FCC PART 15, SUBPART B and C
SECTION 15.247
TEST REPORT

for

RFID READER

MODEL: STAR SYSTEM
FCC ID: VEDSTAR1000

Prepared for

MOJIX, INC.
11075 SANTA MONICA BLVD SUITE 350
LOS ANGELES, CA 90025

Prepared by:_____

REYNALD O. RAMIREZ

Approved by:_____

RUBY A. HALL

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2337 TROUTDALE DRIVE
AGOURA, CALIFORNIA 91301
(818) 597-0600

DATE: FEBRUARY 16, 2009

	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 endorsement by NVLAP, NIST or any other agency of the U.S. Government.

Device Tested:	RFID Reader Model: STAR SYSTEM S/N: N/A
Product Description:	This is an RFID Reader.
Modifications:	The EUT was modified during the testing in order to comply with specifications. See appendix B for list of modifications.
Manufacturer:	Mojix Inc. 11075 Santa Monica Blvd. Suite 350 Los Angeles, CA 90025
Test Dates:	January 22, 23, 26 & May 12, 2009
Test Specifications:	EMI requirements CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.31, 15.205, 15.209, and 15.247
Test Procedure:	ANSI C63.4: 2003 FCC Public Notice (Document Number: DA 00-705)
Test Deviations:	The test procedure was not deviated from during the testing.

SUMMARY OF TEST RESULTS

TEST	DESCRIPTION	RESULTS
1	Spurious Radiated RF Emissions, 30 MHz – 1000 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 15.209
2	Spurious Radiated RF Emissions, 9 kHz – 30 MHz and 1000 MHz – 10,000 MHz	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247(d)
3	Fundamental and Emissions produced by the intentional radiator in non-restricted bands, 9 kHz – 10 GHz	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247(d)
4	Emissions produced by the intentional radiator in restricted bands, 9 kHz – 10 GHz	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.205, 15.209(a), and section 15.247 (d)
5	20 dB Bandwidth	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247(a)(1)(i)
6	Peak Power Output	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247 (b)(2)
7	RF Conducted Antenna Test	Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247 (d)
8	Channel Hopping Separation	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C.
9	Average Time of Occupancy	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247 (a)(1)(i)
10	Voltage Variation Test	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.231(e)

1. PURPOSE

This document is a qualification test report based on the Electromagnetic Interference (EMI) tests performed on the RFID Reader, Model: STAR SYSTEM. The EMI measurements were performed according to the measurement procedure described in ANSI C63.4: 2003. 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 15.31, 15.205, 15.209, and 15.247.

Note: For the unintentional radiator portion of the test, the EUT was within the **Class B** specification limits defined by CFR Title 47, Part 15, Subpart B.

2. ADMINISTRATIVE DATA

2.1 Location of Testing

The EMI tests described herein were performed at the test facility of Compatible Electronics, 2337 Troutdale Drive, Agoura, California 91301.

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.

Dr. John Gevargiz	V.P. Engineering

Compatible Electronics, Inc.

Reynald O. Ramirez	Sr. Test Engineer
Ruby A. Hall	Lab Manager – Agoura Division

2.4 Date Test Sample was Received

Jan. 22, 2009

2.5 Disposition of the Test Sample

The sample was returned to Mojix, Inc.

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
CML	Corrected Meter Limit
LISN	Line Impedance Stabilization Network

3. APPLICABLE DOCUMENTS

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

SPEC	TITLE
FCC Title 47, Part 15 Subpart C	FCC Rules - Radio frequency devices (including digital devices) – Intentional Radiators
ANSI C63.4 2003	Methods of measurement of radio-noise emissions from low-voltage electrical and electronic equipment in the range of 9 kHz to 40 GHz
FCC Title 47, Part 15 Subpart B	FCC Rules - Radio frequency devices (including digital devices) – Unintentional Radiators
FCC Public Notice – DA 00-705	Filing and Measurement Guidelines for Frequency Hopping Spread Spectrum Systems

4. DESCRIPTION OF TEST CONFIGURATION

4.1 Description of Test Configuration - EMI

The RFID Reader, Model: STAR SYSTEM (EUT) was set up on a tabletop configuration. The antenna was connected to the eMUX and the eMUX was connected to the 4 port eNode. During operation, the receiver which was connected to the eMUX and power supply which were both remotely located commands the transmitter to turn on and transmit to an RFID tag. The tag then responds and the receiver decodes the tag data. For Conducted Emissions the Receiver and power supply were on a tabletop configuration with the transmitter remotely located from the test setup.

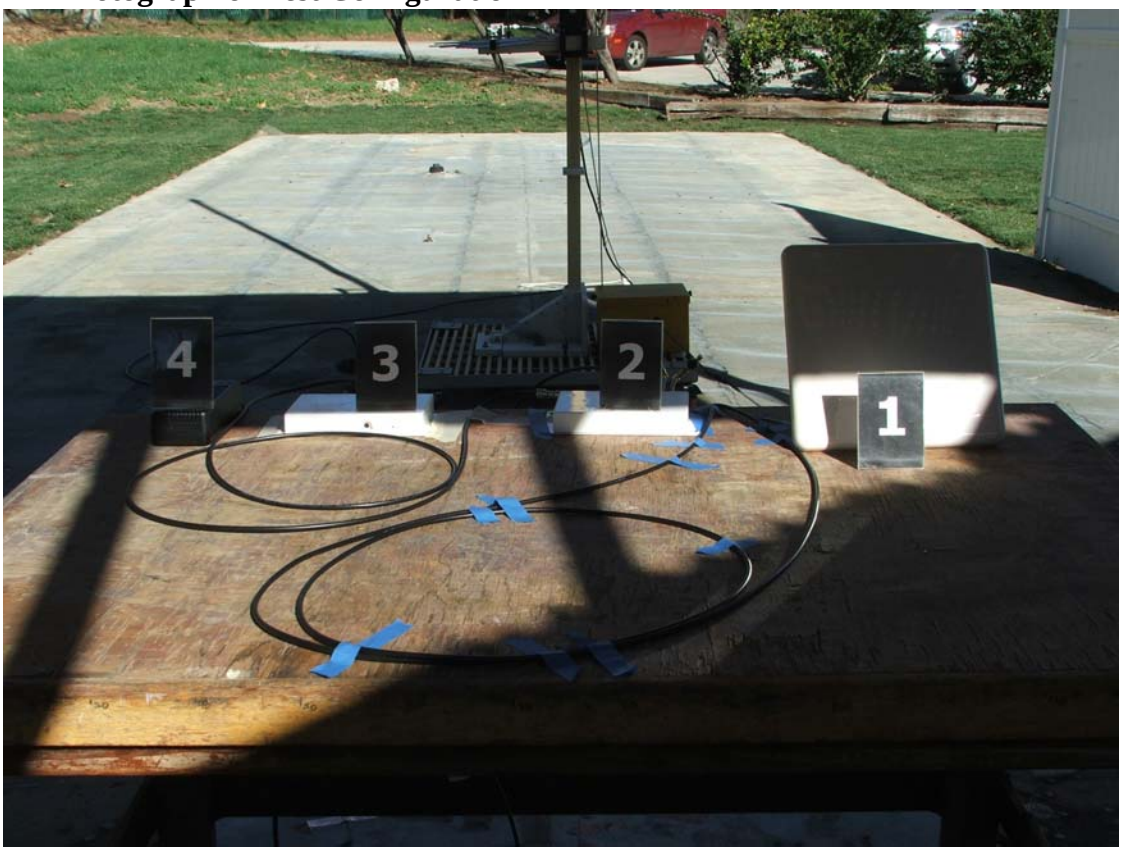
For the intentional radiator and conducted emission portion of the test – The EUT was directly connected to the spectrum analyzer and was in transmitting mode. During the AC conducted emissions test the unit was transmitting in a normal mode of operation. A Laptop with a special program was used to control the channel of the transmitter or to commit the unit to channel hopping mode, depending on the nature of the specific test.

For the unintentional radiator portion of the test – The EUT was placed on the OATS table and was operating in stand by (receive) mode.

For the restricted band emission portion of the test – The EUT was placed on the OATS table and was operating in transmitting mode.

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

4.1.1 Photograph of Test Configuration - EMI



4.1.2 Cable Construction and Termination

Cable 1

This is a 10 ft., shielded, round, coaxial cable that connects the EUT antenna 1 to the 4 port eNode. There is a TNC connector on one end of the cable and a SMA connector on the opposite end of the cable. The shield of the cable was grounded to the chassis via the connectors.

Cable 2

This is a 20cm, shielded, round, cable that connects the 4 port eNode antenna 4 to a 50 ohm terminator. There are SMA connectors at each end of the cable. The shield of the cable at the EUT end was grounded to the chassis via the connectors.

Cable 3

This is a 20cm, shielded, round, cable that connects the 4 port eNode antenna 3 to a 50 ohm terminator. There are SMA connectors at each end of the cable. The shield of the cable at the EUT end was grounded to the chassis via the connectors.

Cable 4

This is a 20cm, shielded, round, cable that connects the 4 port eNode antenna 2 to a 50 ohm terminator. There are SMA connectors at each end of the cable. The shield of the cable at the EUT end was grounded to the chassis via the connectors.

Cable 5

This is a 50 ohm terminator that terminates the OUT port of the 4 port eNode. There are SMA connectors at each end of the cable. The shield of the cable at the EUT end was grounded to the chassis via the connectors.

Cable 6

This is a 10 ft., shielded, round, BNC cable that connects the 4 port eNode to the EMUX. There is a TNC connector on one end of the cable and a SMA connector on the opposite end of the cable. The shield of the cable was grounded to the chassis via the connectors.

Cable 7

This is a 30 ft., shielded, round, BNC cable that connects the EMUX to the STAR receiver. There are TNC connectors at each end of the cable. The shield of the cable was grounded to the chassis via the connectors.

5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

#	EQUIPMENT TYPE	MANUFACTURER	MODEL	SERIAL NUMBER	FCC ID
1	ANTENNA	MTI WIRELESS EDGE	MT-262006/TRH/A/K	00789	N/A
2	4 PORT ENODE	MOJIX	ENM-1004-F	01194018C7-A7C-A7F	VEDSTAR1000
3	EMUX	MOJIX	EMX-1004-F	0121418C050	N/A
4	EMUX POWER SUPPLY	ASTRODYNE POWER SUPPLY	SPU130-108	NONE	N/A

5.2 EMI TEST EQUIPMENT

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CAL. DATE	CAL. DUE DATE
EMI Receiver	Rohde & Schwarz	ESIB-40	100218	Feb. 28, 2008	Feb. 28, 2009
Preamplifier	Com Power	PA-103	1619	Oct. 22, 2008	Oct 22, 2009
Biconical Antenna	Com Power	AB-900	15283	Oct. 21, 2008	Oct. 21, 2009
Log Periodic Antenna	Com Power	AL-100	16200	Oct. 21, 2008	Oct. 21, 2009
Antenna Mast	Com Power	AM-400	N/A	N/A	N/A
EM Loop Antenna	Com-Power	AL-130	17067	Sep. 09, 2008	Sep. 09, 2009
Horn Antenna	A.R.A	DRG-118	1015	Jul. 07, 2008	Jul. 07, 2010
Turntable	Com Power	TT-112A	N/A	N/A	N/A
EMI Application Software	Rohde & Schwarz	ESIB-K1	1.20	N/A	N/A
Computer	Hewlett Packard	Pavilion 4530	US91912022	N/A	N/A
Printer	Hewlett Packard	C6427B	MY066160TW	N/A	N/A
Spectrum Analyzer	Hewlett Packard	8566B	2729A04566	Jan. 13, 2009	Jan. 13, 2010
Quasi-Peak Adapter	Hewlett Packard	85650A	2521A00682	Jan. 13, 2009	Jan. 13, 2010
S.A. Display	Hewlett Packard	85662A	2810A15687	Jan. 13, 2009	Jan. 13, 2010
Preamplifier	Com-Power	PA-122	181915	Apr. 14, 2008	Apr. 14, 2009

6. TEST SITE DESCRIPTION

6.1 Test Facility Description

Please refer to section 2.1 of this report for EMI test location.

6.2 EUT Mounting, Bonding and Grounding

The EUT was mounted on a 1.0 by 1.5 meter non-conductive table 0.8 meters above the ground plane.

The EUT was grounded through the power cord.

7. CHARACTERISTICS OF THE TRANSMITTER

7.1 Transmitter Power

Transmit power is herein defined as the power delivered to a 50 Ohm load at the RF output of the EUT. The test sample had one output power level per channel. They are the following:

CHANNEL	OUTPUT	POWER dBm	ACCURACY
Low	1	29.22	+2/-2 dB
Medium	1	29.50	+2/-2 dB
High	1	29.00	+2/-2 dB

7.2 Channel Number and Frequencies

There are a total of 50 channels. The low channel is at 902.73 MHz and the high channel is at 927.26 MHz. There is a 501 kHz separation between channels.

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 Radiated Emissions (Spurious and Harmonics) Test

The EMI Receiver was used as a measuring meter. Amplifiers were used to increase the sensitivity of the instrument. The Com Power Preamplifier Model: PA-103 was used for frequencies from 30 MHz to 1 GHz, and the Com-Power Microwave Preamplifier Model: PA-122 was used for frequencies above 1 GHz. The EMI Receiver was used in the peak detect mode with the "Max Hold" feature activated. In this mode, the Emi Receiver records the highest measured reading over all the sweeps.

The frequencies above 1 GHz were averaged manually by narrowing the video filter down to 10 Hz and setting the sweep time on AUTO on the EMI Receiver to keep the amplitude reading calibrated.

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

FREQUENCY RANGE	EFFECTIVE MEASUREMENT BANDWIDTH	TRANSDUCER
9 kHz to 150 kHz	200 Hz	Active Loop Antenna
150 kHz to 30 MHz	9 kHz	Active Loop Antenna
30 MHz to 300 MHz	120 kHz	Biconical Antenna
300 MHz to 1 GHz	120 kHz	Log Periodic Antenna
1 GHz to 10 GHz	1 MHz	Horn Antenna

The open field test site of Compatible Electronics, Inc. was used for radiated emission testing. This test site is set up according to ANSI C63.4: 2003. 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 by the Radiated Emission Manual Test software. 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 gun sight method was used when measuring with the horn antenna in order to ensure accurate results. The loop antenna was also rotated in the horizontal and vertical axis in order to ensure accurate results.

Radiated Emissions (Spurious and Harmonics) Test (con't)

The presence of ambient signals was verified by turning the EUT off. In case an ambient signal was detected, the measurement bandwidth was reduced temporarily and verification was made that an additional adjacent peak did not exist. This ensures that the ambient signal does not hide any emissions from the EUT. The EUT was tested at a 3 meter test distance from 9 kHz to 10 GHz to obtain final test data.

The harmonics of the transmitter frequency in the applicable restricted band were also measured utilizing the method mentioned above. See appendix E for datasheets.

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 out on the EUT. The resolution and video bandwidths were >= 1% of the 20 dB bandwidth.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247 (a)(1)(i). The bandwidth is less than 500 kHz. Please see the data sheets located in Appendix E.

8.3 Peak Output Power

The Peak Output Power was taken using the Spectrum Analyzer in normal mode, a 20dB attenuator and 2 BNC cables with a 0.8 cable loss for the frequencies measured. The attenuator & cable loss factors were accounted for by the Spectrum Analyzer. The Peak Output Power was measured using a direct connection from the RF out on the EUT. The resolution bandwidth was 500 kHz, and the video bandwidth was 500 kHz.

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247 (b)(1). 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 taken using the Spectrum Analyzer. The RF antenna conducted test was measured using a direct connection from the RF out on the EUT into the input of the analyzer. The resolution bandwidth was 100 kHz, and the video bandwidth 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 (c). 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 data sheets located in Appendix E.

8.5 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 20 kHz, and the video bandwidth 10 kHz. 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) and 15.247 (a)(1)(i). The Channel Hopping Separation is greater than the 20 dB bandwidth. Please see the data sheets located in Appendix D.

8.6 Number of Hopping Frequencies

The Channel Hopping Separation Test was measured using the EMI Receiver. The EUT was operating in its normal operating mode. The resolution bandwidth was 300 kHz, and the video bandwidth 30 kHz. 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). The actual number of hopping frequencies is 50. Please see the data sheets located in Appendix E.

8.7 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 with a sweep time of 100 msec to determine the time for each transmission. The EUT was tested in channel hopping mode.

The dwell time for one frequency was 3 ms. In a 20 second period, the number of frequency transmissions are 60. Therefore, if you multiply the dwell time for one frequency transmission with the number of transmissions in a 20 second period, you should have the time of occupancy in a 20 second period.

3 Hops @ 1 sec. in a 20 second period = 60 hops

Dwell time for one frequency = 3 ms

60 hops in a 20 sec period x 3ms dwell time = 180 ms time of occupancy in a 20 second period

Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247 (a)(1)(i). The EUT does not transmit for more than 400 msec during a 20 second period on any frequency. Please see the data sheets located in Appendix E.

9. CONCLUSIONS

The RFID Reader, Model: STAR SYSTEM meets all of the specification limits defined in FCC Title 47, Part 15, Subpart C, sections 15.31, 15.205, 15.209, and 15.247.

Note: For the unintentional radiator portion of the test, the EUT was within the **Class B** specification limits defined in CFR Title 47, Part 15, Subpart B.

APPENDIX A

LABORATORY ACCREDITATIONS

LABORATORY ACCREDITATIONS AND RECOGNITIONS

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

For US, Canada, Australia/New Zealand, Taiwan and the European Union, Compatible Electronics is currently accredited by NVLAP to ISO/IEC 17025 an ISO 9002 equivalent. Please follow the link to the NIST site for each of our facilities NVLAP certificate and scope of accreditation.

Silverado/Lake Forest Division: http://ts.nist.gov/ts/htdocs/210/214/scopes/2005270.htm
Brea Division: http://ts.nist.gov/ts/htdocs/210/214/scopes/2005280.htm
Agoura Division: http://ts.nist.gov/ts/htdocs/210/214/scopes/2000630.htm

Compatible Electronics has been accredited by ANSI and appointed by the FCC to serve as a Telecommunications Certification Body (TCB). Compatible Electronics ANSI TCB listing can be found at: http://www.ansi.org/public/ca/ansi_cp.html

Compatible Electronics has been nominated as a Conformity Assessment Body (CAB) for EMC under the US/EU Mutual Recognition Agreement (MRA). Compatible Electronics NIST US/EU CAB listing can be found at: http://ts.nist.gov/ts/htdocs/210/gsig/emc-cabs-mar02.pdf

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). Compatible Electronics NIST US/APEC CAB listing can be found at: http://ts.nist.gov/ts/htdocs/210/gsig/apec/bsmi-cabs-may02.pdf

World Wide Market Access with Nemko

Compatible Electronics has been validated by NEMKO against ISO/IEC 17025 under the NEMKO EMC Laboratory Authorization (ELA) program to all EN standards required by the European Union (EU) EMC Directive 2004/108/EC. Please follow the link to the Compatible Electronics' web site for each of our facilities NEMKO ELA certificate and scope of accreditation. http://www.celectronics.com/certs.htm

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

Compatible Electronics VCCI listing can be found at:
http://www.vcci.or.jp/vcci_e/member/tekigo/setsubi_index_id.html

Just type "Compatible Electronics" into the Keyword search box.

Compatible Electronics FCC listing can be found at:
https://gullfoss2.fcc.gov/prod/oet/index_ie.html

Just type "Compatible Electronics" into the Test Firms search box.

Industry Canada / Industrie Canada

Compatible Electronics IC listing can be found at:
http://spectrum.ic.gc.ca/~cert/labs/oats_lab_c_e.html

APPENDIX B

MODIFICATIONS TO THE EUT

MODIFICATIONS TO THE EUT

The modifications listed below were made to the EUT to pass CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.209, and 15.247specifications.

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

1) Added a low pass filter to each antenna output port.

APPENDIX C

ADDITIONAL MODELS COVERED UNDER THIS REPORT

ADDITIONAL MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST	RFID READER Model: STAR SYSTEM S/N: N/A

THERE WERE NO ADDITIONAL MODELS COVERED UNDER THIS REPORT

APPENDIX D

DIAGRAMS, CHARTS, AND PHOTOS

FIGURE 1: CONDUCTED EMISSIONS TEST SETUP

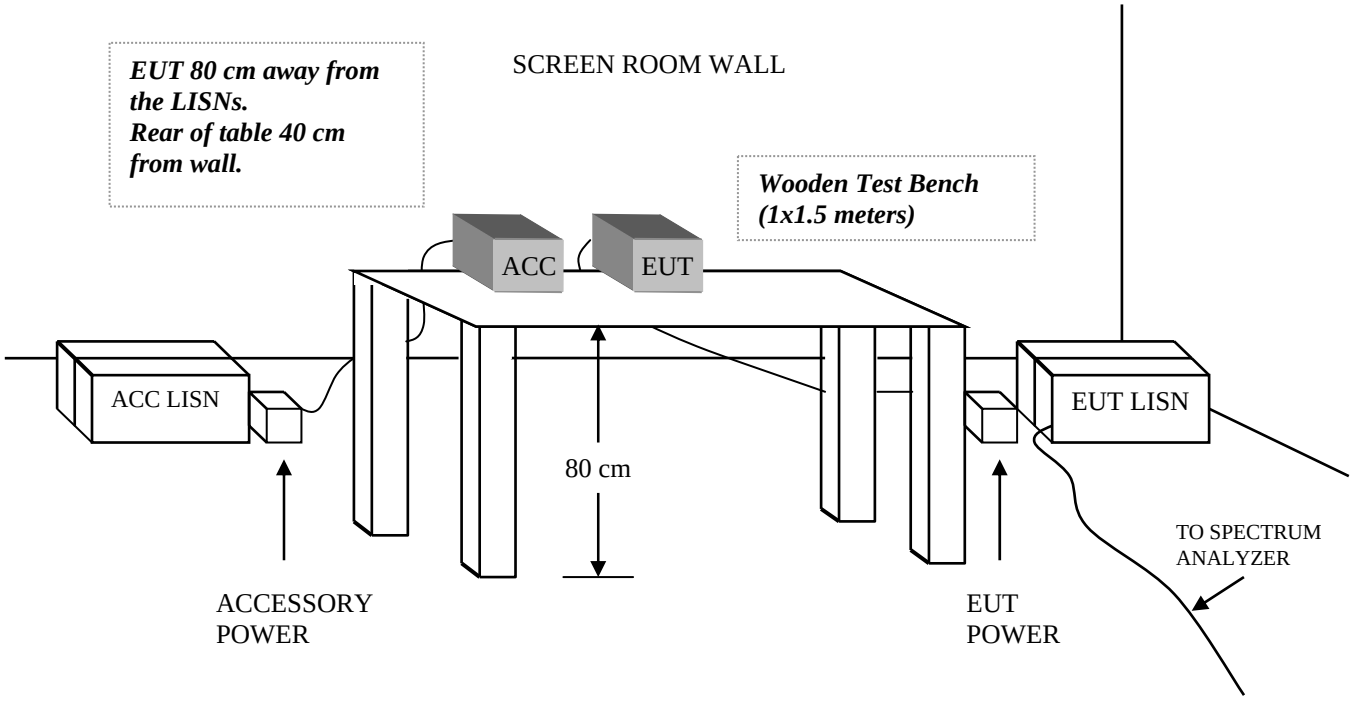
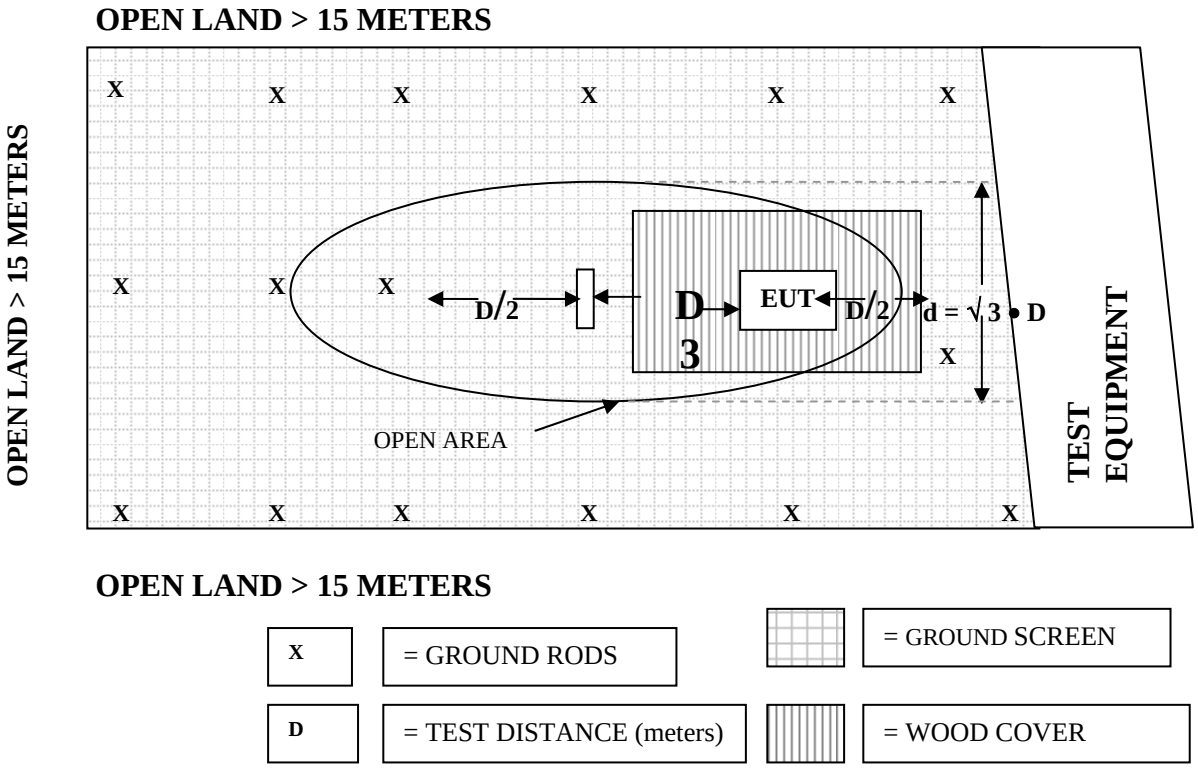


FIGURE 2: PLOT MAP AND LAYOUT OF RADIATED SITE



COM-POWER AL-130

ACTIVE LOOP ANTENNA

S/N: 17067

CALIBRATION DATE: SEPTEMBER 29, 2008

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
0.009	10.53	1	10.47
0.01	9.94	2	10.80
0.02	9.57	3	10.50
0.03	11.14	4	10.40
0.04	10.84	5	11.00
0.05	9.40	6	11.10
0.06	10.00	7	11.80
0.07	9.80	8	10.60
0.08	9.50	9	10.80
0.09	9.67	10	10.70
0.1	9.67	15	9.73
0.2	7.30	20	10.40
0.3	9.77	25	9.30
0.4	9.70	30	8.60
0.5	9.80		
0.6	10.17		
0.7	9.97		
0.8	10.07		
0.9	10.14		

COM-POWER AB-900

BICONICAL ANTENNA

S/N: 15283

CALIBRATION DATE: OCT. 21, 2008

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	10.90	120	11.90
35	9.40	125	11.58
40	8.80	140	10.60
45	9.30	150	10.80
50	8.20	160	11.00
55	7.90	175	14.30
60	7.60	180	15.40
65	7.10	200	15.70
70	6.60	225	15.25
80	5.30	250	14.80
90	5.70	275	18.80
100	9.30	300	18.50

COM-POWER AL-100

LOG PERIODIC ANTENNA

S/N: 16200

CALIBRATION DATE: OCT. 21, 2008

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
300	17.50	650	20.20
330	17.80	700	20.30
340	17.90	725	20.60
350	18.00	750	20.90
360	18.10	800	21.50
370	18.20	850	21.80
400	18.50	900	22.10
425	18.95	925	22.50
450	19.40	950	22.90
500	20.30	975	23.30
550	20.20	1000	23.70
600	20.10		

DRG-118/A

DOUBLE RIDGE HORN ANTENNA

S/N: 1015

CALIBRATION DATE: JULY 31, 2008

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
1000	24.2	10000	39.1
1500	25.1	10500	40.0
2000	27.8	11000	39.5
2500	28.3	11500	39.9
3000	30.3	12000	40.1
3500	30.4	12500	40.9
4000	30.7	13000	39.7
4500	31.2	13500	40.5
5000	33.1	14000	41.2
5500	33.3	14500	42.8
6000	33.9	15000	41.8
6500	34.7	15500	38.8
7000	36.8	16000	39.1
7500	38.0	16500	39.1
8000	40.6	17000	41.0
8500	37.8	17500	43.5
9000	37.8	18000	45.0
9500	38.7		

COM-POWER PA-103

PREAMPLIFIER

S/N: 1619

CALIBRATION DATE: OCT. 22, 2008

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	31.5	300	31.3
40	31.5	350	31.1
50	31.5	400	31.4
60	31.4	450	30.9
70	31.5	500	31.2
80	31.5	550	30.9
90	31.5	600	30.7
100	31.4	650	31.1
125	31.5	700	30.5
150	31.6	750	30.5
175	31.3	800	30.7
200	31.6	850	30.0
225	31.5	900	30.4
250	31.5	950	30.1
275	31.2	1000	29.9

COM-POWER PA-122

PREAMPLIFIER

S/N: 181915

CALIBRATION DATE: APRIL 14, 2008

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
1000	32.2	7000	29.1
1100	32.4	7500	28.9
1200	32.1	8000	33.2
1300	31.7	8500	29.5
1400	31.6	9000	29.5
1500	32.0	9500	26.4
1600	31.5	10000	28.9
1700	31.9	11000	33.9
1800	30.9	12000	33.5
1900	31.4	13000	30.0
2000	30.9	14000	32.4
2500	31.2	15000	34.0
3000	31.5	16000	33.9
3500	31.8	17000	33.3
4000	31.4	18000	33.4
4500	32.7	19000	26.0
5000	32.7	20000	24.4
5500	28.9	21000	26.1
6000	26.6	22000	23.8
6500	29.1		

FRONT VIEW

MOJIX INC..
RFID READER
MODEL: STAR SYSTEM
FCC SUBPART B AND C - RADIATED EMISSIONS – JANUARY 26, 2009

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

MOJIX, INC.
RFID READER
MODEL: STAR SYSTEM
FCC SUBPART B AND C - RADIATED EMISSIONS – JANUARY 26, 2009

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

FRONT VIEW

MOJIX, INC.
EMUX
MODEL: STAR SYSTEM
FCC SUBPART B AND C - CONDUCTED EMISSIONS – JANUARY 22, 2009

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

MOJIX, INC.
EMUX
MODEL: STAR SYSTEM
FCC SUBPART B AND C - CONDUCTED EMISSIONS – JANUARY 22, 2009

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

APPENDIX E

DATA SHEETS

RADIATED EMISSIONS

COMPANY NAME: Mojix, Inc **DATE:** 1/26/09

EUT: RFID Reader **EUT S/N**:

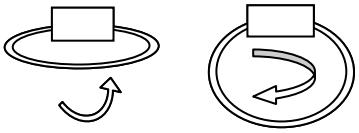
EUT MODEL: STAR SYSTEM **LOCATION:** ☐ BREA ☐ SILVERADO **X** AGOURA

SPECIFICATION: FCC 15.247 **CLASS**: B **TEST DISTANCE**: 3 meters **LAB**: F

ANTENNA: **X** LOOP ☐ BICONICAL ☐ LOG ☐ HORN **POLARIZATION**: ☐ VERT ☐ HORIZ

X QUALIFICATION ☐ ENGINEERING ☐ MFG. AUDIT **ENGINEER**: R. Ramirez

NOTES:



Pol A Pol B

Frequency (MHz)	Peak Reading (dBuV)	Avg. ☐ Q.P. ☐ (dBuV)	Antenna Height (meters)	Azimuth (degrees)	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	* Corrected Reading (dBuV)	Delta ** (dB)	Spec Limit (dBuV)
9KHz-30MHz								No frequencies found.		

COMPATIBLE ELECTRONICS

Test Location : Compatible Electronics
Customer : Mojix
Manufacturer : Mojix
Eut name : RFID Reader (Transmitter)
Model : STAR System
Serial # : none
Specification : FCC Pt. 15 - Class B Above 1 GH
Distance correction factor (20 * log(test/spec)) : 0.00
Test Mode : Qualification
Test Engineer: R. Ramirez
902.7 MHz Harmonics

Page : 1/1
Date : 01/23/2009
Time : 09:21:22 AM
Lab : F
Test Distance : 3.00 Meters

Pol	Freq	Reading	Cable loss	Antenna factor	Amplifier gain	Corr'd rdg = R	Limit = L	Delta R-L
	MHz	dBuV	dB	dB	dB	dBuV/m	dBuV/m	dB
1V	2708.166	49.80	8.45	29.18	31.33	56.10	54.00	2.10
2V	2708.152	46.33	8.45	29.18	31.33	52.63	54.00	-1.37
3V	3610.980	46.80	11.71	30.47	31.71	57.27	54.00	3.27
4V	4513.680	42.30	12.24	31.25	32.70	53.09	54.00	-0.91
5V	3610.931	41.86	11.71	30.47	31.71	52.33	54.00	-1.67
6V	4513.632	34.71	12.24	31.25	32.70	45.50	54.00	-8.50
7H	3610.980	38.50	11.71	30.47	31.71	48.97	54.00	-5.03
8H	4513.682	42.10	12.24	31.25	32.70	52.89	54.00	-1.11
9H	2708.282	49.80	8.45	29.18	31.33	56.10	54.00	2.10
10H	4513.637	34.10	12.24	31.25	32.70	44.89	54.00	-9.11
11H	2708.244	43.04	8.45	29.18	31.33	49.34	54.00	-4.66

COMPATIBLE ELECTRONICS

Test Location : Compatible Electronics
Customer : Mojix
Manufacturer : Mojix
Eut name : RFID Reader (Transmitter)
Model : STAR System
Serial # : none
Specification : FCC Pt. 15- Class B
Distance correction factor (20 * log(test/spec)) : 0.00
Test Mode : Qualification
Test Engineer: R. Ramirez
Low Channel Spurious Emissions

Page : 1/1
Date : 01/26/2009
Time : 09:50:24 AM
Lab : F
Test Distance : 3.00 Meters

Pol	Freq	Reading	Cable loss	Antenna factor	Amplifier gain	Corr'd rdg = R	Limit = L	Delta R-L
	MHz	dBuV	dB	dB	dB	dBuV/m	dBuV/m	dB
1V	39.000	50.90	1.68	8.91	31.50	30.00	40.00	-10.00
2V	60.000	53.80	2.40	7.60	31.40	32.40	40.00	-7.60
3V	75.000	52.60	2.50	5.93	31.50	29.53	40.00	-10.47
4V	125.000	37.40	2.90	11.56	31.50	20.36	43.50	-23.14
5V	160.000	34.60	2.98	11.00	31.47	17.11	43.50	-26.39
6V	224.980	37.90	3.60	15.23	31.50	25.23	46.00	-20.77
7V	240.000	38.50	3.60	14.96	31.50	25.56	46.00	-20.44
8V	250.003	41.00	3.60	14.80	31.50	27.90	46.00	-18.10
9H	38.403	39.40	1.67	8.98	31.50	18.55	40.00	-21.45
10H	60.003	50.80	2.40	7.60	31.40	29.40	40.00	-10.60
11H	75.003	49.40	2.50	5.93	31.50	26.33	40.00	-13.67
12H	125.003	40.00	2.90	11.56	31.50	22.96	43.50	-20.54
13H	160.003	39.60	2.98	11.00	31.47	22.11	43.50	-21.39
14H	225.003	37.00	3.60	15.22	31.50	24.32	46.00	-21.68
15H	240.003	37.10	3.60	14.96	31.50	24.16	46.00	-21.84
16H	250.003	41.80	3.60	14.80	31.50	28.70	46.00	-17.30
17V	374.974	41.20	4.45	18.28	31.25	32.68	46.00	-13.32
18V	444.561	34.80	4.87	19.35	30.95	28.07	46.00	-17.93
19V	500.041	42.20	5.00	20.30	31.20	36.30	46.00	-9.70
20V	549.263	43.60	5.20	20.20	30.90	38.09	46.00	-7.91
21V	625.022	35.20	5.80	20.15	30.90	30.25	46.00	-15.75
22V	653.822	33.50	5.74	20.21	31.05	28.40	46.00	-17.60
23H	374.996	38.90	4.45	18.28	31.25	30.38	46.00	-15.62
24H	444.575	32.70	4.87	19.35	30.95	25.97	46.00	-20.03
25H	499.996	43.40	5.00	20.30	31.20	37.50	46.00	-8.50
26H	624.996	44.10	5.80	20.15	30.90	39.15	46.00	-6.85
27H	653.788	33.60	5.74	20.21	31.05	28.50	46.00	-17.50

COMPATIBLE ELECTRONICS

Test Location : Compatible Electronics
Customer : Mojix
Manufacturer : Mojix
Eut name : RFID Reader (Transmitter)
Model : STAR System
Serial # : none
Specification : FCC Pt. 15 - Class B Above 1 GH
Distance correction factor (20 * log(test/spec)) : 0.00
Test Mode : Qualification
Test Engineer: R. Ramirez
915.2 MHz Harmonics

Page : 1/1
Date : 01/26/2009
Time : 10:50:27 AM
Lab : F
Test Distance : 3.00 Meters

Pol	Freq	Reading	Cable loss	Antenna factor	Amplifier gain	Corr'd rdg = R	Limit = L	Delta R-L
	MHz	dBuV	dB	dB	dB	dBuV/m	dBuV/m	dB
1V	2745.746	46.90	8.50	29.33	31.35	53.37	54.00	-0.63
2V	2745.698	41.05	8.50	29.33	31.35	47.52	54.00	-6.48
3V	3661.000	40.00	11.89	30.50	31.67	50.72	54.00	-3.28
4V	4576.250	39.50	12.42	31.50	32.70	50.72	54.00	-3.28
5V	5491.500	38.50	12.54	33.30	28.96	55.37	54.00	1.37
6V	5491.457	30.23	12.54	33.30	28.96	47.10	54.00	-6.90
7H	2745.759	43.00	8.50	29.33	31.35	49.47	54.00	-4.53
8H	3661.009	41.40	11.89	30.50	31.67	52.12	54.00	-1.88
9H	3660.935	32.99	11.89	30.50	31.67	43.71	54.00	-10.29
10H	4576.259	37.10	12.42	31.50	32.70	48.32	54.00	-5.68
11H	5491.509	37.90	12.54	33.30	28.96	54.77	54.00	0.77
12H	5491.457	30.08	12.54	33.30	28.96	46.95	54.00	-7.05

COMPATIBLE ELECTRONICS

Test Location : Compatible Electronics
Customer : Mojix
Manufacturer : Mojix
Eut name : RFID Reader (Transmitter)
Model : STAR System
Serial # : none
Specification : FCC Pt. 15- Class B
Distance correction factor (20 * log(test/spec)) : 0.00
Test Mode : Qualification
Test Engineer: R. Ramirez
Mid Channel Spurious Emissions

Page : 1/1
Date : 01/23/2009
Time : 02:56:20 PM
Lab : F
Test Distance : 3.00 Meters

Pol	Freq	Reading	Cable loss	Antenna factor	Amplifier gain	Corr'd rdg = R	Limit = L	Delta R-L
	MHz	dBuV	dB	dB	dB	dBuV/m	dBuV/m	dB
1V	38.403	50.50	1.67	8.98	31.50	29.65	40.00	-10.35
2V	60.003	50.10	2.40	7.60	31.40	28.70	40.00	-11.30
3V	75.003	53.80	2.50	5.93	31.50	30.73	40.00	-9.27
4V	125.003	40.00	2.90	11.56	31.50	22.96	43.50	-20.54
5V	160.003	37.80	2.98	11.00	31.47	20.31	43.50	-23.19
6V	225.003	39.40	3.60	15.22	31.50	26.72	46.00	-19.28
7V	240.034	39.10	3.60	14.96	31.50	26.16	46.00	-19.84
8V	249.992	42.40	3.60	14.80	31.50	29.30	46.00	-16.70
9H	38.392	42.70	1.67	8.98	31.50	21.86	40.00	-18.14
10H	59.992	48.00	2.40	7.60	31.40	26.60	40.00	-13.40
11H	74.992	50.10	2.50	5.93	31.50	27.03	40.00	-12.97
12H	124.992	41.90	2.90	11.56	31.50	24.86	43.50	-18.64
13H	159.992	39.90	2.98	11.00	31.47	22.41	43.50	-21.09
14H	224.992	38.70	3.60	15.23	31.50	26.03	46.00	-19.97
15H	239.992	37.30	3.60	14.96	31.50	24.36	46.00	-21.64
16H	250.004	39.40	3.60	14.80	31.50	26.30	46.00	-19.70
17V	375.007	39.60	4.46	18.28	31.26	31.08	46.00	-14.92
18V	444.587	34.50	4.87	19.35	30.95	27.77	46.00	-18.23
19V	500.031	43.70	5.00	20.30	31.20	37.80	46.00	-8.20
20V	549.241	39.90	5.20	20.20	30.90	34.39	46.00	-11.61
21V	625.000	39.60	5.80	20.15	30.90	34.65	46.00	-11.35
22V	653.800	34.70	5.74	20.21	31.05	29.60	46.00	-16.40
23H	374.992	41.20	4.45	18.28	31.25	32.68	46.00	-13.32
24H	444.579	36.10	4.87	19.35	30.95	29.37	46.00	-16.63
25H	499.992	41.90	5.00	20.30	31.20	36.00	46.00	-10.00
26H	624.992	39.70	5.80	20.15	30.90	34.75	46.00	-11.25
27H	653.792	35.70	5.74	20.21	31.05	30.60	46.00	-15.40

COMPATIBLE ELECTRONICS

Test Location : Compatible Electronics
Customer : Mojix
Manufacturer : Mojix
Eut name : RFID Reader (Transmitter)
Model : STAR System
Serial # : none
Specification : FCC Pt. 15 - Class B Above 1 GH
Distance correction factor (20 * log(test/spec)) : 0.00
Test Mode : Qualification
Test Engineer: R. Ramirez
927 MHz Harmonics

Page : 1/1
Date : 01/26/2009
Time : 11:37:12 AM
Lab : F
Test Distance : 3.00 Meters

Pol	Freq	Reading	Cable loss	Antenna factor	Amplifier gain	Corr'd rdg = R	Limit = L	Delta R-L
	MHz	dBuV	dB	dB	dB	dBuV/m	dBuV/m	dB
1V	2781.624	46.10	8.58	29.47	31.38	52.77	54.00	-1.23
2V	2781.579	41.46	8.58	29.47	31.38	48.13	54.00	-5.87
3V	3709.044	42.10	12.06	30.53	31.63	53.06	54.00	-0.94
4V	3709.005	34.31	12.06	30.53	31.63	45.27	54.00	-8.73
5V	4636.244	39.90	12.59	31.74	32.70	51.52	54.00	-2.48
6V	4636.210	31.35	12.59	31.74	32.70	42.97	54.00	-11.03
7H	2781.844	42.30	8.58	29.47	31.38	48.98	54.00	-5.02
8H	3709.044	41.70	12.06	30.53	31.63	52.66	54.00	-1.34
9H	3708.998	33.03	12.06	30.53	31.63	43.99	54.00	-10.01
10H	4636.244	38.90	12.59	31.74	32.70	50.52	54.00	-3.48

COMPATIBLE ELECTRONICS

Test Location : Compatible Electronics
Customer : Mojix
Manufacturer : Mojix
Eut name : RFID Reader (Transmitter)
Model : STAR System
Serial # : none
Specification : FCC Pt. 15- Class B
Distance correction factor (20 * log(test/spec)) : 0.00
Test Mode : Qualification
Test Engineer: R. Ramirez
High Channel Spurious Emissions

Page : 1/1
Date : 01/23/2009
Time : 02:07:02 PM
Lab : F
Test Distance : 3.00 Meters

Pol	Freq	Reading	Cable loss	Antenna factor	Amplifier gain	Corr'd rdg = R	Limit = L	Delta R-L
	MHz	dBuV	dB	dB	dB	dBuV/m	dBuV/m	dB
1V	39.200	49.30	1.69	8.89	31.50	28.38	40.00	-11.62
2V	60.010	48.50	2.40	7.60	31.40	27.10	40.00	-12.90
3V	124.992	42.10	2.90	11.56	31.50	25.06	43.50	-18.44
4V	160.015	37.40	2.98	11.00	31.47	19.91	43.50	-23.59
5V	183.615	35.20	3.21	15.46	31.41	22.46	43.50	-21.04
6V	240.094	37.50	3.60	14.96	31.50	24.56	46.00	-21.44
7V	250.000	39.20	3.60	14.80	31.50	26.10	46.00	-19.90
8H	39.200	40.90	1.69	8.89	31.50	19.98	40.00	-20.02
9H	60.000	47.80	2.40	7.60	31.40	26.40	40.00	-13.60
10H	125.000	40.40	2.90	11.56	31.50	23.36	43.50	-20.14
11H	160.000	39.50	2.98	11.00	31.47	22.01	43.50	-21.49
12H	183.615	33.80	3.21	15.46	31.41	21.06	43.50	-22.44
13H	240.000	37.40	3.60	14.96	31.50	24.46	46.00	-21.54
14H	250.000	38.40	3.60	14.80	31.50	25.30	46.00	-20.70
15V	375.000	36.10	4.46	18.28	31.26	27.58	46.00	-18.42
16V	500.094	43.10	5.00	20.30	31.20	37.20	46.00	-8.80
17V	624.988	43.80	5.80	20.15	30.90	38.85	46.00	-7.15
18V	549.238	45.80	5.20	20.20	30.90	40.29	46.00	-5.71
19V	624.994	41.10	5.80	20.15	30.90	36.15	46.00	-9.85
20V	653.794	35.40	5.74	20.21	31.05	30.30	46.00	-15.70
21H	374.994	40.60	4.45	18.28	31.25	32.08	46.00	-13.92
22H	500.020	45.90	5.00	20.30	31.20	40.00	46.00	-6.00
23H	625.003	44.40	5.80	20.15	30.90	39.45	46.00	-6.55
24H	653.797	41.10	5.74	20.21	31.05	36.00	46.00	-10.00

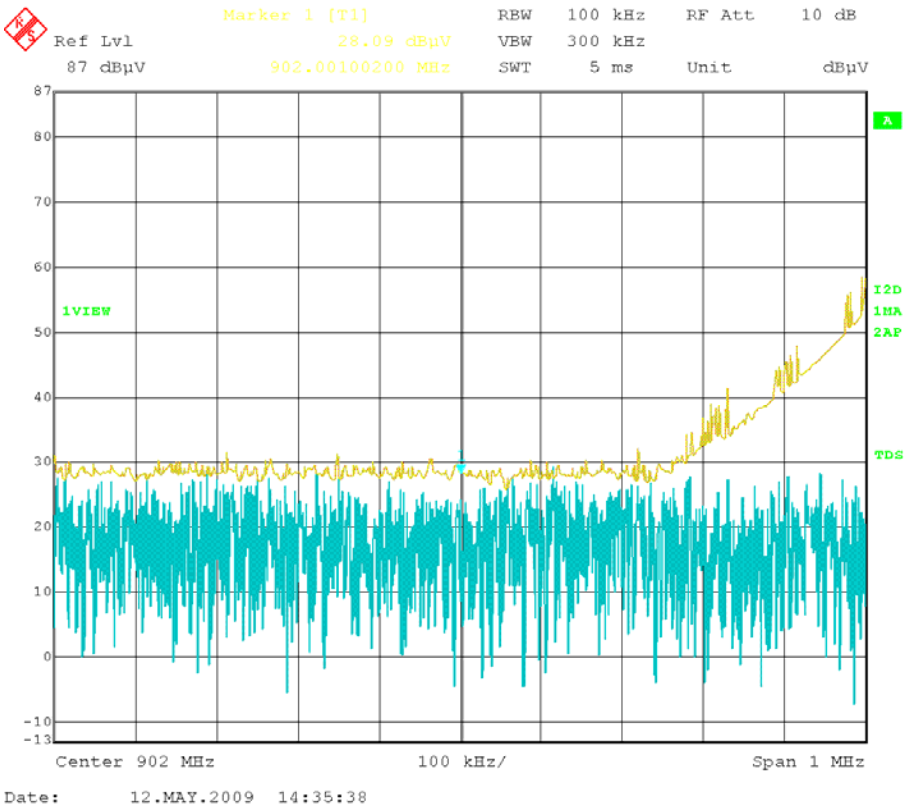
FCC Class B

Mojix
RFID Receiver
STAR System

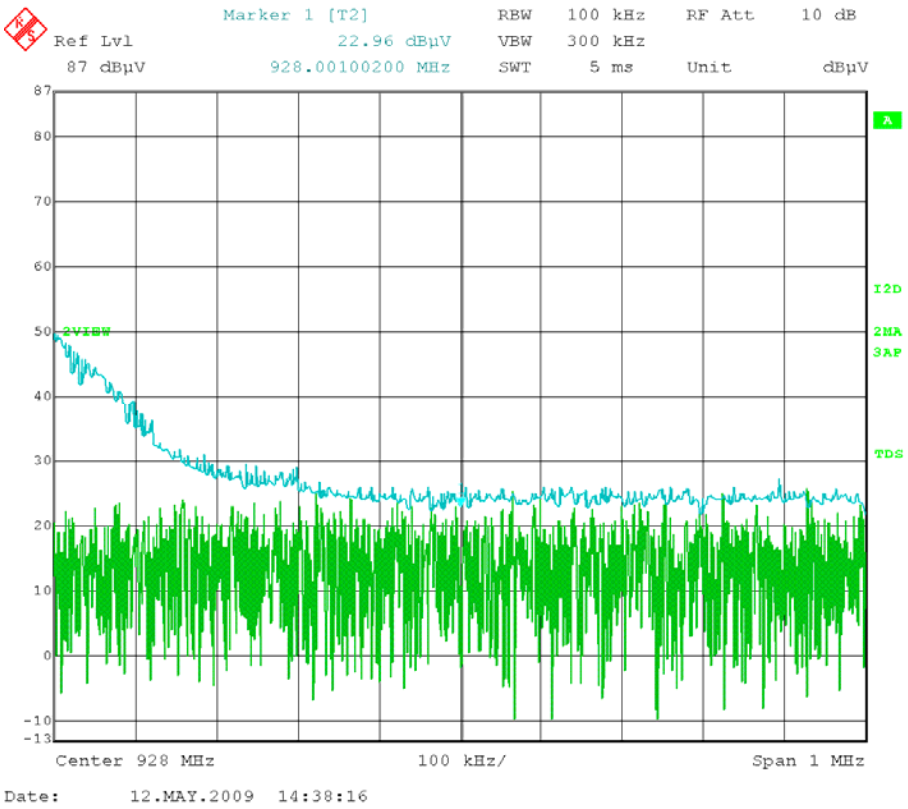
Date: 5/12/09
Lab: F
Tested By: R. Ramirez
Test Distance 3 meters

Configuration: Band Edge

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit (dBuV/m)	Margin (dB)	Peak / QP / Avg	Comments
902.00	28.09	V	46.02	-17.93	Peak	
928.00	22.96	V	46.02	-23.06	Peak	



28.09 dBuV @ 902.00 MHz



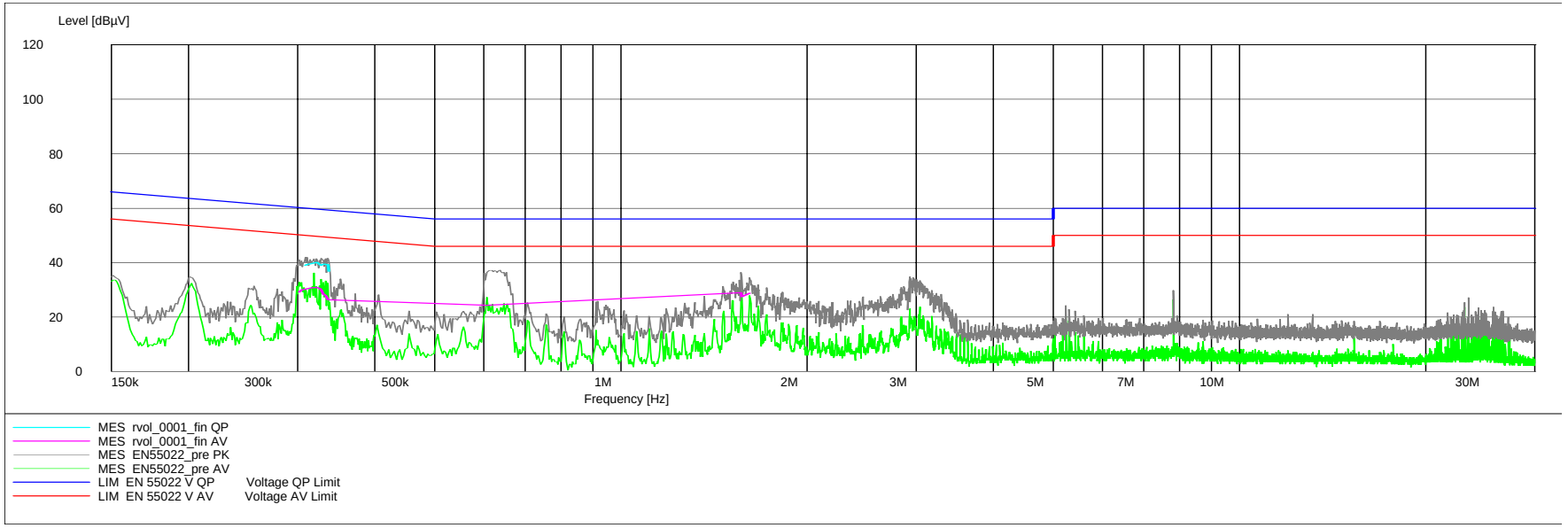
AC Conducted

Line

```
EUT:                  eMux Power Supply
Manufacturer:         Mojix
Operating Condition:  120V
Test Site:            Lab F
Operator:             R. Ramirez
Test Specification:   EN55022 B
Comment:              Astrodyne Power Supply
Start of Test:        Model:  SPU130-108
```

SCAN TABLE: "EN 55022 VoltageFin"

```
  Short Description:            EN 55022 Voltage
  Start      Stop       Step      Detector  Meas.     IF      Transducer
  Frequency  Frequency  Width               Time      Bandw.
  150.0 kHz  30.0 MHz   4.0 kHz   QuasiPeak 1.0 s     9 kHz   LabF LI-215
                                  CISPR AV
```



1/22/09 11:50AM rvol_0001

AC Conducted

Line

EUT: eMux Power Supply
Manufacturer: Mojix
Operating Condition: 120V

MEASUREMENT RESULT: "rvol_0001_fin QP"

1/22/09 11:50AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.309000	39.00	9.0	60	21.0	1	---
0.311000	39.30	9.0	60	20.7	1	---
0.314000	39.50	9.0	60	20.3	1	---
0.319000	39.80	9.0	60	19.9	1	---
0.322000	40.00	9.0	60	19.6	1	---
0.323000	40.00	9.0	60	19.7	1	---
0.327000	39.00	9.0	60	20.5	1	---
0.328000	39.20	9.0	60	20.3	1	---
0.329000	39.30	9.0	60	20.2	1	---
0.330000	39.40	9.0	60	20.1	1	---
0.332000	39.40	9.0	59	20.0	1	---
0.333000	39.30	9.0	59	20.1	1	---
0.335000	39.30	9.0	59	20.0	1	---
0.336000	39.20	9.0	59	20.1	1	---
0.337000	36.80	9.0	59	22.5	1	---

MEASUREMENT RESULT: "rvol_0001_fin AV"

1/22/09 11:50AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.302000	29.20	9.0	50	21.0	1	---
0.304000	30.00	9.0	50	20.1	1	---
0.317000	30.80	9.0	50	19.0	1	---
0.319000	30.80	9.0	50	18.9	1	---
0.322000	30.90	9.0	50	18.7	1	---
0.325000	30.60	9.0	50	19.0	1	---
0.327000	30.10	9.0	50	19.4	1	---
0.330000	28.50	9.0	50	20.9	1	---
0.333000	27.90	9.0	49	21.5	1	---
0.335000	26.90	9.0	49	22.4	1	---
0.336000	26.40	9.0	49	22.9	1	---
0.607000	24.30	9.1	46	21.7	1	---
1.564000	29.00	9.6	46	17.0	1	---
1.567000	27.50	9.6	46	18.5	1	---
1.615000	28.80	9.7	46	17.2	1	---

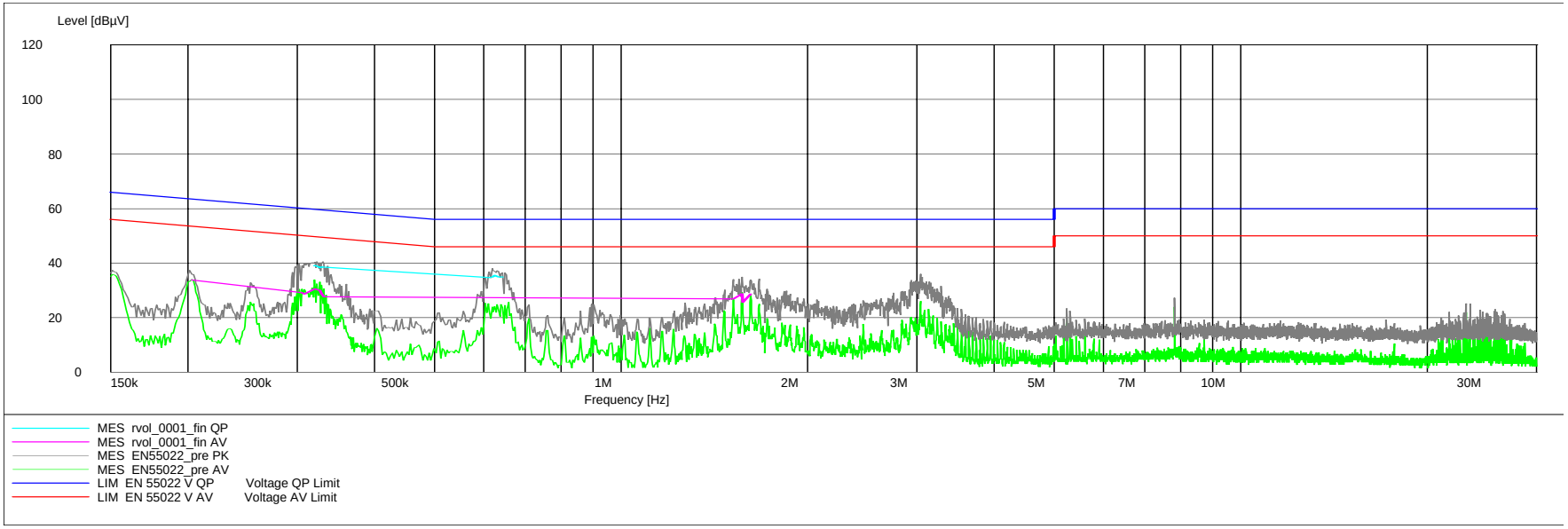
AC Conducted

Neutral

```
EUT:                  eMux Power Supply
Manufacturer:         Mojix
Operating Condition:  120V
Test Site:            Lab F
Operator:             R. Ramirez
Test Specification:   EN55022 B
Comment:              STAR Power Supply
Start of Test:        1/22/09 / 11:30:27AM
```

SCAN TABLE: "EN 55022 VoltageFin"

```
  Short Description:            EN 55022 Voltage
  Start      Stop       Step      Detector  Meas.     IF      Transducer
  Frequency  Frequency  Width               Time      Bandw.
  150.0 kHz  30.0 MHz   4.0 kHz   QuasiPeak 1.0 s     9 kHz   LabF LI-215
                                  CISPR AV
```



1/22/09 11:45AM rvol_0001

AC Conducted

Neutral

EUT: eMux Power Supply
Manufacturer: Mojix
Operating Condition: 120V

MEASUREMENT RESULT: "rvol_0001_fin QP"

1/22/09 11:41AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.320000	39.00	9.0	60	20.7	1	---
0.321000	39.10	9.0	60	20.6	1	---
0.323000	38.90	9.0	60	20.7	1	---
0.326000	38.30	9.0	60	21.3	1	---
0.328000	38.50	9.0	60	21.0	1	---
0.329000	38.60	9.0	60	20.8	1	---
0.330000	38.50	9.0	60	20.9	1	---
0.613000	34.70	9.1	56	21.3	1	---
0.619000	34.90	9.1	56	21.1	1	---
0.622000	35.00	9.1	56	21.0	1	---
0.625000	35.50	9.1	56	20.5	1	---
0.628000	35.30	9.1	56	20.7	1	---
0.631000	35.10	9.1	56	20.9	1	---
0.634000	34.90	9.1	56	21.1	1	---
0.643000	34.90	9.1	56	21.1	1	---

MEASUREMENT RESULT: "rvol_0001_fin AV"

1/22/09 11:41AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.203000	33.80	8.9	54	19.7	1	---
0.305000	29.20	9.0	50	20.9	1	---
0.308000	28.70	9.0	50	21.4	1	---
0.317000	30.10	9.0	50	19.7	1	---
0.318000	30.40	9.0	50	19.3	1	---
0.320000	30.50	9.0	50	19.2	1	---
0.321000	30.60	9.0	50	19.1	1	---
0.323000	30.30	9.0	50	19.3	1	---
0.326000	30.10	9.0	50	19.5	1	---
0.328000	28.90	9.0	50	20.6	1	---
0.331000	27.70	9.0	49	21.7	1	---
1.516000	26.90	9.6	46	19.1	1	---
1.567000	28.80	9.6	46	17.2	1	---
1.570000	25.60	9.6	46	20.4	1	---
1.618000	28.70	9.7	46	17.3	1	---

1/22/09 11:45AM rvol_0001

FCC Class B
Mojix
RFID Reader (Receiver)
STAR System

Date: 1/22/2009
Lab: F
Tested By: R. Ramirez
Test Distance 3 meters

Configuration: Receiver Spurious Emissions

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit (dBuV/m)	Margin (dB)	Peak / QP / Avg	Comments
						9KHz-30MHz
						No Frequencies Found

FCC Class B

Mojix
RFID Reader (Receiver)
STAR System

Date: 1/22/2009
Lab: F
Tested By: R. Ramirez
Test Distance 3 meters

Configuration:

Receiver Spurious Emissions

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit (dBuV/m)	Margin (dB)	Peak / QP / Avg	Comments
35.36	40.39	V	40.00	**0.39**	Peak	
35.36	38.96	V	40.00	-1.04	QP	
60.00	27.28	V	40.00	-12.72	Peak	
75.02	29.64	V	40.00	-10.36	Peak	
129.20	26.55	V	43.52	-16.97	Peak	
146.35	25.34	V	43.52	-18.18	Peak	
177.91	21.86	V	43.52	-21.66	Peak	
194.30	25.01	V	43.52	-18.51	Peak	
217.40	21.54	V	46.02	-24.48	Peak	
35.45	37.42	H	40.00	-2.58	Peak	
35.45	33.86	H	40.00	-6.14	QP	
60.01	26.62	H	40.00	-13.38	Peak	
75.01	27.14	H	40.00	-12.86	Peak	
129.20	26.00	H	43.52	-17.52	Peak	
146.66	27.99	H	43.52	-15.53	Peak	
177.95	22.40	H	43.52	-21.12	Peak	
194.41	26.91	H	43.52	-16.61	Peak	
217.40	25.24	H	46.02	-20.78	Peak	
300.01	27.92	V	46.02	-18.10	Peak	
320.00	37.00	V	46.02	-9.02	Peak	
340.00	38.33	V	46.02	-7.69	Peak	
349.98	31.47	V	46.02	-14.55	Peak	
500.04	35.03	V	46.02	-10.99	Peak	
639.98	37.16	V	46.02	-8.86	Peak	
660.01	33.63	V	46.02	-12.39	Peak	
800.01	30.55	V	46.02	-15.47	Peak	

FCC Class B

Mojix
RFID Reader (Receiver)
STAR System

Date: 1/22/2009
Lab: F
Tested By: R. Ramirez
Test Distance 3 meters

Configuration: Receiver Spurious Emissions

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit (dBuV/m)	Margin (dB)	Peak / QP / Avg	Comments
300.02	33.00	H	46.02	-13.02	Peak	
320.01	40.55	H	46.02	-5.47	Peak	
339.98	40.01	H	46.02	-6.01	Peak	
349.99	34.41	H	46.02	-11.61	Peak	
500.05	30.77	H	46.02	-15.25	Peak	
640.00	31.83	H	46.02	-14.19	Peak	
660.01	34.08	H	46.02	-11.94	Peak	
800.00	29.44	H	46.02	-16.58	Peak	

FCC Class B

Mojix
RFID Reader (receiver)
STAR System

Date: 1/22/2009
Lab: F
Tested By: R. Ramirez
Test Distance 3 meters

Configuration:

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit (dBuV/m)	Margin (dB)	Peak / QP / Avg	Comments
1125.00	34.75	V	53.98	-19.23	Peak	
1375.00	36.42	V	53.98	-17.56	Peak	
1500.00	38.35	V	53.98	-15.63	Peak	
1750.00	41.54	V	53.98	-12.44	Peak	
2000.00	41.30	V	53.98	-12.68	Peak	
1125.00	33.52	H	53.98	-20.46	Peak	
1375.00	36.55	H	53.98	-17.43	Peak	
1500.00	36.58	H	53.98	-17.40	Peak	
1750.00	39.91	H	53.98	-14.07	Peak	
2000.00	41.22	H	53.98	-12.76	Peak	

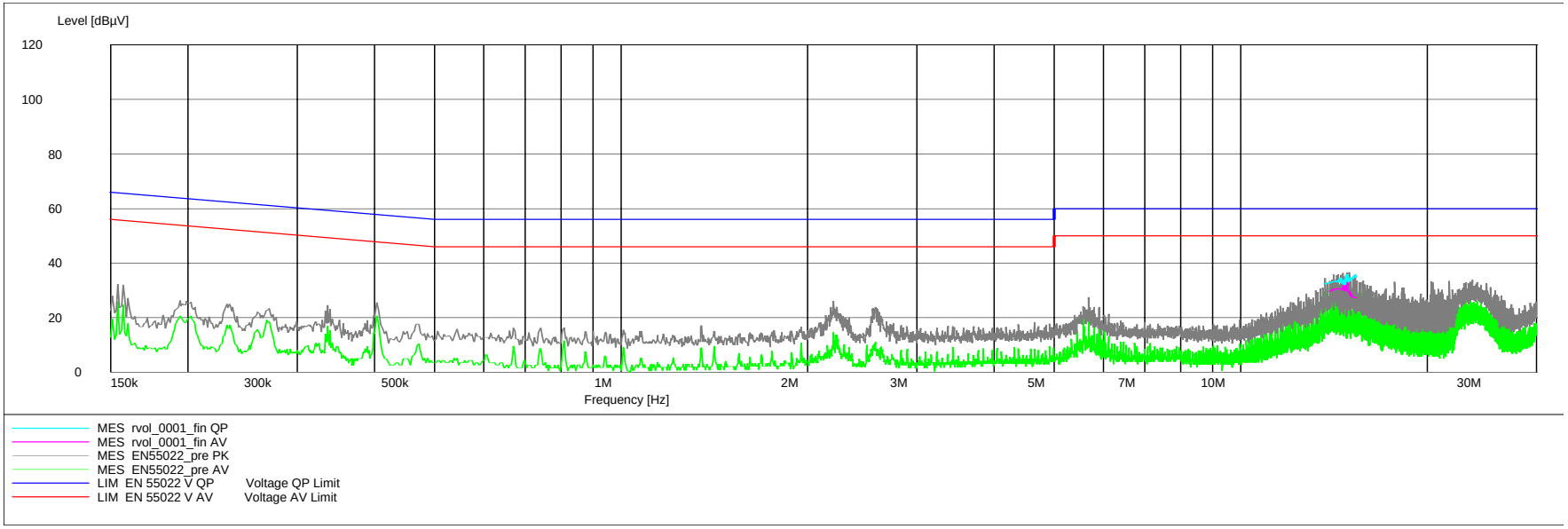
AC Conducted

Line

```
EUT:                  RFID Reader Power Supply
Manufacturer:         Mojix
Operating Condition:  120V
Test Site:            Lab F
Operator:             R. Ramirez
Test Specification:   EN55022 B
Comment:              STAR Power Supply
Start of Test:        1/22/09 / 11:15:44AM
```

SCAN TABLE: "EN 55022 VoltageFin"

```
  Short Description:            EN 55022 Voltage
  Start      Stop       Step      Detector  Meas.     IF      Transducer
  Frequency  Frequency  Width               Time      Bandw.
  150.0 kHz  30.0 MHz   4.0 kHz   QuasiPeak 1.0 s     9 kHz   LabF LI-215
                                  CISPR AV
```



1/22/09 11:19AM rvol_0001

AC Conducted

Line

EUT: RFID Reader Power Supply
Manufacturer: Mojix
Operating Condition: 120V

MEASUREMENT RESULT: "rvol_0001_fin QP"

1/22/09 11:19AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
13.668000	32.40	9.3	60	27.6	1	---
14.132000	33.20	9.3	60	26.8	1	---
14.276000	33.50	9.3	60	26.5	1	---
14.364000	33.10	9.3	60	26.9	1	---
14.476000	34.50	9.3	60	25.5	1	---
14.480000	33.10	9.3	60	26.9	1	---
14.596000	32.50	9.3	60	27.5	1	---
14.708000	33.80	9.3	60	26.2	1	---
14.712000	32.10	9.3	60	27.9	1	---
14.824000	35.70	9.3	60	24.3	1	---
14.828000	33.40	9.3	60	26.6	1	---
14.940000	34.60	9.3	60	25.4	1	---
14.944000	33.40	9.3	60	26.6	1	---
15.288000	35.60	9.3	60	24.4	1	---
15.292000	34.80	9.3	60	25.2	1	---

MEASUREMENT RESULT: "rvol_0001_fin AV"

1/22/09 11:19AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
13.900000	29.70	9.3	50	20.3	1	---
14.016000	30.00	9.3	50	20.0	1	---
14.132000	30.50	9.3	50	19.5	1	---
14.248000	30.50	9.3	50	19.5	1	---
14.364000	30.70	9.3	50	19.3	1	---
14.480000	30.50	9.3	50	19.5	1	---
14.596000	30.30	9.3	50	19.7	1	---
14.708000	32.50	9.3	50	17.5	1	---
14.712000	29.90	9.3	50	20.1	1	---
14.824000	32.80	9.3	50	17.2	1	---
14.828000	29.90	9.3	50	20.1	1	---
14.944000	29.60	9.3	50	20.4	1	---
15.060000	28.20	9.3	50	21.8	1	---
15.176000	27.50	9.3	50	22.5	1	---
15.292000	27.30	9.3	50	22.7	1	---

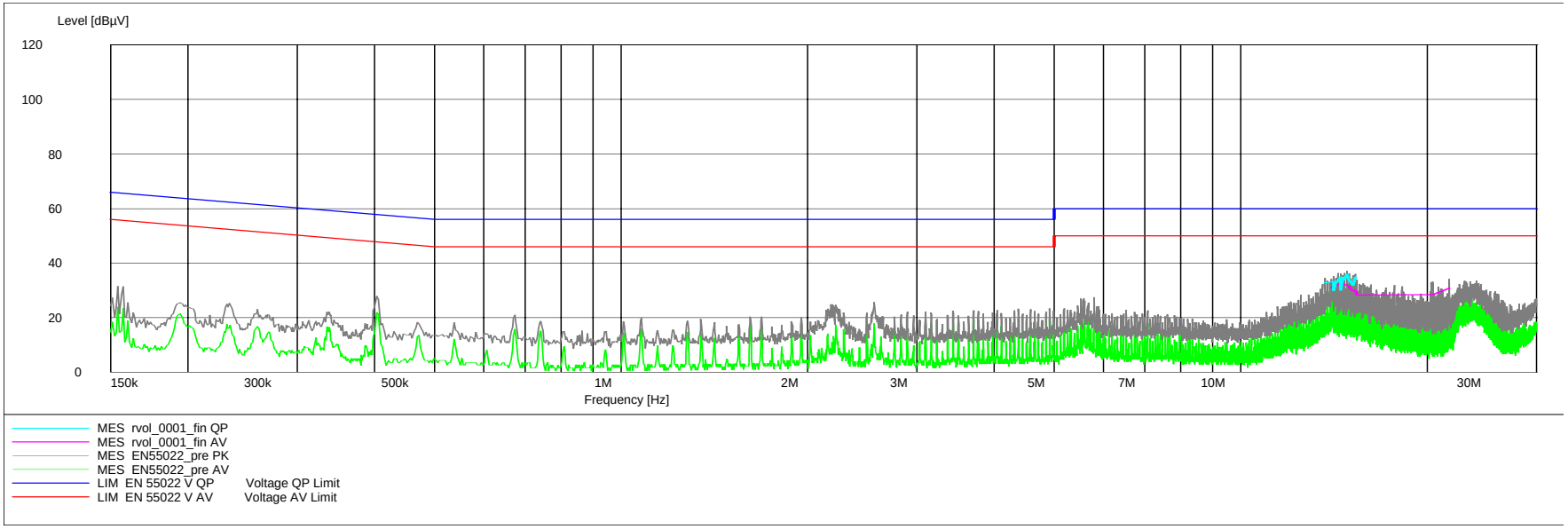
AC Conducted

Neutral

```
EUT:                  RFID Reader Power Supply
Manufacturer:         Mojix
Operating Condition:  120V
Test Site:            Lab F
Operator:             R. Ramirez
Test Specification:   EN55022 B
Comment:              STAR Power Supply
Start of Test:        1/22/09 / 11:20:44AM
```

SCAN TABLE: "EN 55022 VoltageFin"

```
  Short Description:            EN 55022 Voltage
  Start      Stop       Step      Detector  Meas.     IF      Transducer
  Frequency  Frequency  Width               Time      Bandw.
  150.0 kHz  30.0 MHz   4.0 kHz   QuasiPeak 1.0 s     9 kHz   LabF LI-215
                                  CISPR AV
```



1/22/09 11:25AM rvol_0001

AC Conducted

Neutral

EUT: RFID Reader Power Supply
Manufacturer: Mojix
Operating Condition: 120V

MEASUREMENT RESULT: "rvol_0001_fin QP"

1/22/09 11:24AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
13.664000	32.80	9.3	60	27.2	1	---
14.128000	33.30	9.3	60	26.7	1	---
14.132000	30.00	9.3	60	30.0	1	---
14.244000	33.40	9.3	60	26.6	1	---
14.336000	33.10	9.3	60	26.9	1	---
14.360000	33.80	9.3	60	26.2	1	---
14.476000	34.90	9.3	60	25.1	1	---
14.480000	30.10	9.3	60	29.9	1	---
14.592000	33.60	9.3	60	26.4	1	---
14.704000	34.90	9.3	60	25.1	1	---
14.708000	34.00	9.3	60	26.0	1	---
14.824000	35.90	9.3	60	24.1	1	---
14.940000	33.70	9.3	60	26.3	1	---
15.172000	31.90	9.3	60	28.1	1	---
15.288000	34.90	9.3	60	25.1	1	---

MEASUREMENT RESULT: "rvol_0001_fin AV"

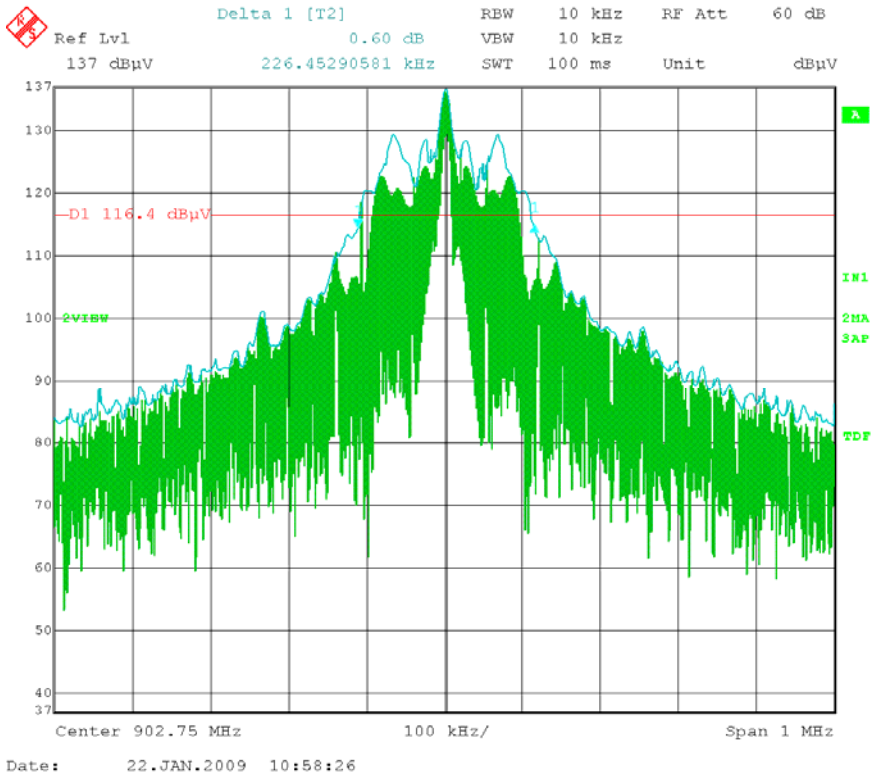
1/22/09 11:24AM

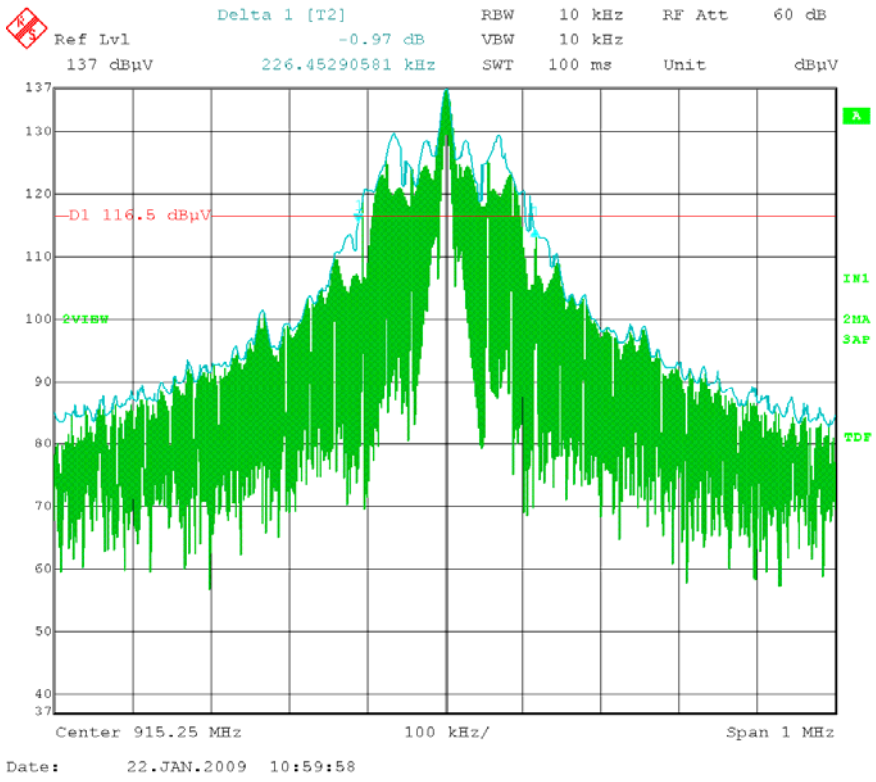
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
14.012000	31.00	9.3	50	19.0	1	---
14.128000	31.60	9.3	50	18.4	1	---
14.244000	31.90	9.3	50	18.1	1	---
14.360000	32.20	9.3	50	17.8	1	---
14.476000	32.40	9.3	50	17.6	1	---
14.592000	32.20	9.3	50	17.8	1	---
14.708000	32.10	9.3	50	17.9	1	---
14.824000	32.00	9.3	50	18.0	1	---
14.940000	31.40	9.3	50	18.6	1	---
15.056000	30.50	9.3	50	19.5	1	---
15.172000	29.80	9.3	50	20.2	1	---
15.288000	30.10	9.3	50	19.9	1	---
15.404000	28.30	9.3	50	21.7	1	---
20.384000	28.50	9.0	50	21.5	1	---
21.664000	30.80	9.0	50	19.2	1	---

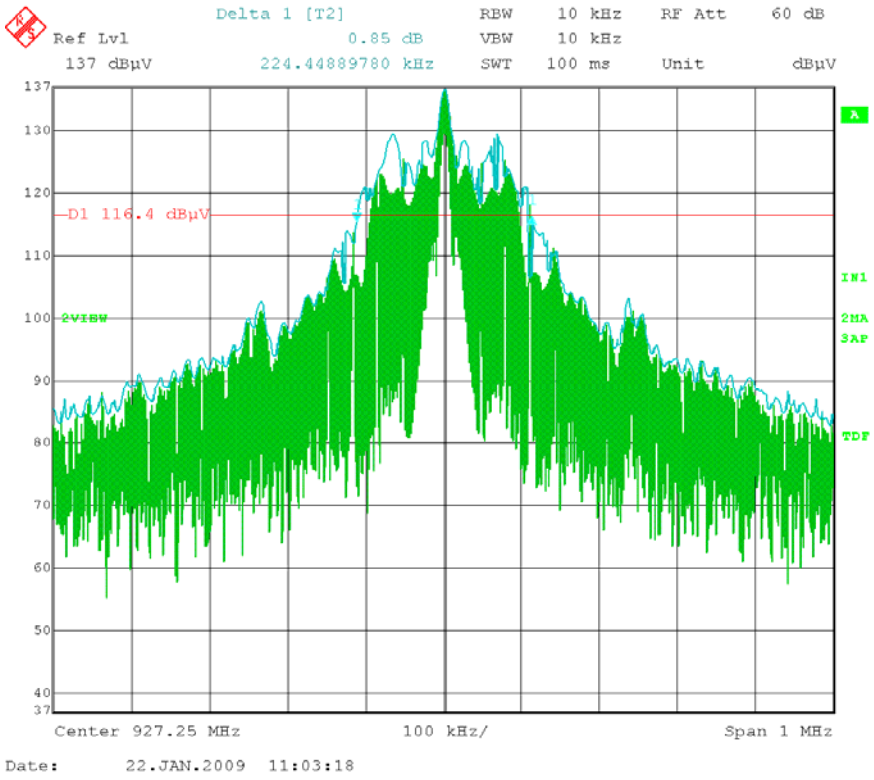
1/22/09 11:25AM rvol_0001

-20 dB BANDWIDTH

DATA SHEETS

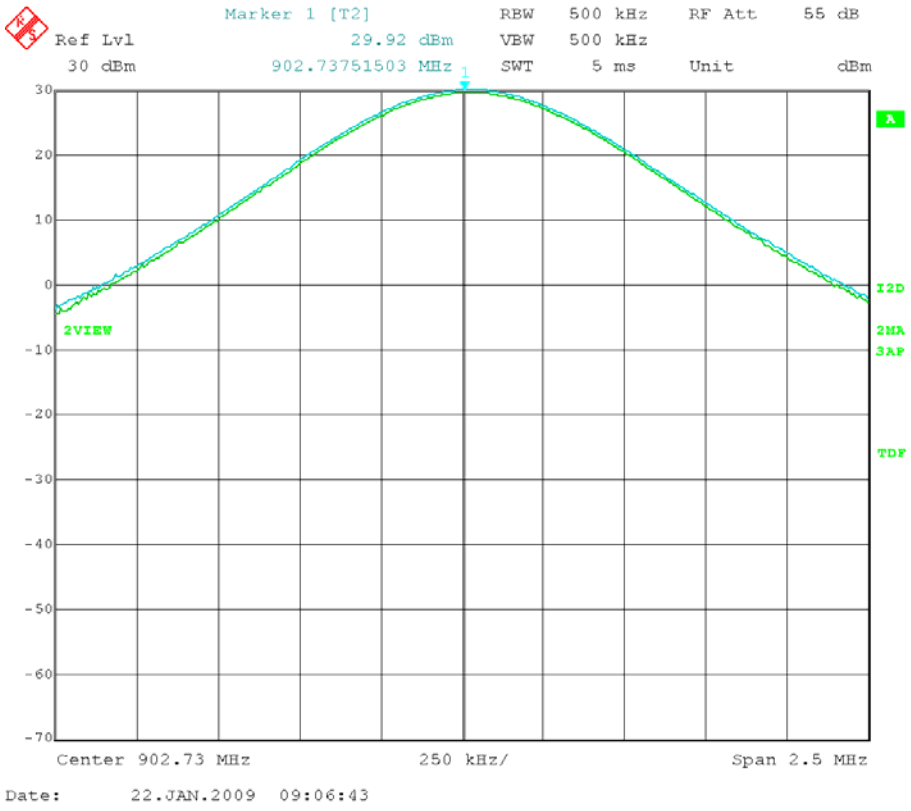

Delta 1 [T2]
RBW 10 kHz
RF Att 60 dB
Ref Lvl
0.60 dB
VBW 10 kHz
137 dBµV
226.45290581 kHz
SWT 100 ms
Unit dBµV
D1 116.4 dBµV
2VIEW
Center 902.75 MHz
100 kHz/
Span 1 MHz
Date: 22.JAN.2009 10:58:26


Delta 1 [T2]
RBW 10 kHz
RF Att 60 dB
Ref Lvl
-0.97 dB
VBW 10 kHz
137 dBµV
226.45290581 kHz
SWT 100 ms
Unit dBµV
137
130
120
110
100
90
80
70
60
50
40
37
D1 116.5 dBµV
2VIEW
A
IN1
2MA
3AP
TDF
Center 915.25 MHz
100 kHz/
Span 1 MHz
Date: 22.JAN.2009 10:59:58

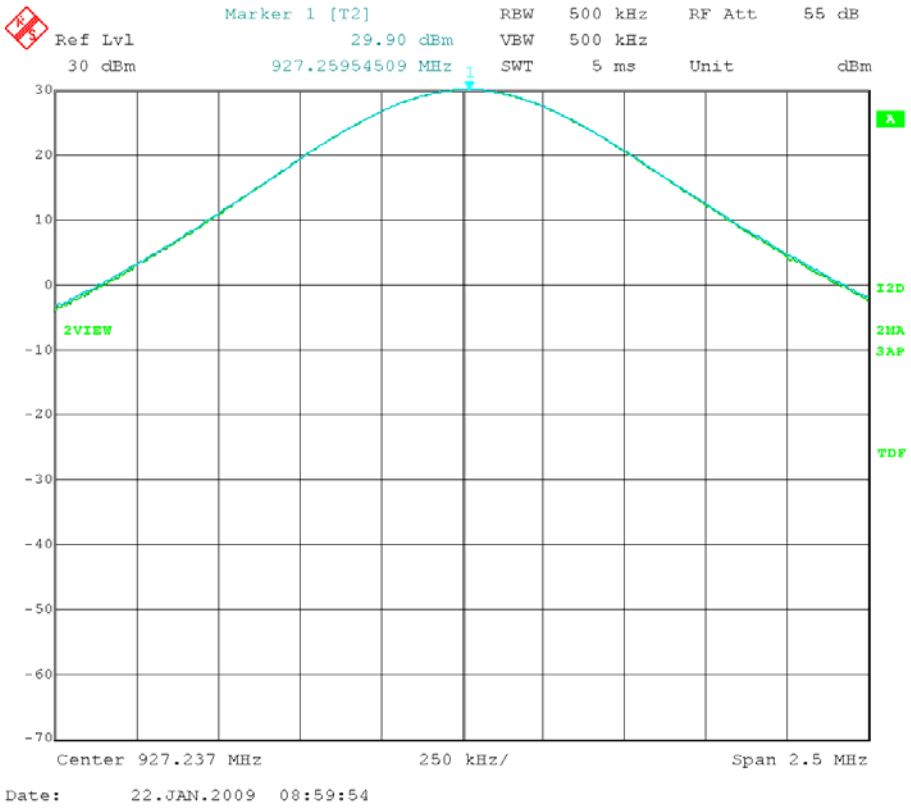

Delta 1 [T2]
RBW 10 kHz
RF Att 60 dB
Ref Lvl
0.85 dB
VBW 10 kHz
137 dBµV
224.44889780 kHz
SWT 100 ms
Unit dBµV
137
130
120
110
100
90
80
70
60
50
40
37
D1 116.4 dBµV
2VIEW
A
IN1
2MA
3AP
TDF
Center 927.25 MHz
100 kHz/
Span 1 MHz
Date: 22.JAN.2009 11:03:18

PEAK POWER OUTPUT

DATA SHEETS

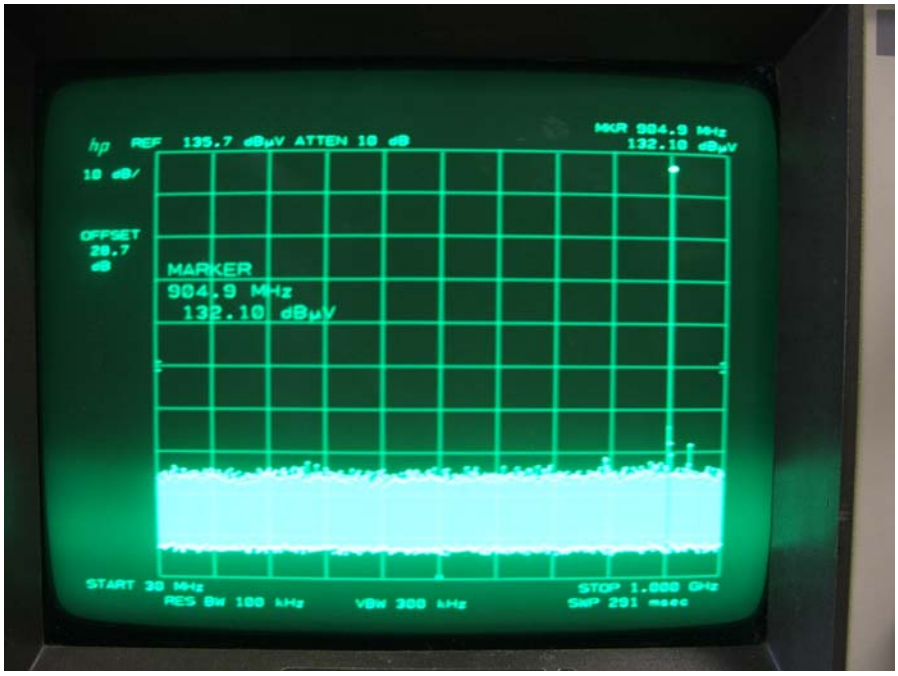

Marker 1 [T2]
RBW 500 kHz
RF Att 55 dB
Ref Lvl
29.92 dBm
VBW 500 kHz
30 dBm
902.73751503 MHz
SWT 5 ms
Unit dBm
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
2VIEW
I2D
2MA
3AP
TDF
Center 902.73 MHz
250 kHz/
Span 2.5 MHz
Date: 22.JAN.2009 09:06:43

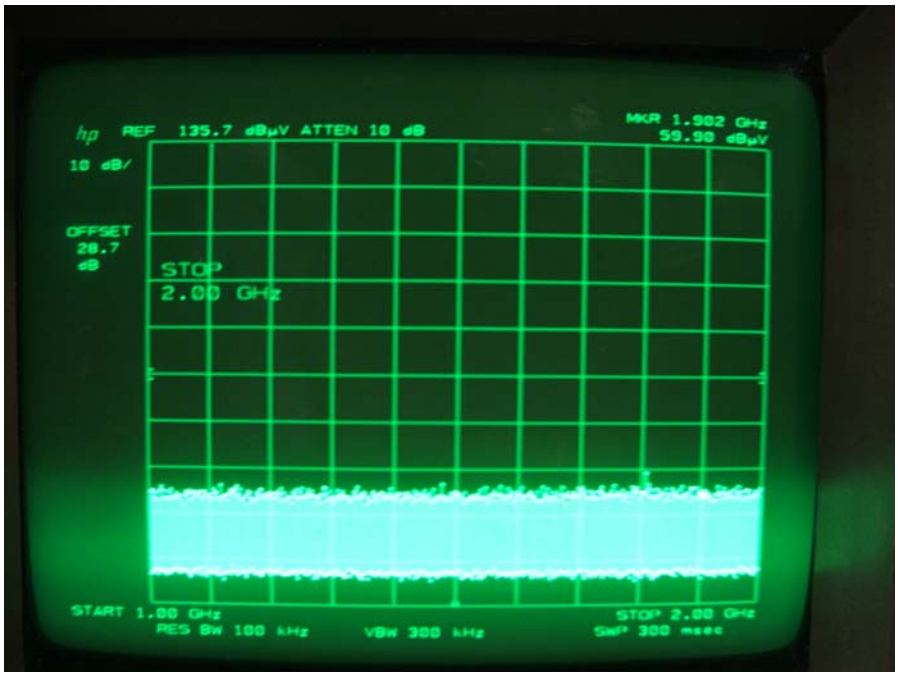

Marker 1 [T2]
RBW 500 kHz
RF Att 55 dB
Ref Lvl
29.88 dBm
VBW 500 kHz
30 dBm
915.26255511 MHz
SWT 5 ms
Unit dBm
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
2MAX
A
I2D
2MA
3AP
TDF
Center 915.235 MHz
250 kHz/
Span 2.5 MHz
Date: 22.JAN.2009 08:58:29

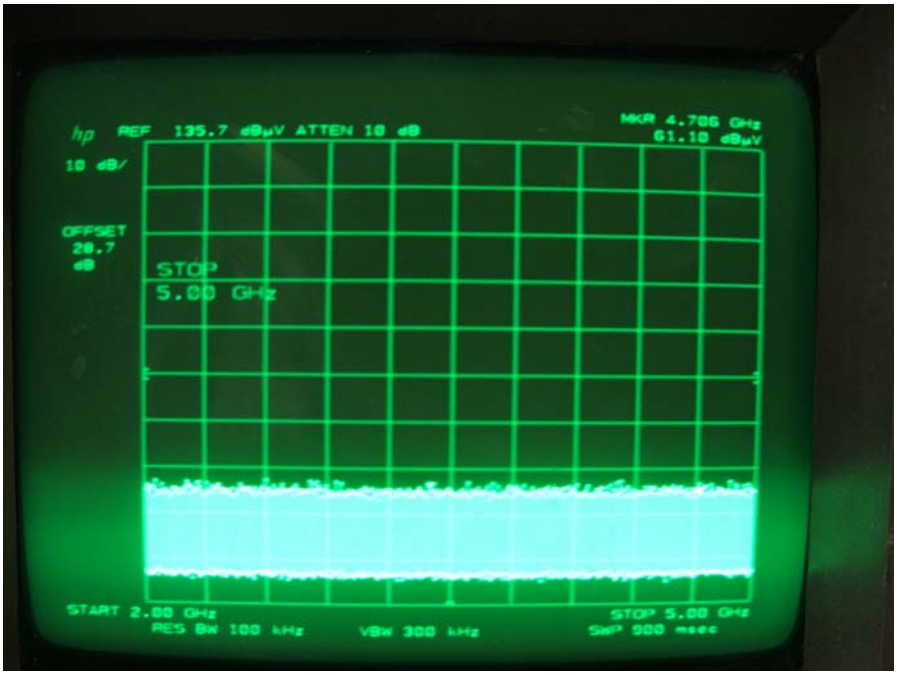

Marker 1 [T2]
RBW 500 kHz
RF Att 55 dB
Ref Lvl
29.90 dBm
VBW 500 kHz
30 dBm
927.25954509 MHz
SWT 5 ms
Unit dBm
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
2VIEW
A
I2D
2MA
3AP
TDF
Center 927.237 MHz
250 kHz/
Span 2.5 MHz
Date: 22.JAN.2009 08:59:54

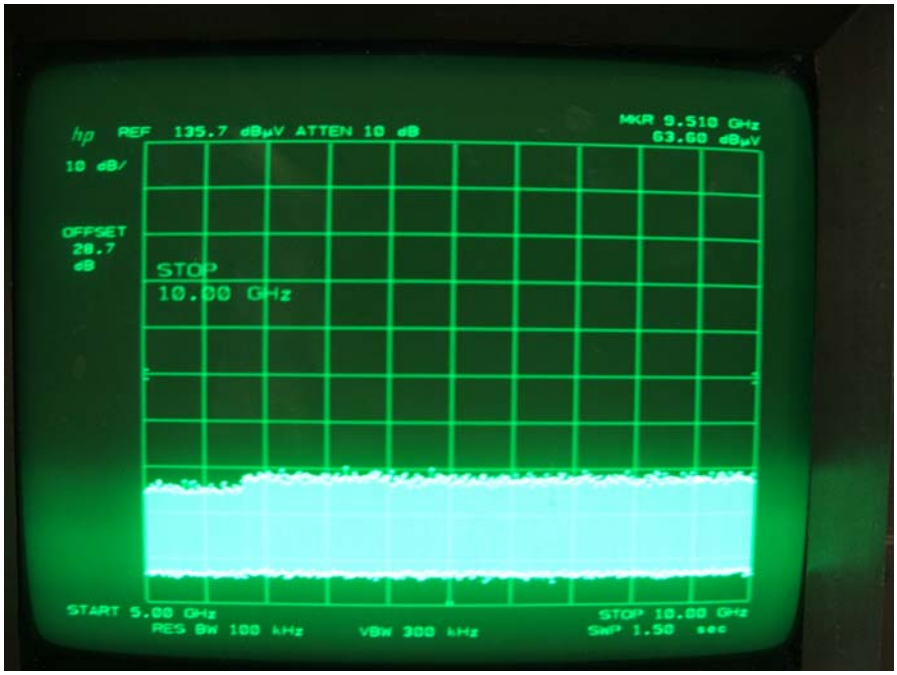
RF CONDUCTED ANTENNA TEST

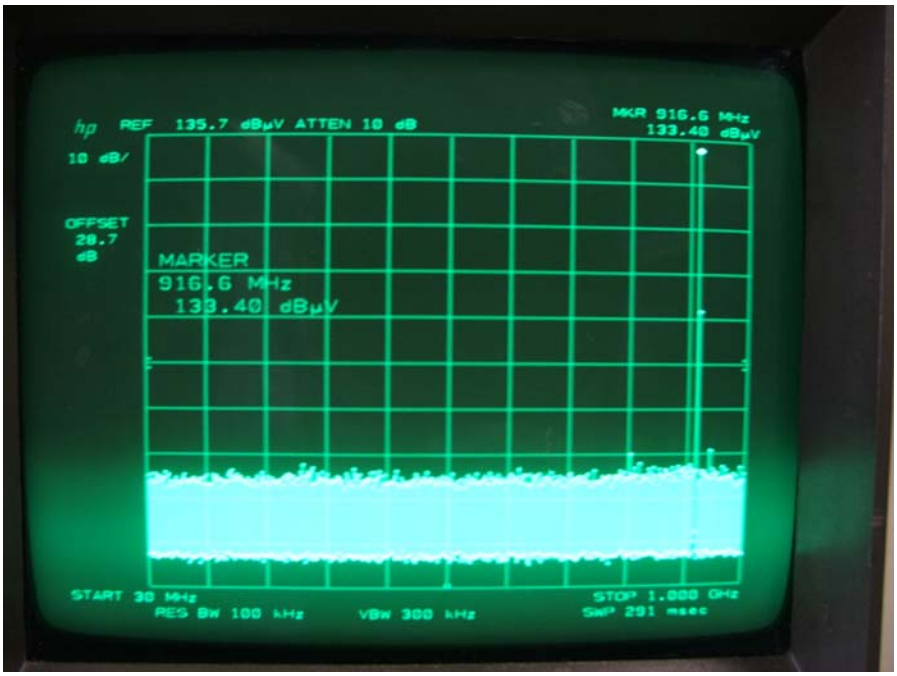
DATA SHEETS

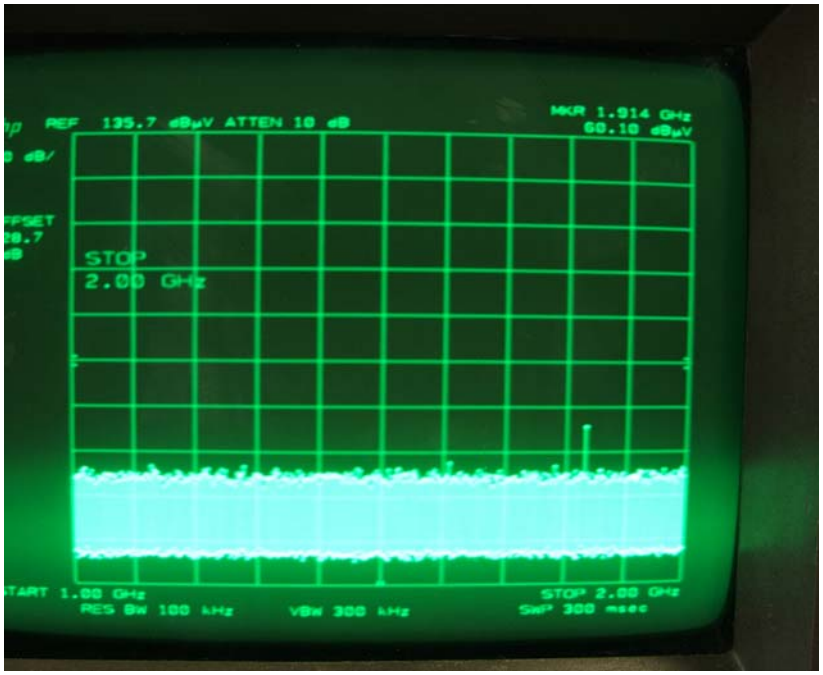

hp REF 135.7 dBµV ATTEN 10 dB
MKR 904.9 MHz
132.10 dBµV
10 dB/
OFFSET
20.7
dB
MARKER
904.9 MHz
132.10 dBµV
START 30 MHz
RES BW 100 kHz
VBW 300 kHz
STOP 1.000 GHz
SWP 201 msec

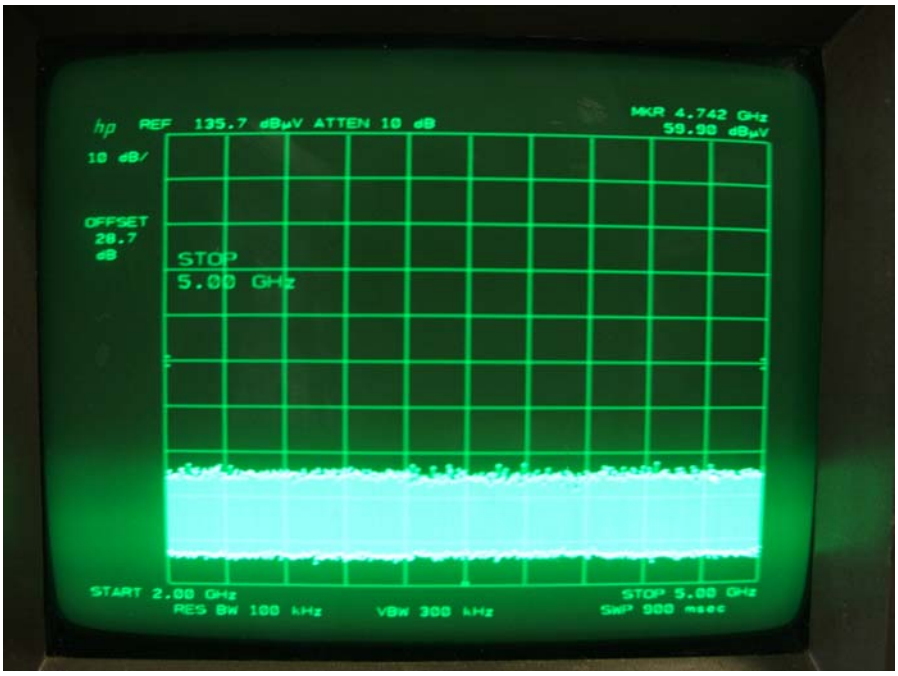

hp REF 135.7 dBµV ATTEN 10 dB
MKR 1.902 GHz
59.90 dBµV
10 dB/
OFFSET
20.7
dB
STOP
2.00 GHz
START 1.00 GHz
RES BW 100 kHz
VBW 300 kHz
STOP 2.00 GHz
SWP 300 msec

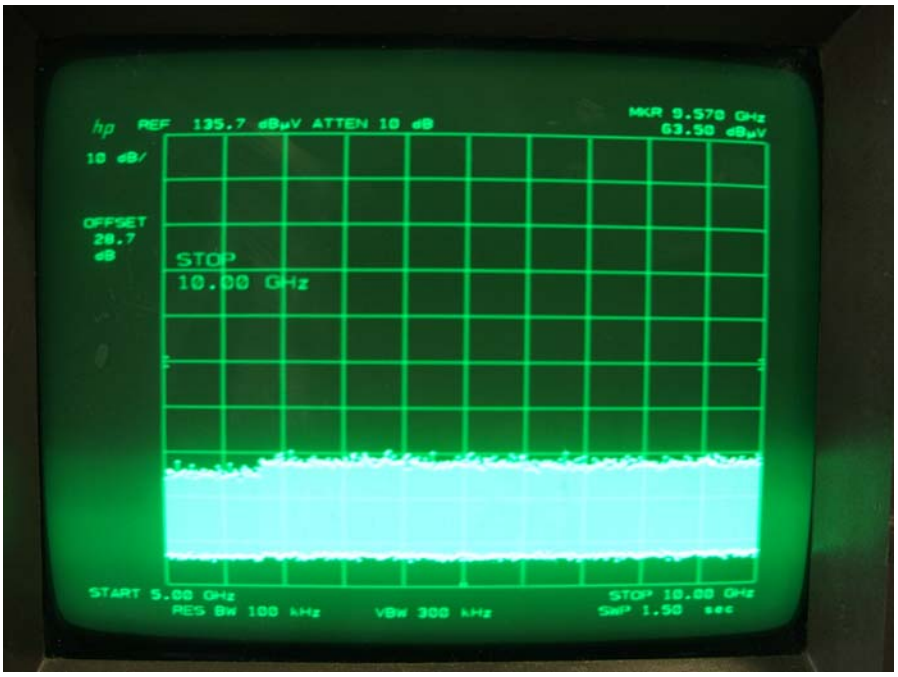

hp REF 135.7 dBµV ATTEN 10 dB
MKR 4.786 GHz
61.10 dBµV
10 dB/
OFFSET
20.7
dB
STOP
5.00 GHz
START 2.00 GHz
RES BW 100 kHz
VBW 300 kHz
STOP 5.00 GHz
SWP 900 msec

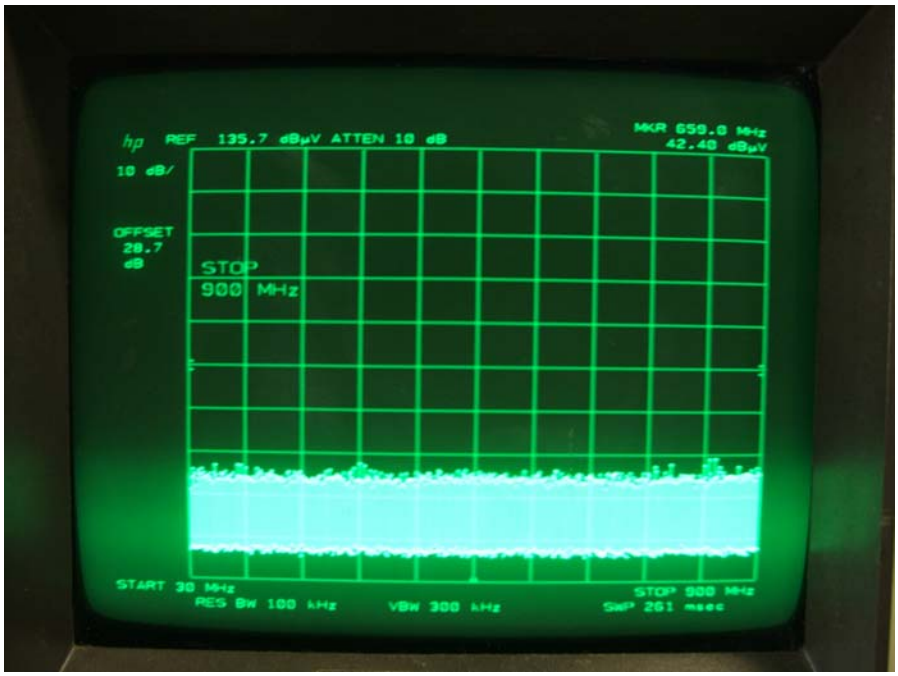

hp REF 135.7 dBµV ATTEN 10 dB
MKR 9.510 GHz
63.60 dBµV
10 dB/
OFFSET
20.7
dB
STOP
10.00 GHz
START 5.00 GHz
RES BW 100 kHz
VBW 300 kHz
STOP 10.00 GHz
SWP 1.50 sec

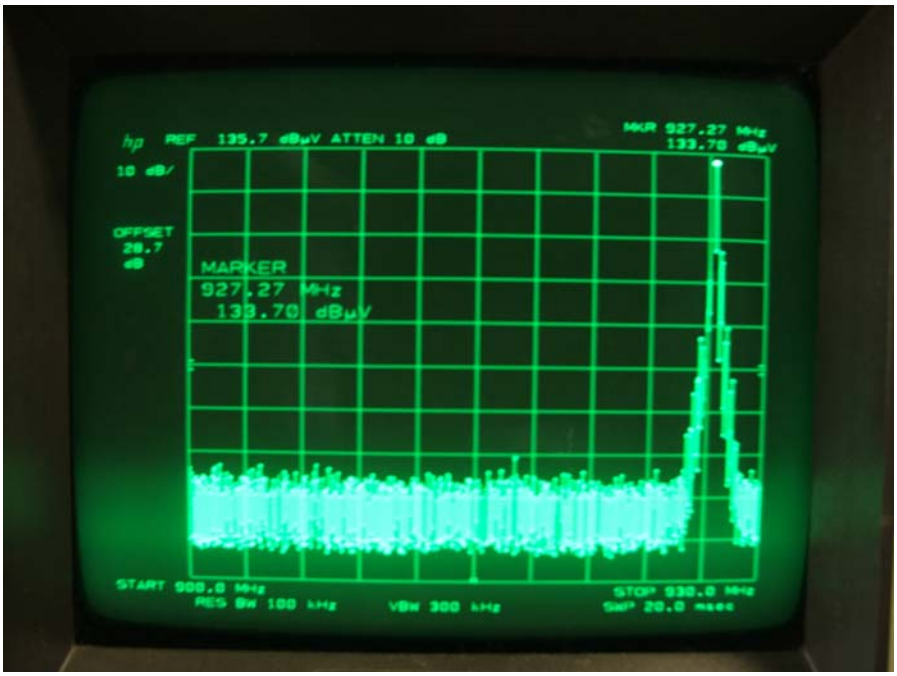

hp REF 135.7 dBµV ATTEN 10 dB
MKR 916.6 MHz
133.40 dBµV
10 dB/
OFFSET
28.7
dB
MARKER
916.6 MHz
133.40 dBµV
START 30 MHz
RES BW 100 kHz
VBW 300 kHz
STOP 1.000 GHz
SWP 291 msec

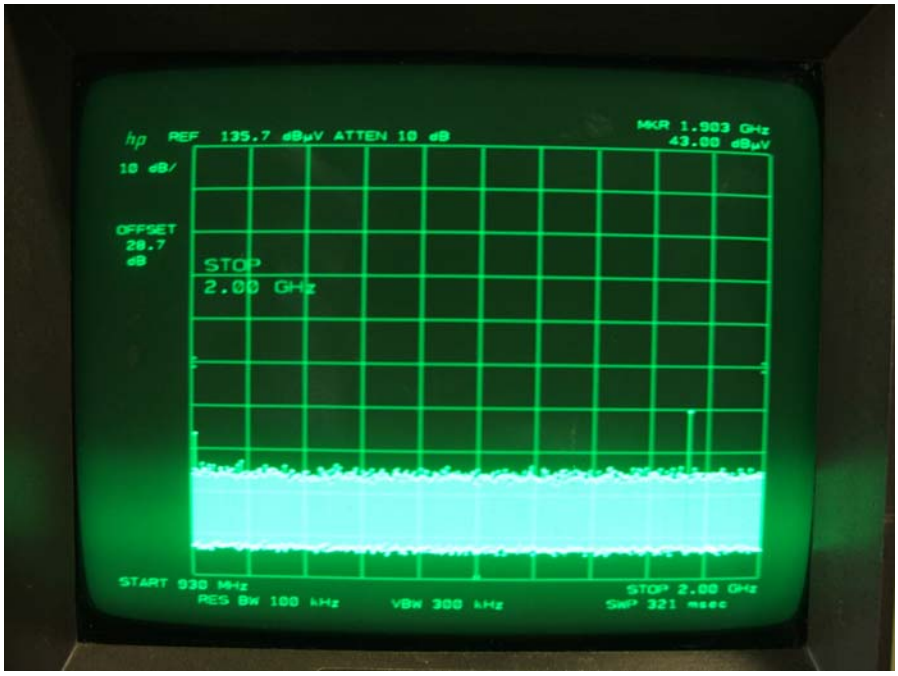

REF 135.7 dBµV ATTEN 10 dB
MKR 1.914 GHz
60.10 dBµV
STOP
2.00 GHz
RES BW 100 kHz
VBW 300 kHz
STOP 2.00 GHz
SWP 300 msec

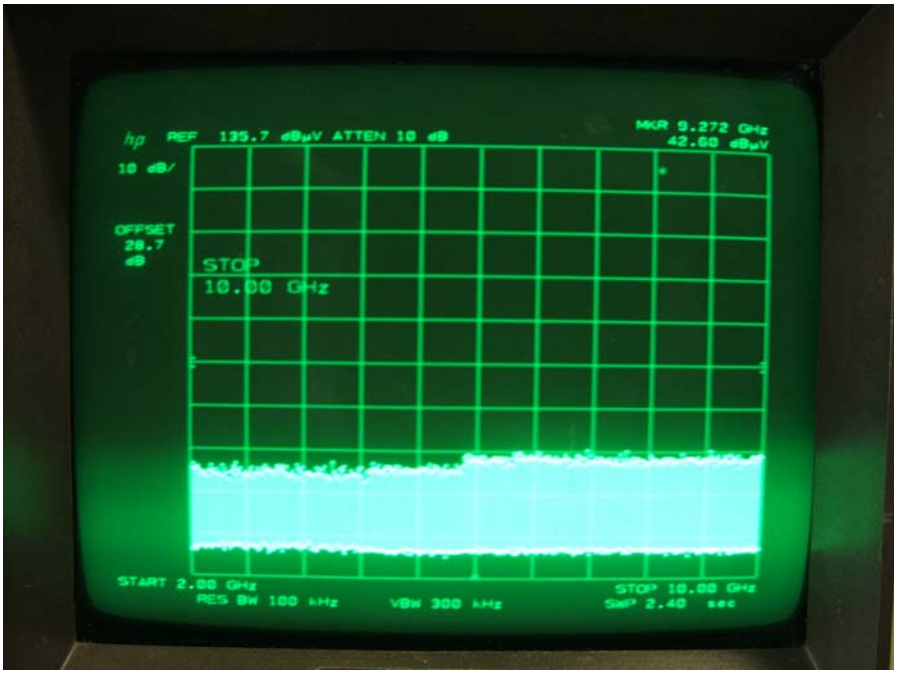

hp REF 135.7 dBµV ATTEN 10 dB
MKR 4.742 GHz
59.90 dBµV
10 dB/
OFFSET
28.7
dB
STOP
5.00 GHz
START 2.00 GHz
RES BW 100 kHz
VBW 300 kHz
STOP 5.00 GHz
SWP 900 msec


hp REF 135.7 dBµV ATTEN 10 dB
MKR 9.570 GHz
63.50 dBµV
10 dB/
OFFSET
28.7
dB
STOP
10.00 GHz
START 5.00 GHz
RES BW 100 kHz
VBW 300 kHz
STOP 10.00 GHz
SWP 1.50 sec


hp REF 135.7 dBµV ATTEN 10 dB
MKR 659.0 MHz
42.40 dBµV
10 dB/
OFFSET
28.7
dB
STOP
900 MHz
START 30 MHz
RES BW 100 kHz
VBW 300 kHz
STOP 900 MHz
SWP 261 msec

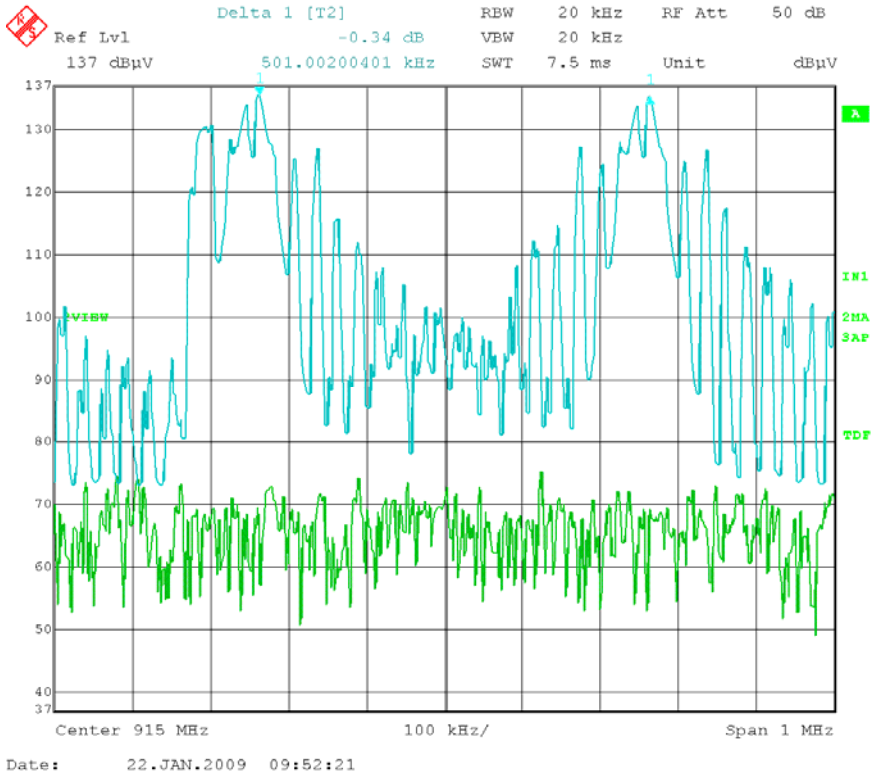

hp REF 135.7 dBµV ATTEN 10 dB
MKR 927.27 MHz
133.70 dBµV
10 dB/
OFFSET
28.7
dB
MARKER
927.27 MHz
133.70 dBµV
START 900.0 MHz
RES BW 100 kHz
VBW 300 kHz
STOP 930.0 MHz
SWP 20.0 msec


hp REF 135.7 dBµV ATTEN 10 dB
MKR 1.983 GHz
43.00 dBµV
10 dB/
OFFSET
20.7
dB
STOP
2.00 GHz
START 930 MHz
RES BW 100 kHz
VBW 300 kHz
STOP 2.00 GHz
SWP 321 msec


hp REF 135.7 dBµV ATTEN 10 dB
MKR 9.272 GHz
42.60 dBµV
10 dB/
OFFSET
20.7
dB
STOP
10.00 GHz
START 2.00 GHz
RES BW 100 kHz
VBW 300 kHz
STOP 10.00 GHz
SWP 2.40 sec

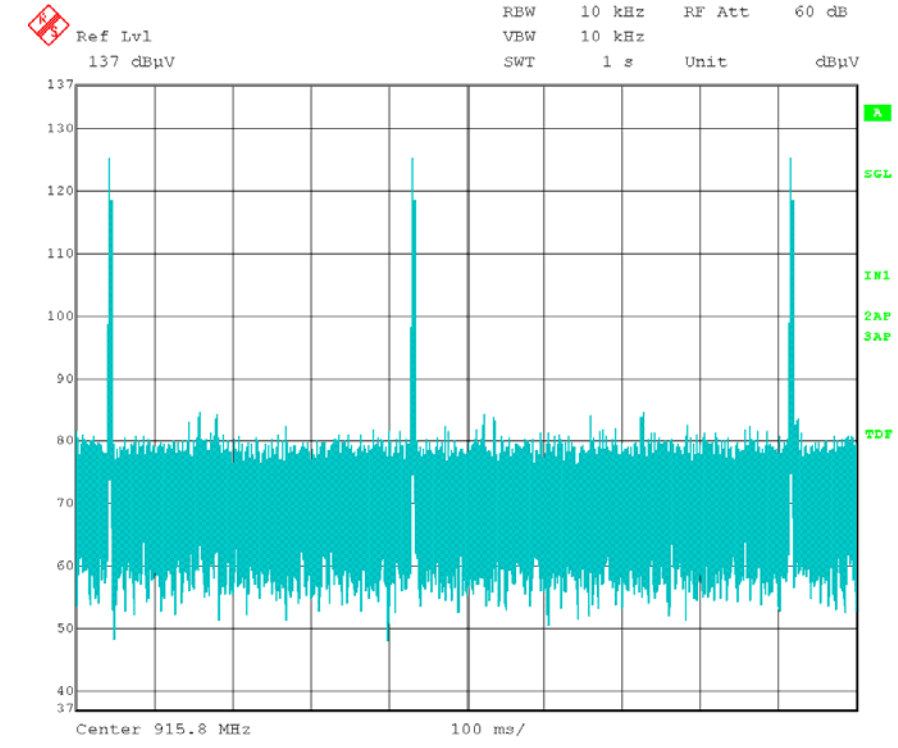
CHANNEL HOPPING SEPARATION

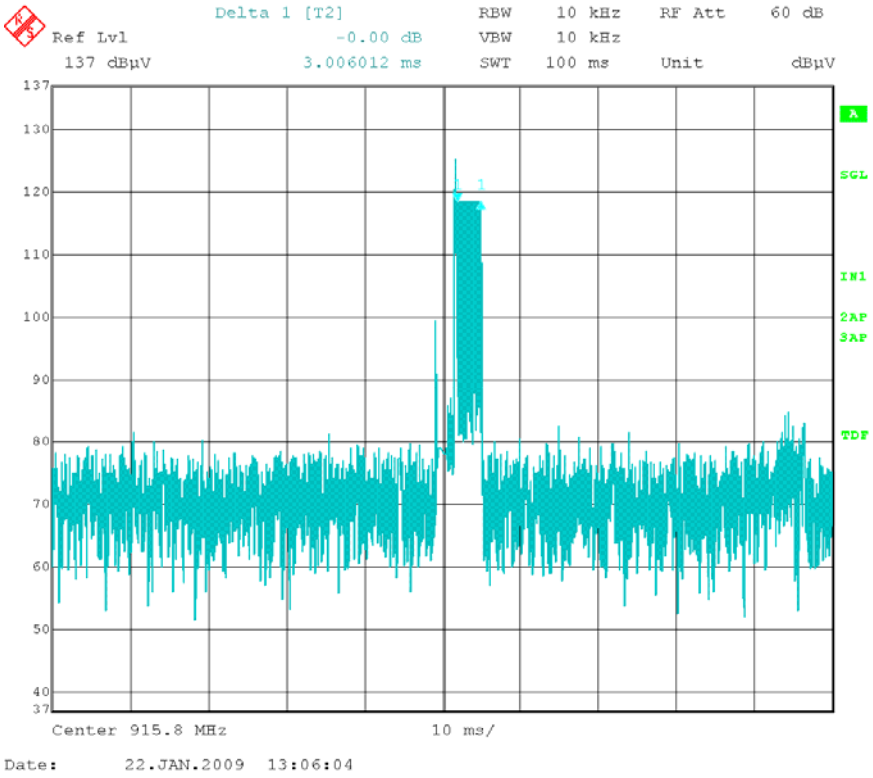
DATA SHEET


Delta 1 [T2]
RBW 20 kHz
RF Att 50 dB
Ref Lvl
-0.34 dB
VBW 20 kHz
137 dBµV
501.00200401 kHz
SWT 7.5 ms
Unit dBµV
137
130
120
110
100
90
80
70
60
50
40
37
PVIEW
A
IN1
2MA
SAP
TDF
Center 915 MHz
100 kHz/
Span 1 MHz
Date: 22.JAN.2009 09:52:21

AVERAGE TIME OF OCCUPANCY

DATA SHEETS

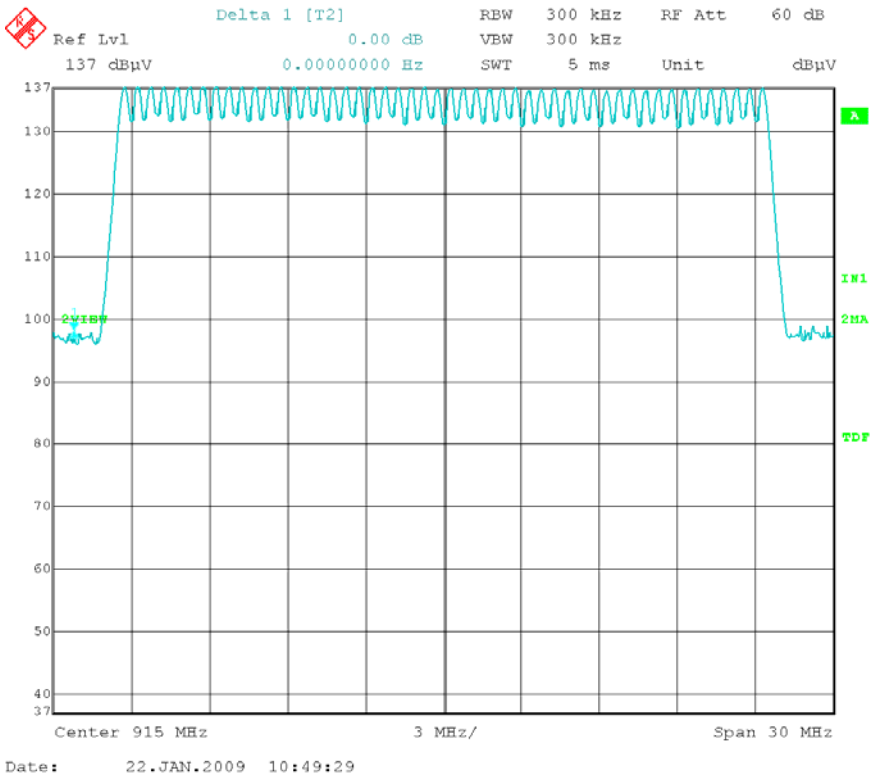




Date: 22.JAN.2009 13:06:04

NUMBER OF HOPPING FREQUENCIES

DATA SHEET


Delta 1 [T2]
RBW 300 kHz
RF Att 60 dB
Ref Lvl
0.00 dB
VBW 300 kHz
137 dBµV
0.00000000 Hz
SWT 5 ms
Unit dBµV
137
130
120
110
100
90
80
70
60
50
40
37
2VIEW
A
IN1
2MA
TDF
Center 915 MHz
3 MHz/
Span 30 MHz
Date: 22.JAN.2009 10:49:29