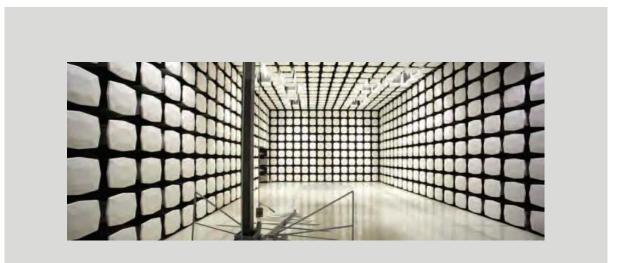


# AMX LLC SAA5968-07 FCC 15.207:2015 FCC 15.225:2015

Report # XNTE0039



NVLAP Lab Code: 200881-0

This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government of the United States of America. This Report may only be duplicated in its entirety

# **CERTIFICATE OF TEST**



#### Last Date of Test: May 08, 2015 AMX LLC Models: SAA5968-07

# **Radio Equipment Testing**

#### Standards

Specification	Method
FCC 15.207:2015	ANSI C63.10:2009
FCC 15.225:2015	ANSI C63.10:2009

#### Results

Method Clause	Test Description	Applied	Results	Comments
6.2	Powerline Conducted Emissions	Yes	Pass	
6.4	Field Strength of Fundamental	Yes	Pass	
6.4	Field Strength of Spurious Emissions < 30 MHz	Yes	Pass	
6.5	Field Strength of Spurious Emissions > 30 MHz	Yes	Pass	
6.8	Frequency Stability	Yes	Pass	

#### **Deviations From Test Standards**

None

#### Approved By:

Jeremiah Darden, Operations Manager

Product compliance is the responsibility of the client; therefore, the tests and equipment modes of operation represented in this report were agreed upon by the client, prior to testing. The results of this test pertain only to the sample(s) tested. The specific description is noted in each of the individual sections of the test report supporting this certificate of test.

# **REVISION HISTORY**



Revision Number		Description	Date	Page Number
00	None			

# ACCREDITATIONS AND AUTHORIZATIONS



#### **United States**

**FCC** - Designated by the FCC as a Telecommunications Certification Body (TCB). Certification chambers, Open Area Test Sites, and conducted measurement facilities are listed with the FCC.

A2LA - Accredited by A2LA to ISO / IEC 17065 as a product certifier. This allows Northwest EMC to certify transmitters to FCC and IC specifications.

NVLAP - Each laboratory is accredited by NVLAP to ISO 17025

#### Canada

IC - Recognized by Industry Canada as a Certification Body (CB). Certification chambers and Open Area Test Sites are filed with IC.

#### **European Union**

**European Commission** – Validated by the European Commission as a Conformity Assessment Body (CAB) under the EMC directive and as a Notified Body under the R&TTE Directive.

#### Australia/New Zealand

ACMA - Recognized by ACMA as a CAB for the acceptance of test data.

#### Korea

MSIP / RRA - Recognized by KCC's RRA as a CAB for the acceptance of test data.

#### Japan

VCCI - Associate Member of the VCCI. Conducted and radiated measurement facilities are registered.

#### Taiwan

BSMI – Recognized by BSMI as a CAB for the acceptance of test data.

NCC - Recognized by NCC as a CAB for the acceptance of test data.

#### Singapore

IDA – Recognized by IDA as a CAB for the acceptance of test data.

#### Israel

**MOC** – Recognized by MOC as a CAB for the acceptance of test data.

#### Hong Kong

OFCA – Recognized by OFCA as a CAB for the acceptance of test data.

#### Vietnam

MIC – Recognized by MIC as a CAB for the acceptance of test data.

### SCOPE

For details on the Scopes of our Accreditations, please visit: <u>http://www.nwemc.com/accreditations/</u> http://gsi.nist.gov/global/docs/cabs/designations.html

# **MEASUREMENT UNCERTAINTY**



#### **Measurement Uncertainty**

When a measurement is made, the result will be different from the true or theoretically correct value. The difference is the result of tolerances in the measurement system that cannot be completely eliminated. To the extent that technology allows us, it has been our aim to minimize this error. Measurement uncertainty is a statistical expression of measurement error gualified by a probability distribution.

A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty (K=2) for each test is on each data sheet. Our measurement data meets or exceeds the measurement uncertainty requirements of the applicable specification; therefore, the test data can be compared directly to the specification limit to determine compliance. The calculations for estimating measurement uncertainty are based upon ETSI TR 100 028 (or CISPR 16-4-2 as applicable), and are available upon request.

The following table represents the Measurement Uncertainty (MU) budgets for each of the tests that may be contained in this report.

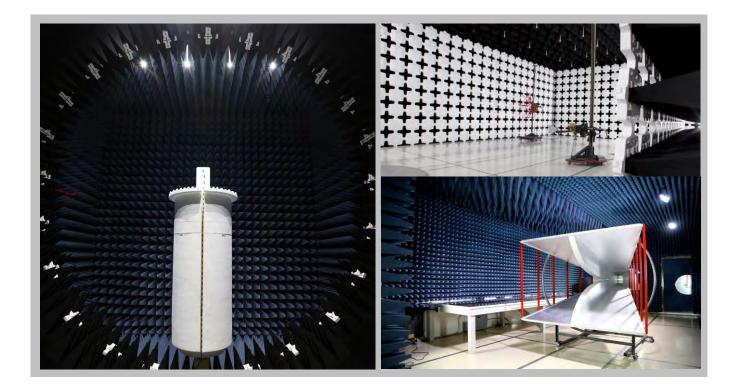
Test	+ MU	<u>- MU</u>
Frequency Accuracy (Hz)	0.0007%	-0.0007%
Amplitude Accuracy (dB)	1.2 dB	-1.2 dB
Conducted Power (dB)	0.3 dB	-0.3 dB
Radiated Power via Substitution (dB)	0.7 dB	-0.7 dB
Temperature (degrees C)	0.7°C	-0.7°C
Humidity (% RH)	2.5% RH	-2.5% RH
Voltage (AC)	1.0%	-1.0%
Voltage (DC)	0.7%	-0.7%
Field Strength (dB)	4.7 dB	-4.7 dB
AC Powerline Conducted Emissions (dB)	2.9 dB	-2.9 dB

# FACILITIES





California Labs OC01-13 41 Tesla Irvine, CA 92618 (949) 861-8918	Minnesota Labs MN01-08, MN10 9349 W Broadway Ave. Brooklyn Park, MN 55445 (612)-638-5136	<b>New York</b> Labs NY01-04 4939 Jordan Rd. Elbridge, NY 13060 (315) 554-8214	Oregon Labs EV01-12 22975 NW Evergreen Pkwy Hillsboro, OR 97124 (503) 844-4066	<b>Texas</b> Labs TX01-09 3801 E Plano Pkwy Plano, TX 75074 (469) 304-5255	Washington Labs NC01-05 19201 120 <sup>th</sup> Ave NE Bothell, WA 9801 (425)984-6600	
		NV	'LAP			
NVLAP Lab Code: 200676-0	NVLAP Lab Code: 200881-0	NVLAP Lab Code: 200761-0	NVLAP Lab Code: 200630-0	NVLAP Lab Code:201049-0	NVLAP Lab Code: 200629-0	
	Industry Canada					
2834B-1, 2834B-3	2834E-1	N/A	2834D-1, 2834D-2	2834G-1	2834F-1	
		BS	MI			
SL2-IN-E-1154R	SL2-IN-E-1152R	N/A	SL2-IN-E-1017	SL2-IN-E-1158R	SL2-IN-E-1153R	
	VCCI					
A-0029	A-0109	N/A	A-0108	A-0201	A-0110	
	Recognized Phase I CAB for ACMA, BSMI, IDA, KCC/RRA, MIC, MOC, NCC, OFCA					
US0158	US0175	N/A	US0017	US0191	US0157	



# **PRODUCT DESCRIPTION**



#### **Client and Equipment Under Test (EUT) Information**

Company Name:	AMX LLC	
Address:	3000 Research Drive	
City, State, Zip:	Richardson, TX 75082	
Test Requested By:	Heath Sharp	
Model:	SAA5968-07	
First Date of Test:	May 04, 2014	
Last Date of Test:	May 08, 2015	
Receipt Date of Samples:	May 04, 2014	
Equipment Design Stage:	Production	
Equipment Condition:	No Damage	

#### Information Provided by the Party Requesting the Test

#### Functional Description of the EUT:

RF Module with 13.56MHz NFC radio with 1 antenna inside MXD-430 host display touch panel

#### **Testing Objective:**

To demonstrate compliance to FCC Part 15.225 specifications.

# **CONFIGURATIONS**



## Configuration XNTE0039-1

Software/Firmware Running during test		
Description	Version	
PuTTY	Release 0.62	

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
RF Module (inside host touch panel)	AMX LLC	SAA5968-07	None
Host Touch Panel	AMX LLC	MXD-430	596815GX34E0010

Remote Equipment Outside of Test Setup Boundary				
Description	Manufacturer	Model/Part Number	Serial Number	
Laptop	Dell	Dell Latitude D630	None	
AC/DC Adapter (Laptop)	Dell	LA90PS0-00	CN-0DF266-71615-7CE-6228	
Router	TP-Link	TL-R860	12778102492	
AC/DC Adapter (Router)	TP-Link	T090060-2B1	None	
PS-POE-AF-TC	AMX	FG423-83	C1439655300000615	

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
DC Power	No	2 m	Yes	Laptop	AC/DC Adapter (Laptop)
AC Power	No	2 m	No	Laptop	AC Mains
Ethernet Cable	No	3 m	No	Laptop	Router
Ethernet Cable	No	2 m	No	Router	PS-POE-AF-TC
AC Power	No	2 m	No	AC Mains	PS-POE-AF-TC
Ethernet Cable	No	10 m	Yes	PS-POE-AF-TC	Host Touch Panel

# **CONFIGURATIONS**



### Configuration XNTE0039-4

Software/Firmware Running during test		
Description	Version	
PuTTY	Release 0.62	

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
RF Module (inside host touch panel)	AMX LLC	SAA5968-07	None
Host Touch Panel	AMX LLC	MXD-430	596815GX34E0010

Peripherals in test setup boundary								
Description Manufacturer Model/Part Number Serial Number								
PS-POE-AF-TC	AMX	FG423-83	C1439655300000615					
USB Flash Drive	NWEMC	None	None					

Cables											
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2						
AC Power	No	2 m	No	AC Mains	PS-POE-AF-TC						
Ethernet Cable	No	10 m	Yes	PS-POE-AF-TC	Host Touch Panel						
USB Cable	No	2.8m	No	Host Touch Panel	USB Flash Drive						

# **MODIFICATIONS**



## **Equipment Modifications**

Item	Date	Test	Modification	Note	Disposition of EUT
1	5/4/2015	Field Strength of Fundamental	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
2	5/4/2015	Field Strength of Spurious Emissions > 30 MHz	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
3	5/5/2015	Field Strength of Spurious Emissions < 30 MHz	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
4	5/7/2015	Frequency Stability	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
5	5/8/2015	Power Line Conducted Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.



#### **TEST DESCRIPTION**

Using the mode of operation and configuration noted within this report, conducted emissions tests were performed. The frequency range investigated (scanned), is also noted in this report. Conducted power line measurements are made, unless otherwise specified, over the frequency range from 150 kHz to 30 MHz to determine the line-to-ground radio-noise voltage that is conducted from the EUT power-input terminals that are directly (or indirectly via separate transformer or power supplies) connected to a public power network. Equipment is tested with power cords that are normally used or that have electrical or shielding characteristics that are the same as those cords normally used. Typically those measurements are made using a LISN (Line Impedance Stabilization Network), the 50  $\Omega$  measuring port is terminated by a 50  $\Omega$  EMI meter or a 50  $\Omega$  resistive load. All 50  $\Omega$  measuring ports of the LISN are terminated by 50 $\Omega$ .

#### **TEST EQUIPMENT**

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Cable, Standard LISN	Northwest EMC	CE 9kHz-108MHz	TXA	9/14/2014	09/14/2015
LISN	Solar Electronics	9252-50-R-24-BNC	LJK	9/14/2014	09/14/2015
LISN	Solar Electronics	9252-50-R-24-BNC	LJL	9/14/2014	09/14/2015
High Pass Filter	TTE	H97-100K-50-720B	HHZ	9/13/2014	09/13/2015
Attenuator	Fairview Microwave	SA6B10W-20	TQR	9/13/2014	09/13/2015
Receiver	Rohde & Schwarz	ESCI	ARF	5/27/2014	05/27/2015

#### **MEASUREMENT UNCERTAINTY**

Description		
Expanded k=2	2.4 dB	-2.4 dB

#### **CONFIGURATIONS INVESTIGATED**

XNTE0039-4

#### **MODES INVESTIGATED**

Transmitting 13.56 MHz

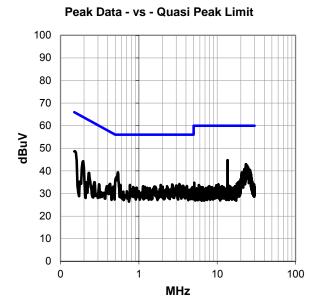


EUT:	SAA5968-07	Work Order:	XNTE0039
Serial Number:	None	Date:	05/08/2015
Customer:	AMX LLC	Temperature:	24.2°C
Attendees:	None	Relative Humidity:	51.7%
Customer Project:	None	Bar. Pressure:	1015 mb
Tested By:	Frank Sun	Job Site:	TX01
Power:	POE via 110V/60Hz adapter	Configuration:	XNTE0039-4

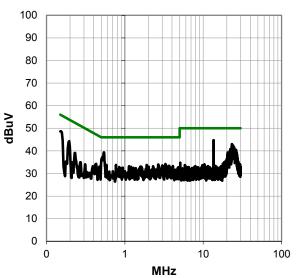
#### **TEST SPECIFICATIONS**

Specificatio	on:			Method:		
FCC 15.20	07:2015			ANSI C6	3.10:2009	
TEST PA	ARAMETERS					
Run #:	9	Line:	High Line		Ext. Attenuation (dB):	20
COMME	NTS					
None						
EUT OPI	ERATING MC	DDES				
Transmittin	ng 13.56 MHz					
DEVIATI	IONS FROM	TEST STAND	ARD			
Nono						

None



Peak Data - vs - Average Limit





#### **RESULTS - Run #9**

	Peak Data - vs - Quasi Peak Limit						Peak Data - vs - Average Limit					
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)	Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margir (dB)	
13.558	24.3	20.4	44.7	60.0	-15.3	13.558	24.3	20.4	44.7	50.0	-5.3	
0.542	19.4	20.0	39.4	56.0	-16.6	0.542	19.4	20.0	39.4	46.0	-6.6	
23.337	22.0	21.0	43.0	60.0	-17.0	23.337	22.0	21.0	43.0	50.0	-7.0	
0.154	28.6	20.1	48.7	65.8	-17.1	0.154	28.6	20.1	48.7	55.8	-7.1	
23.467	21.6	21.0	42.6	60.0	-17.4	23.467	21.6	21.0	42.6	50.0	-7.4	
23.389	21.4	21.0	42.4	60.0	-17.6	23.389	21.4	21.0	42.4	50.0	-7.6	
24.042	21.3	21.1	42.4	60.0	-17.6	24.042	21.3	21.1	42.4	50.0	-7.6	
23.605	21.2	21.0	42.2	60.0	-17.8	23.605	21.2	21.0	42.2	50.0	-7.8	
23.244	21.1	21.0	42.1	60.0	-17.9	23.244	21.1	21.0	42.1	50.0	-7.9	
24.131	21.0	21.1	42.1	60.0	-17.9	24.131	21.0	21.1	42.1	50.0	-7.9	
23.132	20.9	21.0	41.9	60.0	-18.1	23.132	20.9	21.0	41.9	50.0	-8.1	
23.203	20.8	21.0	41.8	60.0	-18.2	23.203	20.8	21.0	41.8	50.0	-8.2	
24.602	20.6	21.1	41.7	60.0	-18.3	24.602	20.6	21.1	41.7	50.0	-8.3	
24.325	20.6	21.1	41.7	60.0	-18.3	24.325	20.6	21.1	41.7	50.0	-8.3	
24.702	20.4	21.1	41.5	60.0	-18.5	24.702	20.4	21.1	41.5	50.0	-8.5	
24.915	20.3	21.1	41.4	60.0	-18.6	24.915	20.3	21.1	41.4	50.0	-8.6	
24.359	20.3	21.1	41.4	60.0	-18.6	24.359	20.3	21.1	41.4	50.0	-8.6	
23.848	20.3	21.0	41.3	60.0	-18.7	23.848	20.3	21.0	41.3	50.0	-8.7	
24.796	20.1	21.1	41.2	60.0	-18.8	24.796	20.1	21.1	41.2	50.0	-8.8	
24.206	19.9	21.1	41.0	60.0	-19.0	24.206	19.9	21.1	41.0	50.0	-9.0	
22.255	19.8	20.9	40.7	60.0	-19.3	22.255	19.8	20.9	40.7	50.0	-9.3	
25.087	19.5	21.1	40.6	60.0	-19.4	25.087	19.5	21.1	40.6	50.0	-9.4	
25.825	19.4	21.2	40.6	60.0	-19.4	25.825	19.4	21.2	40.6	50.0	-9.4	
22.270	19.6	20.9	40.5	60.0	-19.5	22.270	19.6	20.9	40.5	50.0	-9.5	
0.195	24.3	20.0	44.3	63.8	-19.5	0.195	24.3	20.0	44.3	53.8	-9.5	
25.863	19.2	21.2	40.4	60.0	-19.6	25.863	19.2	21.2	40.4	50.0	-9.6	

CONCLUSION

Pass

MA

Tested By

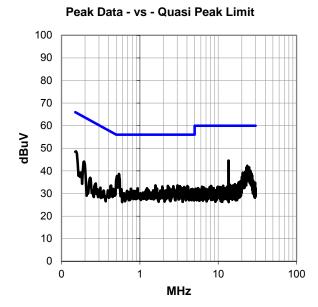


EUT:	SAA5968-07	Work Order:	XNTE0039
Serial Number:	None	Date:	05/08/2015
Customer:	AMX LLC	Temperature:	24.2°C
Attendees:	None	Relative Humidity:	51.7%
Customer Project:	None	Bar. Pressure:	1015 mb
Tested By:	Frank Sun	Job Site:	TX01
Power:	POE via 110V/60Hz adapter	Configuration:	XNTE0039-4

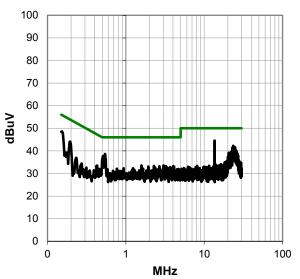
#### **TEST SPECIFICATIONS**

Specification	Specification: Method:								
FCC 15.207:	C 15.207:2015 ANSI C63.10:2009								
TEST PAF	RAMETERS								
Run #:	10	Line:	Neutral		Ext. Attenuation (dB):	20			
COMMEN None	TS								
EUT OPE		S							
Transmitting	13.56 MHz								
DEVIATIO	ONS FROM TES	T STAND	ARD						

None



Peak Data - vs - Average Limit





#### **RESULTS - Run #10**

	Peak Data - vs - Quasi Peak Limit						Peak Data - vs - Average Limit					
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)	Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margir (dB)	
13.558	24.1	20.4	44.5	60.0	-15.5	13.558	24.1	20.4	44.5	50.0	-5.5	
).154	28.5	20.1	48.6	65.8	-17.2	0.154	28.5	20.1	48.6	55.8	-7.2	
).542	18.7	20.0	38.7	56.0	-17.3	0.542	18.7	20.0	38.7	46.0	-7.3	
23.497	21.2	21.0	42.2	60.0	-17.8	23.497	21.2	21.0	42.2	50.0	-7.8	
23.300	20.7	21.0	41.7	60.0	-18.3	23.300	20.7	21.0	41.7	50.0	-8.3	
0.508	17.7	20.0	37.7	56.0	-18.3	0.508	17.7	20.0	37.7	46.0	-8.3	
24.710	20.5	21.1	41.6	60.0	-18.4	24.710	20.5	21.1	41.6	50.0	-8.4	
23.389	20.5	21.0	41.5	60.0	-18.5	23.389	20.5	21.0	41.5	50.0	-8.5	
23.135	20.5	21.0	41.5	60.0	-18.5	23.135	20.5	21.0	41.5	50.0	-8.5	
22.994	20.5	21.0	41.5	60.0	-18.5	22.994	20.5	21.0	41.5	50.0	-8.5	
24.146	20.4	21.1	41.5	60.0	-18.5	24.146	20.4	21.1	41.5	50.0	-8.5	
24.840	20.3	21.1	41.4	60.0	-18.6	24.840	20.3	21.1	41.4	50.0	-8.6	
23.837	20.2	21.0	41.2	60.0	-18.8	23.837	20.2	21.0	41.2	50.0	-8.8	
24.314	20.1	21.1	41.2	60.0	-18.8	24.314	20.1	21.1	41.2	50.0	-8.8	
23.221	20.1	21.0	41.1	60.0	-18.9	23.221	20.1	21.0	41.1	50.0	-8.9	
23.050	20.1	21.0	41.1	60.0	-18.9	23.050	20.1	21.0	41.1	50.0	-8.9	
24.643	19.9	21.1	41.0	60.0	-19.0	24.643	19.9	21.1	41.0	50.0	-9.0	
24.564	19.9	21.1	41.0	60.0	-19.0	24.564	19.9	21.1	41.0	50.0	-9.0	
23.964	19.9	21.0	40.9	60.0	-19.1	23.964	19.9	21.0	40.9	50.0	-9.1	
23.594	19.9	21.0	40.9	60.0	-19.1	23.594	19.9	21.0	40.9	50.0	-9.1	
23.949	19.8	21.0	40.8	60.0	-19.2	23.949	19.8	21.0	40.8	50.0	-9.2	
23.919	19.8	21.0	40.8	60.0	-19.2	23.919	19.8	21.0	40.8	50.0	-9.2	
24.087	19.7	21.1	40.8	60.0	-19.2	24.087	19.7	21.1	40.8	50.0	-9.2	
23.781	19.7	21.0	40.7	60.0	-19.3	23.781	19.7	21.0	40.7	50.0	-9.3	
24.896	19.6	21.1	40.7	60.0	-19.3	24.896	19.6	21.1	40.7	50.0	-9.3	
24.471	19.5	21.1	40.6	60.0	-19.4	24.471	19.5	21.1	40.6	50.0	-9.4	

#### CONCLUSION

Pass

M

Tested By

# ENC

## FIELD STRENGTH OF FUNDAMENTAL

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data. The test data represents the configuration / operating mode/ model that produced the highest emission levels as compared to the specification limit.

#### MODES OF OPERATION

Transmitting 13.56 MHz

#### **POWER SETTINGS INVESTIGATED**

POE via 110V/60Hz adapter

#### **CONFIGURATIONS INVESTIGATED**

XNTE0039 - 1

#### FREQUENCY RANGE INVESTIGATED

Start Frequency 10 kHz

Stop Frequency 30 MHz

#### SAMPLE CALCULATIONS

Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation

#### **TEST EQUIPMENT**

Description	Manufacturer	Model	ID	Last Cal.	Interval
Antenna, Loop	ETS Lindgren	6502	AZM	6/18/2014	24 mo
TX02 Cable	Northwest EMC	RE 9kHz - 1GHz	TXB	9/22/2014	12 mo
Spectrum Analyzer	Agilent	N9010A	AFL	6/20/2014	12 mo

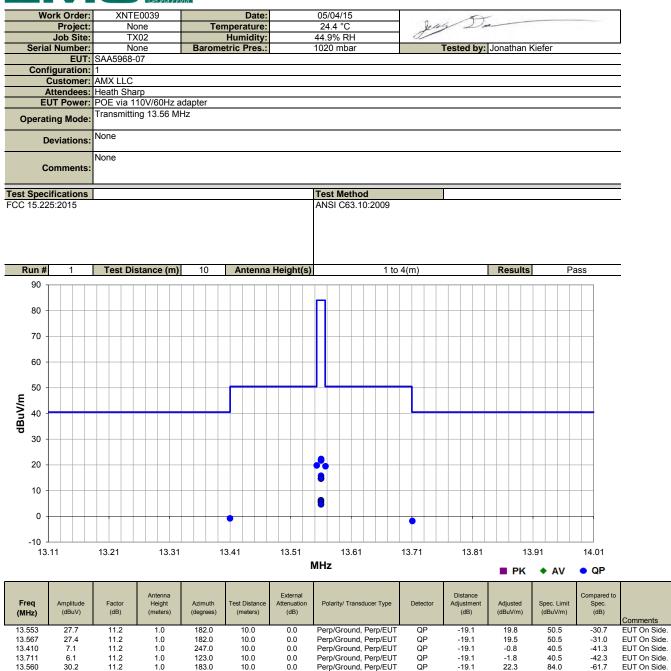
#### **TEST DESCRIPTION**

The H-field produced by the equipment shall be measured at the standard distance of 10 m. The H-field is measured with a shielded loop antenna connected to the measurement device. The measuring bandwidth and detector type are in accordance with the specification.

The carrier emission was maximized by rotating the EUT on a turntable and adjusting the measurement antenna. The EUT was investigated in 3 orthogonal orientations to maximize emissions.



#### FIELD STRENGTH OF FUNDAMENTAL



QP QP

QP

QP QP

QP

-19.1

-191

-19.1

-19.1

-191

-19.1

22.0

217

15.8

14.8

14 7

6.3

84.0

84 0

84.0

84.0

84 0

84.0

-62.0

-62.3

-68.2

-69.2

-69.3

-77.7

EUT Vertical.

FUT Horizontal

EUT On Side.

EUT Vertical.

FUT Horizontal

EUT On Side.

1.0

1.0

10

1.0

1.0

10

1.0

264.0

261.0

51.0

309.9

279 9

200.0

10.0

10.0

10.0

10.0

10.0

10.0

0.0

0.0

0.0

0.0

0.0

0.0

Perp/Ground, Perp/EUT

Perp/Ground, Perp/EUT

Perp/Ground, Par/EUT

Perp/Ground, Par/EUT

Perp/Ground, Par/EUT

Par/Ground, Perp/EUT

13.560

13 560

13.560

13.560

13 560

13.560

29.9

29.6

23.7

22.7

22.6

14.2

11.2

11.2

11.2

11.2

112

11.2

# ENC

### FIELD STRENGTH OF SPURIOUS EMISSIONS < 30 MHZ

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data. The test data represents the configuration / operating mode/ model that produced the highest emission levels as compared to the specification limit.

#### MODES OF OPERATION

Transmitting 13.56 MHz

#### POWER SETTINGS INVESTIGATED

POE via 110V/60Hz adapter

#### **CONFIGURATIONS INVESTIGATED**

XNTE0039 - 1

#### FREQUENCY RANGE INVESTIGATED

Start Frequency 10 kHz

Stop Frequency 30 MHz

#### SAMPLE CALCULATIONS

Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation

#### **TEST EQUIPMENT**

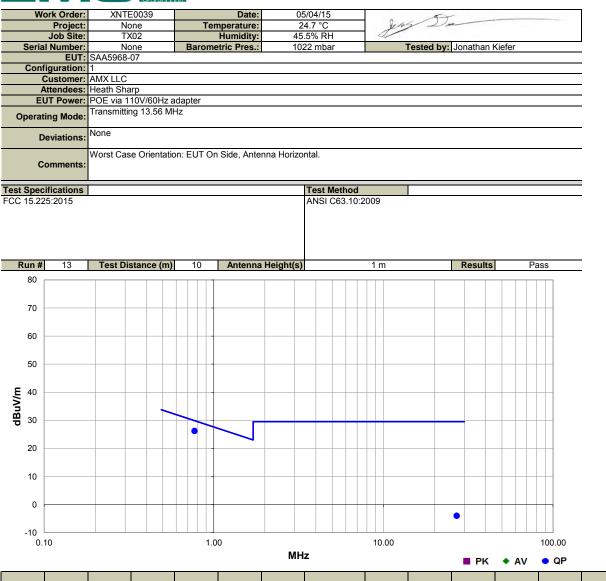
Description	Manufacturer	Model	ID	Last Cal.	Interval
Antenna, Loop	ETS Lindgren	6502	AZM	6/18/2014	24 mo
TX02 Cable	Northwest EMC	RE 9kHz - 1GHz	TXB	9/22/2014	12 mo
Spectrum Analyzer	Agilent	N9010A	AFL	6/20/2014	12 mo

#### **TEST DESCRIPTION**

The EUT was operated in a worst-case configuration in transmit mode. Per the test standard, the EUT was placed in its typical orientation for the manufactures declared use. The spectrum was scanned from 10kHz-30MHz with the EUT set to the transmit frequency. The EUT was transmitting at its only modulation type and data rate. While scanning, emissions from the EUT were maximized by rotating the EUT and antenna polarization. The amplitude and frequency of the highest emissions were noted. An active loop antenna with an internal preamp was used for this test in order to achieve sufficient measurement sensitivity



#### FIELD STRENGTH OF SPURIOUS EMISSIONS < 30 MHZ



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
0.770	34.1	11.2	1.0	40.9	10.0	0.0	Per/Ground, Par/EUT Per/Ground,	QP	-19.1	26.2	29.9	-3.7	EUT On Side.
27.023	5.4	9.7	1.0	93.0	10.0	0.0	Par/EUT	QP	-19.1	-4.0	29.5	-33.5	EUT On Side.

# EMC

### FIELD STRENGTH OF SPURIOUS EMISSIONS > 30 MHZ

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data. The test data represents the configuration / operating mode/ model that produced the highest emission levels as compared to the specification limit.

#### MODES OF OPERATION

Transmitting 13.56 MHz

#### POWER SETTINGS INVESTIGATED

POE via 110V/60Hz adapter

#### **CONFIGURATIONS INVESTIGATED**

XNTE0039 - 1

#### FREQUENCY RANGE INVESTIGATED

Start Frequency 30 MHz

Stop Frequency 1000 MHz

#### SAMPLE CALCULATIONS

Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation

#### **TEST EQUIPMENT**

					Interval
Description	Manufacturer	Model	ID	Last Cal.	(mo)
Spectrum Analyzer	Agilent	N9010A	AFL	6/20/2014	12
TX02 Cable	Northwest EMC	RE 9kHz - 1GHz	TXB	9/22/2014	12
Antenna, Biconilog	ETS Lindgren	3143B	AYF	4/7/2014	24
Pre-Amplifier	Miteq	AM-1551	PAH	9/13/2014	12

#### **TEST DESCRIPTION**

The EUT was operated in a worst-case configuration in transmit mode. Per the test standard, the EUT was placed in its typical orientation for the manufactures declared use. The spectrum was scanned from 30 MHz to 1GHz with the EUT set to the transmit frequency. The EUT was transmitting at its only modulation type and data rate. While scanning, emissions from the EUT were maximized by rotating the EUT, adjusting the measurement antenna height and polarization. If applicable, a preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity. The amplitude and frequency of the highest emissions were noted.



#### FIELD STRENGTH OF SPURIOUS EMISSIONS > 30 MHZ

Jung Da Work Order: XNTE0039 Date: 05/05/15 Project: None Temperature: 24.3 °C Job Site: TX02 Humidity: 45% RH Serial Number: Barometric Pres.: 1019 mbar Tested by: Jonathan Kiefer None EUT: SAA5968-07 **Configuration:** Customer: AMX LLC Attendees: Heath Sharp EUT Power: POE via 110V/60Hz adapter Transmitting 13.56 MHz **Operating Mode:** None **Deviations:** Worst Case Orientation: EUT On Side, Antenna Vertical. Comments: Test Specifications **Test Method** FCC 15.225:2015 ANSI C63.10:2009 Run # 35 Test Distance (m) 3 Antenna Height(s) 1 to 4(m) Results Pass 80 70 60 50 dBuV/m 40 30 • 20 10 0 10 100 1000 MHz • QP PK AV Polarity

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
42.383	51.1	-29.8	1.0	297.0	3.0	0.0	Vert	QP	0.0	21.3	40.0	-18.7	EUT On Side.
55.305	52.2	-32.8	1.7	204.0	3.0	0.0	Vert	QP	0.0	19.4	40.0	-20.6	EUT On Side.
94.383	53.9	-31.4	1.1	342.0	3.0	0.0	Vert	QP	0.0	22.5	43.5	-21.0	EUT On Side.
69.142	49.1	-32.2	1.5	337.0	3.0	0.0	Vert	QP	0.0	16.9	40.0	-23.1	EUT On Side.
81.217	48.0	-32.3	1.0	360.0	3.0	0.0	Vert	QP	0.0	15.7	40.0	-24.3	EUT On Side.
106.732	43.5	-30.5	1.0	147.0	3.0	0.0	Vert	QP	0.0	13.0	43.5	-30.5	EUT On Side.
137.185	40.7	-30.3	1.0	153.9	3.0	0.0	Vert	QP	0.0	10.4	43.5	-33.1	EUT On Side.
122.047	38.5	-30.9	1.1	177.0	3.0	0.0	Vert	QP	0.0	7.6	43.5	-35.9	EUT On Side.



Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

#### **TEST EQUIPMENT**

					Interval
Description	Manufacturer	Model	ID	Last Cal.	(mo)
Near Field Probe	ETS Lindgren	7405	IPS	NCR	0
Thermometer	Omegaette	HH311	DTX	4/3/2015	36
Humidity and Temperature Chamber	Cincinnati Sub Zero (CSZ)	ZPH-8-2-SCT/AC	TBH	NCR	12
Spectrum Analyzer	Agilent	E4440A	AFD	7/14/2014	12

#### **TEST DESCRIPTION**

#### Variation of Supply Voltage

The primary supply voltage was varied from 85% to 115% of the nominal voltage. A DC lab supply was used to vary the supply voltage.

#### Variation of Ambient Temperature

Using a temperature chamber, the transmit frequency was recorded at the extremes of the specified temperature range (-20° to +50° C) and at 10°C intervals.

Measurements were made at the single transmit frequency. The antenna is integral to the EUT, so a radiated measurement was made using a spectrum analyzer and a near field probe. The spectrum analyzer is equipped with a precision frequency reference that exceeds the stability requirement of the EUT.



Serial Number:	SAA5968-07					Work Order:	XNTE0039 05/07/15	
Customer:						Temperature:		
Attendees:						Humidity:		
Project:						Barometric Pres.:		
	Frank Sun		Power: see	table		Job Site:		
EST SPECIFICAT				st Method		JUD Sile.	1703	
CC 15.225:2015	10113			SI C63.10:2009				
56 15.225.2015			AN	31 C03.10.2009				
omments								
one								
Jile								
EVIATIONS FROM	M TEST STANDARD							
one								
			Jung Da					
onfiguration #	1		yng Da					
		Signature	0/					
					Desired Value			
				Measured Value (MHz)	(MHz)	Difference	Limit	Result
3.56 MHz								
	Temperature Variation							
	-20 °C (Lov			40.550027	40.50	0.000%	10.049/	D
		Start Up		13.559967	13.56	0.000%	±0.01%	Pass
		After 2 Minutes		13.559983	13.56	0.000%	±0.01%	Pass
		After 5 Minutes		13.560050	13.56	0.000%	±0.01%	Pass
	10.0-	After 10 Minutes		13.560133	13.56	0.001%	±0.01%	Pass
	-10 °C			10 5000 :-	10 50		0.0404	
		Start Up		13.560017	13.56	0.000%	±0.01%	Pass
		After 2 Minutes		13.559950	13.56	0.000%	±0.01%	Pass
		After 5 Minutes		13.560067	13.56	0.000%	±0.01%	Pass
		After 10 Minutes		13.560150	13.56	0.001%	±0.01%	Pass
	0 °C							
		Start Up		13.560033	13.56	0.000%	±0.01%	Pass
		After 2 Minutes		13.560117	13.56	0.001%	±0.01%	Pass
		After 5 Minutes		13.560050	13.56	0.000%	±0.01%	Pass
		After 10 Minutes		13.560117	13.56	0.001%	±0.01%	Pass
	10 °C							
		Start Up		13.560083	13.56	0.001%	±0.01%	Pass
		After 2 Minutes		13.559983	13.56	0.000%	±0.01%	Pass
		After 5 Minutes		13.559867	13.56	-0.001%	±0.01%	Pass
		After 10 Minutes		13.560083	13.56	0.001%	±0.01%	Pass
	20 °C (Non	ninal)						
		Start Up		13.559817	13.56	-0.001%	±0.01%	Pass
		After 2 Minutes		13.559767	13.56	-0.002%	±0.01%	Pass
		After 5 Minutes		13.559850	13.56	-0.001%	±0.01%	Pass
		After 10 Minutes		13.559917	13.56	-0.001%	±0.01%	Pass
	30 °C							
		Start Up		13.559900	13.56	-0.001%	±0.01%	Pass
		After 2 Minutes		13.559917	13.56	-0.001%	±0.01%	Pass
		After 5 Minutes		13.559817	13.56	-0.001%	±0.01%	Pass
		After 10 Minutes		13.560100	13.56	0.001%	±0.01%	Pass
	40 °C							
		Start Up		13.560017	13.56	0.000%	±0.01%	Pass
		After 2 Minutes		13.559783	13.56	-0.002%	±0.01%	Pass
		After 5 Minutes		13.559833	13.56	-0.001%	±0.01%	Pass
		After 10 Minutes		13.560083	13.56	0.001%	±0.01%	Pass
	50 °C (High	n)						
		Start Up		13.559783	13.56	-0.002%	±0.01%	Pass
		After 2 Minutes		13.559850	13.56	-0.001%	±0.01%	Pass
		After 5 Minutes		13.559783	13.56	-0.002%	±0.01%	Pass
		After 10 Minutes		13.559783	13.56	-0.002%	±0.01%	Pass
	Voltage Variation							
	40.8 VDC (	(Low)						
		Start Up		13.560050	13.56	0.000%	±0.01%	Pass
	48 VDC (N							
		Start Up		13.559967	13.56	0.000%	±0.01%	Pass
	55.2 VDC (							
		Start Up		13.559867	13.56	-0.001%	±0.01%	Pass
		•						



	13.56 MHz, Tempe Measured	Desired Value			Descili
	Value (MHz) 13.559967	<b>(MHz)</b> 13.56	0.000%	Limit ±0.01%	Result Pass
🗰 Agilent 14:52:40 M	lay 7, 2015		1	RT	
Northwest EMC, Inc Ref 70.99 dBµV	Atten 30 d	4R		Mkr1	13.559 967 MH 22.50 dBµV
Norm	Titten 50 G			1	22.30 000
Log 10				-	DC C I
dB/ Offst					DC Coupled
–56 dB					
LgAv		1			
W1 \$2 \$3 FC					
£(f);					
f<50k Swp					
Center 13.560 000 MHz #Res BW 9.1 kHz		#VBW 30 kHz		Sweep	Span 10 kHz 1 ms (601 pts)
Center 13.560 000 MHz #Res BW 9.1 kHz	13.56 MHz, Temperatu		C (Low), After 2 Mi		Span 10 kHz 1 ms (601 pts)
Center 13.560 000 MHz #Res BW 9.1 kHz	13.56 MHz, Temperatu Measured Value (MHz)	re Variation, -20 °C Desired Value (MHz)	Difference	nutes Limit	1 ms (601 pts)
*Res BW 9.1 kHz	13.56 MHz, Temperatu Measured Value (MHz) 13.559983	re Variation, -20 °C Desired Value		nutes Limit ±0.01%	1 ms (601 pts)
	13.56 MHz, Temperatu Measured Value (MHz)	re Variation, -20 °C Desired Value (MHz)	Difference	Limit ±0.01%	1 ms (601 pts) Result Pass
<b>*</b> Res BW 9.1 kHz	13.56 MHz, Temperatu Measured Value (MHz) 13.559983	rre Variation, -20 °C Desired Value (MHz) 13.56	Difference	Limit ±0.01%	1 ms (601 pts)
*Res BW 9.1 kHz <b>Agilent</b> 14:54:42 M Northwest EMC, Inc Ref 70.99 dBµV Norm Log	13.56 MHz, Temperatu Measured Value (MHz) 13.559983 1ay 7, 2015	rre Variation, -20 °C Desired Value (MHz) 13.56	Difference	Limit ±0.01%	1 ms (601 pts) <u> Result</u> Pass 13.559 983 MH
*Res BW 9.1 kHz <b>Agilent</b> 14:54:42 M Northwest EMC, Inc Ref 70.99 dBµV Norm Log 10 dB/	13.56 MHz, Temperatu Measured Value (MHz) 13.559983 1ay 7, 2015	rre Variation, -20 °C Desired Value (MHz) 13.56	Difference	Limit ±0.01%	1 ms (601 pts) <u> Result</u> Pass 13.559 983 MH
*Res BW 9.1 kHz	13.56 MHz, Temperatu Measured Value (MHz) 13.559983 1ay 7, 2015	rre Variation, -20 °C Desired Value (MHz) 13.56	Difference	Limit ±0.01%	Result Pass 13.559 983 MH 22.52 dBµV
*Res BW 9.1 kHz <b>Agilent</b> 14:54:42 M Northwest EMC, Inc Ref 70.99 dBµV Norm Log 10 dB/ Offst	13.56 MHz, Temperatu Measured Value (MHz) 13.559983 1ay 7, 2015	rre Variation, -20 °C Desired Value (MHz) 13.56	Difference	Limit ±0.01%	Result Pass 13.559 983 MH 22.52 dBµV
<pre>#Res BW 9.1 kHz # Agilent 14:54:42 M Northwest EMC, Inc Ref 70.99 dBµV Norm Log 10 dB/</pre>	13.56 MHz, Temperatu Measured Value (MHz) 13.559983 1ay 7, 2015	rre Variation, -20 °C Desired Value (MHz) 13.56	Difference	Limit ±0.01%	Result Pass 13.559 983 MH 22.52 dBµV
*Res BW 9.1 kHz <b>Agilent</b> 14:54:42 M Northwest EMC, Inc Ref 70.99 dBµV Norm Log 10 dB/ Offst	13.56 MHz, Temperatu Measured Value (MHz) 13.559983 1ay 7, 2015	rre Variation, -20 °C Desired Value (MHz) 13.56	Difference	Limit ±0.01%	Result Pass 13.559 983 MH 22.52 dBµV
*Res BW 9.1 kHz * Agilent 14:54:42 M Northwest EMC, Inc Ref 70.99 dBµV Norm Log 10 dB/ Offst -56 dB LgAv	13.56 MHz, Temperatu Measured Value (MHz) 13.559983 1ay 7, 2015	ure Variation, -20 °C Desired Value (MHz) 13.56	Difference	Limit ±0.01%	Result Pass 13.559 983 MH 22.52 dBµV
*Res BW 9.1 kHz Agilent 14:54:42 M Northwest EMC, Inc Ref 70.99 dBµV Norm Log 10 dB/ Offst -56 dB LgAv W1 S2 S3 FC	13.56 MHz, Temperatu Measured Value (MHz) 13.559983 1ay 7, 2015	ure Variation, -20 °C Desired Value (MHz) 13.56	Difference	Limit ±0.01%	Result Pass 13.559 983 MH 22.52 dBµV
*Res BW 9.1 kHz *Res BW 9.1 kHz * Agilent 14:54:42 M Northwest EMC, Inc Ref 70.99 dBµV Norm Log 10 dB/ 0ffst -56 dB LgAv W1 \$2 \$3 FC £(f):	13.56 MHz, Temperatu Measured Value (MHz) 13.559983 1ay 7, 2015	ure Variation, -20 °C Desired Value (MHz) 13.56	Difference	Limit ±0.01%	Result Pass 13.559 983 MH 22.52 dBµV
*Res BW 9.1 kHz * Agilent 14:54:42 M Northwest EMC, Inc Ref 70.99 dBµV Norm Log 10 dB/ Offst -56 dB LgAv	13.56 MHz, Temperatu Measured Value (MHz) 13.559983 1ay 7, 2015	ure Variation, -20 °C Desired Value (MHz) 13.56	Difference	Limit ±0.01%	Result Pass 13.559 983 MH 22.52 dBµV
<pre>#Res BW 9.1 kHz  #Res BW 9.1 kHz  #Res BW 9.1 kHz  #Res BW 9.1 kHz  #Ref 70.99 dBµV Norm Log 10 dB/ 0ffst -56 dB LgAv #1 \$2 \$3 FC \$€(f): f&lt;50k</pre>	13.56 MHz, Temperatu Measured Value (MHz) 13.559983 1ay 7, 2015	ure Variation, -20 °C Desired Value (MHz) 13.56	Difference	Limit ±0.01%	Result Pass 13.559 983 MH 22.52 dBµV



	13.56 MHz, Temperatu Measured	re Variation, -20 °C Desired Value	C (Low), After 5 I	Vinutes		
	Value (MHz)	(MHz)	Difference	Limit	Resu	
	13.560050	13.56	0.000%	±0.01%	Pas	S
👋 Agilent 14:57:45	May 7, 2015			RT		-
Northwest EMC, Inc	0	-		Mkr1		050 MHz
Ref 70.99 dB <b>µ</b> V Norm	Atten 30 d	3B	1	1 1	22.5	54 dB <b>µ</b> V
Log						
10					DC	Coupled
dB/ Offst				_		Coupled
–56 dB						-
dB						
LgAv		Ť				
W1 S2 S3 FC						
\$3 FC						
£(f):						
f<50k						_
Swp						
Center 13.560 000 MHz					Spar	n 10 kHz
#Res BW 9.1 kHz		∗VBW 30 kHz_			o 1 ms (6	601 pts)_
#Res BW 9.1 kHz	13.56 MHz, Temperatur	e Variation, -20 °C	(Low), After 10		o 1 ms (6	601 pts)
*Res BW 9.1 kHz	13.56 MHz, Temperatur Measured Value (MHz)	re Variation, -20 °C Desired Value (MHz)	Difference	Minutes Limit	o 1 ms (6 Resu	ult
*Res BW 9.1 kHz	13.56 MHz, Temperatur Measured	e Variation, -20 °C Desired Value		Minutes	o 1 ms (6	ult
★ Agilent 15:02:44	13.56 MHz, Temperatur Measured Value (MHz)	re Variation, -20 °C Desired Value (MHz)	Difference	Minutes Limit ±0.01%	2 1 ms (6 <u>Resu</u> Pas	ults
Agilent 15:02:44   Northwest EMC, Inc	13.56 MHz, Temperatur Measured Value (MHz) 13.560133 May 7, 2015	re Variation, -20 °C Desired Value (MHz) 13.56	Difference	Minutes Limit ±0.01%	2 1 ms (6 Resu Pas 13.560	ults s133 MHz
★ Agilent 15:02:44	13.56 MHz, Temperatur Measured Value (MHz) 13.560133	re Variation, -20 °C Desired Value (MHz) 13.56	Difference	Minutes Limit ±0.01%	2 1 ms (6 Resu Pas 13.560	ults
Agilent 15:02:44 1 Northwest EMC, Inc Ref 70.99 dBµV Norm Log	13.56 MHz, Temperatur Measured Value (MHz) 13.560133 May 7, 2015	re Variation, -20 °C Desired Value (MHz) 13.56	Difference	Minutes Limit ±0.01%	2 1 ms (6 Resu Pas 13.560	ults s133 MHz
Agilent 15:02:44 1 Northwest EMC, Inc Ref 70.99 dBµV Norm Log 10	13.56 MHz, Temperatur Measured Value (MHz) 13.560133 May 7, 2015	re Variation, -20 °C Desired Value (MHz) 13.56	Difference	Minutes Limit ±0.01%	2 1 ms (6 Resu Pas 13.560 22.5	<mark>Jit</mark> s 133 MHz 53 dBµV
Agilent 15:02:44       Northwest EMC, Inc       Ref 70.99 dBµV       Norm       Log       10       dB/       Offst	13.56 MHz, Temperatur Measured Value (MHz) 13.560133 May 7, 2015	re Variation, -20 °C Desired Value (MHz) 13.56	Difference	Minutes Limit ±0.01%	2 1 ms (6 Resu Pas 13.560 22.5	ults s133 MHz
Agilent     15:02:44       Northwest     EMC, Inc       Ref     70.99     dBµV       Norm	13.56 MHz, Temperatur Measured Value (MHz) 13.560133 May 7, 2015	re Variation, -20 °C Desired Value (MHz) 13.56	Difference	Minutes Limit ±0.01%	2 1 ms (6 Resu Pas 13.560 22.5	<mark>Jit</mark> s 133 MHz 53 dBµV
Image: Agilent 15:02:44         Northwest EMC, Inc         Ref 70.99 dBµV         Norm         Log         10         dB/	13.56 MHz, Temperatur Measured Value (MHz) 13.560133 May 7, 2015	re Variation, -20 °C Desired Value (MHz) 13.56	Difference	Minutes Limit ±0.01%	2 1 ms (6 Resu Pas 13.560 22.5	<mark>Jit</mark> s 133 MHz 53 dBµV
Agilent 15:02:44       Northwest EMC, Inc       Ref 70.99 dBµV       Norm       Log       10       dB/       Offst	13.56 MHz, Temperatur Measured Value (MHz) 13.560133 May 7, 2015	re Variation, -20 °C Desired Value (MHz) 13.56	Difference	Minutes Limit ±0.01%	2 1 ms (6 Resu Pas 13.560 22.5	<mark>Jit</mark> s 133 MHz 53 dBµV
Agilent 15:02:44       Northwest EMC, Inc       Ref 70.99       ABµV       Norm       Log       10       dB/       Offst       -56       dB	13.56 MHz, Temperatur Measured Value (MHz) 13.560133 May 7, 2015	re Variation, -20 °C Desired Value (MHz) 13.56	Difference	Minutes Limit ±0.01%	2 1 ms (6 Resu Pas 13.560 22.5	<mark>Jit</mark> s 133 MHz 53 dBµV
Agilent 15:02:44 1 Northwest EMC, Inc Ref 70.99 dBµV Norm Log 10 dB/ Offst -56 dB	13.56 MHz, Temperatur Measured Value (MHz) 13.560133 May 7, 2015	re Variation, -20 °C Desired Value (MHz) 13.56	Difference	Minutes Limit ±0.01%	2 1 ms (6 Rest Pas 13.560 22.5	<mark>Jit</mark> s 133 MHz 53 dBµV
Agilent 15:02:44 1 Northwest EMC, Inc Ref 70.99 dBµV Norm Log 10 dB/ Offst -56 dB	13.56 MHz, Temperatur Measured Value (MHz) 13.560133 May 7, 2015	re Variation, -20 °C Desired Value (MHz) 13.56	Difference	Minutes Limit ±0.01%	2 1 ms (6 Rest Pas 13.560 22.5	<mark>Jit</mark> s 133 MHz 53 dBµV
Agilent 15:02:44         Northwest EMC, Inc           Ref 70.99 dBµV         Norm           Log         10           dB/         0           Offst         -56           dB         -56 <td< td=""><td>13.56 MHz, Temperatur Measured Value (MHz) 13.560133 May 7, 2015</td><td>re Variation, -20 °C Desired Value (MHz) 13.56</td><td>Difference</td><td>Minutes Limit ±0.01%</td><td>2 1 ms (6 Rest Pas 13.560 22.5</td><td><mark>Jit</mark>s 133 MHz 53 dBµV</td></td<>	13.56 MHz, Temperatur Measured Value (MHz) 13.560133 May 7, 2015	re Variation, -20 °C Desired Value (MHz) 13.56	Difference	Minutes Limit ±0.01%	2 1 ms (6 Rest Pas 13.560 22.5	<mark>Jit</mark> s 133 MHz 53 dBµV
Agilent 15:02:44           Northwest EMC, Inc           Ref 70.99 dBµV           Norm           Log           10           dB/           Offst           -56           dB           LgAv           W1           \$2           \$3           £(f):	13.56 MHz, Temperatur Measured Value (MHz) 13.560133 May 7, 2015	re Variation, -20 °C Desired Value (MHz) 13.56	Difference	Minutes Limit ±0.01%	2 1 ms (6 Rest Pas 13.560 22.5	<mark>Jit</mark> s 133 MHz 53 dBµV
Agilent 15:02:44         Northwest EMC, Inc           Ref 70.99 dBµV           Norm           Log           10           dB/           0ffst           -56           dB           LgAv           W1 <s2< td="">           S3           £(f):           f&lt;50k</s2<>	13.56 MHz, Temperatur Measured Value (MHz) 13.560133 May 7, 2015	re Variation, -20 °C Desired Value (MHz) 13.56	Difference	Minutes Limit ±0.01%	2 1 ms (6 Rest Pas 13.560 22.5	<mark>Jit</mark> s 133 MHz 53 dBµV
Agilent 15:02:44         Northwest EMC, Inc           Ref 70.99 dBµV         Norm           .og	13.56 MHz, Temperatur Measured Value (MHz) 13.560133 May 7, 2015	re Variation, -20 °C Desired Value (MHz) 13.56	Difference	Minutes Limit ±0.01%	2 1 ms (6 Rest Pas 13.560 22.5	<mark>Jit</mark> s 133 MHz 53 dBµV

#VBW 30 kHz

Center 13.560 000 MHz #Res BW 9.1 kHz Span 10 kHz Sweep 1 ms (601 pts)



	13.56 MHz, Ten Measured Value (MHz)	perature Variation Desired Value	, -10 °C, Start Up Difference	Limit	Result	
	13.560017	(MHz) 13.56	0.000%	±0.01%	Pass	
M Agilent 14:33:56	May 7, 2015			RT		
Northwest EMC, Inc		in .			13.560 0	017 MHz
Ref 70.99 dB <b>µ</b> V Norm	Atten 30 (	1 1R		1	22.4	9 dB <b>µ</b> V
Log 10						
dB/					DC (	Coupled
Offst -56 dB						
dB						
LgAv		1 			_	
W1 S2 S3 FC						
£(f):						
f<50k		-				
Swp						
	13.56 MHz, Temper		0 °C, After 2 Min		Span 1 ms (60	10 kHz 01 pts)
			0 °C, After 2 Min Difference 0.000%			01 pts) t
	13.56 MHz, Tempe Measured Value (MHz)	ature Variation, -1 Desired Value (MHz)	Difference	utes Limit ±0.01%	0 1 ms (60 Result	01 pts) t
*Res BW 9.1 kHz <b>Agilent</b> 14:36:01 Northwest EMC, Inc	13.56 MHz, Temper Measured Value (MHz) 13.559950 May 7, 2015	ature Variation, -1 Desired Value (MHz) 13.56	Difference	utes Limit ±0.01%	0 1 ms (60 <u>Result</u> Pass 13.559 8	01 pts) t
<b>*Res BW 9.1 kHz ★ Agilent 14:36:01</b> Northwest EMC, Inc Ref 70.99 dBµV Norm	13.56 MHz, Temper Measured Value (MHz) 13.559950	ature Variation, -1 Desired Value (MHz) 13.56	Difference	utes Limit ±0.01%	0 1 ms (60 <u>Result</u> Pass 13.559 8	01 pts) t
*Res BW 9.1 kHz Agilent 14:36:01 Northwest EMC, Inc Ref 70.99 dBµV Norm Log 10	13.56 MHz, Temper Measured Value (MHz) 13.559950 May 7, 2015	ature Variation, -1 Desired Value (MHz) 13.56	Difference	utes Limit ±0.01%	0 1 ms (60 Result Pass 13.559 9 22.43	01 pts) t 350 MHz 3 dBµV
<b>*Res BW 9.1 kHz</b> ★ Agilent 14:36:01       Northwest EMC, Inc       Ref 70.99 dBµV       Norm       Log       10       dB/       Offst	13.56 MHz, Temper Measured Value (MHz) 13.559950 May 7, 2015	ature Variation, -1 Desired Value (MHz) 13.56	Difference	utes Limit ±0.01%	0 1 ms (60 Result Pass 13.559 9 22.43	01 pts) t
*Res BW 9.1 kHz ** Agilent 14:36:01 Northwest EMC, Inc Ref 70.99 dBµV Norm Log 10 dB/	13.56 MHz, Temper Measured Value (MHz) 13.559950 May 7, 2015	ature Variation, -1 Desired Value (MHz) 13.56	Difference	utes Limit ±0.01%	0 1 ms (60 Result Pass 13.559 9 22.43	01 pts) t 350 MHz 3 dBµV
■Res BW 9.1 kHz       Image: style="text-align: center;">	13.56 MHz, Temper Measured Value (MHz) 13.559950 May 7, 2015	ature Variation, -1 Desired Value (MHz) 13.56	Difference	utes Limit ±0.01%	0 1 ms (60 Result Pass 13.559 9 22.43	01 pts) t 350 MHz 3 dBµV
<b>*Res BW 9.1 kHz ★ Agilent 14:36:01</b> Northwest EMC, Inc Ref 70.99 dBµV Norm Log 10 dB/ Offst -56 dB	13.56 MHz, Temper Measured Value (MHz) 13.559950 May 7, 2015	ature Variation, -1 Desired Value (MHz) 13.56	Difference	utes Limit ±0.01%	0 1 ms (60 Result Pass 13.559 9 22.43	01 pts) t 350 MHz 3 dBµV
*Res BW 9.1 kHz	13.56 MHz, Temper Measured Value (MHz) 13.559950 May 7, 2015	ature Variation, -1 Desired Value (MHz) 13.56	Difference	utes Limit ±0.01%	0 1 ms (60 Result Pass 13.559 9 22.43	01 pts) t 350 MHz 3 dBµV
*Res BW 9.1 kHz	13.56 MHz, Temper Measured Value (MHz) 13.559950 May 7, 2015	ature Variation, -1 Desired Value (MHz) 13.56	Difference	utes Limit ±0.01%	0 1 ms (60 Result Pass 13.559 9 22.43	01 pts) t 350 MHz 3 dBµV
*Res BW 9.1 kHz           ** Agilent 14:36:01           Northwest EMC, Inc           Ref 70.99 dBµV           Norm           Log           10           dB/           0ffst           -56           dB           LgAv           W1 S2           S3 FC	13.56 MHz, Temper Measured Value (MHz) 13.559950 May 7, 2015	ature Variation, -1 Desired Value (MHz) 13.56	Difference	utes Limit ±0.01%	0 1 ms (60 Result Pass 13.559 9 22.43	01 pts) t 350 MHz 3 dBµV
*Res BW 9.1 kHz           ** Agilent 14:36:01           Northwest EMC, Inc           Ref 70.99 dBµV           Norm           Log           10           dB/           0ffst           -56           dB           LgAv           W1 \$2           \$3 FC           £(f):	13.56 MHz, Temper Measured Value (MHz) 13.559950 May 7, 2015	ature Variation, -1 Desired Value (MHz) 13.56	Difference	utes Limit ±0.01%	0 1 ms (60 Result Pass 13.559 9 22.43	01 pts) t 350 MHz 3 dBµV
<pre>#Res BW 9.1 kHz</pre>	13.56 MHz, Temper Measured Value (MHz) 13.559950 May 7, 2015	ature Variation, -1 Desired Value (MHz) 13.56	Difference	utes Limit ±0.01%	0 1 ms (60 Result Pass 13.559 9 22.43	01 pts) t 350 MHz 3 dBµV
<b>*Res BW 9.1 kHz</b> ★ Agilent 14:36:01           Northwest EMC, Inc           Ref 70.99 dBµV           Norm           Log           10           dB/           0ffst           -56           dB           LgAv           W1 \$2           \$3 FC           £(f):	13.56 MHz, Temper Measured Value (MHz) 13.559950 May 7, 2015	ature Variation, -1 Desired Value (MHz) 13.56	Difference	utes Limit ±0.01%	0 1 ms (60 Result Pass 13.559 9 22.43	01 pts) t 350 MHz 3 dBµV
Agilent 14:36:01           Agilent 14:36:01           orthwest EMC, Inc           of 70.99 dBµV           orm           og           03           3/           56           3           64           75t           56           3           56           3           64v           56           3           56           3           56           3           56           3           56           3           56           3           56           3           56           3           57           58           57	13.56 MHz, Temper Measured Value (MHz) 13.559950 May 7, 2015 Atten 30 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ature Variation, -1 Desired Value (MHz) 13.56	Difference	utes Limit ±0.01%	DC (	01 pts) t 350 MHz 3 dBµV



	13.56 MHz, Tempera Measured	Desired Value			
	Value (MHz) 13.560067	(MHz) 13.56	Difference 0.000%	Limit ±0.01%	Result Pass
👋 Agilent 14:38:56 May	7,2015			RT	
Northwest EMC, Inc Ref 70.99 dBµV	Atten 30 d	ID.		Mkr1	13.560 067 MI 22.48 dBµ
Norm	niten se u				22.40 UDP
Log 10					= 3.49.3
dB/ Offst					DC Couple
Dffst -56 dB					
LgAv					
W1 S2 S3 FC					
£(f):					
f<50k Swp					
Courses 12 EC0 000 MU-					C 10 M
		#VBW 30 kHz		Sweep	Span 10 kH 1 ms (601 pts
Center 13.560 000 MHz #Res BW 9.1 kHz	13.56 MHz, Tempera	ture Variation, -1			
	13.56 MHz, Tempera Measured Value (MHz)				
*Res BW 9.1 kHz	13.56 MHz, Tempera Measured Value (MHz) 13.560150	ture Variation, -1 Desired Value (MHz)	0 °C, After 10 Mii Difference	Limit ±0.01%	1 ms (601 pts Result
*Res BW 9.1 kHz <b>Agilent</b> 14:43:59 May Northwest EMC, Inc	13.56 MHz, Tempera Measured Value (MHz) 13.560150 7 7, 2015	ture Variation, -1 Desired Value (MHz) 13.56	0 °C, After 10 Mii Difference	Limit ±0.01%	1 ms (601 pts Result Pass 13.560 150 Mi
<b>*</b> Res BW 9.1 kHz	13.56 MHz, Tempera Measured Value (MHz) 13.560150	ture Variation, -1 Desired Value (MHz) 13.56	0 °C, After 10 Mii Difference	Limit ±0.01%	1 ms (601 pts Result Pass
*Res BW 9.1 kHz <b>Agilent</b> 14:43:59 May Northwest EMC, Inc Ref 70.99 dBµV Norm Log 10	13.56 MHz, Tempera Measured Value (MHz) 13.560150 7 7, 2015	ture Variation, -1 Desired Value (MHz) 13.56	0 °C, After 10 Mii Difference	Limit ±0.01%	1 ms (601 pts Result Pass 13.560 150 Ml 22.50 dBµ
*Res BW 9.1 kHz	13.56 MHz, Tempera Measured Value (MHz) 13.560150 7 7, 2015	ture Variation, -1 Desired Value (MHz) 13.56	0 °C, After 10 Mii Difference	Limit ±0.01%	1 ms (601 pts Result Pass 13.560 150 Mi
*Res BW 9.1 kHz <b>Agilent</b> 14:43:59 May Northwest EMC, Inc Ref 70.99 dBµV Norm Log 10 dB/	13.56 MHz, Tempera Measured Value (MHz) 13.560150 7 7, 2015	ture Variation, -1 Desired Value (MHz) 13.56	0 °C, After 10 Mii Difference	Limit ±0.01%	1 ms (601 pts Result Pass 13.560 150 Ml 22.50 dBµ
*Res BW 9.1 kHz	13.56 MHz, Tempera Measured Value (MHz) 13.560150 7 7, 2015	ture Variation, -1 Desired Value (MHz) 13.56	0 °C, After 10 Mii Difference	Limit ±0.01%	1 ms (601 pts Result Pass 13.560 150 Ml 22.50 dBµ
<b>*Res BW 9.1 kHz * Agilent</b> 14:43:59 May Northwest EMC, Inc Ref 70.99 dBµV Norm Log 10 dB/ Offst -56 dB	13.56 MHz, Tempera Measured Value (MHz) 13.560150 7 7, 2015	ture Variation, -1 Desired Value (MHz) 13.56	0 °C, After 10 Mii Difference	Limit ±0.01%	1 ms (601 pts Result Pass 13.560 150 Ml 22.50 dBµ
<b>*Res BW 9.1 kHz *Agilent 14:43:59</b> May Northwest EMC, Inc Ref 70.99 dBµV Norm Log 10 dB/ Offst -56 dB LgAv	13.56 MHz, Tempera Measured Value (MHz) 13.560150 7 7, 2015	ture Variation, -1 Desired Value (MHz) 13.56	0 °C, After 10 Mii Difference	Limit ±0.01%	1 ms (601 pts Result Pass 13.560 150 Ml 22.50 dBµ
<b>*Res BW 9.1 kHz * Agilent</b> 14:43:59 May Northwest EMC, Inc Ref 70.99 dBµV Norm Log 10 dB/ Offst -56 dB	13.56 MHz, Tempera Measured Value (MHz) 13.560150 7 7, 2015	ture Variation, -1 Desired Value (MHz) 13.56	0 °C, After 10 Mii Difference	Limit ±0.01%	1 ms (601 pts Result Pass 13.560 150 Ml 22.50 dBµ
*Res BW 9.1 kHz           ** Agilent 14:43:59 May           Northwest EMC, Inc           Ref 70.99 dBµV           Norm           Log           10           dB/           0ffst           -56           dB           LgAv           W1 \$2           \$3 FC           £(f):	13.56 MHz, Tempera Measured Value (MHz) 13.560150 7 7, 2015	ture Variation, -1 Desired Value (MHz) 13.56	0 °C, After 10 Mii Difference	Limit ±0.01%	1 ms (601 pts Result Pass 13.560 150 Ml 22.50 dBµ
*Res BW 9.1 kHz           ** Agilent 14:43:59 May           Northwest EMC, Inc           Ref 70.99 dBµV           Norm           Log           10           dB/           Offst           -56           dB           LgAv           W1 S2           S3 FC	13.56 MHz, Tempera Measured Value (MHz) 13.560150 7 7, 2015	ture Variation, -1 Desired Value (MHz) 13.56	0 °C, After 10 Mii Difference	Limit ±0.01%	1 ms (601 pts Result Pass 13.560 150 Ml 22.50 dBµ
<pre>#Res BW 9.1 kHz  #Res BW 9.1 kHz  #Res BW 9.1 kHz  #Ref 70.99 dBµV Norm Log 10 dB/ Offst -56 dB LgAv W1 \$2 \$3 FC \$€(f): f&lt;50k</pre>	13.56 MHz, Tempera Measured Value (MHz) 13.560150 7 7, 2015	ture Variation, -1 Desired Value (MHz) 13.56	0 °C, After 10 Mii	Limit ±0.01%	1 ms (601 pts Result Pass 13.560 150 Ml 22.50 dBµ



	Measured	mperature Variation Desired Value	on, 0 °C, Start Up			
	Value (MHz) 13.560033	(MHz) 13.56	Difference 0.000%	Limit ±0.01%	Resu Pass	
Agilent 14:14:01 Northwest EMC, Inc	May 7, 2015		_	R T Mkr1	13.560	033 MHz
Ref 70.99 dB <b>µ</b> V	Atten 30	dB				35 dB <b>µ</b> V
Norm Log						
10 dB/					DC	Coupled
Offet						coupied
–56 dB						
		1				
LgAv		¢				
W1 S2 S3 FC						_
£(f): f<50k						
Swp						
Center 13.560 000 MH:	z				Span	10 kHz
Center 13.560 000 MH #Res BW 9.1 kHz	z	#VBW 30 kHz		Sweep	Span 1 ms (6	10 kHz 01 pts)
	Z 13.56 MHz, Temp Measured	erature Variation, (	0 °C, After 2 Minute			
	13.56 MHz, Temp Measured Value (MHz)	erature Variation, ( Desired Value (MHz)	Difference	es Limit	) 1 ms (6 Resu	01 pts)
*Res BW 9.1 kHz	13.56 MHz, Temp Measured Value (MHz) 13.560117	erature Variation, ( Desired Value		Es Limit ±0.01%	)1 ms(6	01 pts)
	13.56 MHz, Temp Measured Value (MHz) 13.560117	erature Variation, ( Desired Value (MHz)	Difference	es <u>Limit</u> ±0.01% R T	) 1 ms (6 Resu	i01 pts) Ilt s
#Res BW 9.1 kHz	13.56 MHz, Temp Measured Value (MHz) 13.560117	erature Variation, ( Desired Value (MHz) 13.56	Difference	es <u>Limit</u> ±0.01% R T	1 ms (6 Resu Pass 13.560	i01 pts) Ilt s
₩Res BW 9.1 kHz <b>Agilent</b> 14:16:06 Northwest EMC, Inc Ref 70.99 dBµV Norm Log	13.56 MHz, Temp Measured Value (MHz) 13.560117 May 7, 2015	erature Variation, ( Desired Value (MHz) 13.56	Difference	Es <u>Limit</u> ±0.01%	1 ms (6 Resu Pass 13.560	01 pts) It s 117 MHz
#Res BW 9.1 kHz ★ Agilent 14:16:06 Northwest EMC, Inc Ref 70.99 dBµV Norm Log 10 dB/	13.56 MHz, Temp Measured Value (MHz) 13.560117 May 7, 2015	erature Variation, ( Desired Value (MHz) 13.56	Difference	Es <u>Limit</u> ±0.01%	) 1 ms (6 Resu Pass 13.560 22.3	01 pts) It s 117 MHz
#Res BW 9.1 kHz       Image: style="text-align: center;">	13.56 MHz, Temp Measured Value (MHz) 13.560117 May 7, 2015	erature Variation, ( Desired Value (MHz) 13.56	Difference	Es <u>Limit</u> ±0.01%	) 1 ms (6 Resu Pass 13.560 22.3	01 pts) nt s 117 MHz 3 dB <b>µ</b> V
#Res BW 9.1 kHz ★ Agilent 14:16:06 Northwest EMC, Inc Ref 70.99 dBµV Norm Log 10 dB/	13.56 MHz, Temp Measured Value (MHz) 13.560117 May 7, 2015	erature Variation, ( Desired Value (MHz) 13.56	Difference	Es <u>Limit</u> ±0.01%	) 1 ms (6 Resu Pass 13.560 22.3	01 pts) nt s 117 MHz 3 dB <b>µ</b> V
#Res BW 9.1 kHz       Image: style="text-align: center;">	13.56 MHz, Temp Measured Value (MHz) 13.560117 May 7, 2015	erature Variation, ( Desired Value (MHz) 13.56	Difference	Es <u>Limit</u> ±0.01%	) 1 ms (6 Resu Pass 13.560 22.3	01 pts) nt s 117 MHz 3 dB <b>µ</b> V
■Res BW 9.1 kHz       Image: style="text-align: center;">	13.56 MHz, Temp Measured Value (MHz) 13.560117 May 7, 2015	erature Variation, ( Desired Value (MHz) 13.56	Difference	Es <u>Limit</u> ±0.01%	) 1 ms (6 Resu Pass 13.560 22.3	01 pts) nt s 117 MHz 3 dB <b>µ</b> V
■Res BW 9.1 kHz       Image: style="text-align: center;">         Agilent 14:16:06           Northwest EMC, Inc           Ref 70.99 dBµV           Norm           Log           10           dB/           Offst           -56           dB           LgAv	13.56 MHz, Temp Measured Value (MHz) 13.560117 May 7, 2015	erature Variation, ( Desired Value (MHz) 13.56	Difference	Es <u>Limit</u> ±0.01%	) 1 ms (6 Resu Pass 13.560 22.3	01 pts) nt s 117 MHz 3 dB <b>µ</b> V
■Res BW 9.1 kHz       Image: style="text-align: center;">         Agilent 14:16:06           Northwest EMC, Inc           Ref 70.99 dBµV           Norm           Log           10           dB/           Offst           -56           dB           LgAv	13.56 MHz, Temp Measured Value (MHz) 13.560117 May 7, 2015	erature Variation, ( Desired Value (MHz) 13.56	Difference	Es <u>Limit</u> ±0.01%	) 1 ms (6 Resu Pass 13.560 22.3	01 pts) nt s 117 MHz 3 dB <b>µ</b> V
<b>★Res BW 9.1 kHz</b> ★ Agilent 14:16:06         Northwest EMC, Inc         Ref 70.99 dBµV         Norm         Log         10         dB/         0ffst         -56         dB         LgAv         W1 S2         S3 FC	13.56 MHz, Temp Measured Value (MHz) 13.560117 May 7, 2015	erature Variation, ( Desired Value (MHz) 13.56	Difference	Es <u>Limit</u> ±0.01%	) 1 ms (6 Resu Pass 13.560 22.3	01 pts) nt s 117 MHz 3 dB <b>µ</b> V
<pre>#Res BW 9.1 kHz</pre>	13.56 MHz, Temp Measured Value (MHz) 13.560117 May 7, 2015	erature Variation, ( Desired Value (MHz) 13.56	Difference	Es <u>Limit</u> ±0.01%	) 1 ms (6 Resu Pass 13.560 22.3	01 pts) nt s 117 MHz 3 dB <b>µ</b> V
<b>*Res BW 9.1 kHz ** Agilent 14:16:06</b> Northwest EMC, Inc           Ref 70.99 dBµV           Norm           Log           10           dB/           0ffst           -56           dB           LgAv           W1 \$2           \$3 FC           £(f):	13.56 MHz, Temp Measured Value (MHz) 13.560117 May 7, 2015	erature Variation, ( Desired Value (MHz) 13.56	Difference	Es <u>Limit</u> ±0.01%	) 1 ms (6 Resu Pass 13.560 22.3	01 pts) nt s 117 MHz 3 dB <b>µ</b> V
<pre>#Res BW 9.1 kHz</pre>	13.56 MHz, Temp Measured Value (MHz) 13.560117 May 7, 2015	erature Variation, ( Desired Value (MHz) 13.56	Difference	es <u>Limit</u> ±0.01% R T	) 1 ms (6 Resu Pass 13.560 22.3	01 pts) nt s 117 MHz 3 dB <b>µ</b> V



13.56 MHz, Temperature Variation, 0 °C, After 5 Minutes Measured Desired Value	
Value (MHz) (MHz) Difference Limit Result	
13.560050 13.56 0.000% ±0.01% Pass	
# Agilent 14:19:05         May 7, 2015         R         T           Northwest EMC, Inc         Mkr1         13:560         05	-01 MUI-
Ref 70.99 dB <b>µ</b> V Atten 30 dB 22.33	
Norm Log	
10	aunlad
dB/ DC Co	ouplea
Offst -56 dB	
LgAv	
W1 \$2 \$3 FC	
£(f): f<50k	
Swp	
Center 13.560 000 MHz Span 1	0 647
#Res BW 9.1 kHz #VBW 30 kHz Sweep 1 ms (601	l pts)_
13.56 MHz, Temperature Variation, 0 °C, After 10 Minutes	
Measured Desired Value Value (MHz) Difference Limit Result	_
Measured         Desired Value           Value (MHz)         (MHz)         Difference         Limit         Result           13.560117         13.56         0.001%         ±0.01%         Pass	
Measured Value (MHz)     Desired Value (MHz)     Difference     Limit     Result       13.560117     13.56     0.001%     ±0.01%     Pass       Agilent 14:24:04     May 7, 2015     R     T       Northwest EMC, Inc     Mkr1     13.560 11	
Measured Value (MHz)         Desired Value (MHz)         Difference         Limit         Result           13.560117         13.56         0.001%         ±0.01%         Pass	
Measured Value (MHz)         Desired Value (MHz)         Difference         Limit         Result           13.560117         13.56         0.001%         ±0.01%         Pass           Agilent 14:24:04         May 7, 2015         R         T           Northwest EMC, Inc         Mkr1         13.560 11           Ref 70.99 dBµV         Atten 30 dB         22.32           Norm         Log         Log	
Measured Value (MHz)         Desired Value (MHz)         Difference         Limit         Result           13.560117         13.56         0.001%         ±0.01%         Pass           Agilent 14:24:04         May 7, 2015         R         T           Northwest EMC, Inc         Mkr1         13.560         11           Ref 70.99         dBµV         Atten 30 dB         22.32           Norm         Log         0         0         DC Co	dBµV
Measured Value (MHz)         Desired Value (MHz)         Difference         Limit         Result           13.560117         13.56         0.001%         ±0.01%         Pass           Agilent 14:24:04         May 7, 2015         R         T           Northwest EMC, Inc         Mkr1         13.560         11           Ref 70.99         dBµV         Atten 30 dB         22.32           Norm         0         0         0         0           0         0         0         0         0         0           10         0	dBµV
Measured Value (MHz)         Desired Value (MHz)         Difference         Limit         Result           13.560117         13.56         0.001%         ±0.01%         Pass           Main Agilent 14:24:04         May 7, 2015         R         T           Northwest EMC, Inc         Mkr1         13.560         11           Ref 70.99         dBµV         Atten 30 dB         22.32           Norm         0         0         0         0           0         dB/         DC Co         0	dBµV
Measured Value (MHz)         Desired Value (MHz)         Difference         Limit         Result           13.560117         13.56         0.001%         ±0.01%         Pass           Mailer 14:24:04         May 7, 2015         R         T           Northwest EMC, Inc         Mkr1         13.560         11           Ref 70.99         dBµV         Atten 30 dB         22.32           Norm         Dg         0         0         0           10         dB/         0         0         0         0           dB/         0         0         0         0         0         0	dBµV
Measured Value (MHz)         Desired Value (MHz)         Difference         Limit         Result           13.560117         13.56         0.001%         ±0.01%         Pass           Agilent 14:24:04         May 7, 2015         R         T           Northwest EMC, Inc         Mkr1         13.560         11           Ref 70.99         dBµV         Atten 30 dB         22.32           Norm         0         0         0         0           0         0         0         0         0         0           10         0	dBµV
Measured Value (MHz)         Desired Value (MHz)         Difference         Limit         Result           13.560117         13.56         0.001%         ±0.01%         Pass           # Agilent 14:24:04         May 7, 2015         R         T           Northwest EMC, Inc         Mkr1         13.560 11           Ref 70.99 dBµV         Atten 30 dB         22.32           Norm         DG         DC Co           10         DFfst         56           4B/         4         4           19Av         4         4	dBµV
Measured Value (MHz)         Desired Value (MHz)         Difference         Limit         Result           13.560117         13.56         0.001%         ±0.01%         Pass           # Agilent 14:24:04         May 7, 2015         R         T           Northwest EMC, Inc         Mkr1         13.560         11           Ref 70.99         dBµV         Atten 30 dB         22.32           Norm         Log         0         0         0           10         0         0         0         0         0           10         0         0         0         0         0         0           10         0         0         0         0         0         0         0           10         0	dBµV
Measured Value (MHz)         Desired Value (MHz)         Difference         Limit         Result           13.560117         13.56         0.001%         ±0.01%         Pass           # Agilent 14:24:04         May 7, 2015         R         T           Northwest EMC, Inc         Mkr1         13.560         11           Ref 70.99         dBµV         Atten 30 dB         22.32           North         0         0         0         0           I0         dB/         0         0         0         0           I0         dB/         0         0         0         0         0           I0         dB/         0         0         0         0         0         0           I0         dB/         0	dBµV
Measured Value (MHz)         Desired Value (MHz)         Difference         Limit         Result           13.560117         13.56         0.001%         ±0.01%         Pass           Agilent 14:24:04         May 7, 2015         R         T           Northwest EMC, Inc         Mkr1         13.560         11           Ref 70.99         dBµV         Atten 30 dB         22.32           Norm         Log         0         0         0           10         dB/         0         0         0         0           10         dB/         0         0         0         0         0           10         dB/         0         0         0         0         0         0           10         0	dBµV
Measured Value (MHz)         Desired Value (MHz)         Difference         Limit         Result           13.560117         13.56         0.001%         ±0.01%         Pass           # Agilent 14:24:04         May 7, 2015         R         T           Northwest EMC, Inc         Mkr1         13.560         11           Ref 70.99         dBµV         Atten 30 dB         22.32           North         GB/         0         0         0           Log         0         0         0         0         0           Log         0         0         0         0         0         0           Log         0         0         0         0         0         0         0           LgAv         4         0	dBµV

#VBW 30 kHz

Center 13.560 000 MHz #Res BW 9.1 kHz

Span 10 kHz Sweep 1 ms (601 pts)



	Measured	perature Variation Desired Value				
	Value (MHz) 13.560083	(MHz) 13.56	Difference 0.001%	Limit ±0.01%	Resu Pas	
* Agilent 13:52:00 M	av 7. 2015			RT		
Northwest EMC, Inc					13.560	
Ref 70.99 dB <b>µ</b> V Norm	Atten 30 d	dB	1	1 1	21.8	38 dB <b>µ</b> V
Log						
10 dB/					DC	Coupled
Offst						
-56 dB						
		1				
LgAv		<b>^</b>				
W1 S2 S3 FC						
<b>£</b> (f): f<50k						
Swp						
	13.56 MHz, Tempe		) °C, After 2 Minu		Spar p 1 ms (6	n 10 kHz 601 pts)
Center 13.560 000 MHz #Res BW 9.1 kHz	13.56 MHz, Tempe Measured Value (MHz) 13.559983		0 °C, After 2 Minu Difference 0.000%			601 pts) ult
*Res BW 9.1 kHz	Measured Value (MHz)	rature Variation, 10 Desired Value (MHz)	Difference	utes Limit	o 1 ms (6 Resu	601 pts) ult
#Res BW 9.1 kHz	Measured Value (MHz) 13.559983 ay 7, 2015	rature Variation, 10 Desired Value (MHz) 13.56	Difference	utes Limit ±0.01%	0 1 ms (6 Resu Pas 13.559	983 MHz
¥Res BW 9.1 kHz <b>★ Agilent</b> 13:54:02 Ma Northwest EMC, Inc Ref 70.99 dBµV Norm	Measured Value (MHz) 13.559983	rature Variation, 10 Desired Value (MHz) 13.56	Difference	utes Limit ±0.01%	0 1 ms (6 Resu Pas 13.559	)01 pts) ult s
<b>*Res BW 9.1 kHz Agilent 13:54:02 Ma</b> Northwest EMC, Inc Ref 70.99 dBµV Norm Log 10	Measured Value (MHz) 13.559983 ay 7, 2015	rature Variation, 10 Desired Value (MHz) 13.56	Difference	utes Limit ±0.01%	2 1 ms (6 Resu Pas 13.559 21.8	ilt s 983 MHz 38 dBµV
■Res BW 9.1 kHz          Image: Second system         Image: Seco	Measured Value (MHz) 13.559983 ay 7, 2015	rature Variation, 10 Desired Value (MHz) 13.56	Difference	utes Limit ±0.01%	2 1 ms (6 Resu Pas 13.559 21.8	983 MHz
#Res BW 9.1 kHz       Image: style="text-align: center;">Image: style="text-align: style="text-align: style="text-align: center;">Image: style="text-align: style: style: style="text-align: style="text-a	Measured Value (MHz) 13.559983 ay 7, 2015	rature Variation, 10 Desired Value (MHz) 13.56	Difference	utes Limit ±0.01%	2 1 ms (6 Resu Pas 13.559 21.8	ilt s 983 MHz 38 dBµV
#Res BW 9.1 kHz       Image: style="text-align: center;">	Measured Value (MHz) 13.559983 ay 7, 2015	rature Variation, 10 Desired Value (MHz) 13.56	Difference	utes Limit ±0.01%	2 1 ms (6 Resu Pas 13.559 21.8	ilt s 983 MHz 38 dBµV
■Res BW 9.1 kHz          Image: style="text-align: center;">Image: style="text-align: style="text-align: center;">Image: style="text-align: center;">Image: style="text-align: style="text-align: style="text-align: center;">Image: style="text-align: s	Measured Value (MHz) 13.559983 ay 7, 2015	rature Variation, 10 Desired Value (MHz) 13.56	Difference	utes Limit ±0.01%	2 1 ms (6 Resu Pas 13.559 21.8	ilt s 983 MHz 38 dBµV
<b>*Res BW 9.1 kHz</b> ★ Agilent 13:54:02       Magilent 13:54:02         Northwest EMC, Inc         Ref 70.99       dBµV         Norm         Log         10         dB/         Offst	Measured Value (MHz) 13.559983 ay 7, 2015	rature Variation, 10 Desired Value (MHz) 13.56	Difference	utes Limit ±0.01%	2 1 ms (6 Resu Pas 13.559 21.8	ilt s 983 MHz 38 dBµV
*Res BW 9.1 kHz Agilent 13:54:02 Ma Northwest EMC, Inc Ref 70.99 dBµV Norm Log 10 dB/ Offst -56 dB LgAv	Measured           Value (MHz)           13.559983           ay 7, 2015	rature Variation, 10 Desired Value (MHz) 13.56	Difference	utes Limit ±0.01%	2 1 ms (6 Resu Pas 13.559 21.8	ilt s 983 MHz 38 dBµV
*Res BW 9.1 kHz <b>Agilent</b> 13:54:02 M/ Northwest EMC, Inc Ref 70.99 dBµV Norm Log 10 dB/ 0ffst -56 dB LgAv	Measured           Value (MHz)           13.559983           ay 7, 2015	rature Variation, 10 Desired Value (MHz) 13.56	Difference	utes Limit ±0.01%	2 1 ms (6 Resu Pas 13.559 21.8	ilt s 983 MHz 38 dBµV
*Res         BW         9.1         kHz           ***         Agilent         13:54:02         Mi           Northwest         EMC, Inc         Ref         70.99         dBµV           Norm         Log         10	Measured           Value (MHz)           13.559983           ay 7, 2015	rature Variation, 10 Desired Value (MHz) 13.56	Difference	utes Limit ±0.01%	2 1 ms (6 Resu Pas 13.559 21.8	ilt s 983 MHz 38 dBµV
<pre>#Res BW 9.1 kHz</pre>	Measured           Value (MHz)           13.559983           ay 7, 2015	rature Variation, 10 Desired Value (MHz) 13.56	Difference	utes Limit ±0.01%	2 1 ms (6 Resu Pas 13.559 21.8	ilt s 983 MHz 38 dBµV
<pre>#Res BW 9.1 kHz  #Res BW 9.1 kHz  #Res BW 9.1 kHz  Agilent 13:54:02 Ma Northwest EMC, Inc Ref 70.99 dBµV Norm Log 10 dB/ Offst -56 dB LgAv  #1 \$2 \$3 FC \$(f):</pre>	Measured           Value (MHz)           13.559983           ay 7, 2015	rature Variation, 10 Desired Value (MHz) 13.56	Difference	utes Limit ±0.01%	2 1 ms (6 Resu Pas 13.559 21.8	ilt s 983 MHz 38 dBµV
<pre>#Res BW 9.1 kHz</pre>	Measured           Value (MHz)           13.559983           ay 7, 2015	rature Variation, 10 Desired Value (MHz) 13.56	Difference	utes Limit ±0.01%	2 1 ms (6 Resu Pas 13.559 21.8	ilt s 983 MHz 38 dBµV



Agilent 13:57:01       May 7,         Jorthwest EMC, Inc         Lef 70.99       dBµV         Jorm	Value (MHz) 13.559867 2015 Atten 30 d	(MHz) 13.56 B 	Difference -0.001%	±0.01%	Result           Pass           1         13.559           21.86         dBµ\           DC         Couple
lorthwest EMC, Inc Ref 70.99 dBµV lorm .og .0 .0 .0 .0 .0 .0 .0 .0 .0 .0					21.86 dBµ\
lorthwest EMC, Inc Ref 70.99 dBµV lorm .og .0 .0 .0 .0 .0 .0 .0 .0 .0 .0					21.86 dBµ\
lorm og 0 IB/ Offst -56 IB gAv i1 \$2 3 FC 2(f): <50k Swp	Atten 30 d				
.og .0 IB/ Jffst -56 IB gAv 11 \$2 33 FC 2(f): <50k Swp					DC Couple
IB/ -56 IB gAv i1 \$2 3 FC 2(f): <50k wp		1 •			DC Couple
-56 IB gAv 11 \$2 33 FC \$(f): <50k					
gAv 11 \$2 33 FC \$(f): \$50k \$\vert p		1 0			
11 \$2 33 FC \$(f): <50k		1 >			
11 \$2 33 FC \$(f): <50k		1 •			
11 \$2 33 FC \$(f): <50k					
2(f): <50k					
2(f): <50k					
<50k					
Center 13.560 000 MHz					
Center 13.560 000 MHz					
enter 13.560 000 MHz.					Span 10 kH:
	Value (MHz) 13.560083	<b>(MHz)</b> 13.56	0.001%	e Limit ±0.01%	Result Pass
👋 Agilent 14:02:02 May 7,	2015			RT	
lorthwest EMC, Inc ≷ef 70.99 dBµV	Atten 30 d	B		Mkı	1 13.560 083 MH 21.87 dBµ\
lorm	niccon oo u				
og Ø					The state of the
IB/ Iffst					DC Couple
-56 IB					
		1			
gAv		1 0			
11 S2 33 FC					
53 FC					
(f):					
<50k Wp					



	13.56 MHz, Temperat Measured	Desired Value	°C (Nominal), Sta	irt Up	
	Value (MHz) 13.559817	(MHz) 13.56	Difference -0.001%	Limit ±0.01%	Result Pass
* Agilent 11:53:07	May 7 2015			RT	
Northwest EMC, Inc	May 7, 2013				13.559 817 MHz
Ref 70.99 dB <b>µ</b> V Norm	Atten 30 d	B			22.22 dBµV
Log					
10 dB/					DC Coupled
Offee					DC Coupled
dB					
LgAv		<b>\$</b>			
W1 S2					
\$3 FC					
£(f):					
f<50k Swp					
Center 13.560 000 MH #Res BW 9.1 kHz	13.56 MHz, Temperature Measured	Desired Value		Minutes	Span 10 kHz o 1 ms (601 pts)
*Res BW 9.1 kHz	13.56 MHz, Temperature Measured Value (MHz) 13.559767	Variation, 20 °C	(Nominal), After 2 Difference -0.002%	Minutes Limit ±0.01%	
Center 13.560 000 MH #Res BW 9.1 kHz # Agilent 11:55:29	13.56 MHz, Temperature Measured Value (MHz) 13.559767	Variation, 20 °C Desired Value (MHz)	Difference	Minutes Limit ±0.01%	o 1 ms (601 pts) Result Pass
#Res BW 9.1 kHz	13.56 MHz, Temperature Measured Value (MHz) 13.559767	Variation, 20 °C Desired Value (MHz) 13.56	Difference	Minutes Limit ±0.01%	o 1 ms (601 pts)
#Res BW 9.1 kHz	13.56 MHz, Temperature Measured Value (MHz) 13.559767 May 7, 2015	Variation, 20 °C Desired Value (MHz) 13.56	Difference	Minutes Limit ±0.01%	o 1 ms (601 pts)           Result           Pass           13.559 767 MHz
#Res BW 9.1 kHz           Image: White BW 9.1	13.56 MHz, Temperature Measured Value (MHz) 13.559767 May 7, 2015	Variation, 20 °C Desired Value (MHz) 13.56	Difference	Minutes Limit ±0.01%	2 1 ms (601 pts) Result Pass 13.559 767 MHz 22.17 dBµV
*Res BW 9.1 kHz ** Agilent 11:55:29 Northwest EMC, Inc Ref 70.99 dBµV Norm Log 10 dB/ Offst	13.56 MHz, Temperature Measured Value (MHz) 13.559767 May 7, 2015	Variation, 20 °C Desired Value (MHz) 13.56	Difference	Minutes Limit ±0.01%	o 1 ms (601 pts)           Result           Pass           13.559 767 MHz
#Res BW 9.1 kHz       Image: mail of the second state       Image: mail of the second	13.56 MHz, Temperature Measured Value (MHz) 13.559767 May 7, 2015	Variation, 20 °C Desired Value (MHz) 13.56	Difference	Minutes Limit ±0.01%	2 1 ms (601 pts) Result Pass 13.559 767 MHz 22.17 dBµV
*Res BW 9.1 kHz *** Agilent 11:55:29 Northwest EMC, Inc Ref 70.99 dBµV Norm 10 dB/ 0ffst	13.56 MHz, Temperature Measured Value (MHz) 13.559767 May 7, 2015	Variation, 20 °C Desired Value (MHz) 13.56	Difference	Minutes Limit ±0.01%	2 1 ms (601 pts) Result Pass 13.559 767 MHz 22.17 dBµV
<b>*Res BW 9.1 kHz ★ Agilent 11:55:29</b> Northwest EMC, Inc Ref 70.99 dBµV Norm Log 10 dB/ Offst -56 dB	13.56 MHz, Temperature Measured Value (MHz) 13.559767 May 7, 2015	Variation, 20 °C Desired Value (MHz) 13.56	Difference	Minutes Limit ±0.01%	2 1 ms (601 pts) Result Pass 13.559 767 MHz 22.17 dBµV
*Res BW 9.1 kHz ** Agilent 11:55:29 Northwest EMC, Inc Ref 70.99 dBµV Norm Log 10 dB/ Offst	13.56 MHz, Temperature Measured Value (MHz) 13.559767 May 7, 2015	Variation, 20 °C Desired Value (MHz) 13.56	Difference	Minutes Limit ±0.01%	2 1 ms (601 pts) Result Pass 13.559 767 MHz 22.17 dBµV
<pre>#Res BW 9.1 kHz  #Res BW 9.1 kHz  #Res BW 9.1 kHz  #Res BW 9.1 kHz  #Res BW 9.1 kHz #Res</pre>	13.56 MHz, Temperature Measured Value (MHz) 13.559767 May 7, 2015	Variation, 20 °C Desired Value (MHz) 13.56	Difference	Minutes Limit ±0.01%	2 1 ms (601 pts) Result Pass 13.559 767 MHz 22.17 dBµV
*Res BW 9.1 kHz	13.56 MHz, Temperature Measured Value (MHz) 13.559767 May 7, 2015	Variation, 20 °C Desired Value (MHz) 13.56	Difference	Minutes Limit ±0.01%	2 1 ms (601 pts) Result Pass 13.559 767 MHz 22.17 dBµV
<pre>#Res BW 9.1 kHz</pre>	13.56 MHz, Temperature Measured Value (MHz) 13.559767 May 7, 2015	Variation, 20 °C Desired Value (MHz) 13.56	Difference	Minutes Limit ±0.01%	2 1 ms (601 pts) Result Pass 13.559 767 MHz 22.17 dBµV
#Res BW 9.1 kHz           #Res BW 9.1 kHz           #Res BW 9.1 kHz           Market EMC, Inc           Ref 70.99 dBµV           Norm           Log           10           dB/           0ffst           -56           dB           LgAv           W1 S2           S3 FC	13.56 MHz, Temperature Measured Value (MHz) 13.559767 May 7, 2015	Variation, 20 °C Desired Value (MHz) 13.56	Difference	Minutes Limit ±0.01%	2 1 ms (601 pts) Result Pass 13.559 767 MHz 22.17 dBµV
<pre>#Res BW 9.1 kHz</pre>	13.56 MHz, Temperature Measured Value (MHz) 13.559767 May 7, 2015	Variation, 20 °C Desired Value (MHz) 13.56	Difference	Minutes Limit ±0.01%	2 1 ms (601 pts) Result Pass 13.559 767 MHz 22.17 dBµV
<b>*Res BW 9.1 kHz ** Agilent 11:55:29</b> Northwest EMC, Inc         Ref 70.99 dBµV         Norm         Log         10         dB/         0ffst         -56         dB         LgAv         W1 S2         S3 FC         \$\$\mathcal{E}\$         \$\$\mathcal{E}\$         \$\$\mathcal{E}\$	13.56 MHz, Temperature Measured Value (MHz) 13.559767 May 7, 2015 Atten 30 d	Variation, 20 °C Desired Value (MHz) 13.56	Difference	Minutes Limit ±0.01%	2 1 ms (601 pts) Result Pass 13.559 767 MHz 22.17 dBµV



13	3.56 MHz, Temperature Measured	Desired Value				
	Value (MHz) 13.559850	<b>(MHz)</b> 13.56	Difference -0.001%	Limit ±0.01%	Res Pas	
💥 Agilent 11:58:30 Ma	iy 7, 2015			RT		-
Northwest EMC, Inc Ref 70.99 dBµV	Atten 30 d	1R		Mkr1		850 MHz 13 dB <b>µ</b> V
Norm	Hitten 50 t			Ĩ	<u> </u>	
Log 10					5.4	10
dB/ Offst					DC	Coupled
Offst -56 dB						
		1				
LgAv						
W1 S2 S3 FC						
£(f): f<50k						
Swp						
#Res BW 9.1 kHz	.56 MHz, Temperature Measured	Desired Value		Minutes	o 1 ms (6	
Center 13.560 000 MHz *Res BW 9.1 kHz 13.	.56 MHz, Temperature	Variation, 20 °C (I	Nominal), After 10 Difference -0.001%			601 pts) ult
*Res BW 9.1 kHz 13.	.56 MHz, Temperature Measured Value (MHz) 13.559917	Variation, 20 °C (I Desired Value (MHz)	Difference	Minutes Limit ±0.01%	0 1 ms (6 Res Pas	801 pts) ult ss
<b>*</b> Res BW 9.1 kHz 13. <b>★</b> Agilent 12:03:26 Ma Northwest EMC, Inc Ref 70.99 dBµV	.56 MHz, Temperature Measured Value (MHz) 13.559917	Variation, 20 °C (I Desired Value (MHz) 13.56	Difference	Minutes Limit ±0.01%	0 1 ms (6 Res Pas 13.559	601 pts) ult
¥Res BW 9.1 kHz 13. <b>Agilent</b> 12:03:26 Ma Northwest EMC, Inc Ref 70.99 dB <b>µ</b> V Norm Log	56 MHz, Temperature Measured Value (MHz) 13.559917 ay 7, 2015	Variation, 20 °C (I Desired Value (MHz) 13.56	Difference	Minutes Limit ±0.01%	0 1 ms (6 Res Pas 13.559	301 pts) ult 35 917 MHz
*Res BW 9.1 kHz 13. ** Agilent 12:03:26 Ma Northwest EMC, Inc Ref 70.99 dBµV Norm Log 10 dB/	56 MHz, Temperature Measured Value (MHz) 13.559917 ay 7, 2015	Variation, 20 °C (I Desired Value (MHz) 13.56	Difference	Minutes Limit ±0.01%	2 1 ms (8 Res Pas 13.559 22.	301 pts) ult 35 917 MHz
*Res BW 9.1 kHz 13. ** Agilent 12:03:26 Ma Northwest EMC, Inc Ref 70.99 dBµV Norm Log 10 dB/ Offst	56 MHz, Temperature Measured Value (MHz) 13.559917 ay 7, 2015	Variation, 20 °C (I Desired Value (MHz) 13.56	Difference	Minutes Limit ±0.01%	2 1 ms (8 Res Pas 13.559 22.	901 pts) ult ss 917 MHz 02 dBµV
*Res BW 9.1 kHz 13. ** Agilent 12:03:26 Ma Northwest EMC, Inc Ref 70.99 dBµV Norm Log 10 dB/	56 MHz, Temperature Measured Value (MHz) 13.559917 ay 7, 2015	Variation, 20 °C (I Desired Value (MHz) 13.56	Difference	Minutes Limit ±0.01%	2 1 ms (8 Res Pas 13.559 22.	901 pts) ult ss 917 MHz 02 dBµV
*Res BW 9.1 kHz 13. ** Agilent 12:03:26 Ma Northwest EMC, Inc Ref 70.99 dBµV Norm Log 10 dB/ Offst	56 MHz, Temperature Measured Value (MHz) 13.559917 ay 7, 2015	Variation, 20 °C (I Desired Value (MHz) 13.56	Difference	Minutes Limit ±0.01%	2 1 ms (8 Res Pas 13.559 22.	901 pts) ult ss 917 MHz 02 dBµV
*Res BW 9.1 kHz 13. ** Agilent 12:03:26 Ma Northwest EMC, Inc Ref 70.99 dBµV Norm Log 10 dB/ Offst	56 MHz, Temperature Measured Value (MHz) 13.559917 ay 7, 2015	Variation, 20 °C (I Desired Value (MHz) 13.56	Difference	Minutes Limit ±0.01%	2 1 ms (8 Res Pas 13.559 22.	901 pts) ult ss 917 MHz 02 dBµV
*Res BW 9.1 kHz 13. ** Agilent 12:03:26 Ma Northwest EMC, Inc Ref 70.99 dBµV Norm Log 10 dB/ Offst -56 dB LgAv	56 MHz, Temperature Measured Value (MHz) 13.559917 ay 7, 2015	Variation, 20 °C (I Desired Value (MHz) 13.56	Difference	Minutes Limit ±0.01%	2 1 ms (8 Res Pas 13.559 22.	901 pts) ult ss 917 MHz 02 dBµV
<b>*</b> Res BW 9.1 kHz         13. <b>*</b> Agilent 12:03:26 Ma           Northwest EMC, Inc           Ref 70.99 dBµV           Norm           Log           10           dB/           Offst           -56           dB	56 MHz, Temperature Measured Value (MHz) 13.559917 ay 7, 2015	Variation, 20 °C (I Desired Value (MHz) 13.56	Difference	Minutes Limit ±0.01%	2 1 ms (8 Res Pas 13.559 22.	901 pts) ult ss 917 MHz 02 dBµV
<b>*Res BW 9.1 kHz</b> 13. <b>** Agilent 12:03:26</b> Ma       Northwest EMC, Inc       Ref 70.99 dBµV       Norm       Log       10       dB/       0ffst       -56       dB       LgAv       W1 \$2       \$3 FC       £(f):	56 MHz, Temperature Measured Value (MHz) 13.559917 ay 7, 2015	Variation, 20 °C (I Desired Value (MHz) 13.56	Difference	Minutes Limit ±0.01%	2 1 ms (8 Res Pas 13.559 22.	901 pts) ult ss 917 MHz 02 dBµV
*Res BW 9.1 kHz         13.           ** Agilent 12:03:26 Ma           Northwest EMC, Inc           Ref 70.99 dBµV           Norm           Log           10           dB/           0ffst           -56           dB           LgAv           W1 \$2           \$3 FC	56 MHz, Temperature Measured Value (MHz) 13.559917 ay 7, 2015	Variation, 20 °C (I Desired Value (MHz) 13.56	Difference	Minutes Limit ±0.01%	2 1 ms (8 Res Pas 13.559 22.	901 pts) ult ss 917 MHz 02 dBµV
<pre>#Res BW 9.1 kHz 13.</pre>	56 MHz, Temperature Measured Value (MHz) 13.559917 ay 7, 2015	Variation, 20 °C (I Desired Value (MHz) 13.56	Difference	Minutes Limit ±0.01%	2 1 ms (8 Res Pas 13.559 22.	901 pts) ult ss 917 MHz 02 dBµV
Res BW 9.1 kHz 13. Agilent 12:03:26 Ma orthwest EMC, Inc ef 70.99 dBµV orm og 0 B/ ffst 56 B gAv 1 \$2 3 FC (f): <50k	56 MHz, Temperature Measured Value (MHz) 13.559917 ay 7, 2015	Variation, 20 °C (I Desired Value (MHz) 13.56	Difference	Minutes Limit ±0.01%	0 1 ms (6 Res Pas 13.559 22. DC	901 pts) ult ss 917 MHz 02 dBµV



		Desired Value				
	Value (MHz) 13.559900	(MHz) 13.56	Difference -0.001%	Limit ±0.01%	Result Pass	
💥 Agilent 13:34:47 Maj	7 2015			RT		
Northwest EMC, Inc					13.559 9	
Ref 70.99 dB <b>µ</b> V Norm	Atten 30 dl	3		1 1	21.60	∂dBµV
Log						
10 dB/					DC (	Coupled
Offet						
dB						
		1				
LgAv		~Ŷ				
W1 S2 S3 FC						
£(f): f<50k						
Swp						
Center 13.560 000 MHz #Res BW 9.1 kHz	13.56 MHz, Tempera Measured	Desired Value	0 °C, After 2 Minu	tes	) 1 ms (60	
Center 13.560 000 MHz *Res BW 9.1 kHz	13.56 MHz, Tempera	ture Variation, 3				01 pts)
<b>∗</b> Res BW 9.1 kHz ★ Agilent 13:36:48 Ma;	13.56 MHz, Tempera Measured Value (MHz) 13.559917	ture Variation, 3 Desired Value (MHz)	0 °C, After 2 Minu Difference	tes Limit ±0.01%	0 1 ms (60 Result Pass	01 pts) t
*Res BW 9.1 kHz	13.56 MHz, Tempera Measured Value (MHz) 13.559917 y 7, 2015	ture Variation, 3 Desired Value (MHz) 13.56	0 °C, After 2 Minu Difference	tes Limit ±0.01%	) 1 ms (60 <u>Result</u> Pass 13.559 8	01 pts) t 017 MHz
<b>*</b> Res BW 9.1 kHz <b>★</b> Agilent 13:36:48 Ma Northwest EMC, Inc Ref 70.99 dBµV Norm	13.56 MHz, Tempera Measured Value (MHz) 13.559917	ture Variation, 3 Desired Value (MHz) 13.56	0 °C, After 2 Minu Difference	tes Limit ±0.01%	) 1 ms (60 <u>Result</u> Pass 13.559 8	01 pts) t
■Res BW 9.1 kHz	13.56 MHz, Tempera Measured Value (MHz) 13.559917 y 7, 2015	ture Variation, 3 Desired Value (MHz) 13.56	0 °C, After 2 Minu Difference	tes Limit ±0.01%	) 1 ms (60 Result Pass 13.559 9 21.58	01 pts) t 017 MHz 8 dBµV
*Res BW 9.1 kHz	13.56 MHz, Tempera Measured Value (MHz) 13.559917 y 7, 2015	ture Variation, 3 Desired Value (MHz) 13.56	0 °C, After 2 Minu Difference	tes Limit ±0.01%	) 1 ms (60 Result Pass 13.559 9 21.58	01 pts) t 017 MHz
■Res BW 9.1 kHz       Image: style="text-align: center;">Magilent 13:36:48 Mag       Northwest EMC, Inc       Ref 70.99 dBµV       Norm       Log       10       dB/	13.56 MHz, Tempera Measured Value (MHz) 13.559917 y 7, 2015	ture Variation, 3 Desired Value (MHz) 13.56	0 °C, After 2 Minu Difference	tes Limit ±0.01%	) 1 ms (60 Result Pass 13.559 9 21.58	01 pts) t 017 MHz 8 dBµV
*Res BW 9.1 kHz	13.56 MHz, Tempera Measured Value (MHz) 13.559917 y 7, 2015	ture Variation, 3 Desired Value (MHz) 13.56	0 °C, After 2 Minu Difference	tes Limit ±0.01%	) 1 ms (60 Result Pass 13.559 9 21.58	01 pts) t 017 MHz 8 dBµV
<b>*Res BW 9.1 kHz ★ Agilent 13:36:48 May</b> Northwest EMC, Inc Ref 70.99 dBµV Norm Log 10 dB/ Offst -56 dB	13.56 MHz, Tempera Measured Value (MHz) 13.559917 y 7, 2015	ture Variation, 3 Desired Value (MHz) 13.56	0 °C, After 2 Minu Difference	tes Limit ±0.01%	) 1 ms (60 Result Pass 13.559 9 21.58	01 pts) t 017 MHz 8 dBµV
*Res BW 9.1 kHz	13.56 MHz, Tempera Measured Value (MHz) 13.559917 y 7, 2015	ture Variation, 3 Desired Value (MHz) 13.56	0 °C, After 2 Minu Difference	tes Limit ±0.01%	) 1 ms (60 Result Pass 13.559 9 21.58	01 pts) t 017 MHz 8 dBµV
*Res BW 9.1 kHz	13.56 MHz, Tempera Measured Value (MHz) 13.559917 y 7, 2015	ture Variation, 3 Desired Value (MHz) 13.56	0 °C, After 2 Minu Difference	tes Limit ±0.01%	) 1 ms (60 Result Pass 13.559 9 21.58	01 pts) t 017 MHz 8 dBµV
*Res BW 9.1 kHz           ** Agilent 13:36:48 Ma;           Northwest EMC, Inc           Ref 70.99 dBµV           Norm           Log           10           dB/           Offst           -56           dB           LgAv           W1 \$2           \$3 FC	13.56 MHz, Tempera Measured Value (MHz) 13.559917 y 7, 2015	ture Variation, 3 Desired Value (MHz) 13.56	0 °C, After 2 Minu Difference	tes Limit ±0.01%	) 1 ms (60 Result Pass 13.559 9 21.58	01 pts) t 017 MHz 8 dBµV
<b>*Res BW 9.1 kHz ★ Agilent 13:36:48 May</b> Northwest EMC, Inc Ref 70.99 dBµV Norm Log 10 dB/ Offst -56 dB	13.56 MHz, Tempera Measured Value (MHz) 13.559917 y 7, 2015	ture Variation, 3 Desired Value (MHz) 13.56	0 °C, After 2 Minu Difference	tes Limit ±0.01%	) 1 ms (60 Result Pass 13.559 9 21.58	01 pts) t 017 MHz 8 dBµV
*Res BW 9.1 kHz           ** Agilent 13:36:48 Ma;           Northwest EMC, Inc           Ref 70.99 dBµV           Norm           Log           10           dB/           0ffst           -56           dB           LgAv           W1 \$2           \$3 FC           £(f);	13.56 MHz, Tempera Measured Value (MHz) 13.559917 y 7, 2015	ture Variation, 3 Desired Value (MHz) 13.56	0 °C, After 2 Minu Difference	tes Limit ±0.01%	) 1 ms (60 Result Pass 13.559 9 21.58	01 pts) t 017 MHz 8 dBµV
<pre>#Res BW 9.1 kHz  #Res BW 9.1 kHz  #Res BW 9.1 kHz  #Ref 70.99 dBµV Norm Log 10 dB/ Offst -56 dB LgAv W1 \$2 \$3 FC \$€(f): f&lt;50k</pre>	13.56 MHz, Tempera Measured Value (MHz) 13.559917 y 7, 2015	ture Variation, 3 Desired Value (MHz) 13.56	0 °C, After 2 Minu Difference	tes Limit ±0.01%	) 1 ms (60 Result Pass 13.559 9 21.58	01 pts) t 017 MHz 8 dBµV



	13.56 MHz, Tempe Measured	Desired Value			D 11	
	Value (MHz) 13.559817	(MHz) 13.56	Difference -0.001%	Limit ±0.01%	Result Pass	
👋 Agilent 13:39:48 Ma	av 7. 2015			RT		-
Northwest EMC, Inc					13.559 81	17 MHz
Ref 70.99 dB <b>µ</b> V Norm	Atten 30	dB	1	1 1	21.55	dB <b>µ</b> V
Log						
10 dB/					DC Co	oupled
Offet						
dB				-		
LgAv		\$\$				
W1 S2 S3 FC						
£(f): f<50k						
Swp						
						_
		#VBW 30 kHz		Śween	Span 1 1 ms (601	
Center 13.560 000 MHz #Res BW 9.1 kHz	13.56 MHz, Temper	#VBW 30 kHz ature Variation, 30	°C, After 10 Min		Span 1 1 ms (601	
	13.56 MHz, Temper Measured Value (MHz)	ature Variation, 30 Desired Value		utes	1 ms (601	
		ature Variation, 30	°C, After 10 Min Difference 0.001%			
*Res BW 9.1 kHz	Measured Value (MHz)	ature Variation, 30 Desired Value (MHz)	Difference	Limit ±0.01%	1 ms (601 Result Pass	pts)
<b>*Res BW 9.1 kHz</b> ★ Agilent 13:44:47 Ma Northwest EMC, Inc	Measured Value (MHz) 13.560100 ay 7, 2015	ature Variation, 30 Desired Value (MHz) 13.56	Difference	Limit ±0.01%	1 ms (601 Result Pass 13.560 10	0 MHz
#Res BW 9.1 kHz	Measured Value (MHz) 13.560100	ature Variation, 30 Desired Value (MHz) 13.56	Difference	Limit ±0.01%	1 ms (601 Result Pass	0 MHz
#Res BW 9.1 kHz	Measured Value (MHz) 13.560100 ay 7, 2015	ature Variation, 30 Desired Value (MHz) 13.56	Difference	Limit ±0.01%	1 ms (601 Result Pass 13.560 10 21.56	l pts) 00 MHz dB <b>µ</b> V
*Res BW 9.1 kHz <b>Agilent</b> 13:44:47 Ma Northwest EMC, Inc Ref 70.99 dBµV Norm Log 10 dB/	Measured Value (MHz) 13.560100 ay 7, 2015	ature Variation, 30 Desired Value (MHz) 13.56	Difference	Limit ±0.01%	1 ms (601 Result Pass 13.560 10	l pts) 00 MHz dB <b>µ</b> V
*Res BW 9.1 kHz	Measured Value (MHz) 13.560100 ay 7, 2015	ature Variation, 30 Desired Value (MHz) 13.56	Difference	Limit ±0.01%	1 ms (601 Result Pass 13.560 10 21.56	l pts) 00 MHz dB <b>µ</b> V
*Res BW 9.1 kHz <b>Agilent</b> 13:44:47 Ma Northwest EMC, Inc Ref 70.99 dBµV Norm Log 10 dB/	Measured Value (MHz) 13.560100 ay 7, 2015	ature Variation, 30 Desired Value (MHz) 13.56	Difference	Limit ±0.01%	1 ms (601 Result Pass 13.560 10 21.56	l pts) 00 MHz dB <b>µ</b> V
*Res BW 9.1 kHz	Measured Value (MHz) 13.560100 ay 7, 2015	ature Variation, 30 Desired Value (MHz) 13.56	Difference	Limit ±0.01%	1 ms (601 Result Pass 13.560 10 21.56	l pts) 00 MHz dB <b>µ</b> V
*Res BW 9.1 kHz	Measured Value (MHz) 13.560100 ay 7, 2015	ature Variation, 30 Desired Value (MHz) 13.56	Difference	Limit ±0.01%	1 ms (601 Result Pass 13.560 10 21.56	l pts) 00 MHz dB <b>µ</b> V
*Res BW 9.1 kHz	Measured Value (MHz) 13.560100 ay 7, 2015	ature Variation, 30 Desired Value (MHz) 13.56	Difference	Limit ±0.01%	1 ms (601 Result Pass 13.560 10 21.56	l pts) 00 MHz dB <b>µ</b> V
<b>*Res BW 9.1 kHz Agilent 13:44:47 Ma</b> Northwest EMC, Inc Ref 70.99 dBµV Norm Log 10 dB/ Offst -56 dB	Measured Value (MHz) 13.560100 ay 7, 2015	ature Variation, 30 Desired Value (MHz) 13.56	Difference	Limit ±0.01%	1 ms (601 Result Pass 13.560 10 21.56	l pts) 00 MHz dB <b>µ</b> V
*Res BW 9.1 kHz           ** Agilent 13:44:47 Ma           Northwest EMC, Inc           Ref 70.99 dBµV           Norm           Log           10           dB/           0ffst           -56           dB           LgAv           W1 S2           S3 FC	Measured Value (MHz) 13.560100 ay 7, 2015	ature Variation, 30 Desired Value (MHz) 13.56	Difference	Limit ±0.01%	1 ms (601 Result Pass 13.560 10 21.56	l pts) 00 MHz dB <b>µ</b> V
<pre>#Res BW 9.1 kHz  #Res BW 9.1 kHz  #Res BW 9.1 kHz  #Ref 70.99 dBµV Norm Log 10 dB/ Offst -56 dB LgAv W1 \$2 \$3 FC \$€(f): f&lt;50k</pre>	Measured Value (MHz) 13.560100 ay 7, 2015	ature Variation, 30 Desired Value (MHz) 13.56	Difference	Limit ±0.01%	1 ms (601 Result Pass 13.560 10 21.56	l pts) 00 MHz dB <b>µ</b> V
*Res BW 9.1 kHz	Measured Value (MHz) 13.560100 ay 7, 2015	ature Variation, 30 Desired Value (MHz) 13.56	Difference	Limit ±0.01%	1 ms (601 Result Pass 13.560 10 21.56	l pts) 00 MHz dB <b>µ</b> V
<pre>#Res BW 9.1 kHz  #Res BW 9.1 kHz  #Res BW 9.1 kHz  #Ref 70.99 dBµV Norm Log 10 dB/ Offst -56 dB LgAv W1 \$2 \$3 FC \$€(f): f&lt;50k</pre>	Measured Value (MHz) 13.560100 ay 7, 2015	ature Variation, 30 Desired Value (MHz) 13.56	Difference	Limit ±0.01%	1 ms (601 Result Pass 13.560 10 21.56	l pts) 00 MHz dB <b>µ</b> V



	Measured	Desired Value	n, 40 °C, Start Up			
	Value (MHz) 13.560017	(MHz) 13.56	Difference 0.000%	Limit ±0.01%	Res Pas	
	May 7, 2015			RT		
Northwest EMC, Inc Ref 70.99 dBµV		JD		Mkr1	13.560	017 MHz
Norm	Atten 30 d				21.9	47 dBµV
Log 10						
dB/ Offst					DC	Coupled
-56 dB						
LgAv		\$				
W1 52						
\$3 FC						
£(f): f<50k						
Swp						
Center 13.560 000 MHz					Spai	n 10 kHz
Center 13.560 000 MHz #Res BW 9.1 kHz		#VBW 30 kHz		Swee	Spa p 1 ms (6	n 10 kHz 301 pts)
Center 13.560 000 MHz *Res BW 9.1 kHz	13.56 MHz, Tempe Measured		10 °C, After 2 Minu			
Center 13.560 000 MHz *Res BW 9.1 kHz	13.56 MHz, Tempe	rature Variation, 4	10 °C, After 2 Minu			601 pts) ult
*Res BW 9.1 kHz	13.56 MHz, Tempe Measured Value (MHz) 13.559783	rature Variation, 4 Desired Value (MHz)	10 °C, After 2 Minu	tes Limit ±0.01%	p 1 ms (6 Res	601 pts) ult
<b>#Res BW 9.1 kHz # Agilent</b> 13:18:57 ↑ Northwest EMC, Inc	13.56 MHz, Tempe Measured Value (MHz) 13.559783 May 7, 2015	rature Variation, 4 Desired Value (MHz) 13.56	10 °C, After 2 Minu	tes Limit ±0.01%	p 1 ms (6 Res Pas 13.559	601 pts) ult 783 MHz
#Res BW 9.1 kHz	13.56 MHz, Tempe Measured Value (MHz) 13.559783	rature Variation, 4 Desired Value (MHz) 13.56	10 °C, After 2 Minu	tes Limit ±0.01%	p 1 ms (6 Res Pas 13.559	001 pts) ult ss
*Res BW 9.1 kHz <b>Agilent</b> 13:18:57 M Northwest EMC, Inc Ref 70.99 dB <b>µ</b> V	13.56 MHz, Tempe Measured Value (MHz) 13.559783 May 7, 2015	rature Variation, 4 Desired Value (MHz) 13.56	10 °C, After 2 Minu	tes Limit ±0.01%	p 1 ms (6 Res Pas 13.559 21.	601 pts) ult is 783 MHz 46 dBµV
*Res BW 9.1 kHz <b>Agilent</b> 13:18:57 f Northwest EMC, Inc Ref 70.99 dBµV Norm Log 10 dB/	13.56 MHz, Tempe Measured Value (MHz) 13.559783 May 7, 2015	rature Variation, 4 Desired Value (MHz) 13.56	10 °C, After 2 Minu	tes Limit ±0.01%	p 1 ms (6 Res Pas 13.559 21.	601 pts) ult 783 MHz
*Res BW 9.1 kHz ** Agilent 13:18:57 M Northwest EMC, Inc Ref 70.99 dBµV Norm Lo dB/ Offst	13.56 MHz, Tempe Measured Value (MHz) 13.559783 May 7, 2015	rature Variation, 4 Desired Value (MHz) 13.56	10 °C, After 2 Minu	tes Limit ±0.01%	p 1 ms (6 Res Pas 13.559 21.	601 pts) ult is 783 MHz 46 dBµV
#Res BW 9.1 kHz <b>Agilent</b> 13:18:57 ↑         Northwest EMC, Inc Ref 70.99 dBµV        Norm Log 10 dB/	13.56 MHz, Tempe Measured Value (MHz) 13.559783 May 7, 2015	rature Variation, 4 Desired Value (MHz) 13.56	10 °C, After 2 Minu	tes Limit ±0.01%	p 1 ms (6 Res Pas 13.559 21.	601 pts) ult is 783 MHz 46 dBµV
*Res BW 9.1 kHz ** Agilent 13:18:57 M Northwest EMC, Inc Ref 70.99 dBµV Norm Lo dB/ Offst	13.56 MHz, Tempe Measured Value (MHz) 13.559783 May 7, 2015	rature Variation, 4 Desired Value (MHz) 13.56	10 °C, After 2 Minu	tes Limit ±0.01%	p 1 ms (6 Res Pas 13.559 21.	601 pts) ult is 783 MHz 46 dBµV
<b>*Res BW 9.1 kHz</b> ★ Agilent 13:18:57 M       Northwest EMC, Inc       Ref 70.99 dBµV       Norm       Log       10       dB/       Offst	13.56 MHz, Tempe Measured Value (MHz) 13.559783 May 7, 2015	rature Variation, 4 Desired Value (MHz) 13.56	10 °C, After 2 Minu	tes Limit ±0.01%	p 1 ms (6 Res Pas 13.559 21.	601 pts) ult is 783 MHz 46 dBµV
<b>*Res BW 9.1 kHz ★ Agilent 13:18:57 f</b> Northwest EMC, Inc Ref 70.99 dBµV Norm Log 10 dB/ Offst -56 dB LgAv	13.56 MHz, Tempe Measured Value (MHz) 13.559783 May 7, 2015	rature Variation, 4 Desired Value (MHz) 13.56	10 °C, After 2 Minu	tes Limit ±0.01%	p 1 ms (6 Res Pas 13.559 21.	601 pts) ult is 783 MHz 46 dBµV
<b>*Res BW 9.1 kHz</b> ★ Agilent 13:18:57           Northwest EMC, Inc           Ref 70.99 dBµV           Norm           Log           10           dB/           0ffst           -56           dB           LgAv           W1 \$2           \$3 FC	13.56 MHz, Tempe Measured Value (MHz) 13.559783 May 7, 2015	rature Variation, 4 Desired Value (MHz) 13.56	10 °C, After 2 Minu	tes Limit ±0.01%	p 1 ms (6 Res Pas 13.559 21.	601 pts) ult is 783 MHz 46 dBµV
<pre>#Res BW 9.1 kHz</pre>	13.56 MHz, Tempe Measured Value (MHz) 13.559783 May 7, 2015	rature Variation, 4 Desired Value (MHz) 13.56	10 °C, After 2 Minu	tes Limit ±0.01%	p 1 ms (6 Res Pas 13.559 21.	601 pts) ult is 783 MHz 46 dBµV
*Res BW 9.1 kHz           ** Agilent 13:18:57 M           Northwest EMC, Inc           Ref 70.99 dBµV           Norm           Log           10           dB/           0ffst           -56           dB           LgAv           W1 \$2           \$3 FC	13.56 MHz, Tempe Measured Value (MHz) 13.559783 May 7, 2015	rature Variation, 4 Desired Value (MHz) 13.56	10 °C, After 2 Minu	tes Limit ±0.01%	p 1 ms (6 Res Pas 13.559 21.	601 pts) ult is 783 MHz 46 dBµV
<pre>#Res BW 9.1 kHz  #Res BW 9.1 kHz  #Res BW 9.1 kHz  #Ref 70.99 dBµV Norm Log 10 dB/ Offst -56 dB LgAv W1 \$2 \$3 FC £(f): f&lt;50k</pre>	13.56 MHz, Tempe Measured Value (MHz) 13.559783 May 7, 2015	rature Variation, 4 Desired Value (MHz) 13.56	10 °C, After 2 Minu	tes Limit ±0.01%	p 1 ms (6 Res Pas 13.559 21.	601 pts) ult is 783 MHz 46 dBµV
Res         BW         9.1         kHz           #         Agilent         13:18:57         N           orthwest         EMC, Inc         N         N           orthwest         EMC, Inc         N         N           orm         0         0         0         0           0g         0	13.56 MHz, Tempe Measured Value (MHz) 13.559783 May 7, 2015 Atten 30 d	rature Variation, 4 Desired Value (MHz) 13.56	10 °C, After 2 Minu	tes Limit ±0.01%	p 1 ms (6	601 pts) ult is 783 MHz 46 dBµV



	13.56 MHz, Tempe Measured	Desired Value			<b>D</b> . 11
	Value (MHz) 13.559833	(MHz) 13.56	-0.001%	Limit ±0.01%	Result Pass
<b>Agilent</b> 13:21:57	May 7, 2015			RT	
Northwest EMC, Inc Ref 70.99 dBµV	Atten 30 (	JD		Mkr1	13.559 833 MHz 21.46 dBµV
Norm	Hiten Se t			Ĩ	21.40 UD <b>P</b> V
Log 10					DC C IV
dB/ Offst					DC Coupled
Offst -56 dB					
LgAv					
W1 S2					
\$3 FC					
£(f):					*
f<50k Swp					
Contor 12 ECO 000 MH					Spop 10 kUz
	z	#VBW 30 kHz		Sweep	Span 10 kHz 1 ms (601 pts)
Center 13.560 000 MH: #Res BW 9.1 kHz	13.56 MHz, Temper	ature Variation, 40			
#Res BW 9.1 kHz	13.56 MHz, Temper Measured Value (MHz) 13.560083	ature Variation, 4 Desired Value (MHz)	0 °C, After 10 Minu Difference	tes Limit ±0.01%	1 ms (601 pts)
*Res BW 9.1 kHz <b>Agilent</b> 13:26:58 Northwest EMC, Inc	13.56 MHz, Temper Measured Value (MHz) 13.560083 May 7, 2015	ature Variation, 40 Desired Value (MHz) 13.56	0 °C, After 10 Minu Difference	ttes Limit ±0.01%	1 ms (601 pts) <u>Result</u> Pass 13.560 083 MHz
₩Res BW 9.1 kHz <b>Agilent 13:26:58</b> Northwest EMC, Inc Ref 70.99 dB <b>µ</b> V Norm	13.56 MHz, Temper Measured Value (MHz) 13.560083	ature Variation, 40 Desired Value (MHz) 13.56	0 °C, After 10 Minu Difference	ttes Limit ±0.01%	1 ms (601 pts) Result Pass
■Res BW 9.1 kHz       Image: style="text-align: center;">	13.56 MHz, Temper Measured Value (MHz) 13.560083 May 7, 2015	ature Variation, 40 Desired Value (MHz) 13.56	0 °C, After 10 Minu Difference	ttes Limit ±0.01%	1 ms (601 pts) Result Pass 13.560 083 MHz 21.44 dBµV
■Res BW 9.1 kHz       Image: style="text-align: center;">	13.56 MHz, Temper Measured Value (MHz) 13.560083 May 7, 2015	ature Variation, 40 Desired Value (MHz) 13.56	0 °C, After 10 Minu Difference	ttes Limit ±0.01%	1 ms (601 pts) <u>Result</u> Pass 13.560 083 MHz
■Res BW 9.1 kHz       Image: style="text-align: center;">	13.56 MHz, Temper Measured Value (MHz) 13.560083 May 7, 2015	ature Variation, 40 Desired Value (MHz) 13.56	0 °C, After 10 Minu Difference	ttes Limit ±0.01%	1 ms (601 pts) Result Pass 13.560 083 MHz 21.44 dBµV
■Res BW 9.1 kHz       Image: style="text-align: center;">	13.56 MHz, Temper Measured Value (MHz) 13.560083 May 7, 2015	ature Variation, 40 Desired Value (MHz) 13.56	0 °C, After 10 Minu Difference	ttes Limit ±0.01%	1 ms (601 pts) Result Pass 13.560 083 MHz 21.44 dBµV
■Res BW 9.1 kHz       Image: style="text-align: center;">	13.56 MHz, Temper Measured Value (MHz) 13.560083 May 7, 2015	ature Variation, 4 Desired Value (MHz) 13.56	0 °C, After 10 Minu Difference	ttes Limit ±0.01%	1 ms (601 pts) Result Pass 13.560 083 MHz 21.44 dBµV
■Res BW 9.1 kHz          Image: Big Provided HTML Provid	13.56 MHz, Temper Measured Value (MHz) 13.560083 May 7, 2015	ature Variation, 40 Desired Value (MHz) 13.56	0 °C, After 10 Minu Difference	ttes Limit ±0.01%	1 ms (601 pts) Result Pass 13.560 083 MHz 21.44 dBµV
■Res BW 9.1 kHz       Image: style="text-align: center;">	13.56 MHz, Temper Measured Value (MHz) 13.560083 May 7, 2015	ature Variation, 4 Desired Value (MHz) 13.56	0 °C, After 10 Minu Difference	ttes Limit ±0.01%	1 ms (601 pts) Result Pass 13.560 083 MHz 21.44 dBµV
<b>agilent 13:26:58</b> Northwest EMC, Inc         Ref 70.99 dBµV         Norm         Log         10         dB/         0ffst         -56         dB         LgAv         W1 \$2         \$3 FC         £(f):	13.56 MHz, Temper Measured Value (MHz) 13.560083 May 7, 2015	ature Variation, 4 Desired Value (MHz) 13.56	0 °C, After 10 Minu Difference	ttes Limit ±0.01%	1 ms (601 pts) Result Pass 13.560 083 MHz 21.44 dBµV
<pre>#Res BW 9.1 kHz</pre>	13.56 MHz, Temper Measured Value (MHz) 13.560083 May 7, 2015	ature Variation, 4 Desired Value (MHz) 13.56	0 °C, After 10 Minu Difference	ttes Limit ±0.01%	1 ms (601 pts) Result Pass 13.560 083 MHz 21.44 dBµV
<b>agilent 13:26:58</b> Northwest EMC, Inc         Ref 70.99 dBµV         Norm         Log         10         dB/         0ffst         -56         dB         LgAv         W1 \$2         \$3 FC         £(f):	13.56 MHz, Temper Measured Value (MHz) 13.560083 May 7, 2015	ature Variation, 4 Desired Value (MHz) 13.56	0 °C, After 10 Minu Difference	ttes Limit ±0.01%	1 ms (601 pts) Result Pass 13.560 083 MHz 21.44 dBµV
*Res BW 9.1 kHz         * Agilent 13:26:58         Northwest EMC, Inc         Ref 70.99 dBµV         Norm         Log         10         dB/         0ffst         -56         dB         LgAv         W1 \$2         \$3 FC         £(f):         f<50k	13.56 MHz, Temper Measured Value (MHz) 13.560083 May 7, 2015 Atten 30 c	ature Variation, 4 Desired Value (MHz) 13.56	0 °C, After 10 Minu Difference	ttes Limit ±0.01%	1 ms (601 pts) Result Pass 13.560 083 MHz 21.44 dBµV



	Measured Value (MHz)	Desired Value (MHz)	Difference	Limit	Result
	13.559783	13.56	-0.002%	±0.01%	Pass
🗯 Agilent 12:58:40 May	7 2015			RT	
Northwest EMC, Inc	, , 2015				13.559 783 MHz
Ref 70.99 dB <b>µ</b> V Norm	Atten 30 dE	<u>.</u>	1	1 1	21.49 dBµV
.0g					
LØ 187					DC Coupled
lffet				-	
-56 dB					
		1			
LgAv				_	
W1 \$2					
S3 FC					
<b>£</b> (f):					
f<50k Swp					
Center 13.560 000 MHz				20.0	Span 10 kHz
	15	UDU 20 LU-			
#Res BW 9.1 kHz		VBW 30 kHz			o 1 ms (601 pts)
≇Res BW 9.1 kHz	3.56 MHz, Temperature Measured	Variation, 50 ° Desired Value	C (High), After 2 N	linutes	
#Res BW 9.1 kHz	3.56 MHz, Temperature	Variation, 50 °	C (High), After 2 M		n ms (601 pts) Result Pass
*Res BW 9.1 kHz1	3.56 MHz, Temperature Measured Value (MHz) 13.559850	Variation, 50 ° Desired Value (MHz)	C (High), After 2 M	/linutes Limit ±0.01%	Result
*Res BW 9.1 kHz 1 <b>** Agilent</b> 13:00:42 May Northwest EMC, Inc	3.56 MHz, Temperature Measured Value (MHz) 13.559850 y 7, 2015	Variation, 50 ° Desired Value (MHz) 13.56	C (High), After 2 M	/linutes Limit ±0.01%	Result Pass 13.559 850 MHz
#Res BW 9.1 kHz 1 <b>₩ Agilent</b> 13:00:42 May Northwest EMC, Inc Ref 70.99 dBµV Norm	3.56 MHz, Temperature Measured Value (MHz) 13.559850	Variation, 50 ° Desired Value (MHz) 13.56	C (High), After 2 M	/linutes Limit ±0.01%	Result Pass
#Res BW 9.1 kHz 1 ★ Agilent 13:00:42 May Northwest EMC, Inc Ref 70.99 dBµV Norm Log	3.56 MHz, Temperature Measured Value (MHz) 13.559850 y 7, 2015	Variation, 50 ° Desired Value (MHz) 13.56	C (High), After 2 M	/linutes Limit ±0.01%	Result Pass 13.559 850 MHz
*Res BW 9.1 kHz 1 Agilent 13:00:42 May Northwest EMC, Inc Ref 70.99 dBµV Norm Log 10 dB/	3.56 MHz, Temperature Measured Value (MHz) 13.559850 y 7, 2015	Variation, 50 ° Desired Value (MHz) 13.56	C (High), After 2 M	/linutes Limit ±0.01%	Result Pass 13.559 850 MHz
*Res BW 9.1 kHz 1 Agilent 13:00:42 May Northwest EMC, Inc Ref 70.99 dBµV Norm Log 10 dB/ Offst	3.56 MHz, Temperature Measured Value (MHz) 13.559850 y 7, 2015	Variation, 50 ° Desired Value (MHz) 13.56	C (High), After 2 M	/linutes Limit ±0.01%	Result Pass 13.559 850 MHz 21.50 dBµV
*Res BW 9.1 kHz 1 <b>Agilent</b> 13:00:42 May Northwest EMC, Inc Ref 70.99 dBµV Norm Log 10 dB/	3.56 MHz, Temperature Measured Value (MHz) 13.559850 y 7, 2015	Variation, 50 ° Desired Value (MHz) 13.56	C (High), After 2 M	/linutes Limit ±0.01%	Result Pass 13.559 850 MHz 21.50 dBµV
*Res BW 9.1 kHz 1 <b>Agilent</b> 13:00:42 May Northwest EMC, Inc Ref 70.99 dBµV Norm Log L0 3B/	3.56 MHz, Temperature Measured Value (MHz) 13.559850 y 7, 2015	Variation, 50 ° Desired Value (MHz) 13.56	C (High), After 2 M	/linutes Limit ±0.01%	Result Pass 13.559 850 MHz 21.50 dBµV
Res BW 9.1 kHz 1 Agilent 13:00:42 May orthwest EMC, Inc ef 70.99 dBµV orm og 0 B/ ffst 56 B	3.56 MHz, Temperature Measured Value (MHz) 13.559850 y 7, 2015	Variation, 50 ° Desired Value (MHz) 13.56	C (High), After 2 M	/linutes Limit ±0.01%	Result Pass 13.559 850 MHz 21.50 dBµV
Res BW 9.1 kHz Agilent 13:00:42 May brthwest EMC, Inc ef 70.99 dBµV prm g a 3/ ifst	3.56 MHz, Temperature Measured Value (MHz) 13.559850 y 7, 2015	Variation, 50 ° Desired Value (MHz) 13.56	C (High), After 2 M	/linutes Limit ±0.01%	Result Pass 13.559 850 MHz 21.50 dBµV

dB		
LgAv	1 	
W1 \$2 \$3 FC		
<b>£</b> (f): f<50k		
Swp		
Center 13,560 000 MHz		Span 10 kHz
#Res BW 9.1 kHz	#VBW 30 kHz	Sweep 1 ms (601 pts)



	13.56 MHz, Temperatur		(High), After 5 M	inutes	
	Measured Value (MHz)	Desired Value (MHz)	Difference	Limit	Result
	13.559783	13.56	-0.002%	±0.01%	Pass
3 Agilent 13:03:44 N	lay 7, 2015			RT	
Northwest EMC, Inc				Mkr1	13.559 783 M
Ref 70.99 dBµV Norm	Atten 30 d	B		1 1	21.46 dB
Log					
10					DC Coupl
dB/ Offst					
–56 dB					
1.0					
LgAv		¥			
W1 \$2					
\$3 FC					
£(f);					
f<50k Swp					
0110					
Center 13.560 000 MHz					Span 10 k
#Res BW 9.1 kHz		ŧVBW 30 kHz_		Sweep	1 ms (601 pt
	13.56 MHz, Temperature	e Variation, 50 °C	(High), After 10 N	linutes	
	Measured Value (MHz)	Desired Value (MHz)	Difference	Limit	Result
	13.559783	13.56	-0.002%	±0.01%	Pass
💥 Agilent 13:08:45 M	lav 7. 2015			RT	
Northwest EMC, Inc					13.559 783 M
Ref 70.99 dB <b>µ</b> V Norm	Atten 30 d	B		1 1	21.40 dB
Log					
10					DC Coupl
dB/ Offst					
–56 dB					
LgAv					
W1 S2					

Center 13.560 000 MHz #Res BW 9.1 kHz	#VBW 30 kHz	Span 10 kHz Sweep 1 ms (601 pts)
Swp		
<b>£</b> (f): f<50k		
\$3 FC		
W1 \$2		



	13.56 MHz, Voltage Measured	Desired Value	. /	•	
	Value (MHz) 13.560050	(MHz) 13.56	Difference 0.000%	Limit ±0.01%	Result Pass
Agilent 15:21:2 Northwest EMC, Inc	3 May 7, 2015			R T	13.560 050 MHz
Ref 70.99 dBµV	Atten 30 d	B		MRLT	21.87 dBµV
Norm				1	
Log 10					
dB/					DC Coupled
Offst -56					
–56 dB					
		1			
LgAv			_		
W1 \$2					
S3 FC					
£(f);					
f<50k					
Swp					
Center 13.560 000	MH-7				Span 10 kHz
#Res BW 9.1 kHz		#VBW 30 kHz		Sweep	1 ms (601 pts)_
	13.56 MHz, Voltage		C (Nominal), Start	Up	
	Measured Value (MHz)	Desired Value (MHz)	Difference	Limit	Result
	13.559967	13.56	0.000%	±0.01%	Pass
* Agilent 15:20:4	5 May 7, 2015			RT	
Northwest EMC, Inc				Mkr1	13.559 967 MHz
Ref 70.99 dB <b>µ</b> V Norm	Atten 30 d	IB I			21.89 dBµV
10 dB/					DC Coupled
0ffst -56 dB					

dD/ Offst -56 dB		
LgAv	1	
W1 \$2 \$3 FC		
£(f): f<50k		
Swp		
Center 13.560 000 MHz #Res BW 9.1 kHz	#VBW 30 kHz_	Span 10 kHz Sweep 1 ms (601 pts)



	13.56 MHz, Voltage \ Measured	Desired Value		-		
r	Value (MHz)	(MHz)	Difference	Limit	Res	
	13.559867	13.56	-0.001%	±0.01%	Pas	S
* Agilent 15:22:00	May 7, 2015			RT		
Northwest EMC, Inc	1103 /, 2013		_		13 559	867 MHz
Ref 70.99 dBµV	Atten 30 dB			LIBI E		84 dB <b>µ</b> V
Norm						
Log						
10 dB/					DC	Coupled
Offst				-		
Offst -56 dB						
		1				
LgAv						
W1 S2						
W1 S2 S3 FC						
					_	
£(f): f<50k						
Swp					_	
Center 13.560 000 MHz						n 10 kHz

13.560000



# **APPENDIX**

# **Model and Host Information**



Host Model Tested	Model Name for NFC Module			
MXD-430	SAA5968-07			
MXD-1000	SAA5968-05			
MXD-2000XL-PAN	SAA5968-03			

MODEL	NFC CIRCUITRY/LAYOUT COMMONALITY	MINIMUM FIRMWARE VERSION	OPERATING SYSTEM
MXT-2001-PAN	Α	1.3.14	Android
MXD-2001-PAN-L	А	1.3.14	Android
MXD-2001-PAN-P	А	1.3.14	Android
MXT-2000XL-PAN	Α	2.104.68	Linux
MXD-2000XL-PAN-L	А	2.104.68	Linux
MXD-2000XL-PAN-P	Α	2.104.68	Linux
MXT-1901-PAN	Α	1.3.14	Android
MXD-1901-PAN-L	А	1.3.14	Android
MXD-1901-PAN-P	А	1.3.14	Android
MXT-1900L-PAN	А	2.104.68	Linux
MXD-1900L-PAN-L	А	2.104.68	Linux
MXD-1900L-PAN-P	А	2.104.68	Linux
MXT-1001	В	1.3.14	Android
MXD-1001-L	В	1.3.14	Android
MXD-1001-P	В	1.3.14	Android
MXT-1000	В	2.104.68	Linux
MXD-1000-L	В	2.104.68	Linux
MXD-1000-P	В	2.104.68	Linux
MXT-701	В	1.3.14	Android
MXD-701-L	В	1.3.14	Android
MXD-701-P	В	1.3.14	Android
MXT-700	В	2.104.68	Linux
MXD-700-L	В	2.104.68	Linux
MXD-700-P	В	2.104.68	Linux
MXD-430	С	2.104.68	Linux