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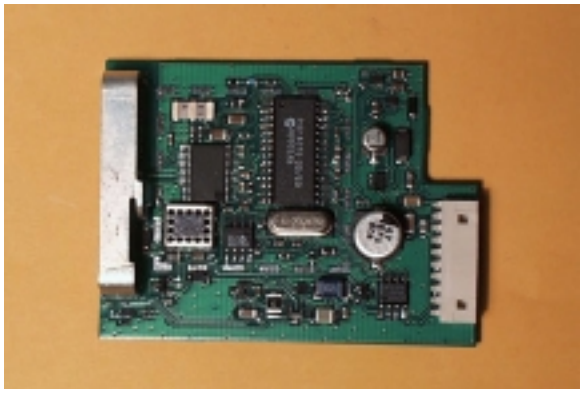
EXHIBIT K: REPORT OF MEASUREMENTS [2.1033(B6)]

Test Report for FCC ID: CB2070NHL3

FCC Part 2.1031, Part 15 Subpart C(15.231)

Report #09900280F
Issued 3/17/00



TRANSMITTER MODEL 070NHL3 OF HOMELINK® III SERIES

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

Test Date(s): January 12 thru February 16, 1999

data recorded by

Ted Chaffee, NCE
Test Engineer, AHD

witnessed by

David Blaker
Craig Harder

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
University of Mich Double Ridge Horn	0.2 - 5.0GHz	C	16-Mar-99	12 months
6 ft. Andrew DF4 Heliax		9912-02	13-Dec-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%.

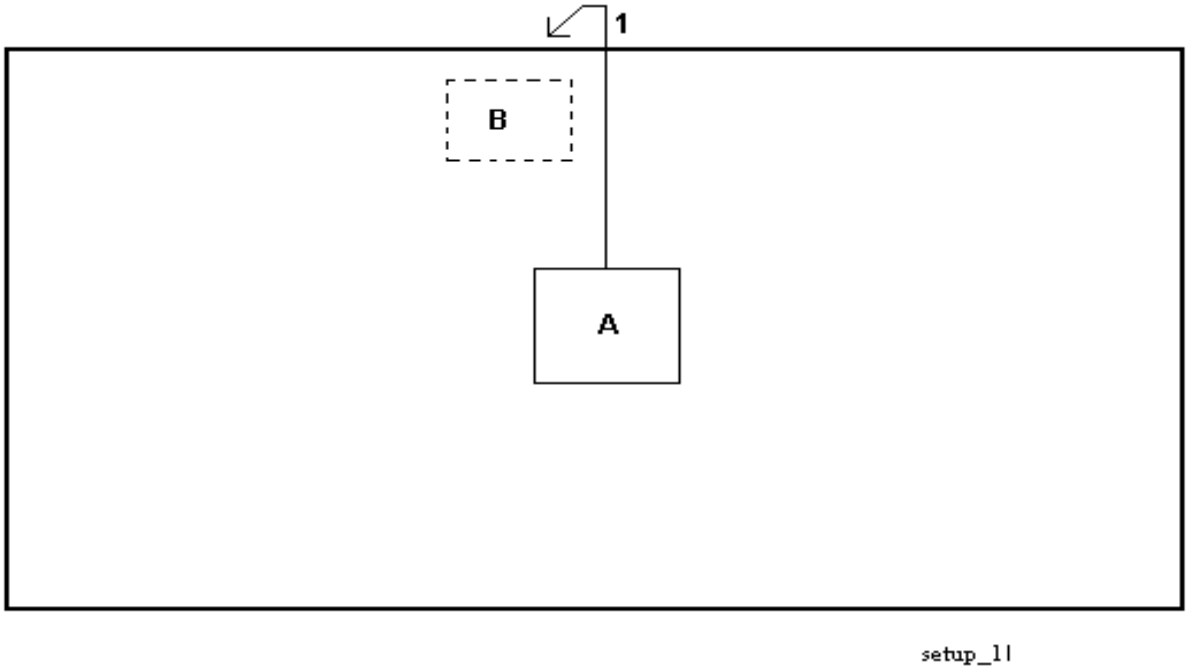
Tested Configuration /Setup: [2.1033(b8)]

Support Equipment & Cabling

Setup Diagram Legend	Description	Model	Serial No. / Part No.	EMC Consideration
A	[EUT] Universal Garage Door Opener	[JCI] 070NHL3	--	FCC ID: CB2070NHL3
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, 8-lead lightly twisted cable harness.

Setup Diagram

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



setup_1l

BASIC EUT SETUP
(Legend designation is above)

Summary of Results:

1. This test series evaluated the Equipment Under Test, 070NHL3, 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 January 12, 2000 and this test series commenced on January 12, 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 570KHz. 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.
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 310MHz with 500Hz pulsed modulation at a 30% duty cycle. The EUT was positioned on the ‘side’ and the receive antenna oriented in the horizontal polarization. This signal was measured to be 1.2dB below the limit of 80.3dBuV/m (10,333uV/m).
9. The evaluation of the field strength levels of the harmonics showed the emission nearest the limit occurred while operating at 288MHz 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 576MHz, was measured to be1.8dB below the limit of 53.8dBuV/m (492uV/m).
10. Digital Spurious Emissions: The are no detectable spurious emissions associated with the digital portion of the 070NHL3.
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 4182uV/m which is 7.8dB 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 1583uV/m which is 16.3dB 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.

The unit is supplied to the automobile manufacturer without harness nor user interface. The user interface will consist of a PCB with three control buttons and an LED. For testing purposes a typical button assembly and 8-conductor cable harness were used to interface to the unit. The button assembly was located, with the power supply, at the base of the turntable.

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 8-conductor cable harness was routed to the edge of the long side of the table then down to the button/switch PCB and 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.

When using the Horn antenna the EUT position was raised to bring the EUT directly into the receive beam-width of the Horn antenna. Also, because the horn receive beamwidth is narrow and insensitive to the reflective component of the source emission, it was judged that the three orthogonal positions of the EUT and one polarization of the Horn antenna is sufficient to capture all the emission patterns of the EUT.

During the evaluation the EUT was transmitting continuously.

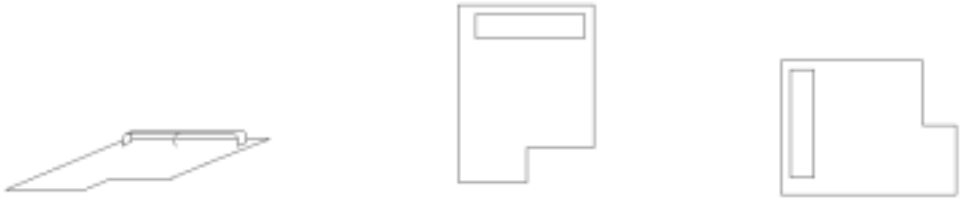
The turntable was rotated 360 degrees and the receiving antenna height varied from 1 to 4 meters to search out the highest emissions.

Preliminary tests were done at several transmit frequencies. 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

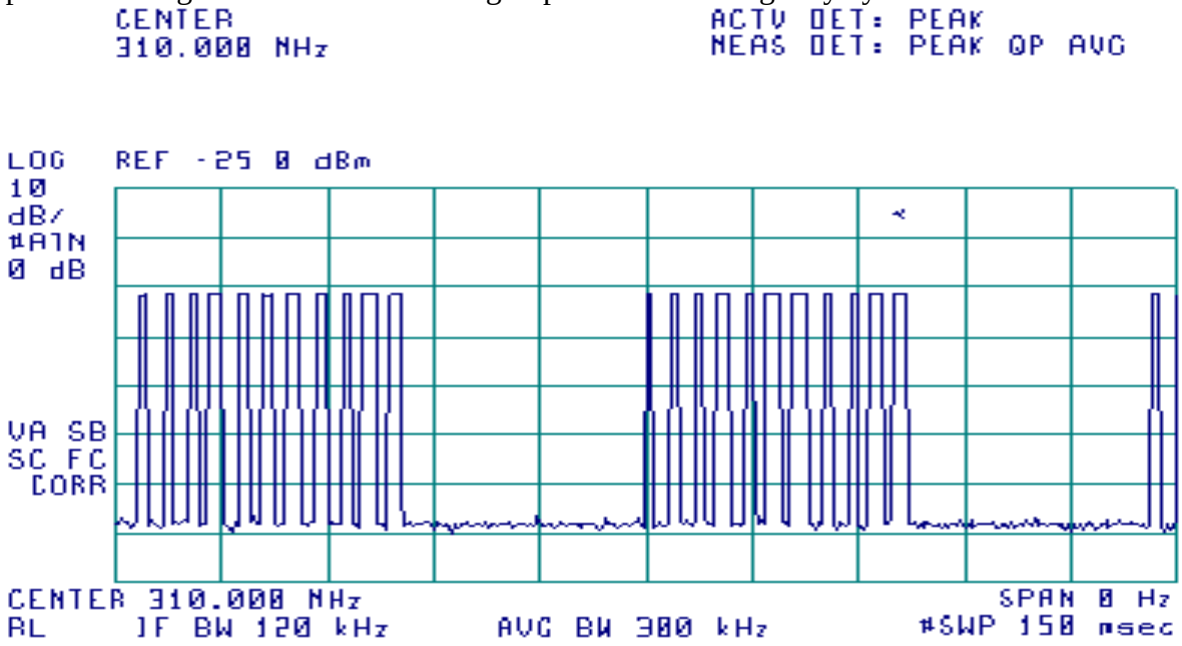
SAMPLE CALCULATION:

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.

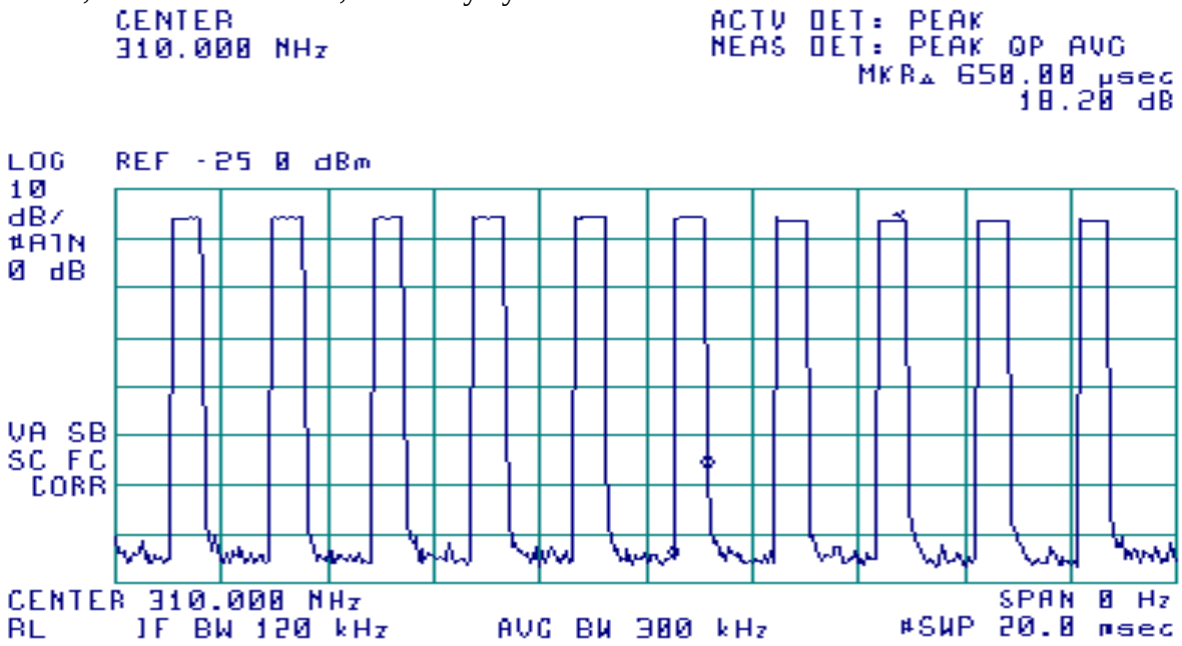
Test Data [2.1033(b6)]

Modulation Characteristics

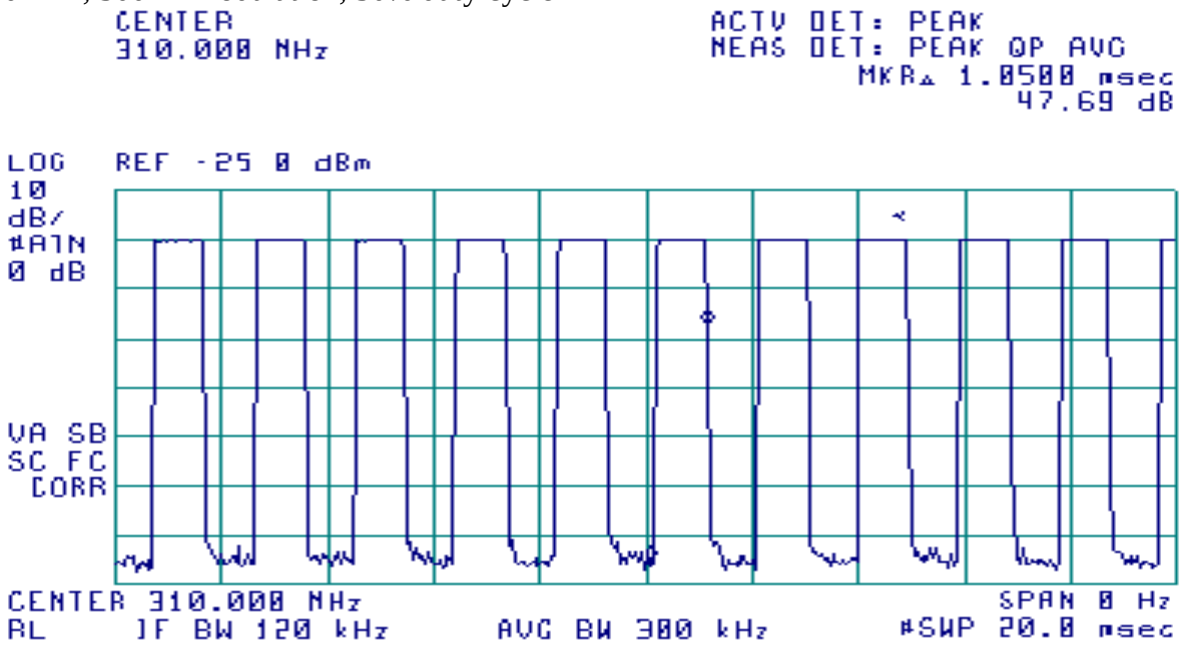
Typical encoding at 310MHz: Consisting of pulses of differing duty cycles.



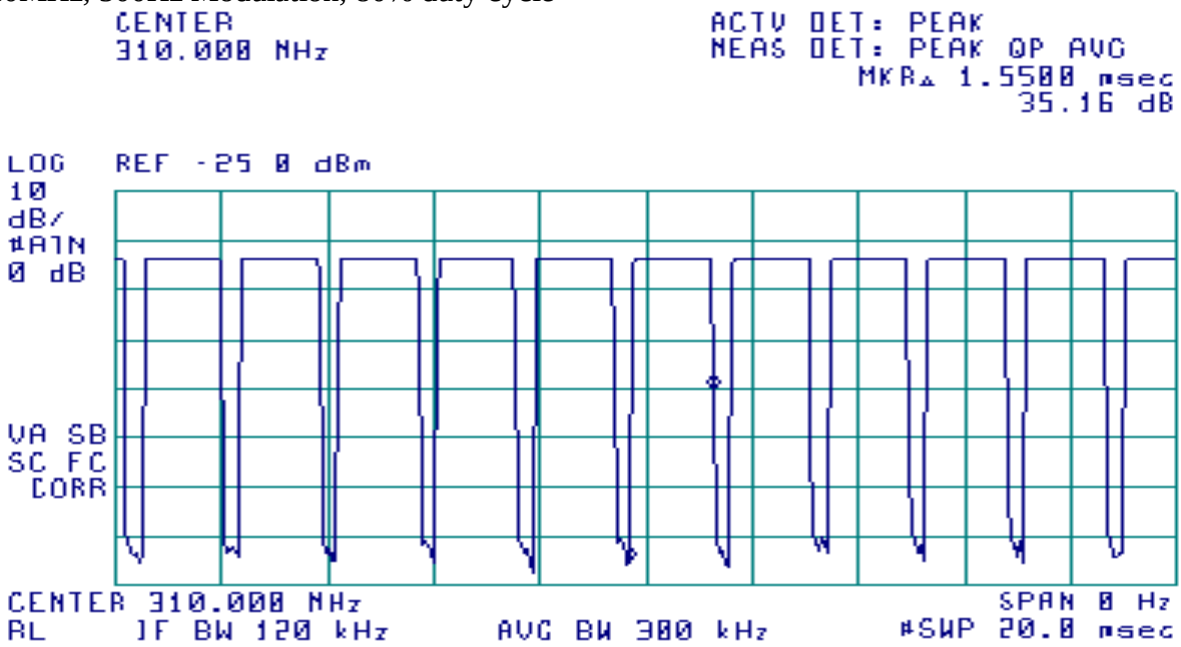
310MHz, 500Hz Modulation, 30% duty cycle



310MHz, 500Hz Modulation, 50% duty cycle



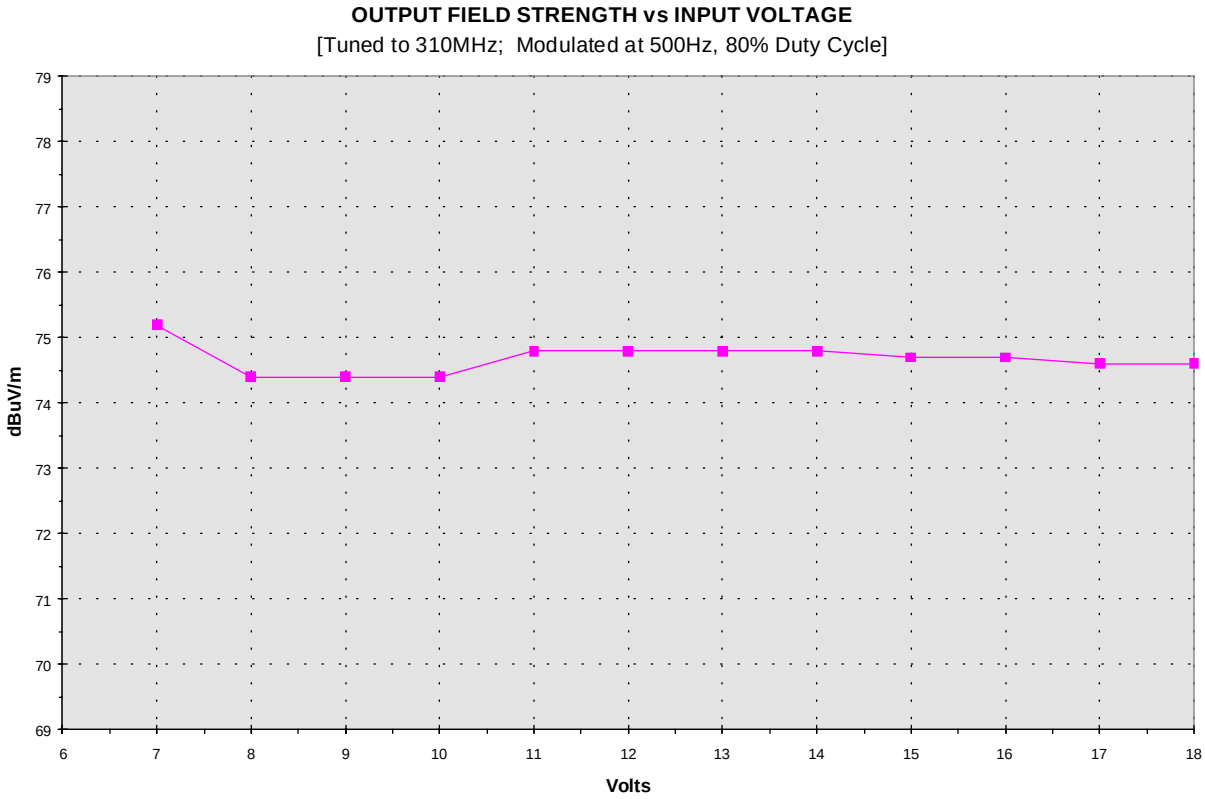
310MHz, 500Hz Modulation, 80% duty cycle



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= 070NHL3, 310MHz, 80%duty cycle	
Volt In	TX OutPut Pk dBuV/m
6	no-op
7	75.2
8	74.4
9	74.4
10	74.4
11	74.8
12	74.8
13	74.8
14	74.8
15	74.7
16	74.7
17	74.6
18	74.6



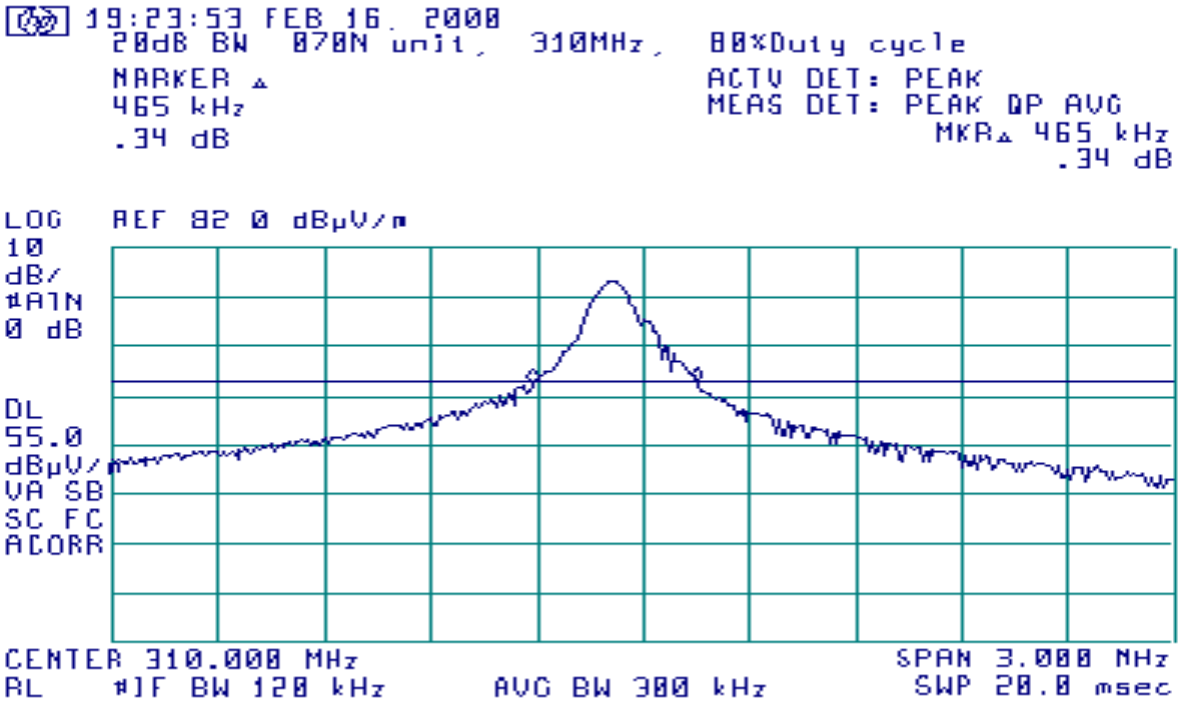
Occupied Bandwidth [15.231(c)]

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%	570 KHz	720 KHz
"	50%	480 KHz	720 KHz
"	80%	473 KHz	720 KHz
310	30%	480 KHz	775 KHz
"	50%	518 KHz	775 KHz
"	80%	465 KHz	775 KHz
418	30%	505 KHz	1045 KHz
"	50%	525 KHz	1045 KHz
"	80%	525 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.

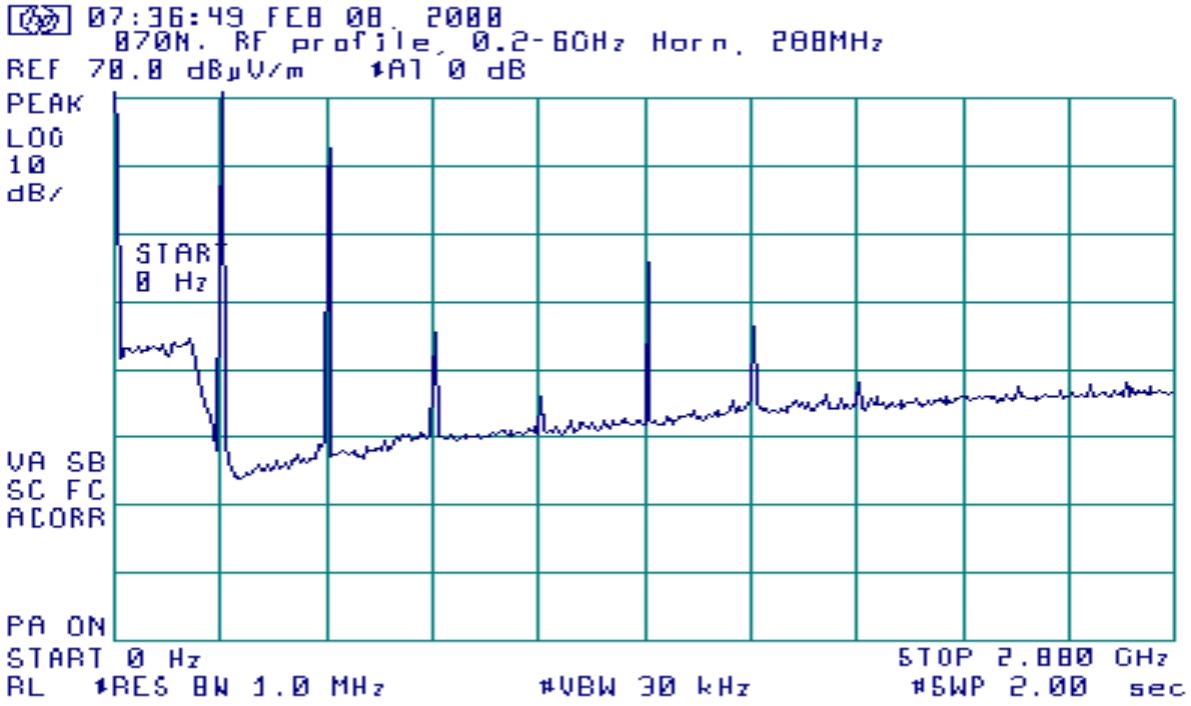
The spurious emissions observed in the restricted bands did not exceed the allowed limits for the restricted bands.

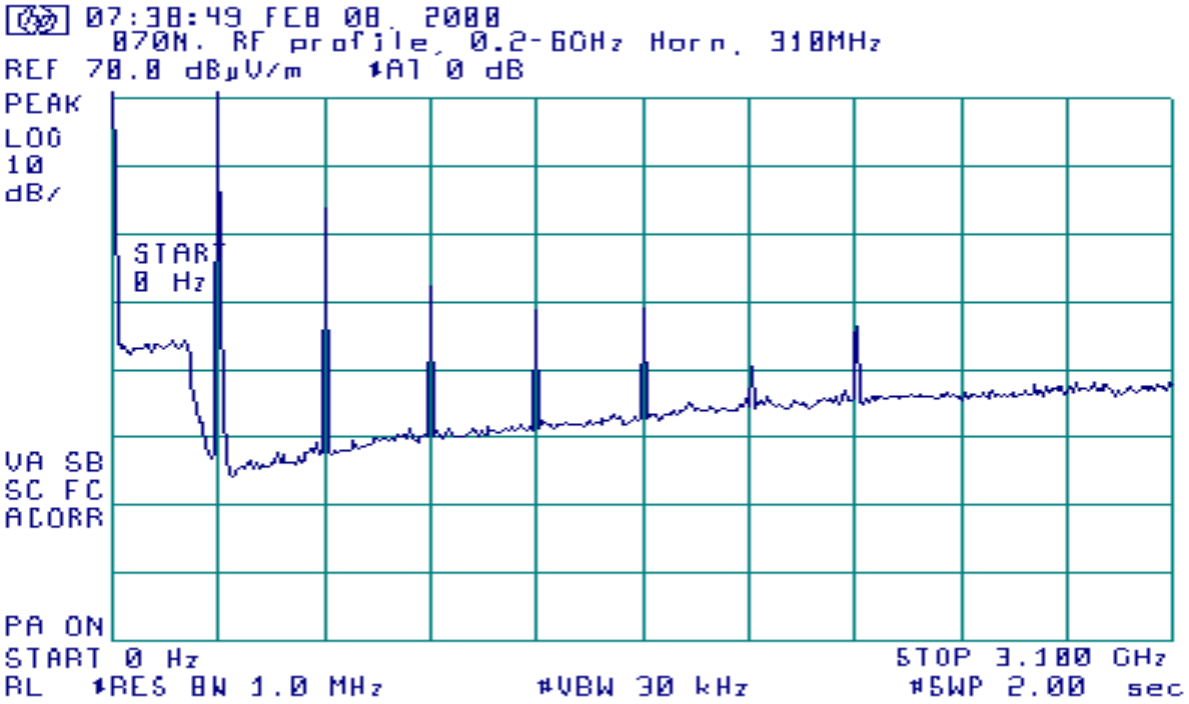
Radiated Field Strength Measurements: [15.231(b), 15.205]

A scan of the 070NHL3 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 070NHL3.

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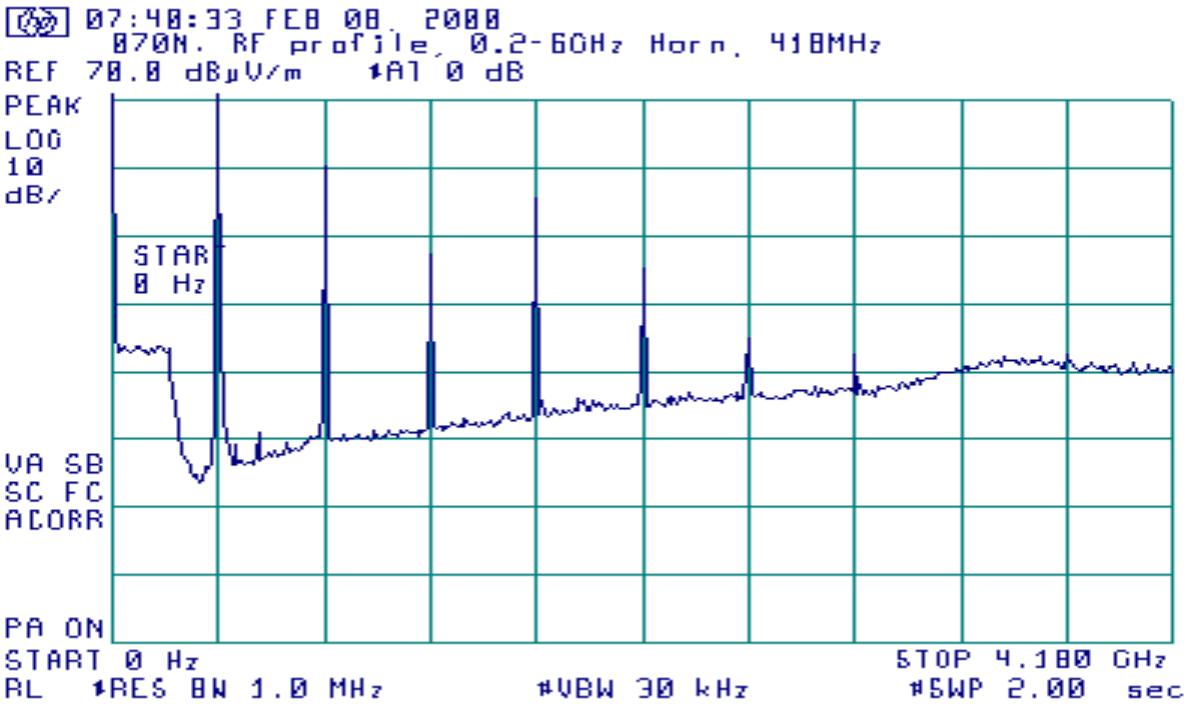
10
dB/
START
0 Hz
VA SB
SC FC
ACORR
PA ON
START 0 Hz
STOP 3.100 GHz
RL
#RES BW 1.0 MHz
#VBW 30 kHz
#SWP 2.00 sec


07:40:33 FEB 08, 2000
070N. RF profile, 0.2-6GHz Horn, 418MHz
REF 70.0 dBµV/m
#Atl 0 dB
PEAK
LOG
10
dB/
START
0 Hz
VA SB
SC FC
ACORR
PA ON
START 0 Hz
STOP 4.100 GHz
RL
#RES BW 1.0 MHz
#VBW 30 kHz
#SWP 2.00 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	82.10	30%	-10.46	71.64	73.8	**2.2**	14.29
"	"	"	78.16	50%	-6.02	72.14	73.8	**1.7**	"
"	"	"	73.35	80%	-1.94	71.41	73.8	**2.4**	"

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	84.55	30%	-10.46	74.09	75.3	**1.2**	14.94
"	"	"	78.98	50%	-6.02	72.96	75.3	**2.3**	"
"	"	"	74.50	80%	-1.94	72.56	75.3	**2.7**	"

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	flat	V	89.13	30%	-10.46	78.57	80.3	**1.7**	17.44
"	"	"	84.17	50%	-6.02	78.15	80.3	**2.2**	"
"	"	"	79.80	80%	-1.94	77.86	80.3	**2.4**	"

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	62.46	30%	-10.46	52.0	53.8	**1.8**	21.03
"	"	"	56.13	50%	-6.02	50.1	53.8	**3.7**	"
"	"	"	48.44	80%	-1.94	46.5	53.8	**7.3**	"
864	flat	H	38.59	30%	-10.46	28.1	53.8	**25.7**	24.82
"	end	V	34.51	50%	-6.02	28.5	53.8	**25.3**	"
"	flat	H	31.76	80%	-1.94	29.8	53.8	**24.0**	"
1152	flat	H	32.16	30%	-10.46	21.	54.0	**32.3**	20.80
"	"	"	30.27	50%	-6.02	24.2	54.0	**29.8**	"
"	"	"	30.53	80%	-1.94	28.6	54.0	**25.4**	"
1440	flat	H	43.69	30%	-10.46	33.2	54.0	**20.8**	22.13
"	"	"	40.11	50%	-6.02	31.1	54.0	**19.9**	"
"	"	"	36.59	80%	-1.94	34.6	54.0	**19.4**	"
1728	end	H	37.80	30%	-10.46	27.3	54.0	**26.7**	23.47
"	"	"	35.59	50%	-6.02	29.6	54.0	**24.4**	"
"	"	"	34.25	80%	-1.94	32.3	54.0	**21.7**	"
2016	flat	H	35.29	30%	-10.46	24.8	54.0	**29.2**	24.60
"	"	"	32.71	50%	-6.02	26.7	54.0	**27.3**	"
"	"	"	32.70	80%	-1.94	30.8	54.0	**23.2**	"
2304	-	H	33.0 Noise Floor	30%	-10.46	<22.5	54.0	>**31.5**	25.41
"	-	"	33.0 Noise Floor	50%	-6.02	<27.0	54.0	>**27.0**	"
"	-	"	33.0 Noise Floor	80%	-1.94	<31.1	54.0	>**22.9**	"
2592	-	H	33.6 Noise Floor	30%	-10.46	<23.1	54.0	>**30.9**	26.17
"	-	"	33.6 Noise Floor	50%	-6.02	<27.6	54.0	>**26.4**	"
"	-	"	33.6 Noise Floor	80%	-1.94	<31.7	54.0	>**22.3**	"
2880	-	H	34.2 Noise Floor	30%	-10.46	<23.7	54.0	>**30.3**	26.98
"	-	"	34.2 Noise Floor	50%	-6.02	<28.2	54.0	>**25.8**	"
"	-	"	34.2 Noise Floor	80%	-1.94	<32.3	54.0	>**21.7**	"

The are no detectable spurious emissions associated with the digital portion of the 070NHL3.

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	end	H	61.52	30%	-10.46	51.1	55.3	**4.2**	21.73
"	"	"	52.97	50%	-6.02	47.0	55.3	**8.4**	"
"	"	"	46.37	80%	-1.94	44.4	55.3	**10.9**	"
930	flat	H	41.75	30%	-10.46	31.3	55.3	**24.0**	25.34
"	"	"	34.55	50%	-6.02	28.5	55.3	**26.8**	"
"	"	"	30.63	80%	-1.94	28.7	55.3	**26.6**	"
1240	flat	H	36.32	30%	-10.46	25.9	54.0	**28.1**	21.24
"	side	"	32.41	50%	-6.02	26.4	54.0	**27.6**	"
"	"	"	30.61	80%	-1.94	28.7	54.0	**25.3**	"
1550	flat	H	48.21	30%	-10.46	37.8	54.0	**16.2**	22.65
"	"	"	43.39	50%	-6.02	37.4	54.0	**16.6**	"
"	"	"	39.56	80%	-1.94	37.6	54.0	**16.4**	"
1860	end	H	37.61	30%	-10.46	27.2	55.3	**28.2**	24.01
"	"	"	34.52	50%	-6.02	28.5	55.3	**26.8**	"
"	"	"	32.53	80%	-1.94	30.6	55.3	**24.7**	"
2170	flat	H	37.56	30%	-10.46	27.1	55.3	**28.2**	25.07
"	end	"	33.58	50%	-6.02	27.6	55.3	**27.7**	"
"	flat	"	32.20	80%	-1.94	30.3	55.3	**25.0**	"
2480	-	H	33.0 Noise Floor	30%	-10.46	<22.5	55.3	>**32.8**	25.83
"	-	"	33.0 Noise Floor	50%	-6.02	<27.0	55.3	>**28.3**	"
"	-	"	33.0 Noise Floor	80%	-1.94	<31.1	55.3	>**24.2**	"
2790	-	H	33.9 Noise Floor	30%	-10.46	<23.4	54.0	>**30.6**	26.74
"	-	"	33.9 Noise Floor	50%	-6.02	<27.9	54.0	>**26.1**	"
"	-	"	33.9 Noise Floor	80%	-1.94	<32.0	54.0	>**22.0**	"
3100	-	H	35.9 Noise Floor	30%	-10.46	<25.4	54.0	>**28.6**	28.34
"	-	"	35.9 Noise Floor	50%	-6.02	<29.9	54.0	>**24.1**	"
"	-	"	35.9 Noise Floor	80%	-1.94	<34.0	54.0	>**20.0**	"

The are no detectable spurious emissions associated with the digital portion of the 070NHL3.

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	68.91	30%	-10.46	58.4	60.3	**1.8**	24.62
"	"	"	60.68	50%	-6.02	54.7	60.3	**5.6**	"
"	"	"	54.37	80%	-1.94	52.4	60.3	**7.9**	"
1254	flat	H	46.34	30%	-10.46	35.9	54.0	**18.1**	21.31
"	"	"	40.29	50%	-6.02	34.3	54.0	**19.7**	"
"	"	"	33.66	80%	-1.94	31.7	54.0	**22.3**	"
1672	flat	H	49.96	30%	-10.46	39.5	54.0	**14.5**	23.23
"	"	"	42.46	50%	-6.02	36.4	54.0	**17.6**	"
"	"	"	40.59	80%	-1.94	38.6	54.0	**15.4**	"
2090	flat	H	45.50	30%	-10.46	35.0	60.3	**25.3**	24.83
"	"	"	41.03	50%	-6.02	35.0	60.3	**25.3**	"
"	"	"	38.60	80%	-1.94	36.7	60.3	**23.6**	"
2508	flat	H	38.32	30%	-10.46	27.9	60.3	**32.4**	25.91
"	"	"	35.12	50%	-6.02	29.1	60.3	**31.2**	"
"	-	"	33.0 Noise Floor	80%	-1.94	<31.1	60.3	>**29.2**	"
2926	flat	H	35.28	30%	-10.46	24.8	60.3	**35.5**	27.10
"	"	"	34.93	50%	-6.02	28.9	60.3	**31.4**	"
"	-	"	34.6 Noise Floor	80%	-1.94	<32.7	60.3	>**27.6**	"
3344	-	H	38.6 Noise Floor	30%	-10.46	<28.1	60.3	>**32.2**	30.71
"	-	"	38.6 Noise Floor	50%	-6.02	<32.6	60.3	>**27.7**	"
"	-	"	38.6 Noise Floor	80%	-1.94	<36.7	60.3	>**23.6**	"
3762	-	H	38.7 Noise Floor	30%	-10.46	<28.2	54.0	>**25.8**	31.51
"	-	"	38.7 Noise Floor	50%	-6.02	<32.7	54.0	>**21.3**	"
"	-	"	38.7 Noise Floor	80%	-1.94	<36.8	54.0	>**17.2**	"
4180	-	H	38.6 Noise Floor	30%	-10.46	<<28.1	54.0	>**25.9**	31.42
"	-	"	38.6 Noise Floor	50%	-6.02	<<32.6	54.0	>**21.4**	"
"	-	"	38.6 Noise Floor	80%	-1.94	<36.7	54.0	>**17.3**	"

The are no detectable spurious emissions associated with the digital portion of the 070NHL3.

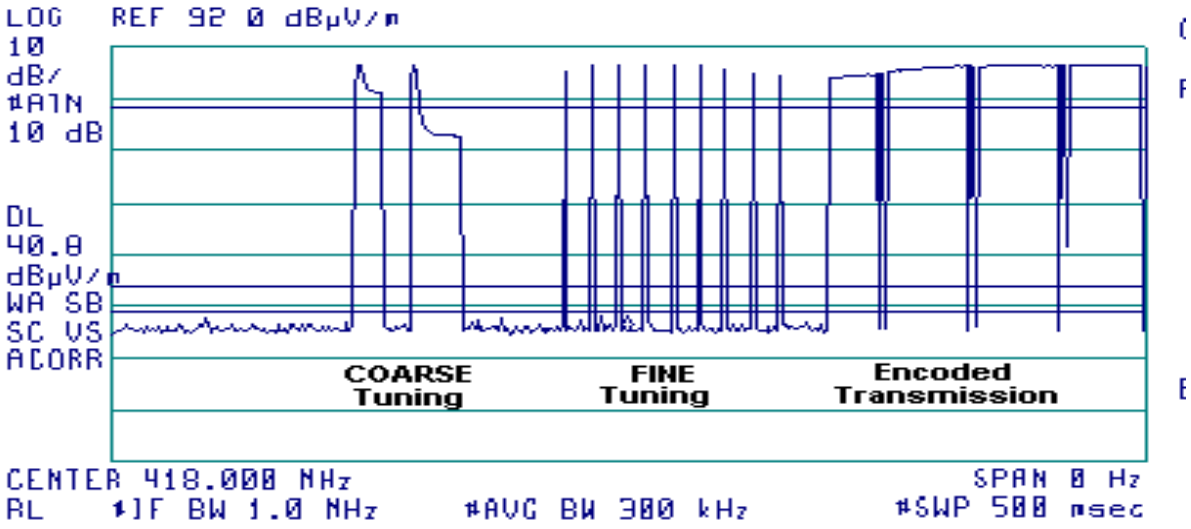
Calculation of Field Strength of Tuning Pulses: [15.231(b)], 15.31(c)]

The tuning pulses are generated each time the 070NHL3 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.

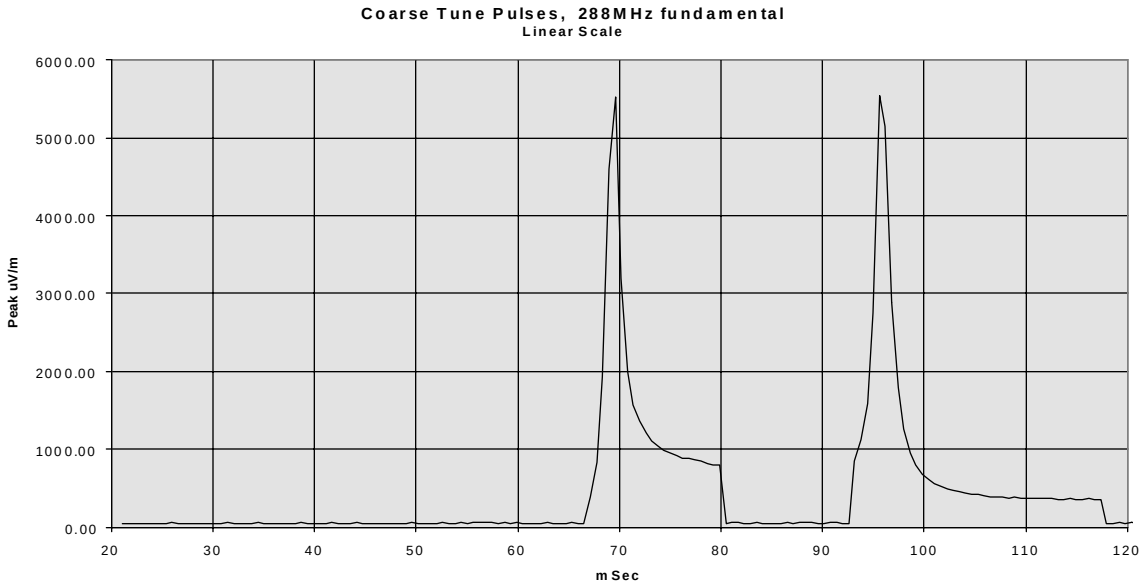
   Therefore: Number of data points per 100mSec
   = 100mSec * (400pts/scan) / (No. of mSec/scan).
   Example: If the scan rate is set at 240mSec, then the number of data points per 100mSec is 100mSec * (400pts / 240mSec) = 167 pts.

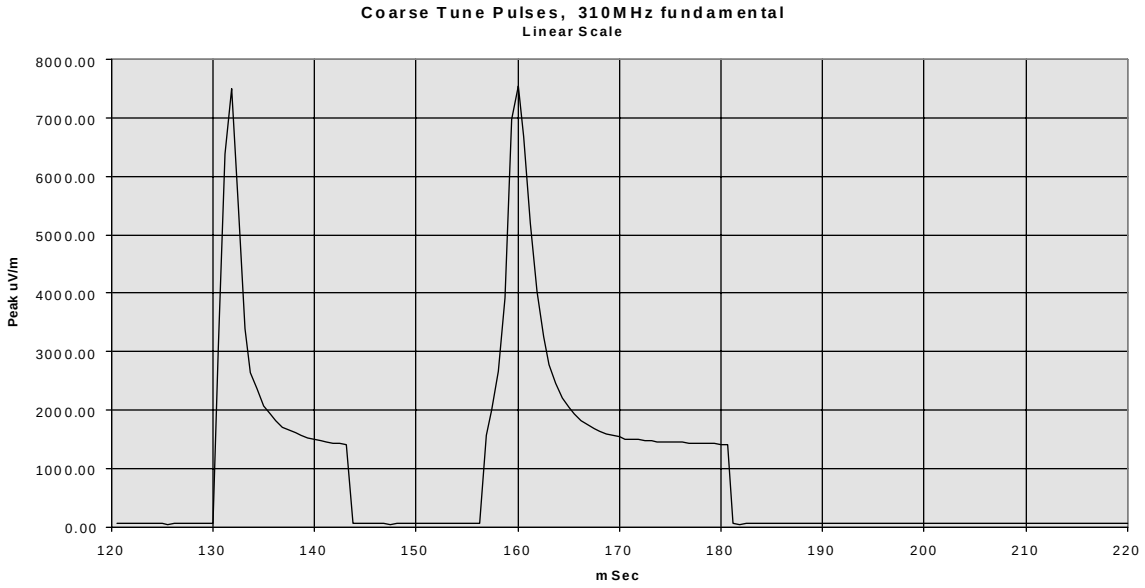
2. The AVERAGE field strength level (uV/m) within the 100mSec is then determined by dividing SUM of the levels (uV/m) of all data points by the number of data points.

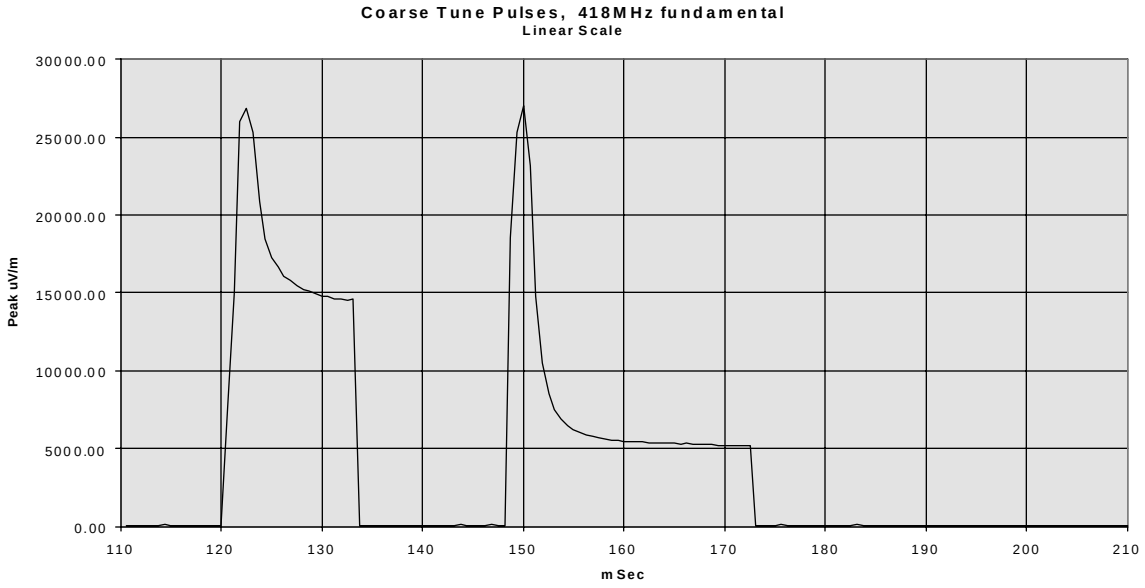
   Formula 3: Average Field Intensity

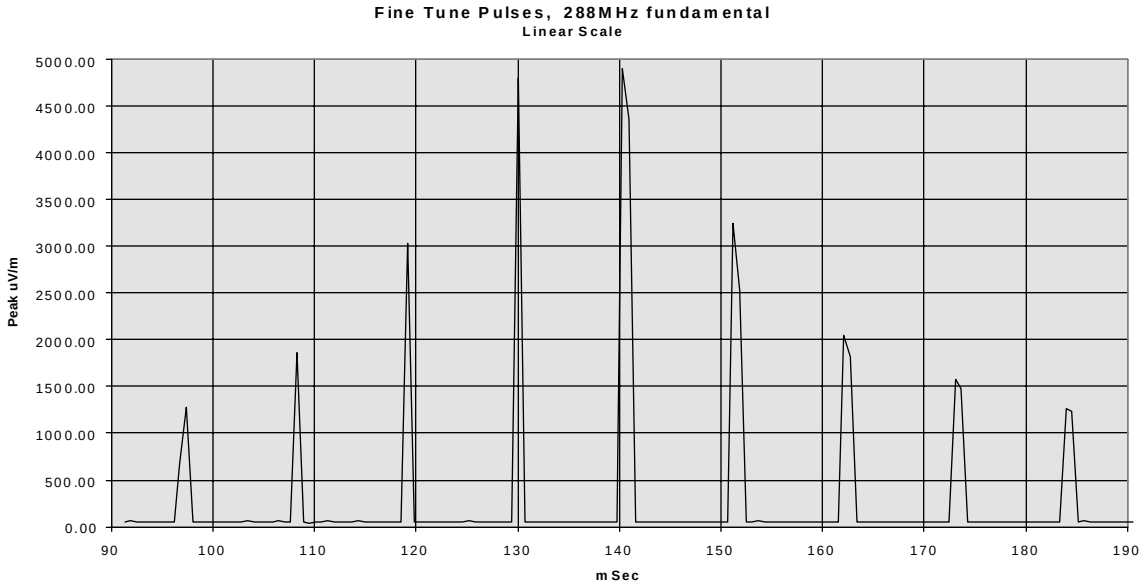
$$\text{Avg. F.I.} = \frac{\sum_{n=1}^{\text{no. of data pts}} (\text{Level}_n)\text{uV/m}}{\text{(number of data points)}}$$

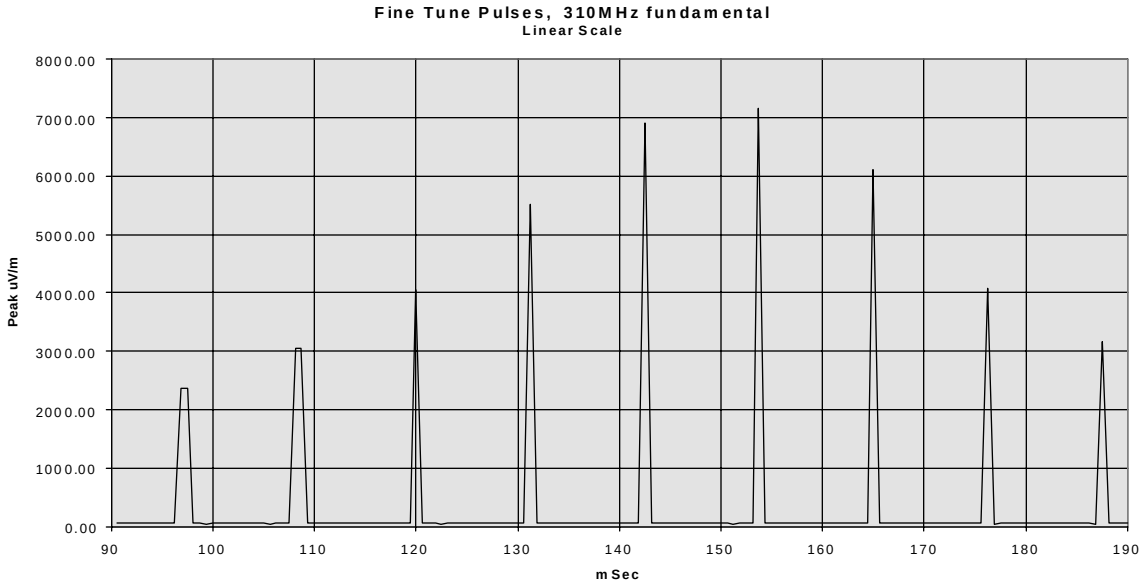
The charts that follow are the reproduction of the coarse tune pulse traces using number of data points representing 100mSec sweep time from the screen display of the HP8546A EMI receiver.

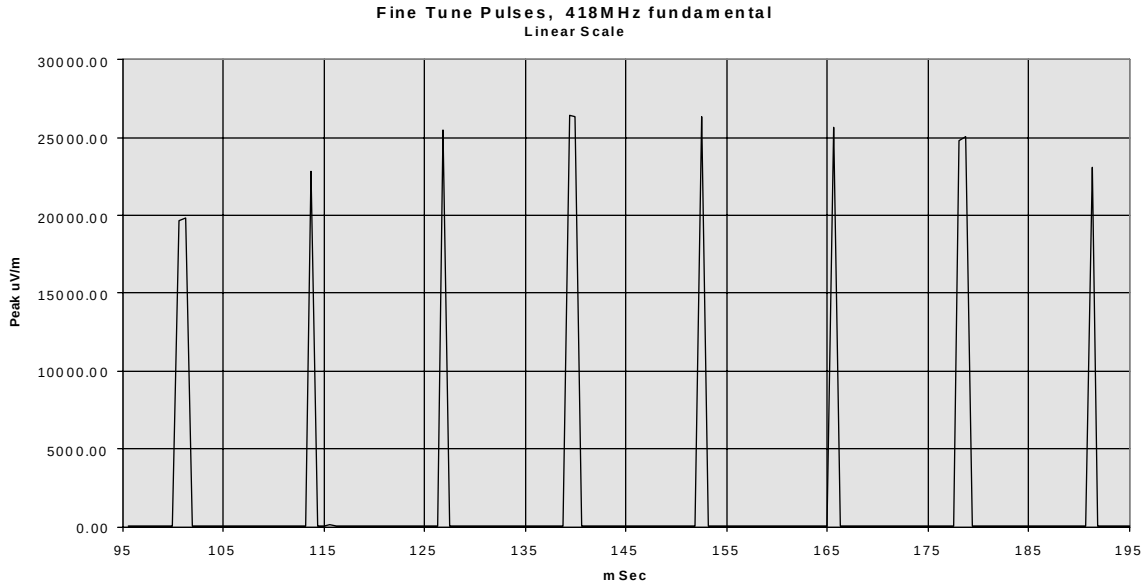



Coarse Tune Pulses, 310MHz fundamental
Linear Scale
Peak uV/m
8000.00
7000.00
6000.00
5000.00
4000.00
3000.00
2000.00
1000.00
0.00
120
130
140
150
160
170
180
190
200
210
220
mSec


Coarse Tune Pulses, 418MHz fundamental
Linear Scale
Peak uV/m
30000.00
25000.00
20000.00
15000.00
10000.00
5000.00
0.00
110
120
130
140
150
160
170
180
190
200
210
mSec


Fine Tune Pulses, 288MHz fundamental
Linear Scale
Peak uV/m
5000.00
4500.00
4000.00
3500.00
3000.00
2500.00
2000.00
1500.00
1000.00
500.00
0.00
90
100
110
120
130
140
150
160
170
180
190
mSec


Fine Tune Pulses, 310MHz fundamental
Linear Scale
Peak uV/m
8000.00
7000.00
6000.00
5000.00
4000.00
3000.00
2000.00
1000.00
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	75,900	166	457	4917	**20.6**
310	150,272	160	939	5833	**15.9**
418	669,075	160	4182	10333	**7.8**

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	42,324	165	256	4917	**25.7**
310	55,916	160	349	5833	**24.5**
418	253,262	160	1583	10333	**16.3**

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
21.175	47.04	46.585	50.58	71.995	1359.88	97.405	1794.73
21.78	46.83	47.19	49.77	72.6	1202.26	98.01	1251.70
22.385	49.66	47.795	51.11	73.205	1109.17	98.615	960.51
22.99	51.64	48.4	51.46	73.81	1031.57	99.22	798.91
23.595	47.21	49.005	45.97	74.415	991.97	99.825	682.34
24.2	49.15	49.61	53.89	75.02	948.42	100.43	616.60
24.805	50.58	50.215	48.19	75.625	925.76	101.035	560.40
25.41	51.35	50.82	50.18	76.23	883.08	101.64	519.40
26.015	55.78	51.425	44.98	76.835	875.99	102.245	496.02
26.62	49.55	52.03	46.67	77.44	860.00	102.85	473.15
27.225	46.29	52.635	57.48	78.045	846.25	103.455	460.79
27.83	47.59	53.24	46.29	78.65	818.46	104.06	436.01
28.435	52.18	53.845	52.18	79.255	797.08	104.665	427.07
29.04	48.47	54.45	56.69	79.86	798.91	105.27	418.79
29.645	49.37	55.055	46.29	80.465	50.18	105.875	402.72
30.25	45.97	55.66	56.69	81.07	57.74	106.48	393.55
30.855	51.64	56.265	53.03	81.675	54.89	107.085	387.26
31.46	53.15	56.87	54.64	82.28	48.47	107.69	390.39
32.065	51.64	57.475	53.58	82.885	44.51	108.295	376.70
32.67	48.58	58.08	50.70	83.49	55.53	108.9	378.88
33.275	47.42	58.685	59.98	84.095	45.45	109.505	371.11
33.88	44.62	59.29	50.18	84.7	49.66	110.11	366.44
34.485	58.08	59.895	52.72	85.305	48.98	110.715	362.66
35.09	45.34	60.5	50.47	85.91	48.58	111.32	362.66
35.695	52.30	61.105	49.26	86.515	58.88	111.925	363.50
36.3	48.58	61.71	50.70	87.12	49.26	112.53	371.11
36.905	47.59	62.315	50.35	87.725	54.64	113.135	355.63
37.51	47.42	62.92	52.72	88.33	59.84	113.74	355.63
38.115	49.66	63.525	51.88	88.935	52.48	114.345	362.66
38.72	61.59	64.13	46.45	89.54	46.94	114.95	360.58
39.325	49.15	64.735	51.64	90.145	51.76	115.555	360.58
39.93	47.81	65.34	53.58	90.75	54.45	116.16	361.41
40.535	49.77	65.945	50.58	91.355	67.30	116.765	359.75
41.14	47.32	66.55	50.35	91.96	48.47	117.37	358.51
41.745	58.21	67.155	378.01	92.565	50.58	117.975	43.35
42.35	51.88	67.76	834.64	93.17	855.07	118.58	44.51
42.955	46.67	68.365	1923.09	93.775	1120.73	119.185	53.03
43.56	50.58	68.97	4597.27	94.38	1588.55	119.79	51.64
44.165	53.46	69.575	5527.13	94.985	2741.57	120.395	53.89
44.77	47.21	70.18	3198.90	95.59	5546.26	121	51.35
45.375	49.15	70.785	1997.56	96.195	5158.22		
45.98	47.70	71.39	1559.55	96.8	2894.01		

COARSE TUNE Pulse; Fundamental Frequency = 310MHz

mSec	Level uV/m	mSec	Level uV/m	mSec	Level uV/m	mSec	Level uV/m
120.625	48.19	145.625	56.17	170.625	1501.41	195.625	54.89
121.25	52.91	146.25	55.46	171.25	1494.51	196.25	62.23
121.875	58.95	146.875	55.14	171.875	1489.36	196.875	51.23
122.5	52.91	147.5	47.15	172.5	1479.11	197.5	54.45
123.125	54.70	148.125	49.72	173.125	1472.31	198.125	56.17
123.75	48.19	148.75	62.73	173.75	1452.11	198.75	54.08
124.375	51.52	149.375	51.35	174.375	1452.11	199.375	54.45
125	51.76	150	55.02	175	1452.11	200	54.45
125.625	47.92	150.625	63.24	175.625	1448.77	200.625	53.21
126.25	52.36	151.25	55.91	176.25	1443.78	201.25	59.16
126.875	55.91	151.875	49.37	176.875	1432.19	201.875	62.88
127.5	51.64	152.5	53.89	177.5	1437.14	202.5	60.39
128.125	57.41	153.125	56.82	178.125	1420.69	203.125	51.64
128.75	54.33	153.75	56.95	178.75	1425.61	203.75	65.99
129.375	50.29	154.375	49.60	179.375	1420.69	204.375	52.48
130	55.14	155	55.27	180	1410.91	205	53.33
130.625	3065.49	155.625	52.18	180.625	1410.91	205.625	56.17
131.25	6382.63	156.25	53.77	181.25	56.17	206.25	62.37
131.875	7507.58	156.875	1563.15	181.875	47.92	206.875	50.93
132.5	5495.41	157.5	2004.47	182.5	54.70	207.5	53.46
133.125	3380.65	158.125	2654.61	183.125	59.63	208.125	54.89
133.75	2633.30	158.75	3926.45	183.75	54.20	208.75	52.78
134.375	2355.05	159.375	6982.32	184.375	50.70	209.375	54.45
135	2074.91	160	7550.92	185	53.64	210	53.77
135.625	1927.52	160.625	6675.75	185.625	59.16	210.625	56.17
136.25	1807.17	161.25	5193.98	186.25	53.21	211.25	56.36
136.875	1710.02	161.875	4022.54	186.875	54.70	211.875	50.41
137.5	1648.16	162.5	3262.12	187.5	59.43	212.5	51.94
138.125	1621.81	163.125	2773.32	188.125	52.60	213.125	55.91
138.75	1563.15	163.75	2451.88	188.75	56.82	213.75	53.03
139.375	1513.56	164.375	2197.86	189.375	55.72	214.375	51.76
140	1506.61	165	2037.04	190	55.91	215	56.17
140.625	1467.24	165.625	1938.65	190.625	53.21	215.625	52.60
141.25	1448.77	166.25	1817.61	191.25	53.46	216.25	54.08
141.875	1437.14	166.875	1749.85	191.875	67.61	216.875	58.34
142.5	1420.69	167.5	1674.94	192.5	50.29	217.5	66.37
143.125	1399.59	168.125	1629.30	193.125	51.64	218.125	55.72
143.75	50.70	168.75	1592.21	193.75	53.21	218.75	53.89
144.375	50.00	169.375	1572.17	194.375	53.89	219.375	53.77
145	54.20	170	1538.15	195	50.41	220	49.49

COARSE TUNE Pulse; Fundamental Frequency = 418MHz

mSec	Level uV/m	mSec	Level uV/m	mSec	Level uV/m	mSec	Level uV/m
110.625	76.91	135.625	73.45	160.625	5482.77	185.625	82.04
111.25	66.68	136.25	70.55	161.25	5420.01	186.25	83.66
111.875	67.76	136.875	85.21	161.875	5420.01	186.875	77.27
112.5	69.42	137.5	64.42	162.5	5395.11	187.5	82.70
113.125	76.47	138.125	77.54	163.125	5395.11	188.125	84.04
113.75	61.24	138.75	73.45	163.75	5333.35	188.75	71.53
114.375	89.64	139.375	77.71	164.375	5333.35	189.375	81.28
115	67.07	140	85.02	165	5364.14	190	76.91
115.625	69.66	140.625	68.31	165.625	5308.84	190.625	78.98
116.25	77.71	141.25	79.62	166.25	5351.80	191.25	78.98
116.875	84.04	141.875	83.66	166.875	5278.37	191.875	78.70
117.5	80.26	142.5	73.03	167.5	5278.37	192.5	73.88
118.125	66.15	143.125	66.68	168.125	5248.07	193.125	68.00
118.75	75.68	143.75	89.85	168.75	5278.37	193.75	69.66
119.375	77.71	144.375	71.86	169.375	5223.96	194.375	69.82
120	85.41	145	73.62	170	5223.96	195	66.15
120.625	7673.61	145.625	83.18	170.625	5205.95	195.625	70.96
121.25	14996.85	146.25	66.91	171.25	5205.95	196.25	72.28
121.875	26001.60	146.875	92.04	171.875	5205.95	196.875	77.09
122.5	26853.44	147.5	67.76	172.5	5182.03	197.5	73.28
123.125	25292.98	148.125	72.28	173.125	79.34	198.125	71.12
123.75	20892.96	148.75	18556.67	173.75	80.26	198.75	67.22
124.375	18450.15	149.375	25292.98	174.375	68.16	199.375	73.62
125	17258.38	150	27070.73	175	72.11	200	72.28
125.625	16653.29	150.625	23173.95	175.625	91.31	200.625	80.26
126.25	16087.92	151.25	14791.08	176.25	66.53	201.25	74.05
126.875	15830.70	151.875	10531.74	176.875	70.39	201.875	71.29
127.5	15488.17	152.5	8560.52	177.5	68.00	202.5	62.88
128.125	15240.53	153.125	7524.89	178.125	67.45	203.125	66.15
128.75	15083.43	153.75	6894.46	178.75	81.28	203.75	68.87
129.375	14962.36	154.375	6501.30	179.375	81.75	204.375	71.12
130	14791.08	155	6230.17	180	74.22	205	77.54
130.625	14757.07	155.625	6032.54	180.625	68.31	205.625	80.45
131.25	14604.95	156.25	5874.89	181.25	81.75	206.25	71.86
131.875	14604.95	156.875	5827.74	181.875	77.54	206.875	83.37
132.5	14487.72	157.5	5721.37	182.5	70.79	207.5	77.89
133.125	14571.36	158.125	5629.89	183.125	88.92	208.125	72.11
133.75	71.53	158.75	5571.86	183.75	73.45	208.75	79.34
134.375	80.91	159.375	5508.08	184.375	67.61	209.375	67.22
135	76.30	160	5482.77	185	75.68	210	72.86

FINE TUNE Pulses; Fundamental Frequency = 288MHz

mSec	Level uV/m	mSec	Level uV/m	mSec	Level uV/m	mSec	Level uV/m
91.355	51.23	116.765	53.33	141.57	49.77	166.375	53.46
91.96	66.37	117.37	48.36	142.175	47.59	166.98	55.65
92.565	51.35	117.975	51.23	142.78	50.35	167.585	47.97
93.17	47.32	118.58	53.89	143.385	45.97	168.19	51.88
93.775	52.48	119.185	3037.39	143.99	52.48	168.795	47.70
94.38	51.88	119.79	49.15	144.595	53.15	169.4	47.97
94.985	50.70	120.395	45.08	145.2	44.62	170.005	48.87
95.59	50.18	121	48.47	145.805	49.15	170.61	49.95
96.195	48.47	121.605	48.98	146.41	52.48	171.215	47.70
96.8	680.77	122.21	56.69	147.015	47.97	171.82	45.24
97.405	1274.97	122.815	49.55	147.62	57.15	172.425	55.78
98.01	50.35	123.42	55.53	148.225	48.19	173.03	1572.17
98.615	44.00	124.025	50.18	148.83	47.04	173.635	1482.52
99.22	47.59	124.63	49.66	149.435	53.89	174.24	46.18
99.825	54.20	125.235	61.31	150.04	44.72	174.845	44.72
100.43	45.24	125.84	49.55	150.645	47.21	175.45	44.87
101.035	54.89	126.445	55.53	151.25	3250.87	176.055	50.06
101.64	57.15	127.05	50.35	151.855	2532.21	176.66	50.18
102.245	52.72	127.655	48.75	152.46	54.76	177.265	53.89
102.85	51.35	128.26	45.34	153.065	49.77	177.87	48.36
103.455	58.41	128.865	54.33	153.67	60.81	178.475	47.32
104.06	46.45	129.47	45.24	154.275	52.48	179.08	46.67
104.665	54.20	130.075	4797.33	154.88	49.37	179.685	52.06
105.27	49.55	130.68	48.75	155.485	51.88	180.29	48.19
105.875	55.34	131.285	54.45	156.09	57.02	180.895	54.01
106.48	57.61	131.89	50.58	156.695	47.42	181.5	51.35
107.085	49.66	132.495	44.87	157.3	47.81	182.105	47.21
107.69	50.70	133.1	45.45	157.905	50.47	182.71	50.18
108.295	1862.09	133.705	47.04	158.51	46.29	183.315	47.59
108.9	47.59	134.31	56.23	159.115	50.18	183.92	1261.83
109.505	42.81	134.915	50.70	159.72	49.37	184.525	1237.37
110.11	49.26	135.52	52.91	160.325	48.08	185.13	47.32
110.715	49.77	136.125	53.46	160.93	50.82	185.735	58.68
111.32	57.61	136.73	56.10	161.535	55.53	186.34	48.36
111.925	48.19	137.335	52.60	162.14	2053.53	186.945	57.15
112.53	48.19	137.94	56.69	162.745	1828.10	187.55	46.45
113.135	55.78	138.545	54.20	163.35	53.89	188.155	48.08
113.74	56.56	139.15	50.35	163.955	50.70	188.76	53.03
114.345	60.81	139.755	49.95	164.56	50.93	189.365	51.23
114.95	47.32	140.36	4903.43	165.165	46.83	189.97	47.97
115.555	52.30	140.965	4355.12	165.77	55.53	190.575	53.89
116.16	55.08						

FINE TUNE Pulses; Fundamental Frequency = 310MHz

mSec	Level uV/m	mSec	Level uV/m	mSec	Level uV/m	mSec	Level uV/m
90.625	50.93	115.625	61.38	140.625	54.70	165.625	64.27
91.25	57.41	116.25	51.64	141.25	50.29	166.25	55.14
91.875	53.77	116.875	58.95	141.875	53.77	166.875	53.46
92.5	56.95	117.5	57.41	142.5	6910.35	167.5	52.06
93.125	54.89	118.125	53.33	143.125	53.46	168.125	49.20
93.75	49.20	118.75	58.34	143.75	56.49	168.75	53.77
94.375	50.93	119.375	48.03	144.375	48.42	169.375	55.02
95	51.35	120	4055.09	145	54.33	170	55.14
95.625	50.00	120.625	56.04	145.625	49.20	170.625	54.08
96.25	53.21	121.25	51.94	146.25	54.58	171.25	51.64
96.875	2355.05	121.875	58.95	146.875	50.82	171.875	58.34
97.5	2368.65	122.5	47.53	147.5	59.63	172.5	59.16
98.125	56.62	123.125	52.60	148.125	51.76	173.125	51.23
98.75	57.88	123.75	49.09	148.75	52.60	173.75	50.29
99.375	46.56	124.375	48.98	149.375	51.11	174.375	48.19
100	65.46	125	55.14	150	50.00	175	59.77
100.625	61.09	125.625	54.33	150.625	52.18	175.625	53.89
101.25	56.95	126.25	54.89	151.25	46.56	176.25	4078.50
101.875	49.72	126.875	58.48	151.875	48.31	176.875	46.72
102.5	56.82	127.5	57.08	152.5	52.06	177.5	50.00
103.125	55.02	128.125	56.36	153.125	54.20	178.125	53.89
103.75	53.33	128.75	62.23	153.75	7169.68	178.75	61.73
104.375	51.35	129.375	58.82	154.375	55.02	179.375	52.36
105	53.64	130	54.08	155	49.89	180	58.21
105.625	47.42	130.625	62.23	155.625	67.76	180.625	52.91
106.25	53.64	131.25	5520.77	156.25	51.11	181.25	58.48
106.875	56.36	131.875	52.91	156.875	52.78	181.875	50.93
107.5	49.37	132.5	63.24	157.5	58.68	182.5	61.24
108.125	3047.89	133.125	50.82	158.125	53.77	183.125	51.76
108.75	3054.92	133.75	55.91	158.75	53.33	183.75	54.20
109.375	50.52	134.375	55.46	159.375	57.74	184.375	55.46
110	58.95	135	54.20	160	56.62	185	52.18
110.625	54.20	135.625	58.68	160.625	55.27	185.625	62.37
111.25	51.76	136.25	55.46	161.25	58.21	186.25	51.11
111.875	59.77	136.875	54.33	161.875	63.53	186.875	46.94
112.5	51.76	137.5	50.52	162.5	54.89	187.5	3158.64
113.125	53.03	138.125	51.76	163.125	67.22	188.125	59.91
113.75	48.98	138.75	55.46	163.75	51.64	188.75	51.11
114.375	48.58	139.375	53.33	164.375	53.21	189.375	55.14
115	51.35	140	57.54	165	6102.39	190	51.64

FINE TUNE Pulses; Fundamental Frequency = 418MHz

mSec	Level uV/m	mSec	Level uV/m	mSec	Level uV/m	mSec	Level uV/m
95.625	65.84	120.625	68.87	145.625	74.47	170.625	83.66
96.25	73.88	121.25	69.66	146.25	74.22	171.25	74.05
96.875	68.87	121.875	72.86	146.875	70.55	171.875	72.86
97.5	81.56	122.5	83.18	147.5	65.09	172.5	74.22
98.125	82.70	123.125	72.28	148.125	69.82	173.125	66.91
98.75	76.03	123.75	68.87	148.75	68.31	173.75	73.28
99.375	66.37	124.375	76.30	149.375	71.86	174.375	76.30
100	74.47	125	78.70	150	76.91	175	71.12
100.625	19633.60	125.625	69.26	150.625	77.27	175.625	65.46
101.25	19792.47	126.25	73.45	151.25	72.44	176.25	74.64
101.875	76.65	126.875	25497.64	151.875	70.39	176.875	78.16
102.5	76.91	127.5	76.03	152.5	26332.98	177.5	72.86
103.125	62.59	128.125	72.11	153.125	71.12	178.125	24774.22
103.75	73.45	128.75	63.10	153.75	72.86	178.75	25032.26
104.375	67.07	129.375	69.82	154.375	76.91	179.375	67.22
105	72.44	130	72.44	155	69.98	180	75.25
105.625	71.70	130.625	85.41	155.625	82.51	180.625	74.05
106.25	69.66	131.25	79.16	156.25	76.65	181.25	78.98
106.875	71.53	131.875	65.09	156.875	86.80	181.875	69.82
107.5	64.94	132.5	81.75	157.5	70.23	182.5	80.45
108.125	75.42	133.125	76.47	158.125	72.11	183.125	70.96
108.75	71.53	133.75	68.00	158.75	72.28	183.75	69.98
109.375	76.65	134.375	72.28	159.375	75.86	184.375	68.71
110	74.47	135	69.26	160	75.86	185	70.55
110.625	73.28	135.625	73.88	160.625	77.71	185.625	72.11
111.25	63.24	136.25	73.03	161.25	65.84	186.25	76.65
111.875	78.16	136.875	79.34	161.875	71.70	186.875	81.75
112.5	69.82	137.5	74.82	162.5	70.79	187.5	81.10
113.125	69.26	138.125	77.09	163.125	70.23	188.125	73.62
113.75	22855.99	138.75	71.53	163.75	69.42	188.75	69.82
114.375	72.86	139.375	26424.09	164.375	66.37	189.375	70.79
115	75.86	140	26332.98	165	84.53	190	70.23
115.625	87.70	140.625	74.47	165.625	25644.84	190.625	71.53
116.25	72.28	141.25	65.46	166.25	67.76	191.25	23094.04
116.875	69.82	141.875	80.63	166.875	69.66	191.875	72.86
117.5	80.26	142.5	68.00	167.5	76.30	192.5	81.28
118.125	66.37	143.125	81.56	168.125	77.71	193.125	72.44
118.75	68.87	143.75	66.68	168.75	67.45	193.75	65.61
119.375	68.16	144.375	71.70	169.375	80.26	194.375	67.07
120	66.37	145	68.71	170	64.79	195	86.40