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

Test Report for FCC ID: CB2HONDAHL3

FCC Part 2.1031, Part 15 Subpart C(15.231)

Report #20000309F
Issued 5/08/00

TRANSMITTER MODEL CB2HONDAHL3 OF HOMELINK® III SERIES

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

Test Date(s): April 11 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%.

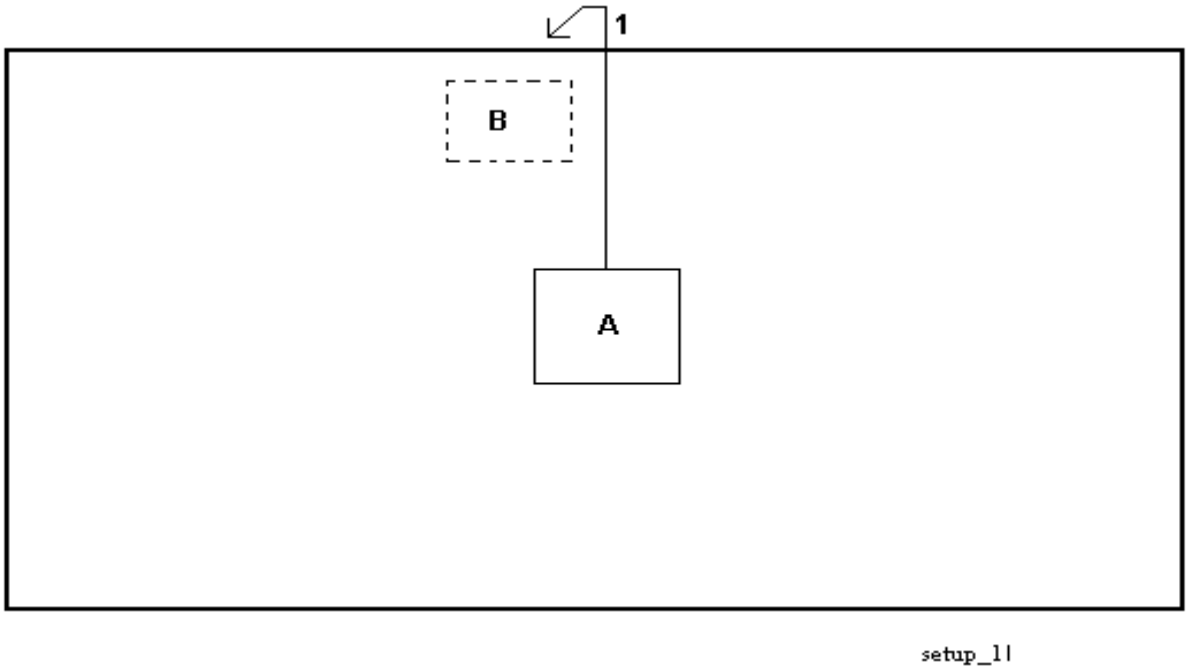
Tested Configuration /Setup: [2.1033(b8)]

Support Equipment & Cabling

Setup Diagram Legend	Description	Model	Serial No. / Part No.	EMC Consideration
A	[EUT] Universal Garage Door Opener	[JCI] CB2HONDAHL3	--	FCC ID: CB2HONDAHL3
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 11, 2000 and this test series commenced on April 11, 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 showed no observable spurious emissions other than the harmonics of the fundamental transmit frequency.
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 judgement as appropriate.
7. Occupied Band Width of the transmitted signal, at the 20dB point, nearest the limit was measured to be 525KHz. This measurement occurred with the EUT transmitting at 288MHz with a pulse modulation of 30% duty cycle. This measurement is within the allowed 720KHz bandwidth. The greatest bandwidth measured was 585KHz 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 288MHz with 500Hz pulsed modulation at a 50% duty cycle. The EUT was positioned on the ‘flat’ and the receive antenna oriented in the horizontal polarization. This signal was measured to be 0.4dB below the limit of 73.8dBuV/m (4,898uV/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 ‘flat’; and the receive antenna oriented in the horizontal polarization. This signal, at 836MHz, was measured to be 0.7dB 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 CB2HONDAHL3.
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 7706uV/m which is 2.5dB 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 1836uV/m which is 15.0dB 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.

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 Edge

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

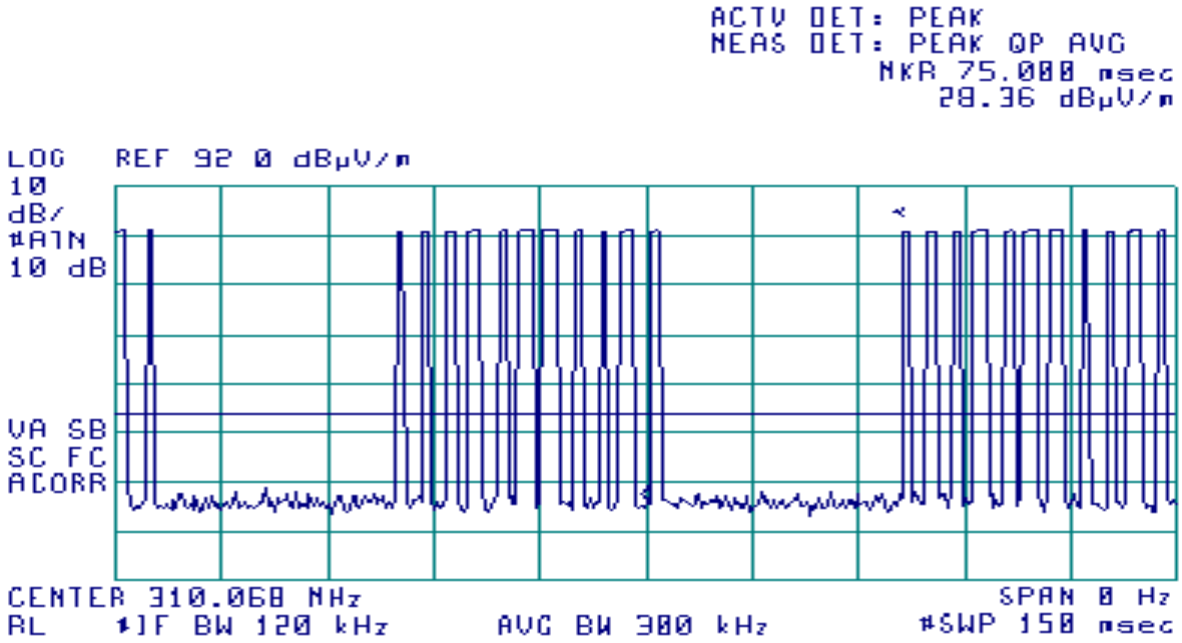
SAMPLE CALCULATION:

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.

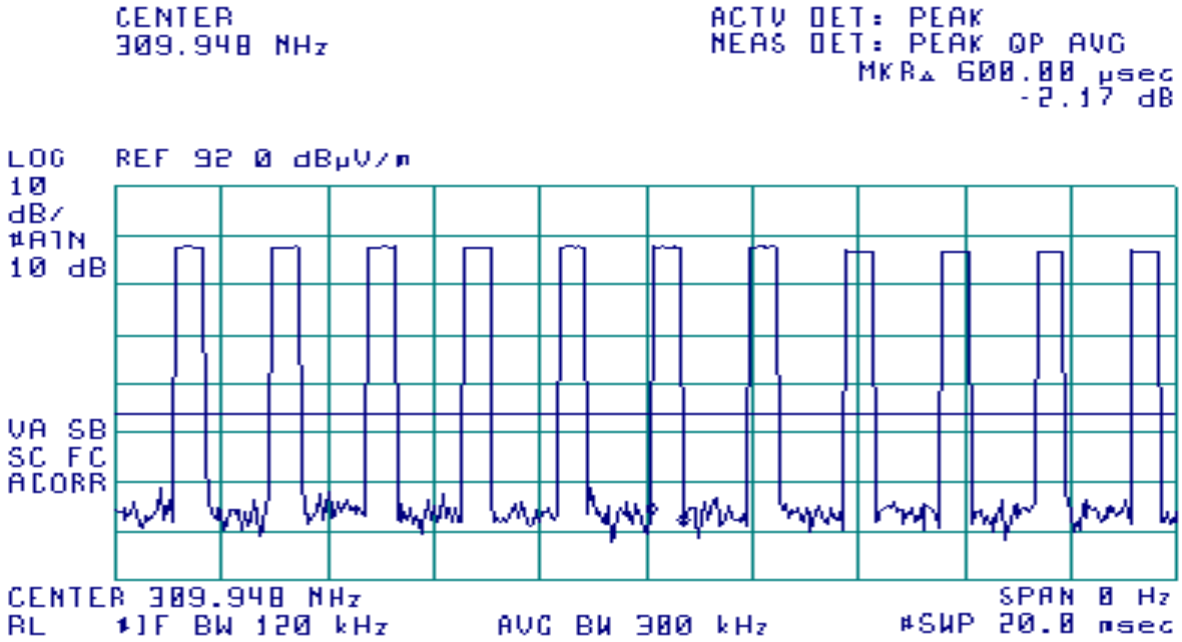
Test Data [2.1033(b6)]

Modulation Characteristics

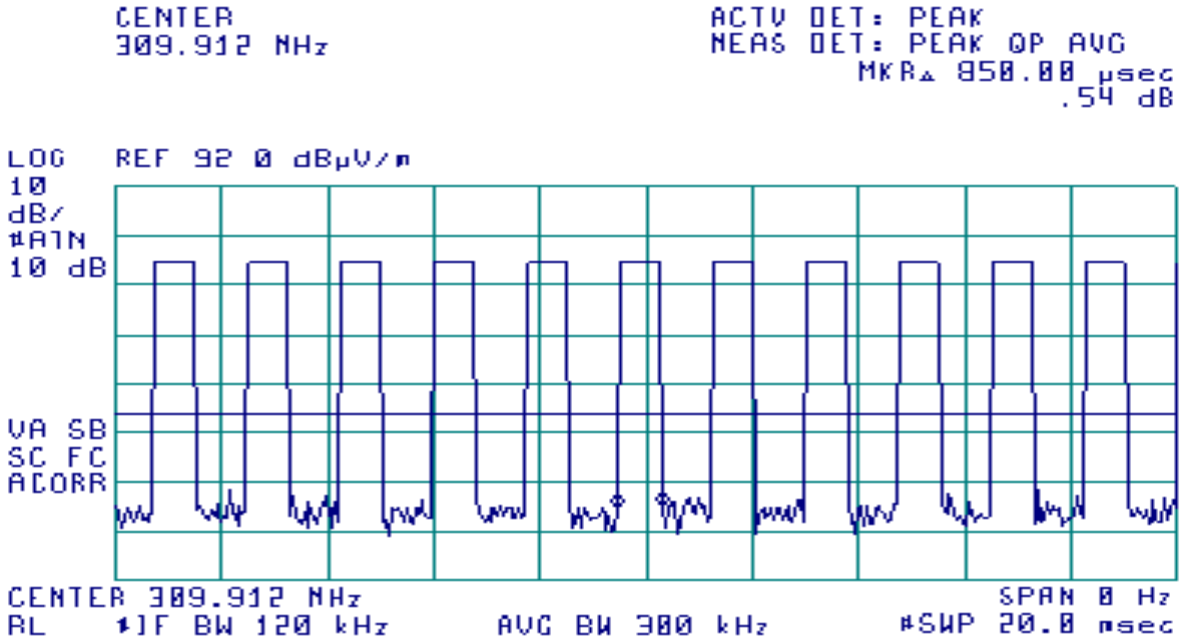
Typical encoding at 310MHz: Consisting of pulses of differing duty cycles.



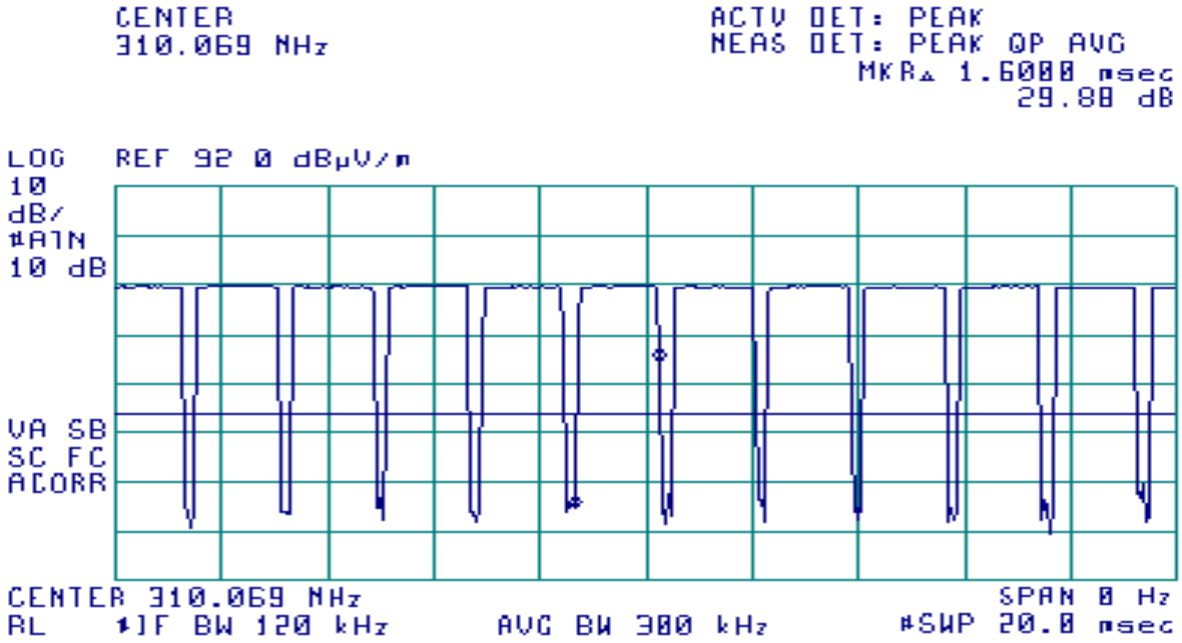
310MHz, 500Hz Modulation, 30% duty cycle



310MHz, 500Hz Modulation, 50% duty cycle



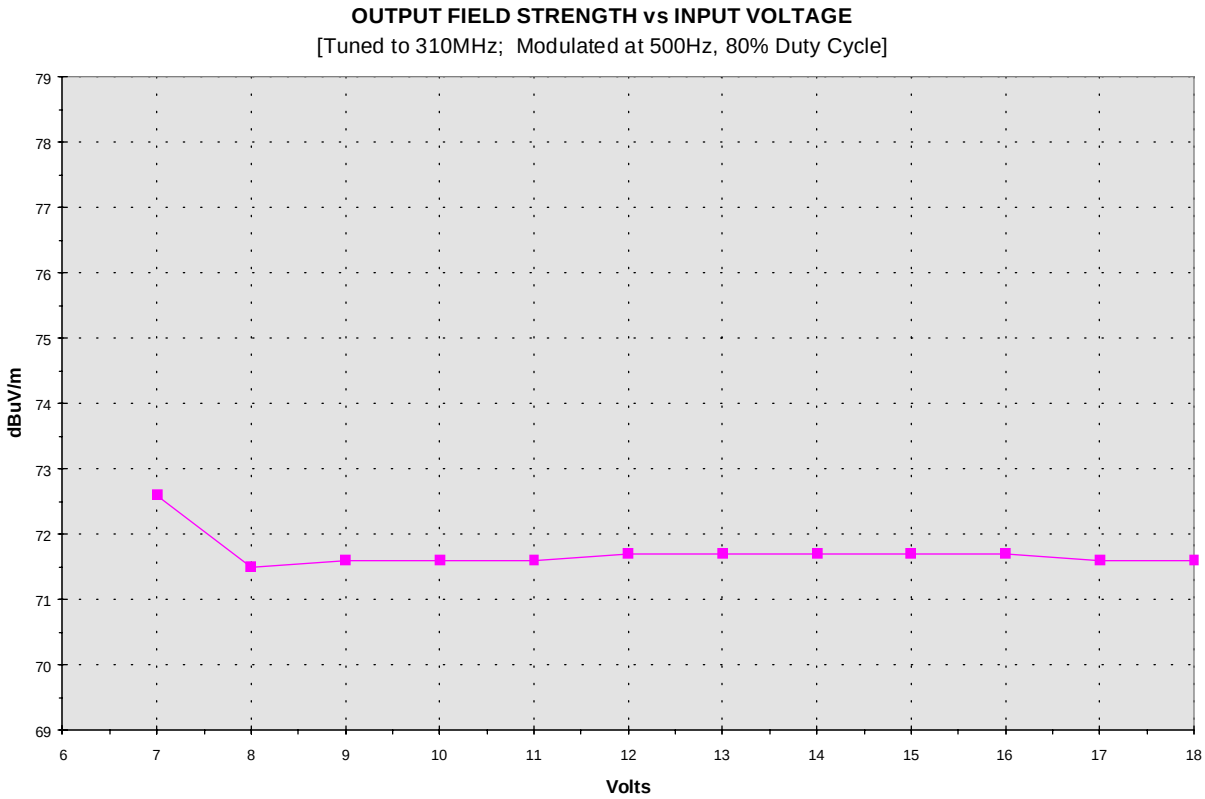
310MHz, 500Hz Modulation, 80% duty cycle



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= CB2HONDAHL3, 310MHz, 80%duty cycle	
Volt In	TX OutPut Pk dBuV/m
6	no-op
7	72.6
8	71.5
9	71.6
10	71.6
11	71.6
12	71.7
13	71.7
14	71.7
15	71.7
16	71.7
17	71.6
18	71.6



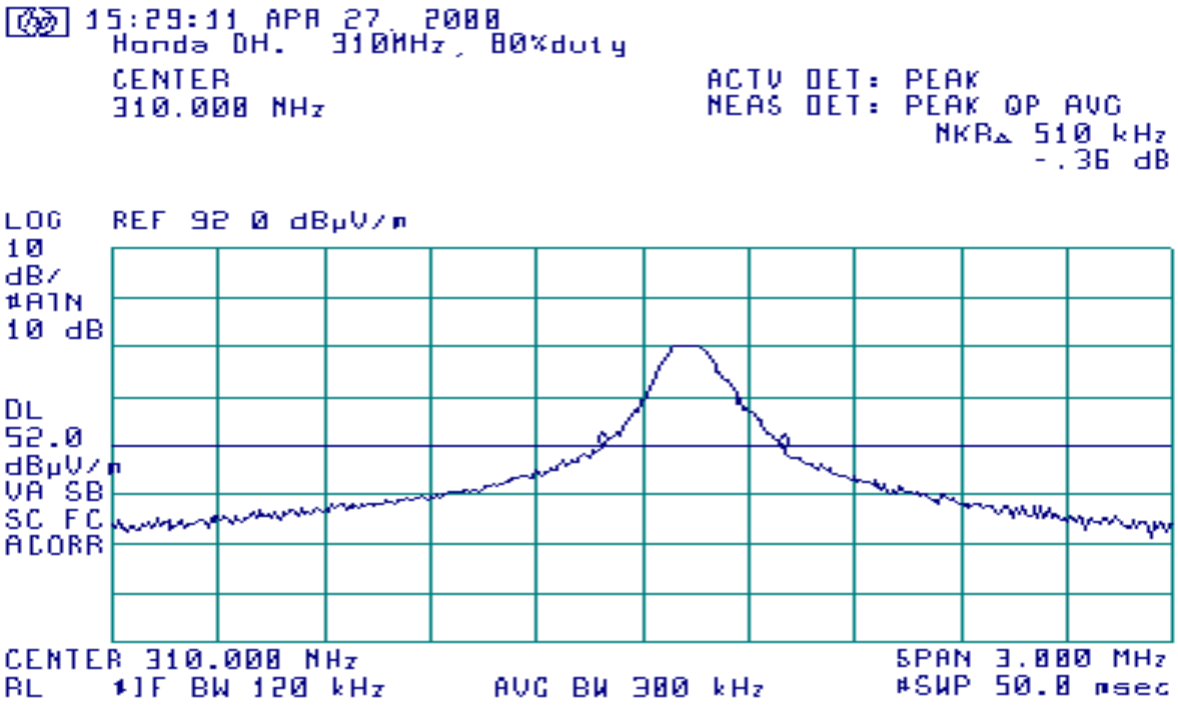
Occupied Bandwidth [15.231(c)]

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%	480 KHz	720 KHz
"	50%	503 KHz	720 KHz
"	80%	525 KHz	720 KHz
310	30%	518 KHz	775 KHz
"	50%	450 KHz	775 KHz
"	80%	510 KHz	775 KHz
418	30%	585 KHz	1045 KHz
"	50%	548 KHz	1045 KHz
"	80%	510 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.

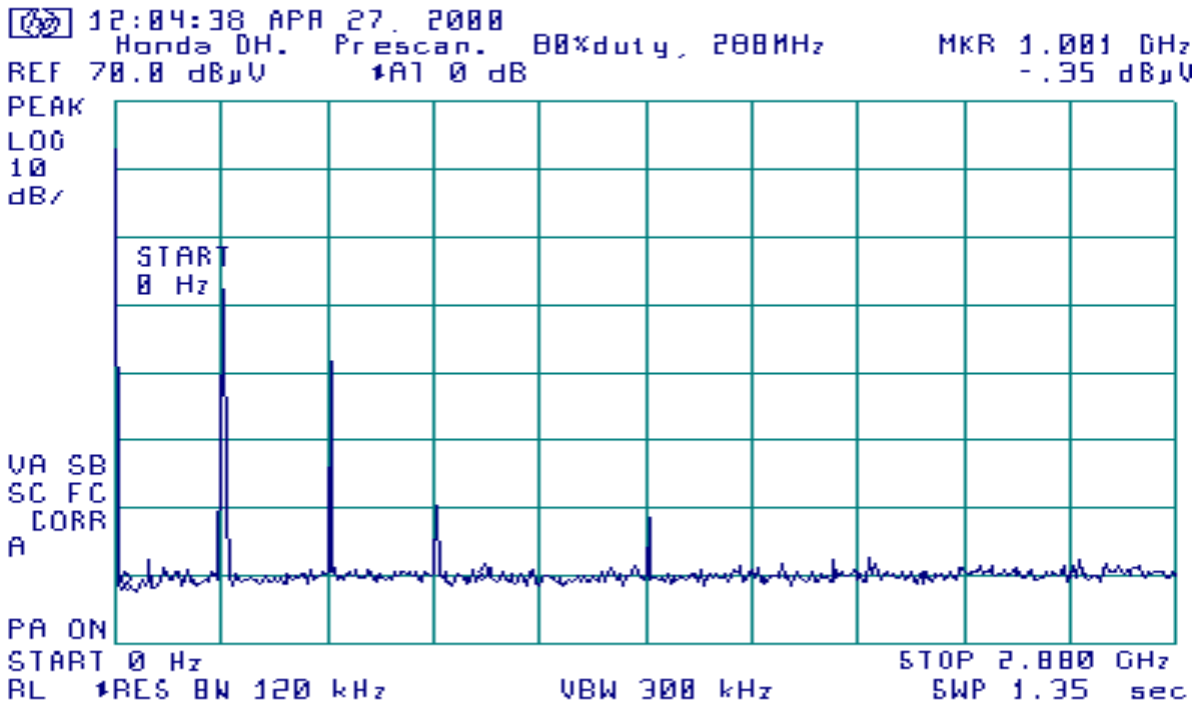
The spurious emissions observed in the restricted bands did not exceed the allowed limits for the restricted bands.

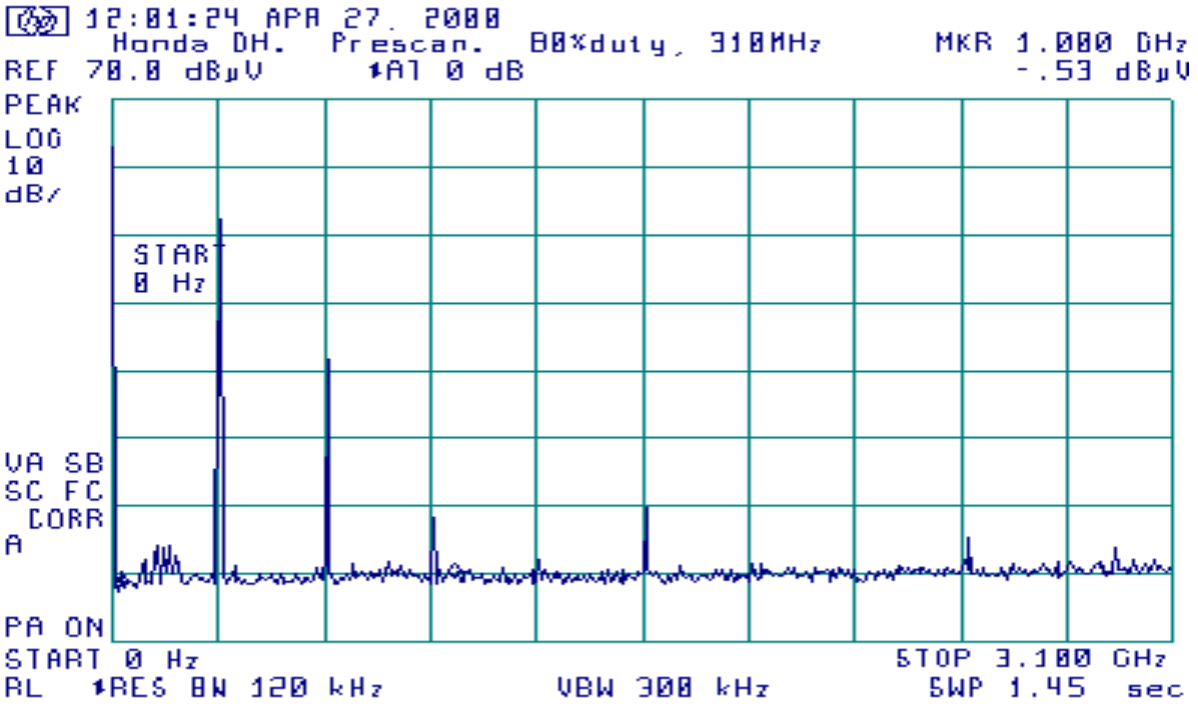
Radiated Field Strength Measurements: [15.231(b), 15.205]

A scan of the CB2HONDAHL3 was made in a shielded room to study the emission profile of the EUT. These scans indicate there are no emissions from the unit other than the fundamental and its associated harmonics.

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

The are no detectable spurious emissions associated with the digital portion of the CB2HONDAHL3.

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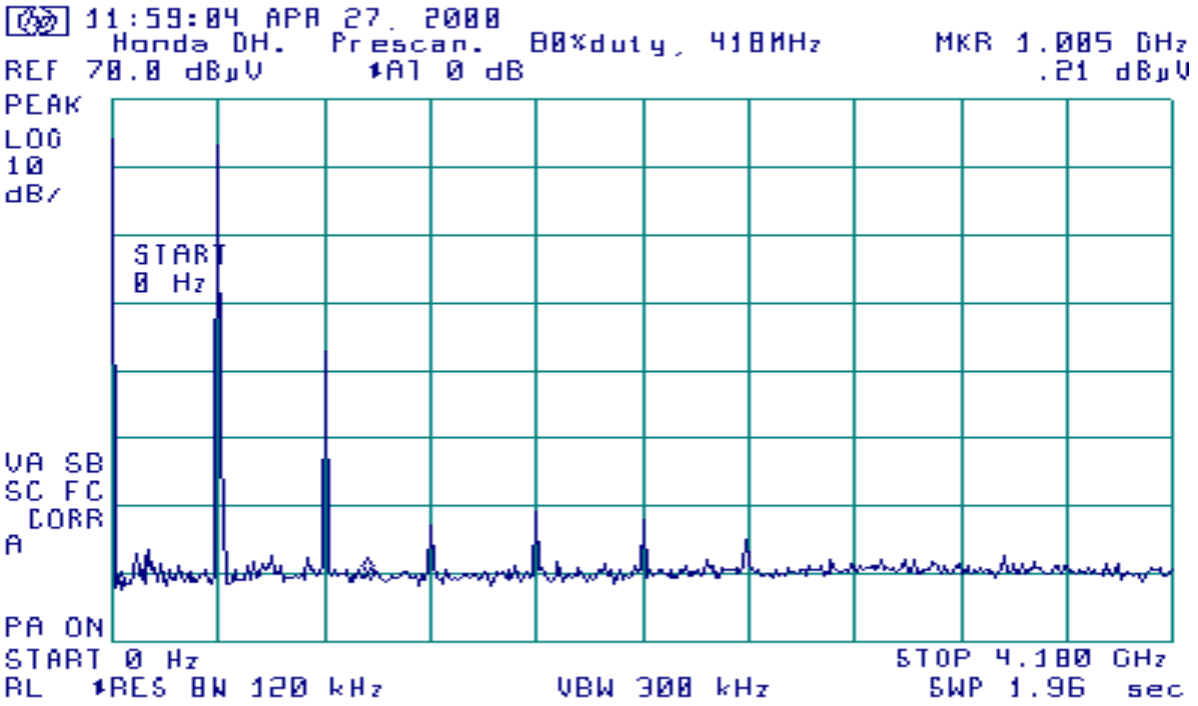
#Atl 0 dB
-.53 dBµV
PEAK
LOG
10
dB/
START
0 Hz
VA SB
SC FC
CORR
A
PA ON
START 0 Hz
STOP 3.100 GHz
RL #RES BW 120 kHz
VBW 300 kHz
SWP 1.45 sec


11:59:04 APR 27, 2000
Honda DH. Prescan. 80%duty, 410MHz
MKR 1.005 GHz
REF 70.0 dBµV
#Atl 0 dB
.21 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	flat	H	83.7	30%	-10.46	73.2	73.8	**0.6**	14.29
"	"	"	79.1	50%	-6.02	73.4	73.8	**0.4**	"
"	"	"	74.4	80%	-1.94	72.5	73.8	**1.3**	"

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	82.4	30%	-10.46	71.9	75.3	**3.4**	14.94
"	"	"	77.7	50%	-6.02	71.7	75.3	**3.6**	"
"	"	"	72.9	80%	-1.94	71.0	75.3	**4.3**	"

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	87.0	30%	-10.46	76.5	80.3	**3.8**	17.44
"	"	"	82.0	50%	-6.02	76.0	80.3	**4.3**	"
"	"	"	78.4	80%	-1.94	76.5	80.3	**3.8**	"

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 %	Duty Cycle Factor dB	Calculated Average Level dBuV/m	FCC Limit dBuV/m	Margin dB	Cable +Ant. Factor dB+dB/m
576	flat	H	60.2	30%	-10.46	49.7	53.8	**4.1**	21.0
"	"	"	54.7	50%	-6.02	48.7	53.8	**5.1**	"
"	"	"	47.3	80%	-1.94	45.4	53.8	**8.4**	"
864	flat	H	47.8	30%	-10.46	37.3	53.8	**16.5**	24.8
"	"	V	40.1	50%	-6.02	34.1	53.8	**19.7**	"
"	"	H	33.3	80%	-1.94	31.4	53.8	**22.4**	"
1152	end	H	37.1	30%	-10.46	26.6	54.0	**27.4**	26.2
"	"	"	35.2	50%	-6.02	29.2	54.0	**24.8**	"
"	"	"	34.2	80%	-1.94	32.3	54.0	**21.7**	"
1440	flat	H	41.9	30%	-10.46	31.4	54.0	**22.6**	27.1
"	"	"	38.3	50%	-6.02	32.3	54.0	**21.7**	"
"	"	"	37.7	80%	-1.94	35.8	54.0	**18.2**	"
1728	flat	H	38.6	30%	-10.46	28.1	54.0	**25.9**	30.2
"	"	"	37.6	50%	-6.02	31.6	54.0	**22.4**	"
"	"	"	37.3	80%	-1.94	35.4	54.0	**18.6**	"
2016	side	H	40.5	30%	-10.46	30.0	54.0	**24.0**	33.0
"	-	"	40 Noise Floor	50%	-6.02	<34	54.0	>**20**	"
"	-	"	40 Noise Floor	80%	-1.94	<38	54.0	>**16**	"
2304	-	H	39 Noise Floor	30%	-10.46	<28	54.0	>**26**	32.1
"	-	"	39 Noise Floor	50%	-6.02	<33	54.0	>**21**	"
"	-	"	39 Noise Floor	80%	-1.94	<37	54.0	>**17**	"
2592	-	H	39 Noise Floor	30%	-10.46	<28	54.0	>**26**	32.2
"	-	"	39 Noise Floor	50%	-6.02	<33	54.0	>**21**	"
"	-	"	39 Noise Floor	80%	-1.94	<37	54.0	>**17**	"
2880	-	H	40 Noise Floor	30%	-10.46	<30	54.0	>**24**	33.5
"	-	"	40 Noise Floor	50%	-6.02	<34	54.0	>**20**	"
"	-	"	40 Noise Floor	80%	-1.94	<38	54.0	>**16**	"

The are no detectable spurious emissions associated with the digital portion of the CB2HONDAHL3.

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	62.6	30%	-10.46	52.1	55.3	**3.2**	21.7
"	"	"	55.7	50%	-6.02	49.7	55.3	**5.6**	"
"	"	"	48.7	80%	-1.94	46.8	55.3	**8.5**	"
930	flat	H	45.3	30%	-10.46	34.8	55.3	**20.5**	25.3
"	emd	"	30.4	50%	-6.02	24.4	55.3	**30.9**	"
"	flat	"	33.6	80%	-1.94	31.7	55.3	**23.6**	"
1240	flat	H	38.5	30%	-10.46	28.0	54.0	**26.0**	26.5
"	"	"	35.7	50%	-6.02	29.7	54.0	**24.3**	"
"	side	"	34.5	80%	-1.94	32.6	54.0	**21.4**	"
1550	flat	H	41.2	30%	-10.46	30.7	54.0	**23.3**	28.0
"	"	"	38.5	50%	-6.02	32.5	54.0	**21.5**	"
"	"	"	38.4	80%	-1.94	36.5	54.0	**17.5**	"
1860	side	H	38.8	30%	-10.46	28.3	55.3	**27.0**	31.6
"	"	"	38.2	50%	-6.02	32.2	55.3	**23.1**	"
"	-	"	38.0 Noise Floor	80%	-1.94	<36	55.3	>**19**	"
2170	side	H	39.2	30%	-10.46	28.7	55.3	**26.6**	32.4
"	"	"	38.3	50%	-6.02	32.3	55.3	**23.0**	"
"	"	"	38.0 Noise Floor	80%	-1.94	<36	55.3	>**19**	"
2480	-	H	38 Noise Floor	30%	-10.46	<28	55.3	>**27**	31.8
"	-	"	38 Noise Floor	50%	-6.02	<32	55.3	>**23**	"
"	-	"	38 Noise Floor	80%	-1.94	<36	55.3	>**19**	"
2790	-	H	40 Noise Floor	30%	-10.46	<39	54.0	>**15**	33.1
"	-	"	40 Noise Floor	50%	-6.02	<34	54.0	>**20**	"
"	-	"	40 Noise Floor	80%	-1.94	<38	54.0	>**16**	"
3100	-	H	40 Noise Floor	30%	-10.46	<39	54.0	>**15**	34.2
"	-	"	40 Noise Floor	50%	-6.02	<34	54.0	>**20**	"
"	-	"	40 Noise Floor	80%	-1.94	<38	54.0	>**16**	"

The are no detectable spurious emissions associated with the digital portion of the CB2HONDAHL3.

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	flat	H	70.1	30%	-10.46	59.6	60.3	**0.7**	24.6
"	"	"	61.4	50%	-6.02	55.4	60.3	**4.9**	"
"	"	"	57.0	80%	-1.94	55.1	60.3	**5.2**	"
1254	flat	H	45.4	30%	-10.46	34.9	54.0	**19.1**	26.5
"	"	"	40.4	50%	-6.02	34.4	54.0	**19.6**	"
"	end	"	35.8	80%	-1.94	33.9	54.0	**20.1**	"
1672	side	H	42.8	30%	-10.46	32.3	54.0	**21.7**	29.5
"	"	"	40.0	50%	-6.02	34.0	54.0	**20.0**	"
"	"	"	40.0	80%	-1.94	38.1	54.0	**15.9**	"
2090	side	H	46.7	30%	-10.46	36.2	60.3	**24.1**	32.7
"	"	"	43.3	50%	-6.02	37.3	60.3	**23.0**	"
"	"	"	41.9	80%	-1.94	40.0	60.3	**20.3**	"
2508	side	H	40.1	30%	-10.46	29.6	60.3	**30.7**	31.8
"	"	"	38.6	50%	-6.02	35.6	60.3	**24.7**	"
"	-	"	38 Noise Floor	80%	-1.94	<36	60.3	>**54**	"
2926	-	H	39 Noise Floor	30%	-10.46	<28	60.3	>**32**	33.7
"	-	"	39 Noise Floor	50%	-6.02	<33	60.3	>**27**	"
"	-	"	39 Noise Floor	80%	-1.94	<37	60.3	>**23**	"
3344	-	H	40 Noise Floor	30%	-10.46	<29	60.3	>**31**	34.8
"	-	"	40 Noise Floor	50%	-6.02	<34	60.3	>**26**	"
"	-	"	40 Noise Floor	80%	-1.94	<38	60.3	>**22**	"
3762	-	H	41 Noise Floor	30%	-10.46	<30	54.0	>**24**	35.8
"	-	"	41 Noise Floor	50%	-6.02	<35	54.0	>**19**	"
"	-	"	41 Noise Floor	80%	-1.94	<39	54.0	>**15**	"
4180	-	H	42 Noise Floor	30%	-10.46	<32	54.0	>**22**	36.1
"	-	"	42 Noise Floor	50%	-6.02	<36	54.0	>**18**	"
"	-	"	42 Noise Floor	80%	-1.94	<40	54.0	>**14**	"

The are no detectable spurious emissions associated with the digital portion of the CB2HONDAHL3.

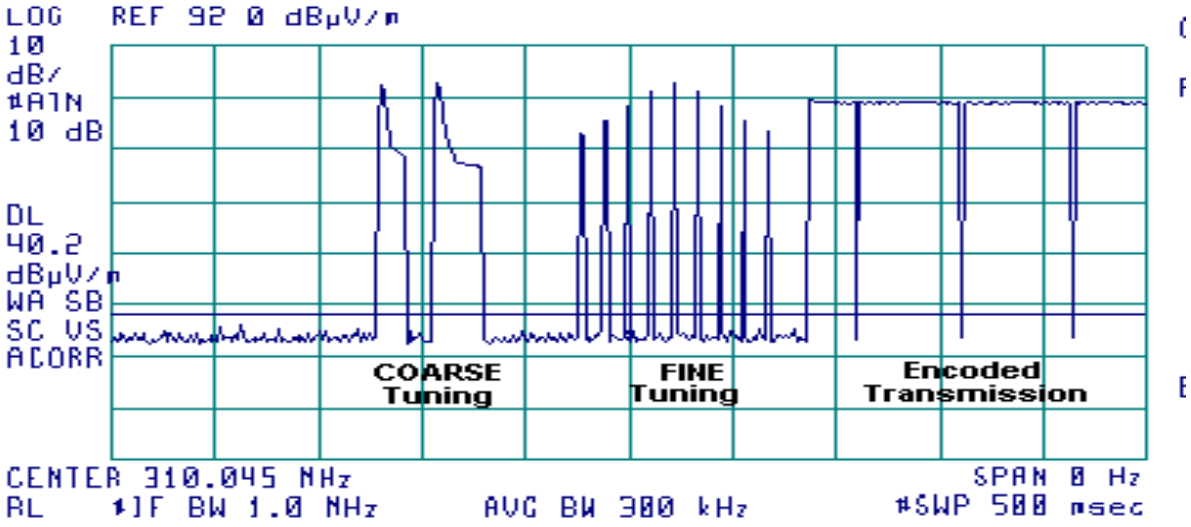
Calculation of Field Strength of Tuning Pulses: [15.231(b)], 15.31(c)]

The tuning pulses are generated each time the CB2HONDAHL3 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.

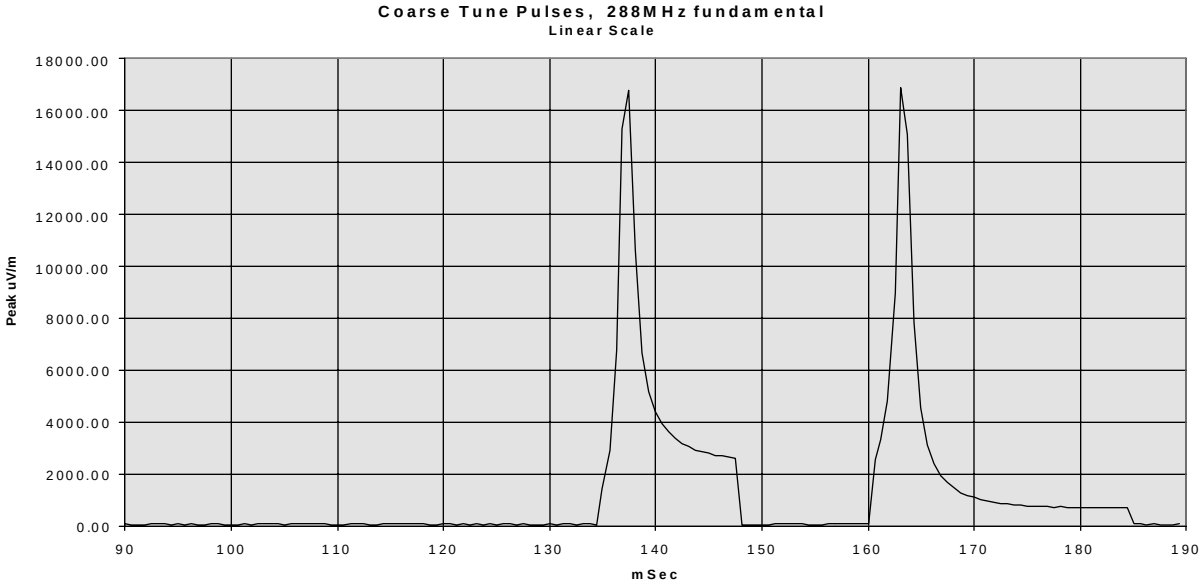
   Therefore: Number of data points per 100mSec
   = 100mSec * (400pts/scan) / (No. of mSec/scan).
   Example: If the scan rate is set at 240mSec, then the number of data points per 100mSec is 100mSec * (400pts / 240mSec) = 167 pts.

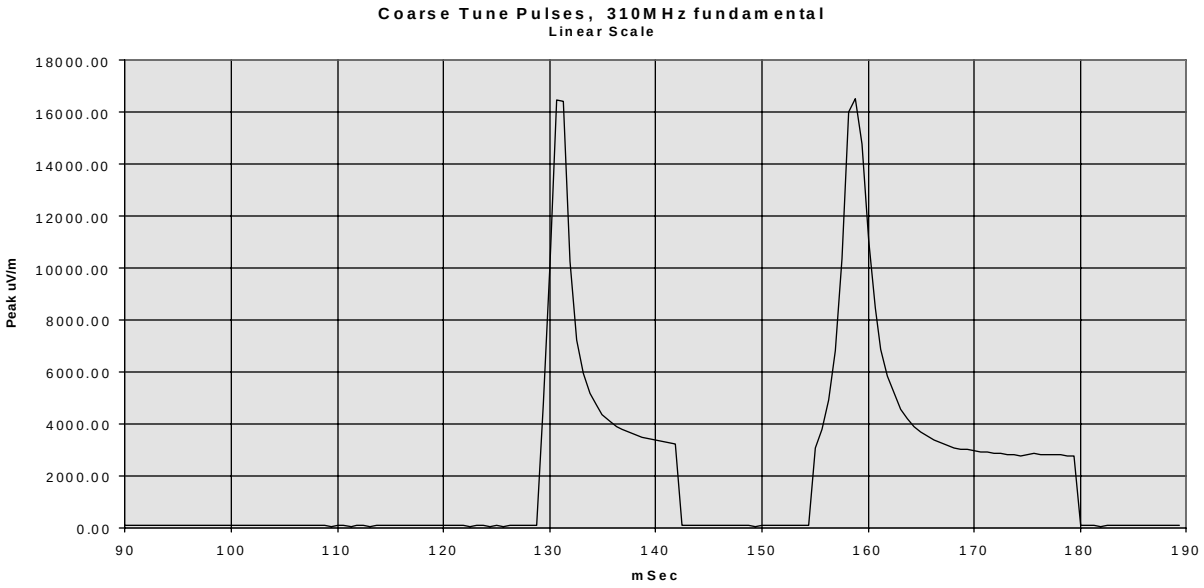
2. The AVERAGE field strength level (uV/m) within the 100mSec is then determined by dividing SUM of the levels (uV/m) of all data points by the number of data points.

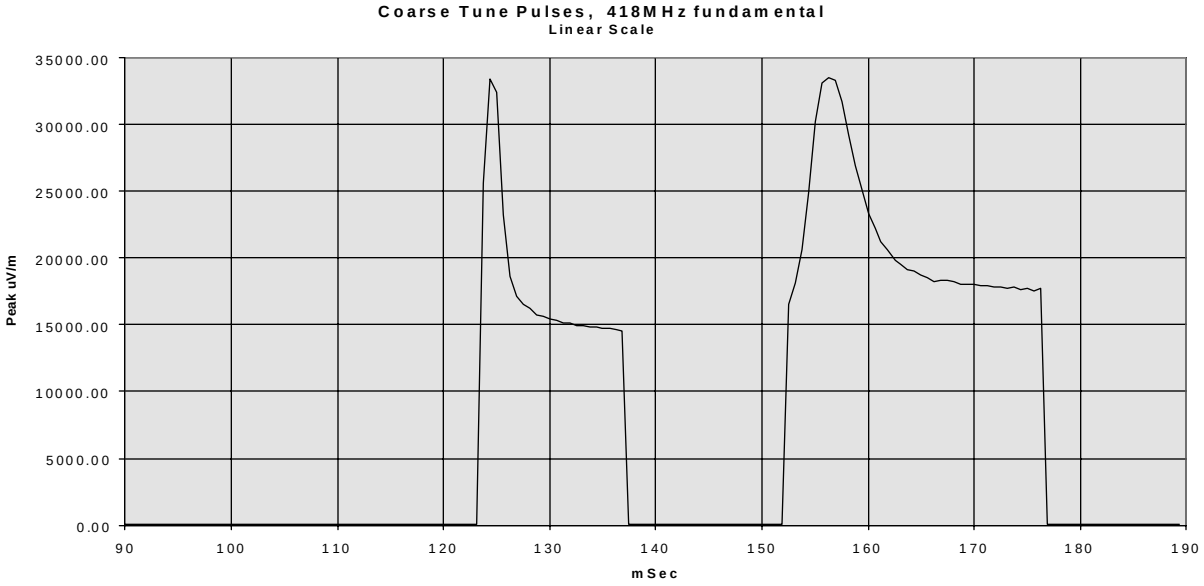
   Formula 3: Average Field Intensity

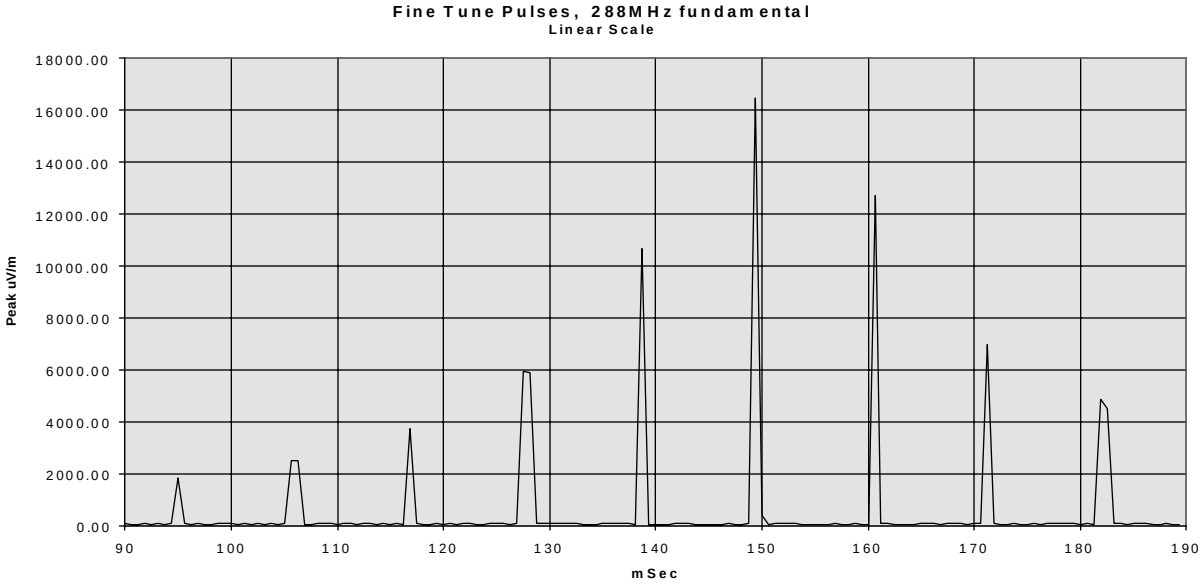
$$\text{Avg. F.I.} = \frac{\sum_{n=1}^{\text{no. of data pts}} (\text{Level}_n)\text{uV/m}}{\text{(number of data points)}}$$

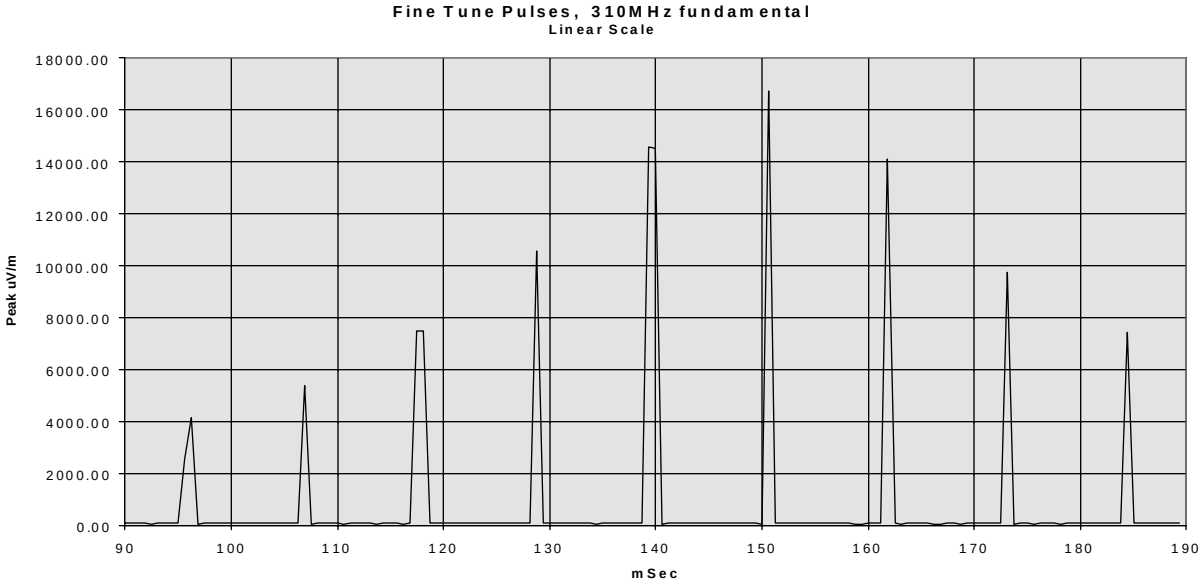
The charts that follow are the reproduction of the coarse tune pulse traces using number of data points representing 100mSec sweep time from the screen display of the HP8546A EMI receiver.

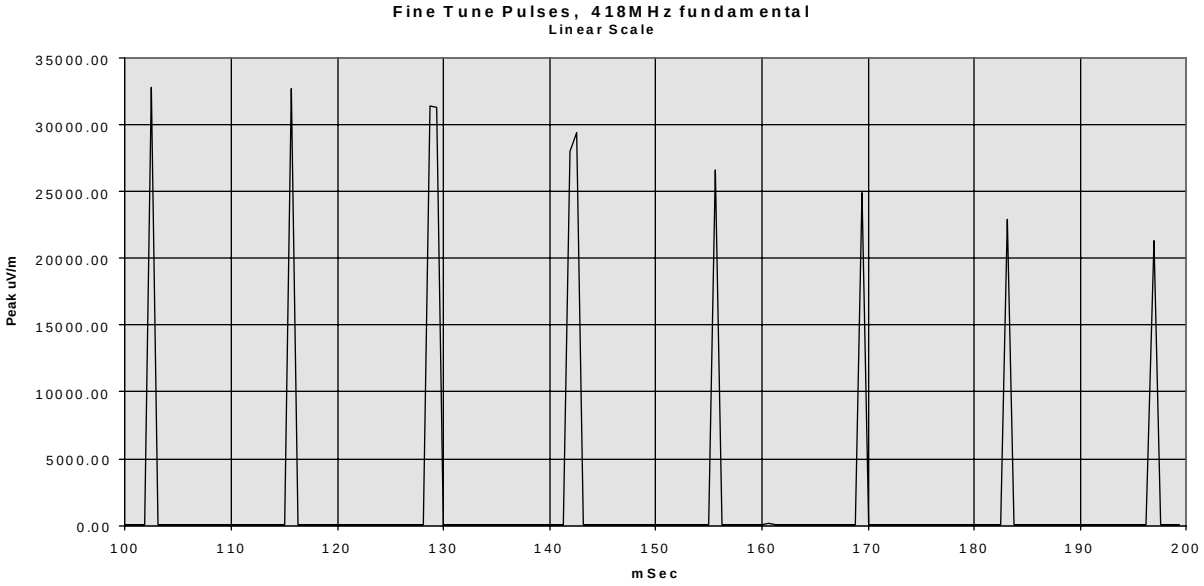



Coarse Tune Pulses, 310MHz fundamental
Linear Scale
Peak uV/m
18000.00
16000.00
14000.00
12000.00
10000.00
8000.00
6000.00
4000.00
2000.00
0.00
90
100
110
120
130
140
150
160
170
180
190
mSec


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
90
100
110
120
130
140
150
160
170
180
190
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
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	207,334	160	1,296	4917	**11.6**
310	327,726	160	2,048	5833	**9.1**
418	1,232,910	160	7,706	10333	**2.5**

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	86,820	160	543	4917	**19.1**
310	123,171	160	770	5833	**17.6**
418	293,697	160	1,836	10333	**15.0**

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	90	58.28	115	52.97	140	4405.55	165	4539.42
2	90.625	50.12	115.625	61.09	140.625	3921.93	165.625	3118.89
3	91.25	51.70	116.25	58.28	141.25	3614.10	166.25	2409.91
4	91.875	50.64	116.875	54.51	141.875	3349.65	166.875	1934.19
5	92.5	53.09	117.5	60.46	142.5	3169.57	167.5	1686.55
6	93.125	59.77	118.125	54.95	143.125	3058.44	168.125	1448.77
7	93.75	59.22	118.75	49.72	143.75	2930.89	168.75	1274.97
8	94.375	51.23	119.375	50.41	144.375	2854.30	169.375	1169.50
9	95	56.04	120	54.39	145	2786.12	170	1083.93
10	95.625	51.70	120.625	59.50	145.625	2716.44	170.625	1017.42
11	96.25	58.61	121.25	50.41	146.25	2682.25	171.25	944.06
12	96.875	52.24	121.875	60.74	146.875	2624.22	171.875	901.57
13	97.5	50.64	122.5	44.62	147.5	2597.17	172.5	859.01
14	98.125	56.04	123.125	54.39	148.125	48.92	173.125	839.46
15	98.75	54.70	123.75	52.36	148.75	49.72	173.75	806.31
16	99.375	52.24	124.375	52.78	149.375	45.81	174.375	793.41
17	100	50.12	125	48.53	150	47.75	175	765.60
18	100.625	48.64	125.625	58.48	150.625	50.52	175.625	755.09
19	101.25	58.48	126.25	54.51	151.25	54.95	176.25	733.67
20	101.875	50.00	126.875	48.92	151.875	54.26	176.875	739.61
21	102.5	54.08	127.5	54.83	152.5	56.62	177.5	721.11
22	103.125	52.66	128.125	48.64	153.125	56.62	178.125	735.36
23	103.75	56.04	128.75	52.12	153.75	62.09	178.75	715.32
24	104.375	53.39	129.375	52.36	154.375	52.36	179.375	709.58
25	105	51.94	130	58.75	155	51.05	180	699.84
26	105.625	55.40	130.625	51.82	155.625	50.12	180.625	699.84
27	106.25	54.83	131.25	59.77	156.25	59.98	181.25	694.22
28	106.875	52.97	131.875	53.09	156.875	53.52	181.875	688.65
29	107.5	61.09	132.5	50.12	157.5	52.66	182.5	687.07
30	108.125	54.26	133.125	60.60	158.125	53.09	183.125	691.03
31	108.75	54.70	133.75	55.27	158.75	54.08	183.75	681.55
32	109.375	50.00	134.375	47.15	159.375	58.61	184.375	683.12
33	110	51.70	135	1415.79	160	53.39	185	54.70
34	110.625	48.42	135.625	2924.15	160.625	2540.97	185.625	57.88
35	111.25	59.77	136.25	6737.52	161.25	3315.13	186.25	49.03
36	111.875	64.49	136.875	15310.87	161.875	4813.93	186.875	70.15
37	112.5	55.85	137.5	16788.04	162.5	8953.65	187.5	49.03
38	113.125	50.52	138.125	10616.96	163.125	16865.53	188.125	50.41
39	113.75	52.24	138.75	6668.07	163.75	15066.07	188.75	46.56
40	114.375	57.68	139.375	5164.16	164.375	7825.28	189.375	52.78

COARSE TUNE Pulse; Fundamental Frequency = 310MHz

	mSec	Level uV/m	mSec	Level uV/m	mSec	Level uV/m	mSec	Level uV/m
1	90	58.41	115	64.05	140	3365.12	165	3672.82
2	90.625	63.46	115.625	55.65	140.625	3311.31	165.625	3503.48
3	91.25	60.12	116.25	59.36	141.25	3277.18	166.25	3365.12
4	91.875	57.02	116.875	59.16	141.875	3224.78	166.875	3284.73
5	92.5	63.46	117.5	62.09	142.5	59.50	167.5	3155.00
6	93.125	53.21	118.125	58.68	143.125	62.73	168.125	3083.19
7	93.75	57.61	118.75	59.63	143.75	54.70	168.75	3033.89
8	94.375	55.91	119.375	54.95	144.375	57.15	169.375	2992.26
9	95	54.08	120	63.61	145	57.61	170	2941.03
10	95.625	60.95	120.625	60.46	145.625	70.47	170.625	2910.72
11	96.25	59.02	121.25	57.15	146.25	69.02	171.25	2887.35
12	96.875	62.73	121.875	52.78	146.875	58.68	171.875	2841.19
13	97.5	57.61	122.5	50.35	147.5	64.86	172.5	2841.19
14	98.125	59.16	123.125	56.69	148.125	59.63	173.125	2824.88
15	98.75	54.70	123.75	62.09	148.75	59.02	173.75	2795.76
16	99.375	53.95	124.375	52.24	149.375	51.35	174.375	2773.32
17	100	64.34	125	64.71	150	55.34	175	2808.67
18	100.625	60.33	125.625	51.40	150.625	66.30	175.625	2831.39
19	101.25	60.33	126.25	60.95	151.25	54.26	176.25	2802.21
20	101.875	59.16	126.875	57.74	151.875	56.82	176.875	2786.12
21	102.5	53.83	127.5	54.95	152.5	55.53	177.5	2795.76
22	103.125	55.34	128.125	61.09	153.125	67.53	178.125	2779.71
23	103.75	52.97	128.75	52.78	153.75	65.09	178.75	2773.32
24	104.375	60.46	129.375	4742.42	154.375	59.16	179.375	2751.06
25	105	53.95	130	10162.49	155	3072.56	180	58.55
26	105.625	72.61	130.625	16481.62	155.625	3788.79	180.625	58.68
27	106.25	62.73	131.25	16443.72	156.25	4926.06	181.25	60.95
28	106.875	61.59	131.875	10244.72	156.875	6807.69	181.875	51.94
29	107.5	53.64	132.5	7219.38	157.5	10351.42	182.5	60.12
30	108.125	59.16	133.125	5915.62	158.125	15995.58	183.125	57.48
31	108.75	57.02	133.75	5164.16	158.75	16538.65	183.75	56.10
32	109.375	51.17	134.375	4704.35	159.375	14757.07	184.375	65.24
33	110	64.57	135	4355.12	160	11078.99	185	52.78
34	110.625	66.30	135.625	4111.50	160.625	8472.27	185.625	54.70
35	111.25	51.82	136.25	3881.50	161.25	6878.60	186.25	56.10
36	111.875	67.53	136.875	3767.04	161.875	5821.03	186.875	56.23
37	112.5	55.34	137.5	3672.82	162.5	5058.25	187.5	59.50
38	113.125	52.24	138.125	3597.49	163.125	4528.98	188.125	52.54
39	113.75	54.08	138.75	3483.37	163.75	4178.30	188.75	55.14
40	114.375	56.23	139.375	3419.79	164.375	3903.91	189.375	56.69

COARSE TUNE Pulse; Fundamental Frequency = 418MHz

	mSec	Level uV/m	mSec	Level uV/m	mSec	Level uV/m	mSec	Level uV/m
1	90	81.56	115	74.22	140	74.56	165	18728.37
2	90.625	85.70	115.625	73.03	140.625	75.77	165.625	18578.04
3	91.25	78.98	116.25	73.37	141.25	73.96	166.25	18281.00
4	91.875	73.20	116.875	73.96	141.875	76.38	166.875	18344.25
5	92.5	73.79	117.5	80.91	142.5	68.79	167.5	18344.25
6	93.125	73.37	118.125	78.98	143.125	70.63	168.125	18197.01
7	93.75	76.82	118.75	72.61	143.75	70.47	168.75	18050.95
8	94.375	79.43	119.375	90.36	144.375	73.62	169.375	18050.95
9	95	68.55	120	76.65	145	74.99	170	18050.95
10	95.625	85.51	120.625	94.84	145.625	83.08	170.625	17947.34
11	96.25	82.04	121.25	74.56	146.25	73.62	171.25	17988.71
12	96.875	75.77	121.875	74.82	146.875	78.61	171.875	17844.32
13	97.5	73.62	122.5	85.90	147.5	70.23	172.5	17844.32
14	98.125	87.30	123.125	87.80	148.125	78.61	173.125	17701.09
15	98.75	70.63	123.75	25644.84	148.75	67.84	173.75	17803.28
16	99.375	85.21	124.375	33458.00	149.375	70.47	174.375	17619.76
17	100	77.00	125	32471.32	150	76.38	175	17762.33
18	100.625	79.89	125.625	23200.64	150.625	77.45	175.625	17579.24
19	101.25	85.21	126.25	18642.32	151.25	70.06	176.25	17701.09
20	101.875	83.08	126.875	17159.32	151.875	79.43	176.875	89.23
21	102.5	76.03	127.5	16500.61	152.5	16538.65	177.5	76.03
22	103.125	93.86	128.125	16199.44	153.125	18134.27	178.125	76.38
23	103.75	77.00	128.75	15757.96	153.75	20653.80	178.75	77.00
24	104.375	75.77	129.375	15685.56	154.375	24974.68	179.375	73.03
25	105	82.41	130	15434.76	155	30269.13	180	80.45
26	105.625	79.89	130.625	15346.17	155.625	33113.11	180.625	85.51
27	106.25	76.65	131.25	15187.98	156.25	33573.76	181.25	79.43
28	106.875	88.31	131.875	15100.80	156.875	33381.05	181.875	76.21
29	107.5	78.34	132.5	14979.59	157.5	31695.67	182.5	72.78
30	108.125	80.91	133.125	14979.59	158.125	29241.52	183.125	76.21
31	108.75	79.43	133.75	14859.36	158.75	26915.35	183.75	82.04
32	109.375	85.70	134.375	14825.18	159.375	25089.96	184.375	82.22
33	110	78.61	135	14774.06	160	23334.58	185	83.08
34	110.625	79.25	135.625	14706.18	160.625	22233.10	185.625	78.34
35	111.25	82.89	136.25	14655.48	161.25	21232.44	186.25	76.03
36	111.875	77.98	136.875	14571.36	161.875	20606.30	186.875	85.90
37	112.5	78.16	137.5	85.02	162.5	19838.10	187.5	77.00
38	113.125	74.99	138.125	77.98	163.125	19588.45	188.125	81.38
39	113.75	74.82	138.75	73.20	163.75	19142.56	188.75	86.20
40	114.375	87.30	139.375	74.39	164.375	19032.68	189.375	76.21

FINE TUNE Pulses; Fundamental Frequency = 288MHz

	mSec	Level uV/m	mSec	Level uV/m	mSec	Level uV/m	mSec	Level uV/m
1	90	55.14	115	50.82	140	49.83	165	52.97
2	90.625	50.52	115.625	53.83	140.625	51.82	165.625	57.88
3	91.25	51.29	116.25	51.05	141.25	48.53	166.25	57.41
4	91.875	55.40	116.875	3728.21	141.875	60.46	166.875	49.32
5	92.5	51.29	117.5	63.10	142.5	72.03	167.5	55.27
6	93.125	53.83	118.125	47.75	143.125	54.08	168.125	63.46
7	93.75	52.24	118.75	52.36	143.75	51.70	168.75	53.09
8	94.375	52.66	119.375	54.08	144.375	49.03	169.375	49.32
9	95	1815.52	120	52.24	145	51.58	170	53.21
10	95.625	54.39	120.625	60.12	145.625	50.23	170.625	56.75
11	96.25	50.23	121.25	47.42	146.25	50.52	171.25	6982.32
12	96.875	56.17	121.875	56.62	146.875	53.64	171.875	62.95
13	97.5	49.03	122.5	52.97	147.5	52.24	172.5	51.23
14	98.125	50.82	123.125	52.36	148.125	51.94	173.125	51.94
15	98.75	56.17	123.75	45.81	148.75	56.30	173.75	58.28
16	99.375	55.59	124.375	77.27	149.375	16462.66	174.375	49.32
17	100	54.70	125	52.97	150	376.27	175	51.82
18	100.625	49.72	125.625	54.83	150.625	51.82	175.625	53.95
19	101.25	57.54	126.25	50.00	151.25	56.04	176.25	51.23
20	101.875	50.93	126.875	56.30	151.875	53.52	176.875	52.66
21	102.5	53.09	127.5	5936.08	152.5	54.51	177.5	56.75
22	103.125	51.58	128.125	5902.01	153.125	59.50	178.125	59.50
23	103.75	55.72	128.75	58.48	153.75	50.41	178.75	57.21
24	104.375	50.41	129.375	52.54	154.375	48.25	179.375	54.51
25	105	59.98	130	55.40	155	51.29	180	47.75
26	105.625	2500.35	130.625	56.17	155.625	50.41	180.625	60.60
27	106.25	2474.57	131.25	54.26	156.25	50.52	181.25	52.12
28	106.875	49.72	131.875	59.09	156.875	55.59	181.875	4864.07
29	107.5	52.12	132.5	52.97	157.5	49.83	182.5	4477.13
30	108.125	53.95	133.125	51.23	158.125	51.29	183.125	56.30
31	108.75	54.70	133.75	51.94	158.75	59.50	183.75	56.30
32	109.375	55.14	134.375	50.64	159.375	48.64	184.375	52.36
33	110	46.94	135	56.49	160	50.41	185	54.26
34	110.625	52.66	135.625	54.83	160.625	12720.38	185.625	56.17
35	111.25	56.62	136.25	56.75	161.25	57.41	186.25	52.66
36	111.875	49.60	136.875	56.62	161.875	58.28	186.875	51.23
37	112.5	53.95	137.5	58.61	162.5	51.94	187.5	49.43
38	113.125	56.17	138.125	50.64	163.125	47.70	188.125	57.08
39	113.75	48.92	138.75	10678.25	163.75	48.64	188.75	48.92
40	114.375	68.71	139.375	50.64	164.375	51.29	189.375	49.20

FINE TUNE Pulses; Fundamental Frequency = 310MHz

	mSec	Level uV/m	mSec	Level uV/m	mSec	Level uV/m	mSec	Level uV/m
1	90	53.64	115	53.95	140	14521.12	165	57.94
2	90.625	58.41	115.625	56.10	140.625	52.24	165.625	54.51
3	91.25	55.21	116.25	50.64	141.25	58.55	166.25	52.36
4	91.875	59.63	116.875	54.70	141.875	58.68	166.875	51.05
5	92.5	49.95	117.5	7473.09	142.5	57.02	167.5	61.59
6	93.125	63.46	118.125	7473.09	143.125	55.53	168.125	57.74
7	93.75	54.39	118.75	54.70	143.75	62.73	168.75	51.70
8	94.375	59.84	119.375	60.60	144.375	54.95	169.375	58.08
9	95	56.23	120	55.53	145	56.36	170	56.10
10	95.625	2552.70	120.625	58.21	145.625	57.94	170.625	54.95
11	96.25	4154.32	121.25	57.15	146.25	66.83	171.25	56.23
12	96.875	52.36	121.875	62.59	146.875	61.31	171.875	61.94
13	97.5	54.08	122.5	59.63	147.5	60.46	172.5	54.70
14	98.125	70.71	123.125	53.83	148.125	64.86	173.125	9761.13
15	98.75	59.63	123.75	53.83	148.75	53.39	173.75	51.17
16	99.375	54.39	124.375	59.16	149.375	57.02	174.375	53.64
17	100	56.69	125	58.55	150	50.76	175	61.31
18	100.625	62.59	125.625	58.41	150.625	16710.91	175.625	52.36
19	101.25	55.53	126.25	53.39	151.25	59.98	176.25	65.92
20	101.875	56.82	126.875	60.33	151.875	54.08	176.875	55.65
21	102.5	56.10	127.5	66.68	152.5	58.21	177.5	59.84
22	103.125	62.45	128.125	64.05	153.125	54.83	178.125	51.17
23	103.75	55.14	128.75	10556.02	153.75	59.36	178.75	55.65
24	104.375	65.24	129.375	53.21	154.375	58.41	179.375	61.45
25	105	55.34	130	62.59	155	57.28	180	56.82
26	105.625	63.24	130.625	58.08	155.625	58.55	180.625	54.51
27	106.25	54.70	131.25	59.36	156.25	54.08	181.25	53.64
28	106.875	5376.50	131.875	60.46	156.875	56.56	181.875	56.82
29	107.5	52.24	132.5	61.45	157.5	63.24	182.5	59.36
30	108.125	59.02	133.125	67.92	158.125	56.82	183.125	54.70
31	108.75	53.83	133.75	55.21	158.75	49.95	183.75	59.02
32	109.375	65.24	134.375	49.83	159.375	49.43	184.375	7413.10
33	110	54.08	135	57.15	160	57.48	185	58.08
34	110.625	49.20	135.625	62.95	160.625	61.80	185.625	56.82
35	111.25	56.23	136.25	57.74	161.25	55.34	186.25	52.66
36	111.875	62.09	136.875	59.98	161.875	14109.12	186.875	59.36
37	112.5	55.21	137.5	54.83	162.5	64.19	187.5	65.24
38	113.125	62.45	138.125	56.23	163.125	52.12	188.125	57.74
39	113.75	51.70	138.75	61.94	163.75	56.10	188.75	56.10
40	114.375	58.08	139.375	14571.36	164.375	62.30	189.375	55.53

FINE TUNE Pulses; Fundamental Frequency = 418MHz

	mSec	Level uV/m	mSec	Level uV/m	mSec	Level uV/m	mSec	Level uV/m
1	100	82.70	125	88.00	150	68.79	175	73.62
2	100.625	70.47	125.625	73.62	150.625	80.26	175.625	80.45
3	101.25	73.62	126.25	84.82	151.25	76.21	176.25	80.08
4	101.875	75.42	126.875	76.82	151.875	84.33	176.875	68.55
5	102.5	32809.53	127.5	70.06	152.5	100.46	177.5	73.79
6	103.125	89.02	128.125	77.62	153.125	88.31	178.125	77.62
7	103.75	71.20	128.75	31441.26	153.75	93.65	178.75	76.38
8	104.375	69.34	129.375	31368.95	154.375	77.00	179.375	81.56
9	105	69.66	130	82.89	155	73.03	180	77.27
10	105.625	68.55	130.625	80.26	155.625	26637.90	180.625	72.61
11	106.25	81.56	131.25	79.25	156.25	80.91	181.25	82.70
12	106.875	70.79	131.875	72.44	156.875	78.34	181.875	73.79
13	107.5	78.80	132.5	85.21	157.5	81.38	182.5	74.99
14	108.125	81.75	133.125	92.58	158.125	82.41	183.125	22961.49
15	108.75	84.33	133.75	95.17	158.75	87.10	183.75	80.45
16	109.375	77.00	134.375	87.80	159.375	81.56	184.375	88.00
17	110	71.94	135	87.80	160	71.94	185	99.43
18	110.625	83.08	135.625	81.56	160.625	102.33	185.625	75.77
19	111.25	76.65	136.25	75.60	161.25	86.40	186.25	71.94
20	111.875	75.42	136.875	81.56	161.875	83.56	186.875	69.90
21	112.5	78.61	137.5	84.14	162.5	82.04	187.5	69.90
22	113.125	79.62	138.125	90.36	163.125	72.44	188.125	78.80
23	113.75	73.62	138.75	73.62	163.75	74.99	188.75	87.80
24	114.375	82.41	139.375	74.56	164.375	93.11	189.375	77.00
25	115	98.40	140	93.65	165	76.65	190	78.80
26	115.625	32734.07	140.625	83.08	165.625	73.79	190.625	74.22
27	116.25	79.25	141.25	68.94	166.25	76.03	191.25	73.96
28	116.875	80.45	141.875	28086.65	166.875	77.62	191.875	79.62
29	117.5	73.37	142.5	29478.13	167.5	70.06	192.5	75.60
30	118.125	80.26	143.125	83.56	168.125	79.25	193.125	80.26
31	118.75	81.38	143.75	77.00	168.75	69.90	193.75	89.23
32	119.375	79.62	144.375	78.61	169.375	24974.68	194.375	76.21
33	120	74.39	145	85.21	170	80.91	195	89.02
34	120.625	75.16	145.625	71.53	170.625	85.02	195.625	82.41
35	121.25	78.61	146.25	79.62	171.25	98.06	196.25	77.98
36	121.875	87.30	146.875	77.98	171.875	76.21	196.875	21305.91
37	122.5	73.03	147.5	73.37	172.5	75.60	197.5	77.98
38	123.125	71.94	148.125	69.34	173.125	75.77	198.125	78.61
39	123.75	75.60	148.75	79.62	173.75	77.45	198.75	71.20
40	124.375	78.80	149.375	76.65	174.375	85.70	199.375	74.82