AHD
EMC Laboratory
92723 M-152, Dowagiac, MI 49047 USA
Phone: (616) 424-7014
www.ahde.com

EXHIBIT K: REPORT OF MEASUREMENTS [2.1033(B6)]

Test Report for FCC ID: CB2300NHL3

FCC Part 2.1031, Part 15 Subpart C(15.231)

Report #20000315F
Issued 5/23/00

TRANSMITTER MODEL CB2300NHL3 OF HOMELINK® III SERIES

Prepared for: Mr. Art Vonderwell
Johnson Controls Interiors, LLC
One Prince Center
Holland, MI 49423

Test Date(s): April 25 thru April 27, 2000

data recorded by

Ted Chaffee, NCE
Test Engineer, AHD

witnessed by

Tony Kalacanic

This report prepared by:

Ted Chaffee, NCE
Technical Manager/Test Engineer, AHD

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Statements Concerning this Report

Test Traceability:
The calibration of all measuring and test equipment and the measured data using this equipment are traceable to the National Institute for Standards and Technology (NIST).

Limitations on results:
The test results contained in this report relate only to the Item(s) tested. Any electrical or mechanical modification made to the test item subsequent to the test date shall invalidate the data presented in this report. Any electrical or mechanical modification made to the test item subsequent to this test date shall require an evaluation to verify continued compliance.

Limitations on copying:
This report shall not be reproduced, except in full, without the written approval of AHD.

Limitations of the report:
This report shall not be used to claim product endorsement by NVLAP, FCC, or any agency of the US Government.

Statement of Test Results Uncertainty: Following the guidelines of NAMAS publication NIS81 and NIST Technical Note 1297, the Measurement Uncertainty at a 95% confidence level is determined to be: ±3.6 dB

Manufacturer/Applicant [2.1033(b1)]

The manufacturer and applicant:

JOHNSON CONTROLS INTERIORS, LLC.
One Prince Center
Holland, Michigan 49423

Measurement/Test Site Facility & Equipment

Test Site [2.948, 2.1033(b6)]

The AHD test facility is centered on 9 acres of rural property near Sister Lakes, Michigan. The mailing address is 92723 M-152, Dowagiac, Michigan 49047. This test facility is NVLAP accredited (LabCode 200129-0). It has been fully described in a report filed with the FCC and Industry Canada. The report filed with the FCC is, dated November 5, 1996, was accepted by the FCC in a letter dated January 15, 1997, (31040/SIT 1300F2). The report filed with Industry Canada, dated August 11, 1998, was accepted via a letter dated September 1, 1998, (file:IC3161).

Measurement Equipment Used [2.947(d), 15.31(b)]

Equipment	Model	S/N	Last Cal Date	Calibration Interval
HP EMI Receiver system	HP 8546A			
RF Filter Section	HP-85460A	3448A00283	22-Jun-99	12 month
RF Receiver Section	HP-85462A	3625A00342	22-Jun-99	12 month
EMCO BiconiLog Antenna	3142	1077	07-Sep-99	12 months
(3-M) Type 129FF Ultra Flex LowLoss	RG58/U	9910-12	29-Oct-99	6 months
ElectroMetrics Double Ridge Horn	RGA-60	6147	16-Mar-99	12 months

Measurement Environment

The tests were performed with the equipment under test, and measurement equipment inside the all-weather enclosure. Ambient temperature was 22deg.C., the relative humidity 40%.

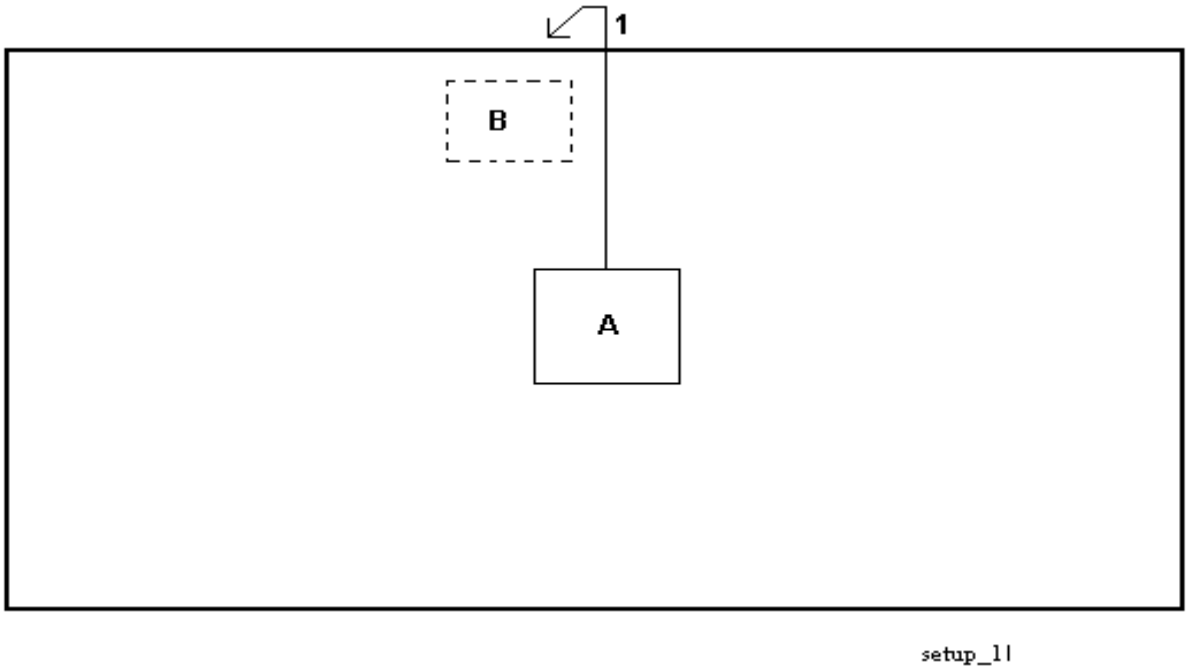
Tested Configuration /Setup: [2.1033(b8)]

Support Equipment & Cabling

Setup Diagram Legend	Description	Model	Serial No. / Part No.	EMC Consideration
A	[EUT] Universal Garage Door Opener	[JCI] CB2300NHL3	--	FCC ID: CB2300NHL3
B	12V DC Power Supply	[Kikusui] PAB 18-3	47263914	Located on the turntable base below the EUT table.
1	Power Supply Cable Harness	--	--	2 meters, Unshielded, 2-lead lightly twisted cable harness.

Setup Diagram

Note: Setup photographs are located in Attached Electronic File, Exhibit L.



BASIC EUT SETUP
(Legend designation is above)

Summary of Results:

1. This test series evaluated the Equipment Under Test to FCC Part 15, SubPart C.
2. The system tested is compliant to the requirement of CFR 47, FCC Part 15, SubPart C for periodic operation in the allowed frequency bands above 70MHz, (Part 15.231).
3. The equipment under test was received on April 25, 2000 and this test series commenced on April 25, 2000.
4. The line conducted emission testing does not apply to this product. The device is powered from a 12 volt automobile source.
5. The preliminary scan for spurious emissions conducted in a shielded room indicated low level spurious signals. These emissions were not observable at the 3-meter OATS.
6. The frequencies selected for final evaluation include 288MHz, 310MHz, and 418MHz. This is in accordance with 47 CFR 15.31(m). The 310MHz was selected as a mid-range frequency because it is the predominant frequency used in controlling garage doors. Past correspondence with the FCC regarding the selection of frequencies and test setup suggest this judgment as appropriate.
7. Occupied Band Width of the transmitted signal, at the 20dB point, nearest the limit was measured to be 510KHz. This measurement occurred with the EUT transmitting at 288MHz with a pulse modulation of 80% duty cycle. This measurement is within the allowed 720KHz bandwidth. The greatest bandwidth measured was 563KHz with the EUT transmitting at 418MHz
8. The field strength level of the fundamental was measured for 288MHz, 310MHz, and 418MHz. The evaluation showed the emission nearest the limit occurred while operating at 418MHz with 500Hz pulsed modulation at a 50% duty cycle. The EUT was positioned on the ‘end’ and the receive antenna oriented in the vertical polarization. This signal was measured to be 0.7dB below the limit of 80.3dBuV/m (10,351uV/m).
9. The evaluation of the field strength levels of the harmonics showed the emission nearest the limit occurred while operating at 418MHz with 500Hz pulsed modulation at 30% duty cycle. The EUT was positioned on the ‘end’; and the receive antenna oriented in the horizontal polarization. This signal, at 836MHz, was measured to be 3.5dB below the limit of 60.3dBuV/m (1035uV/m).
10. Digital Spurious Emissions: The are no detectable spurious emissions associated with the digital portion of the CB2300NHL3.
11. The average value of the coarse tune pulses over a 100mSec time, nearest the limit, occurred at 418MHz. The average measurement was determined to be 5280uV/m which is 5.8dB below the limit of 10,333uV/m..
12. The average value of the fine tune pulses over a 100mSec time, nearest the limit, occurred at 418MHz. The average measurement was determined to be 1934uV/m which is 14.6dB below the limit of 10,333uV/m.

Changes made to achieve compliance

1. NONE

Standards Applied to Test: [2.1033(b6)]

ANSI C63.4 - 1992, Appendix I
CFR47 FCC Part 2, Part 15, SubPart C, 15.231 Intentional Radiator; SubPart B, Digital Device

Test Methodology: [2.1033(b6)]

The pictures in this report, showing test setups, indicate the agreed upon configuration of testing for this product-type.

For the testing, the EUT was placed at the center of the table 80cm above the ground plane pursuant to ANSI C63.4 for stand-alone equipment. The 12volt supply harness was routed to the edge of the long side of the table then down to the power supply located on the turntable base.

The line conducted emission testing was not performed on this product. In its final configuration the product is powered from an automobile 12 volt system only.

The transmit PCB was removed from the housing for this evaluation. The reasons for this setup configuration include the observation that the metal in the housing was creating inconsistent measurements and depressing the buttons to activate the transmitter was easier without the housing. For the testing, the flex cable of the EUT was folded to represent the position of the transmit PCB, flex cable, and user button PCB relative to each other.

Radiated

The system was placed upon a 1 x 1.5 meter non-metallic table 80cm above the open field site ground plane in the prescribed setup per ANSI C63.4, Figure 9(c).
The table sits upon a remote controlled turntable. The receiving antenna, located at the appropriate standards distance of 3 or 10 meters from the table center, is also remote controlled.

The principle settings of the EMI Receiver for radiated testing include:

IF Bandwidth:	120KHz for frequencies less than 1GHz.
	1 MHz for frequencies greater than 1GHz.
Detector Function:	Peak Mode
	The Average levels were determined mathematically based upon the duty cycle of the pulsed modulation of the transmitted signal.

At frequencies up to 1000MHz a BiconiLog broadband antenna was used for measurements.

At frequencies above 1000MHz a double-ridge Horn broadband antenna was used for measurements.

During the evaluation the EUT was transmitting continuously.

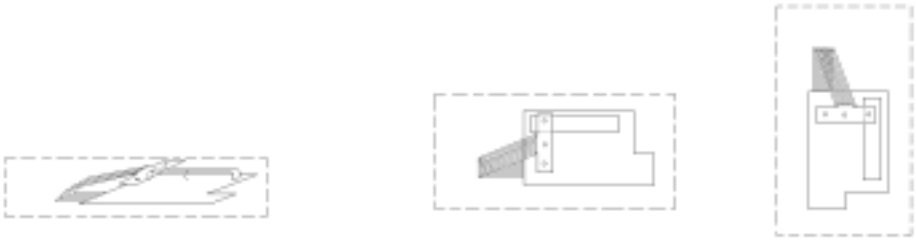
The turntable was rotated 360 degrees and the receiving antenna height varied from 1 to 4 meters to search out the highest emissions.

Preliminary tests were done at 288MHz, 310MHz, 360MHz, and 418MHz. The final measurements were made at a low band frequency (288MHz), a mid band frequency (310MHz), and a high band frequency (418MHz) pursuant to the requirements of 47CFR 15.31(m). At each frequency the EUT was placed in three orthogonal positions. At each position a 500Hz pulse modulation was adjusted to a 30%, 50%, and 80% duty cycle. At each duty cycle, measurements were taken with the receive antenna in vertical and horizontal positions.

The unit was evaluated up to the tenth harmonic of the fundamental as an intentional radiator, and up to 1000MHz as a digital device.

The orthogonal positions are:

Flat Side End



THE HP8546A EMI Receiver has stored in memory the antenna and coax correction factors used in this test. The resultant Field Strength (FS) in dBuV/m presented by the HP8546A is the summation in decibels (dB) of the Received Level (RF), the Antenna Correction Factor (AF), and the Cable Loss Factor (CF).

Formula 1: $FS(dBuV/m) = RF(dBuV) + AF(dB/m) + CF(dB)$

The resultant Field Strength measurement is recorded using the peak hold detector of the HP8546A.

This recorded peak level is further corrected, by calculation, to an average level by a factor determined by the duty cycle of the pulsed modulation. The duty cycle factor is determined as outlined in Appendix I4 of the standard ANSI C63.4:1992.

Formula 2: Average Level(uV/m) = [Peak Level(uV/m)] x [duty cycle factor].

Formula 2a: Average Level(dBuV/m) = Peak Level)dBuV/m) + duty cycle factor(dB).

The duty cycle factor to apply is determined for the duty cycles of 30%, 50% and 80% as follows.

For 30% (0.30): duty cycle factor(dB) = 20*Log(0.3) = -10.46
For 50% (0.50): duty cycle factor(dB) = 20*Log(0.5) = -6.02
For 80% (0.80): duty cycle factor(dB) = 20*Log(0.8) = -1.94

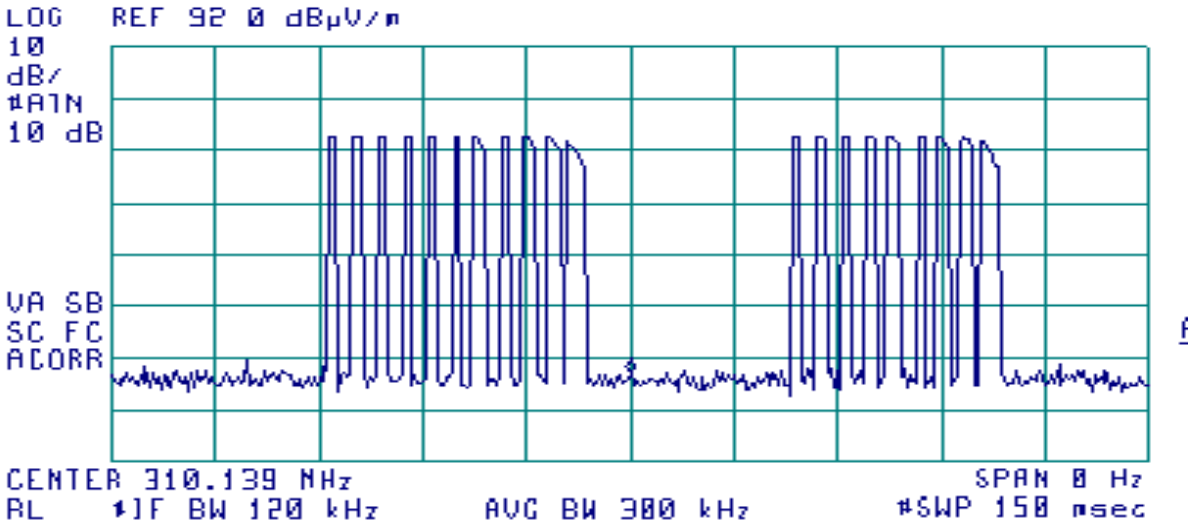
SAMPLE CALCULATION:

A measured peak level of 50% duty cycle pulse modulated signal is 500uV/m.
Calculated to dBuV/m is 20*Log(500) = 53.98dBuV/m Peak level.
Applying the duty cycle factor: Avg. Level(dBuV/m) = 53.98 - 6.02dB = 47.96dBuV/m.

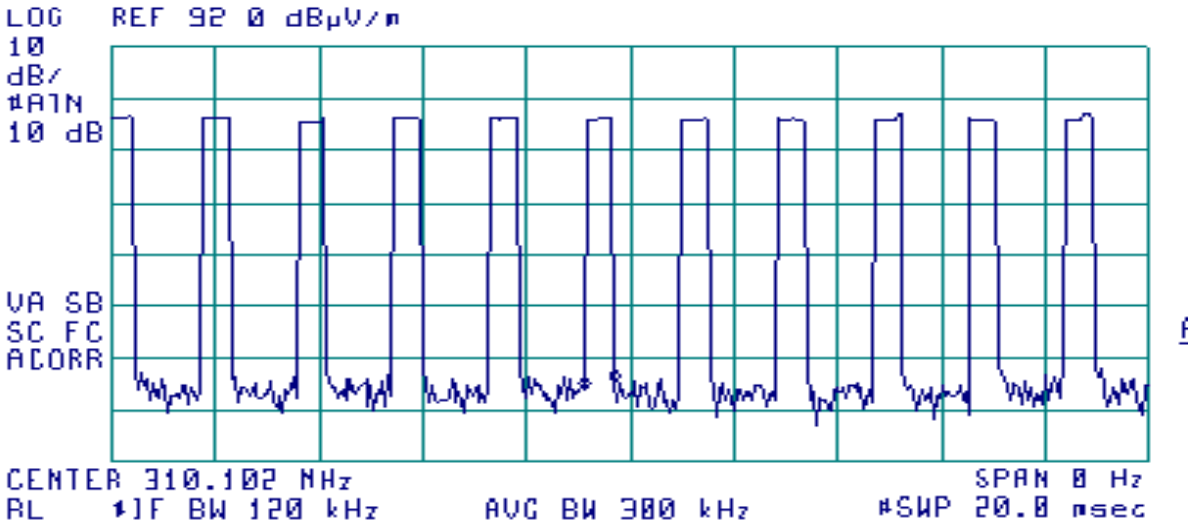
Test Data [2.1033(b6)]

Modulation Characteristics

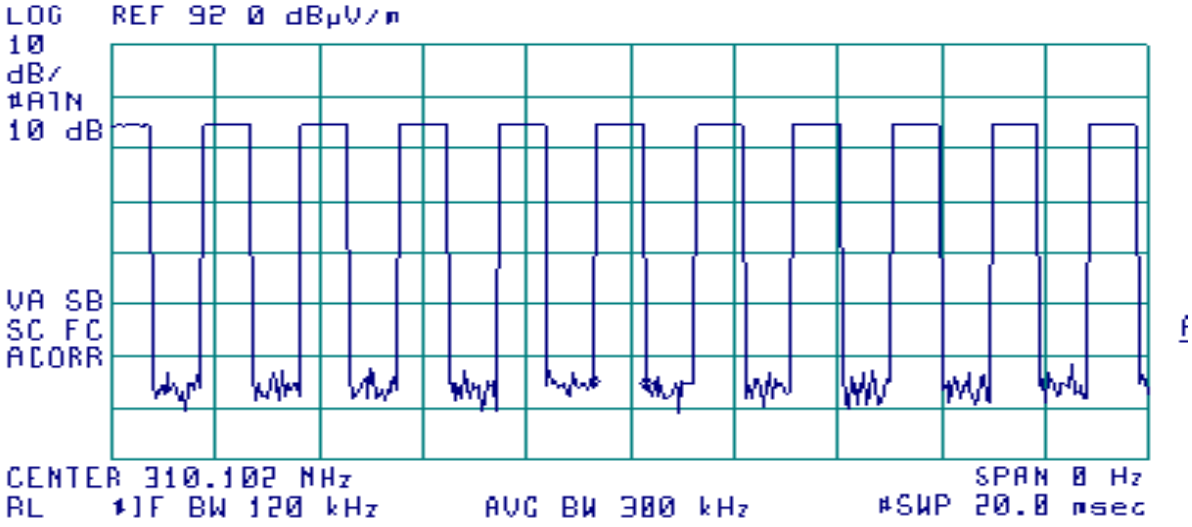
Typical encoding at 310MHz: Consisting of pulses of differing duty cycles.



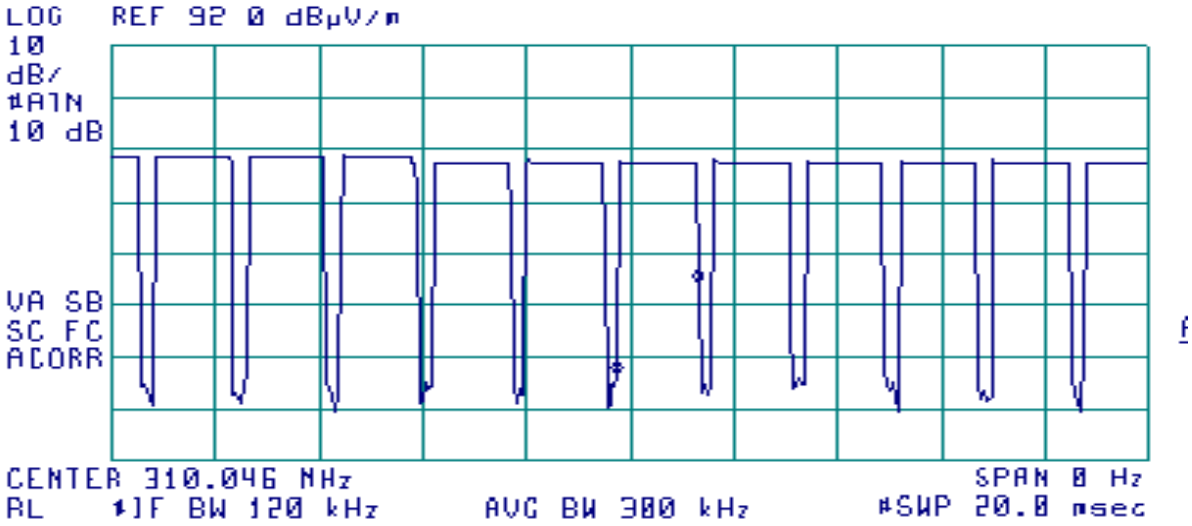
310MHz, 500Hz Modulation, 30% duty cycle



310MHz, 500Hz Modulation, 50% duty cycle



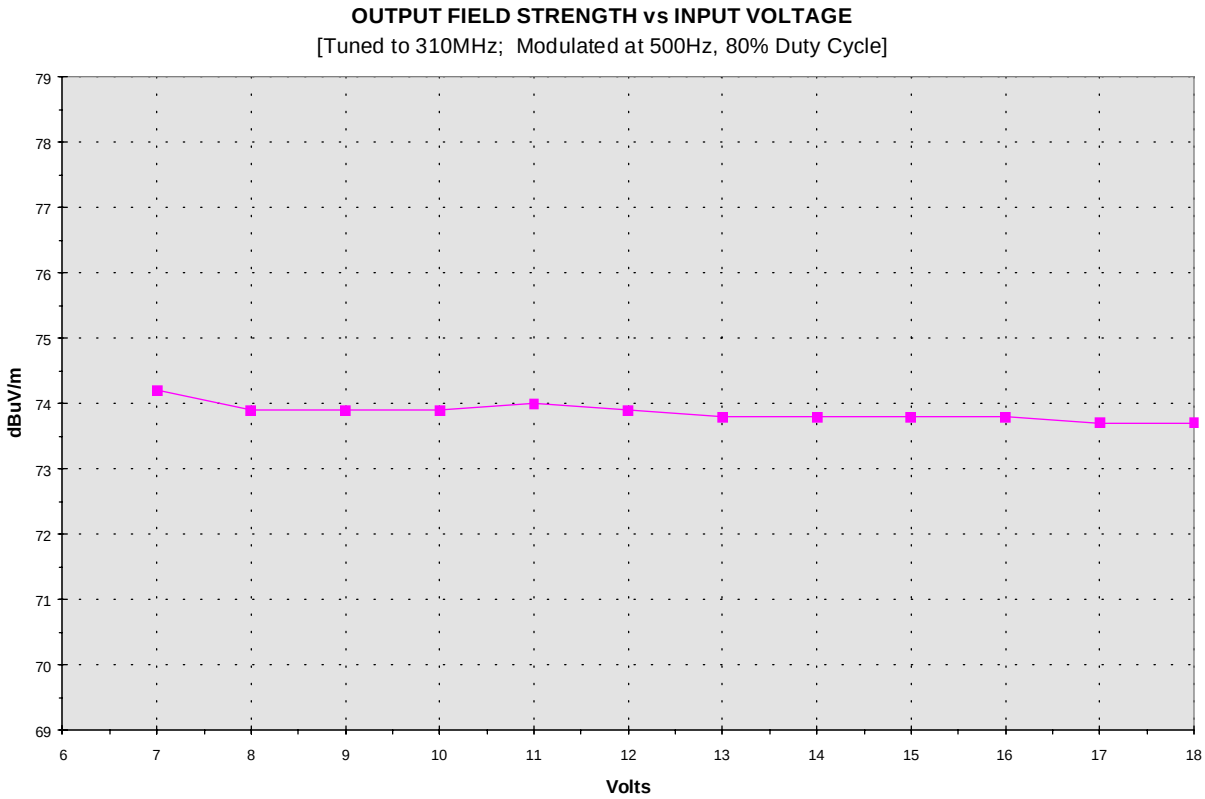
310MHz, 500Hz Modulation, 80% duty cycle



Relative Emission Level vs. Supply Voltage [15.31(e)]

The relative emission level as the supply voltage varied is presented in the charts below.

TX OUTPUT vs. Voltage LEVEL DUT= CB2300NHL3, 310MHz, 80%duty cycle	
Volt In	TX OutPut Pk dBuV/m
6	no-op
7	74.2
8	73.9
9	73.9
10	73.9
11	74.0
12	73.9
13	73.8
14	73.8
15	73.8
16	73.8
17	73.7
18	73.7



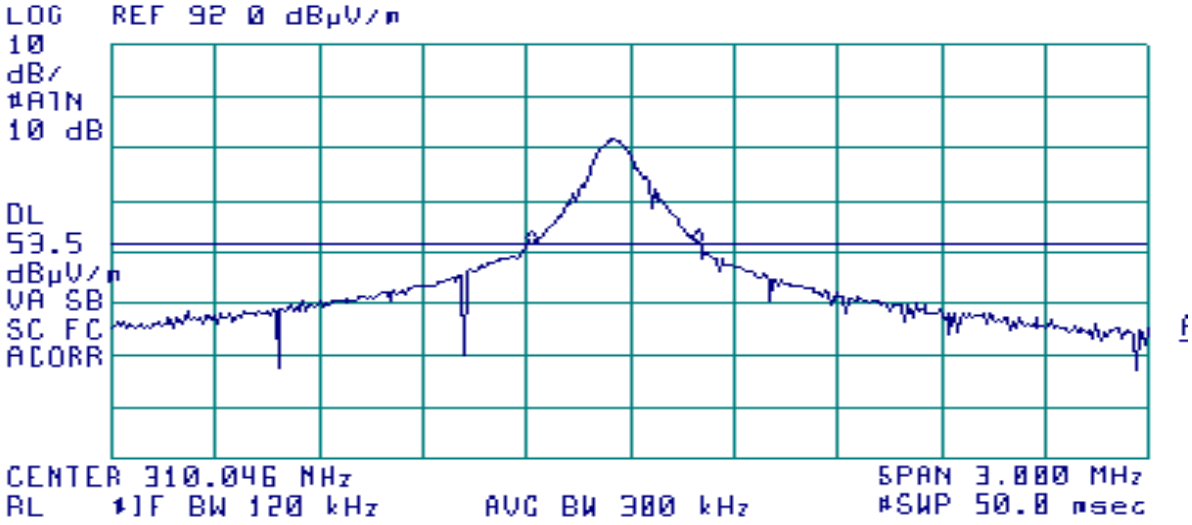
Occupied Bandwidth [15.231(c)]

The maximum allowed 20dB bandwidth is determined pursuant to 15.23(c). For fundamental signals between 70MHz and 900MHz the bandwidth allowed is 0.25% of the fundamental.

Formula 2: Allowed bandwidth = [Fundamental] x [.0025]

Fundamental (MHz)	Duty Cycle	Measured 20dB Bandwidth	LIMIT Fundamental * .0025
288	30%	450 KHz	720 KHz
"	50%	488 KHz	720 KHz
"	80%	510 KHz	720 KHz
310	30%	518 KHz	775 KHz
"	50%	525 KHz	775 KHz
"	80%	480 KHz	775 KHz
418	30%	563 KHz	1045 KHz
"	50%	503 KHz	1045 KHz
"	80%	495 KHz	1045 KHz

This chart shows a typical measured bandwidth signal.



Restricted Bands: [15.205]

The following frequency bands are restricted. Only spurious emissions are permitted at levels limited by 15.209:

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.25
0.490-0.510	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2655-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	Above 38.6
13.36-13.41			

LIMIT @ 3meter: [15.209(a)]

30-88MHz	100uV/m	40dBuV/m
88-216MHz	150uV/m	43.5dBuV/m
216-960MHz	200uV/m	46dBuV/m
above 960MHz	500uV/m	54dBuV/m

Verification of no capability to tune within the Restricted Bands.

The unit is designed capable of tuning from 285MHz to 420MHz. Except that the Homelink® III firmware prevents the possibility of tuning to the restricted regions of 322-325.4MHz, 399.9-410MHz, and 240-285MHz.

An exercise which attempted to train the units into the restricted bands demonstrated how well the firmware functioned. The unit could not be trained any closer to the restricted band area than 1MHz outside the restricted bands edges.

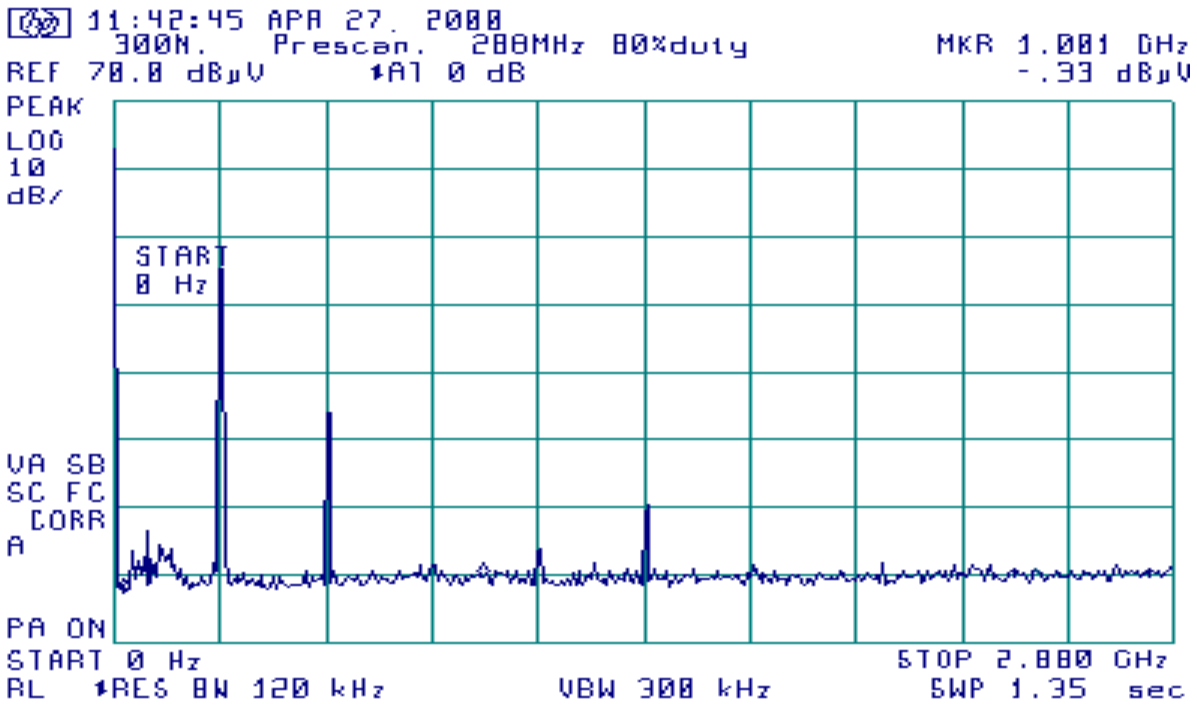
The spurious emissions observed in the restricted bands did not exceed the allowed limits for the restricted bands.

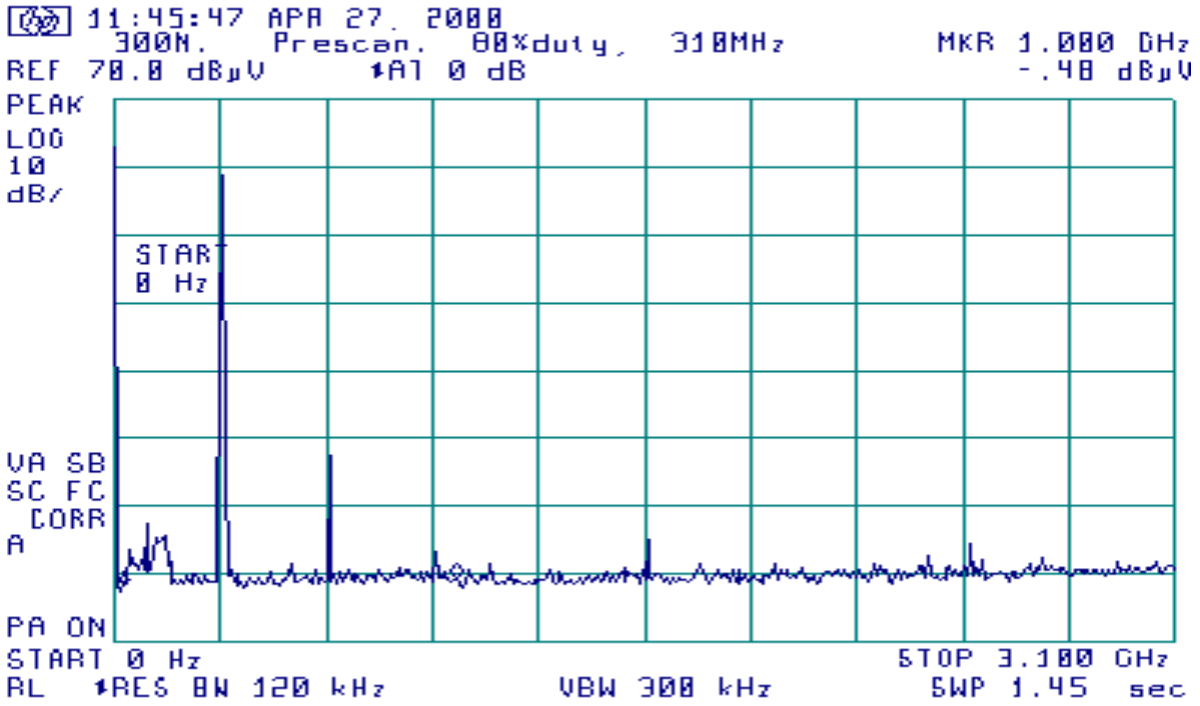
Radiated Field Strength Measurements: [15.231(b), 15.205]

A scan of the CB2300NHL3 was made in a shielded room to study the emission profile of the EUT. These scans indicate there are low level spurious emissions from the unit other than the fundamental and its associated harmonics. These emission were not measureable at the 3-meter open area test site.

The following three charts show the spectrum pattern of the EUT emissions. The levels indicated are not calibrated levels.

The are no measureable spurious emissions associated with the digital portion of the CB2300NHL3.

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300N. Prescan. 80%duty, 310MHz
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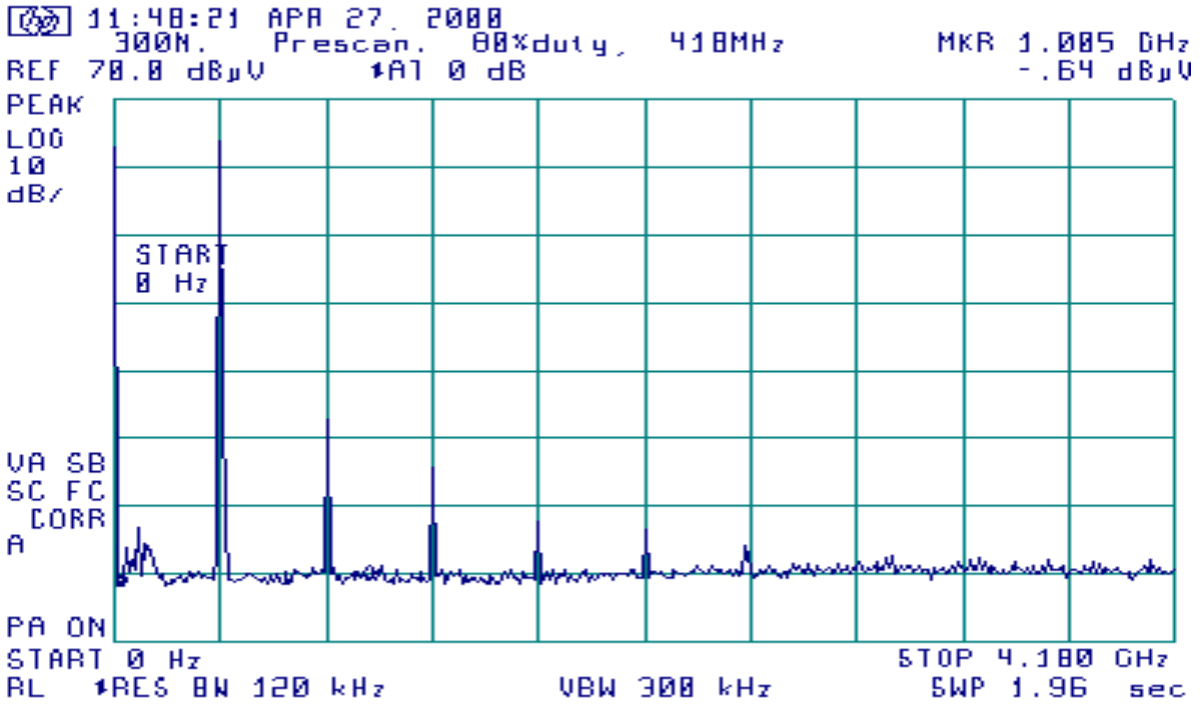
-.48 dBµV
PEAK
LOG
10
dB/
START
0 Hz
VA SB
SC FC
CORR
A
PA ON
START 0 Hz
STOP 3.100 GHz
RL #RES BW 120 kHz
VBW 300 kHz
SWP 1.45 sec


11:48:21 APR 27, 2000
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REF 70.0 dBµV
#Atl 0 dB
-.64 dBµV
PEAK
LOG
10
dB/
START
0 Hz
VA SB
SC FC
CORR
A
PA ON
START 0 Hz
STOP 4.100 GHz
RL #RES BW 120 kHz
VBW 300 kHz
SWP 1.96 sec

Field Strength Measurements of Fundamental : [15.231(b)]

MEASUREMENT PROCEDURE:

1. The EUT was trained to one of the three test frequencies.
2. The EUT was trained to one of the three test duty cycles.
3. The EUT was setup to one of the three orthogonal positions.
4. Steps 1-3 were repeated to cover all positions, duty cycles, and frequencies.

DUT Tuned to transmit at 288MHz

Freq. MHz	DUT position	Ant. Pol.	Corrected Data Peak Detector dBuV/m	Duty Cycle %	Duty Cycle Factor dB	Calculated Average Level dBuV/m	FCC Limit dBuV/m	Margin dB	Cable +Ant. Factor dB+dB/m
288	side	H	82.3	30%	-10.46	71.8	73.8	**2.0**	14.29
"	"	"	77.2	50%	-6.02	71.2	73.8	**2.6**	"
"	"	"	71.5	80%	-1.94	69.6	73.8	**4.2**	"

DUT Tuned to transmit at 310MHz

Freq. MHz	DUT position	Ant. Pol.	Corrected Data Peak Detector dBuV/m	Duty Cycle %	Duty Cycle Factor dB	Calculated Average Level dBuV/m	FCC Limit dBuV/m	Margin dB	Cable +Ant. Factor dB+dB/m
310	side	H	82.7	30%	-10.46	72.2	75.3	**3.1**	14.94
"	"	"	78.6	50%	-6.02	72.6	75.3	**2.7**	"
"	"	"	75.3	80%	-1.94	73.4	75.3	**1.9**	"

DUT Tuned to transmit at 418MHz

Freq. MHz	DUT position	Ant. Pol.	Corrected Data Peak Detector dBuV/m	Duty Cycle %	Duty Cycle Factor dB	Calculated Average Level dBuV/m	FCC Limit dBuV/m	Margin dB	Cable +Ant. Factor dB+dB/m
418	end	V	89.6	30%	-10.46	79.1	80.3	**1.2**	17.44
"	"	"	85.6	50%	-6.02	79.6	80.3	**0.7**	"
"	"	"	80.6	80%	-1.94	78.7	80.3	**1.6**	"

Field Strength Measurements of Harmonics: [15.231(b), 15.205]

DUT Tuned to transmit at 288MHz

Freq. MHz	DUT position	Ant. Pol.	Corrected Data Peak Detector dBuV/m	Duty Cycle 6 %	Duty Cycle Factor dB	Calculated Average Level dBuV/m	FCC Limit dBuV/m	Margin dB	Cable +Ant. Factor dB+dB/m
576	flat	H	58.1	30%	-10.46	47.6	53.8	**6.2**	21.0
"	"	"	50.3	50%	-6.02	44.3	53.8	**9.5**	"
"	"	"	42.9	80%	-1.94	41.0	53.8	**12.8**	"
864	flat	H	39.5	30%	-10.46	29.0	53.8	**24.8**	24.8
"	"	"	33.2	50%	-6.02	27.2	53.8	**26.6**	"
"	"	"	29.1	80%	-1.94	27.2	53.8	**26.6**	"
1152	flat	H	38.2	30%	-10.46	27.7	54.0	**26.3**	26.2
"	"	"	35.1	50%	-6.02	29.1	54.0	**24.9**	"
"	side	"	34.0	80%	-1.94	32.1	54.0	**21.9**	"
1440	flat	H	45.7	30%	-10.46	35.2	54.0	**18.8**	27.1
"	"	"	43.9	50%	-6.02	37.9	54.0	**16.1**	"
"	"	"	41.8	80%	-1.94	39.9	54.0	**14.1**	"
1728	flat	H	41.4	30%	-10.46	30.9	54.0	**23.1**	30.2
"	"	"	39.7	50%	-6.02	33.7	54.0	**20.3**	"
"	"	"	39.5	80%	-1.94	37.6	54.0	**16.4**	"
2016	flat	H	41.3	30%	-10.46	30.8	54.0	**23.2**	33.0
"	"	"	40.3	50%	-6.02	<34.3	54.0	>**19.7**	"
"	-	"	39.5 Noise Floor	80%	-1.94	<37.6	54.0	>**16.4**	"
2304	-	H	40.8 Noise Floor	30%	-10.46	<30.3	54.0	>**23.7**	32.1
"	-	"	40.2 Noise Floor	50%	-6.02	<34.2	54.0	>**19.8**	"
"	-	"	40.3 Noise Floor	80%	-1.94	<38.4	54.0	>**15.6**	"
2592	-	H	41.7 Noise Floor	30%	-10.46	<31.2	54.0	>**22.8**	32.2
"	-	"	40.6 Noise Floor	50%	-6.02	<34.6	54.0	>**19.4**	"
"	-	"	41.0 Noise Floor	80%	-1.94	<39.1	54.0	>**14.9**	"
2880	-	H	42.0 Noise Floor	30%	-10.46	<31.5	54.0	>**22.5**	33.5
"	-	"	41.3 Noise Floor	50%	-6.02	<35.3	54.0	>**18.7**	"
"	-	"	41.4 Noise Floor	80%	-1.94	<39.5	54.0	>**15.5**	"

The are no detectable spurious emissions associated with the digital portion of the CB2300NHL3.

DUT Tuned to transmit at 310MHz

Freq. MHz	DUT position	Ant. Pol.	Corrected Data Peak Detector dBuV/m	Duty Cycle %	Duty Cycle Factor dB	Calculated Average Level dBuV/m	FCC Limit dBuV/m	Margin dB	Cable +Ant. Factor dB+dB/m
620	flat	H	54.9	30%	-10.46	44.4	55.3	**10.9**	21.7
"	side	"	47.3	50%	-6.02	41.3	55.3	**14.0**	"
"	"	"	45.6	80%	-1.94	43.7	55.3	**11.6**	"
930	flat	H	39.6	30%	-10.46	29.1	55.3	**26.2**	25.3
"	side	V	32.3	50%	-6.02	26.3	55.3	**29.0**	"
"	flat	"	30.9	80%	-1.94	29.0	55.3	**26.3**	"
1240	flat	H	34.1	30%	-10.46	23.6	54.0	**30.4**	26.5
"	end	"	33.2	50%	-6.02	27.2	54.0	**26.8**	"
"	"	"	33.4	80%	-1.94	31.5	54.0	**22.5**	"
1550	flat	H	44.6	30%	-10.46	34.1	54.0	**19.9**	28.0
"	"	"	42.5	50%	-6.02	36.5	54.0	**17.5**	"
"	"	"	40.3	80%	-1.94	38.4	54.0	**15.6**	"
1860	side	H	40.1	30%	-10.46	29.6	55.3	**25.7**	31.6
"	flat	"	40.0	50%	-6.02	34.0	55.3	**21.3**	"
"	-	"	38.0 Noise Floor	80%	-1.94	<36.1	55.3	**>19.2**	"
2170	side	H	39.6	30%	-10.46	29.1	55.3	**26.2**	32.4
"	-	"	39.4 Noise Floor	50%	-6.02	33.4	55.3	**21.9**	"
"	-	"	38.5 Noise Floor	80%	-1.94	<36.6	55.3	**>18.7**	"
2480	-	H	36.0 Noise Floor	30%	-10.46	<25.5	55.3	**>29.8**	31.8
"	-	"	38.0 Noise Floor	50%	-6.02	<32.0	55.3	**>23.3**	"
"	-	"	36.2 Noise Floor	80%	-1.94	<34.3	55.3	**>21.0**	"
2790	-	H	41.3 Noise Floor	30%	-10.46	<30.8	54.0	**>23.2**	33.1
"	-	"	40.2 Noise Floor	50%	-6.02	<34.2	54.0	**>19.8**	"
"	-	"	40.7 Noise Floor	80%	-1.94	<38.8	54.0	**>15.2**	"
3100	-	H	41.2 Noise Floor	30%	-10.46	<30.7	54.0	**>23.3**	34.2
"	-	"	40.3 Noise Floor	50%	-6.02	<28.3	54.0	**>25.7**	"
"	-	"	40.3 Noise Floor	80%	-1.94	<38.4	54.0	**>15.6**	"

The are no detectable spurious emissions associated with the digital portion of the CB2300NHL3.

DUT Tuned to transmit at 418MHz

Freq. MHz	DUT position	Ant. Pol.	Corrected Data Peak Detector dBuV/m	Duty Cycle %	Duty Cycle Factor dB	Calculated Average Level dBuV/m	FCC Limit dBuV/m	Margin dB	Cable +Ant. Factor dB+dB/m
836	end	H	67.3	30%	-10.46	56.8	60.3	**3.5**	24.6
"	side	V	60.1	50%	-6.02	54.1	60.3	**6.2**	"
"	end	H	48.6	80%	-1.94	46.7	60.3	**13.6**	"
1254	flat	H	45.6	30%	-10.46	35.1	54.0	**18.9**	26.5
"	"	"	40.3	50%	-6.02	34.3	54.0	**19.7**	"
"	end	"	38.3	80%	-1.94	36.4	54.0	**17.6**	"
1672	flat	H	49.0	30%	-10.46	38.5	54.0	**15.5**	29.5
"	"	"	43.0	50%	-6.02	37.0	54.0	**17.0**	"
"	"	"	41.7	80%	-1.94	39.8	54.0	**14.2**	"
2090	flat	H	46.2	30%	-10.46	35.7	60.3	**24.6**	32.7
"	"	"	43.0	50%	-6.02	37.0	60.3	**23.3**	"
"	"	"	42.4	80%	-1.94	40.5	60.3	**19.8**	"
2508	end	H	41.2	30%	-10.46	30.7	60.3	**29.6**	31.8
"	"	"	39.2	50%	-6.02	33.2	60.3	**27.1**	"
"	-	"	39 Noise Floor	80%	-1.94	<37.1	60.3	**>23.2**	"
2926	-	H	41 Noise Floor	30%	-10.46	<30.5	60.3	**>29.8**	33.7
"	-	"	40 Noise Floor	50%	-6.02	<34.0	60.3	**>26.3**	"
"	-	"	40 Noise Floor	80%	-1.94	<38.1	60.3	**>22.2**	"
3344	-	H	42 Noise Floor	30%	-10.46	<31.5	60.3	**>28.8**	34.8
"	-	"	42 Noise Floor	50%	-6.02	<36.0	60.3	**>24.3**	"
"	-	"	42 Noise Floor	80%	-1.94	<40.1	60.3	**>20.2**	"
3762	-	H	43 Noise Floor	30%	-10.46	<32.5	54.0	**>21.5**	35.8
"	-	"	42 Noise Floor	50%	-6.02	<36.0	54.0	**>18.0**	"
"	-	"	42 Noise Floor	80%	-1.94	<40.1	54.0	**>13.9**	"
4180	-	H	43 Noise Floor	30%	-10.46	<32.5	54.0	**>21.5**	36.1
"	-	"	42 Noise Floor	50%	-6.02	<36.0	54.0	**>18.0**	"
"	-	"	42 Noise Floor	80%	-1.94	<40.1	54.0	**>13.9**	"

The are no detectable spurious emissions associated with the digital portion of the CB2300NHL3.

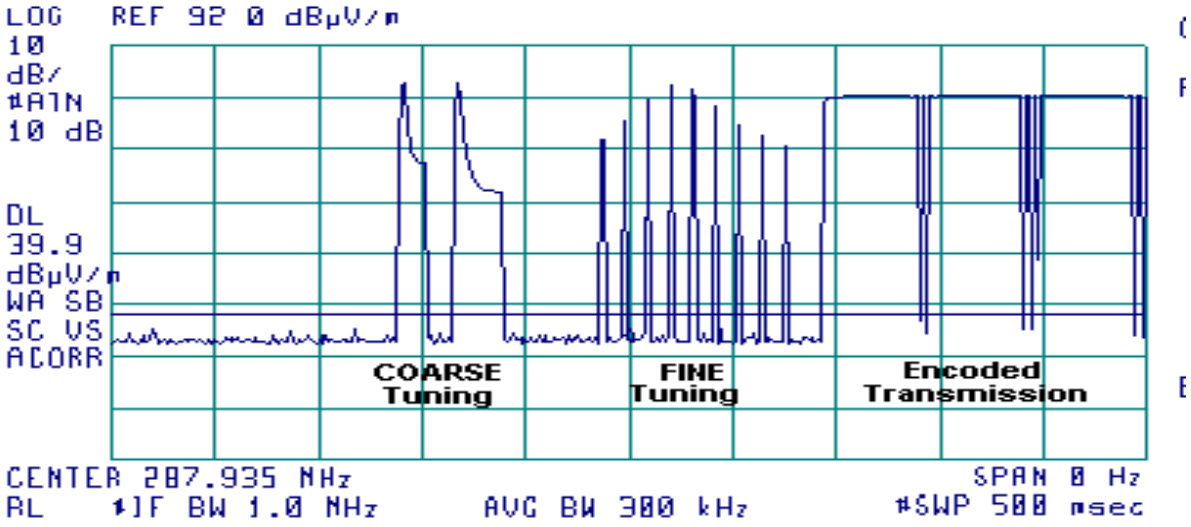
Calculation of Field Strength of Tuning Pulses: [15.231(b)], 15.31(c)]

The tuning pulses are generated each time the CB2300NHL3 is activated.

The tuning pulse sequence is: During the first 100mSec of activation two pulses of a 'coarse' tune. During the second 100mSec of activation are nine pulses of a 'fine' tune. At approximately 200mSec after activation the encoded transmission begins.

The signal levels of the tuning pulses were maximized by maximizing the signal levels of the pulse modulated transmission. The antenna height and turntable azimuth for maximum emission levels were adjusted while measuring the field strength of the pulse modulated transmissions.

A typical tuning pulse sequence is presented in this figure below.



To determine level of the tuning pulses for comparison to the limits, the following procedure was used.

MEASUREMENT PROCEDURE:

1. The EUT was trained to each of the three test frequencies at 30% duty cycle of the 500Hz modulating pulse.
2. The HP8456A EMI Receiver was adjusted to a fundamental frequency and set at 0Hz span, with 1MHz IF Bandwidth.
3. The trigger level was adjusted to capture the pulses of interest.
4. The EUT was activated and a single trace recorded on the Receiver in order to capture the tuning pulses.
5. The captured trace was digitally stored. The stored data points (400 data points for a full screen trace) were then used in calculations to determine the levels of the pulses.

CALCULATION OF THE FIELD STRENGTH OF THE TUNING PULSES.[15.35(c)]

Pursuant to 47 CFR 15.35(c), the field strength is determined by averaging over ONE complete pulse train up to 100mSec, including blanking intervals.

1. First was determined the number of data points captured which represented 100mSec span of time. There are 400 data points stored for one complete trace. The scan rate of the HP8546A receiver was set to capture the tuning pulses.

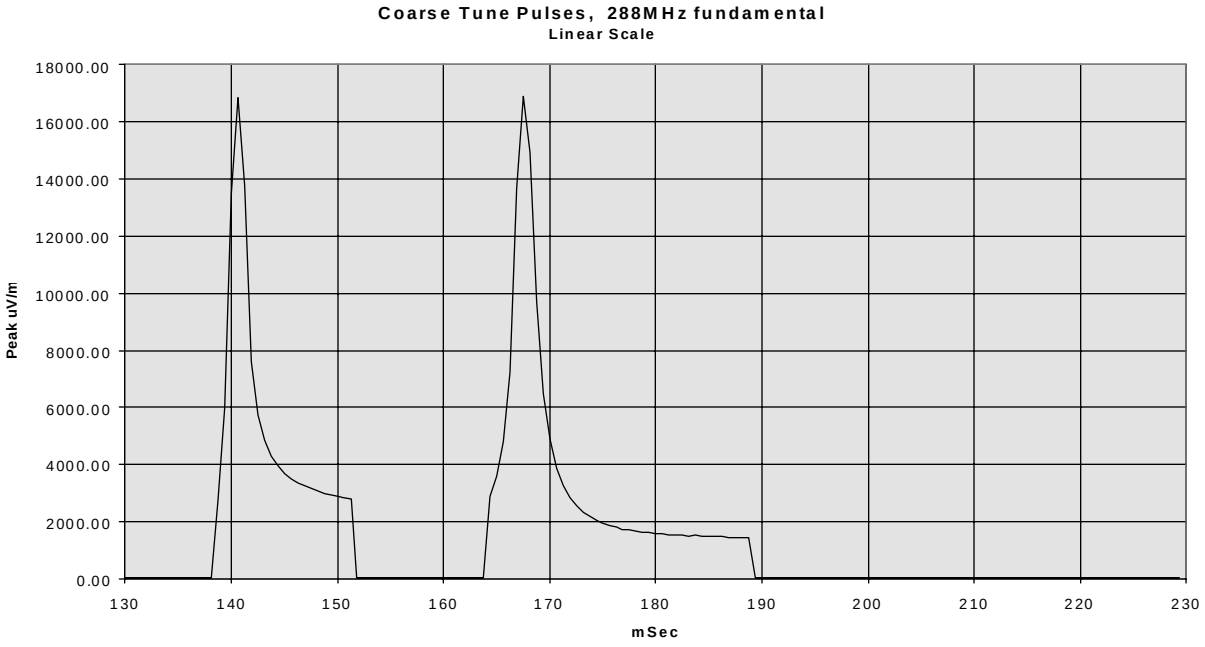
   Therefore: Number of data points per 100mSec
   = 100mSec * (400pts/scan) / (No. of mSec/scan).
   Example: If the scan rate is set at 240mSec, then the number of data points per 100mSec is 100mSec * (400pts / 240mSec) = 167 pts.

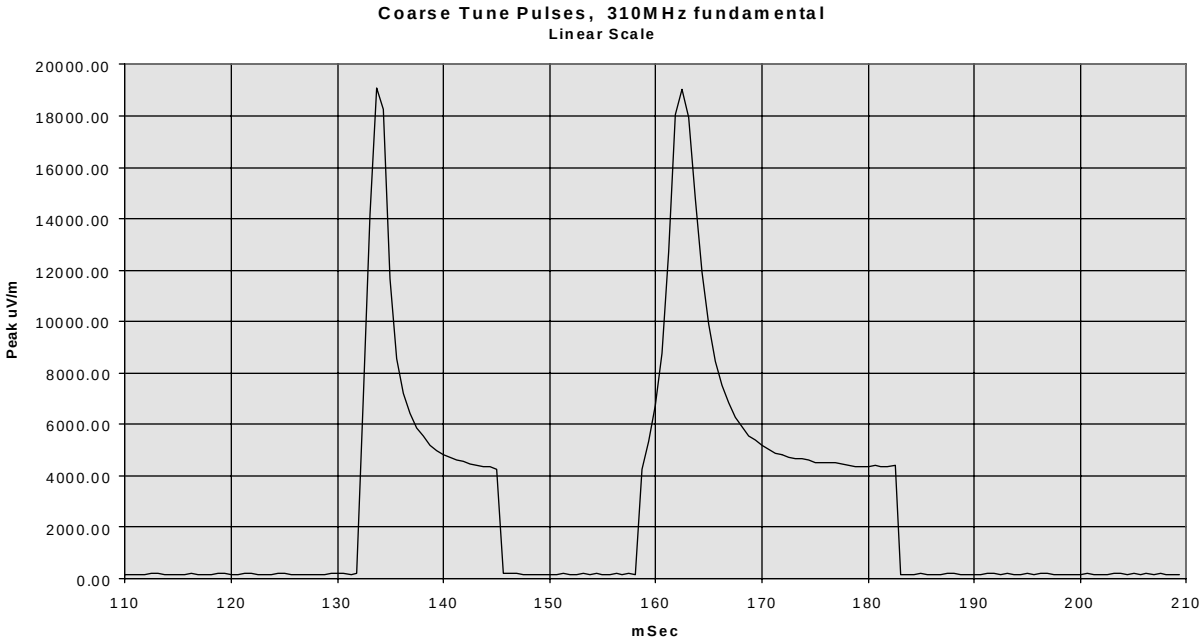
2. The AVERAGE field strength level (uV/m) within the 100mSec is then determined by dividing SUM of the levels (uV/m) of all data points by the number of data points.

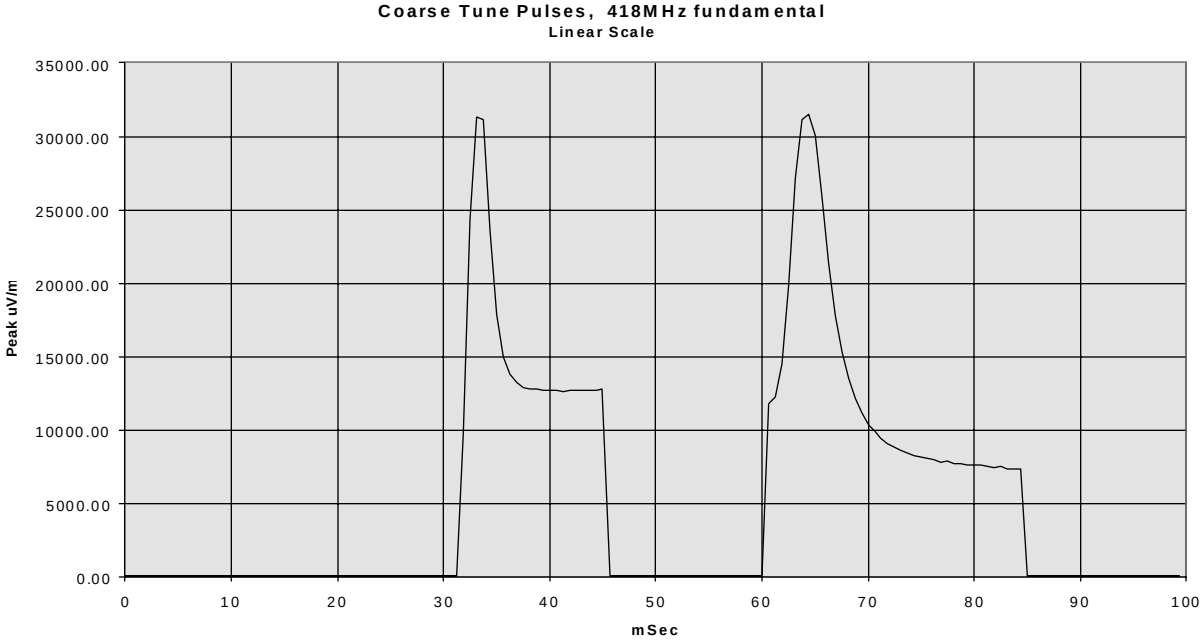
   Formula 3: Average Field Intensity

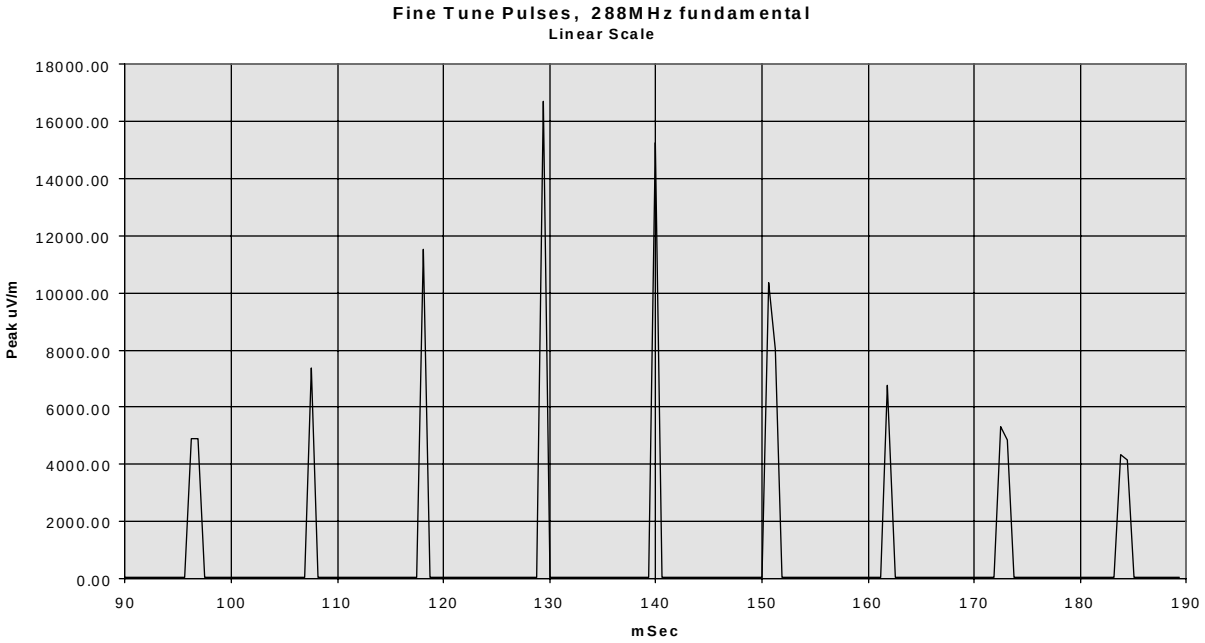
$$\text{Avg. F.I.} = \frac{\sum_{n=1}^{\text{no. of data pts}} (\text{Level}_n)\text{uV/m}}{\text{(number of data points)}}$$

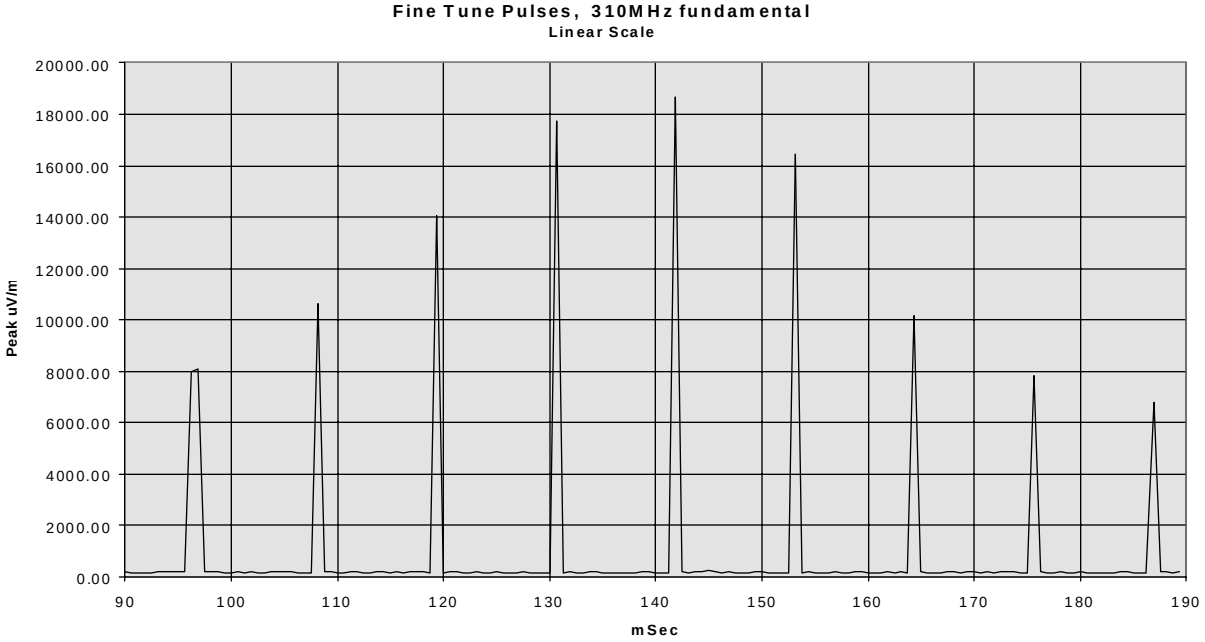
The charts that follow are the reproduction of the coarse tune pulse traces using number of data points representing 100mSec sweep time from the screen display of the HP8546A EMI receiver.

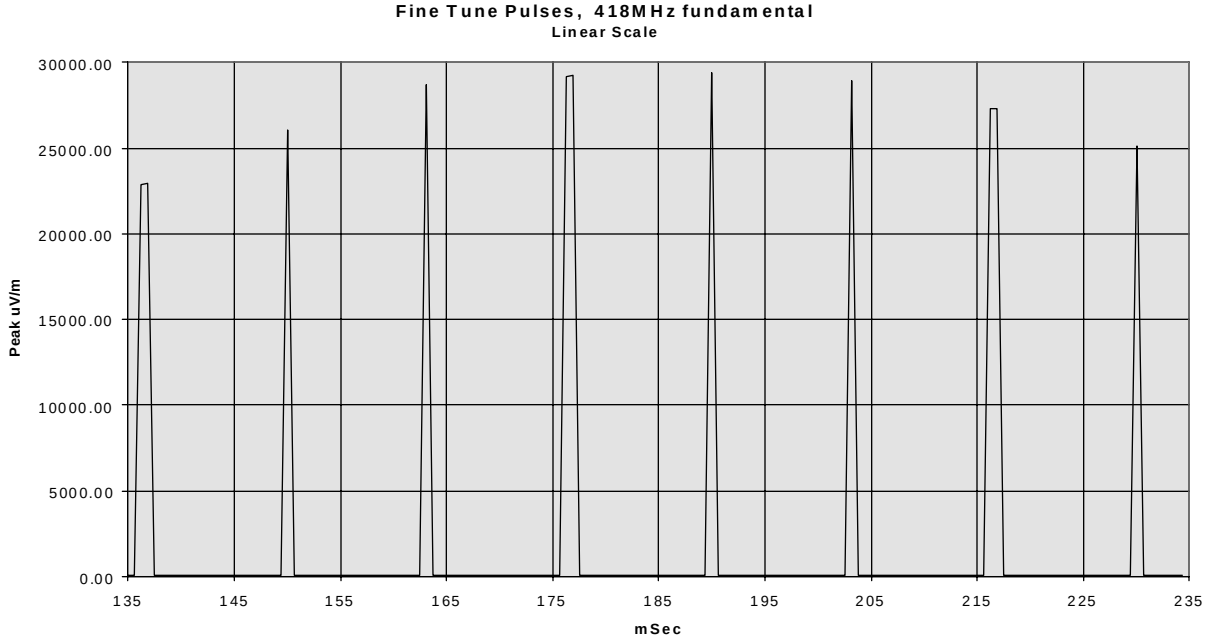



Coarse Tune Pulses, 310MHz fundamental
Linear Scale
Peak uV/m
20000.00
18000.00
16000.00
14000.00
12000.00
10000.00
8000.00
6000.00
4000.00
2000.00
0.00
110
120
130
140
150
160
170
180
190
200
210
mSec


Coarse Tune Pulses, 418MHz fundamental
Linear Scale
Peak uV/m
35000.00
30000.00
25000.00
20000.00
15000.00
10000.00
5000.00
0.00
0
10
20
30
40
50
60
70
80
90
100
mSec


Fine Tune Pulses, 288MHz fundamental
Linear Scale
Peak uV/m
18000.00
16000.00
14000.00
12000.00
10000.00
8000.00
6000.00
4000.00
2000.00
0.00
90
100
110
120
130
140
150
160
170
180
190
mSec


Fine Tune Pulses, 310MHz fundamental
Linear Scale
Peak uV/m
20000.00
18000.00
16000.00
14000.00
12000.00
10000.00
8000.00
6000.00
4000.00
2000.00
0.00
90
100
110
120
130
140
150
160
170
180
190
mSec



The raw data used in calculating the average field intensity of the tuning pulses are presented in the Appendix of this test report.

COARSE TUNE PULSES, Calculated average over 100mSec

TX Freq. (MHz)	SUM of the levels of all data points in 100mSec span (uV/m)	Number of Data points in 100mSec span N	Average SUM/N (uV/m)	LIMIT (uV/m)	MARGIN (dB)
288	260,140	160	1,626	4917	**9.6**
310	444,030	160	2,775	5833	**6.5**
418	844,847	160	5,280	10333	**5.8**

FINE TUNE PULSES, Calculated average over 100mSec

TX Freq. (MHz)	SUM of the levels of all data points in 100mSec span (uV/m)	Number of Data points in 100mSec span N	Average SUM/N (uV/m)	LIMIT (uV/m)	MARGIN (dB)
288	112,565	160	704	4917	**16.9**
310	145,607	160	910	5833	**16.1**
418	309,479	160	1,934	10333	**14.6**

APPENDIX: Tune Pulses - Data Details

COARSE TUNE Pulse; Fundamental Frequency = 288MHz

	mSec	Level uV/m	mSec	Level uV/m	mSec	Level uV/m	mSec	Level uV/m
1	130	58.68	155	59.02	180	1581.25	205	48.98
2	130.625	52.84	155.625	59.16	180.625	1577.61	205.625	50.18
3	131.25	47.75	156.25	56.10	181.25	1559.55	206.25	60.33
4	131.875	53.15	156.875	50.99	181.875	1531.09	206.875	50.70
5	132.5	56.23	157.5	53.70	182.5	1531.09	207.5	58.21
6	133.125	49.89	158.125	57.61	183.125	1510.08	208.125	50.87
7	133.75	50.29	158.75	53.03	183.75	1518.80	208.75	66.30
8	134.375	60.33	159.375	54.14	184.375	1497.96	209.375	49.89
9	135	60.05	160	48.47	185	1494.51	210	50.47
10	135.625	49.77	160.625	53.27	185.625	1474.01	210.625	59.29
11	136.25	53.27	161.25	52.00	186.25	1497.96	211.25	58.21
12	136.875	53.46	161.875	50.06	186.875	1470.62	211.875	52.84
13	137.5	54.33	162.5	52.00	187.5	1465.55	212.5	53.58
14	138.125	51.76	163.125	55.21	188.125	1470.62	213.125	50.99
15	138.75	2728.98	163.75	51.46	188.75	1462.18	213.75	56.36
16	139.375	5956.62	164.375	2880.71	189.375	54.33	214.375	50.18
17	140	13474.11	165	3601.64	190	62.52	215	64.19
18	140.625	16846.12	165.625	4830.59	190.625	52.60	215.625	52.30
19	141.25	13772.09	166.25	7236.02	191.25	49.49	216.25	51.29
20	141.875	7603.26	166.875	13693.04	191.875	55.34	216.875	52.84
21	142.5	5727.96	167.5	16884.96	192.5	50.47	217.5	53.27
22	143.125	4841.72	168.125	14927.94	193.125	60.33	218.125	51.29
23	143.75	4315.19	168.75	9705.10	193.75	60.53	218.75	51.88
24	144.375	3949.12	169.375	6501.30	194.375	62.66	219.375	58.34
25	145	3706.81	170	4909.08	195	49.77	220	57.15
26	145.625	3503.48	170.625	3894.93	195.625	50.47	220.625	52.84
27	146.25	3361.24	171.25	3280.95	196.25	54.89	221.25	55.34
28	146.875	3247.13	171.875	2851.02	196.875	64.34	221.875	50.87
29	147.5	3155.00	172.5	2552.70	197.5	56.10	222.5	48.47
30	148.125	3072.56	173.125	2352.34	198.125	55.34	223.125	59.29
31	148.75	3006.08	173.75	2170.20	198.75	53.58	223.75	55.78
32	149.375	2934.27	174.375	2055.89	199.375	53.89	224.375	54.33
33	150	2890.68	175	1940.89	200	50.87	225	50.47
34	150.625	2857.59	175.625	1887.99	200.625	58.55	225.625	52.42
35	151.25	2798.98	176.25	1809.26	201.25	63.68	226.25	63.53
36	151.875	49.09	176.875	1747.83	201.875	51.11	226.875	46.72
37	152.5	55.02	177.5	1715.93	202.5	61.80	227.5	52.42
38	153.125	62.66	178.125	1665.33	203.125	51.64	228.125	67.38
39	153.75	54.01	178.75	1629.30	203.75	48.87	228.75	53.15
40	154.375	66.45	179.375	1616.22	204.375	54.14	229.375	51.11

COARSE TUNE Pulse; Fundamental Frequency = 310MHz

	mSec	Level uV/m	mSec	Level uV/m	mSec	Level uV/m	mSec	Level uV/m
1	110	164.82	135	11694.99	160	6745.28	185	199.53
2	110.625	161.25	135.625	8560.52	160.625	8790.23	185.625	179.47
3	111.25	160.51	136.25	7202.78	161.25	12691.12	186.25	177.21
4	111.875	176.60	136.875	6426.88	161.875	18030.18	186.875	179.06
5	112.5	183.23	137.5	5861.38	162.5	19054.61	187.5	189.67
6	113.125	182.60	138.125	5533.50	163.125	17947.34	188.125	191.65
7	113.75	158.67	138.75	5182.03	163.75	14774.06	188.75	178.03
8	114.375	179.47	139.375	5000.35	164.375	11953.64	189.375	173.38
9	115	176.20	140	4825.03	165	9885.53	190	178.65
10	115.625	156.68	140.625	4736.96	165.625	8443.06	190.625	171.59
11	116.25	208.21	141.25	4607.87	166.25	7516.23	191.25	200.68
12	116.875	169.82	141.875	4544.65	166.875	6839.12	191.875	189.67
13	117.5	173.38	142.5	4451.43	167.5	6258.93	192.5	168.85
14	118.125	162.18	143.125	4390.36	168.125	5895.22	193.125	207.73
15	118.75	188.58	143.75	4370.19	168.75	5559.04	193.75	174.38
16	119.375	194.76	144.375	4335.11	169.375	5388.90	194.375	168.85
17	120	166.15	145	4236.43	170	5193.98	195	188.15
18	120.625	175.79	145.625	214.78	170.625	5017.65	195.625	162.55
19	121.25	213.55	146.25	190.77	171.25	4875.28	196.25	207.25
20	121.875	184.71	146.875	194.76	171.875	4825.03	196.875	189.23
21	122.5	173.38	147.5	164.44	172.5	4720.63	197.5	172.98
22	123.125	159.22	148.125	172.98	173.125	4645.15	198.125	173.98
23	123.75	179.06	148.75	163.12	173.75	4661.22	198.75	177.21
24	124.375	193.87	149.375	163.12	174.375	4597.27	199.375	174.38
25	125	185.57	150	166.53	175	4534.19	200	180.72
26	125.625	163.49	150.625	154.35	175.625	4523.76	200.625	193.20
27	126.25	173.98	151.25	195.43	176.25	4508.17	201.25	180.30
28	126.875	176.20	151.875	166.53	176.875	4487.45	201.875	178.03
29	127.5	172.98	152.5	160.51	177.5	4451.43	202.5	177.62
30	128.125	177.21	153.125	190.11	178.125	4425.88	203.125	184.08
31	128.75	169.82	153.75	169.82	178.75	4380.26	203.75	213.55
32	129.375	193.87	154.375	184.71	179.375	4380.26	204.375	179.47
33	130	184.08	155	168.85	180	4370.19	205	201.60
34	130.625	210.14	155.625	167.49	180.625	4390.36	205.625	177.21
35	131.25	174.78	156.25	186.21	181.25	4370.19	206.25	193.20
36	131.875	223.61	156.875	177.62	181.875	4370.19	206.875	181.13
37	132.5	7063.18	157.5	184.08	182.5	4405.55	207.5	211.84
38	133.125	14157.94	158.125	177.21	183.125	175.79	208.125	167.88
39	133.75	19098.53	158.75	4255.98	183.75	176.60	208.75	165.77
40	134.375	18238.96	159.375	5321.08	184.375	181.13	209.375	172.58

COARSE TUNE Pulse; Fundamental Frequency = 418MHz

	mSec	Level uV/m	mSec	Level uV/m	mSec	Level uV/m	mSec	Level uV/m
1	0	85.70	25	71.04	50	79.43	75	8128.31
2	0.625	99.88	25.625	81.56	50.625	78.34	75.625	8063.06
3	1.25	81.28	26.25	78.52	51.25	81.10	76.25	7970.76
4	1.875	80.26	26.875	83.56	51.875	82.22	76.875	7843.32
5	2.5	94.08	27.5	85.70	52.5	65.99	77.5	7906.79
6	3.125	80.08	28.125	79.43	53.125	70.15	78.125	7735.71
7	3.75	80.45	28.75	95.06	53.75	74.13	78.75	7735.71
8	4.375	84.53	29.375	77.00	54.375	74.13	79.375	7612.02
9	5	82.22	30	80.91	55	71.78	80	7612.02
10	5.625	82.60	30.625	79.16	55.625	62.73	80.625	7638.36
11	6.25	75.16	31.25	74.13	56.25	76.38	81.25	7550.92
12	6.875	83.85	31.875	9817.48	56.875	77.45	81.875	7473.09
13	7.5	78.98	32.5	24294.05	57.5	70.47	82.5	7490.31
14	8.125	77.45	33.125	31296.80	58.125	64.27	83.125	7396.05
15	8.75	85.70	33.75	31153.01	58.75	83.85	83.75	7396.05
16	9.375	80.26	34.375	23604.78	59.375	68.23	84.375	7353.60
17	10	80.63	35	17885.46	60	66.91	85	75.60
18	10.625	93.11	35.625	15014.12	60.625	11762.51	85.625	89.43
19	11.25	86.10	36.25	13787.96	61.25	12246.16	86.25	90.36
20	11.875	80.08	36.875	13228.18	61.875	14504.41	86.875	81.94
21	12.5	88.92	37.5	12912.19	62.5	19860.95	87.5	78.34
22	13.125	85.90	38.125	12779.09	63.125	27164.39	88.125	81.28
23	13.75	84.53	38.75	12779.09	63.75	31153.01	88.75	77.18
24	14.375	71.45	39.375	12705.74	64.375	31477.48	89.375	90.89
25	15	85.41	40	12676.52	65	30095.39	90	85.21
26	15.625	95.61	40.625	12705.74	65.625	25882.13	90.625	77.89
27	16.25	85.41	41.25	12647.36	66.25	21330.45	91.25	81.75
28	16.875	86.60	41.875	12676.52	66.875	17823.79	91.875	85.21
29	17.5	85.70	42.5	12705.74	67.5	15310.87	92.5	85.90
30	18.125	79.80	43.125	12705.74	68.125	13489.63	93.125	79.62
31	18.75	78.16	43.75	12749.70	68.75	12175.87	93.75	74.99
32	19.375	78.16	44.375	12749.70	69.375	11168.63	94.375	80.26
33	20	85.21	45	12779.09	70	10387.24	95	73.96
34	20.625	80.26	45.625	85.90	70.625	9851.45	95.625	83.27
35	21.25	87.50	46.25	69.34	71.25	9484.18	96.25	80.63
36	21.875	80.08	46.875	83.85	71.875	9067.76	96.875	81.28
37	22.5	87.10	47.5	69.90	72.5	8830.80	97.5	77.00
38	23.125	77.18	48.125	69.18	73.125	8600.03	98.125	81.28
39	23.75	77.89	48.75	67.69	73.75	8443.06	98.75	82.60
40	24.375	77.00	49.375	77.62	74.375	8241.38	99.375	71.61

FINE TUNE Pulses; Fundamental Frequency = 288MHz

	mSec	Level uV/m	mSec	Level uV/m	mSec	Level uV/m	mSec	Level uV/m
1	90	49.09	115	57.48	140	15258.08	165	50.18
2	90.625	47.81	115.625	53.27	140.625	51.76	165.625	49.26
3	91.25	55.46	116.25	57.15	141.25	59.29	166.25	50.06
4	91.875	50.18	116.875	58.34	141.875	56.23	166.875	48.47
5	92.5	52.84	117.5	55.21	142.5	54.14	167.5	54.01
6	93.125	62.30	118.125	11534.53	143.125	54.76	168.125	56.56
7	93.75	48.47	118.75	57.48	143.75	55.78	168.75	53.27
8	94.375	57.28	119.375	55.21	144.375	50.87	169.375	54.01
9	95	58.08	120	54.01	145	53.27	170	55.65
10	95.625	48.87	120.625	46.34	145.625	49.49	170.625	54.33
11	96.25	4897.79	121.25	51.46	146.25	53.03	171.25	50.29
12	96.875	4897.79	121.875	52.42	146.875	54.33	171.875	53.70
13	97.5	52.84	122.5	52.00	147.5	49.77	172.5	5308.84
14	98.125	50.06	123.125	51.29	148.125	50.70	173.125	4869.68
15	98.75	57.94	123.75	59.57	148.75	60.81	173.75	59.29
16	99.375	56.10	124.375	58.55	149.375	55.21	174.375	50.47
17	100	56.10	125	49.49	150	60.33	175	52.00
18	100.625	57.61	125.625	50.70	150.625	10387.24	175.625	53.70
19	101.25	56.82	126.25	61.66	151.25	8026.02	176.25	49.26
20	101.875	52.84	126.875	60.33	151.875	56.69	176.875	54.33
21	102.5	58.34	127.5	51.76	152.5	55.02	177.5	47.37
22	103.125	55.21	128.125	66.30	153.125	52.30	178.125	49.26
23	103.75	49.89	128.75	50.06	153.75	51.29	178.75	60.81
24	104.375	61.80	129.375	16710.91	154.375	56.36	179.375	54.58
25	105	54.89	130	57.02	155	50.99	180	51.88
26	105.625	59.29	130.625	61.80	155.625	57.15	180.625	50.58
27	106.25	58.08	131.25	55.46	156.25	55.78	181.25	58.68
28	106.875	57.02	131.875	53.89	156.875	54.76	181.875	50.47
29	107.5	7379.04	132.5	55.78	157.5	54.33	182.5	50.87
30	108.125	60.19	133.125	51.46	158.125	51.76	183.125	53.46
31	108.75	53.15	133.75	54.76	158.75	48.70	183.75	4340.10
32	109.375	52.72	134.375	58.21	159.375	54.33	184.375	4168.69
33	110	58.08	135	55.34	160	54.58	185	54.76
34	110.625	53.70	135.625	52.84	160.625	55.21	185.625	46.24
35	111.25	54.14	136.25	70.39	161.25	57.02	186.25	56.56
36	111.875	56.10	136.875	56.56	161.875	6768.62	186.875	53.15
37	112.5	50.47	137.5	61.31	162.5	61.02	187.5	59.70
38	113.125	56.36	138.125	60.53	163.125	49.26	188.125	60.81
39	113.75	55.02	138.75	58.08	163.75	54.89	188.75	50.18
40	114.375	49.09	139.375	52.60	164.375	54.01	189.375	53.89

FINE TUNE Pulses; Fundamental Frequency = 310MHz

	mSec	Level uV/m	mSec	Level uV/m	mSec	Level uV/m	mSec	Level uV/m
1	90	187.07	115	179.06	140	171.99	165	188.58
2	90.625	173.98	115.625	198.38	140.625	178.03	165.625	160.88
3	91.25	165.20	116.25	179.47	141.25	180.30	166.25	173.38
4	91.875	162.55	116.875	185.57	141.875	18685.30	166.875	171.59
5	92.5	171.20	117.5	191.21	142.5	183.23	167.5	190.77
6	93.125	190.77	118.125	181.76	143.125	173.98	168.125	182.18
7	93.75	181.76	118.75	171.59	143.75	187.07	168.75	161.25
8	94.375	181.76	119.375	14076.67	144.375	191.65	169.375	187.72
9	95	204.88	120	165.77	145	231.21	170	190.11
10	95.625	185.57	120.625	203.94	145.625	186.21	170.625	180.30
11	96.25	7970.76	121.25	181.76	146.25	164.82	171.25	191.65
12	96.875	8100.28	121.875	171.20	146.875	228.03	171.875	177.62
13	97.5	184.71	122.5	164.82	147.5	167.88	172.5	192.75
14	98.125	183.23	123.125	199.07	148.125	159.22	173.125	197.47
15	98.75	189.67	123.75	163.87	148.75	153.11	173.75	207.73
16	99.375	180.72	124.375	170.61	149.375	196.34	174.375	166.53
17	100	174.38	125	195.88	150	185.57	175	166.53
18	100.625	184.71	125.625	178.03	150.625	178.03	175.625	7825.28
19	101.25	163.49	126.25	168.46	151.25	164.82	176.25	211.35
20	101.875	182.18	126.875	172.98	151.875	173.98	176.875	160.51
21	102.5	174.78	127.5	207.25	152.5	179.47	177.5	173.38
22	103.125	180.72	128.125	154.35	153.125	16462.66	178.125	202.77
23	103.75	185.57	128.75	172.58	153.75	159.22	178.75	170.61
24	104.375	186.64	129.375	171.59	154.375	193.87	179.375	179.06
25	105	186.64	130	178.03	155	178.65	180	205.59
26	105.625	182.18	130.625	17741.89	155.625	179.47	180.625	174.78
27	106.25	170.61	131.25	169.24	156.25	177.21	181.25	180.30
28	106.875	175.39	131.875	202.77	156.875	192.75	181.875	181.13
29	107.5	179.47	132.5	173.98	157.5	180.30	182.5	176.60
30	108.125	10641.43	133.125	171.59	158.125	177.21	183.125	160.51
31	108.75	199.07	133.75	201.60	158.75	185.14	183.75	183.65
32	109.375	209.17	134.375	202.30	159.375	226.20	184.375	204.41
33	110	165.77	135	169.24	160	164.82	185	163.49
34	110.625	175.79	135.625	168.46	160.625	171.99	185.625	180.30
35	111.25	184.71	136.25	168.85	161.25	176.20	186.25	170.61
36	111.875	189.23	136.875	171.59	161.875	187.07	186.875	6784.22
37	112.5	172.58	137.5	175.79	162.5	168.85	187.5	184.08
38	113.125	159.22	138.125	170.61	163.125	196.34	188.125	182.18
39	113.75	193.20	138.75	192.31	163.75	159.22	188.75	175.79
40	114.375	209.17	139.375	191.65	164.375	10150.79	189.375	185.14

FINE TUNE Pulses; Fundamental Frequency = 418MHz

	mSec	Level uV/m	mSec	Level uV/m	mSec	Level uV/m	mSec	Level uV/m
1	135	96.38	160	81.10	185	78.98	210	73.96
2	135.625	86.10	160.625	84.53	185.625	81.56	210.625	79.16
3	136.25	22855.99	161.25	69.02	186.25	74.39	211.25	80.91
4	136.875	22987.94	161.875	72.95	186.875	88.21	211.875	79.62
5	137.5	79.43	162.5	77.18	187.5	88.00	212.5	81.56
6	138.125	81.56	163.125	28740.88	188.125	91.31	213.125	80.63
7	138.75	80.63	163.75	79.16	188.75	75.16	213.75	78.80
8	139.375	86.60	164.375	99.88	189.375	85.02	214.375	81.75
9	140	77.00	165	97.27	190	29444.22	215	85.21
10	140.625	88.72	165.625	78.16	190.625	79.80	215.625	73.37
11	141.25	79.62	166.25	79.62	191.25	80.63	216.25	27321.21
12	141.875	90.16	166.875	78.80	191.875	76.38	216.875	27321.21
13	142.5	78.34	167.5	78.34	192.5	80.45	217.5	82.22
14	143.125	81.10	168.125	84.72	193.125	81.75	218.125	85.41
15	143.75	80.26	168.75	88.72	193.75	81.10	218.75	82.41
16	144.375	75.34	169.375	85.70	194.375	70.88	219.375	80.91
17	145	89.95	170	79.43	195	83.85	220	71.29
18	145.625	88.92	170.625	78.80	195.625	89.23	220.625	78.98
19	146.25	99.08	171.25	73.79	196.25	76.21	221.25	73.20
20	146.875	75.34	171.875	100.69	196.875	94.84	221.875	76.38
21	147.5	78.16	172.5	78.98	197.5	77.89	222.5	93.33
22	148.125	76.56	173.125	92.58	198.125	84.72	223.125	78.80
23	148.75	78.80	173.75	70.88	198.75	95.83	223.75	76.21
24	149.375	84.53	174.375	74.56	199.375	82.60	224.375	81.56
25	150	26091.56	175	76.38	200	78.34	225	78.98
26	150.625	81.28	175.625	77.00	200.625	81.94	225.625	74.73
27	151.25	85.02	176.25	29207.88	201.25	86.60	226.25	77.89
28	151.875	86.10	176.875	29275.21	201.875	77.89	226.875	81.28
29	152.5	75.60	177.5	85.21	202.5	77.45	227.5	75.34
30	153.125	83.27	178.125	83.27	203.125	28906.80	228.125	79.16
31	153.75	81.75	178.75	73.37	203.75	72.03	228.75	80.91
32	154.375	88.72	179.375	73.37	204.375	84.72	229.375	88.00
33	155	82.89	180	79.80	205	88.72	230	25147.80
34	155.625	85.02	180.625	73.79	205.625	99.43	230.625	79.80
35	156.25	86.40	181.25	72.95	206.25	87.30	231.25	80.26
36	156.875	85.21	181.875	73.37	206.875	81.94	231.875	77.45
37	157.5	87.80	182.5	85.90	207.5	77.89	232.5	70.71
38	158.125	84.53	183.125	84.04	208.125	85.70	233.125	84.04
39	158.75	86.60	183.75	90.36	208.75	91.62	233.75	71.29
40	159.375	83.08	184.375	80.08	209.375	83.85	234.375	78.80