Sig Sauer, Inc.

Electro-Optics

KILO2400ABS Rangefinder

FCC 15.247:2017

Bluetooth Radio

Report # SIGS0004.1

NVLAP Lab Code: 200630-0

CERTIFICATE OF TEST

2017-1-25

Last Date of Test: February 23, 2017
Sig Sauer, Inc.
Electro-Optics
Model: KILO2400ABS Rangefinder

Radio Equipment Testing

Standards

Specification	Method
FCC 15.247:2017	ANSI C63.10:2013

Results

Method Clause	Test Description	Applied	Results	Comments
6.2	AC - Powerline Conducted Emissions	No	N/A	Not required for a battery powered EUT.
6.5, 6.6	Spurious Radiated Emissions	Yes	Pass	
7.5	Duty Cycle	Yes	Pass	
7.8.2	Carrier Frequency Separation	Yes	Pass	
7.8.3	Number of Hopping Frequencies	Yes	Pass	
7.8.4	Dwell Time	Yes	Pass	
7.8.5	Output Power	Yes	Pass	
7.8.6	Band Edge Compliance	Yes	Pass	
7.8.6	Band Edge Compliance - Hopping Mode	Yes	Pass	
7.8.7	Occupied Bandwidth	Yes	Pass	
7.8.8	Spurious Conducted Emissions	Yes	Pass	

Deviations From Test Standards

None

Approved By:

Kyle Holgate, Operations 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.

REVISION HISTORY

Revision Number	Description	Date	Page Number
00	None		

ACCREDITATIONS AND AUTHORIZATIONS

2017.1.25

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 - Accredited by A2LA to ISO / IEC 17065 as a product certifier. This allows Element to certify transmitters to FCC and IC specifications.

NVLAP - Each laboratory is accredited by NVLAP to ISO 17025

Canada

ISED - Recognized by Innovation, Science and Economic Development Canada as a Certification Body (CB). Certification chambers and Open Area Test Sites are filed with ISED.

European Union

European Commission – Validated by the European Commission as a Notified Body under the R&TTE Directive.

Australia/New Zealand

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

Korea

MSIP / 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.

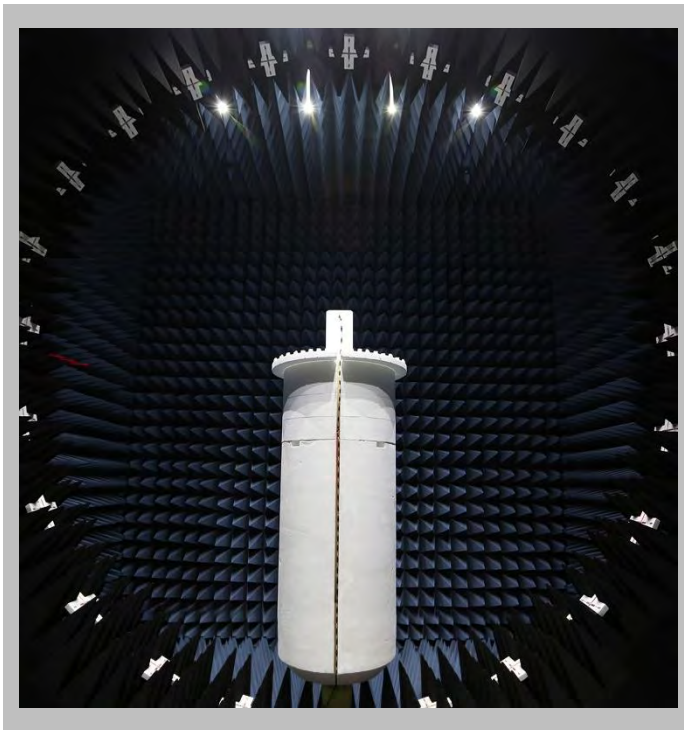
SCOPE

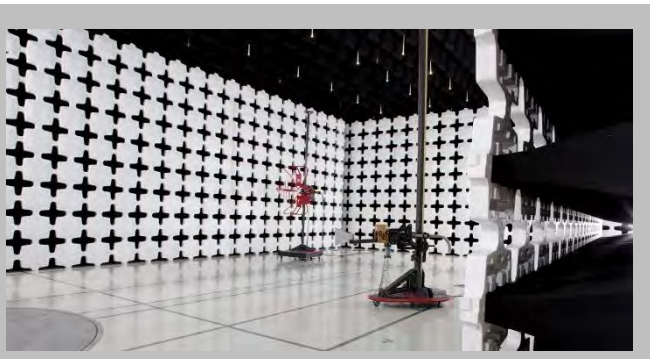
For details on the Scopes of our Accreditations, please visit:
http://portlandcustomer.element.com/ts/scope/scope.htm
http://gsi.nist.gov/global/docs/cabs/designations.html

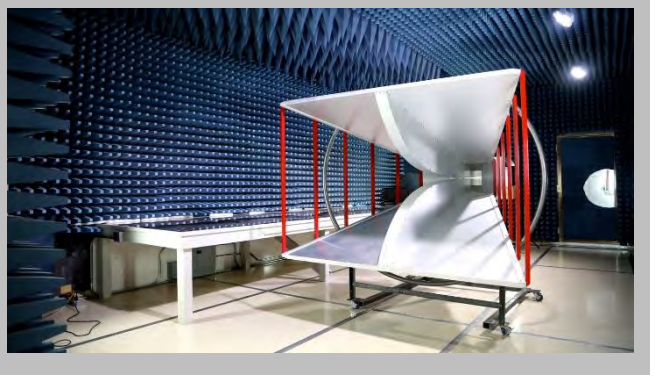
FACILITIES

2017.3.2

California	Minnesota	New York	Oregon	Texas	Washington
Labs OC01-13 41 Tesla Irvine, CA 92618 (949) 861-8918	Labs MN01-08, MN10 9349 W Broadway Ave. Brooklyn Park, MN 55445 (612)-638-5136	Labs NY01-04 4939 Jordan Rd. Elbridge, NY 13060 (315) 554-8214	Labs EV01-12 22975 NW Evergreen Pkwy Hillsboro, OR 97124 (503) 844-4066	Labs TX01-09 3801 E Plano Pkwy Plano, TX 75074 (469) 304-5255	Labs NC01-05 19201 120th Ave NE Bothell, WA 98011 (425)984-6600
NVLAP					
NVLAP Lab Code: 200676-0	NVLAP Lab Code: 200881-0	NVLAP Lab Code: 200761-0	NVLAP Lab Code: 200630-0	NVLAP Lab Code:201049-0	NVLAP Lab Code: 200629-0
Innovation, Science and Economic Development Canada					
2834B-1, 2834B-3	2834E-1	N/A	2834D-1, 2834D-*2*	2834G-1	2834F-1
BSMI					
SL2-IN-E-1154R	SL2-IN-E-1152R	N/A	SL2-IN-E-1017	SL2-IN-E-1158R	SL2-IN-E-1153R
VCCI					
A-0029	A-0109	N/A	A-0108	A-0201	A-0110
Recognized Phase I CAB for ACMA, BSMI, IDA, KCC/RRA, MIC, MOC, NCC, OFCA					
US0158	US0175	N/A	US0017	US0191	US0157







MEASUREMENT UNCERTAINTY

TMU.2015.07.10

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.

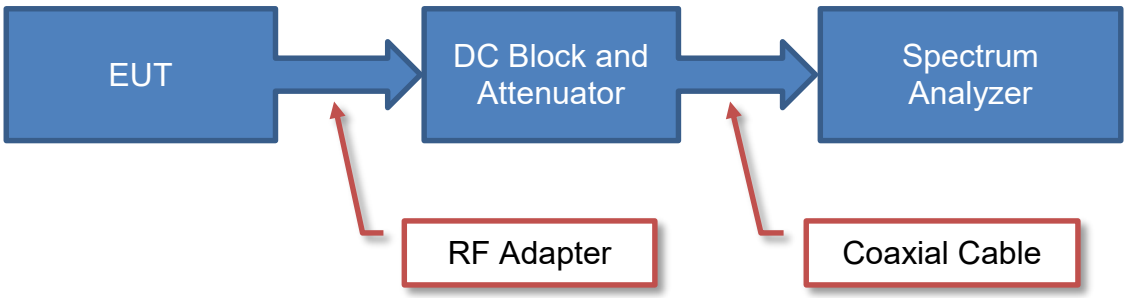
A measurement uncertainty estimation has been performed for each test per our internal quality document QM205.4.6. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty (K=2) can be found included as part of the applicable test description page. 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.

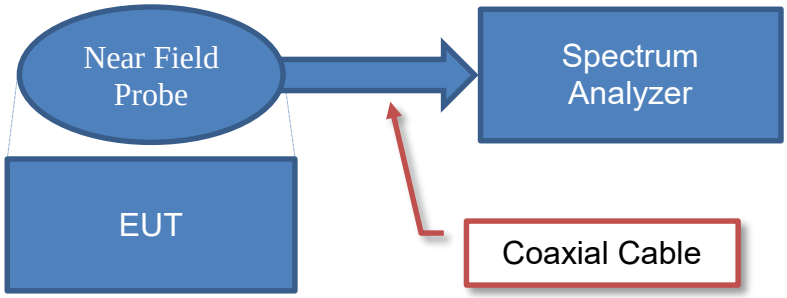
Test	+ MU	- MU
Frequency Accuracy (Hz)	0.0007%	-0.0007%
Amplitude Accuracy (dB)	1.2 dB	-1.2 dB
Conducted Power (dB)	0.3 dB	-0.3 dB
Radiated Power via Substitution (dB)	0.7 dB	-0.7 dB
Temperature (degrees C)	0.7°C	-0.7°C
Humidity (% RH)	2.5% RH	-2.5% RH
Voltage (AC)	1.0%	-1.0%
Voltage (DC)	0.7%	-0.7%
Field Strength (dB)	5.2 dB	-5.2 dB
AC Powerline Conducted Emissions (dB)	2.4 dB	-2.4 dB

Test Setup Block Diagrams

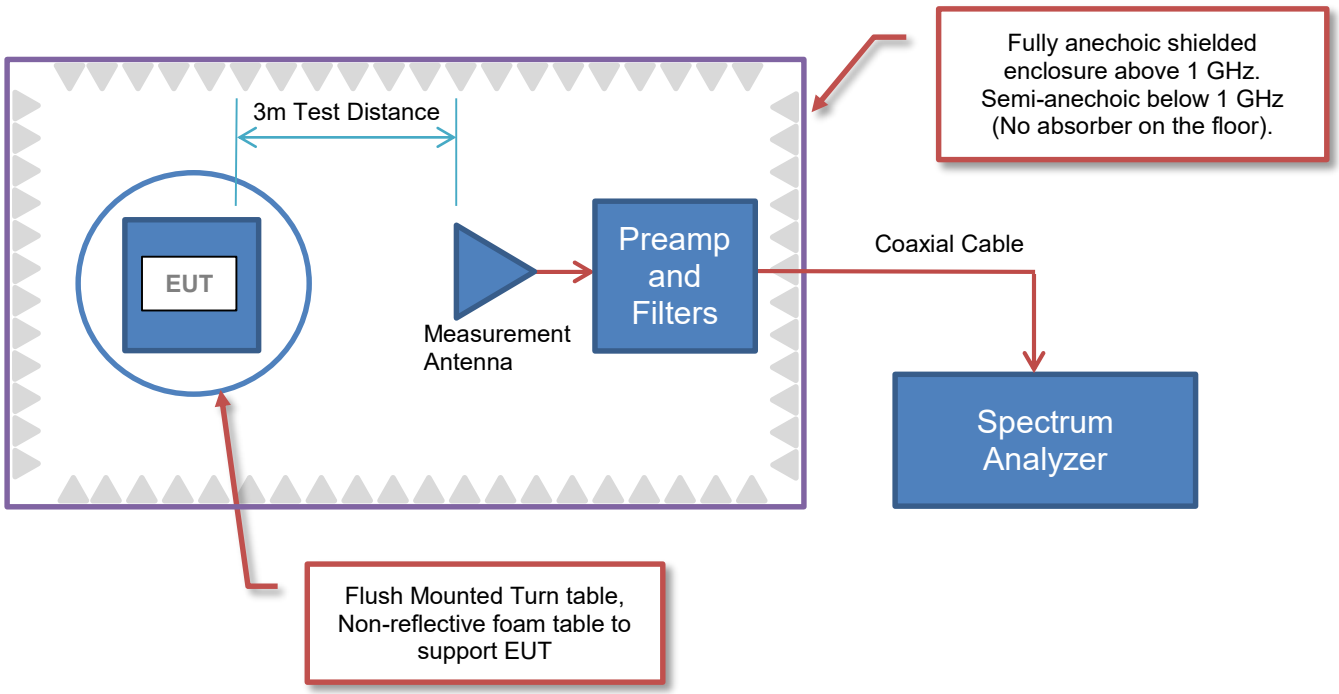
Antenna Port Conducted Measurements



Near Field Test Fixture Measurements



Spurious Radiated Emissions



PRODUCT DESCRIPTION

Client and Equipment Under Test (EUT) Information

Company Name:	Sig Sauer, Inc. Electro-Optics
Address:	19861 SW 95th Ave
City, State, Zip:	Tualatin, OR 97062
Test Requested By:	Don Cramer
Model:	KILO2400ABS Rangefinder
First Date of Test:	February 20, 2017
Last Date of Test:	February 23, 2017
Receipt Date of Samples:	February 20, 2017
Equipment Design Stage:	Production
Equipment Condition:	No Damage
Purchase Authorization:	Verified

Information Provided by the Party Requesting the Test

Functional Description of the EUT:
Rangefinder which utilizes a Bluetooth BR/EDR (FHSS) / Low Energy (DTS) radio for communication with smart phone applications.

Testing Objective:
To demonstrate compliance of the Bluetooth FHSS radio to FCC 15.247 requirements

CONFIGURATIONS

Configuration SIGS0004- 1

Software/Firmware Running during test	
Description	**Version**
MircoChip ISRT	2.1.29.4784

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Rangefinder	Sig Sauer, Inc. Electro-Optics	None	KILO2400ABS

Peripherals in test setup boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
USB to UART conversion board	None	FTDI	FTDI232RL
Laptop (Dell)	Dell	XPS15	JTNZYZ1
AC/DC Adapter (Dell)	Dell	DA130PM130	CN-06TTY6-48661-435-0LE-A00

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
USB Cable	Yes	1.0m	No	USB to UART conversion board	Laptop (Dell)
AC Power Supply Cable	No	1.0m	No	AC mains	AC/DC Adapter (Dell)
DC Power Cable	Unknown	2.0m	Unknown	AC/DC Adapter (Dell)	Laptop (Dell)

Configuration SIGS0004- 3

Software/Firmware Running during test	
Description	**Version**
MircoChip ISRT	2.1.29.4784

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Rangefinder (Radiated)	Sig Sauer, Inc. Electro-Optics	None	000002GA

Remote Equipment Outside of Test Setup Boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
USB to UART conversion board	None	FTDI	FTDI232RL
Laptop (Dell)	Dell	XPS15	JTNZYZ1

MODIFICATIONS

Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	2/20/2017	Duty Cycle	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
2	2/20/2017	Carrier Frequency Separation	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
3	2/20/2017	Number of Hopping Frequencies	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
4	2/20/2017	Dwell Time	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
5	2/20/2017	Output Power	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
6	2/20/2017	Band Edge Compliance	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
7	2/20/2017	Band Edge Compliance – Hopping Mode	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
8	2/20/2017	Occupied Bandwidth	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
9	2/20/2017	Spurious Conducted Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
10	2/23/2017	Spurious Radiated Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

SPURIOUS RADIATED EMISSIONS

PSA-ESCI 2017.01.26

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

MODES OF OPERATION

BDR DH5 Single Channel Mode
EDR 2DH5 Single Channel Mode
EDR 3DH5 Single Channel Mode

CHANNELS OF OPERATION

Low Ch. 2402 MHz
Mid Ch. 2441 MHz
High Ch. 2480 MHz

POWER SETTINGS INVESTIGATED

Battery (3.0VDC)

CONFIGURATIONS INVESTIGATED

SIGS0004 - 3

FREQUENCY RANGE INVESTIGATED

Start Frequency	30 MHz	Stop Frequency	26500 MHz

SAMPLE CALCULATIONS

Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Analyzer - Spectrum Analyzer	Agilent	E4446A	AAQ	4/22/2016	12 mo
Cable	ESM Cable Corp.	KMKM-72	EVY	10/17/2016	12 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-18002650-25-10P	AVU	10/17/2016	12 mo
Antenna - Standard Gain	ETS Lindgren	3160-09	AIV	NCR	0 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVD	2/6/2017	12 mo
Antenna - Standard Gain	ETS Lindgren	3160-08	AHV	NCR	0 mo
Cable	None	Standard Gain Horns Cable	EVF	2/6/2017	12 mo
Amplifier - Pre-Amplifier	L-3 Narda-MITEQ	AMF-6F-08001200-30-10P	PAO	2/7/2017	12 mo
Antenna - Standard Gain	ETS Lindgren	3160-07	AHU	NCR	0 mo
Filter - High Pass	Micro-Tronics	HPM50111	HFO	2/6/2017	12 mo
Attenuator	Coaxicom	3910-10	AWX	5/18/2016	12 mo
Attenuator	Coaxicom	3910-20	AXZ	5/18/2016	12 mo
Cable	N/A	Double Ridge Horn Cables	EVB	2/6/2017	12 mo
Amplifier - Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	PAG	2/6/2017	12 mo
Antenna - Double Ridge	ETS Lindgren	3115	AIZ	2/3/2016	24 mo
Filter - Low Pass	Micro-Tronics	LPM50004	LFD	5/18/2016	12 mo
Cable	N/A	Bilog Cables	EVA	2/6/2017	12 mo
Amplifier - Pre-Amplifier	Miteq	AM-1616-1000	AOL	2/6/2017	12 mo
Antenna - Biconilog	Teseq	CBL 6141B	AXR	6/30/2016	24 mo

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 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 at the edges of the allowable band may be presented in an alternative method as provided for in the ANSI C63.10 Marker-Delta method. This method involves performing an in-band fundamental measurement followed by a screen capture of the fundamental and out-of-band emission using reduced measurement instrumentation bandwidths. The amplitude delta measured on this screen capture is applied to the fundamental emission value to show the out-of-band emission level as applied to the limit.

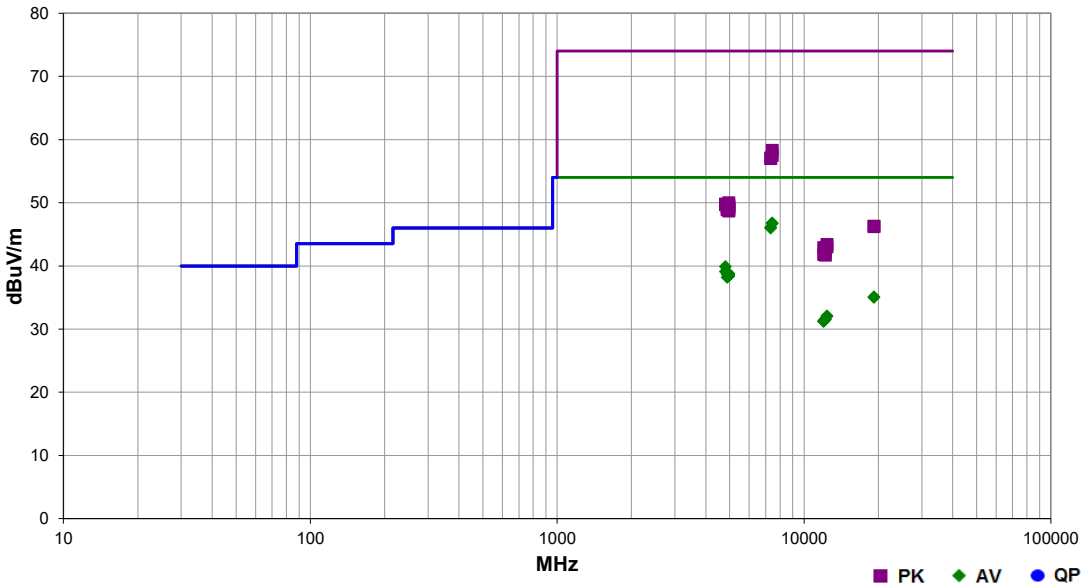
SPURIOUS RADIATED EMISSIONS

EmiR5 2017.01.25 PSA-ESCI 2017.01.26

Work Order:	SIGS0004	**Date:**	02/23/17	
Project:	None	**Temperature:**	23.3 °C	
Job Site:	EV01	**Humidity:**	29.8% RH	
Serial Number:	000002GA	**Barometric Pres.:**	1028 mbar	**Tested by:** Brandon Hobbs
EUT:	KILO2400ABS Rangefinder			
Configuration:	3			
Customer:	Sig Sauer, Inc. Electro-Optics			
Attendees:	Don Cramer			
EUT Power:	Battery (3.0VDC)			
Operating Mode:	Continuous Tx, Please reference the data comments for EUT operating mode			
Deviations:	None			
Comments:	Client provided 3rd party software to control radio module. Please reference the data comments for EUT orientation and frequency.			

Test Specifications	**Test Method**
FCC 15.247:2017	ANSI C63.10:2013

Run #	19	**Test Distance (m)**	3	**Antenna Height(s)**	1 to 4(m)	**Results**	Pass



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
7440.505	27.4	19.4	1.0	355.0	3.0	0.0	Vert	AV	0.0	46.8	54.0	-7.2	High Ch.2480MHz, DH5, EUT On Side
7439.310	27.3	19.4	3.4	215.0	3.0	0.0	Horz	AV	0.0	46.7	54.0	-7.3	High Ch.2480MHz, DH5, EUT Horz
7323.490	27.3	18.8	1.9	109.0	3.0	0.0	Horz	AV	0.0	46.1	54.0	-7.9	Mid Ch.2441MHz, DH5, EUT Horz
7324.165	27.2	18.8	1.0	340.0	3.0	0.0	Vert	AV	0.0	46.0	54.0	-8.0	Mid Ch.2441MHz, DH5, EUT On Side
4803.955	29.3	10.6	1.0	68.0	3.0	0.0	Horz	AV	0.0	39.9	54.0	-14.1	High Ch.2480MHz, DH5, EUT Horz
4803.925	28.5	10.6	1.0	200.0	3.0	0.0	Vert	AV	0.0	39.1	54.0	-14.9	High Ch.2480MHz, DH5, EUT On Side
4960.155	27.8	11.0	1.0	67.0	3.0	0.0	Horz	AV	0.0	38.8	54.0	-15.2	High Ch.2480MHz, DH5, EUT Horz
4882.100	27.9	10.8	1.0	72.0	3.0	0.0	Horz	AV	0.0	38.7	54.0	-15.3	Mid Ch.2441MHz, DH5, EUT Horz
4961.395	27.6	11.0	2.6	16.0	3.0	0.0	Horz	AV	0.0	38.6	54.0	-15.4	High Ch.2480MHz, DH5, EUT On Side
4959.995	27.6	11.0	1.2	0.0	3.0	0.0	Vert	AV	0.0	38.6	54.0	-15.4	High Ch.2480MHz, DH5, EUT On Side
4961.015	27.5	11.0	1.3	110.0	3.0	0.0	Vert	AV	0.0	38.5	54.0	-15.5	High Ch.2480MHz, DH5, EUT Horz
4961.445	27.5	11.0	1.0	208.0	3.0	0.0	Horz	AV	0.0	38.5	54.0	-15.5	High Ch.2480MHz, DH5, EUT Vertical
4961.030	27.4	11.0	1.0	226.0	3.0	0.0	Vert	AV	0.0	38.4	54.0	-15.6	High Ch.2480MHz, DH5, EUT Vertical
4960.525	27.4	11.0	1.2	316.0	3.0	0.0	Horz	AV	0.0	38.4	54.0	-15.6	High Ch.2480MHz, 2DH5, EUT Horz
4961.195	27.4	11.0	2.5	21.0	3.0	0.0	Horz	AV	0.0	38.4	54.0	-15.6	High Ch.2480MHz, 3DH5, EUT Horz
7439.515	38.9	19.4	1.0	355.0	3.0	0.0	Vert	PK	0.0	58.3	74.0	-15.7	High Ch.2480MHz, DH5, EUT On Side
4882.130	27.4	10.8	3.1	17.0	3.0	0.0	Vert	AV	0.0	38.2	54.0	-15.8	Mid Ch.2441MHz, DH5, EUT On Side
7441.250	38.1	19.4	3.4	215.0	3.0	0.0	Horz	PK	0.0	57.5	74.0	-16.5	High Ch.2480MHz, DH5, EUT Horz
7324.065	38.3	18.8	1.0	340.0	3.0	0.0	Vert	PK	0.0	57.1	74.0	-16.9	Mid Ch.2441MHz, DH5, EUT On Side
7324.005	38.2	18.8	1.9	109.0	3.0	0.0	Horz	PK	0.0	57.0	74.0	-17.0	Mid Ch.2441MHz, DH5, EUT Horz
19216.630	34.1	1.0	1.6	72.0	3.0	0.0	Horz	AV	0.0	35.1	54.0	-18.9	High Ch.2480MHz, DH5, EUT Horz
19215.020	34.0	1.0	1.5	218.0	3.0	0.0	Vert	AV	0.0	35.0	54.0	-19.0	Low Ch.2402MHz, DH5, EUT On Side
12398.580	28.2	3.9	1.0	161.0	3.0	0.0	Horz	AV	0.0	32.1	54.0	-21.9	High Ch.2480MHz, DH5, EUT Horz
12398.510	28.1	3.9	1.0	149.0	3.0	0.0	Vert	AV	0.0	32.0	54.0	-22.0	High Ch.2480MHz, DH5, EUT On Side
12204.000	28.3	3.3	1.1	15.0	3.0	0.0	Horz	AV	0.0	31.6	54.0	-22.4	Mid Ch.2441MHz, DH5, EUT Horz
12203.790	28.2	3.3	1.0	291.0	3.0	0.0	Vert	AV	0.0	31.5	54.0	-22.5	Mid Ch.2441MHz, DH5, EUT On Side

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
12010.050	28.1	3.2	3.0	124.0	3.0	0.0	Vert	AV	0.0	31.3	54.0	-22.7	Low Ch.2402MHz, DH5, EUT On Side
12009.380	28.0	3.2	1.0	143.0	3.0	0.0	Horz	AV	0.0	31.2	54.0	-22.8	High Ch.2480MHz, DH5, EUT Horz
4960.025	39.0	11.0	1.0	67.0	3.0	0.0	Horz	PK	0.0	50.0	74.0	-24.0	High Ch.2480MHz, DH5, EUT Horz
4803.725	39.2	10.6	1.0	200.0	3.0	0.0	Vert	PK	0.0	49.8	74.0	-24.2	High Ch.2480MHz, DH5, EUT On Side
4804.295	39.1	10.6	1.0	68.0	3.0	0.0	Horz	PK	0.0	49.7	74.0	-24.3	High Ch.2480MHz, DH5, EUT Horz
4960.305	38.6	11.0	2.6	16.0	3.0	0.0	Horz	PK	0.0	49.6	74.0	-24.4	High Ch.2480MHz, DH5, EUT On Side
4960.020	38.6	11.0	1.2	316.0	3.0	0.0	Horz	PK	0.0	49.6	74.0	-24.4	High Ch.2480MHz, 2DH5, EUT Horz
4960.960	38.3	11.0	1.3	110.0	3.0	0.0	Vert	PK	0.0	49.3	74.0	-24.7	High Ch.2480MHz, DH5, EUT Horz
4881.485	38.5	10.8	1.0	72.0	3.0	0.0	Horz	PK	0.0	49.3	74.0	-24.7	Mid Ch.2441MHz, DH5, EUT Horz
4960.060	38.1	11.0	1.2	0.0	3.0	0.0	Vert	PK	0.0	49.1	74.0	-24.9	High Ch.2480MHz, DH5, EUT On Side
4959.880	38.1	11.0	1.0	226.0	3.0	0.0	Vert	PK	0.0	49.1	74.0	-24.9	High Ch.2480MHz, DH5, EUT Vertical
4881.070	38.1	10.8	3.1	17.0	3.0	0.0	Vert	PK	0.0	48.9	74.0	-25.1	Mid Ch.2441MHz, DH5, EUT On Side
4960.480	37.8	11.0	2.5	21.0	3.0	0.0	Horz	PK	0.0	48.8	74.0	-25.2	High Ch.2480MHz, 3DH5, EUT Horz
4959.645	37.7	11.0	1.0	208.0	3.0	0.0	Horz	PK	0.0	48.7	74.0	-25.3	High Ch.2480MHz, DH5, EUT Vertical
19214.580	45.3	1.0	1.5	218.0	3.0	0.0	Vert	PK	0.0	46.3	74.0	-27.7	Low Ch.2402MHz, DH5, EUT On Side
19217.280	45.2	1.0	1.6	72.0	3.0	0.0	Horz	PK	0.0	46.2	74.0	-27.8	High Ch.2480MHz, DH5, EUT Horz
12399.740	39.5	3.9	1.0	161.0	3.0	0.0	Horz	PK	0.0	43.4	74.0	-30.6	High Ch.2480MHz, DH5, EUT Horz
12399.460	39.1	3.9	1.0	149.0	3.0	0.0	Vert	PK	0.0	43.0	74.0	-31.0	High Ch.2480MHz, DH5, EUT On Side
12010.340	39.7	3.2	1.0	143.0	3.0	0.0	Horz	PK	0.0	42.9	74.0	-31.1	High Ch.2480MHz, DH5, EUT Horz
12204.810	39.0	3.3	1.1	15.0	3.0	0.0	Horz	PK	0.0	42.3	74.0	-31.7	Mid Ch.2441MHz, DH5, EUT Horz
12011.210	38.6	3.2	3.0	124.0	3.0	0.0	Vert	PK	0.0	41.8	74.0	-32.2	High Ch.2480MHz, DH5, EUT On Side
12206.030	38.4	3.3	1.0	291.0	3.0	0.0	Vert	PK	0.0	41.7	74.0	-32.3	Mid Ch.2441MHz, DH5, EUT On Side

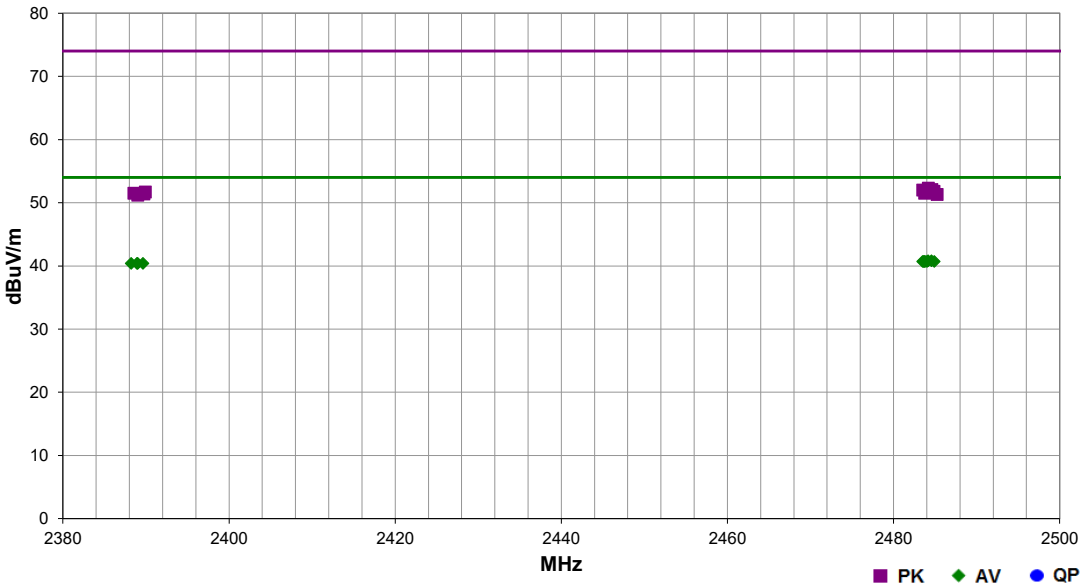
SPURIOUS RADIATED EMISSIONS

EmiR5 2017.01.25 PSA-ESCI 2017.01.26

Work Order:	SIGS0004	**Date:**	02/23/17		
Project:	None	**Temperature:**	23.3 °C		
Job Site:	EV01	**Humidity:**	29.8% RH		
Serial Number:	000002GA	**Barometric Pres.:**	1028 mbar	**Tested by:**	Brandon Hobbs
EUT:	KILO2400ABS Rangefinder				
Configuration:	3				
Customer:	Sig Sauer, Inc. Electro-Optics				
Attendees:	Don Cramer				
EUT Power:	Battery (3.0VDC)				
Operating Mode:	Continuous Tx, Please reference the data comments for EUT operating mode				
Deviations:	None				
Comments:	Client provided 3rd party software to control radio module. Please reference the data comments for EUT orientation and frequency.				

Test Specifications	**Test Method**
FCC 15.247:2017	ANSI C63.10:2013

Run #	26	**Test Distance (m)**	3	**Antenna Height(s)**	1 to 4(m)	**Results**	Pass



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
2484.573	30.5	0.3	1.0	236.0	3.0	10.0	Horz	AV	0.0	40.8	54.0	-13.2	High Ch.2480MHz, DH5, EUT Horz
2484.170	30.5	0.3	2.9	222.0	3.0	10.0	Vert	AV	0.0	40.8	54.0	-13.2	High Ch.2480MHz, DH5, EUT Horz
2483.707	30.4	0.3	1.1	341.0	3.0	10.0	Horz	AV	0.0	40.7	54.0	-13.3	High Ch.2480MHz, 2DH5, EUT Horz
2483.637	30.4	0.3	1.0	243.0	3.0	10.0	Horz	AV	0.0	40.7	54.0	-13.3	High Ch.2480MHz, 3DH5, EUT Horz
2483.813	30.4	0.3	1.0	181.0	3.0	10.0	Horz	AV	0.0	40.7	54.0	-13.3	High Ch.2480MHz, DH5, EUT On Side
2484.037	30.4	0.3	1.0	198.0	3.0	10.0	Vert	AV	0.0	40.7	54.0	-13.3	High Ch.2480MHz, DH5, EUT On Side
2483.523	30.4	0.3	4.0	99.0	3.0	10.0	Horz	AV	0.0	40.7	54.0	-13.3	High Ch.2480MHz, DH5, EUT Vertical
2484.913	30.4	0.3	1.0	293.0	3.0	10.0	Vert	AV	0.0	40.7	54.0	-13.3	High Ch.2480MHz, DH5, EUT Vertical
2388.920	30.5	-0.1	1.0	246.0	3.0	10.0	Horz	AV	0.0	40.4	54.0	-13.6	Low Ch.2402MHz, DH5, EUT Horz
2389.653	30.5	-0.1	1.0	220.0	3.0	10.0	Vert	AV	0.0	40.4	54.0	-13.6	Low Ch.2402MHz, DH5, EUT Horz
2389.003	30.5	-0.1	1.0	226.0	3.0	10.0	Horz	AV	0.0	40.4	54.0	-13.6	Low Ch.2402MHz, 2DH5, EUT Horz
2388.220	30.5	-0.1	1.0	258.0	3.0	10.0	Horz	AV	0.0	40.4	54.0	-13.6	Low Ch.2402MHz, 3DH5, EUT Horz
2484.190	42.0	0.3	2.9	222.0	3.0	10.0	Vert	PK	0.0	52.3	74.0	-21.7	High Ch.2480MHz, DH5, EUT Horz
2484.610	41.8	0.3	1.0	293.0	3.0	10.0	Vert	PK	0.0	52.1	74.0	-21.9	High Ch.2480MHz, DH5, EUT Vertical
2483.513	41.7	0.3	1.0	181.0	3.0	10.0	Horz	PK	0.0	52.0	74.0	-22.0	High Ch.2480MHz, DH5, EUT On Side
2484.277	41.6	0.3	1.0	236.0	3.0	10.0	Horz	PK	0.0	51.9	74.0	-22.1	High Ch.2480MHz, DH5, EUT Horz
2484.030	41.6	0.3	4.0	99.0	3.0	10.0	Horz	PK	0.0	51.9	74.0	-22.1	High Ch.2480MHz, DH5, EUT Vertical
2484.863	41.5	0.3	1.0	198.0	3.0	10.0	Vert	PK	0.0	51.8	74.0	-22.2	High Ch.2480MHz, DH5, EUT On Side
2389.920	41.8	-0.1	1.0	246.0	3.0	10.0	Horz	PK	0.0	51.7	74.0	-22.3	Low Ch.2402MHz, DH5, EUT Horz
2483.747	41.2	0.3	1.0	243.0	3.0	10.0	Horz	PK	0.0	51.5	74.0	-22.5	High Ch.2480MHz, 3DH5, EUT Horz
2388.547	41.6	-0.1	1.0	220.0	3.0	10.0	Vert	PK	0.0	51.5	74.0	-22.5	Low Ch.2402MHz, DH5, EUT Horz
2389.753	41.5	-0.1	1.0	258.0	3.0	10.0	Horz	PK	0.0	51.4	74.0	-22.6	Low Ch.2402MHz, 3DH5, EUT Horz
2485.247	41.0	0.3	1.1	341.0	3.0	10.0	Horz	PK	0.0	51.3	74.0	-22.7	High Ch.2480MHz, 2DH5, EUT Horz
2389.010	41.3	-0.1	1.0	226.0	3.0	10.0	Horz	PK	0.0	51.2	74.0	-22.8	Low Ch.2402MHz, 2DH5, EUT Horz

DUTY CYCLE

XMit 2017.01.26

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	N5182B	TFU	10/27/2015	10/27/2018
Cable	Micro-Coax	UFD150A-1-0720-200200	EVH	6/7/2016	6/7/2017
Block - DC	Fairview Microwave	SD3379	AMQ	6/8/2016	6/8/2017
Attenuator	S.M. Electronics	SA26B-20	AUY	6/27/2016	6/27/2017
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFP	8/10/2016	8/10/2017

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The Duty Cycle (x) of the single channel operation of the radio as controlled by the provided test software was measured for each of the EUT operating modes.

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

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

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

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

DUTY CYCLE

TbtTx 2017.01.27 XMit 2017.01.26

EUT:	KILO2400ABS Rangefinder			**Work Order:**	SIGS0004
Serial Number:	KILO2400ABS			**Date:**	02/20/17
Customer:	Sig Sauer, Inc. Electro-Optics			**Temperature:**	24.1 °C
Attendees:	Don Cramer			**Humidity:**	38.8% RH
Project:	None			**Barometric Pres.:**	1008 mbar
Tested by:	Brandon Hobbs	**Power:**	Battery (3.0VDC)	**Job Site:**	EV06

TEST SPECIFICATIONS	**Test Method**
FCC 15.247:2017	ANSI C63.10:2013

COMMENTS

Client provided 3 party software to control radio module.

DEVIATIONS FROM TEST STANDARD

None

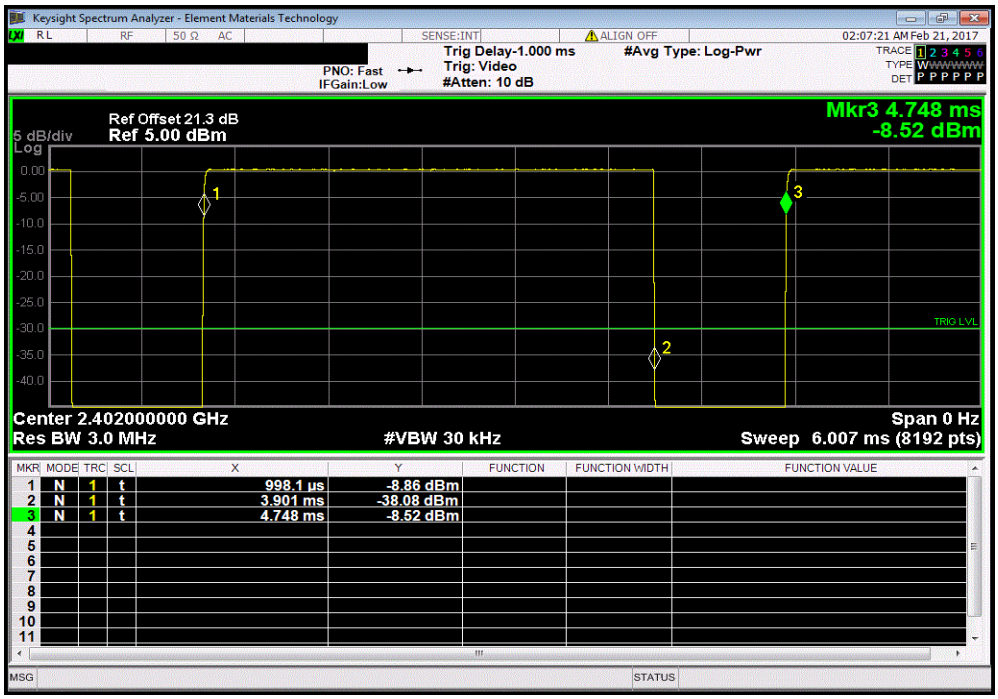
Configuration #	1	*Signature*

		Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
DH5, GFSK							
	Low Channel 2402 MHz	2.903 ms	3.75 ms	1	77.4	N/A	N/A
	Low Channel 2402 MHz	N/A	N/A	5	N/A	N/A	N/A
	Mid Channel 2441 MHz	2.903 ms	3.75 ms	1	77.4	N/A	N/A
	Mid Channel 2441 MHz	N/A	N/A	5	N/A	N/A	N/A
	High Channel 2480 MHz	2.903 ms	3.75 ms	1	77.4	N/A	N/A
	High Channel 2480 MHz	N/A	N/A	5	N/A	N/A	N/A
2DH5, pi/4-DQPSK							
	Low Channel 2402 MHz	2.909 ms	3.75 ms	1	77.6	N/A	N/A
	Low Channel 2402 MHz	N/A	N/A	5	N/A	N/A	N/A
	Mid Channel 2441 MHz	2.91 ms	3.75 ms	1	77.6	N/A	N/A
	Mid Channel 2441 MHz	N/A	N/A	5	N/A	N/A	N/A
	High Channel 2480 MHz	2.91 ms	3.75 ms	1	77.6	N/A	N/A
	High Channel 2480 MHz	N/A	N/A	5	N/A	N/A	N/A
3DH5, 8-DPSK							
	Low Channel 2402 MHz	2.911 ms	3.75 ms	1	77.6	N/A	N/A
	Low Channel 2402 MHz	N/A	N/A	5	N/A	N/A	N/A
	Mid Channel 2441 MHz	2.913 ms	3.75 ms	1	77.7	N/A	N/A
	Mid Channel 2441 MHz	N/A	N/A	5	N/A	N/A	N/A
	High Channel 2480 MHz	2.912 ms	3.75 ms	1	77.6	N/A	N/A
	High Channel 2480 MHz	N/A	N/A	5	N/A	N/A	N/A

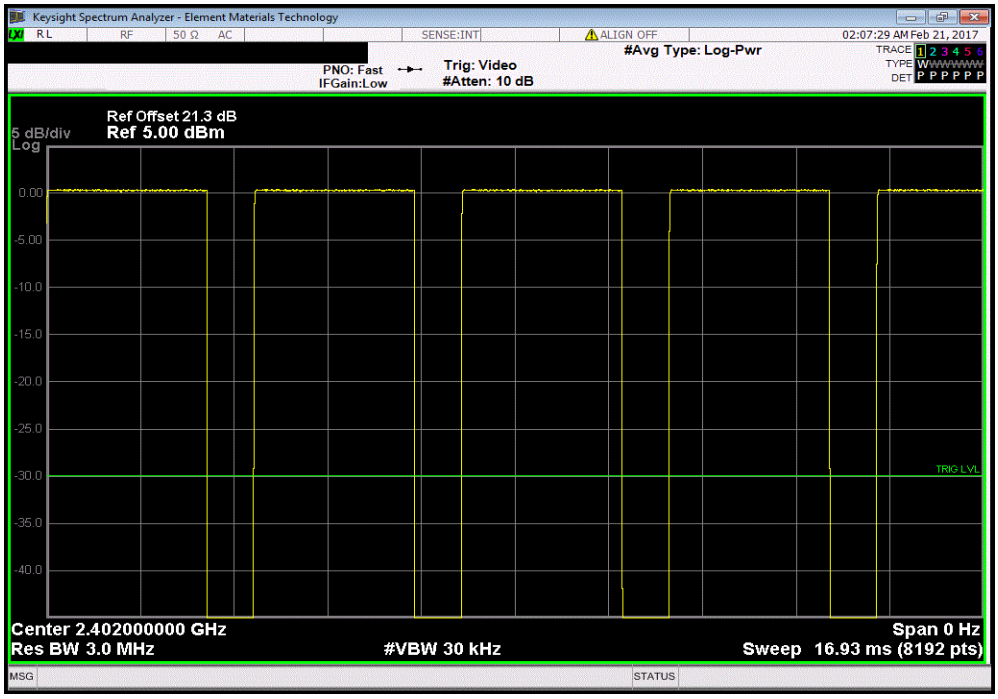
DUTY CYCLE

TbtTx 2017.01.27 XMit 2017.01.26

DH5, GFSK, Low Channel 2402 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	2.903 ms	3.75 ms	1	77.4	N/A	N/A



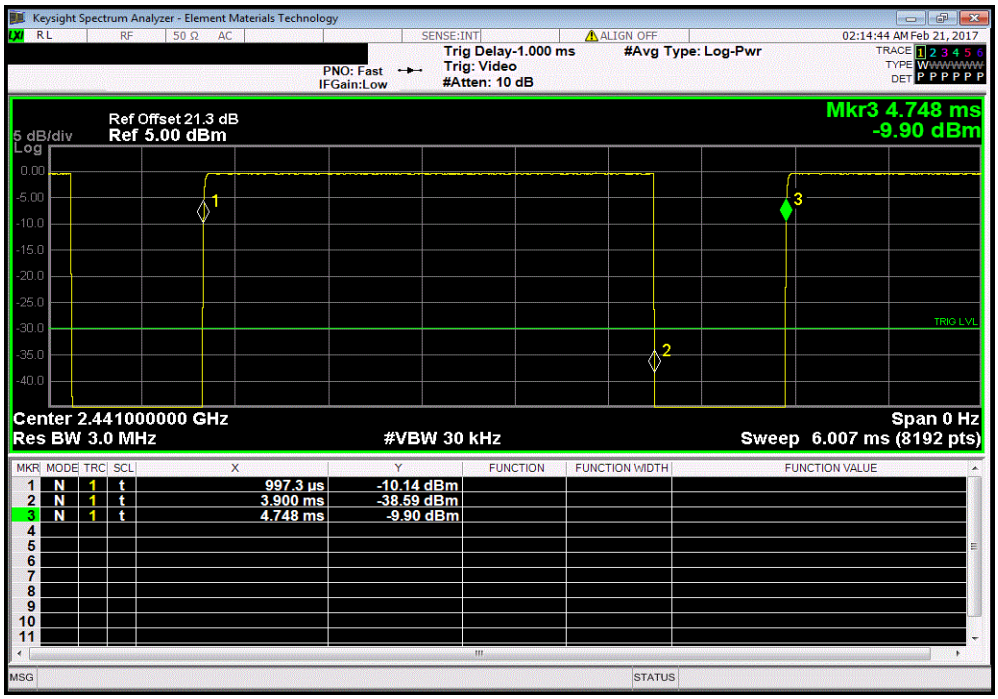
DH5, GFSK, Low Channel 2402 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A



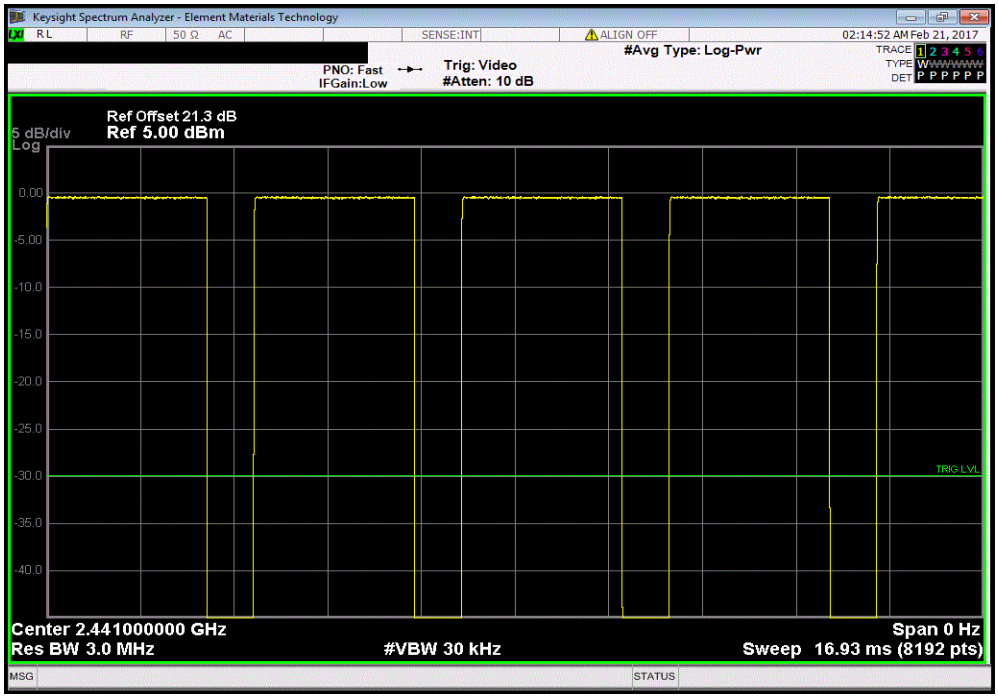
DUTY CYCLE

TbtTx 2017.01.27 XMit 2017.01.26

DH5, GFSK, Mid Channel 2441 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	2.903 ms	3.75 ms	1	77.4	N/A	N/A



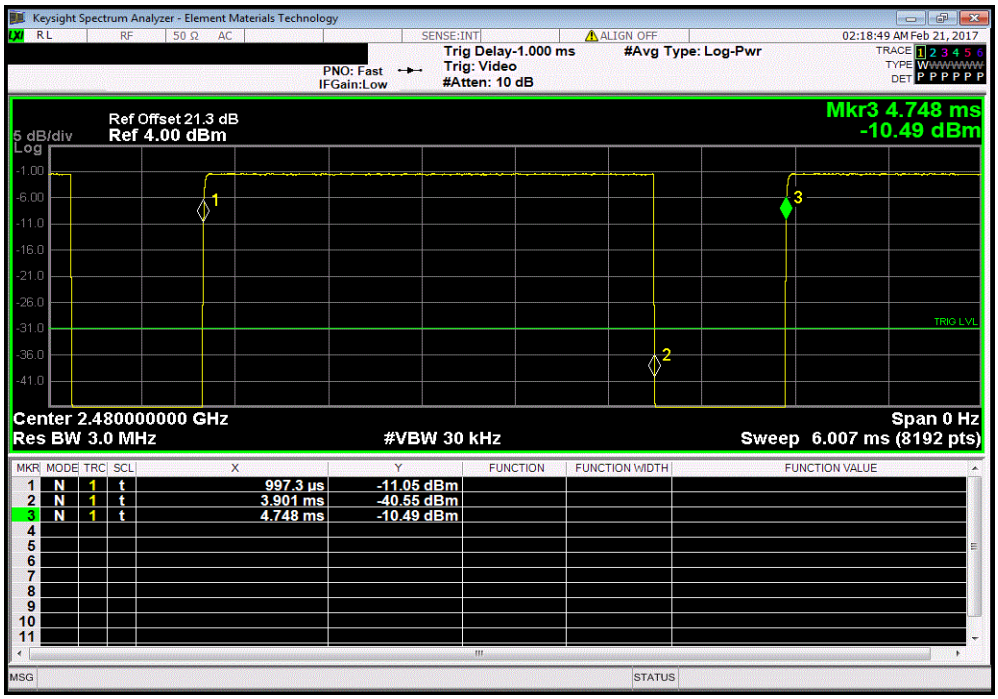
DH5, GFSK, Mid Channel 2441 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A



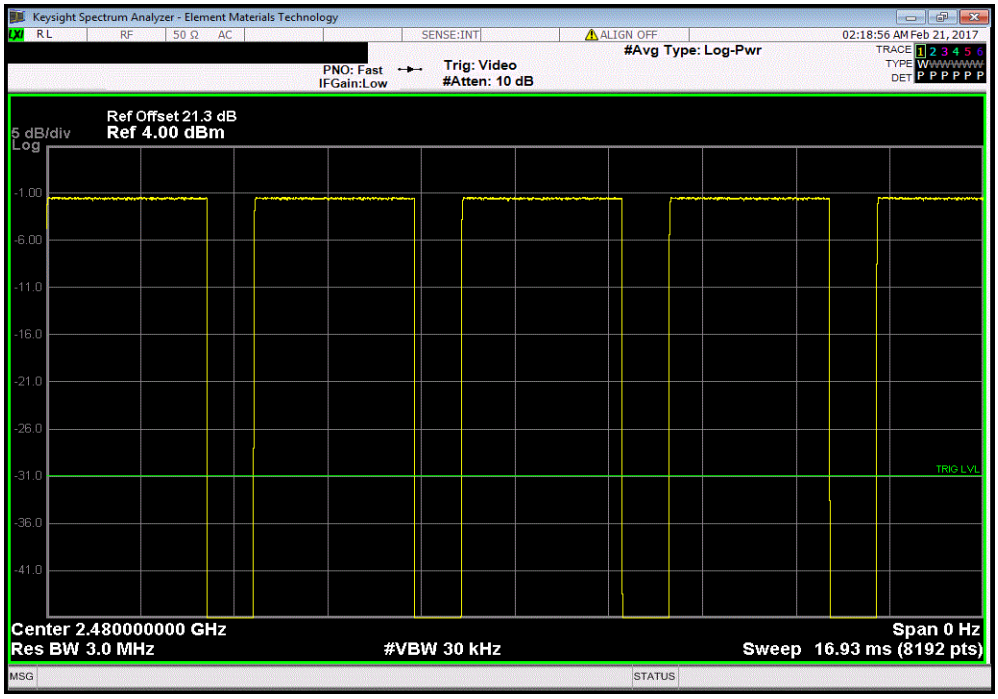
DUTY CYCLE

TbtTx 2017.01.27 XMit 2017.01.26

DH5, GFSK, High Channel 2480 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	2.903 ms	3.75 ms	1	77.4	N/A	N/A



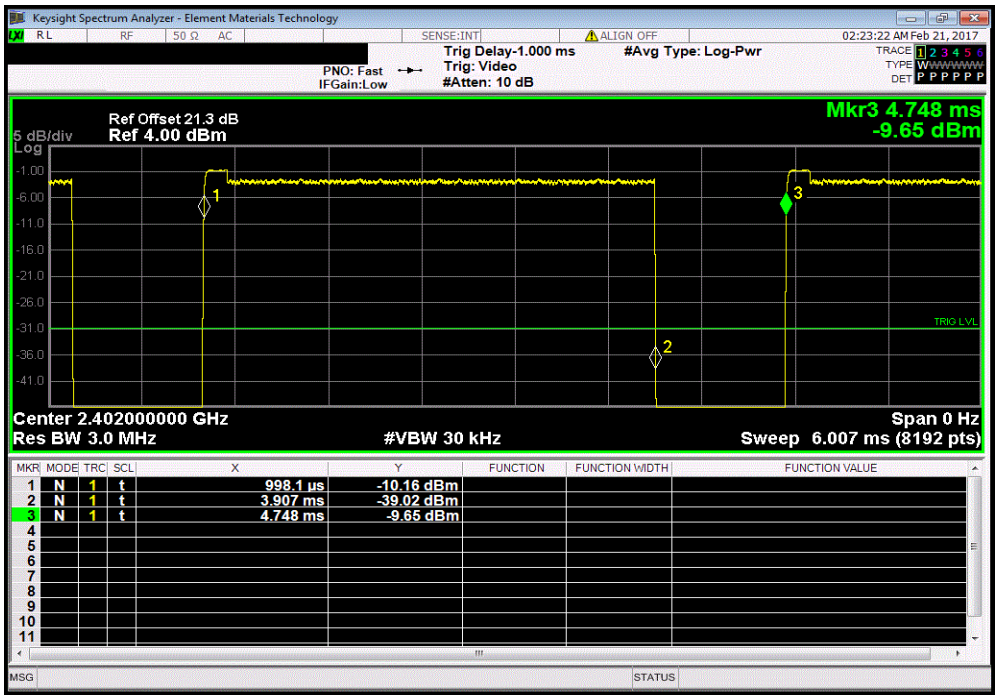
DH5, GFSK, High Channel 2480 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A



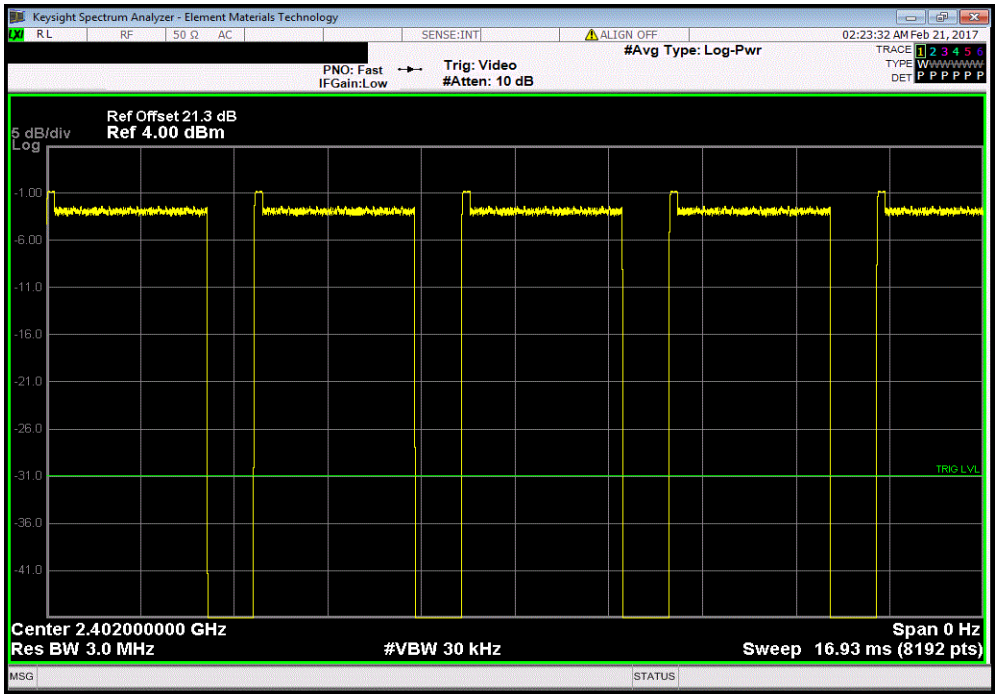
DUTY CYCLE

TbtTx 2017.01.27 XMit 2017.01.26

2DH5, pi/4-DQPSK, Low Channel 2402 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	2.909 ms	3.75 ms	1	77.6	N/A	N/A



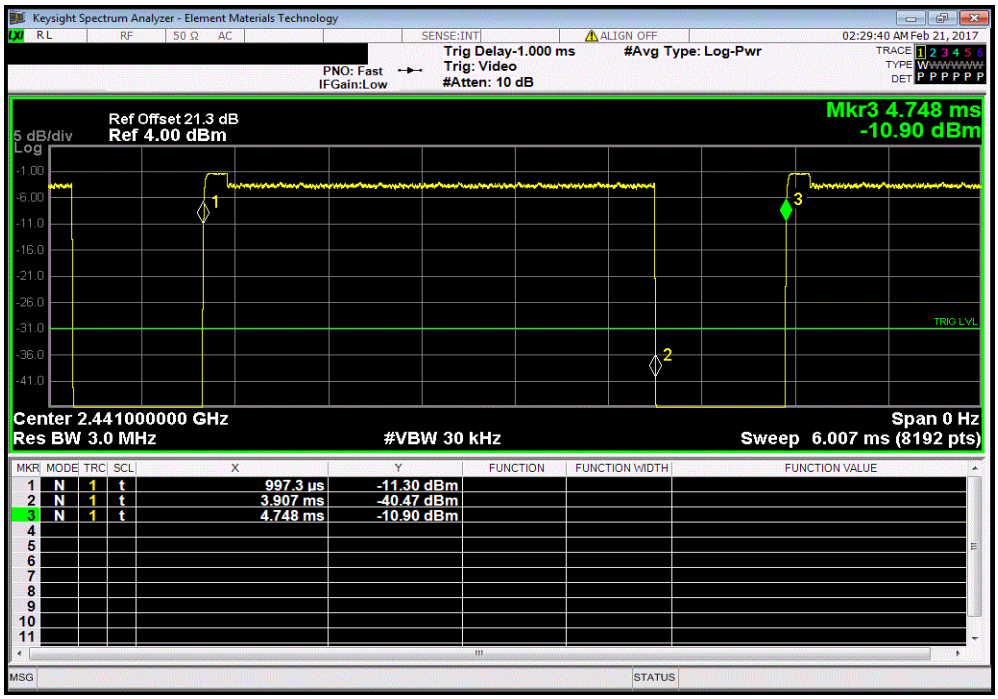
2DH5, pi/4-DQPSK, Low Channel 2402 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A



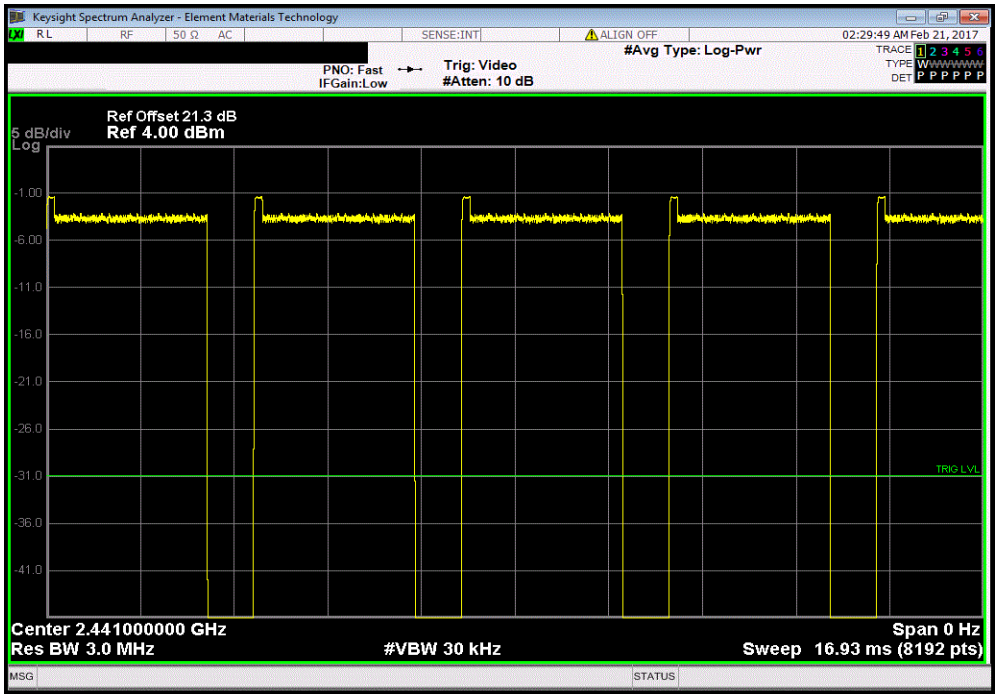
DUTY CYCLE

TbtTx 2017.01.27 XMit 2017.01.26

2DH5, pi/4-DQPSK, Mid Channel 2441 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	2.91 ms	3.75 ms	1	77.6	N/A	N/A



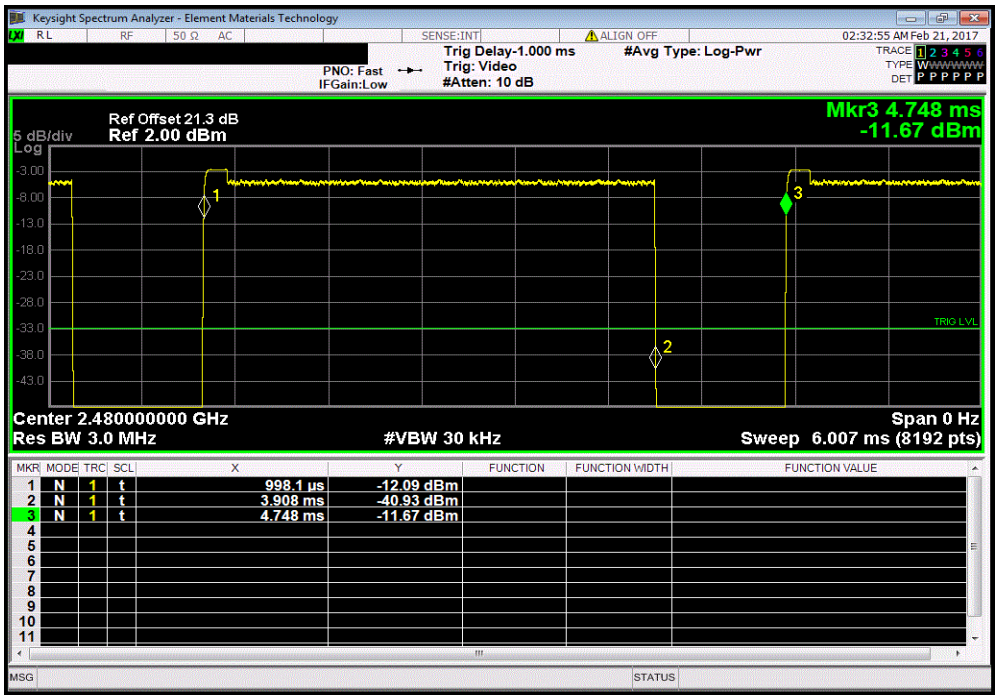
2DH5, pi/4-DQPSK, Mid Channel 2441 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A



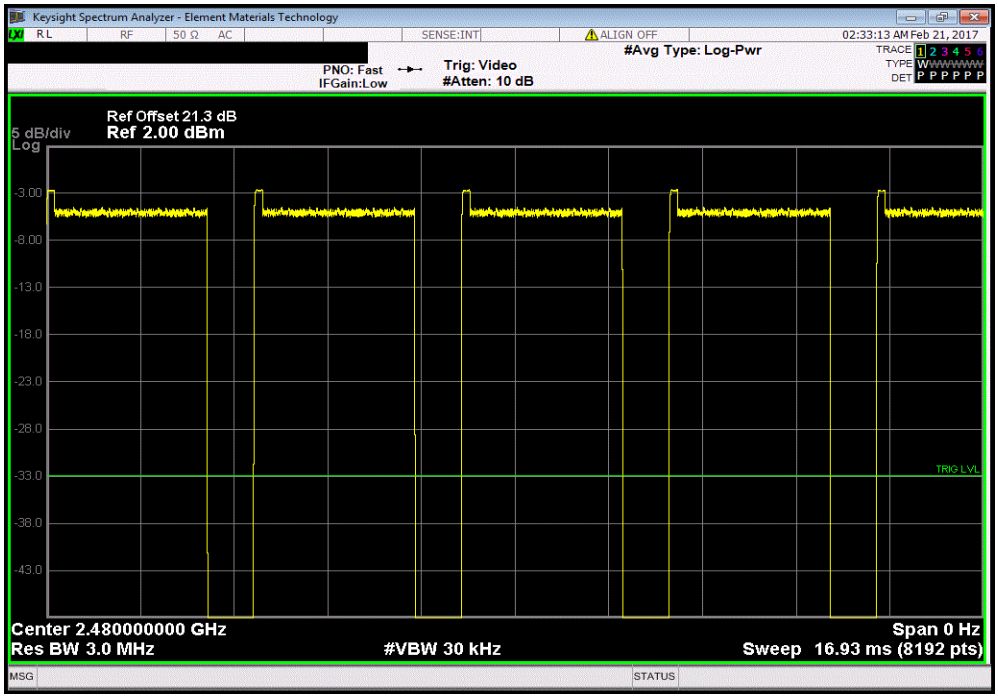
DUTY CYCLE

TbtTx 2017.01.27 XMit 2017.01.26

2DH5, pi/4-DQPSK, High Channel 2480 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	2.91 ms	3.75 ms	1	77.6	N/A	N/A



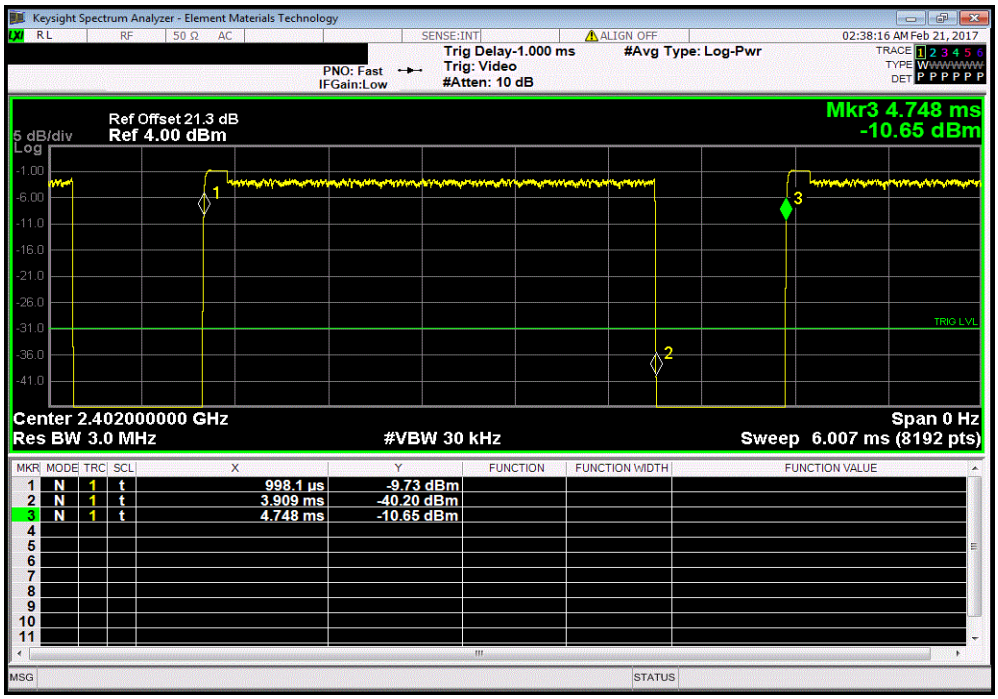
2DH5, pi/4-DQPSK, High Channel 2480 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A



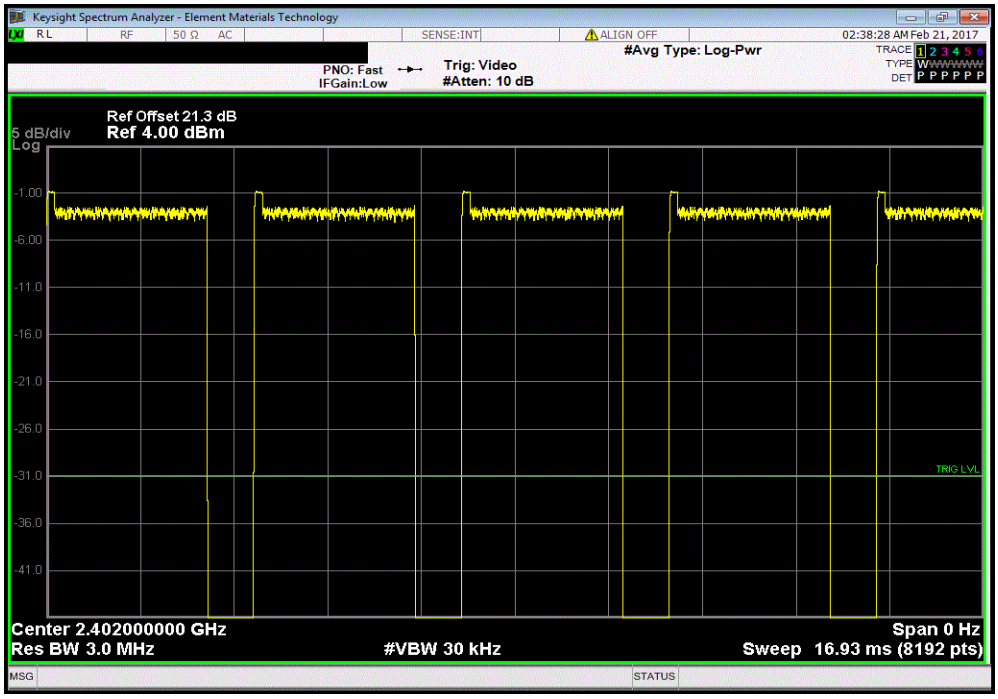
DUTY CYCLE

TbtTx 2017.01.27 XMit 2017.01.26

3DH5, 8-DPSK, Low Channel 2402 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	2.911 ms	3.75 ms	1	77.6	N/A	N/A



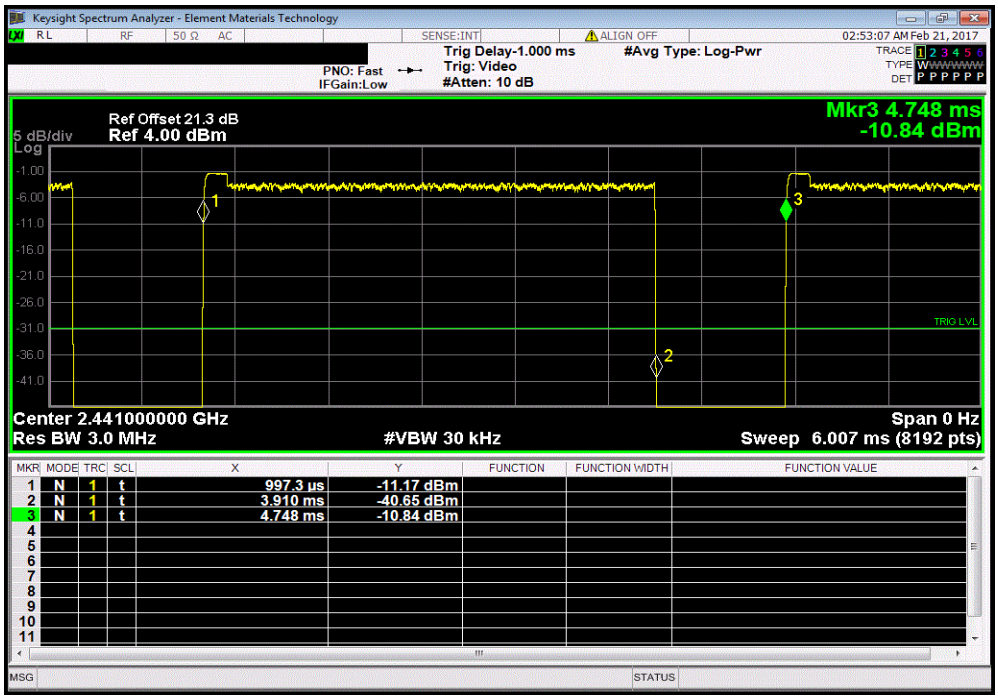
3DH5, 8-DPSK, Low Channel 2402 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A



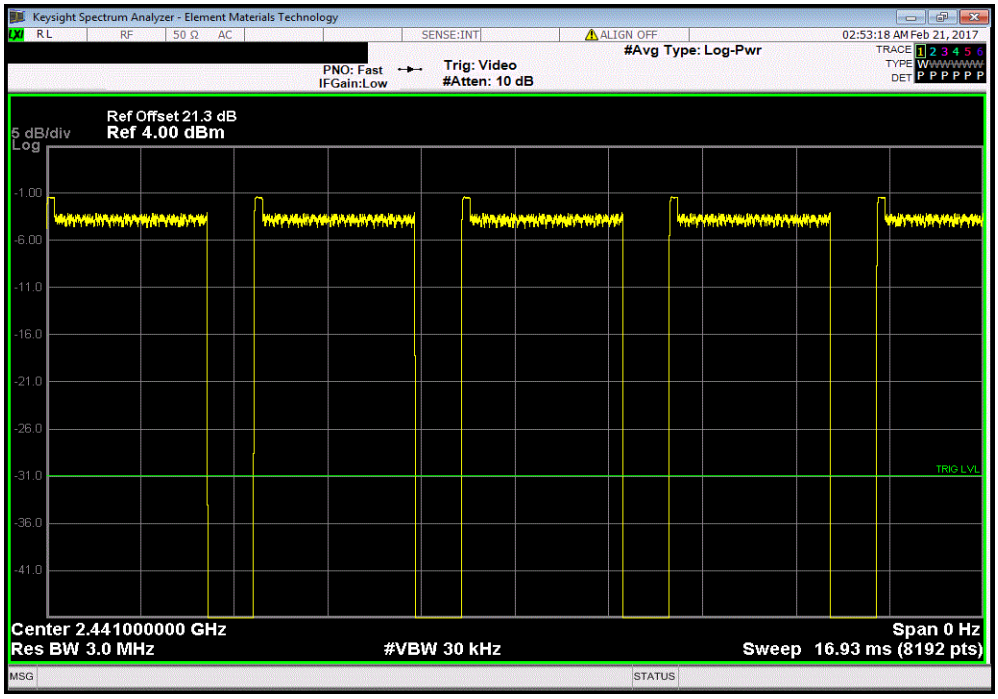
DUTY CYCLE

TbtTx 2017.01.27 XMit 2017.01.26

3DH5, 8-DPSK, Mid Channel 2441 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	2.913 ms	3.75 ms	1	77.7	N/A	N/A



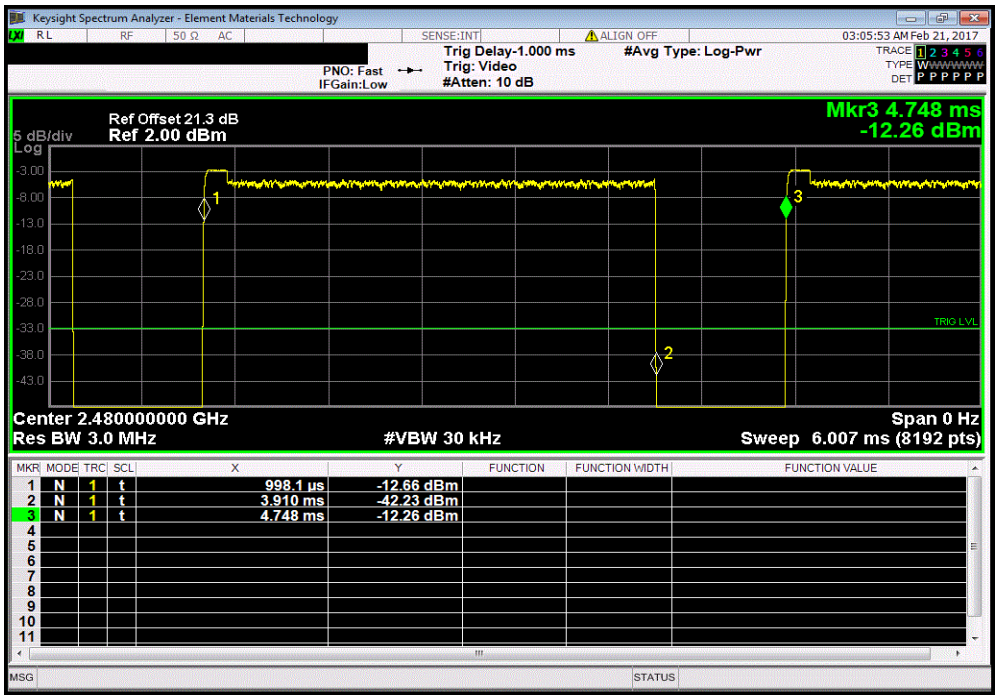
3DH5, 8-DPSK, Mid Channel 2441 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A



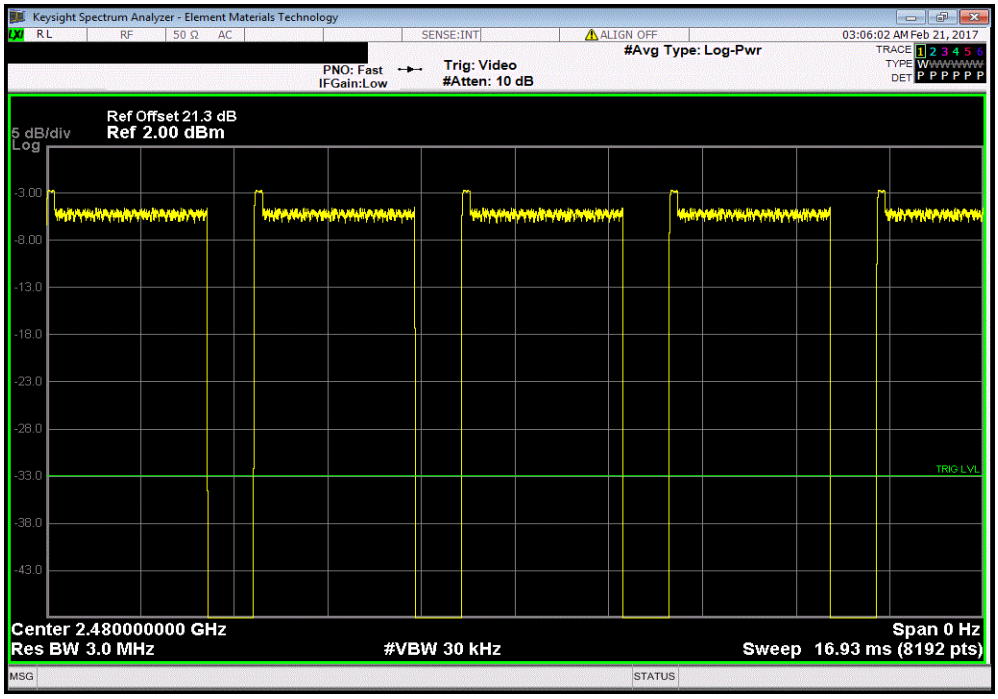
DUTY CYCLE

TbtTx 2017.01.27 XMit 2017.01.26

3DH5, 8-DPSK, High Channel 2480 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	2.912 ms	3.75 ms	1	77.6	N/A	N/A



3DH5, 8-DPSK, High Channel 2480 MHz						
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A



CARRIER FREQUENCY SEPARATION

XMit 2017.01.26

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Cable	Micro-Coax	UFD150A-1-0720-200200	EVH	6/7/2016	6/7/2017
Generator - Signal	Keysight	N5182B	TFU	10/27/2015	10/27/2018
Block - DC	Fairview Microwave	SD3379	AMQ	6/8/2016	6/8/2017
Attenuator	S.M. Electronics	SA26B-20	AUY	6/27/2016	6/27/2017
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFP	8/10/2016	8/10/2017

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The channel carrier frequencies in the 2400-2483.5MHz band must be separated by 25 kHz or the 20dB bandwidth of the hopping channel, whichever is greater. Or, if the output power is less than 125 mW, the channel separation can be 25 kHz or 2/3 of the 20dB bandwidth. The EUT was operated in pseudorandom hopping mode. The spectrum was scanned across two adjacent peaks. The separation between the peaks of these channels was measured.

CARRIER FREQUENCY SEPARATION

TbtTx 2017.01.27 XMit 2017.01.26

EUT:	KILO2400ABS Rangefinder			**Work Order:**	SIGS0004
Serial Number:	KILO2400ABS			**Date:**	02/20/17
Customer:	Sig Sauer, Inc. Electro-Optics			**Temperature:**	24.1 °C
Attendees:	Don Cramer			**Humidity:**	38.9% RH
Project:	None			**Barometric Pres.:**	1008 mbar
Tested by:	Brandon Hobbs	**Power:**	Battery (3.0VDC)	**Job Site:**	EV06

TEST SPECIFICATIONS	Test Method
FCC 15.247:2017	ANSI C63.10:2013

COMMENTS

Client provided 3 party software to control radio module.

DEVIATIONS FROM TEST STANDARD

None

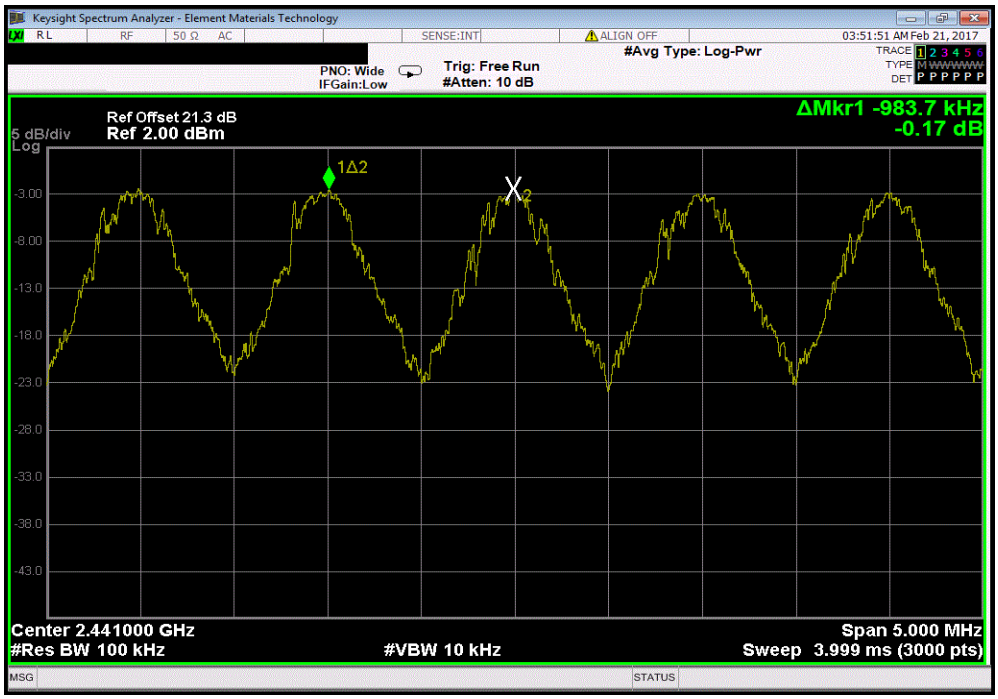
Configuration #	1	Signature

		Value	Limit (≥)	Results
Hopping Mode				
	DH5, GFSK			
	Mid Channel, 2441 MHz	983 kHz	930 kHz	Pass

CARRIER FREQUENCY SEPARATION

TbtTx 2017.01.27 XMit 2017.01.26

Hopping Mode, DH5, GFSK, Mid Channel, 2441 MHz						
				Value	Limit (≥)	Results
				983 kHz	930 kHz	Pass



NUMBER OF HOPPING FREQUENCIES

XMit 2017.01.26

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	N5182B	TFU	10/27/2015	10/27/2018
Cable	Micro-Coax	UFD150A-1-0720-200200	EVH	6/7/2016	6/7/2017
Attenuator	S.M. Electronics	SA26B-20	AUY	6/27/2016	6/27/2017
Block - DC	Fairview Microwave	SD3379	AMQ	6/8/2016	6/8/2017
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFP	8/10/2016	8/10/2017

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The number of hopping frequencies was measured across the authorized band. The hopping function of the EUT was enabled.

NUMBER OF HOPPING FREQUENCIES

TbtTx 2017.01.27 XMit 2017.01.26

EUT:	**KILO2400ABS Rangefinder**			**Work Order:**	**SIGS0004**
Serial Number:	**KILO2400ABS**			**Date:**	**02/20/17**
Customer:	**Sig Sauer, Inc. Electro-Optics**			**Temperature:**	**24.1 °C**
Attendees:	**Don Cramer**			**Humidity:**	**38.9% RH**
Project:	**None**			**Barometric Pres.:**	**1008 mbar**
Tested by:	**Brandon Hobbs**	**Power:**	**Battery (3.0VDC)**	**Job Site:**	**EV06**

TEST SPECIFICATIONS	**Test Method**
FCC 15.247:2017	ANSI C63.10:2013

COMMENTS

Client provided 3 party software to control radio module.

DEVIATIONS FROM TEST STANDARD

None

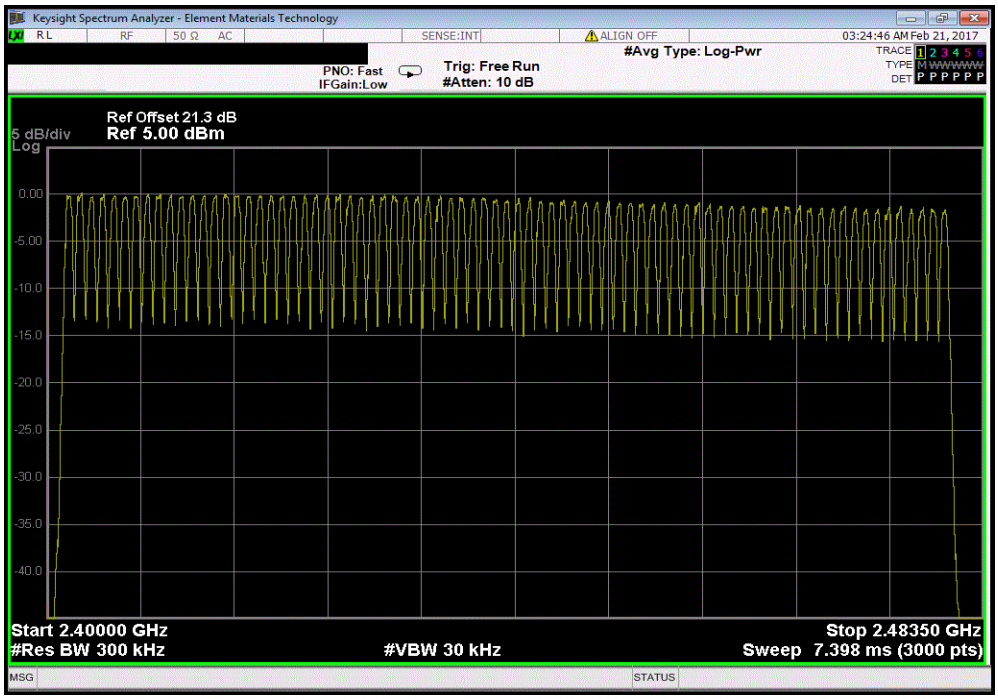
Configuration #	**1**	*Signature*

		Number of Channels	**Limit**	**Results**
Hopping Mode				
	DH5, GFSK			
	Mid Channel, 2441 MHz	79	15	Pass

NUMBER OF HOPPING FREQUENCIES

TbtTx 2017.01.27 XMit 2017.01.26

Hopping Mode, DH5, GFSK, Mid Channel, 2441 MHz						
				Number of Channels	Limit	Results
				79	15	Pass



DWELL TIME

XMit 2017.01.26

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	N5182B	TFU	10/27/2015	10/27/2018
Cable	Micro-Coax	UFD150A-1-0720-200200	EVH	6/7/2016	6/7/2017
Attenuator	S.M. Electronics	SA26B-20	AUY	6/27/2016	6/27/2017
Block - DC	Fairview Microwave	SD3379	AMQ	6/8/2016	6/8/2017
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFP	8/10/2016	8/10/2017

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The average dwell time per hopping channel was measured at one hopping channel in the middle of the authorized band. The hopping function of the EUT was enabled.

The dwell time limit is based on the Number of Hopping Channels * 400 mS. For Bluetooth this would be 79 Channels * 400mS = 31.6 Sec.

On Time During 31.6 Sec = Pulse Width * Average Number of Pulses * Scale Factor

➢Average Number of Pulses is based on 4 samples.

➢Scale Factor = 31.6 Sec / Screen Capture Sweep Time = 31.6 Sec / 6.32 Sec = 5

DWELL TIME

TbtTx 2017.01.27 XMit 2017.01.26

EUT:	**KILO2400ABS Rangefinder**			**Work Order:**	**SIGS0004**
Serial Number:	**KILO2400ABS**			**Date:**	**02/20/17**
Customer:	**Sig Sauer, Inc. Electro-Optics**			**Temperature:**	**24.1 °C**
Attendees:	**Don Cramer**			**Humidity:**	**38.8% RH**
Project:	**None**			**Barometric Pres.:**	**1008 mbar**
Tested by:	**Brandon Hobbs**	**Power:**	**Battery (3.0VDC)**	**Job Site:**	**EV06**

TEST SPECIFICATIONS	**Test Method**
FCC 15.247:2017	ANSI C63.10:2013

COMMENTS

Client provided 3 party software to control radio module.

DEVIATIONS FROM TEST STANDARD

None

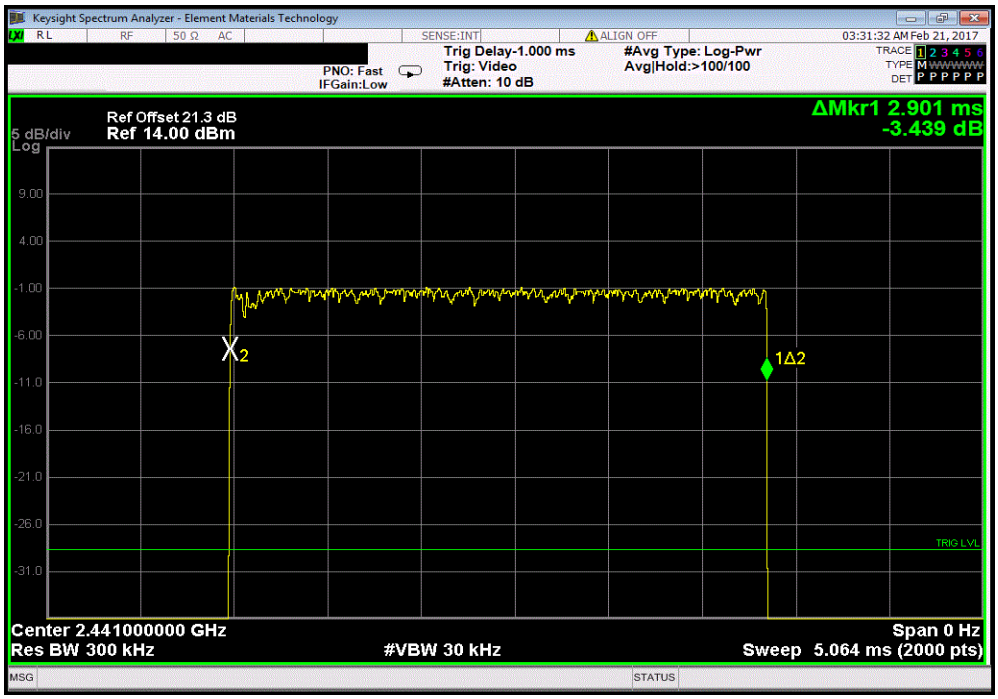
Configuration #	**1**	*Signature*

		Pulse Width (ms)	Number of Pulses	Average No. of Pulses	Scale Factor	On Time (ms) During 31.6 s	Limit (ms)	Results
Hopping Mode								
	DH5, GFSK							
	Mid Channel, 2441 MHz	2.901	N/A	N/A	N/A	N/A	N/A	N/A
	Mid Channel, 2441 MHz	N/A	26	N/A	N/A	N/A	N/A	N/A
	Mid Channel, 2441 MHz	N/A	17	N/A	N/A	N/A	N/A	N/A
	Mid Channel, 2441 MHz	N/A	24	N/A	N/A	N/A	N/A	N/A
	Mid Channel, 2441 MHz	N/A	23	N/A	N/A	N/A	N/A	N/A
	Mid Channel, 2441 MHz	2.901	N/A	22.5	5	326.36	400	Pass
	2DH5, pi/4-DQPSK							
	Mid Channel, 2441 MHz	2.907	N/A	N/A	N/A	N/A	N/A	N/A
	Mid Channel, 2441 MHz	N/A	17	N/A	N/A	N/A	N/A	N/A
	Mid Channel, 2441 MHz	N/A	29	N/A	N/A	N/A	N/A	N/A
	Mid Channel, 2441 MHz	N/A	17	N/A	N/A	N/A	N/A	N/A
	Mid Channel, 2441 MHz	N/A	18	N/A	N/A	N/A	N/A	N/A
	Mid Channel, 2441 MHz	2.907	N/A	20.25	5	294.33	400	Pass
	3DH5, 8-DPSK							
	Mid Channel, 2441 MHz	2.916	N/A	N/A	N/A	N/A	N/A	N/A
	Mid Channel, 2441 MHz	N/A	28	N/A	N/A	N/A	N/A	N/A
	Mid Channel, 2441 MHz	N/A	24	N/A	N/A	N/A	N/A	N/A
	Mid Channel, 2441 MHz	N/A	21	N/A	N/A	N/A	N/A	N/A
	Mid Channel, 2441 MHz	N/A	24	N/A	N/A	N/A	N/A	N/A
	Mid Channel, 2441 MHz	2.916	N/A	24.25	5	353.56	400	Pass

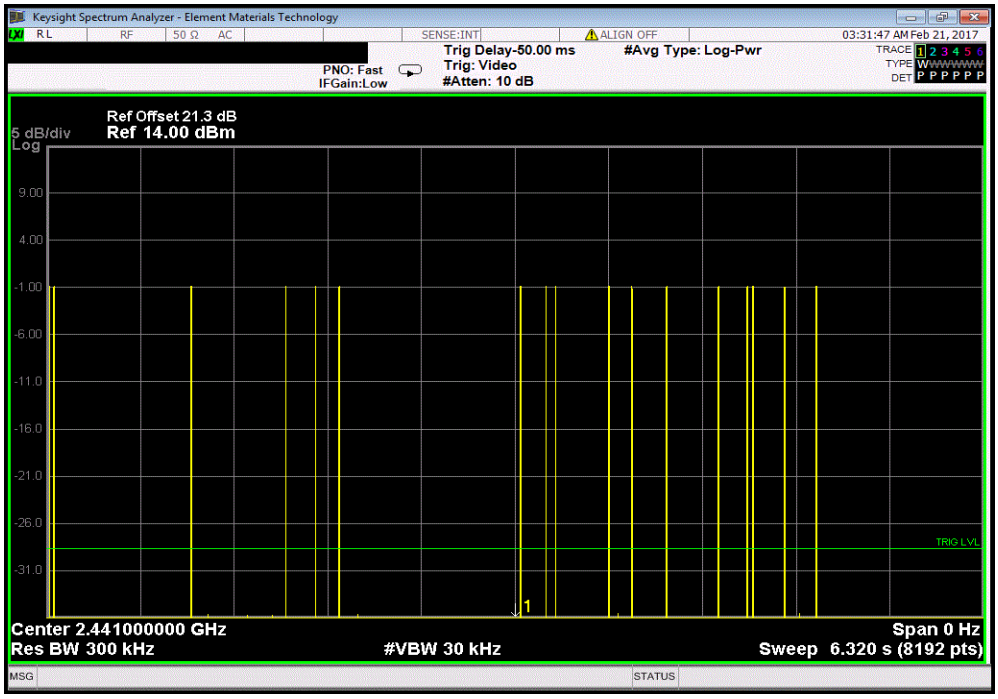
DWELL TIME

TbtTx 2017.01.27 XMit 2017.01.26

Hopping Mode, DH5, GFSK, Mid Channel, 2441 MHz						
Pulse Width (ms)	Number of Pulses	Average No. of Pulses	Scale Factor	On Time (ms) During 31.6 s	Limit (ms)	Results
2.901	N/A	N/A	N/A	N/A	N/A	N/A



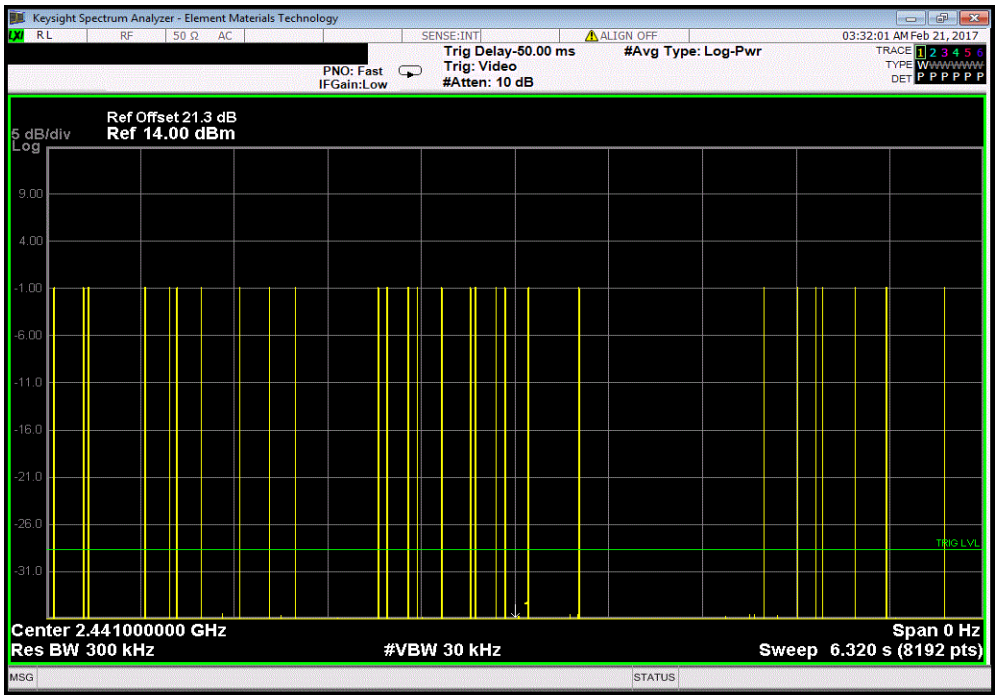
Hopping Mode, DH5, GFSK, Mid Channel, 2441 MHz						
Pulse Width (ms)	Number of Pulses	Average No. of Pulses	Scale Factor	On Time (ms) During 31.6 s	Limit (ms)	Results
N/A	26	N/A	N/A	N/A	N/A	N/A



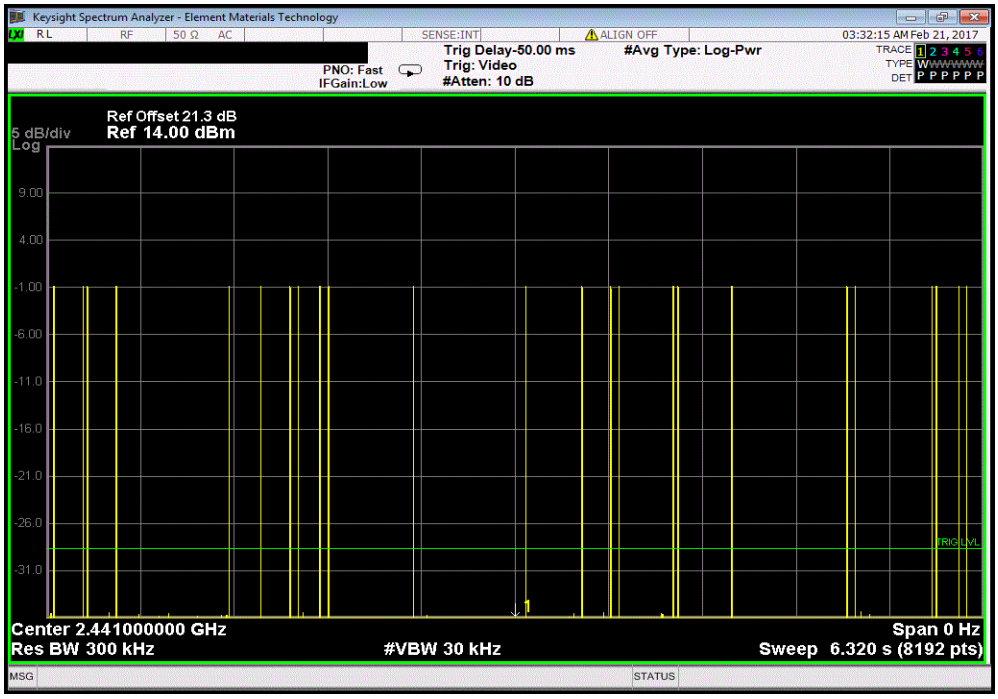
DWELL TIME

TbtTx 2017.01.27 XMit 2017.01.26

Hopping Mode, DH5, GFSK, Mid Channel, 2441 MHz						
Pulse Width (ms)	Number of Pulses	Average No. of Pulses	Scale Factor	On Time (ms) During 31.6 s	Limit (ms)	Results
N/A	17	N/A	N/A	N/A	N/A	N/A



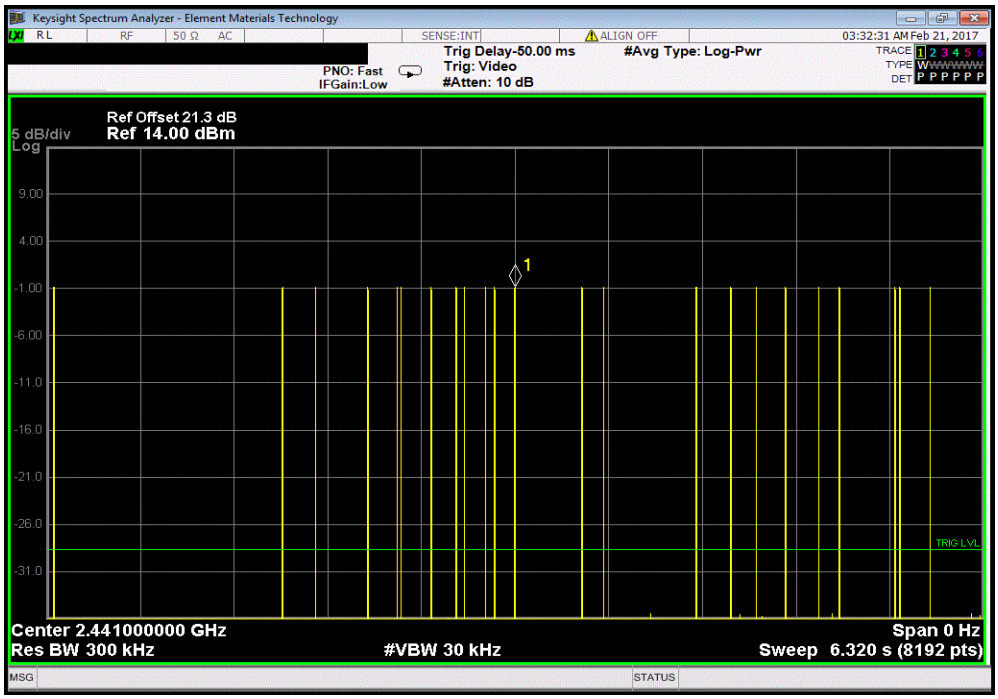
Hopping Mode, DH5, GFSK, Mid Channel, 2441 MHz						
Pulse Width (ms)	Number of Pulses	Average No. of Pulses	Scale Factor	On Time (ms) During 31.6 s	Limit (ms)	Results
N/A	24	N/A	N/A	N/A	N/A	N/A



DWELL TIME

TbtTx 2017.01.27 XMit 2017.01.26

Hopping Mode, DH5, GFSK, Mid Channel, 2441 MHz						
Pulse Width (ms)	Number of Pulses	Average No. of Pulses	Scale Factor	On Time (ms) During 31.6 s	Limit (ms)	Results
N/A	23	N/A	N/A	N/A	N/A	N/A



Hopping Mode, DH5, GFSK, Mid Channel, 2441 MHz						
Pulse Width (ms)	Number of Pulses	Average No. of Pulses	Scale Factor	On Time (ms) During 31.6 s	Limit (ms)	Results
2.901	N/A	22.5	5	326.36	400	Pass

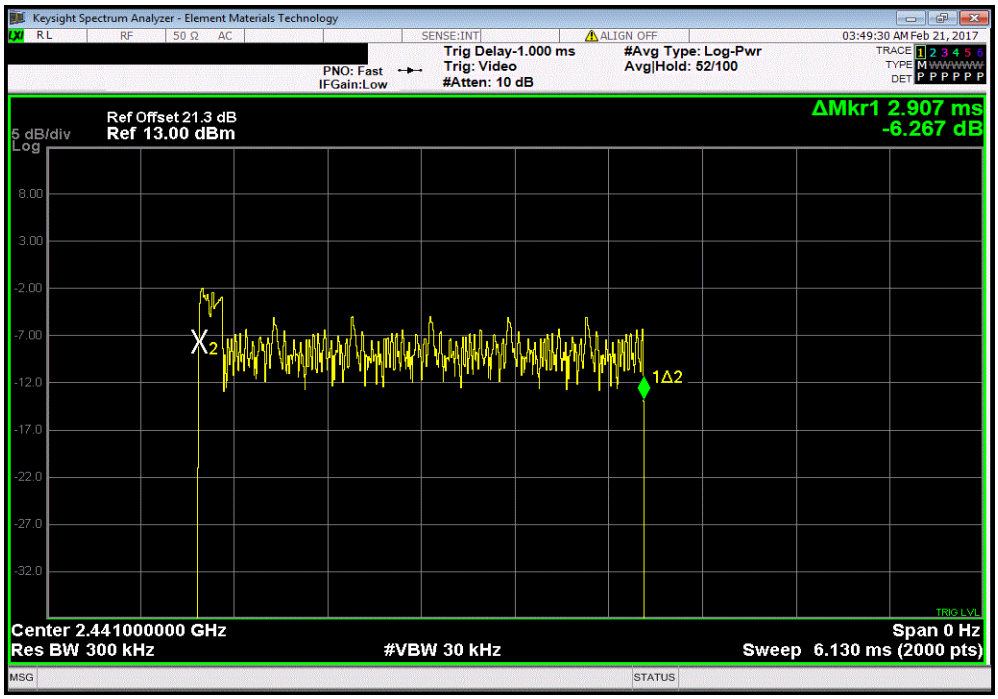
Calculation Only

No Screen Capture Required

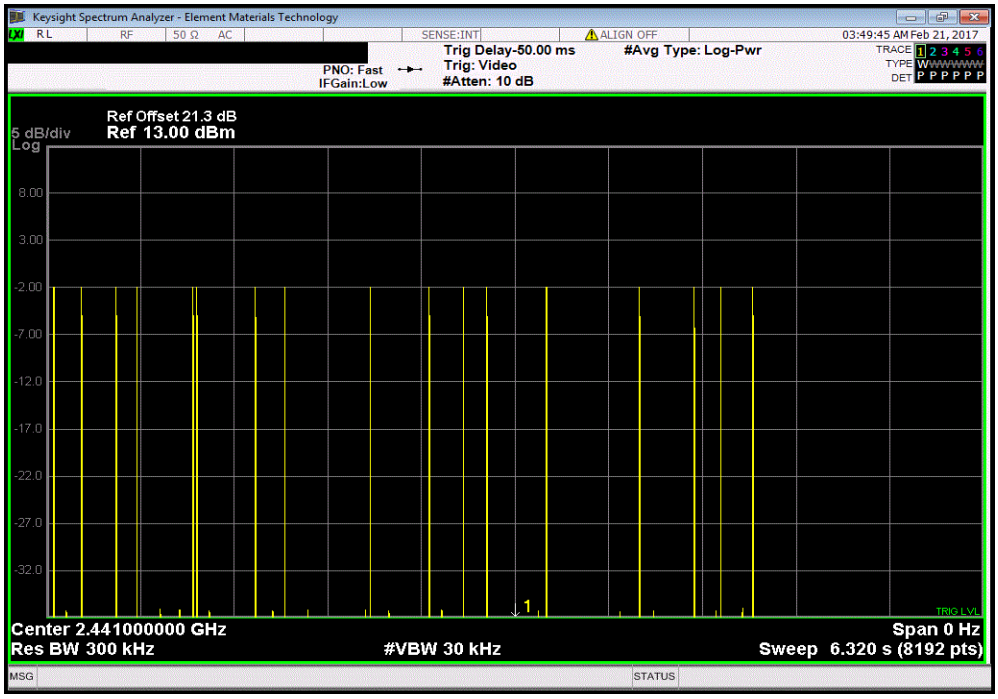
DWELL TIME

TbtTx 2017.01.27 XMit 2017.01.26

Hopping Mode, 2DH5, pi/4-DQPSK, Mid Channel, 2441 MHz						
Pulse Width (ms)	Number of Pulses	Average No. of Pulses	Scale Factor	On Time (ms) During 31.6 s	Limit (ms)	Results
2.907	N/A	N/A	N/A	N/A	N/A	N/A



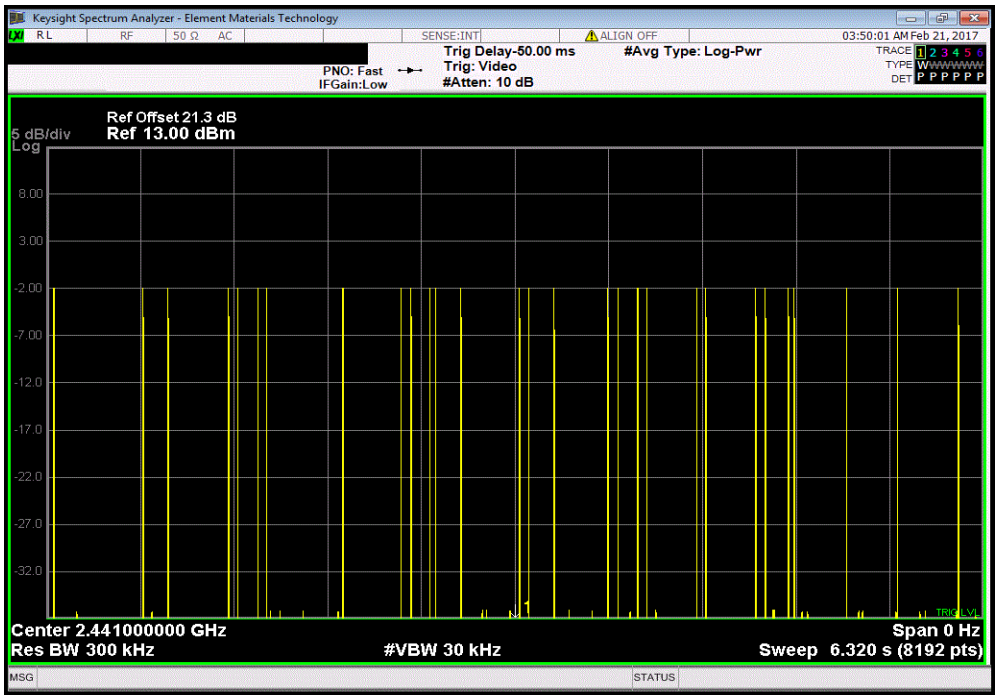
Hopping Mode, 2DH5, pi/4-DQPSK, Mid Channel, 2441 MHz						
Pulse Width (ms)	Number of Pulses	Average No. of Pulses	Scale Factor	On Time (ms) During 31.6 s	Limit (ms)	Results
N/A	17	N/A	N/A	N/A	N/A	N/A



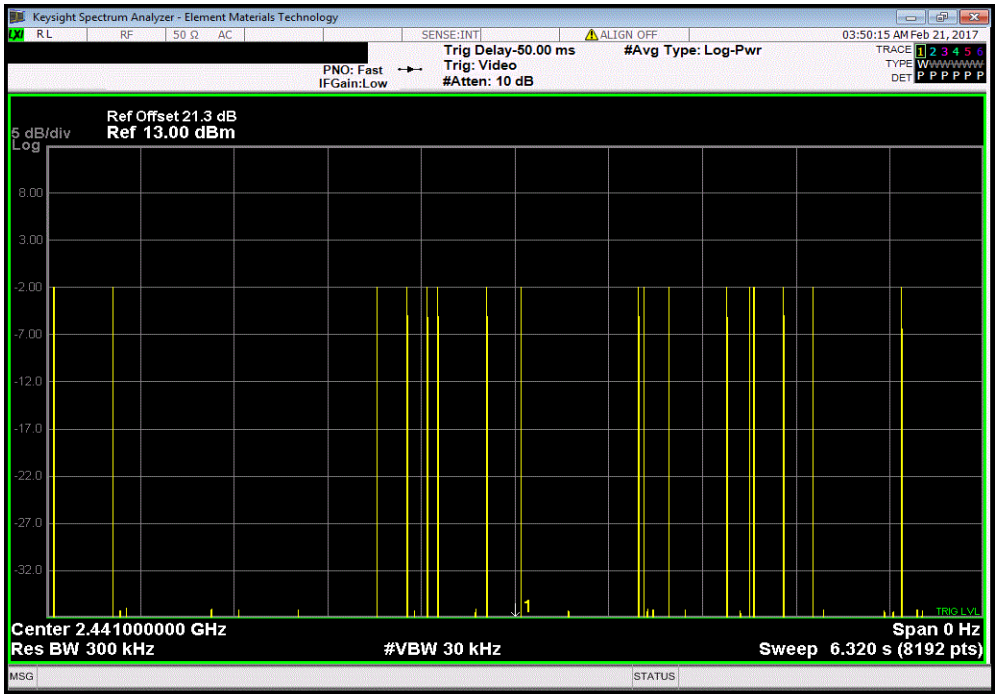
DWELL TIME

TbtTx 2017.01.27 XMit 2017.01.26

Hopping Mode, 2DH5, pi/4-DQPSK, Mid Channel, 2441 MHz						
Pulse Width (ms)	Number of Pulses	Average No. of Pulses	Scale Factor	On Time (ms) During 31.6 s	Limit (ms)	Results
N/A	29	N/A	N/A	N/A	N/A	N/A



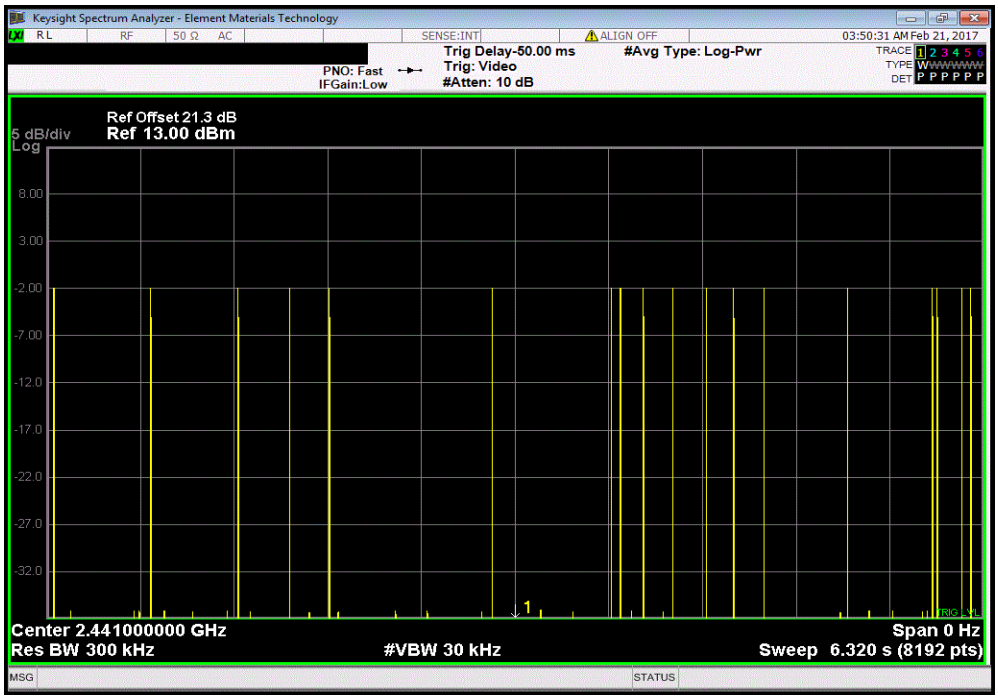
Hopping Mode, 2DH5, pi/4-DQPSK, Mid Channel, 2441 MHz						
Pulse Width (ms)	Number of Pulses	Average No. of Pulses	Scale Factor	On Time (ms) During 31.6 s	Limit (ms)	Results
N/A	17	N/A	N/A	N/A	N/A	N/A



DWELL TIME

TbtTx 2017.01.27 XMit 2017.01.26

Hopping Mode, 2DH5, pi/4-DQPSK, Mid Channel, 2441 MHz						
Pulse Width (ms)	Number of Pulses	Average No. of Pulses	Scale Factor	On Time (ms) During 31.6 s	Limit (ms)	Results
N/A	18	N/A	N/A	N/A	N/A	N/A



Hopping Mode, 2DH5, pi/4-DQPSK, Mid Channel, 2441 MHz						
Pulse Width (ms)	Number of Pulses	Average No. of Pulses	Scale Factor	On Time (ms) During 31.6 s	Limit (ms)	Results
2.907	N/A	20.25	5	294.33	400	Pass

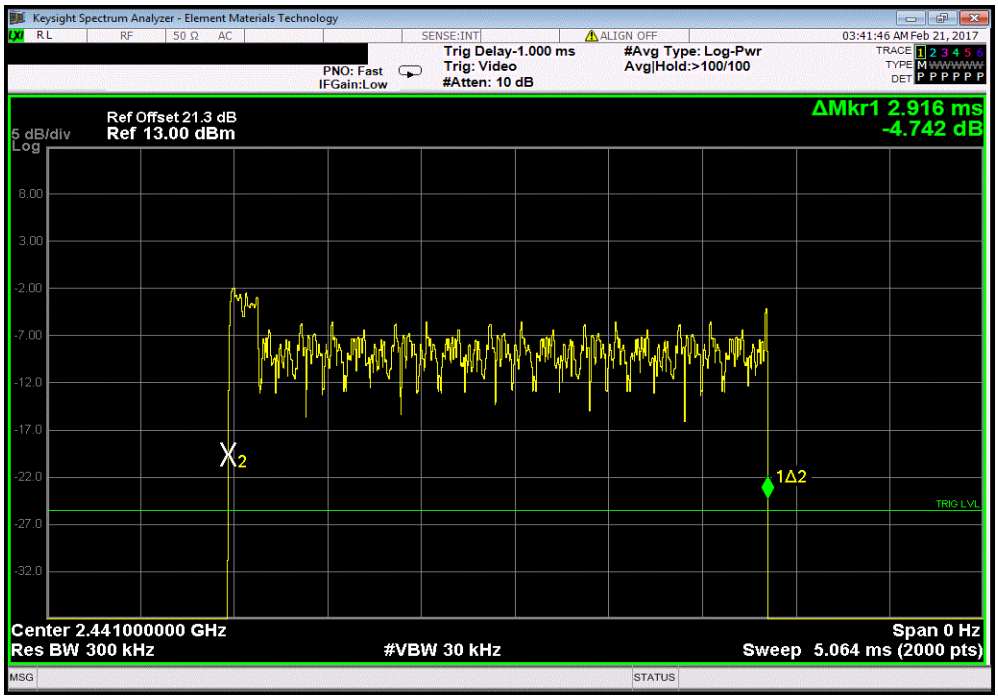
Calculation Only

No Screen Capture Required

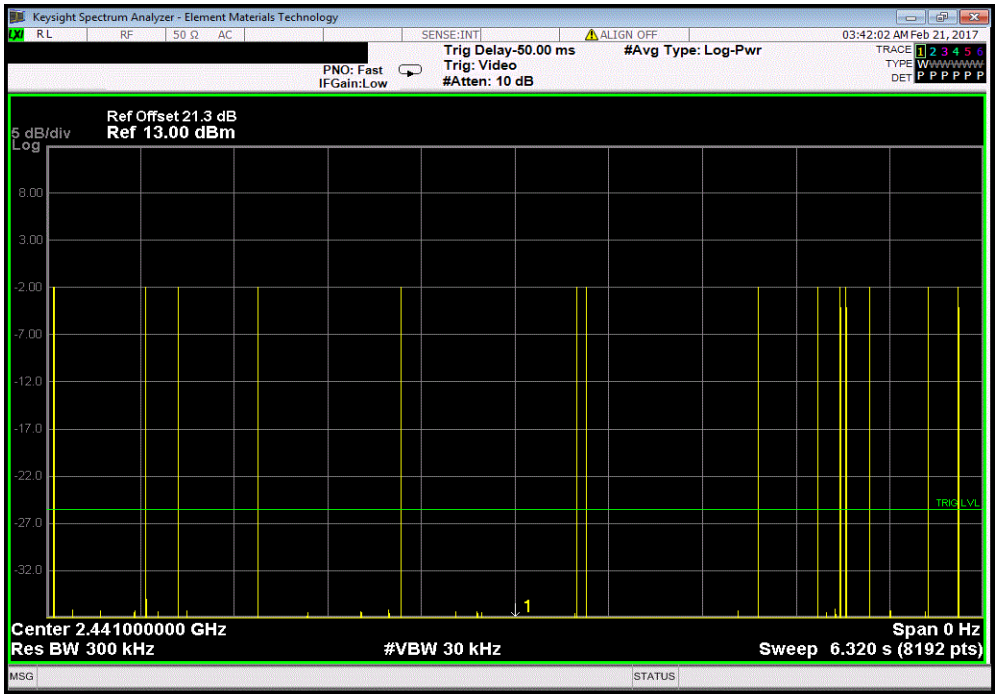
DWELL TIME

TbtTx 2017.01.27 XMit 2017.01.26

Hopping Mode, 3DH5, 8-DPSK, Mid Channel, 2441 MHz						
Pulse Width (ms)	Number of Pulses	Average No. of Pulses	Scale Factor	On Time (ms) During 31.6 s	Limit (ms)	Results
2.916	N/A	N/A	N/A	N/A	N/A	N/A



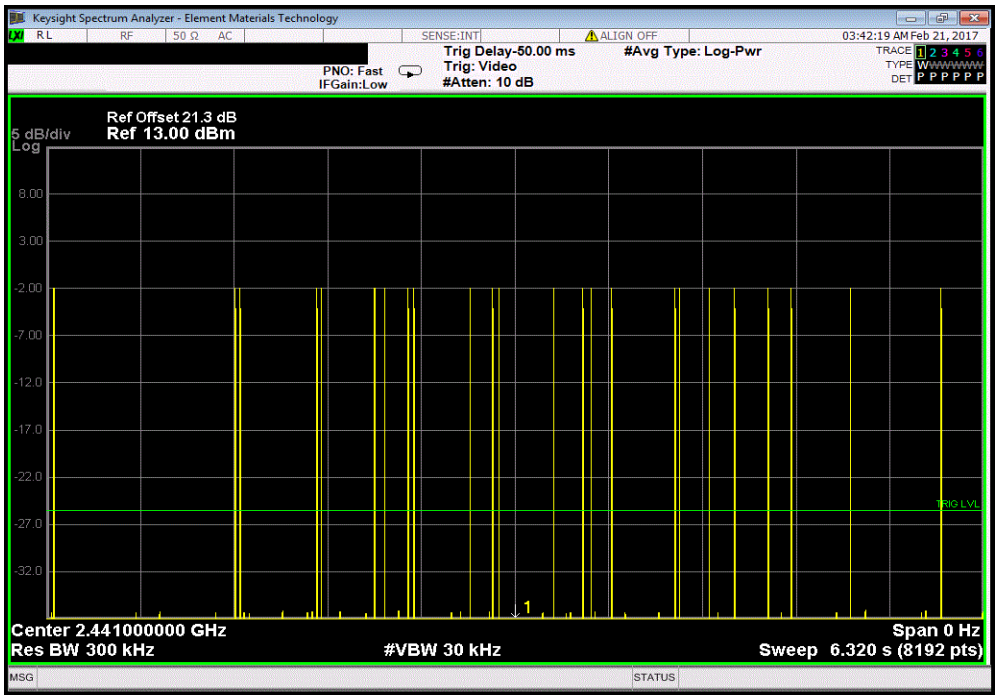
Hopping Mode, 3DH5, 8-DPSK, Mid Channel, 2441 MHz						
Pulse Width (ms)	Number of Pulses	Average No. of Pulses	Scale Factor	On Time (ms) During 31.6 s	Limit (ms)	Results
N/A	28	N/A	N/A	N/A	N/A	N/A



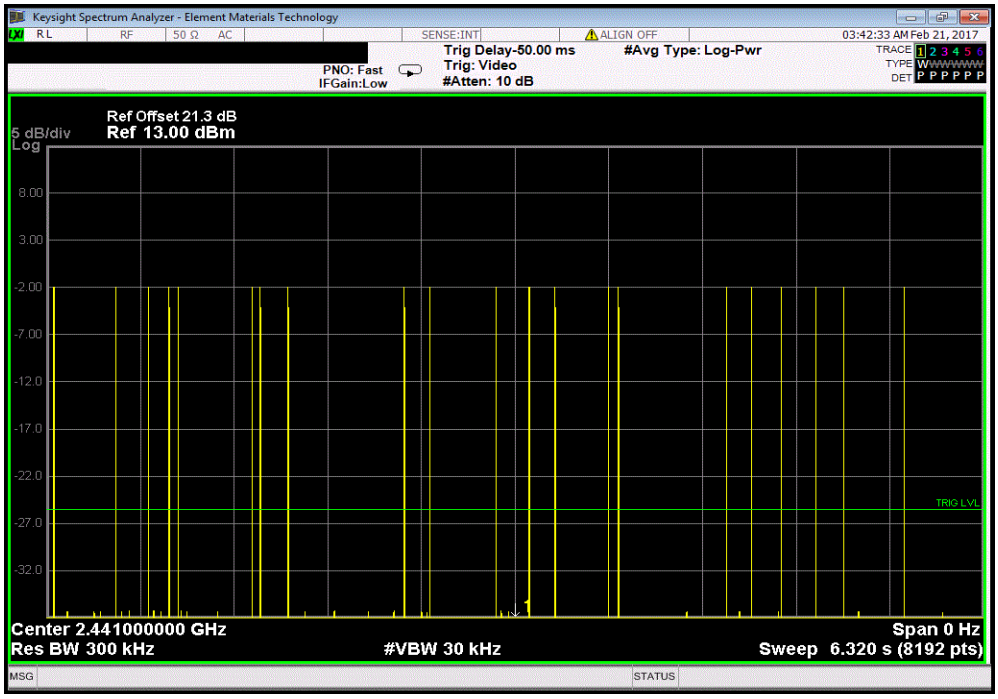
DWELL TIME

TbtTx 2017.01.27 XMit 2017.01.26

Hopping Mode, 3DH5, 8-DPSK, Mid Channel, 2441 MHz						
Pulse Width (ms)	Number of Pulses	Average No. of Pulses	Scale Factor	On Time (ms) During 31.6 s	Limit (ms)	Results
N/A	24	N/A	N/A	N/A	N/A	N/A



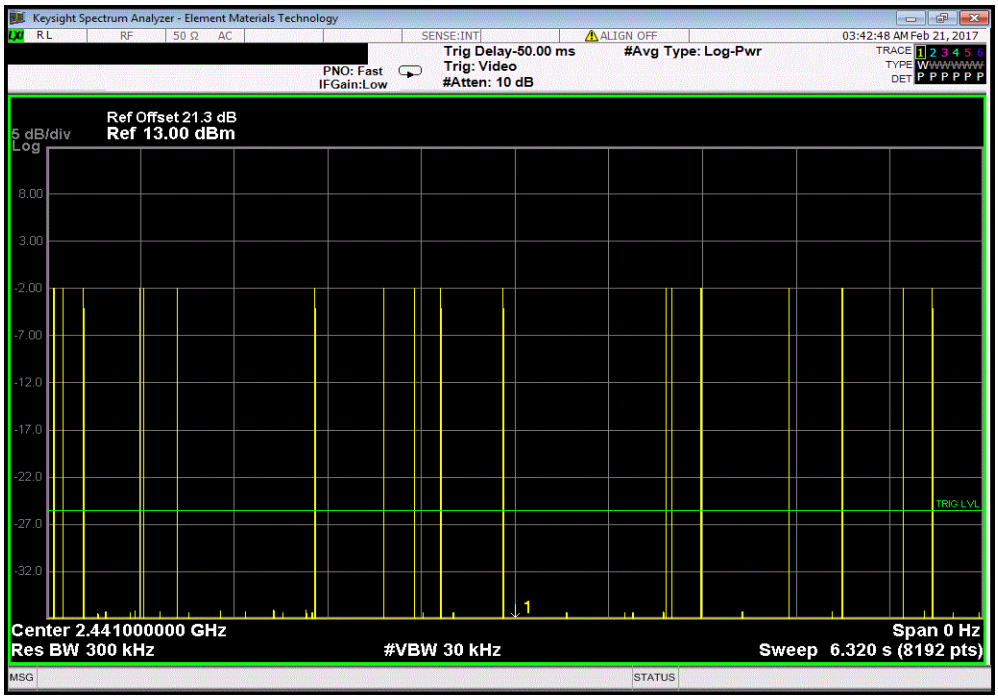
Hopping Mode, 3DH5, 8-DPSK, Mid Channel, 2441 MHz						
Pulse Width (ms)	Number of Pulses	Average No. of Pulses	Scale Factor	On Time (ms) During 31.6 s	Limit (ms)	Results
N/A	21	N/A	N/A	N/A	N/A	N/A



DWELL TIME

TbtTx 2017.01.27 XMit 2017.01.26

Hopping Mode, 3DH5, 8-DPSK, Mid Channel, 2441 MHz						
Pulse Width (ms)	Number of Pulses	Average No. of Pulses	Scale Factor	On Time (ms) During 31.6 s	Limit (ms)	Results
N/A	24	N/A	N/A	N/A	N/A	N/A



Hopping Mode, 3DH5, 8-DPSK, Mid Channel, 2441 MHz						
Pulse Width (ms)	Number of Pulses	Average No. of Pulses	Scale Factor	On Time (ms) During 31.6 s	Limit (ms)	Results
2.916	N/A	24.25	5	353.56	400	Pass

Calculation Only

No Screen Capture Required

OUTPUT POWER

XMit 2017.01.26

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	N5182B	TFU	10/27/2015	10/27/2018
Cable	Micro-Coax	UFD150A-1-0720-200200	EVH	6/7/2016	6/7/2017
Block - DC	Fairview Microwave	SD3379	AMQ	6/8/2016	6/8/2017
Attenuator	S.M. Electronics	SA26B-20	AUY	6/27/2016	6/27/2017
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFP	8/10/2016	8/10/2017

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The peak output power was measured with the EUT set to low, medium and high transmit frequencies. The EUT was transmitting in a no hop mode at the data rate(s) listed in the datasheet.

The method found in ANSI C63.10:2013 Section 7.8.5 was used for a FHSS radio.

De Facto EIRP Limit: The EUT meets the de facto EIRP limit of +27dBm.

OUTPUT POWER

TbtTx 2017.01.27 XMit 2017.01.26

EUT:	**KILO2400ABS Rangefinder**			**Work Order:**	**SIGS0004**
Serial Number:	**KILO2400ABS**			**Date:**	**02/20/17**
Customer:	**Sig Sauer, Inc. Electro-Optics**			**Temperature:**	**24.2 °C**
Attendees:	**Don Cramer**			**Humidity:**	**38.7% RH**
Project:	**None**			**Barometric Pres.:**	**1008 mbar**
Tested by:	**Brandon Hobbs**	**Power:**	**Battery (3.0VDC)**	**Job Site:**	**EV06**

TEST SPECIFICATIONS	**Test Method**
FCC 15.247:2017	ANSI C63.10:2013

COMMENTS

Client provided 3 party software to control radio module.

DEVIATIONS FROM TEST STANDARD

None

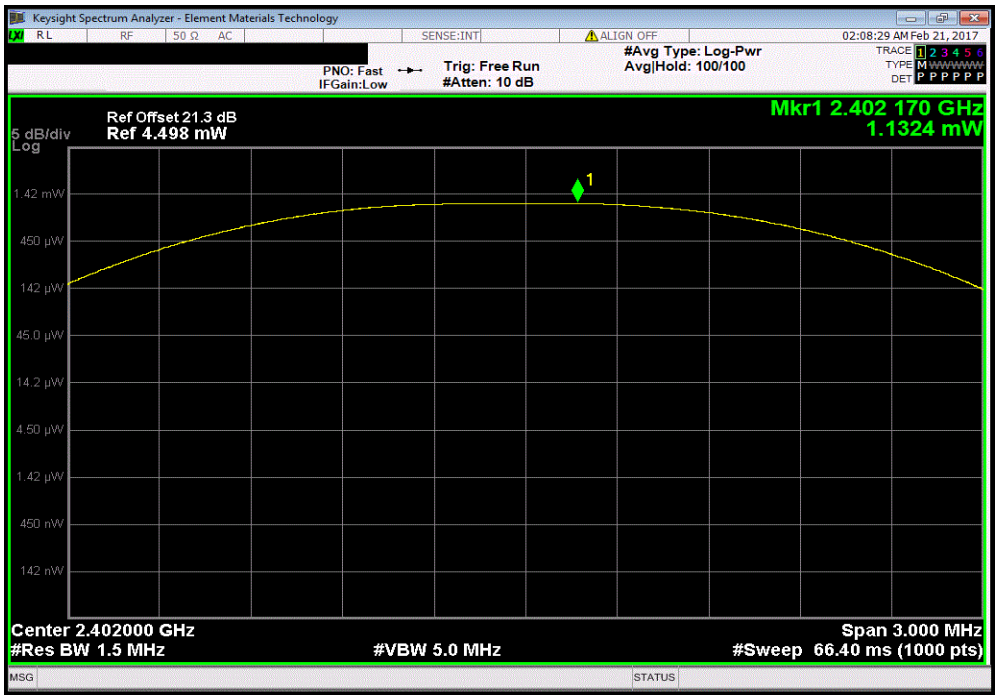
Configuration #	**1**	*Signature*

		Value	**Limit (<)**	**Result**
DH5, GFSK				
	Low Channel 2402 MHz	1.132 mW	125 mW	Pass
	Mid Channel 2441 MHz	967.27 uW	125 mW	Pass
	High Channel 2480 MHz	770.09 uW	125 mW	Pass
2DH5, pi/4-DQPSK				
	Low Channel 2402 MHz	894.02 uW	125 mW	Pass
	Mid Channel 2441 MHz	792.42 uW	125 mW	Pass
	High Channel 2480 MHz	597.1 uW	125 mW	Pass
3DH5, 8-DPSK				
	Low Channel 2402 MHz	923.74 uW	125 mW	Pass
	Mid Channel 2441 MHz	819.7 uW	125 mW	Pass
	High Channel 2480 MHz	619.75 uW	125 mW	Pass

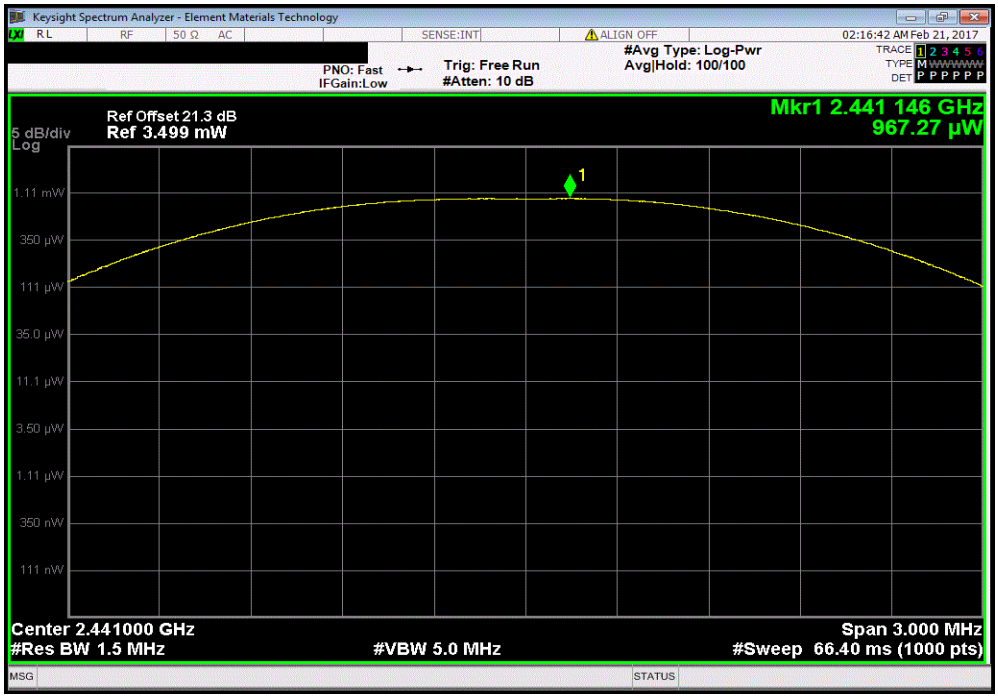
OUTPUT POWER

TbtTx 2017.01.27 XMit 2017.01.26

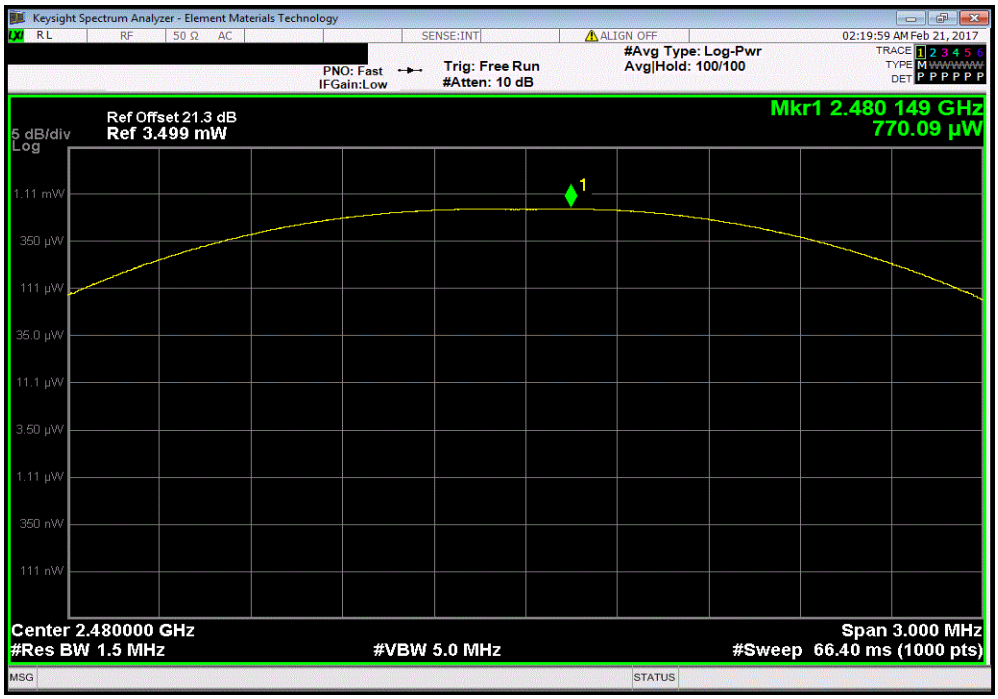
DH5, GFSK, Low Channel 2402 MHz						
				Value	Limit (<)	Result
				1.132 mW	125 mW	Pass



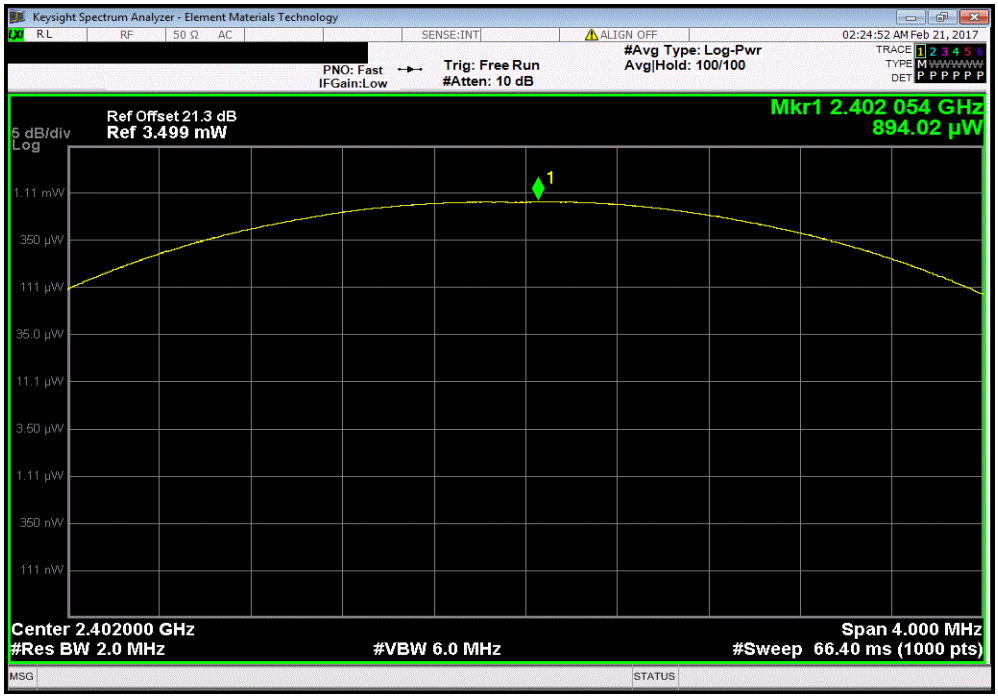
DH5, GFSK, Mid Channel 2441 MHz						
				Value	Limit (<)	Result
				967.27 uW	125 mW	Pass



DH5, GFSK, High Channel 2480 MHz						
				Value	Limit (<)	Result
				770.09 uW	125 mW	Pass



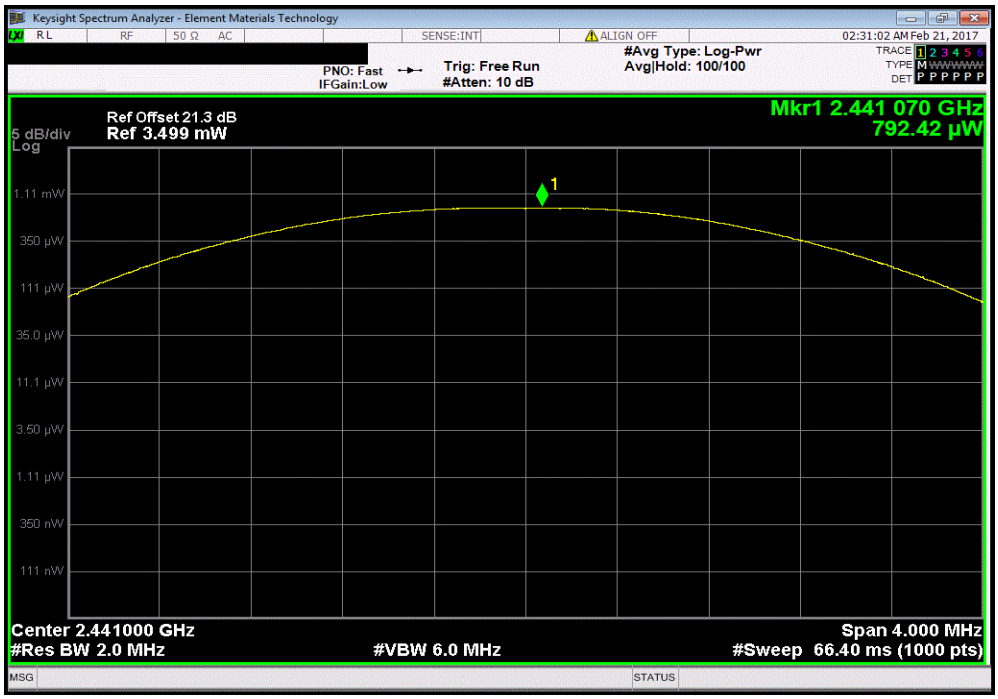
2DH5, pi/4-DQPSK, Low Channel 2402 MHz						
				Value	Limit (<)	Result
				894.02 uW	125 mW	Pass



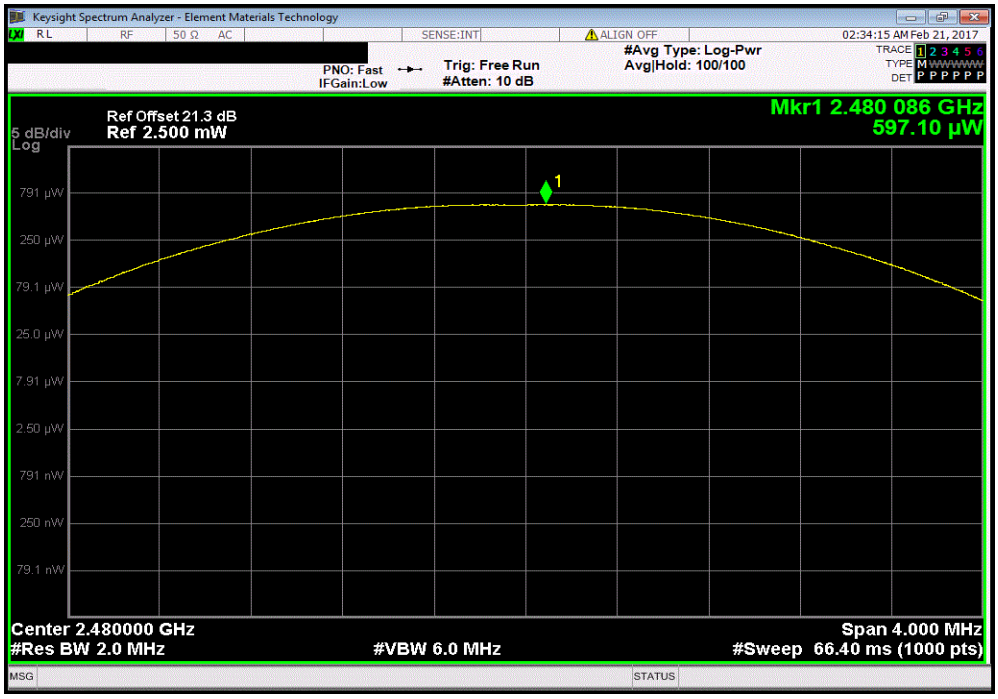
OUTPUT POWER

TbtTx 2017.01.27 XMit 2017.01.26

2DH5, pi/4-DQPSK, Mid Channel 2441 MHz						
				Value	Limit (<)	Result
				792.42 uW	125 mW	Pass



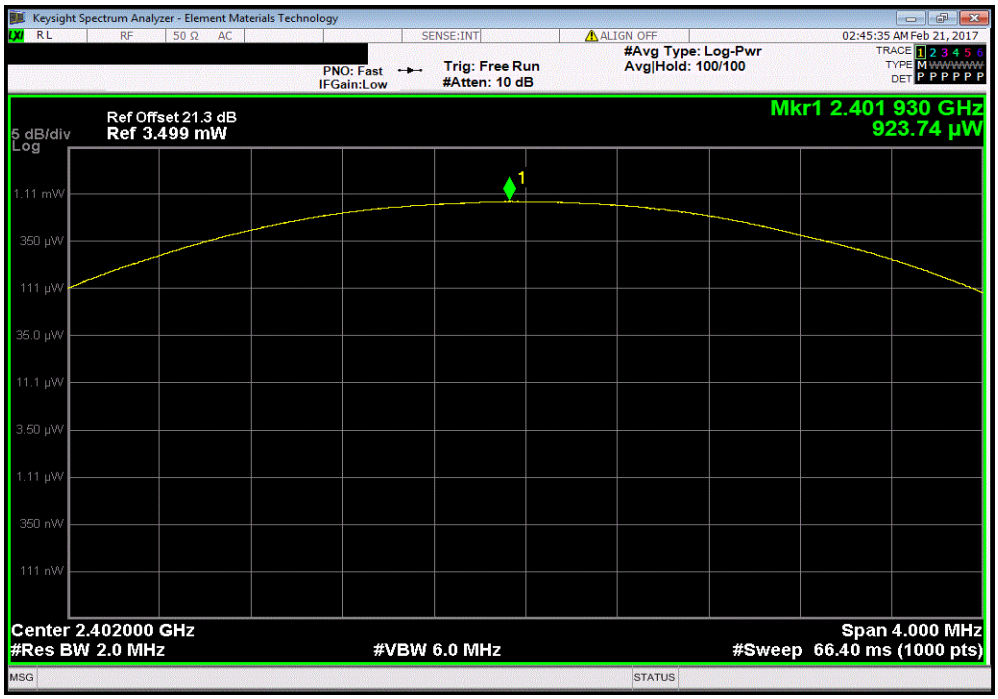
2DH5, pi/4-DQPSK, High Channel 2480 MHz						
				Value	Limit (<)	Result
				597.1 uW	125 mW	Pass



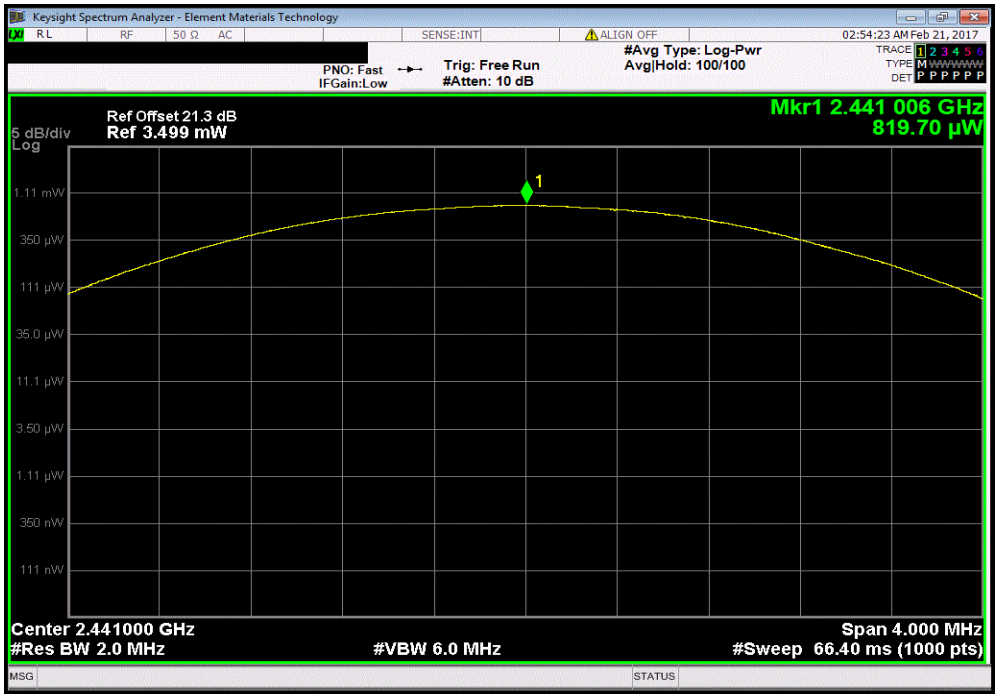
OUTPUT POWER

TbtTx 2017.01.27 XMit 2017.01.26

3DH5, 8-DPSK, Low Channel 2402 MHz						
				Value	Limit (<)	Result
				923.74 uW	125 mW	Pass

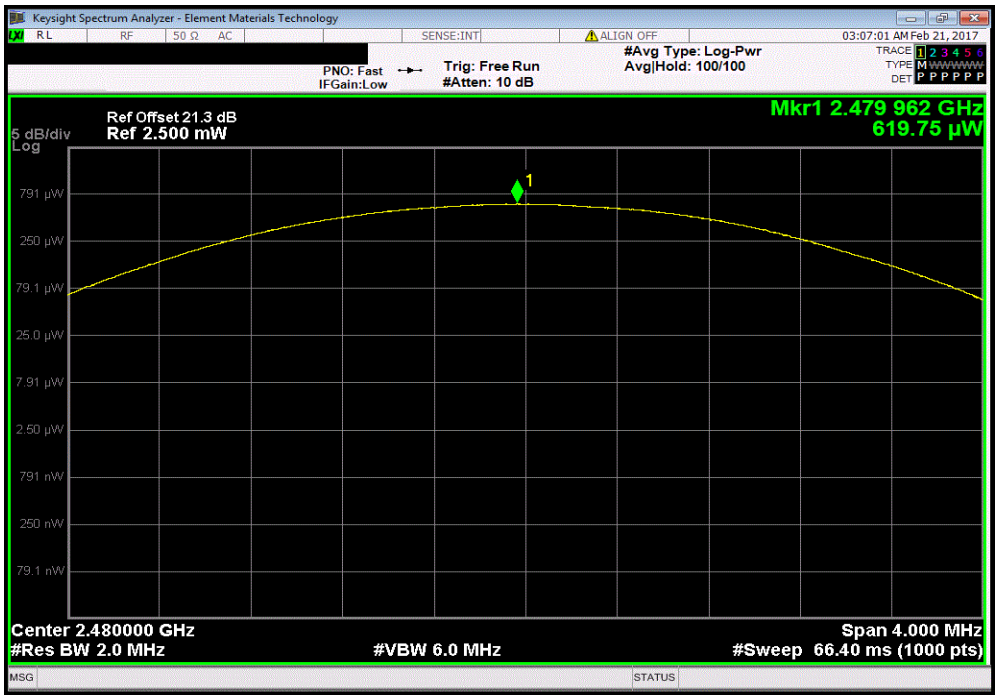


3DH5, 8-DPSK, Mid Channel 2441 MHz						
				Value	Limit (<)	Result
				819.7 uW	125 mW	Pass



OUTPUT POWER

3DH5, 8-DPSK, High Channel 2480 MHz						
				Value	Limit (<)	Result
				619.75 uW	125 mW	Pass



BAND EDGE COMPLIANCE

XMit 2017.01.26

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	N5182B	TFU	10/27/2015	10/27/2018
Cable	Micro-Coax	UFD150A-1-0720-200200	EVH	6/7/2016	6/7/2017
Attenuator	S.M. Electronics	SA26B-20	AUY	6/27/2016	6/27/2017
Block - DC	Fairview Microwave	SD3379	AMQ	6/8/2016	6/8/2017
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFP	8/10/2016	8/10/2017

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 band were measured with the EUT set to low and high transmit frequencies. The EUT was transmitting at the data rate(s) listed in the datasheet in a no hop mode. The channels closest to the band edges were selected.

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

BAND EDGE COMPLIANCE

TbtTx 2017.01.27 XMit 2017.01.26

EUT:	KILO2400ABS Rangefinder			**Work Order:**	SIGS0004
Serial Number:	KILO2400ABS			**Date:**	02/20/17
Customer:	Sig Sauer, Inc. Electro-Optics			**Temperature:**	24.2 °C
Attendees:	Don Cramer			**Humidity:**	39% RH
Project:	None			**Barometric Pres.:**	1007 mbar
Tested by:	Brandon Hobbs	**Power:**	Battery (3.0VDC)	**Job Site:**	EV06

TEST SPECIFICATIONS	**Test Method**
FCC 15.247:2017	ANSI C63.10:2013

COMMENTS

Client provided 3 party software to control radio module.

DEVIATIONS FROM TEST STANDARD

None

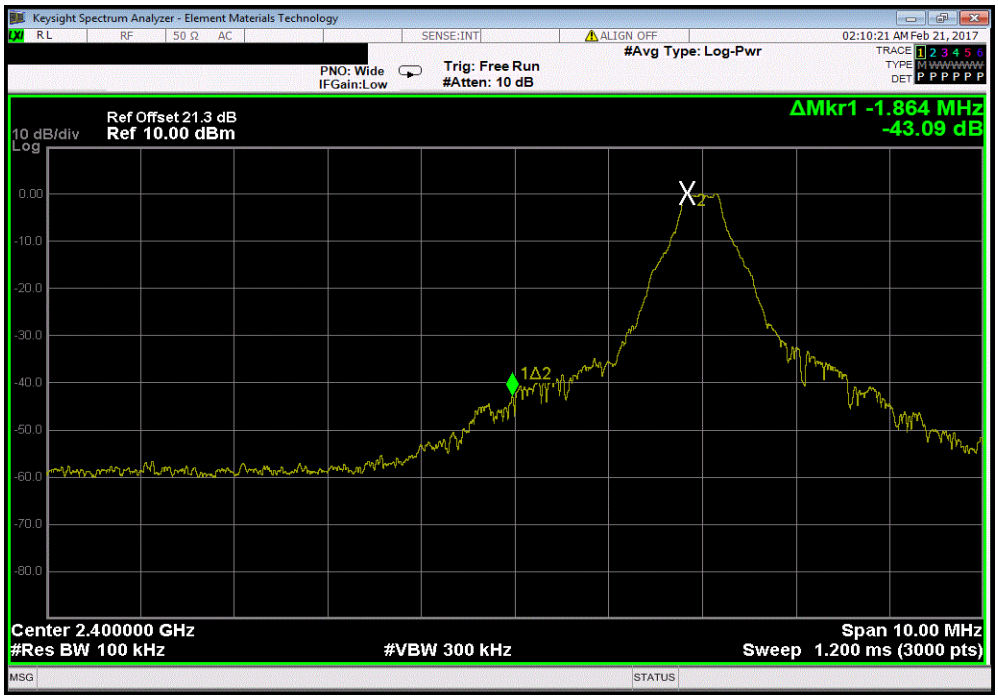
Configuration #	1	*Signature*

		Value (dBc)	Limit ≤ (dBc)	Result
DH5, GFSK				
	Low Channel 2402 MHz	-43.09	-20	Pass
	High Channel 2480 MHz	-54.67	-20	Pass
2DH5, pi/4-DQPSK				
	Low Channel 2402 MHz	-49.19	-20	Pass
	High Channel 2480 MHz	-53.71	-20	Pass
3DH5, 8-DPSK				
	Low Channel 2402 MHz	-48.93	-20	Pass
	High Channel 2480 MHz	-53.49	-20	Pass

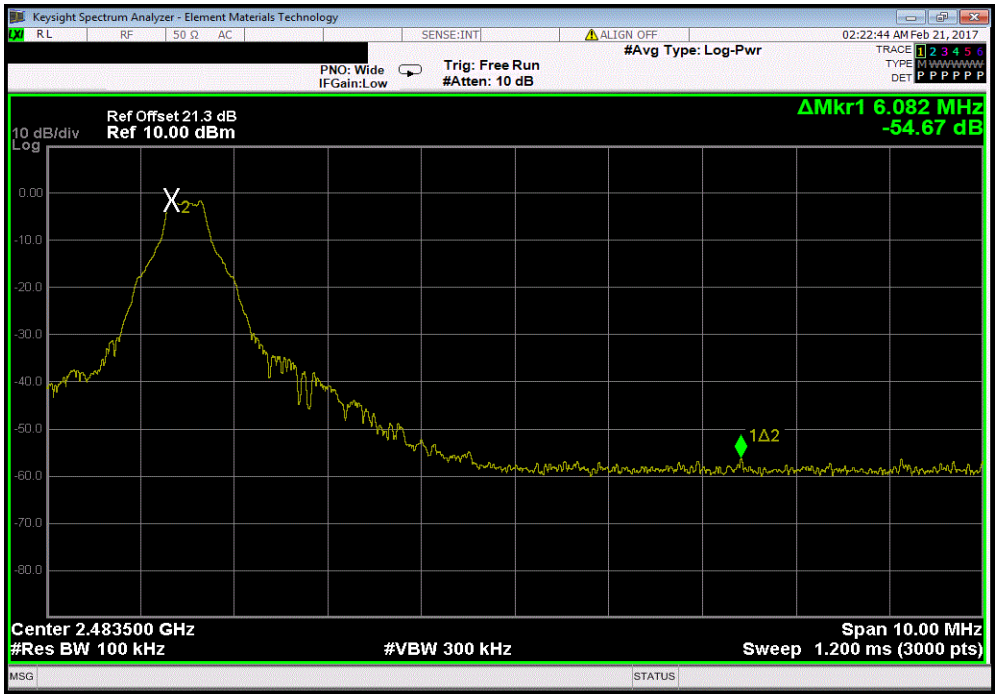
BAND EDGE COMPLIANCE

TbtTx 2017.01.27 XMit 2017.01.26

DH5, GFSK, Low Channel 2402 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-43.09	-20	Pass



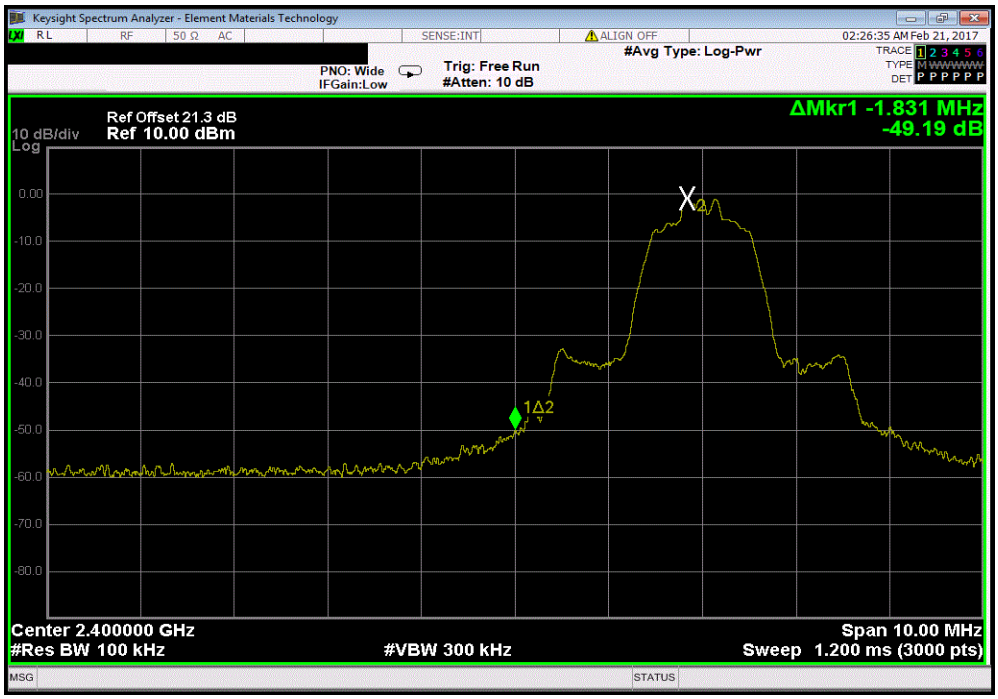
DH5, GFSK, High Channel 2480 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-54.67	-20	Pass



BAND EDGE COMPLIANCE

TbtTx 2017.01.27 XMit 2017.01.26

2DH5, pi/4-DQPSK, Low Channel 2402 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-49.19	-20	Pass

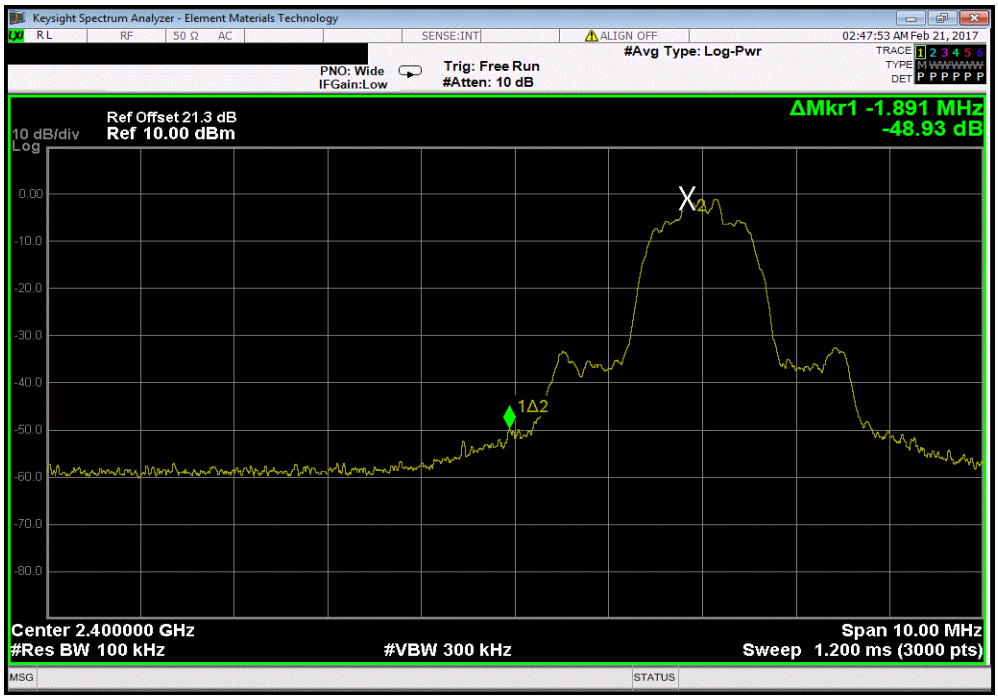


2DH5, pi/4-DQPSK, High Channel 2480 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-53.71	-20	Pass

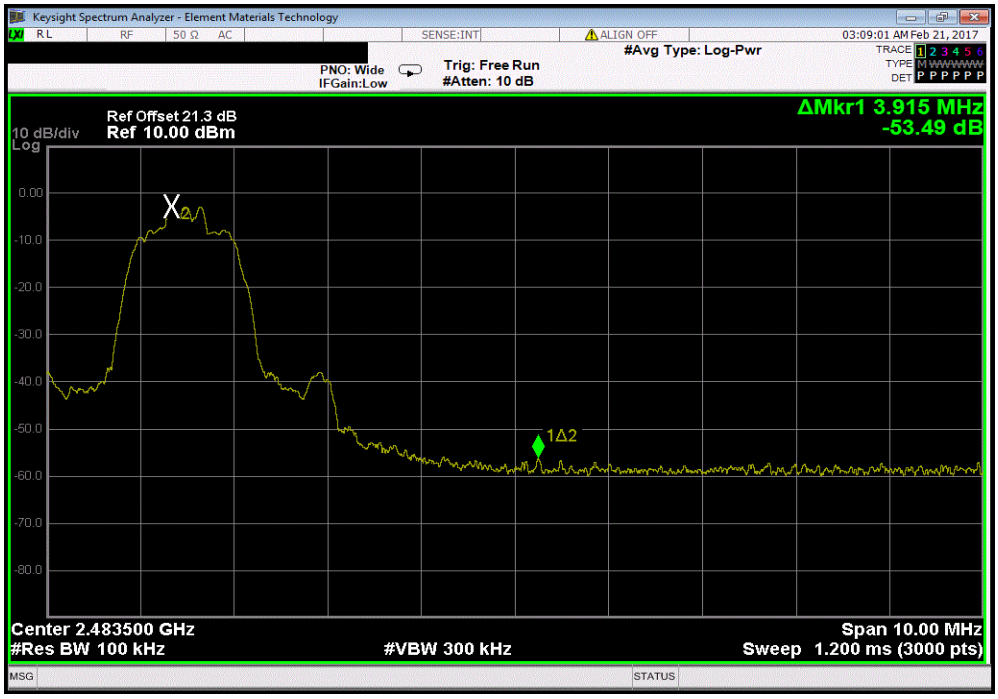
BAND EDGE COMPLIANCE

TbtTx 2017.01.27 XMit 2017.01.26

3DH5, 8-DPSK, Low Channel 2402 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-48.93	-20	Pass



3DH5, 8-DPSK, High Channel 2480 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-53.49	-20	Pass



BAND EDGE COMPLIANCE - HOPPING MODE

XMit 2017.01.26

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	N5182B	TFU	10/27/2015	10/27/2018
Cable	Micro-Coax	UFD150A-1-0720-200200	EVH	6/7/2016	6/7/2017
Attenuator	S.M. Electronics	SA26B-20	AUY	6/27/2016	6/27/2017
Block - DC	Fairview Microwave	SD3379	AMQ	6/8/2016	6/8/2017
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFP	8/10/2016	8/10/2017

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 band were measured with the EUT set to its normal pseudo-random hopping sequence. 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 - HOPPING MODE

TbtTx 2017.01.27 XMit 2017.01.26

EUT:	KILO2400ABS Rangefinder			**Work Order:**	SIGS0004
Serial Number:	KILO2400ABS			**Date:**	02/20/17
Customer:	Sig Sauer, Inc. Electro-Optics			**Temperature:**	24.1 °C
Attendees:	Don Cramer			**Humidity:**	38.8% RH
Project:	None			**Barometric Pres.:**	1008 mbar
Tested by:	Brandon Hobbs	**Power:**	Battery (3.0VDC)	**Job Site:**	EV06

TEST SPECIFICATIONS	**Test Method**
FCC 15.247:2017	ANSI C63.10:2013

COMMENTS

Client provided 3 party software to control radio module.

DEVIATIONS FROM TEST STANDARD

None

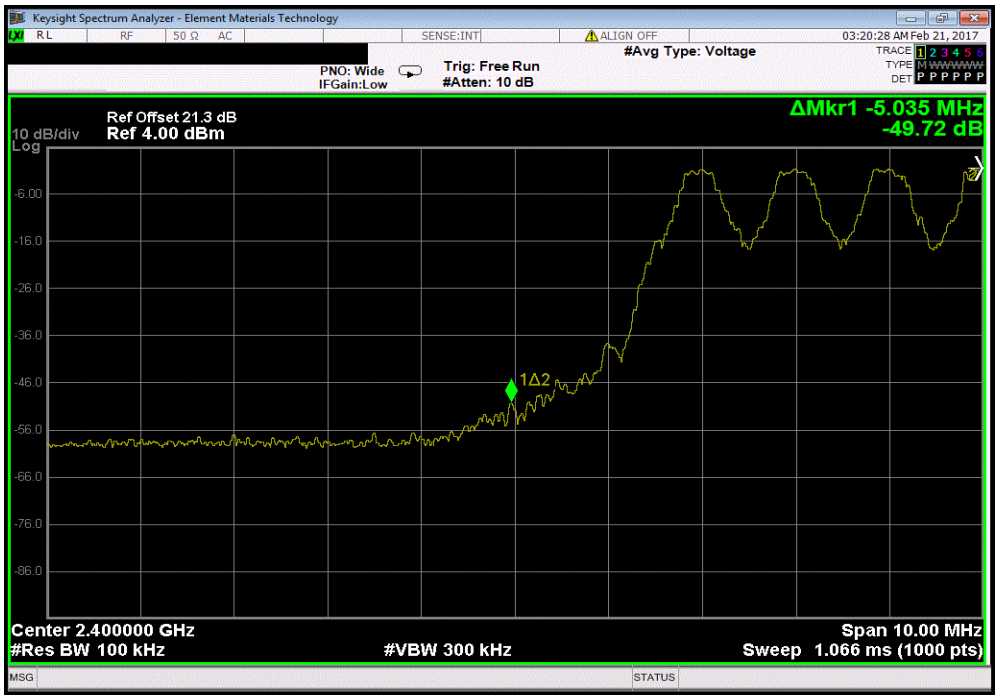
Configuration #	1	*Signature*

		Value (dBc)	Limit ≤ (dBc)	Result
Hopping Mode				
	DH5, GFSK			
	Low Channel, 2402 MHz	-49.73	-20	Pass
	High Channel, 2480 MHz	-54.57	-20	Pass
	2DH5, pi/4-DQPSK			
	Low Channel, 2402 MHz	-50.96	-20	Pass
	High Channel, 2480 MHz	-53.48	-20	Pass
	3DH5, 8-DPSK			
	Low Channel, 2402 MHz	-51.93	-20	Pass
	High Channel, 2480 MHz	-53.47	-20	Pass

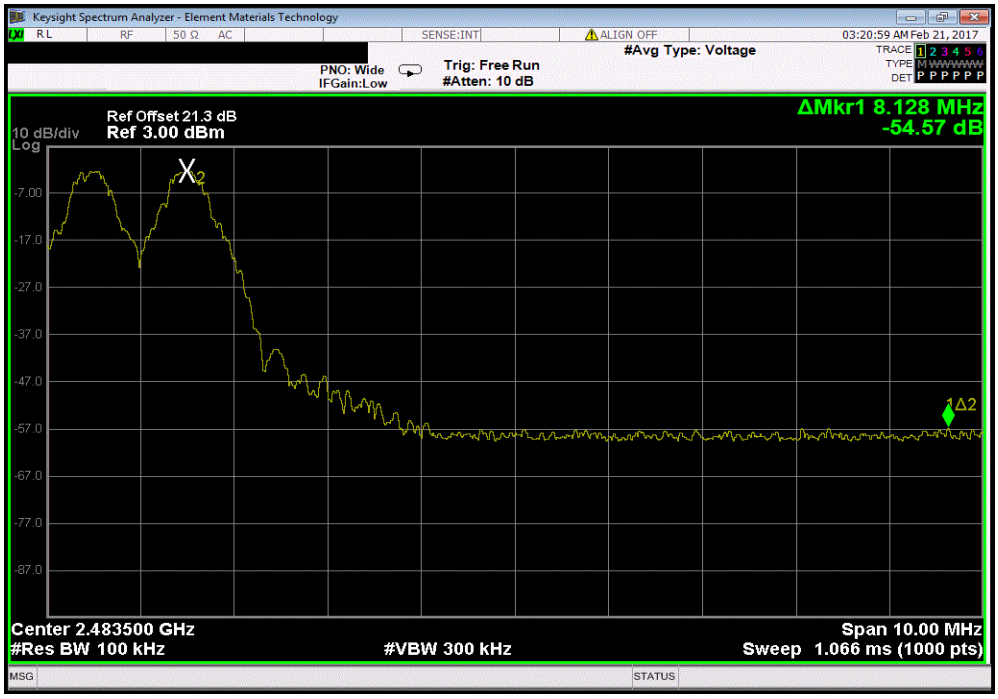
BAND EDGE COMPLIANCE - HOPPING MODE

TbtTx 2017.01.27 XMit 2017.01.26

Hopping Mode, DH5, GFSK, Low Channel, 2402 MHz							
					Value (dBc)	Limit ≤ (dBc)	Result
					-49.73	-20	Pass



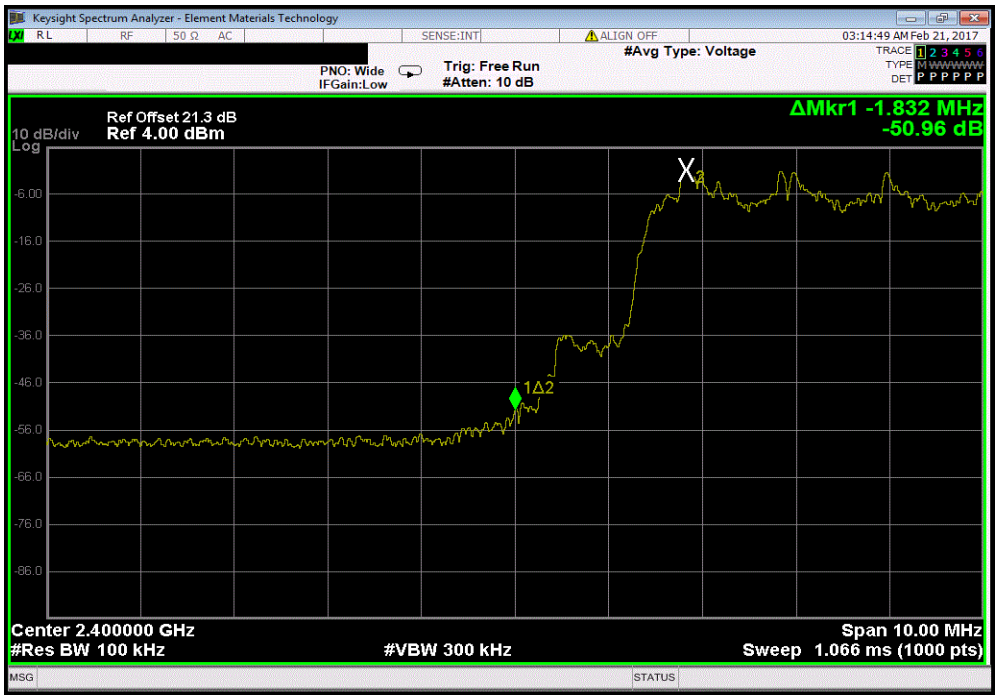
Hopping Mode, DH5, GFSK, High Channel, 2480 MHz							
					Value (dBc)	Limit ≤ (dBc)	Result
					-54.57	-20	Pass



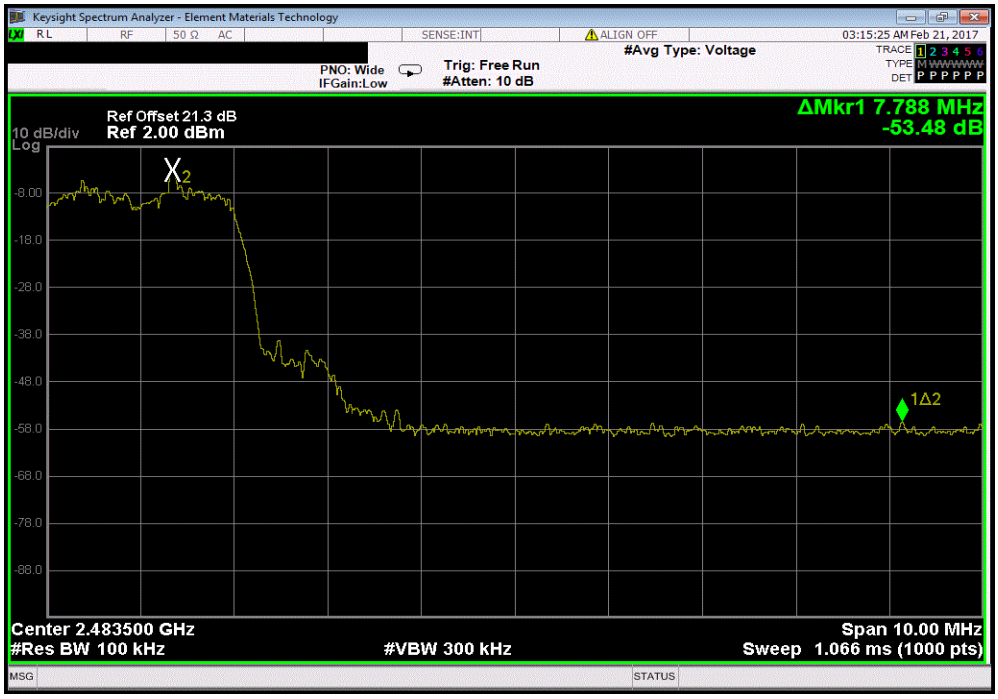
BAND EDGE COMPLIANCE - HOPPING MODE

TbtTx 2017.01.27 XMit 2017.01.26

Hopping Mode, 2DH5, pi/4-DQPSK, Low Channel, 2402 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-50.96	-20	Pass



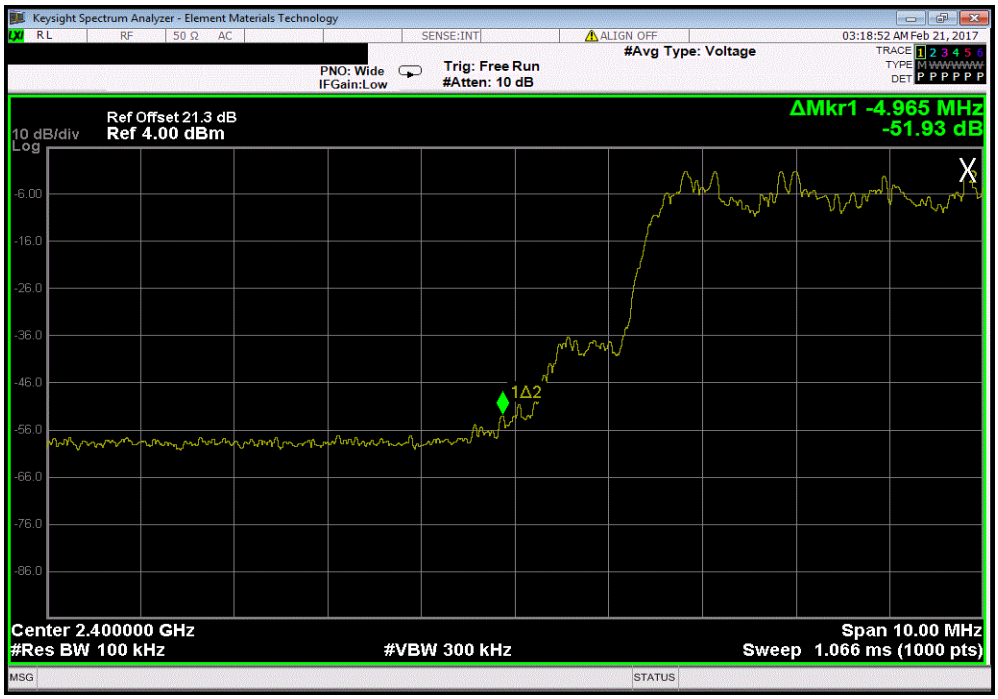
Hopping Mode, 2DH5, pi/4-DQPSK, High Channel, 2480 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-53.48	-20	Pass



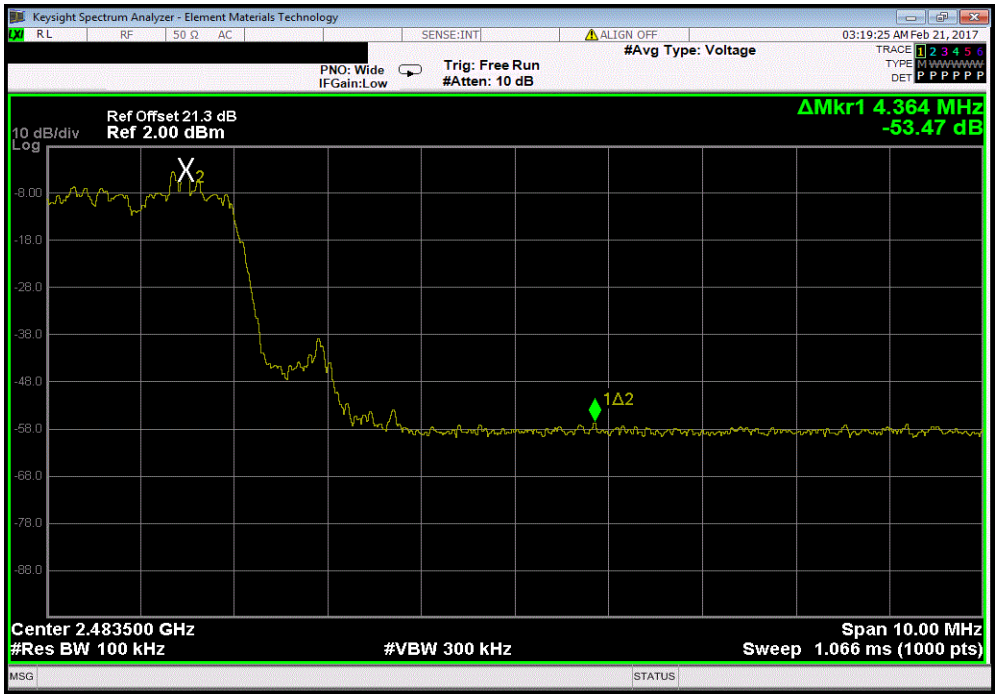
BAND EDGE COMPLIANCE - HOPPING MODE

TbtTx 2017.01.27 XMit 2017.01.26

Hopping Mode, 3DH5, 8-DPSK, Low Channel, 2402 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-51.93	-20	Pass



Hopping Mode, 3DH5, 8-DPSK, High Channel, 2480 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-53.47	-20	Pass



OCCUPIED BANDWIDTH

XMit 2017.01.26

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	N5182B	TFU	10/27/2015	10/27/2018
Cable	Micro-Coax	UFD150A-1-0720-200200	EVH	6/7/2016	6/7/2017
Attenuator	S.M. Electronics	SA26B-20	AUY	6/27/2016	6/27/2017
Block - DC	Fairview Microwave	SD3379	AMQ	6/8/2016	6/8/2017
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFP	8/10/2016	8/10/2017

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The 20 dB occupied bandwidth was measured with the EUT set to low, medium and high transmit frequencies in the band. The EUT was transmitting at the data rate(s) listed in the datasheet in a no-hop mode.

OCCUPIED BANDWIDTH

TbtTx 2017.01.27 XMit 2017.01.26

EUT:	**KILO2400ABS Rangefinder**			**Work Order:**	**SIGS0004**
Serial Number:	**KILO2400ABS**			**Date:**	**02/20/17**
Customer:	**Sig Sauer, Inc. Electro-Optics**			**Temperature:**	**24.2 °C**
Attendees:	**Don Cramer**			**Humidity:**	**38.8% RH**
Project:	**None**			**Barometric Pres.:**	**1007 mbar**
Tested by:	**Brandon Hobbs**	**Power:**	**Battery (3.0VDC)**	**Job Site:**	**EV06**

TEST SPECIFICATIONS	**Test Method**
FCC 15.247:2017	ANSI C63.10:2013

COMMENTS

Client provided 3 party software to control radio module.

DEVIATIONS FROM TEST STANDARD

None

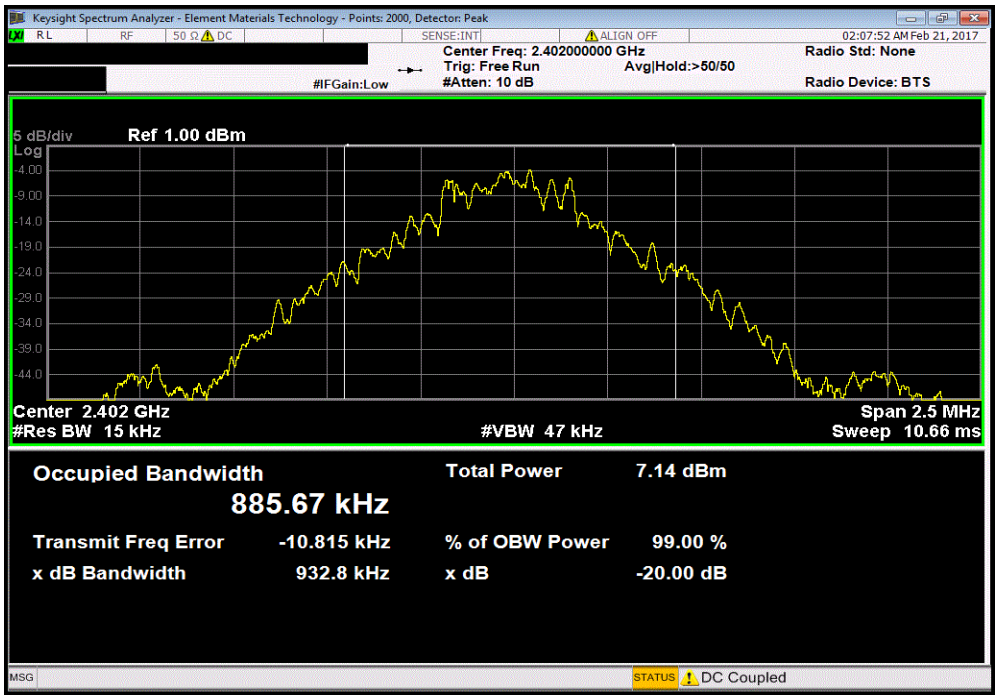
Configuration #	**1**	*Signature*

		Value	**Limit (<)**	**Result**
DH5, GFSK				
	Low Channel 2402 MHz	932.83 kHz	1.5 MHz	Pass
	Mid Channel 2441 MHz	929.41 kHz	1.5 MHz	Pass
	High Channel 2480 MHz	924.585 kHz	1.5 MHz	Pass
2DH5, pi/4-DQPSK				
	Low Channel 2402 MHz	1.23 MHz	1.5 MHz	Pass
	Mid Channel 2441 MHz	1.23 MHz	1.5 MHz	Pass
	High Channel 2480 MHz	1.215 MHz	1.5 MHz	Pass
3DH5, 8-DPSK				
	Low Channel 2402 MHz	1.247 MHz	1.5 MHz	Pass
	Mid Channel 2441 MHz	1.244 MHz	1.5 MHz	Pass
	High Channel 2480 MHz	1.243 MHz	1.5 MHz	Pass

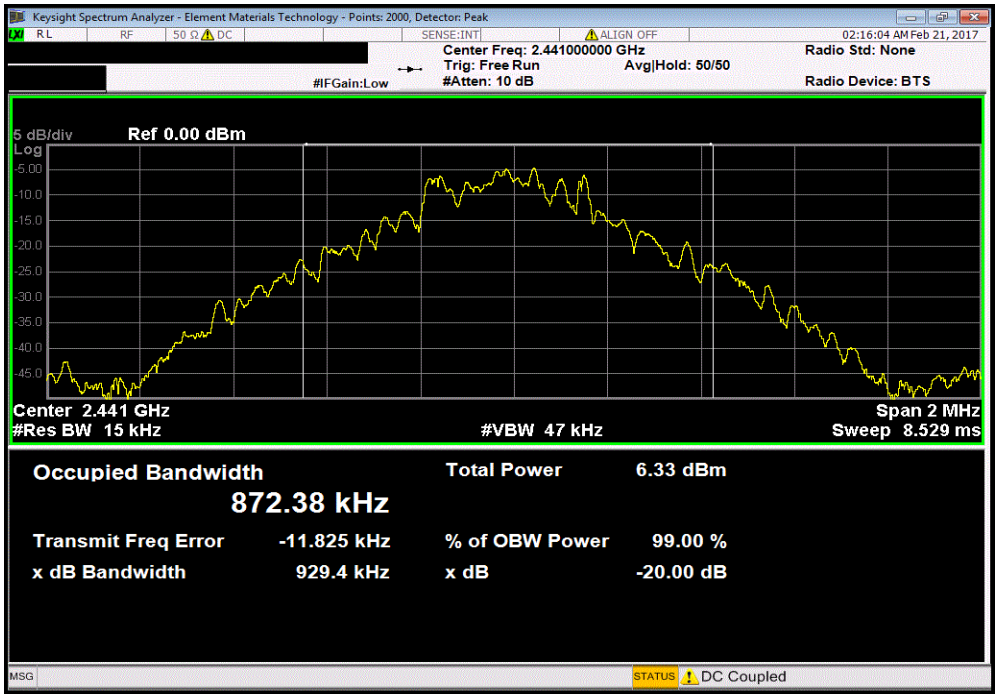
OCCUPIED BANDWIDTH

TbtTx 2017.01.27 XMit 2017.01.26

DH5, GFSK, Low Channel 2402 MHz						
				Value	Limit (<)	Result
				932.83 kHz	1.5 MHz	Pass



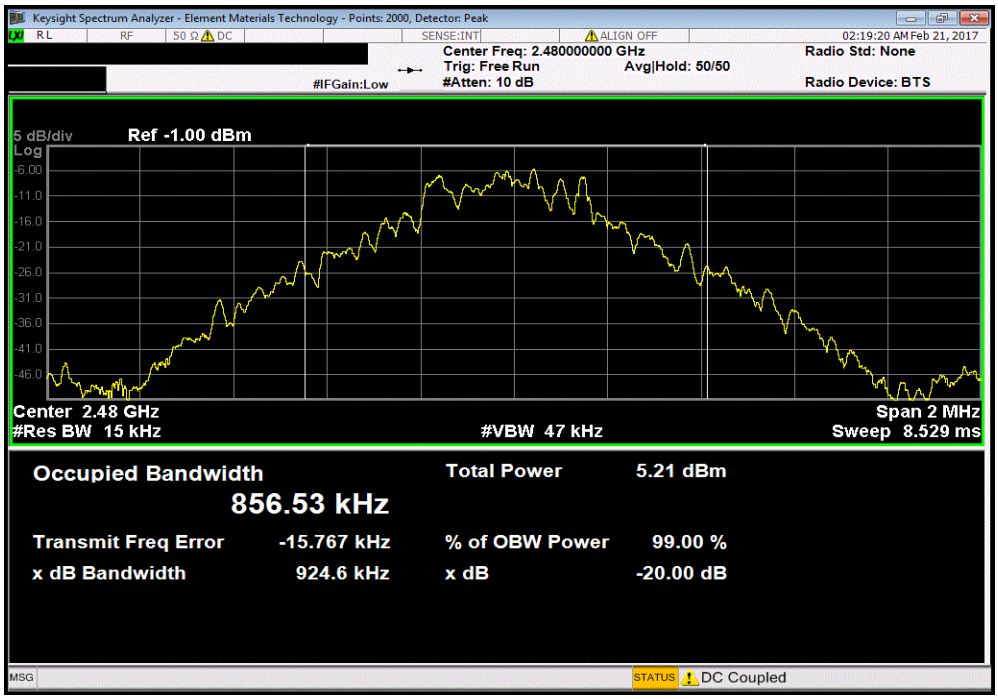
DH5, GFSK, Mid Channel 2441 MHz						
				Value	Limit (<)	Result
				929.41 kHz	1.5 MHz	Pass



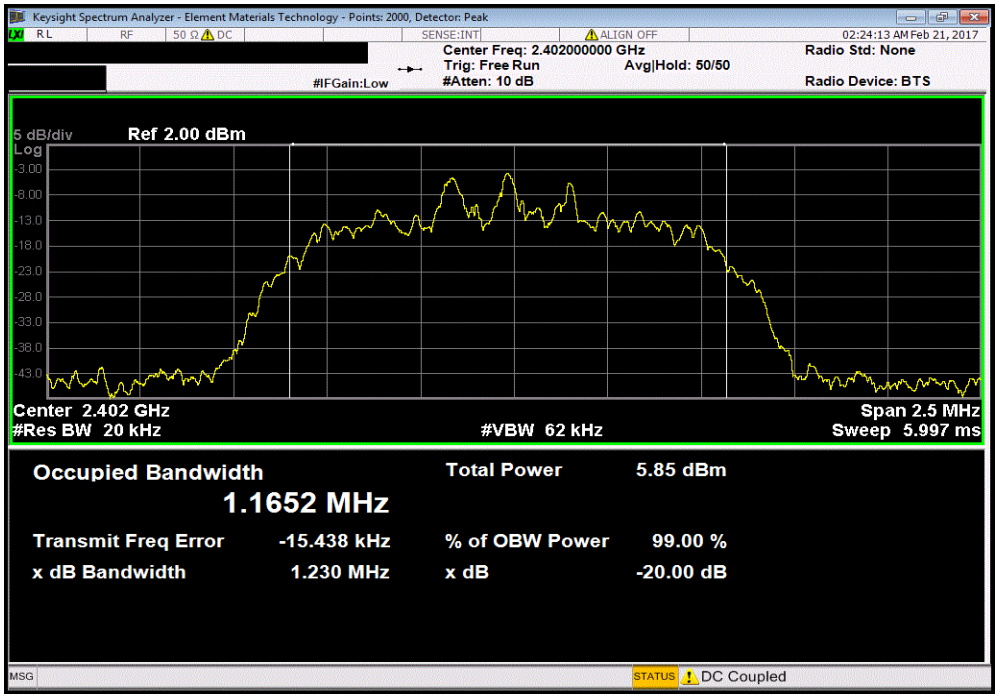
OCCUPIED BANDWIDTH

TbtTx 2017.01.27 XMit 2017.01.26

DH5, GFSK, High Channel 2480 MHz						
				Value	Limit (<)	Result
				924.585 kHz	1.5 MHz	Pass



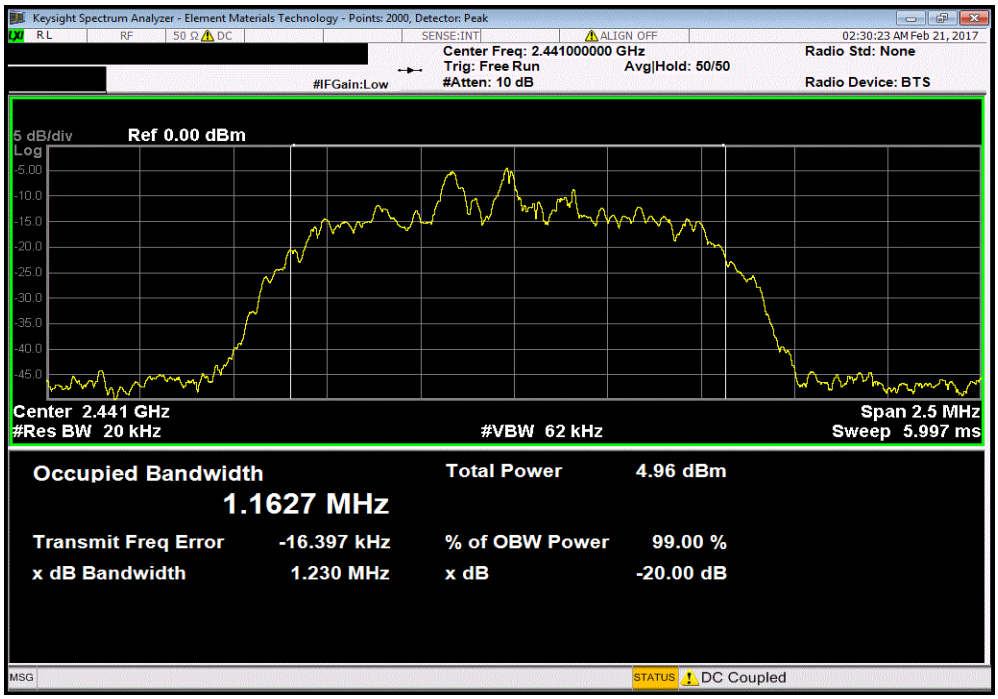
2DH5, pi/4-DQPSK, Low Channel 2402 MHz						
				Value	Limit (<)	Result
				1.23 MHz	1.5 MHz	Pass



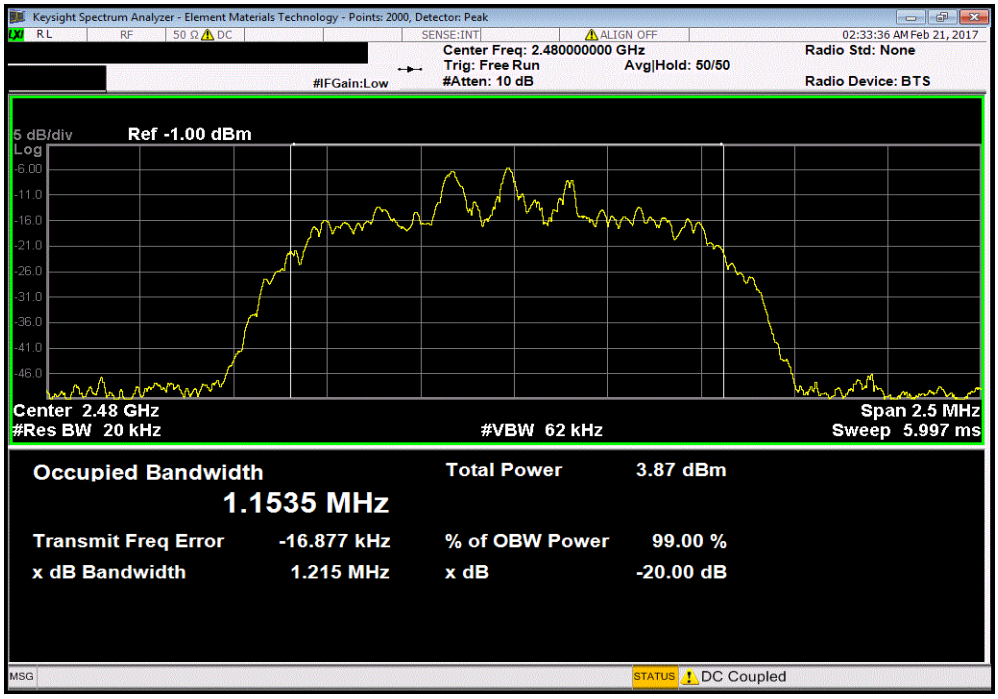
OCCUPIED BANDWIDTH

TbtTx 2017.01.27 XMit 2017.01.26

2DH5, pi/4-DQPSK, Mid Channel 2441 MHz						
				Value	Limit (<)	Result
				1.23 MHz	1.5 MHz	Pass



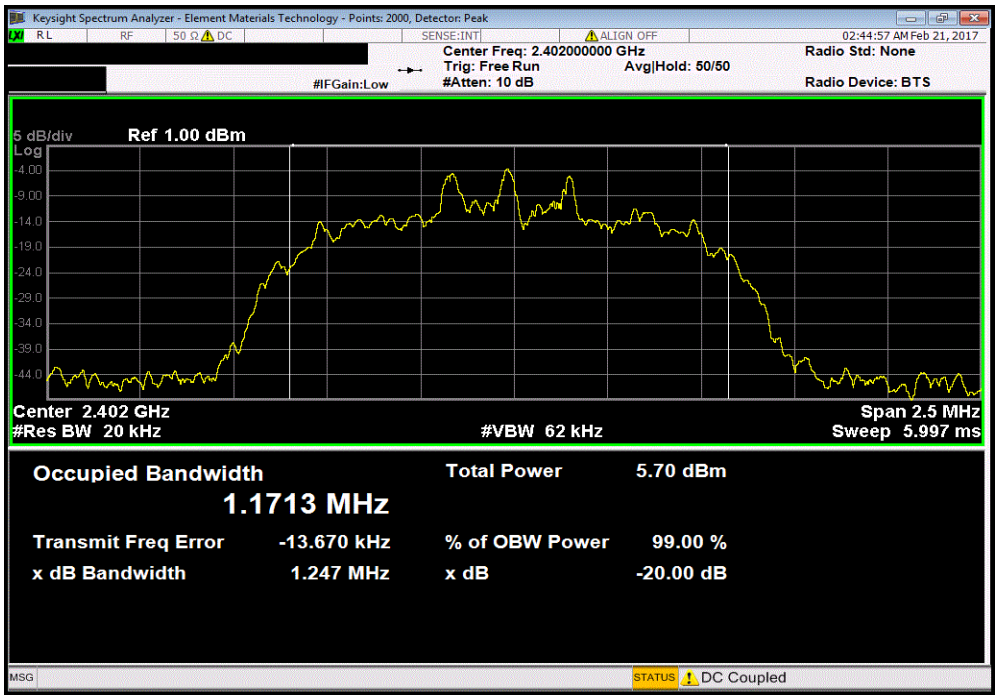
2DH5, pi/4-DQPSK, High Channel 2480 MHz						
				Value	Limit (<)	Result
				1.215 MHz	1.5 MHz	Pass



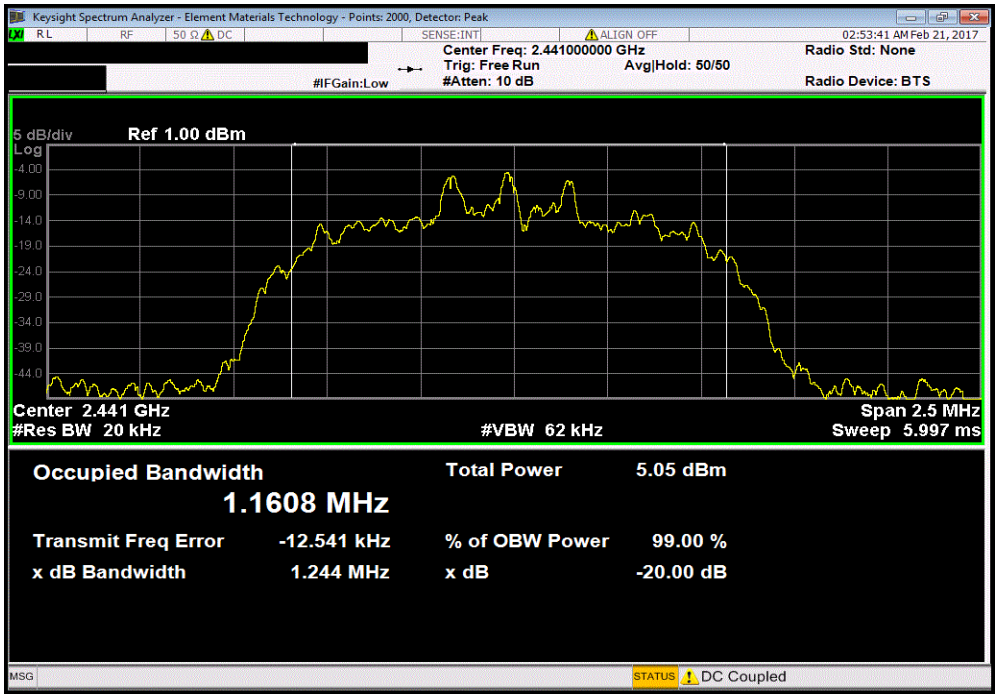
OCCUPIED BANDWIDTH

TbtTx 2017.01.27 XMit 2017.01.26

3DH5, 8-DPSK, Low Channel 2402 MHz						
				Value	Limit (<)	Result
				1.247 MHz	1.5 MHz	Pass



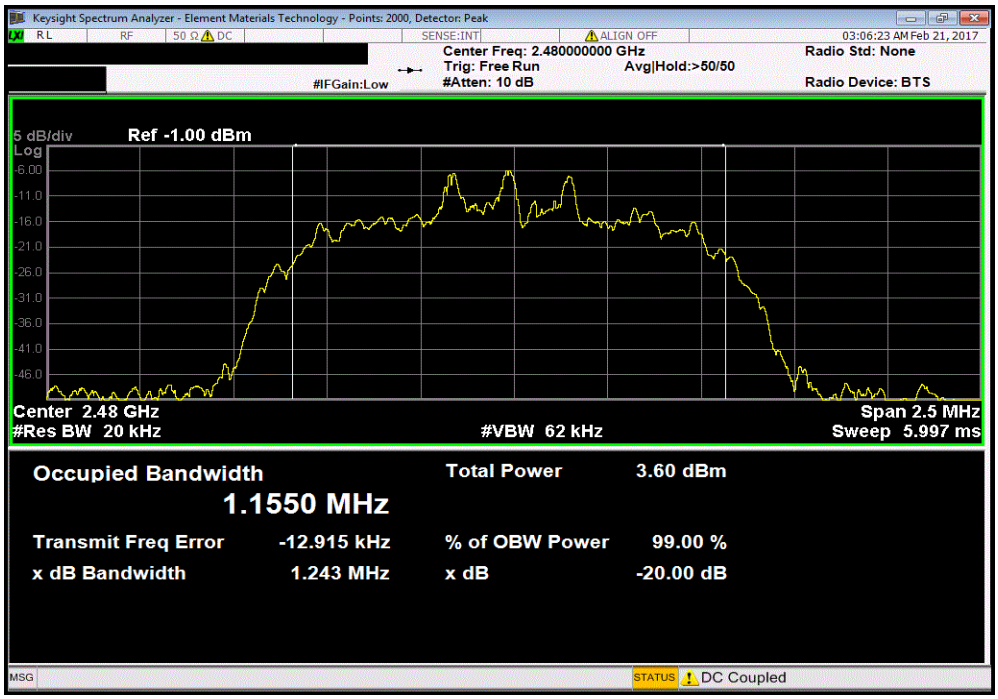
3DH5, 8-DPSK, Mid Channel 2441 MHz						
				Value	Limit (<)	Result
				1.244 MHz	1.5 MHz	Pass



OCCUPIED BANDWIDTH

TbtTx 2017.01.27 XMit 2017.01.26

3DH5, 8-DPSK, High Channel 2480 MHz						
				Value	Limit (<)	Result
				1.243 MHz	1.5 MHz	Pass



SPURIOUS CONDUCTED EMISSIONS

XMit 2017.01.26

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	N5182B	TFU	10/27/2015	10/27/2018
Cable	Micro-Coax	UFD150A-1-0720-200200	EVH	6/7/2016	6/7/2017
Block - DC	Fairview Microwave	SD3379	AMQ	6/8/2016	6/8/2017
Attenuator	S.M. Electronics	SA26B-20	AUY	6/27/2016	6/27/2017
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFP	8/10/2016	8/10/2017

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 in a no-hop mode. For each transmit frequency, the spectrum was scanned throughout the specified frequency range.

SPURIOUS CONDUCTED EMISSIONS

TbtTx 2017.01.27 XMit 2017.01.26

EUT:	KILO2400ABS Rangefinder			**Work Order:**	SIGS0004
Serial Number:	KILO2400ABS			**Date:**	02/20/17
Customer:	Sig Sauer, Inc. Electro-Optics			**Temperature:**	24.2 °C
Attendees:	Don Cramer			**Humidity:**	38.7% RH
Project:	None			**Barometric Pres.:**	1008 mbar
Tested by:	Brandon Hobbs	**Power:**	Battery (3.0VDC)	**Job Site:**	EV06

TEST SPECIFICATIONS	**Test Method**
FCC 15.247:2017	ANSI C63.10:2013

COMMENTS

Client provided 3 party software to control radio module.

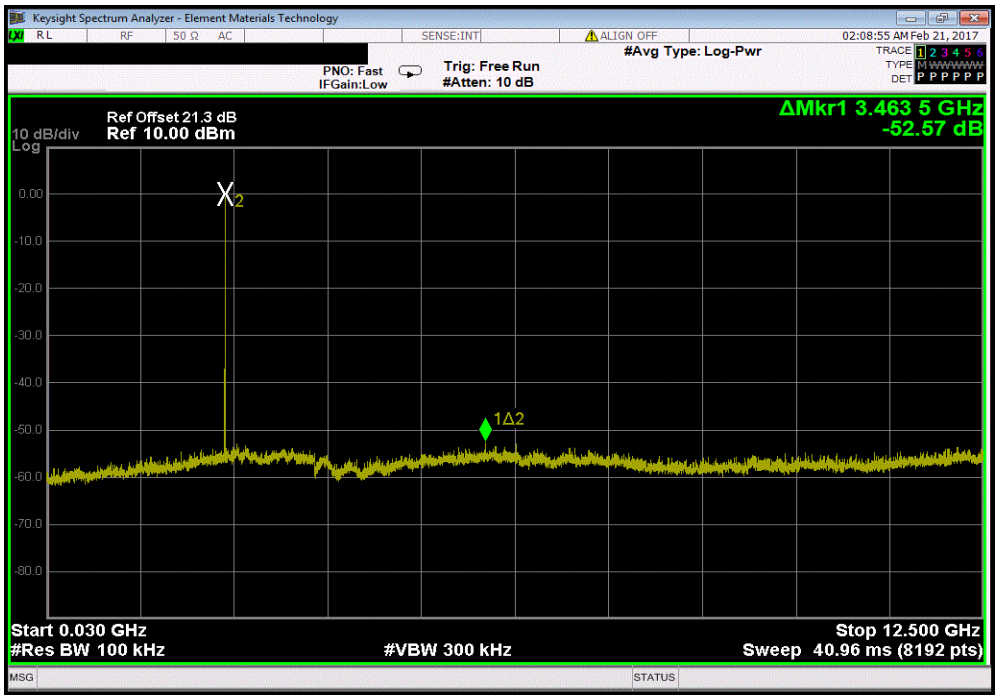
DEVIATIONS FROM TEST STANDARD

None

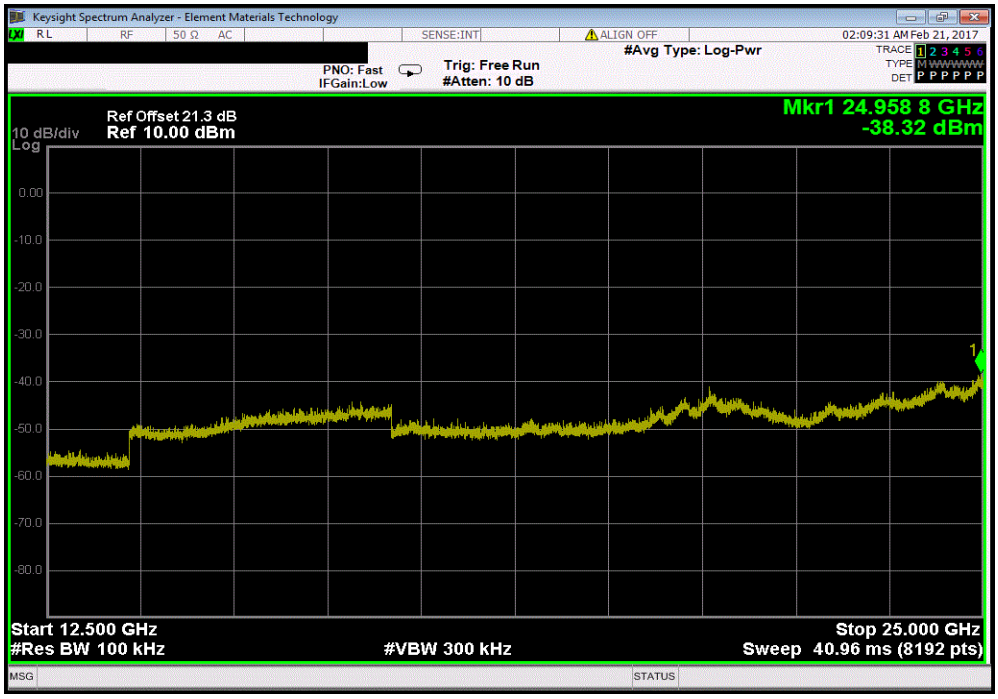
Configuration #	1	*Signature*

		Frequency Range	Max Value (dBc)	Limit ≤ (dBc)	Result
DH5, GFSK					
	Low Channel 2402 MHz	30 MHz - 12.5 GHz	-52.58	-20	Pass
	Low Channel 2402 MHz	12.5 GHz - 25 GHz	-38.19	-20	Pass
	Mid Channel 2441 MHz	30 MHz - 12.5 GHz	-52.32	-20	Pass
	Mid Channel 2441 MHz	12.5 GHz - 25 GHz	-38.02	-20	Pass
	High Channel 2480 MHz	30 MHz - 12.5 GHz	-50.93	-20	Pass
	High Channel 2480 MHz	12.5 GHz - 25 GHz	-36.48	-20	Pass
2DH5, pi/4-DQPSK					
	Low Channel 2402 MHz	30 MHz - 12.5 GHz	-50.1	-20	Pass
	Low Channel 2402 MHz	12.5 GHz - 25 GHz	-35.65	-20	Pass
	Mid Channel 2441 MHz	30 MHz - 12.5 GHz	-50.81	-20	Pass
	Mid Channel 2441 MHz	12.5 GHz - 25 GHz	-36.26	-20	Pass
	High Channel 2480 MHz	30 MHz - 12.5 GHz	-50.08	-20	Pass
	High Channel 2480 MHz	12.5 GHz - 25 GHz	-35.81	-20	Pass
3DH5, 8-DPSK					
	Low Channel 2402 MHz	30 MHz - 12.5 GHz	-51.95	-20	Pass
	Low Channel 2402 MHz	12.5 GHz - 25 GHz	-37.37	-20	Pass
	Mid Channel 2441 MHz	30 MHz - 12.5 GHz	-51.34	-20	Pass
	Mid Channel 2441 MHz	12.5 GHz - 25 GHz	-35.64	-20	Pass
	High Channel 2480 MHz	30 MHz - 12.5 GHz	-48.73	-20	Pass
	High Channel 2480 MHz	12.5 GHz - 25 GHz	-34.7	-20	Pass

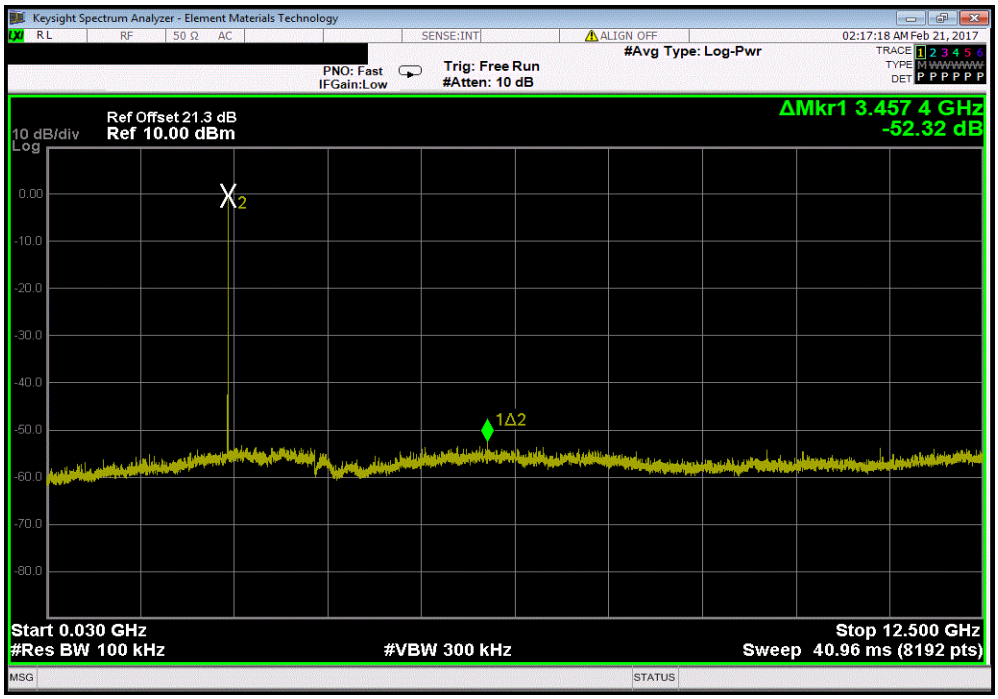
DH5, GFSK, Low Channel 2402 MHz				
Frequency Range		Max Value (dBc)	Limit ≤ (dBc)	Result
30 MHz - 12.5 GHz		-52.58	-20	Pass



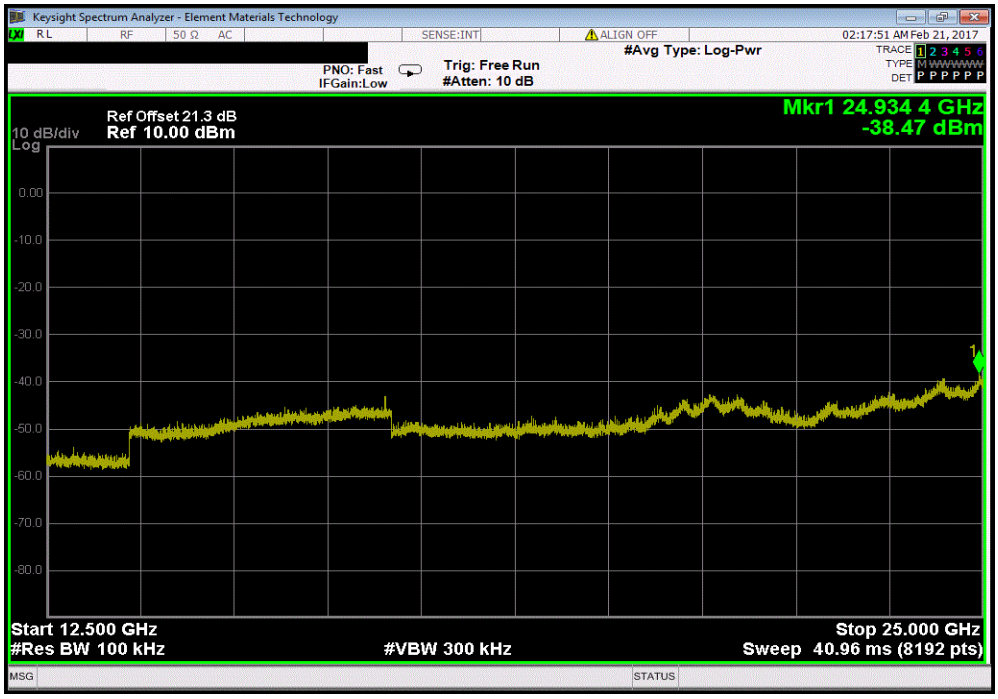
DH5, GFSK, Low Channel 2402 MHz				
Frequency Range		Max Value (dBc)	Limit ≤ (dBc)	Result
12.5 GHz - 25 GHz		-38.19	-20	Pass



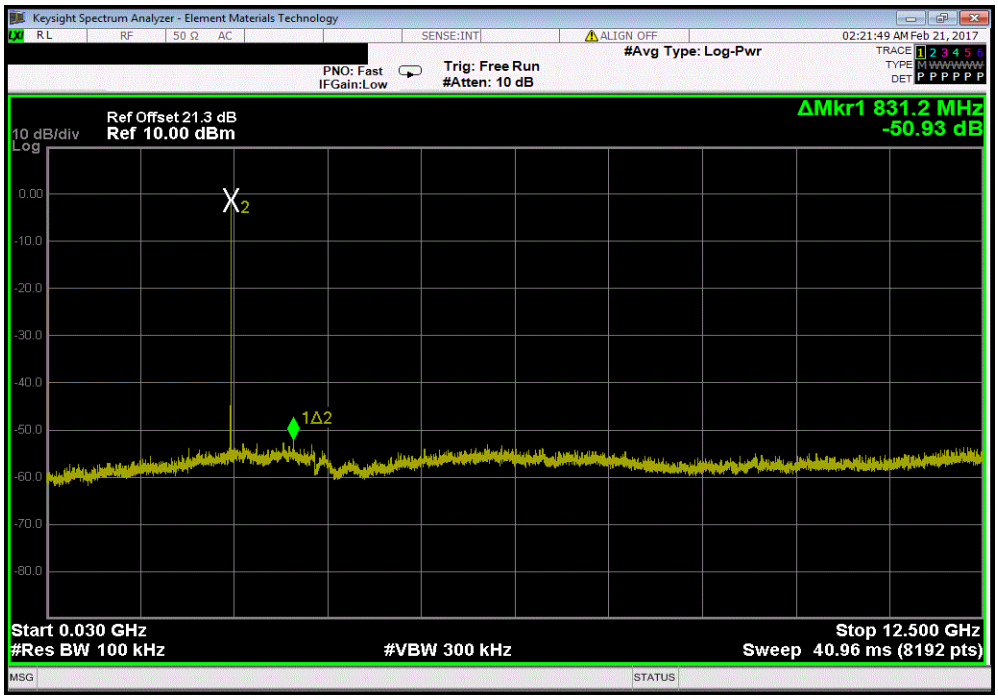
DH5, GFSK, Mid Channel 2441 MHz				
Frequency Range		Max Value (dBc)	Limit ≤ (dBc)	Result
30 MHz - 12.5 GHz		-52.32	-20	Pass



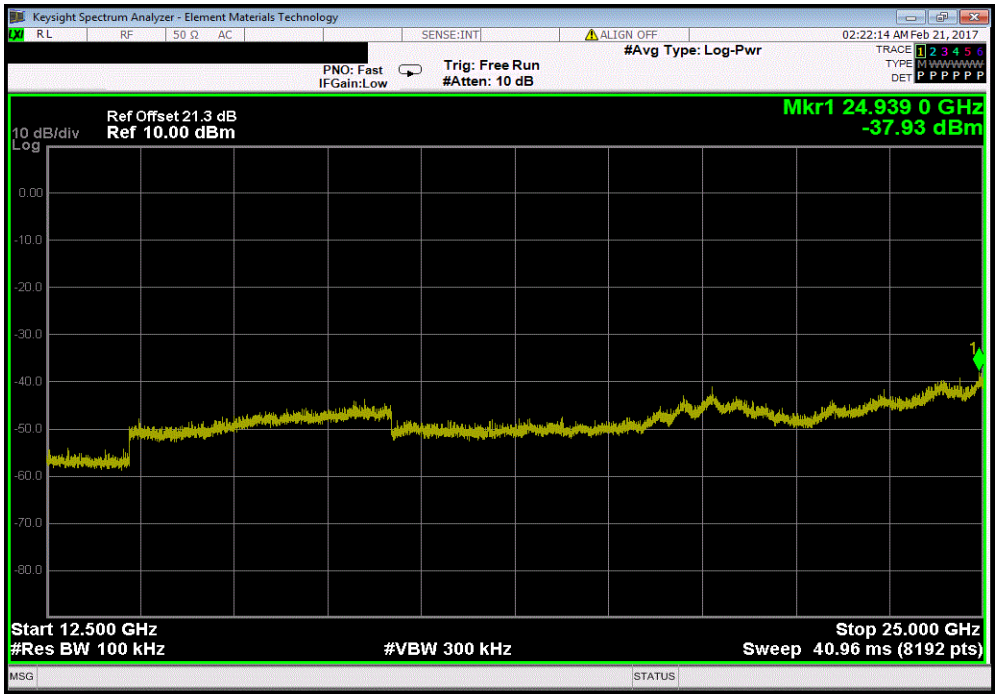
DH5, GFSK, Mid Channel 2441 MHz				
Frequency Range		Max Value (dBc)	Limit ≤ (dBc)	Result
12.5 GHz - 25 GHz		-38.02	-20	Pass



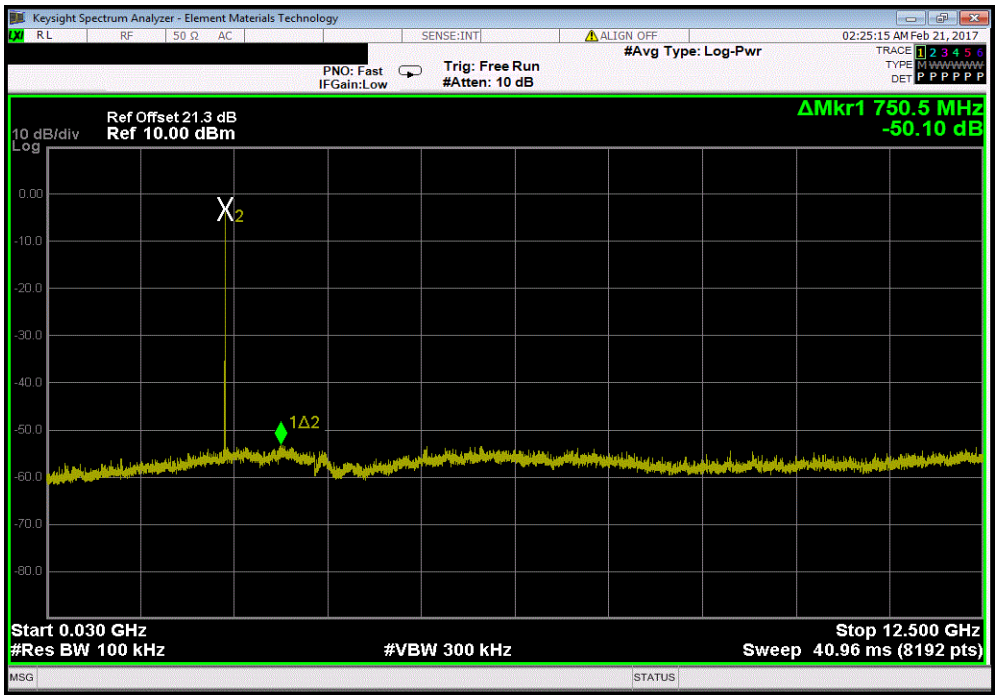
DH5, GFSK, High Channel 2480 MHz				
Frequency Range		Max Value (dBc)	Limit ≤ (dBc)	Result
30 MHz - 12.5 GHz		-50.93	-20	Pass



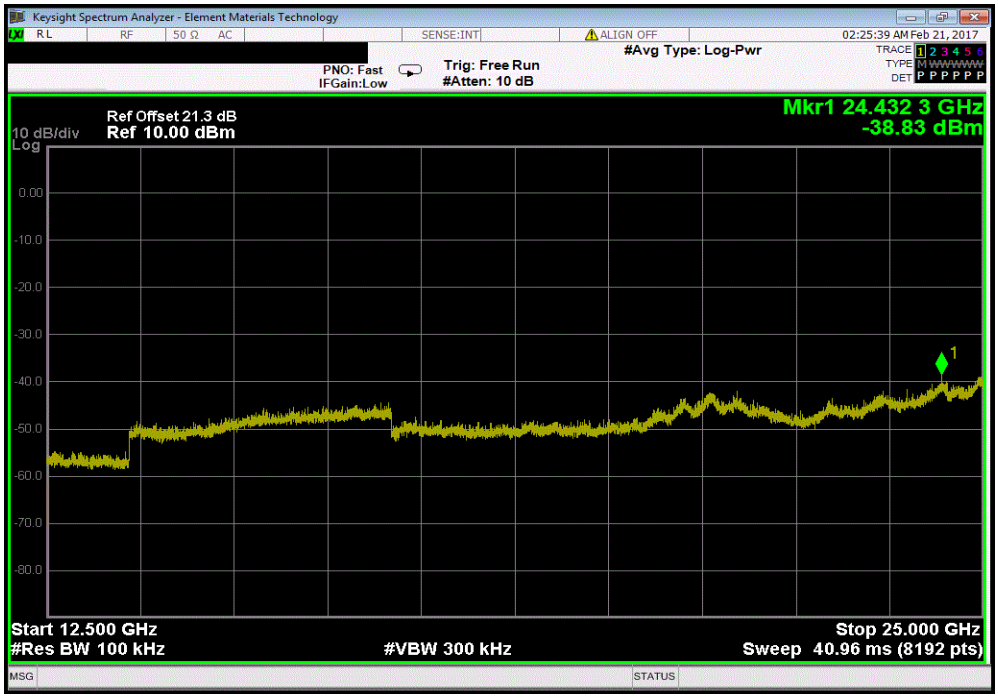
DH5, GFSK, High Channel 2480 MHz				
Frequency Range		Max Value (dBc)	Limit ≤ (dBc)	Result
12.5 GHz - 25 GHz		-36.48	-20	Pass



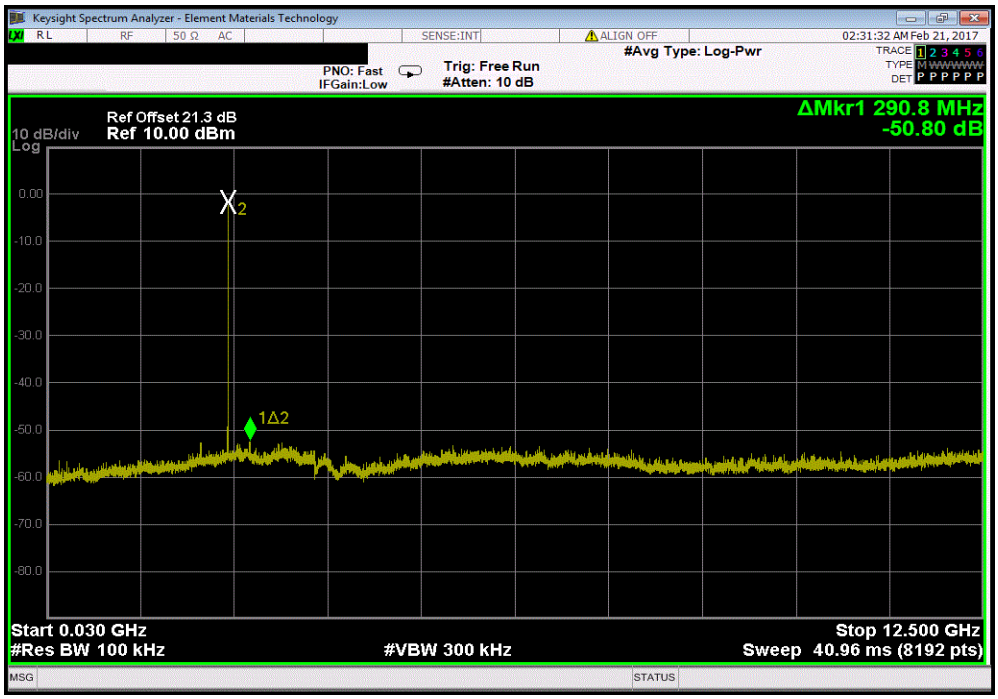
2DH5, pi/4-DQPSK, Low Channel 2402 MHz				
Frequency Range		Max Value (dBc)	Limit ≤ (dBc)	Result
30 MHz - 12.5 GHz		-50.1	-20	Pass



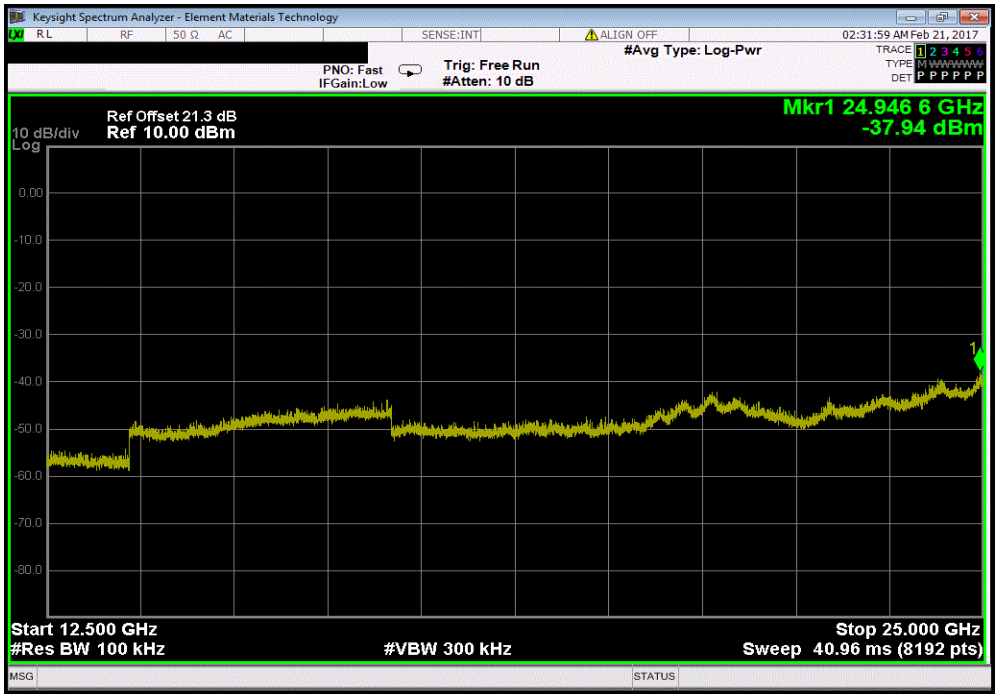
2DH5, pi/4-DQPSK, Low Channel 2402 MHz				
Frequency Range		Max Value (dBc)	Limit ≤ (dBc)	Result
12.5 GHz - 25 GHz		-35.65	-20	Pass



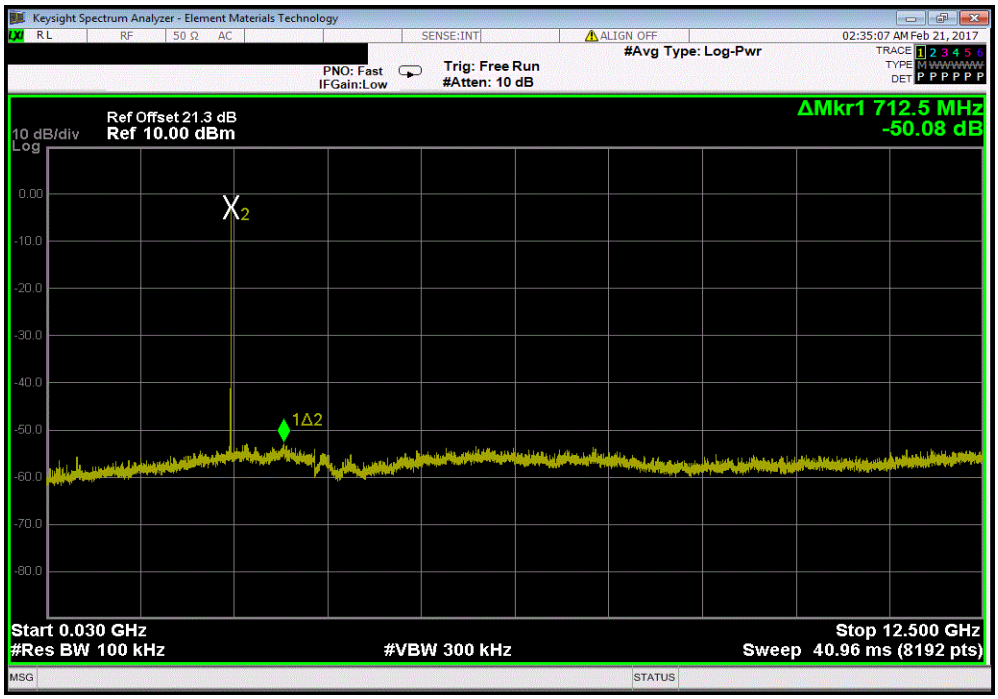
2DH5, pi/4-DQPSK, Mid Channel 2441 MHz				
Frequency Range		Max Value (dBc)	Limit ≤ (dBc)	Result
30 MHz - 12.5 GHz		-50.81	-20	Pass



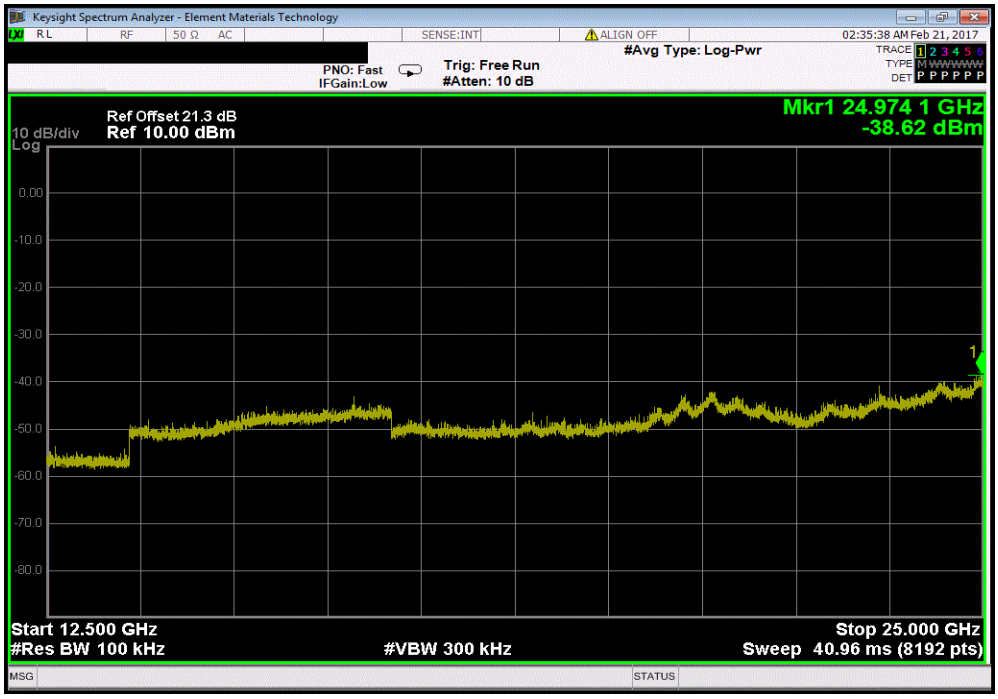
2DH5, pi/4-DQPSK, Mid Channel 2441 MHz				
Frequency Range		Max Value (dBc)	Limit ≤ (dBc)	Result
12.5 GHz - 25 GHz		-36.26	-20	Pass



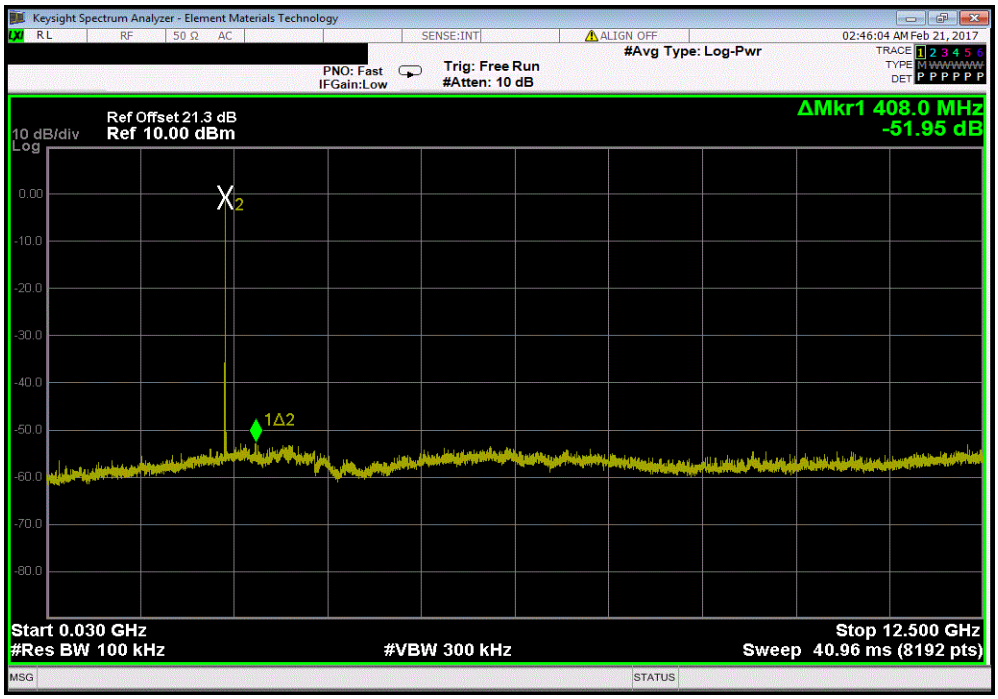
2DH5, pi/4-DQPSK, High Channel 2480 MHz				
Frequency Range		**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
30 MHz - 12.5 GHz		-50.08	-20	Pass



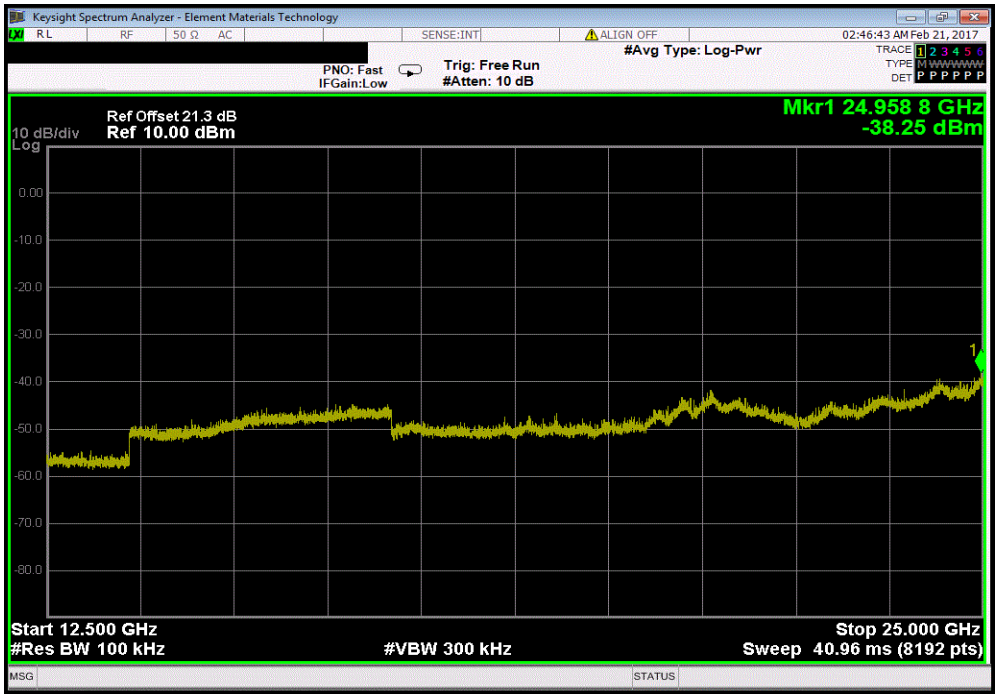
2DH5, pi/4-DQPSK, High Channel 2480 MHz				
Frequency Range		**Max Value (dBc)**	**Limit ≤ (dBc)**	**Result**
12.5 GHz - 25 GHz		-35.81	-20	Pass



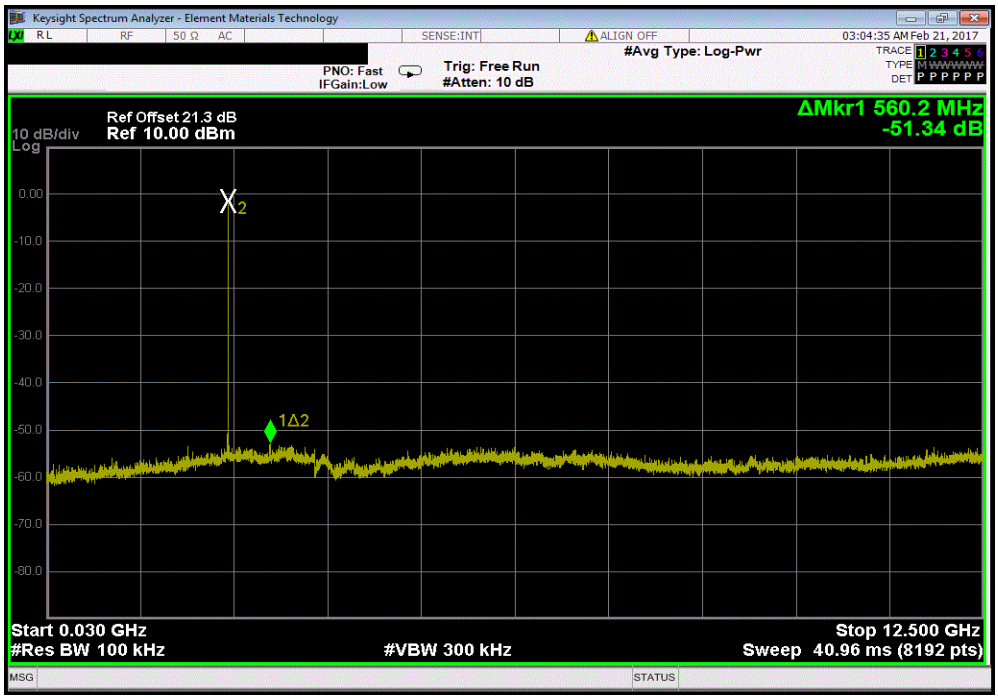
3DH5, 8-DPSK, Low Channel 2402 MHz				
Frequency Range		Max Value (dBc)	Limit ≤ (dBc)	Result
30 MHz - 12.5 GHz		-51.95	-20	Pass



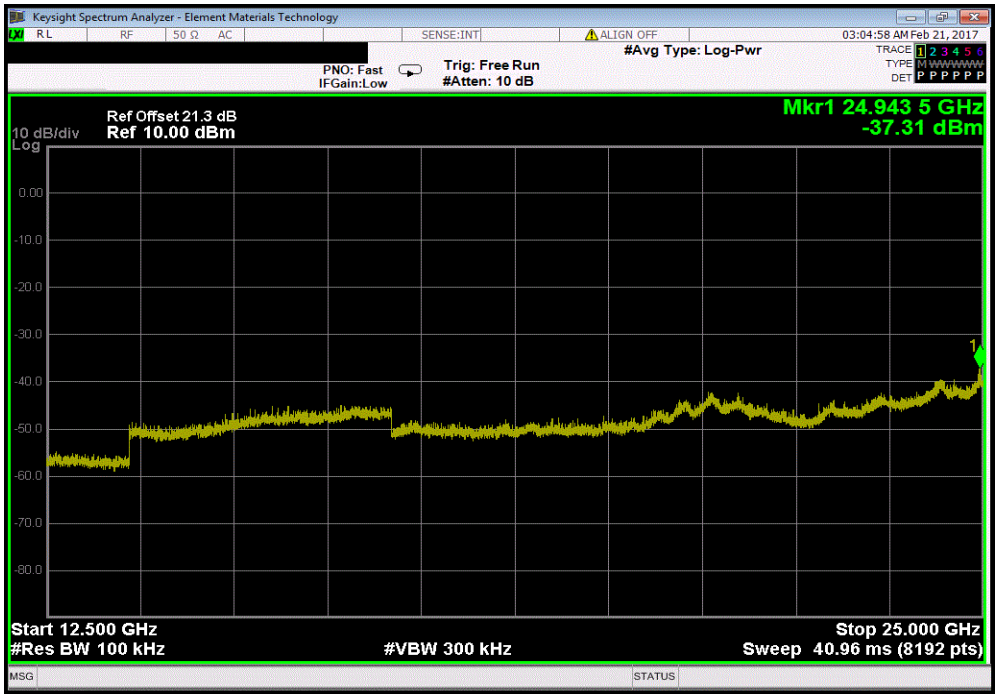
3DH5, 8-DPSK, Low Channel 2402 MHz				
Frequency Range		Max Value (dBc)	Limit ≤ (dBc)	Result
12.5 GHz - 25 GHz		-37.37	-20	Pass



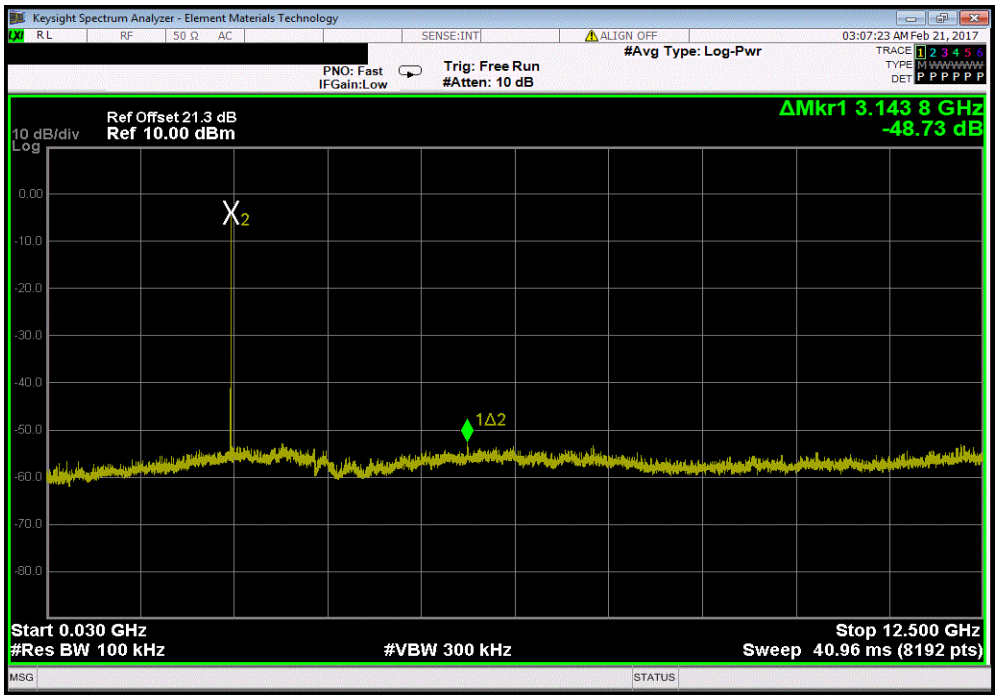
3DH5, 8-DPSK, Mid Channel 2441 MHz				
Frequency Range		Max Value (dBc)	Limit ≤ (dBc)	Result
30 MHz - 12.5 GHz		-51.34	-20	Pass



3DH5, 8-DPSK, Mid Channel 2441 MHz				
Frequency Range		Max Value (dBc)	Limit ≤ (dBc)	Result
12.5 GHz - 25 GHz		-35.64	-20	Pass



3DH5, 8-DPSK, High Channel 2480 MHz				
Frequency Range		Max Value (dBc)	Limit ≤ (dBc)	Result
30 MHz - 12.5 GHz		-48.73	-20	Pass



3DH5, 8-DPSK, High Channel 2480 MHz				
Frequency Range		Max Value (dBc)	Limit ≤ (dBc)	Result
12.5 GHz - 25 GHz		-34.7	-20	Pass