

FireHUD Inc. DBA SlateSafety

SLATESAFETY BAND V2 FCC 15.247:2022 Bluetooth LE Radio

Report: FITY0001.1 Rev. 1, Issue Date: August 19, 2022





CERTIFICATE OF TEST



Last Date of Test: July 21, 2022 FireHUD Inc. DBA SlateSafety EUT: SLATESAFETY BAND V2

Radio Equipment Testing

Standards	
Specification	Method
FCC 15.247:2022 FCC 15.207:2022	ANSI C63.10:2013, KDB 558074

Results

Method Clause	Test Description	Applied	Results	Comments
6.2	Powerline Conducted Emissions	Yes	Pass	
11.6	Duty Cycle	Yes	N/A	Characterization of radio operation.
11.8.2	Occupied Bandwidth	Yes	N/A	
11.8.2	DTS Bandwidth	Yes	Pass	
11.9.1.1	Output Power	Yes	Pass	
11.9.1.1	Equivalent Isotropic Radiated Power	Yes	Pass	
11.10.2	Power Spectral Density	Yes	Pass	
11.11	Band Edge Compliance	Yes	Pass	
11.11	Spurious Conducted Emissions	Yes	Pass	
11.12.1, 11.13.2, 6.5, 6.6	Spurious Radiated Emissions	Yes	Pass	

Deviations From Test Standards

None

Approved By:

han

Eric Brandon, Department Manager

Product compliance is the responsibility of the client; therefore, the tests and equipment modes of operation represented in this report were agreed upon by the client, prior to testing. The results of this test pertain only to the sample(s) tested. The specific description is noted in each of the individual sections of the test report supporting this certificate of test. This report reflects only those tests from the referenced standards shown in the certificate of test. It does not include inspection or verification of labels, identification, marking or user information. As indicated in the Statement of Work sent with the quotation, Element's standard process is to always use the latest published version of the test methods even when earlier versions are cited in the test specification. Issuance of a purchase order was de facto acceptance of this approach. Otherwise, the client would have advised Element in writing of the specific version of the test methods they wanted applied to the subject testing.

REVISION HISTORY



Revision Number	Description	Date (yyyy-mm-dd)	Page Number
01	Updated last day of testing	2022-08-16	2, 10, 15
01	Added configurations	2022-08-16	13, 14
01	Added data	2022-08-16	96-97

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	+ 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)		Antenna 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:



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:	FireHUD Inc. DBA SlateSafety
Address:	1701 Oakbrook Dr.
City, State, Zip:	Norcross, GA 30093
Test Requested By:	Tyler Sisk
EUT:	SLATESAFETY BAND V2
First Date of Test:	March 29, 2022
Last Date of Test:	July 21, 2022
Receipt Date of Samples:	March 29, 2022
Equipment Design Stage:	Production
Equipment Condition:	No Damage
Purchase Authorization:	Verified

Information Provided by the Party Requesting the Test

Functional Description of the EUT:

Body worn BLE/LTE device. The BLE chip/radio is nRF52820, using 125kb,1MB, 2MB data rates. The LTE radio is nRF9160 using Cat-M B4/B13 only. The device is worn on the upper arm. The maximum Duty Cycle used in the field in a 30 minute period is 2.369% and in a 100 millisecond period is 10.152% as per the Duty Cycle analysis below:

30 minute assumptions:

• 7 Data Packets sent per minute

• 1 Data Packet opens a legacy advertising window of 2 seconds with interval of 100ms meaning a max of 20 legacy advertisements

• 1 Data Packet also opens a Coded Phy advertising window of 2 seconds with an interval of 100ms meaning max of 20 coded advertisements per Data Packet

• Each advertisement consists of a max of 31 bytes

• A 31 byte legacy advertisement results in 1.128ms of BLE Radio transmit time. A 31 byte coded phy

advertisement results in 9.024ms of BLE Radio transmit time (Source: Nordic Online Power Profiler)

30 min calculations:

TX Time / min = $(1.128 \text{ ms} / \text{Legacy Adv} \times 20 \text{ Legacy Adv} / 1 \text{ Packet} + 9.024 \text{ ms} / \text{Coded Adv} \times 20 \text{ Coded Adv} / 1 \text{ Packet}) \times 7 \text{ Packets} / 1 \text{ min} = 1421.28 \text{ ms} / \text{min}$

TX Time / 30 min = 1421.28ms / 1 min × 1 min / 1000 ms × 30 min = 42.638 seconds / 30 min

BLE Radio TX Duty Cycle = 42.638 s / 30 min × 30 min / 1800 s × 100% = 2.369%

100 millisecond assumptions:

- A single 31 byte legacy advertisement sent resulting in 1.128ms of BLE Radio transmit time.
- A single 31 byte coded phy advertisement resulting in 9.024ms of BLE Radio transmit time.

100 ms calculations:

TX Time / min = $(1.128 \text{ ms} / \text{Legacy } \text{Adv} \times 1 \text{ Legacy } \text{Adv} / 1 \text{ Packet} + 9.024 \text{ ms} / \text{Coded } \text{Adv} \times 1 \text{ Coded } \text{Adv} / 1 \text{ Packet} \times 1 \text{ Packets} / 100 \text{ ms} = 10.152 \text{ ms} / 100 \text{ ms}$

BLE Radio TX Duty Cycle = 10.152 *ms* / 100 *ms* × 100% = 10.152%

Testing Objective:

To demonstrate compliance of the Bluetooth radio to FCC 15.247 requirements.

CONFIGURATIONS



EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Band V2	DBA StateSafety	Band V2	6563

Peripherals in Test Setup Boundary							
Description	Manufacturer	Model/Part Number	Serial Number				
USB Adapter	DSD Tech	None	None				
Laptop	Asus Tech Computer Inc	UX433F	JAN0CV13933844A				
DC Adapter (Band V2)	ShenZhen LvXiangYuan Technology Co, Ltd.	LX061100U	None				
Laptop DC Adapter (connects to Mains)	Uveimetz	MD-A045 02F	None				

Cables							
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2		
USB Cable	Yes	3 m	No	Laptop	USB Adapter		
Control Cables (2x connected, 4x disconnected)	No	0.29 m	No	USB Adapter	Band V2		
DC Power Cable (Band V2)	Yes	1.3 m	No	DC Adapter (Band V2)	Band V2		
Laptop DC Cable	No	1.9 m	No	Laptop DC Supply	Laptop		





EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Band V2	DBA StateSafety	Band V2	6563

Peripherals in Test Setup Boundary					
Description	Manufacturer Model/Part Number Serial Number				
USB Adapter	DSD Tech	None	None		

Remote Equipment outside Test Setup Boundary					
Description	Manufacturer	Model/Part Number	Serial Number		
Laptop	Asus Tech Computer Inc	UX433F	JAN0CV13933844A		
DC Adapter (Band V2)	ShenZhen LvXiangYuan Technology Co, Ltd.	LX061100U	None		
Laptop DC Adapter (connects to Mains)	Uveimetz	MD-A045 02F	None		

Cables						
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2	
USB Cable	Yes	3 m	No	Laptop	USB Adapter	
Control Cables (2x connected, 4x disconnected)	No	0.29 m	No	USB Adapter	Band V2	
DC Power Cable (Band V2)	Yes	1.3 m	No	DC Adapter (Band V2)	Band V2	
Laptop DC Cable	No	1.9 m	No	Laptop DC Supply	Laptop	





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DC Power Cable (Band V2)	Yes	1.3 m	No	DC Adapter (Band V2)	Band V2

CONFIGURATIONS



EUT			
Description	Manufacturer	Model/Part Number	Serial Number
BLE/LTE Device - Band V2	DBA StateSafety	FireHUD	6563

Peripherals in Test Setup Boundary					
Description	Manufacturer	Model/Part Number	Serial Number		
USB Adapter	DSD Tech	None	None		
Laptop	Asus Tech Computer Inc	UX433F	JAN0CV13933844A		
Laptop DC Adapter (connects to Mains)	Uveimetz	MD-A045 02F	None		

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
USB Cable	Yes	3 m	No	Laptop	USB Adapter
Control Cables (2x connected, 4x disconnected)	No	0.29 m	No	USB Adapter	Band V2
Laptop DC Cable	No	1.9 m	No	Laptop DC Supply	Laptop

MODIFICATIONS



Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
			Tested as	No EMI suppression	EUT remained at
1	2022-03-29	Duty Cycle	delivered to	devices were added or	Element following
			Test Station.	modified during this test.	the test.
		Spurious	Tested as	No EMI suppression	EUT remained at
2	2022-03-29	Conducted	delivered to	devices were added or	Element following
		Emissions	Test Station.	modified during this test.	the test.
		Occupied	Tested as	No EMI suppression	EUT remained at
3	2022-03-29	Bandwidth	delivered to	devices were added or	Element following
		Danuwidin	Test Station.	modified during this test.	the test.
			Tested as	No EMI suppression	EUT remained at
4	2022-03-29	Output Power	delivered to	devices were added or	Element following
			Test Station.	modified during this test.	the test.
		Equivalent	Tested as	No EMI suppression	EUT remained at
5	2022-03-29	Isotropic	delivered to	devices were added or	Element following
		Radiated Power	Test Station.	modified during this test.	the test.
		Power Spectral	Tested as	No EMI suppression	EUT remained at
6	2022-03-29	Density	delivered to	devices were added or	Element following
		Density	Test Station.	modified during this test.	the test.
		Band Edge	Tested as	No EMI suppression	EUT remained at
7	2022-03-29	Compliance	delivered to	devices were added or	Element following
		Compliance	Test Station.	modified during this test.	the test.
			Tested as	No EMI suppression	EUT remained at
8	2022-03-29	DTS Bandwidth	delivered to	devices were added or	Element following
			Test Station.	modified during this test.	the test.
		Powerline	Tested as	No EMI suppression	EUT remained at
9	2022-04-05	Conducted	delivered to	devices were added or	Element following
		Emissions	Test Station.	modified during this test.	the test.
		Spurious	Tested as	No EMI suppression	Scheduled testing
10	2022-04-01	Radiated	delivered to	devices were added or	was completed.
		Emissions	Test Station.	modified during this test.	
		Spurious	Tested as	No EMI suppression	Scheduled testing
11	2022-07-21	Radiated	delivered to	devices were added or	was completed
		Emissions	Test Station.	modified during this test.	nuo oompiotou.

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.

ANTENNA GAIN (dBi)

Туре	Provided by:	Frequency Range (MHz)	Gain (dBi)
Chip (WLA.01)	Taoglas	2402-2480	2.5

The EUT was tested using the power settings provided by the manufacturer:

SETTINGS FOR ALL TESTS IN THIS REPORT

Modulation Types / Data Rates	Туре	Channel	Frequency (MHz)	Power Setting (Software)
		0	2402	-12
GFSK / 125 kbps	DTS	20	2442	-12
		39	2480	-12
	DTS	0	2402	-4
GFSK / 1 Mbps		20	2442	-4
		39	2480	-4
		0	2402	-4
GFSK / 2 Mbps	DTS	20	2442	-4
		39	2480	-4



TEST DESCRIPTION

Using the mode of operation and configuration noted within this report, conducted emissions tests were performed. The frequency range investigated (scanned), is also noted in this report. Conducted power line measurements are made, unless otherwise specified, over the frequency range from 150 kHz to 30 MHz to determine the line-to-ground radio-noise voltage that is conducted from the EUT power-input terminals that are directly (or indirectly via separate transformer or power supplies) connected to a public power network. Per the standard, an insulating material was also added to ground plane between the EUT's power and remote I/O cables. Equipment is tested with power cords that are normally used or that have electrical or shielding characteristics that are the same as those cords normally used. Typically those measurements are made using a LISN (Line Impedance Stabilization Network), the 500hm measuring port is terminated by a 500hm EMI meter or a 500hm resistive load. All 500hm measuring ports of the LISN are terminated by 500hm. The test data represents the configuration / operating mode/ model that produced the highest emission levels as compared to the specification limit.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Receiver	Gauss Instruments	TDEMI 30M	ARS	2022-04-20	2023-04-20
Cable - Conducted Cable					
Assembly	Northwest EMC	MNC, HGN, TYK	MNCA	2022-03-07	2023-03-07
LISN	Solar Electronics	9252-50-R-24-BNC	LIO	2021-09-26	2022-09-26

MEASUREMENT UNCERTAINTY

Description		
Expanded k=2	3.2 dB	-3.2 dB

CONFIGURATIONS INVESTIGATED

FITY0001-3

MODES INVESTIGATED

Transmitting BLE Mid Ch (2442 MHz) 1 Mbps. Charging.



EUT:	SLATESAFE	TY BAND	V2		Work Order:	FITY0001		
Serial Number:	6563				Date:	2022-04-05		
Customer:	FireHUD Inc.	DBA Slate	Safety		Temperature:	23.6°C		
Attendees:	Dustin Morris	3			Relative Humidity:	28%		
Customer Project:	None				Bar. Pressure (PMSL):	1001 mb		
Tested By:	Christopher I	Heintzelma	n		Job Site:	MN03		
Power:	110VAC/60H	lz			Configuration:	FITY0001-3		
TEST SPECIFI	CATIONS							
Specification: Equi	pment Class B			Method:				
FCC 15.207:2022	•			ANSI C63.	10:2013			
TEST PARAM	ETERS			·				
Run #: 1		Line:	Neutral		Add. Ext. Attenuation (dB): 0		
COMMENTS								
None								
EUT OPERATI	NG MODES							
Transmitting BLE I	Vid Ch (2442 M	Hz) 1 Mbps	s. Charging.					
DEVIATIONS FROM TEST STANDARD								
NONE								



100 90 80 70 60 dBuV 50 40 30 20 10 0 0.1 1.0 10.0 100.0 MHz

Average Data - vs - Average Limit



RESULTS - Run #1

Quasi Peak Data - vs - Quasi Peak Limit							
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)		
24.000	16.6	21.8	38.4	60.0	-21.6		
0.898	12.6	20.2	32.8	56.0	-23.2		
0.536	12.1	20.2	32.3	56.0	-23.7		
0.602	11.9	20.2	32.1	56.0	-23.9		
0.739	11.7	20.2	31.9	56.0	-24.1		
1.795	11.6	20.3	31.9	56.0	-24.1		
1.087	11.3	20.2	31.5	56.0	-24.5		
1.355	11.3	20.2	31.5	56.0	-24.5		
2.076	11.0	20.3	31.3	56.0	-24.7		
2.883	11.0	20.3	31.3	56.0	-24.7		
2.411	10.9	20.3	31.2	56.0	-24.8		
3.553	10.8	20.4	31.2	56.0	-24.8		
4.290	10.7	20.4	31.1	56.0	-24.9		
0.403	12.4	20.2	32.6	57.8	-25.2		
25.163	11.9	21.9	33.8	60.0	-26.2		
0.333	12.7	20.2	32.9	59.4	-26.5		
0.277	13.8	20.2	34.0	60.9	-26.9		
20.137	10.6	21.5	32.1	60.0	-27.9		
16.652	10.2	21.2	31.4	60.0	-28.6		
11.291	10.3	20.9	31.2	60.0	-28.8		
13.904	10.2	21.0	31.2	60.0	-28.8		
7.103	10.5	20.6	31.1	60.0	-28.9		
9.045	10.4	20.7	31.1	60.0	-28.9		
0.223	13.5	20.2	33.7	62.7	-29.0		
5.226	10.6	20.4	31.0	60.0	-29.0		

Average Data - vs - Average Limit							
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)		
24.000	9.6	21.8	31.4	50.0	-18.6		
0.898	6.8	20.2	27.0	46.0	-19.0		
0.502	6.0	20.2	26.2	46.0	-19.8		
0.602	5.8	20.2	26.0	46.0	-20.0		
1.795	5.7	20.3	26.0	46.0	-20.0		
0.736	5.6	20.2	25.8	46.0	-20.2		
1.137	5.2	20.2	25.4	46.0	-20.6		
1.407	5.1	20.3	25.4	46.0	-20.6		
2.010	5.0	20.3	25.3	46.0	-20.7		
2.413	5.0	20.3	25.3	46.0	-20.7		
3.150	4.8	20.4	25.2	46.0	-20.8		
3.549	4.8	20.4	25.2	46.0	-20.8		
4.288	4.6	20.4	25.0	46.0	-21.0		
0.402	6.3	20.2	26.5	47.8	-21.3		
25.460	6.3	22.0	28.3	50.0	-21.7		
0.330	6.6	20.2	26.8	49.5	-22.7		
0.277	7.9	20.2	28.1	50.9	-22.8		
20.204	4.7	21.5	26.2	50.0	-23.8		
16.584	4.2	21.2	25.4	50.0	-24.6		
11.290	4.2	20.9	25.1	50.0	-24.9		
13.367	4.1	21.0	25.1	50.0	-24.9		
5.493	4.6	20.4	25.0	50.0	-25.0		
7.105	4.4	20.6	25.0	50.0	-25.0		
0.223	7.4	20.2	27.6	52.7	-25.1		
7.773	4.3	20.6	24.9	50.0	-25.1		

CONCLUSION

Pass

CliAm Hentem Tested By



EUT:	SLATESAFE	TY BAND	V2		Work Order:	FITY0001		
Serial Number:	6563	6563			Date:	2022-04-05		
Customer:	FireHUD Inc.	. DBA Slate	Safety		Temperature:	23.6°C		
Attendees:	Dustin Morris	3			Relative Humidity:	28%		
Customer Project:	None				Bar. Pressure (PMSL):	1001 mb		
Tested By:	Christopher I	Heintzelma	n		Job Site:	MN03		
Power:	110VAC/60H	lz			Configuration:	FITY0001-3		
TEST SPECIFIC	CATIONS							
Specification: Equip	oment Class B			Method:				
FCC 15.207:2022				ANSI C63.	3.10:2013			
TEST PARAME	TERS							
Run #: 7		Line:	High Line		Add. Ext. Attenuation (dB)): 0		
None								
EUT OPERATIN	NG MODES							
Transmitting BLE M	1id Ch (2442 M	Hz) 1 Mbps	s. Charging.					
DEVIATIONS F	DEVIATIONS FROM TEST STANDARD							
None								



100 90 80 70 60 dBuV 50 40 30 20 10 0 0.1 1.0 10.0 100.0 MHz





RESULTS - Run #7

Quasi Peak Data - vs - Quasi Peak Limit							
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)		
24.000	16.2	21.8	38.0	60.0	-22.0		
0.898	12.5	20.2	32.7	56.0	-23.3		
0.554	12.1	20.2	32.3	56.0	-23.7		
0.599	11.8	20.2	32.0	56.0	-24.0		
0.727	11.6	20.2	31.8	56.0	-24.2		
1.795	11.5	20.3	31.8	56.0	-24.2		
1.076	11.3	20.2	31.5	56.0	-24.5		
1.340	11.2	20.2	31.4	56.0	-24.6		
2.079	11.1	20.3	31.4	56.0	-24.6		
2.747	11.0	20.3	31.3	56.0	-24.7		
3.217	10.9	20.4	31.3	56.0	-24.7		
3.688	10.8	20.4	31.2	56.0	-24.8		
4.358	10.7	20.4	31.1	56.0	-24.9		
0.403	12.4	20.2	32.6	57.8	-25.2		
26.131	11.7	22.0	33.7	60.0	-26.3		
0.336	12.7	20.2	32.9	59.3	-26.4		
0.277	13.9	20.2	34.1	60.9	-26.8		
20.271	10.4	21.5	31.9	60.0	-28.1		
16.719	10.1	21.3	31.4	60.0	-28.6		
10.756	10.3	20.8	31.1	60.0	-28.9		
11.693	10.2	20.9	31.1	60.0	-28.9		
0.223	13.6	20.2	33.8	62.7	-28.9		
5.428	10.6	20.4	31.0	60.0	-29.0		
6.366	10.5	20.5	31.0	60.0	-29.0		
7.773	10.4	20.6	31.0	60.0	-29.0		

Average Data - vs - Average Limit						
Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)	
24.000	9.3	21.8	31.1	50.0	-18.9	
0.898	6.7	20.2	26.9	46.0	-19.1	
0.538	6.1	20.2	26.3	46.0	-19.7	
1.795	5.8	20.3	26.1	46.0	-19.9	
0.599	5.8	20.2	26.0	46.0	-20.0	
0.736	5.6	20.2	25.8	46.0	-20.2	
1.139	5.3	20.2	25.5	46.0	-20.5	
1.340	5.2	20.2	25.4	46.0	-20.6	
1.943	5.0	20.3	25.3	46.0	-20.7	
2.413	4.9	20.3	25.2	46.0	-20.8	
3.351	4.8	20.4	25.2	46.0	-20.8	
3.551	4.7	20.4	25.1	46.0	-20.9	
4.288	4.6	20.4	25.0	46.0	-21.0	
0.402	6.3	20.2	26.5	47.8	-21.3	
26.131	5.8	22.0	27.8	50.0	-22.2	
0.330	6.6	20.2	26.8	49.5	-22.7	
0.278	7.9	20.2	28.1	50.9	-22.8	
20.204	4.4	21.5	25.9	50.0	-24.1	
16.922	4.1	21.3	25.4	50.0	-24.6	
11.357	4.2	20.9	25.1	50.0	-24.9	
13.637	4.1	21.0	25.1	50.0	-24.9	
6.165	4.5	20.5	25.0	50.0	-25.0	
7.102	4.4	20.6	25.0	50.0	-25.0	
0.223	7.4	20.2	27.6	52.7	-25.1	
7.773	4.3	20.6	24.9	50.0	-25.1	

CONCLUSION

Pass

Clither Heiten Tested By



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
Generator - Signal	Keysight	N5171B (EXG)	TEY	2019-12-31	2022-12-31
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2021-09-12	2022-09-12
Attenuator	Fairview Microwave	SA18S5W-20	RFX	2021-06-02	2022-06-02
Block - DC	Fairview Microwave	SD3379	AMI	2021-08-13	2022-08-13
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2021-04-16	2022-04-16

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.



 Description

 Mix 2022 02 00 0

 EUT: SLATESAFETY BAND V2
 Work Order: [FITY0001

 Serial Number: 6563
 Date: 29-Mar-22

 Customer: FireHUD Inc. DBA SlateSafety
 Temperature: 24.2 °C

 Attendees: Dustin Morris
 Temperature: 24.2 °C

 Attendees: Dustin Morris
 Barometric Pres.: 1015 mbar

 Tested by: Andrew Rogstad, Christopher Heintzelman
 Power: 110VAC/60Hz
 Barometric Pres.: 1015 mbar

 Test Method

 FCC IS.247:2022

 ANSI C63.10:2013

 COMMENTS

Reference level offset accounts for measurement cable, DC block, attenuator, and customer's cable.

DEVIATIONS FROM TEST STANDARD

Configuration #	1	Signature	and Rogeland						
			Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
BLE/GFSK 125 kbps	s Low Channel, 2402 MHz		736.47 us	1.249 ms	1	59	N/A	N/A	
BLE/GFSK 125 kbps	s Low Channel, 2402 MHz		N/A	N/A	5	N/A	N/A	N/A	
BLE/GFSK 125 kbps	s Mid Channel, 2442 MHz		738.3 us	1.249 ms	1	59.1	N/A	N/A	
BLE/GFSK 125 kbps	s Mid Channel, 2442 MHz		N/A	N/A	5	N/A	N/A	N/A	
BLE/GFSK 125 kbps	s High Channel, 2480 MHz		739.39 us	1.251 ms	1	59.1	N/A	N/A	
BLE/GFSK 125 kbps	s High Channel, 2480 MHz		N/A	N/A	5	N/A	N/A	N/A	
BLE/GFSK 1 Mbps I	ow Channel, 2402 MHz		105.15 us	625.1 us	1	16.8	N/A	N/A	
BLE/GFSK 1 Mbps I	ow Channel, 2402 MHz		N/A	N/A	5	N/A	N/A	N/A	
BLE/GFSK 1 Mbps I	Vid Channel, 2442 MHz		105.617 us	625.1 us	1	16.9	N/A	N/A	
BLE/GFSK 1 Mbps I	Vid Channel, 2442 MHz		N/A	N/A	5	N/A	N/A	N/A	
BLE/GFSK 1 Mbps I	High Channel, 2480 MHz		106.682 us	625.1 us	1	17.1	N/A	N/A	
BLE/GFSK 1 Mbps I	High Channel, 2480 MHz		N/A	N/A	5	N/A	N/A	N/A	
BLE/GFSK 2 Mbps I	ow Channel, 2402 MHz		68.271 us	625.1 us	1	10.9	N/A	N/A	
BLE/GFSK 2 Mbps I	ow Channel, 2402 MHz		N/A	N/A	5	N/A	N/A	N/A	
BLE/GFSK 2 Mbps I	Vid Channel, 2442 MHz		67.417 us	625.1 us	1	10.8	N/A	N/A	
BLE/GFSK 2 Mbps I	Vid Channel, 2442 MHz		N/A	N/A	5	N/A	N/A	N/A	
BLE/GFSK 2 Mbps I	High Channel, 2480 MHz		67.705 us	625 us	1	10.8	N/A	N/A	
BLE/GFSK 2 Mbps I	High Channel, 2480 MHz		N/A	N/A	5	N/A	N/A	N/A	



	B	LE/GFSK 125 K	ops Low Char	inel, 2402 MHZ	1 114		
	Dules Wiskh	Devied	Number of	value		Desults	
	Pulse Width	Period	Puises	(%)	(%)	Results	
	736.47 us	1.249 ms	1	59	N/A	N/A	
Keysight Spectrum Analyzer	- Element Materials Technology						
CX RL RF	50 Ω AC	SENSE	INT Delay-1 000 m	ALIGN OFF	a: Voltage	08:57:02 AM Mar 29, 2022	
	PI	lO:Fast →→ Ti	rig: Video			TYPE WWWWWWW	
	IFO	ain:Low #/	Atten: 10 dB			DETPPPPPP	
Pef Offer	+ 21 82 dB				Ν	/kr3 2.253 ms	
5 dB/div Ref 21.	82 dBm					9.76 dBm	
Log							
16.8				<u>}2</u>	/3		
11.8		-Y			├──		
6.82							
1.82							
-3.18							
0.10							
-8.18							
-13.2						TRIG LVL	
-18.2							
-23.2							
4							
Center 2.4020000	00 GHz					Span 0 Hz	
Res BW 3.0 MHz		#VBW 3	0 KHZ		Sweep 3.0	00 ms (8192 pts)	
MKR MODE TRC SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTIO	N VALUE	
	1.004 ms	<u>10.86 dBm</u>	1				
3 N 1 t	2.253 ms	9.76 dBn	1				
4							
6							
7							
9							
10							
			III			•	
MSG				STATUS			
	R	LE/GESK 125	thos I ow Char	nel 2402 MH7			
		LL/ 51 51 125 P	Number of	Value	Limit		
	Pulse Width	Period	Pulses	(%)	(%)	Results	
	N/A	N/A	5	N/A	N/A	N/A	

Keysight Sp	ectrum Analyzer - Ele	ment Materials T	echnology										a I X
RL	RF 50 Ω	AC		S	ENSE:INT		ALI	SN OFF			08:5	7:12 AM Mar 2	9, 2022
			PNO: IFGain	Fast ↔→→ :Low	Trig: Video #Atten: 10	dB		#Avg Type	. vonag	e		TYPE WH DET P P	PPP
dB/div	Ref Offset 21 Ref 21.82 (.82 dB 1 Bm											1004.004.004.004.004.00
4.0													
1.0													
.82													
.82													
18													
18													
.2]													FRIG-L
.2													
.2													
enter 2. es BW 3	402000000 G 3.0 MHz	Hz		#VBV	V 30 kHz					Sweep	6.007	Span ms (819)	- 0 2 pt



		BLE/GFSK 125	kbps Mid Chanr	nel, 2442 MHz	Limit	
	Pulse Width	Period	Pulses	(%)	(%)	Results
	738.3 us	1.249 ms	1	59.1	N/A	N/A
•						· · ·
Keysight Spectrum Analyz	ter - Element Materials Technol	ogy				
KA RL RF	50 Ω AC	SENSE	INT Delay 4 000 m	ALIGN OFF	· Valtara	09:42:01 AM Mar 29, 2022
		PNO: Fast	rig: Video	s #Avg Type	. voltage	TYPE WWWWWW
		FGain:Low #	Atten: 10 dB			DELLERE
Ref Offs	set 21.82 dB					Mkr3 2.252 ms
5 dB/div Ref 21	.82 dBm					4.67 ubm
16.8						
11.8	<u> </u>	1				
6.82		<u> </u>			3	
1.82						
-3.18						
-8.18						
-13.2						
-18.2						TRIG LVL
-23.2						
Cepter 2 4420000						Span () Hz
Res BW 3.0 MHz	IOU GHZ	#VBW 3	0 kHz		Sweep 3	.000 ms (8192 pts)
MKR MODE TRC SCL	x	Y	FUNCTION	FUNCTION WIDTH	FUNCT	ION VALUE
1 N 1 t	1.004 ms	7.05 dBn	n			
3 N 1 t	2.252 ms	4.67 dBn	n			
5						E.
6 7						
8						
10						
		-	m			•
MSG				STATUS		
		BLE/GESK 125	kbps Mid Chanr	nel, 2442 MHz		
			Number of	Value	Limit	
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	Pulse Width	Period N/A	Number of Pulses 5	Value (%) N/A	Limit (%) N/A	Results N/A
	Pulse Width N/A	Period N/A	Number of Pulses 5	Value (%) N/A	Limit (%) N/A	Results N/A
Keysight Spectrum Analyz	Pulse Width N/A	Period N/A	Number of Pulses 5	Value (%) N/A	Limit (%) N/A	Results N/A
Keysight Spectrum Analyz	Pulse Width N/A ser - Element Materials Technole 50 Ω AC	Period N/A	Number of Pulses 5	Value (%) N/A	Limit (%) N/A	Results N/A 09:42:07 AM Mar 29, 2022 TRACE
Keysight Spectrum Analyz	Pulse Width N/A ser - Element Materials Technole 50 Ω AC	Period N/A	Number of Pulses 5	Value (%) N/A ALIGN OFF #Avg Type	Limit (%) N/A : Voltage	Results N/A 09:42:07 AM Mar 29, 2022 TRACE 2 3 42 TRACE 2 4 7 DET P.P.P.P.P.P.P.P.P.P.P.P.P.P.P.P.P.P.P.
Keysight Spectrum Analyz	Pulse Width N/A ter - Element Materials Technole 50 Ω AC	Period N/A Pgy SENSE PNO: Fast T FGain:Low #,	Number of Pulses 5 rig: Video Atten: 10 dB	Value (%) N/A ALIGN OFF #Avg Type	Limit (%) N/A	Results N/A 09:42:07 AM Mar 29, 2022 TRACE 2 3 4 5 TVPE TVPE DET P.P.P.P.P.P.P.P.P.P.P.P.P.P.P.P.P.P.P.
Keysight Spectrum Analyz RL RF Ref Offs 5 dB/div Ref 21	Pulse Width N/A N/A ser - Element Materials Technole 50 Ω AC set 21.82 dB .82 dBm	Period N/A ogy SENSE PNO: Fast → T FGain:Low	Number of Pulses 5 ::INT rig: Video Atten: 10 dB	Value (%) N/A ALIGN OFF 4 #Avg Type	Limit (%) N/A	Results N/A 09:42:07 AM Mar 29, 2022 TRACE 2 3 4 5 6 TRACE 2 1 4 5 6 TRACE 2 1 4 5 6 DET P.P.P.P.P.P.P.P.P.P.P.P.P.P.P.P.P.P.P.
Keysight Spectrum Analyz RL RF B/div Ref Offs dB/div Ref 21	Pulse Width N/A ser - Element Materials Technole 50 Ω AC set 21.82 dB .82 dBm	Period N/A SENSE PNO: Fast → T FGain:Low #,	Number of Pulses 5 ::INT rig: Video Atten: 10 dB	Value (%) N/A	Limit (%) N/A	Results N/A 09:42:07 AM Mar 29, 2022 TRACE 2 3 4 5 TTACE 7 3 4 5 TTACE 7 9 4 5 TACE 7 9 4 5 TRACE 7 9 4 5 TRACE 9 1 4 5 TRACE 1 1 5

16.8						
11.8			┓			
6.82						
0.02						
1.82						
-3.18						
-8.18						
-13.2						
-18.2			_			
-23.2						
Center 2.442000000 GHz Res BW 3.0 MHz	#VE	W 30 kHz			Sweep	Span 0 Hz 6.007 ms (8192 pts)
MSG				STATUS		,



		BLE/GESK 11	25 kbps High Chan	nel 2480 MHz		
			Number of	Value	Limit	
	Pulse Width	Period	Pulses	(%)	(%)	Results
	739.39 us	1.251 ms	1	59.1	N/A	N/A
Keysight Spectrum Analyze	er - Element Materials Technol	ogy	enter de la company de la c			
	50 Ω AC	5	Trig Delay-1.000 m	s #Avg Type:	Voltage	09:48:03 AM Mar 29, 2022 TRACE 1 2 3 4 5 6
		PNO: Fast	Trig: Video #Atten: 10 dB			DET P P P P P P
		IFGalh:Low	#Atten: To ub			Mkr2 2 252 mg
Ref Offs	et 21.82 dB					6.48 dBm
	.82 0011					
16.8						
11.8					3	
6.82		+ \ ' +				
1.82						
-3.18						
-8.18						
-13.2						
-18.2						TRIGLVL
-23.2						
Contor 2 490000						Spop 0 Hz
Res BW 3.0 MHz		#VBV	V 30 kHz		Sweep 3	.000 ms (8192 pts)
MKB MODE TRC SCL	x	Y	FUNCTION	EUNCTION WIDTH	FUNCT	ONVALUE
1 N 1 t	1.002 m	s <u>4.19</u> g	dBm			
3 N 1 t	2.253 m	s <u>4.780</u> s <u>6.48</u> 0	dBm			
4 5						E
6						
and contracts and its						
8						
/ 8 9 10						
8 9 10 11						~
, 8			II	STATUS		
8 9 10 11 ×			m	STATUS		-
8 9 10 11 4 MSG		BLE/GFSK 12	" 25 kbps High Chan	status nel, 2480 MHz		*
8 9 10 11 MSG		BLE/GFSK 12	25 kbps High Chan Number of	status nel, 2480 MHz Value	Limit	
8 9 10 11 MSG	Pulse Width	BLE/GFSK 12 Period	" 25 kbps High Chan Number of Pulses	status nel, 2480 MHz Value (%)	Limit (%)	Results
8 9 10 11 MSG	Pulse Width	BLE/GFSK 12 Period N/A	25 kbps High Chan Number of Pulses 5	status nel, 2480 MHz Value (%) N/A	Limit (%) N/A	Results N/A
8 9 10 11 MSG	Pulse Width	BLE/GFSK 12 Period N/A	" 25 kbps High Char Number of Pulses 5	status nel, 2480 MHz Value (%) N/A	Limit (%) N/A	Results N/A
Keysight Spectrum Analyz	Pulse Width N/A r - Element Materials Technol 50 Ω AC	BLE/GFSK 12 Period N/A	m 25 kbps High Chan Number of Pulses 5	status inel, 2480 MHz Value (%) N/A	Limit (%) N/A	Results N/A 09:48:07 AM Mar 29, 2022
8 9 10 11 MSG	Pulse Width N/A er - Element Materials Technol 50 Ω AC	BLE/GFSK 12 Period N/A	m 25 kbps High Chan Number of Pulses 5 ENSE:INT	Inel, 2480 MHz Value (%) N/A	Limit (%) N/A	Results N/A 09:48:07 AM Mar 29, 2022 TRACE
8 9 10 11 MSG Keysight Spectrum Analyz	Pulse Width N/A er - Element Materials Technol 50 Ω AC	BLE/GFSK 12 Period N/A ogy PNO: Fast	" 25 kbps High Char Number of Pulses 5 ENSE:INT Trig: Video #Atten: 10 dB	Inel, 2480 MHz Value (%) N/A MALIGN OFF #Avg Type:	Limit (%) N/A	Results N/A 0948:07 AM Mar 29, 2022 TRACE 0248:07 AM Mar 29, 2022
Keysight Spectrum Analyz	Pulse Width N/A er - Element Materials Technol 50 Ω AC	BLE/GFSK 12 Period N/A ogy PNO: Fast FGain:Low	Trig: Video	STATUS INEI, 2480 MHz Value (%) N/A M/A	Limit (%) N/A	Results N/A 09:46:07 AM Mar 29, 2022 TRACE TRACE TYPE DET DET
Keysight Spectrum Analyz	Pulse Width N/A er - Element Materials Technol 50 Ω AC et 21.82 dB 82 dBm	BLE/GFSK 12 Period N/A ogy PNO: Fast IFGain:Low	Trig: Video #Atten: 10 dB	STATUS nel, 2480 MHz Value (%) N/A N/A	Limit (%) N/A	Results N/A 09:46:07 AM Mar29, 2022 TRACE 123 45 6 TYPE PPPPP
Keysight Spectrum Analyz	Pulse Width N/A er - Element Materials Technol 50 Ω AC et 21.82 dB 82 dBm	BLE/GFSK 12 Period N/A ogy PNC: Fast IFGain:Low	Trig: Video	STATUS nel, 2480 MHz Value (%) N/A ALIGN OFF #Avg Type:	Limit (%) N/A	Results N/A 09:48:07 AM MT 20 2022 TRACE 12 3 4 5 6 TYPE PPPP P DET PPPP P
Keysight Spectrum Analyz	Pulse Width N/A er - Element Materials Technol 50 Ω AC et 21.82 dB 82 dBm	BLE/GFSK 12 Period N/A ogy PNO: Fast ++- IFGain:Low	Trig: Video	STATUS nel, 2480 MHz Value (%) N/A M/A	Limit (%) N/A	Results N/A 09:48:07 AM Mar 29, 2022 TRRACE 12, 32, 45, 6 TYPE WAY AND P DET PPPPP

11.8						
6.82						
0.02						
1.82						
-3,18						
-8.18						
-13.2						
18.2						
-10.2						
-23.2						
Center 2.480000000 GH	z					Span 0 Hz
Res BW 3.0 MHz		#VBW 30 k	Hz		Sweep	6.007 ms (8192 pts)
MSG				STATUS		
				A CONTRACTOR OF A CONTRACTOR AND A CONTRACT		



		BLE/GFSK 1	Mbps Low Channe	el, 2402 MHz		
			Number of	Value	Limit	
	Pulse Width	Period	Pulses	(%)	(%)	Results
	105.15 us	625.1 us	1	16.8	N/A	N/A
Keysight Spectrum Analyzer	- Element Materials Technol	ogy	NCEITNT			10:04:06 AM Mar 20, 2022
	50 52 AC	35	Trig Delay-100.0 µs	#Avg Type	e: Voltage	TRACE 1 2 3 4 5 6
		PNO: Fast ↔ FGain:Low	Trig: Video #Atten: 10 dB			DET PPPPP
Ref Offse	t 21.82 dB					Mkr2 205.9 µs
5 dB/div Ref 21.8	82 dBm					3.71 dBm
16.8						
11.0						
0.00	2					
6.82					3	
1.82 Y						
-3.18						
-8.18						TRIGLVI
-13.2						
-18.2						
-23.2						
4.5.2						
Center 2.40200000	0 GHz	40 (D) M			0	Span 0 Hz
Res BW 3.0 MHZ		#VBW	30 KHZ		Sweep 1.	000 ms (8192 pts)
MKR MODE TRC SCL	X 100 7 us	Y 111d	FUNCTION	FUNCTION WIDTH	FUNCTI	DN VALUE
2 N 1 t	205.9 µ	3.71 d	Bm			
3 N 1 t	725.8 µ	1.22 d	Bm			
4						
4 5 6						E
4 5 6 6 6						E
4 5 6 7 8						B
4 5 6 7 8 9 9						
4 5 6 7 8 9 10 11						E
4 5 6 7 7 8 9 9 10 11 4			III.	GTTT		≡
4 5 6 7 8 9 9 10 11 4sg			m	STATUS		■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■
4 5 6 7 8 9 10 11 11 11 11 11 11 11 11		BLE/GFSK 1	"" Mbps Low Channe	status el, 2402 MHz		
4 5 6 9 9 10 11 11 8 5 9 9 9 10 11 11 8 5 6 9 9 9 10 10 11 11 8 5 10 10 11 10 10 10 10 10 10 10 10 10 10		BLE/GFSK 1	" Mbps Low Channe Number of	status el, 2402 MHz Value	Limit	
4 5 6 7 8 9 9 10 11 11 4 5 8 9 9 9 9 9 10 11 11 4 5 10 11 10 11 10 11 10 11 10	Pulse Width	BLE/GFSK 1 Period	" Mbps Low Channe Number of Pulses	status el, 2402 MHz Value (%)	Limit (%)	Results
4 5 6 7 8 9 9 10 11 4 5 9 9 10 11 4 5 10 11 4 5 10 11 4 5 10 11 10 11 4 5 10 10 11 10 11 10 10 10 10 10 10 10 10	Pulse Width N/A	BLE/GFSK 1 Period N/A	" Mbps Low Chann Number of Pulses 5	status el, 2402 MHz Value (%) N/A	Limit (%)	Results N/A
4 5 6 7 8 9 10 11 11 4 5 6 9 9 10 10 11 11 4 5 6 9 9 10 10 11 11 11 11 11 11 11	Pulse Width N/A	BLE/GFSK 1 Period N/A	" Mbps Low Channe Number of Pulses 5	status el, 2402 MHz Value (%) N/A	Limit (%) N/A	Results N/A
4	Pulse Width N/A	BLE/GFSK 1 Period N/A	m Mbps Low Chann Number of Pulses 5	status el, 2402 MHz Value (%) N/A	Limit (%) N/A	Results N/A

IXI RL	RF 50 Ω A	c	logy (SENSE:INT		ALIGN OFF		10:04:13 AM Mar 29, 2022
			PNO: Fast +++ IFGain:Low	Trig: Vide #Atten: 1	eo 0 dB	#Avg Ty	pe: Voltage	TRACE 12345 TYPE WWWWW DET PPPP
5 dB/div Log	Ref Offset 21.82 Ref 21.82 dBr	dB n						
16.0								
10.0								
11.8								
6.82								
1.82								
-3.18								
-8.18								
-13.2								
-18.2								
-23.2								
Center 2.4 Res BW 3	02000000 GHz		#VBI	W 30 kHz			Swee	Span 0 Hz
MSG						STATUS		,, , _, _, _ , _ _, _ , _ , _ , _ _, _ , _ , _ , _ _, _ , _ _, _ , _ _, _ , _ _, _ , _



			Number of	Value	Limit	
	Pulse Width	Period	Pulses	(%)	(%)	Results
	105.617 us	625.1 us	1	16.9	N/A	N/A
Keysight Spectrum Analy	yzer - Element Materials Techn	plogy	NCEITNT			10:17:22 AM Mar 20, 2022
	50 52 AC	SE	Trig Delay-100.0 µs	#Avg Type	e: Voltage	TRACE 1 2 3 4 5 6
		PNO: Fast +++	Trig: Video #Atten: 10 dB			DET P P P P P
		II Guill.cow				Mkr2 206 3 us
Ref Ofi 5 dB/div Ref 2	fset 21.82 dB 1.82 dBm					3.14 dBm
Log						
16.8						
11.8						
6.82	r─── <mark>}</mark> 2───				3	
1.82 —					+ ¥	
-3.18						
-8.18						TRIG LVL
-13.2						
-18.2						
-23.2						
0						0
Res BW 3.0 MHz	GHZ	#VBW	30 kHz		Sweep 1	5pan 0 H2 (8192 pts) 000 ms.
MKR MODE TRC SCL	х	Y	FUNCTION	FUNCTION WIDTH	FUNCT	TION VALUE
1 N 1 t	100.7	us 1.19 d	Bm Bm			
3 N 1 t	725.8	us 1.31 d	Bm			
5						E
6						
8						
10						
			m			
MSG				STATUS		
		BLE/GFSK 1	Mbps Mid Channe	l, 2442 MHz		
			Number of	Value	Limit	
	Pulse Width	Period	Pulses	(%)	(%)	Results
_	N/A	N/A	5	N/A	N/A	N/A
Keysight Spectrum Analy	yzer - Element Materials Techn 50 Ω AC	ology SF	NSE:INT	ALIGN OFF		10:17:40 AM Mar 29, 2022
- Contraction of the second se	Let be the l			#Ava Tup	v: Voltago	

		PNO: Fast ↔ IFGain:Low	, Trig: Video #Atten: 10 dB	#Avg Type: Voltage	TYPE WWWWWW DET P P P P P P
Ref 5 dB/div Re f	Offset 21.82 dB f 21.82 dBm				
16.8					
14.0					
11.8					
6.82					
1.82					
-3.18					
-8.18					TRIG LVL
-13.2					
-18.2					
-23.2					
Center 2.4420 Res BW 3.0 M	00000 GHz Hz	#VE	SW 30 kHz	Swe	Span 0 Hz ep 2.813 ms (8192 pts)
MSG				STATUS	



		DEE/OF OR FT	Number of	Value	Limit	
	Pulse Width	Period	Pulses	(%)	(%)	Results
	106 682 us	625.1 us	1	17.1	N/A	N/A
	100.002 00	020.1 00	•		14/7	10/7
Kansisht Casata 1	have flowers Material T	1				
Keysight Spectrum Ana	Ilyzer - Element Materials Techno	logy SEN		ALIGN OFF		10:24:23 AM Mar 29, 2022
	00000		Trig Delay-100.0 µ	s #Avg Typ	e: Voltage	TRACE 1 2 3 4 5 6
		PNO: Fast	Trig: Video			DET P P P P P
		IFGain:Low	#Atten: To ub			Mileo 007.0
Ref O	ffset 21.82 dB					MKr2 207.3 μs
5 dB/div Ref 2	21.82 dBm				1	1.09 0.011
16.8						
11.0						
0.00						
6.82	1 2				3	
1.82					- Y	
-3.18						
-8.18						
-13.2						IRIG LVL
10.2						
-16.2						
-23.2						
Center 2 480000	1000 GHz		l	l		Span () Hz
Res BW 3.0 MH:	z	#VBW	30 kHz		Sweep 1	.000 ms (8192 pts)
MKB MODE TBC SCU	x	Y	EUNCTION	EUNCTION WIDTH	FUNCTI	ON VALUE
1 N 1 t	1 <u>00.6 µ</u>	s 0.99 di	3m		. onem	
2 N 1 t	207.3 µ 725 7 µ	s 1.09 dE	3m			
4	120.1 p	1.TV 41				
5						E
7						
8						
10						
			m			+
MSG				STATUS		
100				STATUS		
		BIE/GESK 1	Abos High Char	nol 2480 MH-		
		DLE/GF3R II	Number of	Value	Limit	
	Pulse Width	Period	Pulses	(%)	(%)	Results
	N/A	N/A	5	N/A	N/A	N/A
	11/7	IN/A	5	11/7	11/7	11/17
			er terre terre tric terre ter			
Keysight Spectrum Ana	iyzer - Element Materials Techno 50 Ω AC	Iogy SEN	ISE:INT	ALIGN OFF		10:24:31 AM Mar 29 2022
	100 JC (10	1 30		#Avg Typ	e: Voltage	TRACE 1 2 3 4 5 6
		PNO: Fast	Trig: Video			DET P P P P P
		IFCoind out	#Atten: 10 dB			DET

	PNO: Fast ↔→ IFGain:Low	Trig: Video #Atten: 10 dB		DET PPPPP
Ref Offset 21.82 d 5 dB/div Ref 21.82 dBm	IB I			
16.8				
11.8				
6.82				
1.82				
-3.18				
-8.18				TRIG LVL
-13.2				
-18.2				
-23.2				
Center 2.480000000 GHz				Span 0 Hz
Res BW 3.0 MHz	#VB\	N 30 kHz	\$	Sweep 2.813 ms (8192 pts)
MSG			STATUS	



				BLE/GFSk	2 Mbps L	ow Channe	el, 2402 MHz	1.1		
					Nun	iber of	Value	Limit		
			Pulse Width	Period		lises	(%)	(%)	Results	-
			68.271 US	625.1 US		1	10.9	N/A	N/A	
Keysight Sr	pectrur	m Analyze	er - Element Materials Tec	hnology						×
LXI RL	1	RF	50 Ω AC		SENSE:INT		ALIGN OFF		10:33:48 AM Mar 29,	2022
				PNO: Fast ↔ IFGain:Low	Trig De Trig: Vi #Atten:	lay-100.0 μs deo 10 dB	#Avg Typ	be: Voltage	TRACE 1 2 3 TYPE WWW DET P P P	456 ₩₩₩ ₽РРР
5 dB/div	R R	ef Offse ef 21.	et 21.82 dB 8 2 dBm						Mkr2 168.9 1.87 dl	µs Bm
Log										
16.8										
11.8										
6.82			2					3		
1.82		-								
-3.18										
-8.18										
-13.2									TRI	<u>SLVL</u>
19.2										
-10.2										
-23.2										
Center 2 Res BW	.402 3.0 I	200000 MHz	00 GHz	#VE	3W 30 kH	z		Sweep	Span 0 1.000 ms (8192	Hz pts)
MKR MODE T	TRC S	CL	x	Y		UNCTION	FUNCTION WIDTH	FL	JNCTION VALUE	_
1 N	1		100.	6 µs 0.6	6 dBm					
2 N 3 N	1		<u>168.</u> 725.	9µs 1.8 7µs 0.7	dBm dBm					
4	٢									
6										-
7										
9										
10										Ų
•					III					•
MSG							STATUS			
	_			BLE/GFSK	2 Mbps L	ow Channe	el. 2402 MHz			
					Nun	ber of	Value	Limit		
			Pulse Width	Period	P	Ilses	(%)	(%)	Results	_
			N/A	N/A		5	N/A	N/A	N/A	
		_								
Keysight Sp	ectrun	n Analyze	r - Element Materials Tec	hnology						X

IXI RL	RL RF 50 Ω AC SENSE:INT			ALIGN OFF	ALIGN OFF 10:33:52 AM Mar 29, 2022				
			PNO: Fast ↔ IFGain:Low	. Trig: Vi #Atten:	deo 10 dB	#Avg Ty	/pe: Voltage	TRACE 1 2 3 4 TYPE WWWW DET P P P	56 ₩₩₩ PPP
5 dB/div Log	Ref Offset 21.8 Ref 21.82 dE	2 dB 3m		1				1	
16.8							7		
11.8									
6.82									
1.82									
-3.18									
-8.18									
12.3								TRIG	LVL
-13.2									
-18.2									
-23.2									
Center 2.4	02000000 GH	Iz						Span 0	Hz
Res BW 3	.0 MHz		#VB	W 30 KH	z		Swee	ep 2.813 ms (8192 p	ots)
MSG						STATUS			



		BLE/GESK 2	Mbps Mid Chan	nel 2442 MHz			
		222,010112	Number of	Value	Limit		
	Pulse Width	Period	Pulses	(%)	(%)	Results	
	67.417 us	625.1 us	1	10.8	N/A	N/A	
🔤 Keysight Spectrum Analyzer	- Element Materials Technolog	ау					
🔀 RL RF 5	50 Ω AC	SEN	ISE:INT	ALIGN OFF	· Voltago	10:47:08 AM Mar 29, 2022	
	P	NO: Fast +++	Trig: Video	is #Avg type	. voltage	TYPE WWWWWW	
	IF	Gain:Low	#Atten: 10 dB			DETERPT	
Ref Offse	21.82 dB					Mkr2 168.1 µs	
5 dB/div Ref 21.8	2 dBm		1		1	3.45 UBIII	
16.8	~						
11.8							
6.82	2						
182					≬ °		
-3.18							
0.10							
-0.10						TRIG LVL	
-13.2							
-18.2							
-23.2							
Center 2.44200000	0 GHz					Span 0 Hz	
Res BW 3.0 MHz		#VBW	30 kHz		Sweep 1.	.000 ms (8192 pts)	
MKR MODE TRC SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTI	ON VALUE	
	100.7 µs 168.1 µs	1.02 dl 3.45 dl	3m 3m				
3 N 1 t	725.8 µs	1.14 dE	3m				
5						E	
8							
10							
MSG				STATUS			
		BLE/GFSK 2	Mbps Mid Chan	nel, 2442 MHz			
			Number of	Value	Limit		
	Pulse Width	Period	Pulses	(%)	(%)	Results	
	N/A	N/A	5	N/A	N/A	N/A	

Keysight Spect	rum Analyzer - Element Materials	Technology			1	
CA RL	RF 50 Ω AC	PNO: Fast ↔→ IFGain:Low	Trig: Video #Atten: 10	ALIGN OFF #Avg Typ dB	e: Voltage	10:47:13 AM Mar 29, 2022 TRACE 1 2 3 4 5 6 TYPE WWWWWW DET P P P P P P
5 dB/div Log	Ref Offset 21.82 dB Ref 21.82 dBm			1		
16.8					1	
11.8					1	
6.82					1	
1.82						
-3.18						
-8.18						TRIG LVL
-13.2						
-18.2						
-23.2						
Center 2.44 Res BW 3.0	12000000 GHz) MHz	#VB\	N 30 kHz		Sweep	Span 0 Hz 2.813 ms (8192 pts)
MSG				STATUS		



		BLE/GFSK 2	Mbps High Chanr	nel, 2480 MHz		
			Number of	Value	Limit	
	Pulse Width	Period	Pulses	(%)	(%)	Results
	67.705 us	625 us	1	10.8	N/A	N/A
Keysight Spectrum Analyzer Ref Offse dB/div Ref Offse 5 dB/div Ref 21.5 16.8 1 1.82 1 3.18 1 4.13 1 2.3.2 2 Center 2.48000000 2	- Element Materials Technolo- 50 Ω AC t 21.82 dB 32 dBm	gy SE PNO: Fast -→- FGain:Low	I Trig Delay-100.0 µSE:INT Trig: Video #Atten: 10 dB	IU.δ ALIGN OFF 5 #Avg Type	e: Voltage	IV/A 10:53:28 АМ Маг29, 2022 ТКАСЕ 12 34 5 о ТУРР Р Р Р Р Р Мkr2 168.4 µs 2.68 dBm ТКОС VL
Kes BW 3.0 Winz MKR Mode TRC SCL 1 N 1 t 2 N 1 t 3 N 1 t 4 5 5 5 6 7 7 7 8 8 8 8	Х 100.7 µs 168.4 µs 725.7 µs	#VBW	Bm Bm Bm	FUNCTION WIDTH	FUNCT	ON VALUE
9 10 11 MSG	Pulse Width	BLE/GFSK 2 Period	" Mbps High Chanr Number of Pulses	status nel, 2480 MHz Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A
Keysight Spectrum Analyzer	- Element Materials Technolo	gy				- 6

	PNO: Fast ++ Trig: Vide IFGain:Low #Atten: 10	#Avg Type: o) dB	Voltage TRACE 1 2 3 4 5 6 TYPE WWWWW DET P P P P P P
Ref Offset 21.82 dB 5 dB/div Ref 21.82 dBm			
16.8			
11.8			
6.82			
1.82			
-3.18			
-8.18			TRIO LVL
-13.2			
-18.2			
-23.2			
Center 2.480000000 GHz Res BW 3.0 MHz	#VBW 30 kHz		Span 0 Hz Sweep 2.813 ms (8 <u>192 pts)</u>
MSG		STATUS	



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
Generator - Signal	Keysight	N5171B (EXG)	TEY	2019-12-31	2022-12-31
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2021-04-16	2022-04-16
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2021-09-12	2022-09-12
Attenuator	Fairview Microwave	SA18S5W-20	RFX	2021-06-02	2022-06-02
Block - DC	Fairview Microwave	SD3379	AMI	2021-08-13	2022-08-13

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 2021.12.14.1	XMit 2022.02.07.0			
EUT:	SLATESAFETY BAND V2				Work Order:	FITY0001				
Serial Number:	6563				Date:	29-Mar-22				
Customer:	FireHUD Inc. DBA SlateS	afety			Temperature:	24.4 °C				
Attendees:	Dustin Morris				Humidity:	19.9% RH				
Project:	None				Barometric Pres.:	Barometric Pres.: 1015 mbar				
Tested by:	Andrew Rogstad, Christo	pher Heintzelman	Power:	110VAC/60Hz	Job Site:	MN08				
TEST SPECIFICAT	IONS			Test Method						
FCC 15.247:2022				ANSI C63.10:2013						
COMMENTS										
Reference level off	set accounts for measure	ment cable, DC block, attenu	uator, and customer's cable.							
DEVIATIONS FROM	W IESI SIANDARD									
None										
Configuration #	1			40						
g		Signature	Cho R	and						
					Malaa	1 1 14	Beerk			
						Limit	Result			
BLE/GFSK 125 KDPS	s Low Channel, 2402 MHz				1.026 MHZ	N/A	N/A			
BLE/GFSK 125 KDPS	s Mid Channel, 2442 MHz				1.027 MHz	N/A	N/A			
BLE/GFSK 125 Kbps	s High Channel, 2480 MHz				1.027 MHz	N/A	N/A			
BLE/GFSK 1 Mbps I	Low Channel, 2402 MHz				1.04 MHz	N/A	N/A			
BLE/GFSK 1 Mbps I	Mid Channel, 2442 MHz				1.032 MHz	N/A	N/A			
BLE/GFSK 1 Mbps I	High Channel, 2480 MHz				1.04 MHz	N/A	IN/A			
BLE/GFSK 2 Mbps I	Low Channel, 2402 MHz				2.036 MHz	N/A	N/A			
BLE/GFSK 2 Mbps I	Mid Channel, 2442 MHz				2.049 MHz	N/A	N/A			
BLE/GFSK 2 Mbps I	High Channel, 2480 MHz				2.044 MHz	N/A	N/A			











% of OBW Power

x dB

99.00 %

s 1 DC Coupled

-26.00 dB

Transmit Freq Error

x dB Bandwidth

27.743 kHz

1.249 MHz





% of OBW Power

x dB

99.00 %

s 1 DC Coupled

-26.00 dB

Transmit Freq Error

x dB Bandwidth

26.370 kHz

1.257 MHz













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
Generator - Signal	Keysight	N5171B (EXG)	TEY	2019-12-31	2022-12-31
Cable	Micro-Coax	D150A-1-0720-200	MNL	2021-09-12	2022-09-12
Attenuator	Fairview Microwave	SA18S5W-20	RFX	2021-06-02	2022-06-02
Block - DC	Fairview Microwave	SD3379	AMI	2021-08-13	2022-08-13
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2021-04-16	2022-04-16

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.

From section 11.8.2 in ANSI C63.10:2013, Option 2 was used.



						TbtTx 2021.12.14.1	XMit 2022.02.07.
EUT: SL/	ATESAFETY BAND V	2			Work Order:	FITY0001	
Serial Number: 656	3				Date:	29-Mar-22	
Customer: Fire	HUD Inc. DBA Slates	Safety			Temperature:	24.3 °C	
Attendees: Dus	stin Morris				Humidity:	20% RH	
Project: Nor	ne				Barometric Pres.:	1015 mbar	
Tested by: And	drew Rogstad, Christ	opher Heintzelman	Power	: 110VAC/60Hz	Job Site:	MN08	
TEST SPECIFICATION	S			Test Method			
FCC 15.247:2022				ANSI C63.10:2013			
COMMENTS							
Reference level offset	accounts for measure	ement cable, DC block, atten	uator, and customer's ca	ble.			
1							
DEVIATIONS FROM TE	ST STANDARD						
None							
0			- /	5 110			
Configuration #	1	Signature	and k	optart			
		• •				Limit	
1					Value	(≥)	Result
BLE/GFSK 125 kbps Lo	w Channel, 2402 MHz				607.42 kHz	500 kHz	Pass
BLE/GFSK 125 kbps Mid	d Channel, 2442 MHz				608.219 kHz	500 kHz	Pass
BLE/GFSK 125 kbps Hig	gh Channel, 2480 MHz	<u>r</u>			608.723 kHz	500 kHz	Pass
BLE/GFSK 1 Mbps Low	Channel, 2402 MHz				517.566 kHz	500 kHz	Pass
BLE/GFSK 1 Mbps Mid	Channel, 2442 MHz				548.197 kHz	500 kHz	Pass
BLE/GFSK 1 Mbps High	Channel, 2480 MHz				557.336 kHz	500 kHz	Pass
BLE/GFSK 2 Mbps Low	Channel, 2402 MHz				859.496 kHz	500 kHz	Pass
BLE/GFSK 2 Mbps Mid	Channel, 2442 MHz				851.452 kHz	500 kHz	Pass
BLE/GFSK 2 Mbps High	Channel, 2480 MHz				852.584 kHz	500 kHz	Pass





% of OBW Power

x dB

99.00 %

-6.00 dB

S 1 DC Coupled

Transmit Freq Error

x dB Bandwidth

18.057 kHz

608.2 kHz





S 1 DC Coupled





-6.00 dB

S L DC Coupled

x dB Bandwidth

557.3 kHz

x dB





-10.0 -15.0 -20.0 Cepter 2 442000 CHz				Spap 5 000 MHz
#Res BW 100 kHz		#VBW 300 kHz		Sweep 1.2 ms
Occupied Bandwid	lth	Total Power	20.4 dBm	
2	.0938 MHz			
Transmit Freq Error	32.632 kHz	% of OBW Power	99.00 %	
x dB Bandwidth	851.5 kHz	x dB	-6.00 dB	
MSG			STATUS () DC Coupled	







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
Generator - Signal	Keysight	N5171B (EXG)	TEY	2019-12-31	2022-12-31
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2021-09-12	2022-09-12
Attenuator	Fairview Microwave	SA18S5W-20	RFX	2021-06-02	2022-06-02
Block - DC	Fairview Microwave	SD3379	AMI	2021-08-13	2022-08-13
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2021-04-16	2022-04-16

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 2021.12.14.1	XMit 2022.02.07.0
EUT: SLATESAFETY BAND V2	Work Order:	FITY0001	
Serial Number: 6563	Date:	29-Mar-22	
Customer: FireHUD Inc. DBA SlateSafety	Temperature:	24.4 °C	
Attendees: Dustin Morris	Humidity:	19.8% RH	
Project: None	Barometric Pres.:	1015 mbar	
Tested by: Andrew Rogstad, Christopher Heintzelman Power: 110VAC/60Hz	Job Site:	MN08	
TEST SPECIFICATIONS Test Method			
FCC 15.247:2022 ANSI C63.10:2013			
COMMENTS			
Reference level offset accounts for measurement cable, DC block, attenuator, and customer's cable.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration # 1			
Signature Signature			
	Out Pwr	Limit	
	(dBm)	(dBm)	Result
BLE/GFSK 125 kbps Low Channel, 2402 MHz	12.914	30	Pass
BLE/GFSK 125 kbps Mid Channel, 2442 MHz	13.195	30	Pass
BLE/GFSK 125 kbps High Channel, 2480 MHz	12.994	30	Pass
BLE/GFSK 1 Mbps Low Channel, 2402 MHz	18.678	30	Pass
BLE/GFSK 1 Mbps Mid Channel, 2442 MHz	18.949	30	Pass
BLE/GFSK 1 Mbps High Channel, 2480 MHz	18.794	30	Pass
BLE/GFSK 2 Mbps Low Channel, 2402 MHz	18.754	30	Pass
BLE/GFSK 2 Mbps Mid Channel, 2442 MHz	18.957	30	Pass
			-





		Out Pwr	Limit	
		(dBm)	(dBm)	Result
		13.195	30	Pass







	DEL/OI OICT	Out Pwr	Limit	
		(dBm)	(dBm)	Result
		18.678	30	Pass

















