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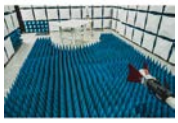

MEASUREMENT REPORT
FCC PART 15.249 / ISED RSS-210 900MHz ISM

Applicant Name:
PRIMETECH CORPORATION
2nd Floor Koishikawa Daikoku Bldg.
1-3-25, Koishikawa Bunkyo-ku,
Yokyo 112-0002 Japan

Date of Testing:
4/23/2019-4/24/2019
Test Site/Location:
PCTEST Lab. Morgan Hill, CA, USA
Test Report Serial No.:
1M1901240012-01-R1

FCC ID:	**2ACHIUCDX10R**
IC:	**24730-UCDX10R2019**
APPLICANT:	**PRIMETECH CORPORATION**

Application Type:	Certification
Model/HVIN:	UCD-X10R
EUT Type:	Micro Infusion Pump Data Communication Unit
Frequency Range:	916.2 – 926.1MHz
FCC Classification:	Low Power Communication Device Transmitter (DXX)
FCC Rule Part(s):	Part 15 Subpart C (15.249)
ISED Specification:	RSS-210 Issue 9
Test Procedure(s):	ANSI C63.10-2013

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.10-2013. Test results reported herein relate only to the item(s) tested.

This revised Test Report (S/N: 1M1901240012-01-R1) supersedes and replaces the previously issued test report (S/N: 1M1901240012-01) on the same subject device for the same type of testing as indicated. Please discard or destroy the previously issued test report(s) and dispose it accordingly.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

Randy Ortanez
President

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1.0 INTRODUCTION

1.1 Scope

Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission and the Innovation, Science and Economic Development Canada.

1.2 PCTEST Test Location

These measurement tests were conducted at the PCTEST Engineering Laboratory, Inc. facility located at 18855 Adams Court, Morgan Hill, CA 95037. The measurement facility is compliant with the test site requirements specified in ANSI C63.4-2014 and KDB 414788 D01 v01.

1.3 Test Facility / Accreditations

Measurements were performed at PCTEST Engineering Lab located in Morgan Hill, CA 95037, U.S.A.

- PCTEST is an ISO 17025-2005 accredited test facility under the American Association for Laboratory Accreditation (A2LA) with Certificate number 2041.02 for Specific Absorption Rate (SAR), Hearing Aid Compatibility (HAC) testing, where applicable, and Electromagnetic Compatibility (EMC) testing for FCC and Innovation, Science, and Economic Development Canada rules.

- PCTEST TCB is a Telecommunication Certification Body (TCB) accredited to ISO/IEC 17065-2012 by A2LA (Certificate number 2041.03) in all scopes of FCC Rules and ISED Standards (RSS).

- PCTEST facility is a registered (22831) test laboratory with the site description on file with ISED.

2.0 PRODUCT INFORMATION

2.1 Equipment Description

The Equipment Under Test (EUT) is the **PRIMETECH Micro Infusion Pump Data Communication Unit FCC ID: 2ACHIUCDX10R**. The data found in this test report pertains only to the emissions due to the EUT's 900MHz ISM transmitter.

Test Device Serial No.: 9A0003Y

2.2 Device Capabilities

This device contains the following capabilities:

The EUT transmits in the 900MHz ISM

Channel	Frequency [MHz]
Low	916.2
Mid	923.1
High	926.1

Table 2-1. Frequency / Channel Operations

2.3 Antenna Description

Following antenna was used for the testing.

Frequency [MHz]	Antenna Gain [dBi]
916.2 – 926.1	2.0

Table 2-2. Antenna Gain

2.4 Test Support Equipment

Description	Manufacturer	Model	Serial Number
Laptop	Dell	Latitude 5580	JBWCQN2
USB Power Adapter	-	AC2416	-
USB to Barrel Jack Cable (with ferrite)	-	22APR-3	-

Table 2-3. Test Support Equipment Used

2.5 Test Configuration

The EUT was tested per the guidance of ANSI C63.10-2013. ANSI C63.10-2013 was used to reference the appropriate EUT setup for radiated spurious emissions testing and AC line conducted testing. See Sections 3.2 for AC line conducted emissions test setups and 3.3 for radiated emissions test setups.

The EUT is configured to transmit using a terminal software on a laptop via an ethernet cable. The laptop and ethernet cable were not present while testing the EUT.

The EUT was manipulated through two positions; X-orientation (flatbed), Y-orientation (landscape/portrait) during the testing. Only the worst case emissions were reported in this test report.

2.6 Software and Firmware

The test was conducted with firmware version V4.00 20190115r1 installed on the EUT.

2.7 EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and/or no modifications were made during testing.

3.0 DESCRIPTION OF TESTS

3.1 Evaluation Procedure

The measurement procedures described in the American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices (ANSI C63.10-2013) was used in the measurement of the EUT**.**

Deviation from measurement procedure…….....None

3.2 AC Line Conducted Emissions

The line-conducted facility is located inside a 7m x 3.66m x 2.7m shielded enclosure. The shielded enclosure is manufactured by AP Americas. The shielding effectiveness of the shielded room is in accordance with MIL-Std-285 or NSA 65-6. A 1m x 1.5m wooden table 80cm high is placed 40cm away from the vertical wall and 80cm away from the sidewall of the shielded room. Two 10kHz-30MHz, 50Ω/50µH Line-Impedance Stabilization Networks (LISNs) are bonded to the shielded room floor. Power to the LISNs is filtered by external high-current high-insertion loss power line filters. The external power line filter is EPCOS 2X60A Power Line Filter (100dB Attenuation, 14kHz-18GHz) and the two EPCOs 2X48A filters (100dB Minimum Insertion Loss, 14kHz - 10GHz). These filters attenuate ambient signal noise from entering the measurement lines. These filters are also bonded to the shielded enclosure.

The EUT is powered from one LISN and the support equipment is powered from the second LISN. If the EUT is a DC-powered device, power will be derived from the source power supply it normally will be powered from and this supply line(s) will be connected to the second LISN. All interconnecting cables more than 1 meter were shortened to a 1 meter length by non-inductive bundling (serpentine fashion) and draped over the back edge of the test table. All cables were at least 40cm above the horizontal reference ground-plane. Power cables for support equipment were routed down to the second LISN while ensuring that that cables were not draped over the second LISN.

Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The RF output of the LISN was connected to the spectrum analyzer and exploratory measurements were made to determine the frequencies producing the maximum emission from the EUT. The spectrum was scanned from 150kHz to 30MHz with a spectrum analyzer. The detector function was set to peak mode for exploratory measurements while the bandwidth of the analyzer was set to 10kHz. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Once the worst case emissions have been identified, the one EUT cable configuration/arrangement and mode of operation that produced these emissions is used for final measurements on the same test site. The analyzer is set to CISPR quasi-peak and average detectors with a 9kHz resolution bandwidth for final measurements.

Line conducted emissions test results are shown in Section 7.5. Automated test software was used to perform the AC line conducted emissions testing. Automated measurement software utilized is Rohde & Schwarz EMC32, Version 10.20.01.

3.3 Radiated Emissions

The radiated test facilities consisted of an indoor 3 meter semi-anechoic chamber used for final measurements and exploratory measurements, when necessary. The measurement area is contained within the semi-anechoic chamber which is shielded from any ambient interference. The test site inside the chamber is a 6m x 5.2m elliptical, obstruction-free area in accordance with Figure 5.7 of Clause 5 in ANSI C63.4-2014. Absorbers are arranged on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections for measurements above 1GHz. An 80cm tall test table made of Styrodur is placed on top of the turn table. For measurements above 1GHz, an additional Styrodur pedestal is placed on top of the test table to bring the total table height to 1.5m.

For all measurements, the spectrum was scanned through all EUT azimuths and from 1 to 4 meter receive antenna height using a broadband antenna from 30MHz up to the upper frequency shown in 15.33 depending on the highest frequency generated or used in the device or on which the device operates or tunes. For frequencies above 1GHz, linearly polarized double ridge horn antennas were used. For frequencies below 30MHz, a calibrated loop antenna was used. When exploratory measurements were necessary, they were performed at 1 meter test distance inside the semi-anechoic chamber using broadband antennas, broadband amplifiers, and spectrum analyzers to determine the frequencies and modes producing the maximum emissions. Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The test set-up was placed on top of the 1 x 1.5 meter table. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Appropriate precaution was taken to ensure that all emissions from the EUT were maximized and investigated. The system configuration, mode of operation, turntable azimuth, and receive antenna height was noted for each frequency found.

Final measurements were made in the semi-anechoic chamber using calibrated, linearly polarized broadband and horn antennas. The test setup was configured to the setup that produced the worst case emissions. The spectrum analyzer was set to investigate all frequencies required for testing to compare the highest radiated disturbances with respect to the specified limits. The turntable containing the EUT was rotated through 360 degrees and the height of the receive antenna was varied 1 to 4 meters and stopped at the azimuth and height producing the maximum emission. Each emission was maximized by changing the orientation of the EUT through three orthogonal planes and changing the polarity of the receive antenna, whichever produced the worst-case emissions.

3.4 Environmental Conditions

The temperature is controlled within range of 15ºC to 35ºC. The relative humidity is controlled within range of 10% to 75%. The atmospheric pressure is monitored within the range 86-106kPa (860-1060mbar).

4.0 ANTENNA REQUIREMENTS

Excerpt from §15.203 of the FCC Rules/Regulations:
"An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section."

- The antenna(s) of the EUT are **permanently attached.**
- There are no provisions for connection to an external antenna.

Conclusion:

The EUT complies with the requirement of §15.203.

5.0 MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.10-2013. All measurement uncertainty values are shown with a coverage factor of k = 2 to indicate a 95% level of confidence. The measurement uncertainty shown below meets or exceeds the U_{CISPR} measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Contribution	Expanded Uncertainty (±dB)
Conducted Bench Top Measurements	1.29
Line Conducted Disturbance	2.48
Radiated Disturbance (<1GHz)	4.15
Radiated Disturbance (>1GHz)	4.70
Radiated Disturbance (>18GHz)	5.01

6.0 TEST EQUIPMENT CALIBRATION DATA

Test Equipment Calibration is traceable to the National Institute of Standards and Technology (NIST). Measurements antennas used during testing were calibrated in accordance to the requirements of ANSI C63.5-2017.

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Keysight Technologies	N9030A	3Hz-44GHz PXA Signal Analyzer	7/27/2018	Annual	7/27/2019	MY55330128
Rohde & Schwarz	ESW26	EMI Test Receiver	7/19/2018	Annual	7/19/2019	101299
Rohde & Schwarz	ESW44	EMI Test Receiver	11/20/2018	Annual	11/20/2019	101570
Rohde & Schwarz	SFUNIT-RX	Shielded Filter Unit	7/5/2018	Annual	7/5/2019	102137
Rohde & Schwarz	TS-PR8	Pre-Amplifier (30MHz - 8GHz)	1/7/2019	Annual	1/7/2020	102325
Rohde & Schwarz	HL562E	Ultra Broadband Antenna (30MHz - 6GHz)	6/8/2018	Annual	6/8/2019	100810
Rohde & Schwarz	TC-TA18	Cross Polarized Vivaldi Antenna (400MHz-18GHz)	11/21/2018	Annual	11/21/2019	101057
Rohde & Schwarz	HFH2-Z2	Loop Antenna	3/21/2019	Annual	3/21/2020	100519
Rohde & Schwarz	ENV216	Two-Line V-Network (LISN)	1/7/2019	Annual	1/7/2020	101363

Table 6-1. Annual Test Equipment Calibration Schedule

Note:

For equipment listed above that has a calibration date or calibration due date that falls within the test date range, care was taken to ensure that this equipment was used after the calibration date and before the calibration due date.

7.0 TEST RESULTS

7.1 Summary

Company Name: PRIMETECH CORPORATION

FCC ID: 2ACHIUCDX10R

FCC Classification: Low Power Communication Device Transmitter (DXX)

FCC Part Section(s)	RSS Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
2.1049	RSS-Gen [6.7]	Occupied Bandwidth	N/A	CONDUCTED	PASS	Section 7.2
15.249(a)	RSS-210 [B.10(a)]	Fundamental Field Strength Level	< 50 mV/m		PASS	Sections 7.3
15.249(d)	RSS-210 [B.10(b)]	Harmonic Field Strength Level	< 500 µV/m	RADIATED	PASS	Sections 7.4
15.205 15.209	RSS-Gen [8.9]	General Field Strength Limits (Restricted Bands and Radiated Emission Limits)	Emissions in restricted bands must meet the radiated limits detailed in 15.209 (RSS-Gen [8.9])		PASS	Sections 7.4
15.207	RSS-Gen [8.8]	AC Conducted Emissions 150kHz – 30MHz	< FCC 15.207 limits (RSS-Gen[8.8])	LINE CONDUCTED	PASS	Section 7.5

Table 7-1. Summary of Test Results

Notes:

1. All modes of operation were investigated. The test results shown in the following sections represent the worst case emissions.
2. The analyzer plots shown in this section were all taken with a correction table loaded into the analyzer. The correction table was used to account for the losses of the cables and attenuators used as part of the system to connect the EUT to the analyzer at all frequencies of interest.
3. All antenna port conducted emissions testing was performed on a test bench with the antenna port of the EUT connected to the spectrum analyzer through calibrated cables and attenuators.

7.2 Occupied Bandwidth Measurement

§2.1049; RSS-Gen [6.7]

Test Overview

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured

Test Procedure Used

ANSI C63.10-2013 – Section 6.9.2

Test Settings

1. RBW = 1 – 5% OBW
2. VBW ≥ 3 x RBW
3. Detector = Peak
4. Trace mode = max hold
5. Sweep = auto couple
6. The trace was allowed to stabilize

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

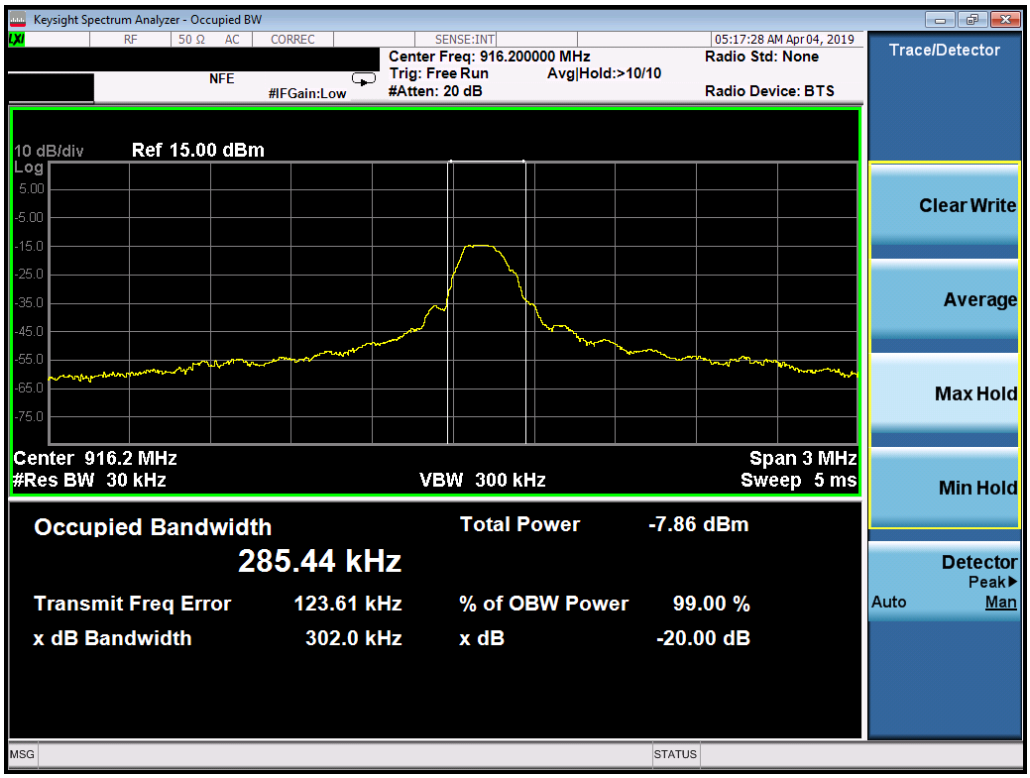
Figure 7-1. Test Instrument & Measurement Setup

Test Notes

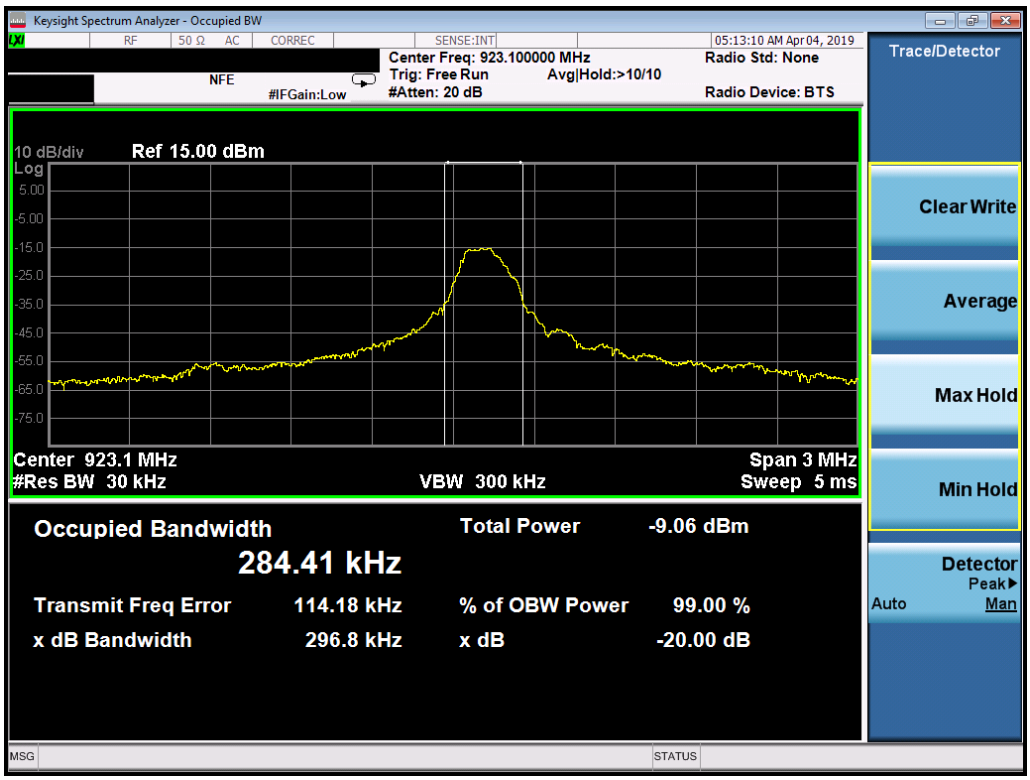
None

Frequency [MHz]	Channel No.	20dB Bandwidth [kHz]	99% Measured Occupied Bandwidth [kHz]
916.2	Low	302.00	285.44
923.1	Mid	296.80	284.41
926.1	High	292.90	279.13

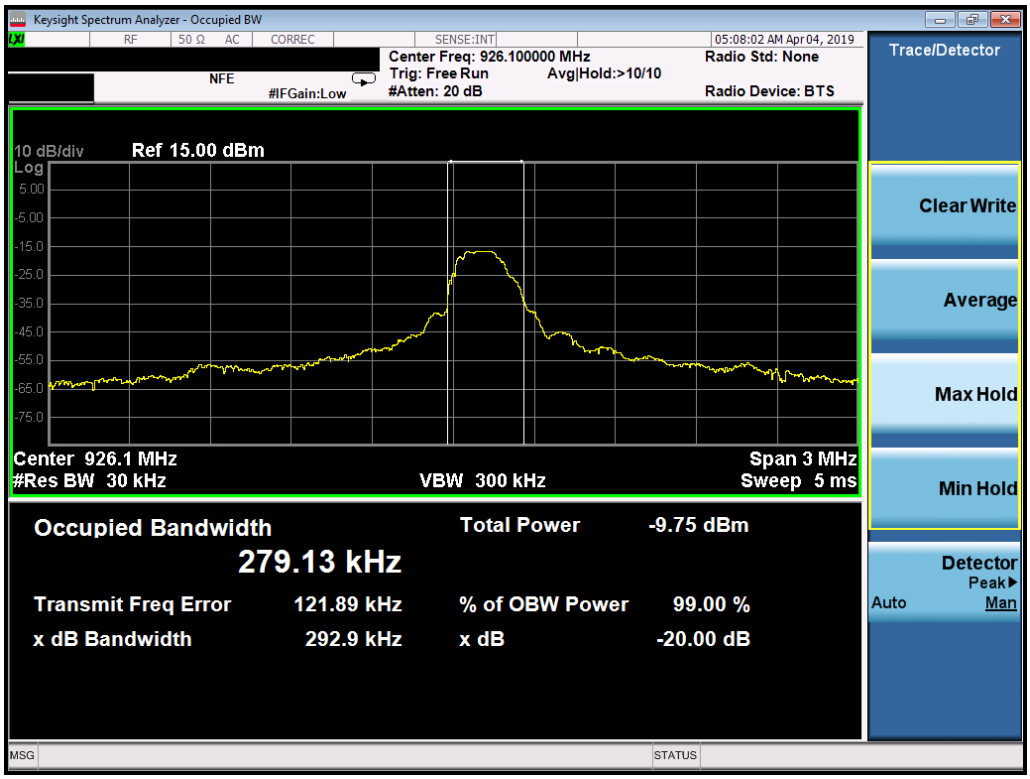
Table 7-2. Occupied Bandwidth Measurements



Plot 7-1. Occupied Bandwidth Plot (Low Ch, 916.2MHz)



Plot 7-2. Occupied Bandwidth Plot (Mid Ch, 923.1MHz)



Plot 7-3. Occupied Bandwidth Plot (High Ch, 926.1MHz)

7.3 Fundamental Field Strength Level Measurement

§15.249(a)(e) §15.209; RSS-210 [B.10(a)]

Test Overview and Limits

The measurements are made while the EUT is operating in continuous transmission mode. The field strength shown below were measured using a spectrum analyzer. Peak field strength measurements are performed in the analyzer's swept spectrum mode using a peak detector. The receiving antenna was at 3-meter distance away from the EUT.

The maximum permissible quasi-peak field strength level is 50mV/m (93.98dBµV/m)

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

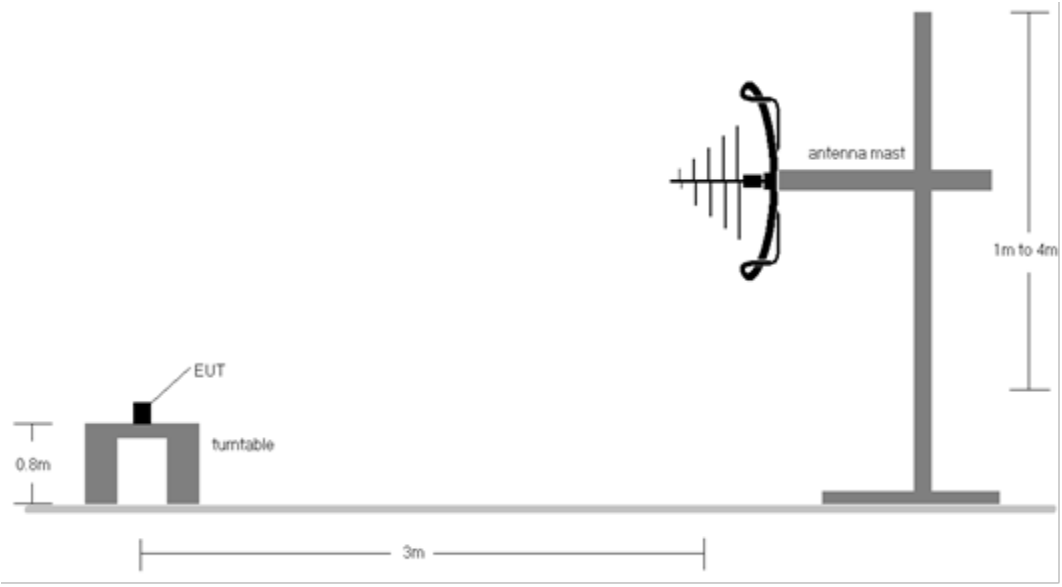


Figure 7-2. Field Strength Test Setup

Test Notes

Sample Calculations

Determining Field Strength Levels

- Field Strength Level $_{[dB\mu V/m]}$ = Analyzer Level $_{[dBm]}$ + 107 + AFCL $_{[dB/m]}$
- AFCL $_{[dB/m]}$ = Antenna Factor $_{[dB/m]}$ + Cable Loss $_{[dB]}$
- Margin $_{[dB]}$ = Field Strength Level $_{[dB\mu V/m]}$ – Limit $_{[dB\mu V/m]}$

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
916.20	Peak	V	107	177	-15.22	-3.98	87.80	93.98	-6.18
923.10	Peak	V	104	175	-15.43	-4.11	87.46	93.98	-6.52
926.10	Peak	V	111	183	-16.04	-4.11	86.85	93.98	-7.13

Table 7-3. Field Strength Measurements

7.4 Radiated Spurious Emission Measurements

§15.205 §15.209 §15.249(a)(d)(e); RSS-210 [B.10], RSS-Gen [8.9]

Test Overview and Limit

All out of band radiated spurious emissions are measured with a spectrum analyzer connected to a receive antenna while the EUT is operating at maximum power and at the appropriate frequencies. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

Frequency	Field Strength [µV/m]	Measured Distance [Meters]
0.009 – 0.490 MHz	2400/F (kHz)	300
0.490 – 1.705 MHz	24000/F (kHz)	30
1.705 – 30.00 MHz	30	30
30.00 – 88.00 MHz	100	3
88.00 – 216.0 MHz	150	3
216.0 – 960.0 MHz	200	3
Above 960.0 MHz	500	3

Table 7-4. Radiated Limits

Test Procedures Used

ANSI C63.10-2013

Test Settings

Quasi-Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 120kHz (for emissions from 30MHz – 1GHz)
3. Detector = quasi-peak
4. Sweep time = auto couple
5. Trace mode = max hold
6. Trace was allowed to stabilize

Average Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3kHz > 1/T
4. Averaging type was set to RMS to ensure that video filtering was applied in the power domain
5. Detector = peak
6. Sweep time = auto
7. Trace mode = max hold
8. Trace was allowed to run for at least 50 times (1/duty cycle) traces

Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW is set depending on measurement frequency, as specified in Table 7-5 below
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

Frequency	RBW
9 – 150kHz	200 – 300Hz
0.15 – 30MHz	9 – 10kHz
30 – 1000MHz	100 – 120kHz
> 1000MHz	1MHz

Table 7-5. RBW as a Function of Frequency

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

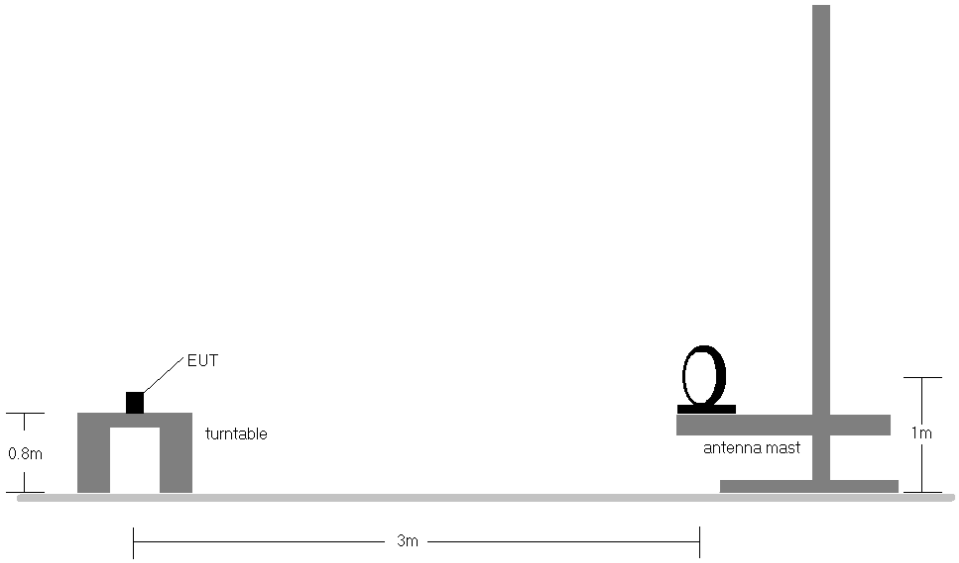


Figure 7-3. Radiated Test Setup < 30MHz

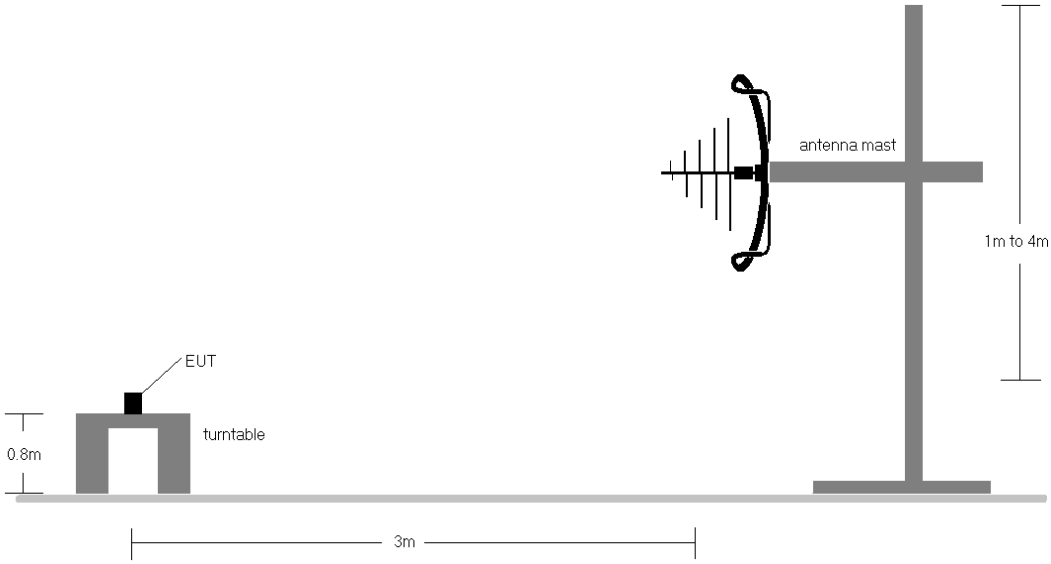


Figure 7-4. Radiated Test Setup < 1GHz

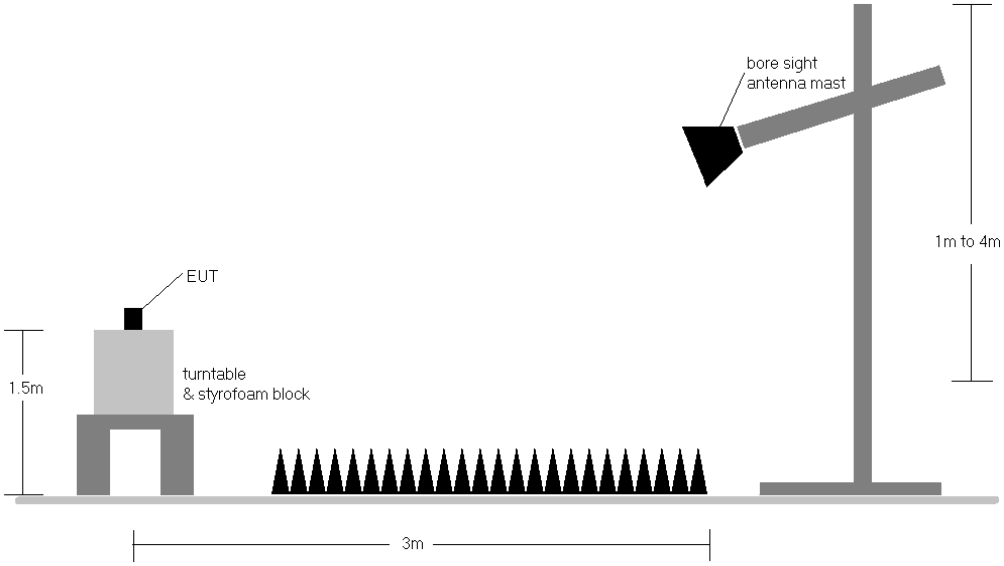


Figure 7-5. Radiated Test Setup >1GHz

Test Notes

1. All emissions lying in restricted bands specified in §15.205 and Section 8.10 of RSS-Gen are below the limit shown in Table 7-4.
2. The antenna is manipulated through typical positions, polarity and length during the tests. The EUT is manipulated through three orthogonal planes.
3. This unit was tested while powered by an AC power source.
4. The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter using CISPR quasi peak detector below 1GHz. Above 1 GHz, average and peak measurements were taken using linearly polarized horn antennas. The worst-case emissions are reported however emissions whose levels were not within 20dB of the respective limits were not reported.
5. Emissions were measured at a 3 meter test distance.
6. No spurious emissions were detected within 20dB of the limit below 30MHz.
7. The "-" shown in the following RSE tables are used to denote a noise floor measurement.

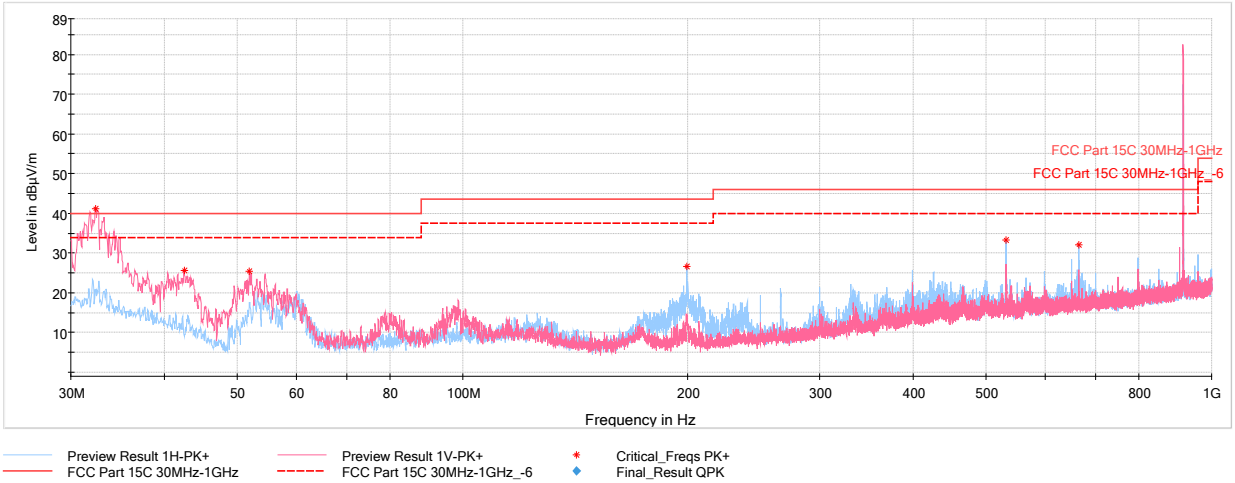
Sample Calculations

Determining Spurious Emissions Levels

- Field Strength Level $_{[dB\mu V/m]}$ = Analyzer Level $_{[dBm]}$ + 107 + AFCL $_{[dB/m]}$
- AFCL $_{[dB/m]}$ = Antenna Factor $_{[dB/m]}$ + Cable Loss $_{[dB]}$
- Margin $_{[dB]}$ = Field Strength Level $_{[dB\mu V/m]}$ – Limit $_{[dB\mu V/m]}$

Radiated Spurious Emission Measurements

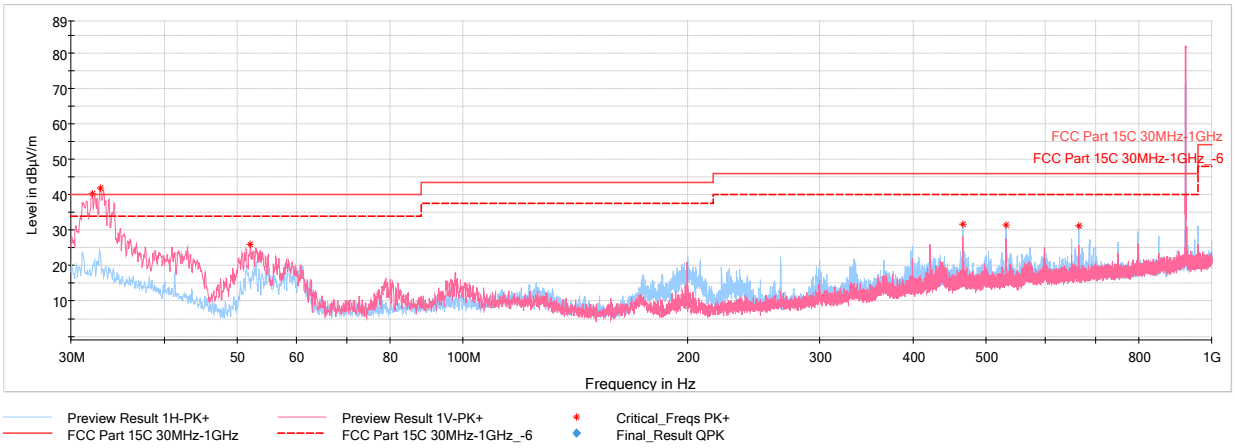
§15.205 §15.209 §15.249(a)(d)(e); RSS-210 [B.10], RSS-Gen [8.9]



Plot 7-4. Radiated Spurious Plot Below 1GHz (Low CH, 916.2 MHz)

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
32.47	Quasi-Peak	V	105	122	-58.39	-10.37	38.24	40.00	-1.76
42.51	Peak	V	100	24	-65.51	-15.94	25.55	40.00	-14.45
51.92	Peak	V	100	68	-58.80	-22.72	25.48	40.00	-14.52
199.31	Peak	H	100	15	-61.39	-18.89	26.72	43.52	-16.81
531.98	Peak	H	100	309	-63.67	-10.03	33.30	46.02	-12.73
664.96	Peak	H	100	194	-66.87	-7.94	32.19	46.02	-13.83

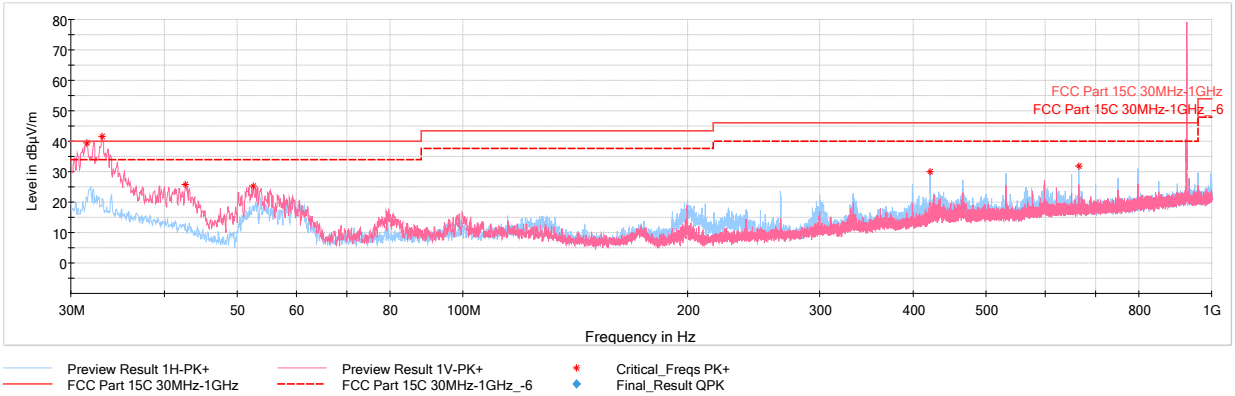
Table 7-6. Radiated Spurious Emissions Data Below 1GHz (Low CH, 916.2 MHz)



Plot 7-5. Radiated Spurious Plot Below 1GHz (Mid CH, 923.1 MHz)

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
32.58	Quasi-Peak	V	100	234	-58.60	-10.42	37.98	40.00	-2.02
32.83	Quasi-Peak	V	100	113	-58.19	-10.52	38.29	40.00	-1.71
52.07	Peak	V	100	21	-58.27	-22.80	25.93	40.00	-14.07
465.58	Peak	H	250	310	-64.34	-11.08	31.58	46.02	-14.44
531.98	Peak	H	100	331	-65.47	-10.03	31.50	46.02	-14.53
664.96	Peak	H	100	194	-67.84	-7.94	31.22	46.02	-14.80

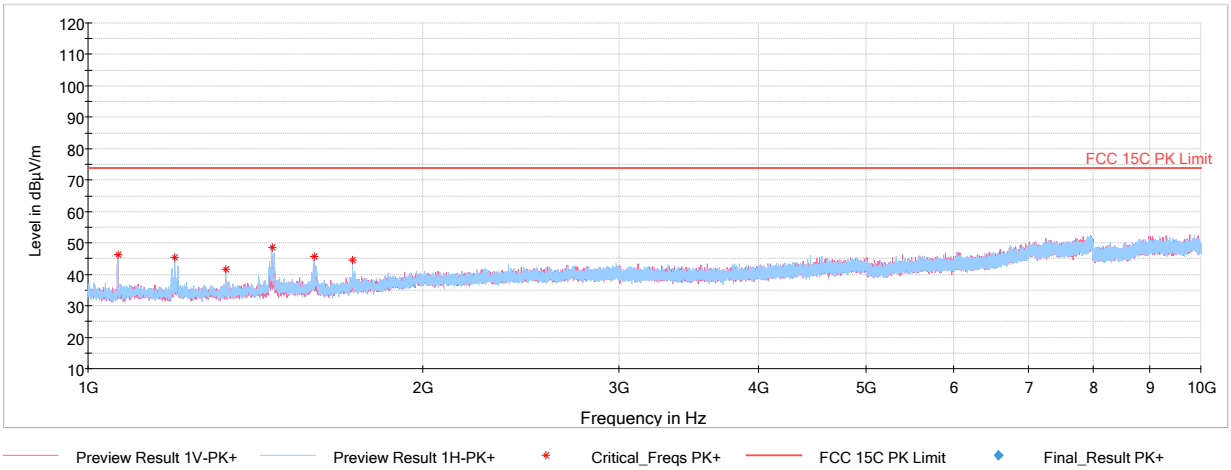
Table 7-7. Radiated Spurious Emissions Data Below 1GHz (Mid CH, 923.1 MHz)



Plot 7-6. Radiated Spurious Plot Below 1GHz (High CH, 926.1 MHz)

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
32.10	Quasi-Peak	V	104	343	-59.72	-10.22	37.06	40.00	-2.94
33.07	Quasi-Peak	V	107	103	-58.10	-10.62	38.28	40.00	-1.72
42.66	Peak	V	100	89	-65.28	-16.03	25.69	40.00	-14.31
52.60	Peak	V	250	48	-58.75	-23.01	25.24	40.00	-14.76
421.15	Peak	H	250	188	-64.53	-12.37	30.10	46.02	-15.92
664.96	Peak	H	100	239	-67.14	-7.94	31.92	46.02	-14.10

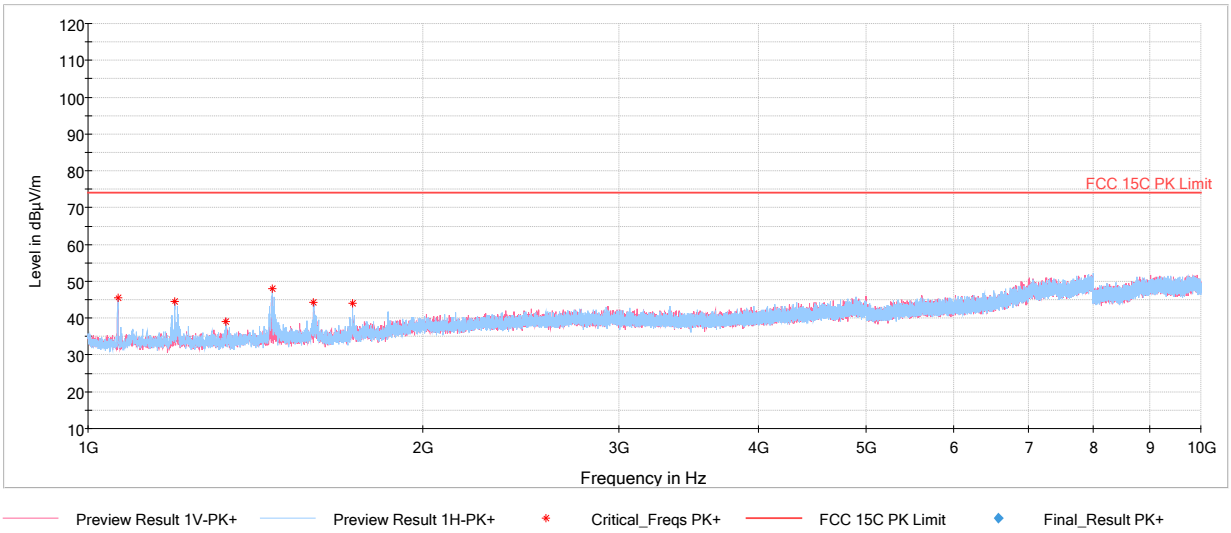
Table 7-8. Radiated Spurious Emissions Data Below 1GHz (High CH, 926.1 MHz)



Plot 7-7. Radiated Spurious Plot Above 1GHz (Low CH, 916.2 MHz)

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
1063.79	Avg	H	170	199	-55.62	-4.13	47.25	53.98	-6.73
1063.79	Peak	H	170	199	-51.56	-4.13	51.31	73.98	-22.67
1196.94	Avg	H	125	183	-58.49	-3.66	44.85	53.98	-9.13
1196.94	Peak	H	125	183	-53.66	-3.66	49.68	73.98	-24.30
1329.82	Avg	H	342	211	-61.40	-3.30	42.30	53.98	-11.67
1329.82	Peak	H	342	211	-55.69	-3.30	48.01	73.98	-25.96
1462.97	Avg	H	150	164	-57.02	-2.57	47.41	53.98	-6.57
1462.97	Peak	H	150	164	-50.77	-2.57	53.66	73.98	-20.32
1595.59	Avg	H	244	83	-60.83	-1.92	44.25	53.98	-9.72
1595.59	Peak	H	244	83	-56.45	-1.92	48.63	73.98	-25.34
1728.21	Avg	H	244	70	-62.13	-1.07	43.80	53.98	-10.18
1728.21	Peak	H	244	70	-56.64	-1.07	49.29	73.98	-24.69

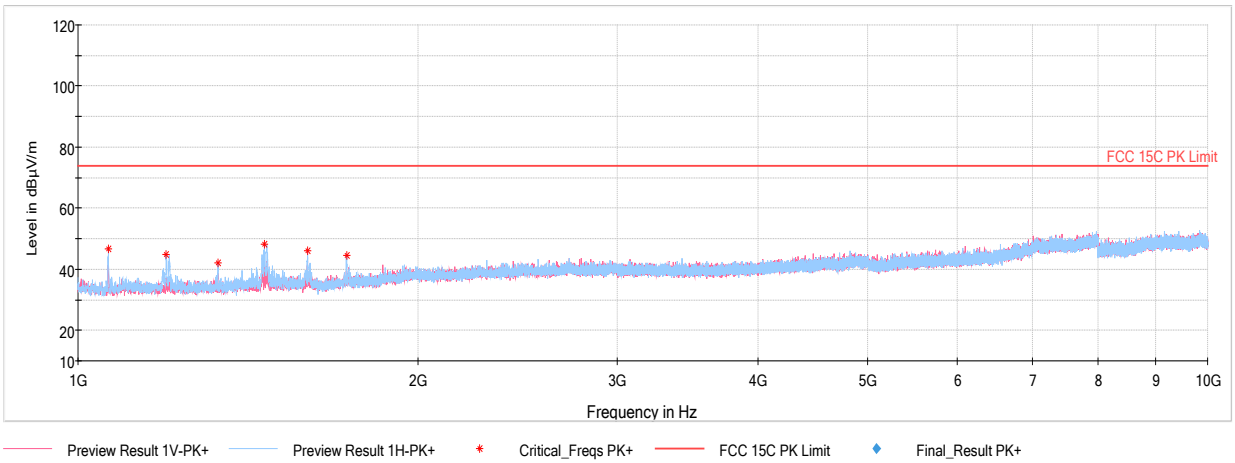
Table 7-9. Radiated Spurious Emissions Data Above 1GHz (Low CH, 916.2 MHz)



Plot 7-8. Radiated Spurious Plot Above 1GHz (Mid CH, 923.1 MHz)

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
1063.53	Avg	H	207	211	-56.12	-4.14	46.74	53.98	-7.23
1063.53	Peak	H	207	211	-52.16	-4.14	50.70	73.98	-23.27
1196.41	Avg	H	162	193	-58.48	-3.66	44.86	53.98	-9.12
1196.41	Peak	H	162	193	-53.37	-3.66	49.97	73.98	-24.01
1329.82	Avg	H	268	211	-62.67	-3.30	41.03	53.98	-12.94
1329.82	Peak	H	268	211	-56.02	-3.30	47.68	73.98	-26.29
1463.24	Avg	H	142	193	-54.72	-2.57	49.71	53.98	-4.27
1463.24	Peak	H	142	193	-48.79	-2.57	55.64	73.98	-18.34
1594.79	Avg	H	118	8	-61.53	-1.88	43.59	53.98	-10.39
1594.79	Peak	H	118	8	-55.72	-1.88	49.40	73.98	-24.58
1729.00	Avg	H	256	40	-63.05	-1.06	42.89	53.98	-11.09
1729.00	Peak	H	256	40	-57.44	-1.06	48.50	73.98	-25.48

Table 7-10. Radiated Spurious Emissions Data Above 1GHz (Mid CH, 923.1 MHz)



Plot 7-9. Radiated Spurious Plot Above 1GHz (High CH, 926.1 MHz)

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
1064.06	Avg	H	209	214	-55.91	-4.12	46.97	53.98	-7.01
1064.06	Peak	H	209	214	-52.23	-4.12	50.65	73.98	-23.33
1196.15	Avg	H	106	196	-58.67	-3.66	44.67	53.98	-9.31
1196.15	Peak	H	106	196	-53.24	-3.66	50.10	73.98	-23.88
1329.56	Avg	H	333	315	-61.27	-3.29	42.44	53.98	-11.54
1329.56	Peak	H	333	315	-56.33	-3.29	47.38	73.98	-26.60
1462.18	Avg	H	142	170	-54.76	-2.57	49.67	53.98	-4.31
1462.18	Peak	H	142	170	-49.01	-2.57	55.42	73.98	-18.56
1596.65	Avg	H	354	21	-60.11	-1.96	44.93	53.98	-9.05
1596.65	Peak	H	354	21	-54.30	-1.96	50.74	73.98	-23.24
1728.74	Avg	H	150	140	-64.91	-1.07	41.02	53.98	-12.96
1728.74	Peak	H	150	140	-59.81	-1.07	46.12	73.98	-27.86

Table 7-11. Radiated Spurious Emissions Data Above 1GHz (High CH, 926.1 MHz)

7.5 AC Line Conducted Test Data

§15.207; RSS-Gen [8.8]

Test Overview and Limit

All AC line conducted spurious emissions are measured with a receiver connected to a grounded LISN while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates and modes were investigated for conducted spurious emissions. Only the conducted emissions of the configuration that produced the worst case emissions are reported in this section.

All conducted emissions must not exceed the limits shown in the table below, per Section 15.207 and RSS-Gen (8.8).

Frequency of emission (MHz)	Conducted Limit (dBμV)	
	Quasi-peak	Average
0.15 – 0.5	66 to 56*	56 to 46*
0.5 – 5	56	46
5 – 30	60	50

Table 7-12. Conducted Limits

*Decreases with the logarithm of the frequency.

Test Procedures Used

ANSI C63.10-2013, Section 6.2

Test Settings

Quasi-Peak Field Strength Measurements

7. Analyzer center frequency was set to the frequency of the spurious emission of interest
8. RBW = 9kHz (for emissions from 150kHz – 30MHz)
9. Detector = quasi-peak
10. Sweep time = auto couple
11. Trace mode = max hold
12. Trace was allowed to stabilize

Average Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the spurious emission of interest
2. RBW = 9kHz (for emissions from 150kHz – 30MHz)
3. Detector = RMS
4. Sweep time = auto couple
5. Trace mode = max hold
6. Trace was allowed to stabilize

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

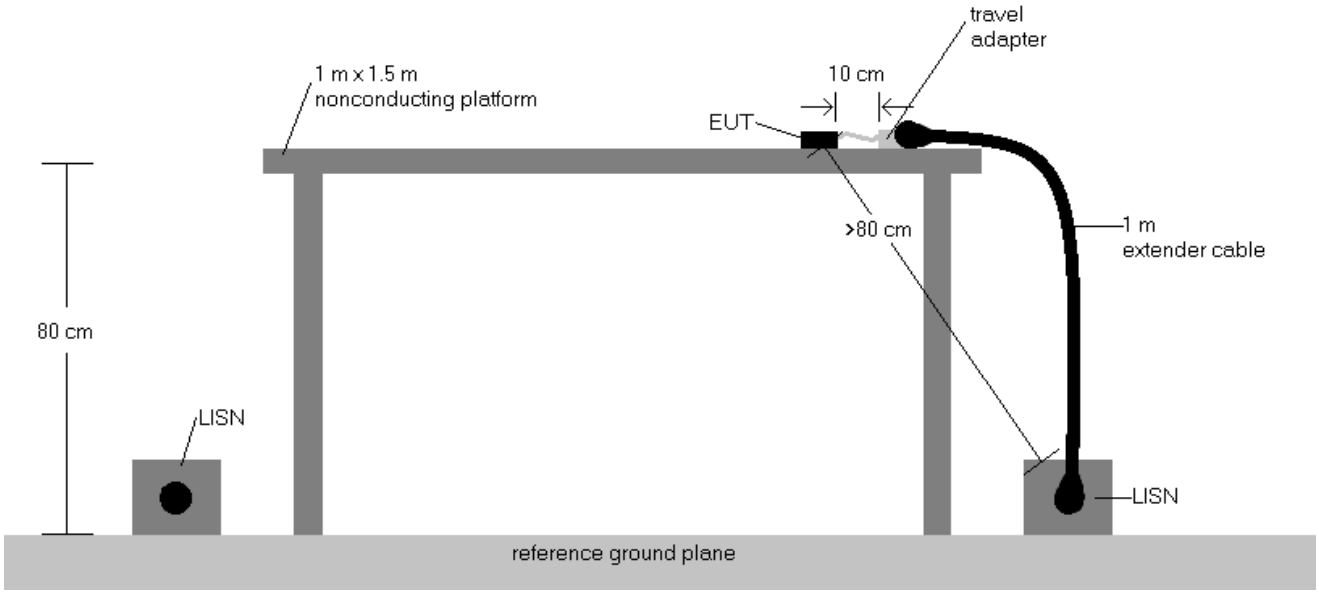
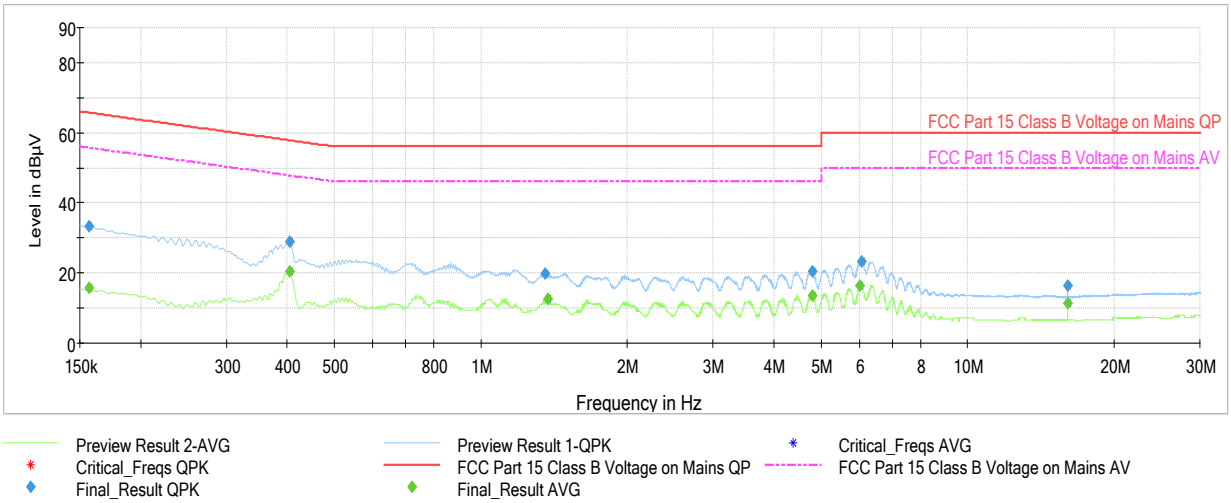


Figure 7-6. Test Instrument & Measurement Setup

Test Notes

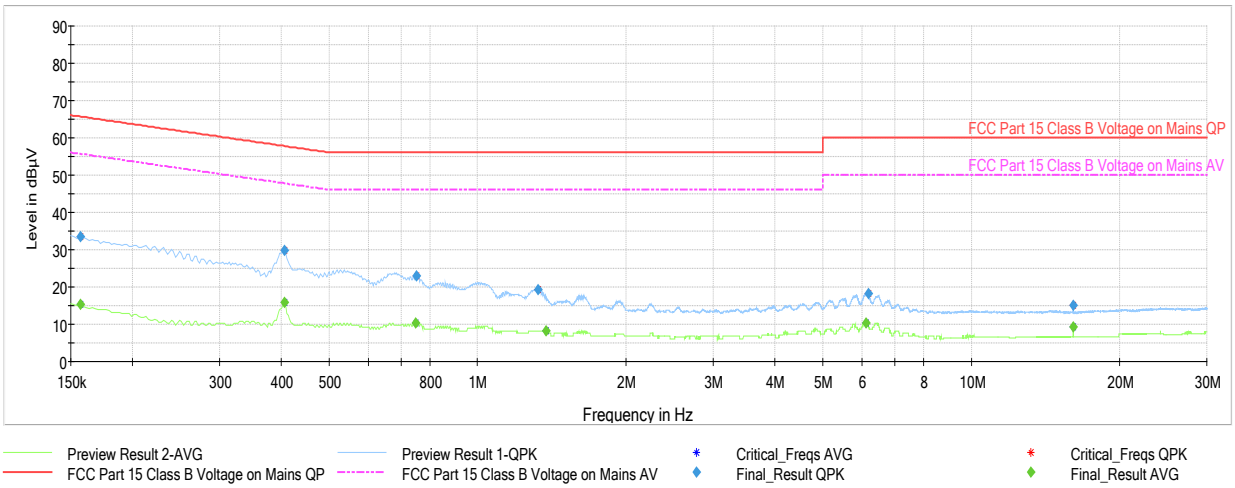
1. All modes of operation were investigated, and the worst-case emissions are reported. The emissions found were not affected by the choice of channel used during testing.
2. The limit for an intentional radiator from 150kHz to 30MHz are specified in Part 15.207 and RSS-Gen (8.8).
3. Corr. (dB) = Cable loss (dB) + LISN insertion factor (dB)
4. QP/AV Level (dBμV) = QP/AV Analyzer/Receiver Level (dBμV) + Corr. (dB)
5. Margin (dB) = QP/AV Limit (dBμV) - QP/AV Level (dBμV)
6. Traces shown in plot are made using a peak detector.
7. Deviations to the Specifications: None.



Plot 7-10. Line Conducted Plot (L1, Mid CH: 923.1MHz)

Frequency [MHz]	Process State	QuasiPeak [dBµV]	Average [dBµV]	Limit [dBµV]	Margin [dB]	Line
0.157	FINAL	---	15.54	55.63	-40.09	L1
0.157	FINAL	33.37	---	65.63	-32.26	L1
0.404	FINAL	---	20.47	47.77	-27.30	L1
0.404	FINAL	28.79	---	57.77	-28.97	L1
1.352	FINAL	19.79	---	56.00	-36.21	L1
1.370	FINAL	---	12.53	46.00	-33.47	L1
4.785	FINAL	20.23	---	56.00	-35.77	L1
4.803	FINAL	---	13.35	46.00	-32.65	L1
6.011	FINAL	---	16.37	50.00	-33.63	L1
6.065	FINAL	23.11	---	60.00	-36.89	L1
16.073	FINAL	---	11.20	50.00	-38.80	L1
16.076	FINAL	16.36	---	60.00	-43.64	L1

Table 7-13. Line Conducted Measurements (L1, Mid CH: 923.1MHz)



Plot 7-11. Line Conducted Plot (N, Mid CH: 923.1MHz)

Frequency [MHz]	Process State	QuasiPeak [dBµV]	Average [dBµV]	Limit [dBµV]	Margin [dB]	Line
0.157	FINAL	---	15.27	55.63	-40.36	N
0.157	FINAL	33.51	---	65.63	-32.12	N
0.407	FINAL	---	15.68	47.72	-32.04	N
0.407	FINAL	29.62	---	57.72	-28.10	N
0.749	FINAL	---	10.37	46.00	-35.63	N
0.751	FINAL	22.87	---	56.00	-33.13	N
1.325	FINAL	19.18	---	56.00	-36.82	N
1.379	FINAL	---	8.25	46.00	-37.75	N
6.122	FINAL	---	10.35	50.00	-39.65	N
6.182	FINAL	18.23	---	60.00	-41.77	N
16.087	FINAL	---	9.19	50.00	-40.81	N
16.087	FINAL	15.12	---	60.00	-44.88	N

Table 7-14. Line Conducted Measurements (N, Mid CH: 923.1MHz)

8.0 CONCLUSION

The data collected relate only the item(s) tested and show that the **PRIMETECH Micro Infusion Pump Data Communication Unit FCC ID: 2ACHIUCDX10R** is in compliance with Part 15 Subpart C (15.249) of the FCC Rules and RSS-210 of the Innovation, Science and Economic Development Canada Rules.