



Roche Diabetes Care, Inc.

Accu-Chek Guide Link

FCC 15.247:2017

Bluetooth Radio

Report # 7LAY0086



NVLAP Lab Code: 200676-0



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CERTIFICATE OF TEST

Last Date of Test: July 14, 2017
Roche Diabetes Care, Inc.
Model: Accu-Chek Guide Link

Radio Equipment Testing

Standards

Specification	Method
FCC 15.247:2017	ANSI C63.10:2013, KDB 558074

Results

Method Clause	Test Description	Applied	Results	Comments
6.2	Powerline Conducted Emissions	Yes	Pass	
11.12.1, 11.13.2, 6.5, 6.6	Spurious Radiated Emissions	Yes	Pass	
11.6	Duty Cycle	Yes	Pass	
11.8.2	Occupied Bandwidth	Yes	Pass	
11.9.1.1	Output Power	Yes	Pass	
11.10.2	Power Spectral Density	Yes	Pass	
11.11	Band Edge Compliance	Yes	Pass	
11.11	Spurious Conducted Emissions	Yes	Pass	

Deviations From Test Standards

None

Approved By:

Jeremiah Darden, 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



United States

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

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

NVLAP - Each laboratory is accredited by NVLAP to ISO 17025

Canada

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

European Union

European Commission – Within Element, we have a EU Notified Body validated for the EMCD and RED Directives.

Australia/New Zealand

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

Korea

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

Japan

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

Taiwan

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

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

Singapore

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

Israel

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

Hong Kong

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

Vietnam

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

SCOPE

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

<http://portlandcustomer.element.com/ts/scope/scope.htm>

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

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.

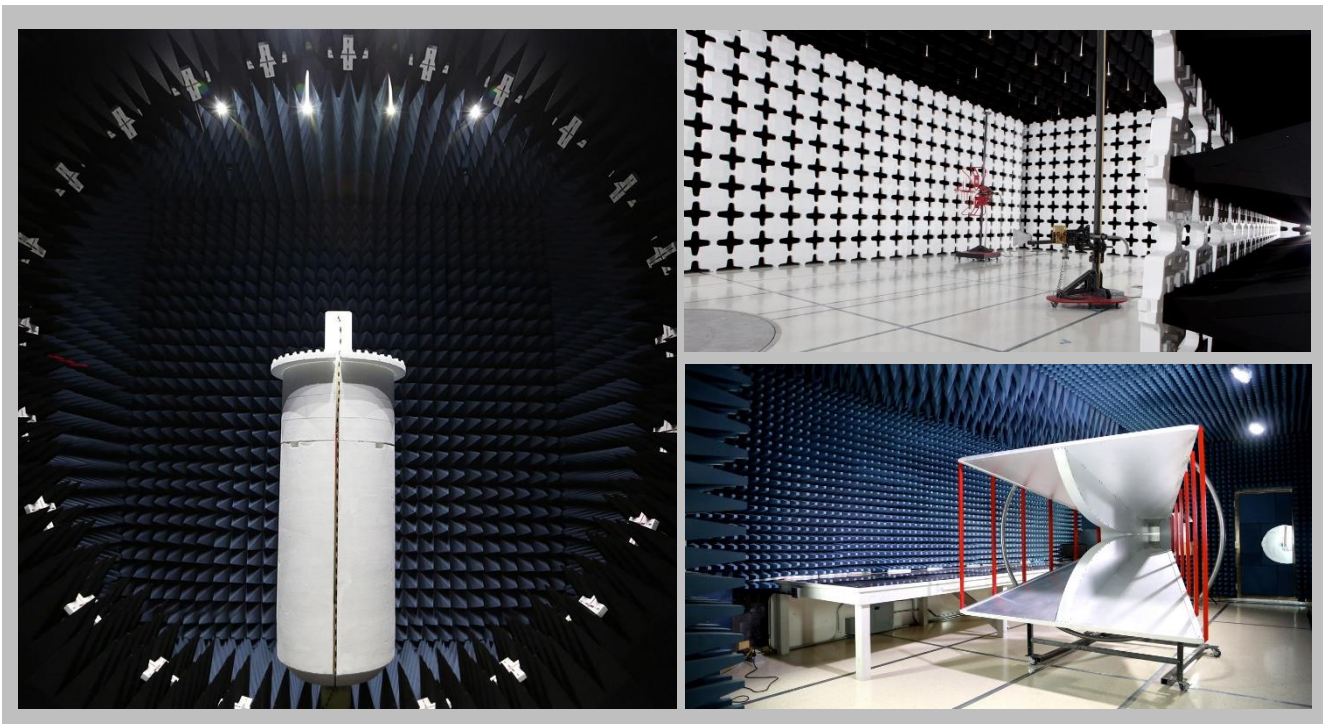
The following table represents the Measurement Uncertainty (MU) budgets for each of the tests that may be contained in this report.

Test	+ MU	- MU
Frequency Accuracy (Hz)	0.0007%	-0.0007%
Amplitude Accuracy (dB)	1.2 dB	-1.2 dB
Conducted Power (dB)	0.3 dB	-0.3 dB
Radiated Power via Substitution (dB)	0.7 dB	-0.7 dB
Temperature (degrees C)	0.7°C	-0.7°C
Humidity (% RH)	2.5% RH	-2.5% RH
Voltage (AC)	1.0%	-1.0%
Voltage (DC)	0.7%	-0.7%
Field Strength (dB)	4.9 dB	-4.9 dB
AC Powerline Conducted Emissions (dB)	2.4 dB	-2.4 dB

FACILITIES

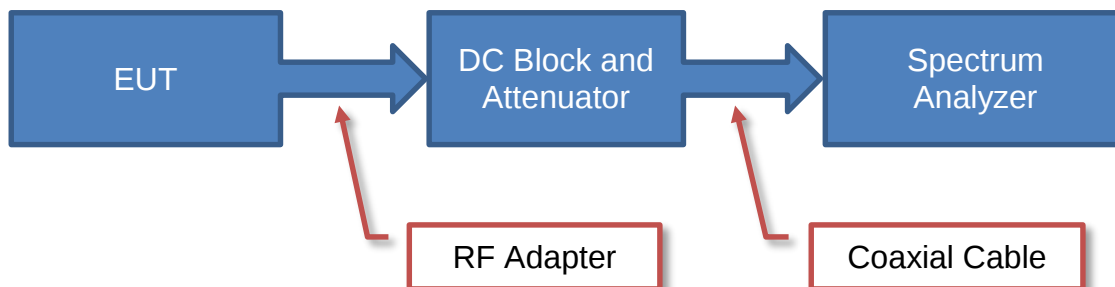


California Labs OC01-13 41 Tesla Irvine, CA 92618 (949) 861-8918	Minnesota Labs MN01-08, MN10 9349 W Broadway Ave. Brooklyn Park, MN 55445 (612)-638-5136	New York Labs NY01-04 4939 Jordan Rd. Elbridge, NY 13060 (315) 554-8214	Oregon Labs EV01-12 22975 NW Evergreen Pkwy Hillsboro, OR 97124 (503) 844-4066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

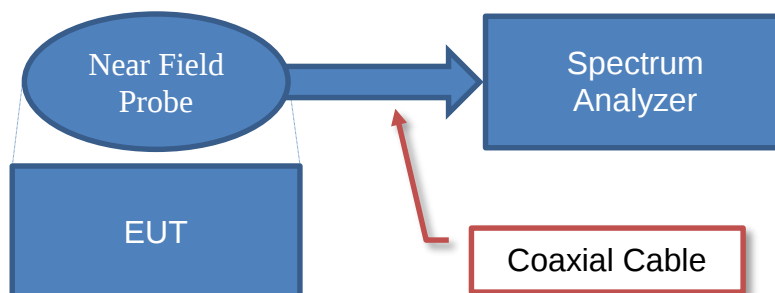


Test Setup Block Diagrams

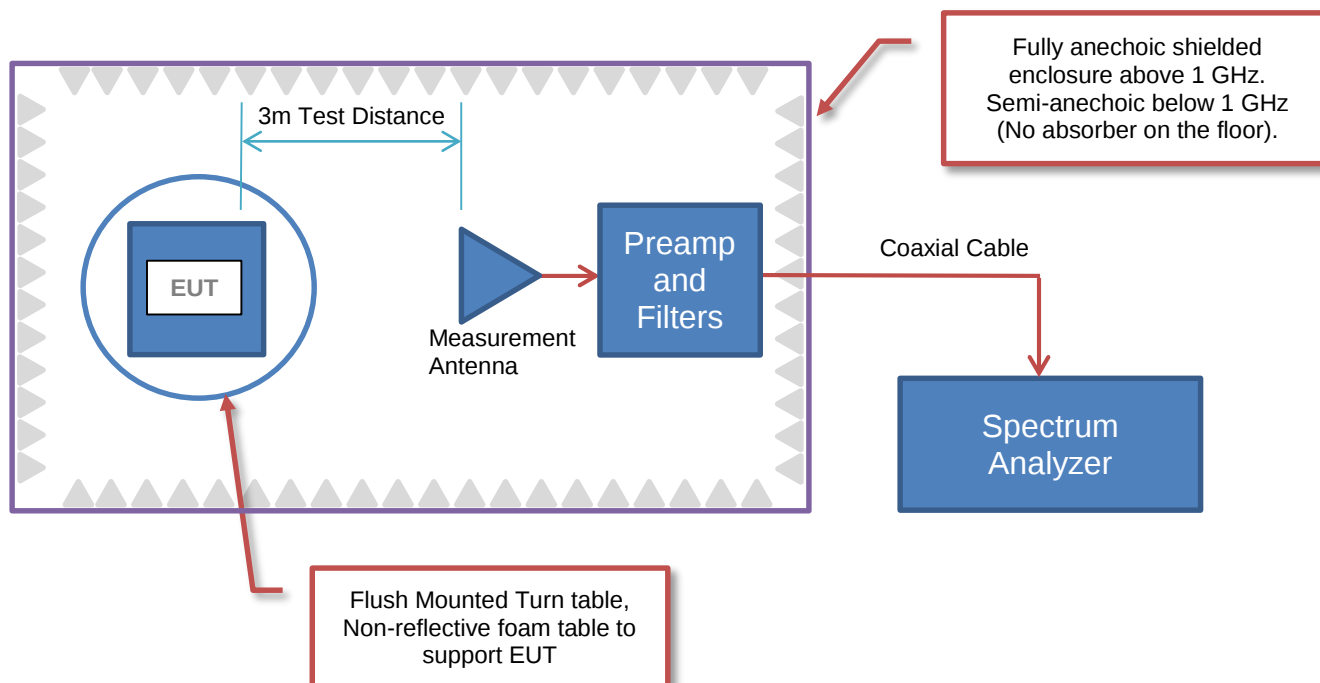
Antenna Port Conducted Measurements



Near Field Test Fixture Measurements



Spurious Radiated Emissions





PRODUCT DESCRIPTION

Client and Equipment Under Test (EUT) Information

Company Name:	Roche Diabetes, Inc.
Address:	9115 Hague Road
City, State, Zip:	Indianapolis, IN 46256
Test Requested By:	Tony Heleine
Model:	Accu-Chek Guide Link
First Date of Test:	June 5, 2017
Last Date of Test:	July 14, 2017
Receipt Date of Samples:	May 19, 2017
Equipment Design Stage:	Production
Equipment Condition:	No Damage
Purchase Authorization:	Verified

Information Provided by the Party Requesting the Test

Functional Description of the EUT:
Blood Glucose Meter w/ BLE
Testing Objective:
To demonstrate compliance of the Bluetooth radio to FCC 15.247 requirements.

CONFIGURATIONS



Configuration 7LAY0086- 1

Software/Firmware Running during test	
Description	Version
GenTest	2.2.4
Windows CMD	None

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Blood Glucose Meter	Roche Diabetes Care, Inc.	111	11100000201

Peripherals in test setup boundary			
Description	Manufacturer	Model/Part Number	Serial Number
USB Adapter	HUAWEI	HW-050 100U2W	864676F9M06057
Lenovo Laptop	Lenovo	SL300	L3-C2189
Lenovo Laptop Brick	Lenovo	42T5276	11S42T5276Z1ZD8V8BC1BS
USB Thumbdrive	EM TEC	None	None
Mouse	Microsoft	MSK-1113B	X821908-014

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
USB Cable	No	3.18m	No	USB Adapter	Blood Glucose Meter
USB Cable	Yes	1.8m	No	Laptop	Mouse

MODIFICATIONS



Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	6/5/2017	Duty Cycle	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
2	6/5/2017	Occupied Bandwidth	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
3	6/5/2017	Output Power	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
4	6/5/2017	Power Spectral Density	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
5	6/5/2017	Band Edge Compliance	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
6	6/5/2017	Spurious Conducted Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
7	6/26/2017	Spurious Radiated Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
8	7/14/2017	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



WTD.2017.03.21

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	LJK	9/21/2016	9/21/2017
Cable - Conducted Cable Assembly	Element	TXA, HHZ, TQR	TXAA	4/17/2017	4/17/2018
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFD	7/29/2016	7/29/2017
Power Source/Analyzer	Hewlett Packard	6841A	THC	NCR	NCR

MEASUREMENT UNCERTAINTY

Description		
Expanded k=2	2.4 dB	-2.4 dB

CONFIGURATIONS INVESTIGATED

7LAY0086-1

MODES INVESTIGATED

Running at Mid Ch BLE

POWERLINE CONDUCTED EMISSIONS



WTD.2017.03.21

EUT:	Accu-Chek Guide Link	Work Order:	7LAY0086
Serial Number:	11100000201	Date:	07/14/2017
Customer:	Roche Diabetes Care, Inc.	Temperature:	22.8°C
Attendees:	None	Relative Humidity:	52.8%
Customer Project:	None	Bar. Pressure:	1022 mb
Tested By:	Jonathan Kiefer	Job Site:	TX01
Power:	110VAC/60Hz	Configuration:	7LAY0086-1

TEST SPECIFICATIONS

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

TEST PARAMETERS

Run #:	90	Line:	Neutral	Add. Ext. Attenuation (dB):	0
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COMMENTS

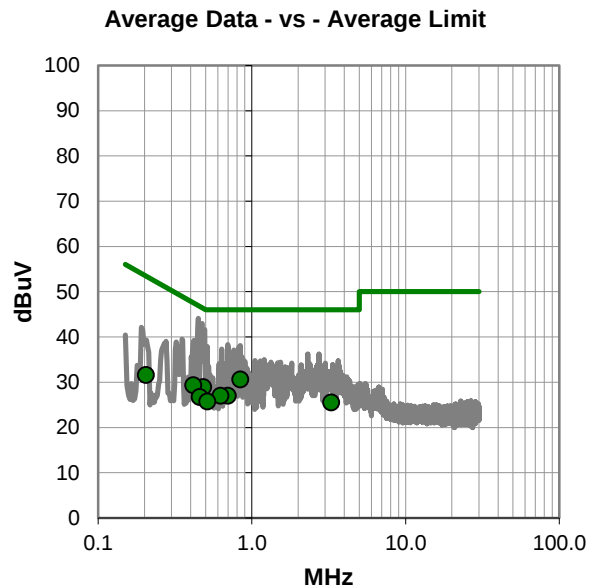
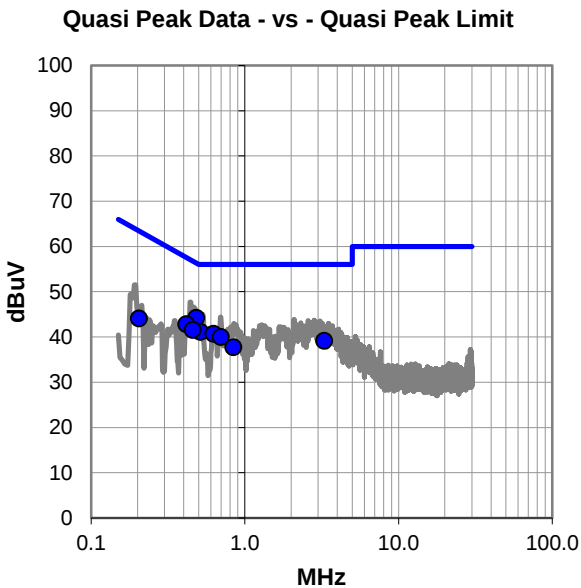
None

EUT OPERATING MODES

Running at Mid Ch BLE

DEVIATIONS FROM TEST STANDARD

None



POWERLINE CONDUCTED EMISSIONS



WTD 2017.03.21

RESULTS - Run #90

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.483	24.3	19.9	44.2	56.3	-12.1
0.416	22.9	19.9	42.8	57.5	-14.7
0.513	21.3	19.8	41.1	56.0	-14.9
0.457	21.6	19.9	41.5	56.7	-15.2
0.626	20.7	20.0	40.7	56.0	-15.3
0.697	20.0	20.0	40.0	56.0	-16.0
3.294	19.2	19.9	39.1	56.0	-16.9
0.844	17.7	20.0	37.7	56.0	-18.3
0.205	24.2	19.9	44.1	63.4	-19.3

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.844	10.6	20.0	30.6	46.0	-15.4
0.483	9.0	19.9	28.9	46.3	-17.4
0.416	9.4	19.9	29.3	47.5	-18.2
0.697	7.0	20.0	27.0	46.0	-19.0
0.626	7.0	20.0	27.0	46.0	-19.0
0.457	6.8	19.9	26.7	46.7	-20.0
0.513	5.9	19.8	25.7	46.0	-20.3
3.294	5.6	19.9	25.5	46.0	-20.5
0.205	11.7	19.9	31.6	53.4	-21.8

CONCLUSION

Pass

Tested By

POWERLINE CONDUCTED EMISSIONS



WTD.2017.03.21

EUT:	Accu-Chek Guide Link	Work Order:	7LAY0086
Serial Number:	11100000201	Date:	07/14/2017
Customer:	Roche Diabetes Care, Inc.	Temperature:	22.8°C
Attendees:	None	Relative Humidity:	52.8%
Customer Project:	None	Bar. Pressure:	1022 mb
Tested By:	Jonathan Kiefer	Job Site:	TX01
Power:	110VAC/60Hz	Configuration:	7LAY0086-1

TEST SPECIFICATIONS

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

TEST PARAMETERS

Run #:	91	Line:	High Line	Add. Ext. Attenuation (dB):	0
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COMMENTS

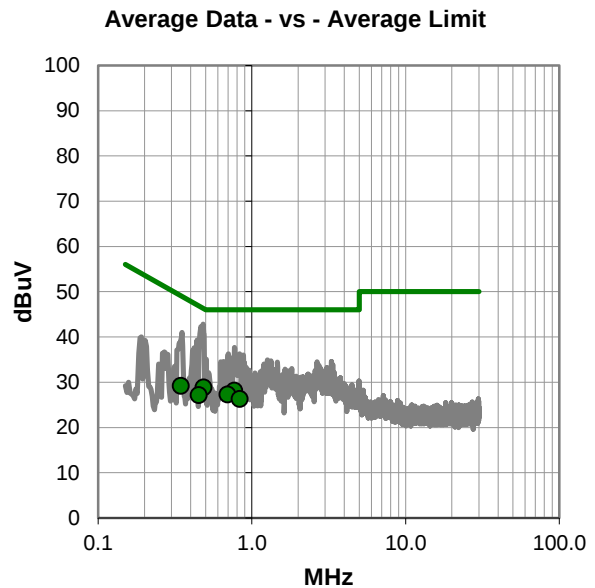
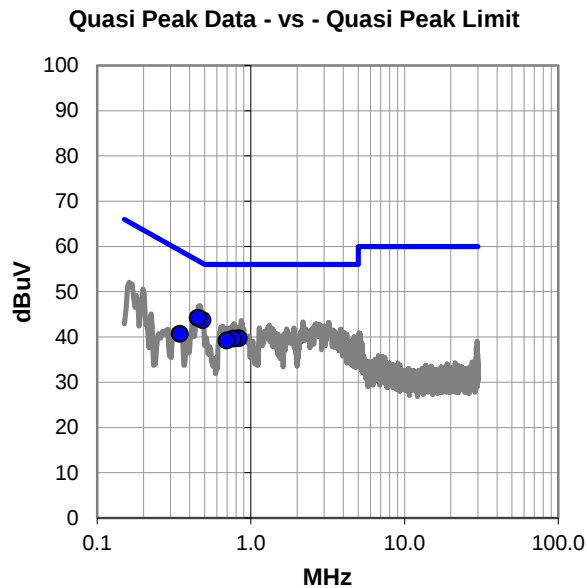
None

EUT OPERATING MODES

Running at Mid Ch BLE

DEVIATIONS FROM TEST STANDARD

None



POWERLINE CONDUCTED EMISSIONS



WTD 2017.03.21

RESULTS - Run #91

Quasi Peak Data - vs - Quasi Peak Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.485	23.8	19.9	43.7	56.3	-12.6
0.451	24.3	19.9	44.2	56.9	-12.7
0.834	19.7	20.0	39.7	56.0	-16.3
0.769	19.6	20.0	39.6	56.0	-16.4
0.695	19.2	20.0	39.2	56.0	-16.8
0.346	20.8	19.9	40.7	59.1	-18.4

Average Data - vs - Average Limit

Freq (MHz)	Amp. (dBuV)	Factor (dB)	Adjusted (dBuV)	Spec. Limit (dBuV)	Margin (dB)
0.485	8.9	19.9	28.8	46.3	-17.5
0.769	8.1	20.0	28.1	46.0	-17.9
0.695	7.3	20.0	27.3	46.0	-18.7
0.834	6.3	20.0	26.3	46.0	-19.7
0.451	7.2	19.9	27.1	46.9	-19.8
0.346	9.3	19.9	29.2	49.1	-19.9

CONCLUSION

Pass

Tested By

SPURIOUS RADIATED EMISSIONS



PSA-ESCI 2017.01.26

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

MODES OF OPERATION

See Comments

POWER SETTINGS INVESTIGATED

110VAC/60Hz

CONFIGURATIONS INVESTIGATED

7LAY0086 - 1

FREQUENCY RANGE INVESTIGATED

Start Frequency	30 MHz	Stop Frequency	26500 MHz
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SAMPLE CALCULATIONS

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Analyzer - Spectrum Analyzer	Agilent	N9010A	AFL	10/4/2016	12 mo
Cable	Element	RE 9kHz - 1GHz	TXB	11/9/2016	12 mo
Antenna - Biconilog	ETS Lindgren	3143B	AYF	4/13/2016	24 mo
Cable	Element	8-18GHz	TXD	5/31/2017	12 mo
Cable	Element	1-8.2 GHz	TXC	5/31/2017	12 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	PAK	10/18/2016	12 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	PAL	10/12/2016	12 mo
Antenna - Standard Gain	ETS Lindgren	3160-08	AJG	NCR	0 mo
Antenna - Standard Gain	ETS Lindgren	3160-07	AJF	NCR	0 mo
Antenna - Double Ridge	A.H. Systems, Inc.	SAS-574	AXW	8/5/2016	24 mo
Cable	Element	18-40GHz	TXE	11/18/2016	24 mo
Amplifier - Pre-Amplifier	Miteq	JSDWK42-18004000-60-5P	PAM	11/18/2016	24 mo
Amplifier - Pre-Amplifier	Miteq	AM-1551	PAH	11/9/2016	12 mo
Filter - Low Pass	Micro-Tronics	LPM50004	HHV	8/3/2017	12 mo
Attenuator	Weinschel Corp	4H-20	AWB	3/3/2017	12 mo
Filter - High Pass	Micro-Tronics	HPM50111	HGC	3/1/2017	12 mo
Antenna - Double Ridge	ETS Lindgren	3115	AJN	9/15/2016	24 mo
Amplifier - Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	PAJ	5/31/2017	12 mo
Antenna - Double Ridge	A.H. Systems, Inc.	SAS-574	AXW	8/5/2016	24 mo

TEST DESCRIPTION

The EUT was operated in a worst-case configuration in transmit mode. Per the test standard, the EUT was typical orientation for the manufactures declared use. The spectrum was scanned from 30 MHz to 1GHz with the transmit frequency. The EUT was transmitting at its only modulation type and data rate. While scanning the EUT were maximized by rotating the EUT, adjusting the measurement antenna height and polarization. high pass filter were used for this test in order to provide sufficient measurement sensitivity. The amplitude the highest emissions were noted.

For testing above 30MHz, the EUT was then replaced with a ½ wave dipole that was successively tuned to highest spurious emissions. A signal generator was connected to the dipole, and its output was adjusted to previously noted for each frequency. The output of the signal generator was recorded, and by factoring in the dipole antenna and its gain (dBi); the effective radiated power for each radiated spurious emission was determined.

SPURIOUS RADIATED EMISSIONS



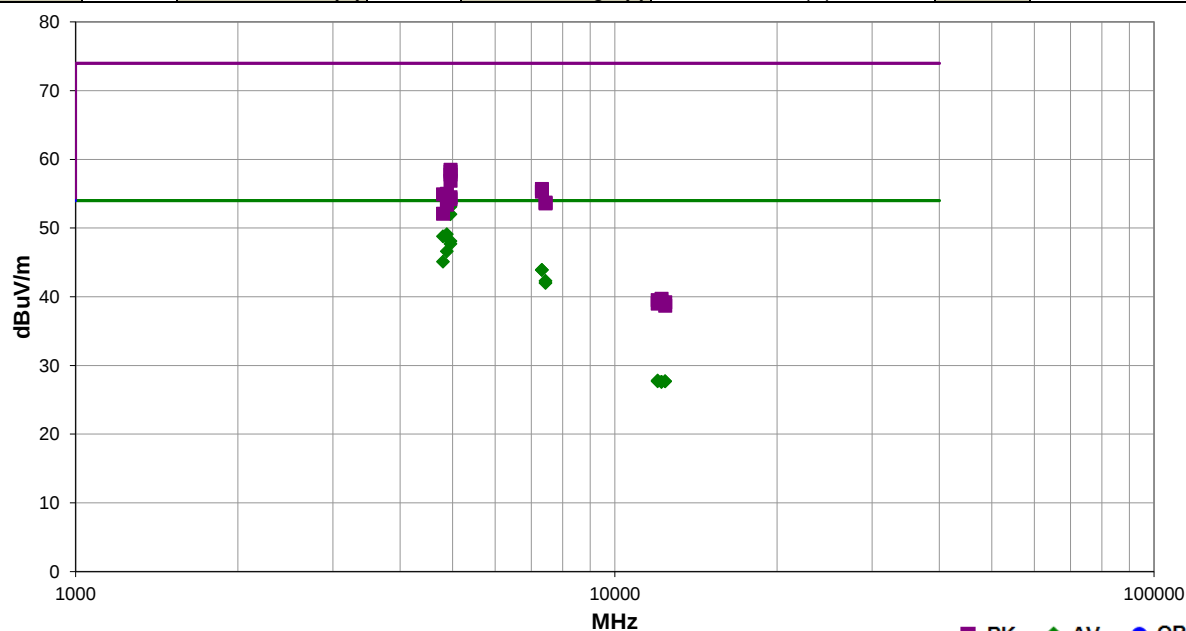
EmiRS 2017.01.25

PSA-ESCI 2017.01.26

Work Order:	7LAY0086	Date:	06/26/17	<i>Jonathan Kiefer</i>
Project:	None	Temperature:	23 °C	
Job Site:	TX02	Humidity:	50.3% RH	
Serial Number:	11100000201	Barometric Pres.:	1024 mbar	Tested by: Jonathan Kiefer
EUT:	Accu-Chek Guide Link			
Configuration:	1			
Customer:	Roche Diabetes Care, Inc.			
Attendees:	None			
EUT Power:	110VAC/60Hz			
Operating Mode:	See Comments			
Deviations:	None			
Comments:	Power -4dBm			

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

Run #	26	Test Distance (m)	3	Antenna Height(s)	1 to 4(m)	Results	Pass
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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
4959.905	46.8	7.0	1.9	93.9	3.0	0.0	Vert	AV	0.0	53.8	54.0	-0.2	EUT on Side, High ch
4959.970	46.5	7.0	1.9	169.0	3.0	0.0	Horz	AV	0.0	53.5	54.0	-0.5	EUT Horz, High ch
4959.945	46.1	7.0	1.7	172.9	3.0	0.0	Horz	AV	0.0	53.1	54.0	-0.9	EUT Vert, High ch
4959.960	45.0	7.0	3.1	310.9	3.0	0.0	Vert	AV	0.0	52.0	54.0	-2.0	EUT Vert, High ch
4883.970	42.2	6.9	3.1	260.0	3.0	0.0	Horz	AV	0.0	49.1	54.0	-4.9	EUT Horz, Mid ch
4803.965	42.0	6.8	2.5	183.0	3.0	0.0	Horz	AV	0.0	48.8	54.0	-5.2	EUT Horz, Low ch
4959.955	41.1	7.0	1.0	349.0	3.0	0.0	Vert	AV	0.0	48.1	54.0	-5.9	EUT Horz, High ch
4960.015	40.7	7.0	1.2	87.9	3.0	0.0	Horz	AV	0.0	47.7	54.0	-6.3	EUT on Side, High ch
4883.985	39.7	6.9	2.3	237.9	3.0	0.0	Vert	AV	0.0	46.6	54.0	-7.4	EUT on side, Mid ch
4803.940	38.3	6.8	1.0	176.0	3.0	0.0	Vert	AV	0.0	45.1	54.0	-8.9	EUT on side, Low ch
7326.265	29.9	14.0	1.0	40.9	3.0	0.0	Horz	AV	0.0	43.9	54.0	-10.1	EUT Horz, Mid ch
7326.825	29.9	14.0	3.3	118.9	3.0	0.0	Vert	AV	0.0	43.9	54.0	-10.1	EUT on side, Mid ch
7440.190	28.2	14.1	1.3	321.9	3.0	0.0	Vert	AV	0.0	42.3	54.0	-11.7	EUT on side, High ch
7439.115	27.9	14.1	1.0	249.0	3.0	0.0	Horz	AV	0.0	42.0	54.0	-12.0	EUT Horz, High ch
4959.455	51.5	7.0	1.9	93.9	3.0	0.0	Vert	PK	0.0	58.5	74.0	-15.5	EUT on Side, High ch
4959.565	51.2	7.0	1.9	169.0	3.0	0.0	Horz	PK	0.0	58.2	74.0	-15.8	EUT Horz, High ch
4960.205	50.8	7.0	1.7	172.9	3.0	0.0	Horz	PK	0.0	57.8	74.0	-16.2	EUT Vert, High ch
4959.620	49.9	7.0	3.1	310.9	3.0	0.0	Vert	PK	0.0	56.9	74.0	-17.1	EUT Vert, High ch

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
7326.465	41.7	14.0	1.0	40.9	3.0	0.0	Horz	PK	0.0	55.7	74.0	-18.3	EUT Horz, Mid ch
7326.670	41.3	14.0	3.3	118.9	3.0	0.0	Vert	PK	0.0	55.3	74.0	-18.7	EUT on side, Mid ch
4883.705	48.1	6.9	3.1	260.0	3.0	0.0	Horz	PK	0.0	55.0	74.0	-19.0	EUT Horz, Mid ch
4803.480	48.1	6.8	2.5	183.0	3.0	0.0	Horz	PK	0.0	54.9	74.0	-19.1	EUT Horz, Low ch
4959.470	47.5	7.0	1.0	349.0	3.0	0.0	Vert	PK	0.0	54.5	74.0	-19.5	EUT Horz, High ch
4959.495	47.2	7.0	1.2	87.9	3.0	0.0	Horz	PK	0.0	54.2	74.0	-19.8	EUT on Side, High ch
7440.420	39.6	14.1	1.3	321.9	3.0	0.0	Vert	PK	0.0	53.7	74.0	-20.3	EUT on side, High ch
7439.585	39.5	14.1	1.0	249.0	3.0	0.0	Horz	PK	0.0	53.6	74.0	-20.4	EUT Horz, High ch
4883.875	46.5	6.9	2.3	237.9	3.0	0.0	Vert	PK	0.0	53.4	74.0	-20.6	EUT on side, Mid ch
4803.595	45.3	6.8	1.0	176.0	3.0	0.0	Vert	PK	0.0	52.1	74.0	-21.9	EUT on side, Low ch
12011.040	29.8	-2.0	1.0	360.0	3.0	0.0	Vert	AV	0.0	27.8	54.0	-26.2	EUT on side, Low ch
12007.690	29.7	-2.0	2.4	14.0	3.0	0.0	Horz	AV	0.0	27.7	54.0	-26.3	EUT Horz, Low ch
12399.060	28.5	-0.8	1.0	25.0	3.0	0.0	Horz	AV	0.0	27.7	54.0	-26.3	EUT Horz, High ch
12399.570	28.5	-0.8	1.0	132.0	3.0	0.0	Vert	AV	0.0	27.7	54.0	-26.3	EUT on side, high ch
12209.200	29.3	-1.7	1.0	213.9	3.0	0.0	Horz	AV	0.0	27.6	54.0	-26.4	EUT on side, Mid ch
12210.330	29.2	-1.6	1.0	42.0	3.0	0.0	Vert	AV	0.0	27.6	54.0	-26.4	EUT on side, Mid ch
12209.810	41.4	-1.7	1.0	42.0	3.0	0.0	Vert	PK	0.0	39.7	74.0	-34.3	EUT on side, Mid ch
12007.610	41.5	-2.0	2.4	14.0	3.0	0.0	Horz	PK	0.0	39.5	74.0	-34.5	EUT Horz, Low ch
12210.880	40.9	-1.6	1.0	213.9	3.0	0.0	Horz	PK	0.0	39.3	74.0	-34.7	EUT on side, Mid ch
12398.700	40.0	-0.8	1.0	25.0	3.0	0.0	Horz	PK	0.0	39.2	74.0	-34.8	EUT Horz, High ch
12009.490	41.0	-2.0	1.0	360.0	3.0	0.0	Vert	PK	0.0	39.0	74.0	-35.0	EUT on side, Low ch
12399.970	39.5	-0.8	1.0	132.0	3.0	0.0	Vert	PK	0.0	38.7	74.0	-35.3	EUT on side, high ch

SPURIOUS RADIATED EMISSIONS



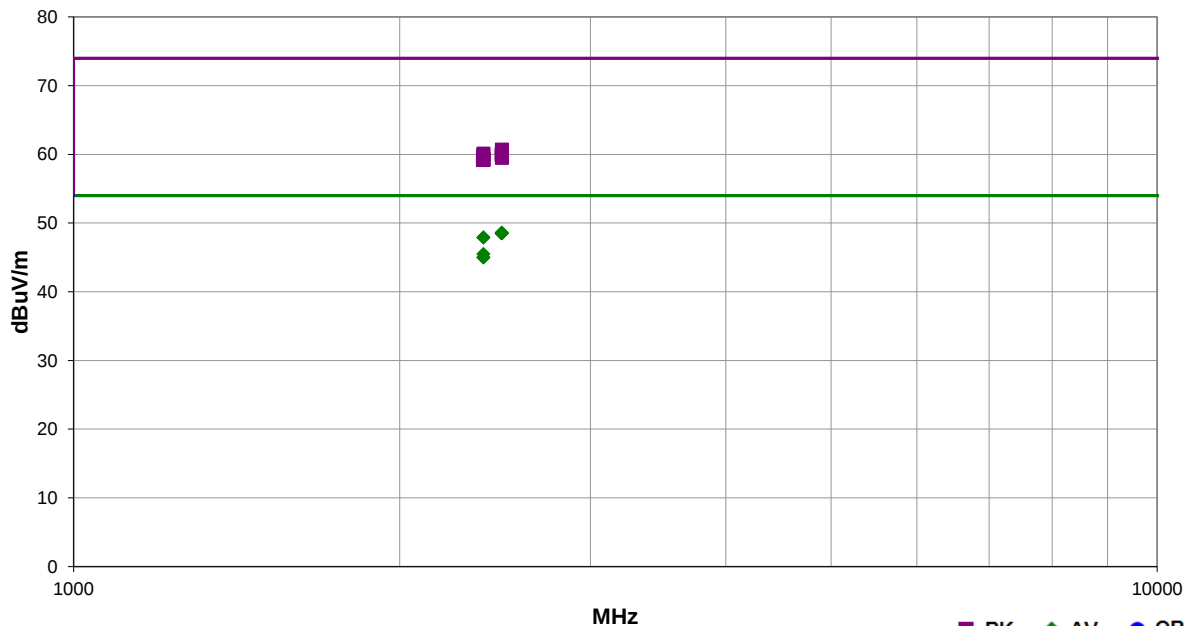
EmiRS 2017.01.25

PSA-ESCI 2017.01.26

Work Order:	7LAY0086	Date:	06/26/17	<i>Jonathan Kiefer</i>
Project:	None	Temperature:	23 °C	
Job Site:	TX02	Humidity:	50.3% RH	
Serial Number:	11100000201	Barometric Pres.:	1024 mbar	Tested by: Jonathan Kiefer
EUT:	Accu-Chek Guide Link			
Configuration:	1			
Customer:	Roche Diabetes Care, Inc.			
Attendees:	None			
EUT Power:	110VAC/60Hz			
Operating Mode:	See Comments			
Deviations:	None			
Comments:	Power -4dBm			

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

Run #	32	Test Distance (m)	3	Antenna Height(s)	1 to 4(m)	Results	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
2483.640	32.6	-4.0	1.0	99.9	3.0	20.0	Vert	AV	0.0	48.6	54.0	-5.4	EUT on side, High ch
2485.093	32.5	-4.0	1.0	321.9	3.0	20.0	Horz	AV	0.0	48.5	54.0	-5.5	EUT Horz, High ch
2483.537	32.5	-4.0	1.0	291.0	3.0	20.0	Vert	AV	0.0	48.5	54.0	-5.5	EUT Horz, High ch
2483.830	32.5	-4.0	1.0	122.0	3.0	20.0	Horz	AV	0.0	48.5	54.0	-5.5	EUT on side, High ch
2485.093	32.5	-4.0	1.0	163.0	3.0	20.0	Horz	AV	0.0	48.5	54.0	-5.5	EUT Vert, high ch
2485.040	32.5	-4.0	1.0	148.9	3.0	20.0	Vert	AV	0.0	48.5	54.0	-5.5	EUT Vert, high ch
2389.183	32.6	-4.7	1.0	45.0	3.0	20.0	Horz	AV	0.0	47.9	54.0	-6.1	EUT Horz, Low ch
2389.525	32.6	-4.7	1.0	214.9	3.0	20.0	Horz	AV	0.0	47.9	54.0	-6.1	EUT on side, Low ch
2390.000	30.2	-4.7	1.0	351.0	3.0	20.0	Vert	AV	0.0	45.5	54.0	-8.5	EUT Vert, Low ch
2390.000	29.7	-4.7	1.0	46.9	3.0	20.0	Horz	AV	0.0	45.0	54.0	-9.0	EUT Horz, Low ch
2390.000	29.7	-4.7	1.0	132.0	3.0	20.0	Vert	AV	0.0	45.0	54.0	-9.0	EUT on side, Low ch
2485.220	44.7	-4.0	1.0	163.0	3.0	20.0	Horz	PK	0.0	60.7	74.0	-13.3	EUT Vert, high ch
2485.050	44.3	-4.0	1.0	99.9	3.0	20.0	Vert	PK	0.0	60.3	74.0	-13.7	EUT on side, High ch
2390.000	44.8	-4.7	1.0	351.0	3.0	20.0	Vert	PK	0.0	60.1	74.0	-13.9	EUT Vert, Low ch
2483.933	44.0	-4.0	1.0	148.9	3.0	20.0	Vert	PK	0.0	60.0	74.0	-14.0	EUT Vert, high ch
2484.923	43.9	-4.0	1.0	291.0	3.0	20.0	Vert	PK	0.0	59.9	74.0	-14.1	EUT Horz, High ch
2387.242	44.6	-4.7	1.0	214.9	3.0	20.0	Horz	PK	0.0	59.9	74.0	-14.1	EUT on side, Low ch
2485.033	43.8	-4.0	1.0	321.9	3.0	20.0	Horz	PK	0.0	59.8	74.0	-14.2	EUT Horz, High ch

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
2485.367	43.5	-4.0	1.0	122.0	3.0	20.0	Horz	PK	0.0	59.5	74.0	-14.5	EUT on side, High ch
2388.400	44.0	-4.7	1.0	45.0	3.0	20.0	Horz	PK	0.0	59.3	74.0	-14.7	EUT Horz, Low ch
2390.000	44.0	-4.7	1.0	132.0	3.0	20.0	Vert	PK	0.0	59.3	74.0	-14.7	EUT on side, Low ch
2390.000	43.9	-4.7	1.0	46.9	3.0	20.0	Horz	PK	0.0	59.2	74.0	-14.8	EUT Horz, Low ch
2387.033	43.9	-4.7	1.0	340.9	3.0	20.0	Vert	PK	0.0	59.2	74.0	-14.8	EUT Vert, Low ch

DUTY CYCLE



XMIT 2017.02.08

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	Fairview Microwave	SCK0963-60	TXF	11/18/2016	11/18/2017
Generator - Signal	Keysight	N5182B	TFX	4/16/2015	4/16/2018
Attenuator	Fairview Microwave	SA4018-20	TYE	10/24/2016	10/24/2017
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	3/14/2017	3/14/2018
Block - DC	Fairview Microwave	SD3379	AMT	10/24/2016	10/24/2017

TEST DESCRIPTION

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

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

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

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

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

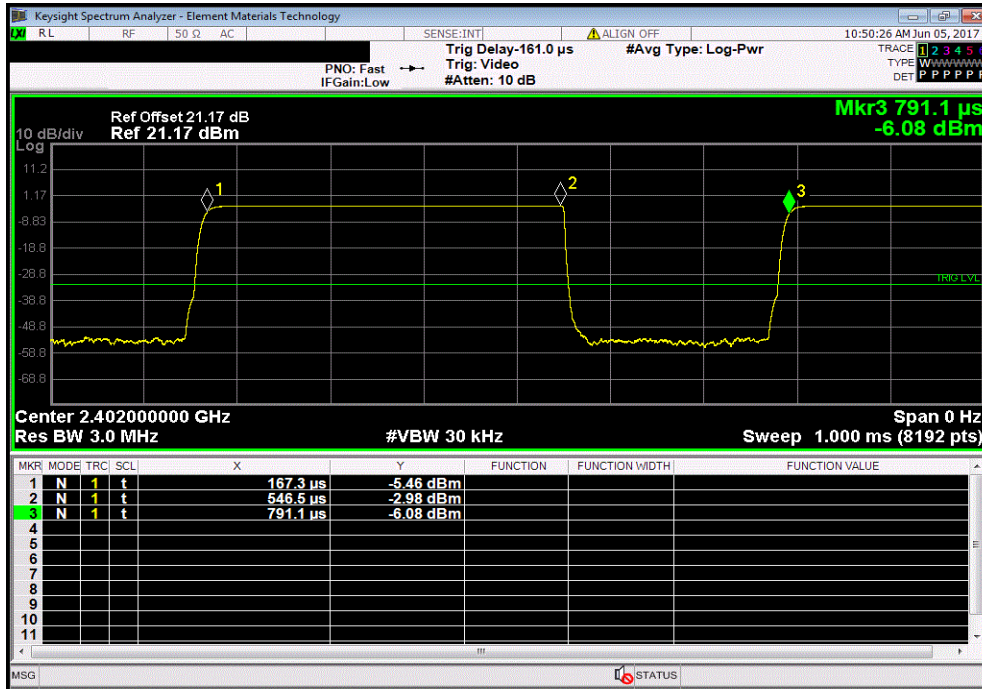
ThiTx 2017 04 18 XMIT 2017 02 08

DUTY CYCLE

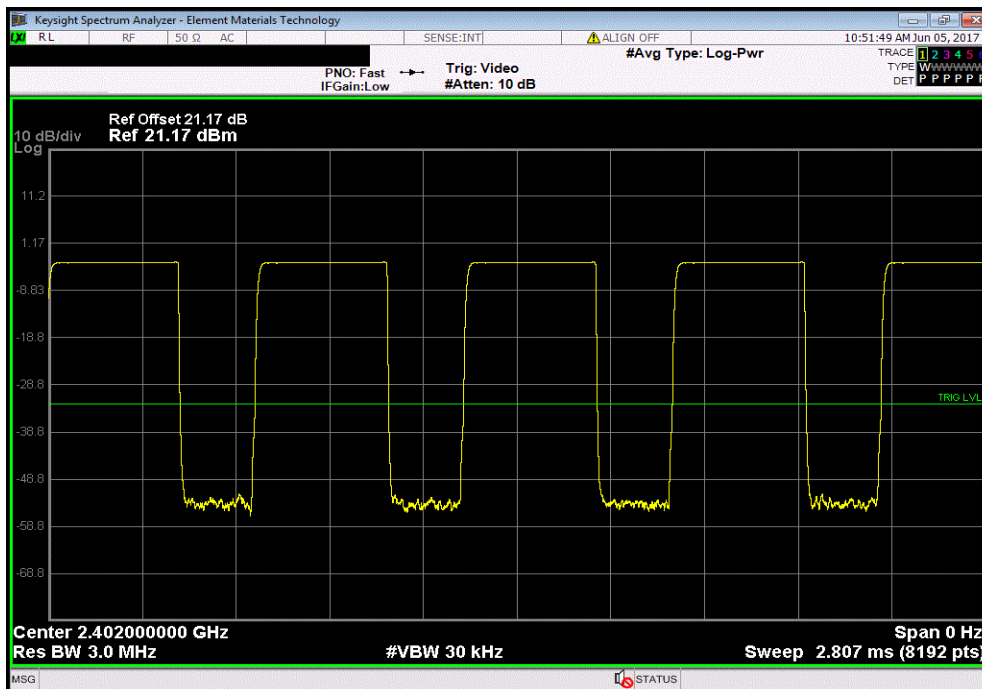


TbTtx 2017.04.18 XMt 2017.02.08

BLE/GFSK Low Channel, 2402 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
379.199 μ s	623.779 μ s	1	60.8	N/A	N/A	



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

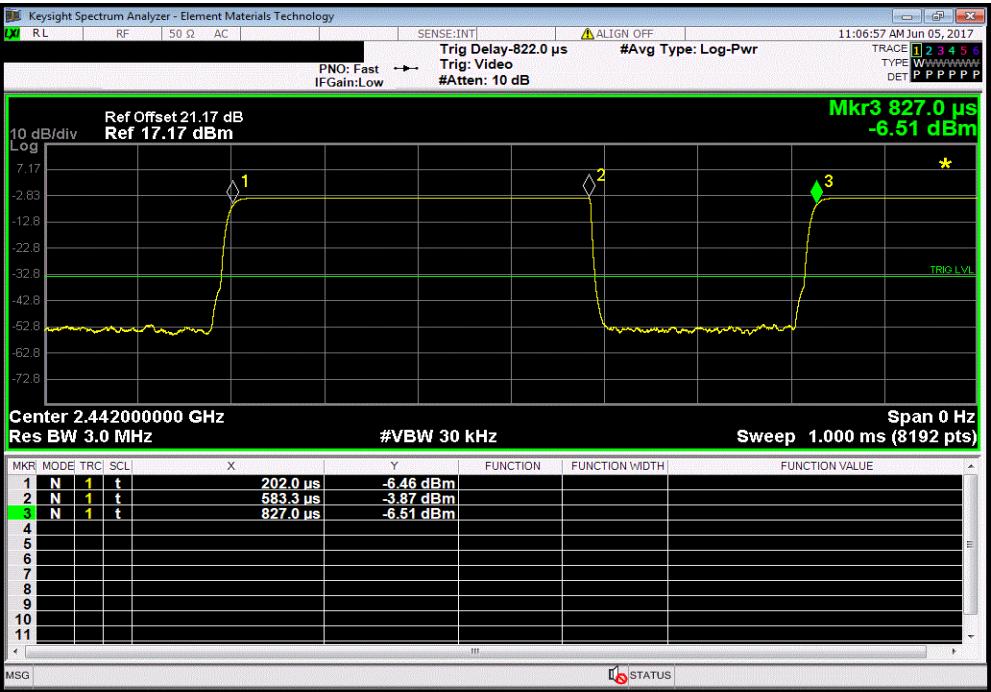


DUTY CYCLE

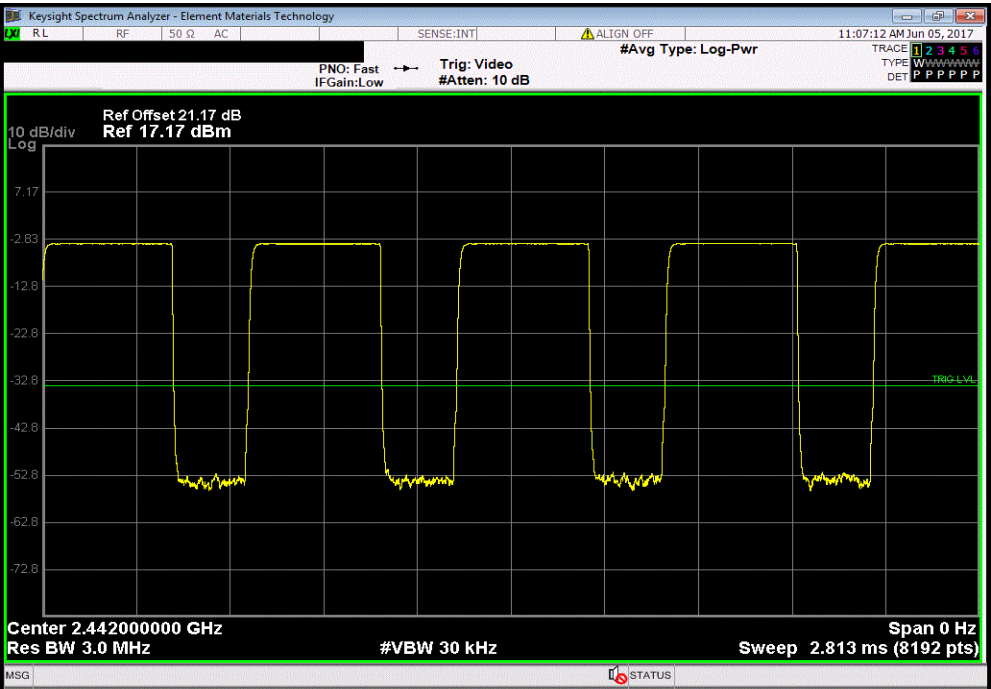


TbTx 2017.04.18 XMt 2017.02.08

BLE/GFSK Mid Channel, 2442 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
381.308 μ s	625 μ s	1	61	N/A	N/A	



BLE/GFSK Mid Channel, 2442 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
N/A	N/A	5	N/A	N/A	N/A	

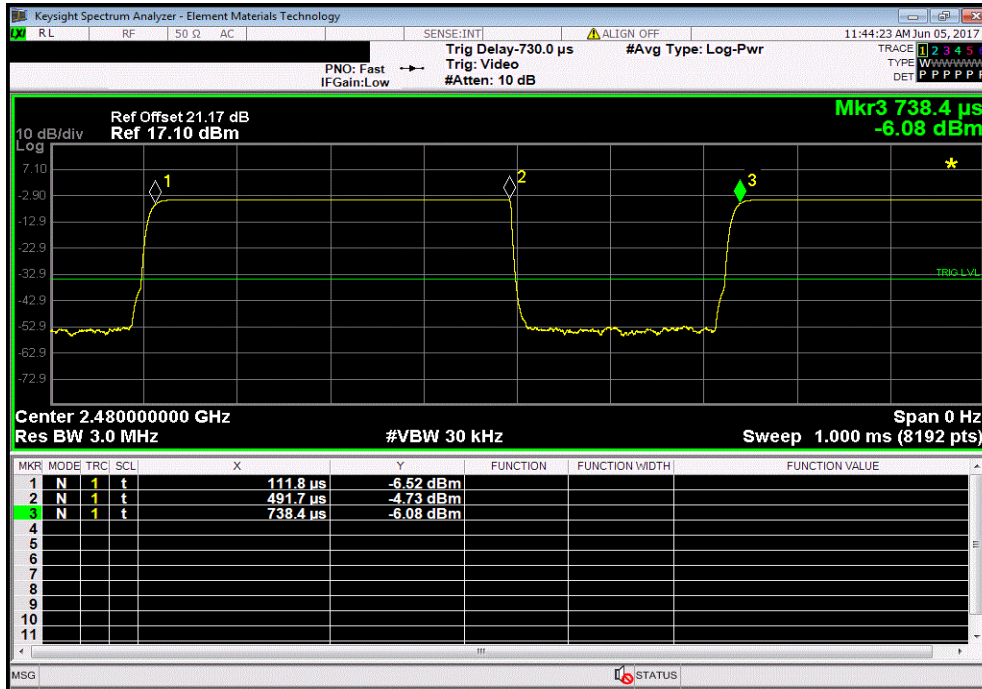


DUTY CYCLE

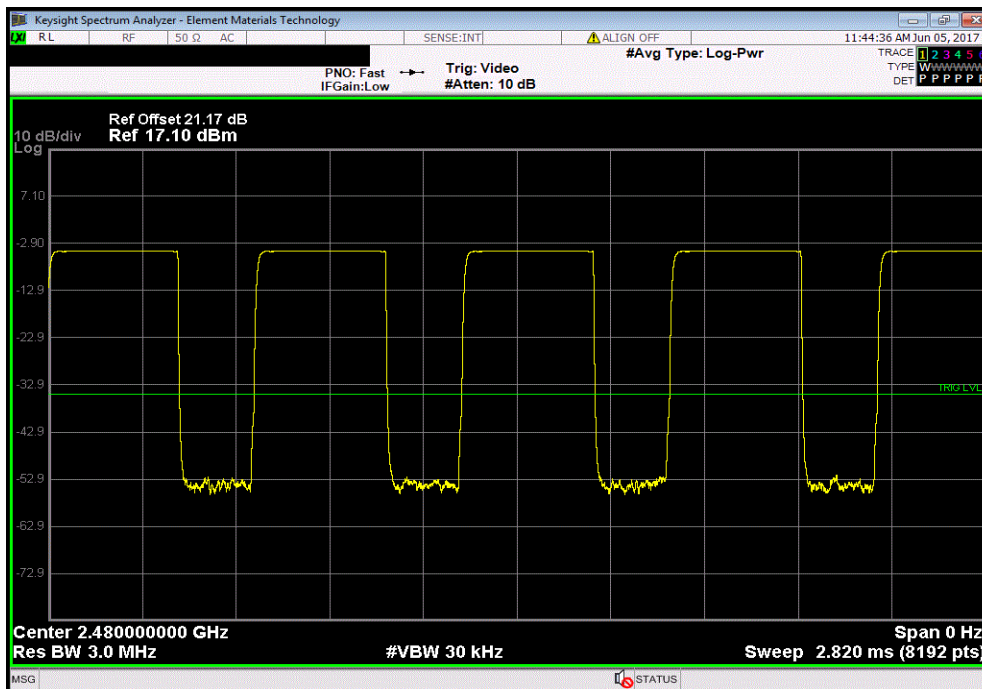


TbTx 2017.04.18 XMTx 2017.02.08

BLE/GFSK High Channel, 2480 MHz						
Pulse Width	Period	Number of Pulses	Value (%)	Limit (%)	Results	
379.92 μ s	626.565 μ s	1	60.6	N/A	N/A	



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



OCCUPIED BANDWIDTH



XMIT 2017.02.08

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
Block - DC	Fairview Microwave	SD3379	AMT	10/24/2016	10/24/2017
Attenuator	Fairview Microwave	SA4018-20	TYE	10/24/2016	10/24/2017
Cable	Fairview Microwave	SCK0963-60	TXF	11/18/2016	11/18/2017
Generator - Signal	Keysight	N5182B	TFX	4/16/2015	4/16/2018
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	3/14/2017	3/14/2018

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The EUT was set to the channels and modes listed in the datasheet.

The 6dB occupied bandwidth was measured using 100 kHz resolution bandwidth and 300 kHz video bandwidth. The 99.0% occupied bandwidth was also measured at the same time which can be needed during Output Power depending on the applicable method.

OCCUPIED BANDWIDTH



THtTx 2017.04.18 XMtM 2017.02.08

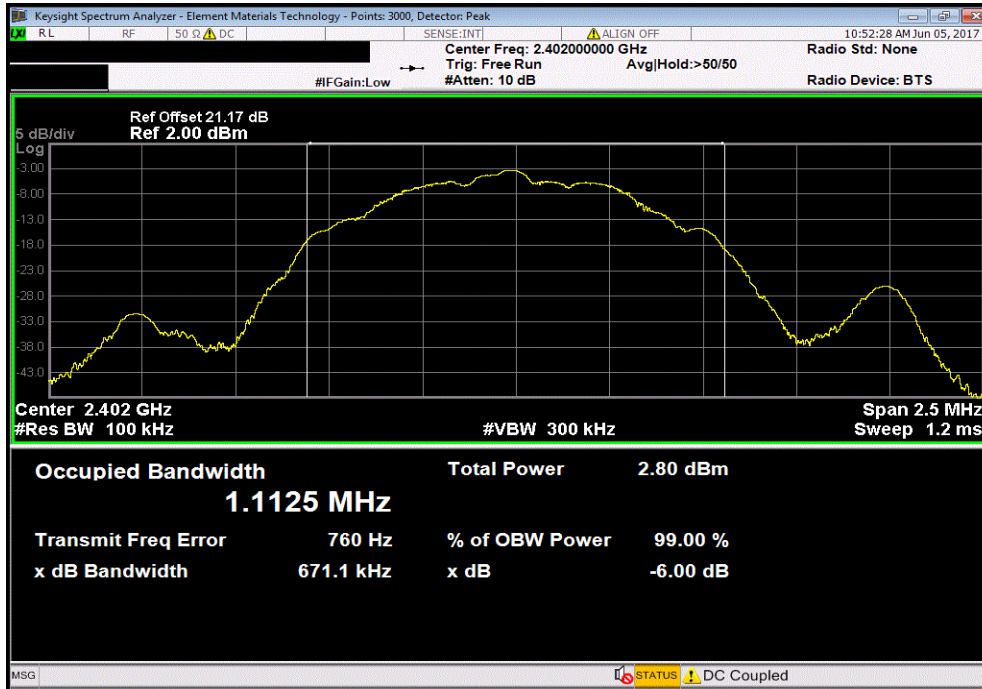
EUT: Accu-Chek Guide Link		Work Order: 7LAY0086	
Serial Number: 11100000201		Date: 06/05/17	
Customer: Roche Diabetes Care, Inc.		Temperature: 23 °C	
Attendees: None		Humidity: 52.1% RH	
Project: None		Barometric Pres.: 1012 mbar	
Tested by: Jonathan Kiefer		Power: USB via 110VAC/60Hz	
		Job Site: TX09	
TEST SPECIFICATIONS			
FCC 15.247:2017		Test Method	
		ANSI C63.10:2013	
COMMENTS			
None			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	1	Signature <i>Jonathan Kiefer</i>	
		Value	Limit (±)
BLE/GFSK Low Channel, 2402 MHz		671.145 kHz	500 kHz
BLE/GFSK Mid Channel, 2442 MHz		673.031 kHz	500 kHz
BLE/GFSK High Channel, 2480 MHz		672.356 kHz	500 kHz
			Result
			Pass
			Pass
			Pass

OCCUPIED BANDWIDTH

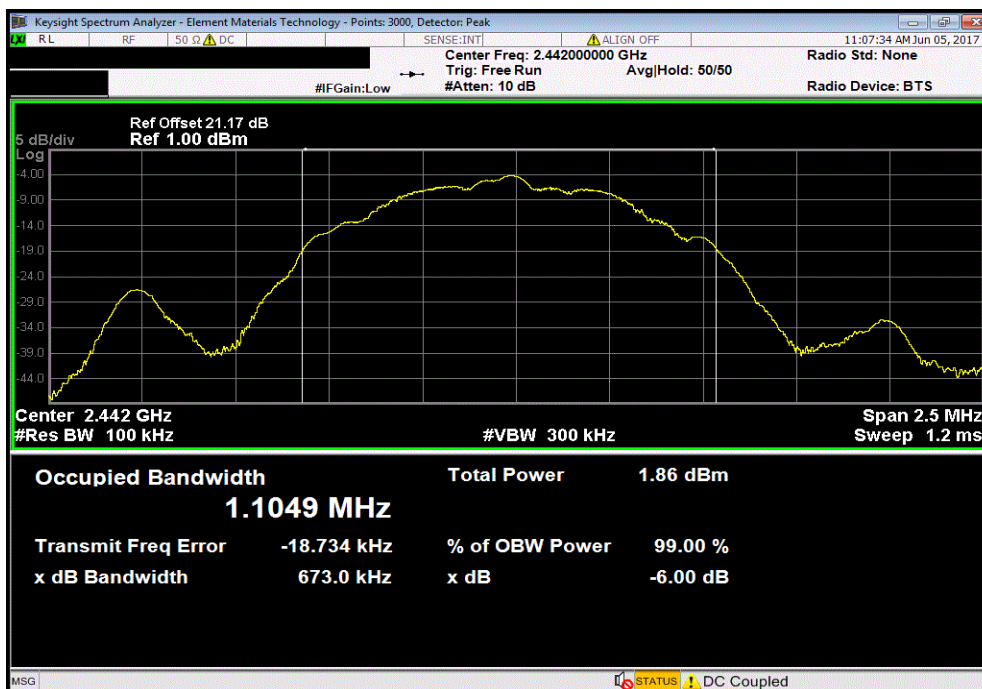


TbTx 2017.04.18 XMI 2017.02.08

BLE/GFSK Low Channel, 2402 MHz						
	Value	Limit (≥)	Result			
	671.145 kHz	500 kHz	Pass			



BLE/GFSK Mid Channel, 2442 MHz						
	Value	Limit (≥)	Result			
	673.031 kHz	500 kHz	Pass			

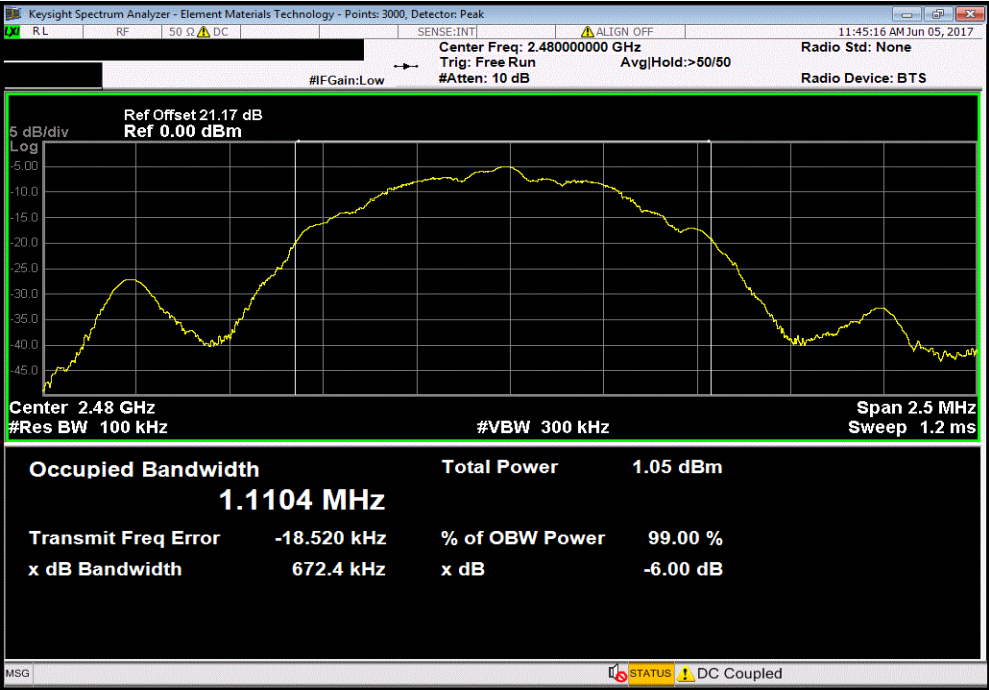


OCCUPIED BANDWIDTH



TbTx 2017.04.18 XMt 2017.02.08

BLE/GFSK High Channel, 2480 MHz						
Value				Limit	Result	
672.356 kHz				500 kHz	Pass	



OUTPUT POWER



XMIT 2017.02.08

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Generator - Signal	Keysight	N5182B	TFX	4/16/2015	4/16/2018
Cable	Fairview Microwave	SCK0963-60	TXF	11/18/2016	11/18/2017
Block - DC	Fairview Microwave	SD3379	AMT	10/24/2016	10/24/2017
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	3/14/2017	3/14/2018
Attenuator	Fairview Microwave	SA4018-20	TYE	10/24/2016	10/24/2017

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The transmit frequency was set to the required channels in each band. The transmit power was set to its default maximum.

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

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

De Facto EIRP Limit: The EUT meets the de facto EIRP limit of +36 dBm.

OUTPUT POWER



TM17x 2017.04.18 XM16 2017.02.08

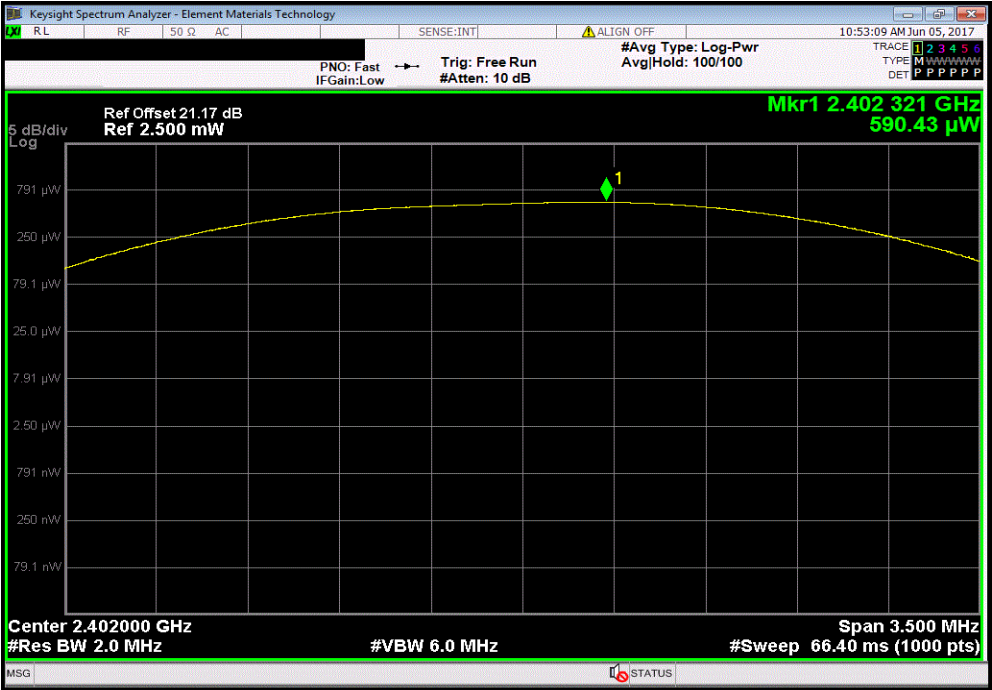
EUT: Accu-Chek Guide Link		Work Order: 7LAY0086	
Serial Number: 11100000201		Date: 06/05/17	
Customer: Roche Diabetes Care, Inc.		Temperature: 23.2 °C	
Attendees: None		Humidity: 50.2% RH	
Project: None		Barometric Pres.: 1012 mbar	
Tested by: Jonathan Kiefer		Power: USB via 110VAC/60Hz	
		Job Site: TX09	
TEST SPECIFICATIONS			
FCC 15.247:2017		Test Method	
		ANSI C63.10:2013	
COMMENTS			
None			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	1	Signature <i>Jonathan Kiefer</i>	
		Value	Limit (<)
BLE/GFSK Low Channel, 2402 MHz		590.43 uW	1 W
BLE/GFSK Mid Channel, 2442 MHz		487.27 uW	1 W
BLE/GFSK High Channel, 2480 MHz		405.43 uW	1 W
			Result
			Pass
			Pass
			Pass

OUTPUT POWER

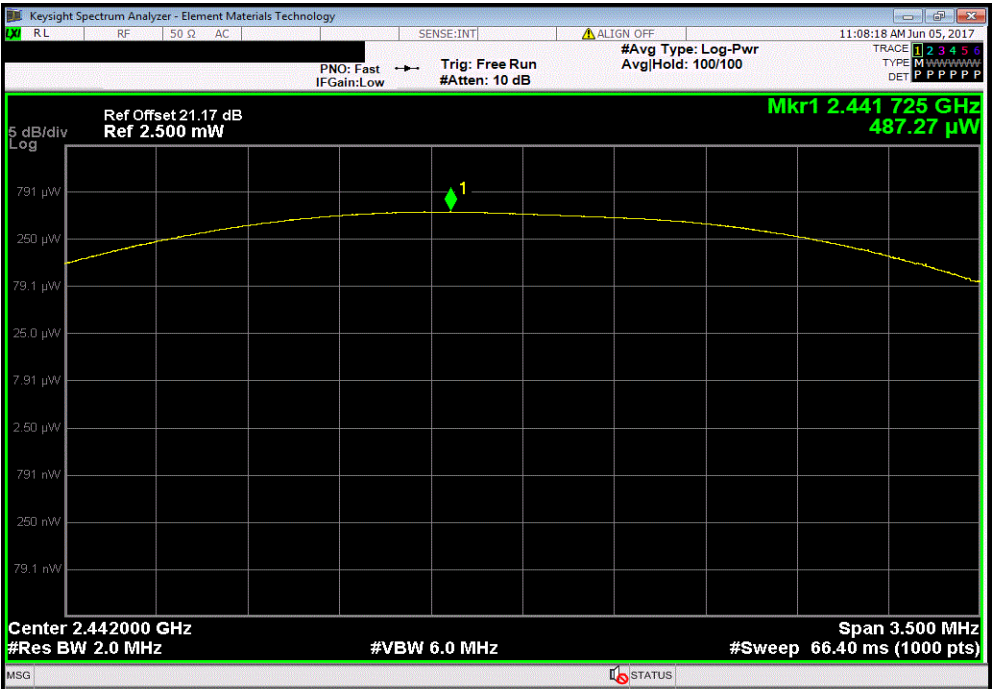


TbTtx 2017.04.18 XMt 2017.02.08

BLE/GFSK Low Channel, 2402 MHz						
Value				Limit	Result	
				(<)		
				590.43 uW	1 W	Pass



BLE/GFSK Mid Channel, 2442 MHz						
Value				Limit	Result	
				(<)		
				487.27 uW	1 W	Pass

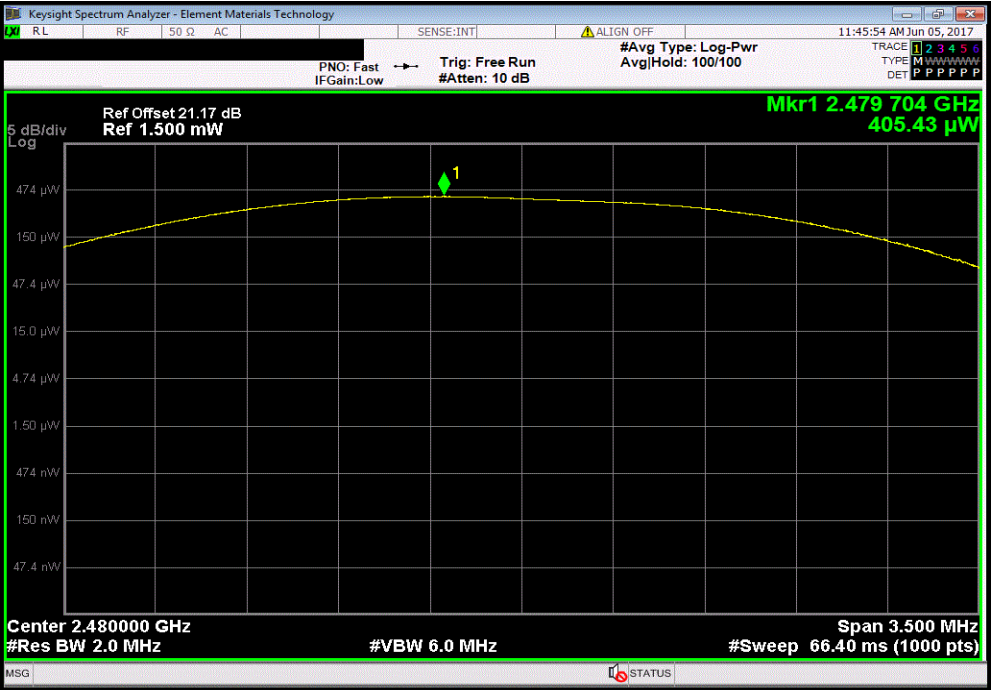


OUTPUT POWER



TbTx 2017.04.18 XMt 2017.02.08

BLE/GFSK High Channel, 2480 MHz						
Value				Limit	Result	
405.43 μ W				1 W	Pass	



POWER SPECTRAL DENSITY



XMIT 2017.02.08

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	Fairview Microwave	SCK0963-60	TXF	11/18/2016	11/18/2017
Generator - Signal	Keysight	N5182B	TFX	4/16/2015	4/16/2018
Attenuator	Fairview Microwave	SA4018-20	TYE	10/24/2016	10/24/2017
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	3/14/2017	3/14/2018
Block - DC	Fairview Microwave	SD3379	AMT	10/24/2016	10/24/2017

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The maximum power spectral density measurements was measured using the channels and modes as called out on the following data sheets.

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

POWER SPECTRAL DENSITY



THtTx 2017.04.18 XMtM 2017.02.08

EUT: Accu-Chek Guide Link		Work Order: 7LAY0086	
Serial Number: 11100000201		Date: 06/05/17	
Customer: Roche Diabetes Care, Inc.		Temperature: 22.7 °C	
Attendees: None		Humidity: 52.5% RH	
Project: None		Barometric Pres.: 1012 mbar	
Tested by: Jonathan Kiefer		Power: USB via 110VAC/60Hz	
		Job Site: TX09	
TEST SPECIFICATIONS			
FCC 15.247:2017		Test Method	
		ANSI C63.10:2013	
COMMENTS			
None			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	1	Signature <i>Jonathan Kiefer</i>	
		Value	Limit
		dBm/3kHz	< dBm/3kHz
BLE/GFSK Low Channel, 2402 MHz		-4.042	8
BLE/GFSK Mid Channel, 2442 MHz		-5.012	8
BLE/GFSK High Channel, 2480 MHz		-5.837	8
			Results
			Pass
			Pass
			Pass

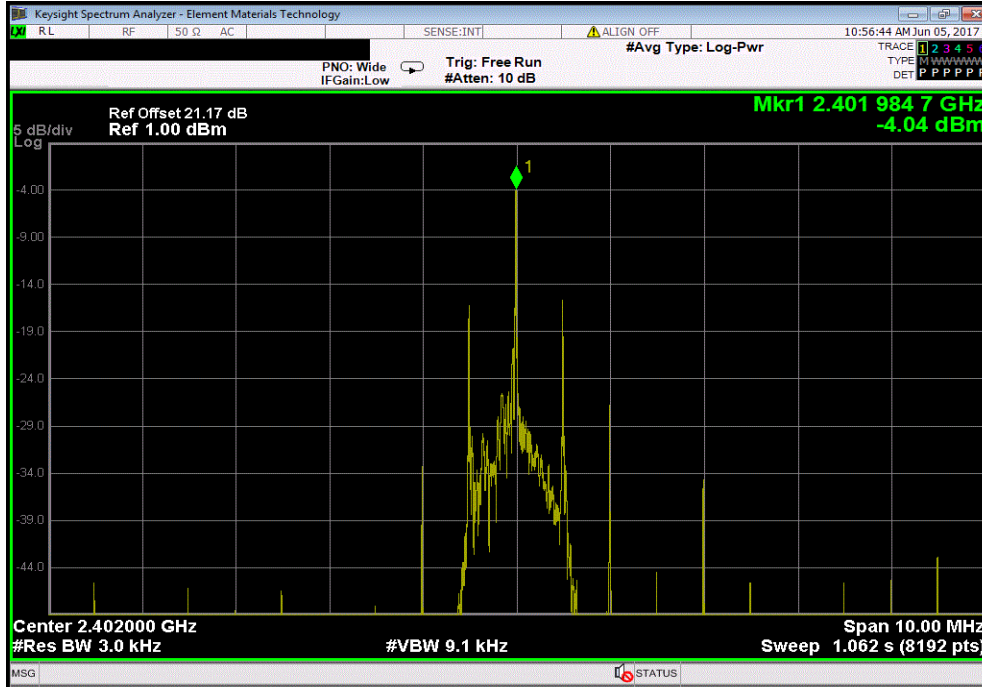
POWER SPECTRAL DENSITY



TbTtx 2017.04.18 XMI 2017.02.08

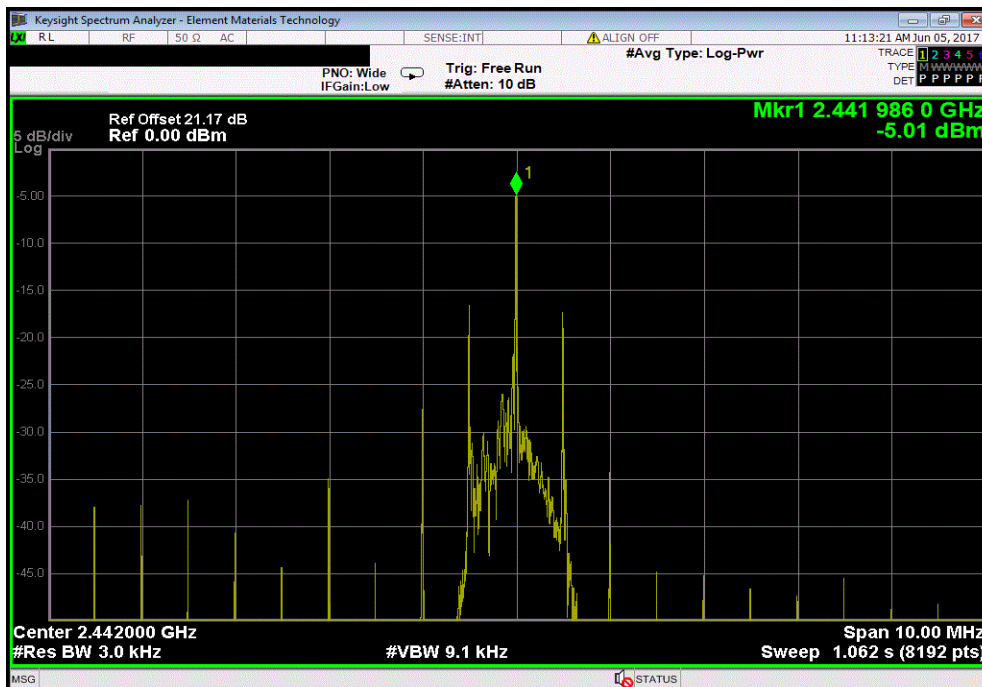
BLE/GFSK Low Channel, 2402 MHz

	Value	Limit	Results
	dBm/3kHz	< dBm/3kHz	
	-4.042	8	Pass



BLE/GFSK Mid Channel, 2442 MHz

	Value	Limit	Results
	dBm/3kHz	< dBm/3kHz	
	-5.012	8	Pass

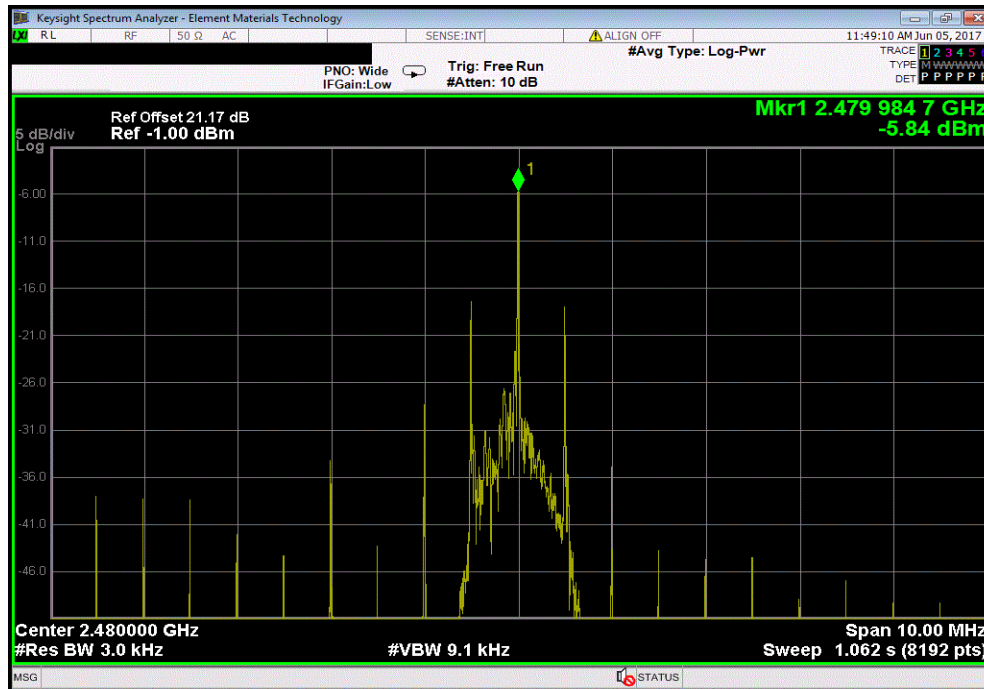


POWER SPECTRAL DENSITY



TbTtx 2017.04.18 XMt 2017.02.08

BLE/GFSK High Channel, 2480 MHz						
			Value	Limit		
			dBm/3kHz	< dBm/3kHz	Results	
			-5.837	8	Pass	



BAND EDGE COMPLIANCE



XMIT 2017.02.08

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Generator - Signal	Keysight	N5182B	TFX	4/16/2015	4/16/2018
Cable	Fairview Microwave	SCK0963-60	TXF	11/18/2016	11/18/2017
Block - DC	Fairview Microwave	SD3379	AMT	10/24/2016	10/24/2017
Attenuator	Fairview Microwave	SA4018-20	TYE	10/24/2016	10/24/2017
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFM	3/14/2017	3/14/2018

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

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

BAND EDGE COMPLIANCE



THtTx 2017.04.18 XMtM 2017.02.08

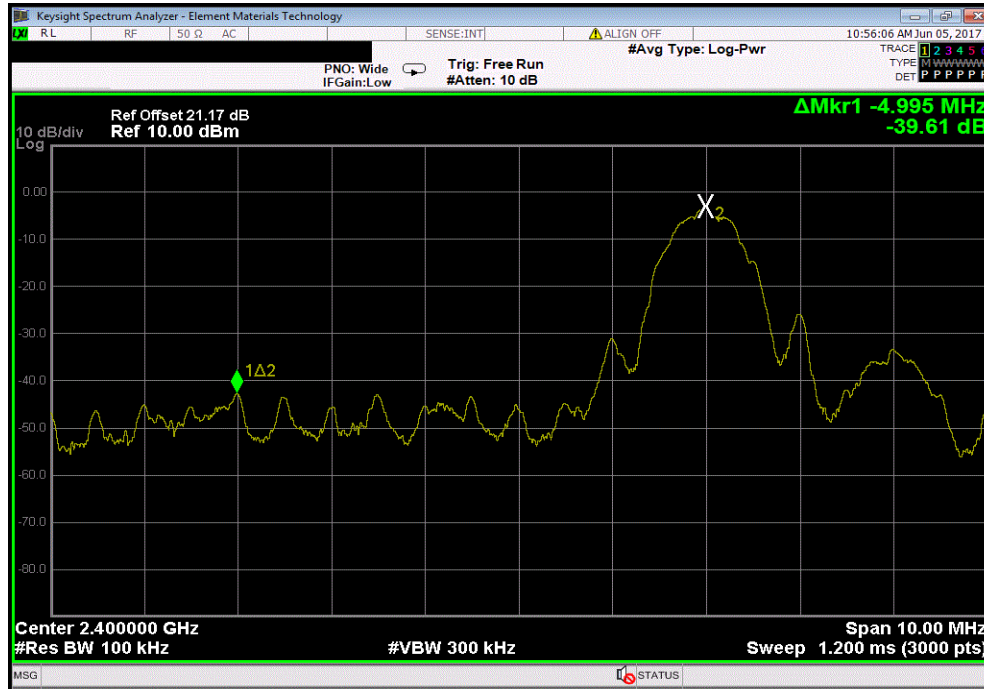
EUT: Accu-Chek Guide Link		Work Order: 7LAY0086	
Serial Number: 11100000201		Date: 06/05/17	
Customer: Roche Diabetes Care, Inc.		Temperature: 23.1 °C	
Attendees: None		Humidity: 49.7% RH	
Project: None		Barometric Pres.: 1012 mbar	
Tested by: Jonathan Kiefer		Power: USB via 110VAC/60Hz	
		Job Site: TX09	
TEST SPECIFICATIONS			
FCC 15.247:2017		Test Method	
		ANSI C63.10:2013	
COMMENTS			
None			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	1	Signature <i>Jonathan Kiefer</i>	
		Value (dBc)	Limit ≤ (dBc) Result
BLE/GFSK Low Channel, 2402 MHz		-39.61	-20 Pass
BLE/GFSK High Channel, 2480 MHz		-40.37	-20 Pass

BAND EDGE COMPLIANCE



TbTtX 2017.04.18 XMI 2017.02.08

BLE/GFSK Low Channel, 2402 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-39.61	-20	Pass



BLE/GFSK High Channel, 2480 MHz						
				Value (dBc)	Limit ≤ (dBc)	Result
				-40.37	-20	Pass



SPURIOUS CONDUCTED EMISSIONS



XMIT 2017.02.08

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	Keysight	N9010A	AFM	3/14/2017	3/14/2018
Cable	Fairview Microwave	SCK0963-60	TXF	11/18/2016	11/18/2017
Generator - Signal	Keysight	N5182B	TFX	4/16/2015	4/16/2018
Block - DC	Fairview Microwave	SD3379	AMT	10/24/2016	10/24/2017
Attenuator	Fairview Microwave	SA4018-20	TYE	10/24/2016	10/24/2017

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. For each transmit frequency, the spectrum was scanned throughout the specified frequency range.

SPURIOUS CONDUCTED EMISSIONS



TM17x 2017.04.18 XM16 2017.02.08

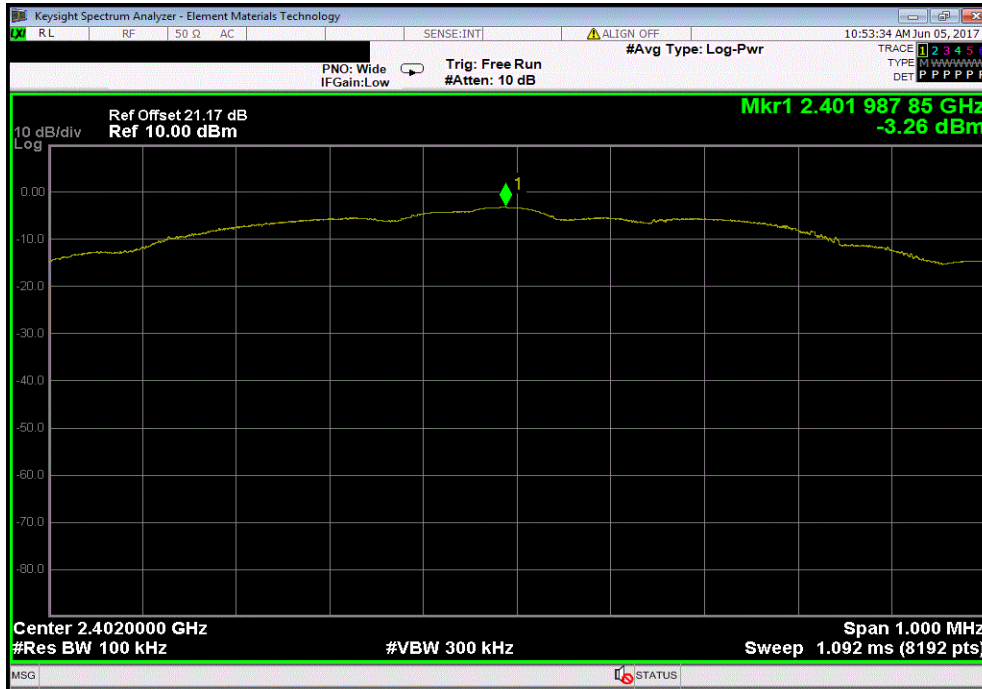
EUT: Accu-Chek Guide Link		Work Order: 7LAY0086	
Serial Number: 11100000201		Date: 06/05/17	
Customer: Roche Diabetes Care, Inc.		Temperature: 22.7 °C	
Attendees: None		Humidity: 53.1% RH	
Project: None		Barometric Pres.: 1012 mbar	
Tested by: Jonathan Kiefer		Power: USB via 110VAC/60Hz	
		Job Site: TX09	
TEST SPECIFICATIONS			
FCC 15.247:2017		Test Method	
		ANSI C63.10:2013	
COMMENTS			
None			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	1	Signature <i>Jonathan Kiefer</i>	
		Frequency Range	Max Value (dBc)
			Limit ≤ (dBc)
			Result
BLE/GFSK Low Channel, 2402 MHz		Fundamental	N/A
BLE/GFSK Low Channel, 2402 MHz		30 MHz - 12.5 GHz	-36.11
BLE/GFSK Low Channel, 2402 MHz		12.5 GHz - 25 GHz	-36.36
BLE/GFSK Mid Channel, 2442 MHz		Fundamental	N/A
BLE/GFSK Mid Channel, 2442 MHz		30 MHz - 12.5 GHz	-35.37
BLE/GFSK Mid Channel, 2442 MHz		12.5 GHz - 25 GHz	-35.22
BLE/GFSK High Channel, 2480 MHz		Fundamental	N/A
BLE/GFSK High Channel, 2480 MHz		30 MHz - 12.5 GHz	-34.98
BLE/GFSK High Channel, 2480 MHz		12.5 GHz - 25 GHz	-34.38

SPURIOUS CONDUCTED EMISSIONS

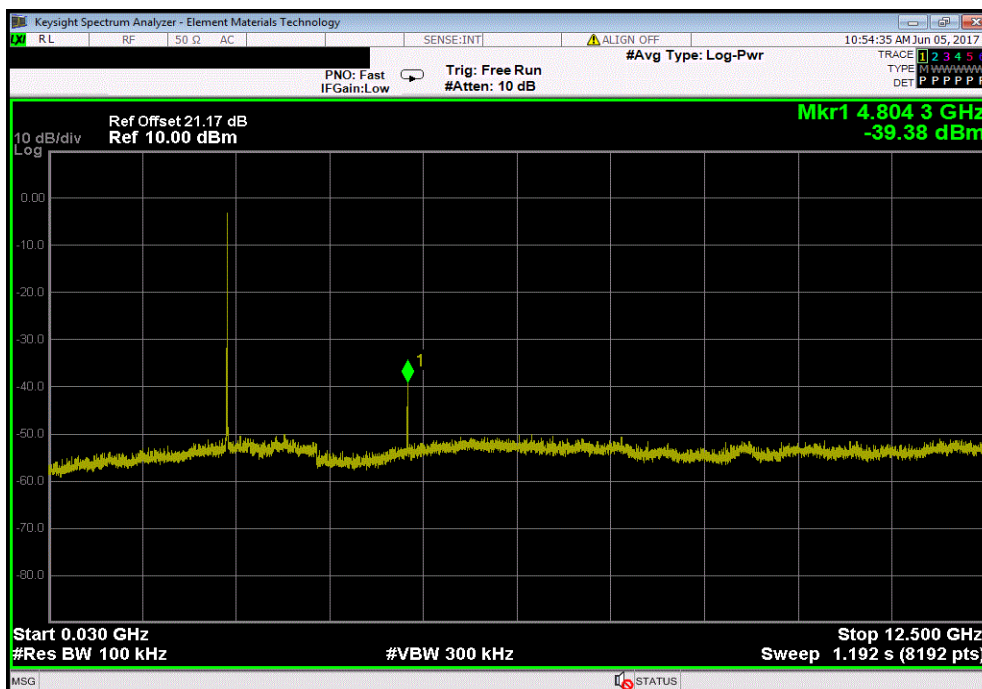


TbTtX 2017.04.18 XMt 2017.02.08

BLE/GFSK Low Channel, 2402 MHz						
Frequency Range		Max Value (dBc)	Limit $\leq$ (dBc)	Result		
Fundamental		N/A	N/A	N/A		



BLE/GFSK Low Channel, 2402 MHz						
Frequency Range		Max Value (dBc)	Limit $\leq$ (dBc)	Result		
30 MHz - 12.5 GHz		-36.11	-20	Pass		

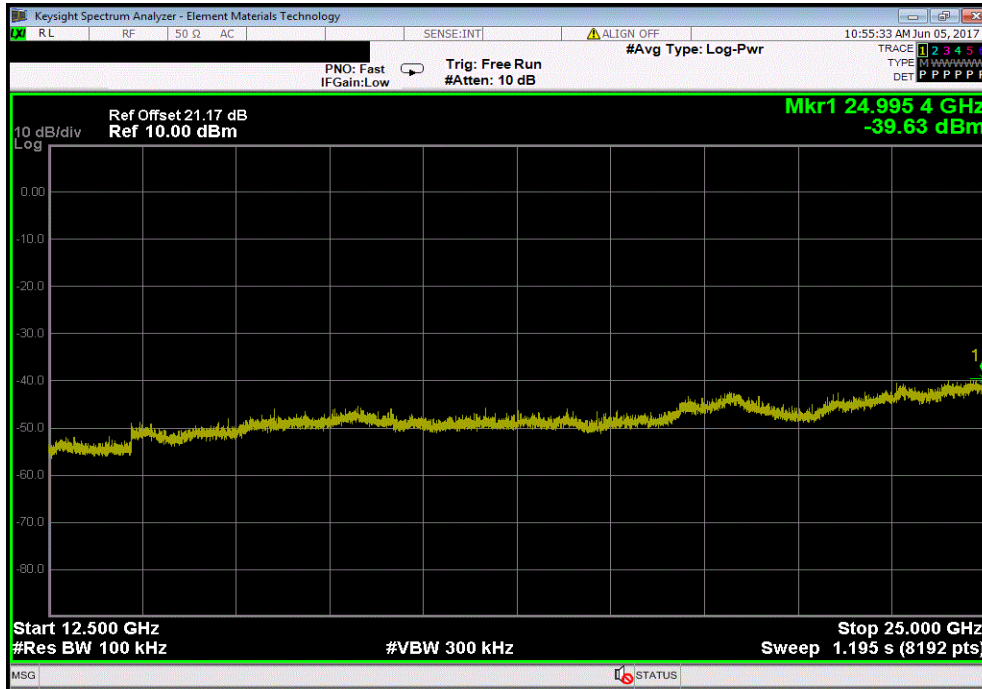


SPURIOUS CONDUCTED EMISSIONS

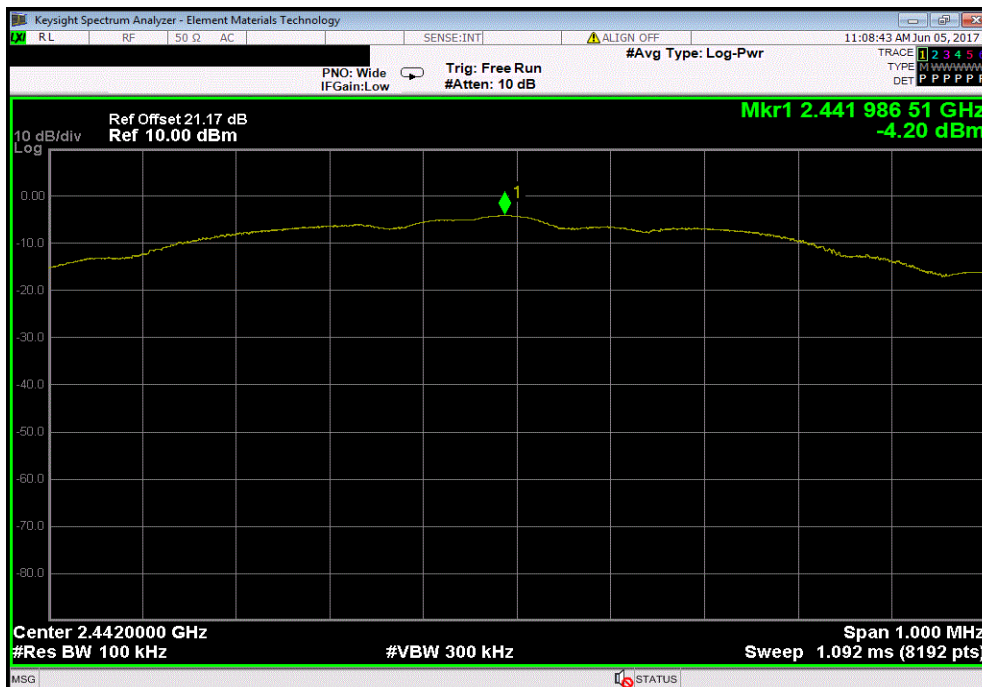


TbTtX 2017.04.18 XMI 2017.02.08

BLE/GFSK Low Channel, 2402 MHz				
Frequency Range	Max Value (dBc)	Limit $\leq$ (dBc)	Result	
12.5 GHz - 25 GHz	-36.36	-20	Pass	



BLE/GFSK Mid Channel, 2442 MHz				
Frequency Range	Max Value (dBc)	Limit $\leq$ (dBc)	Result	
Fundamental	N/A	N/A	N/A	

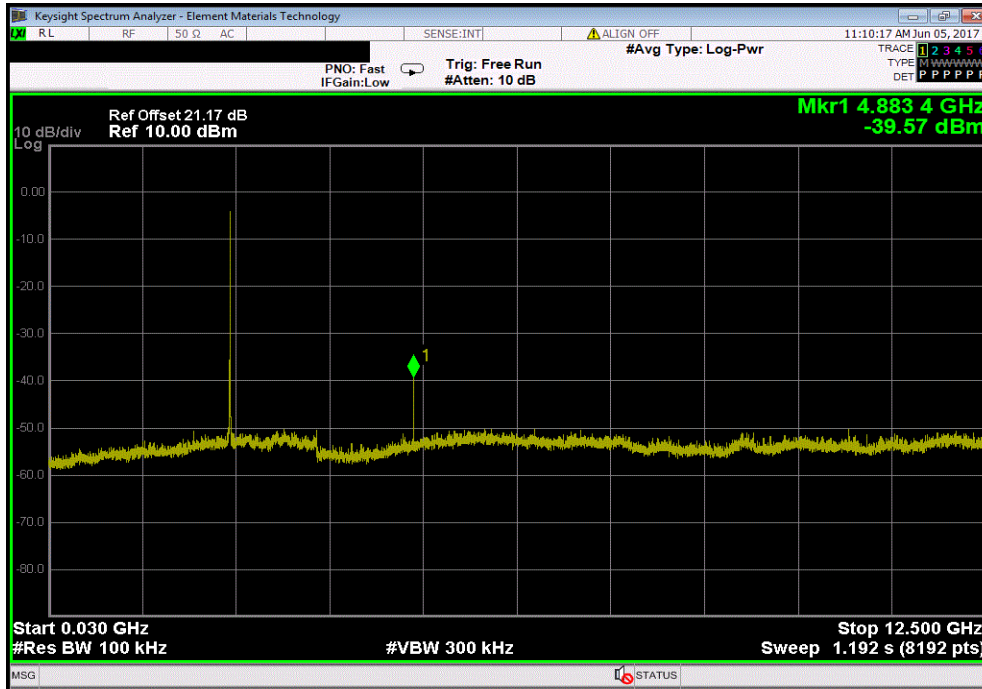


SPURIOUS CONDUCTED EMISSIONS

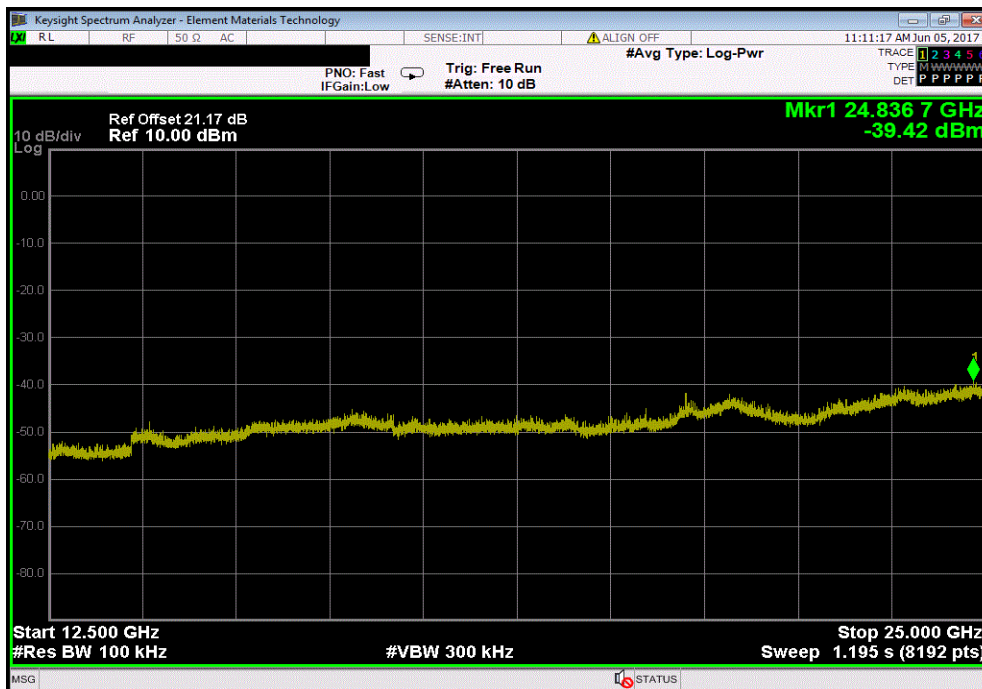


TbTtX 2017.04.18 XMI 2017.02.08

BLE/GFSK Mid Channel, 2442 MHz				
Frequency Range	Max Value (dBc)	Limit $\leq$ (dBc)	Result	
30 MHz - 12.5 GHz	-35.37	-20	Pass	



BLE/GFSK Mid Channel, 2442 MHz				
Frequency Range	Max Value (dBc)	Limit $\leq$ (dBc)	Result	
12.5 GHz - 25 GHz	-35.22	-20	Pass	

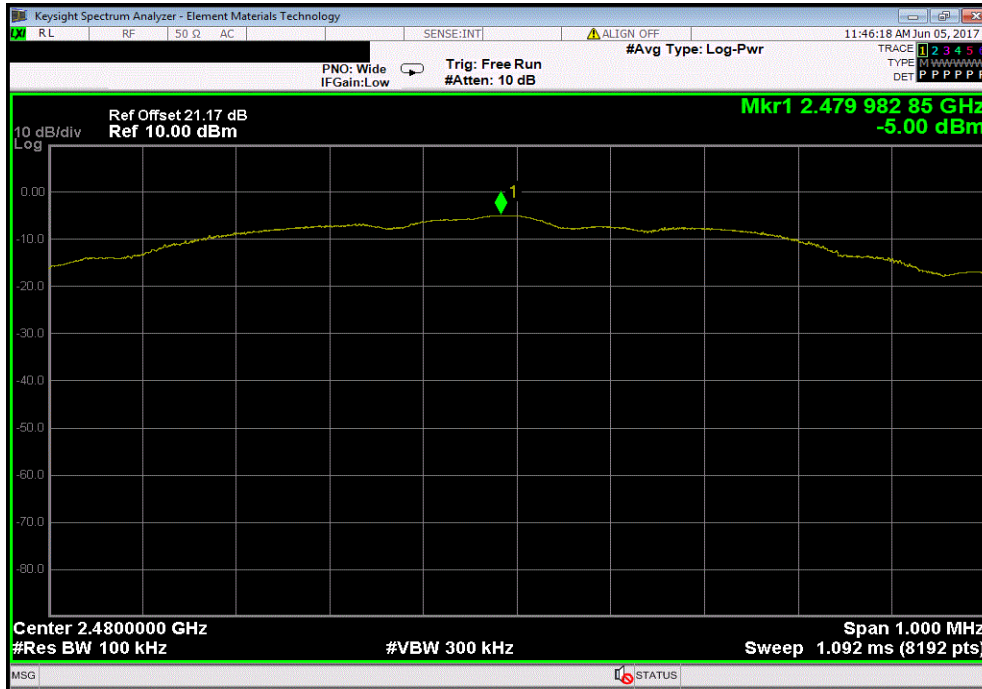


SPURIOUS CONDUCTED EMISSIONS

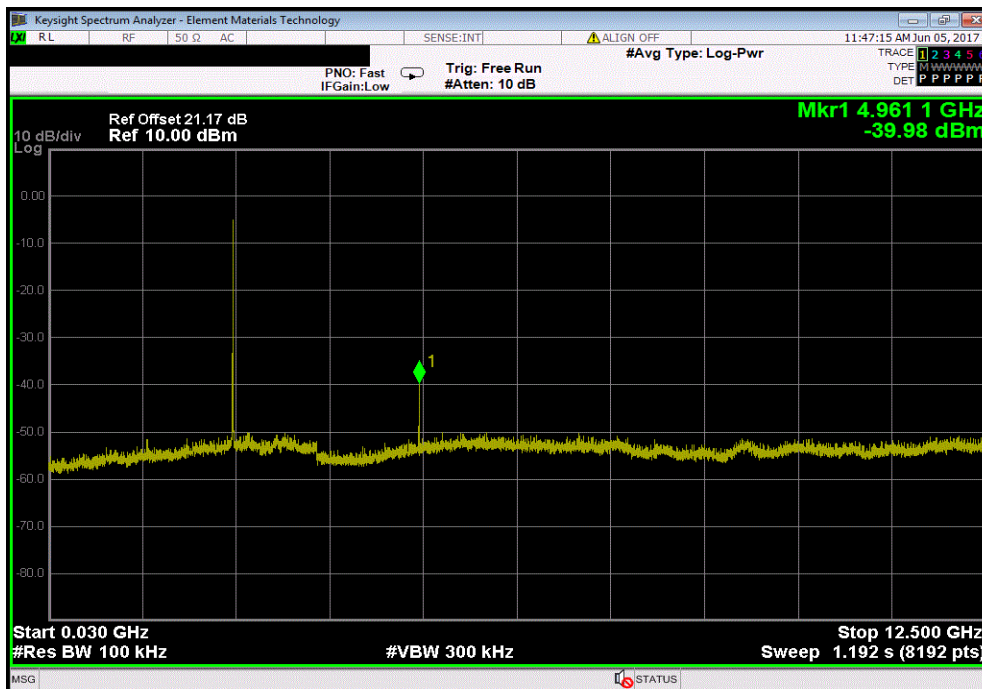


TbTtx 2017.04.18 XMI 2017.02.08

BLE/GFSK High Channel, 2480 MHz						
Frequency Range		Max Value (dBc)	Limit $\leq$ (dBc)	Result		
Fundamental		N/A	N/A	N/A		



BLE/GFSK High Channel, 2480 MHz						
Frequency Range		Max Value (dBc)	Limit $\leq$ (dBc)	Result		
30 MHz - 12.5 GHz		-34.98	-20	Pass		



SPURIOUS CONDUCTED EMISSIONS



TbTtx 2017.04.18 XMt 2017.02.08

BLE/GFSK High Channel, 2480 MHz				
Frequency Range	Max Value (dBc)	Limit $\leq$ (dBc)	Result	
12.5 GHz - 25 GHz	-34.38	-20	Pass	

