



# element

**Emerson/Fisher**

**DVC7K**

**FCC 15.247:2025**

**RSS-247 Issue 3:2023**

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

**Bluetooth Low Energy (DTS) Radio**

**Report: EMPM0183.1 Rev. 2, Issue Date: May 9, 2025**



# TABLE OF CONTENTS

Section	Page Number
Certificate of Test .....	3
Revision History .....	5
Accreditations.....	6
Facilities .....	7
Measurement Uncertainty .....	8
Test Setup Block Diagrams.....	9
Product Description .....	12
Power Settings and Antennas .....	13
Configurations .....	14
Modifications .....	16
Powerline Conducted Emissions .....	17
Occupied Bandwidth (99%).....	22
Duty Cycle.....	26
DTS Bandwidth (6 dB) .....	27
Output Power .....	31
Equivalent Isotropic Radiated Power .....	35
Power Spectral Density .....	38
Band Edge Compliance .....	42
Spurious Conducted Emissions .....	45
Spurious Radiated Emissions .....	51
End of Report.....	61

# CERTIFICATE OF TEST



Last Date of Test: April 16, 2025  
Emerson/Fisher  
EUT: DVC7K

## Radio Equipment Testing

### Standards

Specification	Method
FCC 15.247:2025	
RSS-247 Issue 3:2023	ANSI C63.10:2013
RSS-Gen Issue 5:2018+A1:2019+A2:2021	

Note: FCC 15.247 has been updated superseding prior issues. The changes between the specifications do not affect the results of the prior testing.

### Guidance

FCC KDB 558074 v05r02:2019

Notice 2021 - CEB0001

### Results

Test Description	Result	FCC Section(s)	RSS Section(s)	ANSI C63.10 Section(s)	Comments
Powerline Conducted Emissions	Pass	15.207	RSS-Gen 8.8	6.2	
Occupied Bandwidth (99%)	N/A	KDB 558074 - 2.1	RSS-Gen 6.7	6.9.3	Characterization of radio operation.
Duty Cycle	N/A	KDB 558074 - 6.0	RSS-Gen 3.2	11.6	Characterization of radio operation.
DTS Bandwidth (6 dB)	Pass	15.247(a)(2), KDB 558074 - 8.2	RSS-247 5.2(a)	11.8.2	
Output Power	Pass	15.247(b)(3), KDB 558074 - 8.3.1	RSS-247 5.4(d, f), RSS-Gen 6.12	11.9.1.1	
Equivalent Isotropic Radiated Power	Pass	15.247(b)(3), KDB 558074 - 8.3.1	RSS-247 5.4(d, f), RSS-Gen 6.12	11.9.1.1	
Power Spectral Density	Pass	15.247(e), KDB 558074 - 8.4	RSS-247 5.2(b)	11.10.2	
Band Edge Compliance	Pass	15.247(d), KDB 558074 - 8.5	RSS-247 5.5	11.11	
Spurious Conducted Emissions	Pass	15.247(d), KDB 558074 - 8.5	RSS-247 5.5	11.11	
Spurious Radiated Emissions	Pass	15.247(d), KDB 558074 - 8.6, 8.7	RSS-247 5.5, RSS-Gen 6.13, 8.10	11.12.1, 11.13.2, 6.5, 6.6	

### Deviations From Test Standards

None

*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.*

# CERTIFICATE OF TEST



## Approved By:

A handwritten signature in black ink, appearing to read "Jeff Alcoke".

Jeff Alcoke, Senior EMC Test Engineer  
Signed for and on behalf of Element

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

# REVISION HISTORY



Revision Number	Description	Date (yyyy-mm-dd)	Page Number
01	Updated antenna gain	2025-04-19	13
	Replaced conducted EIRP data with radiated data	2025-04-19	35-37
	Updated test dates	2025-04-19	3, 12, 16
02	Updated antenna gain to match antenna pattern measurements.	2025-05-08	13
	Power settings changed from rated power to test software power setting.	2025-05-08	13

# 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:

[California](#)

[Minnesota](#)

[Oregon](#)

[Texas](#)

[Washington](#)

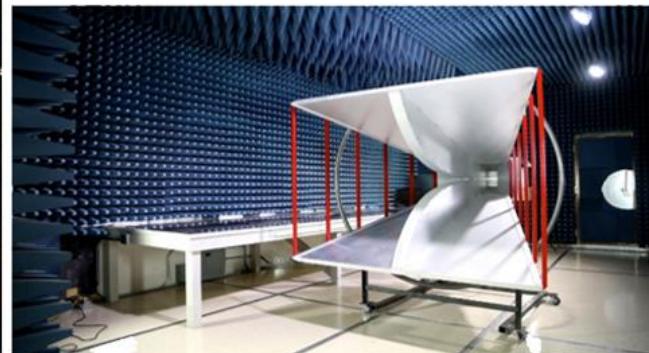
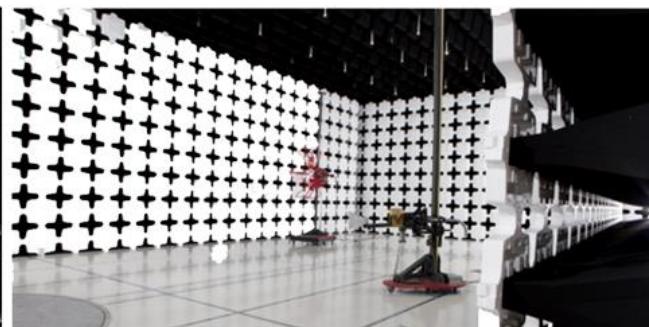
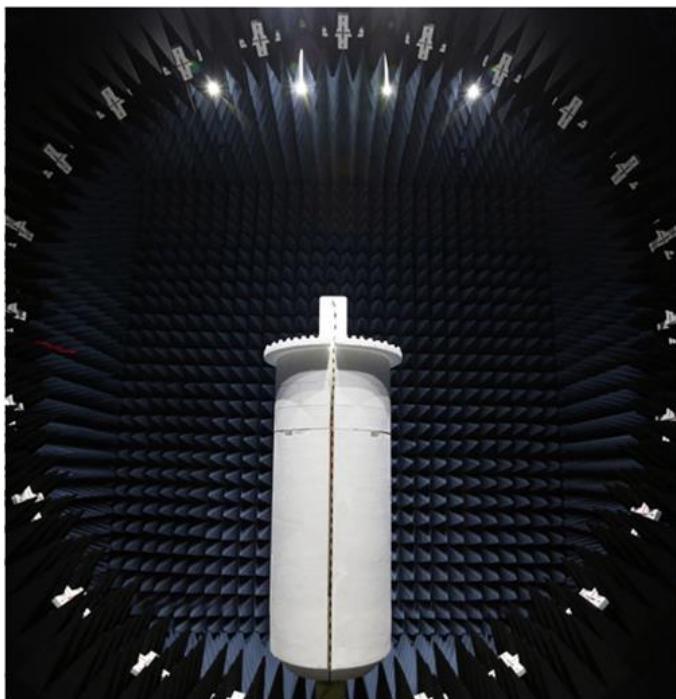
# FACILITIES

Testing was performed at the following location(s)

Location	Labs <sup>(1)</sup>	Address	A2LA <sup>(2)</sup>	ISED <sup>(3)</sup>	BSMI <sup>(4)</sup>	VCCI <sup>(5)</sup>	CAB <sup>(6)</sup>	FDA <sup>(7)</sup>
<input type="checkbox"/> California	OC01-17	41 Tesla Irvine, CA 92618 (949) 861-8918	3310.04	2834B	SL2-IN-E-1154R	A-0029	US0158	TL-55
<input checked="" type="checkbox"/> Minnesota	MN01-11	9349 W Broadway Ave. Brooklyn Park, MN 55445 (612) 638-5136	3310.05	2834E	SL2-IN-E-1152R	A-0109	US0175	TL-57
<input type="checkbox"/> Oregon	EV01-12	6775 NE Evergreen Pkwy #400 Hillsboro, OR 97124 (503) 844-4066	3310.02	2834D	SL2-IN-E-1017	A-0108	US0017	TL-56
<input type="checkbox"/> Plano Texas	PT01-15	1701 E Plano Pkwy, Ste 150 Plano, TX 75074 (972) 509-2566	214.19	32637	SL2-IN-E-057R	A-0426	US0054	TL-137
<input type="checkbox"/> Washington	NC01-05	19201 120th Ave NE Bothell, WA 98011 (425) 984-6600	3310.06	2834F	SL2-IN-E-1153R	A-0110	US0157	TL-67
<input type="checkbox"/> Offsite	N/A	See Product Description	N/A	N/A	N/A	N/A	N/A	N/A

See data sheets for specific labs

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



# MEASUREMENT UNCERTAINTY



## Measurement Uncertainty

When a measurement is made, the result will be different from the true or theoretically correct value. The difference is the result of tolerances in the measurement system that cannot be completely eliminated. To the extent that technology allows us, it has been our aim to minimize this error. Measurement uncertainty is a statistical expression of measurement error qualified by a probability distribution.

A measurement uncertainty estimation has been performed for each test per our internal quality document QM205.4.6. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty ( $k=2$ ) can be found in the table below. A lab specific value may also be found in the applicable test description section. Our measurement data meets or exceeds the measurement uncertainty requirements of the applicable specification; therefore, the test data can be compared directly to the specification limit to determine compliance. The calculations for estimating measurement uncertainty are based upon ETSI TR 100 028 (or CISPR 16-4-2 as applicable) and are available upon request.

The following table represents the Measurement Uncertainty (MU) budgets for each of the tests that may be contained in this report.

### Various Measurements

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

### Field Strength Measurements (dB)

Range	MN05 (+/-)
10kHz-30MHz	1.8
30MHz-1GHz 3m	4.6
1GHz-6GHz	5.1
6GHz-40GHz	5.2

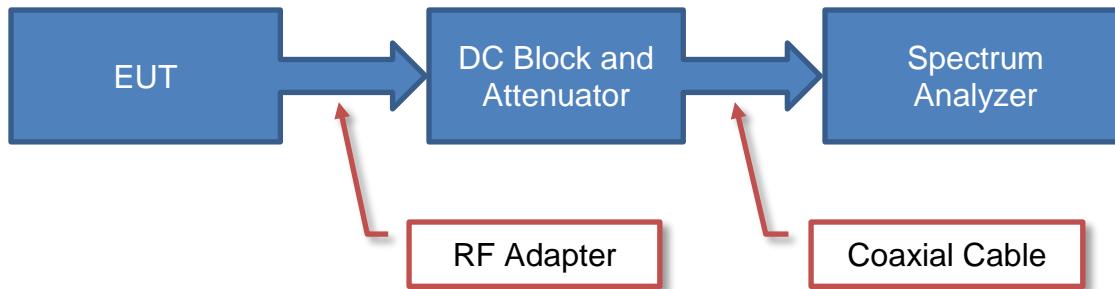
# TEST SETUP BLOCK DIAGRAMS

## Measurement Bandwidths

Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (kHz)
0.01 - 0.15	1.0	0.2	0.2
0.15 - 30.0	10.0	9.0	9.0
30.0 - 1000	100.0	120.0	120.0
Above 1000	1000.0	N/A	1000.0

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

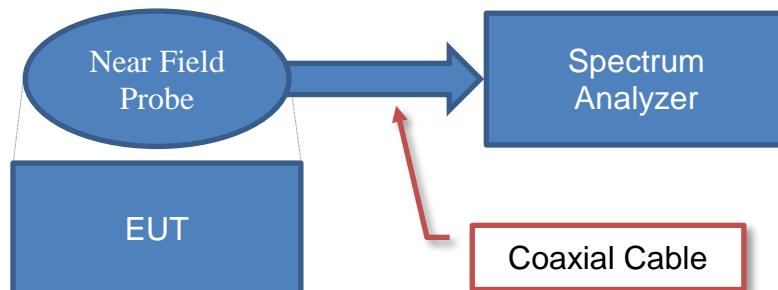
## Antenna Port Conducted Measurements



## Sample Calculation (logarithmic units)

$$\begin{array}{ccc} \text{Measured} & \text{Measured} & \text{Reference} \\ \text{Value} & = & \text{Level} \\ 71.2 & = & 42.6 \\ & & + \\ & & \text{Level} \\ & & \text{Offset} \\ & & 28.6 \end{array}$$

## Near Field Test Fixture Measurements

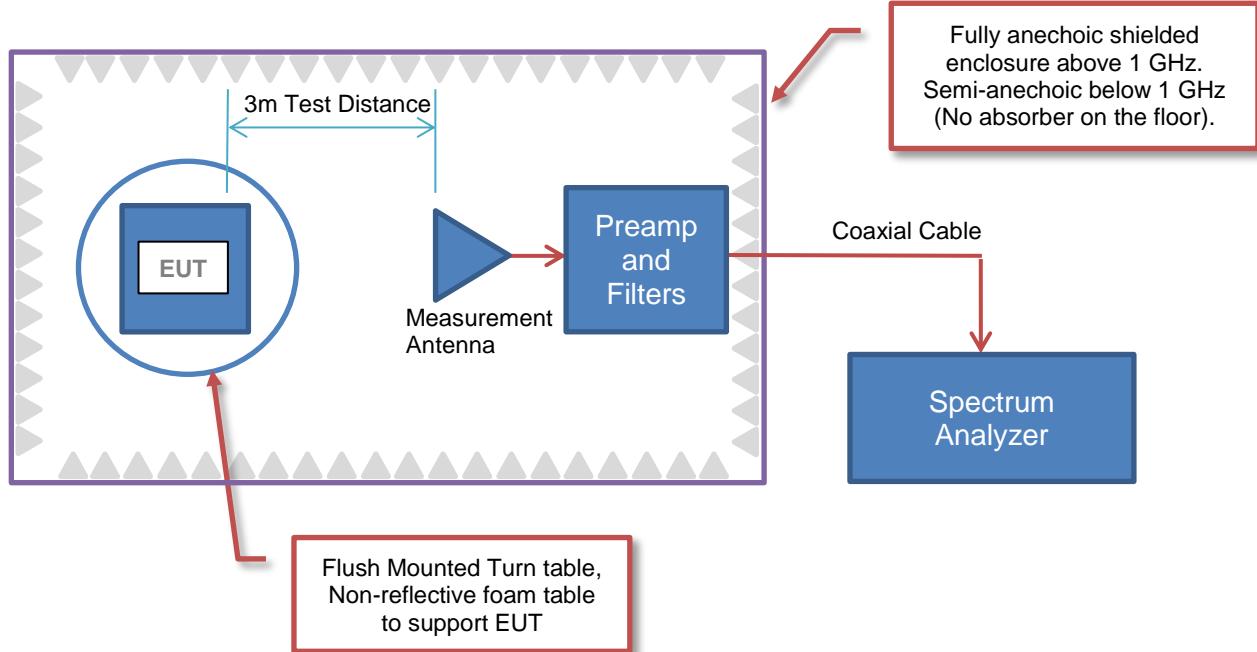


## Sample Calculation (logarithmic units)

$$\begin{array}{ccc} \text{Measured} & \text{Measured} & \text{Reference} \\ \text{Value} & = & \text{Level} \\ 71.2 & = & 42.6 \\ & & + \\ & & \text{Level} \\ & & \text{Offset} \\ & & 28.6 \end{array}$$

# 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:

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

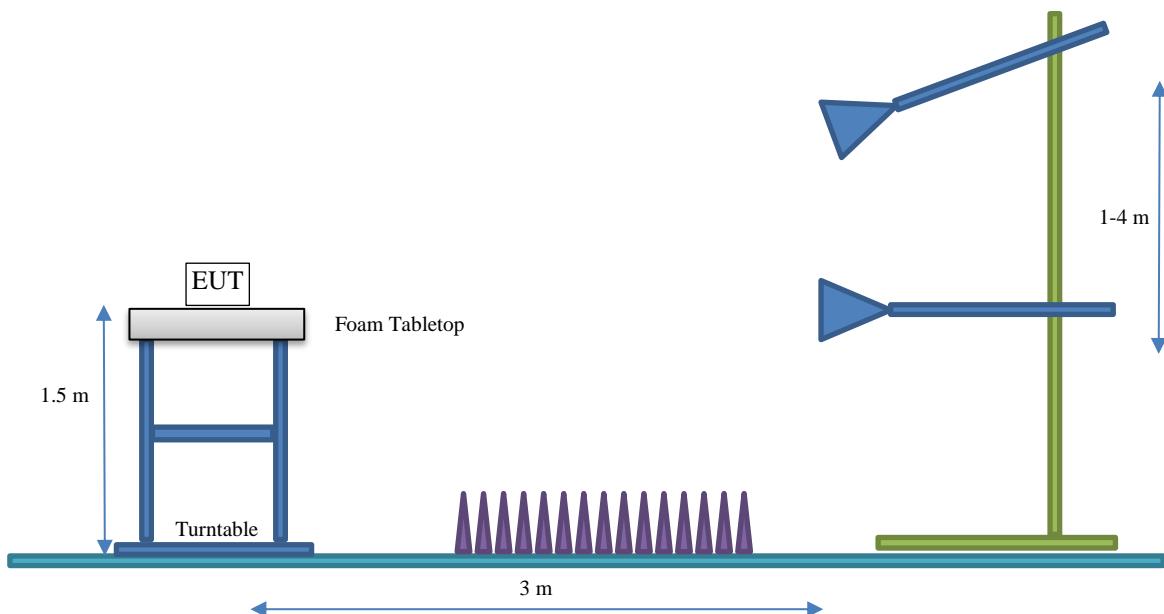
### Radiated Power (ERP/EIRP) – Substitution Method:

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

# TEST SETUP BLOCK DIAGRAMS

## Bore Sighting (>1GHz)

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



# PRODUCT DESCRIPTION



## Client and Equipment under Test (EUT) Information

<b>Company Name:</b>	Emerson/Fisher
<b>Address:</b>	301 S. 1st Ave.
<b>City, State, Zip:</b>	Marshalltown, IA 50158
<b>Test Requested By:</b>	Erin Snell
<b>EUT:</b>	DVC7K
<b>First Date of Test:</b>	November 8, 2024
<b>Last Date of Test:</b>	April 16, 2025
<b>Receipt Date of Samples:</b>	November 8, 2024
<b>Equipment Design Stage:</b>	Prototype
<b>Equipment Condition:</b>	No Damage
<b>Purchase Authorization:</b>	Verified

## Information Provided by the Party Requesting the Test

### Functional Description of the EUT:

The Fisher DVC7K Digital Valve Controller is a control device that communicates via a wired connection to convert input current signal into a pneumatic output pressure. The DVC7K has an optional Bluetooth interface for configuration and maintenance purposes. The Bluetooth is enabled using a chipped-in Bluetooth low energy radio with a PCB trace antenna.

### Testing Objective:

To demonstrate compliance of the Bluetooth Low Energy (DTS) radio to FCC 15.247/RSS-247 requirements.

# POWER SETTINGS AND ANTENNAS



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

## ANTENNA GAIN (dBi)

Type	Provided by:	Frequency Range (MHz)	Gain (dBi)
PCB Trace Antenna, Inverted F	Emerson/Fisher	2400-2483.5	-2.31

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

- Test software settings
- Rated power settings

## SETTINGS FOR ALL TESTS IN THIS REPORT

Modulation Types	Position (if multiple channels)	Power Setting (dBm)
BLE/GFSK 1 Mbps and 2 Mbps	Low Channel, 2402 MHz	5
	Mid Channel, 2442 MHz	5
	High Channel, 2480 MHz	5

# CONFIGURATIONS



## Configuration EMPM0183-1

Software/Firmware Running During Test	
Description	Version
Texas Instruments B Tool	1.42.19

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Digital Valve Controller	Emerson/Fisher	DVC7K/ GH14467X052	SVIMP20262

Peripherals in Test Setup Boundary			
Description	Manufacturer	Model/Part Number	Serial Number
Laptop	Dell	Precision 3581	DT3P114

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
DC Leads (+,-)	No	1.3 m	No	DC Mains (TQK)	Digital Valve Controller
Programming USB	Yes	1.7 m	No	Digital Valve Controller	Laptop

# CONFIGURATIONS



## Configuration EMPM0183-3

Software/Firmware Running During Test	
Description	Version
Lemur (Receiver Blocking)	4.20.8231.17559
Texas Instruments B Tool	1.42.19

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Digital Valve Controller	Emerson/Fisher	DVC7K/ GH14467X052	SVIMP20263

Peripherals in Test Setup Boundary			
Description	Manufacturer	Model/Part Number	Serial Number
DC Power Supply	Agilent	U8002A	MY50490005

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
USB to Serial Cable	No	1.8m	No	Digital Valve Controller	Unterminated
AC Power cable	No	1.8m	No	DC Power Supply	AC Mains
DC Leads (+,-)	No	1.3m	No	DC Power Supply	Digital Valve Controller

# MODIFICATIONS



## Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	2024-11-08	DTS Bandwidth (6 dB)	Tested as delivered to test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
2	2024-11-08	Occupied Bandwidth (99%)	Tested as delivered to test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
3	2024-11-08	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.
4	2024-11-08	Power Spectral Density	Tested as delivered to test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
5	2024-11-08	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.
6	2024-11-08	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	2024-11-11	Spurious Radiated Emissions	Tested as delivered to test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
8	2024-11-11	Powerline Conducted Emissions	Tested as delivered to test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
9	2025-04-16	Equivalent Isotropic Radiated Power	Tested as delivered to test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

# POWERLINE CONDUCTED EMISSIONS



## 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 50ohm measuring port is terminated by a 50ohm EMI meter or a 50ohm resistive load. All 50ohm measuring ports of the LISN are terminated by 50ohm. 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
LISN	Solar Electronics	9252-50-R-24-BNC	LIQ	2024-03-27	2025-03-27
Analyzer - Spectrum Analyzer	Agilent	E4446A	AAQ	2024-03-13	2025-03-13
Cable - Conducted Cable Assembly	Northwest EMC	MNK, HHG, REF	MNKA	NCR	NCR

## CONFIGURATIONS INVESTIGATED

EMPM0183-3

## MODES INVESTIGATED

Transmitting BLE Mid Channel, 1 Mbps

# POWERLINE CONDUCTED EMISSIONS



EUT:	DVC7K	Work Order:	EMPM0183
Serial Number:	SVIMP20263	Date:	2024-11-11
Customer:	Emerson/Fisher	Temperature:	21.1°C
Attendees:	Pete Donich, William Hiner, Erin Snell, Stacy Lucas	Relative Humidity:	36.6%
Customer Project:	None	Bar. Pressure (PMSL):	1020 mb
Tested By:	Christopher Heintzelman	Job Site:	MN05
Power:	9.5VDC via DC Supply at 120VAC/60Hz	Configuration:	EMPM0183-3

## TEST SPECIFICATIONS

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

## TEST PARAMETERS

Run #:	4	Line:	Neutral	Add. Ext. Attenuation (dB):	0
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## COMMENTS

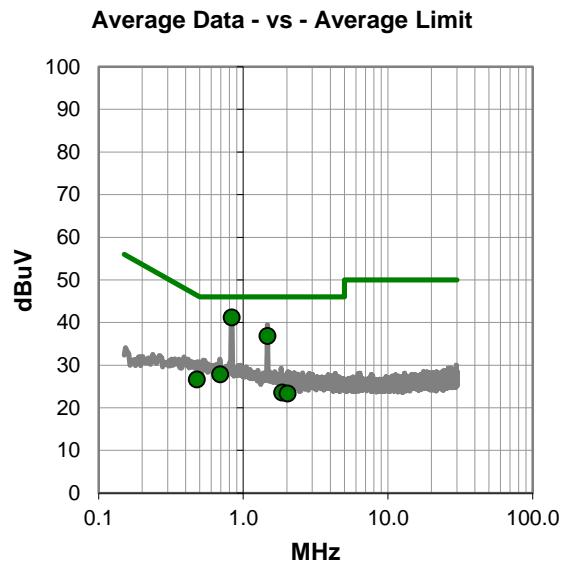
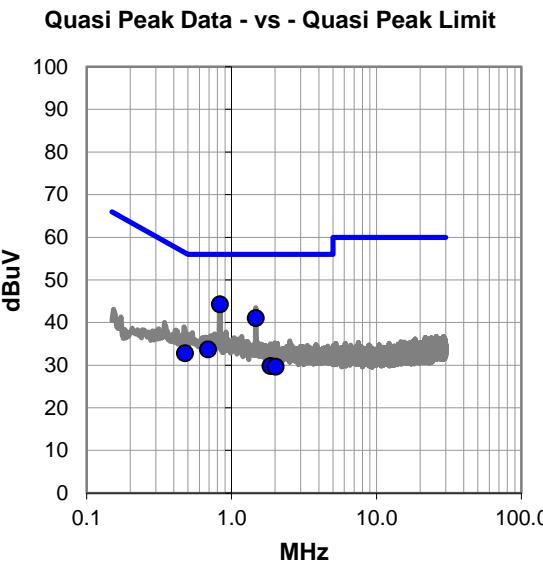
None

## EUT OPERATING MODES

Transmitting BLE Mid Channel, 1 Mbps

## DEVIATIONS FROM TEST STANDARD

None



# POWERLINE CONDUCTED EMISSIONS

## RESULTS - Run #4

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.830	23.5	20.8	44.3	56.0	-11.7
1.470	20.2	20.9	41.1	56.0	-14.9
0.690	12.9	20.8	33.7	56.0	-22.3
0.478	12.1	20.7	32.8	56.4	-23.6
1.854	8.9	20.9	29.8	56.0	-26.2
2.021	8.8	20.9	29.7	56.0	-26.3

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.830	20.4	20.8	41.2	46.0	-4.8
1.470	16.0	20.9	36.9	46.0	-9.1
0.690	7.1	20.8	27.9	46.0	-18.1
0.478	6.0	20.7	26.7	46.4	-19.7
1.854	2.7	20.9	23.6	46.0	-22.4
2.021	2.5	20.9	23.4	46.0	-22.6

## CONCLUSION

Pass



Tested By

# POWERLINE CONDUCTED EMISSIONS

EUT:	DVC7K	Work Order:	EMPM0183
Serial Number:	SVIMP20263	Date:	2024-11-11
Customer:	Emerson/Fisher	Temperature:	21.1°C
Attendees:	Pete Donich, William Hiner, Erin Snell, Stacy Lucas	Relative Humidity:	36.6%
Customer Project:	None	Bar. Pressure (PMSL):	1020 mb
Tested By:	Christopher Heintzelman	Job Site:	MN05
Power:	9.5VDC via DC Supply at 120VAC/60Hz	Configuration:	EMPM0183-3

## TEST SPECIFICATIONS

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

## TEST PARAMETERS

Run #:	5	Line:	High Line	Add. Ext. Attenuation (dB):	0
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## COMMENTS

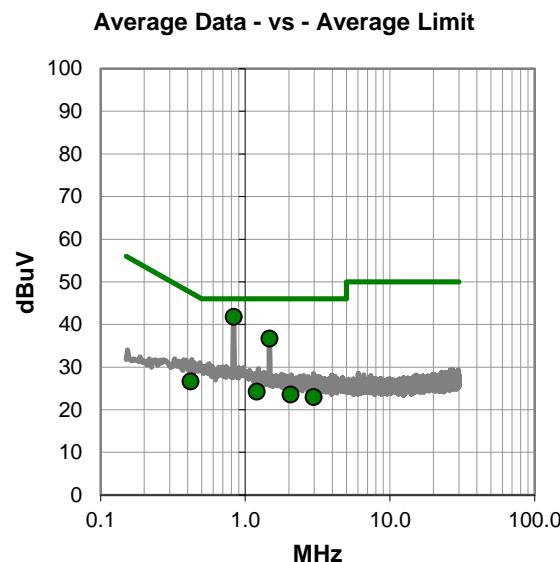
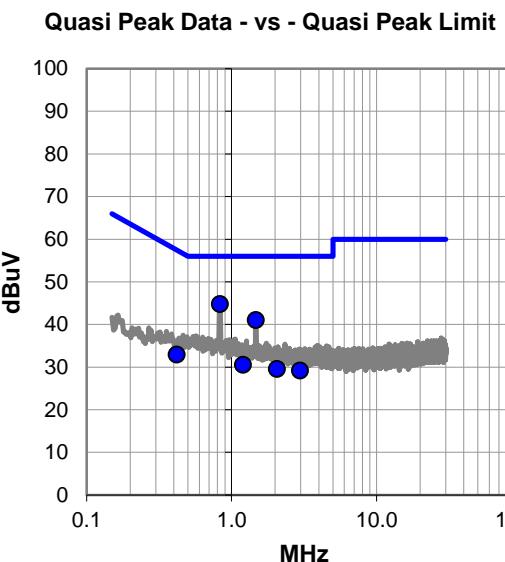
None

## EUT OPERATING MODES

Transmitting BLE Mid Channel, 1 Mbps

## DEVIATIONS FROM TEST STANDARD

None



# POWERLINE CONDUCTED EMISSIONS

## RESULTS - Run #5

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.830	24.0	20.8	44.8	56.0	-11.2
1.470	20.2	20.9	41.1	56.0	-14.9
0.418	12.3	20.7	33.0	57.5	-24.5
1.198	9.8	20.8	30.6	56.0	-25.4
2.053	8.7	20.9	29.6	56.0	-26.4
2.970	8.2	21.0	29.2	56.0	-26.8

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.830	21.0	20.8	41.8	46.0	-4.2
1.470	15.8	20.9	36.7	46.0	-9.3
0.418	6.0	20.7	26.7	47.5	-20.8
1.198	3.5	20.8	24.3	46.0	-21.7
2.053	2.7	20.9	23.6	46.0	-22.4
2.970	2.0	21.0	23.0	46.0	-23.0

## CONCLUSION

Pass



Tested By

# OCCUPIED BANDWIDTH (99%)

## TEST DESCRIPTION

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

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

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

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

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

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

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

## TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2024-05-22	2025-05-22
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2024-08-28	2025-08-28
Block - DC	Fairview Microwave	SD3379	ANH	2024-08-28	2025-08-28
Attenuator	S.M. Electronics	SA26B-20	RFW	2024-01-31	2025-01-31
Generator - Signal	Keysight	N5171B (EXG)	TEY	2024-01-11	2027-01-11
Power Supply - DC	EZ Digital Co., Ltd.	GP-4030D	TQK	NCR	NCR

# OCCUPIED BANDWIDTH (99%)

EUT:	DVC7K	Work Order:	EMPM0183
Serial Number:	SVIMP20262	Date:	2024-11-08
Customer:	Emerson/Fisher	Temperature:	21.7°C
Attendees:	Pete Donich, William Hiner, Erin Snell, Stacy Lucas	Relative Humidity:	39.2%
Customer Project:	None	Bar. Pressure (PMSL):	1024 mbar
Tested By:	Christopher Heintzelman	Job Site:	MN11
Power:	9.5VDC	Configuration:	EMPM0183-1

## TEST SPECIFICATIONS

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

## COMMENTS

5 dBm power setting.

## DEVIATIONS FROM TEST STANDARD

None

## CONCLUSION

N/A

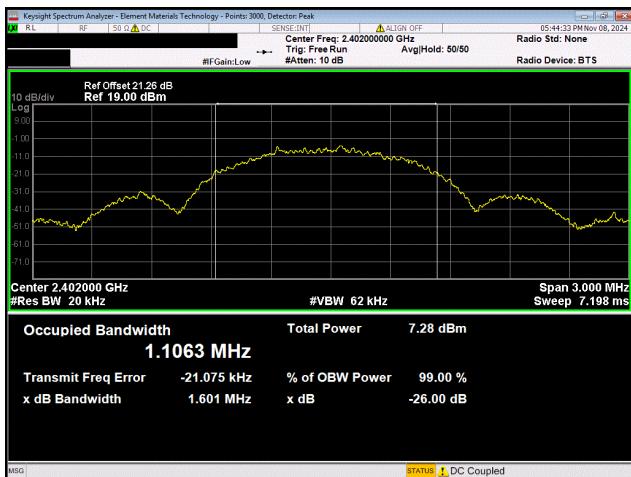


Tested By

## TEST RESULTS

	Value	Limit	Result
BLE/GFSK 1 Mbps			
Low Channel, 2402 MHz	1.106 MHz	N/A	N/A
Mid Channel, 2442 MHz	1.103 MHz	N/A	N/A
High Channel, 2480 MHz	1.093 MHz	N/A	N/A
BLE/GFSK 2 Mbps			
Low Channel, 2402 MHz	2.075 MHz	N/A	N/A
Mid Channel, 2442 MHz	2.075 MHz	N/A	N/A
High Channel, 2480 MHz	2.072 MHz	N/A	N/A

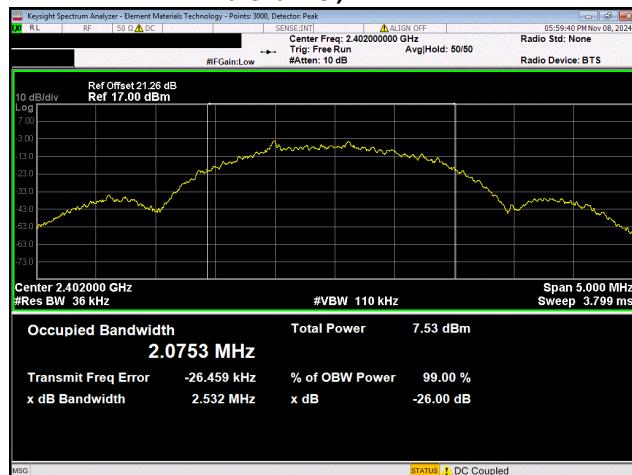
# OCCUPIED BANDWIDTH (99%)



**BLE/GFSK 1 Mbps  
Low Channel, 2402 MHz**



**BLE/GFSK 1 Mbps  
Mid Channel, 2442 MHz**



**BLE/GFSK 1 Mbps  
High Channel, 2480 MHz**

**BLE/GFSK 2 Mbps  
Low Channel, 2402 MHz**

# OCCUPIED BANDWIDTH (99%)



**BLE/GFSK 2 Mbps**  
**Mid Channel, 2442 MHz**



**BLE/GFSK 2 Mbps**  
**High Channel, 2480 MHz**

# DUTY CYCLE

## TEST DESCRIPTION

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

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

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

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

# DTS BANDWIDTH (6 dB)

## TEST DESCRIPTION

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

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

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

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

## TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2024-05-22	2025-05-22
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2024-08-28	2025-08-28
Block - DC	Fairview Microwave	SD3379	ANH	2024-08-28	2025-08-28
Attenuator	S.M. Electronics	SA26B-20	RFW	2024-01-31	2025-01-31
Generator - Signal	Keysight	N5171B (EXG)	TEY	2024-01-11	2027-01-11
Power Supply - DC	EZ Digital Co., Ltd.	GP-4030D	TQK	NCR	NCR

# DTS BANDWIDTH (6 dB)

EUT:	DVC7K	Work Order:	EMPM0183
Serial Number:	SVIMP20262	Date:	2024-11-08
Customer:	Emerson/Fisher	Temperature:	21.7°C
Attendees:	Pete Donich, William Hiner, Erin Snell, Stacy Lucas	Relative Humidity:	38.8%
Customer Project:	None	Bar. Pressure (PMSL):	1024 mbar
Tested By:	Christopher Heintzelman	Job Site:	MN11
Power:	9.5VDC	Configuration:	EMPM0183-1

## TEST SPECIFICATIONS

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

## COMMENTS

5 dBm power setting.

## DEVIATIONS FROM TEST STANDARD

None

## CONCLUSION

Pass

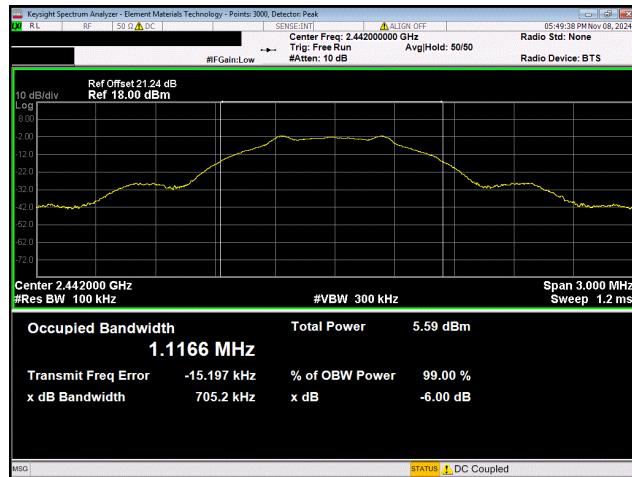
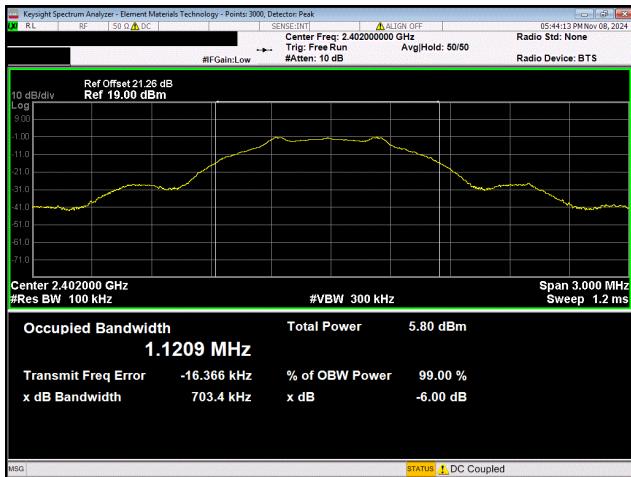


Tested By

## TEST RESULTS

	Value	Limit (≥)	Result
BLE/GFSK 1 Mbps			
Low Channel, 2402 MHz	703.381 kHz	500 kHz	Pass
Mid Channel, 2442 MHz	705.206 kHz	500 kHz	Pass
High Channel, 2480 MHz	697.729 kHz	500 kHz	Pass
BLE/GFSK 2 Mbps			
Low Channel, 2402 MHz	1.385 MHz	500 kHz	Pass
Mid Channel, 2442 MHz	1.4 MHz	500 kHz	Pass
High Channel, 2480 MHz	1.401 MHz	500 kHz	Pass

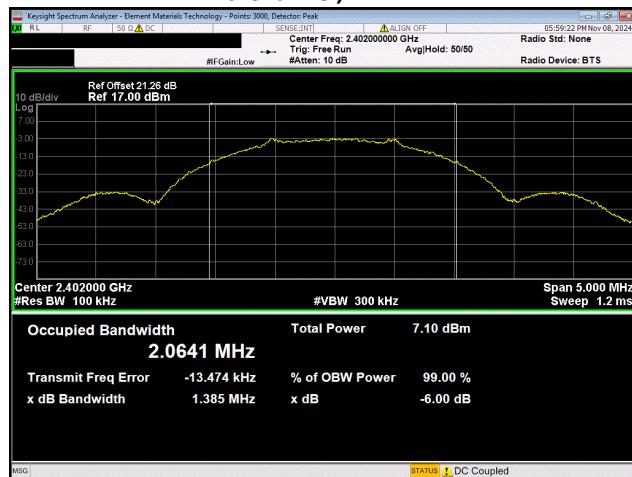
# DTS BANDWIDTH (6 dB)



**BLE/GFSK 1 Mbps**  
**Low Channel, 2402 MHz**



**BLE/GFSK 1 Mbps**  
**High Channel, 2480 MHz**

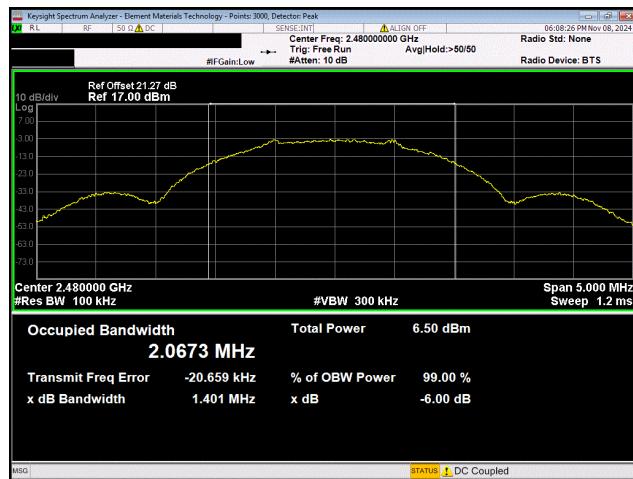


**BLE/GFSK 2 Mbps**  
**Low Channel, 2402 MHz**

# DTS BANDWIDTH (6 dB)



BLE/GFSK 2 Mbps  
Mid Channel, 2442 MHz



BLE/GFSK 2 Mbps  
High Channel, 2480 MHz

# OUTPUT POWER

## TEST DESCRIPTION

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

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

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

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

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

## TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2024-05-22	2025-05-22
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2024-08-28	2025-08-28
Block - DC	Fairview Microwave	SD3379	ANH	2024-08-28	2025-08-28
Attenuator	S.M. Electronics	SA26B-20	RFW	2024-01-31	2025-01-31
Generator - Signal	Keysight	N5171B (EXG)	TEY	2024-01-11	2027-01-11
Power Supply - DC	EZ Digital Co., Ltd.	GP-4030D	TQK	NCR	NCR

# OUTPUT POWER

EUT:	DVC7K	Work Order:	EMPM0183
Serial Number:	SVIMP20262	Date:	2024-11-08
Customer:	Emerson/Fisher	Temperature:	21.7°C
Attendees:	Pete Donich, William Hiner, Erin Snell, Stacy Lucas	Relative Humidity:	38.9%
Customer Project:	None	Bar. Pressure (PMSL):	1024 mbar
Tested By:	Christopher Heintzelman	Job Site:	MN11
Power:	9.5VDC	Configuration:	EMPM0183-1

## TEST SPECIFICATIONS

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

## COMMENTS

5 dBm power setting.

## DEVIATIONS FROM TEST STANDARD

None

## CONCLUSION

Pass

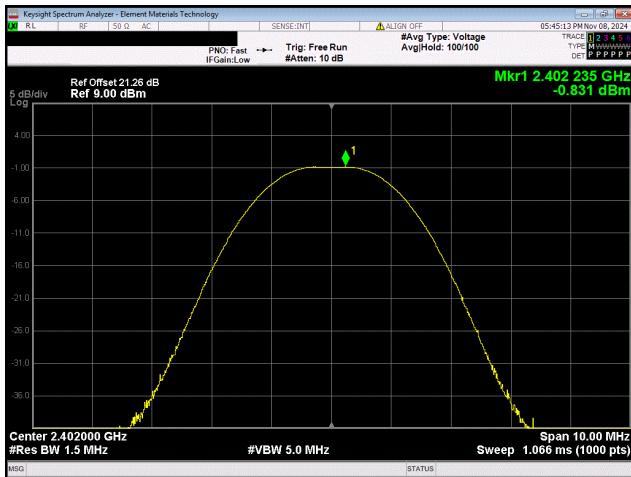


Tested By

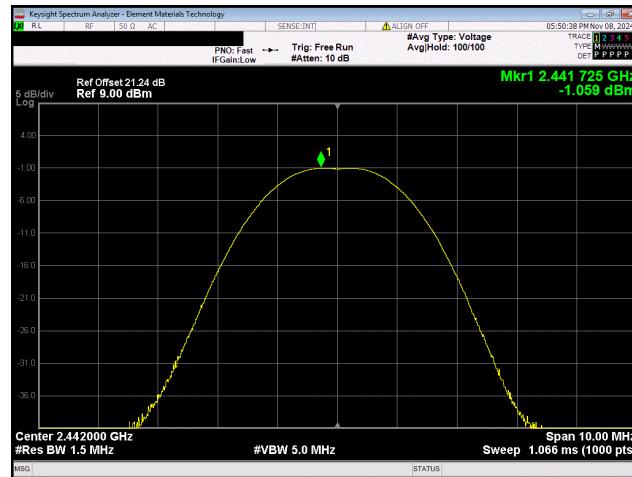
## TEST RESULTS

	Out Pwr (dBm)	Limit (dBm)	Result
BLE/GFSK 1 Mbps			
Low Channel, 2402 MHz	-0.831	30	Pass
Mid Channel, 2442 MHz	-1.059	30	Pass
High Channel, 2480 MHz	-1.451	30	Pass
BLE/GFSK 2 Mbps			
Low Channel, 2402 MHz	-0.878	30	Pass
Mid Channel, 2442 MHz	-1.048	30	Pass
High Channel, 2480 MHz	-1.469	30	Pass

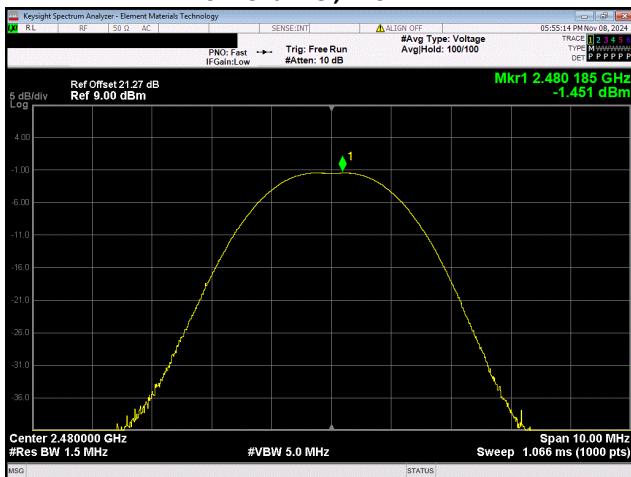
# OUTPUT POWER



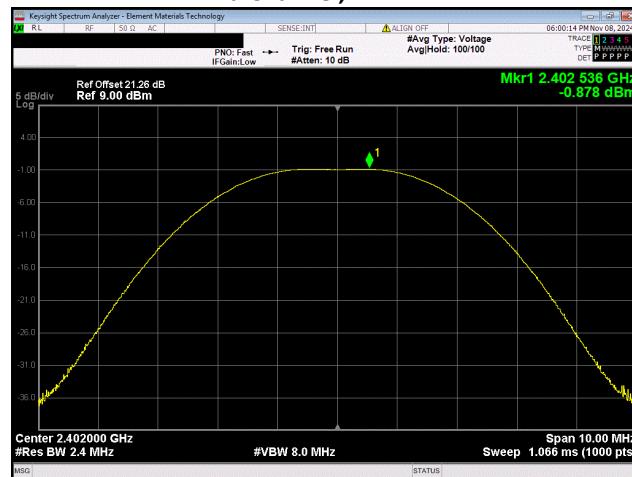
BLE/GFSK 1 Mbps  
Low Channel, 2402 MHz



BLE/GFSK 1 Mbps  
Mid Channel, 2442 MHz

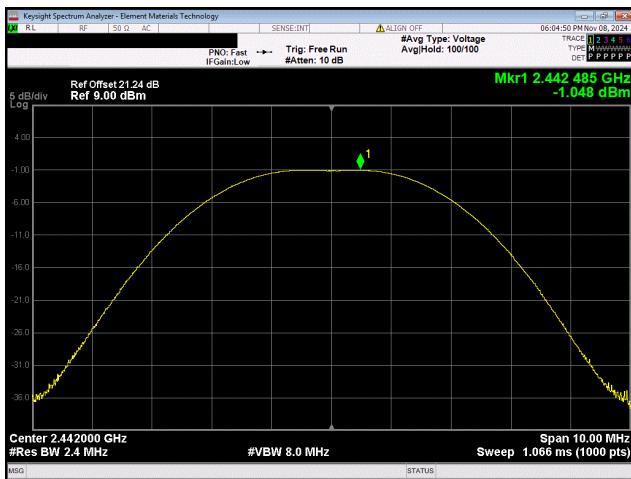


BLE/GFSK 1 Mbps  
High Channel, 2480 MHz

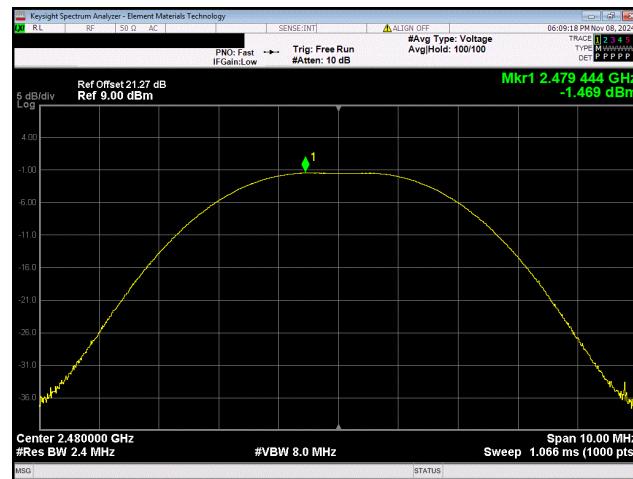


BLE/GFSK 2 Mbps  
Low Channel, 2402 MHz

# OUTPUT POWER



BLE/GFSK 2 Mbps  
Mid Channel, 2442 MHz



BLE/GFSK 2 Mbps  
High Channel, 2480 MHz

# EQUIVALENT ISOTOPIC RADIATED POWER (E.I.R.P)



## TEST DESCRIPTION

The EUT was configured to transmit at Low / Mid / High transmit frequencies. While scanning, emissions from the EUT were maximized by rotating the EUT, adjusting the measurement antenna height (1-4 meters) and polarization.

Prior to the measurement, the DTS bandwidth (B) was measured. Per ANSI C63.10:2013 Section 11.9.1.1, the analyzer was configured to the following settings:

RBW  $\geq$  DTS Bandwidth

VBW  $\geq$  3 x RBW

Sweep Time = auto

Detector = Peak

Trace = Max hold

The peak marker function was used to determine the peak amplitude

The final data was converted from field strength to a radiated power value using equations found in ANSI C63.10:2013 Annex G.2

$$EIRP = P_t \times G_t = (E \times d)^2 / 30$$

Where:

$P_t$  is the transmitter output power in watts

$G_t$  is the numeric gain of the transmitting antenna (dimensionless)

$E$  is the electric field strength in V/m

$d$  is the measurement distance in meters (m)

## TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Antenna - Double Ridge	ETS Lindgren	3115	AJA	2023-09-06	2025-09-06
Cable	Element	Double Ridge Guide Horn Cables	MNV	2024-09-10	2025-09-10
Amplifier - Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	AVX	2025-02-01	2026-02-01
Attenuator	Coaxicom	3910-20	AXY	2024-09-10	2025-09-10
Analyzer - Spectrum Analyzer	Agilent	N9010A	AFI	2024-09-03	2025-09-03

## FREQUENCY RANGE INVESTIGATED

2400 MHz TO 2483.5 MHz

## POWER INVESTIGATED

9.75VDC

## CONFIGURATIONS INVESTIGATED

EMPM0200-1

## MODES INVESTIGATED

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

# EQUIVALENT ISOTOPIC RADIATED POWER (E.I.R.P)



EUT:	DVC7K	Work Order:	EMPM0200
Serial Number:	SVIMP20263	Date:	2025-04-16
Customer:	Emerson	Temperature:	23.8°C
Attendees:	Stacy	Relative Humidity:	26.5%
Customer Project:	None	Bar. Pressure (PMSL):	1017 mb
Tested By:	Christopher Heintzelman	Job Site:	MN09
Power:	9.75VDC	Configuration:	EMPM0183-3

## TEST PARAMETERS

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

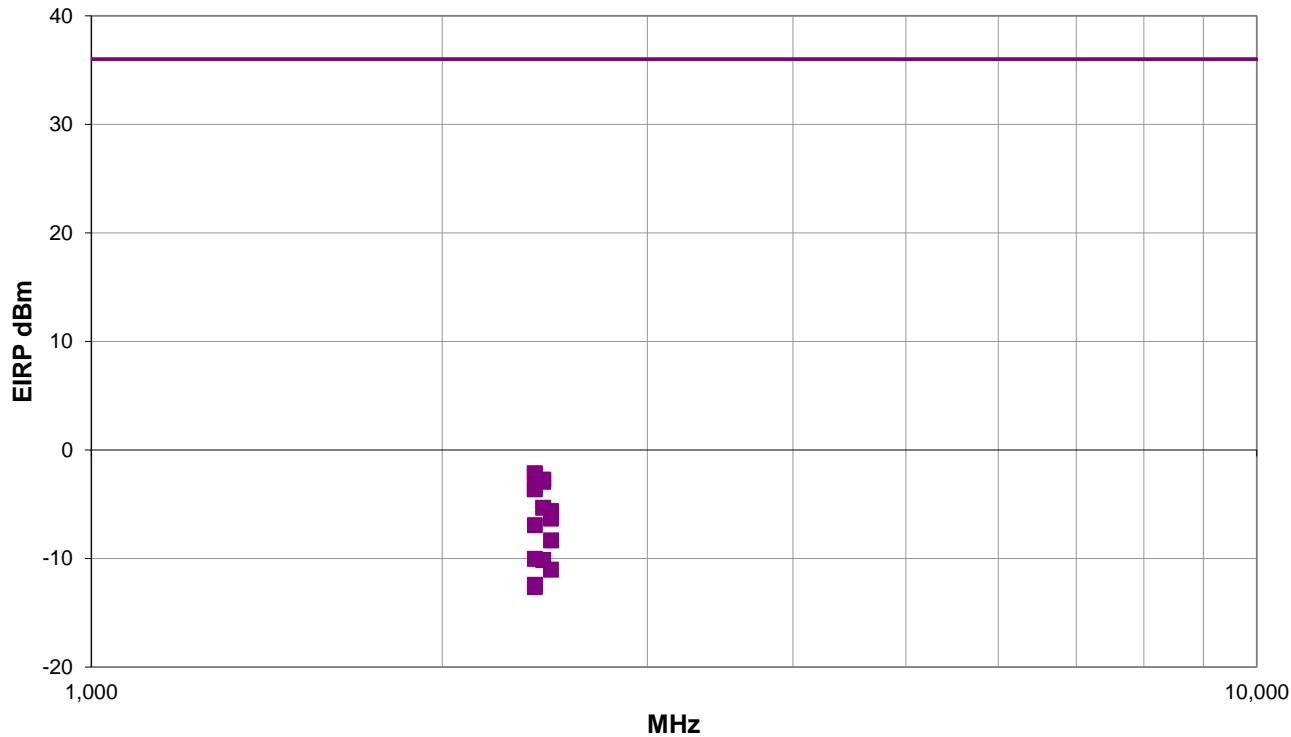
None

## EUT OPERATING MODES

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

## DEVIATIONS FROM TEST STANDARD

None



Run #: 1

PK AV QP

# EQUIVALENT ISOTOPIC RADIATED POWER (E.I.R.P)



## RESULTS - Run #1

Freq (MHz)	Antenna Height (meters)	Azimuth (degrees)	Polarity/Transducer Type	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
2401.500	2.03	136.0	Horz	PK	612.5E-6	-2.1	131.2	-133.3	EUT On Side, Low Ch, 2 Mbps
2401.783	2.27	91.0	Horz	PK	598.6E-6	-2.2	131.2	-133.4	EUT On Side, Low Ch, 1 Mbps
2441.775	2.18	92.0	Horz	PK	533.5E-6	-2.7	131.2	-133.9	EUT On Side, Mid Ch, 1 Mbps
2441.517	2.28	155.0	Horz	PK	509.5E-6	-2.9	131.2	-134.1	EUT On Side, Mid Ch, 2 Mbps
2401.742	2.79	330.0	Vert	PK	464.6E-6	-3.3	131.2	-134.5	EUT Horz, Low Ch, 1 Mbps
2401.475	2.48	68.0	Vert	PK	433.6E-6	-3.6	131.2	-134.8	EUT Horz, Low Ch, 2 Mbps
2441.475	2.64	61.0	Vert	PK	293.2E-6	-5.3	131.2	-136.5	EUT Horz, Mid Ch, 2 Mbps
2479.725	1.32	138.0	Horz	PK	273.6E-6	-5.6	131.2	-136.8	EUT On Side, High Ch, 1 Mbps
2479.525	1.5	139.0	Horz	PK	232.9E-6	-6.3	131.2	-137.5	EUT On Side, High Ch, 2 Mbps
2401.758	2.51	175.0	Vert	PK	202.8E-6	-6.9	131.2	-138.1	EUT Vert, Low Ch, 1 Mbps
2479.708	2.19	335.0	Vert	PK	146.9E-6	-8.3	131.2	-139.5	EUT Horz, High Ch, 1 Mbps
2401.750	4.0	247.0	Horz	PK	99.3E-6	-10.0	131.2	-141.2	EUT Vert, Low Ch, 1 Mbps
2441.733	1.74	335.0	Vert	PK	97.1E-6	-10.1	131.2	-141.3	EUT Horz, Mid Ch, 1 Mbps
2479.517	1.0	100.0	Vert	PK	78.9E-6	-11.0	131.2	-142.2	EUT On Side, High Ch, 2 Mbps
2402.300	1.2	330.0	Horz	PK	57.2E-6	-12.4	131.2	-143.6	EUT Horz, Low Ch, 1 Mbps
2401.725	2.65	54.0	Vert	PK	54.6E-6	-12.6	131.2	-143.8	EUT On Side, Low Ch, 1 Mbps

## CONCLUSION

Pass

Tested By

# POWER SPECTRAL DENSITY



## TEST DESCRIPTION

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

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

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

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

## TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2024-05-22	2025-05-22
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2024-08-28	2025-08-28
Block - DC	Fairview Microwave	SD3379	ANH	2024-08-28	2025-08-28
Attenuator	S.M. Electronics	SA26B-20	RFW	2024-01-31	2025-01-31
Generator - Signal	Keysight	N5171B (EXG)	TEY	2024-01-11	2027-01-11
Power Supply - DC	EZ Digital Co., Ltd.	GP-4030D	TQK	NCR	NCR

# POWER SPECTRAL DENSITY



EUT:	DVC7K	Work Order:	EMPM0183
Serial Number:	SVIMP20262	Date:	2024-11-08
Customer:	Emerson/Fisher	Temperature:	21.7°C
Attendees:	Pete Donich, William Hiner, Erin Snell, Stacy Lucas	Relative Humidity:	38.6%
Customer Project:	None	Bar. Pressure (PMSL):	1024 mbar
Tested By:	Christopher Heintzelman	Job Site:	MN11
Power:	9.5VDC	Configuration:	EMPM0183-1

## TEST SPECIFICATIONS

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

## COMMENTS

Power setting 5 dBm.

## DEVIATIONS FROM TEST STANDARD

None

## CONCLUSION

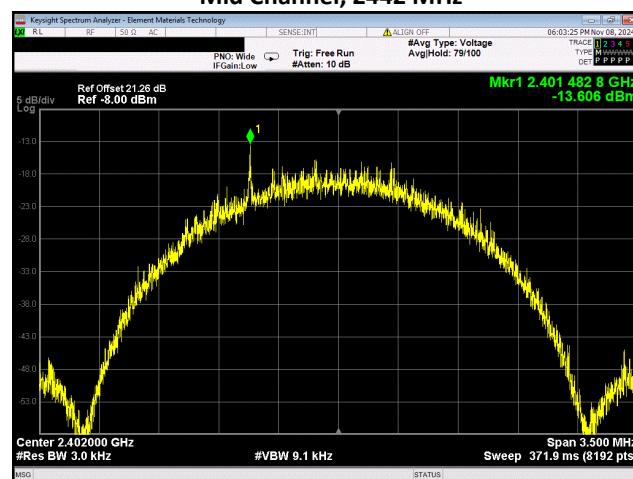
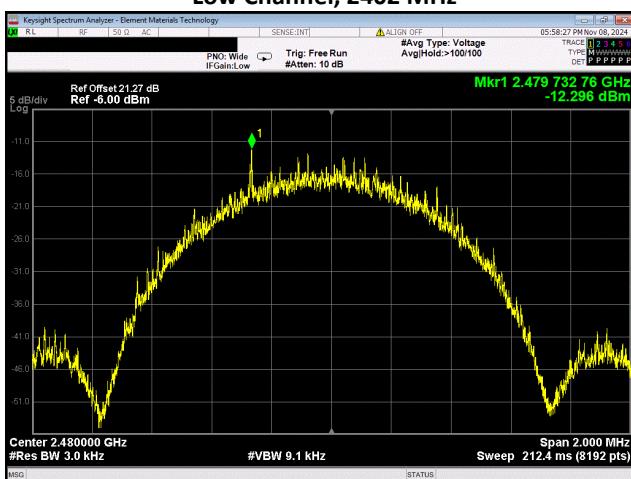
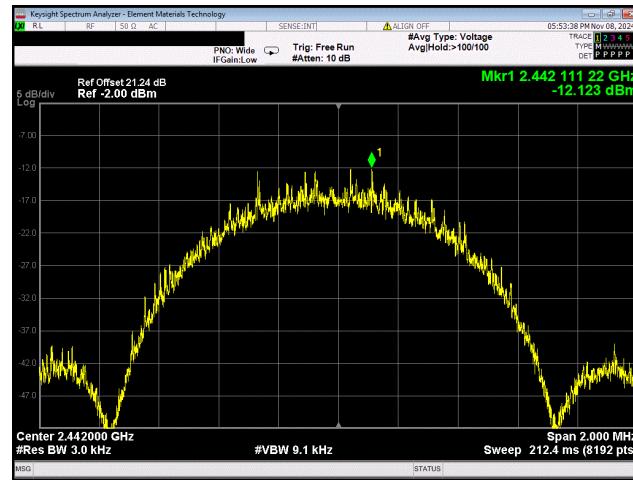
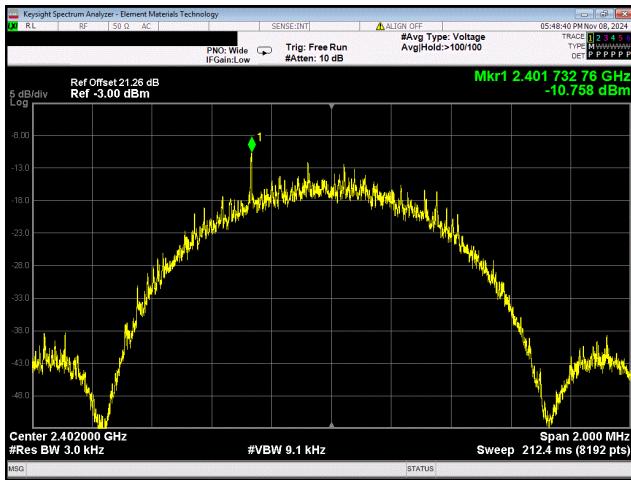
Pass

Tested By

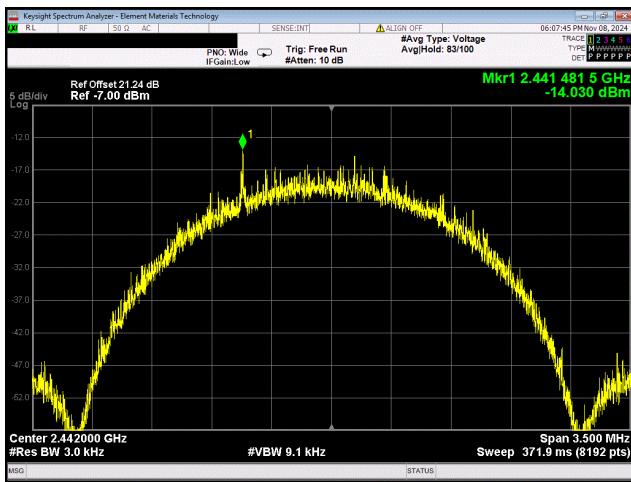
## TEST RESULTS

	Value dBm/3kHz	Limit ≤ (dBm/3kHz)	Results
BLE/GFSK 1 Mbps			
Low Channel, 2402 MHz	-10.758	8	Pass
Mid Channel, 2442 MHz	-12.123	8	Pass
High Channel, 2480 MHz	-12.296	8	Pass
BLE/GFSK 2 Mbps			
Low Channel, 2402 MHz	-13.606	8	Pass
Mid Channel, 2442 MHz	-14.03	8	Pass
High Channel, 2480 MHz	-16.009	8	Pass

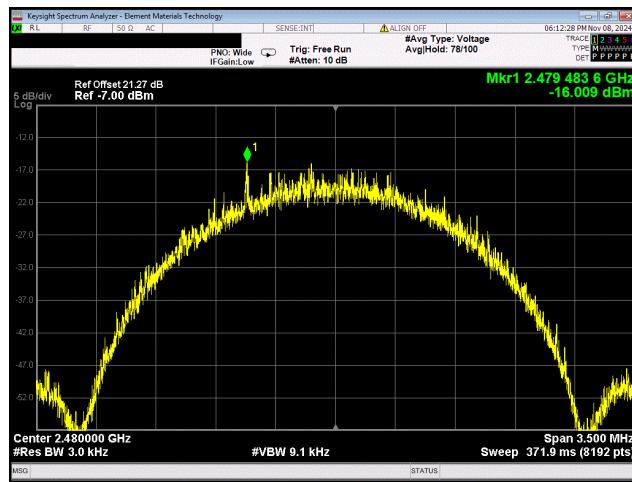
# POWER SPECTRAL DENSITY



# POWER SPECTRAL DENSITY



BLE/GFSK 2 Mbps  
Mid Channel, 2442 MHz



BLE/GFSK 2 Mbps  
High Channel, 2480 MHz

# BAND EDGE COMPLIANCE



## TEST DESCRIPTION

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

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

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

The spectrum was scanned below the lower band edge and above the higher band edge. The analyzer screen captures for this test show an example of the emission mask for the test mode also used during the radiated spurious emissions at the restricted band edges test.

## TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2024-05-22	2025-05-22
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2024-08-28	2025-08-28
Block - DC	Fairview Microwave	SD3379	ANH	2024-08-28	2025-08-28
Attenuator	S.M. Electronics	SA26B-20	RFW	2024-01-31	2025-01-31
Generator - Signal	Keysight	N5171B (EXG)	TEY	2024-01-11	2027-01-11
Power Supply - DC	EZ Digital Co., Ltd.	GP-4030D	TQK	NCR	NCR

# BAND EDGE COMPLIANCE

EUT:	DVC7K	Work Order:	EMPM0183
Serial Number:	SVIMP20262	Date:	2024-11-08
Customer:	Emerson/Fisher	Temperature:	21.7°C
Attendees:	Pete Donich, William Hiner, Erin Snell, Stacy Lucas	Relative Humidity:	38.8%
Customer Project:	None	Bar. Pressure (PMSL):	1024 mbar
Tested By:	Christopher Heintzelman	Job Site:	MN11
Power:	9.5VDC	Configuration:	EMPM0183-1

## TEST SPECIFICATIONS

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

## COMMENTS

5 dBm power setting.

## DEVIATIONS FROM TEST STANDARD

None

## CONCLUSION

Pass

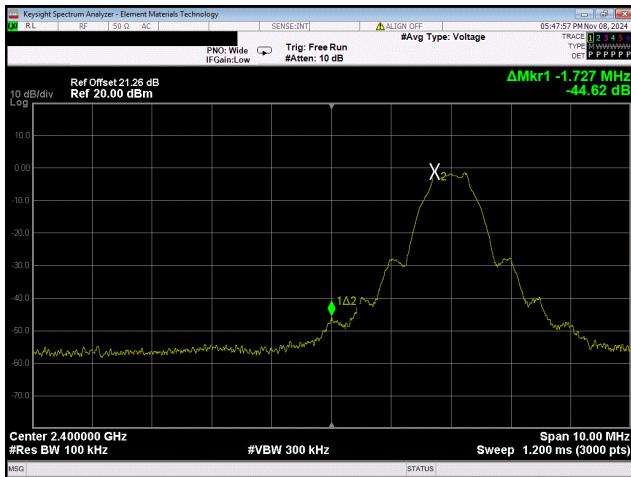


Tested By

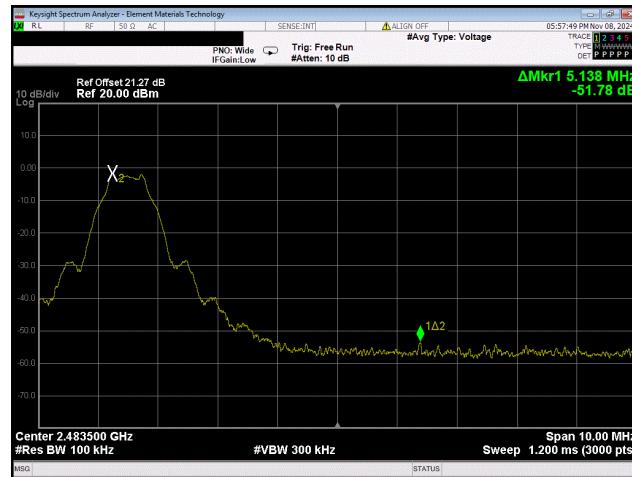
## TEST RESULTS

	Value (dBc)	Limit ≤ (dBc)	Result
BLE/GFSK 1 Mbps			
Low Channel, 2402 MHz	-44.62	-20	Pass
High Channel, 2480 MHz	-51.78	-20	Pass
BLE/GFSK 2 Mbps			
Low Channel, 2402 MHz	-31.11	-20	Pass
High Channel, 2480 MHz	-50.32	-20	Pass

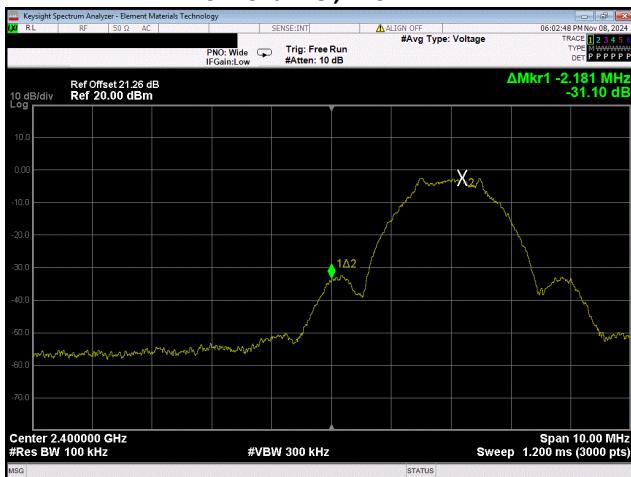
# BAND EDGE COMPLIANCE



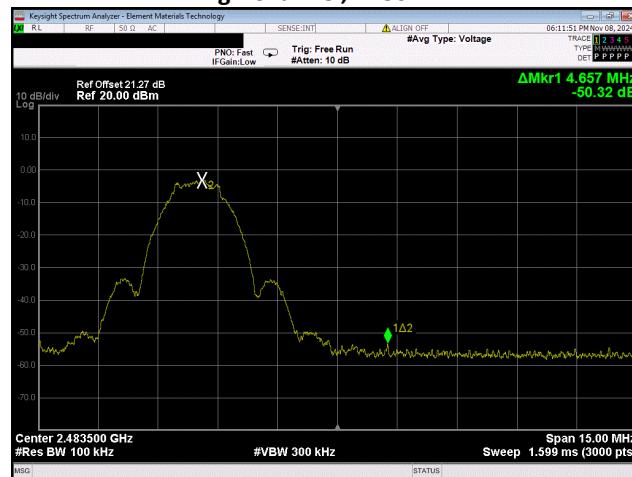
BLE/GFSK 1 Mbps  
Low Channel, 2402 MHz



BLE/GFSK 1 Mbps  
High Channel, 2480 MHz



BLE/GFSK 2 Mbps  
Low Channel, 2402 MHz



BLE/GFSK 2 Mbps  
High Channel, 2480 MHz

# SPURIOUS CONDUCTED EMISSIONS



## TEST DESCRIPTION

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

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

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

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

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

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

## TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2024-05-22	2025-05-22
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2024-08-28	2025-08-28
Block - DC	Fairview Microwave	SD3379	ANH	2024-08-28	2025-08-28
Attenuator	S.M. Electronics	SA26B-20	RFW	2024-01-31	2025-01-31
Generator - Signal	Keysight	N5171B (EXG)	TEY	2024-01-11	2027-01-11
Power Supply - DC	EZ Digital Co., Ltd.	GP-4030D	TQK	NCR	NCR

# SPURIOUS CONDUCTED EMISSIONS



EUT:	DVC7K	Work Order:	EMPM0183
Serial Number:	SVIMP20262	Date:	2024-11-08
Customer:	Emerson/Fisher	Temperature:	21.7°C
Attendees:	Pete Donich, William Hiner, Erin Snell, Stacy Lucas	Relative Humidity:	38.8%
Customer Project:	None	Bar. Pressure (PMSL):	1024 mbar
Tested By:	Christopher Heintzelman	Job Site:	MN11
Power:	9.5VDC	Configuration:	EMPM0183-1

## TEST SPECIFICATIONS

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

## COMMENTS

5 dBm power setting.

## DEVIATIONS FROM TEST STANDARD

None

## CONCLUSION

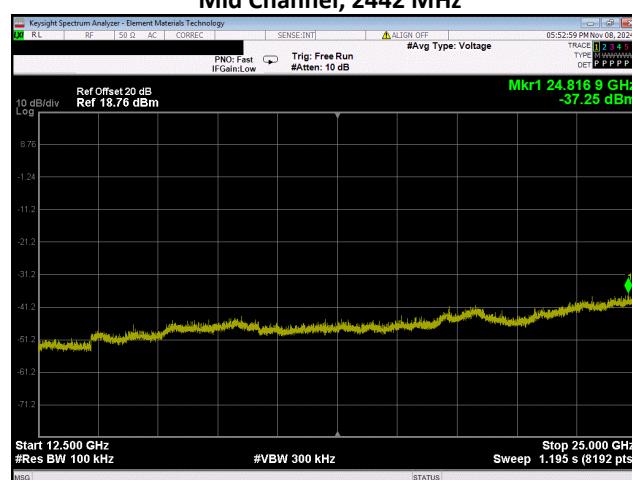
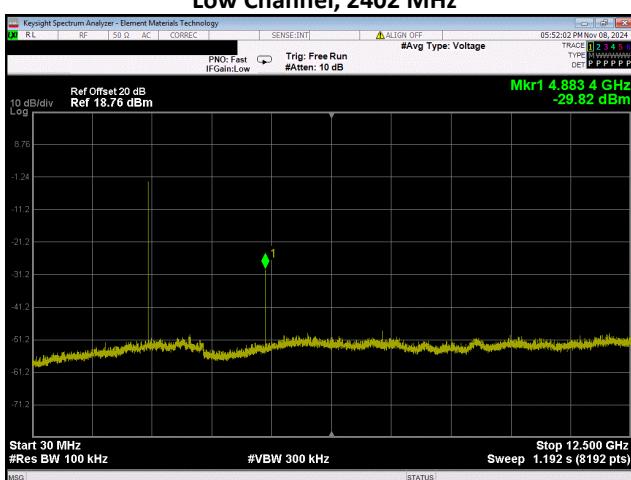
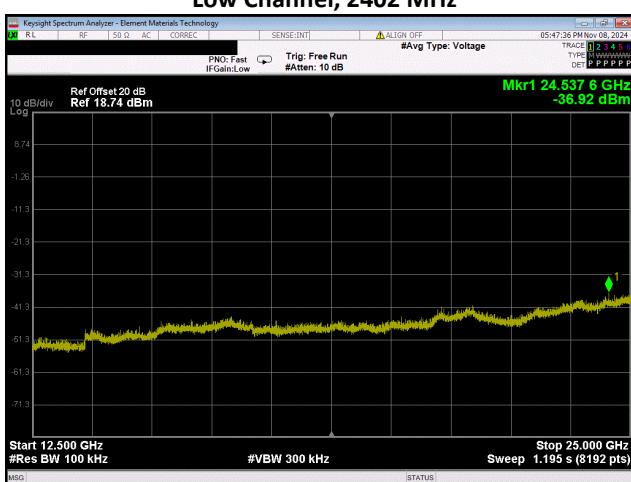
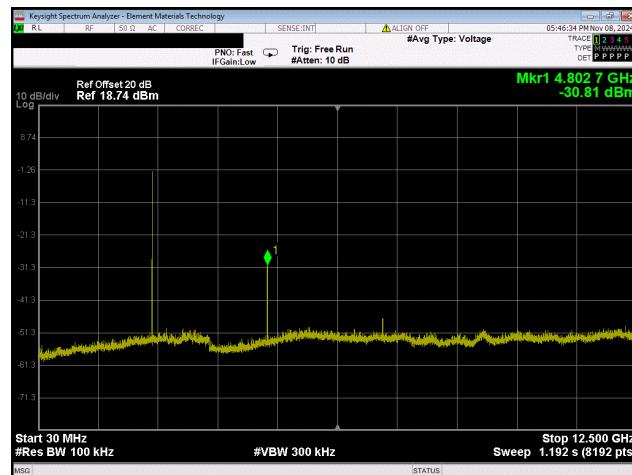
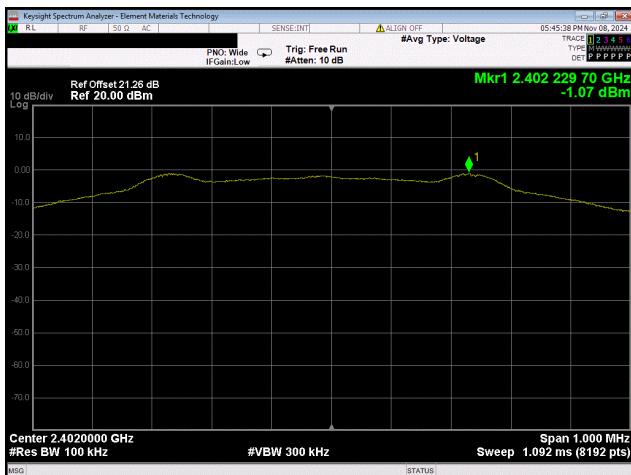
Pass

Tested By

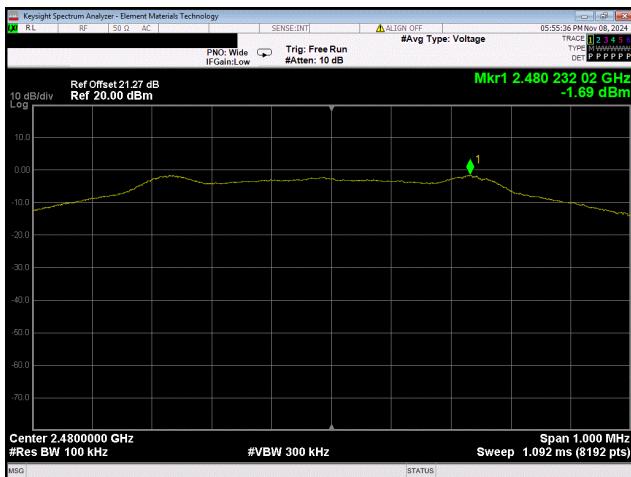
## TEST RESULTS

	Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
<b>BLE/GFSK 1 Mbps</b>					
Low Channel, 2402 MHz	Fundamental 30 MHz - 12.5 GHz 12.5 GHz - 25 GHz	2402.23 4802.73 24537.6	N/A -29.74 -35.85	N/A -20 -20	N/A Pass Pass
Mid Channel, 2442 MHz	Fundamental 30 MHz - 12.5 GHz 12.5 GHz - 25 GHz	2441.74 4883.42 24816.87	N/A -28.51 -35.94	N/A -20 -20	N/A Pass Pass
High Channel, 2480 MHz	Fundamental 30 MHz - 12.5 GHz 12.5 GHz - 25 GHz	2480.23 4961.06 24549.81	N/A -27.86 -35.83	N/A -20 -20	N/A Pass Pass
<b>BLE/GFSK 2 Mbps</b>					
Low Channel, 2402 MHz	Fundamental 30 MHz - 12.5 GHz 12.5 GHz - 25 GHz	2401.49 4802.73 24972.53	N/A -30.14 -34.7	N/A -20 -20	N/A Pass Pass
Mid Channel, 2442 MHz	Fundamental 30 MHz - 12.5 GHz 12.5 GHz - 25 GHz	2441.96 4883.42 24942.01	N/A -28.52 -34.78	N/A -20 -20	N/A Pass Pass
High Channel, 2480 MHz	Fundamental 30 MHz - 12.5 GHz 12.5 GHz - 25 GHz	2479.97 4959.54 24874.86	N/A -27.36 -33.58	N/A -20	N/A Pass Pass

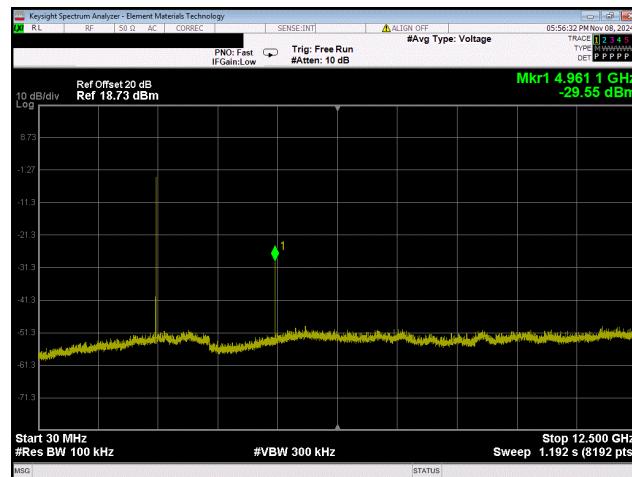
# SPURIOUS CONDUCTED EMISSIONS



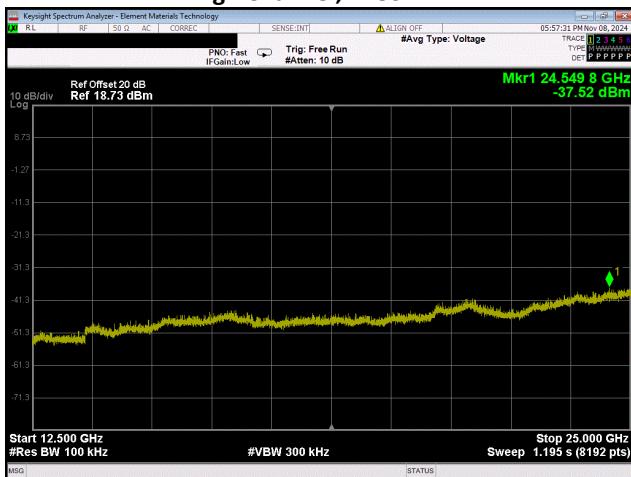
# SPURIOUS CONDUCTED EMISSIONS



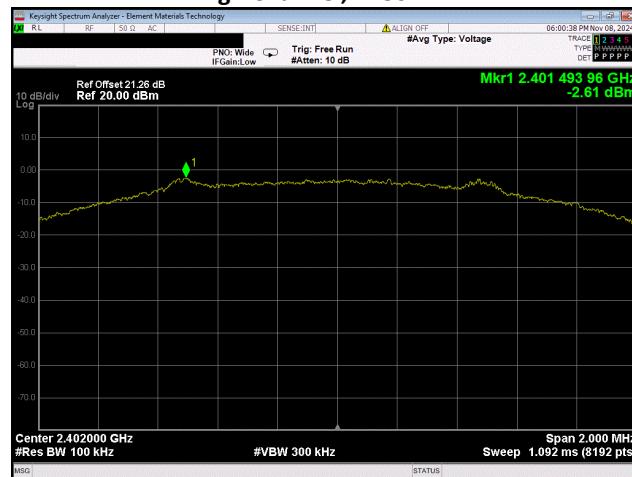
BLE/GFSK 1 Mbps  
High Channel, 2480 MHz



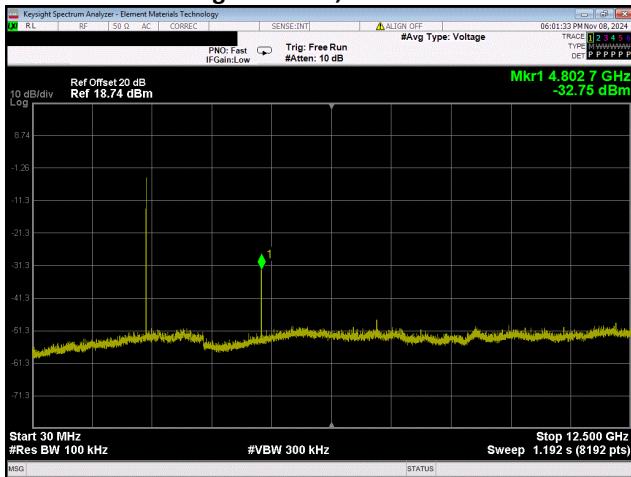
BLE/GFSK 1 Mbps  
High Channel, 2480 MHz



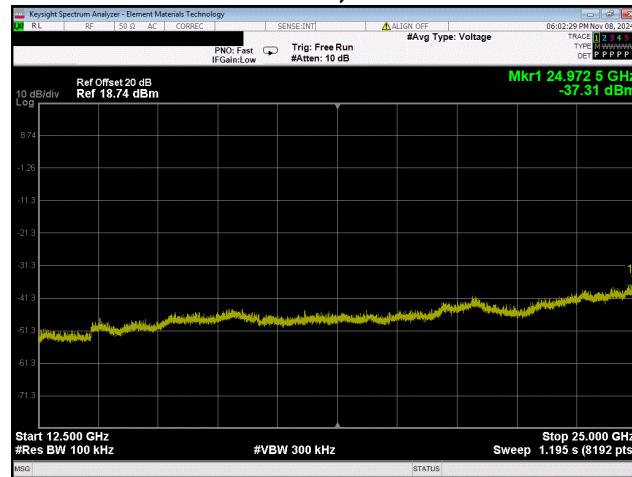
BLE/GFSK 1 Mbps  
High Channel, 2480 MHz



BLE/GFSK 1 Mbps  
High Channel, 2480 MHz

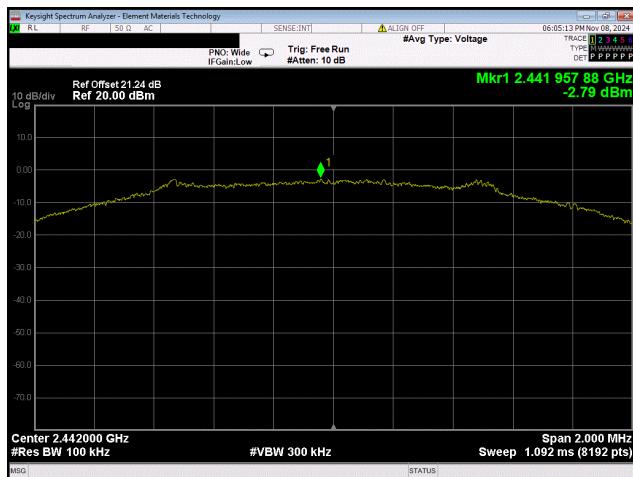


BLE/GFSK 2 Mbps  
Low Channel, 2402 MHz

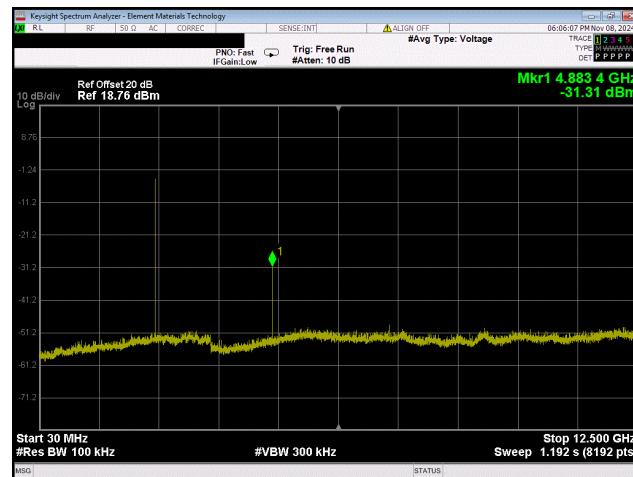


BLE/GFSK 2 Mbps  
Low Channel, 2402 MHz

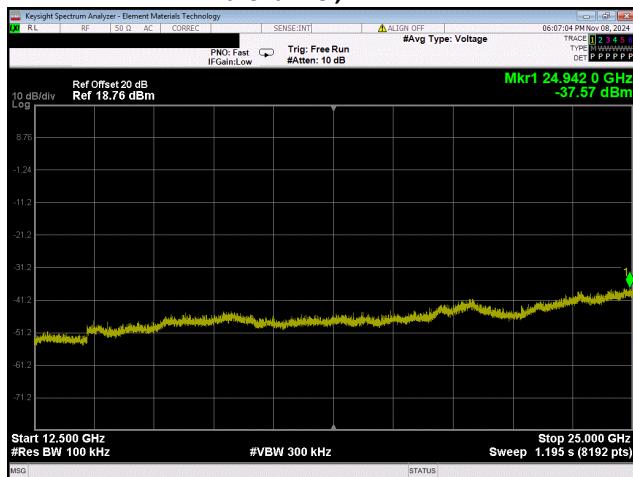
# SPURIOUS CONDUCTED EMISSIONS



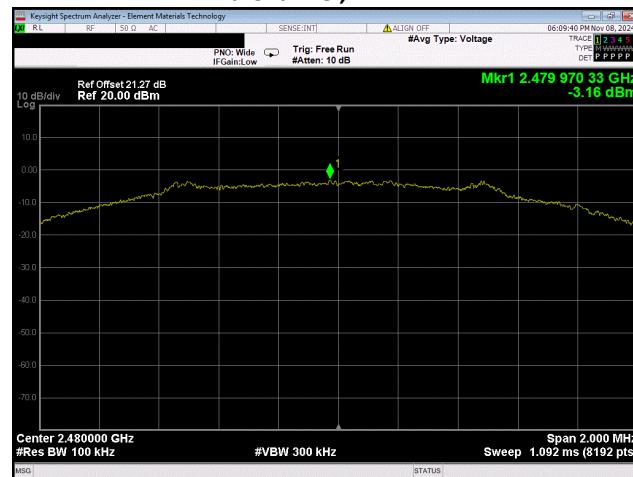
BLE/GFSK 2 Mbps  
Mid Channel, 2442 MHz



BLE/GFSK 2 Mbps  
Mid Channel, 2442 MHz

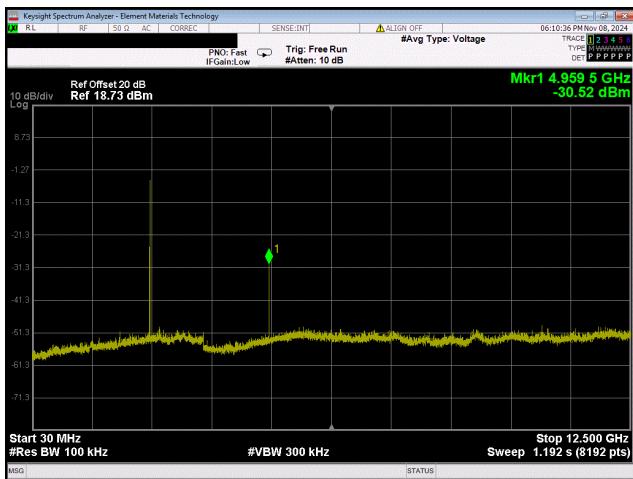


BLE/GFSK 2 Mbps  
Mid Channel, 2442 MHz

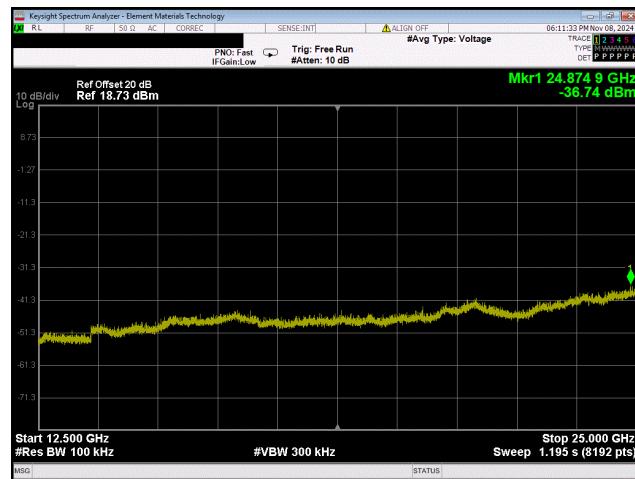


BLE/GFSK 2 Mbps  
High Channel, 2480 MHz

# SPURIOUS CONDUCTED EMISSIONS



BLE/GFSK 2 Mbps  
High Channel, 2480 MHz



BLE/GFSK 2 Mbps  
High Channel, 2480 MHz

# SPURIOUS RADIATED EMISSIONS



## TEST DESCRIPTION

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

For each configuration, the spectrum was scanned throughout the specified range as part of the exploratory investigation of the emissions. A reference preview scan (pre-scan) is included in the report. Final measurements on individual emissions were then made and included in this test report.

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

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

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

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

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

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

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

## TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Antenna - Double Ridge	ETS Lindgren	3115	AIP	2024-08-02	2026-08-02
Cable	ESM Cable Corp.	Double Ridge Guide Horn Cables	MNI	2024-01-08	2025-01-08
Amplifier - Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	AVT	2024-01-08	2025-01-08
Attenuator	Fairview Microwave	SA18H-20	VAF	2024-08-25	2025-08-25
Analyzer - Spectrum Analyzer	Agilent	E4446A	AAQ	2024-03-13	2025-03-13
Antenna - Standard Gain	ETS Lindgren	3160-08	AIQ	NCR	NCR
Cable	ESM Cable Corp.	Standard Gain Horn Cables	MNJ	2024-01-28	2025-01-28
Amplifier - Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVW	2024-01-08	2025-01-08
Filter - High Pass	Micro-Tronics	HPM50111	LFN	2024-08-25	2025-08-25
Antenna - Standard Gain	ETS Lindgren	3160-07	AXP	NCR	NCR
Amplifier - Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVV	2024-01-08	2025-01-08
Antenna - Biconilog	ETS Lindgren	3142D	AXO	2023-10-02	2025-10-02
Cable	ESM Cable Corp.	Bilog Cables	MNH	2024-10-09	2025-10-09
Amplifier - Pre-Amplifier	Miteq	AM-1616-1000	AVO	2024-10-09	2025-10-09
Filter - Low Pass	Micro-Tronics	LPM50004	LFK	2024-08-25	2025-08-25
Antenna - Loop	ETS Lindgren	6502	AOB	2023-06-12	2025-06-12
Antenna - Standard Gain	ETS Lindgren	3160-09	AHG	NCR	NCR
Cable	ESM Cable Corp.	TTBJ141 KMKM-72	MNP	2024-09-05	2025-09-05
Amplifier - Pre-Amplifier	Miteq	JSD4-18002600-26-8P	APU	2024-09-05	2025-09-05

# SPURIOUS RADIATED EMISSIONS



## **FREQUENCY RANGE INVESTIGATED**

9 kHz TO 26500 MHz

## **POWER INVESTIGATED**

9.5VDC

## **CONFIGURATIONS INVESTIGATED**

EMPM0183-3

## **MODES INVESTIGATED**

Transmitting BLE Low and High Channels (2402 and 2480 MHz) GFSK 1 Mbps, 2 Mbps modulated

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

# SPURIOUS RADIATED EMISSIONS



EUT:	DVC7K	Work Order:	EMPM0183
Serial Number:	SVIMP20263	Date:	2024-11-11
Customer:	Emerson/Fisher	Temperature:	21.2°C
Attendees:	Pete Donich, William Hiner, Erin Snell, Stacy Lucas	Relative Humidity:	35.2%
Customer Project:	None	Bar. Pressure (PMSL):	1020 mb
Tested By:	Marcelo Aguayo	Job Site:	MN05
Power:	9.5VDC	Configuration:	EMPM0183-3

## TEST SPECIFICATIONS

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

## TEST PARAMETERS

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

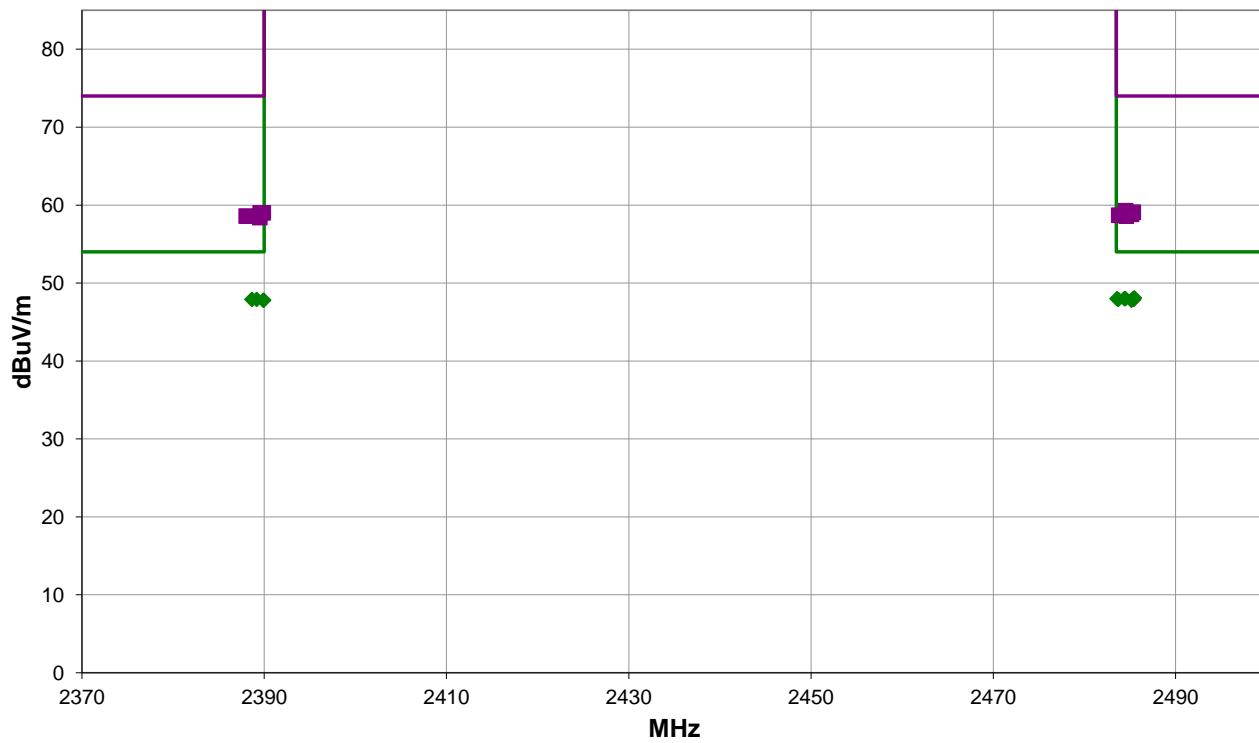
100 % Duty Cycle

## EUT OPERATING MODES

Transmitting BLE Low and High Channels (2402 and 2480 MHz) GFSK 1 Mbps, 2 Mbps modulated

## DEVIATIONS FROM TEST STANDARD

None



Run #: 19

PK AV QP

# SPURIOUS RADIATED EMISSIONS



## RESULTS - Run #19

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	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
2485.480	31.4	-3.3	1.5	148.0	3.0	20.0	Vert	AV	0.0	48.1	54.0	-5.9	EUT Vert, High Ch, 1Mbps
2484.393	31.3	-3.3	1.5	0.0	3.0	20.0	Horz	AV	0.0	48.0	54.0	-6.0	EUT On Side, High Ch 1Mbps
2484.497	31.3	-3.3	1.5	322.0	3.0	20.0	Vert	AV	0.0	48.0	54.0	-6.0	EUT On Side, High Ch 1Mbps
2485.363	31.3	-3.3	1.5	317.0	3.0	20.0	Horz	AV	0.0	48.0	54.0	-6.0	EUT Vert, High Ch, 1Mbps
2483.583	31.3	-3.3	1.7	88.9	3.0	20.0	Vert	AV	0.0	48.0	54.0	-6.0	EUT Horz, High Ch, 1Mbps
2485.420	31.2	-3.3	1.5	72.0	3.0	20.0	Horz	AV	0.0	47.9	54.0	-6.1	EUT On Side, High Ch 2Mbps
2483.710	31.2	-3.3	3.4	343.9	3.0	20.0	Vert	AV	0.0	47.9	54.0	-6.1	EUT Vert, High Ch, 2Mbps
2388.640	32.0	-4.1	2.8	127.9	3.0	20.0	Horz	AV	0.0	47.9	54.0	-6.1	EUT Vert, Low Ch, 1Mbps
2389.163	32.0	-4.1	1.5	217.0	3.0	20.0	Vert	AV	0.0	47.9	54.0	-6.1	EUT Vert, Low Ch, 1Mbps
2485.160	31.1	-3.3	1.5	26.0	3.0	20.0	Horz	AV	0.0	47.8	54.0	-6.2	EUT Horz, High Ch, 1Mbps
2389.923	31.9	-4.1	2.5	240.9	3.0	20.0	Horz	AV	0.0	47.8	54.0	-6.2	EUT Vert, Low Ch, 2Mbps
2389.903	31.9	-4.1	1.5	63.0	3.0	20.0	Vert	AV	0.0	47.8	54.0	-6.2	EUT Vert, Low Ch, 2Mbps
2484.520	42.6	-3.3	1.5	72.0	3.0	20.0	Horz	PK	0.0	59.3	74.0	-14.7	EUT On Side, High Ch 2Mbps
2484.617	42.4	-3.3	1.5	0.0	3.0	20.0	Horz	PK	0.0	59.1	74.0	-14.9	EUT On Side, High Ch 1Mbps
2485.357	42.4	-3.3	1.7	88.9	3.0	20.0	Vert	PK	0.0	59.1	74.0	-14.9	EUT Horz, High Ch, 1Mbps
2484.913	42.3	-3.3	1.5	317.0	3.0	20.0	Horz	PK	0.0	59.0	74.0	-15.0	EUT Vert, High Ch, 1Mbps
2389.543	43.1	-4.1	2.8	127.9	3.0	20.0	Horz	PK	0.0	59.0	74.0	-15.0	EUT Vert, Low Ch, 1Mbps
2389.880	43.1	-4.1	1.5	63.0	3.0	20.0	Vert	PK	0.0	59.0	74.0	-15.0	EUT Vert, Low Ch, 2Mbps
2484.877	42.2	-3.3	1.5	148.0	3.0	20.0	Vert	PK	0.0	58.9	74.0	-15.1	EUT Vert, High Ch, 1Mbps
2485.187	42.1	-3.3	3.4	343.9	3.0	20.0	Vert	PK	0.0	58.8	74.0	-15.2	EUT Vert, High Ch, 2Mbps
2483.783	42.0	-3.3	1.5	322.0	3.0	20.0	Vert	PK	0.0	58.7	74.0	-15.3	EUT On Side, High Ch 1Mbps
2484.590	41.9	-3.3	1.5	26.0	3.0	20.0	Horz	PK	0.0	58.6	74.0	-15.4	EUT Horz, High Ch, 1Mbps
2388.007	42.7	-4.1	1.5	217.0	3.0	20.0	Vert	PK	0.0	58.6	74.0	-15.4	EUT Vert, Low Ch, 1Mbps
2389.520	42.5	-4.1	2.5	240.9	3.0	20.0	Horz	PK	0.0	58.4	74.0	-15.6	EUT Vert, Low Ch, 2Mbps

## CONCLUSION

Pass

Tested By

# SPURIOUS RADIATED EMISSIONS



EUT:	DVC7K	Work Order:	EMPM0183
Serial Number:	SVIMP20263	Date:	2024-11-11
Customer:	Emerson/Fisher	Temperature:	21.2°C
Attendees:	Pete Donich, William Hiner, Erin Snell, Stacy Lucas	Relative Humidity:	35.2%
Customer Project:	None	Bar. Pressure (PMSL):	1020 mb
Tested By:	Marcelo Aguayo	Job Site:	MN05
Power:	9.5VDC	Configuration:	EMPM0183-3

## TEST SPECIFICATIONS

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

## TEST PARAMETERS

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

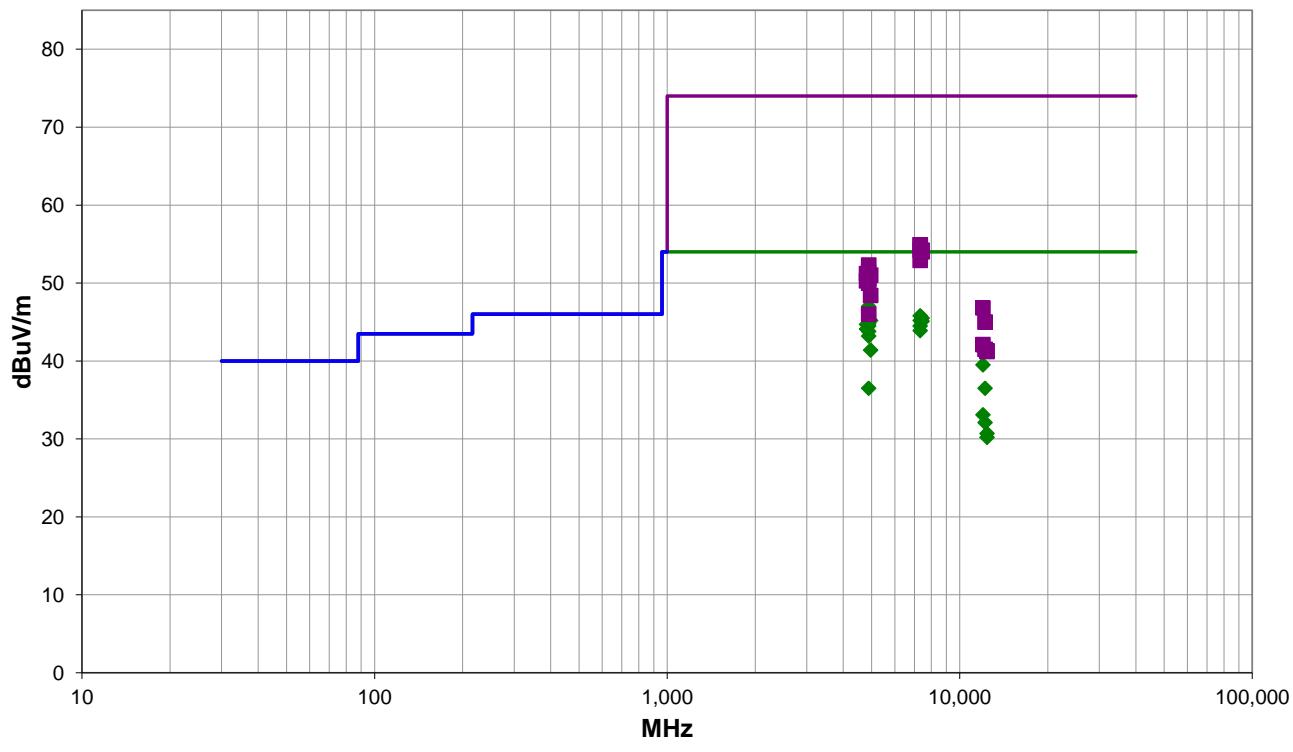
100 % Duty Cycle

## EUT OPERATING MODES

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

## DEVIATIONS FROM TEST STANDARD

None



Run #: 17

PK AV QP

# SPURIOUS RADIATED EMISSIONS

## RESULTS - Run #17

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	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
4884.017	41.7	5.3	3.2	261.9	3.0	0.0	Vert	AV	0.0	47.0	54.0	-7.0	EUT On Side, Mid Ch 1Mbps
7325.375	33.2	12.6	2.1	304.0	3.0	0.0	Horz	AV	0.0	45.8	54.0	-8.2	EUT Vert, Mid Ch, 1Mbps
7439.308	32.9	12.6	2.8	268.9	3.0	0.0	Vert	AV	0.0	45.5	54.0	-8.5	EUT On Side, High Ch 1Mbps
7324.575	32.6	12.6	2.1	289.0	3.0	0.0	Horz	AV	0.0	45.2	54.0	-8.8	EUT Vert, Mid Ch, 2Mbps
4959.975	39.9	5.3	2.5	222.9	3.0	0.0	Vert	AV	0.0	45.2	54.0	-8.8	EUT On Side, High Ch 1Mbps
7439.225	32.5	12.6	2.3	288.0	3.0	0.0	Horz	AV	0.0	45.1	54.0	-8.9	EUT Vert, High Ch 1Mbps
4883.917	39.5	5.3	1.5	242.0	3.0	0.0	Horz	AV	0.0	44.8	54.0	-9.2	EUT Vert, Mid Ch, 1Mbps
4804.017	39.5	5.2	2.7	88.0	3.0	0.0	Vert	AV	0.0	44.7	54.0	-9.3	Eut On Side, Low Ch, 1Mbps
4883.900	39.2	5.3	3.5	235.9	3.0	0.0	Vert	AV	0.0	44.5	54.0	-9.5	EUT Horz, Mid Ch, 1 Mbps
7324.633	31.9	12.6	2.8	282.0	3.0	0.0	Vert	AV	0.0	44.5	54.0	-9.5	EUT On Side, Mid Ch 2Mbps
4804.123	38.9	5.2	1.5	77.9	3.0	0.0	Horz	AV	0.0	44.1	54.0	-9.9	EUT Vert, Low Ch, 1Mbps
7325.317	31.3	12.6	1.5	232.9	3.0	0.0	Vert	AV	0.0	43.9	54.0	-10.1	EUT On Side, Mid Ch 1Mbps
4884.033	38.5	5.3	2.4	268.0	3.0	0.0	Vert	AV	0.0	43.8	54.0	-10.2	EUT Vert, Mid Ch, 1Mbps
4884.117	37.9	5.3	1.4	199.9	3.0	0.0	Horz	AV	0.0	43.2	54.0	-10.8	EUT On Side, Mid Ch 1Mbps
4959.933	36.1	5.3	1.5	239.0	3.0	0.0	Horz	AV	0.0	41.4	54.0	-12.6	EUT Vert, High Ch 1Mbps
12007.600	41.4	-1.9	1.5	98.0	3.0	0.0	Horz	AV	0.0	39.5	54.0	-14.5	EUT On Side, Low Ch 1Mbps
4883.933	31.2	5.3	1.5	5.0	3.0	0.0	Horz	AV	0.0	36.5	54.0	-17.5	EUT Horz, Mid Ch, 1 Mbps
12208.830	37.3	-0.8	1.5	99.9	3.0	0.0	Horz	AV	0.0	36.5	54.0	-17.5	EUT On Side, Mid Ch 1Mbps
7326.675	42.3	12.6	2.1	304.0	3.0	0.0	Horz	PK	0.0	54.9	74.0	-19.1	EUT Vert, Mid Ch, 1Mbps
7324.692	42.3	12.6	2.1	289.0	3.0	0.0	Horz	PK	0.0	54.9	74.0	-19.1	EUT Vert, Mid Ch, 2Mbps
7327.583	41.6	12.6	2.8	282.0	3.0	0.0	Vert	PK	0.0	54.2	74.0	-19.8	EUT On Side, Mid Ch 2Mbps
7439.700	41.6	12.6	2.3	288.0	3.0	0.0	Horz	PK	0.0	54.2	74.0	-19.8	EUT Vert, High Ch 1Mbps
7440.008	41.4	12.6	2.8	268.9	3.0	0.0	Vert	PK	0.0	54.0	74.0	-20.0	EUT On Side, High Ch 1Mbps
12007.610	35.0	-1.9	1.5	109.9	3.0	0.0	Vert	AV	0.0	33.1	54.0	-20.9	EUT On Side, Low Ch 1Mbps
7326.683	40.3	12.6	1.5	232.9	3.0	0.0	Vert	PK	0.0	52.9	74.0	-21.1	EUT On Side, Mid Ch 1Mbps
4883.417	47.0	5.3	3.2	261.9	3.0	0.0	Vert	PK	0.0	52.3	74.0	-21.7	EUT On Side, Mid Ch 1Mbps
12208.890	32.9	-0.8	1.5	102.0	3.0	0.0	Vert	AV	0.0	32.1	54.0	-21.9	EUT On Side, Mid Ch 1Mbps
4883.267	46.1	5.3	1.5	242.0	3.0	0.0	Horz	PK	0.0	51.4	74.0	-22.6	EUT Vert, Mid Ch, 1Mbps
4804.450	46.0	5.2	2.7	88.0	3.0	0.0	Vert	PK	0.0	51.2	74.0	-22.8	Eut On Side, Low Ch, 1Mbps
4959.533	45.7	5.3	2.5	222.9	3.0	0.0	Vert	PK	0.0	51.0	74.0	-23.0	EUT On Side, High Ch 1Mbps
4884.417	45.6	5.3	3.5	235.9	3.0	0.0	Vert	PK	0.0	50.9	74.0	-23.1	EUT Horz, Mid Ch, 1 Mbps
12399.050	31.5	-0.8	1.6	105.0	3.0	0.0	Horz	AV	0.0	30.7	54.0	-23.3	EUT On Side, High Ch 1Mbps
4883.483	45.2	5.3	2.4	268.0	3.0	0.0	Vert	PK	0.0	50.5	74.0	-23.5	EUT Vert, Mid Ch, 1Mbps
4803.577	45.1	5.2	1.5	77.9	3.0	0.0	Horz	PK	0.0	50.3	74.0	-23.7	EUT Vert, Low Ch, 1Mbps
12398.060	31.0	-0.8	1.5	294.9	3.0	0.0	Vert	AV	0.0	30.2	54.0	-23.8	EUT On Side, High Ch 1Mbps
4883.842	44.7	5.3	1.4	199.9	3.0	0.0	Horz	PK	0.0	50.0	74.0	-24.0	EUT On Side, Mid Ch 1Mbps
4959.442	43.1	5.3	1.5	239.0	3.0	0.0	Horz	PK	0.0	48.4	74.0	-25.6	EUT Vert, High Ch 1Mbps
12007.500	48.7	-1.9	1.5	98.0	3.0	0.0	Horz	PK	0.0	46.8	74.0	-27.2	EUT On Side, Low Ch 1Mbps
4885.442	40.7	5.3	1.5	5.0	3.0	0.0	Horz	PK	0.0	46.0	74.0	-28.0	EUT Horz, Mid Ch, 1 Mbps
12208.570	45.8	-0.8	1.5	99.9	3.0	0.0	Horz	PK	0.0	45.0	74.0	-29.0	EUT On Side, Mid Ch 1Mbps

# SPURIOUS RADIATED EMISSIONS

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	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
12012.480	44.0	-1.9	1.5	109.9	3.0	0.0	Vert	PK	0.0	42.1	74.0	-31.9	EUT On Side, Low Ch 1Mbps
12211.390	42.3	-0.8	1.5	102.0	3.0	0.0	Vert	PK	0.0	41.5	74.0	-32.5	EUT On Side, Mid Ch 1Mbps
12398.470	42.1	-0.8	1.6	105.0	3.0	0.0	Horz	PK	0.0	41.3	74.0	-32.7	EUT On Side, High Ch 1Mbps
12398.010	42.0	-0.8	1.5	294.9	3.0	0.0	Vert	PK	0.0	41.2	74.0	-32.8	EUT On Side, High Ch 1Mbps

## CONCLUSION

Pass

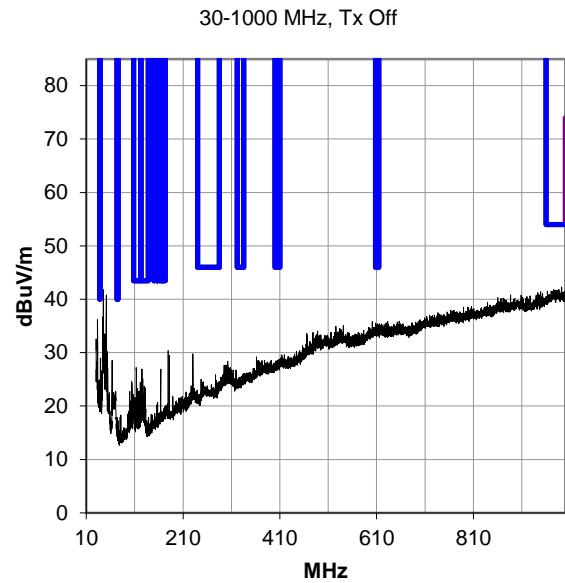
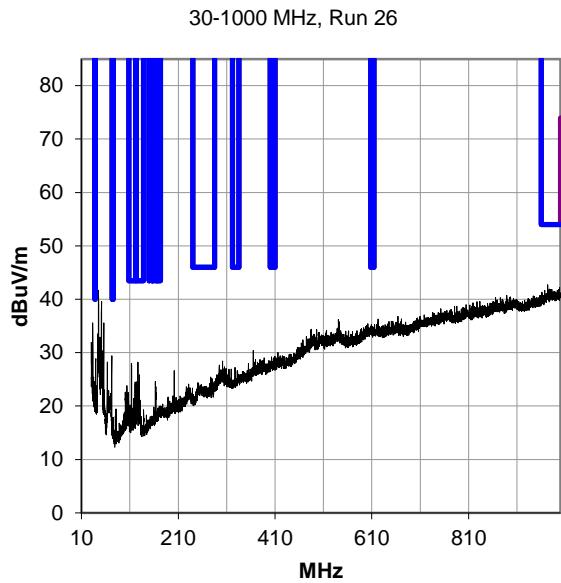
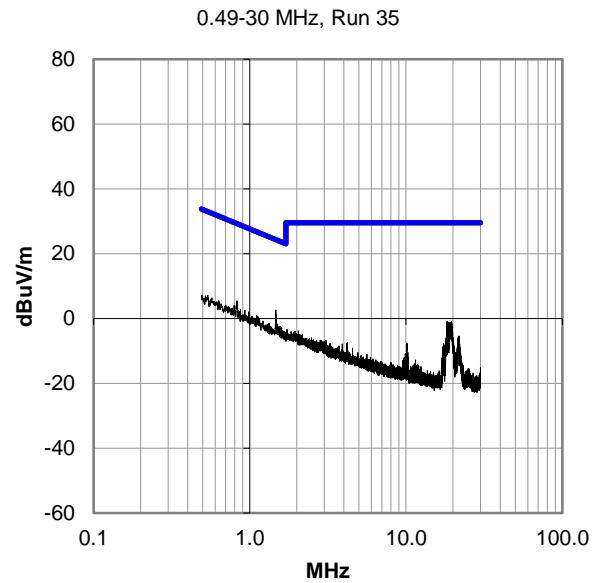
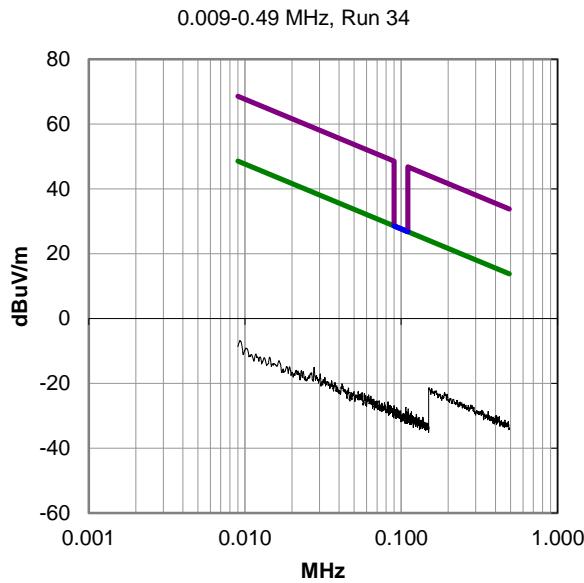


Tested By

# SPURIOUS RADIATED EMISSIONS

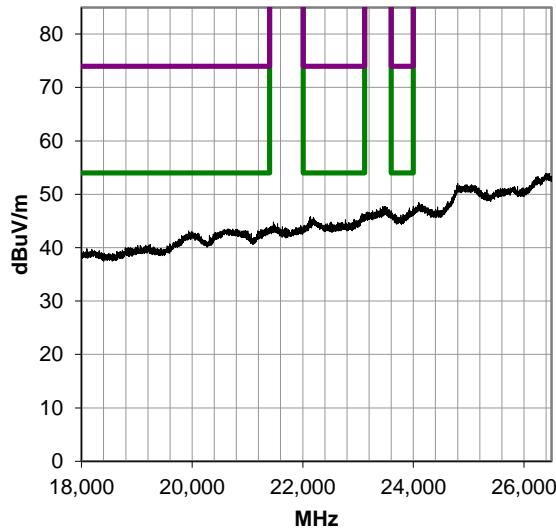
## PRESCAN DATA

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

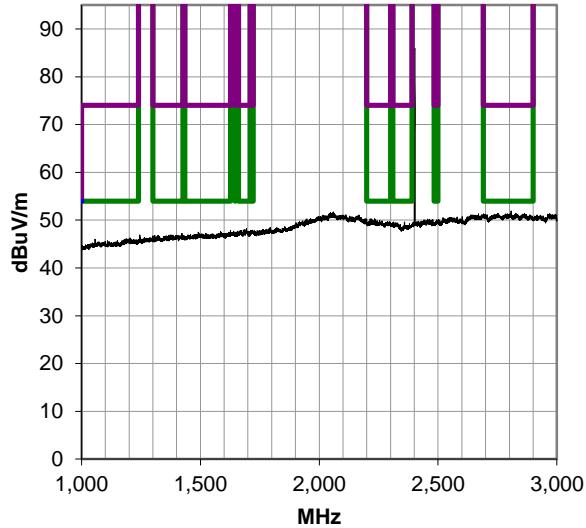


# SPURIOUS RADIATED EMISSIONS

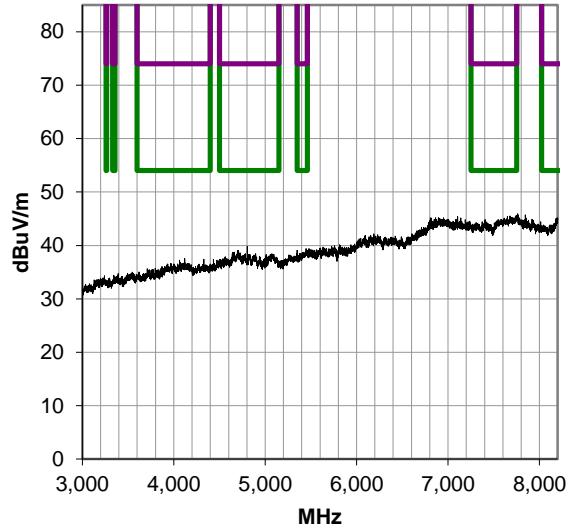
18000-26500 MHz, Run 35



1000-3000 MHz, Run 6



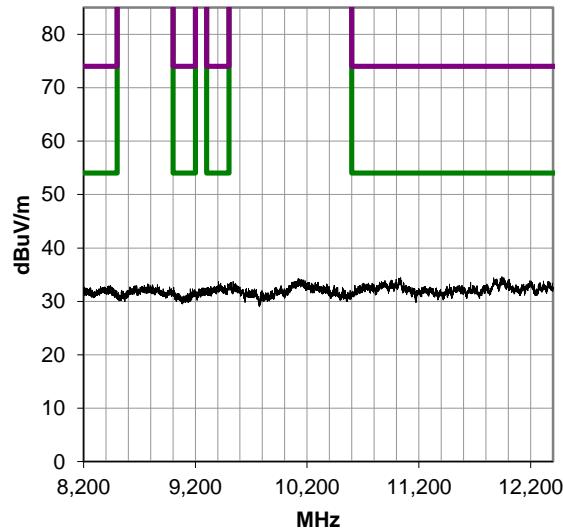
3000-8200 MHz, Run 7



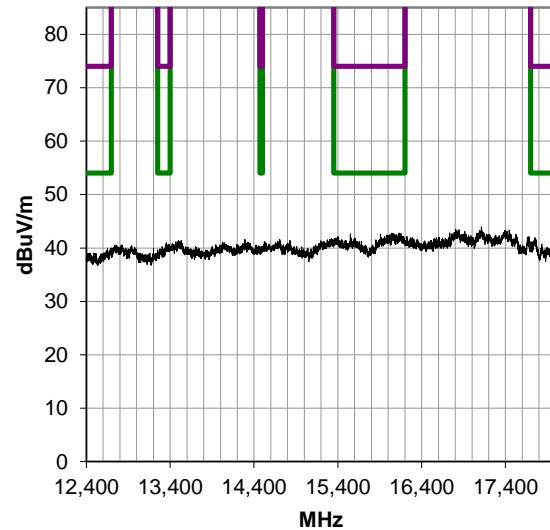
# SPURIOUS RADIATED EMISSIONS



8200-12400 MHz, Run 8



12400-18000 MHz, Run 9



End of Test Report