

Multi-Tech Systems, Inc. RBS301 FCC 15.247:2023 RSS-247 Issue 3:2023 RSS-Gen Issue 5:2018+A1:2019+A2:2021 902 - 928 MHz Hybrid Radio

Report: MLTI0234.1 Rev. 2, Issue Date: March 1, 2024





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CERTIFICATE OF TEST



Last Date of Test: March 1, 2023 Re-issue Date: February 7, 2024 Multi-Tech Systems, Inc. EUT: RBS301 V2.2, RBS301 V3.0

Radio Equipment Testing

Standards

Specification	Method
FCC 15.247:2023	
RSS-247 Issue 3:2023	ANSI C63.10:2013, KDB 558074 v05r02:2019
RSS-Gen Issue 5:2018+A1:2019+A2:2021	

Note: RSS-247 Issue 3 has been updated superseding prior editions and amendments noted within the body of this report. The changes between the specifications do not affect the results of the prior testing. The manufacturer attests that no changes have been made to the product. See gap analysis in the appendix along with the manufacturer's attestation.

Results

Test Description	Result	FCC Sections(s)	RSS- Sections(s)	ANSI C63.10 Sections(s)	Comments
Powerline Conducted Emissions	N/A	15.207	RSS-Gen 8.8	6.2	Not required for a battery powered EUT.
Carrier Frequency Separation	Pass	15.247(a)(1)	RSS-247 5.1(b)	7.8.2	
Number of Hopping Frequencies	Pass	15.247(a)(1)	RSS-247 5.1(d)	7.8.3	
Dwell Time	Pass	15.247(a)(1)	RSS-247 5.1(d)	7.8.4	
Band Edge Compliance - Hopping Mode	Pass	15.247(d)	RSS-247 5.5	7.8.6	
Band Edge Compliance	Pass	15.247(d)	RSS-247 5.5	11.11	
Power Spectral Density	Pass	15.247(e)	RSS-247 5.2(b)	11.10.2	An FCC inquiry was leveraged to utilize an average detector for a hybrid radio.
Duty Cycle	Pass	15.247	RSS-247 3.1	11.6	
Occupied Bandwidth (99%)	N/A	15.247(a)	RSS-247 5.2(a)	6.9.3	
Emissions Bandwidth (20 dB)	Pass	15.247(a)	RSS-247 5.2(a)	6.9.2	
Spurious Conducted Emissions	Pass	15.247(d)	RSS-247 5.5	11.11	
Output Power	Pass	15.247(b)	RSS-247 5.4(d)	11.9.1.1	An FCC inquiry was leveraged to utilize an
Equivalent Isotropic Radiated Power	Pass	15.247(b)	RSS-247 5.4(d)	11.9.1.1	average detector for a hybrid radio.

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

CERTIFICATE OF TEST



Spurious Radiated Emissions	Pass	15.247(d)	RSS-247 5.5	6.5, 6.6, 11.12.1, 11.13.2	The testing on the RBS301 V3 was limited to the frequency ranges most likely to cause the highest emissions.
Radiated Emissions for Receiver	N/A	15.101, 15.109	RSS-Gen 7.3	ANSI C63.4 - 12.2.5	Not included per FCC 15.101 as this will be covered under SDoC rules for the FCC. RSS- Gen section 7 stated receiver requirements only apply to standalone receivers operating in the 30-960 MHz band and this is not a standalone receiver.

Deviations From Test Standards

None

Approved By:

la.

Eric Brandon, Department Manager

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REVISION HISTORY



Revision Number	Description	Date (yyyy-mm-dd)	Page Number
00	None		
	Minor changes and clarifications throughout. Also combined FCC and ISED requirements into a single report	2022-11-15	All
	Added SRE data from MLTI0299	2023-03-04	85
01	Updated test dates	2023-03-04	2, 11, 14
	Added configuration MLTI0299-1	2023-03-04	13
	Report revised to reflect RSS-247 Issue 3	2024-02-07	1, 2
	Added Appendix to include Manufacturer Attestation and Gap Analysis.	2024-02-07	90

ACCREDITATIONS AND AUTHORIZATIONS



United States

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

A2LA - Each laboratory is accredited by A2LA to ISO / IEC 17025, and as a product certifier to ISO / IEC 17065 which allows Element to certify transmitters to FCC and IC specifications.

Canada

ISED - Recognized by Innovation, Science and Economic Development Canada as a Certification Body (CB) and as a CAB for the acceptance of test data.

European Union

European Commission – Recognized as an EU Notified Body validated for the EMCD and RED Directives.

United Kingdom

BEIS - Recognized by the UK as an Approved Body under the UK Radio Equipment and UK EMC Regulations.

Australia/New Zealand

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

Korea

MSIT / RRA - Recognized by KCC's RRA as a CAB for the acceptance of test data.

Japan

VCCI - Associate Member of the VCCI. Conducted and radiated measurement facilities are registered.

Taiwan

BSMI – Recognized by BSMI as a CAB for the acceptance of test data.

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

Singapore

IDA – Recognized by IDA as a CAB for the acceptance of test data.

Israel

MOC – Recognized by MOC as a CAB for the acceptance of test data.

Hong Kong

OFCA – Recognized by OFCA as a CAB for the acceptance of test data.

Vietnam

MIC – Recognized by MIC as a CAB for the acceptance of test data.

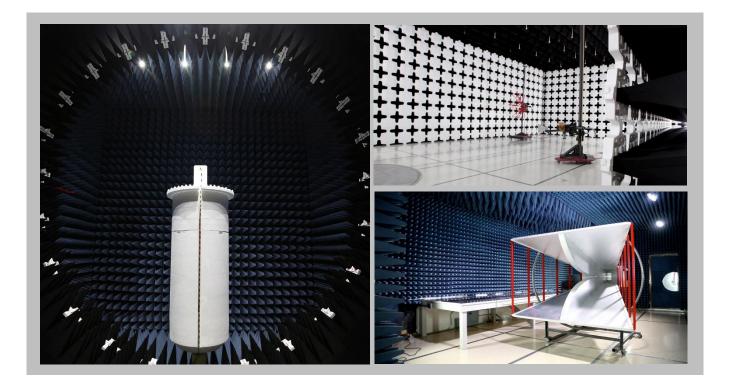
		SCOPE				
	For details on the Scopes of our Accreditations, please visit:					
<u>California</u>	<u>Minnesota</u>	<u>Oregon</u>	<u>Texas</u>	Washington		

FACILITIES





California Labs OC01-17 41 Tesla Irvine, CA 92618 (949) 861-8918	Minnesota Labs MN01-11 9349 W Broadway Ave. Brooklyn Park, MN 55445 (612)-638-5136	Oregon Labs EV01-12 6775 NE Evergreen Pkwy #400 Hillsboro, OR 97124 (503) 844-4066	Texas Labs TX01-09 3801 E Plano Pkwy Plano, TX 75074 (469) 304-5255	Washington Labs NC01-05 19201 120 th Ave NE Bothell, WA 98011 (425)984-6600		
		A2LA				
Lab Code: 3310.04	Lab Code: 3310.05	Lab Code: 3310.02	Lab Code: 3310.03	Lab Code: 3310.06		
Innovation, Science and Economic Development Canada						
2834B-1, 2834B-3	2834E-1, 2834E-3	2834D-1	2834G-1	2834F-1		
		BSMI				
SL2-IN-E-1154R	SL2-IN-E-1152R	SL2-IN-E-1017	SL2-IN-E-1158R	SL2-IN-E-1153R		
		VCCI				
A-0029	A-0109	A-0108	A-0201	A-0110		
Recognized Phase I CAB for ISED, ACMA, BSMI, IDA, KCC/RRA, MIC, MOC, NCC, OFCA						
US0158	US0175	US0017	US0191	US0157		



MEASUREMENT UNCERTAINTY



Measurement Uncertainty

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

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

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

Test	+ MU	- MU
Frequency Accuracy	0.0007%	-0.0007%
Amplitude Accuracy (dB)	1.2 dB	-1.2 dB
Conducted Power (dB)	1.2 dB	-1.2 dB
Radiated Power via Substitution (dB)	0.7 dB	-0.7 dB
Temperature (degrees C)	0.7°C	-0.7°C
Humidity (% RH)	2.5% RH	-2.5% RH
Voltage (AC)	1.0%	-1.0%
Voltage (DC)	0.7%	-0.7%
Field Strength (dB)	5.2 dB	-5.2 dB
AC Powerline Conducted Emissions (dB)	3.2 dB	-3.2 dB

TEST SETUP BLOCK DIAGRAMS

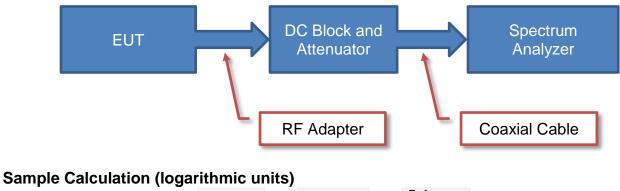


Measurement Bandwidths

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

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

Antenna Port Conducted Measurements

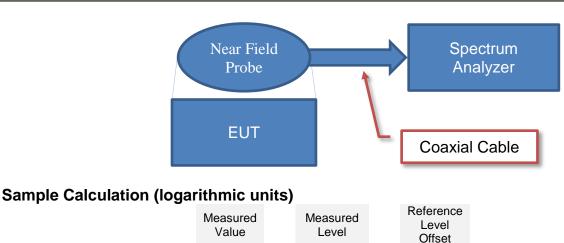


_	Measured Value	-	Measured Level		Reference Level Offset
	71.2	=	42.6	+	28.6

Near Field Test Fixture Measurements

71.2

=



42.6

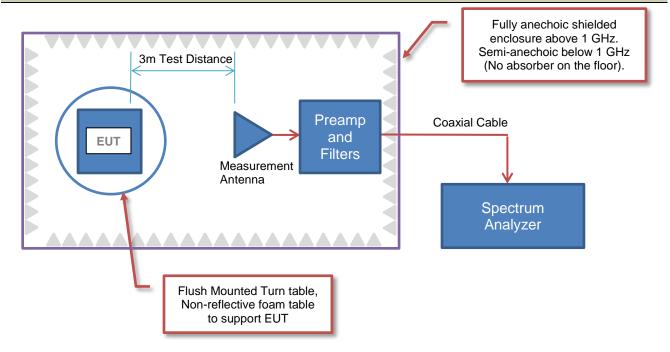
+

28.6

TEST SETUP BLOCK DIAGRAMS



Emissions Measurements

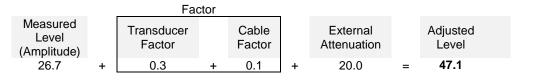


Sample Calculation (logarithmic units)

Radiated Emissions:

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

Conducted Emissions:



Radiated Power (ERP/EIRP) – Substitution Method:

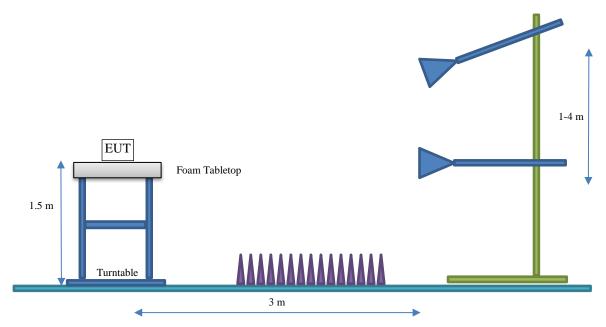
Measured Level into Substitution Antenna (Amplitude dBm)		Substitution Antenna Factor (dBi)		EIRP to ERP (if applicable)		Measured power (dBm ERP/EIRP)
10.0	+	6.0	-	2.15	=	13.9/16.0

TEST SETUP BLOCK DIAGRAMS



Bore Sighting (>1GHz)

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



PRODUCT DESCRIPTION



Client and Equipment Under Test (EUT) Information

Company Name:	Multi-Tech Systems, Inc.
Address:	2205 Woodale Dr
City, State, Zip:	Mounds View, MN 55112
Test Requested By:	Tim Gunn
EUT:	RBS301 V2.2, RBS301 V3.0
First Date of Test:	December 30, 2021
Last Date of Test:	March 1, 2023
Receipt Date of Samples:	December 30, 2021
Equipment Design Stage:	Prototype
Equipment Condition:	No Damage
Purchase Authorization:	Verified

Information Provided by the Party Requesting the Test

Functional Description of the EUT:

The wireless acceleration-based movement sensor uses an internal accelerometer to detect movement of an asset. When motion is detected that exceeds a certain threshold, an alert is sent over the wireless network. Versions of the sensor support the major LPWAN standards such as Sigfox, LoRa/LoRaWAN, and SubGig.

Two worst case scenarios were tested one as the base model and the second with the 10m Water Rope. HW Version: 2.2 FW Version: 2.5.1

A model variant was tested for Spurious Radiated Emissions and included in the test report HW Version: 3.0

Testing Objective:

Seeking to demonstrate compliance under FCC 15.247 and RSS-247 for operation in the 902 - 928 MHz Band as a Hybrid radio.





Configuration MLTI0234-1

EUT					
Description	Manufacturer	Model/Part Number	Serial Number		
RBS301 V2.2	Multi-Tech Systems, Inc.	RBS301-Jolt-004-US	P1		

Configuration MLTI0234-3

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
RBS301 V2.2	Multi-Tech Systems, Inc.	RBS301-Jolt-004-US	T4

Configuration MLTI0283-1

EUT					
Description Manufacturer Model/Part Number Serial Number					
RBS301 V3.0	Multi-Tech Systems, Inc.	RBS301-Jolt-004-US	D1		





Configuration MLTI0299-1

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
RBS301 V3.0	Multi-Tech Systems, Inc.	RBS301-Jolt-004-US	E7

MODIFICATIONS



Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
		Carrier	Tested as	No EMI suppression	EUT remained at
1	2021-12-30	Frequency	delivered to	devices were added or	Element following
		Separation	Test Station.	modified during this test.	the test.
		Number of	Tested as	No EMI suppression	EUT remained at
2	2021-12-30	Hopping	delivered to	devices were added or	Element following
		Frequencies	Test Station.	modified during this test.	the test.
		Spurious	Tested as	No EMI suppression	EUT remained at
3	2022-01-03	Radiated	delivered to	devices were added or	Element following
		Emissions	Test Station.	modified during this test.	the test.
			Tested as	No EMI suppression	EUT remained at
4	2022-01-04	Duty Cycle	delivered to	devices were added or	Element following
			Test Station.	modified during this test.	the test.
			Tested as	No EMI suppression	EUT remained at
5	2022-01-04	Dwell Time	delivered to	devices were added or	Element following
			Test Station.	modified during this test.	the test.
			Tested as	No EMI suppression	EUT remained at
6	2022-01-04	Output Power	delivered to	devices were added or	Element following
			Test Station.	modified during this test.	the test.
		Equivalent	Tested as	No EMI suppression	EUT remained at
7	2022-01-04	Isotropic	delivered to	devices were added or	Element following
		Radiated Power	Test Station.	modified during this test.	the test.
		Band Edge	Tested as	No EMI suppression	EUT remained at
8	2022-01-04	Compliance	delivered to	devices were added or	Element following
		-	Test Station.	modified during this test.	the test.
		Band Edge	Tested as	No EMI suppression	EUT remained at
9	2022-01-04	Compliance -	delivered to	devices were added or	Element following
		Hopping Mode	Test Station.	modified during this test.	the test.
		Occupied	Tested as	No EMI suppression	EUT remained at
10	2022-01-04	Bandwidth (99%)	delivered to	devices were added or	Element following
		. ,	Test Station.	modified during this test.	the test.
		Spurious	Tested as	No EMI suppression	EUT remained at
11	2022-01-04	Conducted	delivered to	devices were added or	Element following
		Emissions	Test Station.	modified during this test.	the test.
			Tested as	No EMI suppression	EUT was removed
12	2022-01-04	Power Spectral	delivered to	devices were added or	from the Element
12	2022 01 04	Density	Test Station.	modified during this test.	facility following
					the test.
		Spurious	Tested as	No EMI suppression	Scheduled testing
13	2023-03-01	Radiated	delivered to	devices were added or	was completed.
		Emissions	Test Station.	modified during this test.	nao compicica.

POWER SETTINGS AND ANTENNAS



The power settings, antenna gain value(s) and cable loss (if applicable) used for the testing contained in this report were provided by the customer and will affect the validity of the results. Element assumes no responsibility for the accuracy of this information.

ANTENNA GAIN (dBi)

Туре	Provided by:	Provided by: Frequency Range (MHz)	
Ceramic Chip Antenna	Unictron Technologies Corp.	902-928	0.3

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

SETTINGS FOR ALL TESTS IN THIS REPORT

	Position	
Modulation Types	(if multiple channels)	Power Setting
	Low Channel, 902.3 MHz	20 dBm
125 kHz Channel (Data Rates 3)*	Mid Channel, 908.7 MHz	20 dBm
	High Channel, 914.9 MHz	20 dBm
	Low Channel, 903 MHz	20 dBm
500 kHz Channel (Data Rate 4)	Mid Channel, 909.4 MHz	20 dBm
	High Channel, 914.2 MHz	20 dBm

*Data rate 3 was determined to be the worst case data rate for 125 kHz bandwidth

CARRIER FREQUENCY SEPARATION



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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Generator - Signal	Keysight	N5182B	TFX	2020-04-28	2023-04-28
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2021-04-16	2022-04-16
Block - DC	Fairview Microwave	SD3379	AMZ	2021-11-05	2022-11-05
Attenuator	INMET	64671 6A-10dB	AUI	2021-08-04	2022-08-04
Attenuator	Fairview Microwave	SA18S5W-20	RFX	2021-06-02	2022-06-02
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2021-09-12	2022-09-12

TEST DESCRIPTION

The channel carrier frequencies in the 902-928 MHz band must be separated by 25 kHz or the 20dB bandwidth of the hopping channel, whichever is greater. The EUT was operated in pseudorandom hopping mode. The spectrum was scanned across two adjacent peaks. The separation between the peaks of these channels was measured.

CARRIER FREQUENCY SEPARATION

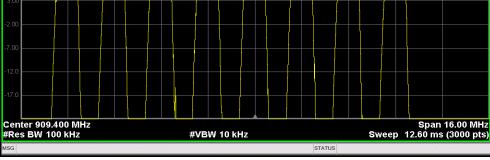


				TbtTx 2021.12.14.0	XMit 2020.12.30.0
EUT:	RB\$301		Work Order:	MLTI0234	
Serial Number:	T4		Date:	30-Dec-21	
Customer:	Multi-Tech Systems, Inc.		Temperature:	22.7 °C	
Attendees:	Mike Fette		Humidity:	22.5% RH	
Project:	None		Barometric Pres.:	1000 mbar	
Tested by:	Andrew Rogstad	Power: Battery	Job Site:	MN08	
TEST SPECIFICAT	ONS	Test Method	•		
FCC 15.247:2021		ANSI C63.10:2013			
RSS-247 Issue 2:2	17	ANSI C63.10:2013			
COMMENTS					
DEVIATIONS FROM	set includes measurement cable, attenuators, DC block, and c				
None					
Configuration #	3 Signature	to Rogatal			
			Value (MHz)	Limit (≥) (MHz)	Results
Channel Bandwidth	(125 kHz)				
	Data Rate 3		0.2	0.14	Pass
Channel Bandwidth	500 kHz)				
	Data Rate 4		1.59	0.72	Pass

CARRIER FREQUENCY SEPARATION







NUMBER OF HOPPING FREQUENCIES



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Block - DC	Fairview Microwave	SD3379	AMZ	2021-11-05	2022-11-05
Attenuator	INMET	64671 6A-10dB	AUI	2021-08-04	2022-08-04
Attenuator	Fairview Microwave	SA18S5W-20	RFX	2021-06-02	2022-06-02
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2021-09-12	2022-09-12

TEST DESCRIPTION

The number of hopping frequencies was measured across the authorized band. The hopping function of the EUT was enabled.

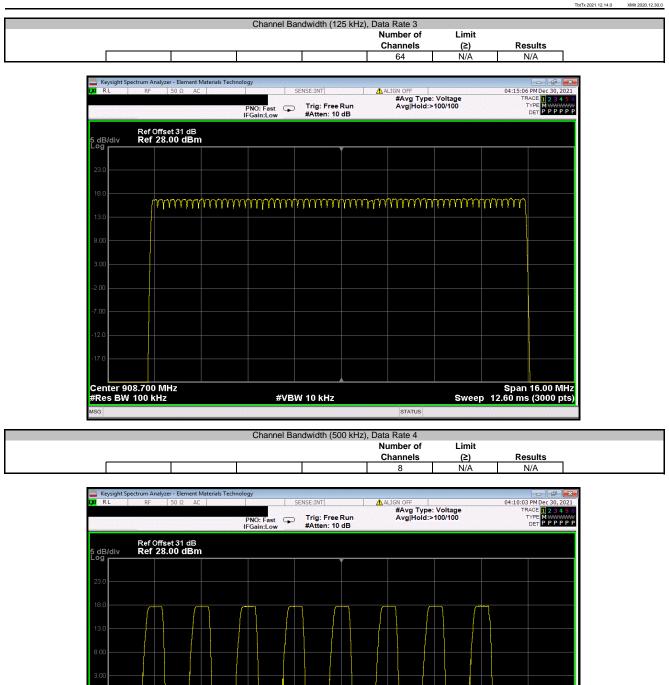
NUMBER OF HOPPING FREQUENCIES



						TbtTx 2021.12.14.0	XMit 2020.12.30.0
EUT:	RBS301				Work Order:	MLTI0234	
Serial Number:	T4				Date:	30-Dec-21	
	Multi-Tech Systems, Inc.				Temperature:		
	Mike Fette					22.5% RH	
Project:					Barometric Pres.:		
	Andrew Rogstad		Power:		Job Site:	MN08	
TEST SPECIFICAT	IONS			Test Method			
FCC 15.247:2021				ANSI C63.10:2013			
RSS-247 Issue 2:20	017			ANSI C63.10:2013			
COMMENTS							
	set includes measuremer	nt cable, attenuators, DC block, and e	customer patch cab	le.			
	TEST STANDARD						
None							
Configuration #	3	Signature	to R	gatan			
					Number of	Limit	
					Channels	(≥)	Results
Channel Bandwidth	(125 kHz)						
	Data Rate 3				64	N/A	N/A
Channel Bandwidth	(500 kHz)						
	Data Rate 4				8	N/A	N/A

NUMBER OF HOPPING FREQUENCIES







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Attenuator	Fairview Microwave	SA18S5W-20	RFX	2021-06-02	2022-06-02
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2021-09-12	2022-09-12

TEST DESCRIPTION

The average dwell time per hopping channel was measured at one hopping channel in the middle of the authorized band. The hopping function of the EUT was enabled.

The dwell time limit is based on the Number of Hopping Channels * 400 mS. For LoRa this would be 64 Channels * 400mS = 25.6S, and 8 Channels * 400mS = 3.2S



-	: RBS301							Work Order:		
Serial Number:									4-Jan-22	
	: Multi-Tech Systems, Inc							Temperature:		
	: Mike Fette							Humidity:		
Project:							Barc	ometric Pres.:		
	: Andrew Rogstad			Power:	Battery			Job Site:	MN08	
EST SPECIFICAT	TIONS				Test Method					
CC 15.247:2022					ANSI C63.10:2013					
SS-247 Issue 2:2	2017				ANSI C63.10:2013					
COMMENTS					-					
econds.										
DEVIATIONS FROM	M TEST STANDARD									
seconds. DEVIATIONS FROM None	M TEST STANDARD									
EVIATIONS FROM	M TEST STANDARD	Signature	a,	- je	optan					
DEVIATIONS FROM		Signature	a,	/ je	atol	Pulse Width (ms)	Number of Pulses	Value (ms)	Limit (ms)	Results
EVIATIONS FROM	3	Signature	a,	/ Æ	Jak					Results
EVIATIONS FROM	3 n (125 kHz)	I, 908.7 MHz	a,	- Te	John	(ms)	Pulses	(ms)	(ms)	
DEVIATIONS FROM lone	3 n (125 kHz) Data Rate 3	l, 908.7 MHz Pulse Length	Å,	r të	- John	(ms) 399.7		(ms) N/A	(ms)	Results N/A
DEVIATIONS FROM lone	3 n (125 kHz) Data Rate 3	I, 908.7 MHz	a,	- FE	Jak	(ms)	Pulses	(ms)	(ms)	
DEVIATIONS FROM lone	3 h (125 kHz) Data Rate 3 Mid Channe h (500 kHz) Data Rate 4	I, 908.7 MHz Pulse Length Number of Pulses	Â,	r të	- Jak	(ms) 399.7	Pulses N/A	(ms) N/A	(ms)	N/A
DEVIATIONS FROM lone	3 n (125 kHz) Data Rate 3 Mid Channe n (500 kHz)	I, 908.7 MHz Pulse Length Number of Pulses	<i>a</i> ,	r të	- Jart	(ms) 399.7 399.7	Pulses N/A 1	(ms) N/A 399.7	(ms) N/A 400	N/A Pass
EVIATIONS FRO	3 h (125 kHz) Data Rate 3 Mid Channe h (500 kHz) Data Rate 4	I, 908.7 MHz Pulse Length Number of Pulses	<i>a</i> _h	e të	- Jak	(ms) 399.7	Pulses N/A	(ms) N/A	(ms)	N/A



		Pulse Width	Data Rate 3, Mid C Number of	Value	Limit	
	1	(ms) 399.7	Pulses N/A	(ms) N/A	(ms) N/A	Results N/A
		399.7	IN/A	N/A	IN/A	N/A
Keysight Spectrum Analyzer	r - Element Materials Te	echnology				
UXIRL RF			ENSE:INT Trig Delay-5.000 m	ALIGN OFF	e: Log-Pwr	03:11:47 PM Jan 04, 202
		PNO: Wide 🖵	Trig: Video	Avg Hold	: 3/2	TRACE 1 2 3 4 5 TYPE MWWW DET P N N N N
		IFGain:Low	Atten: 6 dB			ΔMkr1 399.7 m
10 dB/div Ref -4.0	0 dBm					3.449 di
Log						440
-14 0			As a fight should be the state of the balance because		and the second	1∆2
	den overstation and one	Alter de relation relation de la comp	larrel en ante ante ante an	and the second secon	and an instant fied.	
-24.0						TRIG LV
-34.0						
-44.0						
-54.0						
-64.0						
-04.0						
-74.0						
-84.0						فوريعها القرارة القرعين والتقريفا ماراتين يعتاج ومراقي
-94.0						
						Span 0 H
Center 908.700000	MHz					
Center 908.700000 Res BW 100 kHz	MHz	#VB	№ 10 kHz		Swee	p 500.2 ms (8192 pts
) MHz	#VBI	₩ 10 kHz	STATUS	Swee	p 500.2 ms (8192 pts
Res BW 100 kHz						
Res BW 100 kHz			N 10 kHz ta Rate 3, Mid Cha Number of			
Res BW 100 kHz		idth (125 kHz), Da Pulse Width (ms)	ta Rate 3, Mid Cha Number of Pulses	nnel, 908.7 MH Value (ms)	z, Number of I Limit (ms)	Pulses
Res BW 100 kHz		idth (125 kHz), Da Pulse Widt h	ta Rate 3, Mid Cha Number of	nnel, 908.7 MH Value	z, Number of I Limit	Pulses
Res BW 100 kHz Msg C	Channel Bandwi	idth (125 kHz), Da Pulse Width (ms) 399.7	ta Rate 3, Mid Cha Number of Pulses	nnel, 908.7 MH Value (ms) 399.7	z, Number of I Limit (ms)	Pulses Results Pass
Res BW 100 kHz	Channel Bandwi	idth (125 kHz), Da Pulse Width (ms) 399.7	ta Rate 3, Mid Cha Number of Pulses	nnel, 908.7 MH Value (ms) 399.7	z, Number of I Limit (ms)	Pulses Results Pass
Res BW 100 kHz Msg C	Channel Bandwi	idth (125 kHz), Da Pulse Width (ms) 399.7	ta Rate 3, Mid Cha Number of Pulses 1 1	nnel, 908.7 MH Value (ms) 399.7	z, Number of I Limit (ms) 400	Pulses Results Pass
Res BW 100 kHz Msg C	Channel Bandwi	idth (125 kHz), Da Pulse Width (ms) 399.7	ta Rate 3, Mid Cha Number of Pulses	nnel, 908.7 MH Value (ms) 399.7	z, Number of I Limit (ms) 400	Pulses Results Pass
Res BW 100 kHz MSG C Keysight Spectrum Analyzer Keysight Spectrum Analyzer Keysight Spectrum Analyzer C Lo dB/div Ref -4.0	Channel Bandwi	idth (125 kHz), Da Pulse Width (ms) 399.7	ta Rate 3, Mid Cha Number of Pulses	nnel, 908.7 MH Value (ms) 399.7	z, Number of I Limit (ms) 400	Pulses Results Pass
Res BW 100 kHz MSG C Keysight Spectrum Analyzer	Channel Bandwi	idth (125 kHz), Da Pulse Width (ms) 399.7	ta Rate 3, Mid Cha Number of Pulses	nnel, 908.7 MH Value (ms) 399.7	z, Number of I Limit (ms) 400	Pulses Results Pass
Res BW 100 kHz Msg C	Channel Bandwi	idth (125 kHz), Da Pulse Width (ms) 399.7	ta Rate 3, Mid Cha Number of Pulses	nnel, 908.7 MH Value (ms) 399.7	z, Number of I Limit (ms) 400	Pulses Results Pass 04:30:33 PM Jan 04, 2022 Trace 05:35 PM Jan 04, 2022
Res BW 100 kHz MSG C C C C C C C C C C C C C C C C C C C	Channel Bandwi	idth (125 kHz), Da Pulse Width (ms) 399.7	ta Rate 3, Mid Cha Number of Pulses	nnel, 908.7 MH Value (ms) 399.7	z, Number of I Limit (ms) 400	Pulses Results Pass 04:30:33 PM Jan 04, 2022 Trace 05:35 PM Jan 04, 2022
Res BW 100 kHz Msg C	Channel Bandwi	idth (125 kHz), Da Pulse Width (ms) 399.7	ta Rate 3, Mid Cha Number of Pulses	nnel, 908.7 MH Value (ms) 399.7	z, Number of I Limit (ms) 400	Pulses Results Pass 04:30:33 PM Jan 04, 2022 Trace 05:35 PM Jan 04, 2022



	Pulse Width	Number of	Value	Limit	
	(ms)	Pulses	(ms)	(ms)	Results
	177	N/A	N/A	N/A	N/A
Line Sectrum Analyzer - Element Materials T		NSE:INT	ALIGN OFF		02:40:24 PM Jan 04, 2022
	PNO: Fast +++	Trig Delay-5.000 ms Trig: Video #Atten: 10 dB	#Avg Type	: Voltage	TRACE 1 2 3 4 5 6 TYPE WWWWWW DET P P P P P P
Ref Offset 31 dB 5 dB/div Ref 31.00 dBm				Δ	Mkr1 177.0 ms 2.53 dB
26.0					
21.0					1∆2
16.0 X2			<u>ากระกุณตรางใจจะกุปกร</u>		TRIG LVL
11.0					
6.00					
1.00					
-4.00					
-9.00					
-14,0					
Center 909.400000 MHz Res BW 510 kHz	#VBW	/ 30 kHz		Sweep 2	Span 0 Hz 200.0 ms (601 pts)
MSG			STATUS		
Channel Ban	dwidth (500 kHz), D				
	Pulse Width	Number of	Value	Limit	-
	(ms) 177	Pulses 1	(ms) 177	(ms) 400	Results Pass

	ctrum Analyzer - Element Materials T				
KI RL	RF 50 Ω AC	5	SENSE:INT	ALIGN OFF	02:43:15 PM Jan 04, 2022
	-	PNO: Fast ↔→ IFGain:Low	Trig Delay-5.000 ms Trig: Video #Atten: 10 dB	#Avg Type: Voltage	TRACE 1 2 3 4 5 TYPE WWWWWW DET P P P P P
dB/div	Ref Offset 31 dB Ref 31.00 dBm				
26.0					
21.0					
16.0					TRIG LV
11.0					
5.00					
1.00					
4.00					
14.0					
enter 90 tes BW 5	9.400000 MHz 10 kHz	#VB\	N 30 kHz	SI	Span 0 H: weep 3.200 s (601 pts
ISG				STATUS	



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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Generator - Signal	Keysight	N5182B	TFX	2020-04-28	2023-04-28
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2021-04-16	2022-04-16
Block - DC	Fairview Microwave	SD3379	AMZ	2021-11-05	2022-11-05
Attenuator	INMET	64671 6A-10dB	AUI	2021-08-04	2022-08-04
Attenuator	Fairview Microwave	SA18S5W-20	RFX	2021-06-02	2022-06-02
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2021-09-12	2022-09-12

TEST DESCRIPTION

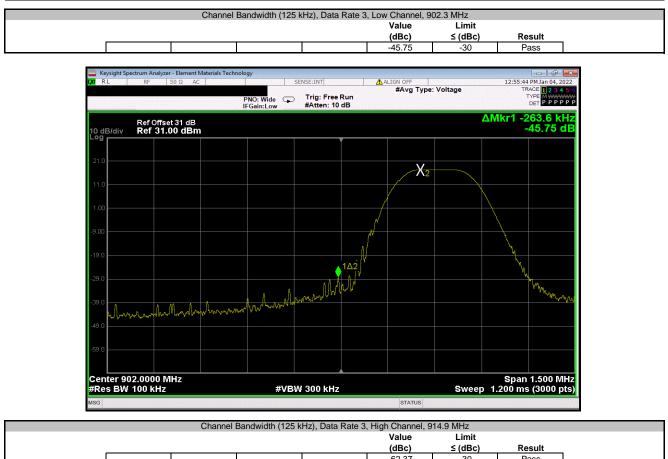
The spurious RF conducted emissions at the edges of the authorized band were measured with the EUT set to low and high transmit frequencies. The EUT was transmitting at the data rate(s) listed in the datasheet in a no hop mode. The channels closest to the band edges were selected.

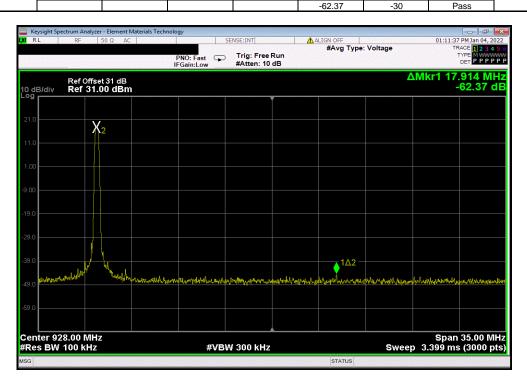
The spectrum was scanned below the lower band edge and above the higher band edge.



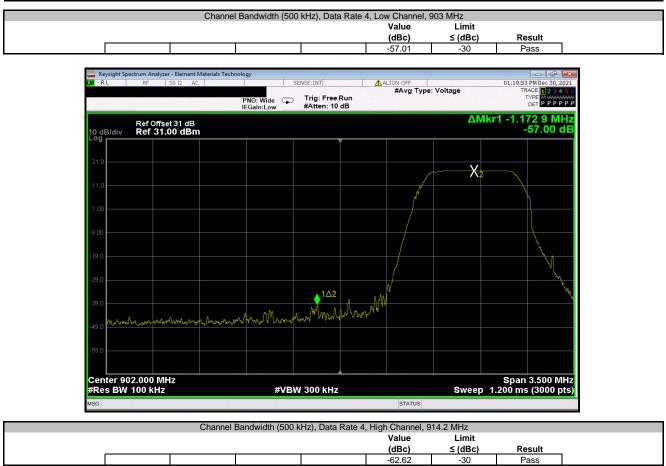
		TbtTx 2021.10.29.2	XMit 2020.12.30.0
EUT: RBS301	Work Order:	MLTI0234	
Serial Number: T4		4-Jan-22	
Customer: Multi-Tech Systems, Inc.	Temperature:	22.6 °C	
Attendees: Mike Fette	Humidity:		
Project: None	Barometric Pres.:		
Tested by: Andrew Rogstad Power: Battery	Job Site:	MN08	
TEST SPECIFICATIONS Test Method			
FCC 15.247:2022 ANSI C63.10:2013			
RSS-247 Issue 2:2017 ANSI C63.10:2013			
COMMENTS			
Reference level offset includes measurement cable, attenuators, DC block, and customer patch cable.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration # 3 Signature The Rogaland			
	Value (dBc)	Limit ≤ (dBc)	Result
Channel Bandwidth (125 kHz)			
Data Rate 3			
Low Channel, 902.3 MHz	-45.75	-30	Pass
High Channel, 914.9 MHz	-62.37	-30	Pass
Channel Bandwidth (500 kHz) Data Rate 4			
Low Channel, 903 MHz	-57.01	-30	Pass
High Channel, 914.2 MHz	-62.62	-30	Pass











RL RF 50 Ω AC		SENSE:INT	ALIGN OFF	02:21:39 PM Dec 30, 20
	PNO: Fast 🕞 IFGain:Low	Trig: Free Run #Atten: 10 dB	#Avg Type: Voltage	TRACE 1 2 3 4 TYPE M WWW DET P P P P
Ref Offset 31 dB dB/div Ref 31.00 dBm				ΔMkr1 22.758 M⊦ -62.62 d
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.0				
enter 928.00 MHz				Span 35.00 M
es BW 100 kHz	#VE	W 300 kHz	Swe	ep 3.399 ms (3000 p



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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Generator - Signal	Keysight	N5182B	TFX	2020-04-28	2023-04-28
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2021-04-16	2022-04-16
Block - DC	Fairview Microwave	SD3379	AMZ	2021-11-05	2022-11-05
Attenuator	INMET	64671 6A-10dB	AUI	2021-08-04	2022-08-04
Attenuator	Fairview Microwave	SA18S5W-20	RFX	2021-06-02	2022-06-02
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2021-09-12	2022-09-12

TEST DESCRIPTION

The spurious RF conducted emissions at the edges of the authorized band were measured with the EUT set to its normal pseudorandom hopping sequence. The EUT was transmitting at the data rate(s) listed in the datasheet.

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



					TbtTx 2021.12.14.0	XMit 2020.12.30.0
EUT: RBS301				Work Order:		
Serial Number: T4					4-Jan-22	
Customer: Multi-Tech Systems, In	IC.			Temperature:	22.7 °C	
Attendees: Mike Fette					22.5% RH	
Project: None				Barometric Pres.:	1000 mbar	
Tested by: Andrew Rogstad		Power:	Battery	Job Site:	MN08	
TEST SPECIFICATIONS			Test Method			
FCC 15.247:2022			ANSI C63.10:2013			
RSS-247 Issue 2:2017			ANSI C63.10:2013			
COMMENTS						
Reference level offset includes measurem	ent cable, attenuators, DC bloc	k, and customer patch cable	e.			
DEVIATIONS FROM TEST STANDARD						
None						
None						
Configuration # 3		as R	the			
	Signature	0.4	- June 1			
				Value	Limit	
				(dBc)	≤ (dBc)	Result
Hopping Mode (All Channels)						
Channel Bandwidth (125						
Data Rate						
	Low Channel, 902.3 MHz			-53.06	-30	Pass
	High Channel, 914.9 MHz			-62.4	-30	Pass
Channel Bandwidth (500						
Data Rate						
	Low Channel, 903 MHz			-59.94	-30	Pass
	High Channel, 914.2 MHz			-62.58	-30	Pass





#VBW 300 kHz

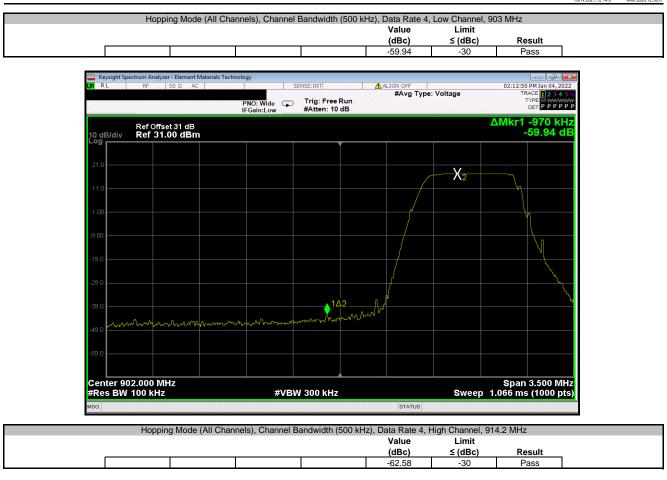
 X_2

H.

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Center 928.00 MHz #Res BW 100 kHz Span 35.00 MHz Sweep 3.397 ms (1000 pts)





RL F	RF 50 Ω /	AC		SENSE:INT	<u>∧</u> ∧	LIGN OFF		02:13:2	7 PM Jan 04, 20
			PNO: Fast 🕞 FGain:Low	Trig: Free F #Atten: 10		#Avg Type:	Voltage	Т	RACE 1 2 3 4 TYPE MWWW DET P P P P
	of Offset 31 dE ef 31.00 dB							ΔMkr1 2	21.34 Mł -62.58 d
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	X ₂								
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.0									
nter 928.0					k			Spar	1 35.00 M
es BW 100	KHZ		#VE	3W 300 kHz			Swee	p 3.397 m	s (1000 pi

POWER SPECTRAL DENSITY



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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Generator - Signal	Keysight	N5182B	TFX	2020-04-28	2023-04-28
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2021-04-16	2022-04-16
Block - DC	Fairview Microwave	SD3379	AMZ	2021-11-05	2022-11-05
Attenuator	INMET	64671 6A-10dB	AUI	2021-08-04	2022-08-04
Attenuator	Fairview Microwave	SA18S5W-20	RFX	2021-06-02	2022-06-02
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2021-09-12	2022-09-12

TEST DESCRIPTION

The power spectral density was measured using the channels and modes as called out on the following data sheets. The transmit power was set to its default maximum.

The method AVGPSD-2 in section 11.10.5 of ANSI C63.10:2013 was used to make the measurement. This method uses trace averaging and RMS detection across ON and OFF times of the EUT transmissions. Following the measurement a duty cycle correction was applied by adding [10 log (1 / D)], where D is the duty cycle, to the measured power to compute the average power during the actual transmission times. This method is allowed as the same method has been used to determine the conducted output power.

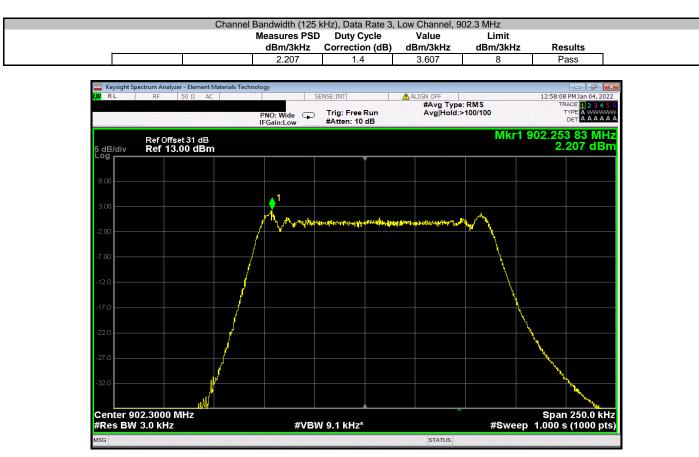
POWER SPECTRAL DENSITY



TbtTx 2021.10.29.2 XMit 2020.12.30.0 EUT: RBS301 Work Order: MLTI0234 Serial Number: T4 Customer: Multi-Tech Systems, Inc. Date: 4-Jan-22 Temperature: 22.7 °C Humidity: 22.6% RH Barometric Pres.: 1000 mbar Job Site: MN08 Attendees: Mike Fette Project: None Tested by: Andrew Rogstad TEST SPECIFICATIONS Power: Battery Test Method FCC 15.247:2022 ANSI C63.10:2013 RSS-247 Issue 2:2017 COMMENTS ANSI C63.10:2013 Reference level offset includes measurement cable, attenuators, DC block, and customer patch cable. Per an FCC inquiry an average detector was used to make the power measurement on the Hybrid device per ANSI C63.10:2013 section 11.1. DEVIATIONS FROM TEST STANDARD None Roptar 3 Configuration # an Signature Duty Cycle Correction (dB) Measures PSD Value Limit dBm/3kHz dBm/3kHz dBm/3kHz Results Channel Bandwidth (125 kHz) Data Rate 3 2.207 2.06 1.989 Low Channel, 902.3 MHz 1.4 1.4 1.4 3.607 8 Pass Mid Channel, 908.7 MHz High Channel, 914.9 MHz 3.46 3.389 Pass Pass 8 8 Channel Bandwidth (500 kHz) Data Rate 4 Low Channel, 903 MHz -5.559 2.6 -2.959 8 Pass Mid Channel, 909.4 MHz High Channel, 914.2 MHz -5.449 -5.362 2.6 2.6 -2.849 8 8 Pass Pass -2.762

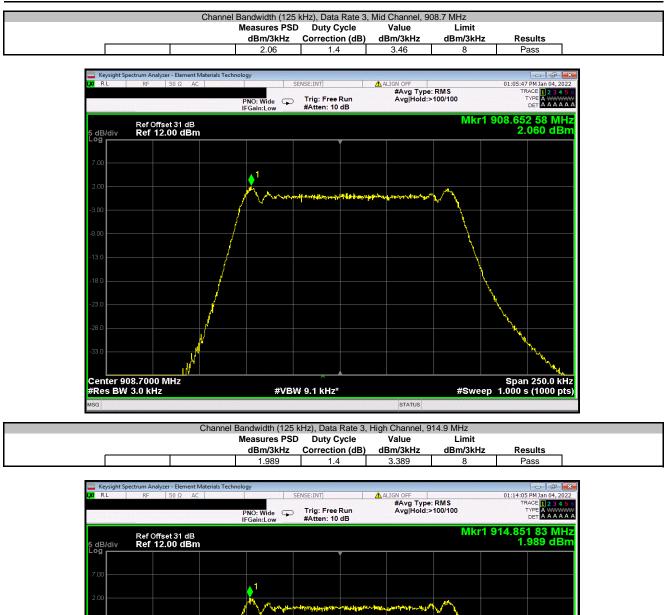
POWER SPECTRAL DENSITY





POWER SPECTRAL DENSITY





#VBW 9.1 kHz*

STATUS

Center 914.9000 MHz #Res BW 3.0 kHz Span 250.0 kHz #Sweep 1.000 s (1000 pts)

POWER SPECTRAL DENSITY





 14.0
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 -19.0

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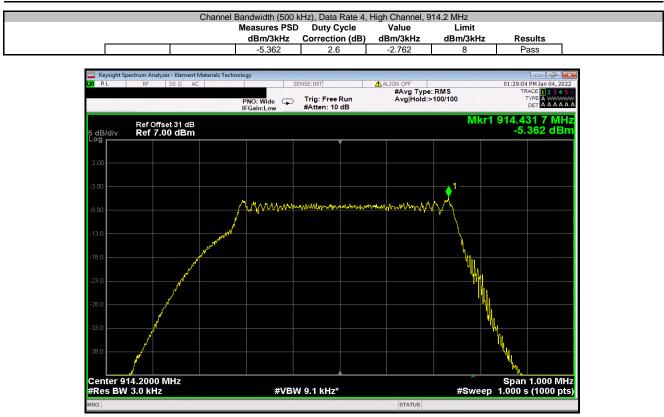
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POWER SPECTRAL DENSITY





0



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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Generator - Signal	Keysight	N5182B	TFX	2020-04-28	2023-04-28
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2021-04-16	2022-04-16
Block - DC	Fairview Microwave	SD3379	AMZ	2021-11-05	2022-11-05
Attenuator	INMET	64671 6A-10dB	AUI	2021-08-04	2022-08-04
Attenuator	Fairview Microwave	SA18S5W-20	RFX	2021-06-02	2022-06-02
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2021-09-12	2022-09-12

TEST DESCRIPTION

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

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

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

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

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



	RBS301						Work Order:		
Serial Number:								4-Jan-22	
	Multi-Tech Systems, Inc.						Temperature:		
Attendees:								22.6% RH	
Project:				-		E	Barometric Pres.:		
	Andrew Rogstad		Power	: Battery			Job Site:	MN08	
EST SPECIFICATI	IONS			Test Method					
CC 15.247:2022				ANSI C63.10:2013					
RSS-247 Issue 2:20	17			ANSI C63.10:2013					
COMMENTS									
	set includes measurement cable, a								
	I TEST STANDARD								
lone									
Configuration #	3		13 /1	5 40					
	Ĵ	Signature	and to	oplast		Number of	Value	Limit	
		Signature	Char R	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
Channel Bandwidth ((125 kHz)	Signature	Char 10		Period				Results
Channel Bandwidth ((125 kHz) Data Rate 3	v	Chap 10	Pulse Width			(%)	(%)	
hannel Bandwidth ((125 kHz) Data Rate 3 Low Channel, 902.3 M	Hz	Chap 10	Pulse Width 51.449 ms	71.678 ms	Pulses 1	(%) 71.8	(%) N/A	N/A
hannel Bandwidth ((125 kHz) Data Rate 3 Low Channel, 902.3 M Low Channel, 902.3 M	Hz Hz	Chip To	Pulse Width 51.449 ms N/A	71.678 ms N/A		(%) 71.8 N/A	(%) N/A N/A	N/A N/A
hannel Bandwidth ((125 kHz) Data Rate 3 Low Channel, 902.3 M Low Channel, 902.3 M Mid Channel, 908.7 M	Hz Hz Hz	Chop Ic	Pulse Width 51.449 ms N/A 51.46 ms	71.678 ms N/A 71.677 ms	Pulses 1	(%) 71.8 N/A 71.8	(%) N/A N/A N/A	N/A N/A N/A
Channel Bandwidth ((125 kHz) Data Rate 3 Low Channel, 902.3 M Low Channel, 902.3 M Mid Channel, 908.7 M Mid Channel, 908.7 M	Hz Hz Hz Hz	Chap 10	Pulse Width 51.449 ms N/A 51.46 ms N/A	71.678 ms N/A 71.677 ms N/A	Pulses 1	(%) 71.8 N/A 71.8 N/A	(%) N/A N/A N/A N/A	N/A N/A N/A N/A
Channel Bandwidth ((125 kHz) Data Rate 3 Low Channel, 902.3 M Mid Channel, 908.7 M Mid Channel, 908.7 M High Channel, 914.9 N	Hz Hz Hz tz Hz	Chop Ic	Pulse Width 51.449 ms N/A 51.46 ms N/A 51.46 ms	71.678 ms N/A 71.677 ms N/A 71.665 ms	Pulses 1 5 1 5 1 5 1 5 1	(%) 71.8 N/A 71.8 N/A 71.8	(%) N/A N/A N/A N/A	N/A N/A N/A N/A N/A
Channel Bandwidth ((125 kHz) Data Rate 3 Low Channel, 902.3 M Mid Channel, 908.7 M Mid Channel, 908.7 M High Channel, 914.9 N High Channel, 914.9 N	Hz Hz Hz tz Hz		Pulse Width 51.449 ms N/A 51.46 ms N/A	71.678 ms N/A 71.677 ms N/A	Pulses 1	(%) 71.8 N/A 71.8 N/A	(%) N/A N/A N/A N/A	N/A N/A N/A N/A
Channel Bandwidth ((125 kHz) Data Rate 3 Low Channel, 902.3 M Low Channel, 902.3 M Mid Channel, 908.7 M Mid Channel, 908.7 M High Channel, 914.9 N High Channel, 914.9 N	Hz Hz Hz tz Hz	Chap Ic	Pulse Width 51.449 ms N/A 51.46 ms N/A 51.46 ms	71.678 ms N/A 71.677 ms N/A 71.665 ms	Pulses 1 5 1 5 1 5 1 5 1	(%) 71.8 N/A 71.8 N/A 71.8	(%) N/A N/A N/A N/A	N/A N/A N/A N/A N/A
Channel Bandwidth ((125 kHz) Data Rate 3 Low Channel, 902.3 M Mid Channel, 908.7 M Mid Channel, 908.7 M High Channel, 914.9 N High Channel, 914.9 N (500 kHz) Data Rate 4	Hz Hz Hz Hz Hz		Pulse Width 51.449 ms N/A 51.46 ms N/A 51.46 ms N/A	71.678 ms N/A 71.677 ms N/A 71.665 ms N/A	Pulses 1 5 1 5 1 5 5	(%) 71.8 N/A 71.8 N/A 71.8 N/A	(%) N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A
Channel Bandwidth ((125 kHz) Data Rate 3 Low Channel, 902.3 M Mid Channel, 908.7 M Mid Channel, 908.7 M High Channel, 914.9 N High Channel, 914.9 N (500 kHz) Data Rate 4 Low Channel, 903 MH	Hz Hz Hz Hz Hz Hz		Pulse Width 51.449 ms N/A 51.46 ms N/A 51.46 ms N/A 23.187 ms	71.678 ms N/A 71.677 ms N/A 71.665 ms N/A 41.819 ms	Pulses 1 5 1 5 5 1 1 5 1 1 5 1 1 5 1 1 5 1 1 5 1 1 5 1 1 5 1 1 1 5 1 1 1 5 1 1 1 1 5 1	(%) 71.8 N/A 71.8 N/A 71.8 N/A 55.4	(%) N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A N/A
Channel Bandwidth ((125 kHz) Data Rate 3 Low Channel, 902.3 M Mid Channel, 908.7 M Mid Channel, 908.7 M High Channel, 914.9 N High Channel, 914.9 N (500 kHz) Data Rate 4 Low Channel, 903 MH Low Channel, 903 MH	Hz Hz Hz Hz Hz Hz Z	Chop Te	Pulse Width 51.449 ms N/A 51.46 ms N/A 51.46 ms N/A 23.187 ms N/A	71.678 ms N/A 71.677 ms N/A 71.665 ms N/A 41.819 ms N/A	Pulses 1 5 1 5 1 5 5	(%) 71.8 N/A 71.8 N/A 71.8 N/A	(%) N/A N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A N/A
hannel Bandwidth ((125 kHz) Data Rate 3 Low Channel, 902.3 M Mid Channel, 908.7 M Mid Channel, 908.7 M High Channel, 914.9 N (500 kHz) Data Rate 4 Low Channel, 903 MH Low Channel, 903 MH Mid Channel, 903 MH	Hz Hz Hz Hz Hz Hz Z z		Pulse Width 51.449 ms N/A 51.46 ms N/A 23.187 ms N/A 23.179 ms	71.678 ms N/A 71.677 ms N/A 71.665 ms N/A 41.819 ms N/A 41.799 ms	Pulses 1 5 1 5 1 5 1 5 1 5 1 1 1 5 1	(%) 71.8 N/A 71.8 N/A 71.8 N/A 55.4 N/A 55.5	(%) N/A N/A N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A N/A
hannel Bandwidth (hannel Bandwidth ((125 kHz) Data Rate 3 Low Channel, 902.3 M Low Channel, 902.3 M Mid Channel, 908.7 M High Channel, 908.7 M High Channel, 908.7 M High Channel, 914.9 N (500 kHz) Data Rate 4 Low Channel, 903 MH Mid Channel, 909.4 M Mid Channel, 909.4 M	Hz Hz Hz Hz Hz Hz tz tz		Pulse Width 51.449 ms N/A 51.46 ms N/A 51.46 ms N/A 23.187 ms N/A 23.179 ms N/A	71.678 ms N/A 71.677 ms N/A 71.665 ms N/A 41.819 ms N/A 41.799 ms N/A	Pulses 1 5 1 5 5 1 1 5 1 1 5 1 1 5 1 1 5 1 1 5 1 1 5 1 1 5 1 1 1 5 1 1 1 5 1 1 1 1 5 1	(%) 71.8 N/A 71.8 N/A 71.8 N/A 55.4 N/A	(%) N/A N/A N/A N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A N/A N/A
Channel Bandwidth ((125 kHz) Data Rate 3 Low Channel, 902.3 M Mid Channel, 908.7 M Mid Channel, 908.7 M High Channel, 914.9 N (500 kHz) Data Rate 4 Low Channel, 903 MH Low Channel, 903 MH Mid Channel, 903 MH	Hz Hz Hz Hz Hz z z tz Hz		Pulse Width 51.449 ms N/A 51.46 ms N/A 23.187 ms N/A 23.179 ms	71.678 ms N/A 71.677 ms N/A 71.665 ms N/A 41.819 ms N/A 41.799 ms	Pulses 1 5 1 5 1 5 1 5 1 5 1 1 1 5 1	(%) 71.8 N/A 71.8 N/A 71.8 N/A 55.4 N/A 55.5	(%) N/A N/A N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A N/A



	Channel E	anuwiutii (125	Number of	e 3, Low Channe Value	Limit	
	Pulse Width	Period	Pulses	(%)	(%)	Results
	51.449 ms	71.678 ms	1	71.8	N/Á	N/A
	zer - Element Materials Techno 50 Ω AC		ENSE:INT	ALIGN OFF		12:51:43 PM Jan 04, 2022
			Trig Delay-10.0 Trig: Video		ype: Voltage	TRACE 1 2 3 4 5 6
		PNO: Fast +++ IFGain:Low	#Atten: 10 dB			DET PPPPP
Ref Offs	set 31 dB					Mkr2 61.46 ms
5 dB/div Ref 27	.00 dBm					9.71 dBm
22.0						
17.0						3
12.0				2	Y	
7.00						
2.00						
-3.00						
-8.00						
-13.0						TRIG LVL
-18.0						
Center 902.30000	00 MHz		L			Span 0 Hz
Res BW 3.0 MHz		#VBV	N 30 kHz		Sweep	100.5 ms (8192 pts)
MKR MODE TRC SCL	× 10.01 m	Y 14.16	FUNCTION	FUNCTION WIDTH	FUNC	TION VALUE
2 N 1 t	61.46 m 81.69 m	is 9.71 (dBm			
3 N 1 t	81.09 11	15 12.07	abiii			
5						
7 8						
9 10						
MSG				STATUS	5	
	Channel E	Bandwidth (125	kHz), Data Rate Number of	e 3, Low Channe Value	I, 902.3 MHz Limit	
	Pulse Width	Period	Pulses	(%)	(%)	Results
	N/A	N/A	5	N/A	N/A	N/A
	zer - Element Materials Techno 50 Ω AC		ENSE:INT	ALIGN OFF		12:51:48 PM Jan 04, 2022
	JUSE AL				ype: Voltage	TRACE 1 2 3 4 5 6
		PNO: Fast ↔→ IFGain:Low	Trig: Video #Atten: 10 dB			DET PPPPP
Ref.Offs	set 31 dB					

5 dB/div Ref 27.00 dBm	,,	
22.0		
22.0		
17.0		
12.0		
7.00		
2.00		
3.00		
8.00		
13.0		TRIG LV
18.0		
Center 902.300000 MHz Res BW 3.0 MHz	#VBW 30 kHz	Span 0 Hz Sweep 322.7 ms (8192 pts
ISG		STATUS



	Chaille De		kHz), Data Ra Number o			Limit		
	Pulse Width	Period	Pulses	(%		(%)	Results	
	51.46 ms	71.677 ms	1	71.		N/A	N/A	1
Keysight Spectrum An	alyzer - Element Materials Technol	any and a second se						X
KI RL RF			ENSE:INT	ALIGN (01:00:02 PM lop 04	2022
		PNO: Fast ↔→ FGain:Low	Trig Delay-10. Trig: Video #Atten: 10 dB	00 ms #A	vg Type: Vol	tage	TRACE 1 2 3 4 TYPE WWW DET P P P	456 ////// PPP
5 dB/div Ref	Offset 31 dB 27.00 dBm						Mkr2 61.46 r 12.35 dE	
22.0								
17.0							3	
12.0	>'			\$ *				
7.00								
2.00								
-3.00								
-8.00								
							TRIG	ST.VL
-13.0								
-18.0								
Center 908.700 Res BW 3.0 MH		#VBV	V 30 kHz			Sweep '	Span 0 100.5 ms (8192 p	
MKR MODE TRC SCL	х	Y	FUNCTIO	N FUNCTION W	VIDTH	FUNC	TION VALUE	-
1 N 1 t	10.00 ms	12.41 0	dBm					
2 N 1 t 3 N 1 t	61.46 ms 81.68 ms	12.35 c 12.65 c	dBm					
4								E
6								
8								
9								
11			III.					-
MSG				s	TATUS			
				0				
	Channel Ba	andwidth (125	kHz), Data Ra	te 3. Mid Cha	nnel, 908.7	MHz		
			Number o			Limit		
	Pulse Width	Period	Pulses	(%		(%)	Results	-
	N/A	N/A	5	N//	Ą	N/A	N/A	1

RL RF 50 Ω AC SENSE:INT ALGN OFF PNO: Fast →→ Trig: Video IFGain:Low #Avg Type: V PNO: Fast →→ Trig: Video IFGain:Low #Avg Type: V Colspan="4">Colspan="4" Colspan="4">Colspan="4">Colspan="4">Colspan="4">Colspan="4">Colspan="4">Colspan="4">Colspan="4">Colspan="4">Colspan="4">Colspan="4">Colspan="4">Colspan="4" Colspan="4">Colspan="4" Colspan="4" Colspan="4" Colspan="4" Colspan="4" Colspan="4" Colspan="4" Colspan="4" Colspan="4" Colspan="4" Colspan="4" Colspan="4" Colspan="4" <td co<="" th=""><th></th><th>7 PM Jan 04, 202</th></td>	<th></th> <th>7 PM Jan 04, 202</th>		7 PM Jan 04, 202
abs/div Ref 27.00 dBm 9	ltage Tr	TYPE WWWW DET P P P P P	
	1		
		TRIG L	
enter 908.700000 MHz 25 BW 3.0 MHz #VBW 30 kHz	Sweep 322.7 ms	Span 0 H s (8192 pt	



	Channel	Bandwidth (125	kHz), Data Rate 3,	High Channel	14 9 MH-		_
	Channel	Banuwidth (125	Number of	Value	Limit		
	Pulse Width	Period	Pulses	(%)	(%)	Results	
	51.46 ms	71.665 ms	1	71.8	N/A	N/A	
	01.101110	11.000 110	· · ·	71.0	10/7		
Keysight Spectrum	Analyzer - Element Materials Techr	nology					
LXI RL RF	F 50 Ω AC	S	SENSE:INT	ALIGN OFF		01:08:00 PM Jan 04, 2022	
		PNO: Fast 🔸	Trig Delay-10.00 ms Trig: Video	s #Avg Type	: voitage	TRACE 1 2 3 4 5 6 TYPE WWWWWW DET P P P P P P	
		IFGain:Low	#Atten: 10 dB			DET PPPPP	
Re	f Offset 31 dB					Mkr2 61.46 ms	
5 dB/div Re	ef 27.00 dBm					11.85 dBm	
22.0							
17.0	1				A 3		
				↓ ²	Υ		
12.0							
7.00							
2.00							
-3.00							
-8.00							
-13.0						TRIG LVL	
-18.0							
0			ļ			0	
Center 914.90 Res BW 3.0 M		#VB)	A/ 30 kHz		Sween 10	Span 0 Hz 00.5 ms (8192 pts)	
					-		
		V	FUNCTION	FUNCTION MIDTH	FUNCTIO	DNIVALLE	
MKR MODE TRC SCI 1 N 1 t	10.00 ו	ms 13.04 (dBm	FUNCTION WIDTH	FUNCTIO	DN VALUE	
1 N 1 t 2 N 1 t	10.00 61.46	ms 13.04 ms 11.85	dBm dBm	FUNCTION WIDTH	FUNCTIO	DN VALUE	
1 N 1 t 2 N 1 t 3 N 1 t	10.00 61.46	ms 13.04 ms 11.85	dBm dBm	FUNCTION WIDTH	FUNCTIO	DN VALUE	
1 N 1 t 2 N 1 t 3 N 1 t	10.00 61.46	ms 13.04 ms 11.85	dBm dBm	FUNCTION WIDTH	FUNCTIC	N VALUE	
1 N 1 t 2 N 1 t 3 N 1 t 4 5 6 7	10.00 61.46	ms 13.04 ms 11.85	dBm dBm	FUNCTION WIDTH	FUNCTIC	N VALUE	
1 N 1 t 2 N 1 t 3 N 1 t 4 5 - 6 6 - - 6 7 - - 8 9 - - -	10.00 61.46	ms 13.04 ms 11.85	dBm dBm	FUNCTION WIDTH	FUNCTIO	E E	
1 N 1 t 2 N 1 t 3 N 1 t 5 5 6 7 8	10.00 61.46	ms 13.04 ms 11.85	dBm dBm	FUNCTION WIDTH	FUNCTIO	E E	
1 N 1 t 2 N 1 t 3 N 1 t 4 - - - 6 - - - 7 - - - 8 - - - 9 - - -	10.00 61.46	ms 13.04 ms 11.85	dBm dBm	FUNCTION WIDTH	FUNCTIO	N VALUE	
1 N 1 t 2 N 1 t 3 N 1 t 4 - - - 6 - - - 7 - - - 8 - - - 9 - - -	10.00 61.46	ms 13.04 ms 11.85	dBm dBm	FUNCTION WIDTH	FUNCTIO	N VALUE	
1 N 1 t 2 N 1 t 3 N 1 t 4 5 6 6 7 7 8 9 10 1 11 7 7 6	10.00 61.46 81.67	ms 13.04 ms 11.85 ms 13.80 (dBm dBm dBm m m	STATUS		N VALUE	
1 N 1 t 2 N 1 t 3 N 1 t 4 5 6 6 7 7 8 9 10 1 11 7 7 6	10.00 61.46 81.67	ms 13.04 ms 11.85 ms 13.80 (dBm dBm dBm ,,,,,,,,,,,,,,,,,,,,,,,,,,,,	status High Channel, 9	14.9 MHz	N VALUE	
1 N 1 t 2 N 1 t 3 N 1 t 4 5 6 6 7 7 8 9 10 1 11 7 7 6	10.00 61.46 81.67	ms 13.04 ms 11.85 ms 13.80 Bandwidth (125	dBm dBm dBm ////////////////////////////	status High Channel, 9 Value	14.9 MHz Limit		
1 N 1 t 2 N 1 t 3 N 1 t 4 5 6 6 7 7 8 9 10 1 11 7 7 6	10.001 61.46 81.67	ms 13.04 ms 11.85 ms 13.80 ms	dBm dBm dBm w w kHz), Data Rate 3, Number of Pulses	status High Channel, 9 Value (%)	14.9 MHz Limit (%)	Results	
1 N 1 t 2 N 1 t 3 N 1 t 4 5 6 6 7 7 8 9 10 1 11 7 7 6	10.00 61.46 81.67	ms 13.04 ms 11.85 ms 13.80 Bandwidth (125	dBm dBm dBm m w kHz), Data Rate 3, Number of	status High Channel, 9 Value	14.9 MHz Limit		
1 N 1 t 2 N 1 t 3 N 1 t 4 5 6 7 8 9 9 9 10 11 4 5 7 8 9 9 10 11 7 8 9 9 10 11 7 8 9 9 10 10 10 10 10 10 10 10 10 10 10 10 10	10.00 61.46 81.67 Channel I Pulse Width N/A	ms 13.04 ms 11.85 ms 13.80 Bandwidth (125 Period N/A	dBm dBm dBm w w kHz), Data Rate 3, Number of Pulses	status High Channel, 9 Value (%)	14.9 MHz Limit (%)	Results N/A	
1 N 1 t 2 N 1 t 3 N 1 t 4 5 6 7 8 9 9 9 10 11 4 5 7 8 9 9 10 11 7 8 9 9 10 11 7 8 9 9 10 10 10 10 10 10 10 10 10 10 10 10 10	10 00 161.46 1 81.67 1 Channel I Pulse Width N/A Analyzer - Element Materials Techn	ms 13.04 ms 11.85 ms 13.80 13.80 Bandwidth (125 Period N/A	dBm dBm dBm w w kHz), Data Rate 3, Number of Pulses	status High Channel, 9 Value (%)	14.9 MHz Limit (%)	Results N/A	
1 N 1 t 2 N 1 t 3 N 1 t 4 5 6 7 8 9 9 10 11 10 11 10 11 10 11 10 11 10 10 11 10 10	10 00 161.46 1 81.67 1 Channel I Pulse Width N/A Analyzer - Element Materials Techn	ms 13.04 ms 11.85 ms 13.80 Bandwidth (125 Period N/A	dBm dBm dBm dBm with the second s	Istatus High Channel, 9 Value (%) N/A	14.9 MHz Limit (%) N/A	Results N/A	
1 N 1 t 2 N 1 t 3 N 1 t 4 5 6 7 8 9 9 10 11 10 11 10 11 10 11 10 11 10 10 11 10 10	10 00 161.46 1 81.67 1 Channel I Pulse Width N/A Analyzer - Element Materials Techn	ms 13.04 ms 11.85 ms 13.80 13.80 Bandwidth (125 Period N/A	dBm dBm dBm w kHz), Data Rate 3, Number of Pulses 5	STATUS High Channel, 9 Value (%) N/A	14.9 MHz Limit (%) N/A	Results N/A	
1 N 1 t 2 N 1 t 3 N 1 t 3 N 1 t 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	10.00 61.46 81.67 81.67 Channel I Pulse Width N/A N/A	ms 13.04 ms 11.85 ms 13.80 Bandwidth (125 Period N/A	dBm dBm dBm w kHz), Data Rate 3, Number of Pulses 5 sense:int Trig: Video	STATUS High Channel, 9 Value (%) N/A	14.9 MHz Limit (%) N/A	Results N/A	
1 N 1 t 2 N 1 t 3 N 1 t 3 N 1 t 4 5 6 7 8 9 10 11 4 5 7 7 8 9 9 10 11 4 5 7 7 8 9 9 10 11 4 5 7 7 8 9 9 1 1 t 8 7 8 7 8 9 9 1 1 t 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7	10.00 61.46 31.67 Channel I Pulse Width N/A Analyzer - Element Materials Techr F 50 Ω AC	ms 13.04 ms 11.85 ms 13.80 Bandwidth (125 Period N/A	dBm dBm dBm w kHz), Data Rate 3, Number of Pulses 5 sense:int Trig: Video	STATUS High Channel, 9 Value (%) N/A	14.9 MHz Limit (%) N/A	Results N/A	
1 N 1 t 2 N 1 t 3 N 1 t 3 N 1 t 4 5 6 7 8 9 10 1 11 7 MSG	10.00 61.46 81.67 81.67 Channel I Pulse Width N/A N/A	ms 13.04 ms 11.85 ms 13.80 Bandwidth (125 Period N/A	dBm dBm dBm w kHz), Data Rate 3, Number of Pulses 5 sense:int Trig: Video	STATUS High Channel, 9 Value (%) N/A	14.9 MHz Limit (%) N/A	Results N/A	
1 N 1 t 2 N 1 t 3 N 1 t 4 5 6 7 8 9 9 10 11 MSG MSG Keysight Spectrum X RL RJ C dB/div Re	10.00 61.46 31.67 Channel I Pulse Width N/A Analyzer - Element Materials Techr F 50 Ω AC	ms 13.04 ms 11.85 ms 13.80 Bandwidth (125 Period N/A	dBm dBm dBm w kHz), Data Rate 3, Number of Pulses 5 sense:int Trig: Video	STATUS High Channel, 9 Value (%) N/A	14.9 MHz Limit (%) N/A	Results N/A	
1 N 1 t 2 N 1 t 3 N 1 t 3 N 1 t 4 5 6 7 8 9 10 11 4 5 7 7 8 9 9 10 11 4 5 7 7 8 9 9 10 11 4 5 7 7 8 9 9 1 1 t 8 7 8 7 8 9 9 1 1 t 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7	10.00 61.46 31.67 Channel I Pulse Width N/A Analyzer - Element Materials Techr F 50 Ω AC	ms 13.04 ms 11.85 ms 13.80 Bandwidth (125 Period N/A	dBm dBm dBm w kHz), Data Rate 3, Number of Pulses 5 sense:int Trig: Video	STATUS High Channel, 9 Value (%) N/A	14.9 MHz Limit (%) N/A	Results N/A	

Center 914.900000 MHz Res BW 3.0 MHz ^{ISG}	#VBW 30 kHz	Swee	Span 0 Hz p 322.7 ms (8192 pts
18.0			
13.0			TRIG L
8.00			
3.00			
2.00			
7,00			
12.0			
17.0			
22.0			



		1	Hz), Data Rate 4 Number of	Value	Limit	
	Pulse Width	Period	Pulses	(%)	(%)	Results
	23.187 ms	41.819 ms	1	55.4	N/A	N/A
UM RL RF	er - Element Materials Technol 50 Ω AC et 31 dB .00 dBm	PNO: East	SEINT	ALIGN OFF #Avg Typ	e: Voltage	01:59:34 PM Dec 30, 2021 TRACE 12:3:4:5 TYPE WWWWDDT DET PP PP P Mkr1 1.000 ms 10.24 dBm
3.00 13.0 18.0 Center 903.00000 Res BW 3.0 MHz			30 kHz			Span 0 Hz 50.24 ms (8192 pts
MKR MODE TRC SCL	× 1.000 ms	y 10.24 dE		FUNCTION WIDTH	FUNC	TION VALUE
2 N 1 t 3 N 1 t 4 5 6	24.19 m 42.82 m	s 8.89 dE	3m			
7 8 9 10 11						
MSG				STATUS		
	Channel E	Bandwidth (500 l	(Hz), Data Rate 4			
	Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results
	N/A	N/A	5	N/A	N/A	N/A

	ectrum Analyzer - Element Mate RF 50 Ω AC	erials Technology		• ard	• • •				
LXIRL	RF 50 Ω AC	PNO: Fa IFGain:L		g: Video ten: 10 dB	ALI 🕂	IGN OFF #Avg Type	: Voltage	TR	PM Dec 30, 2021 ACE 1 2 3 4 5 6 TYPE WWWWWWW DET P P P P P P
5 dB/div Log	Ref Offset 31 dB Ref 27.00 dBm						1	1	
22.0									
17.0									
12.0									
2.00									
-3.00									
-8.00									
-13.0									TRIG LVL
-18.0									
Res BW 3	03.000000 MHz 3.0 MHz		#VBW 30	kHz			Swee	p 188.4 ms	Span 0 Hz (8192 pts)
MSG						STATUS			



			Number of	Value	Limit		
	Pulse Width	Period	Pulses	(%)	(%)	Results	
	23.179 ms	41.799 ms	1	55.5	N/A	N/A	
Keysight Spectrum Analyzer							
LXIRL RF S	50 Ω AC	SEI	NSE:INT Trig Delay-1.000 m	ALIGN OFF	e: Voltage	02:08:20 PM Dec 30, 2 TRACE 1 2 3 4	
		PNO: Fast +++	Trig: Video			TYPE WWWW DET P P P P	WWW-
		IFGain:Low	#Atten: 10 dB				-
Ref Offse	t 31 dB					Mkr2 24.18 r	ns
5 dB/div Ref 27.0	00 dBm					9.67 dE	sm
22.0							
17.0			2			3	
12.0							
7.00							
2.00							
-3.00							_
-8.00							
-13.0						TRIG	LVL
-18.0							
Center 909.400000	MHz				_	Span 0	
Res BW 3.0 MHz		#VBW	30 kHz		sweep :	50.24 ms (8192 p	1G)
MKR MODE TRC SCL	× 1.002 n	Y 15 12.12 di	FUNCTION	FUNCTION WIDTH	FUNC	TION VALUE	_
2 N 1 t	24.18 n	ns 9.67 di	Bm				
3 N 1 t	42.80 n	10.52 dl	Bm				
5							E
6							
8							
9 10							
							-
			m	STATUS			
MSG				STATUS			

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

Keysight Spectrum Analyzer - Element Materials RL RF 50 Ω AC			1		
RL RF 50 Ω AC		SENSE:INT	ALIGN OFF	be: Voltage	02:08:26 PM Dec 30, 202 TRACE 1 2 3 4 5
	PNO: Fast ↔ → IFGain:Low	Trig: Video #Atten: 10 dB	#Avg Ty	be: voltage	TYPE WWWWW DET PPPP
Ref Offset 31 dB dB/div Ref 27.00 dBm					
2.0					
.0					
0					
10					
.0					TRIG L
.0					
enter 909.400000 MHz es BW 3.0 MHz	#VB	W 30 kHz		Sweep	Span 0 H 188.4 ms (8192 pt
1		Contraction of the state of the	STATUS		



	Gnanner	Bandwidth (500 F		, High Channel, 9		
	Durlas MC M	Deside 1	Number of	Value	Limit	Descrite
r	Pulse Width	Period	Pulses	(%)	(%)	Results
	23.186 ms	41.819 ms	1	55.4	N/A	N/A
	ter - Element Materials Techn 50 Ω AC		INSE:INT	ALIGN OFF		02:16:26 PM Dec 30, 2021
	000		Trig Delay-1.000 r		e: Voltage	TRACE 1 2 3 4 5 6
		PNO: Fast +++ IFGain:Low	Trig: Video #Atten: 10 dB			TRACE 1 2 3 4 5 6 TYPE WWWWW DET P P P P P P
		II Guill.cow				Mkr1 1.000 ms
Ref Offs 5 dB/div Ref 27	set 31 dB ′.00 dBm					9.90 dBm
	.00 0.011					
22.0						
17.0						
12.0			<mark>2</mark>			3
7.00			Ť.			The second s
2.00						
-3.00						
-8.00						TRIG LVL
-13.0						1100 EVE
-18.0						
Center 914.20000	n MHz					Span 0 Hz
Res BW 3.0 MHz	VO 101112	#VBW	/ 30 kHz		Sweep 5	0.24 ms (8192 pts)
MKR MODE TRC SCL	x	Y	FUNCTION	FUNCTION WIDTH	EUNCT	ION VALUE
	1.000 n 24.19 n	ns 9.90 d ns 9.52 d	Bm			
2 N 1 t 3 N 1 t	42.82 n	ns 8.98 d	Bm			
2 N 1 t 3 N 1 t 4	42.82 n	ns 8.98 d	Bm			
2 N 1 t 3 N 1 t 4 5 6	42.82 n	ns 8.98 d	IBm			E
2 N 1 t 3 N 1 t 4 5 6 9 7 9 8 9	42.82 n	ns 8.98 d	Bm			ja se
3 N 1 t 5 5 6 7 8 8 8 8 9 9 9 9 9	42.82 n	ns 8.98 d	Bm			
3 N 1 t 4 5 6 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	42.82 n	8.98 d	Bm			E
3 N 1 t 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	42.82 r	ns 8.98 d	Bm Bm IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII			=
3 N 1 t 4 - - - - 5 - - - - - 6 -	42.82 n	15 3.92 0 15 8.98 d	Bm	STATUS		=
3 N 1 t 4 5 7 7 9 9 10 11	42.82 n	ns 8.98 d	Bm			
3 N 1 t 4 5 7 7 9 9 10 11	42.82 n	ns 8.98 d	Bm "" "KHz), Data Rate 4	, High Channel, 9		
3 N 1 t 4 5 7 7 9 9 10 11	42.82 m Channel E	ns 8.98 d Bandwidth (500 k	Bm "' "' KHz), Data Rate 4 Number of	High Channel, 9 Value	Limit	Pasuka
3 N 1 t 4 5 7 7 9 9 10 11	42.82 m Channel E Pulse Width	ns 8,98 d Bandwidth (500 F Period	Em "" "" KHz), Data Rate 4 Number of Pulses	, High Channel, 9 Value (%)	Limit (%)	Results
3 N 1 t 4 5 7 7 9 9 10 11	42.82 m Channel E	ns 8.98 d Bandwidth (500 k	Bm "' "' KHz), Data Rate 4 Number of	High Channel, 9 Value	Limit	Results N/A
3 N 1 t 4 5 6 9 9 9 10 11 4 6 8 9 9 9 10 11 4 6 8 9 9 9 10 11 1 1 1 1 1 1 1 1 1 1 1 1	42.82 m Channel E Pulse Width N/A	ns 8,98 d Bandwidth (500 F Period N/A	Em "" "" KHz), Data Rate 4 Number of Pulses	, High Channel, 9 Value (%)	Limit (%)	N/A
3 N 1 t 4 5 6 7 7 8 9 10 11 MSG Keysight Spectrum Analyz	42.82 m Channel E Pulse Width	ns 8,98 d Bandwidth (500 k Period N/A	Em "" "" KHz), Data Rate 4 Number of Pulses	, High Channel, 9 Value (%)	Limit (%)	N/A
3 N 1 t 4 5 6 7 7 8 9 10 11 MSG Keysight Spectrum Analyz	42.82 m Channel E Pulse Width N/A	ns 8,98 d Bandwidth (500 F Period N/A	Bm m stHz), Data Rate 4 Number of Pulses 5 SNSE:INT	I, High Channel, 9 Value (%) N/A	Limit (%) N/A	N/A
3 N 1 t 4 5 6 7 7 8 9 10 11 MSG Keysight Spectrum Analyz	42.82 m Channel E Pulse Width N/A	ns 8,98 d Bandwidth (500 k Period N/A	Bm w kHz), Data Rate <i>a</i> Number of Pulses 5	High Channel, 9 Value (%) N/A	Limit (%) N/A	N/A

	PNO: Fast Trig: Video IFGain:Low #Atten: 10 d	#Avg Type: Voltage B	TRACE 2 3 4 5 6 TYPE WWWWWW DET P P P P P
Ref Offset 31 dB 5 dB/div Ref 27.00 dBm			
22.0			
17.0			
12.0			
7.00			
2.00			
3.00			
3.00			
13.0			TRIG L
18.0			
Center 914.200000 MHz Res BW 3.0 MHz	#VBW 30 kHz	Sweep	Span 0 H: 188.4 ms (8192 pts
ISG		STATUS	



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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Generator - Signal	Keysight	N5182B	TFX	2020-04-28	2023-04-28
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2021-04-16	2022-04-16
Block - DC	Fairview Microwave	SD3379	AMZ	2021-11-05	2022-11-05
Attenuator	INMET	64671 6A-10dB	AUI	2021-08-04	2022-08-04
Attenuator	Fairview Microwave	SA18S5W-20	RFX	2021-06-02	2022-06-02
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2021-09-12	2022-09-12

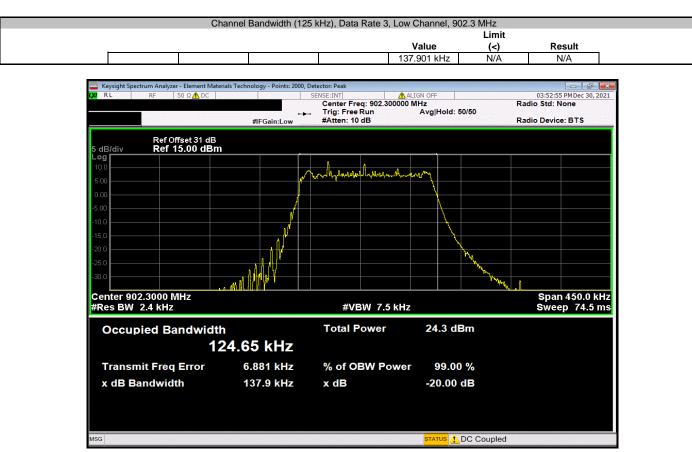
TEST DESCRIPTION

The 20 dB emissions bandwidth was measured with the EUT set to low, medium and high transmit frequencies in the band. The EUT was transmitting at the data rate(s) listed in the datasheet in a no-hop mode. The span of the analyzer shall be set to capture all products of the modulation process, including the emission skirts.

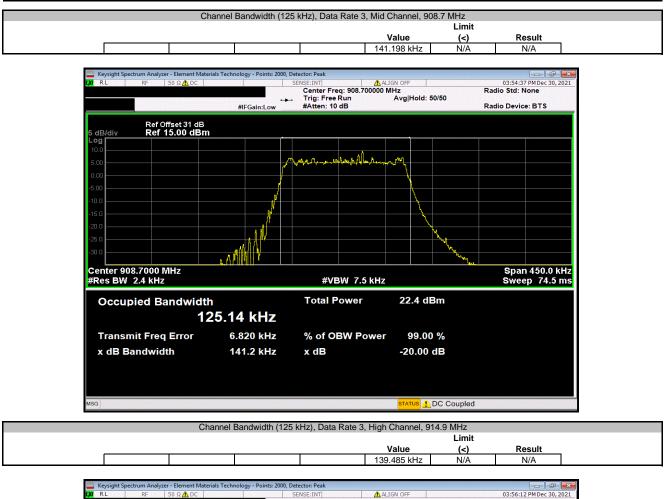


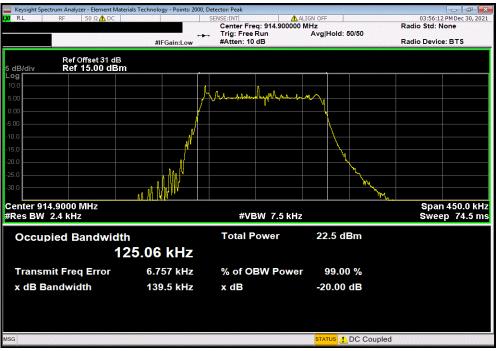
						TbtTx 2021.10.29.2	2 XMit 2020.12.30.0
	RBS301				Work Order:		
Serial Number:						4-Jan-22	
	Multi-Tech Systems, Inc.				Temperature:		
Attendees:						22.6% RH	
Project:					Barometric Pres.:		
	Andrew Rogstad		Power:	Battery	Job Site:	MN08	
TEST SPECIFICATI	IONS			Test Method			
FCC 15.247:2022				ANSI C63.10:2013			
RSS-247 Issue 2:20	17			ANSI C63.10:2013			
COMMENTS							
Reference level off	set includes measuremen	t cable, attenuators, DC bloc	k, and customer patch cable	e.			
DEVIATIONS FROM	I TEST STANDARD						
None							
Configuration #	3	Signature	as R	optart			
						Limit	
					Value	(<)	Result
Channel Bandwidth	(125 kHz)						
	Data Rate 3						
	Low Channel				137.901 kHz	N/A	N/A
	Mid Channel,				141.198 kHz	N/A	N/A
	High Channe	l, 914.9 MHz			139.485 kHz	N/A	N/A
Channel Bandwidth	(500 kHz) Data Rate 4						
	Low Channel	, 903 MHz			720.054 kHz	N/A	N/A
	Mid Channel,				707.6 kHz	N/A	N/A
	High Channe	l, 914.2 MHz			698.276 kHz	N/A	N/A



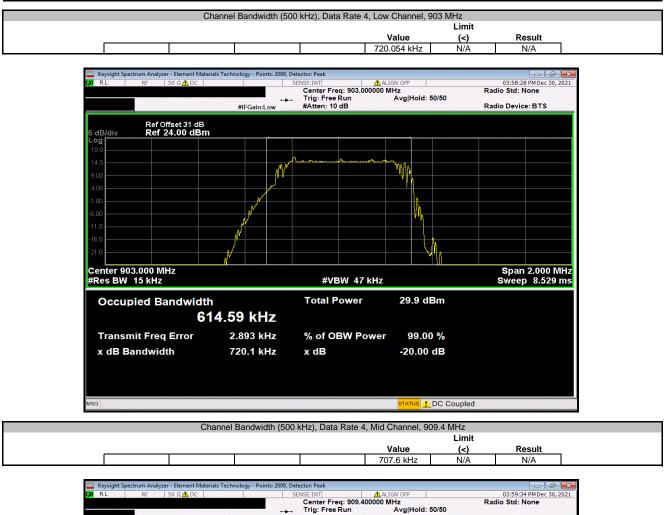






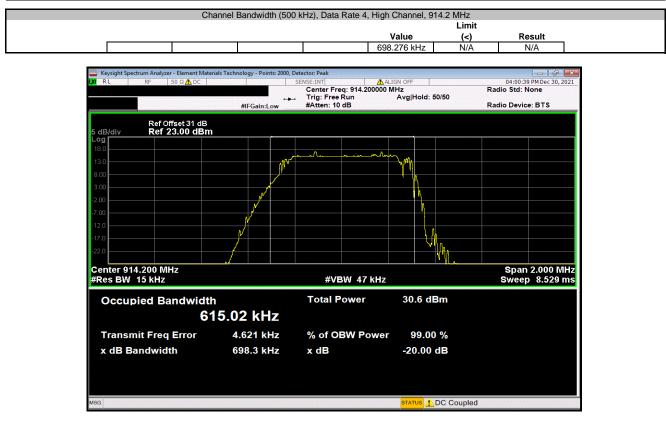






RL RF 50 Ω ΔDC		SENSE:INT	IGN OFF	03:59:34 PM Dec 30, 202
	↔ #IFGain:Low	Center Freq: 909.400000 Trig: Free Run #Atten: 10 dB	MHz Avg Hold: 50/50	Radio Std: None Radio Device: BTS
Ref Offset 31 dB dB/div Ref 23.00 dBm				
pg g				
3.0				
3.0	MN		`\AA₁	
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			<u>'</u> }	
			A	
00	/		I	
.0	N			
.0	N			
2.0	,V			
	<u> </u>		N/1	
enter 909.400 MHz Res BW 15 kHz		#VBW 47 kHz		Span 2.000 Mł Sweep 8.529 n
Occupied Bandwidth		Total Power	29.9 dBm	
61	1.43 kHz			
Transmit Freq Error	3.070 kHz	% of OBW Power	99.00 %	
x dB Bandwidth	707.6 kHz	x dB	-20.00 dB	
				led







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

TEST EQUIPMENT					
Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Generator - Signal	Keysight	N5182B	TFX	2020-04-28	2023-04-28
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2021-04-16	2022-04-16
Block - DC	Fairview Microwave	SD3379	AMZ	2021-11-05	2022-11-05
Attenuator	INMET	64671 6A-10dB	AUI	2021-08-04	2022-08-04
Attenuator	Fairview Microwave	SA18S5W-20	RFX	2021-06-02	2022-06-02
Cable	Micro-Coax	D150A-1-0720-200	MNL	2021-09-12	2022-09-12

TEST DESCRIPTION

The measurement was made with a direction connection between the spectrum analyzer and the antenna port of the EUT. The 99% occupied bandwidth was measured with the EUT configured for continuous modulated operation.

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

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

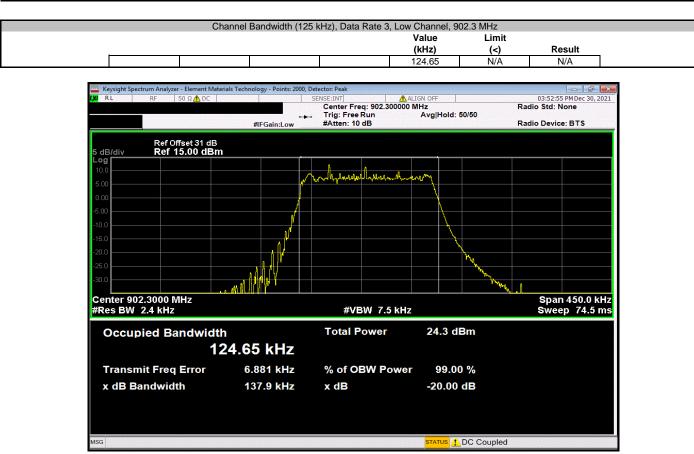
The resolution bandwidth (RBW) of the spectrum analyzer was set to the range of 1% to 5% of the occupied bandwidth (OBW) and video bandwidth (VBW) bandwidth was set to at least 3 times the resolution bandwidth. The analyzer sweep time was set to auto to prevent video filtering or averaging. A sample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

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

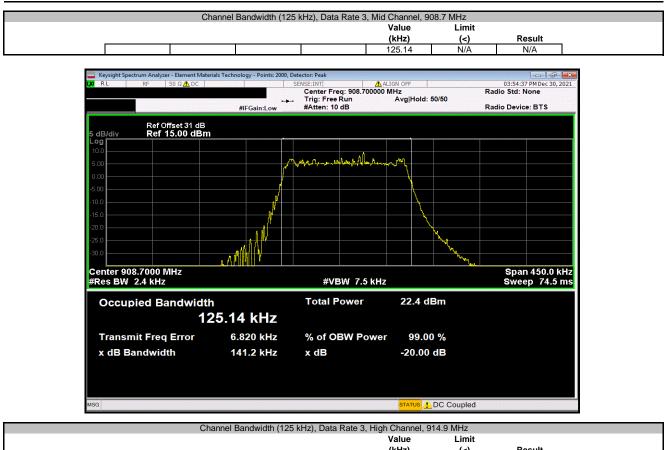


		TbtTx 2021.10.29.2	XMit 2020.12.30.0
EUT: RBS301	Work Order:		
Serial Number: T4		1-Jan-22	
Customer: Multi-Tech Systems, Inc.	Temperature: 2		
Attendees: Mike Fette	Humidity: 2		
Project: None	Barometric Pres.:		
Tested by: Andrew Rogstad Power: Battery	Job Site:	MN08	
TEST SPECIFICATIONS Test Method			
FCC 15.247:2022 ANSI C63.10:2013			
RSS-247 Issue 2:2017 ANSI C63.10:2013			
COMMENTS			
Reference level offset includes measurement cable, attenuators, DC block, and customer patch cable.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration # 3 Signature			
	Value	Limit	
	(kHz)	(<)	Result
Channel Bandwidth (125 kHz)			
Data Rate 3			
Low Channel, 902.3 MHz	124.65	N/A	N/A
Mid Channel, 908.7 MHz	125.14	N/A	N/A
High Channel, 914.9 MHz	125.06	N/A	N/A
Channel Bandwidth (500 kHz) Data Rate 4			
Low Channel, 903 MHz	614.59	N/A	N/A
Mid Channel, 909.4 MHz	611.43	N/A	N/A
High Channel, 914.2 MHz	615.02	N/A	N/A

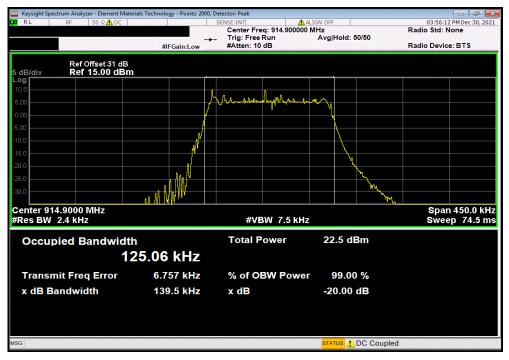




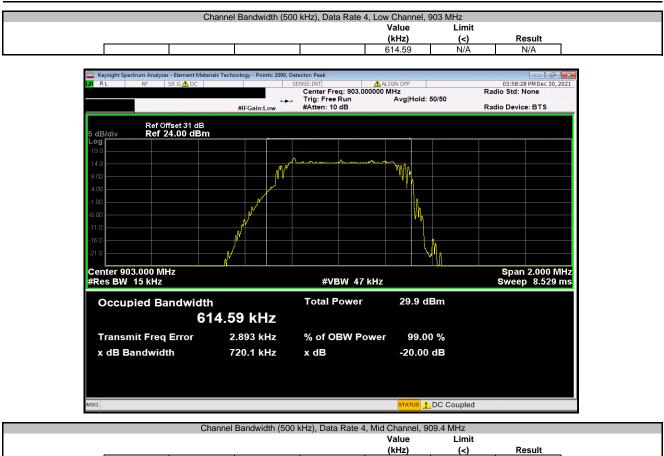




Value Limit	
(kHz) (<)	Result
125.06 N/A	N/A







RL RF 50 Ω 🚹 DC	rials Technology - Points: 2000, I		IGN OFF	03:59:34 PM Dec 30, 20
		Center Freq: 909.400000 N Trig: Free Run	MHz Avg Hold: 50/50	Radio Std: None
	#IFGain:Low	#Atten: 10 dB	Arginola. co.co	Radio Device: BTS
Ref Offset 31 dB 5 dB/div Ref 23.00 dBm				
Log				
13.0	- ad	·····	γ_{A}	
8.00			- VYM	
3.00			- Υ <u>Λ</u>	
2.00				
7.00	^/])	
12.0	N			
17.0	N			
22.0	Ň			
Center 909.400 MHz			r vi	Span 2.000 MH
#Res BW 15 kHz		#VBW 47 kHz		Sweep 8.529 m
			29.9 dBm	
Occupied Bandwidt	h	Total Power	29.9 UBIII	
	^h 11.43 kHz	Total Power	29.9 UBIII	
		Total Power % of OBW Power	99.00 %	
6	11.43 kHz			
6' Transmit Freq Error	11.43 kHz 3.070 kHz	% of OBW Power	99.00 %	
6' Transmit Freq Error	11.43 kHz 3.070 kHz	% of OBW Power	99.00 %	
6' Transmit Freq Error	11.43 kHz 3.070 kHz	% of OBW Power	99.00 %	

611.43

N/A

N/A







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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Generator - Signal	Keysight	N5182B	TFX	2020-04-28	2023-04-28
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2021-04-16	2022-04-16
Block - DC	Fairview Microwave	SD3379	AMZ	2021-11-05	2022-11-05
Attenuator	INMET	64671 6A-10dB	AUI	2021-08-04	2022-08-04
Attenuator	Fairview Microwave	SA18S5W-20	RFX	2021-06-02	2022-06-02
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2021-09-12	2022-09-12

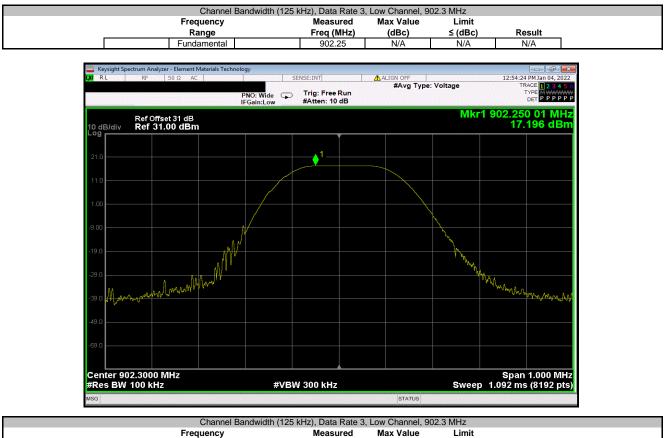
TEST DESCRIPTION

The spurious RF conducted emissions were measured with the EUT set to low, medium and high transmit frequencies. The EUT was transmitting at the data rate(s) listed in the datasheet in a no-hop mode. For each transmit frequency, the 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.



							TbtTx 2021.10.29.2	
EUT: RBS	5301					Work Order:		
Serial Number: T4							4-Jan-22	
	ti-Tech Systems, Inc.					Temperature:		
Attendees: Mike						Humidity:		
Project: Non					Ba	rometric Pres.:		
Tested by: And			Power:			Job Site:	MN08	
FEST SPECIFICATIONS				Test Method				
FCC 15.247:2022				ANSI C63.10:2013				
RSS-247 Issue 2:2017				ANSI C63.10:2013				
COMMENTS			ock, and customer patch cable					
DEVIATIONS FROM TES	ST STANDARD							
None								
O a sett as a set a set of a set of a	· · ·			C/D				
Configuration #	3	Signature	and R	Frequency	Measured	Max Value	Limit	Booult
-		Signature	as R		Measured Freq (MHz)	Max Value (dBc)	Limit ≤ (dBc)	Result
Channel Bandwidth (125		Signature	as R	Frequency				Result
Channel Bandwidth (125	kHz)	ž	as R	Frequency				Result N/A
Channel Bandwidth (125	kHz) a Rate 3	902.3 MHz	as R	Frequency Range	Freq (MHz)	(dBc)	≤ (dBc)	
Channel Bandwidth (125	kHz) a Rate 3 Low Channel,	902.3 MHz 902.3 MHz	as R	Frequency Range Fundamental	Freq (MHz) 902.25	(dBc) N/A	≤ (dBc) N/A	N/A
Channel Bandwidth (125	kHz) a Rate 3 Low Channel, Mid Channel, Mid Channel,	902.3 MHz 902.3 MHz 908.7 MHz 908.7 MHz	Ar R	Frequency Range Fundamental 30 MHz - 10 GHz Fundamental 30 MHz - 10 GHz	Freq (MHz) 902.25 1804.66 908.73 1816.83	(dBc) N/A -53.56 N/A -54.74	≤ (dBc) N/A -30 N/A -30	N/A Pass N/A Pass
Channel Bandwidth (125	kHz) a Rate 3 Low Channel, Mid Channel, Mid Channel, High Channel,	902.3 MHz 902.3 MHz 908.7 MHz 908.7 MHz 908.7 MHz 914.9 MHz	as R	Frequency Range Fundamental 30 MHz - 10 GHz Fundamental 30 MHz - 10 GHz Fundamental	Freq (MHz) 902.25 1804.66 908.73 1816.83 914.9	(dBc) N/A -53.56 N/A -54.74 N/A	≤ (dBc) N/A -30 N/A -30 N/A	N/A Pass N/A Pass N/A
Channel Bandwidth (125 Data	kHz) a Rate 3 Low Channel, Mid Channel, Mid Channel, High Channel, High Channel,	902.3 MHz 902.3 MHz 908.7 MHz 908.7 MHz 908.7 MHz 914.9 MHz	as R	Frequency Range Fundamental 30 MHz - 10 GHz Fundamental 30 MHz - 10 GHz	Freq (MHz) 902.25 1804.66 908.73 1816.83	(dBc) N/A -53.56 N/A -54.74	≤ (dBc) N/A -30 N/A -30	N/A Pass N/A Pass
Channel Bandwidth (125 Data Channel Bandwidth (500	kHz) a Rate 3 Low Channel, Low Channel, Mid Channel, High Channel, High Channel, High Channel, KHz)	902.3 MHz 902.3 MHz 908.7 MHz 908.7 MHz 908.7 MHz 914.9 MHz	as R	Frequency Range Fundamental 30 MHz - 10 GHz Fundamental 30 MHz - 10 GHz Fundamental	Freq (MHz) 902.25 1804.66 908.73 1816.83 914.9	(dBc) N/A -53.56 N/A -54.74 N/A	≤ (dBc) N/A -30 N/A -30 N/A	N/A Pass N/A Pass N/A
Channel Bandwidth (125 Data Channel Bandwidth (500	kHz) a Rate 3 Low Channel, Mid Channel, Mid Channel, High Channel, High Channel, kHz) a Rate 4	902.3 MHz 902.3 MHz 908.7 MHz 908.7 MHz 914.9 MHz 914.9 MHz 914.9 MHz	as R	Frequency Range Fundamental 30 MHz - 10 GHz Fundamental 30 MHz - 10 GHz Fundamental 30 MHz - 10 GHz	Freq (MHz) 902.25 1804.66 908.73 1816.83 914.9 1830.22	(dBc) -53.56 N/A -54.74 N/A -54.16	≤ (dBc) N/A -30 N/A -30 N/A -30	N/A Pass N/A Pass N/A Pass
Channel Bandwidth (125 Data Channel Bandwidth (500	kHz) a Rate 3 Low Channel, Mid Channel, High Channel, High Channel, KHz) a Rate 4 Low Channel,	902.3 MHz 902.3 MHz 908.7 MHz 908.7 MHz 914.9 MHz 914.9 MHz 913 MHz	as R	Frequency Range Fundamental 30 MHz - 10 GHz Fundamental 30 MHz - 10 GHz Fundamental 30 MHz - 10 GHz Fundamental	Freq (MHz) 902.25 1804.66 908.73 1816.83 914.9 1830.22 902.92	(dBc) N/A -53.56 N/A -54.74 N/A -54.16	≤ (dBc) N/A -30 N/A -30 N/A -30	N/A Pass N/A Pass N/A Pass
Channel Bandwidth (125 Data Channel Bandwidth (500	kHz) a Rate 3 Low Channel, Mid Channel, High Channel, High Channel, kHz) a Rate 4 Low Channel, Low Channel,	902.3 MHz 902.3 MHz 908.7 MHz 908.7 MHz 914.9 MHz 914.9 MHz 903 MHz 903 MHz	as R	Frequency Range Fundamental 30 MHz - 10 GHz Fundamental 30 MHz - 10 GHz Fundamental 30 MHz - 10 GHz Fundamental 30 MHz - 10 GHz	Freq (MHz) 902.25 1804.66 908.73 1816.83 914.9 1830.22 902.92 1805.88	(dBc) N/A -53.56 N/A -54.74 N/A -54.16 N/A -54.27	≤ (dBc) N/A -30 N/A -30 N/A -30 N/A -30	N/A Pass N/A Pass N/A Pass N/A Pass
Channel Bandwidth (125 Data Channel Bandwidth (500	kHz) a Rate 3 Low Channel, Low Channel, Mid Channel, High Channel, High Channel, KHz) a Rate 4 Low Channel, Low Channel, Mid Channel,	902.3 MHz 902.3 MHz 908.7 MHz 908.7 MHz 914.9 MHz 914.9 MHz 903 MHz 903 MHz 903 MHz 909.4 MHz	as R	Frequency Range Fundamental 30 MHz - 10 GHz Fundamental 30 MHz - 10 GHz Fundamental 30 MHz - 10 GHz Fundamental 30 MHz - 10 GHz Fundamental	Freq (MHz) 902.25 1804.66 908.73 1816.83 914.9 1830.22 902.92 1805.88 909.57	(dBc) N/A -53.56 N/A -54.74 N/A -54.16 N/A -54.27 N/A	≤ (dBc) N/A -30 N/A -30 N/A -30 N/A -30 N/A	N/A Pass N/A Pass N/A Pass N/A
Channel Bandwidth (125 Data Channel Bandwidth (500	kHz) a Rate 3 Low Channel, Mid Channel, High Channel, High Channel, High Channel, kHz) a Rate 4 Low Channel, Mid Channel, Mid Channel,	902.3 MHz 902.3 MHz 908.7 MHz 908.7 MHz 914.9 MHz 914.9 MHz 903 MHz 903 MHz 909.4 MHz	Ar R	Frequency Range Fundamental 30 MHz - 10 GHz Fundamental 30 MHz - 10 GHz Fundamental 30 MHz - 10 GHz Fundamental 30 MHz - 10 GHz Fundamental 30 MHz - 10 GHz	Freq (MHz) 902.25 1804.66 908.73 1816.83 914.9 1830.22 902.92 1805.88 909.57 1819.27	(dBc) N/A -53.56 N/A -54.74 N/A -54.16 N/A -55.47	≤ (dBc) N/A -30 N/A -30 N/A -30 N/A -30 N/A -30 N/A -30	N/A Pass N/A Pass N/A Pass N/A Pass N/A Pass
Channel Bandwidth (125 Data Channel Bandwidth (500	kHz) a Rate 3 Low Channel, Mid Channel, High Channel, High Channel, kHz) a Rate 4 Low Channel, Mid Channel, Mid Channel, High Channel,	902.3 MHz 903.3 MHz 908.7 MHz 908.7 MHz 908.7 MHz 914.9 MHz 903 MHz 903 MHz 903 MHz 909.4 MHz 909.4 MHz	as R	Frequency Range Fundamental 30 MHz - 10 GHz Fundamental 30 MHz - 10 GHz Fundamental 30 MHz - 10 GHz Fundamental 30 MHz - 10 GHz Fundamental 30 MHz - 10 GHz Fundamental	Freq (MHz) 902.25 1804.66 908.73 1816.83 914.9 1830.22 902.92 1805.88 909.57 1819.27 914.45	(dBc) N/A -53.56 N/A -54.74 N/A -54.16 N/A -54.27 N/A	≤ (dBc) N/A -30 N/A -30 N/A -30 N/A -30 N/A -30 N/A	N/A Pass N/A Pass N/A Pass N/A Pass N/A
Channel Bandwidth (125 Data Channel Bandwidth (500	kHz) a Rate 3 Low Channel, Mid Channel, High Channel, High Channel, High Channel, kHz) a Rate 4 Low Channel, Mid Channel, Mid Channel,	902.3 MHz 903.3 MHz 908.7 MHz 908.7 MHz 908.7 MHz 914.9 MHz 903 MHz 903 MHz 903 MHz 909.4 MHz 909.4 MHz	ar R	Frequency Range Fundamental 30 MHz - 10 GHz Fundamental 30 MHz - 10 GHz Fundamental 30 MHz - 10 GHz Fundamental 30 MHz - 10 GHz Fundamental 30 MHz - 10 GHz	Freq (MHz) 902.25 1804.66 908.73 1816.83 914.9 1830.22 902.92 1805.88 909.57 1819.27	(dBc) N/A -53.56 N/A -54.74 N/A -54.16 N/A -55.47	≤ (dBc) N/A -30 N/A -30 N/A -30 N/A -30 N/A -30 N/A -30	N/A Pass N/A Pass N/A Pass N/A Pass

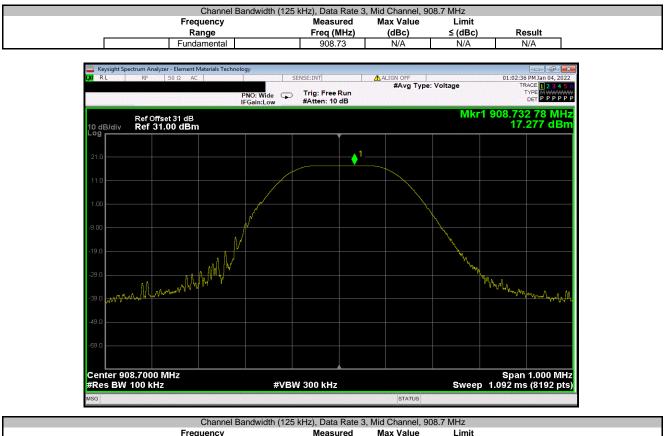




Frequency	Measured	Max Value	Limit	
Range	Freq (MHz)	(dBc)	≤ (dBc)	Result
30 MHz - 10 GHz	1804.66	-53.56	-30	Pass

RL	ctrum Analyzer - Element RF 50 Ω AC			SENSE:INT	<u>∧</u> ∧	LIGN OFF		12:55:25	5 PM Jan 04, 202
	-		PNO: Fast Gain:Low	Trig: Free #Atten: 10	Run dB	#Avg Type:	Voltage		ACE 1 2 3 4 5 TYPE MWWW DET PPPP
dB/div	Ref Offset 31 dB Ref 31.00 dBm	n					I	Mkr1 1.8 -30	04 7 GH 6.36 dB
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1.0									
1.0									
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9.0	1								
9.0									
							and the second		المادوا المتحفظ
9.0									
art 30 M				,					10.000 GH
tes BW	100 kHz		#VE	3W 300 kHz			Sweep	952.9 ms	s (8192 pt

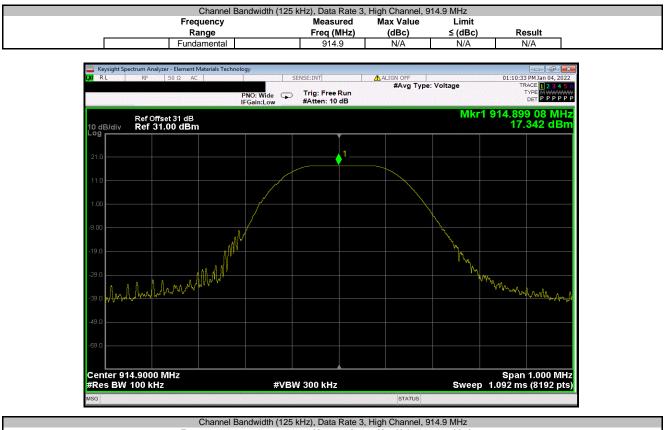




enamer Banaman (1201	and, baid riate c	, ma onanion, o		
Frequency	Measured	Max Value	Limit	
Range	Freq (MHz)	(dBc)	≤ (dBc)	Result
30 MHz - 10 GHz	1816.83	-54.74	-30	Pass

RL	RF 50 Ω AC			SENSE:INT	<u>∧</u> ∧	LIGN OFF		01:03:22	2 PM Jan 04, 202
			NO: Fast 🕞 Gain:Low	Trig: Free #Atten: 10	Run dB	#Avg Type:	Voltage		TYPE MWWW DET PPPP
dB/div	Ref Offset 31 dB Ref 31.00 dBm						I	Mkr1 1.8 -37	16 8 GF 7.46 dBi
.0									
00									
.0									
	♦ ¹								
.0 	فغلبان ووسانية والمقاومين ومعادلين	المربية الطعيمة وشاقله	in the second	والمراد المراجع ومعاد والمعاد	d d opticitiered d	a de la secta			مياسو في و الما ^{لي في} القر
			a description of the start is						
.0									
art 30 M	IHz							Stop 1	10.000 GH
	100 kHz		#VE	W 300 kHz			Sweep	952.9 ms	





Grianner Banuwidir (125 kHz), Data Kate 5, High Grianner, 914.9 MHz									
Frequency	Measured	Max Value	Limit						
Range Freg (MHz) (dBc) ≤ (dBc) Result									
30 MHz - 10 GHz	1830.22	-54.16	-30	Pass					

RL	RF 50 Ω A0			SENSE:INT	<u>∧</u> ∧	LIGN OFF			8 PM Jan 04, 202
			PNO: Fast 🕞	Trig: Free #Atten: 10	Run dB	#Avg Type:	Voltage		TYPE MWWW DET PPPP
) dB/div	Ref Offset 31 dB Ref 31.00 dBn	n						Mkr1 1.8 -3	30 2 GH 6.82 dBi
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9.0			and the second s						
9.0									
tart 30 M	/IHz							Stop	10.000 GF
Res BW	100 kHz		#VB	W 300 kHz			Sweep	952.9 m	s (8192 pt



		· //	4, Low Channel, 9 Max Value	Limit	
	Frequency Range	Measured Freq (MHz)	(dBc)	≤ (dBc)	Result
	Fundamental	902.92	N/A	N/A	N/A
	1 dilddilloridd	002.02			10/7
Keysight Spectrum Analyzer -	Element Materials Technology				
	0Ω AC	SENSE:INT	ALIGN OFF		01:18:47 PM Dec 30, 2021
		de 🦳 Trig: Free Run	#Avg Type:	Voltage	TRACE 1 2 3 4 5 6
	PNO: Wi IFGain:Lu				
Ref Offset:	31 dB			Mkr1 9	902.919 00 MHz
10 dB/div Ref 31.00	0 dBm				17.150 dBm
Log					
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-19.0					
-29.0					
-39.0					
-49.0					
-59.0					
-35.0					
Center 903.0000 MH #Res BW 100 kHz	lz	#VBW 300 kHz		0	Span 1.000 MHz .092 ms (8192 pts)
ARES DIV TOO KHZ		#VBW JUU KHZ	STATUS	Sweep	.uaz ms (a raz prs)
ASG			STATUS		
	Channel Bandwid	dth (500 kHz), Data Rate	4. Low Channel. 9	03 MHz	
	Frequency	Measured	Max Value	Limit	
	Range	Freq (MHz)	(dBc)	≤ (dBc)	Result
3	30 MHz - 10 GHz	1805.88	-54.27	-30	Pass
Keysight Spectrum Analyzer -	Element Materials Technology     0 Ω AC	SENSE:INT	ALIGN OFF		01:19:32 PM Dec 30, 2021
	U 3C AC		#Avg Type:	Voltage	TRACE 1 2 3 4 5 6
		st 😱 Trig: Free Run			TYPE M WWWWW

RL	RF 50 Ω A	C		SENSE:INT	<u>∧</u> ∧	LIGN OFF			2 PM Dec 30, 20
		I	PNO:Fast C FGain:Low	Trig: Free #Atten: 10		#Avg Type:			TYPE M WWW DET P P P P
	Ref Offset 31 dB							Mkr1 1.8 -3	05 9 GH
) dB/div	Ref 31.00 dBr							-3	7.12 dBi
9									
21.0									
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3.0		a have tille in the hards	d. Mitchelson	وفارته ويتقلبه وتقليما ومرازيه	استأر الفران المع معرول روحور		and cost and co		
	a set the set of a set of the set	and the second	Contractor Plants		And Address of Control	BARLINAS SALES	Destates phillips		
3.0 <b>מאווייני</b> 3.0									
9.0									
5.0									
tart 30 N								Stop	10.000 GH
And another statements	100 kHz		#V	BW 300 kHz			Sweep	952.9 m	s (8192 pt
G						STATUS			



	Frequency	width (500 kHz), Data Rate	Max Value	Limit	
	Range	Freq (MHz)	(dBc)	<u>≤ (dBc)</u>	Result
	Fundamental	909.57	N/A	N/A	N/A
Warright Space	Analyzer - Element Materials Technology				
LXI RL RF		SENSE:INT	ALIGN OFF		02:12:20 PM Dec 30, 2021
	PNC	: Wide 🖵 Trig: Free Run	#Avg Type:	Voltage	TRACE 1 2 3 4 5 6 TYPE MWWWWW DET P P P P P P
	IFGa	in:Low #Atten: 10 dB		Mkr1 9	09.569 39 MHz
Ref 10 dB/div Ref	Offset 31 dB f 31.00 dBm				17.271 dBm
209					
21.0					
11.0					7
M					A.
1.00					
-9.00 <b>V</b>					<u>\</u>
10.0					North Mary
-19.0					
-29.0					
-39.0					
-49.0					
-59.0					
Center 909.40 #Res BW 100		#VBW 300 kHz		Sween 1	Span 1.000 MHz .092 ms (8192 pts)
MSG		# USA COO MIL	STATUS	encop i	
	Channel Bana	width (500 kHz) Data Bata	1 Mid Channel 00		
	Frequency	lwidth (500 kHz), Data Rate / Measured	4, Mid Channel, 90 Max Value	Limit	
					Result Pass

Start 30 ∮Res BV	MHz V 100 k	Hz		#VB	W 300 kHz			Sweep	Stop 1 952.9 ms	0.000 GHz (8192 pts)
59.0										
19.0			in the second				al bije ge die entrole			
19.0		<b>∮</b> ¹	han and shared a state	and a second		no also toutilite data	unter a cha ca ta	dhana i adadi a		
29.0										
19.0										
9.00										
1.00										
11.0										
21.0										



Range       Freq (MHz)       (dBc)       S (dBc)       Result         Flogidit Spectrum Andpre- Branch Marcella Technology       States: 10 dB       Allon off       02002 Million (States: Technology)       02002 Million (Technology)       02002 Million (Technology) <th></th> <th>Frequency</th> <th></th> <th></th> <th>ata Rate 4, asured</th> <th>High Channel, Max Value</th> <th>914.2 MHz Limit</th> <th></th> <th></th>		Frequency			ata Rate 4, asured	High Channel, Max Value	914.2 MHz Limit		
Popping Spectrum Analyzer - Bernert Materials Technology       Struct Intil       A Link ord       Output Spectrum Analyzer - Bernert Materials Technology       Spectrum Analyzer - Bernert Materials Technology<				Fre	q (MHz)	(dBc)	≤ (dBc)		t
R.L         RF         SOD         ACL         SENCENTI         ALLING         C220322 MACE 30,2011           PROV. Wide         Trig: Free Run IFGenit.Low         Trig: Free Run IFGenit.Low         Trig: Free Run IFGenit.Low         Mixr1 914.4447 16 MHz 17.301 dBm           0.0 dBM         Ref 01f6et 91 4.8         Mixr1 914.4447 16 MHz 17.301 dBm         17.301 dBm           0.0 dBM         Ref 01f6et 91 4.4447 16 MHz 17.301 dBm         17.301 dBm           0.0 dBM         Ref 01f6et 91 4.4447 16 MHz 17.301 dBm         17.301 dBm           0.0 dBM         Ref 01f6et 91 4.4447 16 MHz 17.301 dBm         17.301 dBm           0.0 dBM         Ref 01f6et 91 4.4447 16 MHz 17.301 dBm         17.301 dBm           0.0 dBM         Ref 01f6et 91 4.200 MHz         Span 1.000 MHz           #Ref 914.2000 MHz         #VBW 300 KHz         Span 1.000 MHz           #Ref 914.2000 MHz         #VBW 300 KHz         Span 1.000 MHz           #Ref 914.2000 MHz         #VBW 300 KHz         Span 1.000 MHz           MRoi         Istatus         Istatus         Istatus           Channel Bandwidth (500 KHz), Data Rate 4, High Channel, 914.2 MHz         Result         Result           Channel Bandwidth (500 KHz), Data Rate 4, High Channel, 914.2 MHz         Result         Result           Sod AC         Span 1.000 MHz <t< th=""><th></th><th>Fundamenta</th><th>al</th><th>9</th><th>14.45</th><th>N/A</th><th>N/A</th><th>N/A</th><th></th></t<>		Fundamenta	al	9	14.45	N/A	N/A	N/A	
R.L         RF         SOD         ACL         SENCENTI         ALLING         C220322 MACE 30,2011           PROV. Wide         Trig: Free Run IFGenit.Low         Trig: Free Run IFGenit.Low         Trig: Free Run IFGenit.Low         Mixr1 914.4447 16 MHz 17.301 dBm           0.0 dBM         Ref 01f6et 91 4.8         Mixr1 914.4447 16 MHz 17.301 dBm         17.301 dBm           0.0 dBM         Ref 01f6et 91 4.4447 16 MHz 17.301 dBm         17.301 dBm           0.0 dBM         Ref 01f6et 91 4.4447 16 MHz 17.301 dBm         17.301 dBm           0.0 dBM         Ref 01f6et 91 4.4447 16 MHz 17.301 dBm         17.301 dBm           0.0 dBM         Ref 01f6et 91 4.4447 16 MHz 17.301 dBm         17.301 dBm           0.0 dBM         Ref 01f6et 91 4.200 MHz         Span 1.000 MHz           #Ref 914.2000 MHz         #VBW 300 KHz         Span 1.000 MHz           #Ref 914.2000 MHz         #VBW 300 KHz         Span 1.000 MHz           #Ref 914.2000 MHz         #VBW 300 KHz         Span 1.000 MHz           MRoi         Istatus         Istatus         Istatus           Channel Bandwidth (500 KHz), Data Rate 4, High Channel, 914.2 MHz         Result         Result           Channel Bandwidth (500 KHz), Data Rate 4, High Channel, 914.2 MHz         Result         Result           Sod AC         Span 1.000 MHz <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>									
PNO: Wide         Trig: Free Run Breakt.cov         Trig: Free Run Atten: 10 dB         Mikr1 914.447.16 MHz 17.301 dBm           10 dBldiv         Ref 0ffset 31 dB 10 dBldiv         Mikr1 914.447.16 MHz 17.301 dBm         17.301 dBm           20 dBldiv         Ref 0ffset 31 dB 10 dBldiv         Mikr1 914.447.16 MHz 17.301 dBm         17.301 dBm           20 dBldiv         Ref 0ffset 31 dB 10 dBldiv         Mikr1 914.447.16 MHz 17.301 dBm         17.301 dBm           20 dBldiv         Ref 0ffset 31 dB 10 dBldiv         Span 1.000 MHz 17.301 dBm         17.301 dBm           20 dBldiv         Ref 0ffset 31 dB 10 dBldiv         Span 1.000 MHz 17.301 dBm         Span 1.000 MHz 17.301 dBm           20 dBldiv         Freq (MHz) 10 dBldiv         #VEW 300 kHz         Span 1.000 MHz 17.302 ms (8192 pts)           20 dBldiv         Imit 10 dBldiv         Span 1.000 MHz 17.302 ms (8192 pts)         Span 1.000 MHz 17.302 ms (8192 pts)           20 dBldiv         Span 1.000 MHz 17.301 dBldiv         #VEW 300 kHz         Imit 18.400 Freq (MHz)         Span 1.000 MHz 18.201 dBldiv           20 dBldiv         Span 1.000 MHz 17.302 dBldiv         Freq (MHz) 18.201 dBldiv         Span 1.000 MHz 18.201 dBldiv         Span 1.000 MHz 18.201 dBldiv           21 dBldiv         Span 1.000 MHz 18.201 dBldiv         Span 1.000 MHz 18.201 dBldiv         Span 1.000 MHz 18.201 dBldiv         Span 1.000 MHz 18.201 dBldiv			rechnology	SENSE:INT		ALIGN OFF		02-20-32 PM F	Dec 30, 2021
Productor         Mkr1 914.447 16 MHz 17.301 dBm           10 dBdiv         Ref 31.00 dBm         17.301 dBm           210         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1 <td< td=""><td></td><td></td><td></td><td></td><td>ree Dun</td><td>#Avg Typ</td><td>e: Voltage</td><td>TRACE</td><td>1 2 3 4 5 6</td></td<>					ree Dun	#Avg Typ	e: Voltage	TRACE	1 2 3 4 5 6
10 dBkt/v       Ref 31.00 dBm       17.301 dBm         10 dBkt/v       Ref 31.00 dBm       1         10 dBkt/v       Freq (MHz)       Span 1.000 MHz         20 dBkt/v       Freq (MHz)       Systep 1.092 ms (8192 pts)         Med       Stratus       Stratus         Channel Bandwidth (500 kHz). Data Rate 4, High Channel, 914.2 MHz         Channel Bandwidth (500 kHz). Data Rate 4, High Channel, 914.2 MHz         Channel Bandwidth (500 kHz). Data Rate 4, High Channel, 914.2 MHz         Channel Bandwidth (500 kHz). Data Rate 4, High Channel, 914.2 MHz         Channel Bandwidth (500 kHz). Data Rate 4, High Channel, 914.2 MHz         Frequency         Measured         Alloh off         PRO, Fast         Trig: Free Run         Freq UML Ref 31.00 dBm         PRO, Fast         Trig: Free Run         Alloh off			PNO: Wide IFGain:Low					DET	РРРРР
Log         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1	Re	ef Offset 31 dB					Mkr1	914.447 1	6 MHz
210 10 10 10 10 10 10 10 10 10	10 dB/div Re	ef 31.00 dBm						17.30	1 dBm
110     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100 <td></td> <td></td> <td></td> <td></td> <td>Ť</td> <td></td> <td></td> <td></td> <td></td>					Ť				
100         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400 <td>21.0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>_<b></b>1</td> <td></td> <td></td>	21.0						_ <b></b> 1		
100         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400         400 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>									
900 190 190 290 390 490 490 490 490 490 490 490 4	11.0	And							
900 190 190 290 390 490 490 490 490 490 490 490 4	1.00								
190	ALCO MARK								$\Lambda$
290 390 490 490 490 490 490 490 490 4	-9.00								
290 390 490 490 490 490 490 490 490 4									Mar Mar
390       490         490       490         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490 <td< td=""><td>-19.0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	-19.0								
390       490         490       490         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490       500         490 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>									
430 -330 Center 914.2000 MHz #Res BW 100 kHz #Res BW 100 kHz Frequency Channel Bandwidth (500 kHz), Data Rate 4, High Channel, 914.2 MHz Frequency Measured Max Value Channel Bandwidth (500 kHz), Data Rate 4, High Channel, 914.2 MHz Frequency Measured Max Value Channel Bandwidth (500 kHz), Data Rate 4, High Channel, 914.2 MHz Frequency Measured Max Value Channel Bandwidth (500 kHz), Data Rate 4, High Channel, 914.2 MHz Frequency Measured Max Value Channel Bandwidth (500 kHz), Data Rate 4, High Channel, 914.2 MHz Frequency Measured Max Value Channel Bandwidth (500 kHz), Data Rate 4, High Channel, 914.2 MHz (dBc) ≤ (dBc) Result 0 MHz - 10 GHz NKr 1 1,8229 0 GHz -38.85 dBm 10 dB/div Ref 0ffset 31 dB -38.85 dBm 10 dB/div Ref 0ffset 31 dB -38.85 dBm -38.85 dBm -38.	-29.0								
Center 914.2000 MHz       Span 1.000 MHz         #Res BW 100 kHz       #VBW 300 kHz       Sweep 1.092 ms (8192 pts)         MsG       status         Channel Bandwidth (500 kHz), Data Rate 4, High Channel, 914.2 MHz         Frequency       Measured       Max Value       Limit         Range       Freq (MHz)       (dBc)       ≤ (dBc)       Result         30 MHz - 10 GHz       1829.01       -56.15       -30       Pass         Keysight Spectrum Analyzer - Element Materials Technology       Trig: Free Run       #Aution OFF       02:21:20 PMDec 30, 2021         PNO: Fast       Trig: Free Run       #Aution OFF       02:21:20 PMDec 30, 2021       Trace       23:36         PNO: Fast       Trig: Free Run       #Atten: 10 dB       Mkr1 1.829 0 GHz       -38.85 dBm         10 dB/div       Ref Offset 31 dB       Mkr1 1.829 0 GHz       -38.85 dBm         10 dB/div       Ref 31.00 dBm       -38.85 dBm       -38.85 dBm	-39.0								
Center 914.2000 MHz       Span 1.000 MHz         #Res BW 100 kHz       #VBW 300 kHz       Sweep 1.092 ms (8192 pts)         MsG       status         Channel Bandwidth (500 kHz), Data Rate 4, High Channel, 914.2 MHz         Frequency       Measured       Max Value       Limit         Range       Freq (MHz)       (dBc)       ≤ (dBc)       Result         30 MHz - 10 GHz       1829.01       -56.15       -30       Pass         Keysight Spectrum Analyzer - Element Materials Technology       Trig: Free Run       #Aution OFF       02:21:20 PMDec 30, 2021         PNO: Fast       Trig: Free Run       #Aution OFF       02:21:20 PMDec 30, 2021       Trace       23:36         PNO: Fast       Trig: Free Run       #Atten: 10 dB       Mkr1 1.829 0 GHz       -38.85 dBm         10 dB/div       Ref Offset 31 dB       Mkr1 1.829 0 GHz       -38.85 dBm         10 dB/div       Ref 31.00 dBm       -38.85 dBm       -38.85 dBm									
Center 914.2000 MHz #Res BW 100 KHz #Res BW 100 KHz Channel Bandwidth (500 kHz), Data Rate 4, High Channel, 914.2 MHz Channel Bandwidth (500 kHz), Data Rate 4, High Channel, 914.2 MHz Frequency Range Freq (MHz) (dBc) ≤ (dBc) Result 30 MHz - 10 GHz 30 MHz - 10 GHz Ref 50 Ω AC FPNO; Fast FPNO; Fast FNO; FNO; FNO; FNO; FNO; FNO; FNO; FNO;	-49.0								
Center 914.2000 MHz #Res BW 100 KHz #Res BW 100 KHz Channel Bandwidth (500 kHz), Data Rate 4, High Channel, 914.2 MHz Channel Bandwidth (500 kHz), Data Rate 4, High Channel, 914.2 MHz Frequency Range Freq (MHz) (dBc) ≤ (dBc) Result 30 MHz - 10 GHz 30 MHz - 10 GHz Ref 50 Ω AC FPNO; Fast FPNO; Fast FNO; FNO; FNO; FNO; FNO; FNO; FNO; FNO;									
#Res BW 100 kHz     #VBW 300 kHz     Sweep 1.092 ms (8192 pts)       Msg     status       Channel Bandwidth (500 kHz), Data Rate 4, High Channel, 914.2 MHz       Frequency     Measured       Range     Freq (MHz)       30 MHz - 10 GHz     1829.01       -56.15     -30       PR0: Fast     Trig: Free Run       PN0: Fast     Trig: Free Run       PN0: Fast     Trig: Free Run       Ref Offset 31 dB     Mkr1 1.829 0 GHz       -38.85 dBm       21.0	-59.0								
#Res BW 100 kHz     #VBW 300 kHz     Sweep 1.092 ms (8192 pts)       Msg     status       Channel Bandwidth (500 kHz), Data Rate 4, High Channel, 914.2 MHz       Frequency     Measured       Range     Freq (MHz)       30 MHz - 10 GHz     1829.01       -56.15     -30       PR0: Fast     Trig: Free Run       PN0: Fast     Trig: Free Run       PN0: Fast     Trig: Free Run       Ref Offset 31 dB     Mkr1 1.829 0 GHz       -38.85 dBm       21.0									
MSG     STATUS       Channel Bandwidth (500 kHz), Data Rate 4, High Channel, 914.2 MHz       Frequency     Measured     Max Value     Limit       Range     Freq (MHz)     (dBc)     ≤ (dBc)     Result       30 MHz - 10 GHz     1829.01     -56.15     -30     Pass			#\	VBW 300 k	Hz		Sween	Span 1.0 1 092 ms /8	00 MHz 192 nts)
Channel Bandwidth (500 kHz), Data Rate 4, High Channel, 914.2 MHz Frequency Measured Max Value Limit Range Freq (MHz) (dBc) ≤ (dBc) Result 30 MHz - 10 GHz 1829.01 -56.15 -30 Pass Keysight Spectrum Analyzer - Element Materials Technology RL RF 50 Q AC FROM Trig: Free Run IFGain:Low Ref Offset 31 dB Ref Offset 31 dB Ref Offset 31 dB Ref 31.00 dBm -38.85 dBm 10 dB/div Ref 31.00 dBm -38.85 dBm		INTIG.					Gueop	11002 1110 (0	Tor prov
Frequency Range     Measured Freq (MHz)     Max Value (dBc)     Limit ≤ (dBc)       30 MHz - 10 GHz     1829.01     -56.15     -30       Result     1829.01     -56.15     -30       Result     0.212120 PMpc 30,2021       Result     0.221120 PMpc 30,2021       PNO: Fast     Trig: Free Run #Atten: 10 dB       Ref Offset 31 dB     Mkr1 11.829 0 GHz -38.85 dBm       10 dB/div     Ref 31.00 dBm	#Res BW 100					STATUS			
Range         Freq (MHz)         (dBc)         ≤ (dBc)         Result           30 MHz - 10 GHz         1829.01         -56.15         -30         Pass           Keysight Spectrum Analyzer - Element Materials Technology         Control of the second	#Res BW 100								
30 MHz - 10 GHz     1829.01     -56.15     -30     Pass       Keysight Spectrum Analyzer - Element Materials Technology     Image: Comparison of the system	#Res BW 100					High Channel,			
Keysight Spectrum Analyzer - Element Materials Technology      RL     RF     50 Ω     AC     SENSE:INT     ALIGN OFF     02:21:20 PMoe 30, 2021     #Avg Type: Voltage     TYPE     TYPE     PP P P     PP     PP P P     PP     PP P P     ALIGN OFF     Constant	#Res BW 100	Frequency		Me	asured	High Channel, Max Value	Limit	Posul	
CM         RE         50 Ω         AC         SENSE:INT         ALIGN OFF         02:21:20 PM0e: 30, 2021           WAY         Trig: Free Run IFGain:Low         Trig: Free Run #Atten: 10 dB         #Avg Type: Voltage         TRACE [] 2:34:56           VYEE [] Colspan="2">MKr1 1.829 0 GHz -38.85 dBm           001 GHZ           21.0           11.0	#Res BW 100	Frequency Range	y	Me Fre	asured q (MHz)	High Channel, Max Value (dBc)	Limit ≤ (dBc)		
PNO: Fast IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGain:Low IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFGAIN IFG	#Res BW 100	Frequency Range	y	Me Fre	asured q (MHz)	High Channel, Max Value (dBc)	Limit ≤ (dBc)		
PN0: Fast C If Gein:Low #Atten: 10 dB DET PPPPPP Ref Offset 31 dB C State Sta	#Res BW 100	Frequency Range 30 MHz - 10 C	<b>y</b> GHz	Me Fre 18	asured q (MHz)	High Channel, Max Value (dBc) -56.15	Limit ≤ (dBc)	Pass	. 6 💌
Ref Offset 31 dB         Mkr1 1.829 0 GHz           10 dB/div         Ref 31.00 dBm         -38.85 dBm           21.0	#Res BW 100	Frequency Range 30 MHz - 10 C	<b>y</b> GHz	Me Fre 18 SENSE:INT	asured q (MHz) 329.01	High Channel, Max Value (dBc) -56.15	Limit <u>≤ (dBc)</u> -30	Pass 02:21:20 PM D TRACE	Dec 30, 2021
10 dB/div         Ref 31.00 dBm         -38.85 dBm           21.0	#Res BW 100	Frequency Range 30 MHz - 10 C	GHz Technology PNO: Fast	Me Free 18 SENSE:INT	asured q (MHz) 329.01	High Channel, Max Value (dBc) -56.15	Limit <u>≤ (dBc)</u> -30	Pass 02:21:20 PMD TRACE	) (a) (x) bec 30, 2021 1 2 3 4 5 6
	#Res BW 100	Frequency Range 30 MHz - 10 C n Analyzer - Element Materials 1 RF   50 Q AC	GHz Technology PNO: Fast	Me Free 18 SENSE:INT	asured q (MHz) 329.01	High Channel, Max Value (dBc) -56.15	Limit ≤ (dBc) -30 e: Voltage	Pass 02:21:20 PMC TRACE TYPE DET	Dec 30, 2021
	#Res BW 100	Frequency Range 30 MHz - 10 C n Analyzer - Element Materials 1 RF   50 Q AC	GHz Technology PNO: Fast	Me Free 18 SENSE:INT	asured q (MHz) 329.01	High Channel, Max Value (dBc) -56.15	Limit ≤ (dBc) -30 e: Voltage	Pass 02:21:20 PMC TRACE TYPE DET <b>/kr1 1.829</b>	С С С С С С С С С С С С С С С С С С С
	#Res BW 100	Frequency Range 30 MHz - 10 C n Analyzer - Element Materials 1 RF   50 Q AC	GHz Technology PNO: Fast	Me Free 18 SENSE:INT	asured q (MHz) 329.01	High Channel, Max Value (dBc) -56.15	Limit ≤ (dBc) -30 e: Voltage	Pass 02:21:20 PMC TRACE TYPE DET <b>/kr1 1.829</b>	С С С С С С С С С С С С С С С С С С С
	#Res BW 100	Frequency Range 30 MHz - 10 C n Analyzer - Element Materials 1 RF   50 Q AC	GHz Technology PNO: Fast	Me Free 18 SENSE:INT	asured q (MHz) 329.01	High Channel, Max Value (dBc) -56.15	Limit ≤ (dBc) -30 e: Voltage	Pass 02:21:20 PMC TRACE TYPE DET <b>/kr1 1.829</b>	С С С С С С С С С С С С С С С С С С С
	#Res BW 100	Frequency Range 30 MHz - 10 C n Analyzer - Element Materials 1 RF   50 Q AC	GHz Technology PNO: Fast	Me Free 18 SENSE:INT	asured q (MHz) 329.01	High Channel, Max Value (dBc) -56.15	Limit ≤ (dBc) -30 e: Voltage	Pass 02:21:20 PMC TRACE TYPE DET <b>/kr1 1.829</b>	С С С С С С С С С С С С С С С С С С С
	#Res BW 100 MSG Keysight Spectrum W RL R 10 dB/div Re 21.0	Frequency Range 30 MHz - 10 C n Analyzer - Element Materials 1 RF   50 Q AC	GHz Technology PNO: Fast	Me Free 18 SENSE:INT	asured q (MHz) 329.01	High Channel, Max Value (dBc) -56.15	Limit ≤ (dBc) -30 e: Voltage	Pass 02:21:20 PMC TRACE TYPE DET <b>/kr1 1.829</b>	С С С С С С С С С С С С С С С С С С С

Start 30 MHz #Res BW 100 kHz ۵

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#VBW 300 kHz

فتقدا بالسق

Addition to Alleget

STATUS

o folket and the second

Stop 10.000 GHz Sweep 952.9 ms (8192 pts)

يفتنغ



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

#### **TEST EQUIPMENT**

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Generator - Signal	Keysight	N5182B	TFX	2020-04-28	2023-04-28
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2021-04-16	2022-04-16
Block - DC	Fairview Microwave	SD3379	AMZ	2021-11-05	2022-11-05
Attenuator	INMET	64671 6A-10dB	AUI	2021-08-04	2022-08-04
Attenuator	Fairview Microwave	SA18S5W-20	RFX	2021-06-02	2022-06-02
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2021-09-12	2022-09-12

#### **TEST DESCRIPTION**

The fundamental emission output power (maximum average conducted output power) was measured using the channels and modes as called out on the following data sheets. The transmit power was set to its default maximum.

Prior to measuring output power; the emission bandwidth (B) and the transmission pulse duration (T) were measured. Both are required to determine the method of measuring Maximum Conducted Output Power. The transmission pulse duration (T) was measured using a zero span on the spectrum analyzer to see the pulses in the time domain.

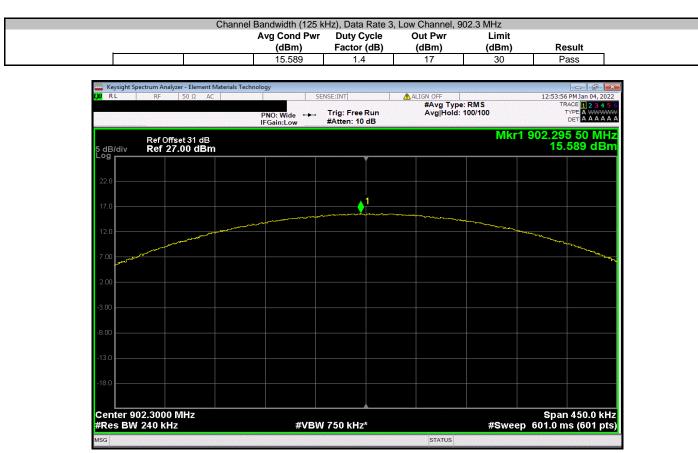
The method AVGSA-2 in section 11.9.2.2.4 of ANSI C63.10:2013 was used to make the measurement. This method uses trace averaging across ON and OFF times of the EUT transmissions in the spectrum analyzer channel power function using an RMS detector. Following the measurement a duty cycle correction was applied by adding [10 log (1 / D)], where D is the duty cycle, to the measured power to compute the average power during the actual transmission times.

The AVGSA-2 method was modified as the available resolution bandwidth (RBw) on the spectrum analyzer could be set wider than the measured emissions bandwidth (B). RBw was set wider than B. This follows the guidance of section 11.9.1.1 and is equivalent to a measurement with a power meter AVGPM per section 11.9.2.3.



EUT: RBS	S301								Work Order:		
Serial Number: T4										4-Jan-22	
	Iti-Tech Systems, Inc.								Temperature:		
Attendees: Mike									Humidity:		
Project: Non									Barometric Pres.:		
Tested by: And					Pow	ver: Battery			Job Site:	MN08	
EST SPECIFICATIONS	S					Test Method					
CC 15.247:2022						ANSI C63.10:2013					
RSS-247 Issue 2:2017						ANSI C63.10:2013					
COMMENTS			-								
Reference level offset in	includes measurement	i cable, attenu	ators, DC DIO	UN, AND CUS	stomer patch ca	aute.					
DEVIATIONS FROM TES	ST STANDARD										
DEVIATIONS FROM TES	ST STANDARD										
	ST STANDARD		Signature	C.	to ,	Rogeland	/				
lone			Signature	a	ly i	Rogeland	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Limit (dBm)	Result
lone	3		Signature	<i>C</i> a	ty,	Regelat					Result
Configuration #	3		Signature	Ċ,	ig ,	Restal					Result
Configuration #	3 kHz) a Rate 3 Low Channel	, 902.3 MHz	Signature	Ċ,	ly i	Regelat	( <b>dBm</b> ) 15.589	Factor (dB)	(dBm) 17		Result
Configuration #	3 k kHz) ta Rate 3	, 902.3 MHz	Signature	C.	ty I	Regelat	(dBm)	Factor (dB)	(dBm)	(dBm)	
Ione Configuration # Channel Bandwidth (125 Data	3 ixHz) ia Rate 3 Low Channel, High Channel,	, 902.3 MHz 908.7 MHz	Signature	Ċ,	łø,	Rostal	( <b>dBm</b> ) 15.589	Factor (dB)	(dBm) 17	(dBm) 30	Pass
Ione Configuration # Channel Bandwidth (125 Date	3 ixHz) ia Rate 3 Low Channel, High Channel,	, 902.3 MHz 908.7 MHz	Signature	C.	iş i	Rogstark	(dBm) 15.589 15.714	Factor (dB)	(dBm) 17 17.1	(dBm) 30 30	Pass Pass
None Configuration # Channel Bandwidth (125 Date Channel Bandwidth (500	3 ixHz) ia Rate 3 Low Channel, High Channel,	, 902.3 MHz 908.7 MHz	Signature	<i>C</i>	tor i	Regelat	(dBm) 15.589 15.714	Factor (dB)	(dBm) 17 17.1	(dBm) 30 30	Pass Pass
None Configuration # Channel Bandwidth (125 Date Channel Bandwidth (500	3 kHz) a Rate 3 Low Channel Mid Channel, High Channel kHz) a Rate 4 Low Channel	, 902.3 MHz 908.7 MHz I, 914.9 MHz , 903 MHz	Signature	C	iσ,	Regeland	(dBm) 15.589 15.714 15.797 14.578	Factor (dB)	(dBm) 17 17.1 17.2 17.2	(dBm) 30 30 30 30	Pass Pass Pass Pass
None Configuration # Channel Bandwidth (125 Date Channel Bandwidth (500	3 i kHz) a Rate 3 Low Channel Mid Channel, High Channel kHz) a Rate 4	, 902.3 MHz 908.7 MHz I, 914.9 MHz , 903 MHz	Signature	Cı	t y I	Regstart	(dBm) 15.589 15.714 15.797	Factor (dB) 1.4 1.4 1.4	(dBm) 17 17.1 17.2	(dBm) 30 30 30	Pass Pass Pass



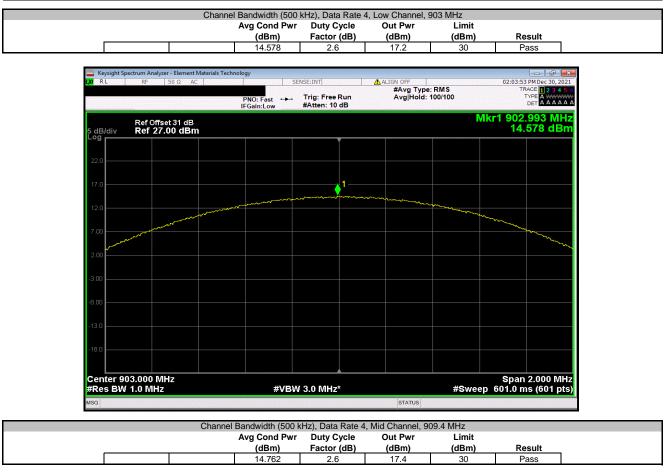


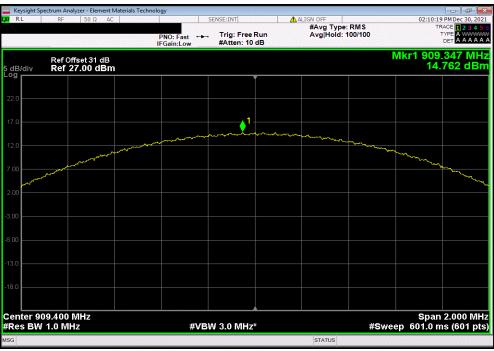


	Avg Cond Pwr	Duty Cycle	Out Pwr	Limit	
	(dBm)	Factor (dB)	(dBm)	(dBm)	Result
	15.714	1.4	17.1	30	Pass
Keysight Spectrum Analyzer - Element Materia     RF 50 Ω AC		SE:INT	ALIGN OFF		01:02:07 PM Jan 04, 2022
CAL Nº JUSZ AC			#Avg Type		TRACE 1 2 3 4 5 6
	PNO: Wide ++- IFGain:Low	Trig: Free Run #Atten: 10 dB	Avg Hold:	100/100	TRACE 1 2 3 4 5 6 TYPE A WWWW DET A A A A A A
				Mkr1	908.685 75 MHz
Ref Offset 31 dB 5 dB/div Ref 27.00 dBm					15.714 dBm
Log		Y			
22.0					
17.0		<u> </u>			
17.0					
12.0	Same and a second s				
and and a second s					and a stand of the
7.00					and and a second
2.00					
-3.00					
-8.00					
-13.0					
49.9					
-18.0					
Center 908.7000 MHz #Res BW 240 kHz	#\/B\M	750 kHz*		#Sween	Span 450.0 kHz 601.0 ms (601 pts)
MSG	#9099	7 JU KHZ	STATUS	#aweep	
inou i			STAIDS		
Cha	nnel Bandwidth (125 kł	Iz), Data Rate 3,	High Channel, 9	14.9 MHz	
	Avg Cond Pwr	Duty Cycle	Out Pwr	Limit	
	(dBm)	Factor (dB)	(dBm)	(dBm)	Result
	15.797	1.4	17.2	30	Pass

Keysight Sp	pectrum Analyzer - Element Materials RF 50 Ω AC		SENSE:INT	ALIGN OFF	01:10:04 PM Jan 04, 2022
		PNO: Wide ↔→→ IFGain:Low	Trig: Free Run #Atten: 10 dB	#Avg Type: RMS Avg Hold: 100/100	TRACE 1 2 3 4 5 6 TYPE A WWWW DET A A A A A A
5 dB/div Log	Ref Offset 31 dB Ref 27.00 dBm			N	lkr1 914.909 3 MHz 15.797 dBm
22.0					
17.0			1		
12.0					~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
7.00					and the second s
2.00					
-3.00					
-8.00					
-13.0					
-18.0					
Center 9 [.] #Res BW	14.9000 MHz / 240 kHz	#VB	W 750 kHz*	#Sw	Span 400.0 kHz eep 601.0 ms (601 pts)
MSG				STATUS	







### **OUTPUT POWER**



	Avg Cond Pwr	Duty Cycle	Out Pwr	Limit	
	(dBm)	Factor (dB)	(dBm)	(dBm)	Result
	14.754	2.6	17.4	30	Pass
Keysight Spectrum Analyzer - Element Materials T	echnology				
X RL RF 50Ω AC		NSE:INT	ALIGN OFF		02:19:48 PM Dec 30, 2021
		Trig: Free Run	#Avg Type Avg Hold:	: RMS	TRACE 1 2 3 4 5 6 TYPE A WWWW DET A A A A A A
	PNO: Fast +++ IFGain:Low	#Atten: 10 dB	Avginoid.	100/100	DET A A A A A A
				Mk	r1 914.183 MHz
Ref Offset 31 dB 5 dB/div Ref 27.00 dBm					14.754 dBm
Log		Y			
22.0					
17.0		1			
			~~~~~		
12.0	m		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	· ····································	
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and a start and a start					- And Marken
2.00					
-3.00					
-8.00					
0.00					
12.0					
-13.0					
10.0					
-18.0					
Center 914.200 MHz		A			Span 2.000 MHz
#Res BW 1.0 MHz	#VBM	3.0 MHz*		#Sween	601.0 ms (601 pts)



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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Generator - Signal	Keysight	N5182B	TFX	2020-04-28	2023-04-28
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	2021-04-16	2022-04-16
Block - DC	Fairview Microwave	SD3379	AMZ	2021-11-05	2022-11-05
Attenuator	INMET	64671 6A-10dB	AUI	2021-08-04	2022-08-04
Attenuator	Fairview Microwave	SA18S5W-20	RFX	2021-06-02	2022-06-02
Cable	Micro-Coax	UFD150A-1-0720-200200	MNL	2021-09-12	2022-09-12

TEST DESCRIPTION

The fundamental emission output power (maximum average conducted output power) was measured using the channels and modes as called out on the following data sheets. The transmit power was set to its default maximum.

Prior to measuring output power; the emission bandwidth (B) and the transmission pulse duration (T) were measured. Both are required to determine the method of measuring Maximum Conducted Output Power. The transmission pulse duration (T) was measured using a zero span on the spectrum analyzer to see the pulses in the time domain.

The method AVGSA-2 in section 11.9.2.2.4 of ANSI C63.10:2013 was used to make the measurement. This method uses trace averaging across ON and OFF times of the EUT transmissions in the spectrum analyzer channel power function using an RMS detector. Following the measurement a duty cycle correction was applied by adding [10 log (1 / D)], where D is the duty cycle, to the measured power to compute the average power during the actual transmission times.

The AVGSA-2 method was modified as the available resolution bandwidth (RBw) on the spectrum analyzer could be set wider than the measured emissions bandwidth (B). RBw was set wider than B. This follows the guidance of section 11.9.1.1 and is equivalent to a measurement with a power meter AVGPM per section 11.9.2.3.

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



									TbtTx 2021.10.29.2	XMit 2020.12.30.0
	RBS301							Work Order:		
Serial Number:	T4								4-Jan-22	
Customer:	Multi-Tech Systems, Inc.							Temperature:	22.6 °C	
Attendees:								Humidity:		
Project:								Barometric Pres.:		
	Andrew Rogstad			Power:				Job Site:	MN08	
TEST SPECIFICATI	ONS				Test Method					
FCC 15.247:2022					ANSI C63.10:2013					
RSS-247 Issue 2:20	17				ANSI C63.10:2013					
COMMENTS										
Reference level offs	set includes measuremen	t cable, attenu	ators, DC block, and c	customer patch cable	Э.					
				•						
DEVIATIONS FROM	I TEST STANDARD									
None										
Configuration #	3		Signature	20 R	atal					
Configuration #	3		Signature	Avg Cond Pwr	Duty Cycle	Out Pwr	Antenna	FIRP	FIRP Limit	
Configuration #	3		Signature	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
-			Signature	Avg Cond Pwr	Duty Cycle					Result
Channel Bandwidth (Signature	Avg Cond Pwr	Duty Cycle					Result
Channel Bandwidth ((125 kHz)		Signature	Avg Cond Pwr	Duty Cycle					Result Pass
Channel Bandwidth ((125 kHz) Data Rate 3	, 902.3 MHz	Signature	Avg Cond Pwr (dBm)	Duty Cycle Factor (dB)	(dBm)	Gain (dBi)	(dBm)	(dBm)	
Channel Bandwidth ((125 kHz) Data Rate 3 Low Channel, Mid Channel,	, 902.3 MHz	Signature	Avg Cond Pwr (dBm) 15.589	Duty Cycle Factor (dB)	(dBm) 17	Gain (dBi) 0.3	(dBm) 17.3	(dBm) 36	Pass
Channel Bandwidth ((125 kHz) Data Rate 3 Mid Channel, High Channe	, 902.3 MHz 908.7 MHz	Signature	Avg Cond Pwr (dBm) 15.589 15.714	Duty Cycle Factor (dB) 1.4 1.4	(dBm) 17 17.1	Gain (dBi) 0.3 0.3	(dBm) 17.3 17.4	(dBm) 36 36	Pass Pass
Channel Bandwidth ((125 kHz) Data Rate 3 Low Channel Mid Channel, High Channe (500 kHz)	, 902.3 MHz 908.7 MHz I, 914.9 MHz	Signature	Avg Cond Pwr (dBm) 15.589 15.714	Duty Cycle Factor (dB) 1.4 1.4	(dBm) 17 17.1	Gain (dBi) 0.3 0.3	(dBm) 17.3 17.4	(dBm) 36 36	Pass Pass
Channel Bandwidth ((125 kHz) Data Rate 3 Low Channel Mid Channel, High Channe (500 kHz) Data Rate 4	, 902.3 MHz 908.7 MHz I, 914.9 MHz , 903 MHz	Signature	Avg Cond Pwr (dBm) 15.589 15.714 15.797	Duty Cycle Factor (dB) 1.4 1.4 1.4	(dBm) 17 17.1 17.2	Gain (dBi) 0.3 0.3 0.3	(dBm) 17.3 17.4 17.5	(dBm) 36 36 36	Pass Pass Pass
Channel Bandwidth ((125 kHz) Data Rate 3 Mid Channel, High Channe (500 kHz) Data Rate 4 Low Channel	, 902.3 MHz 908.7 MHz I, 914.9 MHz , 903 MHz 909.4 MHz	Signature	Avg Cond Pwr (dBm) 15.589 15.714 15.797 14.578	Duty Cycle Factor (dB) 1.4 1.4 1.4 2.6	(dBm) 17 17.1 17.2 17.2	Gain (dBi) 0.3 0.3 0.3 0.3	(dBm) 17.3 17.4 17.5 17.5	(dBm) 36 36 36 36	Pass Pass Pass Pass



	Channel Bandwidth (125 kHz), Data Rate 3, Low Channel, 902.3 MHz										
Avg	Cond Pwr	Duty Cycle	Out Pwr	Antenna	EIRP	EIRP Limit					
	(dBm)	Factor (dB)	(dBm)	Gain (dBi)	(dBm)	(dBm)	Result				
	15.589	1.4	17	0.3	17.3	36	Pass				





			kHz), Data Rate 3			
Avg Cond Pw		Out Pwr	Antenna	EIRP	EIRP Limit	
(dBm)	Factor (dB)	(dBm)	Gain (dBi)	(dBm)	(dBm)	Result
15.714	1.4	17.1	0.3	17.4	36	Pass
Keysight Spectrum Analyze						
	er - Element Materials Tech 50 Ω AC		NSE:INT	ALIGN OFF		01:02:07 PM Jan 04, 2022
		PNO: Wide	Trig: Free Run	#Avg Typ Avg Hold	be:RMS I:100/100	TRACE 1 2 3 4 5 0 TYPE A WWWW DET A A A A A A
		IFGain:Low	#Atten: 10 dB			
Ref Offs	et 31 dB .00 dBm				Mkr1 9	08.685 75 MHz 15.714 dBm
5 dB/div Ref 27.	.00 aBm		*			10.714 0.01
22.0						
17.0			1			
12.0	مى م				and the second s	And Three and the second se
and the second second						and the second s
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-8.00						
-0.00						
-13.0						
-18.0						
Center 908.7000 N #Res BW 240 kHz		#VRIA	/ 750 kHz*		#Sween f	Span 450.0 kHz 501.0 ms (601 pts
MSG		<i>"</i> • • •		STATUS	"oncop s	to no no (cor pro
A			Hz), Data Rate 3,			
Avg Cond Pwi (dBm)	r Duty Cycle Factor (dB)	Out Pwr (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)	Result
15.797	1.4	17.2	0.3	17.5	36	Pass
Keysight Spectrum Analyze	er - Element Materials Tech 50 Ω AC		NSE:INT	A NUCH OFF	1	01:10:04 PM Jan 04, 2022
	50 52 AC			ALIGN OFF #Avg Typ	e: RMS	TRACE 1 2 3 4 5
		PNO: Wide ++- IFGain:Low	Trig: Free Run #Atten: 10 dB	Avg Hold	1: 100/100	
Ref Offs	et 31 dB				Mkr1	914.909 3 MHz
5 dB/div Ref 27.	et 31 dB .00 dBm					15.797 dBm
22.0						
			1			
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		a property in the second se				
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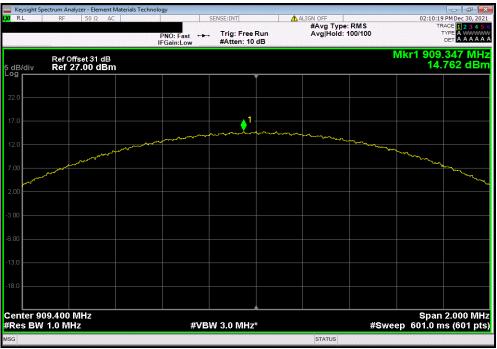
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 			0 kHz), Data Rate			
Avg Cond Pwr	Duty Cycle Factor (dB)	Out Pwr	Antenna			Beault
(dBm) 14.578	2.6	(dBm) 17.2	Gain (dBi) 0.3	(dBm) 17.5	(dBm) 36	Result Pass
 14.370	2.0	17.2	0.5	17.5	50	1 833
Keysight Spectrum Analyzer	- Element Materials Techno	ology				
(X/RL RF .	50 Ω AC	5	SENSE:INT	ALIGN OFF #Avg Type	RMS	02:03:53 PM Dec 30, 2021 TRACE 1 2 3 4 5 6
		PNO: Fast +++	Trig: Free Run	Avg Hold:	100/100	
		IFGain:Low	#Atten: 10 dB			
Ref Offse	t 31 dB				WIKE	1 902.993 MHz 14.578 dBm
5 dB/div Ref 27.0	очып		•			14.010 0.011
22.0						
17.0			1			
			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	······		
12.0	- mar and a start and a start a					
7.00	and a second					monore and the second s
and the second s						and the second s
2.00						
-3.00						
-8.00						
-13.0						
-18.0						
10.0						
						A
Center 903.000 MH #Res BW 1.0 MHz	Z	#VB\	№ 3.0 MHz*		#Sweep f	Span 2.000 MHz 501.0 ms (601 pts)
MSG				STATUS		
			kHz), Data Rate 4			
Avg Cond Pwr	Duty Cycle	Out Pwr	Antenna	EIRP	EIRP Limit	Desult
(dBm) 14.762	Factor (dB) 2.6	(dBm) 17.4	Gain (dBi) 0.3	(dBm) 17.7	(dBm) 36	Result Pass
14.702	2.0	17.4	0.3	17.7	30	F 855
Keysight Spectrum Analyzer	- Element Materials Techno	ology				
	50 Ω AC		SENSE:INT	ALIGN OFF	- DMC	02:10:10 PM Doc 20, 2021
		PNO: Fast 🔸	Trig: Free Run	#Avg Type Avg Hold:	100/100	TRACE 1 2 3 4 5 6 TYPE A WWWWW DET A A A A A A
		IFGain:Low	#Atten: 10 dB			
					Mkr	1 909.347 MHz
Ref Offse	t 31 dB					
Ref Offse 5 dB/div Ref 27.0	t 31 dB 00 dBm		•			14.762 dBm
Ref Offse 5 dB/div Ref 27.0	t 31 dB 00 dBm		Ť			
Ref Offse 5 dB/div Ref 27.0 22.0	t 31 dB 00 dBm					





Avg Cond Pwr Duty Cy		Antenna	EIRP	EIRP Limit	
(dBm) Factor (	(dB) (dBm)	Gain (dBi)	(dBm)	(dBm)	Result
14.754 2.6	17.4	0.3	17.7	36	Pass
Keysight Spectrum Analyzer - Element Mater	rials Technology				
XIRL RF 50Ω AC	SI	INSE:INT	ALIGN OFF		02:19:48 PM Dec 30, 2021
	PNO: Fast 🔸	Trig: Free Run	#Avg Typ Avg Hold:		TRACE 1 2 3 4 5 6 TYPE A WWWW DET A A A A A A
	IFGain:Low	#Atten: 10 dB			DET A A A A A A
Ref Offset 31 dB				Mkr	1 914.183 MHz
5 dB/div Ref 27.00 dBm					14.754 dBm
		Y			
22.0					
17.0		<u>_</u> 1			
	······································	mun	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		
12.0	Martin				
					www.
7.00					
and the second s					لعرمهماليعرج
2.00					
-3.00					
-8.00					
-13.0					
-18.0					
-10.0					
Center 914.200 MHz		·····			Span 2.000 MHz
#Res BW 1.0 MHz	#VBV	/ 3.0 MHz*		#Sweep	601.0 ms (601 pts)



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

#### MODES OF OPERATION

SRD Transmitting Low Channel 902.3 MHz, Mid Channel 908.7 MHz, High Channel 914.9 MHz, modulated 125 kHz BW (data rate 3) and 500 kHz BW (data rate 4)

Stop Frequency

SRD Transmitting Low Channel 902.3 MHz, Mid Channel 908.7 MHz, High Channel 914.9 MHz, modulated
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#### POWER SETTINGS INVESTIGATED

Battery

#### **CONFIGURATIONS INVESTIGATED**

MLTI0234 - 1 MLTI0283 - 1

#### FREQUENCY RANGE INVESTIGATED

12400 MHz

#### SAMPLE CALCULATIONS

Start Frequency 30 MHz

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

#### TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Amplifier - Pre-Amplifier	Miteq	AM-1616-1000	AVO	2021-10-13	2022-10-13
Cable	ESM Cable Corp.	Bilog Cables	MNH	2021-10-13	2022-10-13
Antenna - Biconilog	Ametek	CBL 6141B	AYS	2021-03-09	2023-03-09
Filter - Low Pass	Micro-Tronics	LPM50003	HGL	2021-09-10	2022-09-10
Filter - Band Pass/Notch	K&L Microwave	3TNF-500/1000-N/N	HGS	2021-06-28	2022-06-28
Filter - High Pass	Micro-Tronics	HPM50108	LFM	2021-09-09	2022-09-09
Attenuator	Fairview Microwave	SA18E-20	TWZ	2021-09-09	2022-09-09
Analyzer - Spectrum Analyzer	Agilent	E4446A	AAQ	2021-05-21	2022-05-21
Amplifier - Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVV	2021-01-15	2022-01-15
Cable	ESM Cable Corp.	Standard Gain Horn Cables	MNJ	2021-03-07	2022-03-07
Antenna - Standard Gain	ETS Lindgren	3160-07	AXP	NCR	NCR
Amplifier - Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	AVT	2021-01-15	2022-01-15
Cable	ESM Cable Corp.	Double Ridge Guide Horn Cables	MNI	2021-01-15	2022-01-15
Antenna - Double Ridge	ETS Lindgren	3115	AJQ	2021-01-25	2023-01-25
Antenna - Double Ridge	ETS Lindgren	3115	AIB	2022-09-01	2024-09-01
Amplifier - Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	AVX	2022-01-24	2023-01-24
Cable	Element	Double Ridge Guide Horn Cables	MNV	2022-01-24	2023-01-24
Filter - High Pass	Micro-Tronics	HPM50108	HFW	2022-09-10	2023-09-10

#### **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

#### TEST DESCRIPTION

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

For each configuration, the spectrum was scanned throughout the specified range as part of the exploratory investigation of the emissions. These "pre-scans" are not included in the report. Final measurements on individual emissions were then made and included in this test report.

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

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

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

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

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

Measurements within 2 MHz of the allowable band may have been taken using the integration method from ANSI C63.10 clause 11.13.3.



				-					EmiR5 2021.09.09.0		PSA-ESCI 202
Wo	ork Order:		10234		Date:		-11-11	~ ^	1	1	
	Project:		one	Te	emperature:		5 °C	K	11	N	
	Job Site:		5, MN09	_	Humidity:		% RH				
Seria	I Number:		P1	Barom	etric Pres.:	1022	2 mbar	Tested by:	Chris Patter	son	
		RBS301									
	iguration:		_	-							
	Customer:			Inc.							
	ttendees:		e								
EL	JT Power:										
Operati	ing Mode:				902.3 MHz, N data rate 4)	Mid Chani	nel 908.7 MHz, High	Channel 914.	9 MHz, modu	ulated 1	25 kHz E
D	eviations:	None									
C							ed 71.8% duty cycle 10(log(1/0.555)) = 2		ng in Data rat	e 3 and	55.5% (
st Sneci	ifications						Test Method				
C 15.24							ANSI C63.10:2013	1			
Run #	22	Test Di	istance (m	) 3	Antenna	Height(s)	1 to 4(r	m)	Results		Pass
Run #	22	Test Di	istance (m	) 3	Antenna	Height(s)	1 to 4(r	m)	Results		Pass
	22	Test Di	istance (m	) 3	Antenna	Height(s)	1 to 4(r	m)	Results		Pass
<b>Run #</b>	22	Test Di	istance (m	) 3	Antenna	Height(s)	1 to 4(r	m)	Results		Pass
	22	Test Di	istance (m	) 3	Antenna	Height(s)	1 to 4(r	m)	Results		Pass
80 -	22	Test D	istance (m	) 3	Antenna	Height(s)	1 to 4(r	m)	Results		Pass
	22	Test Di	istance (m	) 3	Antenna	Height(s)	1 to 4(r	m)	Results		Pass
80 -	22	Test Di	istance (m	) 3	Antenna	Height(s)	1 to 4(r	m)	Results		Pass
80 -	22	Test Di	istance (m	) 3	Antenna	Height(s)	1 to 4(r	m)	Results		Pass
80	22	Test Di	istance (m	) 3	Antenna	Height(s)	1 to 4(r	m)	Results		Pass
80 70 60	22	Test Di	istance (m	) 3	Antenna	Height(s)	1 to 4(r	m)	Results		Pass
80 70 60	22	Test Di	istance (m	) 3	Antenna	Height(s)	1 to 4(r	n)	Results		Pass
80 70 60	22	Test Di	istance (m	) 3	Antenna	Height(s)	1 to 4(r	m)	Results		Pass
80 70 60	22	Test Di	istance (m	) 3	Antenna	Height(s)	1 to 4(r	m)	Results		Pass
80 70 60	22	Test D	istance (m	) 3	Antenna	Height(s)	1 to 4(r	m)	Results		Pass
80 70 60 50 E	22	Test Di	istance (m		Antenna	Height(s)	1 to 4(r	n)	Results		Pass
80 70 60 50 50 40	22	Test Di	istance (m	) 3	Antenna	Height(s)	1 to 4(r	m)	Results		Pass
80 70 60	22	Test Di	istance (m	) 3	Antenna	Height(s)	1 to 4(r	m)	Results		Pass
80 70 60 50 W/Ngp	22	Test Di	istance (m		Antenna	Height(s)	1 to 4(r	m)	Results		Pass
80 70 60 50 W/Ngp	22	Test Di	istance (m		Antenna	Height(s)	1 to 4(r	n)	Results		Pass
80 70 60 50 50 40 30	22	Test Di	istance (m	) 3	Antenna	Height(s)	1 to 4(r	m)	Results		
80 70 60 50 40 30 20	22	Test Di	istance (m	) 3	Antenna	Height(s)	1 to 4(r	m)	Results		
80 70 60 50 50 40 30	22	Test Di	istance (m		Antenna	Height(s)	1 to 4(r	m)	Results		
80 70 60 50 40 30 20	22	Test Di	istance (m		Antenna	Height(s)	1 to 4(r	n)	Results		
80 70 60 50 40 30 20 10	22	Test Di	istance (m		Antenna	Height(s)	1 to 4(r	n)	Results		
80 70 60 50 50 30 20 10 0		Test Di	istance (m		Antenna		1 to 4(r	m)	Results		
80 70 60 50 40 30 20 10			istance (m		Antenna	Height(s)	1 to 4(r	m)	Results		Pass

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Duty Cycle Correction Factor (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
9148.750	55.7	-3.2	1.7	157.9	1.4	0.0	Horz	AV	0.0	53.9	54.0	-0.1	EUT Vert, High Ch, Modulated, Data rate 3
9023.250	56.2	-3.8	1.0	196.9	1.4	0.0	Horz	AV	0.0	53.8	54.0	-0.2	EUT Horz, Low Ch, Modulated, Data rate 3
9022.960	55.7	-3.8	1.0	16.9	1.4	0.0	Horz	AV	0.0	53.3	54.0	-0.7	EUT Vert, Low Ch, Modulated, Data rate 3
9023.210	53.9	-3.8	1.0	196.9	1.4	0.0	Horz	AV	0.0	51.5	54.0	-2.5	EUT Horz, Low Ch, Modulated, Data rate 3
9143.000	59.1	-10.6	2.4	337.0	2.6	0.0	Horz	AV	0.0	51.1	54.0	-2.9	EUT Vert, High Ch, Modulated, Data rate 4
9148.790	52.3	-3.2	1.9	119.0	1.4	0.0	Vert	AV	0.0	50.5	54.0	-3.5	EUT Vert, High Ch, Modulated, Data rate 3
9023.250	52.6	-3.8	1.0	16.9	1.4	0.0	Vert	AV	0.0	50.2	54.0	-3.8	EUT Vert, Low Ch, Modulated, Data rate 3
9086.960	51.9	-3.4	1.0	344.9	1.4	0.0	Horz	AV	0.0	49.9	54.0	-4.1	EUT Vert, Mid Ch, Modulated, Data rate 3
9023.250	52.2	-3.8	1.0	152.0	1.4	0.0	Horz	AV	0.0	49.8	54.0	-4.2	EUT On Side, Low Ch, Modulated, Data rate 3
2726.220	51.9	-4.7	1.0	270.0	1.4	0.0	Vert	AV	0.0	48.6	54.0	-5.4	EUT Vert, Mid Ch, Modulated, Data rate 3
9086.790	50.4	-3.4	1.0	314.0	1.4	0.0	Vert	AV	0.0	48.4	54.0	-5.6	EUT Vert, Mid Ch, Modulated, Data rate 3
9023.080	50.8	-3.8	2.0	157.9	1.4	0.0	Vert	AV	0.0	48.4	54.0	-5.6	EUT On Side, Low Ch, Modulated, Data rate 3
9023.170	48.2	-3.8	1.5	160.0	1.4	0.0	Vert	AV	0.0	45.8	54.0	-8.2	EUT Horz, Low Ch, Modulated, Data rate 3
9143.000	53.6	-10.6	1.4	335.0	2.6	0.0	Vert	AV	0.0	45.6	54.0	-8.4	EUT Vert, High Ch, Modulated, Data rate 4
2706.980	48.0	-4.6	1.1	84.9	1.4	0.0	Vert	AV	0.0	44.8	54.0	-9.2	EUT Vert, Low Ch, Modulated, Data rate 3
7269.770	33.6	9.2	1.6	19.0	1.4	0.0	Horz	AV	0.0	44.2	54.0	-9.8	EUT Vert, Mid Ch, Modulated, Data rate 3
2744.820	47.3	-4.6	1.5	278.0	1.4	0.0	Vert	AV	0.0	44.1	54.0	-9.9	EUT Vert, High Ch, Modulated, Data rate 3
7319.200	33.4	9.2	3.7	6.9	1.4	0.0	Vert	AV	0.0	44.0	54.0	-10.0	EUT Vert, High Ch, Modulated, Data rate 3
9022.790	46.0	-3.8	1.5	160.0	1.4	0.0	Vert	AV	0.0	43.6	54.0	-10.4	EUT Horz, Low Ch, Modulated, Data rate 3
7319.240	32.7	9.2	1.8	167.9	1.4	0.0	Horz	AV	0.0	43.3	54.0	-10.7	EUT Vert, High Ch, Modulated, Data rate 3
7269.520	31.9	9.2	2.2	62.0	1.4	0.0	Vert	AV	0.0	42.5	54.0	-11.5	EUT Vert, Mid Ch, Modulated, Data rate 3
2726.060	45.0	-4.7	1.0	121.9	1.4	0.0	Horz	AV	0.0	41.7	54.0	-12.3	EUT Vert, Mid Ch, Modulated, Data rate 3
4511.620	36.4	1.7	1.5	145.9	1.4	0.0	Vert	AV	0.0	39.5	54.0	-14.5	EUT Vert, Low Ch, Modulated, Data rate 3
2706.900	42.4	-4.6	1.5	199.0	1.4	0.0	Horz	AV	0.0	39.2	54.0	-14.8	EUT Vert, Low Ch, Modulated, Data rate 3
9143.000	68.0	-10.6	2.4	337.0		0.0	Horz	PK	0.0	57.4	74.0	-16.6	EUT Vert, High Ch, Modulated, Data rate 4
2744.990	40.1	-4.6	1.9	325.9	1.4	0.0	Horz	AV	0.0	36.9	54.0	-17.1	EUT Vert, High Ch, Modulated, Data rate 3
9149.120	58.7	-3.2	1.7	157.9		0.0	Horz	PK	0.0	55.5	74.0	-18.5	EUT Vert, High Ch, Modulated, Data rate 3
9022.540	58.7	-3.8	1.0	16.9		0.0	Horz	PK	0.0	54.9	74.0	-19.1	EUT Vert, Low Ch, Modulated, Data rate 3
9022.460	58.4	-3.8	1.0	196.9		0.0	Horz	PK	0.0	54.6	74.0	-19.4	EUT Horz, Low Ch, Modulated, Data rate 3

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Duty Cycle Correction Factor (meters)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
4511.710	30.6	1.7	1.5	34.0	1.4	0.0	Horz	AV	0.0	33.4	54.0	-20.6	EUT Vert, Low Ch, Modulated, Data rate 3
9149.580	56.1	-3.2	1.9	119.0		0.0	Vert	PK	0.0	52.9	74.0	-21.1	EUT Vert, High Ch, Modulated, Data rate 3
9086.250	55.7	-3.4	1.0	314.0		0.0	Vert	PK	0.0	52.3	74.0	-21.7	EUT Vert, Mid Ch, Modulated, Data rate 3
9023.250	56.0	-3.8	1.0	16.9		0.0	Vert	PK	0.0	52.2	74.0	-21.8	EUT Vert, Low Ch, Modulated, Data rate 3
9143.000	62.7	-10.6	1.4	335.0		0.0	Vert	PK	0.0	52.1	74.0	-21.9	EUT Vert, High Ch, Modulated, Data rate 4
9023.670	55.7	-3.8	1.0	152.0		0.0	Horz	PK	0.0	51.9	74.0	-22.1	EUT On Side, Low Ch, Modulated, Data rate 3
9087.040	55.3	-3.4	1.0	344.9		0.0	Horz	PK	0.0	51.9	74.0	-22.1	EUT Vert, Mid Ch, Modulated, Data rate 3
7319.030	42.2	9.2	3.7	6.9		0.0	Vert	PK	0.0	51.4	74.0	-22.6	EUT Vert, High Ch, Modulated, Data rate 3
7269.220	42.2	9.2	2.2	62.0		0.0	Vert	PK	0.0	51.4	74.0	-22.6	EUT Vert, Mid Ch, Modulated, Data rate 3
7269.220	42.0	9.2	1.6	19.0		0.0	Horz	PK	0.0	51.2	74.0	-22.8	EUT Vert, Mid Ch, Modulated, Data rate 3
7319.780	41.8	9.2	1.8	167.9		0.0	Horz	PK	0.0	51.0	74.0	-23.0	EUT Vert, High Ch, Modulated, Data rate 3
9022.710	53.7	-3.8	2.0	157.9		0.0	Vert	PK	0.0	49.9	74.0	-24.1	EUT On Side, Low Ch, Modulated, Data rate 3
2725.980	54.5	-4.7	1.0	270.0		0.0	Vert	PK	0.0	49.8	74.0	-24.2	EUT Vert, Mid Ch, Modulated, Data rate 3
2707.150	51.9	-4.6	1.1	84.9		0.0	Vert	PK	0.0	47.3	74.0	-26.7	EUT Vert, Low Ch, Modulated, Data rate 3
9023.380	50.6	-3.8	1.5	160.0		0.0	Vert	PK	0.0	46.8	74.0	-27.2	EUT Horz, Low Ch, Modulated, Data rate 3
2744.620	51.0	-4.6	1.5	278.0		0.0	Vert	PK	0.0	46.4	74.0	-27.6	EUT Vert, High Ch, Modulated, Data rate 3
2726.390	49.7	-4.7	1.0	121.9		0.0	Horz	PK	0.0	45.0	74.0	-29.0	EUT Vert, Mid Ch, Modulated, Data rate 3
4511.790	43.2	1.7	1.5	145.9		0.0	Vert	PK	0.0	44.9	74.0	-29.1	EUT Vert, Low Ch, Modulated, Data rate 3



Work Order:		MLTI0283		Date:	2022-1		-	0 (	2			
	Project:	None	Ter	nperature:	20.7		Inero	~ Bul	2			
	Job Site:	MN09		Humidity:	31.6%	RH	0,000					
Serial	Number:	D1	Barome	etric Pres.:	1016 n	nbar	Tested b	y: Chris Patter	Chris Patterson, Trevor Buls			
	EUT:	RBS301										
Config	guration:	1										
C	ustomer:	Multi-Tech Systems,	Inc.									
		Mike Dauk, Aaron Kr										
	T Power:											
	ng Mode:	SRD Transmitting Low Channel 902.3 MHz, Mid Channel 908.7 MHz, High Channel 914.9 MHz, modulated 125 kHz BW										
De	eviations:	None										
Co	omments:	DCCF was measured most likely to cause t			f = 10(log(	1/~0.93) = 0.3	3. The testing is	limited to the fre	equency	ranges		
est Specif	fications				Г	est Method						
CC 15.247						NSI C63.10:	2013					
Run #	7	Test Distance (m)	3	Antenna H	eight(s)	1	to 4(m)	Results	F	Pass		
	1	Test Distance (iii)	÷	7 antonna m	J.J. (0)	•						
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80 70 60 50 50 30 20			• •									
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80 70 60 50 40 30 20 10										10000		
80 70 60 50 40 30 20 10 0			•						AV	10000		

Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Duty Cycle Correction Factor (dB)	External Attenuation (dB)	Polarity/ Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)
7312.000	38.5	14.4	1.5	203.0	0.3	0.0	Vert	AV	0.0	53.2	54.0	-0.8
7269.975	38.5	14.2	1.3	23.0	0.3	0.0	Vert	AV	0.0	53.0	54.0	-1.0
7318.917	37.8	14.5	1.14	125.0	0.3	0.0	Horz	AV	0.0	52.6	54.0	-1.4
7319.042	36.9	14.5	1.53	29.0	0.3	0.0	Vert	AV	0.0	51.7	54.0	-2.3
7312.000	36.4	14.4	1.56	174.0	0.3	0.0	Horz	AV	0.0	51.1	54.0	-2.9
7318.792	35.7	14.5	1.5	311.0	0.3	0.0	Horz	AV	0.0	50.5	54.0	-3.5
7319.125	35.4	14.5	2.51	218.0	0.3	0.0	Vert	AV	0.0	50.2	54.0	-3.8
7218.233	34.7	13.9	2.64	351.0	0.3	0.0	Horz	AV	0.0	48.9	54.0	-5.1
7218.150	34.6	13.9	1.46	15.0	0.3	0.0	Vert	AV	0.0	48.8	54.0	-5.2
7269.600	32.9	14.2	2.08	43.0	0.3	0.0	Vert	AV	0.0	47.4	54.0	-6.6
2726.100	47.3	-1.8	3.95	276.0	0.3	0.0	Vert	AV	0.0	45.8	54.0	-8.2
2744.833	47.1	-1.9	4.0	119.0	0.3	0.0	Vert	AV	0.0	45.5	54.0	-8.5
2707.025	45.1	-1.9	4.0	285.0	0.3	0.0	Vert	AV	0.0	43.5	54.0	-10.5
2707.025	43.2	-1.9	1.0	192.0	0.3	0.0	Horz	AV	0.0	41.6	54.0	-12.4
2725.975	43.0	-1.8	1.0	175.0	0.3	0.0	Horz	AV	0.0	41.5	54.0	-12.5
4543.583	34.2	5.0	1.7	5.0	0.3	0.0	Vert	AV	0.0	39.5	54.0	-14.5
4543.292	33.9	5.0	1.5	25.0	0.3	0.0	Horz	AV	0.0	39.2	54.0	-14.8
4511.500	34.0	4.9	1.46	30.0	0.3	0.0	Horz	AV	0.0	39.2	54.0	-14.8



#### **TEST DESCRIPTION**

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

For each configuration, the spectrum was scanned throughout the specified range as part of the exploratory investigation of the emissions. These "pre-scans" are not included in the report. Final measurements on individual emissions were then made and included in this test report.

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

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

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

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

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

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

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

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Antenna - Biconilog	ETS Lindgren	3142D	AXO	2021-09-14	2023-09-14
Cable	ESM Cable Corp.	Bilog Cables	MNH	2022-10-08	2023-10-08
Amplifier - Pre-Amplifier	Miteq	AM-1616-1000	AVO	2022-10-08	2023-10-08
Filter - Low Pass	Micro-Tronics	LPM50003	LFJ	2022-08-27	2023-08-27
Analyzer - Spectrum Analyzer	Agilent	N9010A	AFL	2022-03-22	2023-03-22
Attenuator	Fairview Microwave	SA18E-10	TYA	2022-08-27	2023-08-27
Antenna - Double Ridge	ETS Lindgren	3115	AIP	2022-07-20	2024-07-20
Cable	ESM Cable Corp.	Double Ridge Guide Horn Cables	MNI	2023-01-14	2024-01-14
Amplifier - Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	AVT	2023-01-14	2024-01-14
Attenuator	Fairview Microwave	SA18E-20	TWZ	2022-08-27	2023-08-27
Filter - High Pass	Micro-Tronics	HPM50108	LFM	2022-08-27	2023-08-27
Antenna - Standard Gain	ETS Lindgren	3160-07	AXP	NCR	NCR
Cable	ESM Cable Corp.	Standard Gain Horn Cables	MNJ	2023-01-14	2024-01-14
Amplifier - Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVV	2023-01-14	2024-01-14
Filter - Band Pass/Notch	K&L Microwave	3TNF-500/1000-N/N	HGS	2022-06-22	2023-06-22

#### **TEST EQUIPMENT**



#### **MEASUREMENT UNCERTAINTY**

Description										
Expanded k=2	5.2 dB	-5.2 dB								
FREQUENCY RANGE INV	ESTIGATED									
	LUIIOAILD									
30 MHz TO 10000 MHz										
POWER INVESTIGATED										
Battery										
CONFIGURATIONS INVESTIGATED										
MLTI0299-MLTI0299-1										

#### **MODES INVESTIGATED**

Transmitting Lora Low Ch 908.7 MHz, modulated, 125 kHz CBW



EUT:	RB301 v3.0	Work Order:	MLTI0299
Serial Number:	E7	Date:	2023-03-01
Customer:	Multi-Tech Systems, Inc.	Temperature:	23°C
Attendees:	Mike Dauk, Ethan Houle	Relative Humidity:	26.7%
Customer Project:	None	Bar. Pressure (PMSL):	1003 mb
Tested By:	Chris Patterson	Job Site:	MN05
Power:	Battery	Configuration:	MLTI0299-1

#### **TEST SPECIFICATIONS**

Specification:	Method:
FCC 15.247:2023	ANSI C63.10:2013

#### TEST PARAMETERS

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

#### COMMENTS

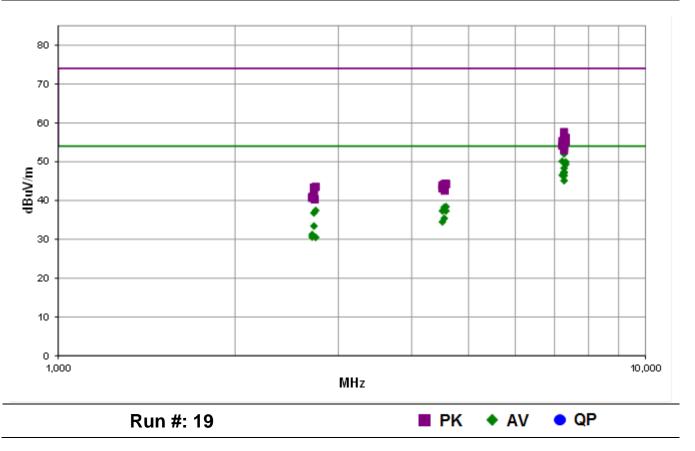
.26 DCCF derived from Duty Cycle data gathered under job MLTI0280. See comments for any changes in Data rate, or CBW. All settings tested per client's specification at time of test.

#### **EUT OPERATING MODES**

Transmitting Lora Low Ch 902.3 MHz, Mid Ch 908.7 MHz, High Ch 914.9 MHz , Data rate 0, 125 kHz CBW

#### **DEVIATIONS FROM TEST STANDARD**

None





### RESULTS - Run #19

Process         Process <t< th=""><th></th><th></th><th></th><th>15</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>-</th><th></th></t<>				15									-	
T289.600         40.1         11.8         2.2         20.00         0.3         0.0         Hor         AV         0.0         52.0         54.0         2.0         EUT Viri, Mid Ch, Data rate 0           7218.400         37.3         11.7         13.1         21.40         0.3         0.0         Horz         AV         0.0         45.9         54.0         -4.1         EUT Horz, Horg Ch, Data rate 0           7218.200         37.3         11.7         13.1         21.40         0.3         0.0         Vet         AV         0.0         48.3         54.0         -4.7         EUT Konside, High Ch, Data rate 0           7289.600         38.4         11.8         3.8         77.0         0.3         0.0         Vet         AV         0.0         47.1         54.0         -7.5         EUT Konside, High Ch, Data rate 0           7288.600         34.5         11.6         1.57         24.90         0.3         0.0         Vet         AV         0.0         46.5         54.0         -7.5         EUT Konside, High Ch, Data rate 0           7288.600         34.3         1.8         1.57         24.9         0.0         44.0         0.4         54.0         -7.6         EUT Konz, High Ch, Data rate 0	Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)	Azimuth (degrees)	Correction Factor	External Attenuation (dB)	Transducer	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
Term         State         Term         Term         State         St	7269.600	41.6	11.6	2.7	49.9	0.3	0.0	Horz	AV	0.0	53.5	54.0	-0.5	EUT Horz, Mid Ch, Data rate 0
T319.200         S7.0         11.7         1.31         214.0         0.3         0.0         Hor,         AV         0.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0         49.0 <th< td=""><td>7269.600</td><td>40.1</td><td>11.6</td><td>2.2</td><td>209.0</td><td>0.3</td><td>0.0</td><td>Horz</td><td>AV</td><td>0.0</td><td>52.0</td><td>54.0</td><td>-2.0</td><td>EUT Vert, Mid Ch, Data rate 0</td></th<>	7269.600	40.1	11.6	2.2	209.0	0.3	0.0	Horz	AV	0.0	52.0	54.0	-2.0	EUT Vert, Mid Ch, Data rate 0
T319.200         37.3         11.7         2.77         2100         0.3         0.0         Vert         AV         0.0         48.3         54.0         -4.7         EUT On Ske, MG Ch, Data rate 0           7289.800         36.4         11.6         1.5         153.0         0.3         0.0         Vert         AV         0.0         47.3         54.0         -6.7         EUT On Ske, MG Ch, Data rate 0           7289.800         35.4         11.6         1.37         21.4         0.3         0.0         Vert         AV         0.0         47.3         54.0         -6.7         EUT On Ske, MG Ch, Data rate 0           7288.800         34.5         11.6         2.55         2.88<0	7218.400	38.2	11.6	2.81	222.9	0.3	0.0	Horz	AV	0.0	50.1	54.0	-3.9	EUT Horz, Low Ch, Data rate 0
T289.600         36.4         11.6         1.5         1330         0.3         0.0         Vert         AV         0.0         48.3         54.0         6.7         EUT On Side, Md Ch. Data rate 0           7289.600         35.2         11.6         2.05         20.9         0.3         0.0         Vert         AV         0.0         47.1         54.0         4.7         EUT On Side, Md Ch. Data rate 0           7289.600         34.5         11.6         2.55         28.0         0.3         0.0         Vert         AV         0.0         46.4         54.0         -7.6         EUT On Side, Md Ch. Data rate 0           7289.600         34.5         11.6         1.51         28.4         0.3         0.0         Vert         AV         0.0         46.4         54.0         -7.6         EUT Horz, Md Ch. Data rate 0           7289.600         38.1         1.8         1.75         89.0         0.3         0.0         Horz         AV         0.0         38.4         54.0         -16.6         EUT Horz, Md Ch. Data rate 0           7289.700         38.1         1.8         1.16         1.7         49.9         0.0         Horz         AV         0.0         37.4         54.0         16.6<	7319.200	37.9	11.7	1.31	214.0	0.3	0.0	Horz	AV	0.0	49.9	54.0	-4.1	EUT Horz, High Ch, Data rate 0
728.800         55.4         11.6         3.96         77.0         0.3         0.0         Vert         AV         0.0         47.1         54.0         6.7         EUT Vert, Mid Ch, Data rate 0           728.800         35.2         11.6         1.37         214.0         0.3         0.0         Vert         AV         0.0         46.5         54.0         -7.5         EUT On Side, Mid Ch, Data rate 0           728.800         35.2         11.6         1.51         254.0         0.3         0.0         Vert         AV         0.0         46.5         54.0         -7.5         EUT Horz, Mid Ch, Data rate 0           454.500         35.3         1.8         4.0         33.0         0.0         Vert         AV         0.0         38.4         54.0         -15.6         EUT Horz, Mid Ch, Data rate 0           454.500         36.1         1.8         1.75         58.0         0.3         0.0         Harz, AV         0.0         37.4         54.0         -16.6         EUT Horz, Mid Ch, Data rate 0           274.700         40.8         -3.7         1.11         347.0         0.3         0.0         Harz, AV         0.0         37.3         54.0         -16.6         EUT Horz, Mid Ch, Data rate 0	7319.200	37.3	11.7	2.77	210.0	0.3	0.0	Vert	AV	0.0	49.3	54.0	-4.7	EUT On Side, High Ch, Data rate 0
T208.00         552         11.6         2.05         2.40         0.3         0.0         Herz         AV         0.0         47.1         54.0         4.9         EUT On Side, Mid Ch, Data rate 0           7208.00         34.6         11.6         137         214.0         0.3         0.0         Herz         AV         0.0         465         54.0         7.5         EUT Horz, Mid Ch, Data rate 0           7208.000         33.2         11.6         15.7         254.9         0.3         0.0         Herz         AV         0.0         464         54.0         7.6         EUT Horz, Mid Ch, Data rate 0           4543.00         36.1         1.8         1.75         59.0         0.3         0.0         Horz         AV         0.0         32.2         54.0         -15.6         EUT Horz, Mid Ch, Data rate 0           7283.30         46.0         11.6         2.7         49.9         0.0         Horz         AV         0.0         37.4         54.0         -16.4         EUT Ch Side, Wid Ch, Data rate 0           7244.700         40.8         -3.7         1.11         347.0         0.3         0.0         Horz         AV         0.0         37.3         54.0         -16.7         EUT C	7269.600	36.4	11.6	1.5	153.0	0.3	0.0	Vert	AV	0.0	48.3	54.0	-5.7	EUT On Side, Mid Ch, Data rate 0
T218.400         34.6         11.6         1.37         21.4.9         0.3         0.0         Vert         AV         0.0         46.5         54.0         -7.5         EUT On Side, Low Ch, Data rate 0           T289.600         34.5         11.6         52.5         234.0         0.3         0.0         Vert         AV         0.0         46.4         54.0         -7.6         EUT Horz, Mid Ch, Data rate 0           454.500         38.1         8         4.0         238.0         0.3         0.0         Horz         AV         0.0         34.4         54.0         -15.6         EUT Horz, Mid Ch, Data rate 0           454.500         36.1         1.8         1.75         56.0         0.3         0.0         Horz         AV         0.0         34.2         54.0         -15.6         EUT Horz, Mid Ch, Data rate 0           2744.700         40.8         3.7         1.11         347.0         0.3         0.0         Horz         AV         0.0         37.3         54.0         -16.6         EUT Horz, Mid Ch, Data rate 0           2728.100         40.2         -3.7         1.0.8         181.9         0.3         0.0         Horz         FK         0.0         56.3         74.0	7269.600	35.4	11.6	3.96	77.0	0.3	0.0	Vert	AV	0.0	47.3	54.0	-6.7	EUT Vert, Mid Ch, Data rate 0
T289.600         34.5         11.6         2.55         238.0         0.3         0.0         Horz         AV         0.0         46.4         54.0         -7.6         EUT Horz, Mid Ch, Data rate 4, 500 H/z CBW           7289.800         33.3         11.8         1.51         254.9         0.3         0.0         Horz         AV         0.0         38.4         54.0         -15.6         EUT Horz, Mid Ch, Data rate 0           4543.500         36.1         1.8         1.75         59.0         0.3         0.0         Horz         AV         0.0         38.4         54.0         -15.6         EUT Horz, Mid Ch, Data rate 0           2744.700         40.8         -3.7         1.11         347.0         0.3         0.0         Horz         AV         0.0         37.4         54.0         -16.6         EUT Horz, Mid Ch, Data rate 0           2744.700         40.8         -3.7         1.10         81.0         0.3         0.0         Vert         AV         0.0         37.3         54.0         -16.7         EUT Morz, Mid Ch, Data rate 0           2720.17         44.7         1.16         2.2         2.00.0         0.0         Horz         FK         0.0         55.1         74.0         -17.7 </td <td>7269.600</td> <td>35.2</td> <td>11.6</td> <td>2.05</td> <td>240.9</td> <td>0.3</td> <td>0.0</td> <td>Horz</td> <td>AV</td> <td>0.0</td> <td>47.1</td> <td>54.0</td> <td>-6.9</td> <td>EUT On Side, Mid Ch, Data rate 0</td>	7269.600	35.2	11.6	2.05	240.9	0.3	0.0	Horz	AV	0.0	47.1	54.0	-6.9	EUT On Side, Mid Ch, Data rate 0
T289.600         33.2         11.5         1.51         25.4         0.3         0.0         Vert         AV         0.0         45.1         54.0         -8.9         EUT Horz, Mid Ch, Data rate 0           4574.500         36.3         1.8         4.0         329.0         0.3         0.0         Horz         AV         0.0         38.4         54.0         -15.6         EUT Horz, Mid Ch, Data rate 0           7289.350         46.0         11.6         2.7         49.9         0.0         Horz         PK         0.0         57.6         74.0         -16.4         EUT Horz, Mid Ch, Data rate 0           7274.700         40.6         -3.7         1.11         347.0         0.0         Horz         PK         0.0         37.3         54.0         -16.7         EUT On Side, Low Ch, Data rate 0           4574.500         35.2         1.8         1.5         8.0         0.3         0.0         Horz         PK         0.0         36.3         54.0         -16.7         EUT On Side, High Ch, Data rate 0           7270.01         4.47         11.6         2.2         2.00         0.0         Horz         PK         0.0         56.3         74.0         -17.7         EUT Horz, Mid Ch, Data rate 0     <	7218.400	34.6	11.6	1.37	214.9	0.3	0.0	Vert	AV	0.0	46.5	54.0	-7.5	EUT On Side, Low Ch, Data rate 0
4574.500         36.3         1.8         4.0         329.0         0.3         0.0         Horz         AV         0.0         38.4         54.0         -15.6         EUT Horz, High Ch, Data rate 0           1269.300         46.0         11.6         2.7         49.9         0.0         Horz         AV         0.0         38.2         54.0         -15.8         EUT Horz, Mid Ch, Data rate 0           2744.700         40.8         -3.7         1.11         347.0         0.3         0.0         Horz         AV         0.0         37.4         54.0         -16.6         EUT Horz, High Ch, Data rate 0           4574.500         35.2         1.8         1.5         3.46         160.0         0.3         0.0         Vert         AV         0.0         37.3         54.0         -16.7         EUT On Side, High Ch, Data rate 0           2726.100         40.2         -3.7         1.08         181.9         0.3         0.0         Horz         PK         0.0         56.3         74.0         -17.7         EUT Morz, High Ch, Data rate 0           72720.017         4.47         11.6         2.25         23.00         0.0         Horz         PK         0.0         56.1         74.0         -17.8	7269.600	34.5	11.6	2.55	238.0	0.3	0.0	Horz	AV	0.0	46.4	54.0	-7.6	EUT Horz, Mid Ch, Data rate 4, 500 kHz CBW
4543.500         36.1         1.8         1.75         59.0         0.3         0.0         Horz         AV         0.0         38.2         54.0         -15.8         EUT Horz, Md Ch, Data rate 0           7289.350         46.0         11.6         2.7         49.9         0.0         Horz         PK         0.0         37.4         54.0         -16.6         EUT Horz, Mid Ch, Data rate 0           4511.500         35.5         1.5         3.46         166.0         0.3         0.0         Vert         AV         0.0         37.3         54.0         -16.7         EUT Horz, High Ch, Data rate 0           4574.500         35.2         1.8         1.5         8.0         0.3         0.0         Vert         AV         0.0         37.3         54.0         -16.7         EUT Horz, Mid Ch, Data rate 0           7270.017         44.7         11.6         2.2         20.00         0.0         Horz         PK         0.0         56.1         74.0         -17.8         EUT Horz, Mid Ch, Data rate 0           7319.408         44.4         11.7         1.31         214.0         N.0         Horz         PK         0.0         55.7         74.0         -18.8         EUT Horz, Mid Ch, Data rate 0	7269.600	33.2	11.6	1.51	254.9	0.3	0.0	Vert	AV	0.0	45.1	54.0	-8.9	EUT Horz, Mid Ch, Data rate 0
T289.369         46.0         11.6         2.7         49.9         0.0         Horz         PK         0.0         57.6         74.0         -16.4         EUT Horz, Mid Ch, Data rate 0           2744.700         40.8         -3.7         1.11         347.0         0.3         0.0         Horz         AV         0.0         37.4         54.0         -16.6         EUT Horz, High Ch, Data rate 0           4511.500         35.5         1.5         3.46         1660         0.3         0.0         Vert         AV         0.0         37.3         54.0         -16.7         EUT Horz, Mid Ch, Data rate 0           2726.017         44.7         11.6         2.2         200.0         0.0         Horz         PK         0.0         36.8         54.0         -17.2         EUT Horz, Mid Ch, Data rate 0           7270.017         44.7         11.6         2.2         200.0         0.0         Horz         PK         0.0         56.1         74.0         -17.8         EUT Horz, Mid Ch, Data rate 0           7280.017         44.4         11.7         1.31         21.40         0.0         Horz         PK         0.0         55.7         74.0         -18.8         EUT Norside, Mid Ch, Data rate 0	4574.500	36.3	1.8	4.0	329.0	0.3	0.0	Horz	AV	0.0	38.4	54.0	-15.6	EUT Horz, High Ch, Data rate 0
2744.700         40.8         -3.7         1.11         347.0         0.3         0.0         Horz         AV         0.0         37.4         54.0         -16.6         EUT Horz, High Ch, Data rate 0           4511.500         35.5         1.5         3.46         166.0         0.3         0.0         Vert         AV         0.0         37.3         54.0         -16.7         EUT Horz, High Ch, Data rate 0           2726.100         40.2         -3.7         1.08         181.9         0.3         0.0         Horz         AV         0.0         36.3         74.0         -17.7         EUT Horz, High Ch, Data rate 0           7270.017         44.7         11.6         2.22         20.90         0.0         Horz         PK         0.0         56.1         74.0         -17.7         EUT Horz, High Ch, Data rate 0           7270.017         44.7         11.6         2.55         28.00         0.0         Horz         PK         0.0         55.7         74.0         -18.6         EUT Horz, High Ch, Data rate 0           728.642         44.1         11.6         2.81         22.9         0.0         Horz         PK         0.0         55.3         74.0         -18.6         EUT Horz, Low Ch, Data rate 0 <td>4543.500</td> <td>36.1</td> <td>1.8</td> <td>1.75</td> <td>59.0</td> <td>0.3</td> <td>0.0</td> <td>Horz</td> <td>AV</td> <td>0.0</td> <td>38.2</td> <td>54.0</td> <td>-15.8</td> <td>EUT Horz, Mid Ch, Data rate 0</td>	4543.500	36.1	1.8	1.75	59.0	0.3	0.0	Horz	AV	0.0	38.2	54.0	-15.8	EUT Horz, Mid Ch, Data rate 0
4511.50         35.5         1.5         3.46         166.0         0.3         0.0         Vert         AV         0.0         37.3         54.0         -16.7         EUT On Side, Low Ch, Data rate 0           4574.500         35.2         1.8         1.5         8.0         0.3         0.0         Vert         AV         0.0         37.3         54.0         -16.7         EUT On Side, Low Ch, Data rate 0           2726.100         40.2         -3.7         1.08         181.9         0.3         0.0         Horz         AV         0.0         38.8         54.0         -17.2         EUT Horz, Mid Ch, Data rate 0           7270.017         44.7         11.6         2.2         209.0         0.0         Horz         PK         0.0         56.1         74.0         -17.9         EUT Horz, Mid Ch, Data rate 0           7286.42         44.1         11.6         2.85         238.0         0.0         Horz         PK         0.0         55.7         74.0         -18.7         EUT Horz, Low Ch, Data rate 0           7218.90         43.7         11.6         2.81         22.9         0.0         Horz         PK         0.0         55.2         74.0         -18.7         EUT Horz, Low Ch, Data rate 0	7269.350	46.0	11.6	2.7	49.9		0.0	Horz	PK	0.0	57.6	74.0	-16.4	EUT Horz, Mid Ch, Data rate 0
4574 500         352         1.8         1.5         8.0         0.3         0.0         Vert         AV         0.0         37.3         54.0         -16.7         EUT On Side, High Ch, Data rate 0           2726 100         40.2         -3.7         1.08         181.9         0.3         0.0         Horz         PK         0.0         36.8         54.0         -17.2         EUT Horz, Mid Ch, Data rate 0           7319.408         44.4         11.7         1.31         214.0         0.0         Horz         PK         0.0         55.7         74.0         -17.3         EUT Horz, Mid Ch, Data rate 0           7318.408         44.4         11.6         2.55         238.0         0.0         Horz         PK         0.0         55.7         74.0         -18.3         EUT Horz, Mid Ch, Data rate 0           7218.900         43.7         11.6         2.81         22.9         0.0         Horz         PK         0.0         55.2         74.0         -18.8         EUT On Side, Mid Ch, Data rate 0           7218.900         43.7         11.6         2.81         22.9         0.0         Vert         PK         0.0         54.5         74.0         -18.8         EUT On Side, Mid Ch, Data rate 0 <tr< td=""><td>2744.700</td><td>40.8</td><td>-3.7</td><td>1.11</td><td>347.0</td><td>0.3</td><td>0.0</td><td>Horz</td><td>AV</td><td>0.0</td><td>37.4</td><td>54.0</td><td>-16.6</td><td>EUT Horz, High Ch, Data rate 0</td></tr<>	2744.700	40.8	-3.7	1.11	347.0	0.3	0.0	Horz	AV	0.0	37.4	54.0	-16.6	EUT Horz, High Ch, Data rate 0
2726.00         402         -3.7         1.08         181.9         0.3         0.0         Horz         AV         0.0         36.8         54.0         -17.2         EUT Horz, Mid Ch, Data rate 0           7270.017         44.7         11.6         2.2         209.0         0.0         Horz         PK         0.0         56.3         74.0         -17.7         EUT Horz, Mid Ch, Data rate 0           7319.408         44.4         11.7         1.31         214.0         0.0         Horz         PK         0.0         56.1         74.0         -17.9         EUT Horz, Mid Ch, Data rate 0           728.642         44.1         11.6         2.55         238.0         0.0         Horz         PK         0.0         55.7         74.0         -18.3         EUT Horz, Mid Ch, Data rate 0           7218.900         43.7         11.6         2.81         22.9         0.0         Horz         PK         0.0         55.3         74.0         -18.8         EUT On Side, Mid Ch, Data rate 0           7218.933         43.5         11.7         2.77         210.0         0.0         Vert         PK         0.0         54.5         74.0         -19.5         EUT On Side, Mid Ch, Data rate 0           7289.804<	4511.500	35.5	1.5	3.46	166.0	0.3	0.0	Vert	AV	0.0	37.3	54.0	-16.7	EUT On Side, Low Ch, Data rate 0
7270.017         44.7         11.6         2.2         209.0         0.0         Horz         PK         0.0         56.3         74.0         -17.7         EUT Vert, Mid Ch, Data rate 0           7319.408         44.4         11.7         1.31         214.0         0.0         Horz         PK         0.0         55.7         74.0         -17.9         EUT Horz, High Ch, Data rate 0           7288.642         44.1         11.6         2.55         238.0         0.0         Horz         PK         0.0         55.7         74.0         -18.3         EUT Horz, High Ch, Data rate 0           7218.900         43.7         11.6         2.81         222.9         0.0         Horz         PK         0.0         55.3         74.0         -18.6         EUT On Side, Mid Ch, Data rate 0           7319.533         43.5         11.7         2.77         210.0         0.0         Vert         PK         0.0         54.5         74.0         -18.8         EUT On Side, Mid Ch, Data rate 0           7269.617         42.9         11.6         1.5         153.0         0.0         Vert         PK         0.0         54.5         74.0         -19.5         EUT On Side, Mid Ch, Data rate 0           7280.803	4574.500	35.2	1.8	1.5	8.0	0.3	0.0	Vert	AV	0.0	37.3	54.0	-16.7	EUT On Side, High Ch, Data rate 0
7319.408         44.4         11.7         1.31         214.0         0.0         Horz         PK         0.0         56.1         74.0         -17.9         EUT Horz, High Ch, Data rate 0           7268.642         44.1         11.6         2.55         238.0         0.0         Horz         PK         0.0         55.7         74.0         -16.3         EUT Horz, High Ch, Data rate 0           4543.500         33.3         1.8         1.5         13.9         0.3         0.0         Vert         AV         0.0         35.4         54.0         -16.6         EUT On Side, Mid Ch, Data rate 0           7218.900         43.7         11.6         2.81         22.9         0.0         Horz         PK         0.0         55.2         74.0         -16.8         EUT On Side, Mid Ch, Data rate 0           7289.517         42.9         11.6         1.5         153.0         0.0         Vert         PK         0.0         54.5         74.0         -19.5         EUT On Side, Mid Ch, Data rate 0           7289.808         42.9         11.6         3.96         77.0         0.0         Vert         PK         0.0         54.1         74.0         -19.5         EUT On Side, Low Ch, Data rate 0           72	2726.100	40.2	-3.7	1.08	181.9	0.3	0.0	Horz	AV	0.0	36.8	54.0	-17.2	EUT Horz, Mid Ch, Data rate 0
7266.642         44.1         11.6         2.55         238.0         0.0         Horz         PK         0.0         55.7         74.0         -18.3         EUT Horz, Mid Ch, Data rate 4, 500 kHz CBW           4543.500         33.3         1.8         1.5         13.9         0.3         0.0         Vert         AV         0.0         35.4         54.0         -18.6         EUT Horz, Mid Ch, Data rate 0           7216.900         43.7         11.6         2.81         22.9         0.0         Horz         PK         0.0         55.3         74.0         -18.8         EUT Horz, Low Ch, Data rate 0           7319.533         43.5         11.7         2.77         210.0         0.0         Vert         PK         0.0         54.5         74.0         -18.8         EUT On Side, High Ch, Data rate 0           7269.507         42.9         11.6         1.5         153.0         0.0         Vert         PK         0.0         54.5         74.0         -19.5         EUT On Side, Mid Ch, Data rate 0           7269.808         42.9         11.6         1.37         214.9         0.0         Vert         PK         0.0         54.1         74.0         -19.9         EUT On Side, Mid Ch, Data rate 0	7270.017	44.7	11.6	2.2	209.0		0.0	Horz	PK	0.0	56.3	74.0	-17.7	EUT Vert, Mid Ch, Data rate 0
4543.500         33.3         1.8         1.5         13.9         0.3         0.0         Vert         AV         0.0         35.4         54.0         -18.6         EUT On Side, Mid Ch, Data rate 0           7218.900         43.7         11.6         2.81         222.9         0.0         Horz         PK         0.0         55.3         74.0         -18.7         EUT Horz, Low Ch, Data rate 0           7319.533         43.5         11.7         2.77         210.0         0.0         Vert         PK         0.0         55.2         74.0         -18.8         EUT On Side, Mid Ch, Data rate 0           7269.517         42.9         11.6         3.96         77.0         0.0         Vert         PK         0.0         54.5         74.0         -19.5         EUT On Side, Mid Ch, Data rate 0           7269.808         42.9         11.6         3.96         77.0         0.0         Vert         PK         0.0         54.5         74.0         -19.5         EUT On Side, Mid Ch, Data rate 0           7218.358         42.5         11.6         1.37         214.9         0.0         Vert         PK         0.0         53.6         74.0         -20.4         EUT On Side, Mid Ch, Data rate 0	7319.408	44.4	11.7	1.31	214.0		0.0	Horz	PK	0.0	56.1	74.0	-17.9	EUT Horz, High Ch, Data rate 0
7218.900         43.7         11.6         2.81         222.9         0.0         Horz         PK         0.0         55.3         74.0         -18.7         EUT Horz, Low Ch, Data rate 0           7319.533         43.5         11.7         2.77         210.0         0.0         Vert         PK         0.0         55.2         74.0         -18.8         EUT On Side, High Ch, Data rate 0           7269.517         42.9         11.6         1.5         153.0         0.0         Vert         PK         0.0         54.5         74.0         -19.5         EUT On Side, High Ch, Data rate 0           7269.604         42.9         11.6         3.96         77.0         0.0         Vert         PK         0.0         34.5         54.0         -19.5         EUT On Side, Mid Ch, Data rate 0           7218.358         42.5         11.6         1.37         214.9         0.0         Vert         PK         0.0         53.6         74.0         -19.5         EUT On Side, Mid Ch, Data rate 0           7226.600         42.0         11.6         2.05         240.9         0.0         Horz         PK         0.0         53.6         74.0         -20.4         EUT On Side, Mid Ch, Data rate 0           7269.017	7268.642	44.1	11.6	2.55	238.0		0.0	Horz	PK	0.0	55.7	74.0	-18.3	EUT Horz, Mid Ch, Data rate 4, 500 kHz CBW
7319.533         43.5         11.7         2.77         210.0         0.0         Vert         PK         0.0         55.2         74.0         -18.8         EUT On Side, High Ch, Data rate 0           7269.517         42.9         11.6         1.5         153.0         0.0         Vert         PK         0.0         54.5         74.0         -19.5         EUT On Side, High Ch, Data rate 0           7269.808         42.9         11.6         3.96         77.0         0.0         Vert         PK         0.0         54.5         74.0         -19.5         EUT Vert, Mid Ch, Data rate 0           4511.500         32.7         1.5         1.5         128.9         0.3         0.0         Horz         AV         0.0         34.5         54.0         -19.5         EUT On Side, Low Ch, Data rate 0           7218.358         42.5         11.6         1.37         214.9         0.0         Vert         PK         0.0         53.6         74.0         -20.4         EUT On Side, Mid Ch, Data rate 0           72269.600         42.0         11.6         2.05         240.9         0.0         Vert         AV         0.0         33.4         54.0         -20.6         EUT On Side, Mid Ch, Data rate 0	4543.500	33.3	1.8	1.5	13.9	0.3	0.0	Vert	AV	0.0	35.4	54.0	-18.6	EUT On Side, Mid Ch, Data rate 0
7269.517         42.9         11.6         1.5         153.0         0.0         Vert         PK         0.0         54.5         74.0         -19.5         EUT On Side, Mid Ch, Data rate 0           7269.808         42.9         11.6         3.96         77.0         0.0         Vert         PK         0.0         54.5         74.0         -19.5         EUT Vert, Mid Ch, Data rate 0           4511.500         32.7         1.5         1.5         128.9         0.3         0.0         Horz         AV         0.0         34.5         54.0         -19.5         EUT On Side, Low Ch, Data rate 0           7218.358         42.5         11.6         1.37         214.9         0.0         Vert         PK         0.0         53.6         74.0         -19.9         EUT On Side, Low Ch, Data rate 0           7269.600         42.0         11.6         2.05         240.9         0.0         Vert         AV         0.0         33.4         54.0         -20.4         EUT On Side, Mid Ch, Data rate 0           7269.017         41.4         11.6         1.51         254.9         0.0         Vert         AV         0.0         31.2         54.0         -22.8         EUT On Side, Low Ch, Data rate 0 <td< td=""><td>7218.900</td><td>43.7</td><td>11.6</td><td>2.81</td><td>222.9</td><td></td><td>0.0</td><td>Horz</td><td>PK</td><td>0.0</td><td>55.3</td><td>74.0</td><td>-18.7</td><td>EUT Horz, Low Ch, Data rate 0</td></td<>	7218.900	43.7	11.6	2.81	222.9		0.0	Horz	PK	0.0	55.3	74.0	-18.7	EUT Horz, Low Ch, Data rate 0
7269.808         42.9         11.6         3.96         77.0         0.0         Vert         PK         0.0         54.5         74.0         -19.5         EUT Vert, Mid Ch, Data rate 0           4511.500         32.7         1.5         1.5         128.9         0.3         0.0         Horz         AV         0.0         34.5         54.0         -19.5         EUT On Side, Low Ch, Data rate 0           7218.358         42.5         11.6         1.37         214.9         0.0         Vert         PK         0.0         54.1         74.0         -19.9         EUT On Side, Low Ch, Data rate 0           7269.600         42.0         11.6         2.05         240.9         0.0         Horz         PK         0.0         53.6         74.0         -20.4         EUT On Side, Mid Ch, Data rate 0           2726.100         36.8         -3.7         3.09         34.0         0.3         0.0         Vert         AV         0.0         53.6         74.0         -20.6         EUT On Side, Mid Ch, Data rate 0           2706.900         34.6         -3.7         1.5         159.0         0.3         0.0         Vert         AV         0.0         30.6         54.0         -23.4         EUT On Side, Low Ch, Data r	7319.533	43.5	11.7	2.77	210.0		0.0	Vert	PK	0.0	55.2	74.0	-18.8	EUT On Side, High Ch, Data rate 0
4511.500         32.7         1.5         1.5         128.9         0.3         0.0         Horz         AV         0.0         34.5         54.0         -19.5         EUT On Side, Low Ch, Data rate 0           7218.358         42.5         11.6         1.37         214.9         0.0         Vert         PK         0.0         54.1         74.0         -19.9         EUT On Side, Low Ch, Data rate 0           7269.600         42.0         11.6         2.05         240.9         0.0         Horz         PK         0.0         53.6         74.0         -20.4         EUT On Side, Low Ch, Data rate 0           2726.100         36.8         -3.7         3.09         34.0         0.3         0.0         Vert         AV         0.0         33.4         54.0         -20.6         EUT On Side, Mid Ch, Data rate 0           2766.900         34.6         -3.7         1.5         159.0         0.3         0.0         Vert         AV         0.0         31.2         54.0         -22.8         EUT On Side, Low Ch, Data rate 0           2706.900         34.6         -3.7         1.5         181.0         0.3         0.0         Vert         AV         0.0         30.5         54.0         -23.4         EUT	7269.517	42.9	11.6	1.5	153.0		0.0	Vert	PK	0.0	54.5	74.0	-19.5	EUT On Side, Mid Ch, Data rate 0
7218.358       42.5       11.6       1.37       214.9       0.0       Vert       PK       0.0       54.1       74.0       -19.9       EUT On Side, Low Ch, Data rate 0         7269.600       42.0       11.6       2.05       240.9       0.0       Horz       PK       0.0       53.6       74.0       -20.4       EUT On Side, Low Ch, Data rate 0         2726.100       36.8       -3.7       3.09       34.0       0.3       0.0       Vert       AV       0.0       33.4       54.0       -20.6       EUT On Side, Mid Ch, Data rate 0         7269.017       41.4       11.6       1.51       254.9       0.0       Vert       AV       0.0       31.2       54.0       -21.0       EUT Horz, Mid Ch, Data rate 0         2706.900       34.6       -3.7       1.5       159.0       0.3       0.0       Vert       AV       0.0       31.2       54.0       -22.8       EUT Horz, Mid Ch, Data rate 0         2706.900       34.0       -3.7       1.5       181.0       0.3       0.0       Vert       AV       0.0       30.5       54.0       -23.4       EUT Horz, Low Ch, Data rate 0         2744.700       33.9       -3.7       2.27       315.9       0.3	7269.808	42.9	11.6	3.96	77.0		0.0	Vert	PK	0.0	54.5	74.0	-19.5	EUT Vert, Mid Ch, Data rate 0
7269.600         42.0         11.6         2.05         240.9         0.0         Horz         PK         0.0         53.6         74.0         -20.4         EUT On Side, Mid Ch, Data rate 0           2726.100         36.8         -3.7         3.09         34.0         0.3         0.0         Vert         AV         0.0         33.4         54.0         -20.4         EUT On Side, Mid Ch, Data rate 0           7269.017         41.4         11.6         1.51         254.9         0.0         Vert         AV         0.0         33.4         54.0         -20.6         EUT On Side, Mid Ch, Data rate 0           2706.900         34.6         -3.7         1.5         159.0         0.3         0.0         Vert         AV         0.0         31.2         54.0         -22.8         EUT On Side, Mid Ch, Data rate 0           2706.900         34.6         -3.7         1.5         181.0         0.3         0.0         Horz         AV         0.0         30.6         54.0         -23.4         EUT Horz, Low Ch, Data rate 0           2706.900         34.0         -3.7         2.27         315.9         0.3         0.0         Vert         AV         0.0         30.5         54.0         -23.4         EUT	4511.500	32.7	1.5	1.5	128.9	0.3	0.0	Horz	AV	0.0	34.5	54.0	-19.5	EUT On Side, Low Ch, Data rate 0
2726.100         36.8         -3.7         3.09         34.0         0.3         0.0         Vert         AV         0.0         33.4         54.0         -20.6         EUT On Side, Mid Ch, Data rate 0           7269.017         41.4         11.6         1.51         254.9         0.0         Vert         PK         0.0         53.0         74.0         -21.0         EUT Horz, Mid Ch, Data rate 0           2706.900         34.6         -3.7         1.5         159.0         0.3         0.0         Vert         AV         0.0         31.2         54.0         -22.8         EUT On Side, Mid Ch, Data rate 0           2706.900         34.6         -3.7         1.5         159.0         0.3         0.0         Vert         AV         0.0         30.6         54.0         -22.8         EUT On Side, Mid Ch, Data rate 0           2706.900         34.0         -3.7         1.5         181.0         0.3         0.0         Horz         AV         0.0         30.6         54.0         -23.4         EUT Horz, Low Ch, Data rate 0           2744.700         33.9         -3.7         2.27         315.9         0.3         0.0         Horz         PK         0.0         44.3         74.0         -29.7	7218.358	42.5	11.6	1.37	214.9		0.0	Vert	PK	0.0	54.1	74.0	-19.9	EUT On Side, Low Ch, Data rate 0
7269.017         41.4         11.6         1.51         254.9         0.0         Vert         PK         0.0         53.0         74.0         -21.0         EUT Horz, Mid Ch, Data rate 0           2706.900         34.6         -3.7         1.5         159.0         0.3         0.0         Vert         AV         0.0         31.2         54.0         -22.8         EUT On Side, Low Ch, Data rate 0           2706.900         34.0         -3.7         1.5         181.0         0.3         0.0         Horz         AV         0.0         30.6         54.0         -22.8         EUT On Side, Low Ch, Data rate 0           2706.900         34.0         -3.7         1.5         181.0         0.3         0.0         Horz         AV         0.0         30.6         54.0         -23.4         EUT Horz, Low Ch, Data rate 0           2744.700         33.9         -3.7         2.27         315.9         0.3         0.0         Vert         AV         0.0         30.5         54.0         -23.5         EUT on Side, High Ch, Data rate 0           4574.375         42.5         1.8         4.0         329.0         0.0         Horz         PK         0.0         44.2         74.0         -29.7         EUT Horz	7269.600	42.0	11.6	2.05	240.9		0.0	Horz	PK	0.0	53.6	74.0	-20.4	EUT On Side, Mid Ch, Data rate 0
2706.900         34.6         -3.7         1.5         159.0         0.3         0.0         Vert         AV         0.0         31.2         54.0         -22.8         EUT On Side, Low Ch, Data rate 0           2706.900         34.0         -3.7         1.5         181.0         0.3         0.0         Horz         AV         0.0         30.6         54.0         -22.8         EUT On Side, Low Ch, Data rate 0           2706.900         34.0         -3.7         1.5         181.0         0.3         0.0         Horz         AV         0.0         30.6         54.0         -23.4         EUT Horz, Low Ch, Data rate 0           2744.700         33.9         -3.7         2.27         315.9         0.3         0.0         Vert         AV         0.0         30.5         54.0         -23.5         EUT On Side, High Ch, Data rate 0           4574.375         42.5         1.8         4.0         329.0         0.0         Horz         PK         0.0         44.2         74.0         -29.7         EUT Horz, High Ch, Data rate 0           4543.208         42.4         1.8         1.75         59.0         0.0         Vert         PK         0.0         44.2         74.0         -29.8         EUT Horz,	2726.100	36.8	-3.7	3.09	34.0	0.3	0.0	Vert	AV	0.0	33.4	54.0	-20.6	EUT On Side, Mid Ch, Data rate 0
2706.900         34.0         -3.7         1.5         181.0         0.3         0.0         Horz         AV         0.0         30.6         54.0         -23.4         EUT Horz, Low Ch, Data rate 0           2744.700         33.9         -3.7         2.27         315.9         0.3         0.0         Vert         AV         0.0         30.5         54.0         -23.4         EUT Horz, Low Ch, Data rate 0           4574.700         33.9         -3.7         2.27         315.9         0.3         0.0         Vert         AV         0.0         30.5         54.0         -23.5         EUT Horz, Low Ch, Data rate 0           4574.375         42.5         1.8         4.0         329.0         0.0         Horz         PK         0.0         44.3         74.0         -29.7         EUT Horz, High Ch, Data rate 0           4543.208         42.4         1.8         1.75         59.0         0.0         Horz         PK         0.0         44.2         74.0         -29.8         EUT Horz, Mid Ch, Data rate 0           4574.417         42.4         1.8         1.5         8.0         0.0         Vert         PK         0.0         43.9         74.0         -29.8         EUT On Side, High Ch, Data rate 0	7269.017	41.4	11.6	1.51	254.9		0.0	Vert	PK	0.0	53.0	74.0	-21.0	EUT Horz, Mid Ch, Data rate 0
2744.700         33.9         -3.7         2.27         315.9         0.3         0.0         Vert         AV         0.0         30.5         54.0         -23.5         EUT On Side, High Ch, Data rate 0           4574.375         42.5         1.8         4.0         329.0         0.0         Horz         PK         0.0         44.3         74.0         -29.7         EUT Horz, High Ch, Data rate 0           4543.208         42.4         1.8         1.75         59.0         0.0         Horz         PK         0.0         44.2         74.0         -29.8         EUT Horz, Mid Ch, Data rate 0           4574.417         42.4         1.8         1.5         8.0         0.0         Vert         PK         0.0         44.2         74.0         -29.8         EUT Horz, Mid Ch, Data rate 0           4511.625         42.4         1.8         1.5         8.0         0.0         Vert         PK         0.0         43.9         74.0         -29.8         EUT On Side, High Ch, Data rate 0           4511.625         42.4         1.5         3.46         166.0         0.0         Vert         PK         0.0         43.9         74.0         -30.1         EUT On Side, Low Ch, Data rate 0           2744.492 <td>2706.900</td> <td>34.6</td> <td>-3.7</td> <td>1.5</td> <td>159.0</td> <td>0.3</td> <td>0.0</td> <td>Vert</td> <td>AV</td> <td>0.0</td> <td>31.2</td> <td>54.0</td> <td>-22.8</td> <td>EUT On Side, Low Ch, Data rate 0</td>	2706.900	34.6	-3.7	1.5	159.0	0.3	0.0	Vert	AV	0.0	31.2	54.0	-22.8	EUT On Side, Low Ch, Data rate 0
4574.375         42.5         1.8         4.0         329.0         0.0         Horz         PK         0.0         44.3         74.0         -29.7         EUT Horz, High Ch, Data rate 0           4534.208         42.4         1.8         1.75         59.0         0.0         Horz         PK         0.0         44.2         74.0         -29.8         EUT Horz, High Ch, Data rate 0           4574.417         42.4         1.8         1.5         8.0         0.0         Vert         PK         0.0         44.2         74.0         -29.8         EUT Horz, Mid Ch, Data rate 0           4574.417         42.4         1.8         1.5         8.0         0.0         Vert         PK         0.0         44.2         74.0         -29.8         EUT On Side, High Ch, Data rate 0           4511.625         42.4         1.5         3.46         166.0         0.0         Vert         PK         0.0         43.9         74.0         -30.1         EUT On Side, Low Ch, Data rate 0           2744.492         47.2         -3.7         1.11         347.0         0.0         Horz         PK         0.0         43.5         74.0         -30.5         EUT Horz, High Ch, Data rate 0	2706.900	34.0	-3.7	1.5	181.0	0.3	0.0	Horz	AV	0.0	30.6	54.0	-23.4	EUT Horz, Low Ch, Data rate 0
4543.208         42.4         1.8         1.75         59.0         0.0         Horz         PK         0.0         44.2         74.0         -29.8         EUT Horz, Mid Ch, Data rate 0           4574.417         42.4         1.8         1.5         8.0         0.0         Vert         PK         0.0         44.2         74.0         -29.8         EUT Horz, Mid Ch, Data rate 0           4511.625         42.4         1.5         3.46         166.0         0.0         Vert         PK         0.0         43.9         74.0         -29.8         EUT On Side, High Ch, Data rate 0           2744.492         47.2         -3.7         1.11         347.0         0.0         Horz         PK         0.0         43.9         74.0         -30.5         EUT Horz, High Ch, Data rate 0	2744.700	33.9	-3.7	2.27	315.9	0.3	0.0	Vert	AV	0.0	30.5	54.0	-23.5	EUT On Side, High Ch, Data rate 0
4574.417         42.4         1.8         1.5         8.0         0.0         Vert         PK         0.0         44.2         74.0         -29.8         EUT On Side, High Ch, Data rate 0           4511.625         42.4         1.5         3.46         166.0         0.0         Vert         PK         0.0         43.9         74.0         -30.1         EUT On Side, High Ch, Data rate 0           2744.492         47.2         -3.7         1.11         347.0         0.0         Horz         PK         0.0         43.5         74.0         -30.5         EUT Horz, High Ch, Data rate 0	4574.375	42.5	1.8	4.0	329.0		0.0	Horz	PK	0.0	44.3	74.0	-29.7	EUT Horz, High Ch, Data rate 0
4511.625         42.4         1.5         3.46         166.0         0.0         Vert         PK         0.0         43.9         74.0         -30.1         EUT On Side, Low Ch, Data rate 0           2744.492         47.2         -3.7         1.11         347.0         0.0         Horz         PK         0.0         43.5         74.0         -30.5         EUT Horz, High Ch, Data rate 0	4543.208	42.4	1.8	1.75	59.0		0.0	Horz	PK	0.0	44.2	74.0	-29.8	EUT Horz, Mid Ch, Data rate 0
2744.492         47.2         -3.7         1.11         347.0         0.0         Horz         PK         0.0         43.5         74.0         -30.5         EUT Horz, High Ch, Data rate 0	4574.417	42.4	1.8	1.5	8.0		0.0	Vert	PK	0.0	44.2	74.0	-29.8	EUT On Side, High Ch, Data rate 0
	4511.625	42.4	1.5	3.46	166.0		0.0	Vert	PK	0.0	43.9	74.0	-30.1	EUT On Side, Low Ch, Data rate 0
2725.850 47.0 -3.7 1.08 181.9 0.0 Horz PK 0.0 43.3 74.0 -30.7 EUT Horz, Mid Ch, Data rate 0	2744.492	47.2	-3.7	1.11	347.0		0.0	Horz	PK	0.0	43.5	74.0	-30.5	EUT Horz, High Ch, Data rate 0
	2725.850	47.0	-3.7	1.08	181.9		0.0	Horz	PK	0.0	43.3	74.0	-30.7	EUT Horz, Mid Ch, Data rate 0



Freq (MHz)	Amplitude (dBuV)	Factor (dB/m)	Antenna Height (meters)		Dury Cycre Correction Factor	External Attenuation (dB)	Polarity/ Transducer	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
4511.125	41.6	1.5	1.5	128.9		0.0	Horz	PK	0.0	43.1	74.0	-30.9	EUT Horz, Low Ch, Data rate 0
4551.958	40.8	1.7	1.5	13.9		0.0	Vert	PK	0.0	42.5	74.0	-31.5	EUT On Side, Mid Ch, Data rate 0
2726.558	45.1	-3.7	3.09	34.0		0.0	Vert	PK	0.0	41.4	74.0	-32.6	EUT On Side, Mid Ch, Data rate 0
2707.067	44.6	-3.7	1.5	159.0		0.0	Vert	PK	0.0	40.9	74.0	-33.1	EUT On Side, Low Ch, Data rate 0
2706.483	44.4	-3.7	1.5	181.0		0.0	Horz	PK	0.0	40.7	74.0	-33.3	EUT Horz, Low Ch, Data rate 0
2734.950	44.0	-3.7	2.27	315.9		0.0	Vert	PK	0.0	40.3	74.0	-33.7	EUT On Side, High Ch, Data rate 0

#### CONCLUSION

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# **APPENDIX**

# **GAP ANALYSIS**



#### Gap analysis comparing RSS-247 Issue 2:2017 to RSS-247 Issue 3:2023

RSS-247 Issue 2 has been superseded by RSS-247 Issue 3.

The standard has had technical changes requiring evaluation of the compliance information of relevant products. The following changes have been made to this report

- The manufacturer's attestation to the status of the product is included in this report.
- A Gap Analysis (GA) has been performed of the current issue of the standard and was compared to the standard and method used during testing of the device documented in this report. The GA is located in the appendix of this report.

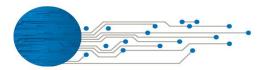
The data was verified that it continues to comply with the requirements of RSS-247 Issue 3:2023.

#### **Conclusion:**

No retesting of the device described in this report is required due to the changes made to the standard.

The following changes were made in RSS-247 Issue 3:2023

- 1. Modified section 6.2 to clarify that different measurement methods can apply depending on the operating frequency range of the device.
- 2. Added section 6.2.5 to introduce the requirements for devices operating from 5850 5895 MHz and channels that span across 5850 MHz.
- 3. Added section 6.2.5.1 to provide general information and definitions.
- 4. Added section 6.2.5.2 to identify the power limits associated with devices operating in the 5850-5895 MHz band.
- 5. Added section 6.2.5.3 to identify the unwanted emission limits associated with devices operating in the 5850-5895 MHz band.
- 6. Made editorial changes and clarifications, as appropriate.





DATE: February 29, 2024

### **RBS301 No Changes Attestation**

The equipment documented in test report MLTI2034.1 rev 2 continues to be representative of the current device. The equipment design and manufacturing process have not changed since the testing/evaluation was performed and documented in the report.

Sincerely,

Tim

Name : Tim Gunn Position: Directory of Certifications Company: Multi-Tech Systems, Inc



End of Test Report