Starkey Laboratories, Inc.

Edge Bluetooth TV Streaming Device

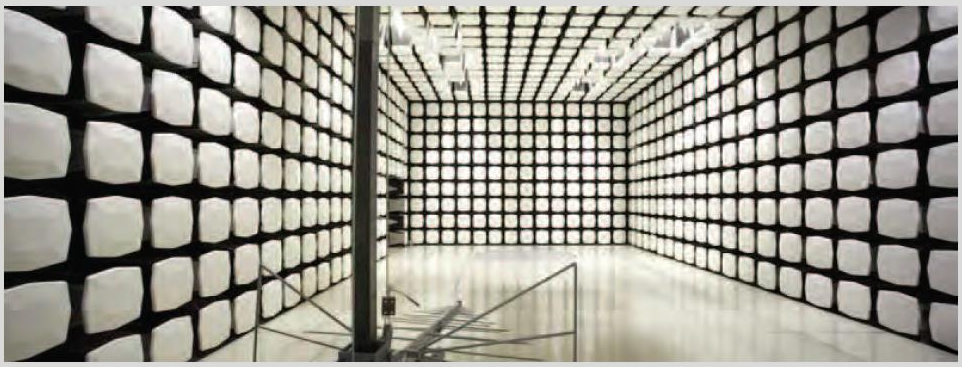
FCC 15.247:2024

RSS-247 Issue 3:2023

RSS-Gen Issue 5:2018+A1:2019+A2:2021

Bluetooth radio

Report: STAK0347.1 Rev. 0, Issue Date: August 8, 2024



ACCREDITED
CERT #3310.05

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element
2023.04.17

Section	Page Number

CERTIFICATE OF TEST

Last Date of Test: July 11, 2024
Starkey Laboratories, Inc.
EUT: Edge Bluetooth TV Streaming Device

Radio Equipment Testing

Standards

Specification	Method
FCC 15.247:2024	ANSI C63.10:2013
RSS-247 Issue 3:2023	
RSS-Gen Issue 5:2018+A1:2019+A2:2021	

Guidance

FCC KDB 558074 v05r02:2019
Notice 2021 - CEB0001

Results

Test Description	Result	FCC Section(s)	RSS Section(s)	ANSI C63.10 Section(s)	Comments
Powerline Conducted Emissions	Pass	15.207	RSS-Gen 8.8	6.2	
Duty Cycle	N/A	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%)	N/A	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:

Trevor Buls

Trevor Buls, Principal EMC Test Engineer
Signed for and on behalf of Element

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
00	None		

ACCREDITATIONS AND AUTHORIZATIONS

element
2021.09.01

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.

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.

European Union

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

United Kingdom

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

Australia/New Zealand

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

Korea

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

Japan

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

Taiwan

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

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

Singapore

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

Israel

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

Hong Kong

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

Vietnam

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

SCOPE

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

California Minnesota Oregon Texas Washington

FACILITIES

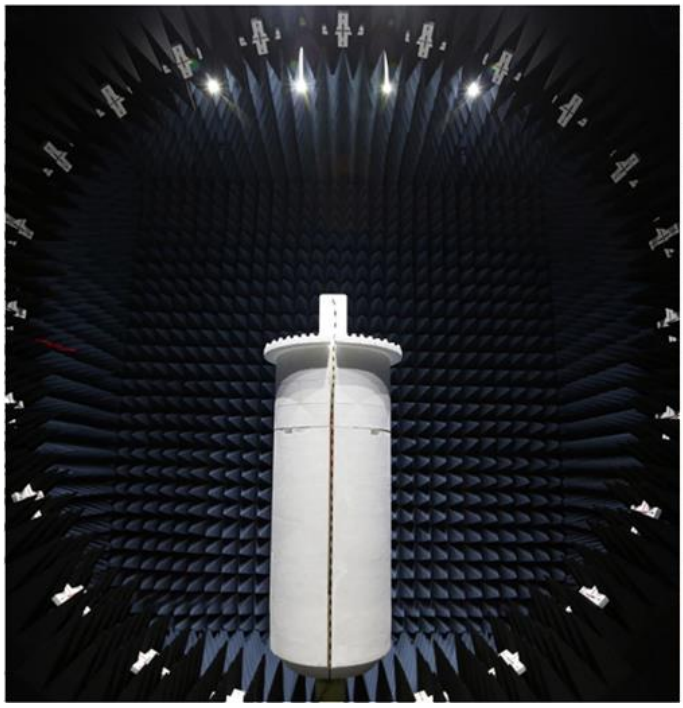
element
2024.07.18

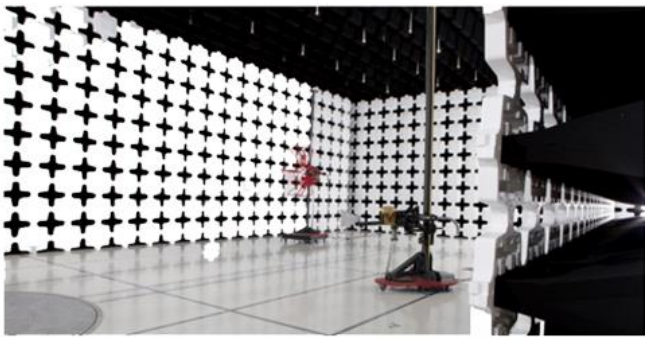
Testing was performed at the following location(s)

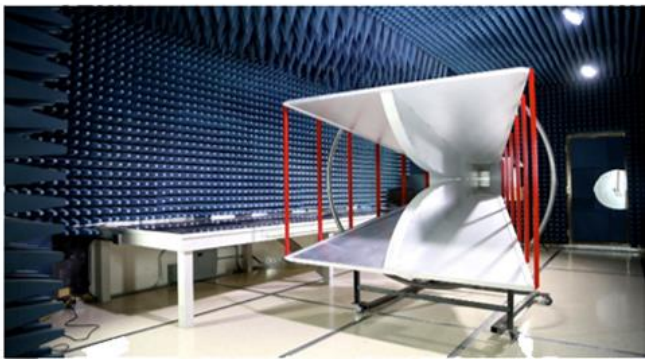
	Location	Labs (1)	Address	A2LA (2)	ISED (3)	BSMI (4)	VCCI (5)	CAB (6)	FDA (7)
☐	California	OC01-17	41 Tesla Irvine, CA 92618 (949) 861-8918	3310.04	2834B	SL2-IN-E-1154R	A-0029	US0158	TL-55
☒	Minnesota	MN01-11	9349 W Broadway Ave. Brooklyn Park, MN 55445 (612) 638-5136	3310.05	2834E	SL2-IN-E-1152R	A-0109	US0175	TL-57
☐	Oregon	EV01-12	6775 NE Evergreen Pkwy #400 Hillsboro, OR 97124 (503) 844-4066	3310.02	2834D	SL2-IN-E-1017	A-0108	US0017	TL-56
☐	Plano Texas	PT01-15	1701 E Plano Pkwy, Ste 150 Plano, TX 75074 (972) 509-2566	214.19	32637	SL2-IN-E-057R	N/A	US0054	N/A
☐	Texas	TX01-09	3801 E Plano Pkwy Plano, TX 75074 (469) 304-5255	3310.03	2834G	SL2-IN-E-1158R	N/A	US0191	TL-54
☐	Washington	NC01-05	19201 120th Ave NE Bothell, WA 98011 (425) 984-6600	3310.06	2834F	SL2-IN-E-1153R	A-0110	US0157	TL-67
☐	Offsite	N/A	See Product Description	N/A	N/A	N/A	N/A	N/A	N/A

See data sheets for specific labs

(1) The lab designations denote individual rooms within each location. (OC01, OC02, OC03, etc.)
(2) A2LA Certificate No.
(3) ISED Company No.
(4) BSMI No.
(5) VCCI Site Filing No.
(6) CAB Identifier. Recognized Phase I CAB for ISED, ACMA, BSMI, IDA, KCC/RRA, MIC, MOC, NCC, OFCA
(7) FDA ASCA No.







MEASUREMENT UNCERTAINTY

element
MU 2023-09-21

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.

Various Measurements

Test	All Labs (+/-)
Frequency Accuracy (%)	0.0007
Amplitude Accuracy (dB)	1.2
Conducted Power (dB)	1.2
Radiated Power via Substitution (dB)	0.7
Temperature (degrees C)	0.7
Humidity (% RH)	2.5
Voltage (AC) (%)	1
Voltage (DC) (%)	0.7

Field Strength Measurements (dB)

Range	MN05 (+/-)
9 kHz – 40 GHz	5.2

AC Powerline Conducted Emissions Measurements (dB)

Range	MN03 (+/-)	MN11 (+/-)
9kHz-150kHz LISN	3.6	N/A
150kHz-30MHz LISN	3.2	N/A
150kHz-30MHz CVP	3	N/A
150kHz-30MHz Telecom-ISN	4.4	N/A

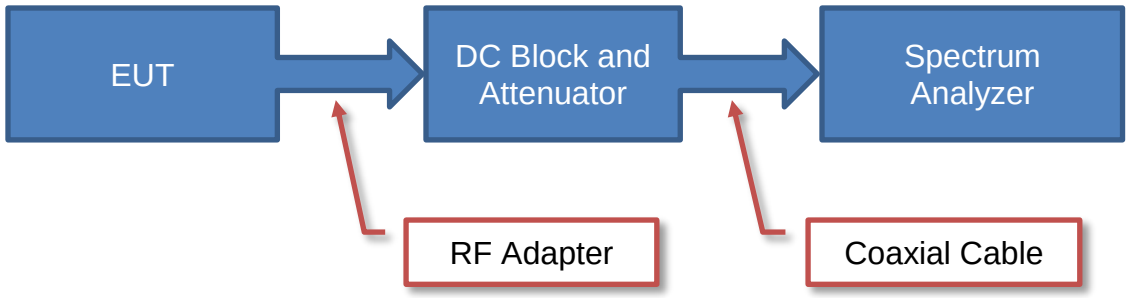
TEST SETUP BLOCK DIAGRAMS

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.

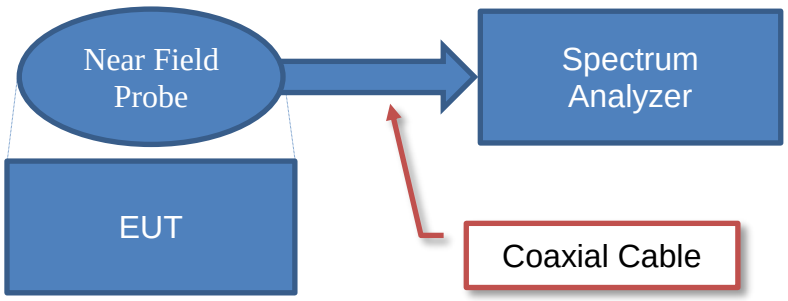
Antenna Port Conducted Measurements



Sample Calculation (logarithmic units)

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

Near Field Test Fixture Measurements

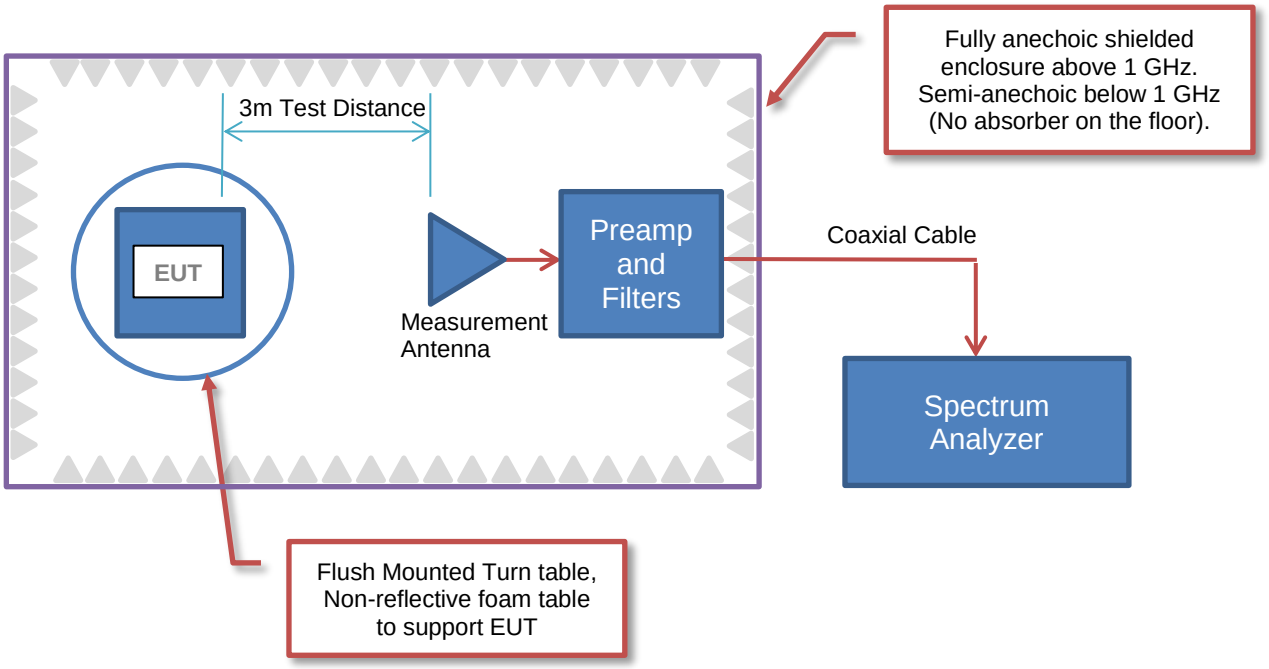


Sample Calculation (logarithmic units)

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: Antenna Factor		Factor: Cable Factor		Factor: Amplifier Gain		Distance Adjustment Factor		External Attenuation		Field Strength
42.6	+	28.6	+	3.1	-	40.8	+	0.0	+	0.0	=	**33.5**

Conducted Emissions:

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

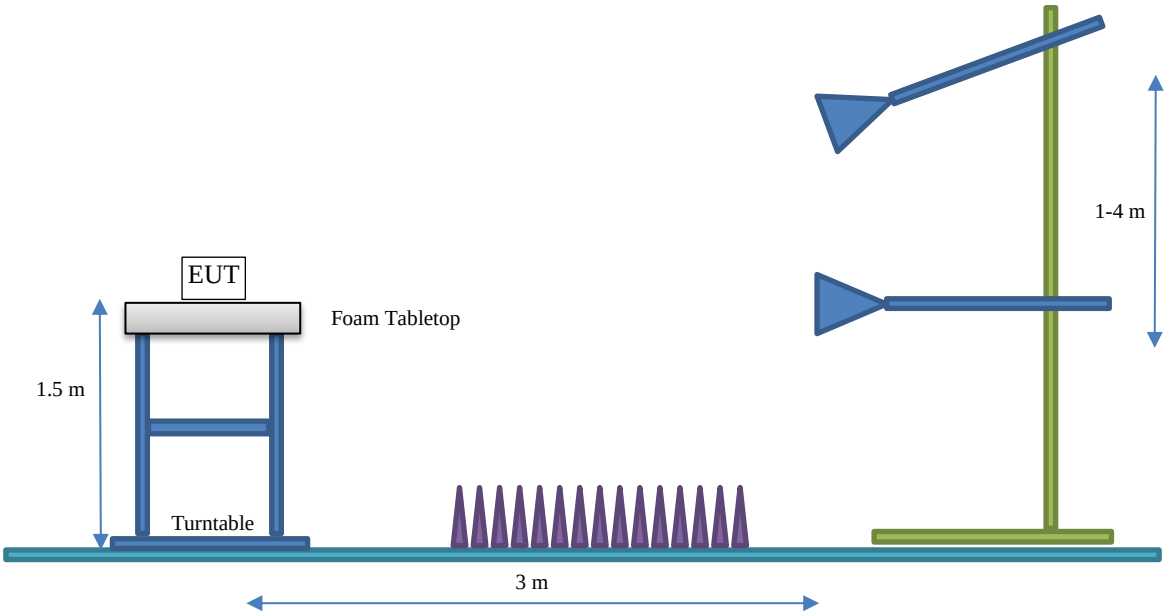
Radiated Power (ERP/EIRP) – Substitution Method:

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:	Edge Bluetooth TV Streaming Device
First Date of Test:	June 27, 2024
Last Date of Test:	July 11, 2024
Receipt Date of Samples:	June 27, 2024
Equipment Design Stage:	Production
Equipment Condition:	No Damage
Purchase Authorization:	Verified

Information Provided by the Party Requesting the Test

Functional Description of the EUT:
Bluetooth TV streaming device with Bluetooth LE

Testing Objective:
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)
Inverted F PCB Antenna	Starkey	2400-2483.5	2.71

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

☒ Test software settings Software / firmware used for testing: Firmware Ver 0.0.8
☐ Rated power settings

SETTINGS FOR ALL TESTS IN THIS REPORT

Modulation Types / Data Rates	Type	Channel	Frequency (MHz)	Power Setting
BLE GFSK 1 Mbps, 2 Mbps	DTS	Low	2402	PA Lvl 2 (1Mbps) PA Lvl 0 (2Mbps)
		Mid	2442	PA Lvl 2 (1Mbps) PA Lvl 0 (2Mbps)
		High	2480	PA Lvl 2 (1Mbps) PA Lvl 0 (2Mbps)

CONFIGURATIONS

Configuration STAK0347-4

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Edge Bluetooth TV Streaming Device	Starkey	810	120

Peripherals in Test Setup Boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Laptop	Dell	Precision 5530	None
AC Adapter (Powerline)	Dell	AD240W	1902AD065A34321
Dock Station (Powerline)	Dell	K20A	None

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
USB Cable	No	1.0m	No	Edge TV Streamer	Laptop
AC Cable (Powerline)	No	1.5m	Yes	AC Adapter (Powerline)	AC Mains
AC Cable (Powerline)	No	2.0m	Yes	AC Adapter (Powerline)	Dock Station
DC Power (Powerline)	No	1.8m	No	Dock Station	Laptop

Configuration STAK0347-7

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Edge Bluetooth TV Streaming Device	Starkey	810	016

Remote Equipment Outside of Test Setup Boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Laptop	Dell	Precision 5530	None
AC/DC Power Supply (Laptop)	Dell	HA130PM130	CN-0V363H-CH200-94N-O5QK-A02

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
AC Cable	No	1.8m	No	AC/DC Power Supply	AC Mains
DC Cable	No	2.0m	No	AC/DC Power Supply	Laptop
USB Cable	No	1.0m	No	Laptop	USB Extension Cable
USB Extension Cable	No	3.0m	No	USB Extension Cable	MFA remote microphone

MODIFICATIONS

Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	2024-06-27	Powerline Conducted 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	2024-07-08	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.
3	2024-07-11	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.
4	2024-07-11	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	2024-07-11	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	2024-07-11	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.
7	2024-07-11	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.
8	2024-07-11	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	2024-07-11	Spurious Conducted Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

POWERLINE CONDUCTED EMISSIONS

element
WTD.2024.01.16.0
EmiR5 2023.08.29.0
PSA-ESCI 2023.12.23.0

TEST DESCRIPTION

The EUT will be powered either directly or indirectly from the AC power line. Therefore, conducted emissions measurements were made on the AC input of the EUT, or on the AC input of the device used to power the EUT.

The EUT was transmitting at its maximum data rate. For each mode, the spectrum was scanned from 150 kHz to 30 MHz. The test setup and procedures were in accordance with ANSI C63.10.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Receiver	Gauss Instruments	TDEMI 30M	ARS	2024-05-07	2025-05-07
Cable - Conducted Cable Assembly	Northwest EMC	MNC, HGN, TYK, VAE	MNCA	2024-03-11	2025-03-11
LISN	Solar Electronics	9252-50-R-24-BNC	LIY	2024-03-27	2025-03-27

CONFIGURATIONS INVESTIGATED

STAK0347-4

MODES INVESTIGATED

Transmitting BLE Mid Ch, 1 Mbps
Transmitting BLE Mid Ch, 2 Mbps
BLE Idle mode

POWERLINE CONDUCTED EMISSIONS

element
WTD.2024.01.16.0
EmiR5 2023.08.29.0
PSA-ESCI 2023.12.23.0

EUT:	Edge Bluetooth TV Streaming Device	Work Order:	STAK0347
Serial Number:	120	Date:	2024-06-27
Customer:	Starkey Laboratories, Inc.	Temperature:	21.9°C
Attendees:	Charlie Esch	Relative Humidity:	51.7%
Customer Project:	None	Bar. Pressure (PMSL):	1013 mb
Tested By:	Marcelo Aguayo	Job Site:	MN03
Power:	5VDC via USB from laptop	Configuration:	STAK0347-4

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2024	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

Run #:	7	Line:	High Line	Add. Ext. Attenuation (dB):	0

COMMENTS

None

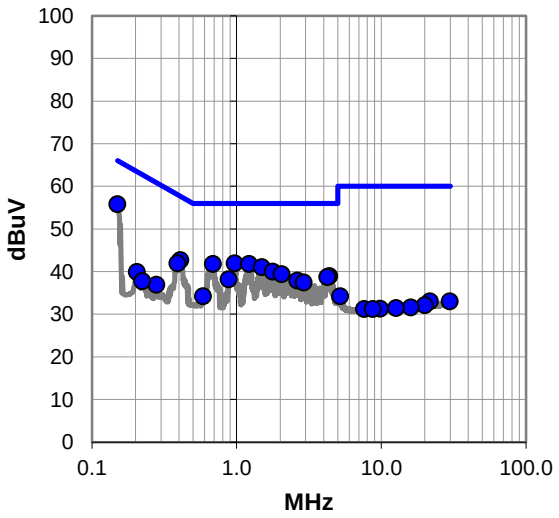
EUT OPERATING MODES

Transmitting BLE Mid Ch, 1 Mbps

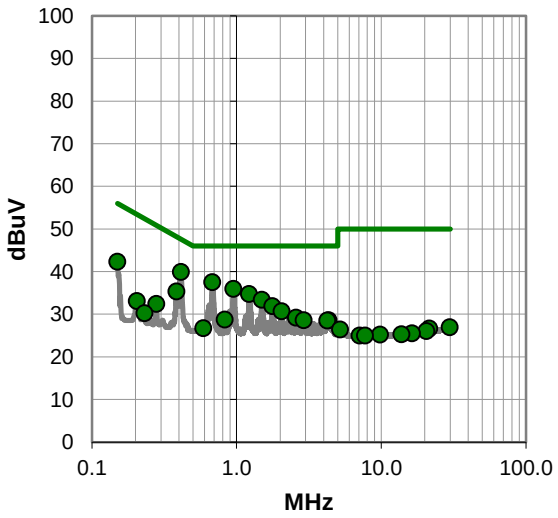
DEVIATIONS FROM TEST STANDARD

None

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



POWERLINE CONDUCTED EMISSIONS

element
WTD.2024.01.16.0
EmiR5 2023.08.29.0
PSA-ESCI 2023.12.23.0

RESULTS - Run #7

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.150	35.2	20.6	55.8	66.0	-10.2
0.969	21.8	20.1	41.9	56.0	-14.1
1.221	21.6	20.2	41.8	56.0	-14.2
0.686	21.7	20.1	41.8	56.0	-14.2
0.409	22.6	20.1	42.7	57.7	-15.0
1.491	20.8	20.2	41.0	56.0	-15.0
1.780	19.8	20.2	40.0	56.0	-16.0
0.391	21.8	20.1	41.9	58.0	-16.1
2.054	19.2	20.2	39.4	56.0	-16.6
4.384	18.5	20.4	38.9	56.0	-17.1
4.247	18.3	20.4	38.7	56.0	-17.3
0.882	18.1	20.1	38.2	56.0	-17.8
2.628	17.6	20.3	37.9	56.0	-18.1
2.906	17.0	20.4	37.4	56.0	-18.6
0.585	14.1	20.1	34.2	56.0	-21.8
0.205	19.6	20.3	39.9	63.4	-23.5
0.278	16.7	20.2	36.9	60.9	-24.0
0.223	17.5	20.2	37.7	62.7	-25.0
5.203	13.6	20.6	34.2	60.0	-25.8
21.755	11.0	22.0	33.0	60.0	-27.0
29.766	10.0	23.0	33.0	60.0	-27.0
20.057	10.3	21.8	32.1	60.0	-27.9
15.979	10.2	21.4	31.6	60.0	-28.4
12.686	10.2	21.2	31.4	60.0	-28.6
9.813	10.3	21.0	31.3	60.0	-28.7

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.412	19.8	20.1	39.9	47.6	-7.7
0.681	17.4	20.1	37.5	46.0	-8.5
0.951	15.8	20.1	35.9	46.0	-10.1
1.221	14.5	20.2	34.7	46.0	-11.3
1.496	13.2	20.2	33.4	46.0	-12.6
0.385	15.2	20.1	35.3	48.2	-12.9
0.150	21.7	20.6	42.3	56.0	-13.7
1.766	11.7	20.2	31.9	46.0	-14.1
2.054	10.5	20.2	30.7	46.0	-15.3
2.576	8.9	20.3	29.2	46.0	-16.8
0.831	8.6	20.1	28.7	46.0	-17.3
2.906	8.2	20.4	28.6	46.0	-17.4
4.338	8.2	20.4	28.6	46.0	-17.4
4.247	8.1	20.4	28.5	46.0	-17.5
0.278	12.2	20.2	32.4	50.9	-18.5
0.589	6.6	20.1	26.7	46.0	-19.3
0.205	12.8	20.3	33.1	53.4	-20.3
0.231	10.0	20.2	30.2	52.4	-22.2
29.793	3.9	23.0	26.9	50.0	-23.1
21.504	4.6	22.0	26.6	50.0	-23.4
5.203	5.8	20.6	26.4	50.0	-23.6
20.565	4.2	21.8	26.0	50.0	-24.0
16.301	4.0	21.5	25.5	50.0	-24.5
13.794	4.0	21.3	25.3	50.0	-24.7
9.819	4.2	21.0	25.2	50.0	-24.8

CONCLUSION

Pass

Tested By

POWERLINE CONDUCTED EMISSIONS

element
WTD.2024.01.16.0
EmiR5 2023.08.29.0
PSA-ESCI 2023.12.23.0

EUT:	Edge Bluetooth TV Streaming Device	Work Order:	STAK0347
Serial Number:	120	Date:	2024-06-27
Customer:	Starkey Laboratories, Inc.	Temperature:	21.9°C
Attendees:	Charlie Esch	Relative Humidity:	51.7%
Customer Project:	None	Bar. Pressure (PMSL):	1013 mb
Tested By:	Marcelo Aguayo	Job Site:	MN03
Power:	5VDC via USB from laptop	Configuration:	STAK0347-4

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2024	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

Run #:	8	Line:	Neutral	Add. Ext. Attenuation (dB):	0

COMMENTS

None

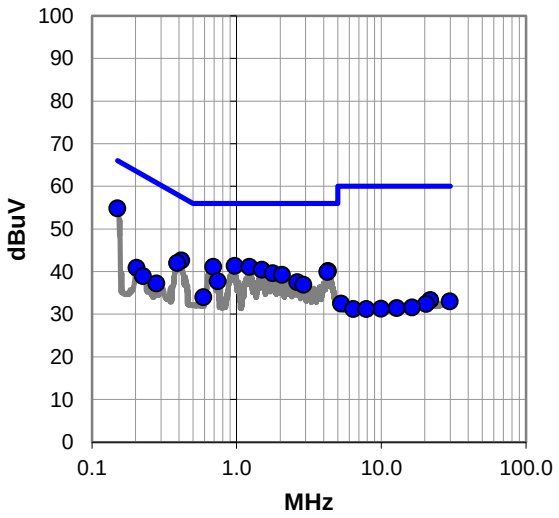
EUT OPERATING MODES

Transmitting BLE Mid Ch, 1 Mbps

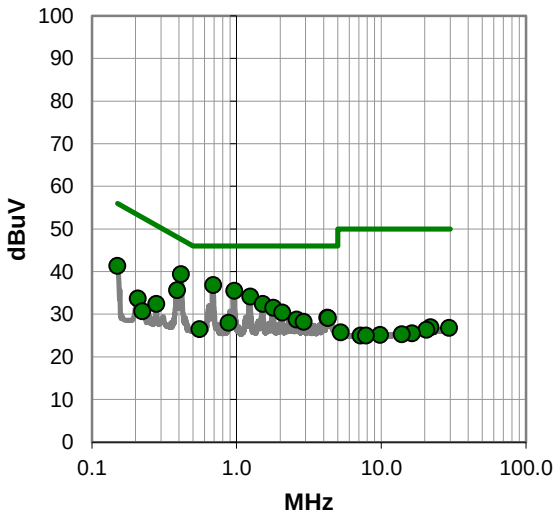
DEVIATIONS FROM TEST STANDARD

None

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



POWERLINE CONDUCTED EMISSIONS

element
WTD.2024.01.16.0
EmiR5 2023.08.29.0
PSA-ESCI 2023.12.23.0

RESULTS - Run #8

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.150	34.2	20.6	54.8	66.0	-11.2
0.968	21.2	20.1	41.3	56.0	-14.7
1.223	20.9	20.2	41.1	56.0	-14.9
0.689	21.0	20.1	41.1	56.0	-14.9
0.414	22.5	20.1	42.6	57.6	-15.0
1.493	20.2	20.2	40.4	56.0	-15.6
4.288	19.7	20.4	40.1	56.0	-15.9
0.388	21.9	20.1	42.0	58.1	-16.1
4.250	19.5	20.4	39.9	56.0	-16.1
1.781	19.4	20.2	39.6	56.0	-16.4
2.056	19.0	20.2	39.2	56.0	-16.8
0.739	17.6	20.1	37.7	56.0	-18.3
2.629	17.2	20.3	37.5	56.0	-18.5
2.895	16.5	20.4	36.9	56.0	-19.1
0.589	13.9	20.1	34.0	56.0	-22.0
0.203	20.6	20.3	40.9	63.5	-22.6
0.278	17.0	20.2	37.2	60.9	-23.7
0.225	18.7	20.2	38.9	62.6	-23.7
21.824	11.3	22.0	33.3	60.0	-26.7
29.784	10.0	23.0	33.0	60.0	-27.0
5.268	11.9	20.6	32.5	60.0	-27.5
20.475	10.6	21.8	32.4	60.0	-27.6
16.322	10.1	21.5	31.6	60.0	-28.4
12.770	10.2	21.2	31.4	60.0	-28.6
9.993	10.3	21.0	31.3	60.0	-28.7

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.412	19.3	20.1	39.4	47.6	-8.2
0.689	16.7	20.1	36.8	46.0	-9.2
0.963	15.4	20.1	35.5	46.0	-10.5
1.242	13.9	20.2	34.1	46.0	-11.9
0.388	15.5	20.1	35.6	48.1	-12.5
1.517	12.2	20.2	32.4	46.0	-13.6
1.796	11.3	20.2	31.5	46.0	-14.5
0.150	20.7	20.6	41.3	56.0	-14.7
2.071	10.2	20.2	30.4	46.0	-15.6
4.248	8.8	20.4	29.2	46.0	-16.8
4.286	8.7	20.4	29.1	46.0	-16.9
2.605	8.4	20.3	28.7	46.0	-17.3
2.904	7.8	20.4	28.2	46.0	-17.8
0.882	7.9	20.1	28.0	46.0	-18.0
0.278	12.2	20.2	32.4	50.9	-18.5
0.554	6.4	20.1	26.5	46.0	-19.5
0.208	13.4	20.3	33.7	53.3	-19.6
0.223	10.5	20.2	30.7	52.7	-22.0
21.957	4.9	22.0	26.9	50.0	-23.1
29.503	3.9	22.9	26.8	50.0	-23.2
20.547	4.5	21.8	26.3	50.0	-23.7
5.257	5.1	20.6	25.7	50.0	-24.3
16.369	4.0	21.5	25.5	50.0	-24.5
13.858	4.0	21.3	25.3	50.0	-24.7
9.807	4.1	21.0	25.1	50.0	-24.9

CONCLUSION

Pass

Tested By

POWERLINE CONDUCTED EMISSIONS

element
WTD.2024.01.16.0
EmiR5 2023.08.29.0
PSA-ESCI 2023.12.23.0

EUT:	Edge Bluetooth TV Streaming Device	Work Order:	STAK0347
Serial Number:	120	Date:	2024-06-27
Customer:	Starkey Laboratories, Inc.	Temperature:	21.9°C
Attendees:	Charlie Esch	Relative Humidity:	51.7%
Customer Project:	None	Bar. Pressure (PMSL):	1013 mb
Tested By:	Marcelo Aguayo	Job Site:	MN03
Power:	5VDC via USB from laptop	Configuration:	STAK0347-4

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2024	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

Run #:	9	Line:	Neutral	Add. Ext. Attenuation (dB):	0

COMMENTS

None

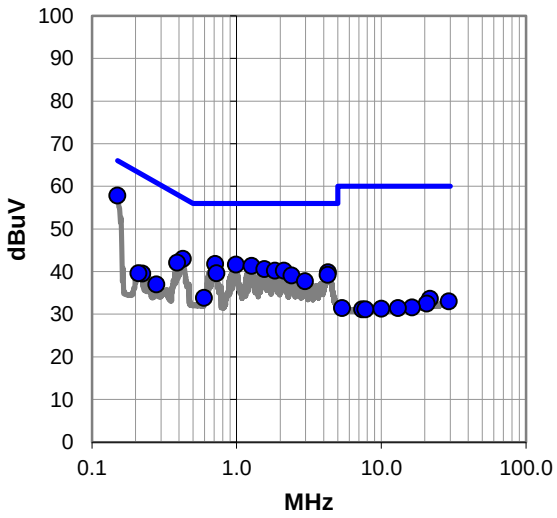
EUT OPERATING MODES

Transmitting BLE Mid Ch, 2 Mbps

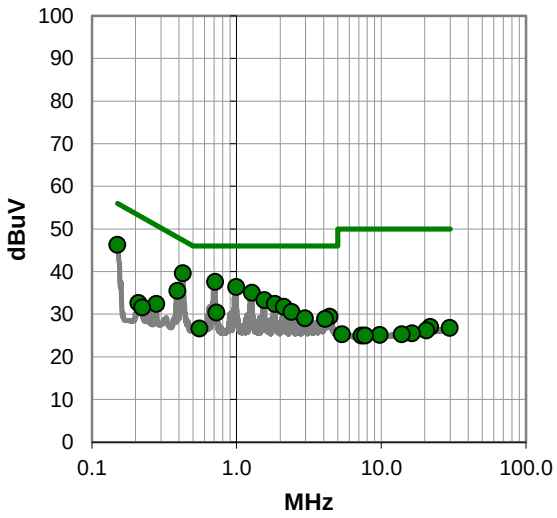
DEVIATIONS FROM TEST STANDARD

None

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



POWERLINE CONDUCTED EMISSIONS

element
WTD.2024.01.16.0
EmiR5 2023.08.29.0
PSA-ESCI 2023.12.23.0

RESULTS - Run #9

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.150	37.2	20.6	57.8	66.0	-8.2
0.711	21.7	20.1	41.8	56.0	-14.2
0.426	22.9	20.1	43.0	57.3	-14.3
0.992	21.5	20.1	41.6	56.0	-14.4
1.273	21.1	20.2	41.3	56.0	-14.7
1.558	20.4	20.2	40.6	56.0	-15.4
1.842	20.0	20.2	40.2	56.0	-15.8
2.121	20.0	20.2	40.2	56.0	-15.8
0.388	22.0	20.1	42.1	58.1	-16.0
4.288	19.4	20.4	39.8	56.0	-16.2
0.727	19.5	20.1	39.6	56.0	-16.4
4.270	18.8	20.4	39.2	56.0	-16.8
2.402	18.8	20.3	39.1	56.0	-16.9
2.968	17.3	20.4	37.7	56.0	-18.3
0.594	13.7	20.1	33.8	56.0	-22.2
0.223	19.3	20.2	39.5	62.7	-23.2
0.210	19.3	20.3	39.6	63.2	-23.6
0.278	16.8	20.2	37.0	60.9	-23.9
21.733	11.6	22.0	33.6	60.0	-26.4
29.296	10.1	22.9	33.0	60.0	-27.0
20.634	10.7	21.8	32.5	60.0	-27.5
16.307	10.1	21.5	31.6	60.0	-28.4
5.365	10.8	20.6	31.4	60.0	-28.6
13.045	10.2	21.2	31.4	60.0	-28.6
10.048	10.3	21.0	31.3	60.0	-28.7

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.425	19.5	20.1	39.6	47.4	-7.8
0.710	17.5	20.1	37.6	46.0	-8.4
0.994	16.3	20.1	36.4	46.0	-9.6
0.150	25.7	20.6	46.3	56.0	-9.7
1.278	14.8	20.2	35.0	46.0	-11.0
0.391	15.4	20.1	35.5	48.0	-12.5
1.557	13.1	20.2	33.3	46.0	-12.7
1.841	12.2	20.2	32.4	46.0	-13.6
2.124	11.5	20.2	31.7	46.0	-14.3
2.404	10.2	20.3	30.5	46.0	-15.5
0.727	10.3	20.1	30.4	46.0	-15.6
4.386	9.0	20.4	29.4	46.0	-16.6
2.971	8.6	20.4	29.0	46.0	-17.0
4.102	8.5	20.4	28.9	46.0	-17.1
0.278	12.2	20.2	32.4	50.9	-18.5
0.554	6.5	20.1	26.6	46.0	-19.4
0.210	12.3	20.3	32.6	53.2	-20.6
0.223	11.4	20.2	31.6	52.7	-21.1
21.865	5.0	22.0	27.0	50.0	-23.0
29.731	3.8	23.0	26.8	50.0	-23.2
20.520	4.4	21.8	26.2	50.0	-23.8
16.365	4.0	21.5	25.5	50.0	-24.5
5.370	4.7	20.6	25.3	50.0	-24.7
13.849	4.0	21.3	25.3	50.0	-24.7
9.796	4.1	21.0	25.1	50.0	-24.9

CONCLUSION

Pass

Tested By

POWERLINE CONDUCTED EMISSIONS

element
WTD.2024.01.16.0
EmiR5 2023.08.29.0
PSA-ESCI 2023.12.23.0

EUT:	Edge Bluetooth TV Streaming Device	Work Order:	STAK0347
Serial Number:	120	Date:	2024-06-27
Customer:	Starkey Laboratories, Inc.	Temperature:	21.9°C
Attendees:	Charlie Esch	Relative Humidity:	51.7%
Customer Project:	None	Bar. Pressure (PMSL):	1013 mb
Tested By:	Marcelo Aguayo	Job Site:	MN03
Power:	5VDC via USB from laptop	Configuration:	STAK0347-4

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2024	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

Run #:	10	Line:	High Line	Add. Ext. Attenuation (dB):	0

COMMENTS

None

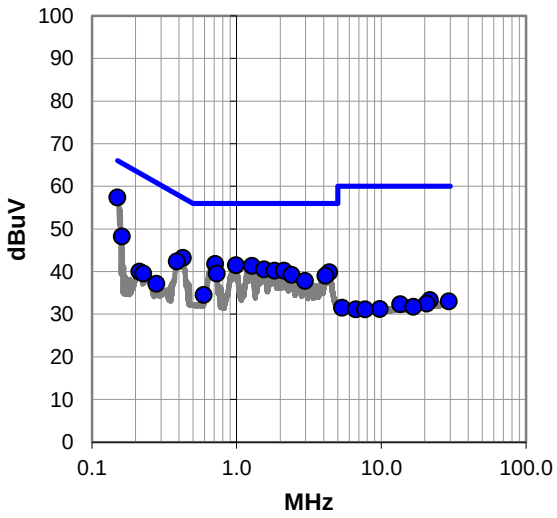
EUT OPERATING MODES

Transmitting BLE Mid Ch, 2 Mbps

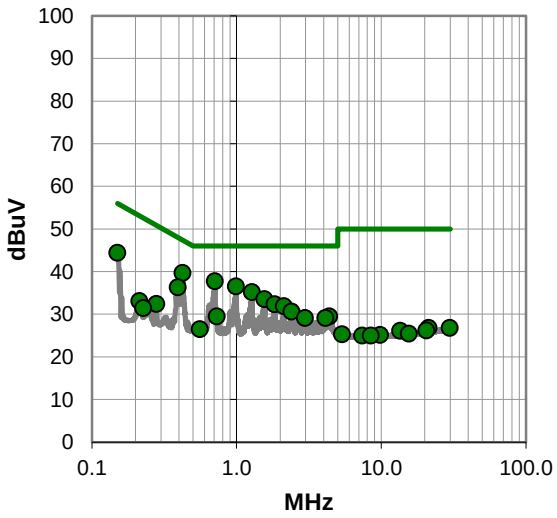
DEVIATIONS FROM TEST STANDARD

None

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



POWERLINE CONDUCTED EMISSIONS

element
WTD.2024.01.16.0
EmiR5 2023.08.29.0
PSA-ESCI 2023.12.23.0

RESULTS - Run #10

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.150	36.8	20.6	57.4	66.0	-8.6
0.426	23.1	20.1	43.2	57.3	-14.1
0.710	21.7	20.1	41.8	56.0	-14.2
0.989	21.4	20.1	41.5	56.0	-14.5
1.275	21.1	20.2	41.3	56.0	-14.7
1.552	20.3	20.2	40.5	56.0	-15.5
0.386	22.3	20.1	42.4	58.1	-15.7
1.836	20.0	20.2	40.2	56.0	-15.8
2.120	20.0	20.2	40.2	56.0	-15.8
4.376	19.4	20.4	39.8	56.0	-16.2
0.728	19.4	20.1	39.5	56.0	-16.5
2.401	18.9	20.3	39.2	56.0	-16.8
4.125	18.6	20.4	39.0	56.0	-17.0
0.161	27.6	20.6	48.2	65.4	-17.2
2.967	17.4	20.4	37.8	56.0	-18.2
0.592	14.4	20.1	34.5	56.0	-21.5
0.213	19.7	20.3	40.0	63.1	-23.1
0.226	19.3	20.2	39.5	62.6	-23.1
0.278	16.9	20.2	37.1	60.9	-23.8
21.736	11.3	22.0	33.3	60.0	-26.7
29.354	10.1	22.9	33.0	60.0	-27.0
20.642	10.7	21.8	32.5	60.0	-27.5
13.559	11.1	21.2	32.3	60.0	-27.7
16.691	10.2	21.5	31.7	60.0	-28.3
5.361	10.9	20.6	31.5	60.0	-28.5

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.423	19.6	20.1	39.7	47.4	-7.7
0.707	17.6	20.1	37.7	46.0	-8.3
0.991	16.4	20.1	36.5	46.0	-9.5
1.275	15.0	20.2	35.2	46.0	-10.8
0.150	23.8	20.6	44.4	56.0	-11.6
0.393	16.2	20.1	36.3	48.0	-11.7
1.557	13.3	20.2	33.5	46.0	-12.5
1.836	12.1	20.2	32.3	46.0	-13.7
2.120	11.7	20.2	31.9	46.0	-14.1
2.404	10.3	20.3	30.6	46.0	-15.4
0.728	9.4	20.1	29.5	46.0	-16.5
4.378	9.1	20.4	29.5	46.0	-16.5
2.967	8.7	20.4	29.1	46.0	-16.9
4.117	8.7	20.4	29.1	46.0	-16.9
0.278	12.2	20.2	32.4	50.9	-18.5
0.556	6.4	20.1	26.5	46.0	-19.5
0.213	12.8	20.3	33.1	53.1	-20.0
0.226	11.2	20.2	31.4	52.6	-21.2
21.305	4.8	22.0	26.8	50.0	-23.2
29.731	3.8	23.0	26.8	50.0	-23.2
20.545	4.4	21.8	26.2	50.0	-23.8
13.559	4.9	21.2	26.1	50.0	-23.9
15.519	4.0	21.4	25.4	50.0	-24.6
5.361	4.7	20.6	25.3	50.0	-24.7
9.814	4.1	21.0	25.1	50.0	-24.9

CONCLUSION

Pass

Tested By

POWERLINE CONDUCTED EMISSIONS

element
WTD.2024.01.16.0
EmiR5 2023.08.29.0
PSA-ESCI 2023.12.23.0

EUT:	Edge Bluetooth TV Streaming Device	Work Order:	STAK0347
Serial Number:	120	Date:	2024-06-27
Customer:	Starkey Laboratories, Inc.	Temperature:	21.9°C
Attendees:	Charlie Esch	Relative Humidity:	51.7%
Customer Project:	None	Bar. Pressure (PMSL):	1013 mb
Tested By:	Marcelo Aguayo	Job Site:	MN03
Power:	5VDC via USB from laptop	Configuration:	STAK0347-4

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2024	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

Run #:	11	Line:	High Line	Add. Ext. Attenuation (dB):	0

COMMENTS

None

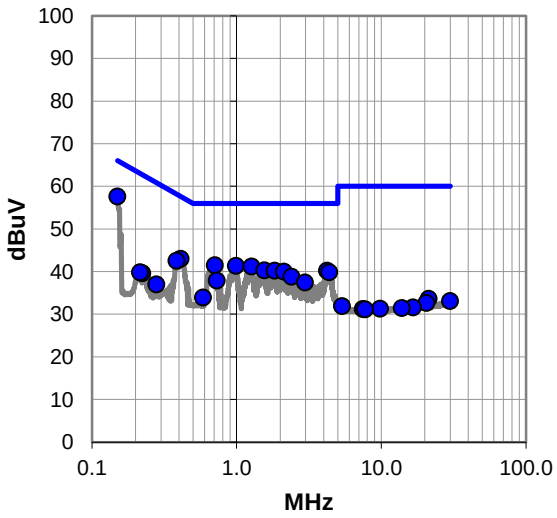
EUT OPERATING MODES

BLE Idle mode

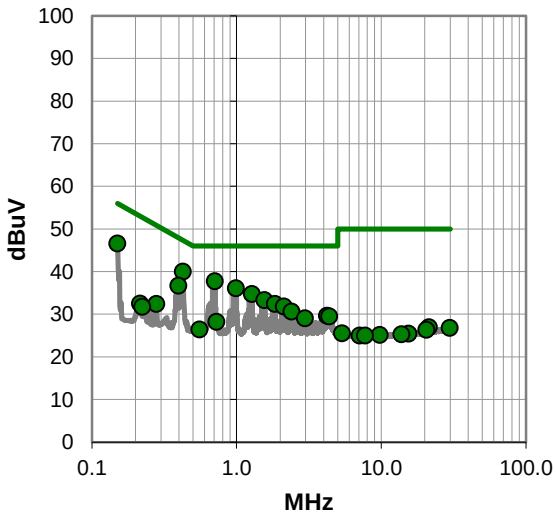
DEVIATIONS FROM TEST STANDARD

None

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



POWERLINE CONDUCTED EMISSIONS

element
WTD.2024.01.16.0
EmiR5 2023.08.29.0
PSA-ESCI 2023.12.23.0

RESULTS - Run #11

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.150	37.0	20.6	57.6	66.0	-8.4
0.708	21.4	20.1	41.5	56.0	-14.5
0.411	22.9	20.1	43.0	57.6	-14.6
0.988	21.2	20.1	41.3	56.0	-14.7
1.271	21.0	20.2	41.2	56.0	-14.8
0.385	22.4	20.1	42.5	58.2	-15.7
1.555	20.1	20.2	40.3	56.0	-15.7
4.219	19.8	20.4	40.2	56.0	-15.8
1.834	20.0	20.2	40.2	56.0	-15.8
2.118	19.8	20.2	40.0	56.0	-16.0
4.375	19.4	20.4	39.8	56.0	-16.2
2.402	18.5	20.3	38.8	56.0	-17.2
0.728	17.8	20.1	37.9	56.0	-18.1
2.965	17.0	20.4	37.4	56.0	-18.6
0.586	13.8	20.1	33.9	56.0	-22.1
0.223	19.4	20.2	39.6	62.7	-23.1
0.216	19.5	20.3	39.8	63.0	-23.2
0.278	16.8	20.2	37.0	60.9	-23.9
21.244	11.7	21.9	33.6	60.0	-26.4
29.874	10.1	23.0	33.1	60.0	-26.9
20.516	10.8	21.8	32.6	60.0	-27.4
5.373	11.3	20.6	31.9	60.0	-28.1
16.595	10.1	21.5	31.6	60.0	-28.4
13.885	10.1	21.3	31.4	60.0	-28.6
9.799	10.3	21.0	31.3	60.0	-28.7

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.425	19.9	20.1	40.0	47.4	-7.4
0.708	17.6	20.1	37.7	46.0	-8.3
0.150	26.0	20.6	46.6	56.0	-9.4
0.992	16.0	20.1	36.1	46.0	-9.9
0.396	16.6	20.1	36.7	47.9	-11.2
1.276	14.5	20.2	34.7	46.0	-11.3
1.555	13.1	20.2	33.3	46.0	-12.7
1.839	12.2	20.2	32.4	46.0	-13.6
2.118	11.6	20.2	31.8	46.0	-14.2
2.402	10.3	20.3	30.6	46.0	-15.4
4.219	9.2	20.4	29.6	46.0	-16.4
4.375	9.1	20.4	29.5	46.0	-16.5
2.965	8.6	20.4	29.0	46.0	-17.0
0.727	8.1	20.1	28.2	46.0	-17.8
0.278	12.2	20.2	32.4	50.9	-18.5
0.554	6.3	20.1	26.4	46.0	-19.6
0.216	12.2	20.3	32.5	53.0	-20.5
0.223	11.5	20.2	31.7	52.7	-21.0
21.345	4.9	22.0	26.9	50.0	-23.1
29.731	3.8	23.0	26.8	50.0	-23.2
20.512	4.5	21.8	26.3	50.0	-23.7
5.364	4.9	20.6	25.5	50.0	-24.5
15.484	4.0	21.4	25.4	50.0	-24.6
13.782	4.0	21.3	25.3	50.0	-24.7
9.796	4.1	21.0	25.1	50.0	-24.9

CONCLUSION

Pass

Tested By

POWERLINE CONDUCTED EMISSIONS

element
WTD.2024.01.16.0
EmiR5 2023.08.29.0
PSA-ESCI 2023.12.23.0

EUT:	Edge Bluetooth TV Streaming Device	Work Order:	STAK0347
Serial Number:	120	Date:	2024-06-27
Customer:	Starkey Laboratories, Inc.	Temperature:	21.9°C
Attendees:	Charlie Esch	Relative Humidity:	51.7%
Customer Project:	None	Bar. Pressure (PMSL):	1013 mb
Tested By:	Marcelo Aguayo	Job Site:	MN03
Power:	5VDC via USB from laptop	Configuration:	STAK0347-4

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2024	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	ANSI C63.10:2013

TEST PARAMETERS

Run #:	12	Line:	Neutral	Add. Ext. Attenuation (dB):	0

COMMENTS

None

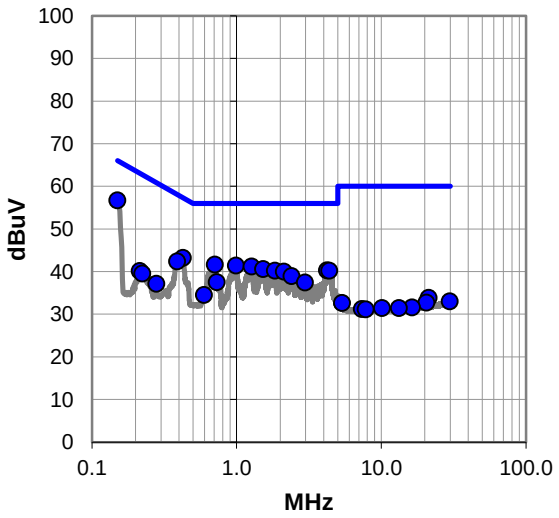
EUT OPERATING MODES

BLE Idle mode

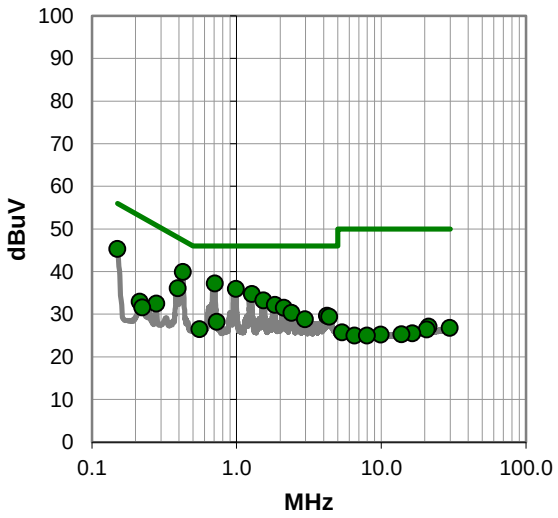
DEVIATIONS FROM TEST STANDARD

None

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



POWERLINE CONDUCTED EMISSIONS

element
WTD.2024.01.16.0
EmiR5 2023.08.29.0
PSA-ESCI 2023.12.23.0

RESULTS - Run #12

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.150	36.1	20.6	56.7	66.0	-9.3
0.426	23.1	20.1	43.2	57.3	-14.1
0.707	21.5	20.1	41.6	56.0	-14.4
0.989	21.3	20.1	41.4	56.0	-14.6
1.273	21.0	20.2	41.2	56.0	-14.8
1.529	20.4	20.2	40.6	56.0	-15.4
4.222	19.9	20.4	40.3	56.0	-15.7
0.388	22.3	20.1	42.4	58.1	-15.7
1.838	20.0	20.2	40.2	56.0	-15.8
4.380	19.8	20.4	40.2	56.0	-15.8
2.120	19.8	20.2	40.0	56.0	-16.0
2.401	18.6	20.3	38.9	56.0	-17.1
0.730	17.4	20.1	37.5	56.0	-18.5
2.968	17.0	20.4	37.4	56.0	-18.6
0.594	14.4	20.1	34.5	56.0	-21.5
0.214	19.8	20.3	40.1	63.0	-22.9
0.223	19.3	20.2	39.5	62.7	-23.2
0.278	16.9	20.2	37.1	60.9	-23.8
21.334	11.8	22.0	33.8	60.0	-26.2
29.839	10.0	23.0	33.0	60.0	-27.0
20.556	10.9	21.8	32.7	60.0	-27.3
5.364	12.0	20.6	32.6	60.0	-27.4
16.311	10.1	21.5	31.6	60.0	-28.4
10.147	10.4	21.0	31.4	60.0	-28.6
13.261	10.2	21.2	31.4	60.0	-28.6

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.425	19.8	20.1	39.9	47.4	-7.5
0.708	17.1	20.1	37.2	46.0	-8.8
0.991	15.8	20.1	35.9	46.0	-10.1
0.150	24.7	20.6	45.3	56.0	-10.7
1.275	14.5	20.2	34.7	46.0	-11.3
0.393	16.0	20.1	36.1	48.0	-11.9
1.534	13.0	20.2	33.2	46.0	-12.8
1.838	12.0	20.2	32.2	46.0	-13.8
2.121	11.3	20.2	31.5	46.0	-14.5
2.405	10.0	20.3	30.3	46.0	-15.7
4.222	9.2	20.4	29.6	46.0	-16.4
4.384	9.0	20.4	29.4	46.0	-16.6
2.968	8.4	20.4	28.8	46.0	-17.2
0.730	8.1	20.1	28.2	46.0	-17.8
0.278	12.3	20.2	32.5	50.9	-18.4
0.554	6.4	20.1	26.5	46.0	-19.5
0.214	12.6	20.3	32.9	53.0	-20.1
0.223	11.4	20.2	31.6	52.7	-21.1
21.316	5.1	22.0	27.1	50.0	-22.9
29.734	3.8	23.0	26.8	50.0	-23.2
20.639	4.6	21.8	26.4	50.0	-23.6
5.364	5.1	20.6	25.7	50.0	-24.3
16.420	4.0	21.5	25.5	50.0	-24.5
13.782	4.0	21.3	25.3	50.0	-24.7
9.914	4.2	21.0	25.2	50.0	-24.8

CONCLUSION

Pass

Tested By

DUTY CYCLE

element
2023/09/26

TEST DESCRIPTION

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 test software provided for operation in a fixed, single channel mode allows the EUT to operate continuously at 100% Duty Cycle.

DTS BANDWIDTH (6 dB)

element
TbtTx 2024.05.24.1
WTD.2024.01.16.0

TEST DESCRIPTION

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

The 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.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2024-05-22	2025-05-22
Generator - Signal	Agilent	N5183A	TIK	2022-01-24	2025-01-24
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2023-09-05	2024-09-05
Block - DC	Fairview Microwave	SD3379	ANH	2023-09-05	2024-09-05
Attenuator	Fairview Microwave	SA4014-20	AQI	2023-09-05	2024-09-05

DTS BANDWIDTH (6 dB)

element
TbtTx 2024.05.24.1
WTD.2024.01.16.0

EUT:	Edge Bluetooth TV Streaming Device	Work Order:	STAK0347
Serial Number:	016	Date:	2024-07-11
Customer:	Starkey Laboratories, Inc.	Temperature:	22°C
Attendees:	Charlie Esch	Relative Humidity:	57.1%
Customer Project:	None	Bar. Pressure (PMSL):	1018 mbar
Tested By:	Christopher Heintzelman	Job Site:	MN11
Power:	5VDC via USB from laptop	Configuration:	STAK0347-7

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.247:2024	ANSI C63.10:2013
RSS-247 Issue 3:2023	ANSI C63.10:2013

COMMENTS

Reference Level Offset includes measurement cable, attenuator, and DC block.

DEVIATIONS FROM TEST STANDARD

None

CONCLUSION

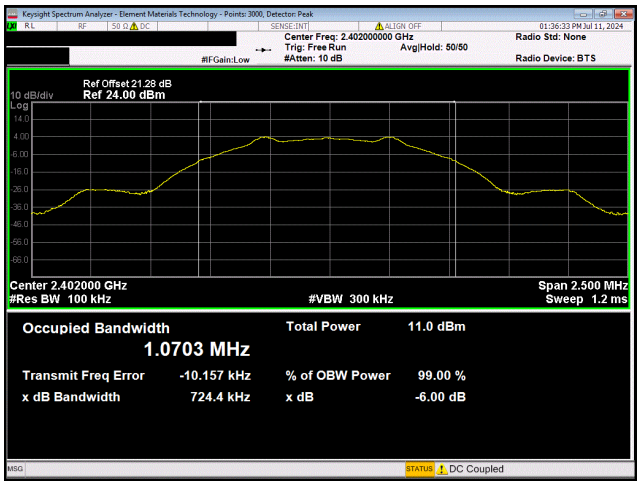
Pass

Tested By

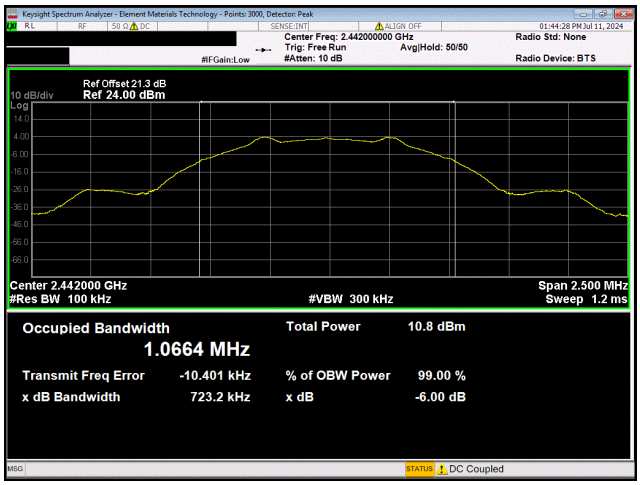
TEST RESULTS

	Value	Limit (≥)	Result
BLE/GFSK 1 Mbps			
Low Channel, 2402 MHz	724.415 kHz	500 kHz	Pass
Mid Channel, 2442 MHz	723.188 kHz	500 kHz	Pass
High Channel, 2480 MHz	722.468 kHz	500 kHz	Pass
BLE/GFSK 2 Mbps			
Low Channel, 2402 MHz	1.481 MHz	500 kHz	Pass
Mid Channel, 2442 MHz	1.462 MHz	500 kHz	Pass
High Channel, 2480 MHz	1.461 MHz	500 kHz	Pass

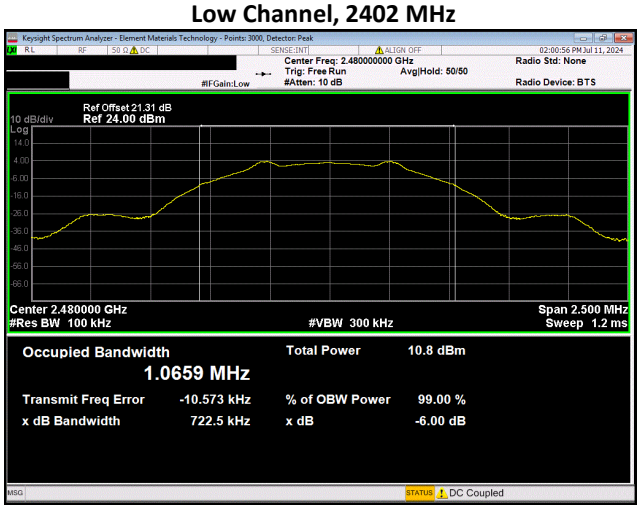
DTS BANDWIDTH (6 dB)



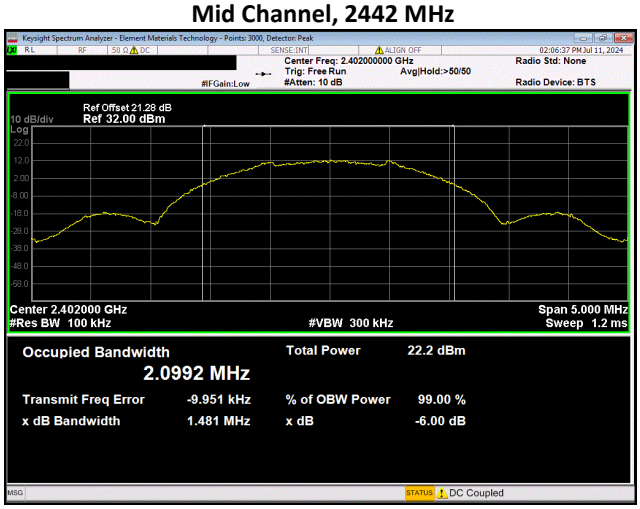
BLE/GFSK 1 Mbps
Low Channel, 2402 MHz



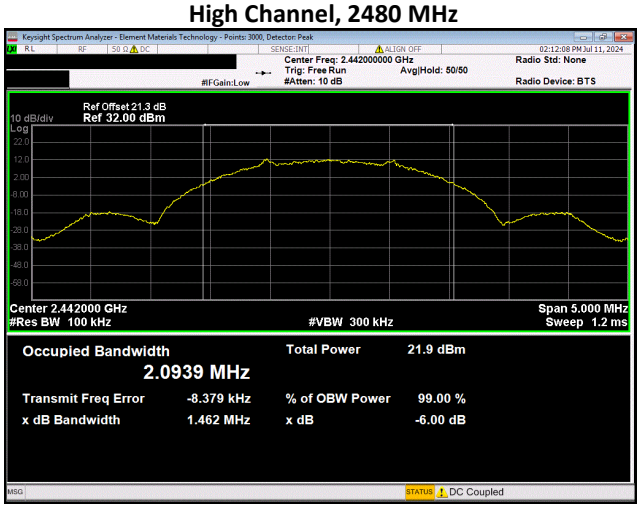
BLE/GFSK 1 Mbps
Mid Channel, 2442 MHz



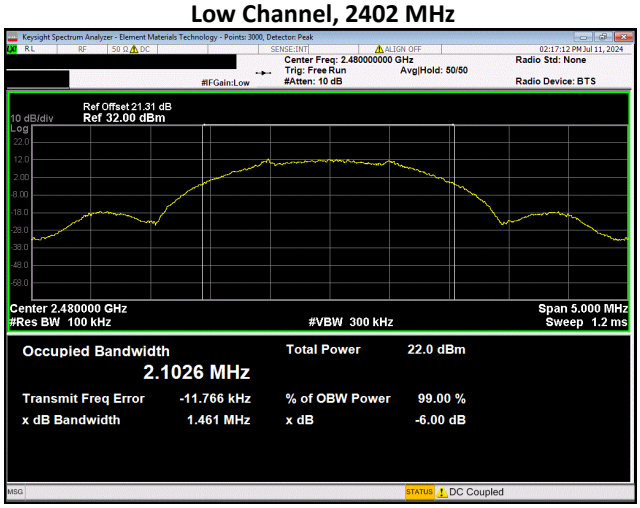
BLE/GFSK 1 Mbps
High Channel, 2480 MHz



BLE/GFSK 2 Mbps
Low Channel, 2402 MHz



BLE/GFSK 2 Mbps
Mid Channel, 2442 MHz



BLE/GFSK 2 Mbps
High Channel, 2480 MHz

OCCUPIED BANDWIDTH (99%)

element
TbtTx 2024.05.24.1
WTD.2024.01.16.0

TEST DESCRIPTION

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

The 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.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2024-05-22	2025-05-22
Generator - Signal	Agilent	N5183A	TIK	2022-01-24	2025-01-24
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2023-09-05	2024-09-05
Block - DC	Fairview Microwave	SD3379	ANH	2023-09-05	2024-09-05
Attenuator	Fairview Microwave	SA4014-20	AQI	2023-09-05	2024-09-05

OCCUPIED BANDWIDTH (99%)

element
TbtTx 2024.05.24.1
WTD.2024.01.16.0

EUT:	Edge Bluetooth TV Streaming Device	Work Order:	STAK0347
Serial Number:	016	Date:	2024-07-11
Customer:	Starkey Laboratories, Inc.	Temperature:	21.9°C
Attendees:	Charlie Esch	Relative Humidity:	57.1%
Customer Project:	None	Bar. Pressure (PMSL):	1018 mbar
Tested By:	Christopher Heintzelman	Job Site:	MN11
Power:	5VDC via USB from laptop	Configuration:	STAK0347-7

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.247:2024	ANSI C63.10:2013
RSS-247 Issue 3:2023	ANSI C63.10:2013

COMMENTS

Reference Level Offset includes measurement cable, attenuator, and DC block.

DEVIATIONS FROM TEST STANDARD

None

CONCLUSION

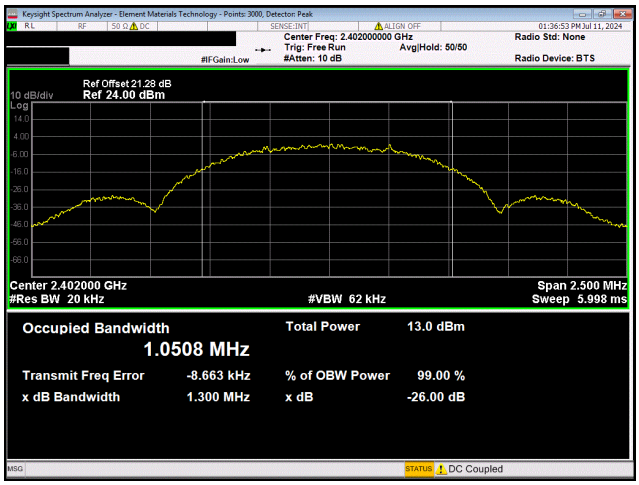
Eval

TEST RESULTS

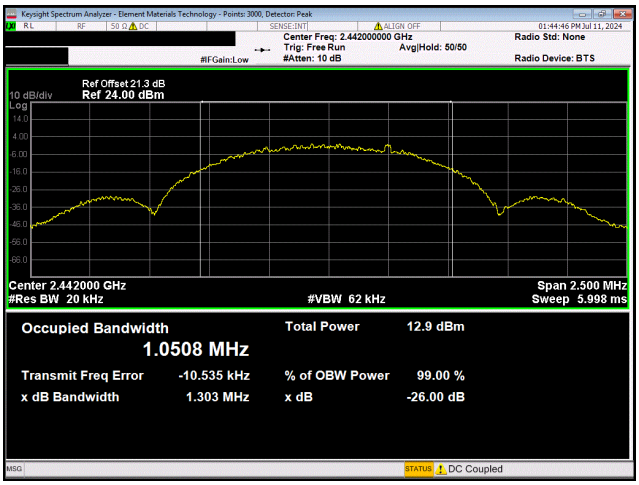
	Value	Limit	Result
BLE/GFSK 1 Mbps			
Low Channel, 2402 MHz	1.051 MHz	N/A	N/A
Mid Channel, 2442 MHz	1.051 MHz	N/A	N/A
High Channel, 2480 MHz	1.054 MHz	N/A	N/A
BLE/GFSK 2 Mbps			
Low Channel, 2402 MHz	2.1 MHz	N/A	N/A
Mid Channel, 2442 MHz	2.094 MHz	N/A	N/A
High Channel, 2480 MHz	2.098 MHz	N/A	N/A

OCCUPIED BANDWIDTH (99%)

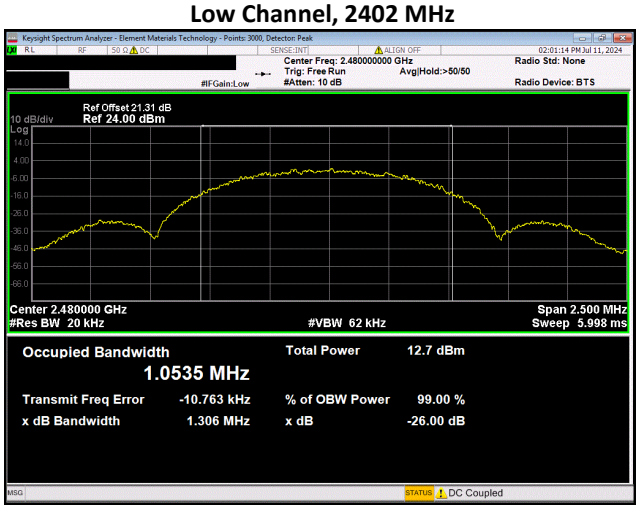
element
TbtTx 2024.05.24.1
WTD.2024.01.16.0



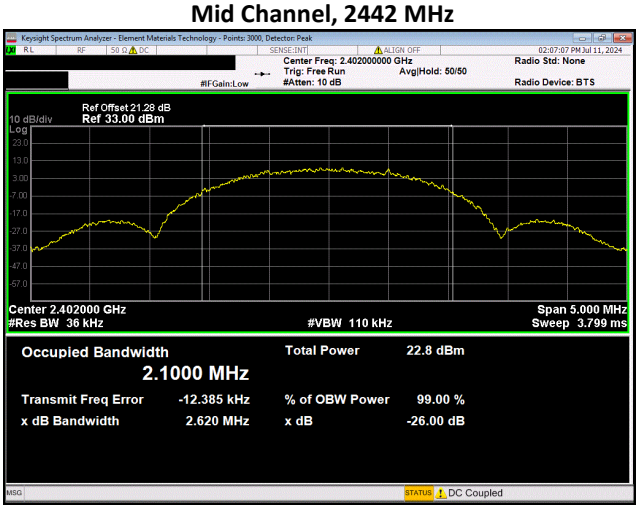
BLE/GFSK 1 Mbps
Low Channel, 2402 MHz



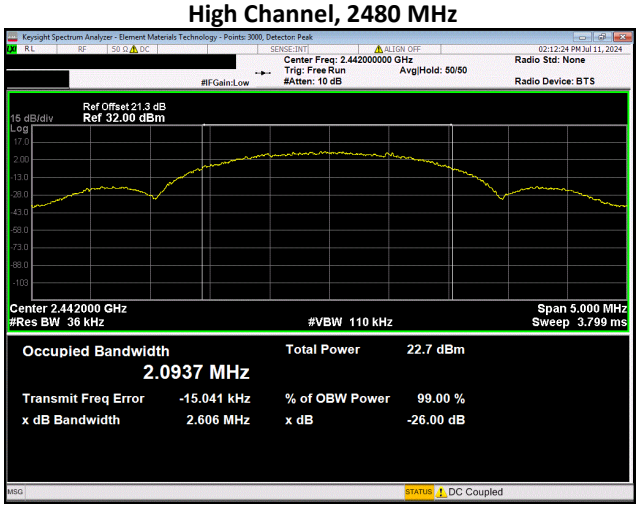
BLE/GFSK 1 Mbps
Mid Channel, 2442 MHz



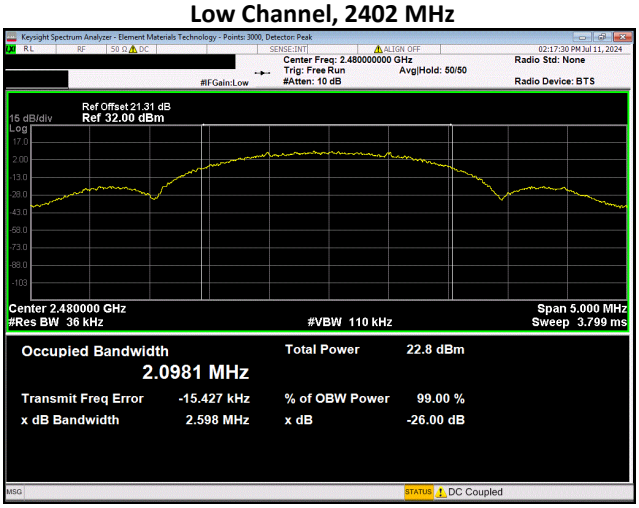
BLE/GFSK 1 Mbps
High Channel, 2480 MHz



BLE/GFSK 2 Mbps
Low Channel, 2402 MHz



BLE/GFSK 2 Mbps
Mid Channel, 2442 MHz



BLE/GFSK 2 Mbps
High Channel, 2480 MHz

OUTPUT POWER

element
TbtTx 2024.05.24.1
WTD.2024.01.16.0

TEST DESCRIPTION

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

The 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.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2024-05-22	2025-05-22
Generator - Signal	Agilent	N5183A	TIK	2022-01-24	2025-01-24
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2023-09-05	2024-09-05
Block - DC	Fairview Microwave	SD3379	ANH	2023-09-05	2024-09-05
Attenuator	Fairview Microwave	SA4014-20	AQI	2023-09-05	2024-09-05

OUTPUT POWER

element
TbtTx 2024.05.24.1
WTD.2024.01.16.0

EUT:	Edge Bluetooth TV Streaming Device	Work Order:	STAK0347
Serial Number:	016	Date:	2024-07-11
Customer:	Starkey Laboratories, Inc.	Temperature:	21.9°C
Attendees:	Charlie Esch	Relative Humidity:	57.3%
Customer Project:	None	Bar. Pressure (PMSL):	1018 mbar
Tested By:	Christopher Heintzelman	Job Site:	MN11
Power:	5VDC via USB from laptop	Configuration:	STAK0347-7

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.247:2024	ANSI C63.10:2013
RSS-247 Issue 3:2023	ANSI C63.10:2013

COMMENTS

Reference Level Offset includes measurement cable, attenuator, and DC block.

DEVIATIONS FROM TEST STANDARD

None

CONCLUSION

Pass

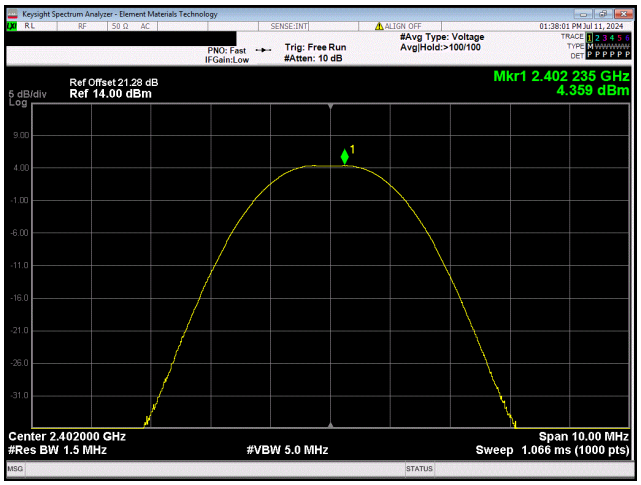
Tested By

TEST RESULTS

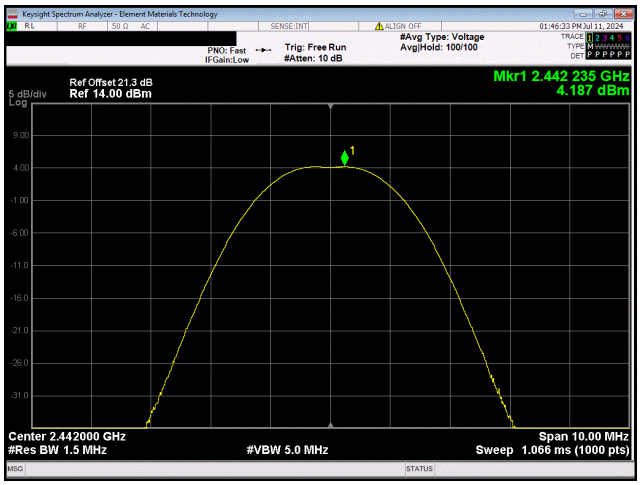
	Out Pwr (dBm)	Limit (dBm)	Result
BLE/GFSK 1 Mbps			
Low Channel, 2402 MHz	4.359	30	Pass
Mid Channel, 2442 MHz	4.187	30	Pass
High Channel, 2480 MHz	4.112	30	Pass
BLE/GFSK 2 Mbps			
Low Channel, 2402 MHz	14.114	30	Pass
Mid Channel, 2442 MHz	13.889	30	Pass
High Channel, 2480 MHz	13.976	30	Pass

OUTPUT POWER

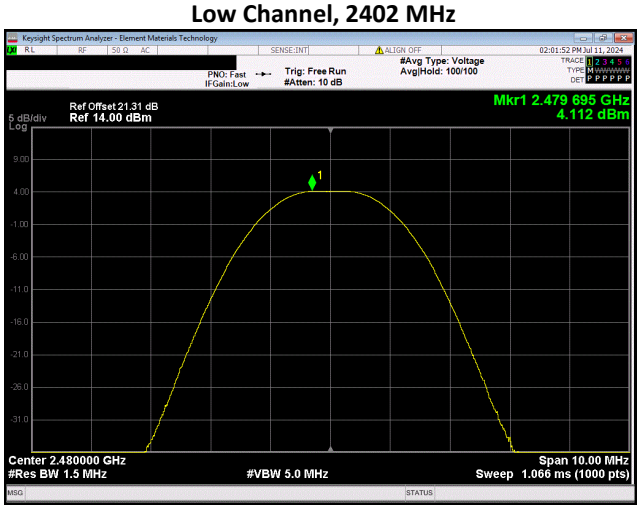
element
TbtTx 2024.05.24.1
WTD.2024.01.16.0



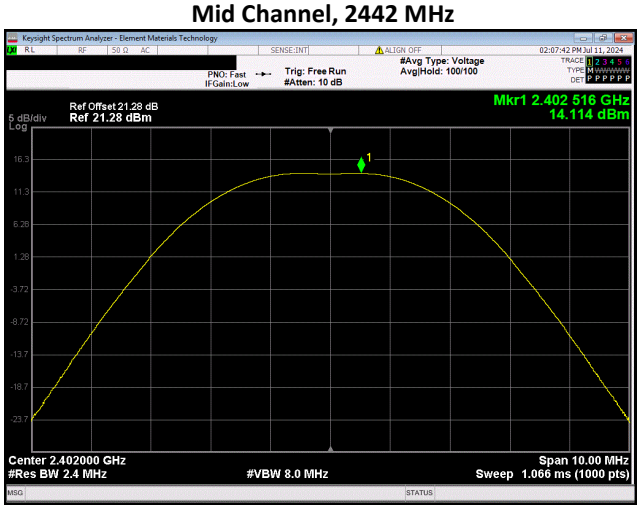
BLE/GFSK 1 Mbps
Low Channel, 2402 MHz



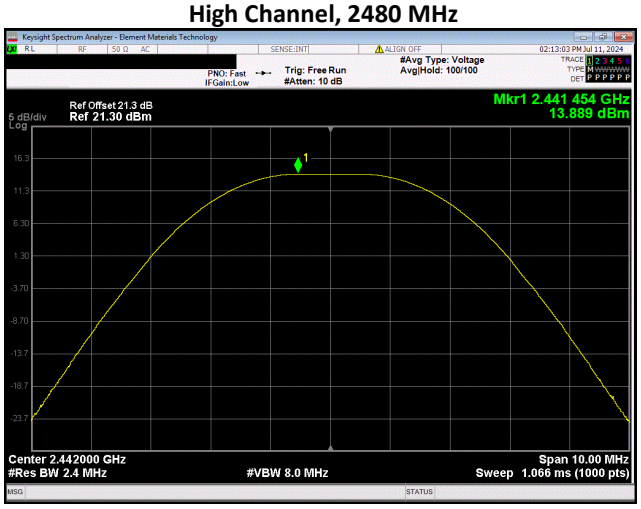
BLE/GFSK 1 Mbps
Mid Channel, 2442 MHz



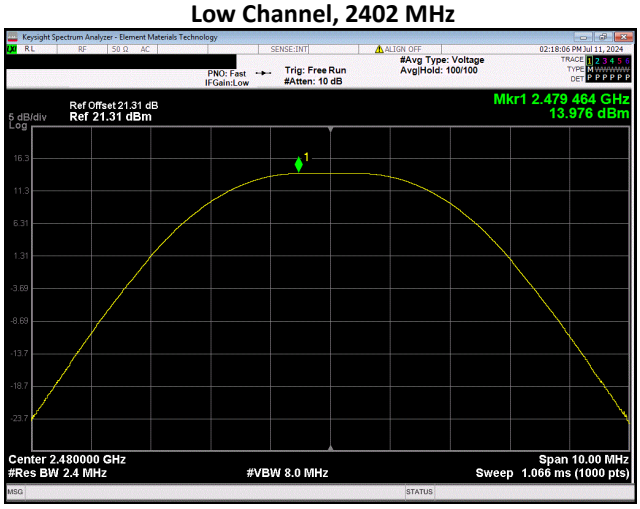
BLE/GFSK 1 Mbps
High Channel, 2480 MHz



BLE/GFSK 2 Mbps
Low Channel, 2402 MHz



BLE/GFSK 2 Mbps
Mid Channel, 2442 MHz



BLE/GFSK 2 Mbps
High Channel, 2480 MHz

EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

element
TbtTx 2024.05.24.1
WTD.2024.01.16.0

TEST DESCRIPTION

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

The 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)

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2024-05-22	2025-05-22
Generator - Signal	Agilent	N5183A	TIK	2022-01-24	2025-01-24
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2023-09-05	2024-09-05
Block - DC	Fairview Microwave	SD3379	ANH	2023-09-05	2024-09-05
Attenuator	Fairview Microwave	SA4014-20	AQI	2023-09-05	2024-09-05

EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

element
TbtTx 2024.05.24.1
WTD.2024.01.16.0

EUT:	Edge Bluetooth TV Streaming Device	Work Order:	STAK0347
Serial Number:	016	Date:	2024-07-11
Customer:	Starkey Laboratories, Inc.	Temperature:	21.9°C
Attendees:	Charlie Esch	Relative Humidity:	57%
Customer Project:	None	Bar. Pressure (PMSL):	1018 mbar
Tested By:	Christopher Heintzelman	Job Site:	MN11
Power:	5VDC via USB from laptop	Configuration:	STAK0347-7

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.247:2024	ANSI C63.10:2013
RSS-247 Issue 3:2023	ANSI C63.10:2013

COMMENTS

Reference Level Offset includes measurement cable, attenuator, and DC block.

DEVIATIONS FROM TEST STANDARD

None

CONCLUSION

Pass

Tested By

TEST RESULTS

	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
BLE/GFSK 1 Mbps					
Low Channel, 2402 MHz	4.359	2.71	7.069	36	Pass
Mid Channel, 2442 MHz	4.187	2.71	6.897	36	Pass
High Channel, 2480 MHz	4.112	2.71	6.822	36	Pass
BLE/GFSK 2 Mbps					
Low Channel, 2402 MHz	14.114	2.71	16.824	36	Pass
Mid Channel, 2442 MHz	13.889	2.71	16.599	36	Pass
High Channel, 2480 MHz	13.976	2.71	16.686	36	Pass

POWER SPECTRAL DENSITY

element
TbtTx 2024.05.24.1
WTD.2024.01.16.0

TEST DESCRIPTION

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

The 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.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2024-05-22	2025-05-22
Generator - Signal	Agilent	N5183A	TIK	2022-01-24	2025-01-24
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2023-09-05	2024-09-05
Block - DC	Fairview Microwave	SD3379	ANH	2023-09-05	2024-09-05
Attenuator	Fairview Microwave	SA4014-20	AQI	2023-09-05	2024-09-05

POWER SPECTRAL DENSITY

element
TbtTx 2024.05.24.1
WTD.2024.01.16.0

EUT:	Edge Bluetooth TV Streaming Device	Work Order:	STAK0347
Serial Number:	016	Date:	2024-07-11
Customer:	Starkey Laboratories, Inc.	Temperature:	21.9°C
Attendees:	Charlie Esch	Relative Humidity:	57.6%
Customer Project:	None	Bar. Pressure (PMSL):	1018 mbar
Tested By:	Christopher Heintzelman	Job Site:	MN11
Power:	5VDC via USB from laptop	Configuration:	STAK0347-7

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.247:2024	ANSI C63.10:2013
RSS-247 Issue 3:2023	ANSI C63.10:2013

COMMENTS

Reference Level Offset includes measurement cable, attenuator, and DC block.

DEVIATIONS FROM TEST STANDARD

None

CONCLUSION

Pass

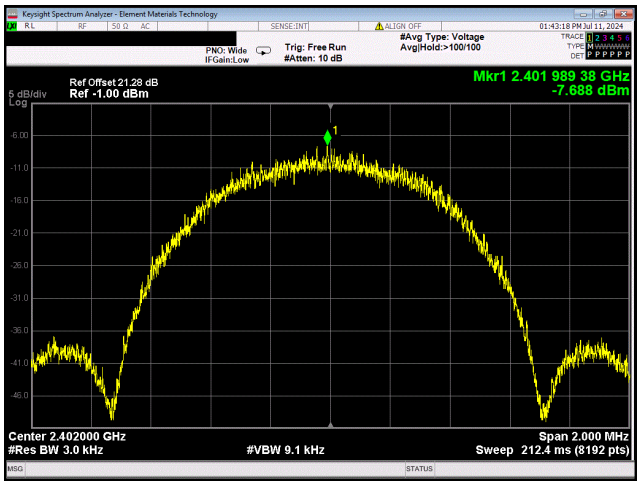
Tested By

TEST RESULTS

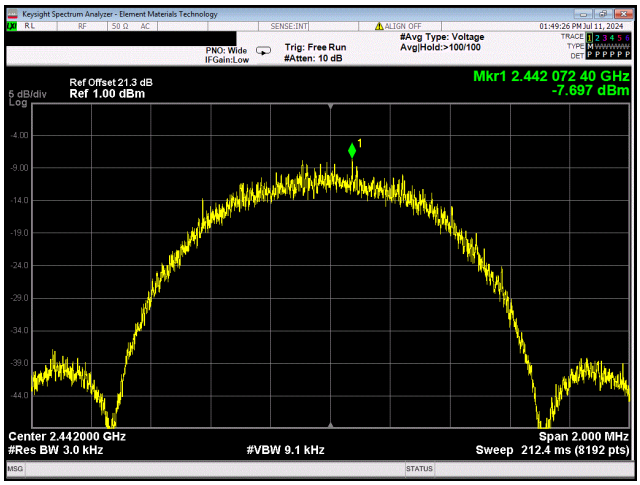
	Value dBm/3kHz	Limit ≤ (dBm/3kHz)	Results
BLE/GFSK 1 Mbps			
Low Channel, 2402 MHz	-7.688	8	Pass
Mid Channel, 2442 MHz	-7.697	8	Pass
High Channel, 2480 MHz	-7.671	8	Pass
BLE/GFSK 2 Mbps			
Low Channel, 2402 MHz	-1.161	8	Pass
Mid Channel, 2442 MHz	-1.346	8	Pass
High Channel, 2480 MHz	-0.659	8	Pass

POWER SPECTRAL DENSITY

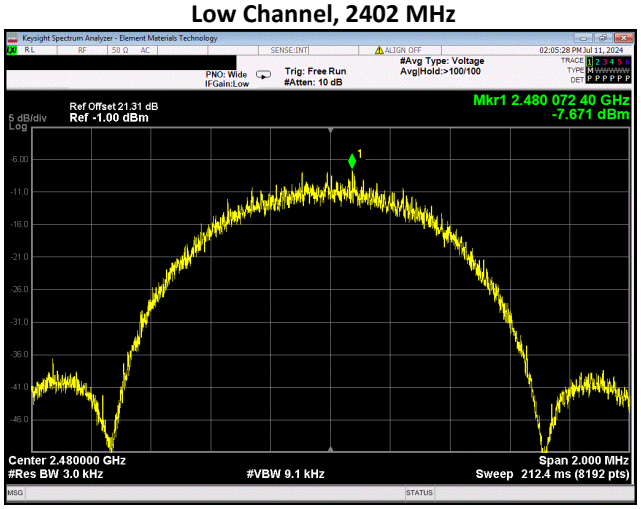
element
TbtTx 2024.05.24.1
WTD.2024.01.16.0



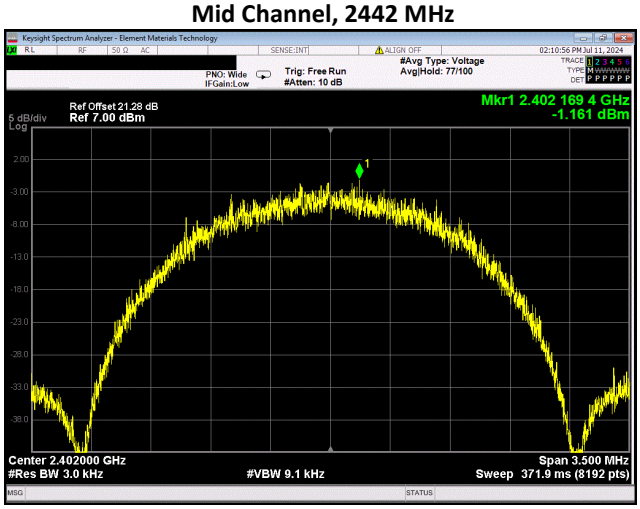
BLE/GFSK 1 Mbps
Low Channel, 2402 MHz



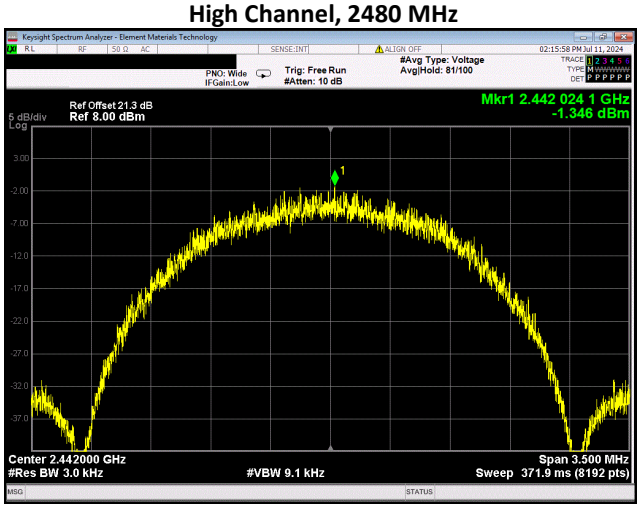
BLE/GFSK 1 Mbps
Mid Channel, 2442 MHz



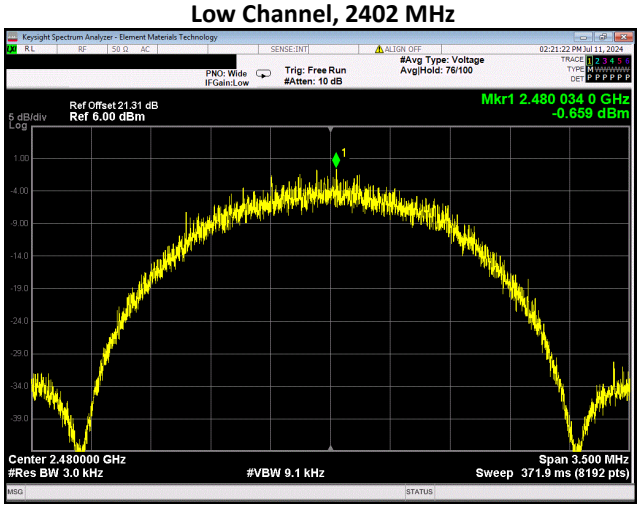
BLE/GFSK 1 Mbps
High Channel, 2480 MHz



BLE/GFSK 2 Mbps
Low Channel, 2402 MHz



BLE/GFSK 2 Mbps
Mid Channel, 2442 MHz



BLE/GFSK 2 Mbps
High Channel, 2480 MHz

BAND EDGE COMPLIANCE

element
TbtTx 2024.05.24.1
WTD.2024.01.16.0

TEST DESCRIPTION

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

The 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. The analyzer screen captures for this test show an example of the emission mask for the test mode also used during the radiated spurious emissions at the restricted band edges test.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2024-05-22	2025-05-22
Generator - Signal	Agilent	N5183A	TIK	2022-01-24	2025-01-24
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2023-09-05	2024-09-05
Block - DC	Fairview Microwave	SD3379	ANH	2023-09-05	2024-09-05
Attenuator	Fairview Microwave	SA4014-20	AQI	2023-09-05	2024-09-05

BAND EDGE COMPLIANCE

element
TbtTx 2024.05.24.1
WTD.2024.01.16.0

EUT:	Edge Bluetooth TV Streaming Device	Work Order:	STAK0347
Serial Number:	016	Date:	2024-07-11
Customer:	Starkey Laboratories, Inc.	Temperature:	22°C
Attendees:	Charlie Esch	Relative Humidity:	58%
Customer Project:	None	Bar. Pressure (PMSL):	1018 mbar
Tested By:	Christopher Heintzelman	Job Site:	MN11
Power:	5VDC via USB from laptop	Configuration:	STAK0347-7

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.247:2024	ANSI C63.10:2013
RSS-247 Issue 3:2023	ANSI C63.10:2013

COMMENTS

Reference Level Offset includes measurement cable, attenuator, and DC block.

DEVIATIONS FROM TEST STANDARD

None

CONCLUSION

Pass

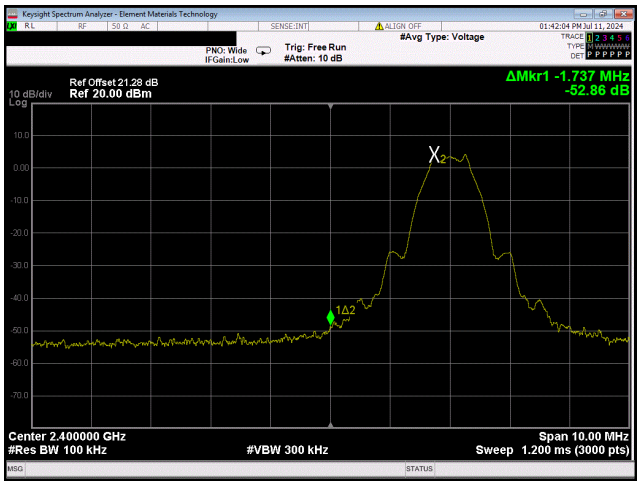
Tested By

TEST RESULTS

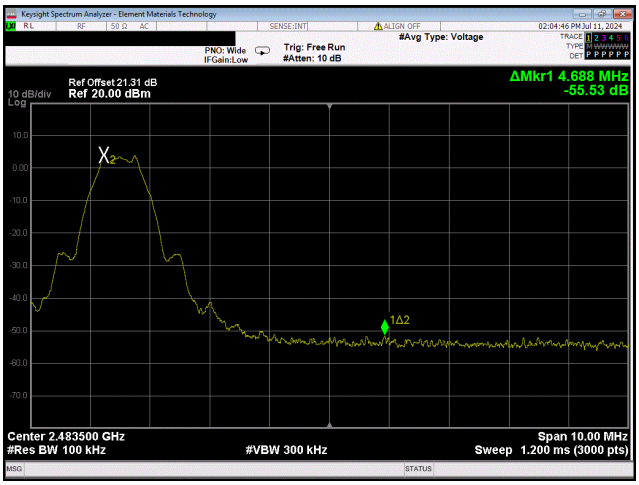
	Value (dBc)	Limit ≤ (dBc)	Result
BLE/GFSK 1 Mbps			
Low Channel, 2402 MHz	-52.87	-20	Pass
High Channel, 2480 MHz	-55.53	-20	Pass
BLE/GFSK 2 Mbps			
Low Channel, 2402 MHz	-30.38	-20	Pass
High Channel, 2480 MHz	-55.76	-20	Pass

BAND EDGE COMPLIANCE

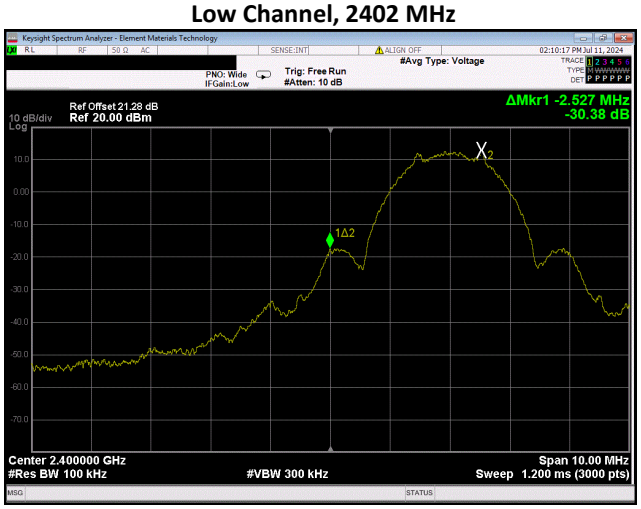
element
TbtTx 2024.05.24.1
WTD.2024.01.16.0



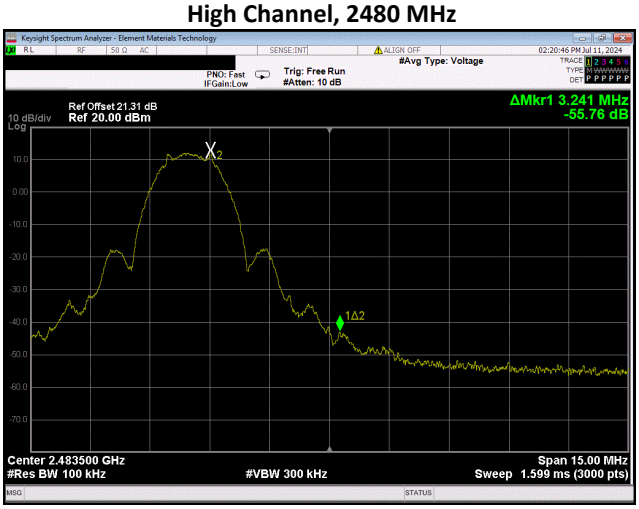
BLE/GFSK 1 Mbps
Low Channel, 2402 MHz



BLE/GFSK 1 Mbps
High Channel, 2480 MHz



BLE/GFSK 2 Mbps
Low Channel, 2402 MHz



BLE/GFSK 2 Mbps
High Channel, 2480 MHz

SPURIOUS CONDUCTED EMISSIONS

element
TbtTx 2024.05.24.1
WTD.2024.01.16.0

TEST DESCRIPTION

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

The 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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2024-05-22	2025-05-22
Generator - Signal	Agilent	N5183A	TIK	2022-01-24	2025-01-24
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2023-09-05	2024-09-05
Block - DC	Fairview Microwave	SD3379	ANH	2023-09-05	2024-09-05
Attenuator	Fairview Microwave	SA4014-20	AQI	2023-09-05	2024-09-05

SPURIOUS CONDUCTED EMISSIONS

element
TbtTx 2024.05.24.1
WTD.2024.01.16.0

EUT:	Edge Bluetooth TV Streaming Device	Work Order:	STAK0347
Serial Number:	016	Date:	2024-07-11
Customer:	Starkey Laboratories, Inc.	Temperature:	21.9°C
Attendees:	Charlie Esch	Relative Humidity:	57.7%
Customer Project:	None	Bar. Pressure (PMSL):	1018 mbar
Tested By:	Christopher Heintzelman	Job Site:	MN11
Power:	5VDC via USB from laptop	Configuration:	STAK0347-7

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.247:2024	ANSI C63.10:2013
RSS-247 Issue 3:2023	ANSI C63.10:2013

COMMENTS

None

DEVIATIONS FROM TEST STANDARD

None

CONCLUSION

Pass

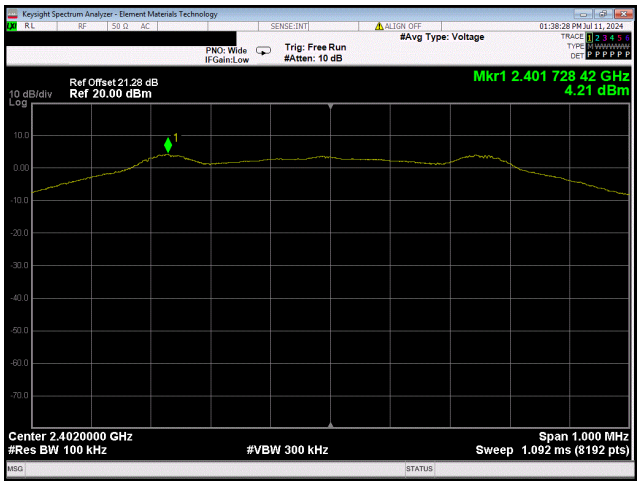
Tested By

TEST RESULTS

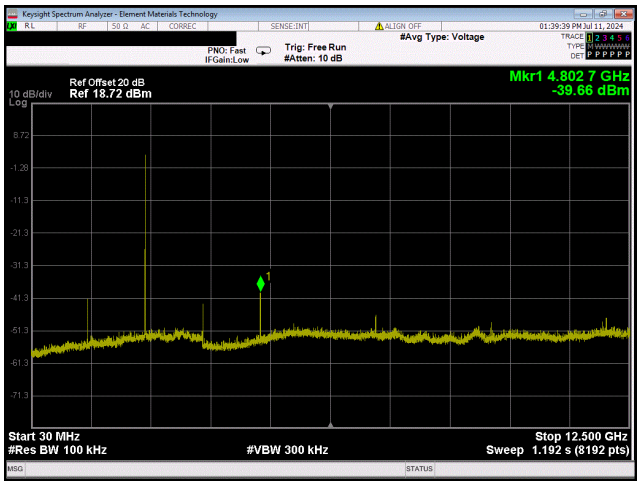
	Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
BLE/GFSK 1 Mbps					
Low Channel, 2402 MHz	Fundamental	2401.73	N/A	N/A	N/A
	30 MHz - 12.5 GHz	4802.73	-43.87	-20	Pass
	12.5 GHz - 25 GHz	24938.96	-41.32	-20	Pass
Mid Channel, 2442 MHz	Fundamental	2442.25	N/A	N/A	N/A
	30 MHz - 12.5 GHz	1220.52	-44.94	-20	Pass
	12.5 GHz - 25 GHz	24558.97	-41.04	-20	Pass
High Channel, 2480 MHz	Fundamental	2480.25	N/A	N/A	N/A
	30 MHz - 12.5 GHz	1240.31	-43.67	-20	Pass
	12.5 GHz - 25 GHz	24793.98	-41.49	-20	Pass
BLE/GFSK 2 Mbps					
Low Channel, 2402 MHz	Fundamental	2401.49	N/A	N/A	N/A
	30 MHz - 12.5 GHz	1200.73	-45.89	-20	Pass
	12.5 GHz - 25 GHz	24809.24	-49.84	-20	Pass
Mid Channel, 2442 MHz	Fundamental	2441.45	N/A	N/A	N/A
	30 MHz - 12.5 GHz	1220.52	-44.74	-20	Pass
	12.5 GHz - 25 GHz	24523.87	-49.14	-20	Pass
High Channel, 2480 MHz	Fundamental	2480.53	N/A	N/A	N/A
	30 MHz - 12.5 GHz	1240.31	-44.58	-20	Pass
	12.5 GHz - 25 GHz	24656.64	-49.65	-20	Pass

SPURIOUS CONDUCTED EMISSIONS

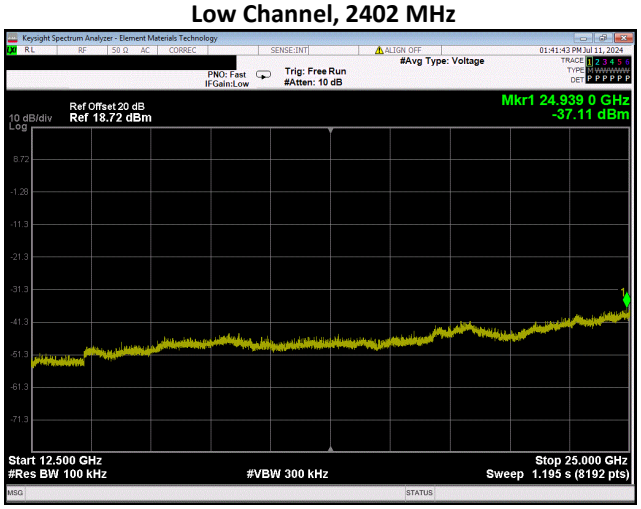
element
TbtTx 2024.05.24.1
WTD.2024.01.16.0



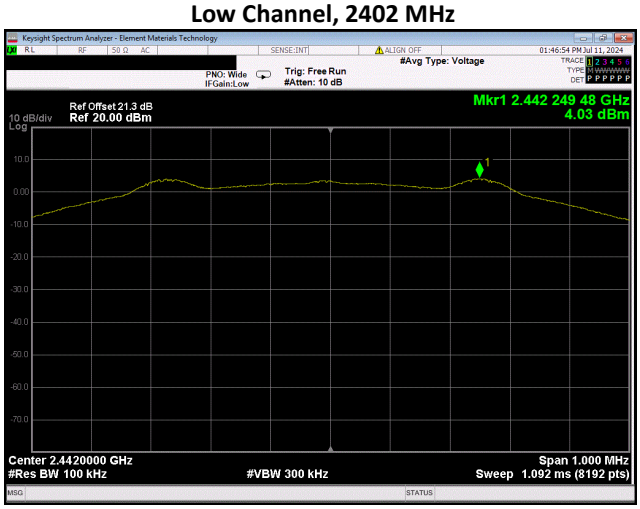
BLE/GFSK 1 Mbps
Low Channel, 2402 MHz



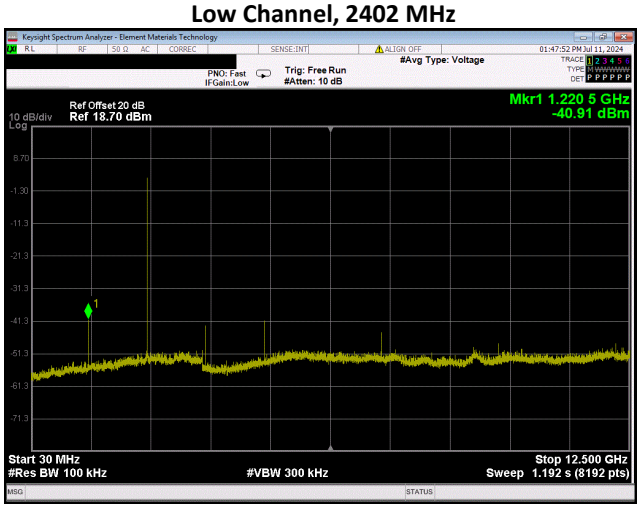
BLE/GFSK 1 Mbps
Low Channel, 2402 MHz



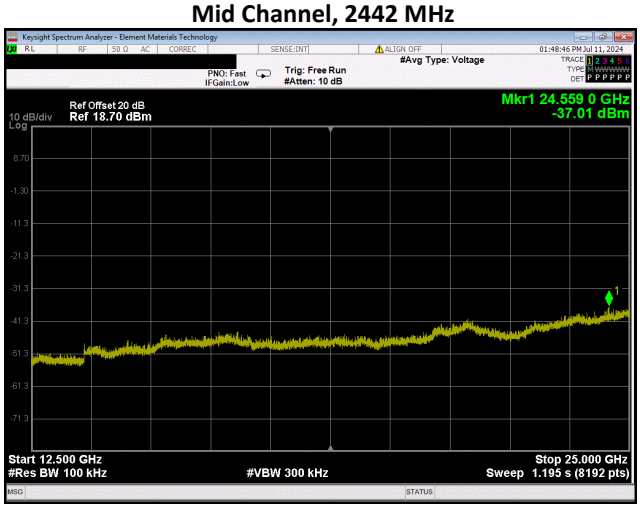
BLE/GFSK 1 Mbps
Low Channel, 2402 MHz



BLE/GFSK 1 Mbps
Mid Channel, 2442 MHz



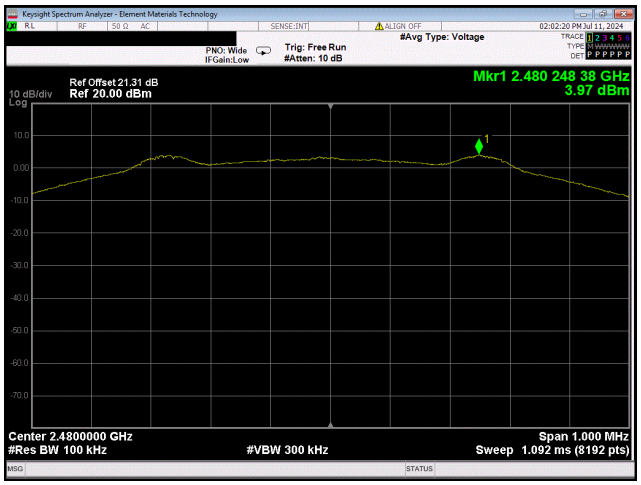
BLE/GFSK 1 Mbps
Mid Channel, 2442 MHz



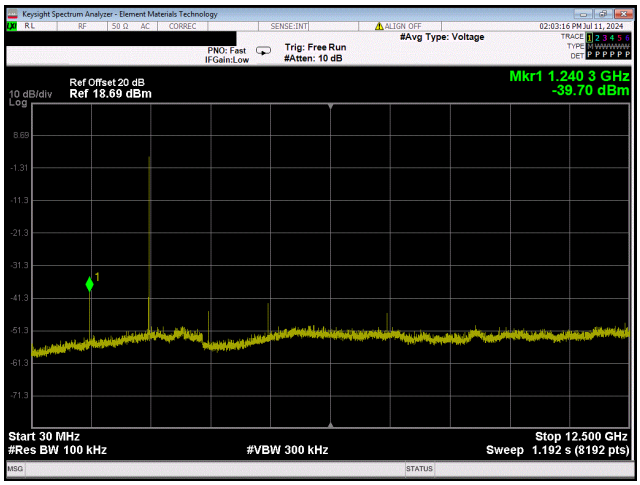
BLE/GFSK 1 Mbps
Mid Channel, 2442 MHz

SPURIOUS CONDUCTED EMISSIONS

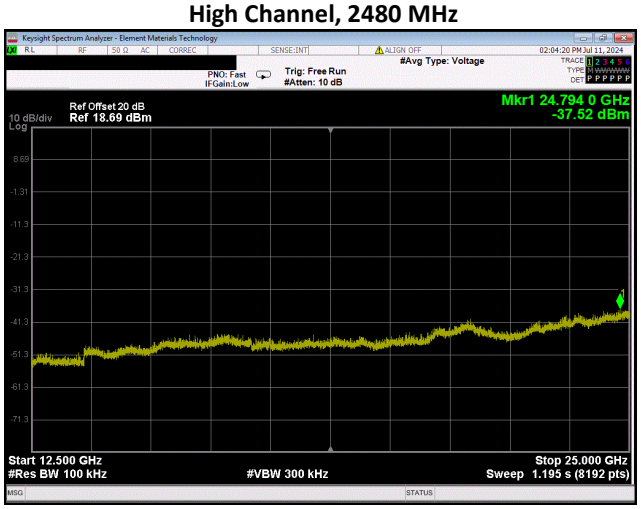
element
TbtTx 2024.05.24.1
WTD.2024.01.16.0



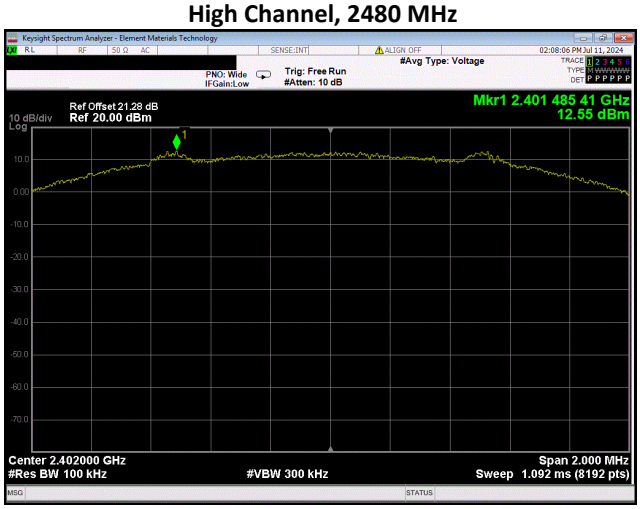
BLE/GFSK 1 Mbps
High Channel, 2480 MHz



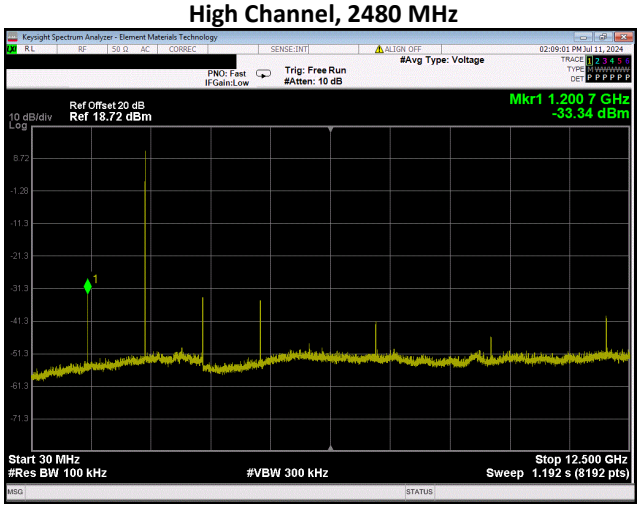
BLE/GFSK 1 Mbps
High Channel, 2480 MHz



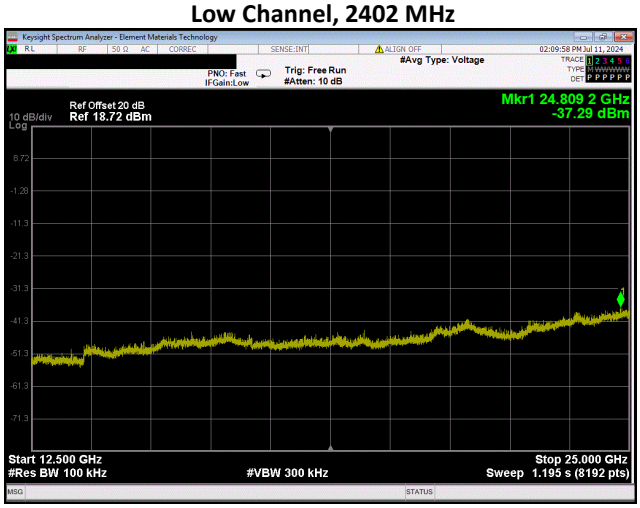
BLE/GFSK 1 Mbps
High Channel, 2480 MHz



BLE/GFSK 2 Mbps
Low Channel, 2402 MHz



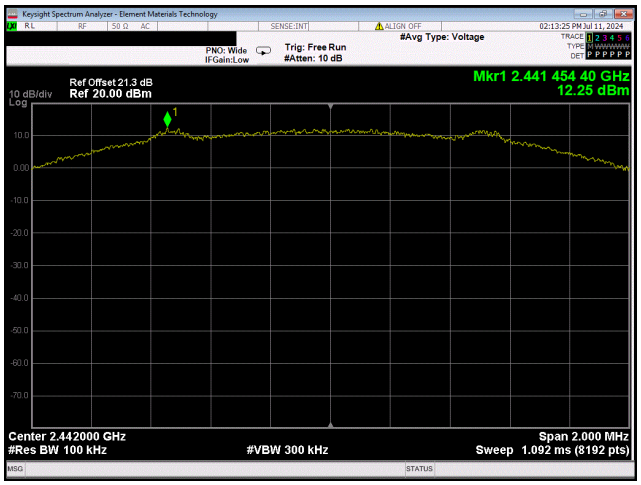
BLE/GFSK 2 Mbps
Low Channel, 2402 MHz



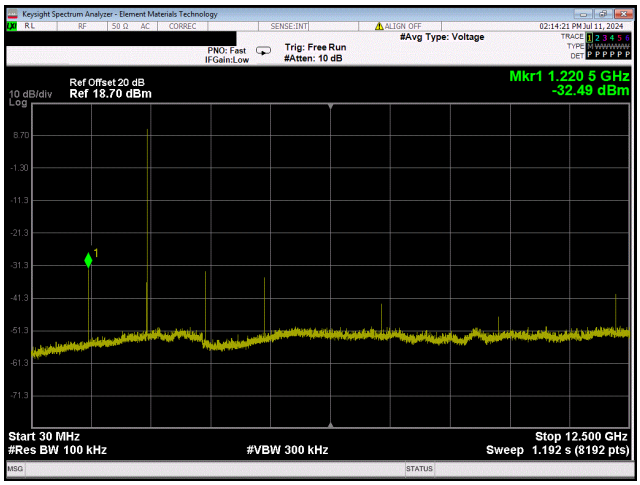
BLE/GFSK 2 Mbps
Low Channel, 2402 MHz

SPURIOUS CONDUCTED EMISSIONS

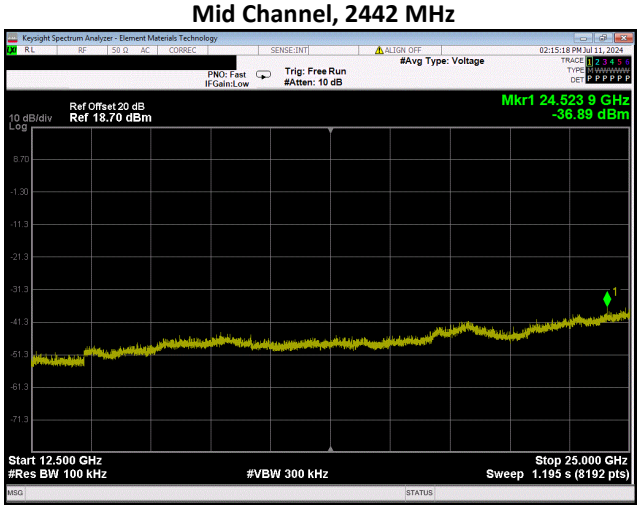
element
TbtTx 2024.05.24.1
WTD.2024.01.16.0



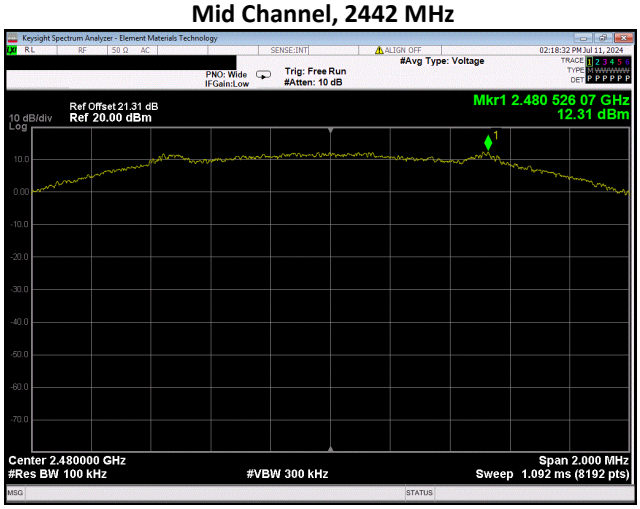
BLE/GFSK 2 Mbps
Mid Channel, 2442 MHz



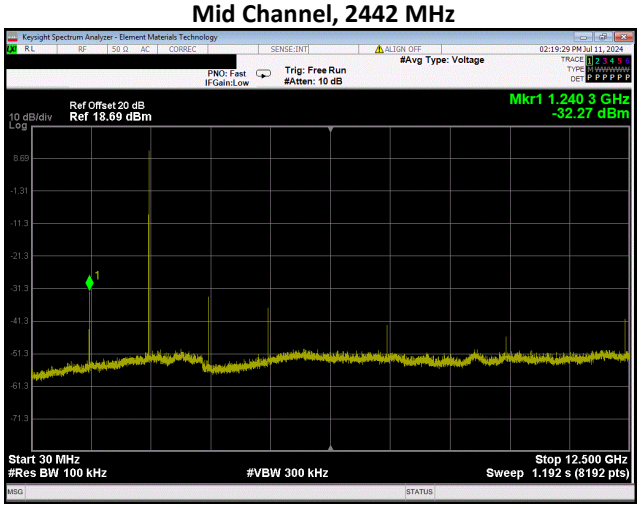
BLE/GFSK 2 Mbps
Mid Channel, 2442 MHz



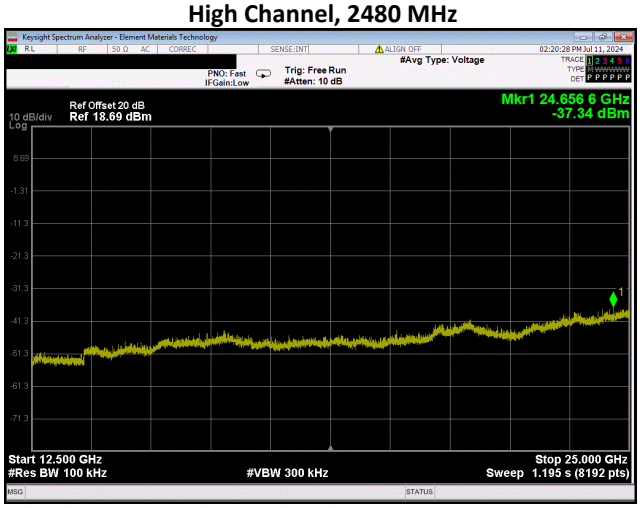
BLE/GFSK 2 Mbps
Mid Channel, 2442 MHz



BLE/GFSK 2 Mbps
High Channel, 2480 MHz



BLE/GFSK 2 Mbps
High Channel, 2480 MHz



BLE/GFSK 2 Mbps
High Channel, 2480 MHz

SPURIOUS RADIATED EMISSIONS

element
WTD.2024.01.16.0
EmiR5 2023.08.29.0
PSA-ESCI 2023.12.23.0

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*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	2024-01-08	2025-01-08
Amplifier - Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	AVT	2024-01-08	2025-01-08
Attenuator	Fairview Microwave	SA18H-20	VAF	2023-09-11	2024-09-11
Analyzer - Spectrum Analyzer	Agilent	E4446A	AAQ	2024-03-13	2025-03-13
Filter - High Pass	Micro-Tronics	HPM50111	LFN	2023-08-23	2024-08-23
Antenna - Standard Gain	ETS Lindgren	3160-07	AXP	NCR	NCR
Cable	ESM Cable Corp.	Standard Gain Horn Cables	MNJ	2024-01-28	2025-01-28
Amplifier - Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVV	2024-01-08	2025-01-08
Antenna - Standard Gain	ETS Lindgren	3160-08	AIQ	NCR	NCR
Amplifier - Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVW	2024-01-08	2025-01-08
Antenna - Biconilog	ETS Lindgren	3142D	AXO	2023-10-02	2025-10-02
Cable	ESM Cable Corp.	Bilog Cables	MNH	2023-10-08	2024-10-08
Amplifier - Pre-Amplifier	Miteq	AM-1616-1000	AVO	2023-10-08	2024-10-08
Filter - Low Pass	Micro-Tronics	LPM50004	LFK	2023-08-23	2024-08-23
Antenna - Loop	ETS Lindgren	6502	AOB	2023-06-12	2025-06-12
Antenna - Standard Gain	ETS Lindgren	3160-09	AHG	NCR	NCR
Cable	ESM Cable Corp.	TTBJ141 KMKM-72	MNP	2023-09-05	2024-09-05
Amplifier - Pre-Amplifier	Miteq	JSD4-18002600-26-8P	APU	2023-09-05	2024-09-05

SPURIOUS RADIATED EMISSIONS

element
WTD.2024.01.16.0
EmiR5 2023.08.29.0
PSA-ESCI 2023.12.23.0

FREQUENCY RANGE INVESTIGATED

9 kHz TO 26500 MHz

POWER INVESTIGATED

5VDC via USB from laptop

CONFIGURATIONS INVESTIGATED

STAK0347-4

MODES INVESTIGATED

Transmitting BLE Low, Mid and High Chs (2402, 2442 and 2480 MHz) 1Mbps and 2 Mbps GFSK mod
Transmitting BLE Low and High Chs (2402 and 2480 MHz) 1Mbps and 2 Mbps GFSK mod

SPURIOUS RADIATED EMISSIONS

element
WTD.2024.01.16.0
EmiR5 2023.08.29.0
PSA-ESCI 2023.12.23.0

EUT:	Edge Bluetooth TV Streaming Device	Work Order:	STAK0347
Serial Number:	120	Date:	2024-07-08
Customer:	Starkey Laboratories, Inc.	Temperature:	22.1°C
Attendees:	Charlie Esch	Relative Humidity:	57.1%
Customer Project:	None	Bar. Pressure (PMSL):	1012 mb
Tested By:	Marcelo Aguayo	Job Site:	MN05
Power:	5VDC via USB from laptop	Configuration:	STAK0347-4

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.247:2024	ANSI C63.10:2013

TEST PARAMETERS

Run #:	34	Test Distance (m):	3	Ant. Height(s) (m):	1 to 4(m)

COMMENTS

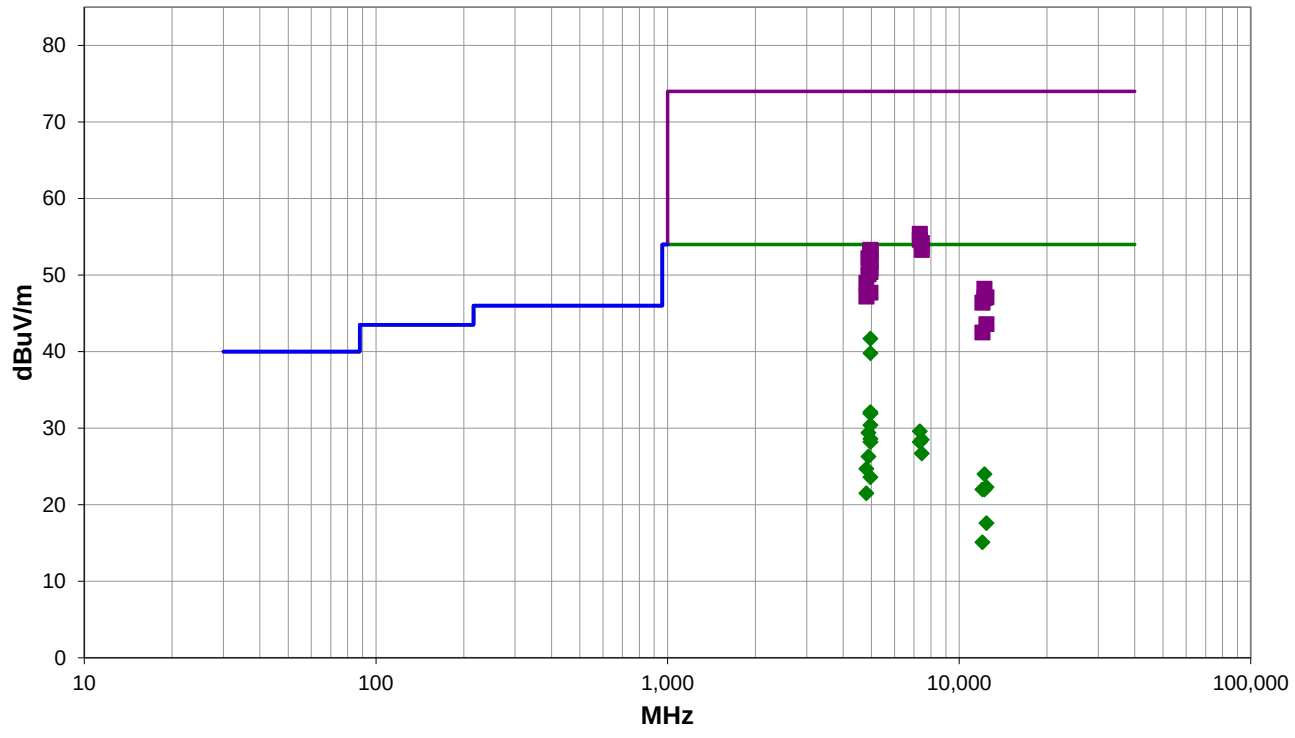
Test mode operates at 100% duty cycle. When operating in BLE mode during normal operation, the worst-case duty cycles over any 100 ms period are: 1 Mbps = 2.08% and 2 Mbps = 29.5%. Downward DCCF correction applied based on 10*log(0.0208) = -16.8 dB and 10*log(0.295) = -5.3 dB.

EUT OPERATING MODES

Transmitting BLE Low, Mid and High Chs (2402, 2442 and 2480 MHz) 1Mbps and 2 Mbps GFSK mod

DEVIATIONS FROM TEST STANDARD

None



Run #: 34 PK AV QP

SPURIOUS RADIATED EMISSIONS

element
WTD.2024.01.16.0
EmiR5 2023.08.29.0
PSA-ESCI 2023.12.23.0

RESULTS - Run #34

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Duty Cycle Correction Factor (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
4960.733	41.9	5.2	2.9	236.9	-5.3	0.0	Horz	AV	0.0	41.8	54.0	-12.2	EUT Horz, High Ch 2Mbps
4960.792	40.0	5.2	3.7	157.9	-5.3	0.0	Vert	AV	0.0	39.9	54.0	-14.1	EUT Vert, High Ch 2Mbps
7325.457	43.0	12.4	1.5	106.9	0.0	0.0	Horz	PK	0.0	55.4	74.0	-18.6	EUT Horz, Mid Ch 1Mbps
7325.047	42.2	12.4	3.6	76.0	0.0	0.0	Vert	PK	0.0	54.6	74.0	-19.4	EUT Vert, Mid Ch 1Mbps
7440.475	41.7	12.5	1.5	109.0	0.0	0.0	Horz	PK	0.0	54.2	74.0	-19.8	EUT Horz, High Ch 1Mbps
4959.517	48.1	5.2	3.7	220.0	0.0	0.0	Horz	PK	0.0	53.3	74.0	-20.7	EUT Horz, High Ch 1Mbps
7439.333	40.8	12.5	1.5	229.9	0.0	0.0	Vert	PK	0.0	53.3	74.0	-20.7	EUT Vert, High Ch 1Mbps
4959.633	47.9	5.2	3.6	221.9	0.0	0.0	Vert	PK	0.0	53.1	74.0	-20.9	EUT Vert, High Ch 1Mbps
4961.025	47.7	5.2	2.9	236.9	0.0	0.0	Horz	PK	0.0	52.9	74.0	-21.1	EUT Horz, High Ch 2Mbps
4883.460	47.1	5.1	3.7	207.9	0.0	0.0	Horz	PK	0.0	52.2	74.0	-21.8	EUT Horz, Mid Ch 1Mbps
4959.967	43.7	5.2	3.6	221.9	-16.8	0.0	Vert	AV	0.0	32.1	54.0	-21.9	EUT Vert, High Ch 1Mbps
4959.992	43.5	5.2	3.7	220.0	-16.8	0.0	Horz	AV	0.0	31.9	54.0	-22.1	EUT Horz, High Ch 1Mbps
4960.258	46.6	5.2	1.5	307.0	0.0	0.0	Horz	PK	0.0	51.8	74.0	-22.2	EUT On Side, High Ch 1Mbps
4958.892	46.6	5.2	3.7	157.9	0.0	0.0	Vert	PK	0.0	51.8	74.0	-22.2	EUT Vert, High Ch 2Mbps
4959.300	45.6	5.2	3.5	113.9	0.0	0.0	Vert	PK	0.0	50.8	74.0	-23.2	EUT Horz, High Ch 1Mbps
4959.975	42.0	5.2	1.5	307.0	-16.8	0.0	Horz	AV	0.0	30.4	54.0	-23.6	EUT On Side, High Ch 1Mbps
4960.350	45.2	5.2	1.0	209.0	0.0	0.0	Vert	PK	0.0	50.4	74.0	-23.6	EUT On Side, High Ch 1Mbps
4883.587	45.0	5.1	3.4	113.9	0.0	0.0	Vert	PK	0.0	50.1	74.0	-23.9	EUT Vert, Mid Ch 1Mbps
7325.233	34.0	12.4	1.5	106.9	-16.8	0.0	Horz	AV	0.0	29.6	54.0	-24.4	EUT Horz, Mid Ch 1Mbps
4883.877	41.1	5.1	3.7	207.9	-16.8	0.0	Horz	AV	0.0	29.4	54.0	-24.6	EUT Horz, Mid Ch 1Mbps
4803.947	43.9	5.1	2.8	257.9	0.0	0.0	Horz	PK	0.0	49.0	74.0	-25.0	EUT Horz, Low Ch 1Mbps
4960.150	40.2	5.2	3.5	113.9	-16.8	0.0	Vert	AV	0.0	28.6	54.0	-25.4	EUT Horz, High Ch 1Mbps
7440.425	32.8	12.5	1.5	109.0	-16.8	0.0	Horz	AV	0.0	28.5	54.0	-25.5	EUT Horz, High Ch 1Mbps
12209.380	49.0	-0.8	1.5	360.0	0.0	0.0	Vert	PK	0.0	48.2	74.0	-25.8	EUT Vert, Mid Ch 1Mbps
4960.017	39.8	5.2	1.0	209.0	-16.8	0.0	Vert	AV	0.0	28.2	54.0	-25.8	EUT On Side, High Ch 1Mbps
7325.333	32.6	12.4	3.6	76.0	-16.8	0.0	Vert	AV	0.0	28.2	54.0	-25.8	EUT Vert, Mid Ch 1Mbps
4960.042	42.5	5.2	3.6	117.9	0.0	0.0	Horz	PK	0.0	47.7	74.0	-26.3	EUT Vert, High Ch 1Mbps
4804.540	42.1	5.1	3.7	120.9	0.0	0.0	Vert	PK	0.0	47.2	74.0	-26.8	EUT Vert, Low Ch 1Mbps
12398.780	47.9	-0.8	1.5	360.0	0.0	0.0	Vert	PK	0.0	47.1	74.0	-26.9	EUT Vert, High Ch 1Mbps
12209.130	47.8	-0.8	1.2	253.9	0.0	0.0	Horz	PK	0.0	47.0	74.0	-27.0	EUT Horz, Mid Ch 1Mbps
7439.225	31.0	12.5	1.5	229.9	-16.8	0.0	Vert	AV	0.0	26.7	54.0	-27.3	EUT Vert, High Ch 1Mbps
12010.880	48.3	-1.9	2.5	1.0	0.0	0.0	Vert	PK	0.0	46.4	74.0	-27.6	EUT Vert, Low Ch 1Mbps
4883.730	38.0	5.1	3.4	113.9	-16.8	0.0	Vert	AV	0.0	26.3	54.0	-27.7	EUT Vert, Mid Ch 1Mbps
4804.210	36.4	5.1	2.8	257.9	-16.8	0.0	Horz	AV	0.0	24.7	54.0	-29.3	EUT Horz, Low Ch 1Mbps
12209.010	41.6	-0.8	1.5	360.0	-16.8	0.0	Vert	AV	0.0	24.0	54.0	-30.0	EUT Vert, Mid Ch 1Mbps
12398.940	44.4	-0.8	1.5	109.0	0.0	0.0	Horz	PK	0.0	43.6	74.0	-30.4	EUT Horz, High Ch 1Mbps
4959.908	35.2	5.2	3.6	117.9	-16.8	0.0	Horz	AV	0.0	23.6	54.0	-30.4	EUT Vert, High Ch 1Mbps
12010.980	44.4	-1.9	1.5	106.0	0.0	0.0	Horz	PK	0.0	42.5	74.0	-31.5	EUT Horz, Low Ch 1Mbps
12398.750	39.9	-0.8	1.5	360.0	-16.8	0.0	Vert	AV	0.0	22.3	54.0	-31.7	EUT Vert, High Ch 1Mbps
12209.020	39.6	-0.8	1.2	253.9	-16.8	0.0	Horz	AV	0.0	22.0	54.0	-32.0	EUT Horz, Mid Ch 1Mbps
12011.000	40.7	-1.9	2.5	1.0	-16.8	0.0	Vert	AV	0.0	22.0	54.0	-32.0	EUT Vert, Low Ch 1Mbps

SPURIOUS RADIATED EMISSIONS

element
WTD.2024.01.16.0
EmiR5 2023.08.29.0
PSA-ESCI 2023.12.23.0

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Duty Cycle Correction Factor (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
4803.933	33.2	5.1	3.7	120.9	-16.8	0.0	Vert	AV	0.0	21.5	54.0	-32.5	EUT Vert, Low Ch 1Mbps
12398.640	35.2	-0.8	1.5	109.0	-16.8	0.0	Horz	AV	0.0	17.6	54.0	-36.4	EUT Horz, High Ch 1Mbps
12010.930	33.8	-1.9	1.5	106.0	-16.8	0.0	Horz	AV	0.0	15.1	54.0	-38.9	EUT Horz, Low Ch 1Mbps

CONCLUSION
Pass

Tested By

SPURIOUS RADIATED EMISSIONS

element
WTD.2024.01.16.0
EmiR5 2023.08.29.0
PSA-ESCI 2023.12.23.0

EUT:	Edge Bluetooth TV Streaming Device	Work Order:	STAK0347
Serial Number:	120	Date:	2024-07-08
Customer:	Starkey Laboratories, Inc.	Temperature:	22.1°C
Attendees:	Charlie Esch	Relative Humidity:	57.1%
Customer Project:	None	Bar. Pressure (PMSL):	1012 mb
Tested By:	Marcelo Aguayo	Job Site:	MN05
Power:	5VDC via USB from laptop	Configuration:	STAK0347-4

TEST SPECIFICATIONS

Specification:	Method:
FCC 15.247:2024	ANSI C63.10:2013

TEST PARAMETERS

Run #:	36	Test Distance (m):	3	Ant. Height(s) (m):	1 to 4(m)

COMMENTS

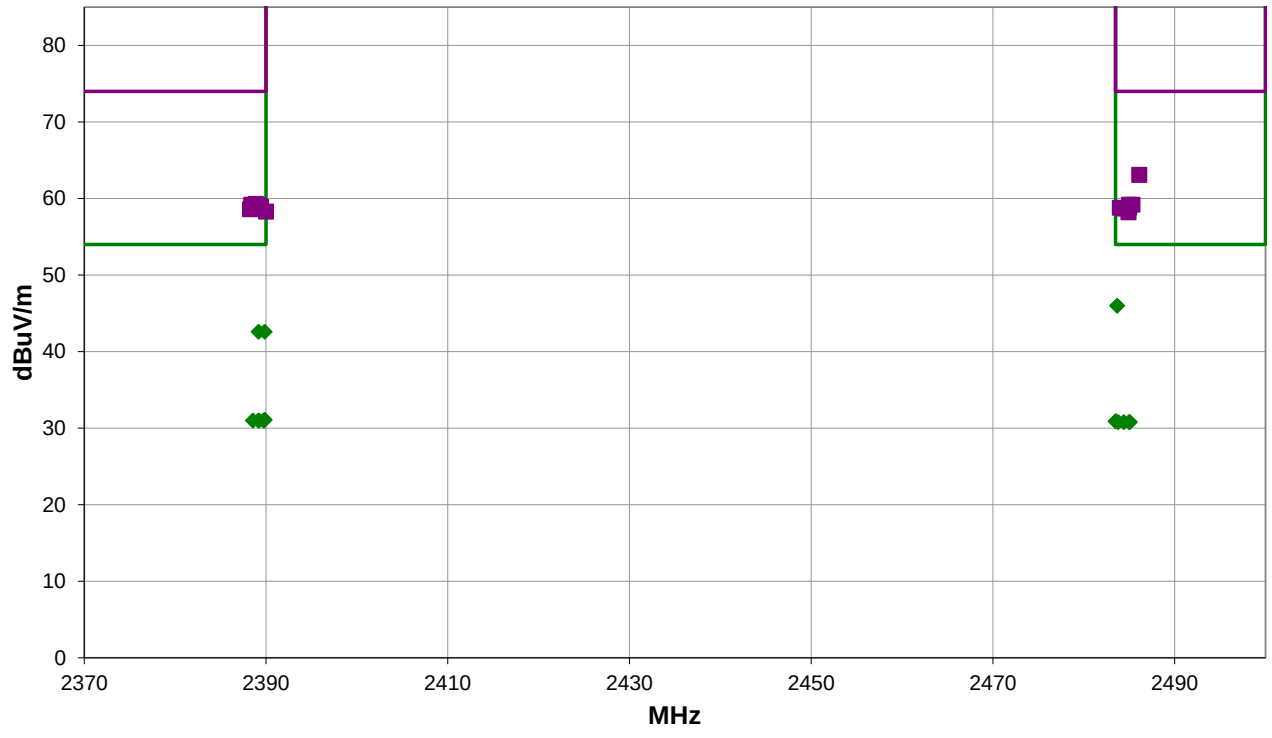
Test mode operates at 100% duty cycle. When operating in BLE mode during normal operation, the worst-case duty cycles over any 100 ms period are: 1 Mbps = 2.08% and 2 Mbps = 29.5%. Downward DCCF correction applied based on 10*log(0.0208) = -16.8 dB and 10*log(0.295) = -5.3 dB.

EUT OPERATING MODES

Transmitting BLE Low and High Chs (2402 and 2480 MHz) 1Mbps and 2 Mbps GFSK mod

DEVIATIONS FROM TEST STANDARD

None



Run #: 36 ■ PK ◆ AV ● QP

SPURIOUS RADIATED EMISSIONS

element
WTD.2024.01.16.0
EmiR5 2023.08.29.0
PSA-ESCI 2023.12.23.0

RESULTS - Run #36

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Duty Cycle Correction Factor (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
2483.675	31.4	0.0	1.5	247.9	-5.3	20.0	Horz	AV	0.0	46.1	54.0	-7.9	EUT Horz, High Ch 2Mbps
2486.108	43.1	0.0	1.5	247.9	0.0	20.0	Horz	PK	0.0	63.1	74.0	-10.9	EUT Horz, High Ch 2Mbps
2389.173	32.1	-4.1	1.5	41.0	-5.3	20.0	Horz	AV	0.0	42.7	54.0	-11.3	EUT On Side, High Ch 2Mbps
2389.847	32.1	-4.1	1.5	145.0	-5.3	20.0	Vert	AV	0.0	42.7	54.0	-11.3	EUT Horz, Low Ch 2Mbps
2388.870	43.4	-4.1	3.5	358.0	0.0	20.0	Vert	PK	0.0	59.3	74.0	-14.7	EUT On Side, Low Ch 1Mbps
2485.357	42.7	-3.5	1.5	199.9	0.0	20.0	Horz	PK	0.0	59.2	74.0	-14.8	EUT Vert, High Ch 1Mbps
2484.980	42.7	-3.5	1.5	175.9	0.0	20.0	Vert	PK	0.0	59.2	74.0	-14.8	EUT On Side, High Ch 1Mbps
2388.377	43.3	-4.1	1.5	145.0	0.0	20.0	Vert	PK	0.0	59.2	74.0	-14.8	EUT Horz, Low Ch 2Mbps
2389.147	43.2	-4.1	1.5	220.0	0.0	20.0	Horz	PK	0.0	59.1	74.0	-14.9	EUT Horz, Low Ch 1Mbps
2388.407	43.1	-4.1	1.5	41.0	0.0	20.0	Horz	PK	0.0	59.0	74.0	-15.0	EUT On Side, High Ch 2Mbps
2389.453	43.0	-4.1	1.5	135.9	0.0	20.0	Vert	PK	0.0	58.9	74.0	-15.1	EUT Vert, Low Ch 1Mbps
2484.993	42.3	-3.5	1.4	138.9	0.0	20.0	Vert	PK	0.0	58.8	74.0	-15.2	EUT Vert, High Ch 1Mbps
2483.953	42.3	-3.5	1.6	9.0	0.0	20.0	Horz	PK	0.0	58.8	74.0	-15.2	EUT On Side, High Ch 1Mbps
2484.440	42.2	-3.5	1.5	109.9	0.0	20.0	Vert	PK	0.0	58.7	74.0	-15.3	EUT Horz, High Ch 1Mbps
2388.957	42.8	-4.1	1.5	318.0	0.0	20.0	Horz	PK	0.0	58.7	74.0	-15.3	EUT On Side, Low Ch 1Mbps
2388.227	42.7	-4.1	1.5	256.0	0.0	20.0	Horz	PK	0.0	58.6	74.0	-15.4	EUT Vert, Low Ch 1Mbps
2389.990	42.4	-4.1	1.5	203.9	0.0	20.0	Vert	PK	0.0	58.3	74.0	-15.7	EUT Horz, Low Ch 1Mbps
2484.910	41.7	-3.5	1.5	189.9	0.0	20.0	Horz	PK	0.0	58.2	74.0	-15.8	EUT Horz, High Ch 1Mbps
2389.847	32.0	-4.1	1.5	256.0	-16.8	20.0	Horz	AV	0.0	31.1	54.0	-22.9	EUT On Side, Low Ch 1Mbps
2388.550	31.9	-4.1	1.5	220.0	-16.8	20.0	Horz	AV	0.0	31.0	54.0	-23.0	EUT Horz, Low Ch 1Mbps
2389.210	31.9	-4.1	1.5	203.9	-16.8	20.0	Vert	AV	0.0	31.0	54.0	-23.0	EUT Horz, Low Ch 1Mbps
2389.720	31.9	-4.1	1.5	318.0	-16.8	20.0	Horz	AV	0.0	31.0	54.0	-23.0	EUT Vert, Low Ch 1Mbps
2389.757	31.9	-4.1	3.5	358.0	-16.8	20.0	Vert	AV	0.0	31.0	54.0	-23.0	EUT On Side, Low Ch 1Mbps
2389.163	31.9	-4.1	1.5	135.9	-16.8	20.0	Vert	AV	0.0	31.0	54.0	-23.0	EUT Vert, Low Ch 1Mbps
2483.507	31.2	-3.5	1.5	189.9	-16.8	20.0	Horz	AV	0.0	30.9	54.0	-23.1	EUT Horz, High Ch 1Mbps
2483.533	31.2	-3.5	1.6	9.0	-16.8	20.0	Horz	AV	0.0	30.9	54.0	-23.1	EUT On Side, High Ch 1Mbps
2484.397	31.1	-3.5	1.5	109.9	-16.8	20.0	Vert	AV	0.0	30.8	54.0	-23.2	EUT Horz, High Ch 1Mbps
2485.067	31.1	-3.5	1.5	199.9	-16.8	20.0	Horz	AV	0.0	30.8	54.0	-23.2	EUT Vert, High Ch 1Mbps
2484.977	31.1	-3.5	1.4	138.9	-16.8	20.0	Vert	AV	0.0	30.8	54.0	-23.2	EUT Vert, High Ch 1Mbps
2483.780	31.1	-3.5	1.5	175.9	-16.8	20.0	Vert	AV	0.0	30.8	54.0	-23.2	EUT On Side, High Ch 1Mbps

CONCLUSION

Pass

Tested By

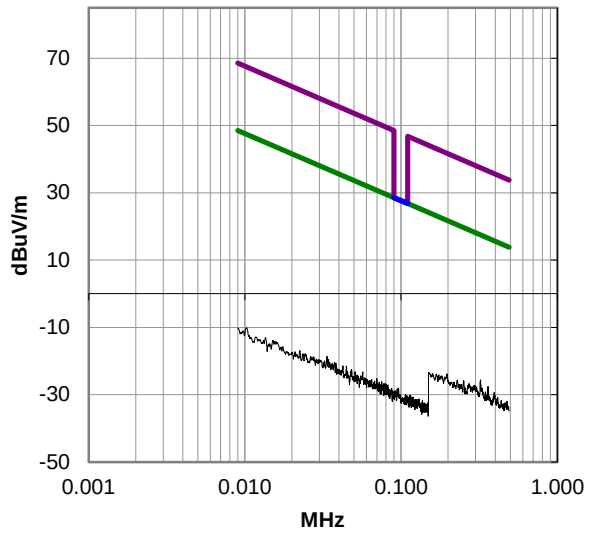
SPURIOUS RADIATED EMISSIONS

element
WTD.2024.01.16.0
EmiR5 2023.08.29.0
PSA-ESCI 2023.12.23.0

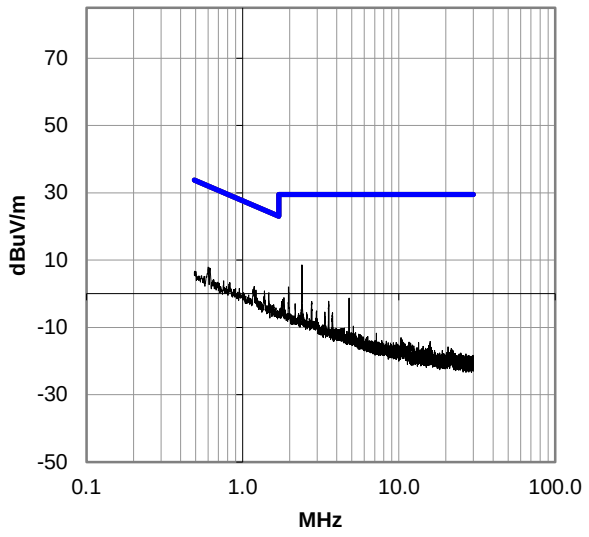
PRESCAN DATA

Radiated spurious emissions from the EUT are initially reviewed with Pre-scans (Preview scans). Pre-scans are performed, with the EUT transmitting on the lowest applicable data rate, for both vertical and horizontal polarizations. The Pre-scan plots below are shown with a peak detector and RBW for the following frequency ranges: 9 kHz RBW (< 30 MHz); 120 kHz RBW (30 - 1000 MHz); 1 MHz RBW (> 1 GHz). In the case where unintentional emissions are observed, an ambient or idle pre-scan with the radio off, will be shown for comparison.

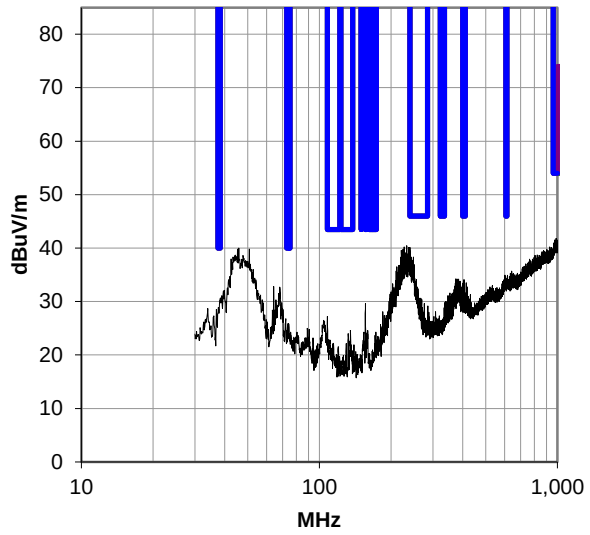
0.009-0.49 MHz, Run 53



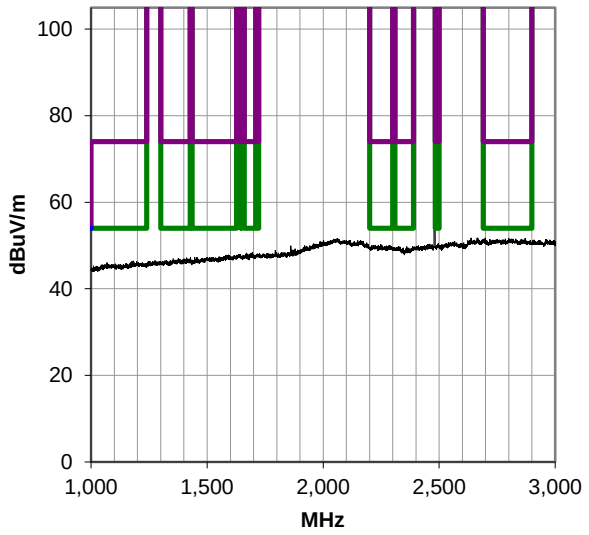
0.49-30 MHz, Run 54



30-1000 MHz, Run 45



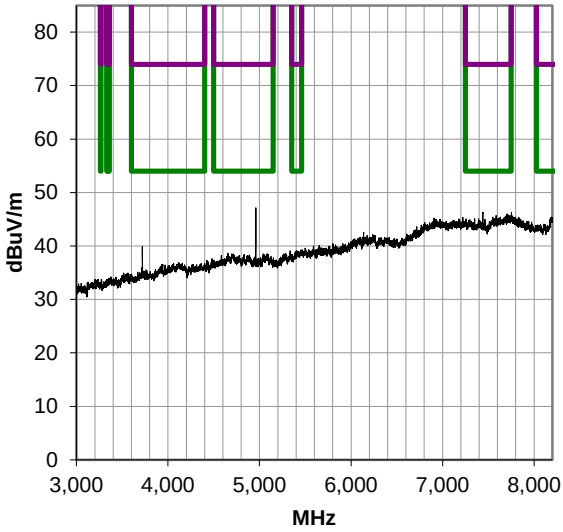
1000-3000 MHz, Run 31



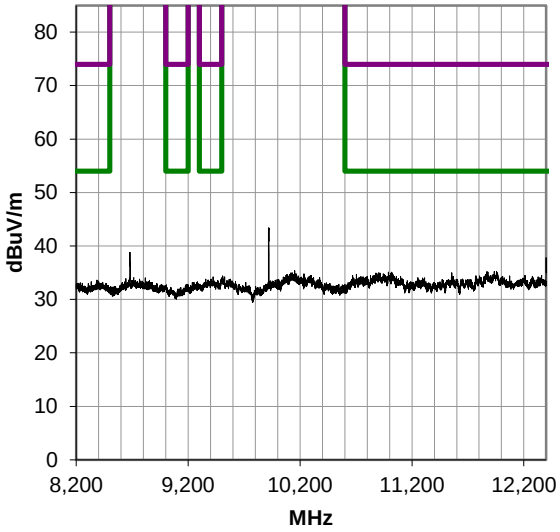
SPURIOUS RADIATED EMISSIONS

element
WTD.2024.01.16.0
EmiR5 2023.08.29.0
PSA-ESCI 2023.12.23.0

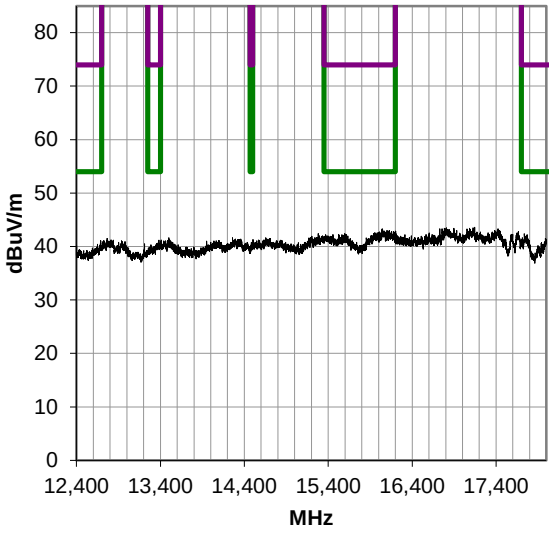
3000-8200 MHz, Run 32



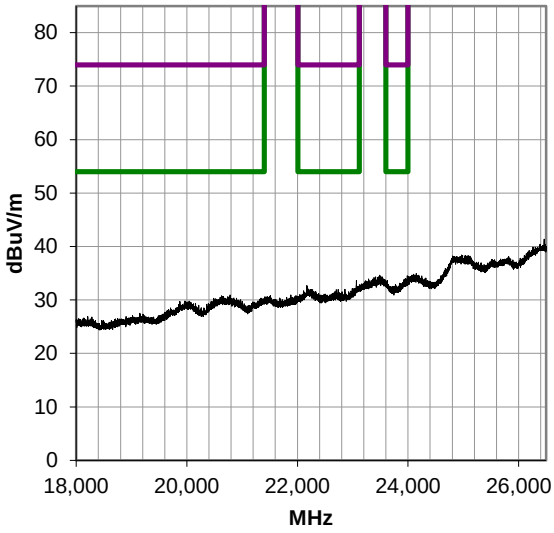
8200-12400 MHz, Run 33



12400-18000 MHz, Run 34



18000-26500 MHz, Run 56



End of Test Report