



**Starkey Laboratories, Inc.**

**Genesis AI RIC 312**

**FCC 15.247:2023**

**RSS-247 Issue 2:2017, RSS-Gen Issue 5:2018+A1:2019+A2:2021**

**Bluetooth Low Energy (DTS) Radio**

**Report: STAK0288.1 Rev. 1, Issue Date: June 7, 2023**



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# CERTIFICATE OF TEST



Last Date of Test: March 30, 2023

Starkey Laboratories, Inc.

EUT: Genesis AI RIC 312

## Radio Equipment Testing Standards

Specification	Method
FCC 15.247:2023	ANSI C63.10:2013
RSS-247 Issue 2:2017	
RSS-Gen Issue 5:2018+A1:2019+A2:2021	

## Results

Test Description	Result	FCC Section(s)	RSS Section(s)	ANSI C63.10 Section(s)	Comments
Powerline Conducted Emissions	N/A	15.207	RSS-Gen 8.8	6.2	Not required for a battery powered EUT.
Duty Cycle	Pass	KDB 558074 -6.0	RSS-Gen 3.2	11.6	
DTS Bandwidth (6 dB)	Pass	15.247(a)(2), KDB 558074 -8.2	RSS-247 5.2(a)	11.8.2	
Occupied Bandwidth (99%)	Pass	KDB 558074 -2.1	RSS-Gen 6.7	6.9.3	
Output Power	Pass	15.247(b)(3), KDB 558074 - 8.3.1	RSS-247 5.4(d, f), RSS- Gen 6.12	11.9.1.1	
Equivalent Isotropic Radiated Power	Pass	15.247(b)(3), KDB 558074 - 8.3.1	RSS-247 5.4(d, f), RSS- Gen 6.12	11.9.1.1	
Power Spectral Density	Pass	15.247(e), KDB 558074 -8.4	RSS-247 5.2(b)	11.10.2	
Band Edge Compliance	Pass	15.247(d), KDB 558074 -8.5	RSS-247 5.5	11.11	
Spurious Conducted Emissions	Pass	15.247(d), KDB 558074 -8.5	RSS-247 5.5	11.11	
Spurious Radiated Emissions	Pass	15.247(d), KDB 558074 - 8.6, 8.7	RSS-247 5.5, RSS-Gen 6.13, 8.10	11.12.1, 11.13.2, 6.5, 6.6	

## Deviations From Test Standards

None

## Approved By:

Eric Brandon, Department 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. As indicated in the Statement of Work sent with the quotation, Element's standard process is to always use the latest published version of the test methods even when earlier versions are cited in the test specification. Issuance of a purchase order was de facto acceptance of this approach. Otherwise, the client would have advised Element in writing of the specific version of the test methods they wanted applied to the subject testing.*

# REVISION HISTORY

Revision Number	Description	Date (yyyy-mm-dd)	Page Number
01	Updated radio type on cover page.	2023-06-07	1
	Updated power settings table.	2023-06-07	11
	Added test equipment to Spurious Radiated Emissions.	2023-06-07	68
	Updated DCCF in Spurious Radiated Emissions.	2023-06-07	70, 73
	Resorted data in Spurious Radiated Emissions.	2023-06-07	71, 74

# ACCREDITATIONS AND AUTHORIZATIONS



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## 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** - Each laboratory is accredited by A2LA to ISO / IEC 17025, and as a product certifier to ISO / IEC 17065 which allows Element to certify transmitters to FCC and IC specifications.

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## Canada

**ISED** - Recognized by Innovation, Science and Economic Development Canada as a Certification Body (CB) and as a CAB for the acceptance of test data.

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## European Union

**European Commission** – Recognized as an EU Notified Body validated for the EMCD and RED Directives.

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## United Kingdom

**BEIS** – Recognized by the UK as an Approved Body under the UK Radio Equipment and UK EMC Regulations.

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## Australia/New Zealand

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

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## Korea

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

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## Japan

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

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## 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.

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## Singapore

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

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## Israel

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

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## Hong Kong

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

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## Vietnam

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

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## SCOPE

For details on the Scopes of our Accreditations, please visit:

[California](#)

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[Oregon](#)

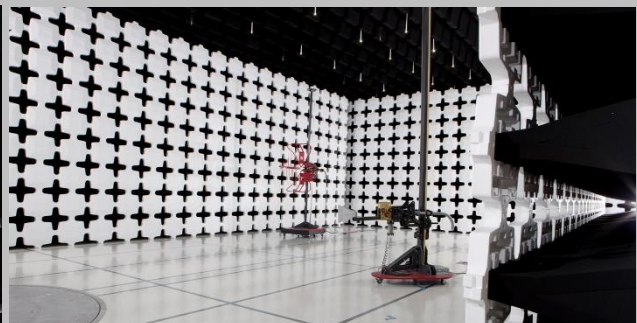
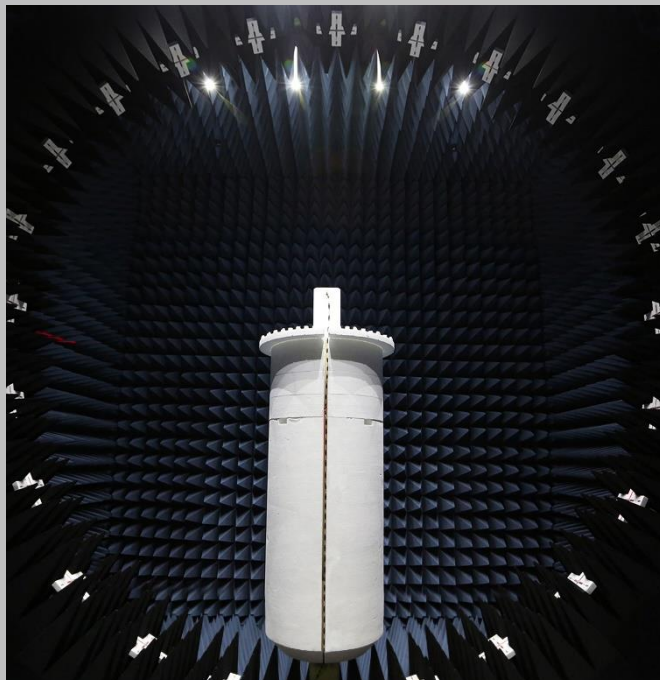
[Texas](#)

[Washington](#)

# FACILITIES



<b>California</b> Labs OC01-17 41 Tesla Irvine, CA 92618 (949) 861-8918	<b>Minnesota</b> Labs MN01-11 9349 W Broadway Ave. Brooklyn Park, MN 55445 (612)-638-5136	<b>Oregon</b> Labs EV01-12 6775 NE Evergreen Pkwy #400 Hillsboro, OR 97124 (503) 844-4066	<b>Texas</b> Labs TX01-09 3801 E Plano Pkwy Plano, TX 75074 (469) 304-5255	<b>Washington</b> Labs NC01-05 19201 120 <sup>th</sup> Ave NE Bothell, WA 98011 (425)984-6600
<b>A2LA</b>				
Lab Code: 3310.04	Lab Code: 3310.05	Lab Code: 3310.02	Lab Code: 3310.03	Lab Code: 3310.06
<b>Innovation, Science and Economic Development Canada</b>				
2834B-1, 2834B-3	2834E-1, 2834E-3	2834D-1	2834G-1	2834F-1
<b>BSMI</b>				
SL2-IN-E-1154R	SL2-IN-E-1152R	SL2-IN-E-1017	SL2-IN-E-1158R	SL2-IN-E-1153R
<b>VCCI</b>				
A-0029	A-0109	A-0108	A-0201	A-0110
<b>Recognized Phase I CAB for ISED, ACMA, BSMI, IDA, KCC/RRR, MIC, MOC, NCC, OFCA</b>				
US0158	US0175	US0017	US0191	US0157





# 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 in the table below. A lab specific value may also be found in the applicable test description section. 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	0.0007%	-0.0007%
Amplitude Accuracy (dB)	1.2 dB	-1.2 dB
Conducted Power (dB)	1.2 dB	-1.2 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)	5.2 dB	-5.2 dB
AC Powerline Conducted Emissions (dB)	3.2 dB	-3.2 dB

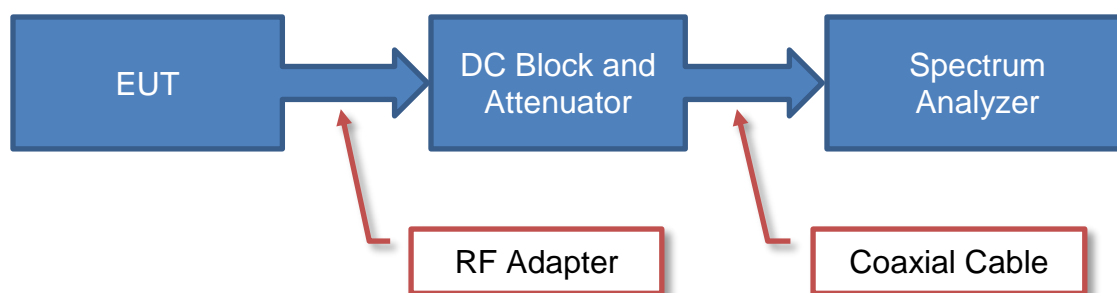
# TEST SETUP BLOCK DIAGRAMS

## 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

Unless otherwise stated, measurements were made using the bandwidths and detectors specified. No video filter was used.

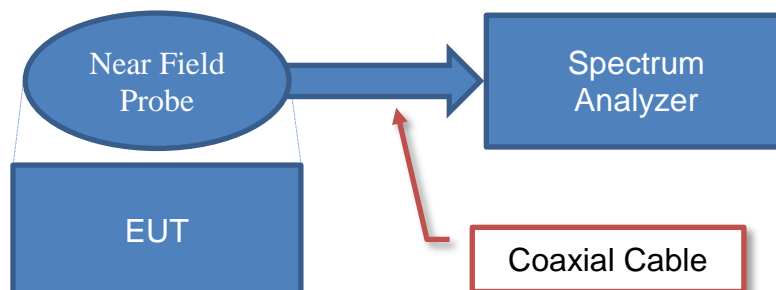
## Antenna Port Conducted Measurements



## Sample Calculation (logarithmic units)

Measured Value		Measured Level		Reference Level Offset
71.2	=	42.6	+	28.6

## Near Field Test Fixture Measurements

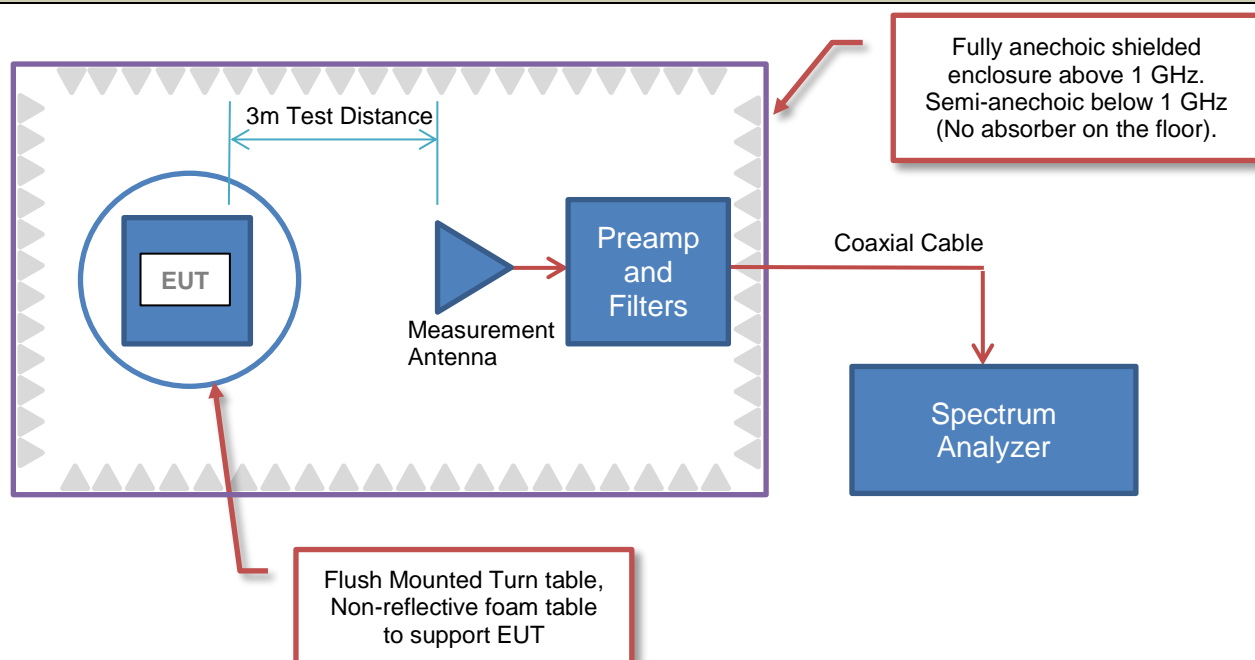


## Sample Calculation (logarithmic units)

Measured Value		Measured Level		Reference Level Offset
71.2	=	42.6	+	28.6

# TEST SETUP BLOCK DIAGRAMS

## Emissions Measurements



## Sample Calculation (logarithmic units)

### Radiated Emissions:

Measured Level (Amplitude)	Factor			Distance Adjustment Factor	External Attenuation	Field Strength
	Antenna Factor	Cable Factor	Amplifier Gain			
42.6	28.6	3.1	40.8	0.0	0.0	33.5

### Conducted Emissions:

Measured Level (Amplitude)	Factor		External Attenuation	Adjusted Level
	Transducer Factor	Cable Factor		
26.7	0.3	0.1	20.0	47.1

### Radiated Power (ERP/EIRP) – Substitution Method:

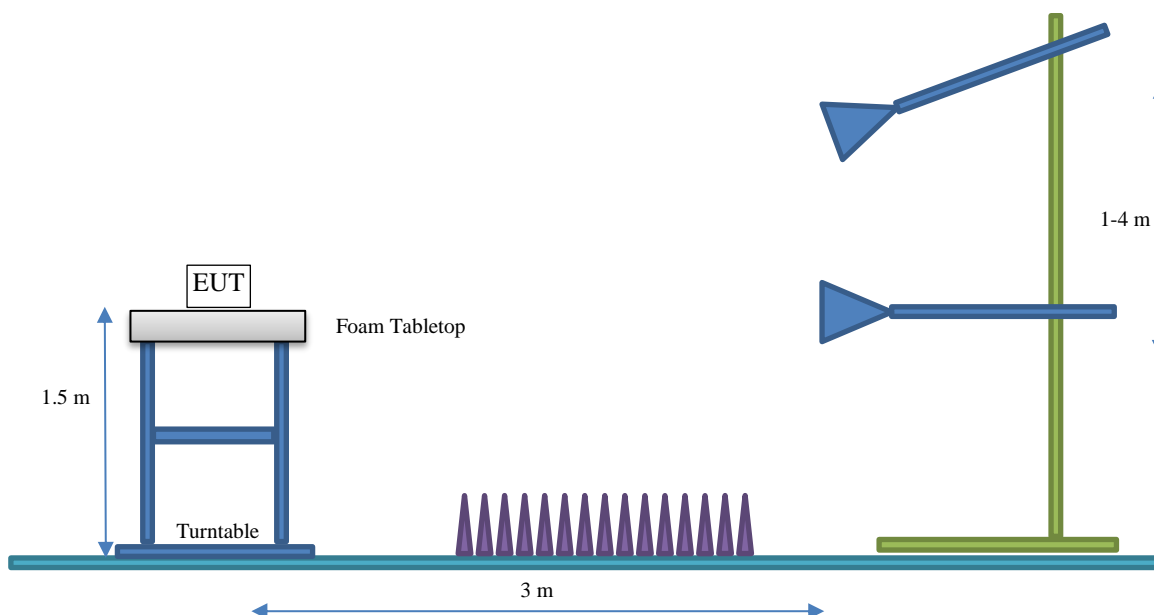
Measured Level into Substitution Antenna (Amplitude dBm)	Substitution Antenna Factor (dBi)	EIRP to ERP (if applicable)	Measured power (dBm ERP/EIRP)
10.0	6.0	2.15	13.9/16.0



# TEST SETUP BLOCK DIAGRAMS

## Bore Sighting (>1GHz)

The diameter of the illumination area is the dimension of the line tangent to the EUT formed by 3 dB beamwidth of the measurement antenna at the measurement distance. At a 3 meter test distance, the diameter of the illumination area was 3.8 meters at 1 GHz and greater than 2.1 meters up to 6 GHz. Above 1 GHz, when required by the measurement standard, the antenna is pointed for both azimuth and elevation to maintain the receive antenna within the cone of radiation from the EUT. The specified measurement detectors were used for comparison of the emissions to the peak and average specification limits.



# PRODUCT DESCRIPTION



## Client and Equipment under Test (EUT) Information

Company Name:	Starkey Laboratories, Inc.
Address:	6600 Washington Ave S
City, State, Zip:	Eden Prairie, MN 55344-3404
Test Requested By:	Bill Mitchell
EUT:	Genesis AI RIC 312
First Date of Test:	February 27, 2023
Last Date of Test:	March 30, 2023
Receipt Date of Samples:	February 27, 2023
Equipment Design Stage:	Preproduction
Equipment Condition:	No Damage
Purchase Authorization:	Verified

## Information Provided by the Party Requesting the Test

<b>Functional Description of the EUT:</b>
Hearing aid with near field magnetic induction and Bluetooth LE.
<b>Testing Objective:</b>
To demonstrate compliance of the Bluetooth radio to FCC 15.247/RSS-247 requirements.

# POWER SETTINGS AND ANTENNAS



The power settings, antenna gain value(s) and cable loss (if applicable) used for the testing contained in this report were provided by the customer and will affect the validity of the results. Element assumes no responsibility for the accuracy of this information. The power settings below reflect the maximum power that the EUT is allowed to transmit at during normal operation.

## ANTENNA GAIN (dBi)

Type	Provided by:	Frequency Range (MHz)	Gain (dBi)
Flex PCB	Starkey	2400-2483.5	-3

The EUT was tested using the power settings provided by the manufacturer which were based upon:

- ☒ Test software settings
- ☐ Rated power settings

Test firmware installed on EUT 8.3.0.6

Test software: Monaco 6.2.1.0

## SETTINGS FOR ALL TESTS IN THIS REPORT

Modulation Types / Data Rates	Type	Channel	Frequency (MHz)	Power Setting
BLE GFSK 1 Mbps, 2 Mbps	DTS	0 or 37	2402	+4
		20 or 18	2442	+4
		39	2480	+4

# CONFIGURATIONS



## Configuration STAK0288-1

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Genesis AI RIC 312	Starkey Laboratories, Inc.	Genesis AI RIC 312	230160490

## Configuration STAK0288-5

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Genesis AI RIC 312	Starkey Laboratories, Inc.	Genesis AI RIC 312	230160526

# MODIFICATIONS



## Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	2023-02-27	Spurious Radiated Emissions	Tested as delivered to test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
2	2023-03-30	Band Edge Compliance	Tested as delivered to test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
3	2023-03-30	Duty Cycle	Tested as delivered to test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
4	2023-03-30	DTS Bandwidth (6 dB)	Tested as delivered to test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
5	2023-03-30	Equivalent Isotropic Radiated Power	Tested as delivered to test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
6	2023-03-30	Occupied Bandwidth (99%)	Tested as delivered to test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
7	2023-03-30	Output Power	Tested as delivered to test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
8	2023-03-30	Power Spectral Density	Tested as delivered to test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
9	2023-03-30	Spurious Conducted Emissions	Tested as delivered to test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

# DUTY CYCLE



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
Attenuator	S.M. Electronics	SA26B-20	TZP	2022-11-06	2023-11-06
Block - DC	Fairview Microwave	SD3379	AMZ	2022-11-06	2023-11-06
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2022-09-10	2023-09-10
Generator - Signal	Agilent	N5183A	TIK	2022-01-24	2025-01-24
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2022-04-25	2023-04-25

## TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

The Duty Cycle (x) of the single channel operation of the radio as controlled by the provided test software was measured for each of the EUT operating modes.

There is no compliance requirement to be met by this test, so therefore no Pass / Fail criteria.

The measurements were made using a zero span on the spectrum analyzer to see the pulses in the time domain. The transmit power was set to its default maximum.

The duty cycle was calculated by dividing the transmission pulse duration (T) by the total period of a single on and total off time.

If the transmit duty cycle < 98 percent, burst gating may have been used during some of the other tests in this report to only take the measurement during the burst duration.



# DUTY CYCLE



XMH 2023.02.14.0

EUT: Genesis AI RIC 312		Work Order: STAK0288	
Serial Number: 230160526		Date: 03/30/2023	
Customer: Starkey Laboratories, Inc.		Temperature: 21.7°C	
Attendees: John Quach		Humidity: 18.5%	
Project: None		Barometric Pres.: 1019 mbar	
Tested by: Christopher Heintzelman		Power: Battery	
Job Site: MN11			

TEST SPECIFICATIONS		Test Method	
FCC 15.247:2023	ANSI C63.10:2013		
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013		

COMMENTS

Reference level offset includes measurement cable, attenuator, and DC block. Does not include customer's patch cable.

DEVIATIONS FROM TEST STANDARD

None

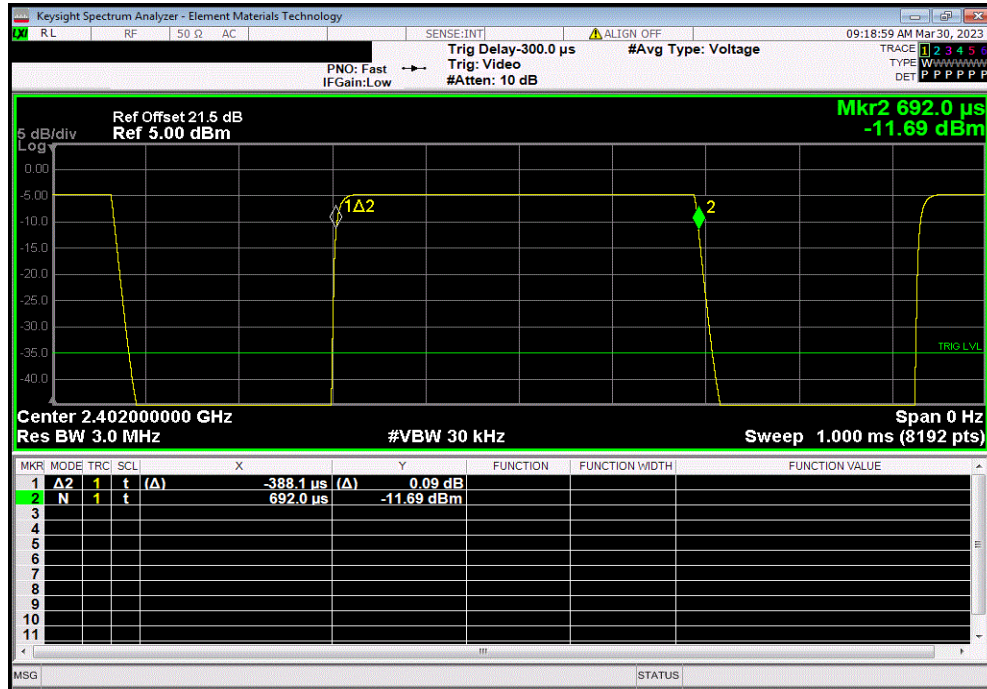
Configuration #	STAK0288-5	Signature	Pulse Width (ms)	Pulse Count	Total On Time (ms)	Period (ms)	Value (%)	Limit	Result
BLE/GFSK Low Channel, 2402 MHz									
1 Mbps									
			Pulse Length	0.3881	-	-	-	-	-
			Number of Pulses	-	22	8.5382	-	-	-
			Period	-	-	40.63	21.01	-	-
			Repeatability	-	15	-	-	-	-
2 Mbps									
			Pulse Length	0.199	-	-	-	-	-
			Number of Pulses	-	34	6.766	-	-	-
			Period	-	-	43.14	15.68	-	-
			Repeatability	-	15	-	-	-	-
BLE/GFSK Mid Channel, 2442 MHz									
1 Mbps									
			Pulse Length	0.3881	-	-	-	-	-
			Number of Pulses	-	23	8.9263	-	-	-
			Period	-	-	40.6	21.99	-	-
			Repeatability	-	15	-	-	-	-
2 Mbps									
			Pulse Length	0.199	-	-	-	-	-
			Number of Pulses	-	34	6.766	-	-	-
			Period	-	-	40.64	16.65	-	-
			Repeatability	-	15	-	-	-	-
BLE/GFSK High Channel, 2480 MHz									
1 Mbps									
			Pulse Length	0.3881	-	-	-	-	-
			Number of Pulses	-	23	8.9263	-	-	-
			Period	-	-	40.62	21.98	-	-
			Repeatability	-	15	-	-	-	-
2 Mbps									
			Pulse Length	0.199	-	-	-	-	-
			Number of Pulses	-	34	6.766	-	-	-
			Period	-	-	40.63	16.65	-	-
			Repeatability	-	15	-	-	-	-

# DUTY CYCLE

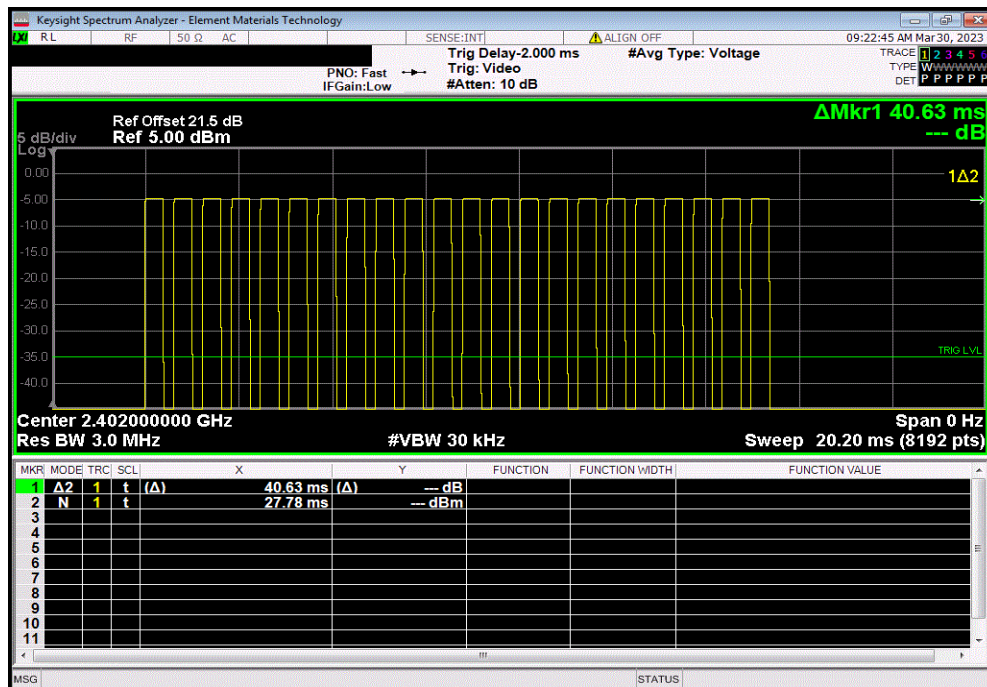


XMR 2023.02.14.0

BLE/GFSK Low Channel, 2402 MHz, 1 Mbps, Pulse Length						
Pulse Width (ms)	Pulse Count	Total On Time (ms)	Period (ms)	Value (%)	Limit	Result
0.3881	-	-	-	-	-	-

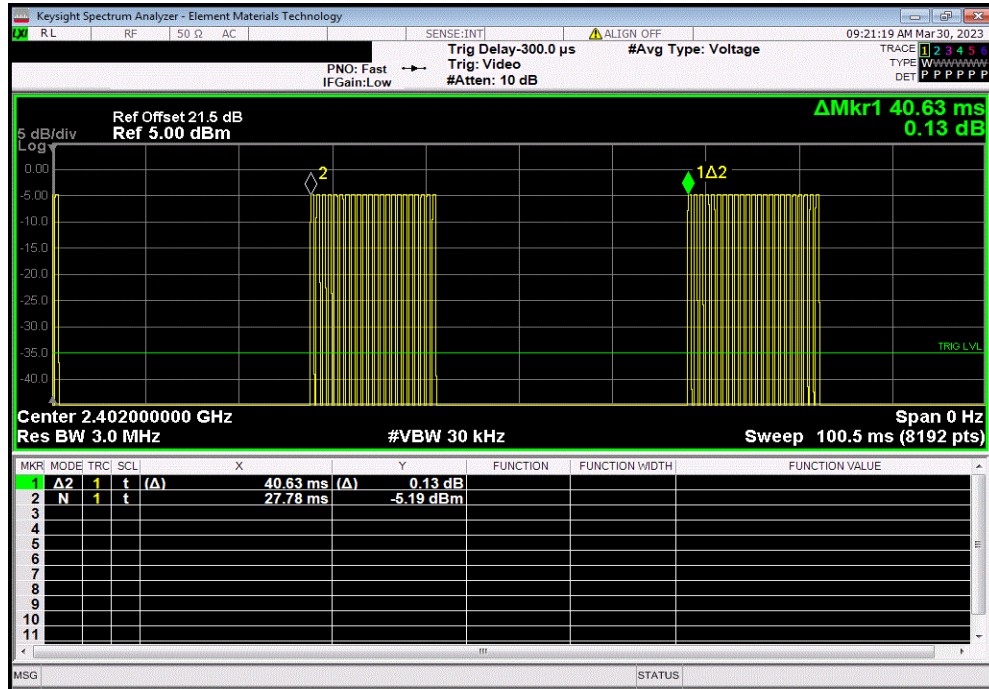


BLE/GFSK Low Channel, 2402 MHz, 1 Mbps, Number of Pulses						
Pulse Width (ms)	Pulse Count	Total On Time (ms)	Period (ms)	Value (%)	Limit	Result
-	22	8.5382	-	-	-	-



# DUTY CYCLE

BLE/GFSK Low Channel, 2402 MHz, 1 Mbps, Period						
Pulse Width (ms)	Pulse Count	Total On Time (ms)	Period (ms)	Value (%)	Limit	Result
-	-	-	40.63	21.01	-	-

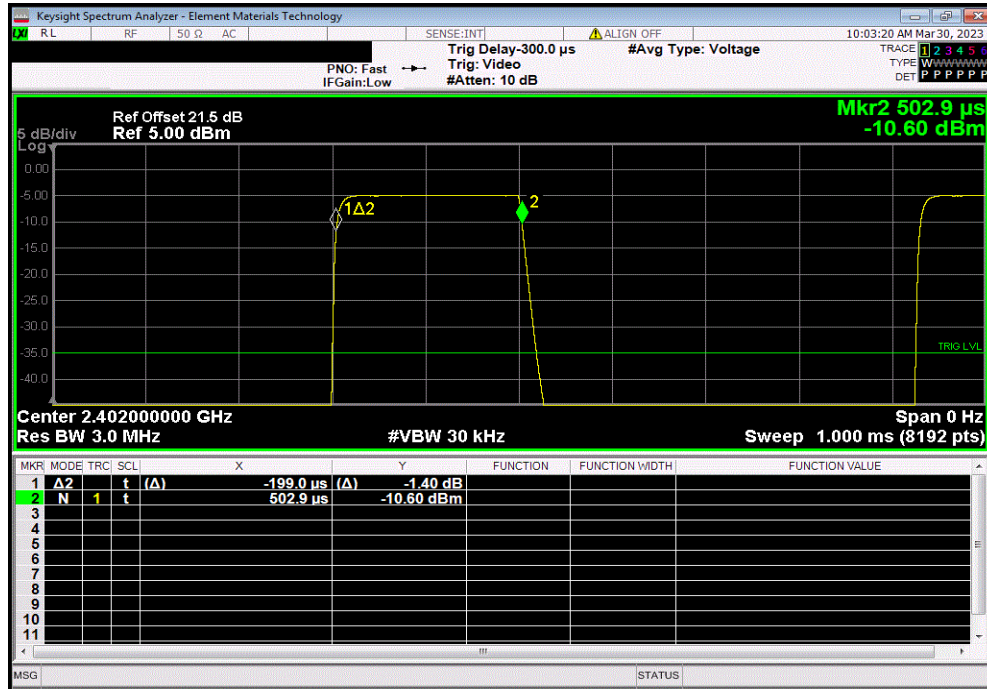


BLE/GFSK Low Channel, 2402 MHz, 1 Mbps, Repeatability						
Pulse Width (ms)	Pulse Count	Total On Time (ms)	Period (ms)	Value (%)	Limit	Result
-	15	-	-	-	-	-

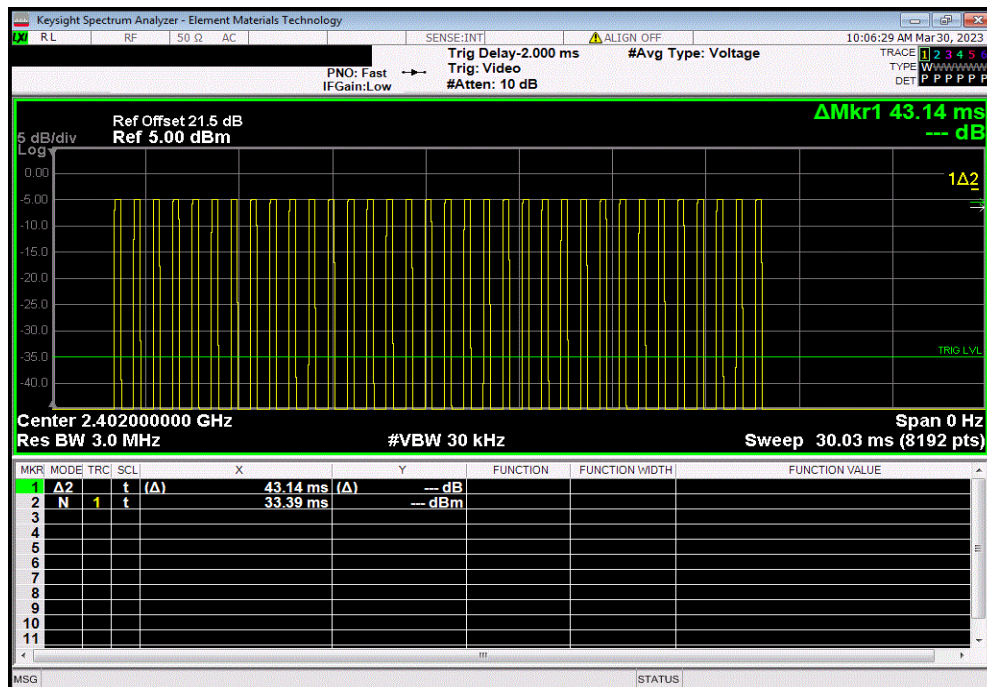


# DUTY CYCLE

BLE/GFSK Low Channel, 2402 MHz, 2 Mbps, Pulse Length						
Pulse Width (ms)	Pulse Count	Total On Time (ms)	Period (ms)	Value (%)	Limit	Result
0.199	-	-	-	-	-	-

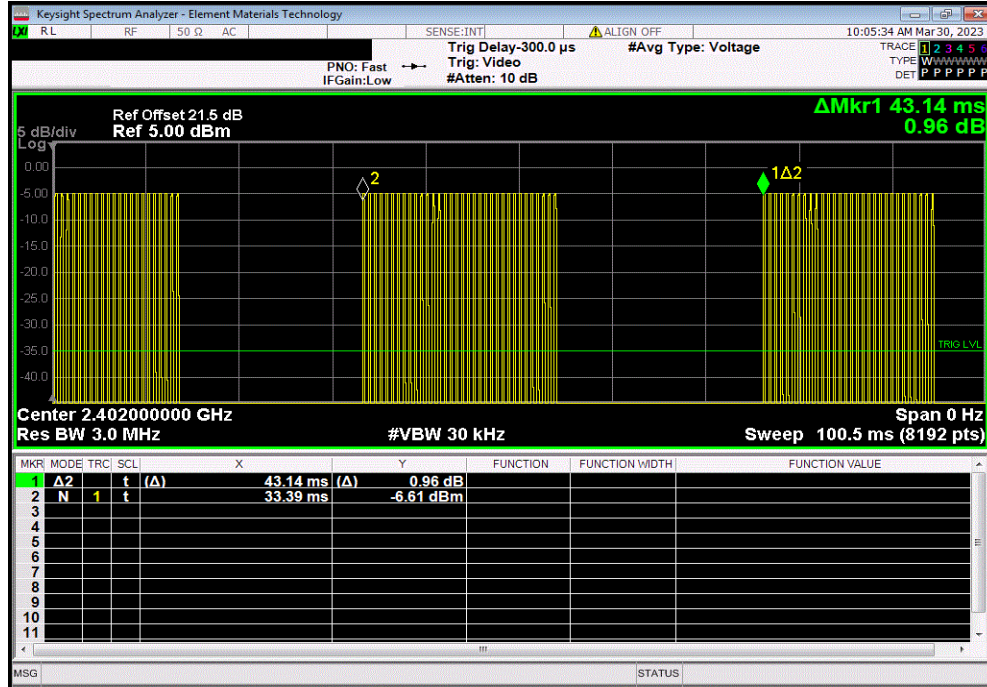


BLE/GFSK Low Channel, 2402 MHz, 2 Mbps, Number of Pulses						
Pulse Width (ms)	Pulse Count	Total On Time (ms)	Period (ms)	Value (%)	Limit	Result
-	34	6.766	-	-	-	-

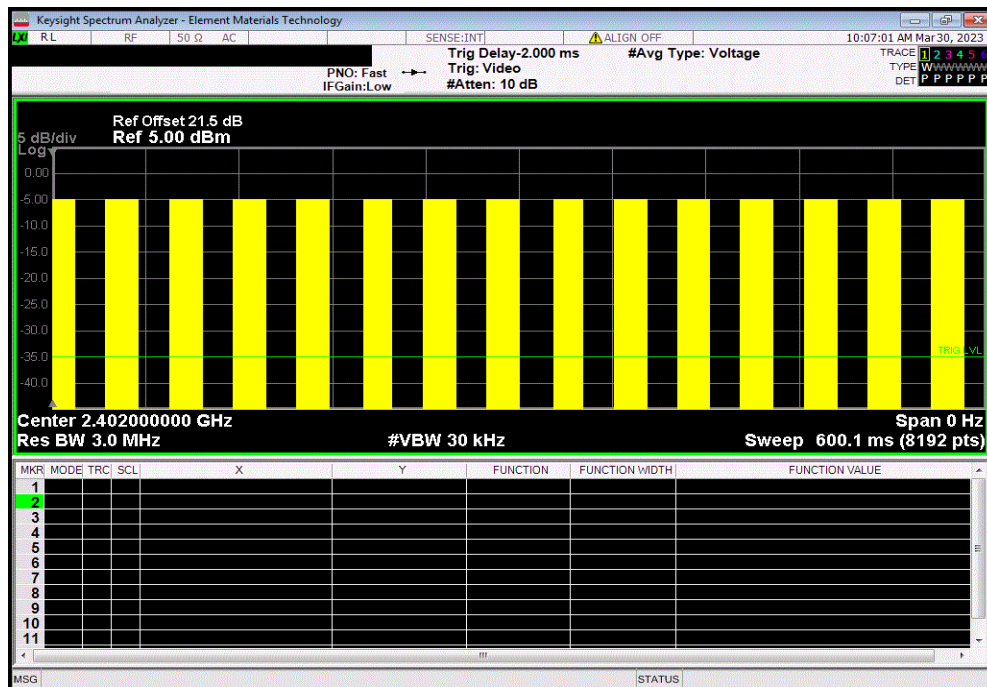


# DUTY CYCLE

BLE/GFSK Low Channel, 2402 MHz, 2 Mbps, Period						
Pulse Width (ms)	Pulse Count	Total On Time (ms)	Period (ms)	Value (%)	Limit	Result
-	-	-	43.14	15.68	-	-



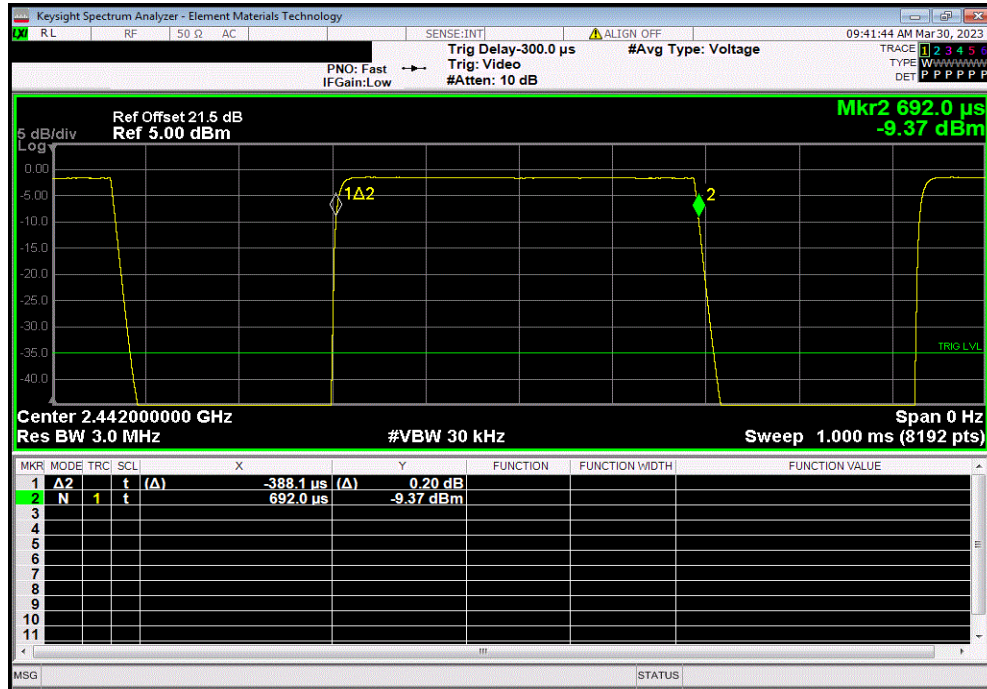
BLE/GFSK Low Channel, 2402 MHz, 2 Mbps, Repeatability						
Pulse Width (ms)	Pulse Count	Total On Time (ms)	Period (ms)	Value (%)	Limit	Result
-	15	-	-	-	-	-



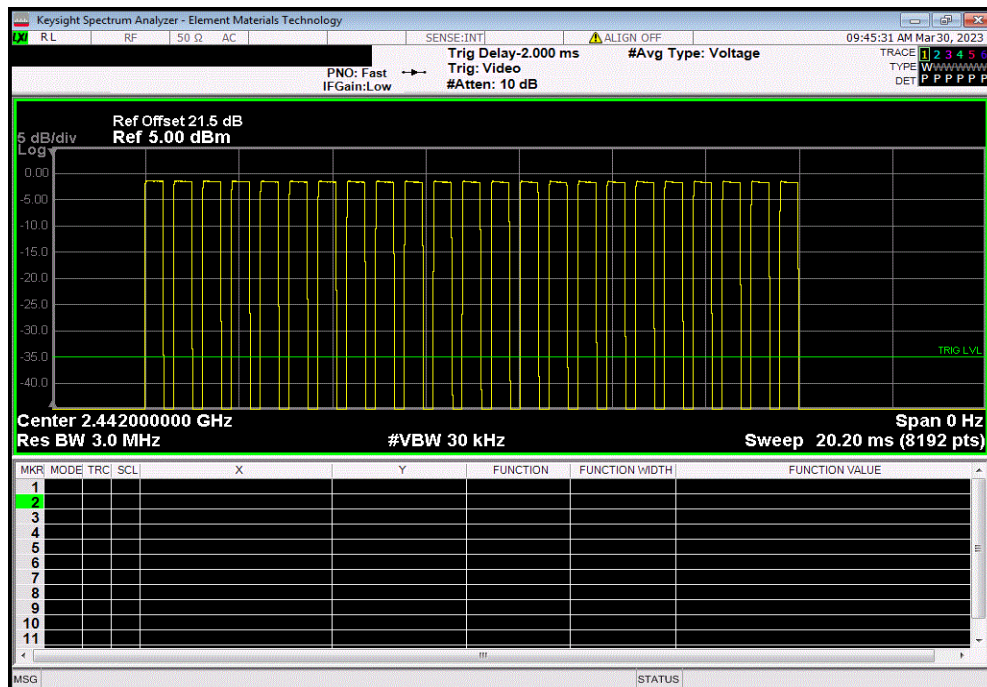


# DUTY CYCLE

BLE/GFSK Mid Channel, 2442 MHz, 1 Mbps, Pulse Length						
Pulse Width (ms)	Pulse Count	Total On Time (ms)	Period (ms)	Value (%)	Limit	Result
0.3881	-	-	-	-	-	-



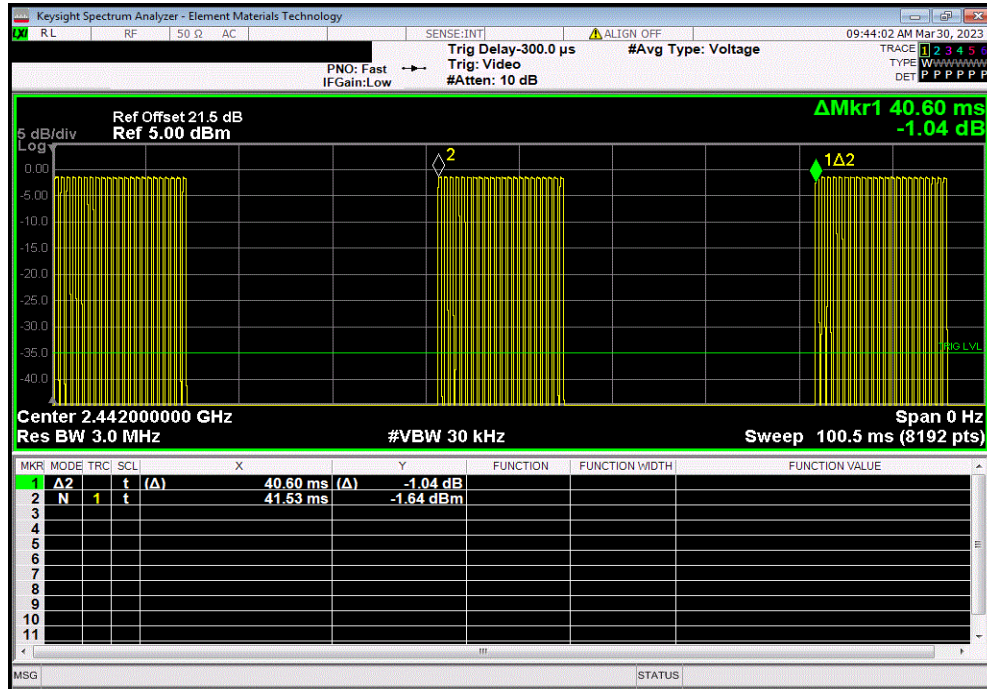
BLE/GFSK Mid Channel, 2442 MHz, 1 Mbps, Number of Pulses						
Pulse Width (ms)	Pulse Count	Total On Time (ms)	Period (ms)	Value (%)	Limit	Result
-	23	8.9263	-	-	-	-



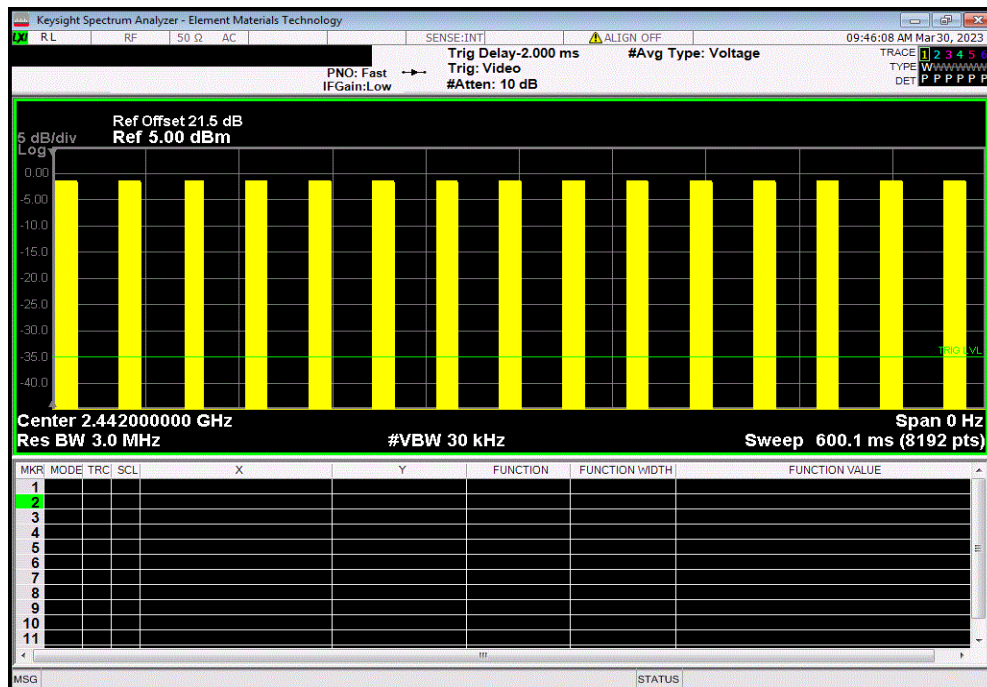


# DUTY CYCLE

BLE/GFSK Mid Channel, 2442 MHz, 1 Mbps, Period						
Pulse Width (ms)	Pulse Count	Total On Time (ms)	Period (ms)	Value (%)	Limit	Result
-	-	-	40.6	21.99	-	-

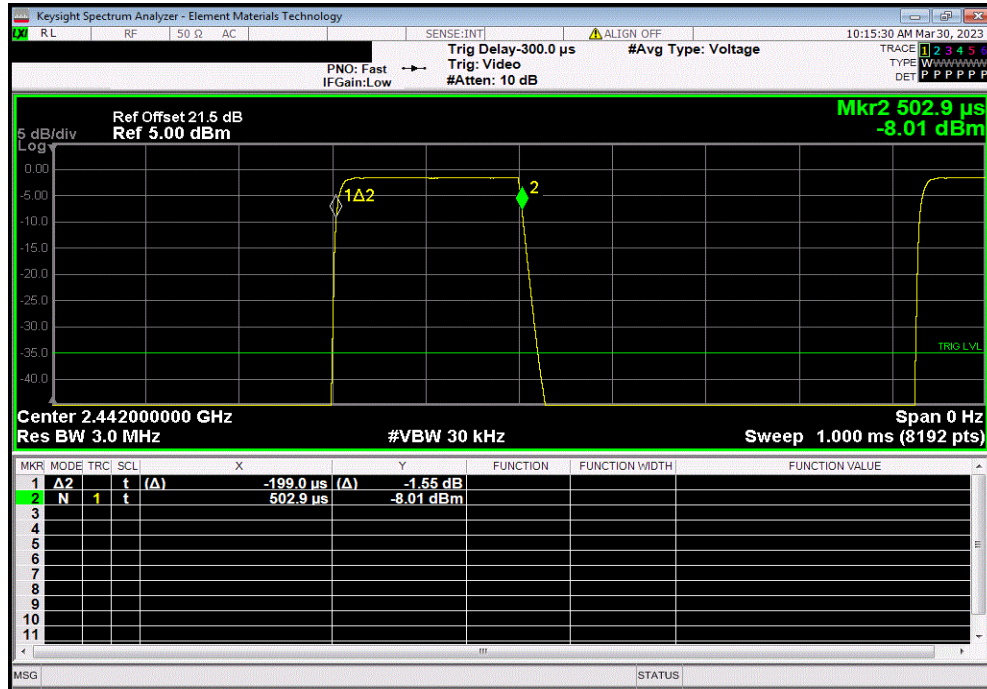


BLE/GFSK Mid Channel, 2442 MHz, 1 Mbps, Repeatability						
Pulse Width (ms)	Pulse Count	Total On Time (ms)	Period (ms)	Value (%)	Limit	Result
-	15	-	-	-	-	-

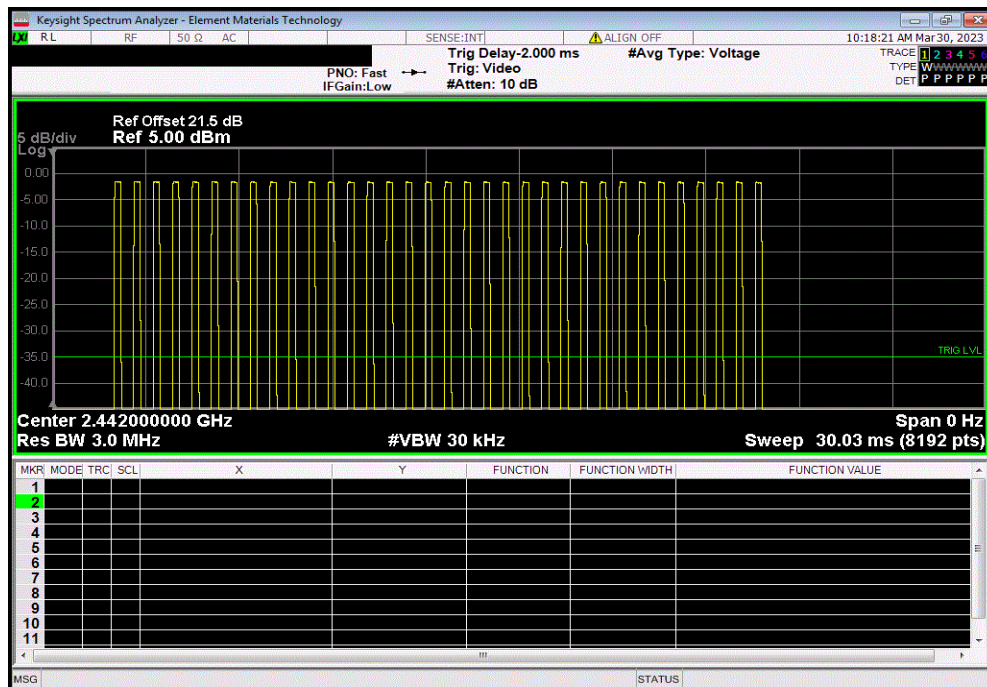


# DUTY CYCLE

BLE/GFSK Mid Channel, 2442 MHz, 2 Mbps, Pulse Length						
Pulse Width (ms)	Pulse Count	Total On Time (ms)	Period (ms)	Value (%)	Limit	Result
0.199	-	-	-	-	-	-

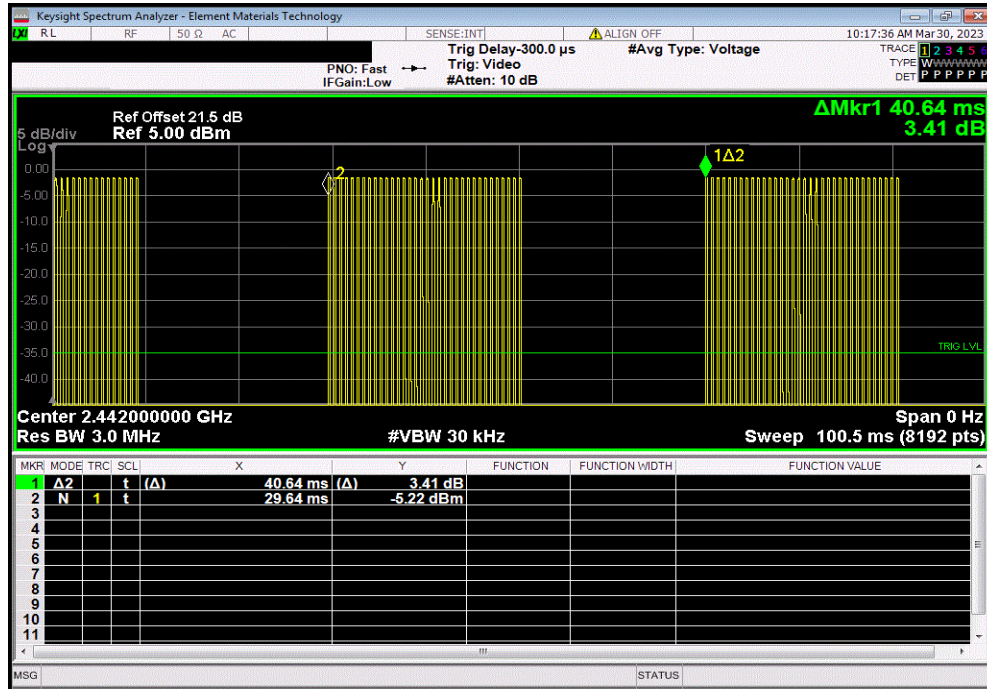


BLE/GFSK Mid Channel, 2442 MHz, 2 Mbps, Number of Pulses						
Pulse Width (ms)	Pulse Count	Total On Time (ms)	Period (ms)	Value (%)	Limit	Result
-	34	6.766	-	-	-	-

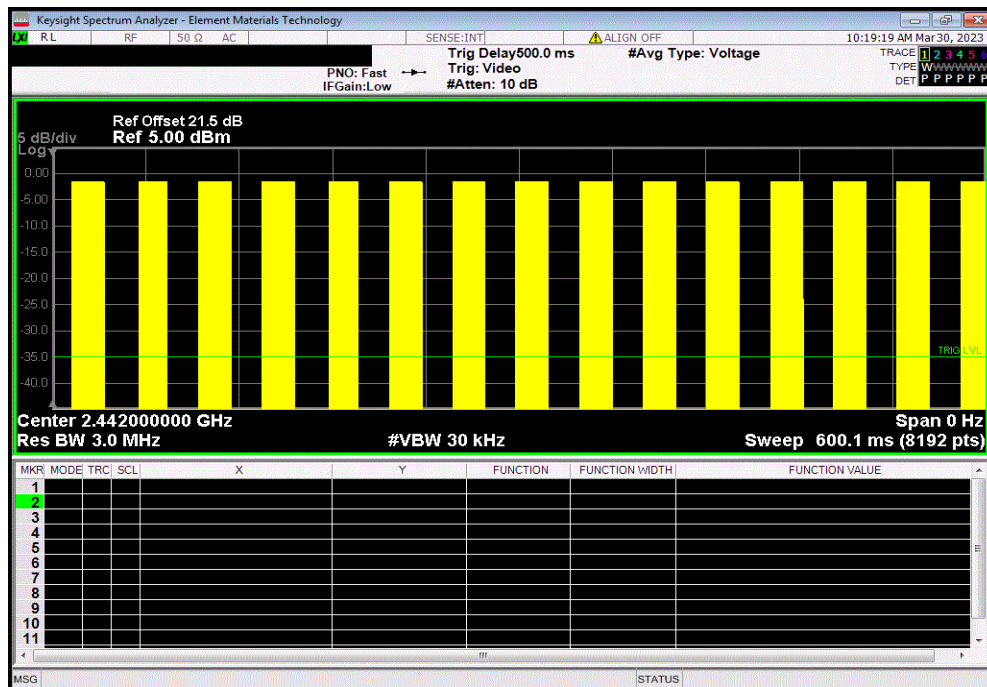


# DUTY CYCLE

BLE/GFSK Mid Channel, 2442 MHz, 2 Mbps, Period						
Pulse Width (ms)	Pulse Count	Total On Time (ms)	Period (ms)	Value (%)	Limit	Result
-	-	-	40.64	16.65	-	-

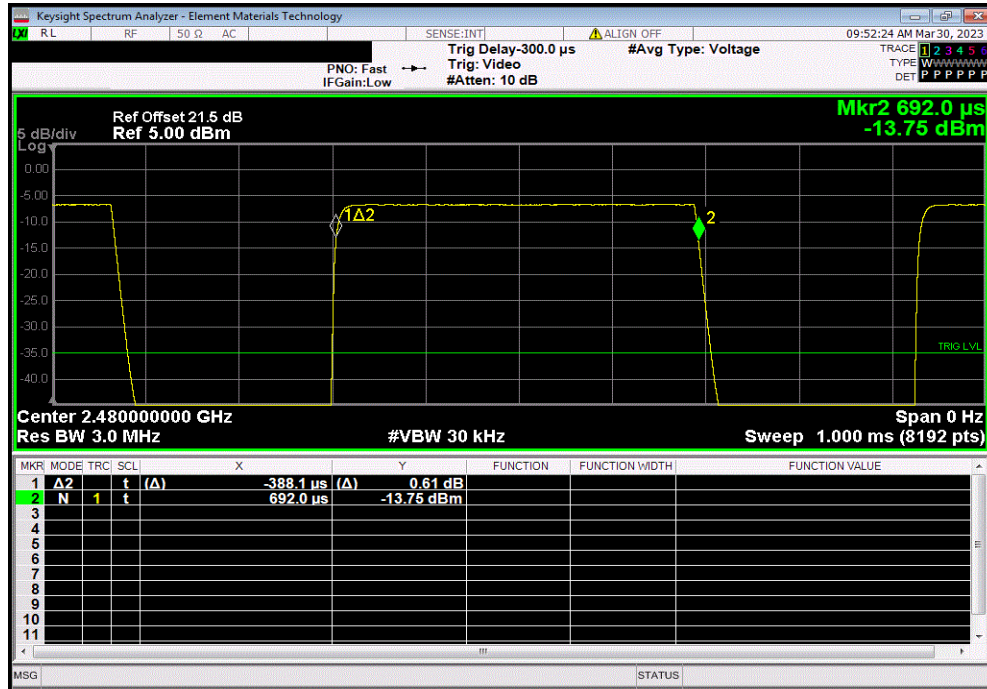


BLE/GFSK Mid Channel, 2442 MHz, 2 Mbps, Repeatability						
Pulse Width (ms)	Pulse Count	Total On Time (ms)	Period (ms)	Value (%)	Limit	Result
-	15	-	-	-	-	-

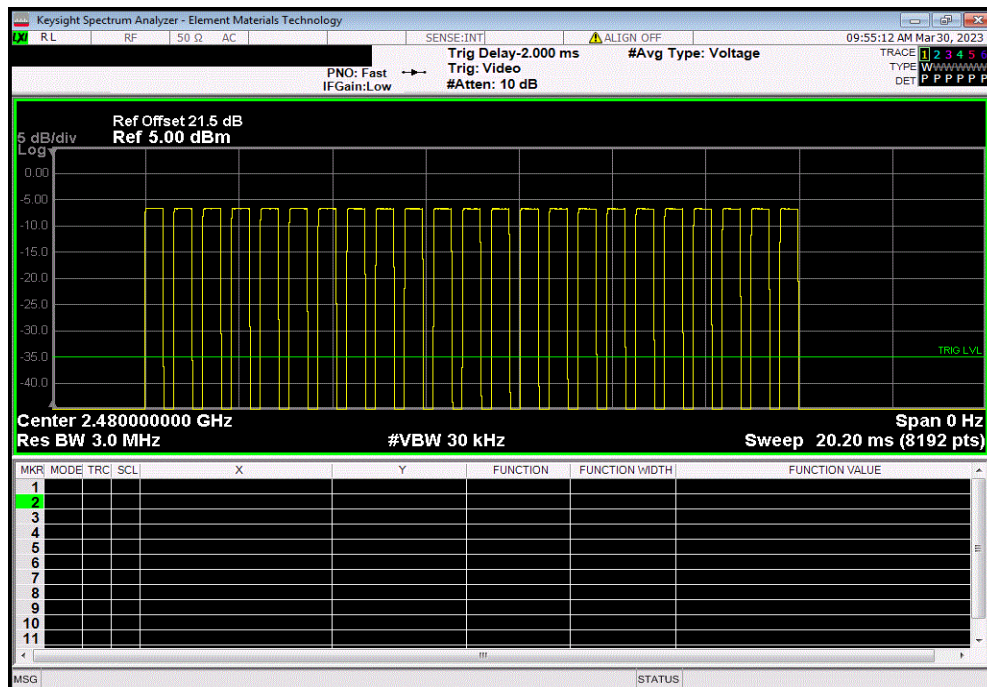


# DUTY CYCLE

BLE/GFSK High Channel, 2480 MHz, 1 Mbps, Pulse Length						
Pulse Width (ms)	Pulse Count	Total On Time (ms)	Period (ms)	Value (%)	Limit	Result
0.3881	-	-	-	-	-	-



BLE/GFSK High Channel, 2480 MHz, 1 Mbps, Number of Pulses						
Pulse Width (ms)	Pulse Count	Total On Time (ms)	Period (ms)	Value (%)	Limit	Result
-	23	8.9263	-	-	-	-



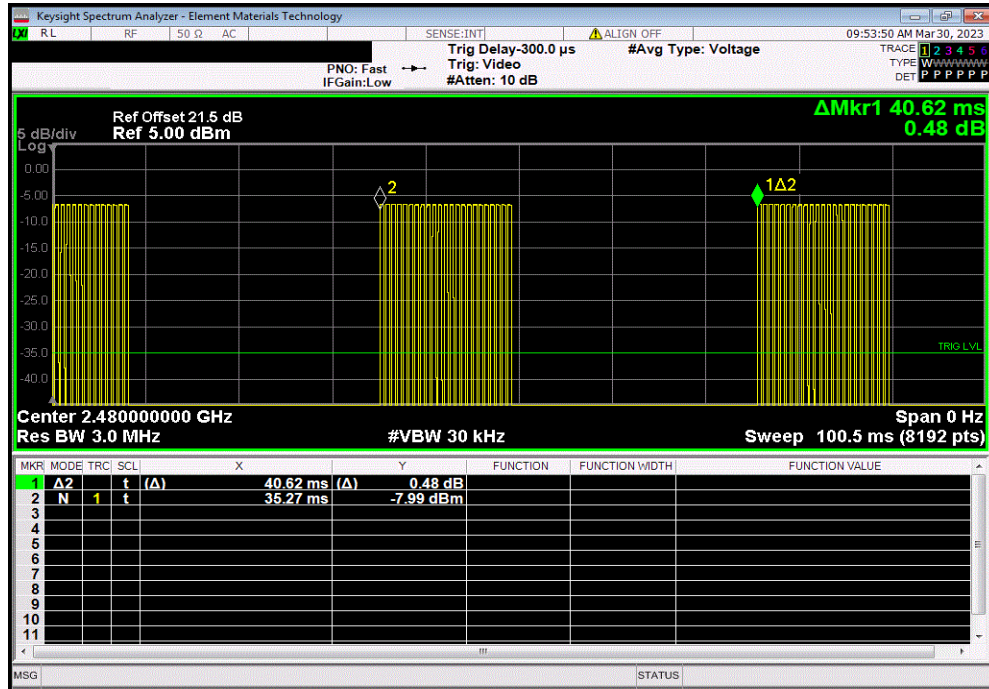


# DUTY CYCLE

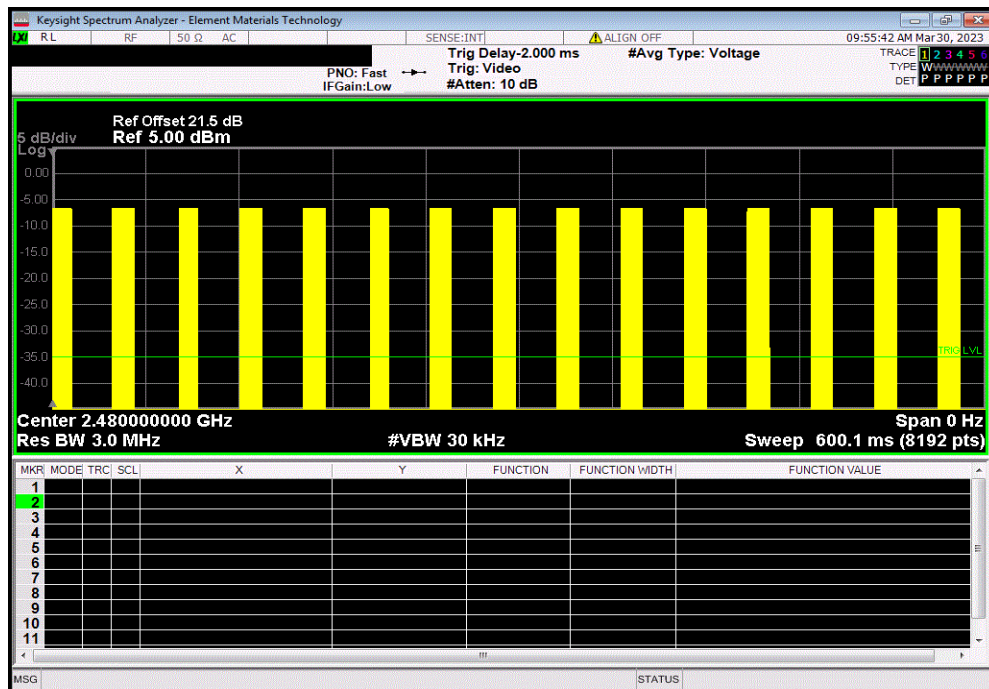


XMI 2023.02.14.0

BLE/GFSK High Channel, 2480 MHz, 1 Mbps, Period						
Pulse Width (ms)	Pulse Count	Total On Time (ms)	Period (ms)	Value (%)	Limit	Result
-	-	-	40.62	21.98	-	-

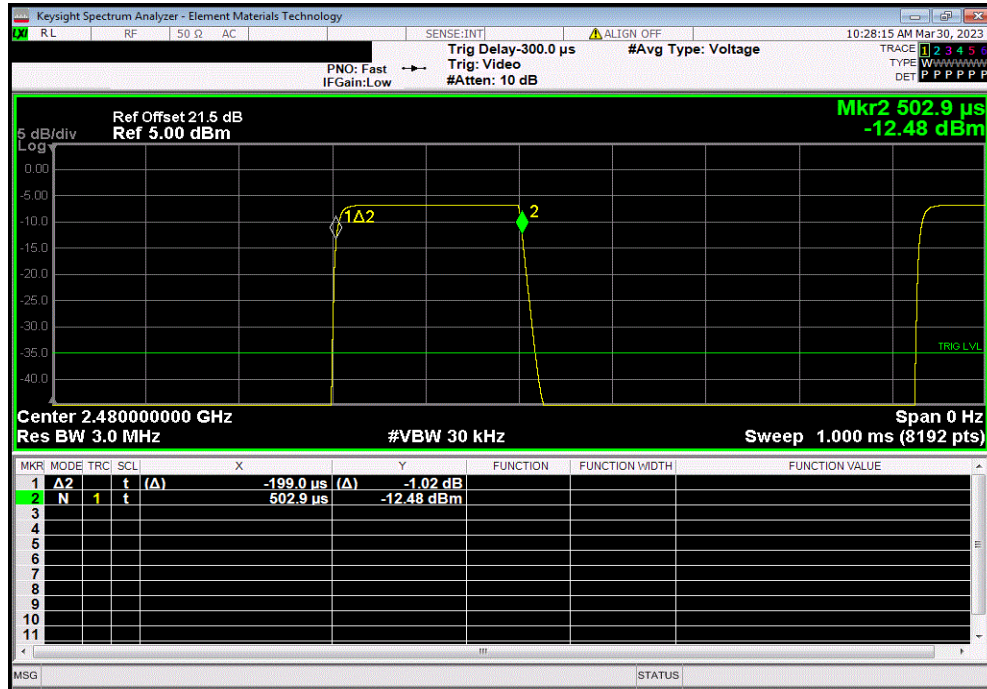


BLE/GFSK High Channel, 2480 MHz, 1 Mbps, Repeatability						
Pulse Width (ms)	Pulse Count	Total On Time (ms)	Period (ms)	Value (%)	Limit	Result
-	15	-	-	-	-	-

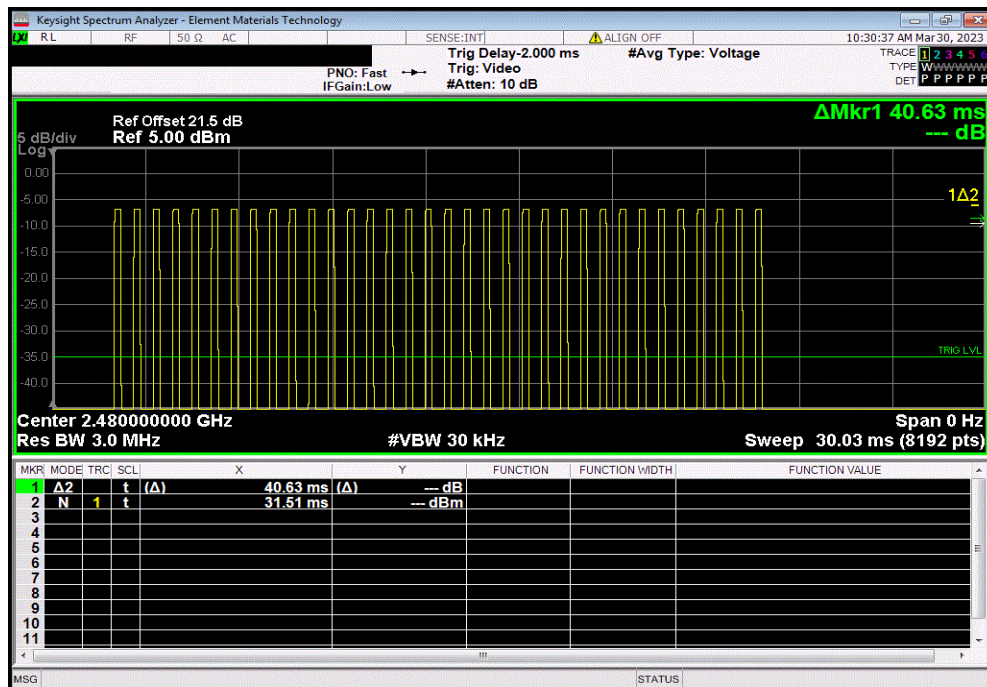


# DUTY CYCLE

BLE/GFSK High Channel, 2480 MHz, 2 Mbps, Pulse Length						
Pulse Width (ms)	Pulse Count	Total On Time (ms)	Period (ms)	Value (%)	Limit	Result
0.199	-	-	-	-	-	-



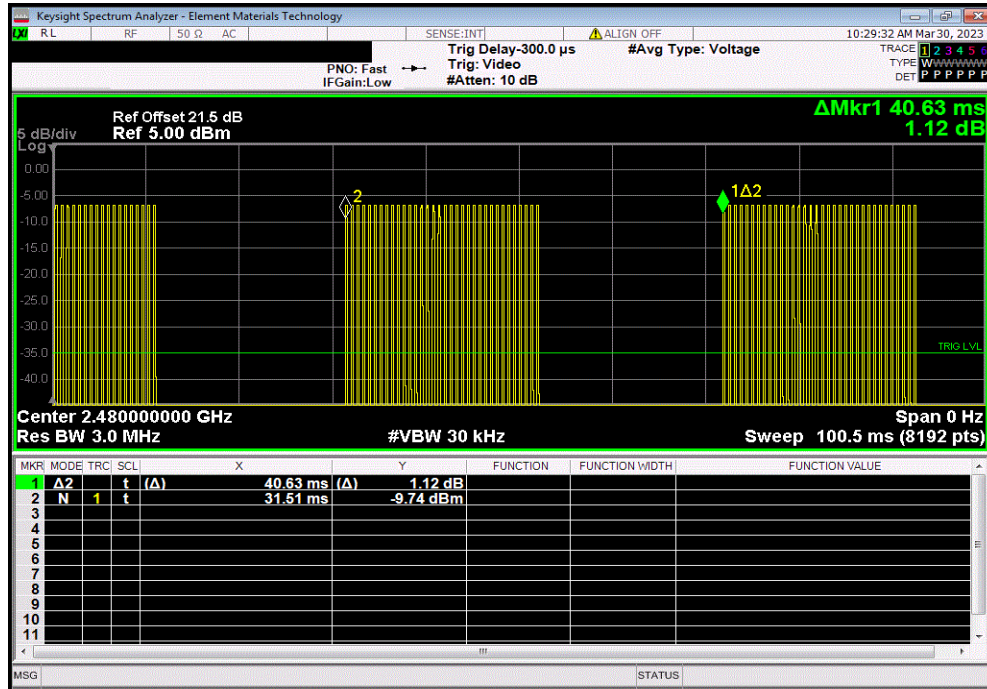
BLE/GFSK High Channel, 2480 MHz, 2 Mbps, Number of Pulses						
Pulse Width (ms)	Pulse Count	Total On Time (ms)	Period (ms)	Value (%)	Limit	Result
-	34	6.766	-	-	-	-



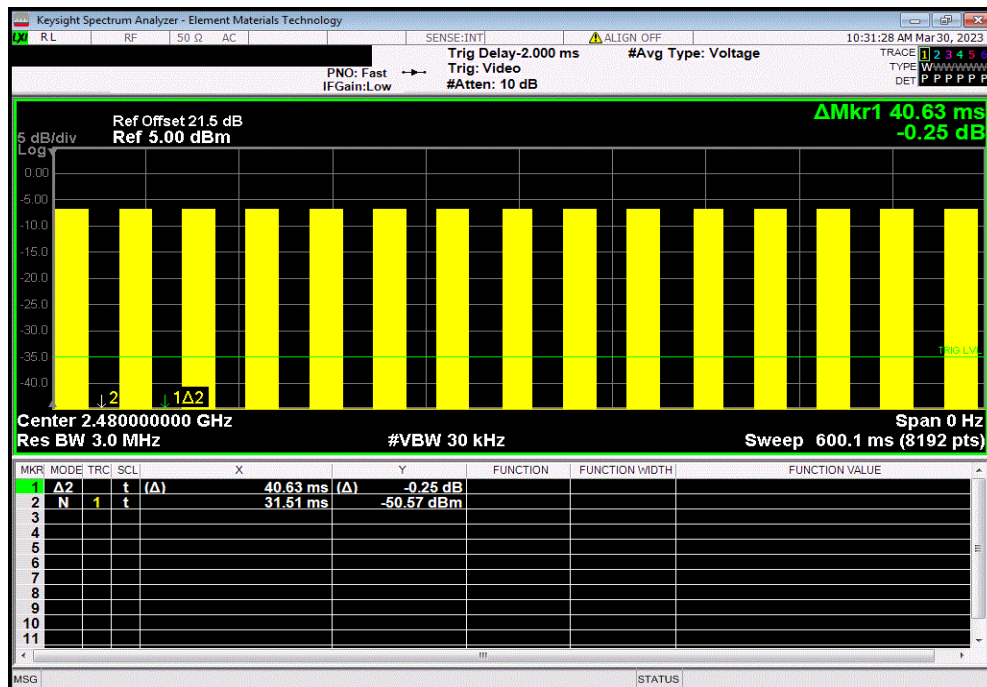


# DUTY CYCLE

BLE/GFSK High Channel, 2480 MHz, 2 Mbps, Period						
Pulse Width (ms)	Pulse Count	Total On Time (ms)	Period (ms)	Value (%)	Limit	Result
-	-	-	40.63	16.65	-	-



BLE/GFSK High Channel, 2480 MHz, 2 Mbps, Repeatability						
Pulse Width (ms)	Pulse Count	Total On Time (ms)	Period (ms)	Value (%)	Limit	Result
-	15	-	-	-	-	-



# DTS BANDWIDTH



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
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2022-09-10	2023-09-10
Attenuator	S.M. Electronics	SA26B-20	TZP	2022-11-06	2023-11-06
Block - DC	Fairview Microwave	SD3379	AMZ	2022-11-06	2023-11-06
Generator - Signal	Agilent	N5183A	TIK	2022-01-24	2025-01-24
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2022-04-25	2023-04-25

## TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

The EUT was set to the channels and modes listed in the datasheet.

The 6dB DTS bandwidth was measured using 100 kHz resolution bandwidth and 300 kHz video bandwidth. The span of the analyzer shall be set to capture all products of the modulation process, including the emission skirts.

# DTS BANDWIDTH



TstTx 2022.06.03.0 XMt 2023.02.14.0

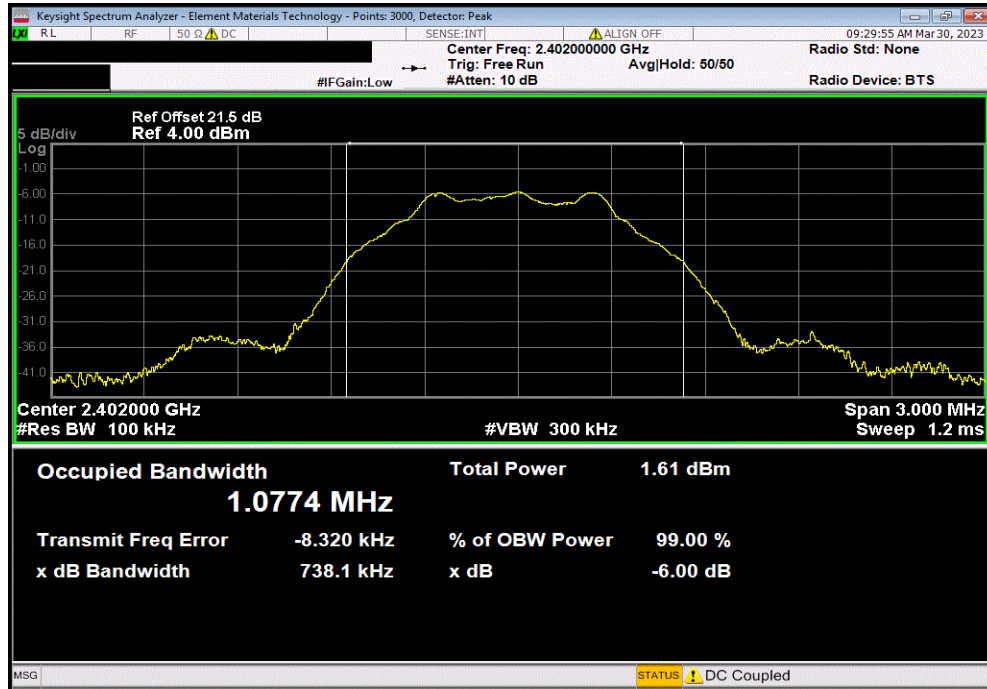
EUT: Genesis AI RIC 312		Work Order: STAK0288	
Serial Number: 230160526		Date: 03/30/2023	
Customer: Starkey Laboratories, Inc.		Temperature: 21.7°C	
Attendees: John Quach		Humidity: 18.6%	
Project: None		Barometric Pres.: 1020 mbar	
Tested by: Christopher Heintzelman	Power: Battery	Job Site: MN11	
TEST SPECIFICATIONS			
FCC 15.247:2023		Test Method	
RSS-247 Issue 2:2017		ANSI C63.10:2013	
COMMENTS		ANSI C63.10:2013	
Reference level offset includes measurement cable, attenuator, and DC block. Does not include customer's patch cable.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	STAK0288-5	Signature <i>Christopher Heintzelman</i>	
		Value	Limit (±) Result
BLE/GFSK 1 Mbps			
	Low Channel, 2402 MHz	738.134 kHz	500 kHz Pass
	Mid Channel, 2442 MHz	729.082 kHz	500 kHz Pass
	High Channel, 2480 MHz	743.533 kHz	500 kHz Pass
BLE/GFSK 2 Mbps			
	Low Channel, 2402 MHz	1.265 MHz	500 kHz Pass
	Mid Channel, 2442 MHz	1.262 MHz	500 kHz Pass
	High Channel, 2480 MHz	1.263 MHz	500 kHz Pass

# DTS BANDWIDTH

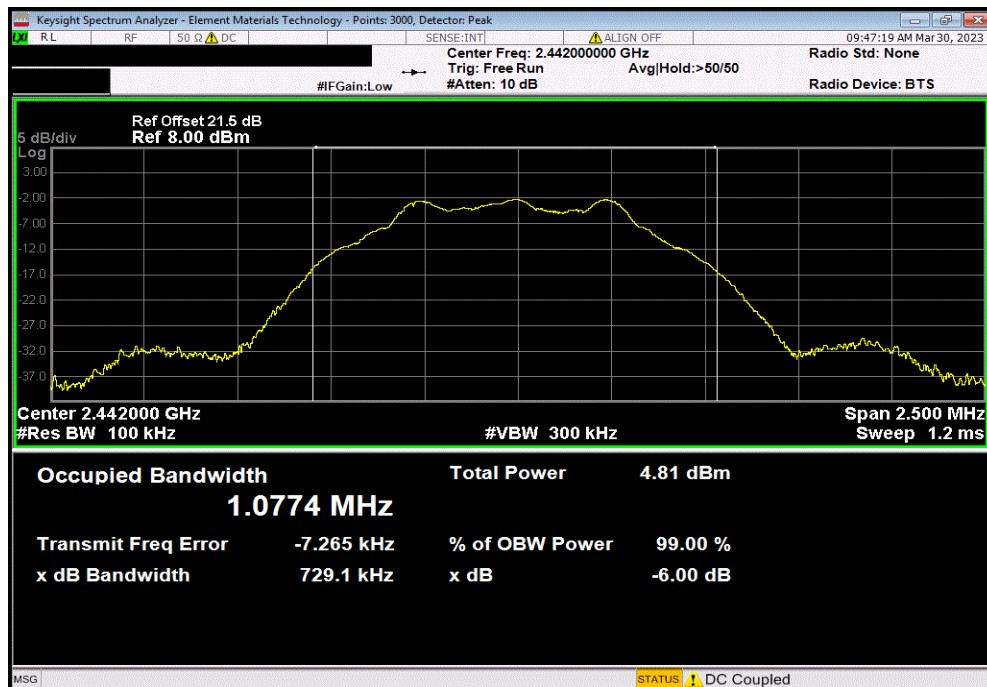


TbTtX 2022.06.03.0 XMt 2023.02.14.0

BLE/GFSK 1 Mbps, Low Channel, 2402 MHz						
	Value	Limit	Result			
	738.134 kHz	500 kHz	Pass			



BLE/GFSK 1 Mbps, Mid Channel, 2442 MHz						
	Value	Limit	Result			
	729.082 kHz	500 kHz	Pass			

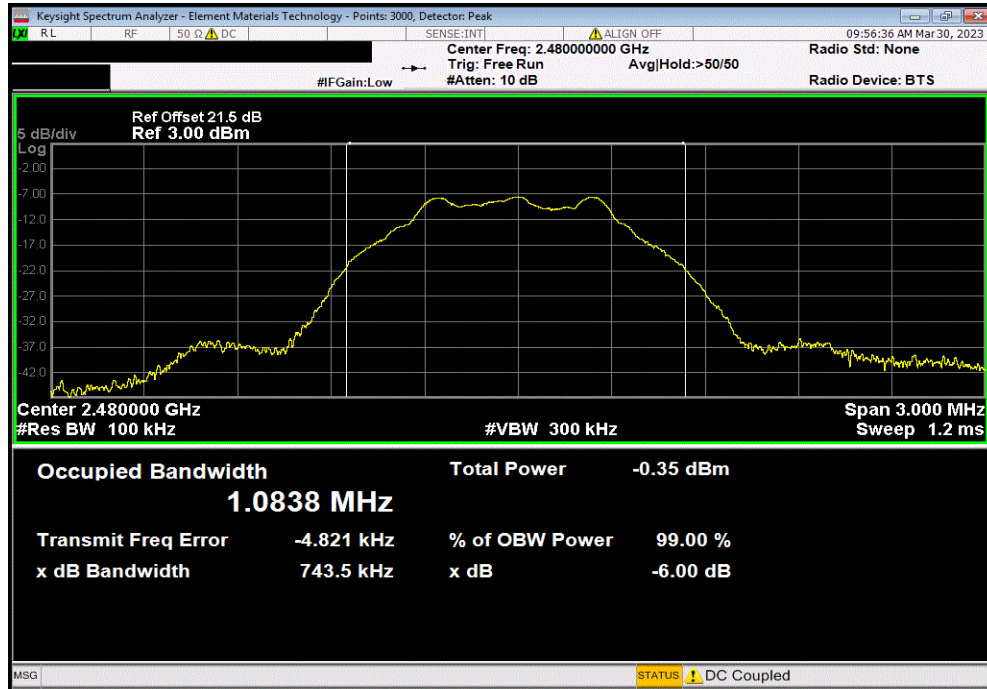


# DTS BANDWIDTH

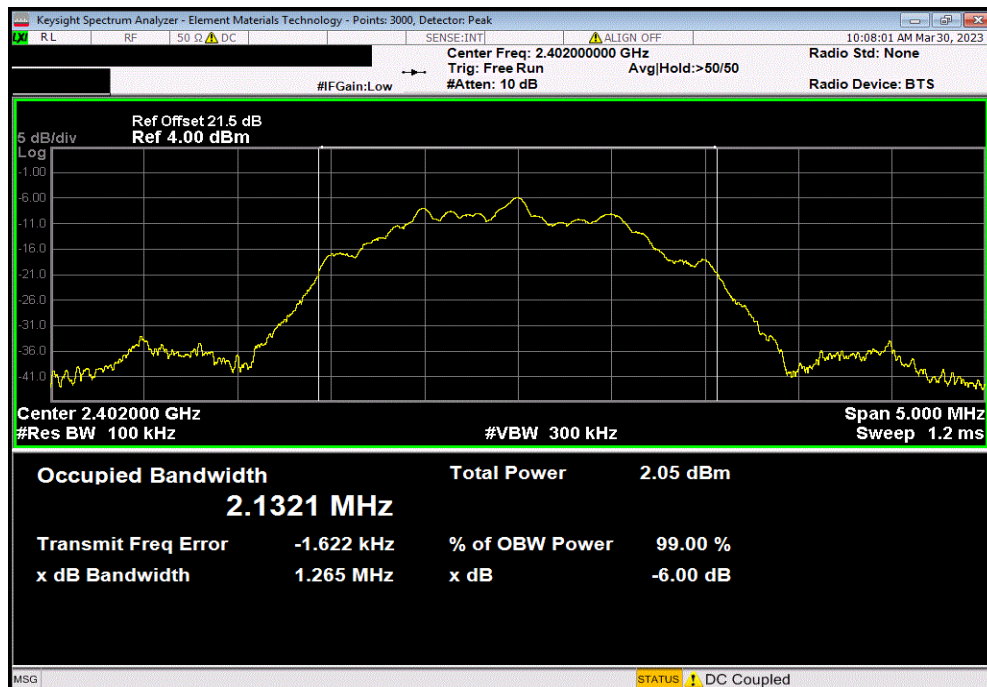


TbTx 2022.06.03.0 XMt 2023.02.14.0

BLE/GFSK 1 Mbps, High Channel, 2480 MHz						
	Value	Limit	Result			
	743.533 kHz	500 kHz	Pass			



BLE/GFSK 2 Mbps, Low Channel, 2402 MHz						
	Value	Limit	Result			
	1.265 MHz	500 kHz	Pass			

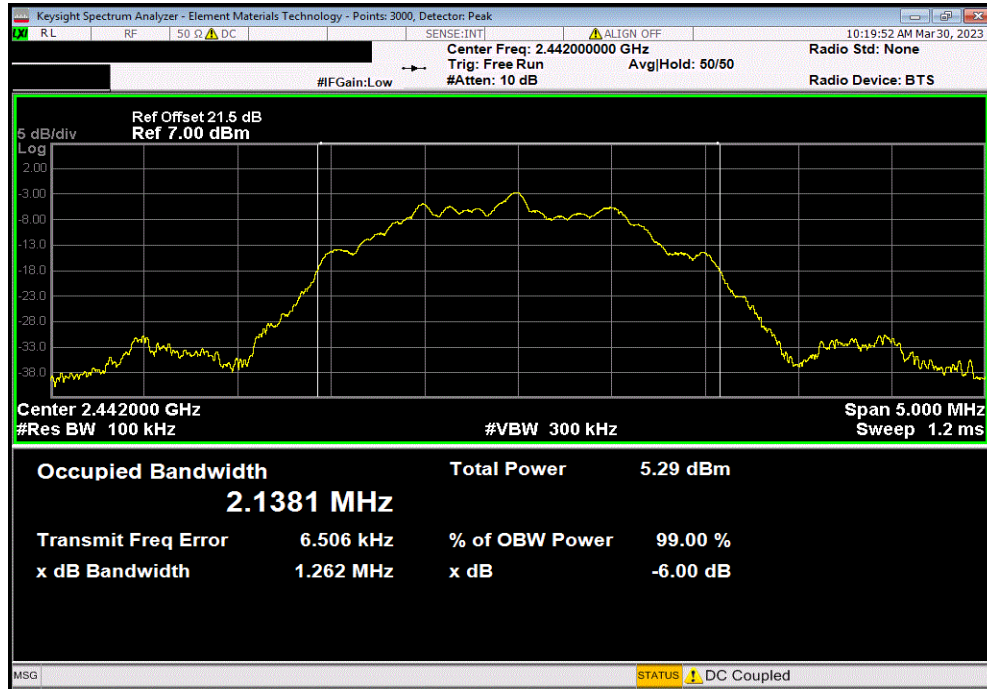


# DTS BANDWIDTH

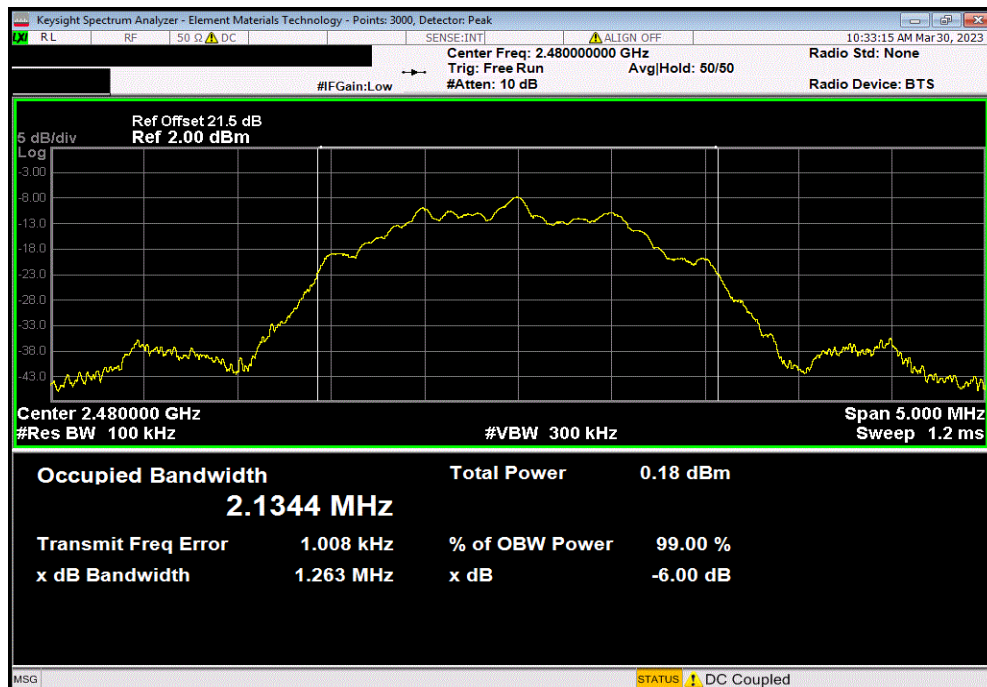


TbTx 2022.06.03.0 XMt 2023.02.14.0

BLE/GFSK 2 Mbps, Mid Channel, 2442 MHz						
				Value	Limit (≥)	Result
				1.262 MHz	500 kHz	Pass



BLE/GFSK 2 Mbps, High Channel, 2480 MHz						
				Value	Limit (≥)	Result
				1.263 MHz	500 kHz	Pass





# OCCUPIED BANDWIDTH (99%)



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
Attenuator	S.M. Electronics	SA26B-20	TZP	2022-11-06	2023-11-06
Block - DC	Fairview Microwave	SD3379	AMZ	2022-11-06	2023-11-06
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2022-09-10	2023-09-10
Generator - Signal	Agilent	N5183A	TIK	2022-01-24	2025-01-24
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2022-04-25	2023-04-25

## TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

The 99% occupied bandwidth was measured with the EUT configured for continuous modulated operation.

Per ANSI C63.10:2013, 6.9.3, the spectrum analyzer was configured as follows:

The span of the analyzer shall be set to capture all products of the modulation process, including the emission skirts.

The resolution bandwidth (RBW) of the spectrum analyzer was set to the range of 1% to 5% of the occupied bandwidth (OBW) and video bandwidth (VBW) bandwidth was set to at least 3 times the resolution bandwidth. The analyzer sweep time was set to auto to prevent video filtering or averaging. A sample detector was used unless the device was not able to be operated in a continuous transmit mode, in which case a peak detector was used.

The spectrum analyzer occupied bandwidth measurement function was used to sum the power of the transmission in linear terms to obtain the 99% bandwidth.

# OCCUPIED BANDWIDTH (99%)



TstTx 2022.06.03.0 XMH 2023.02.14.0

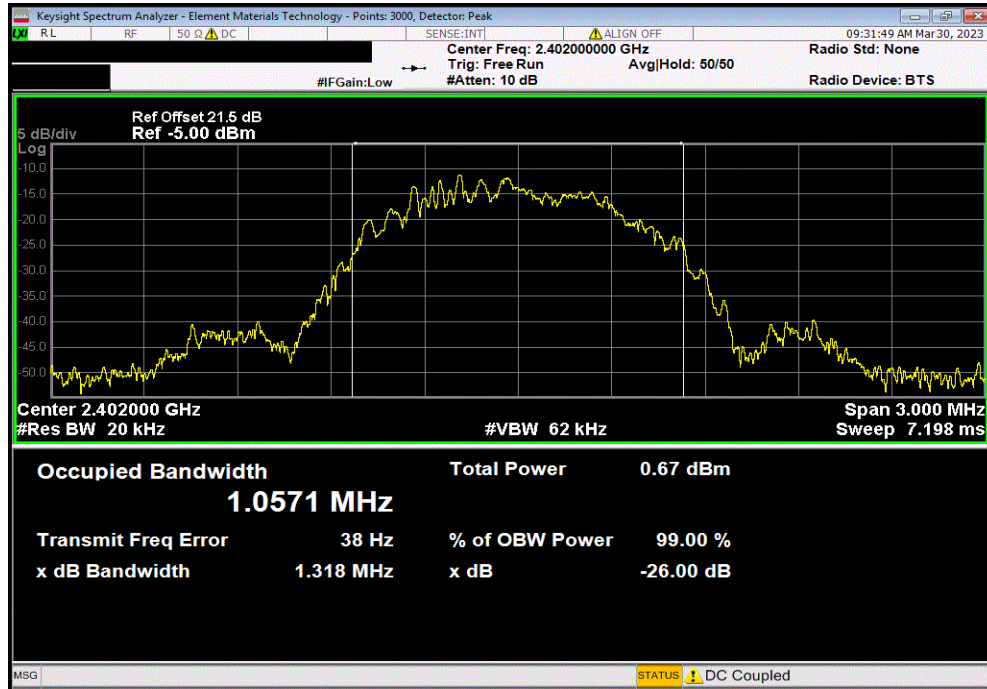
EUT: Genesis AI RIC 312		Work Order: STAK0288	
Serial Number: 230160526		Date: 03/30/2023	
Customer: Starkey Laboratories, Inc.		Temperature: 21.7°C	
Attendees: John Quach		Humidity: 18.7%	
Project: None		Barometric Pres.: 1019 mbar	
Tested by: Christopher Heintzelman	Power: Battery	Job Site: MN11	
TEST SPECIFICATIONS			
FCC 15.247:2023		Test Method	
RSS-Gen Issue 5:2018+A1:2019+A2:2021		ANSI C63.10:2013	
		ANSI C63.10:2013	
COMMENTS			
Reference level offset includes measurement cable, attenuator, and DC block. Does not include customer's patch cable.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	STAK0288-5	Signature <i>Christopher Heintzelman</i>	
		Value	Limit
BLE/GFSK 1 Mbps			
	Low Channel, 2402 MHz	1.057 MHz	N/A
	Mid Channel, 2442 MHz	1.063 MHz	N/A
	High Channel, 2480 MHz	1.068 MHz	N/A
BLE/GFSK 2 Mbps			
	Low Channel, 2402 MHz	2.136 MHz	N/A
	Mid Channel, 2442 MHz	2.132 MHz	N/A
	High Channel, 2480 MHz	2.137 MHz	N/A

# OCCUPIED BANDWIDTH (99%)

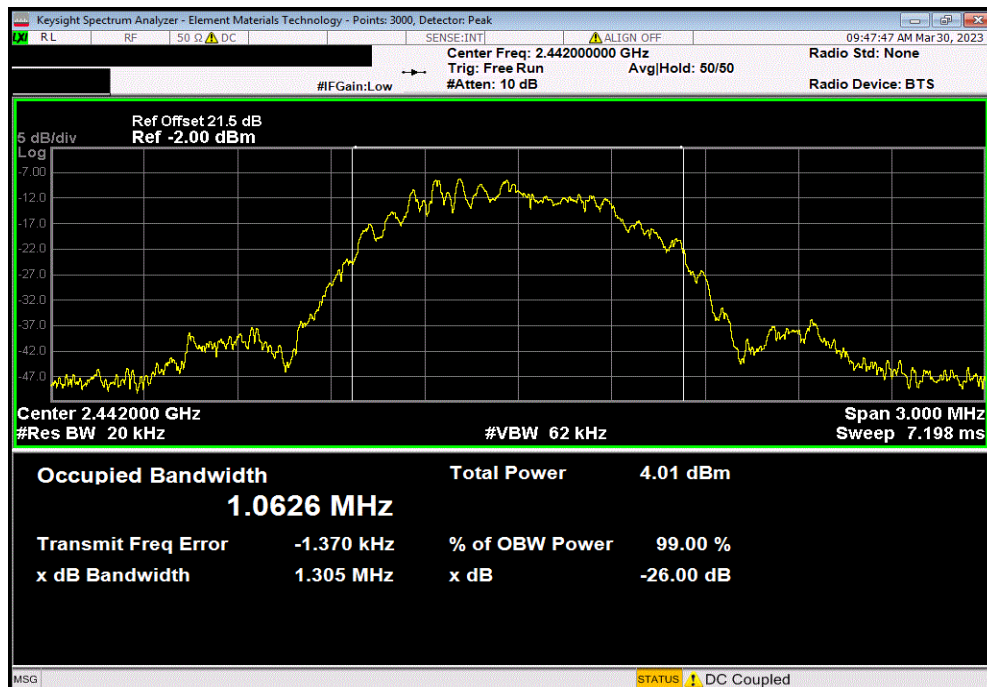


TbTx 2022.06.03.0 XMt 2023.02.14.0

BLE/GFSK 1 Mbps, Low Channel, 2402 MHz						
				Value	Limit	Result
				1.057 MHz	N/A	N/A



BLE/GFSK 1 Mbps, Mid Channel, 2442 MHz						
				Value	Limit	Result
				1.063 MHz	N/A	N/A

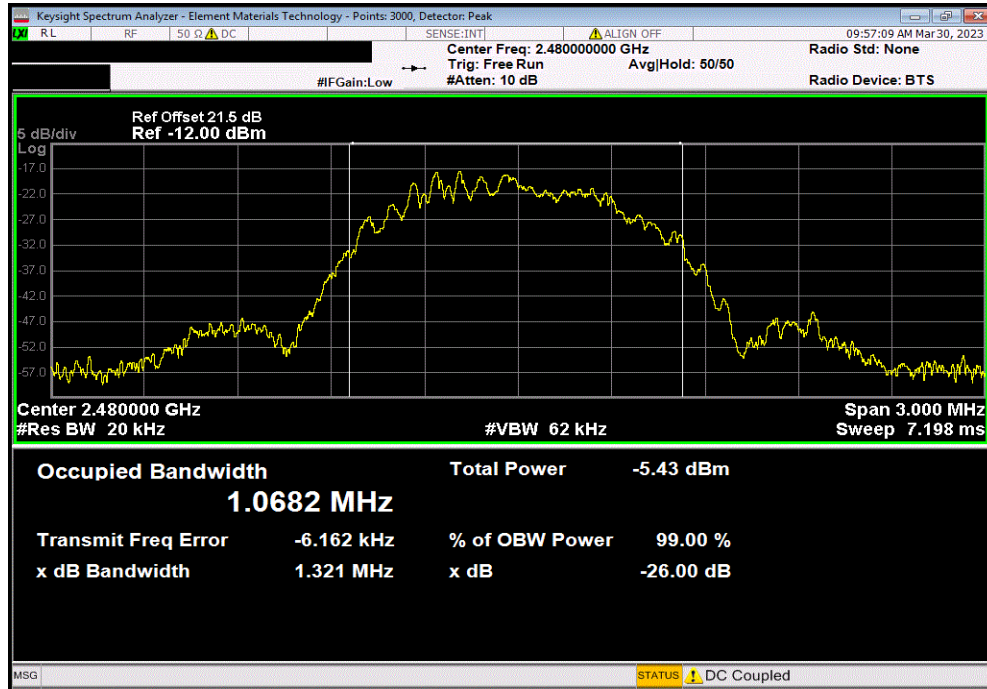


# OCCUPIED BANDWIDTH (99%)

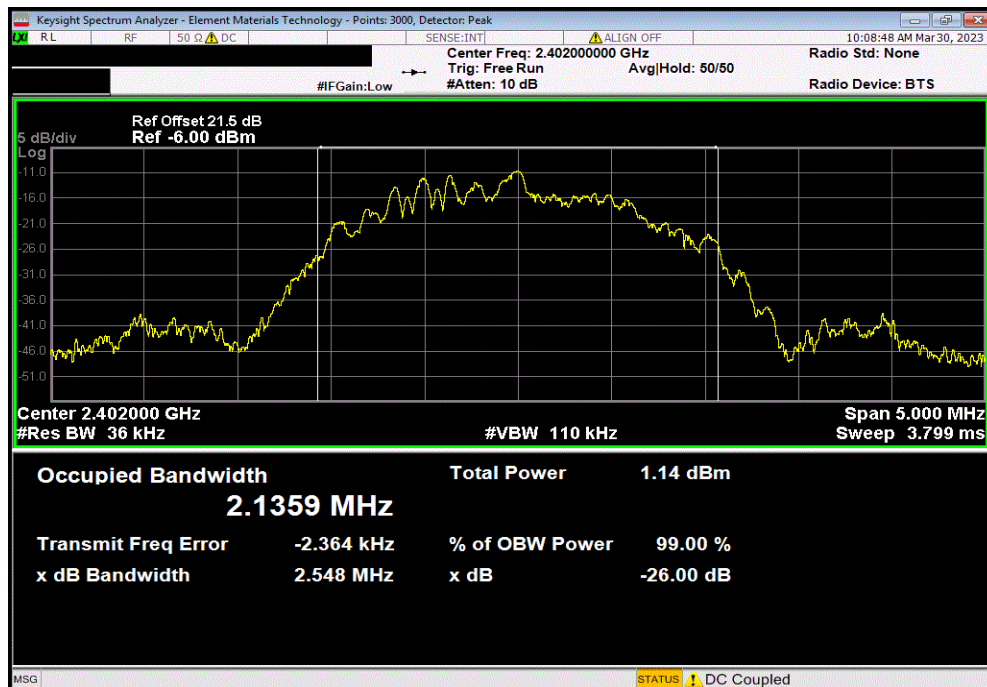


TbTx 2022.06.03.0 XMt 2023.02.14.0

BLE/GFSK 1 Mbps, High Channel, 2480 MHz						
				Value	Limit	Result
				1.068 MHz	N/A	N/A



BLE/GFSK 2 Mbps, Low Channel, 2402 MHz						
				Value	Limit	Result
				2.136 MHz	N/A	N/A

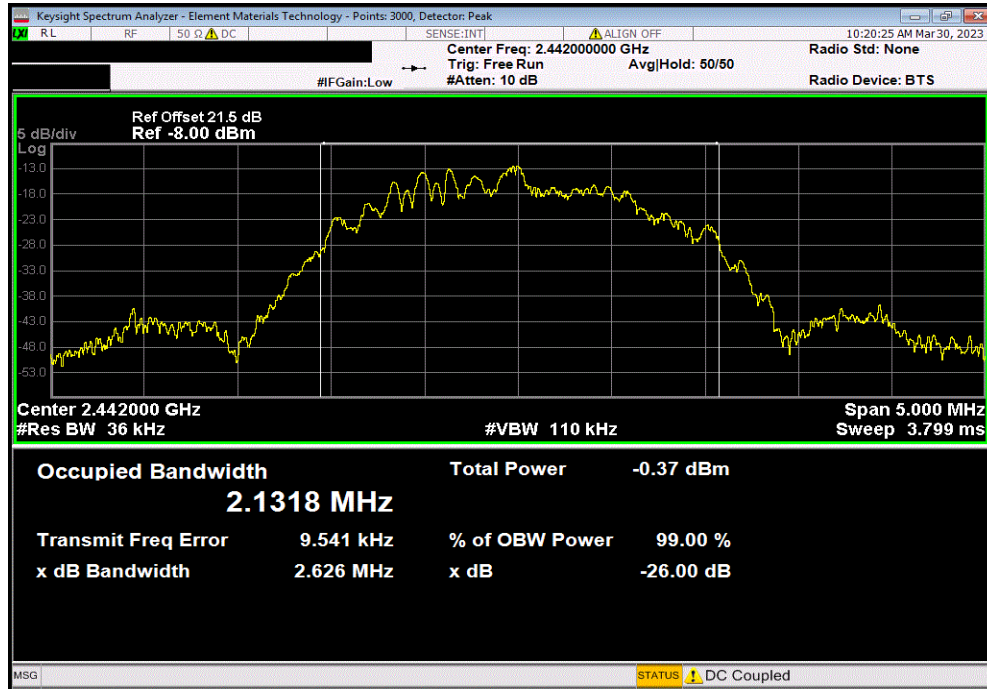


# OCCUPIED BANDWIDTH (99%)

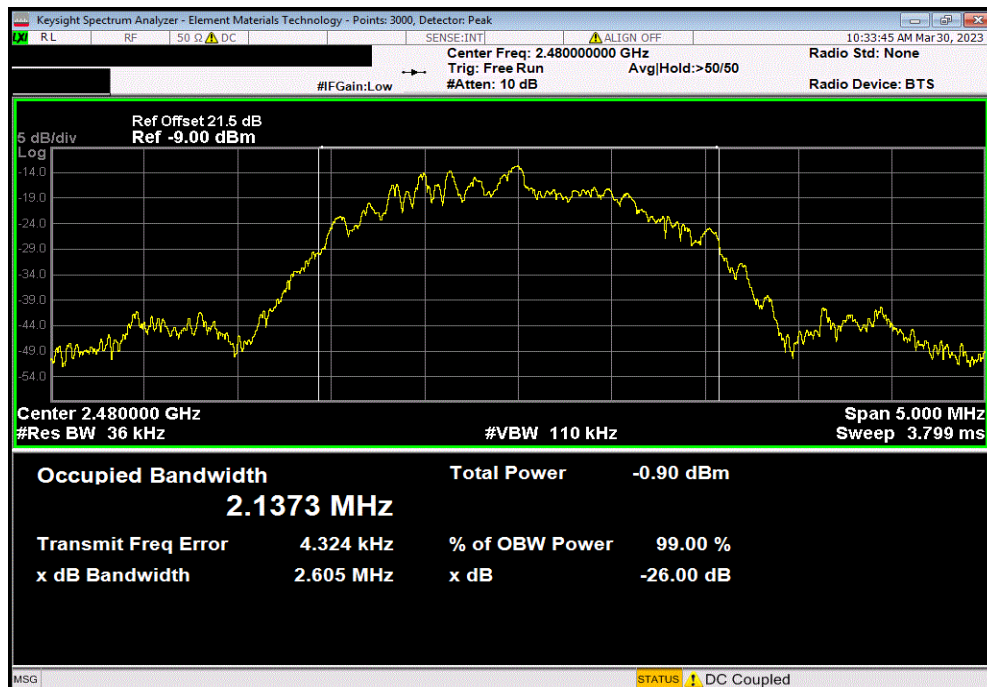


TbTx 2022.06.03.0 XMt 2023.02.14.0

BLE/GFSK 2 Mbps, Mid Channel, 2442 MHz						
				Value	Limit	Result
				2.132 MHz	N/A	N/A



BLE/GFSK 2 Mbps, High Channel, 2480 MHz						
				Value	Limit	Result
				2.137 MHz	N/A	N/A



# OUTPUT POWER



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
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2022-09-10	2023-09-10
Attenuator	S.M. Electronics	SA26B-20	TZP	2022-11-06	2023-11-06
Block - DC	Fairview Microwave	SD3379	AMZ	2022-11-06	2023-11-06
Generator - Signal	Agilent	N5183A	TIK	2022-01-24	2025-01-24
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2022-04-25	2023-04-25

## TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

The transmit frequency was set to the required channels in each band. The transmit power was set to its default maximum.

Prior to measuring peak transmit power the DTS bandwidth (B) was measured.

The method found in ANSI C63.10:2013 Section 11.9.1.1 was used because the RBW on the analyzer was greater than the DTS Bandwidth of the radio.

# OUTPUT POWER



TstTx 2022.06.03.0 XMt 2023.02.14.0

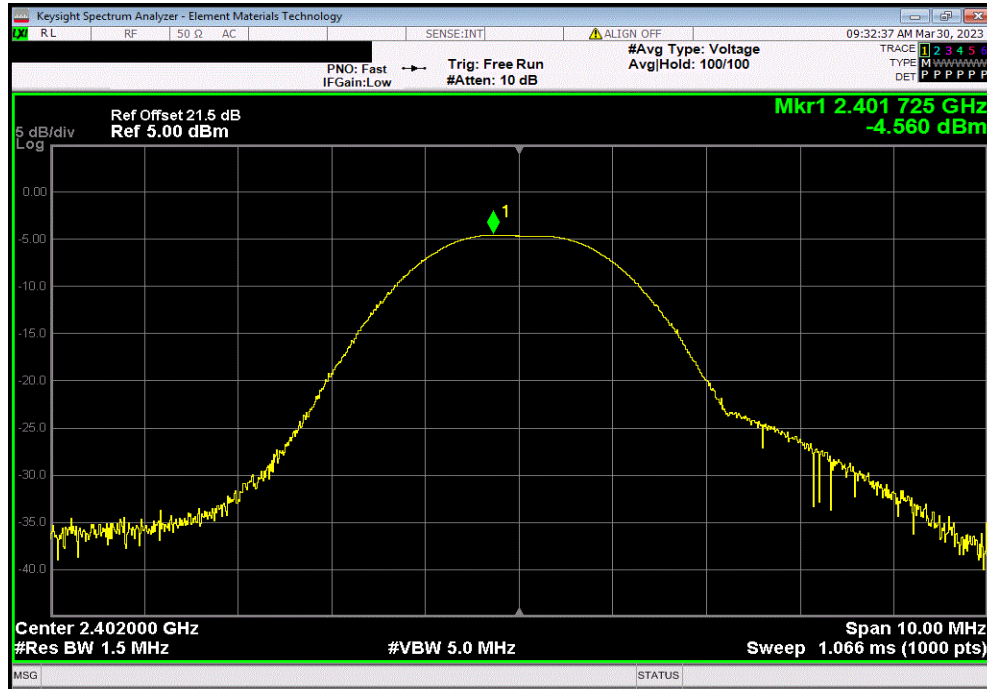
EUT: Genesis AI RIC 312		Work Order: STAK0288	
Serial Number: 230160526		Date: 03/30/2023	
Customer: Starkey Laboratories, Inc.		Temperature: 21.7°C	
Attendees: John Quach		Humidity: 18.7%	
Project: None		Barometric Pres.: 1019 mbar	
Tested by: Christopher Heintzelman	Power: Battery	Job Site: MN11	
TEST SPECIFICATIONS			
FCC 15.247:2023		Test Method	
RSS-Gen Issue 5:2018+A1:2019+A2:2021		ANSI C63.10:2013	
RSS-247 Issue 2:2017		ANSI C63.10:2013	
COMMENTS			
Reference level offset includes measurement cable, attenuator, and DC block. Does not include customer's patch cable.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	STAK0288-5	Signature <i>Christopher Heintzelman</i>	
		Out Pwr (dBm)	Limit (dBm) Result
BLE/GFSK 1 Mbps			
	Low Channel, 2402 MHz	-4.56	30 Pass
	Mid Channel, 2442 MHz	-1.326	30 Pass
	High Channel, 2480 MHz	-6.565	30 Pass
BLE/GFSK 2 Mbps			
	Low Channel, 2402 MHz	-4.4	30 Pass
	Mid Channel, 2442 MHz	-1.256	30 Pass
	High Channel, 2480 MHz	-6.45	30 Pass

# OUTPUT POWER

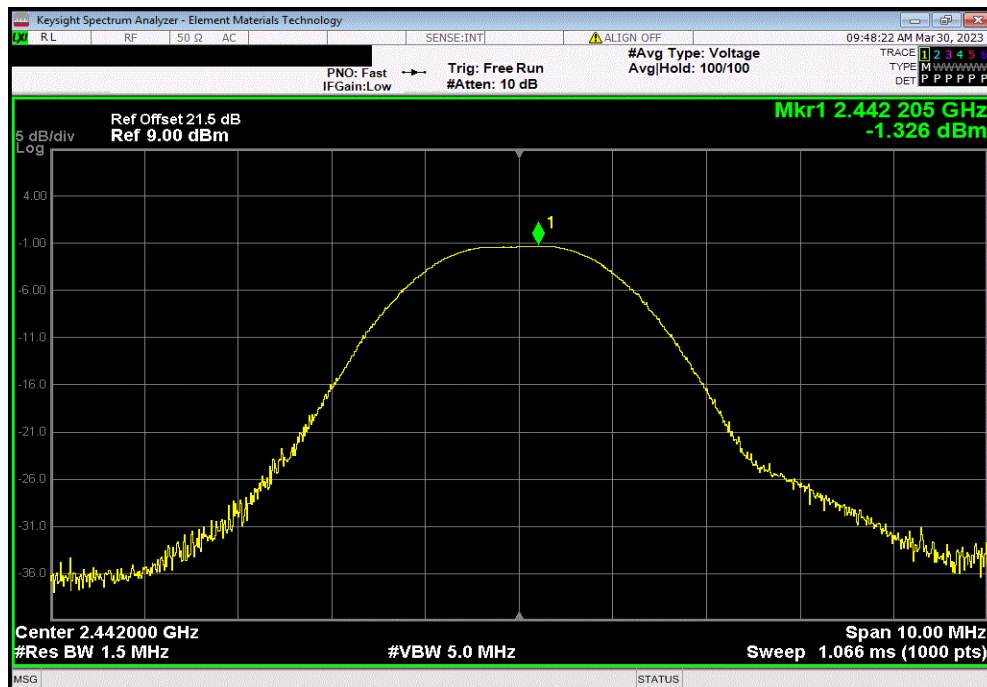


TbTx 2022.06.03.0 XMt 2023.02.14.0

BLE/GFSK 1 Mbps, Low Channel, 2402 MHz						
				Out Pwr (dBm)	Limit (dBm)	Result
				-4.56	30	Pass



BLE/GFSK 1 Mbps, Mid Channel, 2442 MHz						
				Out Pwr (dBm)	Limit (dBm)	Result
				-1.326	30	Pass



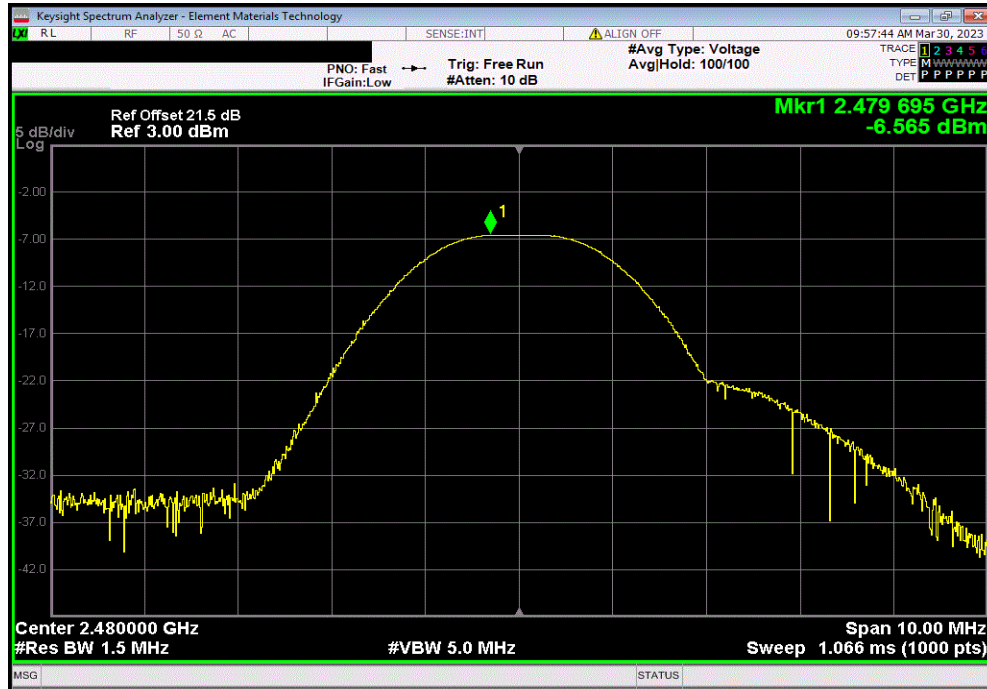


# OUTPUT POWER

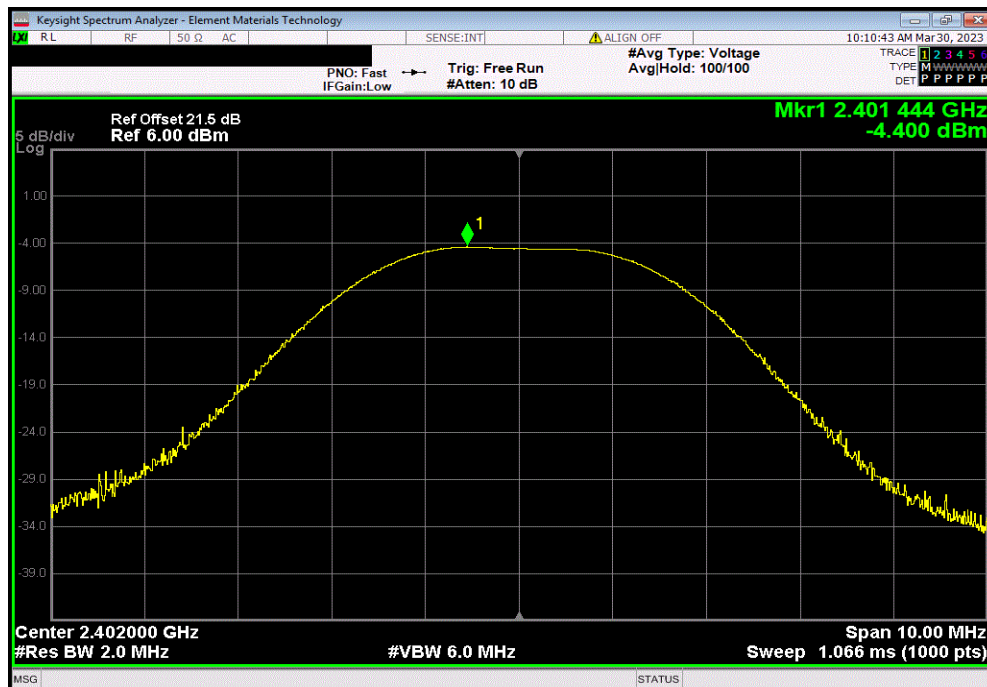


TbTx 2022.06.03.0 XMt 2023.02.14.0

BLE/GFSK 1 Mbps, High Channel, 2480 MHz						
				Out Pwr (dBm)	Limit (dBm)	Result
				-6.565	30	Pass



BLE/GFSK 2 Mbps, Low Channel, 2402 MHz						
				Out Pwr (dBm)	Limit (dBm)	Result
				-4.4	30	Pass

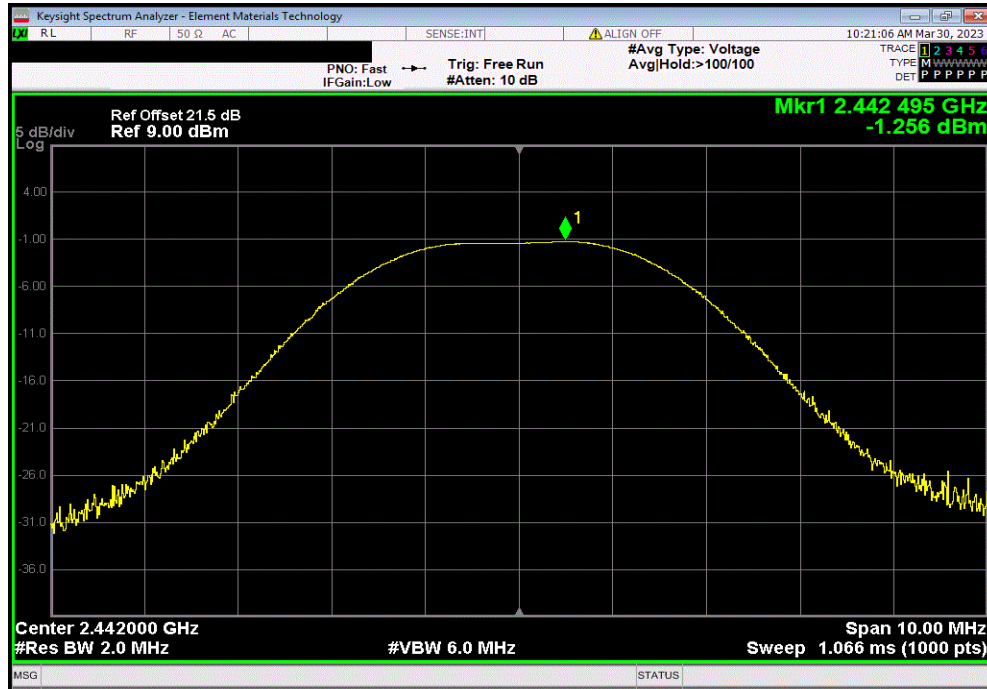


# OUTPUT POWER

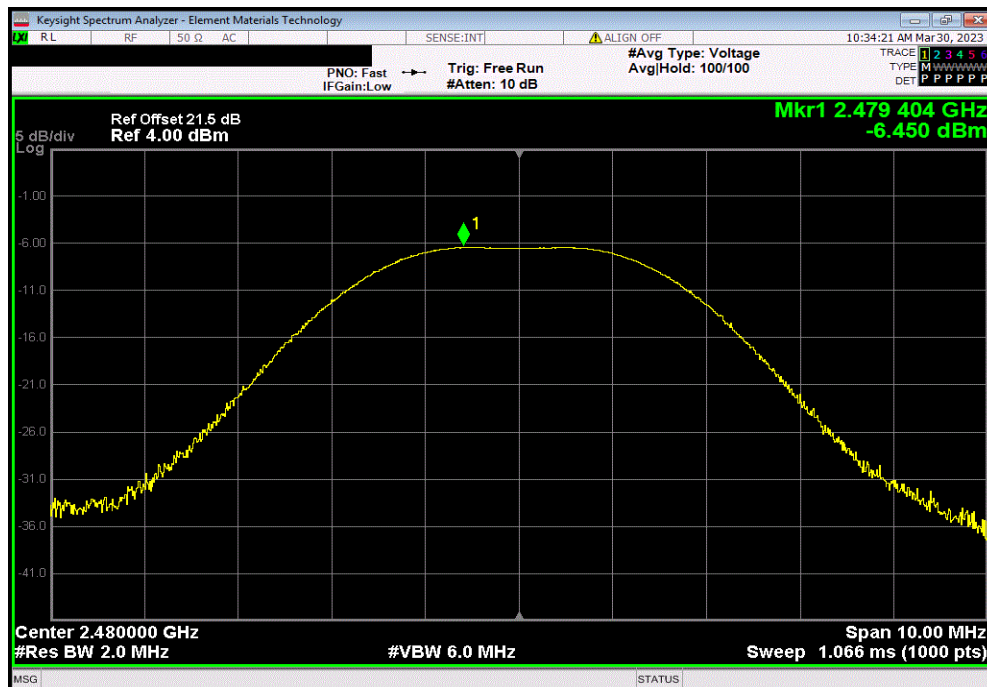


TbTx 2022.06.03.0 XMt 2023.02.14.0

BLE/GFSK 2 Mbps, Mid Channel, 2442 MHz						
				Out Pwr (dBm)	Limit (dBm)	Result
				-1.256	30	Pass



BLE/GFSK 2 Mbps, High Channel, 2480 MHz						
				Out Pwr (dBm)	Limit (dBm)	Result
				-6.45	30	Pass



# EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)



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
Attenuator	S.M. Electronics	SA26B-20	TZP	2022-11-06	2023-11-06
Block - DC	Fairview Microwave	SD3379	AMZ	2022-11-06	2023-11-06
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2022-09-10	2023-09-10
Generator - Signal	Agilent	N5183A	TIK	2022-01-24	2025-01-24
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2022-04-25	2023-04-25

## TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

The transmit frequency was set to the required channels in each band. The transmit power was set to its default maximum.

Prior to measuring peak transmit power the DTS bandwidth (B) was measured.

The method found in ANSI C63.10:2013 Section 11.9.1.1 was used because the RBW on the analyzer was greater than the DTS Bandwidth of the radio.

Equivalent Isotropic Radiated Power (EIRP) = Max Measured Power + Antenna gain (dBi)

# EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)



TstTx 2022.06.03.0 XMI 2023.02.14.0

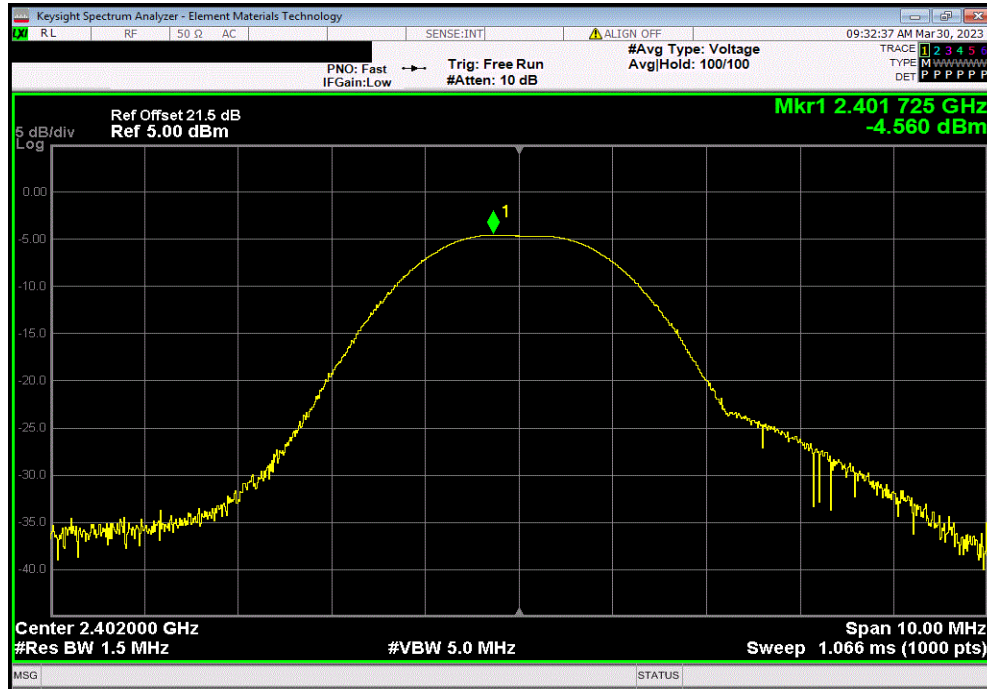
EUT: Genesis AI RIC 312		Work Order: STAK0288	
Serial Number: 230160526		Date: 03/30/2023	
Customer: Starkey Laboratories, Inc.		Temperature: 21.7°C	
Attendees: John Quach		Humidity: 18.6%	
Project: None		Barometric Pres.: 1019 mbar	
Tested by: Christopher Heintzelman	Power: Battery	Job Site: MN11	
TEST SPECIFICATIONS			
FCC 15.247:2023		Test Method	
RSS-Gen Issue 5:2018+A1:2019+A2:2021		ANSI C63.10:2013	
RSS-247 Issue 2:2017		ANSI C63.10:2013	
COMMENTS			
Reference level offset includes measurement cable, attenuator, and DC block. Does not include customer's patch cable.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	STAK0288-5	Signature <i>Christopher Heintzelman</i>	
		Out Pwr (dBm)	Antenna Gain (dBi)
		EIRP (dBm)	EIRP Limit (dBm)
			Result
BLE/GFSK 1 Mbps			
	Low Channel, 2402 MHz	-4.56	-3
	Mid Channel, 2442 MHz	-1.326	-3
	High Channel, 2480 MHz	-6.565	-3
BLE/GFSK 2 Mbps			
	Low Channel, 2402 MHz	-4.4	-3
	Mid Channel, 2442 MHz	-1.256	-3
	High Channel, 2480 MHz	-6.45	-3

# EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

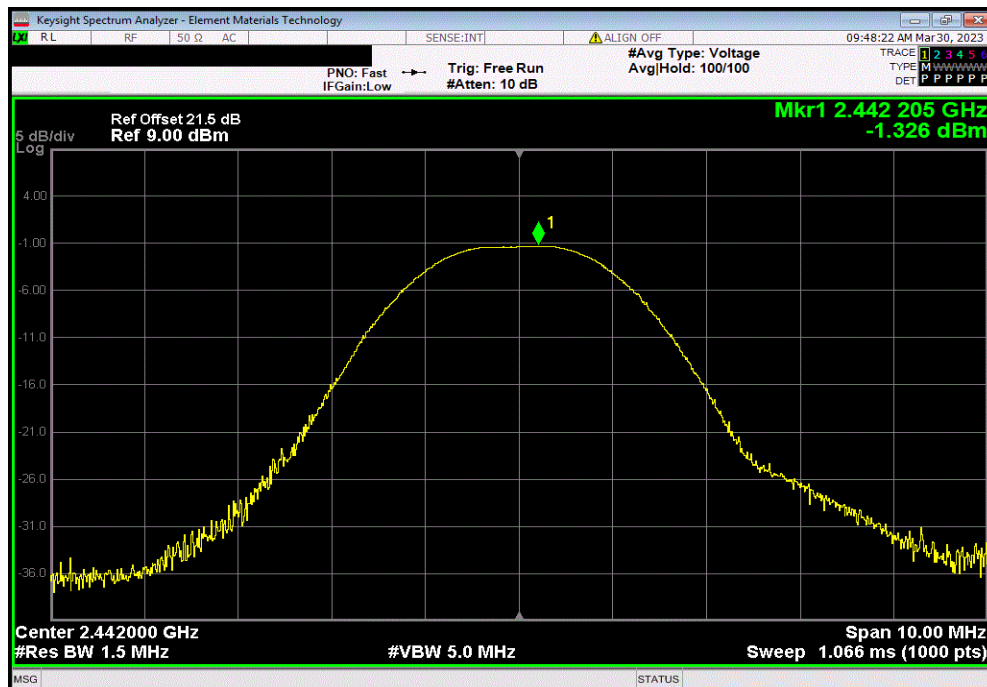


TbTx 2022.06.03.0 XMt 2023.02.14.0

BLE/GFSK 1 Mbps, Low Channel, 2402 MHz						
	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result	
	-4.56	-3	-7.56	36	Pass	



BLE/GFSK 1 Mbps, Mid Channel, 2442 MHz						
	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result	
	-1.326	-3	-4.326	36	Pass	

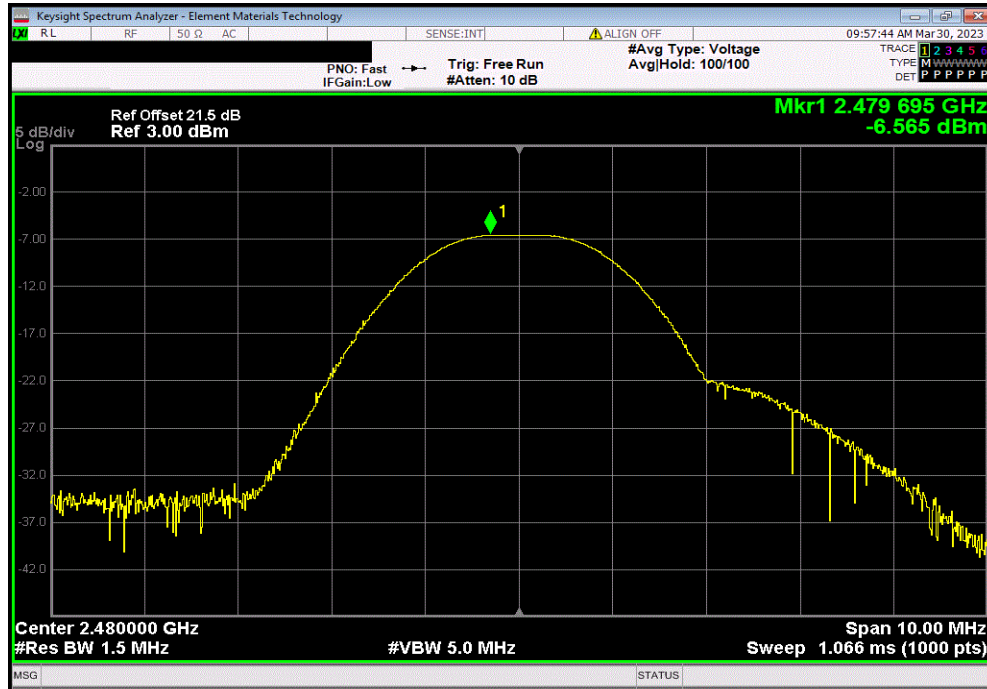


# EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

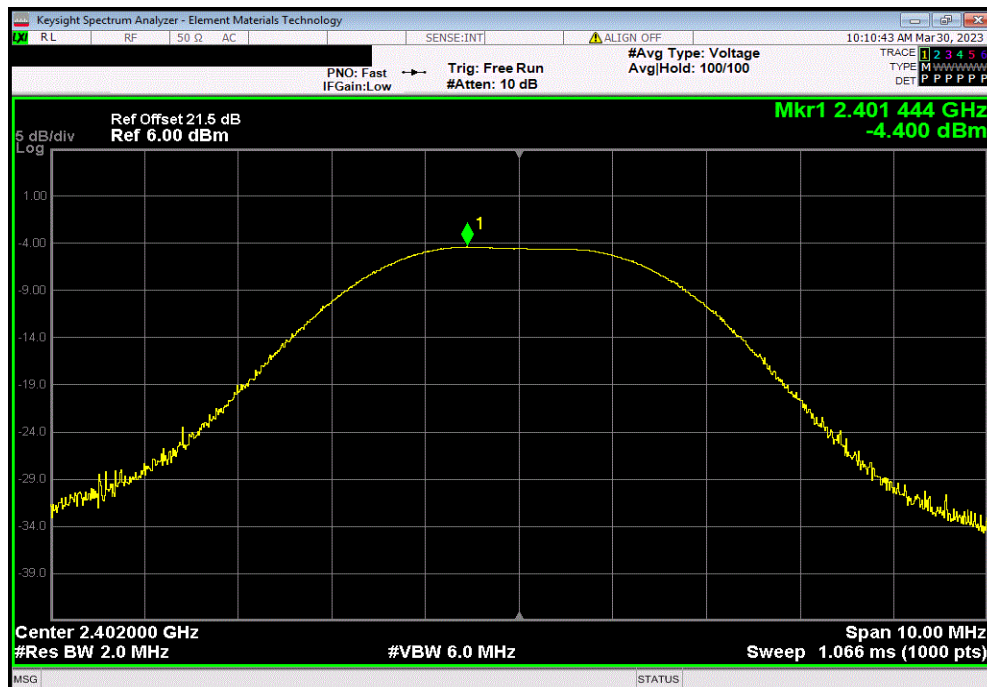


TbTx 2022.06.03.0 XMt 2023.02.14.0

BLE/GFSK 1 Mbps, High Channel, 2480 MHz						
Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result		
-6.565	-3	-9.565	36	Pass		



BLE/GFSK 2 Mbps, Low Channel, 2402 MHz						
Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result		
-4.4	-3	-7.4	36	Pass		



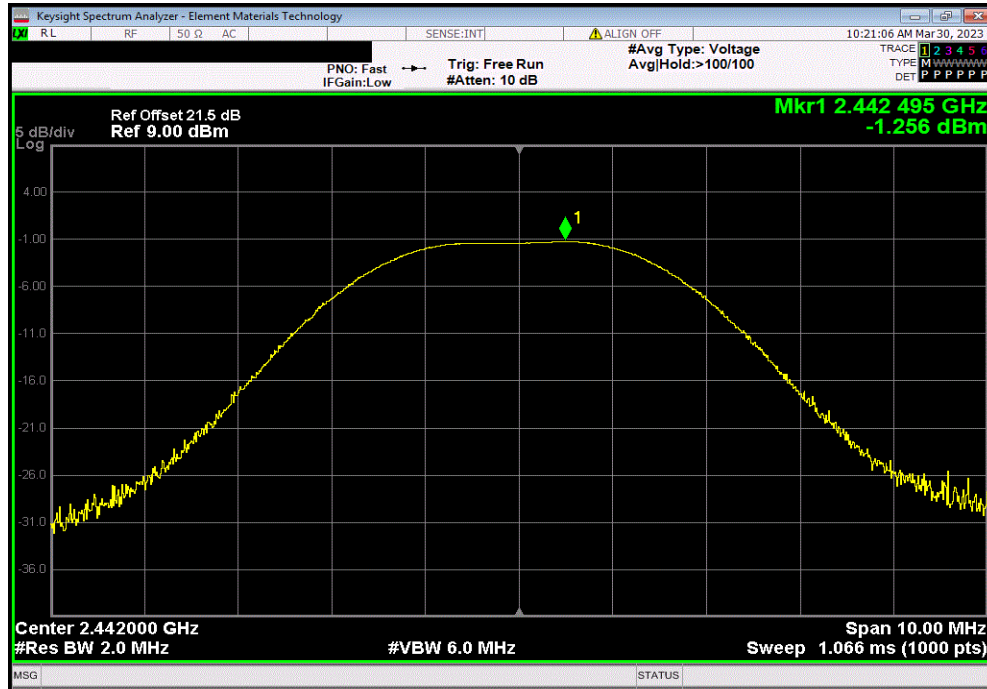


# EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

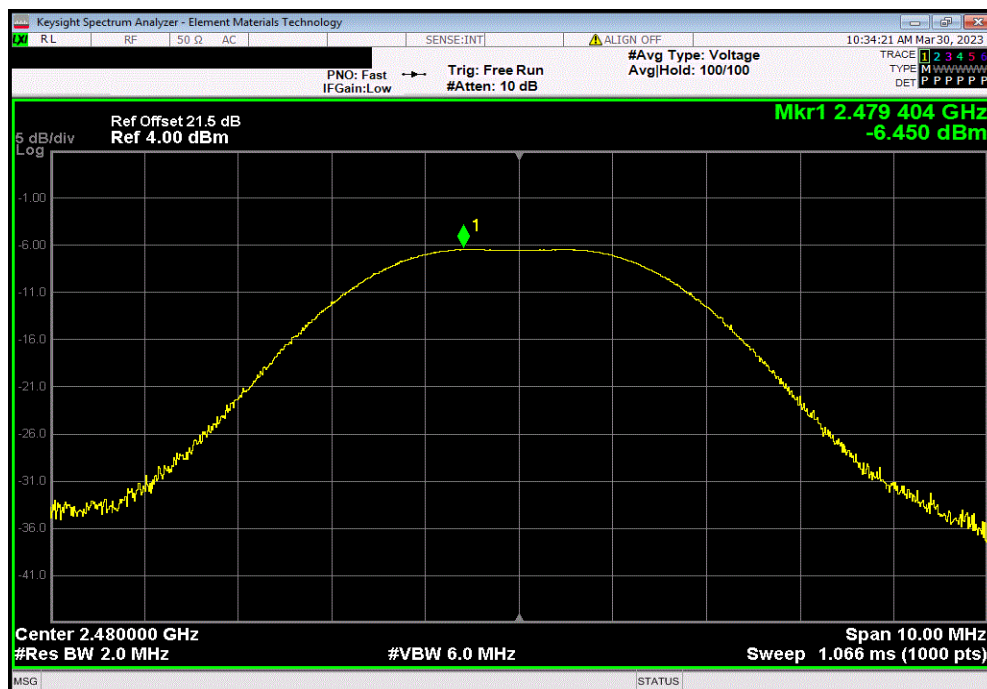


TbTx 2022.06.03.0 XMt 2023.02.14.0

BLE/GFSK 2 Mbps, Mid Channel, 2442 MHz						
	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result	
	-1.256	-3	-4.256	36	Pass	



BLE/GFSK 2 Mbps, High Channel, 2480 MHz						
	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result	
	-6.45	-3	-9.45	36	Pass	



# POWER SPECTRAL DENSITY



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
Attenuator	S.M. Electronics	SA26B-20	TZP	2022-11-06	2023-11-06
Block - DC	Fairview Microwave	SD3379	AMZ	2022-11-06	2023-11-06
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2022-09-10	2023-09-10
Generator - Signal	Agilent	N5183A	TIK	2022-01-24	2025-01-24
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2022-04-25	2023-04-25

## TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

The maximum power spectral density measurements was measured using the channels and modes as called out on the following data sheets.

Per the procedure outlined in ANSI C63.10 the peak power spectral density was measured in a 3 kHz RBW.

# POWER SPECTRAL DENSITY



TstTx 2022.06.03.0 XMR 2023.02.14.0

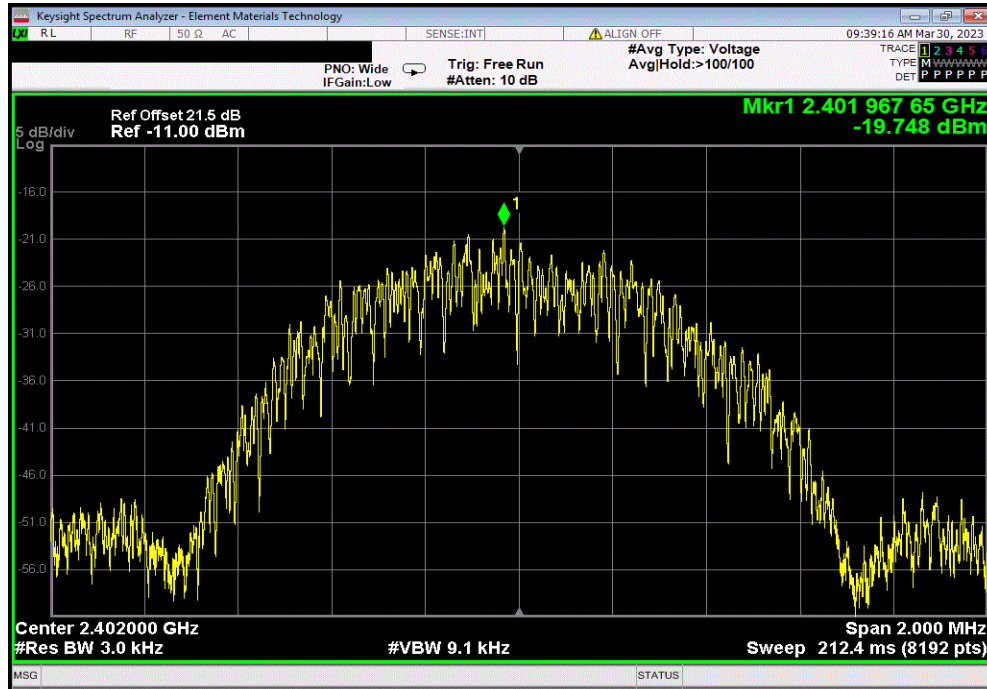
EUT: Genesis AI RIC 312		Work Order: STAK0288	
Serial Number: 230160526		Date: 03/30/2023	
Customer: Starkey Laboratories, Inc.		Temperature: 21.7°C	
Attendees: John Quach		Humidity: 18.6%	
Project: None		Barometric Pres.: 1019 mbar	
Tested by: Christopher Heintzelman	Power: Battery	Job Site: MN11	
TEST SPECIFICATIONS			
FCC 15.247:2023		Test Method	
RSS-247 Issue 2:2017		ANSI C63.10:2013	
ANSI C63.10:2013			
COMMENTS			
Reference level offset includes measurement cable, attenuator, and DC block. Does not include customer's patch cable.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	STAK0288-5	Signature <i>Christopher Heintzelman</i>	
		Value dBm/3kHz	Limit < dBm/3kHz
Results			
BLE/GFSK 1 Mbps			
Low Channel, 2402 MHz		-19.748	8
Mid Channel, 2442 MHz		-16.672	8
High Channel, 2480 MHz		-21.728	8
BLE/GFSK 2 Mbps			
Low Channel, 2402 MHz		-22.304	8
Mid Channel, 2442 MHz		-18.945	8
High Channel, 2480 MHz		-24.359	8

# POWER SPECTRAL DENSITY

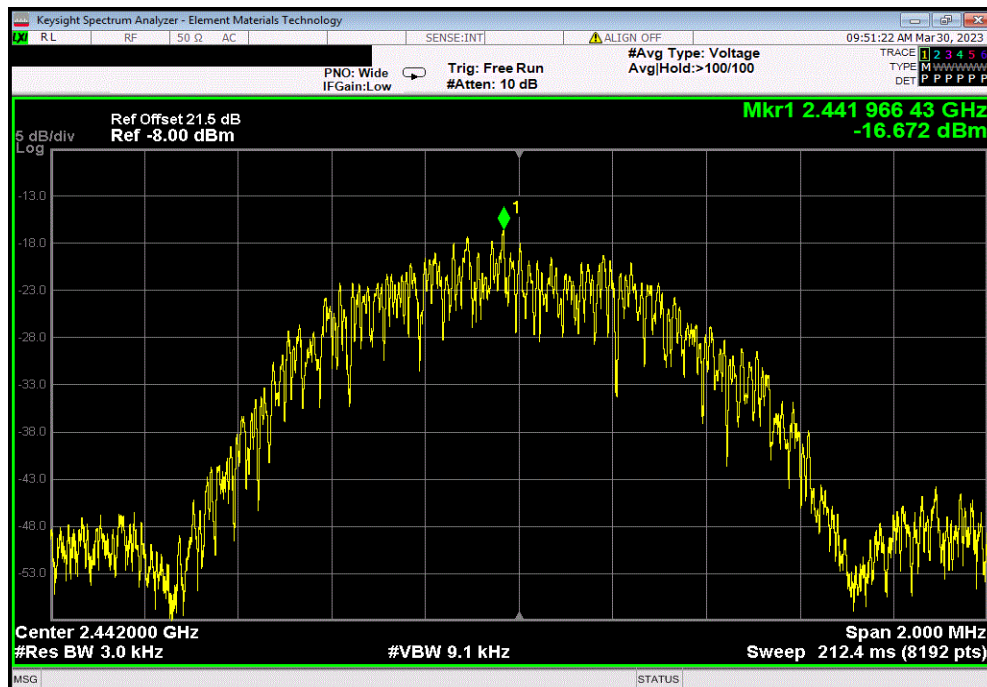


TbTtX 2022.06.03.0 XMt 2023.02.14.0

BLE/GFSK 1 Mbps, Low Channel, 2402 MHz						
	Value	Limit	Results			
	dBm/3kHz	< dBm/3kHz				
	-19.748	8	Pass			



BLE/GFSK 1 Mbps, Mid Channel, 2442 MHz						
	Value	Limit	Results			
	dBm/3kHz	< dBm/3kHz				
	-16.672	8	Pass			

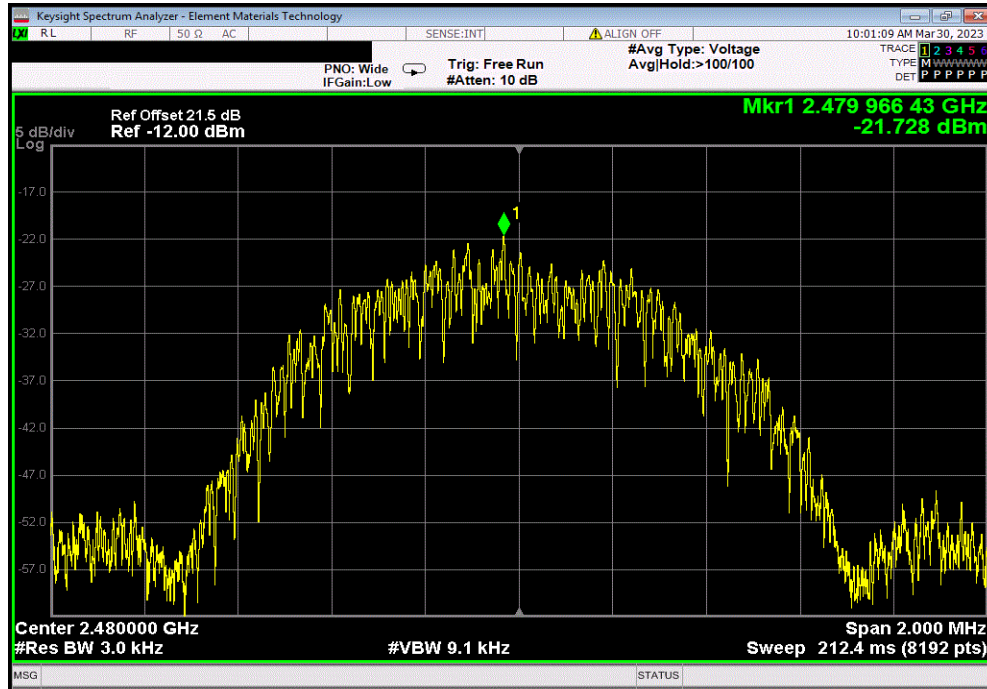


# POWER SPECTRAL DENSITY

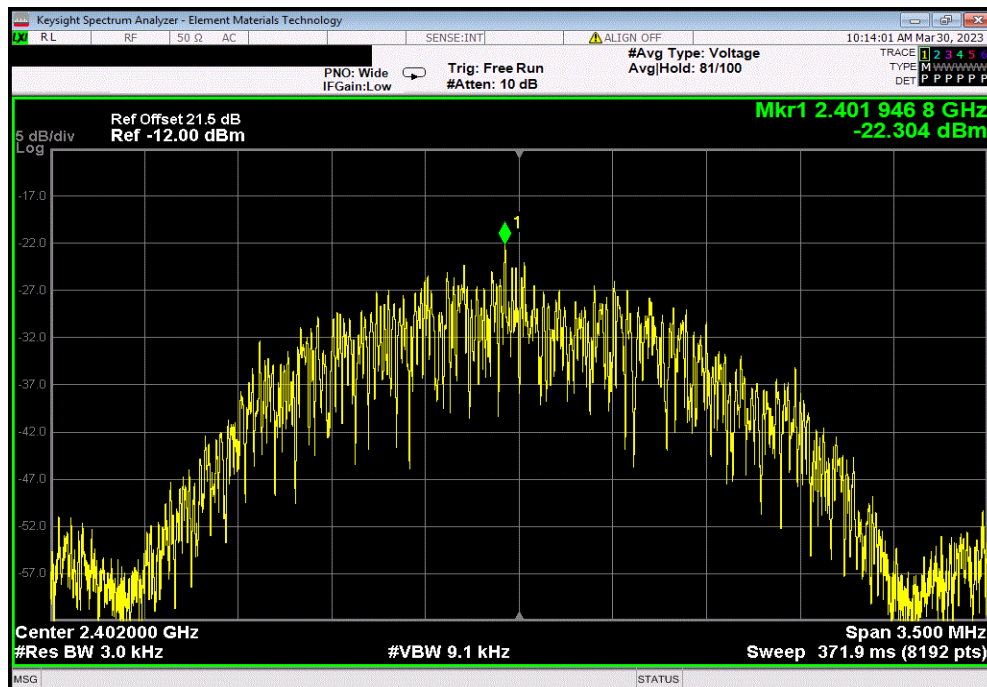


TbTx 2022.06.03.0 XMt 2023.02.14.0

BLE/GFSK 1 Mbps, High Channel, 2480 MHz						
	Value	Limit				
	dBm/3kHz	< dBm/3kHz	Results			
	-21.728	8	Pass			



BLE/GFSK 2 Mbps, Low Channel, 2402 MHz						
	Value	Limit				
	dBm/3kHz	< dBm/3kHz	Results			
	-22.304	8	Pass			

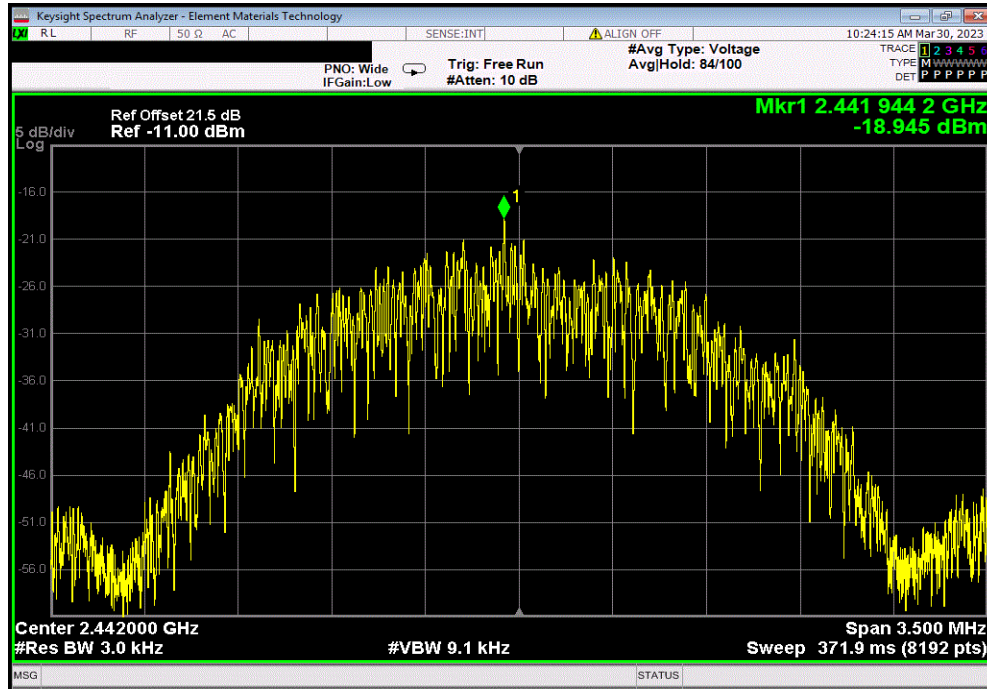


# POWER SPECTRAL DENSITY

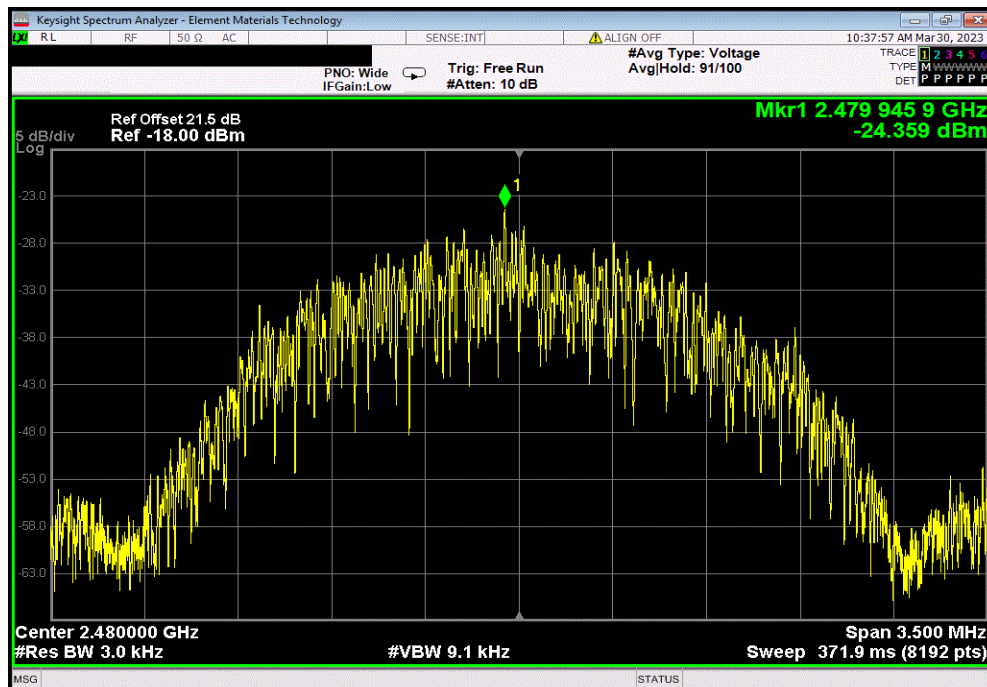


TbTtX 2022.06.03.0 XMt 2023.02.14.0

BLE/GFSK 2 Mbps, Mid Channel, 2442 MHz						
	Value	Limit	Results			
	dBm/3kHz	< dBm/3kHz				
	-18.945	8	Pass			



BLE/GFSK 2 Mbps, High Channel, 2480 MHz						
	Value	Limit	Results			
	dBm/3kHz	< dBm/3kHz				
	-24.359	8	Pass			





# BAND EDGE COMPLIANCE



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
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2022-09-10	2023-09-10
Attenuator	S.M. Electronics	SA26B-20	TZP	2022-11-06	2023-11-06
Block - DC	Fairview Microwave	SD3379	AMZ	2022-11-06	2023-11-06
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2022-09-10	2023-09-10
Generator - Signal	Agilent	N5183A	TIK	2022-01-24	2025-01-24
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2022-04-25	2023-04-25

## TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

The spurious RF conducted emissions at the edges of the authorized bands were measured with the EUT set to low and high transmit frequencies in each available band. The channels closest to the band edges were selected. The EUT was transmitting at the data rate(s) listed in the datasheet.

The spectrum was scanned below the lower band edge and above the higher band edge.

# BAND EDGE COMPLIANCE



TstTx 2022.06.03.0 XMt 2023.02.14.0

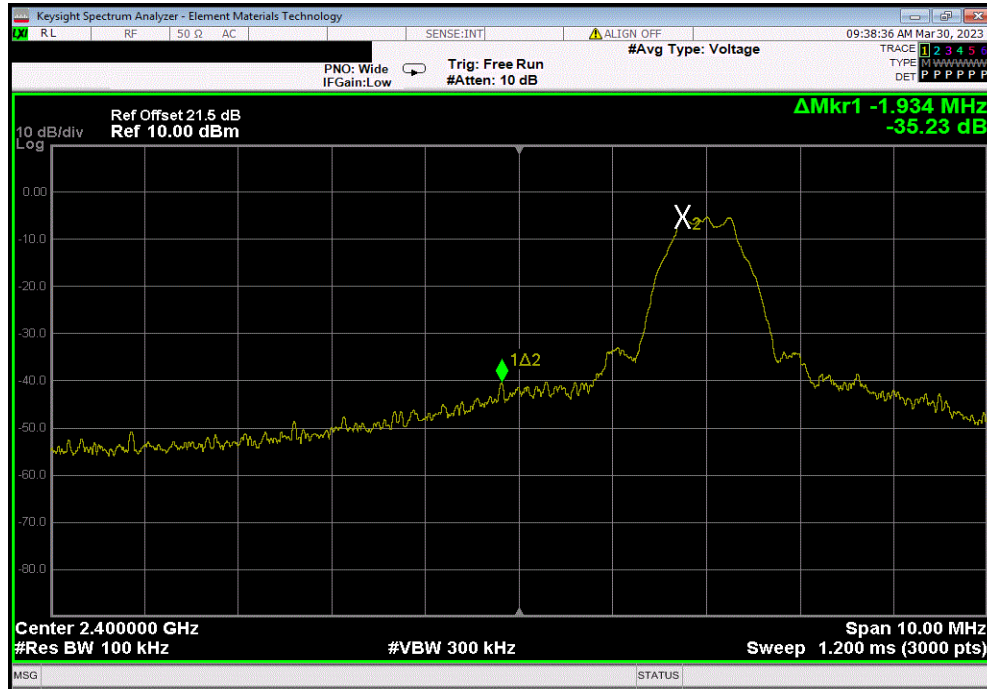
EUT: Genesis AI RIC 312		Work Order: STAK0288	
Serial Number: 230160526		Date: 03/30/2023	
Customer: Starkey Laboratories, Inc.		Temperature: 21.7°C	
Attendees: John Quach		Humidity: 18.7%	
Project: None		Barometric Pres.: 1020 mbar	
Tested by: Christopher Heintzelman		Power: Battery	
Job Site: MN11			
TEST SPECIFICATIONS		Test Method	
FCC 15.247:2023		ANSI C63.10:2013	
RSS-247 Issue 2:2017		ANSI C63.10:2013	
COMMENTS			
Reference level offset includes measurement cable, attenuator, and DC block. Does not include customer's patch cable.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	STAK0288-5	Signature <i>Christopher Heintzelman</i>	
		Value (dBc)	Limit ≤ (dBc) Result
BLE/GFSK 1 Mbps			
	Low Channel, 2402 MHz	-35.23	-20 Pass
	High Channel, 2480 MHz	-42.73	-20 Pass
BLE/GFSK 2 Mbps			
	Low Channel, 2402 MHz	-28.31	-20 Pass
	High Channel, 2480 MHz	-39.44	-20 Pass

# BAND EDGE COMPLIANCE

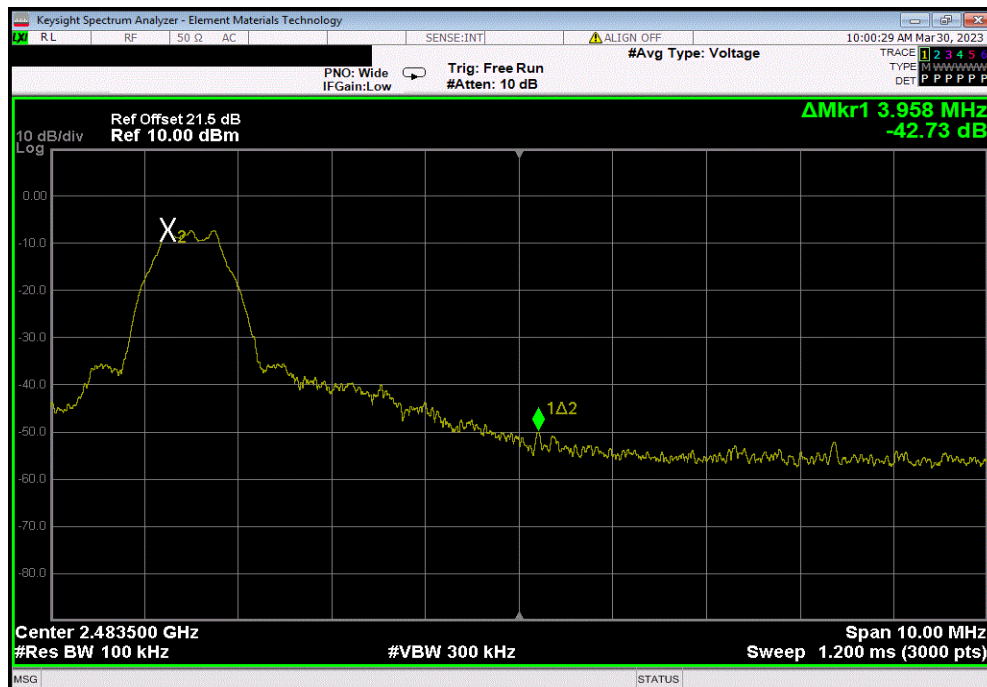


TbTx 2022.06.03.0 XMt 2023.02.14.0

BLE/GFSK 1 Mbps, Low Channel, 2402 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-35.23	-20	Pass



BLE/GFSK 1 Mbps, High Channel, 2480 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-42.73	-20	Pass

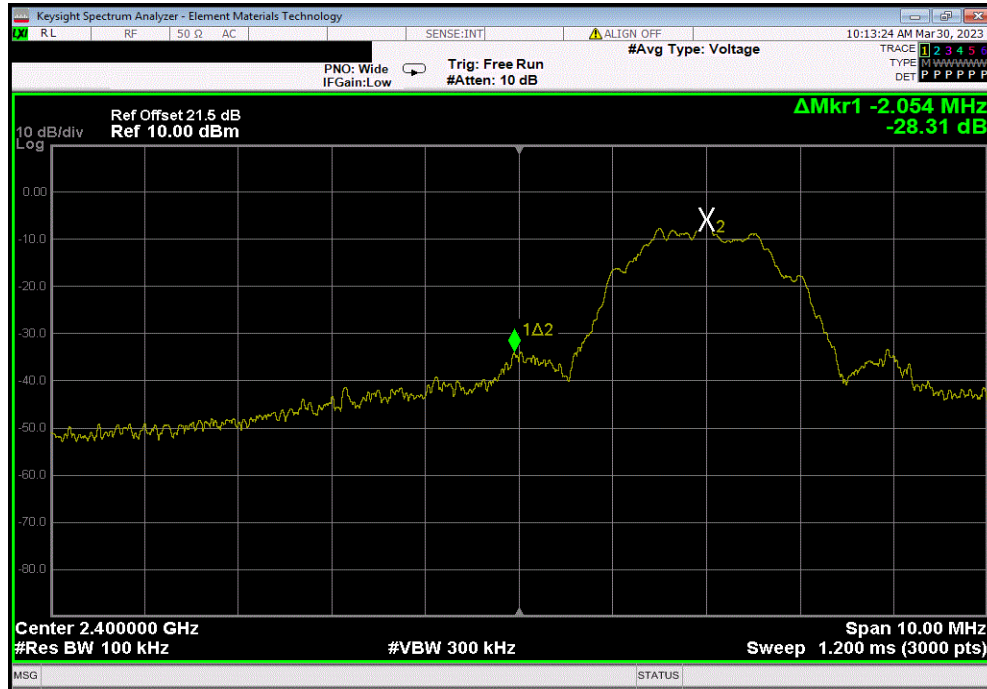


# BAND EDGE COMPLIANCE

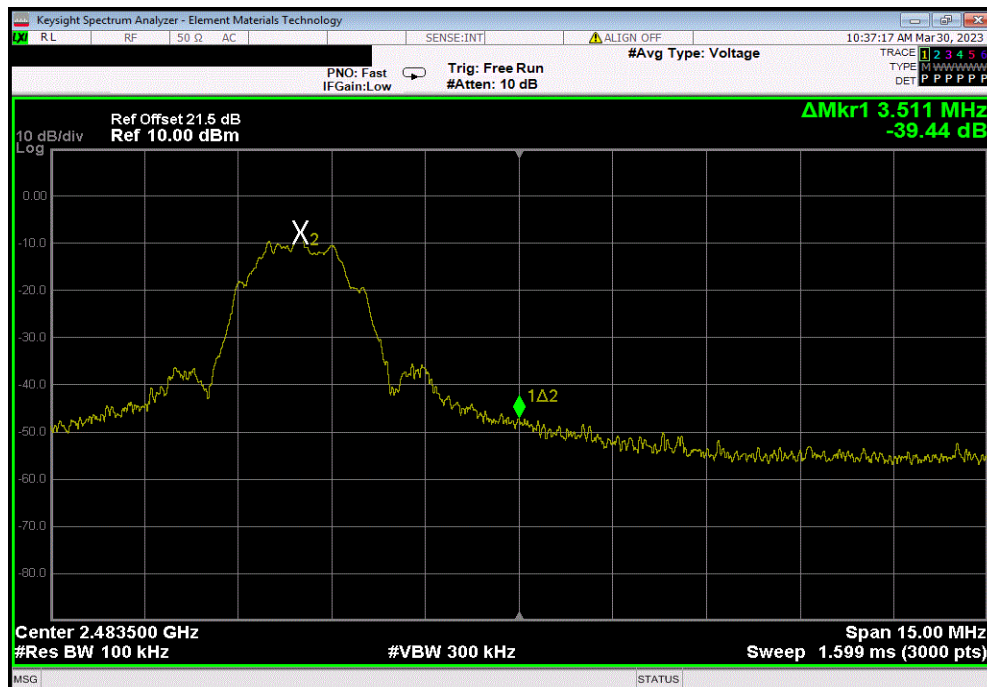


TbTtx 2022.06.03.0 XMt 2023.02.14.0

BLE/GFSK 2 Mbps, Low Channel, 2402 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-28.31	-20	Pass



BLE/GFSK 2 Mbps, High Channel, 2480 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-39.44	-20	Pass



# SPURIOUS CONDUCTED EMISSIONS



XMI 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
Attenuator	S.M. Electronics	SA26B-20	TZP	2022-11-06	2023-11-06
Block - DC	Fairview Microwave	SD3379	AMZ	2022-11-06	2023-11-06
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2022-09-10	2023-09-10
Generator - Signal	Agilent	N5183A	TIK	2022-01-24	2025-01-24
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2022-04-25	2023-04-25

## TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

The spurious RF conducted emissions were measured with the EUT set to low, medium and high transmit frequencies. The EUT was transmitting at the data rate(s) listed in the datasheet. For each transmit frequency, the fundamental was measured with a 100 kHz resolution bandwidth and the highest value was recorded. The rest of the spectrum was then measured with a 100 kHz resolution bandwidth and the highest value was found. The difference between the value found on the fundamental and the rest of the spectrum was compared against the limit to determine compliance.

The reference level offset for the fundamental screen capture was based on a measured value of the loss between the spectrum analyzer and the EUT which was verified at the time of test. The remaining screen capture(s) use an internal transducer factor on the analyzer to correct the displayed trace based on the cable loss over frequency. The reference level offset for the additional screen capture(s) is then based on the expected attenuator value and any other losses.

Fundamental Offset = Ref Lvl Offset showing measured composite factor of all losses

Remaining Screen capture(s) Offset = "Internal" cable loss factor not shown on screen capture + Ref Lvl Offset showing expected attenuator value and any other losses

# SPURIOUS CONDUCTED EMISSIONS



TstTx 2022.06.03.0 XMt 2023.02.14.0

EUT: Genesis AI RIC 312		Work Order: STAK0288	
Serial Number: 230160526		Date: 03/30/2023	
Customer: Starkey Laboratories, Inc.		Temperature: 21.7°C	
Attendees: John Quach		Humidity: 18.5%	
Project: None		Barometric Pres.: 1019 mbar	
Tested by: Christopher Heintzelman		Power: Battery	
		Job Site: MN11	
TEST SPECIFICATIONS			
FCC 15.247:2023		Test Method	
RSS-247 Issue 2:2017		ANSI C63.10:2013	
		ANSI C63.10:2013	
COMMENTS			
None			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	STAK0288-5	Signature <i>Christopher Heintzelman</i>	
		Frequency Range	Measured Freq (MHz)
			Max Value (dBc)
			Limit ≤ (dBc)
			Result
BLE/GFSK 1 Mbps			
	Low Channel, 2402 MHz	Fundamental	2402
	Low Channel, 2402 MHz	30 MHz - 12.5 GHz	7206.61
	Low Channel, 2402 MHz	12.5 GHz - 25 GHz	24870.28
	Mid Channel, 2442 MHz	Fundamental	2442
	Mid Channel, 2442 MHz	30 MHz - 12.5 GHz	1856.88
	Mid Channel, 2442 MHz	12.5 GHz - 25 GHz	24725.31
	High Channel, 2480 MHz	Fundamental	2480
	High Channel, 2480 MHz	30 MHz - 12.5 GHz	7439.53
	High Channel, 2480 MHz	12.5 GHz - 25 GHz	24916.07
BLE/GFSK 2 Mbps			
	Low Channel, 2402 MHz	Fundamental	2402
	Low Channel, 2402 MHz	30 MHz - 12.5 GHz	1858.41
	Low Channel, 2402 MHz	12.5 GHz - 25 GHz	24987.79
	Mid Channel, 2442 MHz	Fundamental	2441.98
	Mid Channel, 2442 MHz	30 MHz - 12.5 GHz	783.59
	Mid Channel, 2442 MHz	12.5 GHz - 25 GHz	24890.12
	High Channel, 2480 MHz	Fundamental	2479.99
	High Channel, 2480 MHz	30 MHz - 12.5 GHz	779.02
	High Channel, 2480 MHz	12.5 GHz - 25 GHz	24783.3

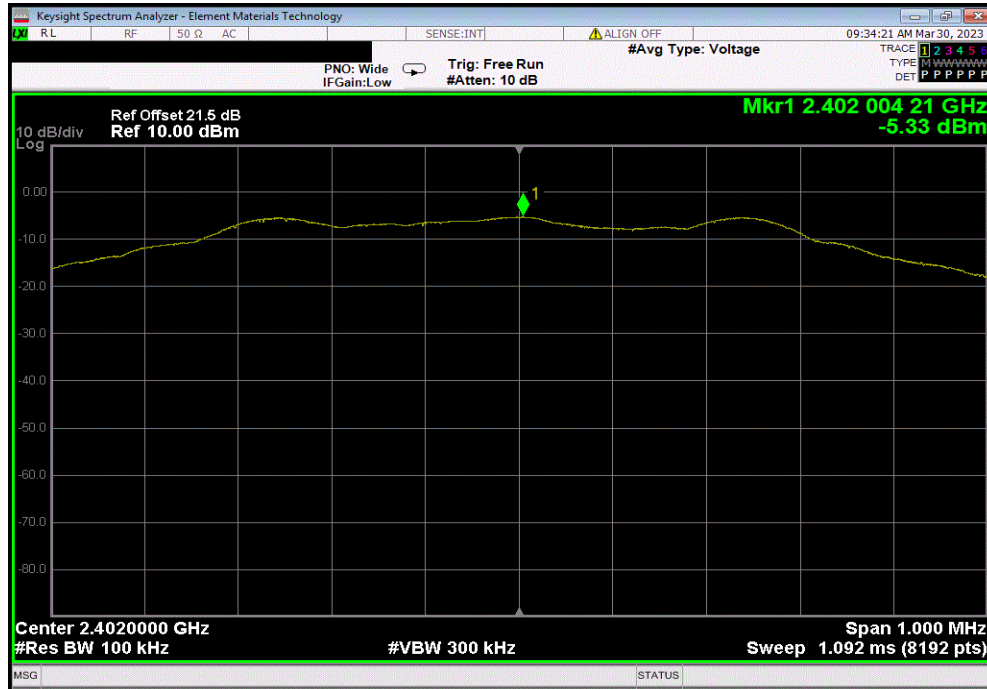


# SPURIOUS CONDUCTED EMISSIONS

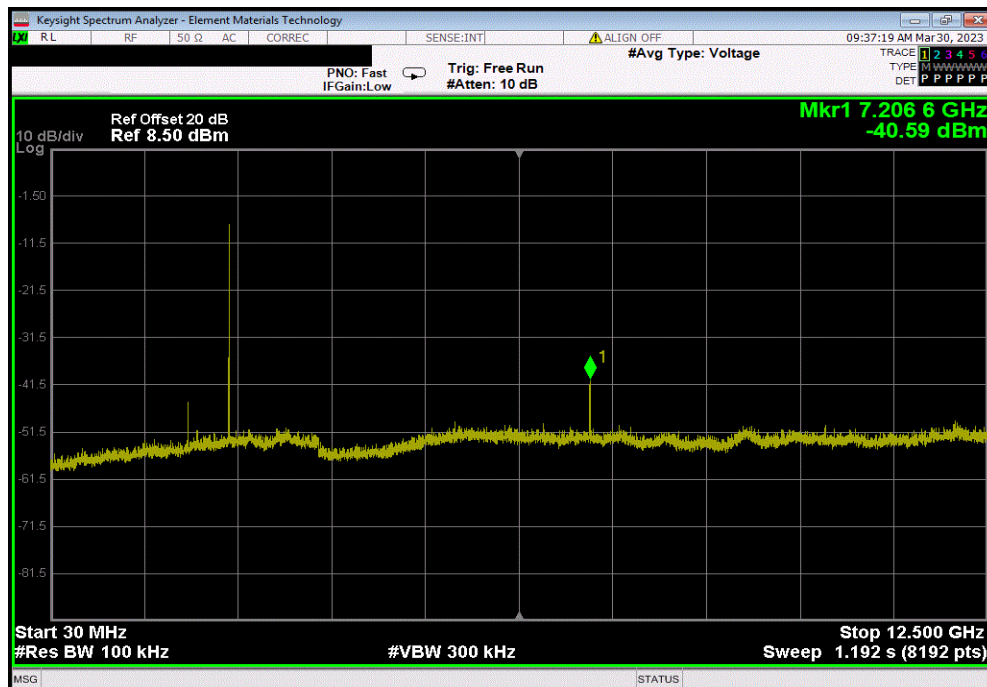


TbTx 2022.06.03.0 XMt 2023.02.14.0

BLE/GFSK 1 Mbps, Low Channel, 2402 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
Fundamental	2402	N/A	N/A	N/A	



BLE/GFSK 1 Mbps, Low Channel, 2402 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz	7206.61	-35.26	-20	Pass	

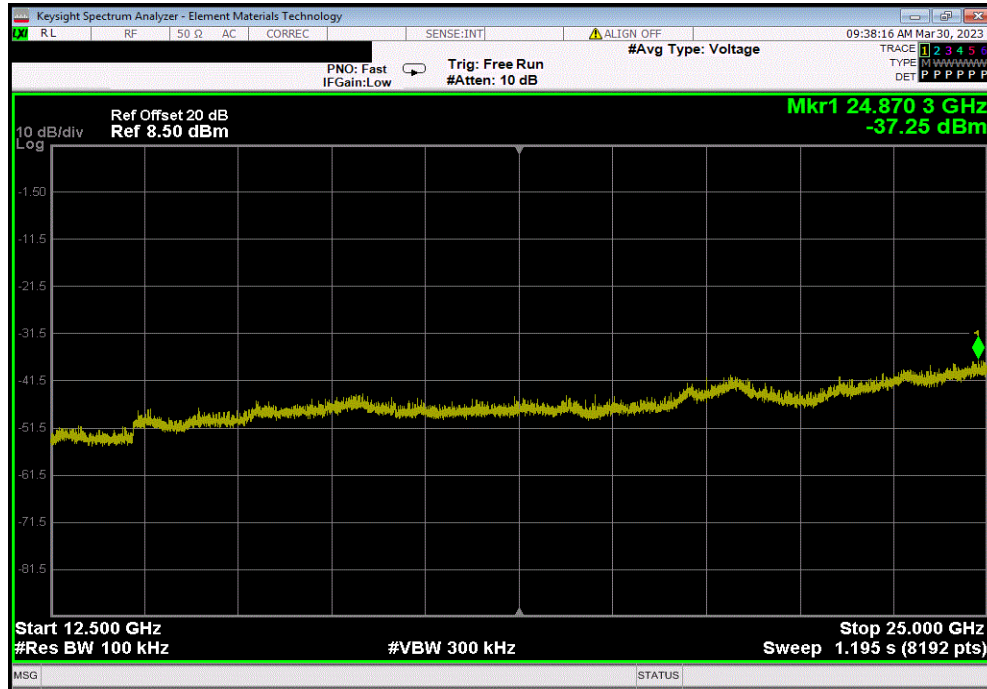


# SPURIOUS CONDUCTED EMISSIONS

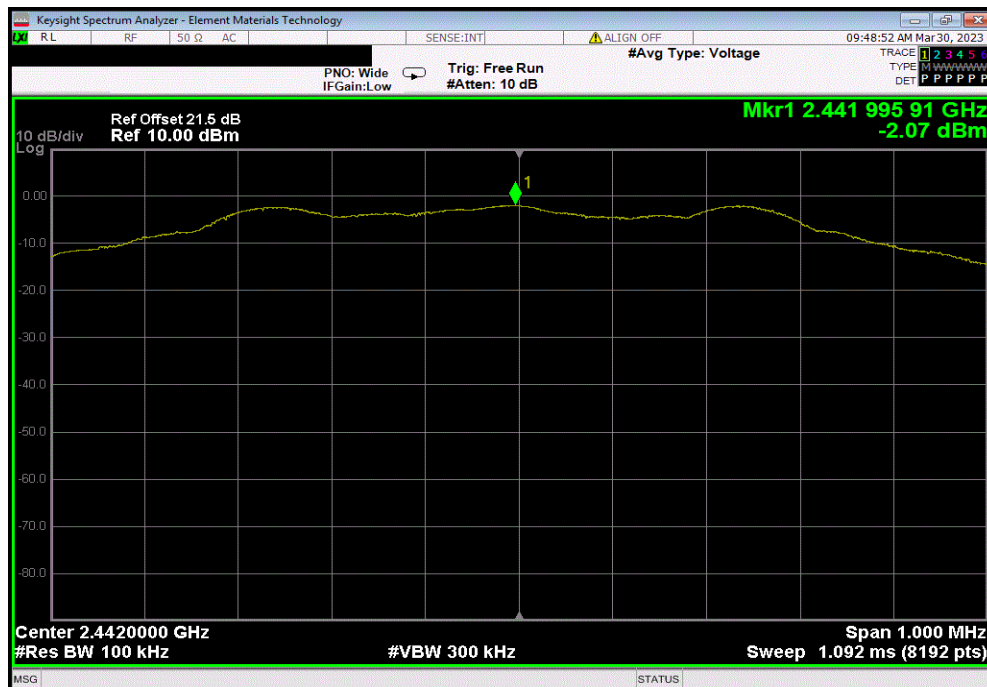


TbTx 2022.06.03.0 XMt 2023.02.14.0

BLE/GFSK 1 Mbps, Low Channel, 2402 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	24870.28	-31.92	-20	Pass	



BLE/GFSK 1 Mbps, Mid Channel, 2442 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
Fundamental	2442	N/A	N/A	N/A	

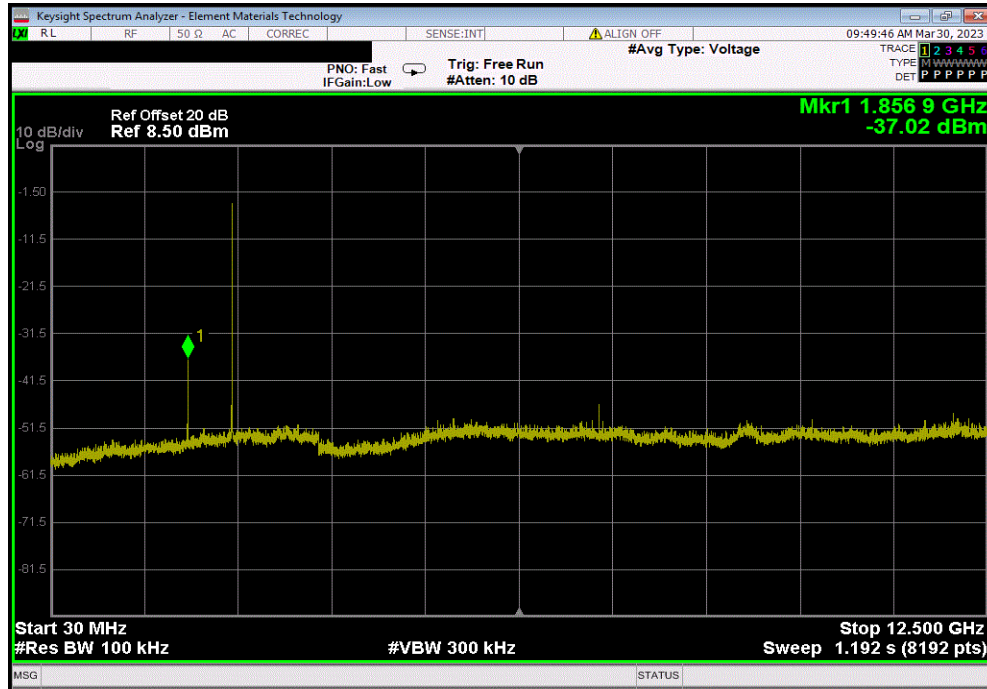


# SPURIOUS CONDUCTED EMISSIONS

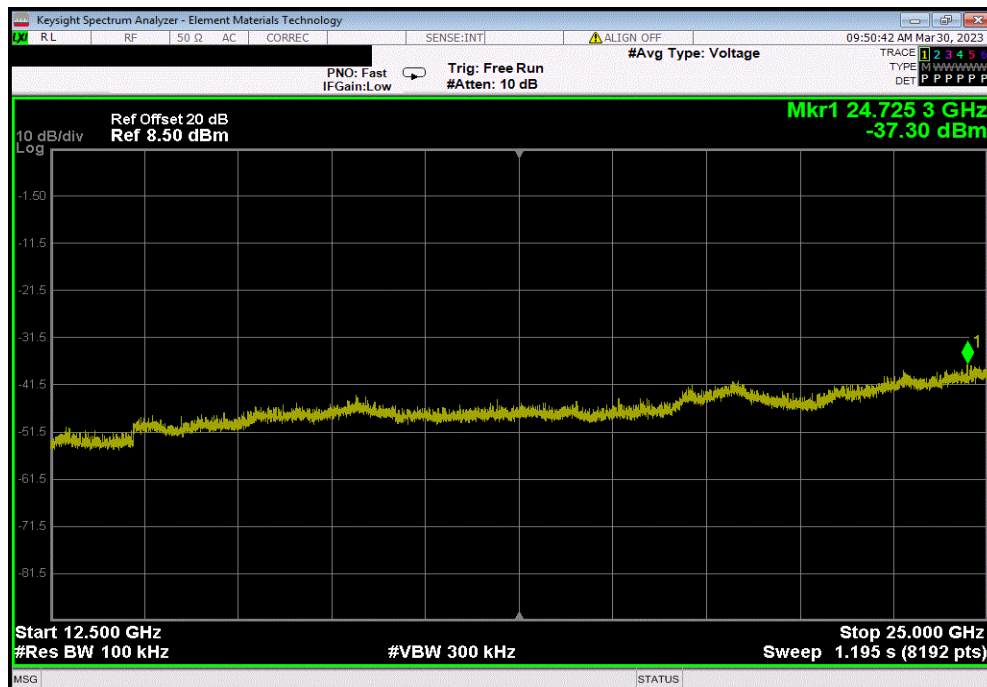


TbTx 2022.06.03.0 XMt 2023.02.14.0

BLE/GFSK 1 Mbps, Mid Channel, 2442 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz	1856.88	-34.95	-20	Pass	



BLE/GFSK 1 Mbps, Mid Channel, 2442 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	24725.31	-35.23	-20	Pass	

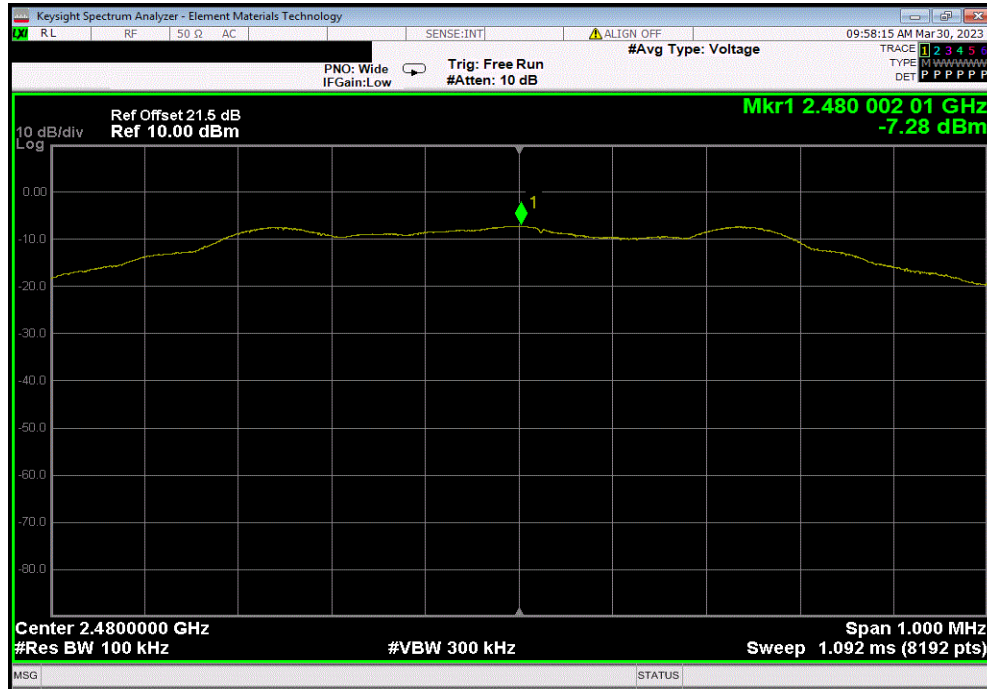


# SPURIOUS CONDUCTED EMISSIONS

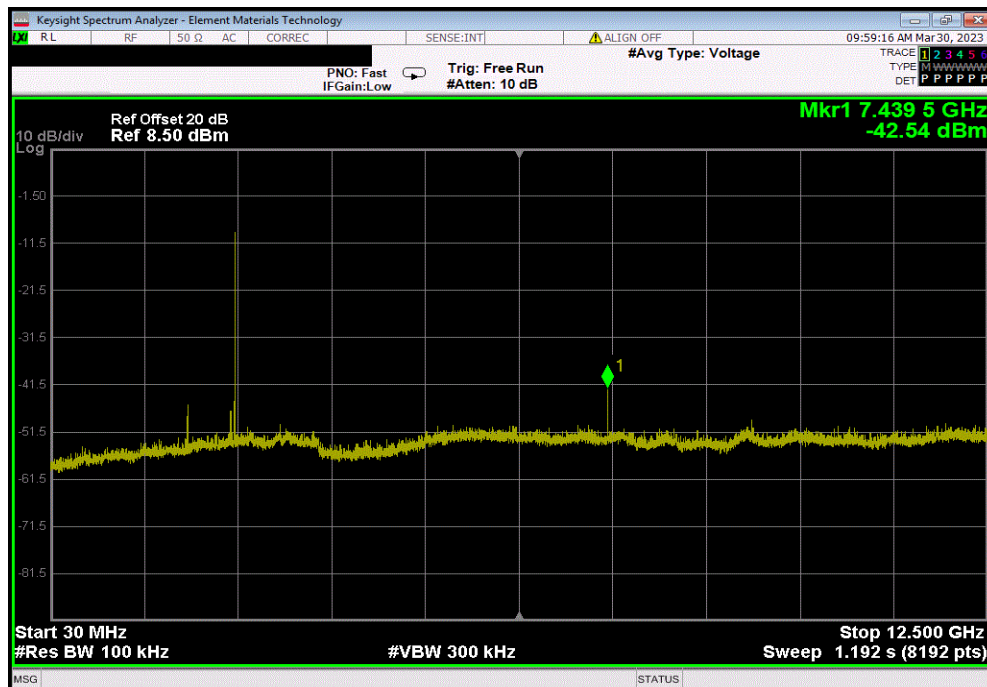


TbTx 2022.06.03.0 XMt 2023.02.14.0

BLE/GFSK 1 Mbps, High Channel, 2480 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
Fundamental	2480	N/A	N/A	N/A	



BLE/GFSK 1 Mbps, High Channel, 2480 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz	7439.53	-35.25	-20	Pass	

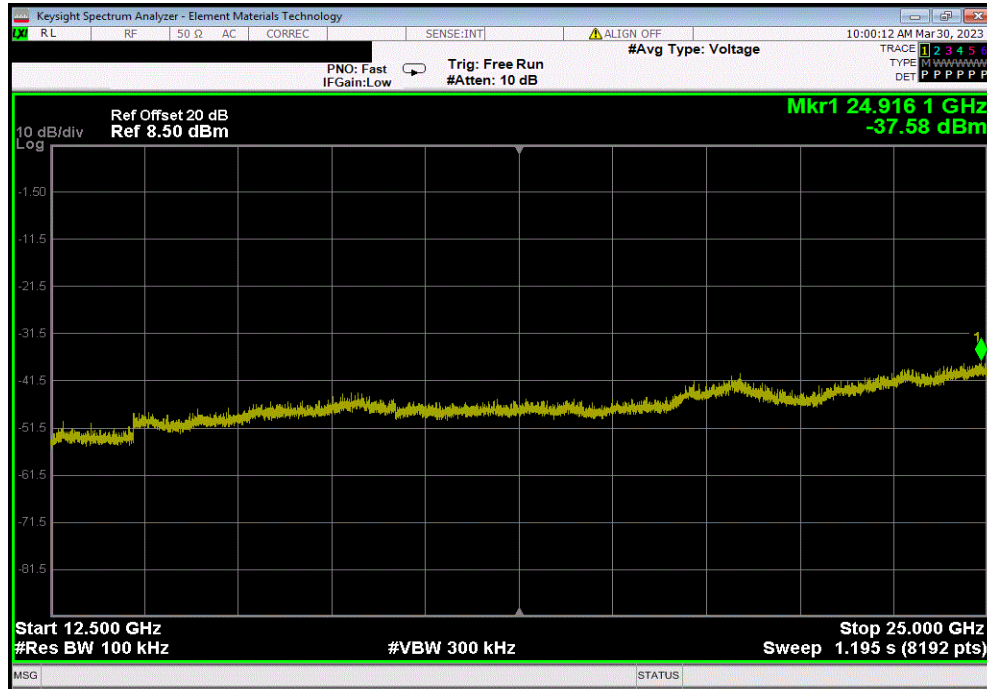


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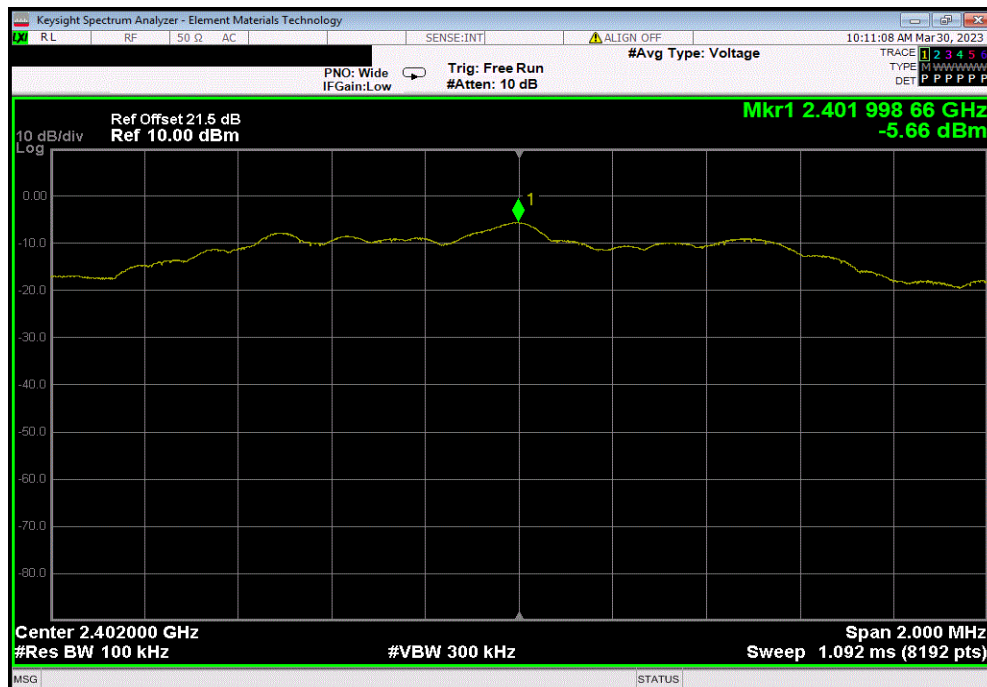


TbTtx 2022.06.03.0 XMt 2023.02.14.0

BLE/GFSK 1 Mbps, High Channel, 2480 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	24916.07	-30.29	-20	Pass	



BLE/GFSK 2 Mbps, Low Channel, 2402 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
Fundamental	2402	N/A	N/A	N/A	



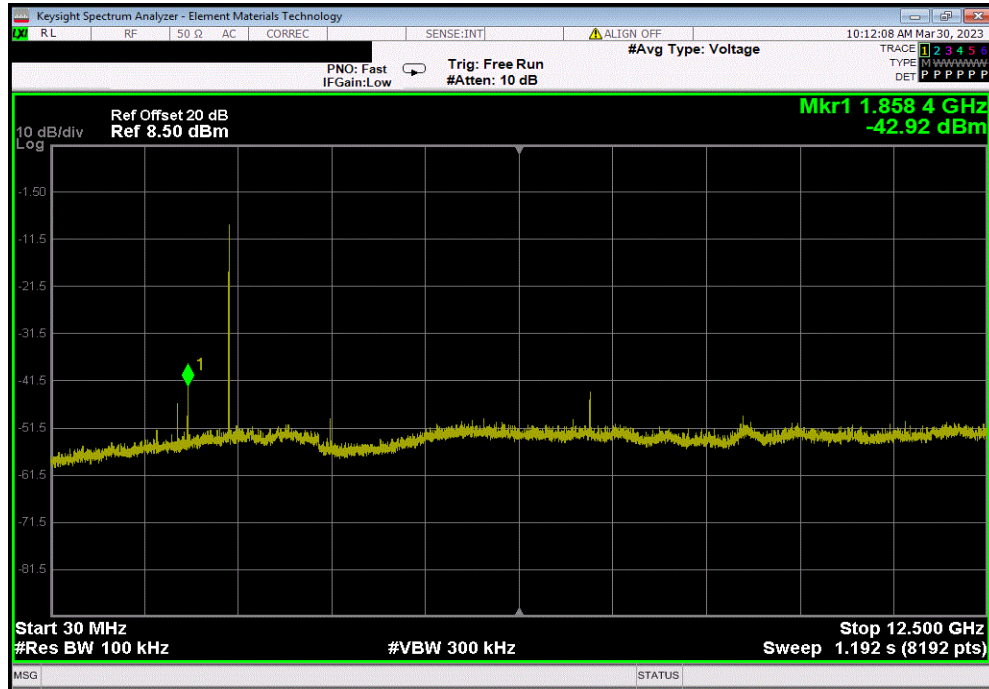


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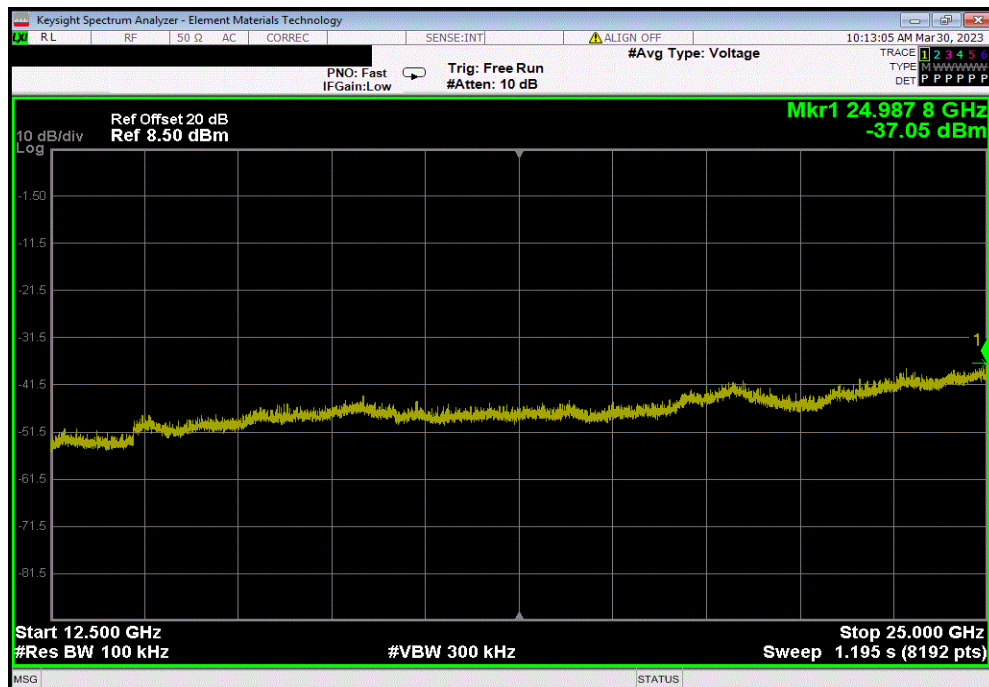


TbTx 2022.06.03.0 XMt 2023.02.14.0

BLE/GFSK 2 Mbps, Low Channel, 2402 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz	1858.41	-37.26	-20	Pass	



BLE/GFSK 2 Mbps, Low Channel, 2402 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	24987.79	-31.39	-20	Pass	

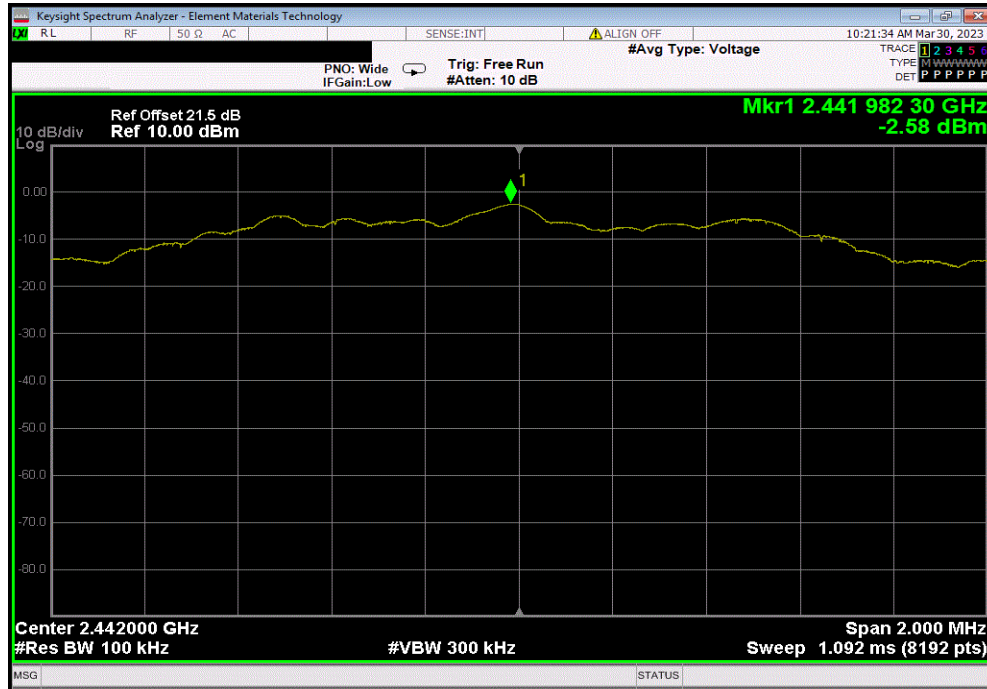


# SPURIOUS CONDUCTED EMISSIONS

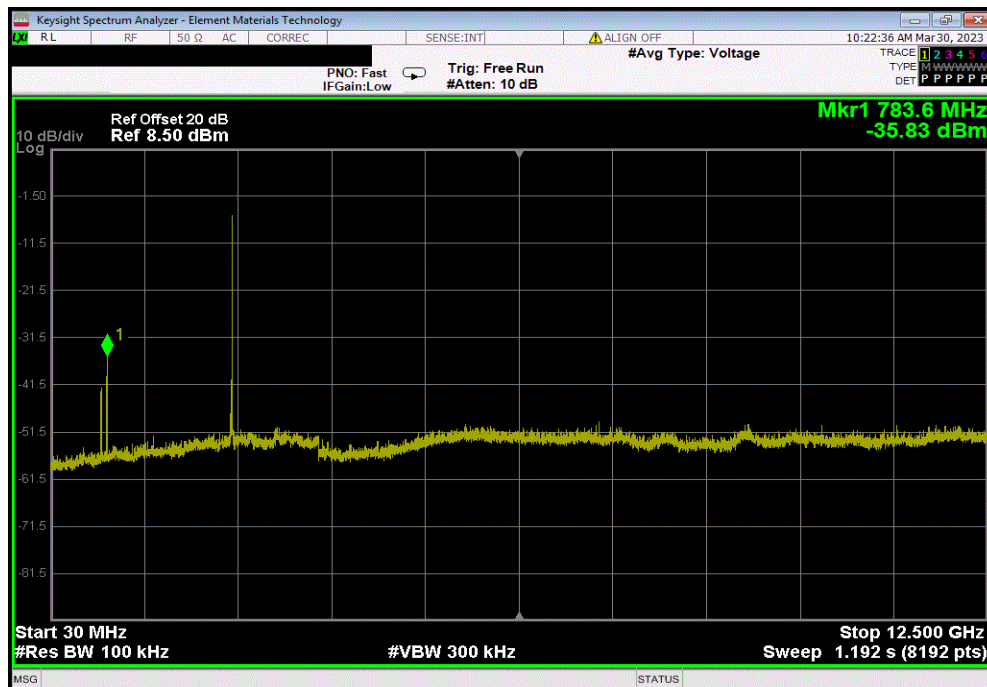


TbTx 2022.06.03.0 XMt 2023.02.14.0

BLE/GFSK 2 Mbps, Mid Channel, 2442 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result		
Fundamental	2441.98	N/A	N/A	N/A		



BLE/GFSK 2 Mbps, Mid Channel, 2442 MHz						
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result		
30 MHz - 12.5 GHz	783.59	-33.25	-20	Pass		



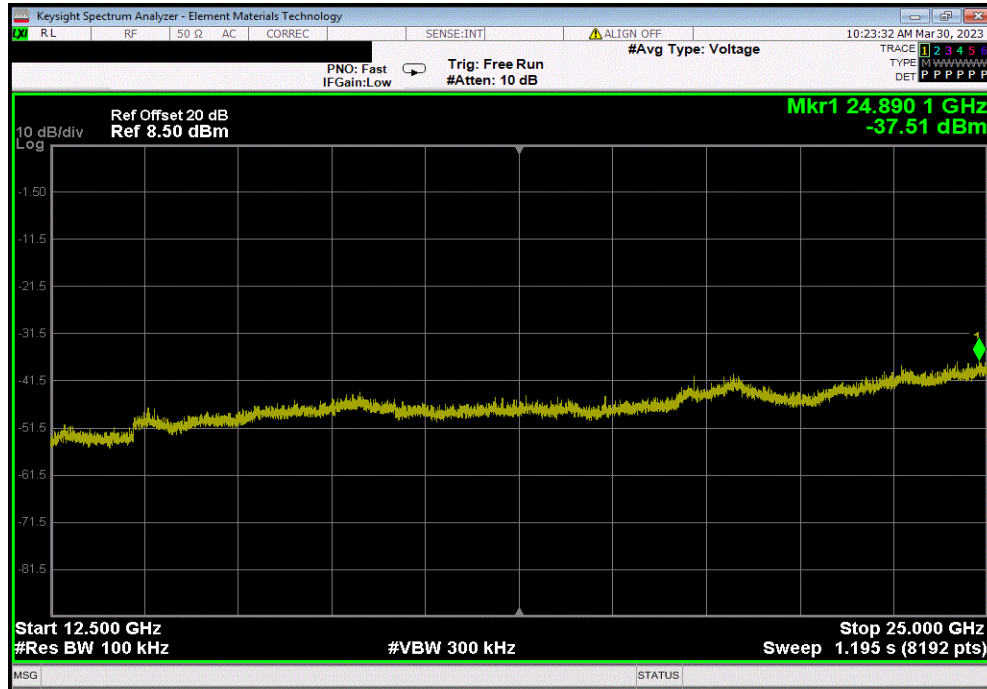


# SPURIOUS CONDUCTED EMISSIONS

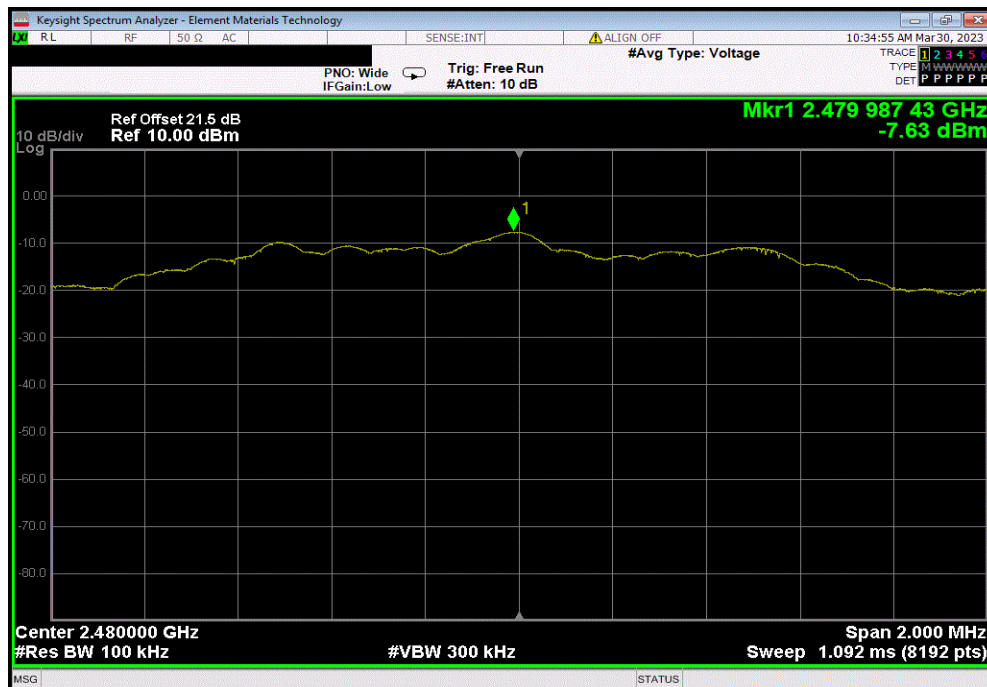


TbTx 2022.06.03.0 XMt 2023.02.14.0

BLE/GFSK 2 Mbps, Mid Channel, 2442 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	24890.12	-34.93	-20	Pass	



BLE/GFSK 2 Mbps, High Channel, 2480 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
Fundamental	2479.99	N/A	N/A	N/A	

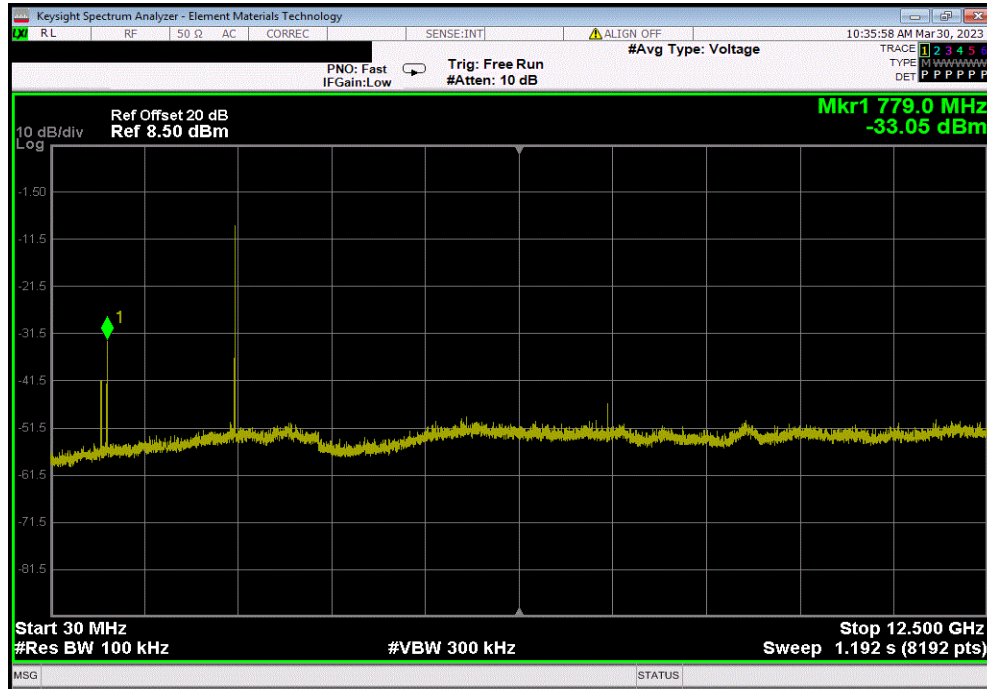


# SPURIOUS CONDUCTED EMISSIONS

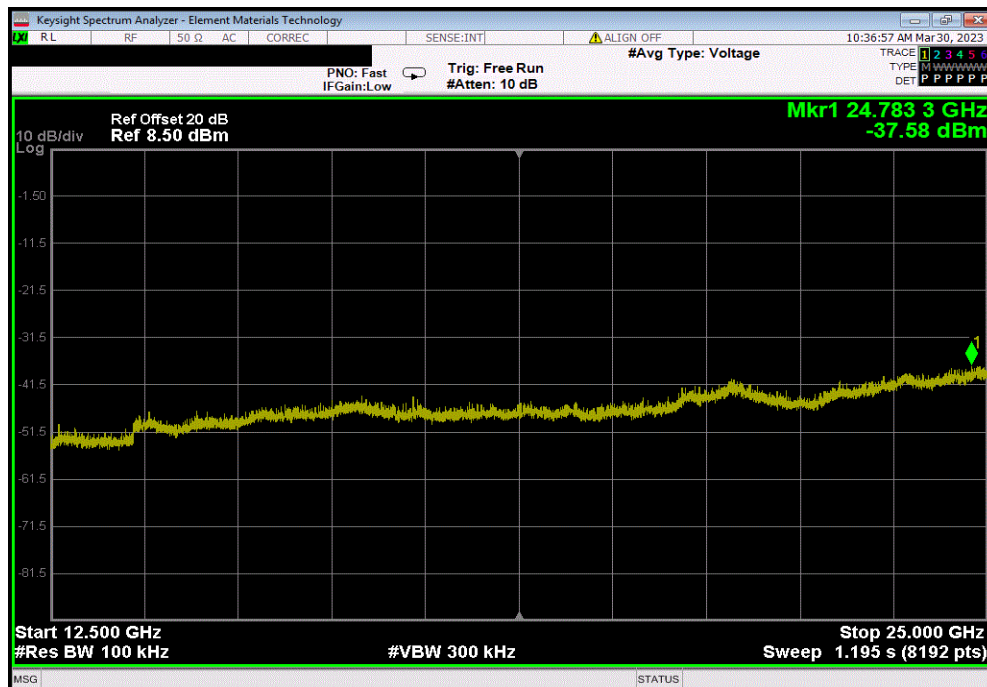


TbTx 2022.06.03.0 XMt 2023.02.14.0

BLE/GFSK 2 Mbps, High Channel, 2480 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz	779.02	-25.42	-20	Pass	



BLE/GFSK 2 Mbps, High Channel, 2480 MHz					
Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	24783.3	-29.95	-20	Pass	



# SPURIOUS RADIATED EMISSIONS

## TEST DESCRIPTION

The highest gain antenna of each type to be used with the EUT was tested. The EUT was configured for the required transmit frequencies and the modes as showed in the data sheets.

For each configuration, the spectrum was scanned throughout the specified range as part of the exploratory investigation of the emissions. These "pre-scans" are not included in the report. Final measurements on individual emissions were then made and included in this test report.

The individual emissions from the EUT were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and EUT antenna in three orthogonal axis if required, and adjusting the measurement antenna height and polarization (per ANSI C63.10). A preamp and high pass filter (and notch filter) were used for this test in order to provide sufficient measurement sensitivity.

Measurements were made with the required detectors and annotated on the data for each individual point using the following annotation:

QP = Quasi-Peak Detector  
PK = Peak Detector  
AV = RMS Detector

Measurements were made to satisfy the specific requirements of the test specification for out of band emissions as well as the restricted band requirements.

If there are no detectable emissions above the noise floor, the data included may show noise floor measurements for reference only.

Measurements within 2 MHz of the allowable band may have been taken using the integration method from ANSI C63.10 clause 11.13.3. This procedure uses the channel power feature of the spectrum analyzer to integrate the power of the emission within a 1 MHz bandwidth.

Where the radio test software does not provide for a duty cycle at continuous transmit conditions (> 98%) and the RMS (power average) measurements were made across the on and off times of the EUT transmissions, a duty cycle correction is added to the measurements using the formula of  $10 \cdot \log(1/dc)$ .

## TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Antenna - Double Ridge	ETS Lindgren	3115	AIP	2022-07-20	2024-07-20
Cable	ESM Cable Corp.	Double Ridge Guide Horn Cables	MNI	2023-01-14	2024-01-14
Amplifier - Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	AVT	2023-01-14	2024-01-14
Analyzer - Spectrum Analyzer	Agilent	N9010A	AFL	2022-03-22	2023-03-22
Antenna - Standard Gain	ETS Lindgren	3160-07	AXP	NCR	NCR
Cable	ESM Cable Corp.	Standard Gain Horn Cables	MNJ	2023-01-14	2024-01-14
Amplifier - Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVV	2023-01-14	2024-01-14
Antenna - Standard Gain	ETS Lindgren	3160-08	AIQ	NCR	NCR
Amplifier - Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVW	2023-01-14	2024-01-14
Attenuator	Fairview Microwave	SA18E-20	TWZ	2022-08-27	2023-08-27
Filter - High Pass	Micro-Tronics	HPM50111	LFN	2022-08-27	2023-08-27
Antenna - Biconilog	ETS Lindgren	3142D	AXO	2021-09-14	2023-09-14
Cable	ESM Cable Corp.	Bilog Cables	MNH	2022-10-08	2023-10-08
Amplifier - Pre-Amplifier	Miteq	AM-1616-1000	AVO	2022-10-08	2023-10-08
Filter - Low Pass	Micro-Tronics	LPM50004	LFK	2022-08-27	2023-08-27
Antenna - Biconilog	ETS Lindgren	3142D	AXO	2021-09-14	2023-09-14
Cable	ESM Cable Corp.	Bilog Cables	MNH	2022-10-08	2023-10-08
Amplifier - Pre-Amplifier	Miteq	AM-1616-1000	AVO	2022-10-08	2023-10-08

# SPURIOUS RADIATED EMISSIONS

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Antenna - Standard Gain	ETS Lindgren	3160-09	AHG	NCR	NCR
Cable	ESM Cable Corp.	TTBJ141 KMKM-72	MNP	2022-09-10	2023-09-10
Amplifier - Pre-Amplifier	Miteq	JSD4-18002600-26-8P	APU	2022-09-10	2023-09-10

## MEASUREMENT UNCERTAINTY

Description		
Expanded k=2	5.2 dB	-5.2 dB

## FREQUENCY RANGE INVESTIGATED

30 MHz TO 26500 MHz
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## POWER INVESTIGATED

Battery
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## CONFIGURATIONS INVESTIGATED

STAK0288-1
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## MODES INVESTIGATED

Transmitting BT Low, Mid, High Chs (2402, 2442, 2480 MHz) BLE GSKF, 1 Mbps, 2 Mbps.
Transmitting BT Low and High Chs (2402, 2480 MHz) BLE GSKF, 1 Mbps, 2 Mbps.

# SPURIOUS RADIATED EMISSIONS

EUT:	Genesis AI RIC 312	Work Order:	STAK0288
Serial Number:	230160490	Date:	2023-02-27
Customer:	Starkey Laboratories, Inc.	Temperature:	22.5°C
Attendees:	John Quach	Relative Humidity:	21.6%
Customer Project:	None	Bar. Pressure (PMSL):	993 mb
Tested By:	Marcelo Aguayo	Job Site:	MN05
Power:	Battery	Configuration:	STAK0288-1

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.247:2023	ANSI C63.10:2013

## TEST PARAMETERS

Run #:	16	Test Distance (m):	3	Ant. Height(s) (m):	1 to 4(m)
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## COMMENTS

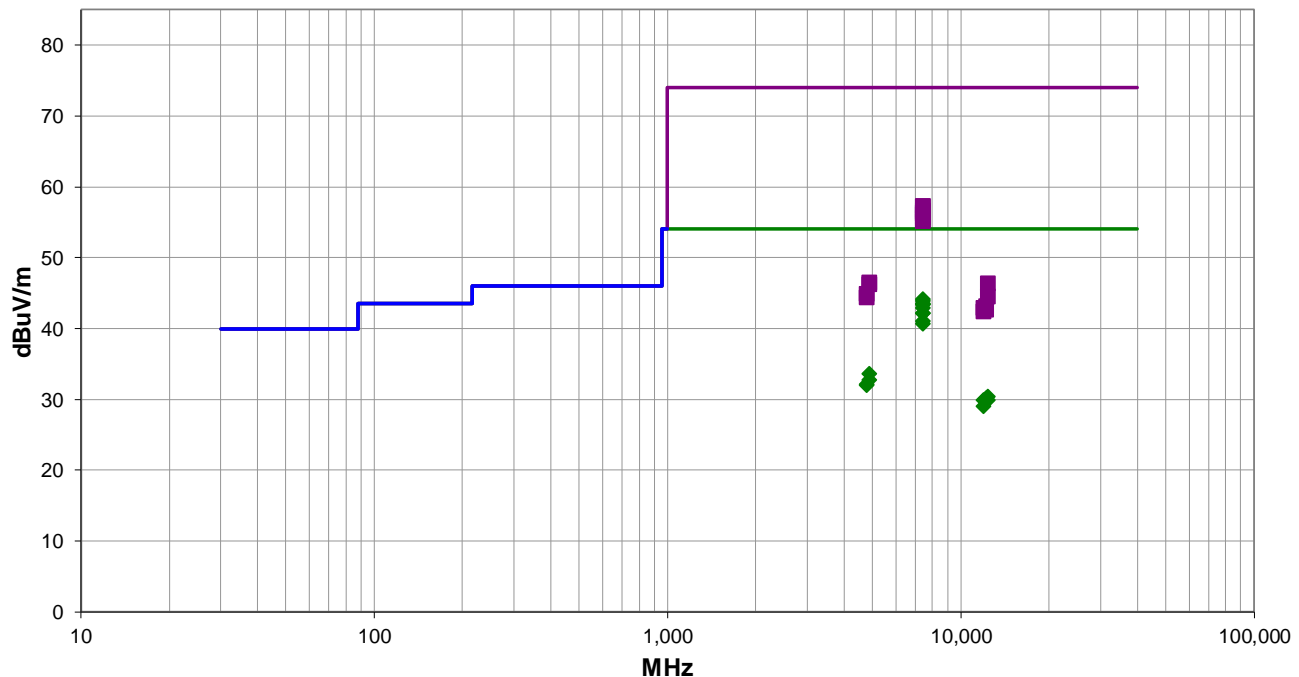
Test mode duty cycle is 21.01 % (1 Mbps), 15.68 % (2 Mbps) upward DCCF correction applied based on  $10 \cdot \log(1/\text{Duty cycle}) = 6.8 \text{ dB}$  (1 Mbps),  $8.0 \text{ dB}$  (1 Mbps). Operational duty cycle is 17%. Duty cycle correction factor (DCCF) applied using  $\text{DCCF} = [10 \cdot \log(1/\text{test mode DC})] + [10 \cdot \log(\text{operational DC})] = -0.9 \text{ dB}$  (1Mbps),  $0.3 \text{ dB}$  (2 Mbps)

## EUT OPERATING MODES

Transmitting BT Low, Mid, High Chs (2402, 2442, 2480 MHz) BLE GSKF, 1 Mbps, 2 Mbps.

## DEVIATIONS FROM TEST STANDARD

None



Run #: 16

■ PK ◆ AV ● QP

# SPURIOUS RADIATED EMISSIONS

## RESULTS - Run #16

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Duty Cycle Correction Factor (dB)	External Attenuation (dB)	Polarity/Transducer	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
7438.600	32.8	11.9	3.3	311.0	-0.9	0.0	Horz	AV	0.0	43.8	54.0	-10.2	EUT On Side, High Ch 1Mbps
7439.275	32.3	11.9	2.1	317.0	-0.9	0.0	Vert	AV	0.0	43.3	54.0	-10.7	EUT Vert, High Ch 1Mbps
7438.767	32.3	11.9	3.2	66.0	-0.9	0.0	Horz	AV	0.0	43.3	54.0	-10.7	EUT Vert, High Ch 1Mbps
7438.633	31.8	11.9	2.8	1.9	-0.9	0.0	Vert	AV	0.0	42.8	54.0	-11.2	EUT Vert, High Ch 1Mbps
7438.792	31.1	11.9	2.8	231.0	-0.9	0.0	Horz	AV	0.0	42.1	54.0	-11.9	EUT Horz, High Ch 1Mbps
7438.583	31.1	11.9	2.5	217.9	-0.9	0.0	Horz	AV	0.0	42.1	54.0	-11.9	EUT On Side, High Ch 1Mbps
7438.550	30.0	11.9	1.5	163.9	-0.9	0.0	Vert	AV	0.0	41.0	54.0	-13.0	EUT On Side, High Ch 1Mbps
7438.767	29.6	11.9	1.5	138.9	-0.9	0.0	Vert	AV	0.0	40.6	54.0	-13.4	EUT Horz, High Ch 1Mbps
7438.550	31.9	11.9	3.2	171.9	0.3	0.0	Horz	AV	0.0	44.1	54.0	-9.9	EUT On Side, High Ch 2Mbps
7438.808	31.3	11.9	2.7	48.0	0.3	0.0	Vert	AV	0.0	43.5	54.0	-10.5	EUT Vert, High Ch 2Mbps
4883.692	31.0	3.4	1.4	98.0	-0.9	0.0	Vert	AV	0.0	33.5	54.0	-20.5	EUT Vert, Mid Ch 1Mbps
7438.633	45.3	11.9	3.2	171.9	0.0	0.0	Horz	PK	0.0	57.2	74.0	-16.8	EUT On Side, High Ch 2Mbps
7438.475	45.3	11.9	3.3	242.0	0.0	0.0	Vert	PK	0.0	57.2	74.0	-16.8	EUT Vert, High Ch 1Mbps
7438.317	44.7	11.9	3.6	145.0	0.0	0.0	Vert	PK	0.0	56.6	74.0	-17.4	EUT Horz, High Ch 1Mbps
4881.808	30.2	3.4	1.5	15.0	-0.9	0.0	Horz	AV	0.0	32.7	54.0	-21.3	EUT On Side, Mid Ch 1Mbps
7438.483	44.5	11.9	2.4	286.0	0.0	0.0	Horz	PK	0.0	56.4	74.0	-17.6	EUT On Side, High Ch 1Mbps
7438.342	44.4	11.9	2.5	217.9	0.0	0.0	Horz	PK	0.0	56.3	74.0	-17.7	EUT On Side, High Ch 1Mbps
7439.250	44.2	11.9	2.1	317.0	0.0	0.0	Vert	PK	0.0	56.1	74.0	-17.9	EUT Vert, High Ch 1Mbps
7441.708	44.2	11.9	2.7	48.0	0.0	0.0	Vert	PK	0.0	56.1	74.0	-17.9	EUT Vert, High Ch 2Mbps
4801.500	29.7	3.3	1.5	124.0	-0.9	0.0	Horz	AV	0.0	32.1	54.0	-21.9	EUT On Side, Low Ch 1Mbps
4801.517	29.6	3.3	1.5	177.0	-0.9	0.0	Vert	AV	0.0	32.0	54.0	-22.0	EUT Vert, Low Ch 1Mbps
7439.208	43.7	11.9	1.5	54.0	0.0	0.0	Horz	PK	0.0	55.6	74.0	-18.4	EUT Horz, High Ch 1Mbps
7438.158	43.4	11.9	1.3	225.9	0.0	0.0	Vert	PK	0.0	55.3	74.0	-18.7	EUT On Side, High Ch 1Mbps
7438.367	43.2	11.9	2.5	196.0	0.0	0.0	Horz	PK	0.0	55.1	74.0	-18.9	EUT Vert, High Ch 1Mbps
12397.710	29.3	1.9	2.7	153.9	-0.9	0.0	Horz	AV	0.0	30.3	54.0	-23.7	EUT On Side, High Ch 1Mbps
12209.570	29.2	1.8	1.5	27.9	-0.9	0.0	Horz	AV	0.0	30.1	54.0	-23.9	EUT On Side, Mid Ch 1Mbps
12011.090	30.3	0.5	1.7	322.9	-0.9	0.0	Vert	AV	0.0	29.9	54.0	-24.1	EUT Vert, Low Ch 1Mbps
12397.670	28.9	1.9	1.8	325.9	-0.9	0.0	Vert	AV	0.0	29.9	54.0	-24.1	EUT Vert, High Ch 1Mbps
12210.110	28.9	1.8	1.5	354.9	-0.9	0.0	Vert	AV	0.0	29.8	54.0	-24.2	EUT Vert, Mid Ch 1Mbps
12008.850	29.5	0.4	1.5	55.0	-0.9	0.0	Horz	AV	0.0	29.0	54.0	-25.0	EUT On Side, Low Ch 1Mbps
4883.483	43.0	3.4	1.4	98.0	0.0	0.0	Vert	PK	0.0	46.4	74.0	-27.6	EUT Vert, Mid Ch 1Mbps
12399.890	44.4	1.9	2.7	153.9	0.0	0.0	Horz	PK	0.0	46.3	74.0	-27.7	EUT On Side, High Ch 1Mbps
4883.392	42.8	3.4	1.5	15.0	0.0	0.0	Horz	PK	0.0	46.2	74.0	-27.8	EUT On Side, Mid Ch 1Mbps
4802.858	41.5	3.3	1.5	177.0	0.0	0.0	Vert	PK	0.0	44.8	74.0	-29.2	EUT Vert, Low Ch 1Mbps
12399.980	42.6	1.9	1.8	325.9	0.0	0.0	Vert	PK	0.0	44.5	74.0	-29.5	EUT Vert, High Ch 1Mbps
4801.783	41.0	3.3	1.5	124.0	0.0	0.0	Horz	PK	0.0	44.3	74.0	-29.7	EUT On Side, Low Ch 1Mbps
12211.830	41.3	1.8	1.5	354.9	0.0	0.0	Vert	PK	0.0	43.1	74.0	-30.9	EUT Vert, Mid Ch 1Mbps
12009.230	42.4	0.4	1.5	55.0	0.0	0.0	Horz	PK	0.0	42.8	74.0	-31.2	EUT On Side, Low Ch 1Mbps
12209.740	40.8	1.8	1.5	27.9	0.0	0.0	Horz	PK	0.0	42.6	74.0	-31.4	EUT On Side, Mid Ch 1Mbps
12010.320	41.8	0.5	1.7	322.9	0.0	0.0	Vert	PK	0.0	42.3	74.0	-31.7	EUT Vert, Low Ch 1Mbps

# SPURIOUS RADIATED EMISSIONS

## CONCLUSION

Pass



Tested By



# SPURIOUS RADIATED EMISSIONS

EUT:	Genesis AI RIC 312	Work Order:	STAK0288
Serial Number:	230160490	Date:	2023-02-27
Customer:	Starkey Laboratories, Inc.	Temperature:	22.5°C
Attendees:	John Quach	Relative Humidity:	21.6%
Customer Project:	None	Bar. Pressure (PMSL):	993 mb
Tested By:	Marcelo Aguayo	Job Site:	MN05
Power:	Battery	Configuration:	STAK0288-1

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.247:2023	ANSI C63.10:2013

## TEST PARAMETERS

Run #:	17	Test Distance (m):	3	Ant. Height(s) (m):	1 to 4(m)
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## COMMENTS

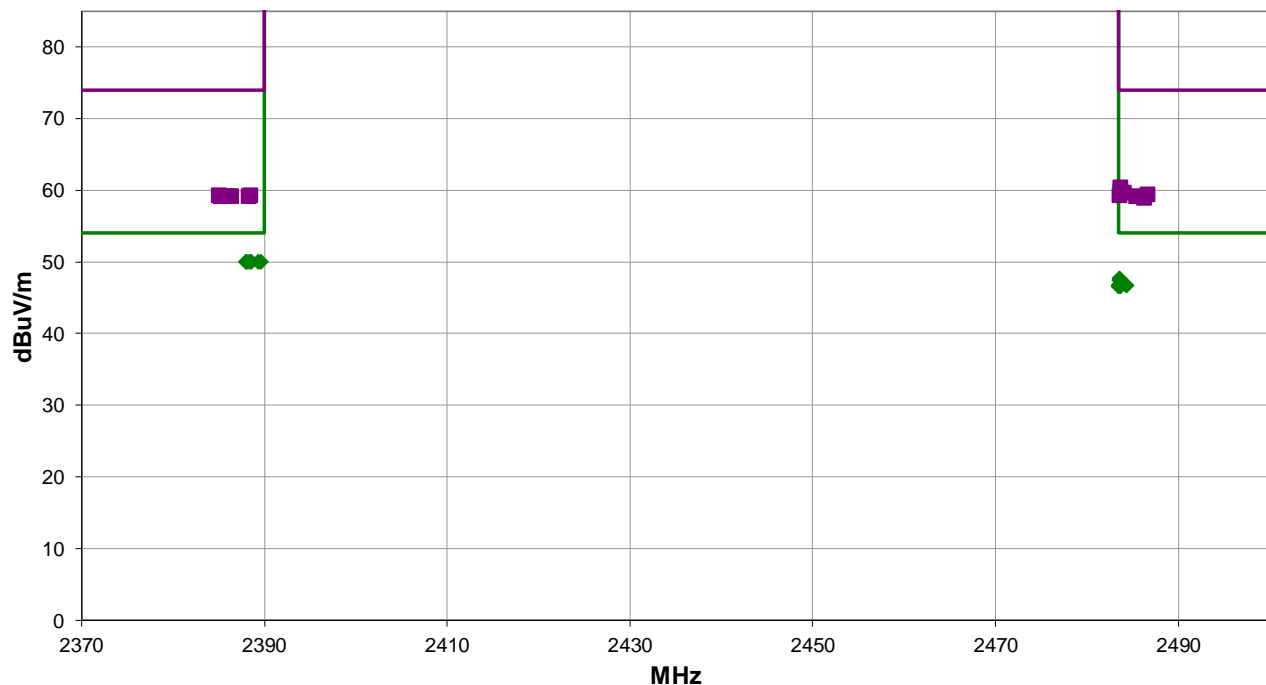
Test mode duty cycle is 21.01 % (1 Mbps), 15.68 % (2 Mbps) upward DCCF correction applied based on  $10 \cdot \log(1/\text{Duty cycle}) = 6.8 \text{ dB}$  (1 Mbps),  $8.0 \text{ dB}$  (1 Mbps). Operational duty cycle is 17%. Duty cycle correction factor (DCCF) applied using  $\text{DCCF} = [10 \cdot \log(1/\text{test mode DC})] + [10 \cdot \log(\text{operational DC})] = -0.9 \text{ dB}$  (1Mbps),  $0.3 \text{ dB}$  (2 Mbps)

## EUT OPERATING MODES

Transmitting BT Low and High Chs (2402, 2480 MHz) BLE GSKF, 1 Mbps, 2 Mbps.

## DEVIATIONS FROM TEST STANDARD

None



Run #: 17

■ PK ◆ AV ● QP

# SPURIOUS RADIATED EMISSIONS

## RESULTS - Run #17

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Duty Cycle Correction Factor (dB)	External Attenuation (dB)	Polarity/Transducer	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
2483.608	32.5	-4.2	1.5	300.0	-0.9	20.0	Vert	AV	0.0	47.4	54.0	-6.6	EUT On Side, High Ch 1Mbps
2483.658	31.9	-4.2	1.5	26.0	-0.9	20.0	Horz	AV	0.0	46.8	54.0	-7.2	EUT Vert, High Ch 1Mbps
2483.533	31.7	-4.2	1.5	321.0	-0.9	20.0	Vert	AV	0.0	46.6	54.0	-7.4	EUT Horz, High Ch 1Mbps
2484.342	31.7	-4.2	1.5	300.9	-0.9	20.0	Vert	AV	0.0	46.6	54.0	-7.4	EUT Vert, High Ch 1Mbps
2483.517	31.6	-4.2	3.7	240.9	-0.9	20.0	Horz	AV	0.0	46.5	54.0	-7.5	EUT On Side, High Ch 1Mbps
2483.667	31.6	-4.2	1.5	311.0	-0.9	20.0	Horz	AV	0.0	46.5	54.0	-7.5	EUT Horz, High Ch 1Mbps
2387.983	31.5	-4.3	1.5	227.0	-0.9	20.0	Vert	AV	0.0	50.0	54.0	-4.0	EUT Horz, Low Ch 1Mbps
2388.592	31.5	-4.3	3.7	196.9	-0.9	20.0	Horz	AV	0.0	50.0	54.0	-4.0	EUT Horz, Low Ch 1Mbps
2388.450	31.5	-4.3	1.5	238.0	-0.9	20.0	Horz	AV	0.0	50.0	54.0	-4.0	EUT Vert, Low Ch 1Mbps
2389.317	31.5	-4.3	1.5	182.9	-0.9	20.0	Vert	AV	0.0	50.0	54.0	-4.0	EUT Vert, Low Ch 1Mbps
2388.083	31.4	-4.3	1.5	67.9	-0.9	20.0	Vert	AV	0.0	49.9	54.0	-4.1	EUT On Side, Low Ch 1Mbps
2389.625	31.4	-4.3	1.9	250.0	-0.9	20.0	Horz	AV	0.0	49.9	54.0	-4.1	EUT On Side, Low Ch 1Mbps
2483.625	31.9	-4.2	1.5	66.0	0.3	20.0	Vert	AV	0.0	47.6	54.0	-6.4	EUT On Side, High Ch 2Mbps
2483.733	44.5	-4.2	1.5	300.0	0.0	20.0	Vert	PK	0.0	60.3	74.0	-13.7	EUT On Side, High Ch 1Mbps
2483.742	44.1	-4.2	1.5	311.0	0.0	20.0	Horz	PK	0.0	59.9	74.0	-14.1	EUT Horz, High Ch 1Mbps
2484.092	43.8	-4.2	1.5	66.0	0.0	20.0	Vert	PK	0.0	59.6	74.0	-14.4	EUT On Side, High Ch 2Mbps
2486.692	43.6	-4.2	1.5	300.9	0.0	20.0	Vert	PK	0.0	59.4	74.0	-14.6	EUT Vert, High Ch 1Mbps
2385.017	43.6	-4.3	1.5	182.9	0.0	20.0	Vert	PK	0.0	59.3	74.0	-14.7	EUT Vert, Low Ch 1Mbps
2483.617	43.4	-4.2	1.5	26.0	0.0	20.0	Horz	PK	0.0	59.2	74.0	-14.8	EUT Vert, High Ch 1Mbps
2388.467	43.5	-4.3	1.5	67.9	0.0	20.0	Vert	PK	0.0	59.2	74.0	-14.8	EUT On Side, Low Ch 1Mbps
2485.433	43.3	-4.2	3.7	240.9	0.0	20.0	Horz	PK	0.0	59.1	74.0	-14.9	EUT On Side, High Ch 1Mbps
2386.400	43.4	-4.3	1.5	238.0	0.0	20.0	Horz	PK	0.0	59.1	74.0	-14.9	EUT Vert, Low Ch 1Mbps
2385.250	43.4	-4.3	1.9	250.0	0.0	20.0	Horz	PK	0.0	59.1	74.0	-14.9	EUT On Side, Low Ch 1Mbps
2388.275	43.4	-4.3	3.7	196.9	0.0	20.0	Horz	PK	0.0	59.1	74.0	-14.9	EUT Horz, Low Ch 1Mbps
2385.975	43.4	-4.3	1.5	227.0	0.0	20.0	Vert	PK	0.0	59.1	74.0	-14.9	EUT Horz, Low Ch 1Mbps
2486.300	43.1	-4.2	1.5	321.0	0.0	20.0	Vert	PK	0.0	58.9	74.0	-15.1	EUT Horz, High Ch 1Mbps

## CONCLUSION

Pass



Tested By

End of Test Report