

Starkey Laboratories, Inc.

Starlink Remote Control 2.0 Bluetooth Radio

Report: STAK0319.0 Rev. 0, Issue Date: August 25, 2023





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CERTIFICATE OF TEST



Last Date of Test: August 8, 2023 Starkey Laboratories, Inc. EUT: Starlink Remote Control 2.0

Radio Equipment Testing

Standards

Specification	Method
FCC 15.247:2023	
RSS-247 Issue 2:2017	ANSI C63.10:2013
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	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					

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.





Deviations From Test Standards

None

Approved By:

Eric Brandon, Department Manager

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REVISION HISTORY



Revision Number	Description	Date (yyyy-mm-dd)	Page Number
00	None		

ACCREDITATIONS AND AUTHORIZATIONS



United States

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

A2LA - 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.

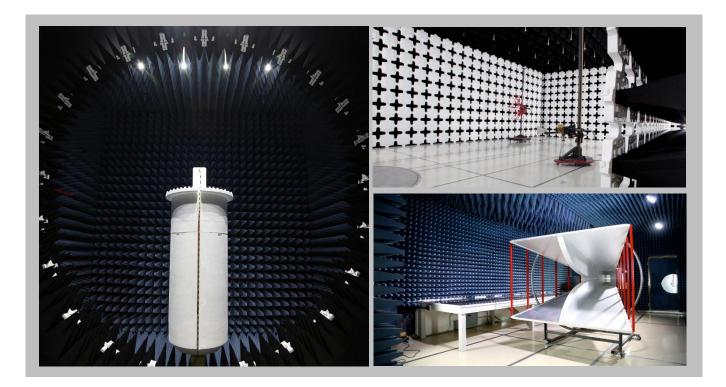
SCOPE						
	For details on the Scopes of our Accreditations, please visit:					
<u>California</u>	<u>Minnesota</u>	<u>Oregon</u>	<u>Texas</u>	Washington		

FACILITIES





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

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

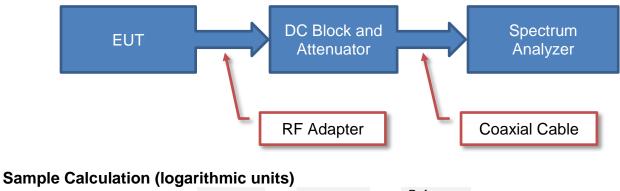


Measurement Bandwidths

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

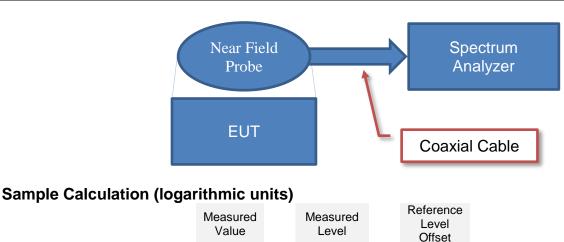


-	Measured Value	-	Measured Level		Reference Level Offset
	71.2	=	42.6	+	28.6

Near Field Test Fixture Measurements

71.2

=



42.6

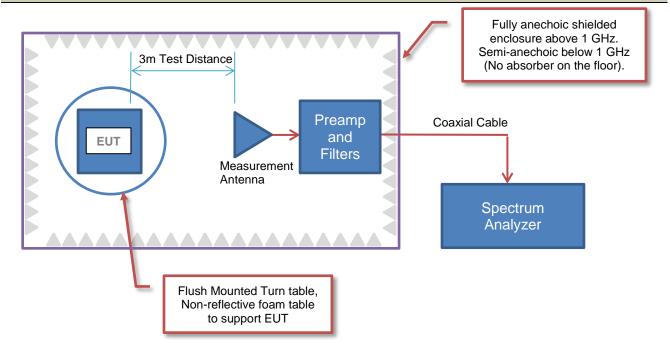
+

28.6

TEST SETUP BLOCK DIAGRAMS



Emissions Measurements

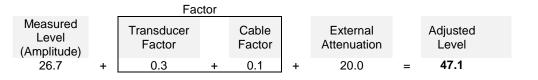


Sample Calculation (logarithmic units)

Radiated Emissions:

			Factor								
Measured Level (Amplitude)	ntenna Factor		Cable 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:



Radiated Power (ERP/EIRP) – Substitution Method:

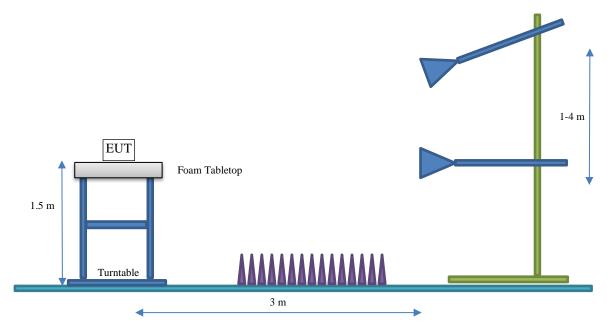
Measured Level into Substitution Antenna (Amplitude dBm)		Substitution Antenna Factor (dBi)		EIRP to ERP (if applicable)		Measured power (dBm ERP/EIRP)
10.0	+	6.0	-	2.15	=	13.9/16.0

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:	Starlink Remote Control 2.0
First Date of Test:	August 7, 2023
Last Date of Test:	August 8, 2023
Receipt Date of Samples:	August 7, 2023
Equipment Design Stage:	Production
Equipment Condition:	No Damage
Purchase Authorization:	Verified

Information Provided by the Party Requesting the Test

Functional Description of the EUT:

Remote Control with a BLE radio

Testing Objective:

To demonstrate compliance of the Bluetooth LE 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)

Туре	Provided by:	Frequency Range (MHz)	Gain (dBi)
Inverted F PCB Trace	Starkey	2400-2483.5	-1.4

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

- \Box Test software settings
- Test software/firmware installed on EUT: Firmware 0.5.0
- ☑ Rated power settings

SETTINGS FOR ALL TESTS IN THIS REPORT

Modulation Types / Data Rates	Туре	Channel	Frequency (MHz)	Power Setting
		0 or 37	2402	+4
BLE GFSK	DTS	20 or 18	2440	+4
		39	2480	+4

CONFIGURATIONS



Configuration STAK0319-1

Software/Firmware Running During Test				
Description	Version			
Firmware	0.5.0			

EUT							
Description	Manufacturer	Model/Part Number	Serial Number				
Starlink Remote Control 2.0	Starkey	Model # 620	23236200119K				

Remote Equipment Outside of Test Setup Boundary						
Description Manufacturer Model/Part Number Serial Number						
Laptop	Dell	Precision 5540	60VG2Z2			

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
Programming UART Connector	No	0.1 m	Yes	Starlink Remote Control 2.0	Unterminated

CONFIGURATIONS



Configuration STAK0319-2

Software/Firmware Running During Test				
Description	Version			
Firmware	0.5.0			

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Remote Control 2.0	Starkey	Model # 620	23236200165K

Peripherals in Test Setup Boundary							
Description Manufacturer Model/Part Number Serial Number							
FT232 Interface Board	Waveshare	None	None				

Remote Equipment Outside of Test Setup Boundary						
Description Manufacturer Model/Part Number Serial Number						
Laptop	Dell	Precision 5540	60VG2Z2			

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
DC Power Leads	No	1.1 m	No	Remote Control 2.0	DC Mains (TPZ)
Programming UART Connector (no ferrites)	No	0.1 m	No	Remote Control	FT232 Interface Board

MODIFICATIONS



Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
non	Dato		Tested as	No EMI suppression	EUT remained at
1	2023-08-07	Spurious Radiated	delivered to	devices were added or	Element following
•	2020 00 01	Emissions	test Station.	modified during this test.	the test.
			Tested as	No EMI suppression	EUT remained at
2	2023-08-08	Band Edge	delivered to	devices were added or	Element following
-	2020 00 00	Compliance	test Station.	modified during this test.	the test.
			Tested as	No EMI suppression	EUT remained at
3	2023-08-08	DTS Bandwidth (6	delivered to	devices were added or	Element following
· ·		dB)	test Station.	modified during this test.	the test.
			Tested as	No EMI suppression	EUT remained at
4	2023-08-08	Duty Cycle	delivered to	devices were added or	Element following
•	2020 00 00	, _ ,	test Station.	modified during this test.	the test.
		Equivalent	Tested as	No EMI suppression	EUT remained at
5	2023-08-08	Isotropic Radiated	delivered to	devices were added or	Element following
		Power	test Station.	modified during this test.	the test.
		Occurried	Tested as	No EMI suppression	EUT remained at
6	2023-08-08	Occupied	delivered to	devices were added or	Element following
		Bandwidth (99%)	test Station.	modified during this test.	the test.
			Tested as	No EMI suppression	EUT remained at
7	2023-08-08	Output Power	delivered to	devices were added or	Element following
			test Station.	modified during this test.	the test.
		Power Spectral	Tested as	No EMI suppression	EUT remained at
8	2023-08-08	Power Spectral	delivered to	devices were added or	Element following
		Density	test Station.	modified during this test.	the test.
		Spurious	Tested as	No EMI suppression	Scheduled testing
9	2023-08-08	Conducted	delivered to	devices were added or	was completed.
		Emissions	test Station.	modified during this test.	was completed.



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
Meter - Multimeter	Fluke	114	MMU	2023-01-13	2024-01-13
Power Supply - DC	Agilent	U8002A	TPZ	NCR	NCR
Attenuator	Fairview Microwave	SA4014-20	AQI	2022-09-10	2023-09-10
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	2023-05-01	2024-05-01

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.



	Starlink Remote Control	2.0					Work Order:		
	: 23236200165K							08/08/2023	
	: Starkey Laboratories, Inc	•					Temperature:		
	: Aaron Anderson						Humidity:		
	None					E	Barometric Pres.:		
	: Christopher Heintzelman			DC via Variable I	DC Supply		Job Site:	MN11	
EST SPECIFICAT	TIONS			st Method					
CC 15.247:2023				SI C63.10:2013					
SS-247 Issue 2:2	017		AN	SI C63.10:2013					
COMMENTS									
DEVIATIONS FRO									
None	MITEST STANDARD								
	STAK0319-2	Signature	CliAm He	enten					
lone Configuration #	STAK0319-2	Signature		au Aten Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
lone	STAK0319-2	Signature		Pulse Width	Period		(%)	(%)	
one onfiguration #	STAK0319-2 Low Channel, 2402 MHz	Signature		Pulse Width 434 us	Period 625.1 us	Pulses 1	(%) 69.4	(%) N/A	N/A
one onfiguration #	STAK0319-2 Low Channel, 2402 MHz Low Channel, 2402 MHz	Signature		Pulse Width 434 us N/A	Period 625.1 us N/A		(%) 69.4 N/A	(%) N/A N/A	N/A N/A
one onfiguration #	STAK0319-2 Low Channel, 2402 MHz Low Channel, 2402 MHz Mid Channel, 2440 MHz	Signature		Pulse Width 434 us N/A 434.1 us	Period 625.1 us N/A 625 us	Pulses 1	(%) 69.4 N/A 69.5	(%) N/A N/A N/A	N/A N/A N/A
one	STAK0319-2 Low Channel, 2402 MHz Low Channel, 2402 MHz Mid Channel, 2440 MHz Mid Channel, 2440 MHz	Signature		Pulse Width 434 us N/A 434.1 us N/A	Period 625.1 us N/A 625 us N/A	Pulses 1	(%) 69.4 N/A 69.5 N/A	(%) N/A N/A N/A N/A	N/A N/A N/A N/A
one	STAK0319-2 Low Channel, 2402 MHz Low Channel, 2402 MHz Mid Channel, 2440 MHz	Signature		Pulse Width 434 us N/A 434.1 us	Period 625.1 us N/A 625 us	Pulses 1	(%) 69.4 N/A 69.5	(%) N/A N/A N/A	N/A N/A N/A



		BLE/GFSK 1 M	lbps, Low Chann	el. 2402 MHz		
			Number of	Value	Limit	
	Pulse Width	Period	Pulses	(%)	(%)	Results
	434 us	625.1 us	1	69.4	N/A	N/A
I	.01.00		·			
	er - Element Materials Technol					
CX/RL RF	50 Ω AC		5E:INT Trig Delay-100.0 μs	ALIGN OFF #Avg Type	- Voltage	11:30:51 AM Aug 08, 2023 TRACE 1 2 3 4 5 6
		PNO: East	Trig: Video #Atten: 10 dB			TYPE WWWWWWW DET PPPPP
Ref Offs	et 21.47 dB					Mkr3 726.4 µs
5 dB/div Ref 14	.00 dBm					-13.61 dBm
9.00						
4.00						
-1.00						
-6.00						
-11.0					3	
-16.0						
-21.0						
-26.0						TRIG LVL
-31.0						
-51.0			\\$ ²			
Center 2.4020000 Res BW 3.0 MHz	00 GHz	#VBW	30 647		Sween 1	Span 0 Hz .000 ms (8192 pts)
MKR MODE TRC SCL	x	We Day -		FUNCTION WIDTH	-	ION VALUE
1 N 1 t	101.3 u	s -13.69 dB	m	TONCHON HIDHI	TONCT	
2 N 1 t 3 N 1 t	535.3 µ 726.4 µ	s -36.11 dB s -13.61 dB				
4 5						=
6						
8						
9 10						
MSG				STATUS		
		BLE/GFSK 1 M	lbps, Low Chanr	el, 2402 MHz Value		
					Limit	
	Pulse Width	Period	Number of Pulses	(%)	(%)	Results

		BLE/GFSK 11	vibps, Low Chani			
			Number of	Value	Limit	
	Pulse Width	Period	Pulses	(%)	(%)	Results
	N/A	N/A	5	N/A	N/A	N/A

SENSE:IN PNO: Fast →→ Trig: Gain:Low #Atte	Video en: 10 dB	ALIGN OFF #Avg Type: Volta	age	
				TRIG L
				0
#VBW 30 F	(Hz		Sweep 2.813	span 0 H ms (8192 pt
	#VBW 30	#VBW 30 kHz	#VBW 30 kHz	



						BLE/GFSK 1 M				
							Number of	Value	Limit	
F					Pulse Width	Period	Pulses	(%)	(%)	Results
					434.1 us	625 us	1	69.5	N/A	N/A
5 dB/ 9.00 4.00 -1.00 -16.0 -11.0 -21.0	-	1	RF) ffsel		SENS	Elint rig Delay-100.0 µ rig: Video Atten: 10 dB	ALIGN OFF #Avg Typ	e: Voltage	С. С
					0 GHz					Span 0 Hz
Res				12		#VBW 3			•	.000 ms (8192 pts)
2	N N	1	t t		× 101.5 μs 535.6 μs 726.5 μs	-13.62 dB -36.27 dB -13.52 dB	n	FUNCTION WIDTH	FUNCT	ION VALUE
9 10 11 •						BLE/GFSK 1 M	Number of	Value	Limit	, ,
					Pulse Width N/A	Period N/A	Pulses 5	(%) N/A	(%) N/A	Results N/A

		Number of	Value	Limit	
 Pulse Width	Period	Pulses	(%)	(%)	Results
N/A	N/A	5	N/A	N/A	N/A

Keysight Spectrum Analyzer - Element Materials Te RL RF 50 Ω AC	SENSE:INT	ALIGN OFF	11:40:47 AM Aug 08, 202
	PNO: Fast Trig: Video IFGain:Low #Atten: 10 dB	#Avg Type: Voltage	TRACE 1 2 3 4 5 TYPE WWWW DET P P P P P
Ref Offset 21.47 dB dB/div Ref 14.00 dBm			
.00			
.00			
00			
.0			
.0			
5.0			TRIG L'
.0			
enter 2.440000000 GHz			Span 0 H p 2.813 ms (8192 pt
es BW 3.0 MHz	#VBW 30 kHz	SWee	p 2.813 ms (8192 pt



								BL	E/GF	SK 1 I				nel, 2	2480 MI							
												umbe			Value			Limit				
_							/idth		Period			Pulse	s		(%)			(%)			sults	
					4	34.1	us	6	625 us	5		1			69.5			N/A			N/A	
		Spect	rum A RF		- Eleme i0 Ω		rials Techr	PNO	Fast		Trig:	Delay-1 Video n: 10 c			ALIGN OFF #Avg	Type:	Voltaç	je		<u>11:48:0</u> Т	IS AM Aug RACE 1 TYPE W DET P	08, 2023 2 3 4 5 9 P P P P
5 dB/ Log γ	div		Ref Ref	Offse 14.0	21.4 0 dE	7 dB Sm														Mkr3 -1	3 726 3.48	.5 µs dBm
9.00																						
4.00				1													/					
-1.00 -6.00																						
-6.00 -11.0				1													3					
-16.0				Y																		
-21.0													\uparrow									TRIG LVL
-26.0 -31.0																						
Cent Res					0 GH	z			#	VBW	30 k	Hz						Swee	р 1.0	00 m		n 0 Hz 92 pts)
MKR M						х				Y		FUNC	TION	FUNC	CTION WIDT	н		F	UNCTION	VALUE		•
2	N N N	1	t				101.5 535.6 726.5	us	-3	3.55 di 6.05 di 3.48 di	3m											
5 6 7 8 9																						
11 MSG												11			STAT	-US						•
											44-10-1	11:2'	<u>Chr</u>									
								BL	E/GF	56 1 1		, High I mbe i		mei, 2	2480 Mł Value			Limit				
					Pu	Se M	/idth	F	Period	4		Pulse			(%)			(%)		R	sults	
_						N/A			N/A	~		5	~		N/A			N/A			N/A	

		Number of	Value	Limit	
 Pulse Width	Period	Pulses	(%)	(%)	Results
N/A	N/A	5	N/A	N/A	N/A

RL RF 50 Ω AC	SENS	E:INT	ALIGN OFF		11:48:16 At	4 Aug 08, 202
	PNO: East ↔ 1	Frig: Video Atten: 10 dB		e: Voltage	TRAC	E 1 2 3 4 5 E WWWWW T P P P P P
Ref Offset 21.47 dB dB/div Ref 14.00 dBm						
00						
.0						
.0						
						TRIG L
.0						
enter 2.48000000 GHz						nan 0 L
es BW 3.0 MHz	#VBW 3	30 kHz	STATUS	Sweep	S 2.813 ms (8192 pt



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
Meter - Multimeter	Fluke	114	MMU	2023-01-13	2024-01-13
Power Supply - DC	Agilent	U8002A	TPZ	NCR	NCR
Attenuator	Fairview Microwave	SA4014-20	AQI	2022-09-10	2023-09-10
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	2023-05-01	2024-05-01

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.



									TbtTx 2022.06		Mit 2023.02.14
EUT:	Starlink Remote Control 2.0							Work Order:	STAK0319		
Serial Number:	23236200165K							Date:	08/08/2023		
Customer:	Starkey Laboratories, Inc.							Temperature:	22.2°C		
	Aaron Anderson							Humidity			
Project:							B	arometric Pres.:			
	Christopher Heintzelman				3VDC via Variable DC	Supply		Job Site:	MN11		
TEST SPECIFICATIO	ONS				Test Method						
FCC 15.247:2023					ANSI C63.10:2013						
RSS-247 Issue 2:201	7				ANSI C63.10:2013						
COMMENTS Power setting +4 dB	im. 3VDC is declared to be the n	ominal battery voltag	e.								
Power setting +4 dB		ominal battery voltag	e.								
Power setting +4 dB		iominal battery voltag									
Power setting +4 dB				li Ame	Harten						
Power setting +4 dB DEVIATIONS FROM None	TEST STANDARD	nominal battery voltag		li Am	Hauften				Limit		
Power setting +4 dB DEVIATIONS FROM None	TEST STANDARD			li Am ,	Harten			Value	Limit (≥)	Re	esult
Power setting +4 dB DEVIATIONS FROM None Configuration #	TEST STANDARD			li Ama	Hawften			Value		Re	esult
Power setting +4 dB DEVIATIONS FROM None Configuration # BLE/GFSK 1 Mbps	TEST STANDARD			li Am,	Hauften			Value 664.566 kHz		·	esult 'ass
Power setting +4 dB DEVIATIONS FROM None Configuration # BLE/GFSK 1 Mbps	TEST STANDARD STAK0319-2			li Am	Harten				(≥)	P	

Report No. STAK0319.0





4.00					
-1.00					
-6.00					
-11.0					
16.0					
21.0					
26.0				$\mathbf{\lambda}$	
31.0				harren	
Center 2.440000 GHz #Res BW 100 kHz		#VBW 300 kHz			Span 2.500 MH Sweep 1.2 m
Occupied Bandwidt	h	Total Power	10.7 dBm		
1.	0568 MHz				
٦. ا Transmit Freq Error	0568 MHZ -4.231 kHz	% of OBW Power	99.00 %		
		% of OBW Power x dB	99.00 % -6.00 dB		
Transmit Freq Error	-4.231 kHz				
Transmit Freq Error	-4.231 kHz				
Transmit Freq Error	-4.231 kHz				







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
Power Supply - DC	Agilent	U8002A	TPZ	NCR	NCR
Meter - Multimeter	Fluke	114	MMU	2023-01-13	2024-01-13
Attenuator	Fairview Microwave	SA4014-20	AQI	2022-09-10	2023-09-10
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
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2023-05-01	2024-05-01
Generator - Signal	Agilent	N5183A	TIK	2022-01-24	2025-01-24

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.

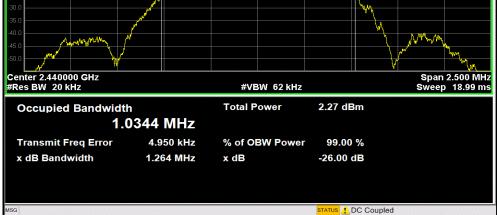
The spectrum analyzer occupied bandwidth measurement function was used to sum the power of the transmission in linear terms to obtain the 99% bandwidth.



					TbtTx 2022.06.03.0	XMit 2023.02.14.
EUT	Starlink Remote Control	2.0		Work Order:	STAK0319	
Serial Number:	23236200165K			Date:	08/08/2023	
Customer	Starkey Laboratories, Inc			Temperature:	22.2°C	
Attendees	Aaron Anderson			Humidity:	49.7%	
Project:	None			Barometric Pres.:	1013 mbar	
Tested by	Christopher Heintzelman		Power: 3VDC via Variable DC Supply	Job Site:	MN11	
TEST SPECIFICAT	IONS		Test Method			
FCC 15.247:2023			ANSI C63.10:2013			
RSS-247 Issue 2:20	017		ANSI C63.10:2013			
COMMENTS						
	M TEST STANDARD					
None						
None Configuration #	STAK0319-2	Signature	CliAm Hauften			
	STAK0319-2	Signature	Cli Am Hauften	Value	Limit	Result
		Signature	Cli Am Hauften	Value	Limit	Result
Configuration #		Signature	ChAm Hauften	Value 1.034 MHz	Limit N/A	Result N/A
Configuration #		Signature	Cli Am Hanften			













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	D	Last Cal.	Cal. Due
Power Supply - DC	Agilent	U8002A	TPZ	NCR	NCR
Meter - Multimeter	Fluke	114	MMU	2023-01-13	2024-01-13
Attenuator	Fairview Microwave	SA4014-20	AQI	2022-09-10	2023-09-10
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	2023-05-01	2024-05-01

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.

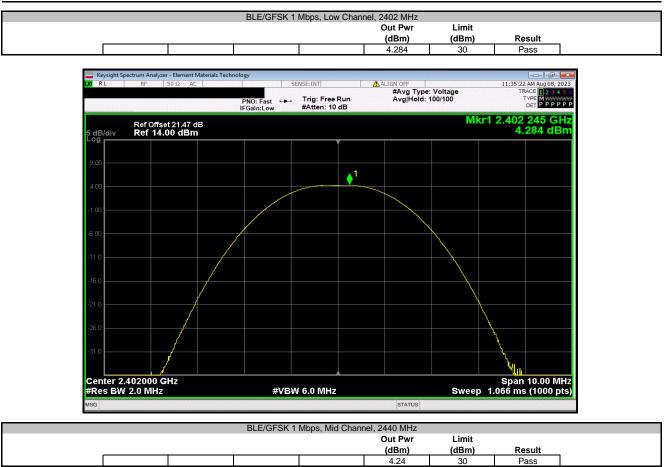
The method found in ANSI C63.10:2013 Section 11.9.1.1 was used because the RBW on the analyzer was greater than the DTS Bandwidth of the radio.

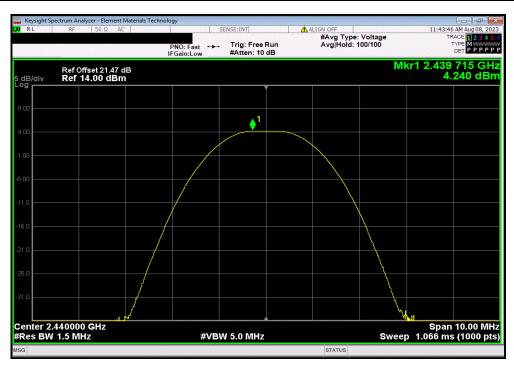


							TbtTx 2022.06.03.0	XMit 2023.02.
	Starlink Remote Control 2.0				Wor		STAK0319	
	23236200165K						08/08/2023	
	Starkey Laboratories, Inc.					perature:		
	Aaron Anderson					umidity:		
Project:							1013 mbar	
	Christopher Heintzelman		Power:	3VDC via Variable DC Supply		Job Site:	MN11	
TEST SPECIFICATI	IONS			Test Method				
FCC 15.247:2023				ANSI C63.10:2013				
RSS-247 Issue 2:20)17			ANSI C63.10:2013				
COMMENTS								
DEVIATIONS FROM	I TEST STANDARD							
None				- 23 - 24 -				
Configuration #	STAK0319-2	Signature	lither.	tautten				
	STAK0319-2	Signature	li Am	Hauften	Out	Pwr	Limit	
	STAK0319-2	Signature	li Apre,	Hanften	Out (dB		Limit (dBm)	Result
Configuration #	STAK0319-2	Signature	et Ame	Hauften				Result
Configuration # BLE/GFSK 1 Mbps	STAK0319-2	Signature	li Am,	faither		m)		Result Pass
Configuration # BLE/GFSK 1 Mbps		Signature	li Am	Hanften	(dB	m) 84 24	(dBm)	

Report No. STAK0319.0











EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)



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
Power Supply - DC	Agilent	U8002A	TPZ	NCR	NCR
Meter - Multimeter	Fluke	114	MMU	2023-01-13	2024-01-13
Attenuator	Fairview Microwave	SA4014-20	AQI	2022-09-10	2023-09-10
Block - DC	Fairview Microwave	SD3379	AMZ	2022-11-06	2023-11-06
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2023-05-01	2024-05-01
Generator - Signal	Agilent	N5183A	TIK	2022-01-24	2025-01-24
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2022-09-10	2023-09-10

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)

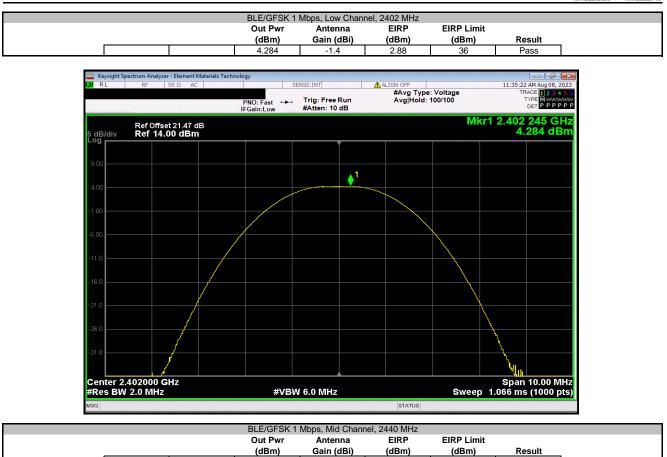
EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

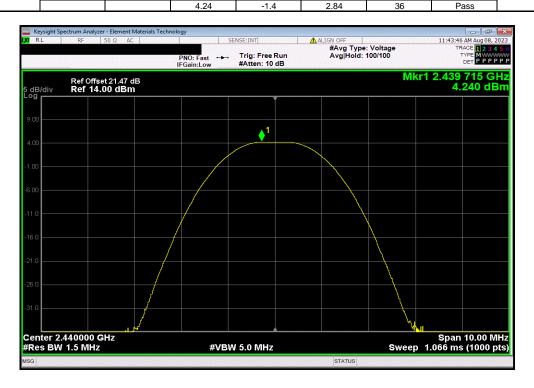


				TbtTx 2022.06.03.0	XMit 2023.02.
EUT: Starlink Remote Control 2.0			Work Order:	STAK0319	
Serial Number: 23236200165K				08/08/2023	
Customer: Starkey Laboratories, Inc.			Temperature:	22.3°C	
Attendees: Aaron Anderson			Humidity:	49.7%	
Project: None			Barometric Pres.:	1013 mbar	
Tested by: Christopher Heintzelman	Power: 3VDC via Variable DC Supp	ly	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					
DEVIATIONS FROM TEST STANDARD					
DEVIATIONS FROM TEST STANDARD					
None	Cli Are Hauften				
Configuration # STAK0319-2	Out	Pwr Antenna 3m) Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
tone STAK0319-2 Signal	Out				Result
Ione STAK0319-2 Signal	Out (dE				Result Pass
None Configuration # STAK0319-2 Signal SLE/GFSK 1 Mbps	Out (di 4.)	im) Gain (dBi)	(dBm)	(dBm)	

EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

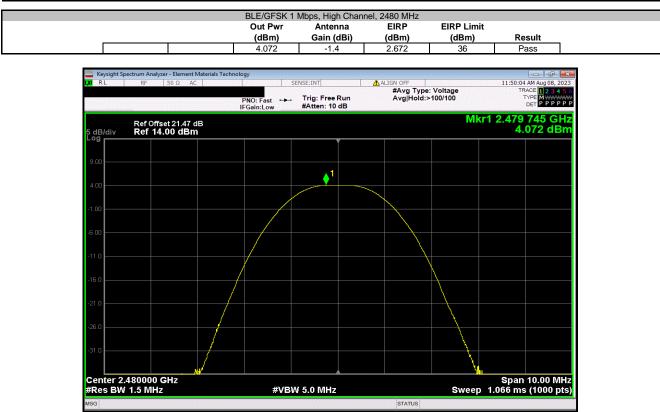






EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)







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
Meter - Multimeter	Fluke	114	MMU	2023-01-13	2024-01-13
Power Supply - DC	Agilent	U8002A	TPZ	NCR	NCR
Attenuator	Fairview Microwave	SA4014-20	AQI	2022-09-10	2023-09-10
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	2023-05-01	2024-05-01

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.

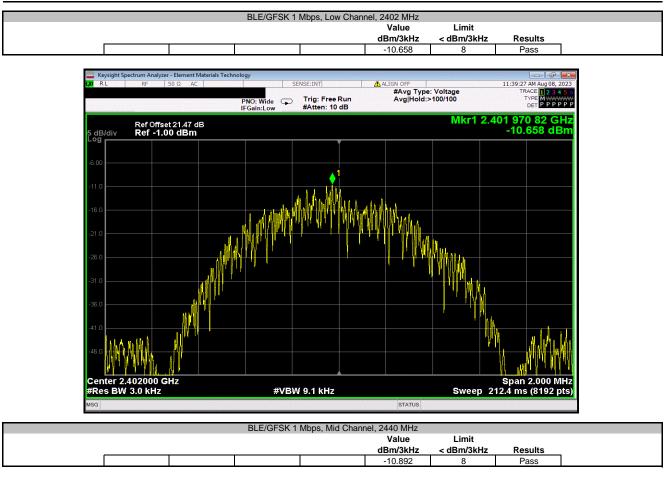
Per the procedure outlined in ANSI C63.10 the peak power spectral density was measured in a 3 kHz RBW.

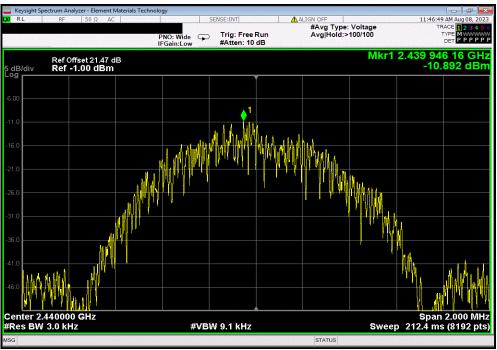


EUT:				TbtTx 2022.06.03.0	
	Starlink Remote Control 2.	D	Work Order:	STAK0319	
Serial Number:	23236200165K		Date:	08/08/2023	
Customer:	Starkey Laboratories, Inc.		Temperature:	22.2°C	
Attendees:	Aaron Anderson		Humidity:	49.5%	
Project:	None		Barometric Pres.:	1013 mbar	
Tested by:	Christopher Heintzelman	Power: 3VDC via Variable DC Supply	Job Site:	MN11	
TEST SPECIFICATION	ONS	Test Method			
FCC 15.247:2023		ANSI C63.10:2013			
RSS-247 Issue 2:201	17	ANSI C63.10:2013			
COMMENTS					
DEVIATIONS FROM None	I TEST STANDARD				
Configuration #	STAK0319-2	Signature Cli Arr Hauften			
		olginatio			
			Value dBm/3kHz	Limit < dBm/3kHz	Results
BLE/GFSK 1 Mbps	_				Results
	Low Channel, 2402 MHz				Results Pass
· ·	Low Channel, 2402 MHz Mid Channel, 2440 MHz		dBm/3kHz	< dBm/3kHz	

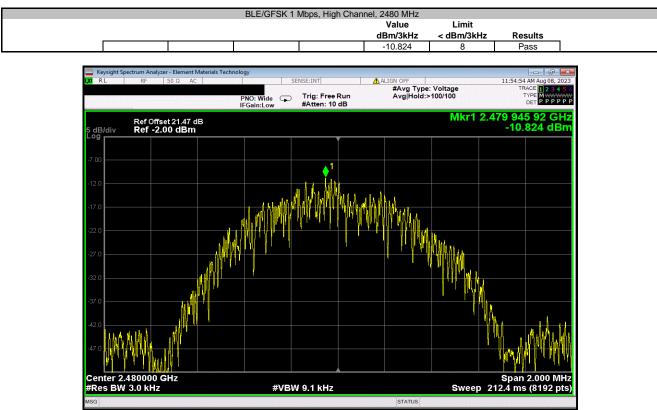
Report No. STAK0319.0











BAND EDGE COMPLIANCE



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
Meter - Multimeter	Fluke	114	MMU	2023-01-13	2024-01-13
Attenuator	Fairview Microwave	SA4014-20	AQI	2022-09-10	2023-09-10
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
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2023-05-01	2024-05-01
Generator - Signal	Agilent	N5183A	TIK	2022-01-24	2025-01-24
Power Supply - DC	Agilent	U8002A	TPZ	NCR	NCR

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.

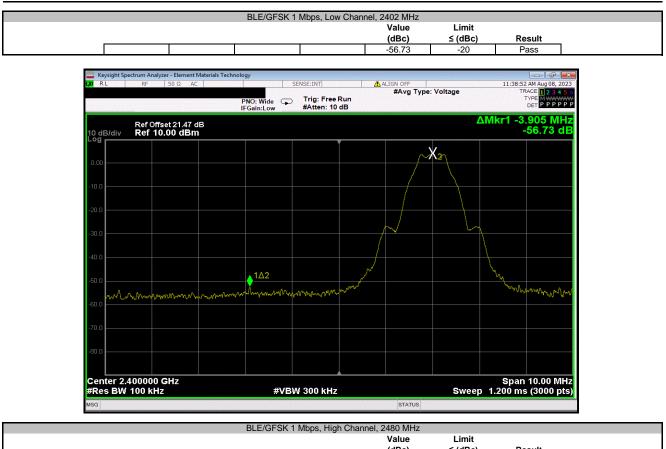
BAND EDGE COMPLIANCE



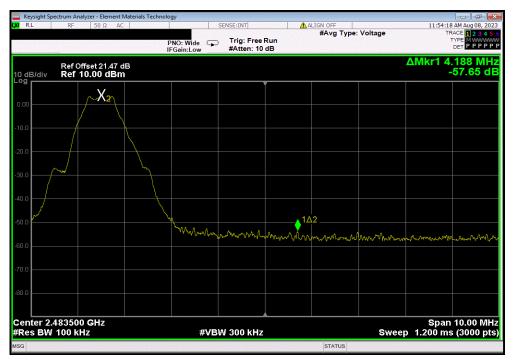
	Starlink Remote Control 2.0		Work Order:		
Serial Number:	23236200165K		Date:	08/08/2023	
Customer:	Starkey Laboratories, Inc.		Temperature:	22.2°C	
Attendees:	Aaron Anderson		Humidity:	50%	
Project:			Barometric Pres.:	1014 mbar	
Tested by:	Christopher Heintzelman	Power: 3VDC via Variable DC Supply	Job Site:	MN11	
TEST SPECIFICATIO	DNS	Test Method			
FCC 15.247:2023		ANSI C63.10:2013			
RSS-247 Issue 2:201	17	ANSI C63.10:2013			
COMMENTS					
	Bm. 3VDC is declared to be the nominal battery voltage.				
Power setting +4 dB					
Power setting +4 dB	TEST STANDARD				
Power setting +4 dB	TEST STANDARD	li Am Hauften			
Power setting +4 dB DEVIATIONS FROM None Configuration #	TEST STANDARD STAK0319-2	In How How from	Value (dBc)	Limit ≤(dBc)	Result
Power setting +4 dB DEVIATIONS FROM None Configuration # BLE/GFSK 1 Mbps	TEST STANDARD STAK0319-2 Signature	li Am Hauffen	(dBc)	≤ (dBc)	
Power setting +4 dB DEVIATIONS FROM None Configuration # BLE/GFSK 1 Mbps	TEST STANDARD STAK0319-2	li Am Hauffen			Result Pass Pass

BAND EDGE COMPLIANCE





		Value	Limit	
		(dBc)	≤ (dBc)	Result
		-57.65	-20	Pass





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
Meter - Multimeter	Fluke	114	MMU	2023-01-13	2024-01-13
Power Supply - DC	Agilent	U8002A	TPZ	NCR	NCR
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2022-09-10	2023-09-10
Block - DC	Fairview Microwave	SD3379	AMZ	2022-11-06	2023-11-06
Attenuator	Fairview Microwave	SA4014-20	AQI	2022-09-10	2023-09-10
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2023-05-01	2024-05-01
Generator - Signal	Agilent	N5183A	TIK	2022-01-24	2025-01-24

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

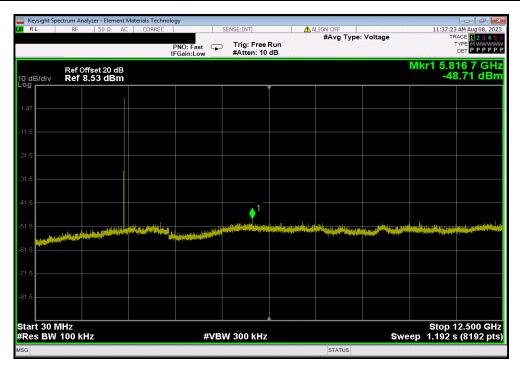
Remaining Screen capture(s) Offset = "Internal" cable loss factor not shown on screen capture + Ref LvI Offset showing expected attenuator value and any other losses



SS-247 Issue 2:2017 ANSI C63.10:2013 OMMENTS OWMENTS ower setting +4 dBm. 3VDC is declared to be the nominal battery voltage. EVIATIONS FROM TEST STANDARD one one onfiguration # STAK0319-2 Signature Frequency Measured Max Value Limit Range Freq (MHz) (dBc) ≤ (dBc)								
Customer: Starkey Laboratories, Inc. Temperature: 22.2° C. Attendees: Astendees: Aste								
Attendess: Jaron Anderson Humidity: 19-5%; Project: None Barometric Pres.: 1013 mbar Tested by: Christopher Heintzelman Power: 3VDC via Variable DC Supply Job Site: 1013 mbar EST SPECIFICATIONS Test Method Cc 15.247:2023 [ANSI C63.10:2013 Cc 15.247:2023 Cc 15.247:202	Serial Number	: 23236200165K						
Project: None Barometric Pres.: 1013 mbar Tested by: Christopher Heintzelman Power; 3VDC via valable DC Supply Job Site: MN11 EST SPECIFICATIONS Test Method Start, 2023 ANSI C63.10::2013 SS-247 Issue 2::2017 SSE:2015	Customer	: Starkey Laboratories, Inc.				Temperature:	22.2°C	
Tested by: Christopher Heintzelman Power: 3VDC Via Variable DC Supply Job Site: MN11 EST SPECIFICATIONS Test Method CC CC 15.247:2023 ANSI C63.10:2013 SC SS-247 Issue 2:2017 ANSI C63.10:2013 SC OMMENTS Ower setting +4 dBm. 3VDC is declared to be the nominal battery voltage. EVIATIONS FROM TEST STANDARD Starting +4 dBm. 3VDC is declared to be the nominal battery voltage. EVIATIONS FROM TEST STANDARD Signature Frequency Measured Max Value Limit Current Signature Signature Frequency Measured Max Value Current Signature E//GFSK 1 Mbps Fundamental 2401.99 N/A N/A N/A Low Channel, 2402 MHz Signature Fundamental 2401.99 N/A N/A N/A Low Channel, 2402 MHz 30 MHz - 12.5 GHz 2816.65 -52.61 -20 Pass Mid Channel, 2402 MHz 12.5 GHz - 25 GHz 24980.16 -40.73 -20 Pass Mid Channel, 2402 MHz 12.5 GHz - 25 GHz 24980.99 N/A N/A N/A								
EST SPECIFICATIONS Test Method CC 15.247:2023 ANSI C63.10:2013 SS-247 Issue 2:2017 ANSI C63.10:2013 ANSI C63.10:201 ANSI C63.201 ANSI C63.10:201 ANSI C63.201 ANSI								
CC 15.247:2023 ANSI C63.10:2013 SS-247 Issue 2:2017 ANSI C63.10:2013 OMMENTS Ower setting +4 dBm. 3VDC is declared to be the nominal battery voltage. EVIATIONS FROM TEST STANDARD One one Signature Frequency Freq (MHz) Max Value LE/GFSK 1 Mbps Fundamental Lew Channel, 2402 MHz Signature Low Channel, 2402 MHz Signature Low Channel, 2402 MHz Signature Low Channel, 2402 MHz Signature Mid Channel, 2400 MHz 30 MHz - 12.5 GHz Low Channel, 2400 MHz Fundamental Mid Channel, 2400 MHz Fundamental Mid Channel, 2400 MHz Signature Signature Fundamental Signature Signature <t< td=""><td></td><td></td><td></td><td></td><td></td><td>Job Site:</td><td>MN11</td><td></td></t<>						Job Site:	MN11	
ANSI C63.10:2013 OMMENTS ower setting +4 dBm. 3VDC is declared to be the nominal battery voltage. EVIATIONS FROM TEST STANDARD onfiguration # STAK0319-2 Signature Frequency Measured Max Value Limit CLAAM How		TIONS						
OMMENTS ower setting +4 dBm. 3VDC is declared to be the nominal battery voltage. EVIATIONS FROM TEST STANDARD onfiguration # STAK0319-2 Signature Frequency Measured Max Value Limit colspan="2">CUAMU Jaurit onfiguration # STAK0319-2 Signature Frequency Measured Max Value Limit CUAMU Jaurit Max Value Limit Low Channel, 2402 MHz Fundamental 2401.99 N/A N/A N/A Low Channel, 2402 MHz Signature Fundamental 24980.16 40.73 -20 Pass Mid Channel, 2402 MHz Fundamental 24980.16 40.73 -20 Pass Mid Channel, 2400 MHz Fundamental 24980.25 -5.33.07 -20 Pass Mid Channel, 2440 MHz 24925.22								



OX RL RF 50 Ω AC SENSE:INT ▲ALIGN OFF 11:36:11 AM Aug 0E PNO: Wide IFGain:Low Trig: Free Run #Atten: 10 dB #Avg Type: Voltage TRACE Trig: Tree Run DET Trig: Free Run TYPE Ref Offeet 21 47 dB Mkr1 2.401 993 83 (C	Fre	requency	E/GFSK 1 Mbps, Low Measur		Limit	
Regright Spectrum Analyzer - Element Materials Technology Cashed Allow OFF 11:3611 Advance PRO: Wide Trig: Free Run #Allow OFF 11:3611 Advance Ref Offset 21,47 dB Mkr1 2.401 993 83 C 3.90 d Column Ref Offset 21,47 dB 3.90 d 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00 0:00	R	Range	Freq (MI	Hz) (dBc)		
Image: State of the state	Func	ndamental	2401.9	9 N/A	N/A	N/A
RL RF 50.0. AC SENSE:INT ALLIGN OFF 11:36:11 AM Augo OFF PNO: Wide Trig: Free Run #Avg Type: Voltage Trig: Tree Run Image: Comparison of the comparison o						
#Avg Type: Voltage Trace #Avg Type: Voltage Trace Processor				1 .		
Ref Offset 21.47 dB Mkr1 2.401 993 83 (3.90 d 000 000 100 000 100 000 100 000 100 000 100 000 100 000 100 000 100 000 100 000 100 000 100 000 100 000 200 000	RF 50 Ω A	AC	SENSE:INT	ALIGN OFF #Avg Tvi	pe: Voltage	11:36:11 AM Aug 08, 202 TRACE 1 2 3 4 5
Ref Offset 21.47 dB Mkr1 2.401 993 83 (3.90 d 0.00 0 100 0 100 0 100 0 100 0 100 0 100 0 100 0 100 0 100 0 200 0		PNO: I		un		TYPE M WWWW DET P P P P P
10 dB/div Ref 10.00 dBm 3.90 d 10 dB/div Ref 10.00 dBm 1 10 dB/div 1			n.Low #Attent for	<u> </u>	Mkr1 2	
0.00 0.00	Ref Offset 21.47 Ref 10.00 dBr	37 dB 3m			111111 2	3.90 dBr
-100 -200 -200 -300 -300 -400 -400 -400 -400 -400 -4			<u> </u>			
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400 400 400 400 400 400 400 400						
400 400 400 400 400 400 400 400						
-500 -500						
-500 -500						
60.0						
Center 2.4020000 GHz #Res BW 100 kHz #VBW 300 kHz Span 1.000 Sweep 1.092 ms (8192 BLE/GFSK 1 Mbps, Low Channel, 2402 MHz						
Center 2.4020000 GHz #Res BW 100 kHz #VBW 300 kHz Span 1.000 Sweep 1.092 ms (8192 BLE/GFSK 1 Mbps, Low Channel, 2402 MHz						
Center 2.4020000 GHz #Res BW 100 kHz MSG STATUS BLE/GFSK 1 Mbps, Low Channel, 2402 MHz						
Center 2.4020000 GHz #Res BW 100 kHz MSG STATUS BLE/GFSK 1 Mbps, Low Channel, 2402 MHz						
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#Res BW 100 kHz #VBW 300 kHz Sweep 1.092 ms (8192 MSG STATUS BLE/GFSK 1 Mbps, Low Channel, 2402 MHz						
BLE/GFSK 1 Mbps, Low Channel, 2402 MHz			#VBW 300 kHz		Sweep 1	
				STATUS		
		DU		Channel 2402 MU-		
	Fre				Limit	
Range Freq (MHz) (dBc) ≤ (dBc) Result						Result



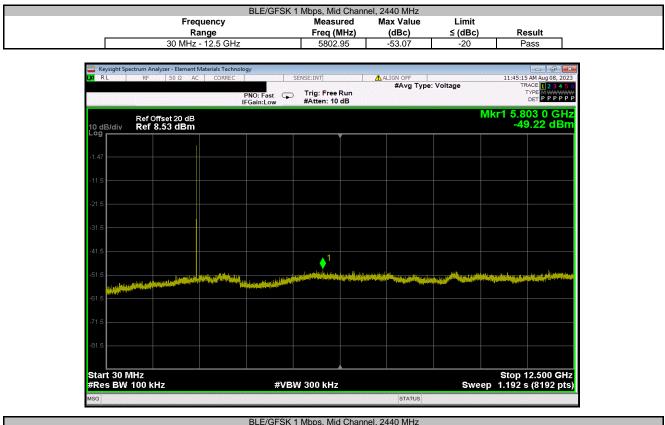


	F	DEL/OI OF	1 Mbps, Low Chan		1.1		
	Frequency		Measured	Max Value	Limit		
	Range		Freq (MHz)	(dBc)	≤ (dBc)	Result	
	12.5 GHz - 25 GI	Hz	24980.16	-40.73	-20	Pass	
Keysight Spectrum Ar	nalyzer - Element Materials Tec	hnology					×
(X/RL RF	50 Ω AC CORRE	c	SENSE:INT	ALIGN OFF		11:38:34 AM Aug 08, 20	023
		PNO: Fast	Trig: Free Run	#Avg Type	e: Voltage	TRACE 1 2 3 4 TYPE M WWW DET P P P P	5 6
		IFGain:Low	#Atten: 10 dB			DET PPPP	P P
D-4/					Mkr	1 24.980 2 GF	72
10 dB/div Ref	Dffset 20 dB 8.53 dBm					-36.83 dB	m
Log			T T				
-1.47							
-11.5							
-21.5							
-31.5							1
-41.5						والمالا فقر ومرد المالك والمرد والمراجع	
		ىر. رىلار يىنىڭ ئىنىدىدى ب	المتحمية الأقال الطراب والمتقاد المراجع والمسافة	المتحميل المتحميل المراجلة	and the second	a state of the state of the	
-51.5	الالهمواليم والمتحدث والمواريم والله	and the second se	The second s				
-61.5							
-71.5							
-81.5							
01.3							
Start 12.500 GI						Stop 25.000 GH	Ηz
#Res BW 100 k	Hz	#VI	3W 300 kHz		Sweep	1.195 s (8192 pt	ts)
MSG				STATUS			
1							

BLE/GF3K 1 Mbps, Mid Chariner, 2440 Minz						
Frequency Measured Max Value Limit						
Range	Freq (MHz)	(dBc)	≤ (dBc)	Result		
Fundamental	2439.99	N/A	N/A	N/A		

RL RF 50 Ω AC	SENSE:INT	ALIGN OFF	11:44:16 AM Aug 08, 20
	PNO: Wide Trig: Free R IFGain:Low #Atten: 10 d	#Avg Type: Voltage un B	TRACE 1 2 3 4 TYPE M DET P P P P
Ref Offset 21.47 dB dB/div Ref 10.00 dBm		Mk	r1 2.439 992 25 GH 3.85 dBi
^g	1		
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enter 2.4400000 GHz Res BW 100 kHz	#VBW 300 kHz	Swi	Span 1.000 Mi eep 1.092 ms (8192 pt
S DW TOO RITZ	#4 B44 300 KHZ	STATUS	sep 1.032 ms (8192 pt





BLE/GFSK 1	Mbps, Mid Chann	nel, 2440 MHz			
Frequency	Measured	Max Value	Limit		
Range	Freq (MHz)	(dBc)	≤ (dBc)	Result	_
12.5 GHz - 25 GHz	24925.22	-41.11	-20	Pass	

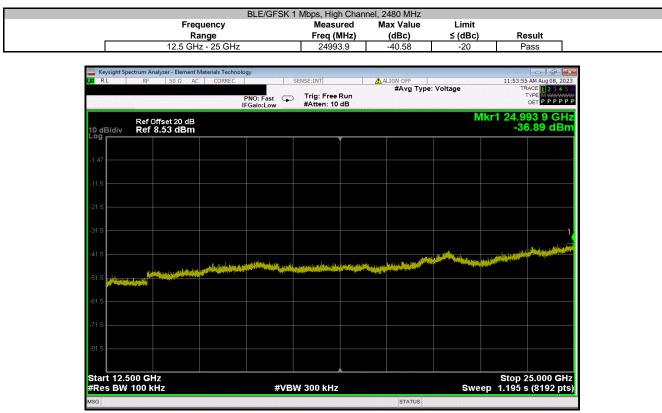




	Frequency	BLE/GFSK 1 Mbps, High C Measure		Limit	
	Range	Freq (MH		≤ (dBc)	Result
	Fundamental	2480	N/A	N/A	N/A
	nalyzer - Element Materials Technolog	У			
LXI RL RF	50 Ω AC	SENSE:INT	ALIGN OFF #Avg Typ		11:50:38 AM Aug 08, 2023
	Pi	NO: Wide 👝 Trig: Free Run Gain:Low #Atten: 10 dB	#Avg Typ	e. voltage	TRACE 1 2 3 4 5 6 TYPE M WWWW DET P P P P P
Pof	Offset 21.47 dB	Guineow		Mkr1 2.	479 997 86 GHz
10 dB/div Ref	10.00 dBm				3.69 dBm
209		<u>1</u>	_		
0.00					
-10.0					
-10.0					
-20.0					
-30.0					
-30.0					
-40.0					
-50.0					
-60.0					
-70.0					
-80.0					
Center 2.48000					Span 1.000 MHz
#Res BW 100 k		#VBW 300 kHz		Sweep 1	1.092 ms (8192 pts)
MSG			STATUS		
		BLE/GFSK 1 Mbps, High C	hannel. 2480 MHz		
	Frequency	Measure		Limit	
	Range	Freq (MH		≤ (dBc)	Result
	30 MHz - 12.5 GHz	12063.07		-20	Pass

RL	ectrum Analyzer - Elem RF 50 Ω	AC CORREC		SENSE:INT	A	IGN OFF		11.04.4	9 AM Aug 08, 202
KL	KF 50 Ω		PNO: Fast	Trig: Free Ru #Atten: 10 dl	un	#Avg Type:	Voltage	TI	AM AUG 08, 20. RACE 1 2 3 4 5 TYPE M WWWW DET P P P P F
0 dB/div	Ref Offset 20 o Ref 8.53 dB	iB	IFGain:Low	#Atten: 10 di	5		Ν	/kr1 12.0 -4	63 1 GH 9.52 dBi
og									
1.5									
11.5									
1.5									•1
1.5	فأنقلهم والمعالم والمراجع والم	adali al'any ditadany							
1.5									
tart 30 M			#\/PI	N 200 KH-				Stop	12.500 GF
Res BW	100 kHz		#VB	₩ 300 kHz		STATUS	SWE	ep 1.192	s (8 192 pi







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).

	NA	Ma dal			
Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Antenna - Double Ridge	ETS Lindgren	3115	AIB	2022-09-01	2024-09-01
Cable	Element	Double Ridge Guide Horn Cables	MNV	2023-01-31	2024-01-31
Amplifier - Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	AVX	2023-01-31	2024-01-31
Attenuator	Coaxicom	3910-20	AXY	2022-09-10	2023-09-10
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFN	2023-02-02	2024-02-02
Filter - High Pass	Micro-Tronics	HPM50111	HFM	2022-09-10	2023-09-10
Antenna - Standard Gain	ETS-Lindgren	3160-07	AJJ	NCR	NCR
Cable	Element	Standard Gain Cable	MNW	2023-01-31	2024-01-31
Amplifier - Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVC	2023-01-31	2024-01-31
Antenna - Standard Gain	ETS-Lindgren	3160-08	AJP	NCR	NCR
Amplifier - Pre-Amplifier	L-3 Narda-Miteq	AMF-6F-12001800-30-10P	PAP	2023-01-31	2024-01-31
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
Antenna - Biconilog	Ametek	CBL 6141B	AYS	2023-03-28	2025-03-28
Cable	Element	Biconilog Cable	MNX	2023-01-31	2024-01-31
Amplifier - Pre-Amplifier	Miteq	AM-1064-9079 and SA18E-10	AOO	2023-01-31	2024-01-31
Filter - Low Pass	Micro-Tronics	LPM50004	HGG	2022-09-10	2023-09-10

TEST EQUIPMENT



MEASUREMENT UNCERTAINTY

Description Expanded k=2

5.2 dB

-5.2 dB

FREQUENCY RANGE INVESTIGATED

30 MHz TO 26500 MHz

POWER INVESTIGATED

3 VDC Internal Battery

CONFIGURATIONS INVESTIGATED

STAK0319-1

MODES INVESTIGATED

Transmitting Low, Mid, and High Chs (2402, 2440, and 2480 MHz), 1 Mbps



EUT:	Starlink Remote Control 2.0	Work Order:	STAK0319
Serial Number:	23236200119K	Date:	2023-08-07
Customer:	Starkey Laboratories, Inc.	Temperature:	22.4°C
Attendees:	Aaron Anderson	Relative Humidity:	55.1%
Customer Project:	None	Bar. Pressure (PMSL):	1013 mb
Tested By:	Christopher Heintzelman	Job Site:	MN11
Power:	3VDC Internal Battery	Configuration:	STAK0319-1

TEST SPECIFICATIONS

Specification:	Method:				
FCC 15.247:2023					
RSS-247 Issue 2:2017	ANSI C63.10:2013				

TEST PARAMETERS

	Run #:	12	Test Distance (m):	3	Ant. Height(s) (m):	1 to 4(m)
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COMMENTS

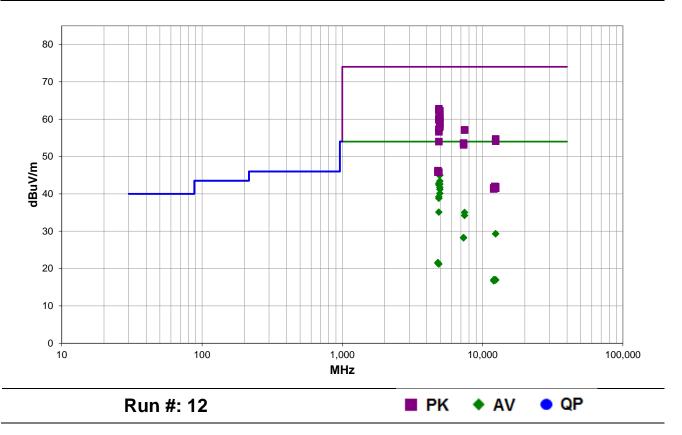
Power setting +4 dBm. Test mode is 65% duty cycle. The manufacturer declares the operational duty cycle will be limited to 3%. A duty cycle correction factor was applied to the final data using 10*log(1/duty cycle) to correct up from 65% to 100%, and then down from 100% to 3%. 1.9dB upwards correction + 15.2 dB downwards correction = -13.3dB total net correction factor.

EUT OPERATING MODES

Transmitting Low, Mid, and High Chs (2402, 2440, and 2480 MHz), 1 Mbps

DEVIATIONS FROM TEST STANDARD

None





RESULTS - Run #12

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Duty Cycle Correction	At	Polarity/ Transducer		Distance Adjustment	Ac (dl	Spec. Limit (dBuV/m)	Compared to Spec.	C
4879.867	54.0	5.0	2.8	287.0	-13.3	0.0	Horz	AV	0.0	45.7	54.0	-8.3	EUT Horz, Mid Ch
4879.892	53.4	5.0	1.0	270.0	-13.3	0.0	Horz	AV	0.0	45.1	54.0	-8.9	EUT Horz, Mid Ch, Programming Cable Removed
4959.858	53.3	5.0	3.7	111.0	-13.3	0.0	Horz	AV	0.0	45.0	54.0	-9.0	EUT Horz, High Ch
4959.883	51.7	5.0	1.0	109.0	-13.3	0.0	Vert	AV	0.0	43.4	54.0	-10.6	EUT Vert, High Ch
4879.883	51.1	5.0	2.7	130.0	-13.3	0.0	Horz	AV	0.0	42.8	54.0	-11.2	EUT On Side, Mid Ch, Programming Cable Removed
4879.400	57.8	5.0	2.8	287.0	0.0	0.0	Horz	PK	0.0	62.8	74.0	-11.2	EUT Horz, Mid Ch
4959.875	50.9	5.0	2.7	132.0	-13.3	0.0	Horz	AV	0.0	42.6	54.0	-11.4	EUT Vert, High Ch
4879.867	50.7	5.0	2.5	245.0	-13.3	0.0	Vert	AV	0.0	42.4	54.0	-11.6	EUT Vert, Mid Ch, Programming Cable Removed
4959.567	57.2	5.0	3.7	111.0	0.0	0.0	Horz	PK	0.0	62.2	74.0	-11.8	EUT Horz, High Ch
4879.475	57.2	5.0	1.0	270.0	0.0	0.0	Horz	PK	0.0	62.2	74.0	-11.8	EUT Horz, Mid Ch, Programming Cable Removed
4959.875	50.0	5.0	1.8	299.0	-13.3	0.0	Vert	AV	0.0	41.7	54.0	-12.3	EUT On Side, High Ch
4959.883	49.5	5.0	1.5	318.0	-13.3	0.0	Horz	AV	0.0	41.2	54.0	-12.8	EUT On Side, High Ch
4959.450	55.6	5.0	1.0	109.0	0.0	0.0	Vert	PK	0.0	60.6	74.0	-13.4	EUT Vert, High Ch
4959.475	55.1	5.0	2.7	132.0	0.0	0.0	Horz	PK	0.0	60.1	74.0	-13.9	EUT Vert, High Ch
4879.367	55.1	5.0	2.7	130.0	0.0	0.0	Horz	PK	0.0	60.1	74.0	-13.9	EUT On Side, Mid Ch, Programming Cable Removed
4959.892	48.4	5.0	3.4	17.0	-13.3	0.0	Vert	AV	0.0	40.1	54.0	-13.9	EUT Horz, High Ch
4879.450	54.8	5.0	2.5	245.0	0.0	0.0	Vert	PK	0.0	59.8	74.0	-14.2	EUT Vert, Mid Ch, Programming Cable Removed
4879.933	47.5	5.0	3.9	199.0	-13.3	0.0	Vert	AV	0.0	39.2	54.0	-14.8	EUT Horz, Mid Ch, Programming Cable Removed
4959.533	54.2	5.0	1.8	299.0	0.0	0.0	Vert	PK	0.0	59.2	74.0	-14.8	EUT On Side, High Ch
4879.917	47.1	5.0	1.0	223.0	-13.3	0.0	Vert	AV	0.0	38.8	54.0	-15.2	EUT On Side, Mid Ch, Programming Cable Removed
4959.367	53.7	5.0	1.5	318.0	0.0	0.0	Horz	PK	0.0	58.7	74.0	-15.3	EUT On Side, High Ch
4959.458	52.9	5.0	3.4	17.0	0.0	0.0	Vert	PK	0.0	57.9	74.0	-16.1	EUT Horz, High Ch
4880.533	52.3	5.0	3.9	199.0	0.0	0.0	Vert	PK	0.0	57.3	74.0	-16.7	EUT Horz, Mid Ch, Programming Cable Removed
7439.117	43.3	13.8	1.5	143.0	0.0	0.0	Vert	PK	0.0	57.1	74.0	-16.9	EUT Vert, High Ch
7439.400	43.3	13.8	1.7	143.0	0.0	0.0	Horz	PK	0.0	57.1	74.0	-16.9	EUT Horz, High Ch
4879.450	51.6	5.0	1.0	223.0	0.0	0.0	Vert	PK	0.0	56.6	74.0	-17.4	EUT On Side, Mid Ch, Programming Cable Removed
4879.908	43.4	5.0	2.6	149.0	-13.3	0.0	Horz	AV	0.0	35.1	54.0	-18.9	EUT Vert, Mid Ch, Programming Cable Removed
7439.492	34.5	13.8	1.7	143.0	-13.3	0.0	Horz	AV	0.0	35.0	54.0	-19.0	EUT Horz, High Ch
12400.950	37.9	16.8	2.0	352.0	0.0	0.0	Vert	PK	0.0	54.7	74.0	-19.3	EUT Vert, High Ch
7439.350	33.7	13.8	1.5	143.0	-13.3	0.0	Vert	AV	0.0	34.2	54.0	-19.8	EUT Vert, High Ch
12401.440	37.3	16.8	1.5	151.0	0.0	0.0	Horz	PK	0.0	54.1	74.0	-19.9	EUT Horz, High Ch
4880.192	49.0	5.0	2.6	149.0	0.0	0.0	Horz	PK	0.0	54.0	74.0	-20.0	EUT Vert, Mid Ch, Programming Cable Removed
7319.583	40.6	13.0	2.3	323.0	0.0	0.0	Horz	PK	0.0	53.6	74.0	-20.4	EUT Horz, Mid Ch
7321.475	40.1	13.0	1.5	213.0	0.0	0.0	Vert	PK	0.0	53.1	74.0	-20.9	EUT Vert, Mid Ch
12402.200	25.8	16.8	2.0	352.0	-13.3	0.0	Vert	AV	0.0	29.3	54.0	-24.7	EUT Vert, High Ch
12400.810	25.8	16.8	1.5	151.0	-13.3	0.0	Horz	AV	0.0	29.3	54.0	-24.7	EUT Horz, High Ch
7318.367	28.6	13.0	2.3	323.0	-13.3	0.0	Horz	AV	0.0	28.3	54.0	-25.7	EUT Horz, Mid Ch
7317.950	28.5	13.0	1.5	213.0	-13.3	0.0	Vert	AV	0.0	28.2	54.0	-25.8	EUT Vert, Mid Ch
4803.125	41.1	5.1	1.5	187.0	0.0	0.0	Horz	PK	0.0	46.2	74.0	-27.8	EUT Horz, Low Ch
4805.292	40.7	5.1	1.5	124.0	0.0	0.0	Vert	PK	0.0	45.8	74.0	-28.2	EUT Vert, Low Ch



Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Duty Cycle Correction	External Attenuation	Polarity/ Transducer	Detector	Distance Adjustment	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec.	Comments
4880.958	40.8	5.0	1.5	297.0	0.0	0.0	Vert	PK	0.0	45.8	74.0	-28.2	EUT Vert, Mid Ch
12200.940	41.5	0.5	1.5	44.0	0.0	0.0	Horz	PK	0.0	42.0	74.0	-32.0	EUT Horz, Mid Ch
12398.850	41.1	0.8	2.2	194.0	0.0	0.0	Horz	PK	0.0	41.9	74.0	-32.1	EUT Horz, High Ch
12201.590	41.2	0.5	1.4	186.0	0.0	0.0	Vert	PK	0.0	41.7	74.0	-32.3	EUT Vert, Mid Ch
4802.742	29.8	5.1	1.5	124.0	-13.3	0.0	Vert	AV	0.0	21.6	54.0	-32.4	EUT Vert, Low Ch
12010.030	42.2	-0.6	2.3	189.0	0.0	0.0	Vert	PK	0.0	41.6	74.0	-32.4	EUT Vert, Low Ch
12398.000	40.7	0.8	1.5	264.0	0.0	0.0	Vert	PK	0.0	41.5	74.0	-32.5	EUT Vert, High Ch
4801.583	29.6	5.1	1.5	187.0	-13.3	0.0	Horz	AV	0.0	21.4	54.0	-32.6	EUT Horz, Low Ch
12009.480	42.0	-0.7	1.5	235.0	0.0	0.0	Horz	PK	0.0	41.3	74.0	-32.7	EUT Horz, Low Ch
4878.325	29.5	5.0	1.5	297.0	-13.3	0.0	Vert	AV	0.0	21.2	54.0	-32.8	EUT Vert, Mid Ch
12399.310	29.5	0.8	2.2	194.0	-13.3	0.0	Horz	AV	0.0	17.0	54.0	-37.0	EUT Horz, High Ch
12202.450	29.8	0.5	1.4	186.0	-13.3	0.0	Vert	AV	0.0	17.0	54.0	-37.0	EUT Vert, Mid Ch
12010.920	30.9	-0.6	2.3	189.0	-13.3	0.0	Vert	AV	0.0	17.0	54.0	-37.0	EUT Vert, Low Ch
12397.760	29.4	0.8	1.5	264.0	-13.3	0.0	Vert	AV	0.0	16.9	54.0	-37.1	EUT Vert, High Ch
12200.610	29.7	0.5	1.5	44.0	-13.3	0.0	Horz	AV	0.0	16.9	54.0	-37.1	EUT Horz, Mid Ch
12010.520	30.6	-0.6	1.5	235.0	-13.3	0.0	Horz	AV	0.0	16.7	54.0	-37.3	EUT Horz, Low Ch

CONCLUSION

Pass

Clither Heiten Tested By



EUT:	Remote Control 2.0	V	Vork Order:	STAK0319			
Serial Number:	23236200119K	C	Date:	2023-08-07			
Customer:	Starkey Laboratories, Inc.	emperature:	22.4°C				
Attendees:	Aaron Anderson	Relative Humidity:	55.1%				
Customer Project:	None	B	Bar. Pressure (PMSL):	1013 mb			
Tested By:	Christopher Heintzelman	J	lob Site:	MN11			
Power:	3 VDC Internal Battery	C	Configuration:	STAK0319-1			
TEST SPECIFIC	ATIONS						
Specification:		Method:	Method:				
FCC 15.247:2023		ANSI C63.10	ANSI C63.10:2013				

TEST PARAMETERS Run #: 19 Test Distance (m): 3 Ant. Height(s) (m): 1 to 4(m)

COMMENTS

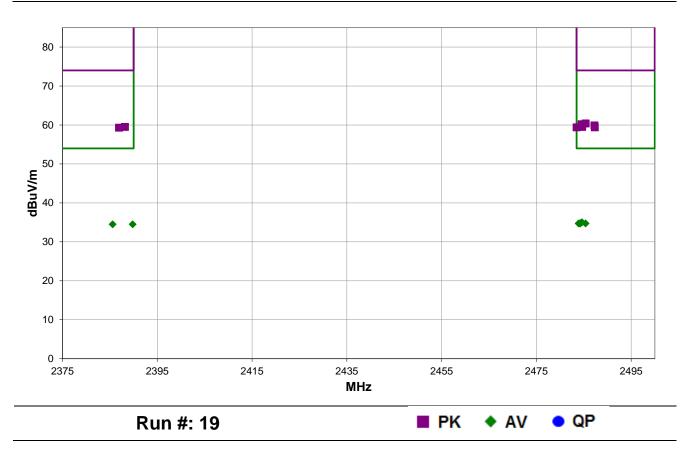
Power setting +4 dBm. Test mode is 65% duty cycle. The manufacturer declares the operational duty cycle will be limited to 3%. A duty cycle correction factor was applied to the final data using 10*log(1/duty cycle) to correct up from 65% to 100%, and then down from 100% to 3%. 1.9dB upwards correction + 15.2 dB downwards correction = -13.3dB total net correction factor.

EUT OPERATING MODES

Transmitting Low Ch 2402 MHz, 1 Mbps

DEVIATIONS FROM TEST STANDARD

None





RESULTS - Run #19

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Duty Cycle Correction Factor	External Attenuation (dB)	Polarity/ Transducer	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
2485.400	43.6	-3.2	1.5	114.0	0.0	20.0	Vert	PK	0.0	60.4	74.0	-13.6	EUT Horz, High Ch
2484.550	43.4	-3.2	1.5	0.0	0.0	20.0	Horz	PK	0.0	60.2	74.0	-13.8	EUT Horz, High Ch
2487.267	43.1	-3.2	1.5	157.0	0.0	20.0	Vert	PK	0.0	59.9	74.0	-14.1	EUT On Side, High Ch
2484.683	42.7	-3.2	1.5	354.0	0.0	20.0	Horz	PK	0.0	59.5	74.0	-14.5	EUT Vert, High Ch
2388.167	42.9	-3.4	1.5	39.0	0.0	20.0	Horz	PK	0.0	59.5	74.0	-14.5	EUT Horz, Low Ch
2483.500	42.6	-3.2	1.5	117.0	0.0	20.0	Vert	PK	0.0	59.4	74.0	-14.6	EUT Vert, High Ch
2487.333	42.6	-3.2	2.1	162.0	0.0	20.0	Horz	PK	0.0	59.4	74.0	-14.6	EUT On Side, High Ch
2386.908	42.8	-3.5	3.9	257.0	0.0	20.0	Vert	PK	0.0	59.3	74.0	-14.7	EUT Horz, Low Ch
2484.625	31.5	-3.2	1.5	0.0	-13.3	20.0	Horz	AV	0.0	35.0	54.0	-19.0	EUT Horz, High Ch
2484.317	31.3	-3.2	1.5	114.0	-13.3	20.0	Vert	AV	0.0	34.8	54.0	-19.2	EUT Horz, High Ch
2483.917	31.2	-3.2	1.5	354.0	-13.3	20.0	Horz	AV	0.0	34.7	54.0	-19.3	EUT Vert, High Ch
2485.408	31.2	-3.2	1.5	117.0	-13.3	20.0	Vert	AV	0.0	34.7	54.0	-19.3	EUT Vert, High Ch
2484.283	31.2	-3.2	2.1	162.0	-13.3	20.0	Horz	AV	0.0	34.7	54.0	-19.3	EUT On Side, High Ch
2484.175	31.2	-3.2	1.5	157.0	-13.3	20.0	Vert	AV	0.0	34.7	54.0	-19.3	EUT On Side, High Ch
2385.583	31.3	-3.5	1.5	39.0	-13.3	20.0	Horz	AV	0.0	34.5	54.0	-19.5	EUT Horz, Low Ch
2389.792	31.2	-3.4	3.9	257.0	-13.3	20.0	Vert	AV	0.0	34.5	54.0	-19.5	EUT Horz, Low Ch

CONCLUSION

Pass

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End of Test Report