimoto
EUT Type: HumPRO-A Series High Power Data Transceiver
EUT Condition: The EUT is continuously transmitting at the low channel
Comments: Customer: Linx Technologies
Model: HUM-A-900-PRO-UFL
ANT-916-CW-HWR-RPS Antenna
High Data Rate - Worst Case

3/2/2017 10:38:43 AM
Sequence: Preliminary Scan



Title: FCC Class B - Conducted Emissions - White Lead
File: 4 - CE - Final Scan - White Lead - Tx Mode - High Data - u.fl.set
Operator: Kyle Fujimoto
EUT Type: HumPRO-A Series High Power Data Transceiver
EUT Condition: The EUT is continuously transmitting at the low channel
Comments: Customer: Linx Technologies
Model: HUM-A-900-PRO-UFL
ANT-916-CW-HWR-RPS Antenna
High Data Rate - Worst Case

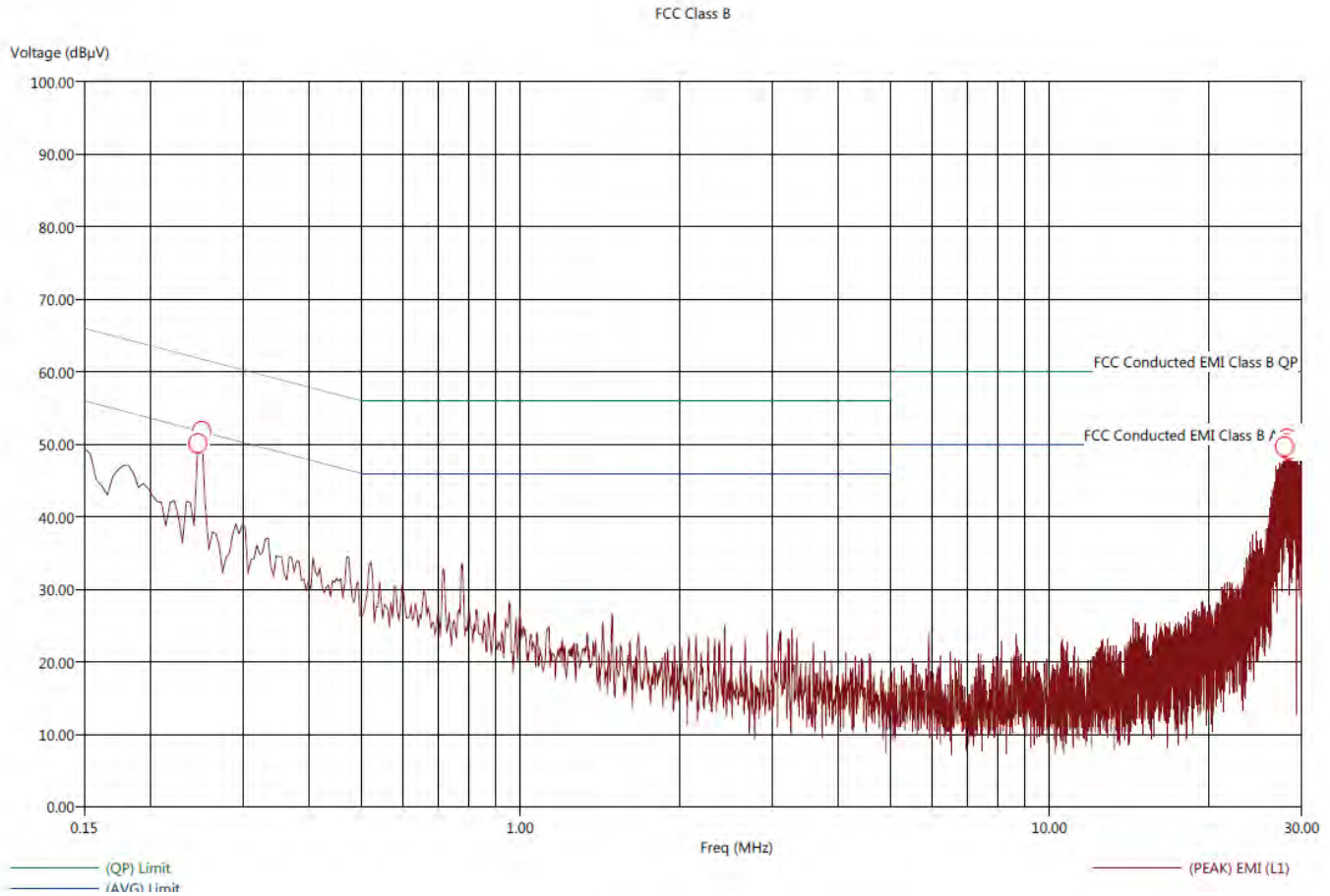
3/2/2017 10:40:45 AM
Sequence: Final Measurements

FCC Class B - Conducted Emissions - White Lead

Freq (MHz)	(PEAK) EMI (dBµV)	(AVG) EMI (dBµV)	(PEAK) Margin AVL (dB)	(AVG) Margin AVL (dB)	(AVG) Limit (dBµV)	Cable (dB)	Transducer (dB)	Filter (dB)
27.298	53.24	40.62	3.24	-9.38	50.00	0.58	0.11	10.59
27.626	53.61	40.89	3.61	-9.11	50.00	0.59	0.11	10.60
27.706	53.86	41.39	3.86	-8.61	50.00	0.59	0.11	10.60
27.782	53.79	41.34	3.79	-8.66	50.00	0.59	0.11	10.61
27.850	53.35	40.72	3.35	-9.28	50.00	0.59	0.11	10.60
27.886	53.57	40.83	3.57	-9.17	50.00	0.59	0.11	10.60
27.954	53.40	40.76	3.40	-9.24	50.00	0.59	0.11	10.62
27.978	53.85	41.11	3.85	-8.89	50.00	0.58	0.11	10.60
28.034	53.46	40.92	3.46	-9.08	50.00	0.58	0.11	10.59
28.050	53.81	41.57	3.81	-8.43	50.00	0.59	0.11	10.60
28.066	52.58	40.74	2.58	-9.26	50.00	0.58	0.11	10.59
28.158	53.39	40.80	3.39	-9.20	50.00	0.59	0.11	10.63
28.182	53.61	40.70	3.61	-9.30	50.00	0.58	0.11	10.59
28.370	53.64	41.22	3.64	-8.78	50.00	0.58	0.11	10.60
28.434	53.71	41.03	3.71	-8.97	50.00	0.59	0.11	10.61
28.450	53.85	41.11	3.85	-8.89	50.00	0.58	0.11	10.60
28.502	53.88	40.72	3.88	-9.28	50.00	0.59	0.11	10.62
28.710	53.55	41.19	3.55	-8.81	50.00	0.59	0.11	10.62
28.762	53.38	41.15	3.38	-8.85	50.00	0.59	0.11	10.61
28.838	53.19	40.81	3.19	-9.19	50.00	0.59	0.11	10.62
28.846	53.78	41.05	3.78	-8.95	50.00	0.58	0.11	10.60
28.862	52.46	39.99	2.46	-10.01	50.00	0.59	0.11	10.63
28.970	53.51	40.80	3.51	-9.20	50.00	0.59	0.11	10.62
29.214	53.95	41.30	3.95	-8.70	50.00	0.59	0.11	10.61
29.310	52.75	40.21	2.75	-9.79	50.00	0.59	0.11	10.63
29.486	53.44	40.59	3.44	-9.41	50.00	0.59	0.11	10.62
29.662	52.86	40.40	2.86	-9.60	50.00	0.59	0.11	10.63

Title: FCC Class B - Black Lead
File: 7 - CE - Pre-Scan - Black Lead - Rx Mode - High Data - u.fl.set
Operator: Kyle Fujimoto
EUT Type: HumPRO-A Series High Power Data Transceiver
EUT Condition: The EUT is continuously receiving at the low channel
Comments: Customer: Linx Technologies
Model: HUM-A-900-PRO-UFL
ANT-916-CW-HWR-RPS Antenna
High Data Rate - Worst Case

3/2/2017 10:56:34 AM
Sequence: Preliminary Scan



Title: FCC Class B - Conducted Emissions - Black Lead
File: 7 - CE - Final Scan - Black Lead - Rx Mode - High Data - u.fl.set
Operator: Kyle Fujimoto
EUT Type: HumPRO-A Series High Power Data Transceiver
EUT Condition: The EUT is continuously receiving at the low channel
Comments: Customer: Linx Technologies
Model: HUM-A-900-PRO-UFL
ANT-916-CW-HWR-RPS Antenna
High Data Rate - Worst Case

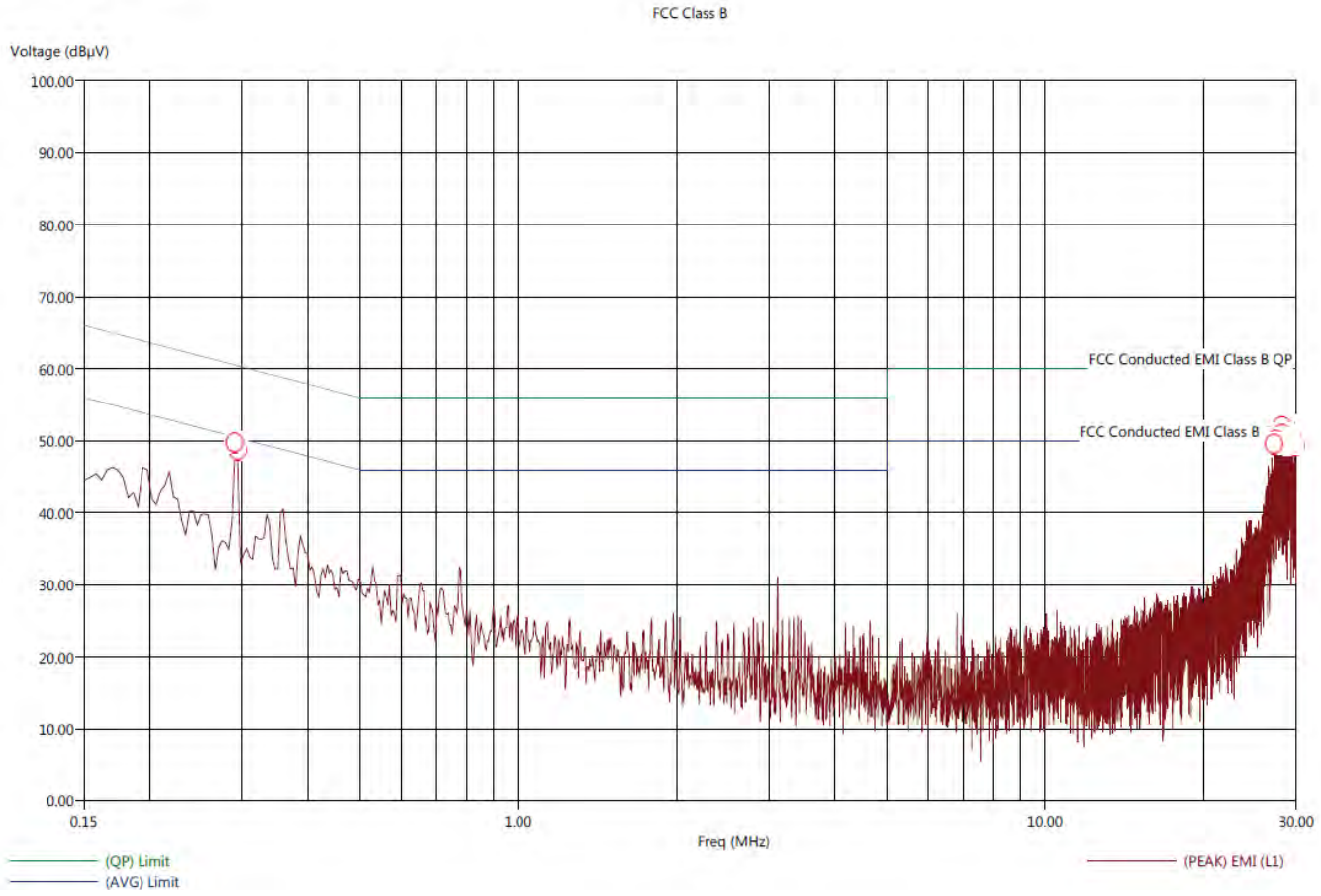
3/2/2017 10:58:44 AM
Sequence: Final Measurements

FCC Class B - Conducted Emissions - Black Lead

Freq (MHz)	(PEAK) EMI (dBµV)	(AVG) EMI (dBµV)	(PEAK) Margin AVL (dB)	(AVG) Margin AVL (dB)	(AVG) Limit (dBµV)	Cable (dB)	Transducer (dB)	Filter (dB)
0.246	51.64	27.92	-0.35	-24.07	51.99	0.10	0.24	9.62
0.250	51.74	27.57	-0.18	-24.35	51.92	0.10	0.24	9.62
27.846	52.18	39.80	2.18	-10.20	50.00	0.59	0.26	10.61
27.898	52.01	39.14	2.01	-10.86	50.00	0.59	0.26	10.62
27.910	52.66	39.37	2.66	-10.63	50.00	0.59	0.26	10.61
27.982	51.60	39.09	1.60	-10.91	50.00	0.58	0.25	10.60
28.114	51.74	39.43	1.74	-10.57	50.00	0.59	0.26	10.63
28.150	51.68	38.89	1.68	-11.11	50.00	0.59	0.26	10.63
28.206	52.04	39.69	2.04	-10.31	50.00	0.59	0.26	10.62
28.306	51.99	39.63	1.99	-10.37	50.00	0.59	0.26	10.61
28.530	52.20	39.41	2.20	-10.59	50.00	0.59	0.25	10.60
28.550	52.19	39.40	2.19	-10.60	50.00	0.59	0.26	10.61
28.578	52.46	39.87	2.46	-10.13	50.00	0.59	0.26	10.61
28.614	52.24	39.16	2.24	-10.84	50.00	0.58	0.25	10.59
28.634	52.44	39.97	2.44	-10.03	50.00	0.59	0.26	10.62
28.682	52.53	39.74	2.53	-10.26	50.00	0.59	0.26	10.62
28.842	51.91	39.27	1.91	-10.73	50.00	0.59	0.25	10.60
28.970	52.59	40.13	2.59	-9.87	50.00	0.59	0.26	10.61
29.002	51.86	39.57	1.86	-10.43	50.00	0.59	0.26	10.62
29.042	50.78	38.21	0.78	-11.79	50.00	0.59	0.27	10.65

Title: FCC Class B - White Lead
File: 8 - CE - Pre-Scan - White Lead - Rx Mode - High Data - u.fl.set
Operator: Kyle Fujimoto
EUT Type: HumPRO-A Series High Power Data Transceiver
EUT Condition: The EUT is continuously receiving at the low channel
Comments: Customer: Linx Technologies
Model: HUM-A-900-PRO-UFL
ANT-916-CW-HWR-RPS Antenna
High Data Rate - Worst Case

3/2/2017 11:00:56 AM
Sequence: Preliminary Scan



Title: FCC Class B - Conducted Emissions - White Lead
File: 8 - CE - Final Scan - White Lead - Rx Mode - High Data - u.fl.set
Operator: Kyle Fujimoto
EUT Type: HumPRO-A Series High Power Data Transceiver
EUT Condition: The EUT is continuously receiving at the low channel
Comments: Customer: Linx Technologies
Model: HUM-A-900-PRO-UFL
ANT-916-CW-HWR-RPS Antenna
High Data Rate - Worst Case

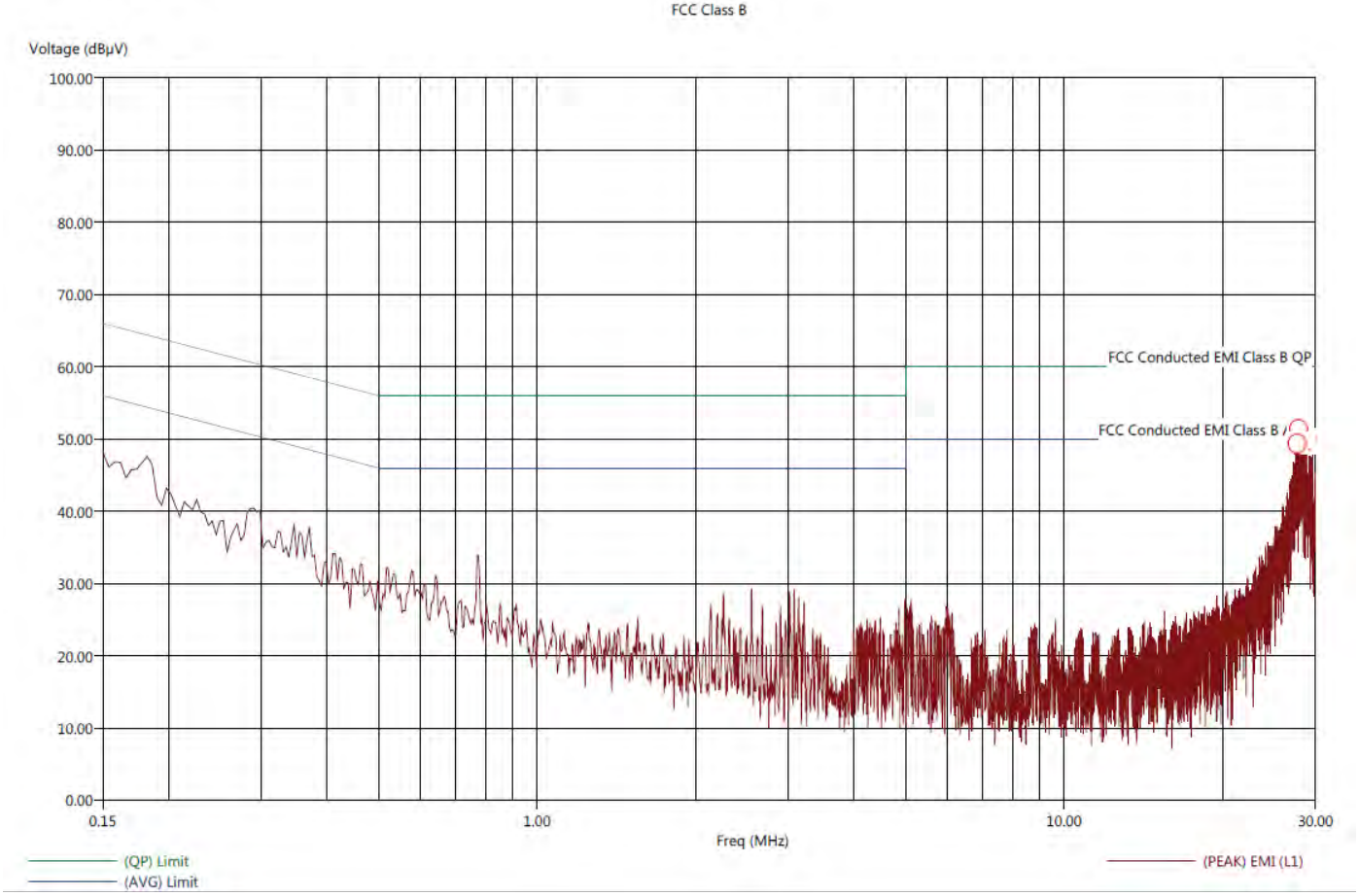
3/2/2017 11:03:31 AM
Sequence: Final Measurements

FCC Class B - Conducted Emissions - White Lead

Freq (MHz)	(PEAK) EMI (dBµV)	(AVG) EMI (dBµV)	(PEAK) Margin AVL (dB)	(AVG) Margin AVL (dB)	(AVG) Limit (dBµV)	Cable (dB)	Transducer (dB)	Filter (dB)
0.290	51.67	29.33	1.36	-20.98	50.31	0.10	0.12	9.64
0.294	52.60	28.88	2.19	-21.53	50.41	0.10	0.13	9.64
27.226	52.84	40.21	2.84	-9.79	50.00	0.58	0.11	10.58
27.442	53.02	40.66	3.02	-9.34	50.00	0.58	0.11	10.59
27.594	53.66	40.90	3.66	-9.10	50.00	0.59	0.11	10.60
27.634	53.59	40.15	3.59	-9.85	50.00	0.58	0.11	10.60
27.710	53.84	40.47	3.84	-9.53	50.00	0.59	0.11	10.61
27.850	53.35	40.01	3.35	-9.99	50.00	0.59	0.11	10.61
27.898	53.16	40.37	3.16	-9.63	50.00	0.59	0.11	10.62
27.958	53.43	40.84	3.43	-9.16	50.00	0.58	0.11	10.59
28.002	53.32	40.56	3.32	-9.44	50.00	0.59	0.11	10.62
28.078	53.13	39.94	3.13	-10.06	50.00	0.59	0.11	10.64
28.190	53.25	40.03	3.25	-9.97	50.00	0.58	0.11	10.58
28.218	53.52	40.93	3.52	-9.07	50.00	0.59	0.11	10.61
28.254	53.65	40.48	3.65	-9.52	50.00	0.59	0.11	10.61
28.294	53.04	40.89	3.04	-9.11	50.00	0.58	0.11	10.59
28.306	53.06	39.98	3.06	-10.02	50.00	0.59	0.11	10.64
28.490	53.47	40.48	3.47	-9.52	50.00	0.59	0.11	10.61
28.506	53.37	41.15	3.37	-8.85	50.00	0.59	0.11	10.61
28.566	52.93	40.16	2.93	-9.84	50.00	0.59	0.11	10.62
28.614	53.72	41.12	3.72	-8.88	50.00	0.59	0.11	10.61
28.622	53.51	40.79	3.51	-9.21	50.00	0.59	0.11	10.62
28.646	53.45	40.51	3.45	-9.49	50.00	0.58	0.11	10.59
28.694	54.11	40.90	4.11	-9.10	50.00	0.59	0.11	10.61
28.710	53.17	40.76	3.17	-9.24	50.00	0.59	0.11	10.62
28.942	53.14	40.38	3.14	-9.62	50.00	0.59	0.11	10.61
29.018	53.86	41.07	3.86	-8.93	50.00	0.59	0.11	10.60
29.046	53.26	40.68	3.26	-9.32	50.00	0.59	0.11	10.62
29.086	53.23	39.98	3.23	-10.02	50.00	0.59	0.11	10.64
29.314	53.96	40.57	3.96	-9.43	50.00	0.59	0.11	10.61
29.358	52.63	40.04	2.63	-9.96	50.00	0.59	0.11	10.62
29.426	52.75	39.72	2.75	-10.28	50.00	0.59	0.11	10.65
29.462	53.03	40.77	3.03	-9.23	50.00	0.59	0.11	10.62
29.502	52.99	40.57	2.99	-9.43	50.00	0.59	0.11	10.62
29.850	52.93	40.02	2.93	-9.98	50.00	0.59	0.11	10.64

Title: FCC Class B - Black Lead
File: 3 - CE - Pre-Scan - Black Lead - Tx Mode - High Data - Splatch.set
Operator: Kyle Fujimoto
EUT Type: HumPRO-A Series High Power Data Transceiver
EUT Condition: The EUT is continuously transmitting at the low channel
Comments: Customer: Linx Technologies
Model: HUM-A-900-PRO-CAS
ANT-916-uSP
High Data Rate - Worst Case

3/2/2017 9:38:38 AM
Sequence: Preliminary Scan



Title: FCC Class B - Conducted Emissions - Black Lead
File: 3 - CE - Final Scan - Black Lead - Tx Mode - High Data - Splatch.set
Operator: Kyle Fujimoto
EUT Type: HumPRO-A Series High Power Data Transceiver
EUT Condition: The EUT is continuously transmitting at the low channel
Comments: Customer: Linx Technologies
Model: HUM-A-900-PRO-CAS
ANT-916-uSP Antenna
High Data Rate - Worst Case

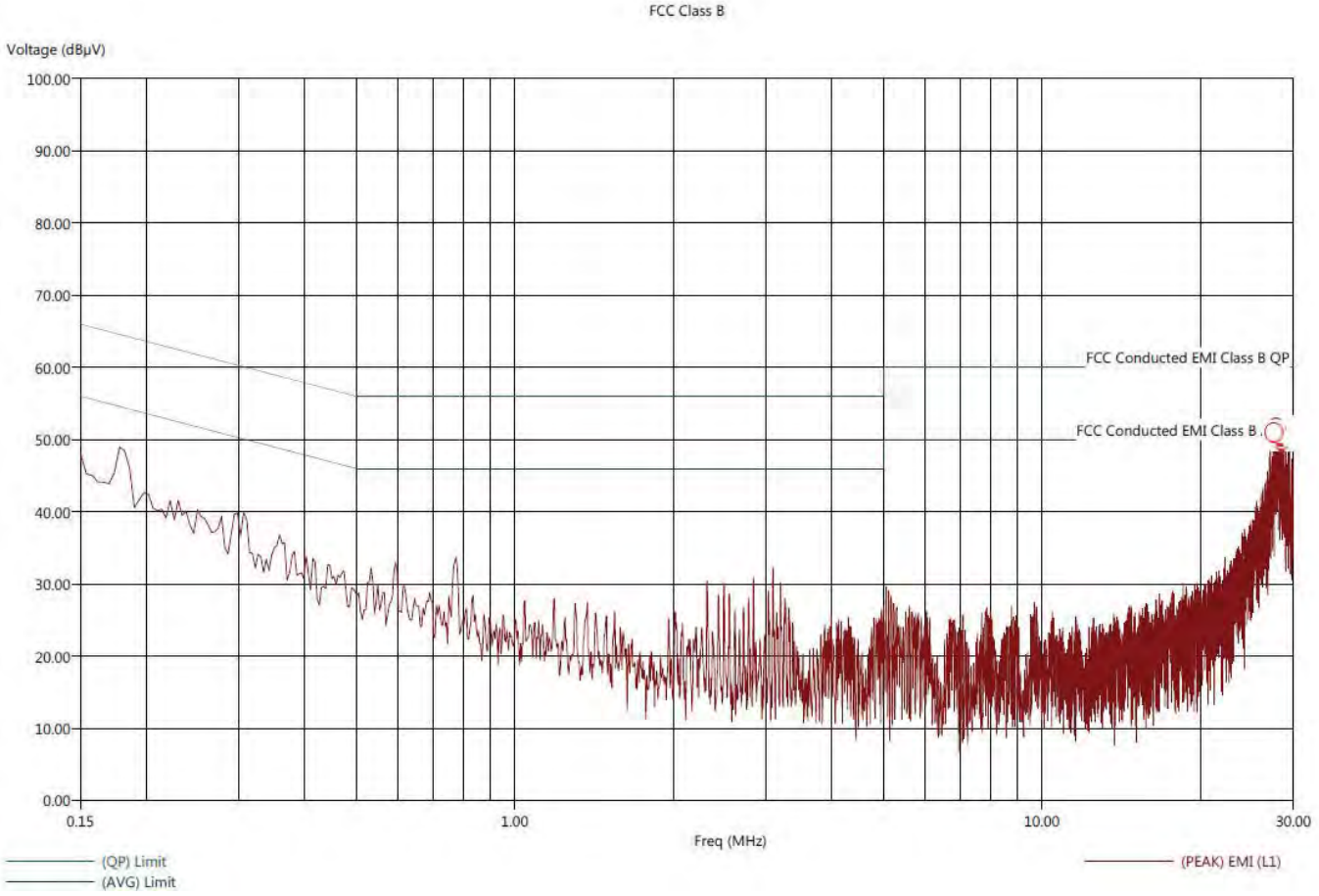
3/2/2017 9:40:35 AM
Sequence: Final Measurements

FCC Class B - Conducted Emissions - Black Lead

Freq (MHz)	(PEAK) EMI (dBµV)	(AVG) EMI (dBµV)	(PEAK) Margin AVL (dB)	(AVG) Margin AVL (dB)	(AVG) Limit (dBµV)	Cable (dB)	Transducer (dB)	Filter (dB)
27.69	53.09	41.02	3.09	-8.98	50.00	0.59	0.25	10.60
27.70	52.89	40.29	2.89	-9.71	50.00	0.58	0.25	10.59
27.89	52.47	40.14	2.47	-9.86	50.00	0.59	0.26	10.62
28.01	51.52	39.08	1.52	-10.92	50.00	0.58	0.25	10.57
28.07	52.73	40.75	2.73	-9.25	50.00	0.58	0.25	10.60
28.09	53.46	40.91	3.46	-9.09	50.00	0.59	0.25	10.60
28.10	52.52	40.49	2.52	-9.51	50.00	0.58	0.25	10.59
28.13	53.03	41.15	3.03	-8.85	50.00	0.59	0.25	10.60
28.19	53.18	41.22	3.18	-8.78	50.00	0.58	0.25	10.59
28.38	53.25	40.99	3.25	-9.01	50.00	0.58	0.25	10.60
28.42	53.13	41.21	3.13	-8.79	50.00	0.58	0.25	10.60
28.43	53.16	40.88	3.16	-9.12	50.00	0.58	0.25	10.59
28.45	52.54	40.48	2.54	-9.52	50.00	0.58	0.25	10.60
28.49	52.63	40.53	2.63	-9.47	50.00	0.59	0.26	10.61
28.51	51.11	38.49	1.11	-11.51	50.00	0.59	0.26	10.63
28.89	53.32	40.70	3.32	-9.30	50.00	0.59	0.25	10.60

Title: FCC Class B - White Lead
File: 4 - CE - Pre-Scan - White Lead - Tx Mode - High Data - Splatch.set
Operator: Kyle Fujimoto
EUT Type: HumPRO-A Series High Power Data Transceiver
EUT Condition: The EUT is continuously transmitting at the low channel
Comments: Customer: Linx Technologies
Model: HUM-A-900-PRO-CAS
ANT-916-uSP Antenna
High Data Rate - Worst Case

3/2/2017 9:42:39 AM
Sequence: Preliminary Scan



Title: FCC Class B - Conducted Emissions - White Lead
File: 4 - CE - Final Scan - White Lead - Tx Mode - High Data - Spatch.set
Operator: Kyle Fujimoto
EUT Type: HumPRO-A Series High Power Data Transceiver
EUT Condition: The EUT is continuously transmitting at the low channel
Comments: Customer: Linx Technologies
Model: HUM-A-900-PRO-CAS
ANT-916-uSP Antenna
High Data Rate - Worst Case

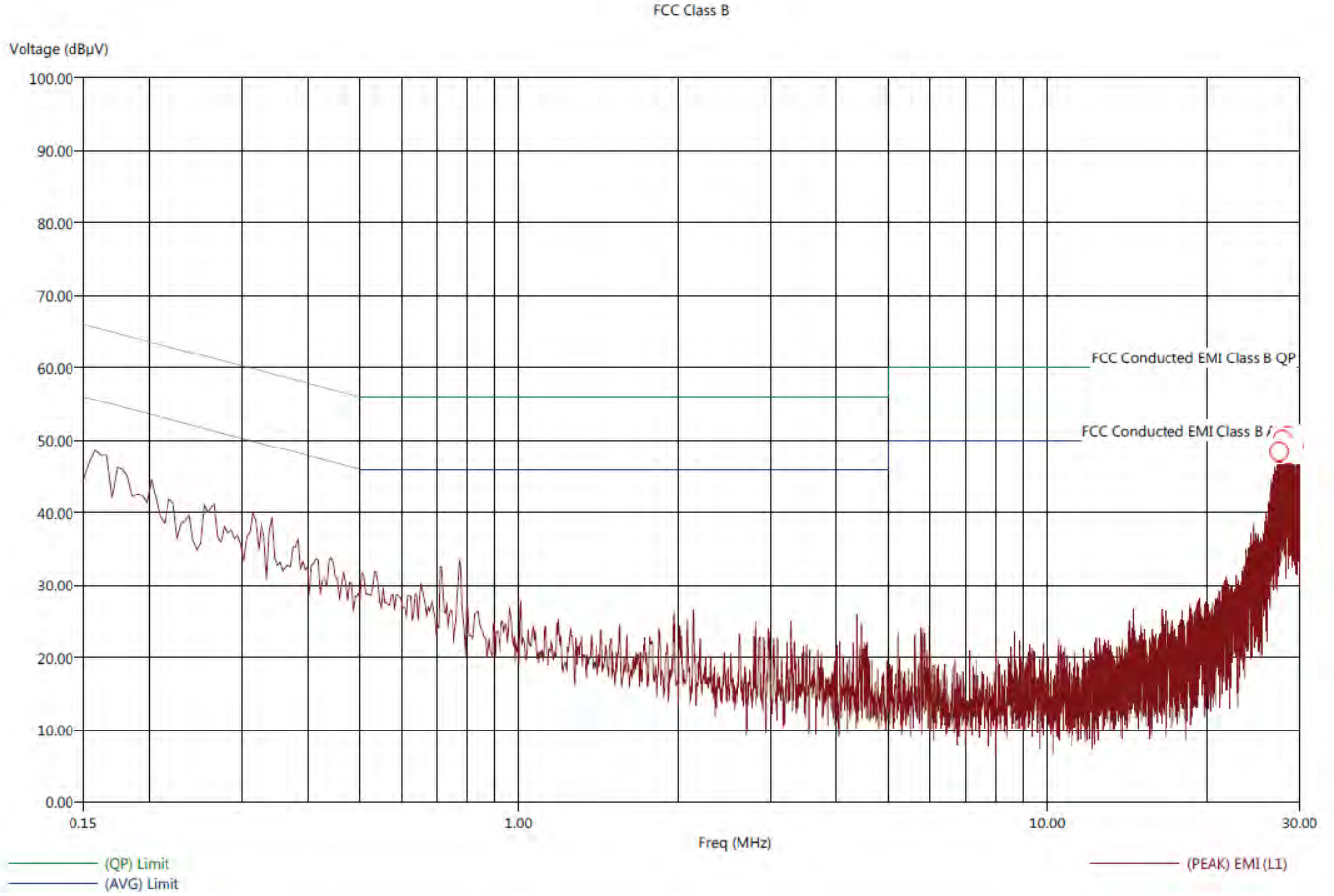
3/2/2017 9:44:23 AM
Sequence: Final Measurements

FCC Class B - Conducted Emissions - White Lead

Freq (MHz)	(PEAK) EMI (dBµV)	(AVG) EMI (dBµV)	(PEAK) Margin AVL (dB)	(AVG) Margin AVL (dB)	(AVG) Limit (dBµV)	Cable (dB)	Transducer (dB)	Filter (dB)
27.558	53.99	41.47	3.99	-8.53	50.00	0.58	0.11	10.60
27.826	54.15	42.13	4.15	-7.87	50.00	0.59	0.11	10.61
27.862	53.90	41.71	3.90	-8.29	50.00	0.58	0.11	10.59
27.922	54.09	41.79	4.09	-8.21	50.00	0.59	0.11	10.61
27.994	53.96	41.13	3.96	-8.87	50.00	0.59	0.11	10.62
28.058	53.91	41.26	3.91	-8.74	50.00	0.58	0.11	10.58
28.094	54.41	42.12	4.41	-7.88	50.00	0.58	0.11	10.60
28.126	53.99	41.74	3.99	-8.26	50.00	0.59	0.11	10.61
28.162	53.72	41.22	3.72	-8.78	50.00	0.58	0.11	10.59
28.246	53.17	40.46	3.17	-9.54	50.00	0.59	0.11	10.63
28.286	53.48	41.57	3.48	-8.43	50.00	0.59	0.11	10.62
28.350	53.84	41.39	3.84	-8.61	50.00	0.58	0.11	10.58
28.362	54.15	41.93	4.15	-8.07	50.00	0.58	0.11	10.59
28.374	54.43	42.09	4.43	-7.91	50.00	0.58	0.11	10.59
28.414	54.44	42.05	4.44	-7.95	50.00	0.59	0.11	10.60
28.486	54.22	41.46	4.22	-8.54	50.00	0.58	0.11	10.60
28.562	54.09	42.16	4.09	-7.84	50.00	0.59	0.11	10.60
28.622	53.05	40.46	3.05	-9.54	50.00	0.59	0.11	10.62
28.634	53.73	41.14	3.73	-8.86	50.00	0.59	0.11	10.61
28.690	53.64	41.64	3.64	-8.36	50.00	0.59	0.11	10.61
28.726	54.23	41.40	4.23	-8.60	50.00	0.58	0.11	10.59
28.738	54.00	42.09	4.00	-7.91	50.00	0.59	0.11	10.60

Title: FCC Class B - Black Lead
File: 7 - CE - Pre-Scan - Black Lead - Rx Mode - High Data - Splatch.set
Operator: Kyle Fujimoto
EUT Type: HumPRO-A Series High Power Data Transceiver
EUT Condition: The EUT is continuously receiving at the low channel
Comments: Customer: Linx Technologies
Model: HUM-A-900-PRO-CAS
ANT-916-uSP Antenna
High Data Rate - Worst Case

3/2/2017 9:53:12 AM
Sequence: Preliminary Scan



Title: FCC Class B - Conducted Emissions - Black Lead
File: 7 - CE - Final Scan - Black Lead - Rx Mode - High Data - Splatch.set
Operator: Kyle Fujimoto
EUT Type: HumPRO-A Series High Power Data Transceiver
EUT Condition: The EUT is continuously receiving at the low channel
Comments: Customer: Linx Technologies
Model: HUM-A-900-PRO-CAS
ANT-916-uSP Antenna
High Data Rate

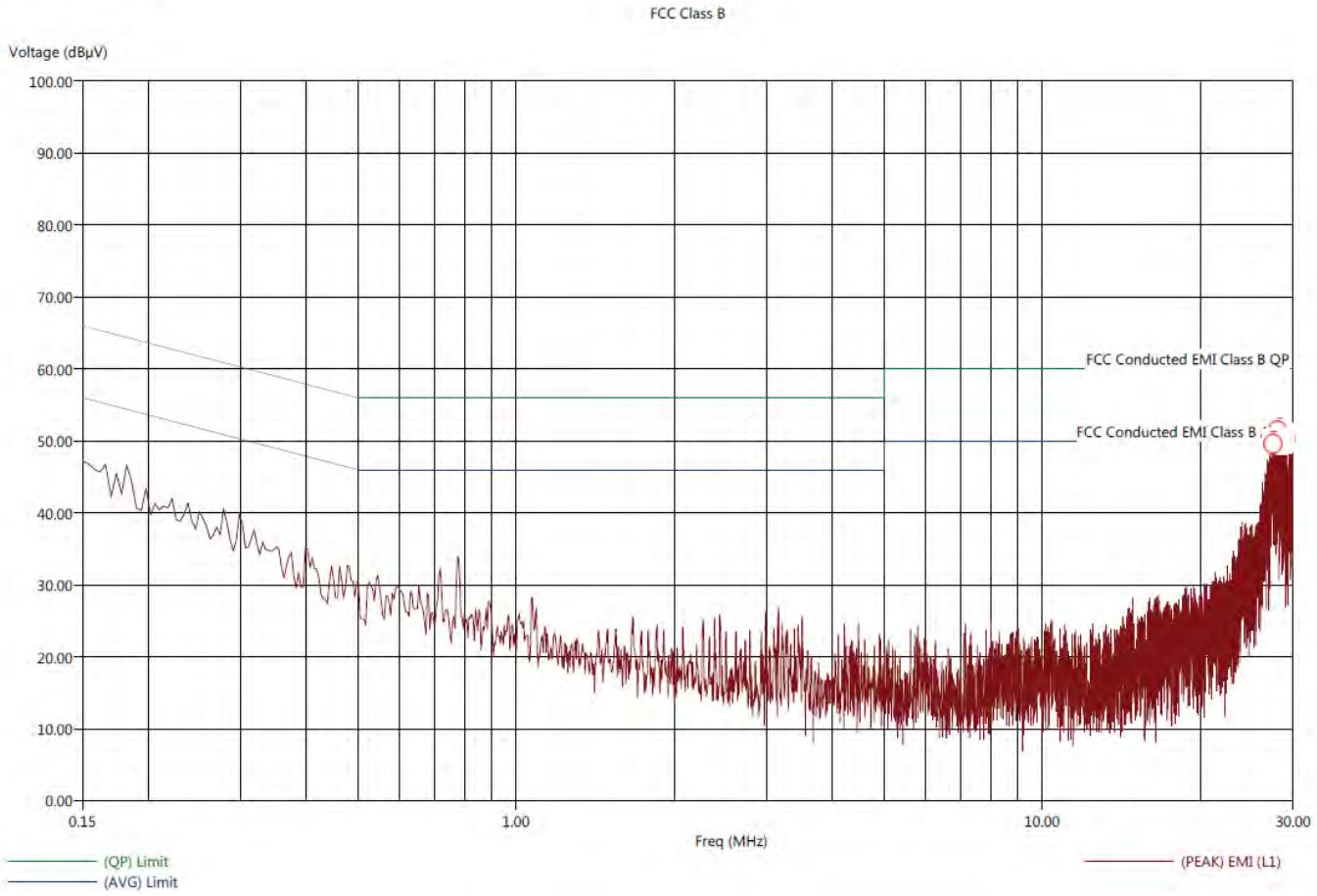
3/2/2017 9:55:30 AM
Sequence: Final Measurements

FCC Class B - Conducted Emissions - Black Lead

Freq (MHz)	(PEAK) EMI (dBµV)	(AVG) EMI (dBµV)	(PEAK) Margin AVL (dB)	(AVG) Margin AVL (dB)	(AVG) Limit (dBµV)	Cable (dB)	Transducer (dB)	Filter (dB)
27.49	52.04	39.46	2.04	-10.54	50.00	0.58	0.25	10.59
27.68	51.80	39.13	1.80	-10.87	50.00	0.58	0.25	10.59
27.72	52.10	39.43	2.10	-10.57	50.00	0.59	0.25	10.60
27.85	51.41	39.31	1.41	-10.69	50.00	0.59	0.26	10.62
27.95	51.73	39.32	1.73	-10.68	50.00	0.59	0.25	10.60
28.04	52.32	39.62	2.32	-10.38	50.00	0.59	0.25	10.61
28.09	51.51	39.20	1.51	-10.80	50.00	0.59	0.26	10.62
28.13	52.32	39.09	2.32	-10.91	50.00	0.59	0.25	10.60
28.21	51.32	39.10	1.32	-10.90	50.00	0.59	0.26	10.62
28.22	52.27	39.65	2.27	-10.35	50.00	0.59	0.26	10.61
28.33	51.77	39.54	1.77	-10.46	50.00	0.58	0.25	10.59
28.37	51.25	39.15	1.25	-10.85	50.00	0.58	0.25	10.59
28.38	51.70	39.07	1.70	-10.93	50.00	0.59	0.25	10.60
28.41	52.15	39.53	2.15	-10.47	50.00	0.59	0.25	10.60
28.49	52.29	39.50	2.29	-10.50	50.00	0.59	0.26	10.61
28.52	50.79	38.30	0.79	-11.70	50.00	0.58	0.25	10.58
28.54	51.85	39.05	1.85	-10.95	50.00	0.58	0.25	10.60
28.60	51.79	39.52	1.79	-10.48	50.00	0.59	0.26	10.61
28.73	52.44	39.68	2.44	-10.32	50.00	0.59	0.26	10.61
28.86	51.65	39.27	1.65	-10.73	50.00	0.59	0.26	10.61
29.24	52.36	39.39	2.36	-10.61	50.00	0.59	0.26	10.61
29.26	51.52	39.21	1.52	-10.79	50.00	0.59	0.26	10.61
29.31	51.47	39.20	1.47	-10.80	50.00	0.59	0.26	10.62

Title: FCC Class B - White Lead
File: 8 - CE - Pre-Scan - White Lead - Rx Mode - High Data - Splatch.set
Operator: Kyle Fujimoto
EUT Type: HumPRO-A Series High Power Data Transceiver
EUT Condition: The EUT is continuously receiving at the low channel
Comments: Customer: Linx Technologies
Model: HUM-A-900-PRO-CAS
ANT-916-uSP Antenna
High Data Rate - Worst Case

3/2/2017 9:58:32 AM
Sequence: Preliminary Scan



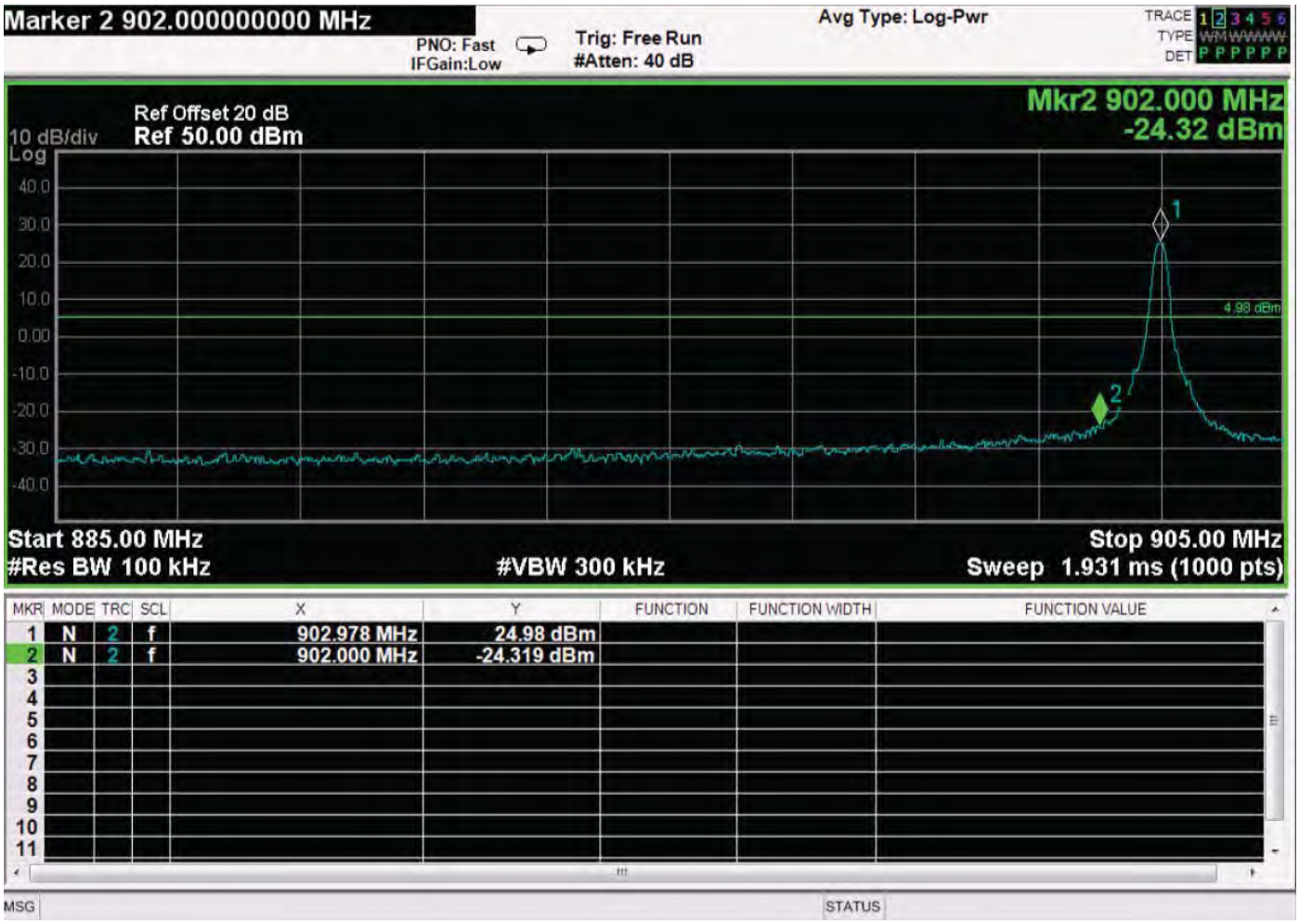
Title: FCC Class B - Conducted Emissions - White Lead
File: 8 - CE - Final Scan - White Lead - Rx Mode - High Data - Splatch.set
Operator: Kyle Fujimoto
EUT Type: HumPRO-A Series High Power Data Transceiver
EUT Condition: The EUT is continuously receiving at the low channel
Comments: Customer: Linx Technologies
Model: HUM-A-900-PRO-CAS
ANT-916-uSP Antenna
High Data Rate - Worst Case

3/2/2017 10:00:06 AM
Sequence: Final Measurements

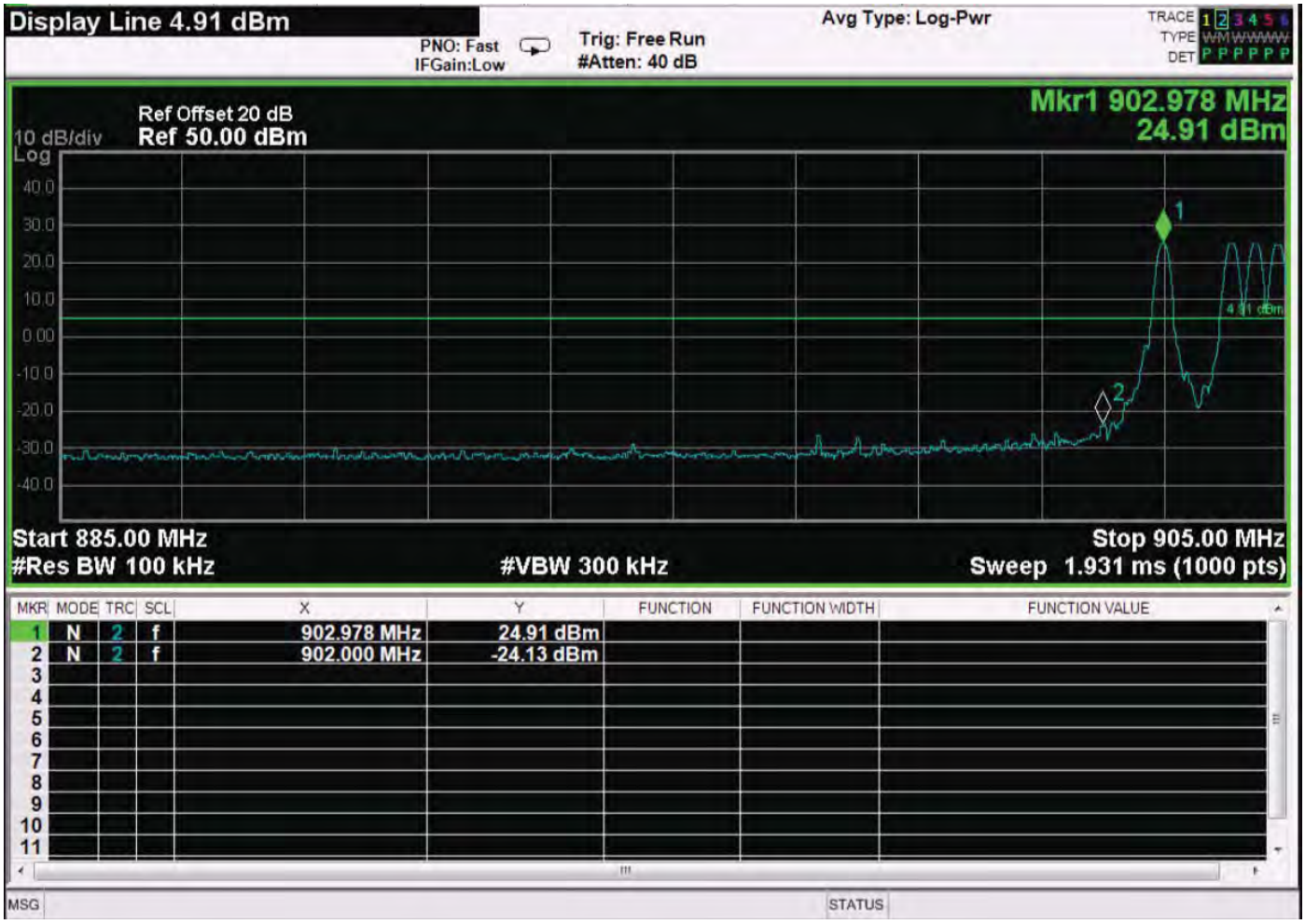
FCC Class B - Conducted Emissions - White Lead

Freq (MHz)	(PEAK) EMI (dBµV)	(AVG) EMI (dBµV)	(PEAK) Margin AVL (dB)	(AVG) Margin AVL (dB)	(AVG) Limit (dBµV)	Cable (dB)	Transducer (dB)	Filter (dB)
27.474	53.05	39.67	3.05	-10.33	50.00	0.58	0.11	10.58
27.562	53.13	40.48	3.13	-9.52	50.00	0.58	0.11	10.60
27.782	52.96	40.33	2.96	-9.67	50.00	0.59	0.11	10.61
27.930	52.51	40.07	2.51	-9.93	50.00	0.58	0.11	10.59
27.970	53.18	40.12	3.18	-9.88	50.00	0.59	0.11	10.61
28.046	53.65	40.60	3.65	-9.40	50.00	0.58	0.11	10.60
28.234	52.64	40.51	2.64	-9.49	50.00	0.59	0.11	10.63
28.282	53.07	40.33	3.07	-9.67	50.00	0.58	0.11	10.59
28.342	52.98	40.46	2.98	-9.54	50.00	0.58	0.11	10.59
28.366	53.57	40.49	3.57	-9.51	50.00	0.59	0.11	10.61
28.418	53.32	40.05	3.32	-9.95	50.00	0.59	0.11	10.63
28.570	52.77	39.65	2.77	-10.35	50.00	0.59	0.11	10.64
28.694	53.43	40.59	3.43	-9.41	50.00	0.59	0.11	10.61
28.722	52.98	39.98	2.98	-10.02	50.00	0.59	0.11	10.62
28.802	53.04	40.74	3.04	-9.26	50.00	0.59	0.11	10.62
29.090	52.90	40.60	2.90	-9.40	50.00	0.59	0.11	10.60
29.134	53.41	40.47	3.41	-9.53	50.00	0.59	0.11	10.61
29.170	53.37	40.05	3.37	-9.95	50.00	0.59	0.11	10.62
29.214	53.45	40.77	3.45	-9.23	50.00	0.59	0.11	10.61

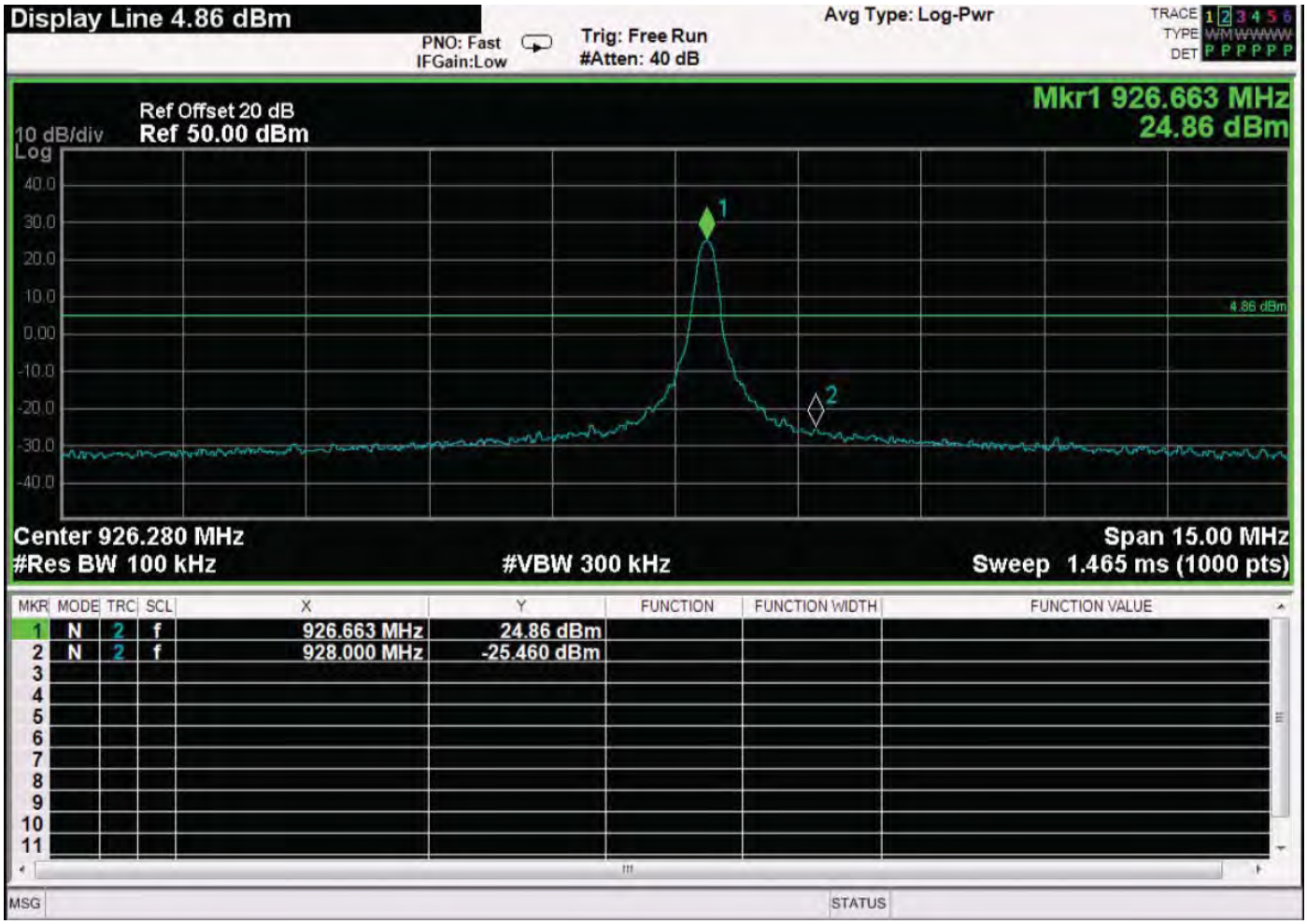
BAND EDGES DATA SHEETS



Band Edge – Low Channel – U.FL Antenna – Low Data Rate - CW

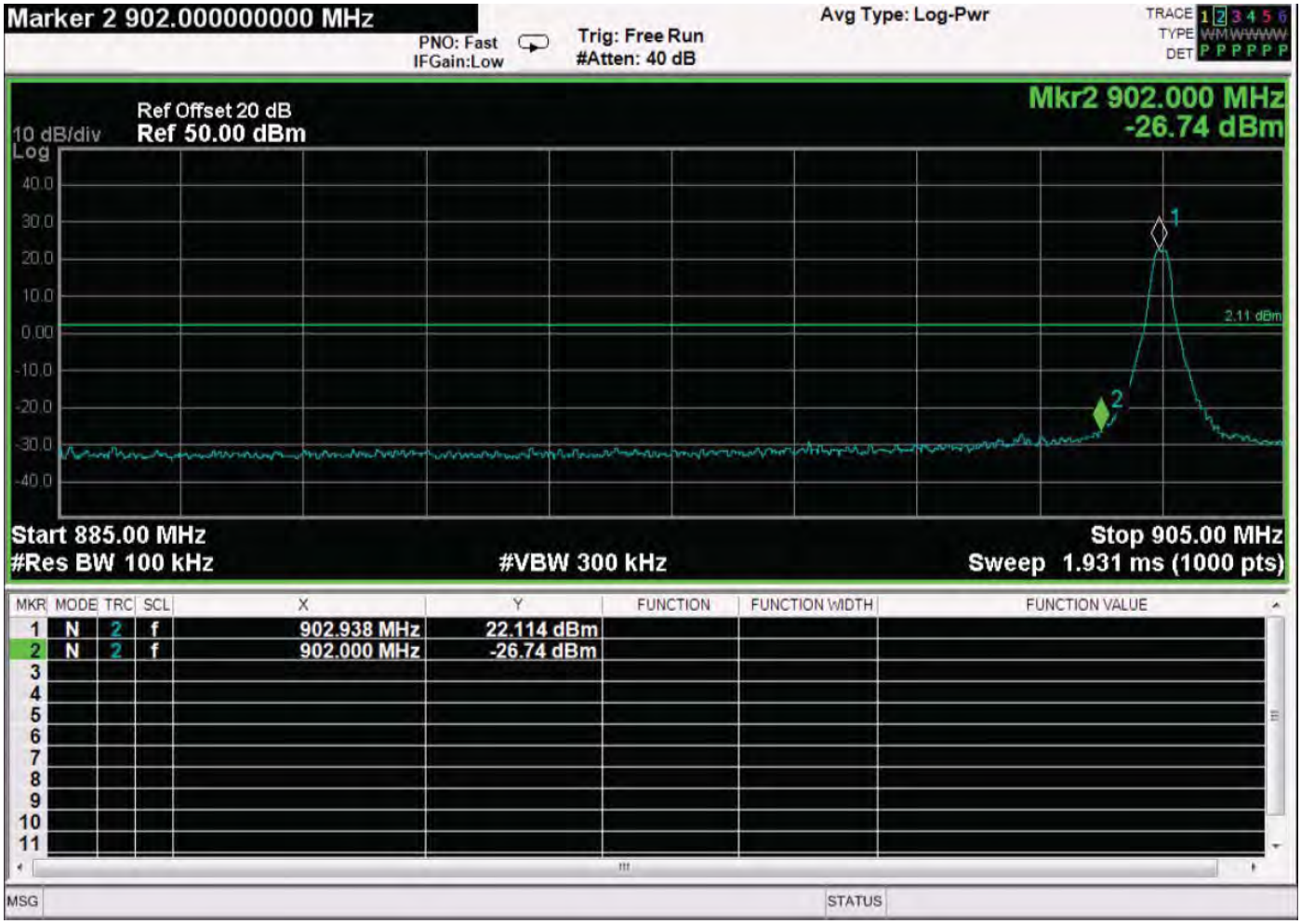


Band Edge – Low Channel – U.FL – Low Data Rate - Hopping

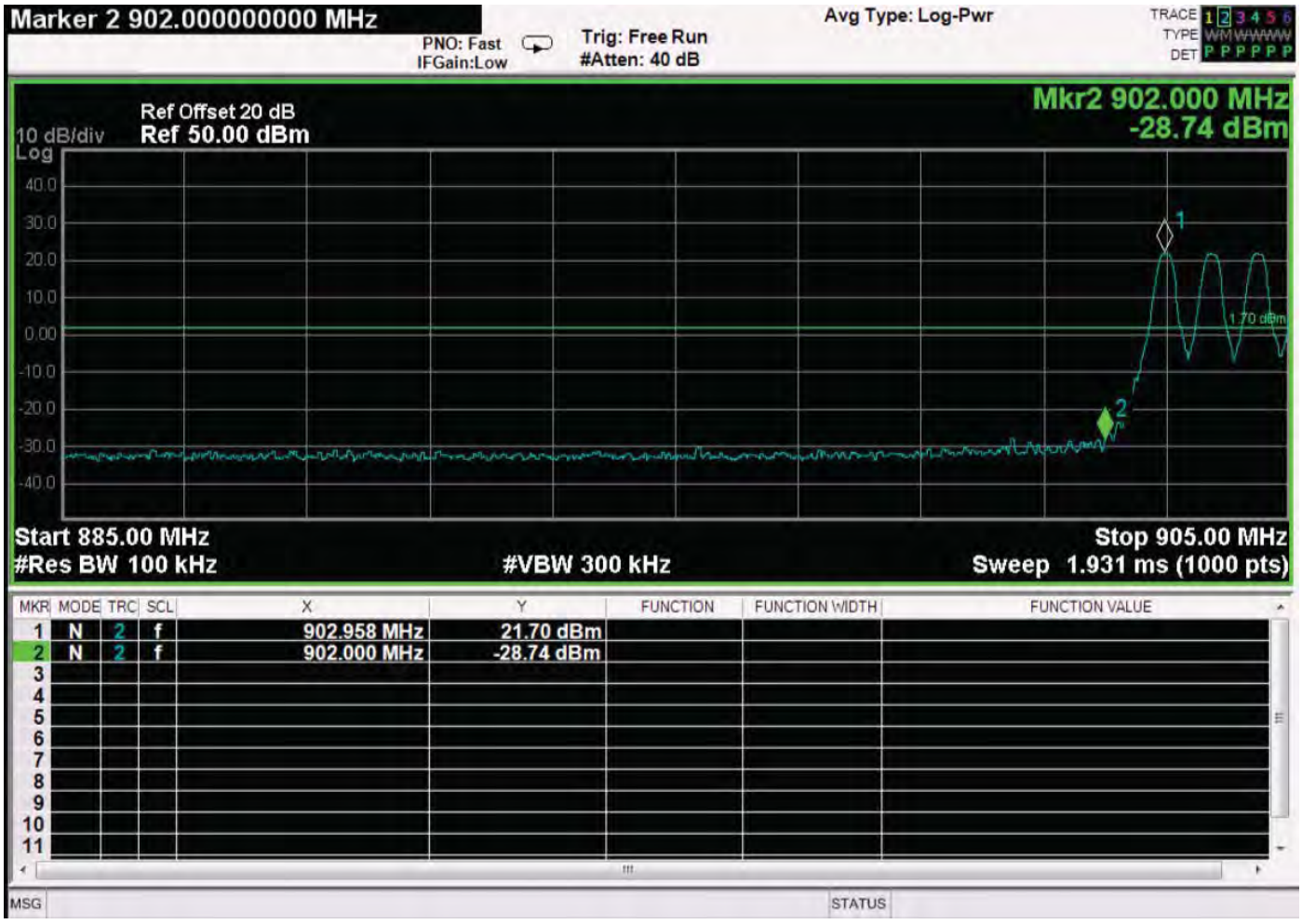


Band Edge – High Channel – U.FL – Low Data Rate - CW

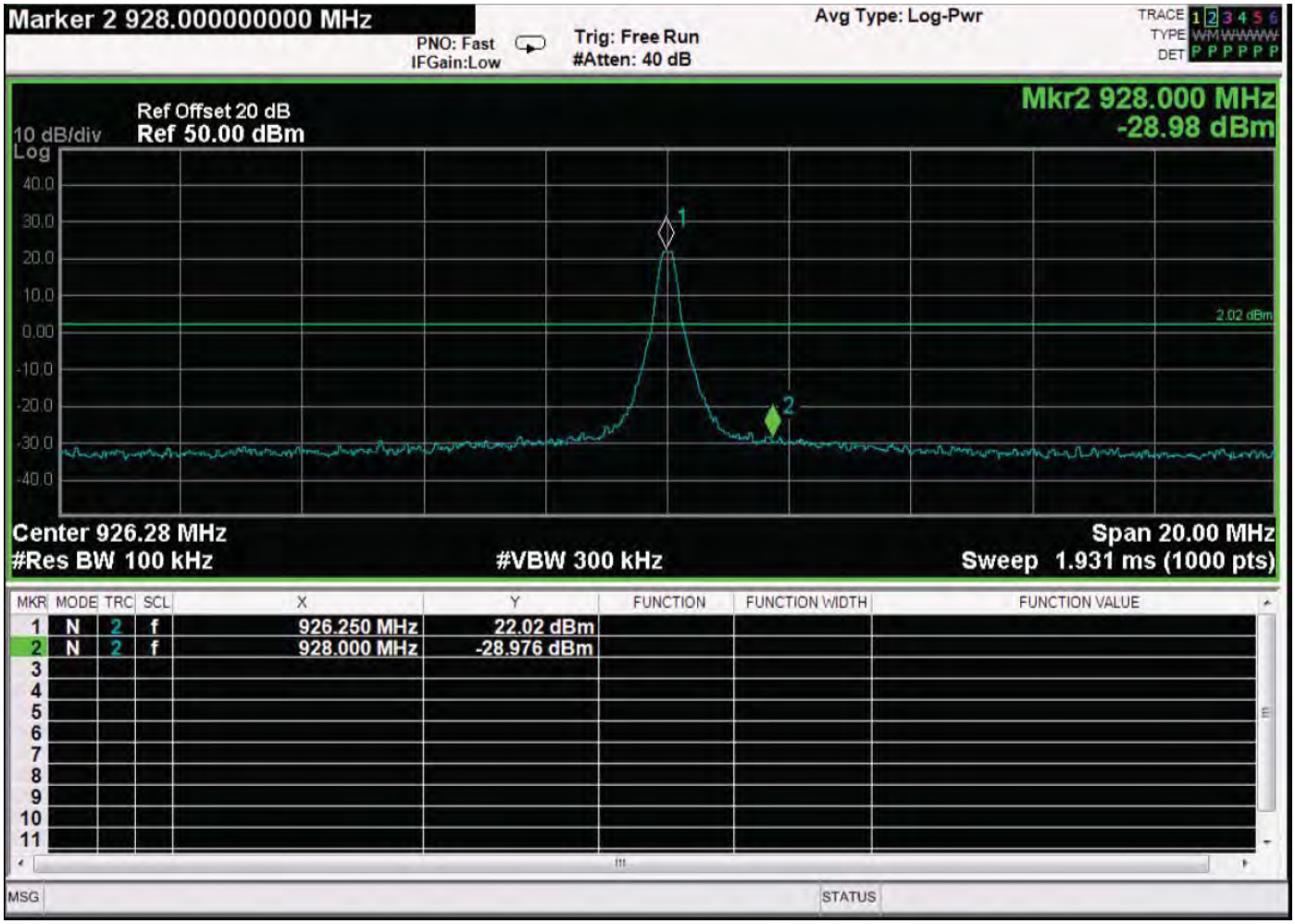
Band Edge – High Channel – U.FL – Low Data Rate - Hopping



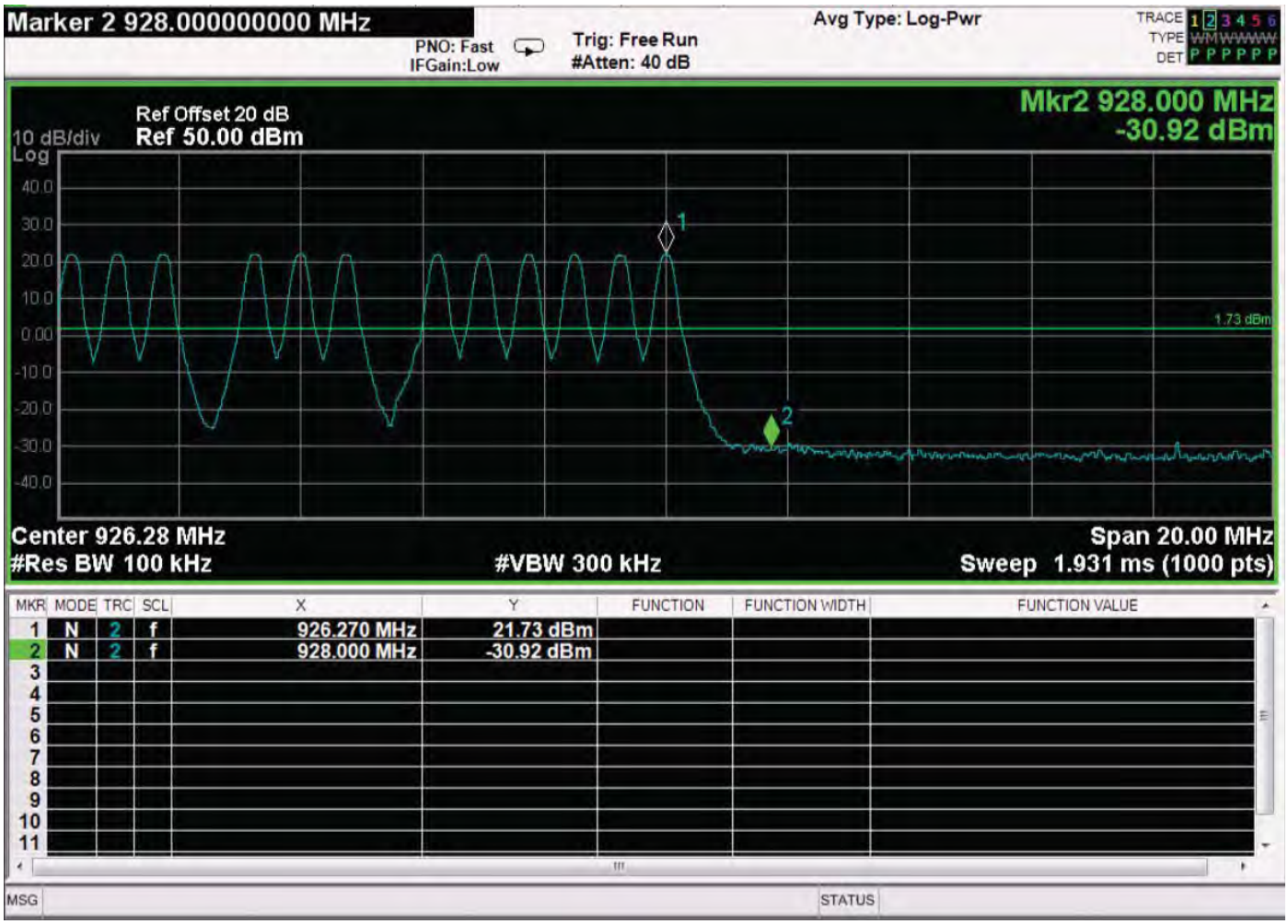
Band Edge – Low Channel – U.FL – High Data Rate - CW



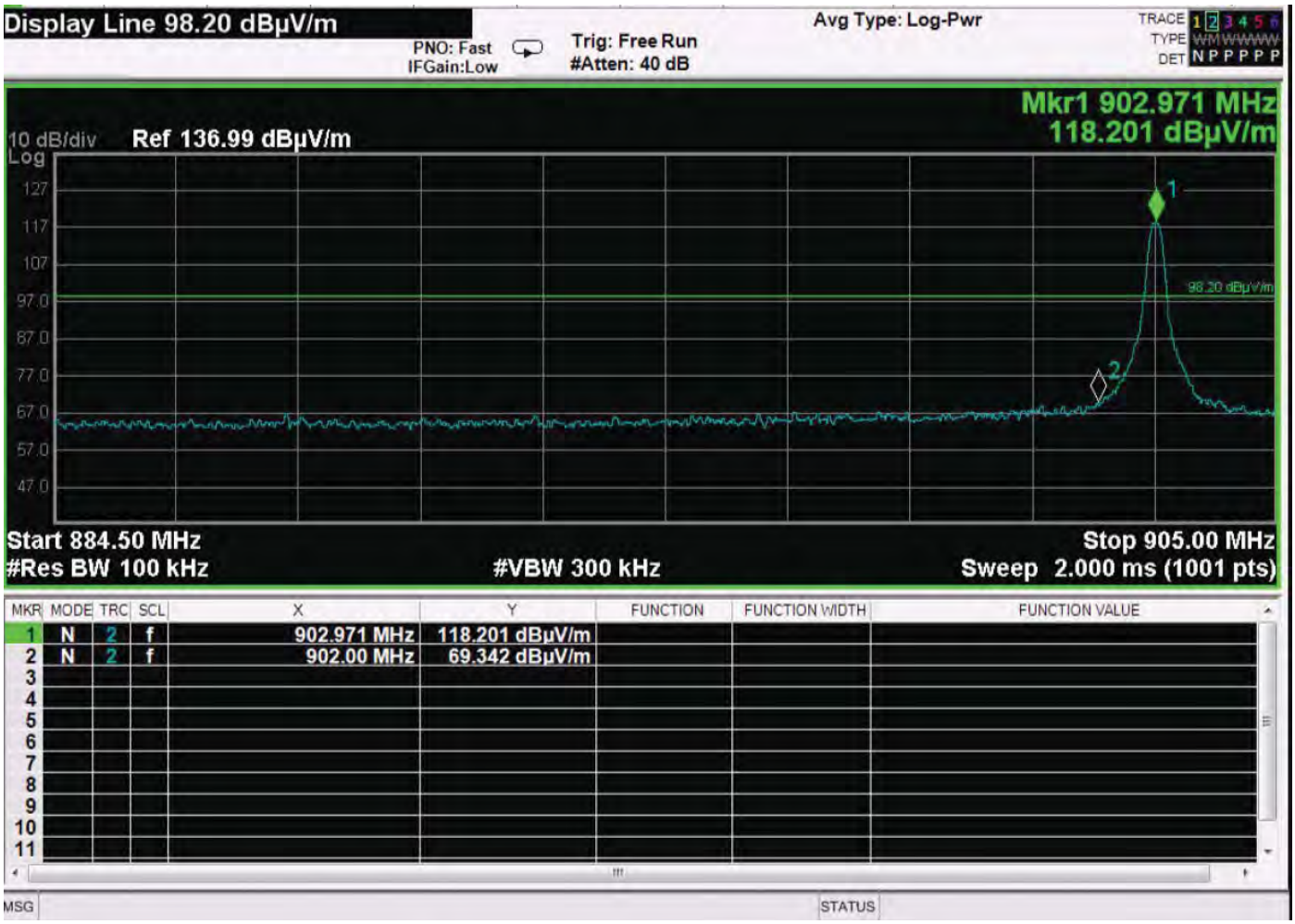
Band Edge – Low Channel – U.FL – High Data Rate - Hopping



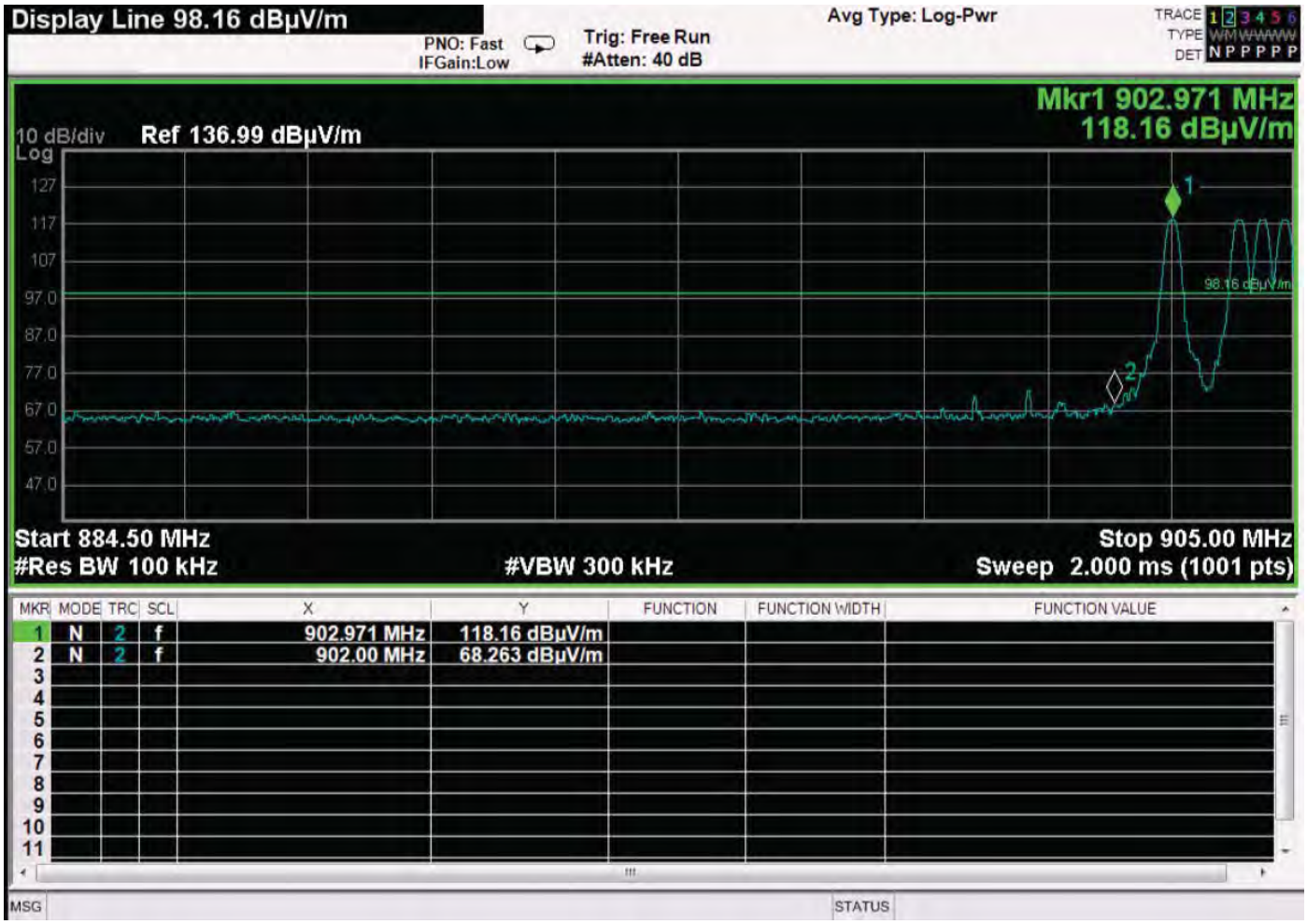
Band Edge – High Channel – U.FL – High Data Rate - CW



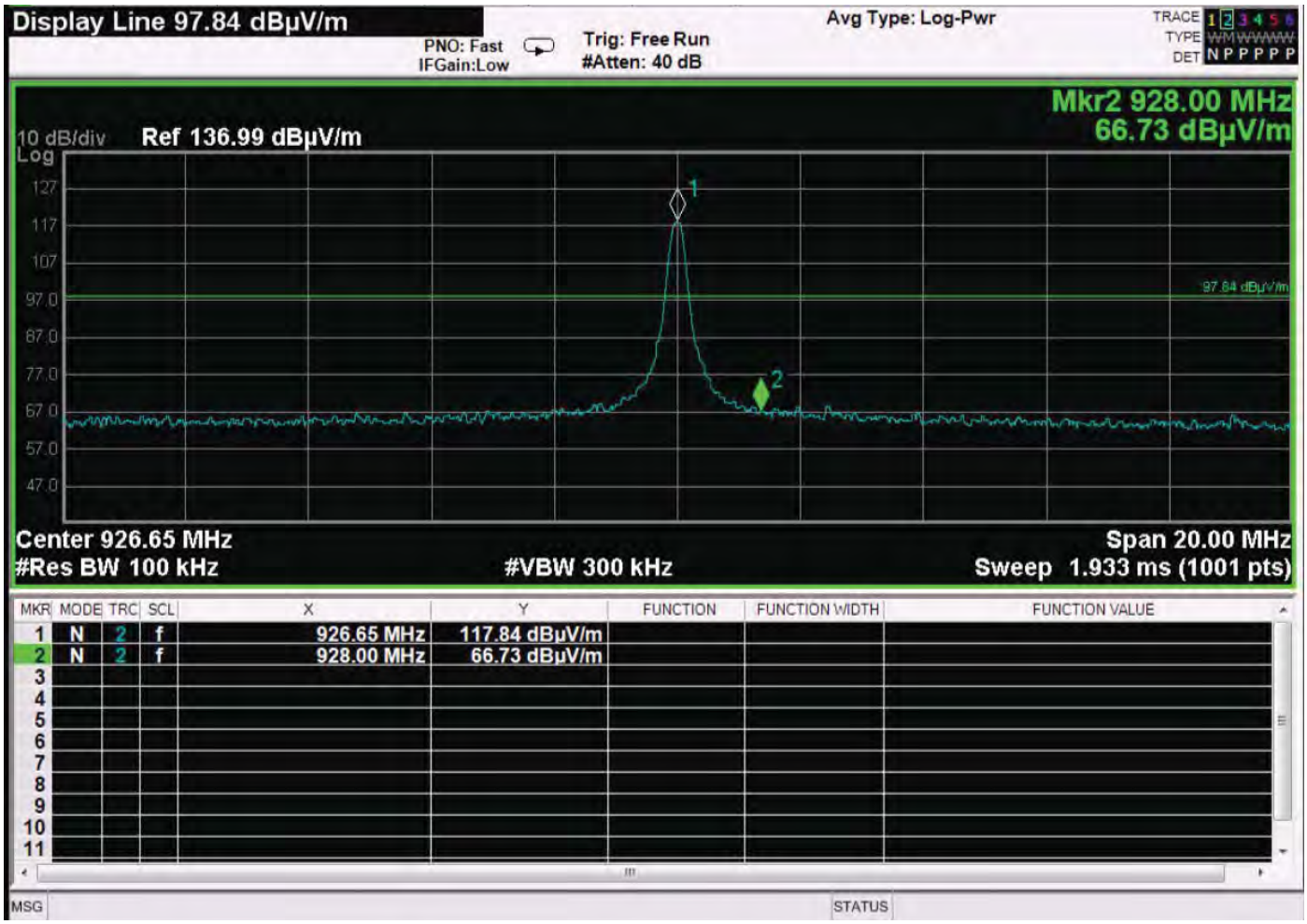
Band Edge – High Channel – U.FL – High Data Rate - Hopping



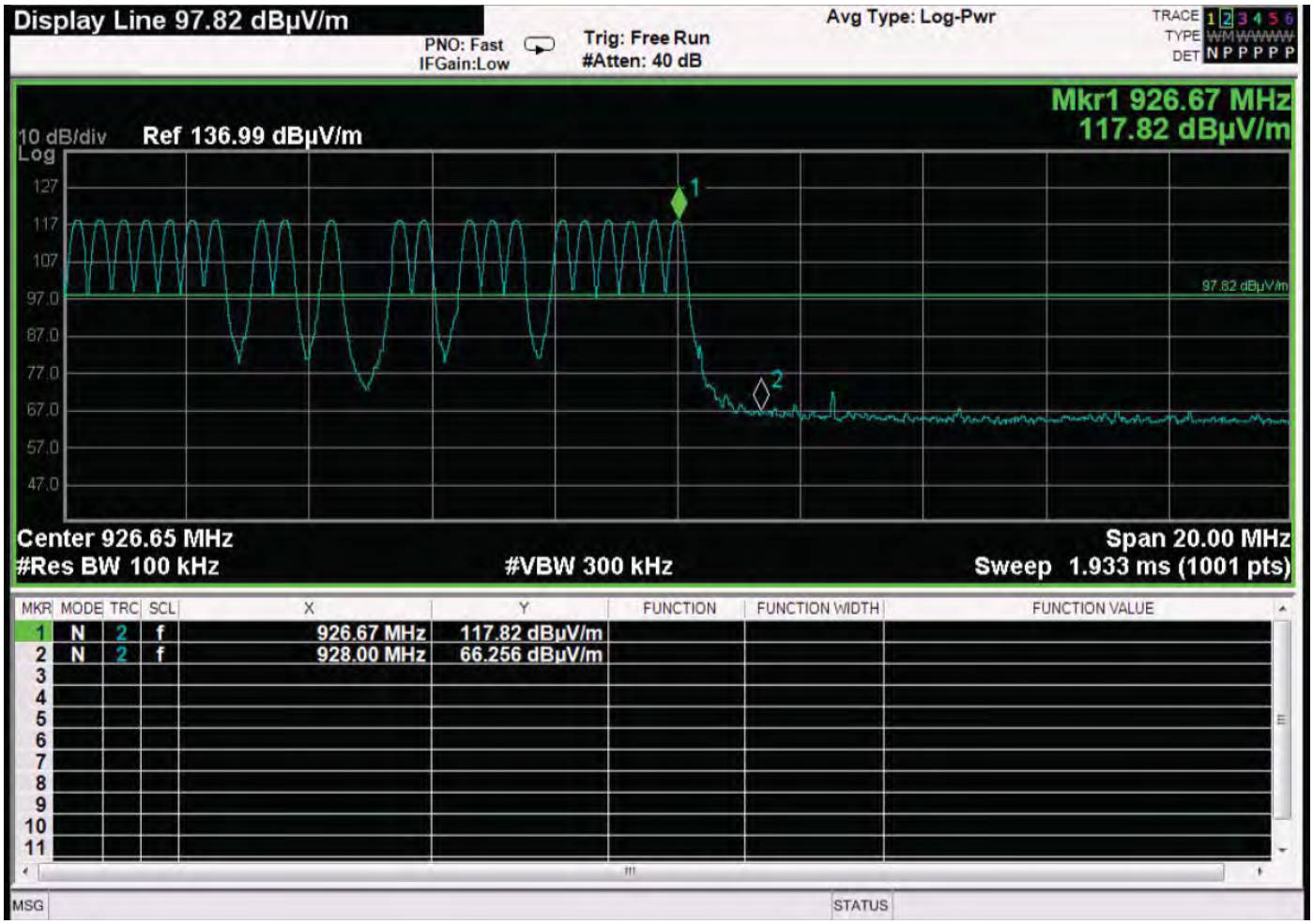
Band Edge – Low Channel – uSP Antenna – Low Data Rate - CW



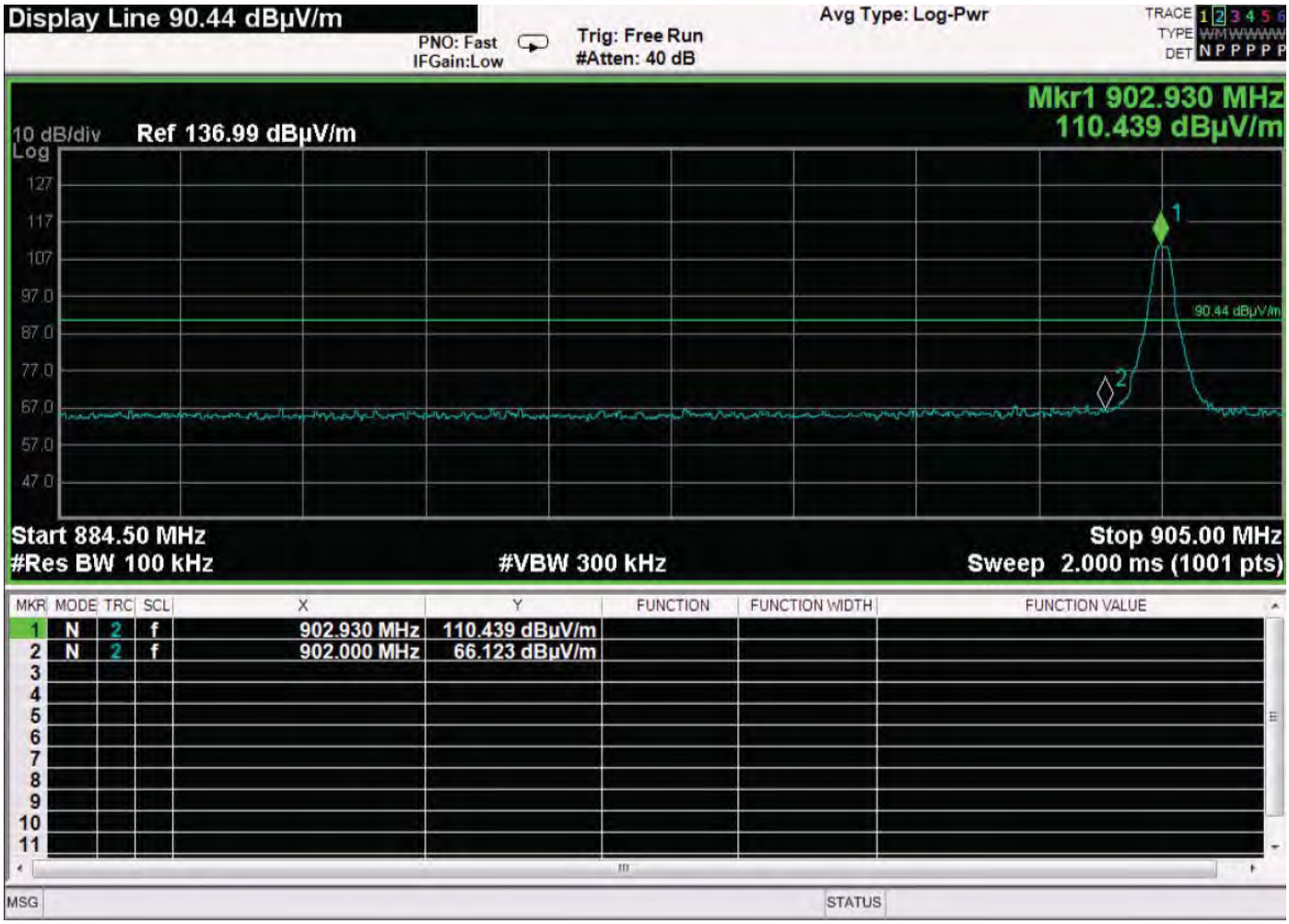
Band Edge – Low Channel – uSP Antenna – Low Data Rate - Hopping



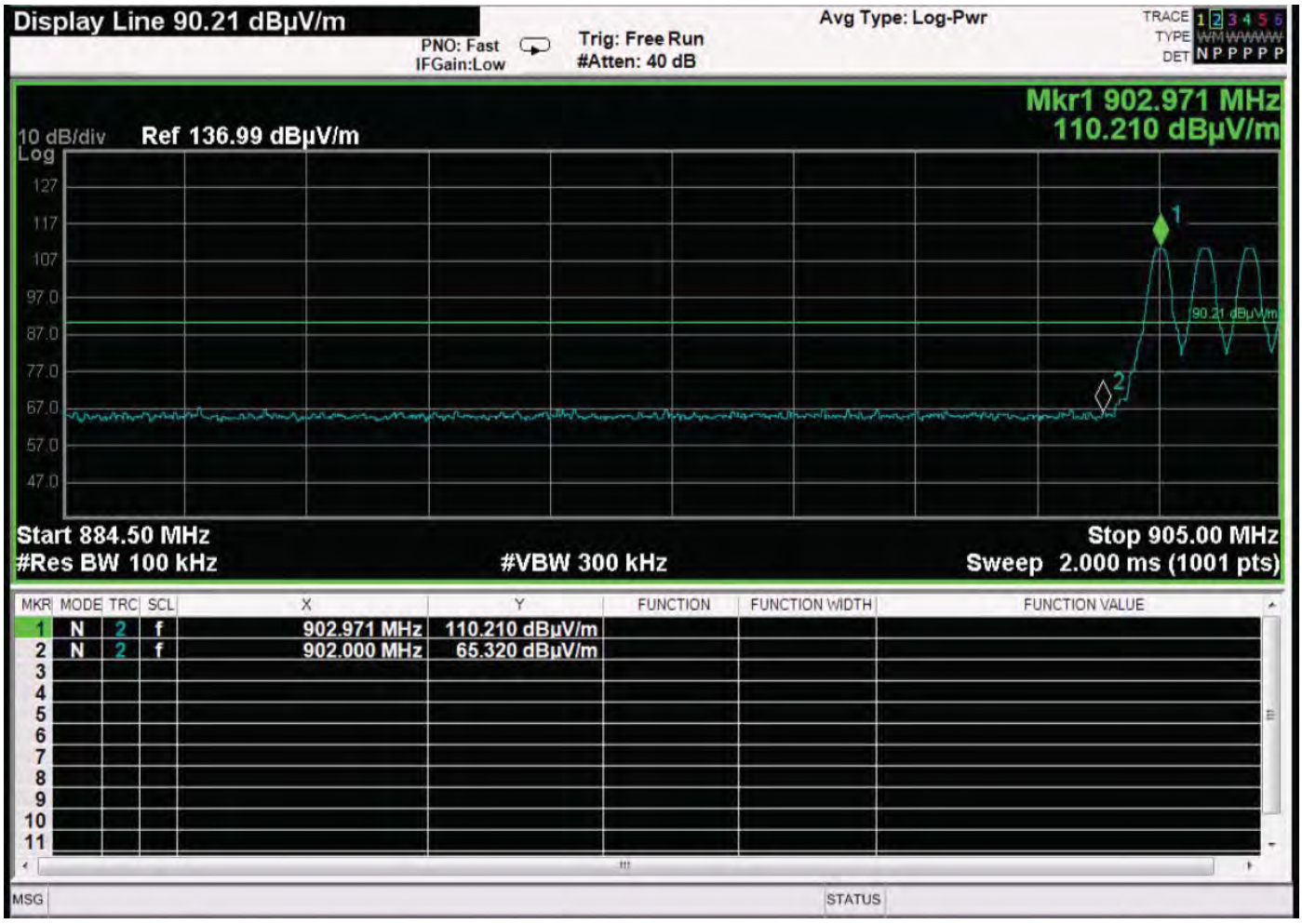
Band Edge – High Channel – uSP Antenna – Low Data Rate - CW



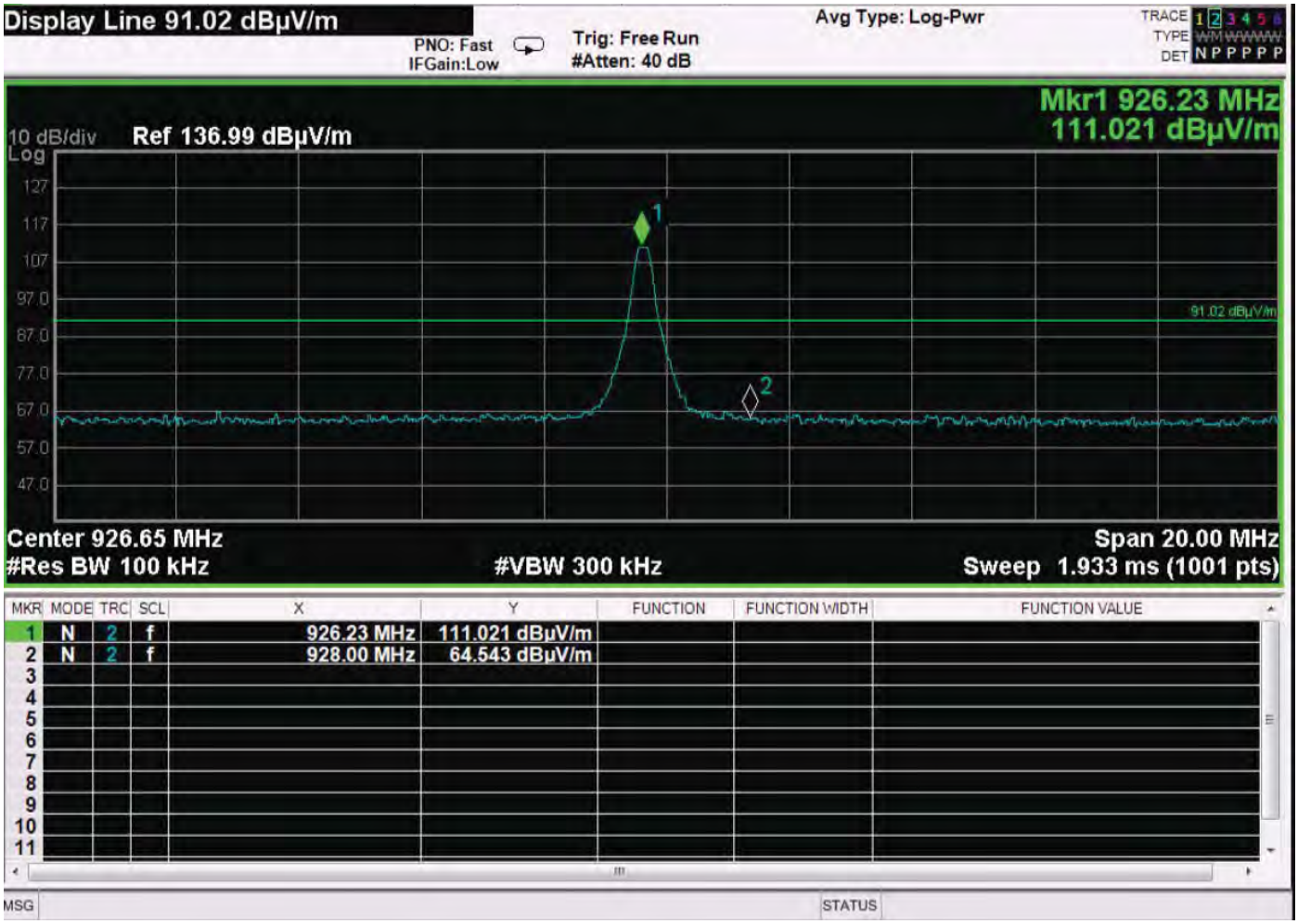
Band Edge – High Channel – uSP Antenna – Low Data Rate – Hopping



Band Edge – Low Channel – uSP Antenna – High Data Rate - CW



Band Edge – Low Channel – uSP Antenna – High Data Rate - Hopping



Band Edge – High Channel – uSP Antenna – High Data Rate - CW