

**Application for Certification
For a LMS Transmitter.**

TRANSCORE
Amtech Technology Center
8600 Jefferson Street, NE
Albuquerque, NM 87113

Multiprotocol Reader Extreme
LMS Location and Monitoring Service

M/N: MPRX

FCC ID: FIHMPRX
IC: 1584A-MPRX

REPORT # UT76033A-002

This report was prepared in accordance with the requirements of the FCC Rules and Regulations Part 2, Subpart J, 2.1033, Part 90, and other applicable sections of the rules as indicated herein.

Prepared By:

DNB Engineering, Inc.
1100 E Chalk Creek Road
Coalville, UT 84017

8 Oct 2016

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Paragraph numbers in this report follow the application section numbers found in the FEDERAL COMMUNICATIONS COMMISSION Rules and Regulations, Part 2, Subpart J for Certification of electronic equipment.

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1.0 ADMINISTRATIVE DATA

1.1 Certifications and Qualifications

I certify that DNB Engineering, Inc conducted the tests performed in order to obtain the technical data presented in this application. Also, based on the results of the enclosed data, I have concluded that the equipment tested meets or exceeds the requirements of the Rules and Regulations governing this application.

1.2 Measurement Repeatability Information

The test data presented in this report has been acquired using the guidelines set forth in FCC Part 2.1031 through 2.1057, Part 90 and RSS-137. The test results presented in this document are valid only for the equipment identified herein under the test conditions described. Repeatability of these test results will only be achieved with identical measurement conditions. These conditions include: The same test distance, EUT Height, Measurement Site Characteristics, and the same EUT System Components. The system must have the same Interconnecting Cables arranged in identical placement to that in the test set-up, with the system and/or EUT functioning in the identical mode of operation (i.e. software and so on) as on the date of the test. Any deviation from the test conditions and the environment on the date of the test may result in measurement repeatability difficulties.

1.3 Test Procedure

The basic test procedure for evaluating this device was TIA-603-D (June 2010).

All changes made to the EUT during the course of testing as identified in this test report must be incorporated into the EUT or identical models to ensure compliance with the FCC regulations.



C. L. Payne III (Para. 1.1)
Sr Compliance Engineer
Coalville Facility.
DNB Engineering, Inc.
Tel. (435) 336-4433
FAX (435) 336-4436

1.4 Test Equipment List

TEST EQUIPMENT LIST					
Description	Manufacturer	Model No.	Asset #	Serial #	Cal Due
Amplifier	HP	8447D	U-065	2727A06180	31 May 2017
Amplifier	HP	8447D	U-066	2727A06181	4 Mar 2018
Amplifier	HP	8447D	U-068	2727A06184	22 Apr 2018
Bicon Antenna	Schwarzbeck	BBA9106	U-186	7	18 May 2017
Log P Antenna	Schwarzbeck	UHAL09107	U-010	10	21 Dec 2017
Log P Antenna	Schwarzbeck	UHAL09107	U-011	L11	27 Apr 2017
DRG Horn Antenna	AH Systems	SAS-200/571	U-156	222	23 Apr 2017
DRG Horn Antenna	AH Systems	SAS-200/571	U-071	417	9 Jul 2017
HF Cable	W.L.Grove	N/A	U-075	P44597	3 Dec 2016
Spectrum Analyzer	Agilent	E7401A	U-257	MY42000103	29 Dec 2017
Spectrum Analyzer	R&S	FSV30	U-248	101367	13 Jul 2018
TILE Software	ETS- Lindgern	3.4.11.13	U-317	8112006	30 Nov 2016
Attenuator (40dB)	Inmet	18N50W-40dB	U-077B	64621	28 Jul 2017

1.5 Measurement Uncertainty

Measurement Type	Uncertainty
AC Conducted Emissions	± 3.41 dB
OATS - Radiated Emissions - Vertical Biconical (30-300MHz)	± 4.15 dB
OATS - Radiated Emissions - Horizontal Biconical (30-300MHz)	± 4.18 dB
OATS - Radiated Emissions - Vertical Log Periodic (300-100MHz)	± 5.62 dB
OATS - Radiated Emissions - Horizontal Log Periodic (300-1000MHz)	± 4.40 dB
OATS - Radiated Emissions - Vertical DRG Horn (> 1GHz)	± 5.09 dB
OATS - Radiated Emissions - Horizontal DRG Horn (>1GHz)	± 5.17 dB
Antenna Conducted Measurements	± 1.96 dB

2.1033 (b) (1) Application for Certification

Name of Applicant: Transcore
 8600 Jefferson Street, NE
 Albuquerque, NM 87113

FRN Number: 0006083745

Applicant is: X Transcore
 Vendor
 Licensee
 Prospective Licensee
 Other

Name of Manufacturer : Transcore
 8600 Jefferson Street, NE
 Albuquerque, NM 87113

Description: LMS Transmitter

Part Number: MPRX

Anticipated Production Quantity: Multiple Units

Authorized Frequency Band: 902 - 904 and 909.750 - 921.750 MHz

Rated Power: 1.6 W

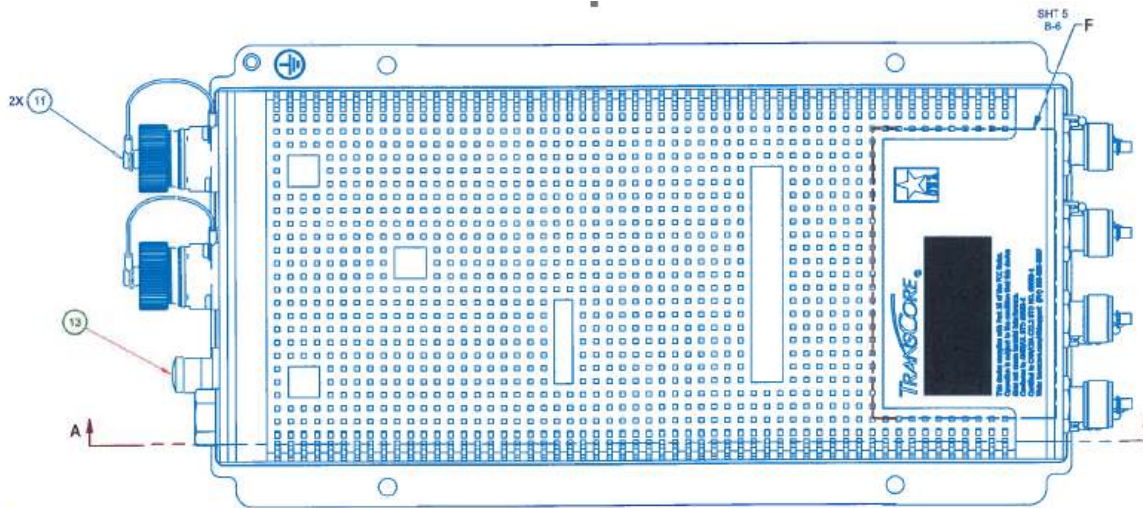
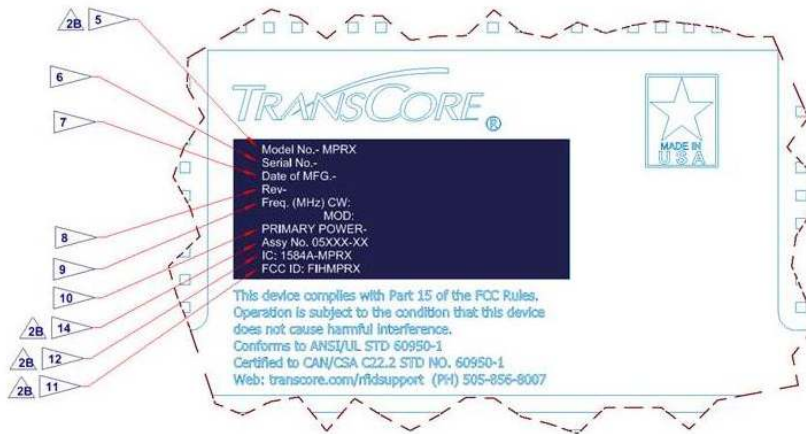
Antenna (Maximum Gain): 13.8dBi

Emission Modulation and Designators		
Freq in MHz	Modulation	Designator
902.250 to 903.750	ATA (CW)	NON
910.000 to 921.500	ATA (CW)	NON
911.750 to 919.750	eGo	356K0L1D
911.750 to 919.750	SeGo	506K4L1D
911.750 to 919.750	IAG	380K0L1D
911.750 to 919.750	EPC	455K7L1D

2.1033 (b) (2) FCC Identifier

FCC ID: FIHMPRX
IC: 1584A-MPRX

Figure 1 - Label and location



2.1033 (b) (3) Installation and Operating Instructions

Supplied separately.

2.1033 (b) (4) Brief Description of Circuit Function

The EUT operates as an location and monitoring multiprotocol reader for the RFID industry rated for dust and water ingress protection in harsh outdoor environments. The design incorporates four input output radio frequency ports (antenna ports) for external antenna connection. The design utilizes a single port at anytime and may automatically switch between ports. Operation of design utilizes industry standardized modulation schemes offering ability to read RFID tags from multiple sources.

2.1033 (b) (5) Block Diagram

Supplied separately for confidentiality.

2.1033 (b) (7) Equipment Photographs

Supplied separately for confidentiality.

2.1033 (b) (6) Report of Measurements

Measurements shall be made to establish the radio frequency power delivered by the transmitter into the standard output termination. The power output shall be monitored and recorded and no adjustment shall be made to the transmitter after the test has begun, except as noted below: If the power output is adjustable, measurements shall be made for the highest and lowest power levels.

The radio frequency power output was measured at the antenna terminal by replacing the antenna with cabling, spectrum analyzer and appropriate attenuation. The spectrum analyzer offered impedance of 50 Ω to match the impedance of the standard antenna. A Spectrum Analyzer was used to measure the radio frequency power at the antenna port. The data was taken in dBm and converted to watts as shown in the following Table. Plots have been provided displaying the output power of the transmitter. Data was taken per Paragraph 2.1046(a) and applicable paragraphs of Part 90.205(l) and RSS-137 paragraph 6.4.

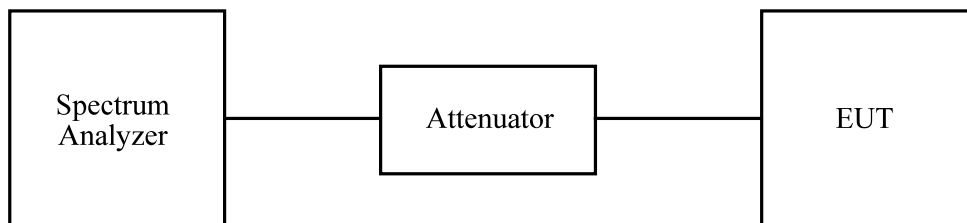
P_{dBm} = power in dB above 1 milliwatt.


$$\begin{aligned} \text{Milliwatts} &= 10^{(P_{dBm}/10)} \\ \text{Watts} &= (\text{Milliwatts})(0.001)(W/mW) \\ \text{Milliwatts} &= 10^{(32.02/10)} \\ &= 1,592.210 \text{ mW} \\ &= 1.6 \text{ Watts} \end{aligned}$$

EUT operating conditions:


The software provided by the client to enable the EUT to transmit continuously at the each channel respectively.

Test Set Up:




		1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436		RF Power Output									
DNB Job Number:		76033		Date:		7-9 Sep 2016		Conformance Standard FCC Part 90 RSS-137					
Customer:		Transcore											
Model Number:		MPRX											
Description:		Multiprotocol Reader Extreme		Clause 90.205(1) RSS-137 cl 6.4									
Environmental Conditions													
Ambient Temperature				Relative Humidity				Barometric Pressure					
21 °C				25 %				101.2 kPa					
EUT performed within the requirements of the applicable standard <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>Les Payne</i>													
Band	Chl	Port	Freq in MHz	Mode	P _{dBm}	Ant Gain	Cable Loss	ERP P _{dBm}	ERP P _{mw}	ERP P _w	Limit	Delta	Result
Low	Low	0	902.249630	ATA	31.82	11.65	1.10	42.37	17258.379	17.26	30.00	-12.74	PASS
Low	Middle	0	902.998880	ATA	31.72	11.65	1.10	42.27	16865.530	16.87	30.00	-13.13	PASS
Low	High	0	903.750120	ATA	31.70	11.65	1.10	42.25	16788.040	16.79	30.00	-13.21	PASS
High	Low	0	910.000120	ATA	31.89	11.65	1.10	42.44	17538.805	17.54	30.00	-12.46	PASS
High	Middle	0	915.750250	ATA	31.68	11.65	1.10	42.23	16710.906	16.71	30.00	-13.29	PASS
High	High	0	921.499250	ATA	31.93	11.65	1.10	42.48	17701.090	17.70	30.00	-12.30	PASS
High	Low	0	911.749380	eGo	31.78	11.65	1.10	42.33	17100.153	17.10	30.00	-12.90	PASS
High	Middle	0	915.750000	eGo	31.96	11.65	1.10	42.51	17823.788	17.82	30.00	-12.18	PASS
High	High	0	919.750620	eGo	31.99	11.65	1.10	42.54	17947.336	17.95	30.00	-12.05	PASS
High	Low	0	911.750000	EPC	31.88	11.65	1.10	42.43	17498.467	17.50	30.00	-12.50	PASS
High	Middle	0	915.750000	EPC	31.69	11.65	1.10	42.24	16749.429	16.75	30.00	-13.25	PASS
High	High	0	919.750620	EPC	32.01	11.65	1.10	42.56	18030.177	18.03	30.00	-11.97	PASS
High	Low	0	911.749380	SeGo	31.81	11.65	1.10	42.36	17218.686	17.22	30.00	-12.78	PASS
High	Middle	0	915.750000	SeGo	31.63	11.65	1.10	42.18	16519.618	16.52	30.00	-13.48	PASS
High	High	0	919.750000	SeGo	32.01	11.65	1.10	42.56	18030.177	18.03	30.00	-11.97	PASS
High	Low	0	911.751250	IAG	31.70	11.65	1.10	42.25	16788.040	16.79	30.00	-13.21	PASS
High	Middle	0	915.752500	IAG	31.49	11.65	1.10	42.04	15995.580	16.00	30.00	-14.00	PASS
High	High	0	919.752500	IAG	31.73	11.65	1.10	42.28	16904.409	16.90	30.00	-13.10	PASS


Note: EUT has one transmitter circuit which is multiplexed through four ports (0 - 3). Transmitter Output Power was measured on each port to verify consistency between ports. Only one port can be active at any time.

		1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436		RF Power Output									
DNB Job Number:		76033		Date:		7-9 Sep 2016		Conformance Standard FCC Part 90 RSS-137					
Customer:		Transcore											
Model Number:		MPRX											
Description:		Multiprotocol Reader Extreme		Clause 90.205(I) RSS-137 cl 6.4									
Environmental Conditions													
Ambient Temperature				Relative Humidity				Barometric Pressure					
21 °C				25 %				101.2 kPa					
EUT performed within the requirements of the applicable standard <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>Les Payne</i>													
Band	Chl	Port	Freq in MHz	Mode	P _{dBm}	Ant Gain	Cable Loss	ERP P _{dBm}	ERP P _{mw}	ERP P _w	Limit	Delta	Result
Low	Low	1	902.249750	ATA	31.74	11.65	1.10	42.29	16943.378	16.94	30.00	-13.06	PASS
Low	Middle	1	903.000250	ATA	31.73	11.65	1.10	42.28	16904.409	16.90	30.00	-13.10	PASS
Low	High	1	903.749130	ATA	31.68	11.65	1.10	42.23	16710.906	16.71	30.00	-13.29	PASS
High	Low	1	910.000120	ATA	31.91	11.65	1.10	42.46	17619.760	17.62	30.00	-12.38	PASS
High	Middle	1	915.750000	ATA	31.69	11.65	1.10	42.24	16749.429	16.75	30.00	-13.25	PASS
High	High	1	921.499130	ATA	31.95	11.65	1.10	42.50	17782.794	17.78	30.00	-12.22	PASS
High	Low	1	911.750000	eGo	31.91	11.65	1.10	42.46	17619.760	17.62	30.00	-12.38	PASS
High	Middle	1	915.750000	eGo	31.64	11.65	1.10	42.19	16557.700	16.56	30.00	-13.44	PASS
High	High	1	919.750620	eGo	31.52	11.65	1.10	42.07	16106.456	16.11	30.00	-13.89	PASS
High	Low	1	911.750000	EPC	31.99	11.65	1.10	42.54	17947.336	17.95	30.00	-12.05	PASS
High	Middle	1	915.750000	EPC	31.69	11.65	1.10	42.24	16749.429	16.75	30.00	-13.25	PASS
High	High	1	919.750000	EPC	31.55	11.65	1.10	42.10	16218.101	16.22	30.00	-13.78	PASS
High	Low	1	911.750000	SeGo	31.69	11.65	1.10	42.24	16749.429	16.75	30.00	-13.25	PASS
High	Middle	1	915.750000	SeGo	31.67	11.65	1.10	42.22	16672.472	16.67	30.00	-13.33	PASS
High	High	1	919.750000	SeGo	32.00	11.65	1.10	42.55	17988.709	17.99	30.00	-12.01	PASS
High	Low	1	911.751250	IAG	31.71	11.65	1.10	42.26	16826.741	16.83	30.00	-13.17	PASS
High	Middle	1	915.750620	IAG	31.46	11.65	1.10	42.01	15885.467	15.89	30.00	-14.11	PASS
High	High	1	919.750000	IAG	31.76	11.65	1.10	42.31	17021.585	17.02	30.00	-12.98	PASS

Note: EUT has one transmitter circuit which is multiplexed through four ports (0 - 3). Transmitter Output Power was measured on each port to verify consistency between ports. Only one port can be active at any time.

		1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436		RF Power Output									
DNB Job Number:		76033		Date:		7-9 Sep 2016		Conformance Standard FCC Part 90 RSS-137					
Customer:		Transcore											
Model Number:		MPRX											
Description:		Multiprotocol Reader Extreme		Clause 90.205(I) RSS-137 cl 6.4									
Environmental Conditions													
Ambient Temperature				Relative Humidity				Barometric Pressure					
21 °C				25 %				101.2 kPa					
EUT performed within the requirements of the applicable standard <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>Les Payne</i>													
Band	Chl	Port	Freq in MHz	Mode	P _{dBm}	Ant Gain	Cable Loss	ERP P _{dBm}	ERP P _{mw}	ERP P _w	Limit	Delta	Result
Low	Low	2	902.249750	ATA	31.73	11.65	1.10	42.28	16904.409	16.90	30.00	-13.10	PASS
Low	Middle	2	902.999500	ATA	31.67	11.65	1.10	42.22	16672.472	16.67	30.00	-13.33	PASS
Low	High	2	903.750250	ATA	31.67	11.65	1.10	42.22	16672.472	16.67	30.00	-13.33	PASS
High	Low	2	909.999880	ATA	31.90	11.65	1.10	42.45	17579.236	17.58	30.00	-12.42	PASS
High	Middle	2	915.749750	ATA	31.69	11.65	1.10	42.24	16749.429	16.75	30.00	-13.25	PASS
High	High	2	921.500120	ATA	31.94	11.65	1.10	42.49	17741.895	17.74	30.00	-12.26	PASS
High	Low	2	911.750000	eGo	31.87	11.65	1.10	42.42	17458.222	17.46	30.00	-12.54	PASS
High	Middle	2	915.750000	eGo	31.60	11.65	1.10	42.15	16405.898	16.41	30.00	-13.59	PASS
High	High	2	919.750620	eGo	31.48	11.65	1.10	42.03	15958.791	15.96	30.00	-14.04	PASS
High	Low	2	911.749380	EPC	31.90	11.65	1.10	42.45	17579.236	17.58	30.00	-12.42	PASS
High	Middle	2	915.750000	EPC	31.65	11.65	1.10	42.20	16595.869	16.60	30.00	-13.40	PASS
High	High	2	919.750000	EPC	31.98	11.65	1.10	42.53	17906.059	17.91	30.00	-12.09	PASS
High	Low	2	911.750000	SeGo	31.81	11.65	1.10	42.36	17218.686	17.22	30.00	-12.78	PASS
High	Middle	2	915.750000	SeGo	31.63	11.65	1.10	42.18	16519.618	16.52	30.00	-13.48	PASS
High	High	2	919.750620	SeGo	31.95	11.65	1.10	42.50	17782.794	17.78	30.00	-12.22	PASS
High	Low	2	911.751250	IAG	31.90	11.65	1.10	42.45	17579.236	17.58	30.00	-12.42	PASS
High	Middle	2	915.750620	IAG	31.40	11.65	1.10	41.95	15667.511	15.67	30.00	-14.33	PASS
High	High	2	919.751250	IAG	31.71	11.65	1.10	42.26	16826.741	16.83	30.00	-13.17	PASS

Note: EUT has one transmitter circuit which is multiplexed through four ports (0 - 3). Transmitter Output Power was measured on each port to verify consistency between ports. Only one port can be active at any time.

		1100 E Chalk Creek Road Coalville, UT 84017 (435) 336-4433 FAX (435) 336-4436		RF Power Output									
DNB Job Number:		76033		Date:		7-9 Sep 2016		Conformance Standard FCC Part 90 RSS-137					
Customer:		Transcore											
Model Number:		MPRX											
Description:		Multiprotocol Reader Extreme		Clause 90.205(I) RSS-137 cl 6.4									
Environmental Conditions													
Ambient Temperature				Relative Humidity				Barometric Pressure					
21 °C				25 %				101.2 kPa					
EUT performed within the requirements of the applicable standard <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>Les Payne</i>													
Band	Chl	Port	Freq in MHz	Mode	P _{dBm}	Ant Gain	Cable Loss	ERP P _{dBm}	ERP P _{mw}	ERP P _w	Limit	Delta	Result
Low	Low	3	902.248880	ATA	31.70	11.65	1.10	42.25	16788.040	16.79	30.00	-13.21	PASS
Low	Middle	3	903.000500	ATA	31.65	11.65	1.10	42.20	16595.869	16.60	30.00	-13.40	PASS
Low	High	3	903.749130	ATA	31.64	11.65	1.10	42.19	16557.700	16.56	30.00	-13.44	PASS
High	Low	3	909.999130	ATA	31.99	11.65	1.10	42.54	17947.336	17.95	30.00	-12.05	PASS
High	Middle	3	915.749880	ATA	31.73	11.65	1.10	42.28	16904.409	16.90	30.00	-13.10	PASS
High	High	3	921.499880	ATA	32.02	11.65	1.10	42.57	18071.741	18.07	30.00	-11.93	PASS
High	Low	3	911.749380	eGo	31.80	11.65	1.10	42.35	17179.084	17.18	30.00	-12.82	PASS
High	Middle	3	915.750000	eGo	31.62	11.65	1.10	42.17	16481.624	16.48	30.00	-13.52	PASS
High	High	3	919.749380	eGo	31.55	11.65	1.10	42.10	16218.101	16.22	30.00	-13.78	PASS
High	Low	3	911.750000	EPC	31.92	11.65	1.10	42.47	17660.378	17.66	30.00	-12.34	PASS
High	Middle	3	915.750000	EPC	31.68	11.65	1.10	42.23	16710.906	16.71	30.00	-13.29	PASS
High	High	3	919.750620	EPC	31.55	11.65	1.10	42.10	16218.101	16.22	30.00	-13.78	PASS
High	Low	3	911.750000	SeGo	31.78	11.65	1.10	42.33	17100.153	17.10	30.00	-12.90	PASS
High	Middle	3	915.750000	SeGo	31.69	11.65	1.10	42.24	16749.429	16.75	30.00	-13.25	PASS
High	High	3	919.750000	SeGo	31.99	11.65	1.10	42.54	17947.336	17.95	30.00	-12.05	PASS
High	Low	3	911.750620	IAG	31.73	11.65	1.10	42.28	16904.409	16.90	30.00	-13.10	PASS
High	Middle	3	915.753750	IAG	31.45	11.65	1.10	42.00	15848.932	15.85	30.00	-14.15	PASS
High	High	3	919.752500	IAG	31.78	11.65	1.10	42.33	17100.153	17.10	30.00	-12.90	PASS

Note: EUT has one transmitter circuit which is multiplexed through four ports (0 - 3). Transmitter Output Power was measured on each port to verify consistency between ports. Only one port can be active at any time.



1100 E Chalk Creek Road
 Coalville, UT 84017
 (435) 336-4433
 FAX (435) 336-4436

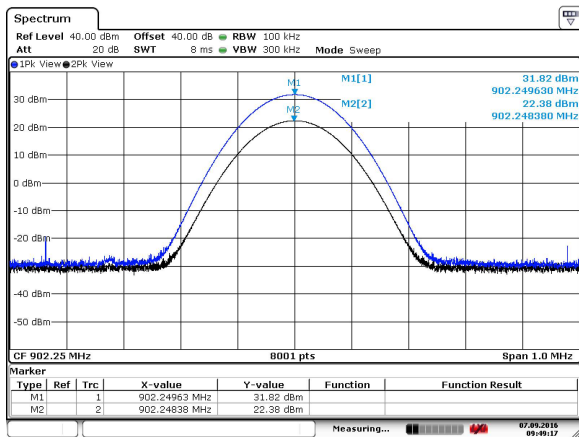
RF Power Output

DNB Job Number:	76033	Date:	7-9 Sep 2016	Conformance Standard FCC Part 90 RSS-137
Customer:	Transcore			
Model Number:	MPRX			
Description:	Multiprotocol Reader Extreme			Clause 90.205(1) RSS-137 cl 6.4

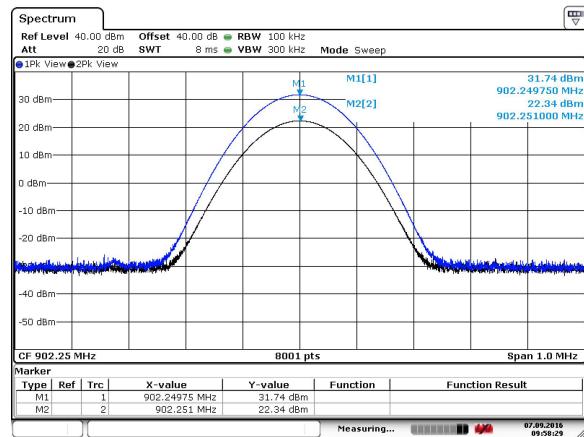
LEGEND TO PLOTS BELOW

ATA - Band 1 - Port 0 - Low Channel	ATA - Band 1 - Port 1 - Low Channel
ATA - Band 1 - Port 2 - Low Channel	ATA - Band 1 - Port 3 - Low Channel

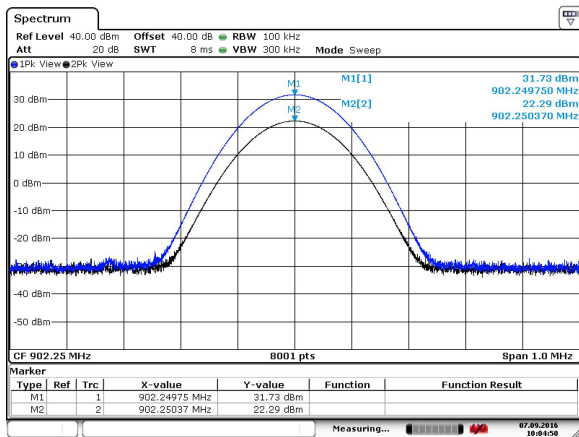
Note: Plots below show maximum and minimum power levels.



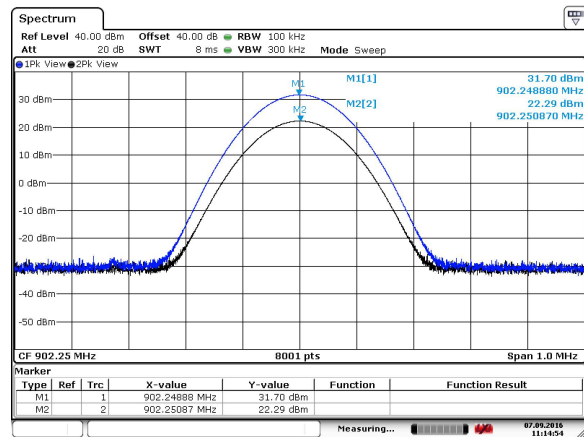
Date: 7.SEP.2016 09:49:17



Date: 7.SEP.2016 09:58:29



Date: 7.SEP.2016 10:04:50



Date: 7.SEP.2016 11:14:53



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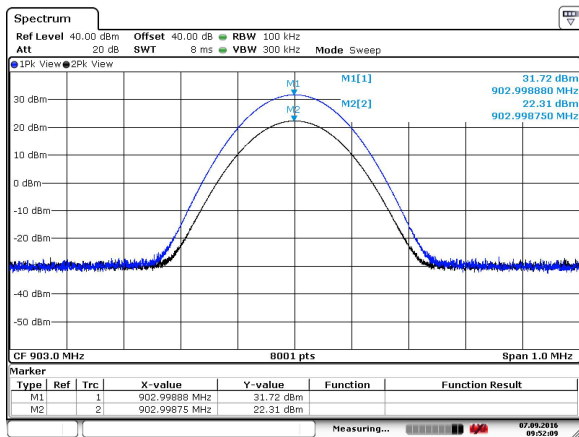
RF Power Output

DNB Job Number:	76033	Date:	7-9 Sep 2016	Conformance Standard FCC Part 90 RSS-137
Customer:	Transcore			
Model Number:	MPRX			
Description:	Multiprotocol Reader Extreme			Clause 90.205(1) RSS-137 cl 6.4

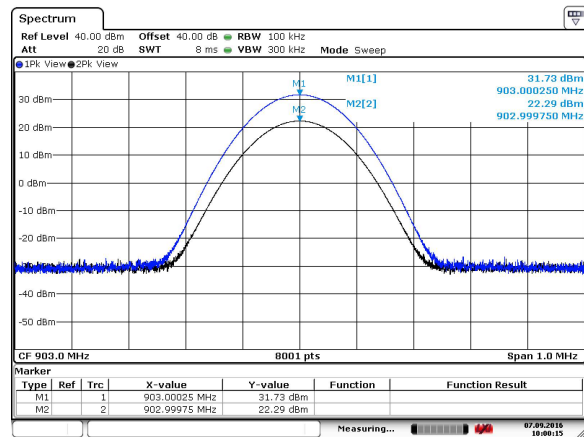
LEGEND TO PLOTS BELOW

ATA - Band 1 - Port 0 - Middle Channel	ATA - Band 1 - Port 1 - Middle Channel
ATA - Band 1 - Port 2 - Middle Channel	ATA - Band 1 - Port 3 - Middle Channel

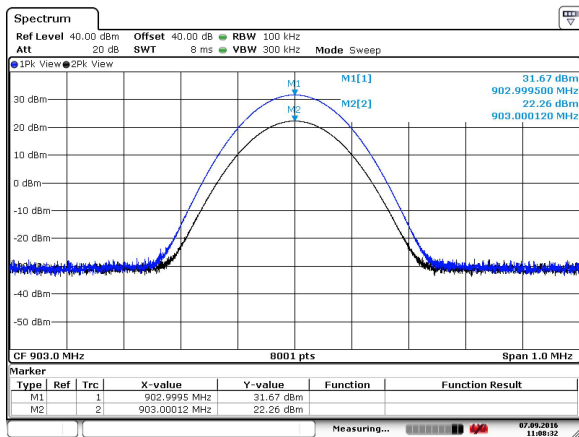
Note: Plots below show maximum and minimum power levels.



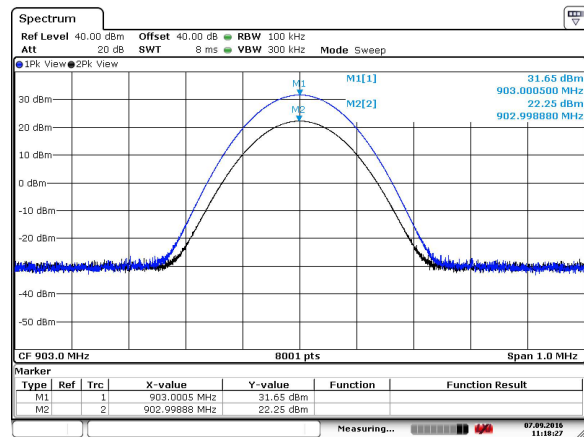
Date: 7.SEP.2016 09:52:09



Date: 7.SEP.2016 10:00:15



Date: 7.SEP.2016 11:08:32



Date: 7.SEP.2016 11:18:26



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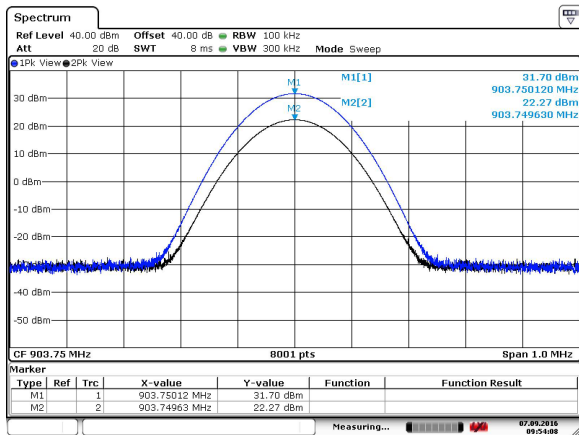
RF Power Output

DNB Job Number:	76033	Date:	7-9 Sep 2016	Conformance Standard FCC Part 90 RSS-137
Customer:	Transcore			
Model Number:	MPRX			
Description:	Multiprotocol Reader Extreme			Clause 90.205(1) RSS-137 cl 6.4

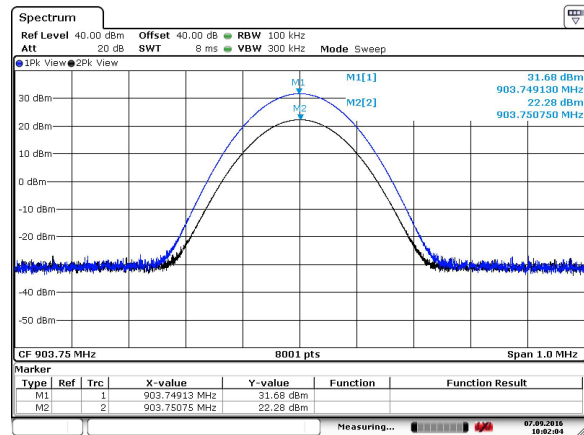
LEGEND TO PLOTS BELOW

ATA - Band 1 - Port 0 - High Channel	ATA - Band 1 - Port 1 - High Channel
ATA - Band 1 - Port 2 - High Channel	ATA - Band 1 - Port 3 - High Channel

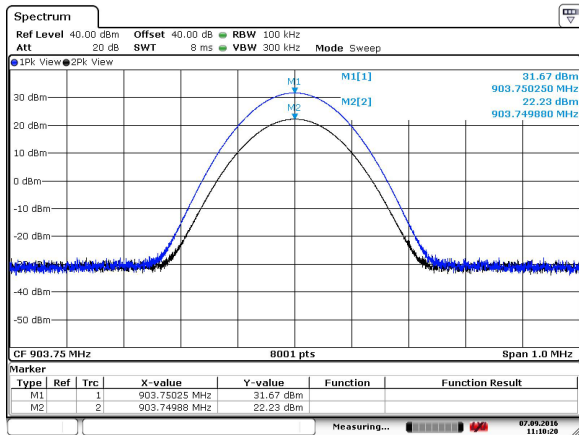
Note: Plots below show maximum and minimum power levels.



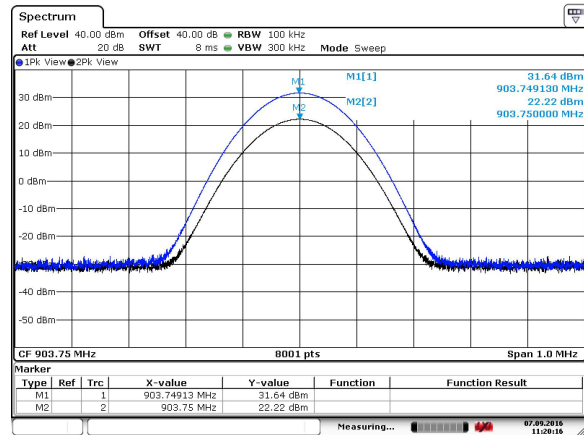
Date: 7.SEP.2016 09:54:08



Date: 7.SEP.2016 10:02:03



Date: 7.SEP.2016 11:10:19



Date: 7.SEP.2016 11:20:16



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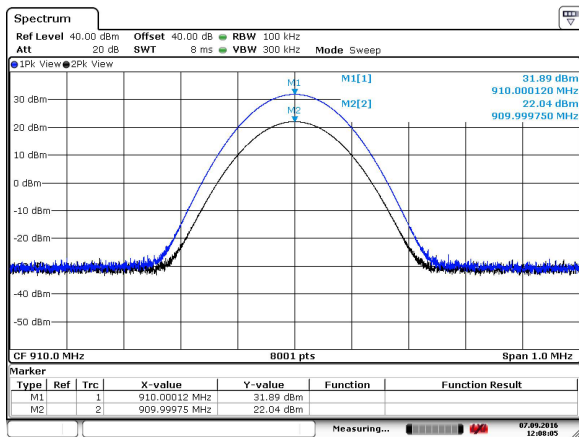
RF Power Output

DNB Job Number:	76033	Date:	7-9 Sep 2016	Conformance Standard FCC Part 90 RSS-137
Customer:	Transcore			
Model Number:	MPRX			
Description:	Multiprotocol Reader Extreme			Clause 90.205(1) RSS-137 cl 6.4

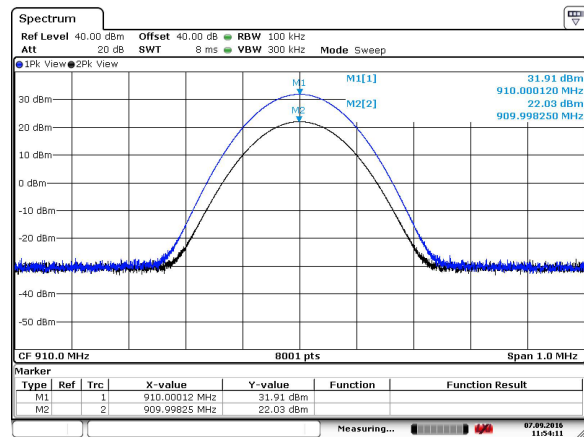
LEGEND TO PLOTS BELOW

ATA - Band 2 - Port 0 - Low Channel	ATA - Band 2 - Port 1 - Low Channel
ATA - Band 2 - Port 2 - Low Channel	ATA - Band 2 - Port 3 - Low Channel

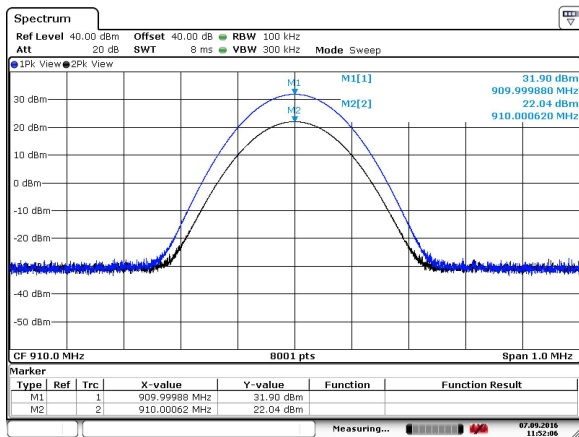
Note: Plots below show maximum and minimum power levels.



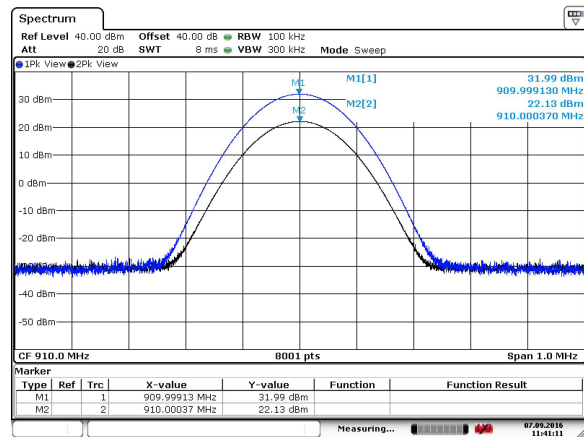
Date: 7.SEP.2016 12:08:05



Date: 7.SEP.2016 11:54:11



Date: 7.SEP.2016 11:52:06



Date: 7.SEP.2016 11:54:11



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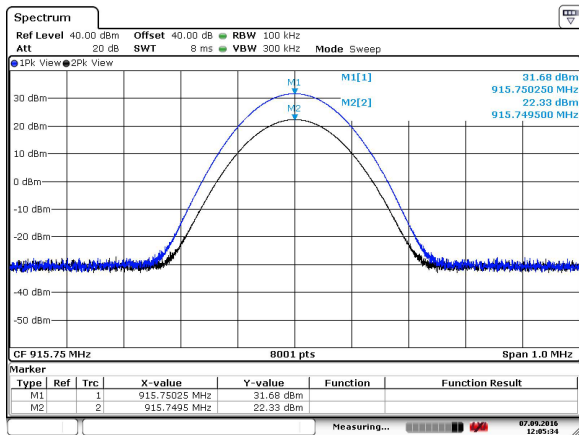
RF Power Output

DNB Job Number:	76033	Date:	7-9 Sep 2016	Conformance Standard FCC Part 90 RSS-137
Customer:	Transcore			
Model Number:	MPRX			
Description:	Multiprotocol Reader Extreme			Clause 90.205(1) RSS-137 cl 6.4

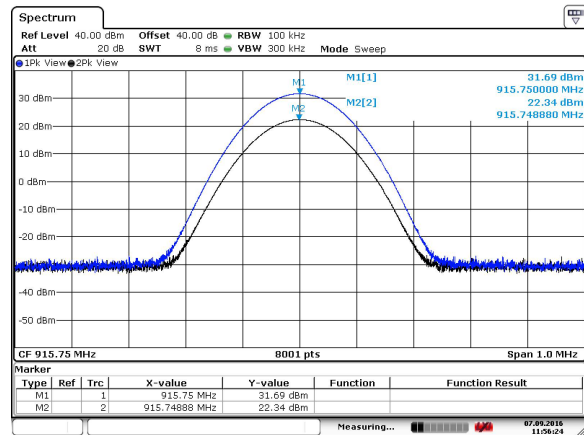
LEGEND TO PLOTS BELOW

ATA - Band 2 - Port 0 - Middle Channel	ATA - Band 2 - Port 1 - Middle Channel
ATA - Band 2 - Port 2 - Middle Channel	ATA - Band 2 - Port 3 - Middle Channel

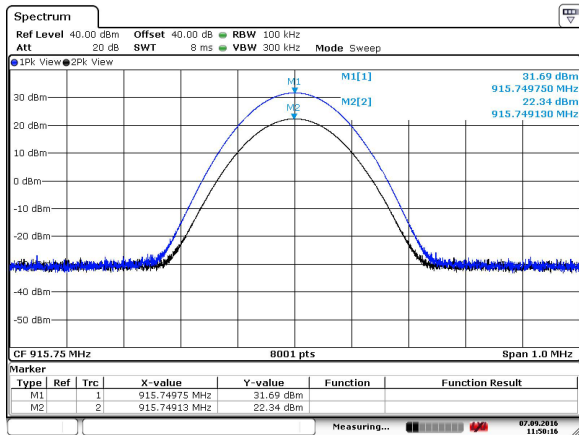
Note: Plots below show maximum and minimum power levels.



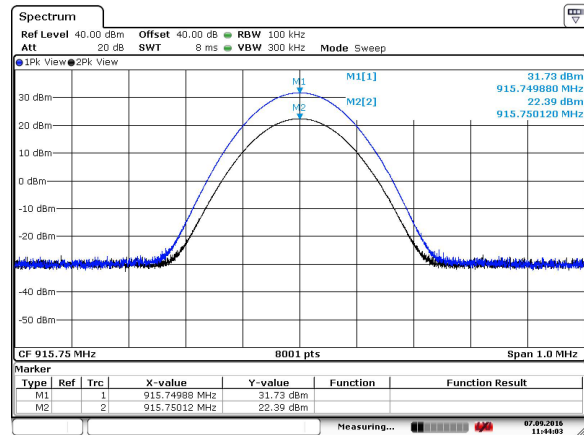
Date: 7.SEP.2016 12:05:34



Date: 7.SEP.2016 11:56:24



Date: 7.SEP.2016 11:50:16



Date: 7.SEP.2016 11:44:03



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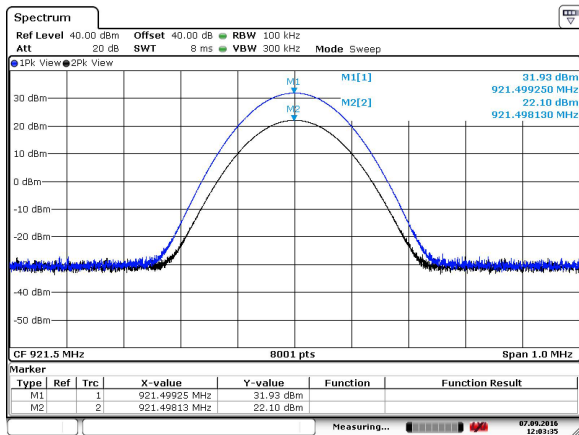
RF Power Output

DNB Job Number:	76033	Date:	7-9 Sep 2016	Conformance Standard FCC Part 90 RSS-137
Customer:	Transcore			
Model Number:	MPRX			
Description:	Multiprotocol Reader Extreme			Clause 90.205(1) RSS-137 cl 6.4

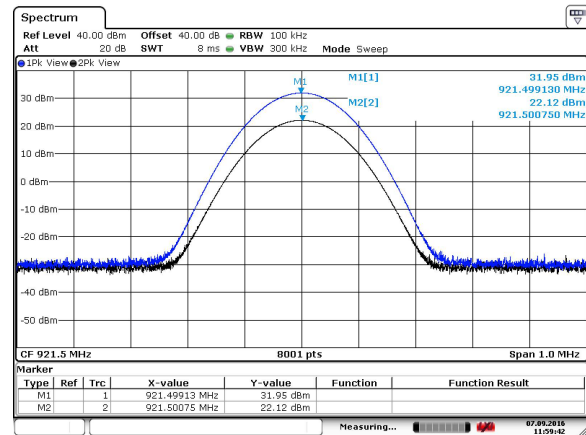
LEGEND TO PLOTS BELOW

ATA - Band 2 - Port 0 - High Channel	ATA - Band 2 - Port 1 - High Channel
ATA - Band 2 - Port 2 - High Channel	ATA - Band 2 - Port 3 - High Channel

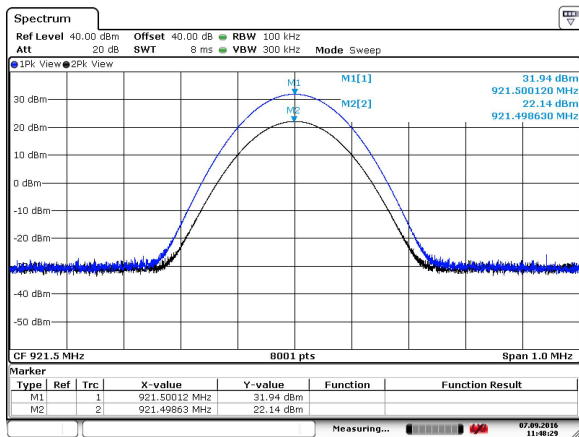
Note: Plots below show maximum and minimum power levels.



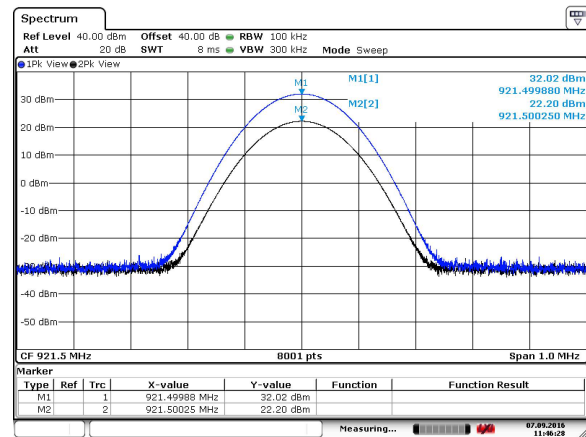
Date: 7.SEP.2016 12:03:35



Date: 7.SEP.2016 11:59:42



Date: 7.SEP.2016 11:48:28



Date: 7.SEP.2016 11:46:28



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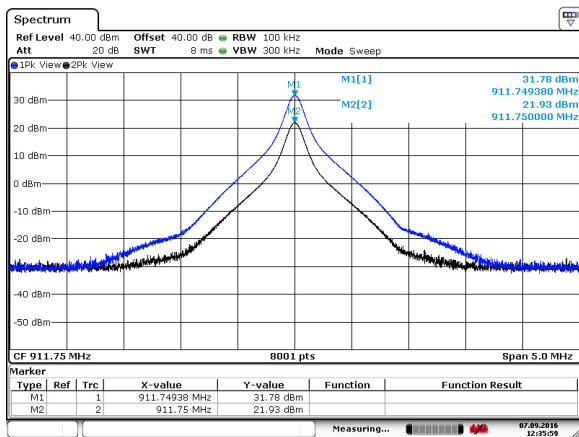
RF Power Output

DNB Job Number:	76033	Date:	7-9 Sep 2016	Conformance Standard FCC Part 90 RSS-137
Customer:	Transcore			
Model Number:	MPRX			
Description:	Multiprotocol Reader Extreme			Clause 90.205(1) RSS-137 cl 6.4

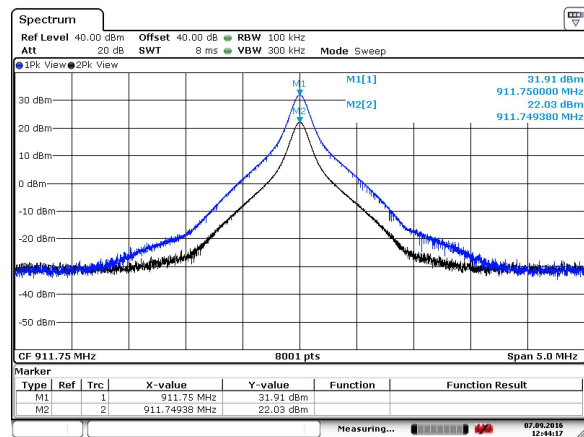
LEGEND TO PLOTS BELOW

eGo - Port 0 - Low Channel	eGo - Port 1 - Low Channel
eGo - Port 2 - Low Channel	eGo - Port 3 - Low Channel

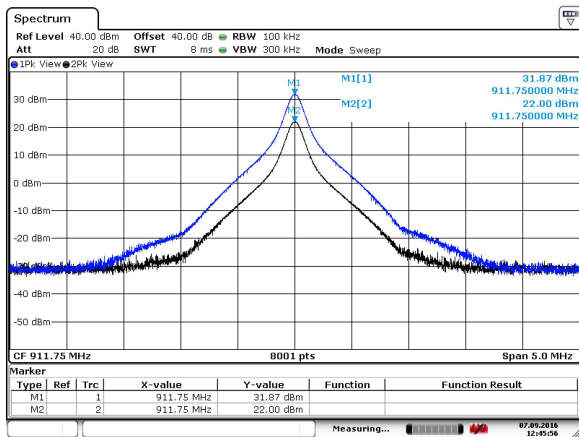
Note: Plots below show maximum and minimum power levels.



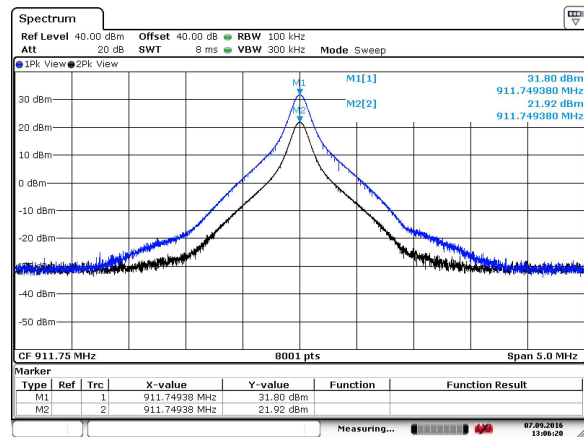
Date: 7.SEP.2016 12:35:59



Date: 7.SEP.2016 12:44:17



Date: 7.SEP.2016 12:45:56



Date: 7.SEP.2016 13:06:20