

NORTHWEST EMC

Precor, Inc.

Precor NFC / RFID Module 304232

FCC 15.207:2016

FCC 15.225:2016

13.56 MHz Radio Using RFID

Report # PRCR0267



NVLAP Lab Code: 200629-0

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: September 01, 2016
Precor, Inc.
Model: Precor NFC / RFID Module 304232

Radio Equipment Testing

Standards

Specification	Method
FCC 15.207:2016	ANSI C63.10:2013
FCC 15.225:2016	

Results

Method Clause	Test Description	Applied	Results	Comments
6.2	AC - Powerline Conducted Emissions	Yes	Pass	
6.4	Field Strength of Fundamental	Yes	Pass	
6.4	Field Strength of Spurious Emissions Less Than 30 MHz	Yes	Pass	
6.5	Field Strength of Spurious Emissions Greater Than 30 MHz	Yes	Pass	
6.8	Frequency Stability	Yes	Pass	

Deviations From Test Standards

None

Approved By:

Rod Munro, 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. This report reflects only those tests from the referenced standards shown in the certificate of test. It does not include inspection or verification of labels, identification, marking or user information.

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

ISED - Recognized by Innovation, Science and Economic Development Canada as a Certification Body (CB). Certification chambers and Open Area Test Sites are filed with ISED.

European Union

European Commission – Validated by the European Commission 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:

<http://www.nwemc.com/accreditations/>

<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 qualified by a probability distribution.

A measurement uncertainty estimation has been performed for each test per our internal quality document QM205.4.6. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty (K=2) can be found included as part of the applicable test description page. 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.

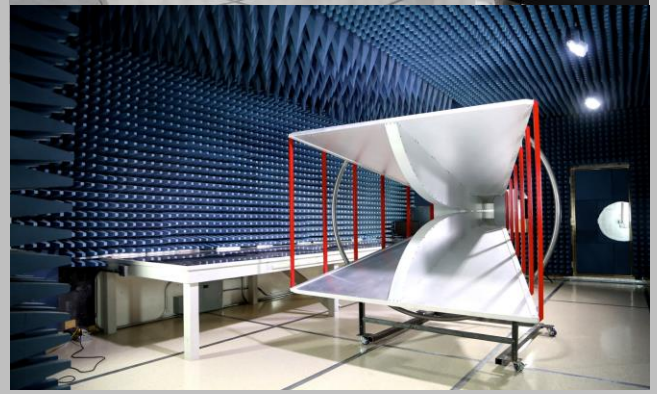
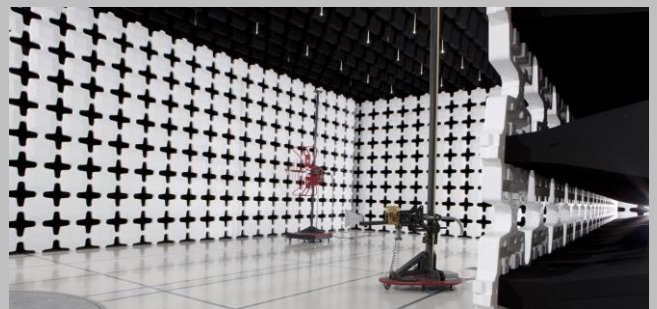
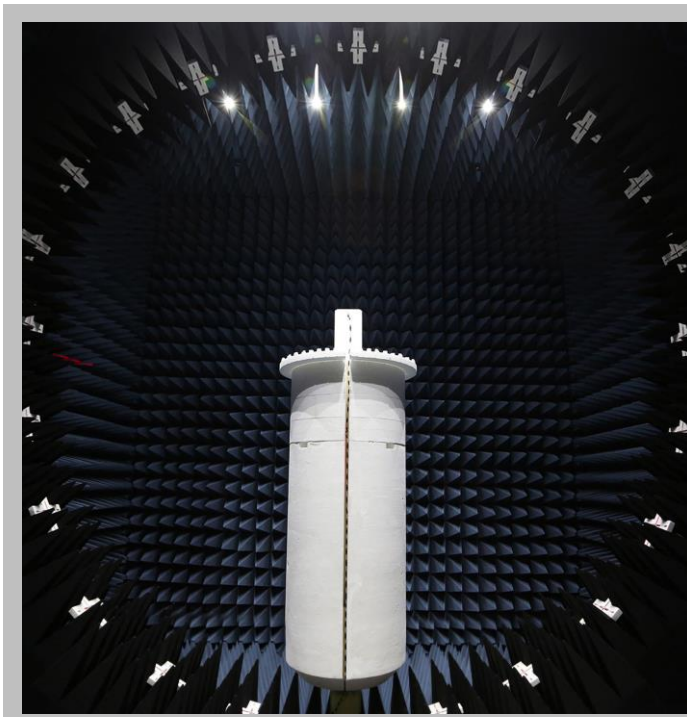
The following table represents the Measurement Uncertainty (MU) budgets for each of the tests that may be contained in this report.

Test	+ MU	- MU
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)	5.0 dB	-5.0 dB
AC Powerline Conducted Emissions (dB)	2.4 dB	-2.4 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	New York 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	Texas Labs TX01-09 3801 E Plano Pkwy Plano, TX 75074 (469) 304-5255	Washington Labs NC01-05 19201 120 th Ave NE Bothell, WA 98011 (425)984-6600
NVLAP					
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
Innovation, Science and Economic Development Canada					
2834B-1, 2834B-3	2834E-1	N/A	2834D-1, 2834D-2	2834G-1	2834F-1
BSMI					
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:	Precor, Inc.
Address:	P.O. Box 7202
City, State, Zip:	Woodinville, WA 98072
Test Requested By:	James Minaham
Model:	Precor NFC / RFID Module 304232
First Date of Test:	August 29, 2016
Last Date of Test:	September 01, 2016
Receipt Date of Samples:	August 29, 2016
Equipment Design Stage:	Production
Equipment Condition:	No Damage

Information Provided by the Party Requesting the Test

Functional Description of the EUT:
RFID / NFC reader operating at 13.56 MHz
Testing Objective:
To demonstrate compliance to FCC Part 15.225 specifications.

CONFIGURATIONS

Configuration PRCR0267- 1

Software/Firmware Running during test	
Description	Version
Stollmann NFC Player	1.0.153.5

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Precor NFC / RFID Module	Precor, Inc.	304232	None

Peripherals in test setup boundary			
Description	Manufacturer	Model/Part Number	Serial Number
Laptop PC	HP	HP Elite Book 850W	CND01922W8
AC Adapter (Laptop)	HP	519330-002	F1-100041653570B
DC Power Supply	Kikisui	PWC 0620	1930492

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
Spliced USB Cable	No	0.3m	No	Laptop PC	USB Cable / DC Leads
USB Cable	No	1.5m	No	Spliced USB Cable	Precor NFC / RFID Module
DC Leads	No	1.0m	No	Spliced USB Cable	DC Power
AC Power	No	0.8m	No	AC Mains	AC Adapter
DC Power	No	1.8m	Yes	AC Adapter	Laptop PC
AC Power	No	1.8m	No	AC Mains	DC Power Supply

Configuration PRCR0267- 2

Software/Firmware Running during test	
Description	Version
Stollmann NFC Player	1.0.153.5

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Precor NFC / RFID Module	Precor, Inc.	304232	None

Remote Equipment Outside of Test Setup Boundary			
Description	Manufacturer	Model/Part Number	Serial Number
Laptop PC	HP	HP Elite Book 850W	CND01922W8
AC Adapter (Laptop)	HP	519330-002	F1-100041653570B

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
USB Cable	No	1.5m	No	Laptop PC	Precor NFC / RFID Module
DC Power	No	1.8m	Yes	AC Adapter	Laptop PC
AC Power	No	1.8m	No	AC Mains	DC Power Supply

CONFIGURATIONS

Configuration PRCR0267- 3

Software/Firmware Running during test					
Description					Version
Stollmann NFC Player					1.0.153.5

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Precor NFC / RFID Module	Precor, Inc.	304232	None

Remote Equipment Outside of Test Setup Boundary			
Description	Manufacturer	Model/Part Number	Serial Number
Laptop PC	HP	HP Elite Book 850W	CND01922W8
AC Adapter (Laptop)	HP	519330-002	F1-100041653570B

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
DC Power	No	1.8m	Yes	AC Adapter	Laptop PC
AC Power	No	1.8m	No	AC Mains	DC Power Supply
USB Extension Cable	No	3.0m	No	Laptop PC	USB Cable
USB Cable	No	1.5m	No	USB Extension Cable	Precor NFC / RFID Module

Configuration PRCR0267- 4

Software/Firmware Running during test					
Description					Version
Stollmann NFC Player					1.0.153.5

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Precor NFC / RFID Module	Precor, Inc.	304232	None

Peripherals in test setup boundary			
Description	Manufacturer	Model/Part Number	Serial Number
Laptop PC	HP	HP Elite Book 850W	CND01922W8
AC Adapter (USB Hub)	GlobTek, Inc.	GTM41060-2512	None
USB Hub	B&B Electronics	UHR304	None

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
USB Cable	No	1.5m	No	Precor NFC / RFID Module	USB Hub
USB Cable	No	0.6m	No	Laptop PC	USB Hub
DC Power	No	1.8m	Yes	AC Adapter	USB Hub

MODIFICATIONS

Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	8/29/2016	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	8/30/2016	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.
3	8/31/2016	Field Strength of Spurious Emissions Less Than 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	8/31/2016	Field Strength of Spurious Emissions Greater Than 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.
5	9/1/2016	AC – Powerline Conducted Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

FREQUENCY STABILITY

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

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Chamber - Temperature/Humidity	Tenney	T6S	TBG	NCR	NCR
Thermometer	Omega Engineering, Inc.	HH311	DUH	4/3/2015	4/3/2018
Meter - Multimeter	Fluke	111	MMM	2/18/2016	2/18/2019
Probe - Near Field Set	Com-Power	PS-400	IPE	NCR	NCR
Cable	Micro-Coax	UFD150A-1-0720-200200	NCS	6/7/2016	6/7/2017
Attenuator	Fairview Microwave	SA4014-20	TKV	3/4/2016	3/4/2017
Block - DC	Fairview Microwave	SD3379	AMU	5/6/2016	5/6/2017
Analyzer - Spectrum Analyzer	Agilent	E4446A	AAT	6/15/2016	6/15/2017

TEST DESCRIPTION

A near-field probe was placed near the transmitter. A low-loss coaxial cable was used to connect the near-field probe to the spectrum analyzer. The spectrum analyzer is equipped with a precision frequency reference that exceeds the stability requirement of the EUT.

Measurements were made on the single transmit frequency as called out on the data sheets. Testing was done while the EUT was continuously polling.


The primary supply voltage was varied from 85 % to 115% of the nominal voltage while at ambient temperature. Using a temperature chamber, the transmit frequency was recorded at the extremes of the specified temperature range of -20 ° to +50° C and at 10°C intervals.

The requirement of frequency tolerance is $\pm 0.01\%$ of the operating frequency.

FREQUENCY STABILITY

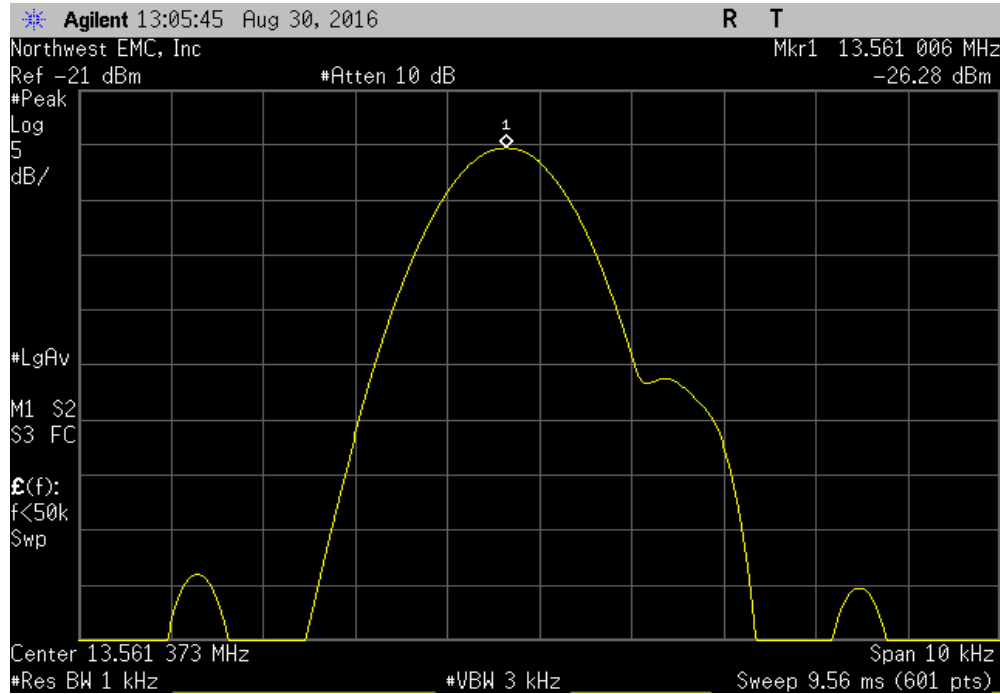


XMR 2016.05.06

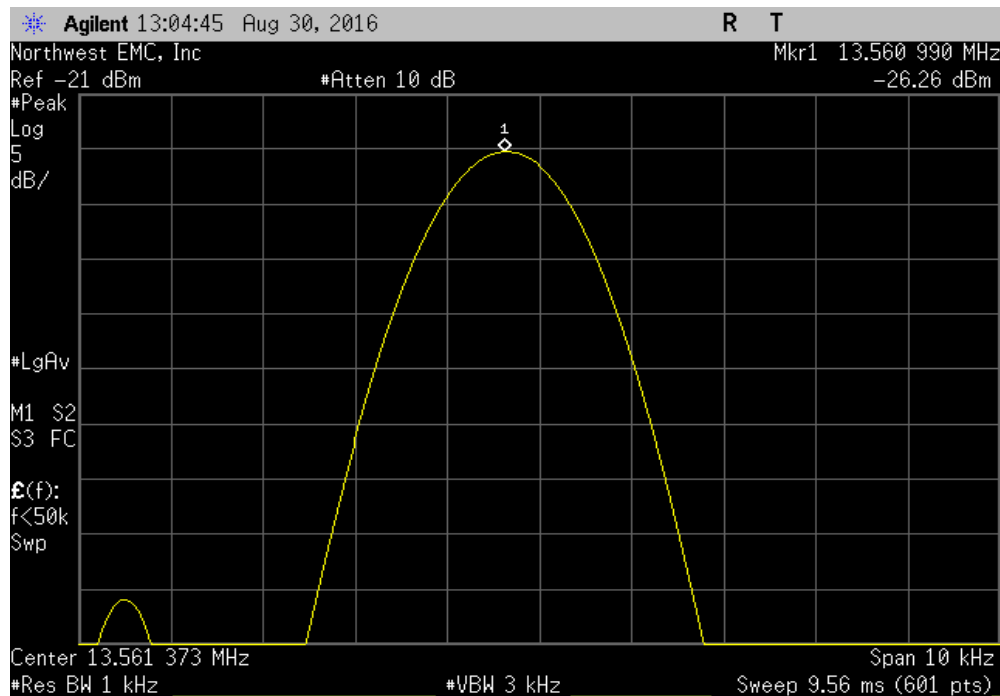
EUT: Precor NFC / RFID Module 304232		Work Order: PRCR0267				
Serial Number: None		Date: 08/30/16				
Customer: Precor, Inc.		Temperature: 23 °C				
Attendees: None		Humidity: 49% RH				
Project: None		Barometric Pres.: 1018 mbar				
Tested by: Richard Mellroth		Power: 5.0 VDC				
		Job Site: NC02				
TEST SPECIFICATIONS		Test Method				
FCC 15.225:2016		ANSI C63.10:2013				
COMMENTS						
Continuously Reading Tag.						
DEVIATIONS FROM TEST STANDARD						
None						
Configuration #	1	Signature 				
		Measured Value (MHz)	Assigned Value (MHz)	Error (%)	Limit (%)	Results
NFC / RFID, 13.56 MHz						
Voltage: 115%						
	Startup	13.5610	13.56	0.0074	±0.01	Pass
Voltage: 100%						
	Startup	13.5610	13.56	0.0073	±0.01	Pass
Voltage: 85%						
	Startup	13.5610	13.56	0.0074	±0.01	Pass
Temperature: +50°						
	Startup	13.5609	13.56	0.0069	±0.01	Pass
	After 2 Minutes	13.5609	13.56	0.0069	±0.01	Pass
	After 5 Minutes	13.5609	13.56	0.0069	±0.01	Pass
	After 10 Minutes	13.5609	13.56	0.0069	±0.01	Pass
Temperature: +40°						
	Startup	13.5609	13.56	0.0069	±0.01	Pass
	After 2 Minutes	13.5609	13.56	0.0069	±0.01	Pass
	After 5 Minutes	13.5609	13.56	0.0069	±0.01	Pass
	After 10 Minutes	13.5609	13.56	0.0069	±0.01	Pass
Temperature: +30°						
	Startup	13.5610	13.56	0.0072	±0.01	Pass
	After 2 Minutes	13.5610	13.56	0.0072	±0.01	Pass
	After 5 Minutes	13.5610	13.56	0.0072	±0.01	Pass
	After 10 Minutes	13.5610	13.56	0.0071	±0.01	Pass
Temperature: +20°						
	Startup	13.5610	13.56	0.0074	±0.01	Pass
	After 2 Minutes	13.5610	13.56	0.0074	±0.01	Pass
	After 5 Minutes	13.5610	13.56	0.0074	±0.01	Pass
	After 10 Minutes	13.5610	13.56	0.0073	±0.01	Pass
Temperature: +10°						
	Startup	13.5610	13.56	0.0077	±0.01	Pass
	After 2 Minutes	13.5610	13.56	0.0075	±0.01	Pass
	After 5 Minutes	13.5610	13.56	0.0075	±0.01	Pass
	After 10 Minutes	13.5610	13.56	0.0076	±0.01	Pass
Temperature: 0°						
	Startup	13.5610	13.56	0.0077	±0.01	Pass
	After 2 Minutes	13.5610	13.56	0.0077	±0.01	Pass
	After 5 Minutes	13.5610	13.56	0.0077	±0.01	Pass
	After 10 Minutes	13.5611	13.56	0.0078	±0.01	Pass
Temperature: -10°						
	Startup	13.5610	13.56	0.0077	±0.01	Pass
	After 2 Minutes	13.5610	13.56	0.0076	±0.01	Pass
	After 5 Minutes	13.5610	13.56	0.0077	±0.01	Pass
	After 10 Minutes	13.5610	13.56	0.0077	±0.01	Pass
Temperature: -20°						
	Startup	13.5610	13.56	0.0073	±0.01	Pass
	After 2 Minutes	13.5610	13.56	0.0074	±0.01	Pass
	After 5 Minutes	13.5610	13.56	0.0074	±0.01	Pass
	After 10 Minutes	13.5610	13.56	0.0074	±0.01	Pass

FREQUENCY STABILITY

NFC / RFID, 13.56 MHz, Voltage: 115%, Startup						
	Measured Value (MHz)	Assigned Value (MHz)	Error (%)	Limit (%)	Results	
	13.561006	13.56	0.0074	±0.01	Pass	

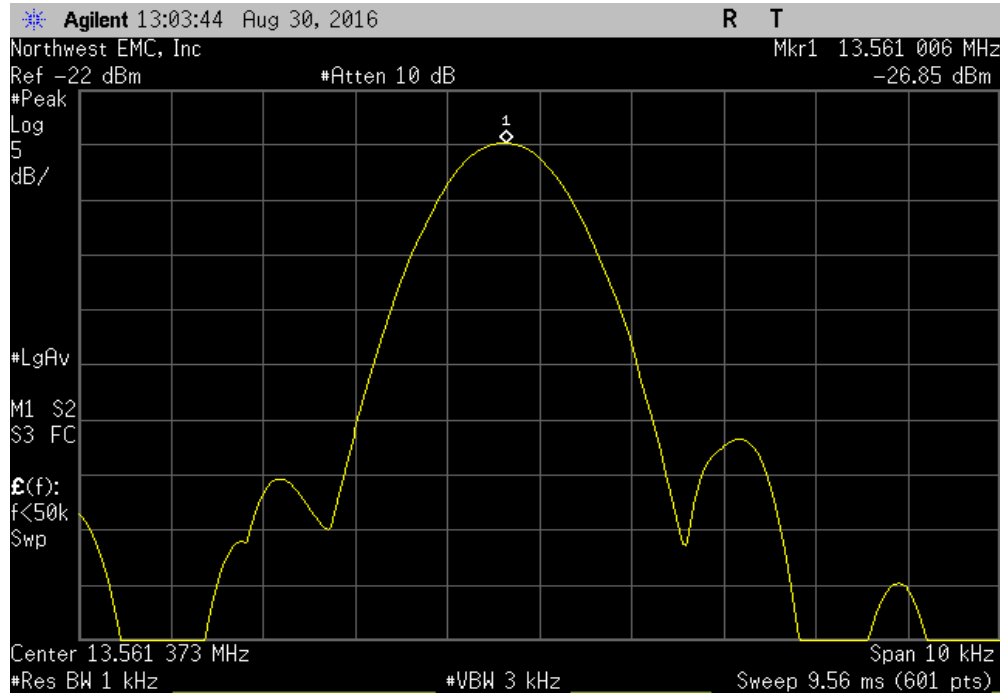


NFC / RFID, 13.56 MHz, Voltage: 100%, Startup						
	Measured Value (MHz)	Assigned Value (MHz)	Error (%)	Limit (%)	Results	
	13.560999	13.56	0.0073	±0.01	Pass	

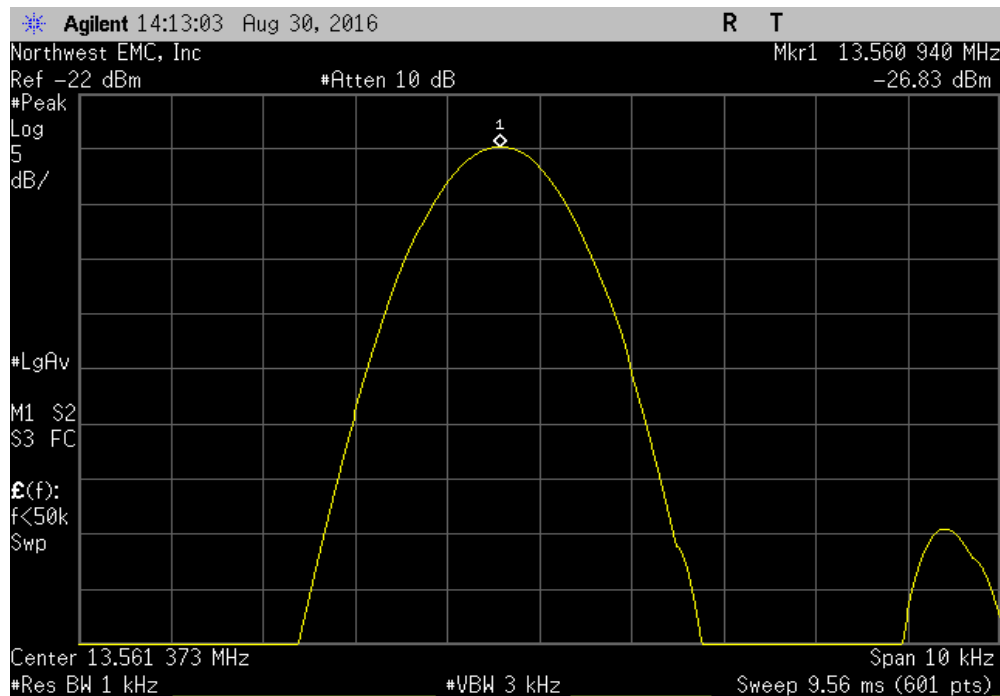


FREQUENCY STABILITY

NFC / RFID, 13.56 MHz, Voltage: 85%, Startup						
	Measured Value (MHz)	Assigned Value (MHz)	Error (%)	Limit (%)	Results	
	13.561006	13.56	0.0074	±0.01	Pass	

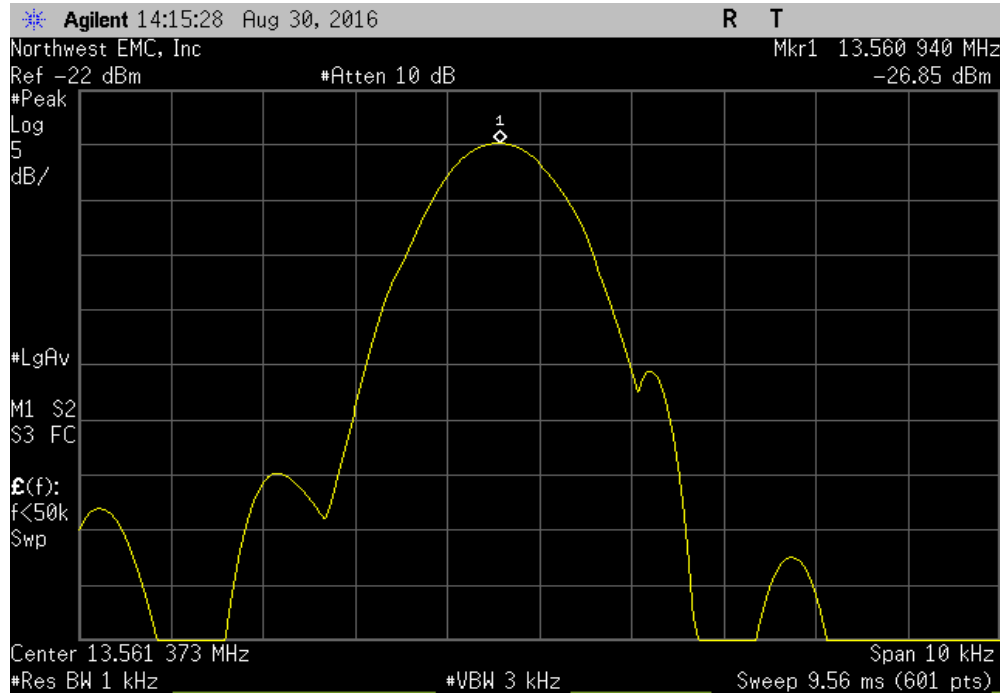


NFC / RFID, 13.56 MHz, Temperature: +50°, Startup						
	Measured Value (MHz)	Assigned Value (MHz)	Error (%)	Limit (%)	Results	
	13.56094	13.56	0.0069	±0.01	Pass	

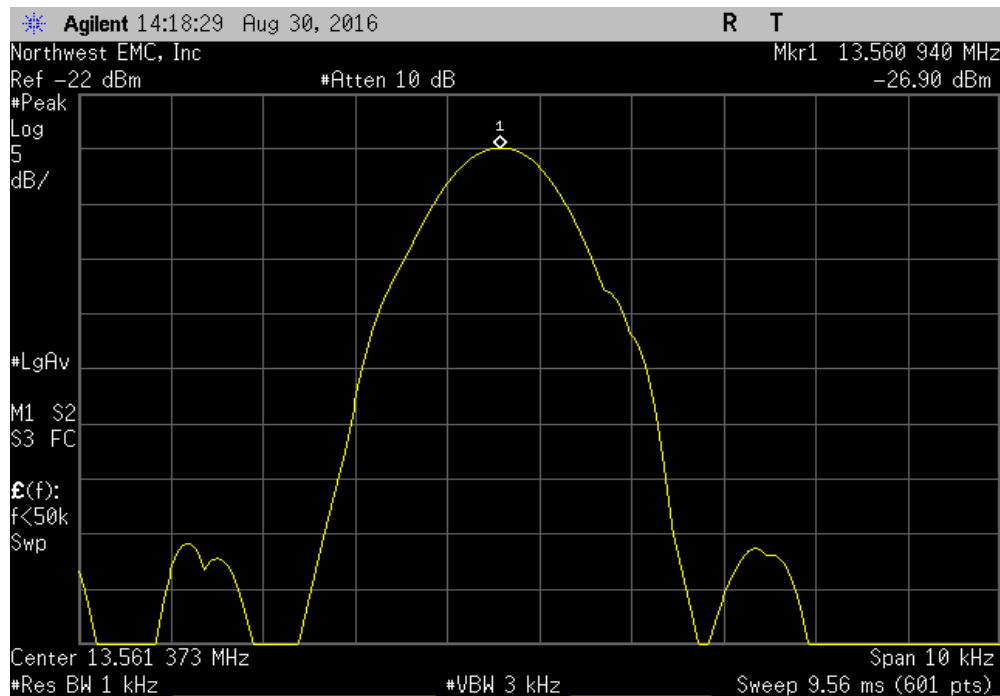


FREQUENCY STABILITY

NFC / RFID, 13.56 MHz, Temperature: +50°, After 2 Minutes						
	Measured Value (MHz)	Assigned Value (MHz)	Error (%)	Limit (%)	Results	
	13.56094	13.56	0.0069	±0.01	Pass	

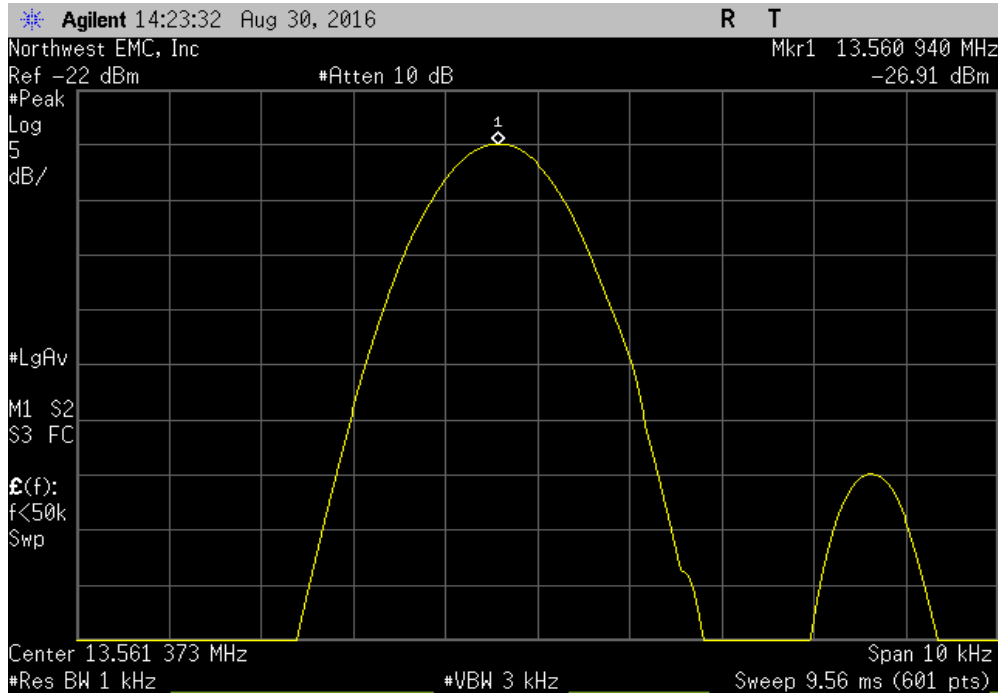


NFC / RFID, 13.56 MHz, Temperature: +50°, After 5 Minutes						
	Measured Value (MHz)	Assigned Value (MHz)	Error (%)	Limit (%)	Results	
	13.56094	13.56	0.0069	±0.01	Pass	

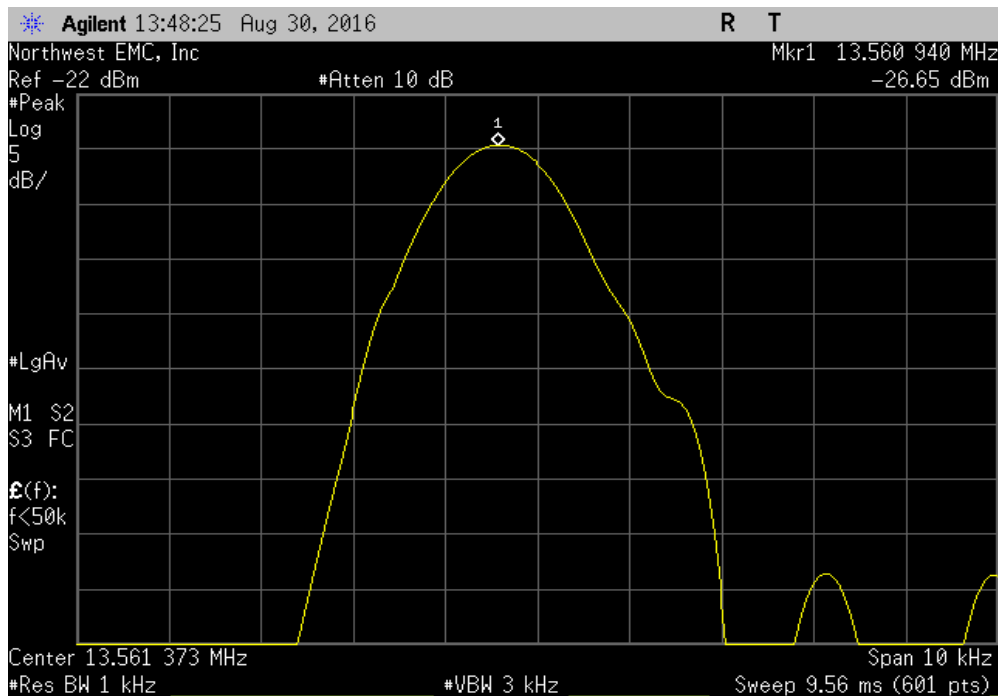


FREQUENCY STABILITY

NFC / RFID, 13.56 MHz, Temperature: +50°, After 10 Minutes						
	Measured Value (MHz)	Assigned Value (MHz)	Error (%)	Limit (%)	Results	
	13.56094	13.56	0.0069	±0.01	Pass	

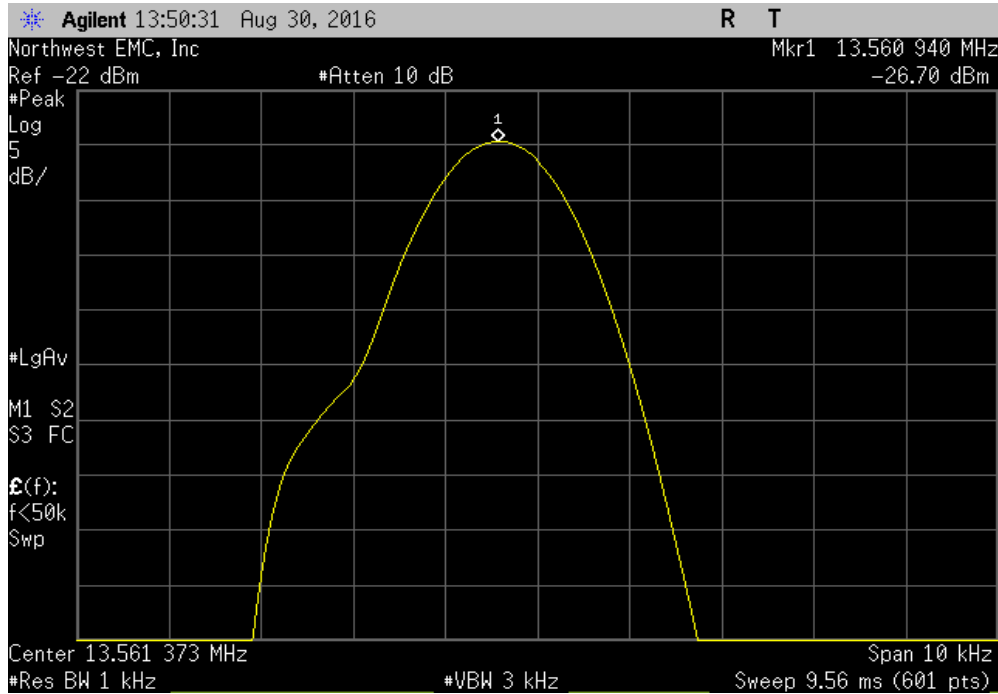


NFC / RFID, 13.56 MHz, Temperature: +40°, Startup						
	Measured Value (MHz)	Assigned Value (MHz)	Error (%)	Limit (%)	Results	
	13.56094	13.56	0.0069	±0.01	Pass	

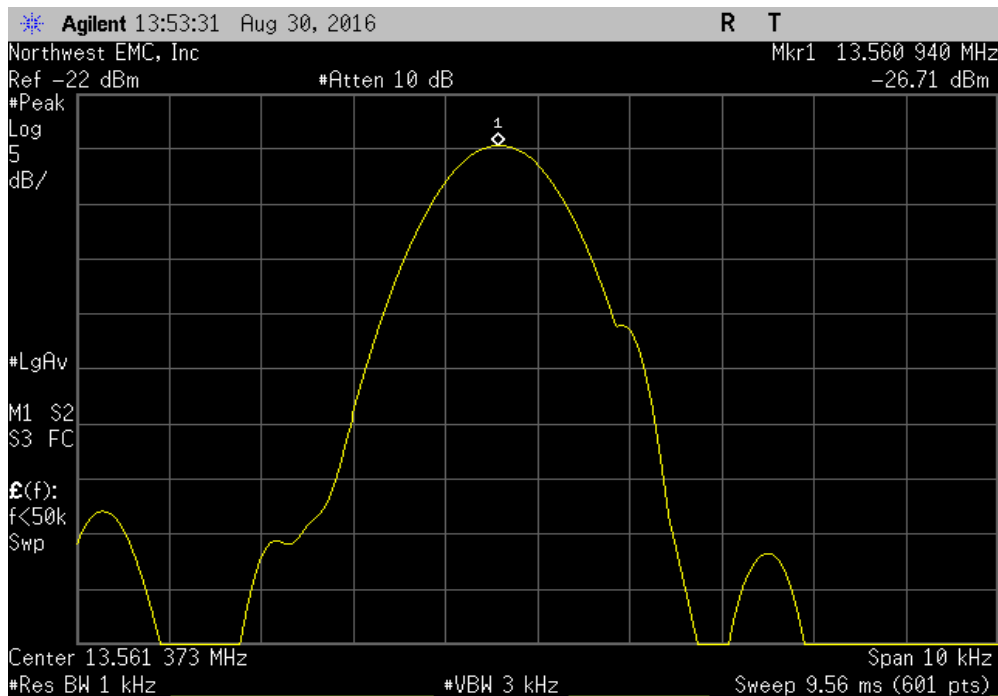


FREQUENCY STABILITY

NFC / RFID, 13.56 MHz, Temperature: +40°, After 2 Minutes						
	Measured Value (MHz)	Assigned Value (MHz)	Error (%)	Limit (%)	Results	
	13.56094	13.56	0.0069	±0.01	Pass	

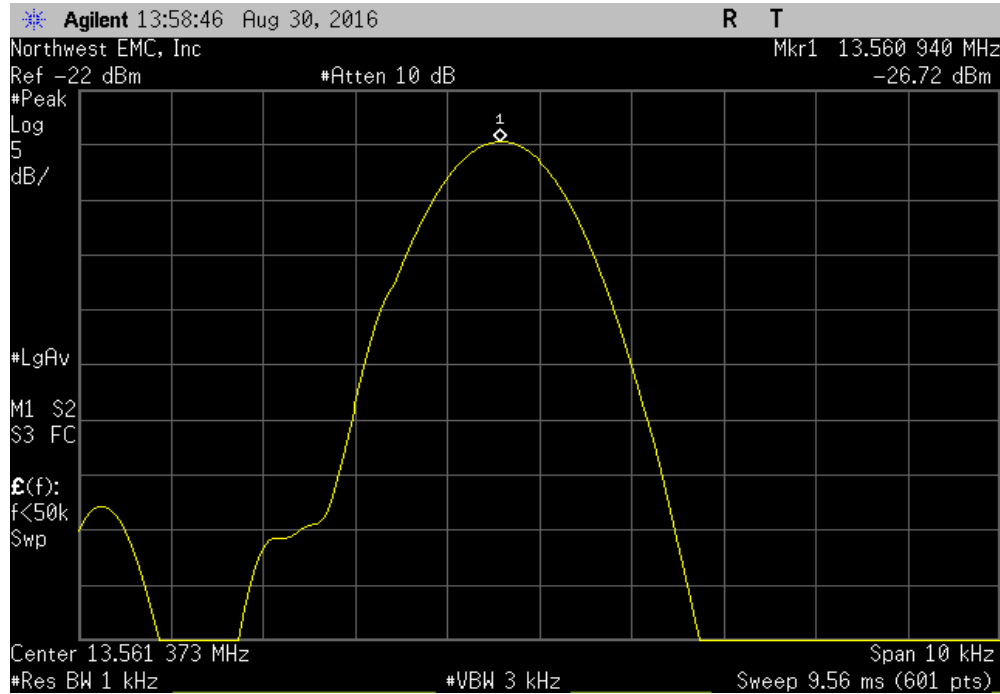


NFC / RFID, 13.56 MHz, Temperature: +40°, After 5 Minutes						
	Measured Value (MHz)	Assigned Value (MHz)	Error (%)	Limit (%)	Results	
	13.56094	13.56	0.0069	±0.01	Pass	

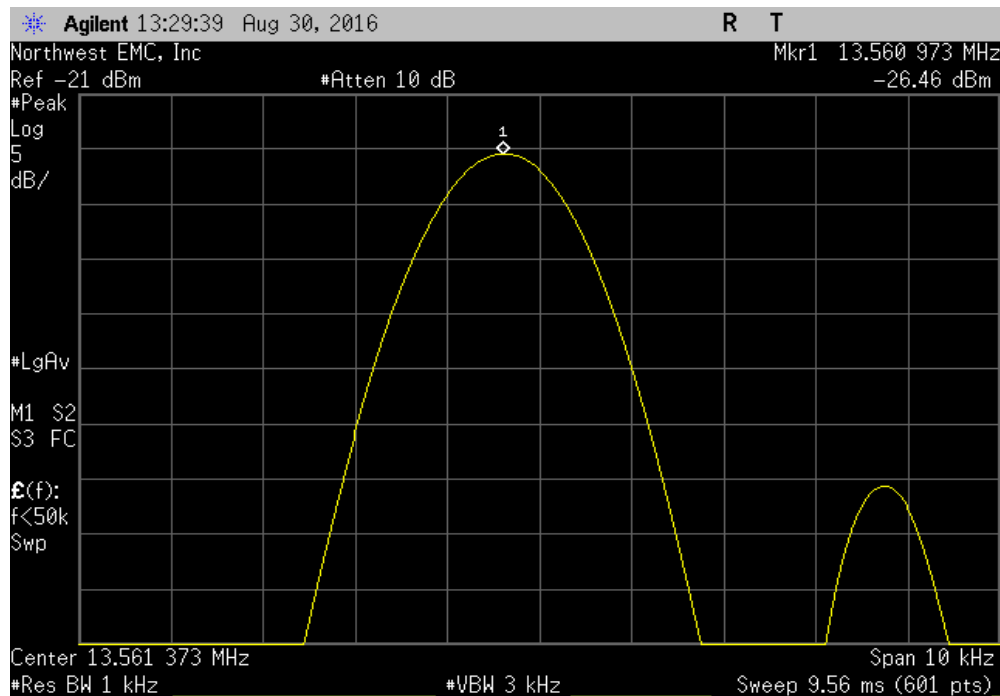


FREQUENCY STABILITY

NFC / RFID, 13.56 MHz, Temperature: +40°, After 10 Minutes						
	Measured Value (MHz)	Assigned Value (MHz)	Error (%)	Limit (%)	Results	
	13.56094	13.56	0.0069	±0.01	Pass	

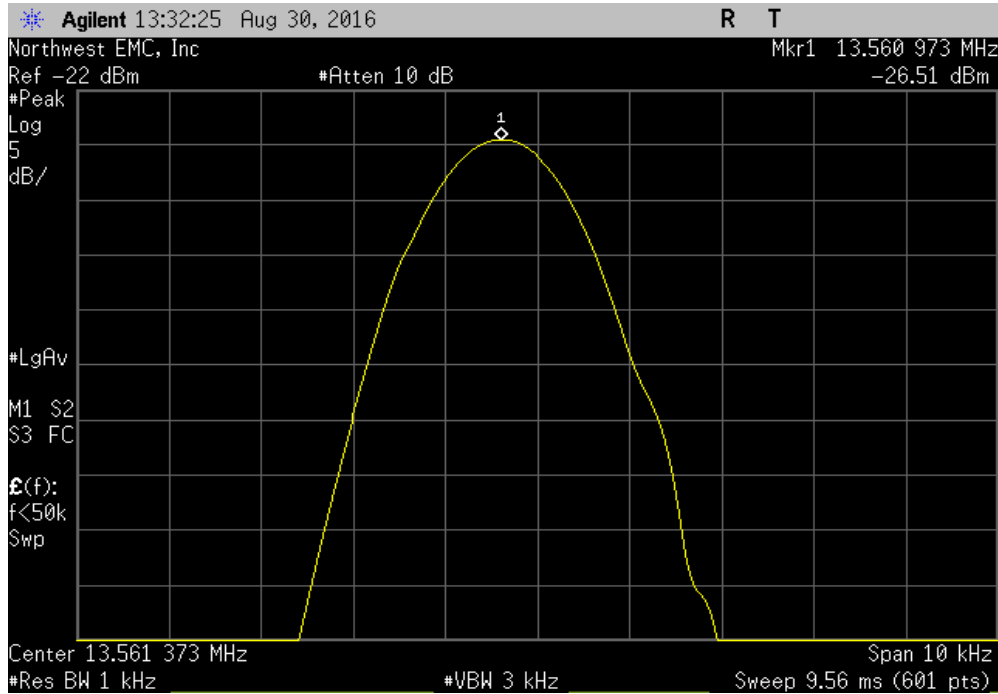


NFC / RFID, 13.56 MHz, Temperature: +30°, Startup						
	Measured Value (MHz)	Assigned Value (MHz)	Error (%)	Limit (%)	Results	
	13.560973	13.56	0.0072	±0.01	Pass	

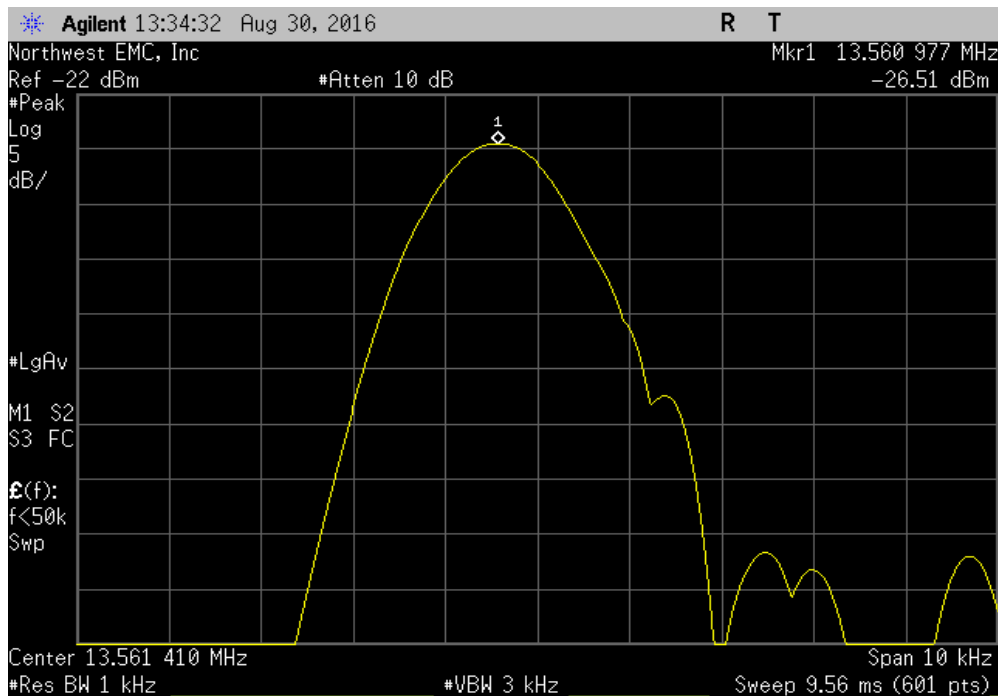


FREQUENCY STABILITY

NFC / RFID, 13.56 MHz, Temperature: +30°, After 2 Minutes						
	Measured Value (MHz)	Assigned Value (MHz)	Error (%)	Limit (%)	Results	
	13.560973	13.56	0.0072	±0.01	Pass	

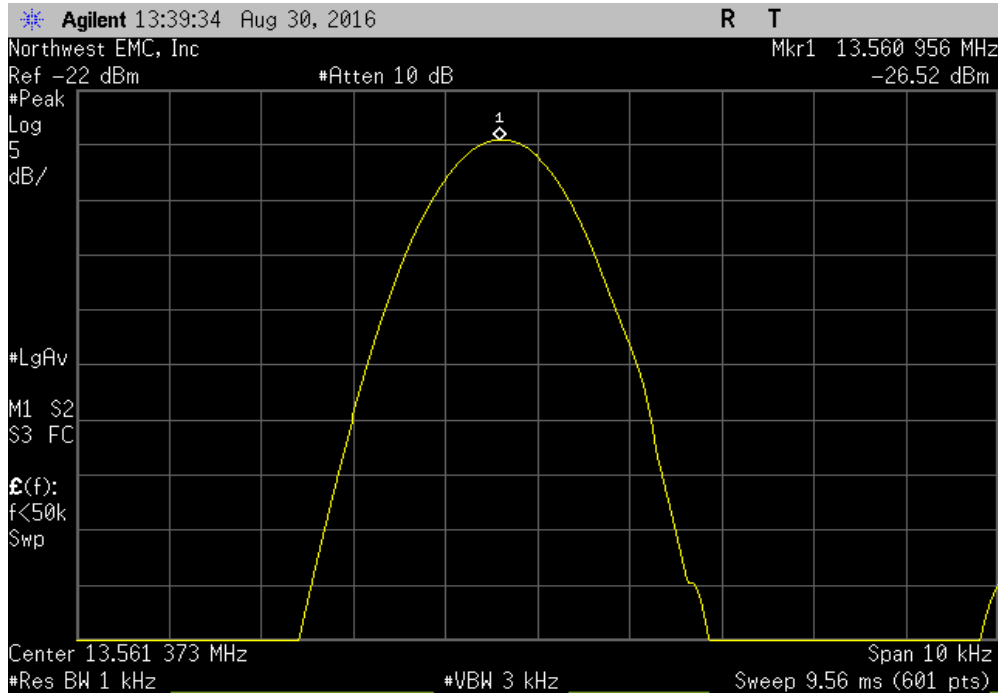


NFC / RFID, 13.56 MHz, Temperature: +30°, After 5 Minutes						
	Measured Value (MHz)	Assigned Value (MHz)	Error (%)	Limit (%)	Results	
	13.560977	13.56	0.0072	±0.01	Pass	

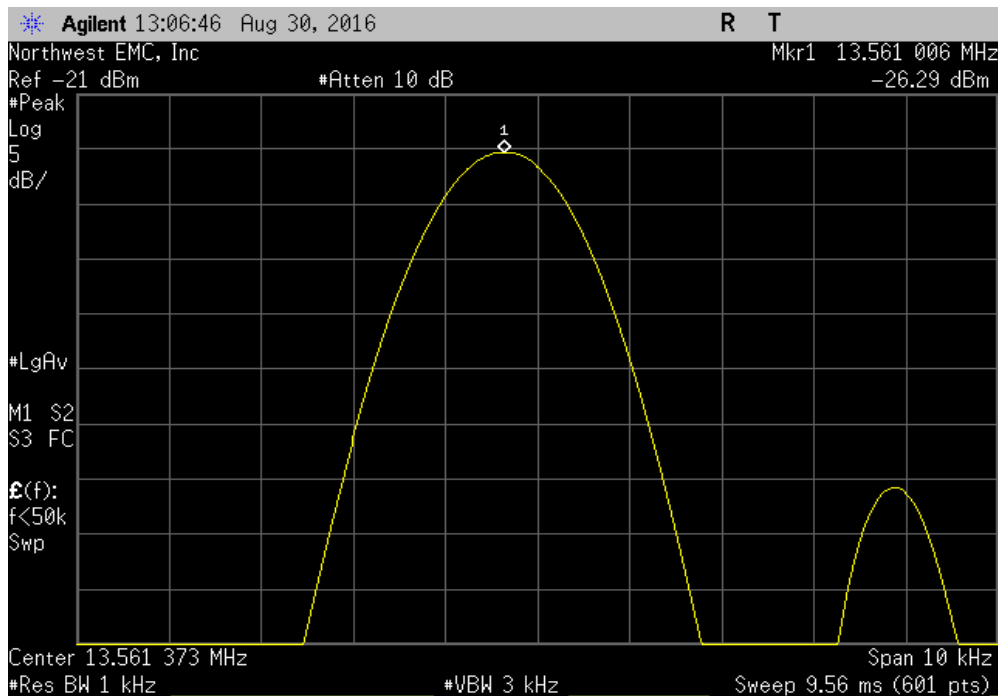


FREQUENCY STABILITY

NFC / RFID, 13.56 MHz, Temperature: +30°, After 10 Minutes						
	Measured Value (MHz)	Assigned Value (MHz)	Error (%)	Limit (%)	Results	
	13.560956	13.56	0.0071	±0.01	Pass	

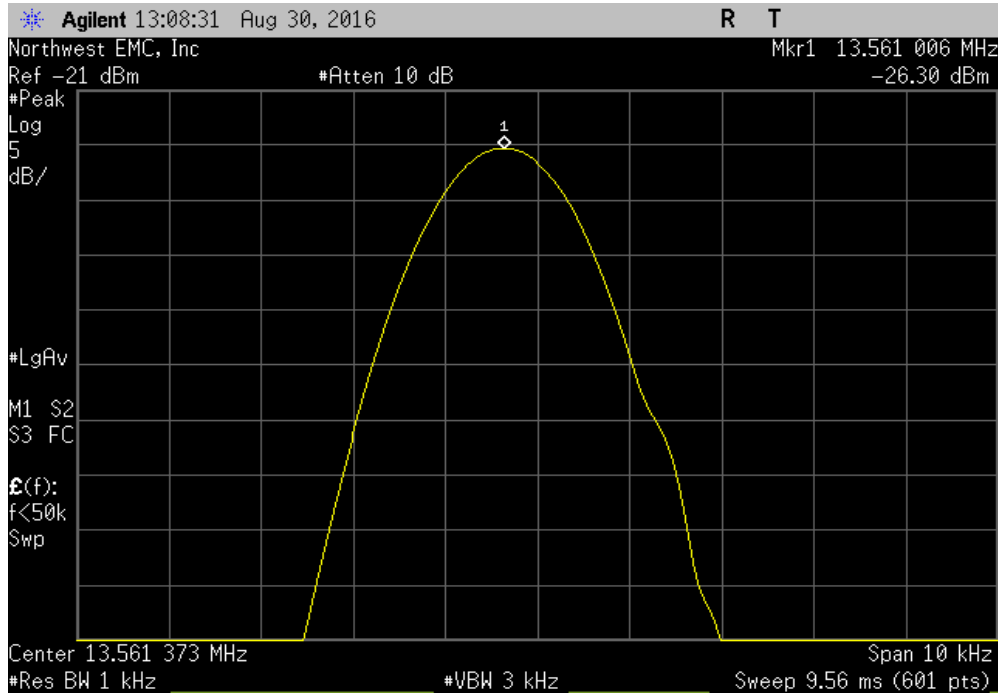


NFC / RFID, 13.56 MHz, Temperature: +20°, Startup						
	Measured Value (MHz)	Assigned Value (MHz)	Error (%)	Limit (%)	Results	
	13.561006	13.56	0.0074	±0.01	Pass	

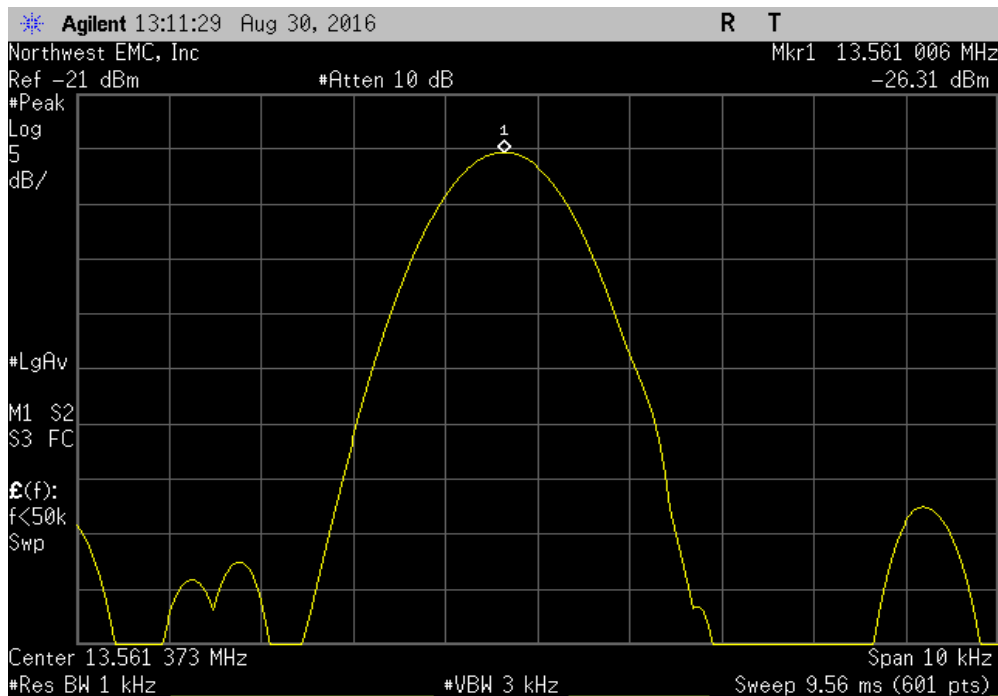


FREQUENCY STABILITY

NFC / RFID, 13.56 MHz, Temperature: +20°, After 2 Minutes						
	Measured Value (MHz)	Assigned Value (MHz)	Error (%)	Limit (%)	Results	
	13.561006	13.56	0.0074	±0.01	Pass	

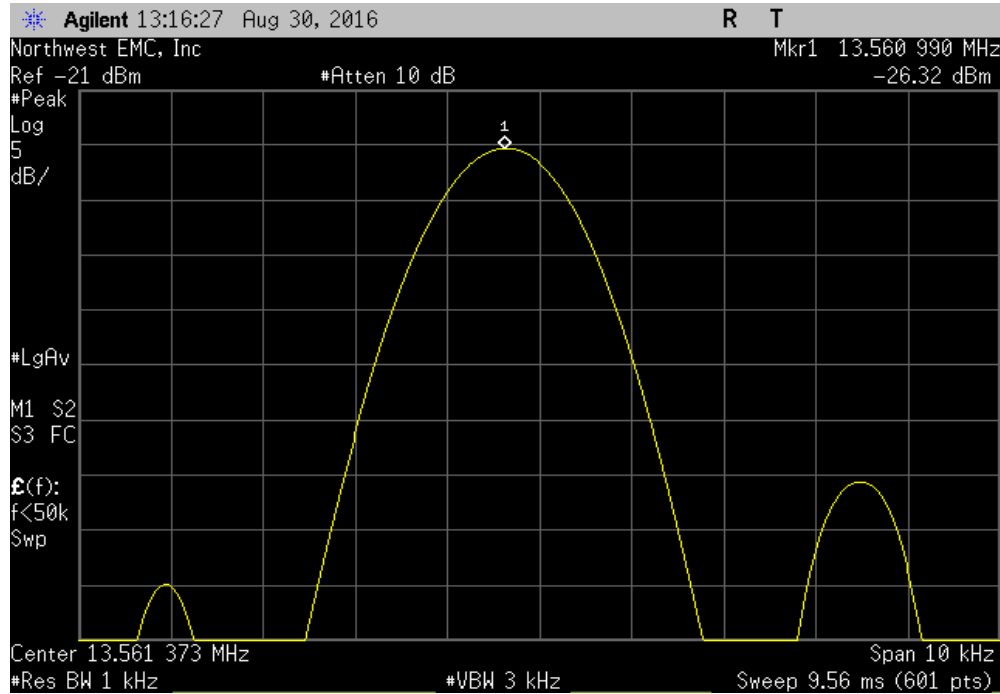


NFC / RFID, 13.56 MHz, Temperature: +20°, After 5 Minutes						
	Measured Value (MHz)	Assigned Value (MHz)	Error (%)	Limit (%)	Results	
	13.561006	13.56	0.0074	±0.01	Pass	

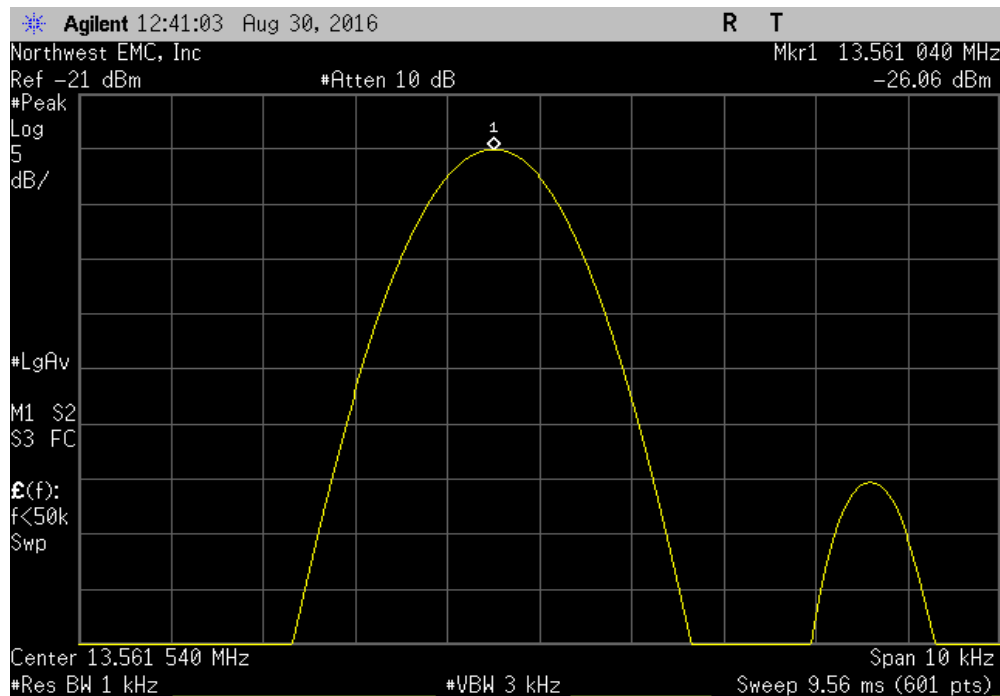


FREQUENCY STABILITY

NFC / RFID, 13.56 MHz, Temperature: +0°, After 10 Minutes						
	Measured Value (MHz)	Assigned Value (MHz)	Error (%)	Limit (%)	Results	
	13.56099	13.56	0.0073	±0.01	Pass	

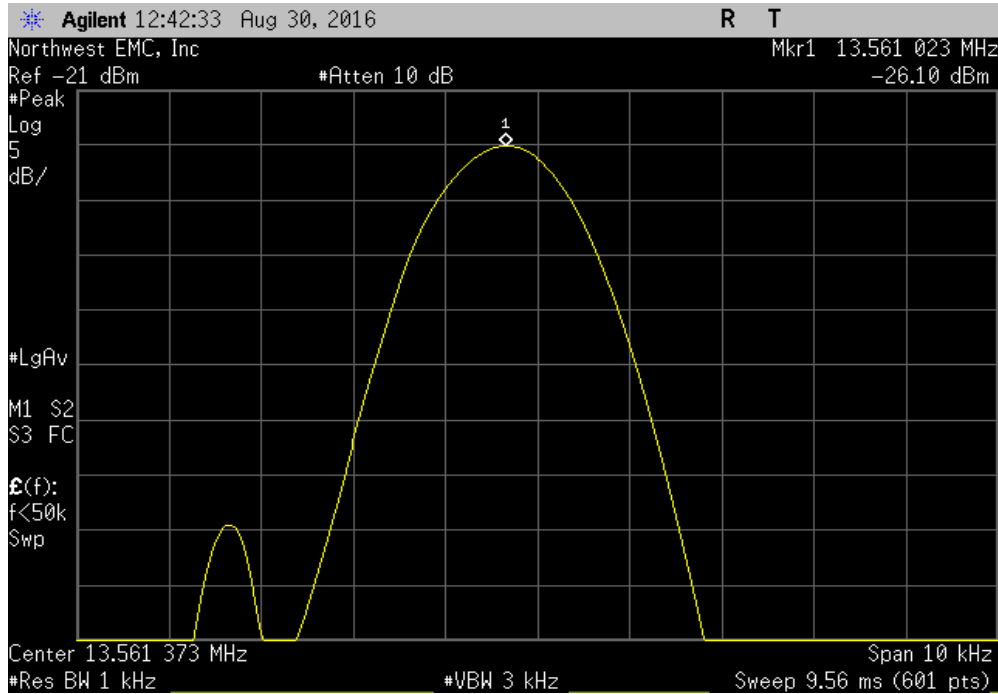


NFC / RFID, 13.56 MHz, Temperature: +10°, Startup						
	Measured Value (MHz)	Assigned Value (MHz)	Error (%)	Limit (%)	Results	
	13.56104	13.56	0.0077	±0.01	Pass	

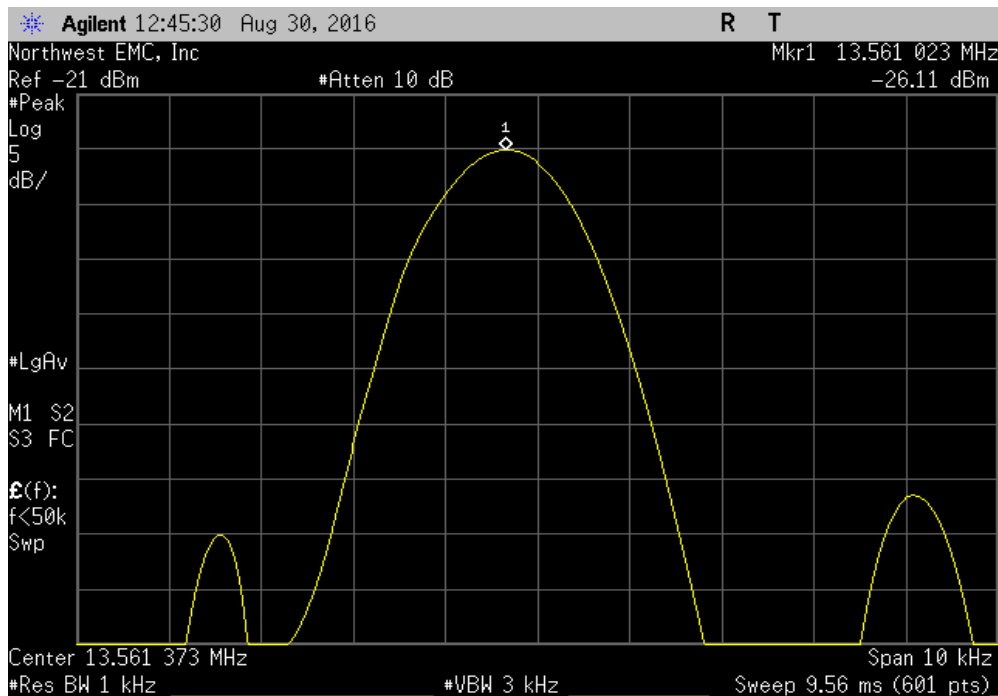


FREQUENCY STABILITY

NFC / RFID, 13.56 MHz, Temperature: +10°, After 2 Minutes						
	Measured Value (MHz)	Assigned Value (MHz)	Error (%)	Limit (%)	Results	
	13.561023	13.56	0.0075	±0.01	Pass	

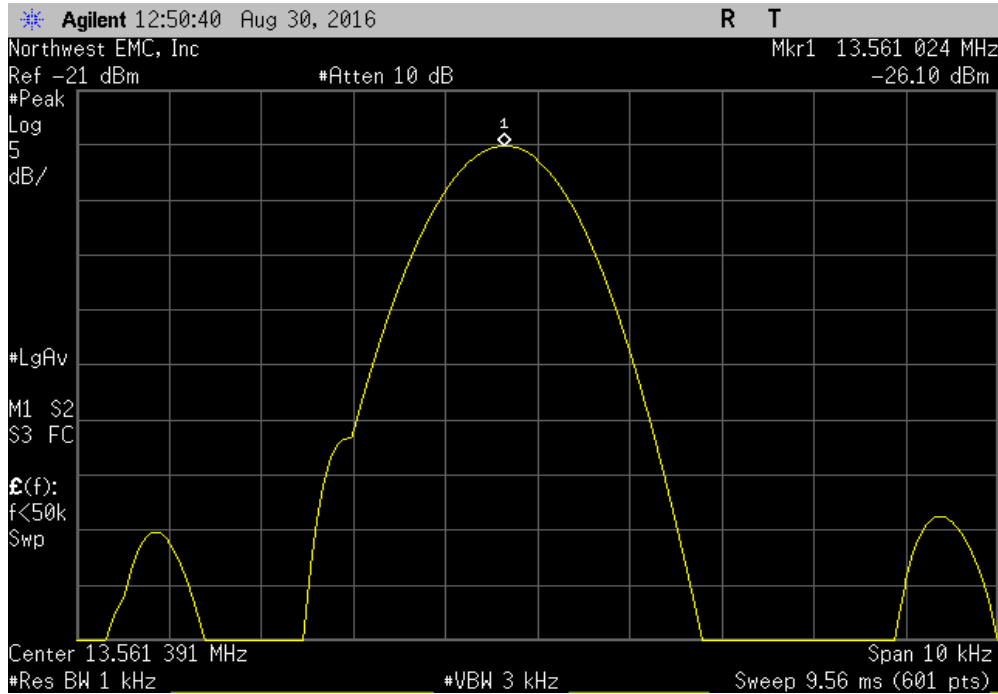


NFC / RFID, 13.56 MHz, Temperature: +10°, After 5 Minutes						
	Measured Value (MHz)	Assigned Value (MHz)	Error (%)	Limit (%)	Results	
	13.561023	13.56	0.0075	±0.01	Pass	

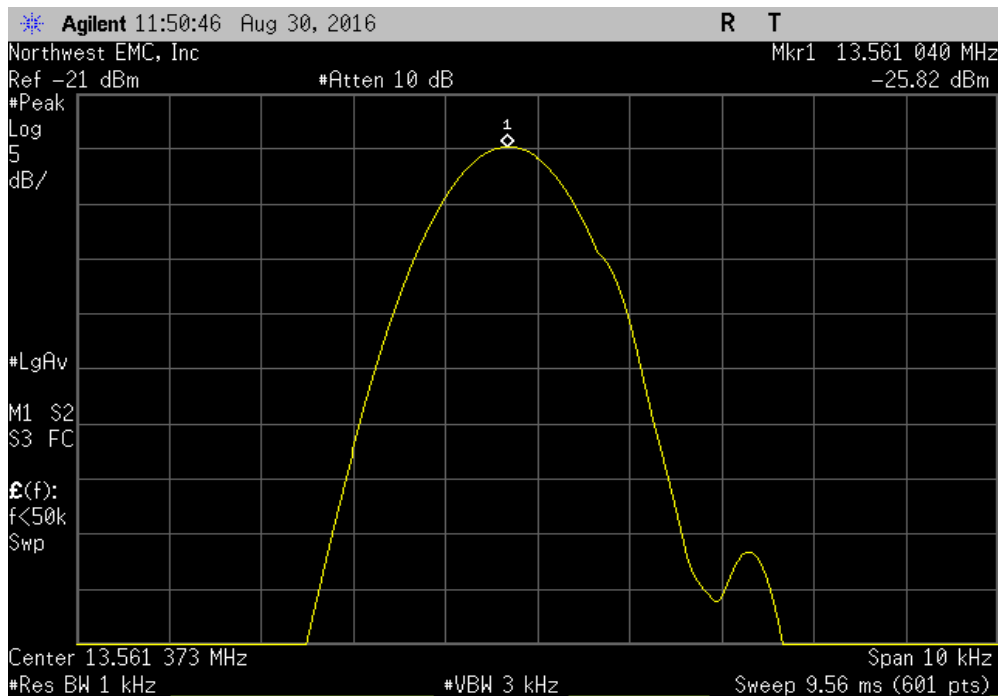


FREQUENCY STABILITY

NFC / RFID, 13.56 MHz, Temperature: +10°, After 10 Minutes						
	Measured Value (MHz)	Assigned Value (MHz)	Error (%)	Limit (%)	Results	
	13.561024	13.56	0.0076	±0.01	Pass	

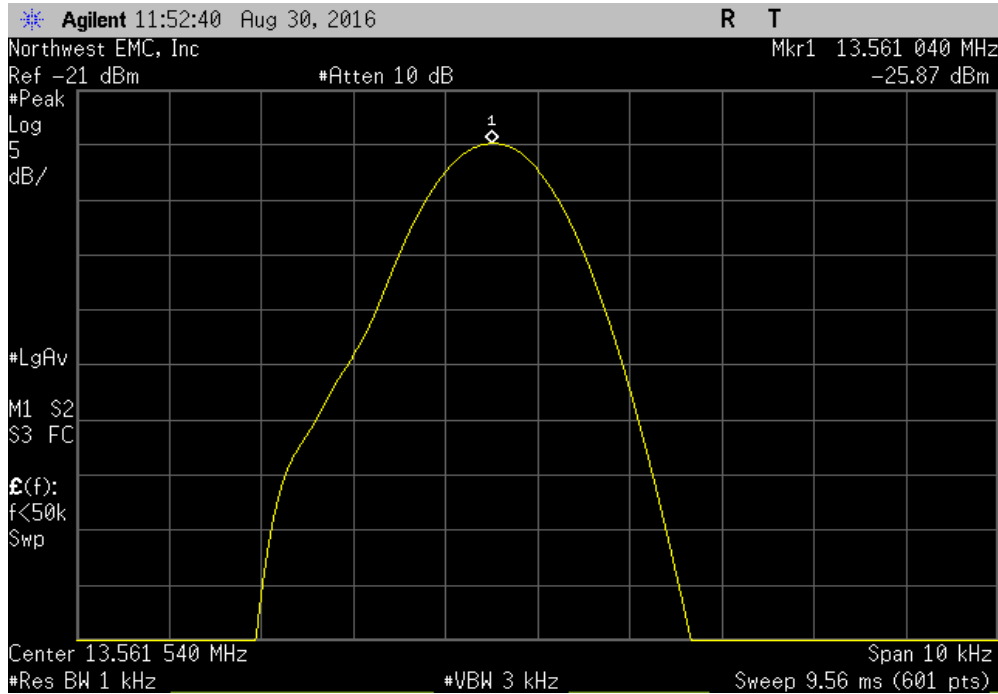


NFC / RFID, 13.56 MHz, Temperature: 0°, Startup						
	Measured Value (MHz)	Assigned Value (MHz)	Error (%)	Limit (%)	Results	
	13.56104	13.56	0.0077	±0.01	Pass	

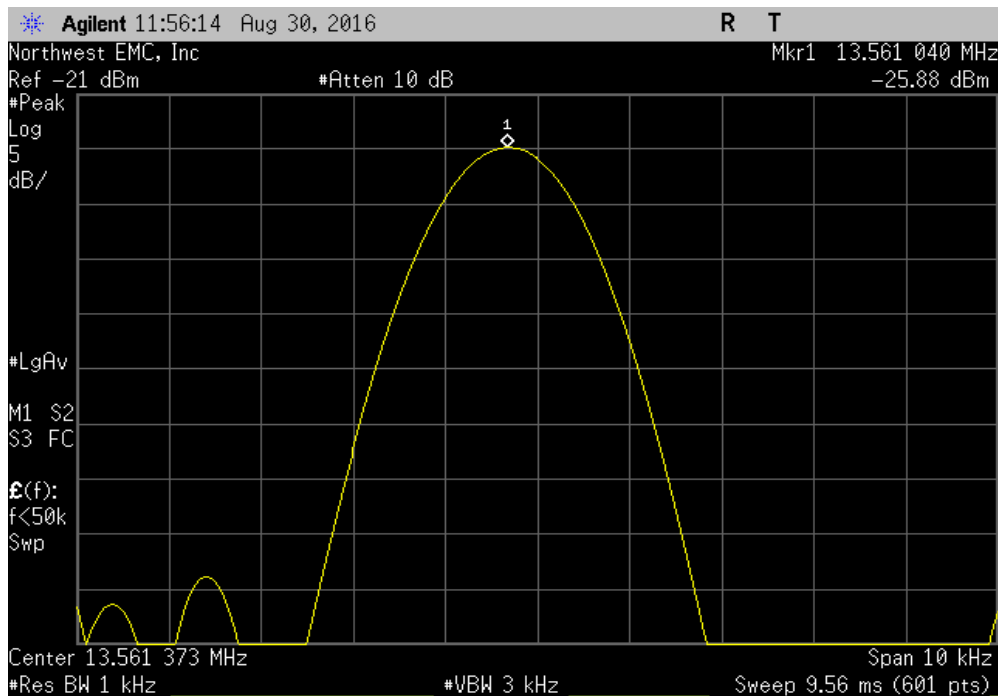


FREQUENCY STABILITY

NFC / RFID, 13.56 MHz, Temperature: 0°, After 2 Minutes						
	Measured Value (MHz)	Assigned Value (MHz)	Error (%)	Limit (%)	Results	
	13.56104	13.56	0.0077	±0.01	Pass	

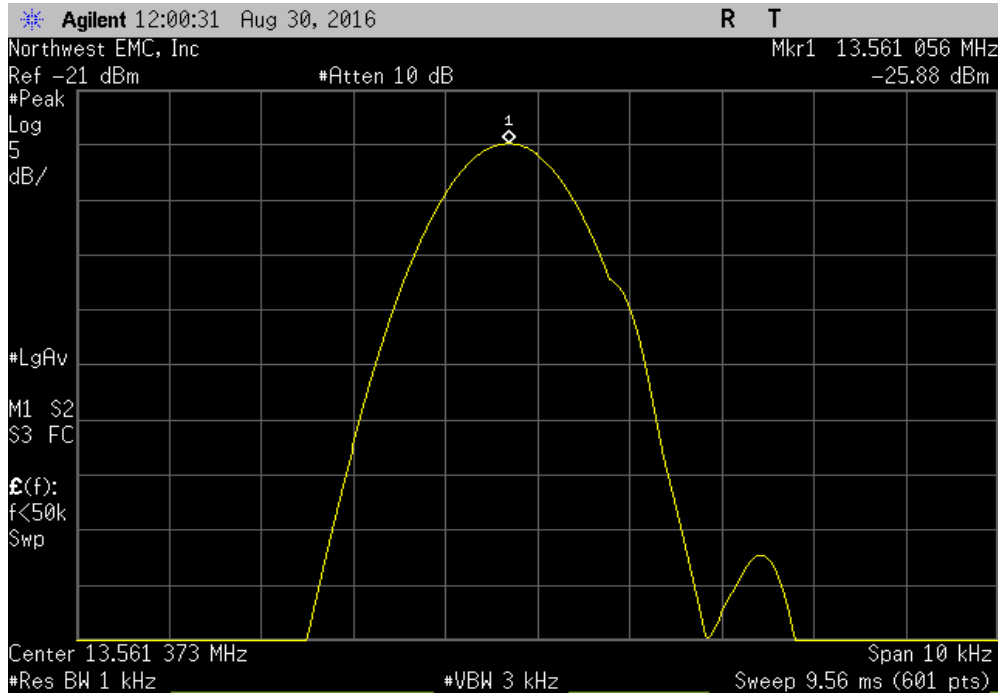


NFC / RFID, 13.56 MHz, Temperature: 0°, After 5 Minutes						
	Measured Value (MHz)	Assigned Value (MHz)	Error (%)	Limit (%)	Results	
	13.56104	13.56	0.0077	±0.01	Pass	

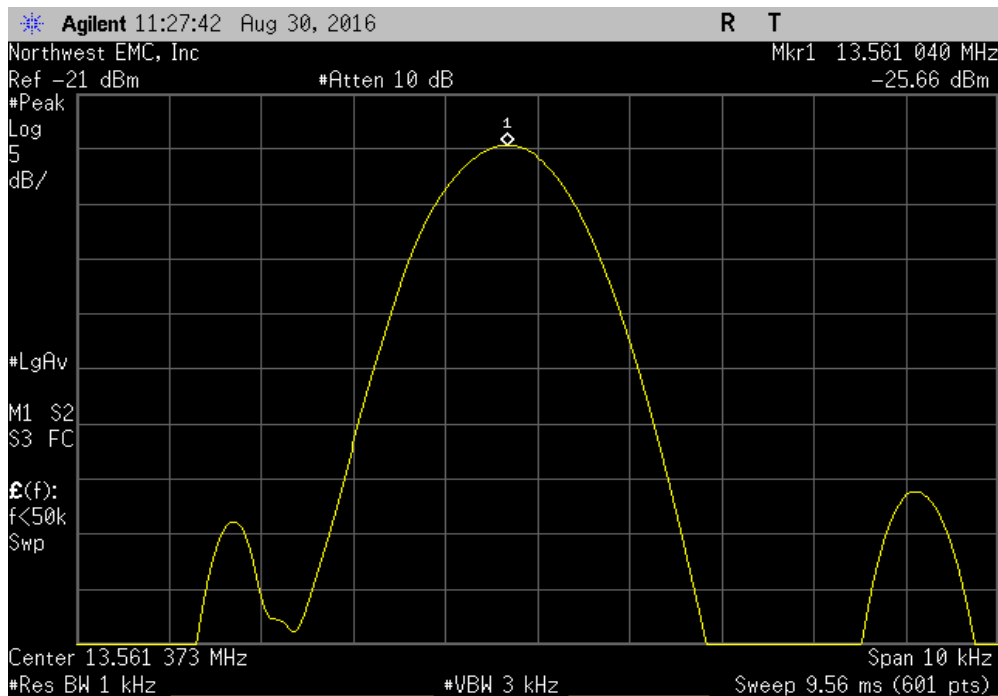


FREQUENCY STABILITY

NFC / RFID, 13.56 MHz, Temperature: 0°, After 10 Minutes						
	Measured Value (MHz)	Assigned Value (MHz)	Error (%)	Limit (%)	Results	
	13.561056	13.56	0.0078	±0.01	Pass	

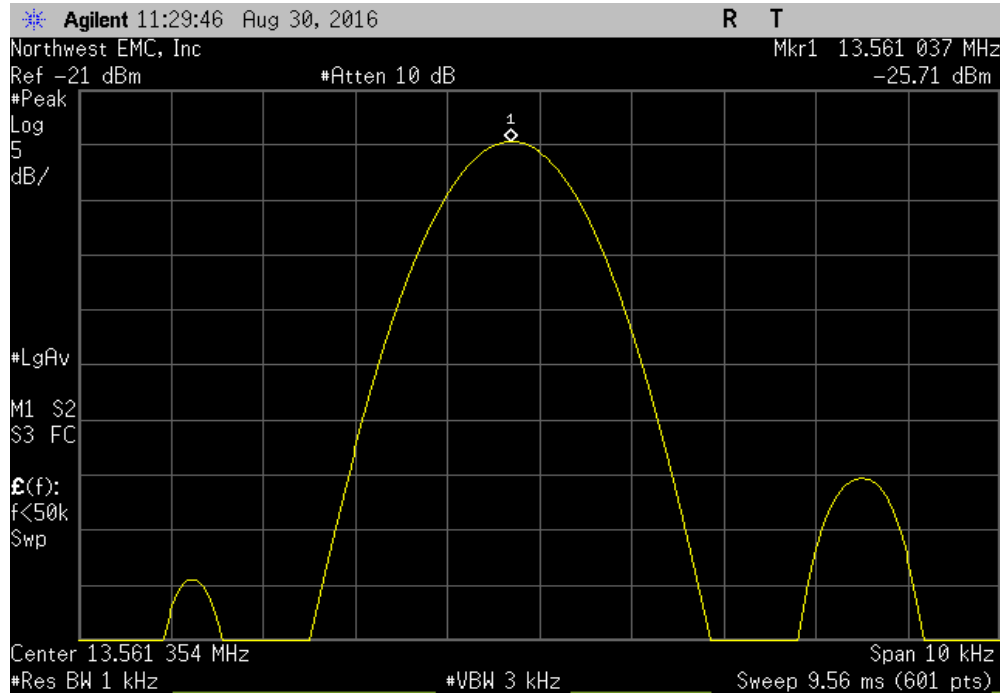


NFC / RFID, 13.56 MHz, Temperature: -10°, Startup						
	Measured Value (MHz)	Assigned Value (MHz)	Error (%)	Limit (%)	Results	
	13.56104	13.56	0.0077	±0.01	Pass	

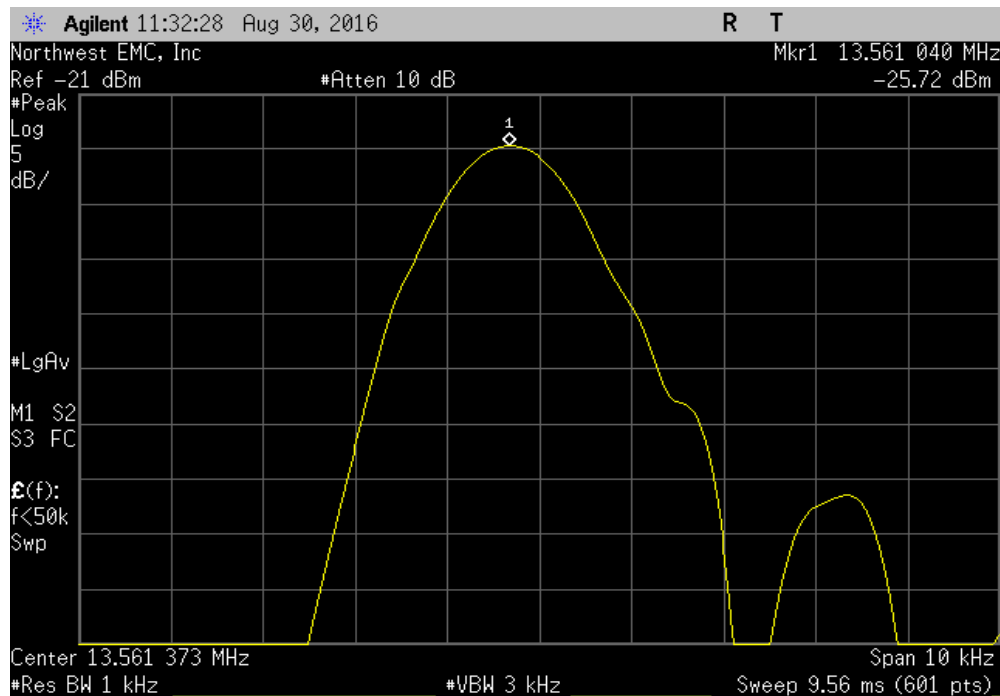


FREQUENCY STABILITY

NFC / RFID, 13.56 MHz, Temperature: -10°, After 2 Minutes						
	Measured Value (MHz)	Assigned Value (MHz)	Error (%)	Limit (%)	Results	
	13.561037	13.56	0.0076	±0.01	Pass	

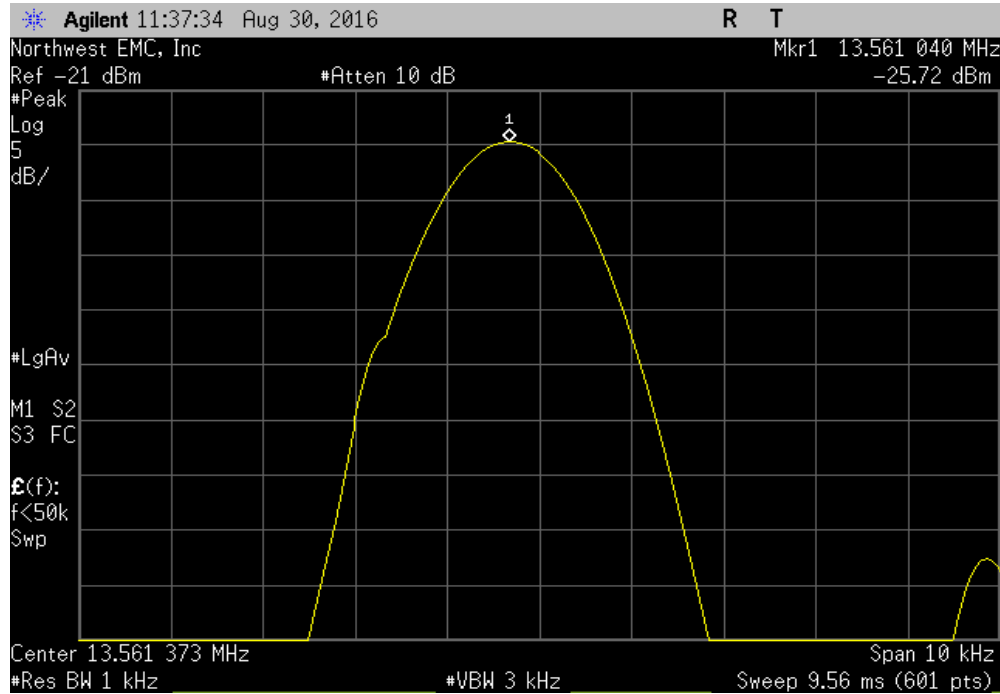


NFC / RFID, 13.56 MHz, Temperature: -10°, After 5 Minutes						
	Measured Value (MHz)	Assigned Value (MHz)	Error (%)	Limit (%)	Results	
	13.56104	13.56	0.0077	±0.01	Pass	

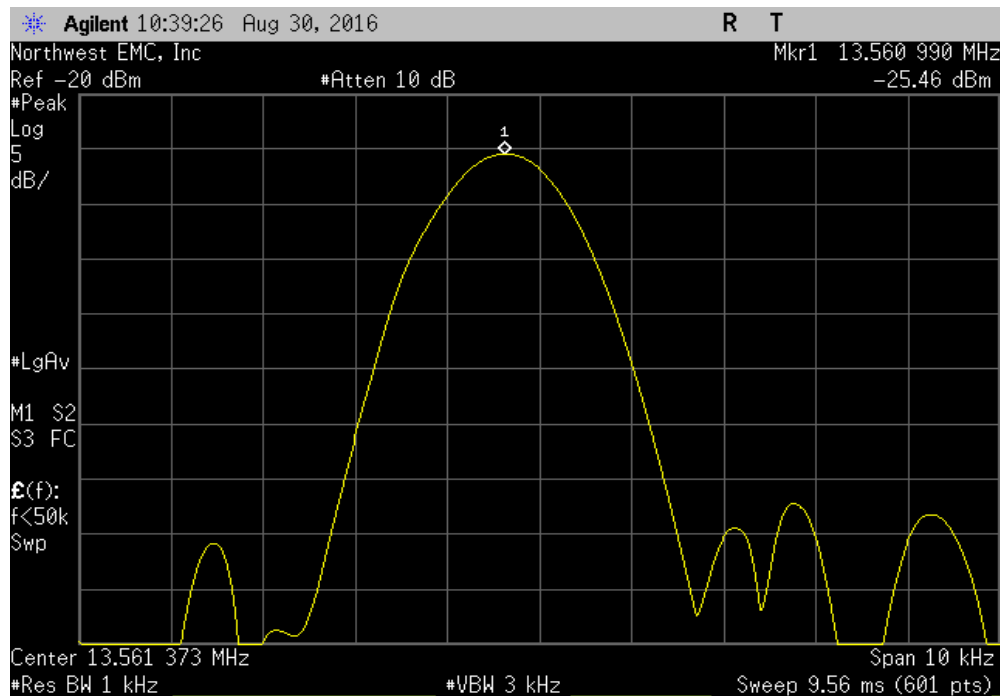


FREQUENCY STABILITY

NFC / RFID, 13.56 MHz, Temperature: -10°, After 10 Minutes						
	Measured Value (MHz)	Assigned Value (MHz)	Error (%)	Limit (%)	Results	
	13.56104	13.56	0.0077	±0.01	Pass	

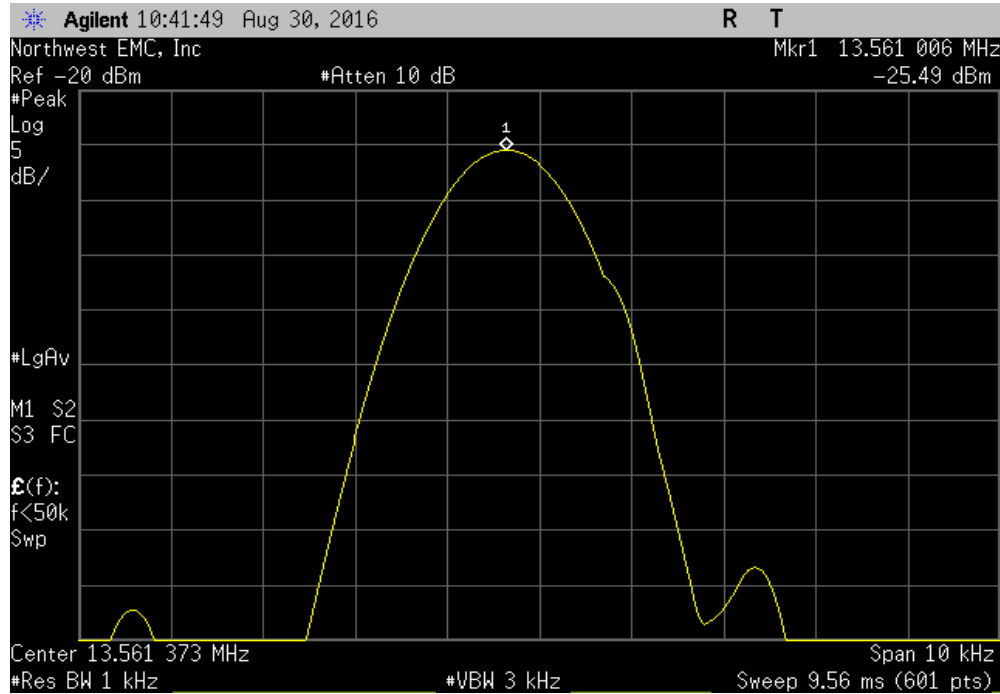


NFC / RFID, 13.56 MHz, Temperature: -20°, Startup						
	Measured Value (MHz)	Assigned Value (MHz)	Error (%)	Limit (%)	Results	
	13.56099	13.56	0.0073	±0.01	Pass	

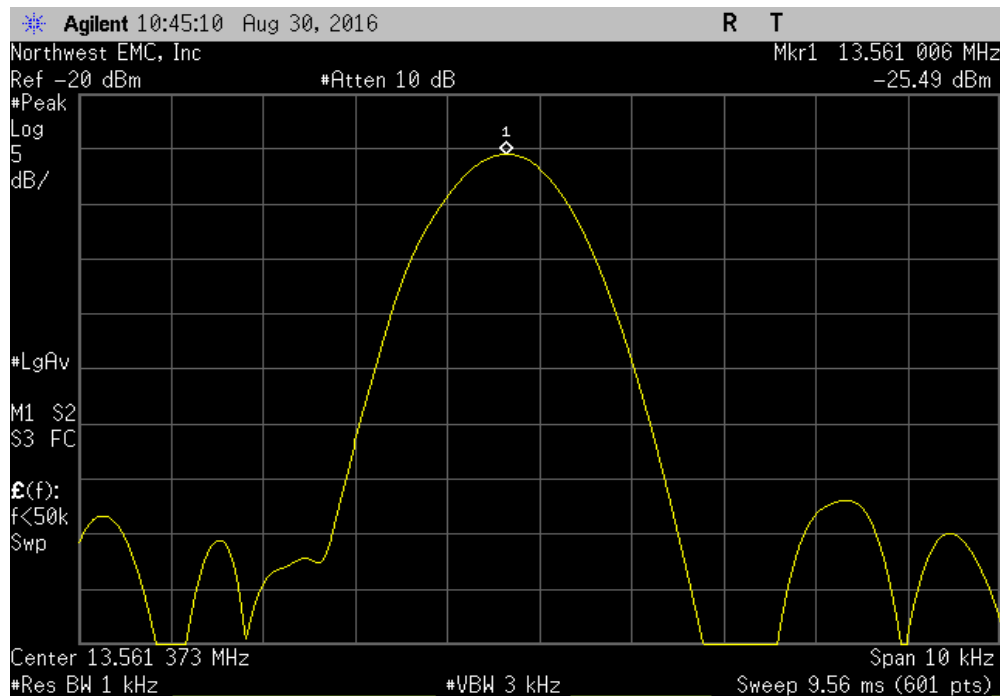


FREQUENCY STABILITY

NFC / RFID, 13.56 MHz, Temperature: -20°, After 2 Minutes						
	Measured Value (MHz)	Assigned Value (MHz)	Error (%)	Limit (%)	Results	
	13.561006	13.56	0.0074	±0.01	Pass	

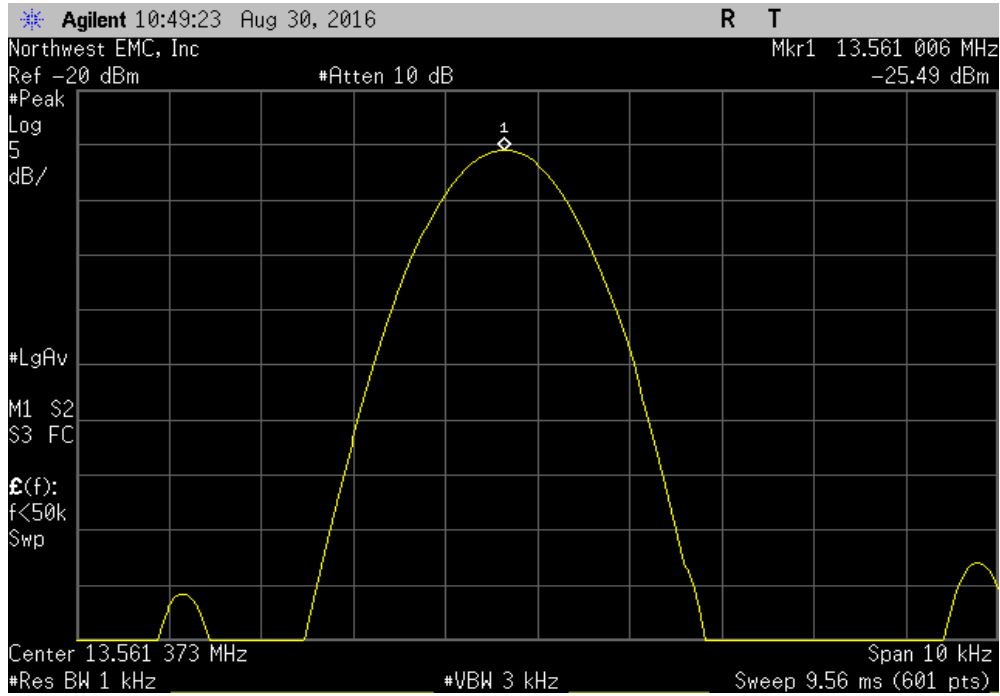


NFC / RFID, 13.56 MHz, Temperature: -20°, After 5 Minutes						
	Measured Value (MHz)	Assigned Value (MHz)	Error (%)	Limit (%)	Results	
	13.561006	13.56	0.0074	±0.01	Pass	



FREQUENCY STABILITY

NFC / RFID, 13.56 MHz, Temperature: -20°, After 10 Minutes						
	Measured Value (MHz)	Assigned Value (MHz)	Error (%)	Limit (%)	Results	
	13.561006	13.56	0.0074	±0.01	Pass	



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

Continuously Reading Tag, Transmitting Continuously at 13.56 MHz

POWER SETTINGS INVESTIGATED

USB

CONFIGURATIONS INVESTIGATED

PRCR0267-2

FREQUENCY RANGE INVESTIGATED

Start Frequency | 12.5 MHz | Stop Frequency | 14.5 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
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFO	6/8/2016	12 mo
Cable	Northwest EMC	Mag Field Loop Cable	NC6	5/23/2016	12 mo
Antenna	EMCO	6502	AZC	5/20/2015	24 mo

MEASUREMENT BANDWIDTHS

Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (kHz)
0.01 - 0.15	1.0	0.2	0.2
0.15 - 30.0	10.0	9.0	9.0
30.0 - 1000	100.0	120.0	120.0
Above 1000	1000.0	N/A	1000.0

TEST DESCRIPTION

The antennas to be used with the EUT were tested. The EUT was continuously transmitting while set to the channel specified.

While scanning, fundamental carrier from the EUT was maximized by rotating the EUT, adjusting the measurement antenna height and orientation in 3 orthogonal planes, the EUT and/or associated antenna is positioned in 3 orthogonal planes (per ANSIC63.10). An active loop antenna was used for this test in order to provide sufficient measurement sensitivity.

As outlined in 15.209(e) and 15.31(f)(2), measurements may be performed at a distance closer than what is specified with the limit. The limit at the specified distance is shown on the data sheet. Measurements are made at a closer distance and the data is adjusted using a distance correction factor of 40dB/decade for comparison to the limit.

FIELD STRENGTH OF FUNDAMENTAL

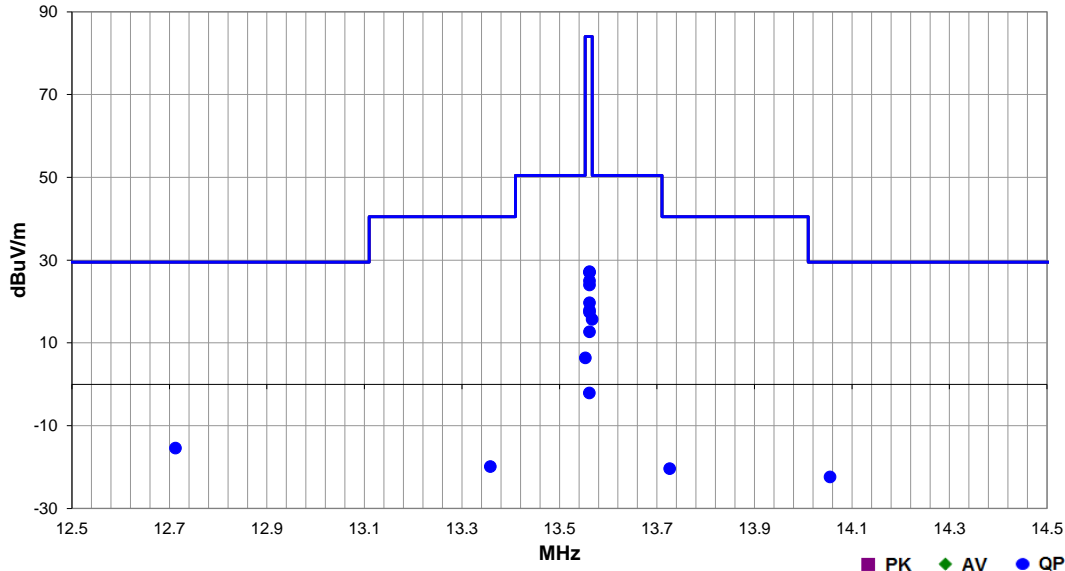


PSA-ESCI 2016.04.26.1
EmiR5 2016.04.26.1

Work Order:	PRCR0267	Date:	08/29/16	<i>Richard Mellroth</i>
Project:	None	Temperature:	23 °C	
Job Site:	NC01	Humidity:	53% RH	
Serial Number:	None	Barometric Pres.:	1019 mbar	
Tested by: Richard Mellroth				
EUT:	Precor NFC / RFID Module 304232			
Configuration:	2			
Customer:	Precor, Inc.			
Attendees:	Rich Whitbeck			
EUT Power:	USB			
Operating Mode:	Continuously Reading Tag, Transmitting Continuously at 13.56 MHz			
Deviations:	None			
Comments:	None			

Test Specifications	FCC 15.225:2016	Test Method	ANSI C63.10:2013
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Run #	1	Test Distance (m)	3	Antenna Height(s)	1 to 4(m)	Results	Pass
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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
13.567	44.3	11.4	1.0	12.0	3.0	0.0	Vert	QP	-40.0	15.7	50.5	-34.8	EUT Vertical. Ant Para to EUT, Perp to GND
13.553	35.0	11.4	1.0	15.0	3.0	0.0	Vert	QP	-40.0	6.4	50.5	-44.1	EUT Vertical. Ant Para to EUT, Perp to GND
12.712	13.2	11.4	1.0	186.0	3.0	0.0	Vert	QP	-40.0	-15.4	29.5	-44.9	EUT Vertical. Ant Para to EUT, Perp to GND
14.055	6.1	11.5	1.0	2.0	3.0	0.0	Vert	QP	-40.0	-22.4	29.5	-51.9	EUT Vertical. Ant Para to EUT, Perp to GND
13.562	55.8	11.4	1.0	4.0	3.0	0.0	Vert	QP	-40.0	27.2	84.0	-56.8	EUT Vertical. Ant Para to EUT, Perp to GND
13.562	55.6	11.4	1.0	95.0	3.0	0.0	Vert	QP	-40.0	27.0	84.0	-57.0	EUT on Side. Ant Para to EUT, Perp to GND
13.562	53.6	11.4	1.0	23.0	3.0	0.0	Vert	QP	-40.0	25.0	84.0	-59.0	EUT on Side. Ant Perp to EUT, Perp to GND
13.562	52.6	11.4	1.0	287.0	3.0	0.0	Vert	QP	-40.0	24.0	84.0	-60.0	EUT Vertical. Ant Perp to EUT, Perp to GND
13.358	8.7	11.4	1.0	360.0	3.0	0.0	Vert	QP	-40.0	-19.9	40.5	-60.4	EUT Vertical. Ant Para to EUT, Perp to GND
13.726	8.2	11.4	1.0	43.0	3.0	0.0	Vert	QP	-40.0	-20.4	40.5	-60.9	EUT Vertical. Ant Para to EUT, Perp to GND
13.562	48.3	11.4	1.0	32.0	3.0	0.0	Horz	QP	-40.0	19.7	84.0	-64.3	EUT Vertical. Ant Para to EUT, Para to GND
13.562	46.5	11.4	1.0	270.0	3.0	0.0	Horz	QP	-40.0	17.9	84.0	-66.1	EUT on Side. Ant Perp to EUT, Para to GND
13.562	46.0	11.4	1.0	9.0	3.0	0.0	Horz	QP	-40.0	17.4	84.0	-66.6	EUT Flat. Ant Perp to EUT, Para to GND
13.562	41.3	11.4	1.0	68.0	3.0	0.0	Vert	QP	-40.0	12.7	84.0	-71.3	EUT Flat. Ant Para to EUT, Perp to GND
13.561	26.5	11.4	1.0	7.0	3.0	0.0	Vert	QP	-40.0	-2.1	84.0	-86.1	EUT Flat. Ant Perp to EUT, Perp to GND

FIELD STRENGTH OF SPURIOUS EMISSIONS LESS THAN 30MHz



PSA-ESCI 2016.07.22

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

Continuously Reading Tag, Transmitting Continuously at 13.56 MHz

POWER SETTINGS INVESTIGATED

USB

CONFIGURATIONS INVESTIGATED

PRCR0267-3

FREQUENCY RANGE INVESTIGATED

Start Frequency	490 kHz	Stop Frequency	30 MHz
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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
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFO	6/8/2016	12 mo
Cable	Northwest EMC	Mag Field Loop cable	NC6	5/23/2016	12 mo
Antenna	EMCO	6502	AZC	5/20/2015	24 mo

MEASUREMENT BANDWIDTHS

Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (kHz)
0.01 - 0.15	1.0	0.2	0.2
0.15 - 30.0	10.0	9.0	9.0
30.0 - 1000	100.0	120.0	120.0
Above 1000	1000.0	N/A	1000.0

TEST DESCRIPTION

The antennas to be used with the EUT were tested. The EUT was continuously transmitting while set to the channel specified.

While scanning, emissions from the EUT were maximized by rotating the EUT, adjusting the measurement antenna height and orientation in 3 orthogonal planes, the EUT and/or associated antenna is positioned in 3 orthogonal planes (per ANSI C63.10). An active loop antenna was used for this test in order to provide sufficient measurement sensitivity.

As outlined in 15.209(e) and 15.31(f)(2), measurements may be performed at a distance closer than what is specified with the limit. The limit at the specified distance is shown on the data sheet. Measurements are made at a closer distance and the data is adjusted using a distance correction factor of 40dB/decade for comparison to the limit.

FIELD STRENGTH OF SPURIOUS EMISSIONS LESS THAN 30MHz

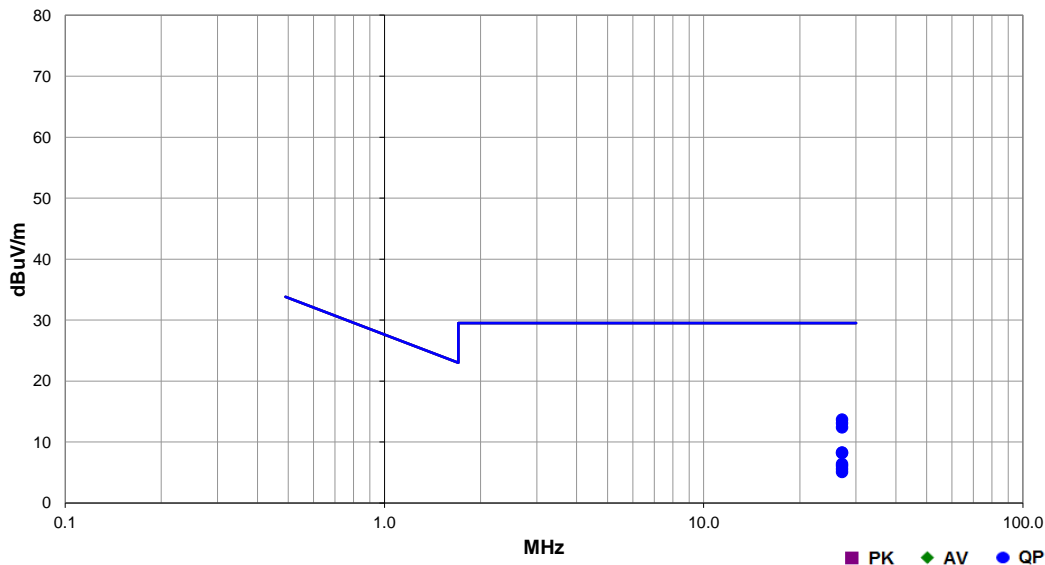


PSA-ESCI 2016.07.22
EmiR5 2016.04.26.1

Work Order:	PRCR0267	Date:	08/31/16	<i>Rustl</i>
Project:	None	Temperature:	22 °C	
Job Site:	NC01	Humidity:	54% RH	
Serial Number:	None	Barometric Pres.:	1017 mbar	
EUT:	Precor NFC / RFID Module 304232			
Configuration:	3			
Customer:	Precor, Inc.			
Attendees:	None			
EUT Power:	USB			
Operating Mode:	Continuously Reading Tag, Transmitting Continuously at 13.56 MHz			
Deviations:	None			
Comments:	None			

Test Specifications	FCC 15.225:2016	Test Method	ANSI C63.10:2013
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Run #	5	Test Distance (m)	3	Antenna Height(s)	1 to 4(m)	Results	Pass
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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
27.122	43.5	10.2	1.0	211.0	3.0	0.0	Vert	QP	-40.0	13.7	29.5	-15.8	EUT Flat. Ant Perp to EUT, Perp to GND
27.122	42.9	10.2	1.0	260.0	3.0	0.0	Vert	QP	-40.0	13.1	29.5	-16.4	EUT on Side. Ant Perp to EUT, Perp to GND
27.122	42.2	10.2	1.0	202.0	3.0	0.0	Vert	QP	-40.0	12.4	29.5	-17.1	EUT on Vertical. Ant Perp to EUT, Perp to GND
27.122	38.1	10.2	1.0	294.0	3.0	0.0	Horz	QP	-40.0	8.3	29.5	-21.2	EUT on Side. Ant Perp to EUT, Para to GND
27.122	38.0	10.2	1.0	299.0	3.0	0.0	Horz	QP	-40.0	8.2	29.5	-21.3	EUT Flat. Ant Perp to EUT, Para to GND
27.122	36.2	10.2	1.0	275.0	3.0	0.0	Horz	QP	-40.0	6.4	29.5	-23.1	EUT on Vertical. Ant Perp to EUT, Para to GND
27.122	35.9	10.2	1.0	104.0	3.0	0.0	Vert	QP	-40.0	6.1	29.5	-23.4	EUT Flat. Ant Para to EUT, Perp to GND
27.122	35.4	10.2	1.0	120.0	3.0	0.0	Vert	QP	-40.0	5.6	29.5	-23.9	EUT on Side. Ant Para to EUT, Perp to GND
27.122	34.9	10.2	1.0	101.0	3.0	0.0	Vert	QP	-40.0	5.1	29.5	-24.4	EUT on Vertical. Ant Para to EUT, Perp to GND

FIELD STRENGTH OF SPURIOUS EMISSIONS GREATER THAN 30MHz

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

Continuously Reading Tag, Transmitting Continuously at 13.56 MHz

POWER SETTINGS INVESTIGATED

USB

CONFIGURATIONS INVESTIGATED

PRCR0267-3

FREQUENCY RANGE INVESTIGATED

Start Frequency	30 MHz	Stop Frequency	140 MHz
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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
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFO	6/8/2016	12 mo
Filter - Low Pass	Micro-Tronics	LPM50004	LFF	1/21/2016	12 mo
Amplifier - Pre-Amplifier	Miteq	AM-1616-1000	PAB	7/15/2016	12 mo
Cable	Northwest EMC	Bilog Cables	NC1	8/3/2016	12 mo
Antenna - Biconilog	Teseq	CBL 6141B	AYL	7/30/2015	24 mo

MEASUREMENT BANDWIDTHS

Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (kHz)
0.01 - 0.15	1.0	0.2	0.2
0.15 - 30.0	10.0	9.0	9.0
30.0 - 1000	100.0	120.0	120.0
Above 1000	1000.0	N/A	1000.0

TEST DESCRIPTION

The antennas to be used with the EUT were tested. The EUT was transmitting while set at the operating channel.

While scanning, emissions from the EUT were maximized by rotating the EUT, adjusting the measurement antenna height and polarization, and manipulating the EUT antenna in 3 orthogonal planes (per ANSI C63.10:2009).

FIELD STRENGTH OF SPURIOUS EMISSIONS GREATER THAN 30MHz

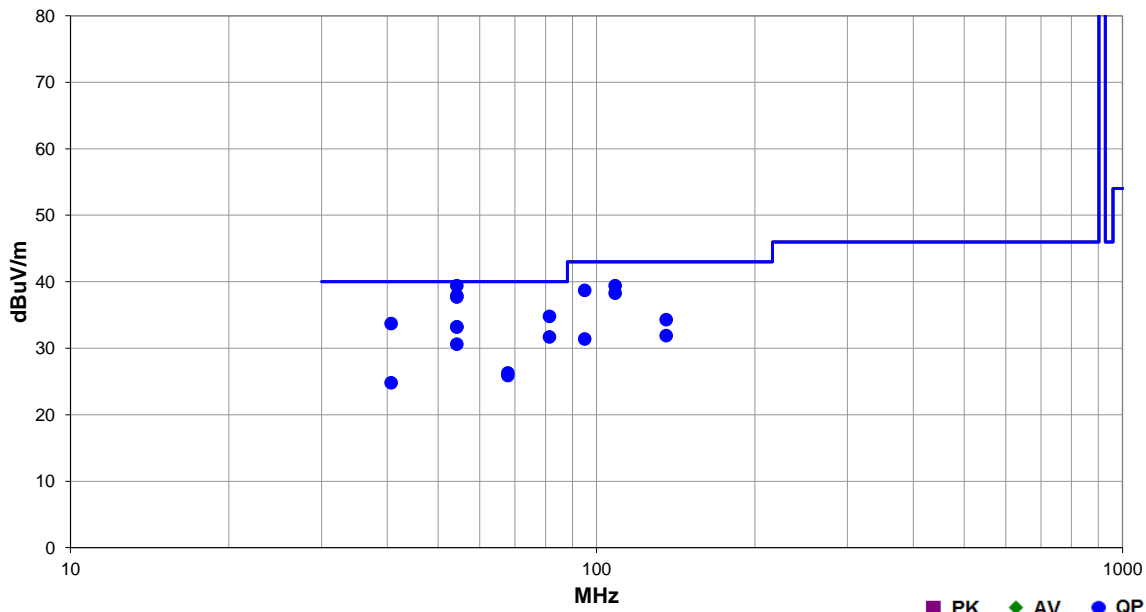


PSA-ESCI 2016.07.22
EmiR5 2016.04.26.1

Work Order:	PRCR0267	Date:	08/31/16	<i>rust</i>
Project:	None	Temperature:	22 °C	
Job Site:	NC01	Humidity:	54% RH	
Serial Number:	None	Barometric Pres.:	1017 mbar	
EUT:	Precor NFC / RFID Module 304232			
Configuration:	3			
Customer:	Precor, Inc.			
Attendees:	None			
EUT Power:	USB			
Operating Mode:	Continuously Reading Tag, Transmitting Continuously at 13.56 MHz			
Deviations:	None			
Comments:	None			

Test Specifications	Test Method
FCC 15.225:2016	ANSI C63.10:2013

Run #	4	Test Distance (m)	3	Antenna Height(s)	1 to 4(m)	Results	Pass
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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
54.257	42.0	-2.6	1.0	359.0	3.0	0.0	Vert	QP	0.0	39.4	40.0	-0.6	EUT Vertical
54.257	40.5	-2.6	1.5	360.0	3.0	0.0	Vert	QP	0.0	37.9	40.0	-2.1	EUT on Side
54.257	40.3	-2.6	1.5	355.0	3.0	0.0	Vert	QP	0.0	37.7	40.0	-2.3	EUT Flat
108.502	42.1	-2.7	1.0	338.0	3.0	0.0	Vert	QP	0.0	39.4	43.0	-3.6	EUT Vertical
94.941	43.6	-4.9	1.0	105.0	3.0	0.0	Vert	QP	0.0	38.7	43.0	-4.3	EUT Vertical
108.502	41.0	-2.7	4.0	279.0	3.0	0.0	Horz	QP	0.0	38.3	43.0	-4.7	EUT Flat
81.379	41.3	-6.5	1.0	21.0	3.0	0.0	Vert	QP	0.0	34.8	40.0	-5.2	EUT Vertical
40.695	30.3	3.4	1.0	87.0	3.0	0.0	Vert	QP	0.0	33.7	40.0	-6.3	EUT Vertical
54.255	35.8	-2.6	3.8	112.0	3.0	0.0	Horz	QP	0.0	33.2	40.0	-6.8	EUT Flat
54.255	35.8	-2.6	3.8	120.0	3.0	0.0	Horz	QP	0.0	33.2	40.0	-6.8	EUT on Side
81.379	38.2	-6.5	2.3	118.0	3.0	0.0	Horz	QP	0.0	31.7	40.0	-8.3	EUT Flat
135.621	35.8	-1.5	1.0	233.0	3.0	0.0	Vert	QP	0.0	34.3	43.0	-8.7	EUT Vertical
54.255	33.2	-2.6	3.8	115.0	3.0	0.0	Horz	QP	0.0	30.6	40.0	-9.4	EUT Vertical
135.621	33.4	-1.5	2.8	272.0	3.0	0.0	Horz	QP	0.0	31.9	43.0	-11.1	EUT Flat
94.940	36.3	-4.9	3.8	296.0	3.0	0.0	Horz	QP	0.0	31.4	43.0	-11.6	EUT Flat
67.818	32.5	-6.2	1.5	325.0	3.0	0.0	Vert	QP	0.0	26.3	40.0	-13.7	EUT Vertical
67.816	32.1	-6.2	3.4	294.0	3.0	0.0	Horz	QP	0.0	25.9	40.0	-14.1	EUT Flat
40.693	21.4	3.4	1.9	135.0	3.0	0.0	Horz	QP	0.0	24.8	40.0	-15.2	EUT Flat

AC - POWERLINE CONDUCTED EMISSIONS

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. Per the standard, an insulating material was also added to ground plane between the EUT's power and remote I/O cables. 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 50ohm measuring port is terminated by a 50ohm EMI meter or a 50ohm resistive load. All 50ohm measuring ports of the LISN are terminated by 50ohm. The test data represents the configuration / operating mode/ model that produced the highest emission levels as compared to the specification limit.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Receiver	Rohde & Schwarz	ESCI	ARE	8/8/2016	8/8/2017
Cable - Conducted Cable Assembly	Northwest EMC	NC4, HHF, TYL	NC4A	5/6/2016	5/6/2017
LISN	Solar Electronics	9252-50-R-24-BNC	LIM	11/3/2015	11/3/2016

MEASUREMENT UNCERTAINTY

Description		
Expanded k=2	2.4 dB	-2.4 dB

CONFIGURATIONS INVESTIGATED

PRCR0267-4

MODES INVESTIGATED

Continuously Reading Tag, Transmitting Continuously at 13.56 MHz

AC - POWERLINE CONDUCTED EMISSIONS

EUT:	Precor NFC / RFID Module 304232	Work Order:	PRCR0267
Serial Number:	None	Date:	09/01/2016
Customer:	Precor, Inc.	Temperature:	22°C
Attendees:	Rich Whitbeck	Relative Humidity:	53%
Customer Project:	None	Bar. Pressure:	1019 mb
Tested By:	Richard Mellroth	Job Site:	NC05
Power:	USB via 110VAC/60Hz	Configuration:	PRCR0267-4

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2016	ANSI C63.10:2013

TEST PARAMETERS

Run #:	3	Line:	Neutral	Add. Ext. Attenuation (dB):	0
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COMMENTS

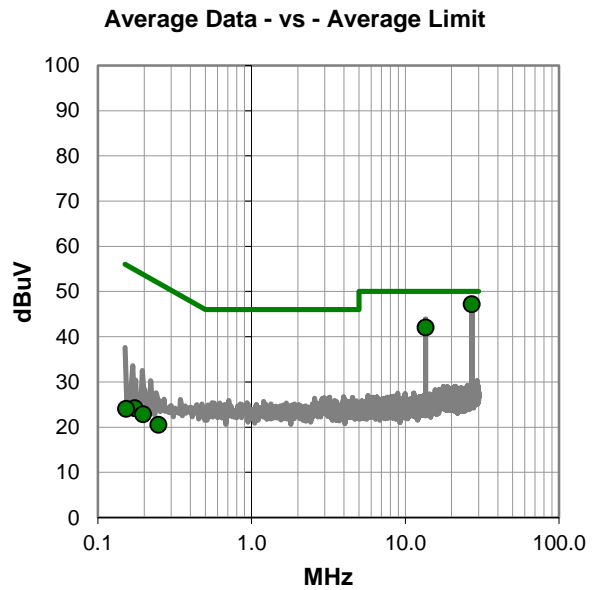
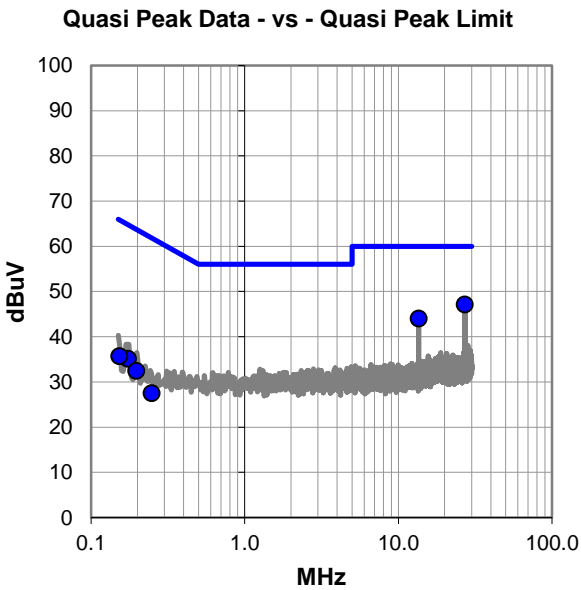
None

EUT OPERATING MODES

Continuously Reading Tag, Transmitting Continuously at 13.56 MHz

DEVIATIONS FROM TEST STANDARD

None



AC - POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #3

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
27.122	23.3	23.8	47.1	60.0	-12.9
13.561	22.2	21.8	44.0	60.0	-16.0
0.174	14.3	20.8	35.1	64.8	-29.7
0.153	14.9	20.8	35.7	65.9	-30.2
0.197	11.7	20.7	32.4	63.7	-31.3
0.248	6.9	20.6	27.5	61.8	-34.3

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
27.122	23.4	23.8	47.2	50.0	-2.8
13.561	20.2	21.8	42.0	50.0	-8.0
0.174	3.4	20.8	24.2	54.8	-30.6
0.197	2.1	20.7	22.8	53.7	-30.9
0.248	-0.1	20.6	20.5	51.8	-31.3
0.153	3.2	20.8	24.0	55.9	-31.9

CONCLUSION

Pass



Tested By

AC - POWERLINE CONDUCTED EMISSIONS

EUT:	Precor NFC / RFID Module 304232	Work Order:	PRCR0267
Serial Number:	None	Date:	09/01/2016
Customer:	Precor, Inc.	Temperature:	22°C
Attendees:	Rich Whitbeck	Relative Humidity:	53%
Customer Project:	None	Bar. Pressure:	1019 mb
Tested By:	Richard Mellroth	Job Site:	NC05
Power:	USB via 110VAC/60Hz	Configuration:	PRCR0267-4

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2016	ANSI C63.10:2013

TEST PARAMETERS

Run #:	4	Line:	High Line	Add. Ext. Attenuation (dB):	0
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COMMENTS

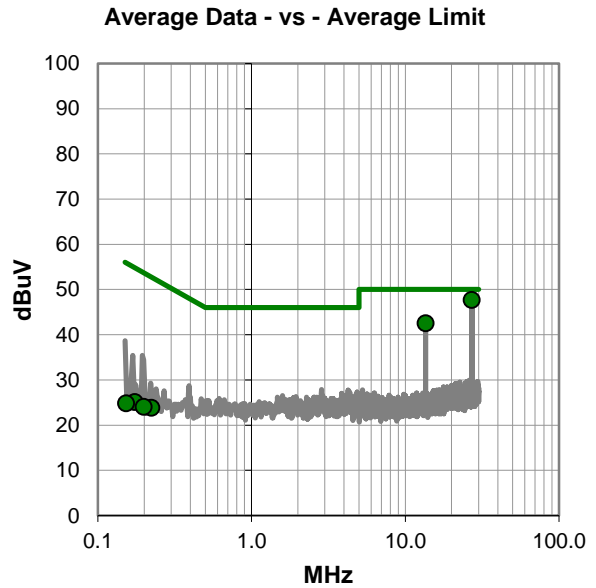
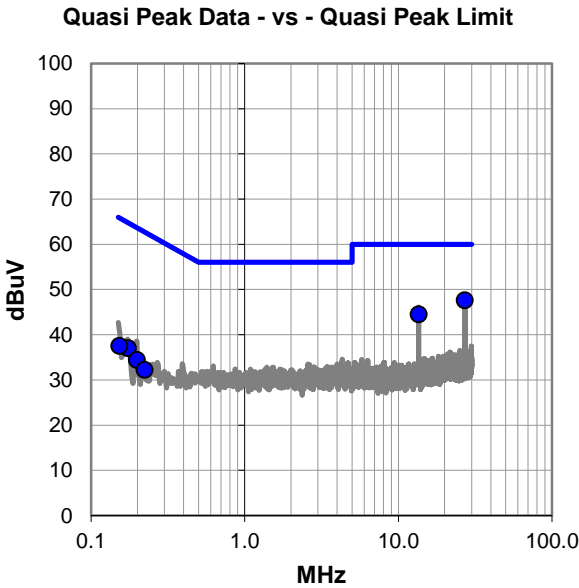
None

EUT OPERATING MODES

Continuously Reading Tag, Transmitting Continuously at 13.56 MHz

DEVIATIONS FROM TEST STANDARD

None



AC - POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #4

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
27.122	23.8	23.8	47.6	60.0	-12.4
13.561	22.7	21.8	44.5	60.0	-15.5
0.174	16.2	20.8	37.0	64.8	-27.8
0.153	16.7	20.8	37.5	65.9	-28.4
0.199	13.7	20.7	34.4	63.7	-29.3
0.223	11.5	20.7	32.2	62.7	-30.5

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
27.122	23.9	23.8	47.7	50.0	-2.3
13.561	20.7	21.8	42.5	50.0	-7.5
0.223	3.1	20.7	23.8	52.7	-28.9
0.174	4.3	20.8	25.1	54.8	-29.7
0.199	3.3	20.7	24.0	53.7	-29.7
0.153	4.0	20.8	24.8	55.9	-31.1

CONCLUSION

Pass



Tested By