FREQUENCY STABILITY

XMit 2023.02.14.0

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
Analyzer - Spectrum Analyzer	Agilent	N9010A	AFL	2023-03-17	2024-03-17
Block - DC	Fairview Microwave	SD3239	ANE	2023-02-16	2024-02-16
Attenuator	Fairview Microwave	SA4018-20	TYE	2022-09-13	2023-09-13
Cable	UtiFlex Micro-Coax	UFD1150A-1-0720-200200	TXJ	2022-09-09	2023-09-09
Cable	UtiFlex Micro-Coax	UFD1150A-1-0720-200200	TXG	2022-12-08	2023-12-08
Cable	UtiFlex Micro-Coax	UFD1150A-1-0720-200200	TXK	2022-09-13	2023-09-13
Probe - Near Field Set	ETS Lindgren	7405	IPS	NCR	NCR
Thermometer	Omega Engineering, Inc.	HH311	DUI	2023-03-02	2024-03-02
Chamber - Temperature/Humidity	Cincinnati Sub Zero (CSZ)	ZPH-8-2-SCT/AC	TBH	NCR	NCR
Power Source/Analyzer	Hewlett Packard	6841A	THC	NCR	NCR

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 a frequency tolerance of ±0.01% is equivalent to 100 ppm
The formula to check for compliance is:

ppm = (Measured Frequency / Measured Nominal Frequency - 1) * 1,000,000

FREQUENCY STABILITY

TbtTx 2022.06.03.0 XMit 2023.02.14.0

EUT:	Centrifuge Module	Work Order:	ABBO0285
Serial Number:	M05A000263	Date:	08/17/23
Customer:	Abbott Laboratories	Temperature:	19.3°C
Attendees:	Frank Sun	Humidity:	62.8%
Project:	None	Barometric Pres.:	1016 mbar
Tested by:	Marty Martin	Power: 220VAC/60Hz	Job Site: TX09

TEST SPECIFICATIONS	Test Method
FCC 15.225:2023	ANSI C63.10:2013
RSS-210 Issue 10:2019+A1:2020	ANSI C63.10:2013

COMMENTS

Test protocol D00135168/A. EUT contains 5 PCBs with RFID radios; 2 AccessPoint (1 radio each) and 3 CrossSwitch (2 radios each). Reference Level Offset adjustment to match maximum radiated H-Field measurment performed in a 10m chamber. EUT operates radios with modulation OOK, 100%, ISO 15693 at full rated power.

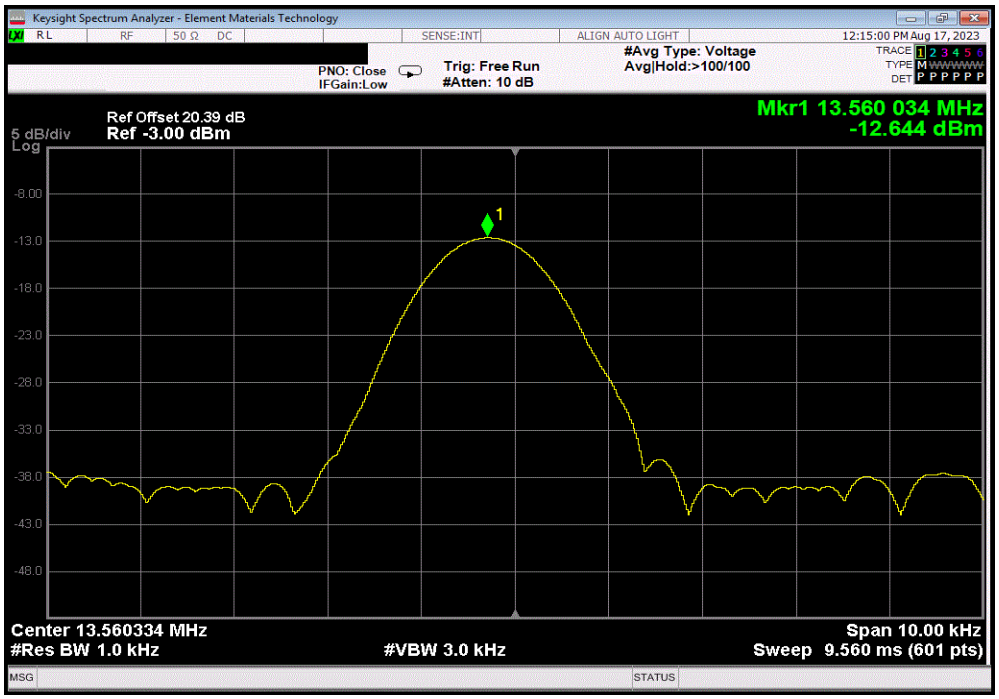
DEVIATIONS FROM TEST STANDARD

None

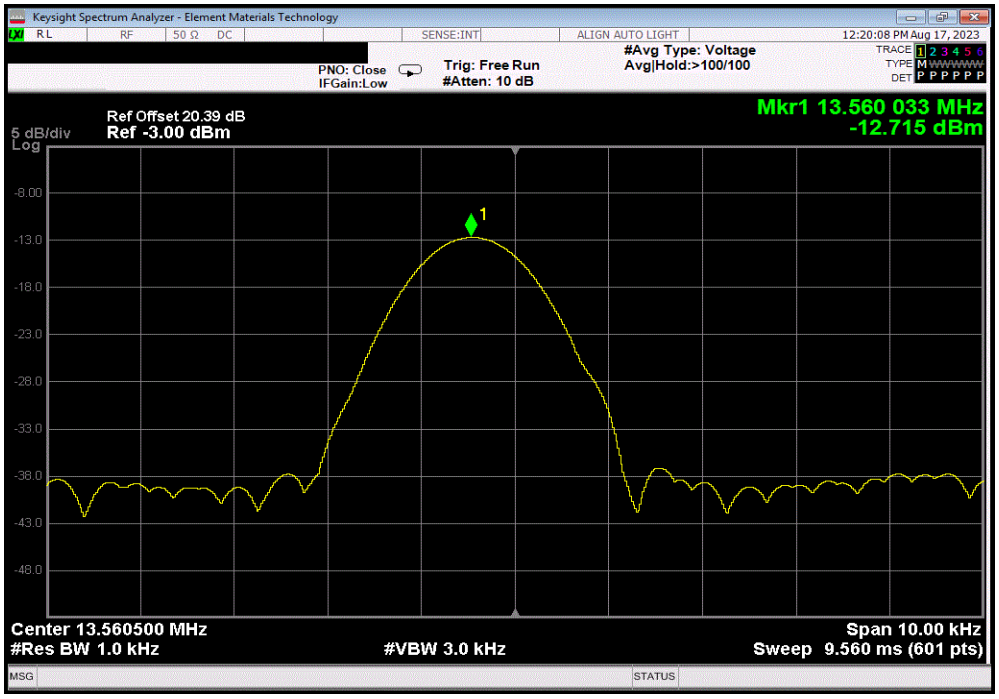
Configuration #	ABBO0285-3	Signature

	Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
13.56 MHz RFID, Access Point 1					
Normal Conditions	13.56003	13.56003	0.00	100	Pass
Extreme Voltage 115%	13.56003	13.56003	0.00	100	Pass
Extreme Voltage 85%	13.56004	13.56003	0.74	100	Pass
Extreme Temperature +50°C	13.55994	13.56003	6.64	100	Pass
Extreme Temperature +40°C	13.55994	13.56003	6.64	100	Pass
Extreme Temperature +30°C	13.55999	13.56003	2.95	100	Pass
Extreme Temperature +20°C	13.56004	13.56003	0.74	100	Pass
Extreme Temperature +10°C	13.56008	13.56003	3.91	100	Pass
Extreme Temperature +0°C	13.56013	13.56003	7.37	100	Pass
Extreme Temperature -10°C	13.56015	13.56003	8.85	100	Pass
Extreme Temperature -20°C	13.56014	13.56003	8.81	100	Pass

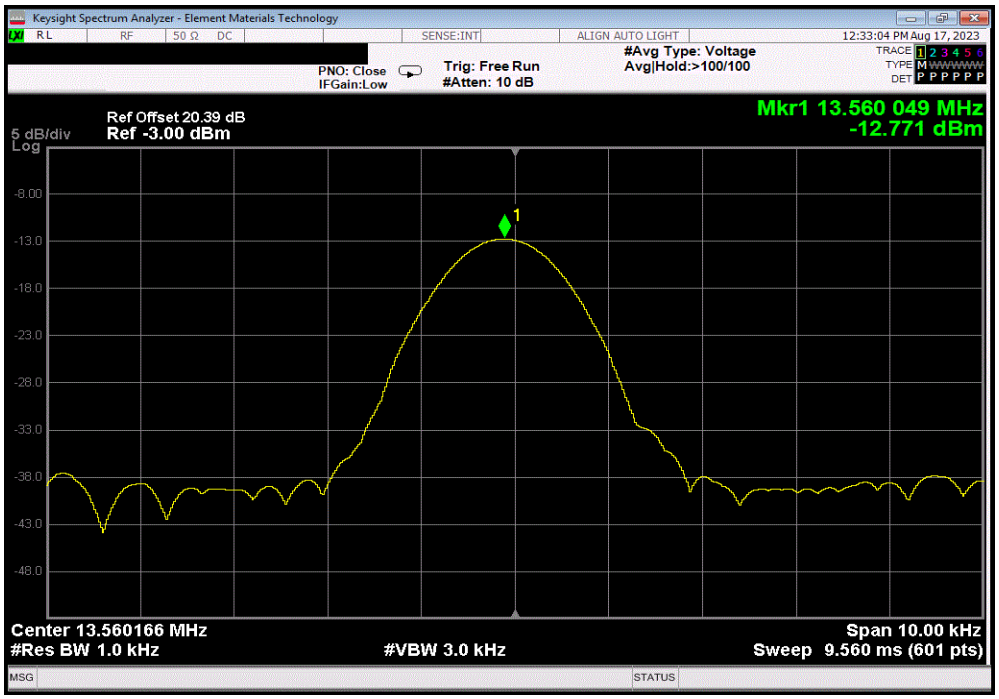
13.56 MHz RFID, Access Point 1, Normal Conditions						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56003	13.56003	0	100	Pass



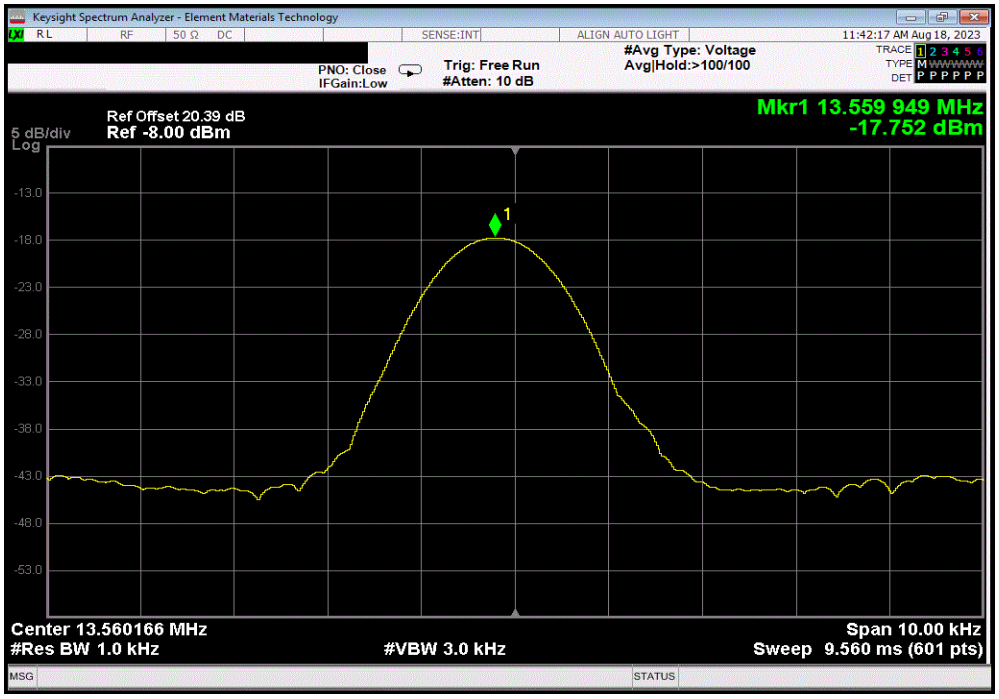
13.56 MHz RFID, Access Point 1, Extreme Voltage 115%						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56003	13.56003	0	100	Pass



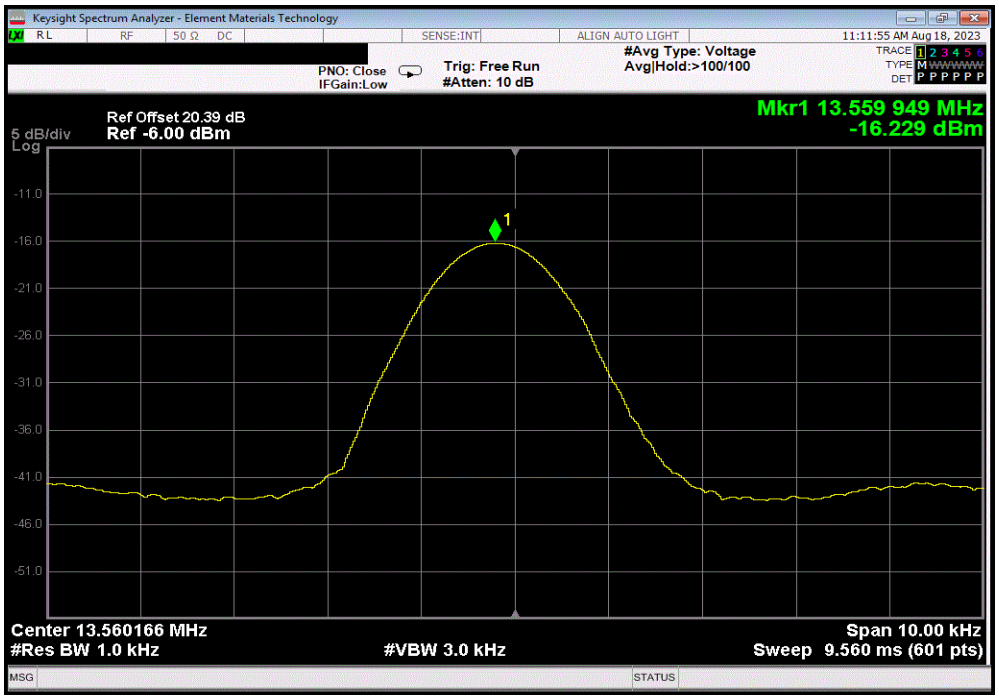
13.56 MHz RFID, Access Point 1, Extreme Voltage 85%						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56004	13.56003	0.73746	100	Pass



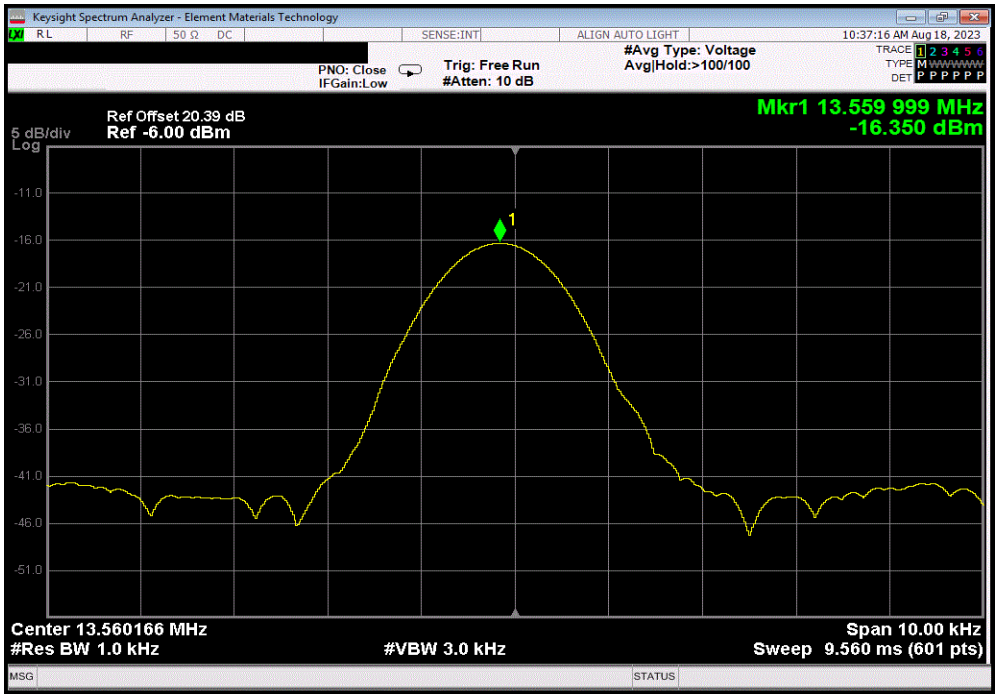
13.56 MHz RFID, Access Point 1, Extreme Temperature +50°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.55994	13.56003	6.63715	100	Pass



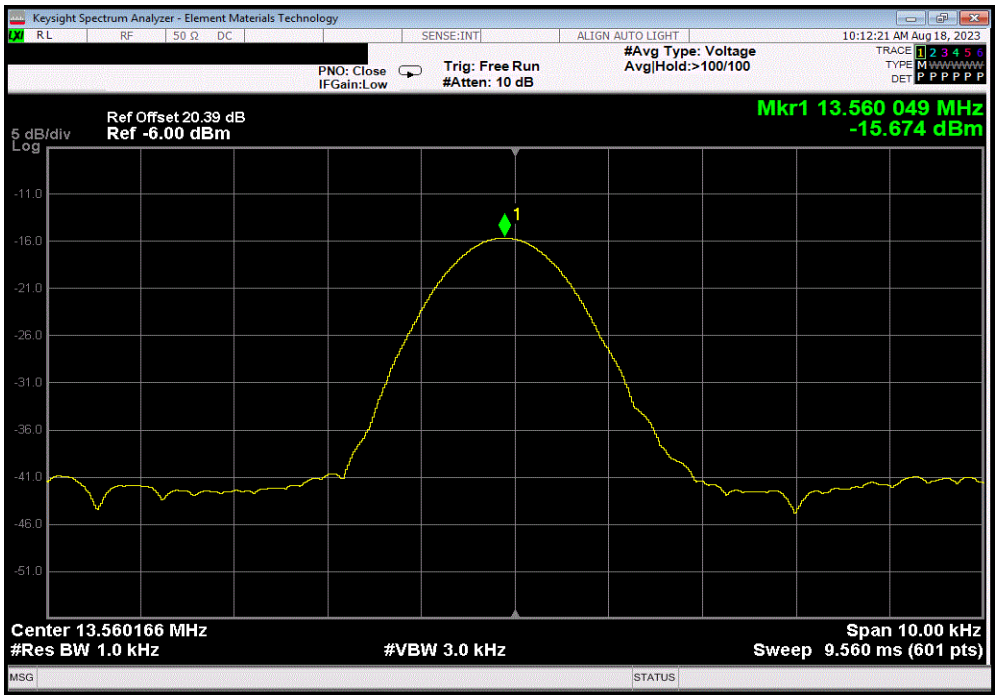
13.56 MHz RFID, Access Point 1, Extreme Temperature +40°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.55994	13.56003	6.63715	100	Pass



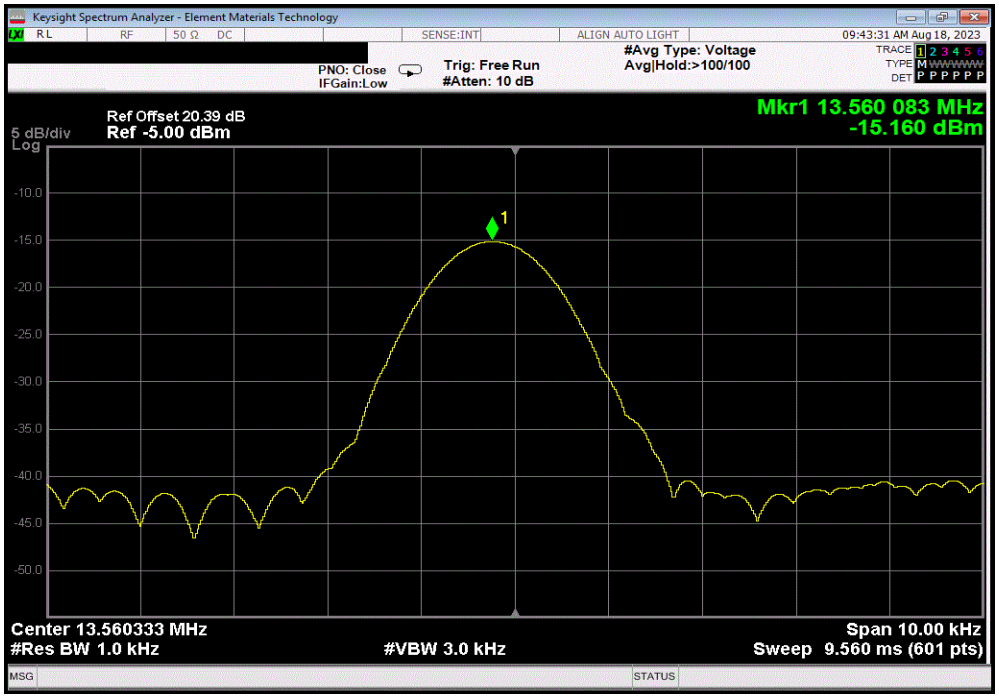
13.56 MHz RFID, Access Point 1, Extreme Temperature +30°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.55999	13.56003	2.94984	100	Pass



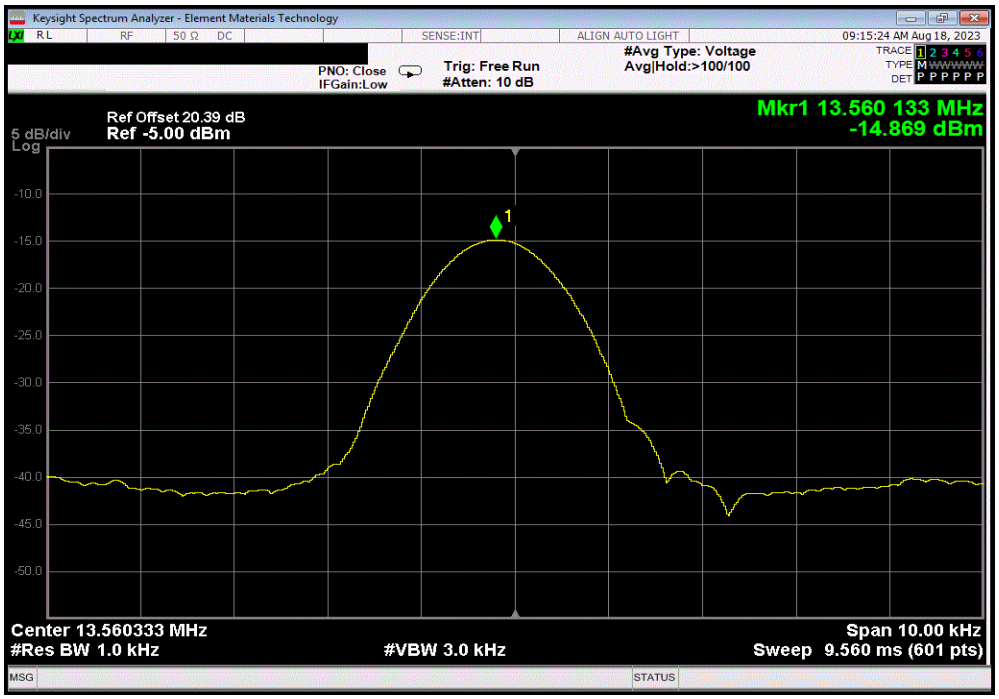
13.56 MHz RFID, Access Point 1, Extreme Temperature +20°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56004	13.56003	0.73746	100	Pass



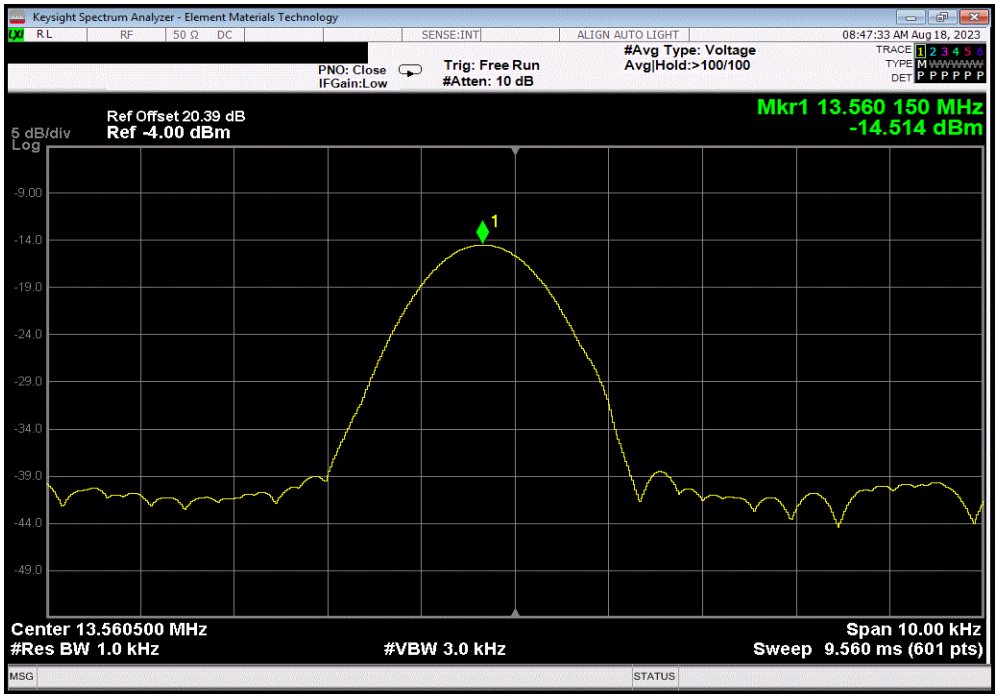
13.56 MHz RFID, Access Point 1, Extreme Temperature +10°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56008	13.56003	3.90854	100	Pass



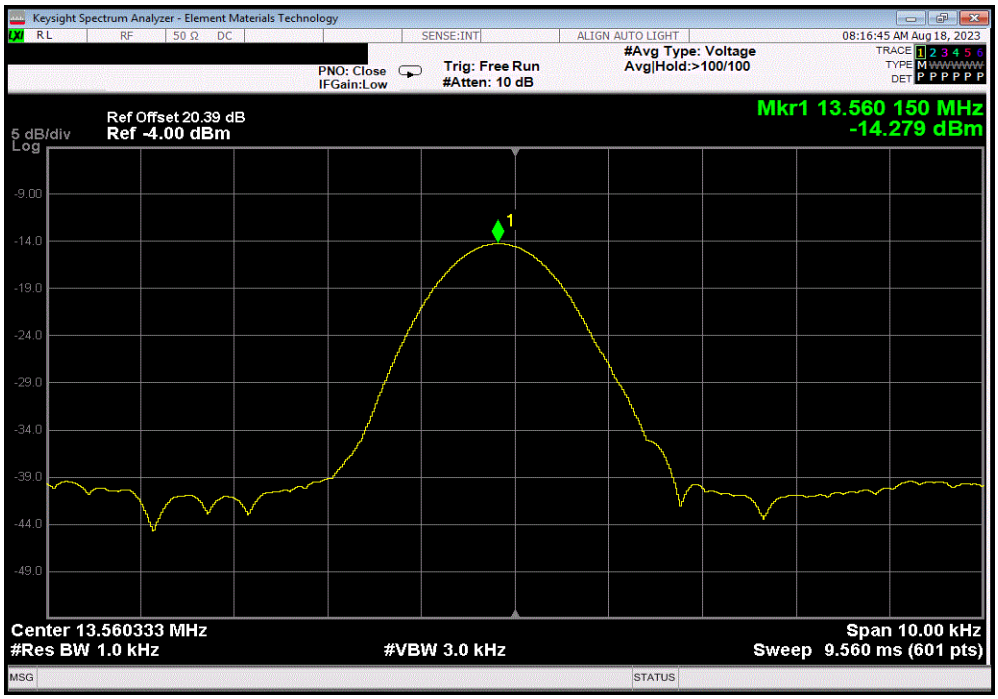
13.56 MHz RFID, Access Point 1, Extreme Temperature +0°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56013	13.56003	7.37461	100	Pass



13.56 MHz RFID, Access Point 1, Extreme Temperature -10°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56015	13.56003	8.84953	100	Pass



13.56 MHz RFID, Access Point 1, Extreme Temperature -20°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56014	13.56003	8.81207	100	Pass



FREQUENCY STABILITY

TbtTx 2022.06.03.0 XMit 2023.02.14.0

EUT:	Centrifuge Module			Work Order:	ABBO0285
Serial Number:	M05A000263			Date:	08/17/23
Customer:	Abbott Laboratories			Temperature:	20°C
Attendees:	Frank Sun			Humidity:	60.3%
Project:	None			Barometric Pres.:	1016 mbar
Tested by:	Marty Martin	Power:	220VAC/60Hz	Job Site:	TX09

TEST SPECIFICATIONS	Test Method
FCC 15.225:2023	ANSI C63.10:2013
RSS-210 Issue 10:2019+A1:2020	ANSI C63.10:2013

COMMENTS

Test protocol D00135168/A. EUT contains 5 PCBs with RFID radios; 2 AccessPoint (1 radio each) and 3 CrossSwitch (2 radios each). Reference Level Offset adjustment to match maximum radiated H-Field measurment performed in a 10m chamber. EUT operates radios with modulation OOK, 100%, ISO 15693 at full rated power.

DEVIATIONS FROM TEST STANDARD

None

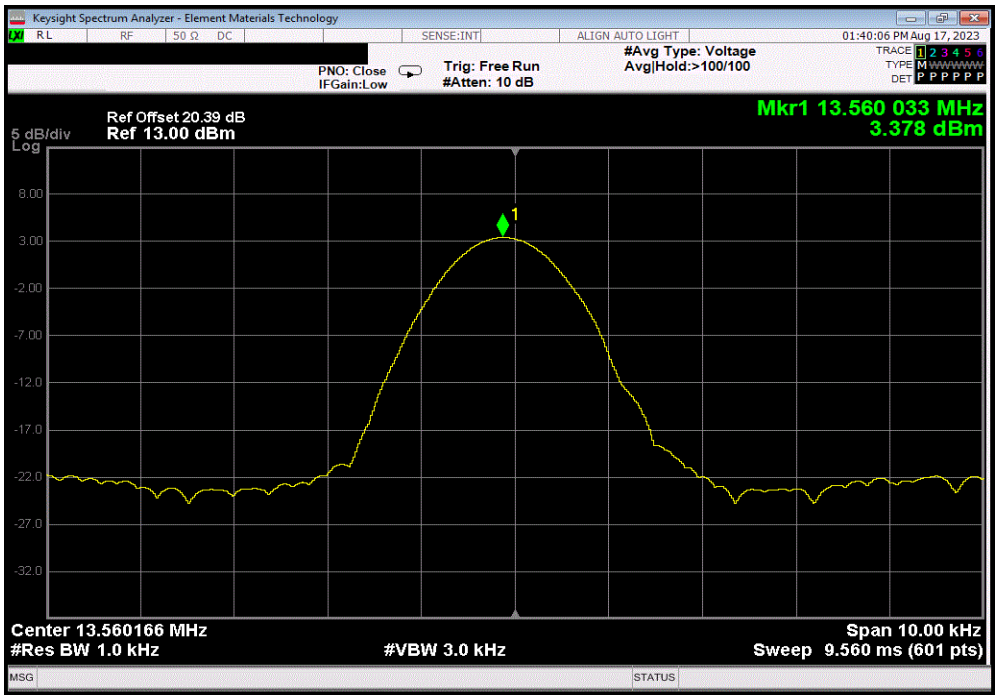
Configuration #	ABBO0285-3	Signature

	Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
13.56 MHz RFID, Access Point 2					
Normal Conditions	13.56003	13.56003	0.00	100	Pass
Extreme Voltage 115%	13.56003	13.56003	0.22	100	Pass
Extreme Voltage 85%	13.56003	13.56003	0.00	100	Pass
Extreme Temperature +50°C	13.56000	13.56003	2.21	100	Pass
Extreme Temperature +40°C	13.55994	13.56003	6.63	100	Pass
Extreme Temperature +30°C	13.55999	13.56003	2.94	100	Pass
Extreme Temperature +20°C	13.56003	13.56003	0.00	100	Pass
Extreme Temperature +10°C	13.56008	13.56003	3.68	100	Pass
Extreme Temperature +0°C	13.56011	13.56003	5.89	100	Pass
Extreme Temperature -10°C	13.56013	13.56003	7.37	100	Pass
Extreme Temperature -20°C	13.56013	13.56003	7.37	100	Pass

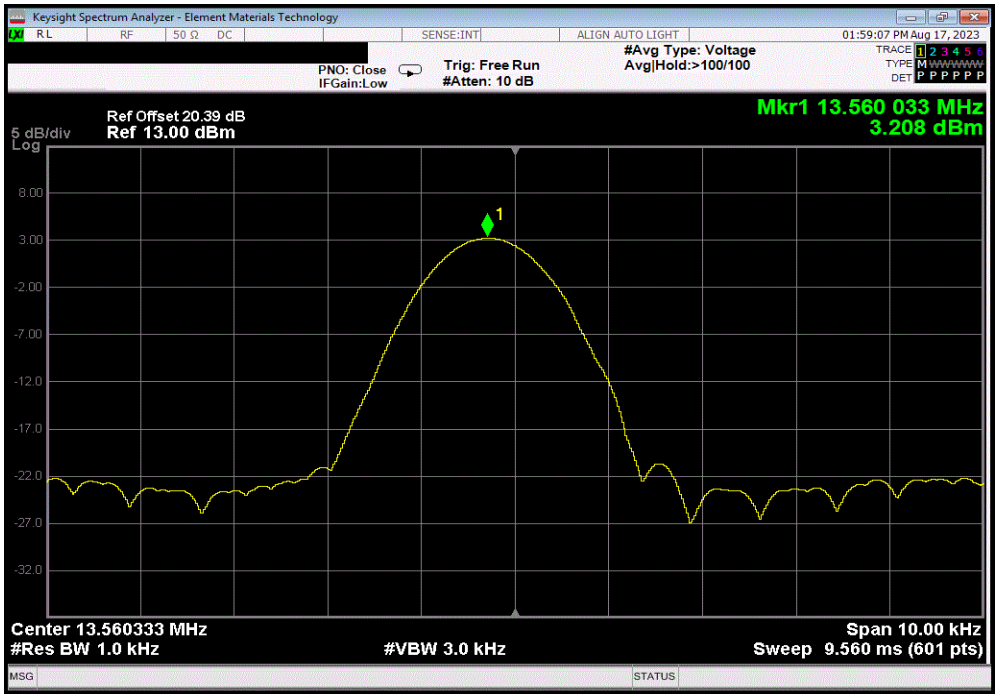
FREQUENCY STABILITY

TbtTx 2022.06.03.0 XMit 2023.02.14.0

13.56 MHz RFID, Access Point 2, Normal Conditions						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56003	13.56003	0	100	Pass



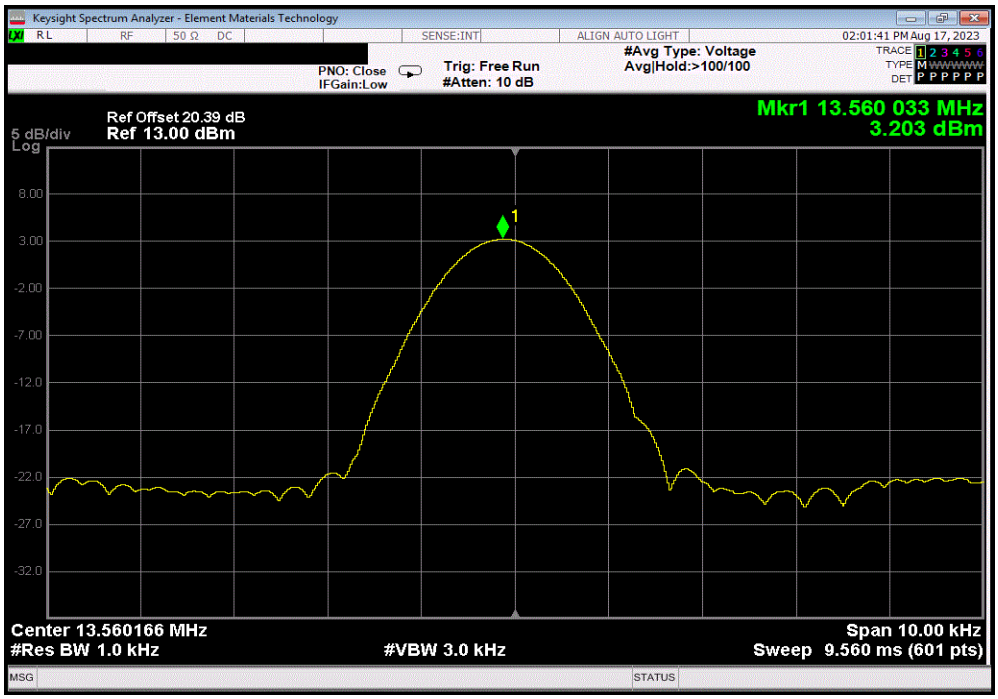
13.56 MHz RFID, Access Point 2, Extreme Voltage 115%						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56003	13.56003	0.22123	100	Pass



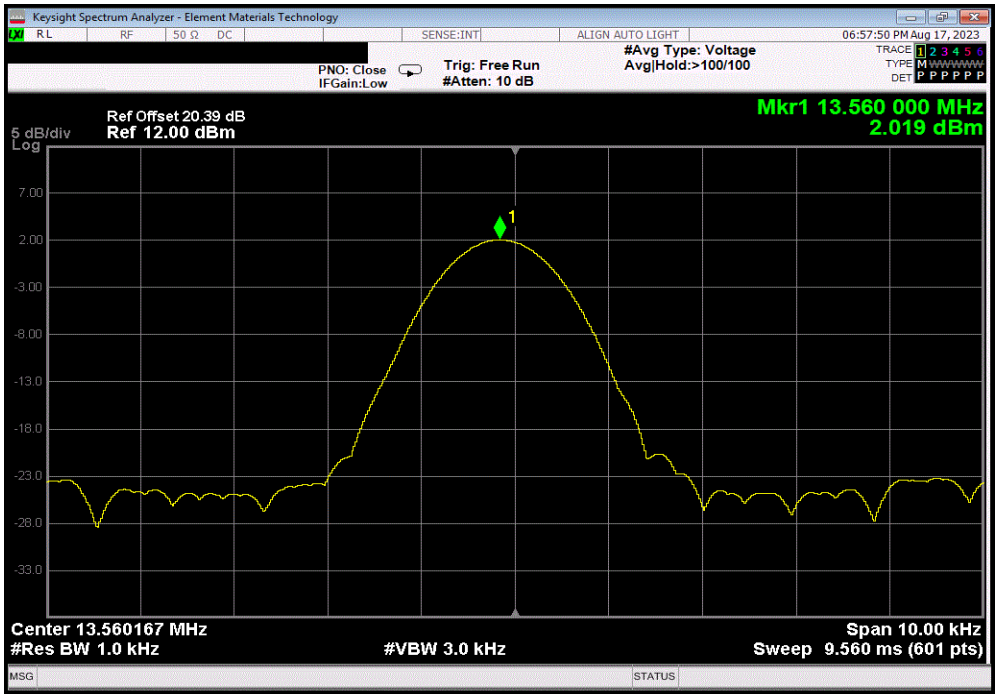
FREQUENCY STABILITY

TbtTx 2022.06.03.0 XMit 2023.02.14.0

13.56 MHz RFID, Access Point 2, Extreme Voltage 85%						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56003	13.56003	0	100	Pass



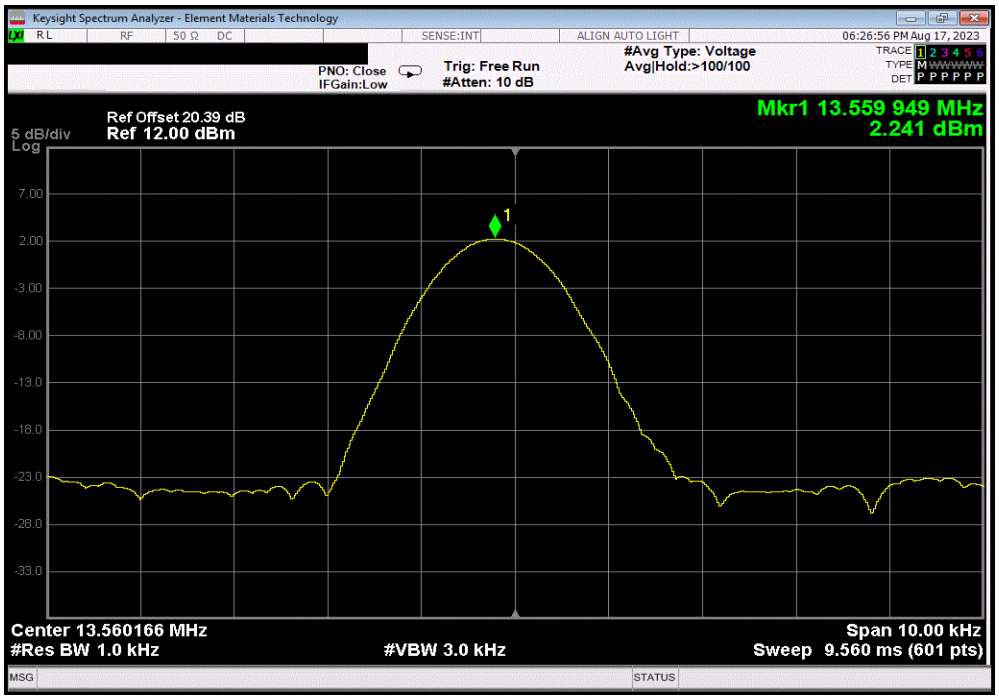
13.56 MHz RFID, Access Point 2, Extreme Temperature +50°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56	13.56003	2.21238	100	Pass



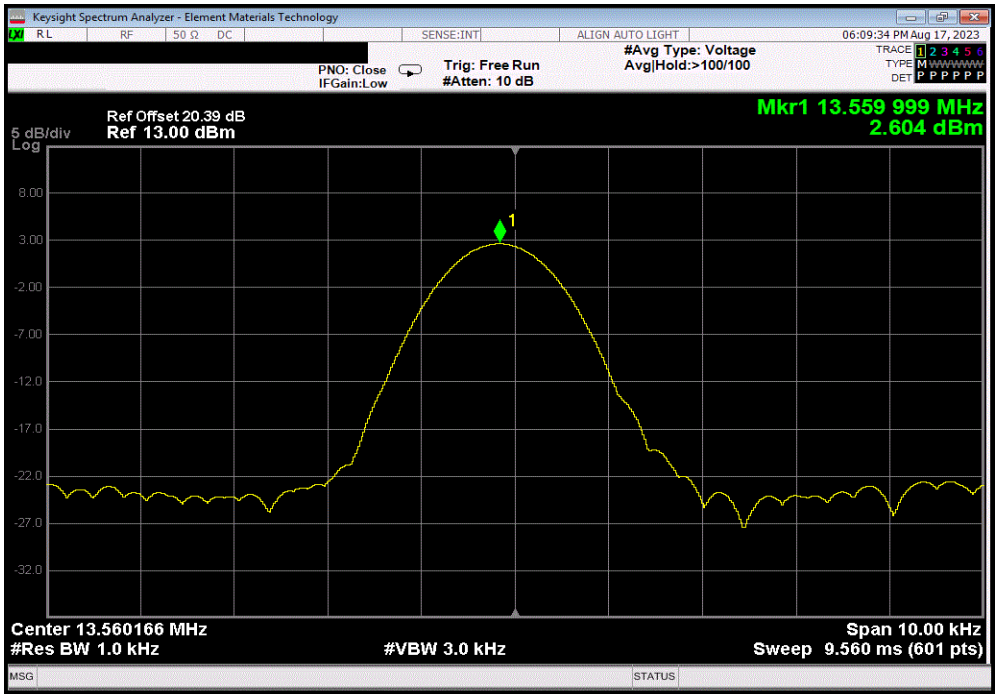
FREQUENCY STABILITY

TbtTx 2022.06.03.0 XMit 2023.02.14.0

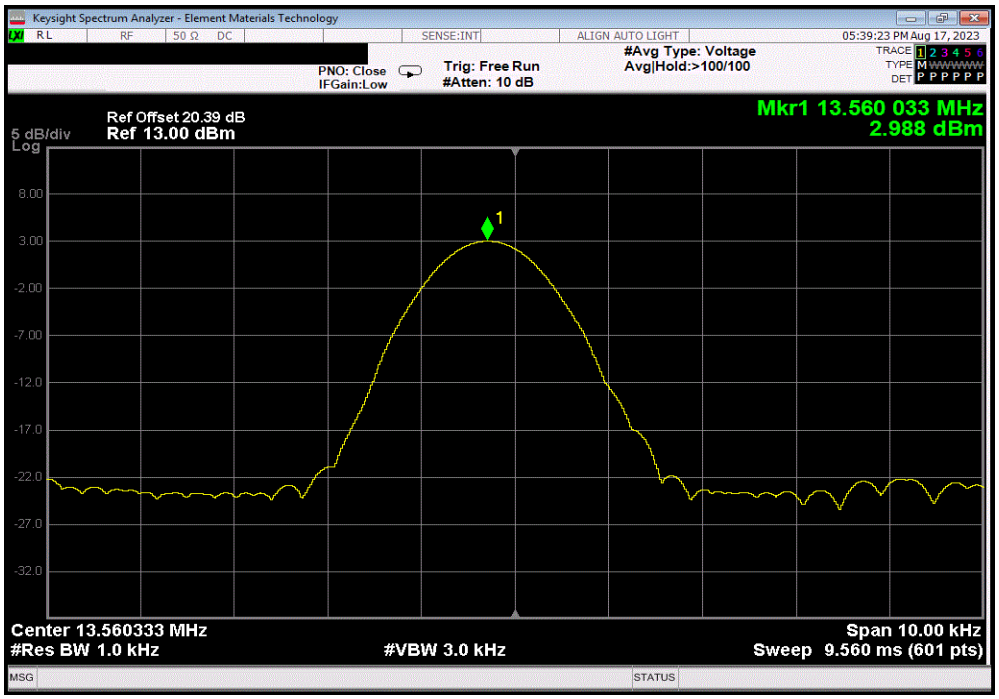
13.56 MHz RFID, Access Point 2, Extreme Temperature +40°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.55994	13.56003	6.63715	100	Pass



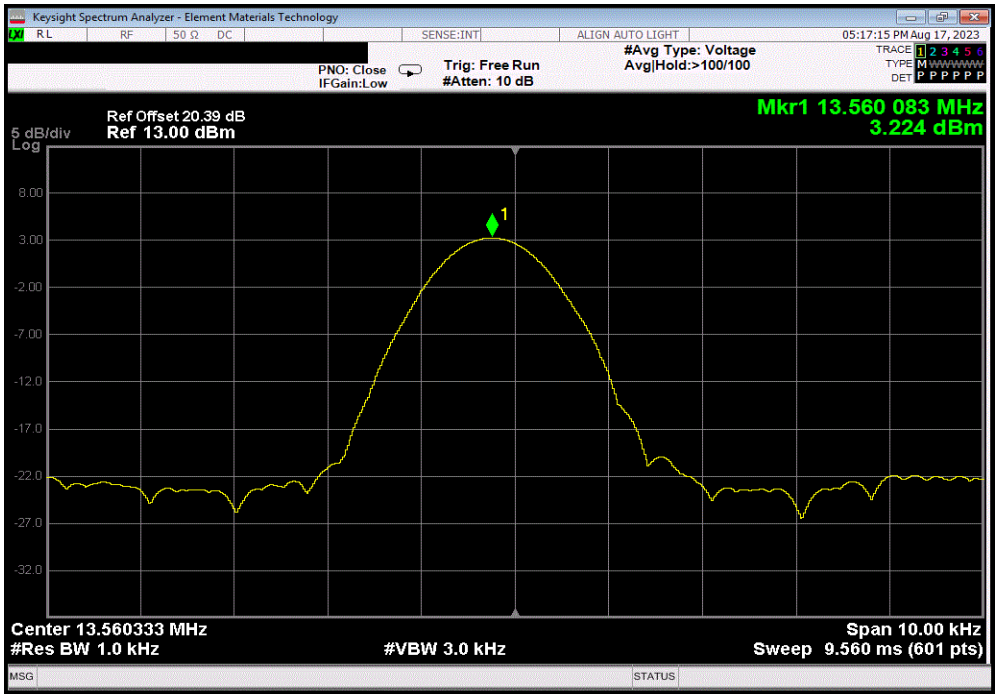
13.56 MHz RFID, Access Point 2, Extreme Temperature +30°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.55999	13.56003	2.94984	100	Pass



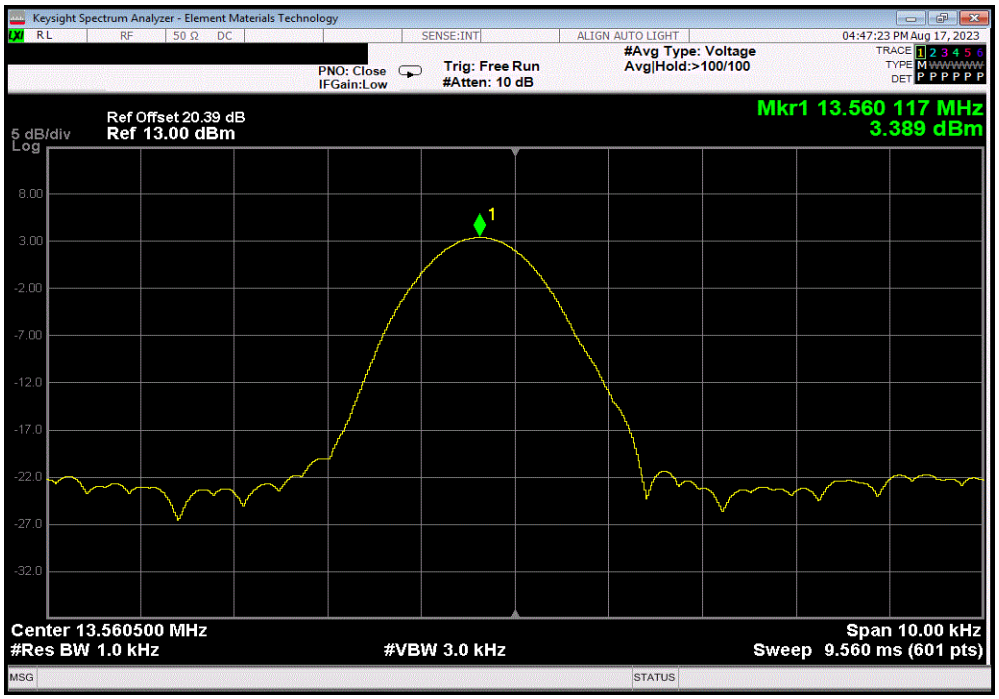
13.56 MHz RFID, Access Point 2, Extreme Temperature +20°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56003	13.56003	0	100	Pass



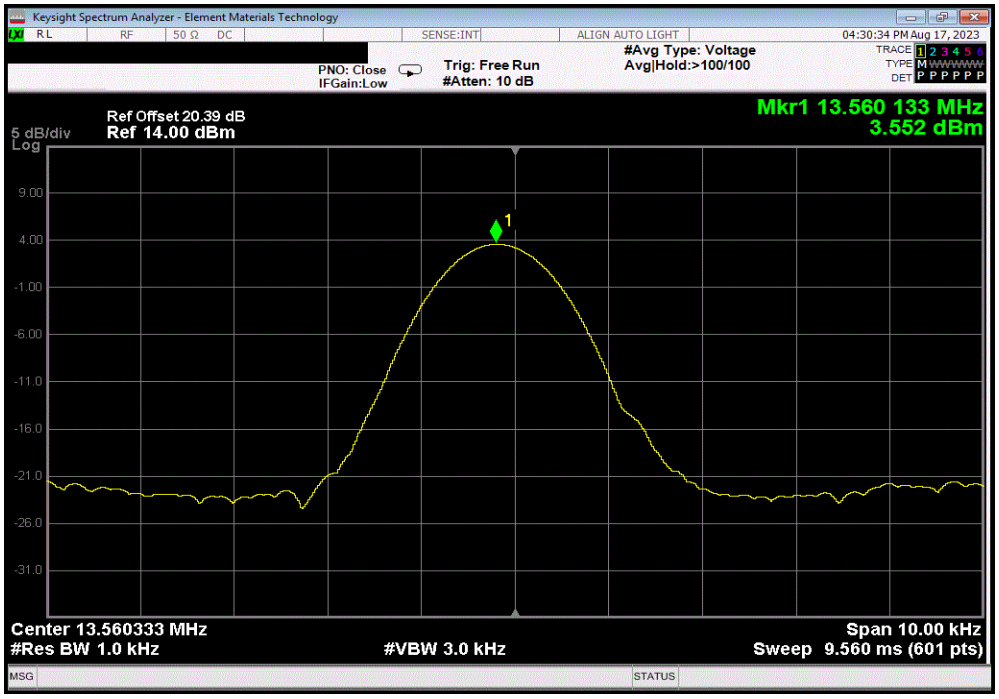
13.56 MHz RFID, Access Point 2, Extreme Temperature +10°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56008	13.56003	3.6873	100	Pass



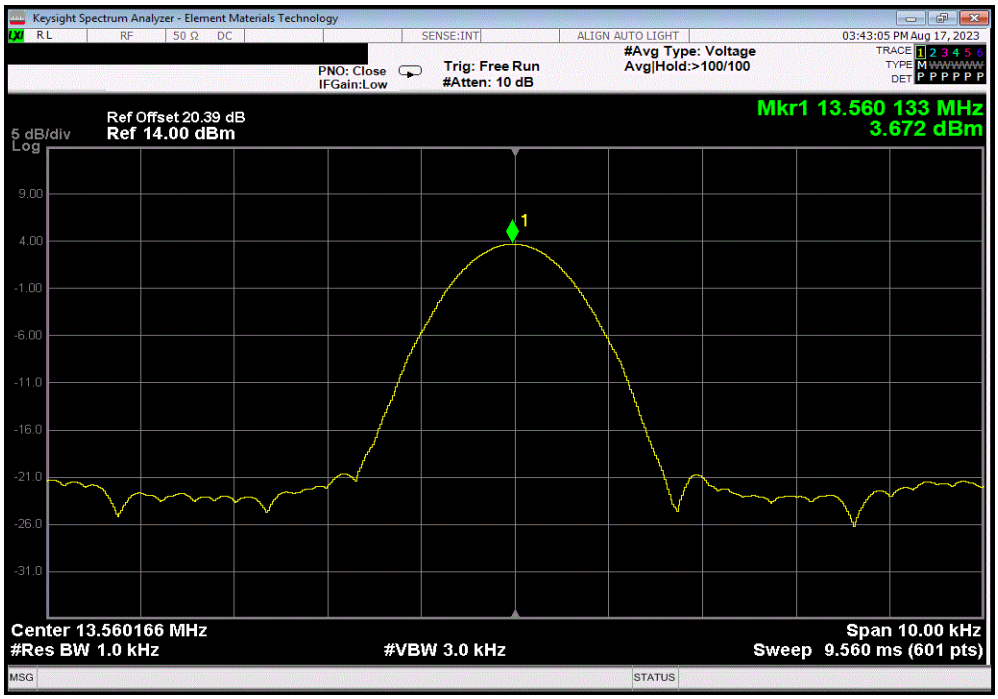
13.56 MHz RFID, Access Point 2, Extreme Temperature +0°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56011	13.56003	5.89969	100	Pass



13.56 MHz RFID, Access Point 2, Extreme Temperature -10°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56013	13.56003	7.37461	100	Pass



13.56 MHz RFID, Access Point 2, Extreme Temperature -20°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56013	13.56003	7.37461	100	Pass



FREQUENCY STABILITY

TbtTx 2022.06.03.0 XMit 2023.02.14.0

EUT:	Centrifuge Module	Work Order:	ABBO0285
Serial Number:	M05A000263	Date:	08/18/23
Customer:	Abbott Laboratories	Temperature:	18.9°C
Attendees:	Frank Sun	Humidity:	64.4%
Project:	None	Barometric Pres.:	1016 mbar
Tested by:	Marty Martin	Power: 220VAC/60Hz	Job Site: TX09

TEST SPECIFICATIONS	Test Method
FCC 15.225:2023	ANSI C63.10:2013
RSS-210 Issue 10:2019+A1:2020	ANSI C63.10:2013

COMMENTS

Test protocol D00135168/A. EUT contains 5 PCBs with RFID radios; 2 AccessPoint (1 radio each) and 3 CrossSwitch (2 radios each). Reference Level Offset adjustment to match maximum radiated H-Field measurment performed in a 10m chamber. EUT operates radios with modulation OOK, 100%, ISO 15693 at full rated power.

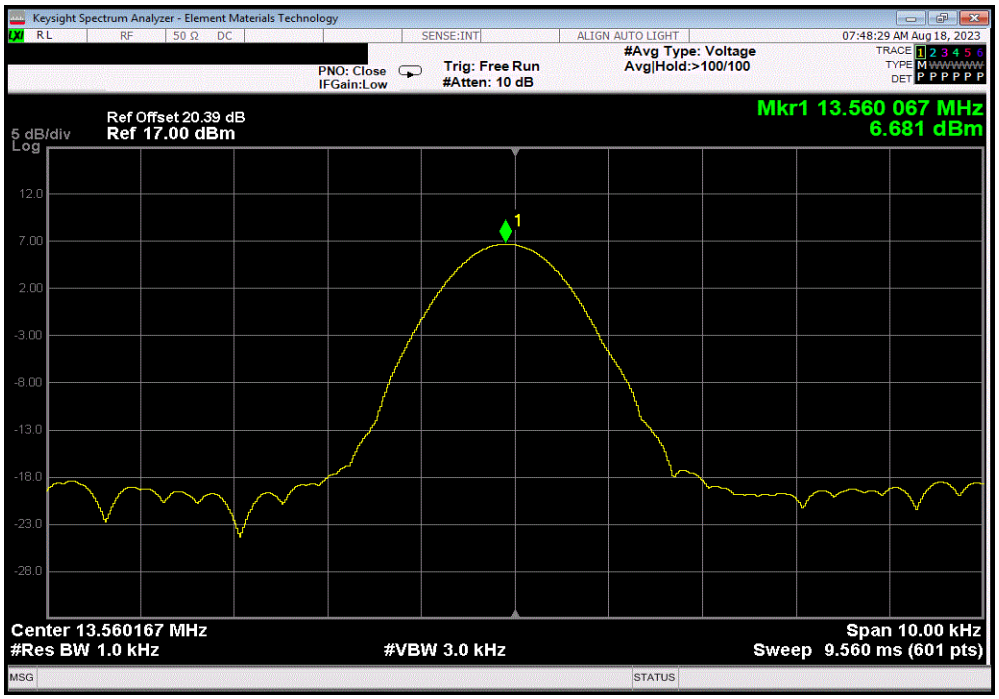
DEVIATIONS FROM TEST STANDARD

None

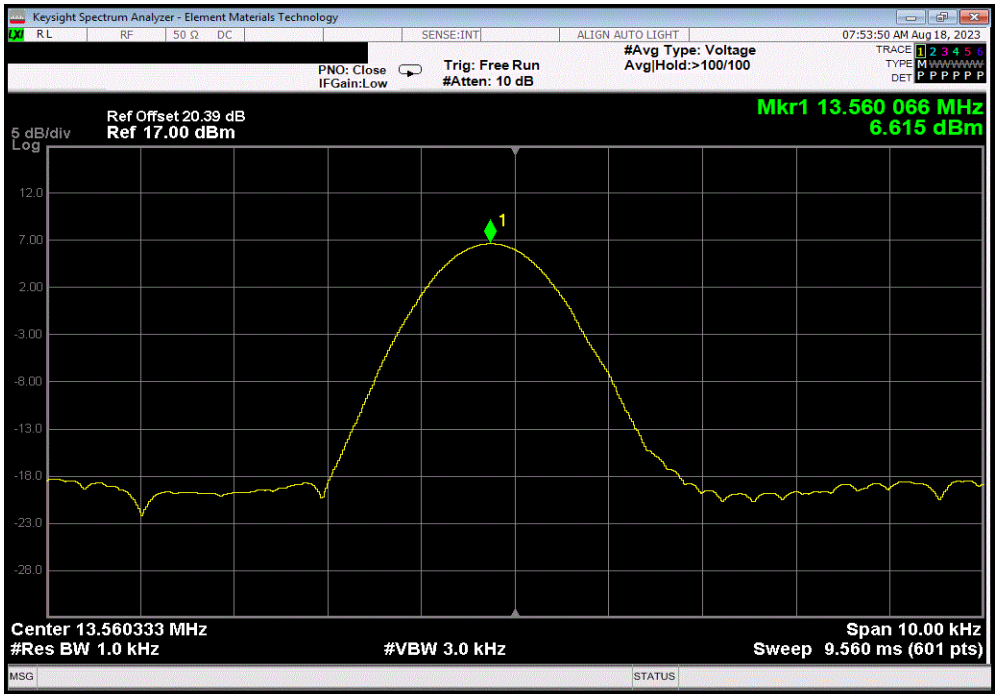
Configuration #	ABBO0285-3	Signature

	Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
13.56 MHz RFID, CrossSwitch 1 Radio 1					
Normal Conditions	13.56006	13.56006	0.00	100	Pass
Extreme Voltage 115%	13.56006	13.56006	0.00	100	Pass
Extreme Voltage 85%	13.56006	13.56006	0.00	100	Pass
Extreme Temperature +50°C	13.55998	13.56006	5.90	100	Pass
Extreme Temperature +40°C	13.55998	13.56006	5.90	100	Pass
Extreme Temperature +30°C	13.56003	13.56006	2.21	100	Pass
Extreme Temperature +20°C	13.56006	13.56006	0.00	100	Pass
Extreme Temperature +10°C	13.56010	13.56006	2.95	100	Pass
Extreme Temperature +0°C	13.56013	13.56006	5.16	100	Pass
Extreme Temperature -10°C	13.56015	13.56006	6.64	100	Pass
Extreme Temperature -20°C	13.56015	13.56006	6.64	100	Pass

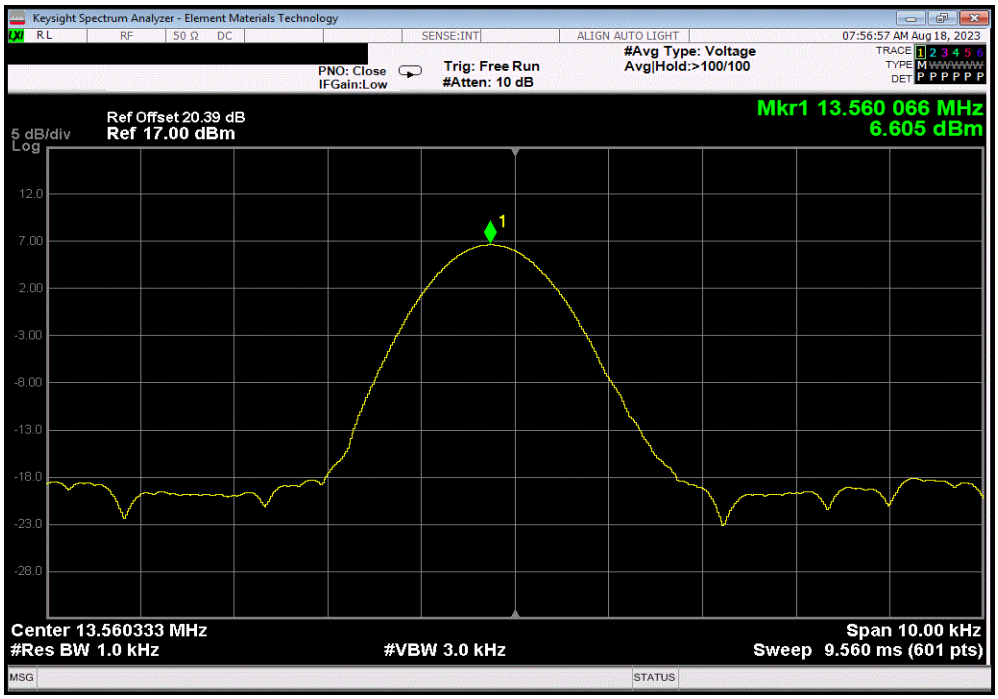
13.56 MHz RFID, CrossSwitch 1 Radio 1, Normal Conditions						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56006	13.56006	0.00000	100	Pass



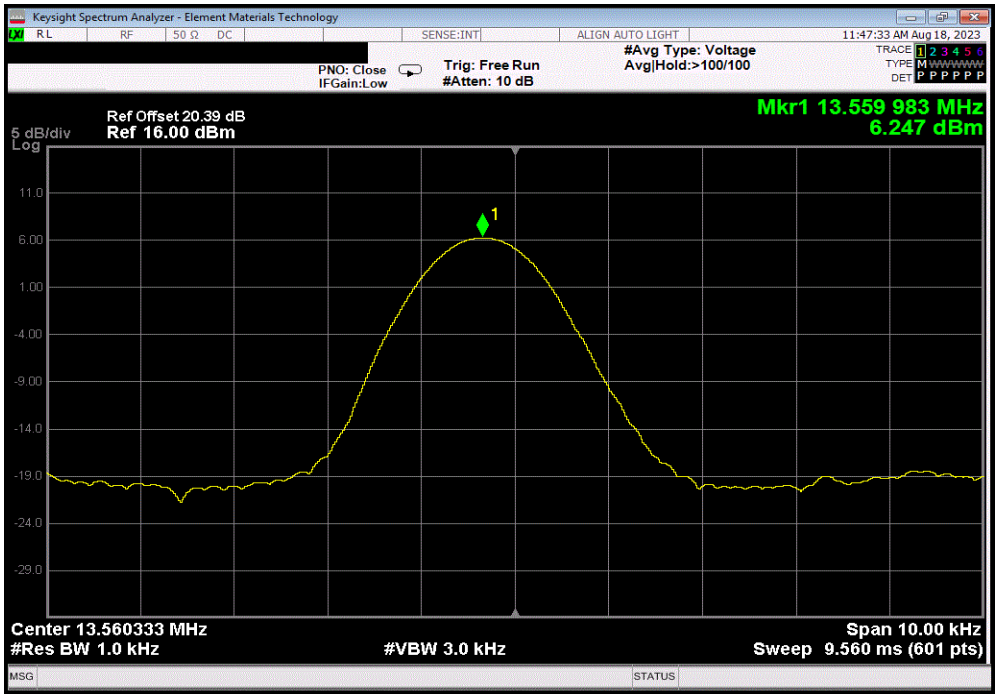
13.56 MHz RFID, CrossSwitch 1 Radio 1, Extreme Voltage 115%						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56006	13.56006	0.00000	100	Pass



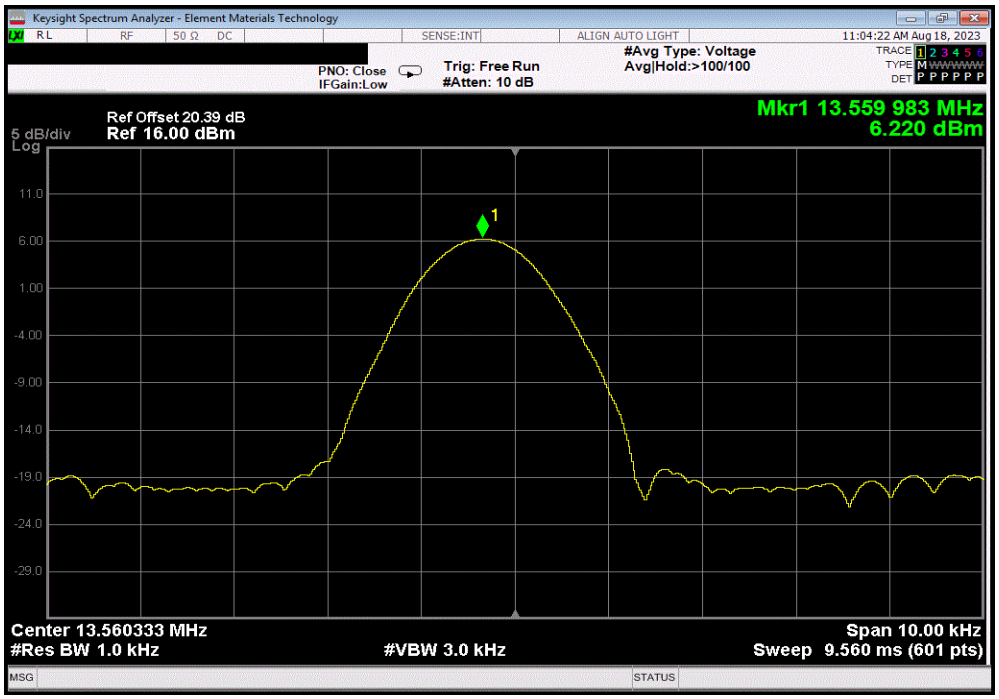
13.56 MHz RFID, CrossSwitch 1 Radio 1, Extreme Voltage 85%						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56006	13.56006	0.00000	100	Pass



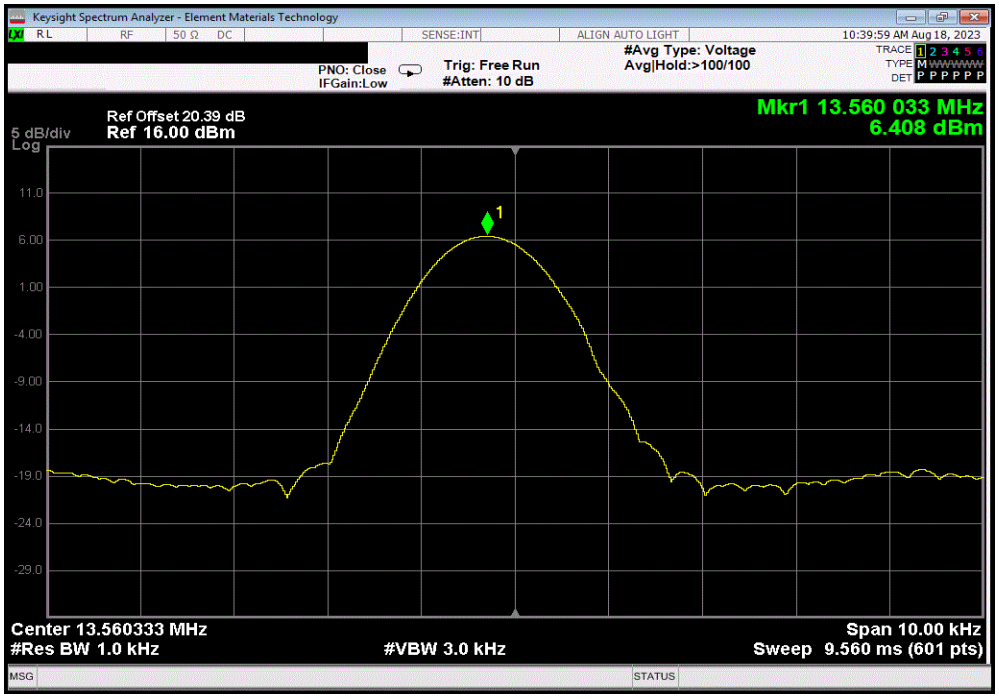
13.56 MHz RFID, CrossSwitch 1 Radio 1, Extreme Temperature +50°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.55998	13.56006	5.89968	100	Pass



13.56 MHz RFID, CrossSwitch 1 Radio 1, Extreme Temperature +40°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.55998	13.56006	5.89968	100	Pass



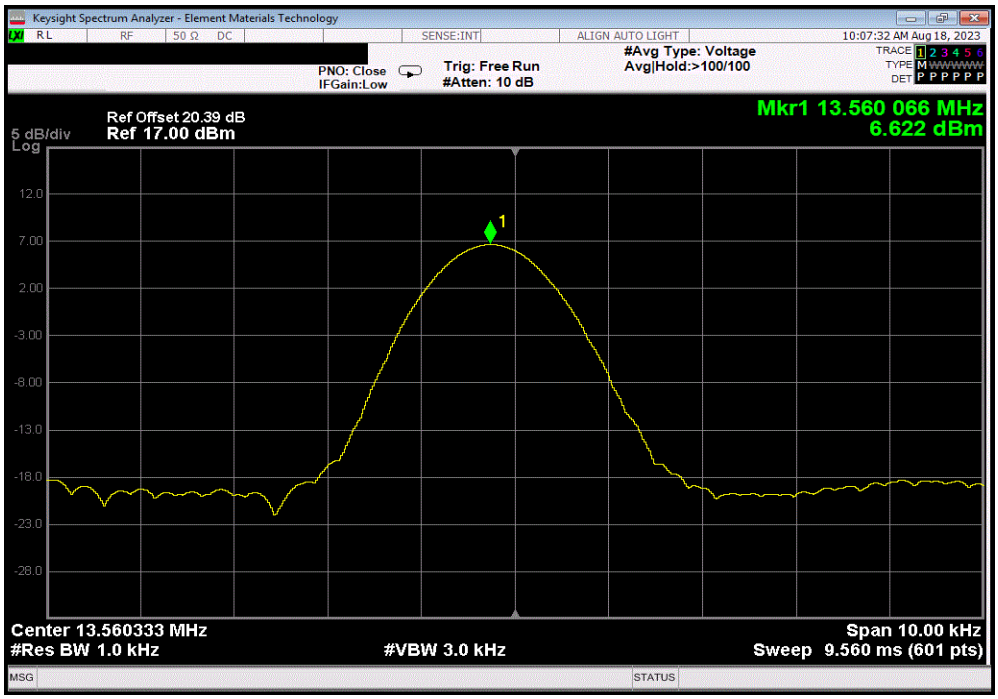
13.56 MHz RFID, CrossSwitch 1 Radio 1, Extreme Temperature +30°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56003	13.56006	2.21238	100	Pass



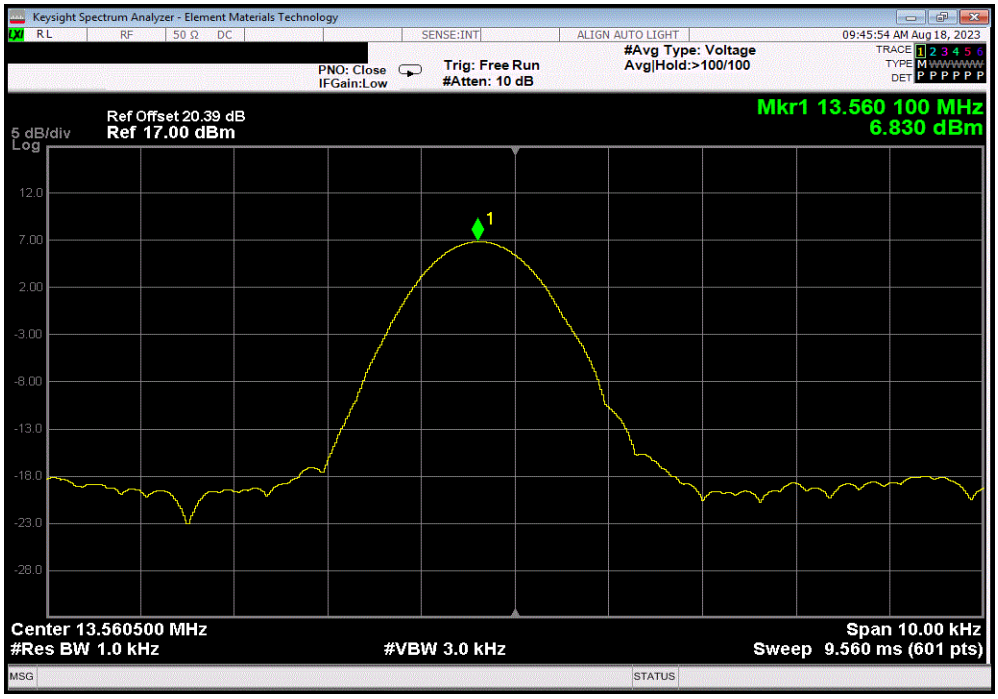
FREQUENCY STABILITY

TbtTx 2022.06.03.0 XMit 2023.02.14.0

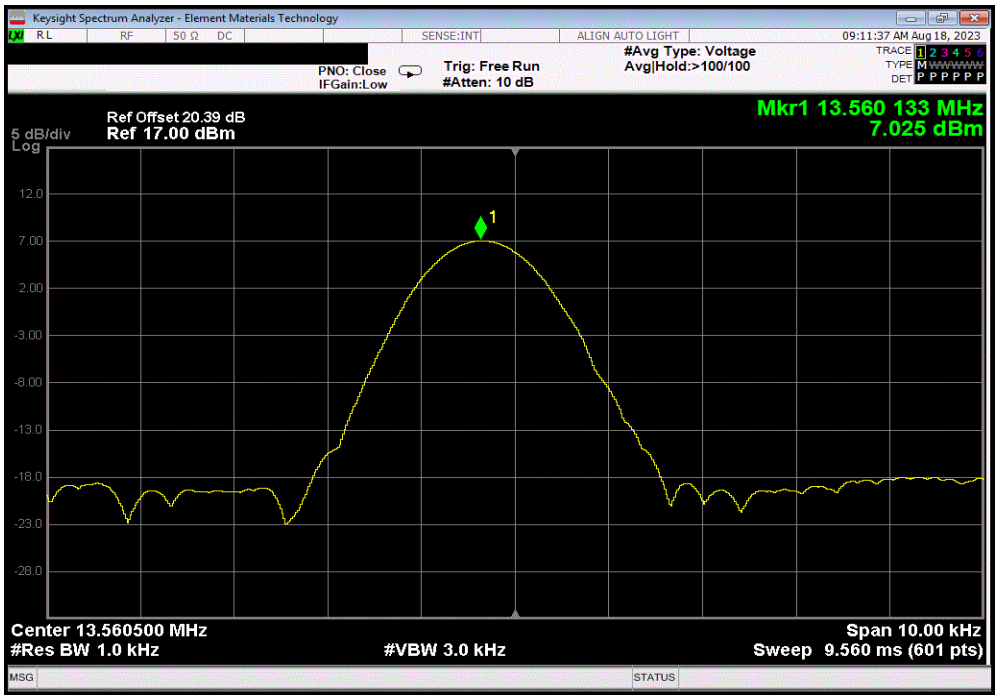
13.56 MHz RFID, CrossSwitch 1 Radio 1, Extreme Temperature +20°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56006	13.56006	0.00000	100	Pass



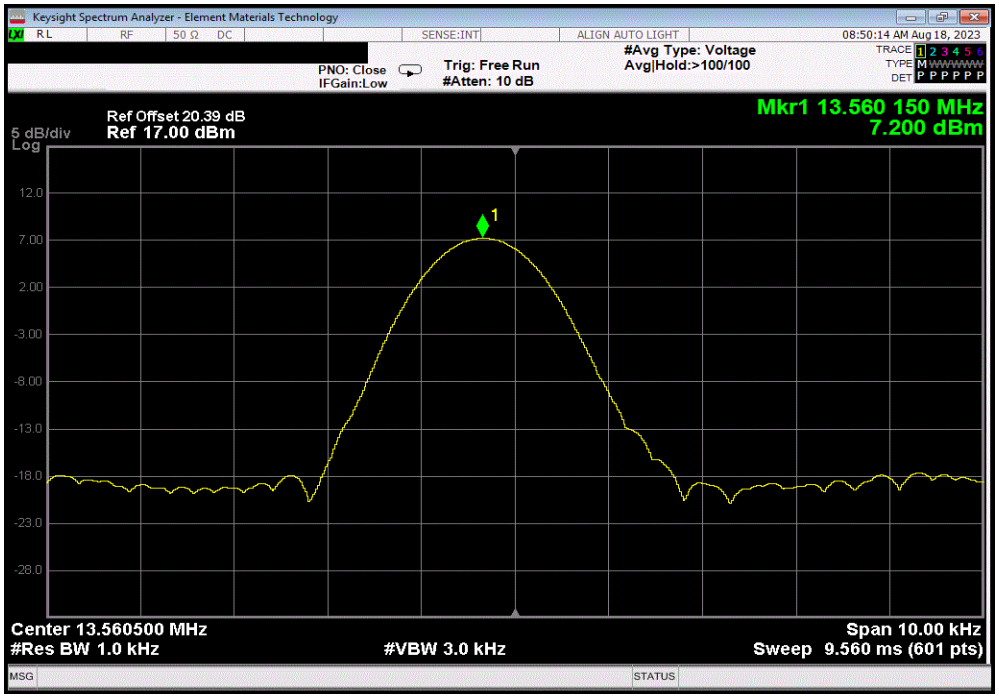
13.56 MHz RFID, CrossSwitch 1 Radio 1, Extreme Temperature +10°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56010	13.56006	2.94984	100	Pass



13.56 MHz RFID, CrossSwitch 1 Radio 1, Extreme Temperature +0°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56013	13.56006	5.16222	100	Pass



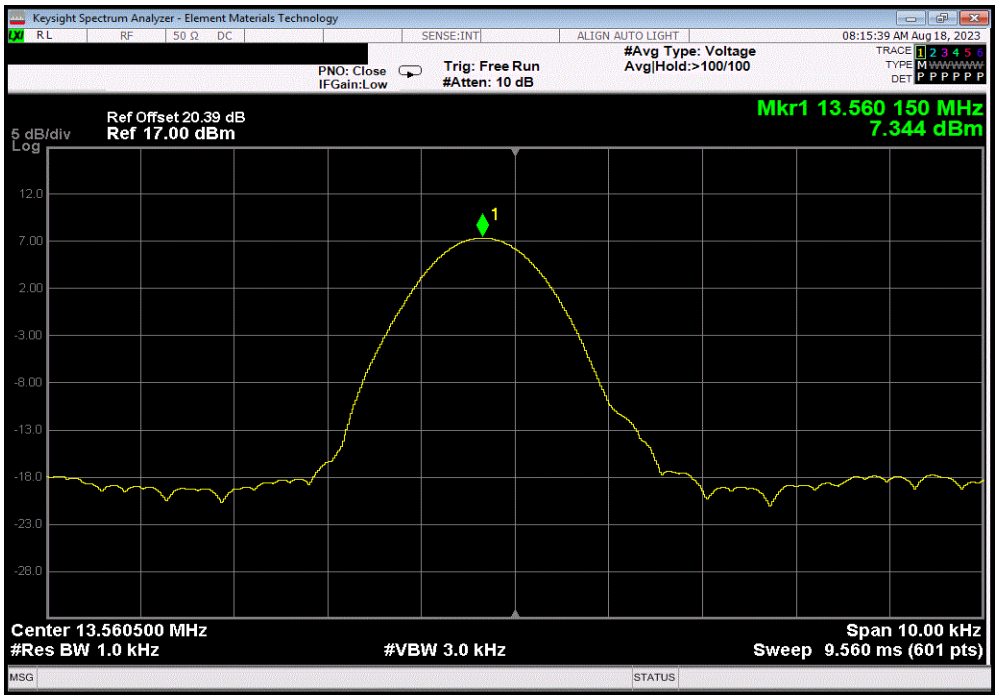
13.56 MHz RFID, CrossSwitch 1 Radio 1, Extreme Temperature -10°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56015	13.56006	6.63714	100	Pass



FREQUENCY STABILITY

TbtTx 2022.06.03.0 XMit 2023.02.14.0

13.56 MHz RFID, CrossSwitch 1 Radio 1, Extreme Temperature -20°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56015	13.56006	6.63714	100	Pass



FREQUENCY STABILITY

TbtTx 2022.06.03.0 XMit 2023.02.14.0

EUT:	Centrifuge Module	Work Order:	ABBO0285
Serial Number:	M05A000263	Date:	08/18/23
Customer:	Abbott Laboratories	Temperature:	19.1°C
Attendees:	Frank Sun	Humidity:	63.5%
Project:	None	Barometric Pres.:	1016 mbar
Tested by:	Marty Martin	Power: 220VAC/60Hz	Job Site: TX09

TEST SPECIFICATIONS	Test Method
FCC 15.225:2023	ANSI C63.10:2013
RSS-210 Issue 10:2019+A1:2020	ANSI C63.10:2013

COMMENTS

Test protocol D00135168/A. EUT contains 5 PCBs with RFID radios; 2 AccessPoint (1 radio each) and 3 CrossSwitch (2 radios each). Reference Level Offset adjustment to match maximum radiated H-Field measurment performed in a 10m chamber. EUT operates radios with modulation OOK, 100%, ISO 15693 at full rated power.

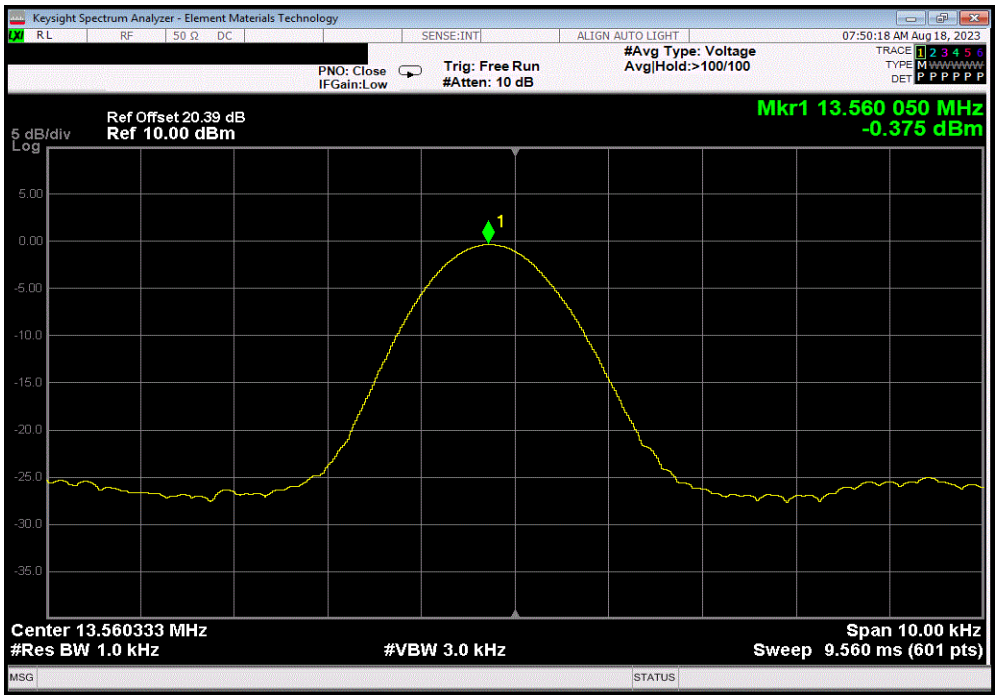
DEVIATIONS FROM TEST STANDARD

None

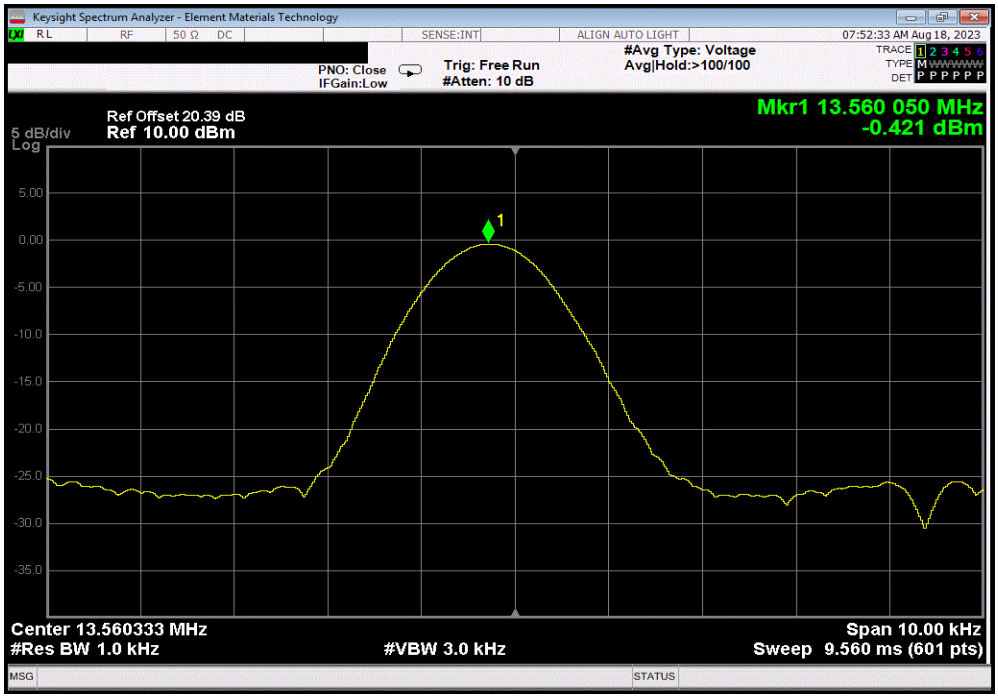
Configuration #	ABBO0285-3	Signature Marty Martin

	Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
13.56 MHz RFID, CrossSwitch 1 Radio 2					
Normal Conditions	13.56004	13.56005	0.74	100	Pass
Extreme Voltage 115%	13.56004	13.56005	0.74	100	Pass
Extreme Voltage 85%	13.56004	13.56005	0.74	100	Pass
Extreme Temperature +50°C	13.55998	13.56005	5.16	100	Pass
Extreme Temperature +40°C	13.55998	13.56005	5.16	100	Pass
Extreme Temperature +30°C	13.56001	13.56005	2.95	100	Pass
Extreme Temperature +20°C	13.56004	13.56005	0.74	100	Pass
Extreme Temperature +10°C	13.56009	13.56005	2.95	100	Pass
Extreme Temperature +0°C	13.56011	13.56005	4.42	100	Pass
Extreme Temperature -10°C	13.56013	13.56005	5.90	100	Pass
Extreme Temperature -20°C	13.56013	13.56005	5.90	100	Pass

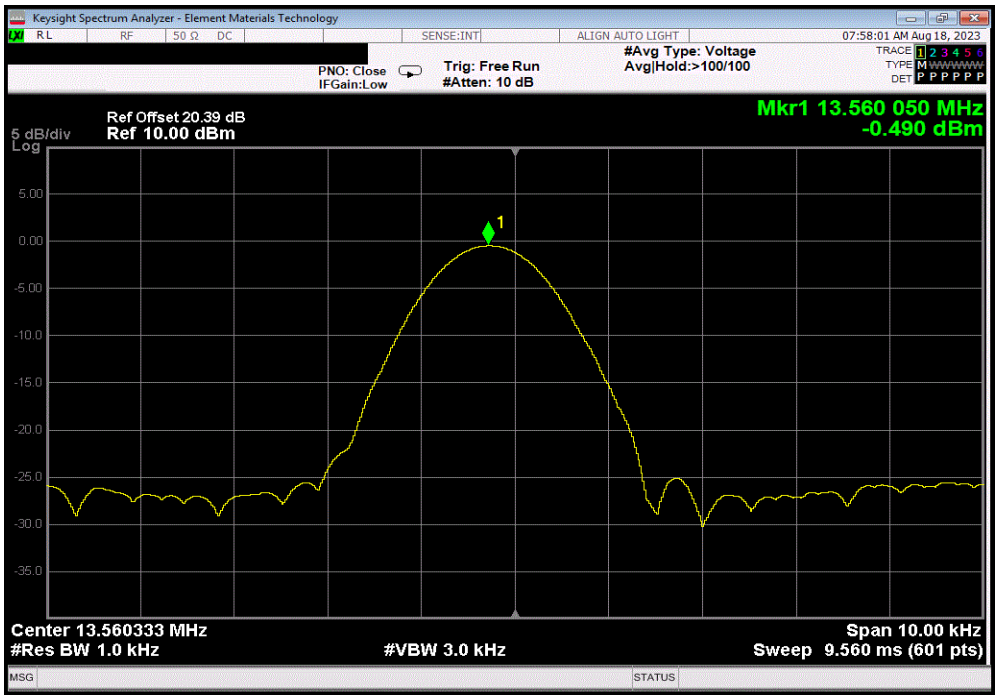
13.56 MHz RFID, CrossSwitch 1 Radio 2, Normal Conditions						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56004	13.56005	0.73746	100	Pass



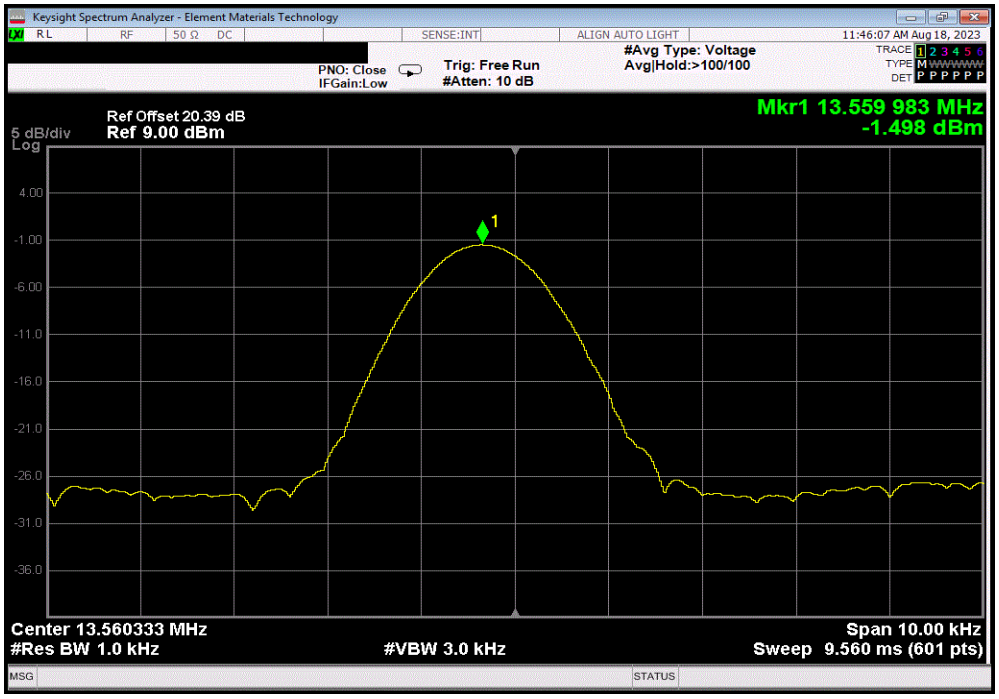
13.56 MHz RFID, CrossSwitch 1 Radio 2, Extreme Voltage 115%						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56004	13.56005	0.73746	100	Pass



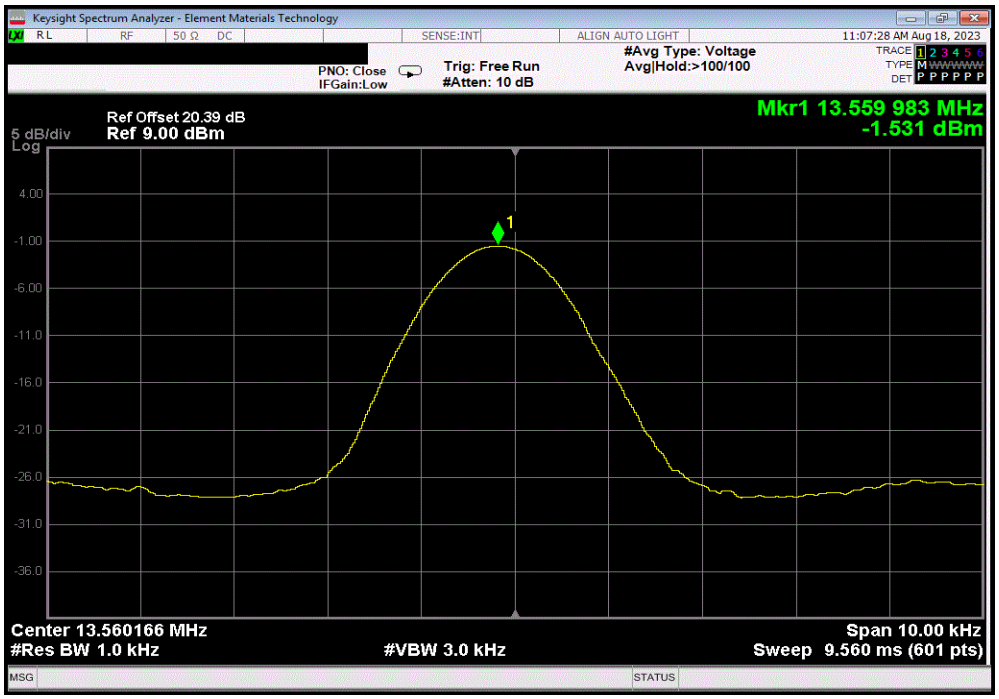
13.56 MHz RFID, CrossSwitch 1 Radio 2, Extreme Voltage 85%						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56004	13.56005	0.73746	100	Pass



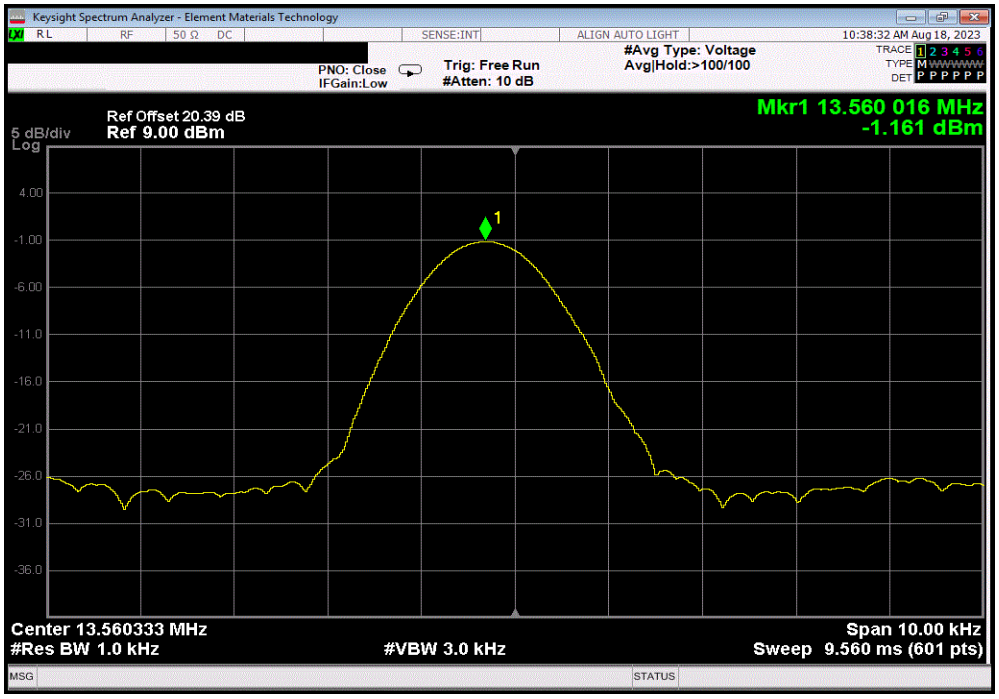
13.56 MHz RFID, CrossSwitch 1 Radio 2, Extreme Temperature +50°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.55998	13.56005	5.16222	100	Pass



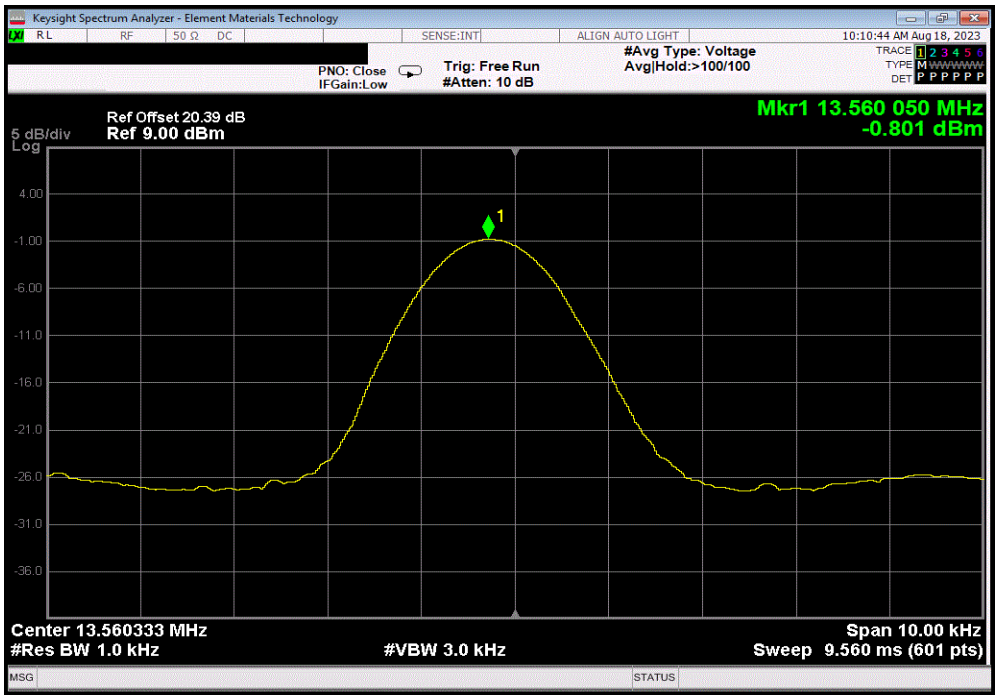
13.56 MHz RFID, CrossSwitch 1 Radio 2, Extreme Temperature +40°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.55998	13.56005	5.16222	100	Pass



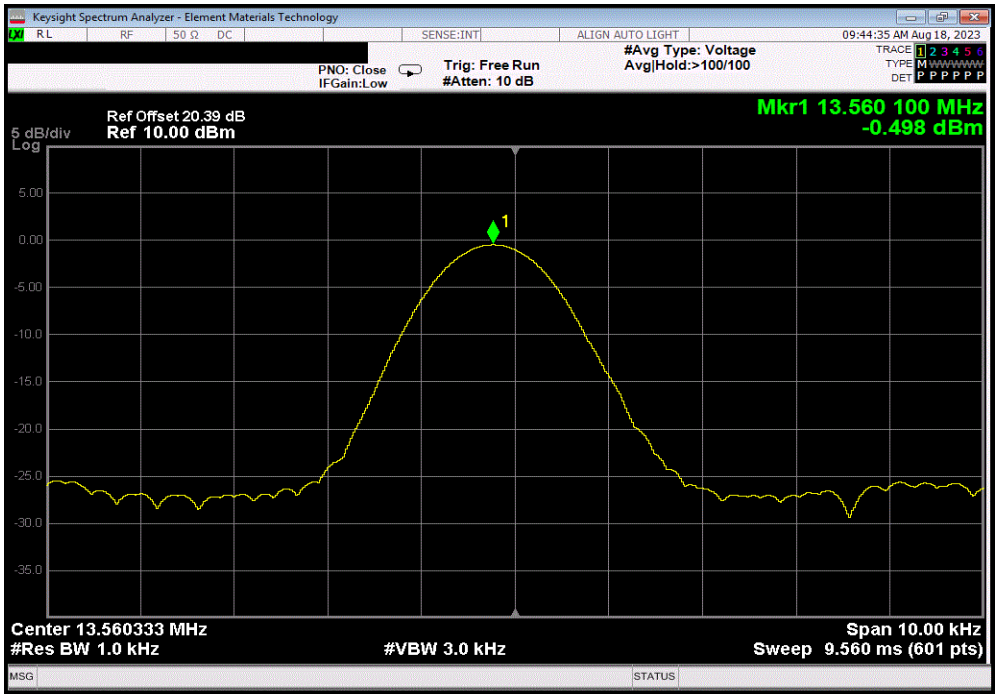
13.56 MHz RFID, CrossSwitch 1 Radio 2, Extreme Temperature +30°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56001	13.56005	2.94984	100	Pass



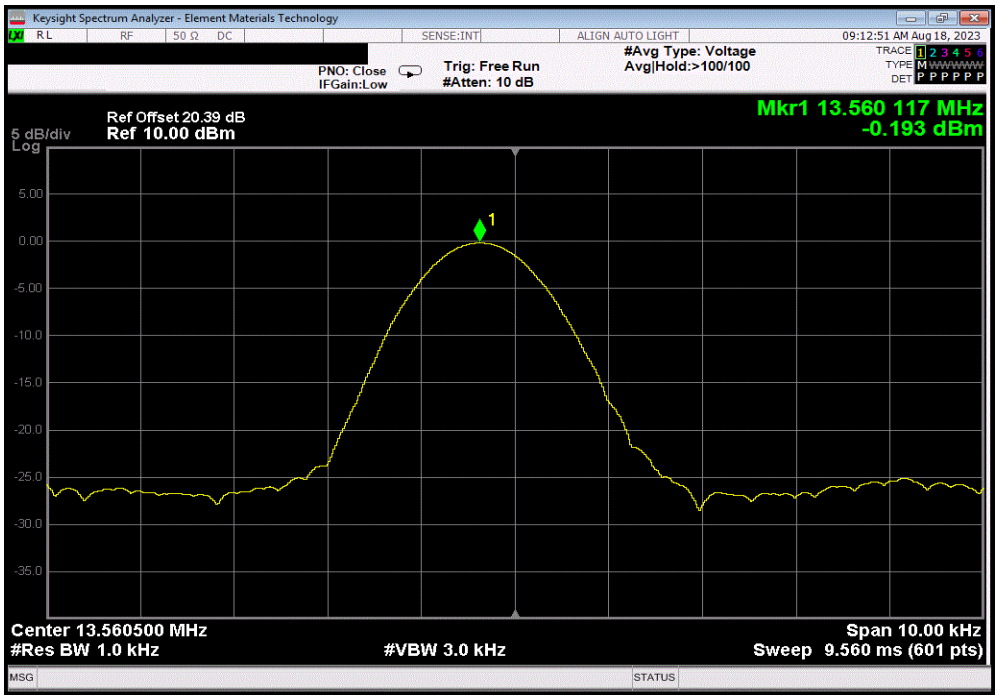
13.56 MHz RFID, CrossSwitch 1 Radio 2, Extreme Temperature +20°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56004	13.56005	0.73746	100	Pass



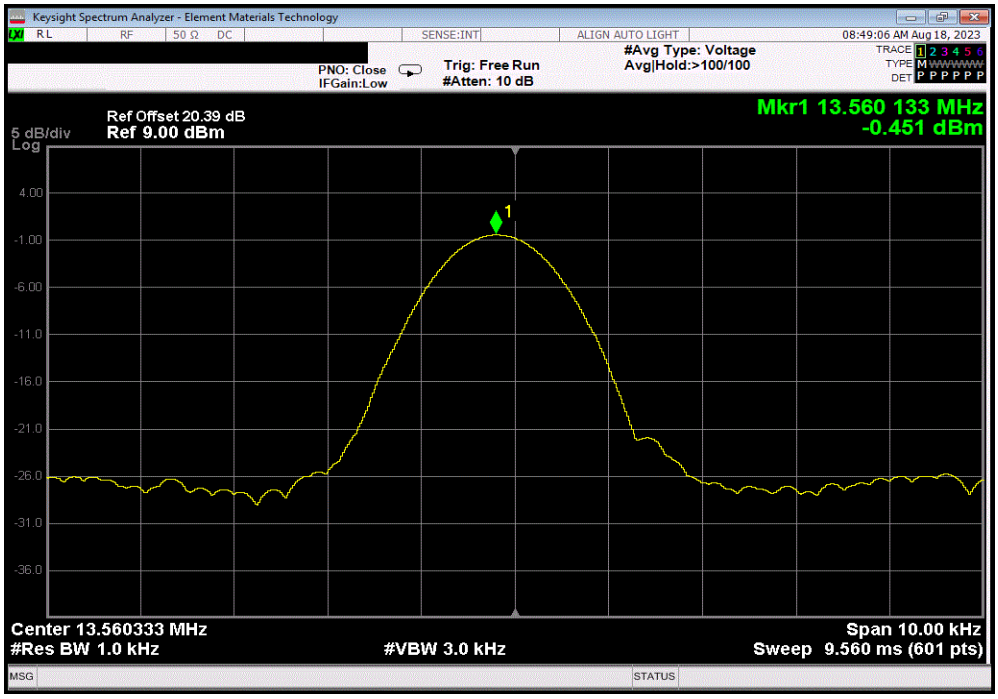
13.56 MHz RFID, CrossSwitch 1 Radio 2, Extreme Temperature +10°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56009	13.56005	2.94984	100	Pass



13.56 MHz RFID, CrossSwitch 1 Radio 2, Extreme Temperature +0°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56011	13.56005	4.42476	100	Pass



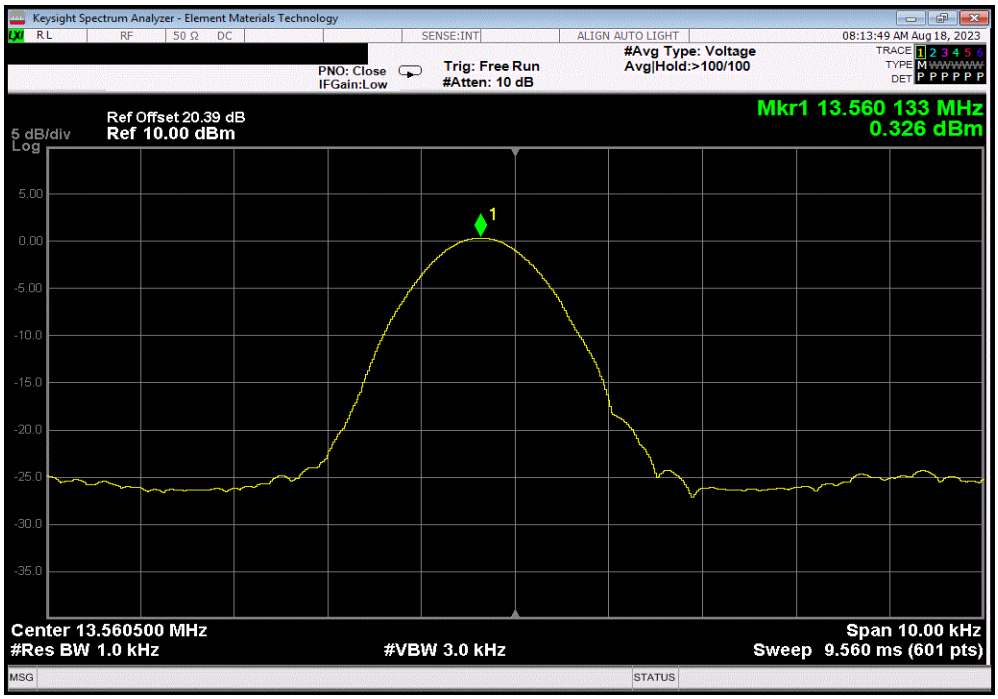
13.56 MHz RFID, CrossSwitch 1 Radio 2, Extreme Temperature -10°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56013	13.56005	5.89966	100	Pass



FREQUENCY STABILITY

TbtTx 2022.06.03.0 XMit 2023.02.14.0

13.56 MHz RFID, CrossSwitch 1 Radio 2, Extreme Temperature -20°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56013	13.56005	5.89968	100	Pass



FREQUENCY STABILITY

TbtTx 2022.06.03.0 XMit 2023.02.14.0

EUT:	Centrifuge Module	Work Order:	ABBO0285
Serial Number:	M05A000263	Date:	08/18/23
Customer:	Abbott Laboratories	Temperature:	20.1°C
Attendees:	Frank Sun	Humidity:	59.9%
Project:	None	Barometric Pres.:	1016 mbar
Tested by:	Marty Martin	Power: 220VAC/60Hz	Job Site: TX09

TEST SPECIFICATIONS	Test Method
FCC 15.225:2023	ANSI C63.10:2013
RSS-210 Issue 10:2019+A1:2020	ANSI C63.10:2013

COMMENTS

Test protocol D00135168/A. EUT contains 5 PCBs with RFID radios; 2 AccessPoint (1 radio each) and 3 CrossSwitch (2 radios each). Reference Level Offset adjustment to match maximum radiated H-Field measurment performed in a 10m chamber. EUT operates radios with modulation OOK, 100%, ISO 15693 at full rated power.

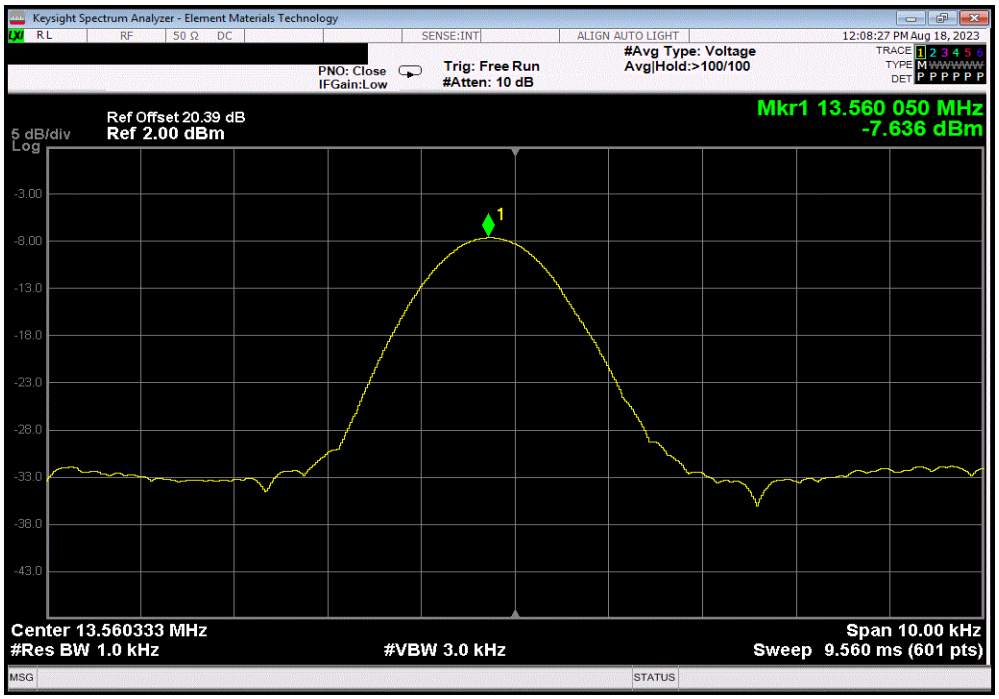
DEVIATIONS FROM TEST STANDARD

None

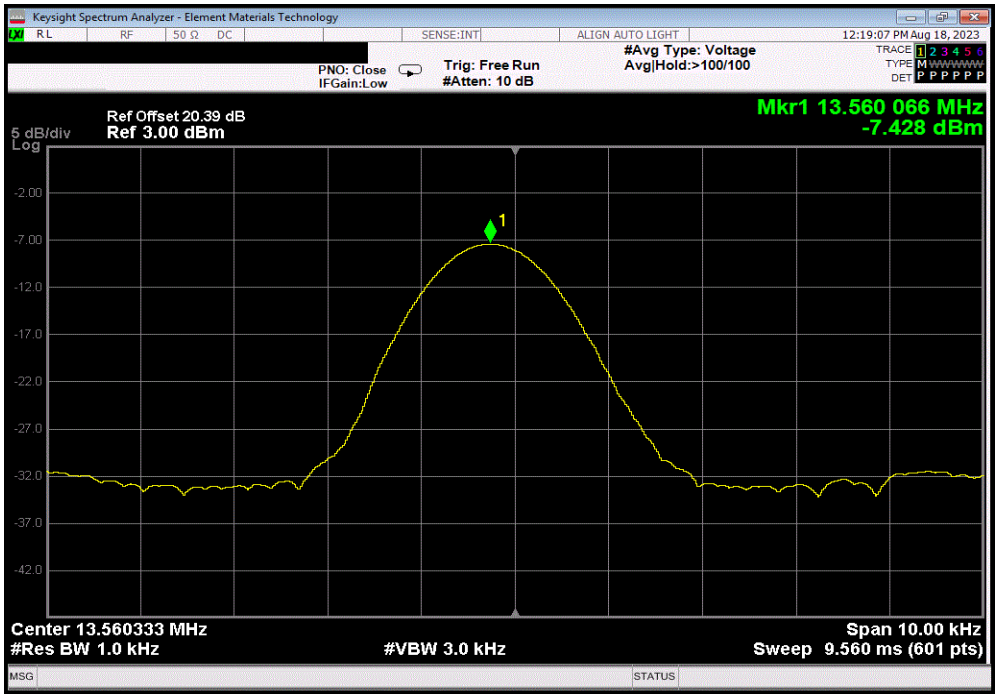
Configuration #	ABBO0285-3	Signature

	Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
13.56 MHz RFID, CrossSwitch 2 Radio 1					
Normal Conditions	13.56005	13.56005	0.00	100	Pass
Extreme Voltage 115%	13.56006	13.56005	0.74	100	Pass
Extreme Voltage 85%	13.56006	13.56005	0.74	100	Pass
Extreme Temperature +50°C	13.55996	13.56005	6.64	100	Pass
Extreme Temperature +40°C	13.55998	13.56005	5.16	100	Pass
Extreme Temperature +30°C	13.56001	13.56005	2.95	100	Pass
Extreme Temperature +20°C	13.56006	13.56005	0.74	100	Pass
Extreme Temperature +10°C	13.56011	13.56005	4.42	100	Pass
Extreme Temperature +0°C	13.56015	13.56005	7.37	100	Pass
Extreme Temperature -10°C	13.56016	13.56005	8.11	100	Pass
Extreme Temperature -20°C	13.56014	13.56005	6.64	100	Pass

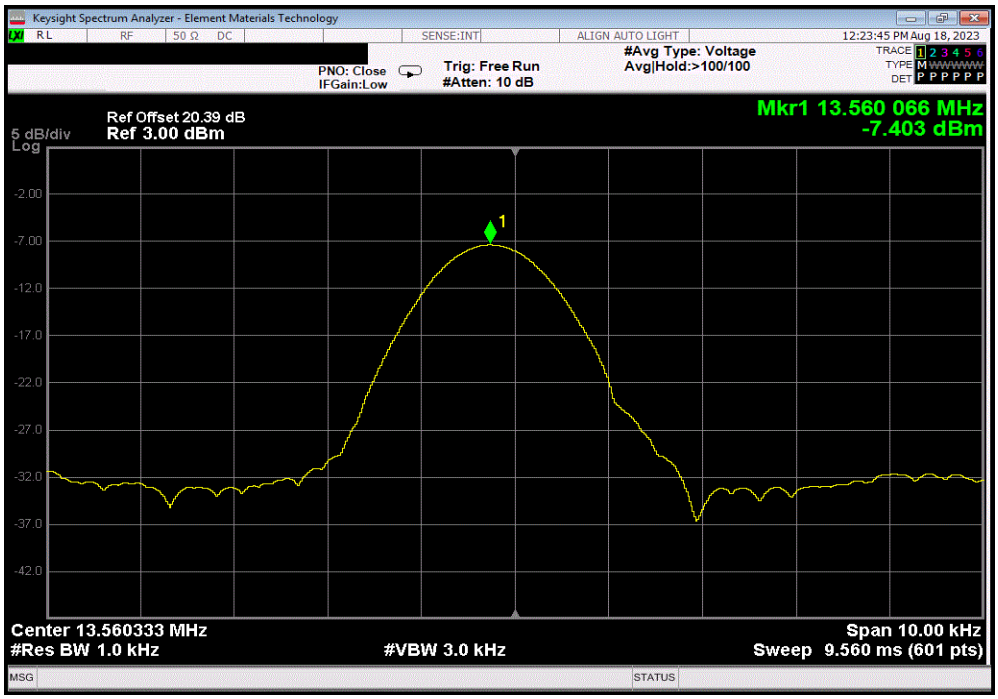
13.56 MHz RFID, CrossSwitch 2 Radio 1, Normal Conditions						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56005	13.56005	0	100	Pass



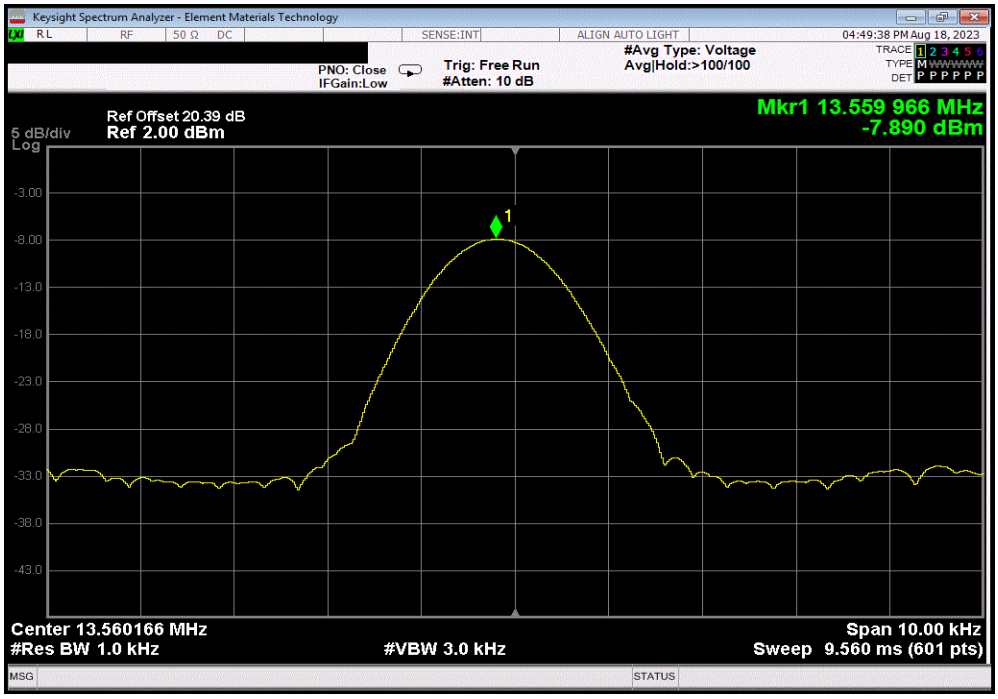
13.56 MHz RFID, CrossSwitch 2 Radio 1, Extreme Voltage 115%						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56006	13.56005	0.73746	100	Pass



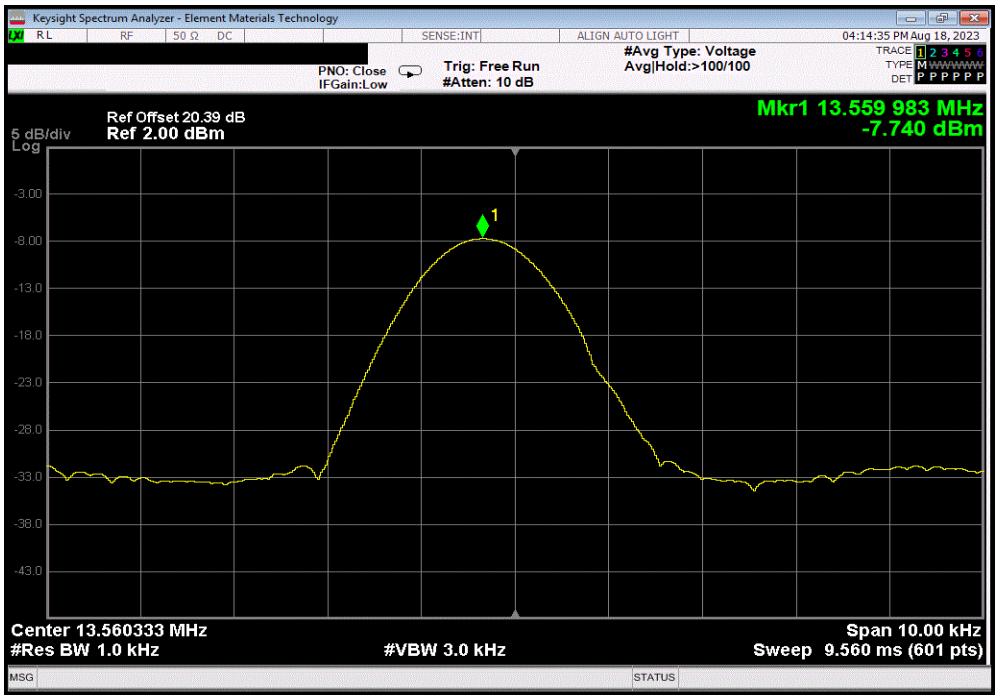
13.56 MHz RFID, CrossSwitch 2 Radio 1, Extreme Voltage 85%						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56006	13.56005	0.73746	100	Pass



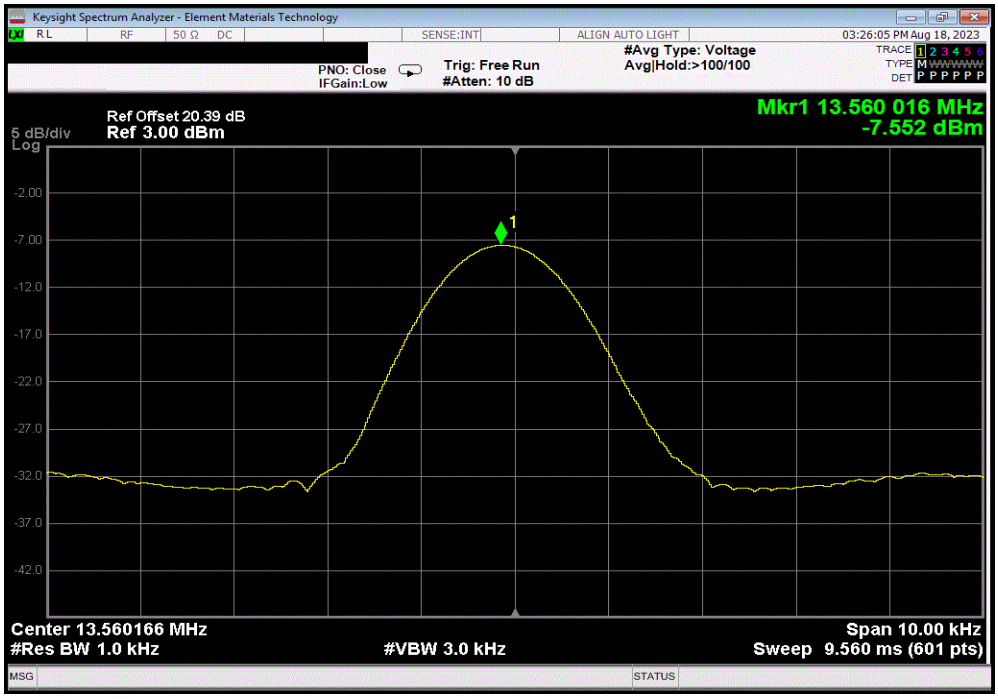
13.56 MHz RFID, CrossSwitch 2 Radio 1, Extreme Temperature +50°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.55996	13.56005	6.63714	100	Pass



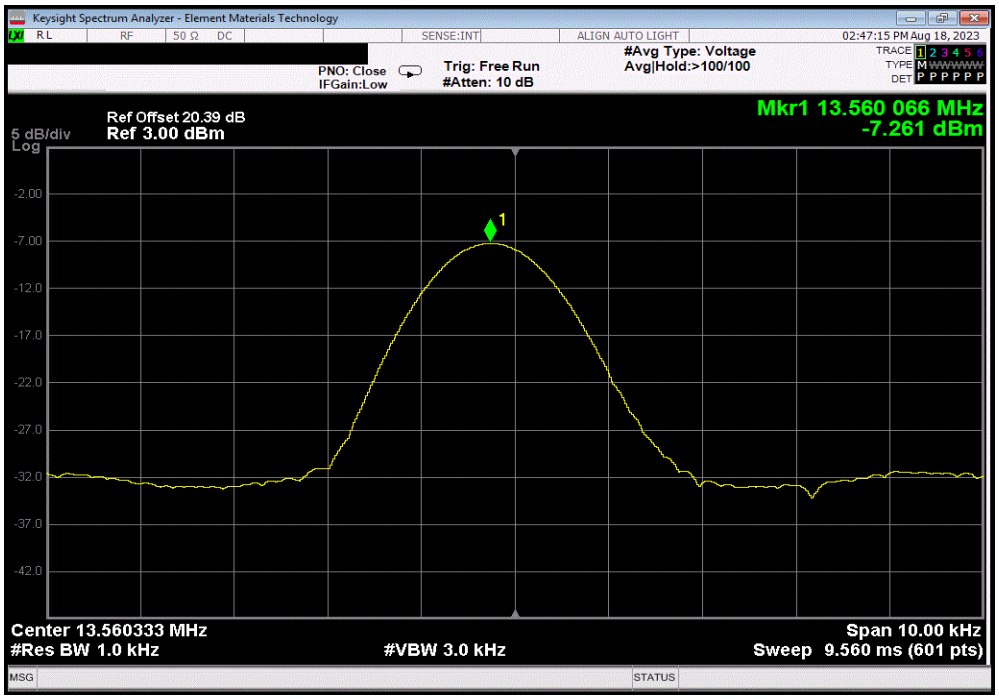
13.56 MHz RFID, CrossSwitch 2 Radio 1, Extreme Temperature +40°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.55998	13.56005	5.16222	100	Pass



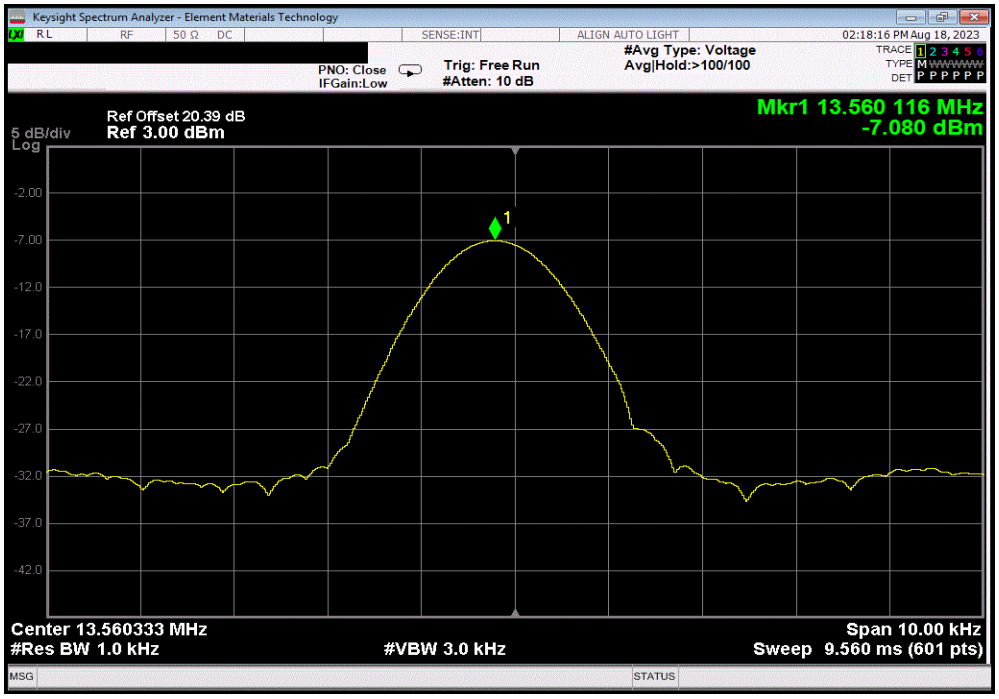
13.56 MHz RFID, CrossSwitch 2 Radio 1, Extreme Temperature +30°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56001	13.56005	2.94984	100	Pass



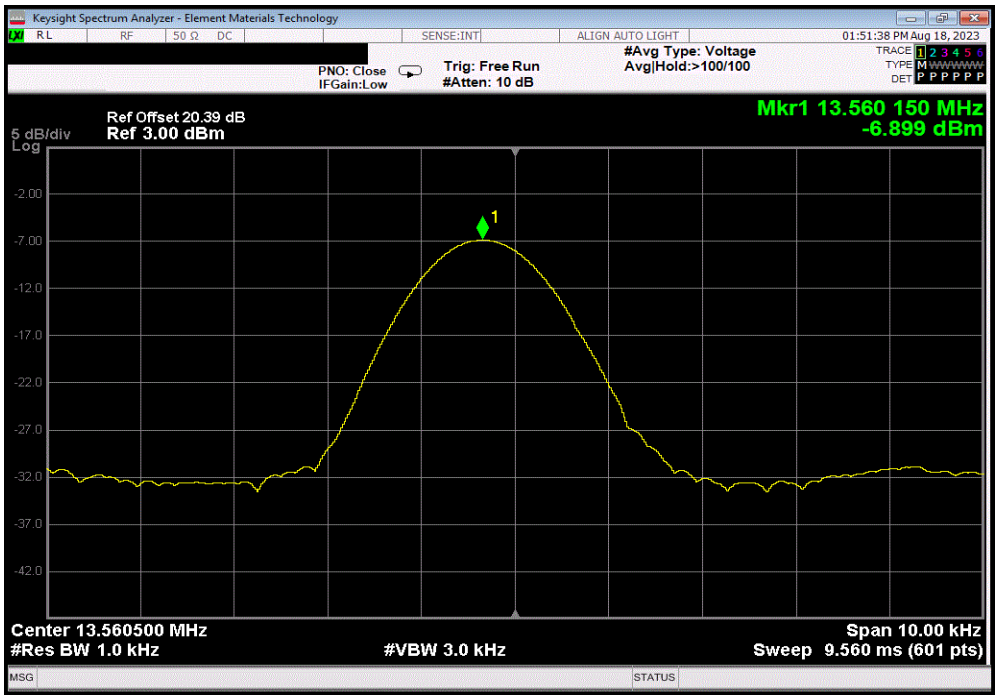
13.56 MHz RFID, CrossSwitch 2 Radio 1, Extreme Temperature +20°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56006	13.56005	0.73746	100	Pass



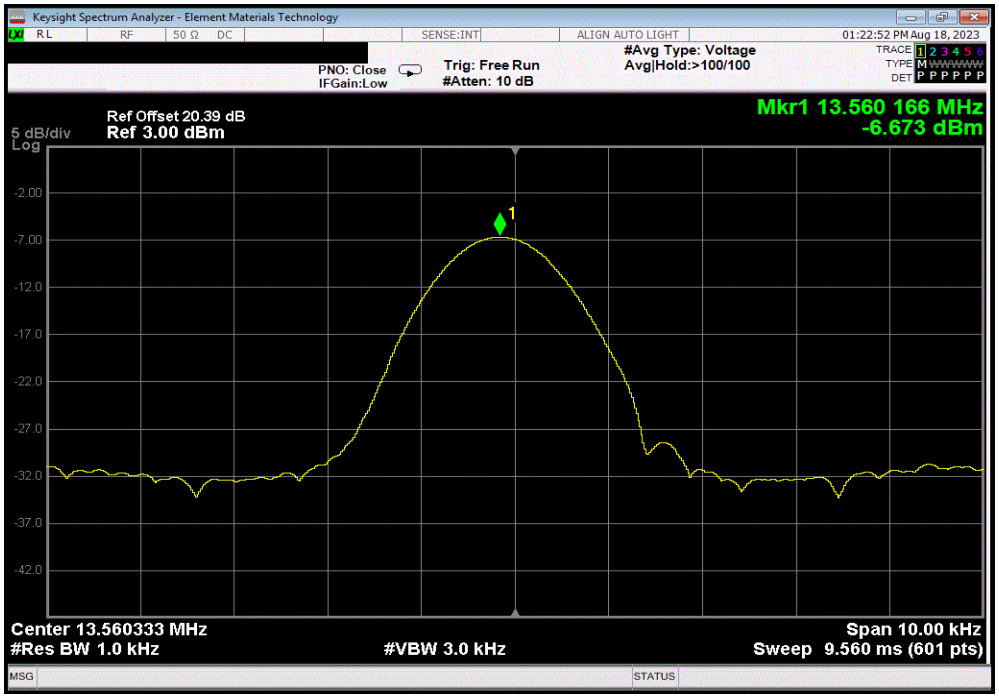
13.56 MHz RFID, CrossSwitch 2 Radio 1, Extreme Temperature +10°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56011	13.56005	4.42476	100	Pass



13.56 MHz RFID, CrossSwitch 2 Radio 1, Extreme Temperature +0°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56015	13.56005	7.3746	100	Pass



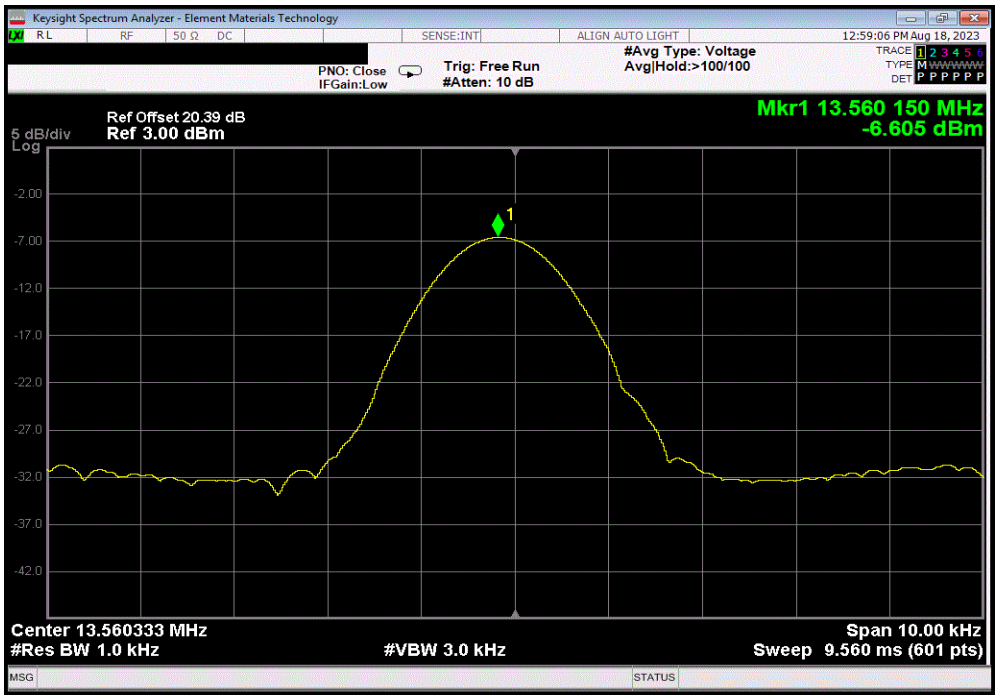
13.56 MHz RFID, CrossSwitch 2 Radio 1, Extreme Temperature -10°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56016	13.56005	8.11206	100	Pass



FREQUENCY STABILITY

TbtTx 2022.06.03.0 XMit 2023.02.14.0

13.56 MHz RFID, CrossSwitch 2 Radio 1, Extreme Temperature -20°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56014	13.56005	6.63714	100	Pass



FREQUENCY STABILITY

TbtTx 2022.06.03.0 XMit 2023.02.14.0

EUT:	Centrifuge Module	Work Order:	ABBO0285
Serial Number:	M05A000263	Date:	08/18/23
Customer:	Abbott Laboratories	Temperature:	20.3°C
Attendees:	Frank Sun	Humidity:	59.5%
Project:	None	Barometric Pres.:	1016 mbar
Tested by:	Marty Martin	Power: 220VAC/60Hz	Job Site: TX09

TEST SPECIFICATIONS	Test Method
FCC 15.225:2023	ANSI C63.10:2013
RSS-210 Issue 10:2019+A1:2020	ANSI C63.10:2013

COMMENTS

Test protocol D00135168/A. EUT contains 5 PCBs with RFID radios; 2 AccessPoint (1 radio each) and 3 CrossSwitch (2 radios each). Reference Level Offset adjustment to match maximum radiated H-Field measurment performed in a 10m chamber. EUT operates radios with modulation OOK, 100%, ISO 15693 at full rated power.

DEVIATIONS FROM TEST STANDARD

None

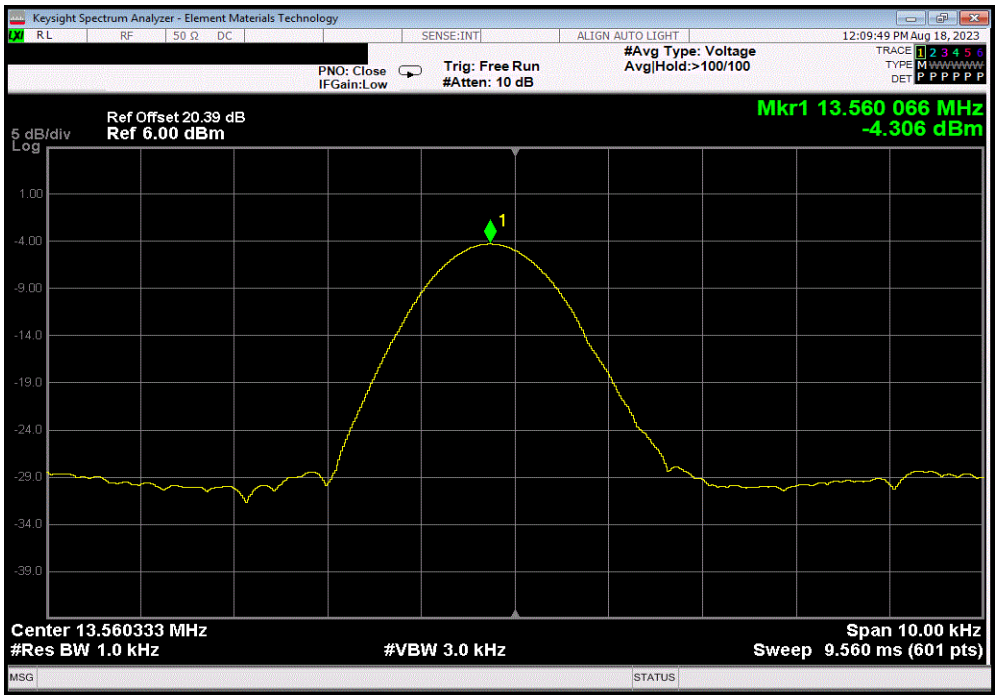
Configuration #	ABBO0285-3	Signature

	Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
13.56 MHz RFID, CrossSwitch 2 Radio 2					
Normal Conditions	13.56006	13.56006	0.00	100	Pass
Extreme Voltage 115%	13.56006	13.56006	0.00	100	Pass
Extreme Voltage 85%	13.56006	13.56006	0.00	100	Pass
Extreme Temperature +50°C	13.55996	13.56006	7.37	100	Pass
Extreme Temperature +40°C	13.55998	13.56006	5.90	100	Pass
Extreme Temperature +30°C	13.56001	13.56006	3.69	100	Pass
Extreme Temperature +20°C	13.56006	13.56006	0.00	100	Pass
Extreme Temperature +10°C	13.56011	13.56006	3.69	100	Pass
Extreme Temperature +0°C	13.56014	13.56006	5.90	100	Pass
Extreme Temperature -10°C	13.56016	13.56006	7.37	100	Pass
Extreme Temperature -20°C	13.56015	13.56006	6.64	100	Pass

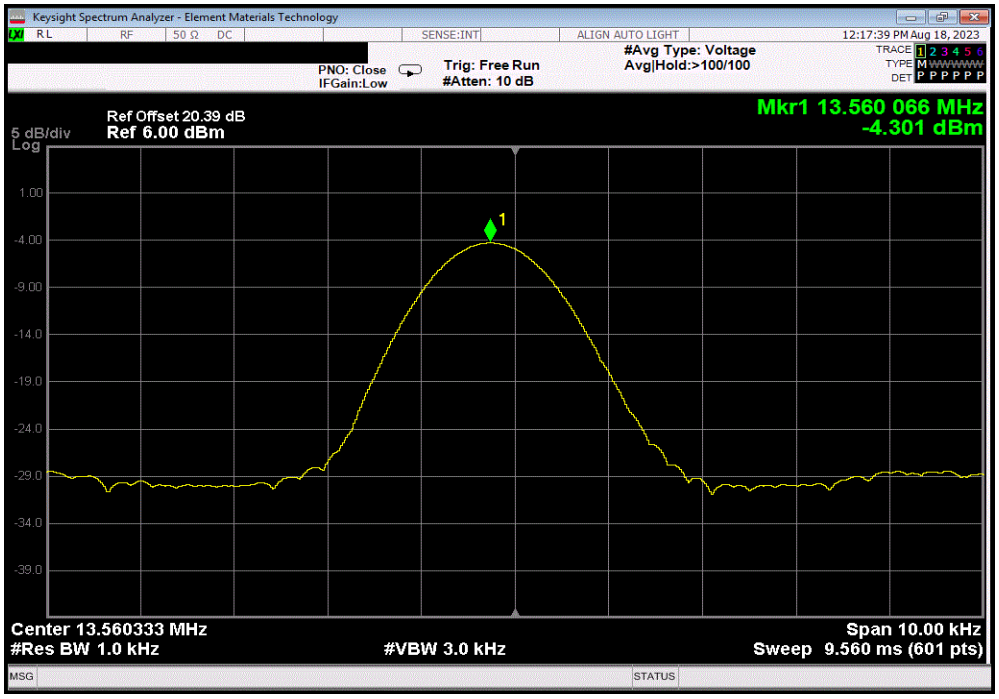
FREQUENCY STABILITY

TbtTx 2022.06.03.0 XMit 2023.02.14.0

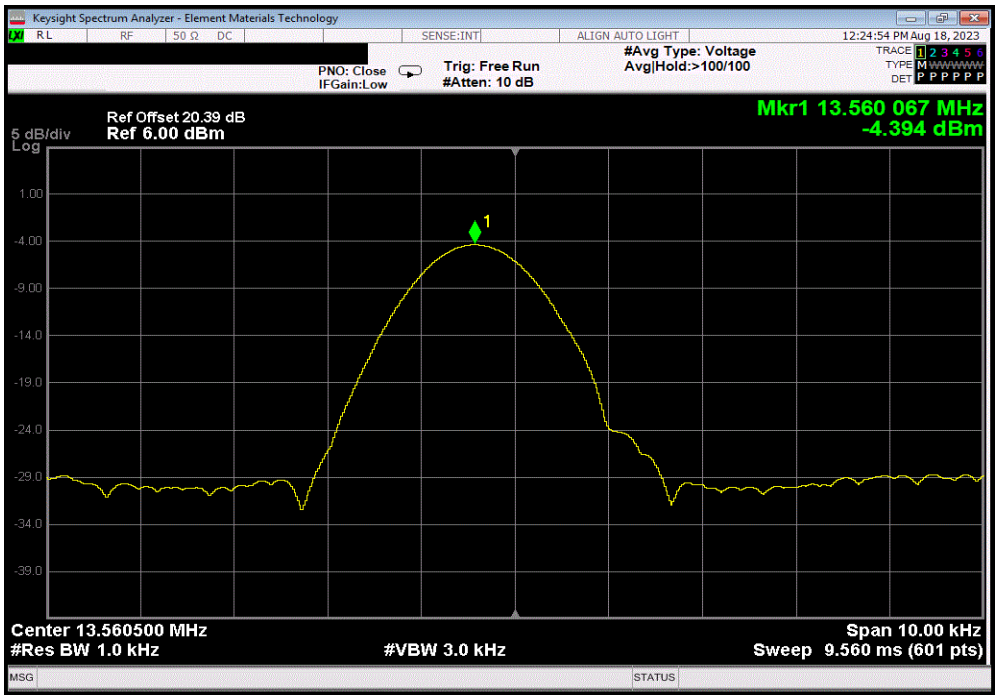
13.56 MHz RFID, CrossSwitch 2 Radio 2, Normal Conditions						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56006	13.56006	0	100	Pass



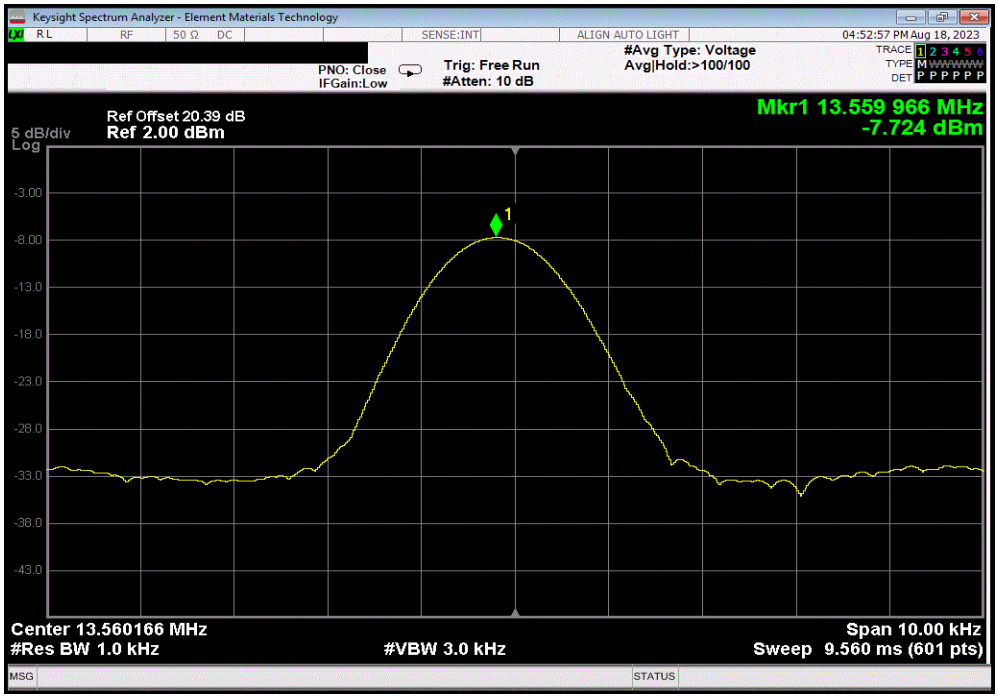
13.56 MHz RFID, CrossSwitch 2 Radio 2, Extreme Voltage 115%						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56006	13.56006	0	100	Pass



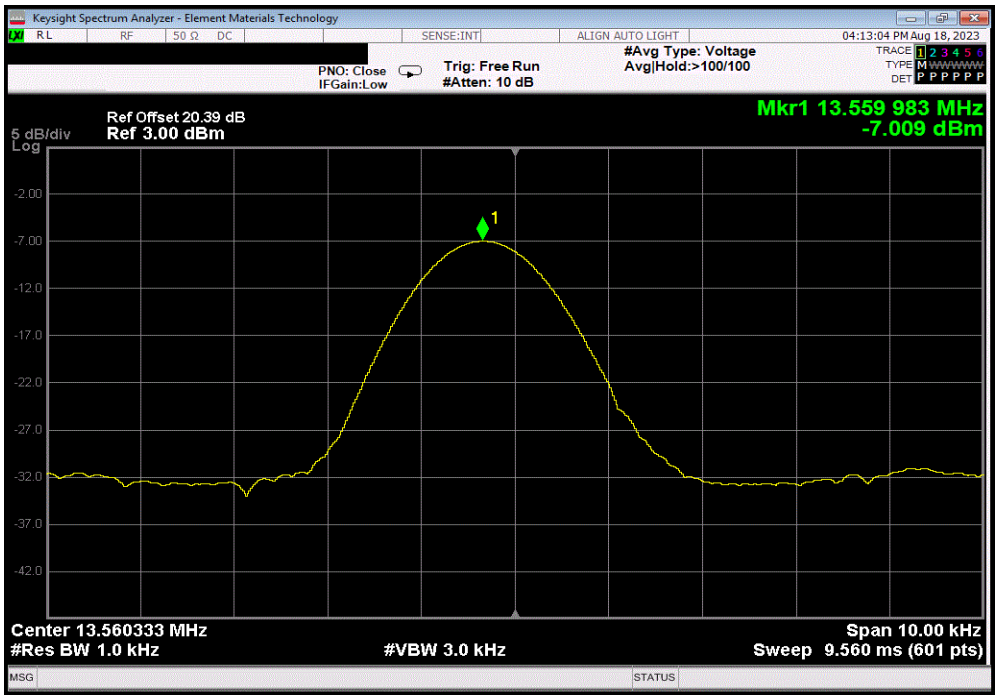
13.56 MHz RFID, CrossSwitch 2 Radio 2, Extreme Voltage 85%						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56006	13.56006	0	100	Pass



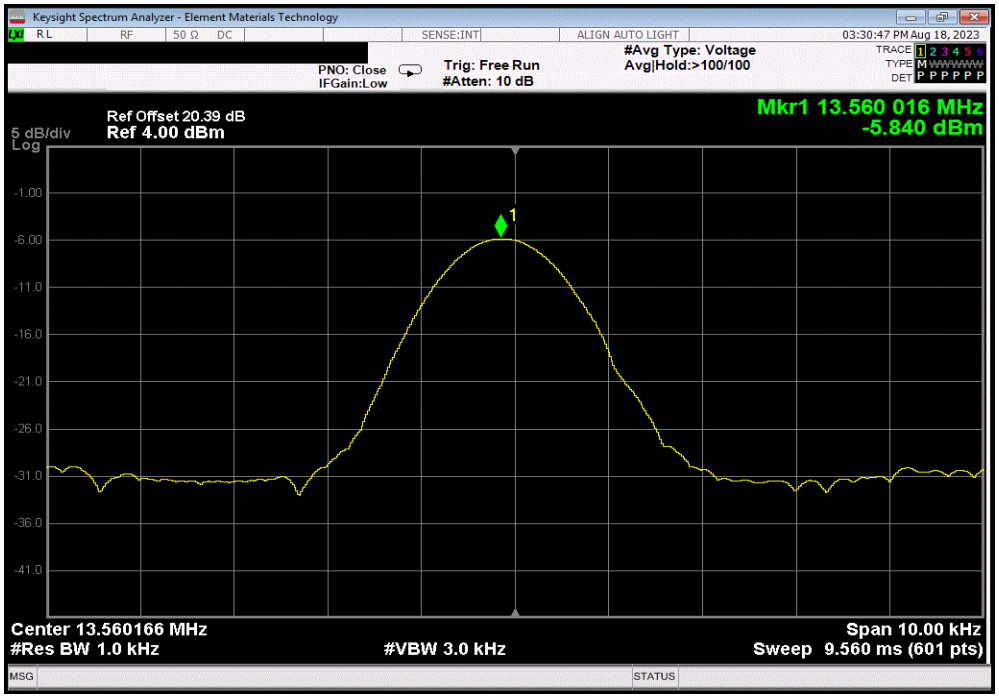
13.56 MHz RFID, CrossSwitch 2 Radio 2, Extreme Temperature +50°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.55996	13.56006	7.37	100	Pass



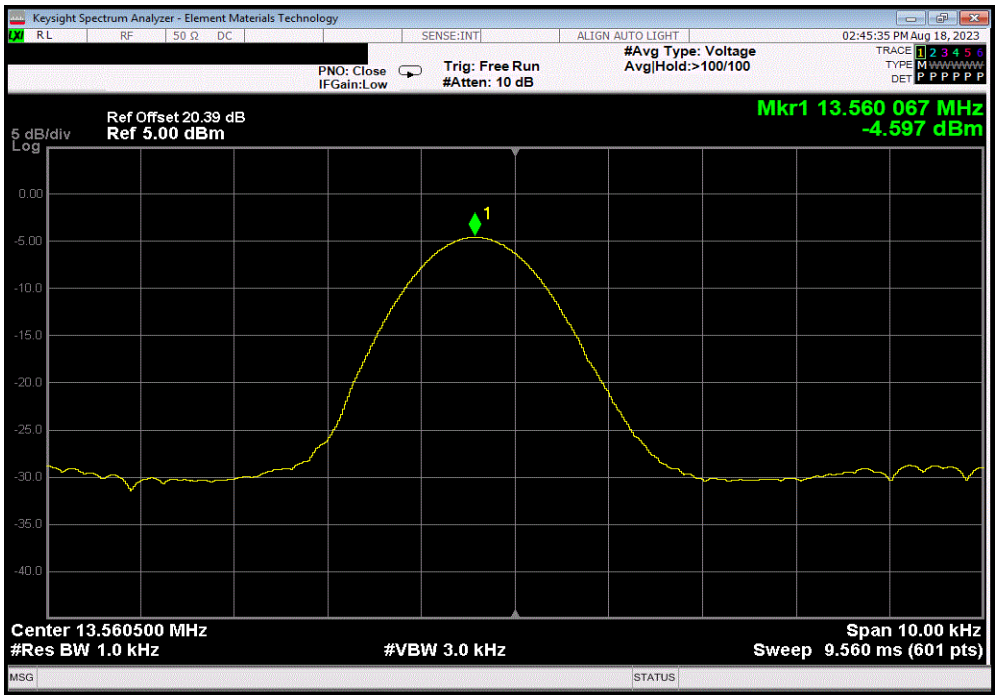
13.56 MHz RFID, CrossSwitch 2 Radio 2, Extreme Temperature +40°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.55998	13.56006	5.90	100	Pass



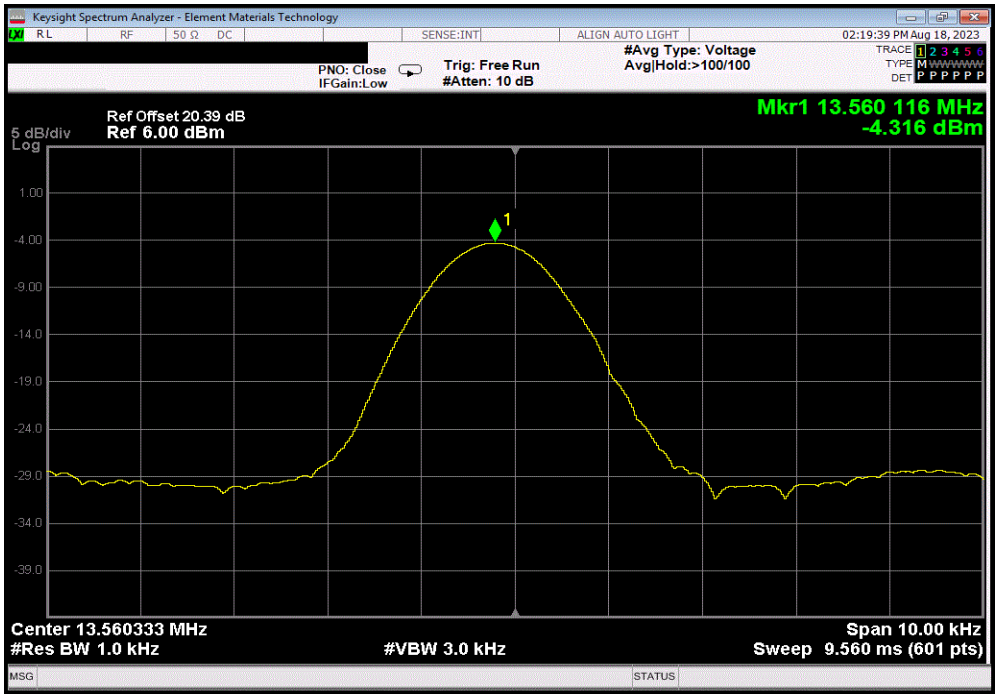
13.56 MHz RFID, CrossSwitch 2 Radio 2, Extreme Temperature +30°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56001	13.56006	3.69	100	Pass



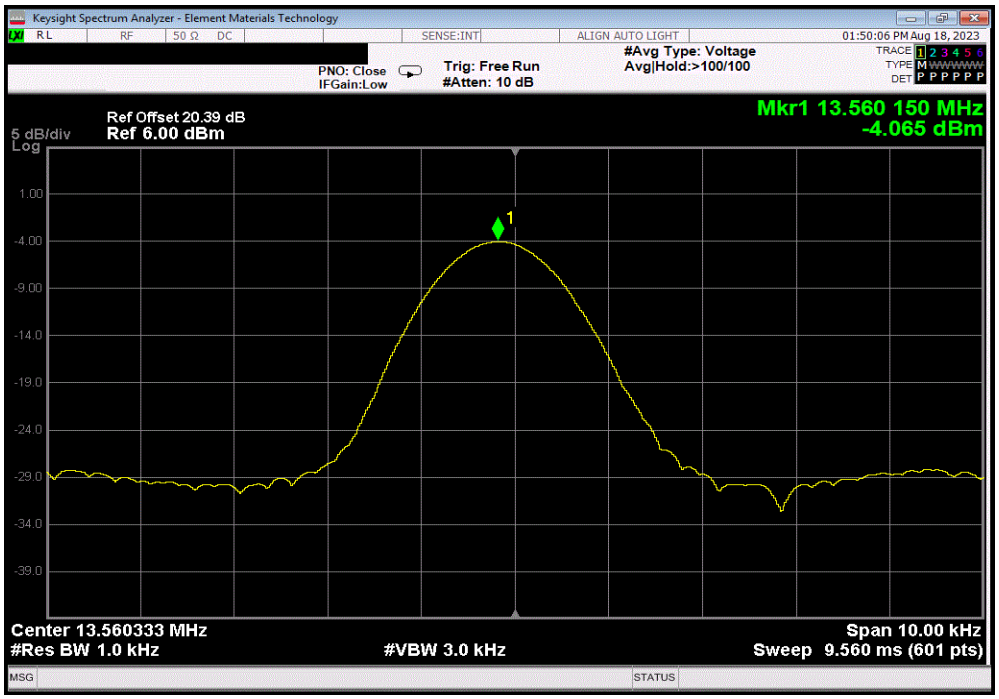
13.56 MHz RFID, CrossSwitch 2 Radio 2, Extreme Temperature +20°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56006	13.56006	0	100	Pass



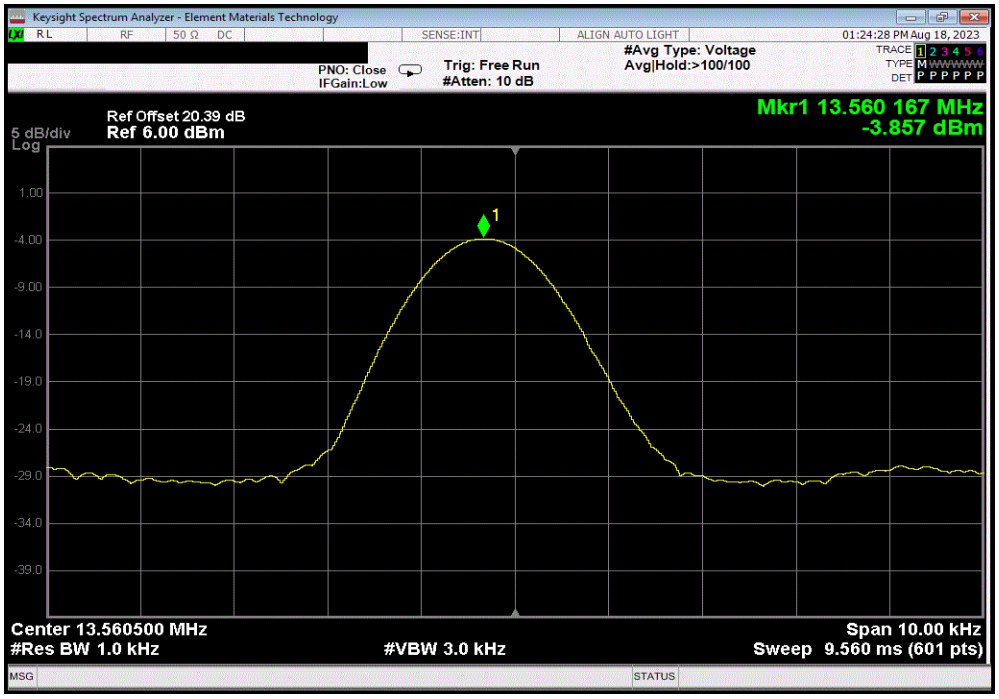
13.56 MHz RFID, CrossSwitch 2 Radio 2, Extreme Temperature +10°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56011	13.56006	3.69	100	Pass



13.56 MHz RFID, CrossSwitch 2 Radio 2, Extreme Temperature +0°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56014	13.56006	5.90	100	Pass



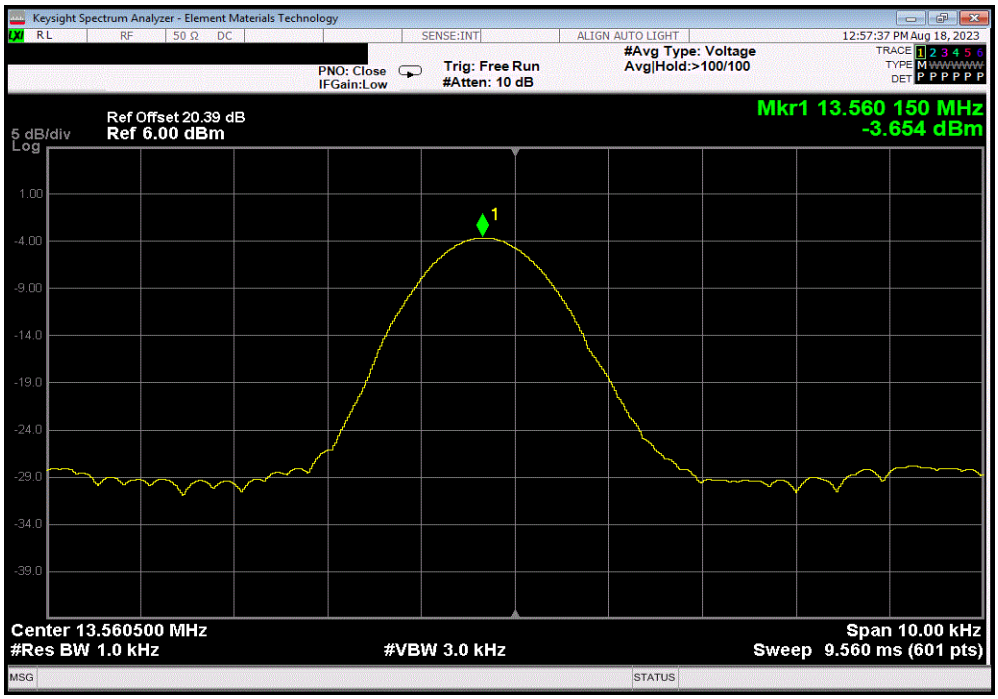
13.56 MHz RFID, CrossSwitch 2 Radio 2, Extreme Temperature -10°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56016	13.56006	7.37	100	Pass



FREQUENCY STABILITY

TbtTx 2022.06.03.0 XMit 2023.02.14.0

13.56 MHz RFID, CrossSwitch 2 Radio 2, Extreme Temperature -20°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56015	13.56006	6.64	100	Pass



FREQUENCY STABILITY

TbtTx 2022.06.03.0 XMit 2023.02.14.0

EUT:	Centrifuge Module	Work Order:	ABBO0285
Serial Number:	M05A000263	Date:	08/17/23
Customer:	Abbott Laboratories	Temperature:	19.6°C
Attendees:	Frank Sun	Humidity:	61.6%
Project:	None	Barometric Pres.:	1016 mbar
Tested by:	Marty Martin	Power: 220VAC/60Hz	Job Site: TX09

TEST SPECIFICATIONS	Test Method
FCC 15.225:2023	ANSI C63.10:2013
RSS-210 Issue 10:2019+A1:2020	ANSI C63.10:2013

COMMENTS

Test protocol D00135168/A. EUT contains 5 PCBs with RFID radios; 2 AccessPoint (1 radio each) and 3 CrossSwitch (2 radios each). Reference Level Offset adjustment to match maximum radiated H-Field measurment performed in a 10m chamber. EUT operates radios with modulation OOK, 100%, ISO 15693 at full rated power.

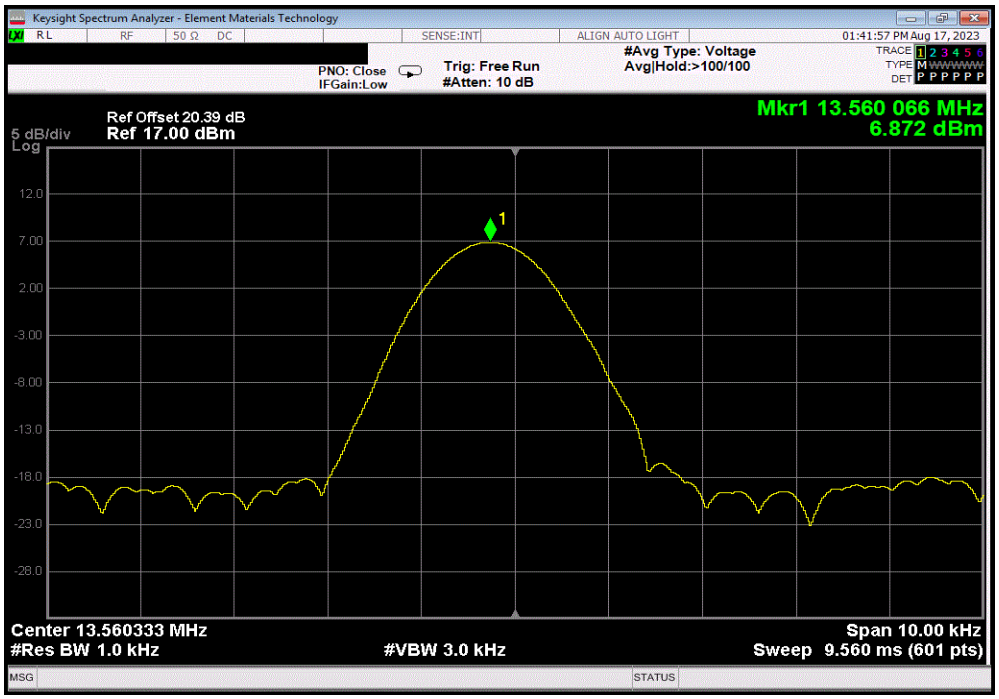
DEVIATIONS FROM TEST STANDARD

None

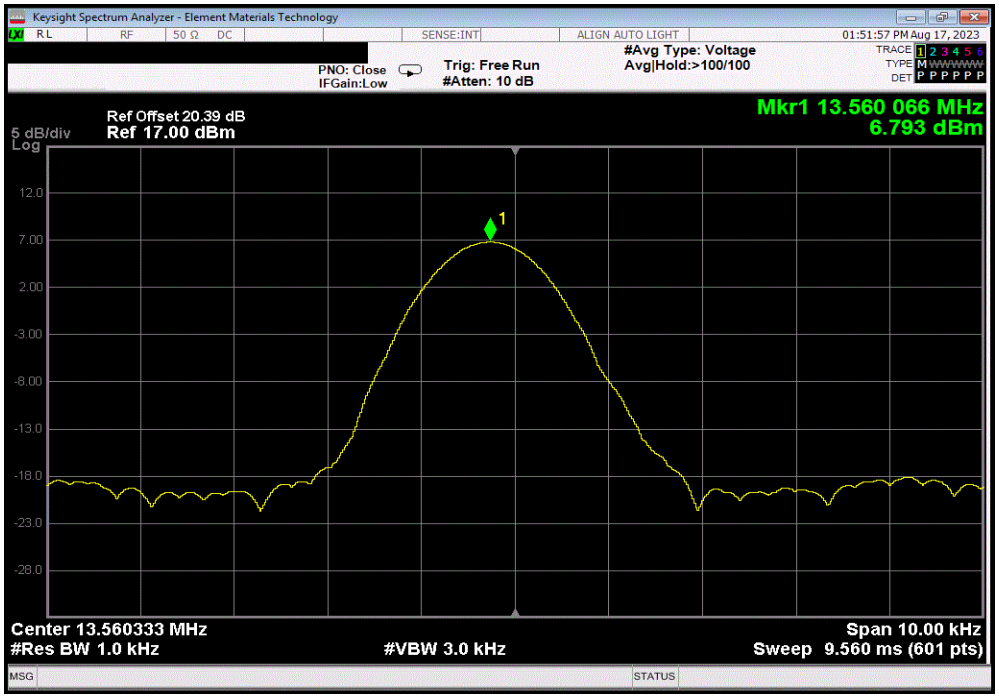
Configuration #	ABBO0285-3	Signature

	Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
13.56 MHz RFID, CrossSwitch 3 Radio 1					
Normal Conditions	13.56006	13.56006	0.00	100	Pass
Extreme Voltage 115%	13.56006	13.56006	0.47	100	Pass
Extreme Voltage 85%	13.56006	13.56006	0.00	100	Pass
Extreme Temperature +50°C	13.56001	13.56006	3.69	100	Pass
Extreme Temperature +40°C	13.55998	13.56006	5.90	100	Pass
Extreme Temperature +30°C	13.56001	13.56006	3.69	100	Pass
Extreme Temperature +20°C	13.56006	13.56006	0.00	100	Pass
Extreme Temperature +10°C	13.56009	13.56006	2.21	100	Pass
Extreme Temperature +0°C	13.56011	13.56006	3.69	100	Pass
Extreme Temperature -10°C	13.56013	13.56006	5.16	100	Pass
Extreme Temperature -20°C	13.56013	13.56006	5.16	100	Pass

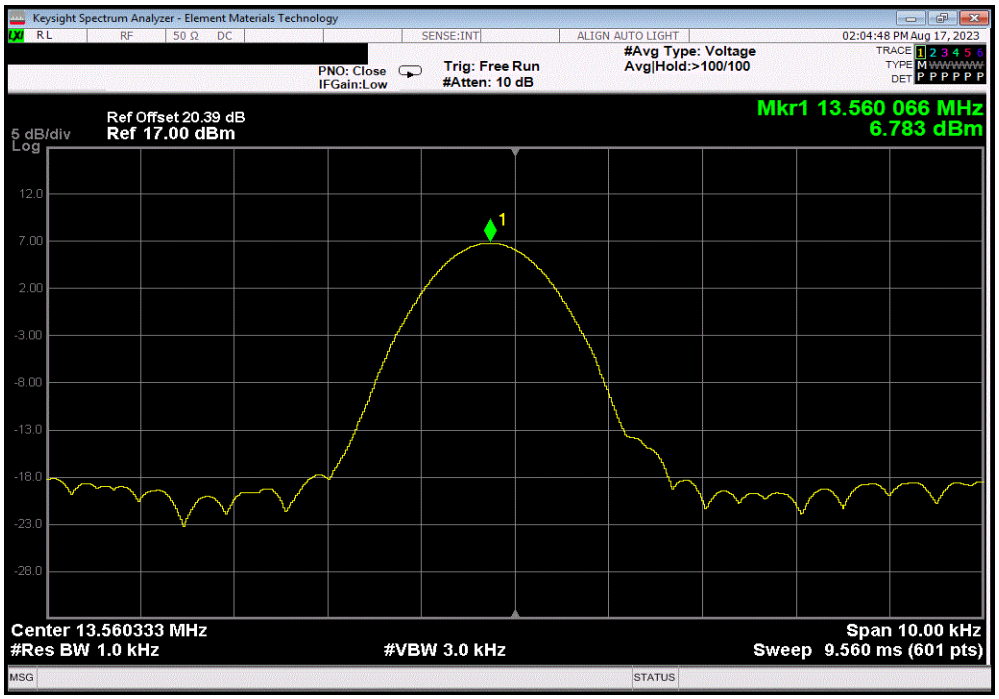
13.56 MHz RFID, CrossSwitch 3 Radio 1, Normal Conditions						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56006	13.56006	0	100	Pass



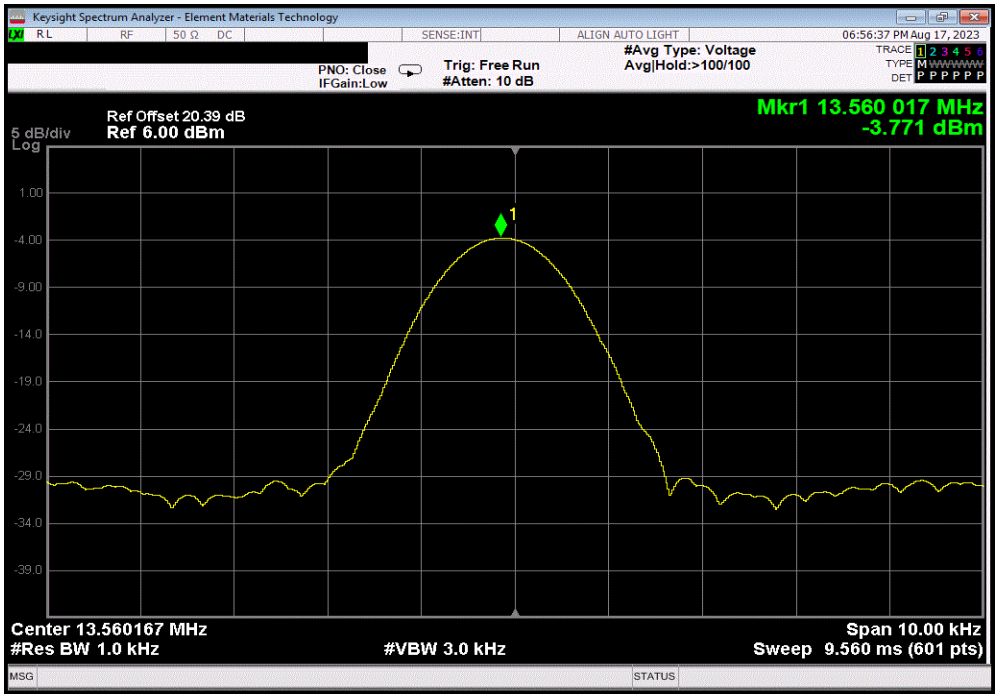
13.56 MHz RFID, CrossSwitch 3 Radio 1, Extreme Voltage 115%						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56006	13.56006	0.46703	100	Pass



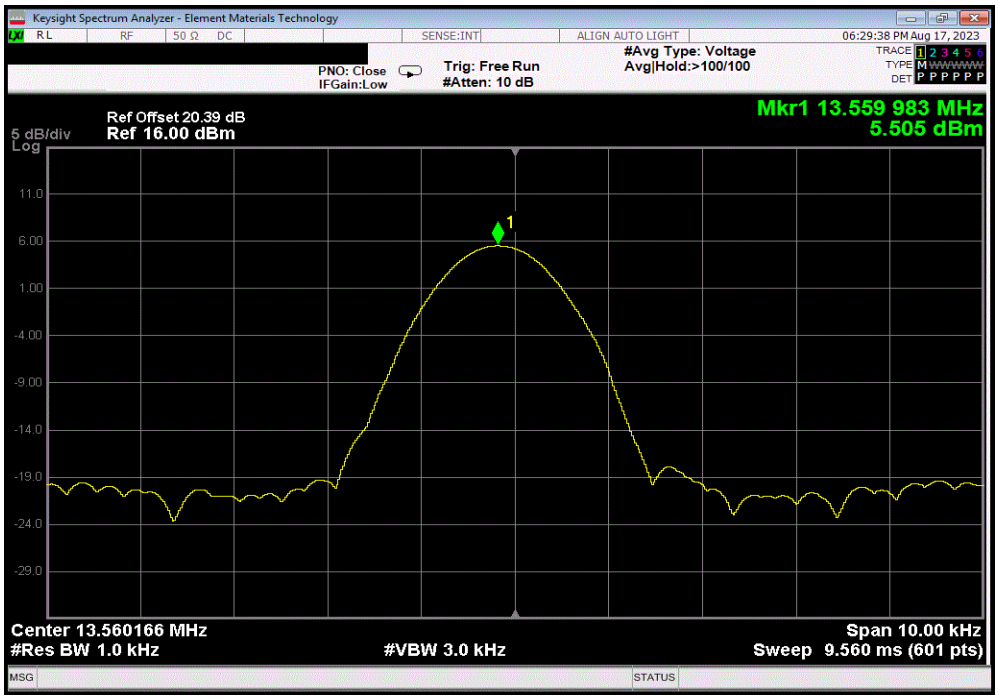
13.56 MHz RFID, CrossSwitch 3 Radio 1, Extreme Voltage 85%						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56006	13.56006	0	100	Pass



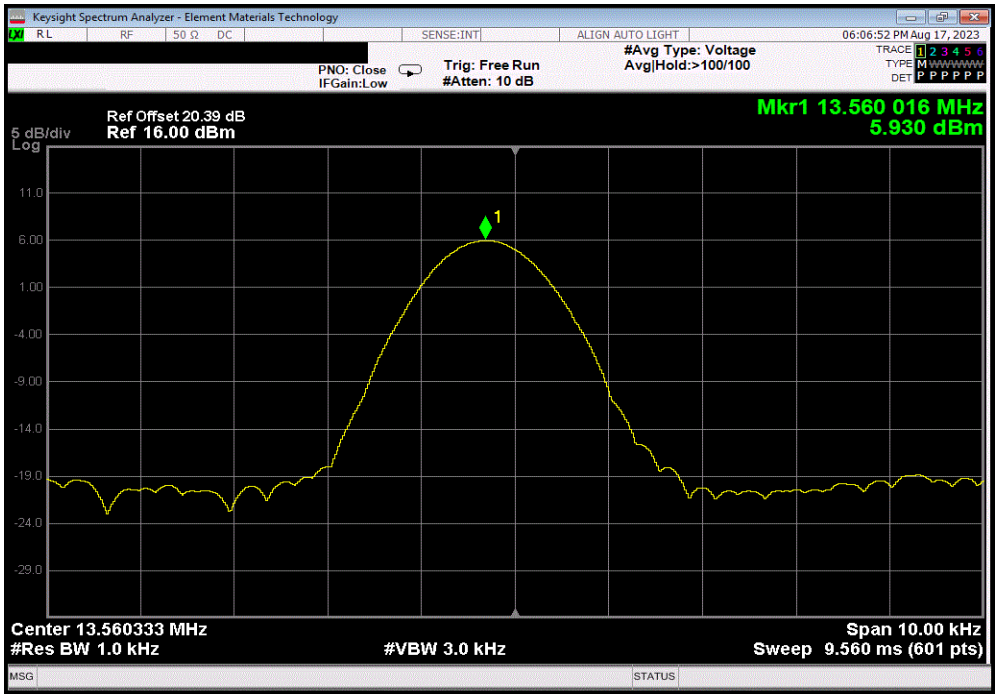
13.56 MHz RFID, CrossSwitch 3 Radio 1, Extreme Temperature +50°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56001	13.56006	3.68729	100	Pass



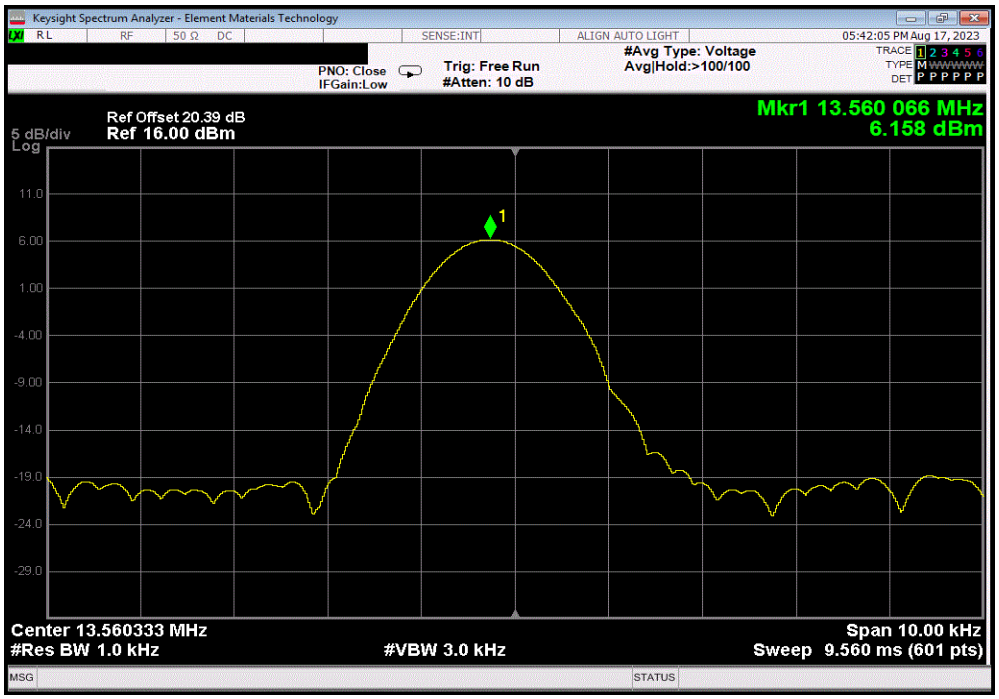
13.56 MHz RFID, CrossSwitch 3 Radio 1, Extreme Temperature +40°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.55998	13.56006	5.89967	100	Pass



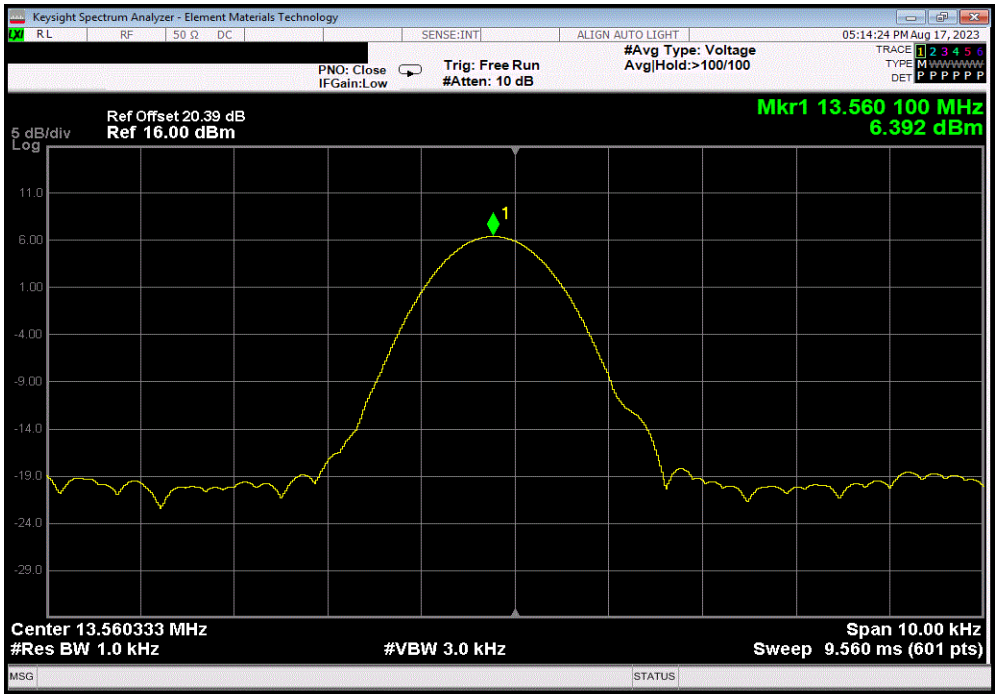
13.56 MHz RFID, CrossSwitch 3 Radio 1, Extreme Temperature +30°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56001	13.56006	3.68729	100	Pass



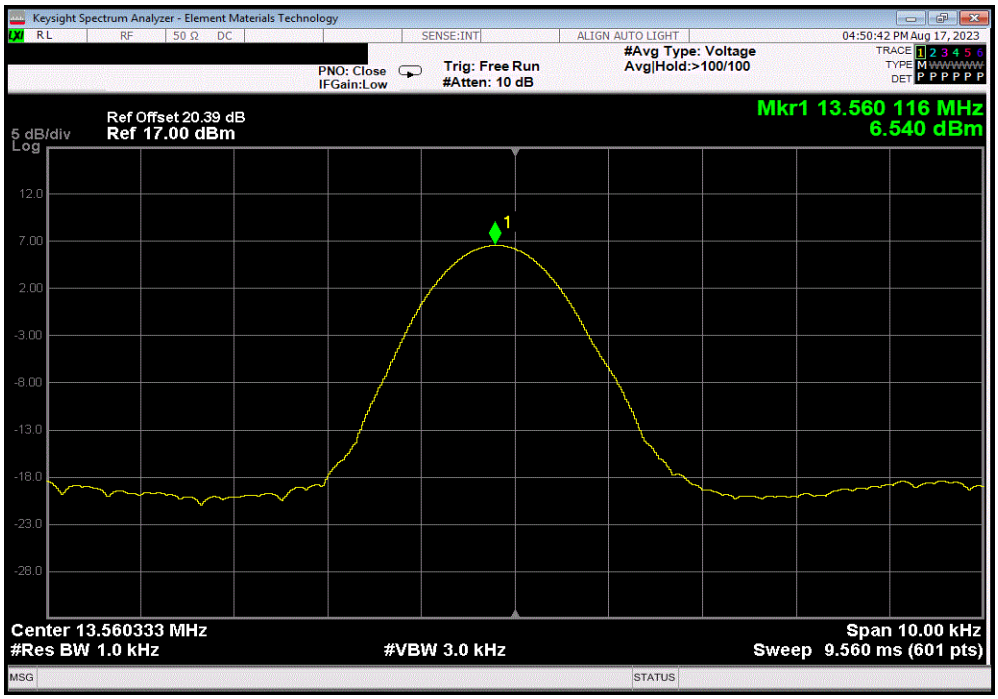
13.56 MHz RFID, CrossSwitch 3 Radio 1, Extreme Temperature +20°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56006	13.56006	0	100	Pass



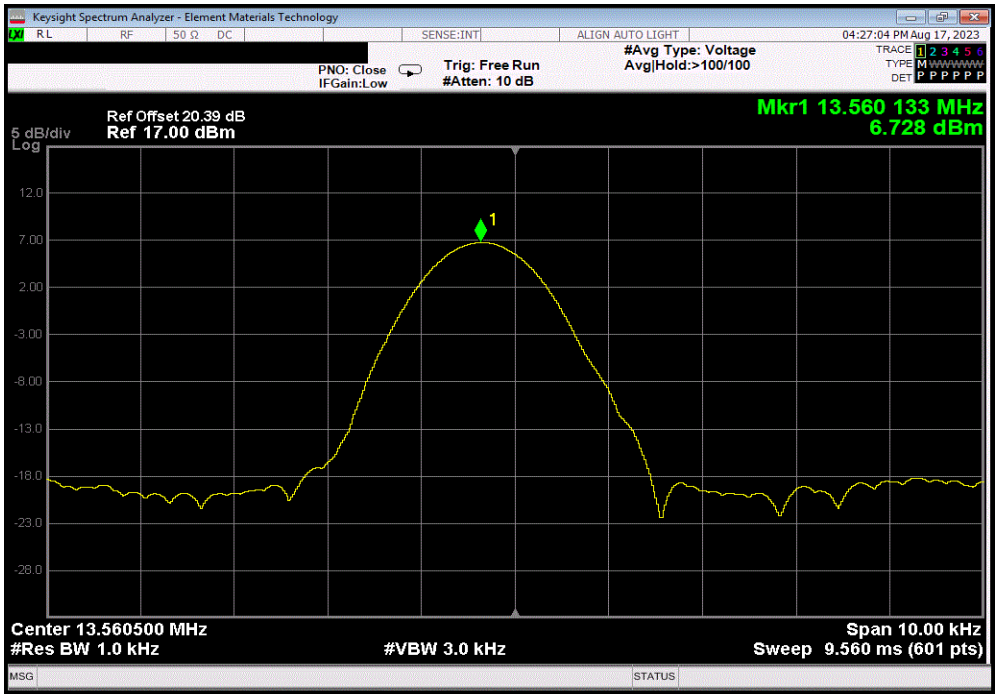
13.56 MHz RFID, CrossSwitch 3 Radio 1, Extreme Temperature +10°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56009	13.56006	2.21237	100	Pass



13.56 MHz RFID, CrossSwitch 3 Radio 1, Extreme Temperature +0°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56011	13.56006	3.68729	100	Pass



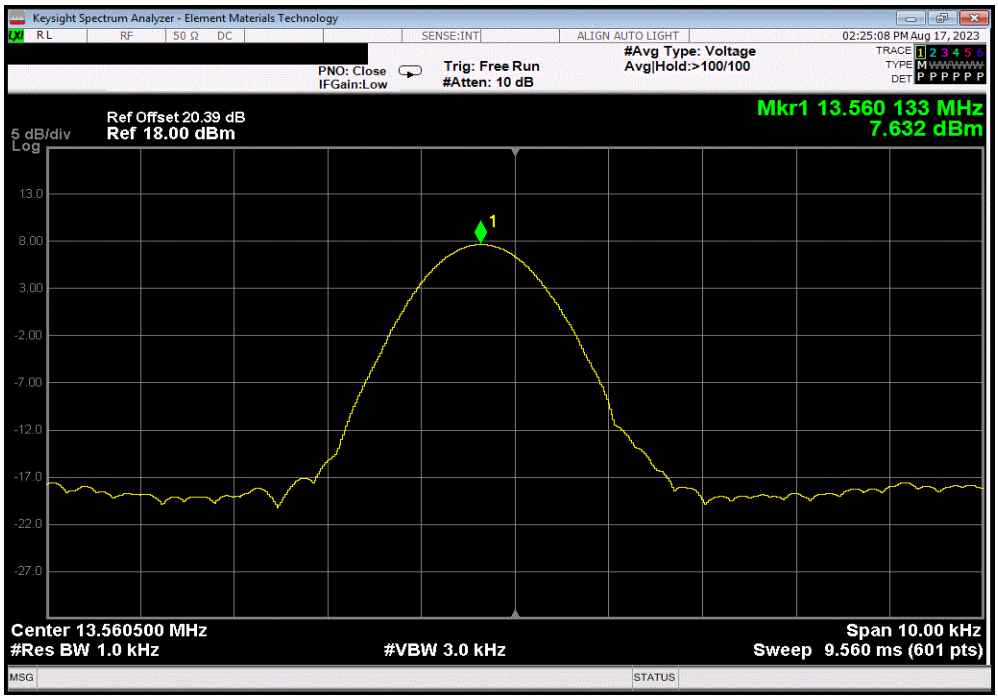
13.56 MHz RFID, CrossSwitch 3 Radio 1, Extreme Temperature -10°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56013	13.56006	5.16221	100	Pass



FREQUENCY STABILITY

TbtTx 2022.06.03.0 XMit 2023.02.14.0

13.56 MHz RFID, CrossSwitch 3 Radio 1, Extreme Temperature -20°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56013	13.56006	5.16221	100	Pass



FREQUENCY STABILITY

TbtTx 2022.06.03.0 XMit 2023.02.14.0

EUT:	Centrifuge Module	Work Order:	ABBO0285
Serial Number:	M05A000263	Date:	08/17/23
Customer:	Abbott Laboratories	Temperature:	19.8°C
Attendees:	Frank Sun	Humidity:	60.8%
Project:	None	Barometric Pres.:	1016 mbar
Tested by:	Marty Martin	Power: 220VAC/60Hz	Job Site: TX09

TEST SPECIFICATIONS	Test Method
FCC 15.225:2023	ANSI C63.10:2013
RSS-210 Issue 10:2019+A1:2020	ANSI C63.10:2013

COMMENTS

Test protocol D00135168/A. EUT contains 5 PCBs with RFID radios; 2 AccessPoint (1 radio each) and 3 CrossSwitch (2 radios each). Reference Level Offset adjustment to match maximum radiated H-Field measurment performed in a 10m chamber. EUT operates radios with modulation OOK, 100%, ISO 15693 at full rated power.

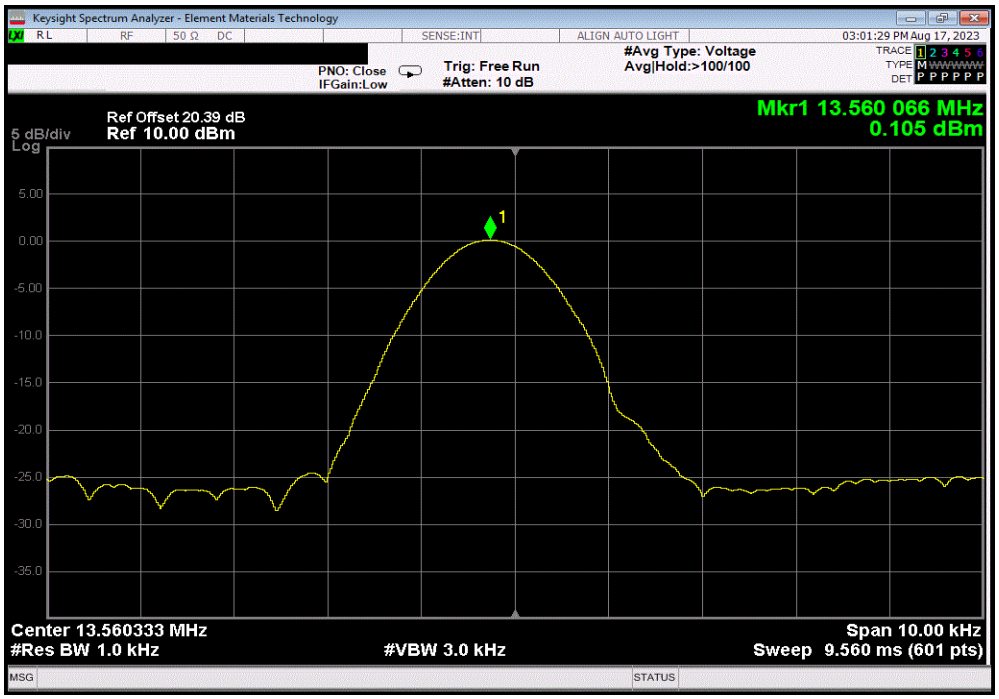
DEVIATIONS FROM TEST STANDARD

None

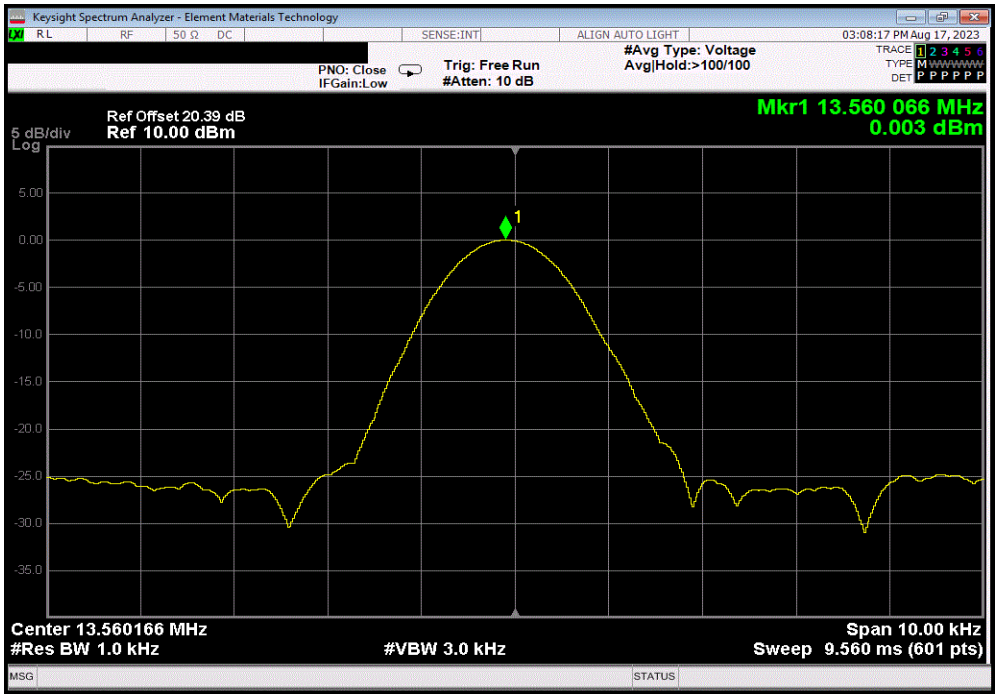
Configuration #	ABBO0285-3	Signature

	Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
13.56 MHz RFID, CrossSwitch 3 Radio 2					
Normal Conditions	13.56006	13.56006	0.00	100	Pass
Extreme Voltage 115%	13.56006	13.56006	0.00	100	Pass
Extreme Voltage 85%	13.56006	13.56006	0.00	100	Pass
Extreme Temperature +50°C	13.55996	13.56006	7.37	100	Pass
Extreme Temperature +40°C	13.55998	13.56006	5.90	100	Pass
Extreme Temperature +30°C	13.56001	13.56006	3.69	100	Pass
Extreme Temperature +20°C	13.56006	13.56006	0.00	100	Pass
Extreme Temperature +10°C	13.56009	13.56006	2.21	100	Pass
Extreme Temperature +0°C	13.56013	13.56006	5.16	100	Pass
Extreme Temperature -10°C	13.56015	13.56006	6.64	100	Pass
Extreme Temperature -20°C	13.56014	13.56006	5.90	100	Pass

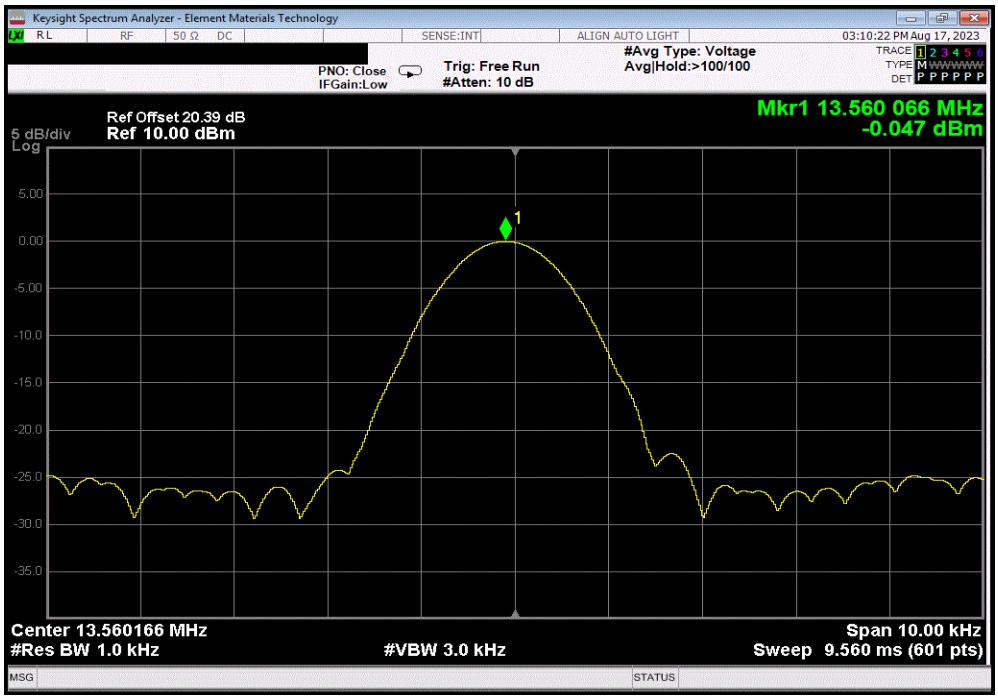
13.56 MHz RFID, CrossSwitch 3 Radio 2, Normal Conditions						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56006	13.56006	0	100	Pass



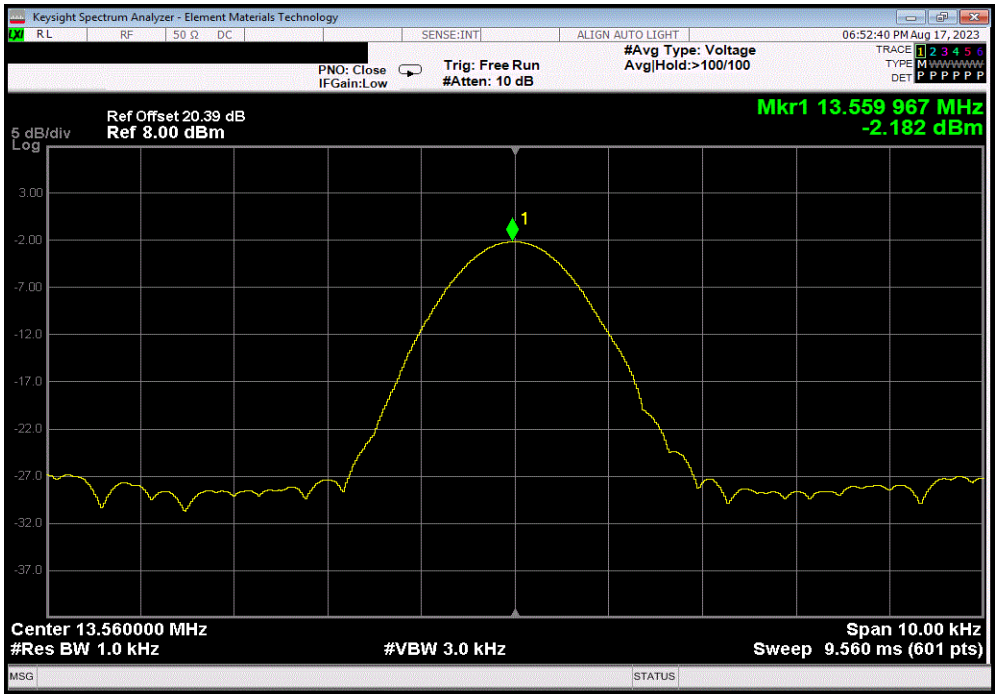
13.56 MHz RFID, CrossSwitch 3 Radio 2, Extreme Voltage 115%						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56006	13.56006	0	100	Pass



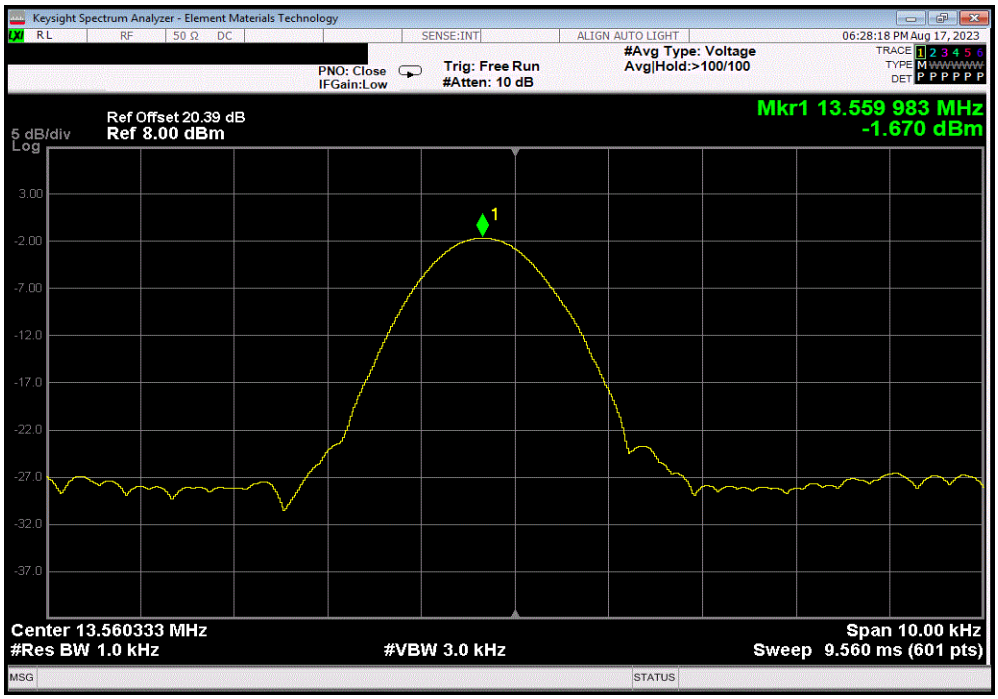
13.56 MHz RFID, CrossSwitch 3 Radio 2, Extreme Voltage 85%						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56006	13.56006	0	100	Pass



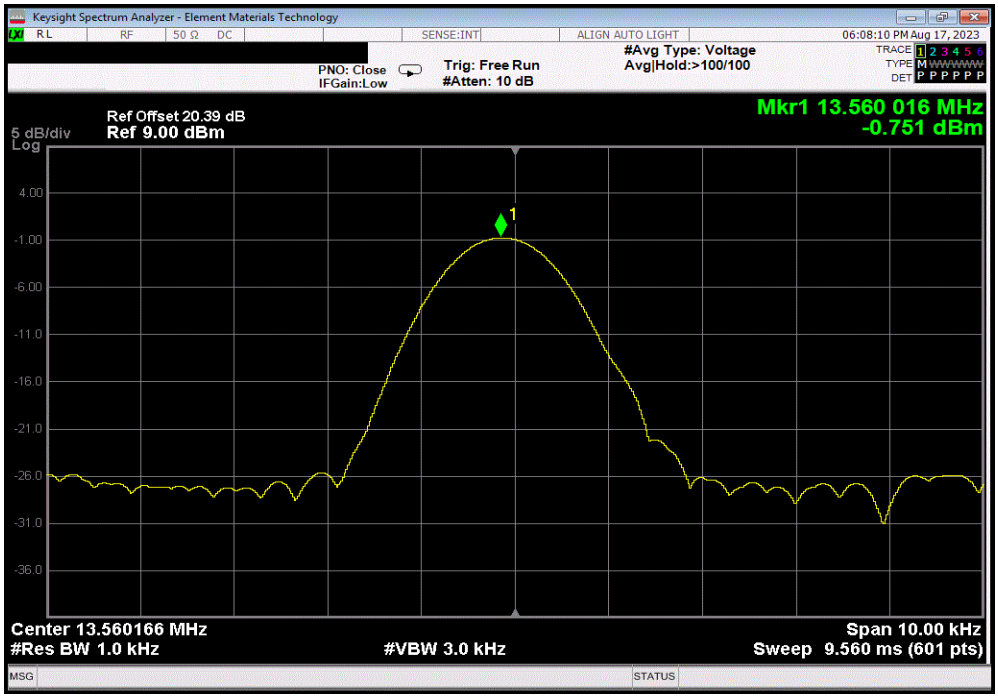
13.56 MHz RFID, CrossSwitch 3 Radio 2, Extreme Temperature +50°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.55996	13.56006	7.37459	100	Pass



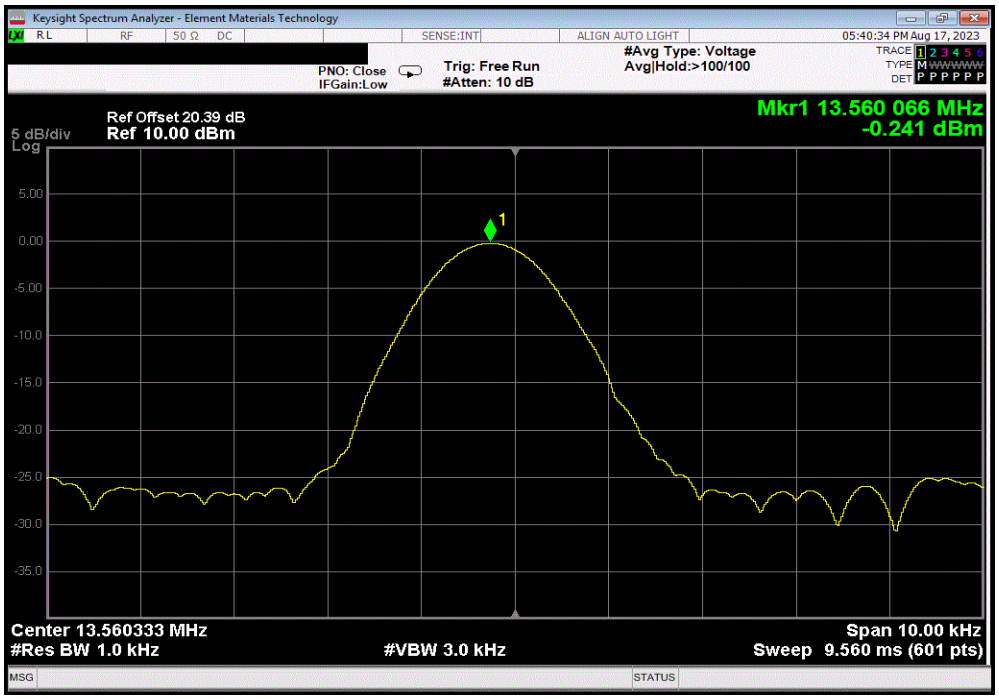
13.56 MHz RFID, CrossSwitch 3 Radio 2, Extreme Temperature +40°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.55998	13.56006	5.89967	100	Pass



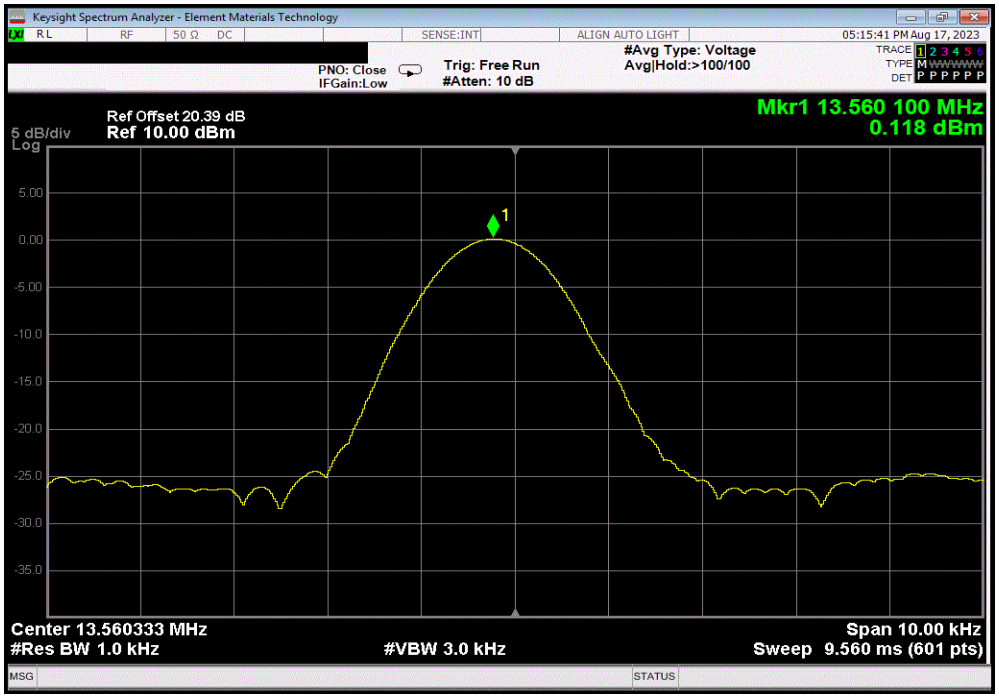
13.56 MHz RFID, CrossSwitch 3 Radio 2, Extreme Temperature +30°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56001	13.56006	3.68729	100	Pass



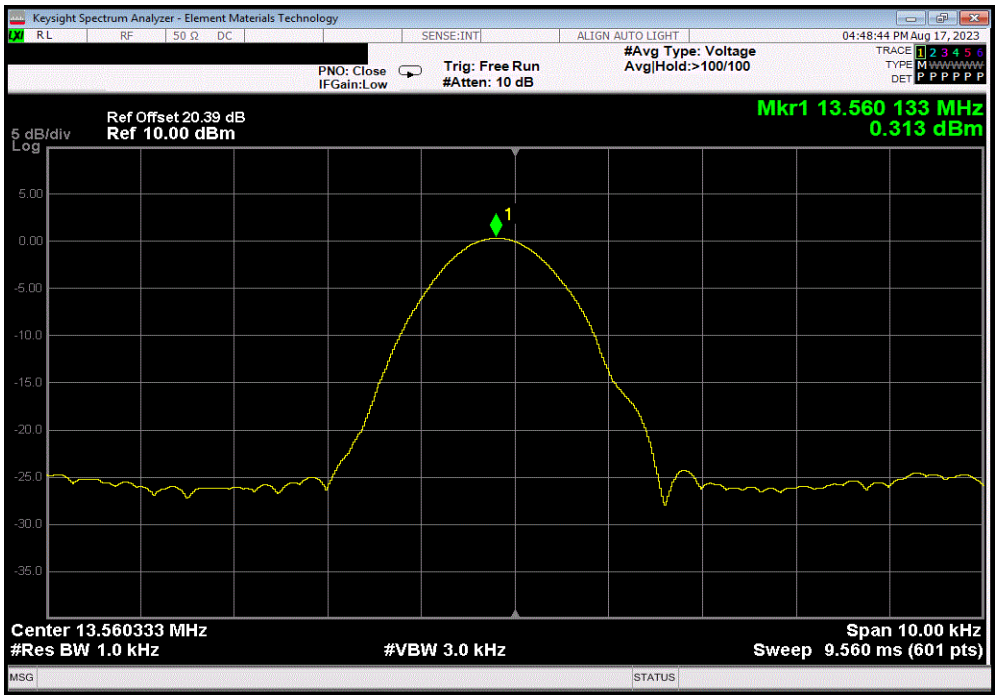
13.56 MHz RFID, CrossSwitch 3 Radio 2, Extreme Temperature +20°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56006	13.56006	0	100	Pass



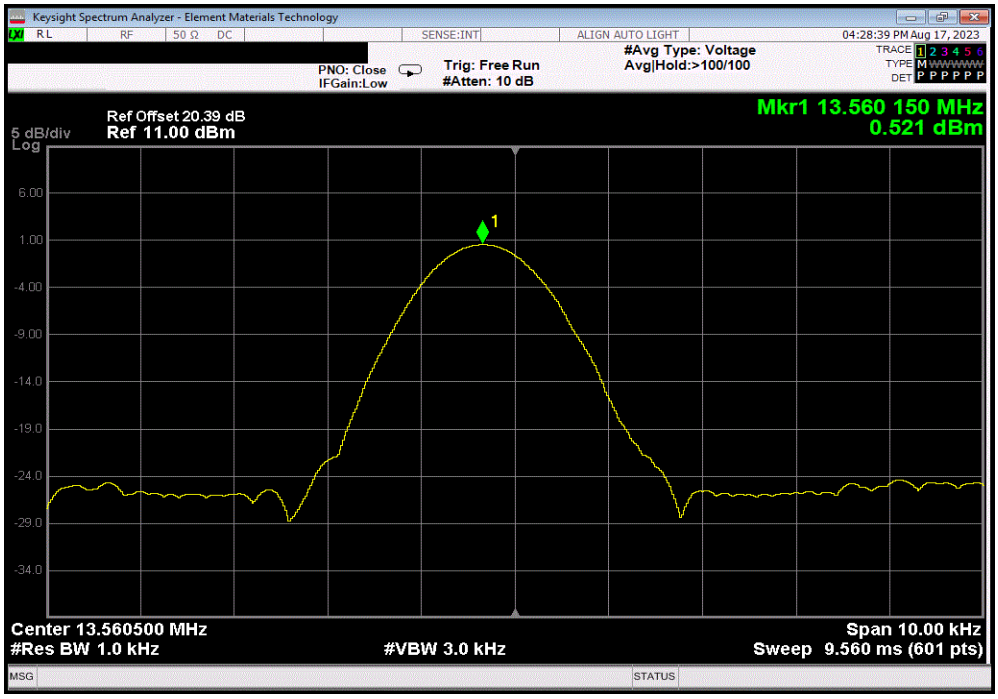
13.56 MHz RFID, CrossSwitch 3 Radio 2, Extreme Temperature +10°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56009	13.56006	2.21237	100	Pass



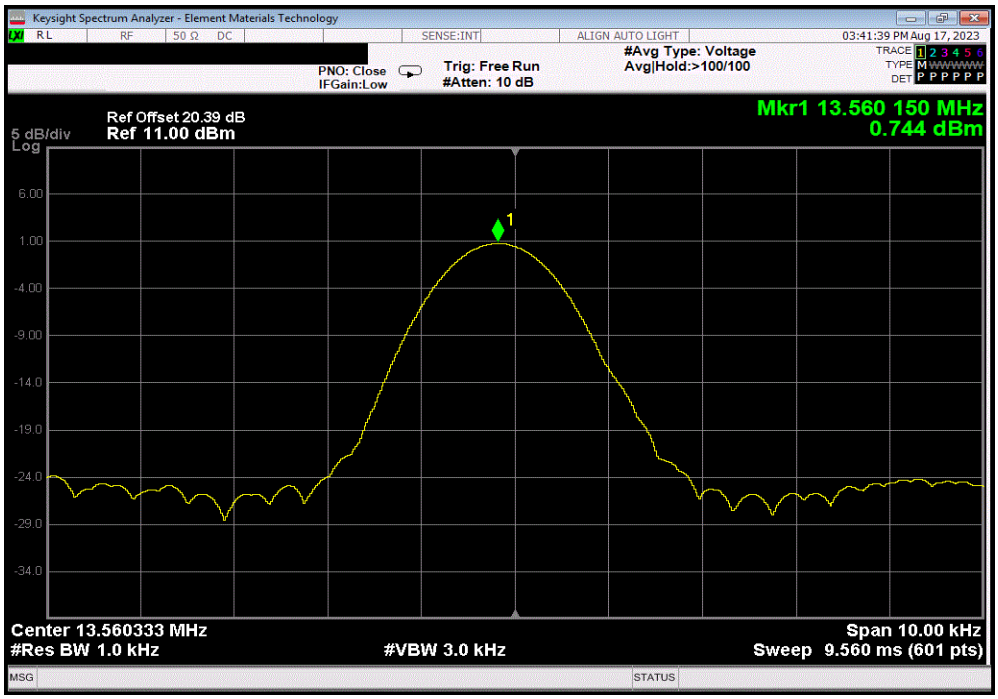
13.56 MHz RFID, CrossSwitch 3 Radio 2, Extreme Temperature +0°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56013	13.56006	5.16221	100	Pass



13.56 MHz RFID, CrossSwitch 3 Radio 2, Extreme Temperature -10°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56015	13.56006	6.63713	100	Pass



FREQUENCY STABILITY

TbtTx 2022.06.03.0 XMit 2023.02.14.0

13.56 MHz RFID, CrossSwitch 3 Radio 2, Extreme Temperature -20°C						
		Measured Value (MHz)	Nominal Value (MHz)	Error (ppm)	Limit (ppm)	Results
		13.56014	13.56006	5.89967	100	Pass