FCC PART 15, SUBPART B and C
TEST REPORT

for

STARflex

MODEL: STR-400-F

Prepared for

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	REPORT BODY	APPENDICES					TOTAL
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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:	STARflex Model: STR-400-F S/N: N/A
Product Description:	The EUT is a system that is used to read passive UHF RFID tags.
Modifications:	The EUT was not modified in order to meet the specifications.
Customer:	Mojix, Inc. 11075 Santa Monica Boulevard, Suite 350 Los Angeles, California 90025
Test Dates:	April 13, 14, 15, 18, and 20, 2016
Test Specifications:	Emissions requirements CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.207, 15.209, and 15.247
Test Procedure:	ANSI C63.4, ANSI C63.10
Test Deviations:	The test procedure was not deviated from during the testing.

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. Highest reading in relation to spec limit: 35.91 dBuV @ 0.154 MHz (*U = 2.86 dB)
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) Highest reading in relation to spec limit: 45.44 dBuV @ 288.00 MHz (*U = 4.54 dB)
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	Number of Hopping Frequencies	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247 (a)(1) and 15.247 (a)(1)(i)

1. PURPOSE

This document is a qualification test report based on the emissions tests performed on the STARflex, Model: STR-400-F. 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.

Note: The frequencies at 144 MHz and 288 MHz comply with the **Class A** specification limits defined by CFR Title 47, Part 15, Subpart B. These frequencies are digital signals from the EUT that are still there at the same amplitude even when the transmitter is turned off.

This test report covers the third configuration where the eNode is being used to actively transmit from the STARflex.

The first and second configurations where the eNode is only being used to terminate the STARflex is covered under the test report B60420D1.

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

Mojix, Inc.

Jalal Alisobhani	SR V.P. Engineering
Hassan Syed	Manager RF Design Group
Gus Mendoza	Engineer

Compatible Electronics Inc.

Kyle Fujimoto	Test Engineer
James Ross	Test Engineer

2.4 Date Test Sample was Received

The test sample was received on April 13, 2016.

2.5 Disposition of the Test Sample

The test sample was returned to Mojix, Inc. on April 20, 2016.

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

4.1 Description of Test Configuration – (Emissions)

The EUT consists of a STARflex, eNode, GPIO, Power Supply, and RF Expander.
The Configurations are as follows:

Configuration #3: Input of RF Expander connected to ANT-1 port of eNode. The antenna is connected to ANT-1 port of RF Expander.

The STARflex was connected to an eNode, GPIO, Power Supply, and laptop via its eNode, GPIO, Power, and Ethernet ports, respectively. The ANT-1, ANT-2, ANT-3, and ANT-4 ports of the STARflex were terminated via 50 ohm terminators. The laptop and its respective power supply were placed 17-meters away from the test site, in an accessory room.

The eNode also had the ANT-1 port connected to the input port of the RF Expander. The output, ANT-1, ANT-2, and ANT-3, ports of the eNode were terminated via 50-ohm terminators.

The RF Expander also had the ANT-1 port connected to an antenna. The ANT-2, ANT-3, and ANT-4 ports of the RF Expander were terminated via 50-ohm terminators.

A program on the laptop allowed the EUT to transmit and/or receive at the low, middle, or high channel. The EUT was continuously transmitting and receiving during the test.

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 were taken in the configurations described above. Please see Appendix E for the data sheets.

4.1.1 Cable Construction and Termination

Configuration #3

Cable 1 This is a 1.4-meter unshielded cable connecting the power port of the STARflex with an AC Adapter. The cable has a barrel connector at the STARflex end and is hard wired into the AC Adapter. The cable has a molded ferrite on the EUT end.

Cable 2 This is a 15.24-meter braid and foil shielded cable connecting the Ethernet port of the STARflex to the laptop. The cable has a metallic RJ-45 connector at each end. The shield of the cable was grounded to the chassis via the connectors.

Cable 3 This is a 1.5-meter braid shielded cable connecting the GPIO port of the STARflex to the GPIO. The cable has a 5-pin connector at the STARflex and hard wired into a terminal block on the GPIO end. The shield of the cable was terminated at each end via a drain wire.

Cable 4 This is a 12-meter braid shielded cable connecting the eNode port of the STARflex to the input port of the eNode. The cable has a reverse polarity TNC connector at each end. The cable was bundled to a length of 1-meter. The shield of the cable was grounded to the chassis via the connectors.

Cable 5 This is a 5-meter braid shielded cable connecting the ANT-1 port of the STARflex to a 50 ohm terminator. The cable has a reverse polarity TNC connector at the STARflex end and an SMA connector at the 50 ohm terminator end. The cable was coiled so that it was 40-centimeters above the ground plane. The shield of the cable was grounded to the chassis via the connectors.

Cable 6 This is a 5-meter braid shielded cable connecting the ANT-2 port of the STARflex to a 50 ohm terminator. The cable has a reverse polarity TNC connector at the STARflex end and an SMA connector at the 50 ohm terminator end. The cable was coiled so that it was 40-centimeters above the ground plane. The shield of the cable was grounded to the chassis via the connectors.

Cable 7 This is a 5-meter braid shielded cable connecting the ANT-3 port of the STARflex to a 50 ohm terminator. The cable has a reverse polarity TNC connector at the STARflex end and an SMA connector at the 50 ohm terminator end. The cable was coiled so that it was 40-centimeters above the ground plane. The shield of the cable was grounded to the chassis via the connectors.

Cable 8 This is a 5-meter braid shielded cable connecting the ANT-4 port of the STARflex to a 50 ohm terminator. The cable has a reverse polarity reverse polarity TNC connector at the STARflex end and an SMA connector at the 50 ohm terminator end. The cable was coiled so that it was 40-centimeters above the ground plane. The shield of the cable was grounded to the chassis via the connectors.

Cable 9 This is a 6-meter braid shielded cable connecting the ANT-1 port of the RF Expander to an antenna. The cable has a reverse polarity TNC connector at each end. The cable was bundled to a length of 1-meter. The shield of the cable was grounded to the chassis via the connectors.

Cable 10 This is a 5-meter braid shielded cable connecting the ANT-2 port of the RF Expander to a 50 ohm terminator. The cable has a reverse polarity TNC connector at the RF Expander end and an SMA connector at the 50 ohm terminator end. The cable was coiled so that it was 40-centimeters above the ground plane. The shield of the cable was grounded to the chassis via the connectors.

Cable Construction and Termination (continued)

Configuration #3 (Continued)

Cable 11 This is a 5-meter braid shielded cable connecting the ANT-3 port of the RF Expander to a 50 ohm terminator. The cable has a reverse polarity TNC connector at the RF Expander end and an SMA connector at the 50 ohm terminator end. The cable was coiled so that it was 40-centimeters above the ground plane. The shield of the cable was grounded to the chassis via the connectors.

Cable 12 This is a 5-meter braid shielded cable connecting the ANT-4 port of the RF Expander to a 50 ohm terminator. The cable has a reverse polarity TNC connector at the RF Expander end and an SMA connector at the 50 ohm terminator end. The cable was coiled so that it was 40-centimeters above the ground plane. The shield of the cable was grounded to the chassis via the connectors.

Cable 13 This is a 7-meter braid shielded cable connecting the output port of the eNode to a 50 ohm terminator. The cable has a reverse polarity TNC connector at the eNode end and an SMA connector at the 50 ohm terminator end. The cable was coiled so that it was 40-centimeters above the ground plane. The shield of the cable was grounded to the chassis via the connectors.

Cable 14 This is a 6-meter braid shielded cable connecting the ANT-1 port of the eNode to the input port of the RF Expander. The cable has a reverse polarity TNC connector at each end. The cable was bundled to a length of 1-meter. The shield of the cable was grounded to the chassis via the connectors.

Cable 15 This is a 5-meter braid shielded cable connecting the ANT-2 port of the eNode to a 50 ohm terminator. The cable has a reverse polarity TNC connector at the eNode end and an SMA connector at the 50 ohm terminator end. The cable was coiled so that it was 40-centimeters above the ground plane. The shield of the cable was grounded to the chassis via the connectors.

Cable 16 This is a 5-meter braid shielded cable connecting the ANT-3 port of the eNode to a 50 ohm terminator. The cable has a reverse polarity TNC connector at the eNode end and an SMA connector at the 50 ohm terminator end. The cable was coiled so that it was 40-centimeters above the ground plane. The shield of the cable was grounded to the chassis via the connectors.

Cable 17 This is a 5-meter braid shielded cable connecting the ANT-4 port of the eNode to a 50 ohm terminator. The cable has a reverse polarity TNC connector at the eNode end and an SMA connector at the 50 ohm terminator end. The cable was coiled so that it was 40-centimeters above the ground plane. The shield of the cable was grounded to the chassis via the connectors.

Cable 18 This is a 2-meter unshielded cable connecting the laptop to the AC Adapter. The cable has a 1/8 inch power connector at the laptop end and is hard wired into the AC Adapter.

5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

EQUIPMENT TYPE	MANU-FACTURER	MODEL	SERIAL NUMBER	FCC ID
STARflex (PART OF EUT)	MOJIX, INC.	STR-400-F (P/N: 850-4500-001)	001F48A22688-A	VEDSTARFLEX
AC ADAPTER FOR STARFLEX (PART OF EUT)	ADAPTER TECH.	ATS090-P240	N/A	N/A
GPIO	MOJIX, INC.	GPIO GPO-3008-W (P/N: 860-3200-001)	D5CE62	N/A
ENODE 3000 (PART OF EUT)	MOJIX, INC.	ENM-3004-F	56E6A4	VEDENODE3000
RF EXPANDER (PART OF EUT)	MOJIX, INC.	EXP-3004-W (P/N: 860-1600-004)	1607151240038	N/A
PATCH ANTNNA	MOJIX, INC.	D915W09	20150125AR7	N/A
AC ADATPER FOR LAPTOP	HEWLETT PACKARD	709985-003	WDHQ0AAR5LEBQ	N/A
LAPTOP	DELL	14-k112nr	CND4031BLR	DoC
(11) 50 OHM TERMINATORS	MINI-CIRCUITS	VAT-2W	N/A	N/A

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	Rohde & Schwarz	ESIB 40	100194	December 4, 2014	2 Year
RF RADIATED EMISSIONS TEST EQUIPMENT					
CombiLog Antenna	Com-Power	AC-220	61060	September 3, 2015	1 Year
Preamplifier	Com-Power	PAM-118A	551024	May 12, 2016	1 Year
Loop Antenna	Com-Power	AL-130	17089	February 6, 2015	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	1 Year
Transient Limiter	Com-Power	252A910	N/A	October 14, 2015	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 STARflex was grounded to earth ground via the DC power supply.
The eNode was grounded to the chassis of the STARflex via its interconnect cable.

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 and uses DSB-ASK, PR-ASK, and SSB-ASK modulations. The channel separation is 500 kHz. The DSB-ASK modulation was determined to be the worst case.

Channel 1 = 902.75 MHz
Channel 2 = 903.25 MHz
Channel 3 = 903.75 MHz…
Channel 50 = 927.25 MHz

7.2 Antenna

The antenna has a gain of 6 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 duty cycle correction factor.

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, EN 50147-2 and CISPR 22. 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
STARflex
Models: STR-400-F

Frequency MHz	Average Corrected Reading* dBuV	Average Specification Limit dBuV	Delta (Cor. Reading – Spec. Limit) dB
0.158 (BL) (C3)	29.82	55.57	-25.75
0.174 (BL) (C3)	29.55	54.90	-25.35
0.162 (WL) (C3)	28.72	55.54	-26.82
0.166 (WL) (C3)	29.03	55.18	-26.16
0.178 (WL) (C3)	28.44	54.83	-26.39
0.190 (BL) (C3)	25.04	54.11	-29.08

Table 2.0 RADIATED EMISSION RESULTS
STARflex
Models: STR-400-F

Frequency MHz	EMI Reading (dBuV)	Specification Limit (dBuV)	Delta (Cor. Reading – Spec. Limit) dB)
288.00 (H) (C3)	45.44 (Quasi-Peak)	46.00	-0.56
139.40 (V) (C3)	42.76 (Quasi-Peak)	43.50	-0.74
144.00 (V) (C3)	39.62 (Quasi-Peak)	43.50	-3.88
141.30 (V) (C3)	38.96 (Quasi-Peak)	43.50	-4.54
135.30 (V) (C3)	38.67 (Quasi-Peak)	43.50	-4.83
148.70 (V) (C3)	35.40 (Quasi-Peak)	43.50	-8.10

Notes:

*	The complete emissions data is given in Appendix E of this report.
(BL)	Black Lead
(WL)	White Lead
(V)	Vertical
(H)	Horizontal
(C3)	Configuration #3

8.2 20 dB Bandwidth

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.

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

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 the 20 dB bandwidth and the video bandwidth was ≥ RBW. The cable loss was also added back into the reading using the reference level offset.

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. Please see the data sheets located in Appendix E.

8.4 RF Antenna Conducted Test

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.

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 approximately 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 set to approximately 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. The RBW was set to be less than the channel spacing.

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 STARflex, Model: STR-400-F, 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	STARflex Models: STR-400-F S/N: N/A

There are no additional models covered under this report.

APPENDIX D

DIAGRAMS AND CHARTS

FIGURE 1: CONDUCTED EMISSIONS TEST SETUP

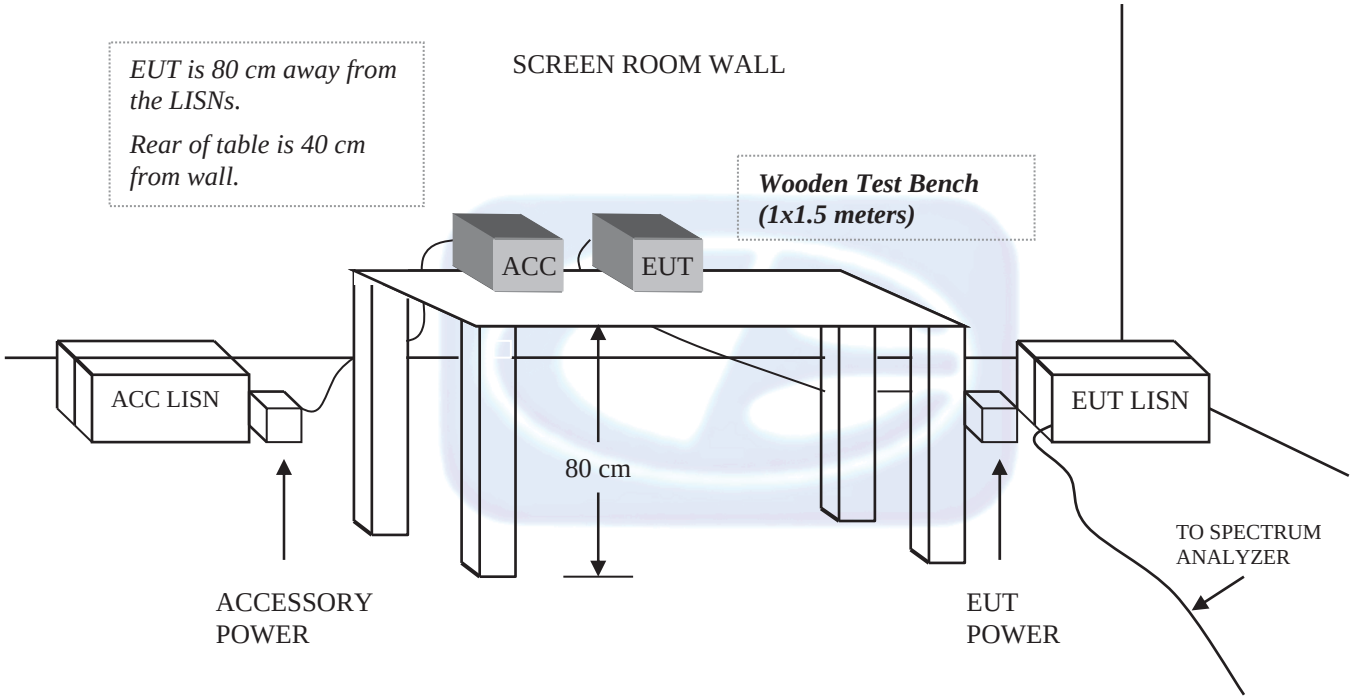
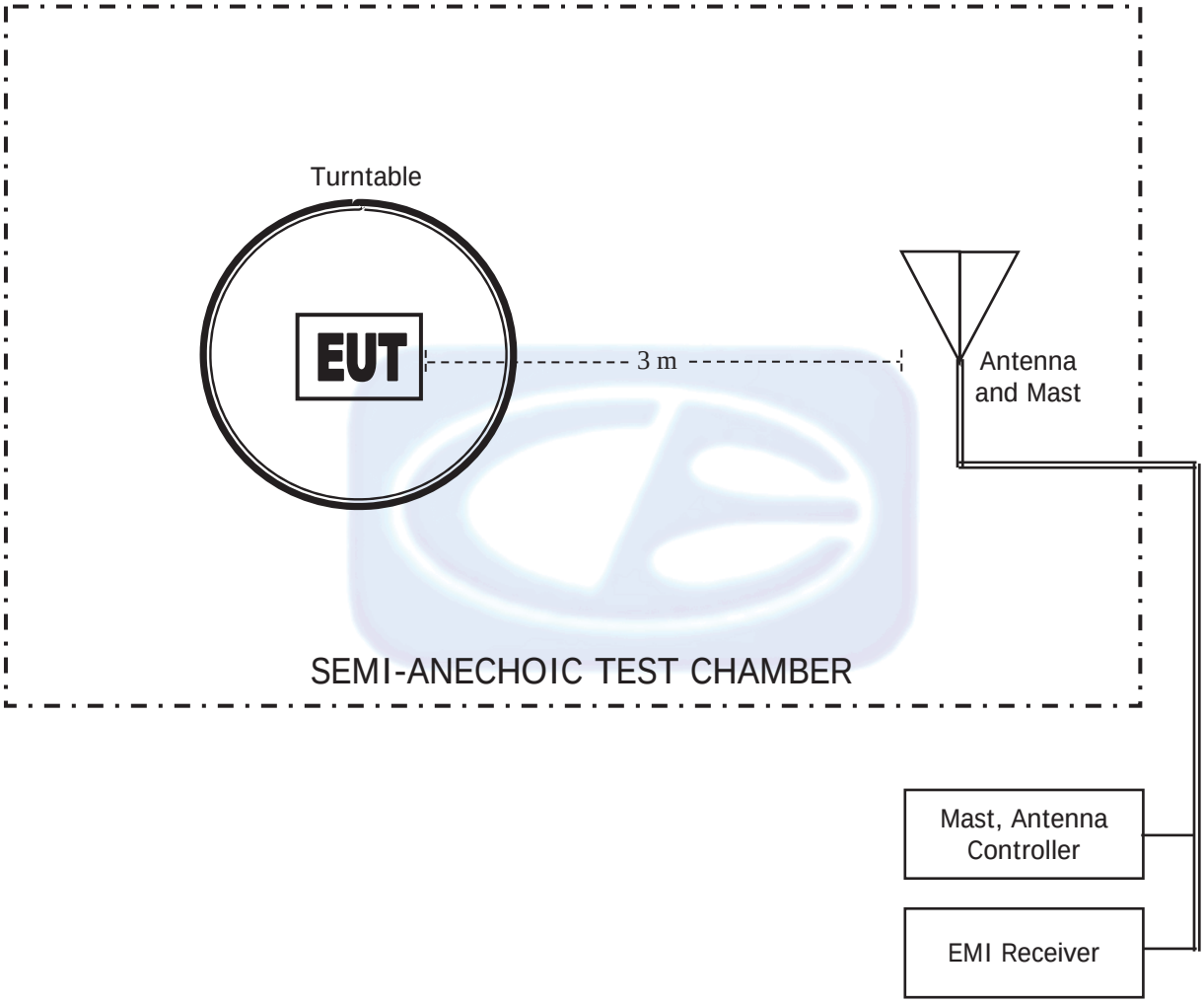


FIGURE 2: LAYOUT OF THE SEMI MI-ANECHOIC TEST CHAMBER



COM-POWER AL-130

LOOP ANTENNA

S/N: 17089

CALIBRATION DATE: FEBRUARY 6, 2015

FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)
0.009	-33.18	18.32
0.01	-34.10	17.40
0.02	-38.65	12.85
0.03	-39.28	12.22
0.04	-40.09	11.41
0.05	-40.85	10.65
0.06	-40.88	10.62
0.07	-41.07	10.43
0.08	-41.04	10.46
0.09	-41.19	10.31
0.1	-41.20	10.30
0.2	-41.52	9.98
0.3	-41.53	9.97
0.4	-41.42	10.08
0.5	-41.53	9.97
0.6	-41.53	9.97
0.7	-41.43	10.07
0.8	-41.23	10.27
0.9	-41.13	10.37
1	-41.14	10.36
2	-40.80	10.70
3	-40.66	10.84
4	-40.61	10.89
5	-40.33	11.17
6	-40.53	10.97
7	-40.47	11.03
8	-40.48	11.02
9	-39.93	11.57
10	-39.81	11.69
15	-43.35	8.15
20	-39.16	12.34
25	-40.24	11.26
30	-43.18	8.32

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		

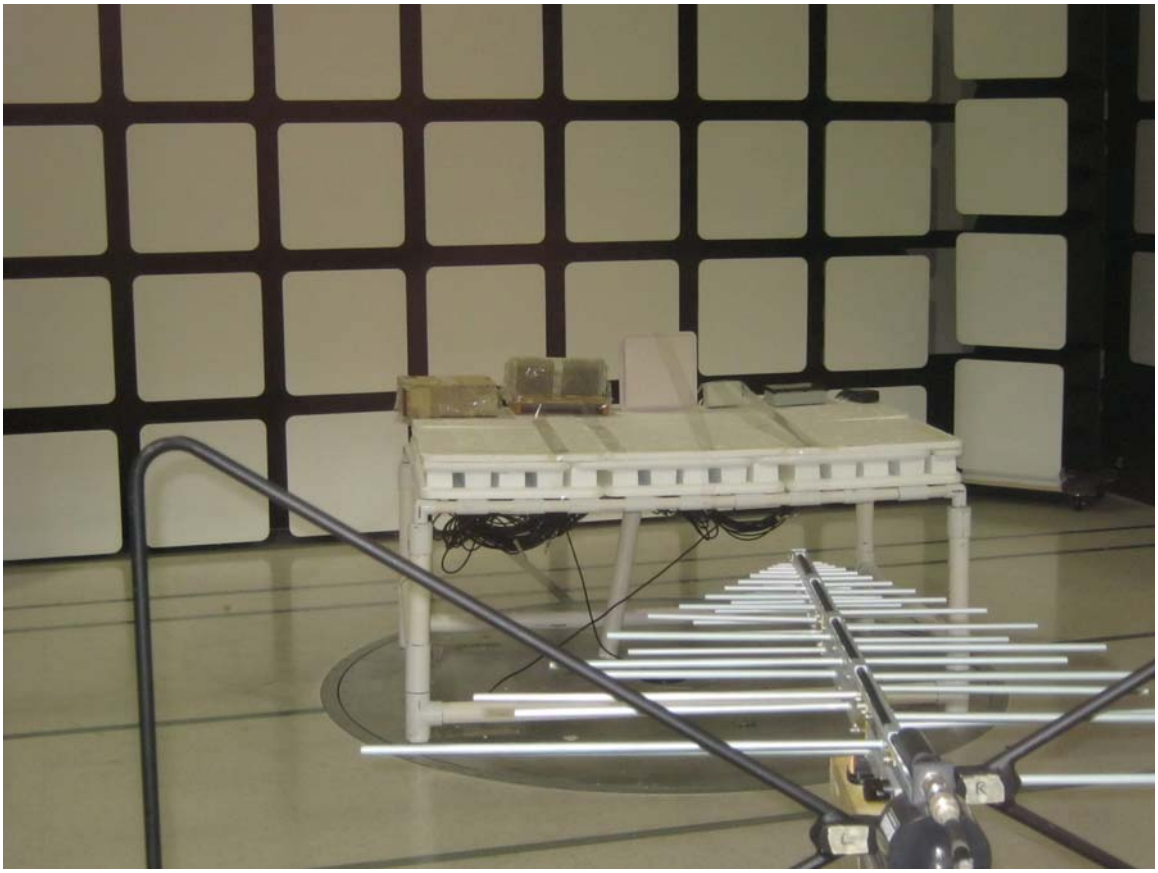
COM-POWER PA-118

PREAMPLIFIER

S/N: 551024

CALIBRATION DATE: MAY 12, 2016

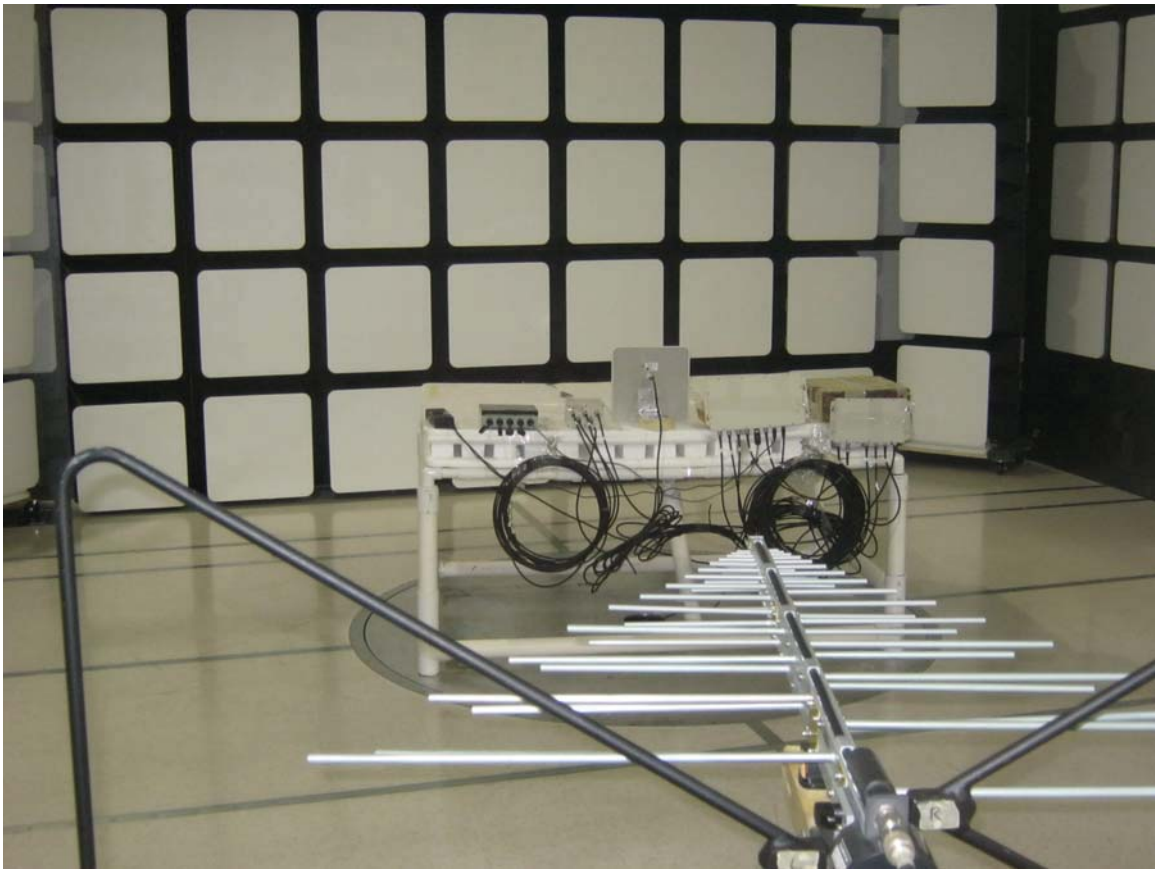
FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	39.84	6.0	39.05
1.1	39.40	6.5	38.94
1.2	39.58	7.0	39.25
1.3	39.68	7.5	39.09
1.4	39.91	8.0	39.01
1.5	39.78	8.5	38.60
1.6	39.50	9.0	38.64
1.7	39.81	9.5	39.67
1.8	39.89	10.0	39.30
1.9	39.94	11.0	39.15
2.0	39.57	12.0	39.24
2.5	40.39	13.0	39.49
3.0	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

MOJIX, INC.
STARflex
MODEL: STR-400-F
FCC SUBPART B AND C – RADIATED EMISSIONS – CONFIGURATION #3 – BELOW 1 GHz

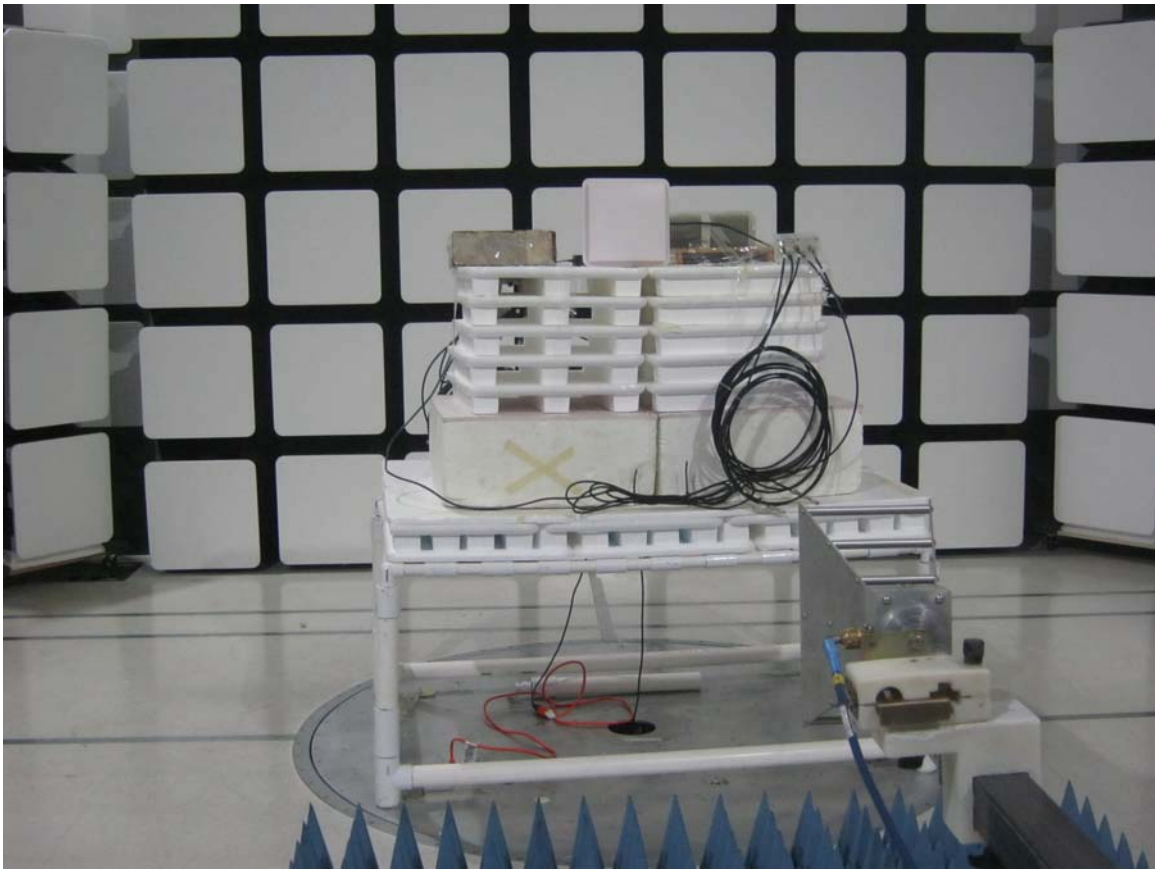
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

MOJIX, INC.
STARflex
MODEL: STR-400-F
FCC SUBPART B AND C – RADIATED EMISSIONS – CONFIGURATION #3 – BELOW 1 GHz

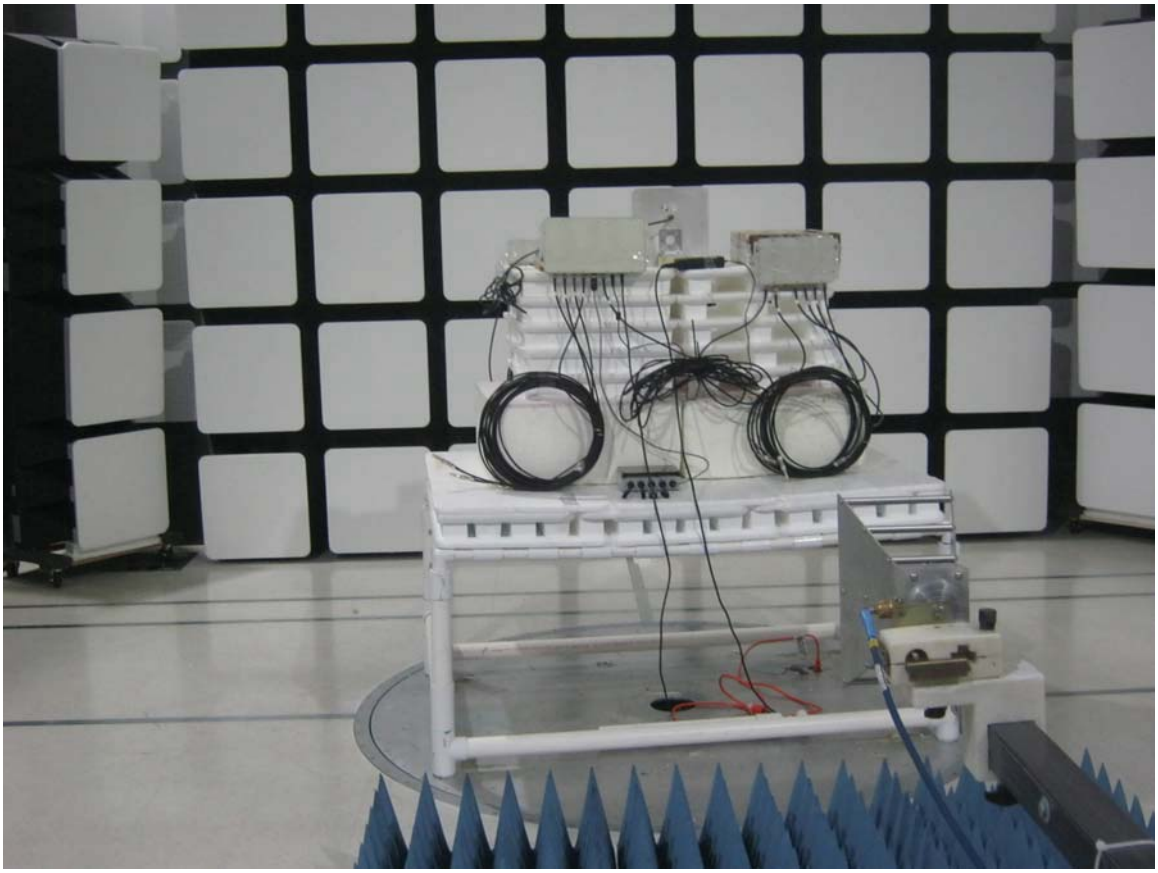
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



FRONT VIEW

MOJIX, INC.
STARflex
MODEL: STR-400-F
FCC SUBPART B AND C – RADIATED EMISSIONS – CONFIGURATION #3 – ABOVE 1 GHz

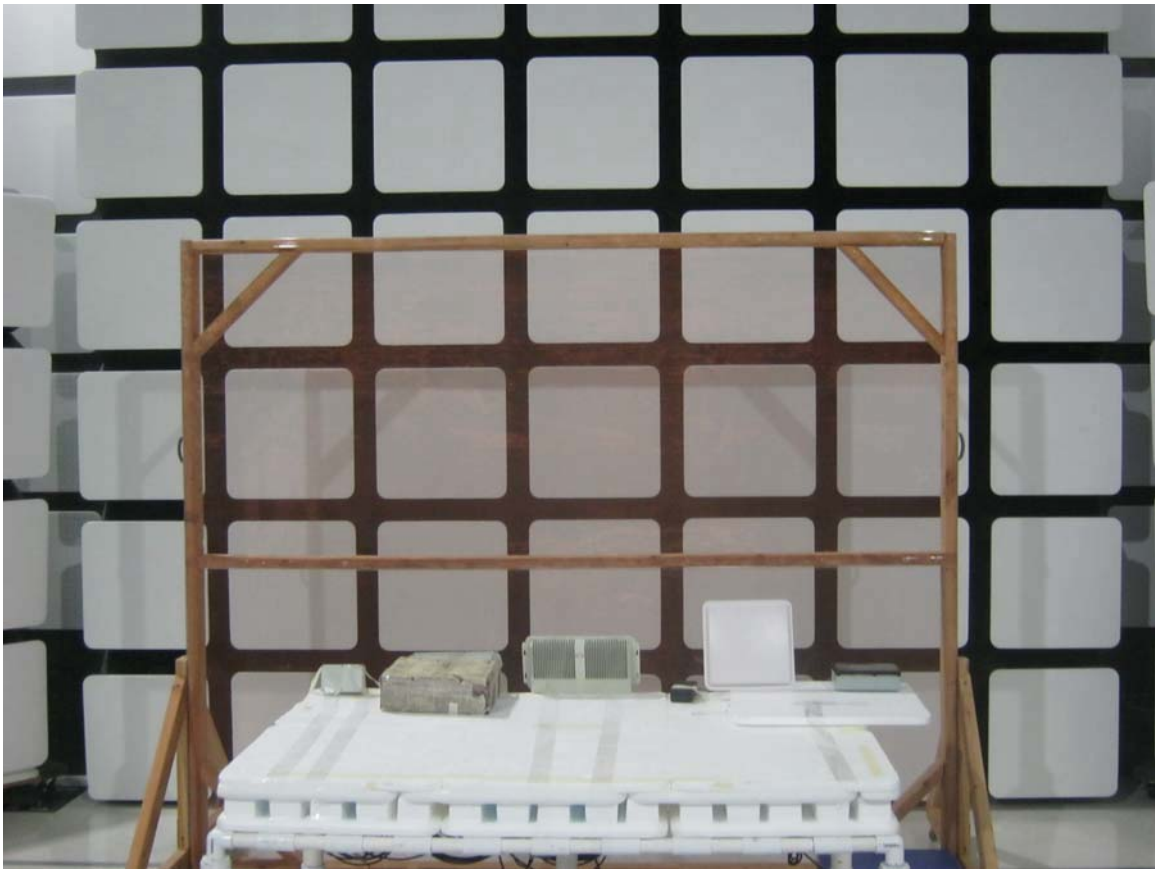
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

MOJIX, INC.
STARflex
MODEL: STR-400-F
FCC SUBPART B AND C – RADIATED EMISSIONS – CONFIGURATION #3 – ABOVE 1 GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



FRONT VIEW

MOJIX, INC.
STARflex
MODEL: STR-400-F
FCC SUBPART B AND C – CONDUCTED EMISSIONS – CONFIGURATION #3

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

MOJIX, INC.
STARflex
MODEL: STR-400-F
FCC SUBPART B AND C – CONDUCTED EMISSIONS – CONFIGURATION #3

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

APPENDIX E

DATA SHEETS

RADIATED EMISSIONS DATA SHEETS

FCC 15.247

Mojix, Inc.
STARflex
Model: STR-400-F
Configuration #3

Date: 04/18/2016
Lab: D
Tested By: Kyle Fujimoto

Low Channel
Transmit Mode

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1805.5								**Not in Restricted Band**
1805.5								**Done via Conducted**
2708.25	53.19	V	74.00	-20.81	Peak	146.50	193.53	
2708.25	36.25	V	54.00	-17.75	Avg	146.50	193.53	
3611	61.24	V	74.00	-12.76	Peak	355.00	177.17	
3611	44.30	V	54.00	-9.70	Avg	355.00	177.17	
4513.75	51.21	V	74.00	-22.79	Peak	224.50	120.64	
4513.75	34.27	V	54.00	-19.73	Avg	224.50	120.64	
5416.5	54.80	V	74.00	-19.20	Peak	63.75	135.02	
5416.5	37.86	V	54.00	-16.14	Avg	63.75	135.02	
6319.25								**Not in Restricted Band**
6319.25								**Done via Conducted**
7222	56.87	V	74.00	-17.13	Peak	343.75	193.53	
7222	39.93	V	54.00	-14.07	Avg	343.75	193.53	
8124.75								**No Emission**
8124.75								**Detected**
9027.5								**No Emission**
9027.5								**Detected**

FCC 15.247
Mojix, Inc.
STARflex
Model: STR-400-F
Configuration #3

Date: 04/18/2016
Lab: D
Tested By: Kyle Fujimoto

Low Channel
Transmit Mode

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1805.5								**Not in Restricted Band**
1805.5								**Done via Conducted**
2708.25	51.83	H	74.00	-22.17	Peak	167.00	118.25	
2708.25	34.89	H	54.00	-19.11	Avg	167.00	118.25	
3611	58.59	H	74.00	-15.41	Peak	247.75	107.92	
3611	41.65	H	54.00	-12.35	Avg	247.75	107.92	
4513.75	49.75	H	74.00	-24.25	Peak	271.25	126.07	
4513.75	32.81	H	54.00	-21.19	Avg	271.25	126.07	
5416.5	53.76	H	74.00	-20.24	Peak	68.75	186.07	
5416.5	36.82	H	54.00	-17.18	Avg	68.75	186.07	
6319.25								**Not in Restricted Band**
6319.25								**Done via Conducted**
7222	53.28	H	74.00	-20.72	Peak	299.50	203.98	
7222	36.34	H	54.00	-17.66	Avg	299.50	203.98	
8124.75								**No Emission**
8124.75								**Detected**
9027.5								**No Emission**
9027.5								**Detected**

FCC 15.247
Mojix, Inc.
STARflex
Model: STR-400-F
Configuration #3

Date: 04/18/2016
Lab: D
Tested By: Kyle Fujimoto

Middle Channel
Transmit Mode

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1830.5								**Not in Restricted Band**
1830.5								**Done via Conducted**
2745.75	55.87	V	74.00	-18.13	Peak	235.50	153.29	
2745.75	38.93	V	54.00	-15.07	Avg	235.50	153.29	
3661	58.85	V	74.00	-15.15	Peak	340.75	150.73	
3661	41.91	V	54.00	-12.09	Avg	340.75	150.73	
4576.25	54.41	V	74.00	-19.59	Peak	197.00	161.35	
4576.25	37.47	V	54.00	-16.53	Avg	197.00	161.35	
5491.5								**Not in Restricted Band**
5491.5								**Done via Conducted**
6406.75								**Not in Restricted Band**
6406.75								**Done via Conducted**
7322	55.45	V	74.00	-18.55	Peak	183.50	219.38	
7322	38.51	V	54.00	-15.49	Avg	183.50	219.38	
8237.25								**No Emission**
8237.25								**Detected**
9152.5								**No Emission**
9152.5								**Detected**

FCC 15.247
Mojix, Inc.
STARflex
Model: STR-400-F
Configuration #3

Date: 04/18/2016
Lab: D
Tested By: Kyle Fujimoto

Middle Channel
Transmit Mode

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1830.5								**Not in Restricted Band**
1830.5								**Done via Conducted**
2745.75	55.98	H	74.00	-18.02	Peak	289.50	204.88	
2745.75	39.04	H	54.00	-14.96	Avg	289.50	204.88	
3661	59.04	H	74.00	-14.96	Peak	112.00	202.01	
3661	42.10	H	54.00	-11.90	Avg	112.00	202.01	
4576.25	52.18	H	74.00	-21.82	Peak	181.50	201.41	
4576.25	35.24	H	54.00	-18.76	Avg	181.50	201.41	
5491.5								**Not in Restricted Band**
5491.5								**Done via Conducted**
6406.75								**Not in Restricted Band**
6406.75								**Done via Conducted**
7322	54.57	H	74.00	-19.43	Peak	16.25	202.25	
7322	37.63	H	54.00	-16.37	Avg	16.25	202.25	
8237.25								**No Emission**
8237.25								**Detected**
9152.5								**No Emission**
9152.5								**Detected**

FCC 15.247
Mojix, Inc.
STARflex
Model: STR-400-F
Configuration #3

Date: 04/18/2016
Lab: D
Tested By: Kyle Fujimoto

High Channel
Transmit Mode

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1854.5								**Not in Restricted Band**
1854.5								**Done via Conducted**
2781.75	53.01	V	74.00	-20.99	Peak	262.50	101.35	
2781.75	36.07	V	54.00	-17.93	Avg	262.50	101.35	
3709	60.34	V	74.00	-13.66	Peak	194.50	188.70	
3709	43.40	V	54.00	-10.60	Avg	194.50	188.70	
4636.25	50.32	V	74.00	-23.68	Peak	246.75	225.35	
4636.25	33.38	V	54.00	-20.62	Avg	246.75	225.35	
5563.5								**Not in Restricted Band**
5563.5								**Done via Conducted**
6490.75								**Not in Restricted Band**
6490.75								**Done via Conducted**
7418	54.58	V	74.00	-19.42	Peak	13.25	215.74	
7418	37.64	V	54.00	-16.36	Avg	13.25	215.74	
8345.25								**No Emission**
8345.25								**Detected**
9272.5								**No Emission**
9272.5								**Detected**

FCC 15.247
Mojix, Inc.
STARflex
Model: STR-400-F
Configuration #3

Date: 04/18/2016
Lab: D
Tested By: Kyle Fujimoto

High Channel
Transmit Mode

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Table Angle (deg)	Ant. Height (cm)	Comments
1854.5								**Not in Restricted Band**
1854.5								**Done via Conducted**
2781.75	55.21	H	74.00	-18.79	Peak	117.25	160.94	
2781.75	38.27	H	54.00	-15.73	Avg	117.25	160.94	
3709	62.21	H	74.00	-11.79	Peak	286.25	110.97	
3709	45.27	H	54.00	-8.73	Avg	286.25	110.97	
4636.25	51.42	H	74.00	-22.58	Peak	177.50	110.73	
4636.25	34.48	H	54.00	-19.52	Avg	177.50	110.73	
5563.5								**Not in Restricted Band**
5563.5								**Done via Conducted**
6490.75								**Not in Restricted Band**
6490.75								**Done via Conducted**
7418	53.36	H	74.00	-20.64	Peak	248.75	115.08	
7418	36.42	H	54.00	-17.58	Avg	248.75	115.08	
8345.25								**No Emission**
8345.25								**Detected**
9272.5								**No Emission**
9272.5								**Detected**

FCC Class B and RSS-210

Mojix, Inc.
STARflex
Model: STR-400-F
Configuration #3

Date: 04/18/2016
Lab: D
Tested By: Kyle Fujimoto

Non Harmonic Emissions from the Tx - 10 kHz to 30 MHz and 1 GHz to 9.3 GHz
Digital Portion from the EUT - 10 kHz to 30 MHz and 1 GHz to 9.3 GHz

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
								No Emissions Detected
								from the Non Harmonic Emissions
								from the Tx
								10 kHz to 30 MHz
								No Emissions Detected
								from the Non Harmonic Emissions
								from the Tx
								1 GHz to 9.3 GHz
								No Emissions Detected
								from the Digital Portion
								of the EUT
								10 kHz to 30 MHz
								No Emissions Detected
								from the Digital Portion
								of the EUT
								1 GHz to 9.3 GHz
								Tested in both Horizontal and
								Vertical Polarizations

FCC 15.247
Mojix, Inc.
STARflex
Model: STR-400-F
Configuration #3

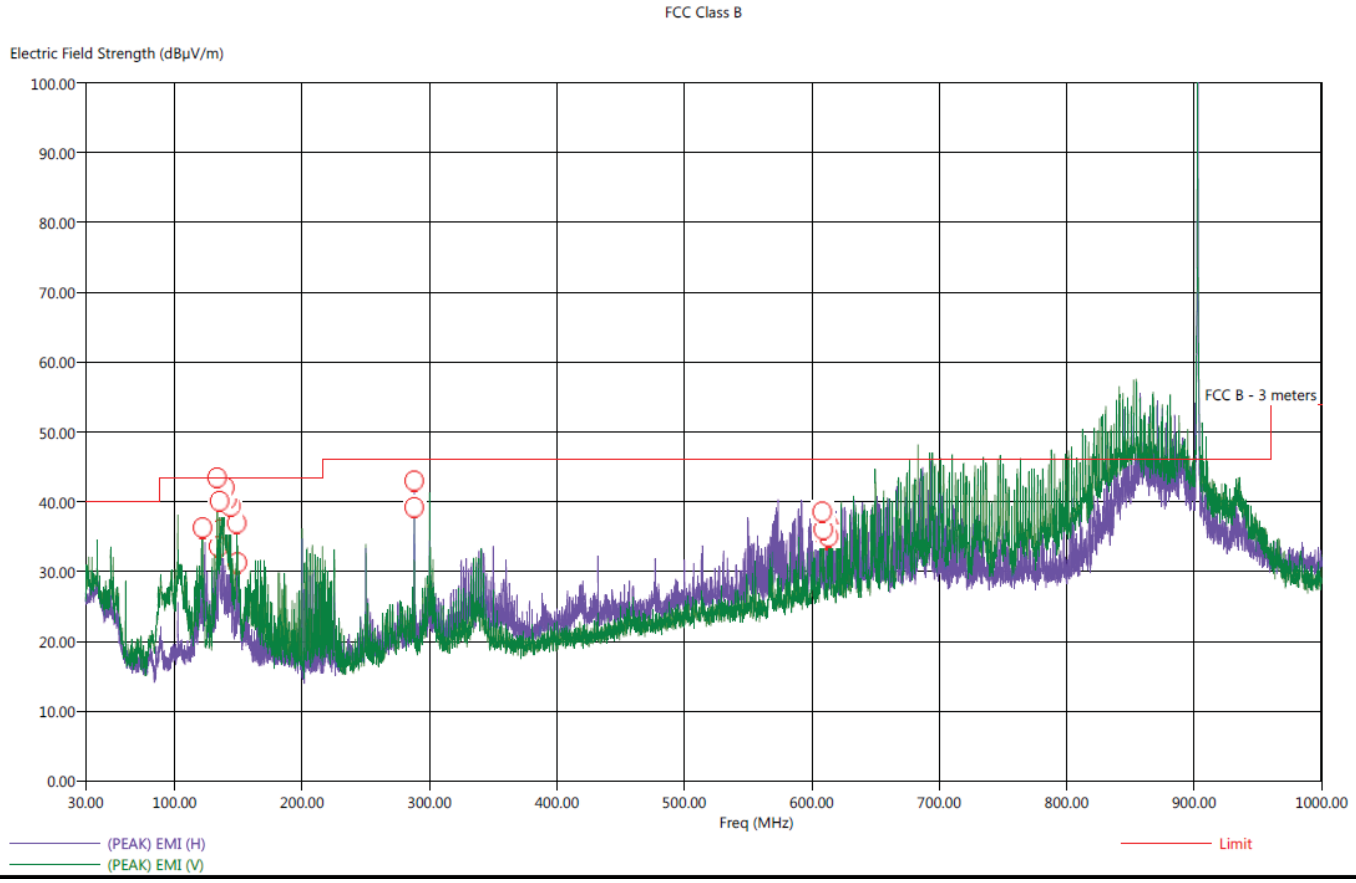
Date: 04/18/2016
Lab: D
Tested By: Kyle Fujimoto

Receiver Mode - 30 MHz to 1 GHz and 1 GHz to 9.3 GHz

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
								No Emissions Detected
								from the Receiver Mode
								for the EUT
								30 MHz to 1 GHz
								No Emissions Detected
								from the Receiver Mode
								for the EUT
								1 GHz to 9.3 GHz
								Tested in both Horizontal and
								Vertical Polarizations

Title: Pre-Scan - FCC Class B
File: Rohde & Schwarz - Pre-Scan - Configuration 3 - FCC Class B - 30 MHz to 1000 MHz - 04-14-2016.set
Operator: Kyle Fujimoto
EUT Type: STARflex
EUT Condition: The EUT is continuously transmitting through the RF Expander on Port 1
Comments: Company: Mojix, Inc.
Model: STR-400-F
Configuration #3: The STARflex is transmitting through the RF Expander on Port 1 via the eNode.
Note: The frequencies from 614.01 MHz to 959.99 MHz are not in the restricted band.

4/15/2016 2:21:22 PM
Sequence: Preliminary Scan



Title: Radiated Final - FCC Class B
File: Rohde & Schwarz - Final Scan - Configuration 3 - FCC Class B - 30 MHz to 1000 MHz - 04-15-2016.set
Operator: Kyle Fujimoto
EUT Type: STARflex
EUT Condition: The EUT is continuously transmitting through the RF Expander on Port 1.
Comments: Company: Mojix, Inc.
Model: STR-400-F
Configuration #3: The STARflex is Tx through the RF Expander on Port 1 via the eNode.

4/15/2016 2:53:15 PM
Sequence: Final Measurements

.

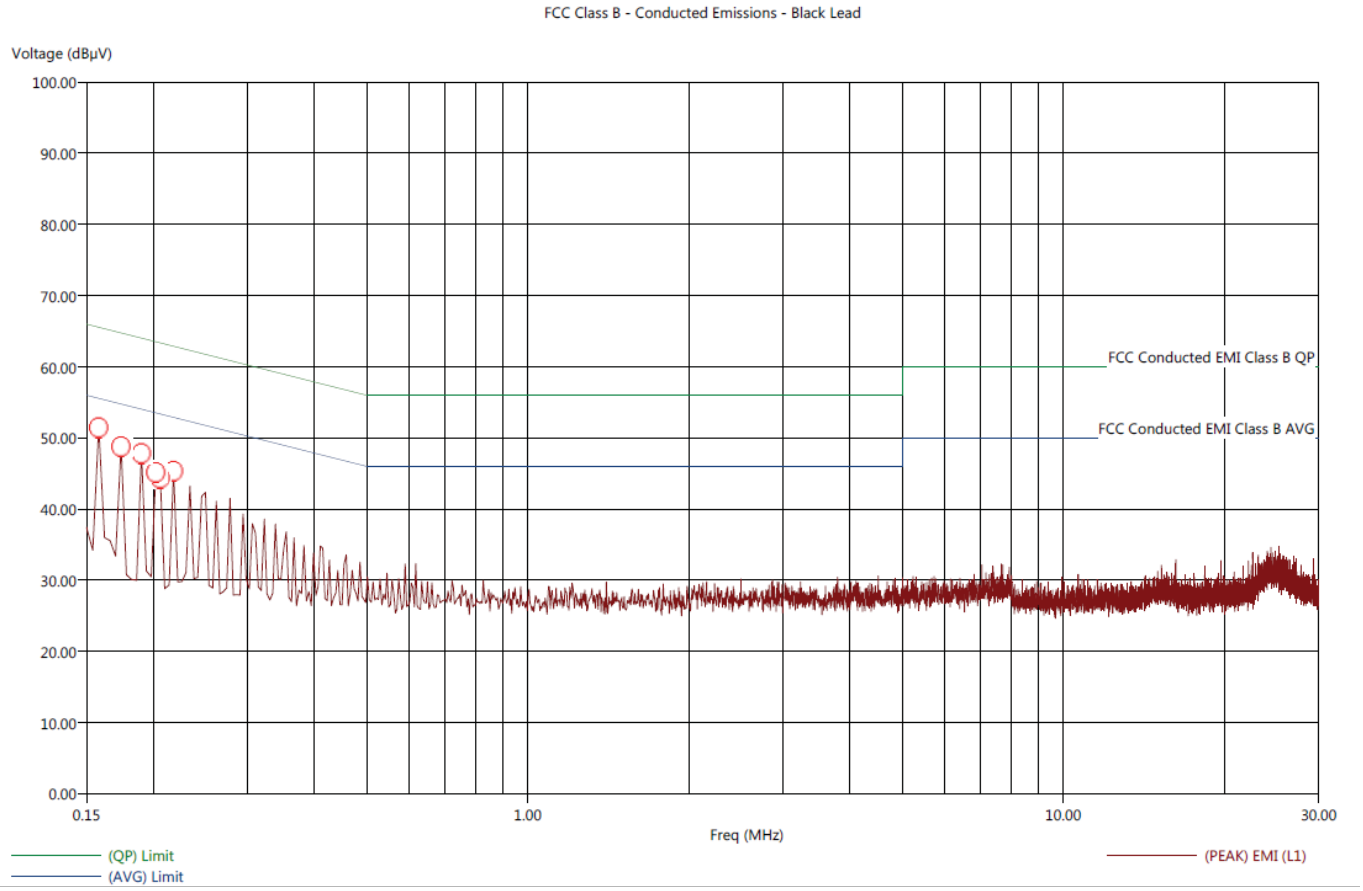
FCC Class B

Freq (MHz)	Pol	(PEAK) EMI (dBµV/m)	(QP) EMI (dBµV/m)	(PEAK) Margin (dB)	(QP) Margin (dB)	Limit (dBµV/m)	Transducer (dB)	Cable (dB)	Ttbl Agl (deg)	Twr Ht (cm)
121.90	V	37.85	30.46	-5.65	-13.04	43.50	15.40	0.81	267.75	399.97
133.40	V	41.79	32.91	-1.71	-10.59	43.50	14.08	0.84	140.00	399.97
134.30	H	33.61	26.31	-9.89	-17.19	43.50	13.98	0.84	190.25	399.97
135.30	V	47.02	38.67	3.52	-4.83	43.50	13.80	0.85	65.75	399.55
135.40	H	30.56	20.50	-12.94	-23.00	43.50	13.80	0.85	311.25	278.11
139.40	V	50.32	42.76	6.82	-0.74	43.50	13.22	0.86	107.00	258.89
141.30	V	48.55	38.96	5.05	-4.54	43.50	13.58	0.87	104.75	345.70
144.00	V	43.29	39.62	-0.21	-3.88	43.50	14.78	0.88	47.50	192.92
148.70	V	44.53	35.40	1.03	-8.10	43.50	16.72	0.90	126.75	311.07
149.30	H	29.93	25.34	-13.57	-18.16	43.50	16.94	0.90	74.25	360.68
288.00	H	47.04	45.44	1.04	-0.56	46.00	17.55	1.33	144.75	399.91
288.00	V	42.41	40.40	-3.59	-5.60	46.00	17.55	1.33	339.50	228.20
608.30	V	32.54	27.12	-13.46	-18.88	46.00	23.80	1.99	25.00	377.46
609.10	V	32.56	26.69	-13.44	-19.31	46.00	23.81	2.00	343.75	378.41
610.80	H	33.22	27.54	-12.78	-18.46	46.00	23.83	2.00	328.50	127.79
612.00	H	32.55	27.18	-13.45	-18.82	46.00	23.85	2.01	311.75	244.38
612.90	H	32.20	27.31	-13.80	-18.69	46.00	23.86	2.01	162.25	194.17
613.10	V	41.01	37.03	-4.99	-8.97	46.00	23.86	2.01	21.50	111.31
613.40	H	32.92	27.84	-13.08	-18.16	46.00	23.86	2.01	320.50	210.77
614.00	H	39.10	32.79	-6.90	-13.21	46.00	23.88	2.01	302.50	275.49

CONDUCTED EMISSIONS DATA SHEETS

Title: FCC Class B - Conducted Emissions - Black Lead
File: Rohde & Schwarz - Pre-Scan - Black Lead - Configuration 3 - StarFlex Direct - FCC Class B - 150 kHz to 30 MHz.set
Operator: Kyle Fujimoto
EUT Type: STARflex
EUT Condition: The EUT is continuously transceiving from Port 1 of the RF Expander via the eNode
Comments: Company: Mojix, Inc.
Model: STR-400-F
Configuration #3

4/13/2016 4:57:30 PM
Sequence: Preliminary Scan



Title: FCC Class B - Conducted Emissions - Black Lead
File: Rohde & Schwarz - Final Scan - Black Lead - Configuration 3 - StarFlex Diect - FCC Class B - 150 kHz to 30 MHz.set
Operator: Kyle Fujimoto
EUT Type: STARflex
EUT Condition: The EUT is continuously transceiving from Port 1 of the RF Expander via the eNode
Comments: Company: Mojix, Inc.
Model: STR-400-F
Configuration #3

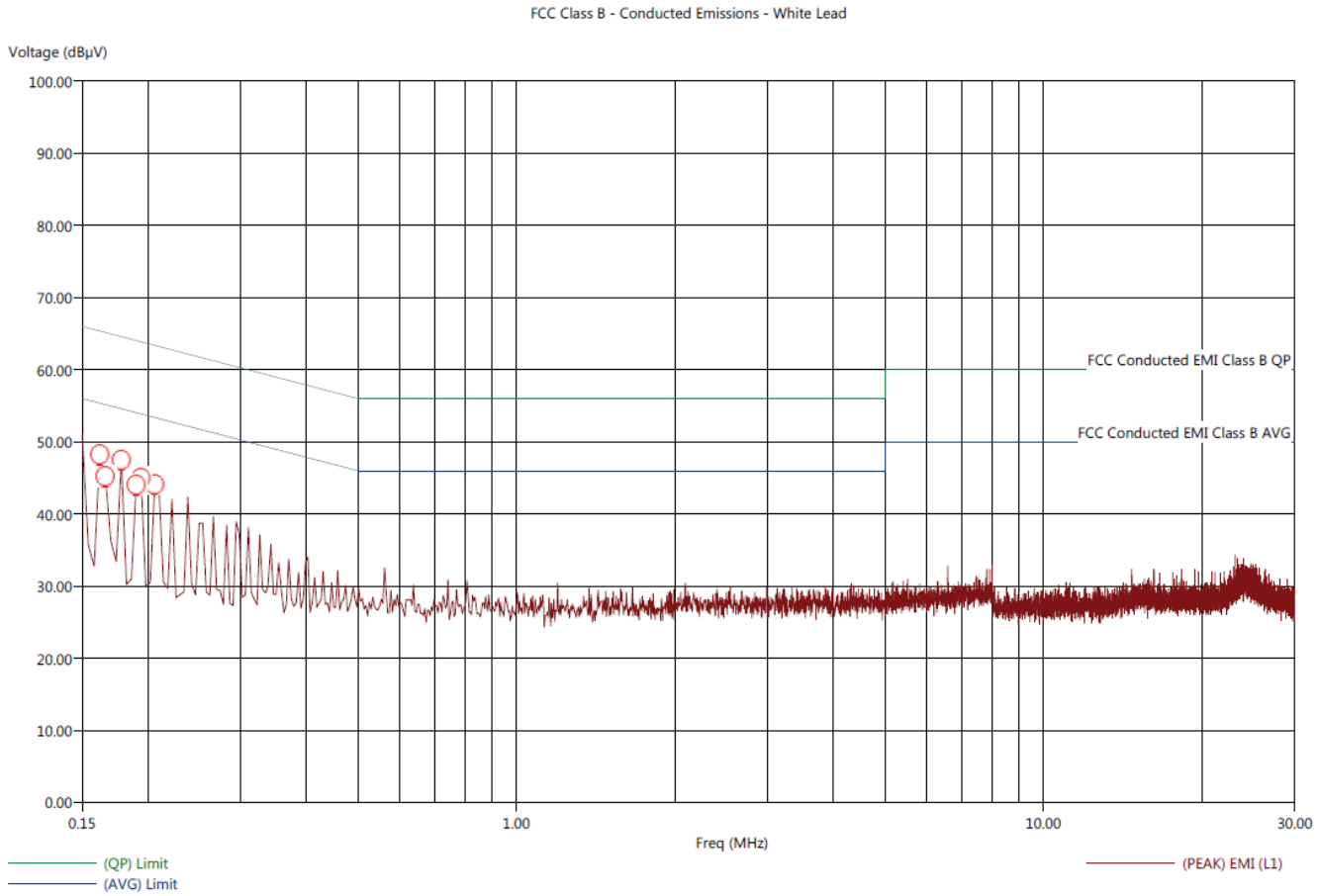
4/13/2016 5:00:56 PM
Sequence: Final Measurements

Table13

Freq (MHz)	(PEAK) EMI (dBµV)	(AVG) EMI (dBµV)	(PEAK) Margin AVL (dB)	(AVG) Margin AVL (dB)	(AVG) Limit (dBµV)	Filter (dB)	Transducer (dB)	Cable (dB)
0.1580	50.21	29.82	-5.36	-25.75	55.57	9.83	0.48	0.06
0.1740	48.07	29.55	-6.83	-25.35	54.90	9.83	0.44	0.07
0.1900	46.20	25.04	-7.92	-29.08	54.11	9.83	0.39	0.08
0.2020	45.69	24.63	-8.08	-29.13	53.77	9.83	0.36	0.08
0.2060	44.89	24.26	-8.67	-29.30	53.56	9.83	0.35	0.08
0.2180	42.05	21.24	-10.77	-31.58	52.82	9.83	0.30	0.08

Title: FCC Class B - Conducted Emissions - White Lead
File: Rohde & Schwarz - Pre Scan - White Lead - Configuration 3 - StarFlex Direct - FCC Class B - 150 kHz to 30 MHz.set
Operator: Kyle Fujimoto
EUT Type: STARflex
EUT Condition: The EUT is continuously transceiving from Port 1 of the RF Expander via the eNode
Comments: Company: Mojix, Inc.
Model: STR-400-F
Configuration #3

4/13/2016 5:04:47 PM
Sequence: Preliminary Scan



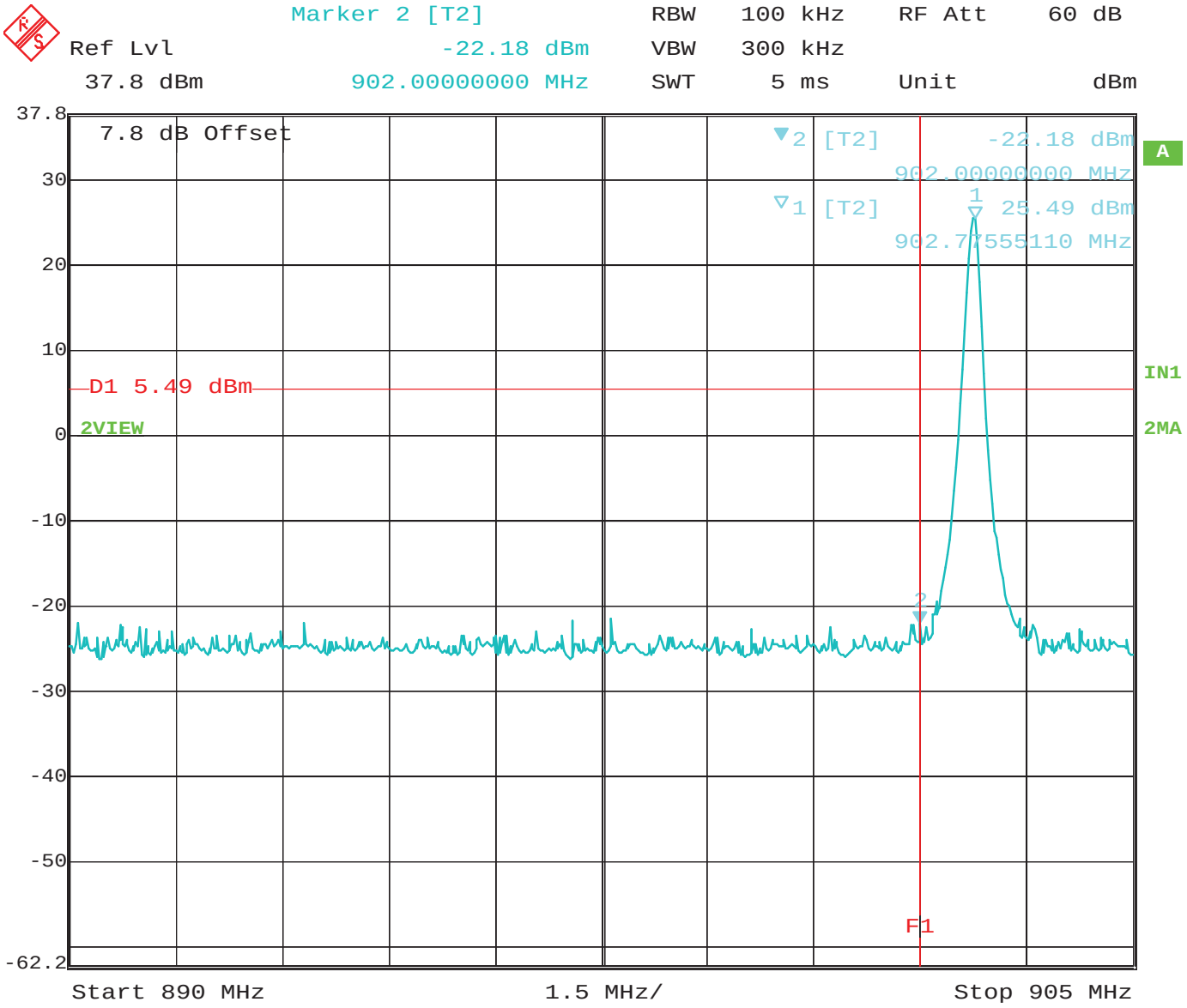
Title: FCC Class B - Conducted Emissions - White Lead
File: Rohde & Schwarz - Final Scan - White Lead - Configuration 3 - Starflex Direct - FCC Class B - 150 kHz to 30 MHz.set
Operator: Kyle Fujimoto
EUT Type: STARflex
EUT Condition: The EUT is continuously transceiving from Port 1 of the RF Expander via the eNode
Comments: Company: Mojix, Inc.
Model: STR-400-F
Configuration #3

4/13/2016 5:09:01 PM
Sequence: Final Measurements

FCC Class B - Conducted Emissions - White Lead

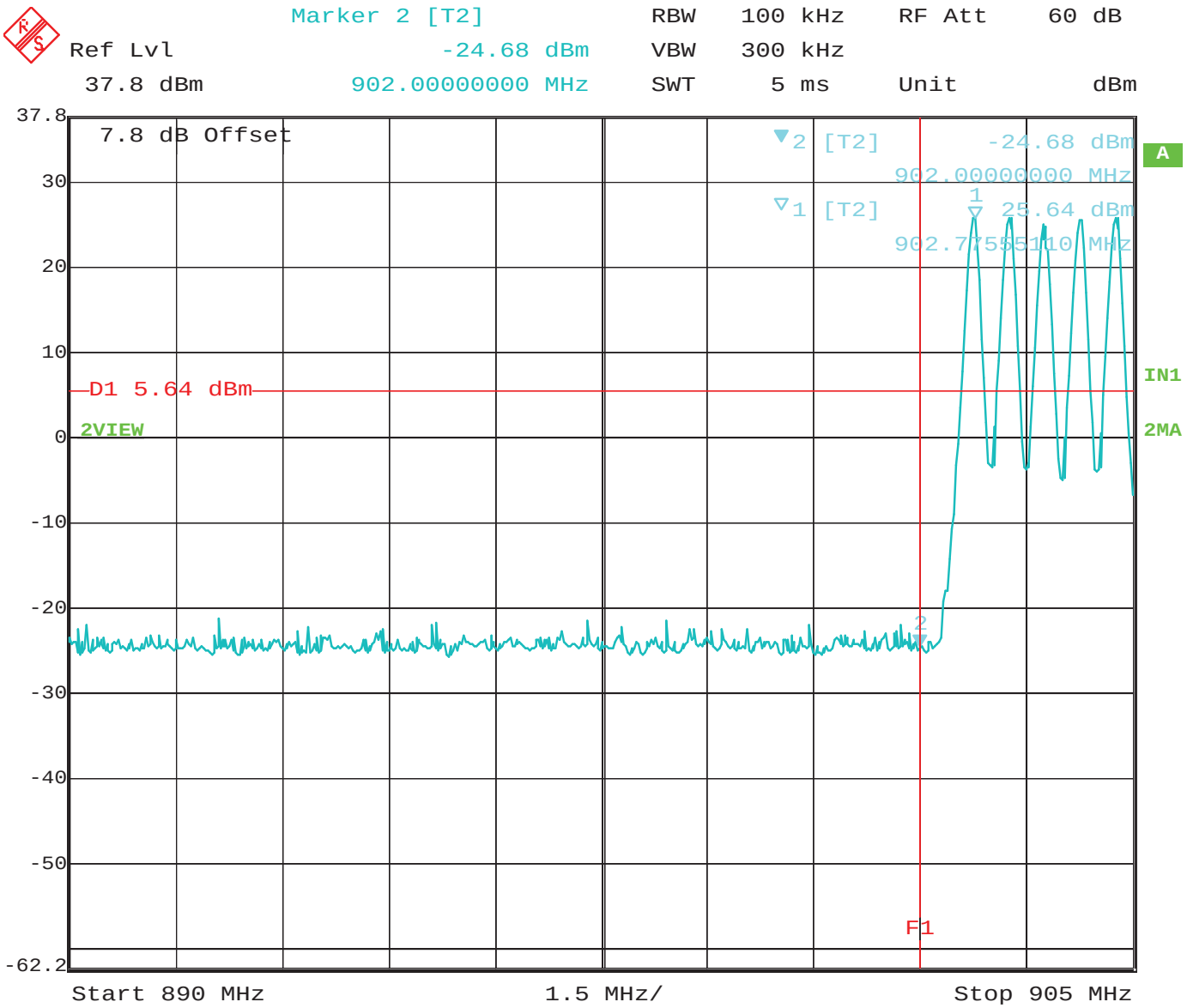
Freq (MHz)	(PEAK) EMI (dBµV)	(AVG) EMI (dBµV)	(PEAK) Margin AVL (dB)	(AVG) Margin AVL (dB)	(AVG) Limit (dBµV)	Filter (dB)	Transducer (dB)	Cable (dB)
0.1620	48.54	28.72	-7.00	-26.82	55.54	9.83	0.47	0.06
0.1660	47.81	29.03	-7.37	-26.16	55.18	9.83	0.44	0.07
0.1780	46.91	28.44	-7.92	-26.39	54.83	9.83	0.42	0.07
0.1900	44.86	24.17	-9.36	-30.05	54.22	9.83	0.38	0.07
0.1940	44.19	23.58	-9.82	-30.43	54.01	9.83	0.37	0.08
0.2060	43.05	23.02	-10.39	-30.43	53.45	9.83	0.33	0.08

BAND EDGES DATA SHEETS



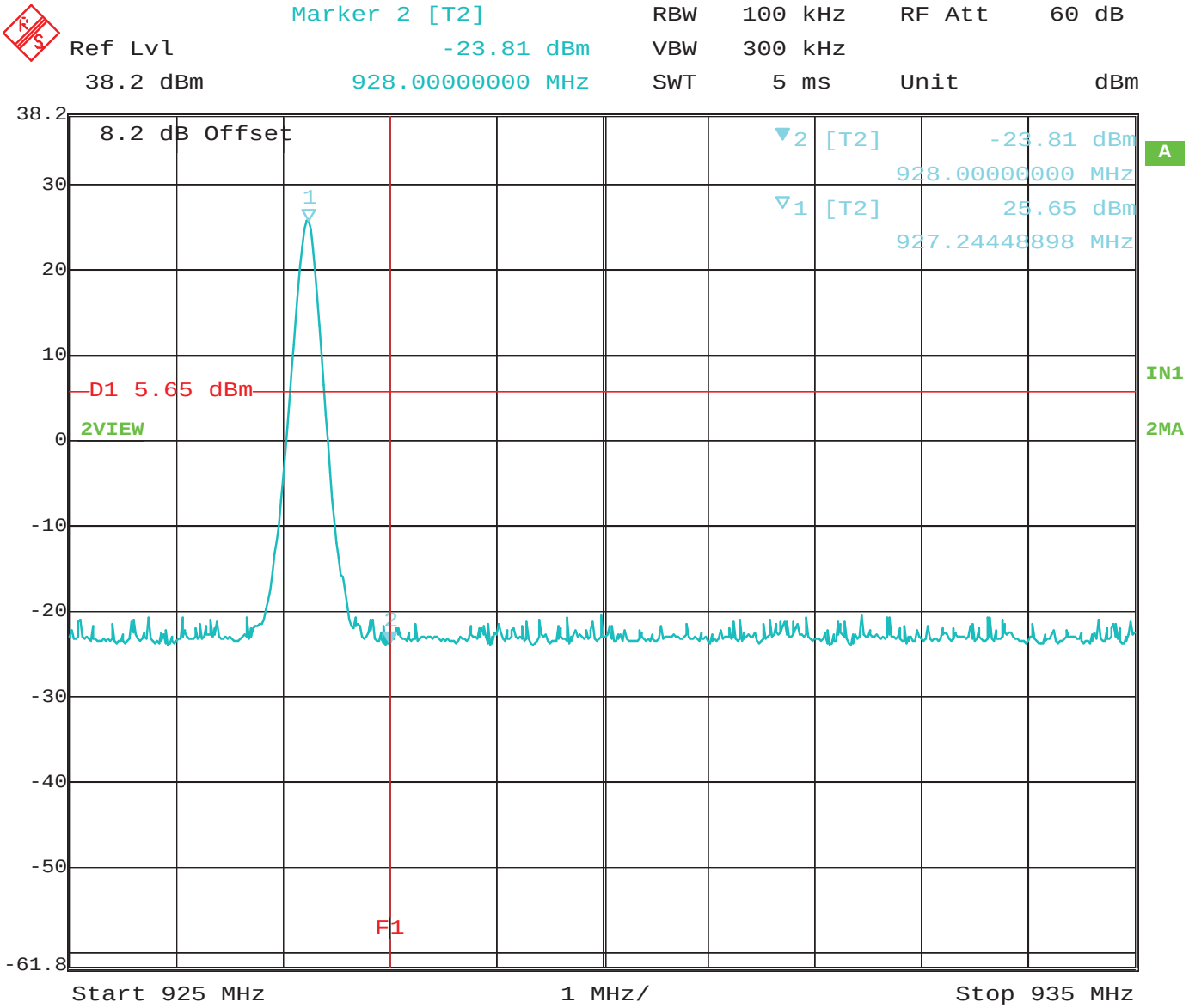
Date: 20.APR.2016 10:37:01

Band Edge – Low Channel – Fixed Frequency Mode – Configuration #3 – Port #3 Worst Case



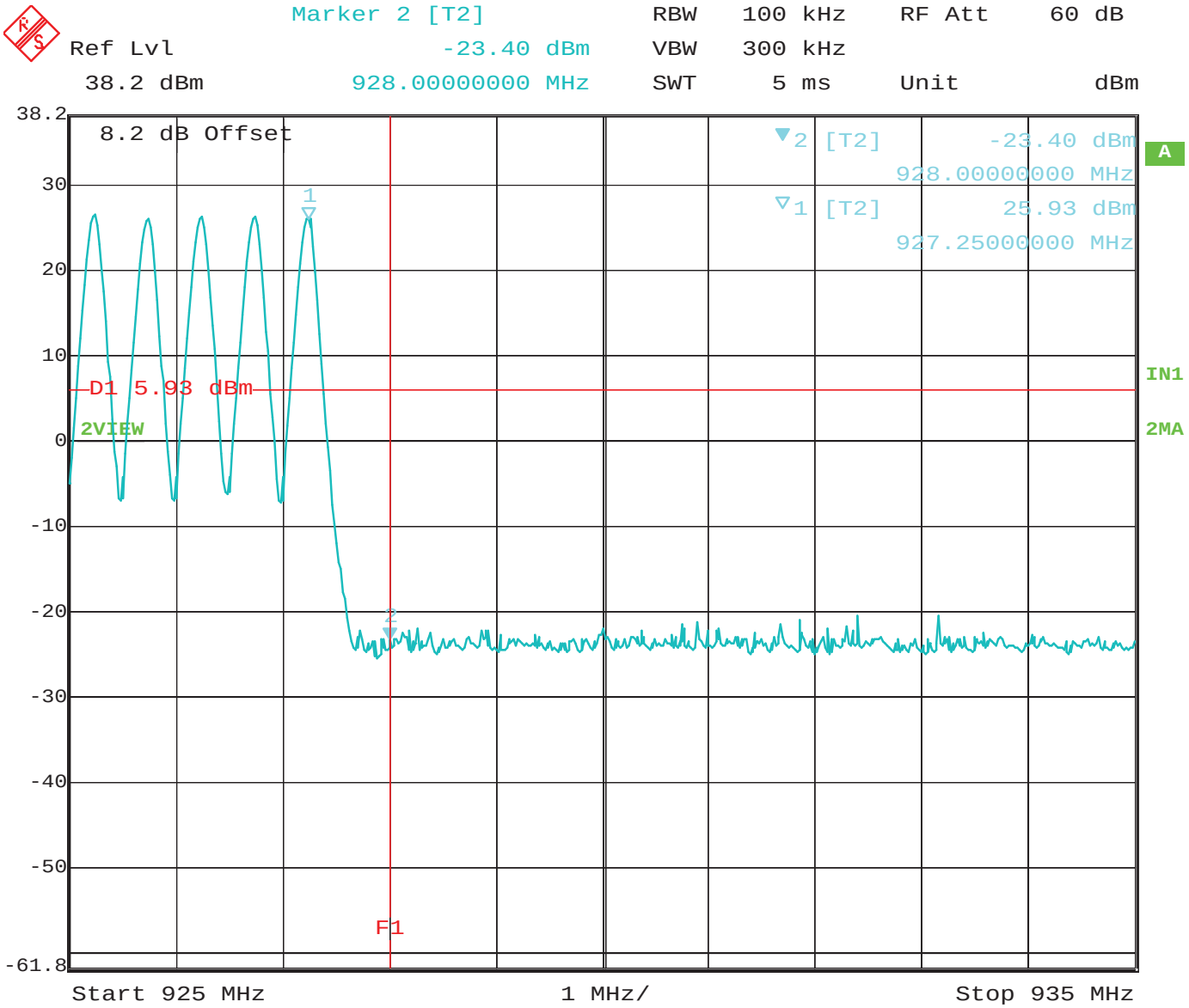
Date: 20.APR.2016 10:26:27

Band Edge – Low Channel – Frequency Hopping Mode – Configuration #3 – Port #3 Worst Case



Date: 20.APR.2016 10:40:54

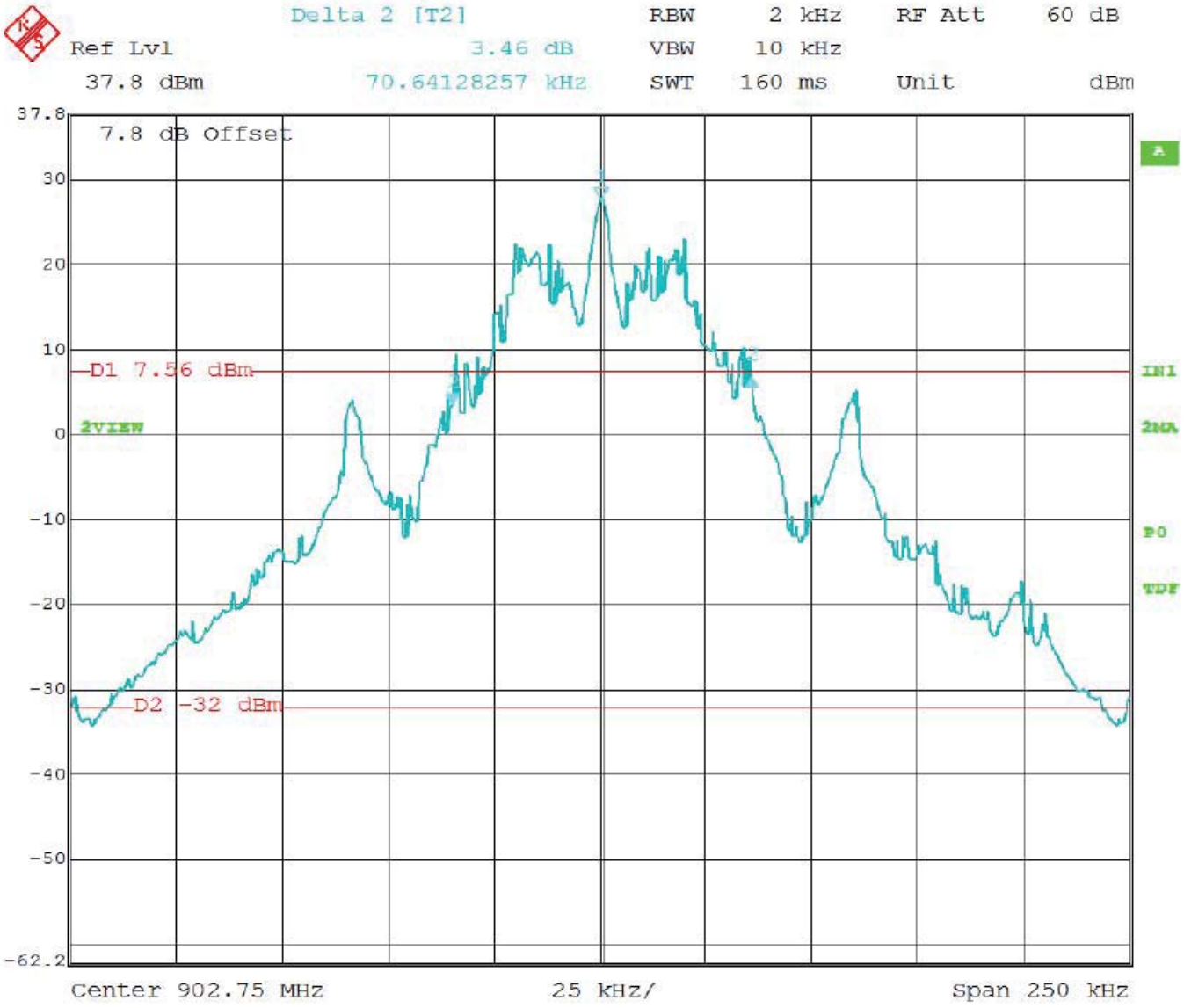
Band Edge – High Channel – Fixed Frequency Mode – Configuration #3 – Port #4 Worst Case



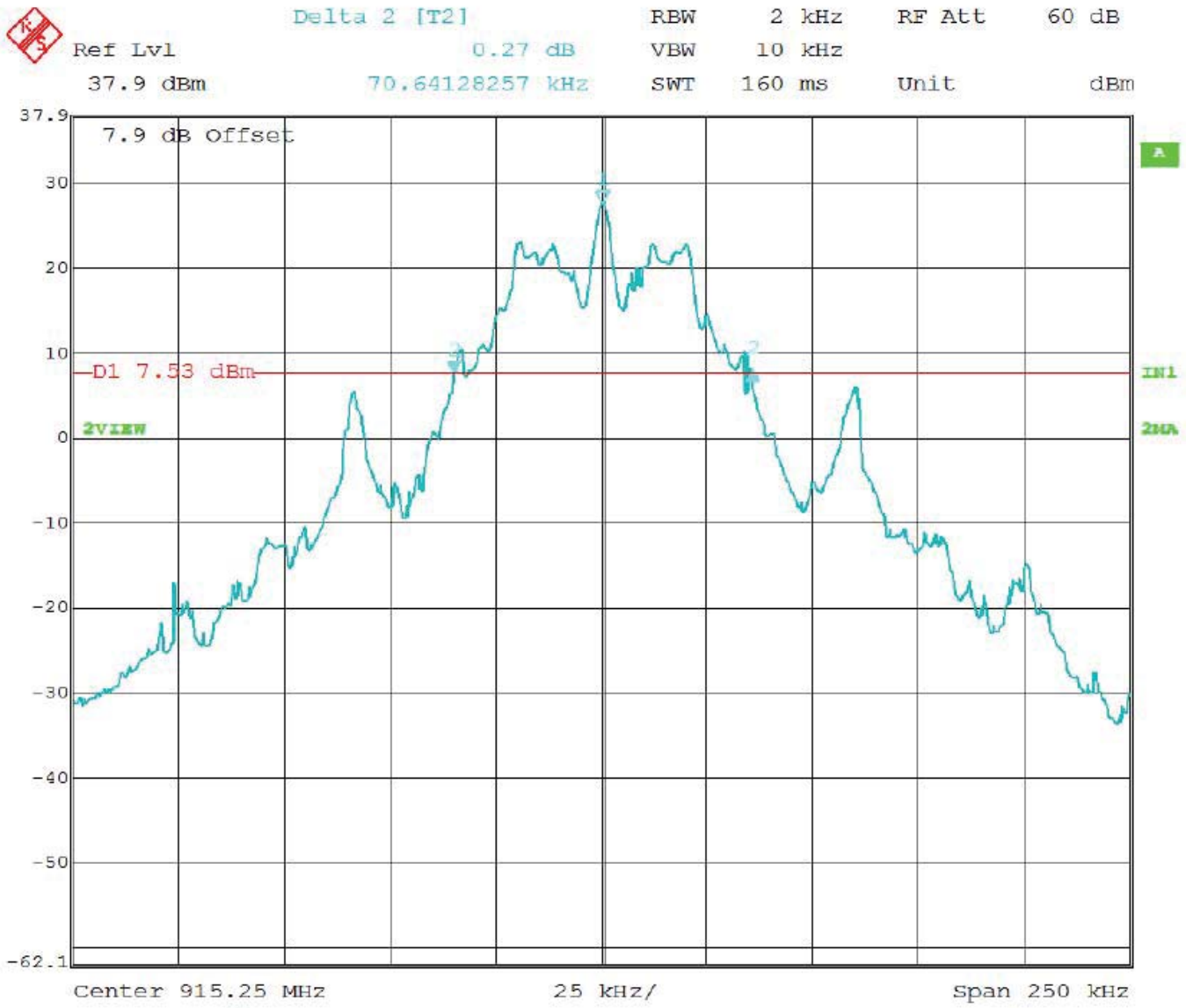
Date: 20.APR.2016 10:42:17

Band Edge – High Channel – Frequency Hopping Mode – Configuration #3 – Port #4 Worst Case

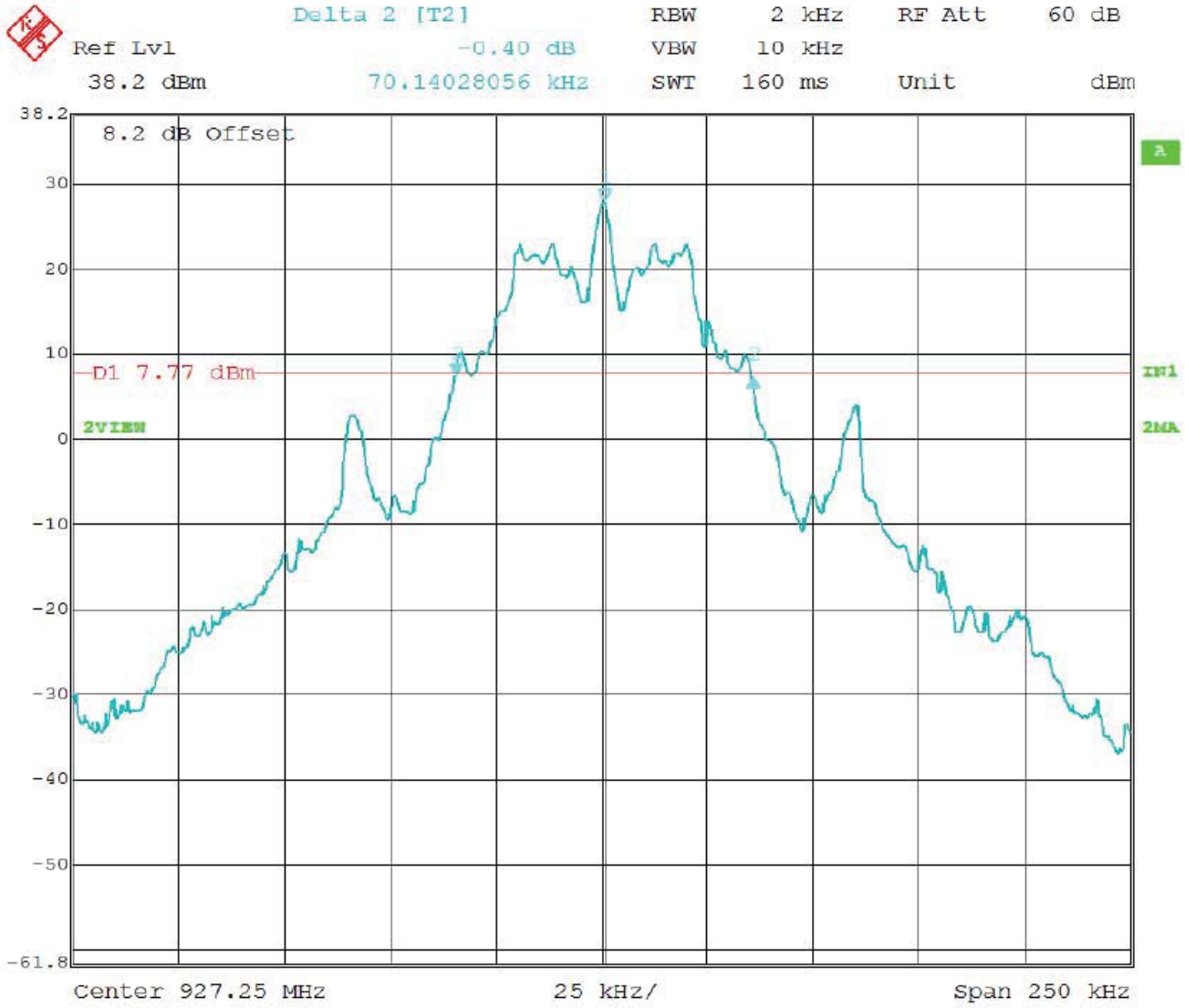
-20 DB BANDWIDTH DATA SHEETS



-20 dB Bandwidth – Low Channel

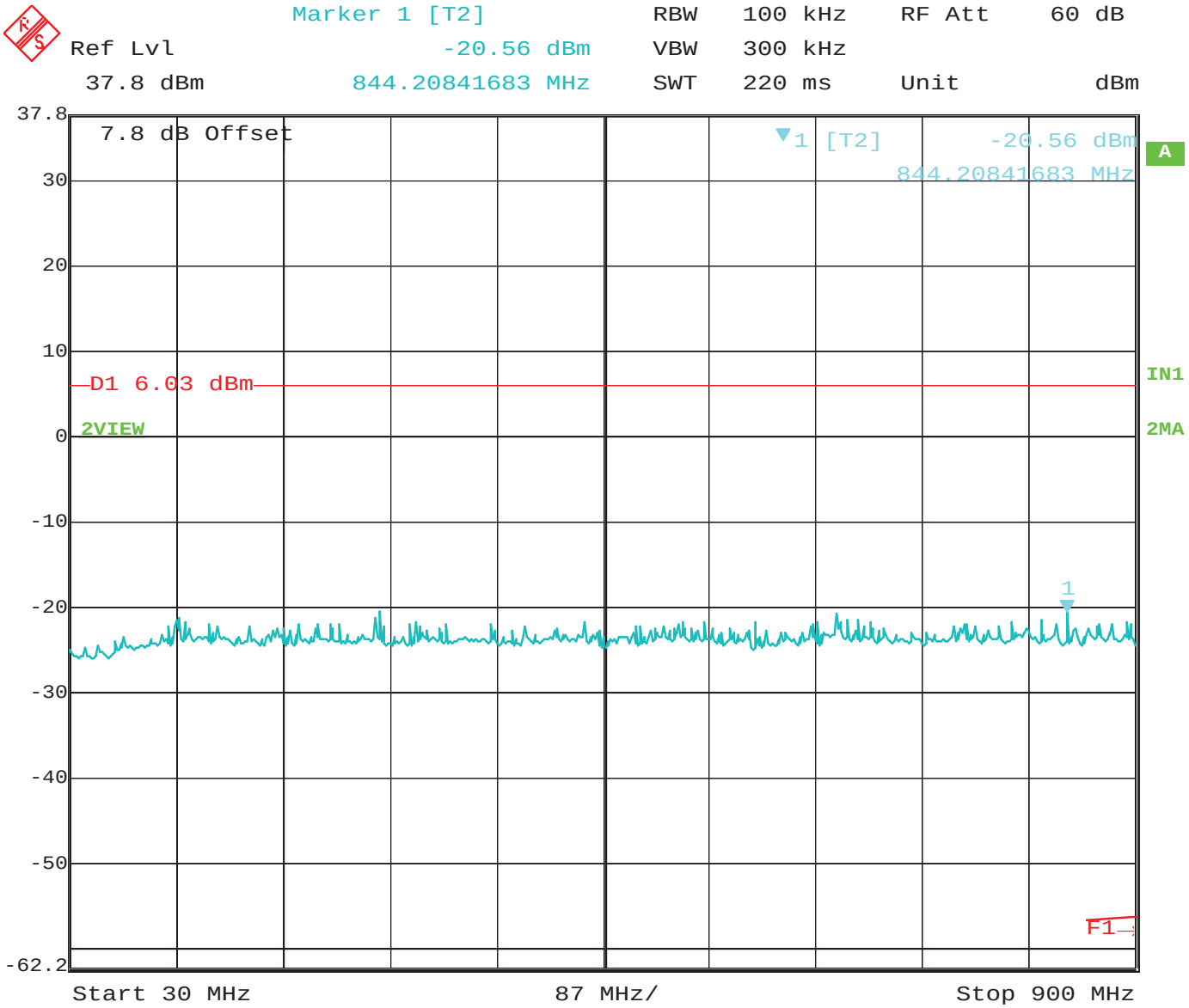


-20 dB Bandwidth – Middle Channel



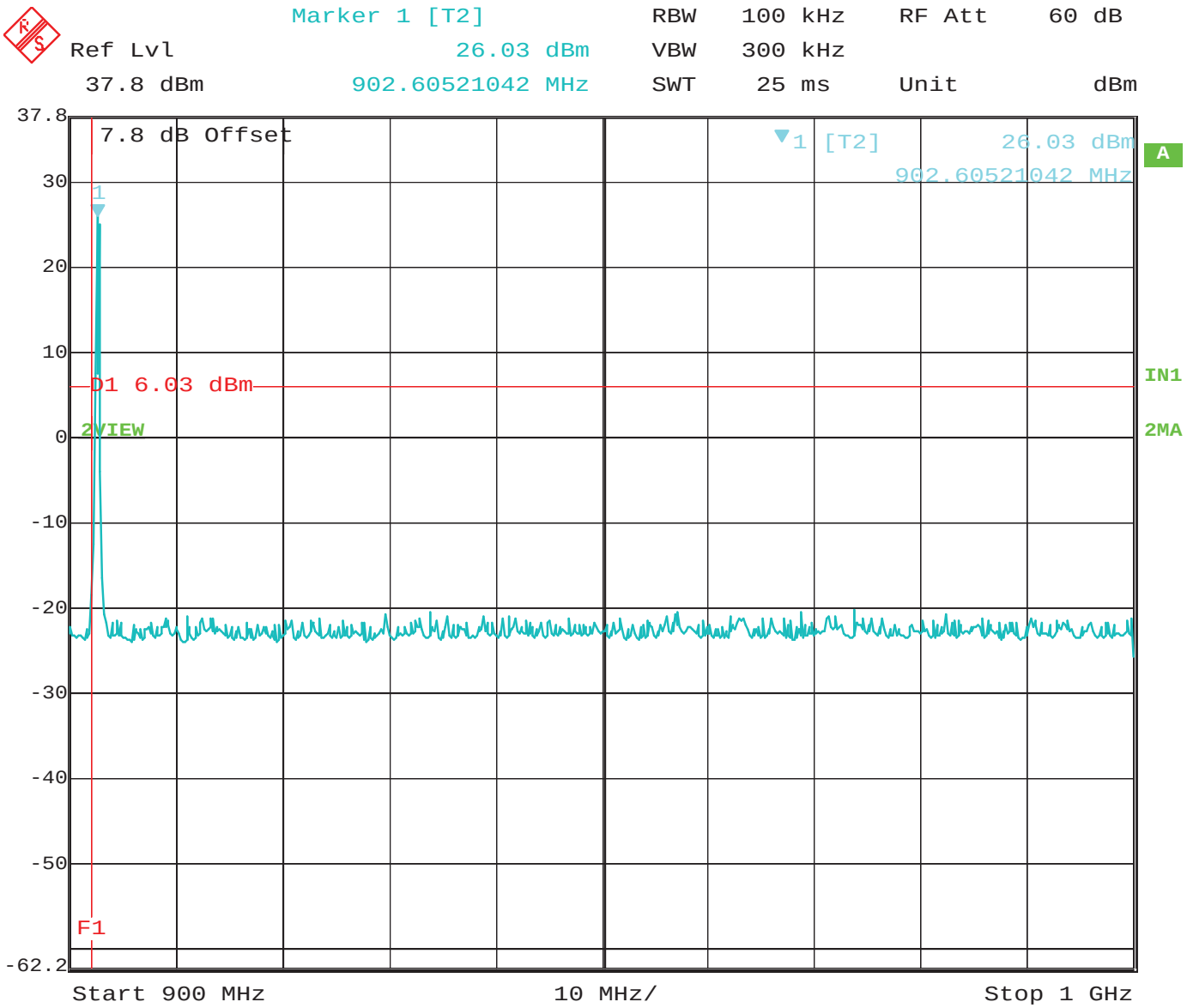
-20 dB Bandwidth – High Channel

RF ANTENNA CONDUCTED DATA SHEETS



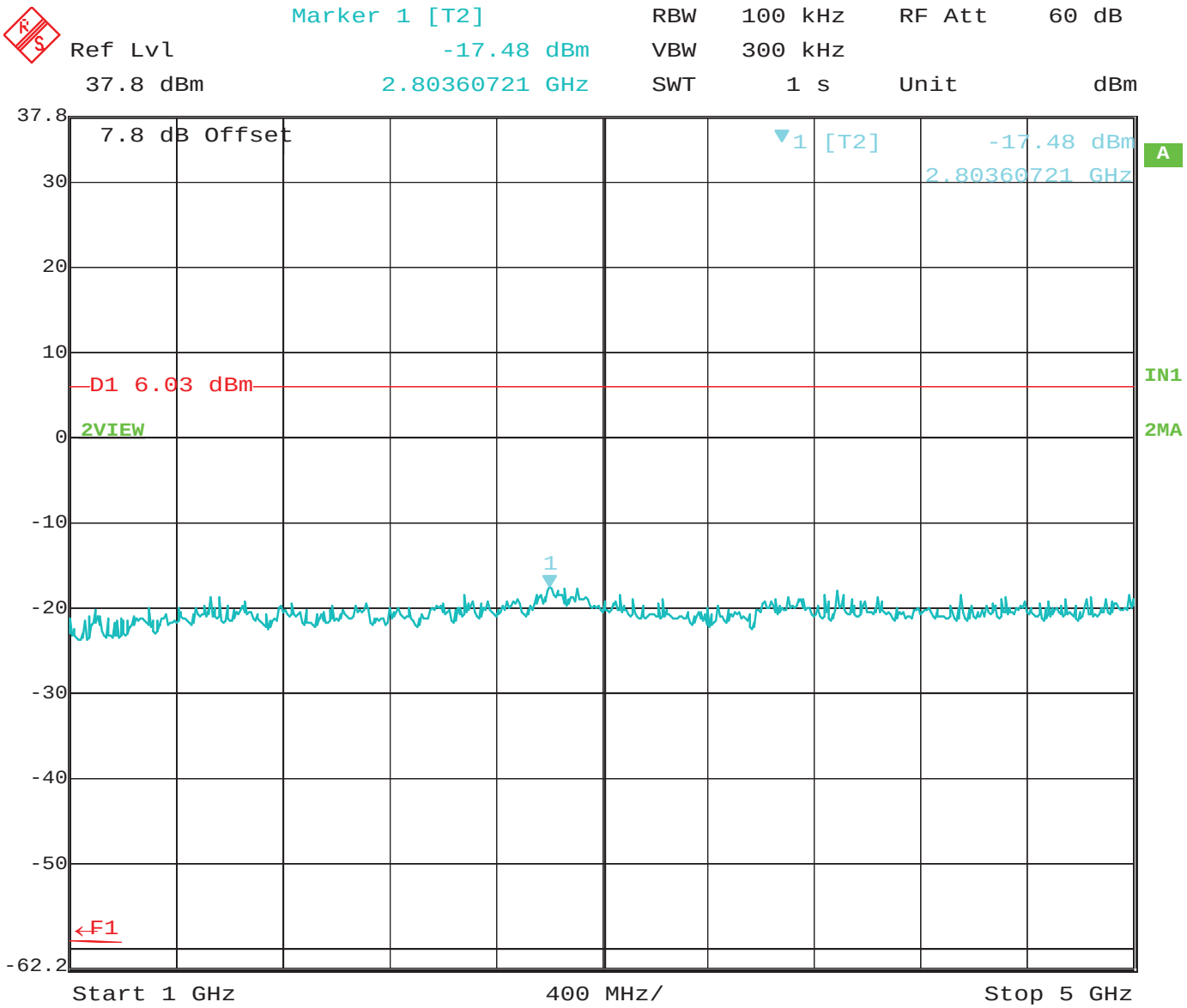
Date: 20.APR.2016 10:23:44

RF Antenna Conducted – Low Channel – 30 MHz to 900 MHz – Configuration #3 – Port #3 Worst Case



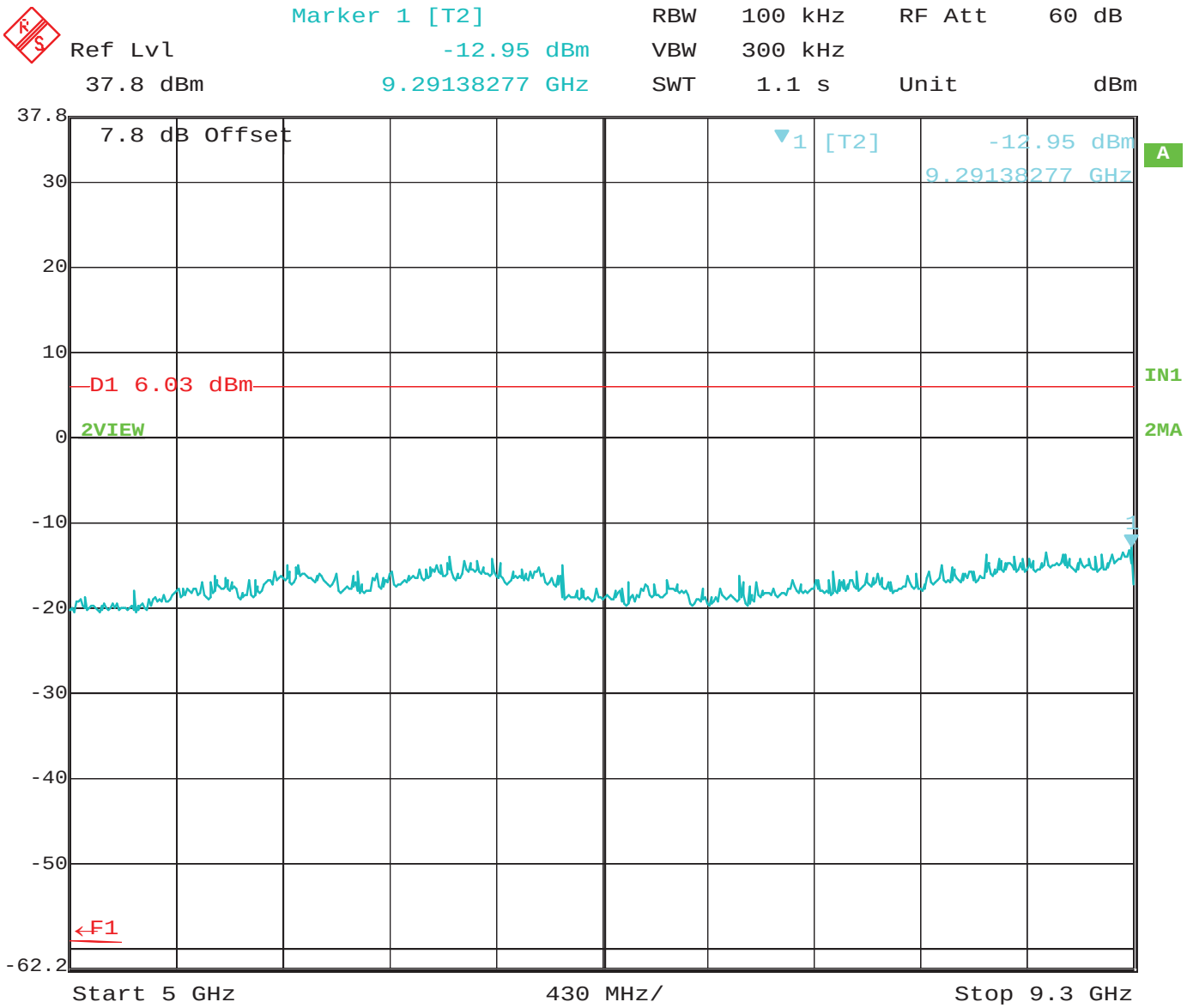
Date: 20.APR.2016 10:22:53

RF Antenna Conducted – Low Channel – 900 MHz to 1 GHz – Configuration #3 – Port #3 Worst Case



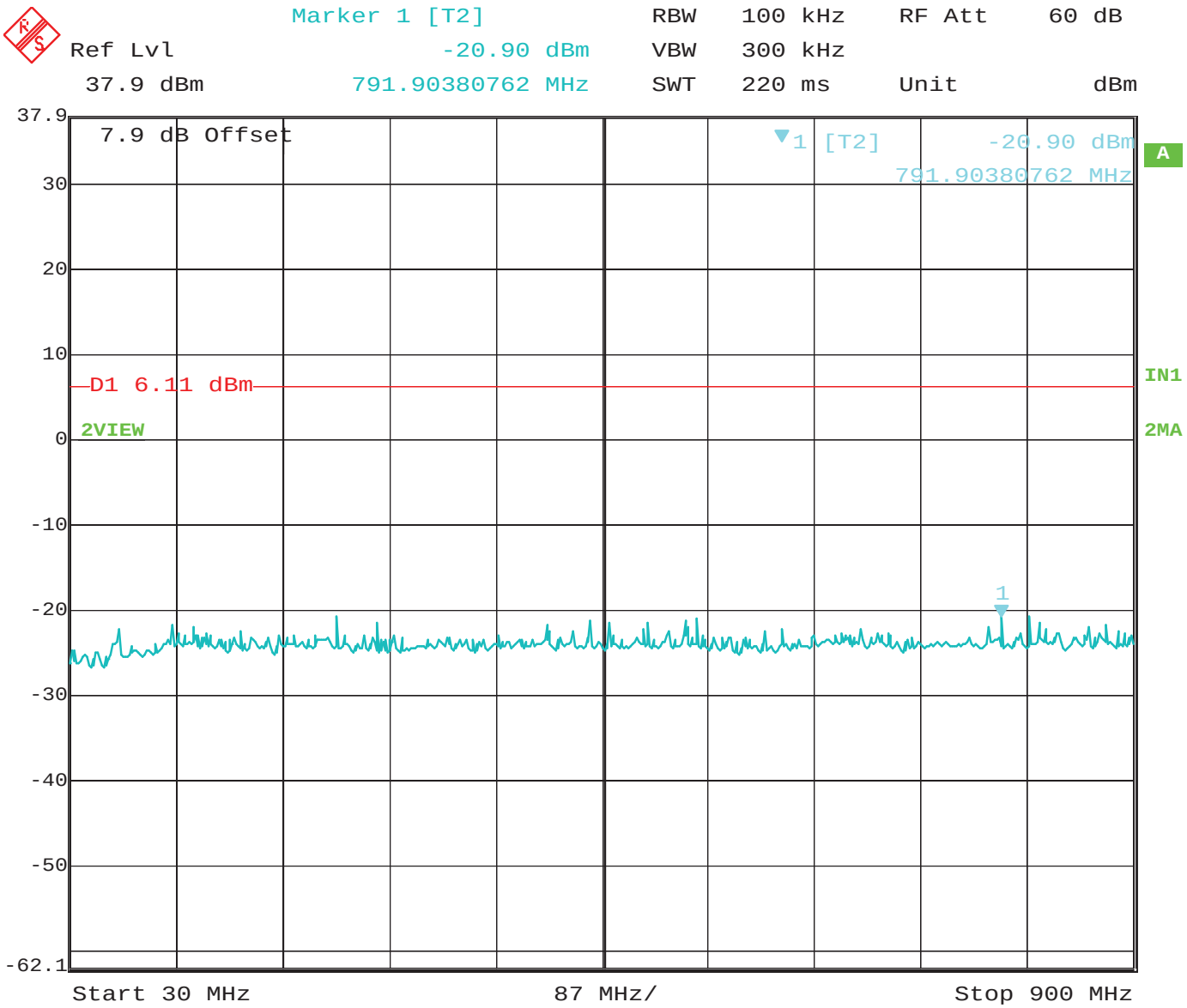
Date: 20.APR.2016 10:24:12

RF Antenna Conducted – Low Channel – 1 GHz to 5 GHz – Configuration #3 – Port #3 Worst Case



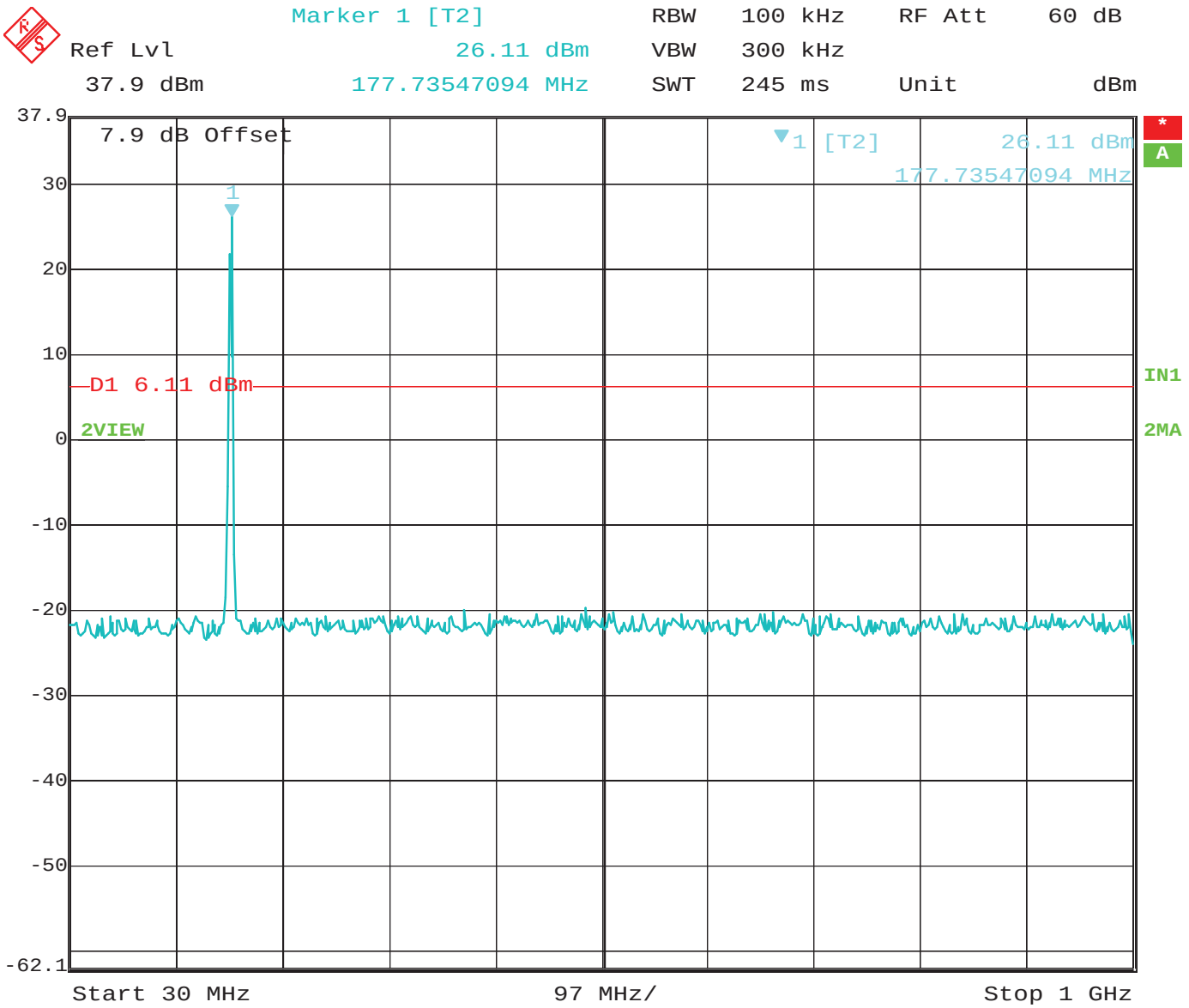
Date: 20.APR.2016 10:25:10

RF Antenna Conducted – Low Channel – 5 GHz to 9.3 GHz – Configuration #3 – Port #3 Worst Case



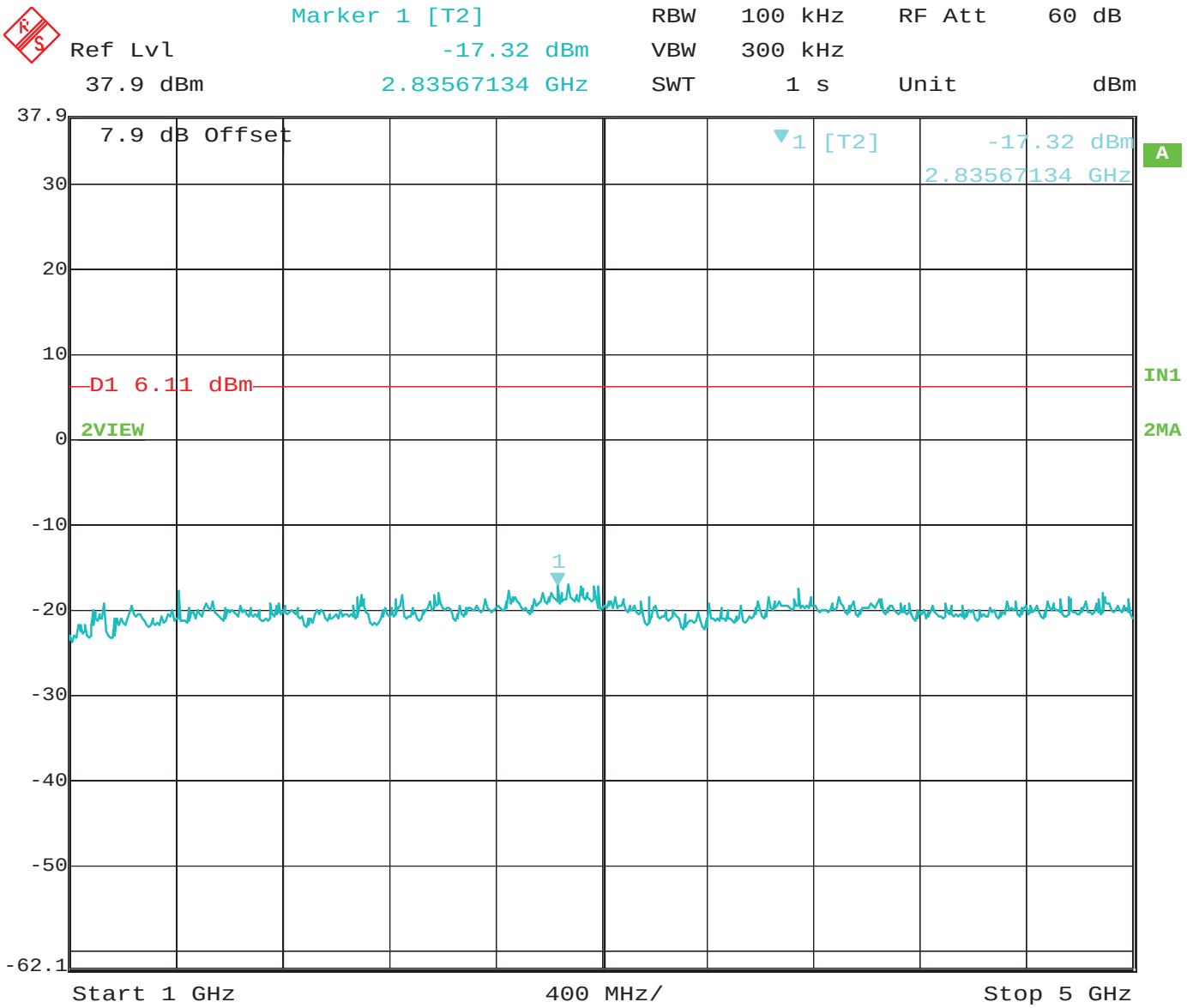
Date: 20.APR.2016 11:30:33

RF Antenna Conducted – Middle Channel – 30 MHz to 900 MHz – Configuration #3 – Port #4 Worst Case



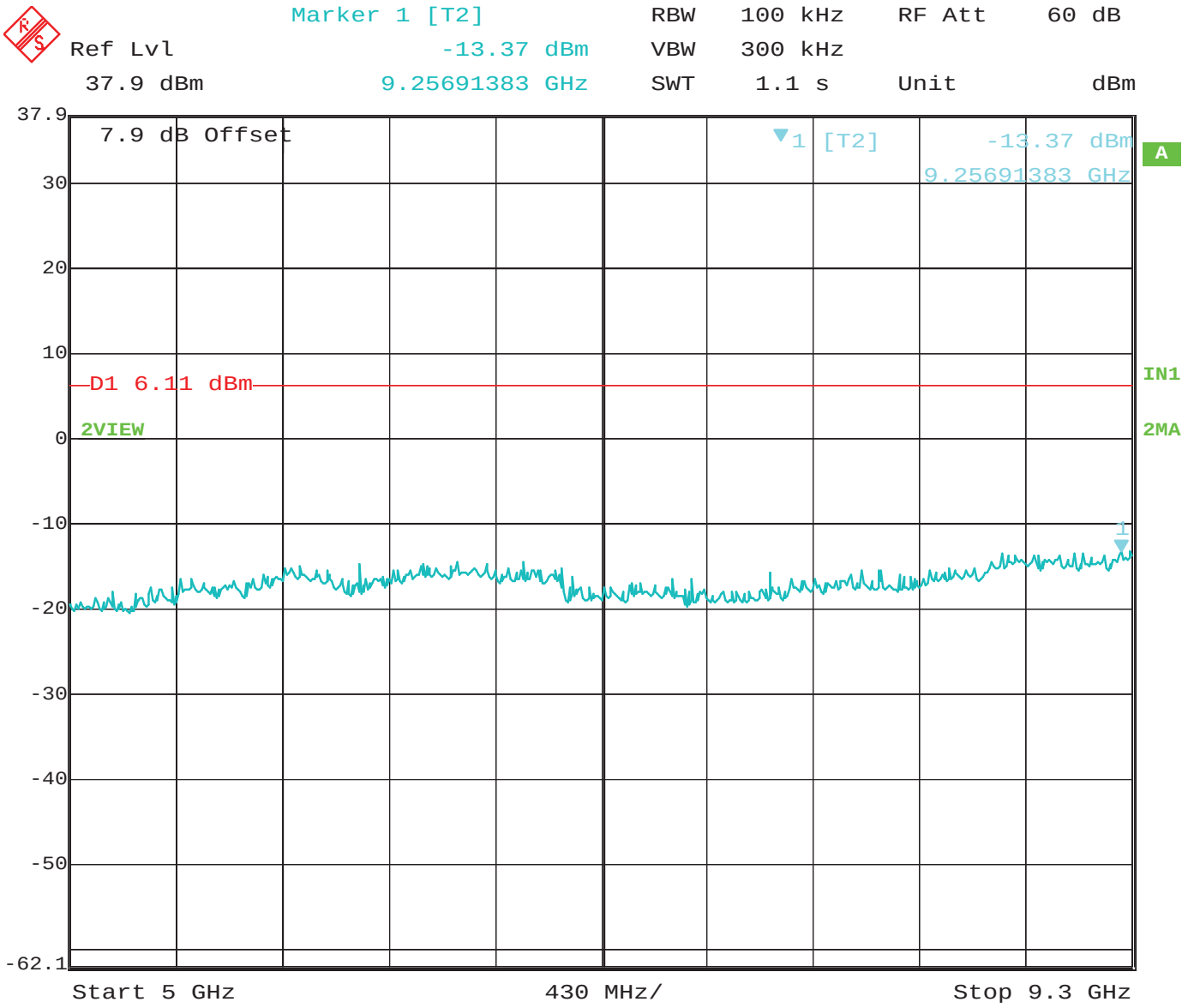
Date: 20.APR.2016 11:30:07

RF Antenna Conducted – Middle Channel – 900 MHz to 1 GHz – Configuration #3 – Port #4 Worst Case



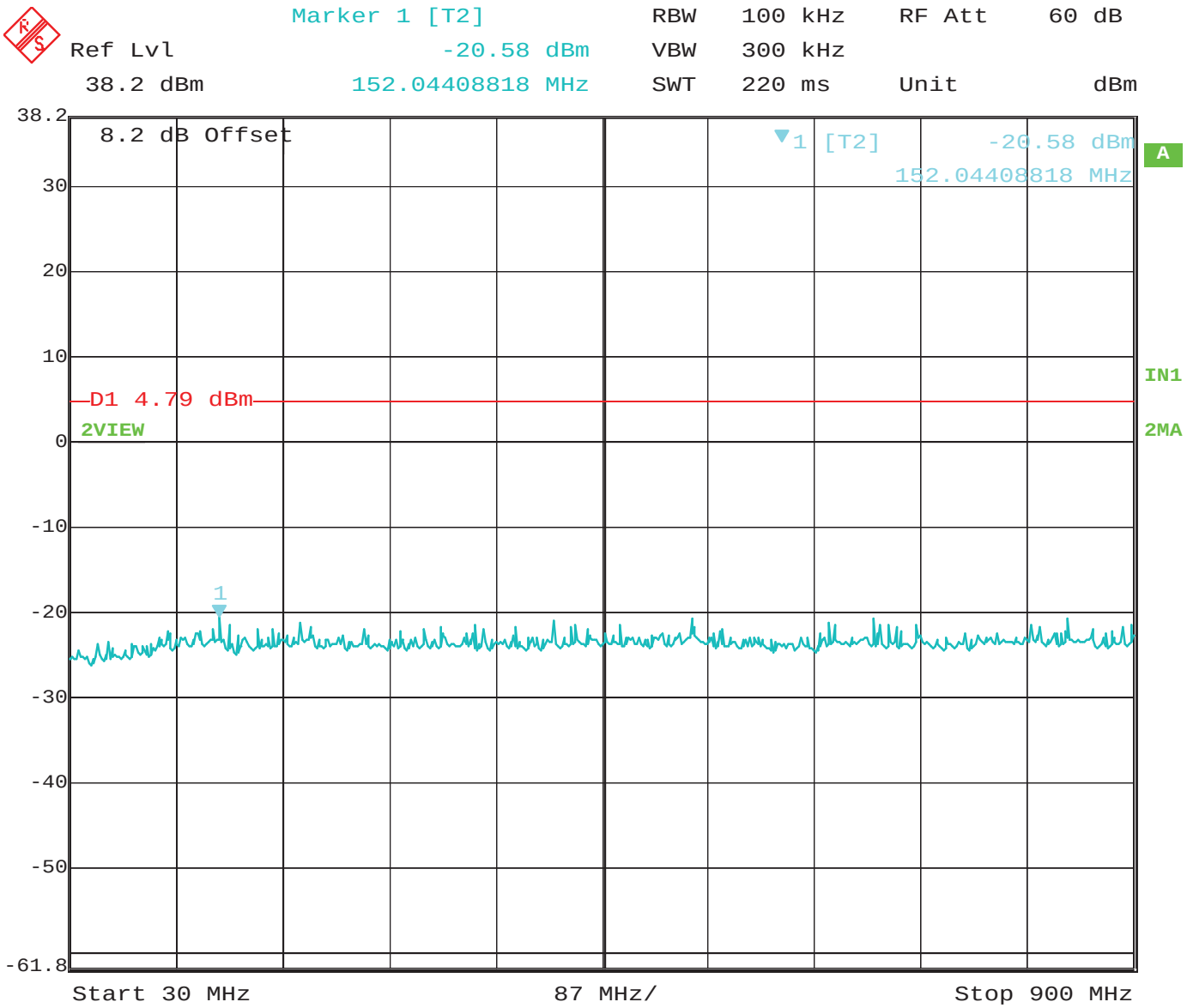
Date: 20.APR.2016 11:31:03

RF Antenna Conducted – Middle Channel – 1 GHz to 5 GHz – Configuration #3 – Port #4 Worst Case



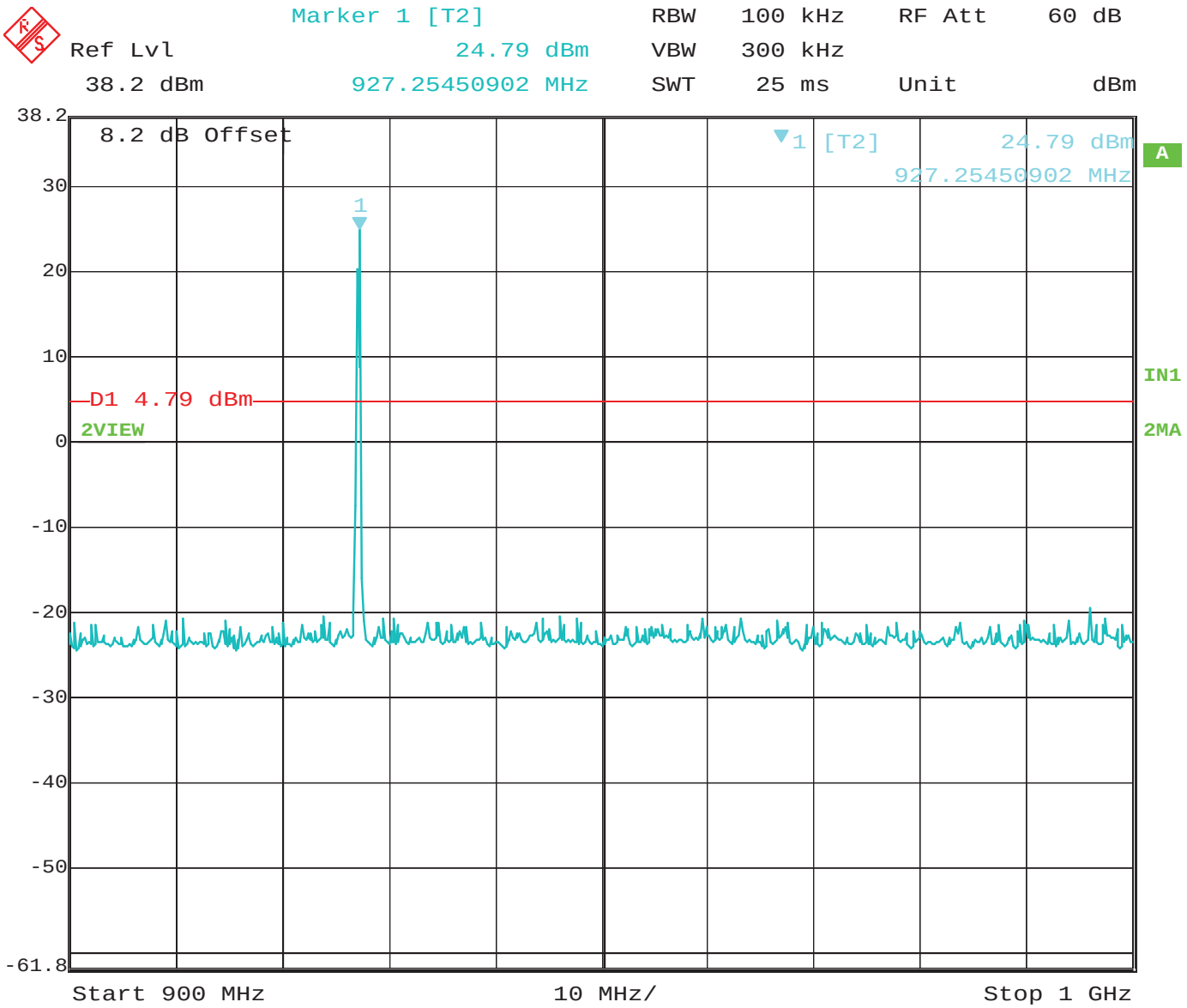
Date: 20.APR.2016 11:31:30

RF Antenna Conducted – Middle Channel – 5 GHz to 9.3 GHz – Configuration #3 – Port #4 Worst Case



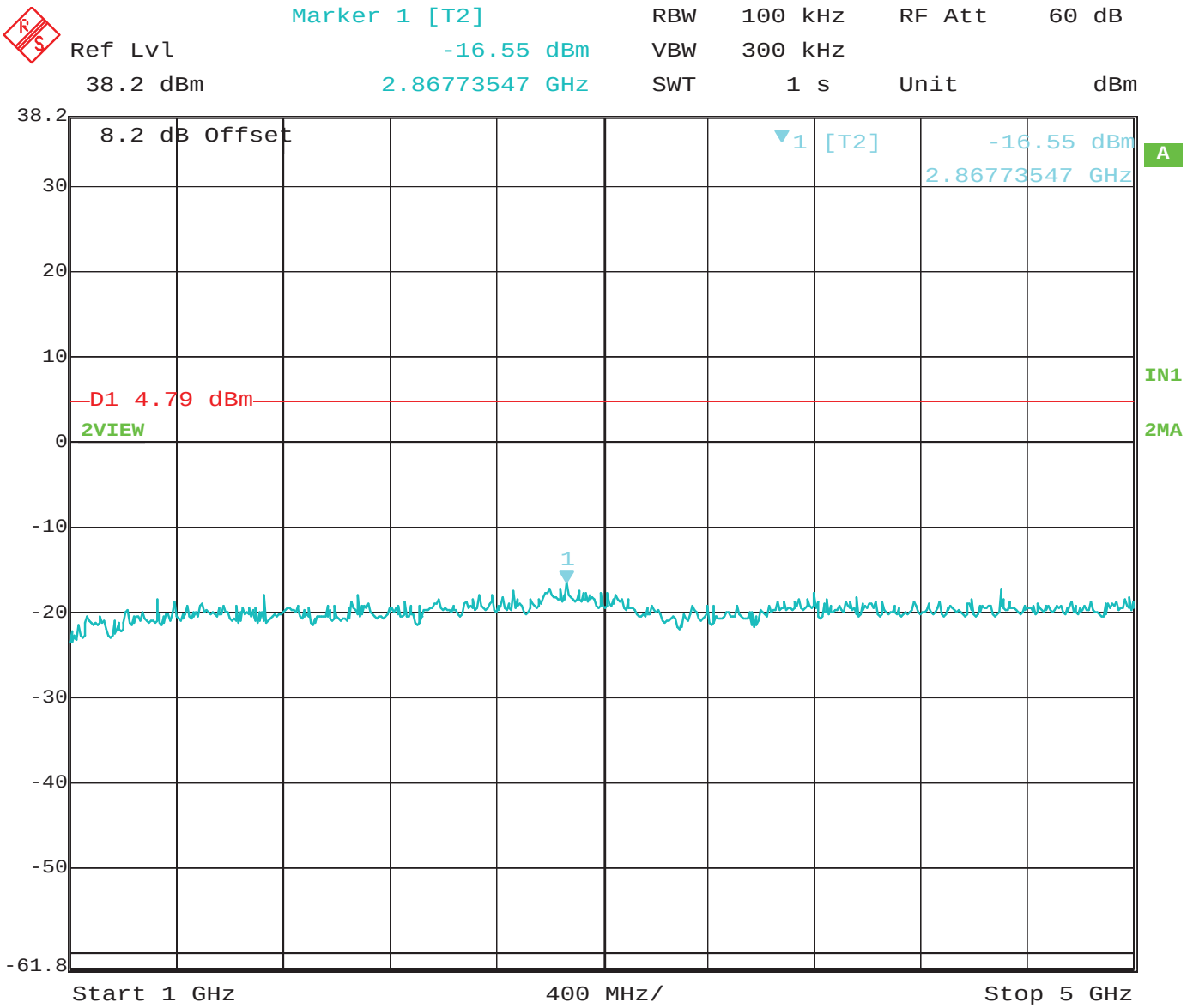
Date: 20.APR.2016 10:55:30

RF Antenna Conducted – High Channel – 30 MHz to 900 MHz – Configuration #3 – Port #4 Worst Case



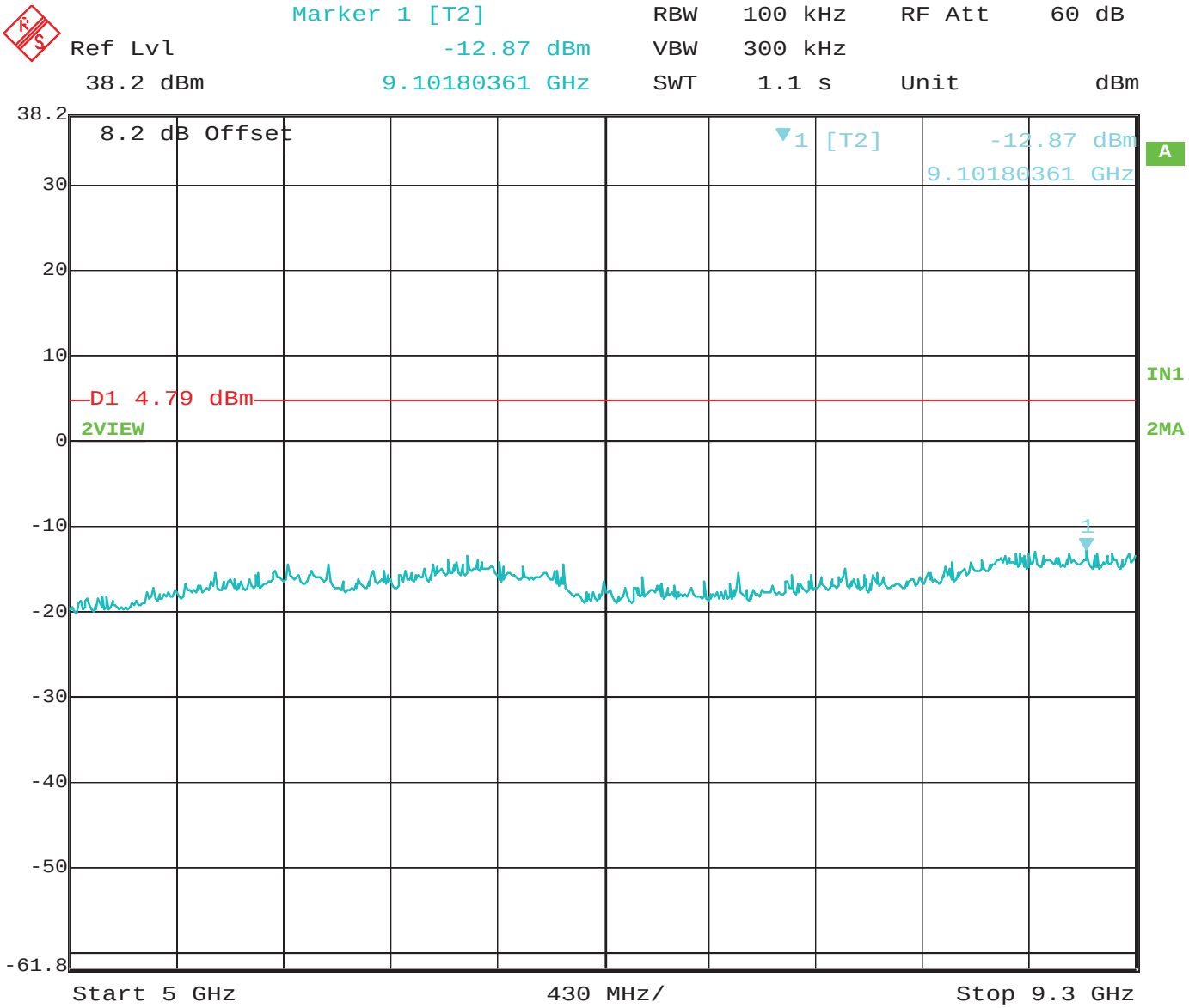
Date: 20.APR.2016 10:55:03

RF Antenna Conducted – High Channel – 900 MHz to 1 GHz – Configuration #3 – Port #4 Worst Case



Date: 20.APR.2016 10:56:07

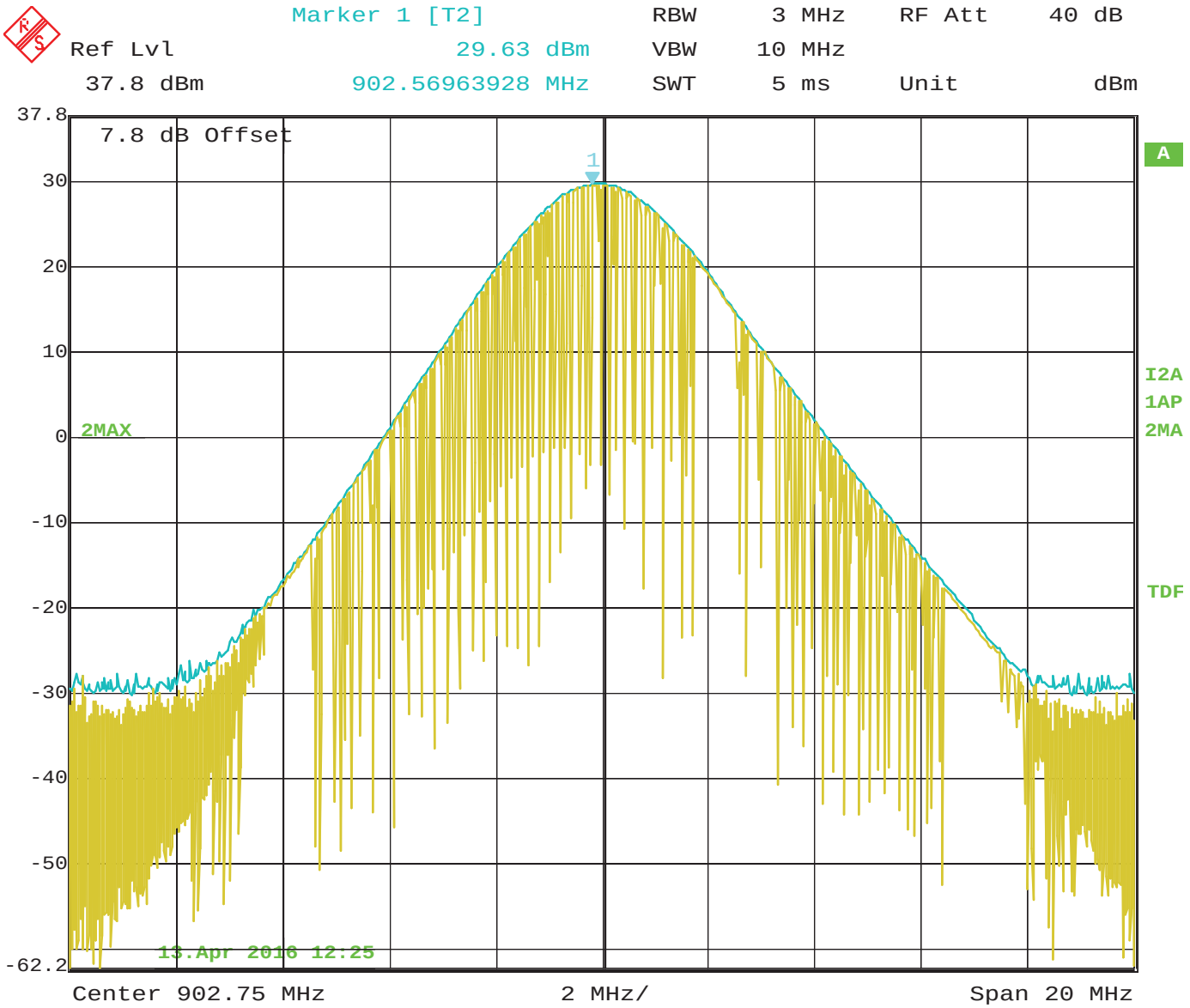
RF Antenna Conducted – High Channel – 1 GHz to 5 GHz – Configuration #3 – Port #4 Worst Case



Date: 20.APR.2016 10:56:35

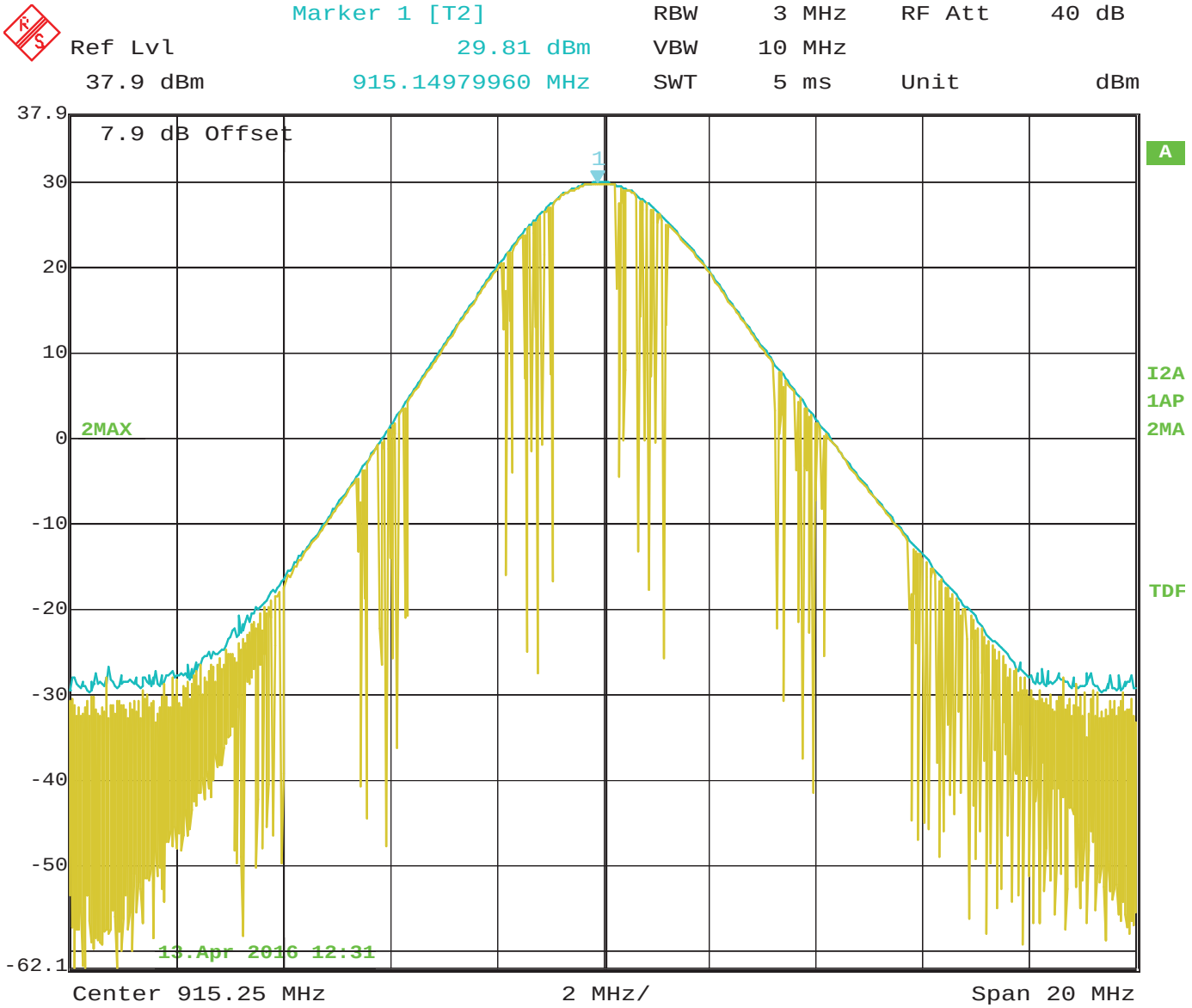
RF Antenna Conducted – High Channel – 5 GHz to 9.3 GHz – Configuration #3 – Port #4 Worst Case

PEAK POWER OUTPUT DATA SHEETS



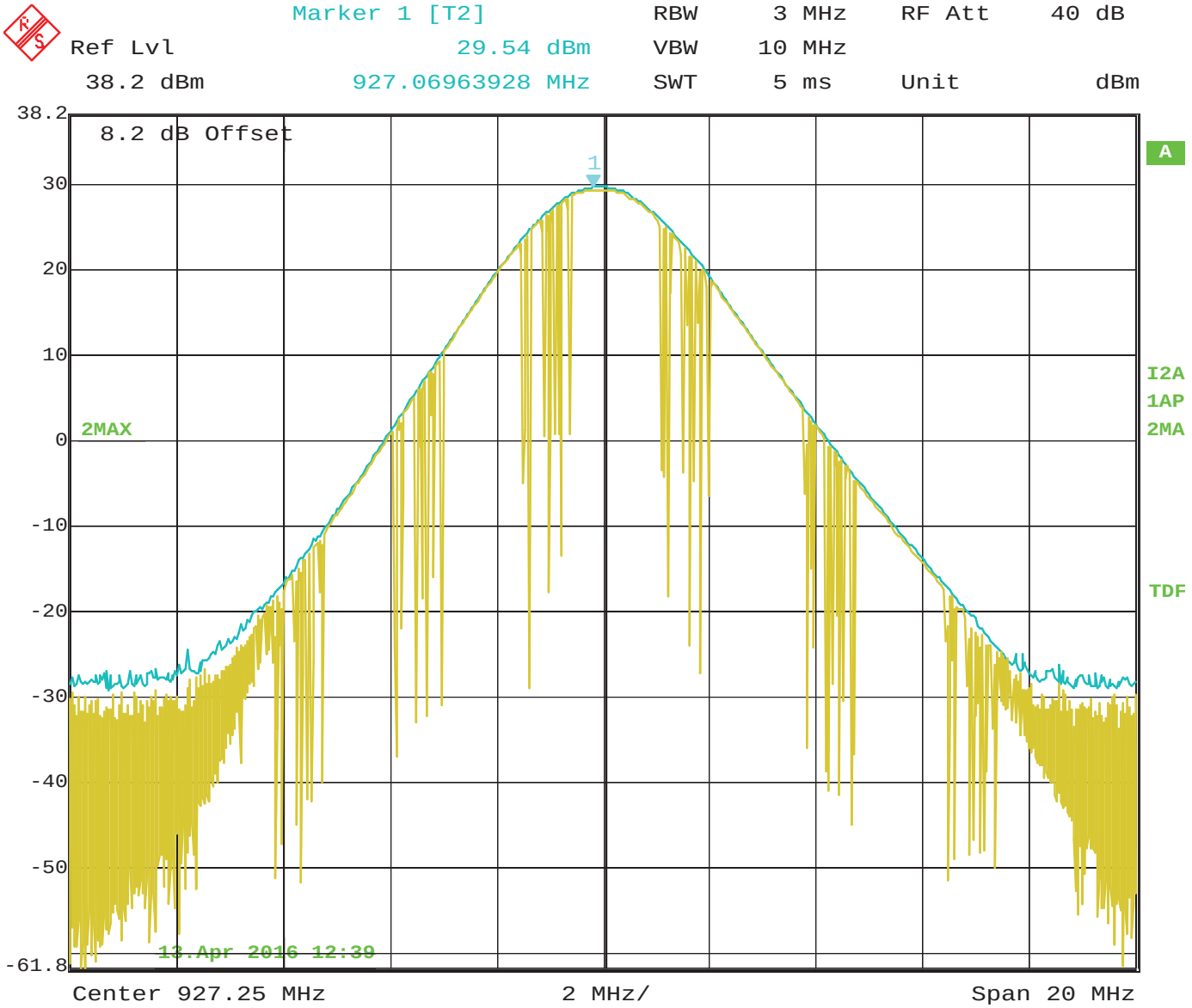
Date: 13.APR.2016 12:25:59

Peak Power Output – Low Channel – Configuration #3 – Port #3 Worst Case



Date: 13.APR.2016 12:31:56

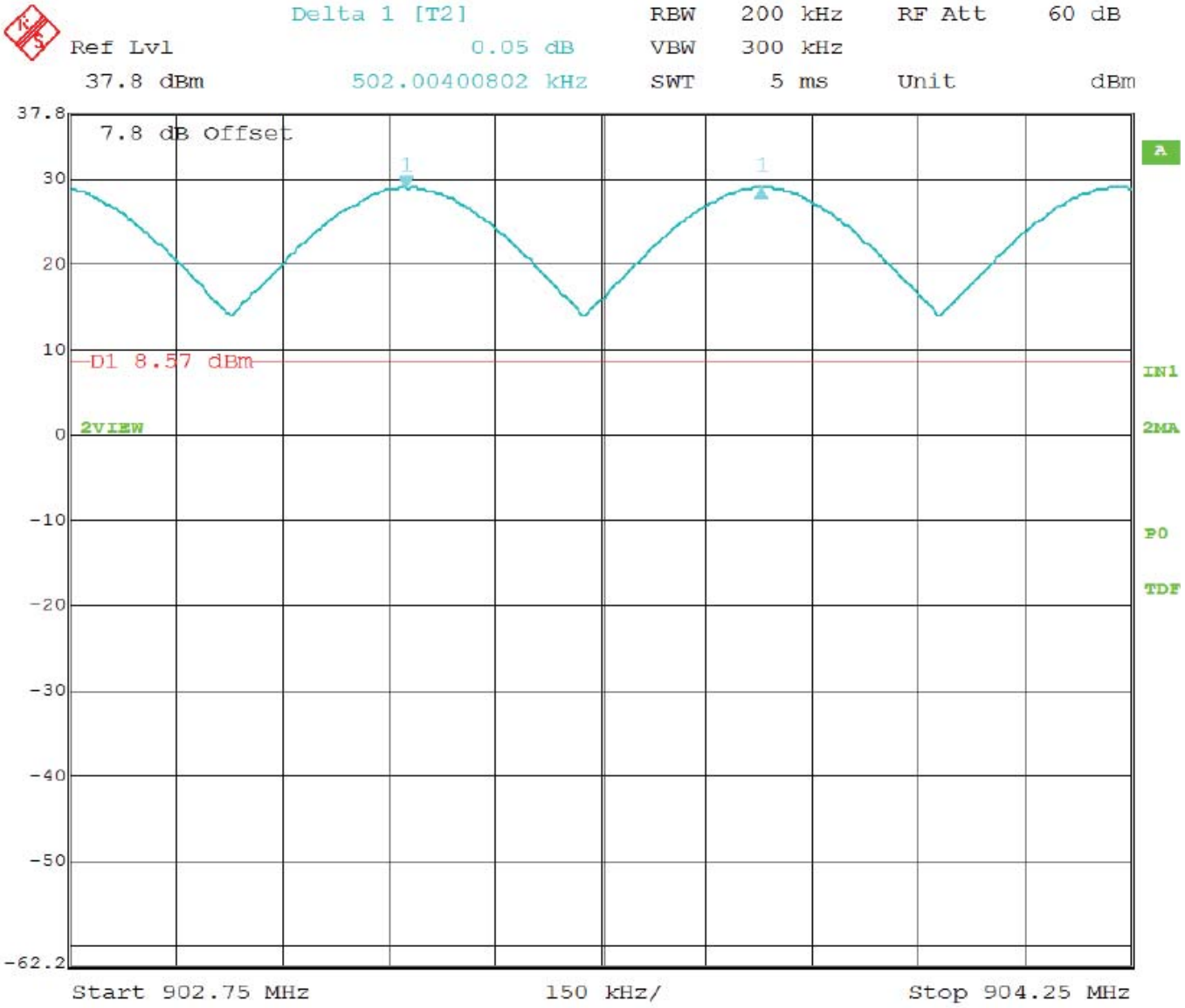
Peak Power Output – Middle Channel – Configuration #3 – Port #4 Worst Case



Date: 13.APR.2016 12:39:15

Peak Power Output – High Channel – Configuration #3 – Port #4 Worst Case

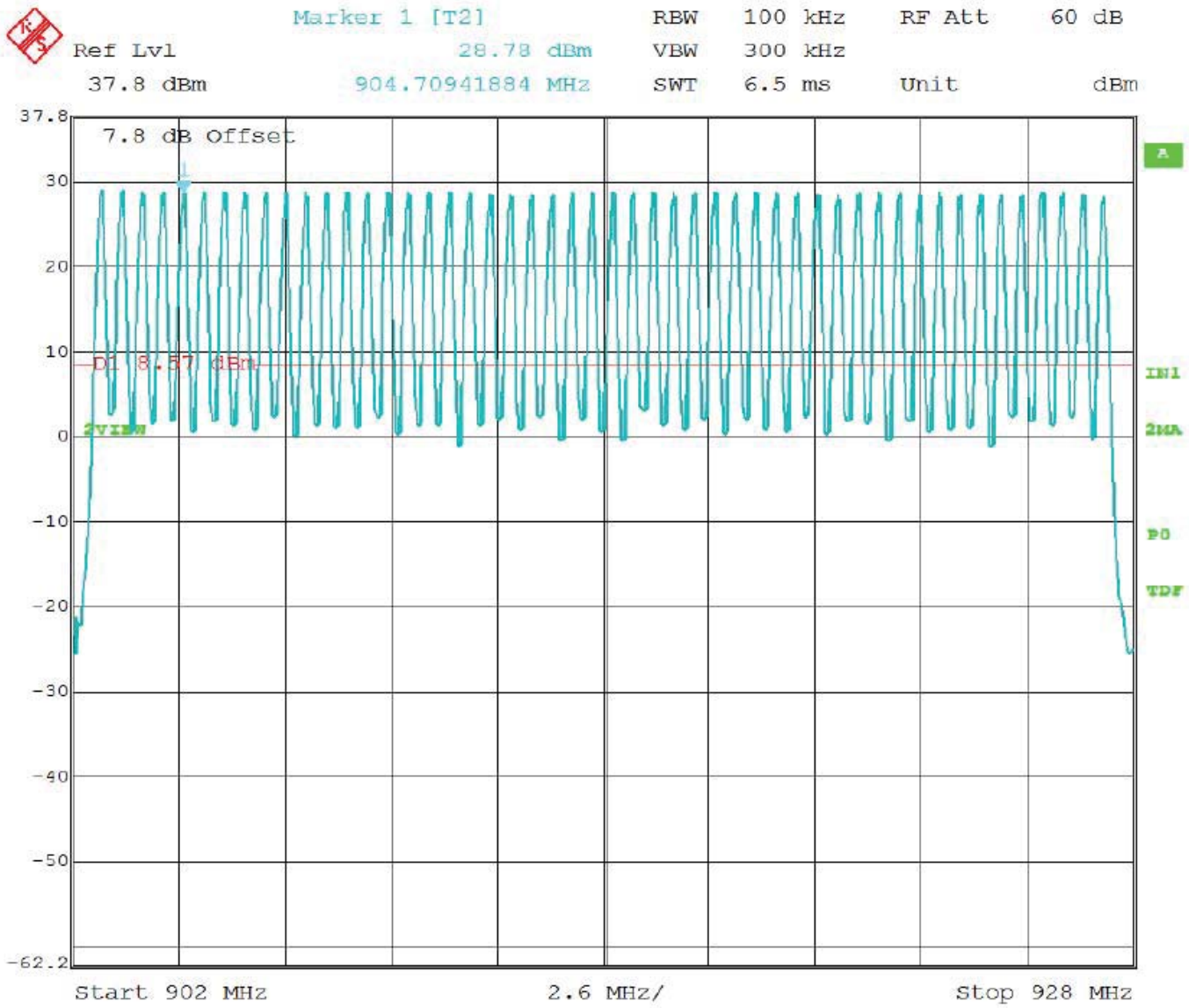
CHANNEL FREQUENCY SEPARATION DATA SHEET



Channel Frequency Separation

NUMBER OF FREQUENCIES

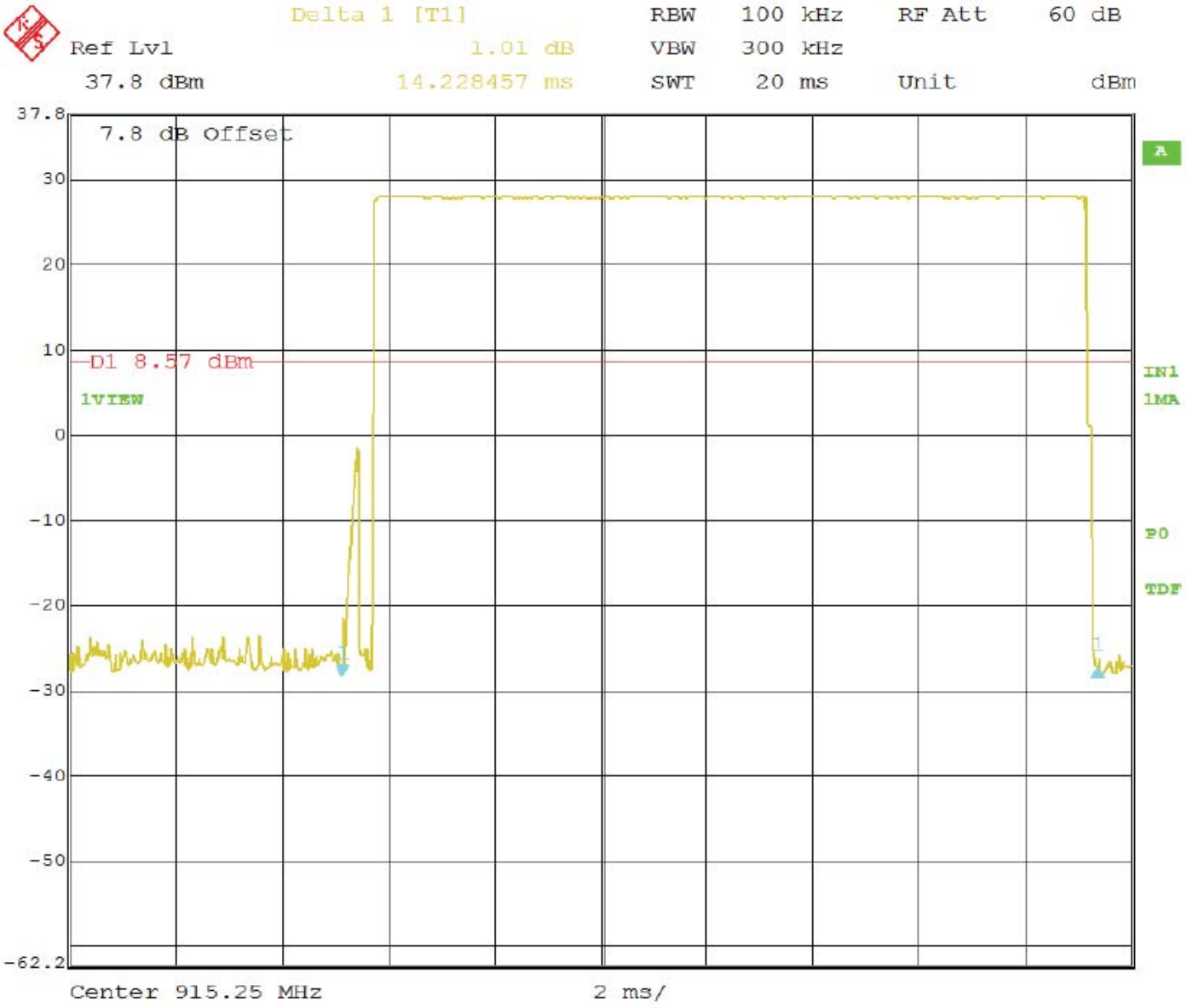
DATA SHEET



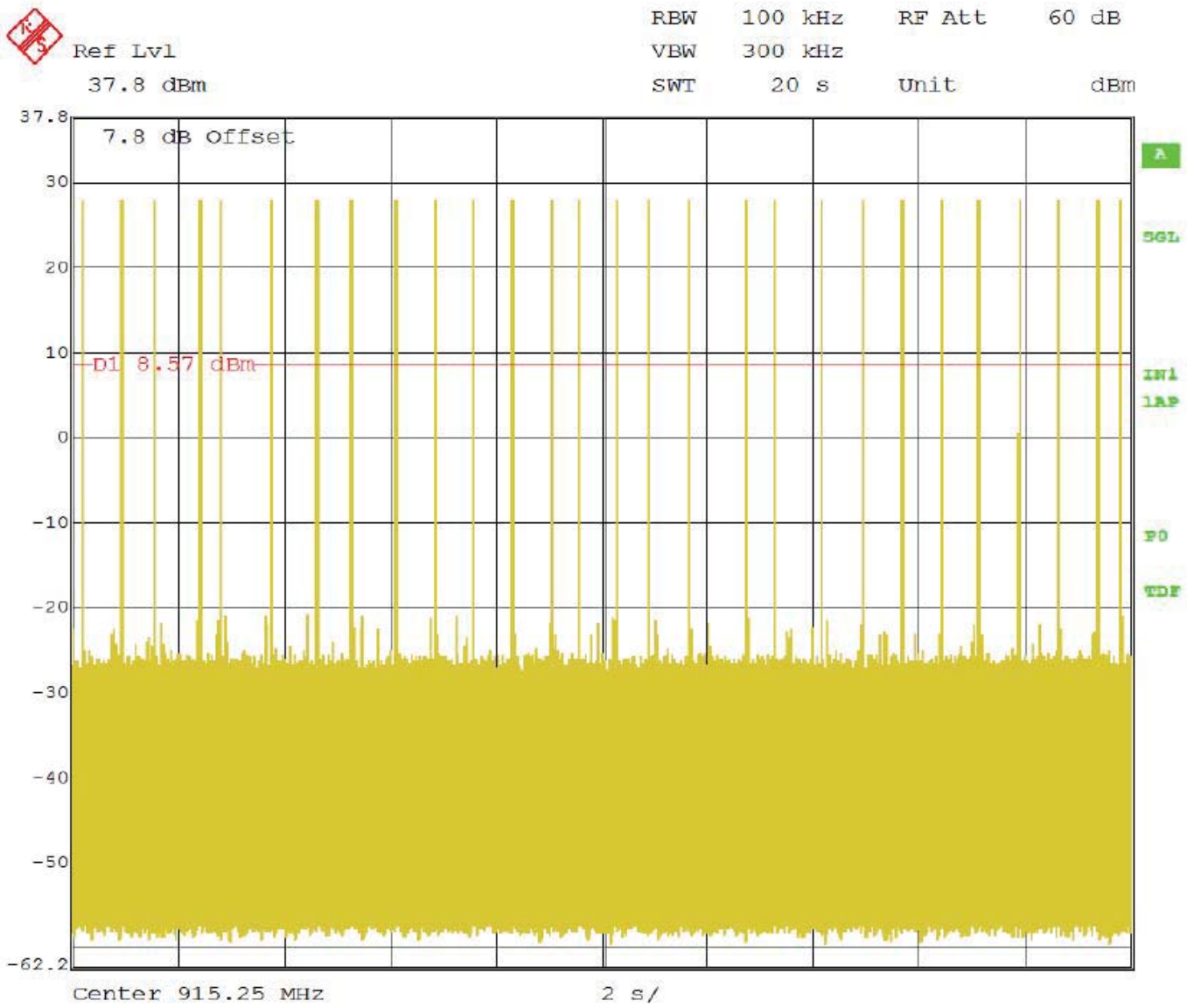
Number of Channels is 50

TIME OF OCCUPANCY

DATA SHEET



Time of One Pulse



Worst Case of 28 pulses in 20 seconds
Total Dwell Time = 14.228457 * 28 = 398.397 ms
Limit = 400 ms in a 20 second period