

# Nemko Korea CO., Ltd.

300-2, Osan-Ri, Mohyun-Myun, Yongin-City, Kyungki-Do, KOREA

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## FCC EVALUATION REPORT FOR CERTIFICATION

### Applicant :

TEAC CORPORATION  
1-47 Ochiai, Tama-shi, Tokyo  
206-8530, Japan  
(Post code : : 206-8530)  
Attn. : Akira Sekiguchi

Dates of Issue : October 22, 2009  
Test Report No. : NK09R161  
Test Site : Nemko Korea Co., Ltd.  
EMC site, Korea

FCC ID  
IC ID

Brand Name

CONTACT PERSON

**XEGCR-H500NT  
1559C-CRH500NT**

**TEAC**

**TEAC CORPORATION  
1-47 Ochiai, Tama-shi, Tokyo  
206-8530, Japan  
Akira Sekiguchi  
Telephone No. : +81-42-356-9243**

Applied Standard: FCC 47 CFR Part 15 and IC RSS-210  
Classification : FCC Class B Device  
EUT Type: CD Receiver

The device bearing the brand name and model specified above has been shown to comply with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.4-2003.

I attest to the accuracy of data and 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.



Tested By : Minchul Shin  
Engineer



Reviewed By : H.H. Kim  
Manager & Chief Engineer

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## 1. SCOPE

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Measurement and determination of electromagnetic emissions (EME) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission under FCC part 15 and IC RSS-210.

<b>Responsible Party :</b>	TEAC CORPORATION
<b>Contact Person :</b>	Akira Sekiguchi
<b>Manufacturer :</b>	DongGuan LiaoBu Anam Electronics Xin Cheong Management Area, LiaoBu Town, DongGuan City, GuangDong Province, China

- FCC ID: XEGCR-H500NT
- IC ID: 1559C-CRH500NT
- Model: CR-H500NT
- Brand Name: TEAC
- EUT Type: CD Receiver
- Classification: FCC Class B
- Applied Standard: FCC 47 CFR Part 15 and IC RSS-210
- Test Procedure(s): ANSI C63.4 (2003)
- Dates of Test: October 6, 2009 ~ October 21, 2009
- Place of Tests: Nemko Korea Co., Ltd. EMC Site
- Test Report No.: NK09R161

## 2. INTRODUCTION

The measurement procedure described in American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9kHz to 40GHz (ANSI C63.4-2003) was used in determining radiated and conducted emissions emanating from **TEAC CORPORATION**

FCC ID : **XEGCR-H500NT** and IC ID : **1559C-CRH500NT**

These measurement tests were conducted at **Nemko Korea Co., Ltd. EMC Laboratory** .

The site address is 300-2, Osan-Ri, Mohyeon-Myeon, Cheoin-Gu, Yongin-Si, Gyeonggi-Do, KOREA

The area of Nemko Korea Corporation Ltd. EMC Test Site is located in a mountain area at 80 kilometers (48 miles) southeast and Incheon International Airport (Incheon Airport), 30 kilometers (18miles) south-southeast from central Seoul.

It is located in the valley surrounded by mountains in all directions where ambient radio signal conditions are quiet and a favorable area to measure the radio frequency interference on open field test site for the computing and ISM devices manufactures.

The detailed description of the measurement facility was found to be in compliance with the requirements of §2.948 according to ANSI C63.4 2003.



Nemko Korea Co., Ltd.  
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Fig. 1. The map above shows the Seoul in Korea vicinity area.  
The map also shows Nemko Korea Corporation Ltd. EMC Lab. and Incheon Airport.

### 3. TEST CONDITIONS & EUT INFORMATION

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#### Environmental Conditions

<b>Temperature</b>	20 °C ~ 25 °C
<b>Relative Humidity</b>	35 % ~ 55 %

#### Operating During Test

Operating during part 15 subpart C test:

The EUT was Controlled by testing program which manufacturer supported via RS232 cable with Notebook computer.

The EUT was supplied from the DC power supply according to the manufacturer's request.

The test was performed at the Lowest, Middle, Highest channel.

All tests were measured at the worst cases which were 1 Mbps for 802.11b and 6 Mbps for 802.11g modulation.

During the test, channel select and controlling software provided by the applicant was used to control the operating channels 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.

<b>Modulation</b>	<b>802.11b</b>	<b>802.11g</b>
<b>Power setting</b>	19	19
<b>Data rate</b>	1-11 Mbps	6-54 Mbps

Operating during part 15 subpart B test:

The audio output signal of EUT was adjusted by the volume control to be 1 / 8 W of the rated Max. Switch hub was located at outside of the shielded room and connected to EUT via 3 m unshielded RJ 45 cable then the test was performed during accessing the resources of network system continuously.

### Support Equipment

Description	Model No.	Spec.	Manufacture	S/N	Remark
CD Receiver (EUT)	CR-H500NT	120V/ 60 Hz	ANAM	N/A	-
RCA Cable	-	-	-	N/A	1.5 m Shield Cable
Ear Phone	-	-	-	N/A	1.0 m Shield Cable
i-Pod	A1236	8 GB	Apple Inc.	YM8175BBYOR	-
R-Load	IRF500NC	6 ohm	RARA	N/A	1.5 m non Shield Cable
FM Signal Generator	VP-8174A	-	Mitsubishi	110487b122	-
Oscilloscope	OS-5100RA	-	EZ Digital Co.	110703	-
	SS-5710	-	Iwatsu	61214036	-
CR Oscillator	SAG-102A	-	Samwoo Elec.	54076	-

## EUT Information

Clock :	12.0 MHz (X101), 16.0 MHz (X107), 16.9344 MHz (X201), 25.0 MHz (X777), 32.768 kHz (X1) 12.0 MHz (X1), 24.576 MHz (X2), 16.384 MHz (X3)
Chipset(s) :	MLC3895144LQFP (IC18), STM8S105K6T6C (IC11), BU9543KV (IC21), ENC28J60T-1 (IC76), LFBGA225 (U1), Apollo 1B/E (U3)
Port(s) :	Audio IN/OUT (4), Phono IN (2), Subwoofer Pre-OUT (1), Network RJ-45 (1), Antenna FM/AM (2), Speaker (2), USB (1), Headphone (1), AUX 2 IN (1)
Power Consumption :	A.C. 120 V/60 Hz 100 W
Type of device	RF Remote Controller
Frequency bands	2412 MHz ~ 2462 MHz
Channels	11 channels
Modulation	802.11b: DSSS 802.11g: OFDM
Data rate	802.11b: 1,2,5.5,11 Mbps 802.11g: 6,9,12,18,24,36,54 Mbps
RF output power	802.11b: 16.85 dBm (48.42 mW) 802.11g: 19.85 dBm (96.61 mW)
Size(with stand)	290 x 115 x 385 mm
Weight	5.6 kg
Antenna type	External dipole antenna (2.0 ± 0.7 dBi)

## 4. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specification:

Name of Test	FCC Paragraph No.	IC Paragraph No.	Result	Remark
Radiated Emission (Spurious)	15.209(a)	RSS-102	Complies	
Modulated Bandwidth (6dB Bandwidth)	15.247(a)(2)	RSS-210 A8.2(1)	Complies	
Peak Power Output	15.247(b)(3)	RSS-210 A8.4(4)	Complies	
Conducted Spurious Emission	15.247(d)	RSS-210 A8.5	Complies	
Radiated Spurious Emission	15.247(d)	RSS-210 A8.5	Complies	
Power Spectral Density	15.247(e)	RSS-210 A8.2	Complies	
Maximum Permissible Exposure	1.1307(b)	RSS-102	Complies	
Conducted Emission	15.107(a)/15.207	-	Complies	
Radiated Emission	15.109(a)/15.209	RSS-Gen/ RSS-210	Complies	
Antenna power conduction	15.111	-	Complies	

## 5. RECOMMENDATION/CONCLUSION

The data collected shows that the

FCC ID : **XEGCR-H500NT**, IC ID: **1559C-CRH500NT**, CD Receiver.

The highest emission observed was at 0.15 MHz for CD play mode of conducted emissions with a Quasi peak margin of 26.9 dB and at 742.57 MHz for radiated emissions others (CD Play) mode with a margin of 1.5 dB and at 761.60 MHz for antenna power conducted emissions with a margin of 27.8 dB.



## 6. SAMPLE CALCULATION

---

$$\text{dB } \mu\text{V} = 20 \log_{10} (\mu\text{V}/\text{m})$$

$$\mu\text{V} = 10^{(\text{dB } \mu\text{V}/20)}$$

### **EX. 1.**

@57.7 MHz

Class B limit = 100  $\mu\text{V}/\text{m}$  = 40.0 dB  $\mu\text{V}/\text{m}$

Reading = 19.1 dB  $\mu\text{V}$  (calibrated level)

Antenna factor + Cable Loss + Amplifier Gain = 10.12 dB

Total = 29.22 dB  $\mu\text{V}/\text{m}$

Margin = 40.0 – 29.22 = 10.78

10.78 dB below the limit

## 7. DESCRIPTION OF TESTS

### 7.1 Conducted Emissions

The Line conducted emission test facility is located inside a 4 X 7 X 2.5 meter shielded enclosure.

It is manufactured by EM engineering. The shielding effectiveness of the shielded room is in Accordance with MIL-STD-285 or NSA 65-6.

A 1mX 1.5M wooden table 0.8m height is placed 0.4m away from the vertical wall and 1.5m away from the side of wall of the shielded room

Rohde & Schwarz LISN and Kyoritsu KNW-407 50ohm/50uH line impedance stabilization Network are bonded to the shielded room.

The EUT is powered from the Rohde & Schwarz LISN and the support equipment is powered from the Kyoritsu LISN. Power to the LISN s are filtered by high-current high insertion loss Power line filters. The purpose of filter is to attenuate ambient signal interference and this filter is also bonded to shielded enclosure. All electrical cables are shielded by tinned copper zipper tubing with inner diameter of 1/2".

If DC power device, power will be derived from the source power supply it normally will be powered from and this supply lines will be connected to the LISNs,

All interconnecting cables more than 1 meter were shortened by non inductive bundling (Serpentine fashion) to a 1 meter length.

Sufficient time for 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 to determine the frequency producing the maximum EME from the EUT. The spectrum was scanned from 150KHz to 30MHz with 200msec sweep time.

The frequency producing the maximum level was re-examined using the EMI test receiver. (Rohde & Schwarz, ESCS30).

The detector function was set to CISPR quasi-peak mode and average mode.

The bandwidth of receiver was set to 9KHz. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each EME emission.

Each emission was maximized by; switching power lines; varying the mode of operation or resolution; clock or data exchange speed; scrolling H pattern to the EUT and of support equipment, and powering the monitor from the floor mounted outlet box and computer aux AC outlet, if applicable; which ever determined the worst case emission.

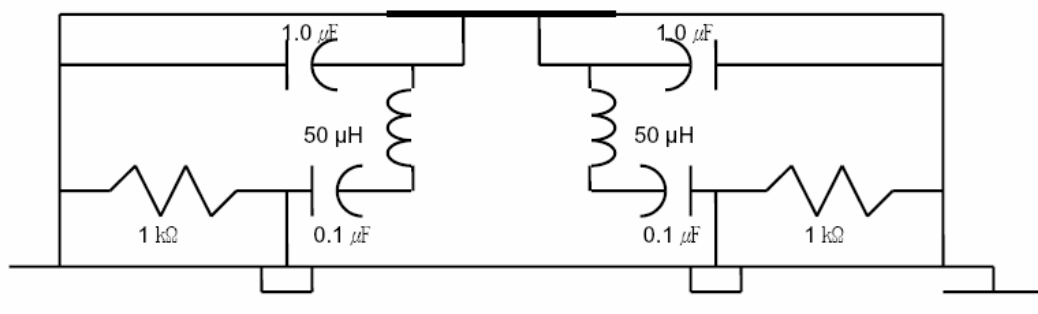


Fig. 2. LISN Schematic Diagram

## 7.2 Radiated Emissions

Preliminary measurement were made indoors at 3 meter using broad band antennas, broadband amplifier, and spectrum analyzer to determine the frequency producing the maximum EME. Appropriate precaution was taken to ensure that all EME from the EUT were maximized and investigated. The Technology configuration, clock speed, mode of operation or video resolution, turntable azimuth with respect to the antenna was note for each frequency found.

The spectrum was scanned from 30 to 1000MHz using Biconical log Antenna (ARA, LPB-2520/A). Above 1GHz, Horn antenna (Schwarzbeck BBHA 9120D: upto 18GHz )was used.

Final Measurements were made outdoors at 3 or 10m test range using Logbicon Super Antenna(Schwarzbeck,VULB9166)or Horn antenna.( Schwarzbeck BBHA9120D: upto18GHz , BBHA9170: Upto40GHz)

The test equipment was placed on a wooden table.

Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition.

Each frequency found during pre-scan measurements was reexamined and investigated using EMI test receiver.(ESCS30 & E4440A)

The detector function was set to CISPR quasi-peak mode or Average mode and the bandwidth of the receiver was set to 120KHz or 1MHz depending on the frequency or type of signal.

The half wave dipole antenna was tuned to the frequency found during preliminary radiated measurements.

The EUT support equipment and interconnecting cables were re configured to the setup producing the maximum emission for the frequency and were placed on top of a 0.8m high non- metallic 1.0X 1.5 meter table.

The EUT, support equipment and interconnecting cables were re-arranged and manipulated to maximize each EME emission.

The turn table containing the Technology was rotated; the antenna height was varied 1 to 4meter and stopped at the azimuth or height producing the maximum emission Each emission was maximized by : switching power lines; varying the mode of operation or resolution; clock or data exchange speed; scrolling H pattern to the EUT and of support equipment, and powering the monitor from the floor mounted outlet box and computer aux AC outlet, if applicable; which ever determined the worst case emission.

Each EME reported was calibrated using the R/S signal generator.

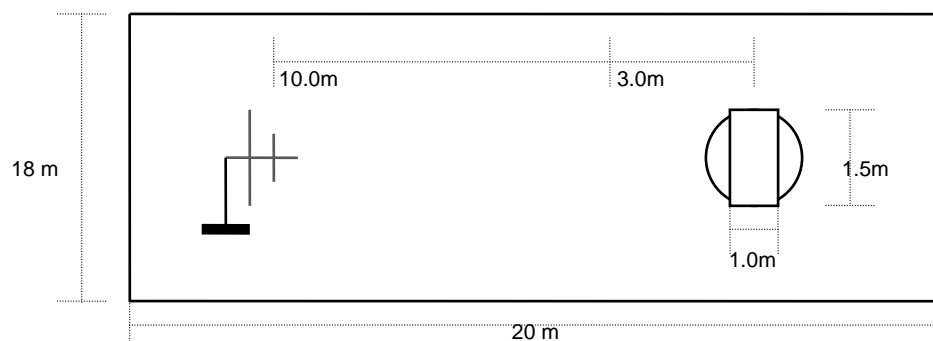
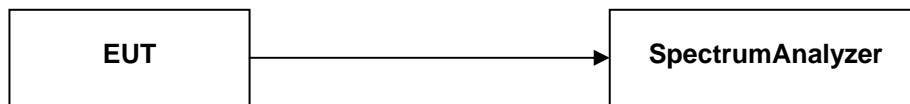


Fig. 3. Dimensions of Outdoor Test Site

### 7.3 Modulated Bandwidth (6dB Bandwidth)

#### Test Setup



#### Test Procedure

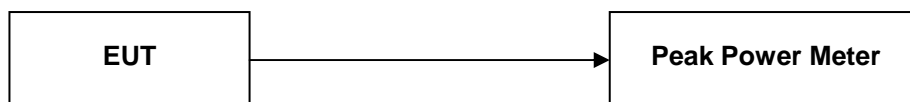
The transmitter is connected to the spectrum analyzer.

The RBW of spectrum analyzer is set to 100KHz and VBW is set to the 300KHz.

The sweep time is coupled.

### 7.4 Peak Power Output

#### Test Setup

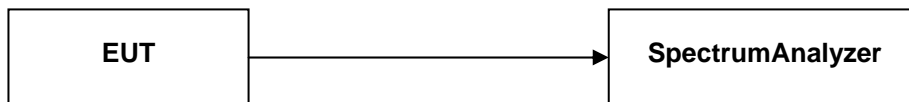


#### Test Procedure

The transmitter is connected to the Peak power meter.

### 7.5 Conducted Spurious Emission

#### Test Setup



#### Test Procedure

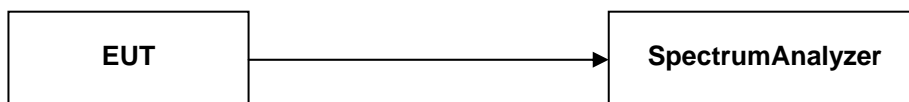
The transmitter is connected to the spectrum analyzer.

The RBW of spectrum analyzer is set to 100KHz and VBW is set to the 300KHz.

Measurements are made over the 30MHz to 26.5GHz range with the transmitter set to the Lowest, Middle, and highest channels within the 2.4GHz band.

### 7.6 Peak Power Spectral Density

#### Test Setup



#### Test Procedure

The transmitter is connected to the Spectrum analyzer.

The maximum level in a 3KHz bandwidth is measured with the spectrum analyzer.

The RBW of spectrum analyzer is set to 3KHz and VBW is set to 10KHz.

The sweep time is set to Span/3KHz and video averaging is turned off.

The PPSD is the highest level found across the emission in any 3KHz band.

## 8. TEST DATA

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### 8.1 Modulated Bandwidth (6dB Bandwidth)

Test Mode : Set to Lowest channel, Middle channel and Highest channel

Result:

#### 802.11b mode

Channel	Frequency(MHz)	Result(KHz)	Limit(KHz)	Margin(KHz)
Low	2412	9778	500	9278
Middle	2437	9756	500	9256
High	2462	9853	500	9353

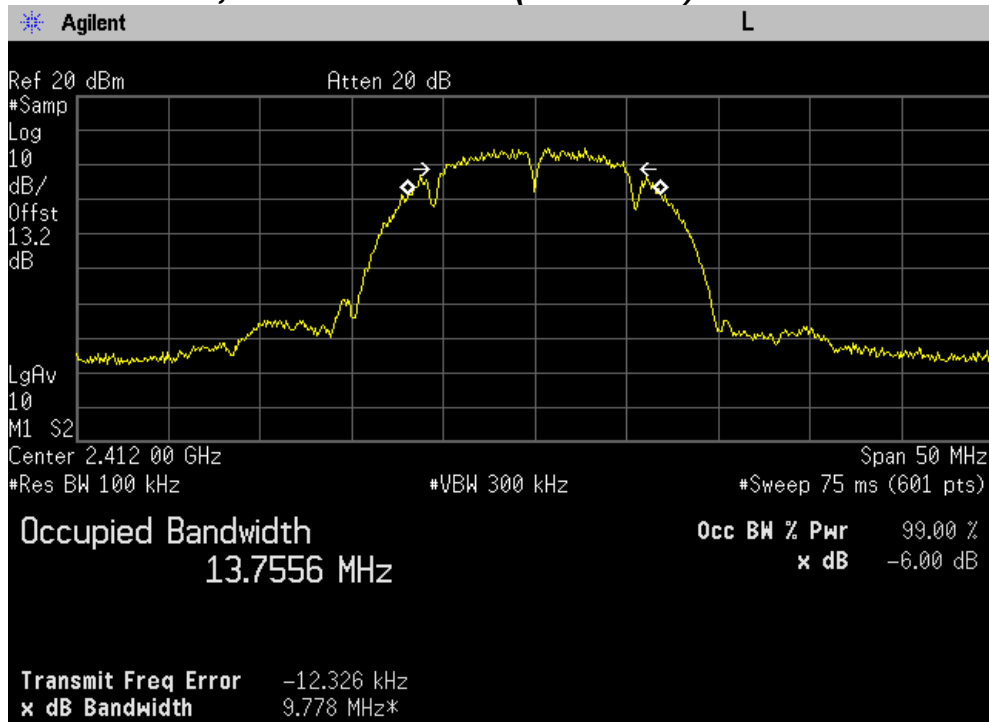
#### 802.11g mode

Channel	Frequency(MHz)	Result(KHz)	Limit(KHz)	Margin(KHz)
Low	2412	16564	500	16064
Middle	2437	16540	500	16040
High	2462	16553	500	16053

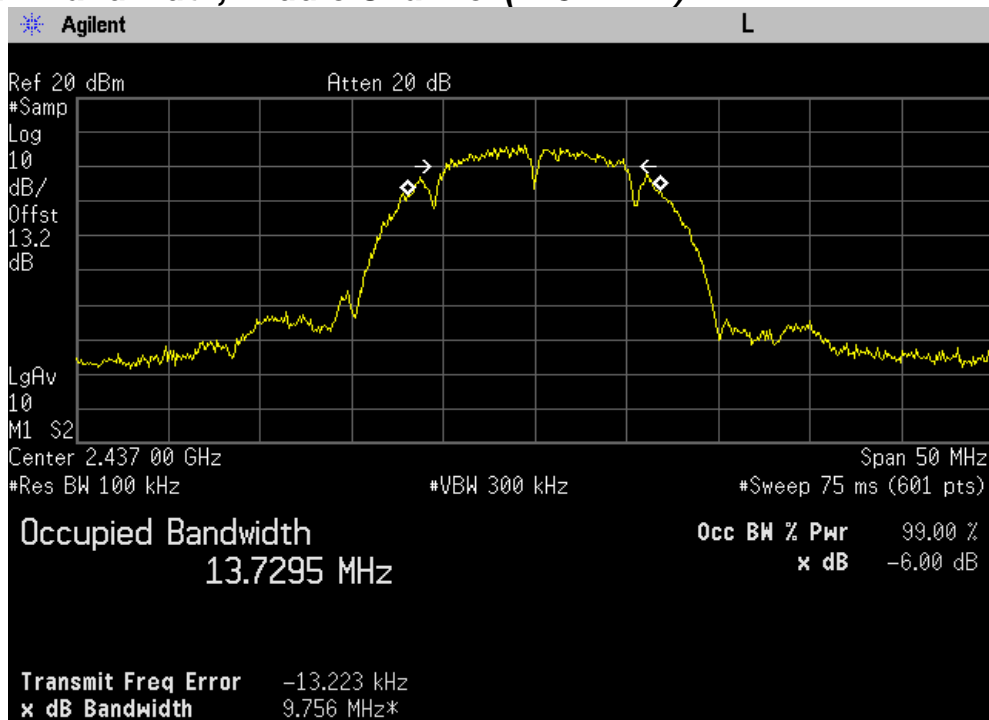
# PLOTS OF EMISSIONS

## 802.11b mode

### 6dB Bandwidth, Lowest Channel (2412 MHz)

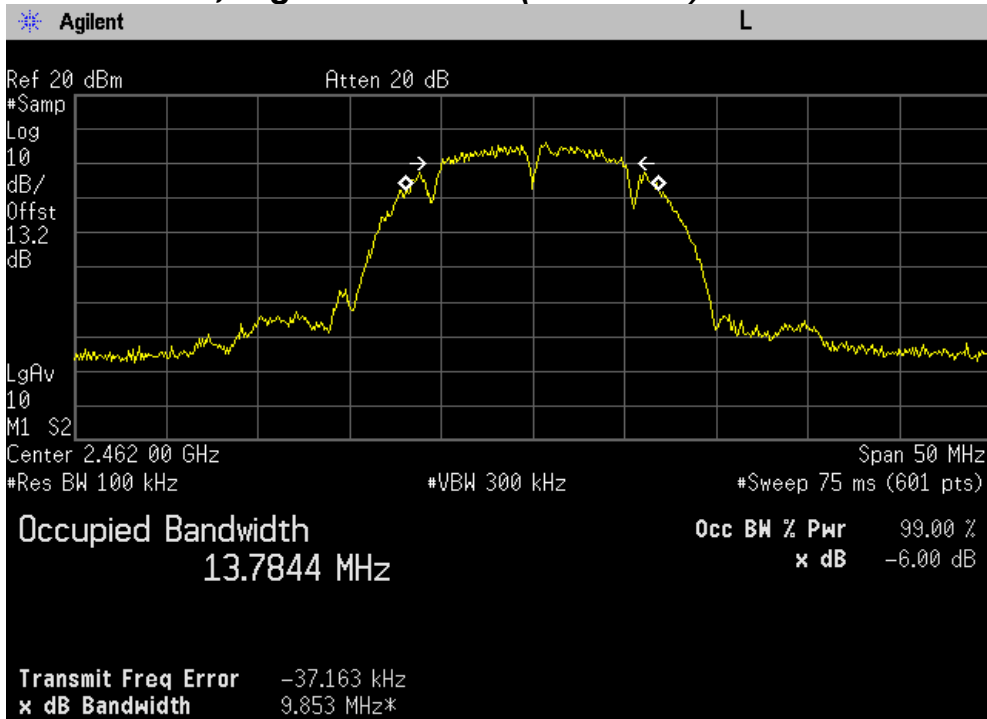


### 6dB Bandwidth, Middle Channel (2437 MHz)



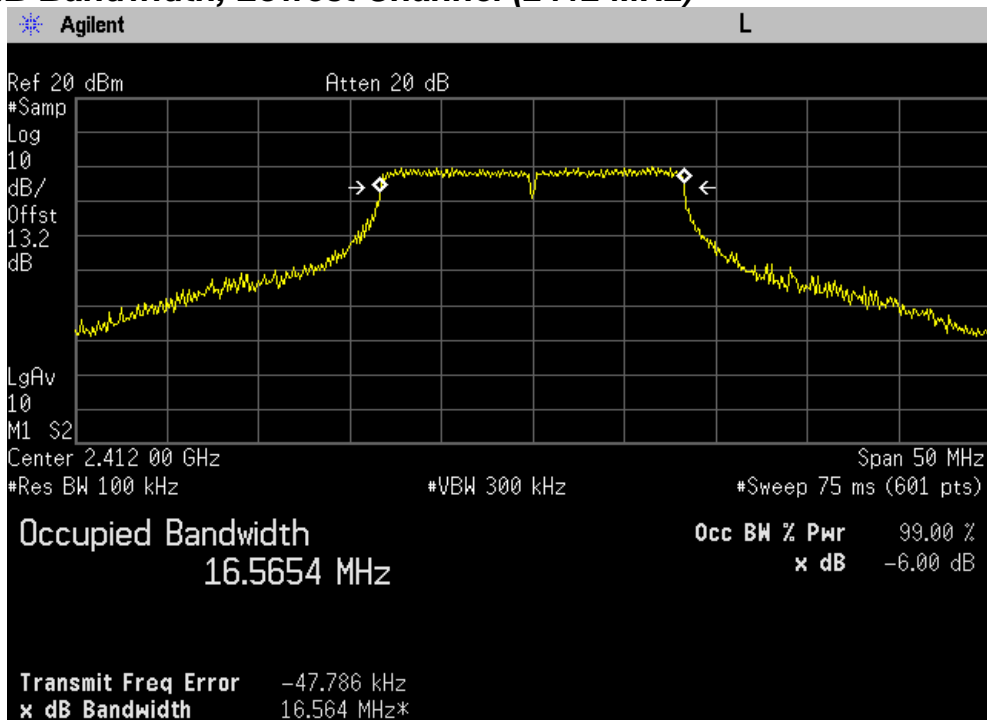
## PLOTS OF EMISSIONS

### 6dB Bandwidth, Highest Channel (2462 MHz)



### 802.11g mode

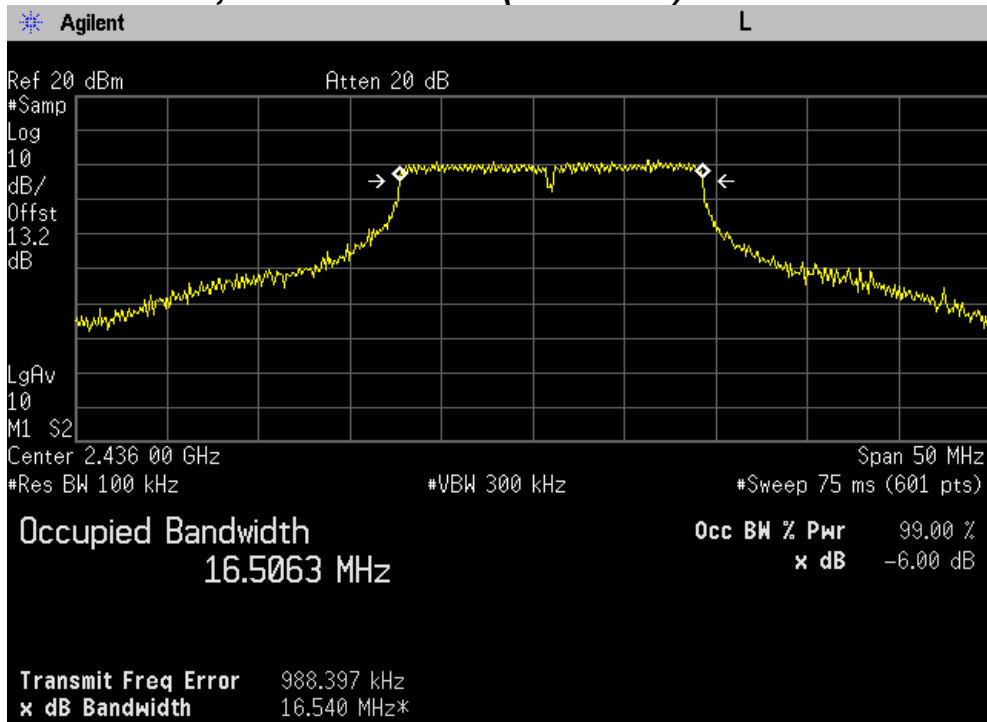
### 6dB Bandwidth, Lowest Channel (2412 MHz)



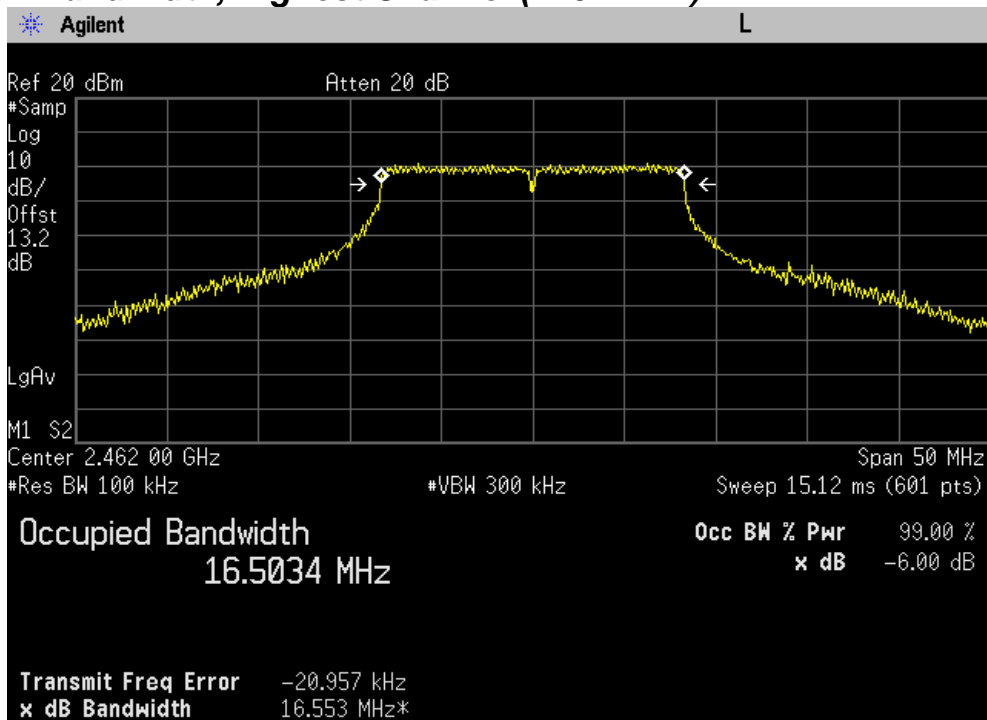


## PLOTS OF EMISSIONS

### 6dB Bandwidth, Middle Channel (2437 MHz)



### 6dB Bandwidth, Highest Channel (2462 MHz)



## TEST DATA

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### 8.2 Peak Power Output

Test Mode : Set to Lowest channel, Middle channel and Highest channel

Result:

#### 802.11b mode

Channel	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dB)
Low	2412	16.59	30	13.41
Middle	2437	16.57	30	13.43
High	2462	16.85	30	13.15

#### 802.11g mode

Channel	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dB)
Low	2412	18.56	30	11.44
Middle	2437	18.54	30	11.46
High	2462	19.85	30	10.15

Antenna Gain : 2 ± 0.7 dBi

## TEST DATA

---

### 8.3 Conducted Spurious Emission

Test Mode : Set to Lowest channel, Middle channel and Highest channel

Result:

#### 802.11b mode

Channel	Frequency(MHz)	Result(dBc)	Limit(dBc)	Margin(dB)
Low	2412	More than 40dBc	20	More than 10dB
Middle	2437	More than 40dBc	20	More than 10dB
High	2462	More than 40dBc	20	More than 10dB

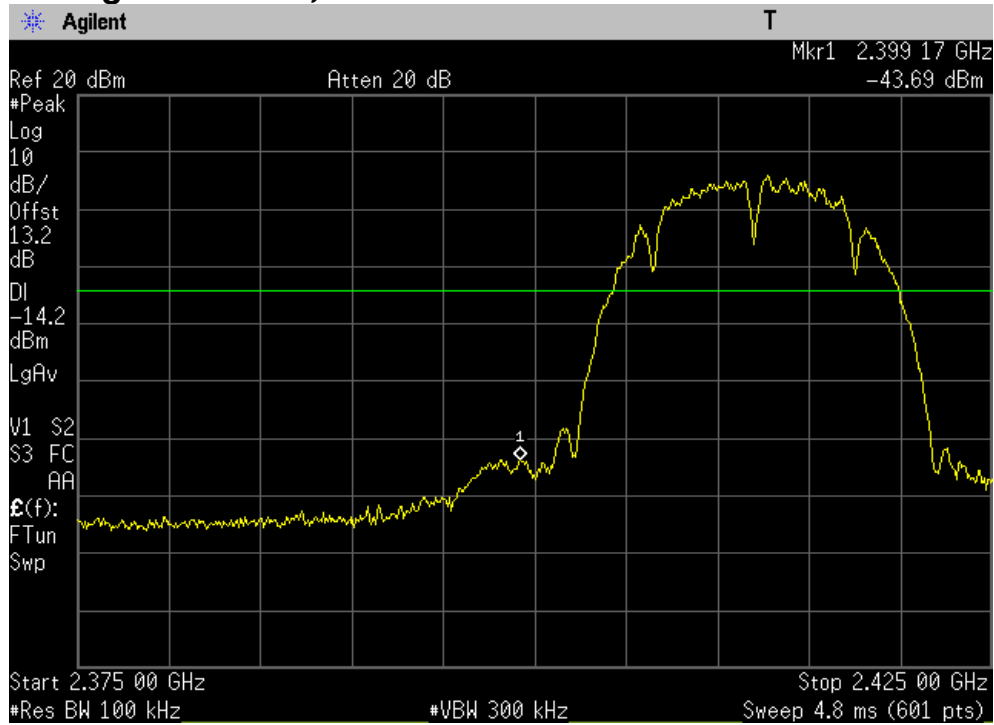
#### 802.11g mode

Channel	Frequency(MHz)	Result(dBc)	Limit(dBc)	Margin(dB)
Low	2412	More than 40dBc	20	More than 10dB
Middle	2437	More than 40dBc	20	More than 10dB
High	2462	More than 40dBc	20	More than 10dB

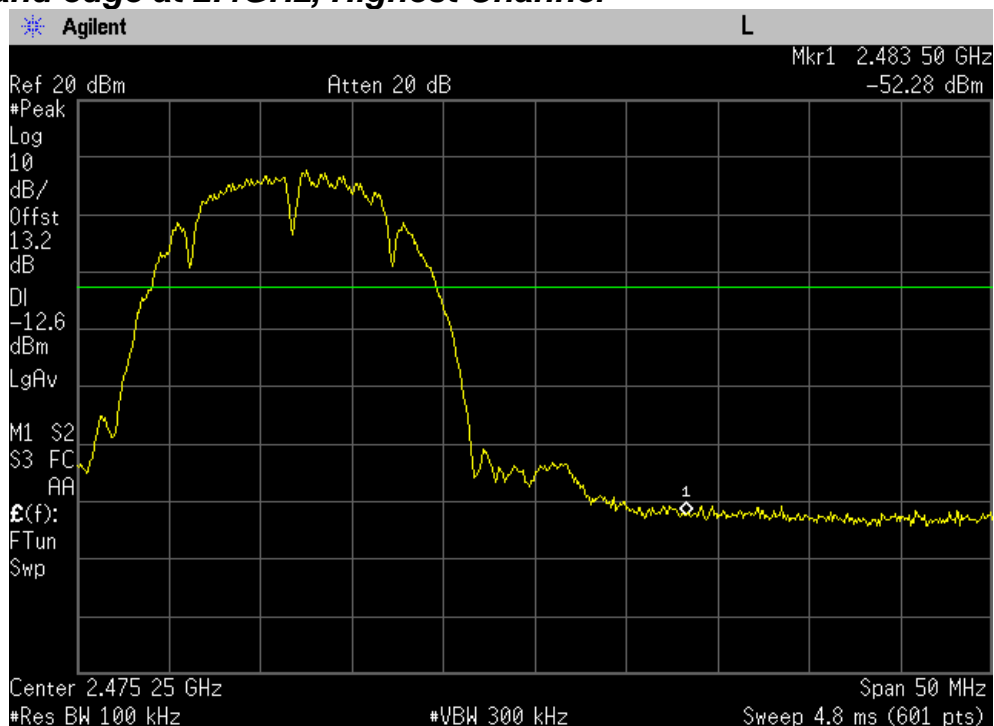
# PLOT OF TEST DATA

## 801.11b mode

### **Band edge at 2.4GHz, Lowest Channel**

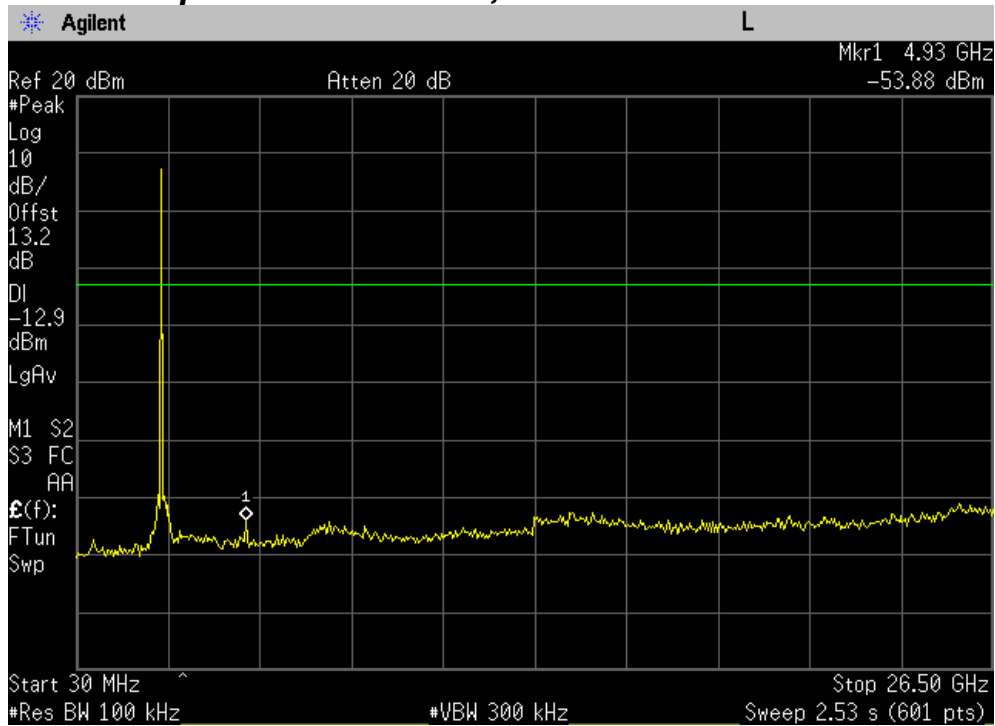


### **Band edge at 2.4GHz, Highest Channel**

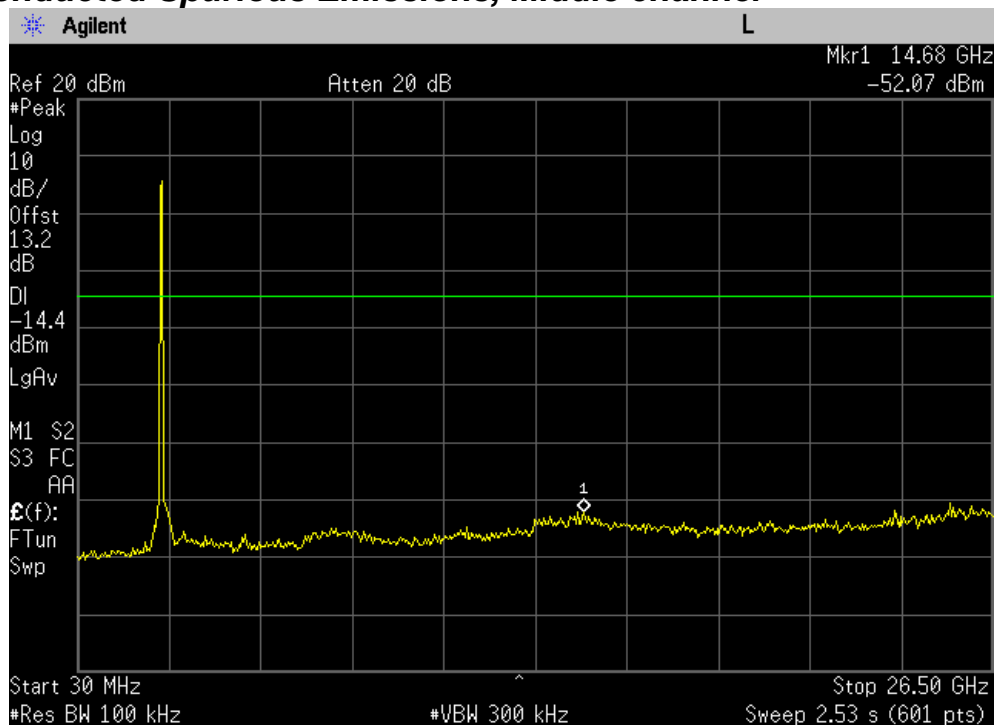


# PLOT OF TEST DATA

## Conducted Spurious Emissions, Lowest Channel

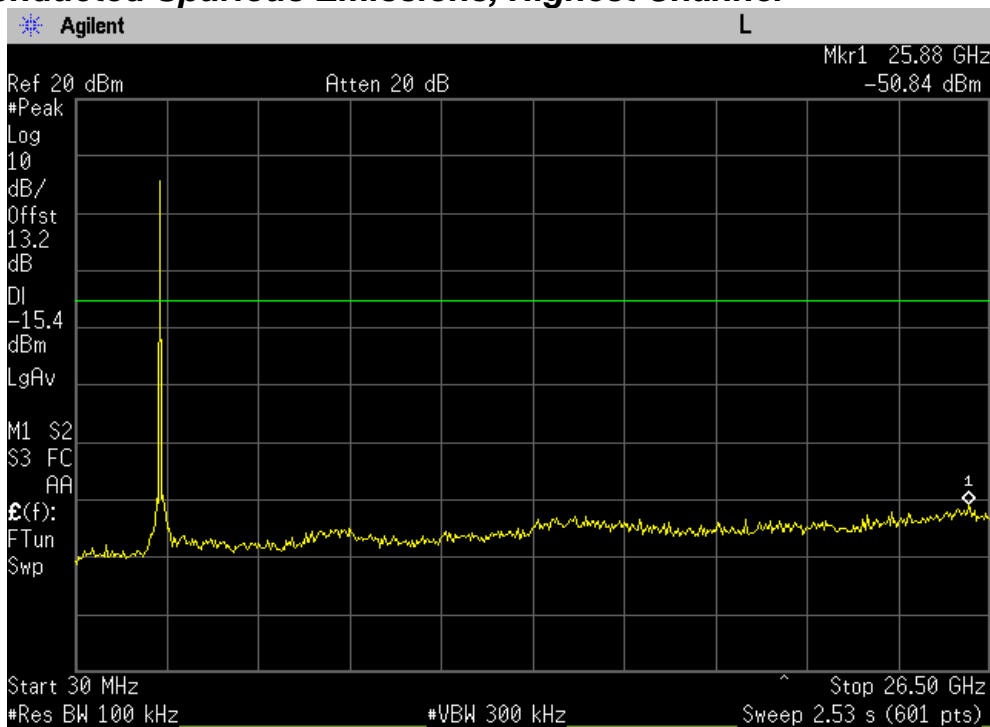


## Conducted Spurious Emissions, Middle channel



# PLOT OF TEST DATA

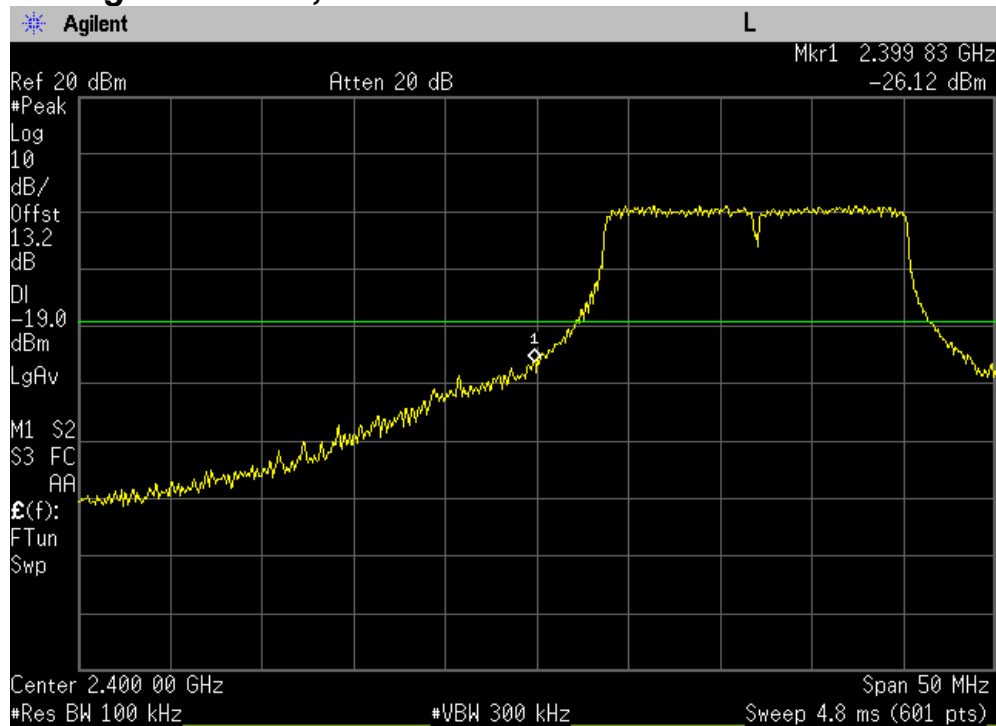
## Conducted Spurious Emissions, Highest Channel



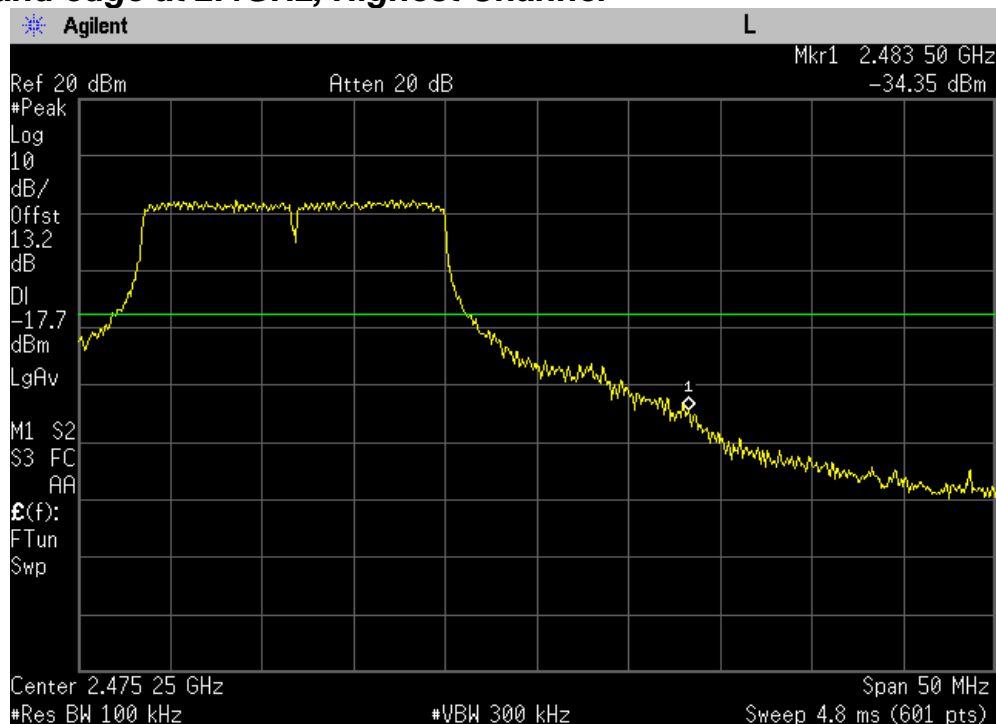
# PLOT OF TEST DATA

## 801.11g mode

### **Band edge at 2.4GHz, Lowest Channel**

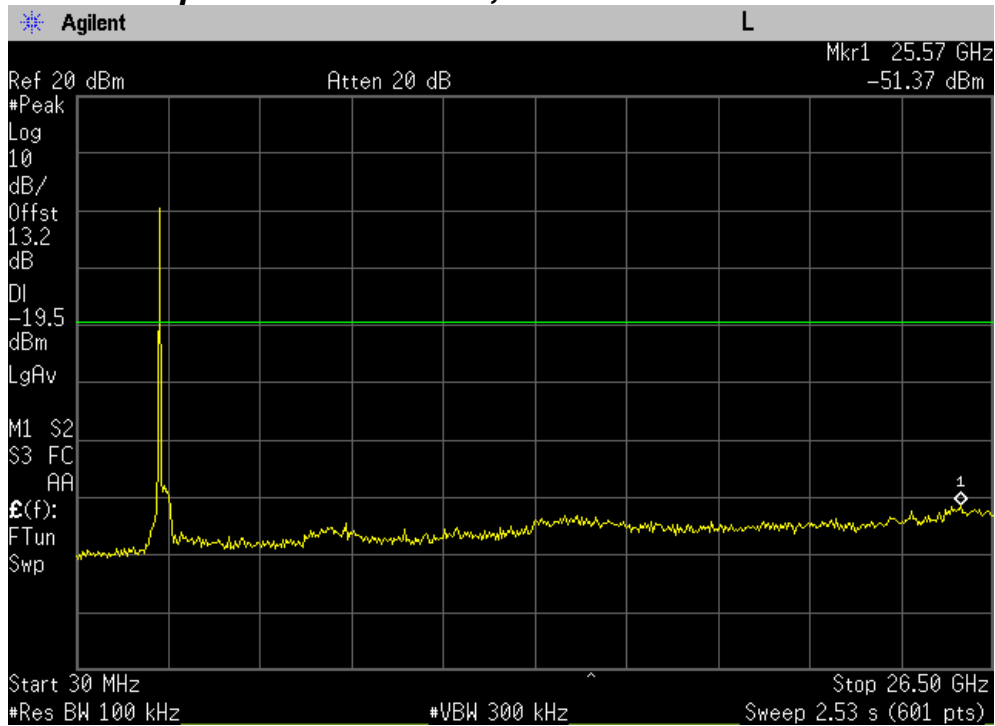


### **Band edge at 2.4GHz, Highest Channel**

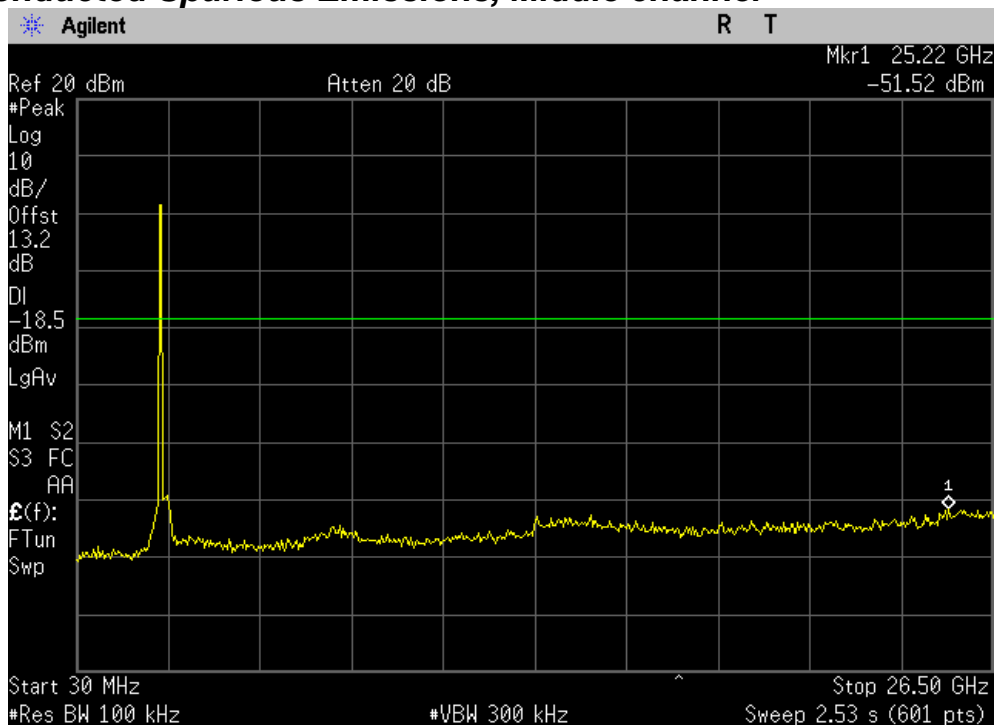


# PLOT OF TEST DATA

## Conducted Spurious Emissions, Lowest Channel



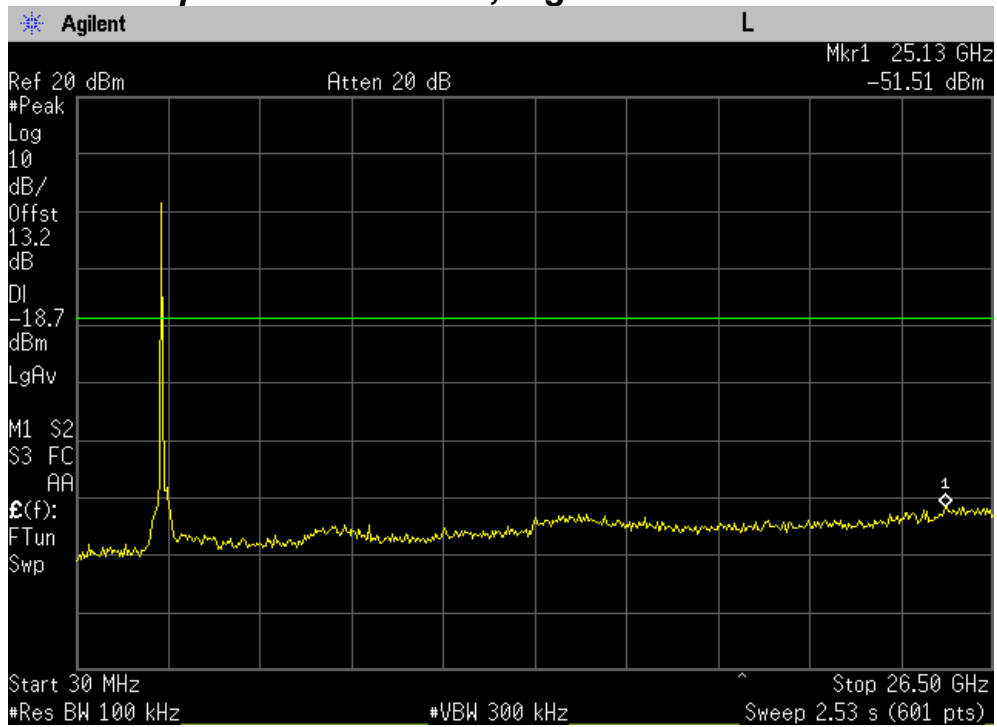
## Conducted Spurious Emissions, Middle channel





# PLOT OF TEST DATA

## Conducted Spurious Emissions, Highest Channel



## TEST DATA

### 8.4 Radiated Spurious Emission

Test Mode : Set to Lowest channel, Middle channel and Highest channel

Result:

#### 802.11b mode

##### The Lowest channel

Frequency (MHz)	Reading (dB $\mu$ V)	Pol* (H/V)	mode	AF+CL+Amp (dB)**	Result (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
2412	105.15	V	peak	-1.45	103.70	-	-
3857	45.89	H	peak	5.42	51.31	74.0	22.69
3857	44.63	H	avg	5.42	50.05	54.0	3.95
4824	31.54	V	peak	4.68	36.22	74.0	37.78

##### The Middle channel

Frequency (MHz)	Reading (dB $\mu$ V)	Pol* (H/V)	mode	AF+CL+Amp (dB)**	Result (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
2436	104.17	V	peak	-1.47	102.70	-	-
3857	45.44	H	peak	5.42	50.86	74.0	23.14
3857	44.12	H	avg	5.42	49.54	54.0	4.46
4874	31.86	V	peak	4.92	36.78	74.0	37.22

##### The Highest channel

Frequency (MHz)	Reading (dB $\mu$ V)	Pol* (H/V)	mode	AF+CL+Amp (dB)**	Result (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
2462	103.79	V	peak	-1.36	102.43	-	-
3857	45.81	H	peak	5.42	51.23	74.0	22.77
3857	45.08	H	avg	5.42	50.50	54.0	3.50
4924	31.96	V	peak	5.15	37.11	54.0	16.89

## TEST DATA

### 802.11g mode

#### The Lowest channel

Frequency (MHz)	Reading (dB $\mu$ N)	Pol* (H/V)	mode	AF+CL+Amp (dB)**	Result (dB $\mu$ N /m)	Limit (dB $\mu$ N /m)	Margin (dB)
2412	101.41	V	peak	-1.45	99.96	-	-
2390	69.57	V	peak	-1.29	68.28	74.0	5.72
2390	44.81	V	avg	-1.29	49.66	54.0	4.34
3857	45.78	H	peak	5.42	51.20	74.0	22.80
3857	44.81	H	avg	5.42	50.23	54.0	3.77
4824	31.67	V	peak	4.68	36.35	74.0	37.65

#### The Middle channel

Frequency (MHz)	Reading (dB $\mu$ N)	Pol* (H/V)	mode	AF+CL+Amp (dB)**	Result (dB $\mu$ N /m)	Limit (dB $\mu$ N /m)	Margin (dB)
2436	100.42	V	peak	-1.47	98.95	-	-
3857	45.33	H	peak	5.42	50.75	74.0	23.25
3857	44.10	H	avg	5.42	49.52	54.0	4.48
4874	31.43	V	peak	4.92	36.35	74.0	37.65

## TEST DATA

### The Highest channel

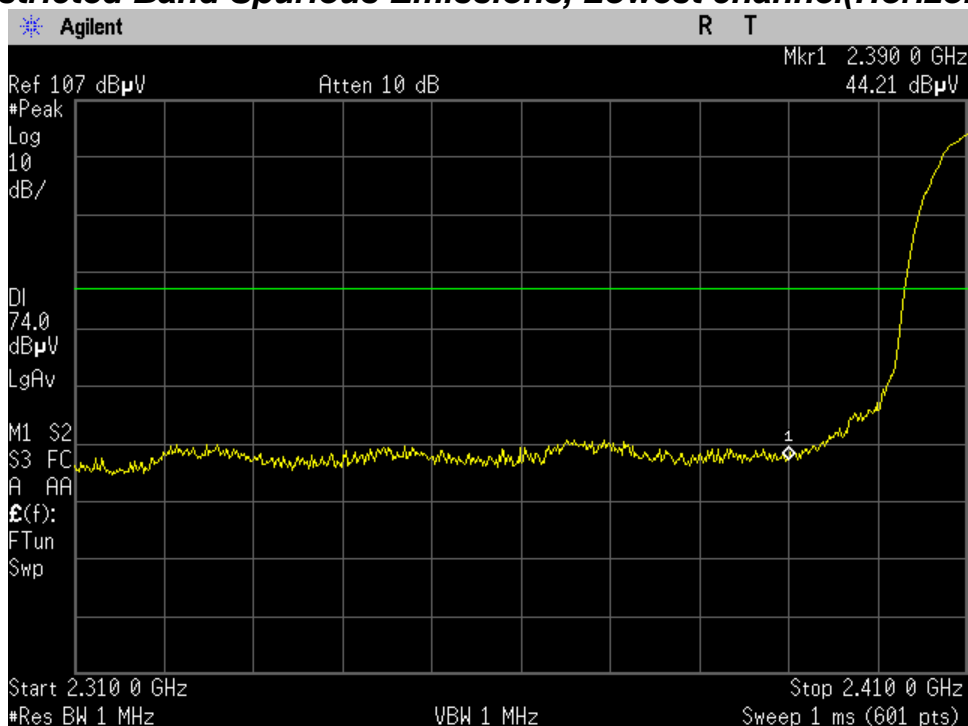
Frequency (MHz)	Reading (dB $\mu$ V)	Pol* (H/V)	mode	AF+CL+Amp (dB)**	Result (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
2462	102.03	V	peak	-1.36	100.67	-	-
2483.5	72.03	H	peak	-1.26	70.77	74.0	3.23
2483.5	53.30	H	avg	-1.26	52.04	55.0	2.96
3857	46.55	H	peak	5.42	51.97	74.0	22.03
3857	45.28	H	avg	5.42	50.70	55.0	4.30
4924	32.67	V	peak	5.15	37.82	54.0	16.18

1. \*Pol. H=Horizontal V=Vertical
2. \*\*AF+CL+Amp. = Antenna Factor + Cable Loss + Amplifier.
3. All measurements were made at 3 meters and other spurious not recorded in this report were under 20 dB below fundamental.
4. For measurements the resolution bandwidth was set to 1 MHz, and then the video bandwidth was set to 1 MHz for peak measurements and 10 Hz for average measurements
5. Emission within the restricted band comply with requirement of section 15.205. The corresponding limit as pwer 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 comply with 20 dB permitted peak limit with a peak detector function.
6. The spurious emission was measured on frequency range from 30 MHz to 10<sup>th</sup> harmonics.

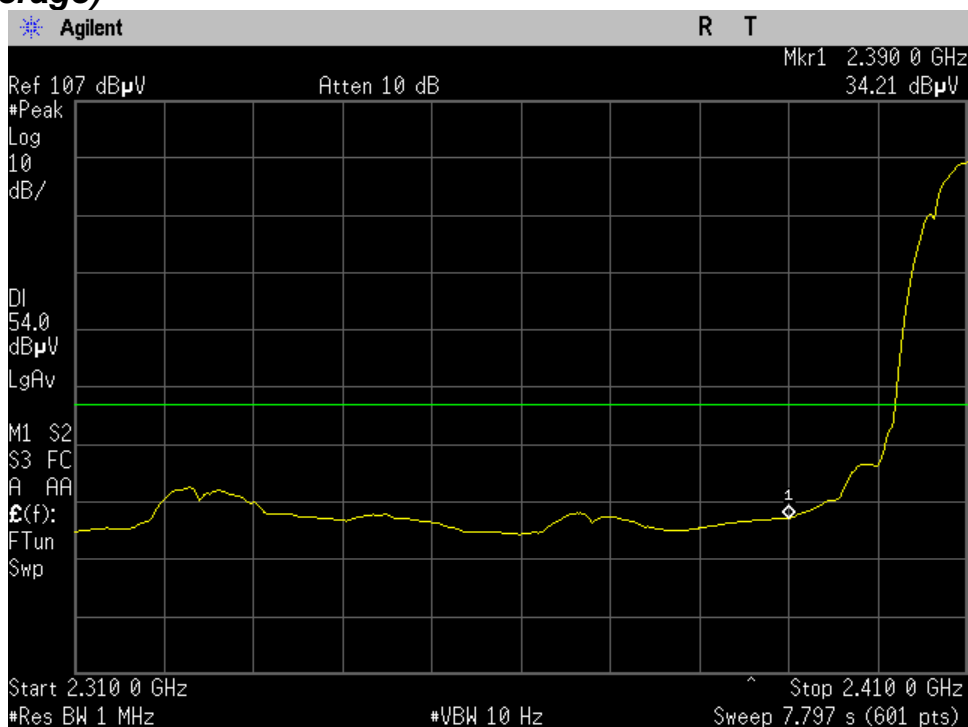
## PLOT OF TEST DATA

### 802.11b mode

#### Restricted Band Spurious Emissions, Lowest channel(Horizontal, Peak)

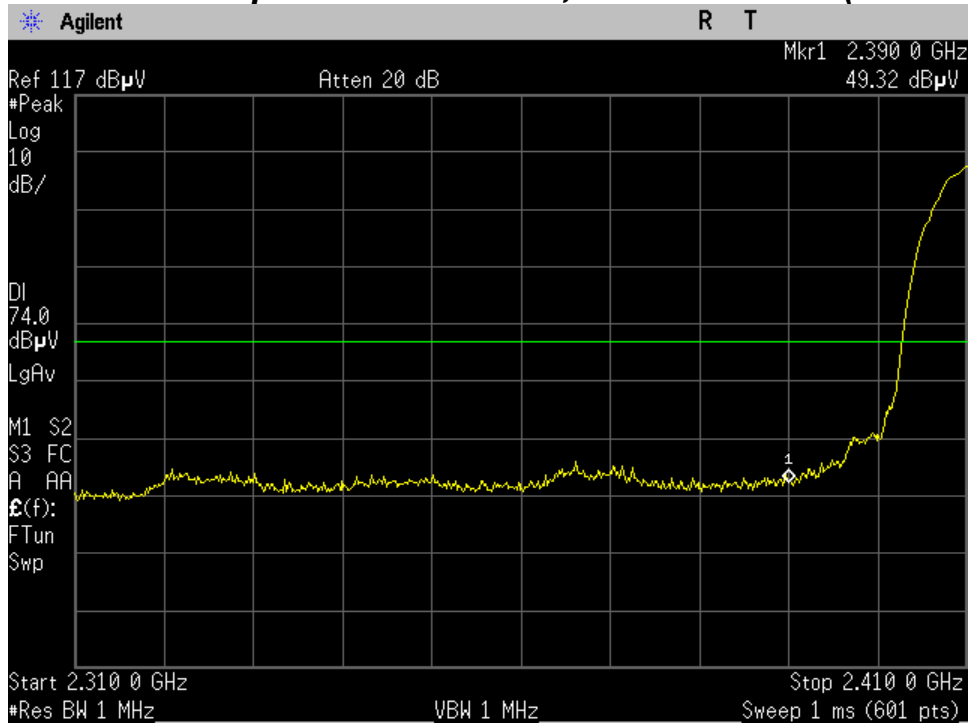


#### Restricted Band Spurious Emissions, Lowest channel(Horizontal, Average)

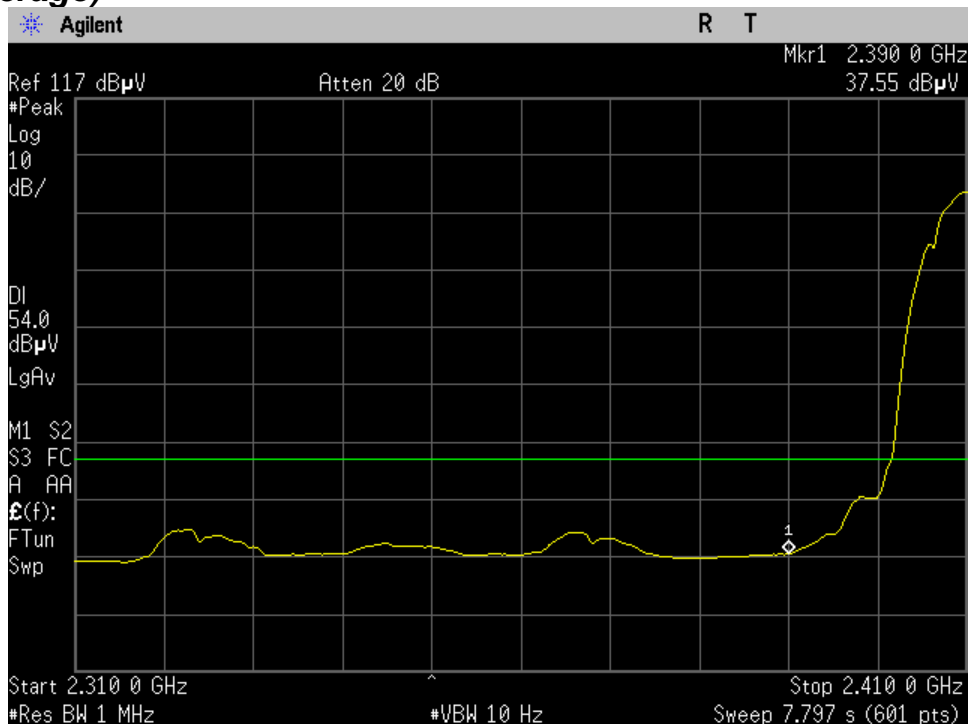


## PLOT OF TEST DATA

### Restricted Band Spurious Emissions, Lowest channel(Vertical, Peak)

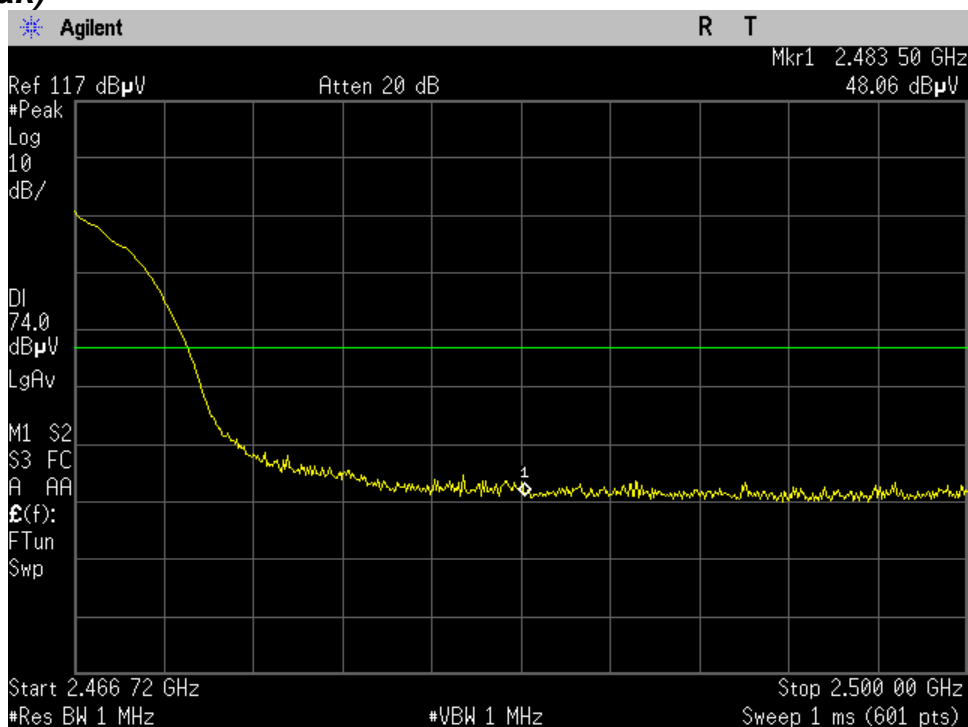


### Restricted Band Spurious Emissions, Lowest channel(Vertical, Average)

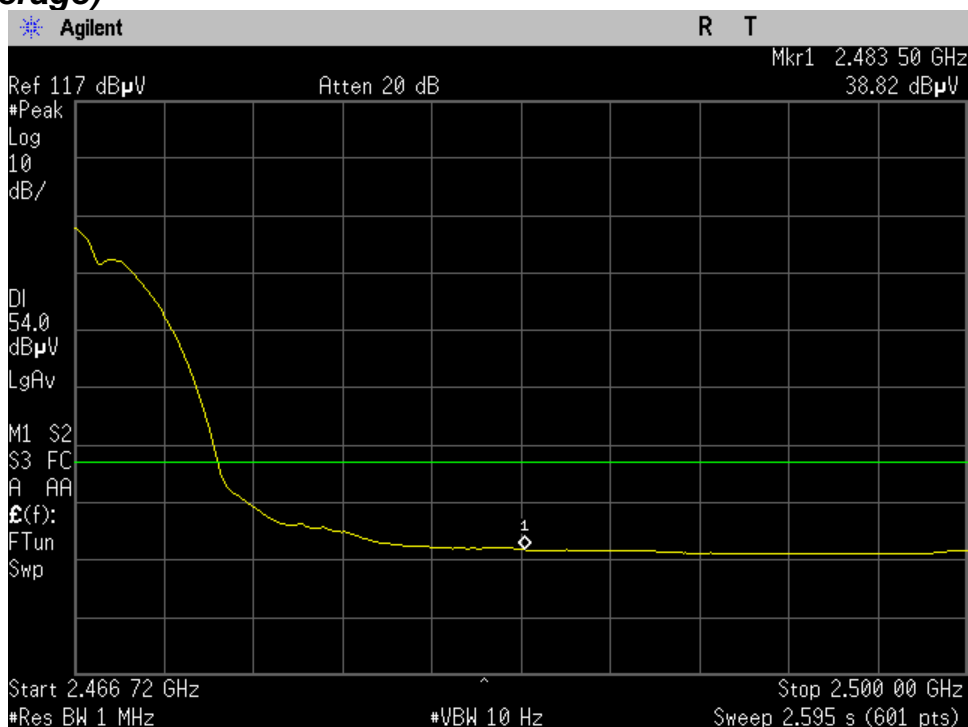


## PLOT OF TEST DATA

### Restricted Band Spurious Emissions, Highest channel(Horizontal, Peak)

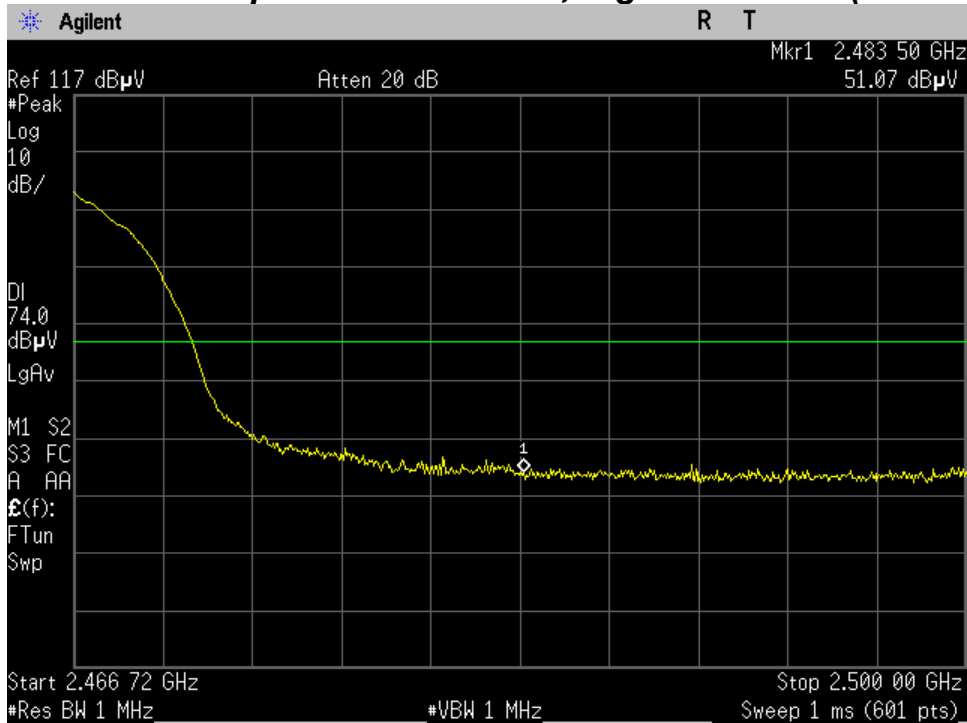


### Restricted Band Spurious Emissions, Highest channel(Horizontal, Average)

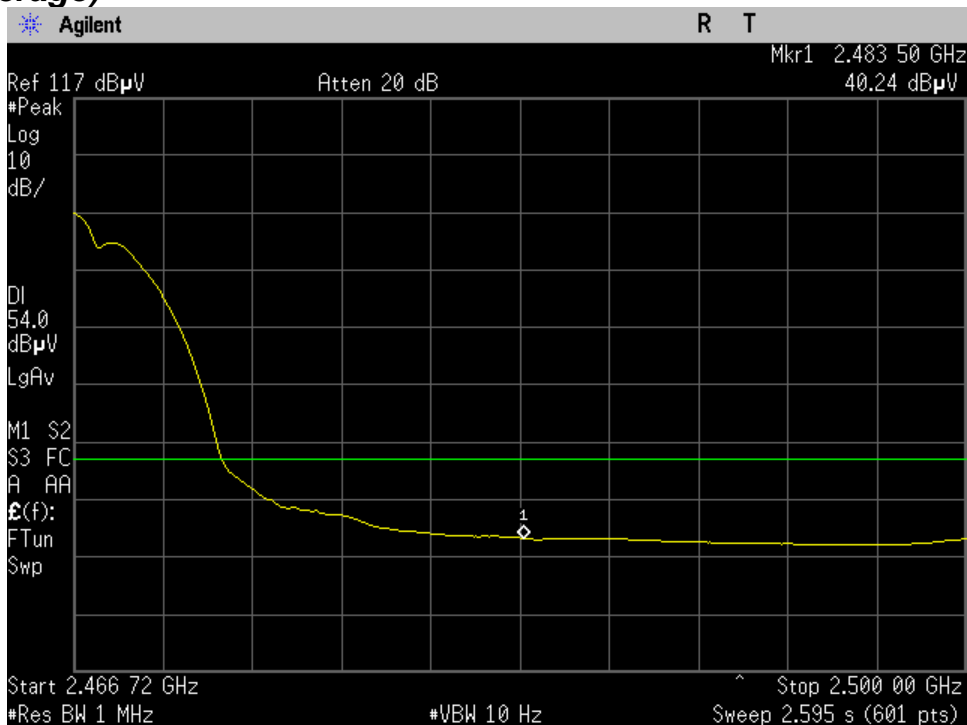


## PLOT OF TEST DATA

### Restricted Band Spurious Emissions, Highest channel(Vertical, Peak)



### Restricted Band Spurious Emissions, Highest channel(Vertical, Average)

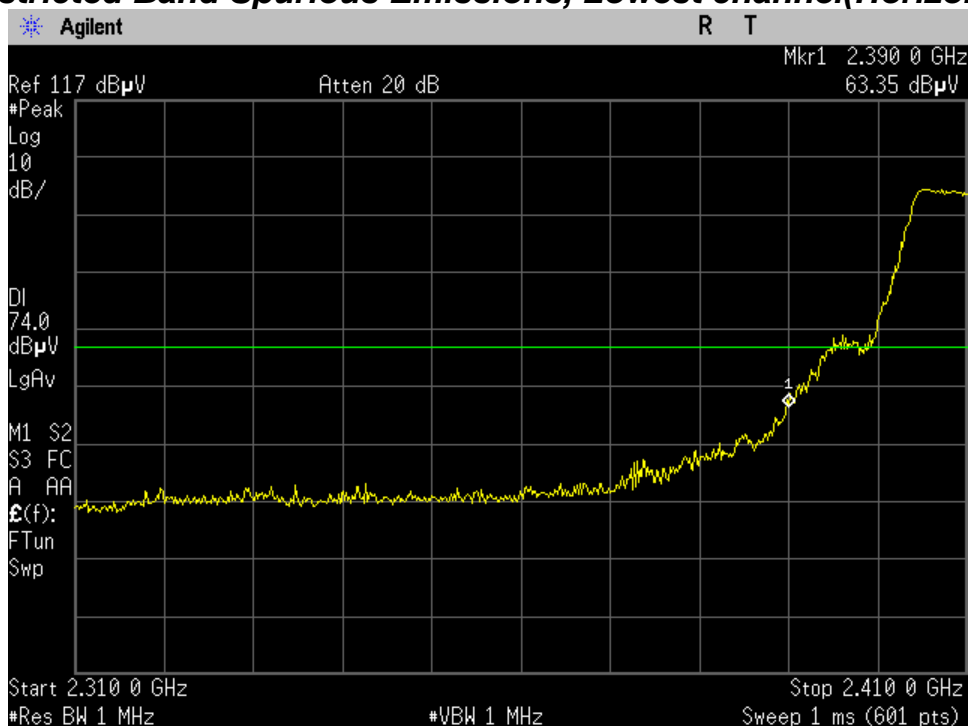




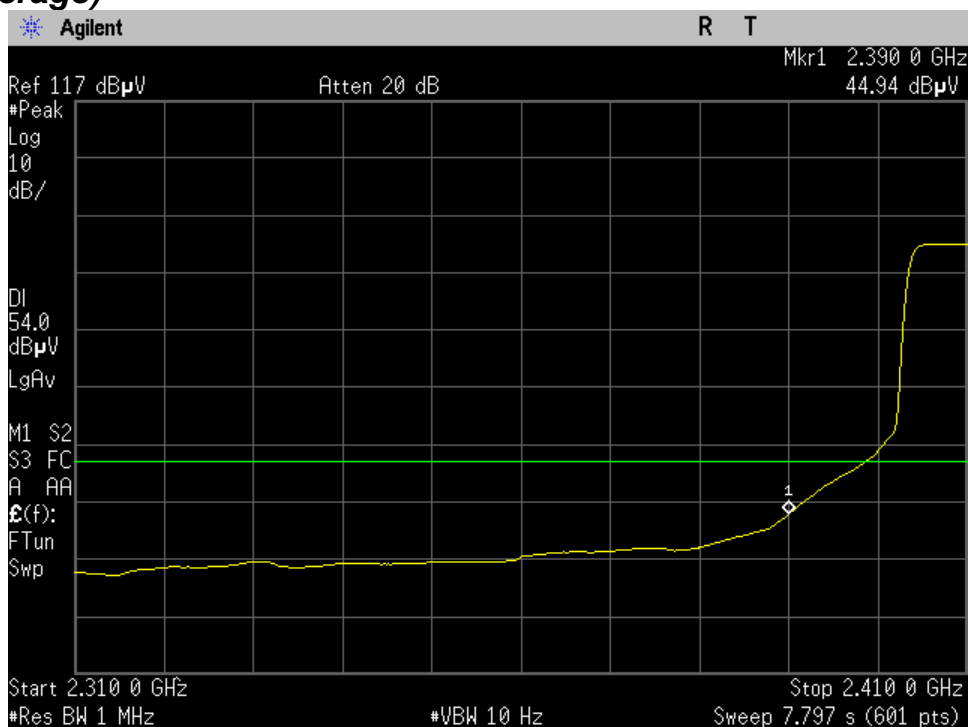
## PLOT OF TEST DATA

### 802.11g mode

#### Restricted Band Spurious Emissions, Lowest channel(Horizontal, Peak)

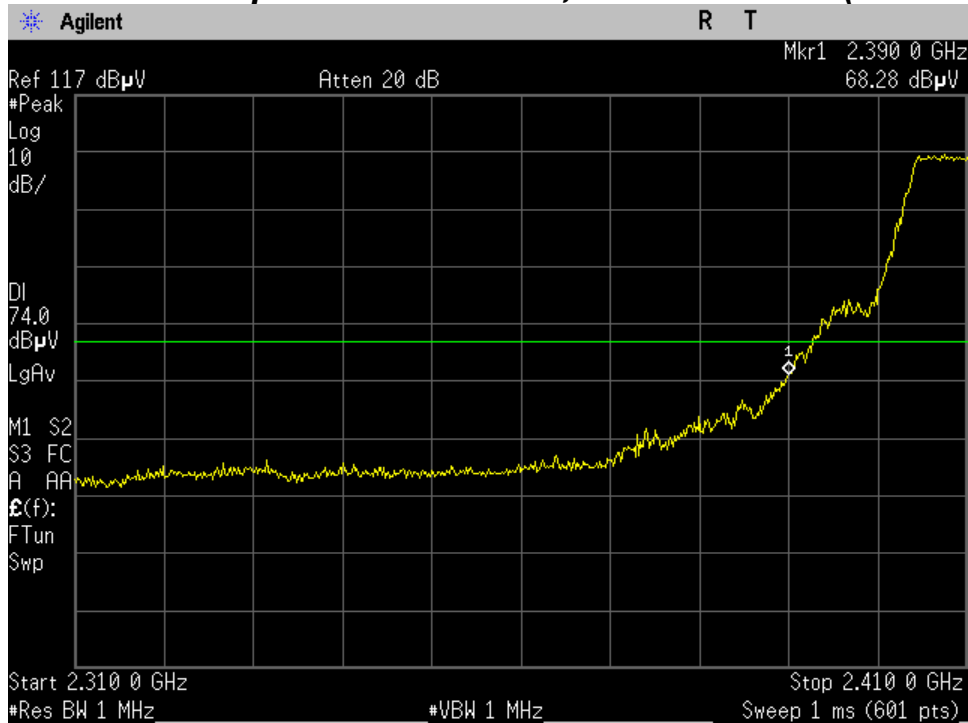


#### Restricted Band Spurious Emissions, Lowest channel(Horizontal, Average)

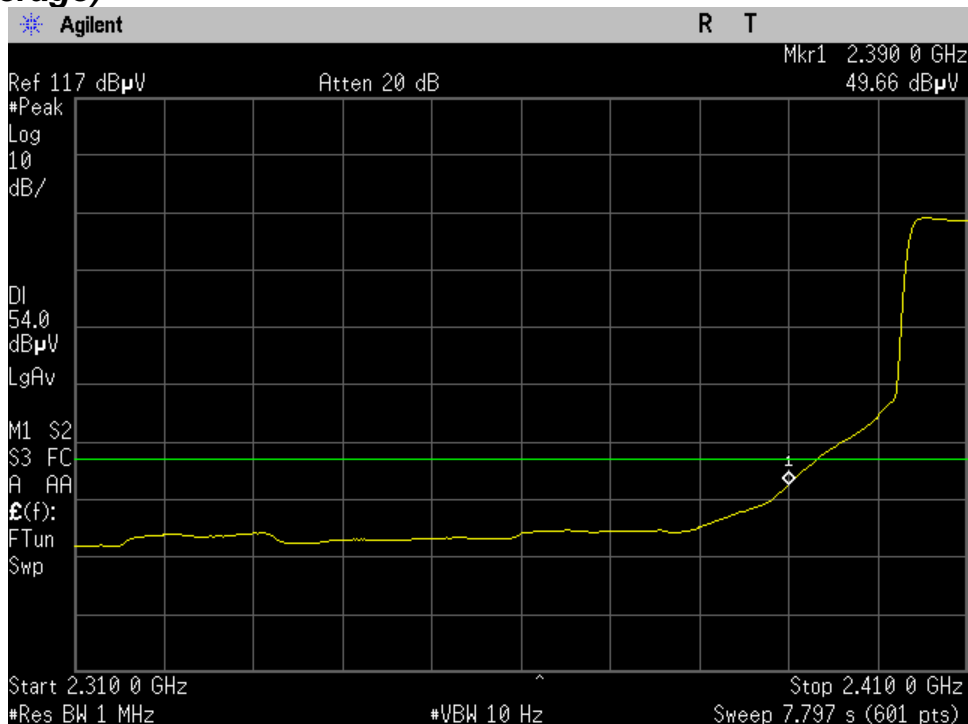


## PLOT OF TEST DATA

### Restricted Band Spurious Emissions, Lowest channel(Vertical, Peak)

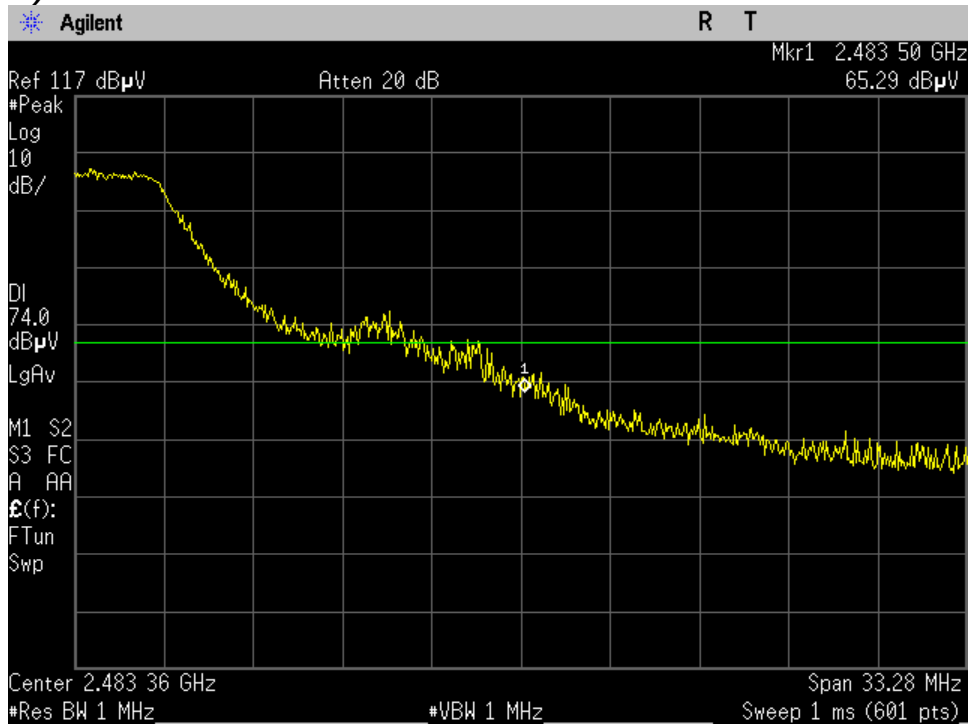


### Restricted Band Spurious Emissions, Lowest channel(Vertical, Average)

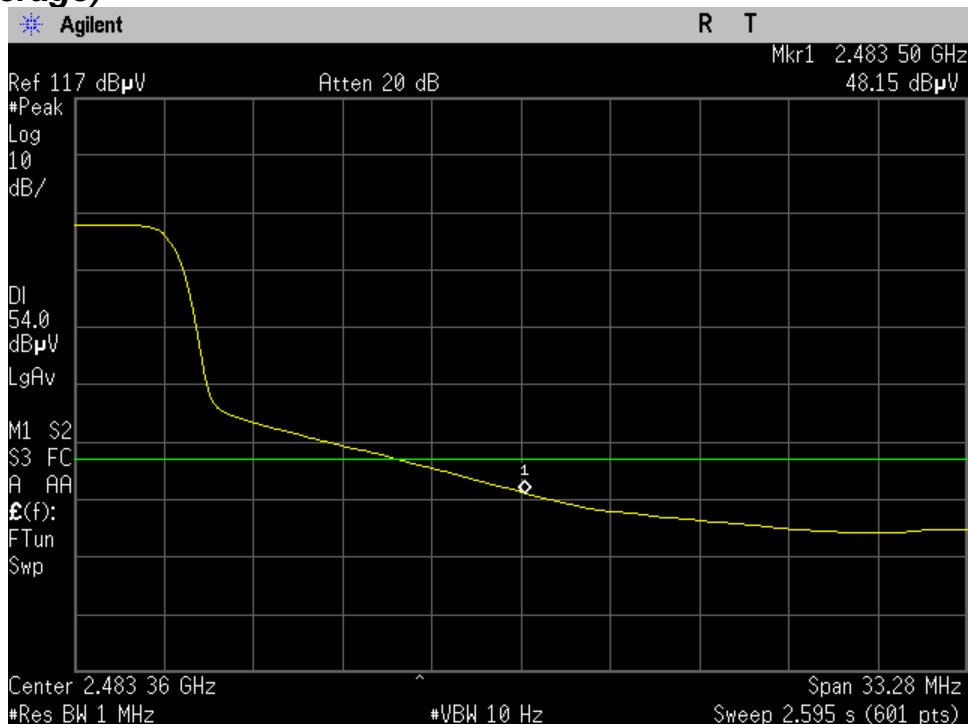


## PLOT OF TEST DATA

### Restricted Band Spurious Emissions, Highest channel(Horizontal, Peak)

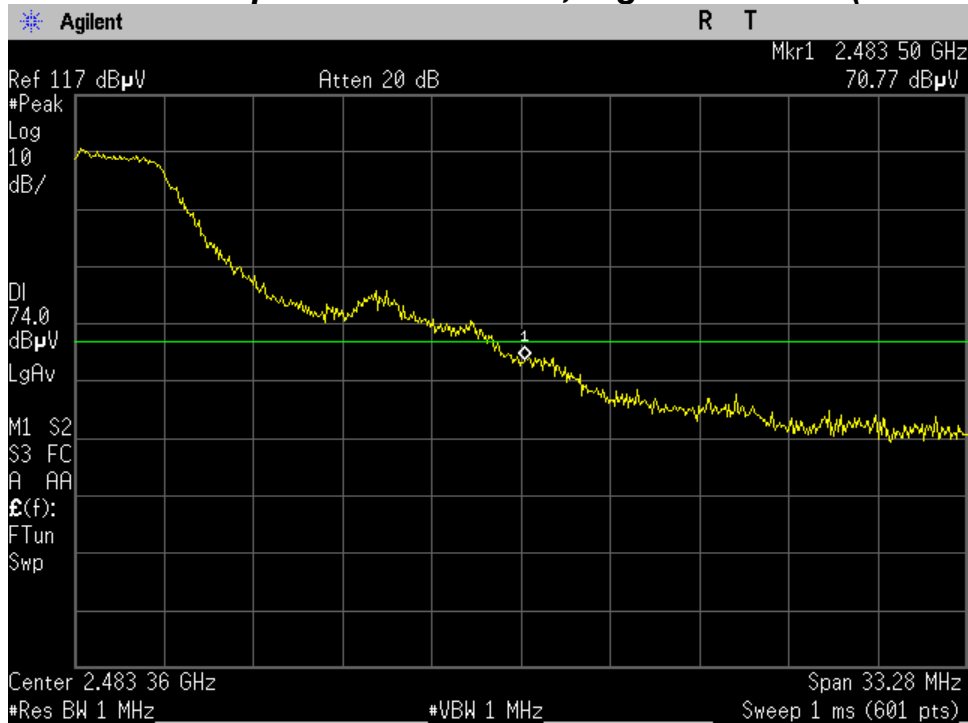


### Restricted Band Spurious Emissions, Highest channel(Horizontal, Average)

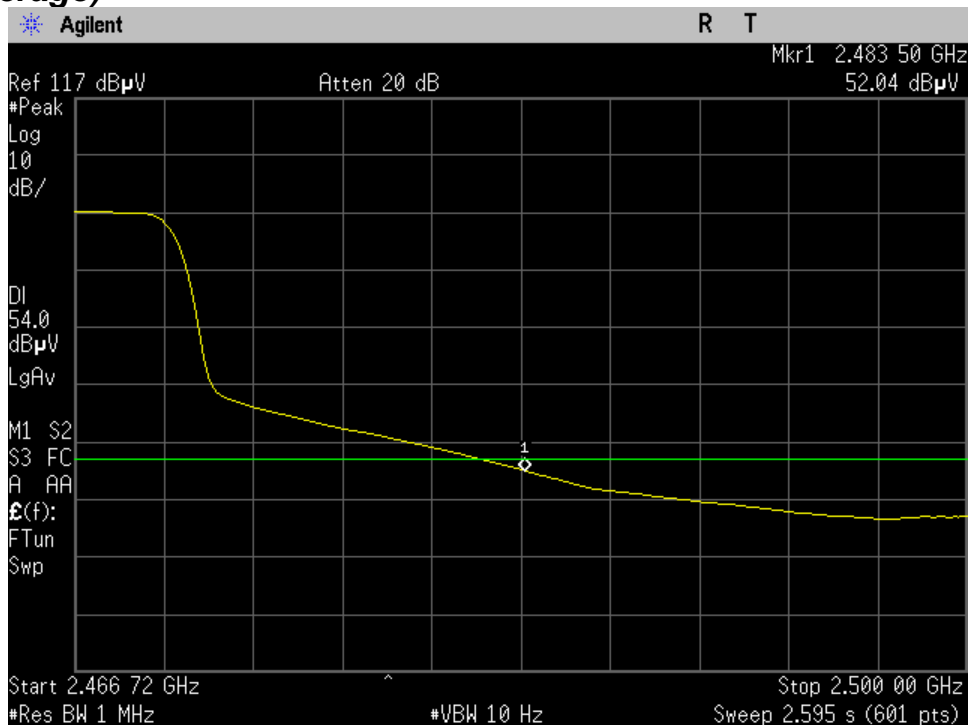


## PLOT OF TEST DATA

### Restricted Band Spurious Emissions, Highest channel(Vertical, Peak)



### Restricted Band Spurious Emissions, Highest channel(Vertical, Average)



## TEST DATA

---

### 8.5 Peak Power Spectral Density

Test Mode : Set to Lowest channel, Middle channel and Highest channel.

Result:

#### 802.11b mode

Channel	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dB)
Low	2412	-8.78	8	16.78
Middle	2437	-8.18	8	16.18
High	2462	-7.30	8	15.30

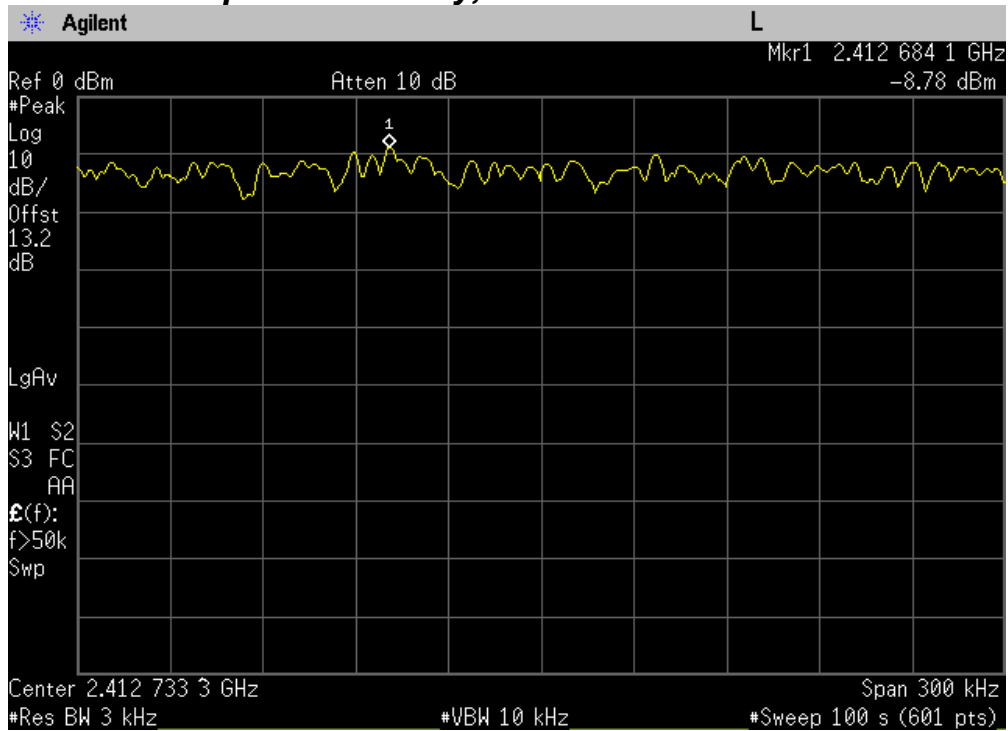
#### 802.11g mode

Channel	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dB)
Low	2412	-13.12	8	21.12
Middle	2437	-13.60	8	21.60
High	2462	-13.96	8	21.96

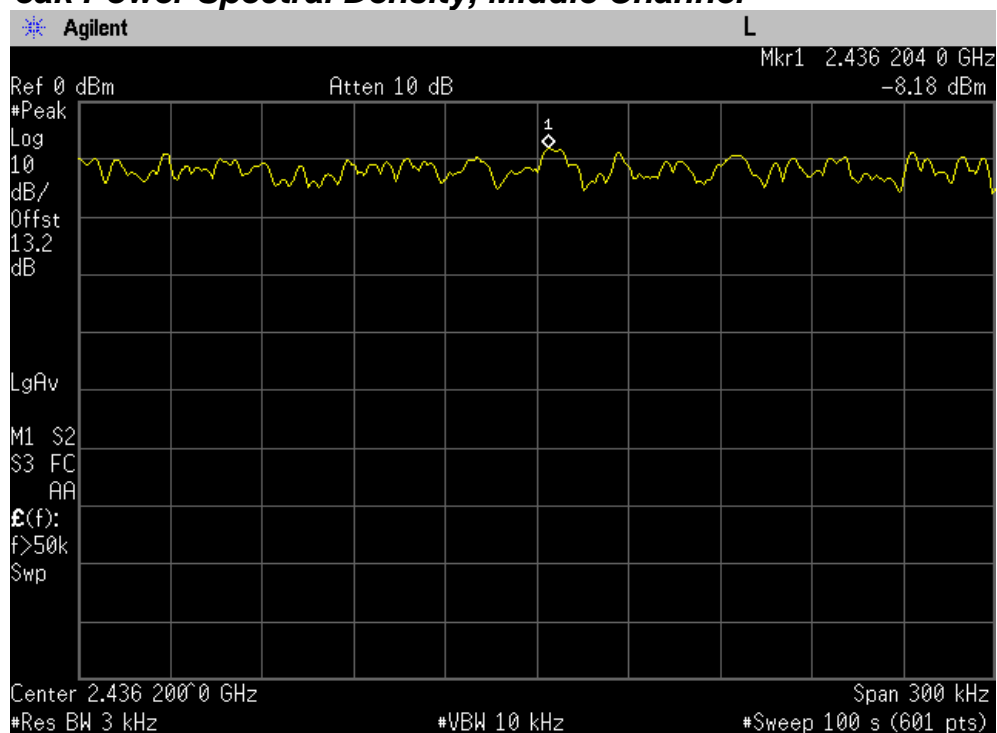
# PLOT OF TEST DATA

## 802.11b mode

### Peak Power Spectral Density, Lowest Channel

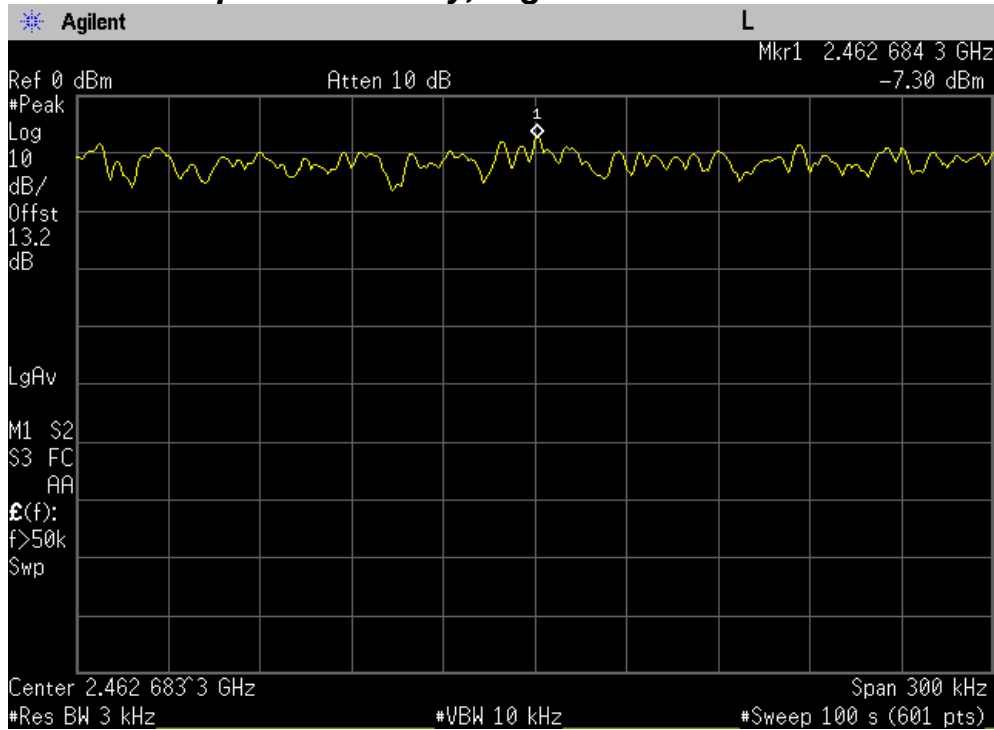


### Peak Power Spectral Density, Middle Channel



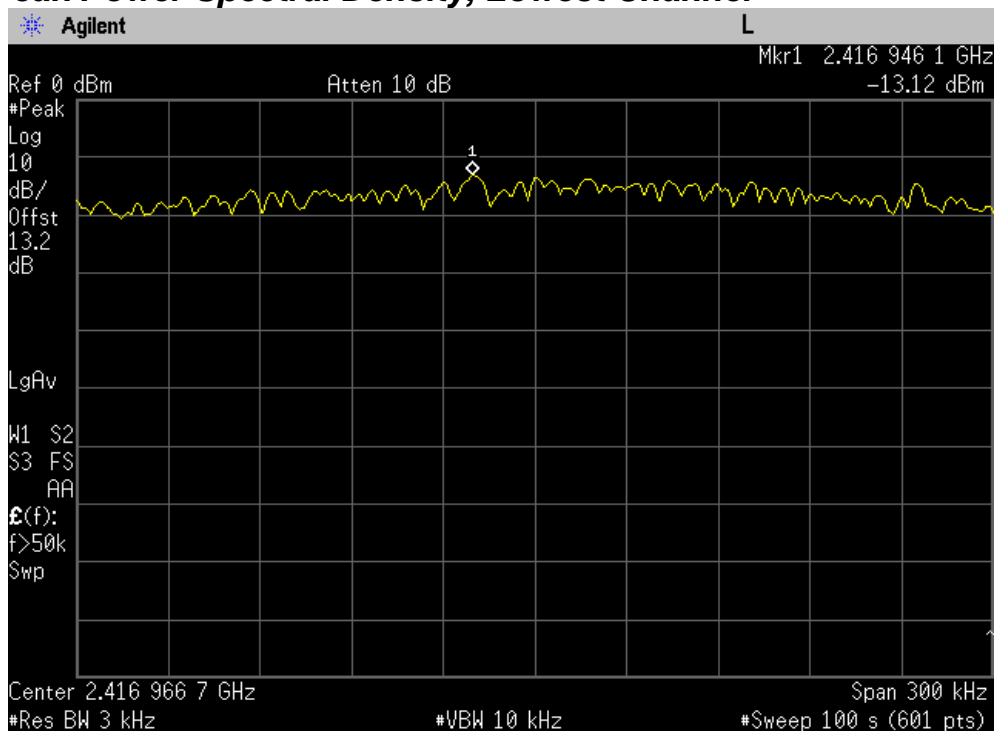
## PLOT OF TEST DATA

### Peak Power Spectral Density, Highest Channel



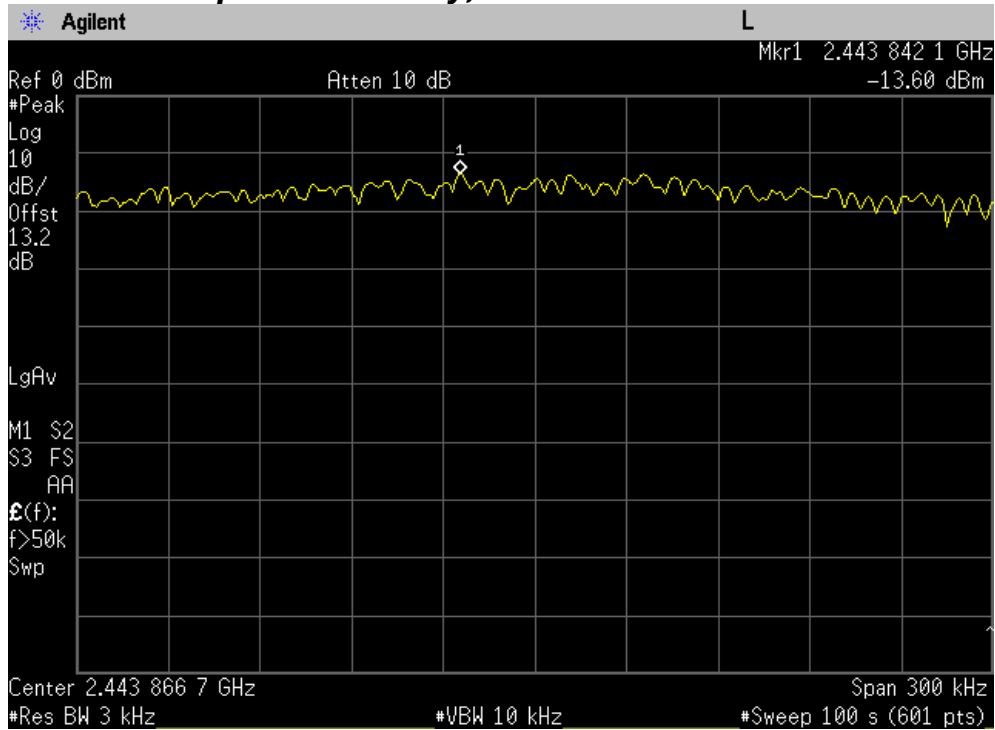
### 802.11g mode

### Peak Power Spectral Density, Lowest Channel

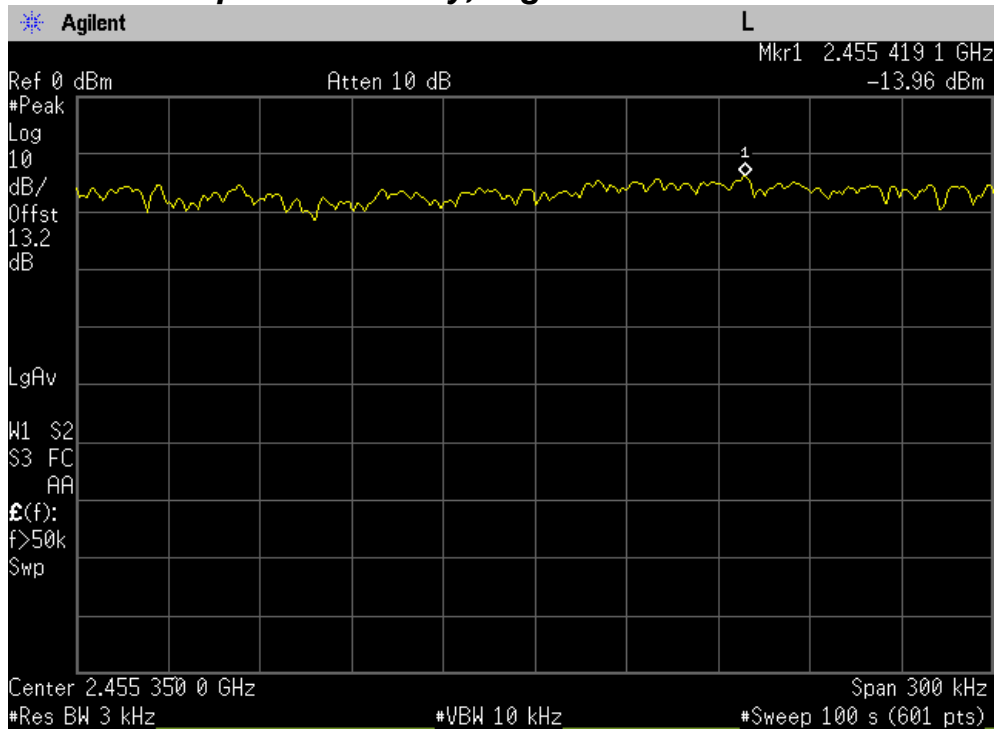


# PLOT OF TEST DATA

## Peak Power Spectral Density, Middle Channel



## Peak Power Spectral Density, Highest Channel





## TEST DATA

### 8.6 Conducted Emissions

#### 8.6.1 Test Mode : Tuner FM 98.1 MHz (with Ground)

Frequency (MHz)	Level(dB $\mu$ V)		Line	Limit(dB $\mu$ V)		Margin(dB)	
	Q-Peak	Average		Q-Peak	Average	Q-Peak	Average
0.15	35.1	13.3	N	66.0	56.0	30.9	42.7
0.16	34.3	13.3	N	65.5	55.5	31.2	42.2
0.17	32.8	11.7	N	65.0	55.0	32.2	43.3
0.20	30.1	10.5	N	63.6	53.6	33.5	43.1
0.24	24.9	10.8	N	62.1	52.1	37.2	41.3
0.29	18.6	13.3	N	60.5	50.5	41.9	37.2

#### 8.6.2 Test Mode : Tuner FM 98.1 MHz (without Ground)

Frequency (MHz)	Level(dB $\mu$ V)		Line	Limit(dB $\mu$ V)		Margin(dB)	
	Q-Peak	Average		Q-Peak	Average	Q-Peak	Average
0.15	35.6	13.8	N	66.0	56.0	30.4	42.2
0.16	34.1	13.3	L	65.5	55.5	31.4	42.2
0.17	32.5	11.2	L	65.0	55.0	32.5	43.8
0.22	28.2	11.1	N	62.8	52.8	34.6	41.7
0.24	24.7	10.3	N	62.1	52.1	37.4	41.8
0.29	18.6	12.6	N	60.5	50.5	41.9	37.9

**NOTES:**

1. Measurements using CISPR quasi-peak mode
2. All modes of operation were investigated and the worst -case emission are reported. See attached Plots.
3. LINE : L1 =Line , N = Neutral
4. The limit for Class B device is on the FCC part section 15.107 (a).

## TEST DATA

### 8.6.3 Test Mode : CD Play (with Ground)

Frequency (MHz)	Level(dB $\mu$ V)		Line	Limit(dB $\mu$ V)		Margin(dB)	
	Q-Peak	Average		Q-Peak	Average	Q-Peak	Average
0.15	36.1	13.4	N	66.0	56.0	29.9	42.6
0.16	35.2	13.7	N	65.5	55.5	30.3	41.8
0.20	33.2	11.3	L	63.6	53.6	30.4	42.3
0.22	30.9	11.6	L	62.8	52.8	31.9	41.2
0.27	25.6	10.4	L	61.1	51.1	35.5	40.7
16.93	20.2	18.4	N	60.0	50.0	39.8	31.6

### 8.6.4 Test Mode : CD Play (without Ground)

Frequency (MHz)	Level(dB $\mu$ V)		Line	Limit(dB $\mu$ V)		Margin(dB)	
	Q-Peak	Average		Q-Peak	Average	Q-Peak	Average
0.15	39.1	14.0	L	66.0	56.0	26.9	42.0
0.17	34.7	12.4	N	64.9	54.9	30.2	42.5
0.18	34.6	12.1	L	64.5	54.5	29.9	42.4
0.19	33.9	11.5	L	64.1	54.1	30.2	42.6
0.27	20.6	11.7	L	61.1	51.1	40.5	39.4
16.93	20.5	19.1	N	60.0	50.0	39.5	30.9

**NOTES:**

1. Measurements using CISPR quasi-peak mode
2. All modes of operation were investigated and the worst -case emission are reported. See attached Plots.
3. LINE : L1 =Line , N = Neutral
4. The limit for Class B device is on the FCC part section 15.107 (a).

## TEST DATA

### 8.6.5 Test Mode : AUX IN 1 (with Ground)

Frequency (MHz)	Level(dB $\mu$ V)		Line	Limit(dB $\mu$ V)		Margin(dB)	
	Q-Peak	Average		Q-Peak	Average	Q-Peak	Average
0.15	35.0	13.1	L	66.0	56.0	31.0	42.9
0.16	34.1	12.0	N	65.5	55.5	31.4	43.5
0.18	32.6	11.8	N	64.5	54.5	31.9	42.7
0.20	31.6	10.9	N	63.6	53.6	32.0	42.7
0.23	26.9	10.4	N	62.4	52.4	35.5	42.0
0.28	17.8	12.2	N	60.8	50.8	43.0	38.6

### 8.6.6 Test Mode : AUX IN 1 (without Ground)

Frequency (MHz)	Level(dB $\mu$ V)		Line	Limit(dB $\mu$ V)		Margin(dB)	
	Q-Peak	Average		Q-Peak	Average	Q-Peak	Average
0.15	34.8	13.6	L	66.0	56.0	31.2	42.4
0.16	34.1	12.4	N	65.5	55.5	31.4	43.1
0.18	33.4	11.5	N	64.5	54.5	31.1	43.0
0.22	29.8	11.0	N	62.8	52.8	33.0	41.8
0.29	18.5	12.4	N	60.5	50.5	42.0	38.1
0.32	15.7	10.4	L	59.7	49.7	44.0	39.3

#### NOTES:

1. Measurements using CISPR quasi-peak mode
2. All modes of operation were investigated and the worst -case emission are reported. See attached Plots.
3. LINE : L1 =Line , N = Neutral
4. The limit for Class B device is on the FCC part section 15.107 (a).

## TEST DATA

### 8.6.7 Test Mode : USB (MP3) Play (with Ground)

Frequency (MHz)	Level(dB $\mu$ V)		Line	Limit(dB $\mu$ V)		Margin(dB)	
	Q-Peak	Average		Q-Peak	Average	Q-Peak	Average
0.15	36.1	13.4	N	66.0	56.0	29.9	42.6
0.16	35.2	13.7	N	65.5	55.5	30.3	41.8
0.20	33.2	11.3	L	63.6	53.6	30.4	42.3
0.22	30.9	11.6	L	62.8	52.8	31.9	41.2
0.27	25.6	10.4	L	61.1	51.1	35.5	40.7
16.93	20.2	18.4	N	60.0	50.0	39.8	31.6

### 8.6.8 Test Mode : USB (MP3) Play (without Ground)

Frequency (MHz)	Level(dB $\mu$ V)		Line	Limit(dB $\mu$ V)		Margin(dB)	
	Q-Peak	Average		Q-Peak	Average	Q-Peak	Average
0.15	35.9	13.2	N	66.0	56.0	30.1	42.8
0.16	34.3	13.6	L	65.5	55.5	31.2	41.9
0.21	30.9	11.4	L	63.2	53.2	32.3	41.8
0.24	26.3	10.6	N	62.1	52.1	35.8	41.5
0.28	19.8	12.8	N	60.8	50.8	41.0	38.0
16.93	20.3	19.0	N	60.0	50.0	39.7	31.0

**NOTES:**

1. Measurements using CISPR quasi-peak mode
2. All modes of operation were investigated and the worst -case emission are reported. See attached Plots.
3. LINE : L1 =Line , N = Neutral
4. The limit for Class B device is on the FCC part section 15.107 (a).

## TEST DATA

### 8.6.9 Test Mode : Network Mode ( with Ground)

Frequency (MHz)	Level(dB $\mu$ V)		Line	Limit(dB $\mu$ V)		Margin(dB)	
	Q-Peak	Average		Q-Peak	Average	Q-Peak	Average
0.15	37.4	14.3	L	66.0	56.0	28.6	41.7
0.16	35.2	13.5	L	65.5	55.5	30.3	42.0
0.18	34.7	11.2	N	64.5	54.5	29.8	43.3
0.21	33.0	11.4	L	63.2	53.2	30.2	41.8
8.72	25.9	20.5	L	60.0	50.0	34.1	29.5
16.93	19.6	18.2	N	60.0	50.0	40.4	31.8

### 8.6.10 Test Mode : Network Mode (without Ground)

Frequency (MHz)	Level(dB $\mu$ V)		Line	Limit(dB $\mu$ V)		Margin(dB)	
	Q-Peak	Average		Q-Peak	Average	Q-Peak	Average
0.15	37.4	13.4	L	66.0	56.0	28.6	42.6
0.16	37.6	13.2	L	65.5	55.5	27.9	42.3
0.17	35.9	12.7	N	64.9	54.9	29.0	42.2
0.20	31.9	11.4	N	63.6	53.6	31.7	42.2
0.24	25.9	9.4	N	62.1	52.1	36.2	42.7
8.84	23.8	18.6	N	60.0	50.0	36.2	31.4

**NOTES:**

1. Measurements using CISPR quasi-peak mode
2. All modes of operation were investigated and the worst -case emission are reported. See attached Plots.
3. LINE : L1 =Line , N = Neutral
4. The limit for Class B device is on the FCC part section 15.107 (a).

## TEST DATA

### 8.6.11 Test Mode : Wifi TX On Mode (with Ground)

Frequency (MHz)	Level(dB $\mu$ V)		Line	Limit(dB $\mu$ V)		Margin(dB)	
	Q-Peak	Average		Q-Peak	Average	Q-Peak	Average
0.15	38.5	14.2	L	66.0	56.0	27.5	41.8
0.16	34.9	12.5	N	65.5	55.5	30.6	43.0
0.17	35.6	11.4	L	65.0	55.0	29.4	43.6
0.18	33.5	10.1	N	64.5	54.5	31.0	44.4
0.20	34.0	10.1	L	63.6	53.6	29.6	43.5
0.22	27.0	10.2	N	62.8	52.8	35.8	42.6

### 8.6.12 Test Mode : Wifi TX Mode (without Ground)

Frequency (MHz)	Level(dB $\mu$ V)		Line	Limit(dB $\mu$ V)		Margin(dB)	
	Q-Peak	Average		Q-Peak	Average	Q-Peak	Average
0.15	37.7	14.0	N	66.0	56.0	28.3	42.0
0.16	36.7	13.3	L	65.5	55.5	28.8	42.2
0.17	36.3	12.4	N	65.0	55.0	28.7	42.6
0.19	32.3	10.7	L	64.1	54.1	31.8	43.4
0.21	31.2	10.0	N	63.2	53.2	32.0	43.2
0.22	28.5	10.1	L	62.8	52.8	34.3	42.7

**NOTES:**

1. Measurements using CISPR quasi-peak mode
2. All modes of operation were investigated and the worst -case emission are reported. See attached Plots.
3. LINE : L1 =Line , N = Neutral
4. The limit for Class B device is on the FCC part section 15.107 (a).

# PLOTS OF EMISSIONS

## Tuner Mode (L1) (Ground)

NEMKO KOREA (NK-09-E898)

08 Oct 2009 21:14

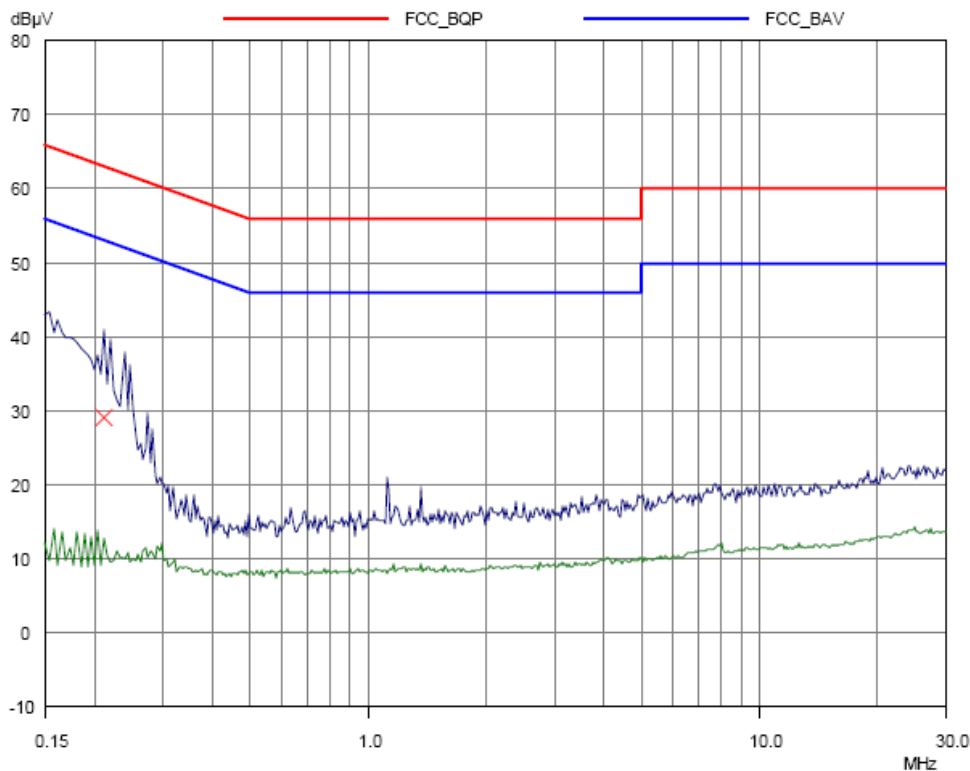
### Conducted Emissions

EUT: CD Receiver  
 Manuf: ANAM ELECTRONICS  
 Op Cond: a.c. 120 V, 60 Hz (FM 98.1 MHz Tuner)  
 Operator: Shin min chul  
 Test Spec: FCC Part 15 Class B  
 Comment: Model : CR-H500NT (With GND)  
 LINE : Line

Scan Settings			(1 Range)			Receiver Settings			
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge	
150kHz	30MHz	3.9063kHz	9kHz	PK+AV	20msec	20 dB	OFF	60dB	

Transducer	No.	Start	Stop	Name
	1	150kHz	30MHz	CE_LINE

Final Measurement: Detectors: X QP / + AV  
 Meas Time: 1sec  
 Subranges: 8  
 Acc Margin: 30 dB



# PLOTS OF EMISSIONS

## Tuner Mode (Neutral) (Ground)

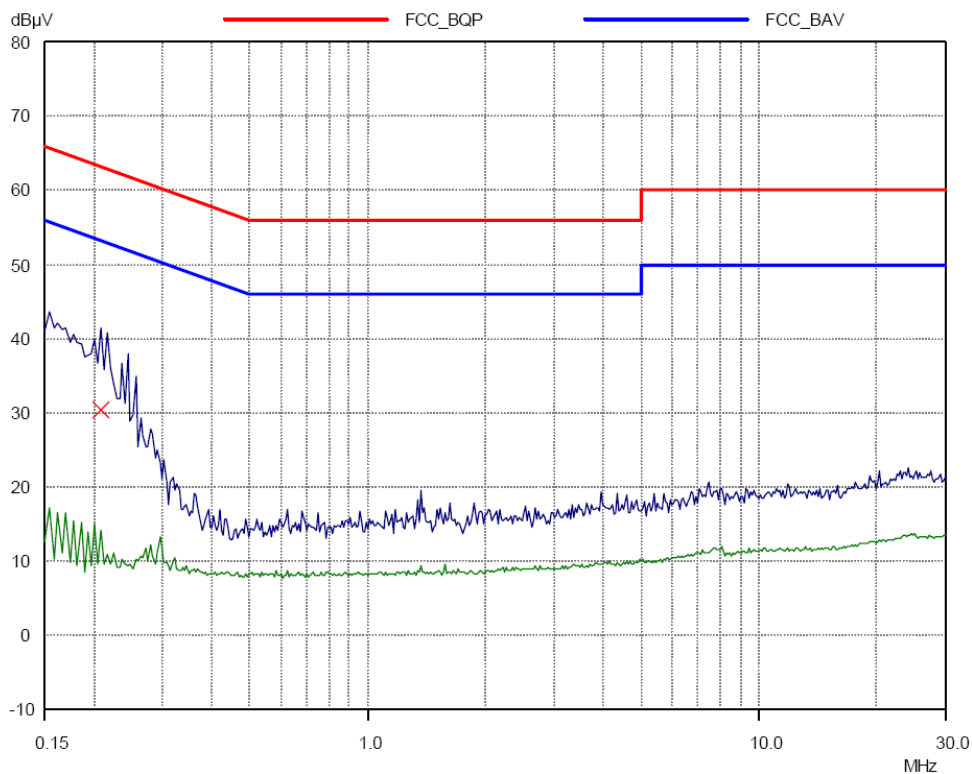
NEMKO KOREA (NK-09-E898)

08 Oct 2009 21:00

### Conducted Emissions

EUT: CD Receiver  
 Manuf: ANAM ELECTRONICS  
 Op Cond: a.c. 120 V, 60 Hz (FM 98.1 MHz Tuner)  
 Operator: Shin min chul  
 Test Spec: FCC Part 15 Class B  
 Comment: Model : CR-H500NT (With GND)  
 LINE : Neutral

Scan Settings (1 Range)				Receiver Settings				
Frequencies		Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge
Start	Stop	3.9063kHz	9kHz	PK+AV	20msec	20 dB	OFF	60dB
150kHz	30MHz							
Transducer	No.	Start	Stop	Name				
	1	150kHz	30MHz	CE_NEUT				
Final Measurement:		Detectors: X QP / + AV						
		Meas Time: 1sec						
		Subranges: 8						
		Acc Margin: 30 dB						





# PLOTS OF EMISSIONS

## Tuner Mode (L1) (Non Ground)

NEMKO KOREA (NK-09-E898)

08 Oct 2009 21:21

### Conducted Emissions

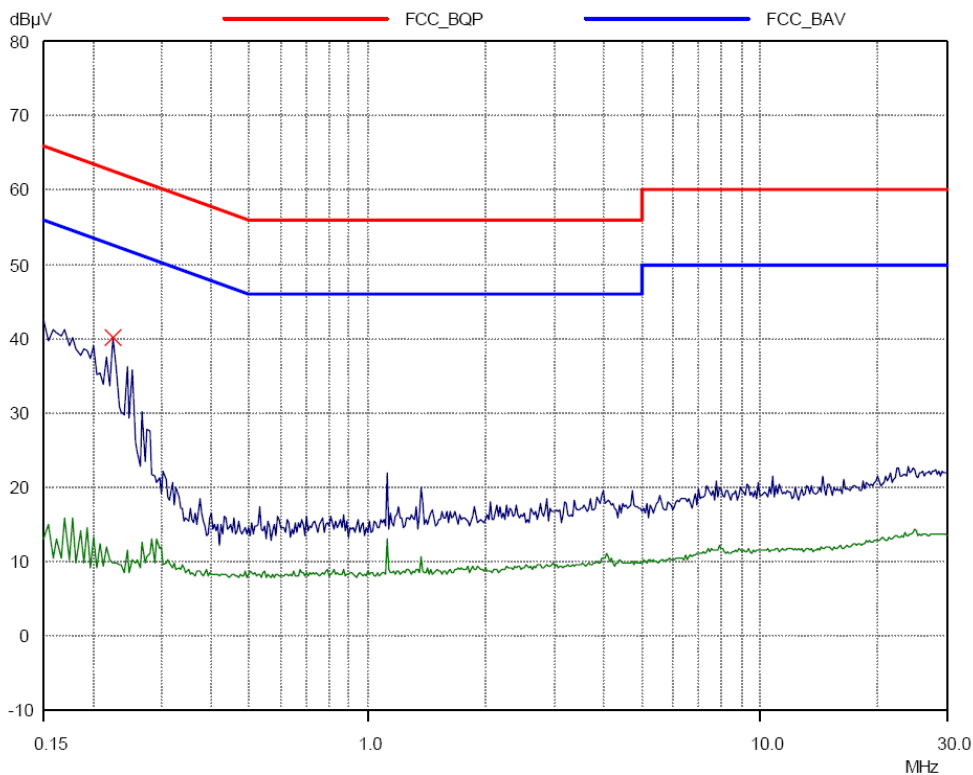
EUT: CD Receiver  
 Manuf: ANAM ELECTRONICS  
 Op Cond: a.c. 120 V, 60 Hz (FM 98.1 MHz Tuner)  
 Operator: Shin min chul  
 Test Spec: FCC Part 15 Class B  
 Comment: Model : CR-H500NT (Without GND)  
 LINE : Line

#### Scan Settings (1 Range)

Frequencies			Receiver Settings						
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge	
150kHz	30MHz	3.9063kHz	9kHz	PK+AV	20msec	20 dB	OFF	60dB	

Transducer	No.	Start	Stop	Name
	1	150kHz	30MHz	CE_LINE

Prescan Measurement: Detectors: X PK / + AV  
 Meas Time: see scan settings  
 Subranges: 8  
 Acc Margin: 30 dB



# PLOTS OF EMISSIONS

## Tuner Mode (Neutral) (Non Ground)

NEMKO KOREA (NK-09-E898)

08 Oct 2009 21:32

### Conducted Emissions

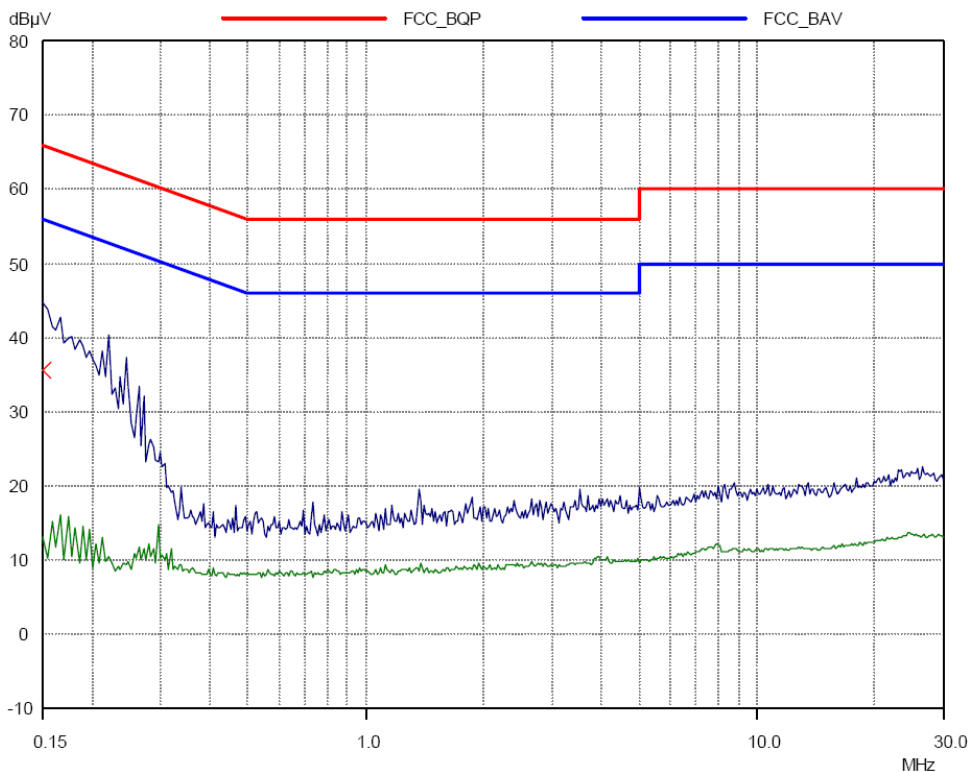
EUT: CD Receiver  
 Manuf: ANAM ELECTRONICS  
 Op Cond: a.c. 120 V, 60 Hz (FM 98.1 MHz Tuner)  
 Operator: Shin min chul  
 Test Spec: FCC Part 15 Class B  
 Comment: Model : CR-H500NT (Without GND)  
 LINE : Neutral

Scan Settings (1 Range)				Receiver Settings				
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge
150kHz	30MHz	3.9063kHz	9kHz	PK+AV	20msec	20 dB	OFF	60dB

Transducer	No.	Start	Stop	Name
	1	150kHz	30MHz	CE_NEUT

Final Measurement: Detectors: X QP / + AV  
 Meas Time: 1sec  
 Subranges: 8  
 Acc Margin: 30 dB



# PLOTS OF EMISSIONS

## CD Play (L1) (Ground)

NEMKO KOREA (NK-09-E898)

08 Oct 2009 17:29

### Conducted Emissions

EUT: CD Receiver  
 Manuf: ANAM ELECTRONICS  
 Op Cond: a.c. 120 V, 60 Hz (1 kHz Audio signal CD play)  
 Operator: Shin min chul  
 Test Spec: FCC Part 15 Class B  
 Comment: Model : CR-H500NT (With GND)  
 LINE : Line

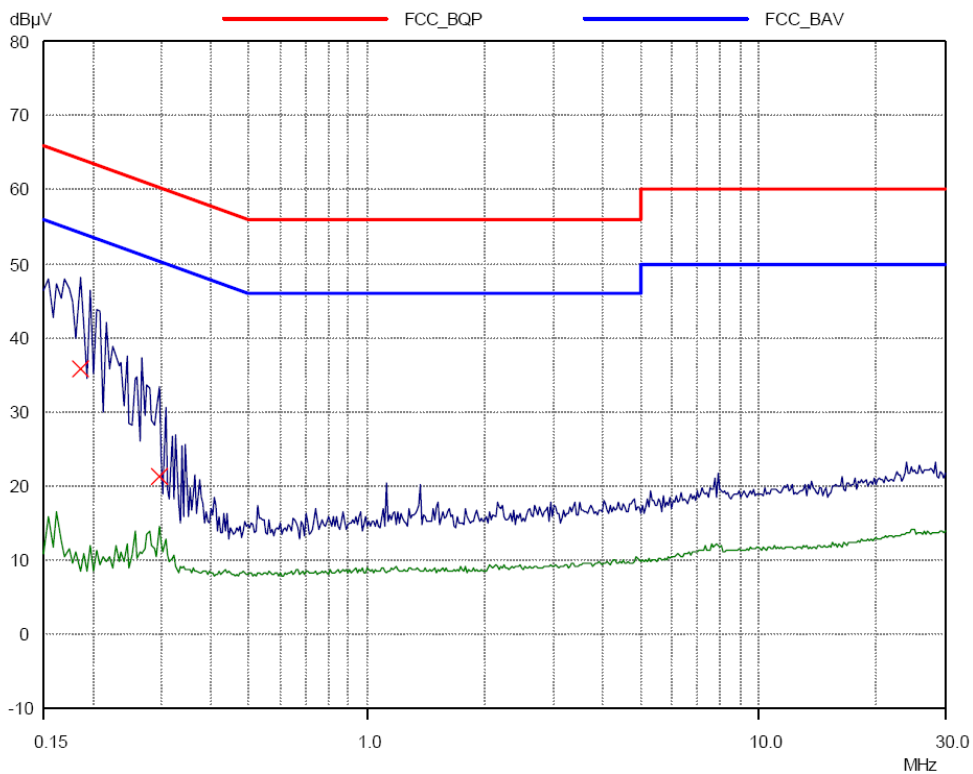
Scan Settings			(1 Range)			Receiver Settings			
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge	
150kHz	30MHz	3.9063kHz	9kHz	PK+AV	20msec	20 dB	OFF	60dB	

Transducer	No.	Start	Stop	Name
	1	150kHz	30MHz	CE_LINE

Final Measurement:	Detectors:	X QP / + AV
	Meas Time:	1sec
	Subranges:	8
	Acc Margin:	30 dB



# PLOTS OF EMISSIONS

## CD Play (Neutral) (Ground)

NEMKO KOREA (NK-09-E898)

08 Oct 2009 17:18

### Conducted Emissions

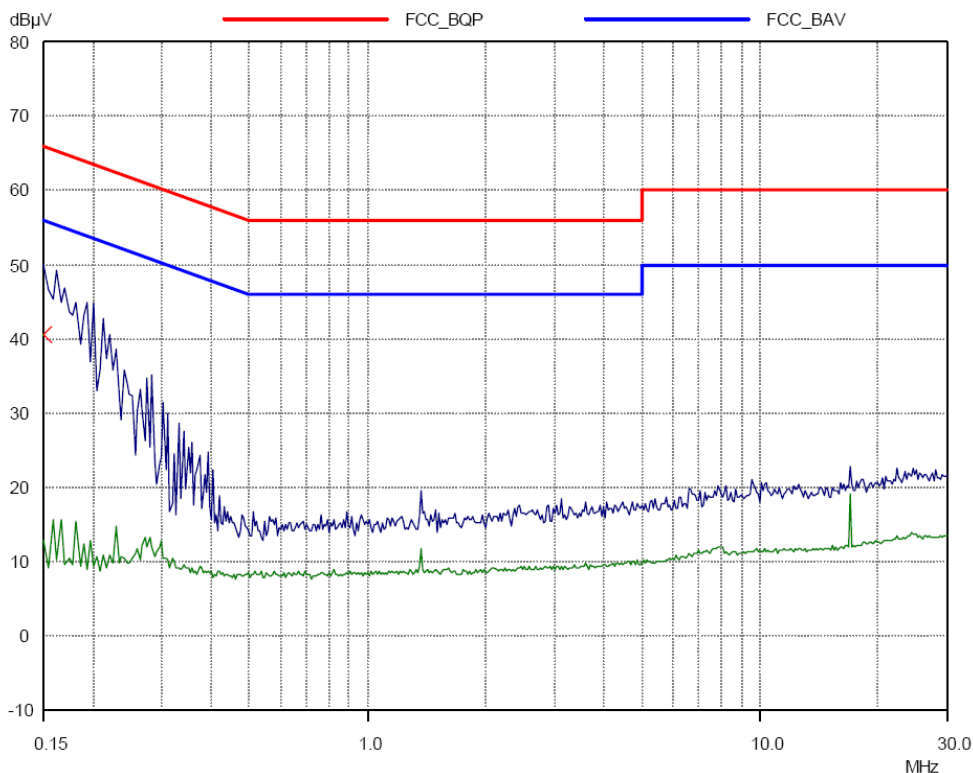
EUT: CD Receiver  
 Manuf: ANAM ELECTRONICS  
 Op Cond: a.c. 120 V, 60 Hz (1 kHz Audio signal CD play)  
 Operator: Shin min chul  
 Test Spec: FCC Part 15 Class B  
 Comment: Model : CR-H500NT (With GND)  
 LINE : Neutral

#### Scan Settings (1 Range)

Frequencies			Receiver Settings						
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge	
150kHz	30MHz	3.9063kHz	9kHz	PK+AV	20msec	20 dB	OFF	60dB	

Transducer	No.	Start	Stop	Name
	1	150kHz	30MHz	CE_NEUT

Final Measurement: Detectors: X QP / + AV  
 Meas Time: 1sec  
 Subranges: 8  
 Acc Margin: 20 dB



# PLOTS OF EMISSIONS

## CD Play (L1) (Non Ground)

NEMKO KOREA (NK-09-E898)

08 Oct 2009 20:01

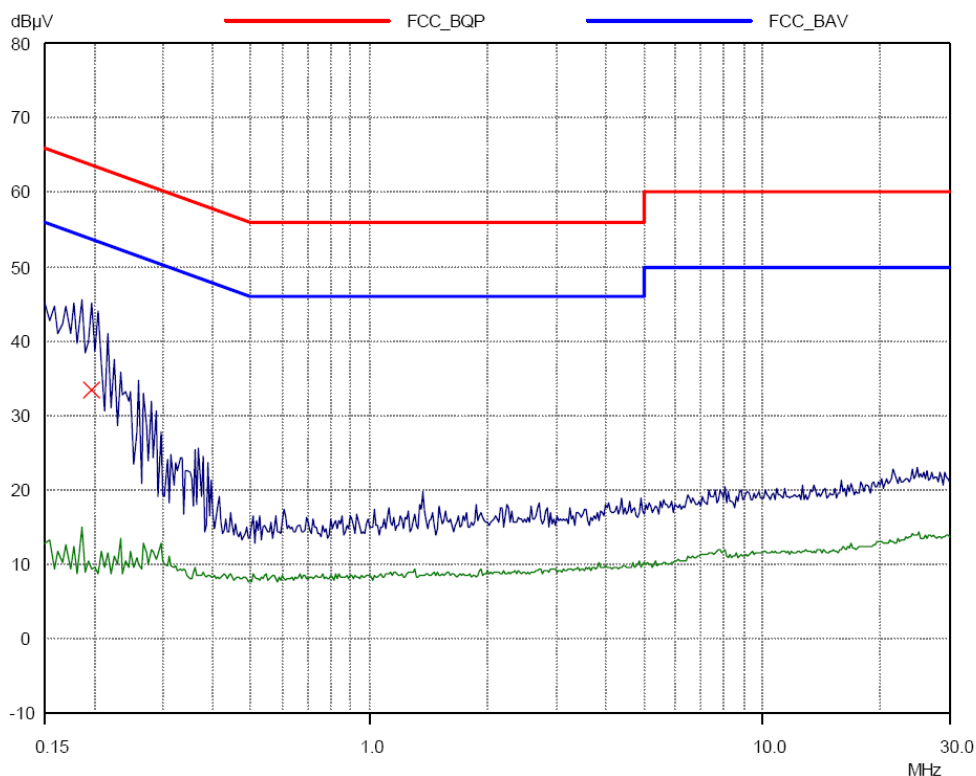
### Conducted Emissions

EUT: CD Receiver  
 Manuf: ANAM ELECTRONICS  
 Op Cond: a.c. 120 V, 60 Hz (1 kHz Audio signal CD play)  
 Operator: Shin min chul  
 Test Spec: FCC Part 15 Class B  
 Comment: Model : CR-H500NT (Without GND)  
 LINE : Line

Scan Settings		(1 Range)		Receiver Settings					
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge	
150kHz	30MHz	3.9063kHz	9kHz	PK+AV	20msec	20 dB	OFF	60dB	

Transducer	No.	Start	Stop	Name
	1	150kHz	30MHz	CE_LINE

Final Measurement: Detectors: X QP / + AV  
 Meas Time: 1sec  
 Subranges: 8  
 Acc Margin: 30 dB



# PLOTS OF EMISSIONS

## CD Play (Neutral) (Non Ground)

NEMKO KOREA (NK-09-E898)

08 Oct 2009 20:09

### Conducted Emissions

EUT: CD Receiver  
 Manuf: ANAM ELECTRONICS  
 Op Cond: a.c. 120 V, 60 Hz (1 kHz Audio signal CD play)  
 Operator: Shin min chul  
 Test Spec: FCC Part 15 Class B  
 Comment: Model : CR-H500NT (Without GND)  
 LINE : Neutral

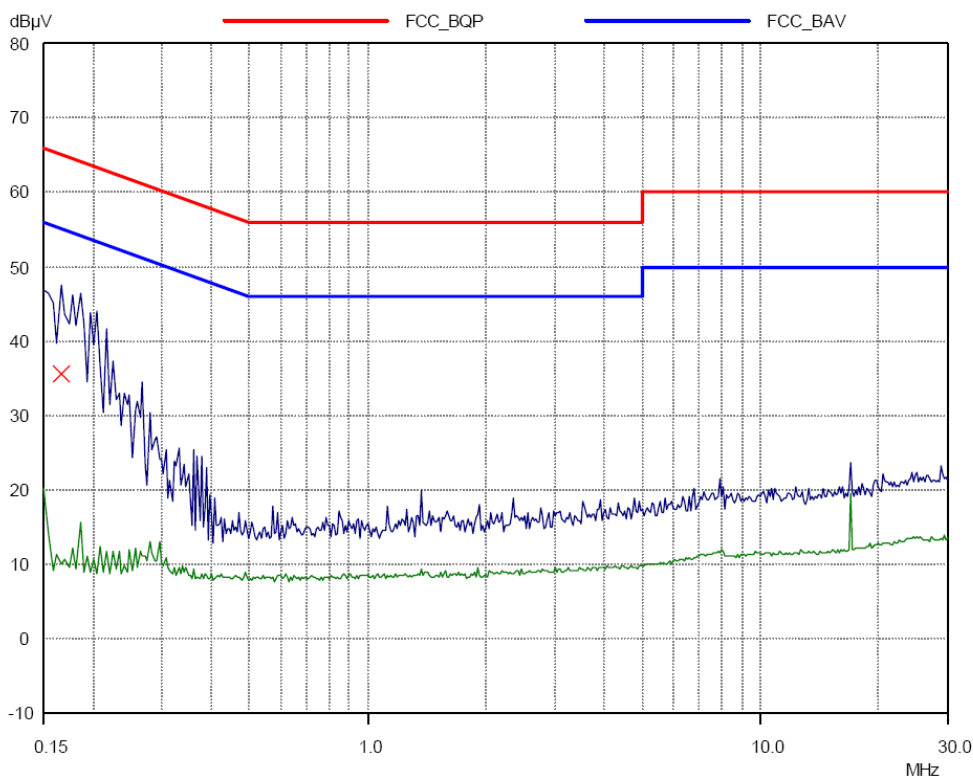
Scan Settings			(1 Range)				Receiver Settings			
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge		
150kHz	30MHz	3.9063kHz	9kHz	PK+AV	20msec	20 dB	OFF	60dB		

Transducer	No.	Start	Stop	Name
	1	150kHz	30MHz	CE_NEUT

Final Measurement:	Detectors:	X QP / + AV
	Meas Time:	1sec
	Subranges:	8
	Acc Margin:	30 dB



# PLOTS OF EMISSIONS

## AUX IN Mode (L1) (Ground)

NEMKO KOREA (NK-09-E898)

08 Oct 2009 20:35

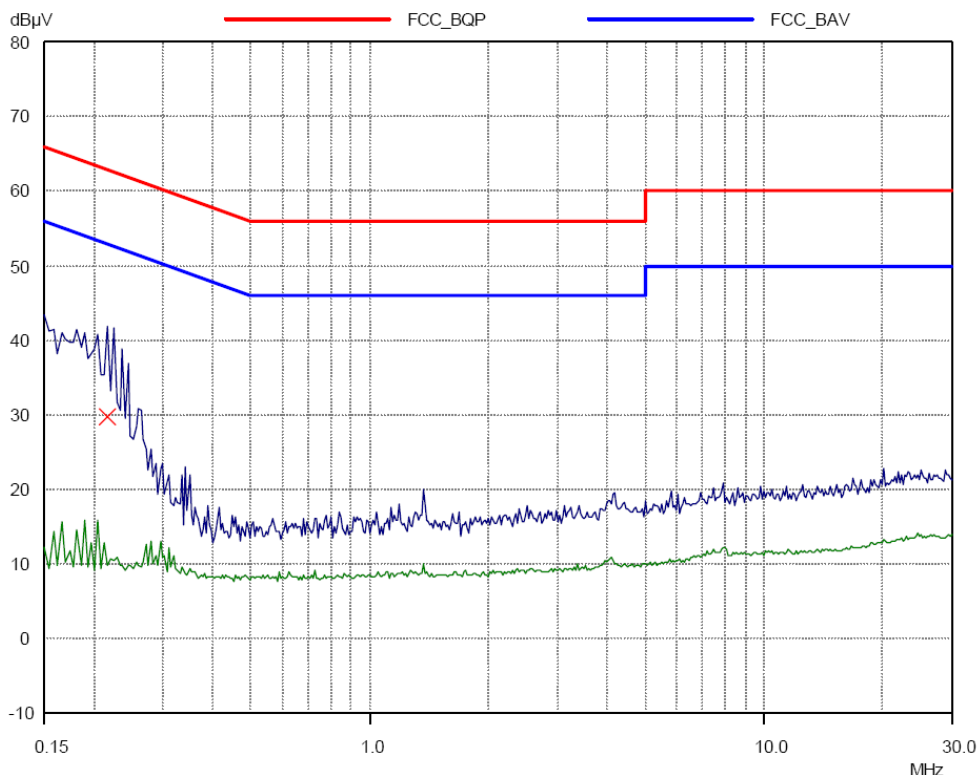
### Conducted Emissions

EUT: CD Receiver  
 Manuf: ANAM ELECTRONICS  
 Op Cond: a.c. 120 V, 60 Hz (1 kHz Audio signal AUX 1)  
 Operator: Shin min chul  
 Test Spec: FCC Part 15 Class B  
 Comment: Model : CR-H500NT (With GND)  
 LINE : Line

Scan Settings				Receiver Settings				
(1 Range)								
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge
150kHz	30MHz	3.9063kHz	9kHz	PK+AV	20msec	20 dB	OFF	60dB

Transducer	No.	Start	Stop	Name
	1	150kHz	30MHz	CE_LINE

Final Measurement: Detectors: X QP / + AV  
 Meas Time: 1sec  
 Subranges: 8  
 Acc Margin: 30 dB



# PLOTS OF EMISSIONS

## AUX IN Mode (Neutral) (Ground)

NEMKO KOREA (NK-09-E898)

08 Oct 2009 20:41

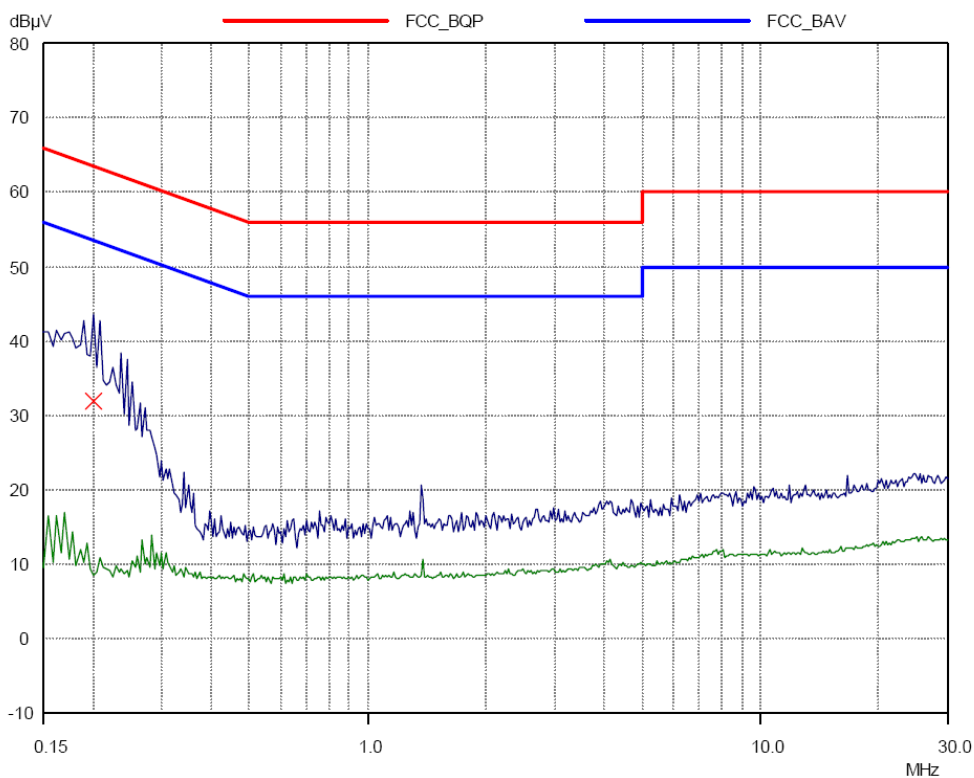
### Conducted Emissions

EUT: CD Receiver  
 Manuf: ANAM ELECTRONICS  
 Op Cond: a.c. 120 V, 60 Hz (1 kHz Audio signal AUX 1)  
 Operator: Shin min chul  
 Test Spec: FCC Part 15 Class B  
 Comment: Model : CR-H500NT (With GND)  
 LINE : Neutral

Scan Settings			Receiver Settings					
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge
150kHz	30MHz	3.9063kHz	9kHz	PK+AV	20msec	20 dB	OFF	60dB

Transducer	No.	Start	Stop	Name
	1	150kHz	30MHz	CE_NEUT

Final Measurement: Detectors: X QP / + AV  
 Meas Time: 1sec  
 Subranges: 8  
 Acc Margin: 30 dB





# PLOTS OF EMISSIONS

## AUX IN Mode (L1) (Non Ground)

NEMKO KOREA (NK-09-E898)

08 Oct 2009 20:25

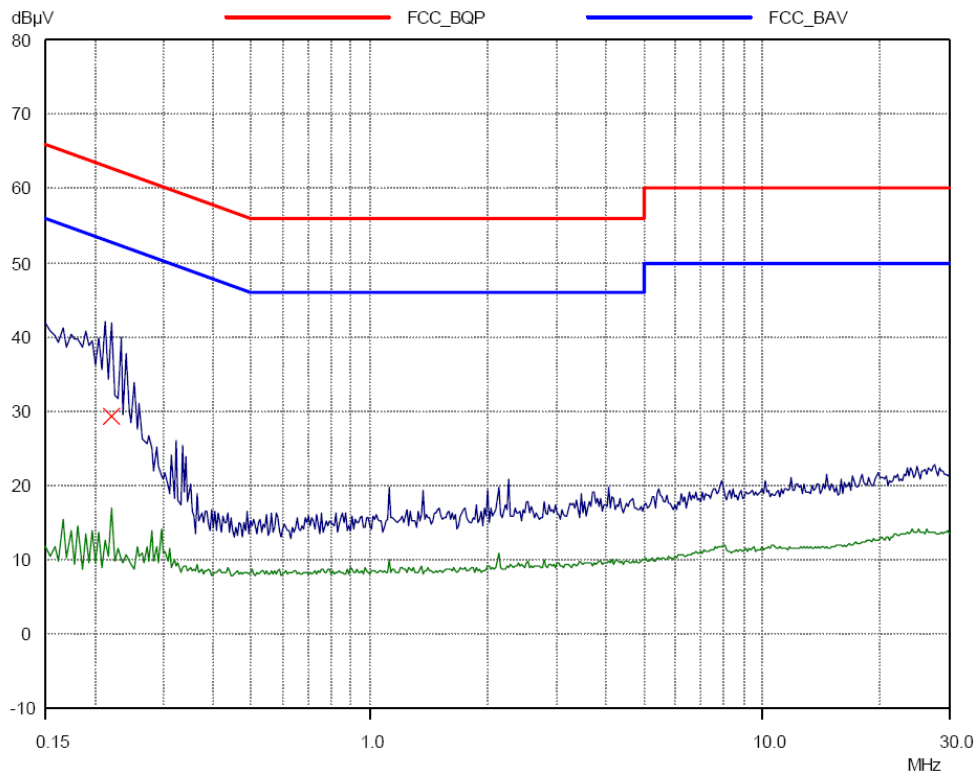
### Conducted Emissions

EUT: CD Receiver  
 Manuf: ANAM ELECTRONICS  
 Op Cond: a.c. 120 V, 60 Hz (1 kHz Audio signal AUX 1)  
 Operator: Shin min chul  
 Test Spec: FCC Part 15 Class B  
 Comment: Model : CR-H500NT (Without GND)  
 LINE : Line

Scan Settings (1 Range)				Receiver Settings				
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge
150kHz	30MHz	3.9063kHz	9kHz	PK+AV	20msec	20 dB	OFF	60dB

Transducer	No.	Start	Stop	Name
	1	150kHz	30MHz	CE_LINE

Final Measurement: Detectors: X QP / + AV  
 Meas Time: 1sec  
 Subranges: 8  
 Acc Margin: 30 dB



# PLOTS OF EMISSIONS

## AUX IN Mode (Neutral) (Non Ground)

NEMKO KOREA (NK-09-E898)

08 Oct 2009 20:19

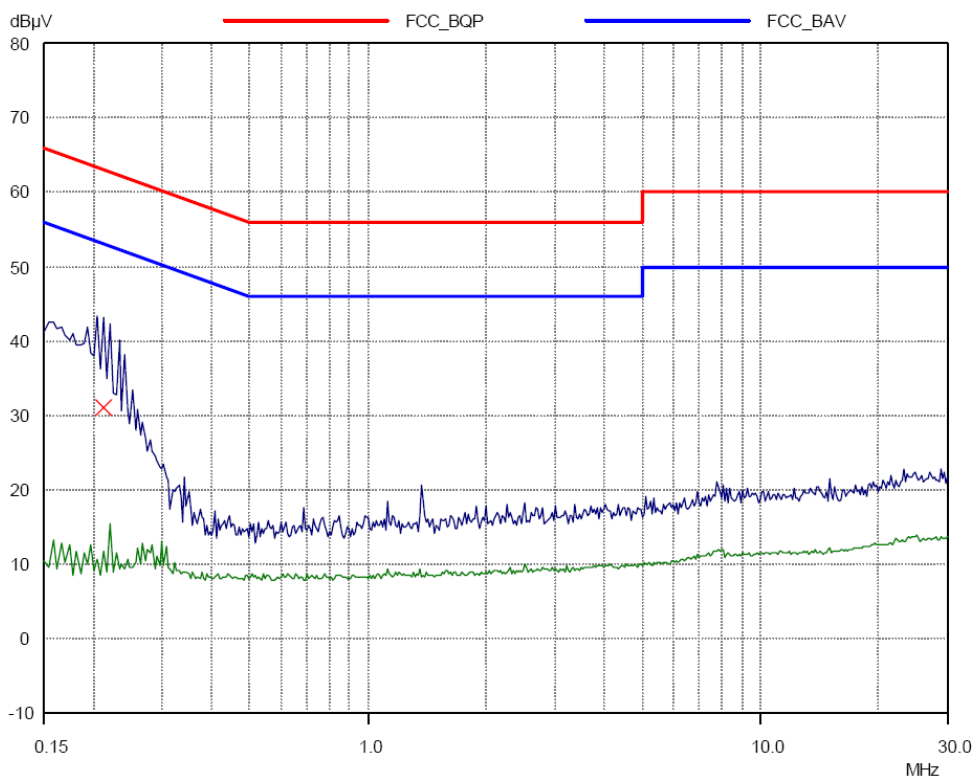
### Conducted Emissions

EUT: CD Receiver  
 Manuf: ANAM ELECTRONICS  
 Op Cond: a.c. 120 V, 60 Hz (1 kHz Audio signal AUX 1)  
 Operator: Shin min chul  
 Test Spec: FCC Part 15 Class B  
 Comment: Model : CR-H500NT (Without GND)  
 LINE : Neutral

Scan Settings		(1 Range)			Receiver Settings				
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge	
150kHz	30MHz	3.9063kHz	9kHz	PK+AV	20msec	20 dB	OFF	60dB	

Transducer	No.	Start	Stop	Name
	1	150kHz	30MHz	CE_NEUT

Final Measurement: Detectors: X QP / + AV  
 Meas Time: 1sec  
 Subranges: 8  
 Acc Margin: 30 dB



# PLOTS OF EMISSIONS

## USB Mode (L1) (Ground)

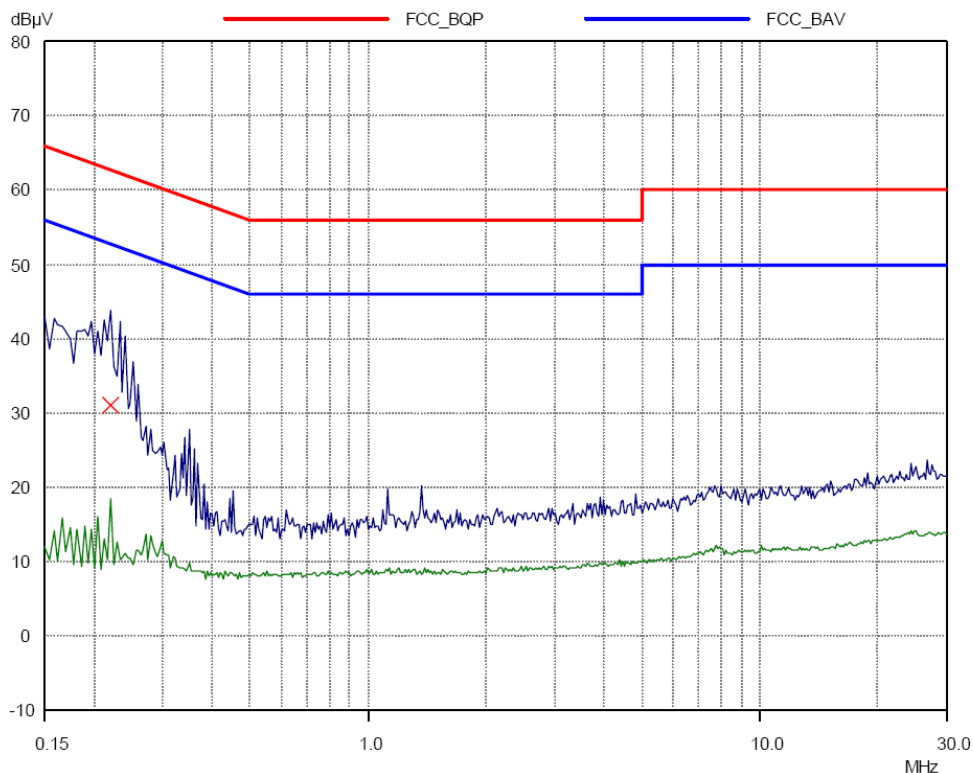
NEMKO KOREA (NK-09-E898)

08 Oct 2009 19:29

### Conducted Emissions

EUT: CD Receiver  
 Manuf: ANAM ELECTRONICS  
 Op Cond: a.c. 120 V, 60 Hz (1 kHz Audio signal USB play)  
 Operator: Shin min chul  
 Test Spec: FCC Part 15 Class B  
 Comment: Model : CR-H500NT (With GND)  
 LINE : Line

Scan Settings			(1 Range)				Receiver Settings			
Start	Stop	Frequencies	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge	
150kHz	30MHz		3.9063kHz	9kHz	PK+AV	20msec	20 dB	OFF	60dB	
Transducer	No.	Start	Stop	Name						
	1	150kHz	30MHz	CE_LINE						
Final Measurement:		Detectors:		X QP / + AV						
		Meas Time:		1sec						
		Subranges:		8						
		Acc Margin:		30 dB						



# PLOTS OF EMISSIONS

## USB Mode (Neutral) (Ground)

NEMKO KOREA (NK-09-E898)

08 Oct 2009 19:35

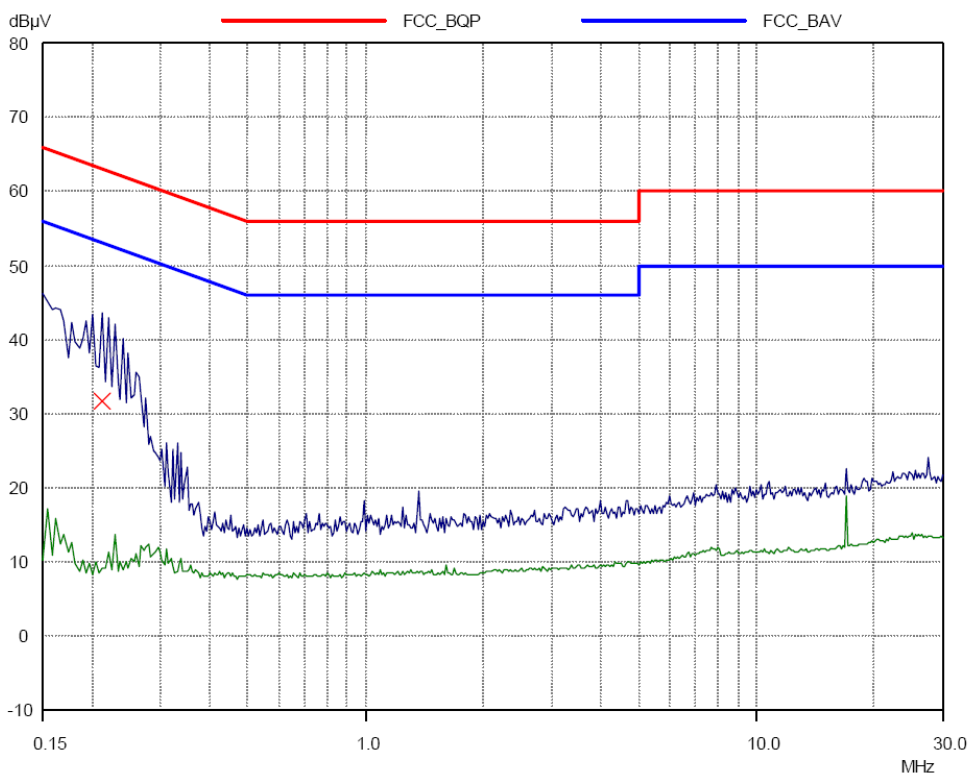
### Conducted Emissions

EUT: CD Receiver  
 Manuf: ANAM ELECTRONICS  
 Op Cond: a.c. 120 V, 60 Hz (1 kHz Audio signal USB play)  
 Operator: Shin min chul  
 Test Spec: FCC Part 15 Class B  
 Comment: Model : CR-H500NT (With GND)  
 LINE : Neutral

Scan Settings			(1 Range)			Receiver Settings			
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge	
150kHz	30MHz	3.9063kHz	9kHz	PK+AV	20msec	20 dB	OFF	60dB	

Transducer	No.	Start	Stop	Name
	1	150kHz	30MHz	CE_NEUT

Final Measurement: Detectors: X QP / + AV  
 Meas Time: 1sec  
 Subranges: 8  
 Acc Margin: 30 dB



# PLOTS OF EMISSIONS

## USB Mode (L1) (Non Ground)

NEMKO KOREA (NK-09-E898)

08 Oct 2009 19:52

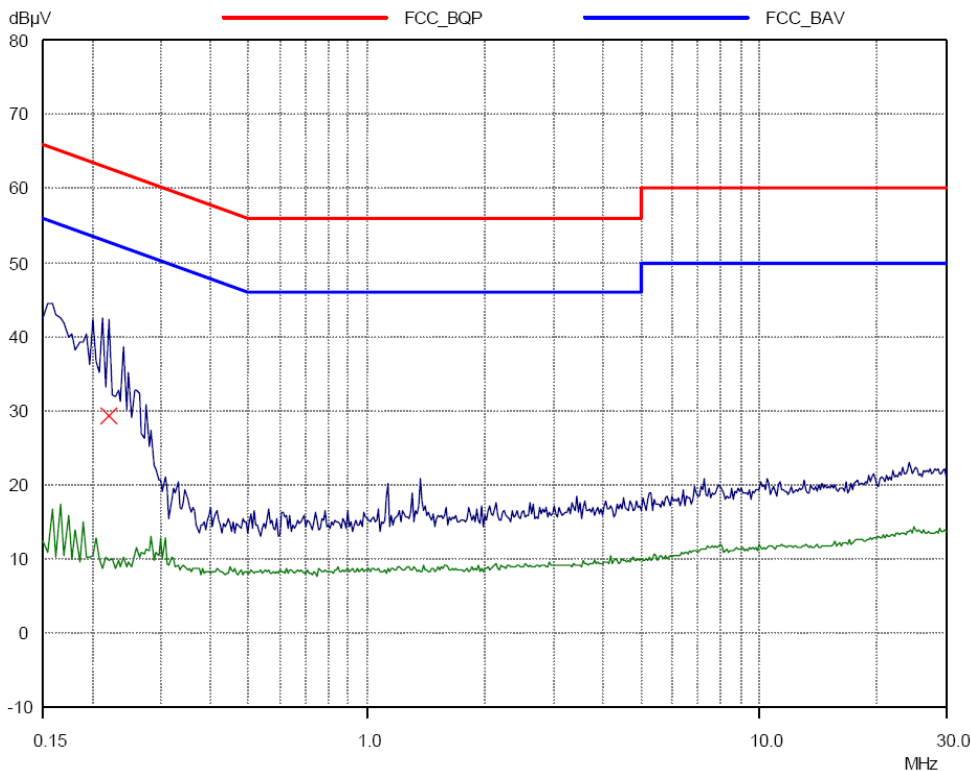
### Conducted Emissions

EUT: CD Receiver  
 Manuf: ANAM ELECTRONICS  
 Op Cond: a.c. 120 V, 60 Hz (1 kHz Audio signal USB play)  
 Operator: Shin min chul  
 Test Spec: FCC Part 15 Class B  
 Comment: Model : CR-H500NT (Without GND)  
 LINE : Line

Scan Settings		(1 Range)				Receiver Settings			
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge	
150kHz	30MHz	3.9063kHz	9kHz	PK+AV	20msec	20 dB	OFF	60dB	

Transducer	No.	Start	Stop	Name
	1	150kHz	30MHz	CE_LINE

Final Measurement: Detectors: X QP / + AV  
 Meas Time: 1sec  
 Subranges: 8  
 Acc Margin: 30 dB



# PLOTS OF EMISSIONS

## USB Mode (Neutral) (Non Ground)

NEMKO KOREA (NK-09-E898)

08 Oct 2009 19:43

### Conducted Emissions

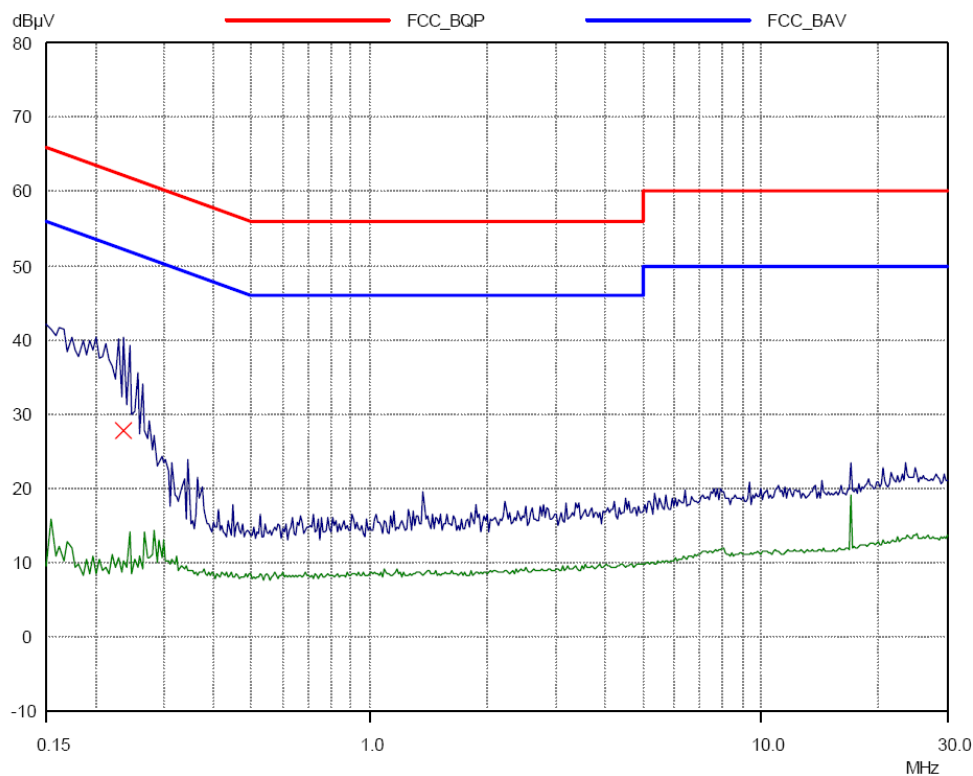
EUT: CD Receiver  
 Manuf: ANAM ELECTRONICS  
 Op Cond: a.c. 120 V, 60 Hz (1 kHz Audio signal USB play)  
 Operator: Shin min chul  
 Test Spec: FCC Part 15 Class B  
 Comment: Model : CR-H500NT (Without GND)  
 LINE : Neutral

#### Scan Settings (1 Range)

Frequencies			Receiver Settings					
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge
150kHz	30MHz	3.9063kHz	9kHz	PK+AV	20msec	20 dB	OFF	60dB

Transducer	No.	Start	Stop	Name
	1	150kHz	30MHz	CE_NEUT

Final Measurement: Detectors: X QP / + AV  
 Meas Time: 1sec  
 Subranges: 8  
 Acc Margin: 30 dB



# PLOTS OF EMISSIONS

## Network Mode (L1) (Ground)

NEMKO KOREA (NK-09-E898)

08 Oct 2009 16:42

### Conducted Emissions

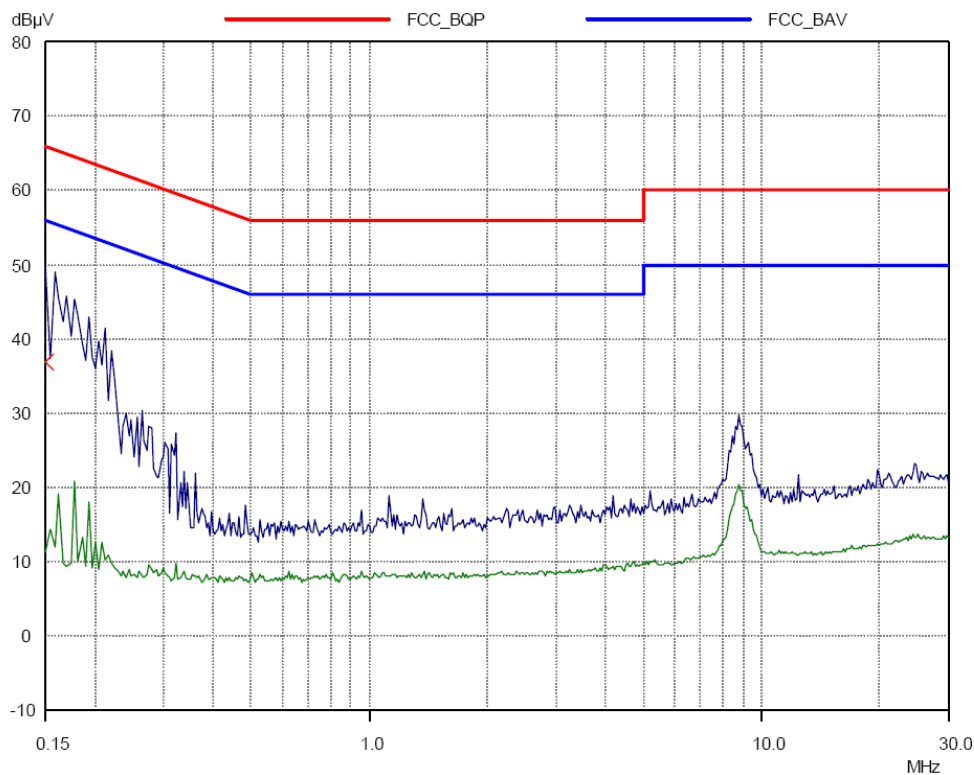
EUT: CD Receiver  
 Manuf: ANAM ELECTRONICS  
 Op Cond: a.c. 120 V, 60 Hz (Internet radio)  
 Operator: Shin min chul  
 Test Spec: FCC Part 15 Class B  
 Comment: Model : CR-H500NT (With GND)  
 LINE : Line

### Scan Settings (1 Range)

Frequencies			Receiver Settings					
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge
150kHz	30MHz	3.9063kHz	9kHz	PK+AV	20msec	20 dB	OFF	60dB

Transducer	No.	Start	Stop	Name
	1	150kHz	30MHz	CE_LINE

Final Measurement: Detectors: X QP / + AV  
 Meas Time: 1sec  
 Subranges: 8  
 Acc Margin: 25 dB



# PLOTS OF EMISSIONS

## Network Mode (Neutral) (Ground)

NEMKO KOREA (NK-09-E898)

08 Oct 2009 16:50

### Conducted Emissions

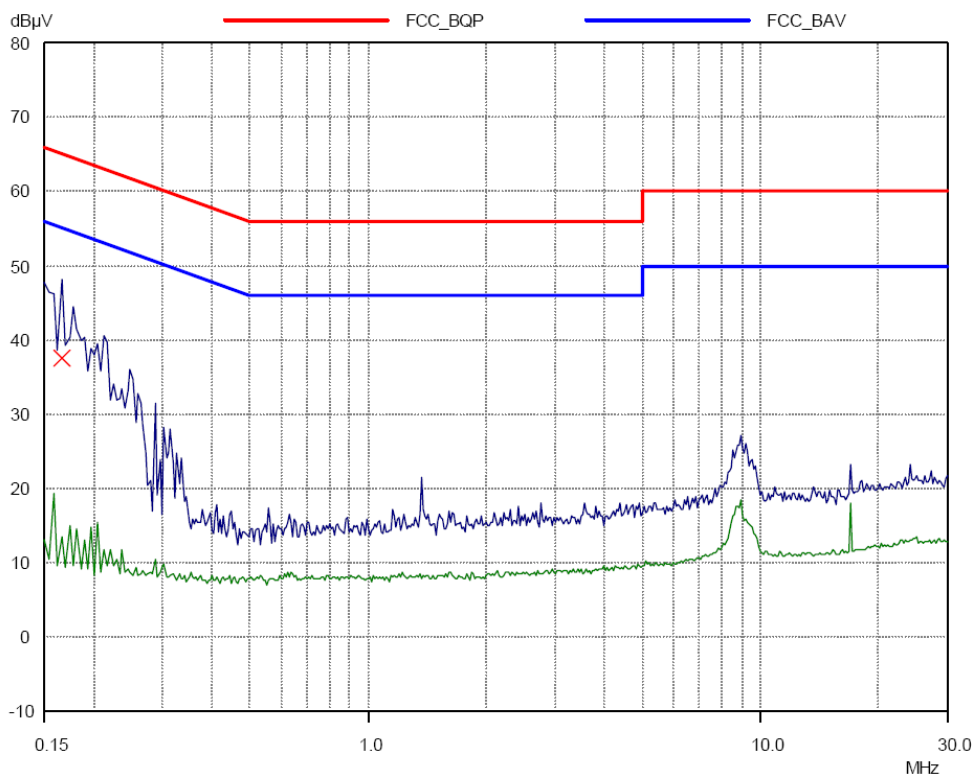
EUT: CD Receiver  
 Manuf: ANAM ELECTRONICS  
 Op Cond: a.c. 120 V, 60 Hz (Internet radio)  
 Operator: Shin min chul  
 Test Spec: FCC Part 15 Class B  
 Comment: Model : CR-H500NT (With GND)  
 LINE : Neutral

#### Scan Settings (1 Range)

Frequencies			Receiver Settings						
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge	
150kHz	30MHz	3.9063kHz	9kHz	PK+AV	20msec	20 dB	OFF	60dB	

Transducer	No.	Start	Stop	Name
	1	150kHz	30MHz	CE_NEUT

Final Measurement: Detectors: X QP / + AV  
 Meas Time: 1sec  
 Subranges: 8  
 Acc Margin: 25 dB





# PLOTS OF EMISSIONS

## Network Mode (L1) (Non Ground)

NEMKO KOREA (NK-09-E898)

08 Oct 2009 16:34

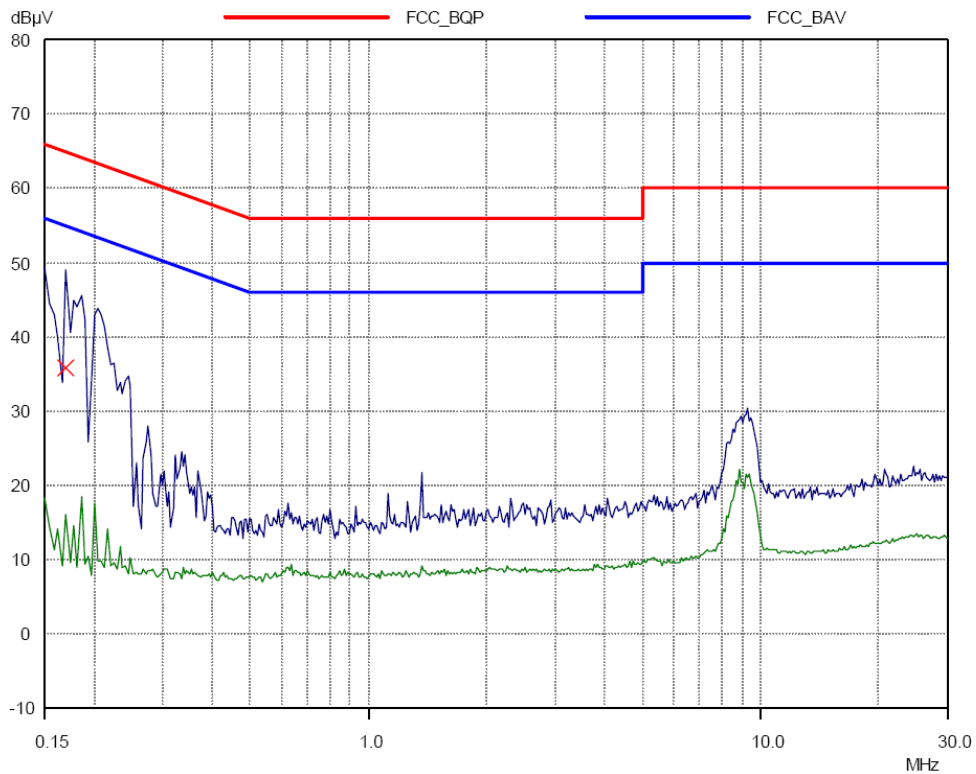
### Conducted Emissions

EUT: CD Receiver  
 Manuf: ANAM ELECTRONICS  
 Op Cond: a.c. 120 V, 60 Hz (Internet radio)  
 Operator: Shin min chul  
 Test Spec: FCC Part 15 Class B  
 Comment: Model : CR-H500NT (Without GND)  
 LINE : Line

Scan Settings				Receiver Settings				
(1 Range)								
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge
150kHz	30MHz	3.9063kHz	9kHz	PK+AV	20msec	20 dB	OFF	60dB

Transducer	No.	Start	Stop	Name
	1	150kHz	30MHz	CE_LINE

Final Measurement: Detectors: X QP / + AV  
 Meas Time: 1sec  
 Subranges: 8  
 Acc Margin: 25 dB



# PLOTS OF EMISSIONS

## Network Mode (Neutral) (Non Ground)

NEMKO KOREA (NK-09-E898)

08 Oct 2009 16:22

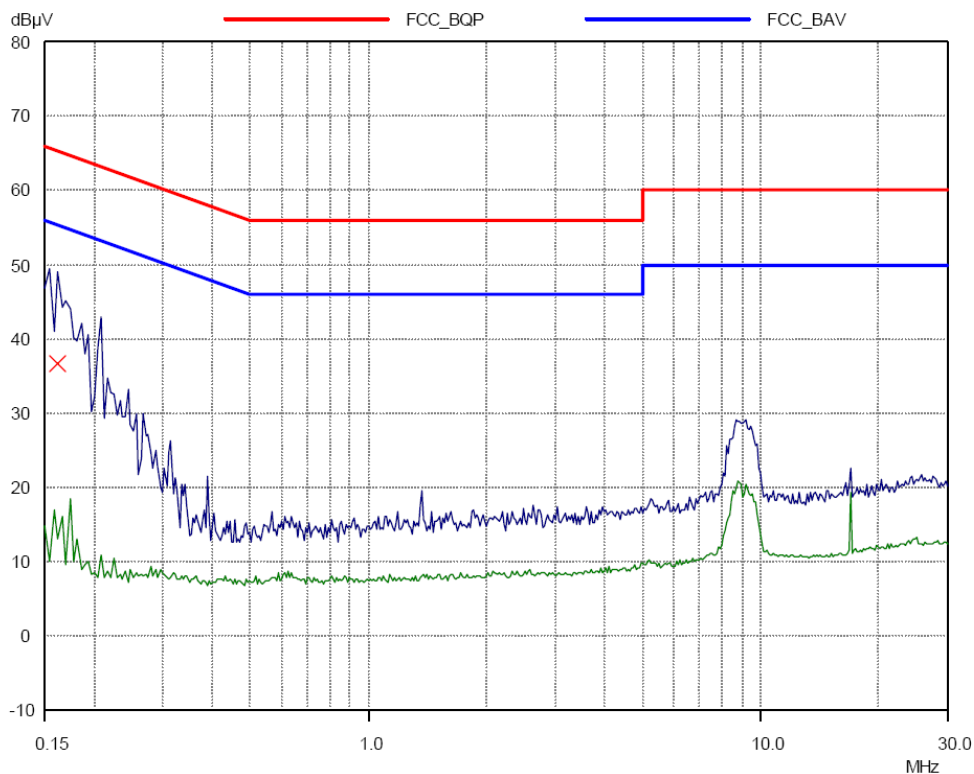
### Conducted Emissions

EUT: CD Receiver  
 Manuf: ANAM ELECTRONICS  
 Op Cond: a.c. 120 V, 60 Hz (Internet radio)  
 Operator: Shin min chul  
 Test Spec: FCC Part 15 Class B  
 Comment: Model : CR-H500NT (Without GND)  
 LINE : Neutral

Scan Settings				Receiver Settings			
(1 Range)							
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp
150kHz	30MHz	3.9063kHz	9kHz	PK+AV	20msec	20 dB	OFF
OpRge							
60dB							

Transducer	No.	Start	Stop	Name
	1	150kHz	30MHz	CE_NEUT

Final Measurement: Detectors: X QP / + AV  
 Meas Time: 1sec  
 Subranges: 8  
 Acc Margin: 25 dB



# PLOTS OF EMISSIONS

## Wifi TX ON Mode (L1) (Ground)

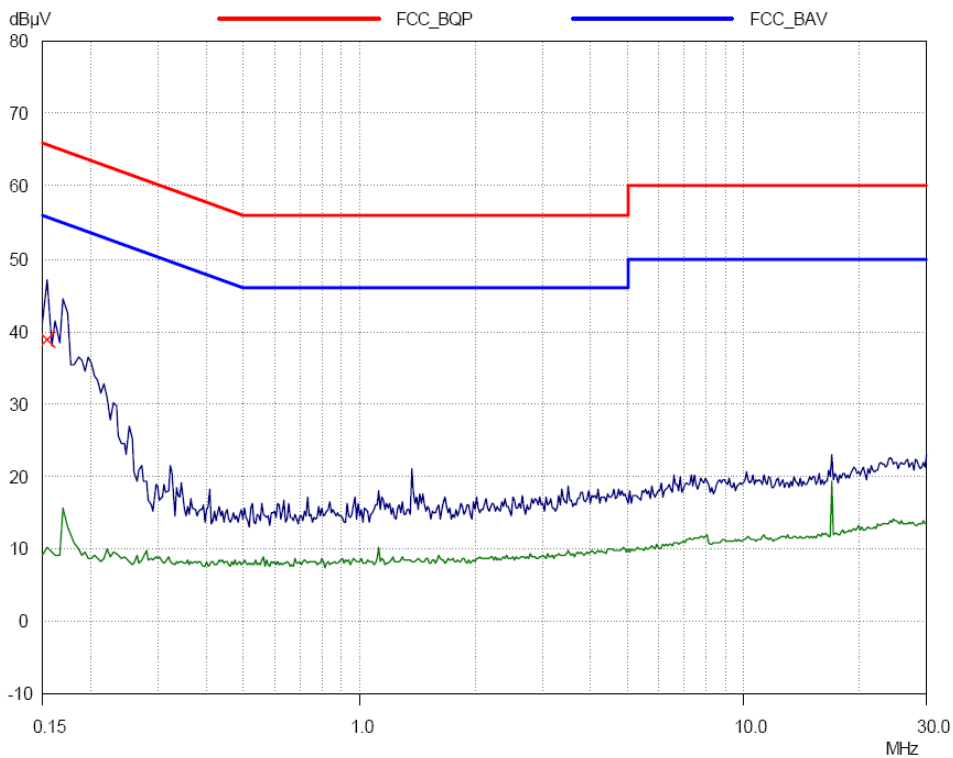
NEMKO KOREA (NK-09-E898)

21 Oct 2009 20:42

### Conducted Emissions

EUT: CD Receiver  
 Manuf: ANAM ELECTRONICS  
 Op Cond: a.c. 120 V, 60 Hz (Wireless lan)  
 Operator: Shin min-chul  
 Test Spec: FCC Part 15 Class B  
 Comment: Model : CR-H500NT  
 LINE : Line (With GND)

Scan Settings				(1 Range)				Receiver Settings			
Frequencies		Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge			
Start	Stop	3.9063kHz	9kHz	PK+AV	20msec	20 dB	OFF	60dB			
150kHz	30MHz										
Transducer	No.	Start	Stop	Name							
	1	150kHz	30MHz	CE_LINE							
Final Measurement:		Detectors:	X QP / + AV								
		Meas Time:	1sec								
		Subranges:	8								
		Acc Margin:	30 dB								



# PLOTS OF EMISSIONS

## Wifi TX ON Mode (Neutral) (Ground)

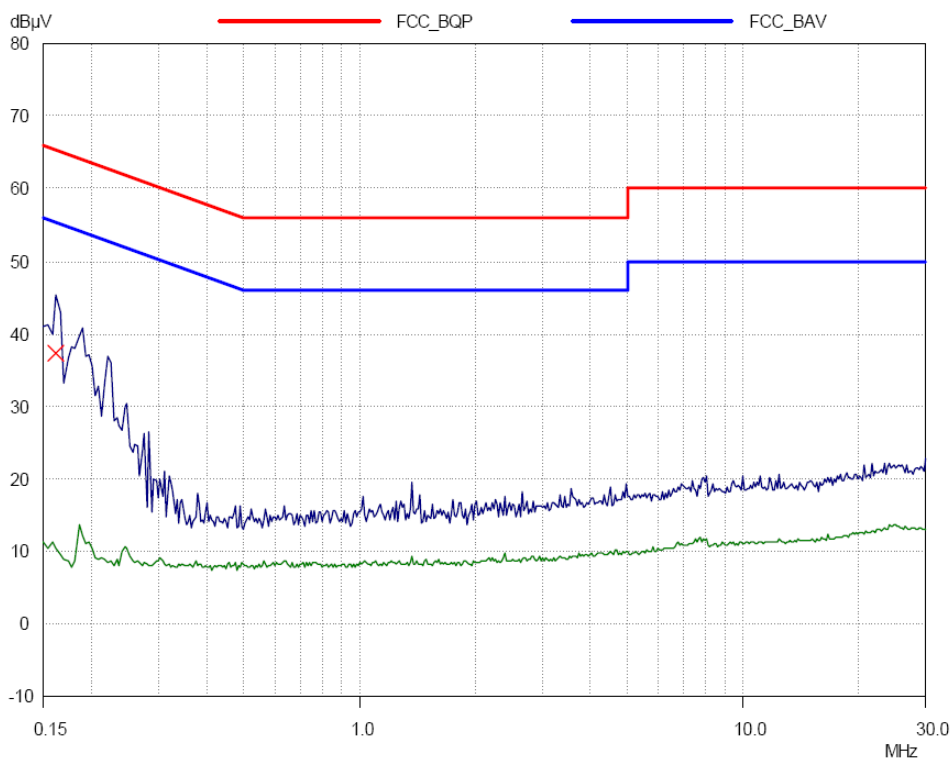
NEMKO KOREA (NK-09-E898)

21 Oct 2009 20:49

### Conducted Emissions

EUT: CD Receiver  
 Manuf: ANAM ELECTRONICS  
 Op Cond: a.c. 120 V, 60 Hz (Wireless lan)  
 Operator: Shin min-chul  
 Test Spec: FCC Part 15 Class B  
 Comment: Model : CR-H500NT  
 LINE : Neutral (With GND)

Scan Settings		(1 Range)			Receiver Settings			
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge
150kHz	30MHz	3.9063kHz	9kHz	PK+AV	20msec	20 dB	OFF	60dB
Transducer	No.	Start	Stop	Name				
	1	150kHz	30MHz	CE_NEUT				
Final Measurement:		Detectors:	X QP / + AV					
		Meas Time:	1sec					
		Subranges:	8					
		Acc Margin:	30 dB					



# PLOTS OF EMISSIONS

## Wifi TX ON Mode (L1) (Non Ground)

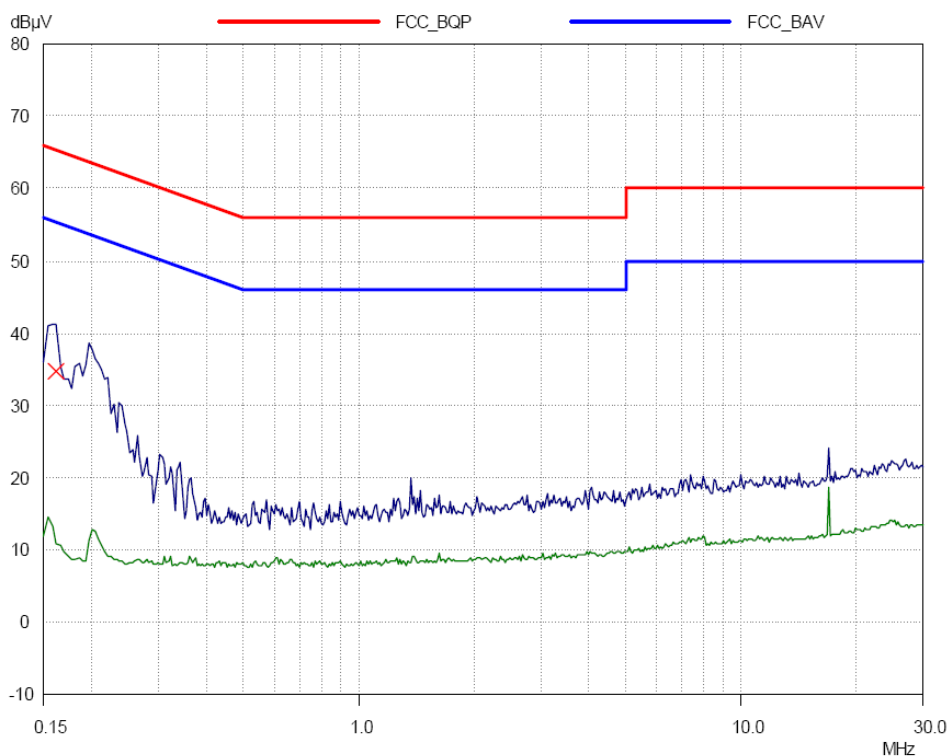
NEMKO KOREA (NK-09-E898)

21 Oct 2009 20:33

### Conducted Emissions

EUT: CD Receiver  
 Manuf: ANAM ELECTRONICS  
 Op Cond: a.c. 120 V, 60 Hz (Wireless lan)  
 Operator: Shin min-chul  
 Test Spec: FCC Part 15 Class B  
 Comment: Model : CR-H500NT  
 LINE : Line (Without GND)

Scan Settings		(1 Range)			Receiver Settings				
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge	
150kHz	30MHz	3.9063kHz	9kHz	PK+AV	20msec	20 dB	OFF	60dB	
Transducer	No.	Start	Stop	Name					
	1	150kHz	30MHz	CE_LINE					
Final Measurement:		Detectors:	X QP / + AV						
		Meas Time:	1sec						
		Subranges:	8						
		Acc Margin:	30 dB						



# PLOTS OF EMISSIONS

## Wifi TX ON Mode (Neutral) (Non Ground)

NEMKO KOREA (NK-09-E898)

21 Oct 2009 20:22

### Conducted Emissions

EUT: CD Receiver  
 Manuf: ANAM ELECTRONICS  
 Op Cond: a.c. 120 V, 60 Hz (Wireless lan)  
 Operator: Shin min-chul  
 Test Spec: FCC Part 15 Class B  
 Comment: Model : CR-H500NT  
 LINE : Neutral (Without GND)

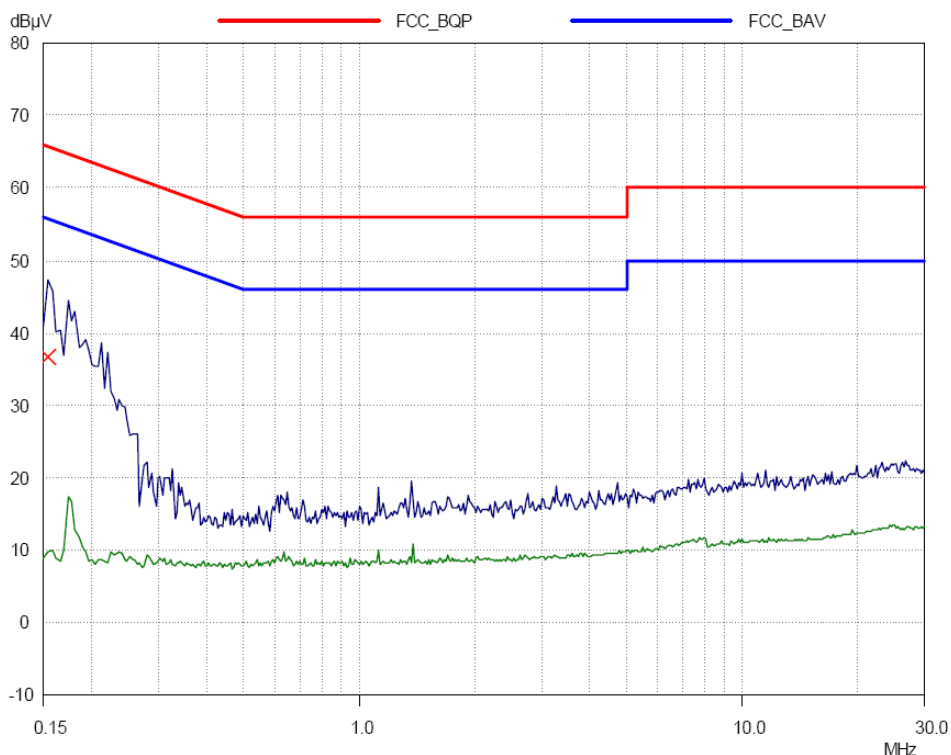
Scan Settings		(1 Range)				Receiver Settings			
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge	
150kHz	30MHz	3.9063kHz	9kHz	PK+AV	20msec	20 dB	OFF	60dB	

Transducer	No.	Start	Stop	Name
	1	150kHz	30MHz	CE_NEUT

Final Measurement:	Detectors:	X QP / + AV
	Meas Time:	1sec
	Subranges:	8
	Acc Margin:	30 dB



## TEST DATA

### 8.7 Radiated Emissions

#### 8.7.1 Test Mode : CD Play Test Disc 1 kHz Signal

Frequency (MHz)	Reading (dB $\mu$ V)	Pol* (H/V)	AFCL+ Amp. (dB)**	Result (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
135.01	46.4	V	-10.9	35.5	43.5	8.0
321.70	49.4	H	-7.3	42.1	46.0	3.9
338.63	47.5	H	-7.2	40.3	46.0	5.7
432.00	46.7	H	-6.0	40.7	46.0	5.3
540.05	41.9	H	-4.3	37.6	46.0	8.4
675.06	46.1	H	-2.1	44.0	46.0	2.0
742.57	45.8	H	-1.3	44.5	46.0	1.5
810.07	39.5	V	0.0	39.5	46.0	6.5

#### 8.7.2 Test Mode : AUX Mode (1 kHz Audio Signal IN)

Frequency (MHz)	Reading (dB $\mu$ V)	Pol* (H/V)	AFCL+ Amp. (dB)**	Result (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
135.44	37.6	V	-10.9	26.7	43.5	16.8
169.30	37.8	H	-10.4	27.4	43.5	16.1
355.53	40.6	H	-6.9	33.7	46.0	12.3
524.84	41.2	H	-4.7	36.5	46.0	9.5
729.25	31.3	H	-1.6	29.7	46.0	16.3
744.93	35.0	H	-1.3	33.7	46.0	12.3

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### 8.7.3 Test Mode : USB MP3 Play (1 kHz Audio Signal) Mode

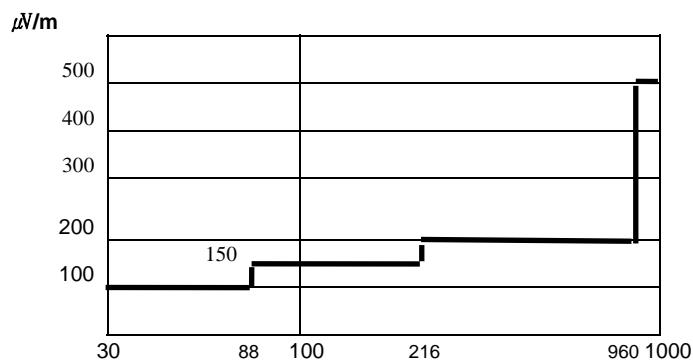
Frequency (MHz)	Reading (dB $\mu$ V)	Pol* (H/V)	AFCL+ Amp. (dB)**	Result (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
135.01	47.1	V	-10.9	36.2	43.5	7.3
203.15	47.0	H	-11.4	35.6	43.5	7.9
287.83	48.5	H	-8.2	40.3	46.0	5.7
321.70	49.8	H	-7.3	42.5	46.0	3.5
338.63	48.0	H	-7.2	40.8	46.0	5.2
540.05	42.9	H	-4.3	38.6	46.0	7.4
675.06	44.9	H	-2.1	42.8	46.0	3.2
742.57	45.6	H	-1.3	44.3	46.0	1.7

### 8.7.4 Test Mode : Network Mode

Frequency (MHz)	Reading (dB $\mu$ V)	Pol* (H/V)	AFCL+ Amp. (dB)**	Result (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
135.43	38.3	H	-10.9	27.4	43.5	16.1
169.30	33.7	H	-10.4	23.3	43.5	20.2
332.65	34.1	H	-7.3	26.8	46.0	19.2
338.61	39.1	H	-7.2	31.9	46.0	14.1
440.18	34.8	H	-5.9	28.9	46.0	17.1
694.13	38.0	H	-2.2	35.8	46.0	10.2
729.25	35.0	H	-1.6	33.4	46.0	12.6

### Radiated Measurements at 3 meters





**NOTES:**

1. All modes of operation were investigated the worst-case emission are reported.
  2. The radiated limits are shown on Figure 4.
- Above 1 GHz the limit is 500  $\mu\text{V}/\text{m}$ .

Fig. 4. Limits at 3 meters

**NOTES:**

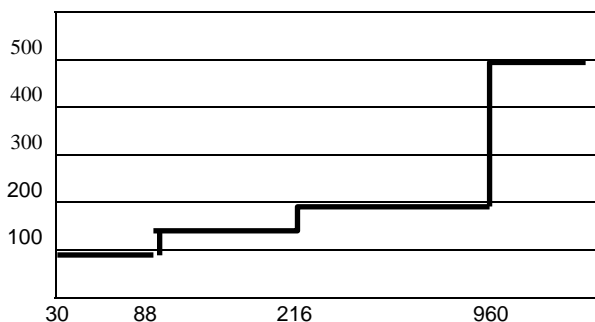
1. \* Pol. H = Horizontal V = Vertical
2. \*\* AFCL+Amp. = Antenna Factor + Cable Loss + Amplifier.
3. \*\*\*Measurements using CISPR quasi-peak mode. Above 1 GHz, peak detector function mode is used using a resolution bandwidth of 1 MHz and a video bandwidth of 1 MHz. The peak level complies with the average limit. Peak mode is used with linearly polarized horn antenna and low-loss microwave cable.

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### 8.8 Receiver Radiated Emissions

Frequency (MHz)	Reading (dB $\mu$ V)	Pol* (H/V)	AF+CL+Amp (dB)**	Result (dB $\mu$ V / m)	Limit (dB $\mu$ V / m)	Margin (dB)
30 ~ 1000	More than 20 dB margin					
1465.00	40.81	V	-5.35	35.46	54.0	18.54
2435.00	41.10	H	-1.47	39.63	54.0	14.37
3858.00	45.29	H	1.82	47.11	54.0	6.89

Radiated Measurements at 3 meters



**NOTES:**

1. All modes were measured and the worst-case emission was reported.
2. The radiated limits are shown on left figure.

MHz

Limits at 3 meters

**NOTES:**

1. \*Pol. H=Horizontal V=Vertical
2. \*\*AF+CL+Amp. = Antenna Factor + Cable Loss + Amplifier.
3. Measurements were performed using a CISPR quasi-peak mode for emissions below 1 GHz and average detector mode for emissions above 1GHz with the resolution bandwidth of 1 GHz.
4. The spurious emission was measured on frequency range from 30 MHz to 3 times the highest tuneable frequency.
5. The limit is on the RSS-210 and RSS-Gen.

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## 8.9 Antenna Power Conducted Emissions

Receiving Mode:

T.Freq.* (MHz)	Freq. (MHz)	Level (dB $\mu$ V)	MPL** (dB)	Limit (dB $\mu$ V)	F/S (dB $\mu$ V)	Margin*** (dB)
87.5	98.20	-	7.5	50.0	-	-
	196.40	-	7.5	50.0	-	-
	294.60	-	7.5	50.0	-	-
	392.80	-	7.5	50.0	-	-
	491.00	13.4	7.5	50.0	20.9	29.1
	589.20	-	7.5	50.0	-	-
	687.40	-	7.5	50.0	-	-
	758.60	-	7.5	50.0	-	-
	883.80	-	7.5	50.0	-	-
	982.00	-	7.5	50.0	-	-
98.1	108.80	-	7.5	50.0	-	-
	217.60	-	7.5	50.0	-	-
	326.40	-	7.5	50.0	-	-
	435.20	-	7.5	50.0	-	-
	544.00	-	7.5	50.0	-	-
	652.20	-	7.5	50.0	-	-
	761.60	14.7	7.5	50.0	22.2	27.8
	870.40	-	7.5	50.0	-	-
	979.20	11.4	7.5	50.0	18.9	31.1
107.9	118.60	-	7.5	50.0	-	-
	237.20	9.7	7.5	50.0	17.2	32.8
	355.80	11.9	7.5	50.0	19.4	30.6
	474.40	10.7	7.5	50.0	18.2	31.8
	593.00	-	7.5	50.0	-	-
	711.60	11.2	7.5	50.0	18.7	31.3
	830.20	11.7	7.5	50.0	19.2	30.8
	948.80	9.9	7.5	50.0	17.4	32.6

**Antenna Power Conducted Emissions Tabulated Data**

# TEST DATA

**Others:**

Freq. (MHz)	Level (dB $\mu$ V)	MPL** (dB)	Limit (dB $\mu$ V)	F/S (dB $\mu$ V)	Margin*** (dB)
30~1000	-	7.5	50.0		More than 20 dB Margin
	-	7.5	50.0		
	-	7.5	50.0		
	-	7.5	50.0		
	-	7.5	50.0		

**Antenna Power Conducted Emissions Tabulated Data**

**NOTES:**

1. All modes of operation were investigated the worst-case emission are reported.
2. The limits is 2.0 nanowatts from 30 MHz to 960 MHz.

\* T.Freq = Turning Frequency.

\*\* MPL = Matching Pad Loss.

\*\*\* Measurements using CISPR quasi-peak mode.

**Comment**

Note) - : No values due to local oscillator than 20 dB below the limit was measured during radiated disturbance. If no frequencies are specified in the tables, no measurement for Quasi-peak was necessary.

## 9. MAXIMUM PERMISSIBLE EXPOSURE

### RF Exposure Limit

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environmental of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

Limits for Maximum Permissible Exposure (MPE)

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density (mW/cm <sup>2</sup> )	Averaging Time (Minutes)
<b>(A) Limits for occupational / Contral Exposure</b>				
30 - 300	61.4	0.163	1	6
300 - 1500	...	...	F/300	6
1500 - 100000	...	...	5	6
<b>(B) Limits for General Population / Uncontrolled Exposure</b>				
30 - 300	27.5	0.073	0.2	30
300 - 1500	...	...	F/1500	30
1500 - 100000	...	...	1	30

F = Frequency (MHz)

### Fries formula

Fries transmission formula :  $P_d = (P_{out} * G) / (4 * \pi * r^2)$

$$r = \sqrt{((P_{out} * G) / 4 * \pi * P_d)}$$

Where

$P_d$  = Power density in mW/cm<sup>2</sup>

$P_{out}$  = Output power to antenna in mW

G = Gain of antenna in linear scale

$\pi$  = 3.1416

r = Distance between observation point center of the radiator in cm

$P_d$  is the limit of MPE, 1 mW/cm<sup>2</sup>. If we know the Maximum Gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

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### Test Result

The maximum antenna gain is 2.7dBi or 1.86(Numeric)

Output power into antenna and RF Exposure Distance

Channel	Frequency (MHz)	Output Power to Antenna(mW)	RF Exposure Distance (cm)
1	2412	71.78	3.26
6	2437	71.45	3.25
11	2462	96.61	3.78

**MPE Safe Distance =3.78cm**

## 10. ACCURACY OF MEASUREMENT

The Measurement Uncertainties stated were calculated in accordance with the requirements of NIST Technical Note 1297 with the confidence level of 95%

### 1. Radiation Uncertainty Calculation

<i>Contribution</i>	<i>Probability Distribution</i>	<i>Uncertainty(+/-dB)</i>
Antenna Factor	Normal (k=2)	± 0.5
Cable Loss	Normal (k=2)	± 0.04
Receiver Specification	Rectangular	± 2.0
Antenna directivity	Rectangular	± 1.0
Antenna Factor variation with Height		
Antenna Phase Center Variation		
Antenna Factor Frequency Interpolation		
Measurement Distance Variation		
Site Imperfections	Rectangular	± 2.0
Mismatch:Receiver VRC $r_i=0.3$ Antenna VRC $r_R=0.1(B_i)0.4(L_p)$ Uncertainty Limits $20\text{Log}(1+/-r_i r_R)$	U-Shaped	+ 0.25 / - 0.26
System Repeatibility	Std.deviation	± 0.05
Repeatability of EUT	-	-
Combined Standard Uncertainty	Normal	± 1.77
Expended Uncertainty U	Normal (k=2)	± 3.5

### 2. Conducted Uncertainty Calculation

<i>Contribution</i>	<i>Probability Distribution</i>	<i>Uncertainty(+/-dB)</i>
Receiver Specification	Normal (k=2)	± 2.0
LISN coupling spec.	Normal (k=2)	± 0.4
Cable and input attenuator cal.	Rectangular	± 0.4
Mismatch:Receiver VRC $r_i=0.3$ LISN vrc $r_g=0.1$ Uncertainty Limits $20\text{Log}(1+/-r_i r_R)$	U-Shaped	± 0.26
System Repeatibility	Std.deviation	± 0.68
Repeatability of EUT	-	-
Combined Standard Uncertainty	Normal	± 1.18
Expended Uncertainty U	Normal (k=2)	± 2.4

## 11. TEST EQUIPMENT

No.	Instrument	Manufacturer	Model	Due to Calibration
1	* Test Receiver	R & S	ESCS 30	2010. 08
2	* Test Receiver	R & S	ESCS 30	2009. 12
3	* Amplifier	Agilent	8447F	2010. 08
4	* Amplifier	HP	8447F	2010. 08
5	Amplifier	Agilent	8447F	2010. 10
6	* Pre-Amplifier	HP	8449B	2010. 03
7	* Spectrum Analyzer	Agilent	E4440A	2010.07
8	* Power Meter	R & S	NRVS	2010.02
9	* Peak Power Sensor	R & S	NRV-Z32	2010.02
10	* Logbicon Super Antenna	Schwarzbeck	VULB9168	2010. 02
11	Loop Antenna	EMCO	6502	2009. 12
12	Dipole Antenna	R & S	VHA9103	2010. 05
13	Dipole Antenna	R & S	UHA9105	2010. 05
14	* Double Ridged Broadband Horn Antenna	Schwarzbeck	BBHA9120D	2010. 05
15	* Biconical Log Antenna	ARA	LPB-2520/A	2009. 12
16	Asorbing Clamp	R & S	MDS21	2010. 06
17	Signal Generater	R & S	SMP02	2010. 08
18	* Matching Pad	R & S	RAM358_5414.02	2010. 05
19	* LISN	R & S	ESH3-Z5	2010. 10
20	* LISN	R & S	ESH2-Z5	2010. 09
21	LISN	Kyoritsu	KNW-408	2009. 12
22	* Position Controller	Daeil EMC	N/A	N/A
23	* Turn Table	Daeil EMC	N/A	N/A
24	* Antenna Mast	Daeil EMC	N/A	N/A
25	* Anechoic Chamber	EM Eng.	N/A	N/A
26	* Shielded Room	EM Eng.	N/A	N/A
27	* Anechoic Chamber	Seo-Young EMC	N/A	N/A

\*) Test equipment used during the test