

# NORTHWEST EMC

**Timecode Systems Ltd.**

**SyncBac Pro**

**FCC 15.207:2016**

**FCC 15.247:2016**

**902 - 928 MHz Transceiver**

**Report # RIGA0010.1**



NVLAP Lab Code: 200630-0

*This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government of the United States of America. This Report may only be duplicated in its entirety*

# CERTIFICATE OF TEST

Last Date of Test: August 8, 2016  
Timecode Systems Ltd.  
Model: SyncBac Pro

## Radio Equipment Testing

### Standards

Specification	Method
FCC 15.207:2016	ANSI C63.10:2013
FCC 15.247:2016	

### Results

Method Clause	Test Description	Applied	Results	Comments
6.2	Powerline Conducted Emissions	Yes	Pass	
6.5, 6.6	Spurious Radiated Emissions	Yes	Pass	
7.5	Duty Cycle	Yes	N/A	Characterization of radio test software.
7.8.2	Carrier Frequency Separation	Yes	Pass	
7.8.3	Number of Hopping Frequencies	Yes	Pass	
7.8.4	Dwell Time	Yes	Pass	
7.8.5	Output Power	Yes	Pass	
7.8.6	Band Edge Compliance	Yes	Pass	
7.8.6	Band Edge Compliance - Hopping Mode	Yes	Pass	
7.8.7	Occupied Bandwidth	Yes	Pass	
7.8.8	Spurious Conducted Emissions	Yes	Pass	
11.10.2	Power Spectral Density	No	N/A	Not required for FHSS devices.

### Deviations From Test Standards

None

### Approved By:



Kyle Holgate, Operations Manager

*Product compliance is the responsibility of the client; therefore, the tests and equipment modes of operation represented in this report were agreed upon by the client, prior to testing. The results of this test pertain only to the sample(s) tested. The specific description is noted in each of the individual sections of the test report supporting this certificate of test. This report reflects only those tests from the referenced standards shown in the certificate of test. It does not include inspection or verification of labels, identification, marking or user information.*

# REVISION HISTORY

Revision Number	Description	Date	Page Number
00	None		

# ACCREDITATIONS AND AUTHORIZATIONS

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## United States

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

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

**NVLAP** - Each laboratory is accredited by NVLAP to ISO 17025

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## Canada

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

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## European Union

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

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## Australia/New Zealand

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

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## Korea

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

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## Japan

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

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## Taiwan

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**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.

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## Singapore

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

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## Israel

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

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## Hong Kong

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

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## Vietnam

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

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## SCOPE

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

<http://www.nwemc.com/accreditations/>

<http://gsi.nist.gov/global/docs/cabs/designations.html>

# 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 included as part of the applicable test description page. Our measurement data meets or exceeds the measurement uncertainty requirements of the applicable specification; therefore, the test data can be compared directly to the specification limit to determine compliance. The calculations for estimating measurement uncertainty are based upon ETSI TR 100 028 (or CISPR 16-4-2 as applicable), and are available upon request.

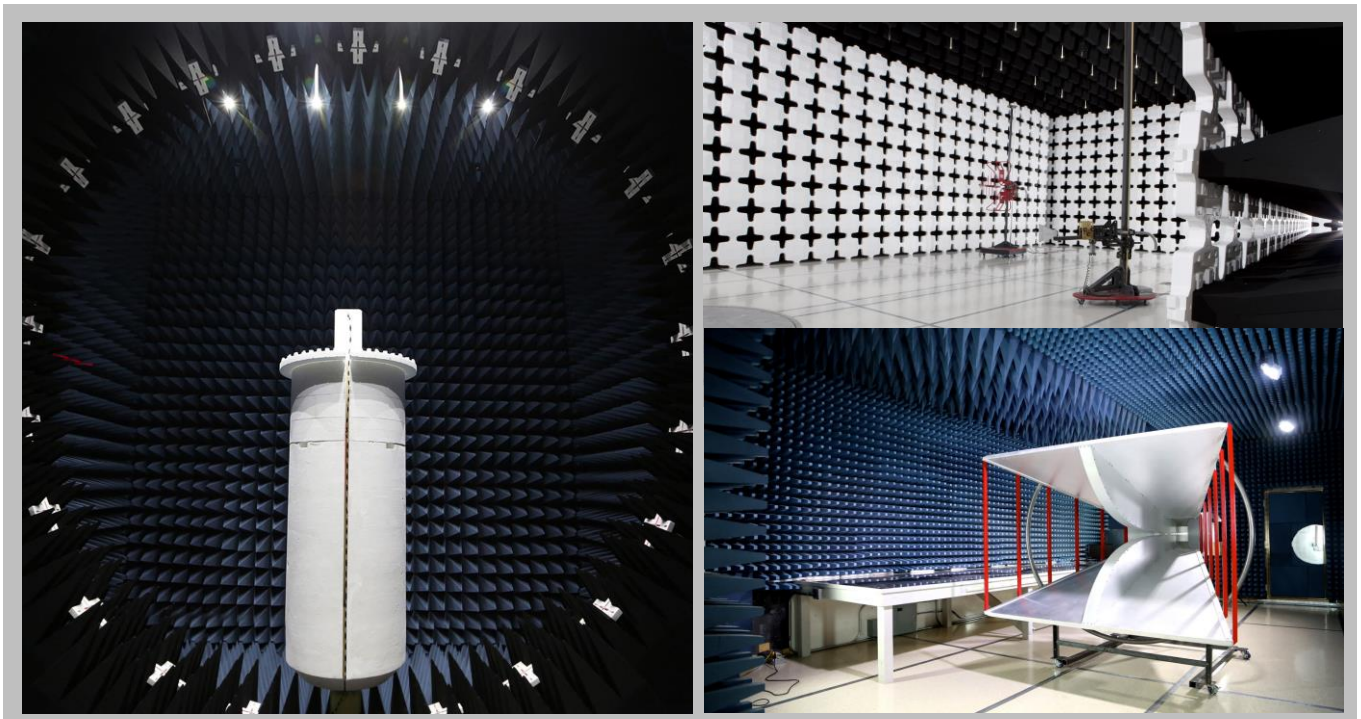
The following table represents the Measurement Uncertainty (MU) budgets for each of the tests that may be contained in this report.

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

# FACILITIES



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



# PRODUCT DESCRIPTION

## Client and Equipment Under Test (EUT) Information

<b>Company Name:</b>	Timecode Systems Ltd.
<b>Address:</b>	Unit 6, Elgar Business Centre Moseley Road, Hallow Worcester, WR2 6NJ. UK
<b>Test Requested By:</b>	Mark Bielman of Rigado LLC
<b>Model:</b>	SyncBac Pro
<b>First Date of Test:</b>	August 4, 2016
<b>Last Date of Test:</b>	August 8, 2016
<b>Receipt Date of Samples:</b>	July 14, 2016
<b>Equipment Design Stage:</b>	Production
<b>Equipment Condition:</b>	No Damage

## Information Provided by the Party Requesting the Test

<b>Functional Description of the EUT:</b>
GoPro camera accessory to time sync video from multiple cameras.
<b>Testing Objective:</b>
Seeking to demonstrate compliance under FCC 15.247:2016 for operation in the 902 - 928 MHz Band.

# CONFIGURATIONS

## Configuration RIGA0010- 4

<b>EUT</b>					
<b>Description</b>		<b>Manufacturer</b>	<b>Model/Part Number</b>		<b>Serial Number</b>
SyncBac Pro		Timecode Systems Ltd.	SPR01		81627001

<b>Peripherals in test setup boundary</b>					
<b>Description</b>		<b>Manufacturer</b>	<b>Model/Part Number</b>	<b>Serial Number</b>	
USB Charger		Dell	HA10USNM130	None	

<b>Cables</b>					
<b>Cable Type</b>	<b>Shield</b>	<b>Length (m)</b>	<b>Ferrite</b>	<b>Connection 1</b>	<b>Connection 2</b>
Micro USB	Yes	1.0m	Yes	USB Charger	SyncBac Pro

## Configuration RIGA0010- 5

<b>EUT</b>					
<b>Description</b>		<b>Manufacturer</b>	<b>Model/Part Number</b>	<b>Serial Number</b>	
SyncBac Pro		Timecode Systems Ltd.	SPR01	81627003	
US Internal Antenna		Timecode Systems Ltd.	A200	None	

<b>Peripherals in test setup boundary</b>					
<b>Description</b>		<b>Manufacturer</b>	<b>Model/Part Number</b>	<b>Serial Number</b>	
AC Adapter		Dell	HA10USNM130	None	
GOPRO Hero 4		GOPRO	C312112	6196565	
Li-ion Battery		Panasonic	AHDBT-401	335-06532-000	

<b>Cables</b>					
<b>Cable Type</b>	<b>Shield</b>	<b>Length (m)</b>	<b>Ferrite</b>	<b>Connection 1</b>	<b>Connection 2</b>
Micro USB	Yes	1.0m	Yes	USB Charger	SyncBac Pro



# CONFIGURATIONS

## Configuration RIGA0010- 6

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
SyncBac Pro	Timecode Systems Ltd.	SPR01	81627003
External Antenna	Linx	ANT-916-MHW-SMA-S	None
US Internal Antenna	Timecode Systems Ltd.	A200	None

Peripherals in test setup boundary			
Description	Manufacturer	Model/Part Number	Serial Number
AC Adapter	Dell	HA10USNM130	None
GOPRO Hero 4	GOPRO	C312112	6196565
Li-ion Battery	Panasonic	AHDBT-401	335-06532-000

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
Micro USB	Yes	1.0m	Yes	USB Charger	SyncBac Pro
Antenna Cable Coax	Yes	2.0m	No	SyncBac Pro	External Antenna

## Configuration RIGA0010- 7

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
SyncBac Pro	Timecode Systems Ltd.	SPR01	81627003
US Internal Antenna	Timecode Systems Ltd.	A200	None

Peripherals in test setup boundary			
Description	Manufacturer	Model/Part Number	Serial Number
AC Adapter	Dell	HA10USNM130	None
GOPRO Hero 4	GOPRO	C312112	6196565
Li-ion Battery	Panasonic	AHDBT-401	335-06532-000

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
Micro USB	Yes	1.0m	Yes	USB Charger	SyncBac Pro
Micro USB	Yes	1.0m	No	GOPRO	Unterminated
Micro HDMI	Yes	1.2m	No	GOPRO	Unterminated

# CONFIGURATIONS

## Configuration RIGA0010- 8

<b>EUT</b>			
<b>Description</b>	<b>Manufacturer</b>	<b>Model/Part Number</b>	<b>Serial Number</b>
SyncBac Pro	Timecode Systems Ltd.	SPR01	81627003
External Antenna	Linx	ANT-916-MHW-SMA-S	None
US Internal Antenna	Timecode Systems Ltd.	A200	None

<b>Peripherals in test setup boundary</b>			
<b>Description</b>	<b>Manufacturer</b>	<b>Model/Part Number</b>	<b>Serial Number</b>
AC Adapter	Dell	HA10USNM130	None
GOPRO Hero 4	GOPRO	C312112	6196565
Li-ion Battery	Panasonic	AHDBT-401	335-06532-000

<b>Cables</b>					
<b>Cable Type</b>	<b>Shield</b>	<b>Length (m)</b>	<b>Ferrite</b>	<b>Connection 1</b>	<b>Connection 2</b>
Micro USB	Yes	1.0m	Yes	USB Charger	SyncBac Pro
Antenna Cable Coax	Yes	2.0m	No	SyncBac Pro	External Antenna
Micro USB	Yes	1.0m	No	GOPRO	Unterminated
Micro HDMI	Yes	1.2m	No	GOPRO	Unterminated

# MODIFICATIONS

## Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	8/4/2016	Number of Hopping Frequencies	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
2	8/4/2016	Band Edge Compliance	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
3	8/4/2016	Band Edge Compliance – Hopping	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
4	8/4/2016	Carrier Frequency Separation	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
5	8/4/2016	Dwell Time	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
6	8/4/2016	Output Power	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
7	8/4/2016	Occupied Bandwidth	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
8	8/4/2016	Spurious Conducted Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
9	8/5/2016	Spurious Radiated Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
10	8/8/2016	Powerline Conducted Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

# POWERLINE CONDUCTED EMISSIONS

## TEST DESCRIPTION

Using the mode of operation and configuration noted within this report, conducted emissions tests were performed. The frequency range investigated (scanned), is also noted in this report. Conducted power line measurements are made, unless otherwise specified, over the frequency range from 150 kHz to 30 MHz to determine the line-to-ground radio-noise voltage that is conducted from the EUT power-input terminals that are directly (or indirectly via separate transformer or power supplies) connected to a public power network. Per the standard, an insulating material was also added to ground plane between the EUT's power and remote I/O cables. Equipment is tested with power cords that are normally used or that have electrical or shielding characteristics that are the same as those cords normally used. Typically those measurements are made using a LISN (Line Impedance Stabilization Network), the 50ohm measuring port is terminated by a 50ohm EMI meter or a 50ohm resistive load. All 50ohm measuring ports of the LISN are terminated by 50ohm. The test data represents the configuration / operating mode/ model that produced the highest emission levels as compared to the specification limit.

## TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
LISN	Solar Electronics	9252-50-R-24-BNC	LIP	1/27/2015	1/27/2017
Cable - Conducted Cable Assembly	Northwest EMC	EVG, HHD, RKA	EVGA	5/10/2016	5/10/2017
Receiver	Rohde & Schwarz	ESCI	ARH	3/21/2016	3/21/2017

## MEASUREMENT UNCERTAINTY

Description		
Expanded k=2	2.4 dB	-2.4 dB

## CONFIGURATIONS INVESTIGATED

RIGA0010-5  
RIGA0010-6

## MODES INVESTIGATED

On, Continuous Tx, External Antenna, Control Channel High 918.65 MHz  
On, Continuous Tx, External Antenna, Control Channel Low 915.05 MHz  
On, Continuous Tx, External Antenna, Data Channel High 922.2 MHz  
On, Continuous Tx, External Antenna, Data Channel Low 915.8 MHz  
On, Continuous Tx, Internal Antenna, Control Channel High 918.65 MHz  
On, Continuous Tx, Internal Antenna, Control Channel Low 915.05 MHz  
On, Continuous Tx, Internal Antenna, Data Channel High 922.2 MHz  
On, Continuous Tx, Internal Antenna, Data Channel Low 915.8 MHz

# POWERLINE CONDUCTED EMISSIONS

EUT:	SyncBac Pro	Work Order:	RIGA0010
Serial Number:	81627002	Date:	08/08/2016
Customer:	Timecode Systems Ltd.	Temperature:	23.1°C
Attendees:	None	Relative Humidity:	43.5%
Customer Project:	None	Bar. Pressure:	1018 mb
Tested By:	Brandon Hobbs	Job Site:	EV07
Power:	Battery 5.0VDC via 110VAC/60Hz	Configuration:	RIGA0010-5

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2016	ANSI C63.10:2013

## TEST PARAMETERS

Run #:	10	Line:	Neutral	Add. Ext. Attenuation (dB):	0
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## COMMENTS

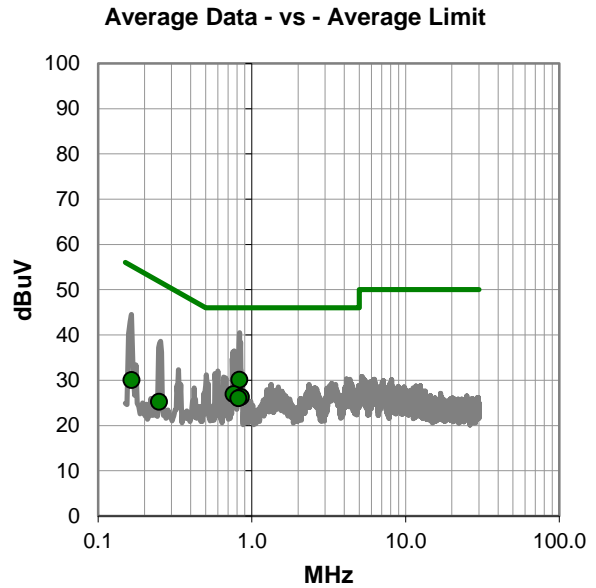
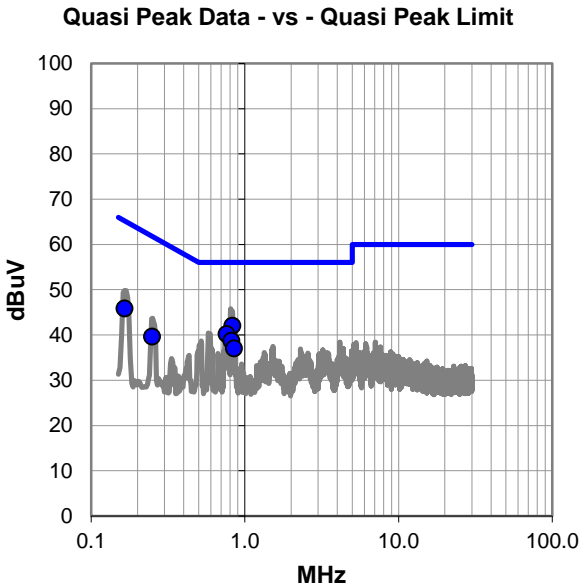
EUT is operating at 100% duty cycle

## EUT OPERATING MODES

On, Continuous Tx, Internal Antenna, Control Channel Low 915.05 MHz

## DEVIATIONS FROM TEST STANDARD

None



# POWERLINE CONDUCTED EMISSIONS

## RESULTS - Run #10

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.830	22.3	19.7	42.0	56.0	-14.0
0.761	20.5	19.7	40.2	56.0	-15.8
0.818	19.0	19.7	38.7	56.0	-17.3
0.849	17.3	19.7	37.0	56.0	-19.0
0.165	26.0	19.8	45.8	65.2	-19.4
0.250	19.8	19.8	39.6	61.8	-22.2

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.830	10.4	19.7	30.1	46.0	-15.9
0.761	7.2	19.7	26.9	46.0	-19.1
0.849	6.6	19.7	26.3	46.0	-19.7
0.818	6.3	19.7	26.0	46.0	-20.0
0.165	10.2	19.8	30.0	55.2	-25.2
0.250	5.4	19.8	25.2	51.8	-26.6

## CONCLUSION

Pass



Tested By

# POWERLINE CONDUCTED EMISSIONS

EUT:	SyncBac Pro	Work Order:	RIGA0010
Serial Number:	81627002	Date:	08/08/2016
Customer:	Timecode Systems Ltd.	Temperature:	23.1°C
Attendees:	None	Relative Humidity:	43.5%
Customer Project:	None	Bar. Pressure:	1018 mb
Tested By:	Brandon Hobbs	Job Site:	EV07
Power:	Battery 5.0VDC via 110VAC/60Hz	Configuration:	RIGA0010-5

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2016	ANSI C63.10:2013

## TEST PARAMETERS

Run #:	11	Line:	High Line	Add. Ext. Attenuation (dB):	0
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## COMMENTS

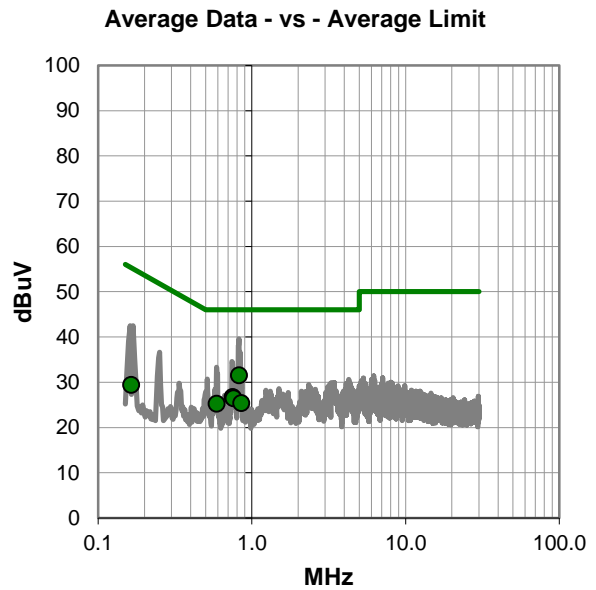
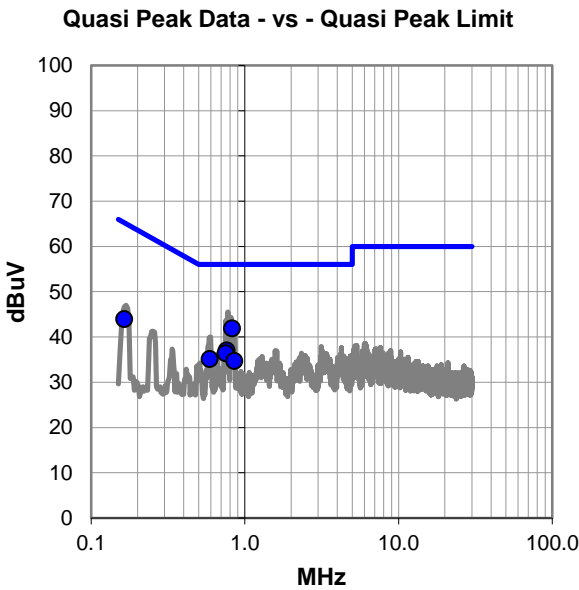
EUT is operating at 100% duty cycle

## EUT OPERATING MODES

On, Continuous Tx, Internal Antenna, Control Channel Low 915.05 MHz

## DEVIATIONS FROM TEST STANDARD

None



# POWERLINE CONDUCTED EMISSIONS

## RESULTS - Run #11

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.826	22.2	19.7	41.9	56.0	-14.1
0.763	17.3	19.7	37.0	56.0	-19.0
0.752	16.7	19.7	36.4	56.0	-19.6
0.590	15.4	19.7	35.1	56.0	-20.9
0.165	24.1	19.8	43.9	65.2	-21.3
0.853	15.0	19.7	34.7	56.0	-21.3

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.826	11.8	19.7	31.5	46.0	-14.5
0.752	7.0	19.7	26.7	46.0	-19.3
0.763	6.7	19.7	26.4	46.0	-19.6
0.853	5.7	19.7	25.4	46.0	-20.6
0.590	5.5	19.7	25.2	46.0	-20.8
0.165	9.6	19.8	29.4	55.2	-25.8

## CONCLUSION

Pass



Tested By



# POWERLINE CONDUCTED EMISSIONS

EUT:	SyncBac Pro	Work Order:	RIGA0010
Serial Number:	81627002	Date:	08/08/2016
Customer:	Timecode Systems Ltd.	Temperature:	23.1°C
Attendees:	None	Relative Humidity:	43.5%
Customer Project:	None	Bar. Pressure:	1018 mb
Tested By:	Brandon Hobbs	Job Site:	EV07
Power:	Battery 5.0VDC via 110VAC/60Hz	Configuration:	RIGA0010-5

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2016	ANSI C63.10:2013

## TEST PARAMETERS

Run #:	12	Line:	High Line	Add. Ext. Attenuation (dB):	0
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## COMMENTS

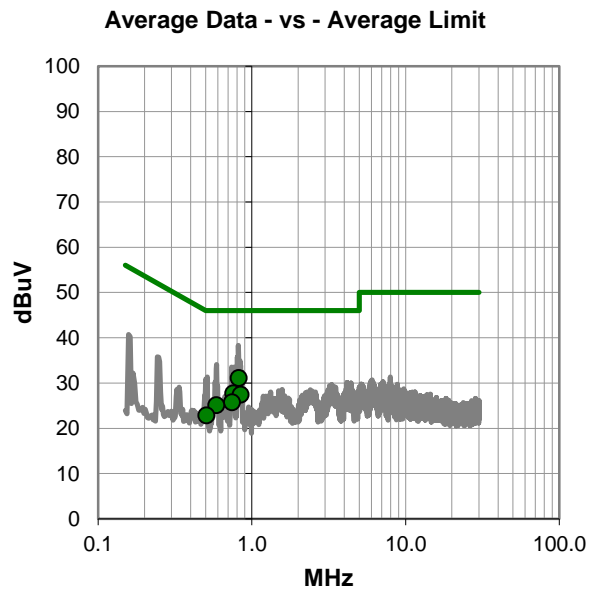
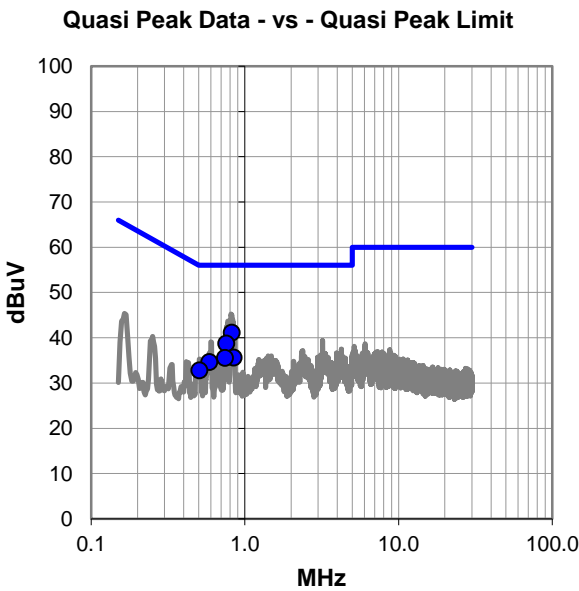
EUT is operating at 100% duty cycle

## EUT OPERATING MODES

On, Continuous Tx, Internal Antenna, Control Channel High 918.65 MHz

## DEVIATIONS FROM TEST STANDARD

None



# POWERLINE CONDUCTED EMISSIONS

## RESULTS - Run #12

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.824	21.4	19.7	41.1	56.0	-14.9
0.756	19.0	19.7	38.7	56.0	-17.3
0.846	15.9	19.7	35.6	56.0	-20.4
0.745	15.8	19.7	35.5	56.0	-20.5
0.588	14.9	19.7	34.6	56.0	-21.4
0.506	13.1	19.7	32.8	56.0	-23.2

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.824	11.4	19.7	31.1	46.0	-14.9
0.756	8.0	19.7	27.7	46.0	-18.3
0.846	7.7	19.7	27.4	46.0	-18.6
0.745	6.0	19.7	25.7	46.0	-20.3
0.588	5.4	19.7	25.1	46.0	-20.9
0.506	3.1	19.7	22.8	46.0	-23.2

## CONCLUSION

Pass



Tested By

# POWERLINE CONDUCTED EMISSIONS

EUT:	SyncBac Pro	Work Order:	RIGA0010
Serial Number:	81627002	Date:	08/08/2016
Customer:	Timecode Systems Ltd.	Temperature:	23.1°C
Attendees:	None	Relative Humidity:	43.5%
Customer Project:	None	Bar. Pressure:	1018 mb
Tested By:	Brandon Hobbs	Job Site:	EV07
Power:	Battery 5.0VDC via 110VAC/60Hz	Configuration:	RIGA0010-5

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2016	ANSI C63.10:2013

## TEST PARAMETERS

Run #:	13	Line:	Neutral	Add. Ext. Attenuation (dB):	0
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## COMMENTS

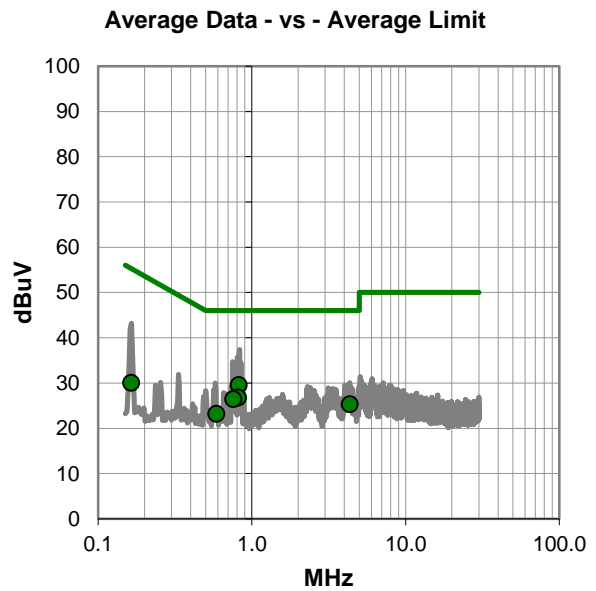
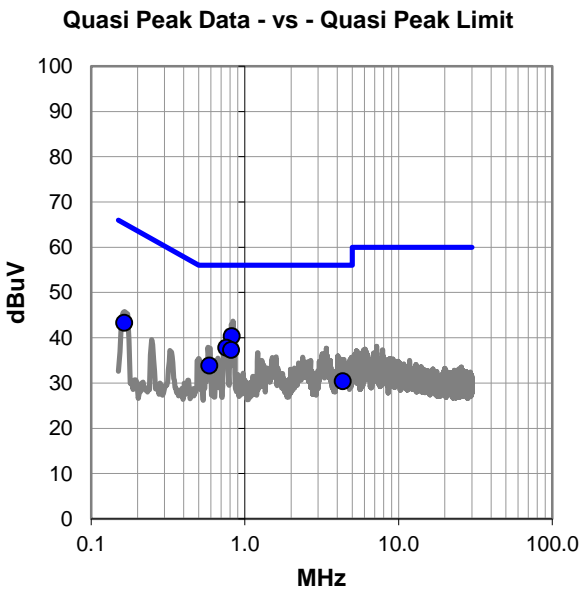
EUT is operating at 100% duty cycle

## EUT OPERATING MODES

On, Continuous Tx, Internal Antenna, Control Channel High 918.65 MHz

## DEVIATIONS FROM TEST STANDARD

None



# POWERLINE CONDUCTED EMISSIONS

## RESULTS - Run #13

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.824	20.6	19.7	40.3	56.0	-15.7
0.758	18.1	19.7	37.8	56.0	-18.2
0.816	17.6	19.7	37.3	56.0	-18.7
0.164	23.5	19.8	43.3	65.2	-21.9
0.589	14.1	19.7	33.8	56.0	-22.2
4.337	10.5	19.9	30.4	56.0	-25.6

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.824	9.8	19.7	29.5	46.0	-16.5
0.816	7.1	19.7	26.8	46.0	-19.2
0.758	6.7	19.7	26.4	46.0	-19.6
4.337	5.4	19.9	25.3	46.0	-20.7
0.589	3.5	19.7	23.2	46.0	-22.8
0.164	10.2	19.8	30.0	55.2	-25.2

## CONCLUSION

Pass



Tested By

# POWERLINE CONDUCTED EMISSIONS

EUT:	SyncBac Pro	Work Order:	RIGA0010
Serial Number:	81627002	Date:	08/08/2016
Customer:	Timecode Systems Ltd.	Temperature:	23.1°C
Attendees:	None	Relative Humidity:	43.5%
Customer Project:	None	Bar. Pressure:	1018 mb
Tested By:	Brandon Hobbs	Job Site:	EV07
Power:	Battery 5.0VDC via 110VAC/60Hz	Configuration:	RIGA0010-5

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2016	ANSI C63.10:2013

## TEST PARAMETERS

Run #:	14	Line:	Neutral	Add. Ext. Attenuation (dB):	0
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## COMMENTS

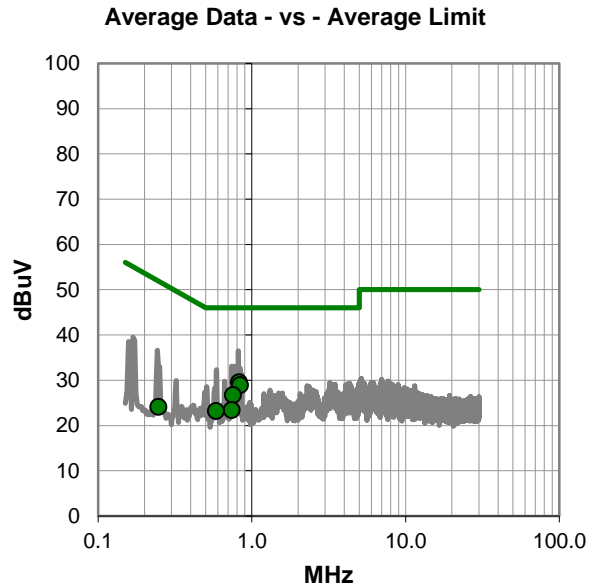
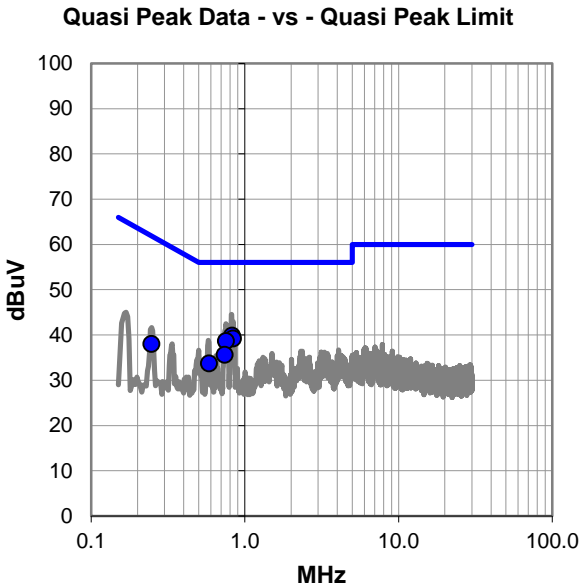
EUT is operating at 100% duty cycle

## EUT OPERATING MODES

On, Continuous Tx, Internal Antenna, Data Channel Low 915.8 MHz

## DEVIATIONS FROM TEST STANDARD

None



# POWERLINE CONDUCTED EMISSIONS

## RESULTS - Run #14

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.825	20.1	19.7	39.8	56.0	-16.2
0.837	19.5	19.7	39.2	56.0	-16.8
0.755	18.9	19.7	38.6	56.0	-17.4
0.739	15.9	19.7	35.6	56.0	-20.4
0.586	14.0	19.7	33.7	56.0	-22.3
0.247	18.2	19.8	38.0	61.9	-23.9

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.825	9.8	19.7	29.5	46.0	-16.5
0.837	9.2	19.7	28.9	46.0	-17.1
0.755	7.0	19.7	26.7	46.0	-19.3
0.739	3.7	19.7	23.4	46.0	-22.6
0.586	3.5	19.7	23.2	46.0	-22.8
0.247	4.3	19.8	24.1	51.9	-27.8

## CONCLUSION

Pass



Tested By

# POWERLINE CONDUCTED EMISSIONS

EUT:	SyncBac Pro	Work Order:	RIGA0010
Serial Number:	81627002	Date:	08/08/2016
Customer:	Timecode Systems Ltd.	Temperature:	23.1°C
Attendees:	None	Relative Humidity:	43.5%
Customer Project:	None	Bar. Pressure:	1018 mb
Tested By:	Brandon Hobbs	Job Site:	EV07
Power:	Battery 5.0VDC via 110VAC/60Hz	Configuration:	RIGA0010-5

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2016	ANSI C63.10:2013

## TEST PARAMETERS

Run #:	15	Line:	High Line	Add. Ext. Attenuation (dB):	0
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## COMMENTS

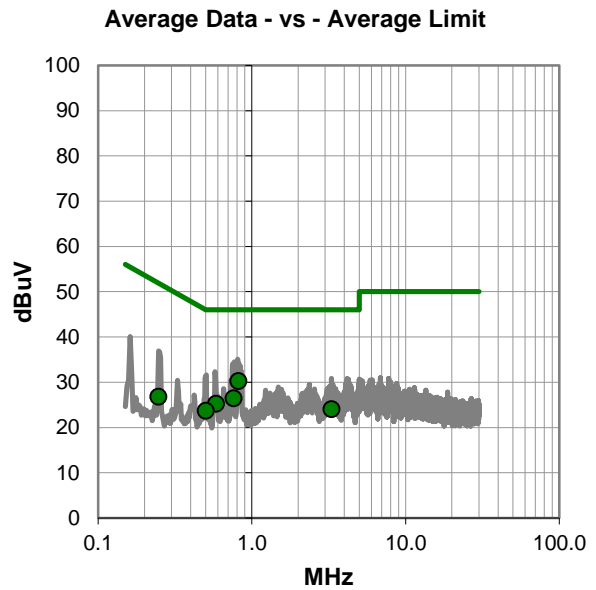
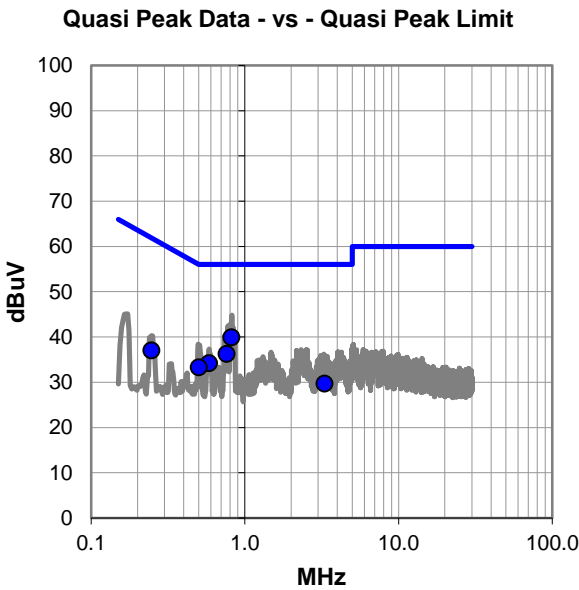
EUT is operating at 100% duty cycle

## EUT OPERATING MODES

On, Continuous Tx, Internal Antenna, Data Channel Low 915.8 MHz

## DEVIATIONS FROM TEST STANDARD

None



# POWERLINE CONDUCTED EMISSIONS

## RESULTS - Run #15

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.819	20.2	19.7	39.9	56.0	-16.1
0.761	16.5	19.7	36.2	56.0	-19.8
0.585	14.5	19.7	34.2	56.0	-21.8
0.502	13.6	19.7	33.3	56.0	-22.7
0.247	17.2	19.8	37.0	61.9	-24.9
3.295	9.8	19.9	29.7	56.0	-26.3

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.819	10.5	19.7	30.2	46.0	-15.8
0.761	6.7	19.7	26.4	46.0	-19.6
0.585	5.5	19.7	25.2	46.0	-20.8
3.295	4.1	19.9	24.0	46.0	-22.0
0.502	4.0	19.7	23.7	46.0	-22.3
0.247	7.0	19.8	26.8	51.9	-25.1

## CONCLUSION

Pass



Tested By



# POWERLINE CONDUCTED EMISSIONS

EUT:	SyncBac Pro	Work Order:	RIGA0010
Serial Number:	81627002	Date:	08/08/2016
Customer:	Timecode Systems Ltd.	Temperature:	23.1°C
Attendees:	None	Relative Humidity:	43.5%
Customer Project:	None	Bar. Pressure:	1018 mb
Tested By:	Brandon Hobbs	Job Site:	EV07
Power:	Battery 5.0VDC via 110VAC/60Hz	Configuration:	RIGA0010-5

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2016	ANSI C63.10:2013

## TEST PARAMETERS

Run #:	16	Line:	High Line	Add. Ext. Attenuation (dB):	0
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## COMMENTS

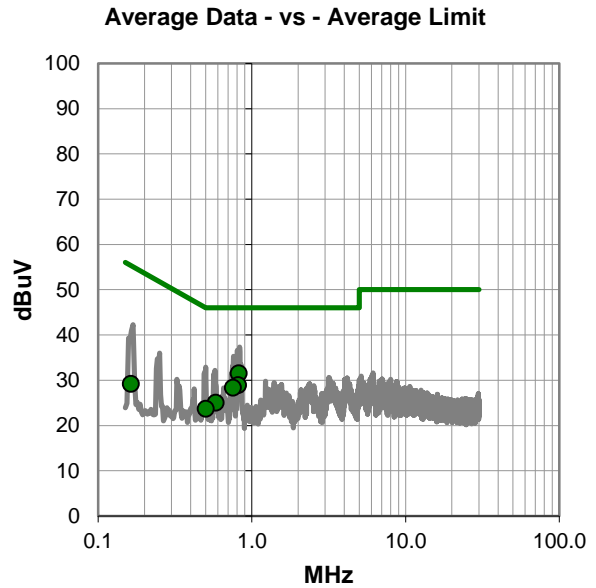
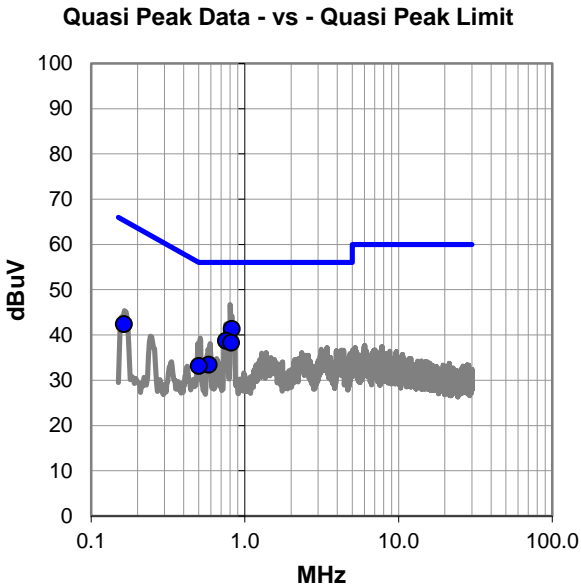
EUT is operating at 100% duty cycle

## EUT OPERATING MODES

On, Continuous Tx, Internal Antenna, Data Channel High 922.2 MHz

## DEVIATIONS FROM TEST STANDARD

None



# POWERLINE CONDUCTED EMISSIONS

## RESULTS - Run #16

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.823	21.6	19.7	41.3	56.0	-14.7
0.753	19.0	19.7	38.7	56.0	-17.3
0.816	18.6	19.7	38.3	56.0	-17.7
0.584	13.7	19.7	33.4	56.0	-22.6
0.164	22.6	19.8	42.4	65.3	-22.9
0.501	13.4	19.7	33.1	56.0	-22.9

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.823	11.8	19.7	31.5	46.0	-14.5
0.816	9.2	19.7	28.9	46.0	-17.1
0.753	8.6	19.7	28.3	46.0	-17.7
0.584	5.3	19.7	25.0	46.0	-21.0
0.501	4.0	19.7	23.7	46.0	-22.3
0.164	9.4	19.8	29.2	55.3	-26.1

## CONCLUSION

Pass



Tested By

# POWERLINE CONDUCTED EMISSIONS

EUT:	SyncBac Pro	Work Order:	RIGA0010
Serial Number:	81627002	Date:	08/08/2016
Customer:	Timecode Systems Ltd.	Temperature:	23.1°C
Attendees:	None	Relative Humidity:	43.5%
Customer Project:	None	Bar. Pressure:	1018 mb
Tested By:	Brandon Hobbs	Job Site:	EV07
Power:	Battery 5.0VDC via 110VAC/60Hz	Configuration:	RIGA0010-5

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2016	ANSI C63.10:2013

## TEST PARAMETERS

Run #:	17	Line:	Neutral	Add. Ext. Attenuation (dB):	0
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## COMMENTS

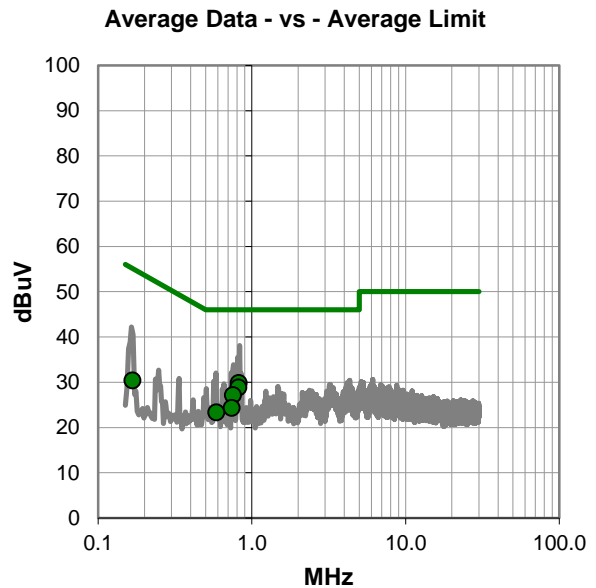
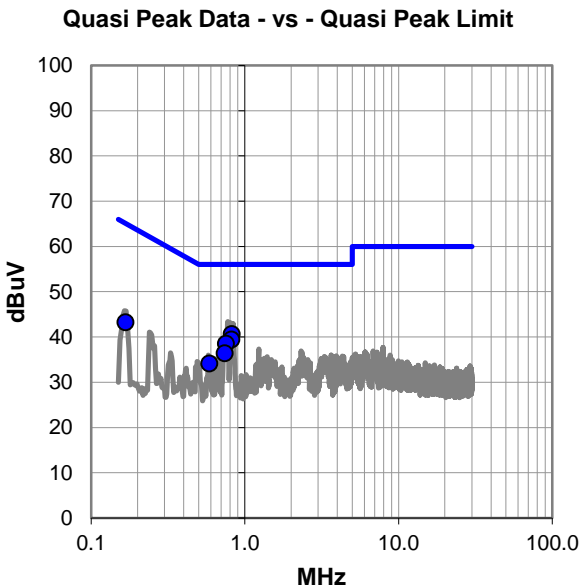
EUT is operating at 100% duty cycle

## EUT OPERATING MODES

On, Continuous Tx, Internal Antenna, Data Channel High 922.2 MHz

## DEVIATIONS FROM TEST STANDARD

None



# POWERLINE CONDUCTED EMISSIONS

## RESULTS - Run #17

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.824	20.9	19.7	40.6	56.0	-15.4
0.819	19.7	19.7	39.4	56.0	-16.6
0.753	18.8	19.7	38.5	56.0	-17.5
0.739	16.7	19.7	36.4	56.0	-19.6
0.167	23.4	19.8	43.2	65.1	-21.9
0.587	14.4	19.7	34.1	56.0	-21.9

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.824	10.1	19.7	29.8	46.0	-16.2
0.819	9.1	19.7	28.8	46.0	-17.2
0.753	7.4	19.7	27.1	46.0	-18.9
0.739	4.6	19.7	24.3	46.0	-21.7
0.587	3.6	19.7	23.3	46.0	-22.7
0.167	10.6	19.8	30.4	55.1	-24.7

## CONCLUSION

Pass



Tested By

# POWERLINE CONDUCTED EMISSIONS

EUT:	SyncBac Pro	Work Order:	RIGA0010
Serial Number:	81627002	Date:	08/08/2016
Customer:	Timecode Systems Ltd.	Temperature:	23.1°C
Attendees:	None	Relative Humidity:	43.5%
Customer Project:	None	Bar. Pressure:	1018 mb
Tested By:	Brandon Hobbs	Job Site:	EV07
Power:	Battery 5.0VDC via 110VAC/60Hz	Configuration:	RIGA0010-6

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2016	ANSI C63.10:2013

## TEST PARAMETERS

Run #:	18	Line:	Neutral	Add. Ext. Attenuation (dB):	0
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## COMMENTS

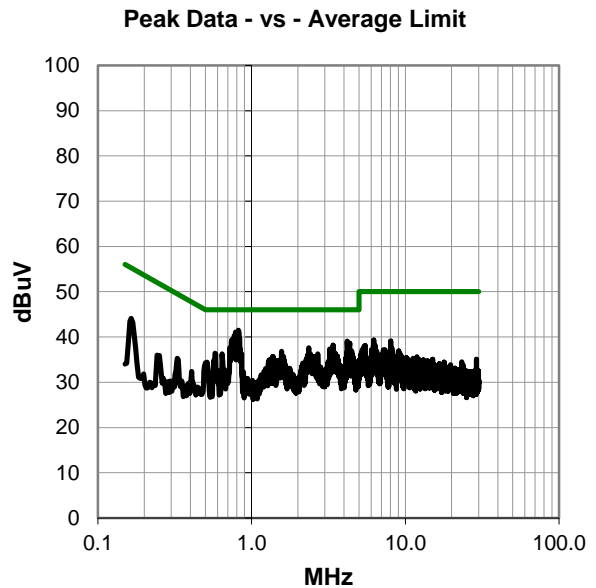
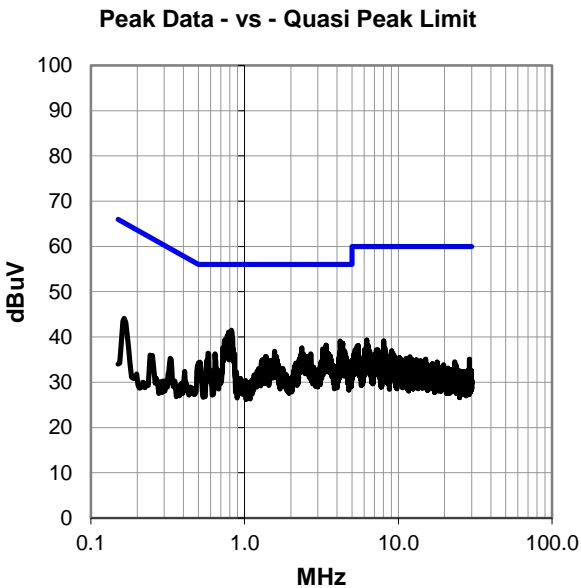
EUT is operating at 100% duty cycle

## EUT OPERATING MODES

On, Continuous Tx, External Antenna, Data Channel High 922.2 MHz

## DEVIATIONS FROM TEST STANDARD

None



# POWERLINE CONDUCTED EMISSIONS

## RESULTS - Run #18

Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.822	21.8	19.7	41.5	56.0	-14.5
0.784	21.4	19.7	41.1	56.0	-14.9
4.194	19.2	19.9	39.1	56.0	-16.9
4.347	18.7	19.9	38.6	56.0	-17.4
3.388	18.3	19.9	38.2	56.0	-17.8
2.351	17.8	19.8	37.6	56.0	-18.4
3.224	17.4	19.9	37.3	56.0	-18.7
3.306	17.4	19.9	37.3	56.0	-18.7
4.485	17.0	19.9	36.9	56.0	-19.1
1.564	17.0	19.8	36.8	56.0	-19.2
4.377	16.9	19.9	36.8	56.0	-19.2
3.414	16.6	19.9	36.5	56.0	-19.5
3.470	16.6	19.9	36.5	56.0	-19.5
0.579	16.7	19.7	36.4	56.0	-19.6
0.642	16.6	19.7	36.3	56.0	-19.7
2.694	16.5	19.8	36.3	56.0	-19.7
3.605	15.9	19.9	35.8	56.0	-20.2
1.370	15.9	19.8	35.7	56.0	-20.3
1.612	15.9	19.8	35.7	56.0	-20.3
2.459	15.9	19.8	35.7	56.0	-20.3
2.534	15.9	19.8	35.7	56.0	-20.3
2.571	15.9	19.8	35.7	56.0	-20.3
4.571	15.7	19.9	35.6	56.0	-20.4
4.101	15.5	19.9	35.4	56.0	-20.6
4.134	15.5	19.9	35.4	56.0	-20.6
6.224	19.2	20.1	39.3	60.0	-20.7

Peak Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.822	21.8	19.7	41.5	46.0	-4.5
0.784	21.4	19.7	41.1	46.0	-4.9
4.194	19.2	19.9	39.1	46.0	-6.9
4.347	18.7	19.9	38.6	46.0	-7.4
3.388	18.3	19.9	38.2	46.0	-7.8
2.351	17.8	19.8	37.6	46.0	-8.4
3.224	17.4	19.9	37.3	46.0	-8.7
3.306	17.4	19.9	37.3	46.0	-8.7
4.485	17.0	19.9	36.9	46.0	-9.1
1.564	17.0	19.8	36.8	46.0	-9.2
4.377	16.9	19.9	36.8	46.0	-9.2
3.414	16.6	19.9	36.5	46.0	-9.5
3.470	16.6	19.9	36.5	46.0	-9.5
0.579	16.7	19.7	36.4	46.0	-9.6
0.642	16.6	19.7	36.3	46.0	-9.7
2.694	16.5	19.8	36.3	46.0	-9.7
3.605	15.9	19.9	35.8	46.0	-10.2
1.370	15.9	19.8	35.7	46.0	-10.3
1.612	15.9	19.8	35.7	46.0	-10.3
2.459	15.9	19.8	35.7	46.0	-10.3
2.534	15.9	19.8	35.7	46.0	-10.3
2.571	15.9	19.8	35.7	46.0	-10.3
4.571	15.7	19.9	35.6	46.0	-10.4
4.101	15.5	19.9	35.4	46.0	-10.6
4.134	15.5	19.9	35.4	46.0	-10.6
6.224	19.2	20.1	39.3	50.0	-10.7

## CONCLUSION

Pass



Tested By

# POWERLINE CONDUCTED EMISSIONS

EUT:	SyncBac Pro	Work Order:	RIGA0010
Serial Number:	81627002	Date:	08/08/2016
Customer:	Timecode Systems Ltd.	Temperature:	23.1°C
Attendees:	None	Relative Humidity:	43.5%
Customer Project:	None	Bar. Pressure:	1018 mb
Tested By:	Brandon Hobbs	Job Site:	EV07
Power:	Battery 5.0VDC via 110VAC/60Hz	Configuration:	RIGA0010-6

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2016	ANSI C63.10:2013

## TEST PARAMETERS

Run #:	19	Line:	High Line	Add. Ext. Attenuation (dB):	0
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## COMMENTS

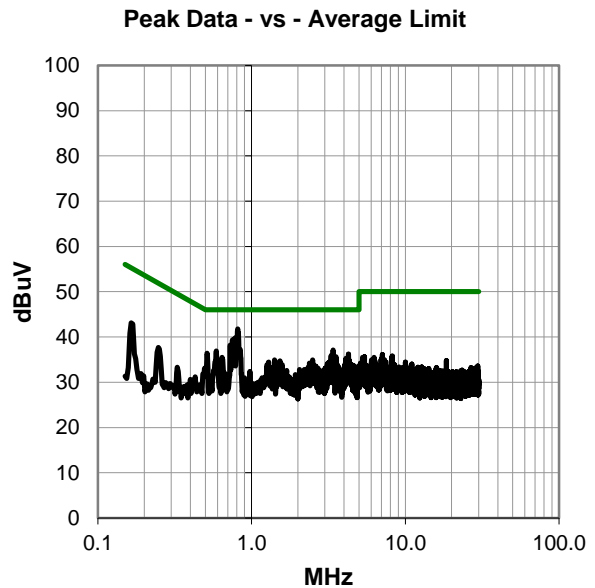
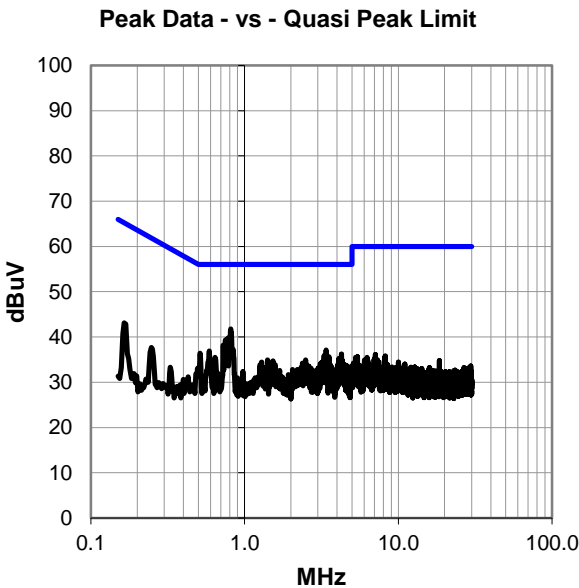
EUT is operating at 100% duty cycle

## EUT OPERATING MODES

On, Continuous Tx, External Antenna, Data Channel High 922.2 MHz

## DEVIATIONS FROM TEST STANDARD

None



# POWERLINE CONDUCTED EMISSIONS

## RESULTS - Run #19

Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.814	22.1	19.7	41.8	56.0	-14.2
0.781	20.1	19.7	39.8	56.0	-16.2
0.754	19.7	19.7	39.4	56.0	-16.6
0.725	18.5	19.7	38.2	56.0	-17.8
3.396	17.2	19.9	37.1	56.0	-18.9
0.590	17.2	19.7	36.9	56.0	-19.1
0.512	16.7	19.7	36.4	56.0	-19.6
4.273	16.3	19.9	36.2	56.0	-19.8
3.288	16.0	19.9	35.9	56.0	-20.1
3.534	15.7	19.9	35.6	56.0	-20.4
0.642	15.8	19.7	35.5	56.0	-20.5
4.101	15.4	19.9	35.3	56.0	-20.7
1.411	15.1	19.8	34.9	56.0	-21.1
2.489	15.1	19.8	34.9	56.0	-21.1
4.336	14.9	19.9	34.8	56.0	-21.2
1.530	14.9	19.8	34.7	56.0	-21.3
3.303	14.8	19.9	34.7	56.0	-21.3
1.288	14.6	19.8	34.4	56.0	-21.6
3.183	14.5	19.9	34.4	56.0	-21.6
2.381	14.4	19.8	34.2	56.0	-21.8
3.112	14.2	19.9	34.1	56.0	-21.9
4.399	14.2	19.9	34.1	56.0	-21.9
4.041	14.1	19.9	34.0	56.0	-22.0
0.165	23.3	19.8	43.1	65.2	-22.1
1.579	14.1	19.8	33.9	56.0	-22.1
2.437	14.1	19.8	33.9	56.0	-22.1

Peak Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.814	22.1	19.7	41.8	46.0	-4.2
0.781	20.1	19.7	39.8	46.0	-6.2
0.754	19.7	19.7	39.4	46.0	-6.6
0.725	18.5	19.7	38.2	46.0	-7.8
3.396	17.2	19.9	37.1	46.0	-8.9
0.590	17.2	19.7	36.9	46.0	-9.1
0.512	16.7	19.7	36.4	46.0	-9.6
4.273	16.3	19.9	36.2	46.0	-9.8
3.288	16.0	19.9	35.9	46.0	-10.1
3.534	15.7	19.9	35.6	46.0	-10.4
0.642	15.8	19.7	35.5	46.0	-10.5
4.101	15.4	19.9	35.3	46.0	-10.7
1.411	15.1	19.8	34.9	46.0	-11.1
2.489	15.1	19.8	34.9	46.0	-11.1
4.336	14.9	19.9	34.8	46.0	-11.2
1.530	14.9	19.8	34.7	46.0	-11.3
3.303	14.8	19.9	34.7	46.0	-11.3
1.288	14.6	19.8	34.4	46.0	-11.6
3.183	14.5	19.9	34.4	46.0	-11.6
2.381	14.4	19.8	34.2	46.0	-11.8
3.112	14.2	19.9	34.1	46.0	-11.9
4.399	14.2	19.9	34.1	46.0	-11.9
4.041	14.1	19.9	34.0	46.0	-12.0
0.165	23.3	19.8	43.1	55.2	-12.1
1.579	14.1	19.8	33.9	46.0	-12.1
2.437	14.1	19.8	33.9	46.0	-12.1

## CONCLUSION

Pass



Tested By



# POWERLINE CONDUCTED EMISSIONS

EUT:	SyncBac Pro	Work Order:	RIGA0010
Serial Number:	81627002	Date:	08/08/2016
Customer:	Timecode Systems Ltd.	Temperature:	23.1°C
Attendees:	None	Relative Humidity:	43.5%
Customer Project:	None	Bar. Pressure:	1018 mb
Tested By:	Brandon Hobbs	Job Site:	EV07
Power:	Battery 5.0VDC via 110VAC/60Hz	Configuration:	RIGA0010-6

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2016	ANSI C63.10:2013

## TEST PARAMETERS

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

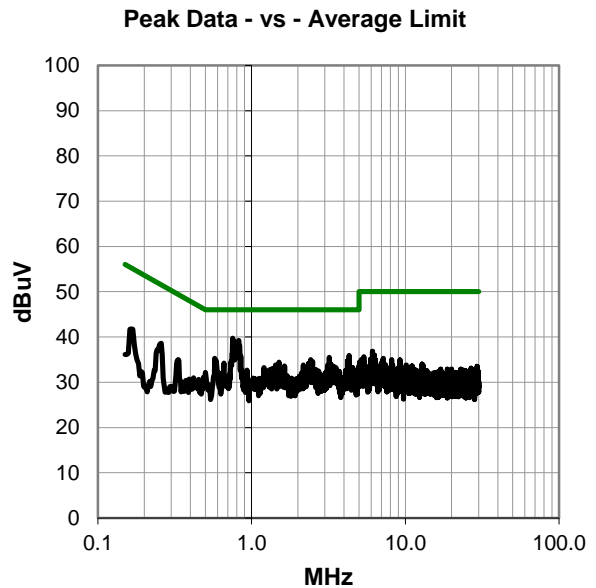
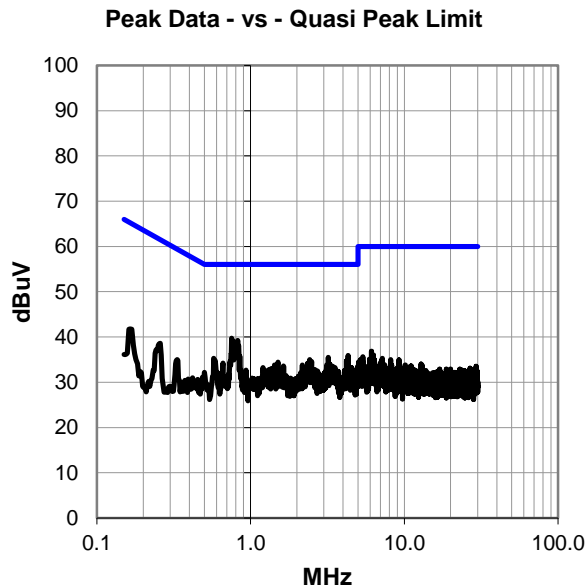
EUT is operating at 100% duty cycle

## EUT OPERATING MODES

On, Continuous Tx, External Antenna, Data Channel Low 915.8 MHz

## DEVIATIONS FROM TEST STANDARD

None



# POWERLINE CONDUCTED EMISSIONS

## RESULTS - Run #20

Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.754	20.0	19.7	39.7	56.0	-16.3
0.825	19.5	19.7	39.2	56.0	-16.8
4.317	16.0	19.9	35.9	56.0	-20.1
0.848	16.1	19.7	35.8	56.0	-20.2
3.206	15.6	19.9	35.5	56.0	-20.5
0.575	15.6	19.7	35.3	56.0	-20.7
2.422	15.2	19.8	35.0	56.0	-21.0
0.590	15.0	19.7	34.7	56.0	-21.3
4.209	14.8	19.9	34.7	56.0	-21.3
4.235	14.8	19.9	34.7	56.0	-21.3
2.489	14.8	19.8	34.6	56.0	-21.4
1.508	14.6	19.8	34.4	56.0	-21.6
0.661	14.5	19.7	34.2	56.0	-21.8
2.351	14.4	19.8	34.2	56.0	-21.8
2.366	14.4	19.8	34.2	56.0	-21.8
3.269	14.2	19.9	34.1	56.0	-21.9
1.433	14.0	19.8	33.8	56.0	-22.2
2.168	14.0	19.8	33.8	56.0	-22.2
3.120	13.9	19.9	33.8	56.0	-22.2
1.639	13.8	19.8	33.6	56.0	-22.4
3.418	13.6	19.9	33.5	56.0	-22.5
1.206	13.4	19.8	33.2	56.0	-22.8
4.519	13.3	19.9	33.2	56.0	-22.8
0.258	18.8	19.8	38.6	61.5	-22.9
1.366	13.2	19.8	33.0	56.0	-23.0
1.318	13.0	19.8	32.8	56.0	-23.2

Peak Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.754	20.0	19.7	39.7	46.0	-6.3
0.825	19.5	19.7	39.2	46.0	-6.8
4.317	16.0	19.9	35.9	46.0	-10.1
0.848	16.1	19.7	35.8	46.0	-10.2
3.206	15.6	19.9	35.5	46.0	-10.5
0.575	15.6	19.7	35.3	46.0	-10.7
2.422	15.2	19.8	35.0	46.0	-11.0
0.590	15.0	19.7	34.7	46.0	-11.3
4.209	14.8	19.9	34.7	46.0	-11.3
4.235	14.8	19.9	34.7	46.0	-11.3
2.489	14.8	19.8	34.6	46.0	-11.4
1.508	14.6	19.8	34.4	46.0	-11.6
0.661	14.5	19.7	34.2	46.0	-11.8
2.351	14.4	19.8	34.2	46.0	-11.8
2.366	14.4	19.8	34.2	46.0	-11.8
3.269	14.2	19.9	34.1	46.0	-11.9
1.433	14.0	19.8	33.8	46.0	-12.2
2.168	14.0	19.8	33.8	46.0	-12.2
3.120	13.9	19.9	33.8	46.0	-12.2
1.639	13.8	19.8	33.6	46.0	-12.4
3.418	13.6	19.9	33.5	46.0	-12.5
1.206	13.4	19.8	33.2	46.0	-12.8
4.519	13.3	19.9	33.2	46.0	-12.8
0.258	18.8	19.8	38.6	51.5	-12.9
1.366	13.2	19.8	33.0	46.0	-13.0
1.318	13.0	19.8	32.8	46.0	-13.2

## CONCLUSION

Pass



Tested By

# POWERLINE CONDUCTED EMISSIONS

EUT:	SyncBac Pro	Work Order:	RIGA0010
Serial Number:	81627002	Date:	08/08/2016
Customer:	Timecode Systems Ltd.	Temperature:	23.1°C
Attendees:	None	Relative Humidity:	43.5%
Customer Project:	None	Bar. Pressure:	1018 mb
Tested By:	Brandon Hobbs	Job Site:	EV07
Power:	Battery 5.0VDC via 110VAC/60Hz	Configuration:	RIGA0010-6

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2016	ANSI C63.10:2013

## TEST PARAMETERS

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

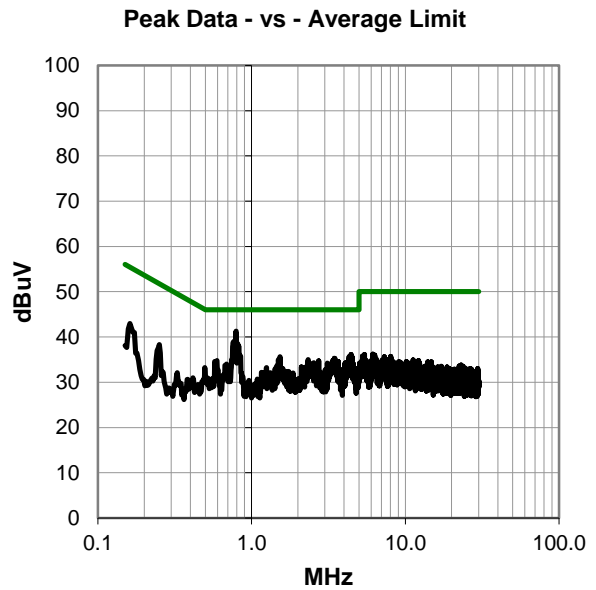
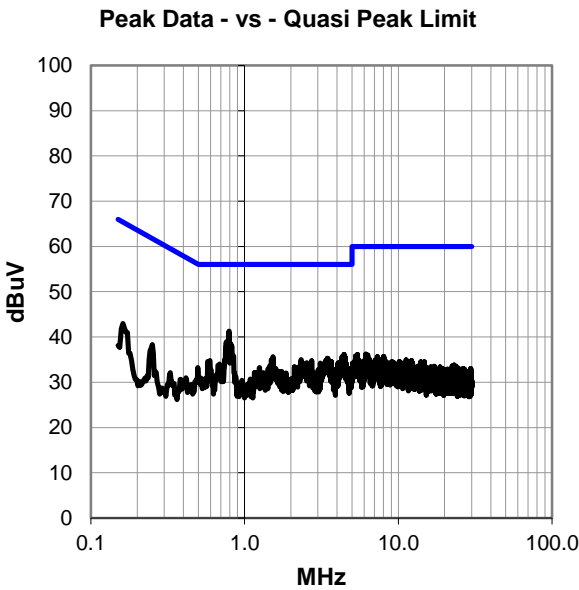
EUT is operating at 100% duty cycle

## EUT OPERATING MODES

On, Continuous Tx, External Antenna, Data Channel Low 915.8 MHz

## DEVIATIONS FROM TEST STANDARD

None



# POWERLINE CONDUCTED EMISSIONS

## RESULTS - Run #21

Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.792	21.6	19.7	41.3	56.0	-14.7
0.810	18.8	19.7	38.5	56.0	-17.5
4.440	16.2	19.9	36.1	56.0	-19.9
1.530	15.8	19.8	35.6	56.0	-20.4
4.310	15.7	19.9	35.6	56.0	-20.4
4.515	15.6	19.9	35.5	56.0	-20.5
4.500	15.5	19.9	35.4	56.0	-20.6
3.455	15.4	19.9	35.3	56.0	-20.7
1.497	15.2	19.8	35.0	56.0	-21.0
2.329	15.2	19.8	35.0	56.0	-21.0
0.594	15.1	19.7	34.8	56.0	-21.2
2.732	14.9	19.8	34.7	56.0	-21.3
3.657	14.7	19.9	34.6	56.0	-21.4
2.534	14.5	19.8	34.3	56.0	-21.7
4.090	14.4	19.9	34.3	56.0	-21.7
3.116	14.3	19.9	34.2	56.0	-21.8
4.593	14.2	19.9	34.1	56.0	-21.9
0.687	14.3	19.7	34.0	56.0	-22.0
4.034	14.1	19.9	34.0	56.0	-22.0
2.635	14.1	19.8	33.9	56.0	-22.1
2.661	14.0	19.8	33.8	56.0	-22.2
1.456	13.8	19.8	33.6	56.0	-22.4
0.161	23.2	19.8	43.0	65.4	-22.4
2.109	13.6	19.8	33.4	56.0	-22.6
1.251	13.4	19.8	33.2	56.0	-22.8
2.180	13.4	19.8	33.2	56.0	-22.8

Peak Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.792	21.6	19.7	41.3	46.0	-4.7
0.810	18.8	19.7	38.5	46.0	-7.5
4.440	16.2	19.9	36.1	46.0	-9.9
1.530	15.8	19.8	35.6	46.0	-10.4
4.310	15.7	19.9	35.6	46.0	-10.4
4.515	15.6	19.9	35.5	46.0	-10.5
4.500	15.5	19.9	35.4	46.0	-10.6
3.455	15.4	19.9	35.3	46.0	-10.7
1.497	15.2	19.8	35.0	46.0	-11.0
2.329	15.2	19.8	35.0	46.0	-11.0
0.594	15.1	19.7	34.8	46.0	-11.2
2.732	14.9	19.8	34.7	46.0	-11.3
3.657	14.7	19.9	34.6	46.0	-11.4
2.534	14.5	19.8	34.3	46.0	-11.7
4.090	14.4	19.9	34.3	46.0	-11.7
3.116	14.3	19.9	34.2	46.0	-11.8
4.593	14.2	19.9	34.1	46.0	-11.9
0.687	14.3	19.7	34.0	46.0	-12.0
4.034	14.1	19.9	34.0	46.0	-12.0
2.635	14.1	19.8	33.9	46.0	-12.1
2.661	14.0	19.8	33.8	46.0	-12.2
0.161	23.2	19.8	43.0	55.4	-12.4
1.456	13.8	19.8	33.6	46.0	-12.4
2.109	13.6	19.8	33.4	46.0	-12.6
1.251	13.4	19.8	33.2	46.0	-12.8
2.180	13.4	19.8	33.2	46.0	-12.8

## CONCLUSION

Pass



Tested By

# POWERLINE CONDUCTED EMISSIONS

EUT:	SyncBac Pro	Work Order:	RIGA0010
Serial Number:	81627002	Date:	08/08/2016
Customer:	Timecode Systems Ltd.	Temperature:	23.1°C
Attendees:	None	Relative Humidity:	43.5%
Customer Project:	None	Bar. Pressure:	1018 mb
Tested By:	Brandon Hobbs	Job Site:	EV07
Power:	Battery 5.0VDC via 110VAC/60Hz	Configuration:	RIGA0010-6

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2016	ANSI C63.10:2013

## TEST PARAMETERS

Run #:	22	Line:	Neutral	Add. Ext. Attenuation (dB):	0
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## COMMENTS

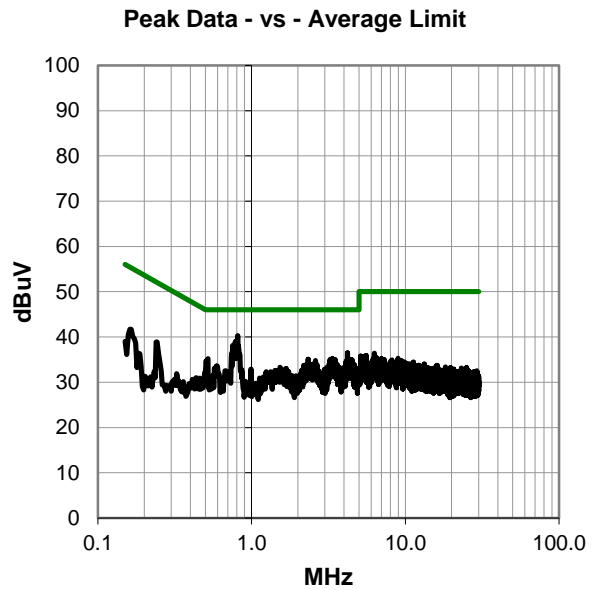
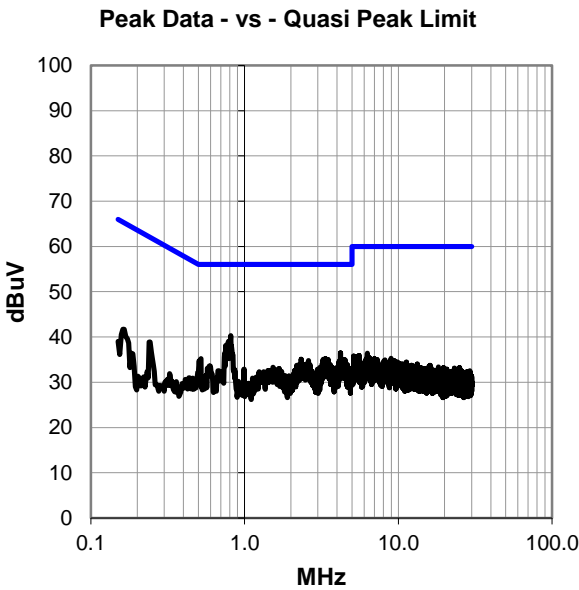
EUT is operating at 100% duty cycle

## EUT OPERATING MODES

On, Continuous Tx, External Antenna, Control Channel High 918.65 MHz

## DEVIATIONS FROM TEST STANDARD

None



# POWERLINE CONDUCTED EMISSIONS

## RESULTS - Run #22

Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.814	20.6	19.7	40.3	56.0	-15.7
0.784	19.3	19.7	39.0	56.0	-17.0
4.209	16.6	19.9	36.5	56.0	-19.5
0.519	15.5	19.7	35.2	56.0	-20.8
3.355	15.3	19.9	35.2	56.0	-20.8
2.333	15.3	19.8	35.1	56.0	-20.9
3.493	15.1	19.9	35.0	56.0	-21.0
4.328	15.1	19.9	35.0	56.0	-21.0
4.504	15.0	19.9	34.9	56.0	-21.1
2.601	15.0	19.8	34.8	56.0	-21.2
0.504	15.0	19.7	34.7	56.0	-21.3
3.224	14.8	19.9	34.7	56.0	-21.3
4.134	14.8	19.9	34.7	56.0	-21.3
4.407	14.6	19.9	34.5	56.0	-21.5
4.530	14.3	19.9	34.2	56.0	-21.8
2.515	14.2	19.8	34.0	56.0	-22.0
2.254	14.1	19.8	33.9	56.0	-22.1
3.616	14.0	19.9	33.9	56.0	-22.1
4.649	14.0	19.9	33.9	56.0	-22.1
2.183	13.9	19.8	33.7	56.0	-22.3
0.590	13.9	19.7	33.6	56.0	-22.4
4.687	13.7	19.9	33.6	56.0	-22.4
1.530	13.5	19.8	33.3	56.0	-22.7
3.683	13.4	19.9	33.3	56.0	-22.7
3.985	13.4	19.9	33.3	56.0	-22.7
3.097	13.3	19.9	33.2	56.0	-22.8

Peak Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.814	20.6	19.7	40.3	46.0	-5.7
0.784	19.3	19.7	39.0	46.0	-7.0
4.209	16.6	19.9	36.5	46.0	-9.5
0.519	15.5	19.7	35.2	46.0	-10.8
3.355	15.3	19.9	35.2	46.0	-10.8
2.333	15.3	19.8	35.1	46.0	-10.9
3.493	15.1	19.9	35.0	46.0	-11.0
4.328	15.1	19.9	35.0	46.0	-11.0
4.504	15.0	19.9	34.9	46.0	-11.1
2.601	15.0	19.8	34.8	46.0	-11.2
0.504	15.0	19.7	34.7	46.0	-11.3
3.224	14.8	19.9	34.7	46.0	-11.3
4.134	14.8	19.9	34.7	46.0	-11.3
4.407	14.6	19.9	34.5	46.0	-11.5
4.530	14.3	19.9	34.2	46.0	-11.8
2.515	14.2	19.8	34.0	46.0	-12.0
2.254	14.1	19.8	33.9	46.0	-12.1
3.616	14.0	19.9	33.9	46.0	-12.1
4.649	14.0	19.9	33.9	46.0	-12.1
2.183	13.9	19.8	33.7	46.0	-12.3
0.590	13.9	19.7	33.6	46.0	-12.4
4.687	13.7	19.9	33.6	46.0	-12.4
1.530	13.5	19.8	33.3	46.0	-12.7
3.683	13.4	19.9	33.3	46.0	-12.7
3.985	13.4	19.9	33.3	46.0	-12.7
3.097	13.3	19.9	33.2	46.0	-12.8

## CONCLUSION

Pass



Tested By

# POWERLINE CONDUCTED EMISSIONS

EUT:	SyncBac Pro	Work Order:	RIGA0010
Serial Number:	81627002	Date:	08/08/2016
Customer:	Timecode Systems Ltd.	Temperature:	23.1°C
Attendees:	None	Relative Humidity:	43.5%
Customer Project:	None	Bar. Pressure:	1018 mb
Tested By:	Brandon Hobbs	Job Site:	EV07
Power:	Battery 5.0VDC via 110VAC/60Hz	Configuration:	RIGA0010-6

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2016	ANSI C63.10:2013

## TEST PARAMETERS

Run #:	23	Line:	High Line	Add. Ext. Attenuation (dB):	0
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## COMMENTS

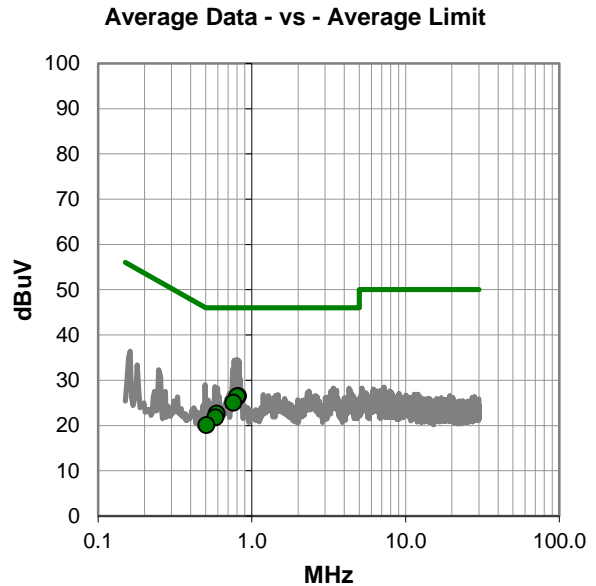
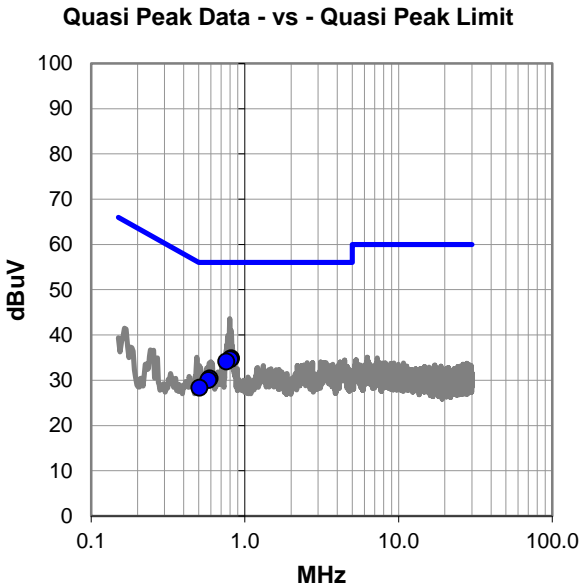
EUT is operating at 100% duty cycle

## EUT OPERATING MODES

On, Continuous Tx, External Antenna, Control Channel High 918.65 MHz

## DEVIATIONS FROM TEST STANDARD

None



# POWERLINE CONDUCTED EMISSIONS

## RESULTS - Run #23

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.815	15.1	19.7	34.8	56.0	-21.2
0.804	14.9	19.7	34.6	56.0	-21.4
0.760	14.4	19.7	34.1	56.0	-21.9
0.590	10.7	19.7	30.4	56.0	-25.6
0.580	10.3	19.7	30.0	56.0	-26.0
0.506	8.6	19.7	28.3	56.0	-27.7

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.815	6.8	19.7	26.5	46.0	-19.5
0.804	6.7	19.7	26.4	46.0	-19.6
0.760	5.3	19.7	25.0	46.0	-21.0
0.590	2.9	19.7	22.6	46.0	-23.4
0.580	2.1	19.7	21.8	46.0	-24.2
0.506	0.4	19.7	20.1	46.0	-25.9

## CONCLUSION

Pass



Tested By



# POWERLINE CONDUCTED EMISSIONS

EUT:	SyncBac Pro	Work Order:	RIGA0010
Serial Number:	81627002	Date:	08/08/2016
Customer:	Timecode Systems Ltd.	Temperature:	23.1°C
Attendees:	None	Relative Humidity:	43.5%
Customer Project:	None	Bar. Pressure:	1018 mb
Tested By:	Brandon Hobbs	Job Site:	EV07
Power:	Battery 5.0VDC via 110VAC/60Hz	Configuration:	RIGA0010-6

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2016	ANSI C63.10:2013

## TEST PARAMETERS

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

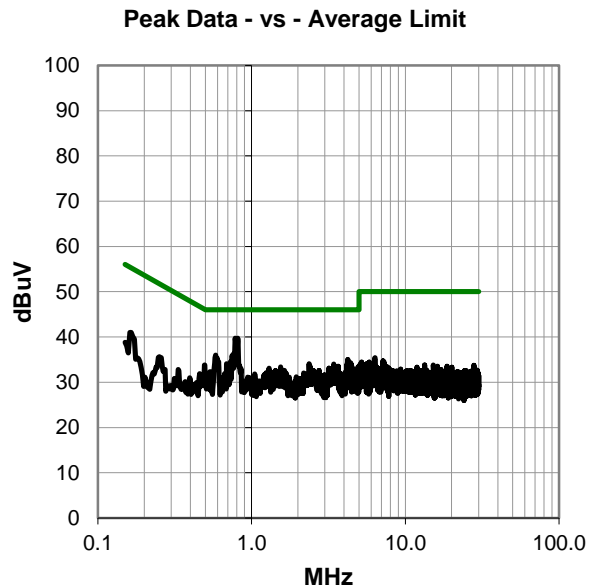
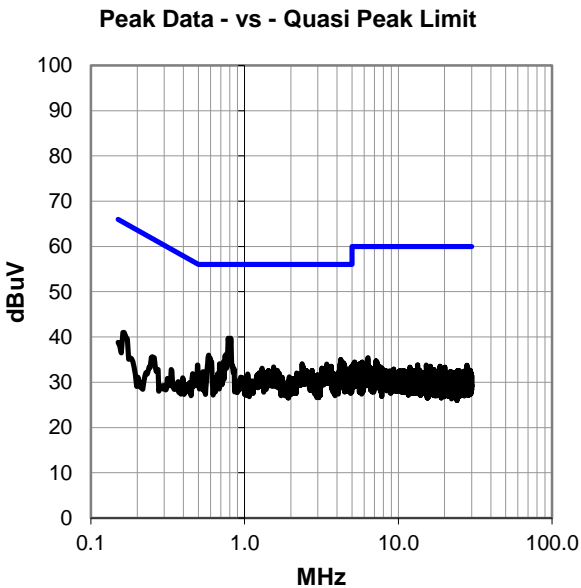
EUT is operating at 100% duty cycle

## EUT OPERATING MODES

On, Continuous Tx, External Antenna, Control Channel Low 915.05 MHz

## DEVIATIONS FROM TEST STANDARD

None



# POWERLINE CONDUCTED EMISSIONS

## RESULTS - Run #24

Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.781	20.0	19.7	39.7	56.0	-16.3
0.814	20.0	19.7	39.7	56.0	-16.3
0.758	16.5	19.7	36.2	56.0	-19.8
0.583	16.3	19.7	36.0	56.0	-20.0
4.231	15.1	19.9	35.0	56.0	-21.0
0.728	14.8	19.7	34.5	56.0	-21.5
4.422	14.4	19.9	34.3	56.0	-21.7
0.687	14.4	19.7	34.1	56.0	-21.9
2.370	14.3	19.8	34.1	56.0	-21.9
3.429	14.1	19.9	34.0	56.0	-22.0
4.176	14.1	19.9	34.0	56.0	-22.0
4.463	13.9	19.9	33.8	56.0	-22.2
0.493	14.1	19.7	33.8	56.1	-22.3
2.396	13.7	19.8	33.5	56.0	-22.5
3.657	13.6	19.9	33.5	56.0	-22.5
1.542	13.6	19.8	33.4	56.0	-22.6
4.922	13.4	20.0	33.4	56.0	-22.6
4.511	13.4	19.9	33.3	56.0	-22.7
3.508	13.3	19.9	33.2	56.0	-22.8
1.299	13.3	19.8	33.1	56.0	-22.9
3.183	13.2	19.9	33.1	56.0	-22.9
4.250	13.2	19.9	33.1	56.0	-22.9
3.358	13.0	19.9	32.9	56.0	-23.1
4.657	12.8	19.9	32.7	56.0	-23.3
1.433	12.8	19.8	32.6	56.0	-23.4
1.631	12.8	19.8	32.6	56.0	-23.4

Peak Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.781	20.0	19.7	39.7	46.0	-6.3
0.814	20.0	19.7	39.7	46.0	-6.3
0.758	16.5	19.7	36.2	46.0	-9.8
0.583	16.3	19.7	36.0	46.0	-10.0
4.231	15.1	19.9	35.0	46.0	-11.0
0.728	14.8	19.7	34.5	46.0	-11.5
4.422	14.4	19.9	34.3	46.0	-11.7
0.687	14.4	19.7	34.1	46.0	-11.9
2.370	14.3	19.8	34.1	46.0	-11.9
3.429	14.1	19.9	34.0	46.0	-12.0
4.176	14.1	19.9	34.0	46.0	-12.0
4.463	13.9	19.9	33.8	46.0	-12.2
0.493	14.1	19.7	33.8	46.1	-12.3
2.396	13.7	19.8	33.5	46.0	-12.5
3.657	13.6	19.9	33.5	46.0	-12.5
1.542	13.6	19.8	33.4	46.0	-12.6
4.922	13.4	20.0	33.4	46.0	-12.6
4.511	13.4	19.9	33.3	46.0	-12.7
3.508	13.3	19.9	33.2	46.0	-12.8
1.299	13.3	19.8	33.1	46.0	-12.9
3.183	13.2	19.9	33.1	46.0	-12.9
4.250	13.2	19.9	33.1	46.0	-12.9
3.358	13.0	19.9	32.9	46.0	-13.1
4.657	12.8	19.9	32.7	46.0	-13.3
1.433	12.8	19.8	32.6	46.0	-13.4
1.631	12.8	19.8	32.6	46.0	-13.4

## CONCLUSION

Pass



Tested By

# POWERLINE CONDUCTED EMISSIONS

EUT:	SyncBac Pro	Work Order:	RIGA0010
Serial Number:	81627002	Date:	08/08/2016
Customer:	Timecode Systems Ltd.	Temperature:	23.1°C
Attendees:	None	Relative Humidity:	43.5%
Customer Project:	None	Bar. Pressure:	1018 mb
Tested By:	Brandon Hobbs	Job Site:	EV07
Power:	Battery 5.0VDC via 110VAC/60Hz	Configuration:	RIGA0010-6

## TEST SPECIFICATIONS

Specification:	Method:
FCC 15.207:2016	ANSI C63.10:2013

## TEST PARAMETERS

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

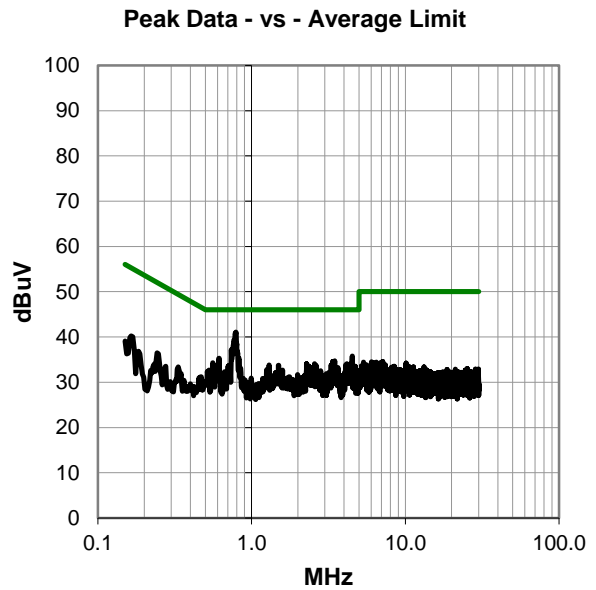
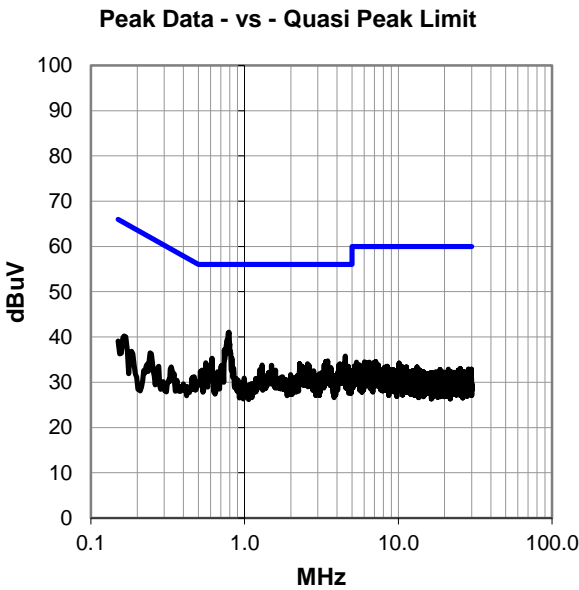
EUT is operating at 100% duty cycle

## EUT OPERATING MODES

On, Continuous Tx, External Antenna, Control Channel Low 915.05 MHz

## DEVIATIONS FROM TEST STANDARD

None



# POWERLINE CONDUCTED EMISSIONS

## RESULTS - Run #25

Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.788	21.4	19.7	41.1	56.0	-14.9
4.511	15.9	19.9	35.8	56.0	-20.2
0.613	15.6	19.7	35.3	56.0	-20.7
3.467	14.8	19.9	34.7	56.0	-21.3
3.373	14.7	19.9	34.6	56.0	-21.4
0.560	14.6	19.7	34.3	56.0	-21.7
2.277	14.3	19.8	34.1	56.0	-21.9
2.571	14.3	19.8	34.1	56.0	-21.9
4.176	14.2	19.9	34.1	56.0	-21.9
4.418	14.1	19.9	34.0	56.0	-22.0
1.303	14.0	19.8	33.8	56.0	-22.2
3.299	13.9	19.9	33.8	56.0	-22.2
4.097	13.9	19.9	33.8	56.0	-22.2
4.358	13.9	19.9	33.8	56.0	-22.2
0.713	14.0	19.7	33.7	56.0	-22.3
1.497	13.9	19.8	33.7	56.0	-22.3
2.605	13.9	19.8	33.7	56.0	-22.3
2.351	13.8	19.8	33.6	56.0	-22.4
2.638	13.8	19.8	33.6	56.0	-22.4
4.716	13.6	19.9	33.5	56.0	-22.5
2.388	13.6	19.8	33.4	56.0	-22.6
3.649	13.3	19.9	33.2	56.0	-22.8
4.235	13.2	19.9	33.1	56.0	-22.9
1.258	13.0	19.8	32.8	56.0	-23.2
3.586	12.9	19.9	32.8	56.0	-23.2
0.527	13.0	19.7	32.7	56.0	-23.3

Peak Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.788	21.4	19.7	41.1	46.0	-4.9
4.511	15.9	19.9	35.8	46.0	-10.2
0.613	15.6	19.7	35.3	46.0	-10.7
3.467	14.8	19.9	34.7	46.0	-11.3
3.373	14.7	19.9	34.6	46.0	-11.4
0.560	14.6	19.7	34.3	46.0	-11.7
2.277	14.3	19.8	34.1	46.0	-11.9
2.571	14.3	19.8	34.1	46.0	-11.9
4.176	14.2	19.9	34.1	46.0	-11.9
4.418	14.1	19.9	34.0	46.0	-12.0
1.303	14.0	19.8	33.8	46.0	-12.2
3.299	13.9	19.9	33.8	46.0	-12.2
4.097	13.9	19.9	33.8	46.0	-12.2
4.358	13.9	19.9	33.8	46.0	-12.2
0.713	14.0	19.7	33.7	46.0	-12.3
1.497	13.9	19.8	33.7	46.0	-12.3
2.605	13.9	19.8	33.7	46.0	-12.3
2.351	13.8	19.8	33.6	46.0	-12.4
2.638	13.8	19.8	33.6	46.0	-12.4
4.716	13.6	19.9	33.5	46.0	-12.5
2.388	13.6	19.8	33.4	46.0	-12.6
3.649	13.3	19.9	33.2	46.0	-12.8
4.235	13.2	19.9	33.1	46.0	-12.9
1.258	13.0	19.8	32.8	46.0	-13.2
3.586	12.9	19.9	32.8	46.0	-13.2
0.527	13.0	19.7	32.7	46.0	-13.3

## CONCLUSION

Pass



Tested By

# SPURIOUS RADIATED EMISSIONS

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

Charging

Not Charging

## ANTENNAS USED IN OPERATION

External Antenna

Internal Chip Antenna US

## CHANNELS OF OPERATION

Continuous Tx, (Data) Low Ch. 915.8 MHz SRD

Continuous Tx, (Data) High Ch. 922.2 MHz SRD

Continuous Tx, (Control) Low Ch. 915.05 MHz SRD

Continuous Tx, (Control) High Ch. 918.65 MHz SRD

## POWER SETTINGS INVESTIGATED

Battery 5VDC via 110VAC/60Hz

## CONFIGURATIONS INVESTIGATED

RIGA0010 - 8

RIGA0010 - 7

## FREQUENCY RANGE INVESTIGATED

Start Frequency | 30 MHz

Stop Frequency | 12400 MHz

## SAMPLE CALCULATIONS

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

## TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Filter - Band Pass/Notch	K&L Microwave	3TNF-500/1000-N/N	HFT	1/29/2016	12 mo
Analyzer - Spectrum Analyzer	Agilent	E4446A	AAQ	4/22/2016	12 mo
Cable	None	Standard Gain Horns Cable	EVF	3/11/2016	12 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVC	3/11/2016	12 mo
Antenna - Standard Gain	ETS Lindgren	3160-07	AHU	NCR	0 mo
Cable	N/A	Double Ridge Horn Cables	EVB	3/11/2016	12 mo
Amplifier - Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	PAG	3/11/2016	12 mo
Antenna - Double Ridge	EMCO	3115	AHC	6/23/2016	24 mo
Attenuator	Coaxicom	3910-20	AXZ	5/18/2016	12 mo
Filter - High Pass	Micro-Tronics	HPM50108	HFV	3/22/2016	12 mo
Filter - Low Pass	Micro-Tronics	LPM50003	LFB	5/18/2016	12 mo
Cable	N/A	Bilog Cables	EVA	3/11/2016	12 mo
Amplifier - Pre-Amplifier	Miteq	AM-1616-1000	AOL	3/11/2016	12 mo
Antenna - Biconilog	EMCO	3141	AXE	8/29/2014	24 mo

## TEST DESCRIPTION

The highest gain of each type of antenna to be used with the EUT was tested. The EUT was configured for low and high band transmit frequencies at each channel type listed in the data. For each configuration, the spectrum was scanned throughout the specified range. In addition, measurements were made in the restricted bands to verify compliance. While scanning, emissions from the EUT were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and the EUT antenna in three orthogonal axis, and adjusting measurement antenna height and polarization. A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

# SPURIOUS RADIATED EMISSIONS

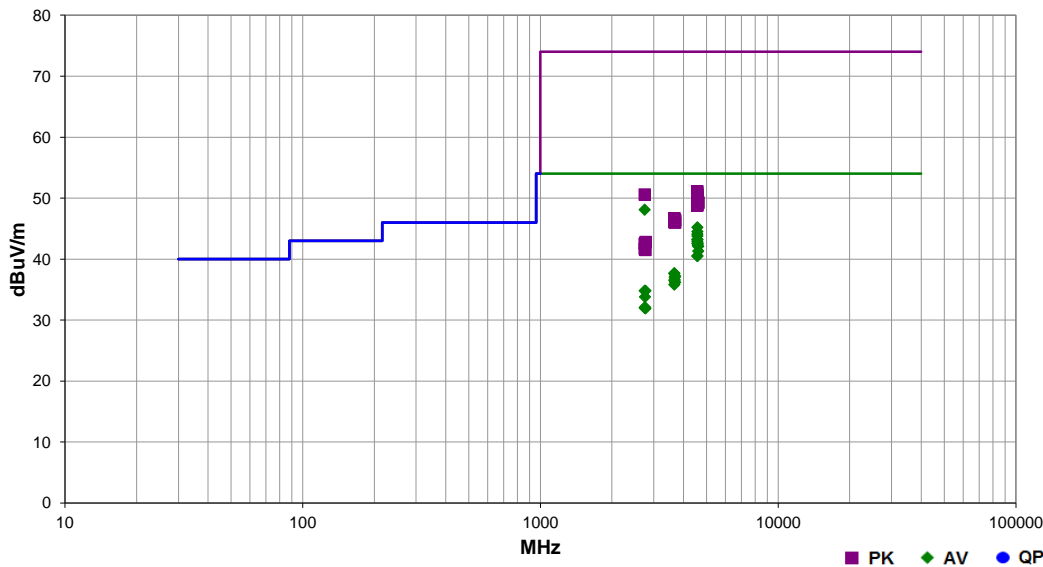


PSA-ESCI 2016.04.26.1  
EmiR5 2016.04.26.1

<b>Work Order:</b>	RIGA0010	<b>Date:</b>	08/05/16	
<b>Project:</b>	None	<b>Temperature:</b>	23.7 °C	
<b>Job Site:</b>	EV01	<b>Humidity:</b>	44.2% RH	
<b>Serial Number:</b>	81627002	<b>Barometric Pres.:</b>	1016 mbar	
<b>EUT:</b>	SyncBac Pro			
<b>Configuration:</b>	7			
<b>Customer:</b>	Timecode Systems Ltd.			
<b>Attendees:</b>	Mark Bielman			
<b>EUT Power:</b>	Battery 5.0VDC via 110VAC/60Hz			
<b>Operating Mode:</b>	On, Continuous Tx, Internal Antenna			
<b>Deviations:</b>	None			
<b>Comments:</b>	Please reference the data comments for EUT orientation, channel type, mode and frequency.			

<b>Test Specifications</b>	<b>Test Method</b>
FCC 15.247:2016	ANSI C63.10:2013

<b>Run #</b>	104	<b>Test Distance (m)</b>	3	<b>Antenna Height(s)</b>	1 to 4(m)	<b>Results</b>	Pass
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Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
2747.335	48.0	0.1	1.0	156.0	3.0	0.0	Vert	AV	0.0	48.1	54.0	-5.9	Low Data Ch. 915.8MHz, Charging, EUT Vert
4578.960	36.6	8.6	2.1	135.0	3.0	0.0	Horz	AV	0.0	45.2	54.0	-8.8	Low Data Ch. 915.8MHz, Charging, EUT Horz
4578.970	35.9	8.6	2.1	306.0	3.0	0.0	Horz	AV	0.0	44.5	54.0	-9.5	Low Data Ch. 915.8MHz, Not Charging, EUT Horz
4578.980	35.5	8.6	2.3	155.0	3.0	0.0	Horz	AV	0.0	44.1	54.0	-9.9	Low Data Ch. 915.8MHz, Charging, EUT Vert
4578.935	35.2	8.6	1.0	320.0	3.0	0.0	Vert	AV	0.0	43.8	54.0	-10.2	Low Data Ch. 915.8MHz, Charging, EUT Vert
4578.965	34.6	8.6	2.4	196.0	3.0	0.0	Horz	AV	0.0	43.2	54.0	-10.8	Low Data Ch. 915.8MHz, Charging, EUT On Side
4579.045	34.6	8.6	1.0	333.0	3.0	0.0	Vert	AV	0.0	43.2	54.0	-10.8	Low Data Ch. 915.8MHz, Not Charging, EUT Vert
4575.255	34.4	8.5	1.4	201.0	3.0	0.0	Horz	AV	0.0	42.9	54.0	-11.1	Low Control Ch. 915.05MHz, Charging, EUT Horz
4593.165	34.0	8.6	1.0	338.0	3.0	0.0	Vert	AV	0.0	42.6	54.0	-11.4	High Control Ch. 918.65MHz, Charging, EUT Vert
4575.245	34.1	8.5	2.4	325.0	3.0	0.0	Vert	AV	0.0	42.6	54.0	-11.4	Low Control Ch. 915.05MHz, Charging, EUT Vert
4593.300	33.7	8.6	1.0	199.0	3.0	0.0	Horz	AV	0.0	42.3	54.0	-11.7	High Control Ch. 918.65MHz, Charging, EUT Horz
4611.030	33.5	8.6	2.4	329.0	3.0	0.0	Vert	AV	0.0	42.1	54.0	-11.9	High Data Ch. 922.2MHz, Charging, EUT Vert
4610.985	32.7	8.6	1.0	198.0	3.0	0.0	Horz	AV	0.0	41.3	54.0	-12.7	High Data Ch. 922.2MHz, Charging, EUT Horz
4578.960	31.9	8.6	1.0	318.0	3.0	0.0	Vert	AV	0.0	40.5	54.0	-13.5	Low Data Ch. 915.8MHz, Charging, EUT Horz
4578.970	31.9	8.6	1.0	106.0	3.0	0.0	Vert	AV	0.0	40.5	54.0	-13.5	Low Data Ch. 915.8MHz, Charging, EUT On Side
3663.205	31.5	6.2	1.0	280.0	3.0	0.0	Vert	AV	0.0	37.7	54.0	-16.3	Low Data Ch. 915.8MHz, Charging, EUT Vert
3660.175	31.4	6.2	2.5	341.0	3.0	0.0	Horz	AV	0.0	37.6	54.0	-16.4	Low Control Ch. 915.05MHz, Charging, EUT Horz
3688.800	30.8	6.4	1.0	234.0	3.0	0.0	Horz	AV	0.0	37.2	54.0	-16.8	High Data Ch. 922.2MHz, Charging, EUT Horz
3674.640	30.7	6.3	1.0	235.0	3.0	0.0	Horz	AV	0.0	37.0	54.0	-17.0	High Control Ch. 918.65MHz, Charging, EUT Horz
3674.675	30.3	6.3	1.0	345.0	3.0	0.0	Vert	AV	0.0	36.6	54.0	-17.4	High Control Ch. 918.65MHz, Charging, EUT Vert
3663.180	30.3	6.2	1.0	347.0	3.0	0.0	Horz	AV	0.0	36.5	54.0	-17.5	Low Data Ch. 915.8MHz, Charging, EUT Horz
3688.845	29.8	6.4	1.0	258.0	3.0	0.0	Vert	AV	0.0	36.2	54.0	-17.8	High Data Ch. 922.2MHz, Charging, EUT Vert
3660.215	29.6	6.2	2.4	323.0	3.0	0.0	Vert	AV	0.0	35.8	54.0	-18.2	Low Control Ch. 915.05MHz, Charging, EUT Vert
2747.310	34.7	0.1	1.0	193.0	3.0	0.0	Horz	AV	0.0	34.8	54.0	-19.2	Low Data Ch. 915.8MHz, Charging, EUT Horz
2766.660	34.7	0.1	1.0	186.0	3.0	0.0	Horz	AV	0.0	34.8	54.0	-19.2	High Data Ch. 922.2MHz, Charging, EUT Horz
2756.030	33.7	0.1	1.0	329.0	3.0	0.0	Horz	AV	0.0	33.8	54.0	-20.2	High Control Ch. 918.65MHz, Charging, EUT Horz
2755.900	32.0	0.1	1.0	170.0	3.0	0.0	Vert	AV	0.0	32.1	54.0	-21.9	High Control Ch. 918.65MHz, Charging, EUT Vert
2745.230	31.9	0.1	1.0	179.0	3.0	0.0	Vert	AV	0.0	32.0	54.0	-22.0	Low Control Ch. 915.05MHz, Charging, EUT Vert
2766.535	31.8	0.1	1.0	190.0	3.0	0.0	Vert	AV	0.0	31.9	54.0	-22.1	High Data Ch. 922.2MHz, Charging, EUT Horz
4579.065	42.5	8.6	2.1	135.0	3.0	0.0	Horz	PK	0.0	51.1	74.0	-22.9	Low Data Ch. 915.8MHz, Charging, EUT Horz
4578.865	42.1	8.6	2.1	306.0	3.0	0.0	Horz	PK	0.0	50.7	74.0	-23.3	Low Data Ch. 915.8MHz, Not Charging, EUT Horz

Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
2747.495	50.5	0.1	1.0	156.0	3.0	0.0	Vert	PK	0.0	50.6	74.0	-23.4	Low Data Ch. 915.8MHz, Charging, EUT Vert
4579.065	41.8	8.6	2.3	155.0	3.0	0.0	Horz	PK	0.0	50.4	74.0	-23.6	Low Data Ch. 915.8MHz, Charging, EUT Vert
4579.060	41.5	8.6	1.0	333.0	3.0	0.0	Vert	PK	0.0	50.1	74.0	-23.9	Low Data Ch. 915.8MHz, Not Charging, EUT Vert
4579.105	41.4	8.6	1.0	320.0	3.0	0.0	Vert	PK	0.0	50.0	74.0	-24.0	Low Data Ch. 915.8MHz, Charging, EUT Vert
4575.460	41.4	8.5	1.4	201.0	3.0	0.0	Horz	PK	0.0	49.9	74.0	-24.1	Low Control Ch. 915.05MHz, Charging, EUT Horz
4578.795	41.2	8.6	2.4	196.0	3.0	0.0	Horz	PK	0.0	49.8	74.0	-24.2	Low Data Ch. 915.8MHz, Charging, EUT On Side
4593.255	41.1	8.6	1.0	338.0	3.0	0.0	Vert	PK	0.0	49.7	74.0	-24.3	High Control Ch. 918.65MHz, Charging, EUT Vert
4593.050	40.9	8.6	1.0	199.0	3.0	0.0	Horz	PK	0.0	49.5	74.0	-24.5	High Control Ch. 918.65MHz, Charging, EUT Horz
4575.500	41.0	8.5	2.4	325.0	3.0	0.0	Vert	PK	0.0	49.5	74.0	-24.5	Low Control Ch. 915.05MHz, Charging, EUT Vert
4611.050	40.7	8.6	2.4	329.0	3.0	0.0	Vert	PK	0.0	49.3	74.0	-24.7	High Data Ch. 922.2MHz, Charging, EUT Vert
4610.920	40.6	8.6	1.0	198.0	3.0	0.0	Horz	PK	0.0	49.2	74.0	-24.8	High Data Ch. 922.2MHz, Charging, EUT Horz
4579.040	40.3	8.6	1.0	106.0	3.0	0.0	Vert	PK	0.0	48.9	74.0	-25.1	Low Data Ch. 915.8MHz, Charging, EUT On Side
4579.155	40.2	8.6	1.0	318.0	3.0	0.0	Vert	PK	0.0	48.8	74.0	-25.2	Low Data Ch. 915.8MHz, Charging, EUT Horz
3660.065	40.5	6.2	2.5	341.0	3.0	0.0	Horz	PK	0.0	46.7	74.0	-27.3	Low Control Ch. 915.05MHz, Charging, EUT Horz
3660.515	40.4	6.2	2.4	323.0	3.0	0.0	Vert	PK	0.0	46.6	74.0	-27.4	Low Control Ch. 915.05MHz, Charging, EUT Vert
3690.295	40.0	6.4	1.0	234.0	3.0	0.0	Horz	PK	0.0	46.4	74.0	-27.6	High Data Ch. 922.2MHz, Charging, EUT Horz
3663.425	40.1	6.2	1.0	280.0	3.0	0.0	Vert	PK	0.0	46.3	74.0	-27.7	Low Data Ch. 915.8MHz, Charging, EUT Vert
3663.175	39.9	6.2	1.0	347.0	3.0	0.0	Horz	PK	0.0	46.1	74.0	-27.9	Low Data Ch. 915.8MHz, Charging, EUT Horz
3673.585	39.8	6.3	1.0	345.0	3.0	0.0	Vert	PK	0.0	46.1	74.0	-27.9	High Control Ch. 918.65MHz, Charging, EUT Vert
3689.085	39.6	6.4	1.0	258.0	3.0	0.0	Vert	PK	0.0	46.0	74.0	-28.0	High Data Ch. 922.2MHz, Charging, EUT Vert
3674.715	39.7	6.3	1.0	235.0	3.0	0.0	Horz	PK	0.0	46.0	74.0	-28.0	High Control Ch. 918.65MHz, Charging, EUT Horz
2766.750	42.7	0.1	1.0	186.0	3.0	0.0	Horz	PK	0.0	42.8	74.0	-31.2	High Data Ch. 922.2MHz, Charging, EUT Horz
2755.950	42.5	0.1	1.0	329.0	3.0	0.0	Horz	PK	0.0	42.6	74.0	-31.4	High Control Ch. 918.65MHz, Charging, EUT Horz
2747.595	42.4	0.1	1.0	193.0	3.0	0.0	Horz	PK	0.0	42.5	74.0	-31.5	Low Data Ch. 915.8MHz, Charging, EUT Horz
2744.765	41.6	0.1	1.0	179.0	3.0	0.0	Vert	PK	0.0	41.7	74.0	-32.3	Low Control Ch. 915.05MHz, Charging, EUT Vert
2756.180	41.5	0.1	1.0	170.0	3.0	0.0	Vert	PK	0.0	41.6	74.0	-32.4	High Control Ch. 918.65MHz, Charging, EUT Vert
2766.225	41.4	0.1	1.0	190.0	3.0	0.0	Vert	PK	0.0	41.5	74.0	-32.5	High Data Ch. 922.2MHz, Charging, EUT Vert

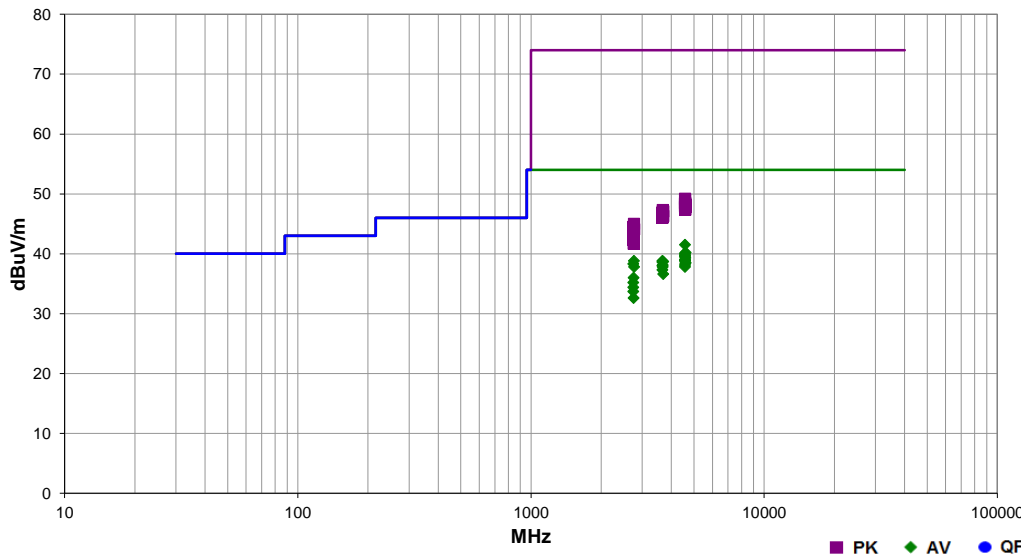
# SPURIOUS RADIATED EMISSIONS



PSA-ESCI 2016.04.26.1  
EmiR5 2016.04.26.1

<b>Work Order:</b>	RIGA0010	<b>Date:</b>	08/05/16	
<b>Project:</b>	None	<b>Temperature:</b>	23.7 °C	
<b>Job Site:</b>	EV01	<b>Humidity:</b>	44.2% RH	
<b>Serial Number:</b>	81627002	<b>Barometric Pres.:</b>	1016 mbar	
<b>EUT:</b>	SyncBac Pro			
<b>Configuration:</b>	8			
<b>Customer:</b>	Timecode Systems Ltd.			
<b>Attendees:</b>	Mark Bielman			
<b>EUT Power:</b>	Battery 5.0VDC via 110VAC/60Hz			
<b>Operating Mode:</b>	On, Continuous Tx, External Antenna			
<b>Deviations:</b>	None			
<b>Comments:</b>	Please reference the data comments for EUT orientation, channel type, mode and frequency.			

<b>Test Specifications</b>	<b>Test Method</b>						
FCC 15.247:2016	ANSI C63.10:2013						
<b>Run #</b>	105	<b>Test Distance (m)</b>	3	<b>Antenna Height(s)</b>	1 to 4(m)	<b>Results</b>	Pass



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
4575.320	33.0	8.5	2.3	325.0	3.0	0.0	Horz	AV	0.0	41.5	54.0	-12.5	Low Control Ch. 915.05MHz, Charging, EUT Horz
4611.005	31.6	8.6	1.3	216.0	3.0	0.0	Horz	AV	0.0	40.2	54.0	-13.8	High Data Ch. 922.2MHz, Charging, EUT Horz
4579.000	31.5	8.6	2.4	226.0	3.0	0.0	Horz	AV	0.0	40.1	54.0	-13.9	Low Data Ch. 915.8MHz, Charging, EUT Horz
4575.240	31.3	8.5	1.0	146.0	3.0	0.0	Vert	AV	0.0	39.8	54.0	-14.2	Low Control Ch. 915.05MHz, Charging, EUT On Side
4575.135	31.2	8.5	1.0	308.0	3.0	0.0	Horz	AV	0.0	39.7	54.0	-14.3	Low Control Ch. 915.05MHz, Charging, EUT Horz
4575.190	31.0	8.5	1.0	217.0	3.0	0.0	Horz	AV	0.0	39.5	54.0	-14.5	Low Control Ch. 915.05MHz, Not Charging, EUT Horz
4593.205	30.7	8.6	1.5	223.0	3.0	0.0	Horz	AV	0.0	39.3	54.0	-14.7	High Control Ch. 918.65MHz, Charging, EUT On Side
4575.250	30.5	8.5	1.0	156.0	3.0	0.0	Vert	AV	0.0	39.0	54.0	-15.0	High Control Ch. 918.65MHz, Charging, EUT Horz
4575.200	30.4	8.5	1.0	162.0	3.0	0.0	Horz	AV	0.0	38.9	54.0	-15.1	Low Control Ch. 915.05MHz, Charging, EUT Vert
4575.250	30.4	8.5	1.0	16.0	3.0	0.0	Horz	AV	0.0	38.9	54.0	-15.1	Low Control Ch. 915.05MHz, Charging, EUT On Side
4575.245	30.3	8.5	1.0	142.0	3.0	0.0	Vert	AV	0.0	38.8	54.0	-15.2	Low Control Ch. 915.05MHz, Charging, EUT Vert
3660.210	32.6	6.2	1.0	279.0	3.0	0.0	Horz	AV	0.0	38.8	54.0	-15.2	Low Control Ch. 915.05MHz, Charging, EUT Horz
2766.550	38.7	0.1	1.0	343.0	3.0	0.0	Horz	AV	0.0	38.8	54.0	-15.2	High Data Ch. 922.2MHz, Charging, EUT Horz
3688.870	32.3	6.4	1.0	204.0	3.0	0.0	Horz	AV	0.0	38.7	54.0	-15.3	High Data Ch. 922.2MHz, Charging, EUT Horz
3663.135	32.4	6.2	1.0	202.0	3.0	0.0	Horz	AV	0.0	38.6	54.0	-15.4	Low Data Ch. 915.8MHz, Charging, EUT Horz
4611.145	29.9	8.6	1.0	195.0	3.0	0.0	Vert	AV	0.0	38.5	54.0	-15.5	High Data Ch. 922.2MHz, Charging, EUT On Side
4593.320	29.8	8.6	1.0	158.0	3.0	0.0	Vert	AV	0.0	38.4	54.0	-15.6	High Control Ch. 918.65MHz, Charging, EUT On Side
2745.170	38.2	0.1	1.0	256.0	3.0	0.0	Horz	AV	0.0	38.3	54.0	-15.7	Low Control Ch. 915.05MHz, Charging, EUT Horz
3674.570	31.8	6.3	1.4	204.0	3.0	0.0	Horz	AV	0.0	38.1	54.0	-15.9	High Control Ch. 918.65MHz, Charging, EUT Horz
4578.985	29.5	8.6	2.0	157.0	3.0	0.0	Vert	AV	0.0	38.1	54.0	-15.9	Low Data Ch. 915.8MHz, Charging, EUT On Side
3660.200	31.8	6.2	1.0	124.0	3.0	0.0	Vert	AV	0.0	38.0	54.0	-16.0	Low Control Ch. 915.05MHz, Charging, EUT On Side
4575.295	29.3	8.5	1.0	198.0	3.0	0.0	Vert	AV	0.0	37.8	54.0	-16.2	Low Control Ch. 915.05MHz, Charging, EUT Horz
3674.530	31.5	6.3	1.0	148.0	3.0	0.0	Vert	AV	0.0	37.8	54.0	-16.2	High Control Ch. 918.65MHz, Charging, EUT On Side
2766.575	37.7	0.1	1.0	181.0	3.0	0.0	Vert	AV	0.0	37.8	54.0	-16.2	High Data Ch. 922.2MHz, Charging, EUT On Side
3663.130	31.1	6.2	1.0	228.0	3.0	0.0	Vert	AV	0.0	37.3	54.0	-16.7	Low Data Ch. 915.8MHz, Charging, EUT On Side
3688.790	30.2	6.4	1.0	228.0	3.0	0.0	Vert	AV	0.0	36.6	54.0	-17.4	High Data Ch. 922.2MHz, Charging, EUT On Side
2755.985	35.9	0.1	1.0	332.0	3.0	0.0	Horz	AV	0.0	36.0	54.0	-18.0	High Control Ch. 918.65MHz, Charging, EUT Horz
2747.455	35.1	0.1	1.0	355.0	3.0	0.0	Horz	AV	0.0	35.2	54.0	-18.8	Low Data Ch. 915.8MHz, Charging, EUT Horz
2747.390	34.3	0.1	1.1	182.0	3.0	0.0	Horz	AV	0.0	34.4	54.0	-19.6	Low Data Ch. 915.8MHz, Charging, EUT On Side
2745.120	33.6	0.1	1.0	267.0	3.0	0.0	Vert	AV	0.0	33.7	54.0	-20.3	Low Control Ch. 915.05MHz, Charging, EUT On Side
2755.980	32.5	0.1	1.0	328.0	3.0	0.0	Vert	AV	0.0	32.6	54.0	-21.4	High Control Ch. 918.65MHz, Charging, EUT On Side
4575.155	40.7	8.5	2.3	325.0	3.0	0.0	Horz	PK	0.0	49.2	74.0	-24.8	Low Control Ch. 915.05MHz, Charging, EUT Horz
4574.855	40.5	8.5	1.0	217.0	3.0	0.0	Horz	PK	0.0	49.0	74.0	-25.0	Low Control Ch. 915.05MHz, Not Charging, EUT Horz



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Antenna Height (meters)	Azimuth (degrees)	Test Distance (meters)	External Attenuation (dB)	Polarity/Transducer Type	Detector	Distance Adjustment (dB)	Adjusted (dBuV/m)	Spec. Limit (dBuV/m)	Compared to Spec. (dB)	Comments
4575.395	40.0	8.5	1.0	142.0	3.0	0.0	Vert	PK	0.0	48.5	74.0	-25.5	Low Control Ch. 915.05MHz, Charging, EUT Vert
4578.490	39.9	8.6	2.4	226.0	3.0	0.0	Horz	PK	0.0	48.5	74.0	-25.5	Low Data Ch. 915.8MHz, Charging, EUT Horz
4574.760	39.9	8.5	1.0	156.0	3.0	0.0	Vert	PK	0.0	48.4	74.0	-25.6	Low Control Ch. 915.05MHz, Not Charging, EUT On Side
4579.755	39.7	8.6	2.0	157.0	3.0	0.0	Vert	PK	0.0	48.3	74.0	-25.7	Low Data Ch. 915.8MHz, Charging, EUT On Side
4610.885	39.6	8.6	1.3	216.0	3.0	0.0	Horz	PK	0.0	48.2	74.0	-25.8	High Data Ch. 922.2MHz, Charging, EUT Horz
4575.510	39.6	8.5	1.0	146.0	3.0	0.0	Vert	PK	0.0	48.1	74.0	-25.9	Low Control Ch. 915.05MHz, Charging, EUT On Side
4593.255	39.5	8.6	1.5	223.0	3.0	0.0	Horz	PK	0.0	48.1	74.0	-25.9	High Control Ch. 918.65MHz, Charging, EUT Horz
4575.180	39.4	8.5	1.0	162.0	3.0	0.0	Horz	PK	0.0	47.9	74.0	-26.1	Low Control Ch. 915.05MHz, Charging, EUT Vert
4575.775	39.4	8.5	1.0	198.0	3.0	0.0	Vert	PK	0.0	47.9	74.0	-26.1	Low Control Ch. 915.05MHz, Charging, EUT Horz
4611.340	39.3	8.6	1.0	195.0	3.0	0.0	Vert	PK	0.0	47.9	74.0	-26.1	High Data Ch. 922.2MHz, Charging, EUT On Side
4574.680	39.2	8.5	1.0	16.0	3.0	0.0	Horz	PK	0.0	47.7	74.0	-26.3	Low Control Ch. 915.05MHz, Charging, EUT On Side
4592.930	38.8	8.6	1.0	158.0	3.0	0.0	Vert	PK	0.0	47.4	74.0	-26.6	High Control Ch. 918.65MHz, Charging, EUT On Side
3674.535	41.0	6.3	1.4	204.0	3.0	0.0	Horz	PK	0.0	47.3	74.0	-26.7	High Control Ch. 918.65MHz, Charging, EUT Horz
3688.865	40.7	6.4	1.0	204.0	3.0	0.0	Horz	PK	0.0	47.1	74.0	-26.9	High Data Ch. 922.2MHz, Charging, EUT Horz
3660.235	40.7	6.2	1.0	124.0	3.0	0.0	Vert	PK	0.0	46.9	74.0	-27.1	Low Control Ch. 915.05MHz, Charging, EUT On Side
3662.740	40.7	6.2	1.0	202.0	3.0	0.0	Horz	PK	0.0	46.9	74.0	-27.1	Low Data Ch. 915.8MHz, Charging, EUT Horz
3660.165	40.5	6.2	1.0	279.0	3.0	0.0	Horz	PK	0.0	46.7	74.0	-27.3	Low Control Ch. 915.05MHz, Charging, EUT Horz
3689.000	39.9	6.4	1.0	228.0	3.0	0.0	Vert	PK	0.0	46.3	74.0	-27.7	High Data Ch. 922.2MHz, Charging, EUT On Side
3674.620	39.9	6.3	1.0	148.0	3.0	0.0	Vert	PK	0.0	46.2	74.0	-27.8	High Control Ch. 918.65MHz, Charging, EUT On Side
3662.995	39.8	6.2	1.0	228.0	3.0	0.0	Vert	PK	0.0	46.0	74.0	-28.0	Low Data Ch. 915.8MHz, Charging, EUT On Side
2766.315	44.9	0.1	1.0	343.0	3.0	0.0	Horz	PK	0.0	45.0	74.0	-29.0	High Data Ch. 922.2MHz, Charging, EUT Horz
2744.870	44.4	0.1	1.0	256.0	3.0	0.0	Horz	PK	0.0	44.5	74.0	-29.5	Low Control Ch. 915.05MHz, Charging, EUT Horz
2766.700	44.0	0.1	1.0	181.0	3.0	0.0	Vert	PK	0.0	44.1	74.0	-29.9	High Data Ch. 922.2MHz, Charging, EUT On Side
2755.935	43.5	0.1	1.0	332.0	3.0	0.0	Horz	PK	0.0	43.6	74.0	-30.4	High Control Ch. 918.65MHz, Charging, EUT Horz
2747.530	43.3	0.1	1.0	355.0	3.0	0.0	Horz	PK	0.0	43.4	74.0	-30.6	Low Data Ch. 915.8MHz, Charging, EUT Horz
2747.660	43.3	0.1	1.1	182.0	3.0	0.0	Vert	PK	0.0	43.4	74.0	-30.6	Low Data Ch. 915.8MHz, Charging, EUT On Side
2745.010	42.3	0.1	1.0	267.0	3.0	0.0	Vert	PK	0.0	42.4	74.0	-31.6	Low Control Ch. 915.05MHz, Charging, EUT On Side
2757.345	41.6	0.1	1.0	328.0	3.0	0.0	Vert	PK	0.0	41.7	74.0	-32.3	High Control Ch. 918.65MHz, Charging, EUT On Side

# DUTY CYCLE

## TEST DESCRIPTION

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

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

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

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

# 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
Cable	ESM Cable Corp.	TT	EV1	NCR	NCR
Generator - Signal	Keysight	N5182B	TFU	10/27/2015	10/27/2018
Block - DC	Pasternack	PE8210	AME	10/1/2015	10/1/2016
Attenuator	S.M. Electronics	SA26B-20	AUY	6/27/2016	6/27/2017
Analyzer - Spectrum Analyzer	Agilent	E4446A	AAQ	4/22/2016	4/22/2017


## TEST DESCRIPTION

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



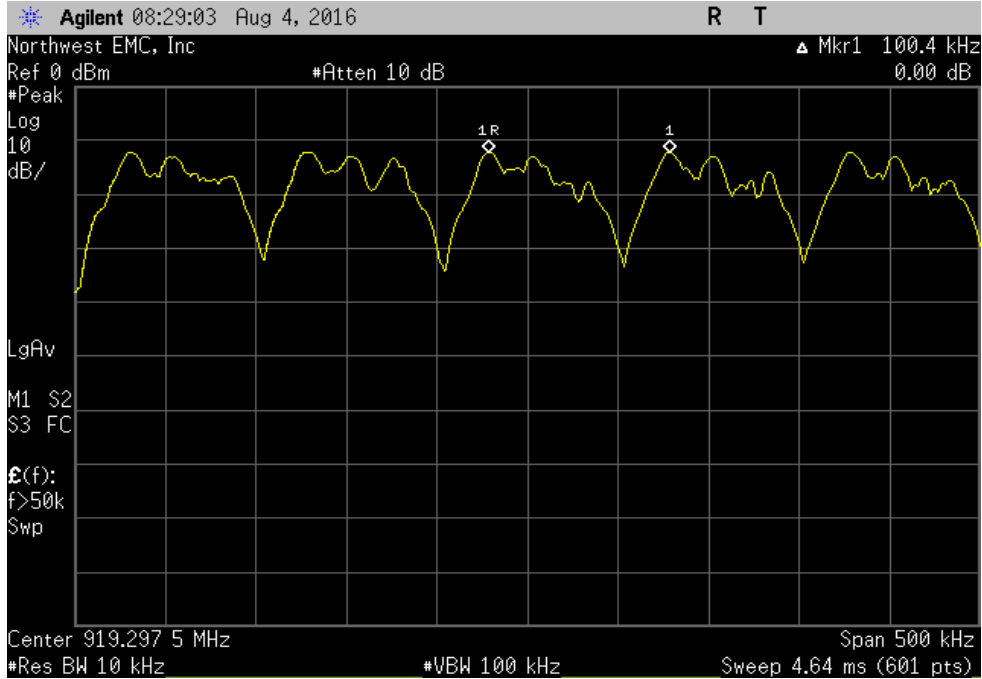
XMR 2016.05.06

EUT: SyncBac Pro		Work Order: RIGA0010	
Serial Number: 81627001		Date: 08/04/16	
Customer: Timecode Systems Ltd.		Temperature: 23.5 °C	
Attendees: None		Humidity: 43.1% RH	
Project: None		Barometric Pres.: 1018 mbar	
Tested by: Brandon Hobbs		Power: Battery 5.0VDC via 110VAC/60Hz	
		Job Site: EV06	
TEST SPECIFICATIONS			
FCC 15.247:2016		Test Method	
		ANSI C63.10:2013	
COMMENTS			
The EUT is in normal hopping mode.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	4	Signature 	
		Value	Limit (±) Results
Hopping Mode	External Antenna		
	Mid Data Channel, 919.00 MHz	100.4 kHz	89.5 kHz Pass
	Mid Control Channel, 918.35 MHz	36.71 kHz	35.6 kHz Pass

# CARRIER FREQUENCY SEPARATION

Hopping Mode, External Antenna, Mid Data Channel, 919.00 MHz						
				Value	Limit (≥)	Results
				100.4 kHz	89.5 kHz	Pass

No Image Taken



Hopping Mode, External Antenna, Mid Control Channel, 918.35 MHz						
				Value	Limit (≥)	Results
				36.71 kHz	35.6 kHz	Pass



# NUMBER OF HOPPING FREQUENCIES

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

## TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Generator - Signal	Keysight	N5182B	TFU	10/27/2015	10/27/2018
Cable	ESM Cable Corp.	TT	EV1	NCR	NCR
Attenuator	S.M. Electronics	SA26B-20	AUY	6/27/2016	6/27/2017
Block - DC	Pasternack	PE8210	AME	10/1/2015	10/1/2016
Analyzer - Spectrum Analyzer	Agilent	E4446A	AAQ	4/22/2016	4/22/2017


## TEST DESCRIPTION

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

# NUMBER OF HOPPING FREQUENCIES

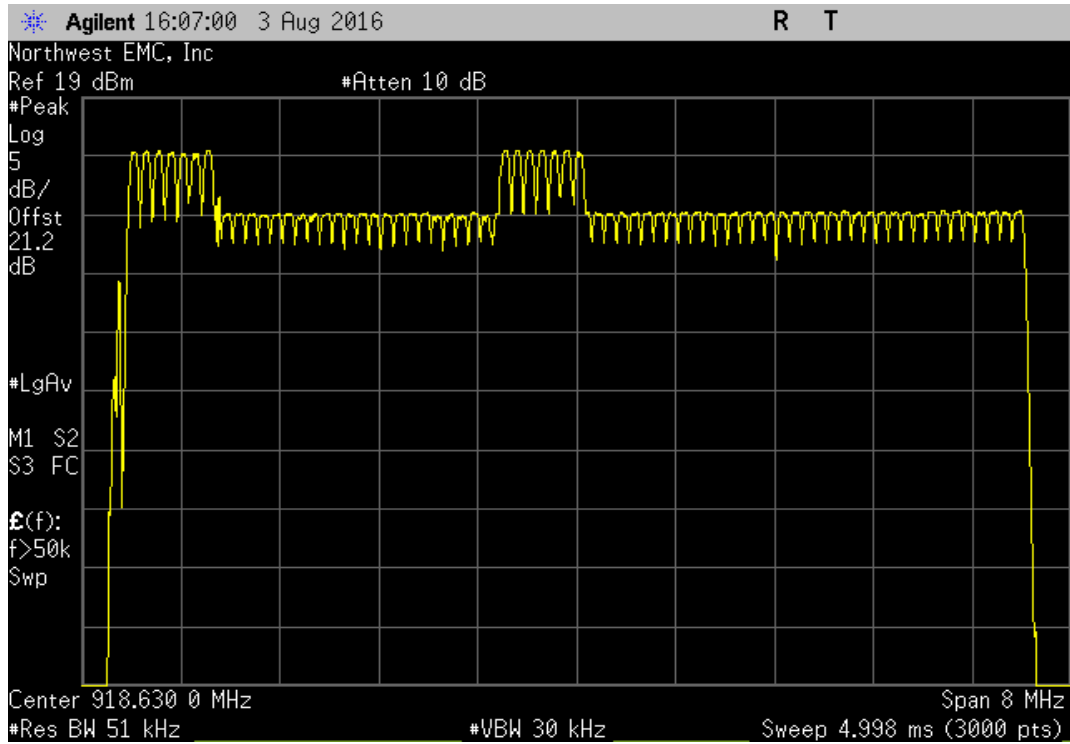


XMR 2016.05.06

EUT: SyncBac Pro		Work Order: RIGA0010				
Serial Number: 81627001		Date: 08/04/16				
Customer: Timecode Systems Ltd.		Temperature: 23.5 °C				
Attendees: None		Humidity: 43.1% RH				
Project: None		Barometric Pres.: 1018 mbar				
Tested by: Brandon Hobbs	Power: Battery 5.0VDC via 110VAC/60Hz	Job Site: EV06				
TEST SPECIFICATIONS						
FCC 15.247:2016		Test Method: ANSI C63.10:2013				
COMMENTS						
The EUT is in normal hopping mode.						
DEVIATIONS FROM TEST STANDARD						
None						
Configuration #	4	Signature 				
		# of Data Channels	# of Control Channels	Number of Channels	Limit	Results
Hopping Mode	External Antenna					
	Mid Control Channel, 918.63 MHz	57	14	71	50	Pass

# NUMBER OF HOPPING FREQUENCIES

Hopping Mode, External Antenna, Mid Control Channel, 918.63 MHz						
	# of Data Channels	# of Control Channels	Number of Channels	Limit	Results	
	57	14	71	50	Pass	





# DWELL TIME

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
Analyzer - Spectrum Analyzer	Agilent	E4446A	AAQ	4/22/2016	4/22/2017
Attenuator	S.M. Electronics	SA26B-20	AUY	6/27/2016	6/27/2017
Cable	ESM Cable Corp.	TT	EV1	NCR	NCR
Block - DC	Pasternack	PE8210	AME	10/1/2015	10/1/2016
Generator - Signal	Keysight	N5182B	TFU	10/27/2015	10/27/2018

## TEST DESCRIPTION

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

Method 1:

On Time During 20 Sec = Pulse Width \* Average Number of Pulses \* Scaling Factor

➤ Average Number of Pulses is based on 4 samples.

Scaling Factor = On Time During 20 Second Period / 5.68 Second Analyzer Sweep Time

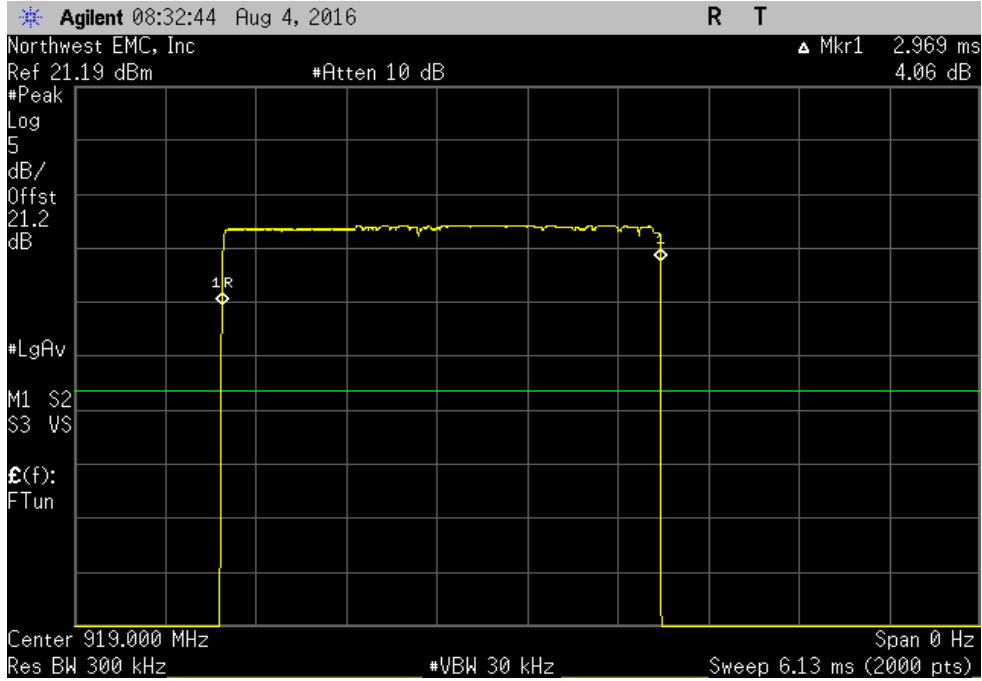
Method 2:

On Time During 20 Sec = Pulse Width \* Number of Pulses

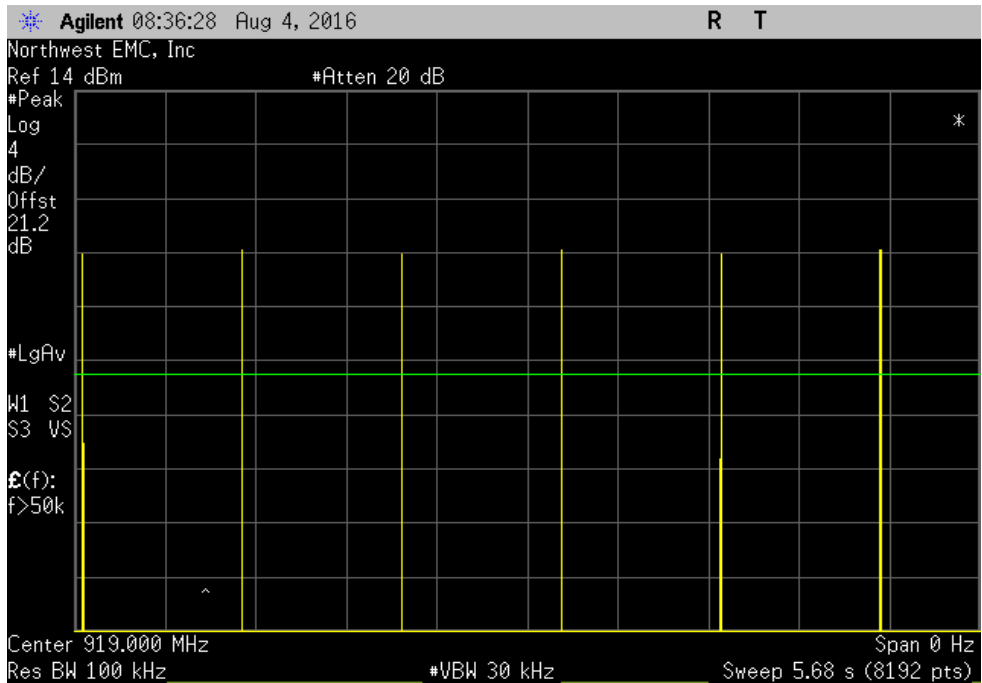


# DWELL TIME

Hopping Mode, External Antenna, Mid Data Channel, 919.00 MHz							
Pulse Width (ms)	Number of Pulses	Average No. of Pulses	Scale Factor	On Time (ms) During 20 s	Limit (ms)	Results	
2.968	N/A	N/A	N/A	N/A	N/A	N/A	

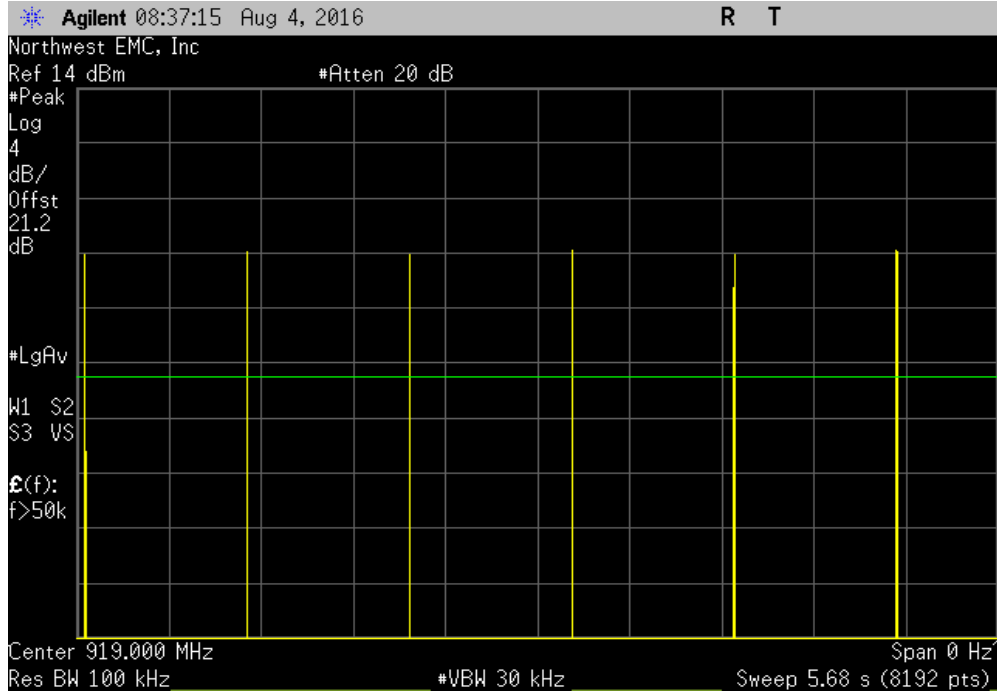


Hopping Mode, External Antenna, Mid Data Channel, 919.00 MHz							
Pulse Width (ms)	Number of Pulses	Average No. of Pulses	Scale Factor	On Time (ms) During 20 s	Limit (ms)	Results	
N/A	6	N/A	N/A	N/A	N/A	N/A	

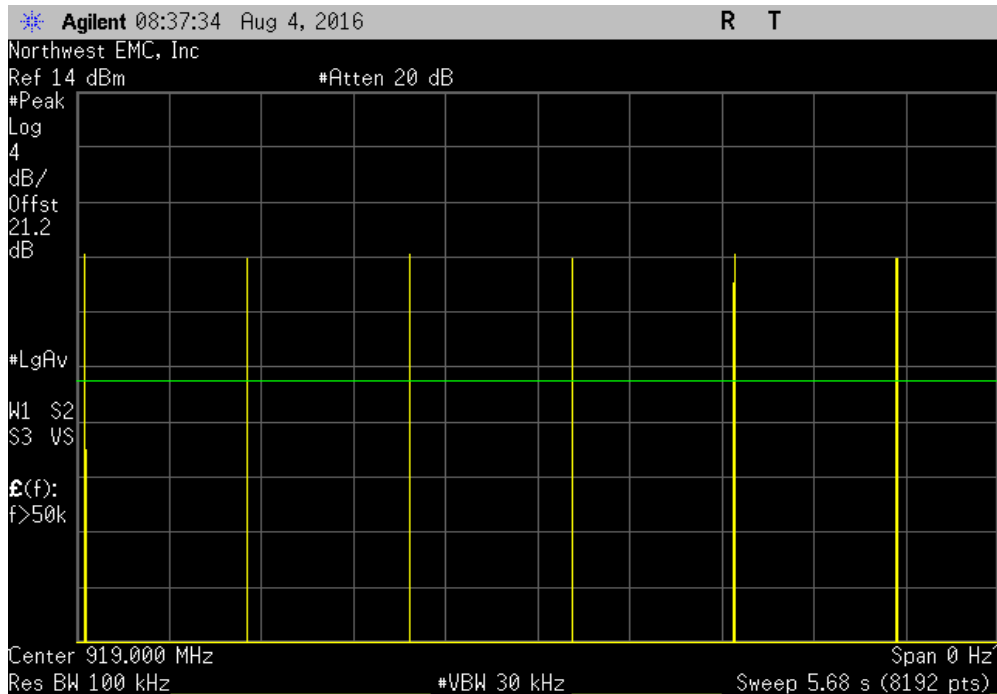


# DWELL TIME

Hopping Mode, External Antenna, Mid Data Channel, 919.00 MHz						
Pulse Width (ms)	Number of Pulses	Average No. of Pulses	Scale Factor	On Time (ms) During 20 s	Limit (ms)	Results
N/A	6	N/A	N/A	N/A	N/A	N/A

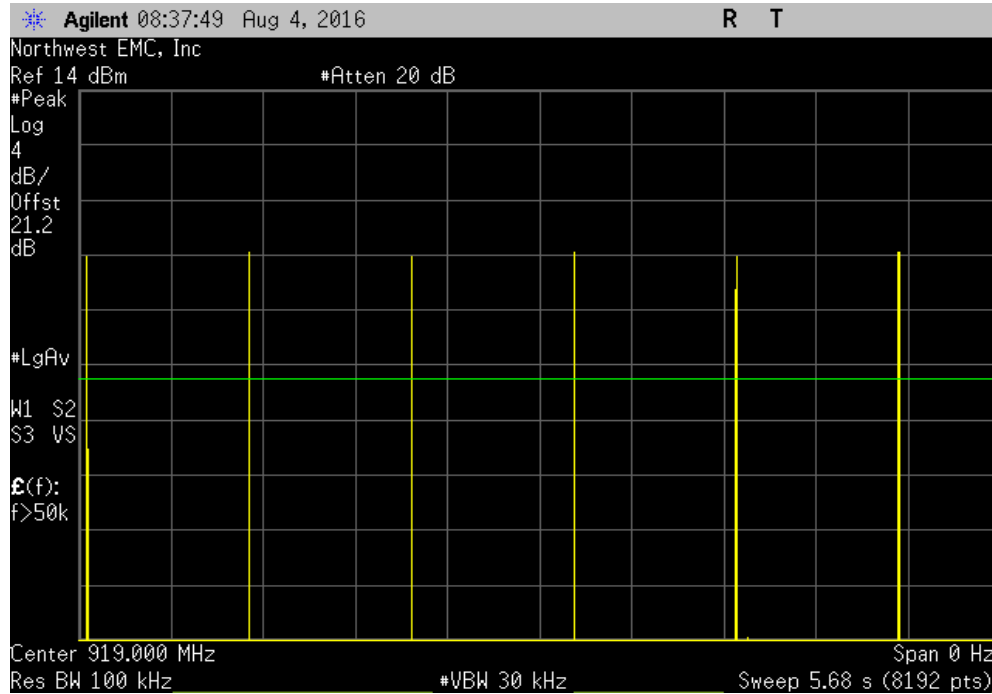


Hopping Mode, External Antenna, Mid Data Channel, 919.00 MHz						
Pulse Width (ms)	Number of Pulses	Average No. of Pulses	Scale Factor	On Time (ms) During 20 s	Limit (ms)	Results
N/A	6	N/A	N/A	N/A	N/A	N/A



# DWELL TIME

Hopping Mode, External Antenna, Mid Data Channel, 919.00 MHz						
Pulse Width (ms)	Number of Pulses	Average No. of Pulses	Scale Factor	On Time (ms) During 20 s	Limit (ms)	Results
N/A	6	N/A	N/A	N/A	N/A	N/A



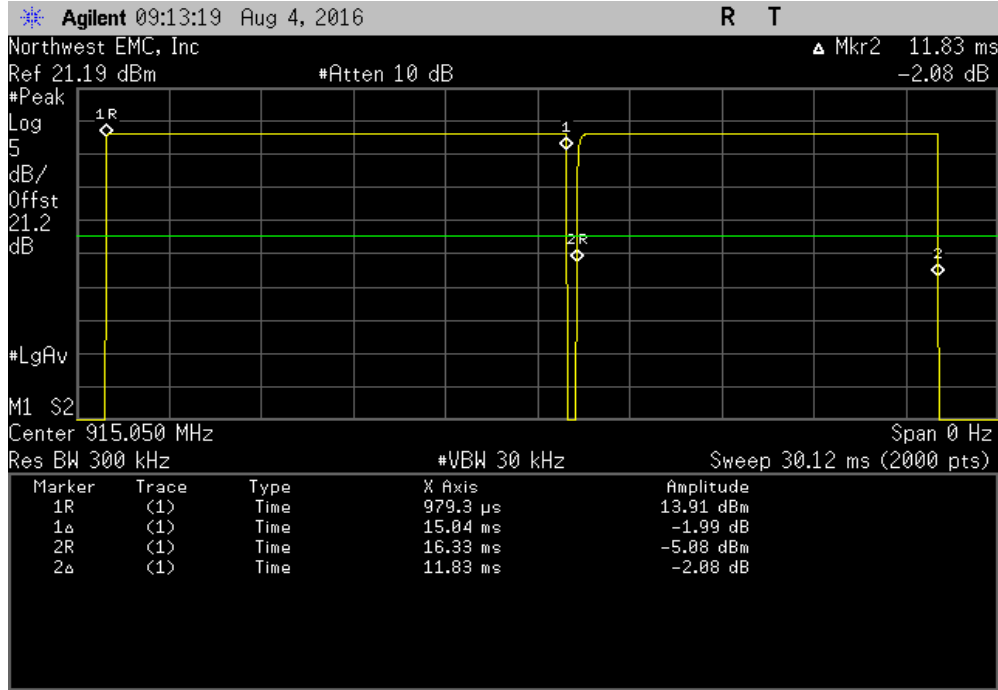
Hopping Mode, External Antenna, Mid Data Channel, 919.00 MHz						
Pulse Width (ms)	Number of Pulses	Average No. of Pulses	Scale Factor	On Time (ms) During 20 s	Limit (ms)	Results
2.968	N/A	6	3.52	62.68	400	Pass

Calculation Only

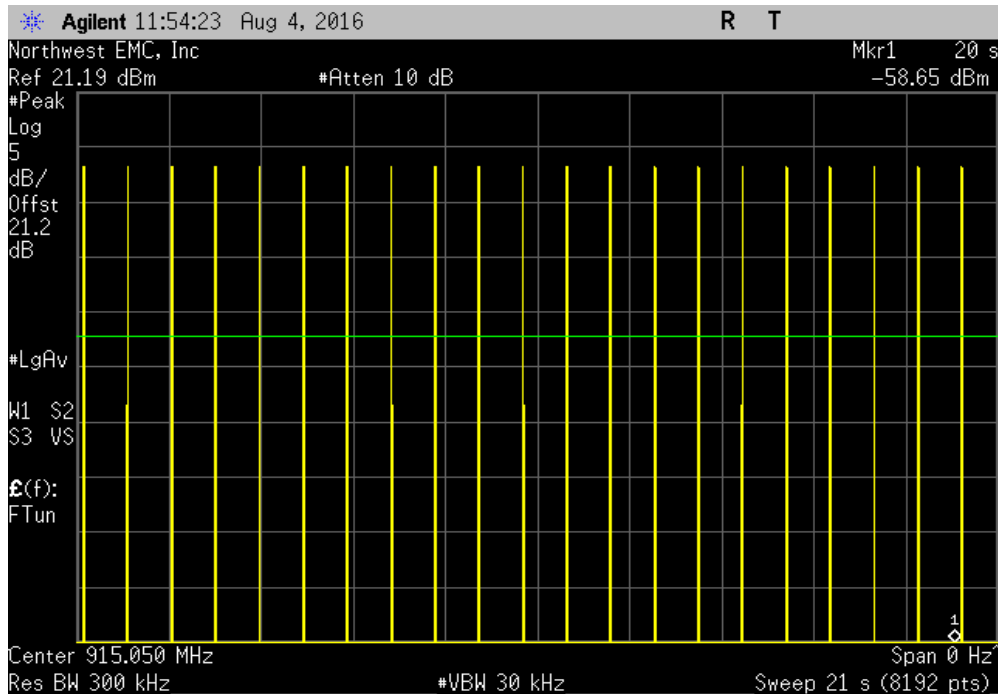
No Screen Capture Required

# DWELL TIME

Hopping Mode, External Antenna, Mid Control Channel, 918.35 MHz						
Pulse Width (ms)	Number of Pulses	Average No. of Pulses	Scale Factor	On Time (ms) During 20 s	Limit (ms)	Results
19.537	N/A	N/A	N/A	N/A	N/A	N/A



Hopping Mode, External Antenna, Mid Control Channel, 918.35 MHz						
Pulse Width (ms)	Number of Pulses	Average No. of Pulses	Scale Factor	On Time (ms) During 20 s	Limit (ms)	Results
N/A	20	N/A	N/A	390.7	400	Pass



# OUTPUT POWER

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

## TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Generator - Signal	Keysight	N5182B	TFU	10/27/2015	10/27/2018
Attenuator	S.M. Electronics	SA26B-20	AUY	6/27/2016	6/27/2017
Cable	ESM Cable Corp.	TT	EV1	NCR	NCR
Block - DC	Pasternack	PE8210	AME	10/1/2015	10/1/2016
Analyzer - Spectrum Analyzer	Agilent	E4446A	AAQ	4/22/2016	4/22/2017

## TEST DESCRIPTION

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


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

**De Facto EIRP Limit:** Per 47 CFR 15.247 (b)(1-3), the EUT meets the de facto EIRP limit of +27dBm.

# OUTPUT POWER



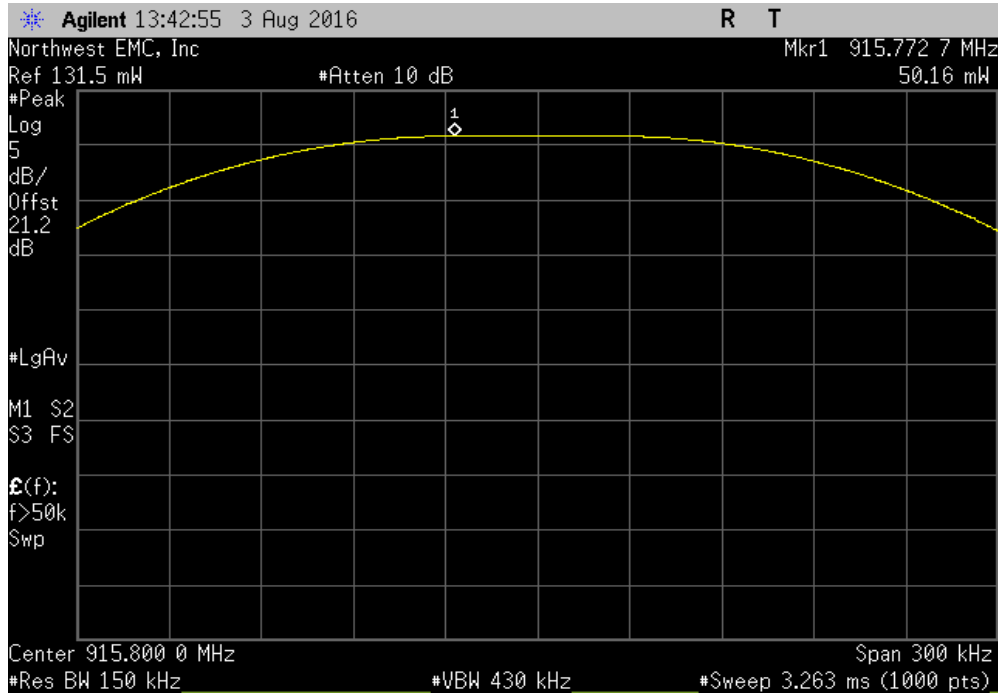
XMR 2016.05.06

EUT: SyncBac Pro		Work Order: RIGA0010	
Serial Number: 81627001		Date: 08/04/16	
Customer: Timecode Systems Ltd.		Temperature: 23.5 °C	
Attendees: None		Humidity: 43.3% RH	
Project: None		Barometric Pres.: 1018 mbar	
Tested by: Brandon Hobbs	Power: Battery 5.0VDC via 110VAC/60Hz	Job Site: EV06	
TEST SPECIFICATIONS			
FCC 15.247:2016		Test Method	
		ANSI C63.10:2013	
COMMENTS			
EUT is operating at 100% duty cycle			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	4	Signature 	
		Value	Limit (-) Result
Single Channel Mode			
Internal A200			
	Low Data Channel, 915.80 MHz	50.165 mW	125 mW Pass
	High Data Channel, 922.20 MHz	47.731 mW	125 mW Pass
	Low Control Channel, 915.05 MHz	49.98 mW	125 mW Pass
	High Control Channel, 918.65 MHz	48.877 mW	125 mW Pass
External			
	Low Data Channel, 915.80 MHz	52.784 mW	125 mW Pass
	High Data Channel, 922.20 MHz	50.397 mW	125 mW Pass
	Low Control Channel, 915.05 MHz	53.003 mW	125 mW Pass
	High Control Channel, 918.65 MHz	51.988 mW	125 mW Pass

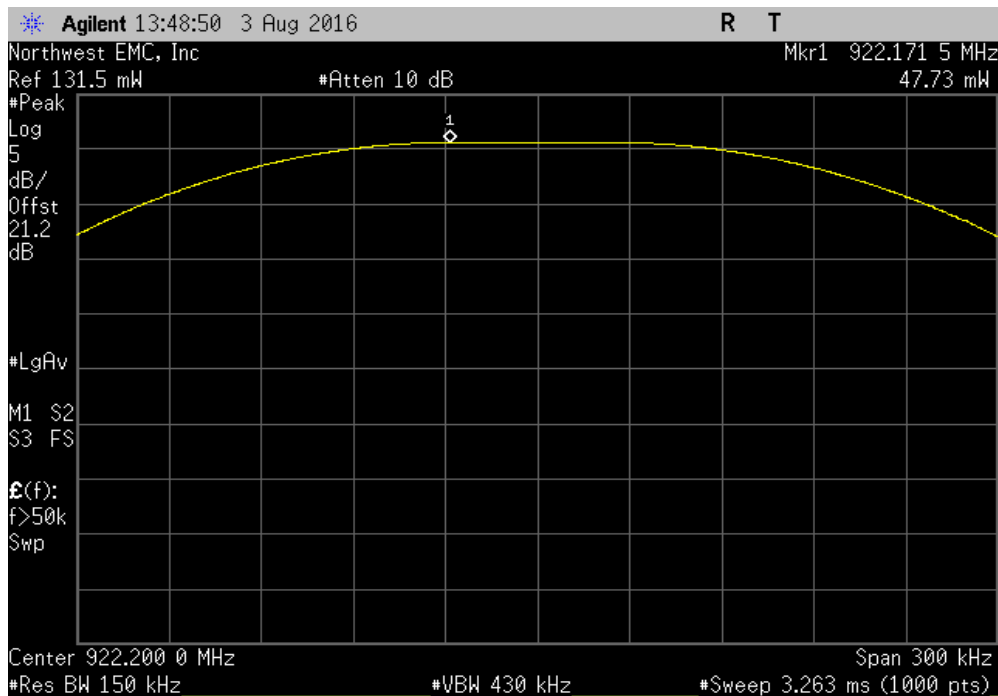


# OUTPUT POWER

Single Channel Mode, Internal A200, Low Data Channel, 915.80 MHz		
Value	Limit (<)	Result
50.165 mW	125 mW	Pass

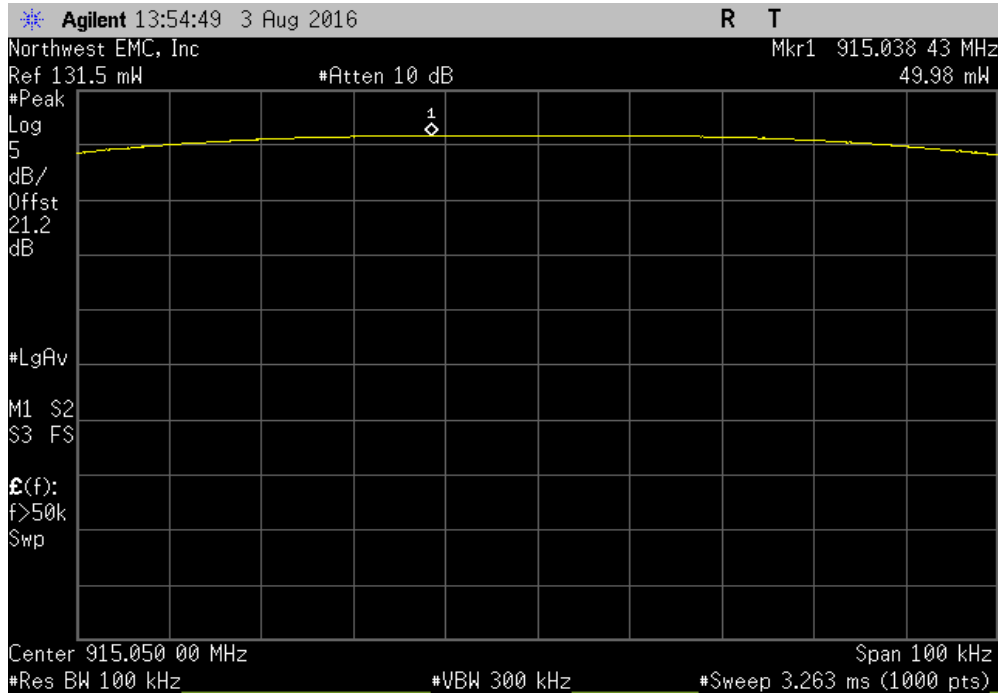


Single Channel Mode, Internal A200, High Data Channel, 922.20 MHz		
Value	Limit (<)	Result
47.731 mW	125 mW	Pass

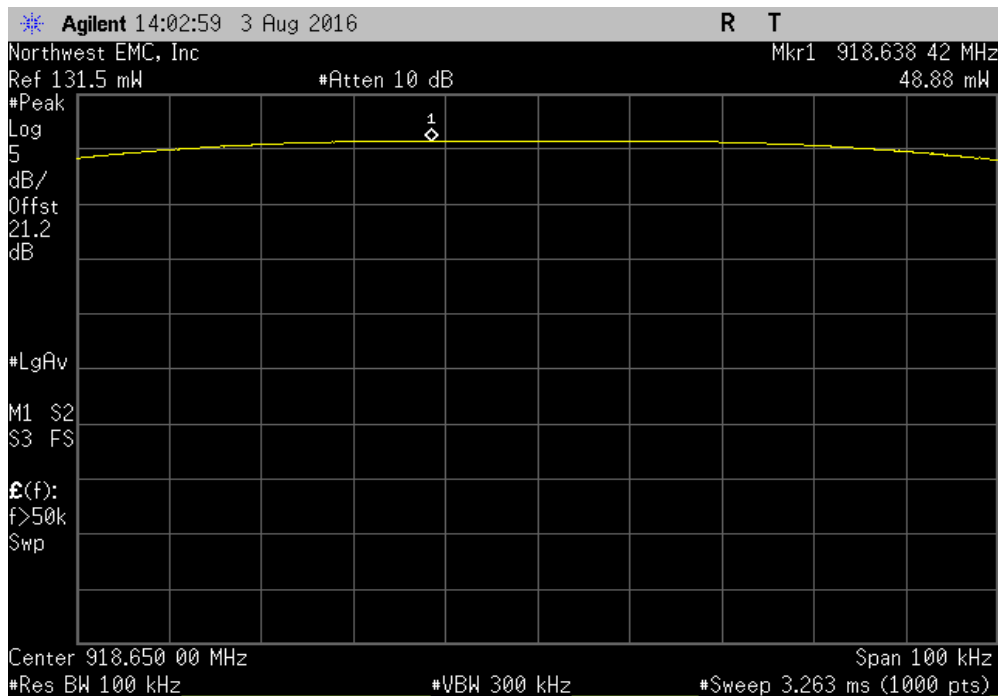


# OUTPUT POWER

Single Channel Mode, Internal A200, Low Control Channel, 915.05 MHz						
				Value	Limit (<)	Result
				49.98 mW	125 mW	Pass

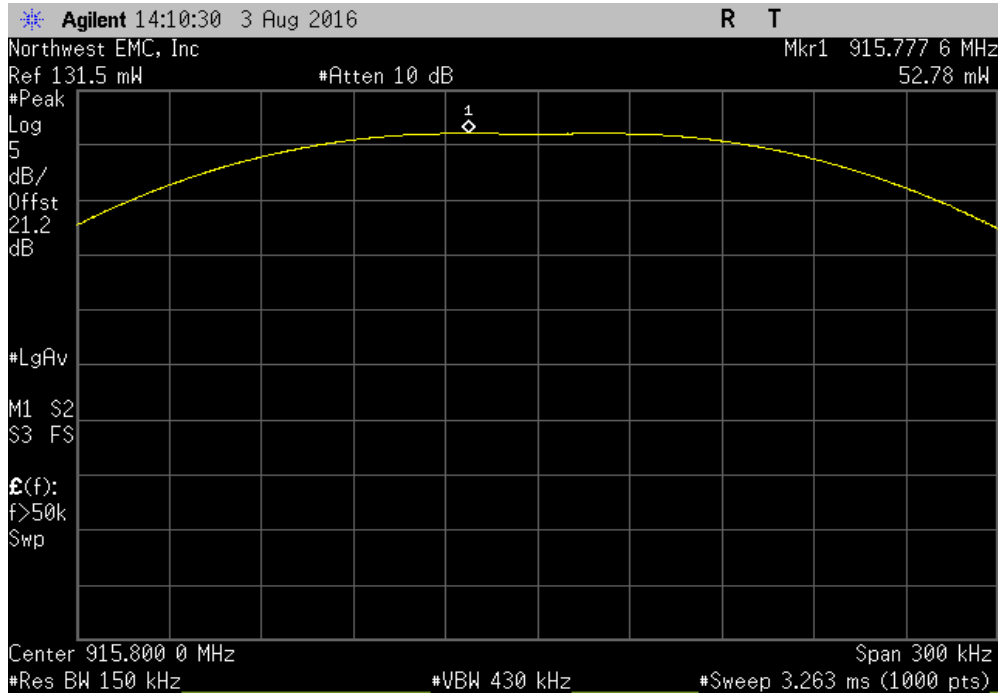


Single Channel Mode, Internal A200, High Control Channel, 918.65 MHz						
				Value	Limit (<)	Result
				48.877 mW	125 mW	Pass

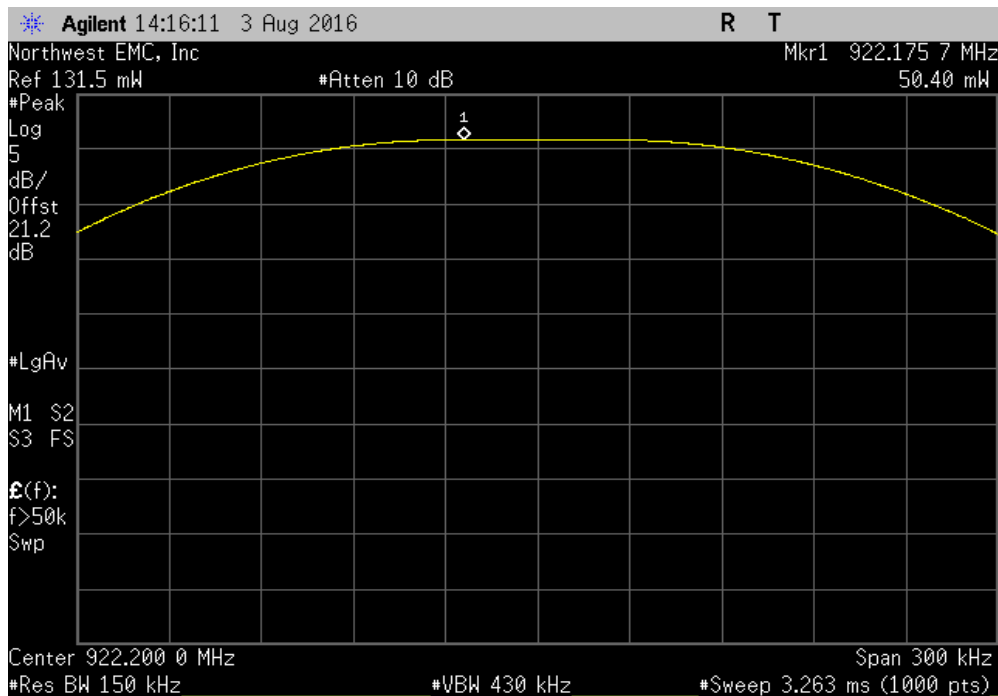


# OUTPUT POWER

Single Channel Mode, External, Low Data Channel, 915.80 MHz			
Value	Limit (<)	Result	
52.784 mW	125 mW	Pass	

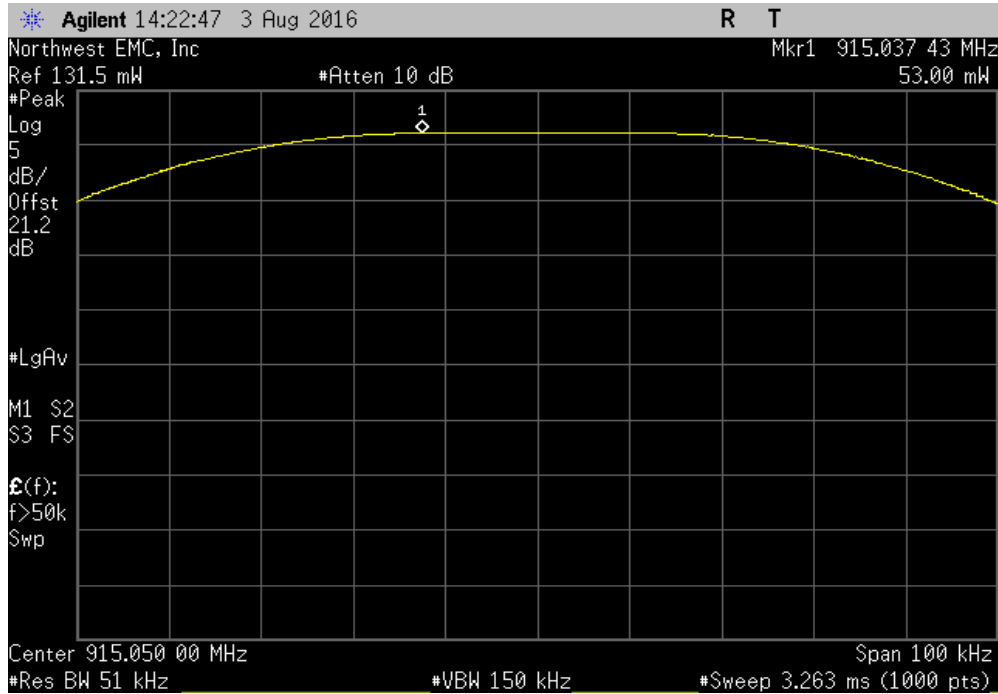


Single Channel Mode, External, High Data Channel, 922.20 MHz			
Value	Limit (<)	Result	
50.397 mW	125 mW	Pass	

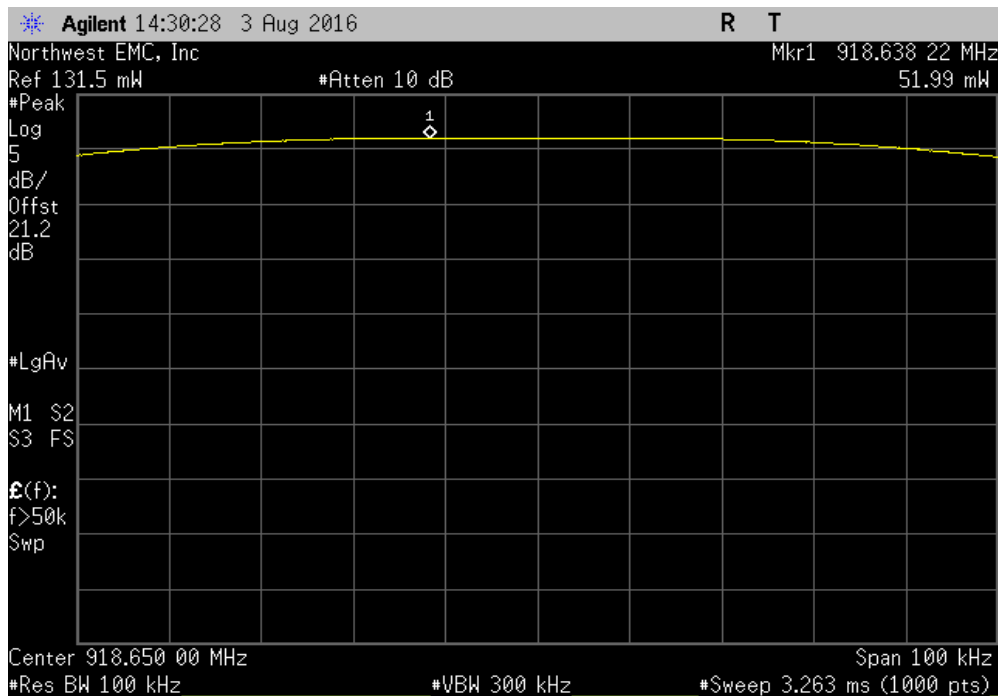


# OUTPUT POWER

Single Channel Mode, External, Low Control Channel, 915.05 MHz						
				Value	Limit (<)	Result
				53.003 mW	125 mW	Pass



Single Channel Mode, External, High Control Channel, 918.65 MHz						
				Value	Limit (<)	Result
				51.988 mW	125 mW	Pass



# BAND EDGE COMPLIANCE

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

## TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Generator - Signal	Keysight	N5182B	TFU	10/27/2015	10/27/2018
Cable	ESM Cable Corp.	TT	EV1	NCR	NCR
Attenuator	S.M. Electronics	SA26B-20	AUY	6/27/2016	6/27/2017
Block - DC	Pasternack	PE8210	AME	10/1/2015	10/1/2016
Analyzer - Spectrum Analyzer	Agilent	E4446A	AAQ	4/22/2016	4/22/2017

## TEST DESCRIPTION


The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The spurious RF conducted emissions at the edges of the authorized band were measured with the EUT set to low and high transmit frequencies. The EUT was transmitting at the modes listed in the datasheet in a no hop mode. The channels closest to the band edges were selected.

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

# BAND EDGE COMPLIANCE

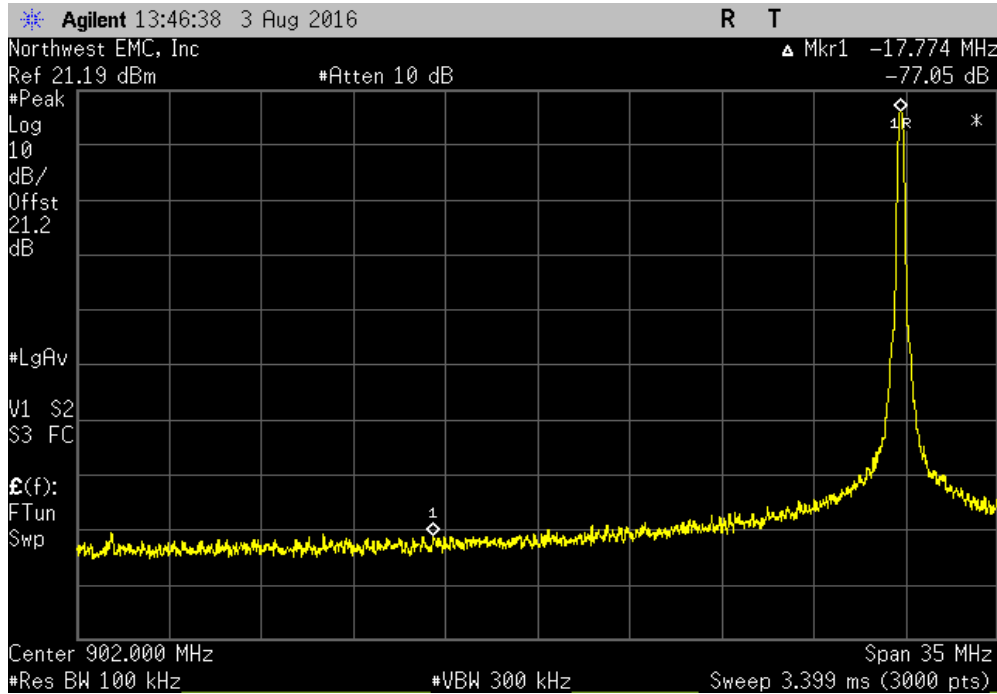


XMR 2016.05.06

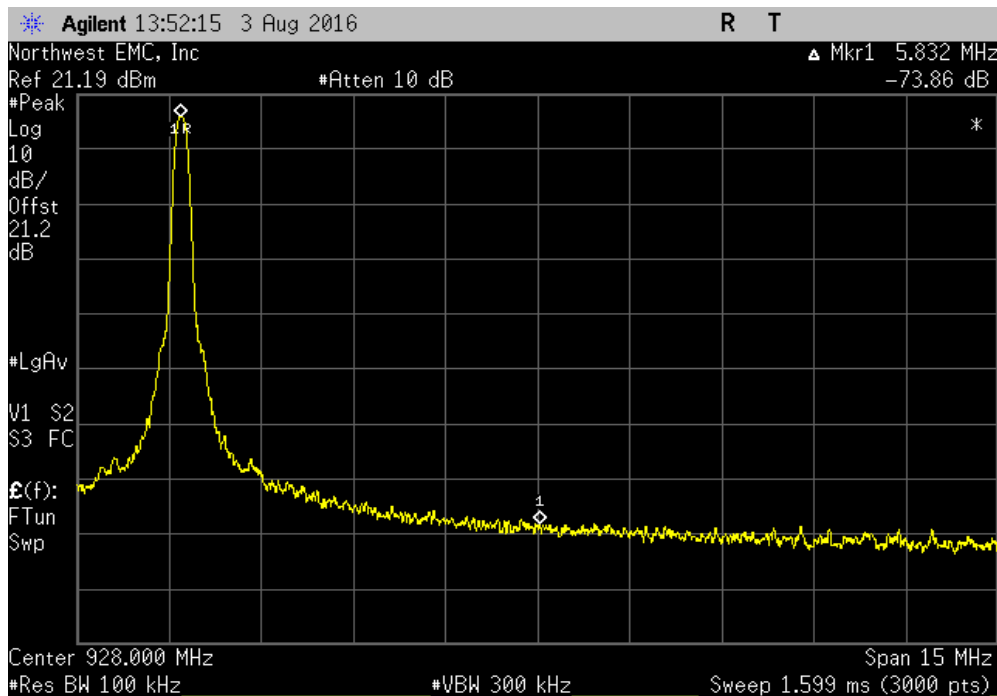
EUT: SyncBac Pro		Work Order: RIGA0010	
Serial Number: 81627001		Date: 08/04/16	
Customer: Timecode Systems Ltd.		Temperature: 23.9 °C	
Attendees: None		Humidity: 44.1% RH	
Project: None		Barometric Pres.: 1016 mbar	
Tested by: Brandon Hobbs	Power: Battery 5.0VDC via 110VAC/60Hz	Job Site: EV06	
TEST SPECIFICATIONS			
FCC 15.247:2016		ANSI C63.10:2013	
TEST METHOD			
COMMENTS			
EUT is operating at 100% duty cycle			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	4	Signature 	
		Value (dBc)	Limit ≤ (dBc) Result
Single Channel Mode			
Internal A200 Antenna			
	Low Data Channel, 915.80 MHz	-77.05	-20 Pass
	High Data Channel, 922.20 MHz	-73.86	-20 Pass
	Low Control Channel, 915.05 MHz	-75.13	-20 Pass
	High Control Channel, 918.65 MHz	-74.37	-20 Pass
External Antenna			
	Low Data Channel, 915.80 MHz	-75.68	-20 Pass
	High Data Channel, 922.20 MHz	-72.98	-20 Pass
	Low Control Channel, 915.05 MHz	-75.56	-20 Pass
	High Control Channel, 918.65 MHz	-74.69	-20 Pass

# BAND EDGE COMPLIANCE

Single Channel Mode, Internal A200 Antenna, Low Data Channel, 915.80 MHz			
	Value (dBc)	Limit ≤ (dBc)	Result
	-77.05	-20	Pass

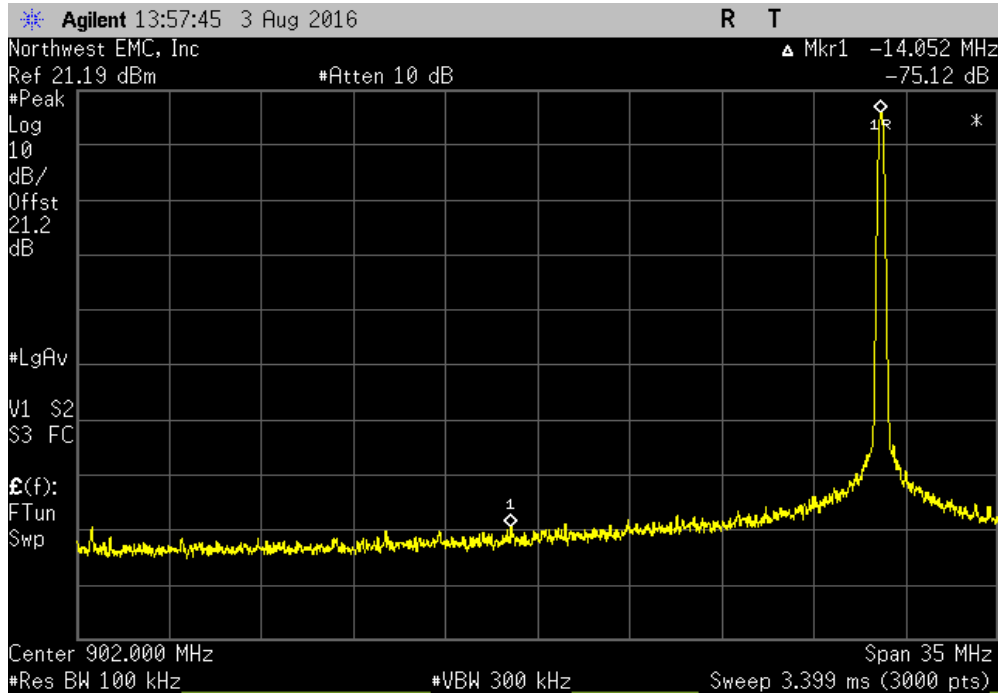


Single Channel Mode, Internal A200 Antenna, High Data Channel, 922.20 MHz			
	Value (dBc)	Limit ≤ (dBc)	Result
	-73.86	-20	Pass

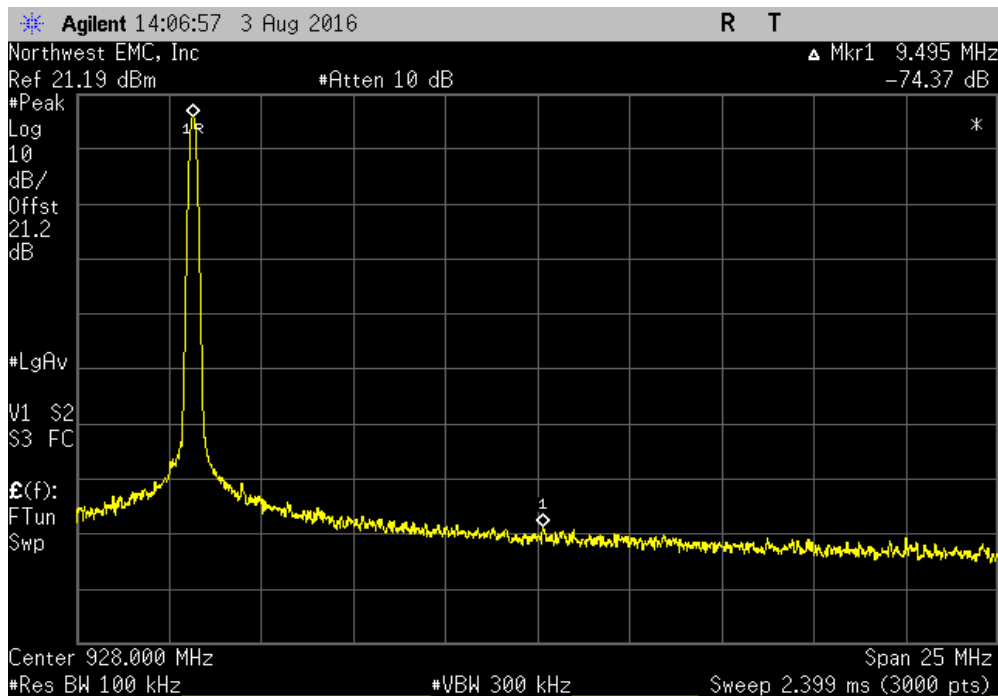


# BAND EDGE COMPLIANCE

Single Channel Mode, Internal A200 Antenna, Low Control Channel, 915.05 MHz			
	Value (dBc)	Limit ≤ (dBc)	Result
	-75.13	-20	Pass



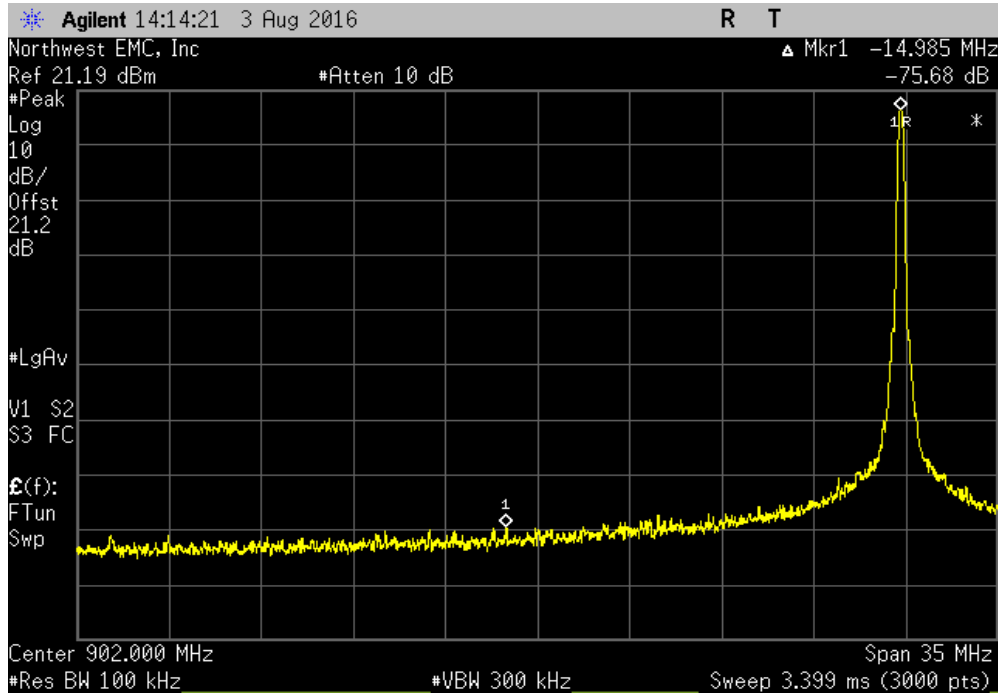
Single Channel Mode, Internal A200 Antenna, High Control Channel, 918.65 MHz			
	Value (dBc)	Limit ≤ (dBc)	Result
	-74.37	-20	Pass



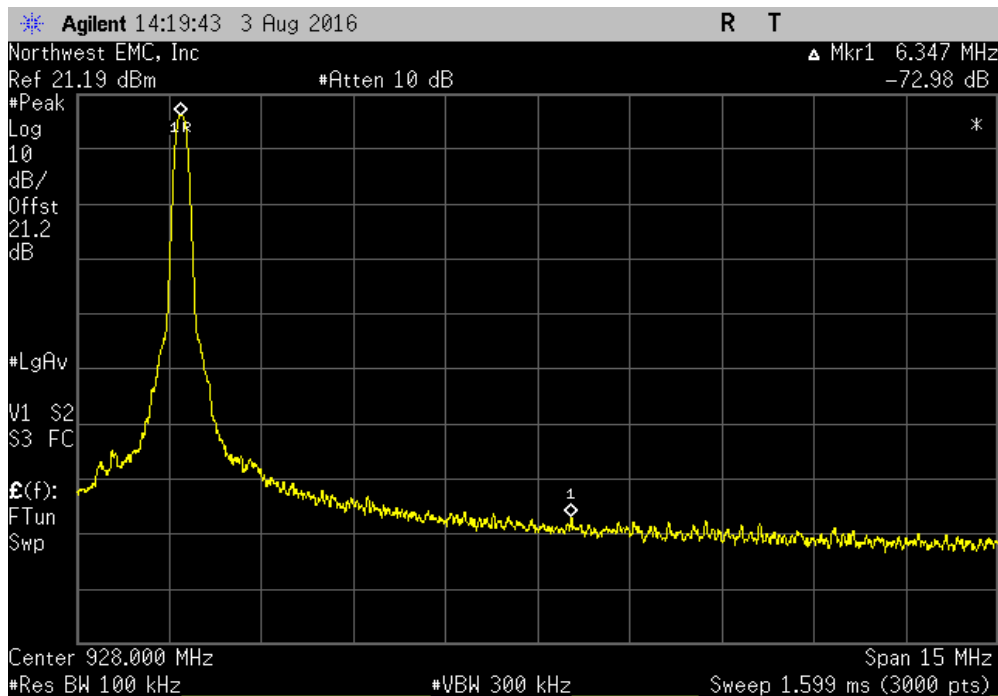


# BAND EDGE COMPLIANCE

Single Channel Mode, External Antenna, Low Data Channel, 915.80 MHz			
	Value (dBc)	Limit ≤ (dBc)	Result
	-75.68	-20	Pass

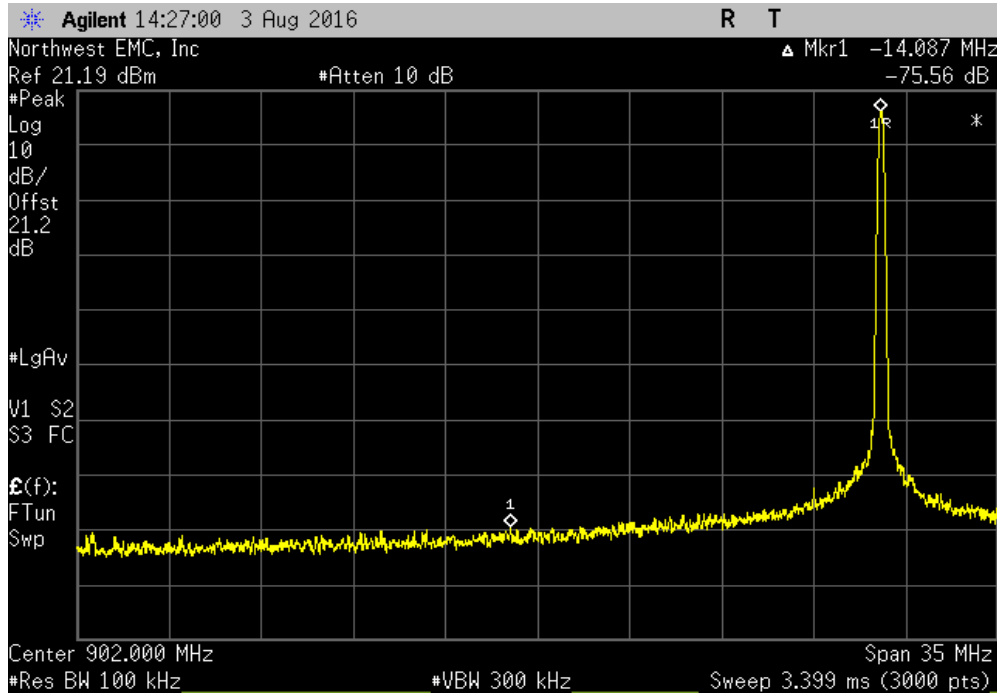


Single Channel Mode, External Antenna, High Data Channel, 922.20 MHz			
	Value (dBc)	Limit ≤ (dBc)	Result
	-72.98	-20	Pass

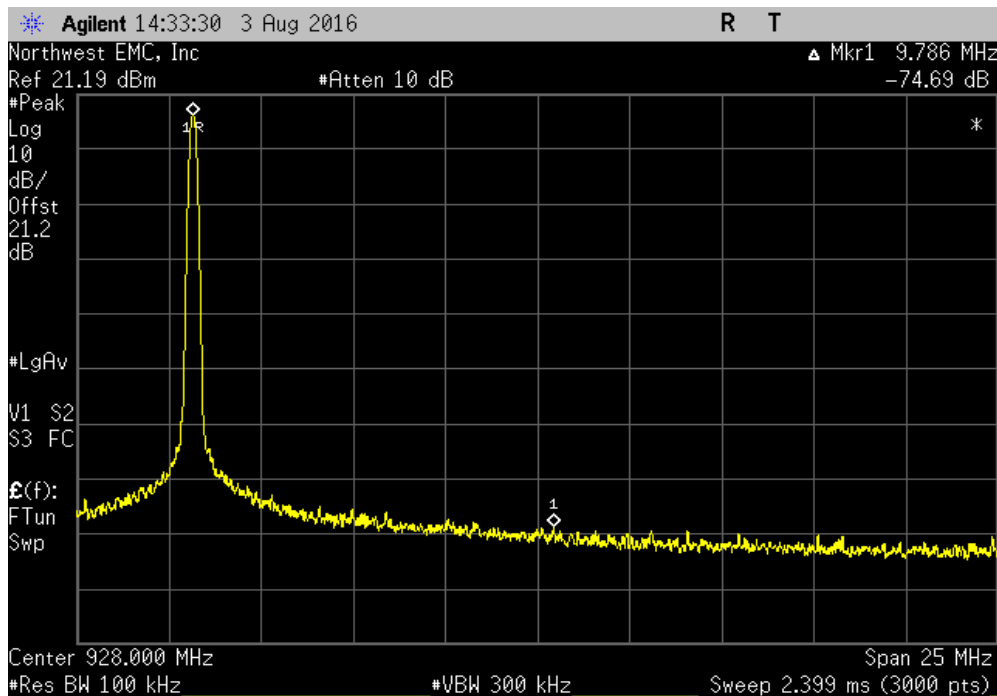


# BAND EDGE COMPLIANCE

Single Channel Mode, External Antenna, Low Control Channel, 915.05 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-75.56	-20	Pass



Single Channel Mode, External Antenna, High Control Channel, 918.65 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-74.69	-20	Pass



# BAND EDGE COMPLIANCE - HOPPING

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

## TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Generator - Signal	Keysight	N5182B	TFU	10/27/2015	10/27/2018
Cable	ESM Cable Corp.	TT	EV1	NCR	NCR
Attenuator	S.M. Electronics	SA26B-20	AUY	6/27/2016	6/27/2017
Block - DC	Pasternack	PE8210	AME	10/1/2015	10/1/2016
Analyzer - Spectrum Analyzer	Agilent	E4446A	AAQ	4/22/2016	4/22/2017

## TEST DESCRIPTION


The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The spurious RF conducted emissions at the edges of the authorized band were measured with the EUT set to its normal pseudo-random hopping sequence. The EUT was transmitting at the modes listed in the datasheet.

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

# BAND EDGE COMPLIANCE - HOPPING

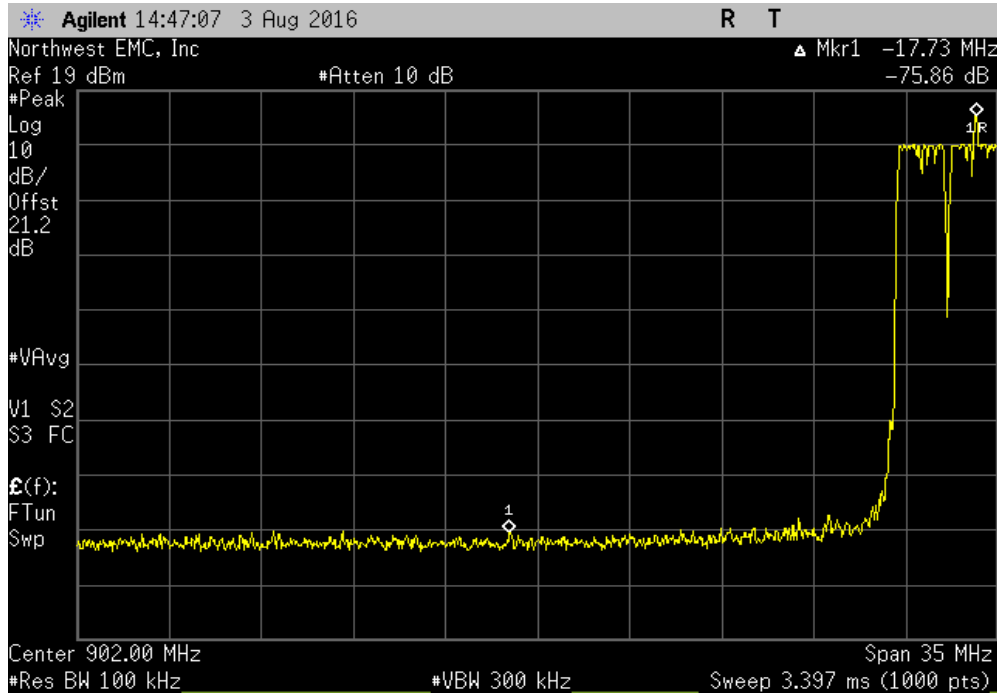


XMR 2016.05.06

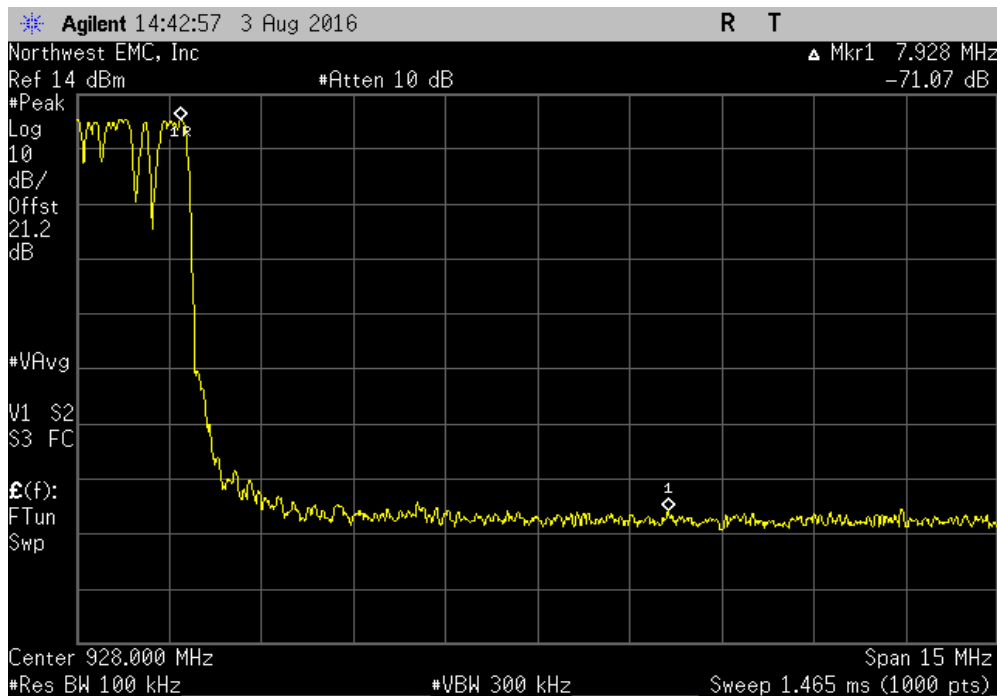
EUT: SyncBac Pro		Work Order: RIGA0010	
Serial Number: 81627001		Date: 08/04/16	
Customer: Timecode Systems Ltd.		Temperature: 23.5 °C	
Attendees: None		Humidity: 43.2% RH	
Project: None		Barometric Pres.: 1018 mbar	
Tested by: Brandon Hobbs	Power: Battery 5.0VDC via 110VAC/60Hz	Job Site: EV06	
TEST SPECIFICATIONS			
FCC 15.247:2016		ANSI C63.10:2013	
TEST METHOD			
COMMENTS			
Wort case antenna was used for Hopping mode.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	4	Signature 	
		Value (dBc)	Limit ≤ (dBc) Result
Hopping Mode			
	External Antenna		
	Low Data Channel, 915.80 MHz	-75.86	-20 Pass
	High Data Channel, 922.20 MHz	-71.07	-20 Pass
	Low Control Channel, 915.05 MHz	-74.64	-20 Pass
	High Control Channel, 918.65 MHz	-75.41	-20 Pass

# BAND EDGE COMPLIANCE - HOPPING

Hopping Mode, External Antenna, Low Data Channel, 915.80 MHz			
	Value (dBc)	Limit ≤ (dBc)	Result
	-75.86	-20	Pass

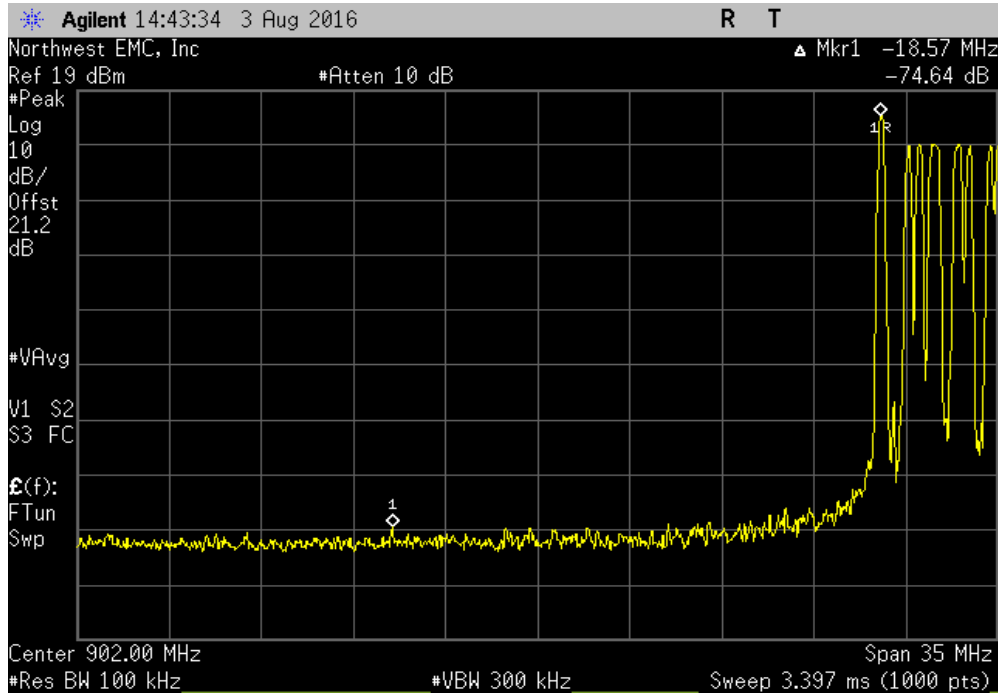


Hopping Mode, External Antenna, High Data Channel, 922.20 MHz			
	Value (dBc)	Limit ≤ (dBc)	Result
	-71.07	-20	Pass

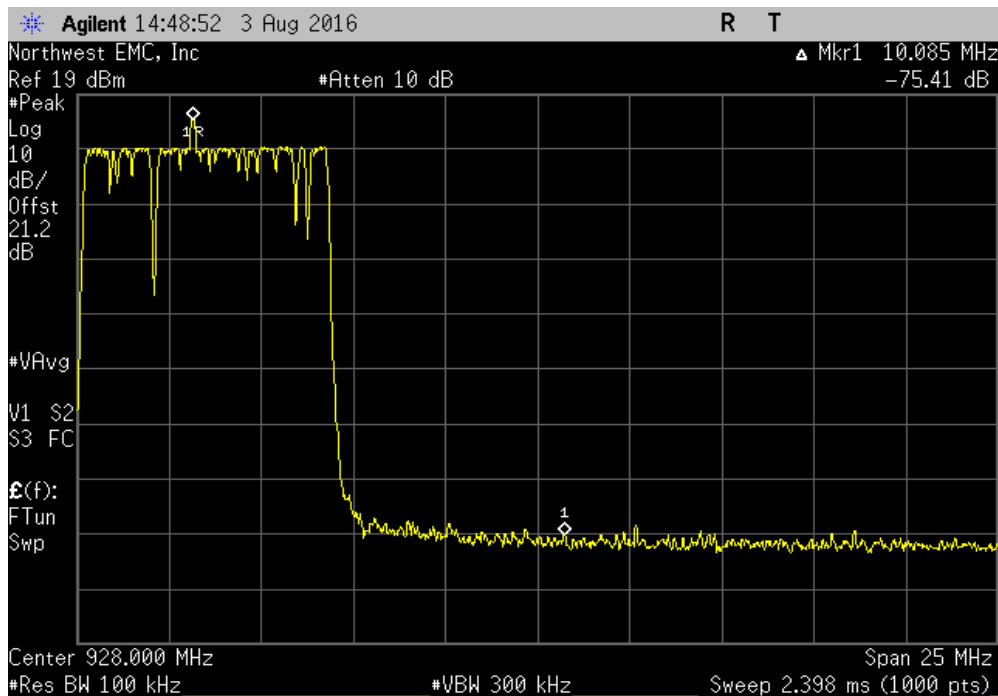


# BAND EDGE COMPLIANCE - HOPPING

Hopping Mode, External Antenna, Low Control Channel, 915.05 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-74.64	-20	Pass



Hopping Mode, External Antenna, High Control Channel, 918.65 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-75.41	-20	Pass



# OCCUPIED BANDWIDTH

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

## TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Generator - Signal	Keysight	N5182B	TFU	10/27/2015	10/27/2018
Cable	ESM Cable Corp.	TT	EV1	NCR	NCR
Block - DC	Pasternack	PE8210	AME	10/1/2015	10/1/2016
Attenuator	S.M. Electronics	SA26B-20	AUY	6/27/2016	6/27/2017
Analyzer - Spectrum Analyzer	Agilent	E4446A	AAQ	4/22/2016	4/22/2017


## TEST DESCRIPTION

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

# OCCUPIED BANDWIDTH



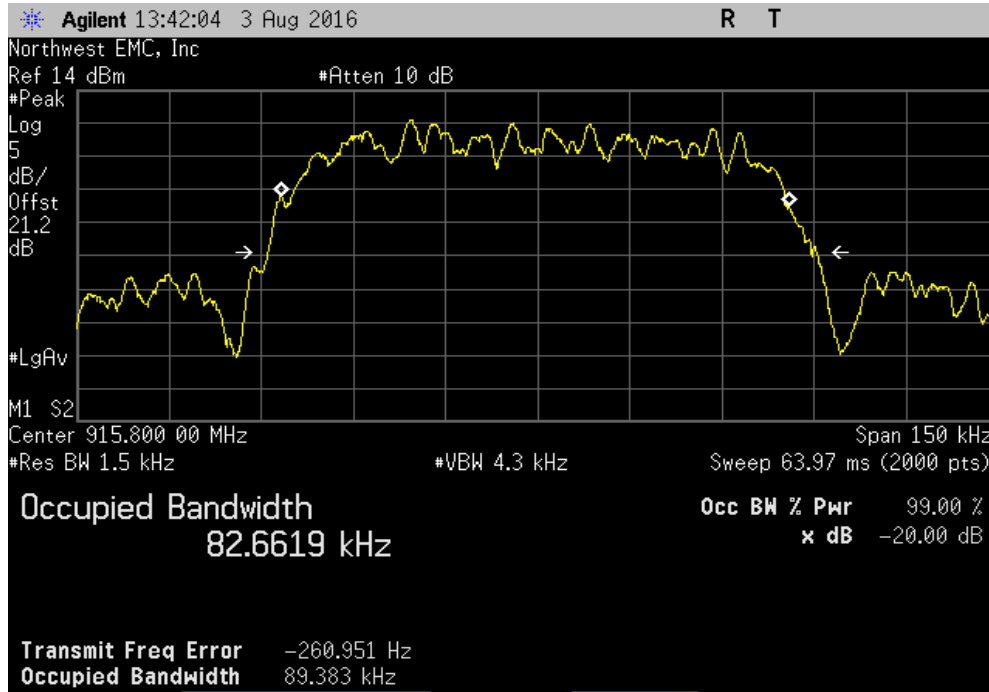
XMR 2016.05.06

EUT: SyncBac Pro		Work Order: RIGA0010	
Serial Number: 81627001		Date: 08/04/16	
Customer: Timecode Systems Ltd.		Temperature: 23.5 °C	
Attendees: None		Humidity: 43.3% RH	
Project: None		Barometric Pres.: 1018 mbar	
Tested by: Brandon Hobbs	Power: Battery 5.0VDC via 110VAC/60Hz	Job Site: EV06	
TEST SPECIFICATIONS			
FCC 15.247:2016		Test Method: ANSI C63.10:2013	
COMMENTS			
EUT is operating at 100% duty cycle			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	4	Signature 	
		Value	Limit (-) Result
Single Channel Mode			
Internal A200			
	Low Data Channel, 915.80 MHz	89.383 kHz	1.5 MHz Pass
	High Data Channel, 922.20 MHz	89.295 kHz	1.5 MHz Pass
	Low Control Channel, 915.05 MHz	35.547 kHz	1.5 MHz Pass
	High Control Channel, 918.65 MHz	35.335 kHz	1.5 MHz Pass
External			
	Low Data Channel, 915.80 MHz	89.153 kHz	1.5 MHz Pass
	High Data Channel, 922.20 MHz	89.008 kHz	1.5 MHz Pass
	Low Control Channel, 915.05 MHz	35.037 kHz	1.5 MHz Pass
	High Control Channel, 918.65 MHz	35.007 kHz	1.5 MHz Pass

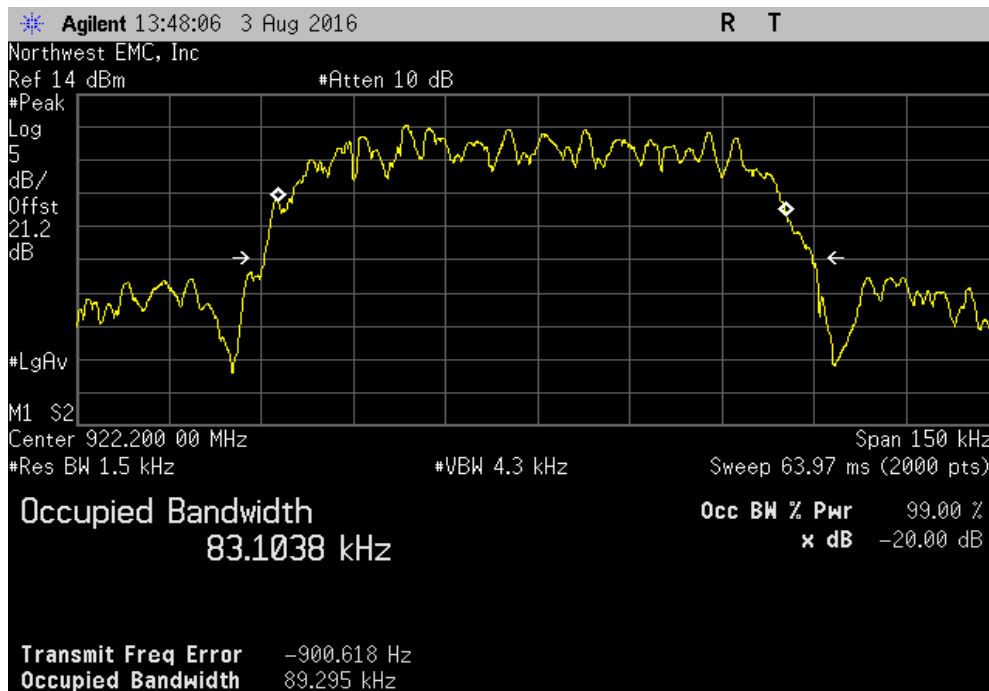


# OCCUPIED BANDWIDTH

Single Channel Mode, Internal A200, Low Data Channel, 915.80 MHz						
				Value	Limit (<)	Result
				89.383 kHz	1.5 MHz	Pass

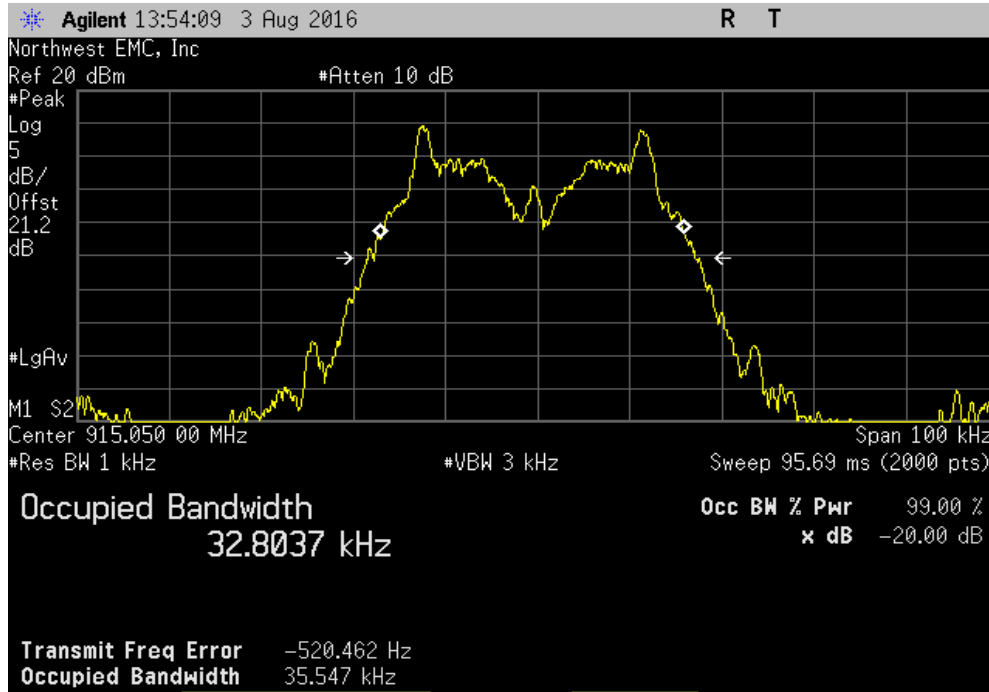


Single Channel Mode, Internal A200, High Data Channel, 922.20 MHz						
				Value	Limit (<)	Result
				89.295 kHz	1.5 MHz	Pass

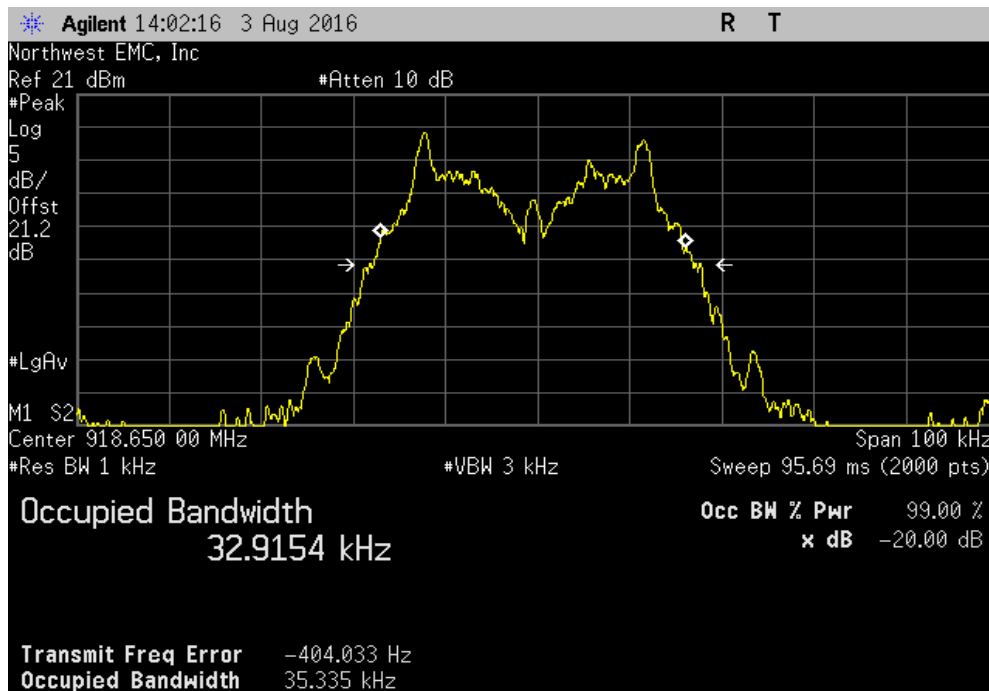


# OCCUPIED BANDWIDTH

Single Channel Mode, Internal A200, Low Control Channel, 915.05 MHz		
Value	Limit (<)	Result
35.547 kHz	1.5 MHz	Pass

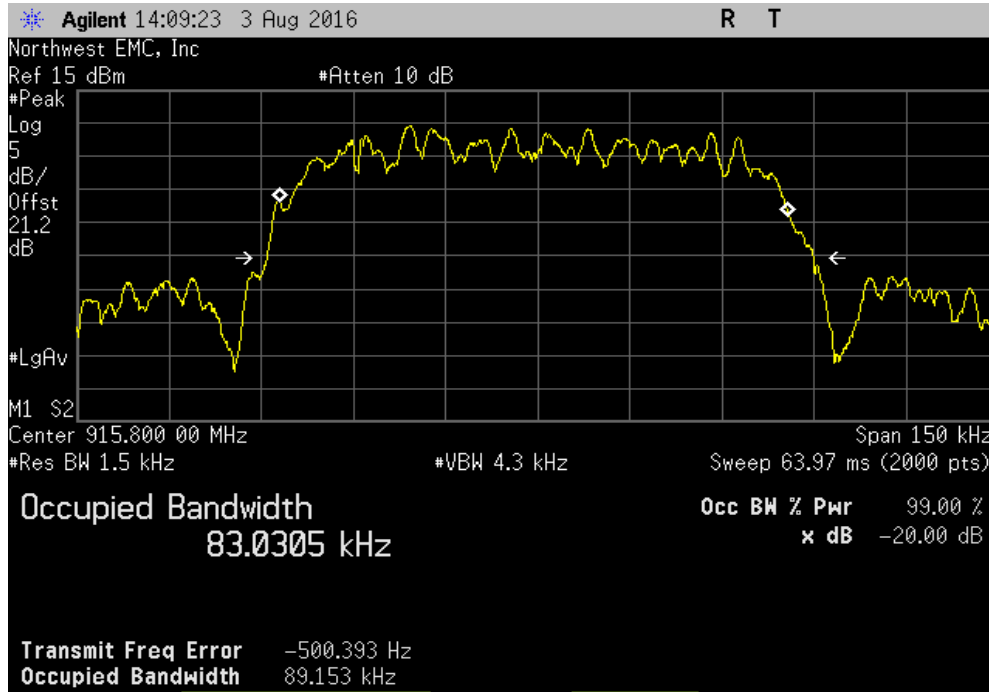


Single Channel Mode, Internal A200, High Control Channel, 918.65 MHz		
Value	Limit (<)	Result
35.335 kHz	1.5 MHz	Pass

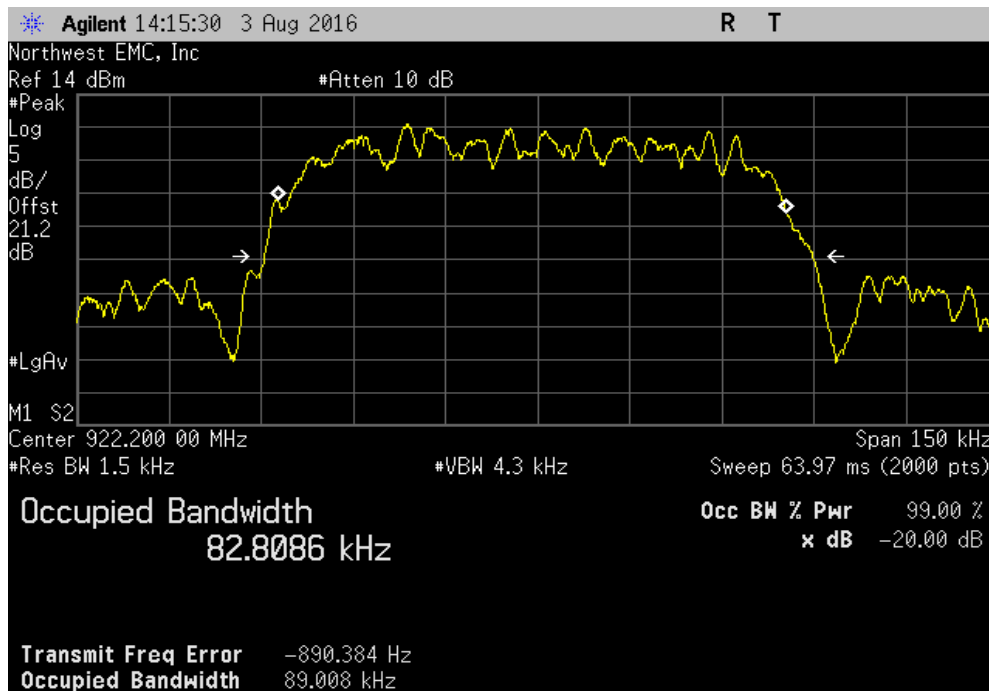


# OCCUPIED BANDWIDTH

Single Channel Mode, External, Low Data Channel, 915.80 MHz		
Value	Limit (<)	Result
89.153 kHz	1.5 MHz	Pass

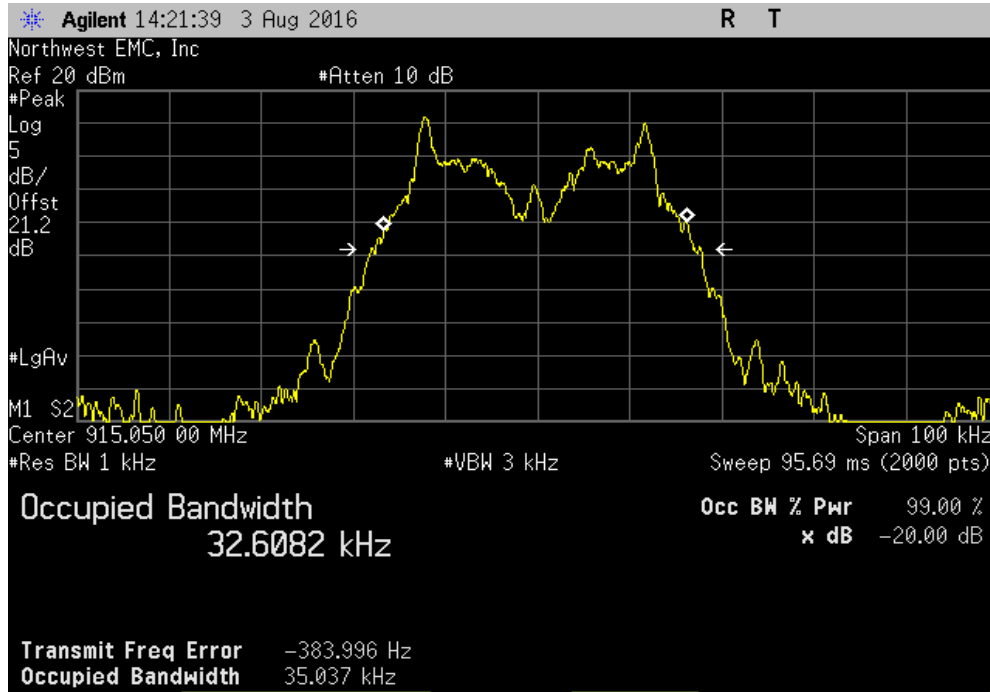


Single Channel Mode, External, High Data Channel, 922.20 MHz		
Value	Limit (<)	Result
89.008 kHz	1.5 MHz	Pass

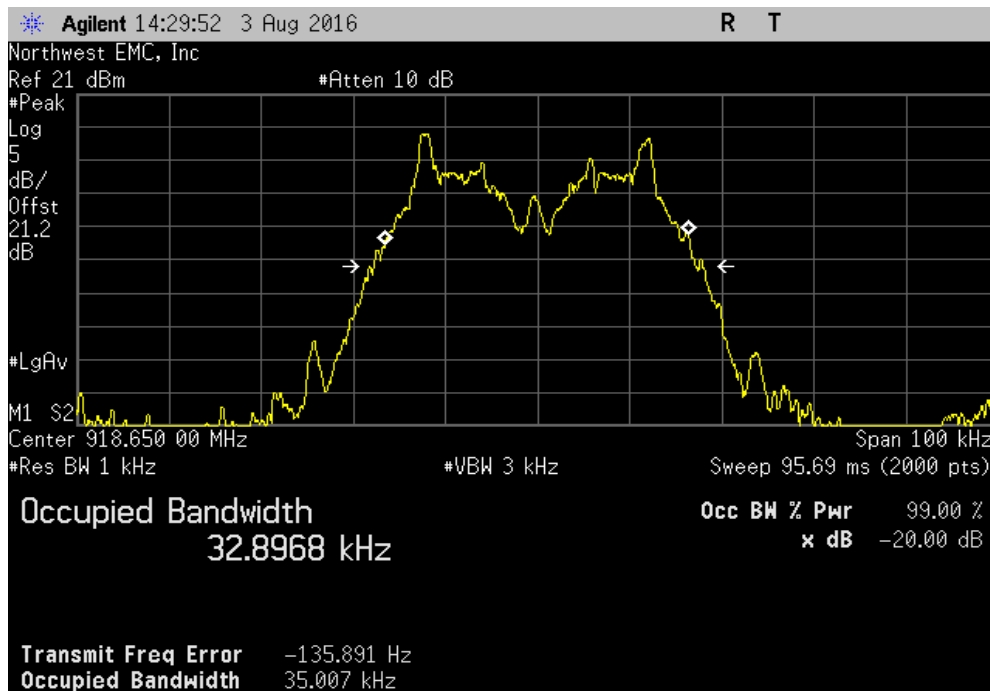


# OCCUPIED BANDWIDTH

Single Channel Mode, External, Low Control Channel, 915.05 MHz						
				Value	Limit (<)	Result
				35.037 kHz	1.5 MHz	Pass



Single Channel Mode, External, High Control Channel, 918.65 MHz						
				Value	Limit (<)	Result
				35.007 kHz	1.5 MHz	Pass



# SPURIOUS CONDUCTED EMISSIONS

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
Attenuator	S.M. Electronics	SA26B-20	AUY	6/27/2016	6/27/2017
Block - DC	Pasternack	PE8210	AME	10/1/2015	10/1/2016
Cable	ESM Cable Corp.	TT	EV1	NCR	NCR
Generator - Signal	Keysight	N5182B	TFU	10/27/2015	10/27/2018
Analyzer - Spectrum Analyzer	Agilent	E4446A	AAQ	4/22/2016	4/22/2017

## TEST DESCRIPTION

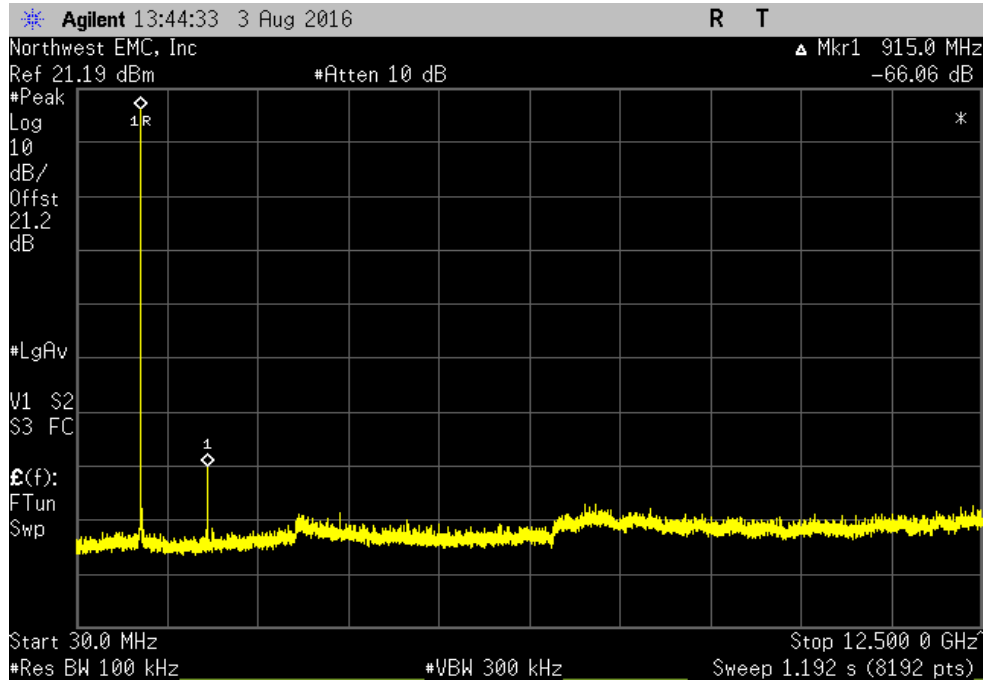
The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The spurious RF conducted emissions were measured with the EUT set to low, medium and high transmit frequencies. The EUT was transmitting at the data rate(s) listed in the datasheet in a no-hop mode. For each transmit frequency, the spectrum was scanned throughout the specified frequency range.

# SPURIOUS CONDUCTED EMISSIONS

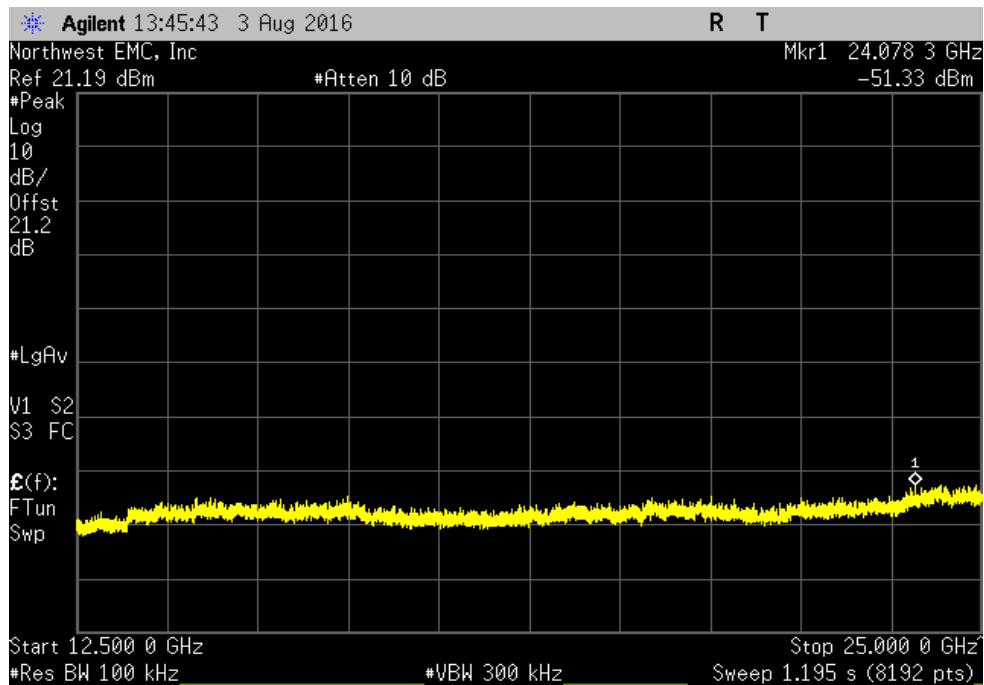
EUT: SyncBac Pro		Work Order: RIGA0010			
Serial Number: 81627001		Date: 08/04/16			
Customer: Timecode Systems Ltd.		Temperature: 23.8 °C			
Attendees: None		Humidity: 44.1% RH			
Project: None		Barometric Pres.: 1016 mbar			
Tested by: Brandon Hobbs		Power: Battery 5.0VDC via 110VAC/60Hz			
		Job Site: EV06			
TEST SPECIFICATIONS					
FCC 15.247:2016		ANSI C63.10:2013			
TEST METHOD					
COMMENTS					
EUT is operating at 100% duty cycle					
DEVIATIONS FROM TEST STANDARD					
None					
Configuration #	4	Signature 			
		Frequency Range	Max Value (dBc)	Limit ≤ (dBc)	Result
Single Channel Mode					
Internal A200					
	Low Data Channel, 915.80 MHz	30 MHz - 12.5 GHz	-66.06	-20	Pass
	Low Data Channel, 915.80 MHz	12.5 GHz - 25 GHz	-68.55	-20	Pass
	High Data Channel, 922.20 MHz	30 MHz - 12.5 GHz	-66.79	-20	Pass
	High Data Channel, 922.20 MHz	12.5 GHz - 25 GHz	-68.37	-20	Pass
	Low Control Channel, 915.05 MHz	30 MHz - 12.5 GHz	-65.68	-20	Pass
	Low Control Channel, 915.05 MHz	12.5 GHz - 25 GHz	-68.32	-20	Pass
	High Control Channel, 918.65 MHz	30 MHz - 12.5 GHz	-66.07	-20	Pass
	High Control Channel, 918.65 MHz	12.5 GHz - 25 GHz	-67.93	-20	Pass
External					
	Low Data Channel, 915.80 MHz	30 MHz - 12.5 GHz	-60.97	-20	Pass
	Low Data Channel, 915.80 MHz	12.5 GHz - 25 GHz	-66.9	-20	Pass
	High Data Channel, 922.20 MHz	30 MHz - 12.5 GHz	-61.43	-20	Pass
	High Data Channel, 922.20 MHz	12.5 GHz - 25 GHz	-68.7	-20	Pass
	Low Control Channel, 915.05 MHz	30 MHz - 12.5 GHz	-60.88	-20	Pass
	Low Control Channel, 915.05 MHz	12.5 GHz - 25 GHz	-68.25	-20	Pass
	High Control Channel, 918.65 MHz	30 MHz - 12.5 GHz	-60.85	-20	Pass
	High Control Channel, 918.65 MHz	12.5 GHz - 25 GHz	-67.62	-20	Pass

# SPURIOUS CONDUCTED EMISSIONS

Single Channel Mode, Internal A200, Low Data Channel, 915.80 MHz				
Frequency Range	Max Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz	-66.06	-20	Pass	

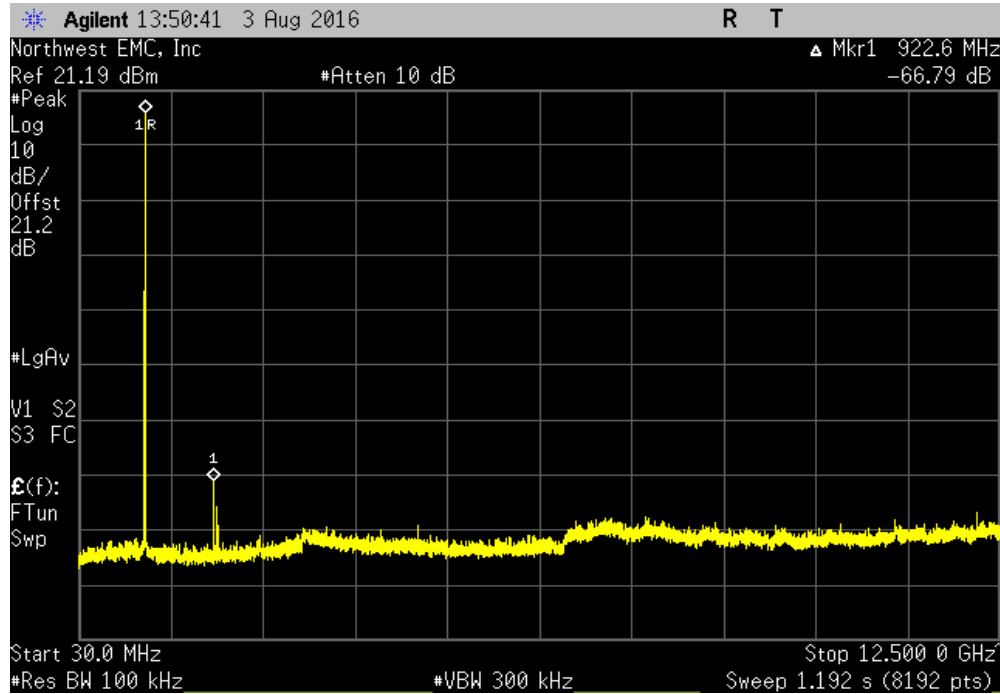


Single Channel Mode, Internal A200, Low Data Channel, 915.80 MHz				
Frequency Range	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	-68.55	-20	Pass	

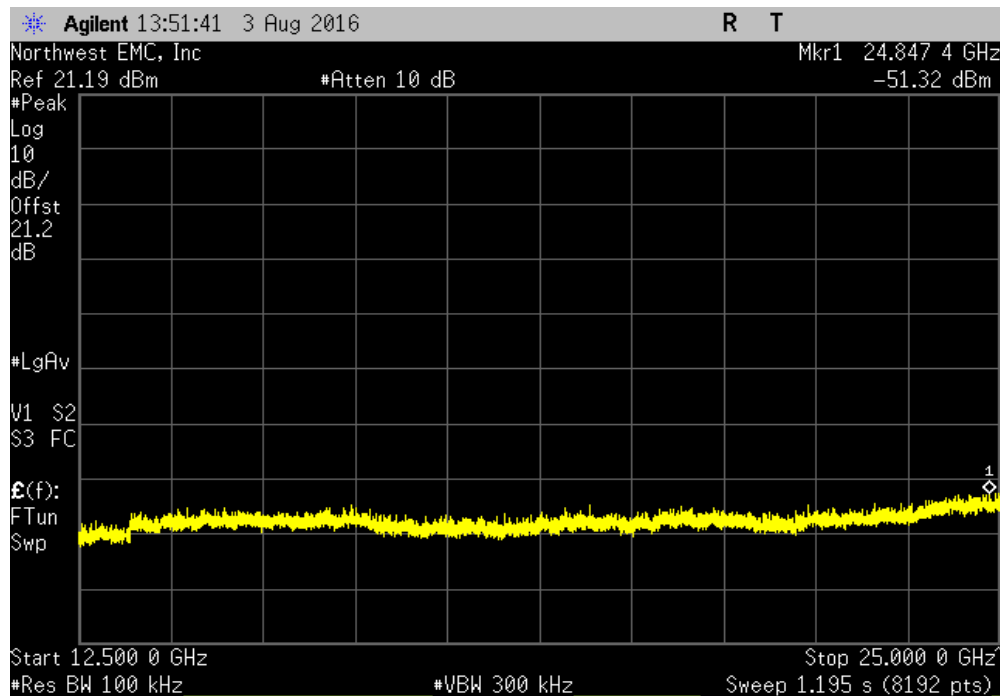


# SPURIOUS CONDUCTED EMISSIONS

Single Channel Mode, Internal A200, High Data Channel, 922.20 MHz				
Frequency Range	Max Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz	-66.79	-20	Pass	



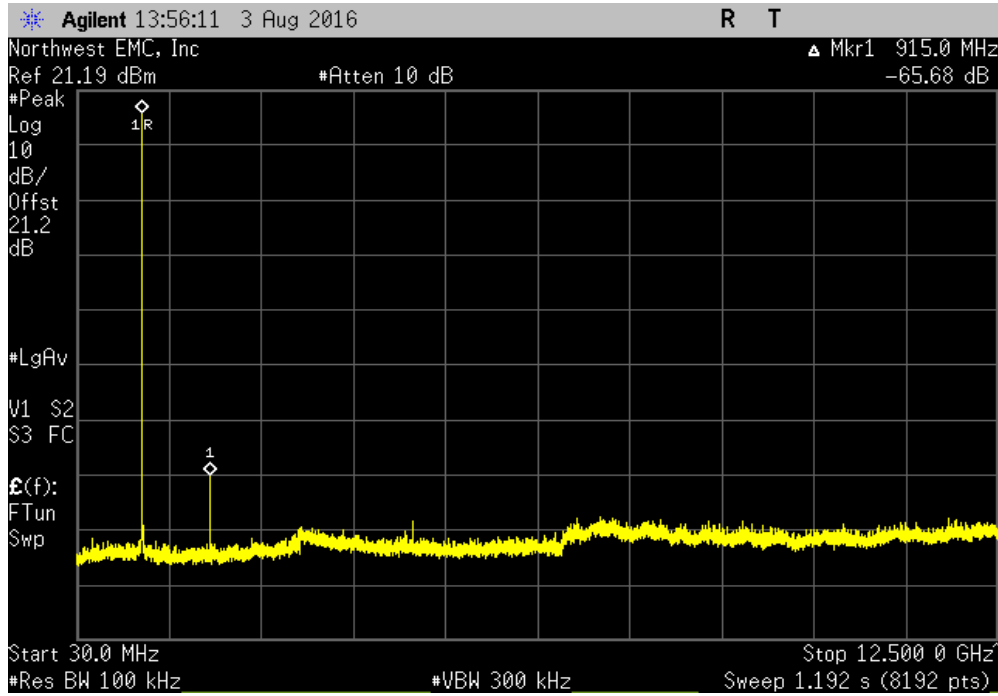
Single Channel Mode, Internal A200, High Data Channel, 922.20 MHz				
Frequency Range	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	-68.37	-20	Pass	



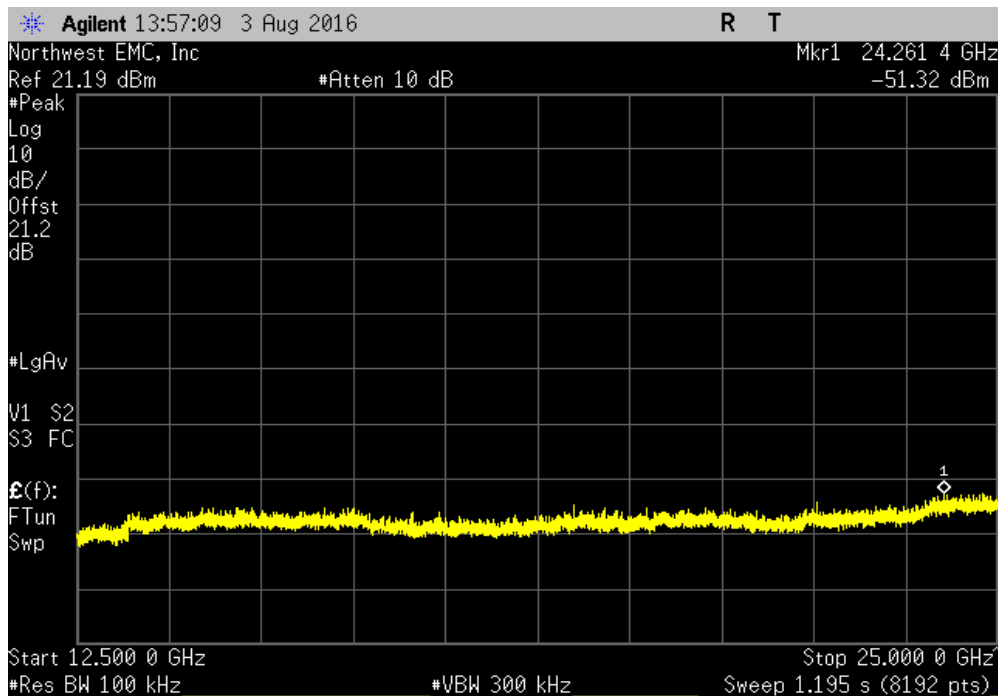


# SPURIOUS CONDUCTED EMISSIONS

Single Channel Mode, Internal A200, Low Control Channel, 915.05 MHz				
Frequency Range	Max Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz	-65.68	-20	Pass	

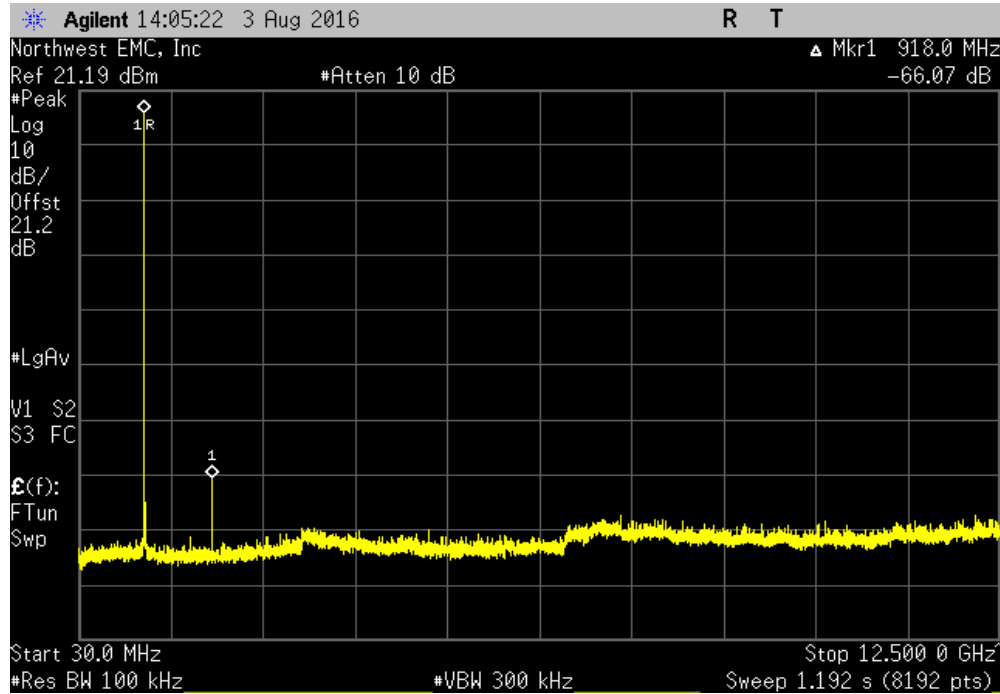


Single Channel Mode, Internal A200, Low Control Channel, 915.05 MHz				
Frequency Range	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	-68.32	-20	Pass	

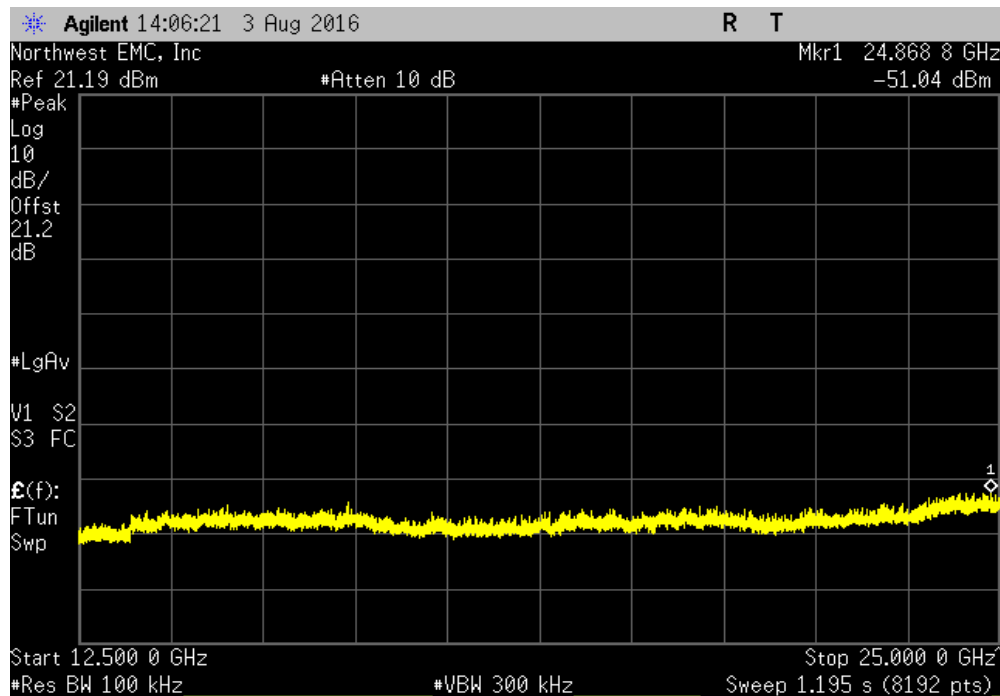


# SPURIOUS CONDUCTED EMISSIONS

Single Channel Mode, Internal A200, High Control Channel, 918.65 MHz				
Frequency Range	Max Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz	-66.07	-20	Pass	

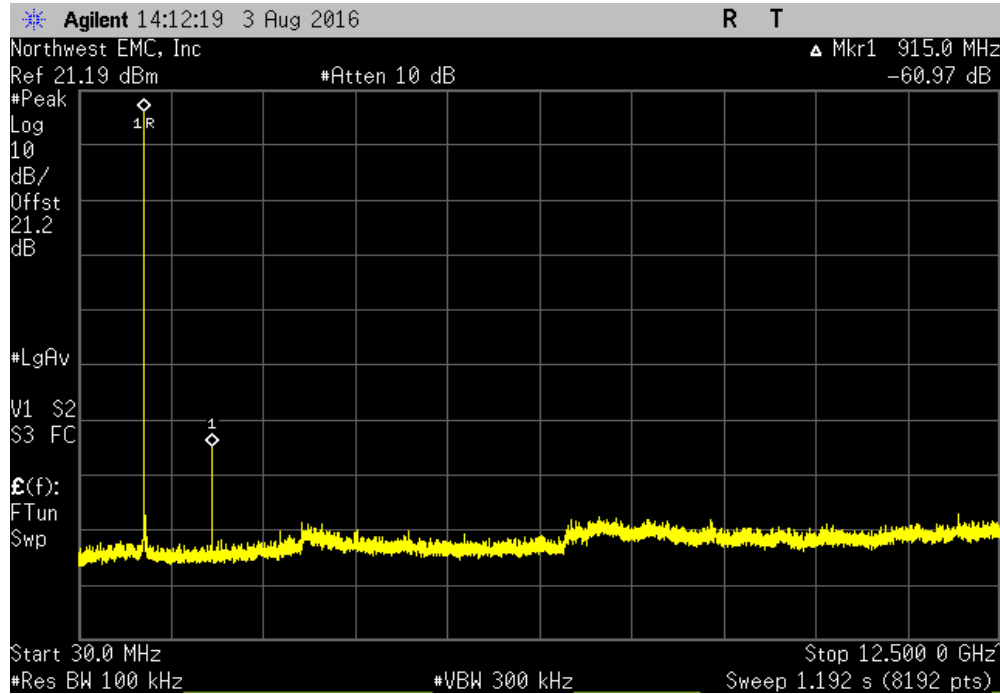


Single Channel Mode, Internal A200, High Control Channel, 918.65 MHz				
Frequency Range	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	-67.93	-20	Pass	

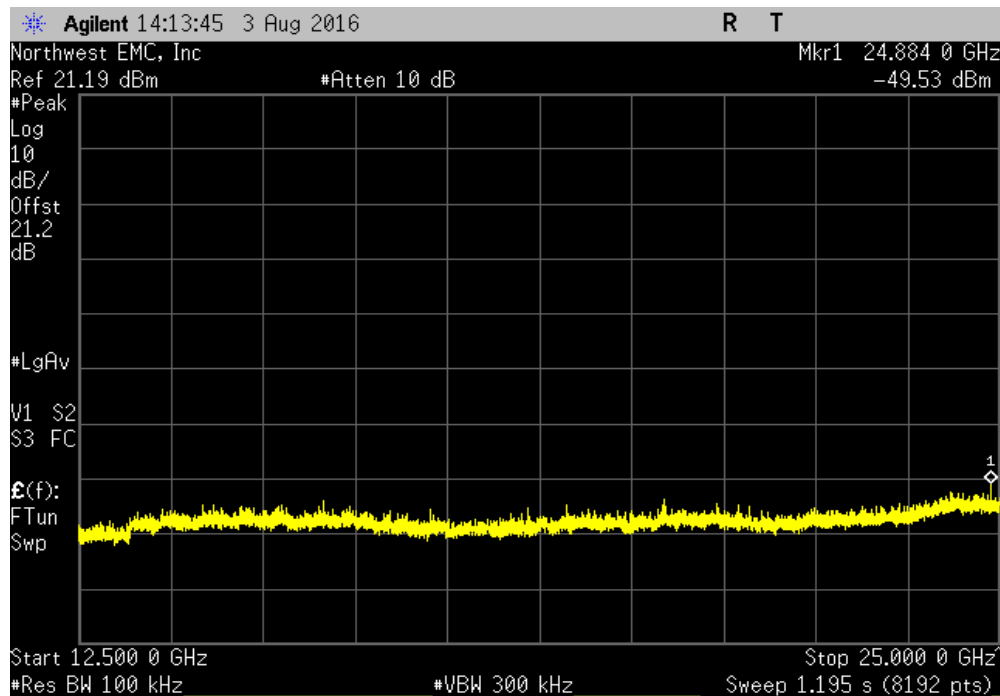


# SPURIOUS CONDUCTED EMISSIONS

Single Channel Mode, External, Low Data Channel, 915.80 MHz				
Frequency Range	Max Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz	-60.97	-20	Pass	

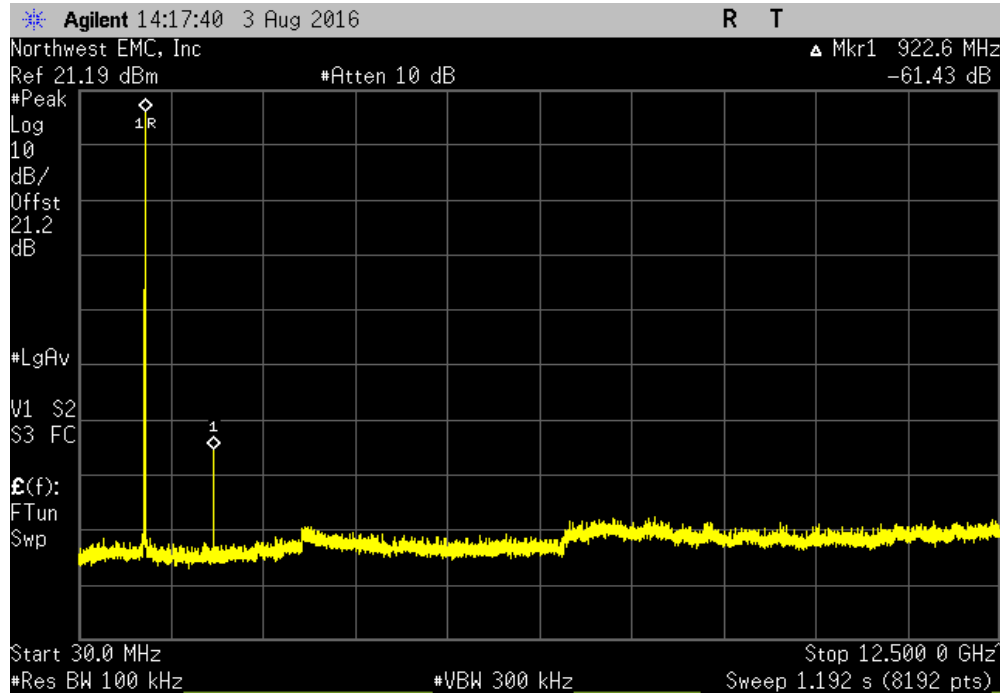


Single Channel Mode, External, Low Data Channel, 915.80 MHz				
Frequency Range	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	-66.9	-20	Pass	

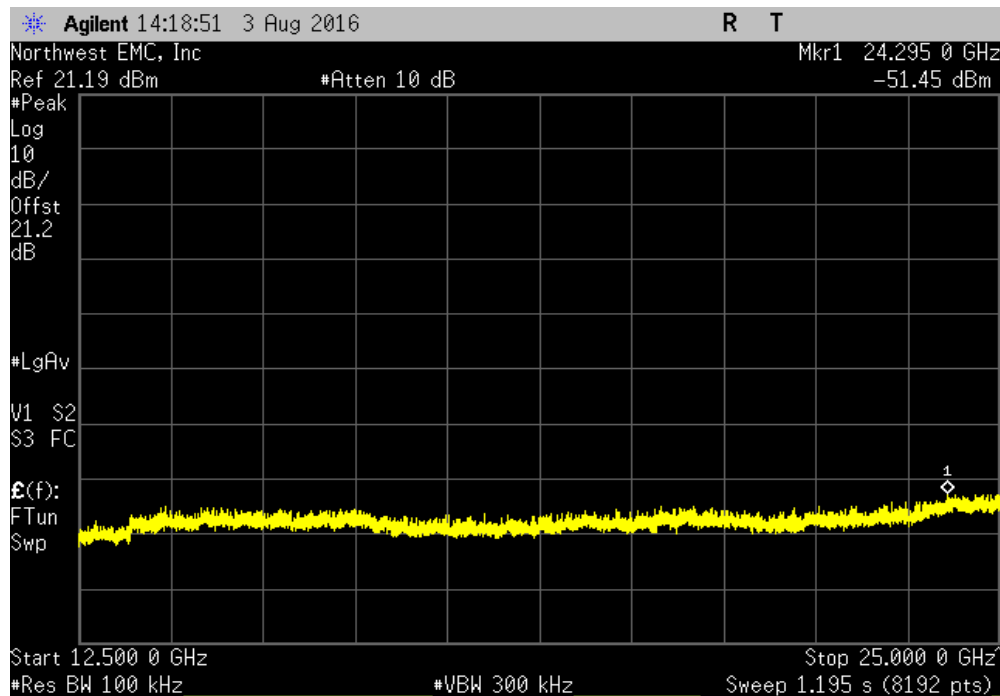


# SPURIOUS CONDUCTED EMISSIONS

Single Channel Mode, External, High Data Channel, 922.20 MHz				
Frequency Range	Max Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz	-61.43	-20	Pass	

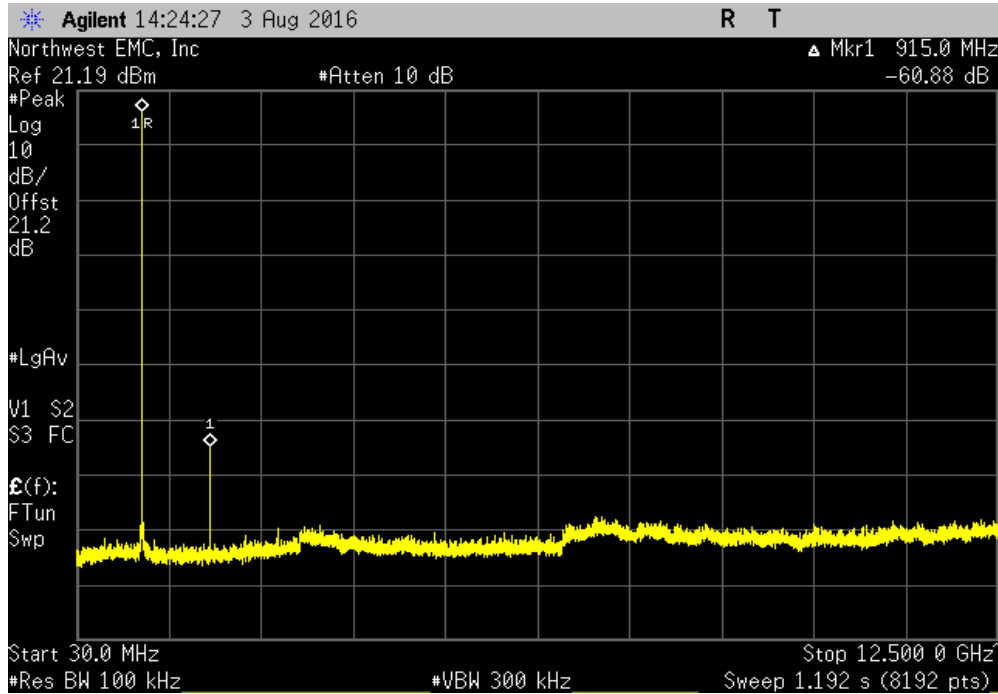


Single Channel Mode, External, High Data Channel, 922.20 MHz				
Frequency Range	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	-68.7	-20	Pass	

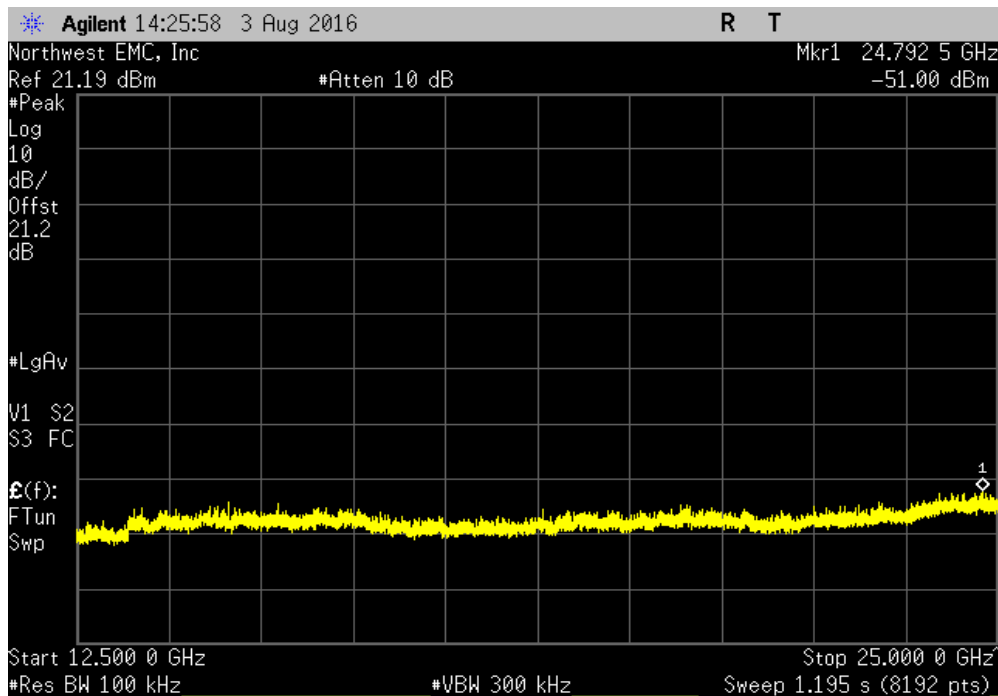


# SPURIOUS CONDUCTED EMISSIONS

Single Channel Mode, External, Low Control Channel, 915.05 MHz				
Frequency Range	Max Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz	-60.88	-20	Pass	

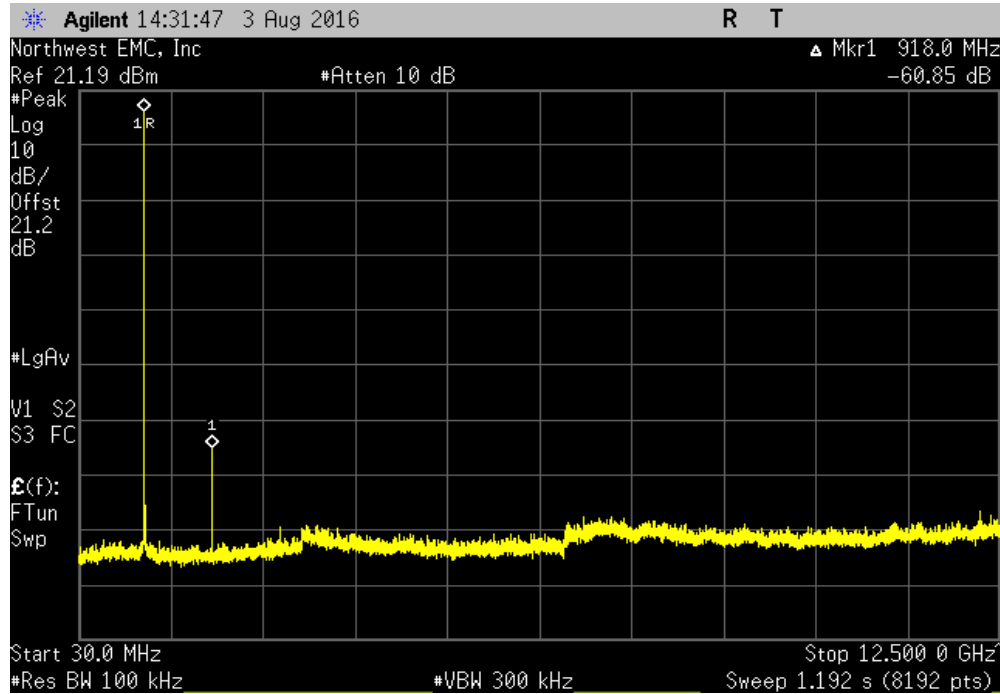


Single Channel Mode, External, Low Control Channel, 915.05 MHz				
Frequency Range	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	-68.25	-20	Pass	



# SPURIOUS CONDUCTED EMISSIONS

Single Channel Mode, External, High Control Channel, 918.65 MHz				
Frequency Range	Max Value (dBc)	Limit ≤ (dBc)	Result	
30 MHz - 12.5 GHz	-60.85	-20	Pass	



Single Channel Mode, External, High Control Channel, 918.65 MHz				
Frequency Range	Max Value (dBc)	Limit ≤ (dBc)	Result	
12.5 GHz - 25 GHz	-67.62	-20	Pass	

