Voxx Accessories Corp.

Application
For
Certification

FCC ID: VIXPNM401

Baby Monitor - Parent Unit

Model: PNM401

2.4 Transceiver

Report No.: 160518014SZN-002

We hereby certify that the sample of the above item is considered to comply with the requirements of FCC Part 15, Subpart C for Intentional Radiator, mention 47 CFR [10-1-15]

Prepared and Checked by:	Approved by:
Sign on file	Digitally signed by Kidd Yang Location: Intertek Testing Services
Leo Lai Senior Project Engineer	Kidd Yang Senior Project Engineer Date: June 22, 2016

TRF no.: FCC 15C_Tx_b

LIST OF EXHIBITS

MEASUREMENT/TECHNICAL REPORT

Voxx Accessories Corp.
3502 Woodview Trace Suite 220, Indianapolis Indiana United States 46268
MODEL: PNM401
FCC ID: VIXPNM401

This report concerns (check one) Original Grant ___X___ Class II Change ____

Equipment Type: DTS - Part 15 Digital Transmission Systems

Deferred grant requested per 47 CFR 0.457(d)(1)(ii)? Yes _____ No ___X___

If yes, defer until : _____ date

Company Name agrees to notify the Commission by: _____ date

of the intended date of announcement of the product so that the grant can be issued on that date.

Transition Rules Request per 15.37? Yes _____ No ___X___

If no, assumed Part 15, Subpart C for intentional radiator - the new 47 CFR [10-01-15 Edition] provision.

Report prepared by:

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Cover Letter	Letter of Agency	agency.pdf
Test Report	Test Report	report.pdf
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Test Setup Photo	Conducted Emission	conducted photos.pdf
External Photo	External Photo	external photos.pdf
Internal Photo	Internal Photo	internal photos.pdf
Block Diagram	Block Diagram	block.pdf
Schematics	Circuit Diagram	circuit.pdf
Bill of materials	BOM List	Bom.pdf
Operation Description	Technical Description	descri.pdf
ID Label/Location	Label Artwork and Location	label.pdf
Cover Letter	Confidentiality Letter	request.pdf
RF Exposure report	RF exposure	RF exposure.pdf
User Manual	User Manual	manual.pdf

EXHIBIT 1

SUMMARY OF TEST RESULTS

1.0 Summary of Test

Voxx Accessories Corp.

MODEL: PNM401

FCC ID: VIXPNM401

TEST	REFERENCE	RESULTS
Max. Output power	15.247(b)	Pass
6 dB Bandwidth	15.247(a)(2)	Pass
Max. Power Density	15.247(e)	Pass
Out of Band Antenna Conducted Emission	15.247(d)	Pass
Radiated Emission in Restricted Bands	15.247(d)	Pass
AC Conducted Emission	15.207	Pass
Antenna Requirement	15.203	Pass (See Notes)

Notes: The EUT uses Integral Antenna which in accordance to Section 15.203 is considered sufficient to comply with the provisions of this section.

EXHIBIT 2

GENERAL DESCRIPTION

2.0 General Description

2.1 Product Description

The Equipment Under Test (EUT) is a Parent Unit of Baby Monitor, Model: PNM401 with internal 2.4G transceiver function operating at 2410.875-2471.625MHz. For more detailed features description, please refer to the user's manual.

Antenna Type: Integral Antenna.
Modulation: GFSK
Antenna Gain: 2.5dBi

For electronic filing, the brief circuit description is saved with filename: descri.pdf.

2.2 Related Submittal(s) Grants

This is an application for certification of DTS- Part 15 Digital Transmission Systems

2.3 Test Methodology

Both AC mains line-conducted and radiated emission measurements were performed according to the procedures in ANSI C63.10: 2013 and KDB 558074 v03r05. Radiated emission measurement was performed in semi-anechoic chamber and conducted emission measurement was performed in shield room. For radiated emission measurement, preliminary scans were performed in the semi-anechoic chamber only to determine the worst case modes. All radiated tests were performed at an antenna to EUT distance of 3 meters, unless stated otherwise in the "**Justification Section**" of this Application. All other measurements were made in accordance with the procedures in part 2 of CFR 47.

2.4 Test Facility

The Semi-Anechoic chamber and shield room used to collect the radiated data and conducted data are **Intertek Testing Services Shenzhen Ltd. Kejiyuan Branch** and located at 6F, Block D, Huahan Building, Langshan Road, Nanshan District, Shenzhen, P. R. China. This test facility and site measurement data have been fully placed on file with the FCC (Registration Number: 242492).

EXHIBIT 3

SYSTEM TEST CONFIGURATION

3.0 System Test Configuration

3.1 Justification

For emissions testing, the equipment under test (EUT) setup to transmit continuously to simplify the measurement methodology. Care was taken to ensure proper power supply voltages during testing. During testing, all cables were manipulated to produce worst case emissions. It was powered by fully charged DC 3.7V new rechargeable battery which was charged by AC/DC adapter with AC 120V/60Hz input during the test. Only the worst case data was reported.

For maximizing emissions, the EUT was rotated through 360°, the EUT was placed on the styrene turntable with 0.8m up to 1GHz and 1.5 m above 1GHz. The antenna height and polarization are varied during the search for maximum signal level. The antenna height is varied from 1 to 4 meters. Radiated emissions are taken at three meters unless the signal level is too low for measurement at that distance. If necessary, a pre-amplifier is used and/or the test is conducted at a closer distance.

The unit was placed in the center of the turntable when powered by batteries and the rear of unit shall be flushed with the rear of the table when it was powered by adapter up to 1GHz and placed in the centre of turntable above 1GHz.

All readings are extrapolated back to the equivalent three meter reading using inverse scaling with distance. Analyzer resolution is 100 kHz or greater for frequencies below 1000 MHz. The resolution is 1 MHz or greater for frequencies above 1000 MHz. The spurious emissions more than 20 dB below the permissible value are not reported.

Radiated emission measurement were performed the lowest radio frequency signal generated in the device which is greater than 9 kHz to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower. The EUT was put in the center of the turn table.

3.2 EUT Exercising Software

The EUT exercise program (provided by client) used during radiated and conducted testing was designed to exercise the various system components in a manner similar to a typical use. The worst case configuration is used in all specified testing.

The parameters of test software setting:
During the test, Channel and power controlling software provided by the applicant was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the application and is going to be fixed on the firmware of the end product.

3.3 Special Accessories

N/A

3.4 Measurement Uncertainty

When determining of the test conclusion, the Measurement Uncertainty of test has been considered.

Uncertainty and Compliance – Unless the standard specifically states that measured values are to be extended by the measurement uncertainty in determining compliance, all compliance determinations are based on the actual measured value.

3.5 Equipment Modification

Any modifications installed previous to testing by Voxx Accessories Corp. will be incorporated in each production model sold / leased in the United States.

No modifications were installed by Intertek Testing Services Shenzhen Ltd. Kejiyuan Branch.

3.6 Support Equipment List and Description

Description	Manufacturer	Model No.
Adapter	VOXX	S010WU0500200
USB Cable	VOXX	300cm Unshielded
Baby monitor – Baby unit	VOXX	PNMC01

EXHIBIT 4

MEASUREMENT RESULTS

Applicant: Voxx Accessories Corp. Date of Test: June 6, 2016
Model: PNM401

4.0 **Measurement Results**

4.1 Maximum Conducted Output Power at Antenna Terminals, FCC Rules 15.247(b)(3):

[×] The antenna power of the EUT was connected to the input of a broadband peak RF power meter. The power meter have a video bandwidth that is greater than DTS bandwidth and utilize a fast-responding diode detector. Power was read directly at the EUT antenna terminals with cable loss added.

For antennas with gains of 6 dBi or less, maximum allowed Transmitter output is 1 watt (+30 dBm).

Transmitting in Max. Power (Antenna Gain =2.5dBi)		
Frequency (MHz)	Output in dBm	Output in mWatt
Low Channel: 2410.875	10.30	10.72
Middle Channel: 2441.250	11.00	12.59
High Channel: 2471.625	11.70	14.79

Cable loss: 1.0 dB External Attenuation: 0 dB

Cable loss, external attenuation has been included in OFFSET function
EUT dBm max. output level = 14.79mW (Limit: 1000mW) (Channel 19)

For RF Exposure, the information is saved with filename: RF exposure.pdf.

Applicant: Voxx Accessories Corp. Date of Test: June 6, 2016
Model: PNM401

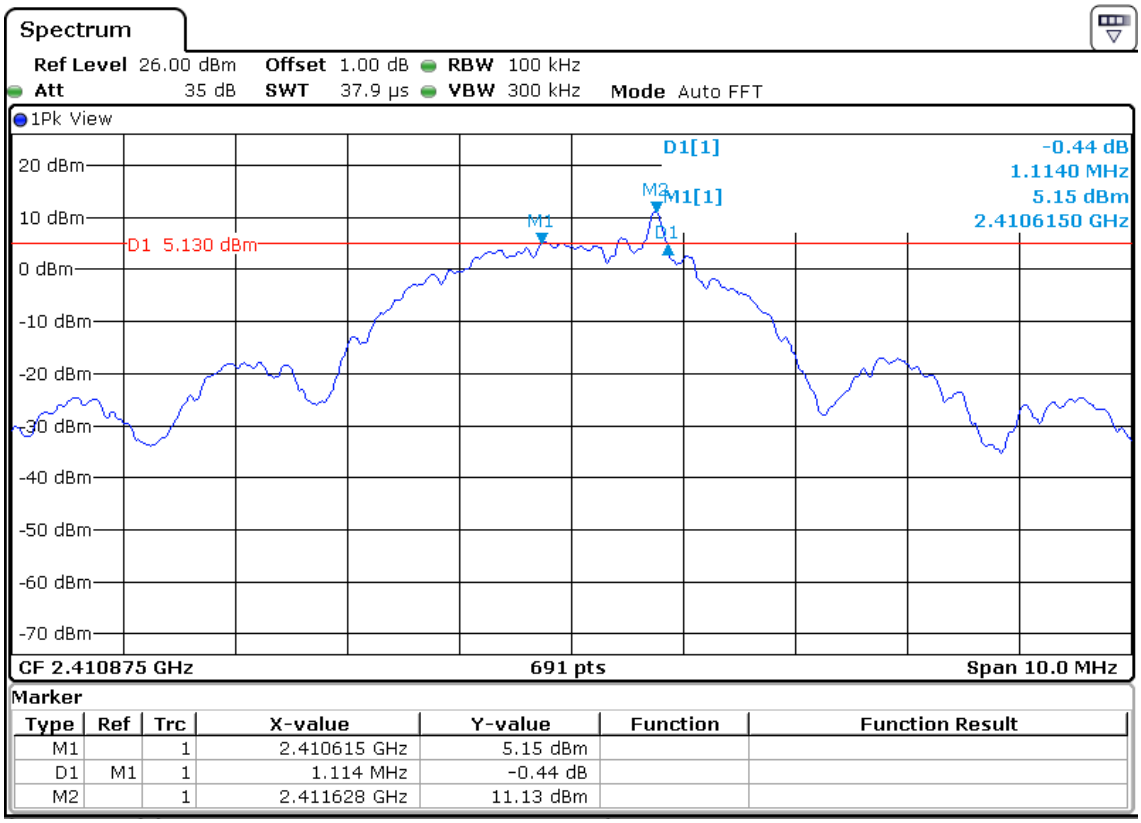
4.2 Minimum 6 dB RF Bandwidth, FCC Rule 15.247(a)(2):):

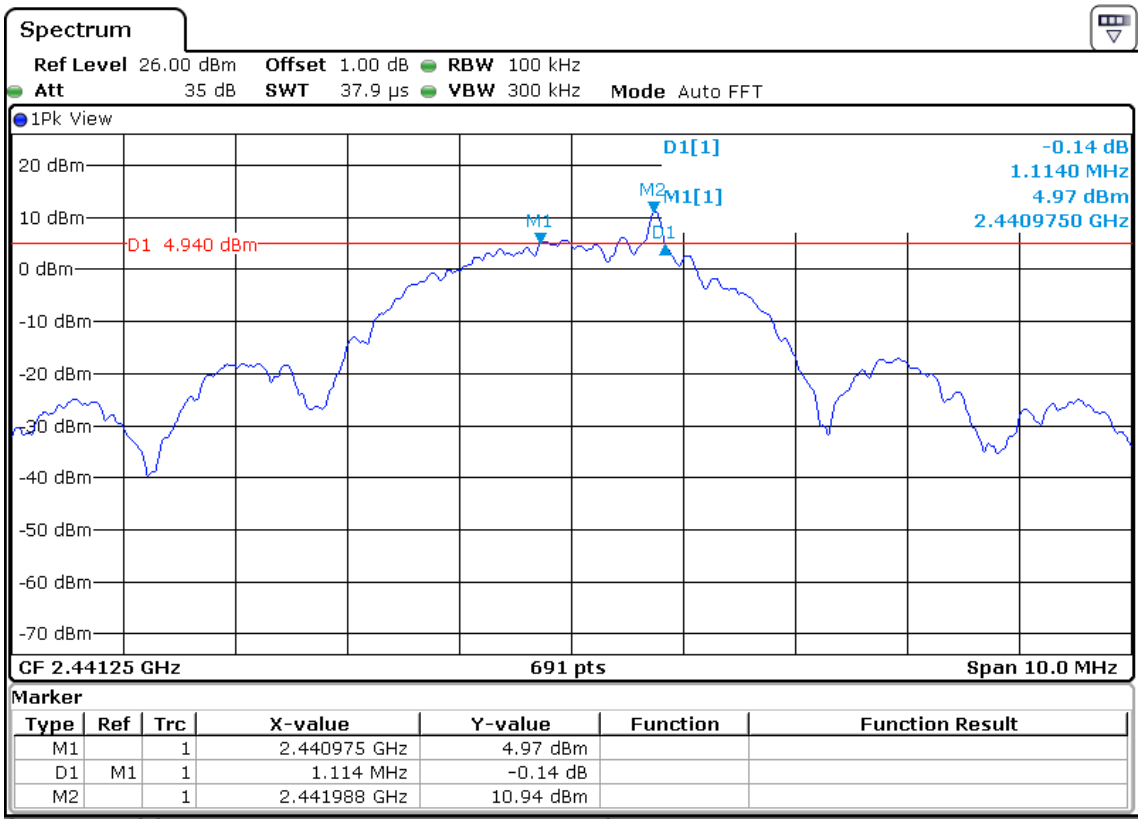
The antenna port of the EUT was connected to the input of a spectrum analyzer. Analyzer RES BW was set to 1-5 % of the emission bandwidth and not to exceed 100 KHz according to FCC KDB 558074. For each RF output channel investigated, the spectrum analyzer center frequency was set to the channel carrier. A PEAK output reading was taken, a DISPLAY line was drawn 6 dB lower than PEAK level. The 6dB bandwidth was determined from where the channel output spectrum intersected the display line.

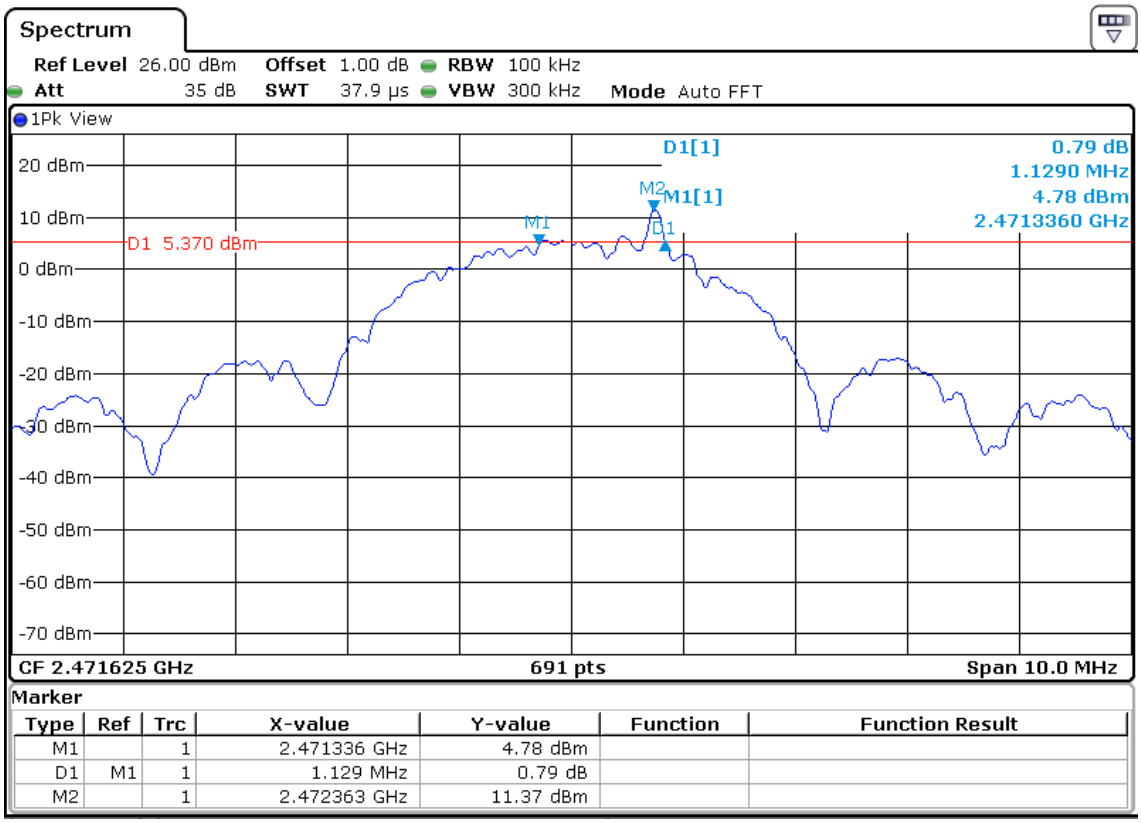
Limit: The 6 dB Bandwidth is at least 500 kHz.

Transmitting in Max. Power	
Frequency (MHz)	6 dB Bandwidth (MHz)
2410.875	1.114
2441.250	1.114
2471.625	1.129

The test plots are attached as below.


Spectrum
Ref Level 26.00 dBm Offset 1.00 dB RBW 100 kHz
Att 35 dB SWT 37.9 µs VBW 300 kHz Mode Auto FFT
1Pk View
D1[1] -0.44 dB
1.1140 MHz
M2[1] 5.15 dBm
2.4106150 GHz
D1 5.130 dBm
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 2.410875 GHz
691 pts
Span 10.0 MHz
Marker
Type Ref Trc X-value Y-value Function Function Result
M1 1 2.410615 GHz 5.15 dBm
D1 M1 1 1.114 MHz -0.44 dB
M2 1 2.411628 GHz 11.13 dBm


Spectrum
Ref Level 26.00 dBm Offset 1.00 dB RBW 100 kHz
Att 35 dB SWT 37.9 µs VBW 300 kHz Mode Auto FFT
1Pk View
D1[1] -0.14 dB
1.1140 MHz
M2[1] 4.97 dBm
2.4409750 GHz
D1 4.940 dBm
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 2.44125 GHz
691 pts
Span 10.0 MHz
Marker
Type Ref Trc X-value Y-value Function Function Result
M1 1 2.440975 GHz 4.97 dBm
D1 M1 1 1.114 MHz -0.14 dB
M2 1 2.441988 GHz 10.94 dBm


Spectrum
Ref Level 26.00 dBm Offset 1.00 dB RBW 100 kHz
Att 35 dB SWT 37.9 µs VBW 300 kHz Mode Auto FFT
1Pk View
D1[1]
0.79 dB
1.1290 MHz
M2
M1[1]
4.78 dBm
2.4713360 GHz
M1
D1
D1 5.370 dBm
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 2.471625 GHz
691 pts
Span 10.0 MHz
Marker
Type Ref Trc X-value Y-value Function Function Result
M1 1 2.471336 GHz 4.78 dBm
D1 M1 1 1.129 MHz 0.79 dB
M2 1 2.472363 GHz 11.37 dBm

Applicant: Voxx Accessories Corp. Date of Test: June 6, 2016
Model: PNM401

4.3 Maximum Power Density Reading, FCC Rule 15.247(e) :

The Measurement Procedure PKPSD was set according to the FCC KDB 558074.

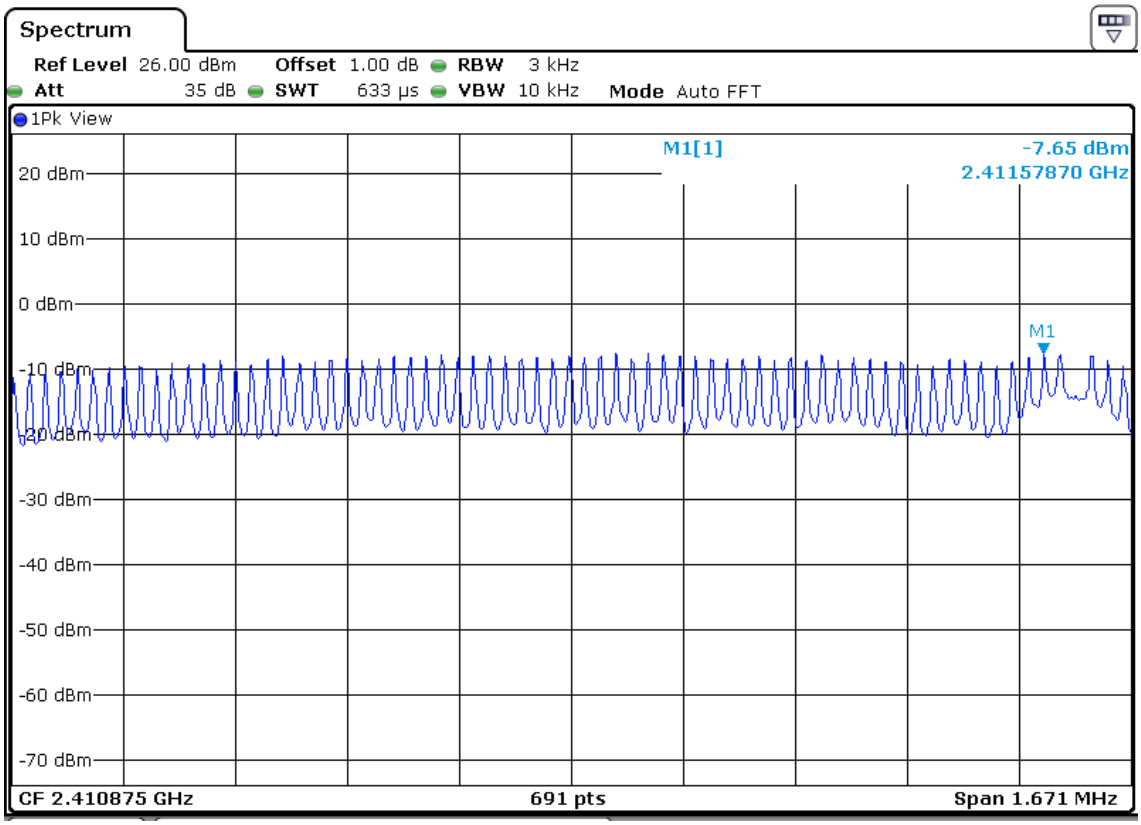
Antenna output of the EUT was coupled directly to spectrum analyzer; if an external attenuator and/or cable was used, these losses are compensated for with the analyzer OFFSET function.

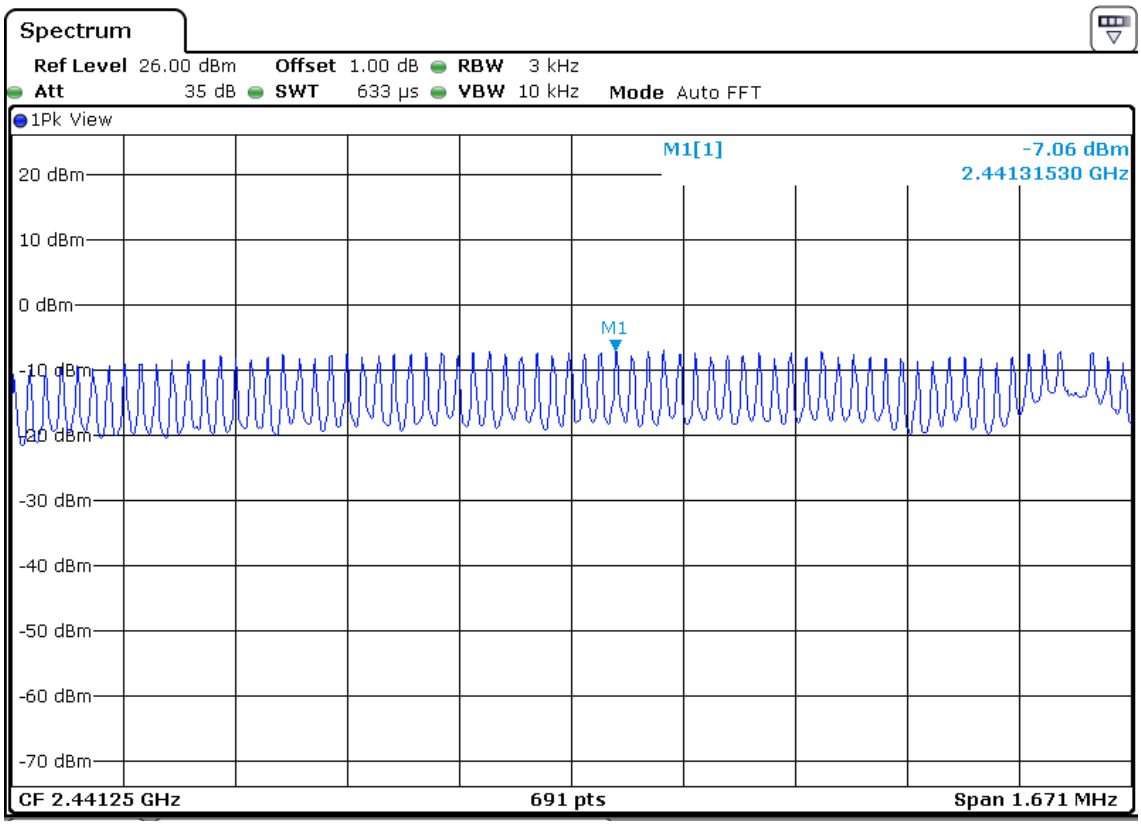
Limit: The Power Density does not exceed 8dBm/ 3 kHz.

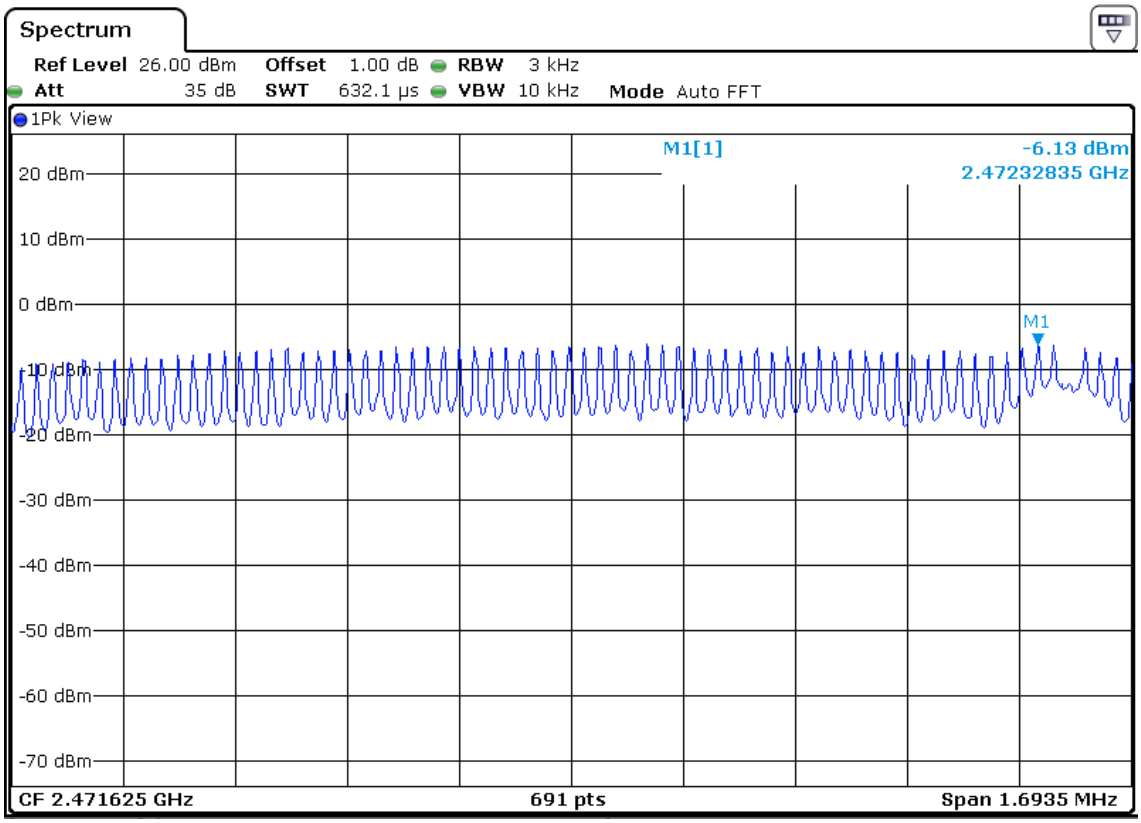
Unit: dBm

Transmitting in Max. Power	
Frequency (MHz)	Power Density with RBW 3KHz
Low Channel: 2410.875	-7.65
Middle Channel: 2441.250	-7.06
High Channel: 2471.625	-6.13

The test plots are attached as below.


Spectrum
Ref Level 26.00 dBm Offset 1.00 dB RBW 3 kHz
Att 35 dB SWT 633 µs VBW 10 kHz Mode Auto FFT
1Pk View
M1[1] -7.65 dBm
2.41157870 GHz
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
M1
CF 2.410875 GHz
691 pts
Span 1.671 MHz


Spectrum
Ref Level 26.00 dBm Offset 1.00 dB RBW 3 kHz
Att 35 dB SWT 633 µs VBW 10 kHz Mode Auto FFT
1Pk View
M1[1] -7.06 dBm
2.44131530 GHz
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
M1
CF 2.44125 GHz
691 pts
Span 1.671 MHz


Spectrum
Ref Level 26.00 dBm Offset 1.00 dB RBW 3 kHz
Att 35 dB SWT 632.1 µs VBW 10 kHz Mode Auto FFT
1Pk View
M1[1] -6.13 dBm
2.47232835 GHz
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
M1
CF 2.471625 GHz
691 pts
Span 1.6935 MHz

Applicant: Voxx Accessories Corp. Date of Test: June 6, 2016
Model: PNM401

4.4 Out of Band Conducted Emissions, FCC Rule 15.247(d)

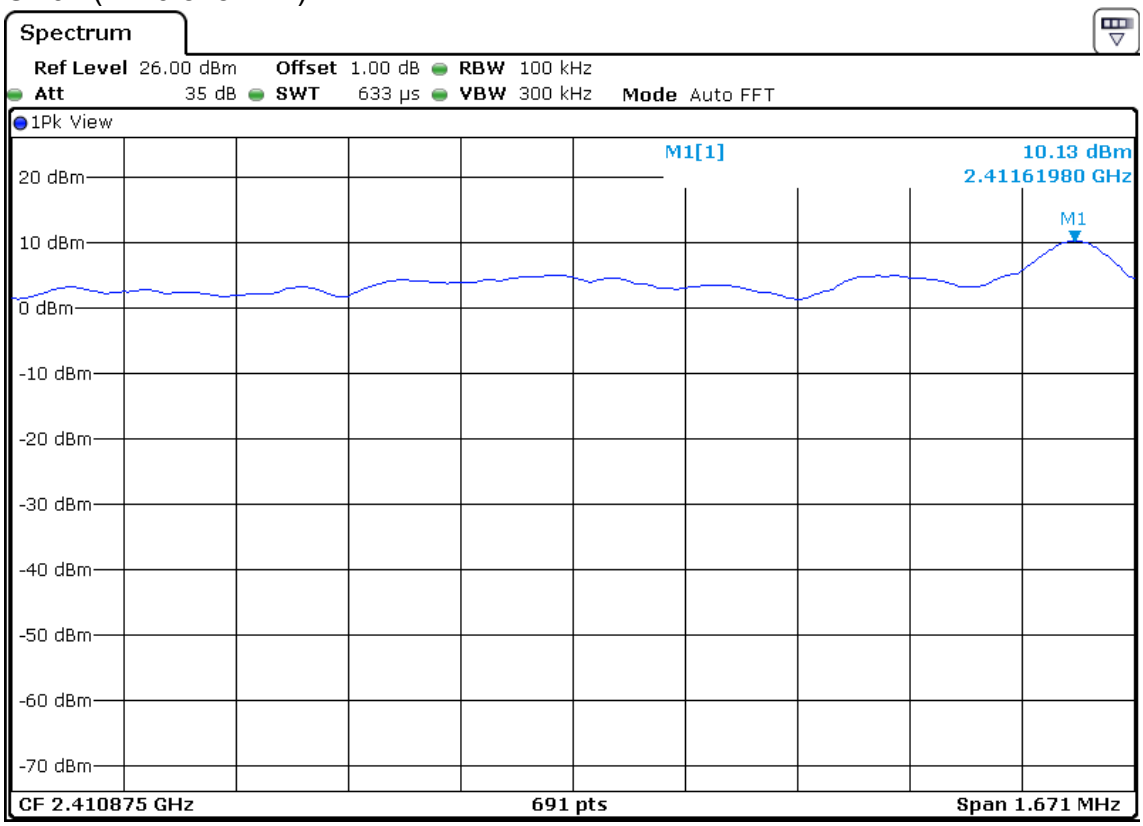
In any 100 kHz bandwidth outside the EUT passband, the RF power produced by the modulation products of the spreading sequence, the information sequence, and the carrier frequency shall be at least 20dB below that of the maximum in-band 100 kHz emission, or else shall meet the general limits for radiated emissions at frequencies outside the passband, whichever results in lower attenuation. The Measurement Procedure was set according to the FCC KDB 558074.

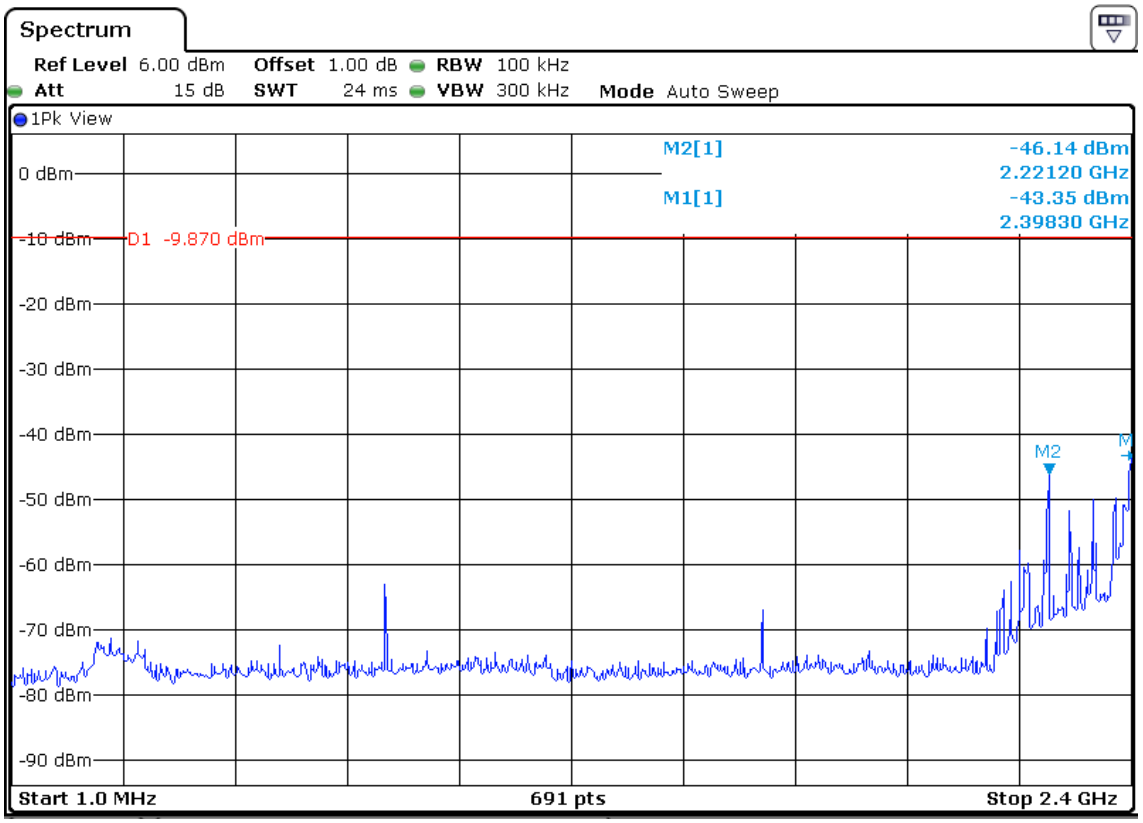
All other types of emissions from the EUT shall meet the general limits for radiated frequencies outside the passband.

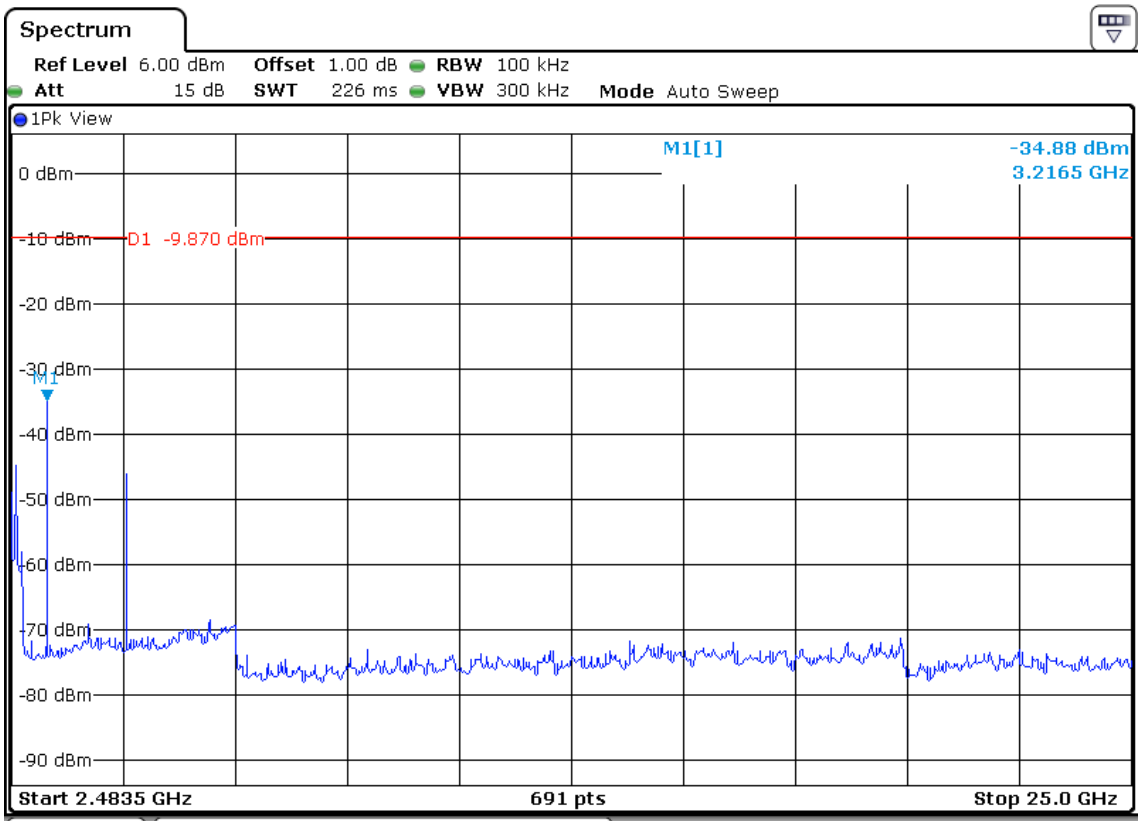
The test plots showed all spurious emission and up to the tenth harmonic were measured and they were found to be at least 20 dB below the highest level of the desired power in the passband.

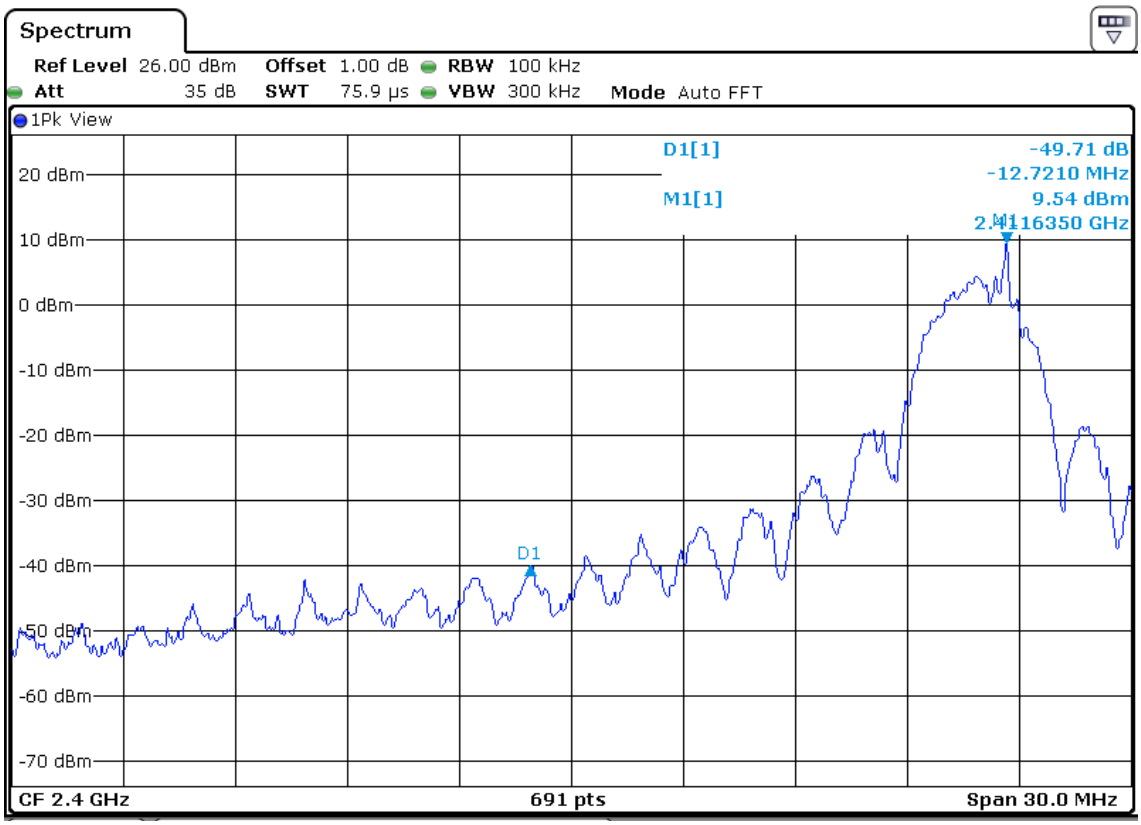
The test plots are attached as below.

CH01 (2410.875MHz)

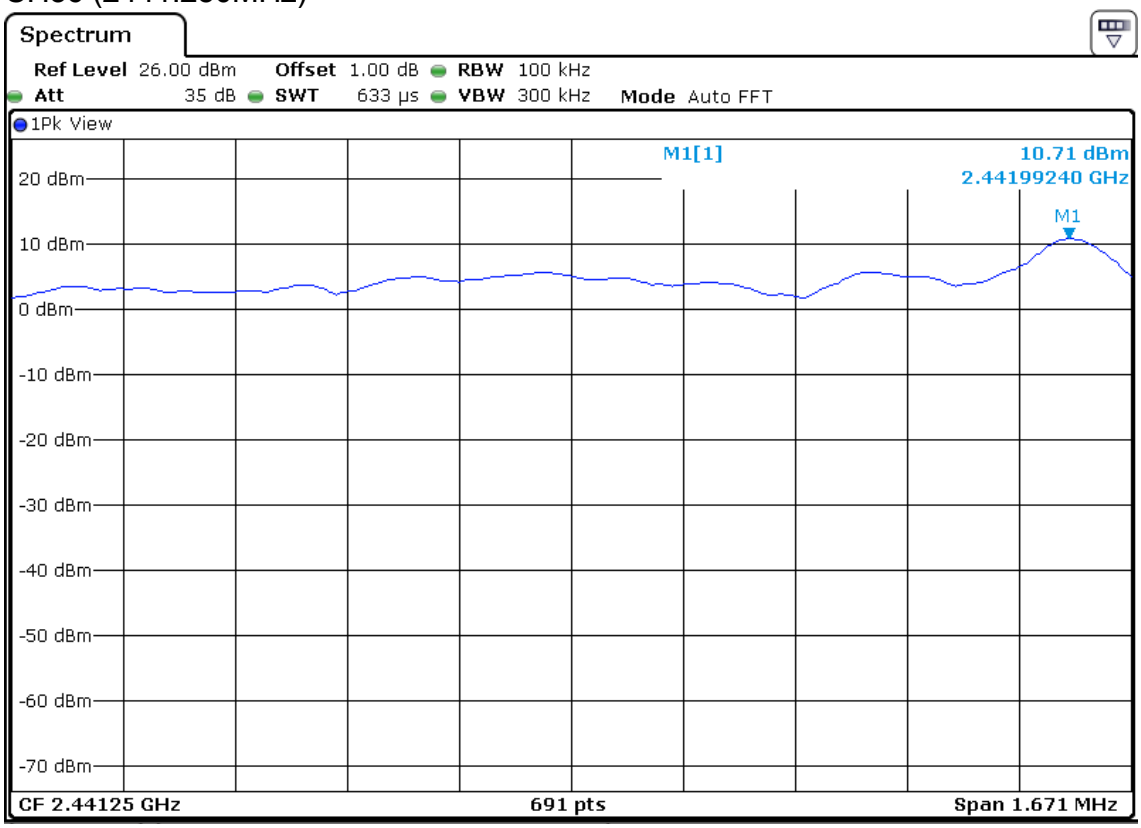


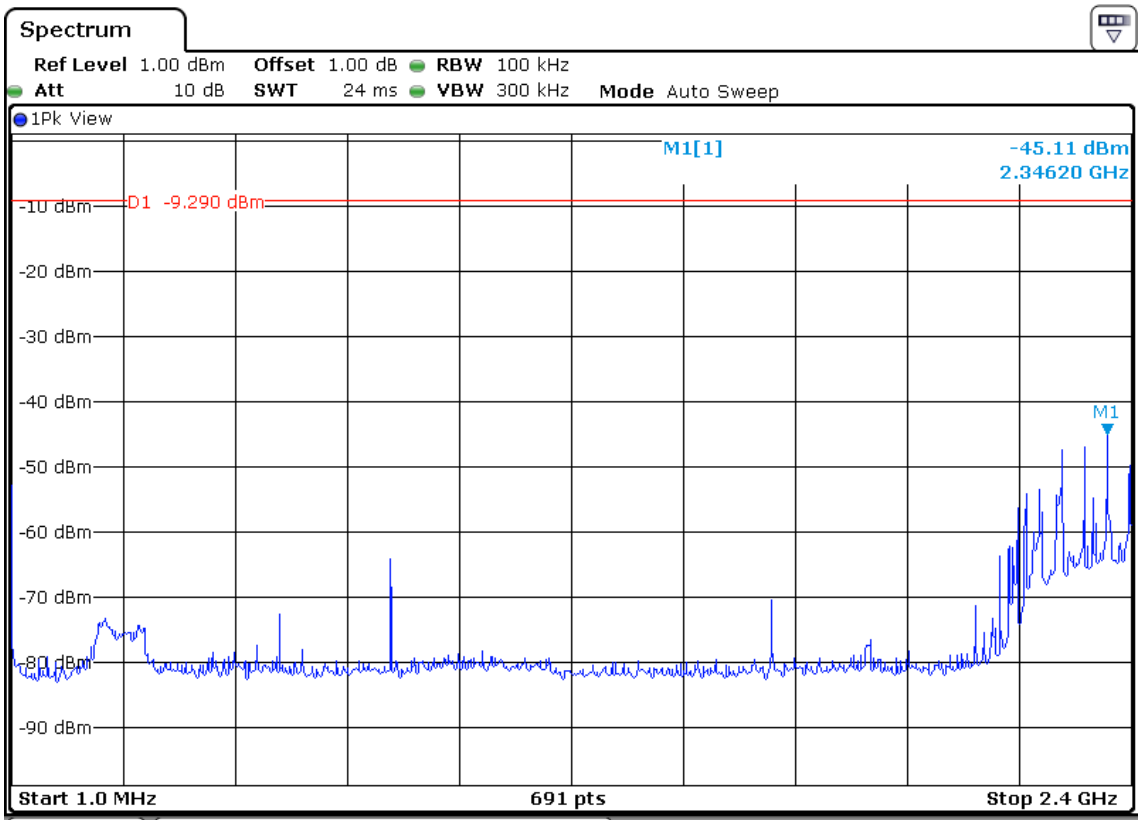


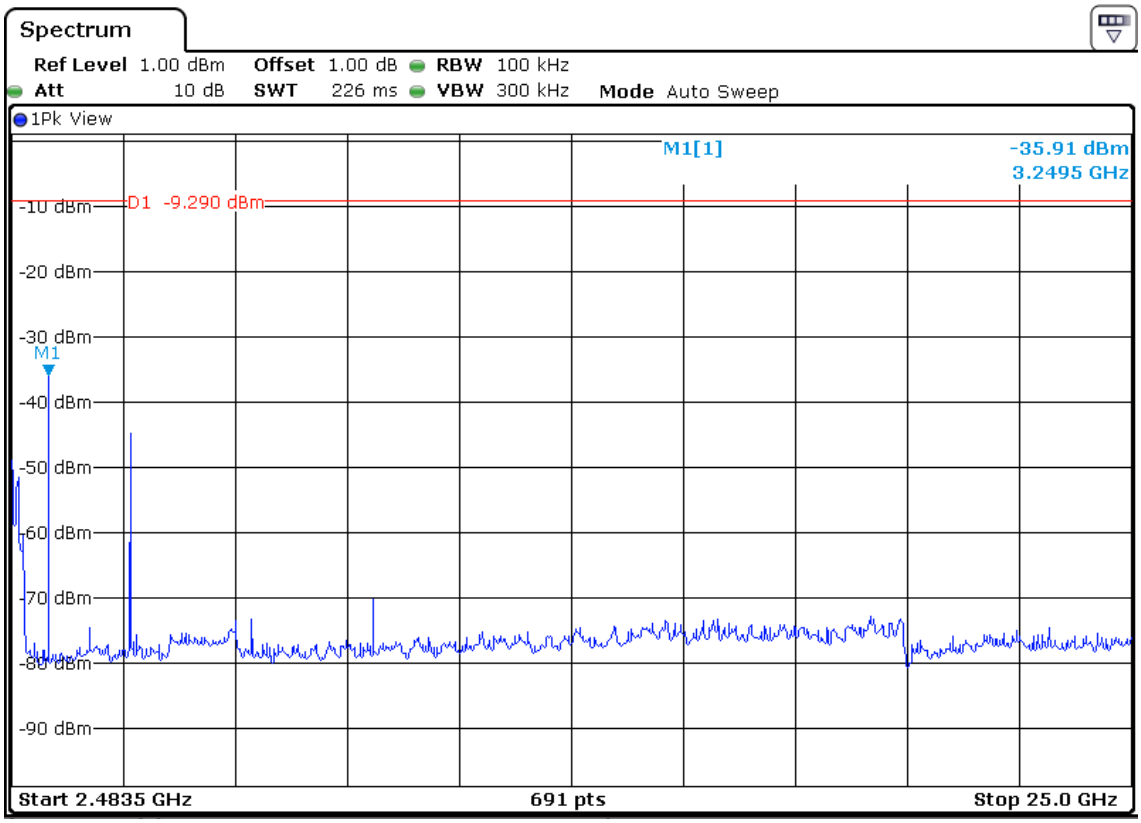

Spectrum
Ref Level 6.00 dBm Offset 1.00 dB RBW 100 kHz
Att 15 dB SWT 226 ms VBW 300 kHz Mode Auto Sweep
1Pk View
M1[1] -34.88 dBm
3.2165 GHz
D1 -9.870 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
-90 dBm
M1
Start 2.4835 GHz
691 pts
Stop 25.0 GHz


Spectrum
Ref Level 26.00 dBm Offset 1.00 dB RBW 100 kHz
Att 35 dB SWT 75.9 µs VBW 300 kHz Mode Auto FFT
1Pk View
D1[1] -49.71 dB
-12.7210 MHz
M1[1] 9.54 dBm
2.4116350 GHz
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
D1
CF 2.4 GHz
691 pts
Span 30.0 MHz

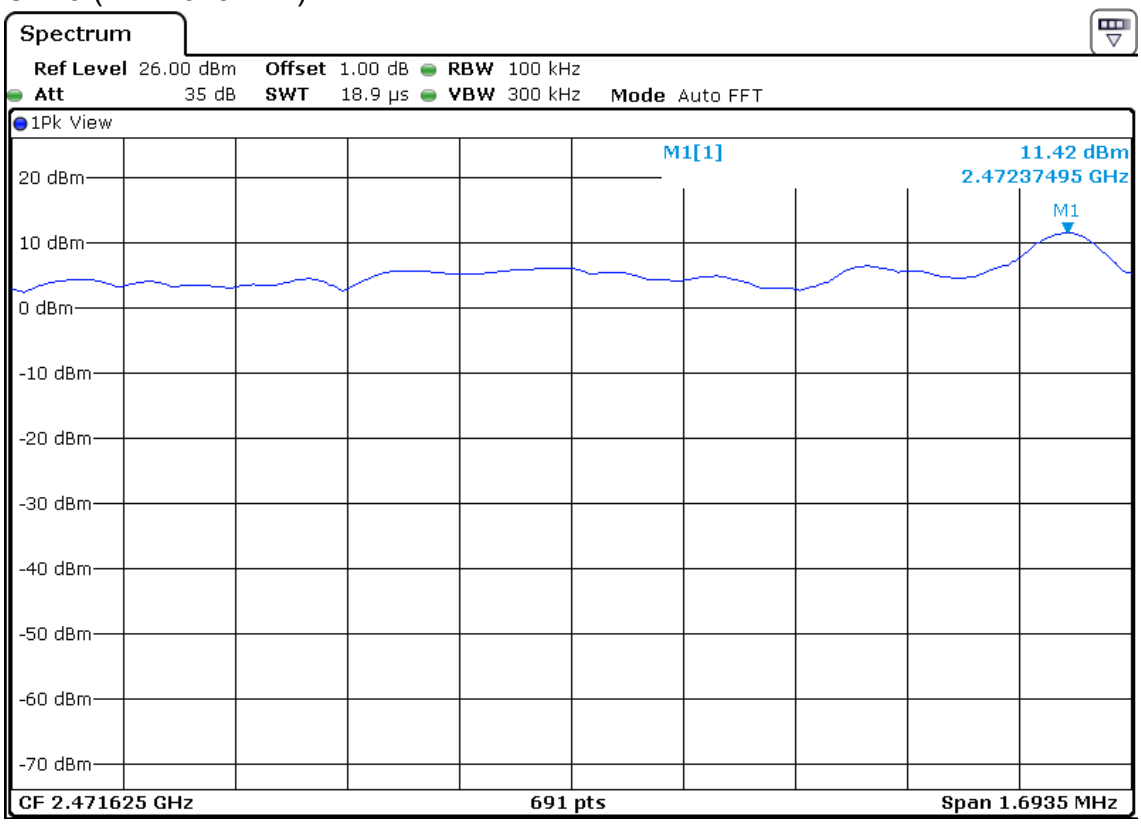
CH36 (2441.250MHz)

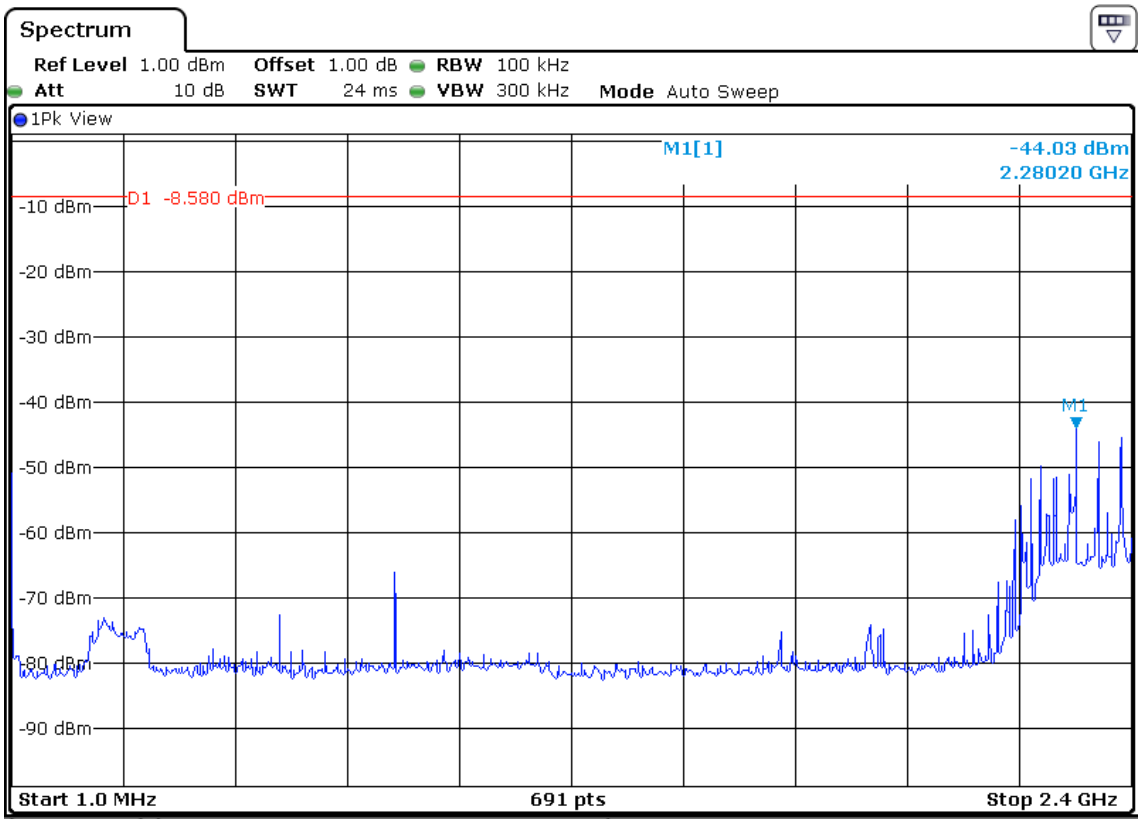


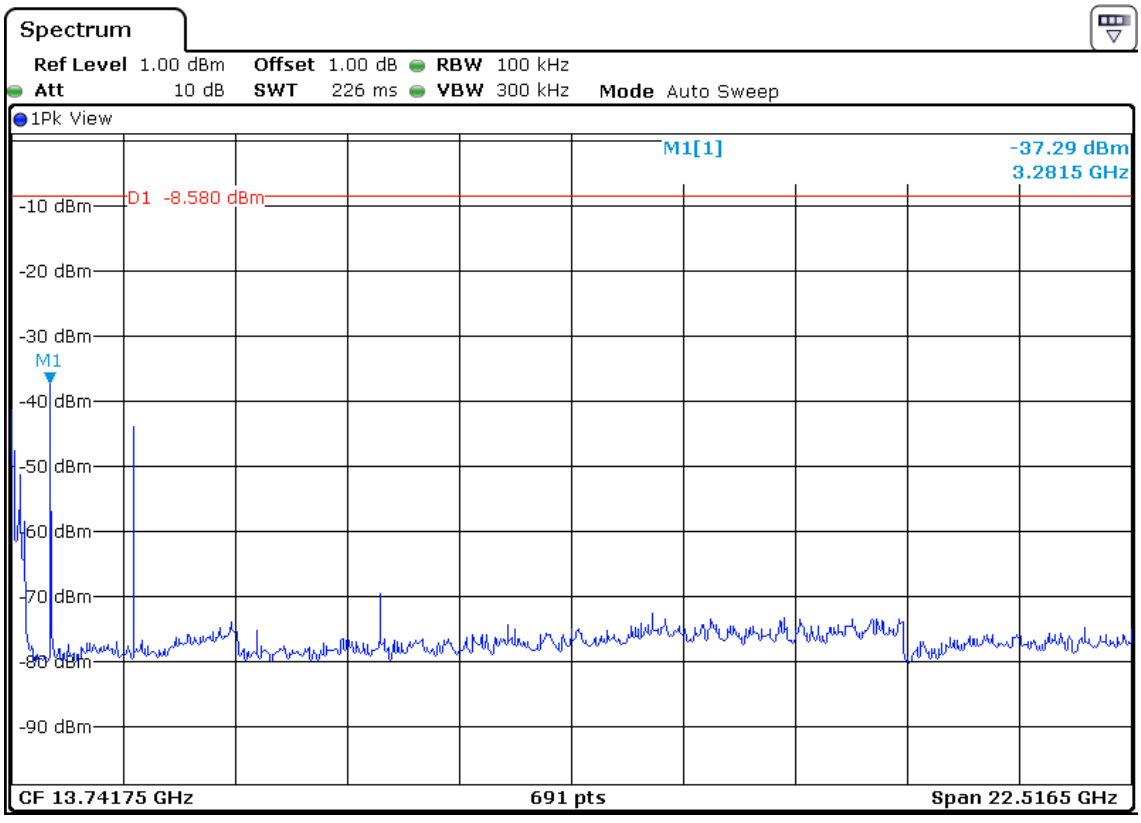


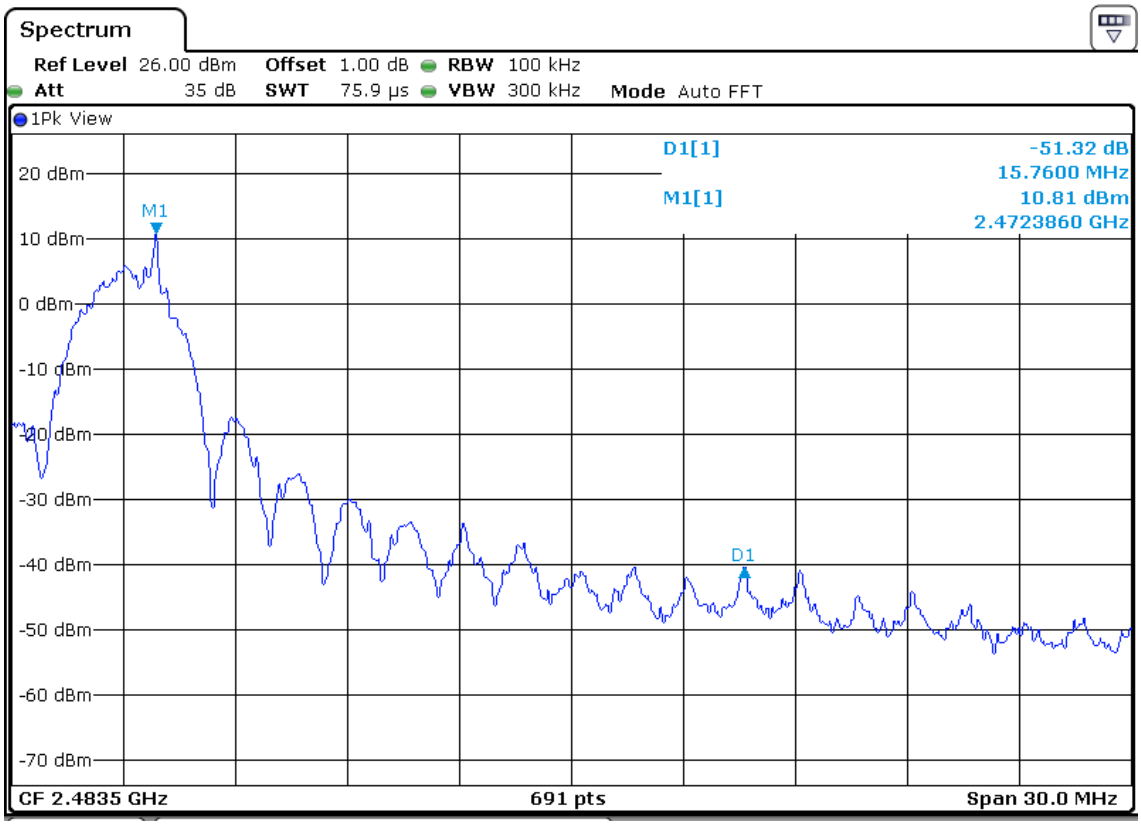


CH19 (2471.625MHz)




Spectrum
Ref Level 1.00 dBm Offset 1.00 dB RBW 100 kHz
Att 10 dB SWT 24 ms VBW 300 kHz Mode Auto Sweep
1Pk View
M1[1] -44.03 dBm
2.28020 GHz
D1 -8.580 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
-90 dBm
M1
Start 1.0 MHz
691 pts
Stop 2.4 GHz


Spectrum
Ref Level 1.00 dBm Offset 1.00 dB RBW 100 kHz
Att 10 dB SWT 226 ms VBW 300 kHz Mode Auto Sweep
1Pk View
M1[1] -37.29 dBm
3.2815 GHz
D1 -8.580 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
-90 dBm
M1
CF 13.74175 GHz
691 pts
Span 22.5165 GHz


Spectrum
Ref Level 26.00 dBm Offset 1.00 dB RBW 100 kHz
Att 35 dB SWT 75.9 µs VBW 300 kHz Mode Auto FFT
1Pk View
D1[1] -51.32 dB
15.7600 MHz
M1[1] 10.81 dBm
2.4723860 GHz
M1
D1
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 2.4835 GHz
691 pts
Span 30.0 MHz

Applicant: Voxx Accessories Corp. Date of Test: June 6, 2016
Model: PNM401

4.5 Out of Band Radiated Emissions (for emissions in 4.4 above that are less than 20dB below carrier), FCC Rule 15.247(d):

For out of band emissions that are close to or that exceed the 20dB attenuation requirement described in the specification, radiated measurements were performed at a 3m separation distance to determine whether these emissions complied with the general radiated emission requirement.

[×] Not required, since all emissions are more than 20dB below fundamental
[ ] See attached data sheet

Applicant: Voxx Accessories Corp. Date of Test: June 6, 2016
Model: PNM401

4.6 Transmitter Radiated Emissions in Restricted Bands, FCC Rule 15.35(b), (c):

Data is included of the worst case configuration (the configuration which resulted in the highest emission levels). A sample calculation, configuration photographs and data tables of the emissions are included. All measurements were performed with peak detection unless otherwise specified.

The data on the following pages list the significant emission frequencies, the limit and the margin of compliance.

4.7 Field Strength Calculation

The field strength is calculated by adding the reading on the Spectrum Analyzer to the factors associated with preamplifiers (if any), antennas, cables, pulse desensitization and average factors (when specified limit is in average and measurements are made with peak detectors). A sample calculation is included below.

FS = RA + AF + CF - AG + PD

Where FS = Field Strength in dBμV/m
RA = Receiver Amplitude (including preamplifier) in dBμV
CF = Cable Attenuation Factor in dB
AF = Antenna Factor in dB
AG = Amplifier Gain in dB
PD = Pulse Desensitization in dB

In the radiated emission table which follows, the reading shown on the data table may reflect the preamplifier gain. An example of the calculations, where the reading does not reflect the preamplifier gain, follows:

FS = RA + AF + CF - AG + PD

Example
Assume a receiver reading of 62.0 dBμV is obtained. The antenna factor of 7.4 dB and cable factor of 1.6 dB is added. The amplifier gain of 29 dB is subtracted. The pulse desensitization factor of the spectrum analyzer was 0 dB. The net field strength for comparison to the appropriate emission limit is 32 dBμV/m. This value in dBμV/m was converted to its corresponding level in μV/m.

RA = 62.0 dBμV
AF = 7.4 dB
CF = 1.6 dB
AG = 29.0 dB
PD = 0 dB
FS = 62 + 7.4 + 1.6 - 29 + 0 = 42 dBμV/m

Level in mV/m = Common Antilogarithm [(42 dBμV/m)/20] = 125.9 μV/m

Applicant: Voxx Accessories Corp. Date of Test: June 6, 2016
Model: PNM401

4.8 Radiated Spurious Emission

Worst Case Radiated Spurious Emission at 7323.75MHz is passed by 1.3dB margin.

For the electronic filing, the worst case radiated emission configuration photographs are saved with filename: radiated photos.pdf.

Applicant: Voxx Accessories Corp. Date of Test: June 6, 2016
Model: PNM401
Worst Case Operating Mode: Transmitting(2471.625MHz)

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	137.185	37.5	20.0	18.4	35.9	43.5	-7.6
Horizontal	199.750	33.9	20.0	20.1	34.0	43.5	-9.5
Horizontal	528.095	37.8	20.0	22.1	39.9	46.0	-6.1
Vertical	60.070	34.3	20.0	17.5	31.8	40.0	-8.2
Vertical	768.041	36.2	20.0	25.7	41.9	46.0	-4.1
Vertical	960.000	32.4	20.0	27.8	40.2	46.0	-5.8

NOTES:
1. Quasi-Peak detector is used except for others stated.
2. All measurements were made at 3 meters. Harmonic emissions not detected at the 3-meter distances were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.
3. Negative value in the margin column shows emission below limit.
4. All emissions are below the QP limit.

Applicant: Voxx Accessories Corp. Date of Test: June 6, 2016
Model: PNM401
Mode: Transmitting in Max. Power (2410.875MHz)

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Vertical	*2389.083	53.7	36.7	28.1	45.1	74.0	-28.9
Vertical	*4821.750	72.0	36.7	35.5	70.8	74.0	-3.2

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Average Factor (-dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Vertical	*2389.083	53.7	36.7	28.1	36.0	9.1	54.0	-44.9
Vertical	*4821.750	72.0	36.7	35.5	36.0	34.8	54.0	-19.2

NOTES: 1. Peak detector is used for the emission measurement (RBW=1MHz, VBW=3MHz for Peak data; RBW=1MHz, VBW=3MHz for Average data).

2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative value in the margin column shows emission below limit.

4. Horn antenna used for the emission over 1000MHz.

* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

Applicant: Voxx Accessories Corp. Date of Test: June 6, 2016
Model: PNM401
Mode: Transmitting in Max. Power (2441.250MHz)

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Vertical	*4882.500	75.1	36.7	28.1	66.5	74.0	-7.5
Vertical	*7323.750	73.9	36.7	35.5	72.7	74.0	-1.3

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Average Factor (-dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Vertical	*4882.500	75.1	36.7	28.1	36.0	30.5	54.0	-23.5
Vertical	*7323.750	73.9	36.7	35.5	36.0	36.7	54.0	-17.3

NOTES: 1. Peak detector is used for the emission measurement (RBW=1MHz, VBW=3MHz for Peak data; RBW=1MHz, VBW=3MHz for Average data).

2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative value in the margin column shows emission below limit.

4. Horn antenna used for the emission over 1000MHz.

* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

Applicant: Voxx Accessories Corp. Date of Test: June 6, 2016
Model: PNM401
Mode: Transmitting in Max. Power (2471.625MHz)

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Vertical	*4943.250	75.7	36.7	28.1	67.1	74.0	-6.9
Vertical	*2484.364	52.3	36.7	35.5	51.1	74.0	-22.9

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Average Factor (-dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Vertical	*4943.250	75.7	36.7	28.1	36.0	31.1	54.0	-22.9
Vertical	*2484.364	52.3	36.7	35.5	36.0	15.1	54.0	-38.9

NOTES:
1. Peak detector is used for the emission measurement (RBW=1MHz, VBW=3MHz for Peak data; RBW=1MHz, VBW=3MHz for Average data).
2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
3. Negative value in the margin column shows emission below limit.
4. Horn antenna used for the emission over 1000MHz.

* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

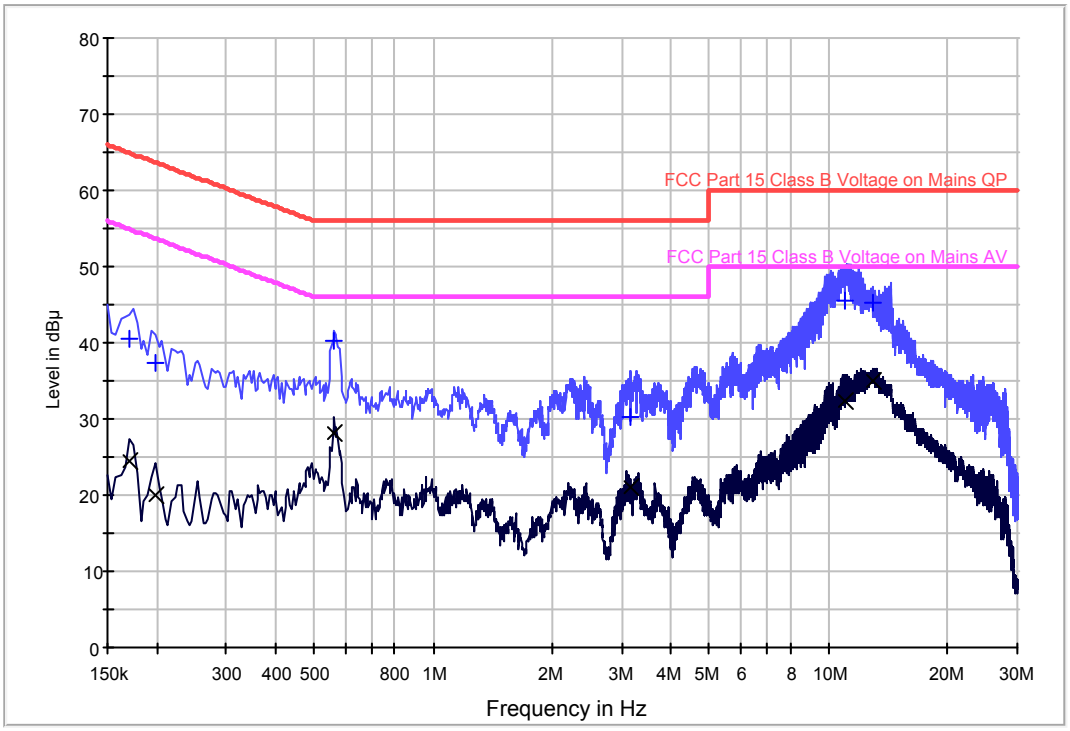
4.9 Conducted Emission

Worst Case Conducted emission at 10.982MHz is Passed by 14.6dB margin

For electronic filing, the worst case conducted emission configuration photograph is saved with filename: conducted photos.pdf.

Applicant: Voxx Accessories Corp. Date of Test: June 6, 2016
Model: PNM401
Worst Case Operating Mode: Transmitting(2471.625MHz)
Line: Live

Conducted Emission Test - FCC



Limit and Margin QP

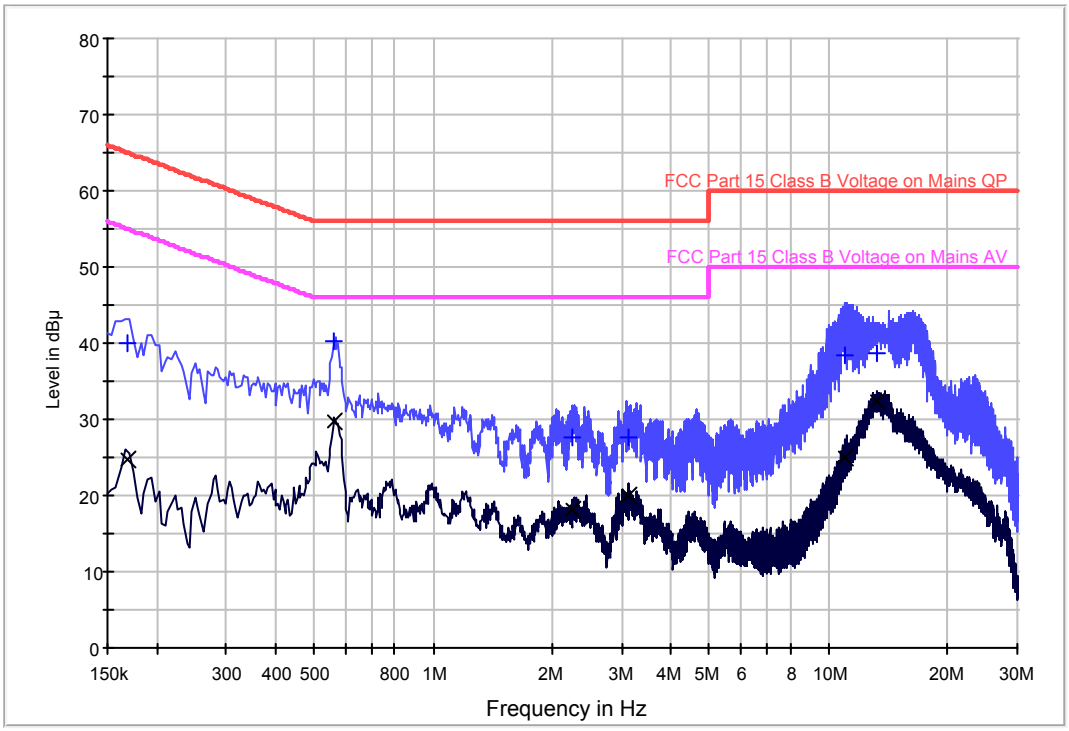
Frequency (MHz)	QuasiPeak (dBµV)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.170000	40.6	L1	9.5	24.4	65.0
0.198000	37.4	L1	9.5	26.3	63.7
0.562000	40.2	L1	9.6	15.8	56.0
3.154000	30.3	L1	9.6	25.7	56.0
10.982000	45.4	L1	9.8	14.6	60.0
12.950000	45.4	L1	9.8	14.6	60.0

Limit and Margin AV

Frequency (MHz)	Average (dBµV)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.170000	24.6	L1	9.5	30.4	55.0
0.198000	19.9	L1	9.5	33.8	53.7
0.562000	28.2	L1	9.6	17.8	46.0
3.154000	21.0	L1	9.6	25.0	46.0
10.982000	32.3	L1	9.8	17.7	50.0
12.950000	35.1	L1	9.8	14.9	50.0

Applicant: Voxx Accessories Corp. Date of Test: June 6, 2016
Model: PNM401
Worst Case Operating Mode: Transmitting (2471.625MHz)
Line: Neutral

Conducted Emission Test - FCC



Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.168000	40.0	N	9.6	25.1	65.1
0.562000	40.2	N	9.6	15.8	56.0
2.242000	27.6	N	9.6	28.4	56.0
3.110000	27.6	N	9.6	28.4	56.0
11.014000	38.5	N	9.8	21.5	60.0
13.326000	38.8	N	9.9	21.2	60.0

Limit and Margin AV

Frequency (MHz)	Average (dBµV)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.168000	24.8	N	9.6	30.3	55.1
0.562000	29.7	N	9.6	16.3	46.0
2.242000	18.2	N	9.6	27.8	46.0
3.110000	20.0	N	9.6	26.0	46.0
11.014000	25.1	N	9.8	24.9	50.0
13.326000	32.4	N	9.9	17.6	50.0

Applicant: Voxx Accessories Corp. Date of Test: June 6, 2016
Model: PNM401

4.10 Radiated Emissions from Digital Section of Transceiver, FCC Ref: 15.109

[ ] Not required - No digital part

[ ] Test results are attached

[x] Included in the separated report.

Applicant: Voxx Accessories Corp. Date of Test: June 6, 2016
Model: PNM401

4.11 Transmitter Duty Cycle Calculation and Measurements, FCC Rule 15.35(b), (c)

The EUT antenna output port was connected to the input of the spectrum analyzer. The analyzer center frequency was set to EUT RF channel carrier. The SWEP function on the analyzer was set to ZERO SPAN. The Transmitter ON time was determined from the resultant time-amplitude display:

x	See attached spectrum analyzer chart (s) for Transmitter timing
	See Transmitter timing diagram provided by manufacturer
	Not applicable, duty cycle was not used.

EXHIBIT 5

EQUIPMENT PHOTOGRAPHS

5.0 Equipment Photographs

For electronic filing, the photographs are saved with filename: external photos.pdf & internal photos.pdf.

EXHIBIT 6

PRODUCT LABELLING

6.0 Product Labelling

For electronic filing, the FCC ID label artwork and location is saved with filename: label.pdf.

EXHIBIT 7

TECHNICAL SPECIFICATIONS

7.0 Technical Specifications

For electronic filing, the block diagram and circuit diagram are saved with filename: block&partlist.pdf and circuit.pdf respectively.

EXHIBIT 8

INSTRUCTION MANUAL

8.0 **Instruction Manual**

For electronic filing, preliminary copies of the Instruction Manual and Safety Information are saved with filename: manual.pdf.

This manual and safety information will be provided to the end-user with each unit sold/leased in the United States.

EXHIBIT 9

CONFIDENTIALITY REQUEST

9.0 Confidentiality Request

For electronic filing, the confidentiality request of the tested EUT is saved with filename: request.pdf.

EXHIBIT 10

MISCELLANEOUS INFORMATION

10.0 Discussion of Pulse Desensitization

The determination of pulse desensitivity was made in accordance with Hewlett Packard Application Note 150-2, *Spectrum Analysis ... Pulsed RF.*

Pulse desensitivity is not applicable for this device. With a resolution bandwidth (3dB) of 1MHz, the pulse desensitivity factor is 0dB.

Averaging factor in dB = 20 log (duty cycle)

The specification for output field strengths in accordance with the FCC rules specify measurements with an average detector. During testing, a spectrum analyzer incorporating a peak detector was used. Therefore, a reduction factor can be applied to the resultant peak signal level and compared to the limit for measurement instrumentation incorporating an average detector.

The time period over which the duty cycle is measured is 100 milliseconds, or the repetition cycle, whichever is a shorter time frame. The worst case (highest percentage on) duty cycle is used for the calculation. The duty cycle is measured by placing the spectrum analyzer in zero scan (receiver mode) and linear mode at maximum bandwidth (3 MHz at 3 dB down) and viewing the resulting time domain signal output from the analyzer on a Tektronix oscilloscope. The oscilloscope is used because of its superior time base and triggering facilities.

A plot of the worst-case duty cycle as detected in this manner are saved with filename: af.pdf

The duty cycle is simply the on-time divided by the period:

The duration of one cycle = 73.478ms
Effective period of the cycle = 1.159 ms x 1 = 1.159 ms

DC = 1.159 ms / 73.478ms = 0.0158 or 1.58%

Therefore, the averaging factor is found by 20 $\log_{10}$ 0.0158 = -36.0 dB

EXHIBIT 11

TEST EQUIPMENT LIST

11.0 Test Equipment List

Equipment No.	Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due Date
SZ182-02	RF Power Meter	Anritsu	ML2496A	1302005	23-May-2016	23-May-2017
SZ182-02-01	Power Sensor	Anritsu	MA2411B	1207429	23-May-2016	23-May-2017
SZ061-12	BiConiLog Antenna	ETS	3142E	00166158	15-Sep-2015	15-Sep-2016
SZ185-01	EMI Receiver	R&S	ESCI	100547	23-Jan-2016	23-Jan-2017
SZ061-08	Horn Antenna	ETS	3115	00092346	17-Oct-2015	17-Oct-2016
SZ061-06	Active Loop Antenna	Electro-Metrics	EM-6876	217	11-May-2016	11-May-2017
SZ056-03	Spectrum Analyzer	R&S	FSP 30	101148	08-Jun-2015	08-Jun-2016
SZ056-06	Signal Analyzer	R&S	FSV 40	101101	08-Jul-2015	08-Jul-2016
SZ181-04	Preamplifier	Agilent	8449B	3008A02474	23-Jan-2016	23-Jan-2017
SZ188-01	Anechoic Chamber	ETS	RFD-F/A-100	4102	16-Apr-2016	16-Apr-2018
SZ062-24	RF Cable	HUBER+SUHNER	SF104PE	MY4263/4PE	3-Nov-2015	3-Nov-2016
SZ062-26	RF Cable	HUBER+SUHNER	SF104PE	MY4556/4PE	13-Jan-2016	13-Jan-2017
SZ062-28	RF Cable	HUBER+SUHNER	SF104	MY28844/4	18-Dec-2015	18-Dec-2016
SZ067-04	Notch Filter	Micro-Tronics	BRM50702-02	--	23-May-2016	23-May-2017
SZ185-02	EMI Test Receiver	R&S	ESCI	100692	03-Nov-2015	03-Nov-2016
SZ187-01	Two-Line V-Network	R&S	ENV216	100072	03-Nov-2015	03-Nov-2016
SZ187-02	Two-Line V-Network	R&S	ENV216	100073	24-Jun-2015	24-Jun-2016
SZ188-03	Shielding Room	ETS	RFD-100	4100	23-Aug-2014	23-Aug-2016