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TEST REPORT

Report Number: 15060142HKG-002R2

Application
for
Original Grant of 47 CFR Part 15 Certification
New Family of RSS-210 Issue 8 Equipment Certification

2.4GHz Frequency Hopping Spread Spectrum Baby Monitor - Parent Unit

FCC ID: VLJ-MBP622PU

IC: 4522A-MBP622PU

This report supersedes previous report with report number(s) 15060142HKG-002R1 dated July 14, 2015.
Please refer TC-SP1091 Letter issued on July 14, 2015 for the detail Amendment Summary.

Prepared and Checked by:

Signed on File
Tang Kwan Mo, Jess
Lead Engineer

Approved by:

Digitally signed by Terry Chan
Location: Intertek Testing Services Hong Kong Ltd.

Chan Chi Hung, Terry
Senior Supervisor
Jul 22, 2015

GENERAL INFORMATION

Applicant Name:	Binatone Electronics International Limited
Applicant Address:	Floor 23A, 9 Des Voeux Road West, Sheung Wan, Hong Kong.
FCC Specification Standard:	FCC Part 15, October 1, 2013 Edition
FCC ID:	VLJ-MBP622PU
FCC Model(s):	MBP622PU, MBP622-2PU, MBP622-3PU, MBP622-4PU, MBP25SPU, MBP25S-2PU, MBP25S-3PU, MBP25S-4PU, MBP26SPU, MBP26S-2PU, MBP26S-3PU, MBP26S-4PU
IC Specification Standard:	RSS-210 Issue 8, December 2010 RSS-Gen Issue 3, December 2010
IC:	4522A-MBP622PU
IC Model(s):	MBP622PU, MBP622-2PU, MBP622-3PU, MBP622-4PU, MBP25SPU, MBP25S-2PU, MBP25S-3PU, MBP25S-4PU, MBP26SPU, MBP26S-2PU, MBP26S-3PU, MBP26S-4PU
Type of EUT:	Spread Spectrum Transmitter
Description of EUT:	2.4GHz Frequency Hopping Spread Spectrum Baby Monitor - Parent Unit
Serial Number:	N/A
Sample Receipt Date:	June 02, 2015
Date of Test:	June 09, 2015 to July 08, 2015
Report Date:	Jul 22, 2015
Environmental Conditions:	Temperature: +10 to 40°C Humidity: 10 to 90%

Table of Contents

EXHIBIT 1
TEST RESULTS SUMMARY & STATEMENT OF COMPLIANCE

1.0 Test Results Summary & Statement of Compliance

1.1 Summary of Test Results

Test Items	FCC Part 15 Section	RSS-210/ RSS-Gen# Section	Results	Details see section
Antenna Requirement	15.203	7.1.2#	Pass	2.1
Max. Conducted Output Power	15.247(b)(1)	A8.4(2)	Pass	4.1
Max. 20dB RF Bandwidth	15.247(a)(1)(iii)	A8.1(d)	Pass	4.2
Min. No. of Hopping Frequencies	15.247(a)(1)(iii)	A8.1(d)	Pass	4.3
Min. Hopping Channel Carrier Frequency Separation	15.247(a)(1)	A8.1(b)	Pass	4.4
Average Time of Occupancy	15.247(a)(1)(iii)	A8.1(d)	Pass	4.5
Out of Band Antenna Conducted Emission	15.247(d)	A8.5	Pass	4.6
Radiated Emission in Restricted Bands and Spurious Emissions	15.247(d) & 15.109	2.2	Pass	4.8
AC Power Line Conducted Emission	15.207 & 15.107	7.2.4#	Pass	4.9

Note: Pursuant to FCC Part 15 Section 15.215(c), the 20dB bandwidth of the emission was contained within the frequency band designated (mentioned as above) which the EUT operated. The effects, if any, from frequency sweeping, frequency hopping, other modulation techniques and frequency stability over expected variations in temperature and supply voltage were considered.

1.2 Statement of Compliance

The equipment under test is found to be complying with the following standards:

FCC Part 15, October 1, 2013 Edition
RSS-210 Issue 8, December 2010
RSS-Gen Issue 3, December 2010

EXHIBIT 2
GENERAL DESCRIPTION

2.0 General Description

2.1 Product Description

The MBP622PU is a 2.4GHz Frequency Hopping Spread Spectrum Baby Monitor - Parent Unit. It operates at frequency range of 2410.875MHz to 2471.625MHz. There are total 19 channels. The Parent Unit is powered by a 3.6V Ni-MH rechargeable battery and/or an adaptor 100-240VAC to 6.0VDC 500mA

The antenna(s) used in the EUT is integral, and the test sample is a prototype.

The Model(s): MBP622-2PU, MBP622-3PU, MBP622-4PU, MBP25SPU, MBP25S-2PU, MBP25S-3PU, MBP25S-4PU, MBP26SPU, MBP26S-2PU, MBP26S-3PU and MBP26S-4PU are the same as the Model: MBP622PU in construction design/physical design/enclosure, PCB layout and all baseband PCBs, RF module circuitry, RF module PCB, antenna. The only differences between these models are color, cosmetic details, model number, mic, speaker and software at MMI level for enabling 2-way communication function of MBP25S series and MBP26S series for marketing purpose.

The circuit description and frequency hopping algorithm are saved with filename: descri.pdf.

2.2 Test Methodology

Both AC power line-conducted and radiated emission measurements were performed according to the procedures in ANSI C63.4 (2014). Preliminary radiated scans and all radiated measurements were performed in radiated emission test sites. All Radiated tests were performed at an antenna to EUT distance of 3 meters, unless stated otherwise in the "**Justification Section**" of this Application. Antenna port conducted measurements were performed according to ANSI C63.10 (2013). All other measurements were made in accordance with the procedures in 47 CFR Part 2.

2.3 Test Facility

The radiated emission test site, AC power line conducted measurement facility and antenna port conducted measurement facility used to collect the radiated data, AC Power Line conducted data, and conductive data are at Intertek Testing Services Shenzhen Ltd. Kejiyuan Branch, 6/F., Block D, Huahan Building, Langshan Road, Nanshan District, Shenzhen, China. This test facility and site measurement data have been fully placed on file with FCC and Industry Canada.

EXHIBIT 3
SYSTEM TEST CONFIGURATION

3.0 System Test Configuration

3.1 Justification

For radiated emissions testing, the equipment under test (EUT) was setup to transmit / receive continuously to simplify the measurement methodology. Care was taken to ensure proper power supply voltages during testing. During testing, all cables (if any) were manipulated to produce worst case emissions.

The Parent Unit was powered by a fully charged battery and/or a 100-240VAC to 6.0VDC 500mA adaptor.

For the measurements, the EUT was attached to a plastic stand if necessary and placed on the wooden turntable. If the base unit attached to peripherals, they were connected and operational (as typical as possible). The parent unit was remotely located as far from the antenna and the base as possible to ensure full power transmission from the baby unit. Else, the base was wired to transmit full power with modulation.

The signal was maximized through rotation and placement in the three orthogonal axes. The antenna height and polarization were varied during the search for maximum signal level. The antenna height was varied from 1 to 4 meters. Radiated emissions were taken at three meters unless the signal level was too low for measurement at that distance. If necessary, a pre-amplifier was used and/or the test was conducted at a closer distance.

For any intentional radiator powered by AC power line, measurements of the radiated signal level of the fundamental frequency component of the emission was performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage.

For transmitter radiated measurement, the spectrum analyzer resolution bandwidth was 100 kHz for frequencies below 1000 MHz. The resolution bandwidth was 1 MHz for frequencies above 1000 MHz.

Radiated emission measurement for transmitter were performed from 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.

Emission that are directly caused by digital circuits in the transmit path and transmitter portion were measured, and the limit are according to FCC Part 15 Section 15.209. Digital circuitry used to control additional functions other than the operation of the transmitter is subject to FCC Part Section 15.109 Limits.

3.1 Justification - Cont'd

Detector function for radiated emissions was in peak mode. Average readings, when required, were taken by measuring the duty cycle of the equipment under test and subtracting the corresponding amount in dB from the measured peak readings. A detailed description for the calculation of the average factor can be found in section 4.8.3.

Determination of pulse desensitization was made according to *Hewlett Packard Application Note 150-2, Spectrum Analysis... Pulsed RF.* The effective period (Teff) was referred to Exhibit 4.8.3. With the resolution bandwidth 1MHz and spectrum analyzer IF bandwidth 3dB, the pulse desensitization factor was 0dB.

For AC line conducted emission test, the EUT along with its peripherals were placed on a 1.0m(W)x1.5m(L) and 0.8m in height wooden table and the EUT was adjusted to maintain a 0.4 meter space from a vertical reference plane. The EUT was connected to power mains through a line impedance stabilization network (LISN), which provided 50ohm coupling impedance for measuring instrument. The LISN housing, measuring instrument case, reference ground plane, and vertical ground plane were bounded together. The excess power cable between the EUT and the LISN was bundled.

All connecting cables of EUT and peripherals were manipulated to find the maximum emission.

All relevant operation modes with 2 types of adaptors for three series have been tested, and the worst case data is included in this report.

All three model series have been tested, only the worst case is respresented in this report.

3.2 EUT Exercising Software

The EUT exercise program used during radiated and conducted testing was designed to exercise the various system components in a manner similar to a typical use.

3.3 Details of EUT and Description of Accessories

Details of EUT:

An AC adaptor (provided with the unit) was used to power the device. Their description are listed below.

(1) An AC adaptor (100-240VAC to 6.0VDC 500mA, Model: RJ-AS060500U501) (Supplied by Client)

(2) An AC adaptor (100-240VAC to 6.0VDC 500mA, Model: BLJ6W060050P-U) (Supplied by Client)

(3) Ni-MH rechargeable battery (3.6V 900mAh) (Supplied by Client)

Description of Accessories:

(1) Baby Unit, Model: MBP622BU, FCC ID: VLJ-MBP622BU (Provided by Client)

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.

EXHIBIT 4
TEST RESULTS

4.0 **Test Results**

4.1 Maximum Conducted Output Power at Antenna Terminals

☐ The antenna power of the EUT was connected to the input of a power meter. Power was read directly and cable loss correction was added to the reading to obtain power at the EUT antenna terminals.

☒ The antenna port of the EUT was connected to the input of a spectrum analyzer. The analyzer was set for RBW>20dB bandwidth and power was read directly in dBm. External attenuation and cable loss were compensated for using the OFFSET function of the analyser.

Antenna Gain = 0dBi			
Frequency (MHz)		Output in dBm	Output in mW
Low Channel:	2410.875	16.90	49.0
Middle Channel:	2444.625	17.20	52.5
High Channel:	2471.625	17.17	52.1

Cable loss / external attenuation : 1 dB

Cable loss, external attenuation: ☒ included in OFFSET function
☐ added to SA raw reading

dBm max. output level = 17.20 dBm

Limits:
☒ 0.125W (21dBm) for antennas with gains of 6dBi or less

☐ 0.25W (24dBm) for antennas with gains of 6dBi or less

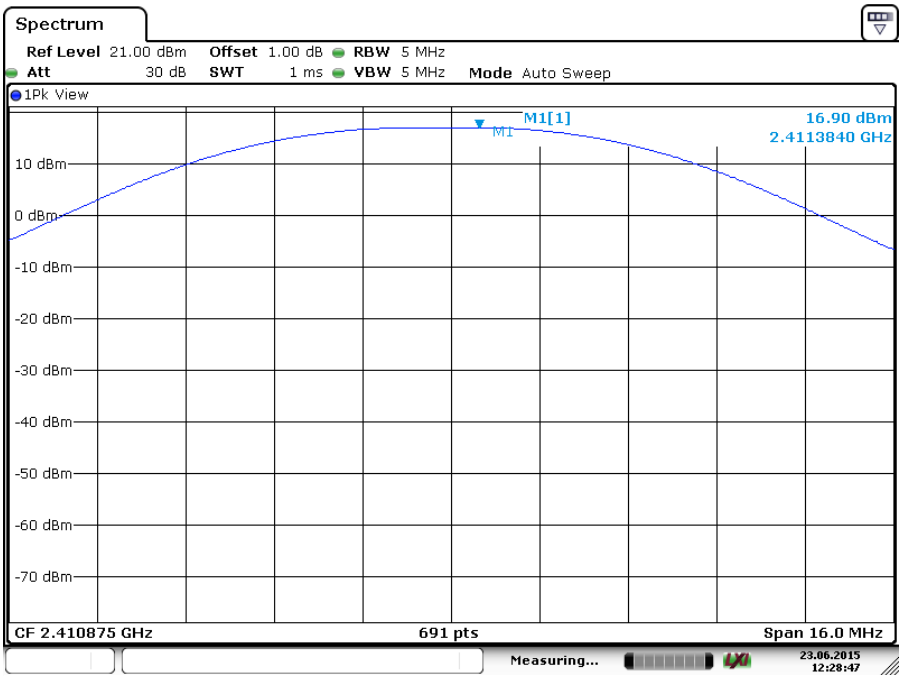
☐ 1W (30dBm) for antennas with gains of 6dBi or less

☐ ___W (___dBm) for antennas with gains more than 6dBi

The plots of conducted output power are saved as below.

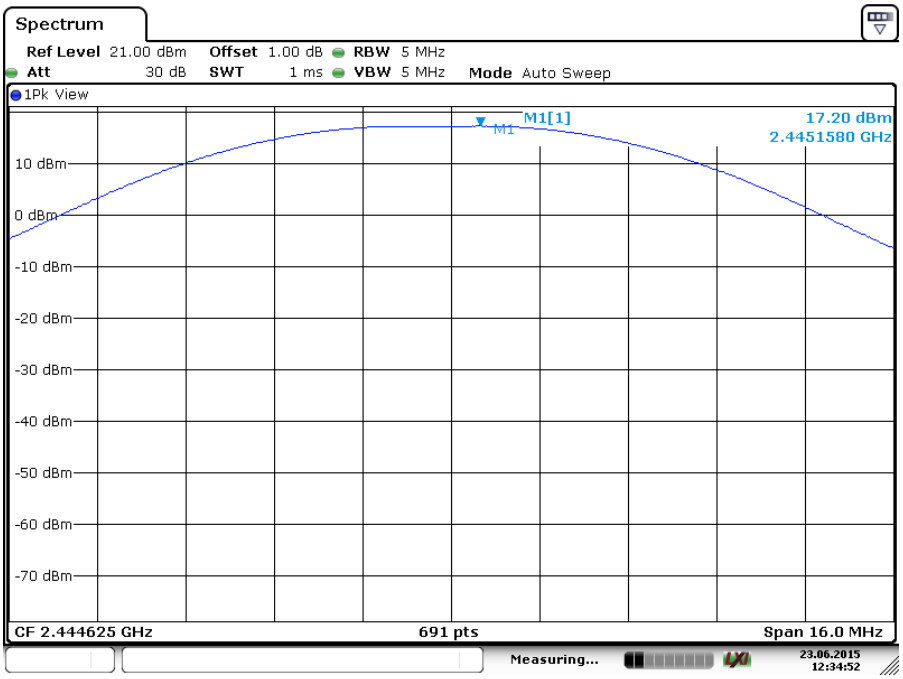
Plots of conducted output power

Lowest Channel



Date: 23.JUN.2015 12:28:48

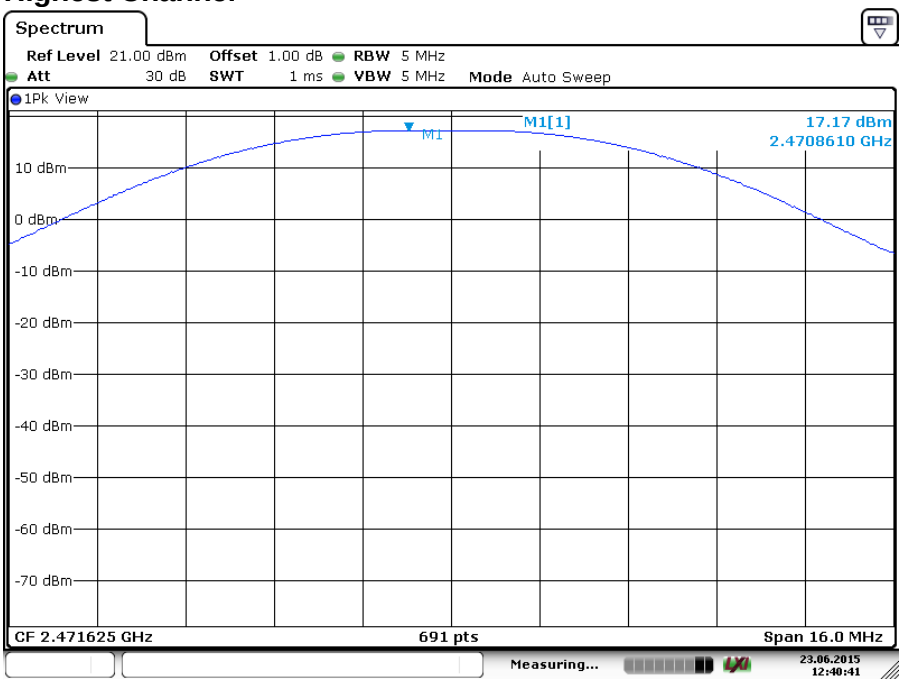
Middle Channel



Date: 23.JUN.2015 12:34:53

Plots of conducted output power

Highest Channel



Date: 23.JUN.2015 12:40:41

4.2 Maximum 20 dB RF Bandwidth

The antenna port of the EUT was connected to the input of a spectrum analyzer. Analyzer RES BW was chosen so that the display was a result of the hopping channel modulation. 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 20 dB lower than PEAK level. The 20 dB bandwidth was determined from where the channel output spectrum intersected the display line.

Frequency (MHz)		20 dB Bandwidth (kHz)
Low Channel:	2410.875	3256
Middle Channel:	2444.625	3227
High Channel:	2471.625	3227

Limits

☐ ≤500kHz for 902-928MHz

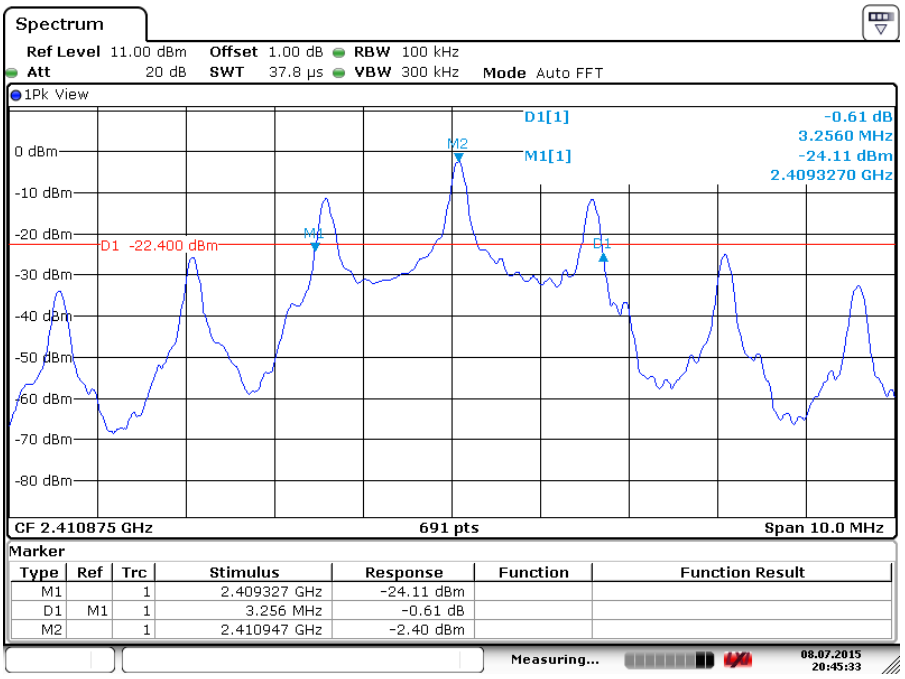
☒ N/A for 2400-2483.5MHz

☐ ≤1MHz for 5725-5850MHz

The plots of 20dB RF bandwidth and occupied bandwidth are saved as below.

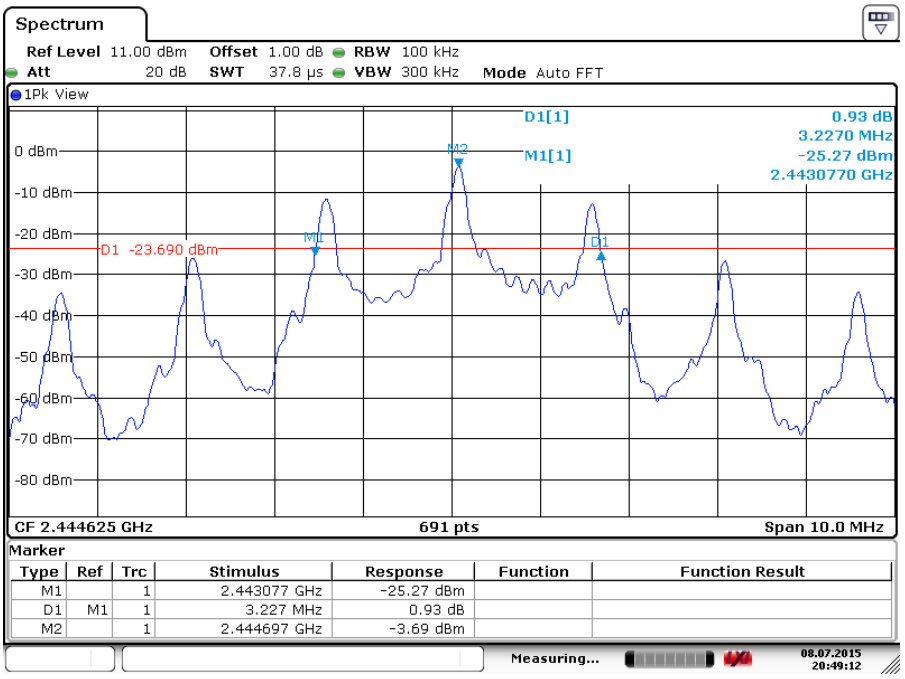
Plots of 20dB RF bandwidth

Lowest Channel



Date: 8.JUL.2015 20:45:32

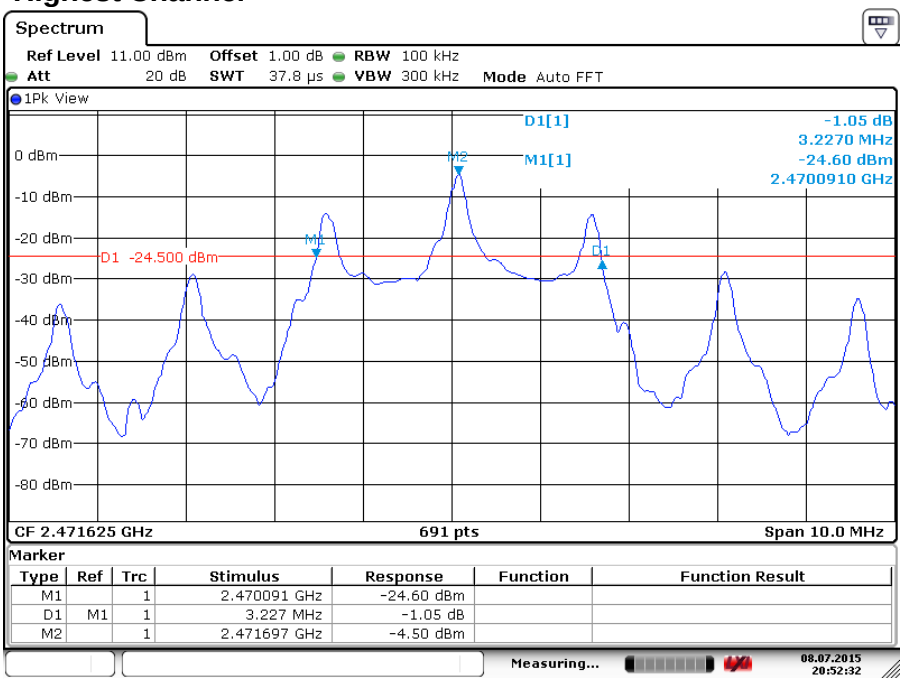
Middle Channel



Date: 8.JUL.2015 20:49:12

Plots of 20dB RF bandwidth

Highest Channel



Date: 8.JUL.2015 20:52:32

4.3 Minimum Number of Hopping Frequencies

With the analyzer set to MAX HOLD readings were taken for 2-3 minutes in each band. The channel peaks so recorded were added together, and the total number compared to the minimum number of channels required in the regulation.

No. of hopping channels	19

Minimum Requirements:

☐ at least 50 hopping channels for 902MHz-928MHz (20 dB bandwidth of hopping channel < 250kHz)

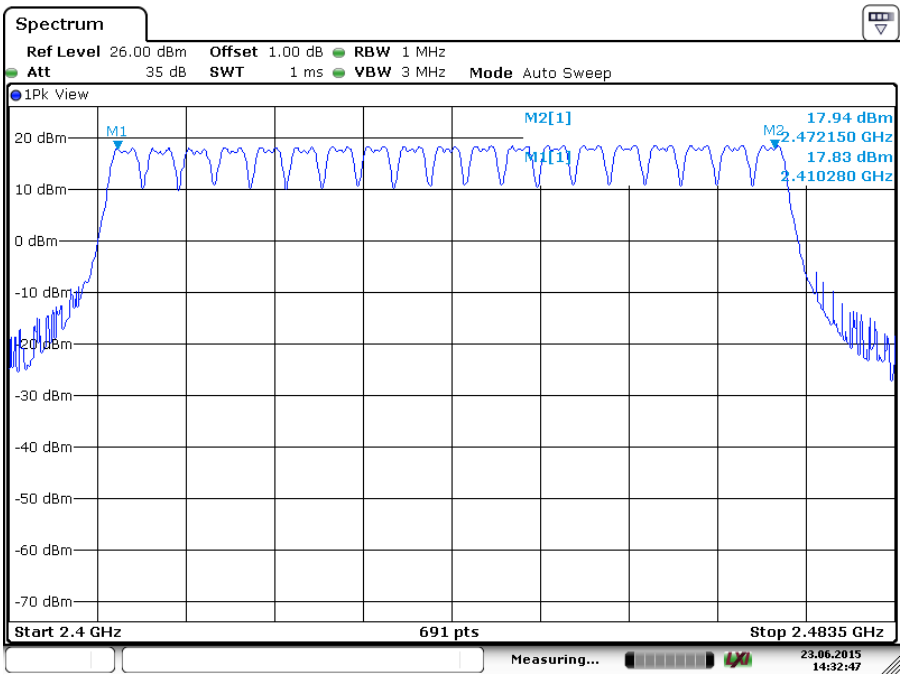
☐ at least 25 hopping channels for 902MHz-928MHz (20 dB bandwidth of hopping channel ≥ 250kHz)

☒ at least 15 hopping channels for 2400MHz-2483.5MHz.

☐ at least 75 hopping channels for 5725MHz-5850MHz.

The plots of number of hopping frequencies are saved as below.

Plots of number of hopping frequencies



Date: 23.JUN.2015 14:32:46

4.4 Minimum Hopping Channel Carrier Frequency Separation

Using the DELTA MARKER function of the analyzer, the frequency separation between two adjacent channels was measured and met the requirement.

Frequency (MHz)		Channel Separation (kHz)
Low Channel:	2410.875	3376
Middle Channel:	2444.625	3386
High Channel:	2471.625	3343

Limits:
The channel separation must be larger than:

☐ 25 kHz

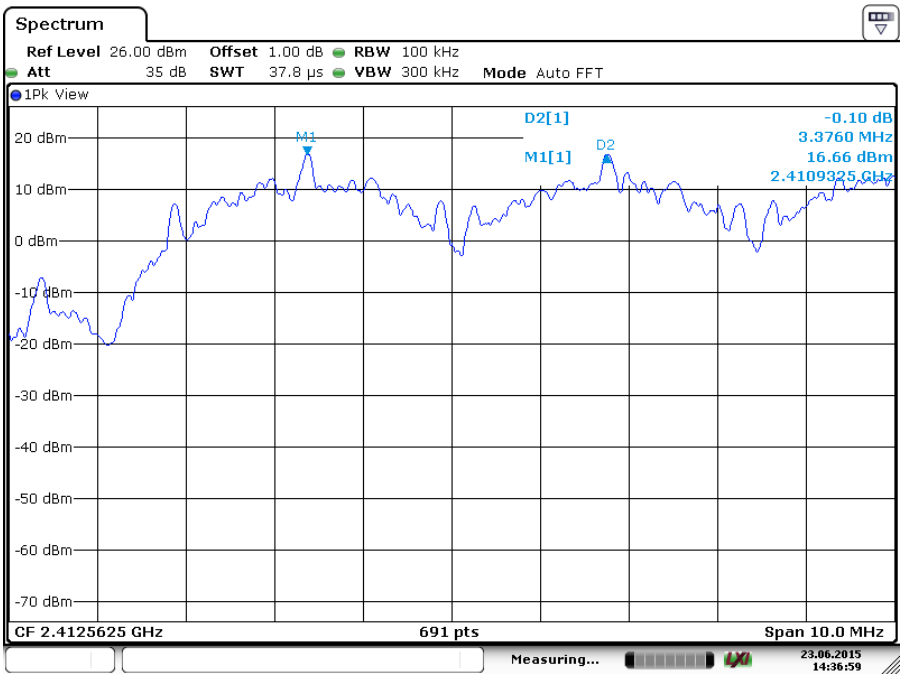
☒ 20 dB bandwidth of hopping channel: 3256kHz

☐ 2/3 of 20dB bandwidth of hopping channel: ____Hz

The plot(s) of hopping channel carrier frequency separation is saved as below.

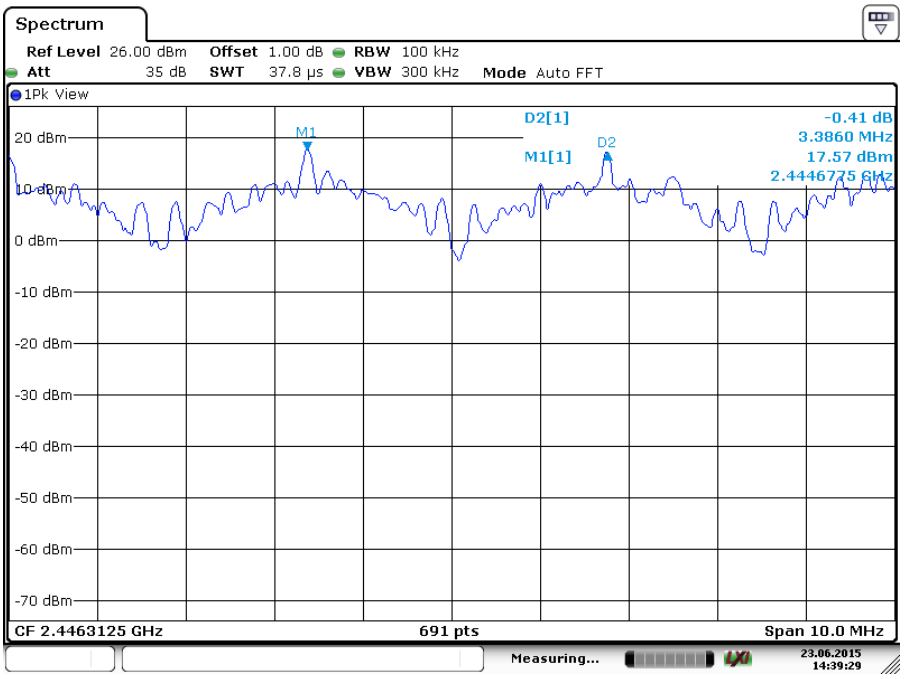
Plots of hopping channel carrier frequency separation

Lowest Channel



Date: 23.JUN.2015 14:36:59

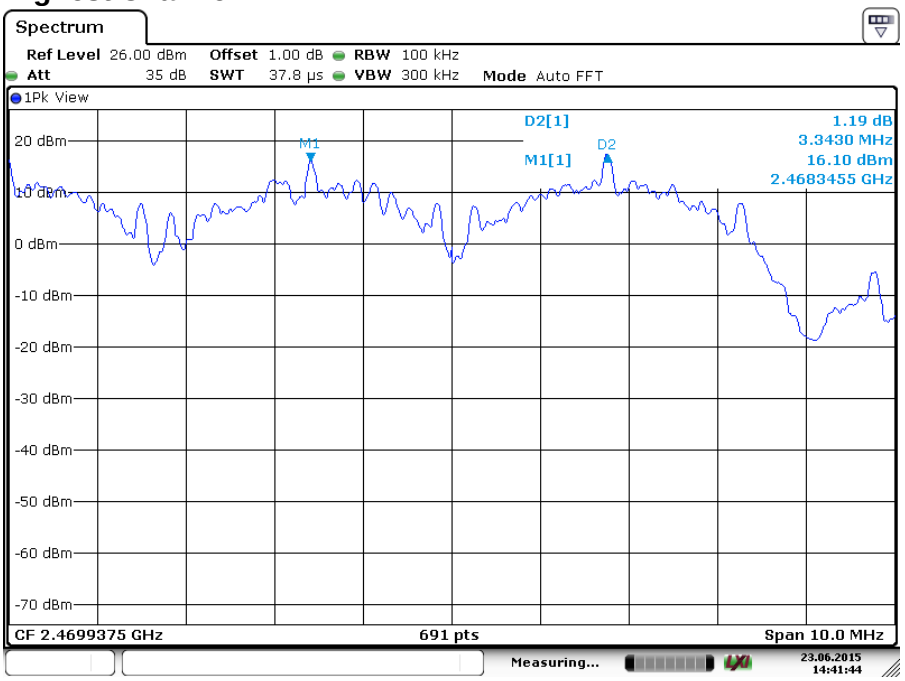
Middle Channel



Date: 23.JUN.2015 14:39:29

Plots of hopping channel carrier frequency separation

Highest Channel



Date: 23.JUN.2015 14:41:43

4.5 Average Channel Occupancy Time

The spectrum analyzer center frequency was set to one of the known hopping channels. The SWEEP was set to 10ms, the SPAN was set to ZERO SPAN, and the TRIGGER was set to VIDEO. The time duration of the transmission so captured was measured with the MARKER DELTA function.

The SWEEP was then set to the time required by the regulation (20 seconds for 902-928 MHz devices, if the 20dB bandwidth is less than 250kHz, 10 seconds for 902-928 MHz if the 20dB bandwidth is or greater than 250kHz, "0.4 seconds x Number of hopping channels employed" seconds for 2400-2483.5 MHz, 30 seconds for 5725-5850 MHz). The analyzer was set to SINGLE SWEEP, the total ON time was added and compared against the limit (0.4 seconds).

Parent Unit (worst-case:)	
Average Occupancy Time = 357.97us x 23 x 7.6	62.6 ms

Limits:
Average 0.4 seconds maximum occupancy in:

☒ 7.6 seconds (0.4 sec. x 19) for 2400MHz-2483.5MHz

☐ 20 seconds for 902MHz-928MHz ≥ 50 hopping channels

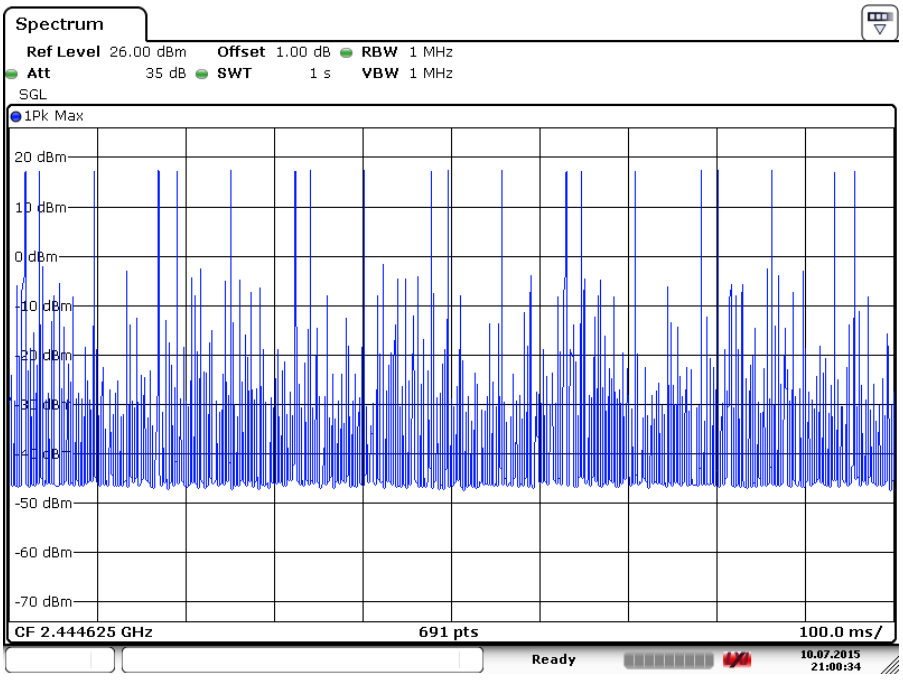
☐ 10 seconds for 902MHz-928MHz ≥ 25 hopping channels

☐ 30 seconds for 5725-5850MHz

The plots of average channel occupancy time are saved as below.

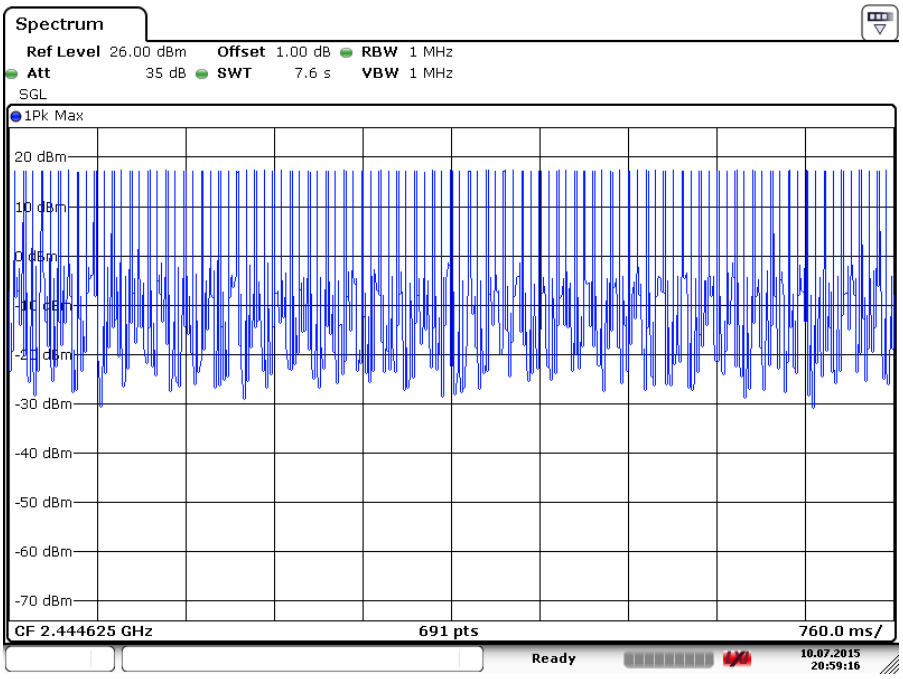
Plots of average channel occupancy time

Plot A



Date: 10.JUL.2015 21:00:34

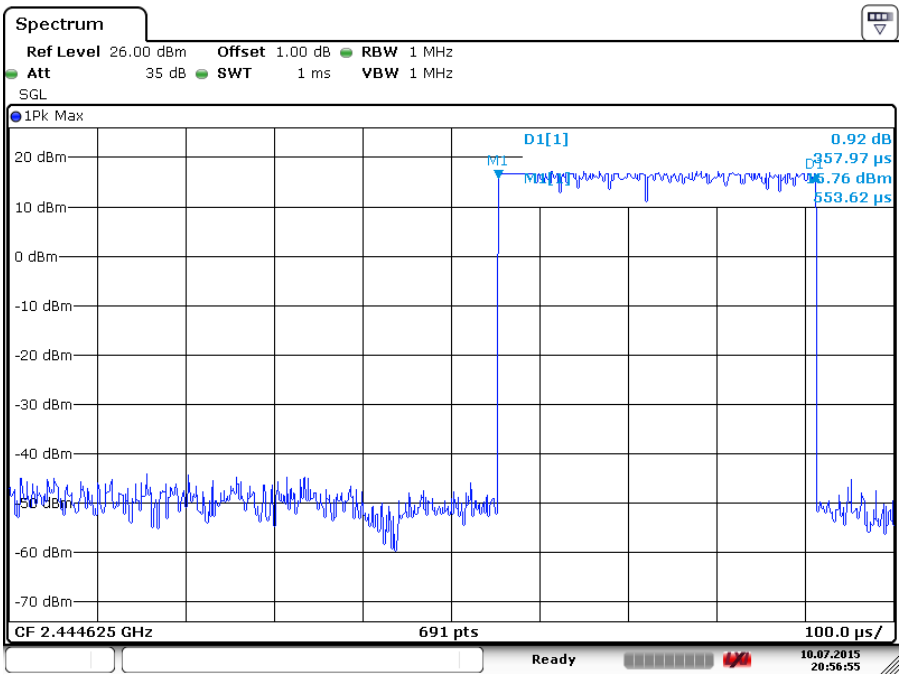
Plot B



Date: 10.JUL.2015 20:59:16

Plots of average channel occupancy time

Plot C



Date: 10.JUL.2015 20:56:55

4.6 Out of Band Conducted Emissions

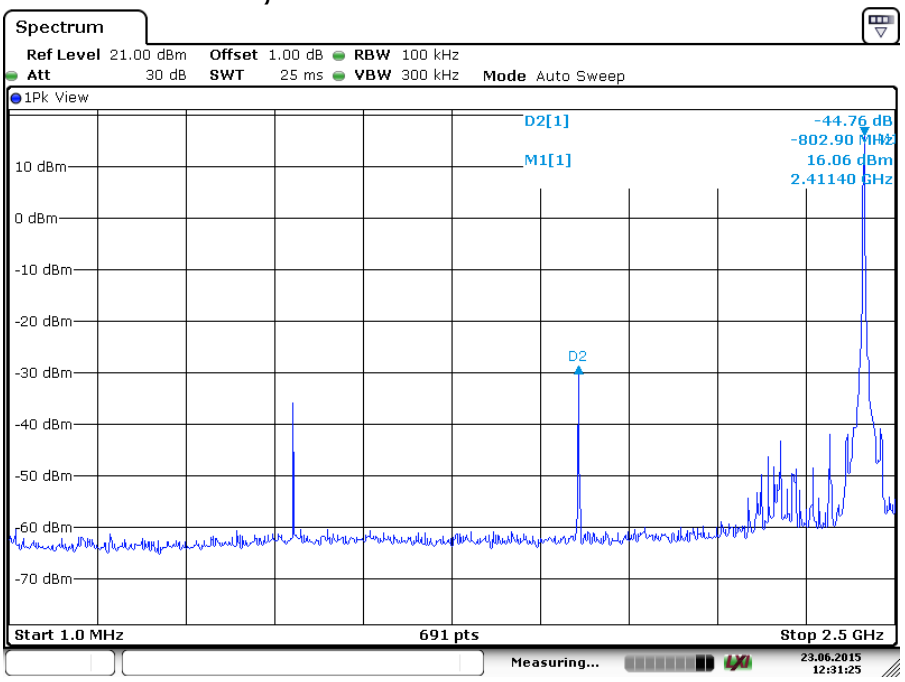
In any 100 kHz bandwidth outside the EUT passband, the RF power produced by the modulation products of the spreading sequence, the information sequence, and the carrier frequency shall be at least 20 dB below that of the maximum in-band 100 kHz emission.

The plot(s) of bandedge compliance is shown the worst-case which has been already considered between enable and disable the hopping function of the EUT.

Limits:
All spurious emission and up to the tenth harmonic was measured and they were found to be at least 20 dB below the highest level of the desired power in the passband.

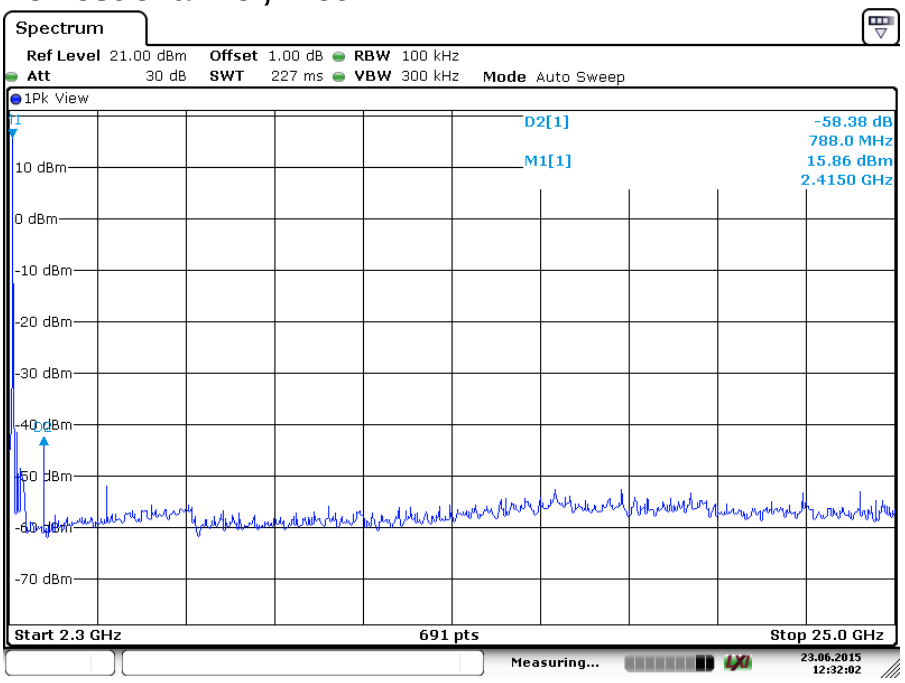
The plots of out of band conducted emissions and bandedge are saved as below.

Plots of out of band conducted emissions
Lowest channel, Plot 1



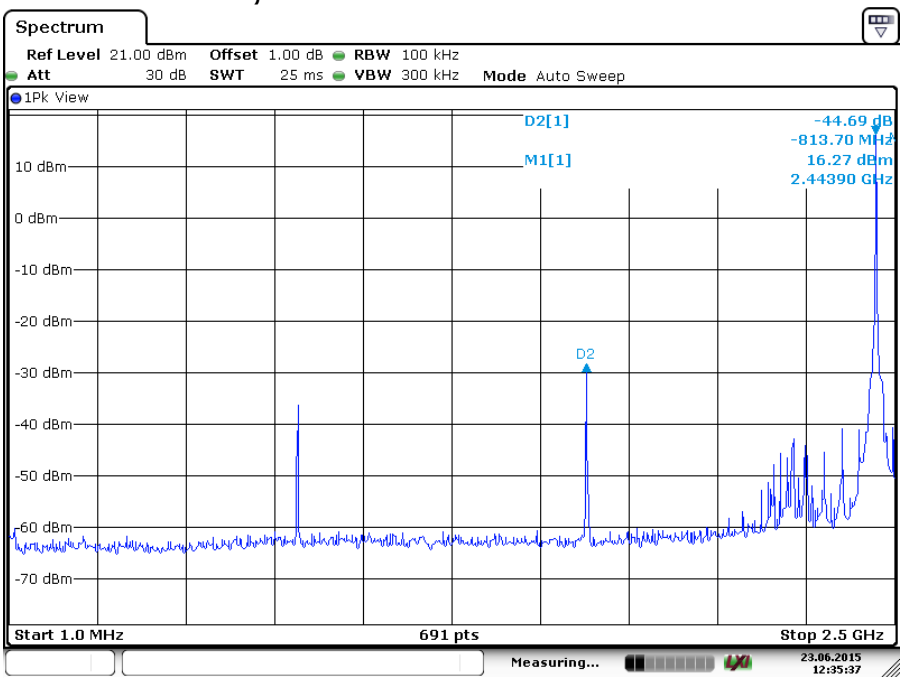
Date: 23.JUN.2015 12:31:26

Lowest channel, Plot 2



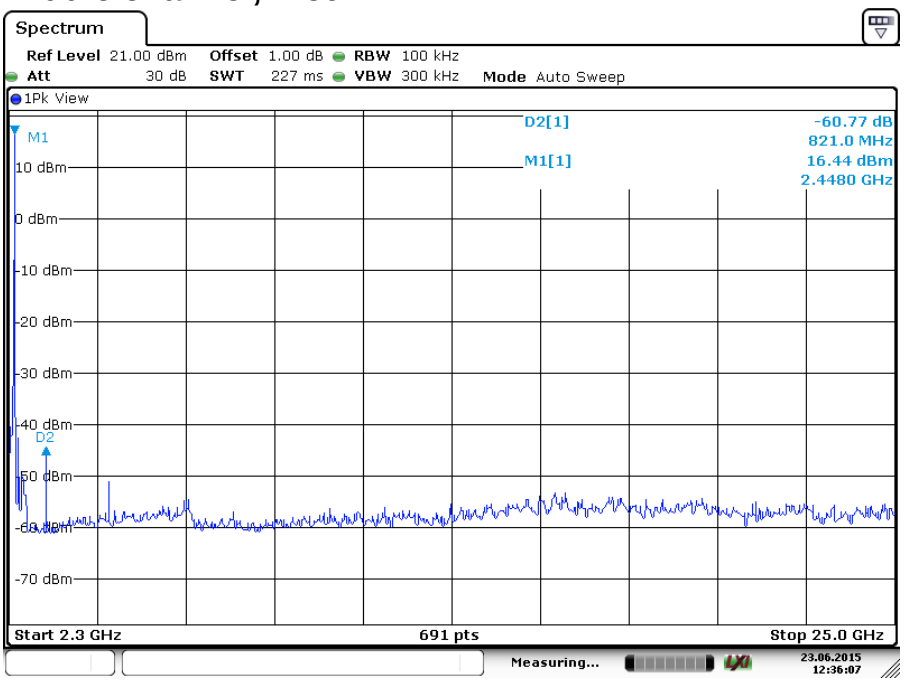
Date: 23.JUN.2015 12:32:03

Plots of out of band conducted emissions
Middle channel, Plot 1



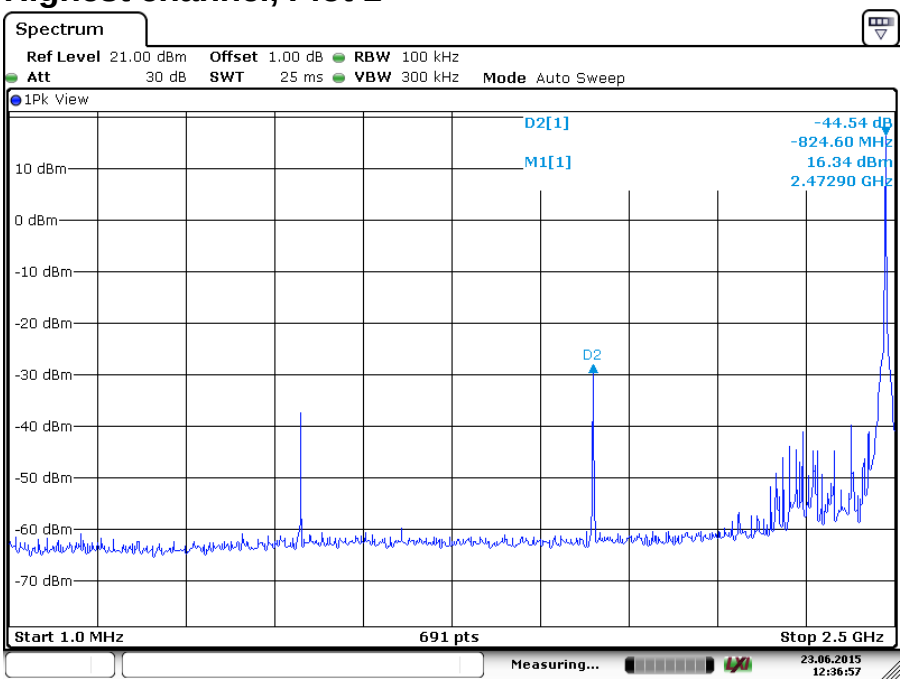
Date: 23.JUN.2015 12:35:37

Middle channel, Plot 2



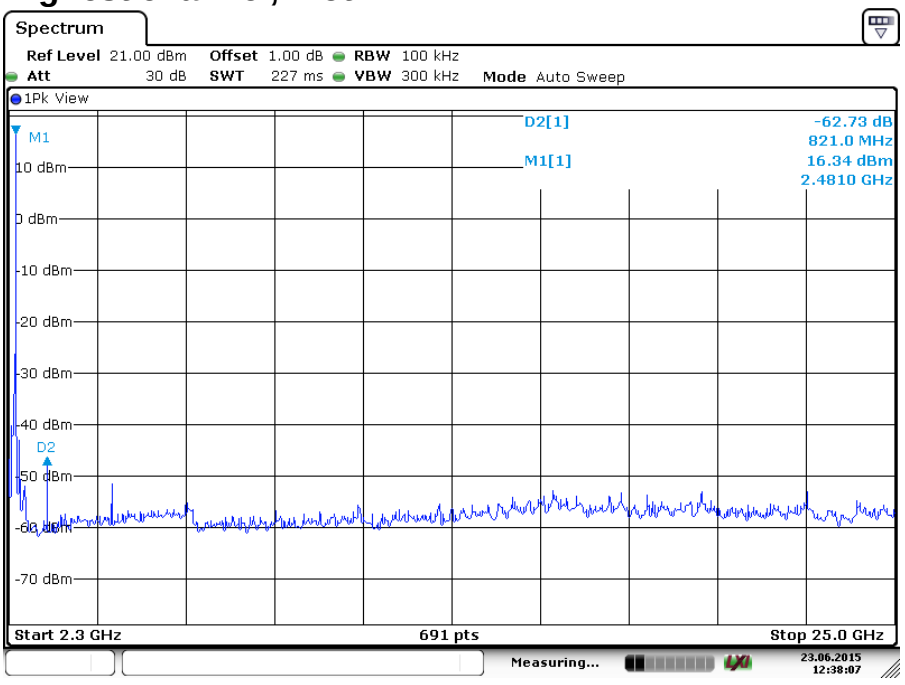
Date: 23.JUN.2015 12:36:07

Plots of out of band conducted emissions
Highest channel, Plot 1



Date: 23.JUN.2015 12:36:57

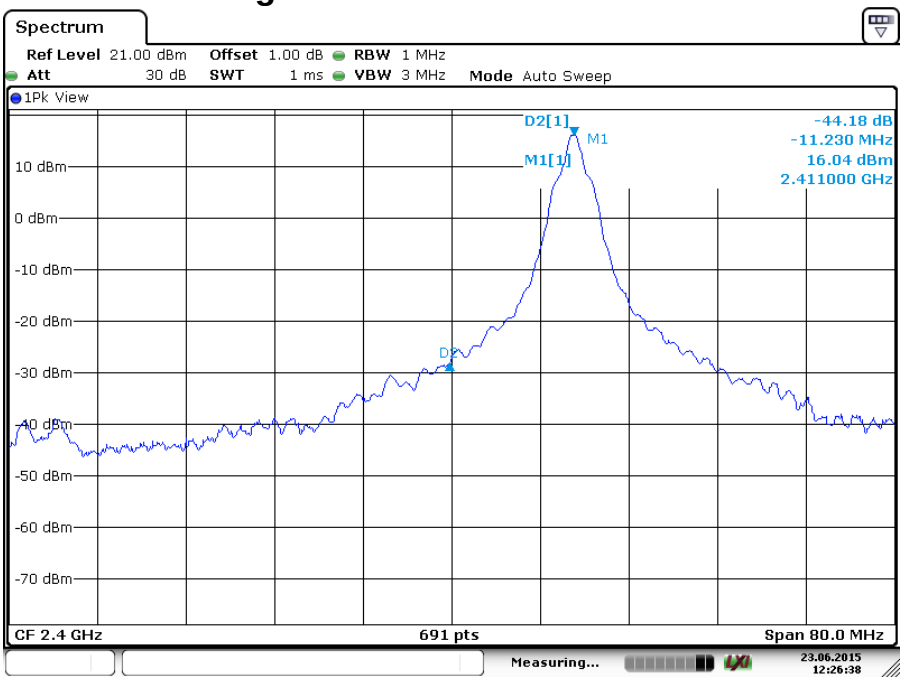
Highest channel, Plot 2



Date: 23.JUN.2015 12:38:07

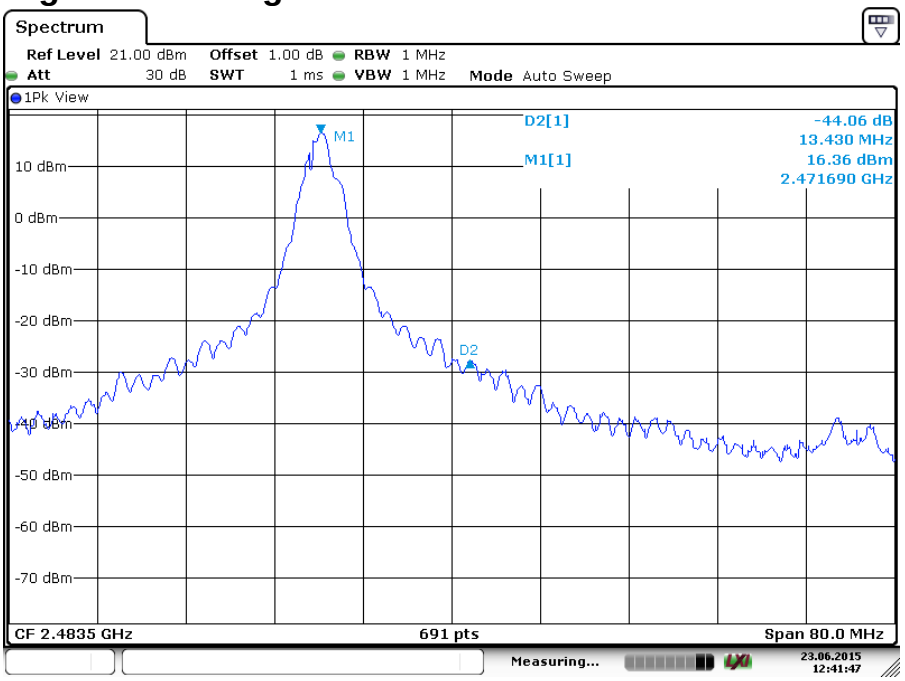
Plots of bandedge

Lowest bandedge



Date: 23.JUN.2015 12:26:39

Highest bandedge



Date: 23.JUN.2015 12:41:48

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 + AV

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
AV = Average Factor in -dB

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

FS = RA + AF + CF - AG + PD +AV

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, and the resultant average factor was -10 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 dB
PD = 0 dB
AV = -10 dB
FS = 62 + 7.4 +1.6 -29 +0 + (-10) = 32 dBμV/m

Level in μV/m = Common Antilogarithm [(32 dBμV/m)/20] = 39.8 μV/m

4.8 Transmitter Radiated Emissions in Restricted Bands and Spurious Emissions

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.

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

4.8.1 Radiated Emission Configuration Photograph

Worst Case Restricted Band Radiated Emission
at

2485.120 MHz with adaptor RJ-AS060500U501

The worst case radiated emission configuration photographs are attached in the Appendix and saved with filename: config photos.pdf

4.8.2 Radiated Emission Data

The data in tables 1-5 list the significant emission frequencies, the limit and the margin of compliance.

Judgement -

Passed by 7.4 dB margin compare with peak limit

Mode: TX-Channel 01 (worse-case: adaptor RJ-AS060500U501)

Table 1

Radiated Emission Data

Polari-zation	Frequency (MHz)	Reading	Correction Factor	Net at 3m - Peak (dBµV/m)	Average Factor (dB)	Calculated at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
H	***2389.720***	***66.3***	***-3.5***	***62.8***	***39***	***23.8***	***54.0***	***-30.2***
H	***4822.000***	***52.7***	***6.5***	***59.2***	***39***	***20.2***	***54.0***	***-33.8***
H	***12055.000***	***44.2***	***20.1***	***64.3***	***39***	***25.3***	***54.0***	***-28.7***

Polari-zation	Frequency (MHz)	Reading	Correction Factor	Net at 3m - Peak (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
H	***2389.720***	***66.3***	***-3.5***	***62.8***	***74.0***	***-11.2***
H	***4822.000***	***52.7***	***6.5***	***59.2***	***74.0***	***-14.8***
H	***12055.000***	***43.9***	***20.4***	***64.3***	***74.0***	***-9.7***

NOTES: 1. Peak detector is used for the emission measurement.

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 is used for the emission over 1000MHz.

5. Emission (the row indicated by ***bold italic***) within the restricted band meets the requirement of FCC Part 15 Section 15.205 / RSS-210 Section 2.2.

6. Correction Factor is consitiuted Cable Loss, Antenna Factor and Amplifier Gain.

Mode: TX-Channel 11 (worse-case: adaptor RJ-AS060500U501)

Table 2

Radiated Emission Data

Polari-zation	Frequency (MHz)	Reading	Correction Factor	Net at 3m - Peak (dBµV/m)	Average Factor (dB)	Calculated at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
H	***4890.000***	***51.7***	***6.7***	***58.4***	***39***	***19.4***	***54.0***	***-34.6***
H	***7335.000***	***49.8***	***13.7***	***63.5***	***39***	***24.5***	***54.0***	***-29.5***
H	***12225.000***	***43.9***	***20.5***	***64.4***	***39***	***25.4***	***54.0***	***-28.6***

Polari-zation	Frequency (MHz)	Reading	Correction Factor	Net at 3m - Peak (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
H	***4890.000***	***51.7***	***6.7***	***58.4***	***74.0***	***-15.6***
H	***7335.000***	***49.8***	***13.7***	***63.5***	***74.0***	***-10.5***
H	***12225.000***	***43.9***	***20.5***	***64.4***	***74.0***	***-9.6***

NOTES: 1. Peak detector is used for the emission measurement.

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 is used for the emission over 1000MHz.

5. Emission (the row indicated by ***bold italic***) within the restricted band meets the requirement of FCC Part 15 Section 15.205 / RSS-210 Section 2.2.

6. Correction Factor is consitiuted Cable Loss, Antenna Factor and Amplifier Gain.

Mode: TX-Channel 19 (worse-case: adaptor RJ-AS060500U501)

Table 3

Radiated Emission Data

Polari-zation	Frequency (MHz)	Reading	Correction Factor	Net at 3m - Peak (dBµV/m)	Average Factor (dB)	Calculated at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
H	***2485.120***	***70.1***	***-3.5***	***66.6***	***39***	***27.6***	***54.0***	***-26.4***
H	***4943.200***	***51.6***	***6.8***	***58.4***	***39***	***19.4***	***54.0***	***-34.6***
H	***7414.800***	***51.2***	***13.8***	***65.0***	***39***	***26.0***	***54.0***	***-28.0***
H	***12358.000***	***43.7***	***20.8***	***64.5***	***39***	***25.5***	***54.0***	***-28.5***

Polari-zation	Frequency (MHz)	Reading	Correction Factor	Net at 3m - Peak (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
H	***2485.120***	***70.1***	***-3.5***	***66.6***	***74.0***	***-7.4***
H	***4943.200***	***54.4***	***6.8***	***61.2***	***74.0***	***-12.8***
H	***7414.800***	***51.0***	***13.8***	***64.8***	***74.0***	***-9.2***
H	***12358.000***	***43.5***	***20.8***	***64.3***	***74.0***	***-9.7***

NOTES:
1. Peak detector is used for the emission measurement.
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 is used for the emission over 1000MHz.
5. Emission (the row indicated by ***bold italic***) within the restricted band meets the requirement of FCC Part 15 Section 15.205 / RSS-210 Section 2.2.
6. Correction Factor is consitiuted Cable Loss, Antenna Factor and Amplifier Gain.

Mode: Video and Sound Receiving (with adaptor: BLJ6W060050P-U)

Table 4

Radiated Emission Data

Polarization	Frequency (MHz)	Reading	Correction Factor	Net at 3m (dBµV/m)	Limit at 3m (dBµV/m)	Margin (dB)
V	51.825	21.8	7.8	29.6	40.0	-10.4
H	51.825	11.4	7.8	19.2	40.0	-20.8
V	***134.275***	***20.6***	***9.6***	***30.2***	***40.0***	***-9.8***
H	***134.275***	***19.5***	***9.6***	***29.1***	***43.5***	***-14.4***
V	201.690	14.1	11.9	26.0	43.5	-17.5
H	466.500	9.7	20.1	29.8	46.0	-16.2

NOTES: 1. Quasi-Peak detector is used for the emission measurement.

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. Emission (the row indicated by ***bold italic***) within the restricted band meets the requirement of FCC Part 15 Section 15.205 / RSS-210 Section 2.2.

5. Correction Factor is consitiuted Cable Loss and Antenna Factor

Mode: Video and Sound Receiving (with adaptor: RJ-AS060500U501)

Table 5

Radiated Emission Data

Polarization	Frequency (MHz)	Reading	Correction Factor	Net at 3m (dBµV/m)	Limit at 3m (dBµV/m)	Margin (dB)
V	51.825	21.9	7.8	29.7	40.0	-10.3
H	51.825	11.6	7.8	19.4	40.0	-20.6
V	***134.275***	20.8	***9.6***	***30.4***	***40.0***	***-9.6***
H	***134.275***	19.7	***9.6***	***29.3***	***43.5***	***-14.2***
V	201.690	14.1	11.9	26.0	43.5	-17.5
H	466.500	9.9	20.1	30.0	46.0	-16.0

NOTES: 1. Quasi-Peak detector is used for the emission measurement.

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. Emission (the row indicated by ***bold italic***) within the restricted band meets the requirement of FCC Part 15 Section 15.205 / RSS-210 Section 2.2.

5. Correction Factor is consitiuted Cable Loss and Antenna Factor

4.8.3 Transmitter Duty Cycle Calculation

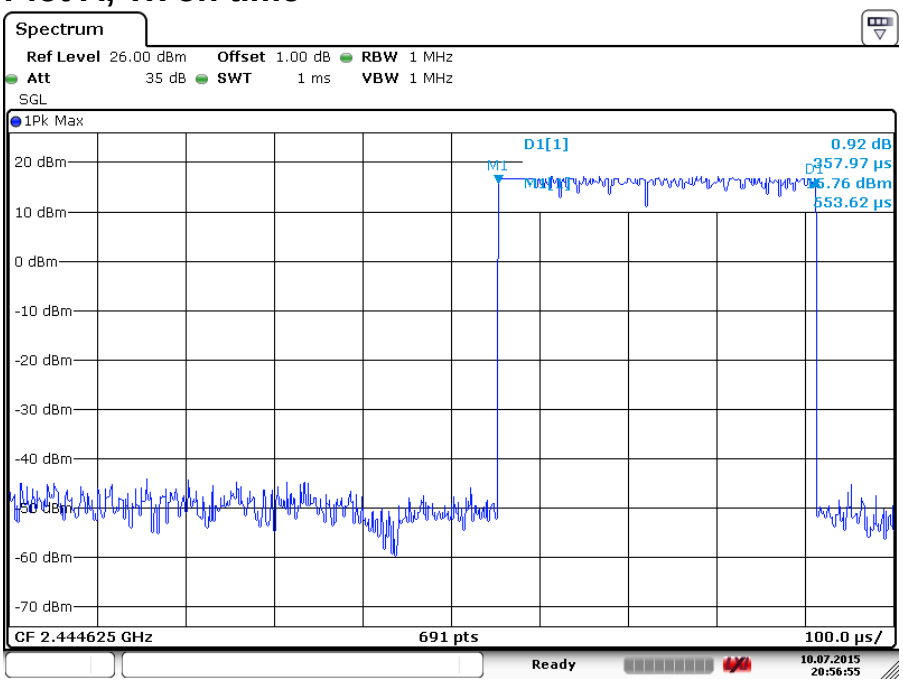
Duty Cycle (DC) = Maximum On time in 100ms/100ms
= (0.35797x3)ms/100ms

Average Factor (AF) = 20 log (DC)
= 20* log (0.0107391)
= -39.0dB

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 SPAN function on the analyzer was set to ZERO. The transmitter ON time was determined from the resultant time-amplitude display.

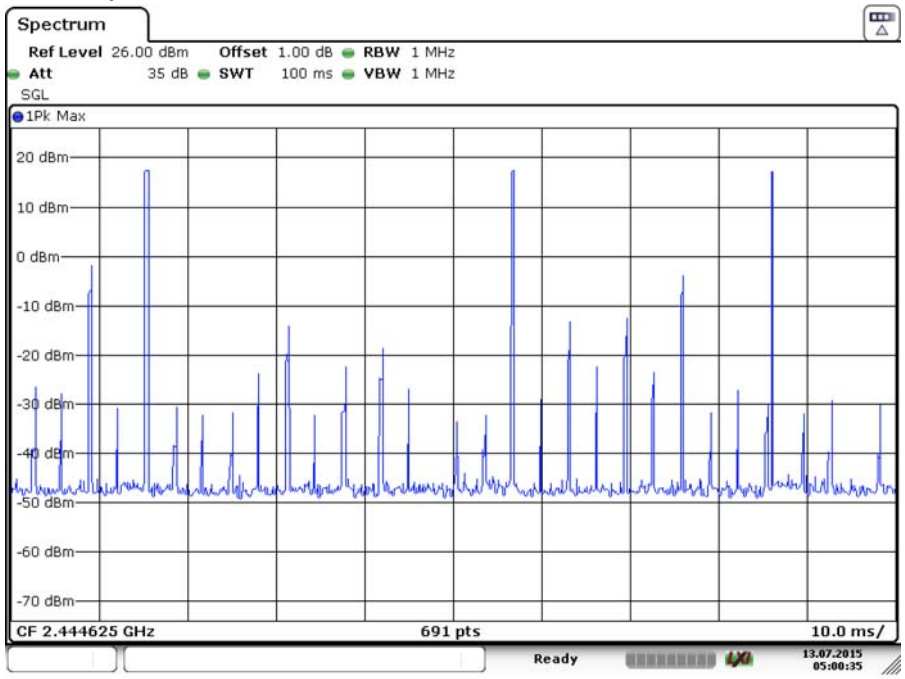
Please refer to the attached plot(s) for more details.

Plots of transmitter On time
Plot A, Tx on time



Date: 10.JUL.2015 20:56:55

Plot B, Tx time in 100ms



Date: 13.JUL.2015 05:00:36

4.9 AC Power Line Conducted Emission

☐ Not applicable – EUT is only powered by battery for operation.

☒ EUT connects to AC power line. Emission Data is listed in following pages.

☐ Base Unit connects to AC power line and has transmission. Handset connects to AC power line but has no transmission. Emission Data of Base Unit is listed in following pages.

4.9.1 AC Power Line Conducted Emission Configuration Photograph

Worst Case Line-Conducted Configuration
at

0.5145 kHz

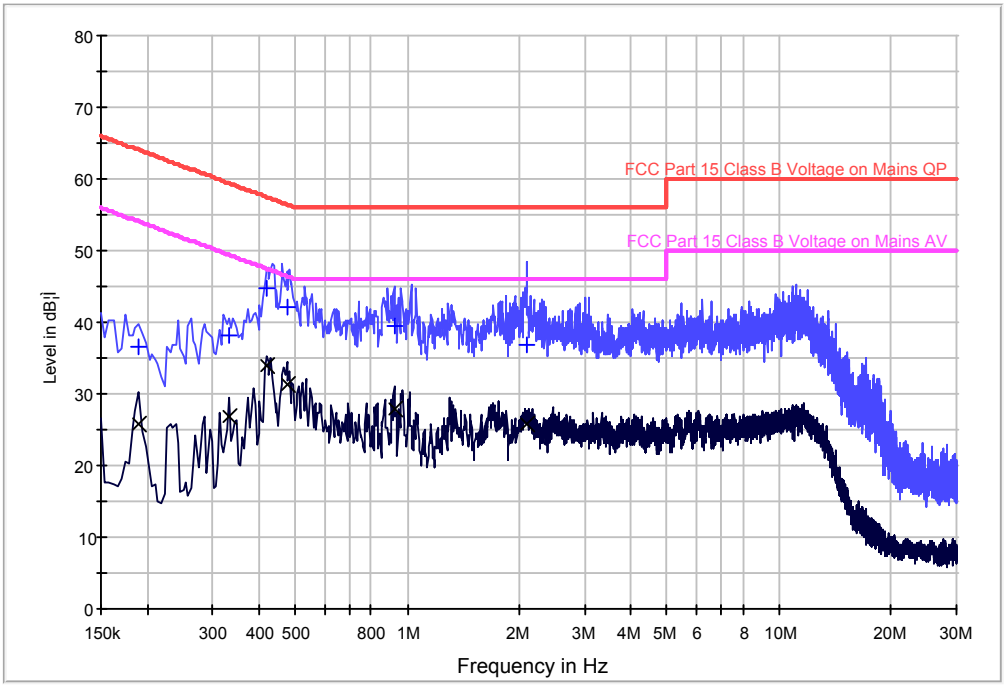
The worst case line conducted configuration photographs are attached in the Appendix and saved with filename: config photos.pdf

4.9.2 AC Power Line Conducted Emission Data

The plot(s) and data in the following pages list the significant emission frequencies, the limit and the margin of compliance.

Passed by 10.8 dB margin compare with average limit

Worst Case: Video and Sound Receiving with adaptor: RJ-AS060500U501



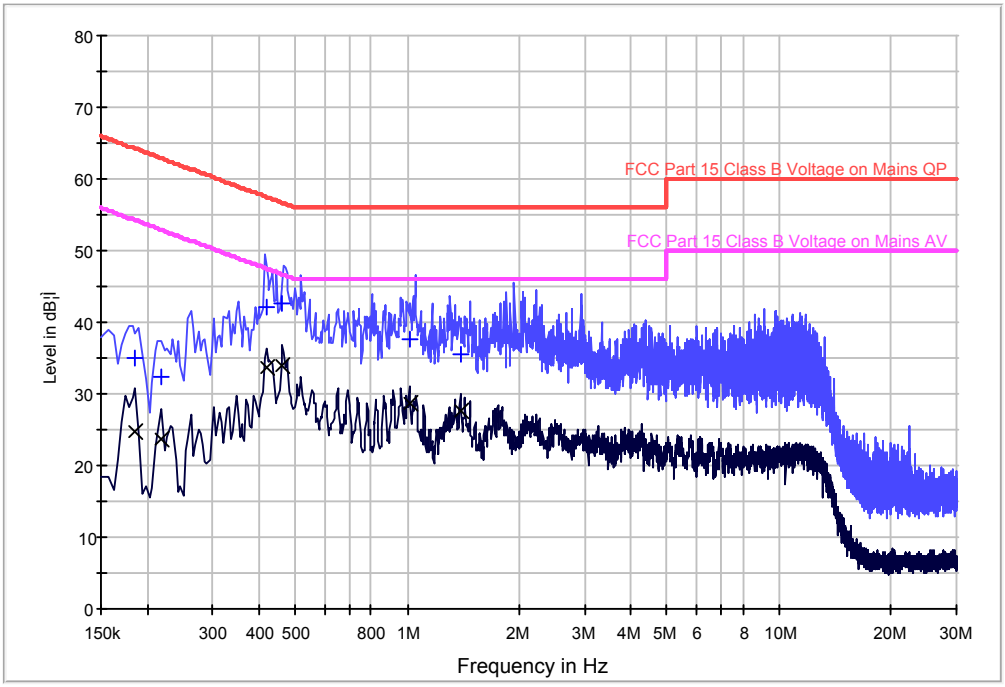
Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.190000	36.5	25.8	9.000	Off	L1	9.8	27.5	64.0
0.330000	38.2	26.9	9.000	Off	L1	9.9	21.3	59.5
0.420000	44.8	33.8	9.000	Off	L1	9.9	12.6	57.4
0.474000	42.2	31.3	9.000	Off	L1	9.9	14.2	56.4
0.922000	39.5	27.8	9.000	Off	L1	10.0	16.5	56.0
2.090000	36.9	25.8	9.000	Off	L1	9.9	19.1	56.0

Limit and Margin AV

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.190000	36.5	25.8	9.000	Off	L1	9.8	28.2	54.0
0.330000	38.2	26.9	9.000	Off	L1	9.9	22.6	49.5
0.420000	44.8	33.8	9.000	Off	L1	9.9	13.6	47.4
0.474000	42.2	31.3	9.000	Off	L1	9.9	15.1	46.4
0.922000	39.5	27.8	9.000	Off	L1	10.0	18.2	46.0
2.090000	36.9	25.8	9.000	Off	L1	9.9	20.2	46.0

Worst Case: Video and Sound Receiving with adaptor: RJ-AS060500U501



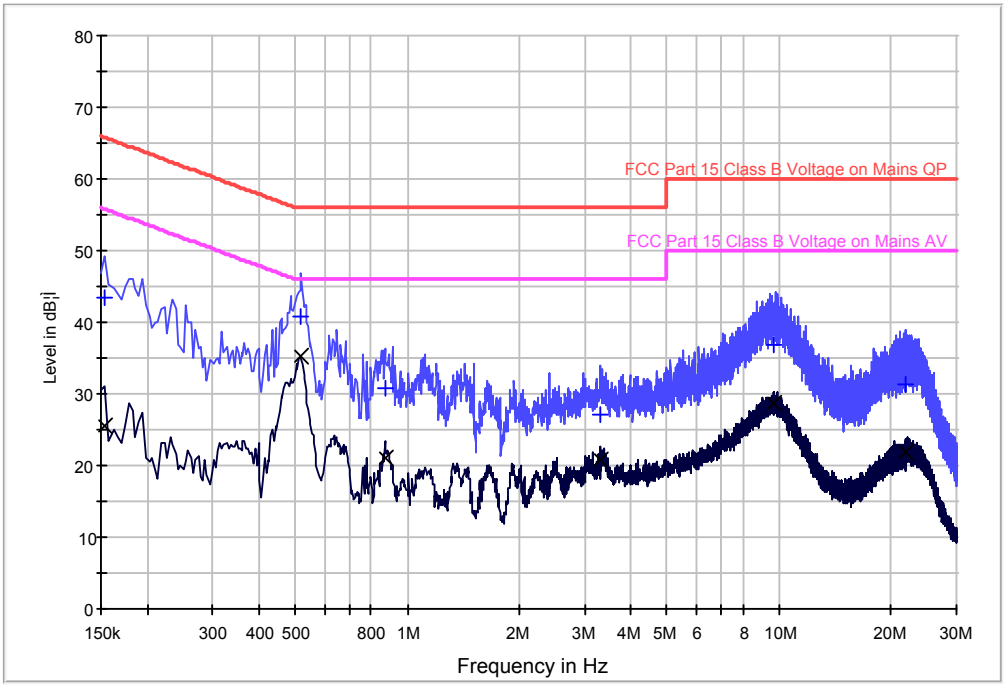
Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.186000	35.0	24.8	9.000	Off	N	10.1	29.2	64.2
0.218000	32.3	23.8	9.000	Off	N	10.1	30.6	62.9
0.418000	42.1	33.8	9.000	Off	N	10.2	15.4	57.5
0.462000	42.7	34.1	9.000	Off	N	10.2	14.0	56.7
1.014000	37.7	28.6	9.000	Off	N	10.3	18.3	56.0
1.386000	35.6	27.7	9.000	Off	N	10.3	20.4	56.0

Limit and Margin AV

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.186000	35.0	24.8	9.000	Off	N	10.1	29.4	54.2
0.218000	32.3	23.8	9.000	Off	N	10.1	29.1	52.9
0.418000	42.1	33.8	9.000	Off	N	10.2	13.7	47.5
0.462000	42.7	34.1	9.000	Off	N	10.2	12.6	46.7
1.014000	37.7	28.6	9.000	Off	N	10.3	17.4	46.0
1.386000	35.6	27.7	9.000	Off	N	10.3	18.3	46.0

Worst Case: Video and Sound Receiving with adaptor: BLJ6W060050P-U



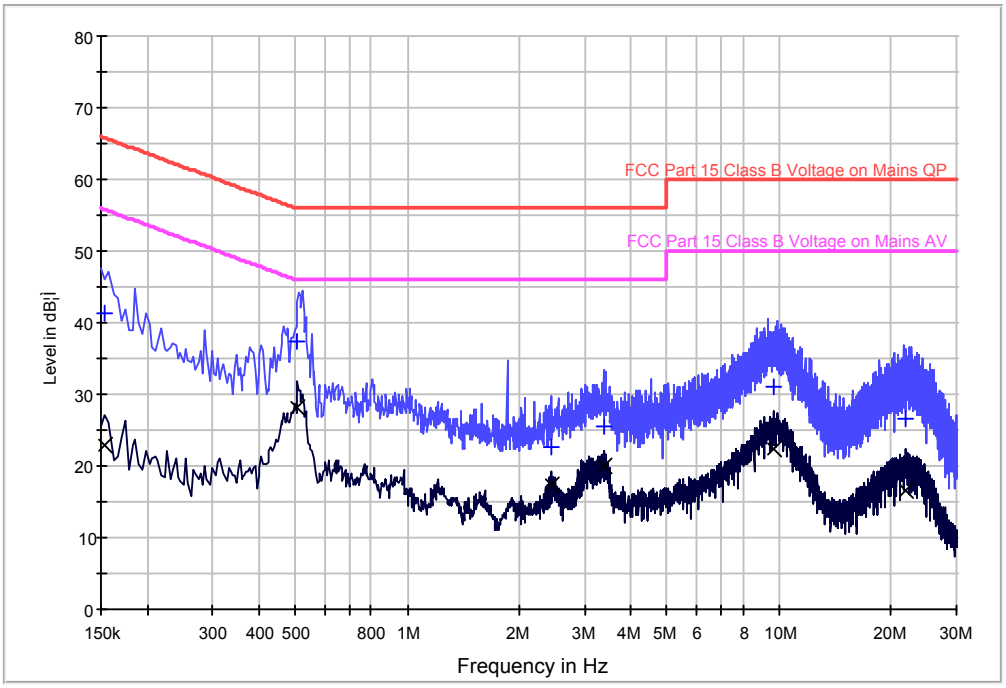
Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.154000	43.3	25.5	9.000	Off	L1	9.8	22.5	65.8
0.514500	40.9	35.2	9.000	Off	L1	9.9	15.1	56.0
0.870000	30.8	21.2	9.000	Off	L1	10.0	25.2	56.0
3.310000	27.0	20.8	9.000	Off	L1	10.0	29.0	56.0
9.646000	36.9	28.6	9.000	Off	L1	10.1	23.1	60.0
21.922000	31.2	21.9	9.000	Off	L1	10.2	28.8	60.0

Limit and Margin AV

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.154000	43.3	25.5	9.000	Off	L1	9.8	30.3	55.8
0.514500	40.9	35.2	9.000	Off	L1	9.9	10.8	46.0
0.870000	30.8	21.2	9.000	Off	L1	10.0	24.8	46.0
3.310000	27.0	20.8	9.000	Off	L1	10.0	25.2	46.0
9.646000	36.9	28.6	9.000	Off	L1	10.1	21.4	50.0
21.922000	31.2	21.9	9.000	Off	L1	10.2	28.1	50.0

Worst Case: Video and Sound Receiving with adaptor: BLJ6W060050P-U



Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.154000	41.3	23.0	9.000	Off	N	10.2	24.5	65.8
0.505500	37.2	28.1	9.000	Off	N	10.2	18.8	56.0
2.446000	22.6	17.5	9.000	Off	N	10.3	33.4	56.0
3.370000	25.4	20.0	9.000	Off	N	10.3	30.6	56.0
9.642000	31.1	22.3	9.000	Off	N	10.4	28.9	60.0
21.834000	26.6	16.6	9.000	Off	N	10.4	33.4	60.0

Limit and Margin AV

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.154000	41.3	23.0	9.000	Off	N	10.2	32.8	55.8
0.505500	37.2	28.1	9.000	Off	N	10.2	17.9	46.0
2.446000	22.6	17.5	9.000	Off	N	10.3	28.5	46.0
3.370000	25.4	20.0	9.000	Off	N	10.3	26.0	46.0
9.642000	31.1	22.3	9.000	Off	N	10.4	27.7	50.0
21.834000	26.6	16.6	9.000	Off	N	10.4	33.4	50.0

EXHIBIT 5
EQUIPMENT LIST

5.0 Equipment List

Equipment No.	Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due Date
SZ182-02	RF Power Meter	Anritsu	ML2496A	1302005	20-May-2015	20-May-2016
SZ182-02-01	Power Sensor	Anritsu	MA2411B	1207429	20-May-2015	20-May-2016
SZ061-04	BiConiLog Antenna	ETS	3142C	00066460	19-Oct-2014	19-Oct-2015
SZ185-01	EMI Receiver	R&S	ESCI	100547	07-Feb-2015	07-Feb-2016
SZ061-09	Horn Antenna	ETS	3115	00092346	01-Nov-2014	01-Nov-2015
SZ061-07	Pyramidal Horn Antenna	ETS	3160-09	00083067	03-Sep-2014	03-Sep-2015
SZ061-06	Active Loop Antenna	Electro-Metrics	EM-6876	217	29-Apr-2015	29-Apr-2016
EM031-03	EXA Spectrum Analyzer	R&S	FSV40	101506	06-Jun-2015	06-Jun-2016
SZ181-04	Preamplifier	Agilent	8449B	3008A02474	07-Feb-2015	07-Feb-2016
SZ188-01	Anechoic Chamber	ETS	RFD-F/A-100	4102	19-Apr-2014	19-Apr-2016
SZ062-02	RF Cable	RADIALL	RG 213U	--	31-Dec-2014	30-Jun-2015
SZ062-02	RF Cable	RADIALL	RG 213U	--	29-Jun-2015	28-Dec-2015
SZ062-05	RF Cable	RADIALL	0.04-26.5GHz	--	07-Apr-2015	07-Oct-2015
SZ062-12	RF Cable	RADIALL	0.04-26.5GHz	--	07-Apr-2015	07-Oct-2015
SZ067-04	Notch Filter	Micro-Tronics	BRM50702-02	--	20-May-2015	20-May-2016
SZ185-02	EMI Test Receiver	R&S	ESCI	100692	01-Nov-2014	01-Nov-2015
SZ187-01	Two-Line V-Network	R&S	ENV216	100072	01-Nov-2014	01-Nov-2015
SZ188-03	Shielding Room	ETS	RFD-100	4100	23-Aug-2014	23-Aug-2016

END OF TEST REPORT