



Emerson / Rosemount Inc.

RM2642

FCC 15.247:2025

RSS-247 Issue 3:2023

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

Bluetooth Low Energy Radio

Report: EMPM0201.1 Rev. 02, Issue Date August 5, 2025



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CERTIFICATE OF TEST



Last Date of Test: June 17, 2025

Emerson / Rosemount Inc.

EUT: RM2642

Radio Equipment Testing

Standards

Specification	Method
FCC 15.247:2025	ANSI C63.10:2020
RSS-247 Issue 3:2023	
RSS-Gen Issue 5:2018+A1:2019+A2:2021	

Guidance

FCC KDB 558074 v05r02:2019
Notice 2021 - CEB0001

Results

Test Description	Result	FCC Section(s)	RSS Section(s)	ANSI C63.10 Section(s)	Comments
Powerline Conducted Emissions	Pass	15.207	RSS-Gen 8.8	6.2	
Occupied Bandwidth (99%)	Pass	KDB 558074 -2.1	RSS-Gen 6.7	6.9.3	
Duty Cycle	N/A	KDB 558074 -6.0	RSS-Gen 3.2	11.6	Verified to be 100%
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	
Radiated Band Edge 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, 6.6	
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, 6.4, 6.5, 6.6	

Deviations From Test Standards

None

Approved By:

Kyle Fujimoto, EMC Test Engineer
Signed for and on behalf of Element

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

REVISION HISTORY

Revision Number	Description	Date (yyyy-mm-dd)	Page Number
00	None		
01	Corrected MU, removed extra conducted emissions data, clarified EUT operates at 100% DC, clarified configurations	2025-06-30	3, 7, 13, 23-32
02	Updated antenna gain to match new OTA report.	2025-08-05	12, 38

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.

FDA - Recognized by the FDA as an Accreditation Scheme for Conformity Assessment (ASCA)-accredited testing laboratory for basic safety and essential performance.

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.

SCOPE

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

[California](#)

[Minnesota](#)

[Oregon](#)

[Washington](#)

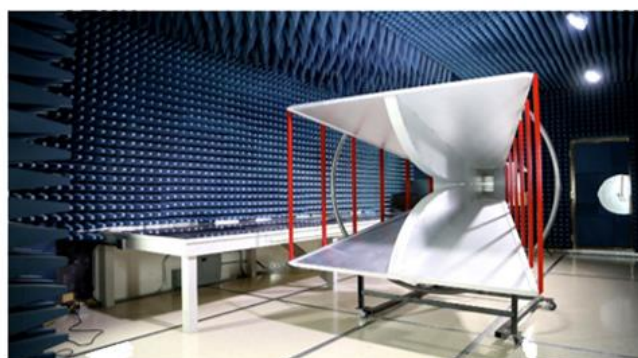
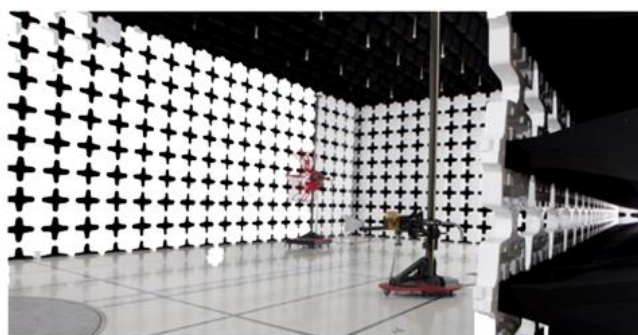
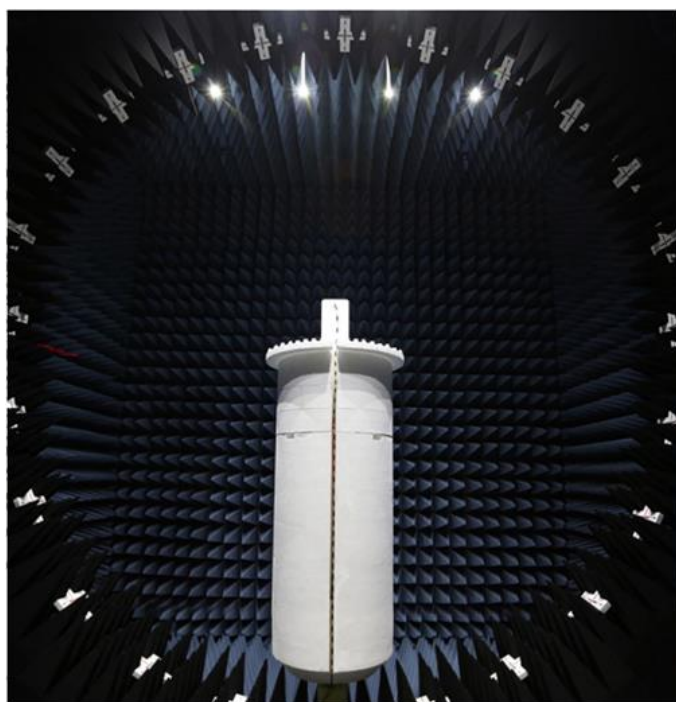
FACILITIES

Testing was performed at the following location(s)

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

See data sheets for specific labs

- (1) The lab designations denote individual rooms within each location. (OC01, OC02, OC03, etc.)
- (2) A2LA Certificate No.
- (3) ISED Company No.
- (4) BSMI No.
- (5) VCCI Site Filing No.
- (6) CAB Identifier. Recognized Phase I CAB for ISED, ACMA, BSMI, IDA, KCC/RRA, 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 reported is based on statistical analysis that was performed by the laboratory. 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
Near-field Measurement of E-Field (dB)	1.89
Near-field Measurement of H-Field (dB)	2.65

Field Strength Measurements (dB)

Range	MN05 (+/-)
10kHz-30MHz	1.8
30MHz-1GHz 3m	4.6
1GHz-6GHz	5.1
6GHz-40GHz	5.3

AC Powerline Conducted Emissions Measurements (dB)

Range	MN03 (+/-)
150k-30M LISN	3.2

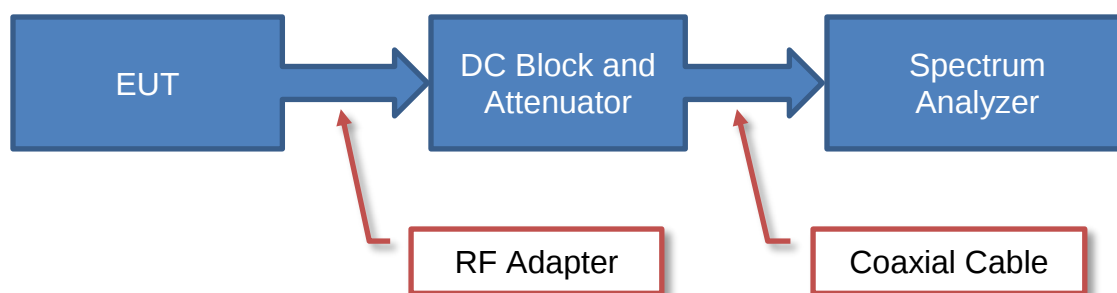
TEST SETUP BLOCK DIAGRAMS

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.

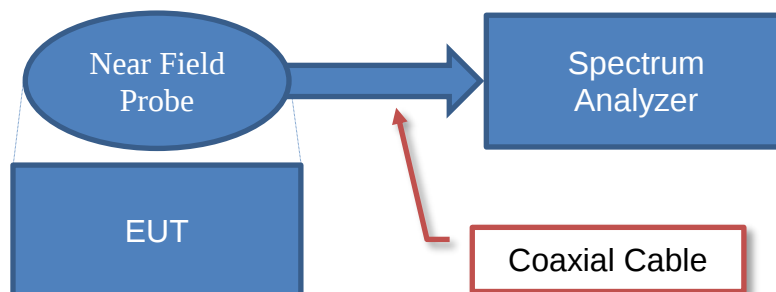
Antenna Port Conducted Measurements



Sample Calculation (logarithmic units)

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

Near Field Test Fixture Measurements

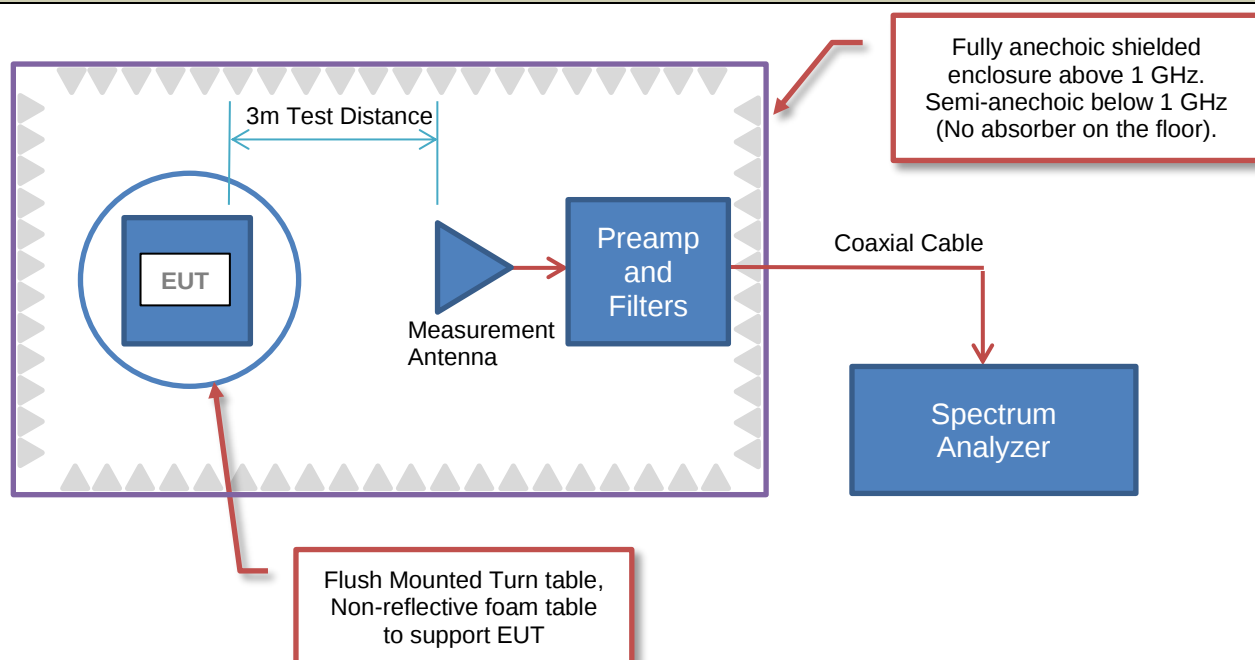


Sample Calculation (logarithmic units)

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

TEST SETUP BLOCK DIAGRAMS

Emissions Measurements



Sample Calculation (logarithmic units)

Radiated Emissions:

Measured Level (Amplitude)	Factor			Distance Adjustment Factor	External Attenuation	Field Strength
	Antenna Factor	Cable Factor	Amplifier Gain			
42.6	28.6	3.1	40.8	0.0	0.0	33.5

Conducted Emissions:

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

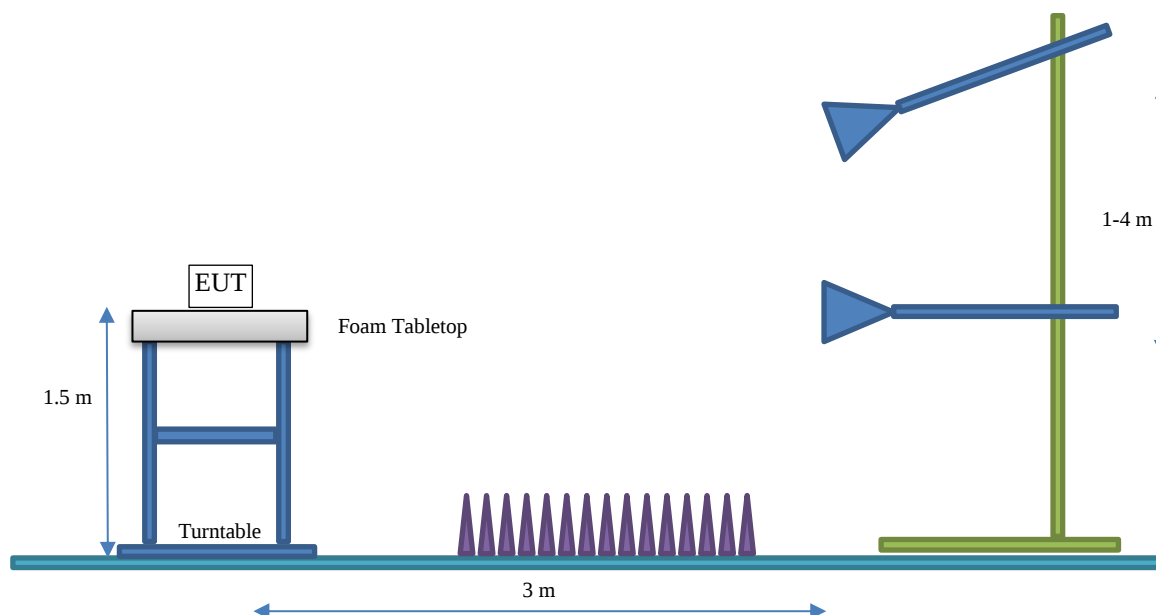
Radiated Power (ERP/EIRP) – Substitution Method:

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

TEST SETUP BLOCK DIAGRAMS

Bore Sighting (>1GHz)

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



PRODUCT DESCRIPTION



Client and Equipment under Test (EUT) Information

Company Name:	Emerson / Rosemount Inc.
Address:	6021 Innovation Boulevard
City, State, Zip:	Shakopee, MN 55379
Test Requested By:	Daniel Wolf
EUT:	RM2642
First Date of Test:	April 25, 2025
Last Date of Test:	June 17, 2025
Receipt Date of Samples:	April 25, 2025
Equipment Design Stage:	Production
Equipment Condition:	No Damage
Purchase Authorization:	Verified

Information Provided by the Party Requesting the Test

Functional Description of the EUT:

Emerson / Rosemount Inc. RM2642 radio module tested in both hosts, in either the Rosemount 4051S Pressure Transmitter or the Rosemount 3144S Temperature Transmitter, Transmitting information over BLE

Testing Objective:

To demonstrate compliance of the Bluetooth radio to FCC 15.247/RSS-247 requirements.

POWER SETTINGS AND ANTENNAS



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

Note: The duty cycle was verified to be 100%.

ANTENNA GAIN (dBi)

Type	Provided by:	Frequency Range (MHz)	Gain (dBi)
inverted F PCB trace antenna	Emerson / Rosemount Inc.	2402-2480	-0.6 dBi

Software

Description	Version
Test Software	1.0

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	Channel & Frequency	Power setting (dBm)
BLE GFSK 1 Mbps, 2 Mbps	Low Channel (2402 MHz)	5
	Mid Channel (2440 MHz)	5
	High Channel (2480 MHz)	5

CONFIGURATIONS

Configuration EMPM0201-3

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
4051S Pressure Transmitter (conducted)	Rosemount	4051S	1124
RM2642 Radio module	Rosemount	RM2642	(Host)

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
USB Cable	No	1.8m	No	EUT	Laptop

Configuration EMPM0201-4

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
3144S Temperature Transmitter	Rosemount	3144S	1120
Rosemount RM2642 Radio module	Rosemount	RM2642	(Host)

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
USB Cable	No	1.8m	No	EUT	Laptop

Configuration EMPM0201-5

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
3144S Temperature Transmitter (SE)	Rosemount	3144S	1121
RM2642 Radio module	Rosemount	RM2642	(Host)

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
Power Cable	No	3.5m	No	Temperature Transmitter	AC Mains
Temperature Sensor Cable	No	3m	No	Temperature Transmitter	Temperature Sensor

CONFIGURATIONS

Configuration EMPM0201-6

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
4051S Pressure Transmitter (SE)	Rosemount	4051S	1125
RM2642 Radio module	Rosemount	RM2642	(Host)

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
Power Cable	No	10.5m	No	Pressure Transmitter	AC Mains
USB Cable	No	1.8m	No	EUT	Laptop

Configuration EMPM0201-11

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
RM2642 Radio module	Rosemount	RM2642	(Host)
4051S Pressure Transmitter	Rosemount	4051S	1126

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
Power Cable	No	3.5m	No	Pressure Transmitter	AC Mains

Configuration EMPM0201-12

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Temp Sensor	N/A	N/A	N/A
3144S Temperature Transmitter	Rosemount	3144S	1121
RM2642 Radio module	Rosemount	RM2642	(Host)

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
Power Cable	No	10.5m	No	Temperature Transmitter	AC Mains
Temperature Sensor Cable	No	3m	No	Temperature Transmitter	Temperature Sensor

MODIFICATIONS

Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	2025-04-25	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.
2	2025-04-28	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.
3	2025-04-28	DTS 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.
4	2025-04-28	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.
5	2025-04-28	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	2025-04-28	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.
7	2025-04-28	Equivalent Isotropic Radiated Power	Tested as delivered to test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
8	2025-04-30	Radiated Emissions Band Edge	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	2025-05-01	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.
10	2025-06-17	Powerline Conducted Emissions	Tested as delivered to test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

POWERLINE CONDUCTED EMISSIONS

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
Receiver	Gauss Instruments	TDEMI 30M	ARS	2025-05-20	2026-05-20
LISN	Solar Electronics	9252-50-R-24-BNC	LIY	2025-03-30	2026-03-30
Cable - Conducted Cable Assembly	Northwest EMC	MNC, HGN, TYK, VAE	MNCA	2025-02-14	2026-02-14
Power Supply - DC	Agilent	U8002A	TPZ	NCR	NCR

CONFIGURATIONS INVESTIGATED

EMPM0201-11
EMPM0201-12

MODES INVESTIGATED

BLE Radio Transmitting

POWERLINE CONDUCTED EMISSIONS



EUT:	3144S / 4051S	Work Order:	EMPM0201
Serial Number:	1126	Date:	2025-06-17
Customer:	Emerson / Rosemount Inc.	Temperature:	22.6°C
Attendees:	Stacy Lukas	Relative Humidity:	55.5%
Customer Project:	None	Bar. Pressure (PMSL):	1010 mb
Tested By:	Arnauld Dedry	Job Site:	MN03
Power:	24VDC	Configuration:	EMPM0201-11

TEST PARAMETERS

Run #:	20	Line:	Neutral	Add. Ext. Attenuation (dB):	0
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COMMENTS

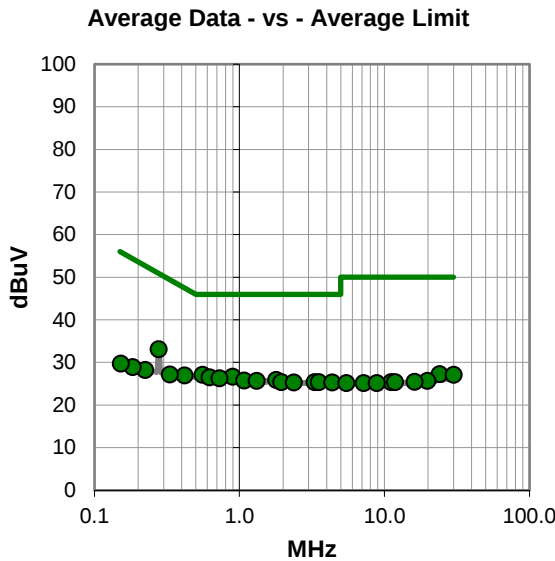
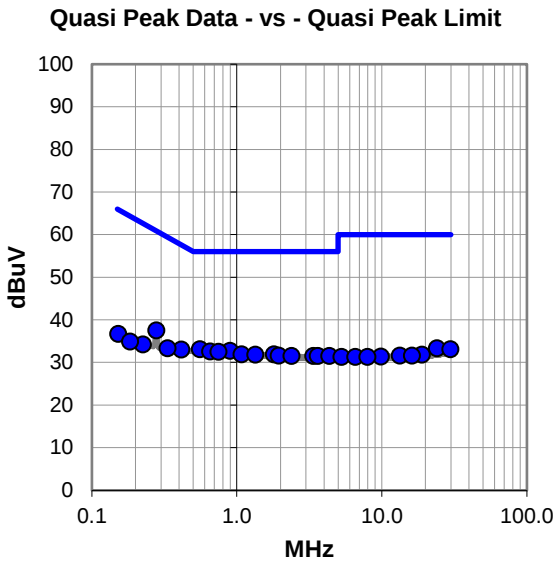
4051S Pressure Transmitter

EUT OPERATING MODES

BLE Radio Transmitting

DEVIATIONS FROM TEST STANDARD

None



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #20

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.554	12.4	20.7	33.1	56.0	-22.9
0.898	12.0	20.7	32.7	56.0	-23.3
0.278	16.9	20.6	37.5	60.9	-23.4
0.654	11.8	20.8	32.6	56.0	-23.4
0.747	11.7	20.8	32.5	56.0	-23.5
1.078	11.2	20.7	31.9	56.0	-24.1
1.796	11.2	20.7	31.9	56.0	-24.1
1.342	11.1	20.7	31.8	56.0	-24.2
1.947	10.9	20.7	31.6	56.0	-24.4
2.387	10.8	20.7	31.5	56.0	-24.5
3.369	10.6	20.9	31.5	56.0	-24.5
3.623	10.6	20.9	31.5	56.0	-24.5
4.344	10.6	20.9	31.5	56.0	-24.5
0.414	12.3	20.7	33.0	57.6	-24.6
0.332	12.7	20.6	33.3	59.4	-26.1
24.001	11.0	22.3	33.3	60.0	-26.7
29.728	10.2	22.9	33.1	60.0	-26.9
18.907	10.0	21.8	31.8	60.0	-28.2
0.225	13.4	20.8	34.2	62.6	-28.4
13.301	10.2	21.4	31.6	60.0	-28.4
16.125	9.9	21.7	31.6	60.0	-28.4
9.869	10.2	21.2	31.4	60.0	-28.6
5.254	10.4	20.9	31.3	60.0	-28.7
6.560	10.4	20.9	31.3	60.0	-28.7
7.950	10.3	21.0	31.3	60.0	-28.7

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.277	12.5	20.6	33.1	50.9	-17.8
0.556	6.4	20.7	27.1	46.0	-18.9
0.898	6.0	20.7	26.7	46.0	-19.3
0.621	5.7	20.8	26.5	46.0	-19.5
0.727	5.5	20.8	26.3	46.0	-19.7
1.795	5.2	20.7	25.9	46.0	-20.1
1.076	5.1	20.7	25.8	46.0	-20.2
1.313	5.0	20.7	25.7	46.0	-20.3
0.419	6.3	20.7	27.0	47.5	-20.5
1.943	4.7	20.7	25.4	46.0	-20.6
3.305	4.5	20.9	25.4	46.0	-20.6
3.516	4.5	20.9	25.4	46.0	-20.6
2.365	4.6	20.7	25.3	46.0	-20.7
4.355	4.4	20.9	25.3	46.0	-20.7
0.330	6.6	20.6	27.2	49.5	-22.3
24.000	5.0	22.3	27.3	50.0	-22.7
29.951	4.2	22.9	27.1	50.0	-22.9
19.815	3.9	21.8	25.7	50.0	-24.3
0.223	7.4	20.8	28.2	52.7	-24.5
16.157	3.8	21.7	25.5	50.0	-24.5
11.153	4.1	21.3	25.4	50.0	-24.6
11.800	4.0	21.4	25.4	50.0	-24.6
5.466	4.3	20.9	25.2	50.0	-24.8
7.185	4.2	21.0	25.2	50.0	-24.8
8.853	4.1	21.1	25.2	50.0	-24.8

CONCLUSION

Pass



Tested By

POWERLINE CONDUCTED EMISSIONS



EUT:	3144S / 4051S	Work Order:	EMPM0201
Serial Number:	1126	Date:	2025-06-17
Customer:	Emerson / Rosemount Inc.	Temperature:	22.6°C
Attendees:	Stacy Lukas	Relative Humidity:	55.5%
Customer Project:	None	Bar. Pressure (PMSL):	1010 mb
Tested By:	Arnauld Dedry	Job Site:	MN03
Power:	24VDC	Configuration:	EMPM0201-11

TEST PARAMETERS

Run #:	21	Line:	High Line	Add. Ext. Attenuation (dB):	0
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COMMENTS

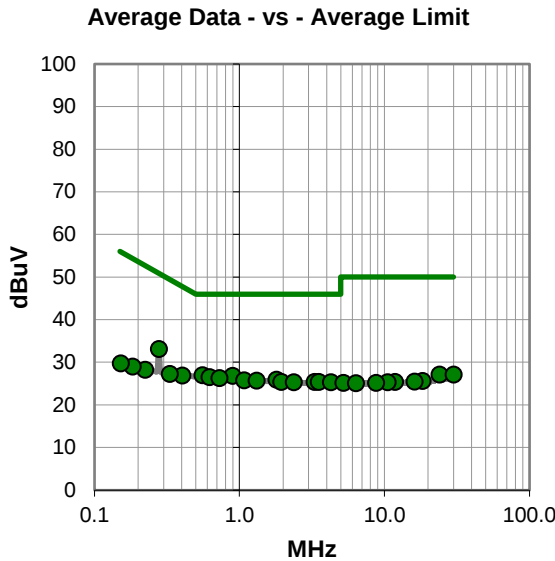
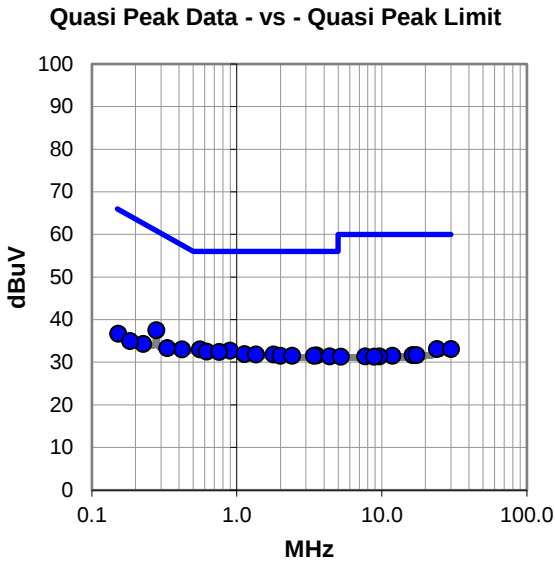
4051S Pressure Transmitter

EUT OPERATING MODES

BLE Radio Transmitting

DEVIATIONS FROM TEST STANDARD

None



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #21

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.554	12.3	20.7	33.0	56.0	-23.0
0.898	12.0	20.7	32.7	56.0	-23.3
0.278	16.9	20.6	37.5	60.9	-23.4
0.617	11.8	20.7	32.5	56.0	-23.5
0.753	11.6	20.8	32.4	56.0	-23.6
1.127	11.2	20.7	31.9	56.0	-24.1
1.351	11.1	20.7	31.8	56.0	-24.2
1.795	11.1	20.7	31.8	56.0	-24.2
3.539	10.7	20.9	31.6	56.0	-24.4
0.419	12.3	20.7	33.0	57.5	-24.5
1.990	10.8	20.7	31.5	56.0	-24.5
2.401	10.8	20.7	31.5	56.0	-24.5
3.395	10.6	20.9	31.5	56.0	-24.5
4.357	10.5	20.9	31.4	56.0	-24.6
0.330	12.7	20.6	33.3	59.5	-26.2
24.001	10.8	22.3	33.1	60.0	-26.9
29.952	10.2	22.9	33.1	60.0	-26.9
0.226	13.5	20.8	34.3	62.6	-28.3
16.287	10.0	21.7	31.7	60.0	-28.3
17.288	10.0	21.7	31.7	60.0	-28.3
11.806	10.1	21.4	31.5	60.0	-28.5
7.663	10.4	21.0	31.4	60.0	-28.6
9.599	10.2	21.2	31.4	60.0	-28.6
5.203	10.4	20.9	31.3	60.0	-28.7
8.864	10.2	21.1	31.3	60.0	-28.7

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.278	12.5	20.6	33.1	50.9	-17.8
0.554	6.3	20.7	27.0	46.0	-19.0
0.898	6.1	20.7	26.8	46.0	-19.2
0.623	5.7	20.8	26.5	46.0	-19.5
0.727	5.5	20.8	26.3	46.0	-19.7
1.796	5.2	20.7	25.9	46.0	-20.1
1.078	5.1	20.7	25.8	46.0	-20.2
1.313	5.0	20.7	25.7	46.0	-20.3
1.943	4.7	20.7	25.4	46.0	-20.6
3.305	4.5	20.9	25.4	46.0	-20.6
3.514	4.5	20.9	25.4	46.0	-20.6
2.365	4.6	20.7	25.3	46.0	-20.7
4.273	4.4	20.9	25.3	46.0	-20.7
0.403	6.3	20.6	26.9	47.8	-20.9
0.330	6.7	20.6	27.3	49.5	-22.2
24.001	4.8	22.3	27.1	50.0	-22.9
29.952	4.2	22.9	27.1	50.0	-22.9
18.278	3.8	21.8	25.6	50.0	-24.4
0.223	7.4	20.8	28.2	52.7	-24.5
16.153	3.8	21.7	25.5	50.0	-24.5
11.813	4.0	21.4	25.4	50.0	-24.6
10.533	4.1	21.2	25.3	50.0	-24.7
5.211	4.3	20.9	25.2	50.0	-24.8
8.780	4.1	21.1	25.2	50.0	-24.8
6.362	4.2	20.9	25.1	50.0	-24.9

CONCLUSION

Pass



Tested By

POWERLINE CONDUCTED EMISSIONS



EUT:	3144S / 4051S	Work Order:	EMPM0201
Serial Number:	1121	Date:	2025-06-17
Customer:	Emerson / Rosemount Inc.	Temperature:	22.6°C
Attendees:	Stacy Lukas	Relative Humidity:	55.5%
Customer Project:	None	Bar. Pressure (PMSL):	1010 mb
Tested By:	Arnauld Dedry	Job Site:	MN03
Power:	24VDC	Configuration:	EMPM0201-12

TEST PARAMETERS

Run #:	24	Line:	Neutral	Add. Ext. Attenuation (dB):	0
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COMMENTS

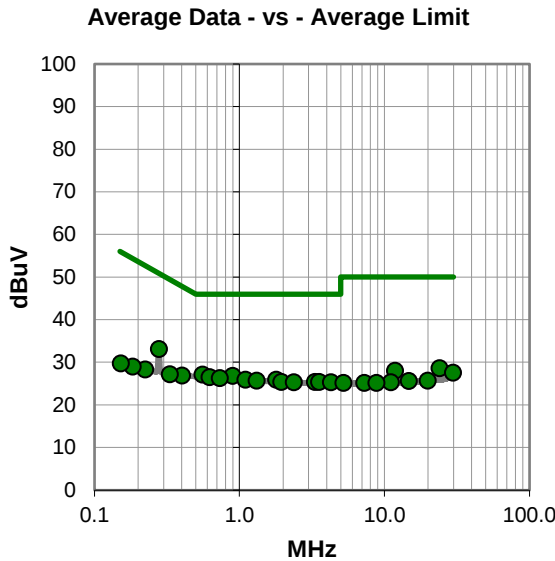
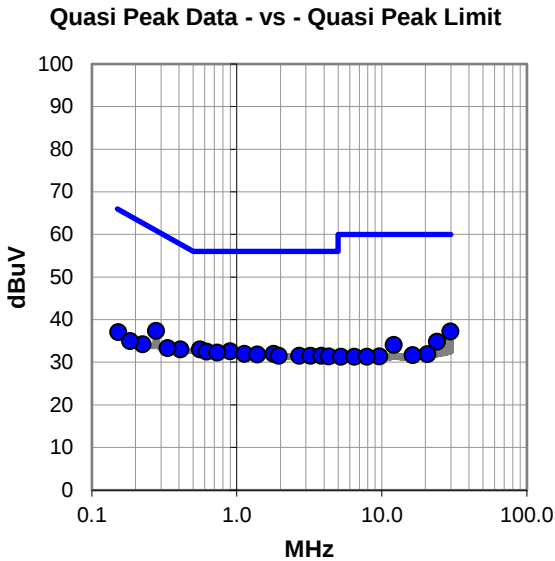
3144S Temperature Transmitter

EUT OPERATING MODES

BLE Radio Transmitting

DEVIATIONS FROM TEST STANDARD

None



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #24

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
29.735	14.3	22.9	37.2	60.0	-22.8
0.554	12.3	20.7	33.0	56.0	-23.0
0.898	11.9	20.7	32.6	56.0	-23.4
0.277	16.8	20.6	37.4	60.9	-23.5
0.617	11.8	20.7	32.5	56.0	-23.5
0.733	11.5	20.8	32.3	56.0	-23.7
1.127	11.3	20.7	32.0	56.0	-24.0
1.795	11.3	20.7	32.0	56.0	-24.0
1.383	11.1	20.7	31.8	56.0	-24.2
1.943	10.8	20.7	31.5	56.0	-24.5
2.694	10.8	20.7	31.5	56.0	-24.5
3.214	10.7	20.8	31.5	56.0	-24.5
3.829	10.6	20.9	31.5	56.0	-24.5
4.306	10.5	20.9	31.4	56.0	-24.6
0.408	12.4	20.6	33.0	57.7	-24.7
24.001	12.5	22.3	34.8	60.0	-25.2
12.080	12.7	21.4	34.1	60.0	-25.9
0.332	12.7	20.6	33.3	59.4	-26.1
20.628	10.0	21.9	31.9	60.0	-28.1
16.264	10.0	21.7	31.7	60.0	-28.3
0.223	13.4	20.8	34.2	62.7	-28.5
9.592	10.2	21.2	31.4	60.0	-28.6
5.223	10.4	20.9	31.3	60.0	-28.7
6.467	10.4	20.9	31.3	60.0	-28.7
7.854	10.3	21.0	31.3	60.0	-28.7

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.278	12.5	20.6	33.1	50.9	-17.8
0.556	6.4	20.7	27.1	46.0	-18.9
0.898	6.1	20.7	26.8	46.0	-19.2
0.623	5.7	20.8	26.5	46.0	-19.5
0.730	5.5	20.8	26.3	46.0	-19.7
1.101	5.2	20.7	25.9	46.0	-20.1
1.795	5.2	20.7	25.9	46.0	-20.1
1.313	5.0	20.7	25.7	46.0	-20.3
1.943	4.7	20.7	25.4	46.0	-20.6
3.307	4.5	20.9	25.4	46.0	-20.6
3.533	4.5	20.9	25.4	46.0	-20.6
2.365	4.6	20.7	25.3	46.0	-20.7
4.274	4.4	20.9	25.3	46.0	-20.7
0.402	6.3	20.6	26.9	47.8	-20.9
24.000	6.3	22.3	28.6	50.0	-21.4
11.803	6.6	21.4	28.0	50.0	-22.0
0.330	6.6	20.6	27.2	49.5	-22.3
29.737	4.7	22.9	27.6	50.0	-22.4
19.911	3.9	21.8	25.7	50.0	-24.3
0.223	7.5	20.8	28.3	52.7	-24.4
14.747	4.1	21.5	25.6	50.0	-24.4
11.072	4.1	21.2	25.3	50.0	-24.7
5.203	4.3	20.9	25.2	50.0	-24.8
7.245	4.2	21.0	25.2	50.0	-24.8
8.826	4.1	21.1	25.2	50.0	-24.8

CONCLUSION

Pass



Tested By

POWERLINE CONDUCTED EMISSIONS



EUT:	3144S / 4051S	Work Order:	EMPM0201
Serial Number:	1121	Date:	2025-06-17
Customer:	Emerson / Rosemount Inc.	Temperature:	22.6°C
Attendees:	Stacy Lukas	Relative Humidity:	55.5%
Customer Project:	None	Bar. Pressure (PMSL):	1010 mb
Tested By:	Arnauld Dedry	Job Site:	MN03
Power:	24VDC	Configuration:	EMPM0201-12

TEST PARAMETERS

Run #:	25	Line:	High Line	Add. Ext. Attenuation (dB):	0
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COMMENTS

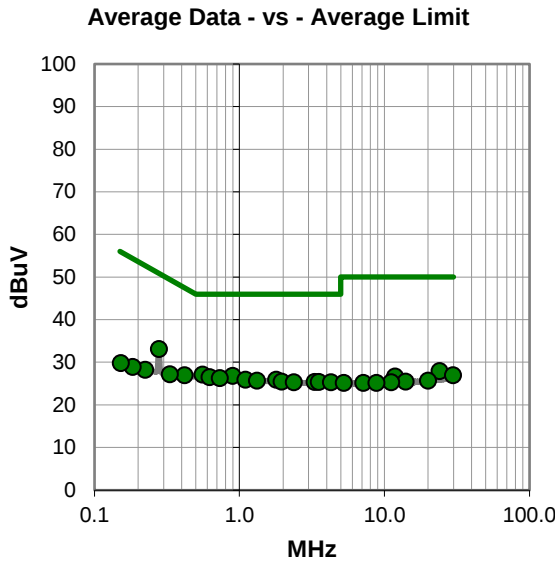
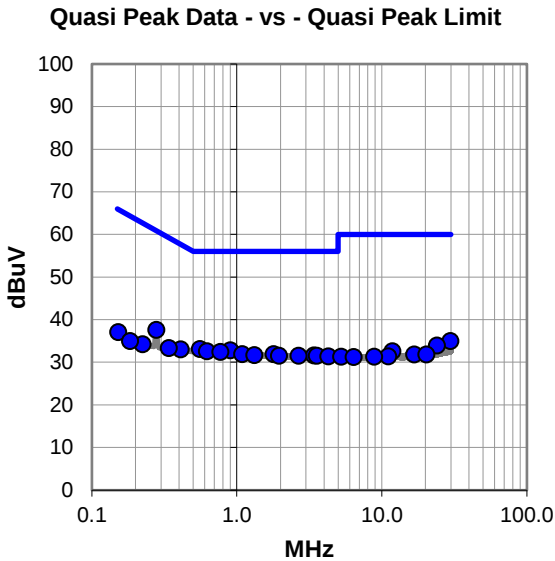
3144S Temperature Transmitter

EUT OPERATING MODES

BLE Radio Transmitting

DEVIATIONS FROM TEST STANDARD

None



POWERLINE CONDUCTED EMISSIONS

RESULTS - Run #25

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.554	12.4	20.7	33.1	56.0	-22.9
0.899	12.1	20.7	32.8	56.0	-23.2
0.278	17.0	20.6	37.6	60.9	-23.3
0.623	11.8	20.8	32.6	56.0	-23.4
0.768	11.6	20.8	32.4	56.0	-23.6
1.087	11.2	20.7	31.9	56.0	-24.1
1.795	11.2	20.7	31.9	56.0	-24.1
1.317	11.0	20.7	31.7	56.0	-24.3
3.400	10.7	20.9	31.6	56.0	-24.4
1.952	10.8	20.7	31.5	56.0	-24.5
2.663	10.8	20.7	31.5	56.0	-24.5
3.553	10.6	20.9	31.5	56.0	-24.5
4.276	10.5	20.9	31.4	56.0	-24.6
0.409	12.4	20.6	33.0	57.7	-24.7
29.737	12.1	22.9	35.0	60.0	-25.0
0.339	12.7	20.6	33.3	59.2	-25.9
24.001	11.6	22.3	33.9	60.0	-26.1
11.801	11.2	21.4	32.6	60.0	-27.4
16.739	10.1	21.7	31.8	60.0	-28.2
20.314	9.9	21.9	31.8	60.0	-28.2
0.223	13.4	20.8	34.2	62.7	-28.5
11.060	10.2	21.2	31.4	60.0	-28.6
5.245	10.4	20.9	31.3	60.0	-28.7
8.858	10.2	21.1	31.3	60.0	-28.7
6.375	10.3	20.9	31.2	60.0	-28.8

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.278	12.5	20.6	33.1	50.9	-17.8
0.554	6.4	20.7	27.1	46.0	-18.9
0.898	6.1	20.7	26.8	46.0	-19.2
0.621	5.7	20.8	26.5	46.0	-19.5
0.731	5.5	20.8	26.3	46.0	-19.7
1.096	5.2	20.7	25.9	46.0	-20.1
1.795	5.2	20.7	25.9	46.0	-20.1
1.320	5.0	20.7	25.7	46.0	-20.3
0.419	6.3	20.7	27.0	47.5	-20.5
1.952	4.8	20.7	25.5	46.0	-20.5
3.304	4.5	20.9	25.4	46.0	-20.6
3.514	4.5	20.9	25.4	46.0	-20.6
2.365	4.6	20.7	25.3	46.0	-20.7
4.273	4.4	20.9	25.3	46.0	-20.7
24.000	5.6	22.3	27.9	50.0	-22.1
0.330	6.6	20.6	27.2	49.5	-22.3
29.737	4.1	22.9	27.0	50.0	-23.0
11.801	5.3	21.4	26.7	50.0	-23.3
19.926	3.9	21.8	25.7	50.0	-24.3
0.223	7.4	20.8	28.2	52.7	-24.5
14.018	4.1	21.4	25.5	50.0	-24.5
11.153	4.0	21.3	25.3	50.0	-24.7
5.236	4.3	20.9	25.2	50.0	-24.8
7.146	4.2	21.0	25.2	50.0	-24.8
8.817	4.1	21.1	25.2	50.0	-24.8

CONCLUSION

Pass



Tested By

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	2025-02-03	2026-02-03
Power Supply - DC	EZ Digital Co., Ltd.	GP-4030D	TQK	NCR	NCR

DTS BANDWIDTH (6 dB)



EUT:	RM2642	Work Order:	EMPM0201
Serial Number:	1120	Date:	2025-04-28
Customer:	Emerson / Rosemount Inc.	Temperature:	22.4°C
Attendees:	Daniel Wolf, Stacy Lukas	Relative Humidity:	35.5%
Customer Project:	None	Bar. Pressure (PMSL):	1016 mbar
Tested By:	Arnauld Dedry	Job Site:	MN11
Power:	24VDC	Configuration:	EMPM0201-4

COMMENTS

The Rosemount RM2642 Radio Module was tested in the host Rosemount 3144S Temperature Transmitter.

DEVIATIONS FROM TEST STANDARD

None

CONCLUSION

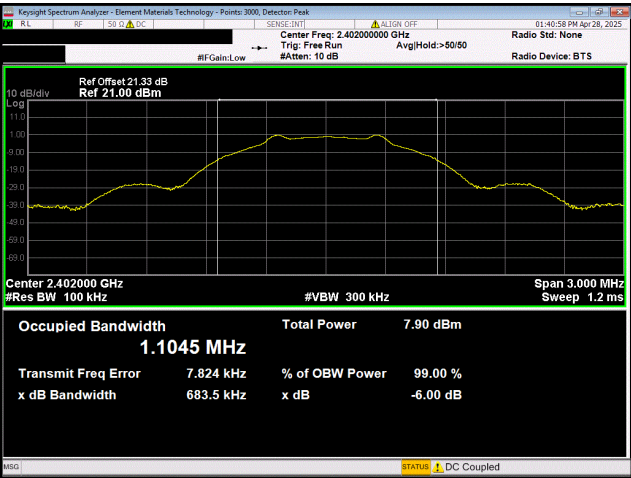
Pass

Tested By

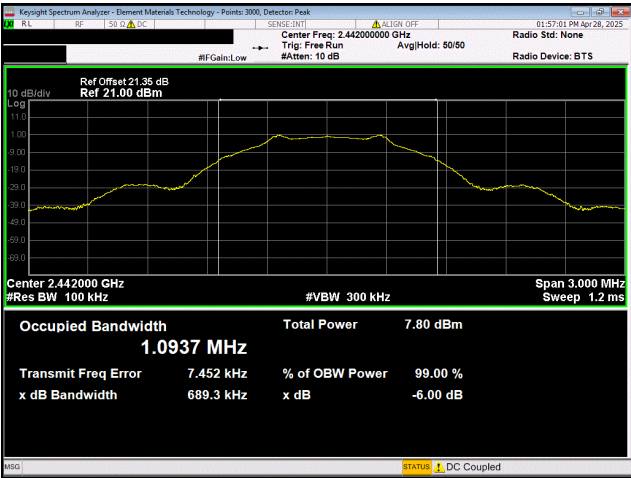
TEST RESULTS

		Value	Limit (≥)	Result
BLE/GFSK 1 Mbps				
	Low Channel, 2402 MHz	683.535 kHz	500 kHz	Pass
	Mid Channel, 2442 MHz	689.302 kHz	500 kHz	Pass
	High Channel, 2480 MHz	687.606 kHz	500 kHz	Pass
BLE/GFSK 2 Mbps				
	Low Channel, 2402 MHz	1.371 MHz	500 kHz	Pass
	Mid Channel, 2442 MHz	1.346 MHz	500 kHz	Pass
	High Channel, 2480 MHz	1.341 MHz	500 kHz	Pass

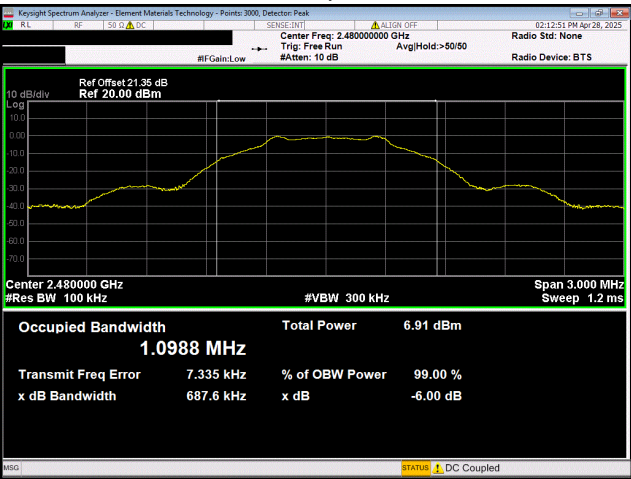
DTS BANDWIDTH (6 dB)



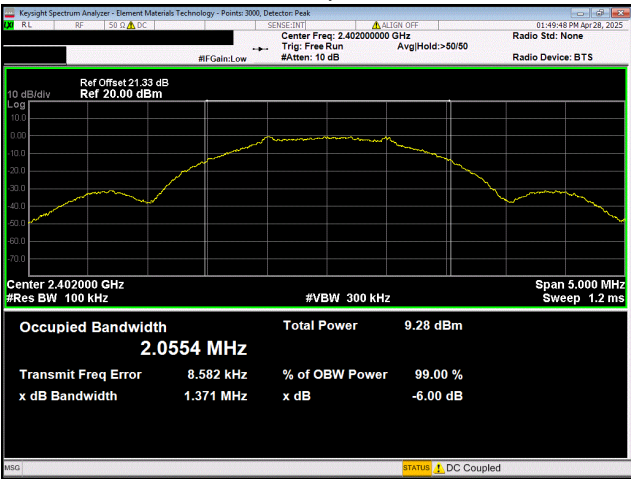
BLE/GFSK 1 Mbps
Low Channel, 2402 MHz



BLE/GFSK 1 Mbps
Mid Channel, 2442 MHz

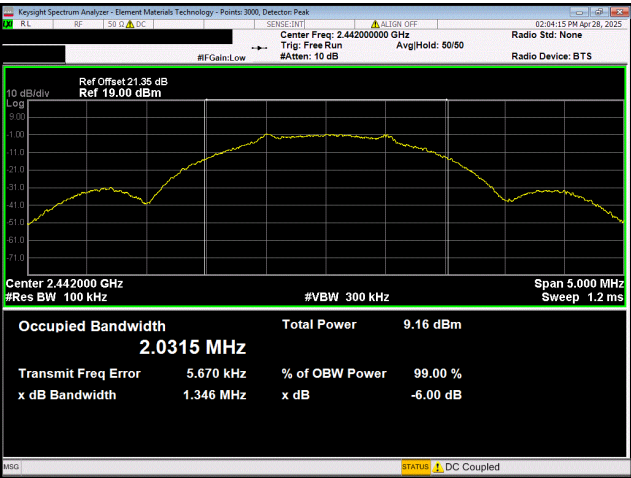


BLE/GFSK 1 Mbps
High Channel, 2480 MHz

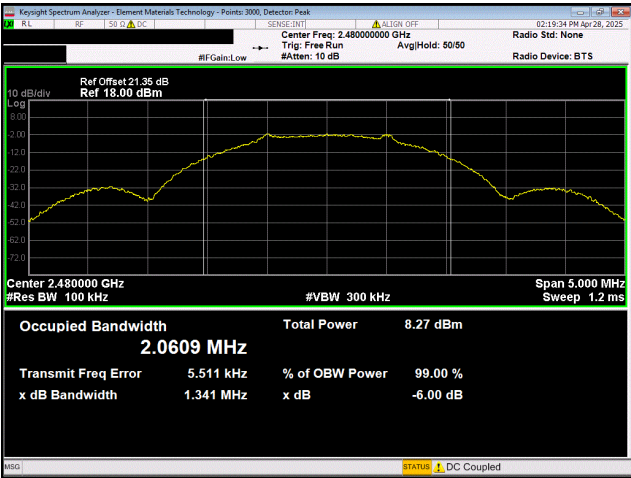


BLE/GFSK 2 Mbps
Low Channel, 2402 MHz

DTS BANDWIDTH (6 dB)



BLE/GFSK 2 Mbps
Mid Channel, 2442 MHz



BLE/GFSK 2 Mbps
High Channel, 2480 MHz

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 C63.10:2020, 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	2025-02-03	2026-02-03
Power Supply - DC	EZ Digital Co., Ltd.	GP-4030D	TQK	NCR	NCR

OCCUPIED BANDWIDTH (99%)



EUT:	RM2642	Work Order:	EMPM0201
Serial Number:	1120	Date:	2025-04-28
Customer:	Emerson / Rosemount Inc.	Temperature:	22.4°C
Attendees:	Daniel Wolf, Stacy Lukas	Relative Humidity:	35.5%
Customer Project:	None	Bar. Pressure (PMSL):	1016 mbar
Tested By:	Arnauld Dedry	Job Site:	MN11
Power:	24VDC	Configuration:	EMPM0201-4

COMMENTS

The Rosemount RM2642 Radio Module was tested in the host Rosemount 3144S Temperature Transmitter.

DEVIATIONS FROM TEST STANDARD

None

CONCLUSION

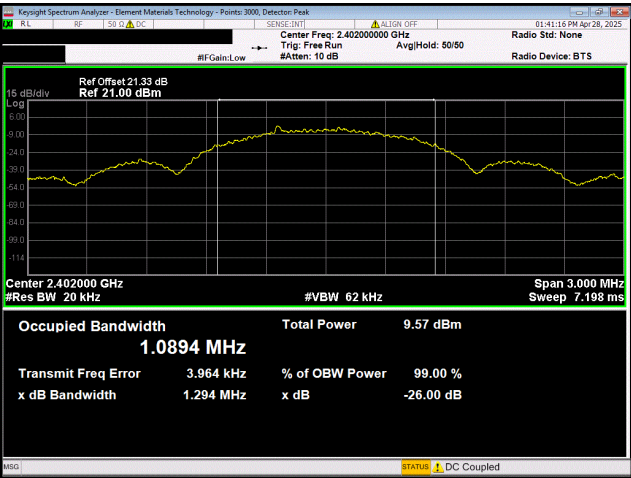
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Tested By

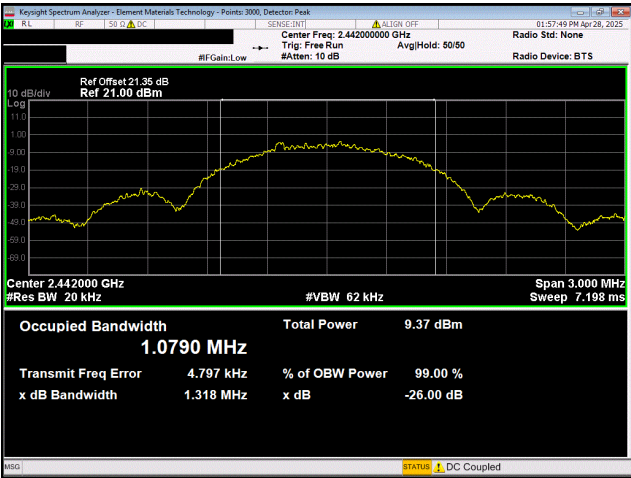
TEST RESULTS

		Value	Limit	Result
BLE/GFSK 1 Mbps				
	Low Channel, 2402 MHz	1.089 MHz	N/A	N/A
	Mid Channel, 2442 MHz	1.079 MHz	N/A	N/A
	High Channel, 2480 MHz	1.077 MHz	N/A	N/A
BLE/GFSK 2 Mbps				
	Low Channel, 2402 MHz	2.06 MHz	N/A	N/A
	Mid Channel, 2442 MHz	2.041 MHz	N/A	N/A
	High Channel, 2480 MHz	2.062 MHz	N/A	N/A

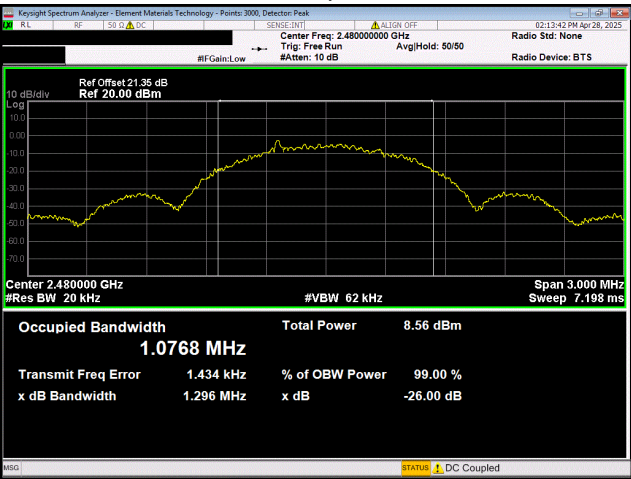
OCCUPIED BANDWIDTH (99%)



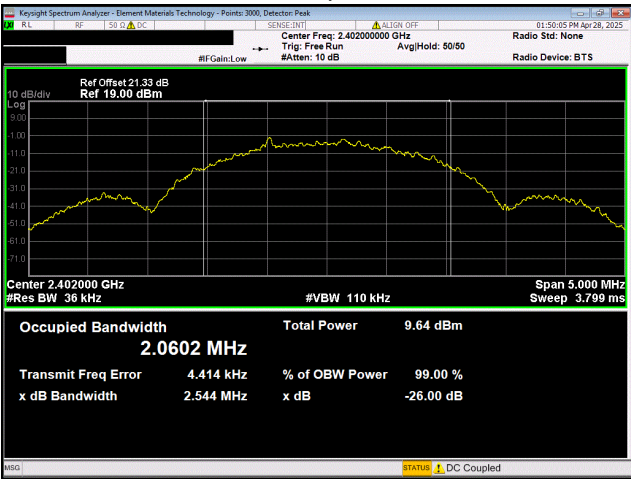
BLE/GFSK 1 Mbps
Low Channel, 2402 MHz



BLE/GFSK 1 Mbps
Mid Channel, 2442 MHz

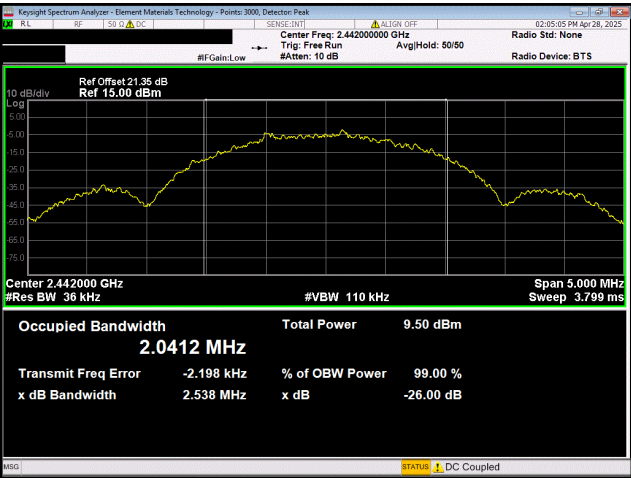


BLE/GFSK 1 Mbps
High Channel, 2480 MHz

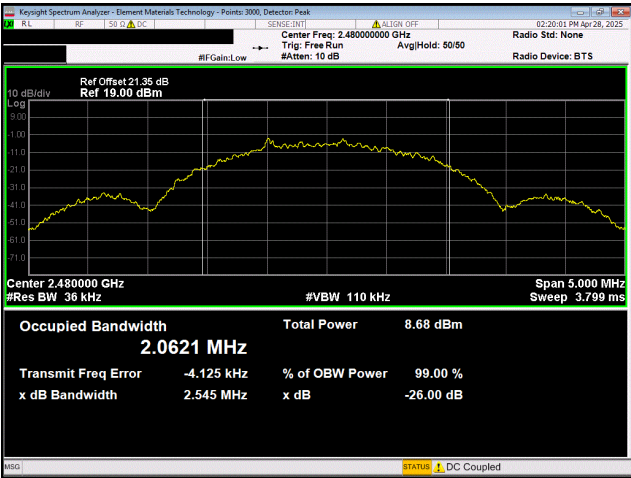


BLE/GFSK 2 Mbps
Low Channel, 2402 MHz

OCCUPIED BANDWIDTH (99%)



BLE/GFSK 2 Mbps
Mid Channel, 2442 MHz



BLE/GFSK 2 Mbps
High Channel, 2480 MHz

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 C63.10:2020 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	2025-02-03	2026-02-03
Power Supply - DC	EZ Digital Co., Ltd.	GP-4030D	TQK	NCR	NCR

OUTPUT POWER

EUT:	RM2642	Work Order:	EMPM0201
Serial Number:	1120	Date:	2025-04-28
Customer:	Emerson / Rosemount Inc.	Temperature:	22.4°C
Attendees:	Daniel Wolf, Stacy Lukas	Relative Humidity:	35.5%
Customer Project:	None	Bar. Pressure (PMSL):	1016 mbar
Tested By:	Arnauld Dedry	Job Site:	MN11
Power:	24VDC	Configuration:	EMPM0201-4

COMMENTS

The Rosemount RM2642 Radio Module was tested in the host Rosemount 3144S Temperature Transmitter.

DEVIATIONS FROM TEST STANDARD

None

CONCLUSION

Pass

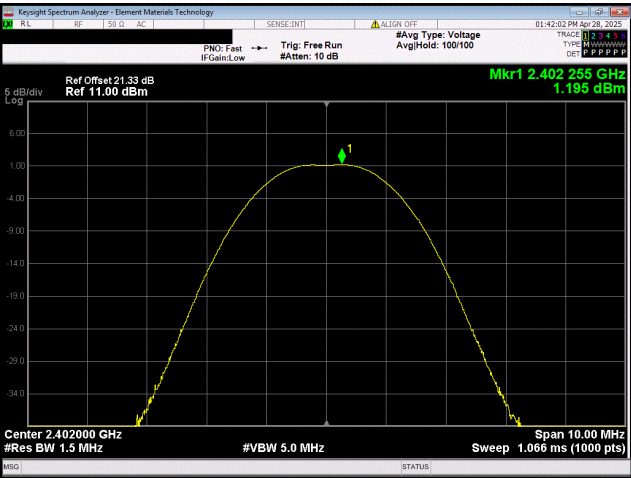


Tested By

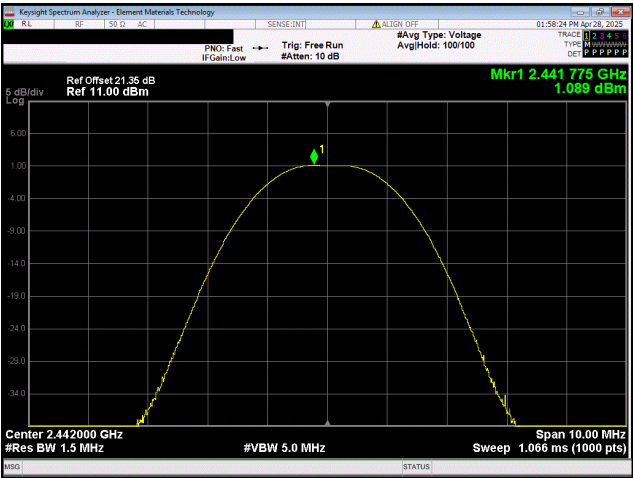
TEST RESULTS

		Out Pwr (dBm)	Limit (dBm)	Result
BLE/GFSK 1 Mbps				
	Low Channel, 2402 MHz	1.195	30	Pass
	Mid Channel, 2442 MHz	1.089	30	Pass
	High Channel, 2480 MHz	0.21	30	Pass
BLE/GFSK 2 Mbps				
	Low Channel, 2402 MHz	1.229	30	Pass
	Mid Channel, 2442 MHz	1.119	30	Pass
	High Channel, 2480 MHz	0.241	30	Pass

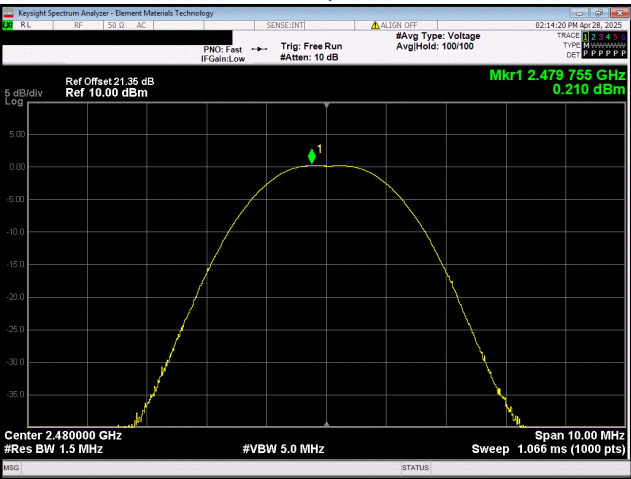
OUTPUT POWER



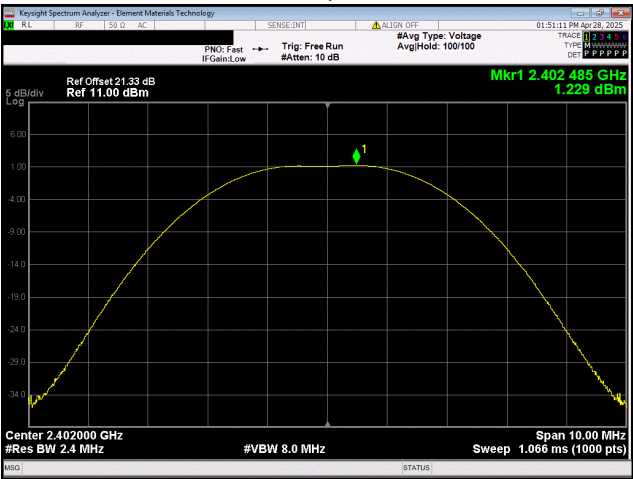
BLE/GFSK 1 Mbps
Low Channel, 2402 MHz



BLE/GFSK 1 Mbps
Mid Channel, 2442 MHz

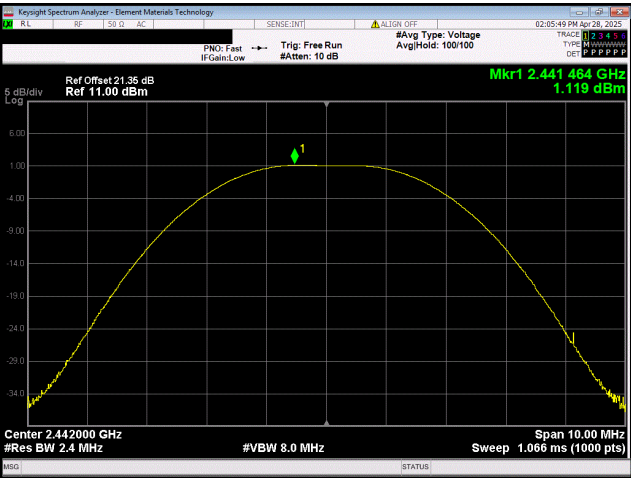


BLE/GFSK 1 Mbps
High Channel, 2480 MHz

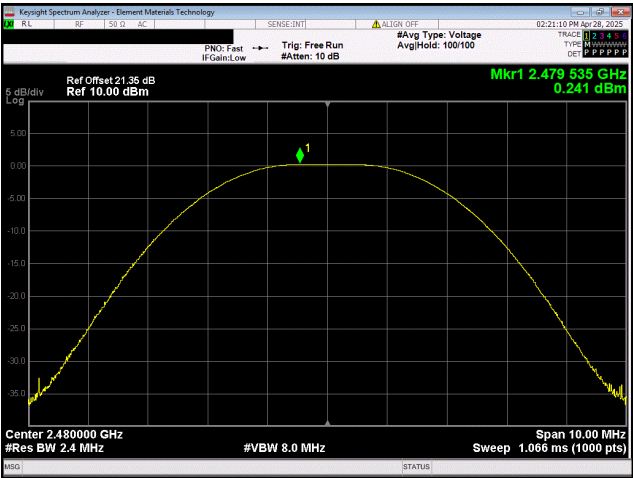


BLE/GFSK 2 Mbps
Low Channel, 2402 MHz

OUTPUT POWER



BLE/GFSK 2 Mbps
Mid Channel, 2442 MHz



BLE/GFSK 2 Mbps
High Channel, 2480 MHz

EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)



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 C63.10:2020 Section 11.9.1.1 was used because the RBW on the analyzer was greater than the DTS Bandwidth of the radio.

Equivalent Isotropic Radiated Power (EIRP) = Max Measured Power + Antenna gain (dBi)

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2024-05-22	2025-05-22
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	2025-02-03	2026-02-03
Power Supply - DC	EZ Digital Co., Ltd.	GP-4030D	TQK	NCR	NCR

EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)



EUT:	RM2642	Work Order:	EMPM0201
Serial Number:	1120	Date:	2025-04-28
Customer:	Emerson / Rosemount Inc.	Temperature:	22.4°C
Attendees:	Daniel Wolf, Stacy Lukas	Relative Humidity:	35.5%
Customer Project:	None	Bar. Pressure (PMSL):	1016 mbar
Tested By:	Arnauld Dedry	Job Site:	MN11
Power:	24VDC	Configuration:	EMPM0201-4

COMMENTS

The Rosemount RM2642 Radio Module was tested in the host Rosemount 3144S Temperature Transmitter.

DEVIATIONS FROM TEST STANDARD

None

CONCLUSION

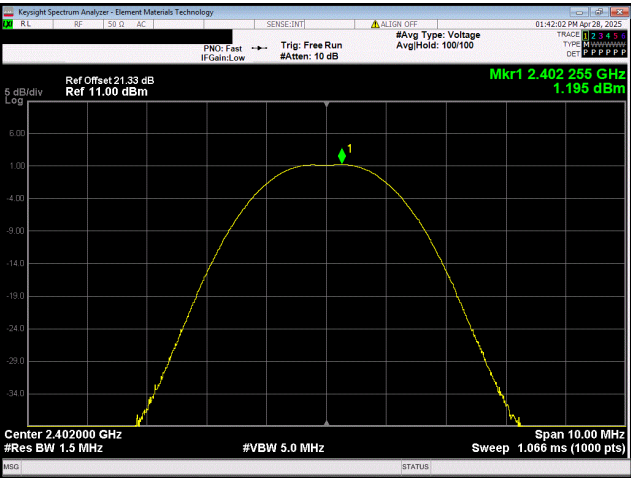
Pass

Tested By

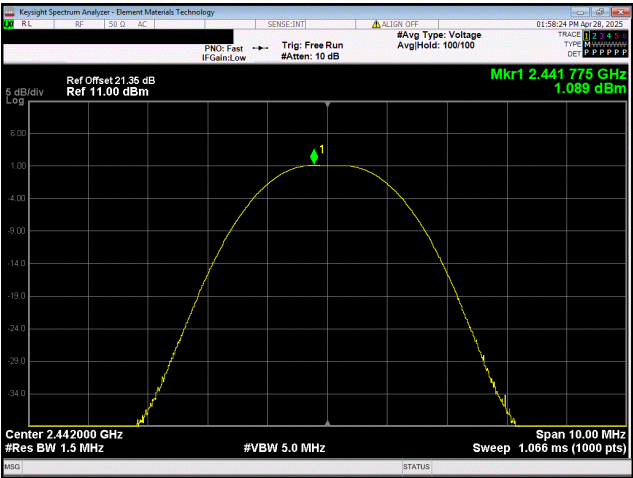
TEST RESULTS

	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
BLE/GFSK 1 Mbps					
Low Channel, 2402 MHz	1.195	-0.6	0.595	36	Pass
Mid Channel, 2442 MHz	1.089	-0.6	0.489	36	Pass
High Channel, 2480 MHz	0.21	-0.6	-0.39	36	Pass
BLE/GFSK 2 Mbps					
Low Channel, 2402 MHz	1.229	-0.6	0.629	36	Pass
Mid Channel, 2442 MHz	1.119	-0.6	0.519	36	Pass
High Channel, 2480 MHz	0.241	-0.6	-0.359	36	Pass

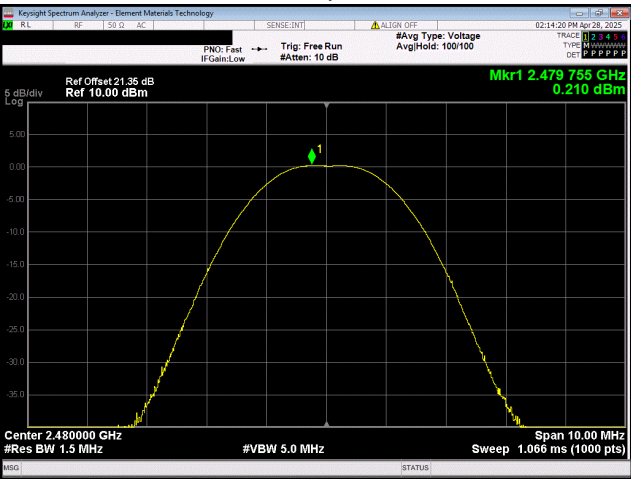
EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)



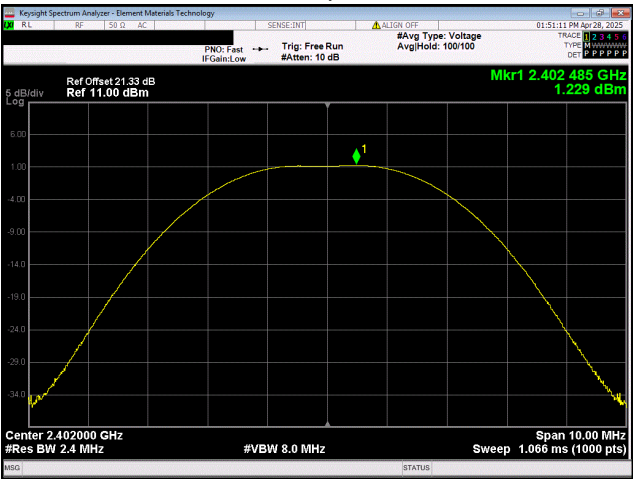
BLE/GFSK 1 Mbps
Low Channel, 2402 MHz



BLE/GFSK 1 Mbps
Mid Channel, 2442 MHz

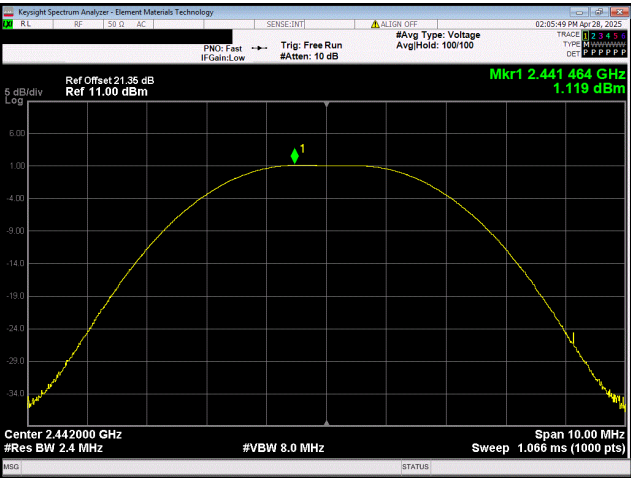


BLE/GFSK 1 Mbps
High Channel, 2480 MHz

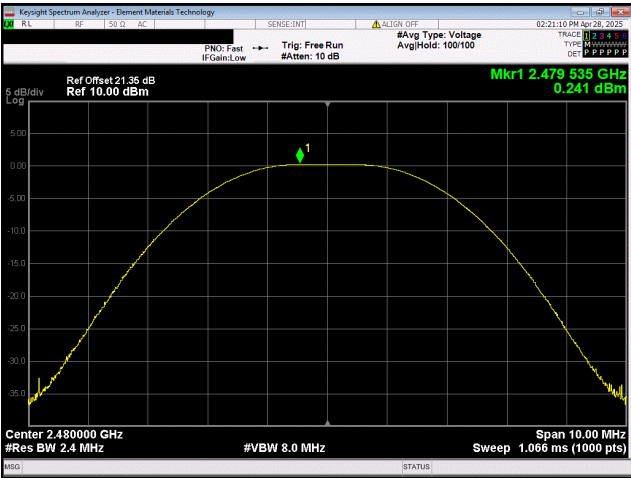


BLE/GFSK 2 Mbps
Low Channel, 2402 MHz

EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)



BLE/GFSK 2 Mbps
Mid Channel, 2442 MHz



BLE/GFSK 2 Mbps
High Channel, 2480 MHz

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	2025-02-03	2026-02-03
Power Supply - DC	EZ Digital Co., Ltd.	GP-4030D	TQK	NCR	NCR

POWER SPECTRAL DENSITY

EUT:	RM2642	Work Order:	EMPM0201
Serial Number:	1120	Date:	2025-04-28
Customer:	Emerson / Rosemount Inc.	Temperature:	22.4°C
Attendees:	Daniel Wolf, Stacy Lukas	Relative Humidity:	35.6%
Customer Project:	None	Bar. Pressure (PMSL):	1016 mbar
Tested By:	Arnauld Dedry	Job Site:	MN11
Power:	24VDC	Configuration:	EMPM0201-4

COMMENTS

The Rosemount RM2642 Radio Module was tested in the host Rosemount 3144S Temperature Transmitter.

DEVIATIONS FROM TEST STANDARD

None

CONCLUSION

Pass

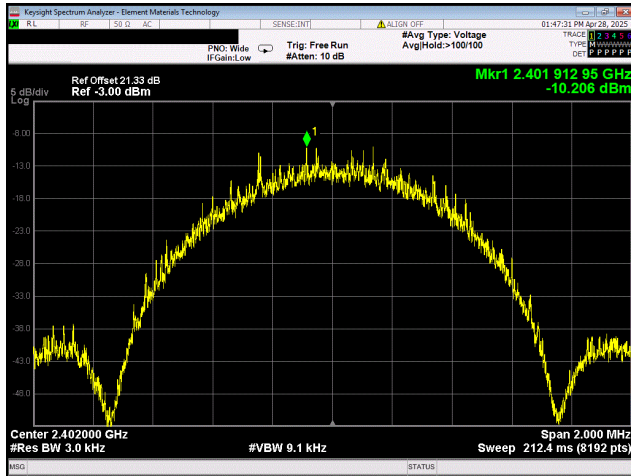


Tested By

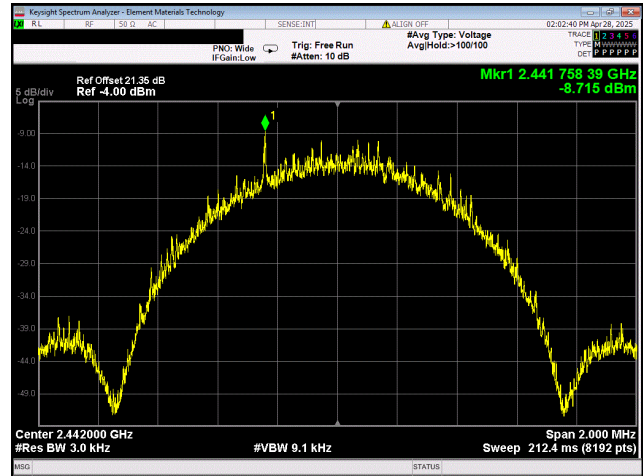
TEST RESULTS

		Value dBm/3kHz	Limit ≤ (dBm/3kHz)	Results
BLE/GFSK 1 Mbps				
	Low Channel, 2402 MHz	-10.206	8	Pass
	Mid Channel, 2442 MHz	-8.715	8	Pass
	High Channel, 2480 MHz	-9.318	8	Pass
BLE/GFSK 2 Mbps				
	Low Channel, 2402 MHz	-11.61	8	Pass
	Mid Channel, 2442 MHz	-12.128	8	Pass
	High Channel, 2480 MHz	-13.39	8	Pass

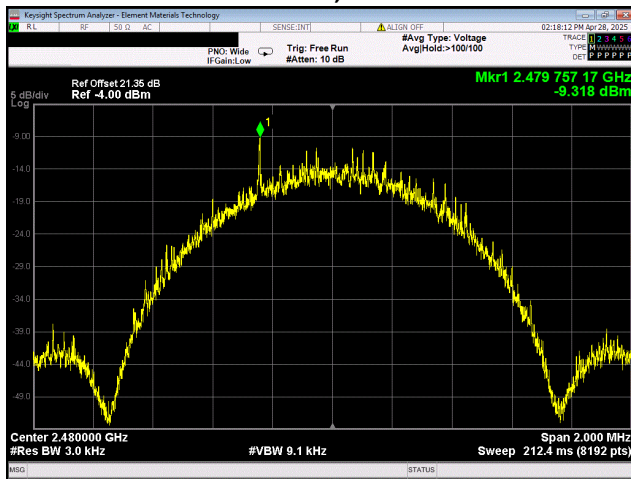
POWER SPECTRAL DENSITY



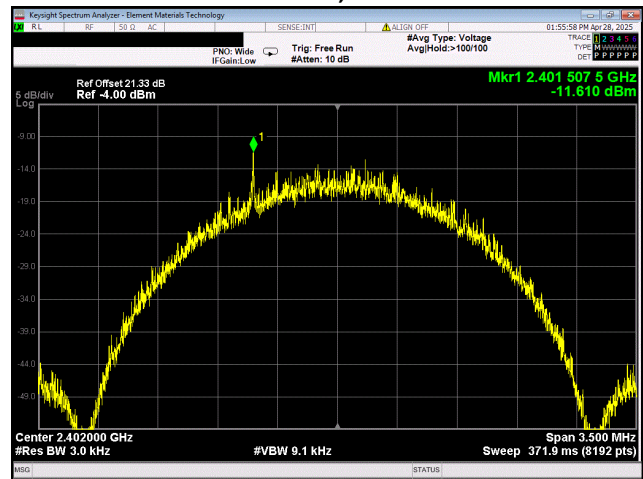
BLE/GFSK 1 Mbps
Low Channel, 2402 MHz



BLE/GFSK 1 Mbps
Mid Channel, 2442 MHz

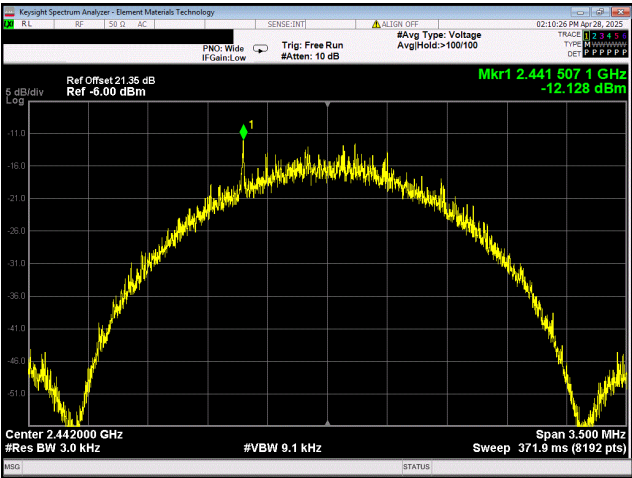


BLE/GFSK 1 Mbps
High Channel, 2480 MHz

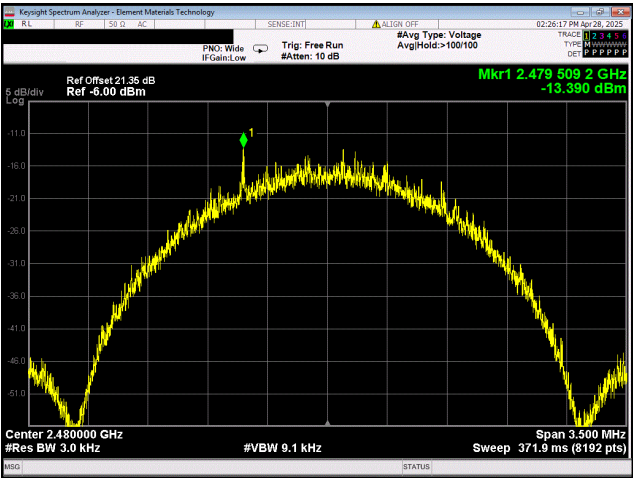


BLE/GFSK 2 Mbps
Low Channel, 2402 MHz

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
Power Supply - DC	EZ Digital Co., Ltd.	GP-4030D	TQK	NCR	NCR
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	2025-02-03	2026-02-03

BAND EDGE COMPLIANCE

EUT:	RM2642	Work Order:	EMPM0201
Serial Number:	1120	Date:	2025-04-28
Customer:	Emerson / Rosemount Inc.	Temperature:	22.4°C
Attendees:	Daniel Wolf, Stacy Lukas	Relative Humidity:	35.6%
Customer Project:	None	Bar. Pressure (PMSL):	1016 mbar
Tested By:	Arnauld Dedry	Job Site:	MN11
Power:	24VDC	Configuration:	EMPM0201-4

COMMENTS

The Rosemount RM2642 Radio Module was tested in the host Rosemount 3144S Temperature Transmitter.

DEVIATIONS FROM TEST STANDARD

None

CONCLUSION

Pass

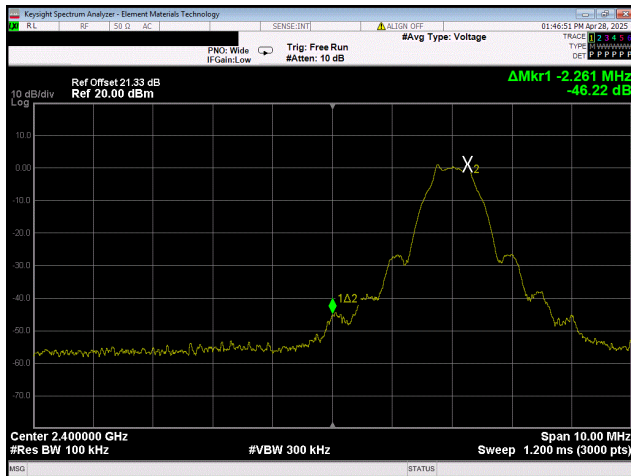


Tested By

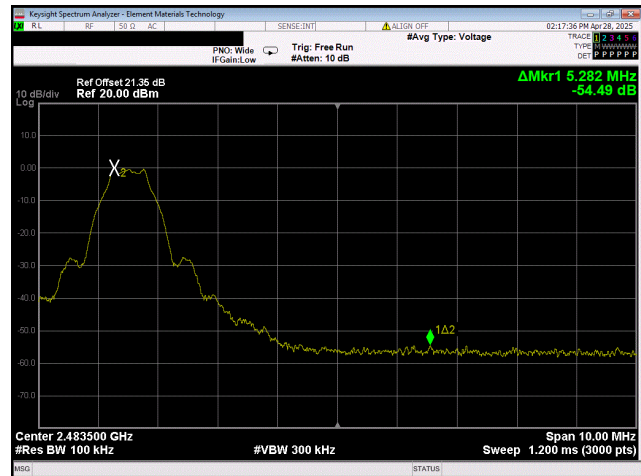
TEST RESULTS

		Value (dBc)	Limit ≤ (dBc)	Result
BLE/GFSK 1 Mbps				
	Low Channel, 2402 MHz	-46.22	-20	Pass
	High Channel, 2480 MHz	-54.49	-20	Pass
BLE/GFSK 2 Mbps				
	Low Channel, 2402 MHz	-33.08	-20	Pass
	High Channel, 2480 MHz	-50.91	-20	Pass

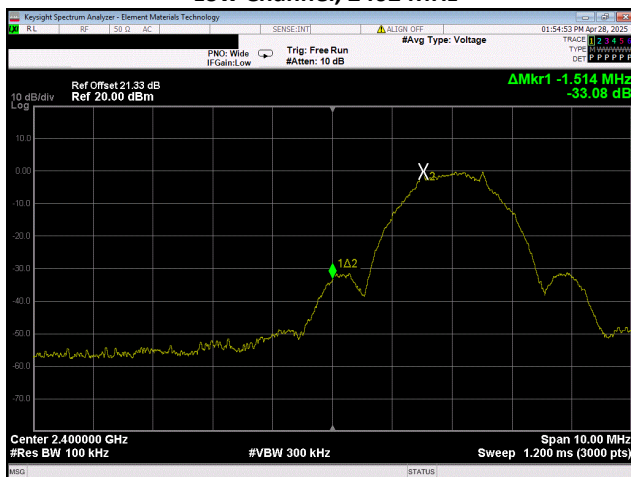
BAND EDGE COMPLIANCE



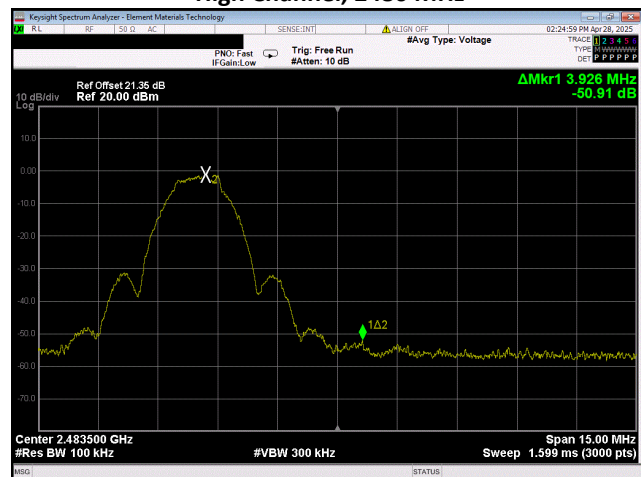
BLE/GFSK 1 Mbps
Low Channel, 2402 MHz



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
Power Supply - DC	EZ Digital Co., Ltd.	GP-4030D	TQK	NCR	NCR
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	2025-02-03	2026-02-03

SPURIOUS CONDUCTED EMISSIONS

EUT:	RM2642	Work Order:	EMPM0201
Serial Number:	1120	Date:	2025-04-28
Customer:	Emerson / Rosemount Inc.	Temperature:	22.4°C
Attendees:	Daniel Wolf, Stacy Lukas	Relative Humidity:	35.6%
Customer Project:	None	Bar. Pressure (PMSL):	1016 mbar
Tested By:	Arnauld Dedry	Job Site:	MN11
Power:	24VDC	Configuration:	EMPM0201-4

COMMENTS

The Rosemount RM2642 Radio Module was tested in the host Rosemount 3144S Temperature Transmitter.

DEVIATIONS FROM TEST STANDARD

None

CONCLUSION

Pass

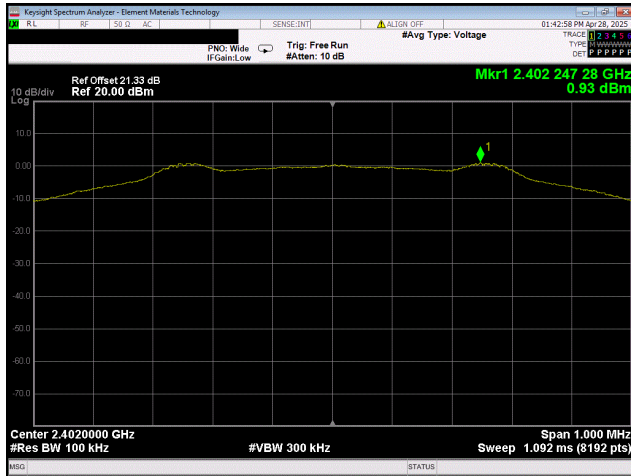


Tested By

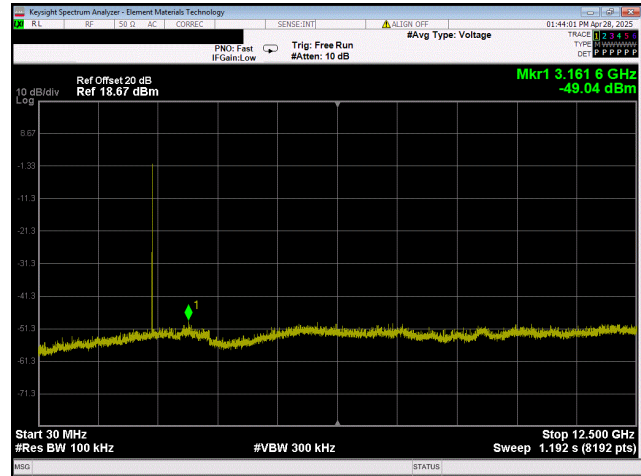
TEST RESULTS

	Frequency Range	Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
BLE/GFSK 1 Mbps					
Low Channel, 2402 MHz	Fundamental	2402.25	N/A	N/A	N/A
	30 MHz - 12.5 GHz	3161.58	-49.97	-20	Pass
	12.5 GHz - 25 GHz	24786.35	-37.93	-20	Pass
Mid Channel, 2442 MHz	Fundamental	2441.76	N/A	N/A	N/A
	30 MHz - 12.5 GHz	12180.3	-49.89	-20	Pass
	12.5 GHz - 25 GHz	24838.24	-37.95	-20	Pass
High Channel, 2480 MHz	Fundamental	2479.76	N/A	N/A	N/A
	30 MHz - 12.5 GHz	12017.4	-48.63	-20	Pass
	12.5 GHz - 25 GHz	24792.46	-37.29	-20	Pass
BLE/GFSK 2 Mbps					
Low Channel, 2402 MHz	Fundamental	2401.51	N/A	N/A	N/A
	30 MHz - 12.5 GHz	12165.07	-48.78	-20	Pass
	12.5 GHz - 25 GHz	24842.82	-36.66	-20	Pass
Mid Channel, 2442 MHz	Fundamental	2441.99	N/A	N/A	N/A
	30 MHz - 12.5 GHz	5652.23	-48.53	-20	Pass
	12.5 GHz - 25 GHz	24604.75	-36.25	-20	Pass
High Channel, 2480 MHz	Fundamental	2479.99	N/A	N/A	N/A
	30 MHz - 12.5 GHz	5493.9	-47.31	-20	Pass
	12.5 GHz - 25 GHz	24934.38	-35.17	-20	Pass

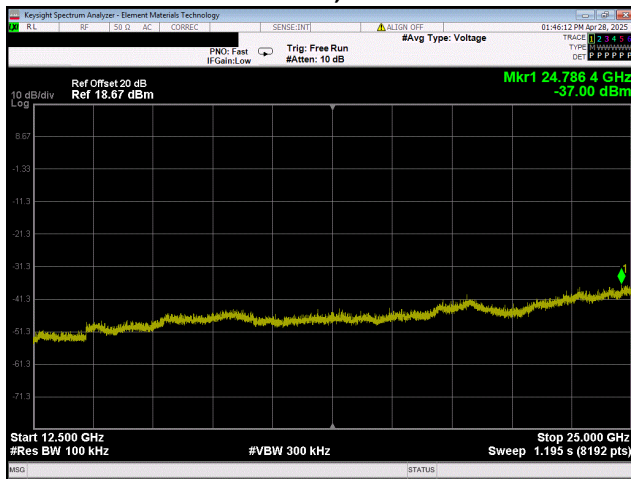
SPURIOUS CONDUCTED EMISSIONS



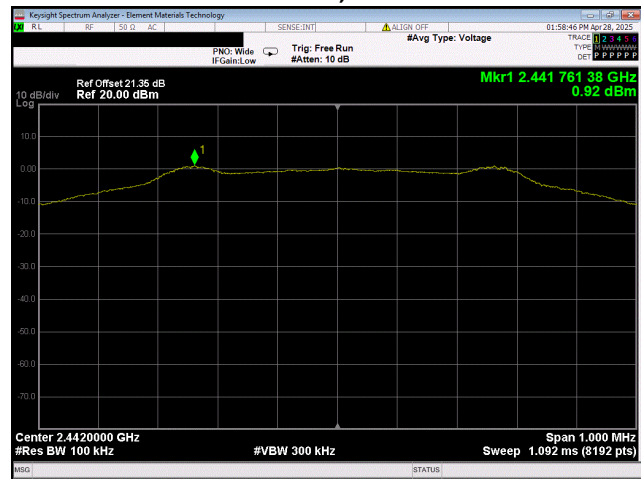
BLE/GFSK 1 Mbps
Low Channel, 2402 MHz



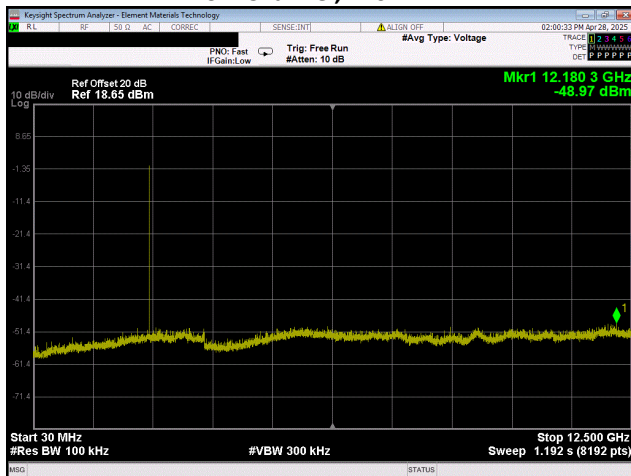
BLE/GFSK 1 Mbps
Low Channel, 2402 MHz



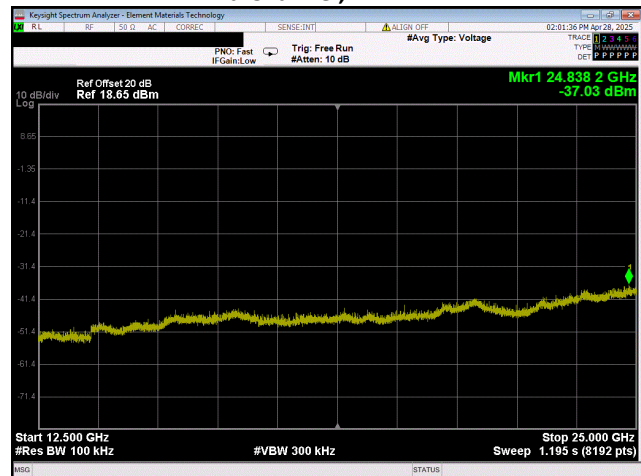
BLE/GFSK 1 Mbps
Low Channel, 2402 MHz



BLE/GFSK 1 Mbps
Mid Channel, 2442 MHz

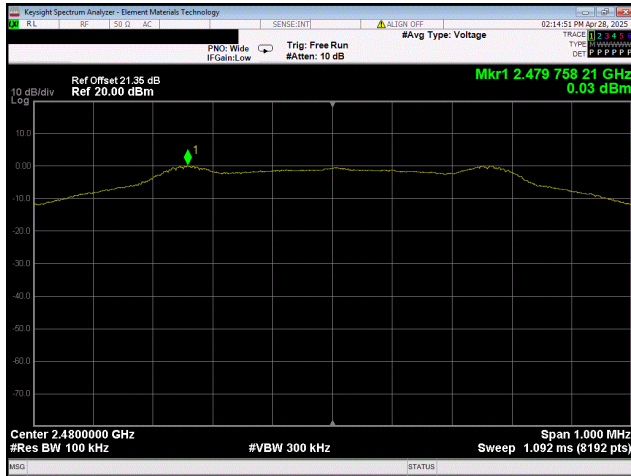


BLE/GFSK 1 Mbps
Mid Channel, 2442 MHz

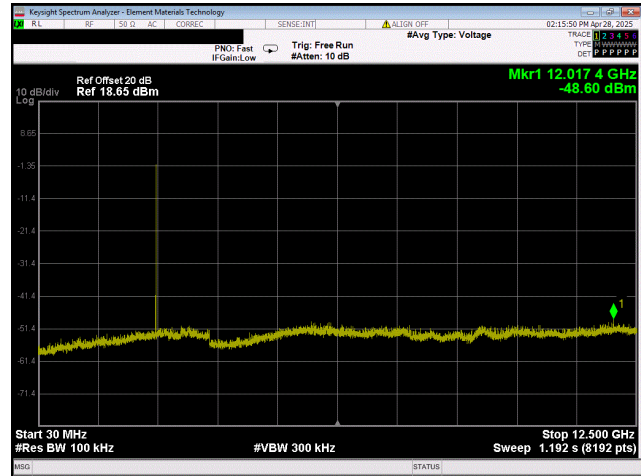


BLE/GFSK 1 Mbps
Mid Channel, 2442 MHz

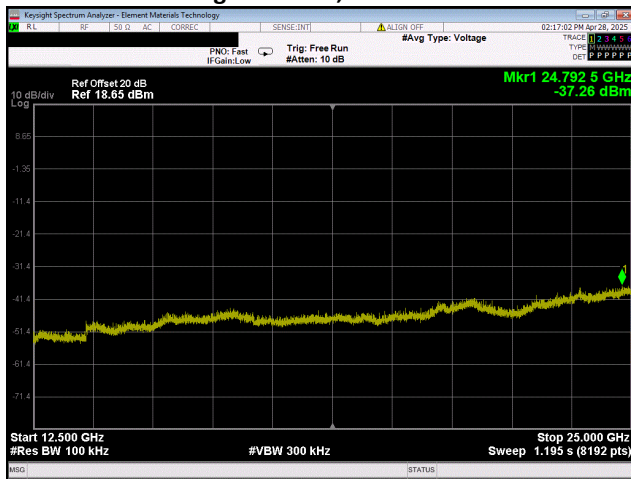
SPURIOUS CONDUCTED EMISSIONS



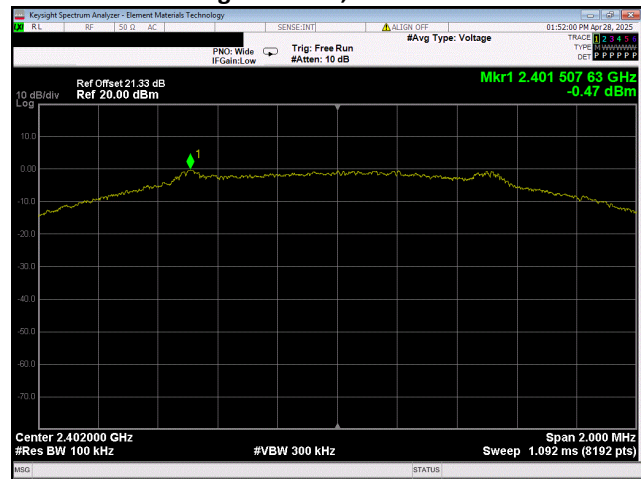
BLE/GFSK 1 Mbps
Low Channel, 2480 MHz



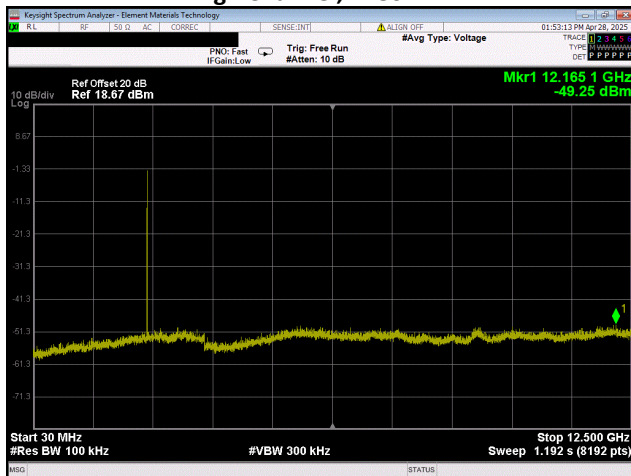
BLE/GFSK 1 Mbps
High Channel, 2480 MHz



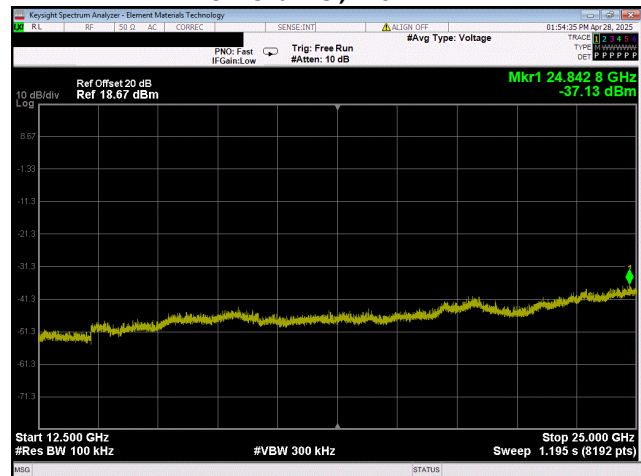
BLE/GFSK 1 Mbps
High Channel, 2480 MHz



BLE/GFSK 2 Mbps
Low Channel, 2402 MHz

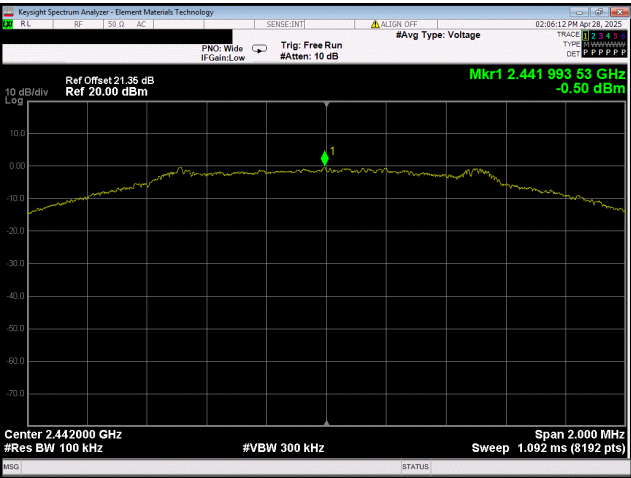


BLE/GFSK 2 Mbps
Low Channel, 2402 MHz

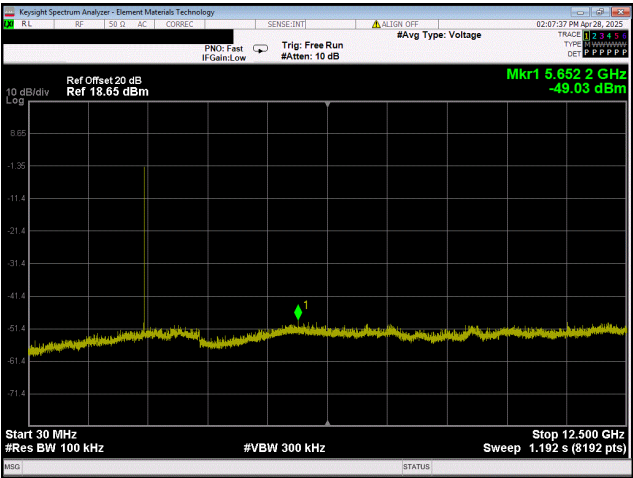


BLE/GFSK 2 Mbps
Low Channel, 2402 MHz

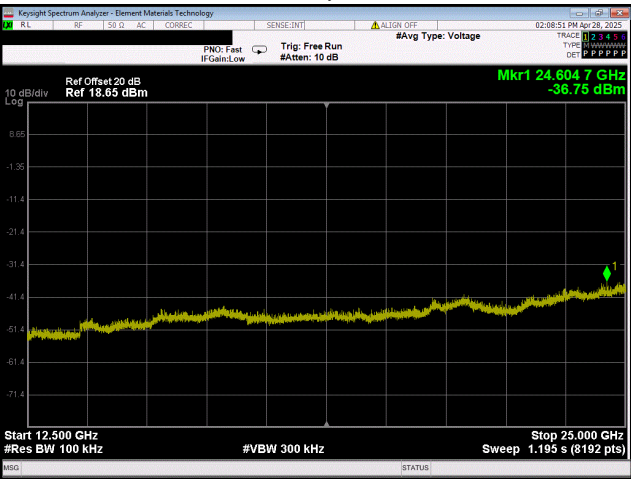
SPURIOUS CONDUCTED EMISSIONS



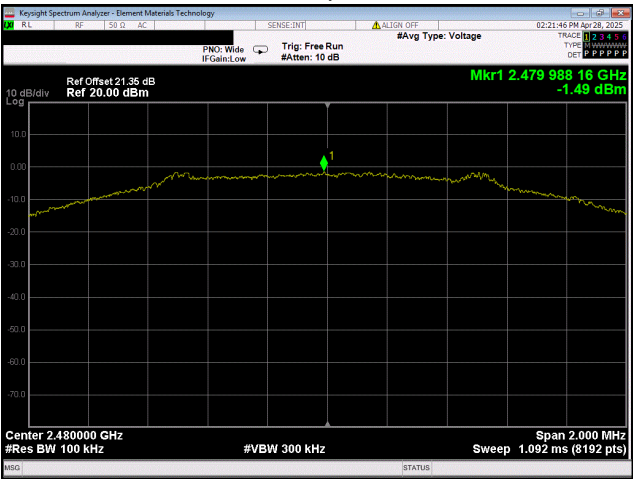
BLE/GFSK 2 Mbps
Mid Channel, 2442 MHz



BLE/GFSK 2 Mbps
Mid Channel, 2442 MHz

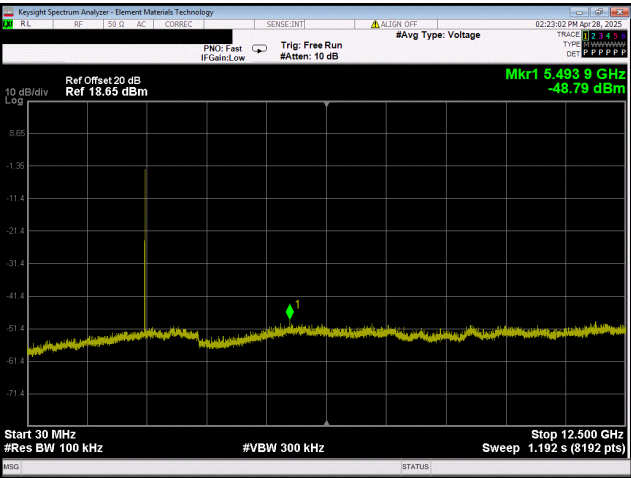


BLE/GFSK 2 Mbps
Mid Channel, 2442 MHz

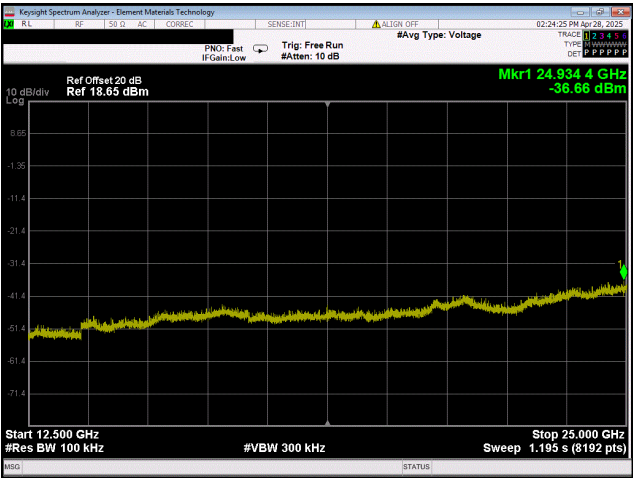


BLE/GFSK 2 Mbps
High Channel, 2480 MHz

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 $10 \cdot \log(1/dc)$.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Antenna - Loop	ETS Lindgren	6502	AOB	2023-06-12	2025-06-12
Cable	ESM Cable Corp.	Bilog Cables	MNH	2024-11-26	2025-11-26
Antenna - Double Ridge	ETS Lindgren	3115	AIP	2024-08-02	2026-08-02
Cable	ESM Cable Corp.	Double Ridge Guide Horn Cables	MNI	2024-11-26	2025-11-26
Amplifier - Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	AVT	2025-01-08	2026-01-08
Antenna - Standard Gain	ETS Lindgren	3160-07	AXP	NCR	NCR
Cable	ESM Cable Corp.	Standard Gain Horn Cables	MNJ	2024-11-26	2025-11-26
Amplifier - Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVV	2025-01-08	2026-01-08
Antenna - Standard Gain	ETS Lindgren	3160-08	AIQ	2025-02-04	2026-02-04
Amplifier - Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVW	2025-01-08	2026-01-08
Antenna - Standard Gain	ETS Lindgren	3160-09	AHG	2025-02-04	2026-02-04
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
Analyzer - Spectrum Analyzer	Agilent	E4446A	AAQ	2025-04-11	2026-04-11
Pre-Amplifier	Miteq	AM-1616-1000	AVO	2024-09-10	2025-09-10
Antenna - Biconilog	ETS Lindgren	3142D	AXO	2023-10-02	2025-10-02
Filter – Low Pass	Micro-Tronics	LPM50004	LFK	2024-08-25	2025-08-25
Power Supply - DC	EZ Digital Co., Ltd.	GP-4030D	TQK	NCR	NCR

SPURIOUS RADIATED EMISSIONS



FREQUENCY RANGE INVESTIGATED

9 kHz TO 25 GHz

POWER INVESTIGATED

24VDC

CONFIGURATIONS INVESTIGATED

EMPM0201-5
EMPM0201-6

MODES INVESTIGATED

Measuring Pressure, BLE Radio Transmitting, Low Ch 2402 MHz, 1 Mbps
Measuring Pressure, BLE Radio Transmitting, Low Ch 2402 MHz, Mid Ch 2442 MHz, High Ch 2480 MHz, 1 Mbps & 2Mbps
Measuring temperature, BLE Radio Transmitting, Low Ch 2402 MHz, 1 Mbps
Measuring temperature, BLE Radio Transmitting, Low Ch 2402 MHz, Mid Ch 2442 MHz, High Ch 2480 MHz, 1 Mbps & 2Mbps

SPURIOUS RADIATED EMISSIONS



EUT:	RM2642	Work Order:	EMPM0201
Serial Number:	1125	Date:	2025-04-29
Customer:	Emerson / Rosemount Inc.	Temperature:	23.5°C
Attendees:	Daniel Wolf, Stacy Lukas	Relative Humidity:	37.7%
Customer Project:	None	Bar. Pressure (PMSL):	1016 mb
Tested By:	Arnauld Dedry	Job Site:	MN05
Power:	24VDC	Configuration:	EMPM0201-6

TEST PARAMETERS

Run #:	24	Test Distance (m):	3	Ant. Height(s) (m):	1 to 4(m)
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COMMENTS

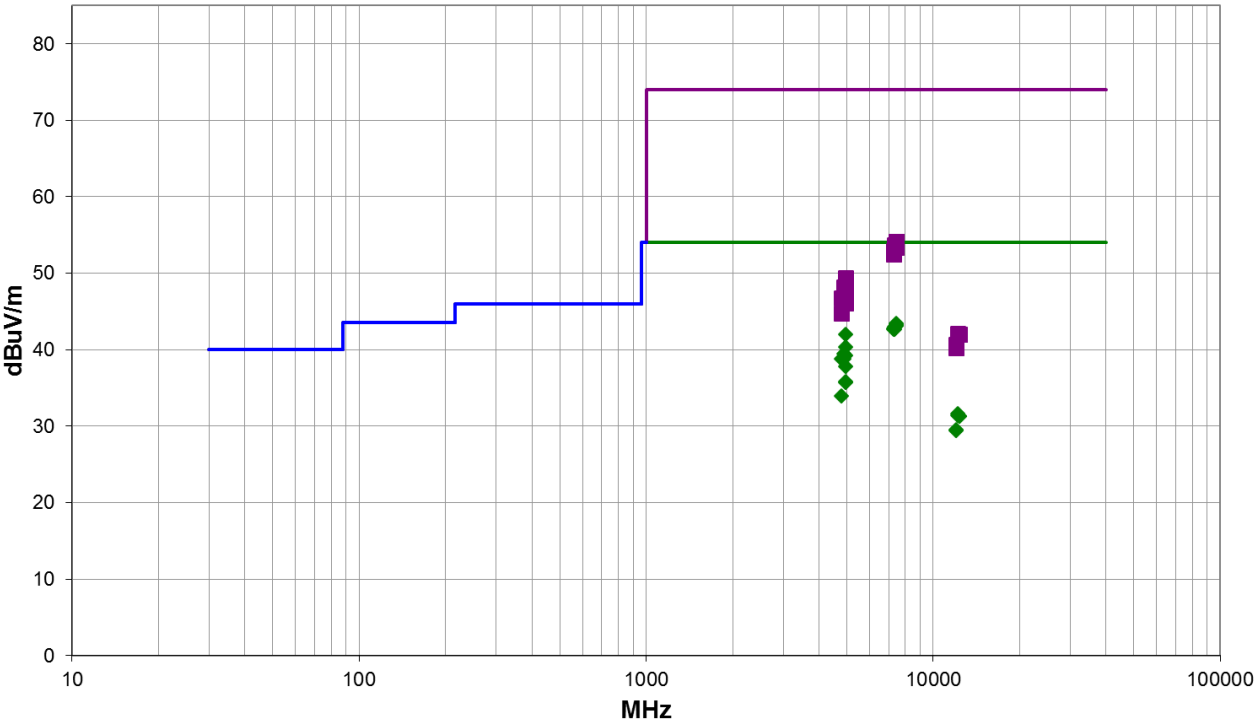
None

EUT OPERATING MODES

Measuring pressure, BLE Radio Transmitting, Low Ch 2402 MHz, Mid Ch 2442 MHz, High Ch 2480 MHz, 1 Mbps & 2Mbps
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DEVIATIONS FROM TEST STANDARD

None



Run #: 24

PK AV QP

SPURIOUS RADIATED EMISSIONS

RESULTS - Run #24

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
7441.350	29.7	13.7	1.5	162.0	3.0	0.0	Horz	AV	0.0	43.4	54.0	-10.6	Eut ON Side, High Ch, 2 Mbps
7441.342	29.6	13.7	1.5	286.9	3.0	0.0	Vert	AV	0.0	43.3	54.0	-10.7	Eut ON Side, High Ch, 2 Mbps
7440.208	29.5	13.7	2.4	202.0	3.0	0.0	Horz	AV	0.0	43.2	54.0	-10.8	Eut On Side, High Ch, 1 Mbps
7441.933	29.4	13.7	1.5	65.0	3.0	0.0	Vert	AV	0.0	43.1	54.0	-10.9	Eut On Side, High Ch, 1 Mbps
7327.142	29.7	13.2	3.4	177.0	3.0	0.0	Horz	AV	0.0	42.9	54.0	-11.1	Eut On Side, Mid Ch, 2 Mbps
7326.583	29.5	13.2	1.5	220.0	3.0	0.0	Horz	AV	0.0	42.7	54.0	-11.3	Eut On Side, Mid Ch, 1 Mbps
7327.917	29.4	13.2	1.5	294.9	3.0	0.0	Vert	AV	0.0	42.6	54.0	-11.4	Eut On Side, Mid Ch, 1 Mbps
7325.950	29.4	13.2	1.6	224.0	3.0	0.0	Vert	AV	0.0	42.6	54.0	-11.4	Eut On Side, Mid Ch, 2 Mbps
4960.058	36.1	5.9	2.5	239.0	3.0	0.0	Horz	AV	0.0	42.0	54.0	-12.0	Eut On Side, High Ch, 1 Mbps
4960.167	34.4	5.9	3.3	175.9	3.0	0.0	Vert	AV	0.0	40.3	54.0	-13.7	Eut On Side, High Ch, 1 Mbps
4884.083	34.0	5.4	4.0	156.9	3.0	0.0	Vert	AV	0.0	39.4	54.0	-14.6	Eut On Side, Mide Ch, 1 Mbps
4959.992	33.3	5.9	1.5	166.0	3.0	0.0	Horz	AV	0.0	39.2	54.0	-14.8	Eut Horz, High Ch, 1 Mbps
4884.192	33.4	5.4	2.6	203.9	3.0	0.0	Horz	AV	0.0	38.8	54.0	-15.2	Eut On Side, Mide Ch, 1 Mbps
4804.050	34.0	4.7	2.7	198.0	3.0	0.0	Horz	AV	0.0	38.7	54.0	-15.3	Eut On Side, Low Ch, 1 Mbps
4959.833	31.9	5.9	1.5	315.0	3.0	0.0	Vert	AV	0.0	37.8	54.0	-16.2	Eut Vert, High Ch, 1 Mbps
4960.033	29.9	5.9	1.7	77.0	3.0	0.0	Horz	AV	0.0	35.8	54.0	-18.2	Eut Vert, High Ch, 1 Mbps
4959.700	29.8	5.9	1.5	99.0	3.0	0.0	Vert	AV	0.0	35.7	54.0	-18.3	Eut Horz, High Ch, 1 Mbps
7441.267	40.4	13.7	1.5	65.0	3.0	0.0	Vert	PK	0.0	54.1	74.0	-19.9	Eut On Side, High Ch, 1 Mbps
7440.342	40.4	13.7	1.5	162.0	3.0	0.0	Horz	PK	0.0	54.1	74.0	-19.9	Eut ON Side, High Ch, 2 Mbps
7441.925	40.4	13.7	1.5	286.9	3.0	0.0	Vert	PK	0.0	54.1	74.0	-19.9	Eut ON Side, High Ch, 2 Mbps
4804.267	29.2	4.7	1.5	310.0	3.0	0.0	Vert	AV	0.0	33.9	54.0	-20.1	Eut On Side, Low Ch, 1 Mbps
7327.442	40.4	13.2	3.4	177.0	3.0	0.0	Horz	PK	0.0	53.6	74.0	-20.4	Eut On Side, Mid Ch, 2 Mbps
7442.100	39.6	13.7	2.4	202.0	3.0	0.0	Horz	PK	0.0	53.3	74.0	-20.7	Eut On Side, High Ch, 1 Mbps
7325.650	39.7	13.2	1.5	294.9	3.0	0.0	Vert	PK	0.0	52.9	74.0	-21.1	Eut On Side, Mid Ch, 1 Mbps
7324.400	39.4	13.2	1.6	224.0	3.0	0.0	Vert	PK	0.0	52.6	74.0	-21.4	Eut On Side, Mid Ch, 2 Mbps
7324.917	39.2	13.2	1.5	220.0	3.0	0.0	Horz	PK	0.0	52.4	74.0	-21.6	Eut On Side, Mid Ch, 1 Mbps
12208.980	32.7	-1.1	2.5	134.0	3.0	0.0	Horz	AV	0.0	31.6	54.0	-22.4	Eut On Side, Mid Ch, 1 Mbps
12208.870	32.5	-1.1	1.5	91.9	3.0	0.0	Vert	AV	0.0	31.4	54.0	-22.6	Eut On Side, Mid Ch, 1 Mbps
12398.200	31.6	-0.3	2.6	103.9	3.0	0.0	Horz	AV	0.0	31.3	54.0	-22.7	Eut On Side, High Ch, 1 Mbps
12398.020	31.6	-0.3	1.5	336.0	3.0	0.0	Vert	AV	0.0	31.3	54.0	-22.7	Eut On Side, High Ch, 1 Mbps
12008.800	31.9	-2.4	1.5	70.0	3.0	0.0	Horz	AV	0.0	29.5	54.0	-24.5	Eut ON Side, Low Ch, 1 Mbps
12007.700	31.9	-2.5	1.5	42.9	3.0	0.0	Vert	AV	0.0	29.4	54.0	-24.6	Eut ON Side, Low Ch, 1 Mbps
4960.117	43.4	5.9	2.5	239.0	3.0	0.0	Horz	PK	0.0	49.3	74.0	-24.7	Eut On Side, High Ch, 1 Mbps
4959.633	42.4	5.9	3.3	175.9	3.0	0.0	Vert	PK	0.0	48.3	74.0	-25.7	Eut On Side, High Ch, 1 Mbps
4884.925	42.7	5.4	4.0	156.9	3.0	0.0	Vert	PK	0.0	48.1	74.0	-25.9	Eut On Side, Mide Ch, 1 Mbps
4960.433	42.1	5.9	1.5	315.0	3.0	0.0	Vert	PK	0.0	48.0	74.0	-26.0	Eut Vert, High Ch, 1 Mbps
4959.408	42.0	5.9	1.5	166.0	3.0	0.0	Horz	PK	0.0	47.9	74.0	-26.1	Eut Horz, High Ch, 1 Mbps
4883.225	42.3	5.4	2.6	203.9	3.0	0.0	Horz	PK	0.0	47.7	74.0	-26.3	Eut On Side, Mide Ch, 1 Mbps
4960.550	40.9	5.9	1.7	77.0	3.0	0.0	Horz	PK	0.0	46.8	74.0	-27.2	Eut Vert, High Ch, 1 Mbps
4804.392	42.0	4.7	2.7	198.0	3.0	0.0	Horz	PK	0.0	46.7	74.0	-27.3	Eut On Side, Low Ch, 1 Mbps

SPURIOUS RADIATED EMISSIONS

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
4962.033	40.1	5.9	1.5	99.0	3.0	0.0	Vert	PK	0.0	46.0	74.0	-28.0	Eut Horz, High Ch, 1 Mbps
4802.100	40.0	4.7	1.5	310.0	3.0	0.0	Vert	PK	0.0	44.7	74.0	-29.3	Eut On Side, Low Ch, 1 Mbps
12208.560	43.2	-1.1	2.5	134.0	3.0	0.0	Horz	PK	0.0	42.1	74.0	-31.9	Eut On Side, Mid Ch, 1 Mbps
12398.300	42.3	-0.3	1.5	336.0	3.0	0.0	Vert	PK	0.0	42.0	74.0	-32.0	Eut On Side, High Ch, 1 Mbps
12210.250	43.1	-1.1	1.5	91.9	3.0	0.0	Vert	PK	0.0	42.0	74.0	-32.0	Eut On Side, Mid Ch, 1 Mbps
12398.000	42.2	-0.3	2.6	103.9	3.0	0.0	Horz	PK	0.0	41.9	74.0	-32.1	Eut On Side, High Ch, 1 Mbps
12011.130	43.0	-2.4	1.5	70.0	3.0	0.0	Horz	PK	0.0	40.6	74.0	-33.4	Eut ON Side, Low Ch, 1 Mbps
12009.600	42.6	-2.4	1.5	42.9	3.0	0.0	Vert	PK	0.0	40.2	74.0	-33.8	Eut ON Side, Low Ch, 1 Mbps

CONCLUSION
Pass


Tested By

SPURIOUS RADIATED EMISSIONS



EUT:	RM2642	Work Order:	EMPM0201
Serial Number:	1121	Date:	2025-04-29
Customer:	Emerson / Rosemount Inc.	Temperature:	23.5°C
Attendees:	Daniel Wolf, Stacy Lukas	Relative Humidity:	37.7%
Customer Project:	None	Bar. Pressure (PMSL):	1016 mb
Tested By:	Arnauld Dedry	Job Site:	MN05
Power:	24VDC	Configuration:	EMPM0201-5

TEST PARAMETERS

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

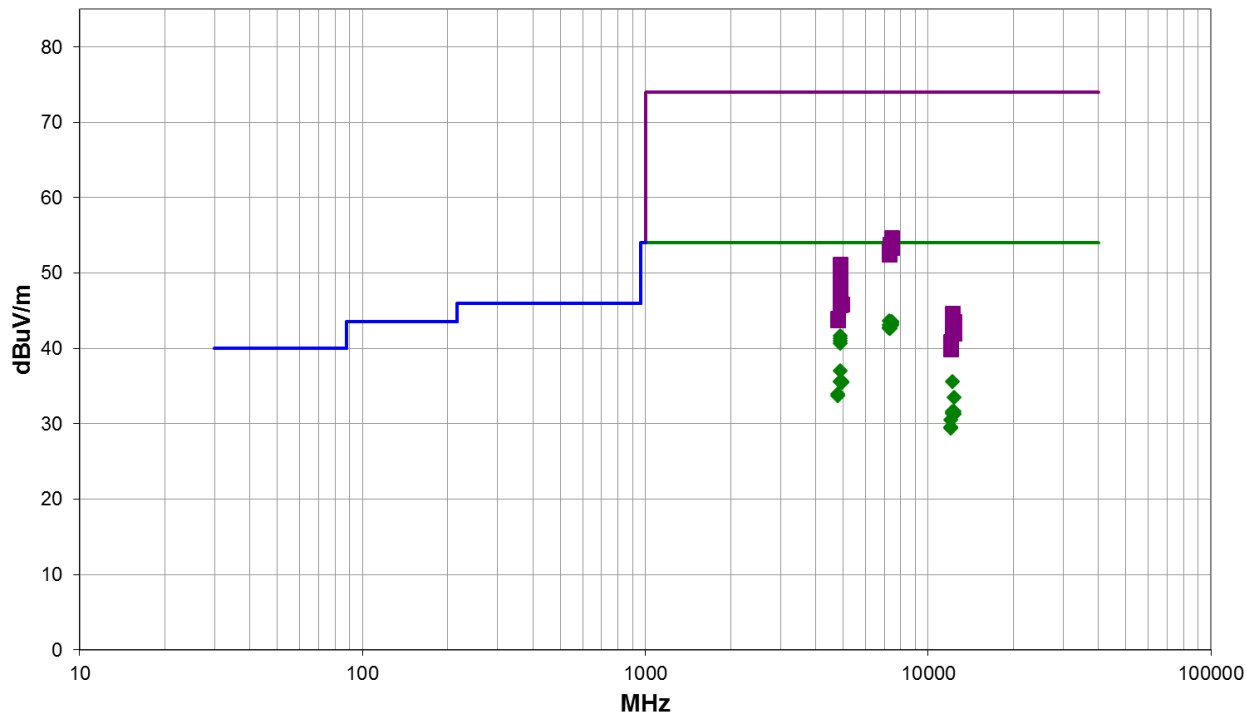
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EUT OPERATING MODES

Measuring temperature, BLE Radio Transmitting, Low Ch 2402 MHz, Mid Ch 2442 MHz, High Ch 2480 MHz, 1 Mbps & 2Mbps

DEVIATIONS FROM TEST STANDARD

None



Run #: 12

PK AV QP

SPURIOUS RADIATED EMISSIONS

RESULTS - Run #12

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/Transducer	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
4883.783	39.6	5.4	2.6	307.0	3.0	0.0	Horz	AV	0.0	45.0	54.0	-9.0	Eut Horz, Mid Ch, 1 Mbps
7325.308	30.4	13.2	1.5	99.9	3.0	0.0	Vert	AV	0.0	43.6	54.0	-10.4	Eut Horz, Mid Ch, 1 Mbps
7442.317	29.8	13.7	1.5	288.0	3.0	0.0	Horz	AV	0.0	43.5	54.0	-10.5	Eut Horz, High Ch, 1 Mbps
7440.483	29.8	13.7	3.3	109.9	3.0	0.0	Vert	AV	0.0	43.5	54.0	-10.5	Eut Horz, High Ch, 1 Mbps
7441.350	29.7	13.7	1.5	162.0	3.0	0.0	Horz	AV	0.0	43.4	54.0	-10.6	Eut ON Side, High Ch, 2 Mbps
7441.342	29.6	13.7	1.5	286.9	3.0	0.0	Vert	AV	0.0	43.3	54.0	-10.7	Eut ON Side, High Ch, 2 Mbps
7440.208	29.5	13.7	2.4	202.0	3.0	0.0	Horz	AV	0.0	43.2	54.0	-10.8	Eut On Side, High Ch, 1 Mbps
7326.400	29.9	13.2	3.5	160.9	3.0	0.0	Horz	AV	0.0	43.1	54.0	-10.9	Eut Horz, Mid Ch, 1 Mbps
7441.933	29.4	13.7	1.5	65.0	3.0	0.0	Vert	AV	0.0	43.1	54.0	-10.9	Eut On Side, High Ch, 1 Mbps
7327.142	29.7	13.2	3.4	177.0	3.0	0.0	Horz	AV	0.0	42.9	54.0	-11.1	Eut On Side, Mid Ch, 2 Mbps
7326.583	29.5	13.2	1.5	220.0	3.0	0.0	Horz	AV	0.0	42.7	54.0	-11.3	Eut On Side, Mid Ch, 1 Mbps
7327.917	29.4	13.2	1.5	294.9	3.0	0.0	Vert	AV	0.0	42.6	54.0	-11.4	Eut On Side, Mid Ch, 1 Mbps
7325.950	29.4	13.2	1.6	224.0	3.0	0.0	Vert	AV	0.0	42.6	54.0	-11.4	Eut On Side, Mid Ch, 2 Mbps
4883.275	36.2	5.4	2.7	299.0	3.0	0.0	Horz	AV	0.0	41.6	54.0	-12.4	Eut Horz, Mid Ch, 2 Mbps
4883.958	35.9	5.4	1.0	285.0	3.0	0.0	Horz	AV	0.0	41.3	54.0	-12.7	Eut On Side, Mid Ch, 1 Mbps
4883.967	35.6	5.4	3.0	22.0	3.0	0.0	Vert	AV	0.0	41.0	54.0	-13.0	Eut Horz, Mid Ch, 1 Mbps
4883.858	35.2	5.4	4.0	263.0	3.0	0.0	Vert	AV	0.0	40.6	54.0	-13.4	Eut Vert, Mid Ch, 1 Mbps
4883.858	31.6	5.4	1.0	40.0	3.0	0.0	Horz	AV	0.0	37.0	54.0	-17.0	Eut Vert, Mid Ch, 1 Mbps
12208.780	36.7	-1.1	2.0	73.9	3.0	0.0	Horz	AV	0.0	35.6	54.0	-18.4	Eut Horz, Mid Ch, 1 Mbps
4885.842	30.1	5.4	1.5	285.0	3.0	0.0	Vert	AV	0.0	35.5	54.0	-18.5	Eut On Side, Mid Ch, 1 Mbps
4886.092	30.1	5.4	3.5	12.9	3.0	0.0	Vert	AV	0.0	35.5	54.0	-18.5	Eut Horz, Mid Ch, 2 Mbps
4957.800	29.6	5.9	1.5	124.9	3.0	0.0	Vert	AV	0.0	35.5	54.0	-18.5	Eut Horz, High Ch, 1 Mbps
4958.042	29.5	5.9	2.1	60.9	3.0	0.0	Horz	AV	0.0	35.4	54.0	-18.6	Eut Horz, High Ch, 1 Mbps
7437.617	40.9	13.7	1.5	288.0	3.0	0.0	Horz	PK	0.0	54.6	74.0	-19.4	Eut Horz, High Ch, 1 Mbps
7441.267	40.4	13.7	1.5	65.0	3.0	0.0	Vert	PK	0.0	54.1	74.0	-19.9	Eut On Side, High Ch, 1 Mbps
7440.342	40.4	13.7	1.5	162.0	3.0	0.0	Horz	PK	0.0	54.1	74.0	-19.9	Eut ON Side, High Ch, 2 Mbps
7441.925	40.4	13.7	1.5	286.9	3.0	0.0	Vert	PK	0.0	54.1	74.0	-19.9	Eut ON Side, High Ch, 2 Mbps
7441.392	40.3	13.7	3.3	109.9	3.0	0.0	Vert	PK	0.0	54.0	74.0	-20.0	Eut Horz, High Ch, 1 Mbps
4802.217	29.2	4.7	2.4	30.9	3.0	0.0	Vert	AV	0.0	33.9	54.0	-20.1	Eut Horz, Low Ch, 1 Mbps
4805.392	29.0	4.7	1.9	281.0	3.0	0.0	Horz	AV	0.0	33.7	54.0	-20.3	Eut Horz, Low Ch, 1 Mbps
7326.808	40.5	13.2	3.5	160.9	3.0	0.0	Horz	PK	0.0	53.7	74.0	-20.3	Eut Horz, Mid Ch, 1 Mbps
7326.992	40.4	13.2	1.5	99.9	3.0	0.0	Vert	PK	0.0	53.6	74.0	-20.4	Eut Horz, Mid Ch, 1 Mbps
7327.442	40.4	13.2	3.4	177.0	3.0	0.0	Horz	PK	0.0	53.6	74.0	-20.4	Eut On Side, Mid Ch, 2 Mbps
12398.780	33.7	-0.3	3.1	34.0	3.0	0.0	Horz	AV	0.0	33.4	54.0	-20.6	Eut Horz, High Ch, 1 Mbps
7442.100	39.6	13.7	2.4	202.0	3.0	0.0	Horz	PK	0.0	53.3	74.0	-20.7	Eut On Side, High Ch, 1 Mbps
7325.650	39.7	13.2	1.5	294.9	3.0	0.0	Vert	PK	0.0	52.9	74.0	-21.1	Eut On Side, Mid Ch, 1 Mbps
7324.400	39.4	13.2	1.6	224.0	3.0	0.0	Vert	PK	0.0	52.6	74.0	-21.4	Eut On Side, Mid Ch, 2 Mbps
7324.917	39.2	13.2	1.5	220.0	3.0	0.0	Horz	PK	0.0	52.4	74.0	-21.6	Eut On Side, Mid Ch, 1 Mbps
12399.010	31.9	-0.3	2.1	70.0	3.0	0.0	Vert	AV	0.0	31.6	54.0	-22.4	Eut Horz, High Ch, 1 Mbps
12208.980	32.7	-1.1	2.5	134.0	3.0	0.0	Horz	AV	0.0	31.6	54.0	-22.4	Eut On Side, Mid Ch, 1 Mbps

SPURIOUS RADIATED EMISSIONS

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/Transducer	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
12208.780	32.5	-1.1	1.7	62.0	3.0	0.0	Vert	AV	0.0	31.4	54.0	-22.6	Eut Horz, Mid Ch, 1 Mbps
12208.870	32.5	-1.1	1.5	91.9	3.0	0.0	Vert	AV	0.0	31.4	54.0	-22.6	Eut On Side, Mid Ch, 1 Mbps
12398.200	31.6	-0.3	2.6	103.9	3.0	0.0	Horz	AV	0.0	31.3	54.0	-22.7	Eut On Side, High Ch, 1 Mbps
12398.020	31.6	-0.3	1.5	336.0	3.0	0.0	Vert	AV	0.0	31.3	54.0	-22.7	Eut On Side, High Ch, 1 Mbps
4884.233	45.7	5.4	2.6	307.0	3.0	0.0	Horz	PK	0.0	51.1	74.0	-22.9	Eut Horz, Mid Ch, 1 Mbps
12008.990	32.9	-2.4	3.7	96.9	3.0	0.0	Horz	AV	0.0	30.5	54.0	-23.5	Eut Horz, Low Ch, 1 Mbps
12008.020	31.9	-2.4	1.5	221.9	3.0	0.0	Vert	AV	0.0	29.5	54.0	-24.5	Eut Horz, Low Ch, 1 Mbps
12008.800	31.9	-2.4	1.5	70.0	3.0	0.0	Horz	AV	0.0	29.5	54.0	-24.5	Eut ON Side, Low Ch, 1 Mbps
12007.700	31.9	-2.5	1.5	42.9	3.0	0.0	Vert	AV	0.0	29.4	54.0	-24.6	Eut ON Side, Low Ch, 1 Mbps
4883.425	43.8	5.4	2.7	299.0	3.0	0.0	Horz	PK	0.0	49.2	74.0	-24.8	Eut Horz, Mid Ch, 2 Mbps
4884.567	43.7	5.4	1.0	285.0	3.0	0.0	Horz	PK	0.0	49.1	74.0	-24.9	Eut On Side, Mid Ch, 1 Mbps
4883.292	43.3	5.4	3.0	22.0	3.0	0.0	Vert	PK	0.0	48.7	74.0	-25.3	Eut Horz, Mid Ch, 1 Mbps
4883.275	43.0	5.4	4.0	263.0	3.0	0.0	Vert	PK	0.0	48.4	74.0	-25.6	Eut Vert, Mid Ch, 1 Mbps
4883.758	42.1	5.4	1.0	40.0	3.0	0.0	Horz	PK	0.0	47.5	74.0	-26.5	Eut Vert, Mid Ch, 1 Mbps
4886.217	40.7	5.4	1.5	285.0	3.0	0.0	Vert	PK	0.0	46.1	74.0	-27.9	Eut On Side, Mid Ch, 1 Mbps
4961.058	39.9	5.9	2.1	60.9	3.0	0.0	Horz	PK	0.0	45.8	74.0	-28.2	Eut Horz, High Ch, 1 Mbps
4957.758	39.9	5.9	1.5	124.9	3.0	0.0	Vert	PK	0.0	45.8	74.0	-28.2	Eut Horz, High Ch, 1 Mbps
4882.850	40.3	5.4	3.5	12.9	3.0	0.0	Vert	PK	0.0	45.7	74.0	-28.3	Eut Horz, Mid Ch, 2 Mbps
12210.970	45.7	-1.1	2.0	73.9	3.0	0.0	Horz	PK	0.0	44.6	74.0	-29.4	Eut Horz, Mid Ch, 1 Mbps
4804.150	39.2	4.7	2.4	30.9	3.0	0.0	Vert	PK	0.0	43.9	74.0	-30.1	Eut Horz, Low Ch, 1 Mbps
4801.783	39.0	4.7	1.9	281.0	3.0	0.0	Horz	PK	0.0	43.7	74.0	-30.3	Eut Horz, Low Ch, 1 Mbps
12399.220	43.8	-0.3	3.1	34.0	3.0	0.0	Horz	PK	0.0	43.5	74.0	-30.5	Eut Horz, High Ch, 1 Mbps
12210.630	44.0	-1.1	1.7	62.0	3.0	0.0	Vert	PK	0.0	42.9	74.0	-31.1	Eut Horz, Mid Ch, 1 Mbps
12399.320	42.7	-0.3	2.1	70.0	3.0	0.0	Vert	PK	0.0	42.4	74.0	-31.6	Eut Horz, High Ch, 1 Mbps
12208.560	43.2	-1.1	2.5	134.0	3.0	0.0	Horz	PK	0.0	42.1	74.0	-31.9	Eut On Side, Mid Ch, 1 Mbps
12398.300	42.3	-0.3	1.5	336.0	3.0	0.0	Vert	PK	0.0	42.0	74.0	-32.0	Eut On Side, High Ch, 1 Mbps
12210.250	43.1	-1.1	1.5	91.9	3.0	0.0	Vert	PK	0.0	42.0	74.0	-32.0	Eut On Side, Mid Ch, 1 Mbps
12398.000	42.2	-0.3	2.6	103.9	3.0	0.0	Horz	PK	0.0	41.9	74.0	-32.1	Eut On Side, High Ch, 1 Mbps
12008.280	43.2	-2.4	3.7	96.9	3.0	0.0	Horz	PK	0.0	40.8	74.0	-33.2	Eut Horz, Low Ch, 1 Mbps
12011.130	43.0	-2.4	1.5	70.0	3.0	0.0	Horz	PK	0.0	40.6	74.0	-33.4	Eut ON Side, Low Ch, 1 Mbps
12009.600	42.6	-2.4	1.5	42.9	3.0	0.0	Vert	PK	0.0	40.2	74.0	-33.8	Eut ON Side, Low Ch, 1 Mbps
12009.100	42.3	-2.4	1.5	221.9	3.0	0.0	Vert	PK	0.0	39.9	74.0	-34.1	Eut Horz, Low Ch, 1 Mbps

CONCLUSION

Pass



Tested By

SPURIOUS RADIATED EMISSIONS



EUT:	RM2642	Work Order:	EMPM0201
Serial Number:	1121	Date:	2025-05-01
Customer:	Emerson / Rosemount Inc.	Temperature:	23.1°C
Attendees:	Daniel Wolf, Stacy Lukas	Relative Humidity:	40.6%
Customer Project:	None	Bar. Pressure (PMSL):	1006 mb
Tested By:	Arnauld Dedry	Job Site:	MN05
Power:	24VDC	Configuration:	EMPM0201-5

TEST PARAMETERS

Run #:	73	Test Distance (m):	2	Ant. Height(s) (m):	1 to 1.25(m)
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COMMENTS

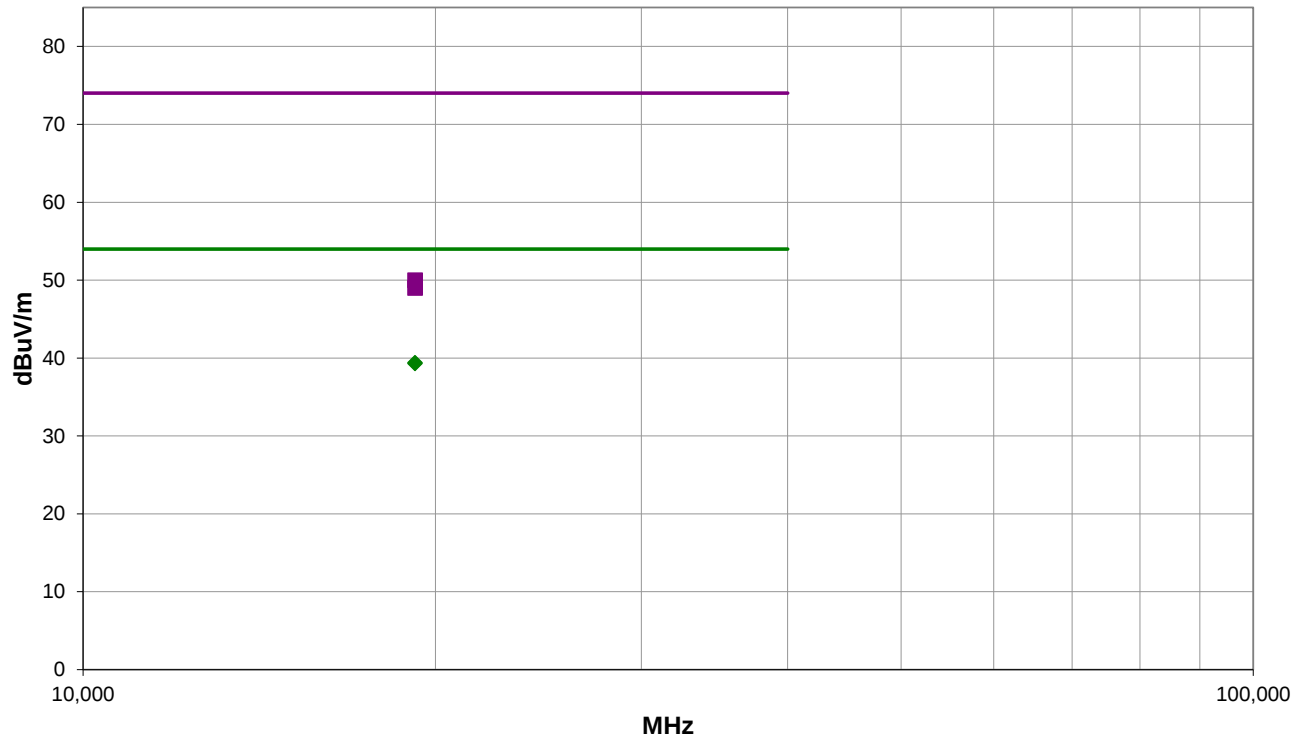
Distance correction factor applied based on $20 \cdot \log(2/3) = -3.5$ dB.

EUT OPERATING MODES

Measuring temperature, BLE Radio Transmitting, Low Ch 2402 MHz, 1 Mbps
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DEVIATIONS FROM TEST STANDARD

None



Run #: 73

■ PK ◆ AV ● QP

SPURIOUS RADIATED EMISSIONS

RESULTS - Run #73

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
19213.680	26.4	16.5	1.5	164.9	2.0	0.0	Vert	AV	-3.5	39.4	54.0	-14.6	Eut Horz, Low Ch, 1 Mbps
19213.610	26.3	16.5	1.5	38.9	2.0	0.0	Horz	AV	-3.5	39.3	54.0	-14.7	Eut Horz, Low Ch, 1 Mbps
19213.700	37.0	16.5	1.5	164.9	2.0	0.0	Vert	PK	-3.5	50.0	74.0	-24.0	Eut Horz, Low Ch, 1 Mbps
19217.870	36.0	16.5	1.5	38.9	2.0	0.0	Horz	PK	-3.5	49.0	74.0	-25.0	Eut Horz, Low Ch, 1 Mbps

CONCLUSION

Pass



Tested By

SPURIOUS RADIATED EMISSIONS



EUT:	RM2642	Work Order:	EMPM0201
Serial Number:	1121	Date:	2025-05-01
Customer:	Emerson / Rosemount Inc.	Temperature:	23.1°C
Attendees:	Daniel Wolf, Stacy Lukas	Relative Humidity:	40.6%
Customer Project:	None	Bar. Pressure (PMSL):	1006 mb
Tested By:	Arnauld Dedry	Job Site:	MN05
Power:	24VDC	Configuration:	EMPM0201-6

TEST PARAMETERS

Run #:	75	Test Distance (m):	2	Ant. Height(s) (m):	1 to 1.25(m)
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COMMENTS

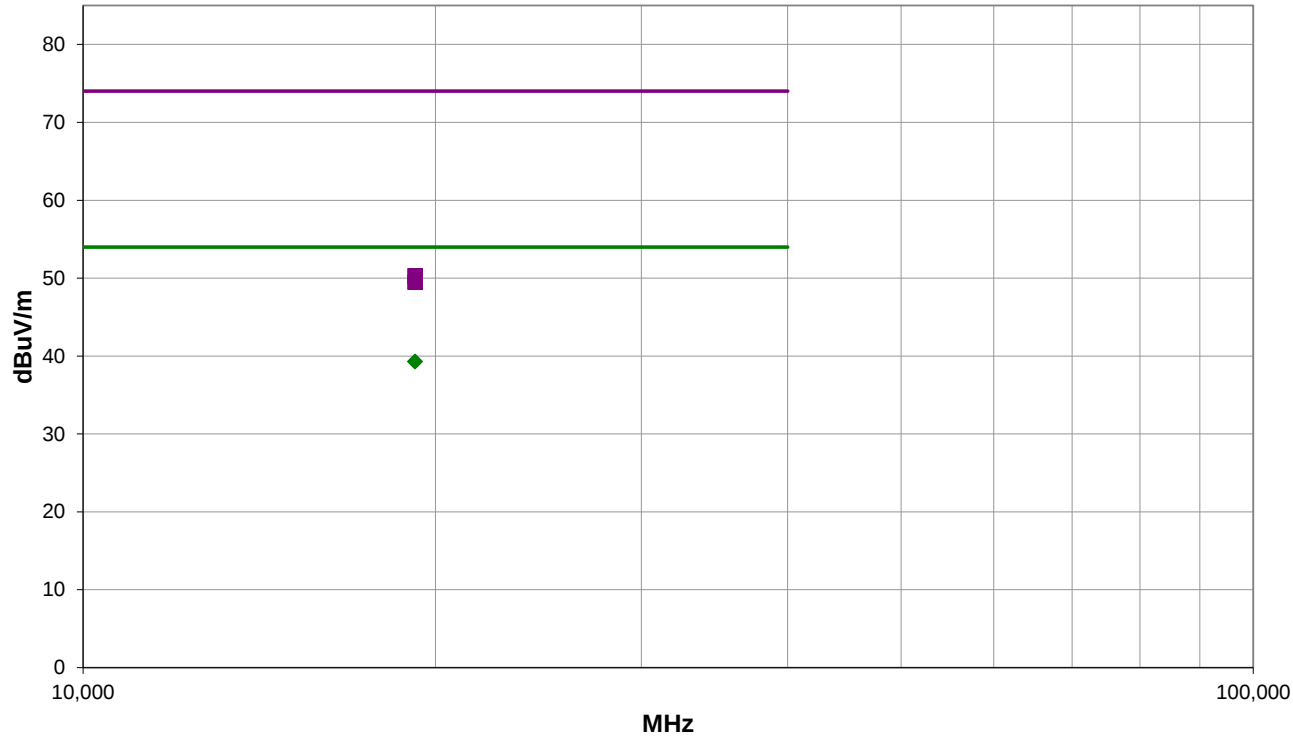
Distance correction factor applied based on $20 \cdot \log(2/3) = -3.5$ dB.

EUT OPERATING MODES

Measuring pressure, BLE Radio Transmitting, Low Ch 2402 MHz, 1 Mbps

DEVIATIONS FROM TEST STANDARD

None



Run #: 75

■ PK ◆ AV ● QP

SPURIOUS RADIATED EMISSIONS

RESULTS - Run #75

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/ Transducer	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
19215.630	26.3	16.5	1.5	193.9	2.0	0.0	Horz	AV	-3.5	39.3	54.0	-14.7	Eut On Side, Low Ch, 1 Mbps
19214.640	26.3	16.5	1.5	109.9	2.0	0.0	Vert	AV	-3.5	39.3	54.0	-14.7	Eut On Side, Low Ch, 1 Mbps
19217.160	37.3	16.5	1.5	193.9	2.0	0.0	Horz	PK	-3.5	50.3	74.0	-23.7	Eut On Side, Low Ch, 1 Mbps
19216.730	36.5	16.5	1.5	109.9	2.0	0.0	Vert	PK	-3.5	49.5	74.0	-24.5	Eut On Side, Low Ch, 1 Mbps

CONCLUSION

Pass

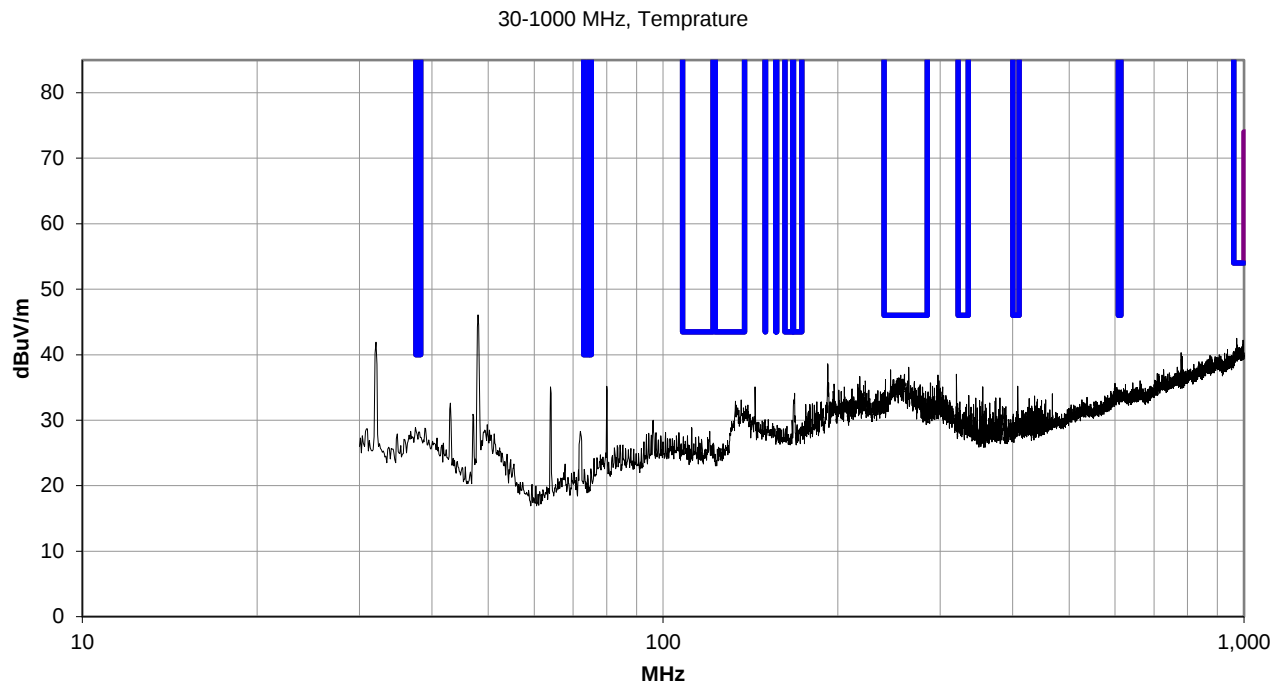


Tested By

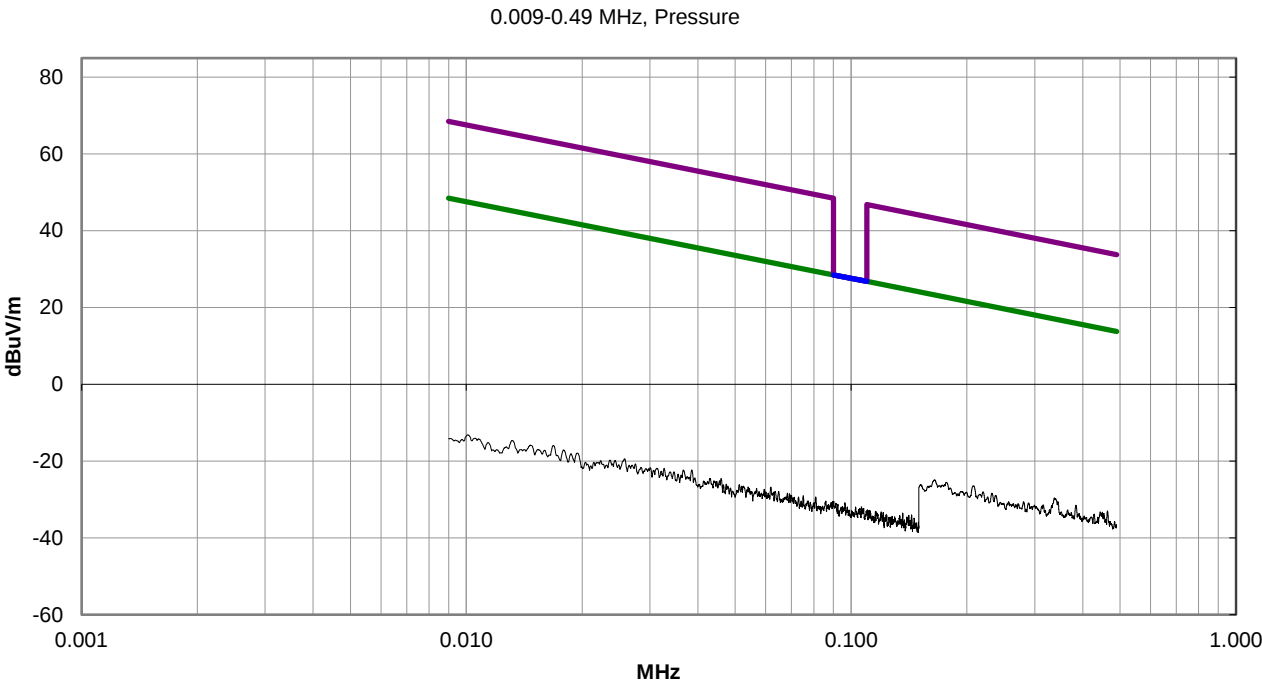
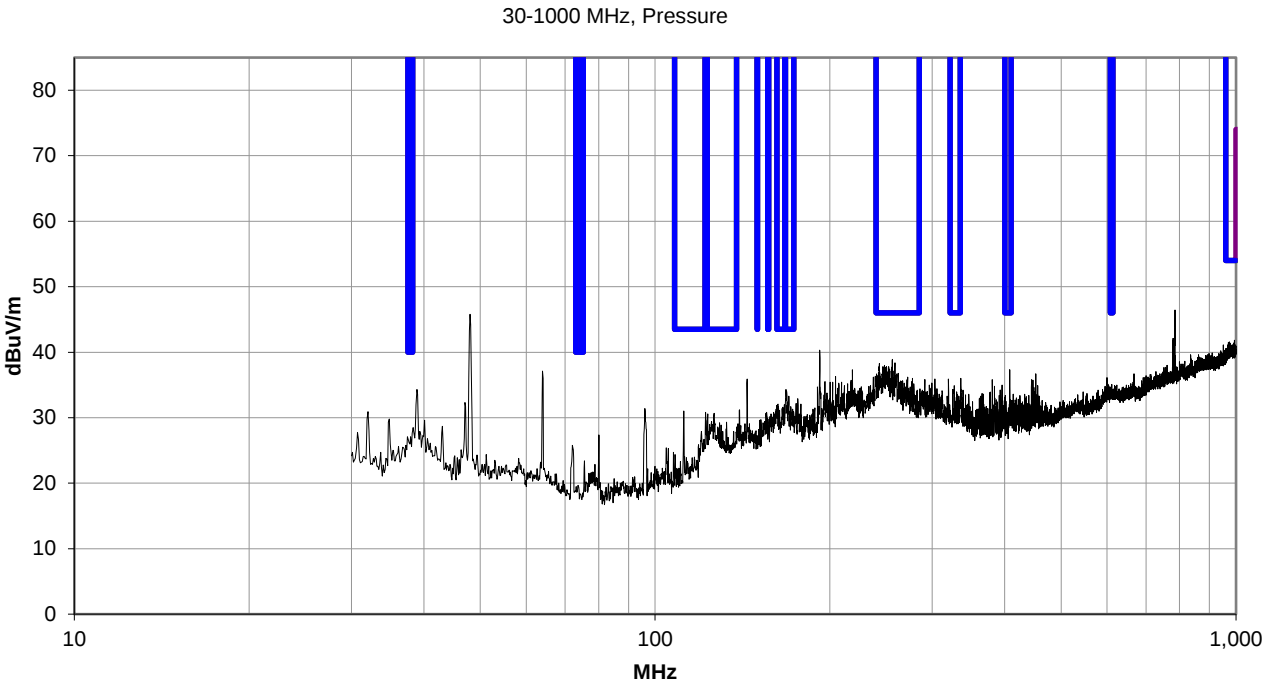
SPURIOUS RADIATED EMISSIONS

PRESCAN DATA

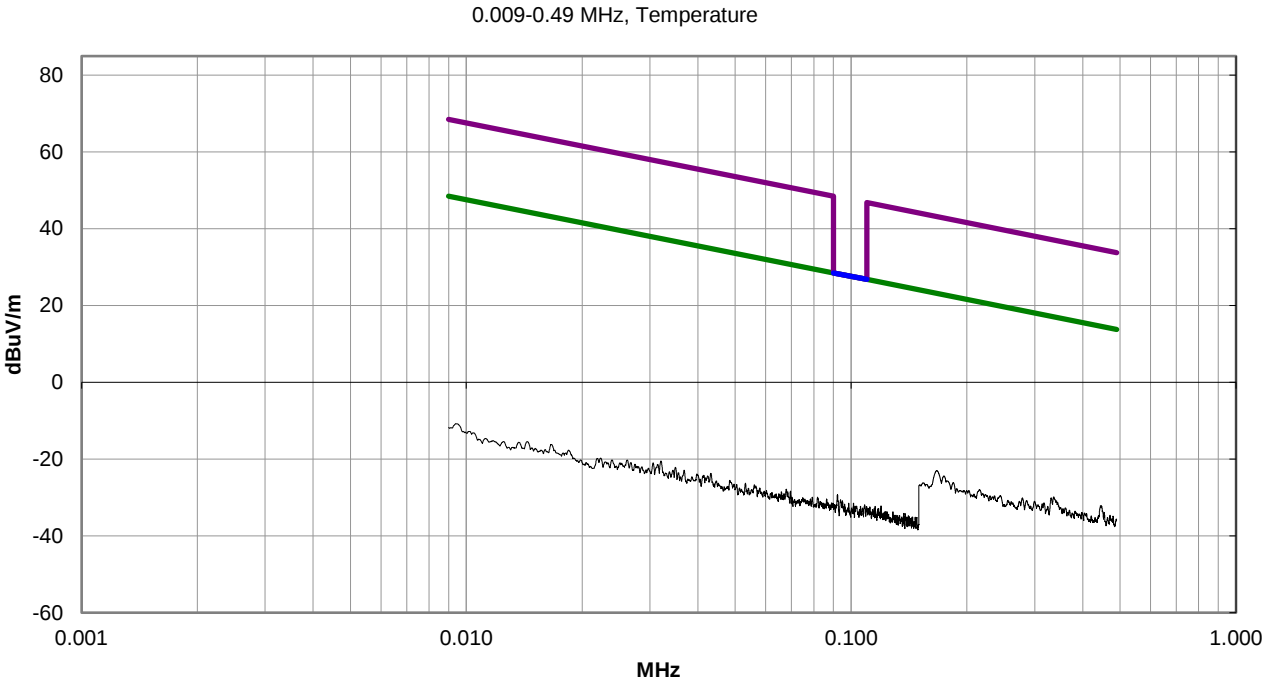
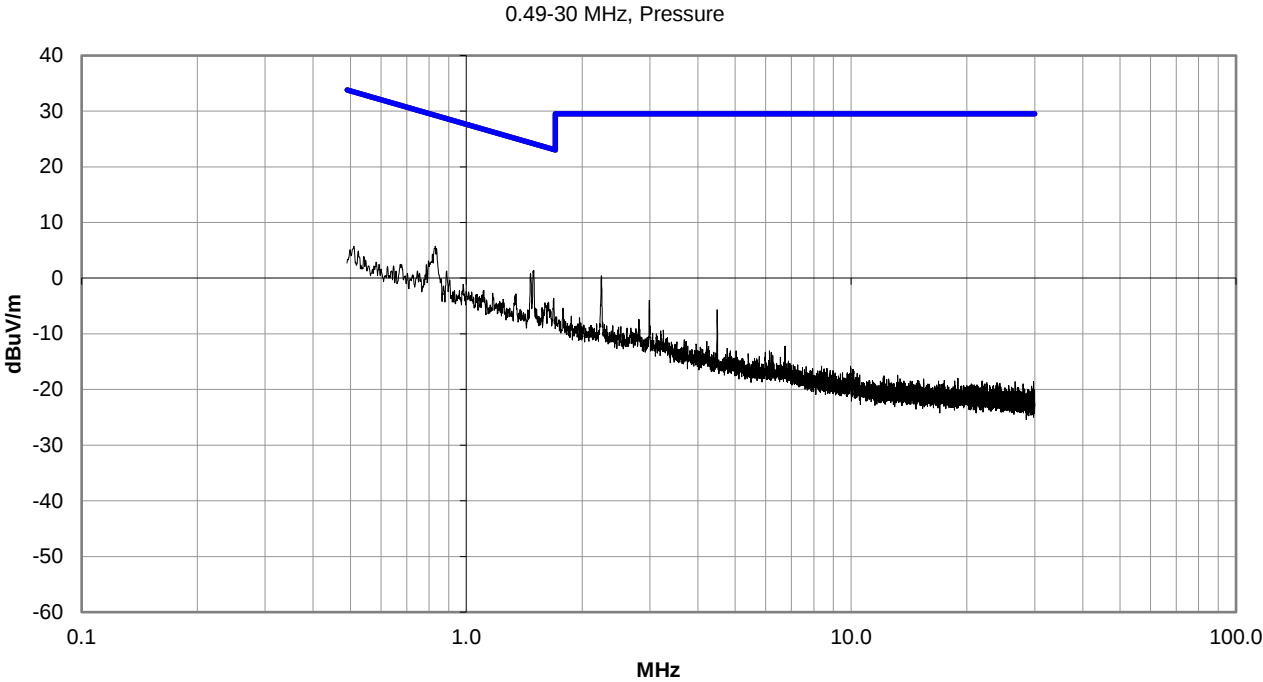
Radiated spurious emissions from the EUT are initially reviewed with Pre-scans (Preview scans). Pre-scans are performed, with the EUT transmitting on the lowest applicable data rate, for both vertical and horizontal polarizations. The Pre-scan plots below are shown with a peak detector and RBW for the 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.



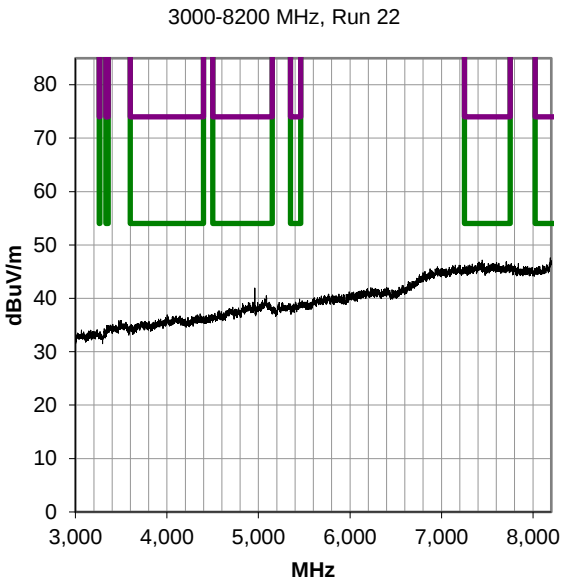
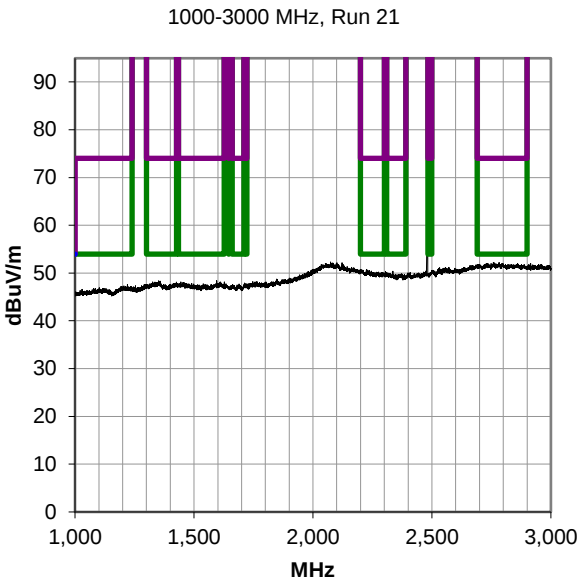
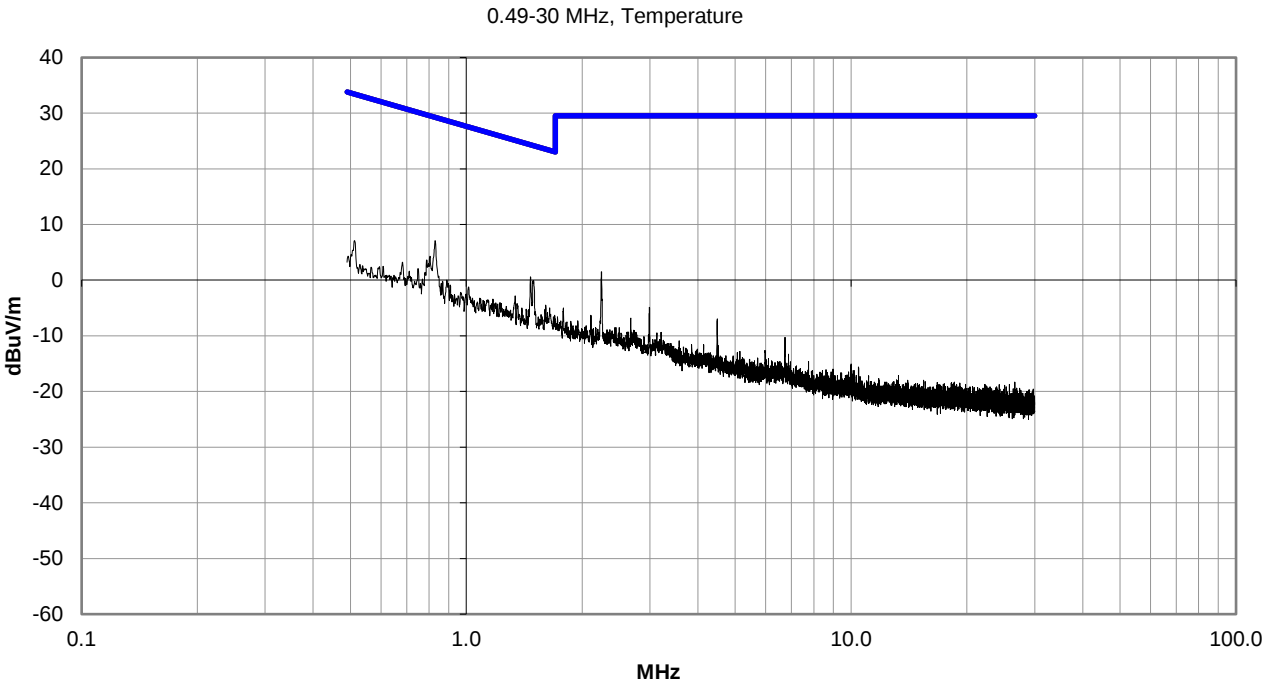
SPURIOUS RADIATED EMISSIONS



SPURIOUS RADIATED EMISSIONS

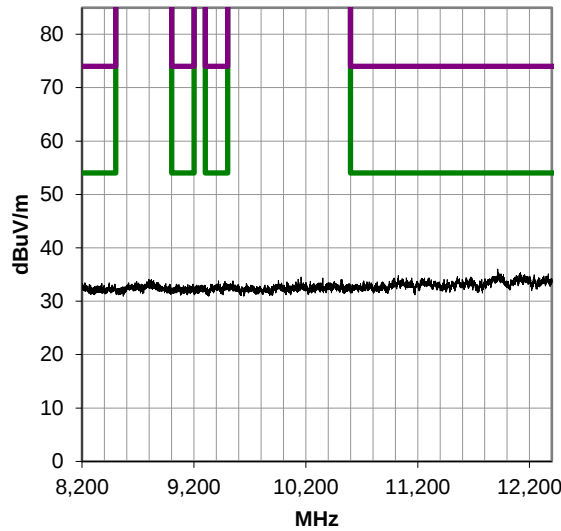


SPURIOUS RADIATED EMISSIONS

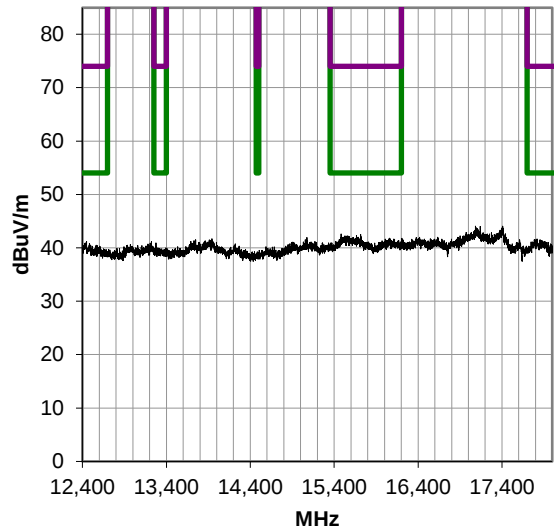


SPURIOUS RADIATED EMISSIONS

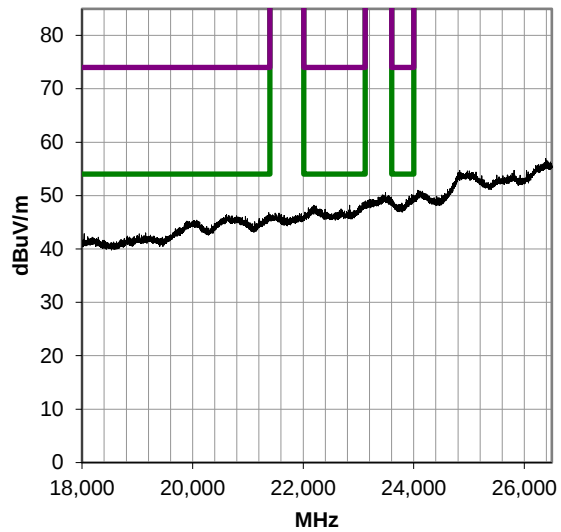
8200-12400 MHz, Run 23



12400-18000 MHz, Run 24



18000-26500 MHz, Run 76



RADIATED SPURIOUS EMISSIONS RESTRICTED BAND EDGE



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 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.

The 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 attenuation were used (if needed) 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:

PK = Peak Detector
AV = RMS Detector

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 $10 \cdot \log(1/dc)$.

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	2024-11-26	2025-11-26
Amplifier - Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	AVT	2025-01-08	2026-01-08
Attenuator	Fairview Microwave	SA18H-20	VAF	2024-08-25	2025-08-25
Analyzer - Spectrum Analyzer	Agilent	E4446A	AAQ	2025-04-11	2026-04-11
Power Supply - DC	EZ Digital Co., Ltd.	GP-4030D	TQK	NCR	NCR

RADIATED SPURIOUS EMISSIONS RESTRICTED BAND EDGE



EUT:	RM2642	Work Order:	EMPM0201
Serial Number:	1125	Date:	2025-04-30
Customer:	Emerson / Rosemount Inc.	Temperature:	22.6°C
Attendees:	Daniel Wolf, Stacy Lukas	Relative Humidity:	55.9%
Customer Project:	None	Bar. Pressure (PMSL):	1012 mbar
Tested By:	Arnauld Dedry	Job Site:	MN05
Power:	24VDC	Configuration:	EMPM0201-6

COMMENTS

The Rosemount RM2642 Radio Module was tested in the host Rosemount 4051S Pressure Transmitter.

DEVIATIONS FROM TEST STANDARD

None

CONCLUSION

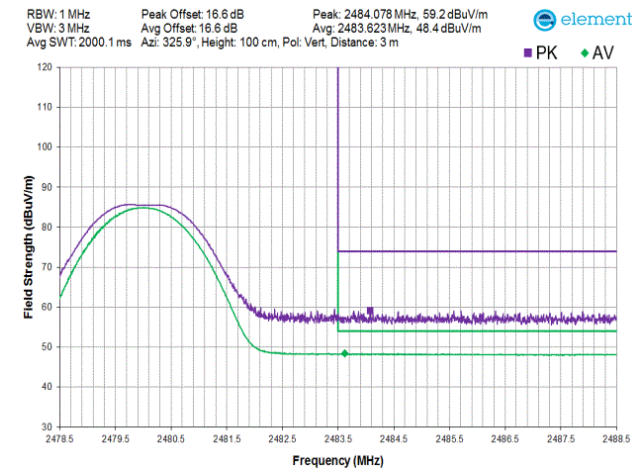
Pass

Tested By

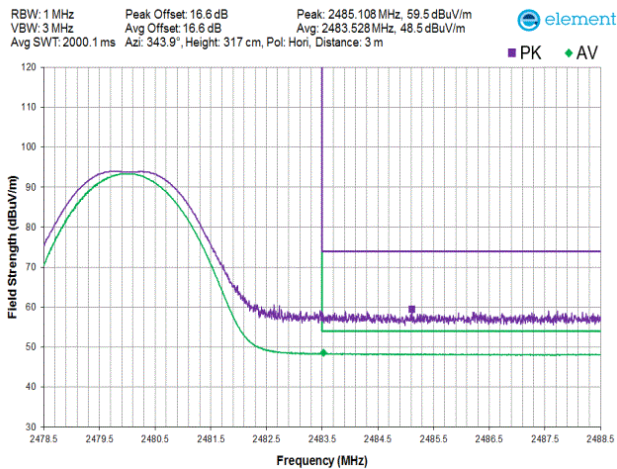
TEST RESULTS

	Frequency (MHz)	PK (dBuV/m) AV (dBuV/m)	PK Lim (dBuV/m) AV Lim (dBuV/m)	Worst Margin (dB)	Pol. (H/V)	EUT Orientation	Results
BLE/GFSK 1 Mbps							
High Channel, 2480 MHz	2484.078	59.2	74.0	-5.6	V	Horizontal	Pass
	2483.623	48.4	54.0	-5.6	V	Horizontal	Pass
	2485.108	59.5	74.0	-5.5	H	Horizontal	Pass
	2483.528	48.5	54.0	-5.5	H	Horizontal	Pass
	2486.129	59.8	74.0	-5.6	H	Vertical	Pass
	2483.643	48.4	54.0	-5.6	H	Vertical	Pass
	2483.918	59.3	74.0	-5.7	V	Vertical	Pass
	2483.518	48.3	54.0	-5.7	V	Vertical	Pass
	2486.704	59.8	74.0	-5.6	V	on Side	Pass
	2483.508	48.4	54.0	-5.6	V	on Side	Pass
BLE/GFSK 2 Mbps	2483.798	59.8	74.0	-5.6	H	on Side	Pass
	2484.068	48.4	54.0	-5.6	H	on Side	Pass
	2483.838	59.9	74.0	-5.2	H	Horizontal	Pass
High Channel, 2480 MHz	2483.508	48.8	54.0	-5.2	H	Horizontal	Pass
	2485.954	60.4	74.0	-5.6	V	Horizontal	Pass
	2483.513	48.4	54.0	-5.6	V	Horizontal	Pass

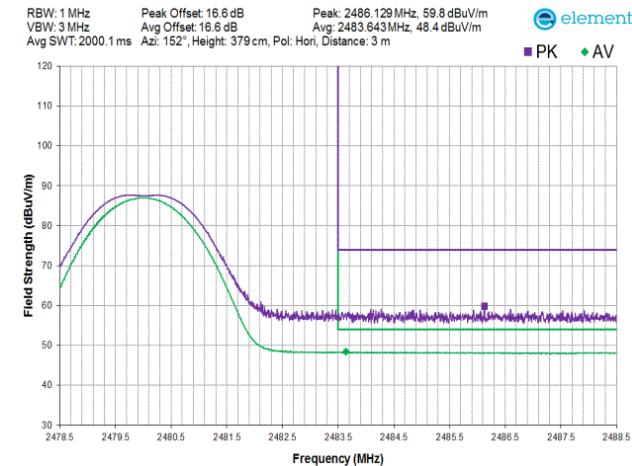
RADIATED SPURIOUS EMISSIONS RESTRICTED BAND EDGE



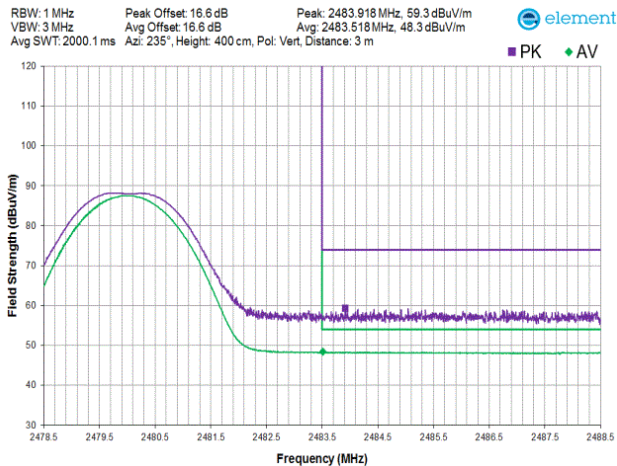
BLE/GFSK 1 Mbps
High Channel, 2480 MHz



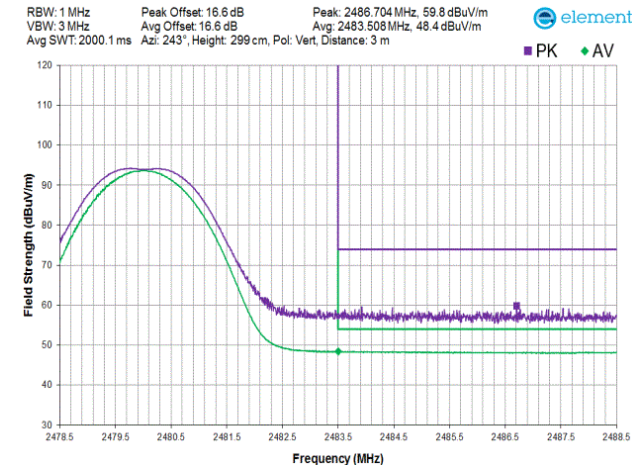
BLE/GFSK 1 Mbps
High Channel, 2480 MHz



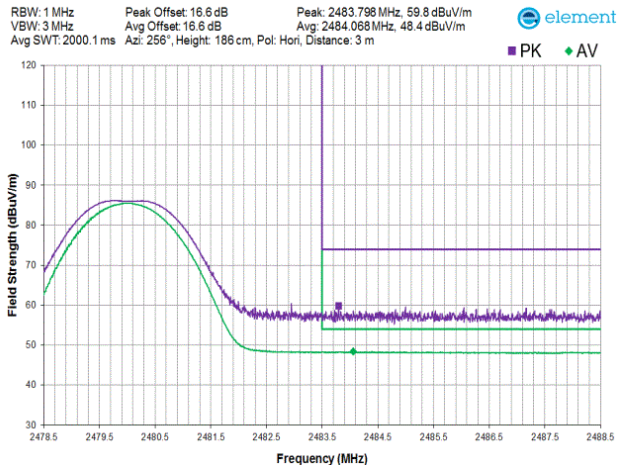
BLE/GFSK 1 Mbps
High Channel, 2480 MHz



BLE/GFSK 1 Mbps
High Channel, 2480 MHz

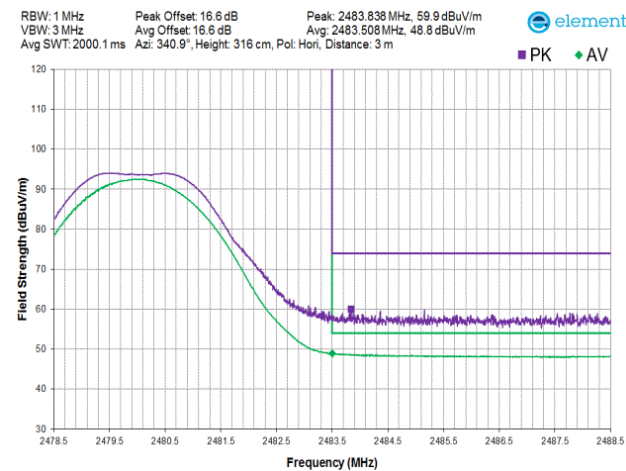


BLE/GFSK 1 Mbps
High Channel, 2480 MHz

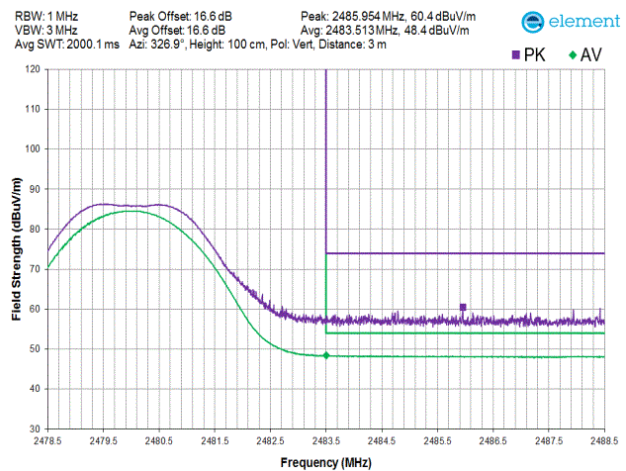


BLE/GFSK 1 Mbps
High Channel, 2480 MHz

RADIATED SPURIOUS EMISSIONS RESTRICTED BAND EDGE



BLE/GFSK 2 Mbps
High Channel, 2480 MHz



BLE/GFSK 2 Mbps
High Channel, 2480 MHz

RADIATED SPURIOUS EMISSIONS RESTRICTED BAND EDGE



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 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.

The 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 attenuation were used (if needed) 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:

PK = Peak Detector
AV = RMS Detector

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 $10 \cdot \log(1/dc)$.

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	2024-11-26	2025-11-26
Amplifier - Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	AVT	2025-01-08	2026-01-08
Attenuator	Fairview Microwave	SA18H-20	VAF	2024-08-25	2025-08-25
Analyzer - Spectrum Analyzer	Agilent	E4446A	AAQ	2025-04-11	2026-04-11
Power Supply - DC	EZ Digital Co., Ltd.	GP-4030D	TQK	NCR	NCR

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EUT:	RM2642	Work Order:	EMPM0201
Serial Number:	1121	Date:	2025-04-30
Customer:	Emerson / Rosemount Inc.	Temperature:	22.6°C
Attendees:	Daniel Wolf, Stacy Lukas	Relative Humidity:	55.9%
Customer Project:	None	Bar. Pressure (PMSL):	1012 mbar
Tested By:	Arnauld Dedry	Job Site:	MN05
Power:	24VDC	Configuration:	EMPM0201-5

COMMENTS

The Rosemount RM2642 Radio Module was tested in the host Rosemount 3144S Temperature Transmitter.

DEVIATIONS FROM TEST STANDARD

None

CONCLUSION

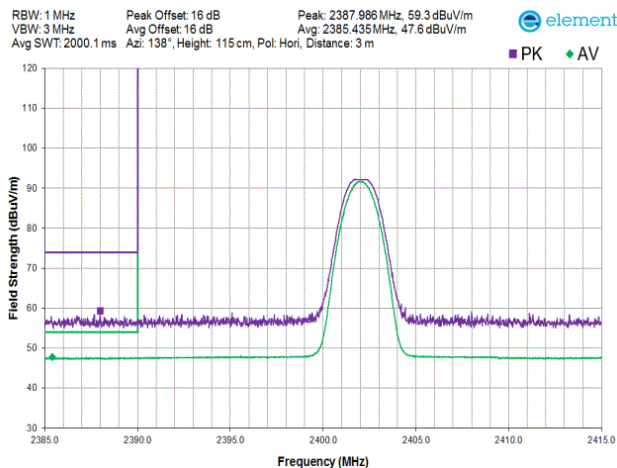
Pass

Tested By

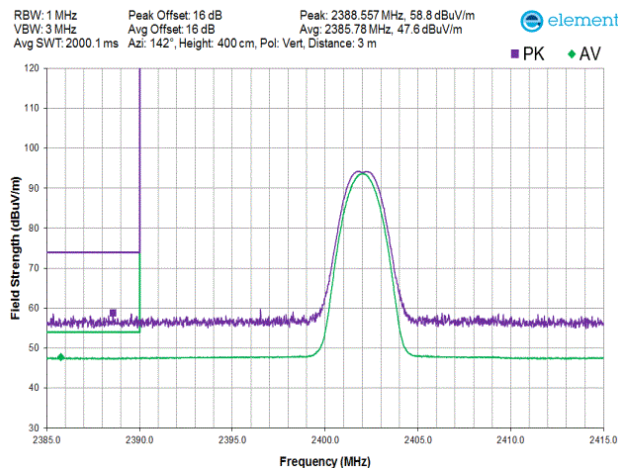
TEST RESULTS

	Frequency (MHz)	PK (dBuV/m) AV (dBuV/m)	PK Lim (dBuV/m) AV Lim (dBuV/m)	Worst Margin (dB)	Pol. (H/V)	EUT Orientation	Results	
BLE/GFSK 1 Mbps								
Low Channel, 2402 MHz	2387.986	59.3	74.0	-6.4	H	Horizontal	Pass	
	2385.435	47.6	54.0					
High Channel, 2480 MHz	2388.557	58.8	74.0	-6.4	V	Horizontal	Pass	
	2385.780	47.6	54.0					
	2485.393	59.5	74.0	-5.7	H	Vertical	Pass	
	2483.528	48.3	54.0					
	2484.153	59.7	74.0	-5.7	V	Vertical	Pass	
	2483.503	48.3	54.0					
	2485.869	59.5	74.0	-5.6	V	Horizontal	Pass	
	2484.153	48.4	54.0					
	2488.225	59.8	74.0	-5.6	H	Horizontal	Pass	
	2484.953	48.4	54.0					
	2487.069	59.5	74.0	-5.6	H	on Side	Pass	
	2483.873	48.4	54.0					
2487.009	59.4	74.0	-5.7	V	on Side	Pass		
2483.533	48.3	54.0						
BLE/GFSK 2 Mbps								
Low Channel, 2402 MHz	2389.937	58.9	74.0	-6.4	V	Horizontal	Pass	
	2385.375	47.6	54.0					
	2389.802	58.5	74.0		-6.4	H	Horizontal	Pass
	2385.360	47.6	54.0					
High Channel, 2480 MHz	2485.483	59.5	74.0	-5.5	V	Horizontal	Pass	
	2483.508	48.5	54.0					
	2485.033	59.4	74.0	-5.7	H	Horizontal	Pass	
	2483.648	48.3	54.0					

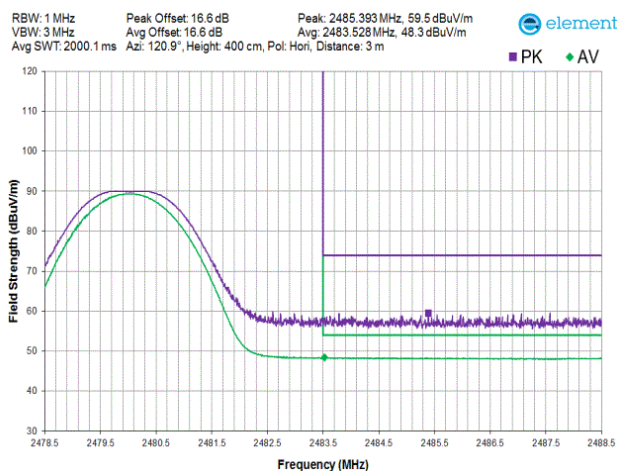
RADIATED SPURIOUS EMISSIONS RESTRICTED BAND EDGE



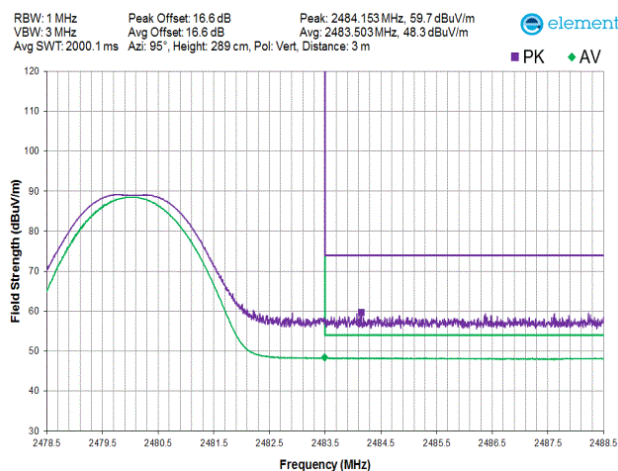
**BLE/GFSK 1 Mbps
Low Channel, 2402 MHz**



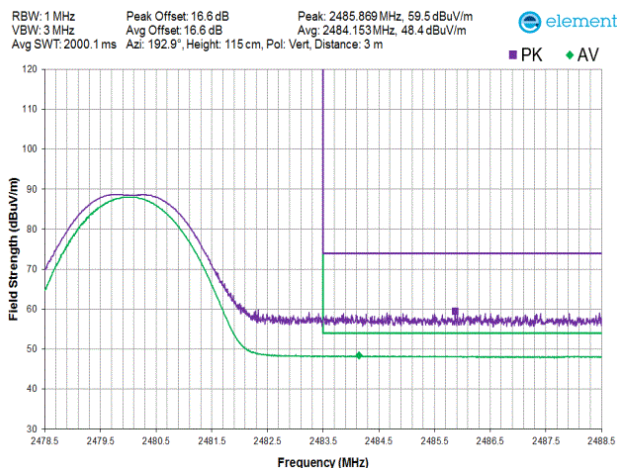
**BLE/GFSK 1 Mbps
Low Channel, 2402 MHz**



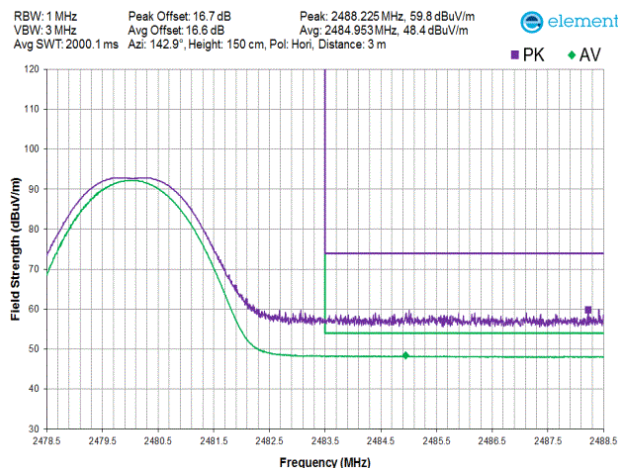
**BLE/GFSK 1 Mbps
High Channel, 2480 MHz**



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

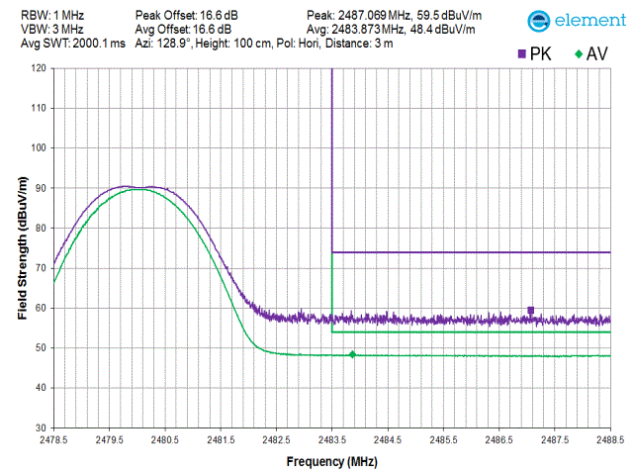


**BLE/GFSK 1 Mbps
High Channel, 2480 MHz**

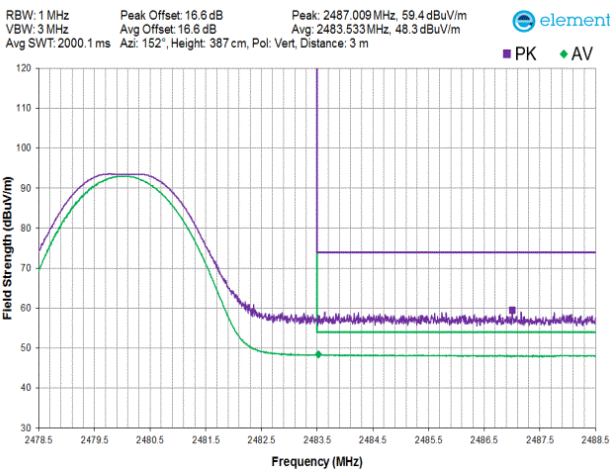


**BLE/GFSK 1 Mbps
High Channel, 2480 MHz**

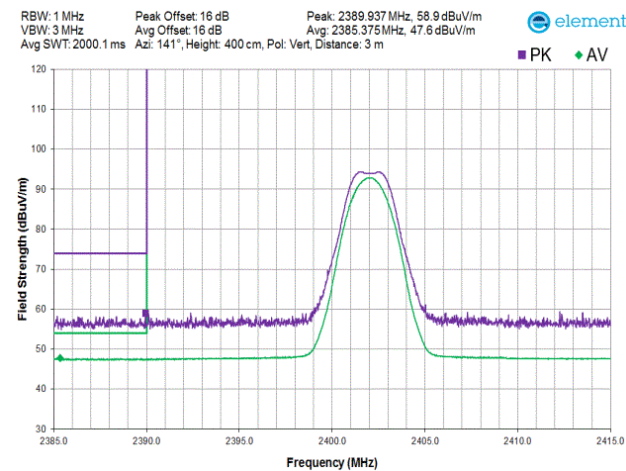
RADIATED SPURIOUS EMISSIONS RESTRICTED BAND EDGE



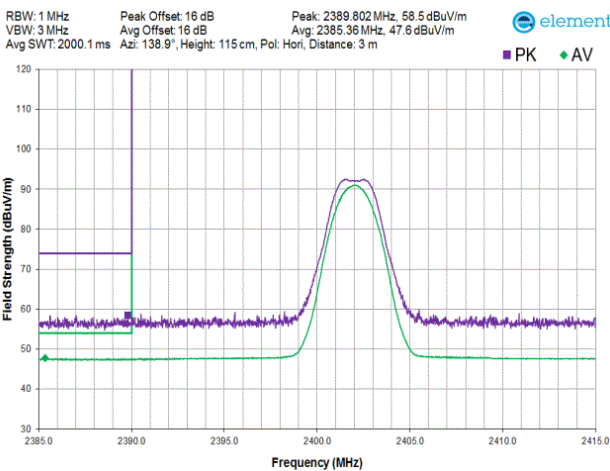
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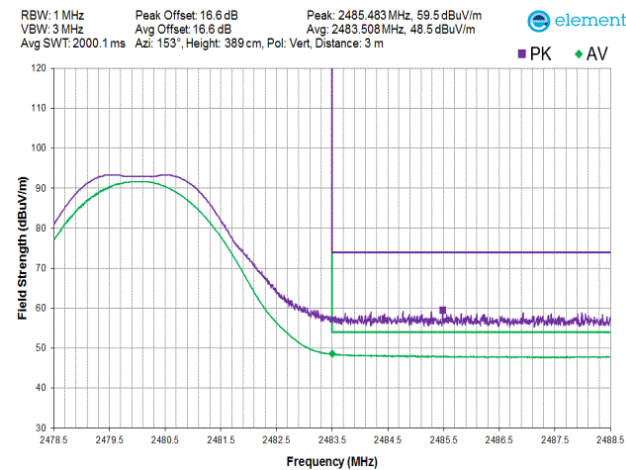


BLE/GFSK 2 Mbps
Low Channel, 2402 MHz

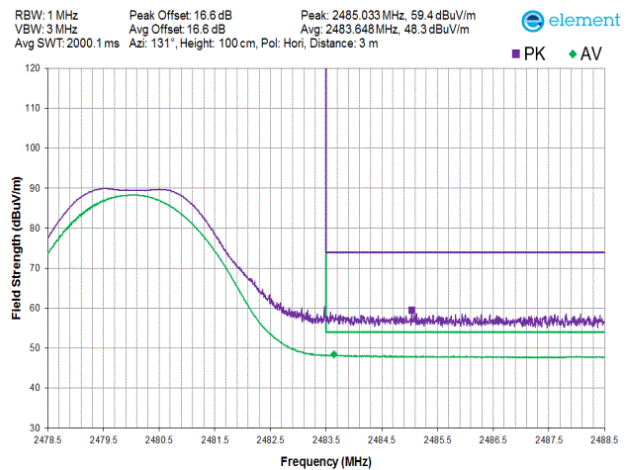


BLE/GFSK 2 Mbps
Low Channel, 2402 MHz

RADIATED SPURIOUS EMISSIONS RESTRICTED BAND EDGE



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



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

End of Test Report