



HERMON LABORATORIES



839.01

Electrical

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Attachment to RADIO TEST REPORT

according to 47CFR Part 15, §15.247 and subpart B
for

Tadiran Telematics Ltd.

EQUIPMENT UNDER TEST:

TransMeter Water

model: 250FH

This report is in conformity with ISO/IEC 17025. The A2LA logo endorsement applies only to the test methods and the standards that are listed in the scope of Hermon Laboratories accreditation.
The test results relate only to the items tested. **This test report must not be reproduced in any form except in full with the approval of Hermon Laboratories Ltd.**

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1 Test results

1.1 Out of band radiated emissions test according to §15.247(c)

METHOD OF MEASUREMENTS	ANSI 63.4 §13.1.4
DATE:	August 19, 2002
RELATIVE HUMIDITY:	48 %
AMBIENT TEMPERATURE:	25 °C
TEST DISTANCE	3 m
OPERATING FREQUENCY RANGE	905-924 MHz
MODULATION TECHNIQUE	FHSS
HOPPING FUNCTION	Disabled
FREQUENCY RANGE	30 MHz – 9.3 GHz

All emissions were found below specified limits. For test results refer to Appendix A, Plots A1 to A32.

TEST EQUIPMENT USED:

HL 0038	HL 0041	HL 0465	HL 0521	HL 0589	HL 0604	HL 1004
HL 1424	HL 1942	HL 1947	HL 2009			

LIMIT

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.

TEST PROCEDURE

30 MHz – 9.3 GHz frequency range. The EUT was placed on a wooden 80 cm height turntable. To find maximum radiation the turntable was rotated 360°, measuring antenna height was changed from 1 to 4 m, and the antennas polarization was changed from vertical to horizontal.



1.2 Radiated emissions which fall in restricted bands test according to §15.247(c) and § 15.205, §15.209(a)

METHOD OF MEASUREMENTS ANSI 63.4 §13.1.4/ §13.1.5
DATE: August 19, 2002
RELATIVE HUMIDITY: 42 %
AMBIENT TEMPERATURE: 24 °C
TEST DISTANCE 3 m
OPERATING FREQUENCY RANGE 905-924 MHz
MODULATION TECHNIQUE FHSS
HOPPING FUNCTION Disabled
FREQUENCY RANGE 30 MHz – 9.3 GHz

Peak detector, RBW = VBW = 1 MHz

Frequency, MHz	Antenna type	Antenna polarization	Radiated emission, dB (μV/m)	Limit, dB(μV/m)	Margin, dB	Reference to Plots in Appendix A
3622.408	Horn	Vertical	48.83	74	25.17	A8
2749.058	Horn	Vertical	46.00	74	28	A18
3665.467	Horn	Vertical	48.83	74	25.17	A19
2769.292	Horn	Vertical	44.33	74	29.67	A29
3692.270	Horn	Vertical	49.33	74	24.67	A30
Measurement uncertainty, dB			± 2.36 dB			

Peak detector + average factor

Frequency, MHz	Antenna type	Antenna polarization	Radiated emission, dB (μV/m)	Limit, dB(μV/m)	Margin, dB	Reference to Plots in Appendix A
3622.408	Horn	Vertical	24.43	54	29.57	NA
2749.058	Horn	Vertical	21.60	54	32.40	NA
3665.467	Horn	Vertical	24.43	54	29.57	NA
2769.292	Horn	Vertical	19.93	54	34.07	NA
3692.270	Horn	Vertical	24.93	54	29.07	NA
Measurement uncertainty, dB			± 2.36 dB			

Average factor = -24.4 dB

Notes to table:

Margin = dB below (negative if above) specification limit.

RBW = resolution bandwidth;

VBW = video bandwidth.

TEST EQUIPMENT USED:

HL 0041	HL 0446	HL 0465	HL 0521	HL 0554	HL 0589	HL 0590
HL 0604	HL 1004	HL 1200	HL 1424	HL 1871	HL 1942	

LIMIT

Radiated emissions, which fall in the restricted bands, must comply with §15.209(a) limits.

TEST PROCEDURE

30 MHz – 9.3 GHz frequency range. The EUT was placed on a wooden 80 cm height turntable. To find maximum radiation the turntable was rotated 360°, measuring antenna height was changed from 1 to 4 m, and the antennas polarization was changed from vertical to horizontal.



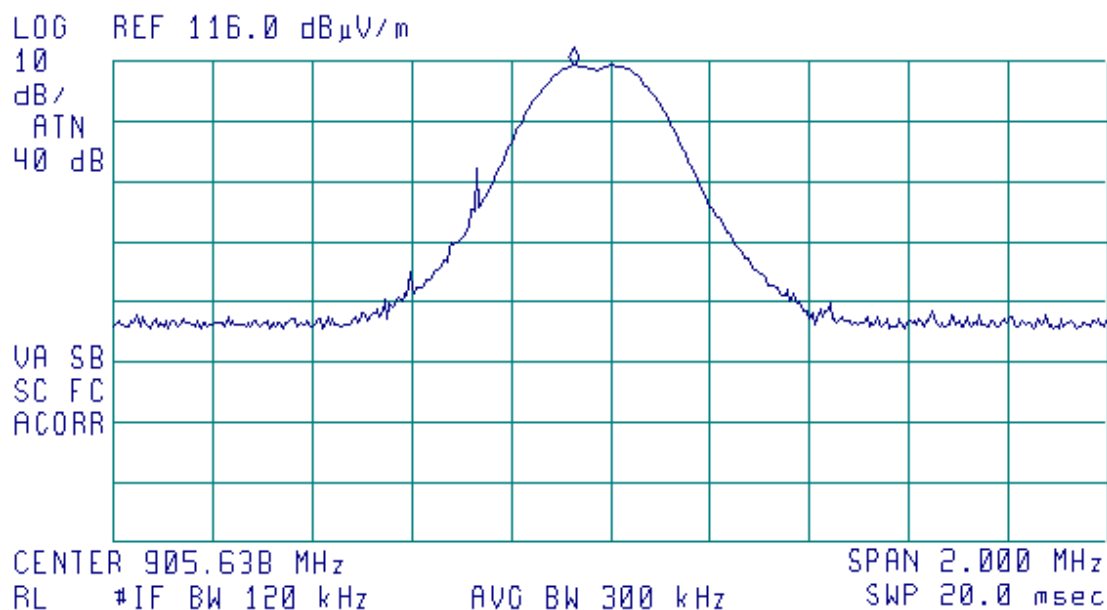
Appendix A Plots

Plot A 1

Test Name	Field strength of fundamental
Site Description	Anechoic chamber
Notes	f(Tx)=905.6 MHz

18:44:52 AUG 18, 2002
VERTICAL & HORIZONTAL POLARIZATION

ACTV DET: PEAK
MEAS DET: PEAK OP AVG
MKR 905.563 MHz
115.15 dB μ V/m



Notes

Fmin= 905.6 MHz

Antenna polarization: vertical&horizontal

E = 115.15 dB(μ V/m) @ 3 m

EIRP = 115.15 - 95.23 = 19.92 dBm

Calculation of peak output power: 19.92 - 2.5 (Antenna gain) = 17.42 dBm

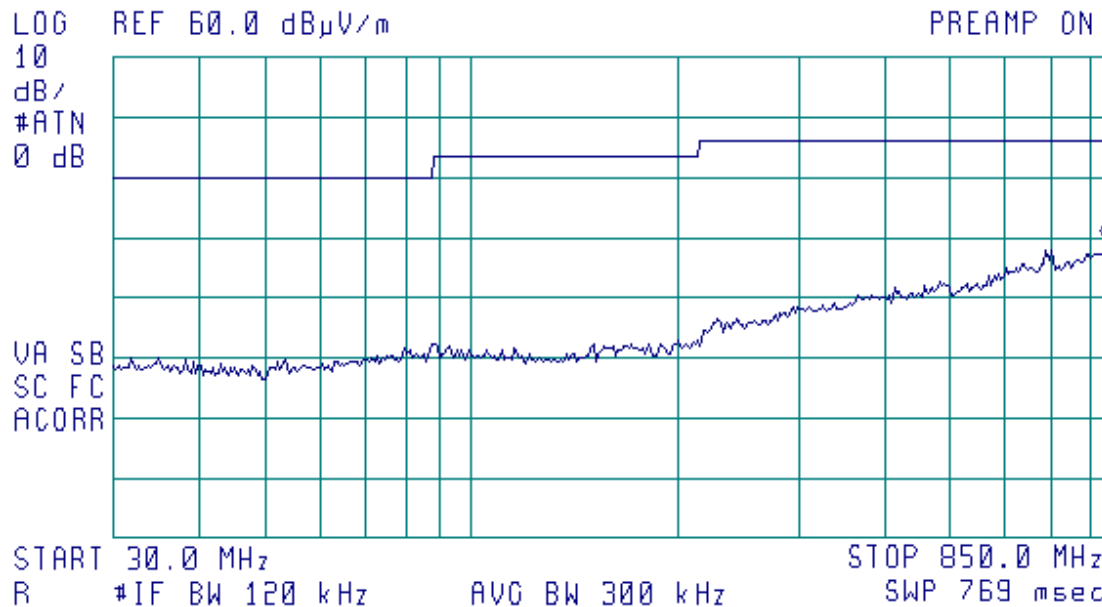


Plot A 2

Test Name FCC 15.247 (c) Spurious emissions (radiated)
Site Description Anechoic chamber
Notes f(Tx)=905.6 MHz

18:48:36 AUG 18, 2002
VERTICAL&HORIZONTAL POLARIZATION

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 842.3 MHz
29.69 dB μ V/m



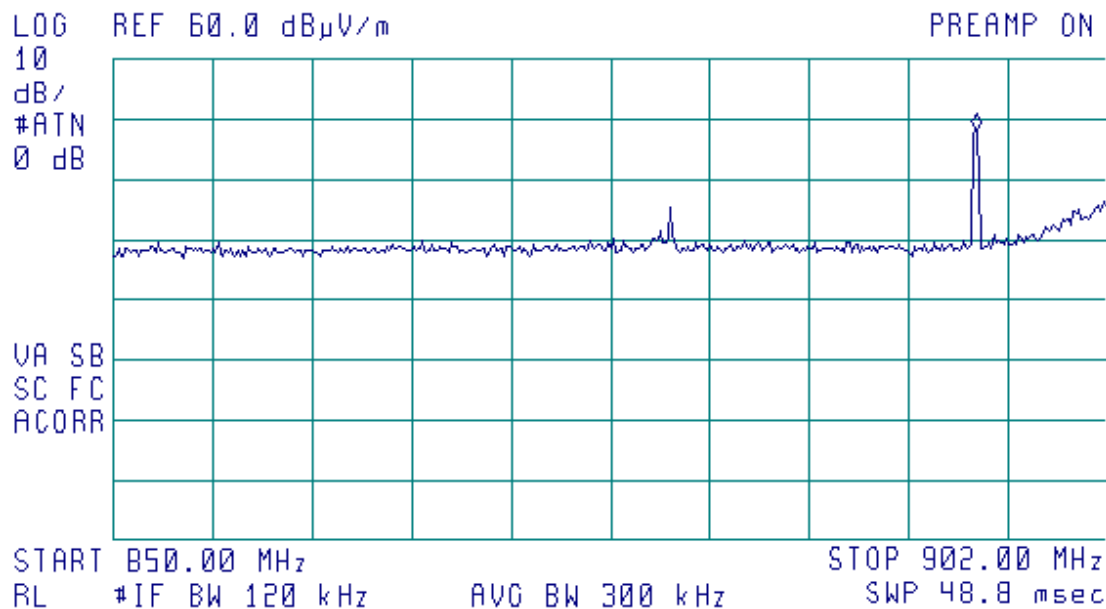


Plot A 3

Test Name FCC 15.247 (c) Spurious emissions (radiated)
Site Description Anechoic chamber
Notes f(Tx)=905.6 MHz

18:52:58 AUG 18, 2002
VERTICAL & HORIZONTAL POLARIZATION

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 895.11 MHz
48.19 dB μ V/m



Not a restricted band.

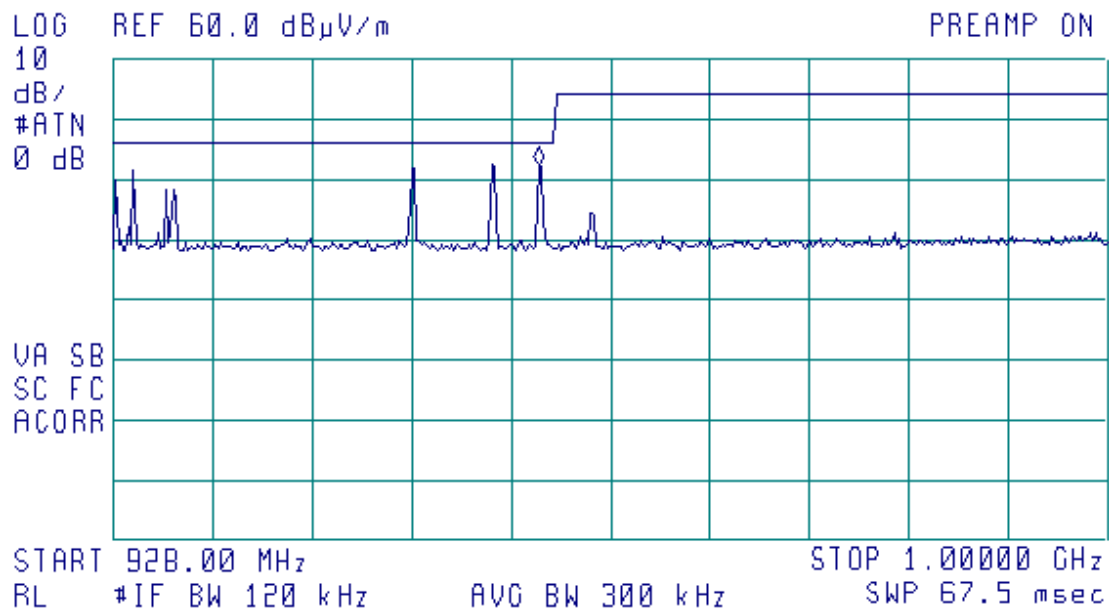


Plot A 4

Test Name FCC 15.247 (c) Spurious emissions (radiated)
Site Description Anechoic chamber
Notes f(Tx)=905.6 MHz

18:57:06 AUG 18, 2002
VERTICAL & HORIZONTAL POLARIZATION

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 958.78 MHz
42.47 dB μ V/m



All found spurious are not in restricted bands.

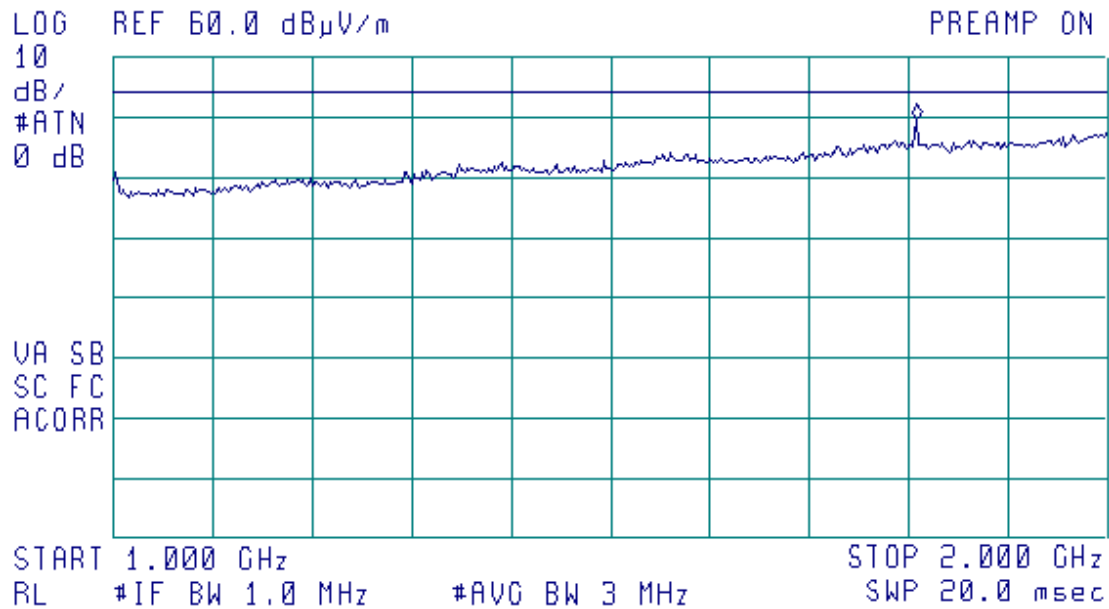


Plot A 5

Test Name FCC 15.247 (c) Spurious emissions (radiated)
Site Description Anechoic chamber
Notes f(Tx)=905.6 MHz

19:02:06 AUG 18, 2002
VERTICAL & HORIZONTAL POLARIZATION

ACTV DET: PEAK
MEAS DET: PEAK OP AVG
MKR 1.808 GHz
49.29 dB μ V/m



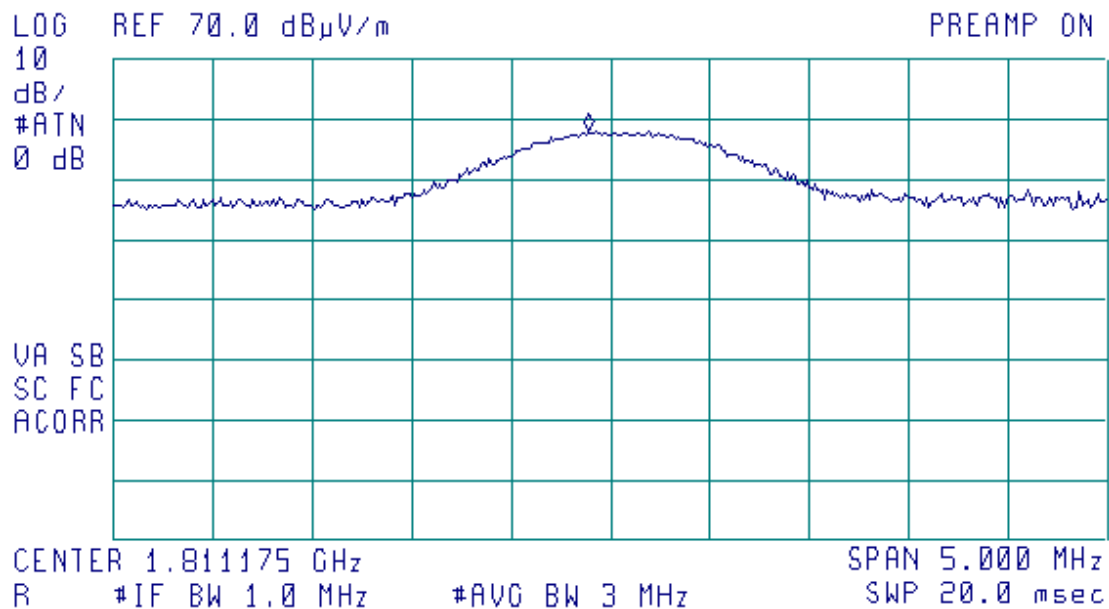


Plot A 6

Test Name FCC 15.247 (c) Spurious emissions (radiated)
Site Description Anechoic chamber
Notes f(Tx)=905.6 MHz

19:25:20 AUG 18, 2002
VERTICAL & HORIZONTAL POLARIZATION

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 1.811063 GHz
57.89 dB μ V/m



The second harmonic of fundamental.
Not a restricted band.

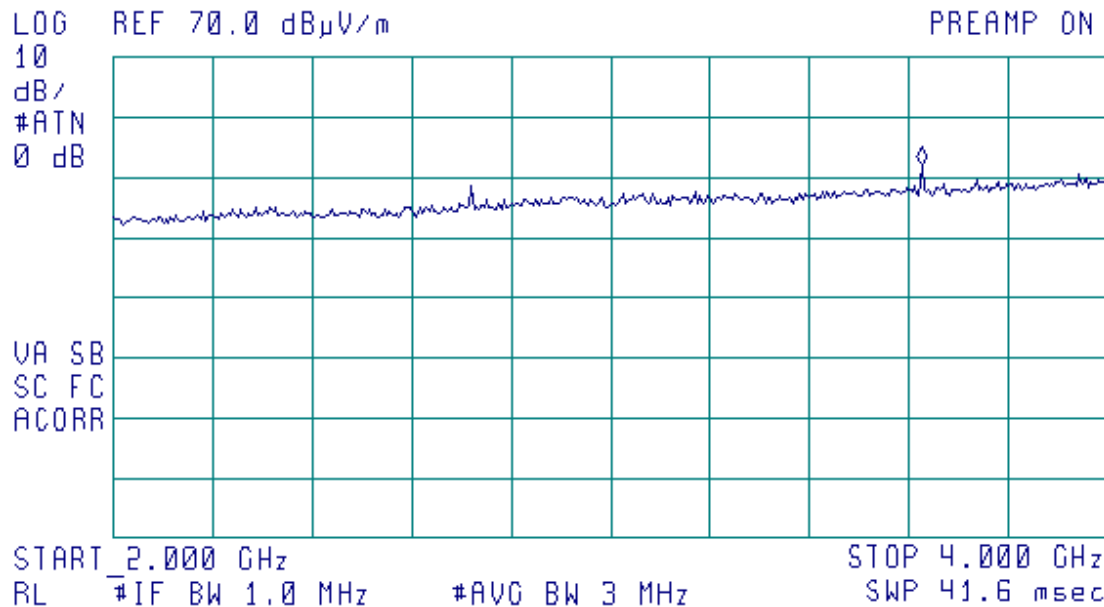


Plot A 7

Test Name FCC 15.247 (c) Spurious emissions (radiated)
Site Description Anechoic chamber
Notes f(Tx)=905.6 MHz

20:17:07 AUG 18, 2002
VERTICAL & HORIZONTAL POLARIZATION

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 3.624 GHz
51.89 dB μ V/m

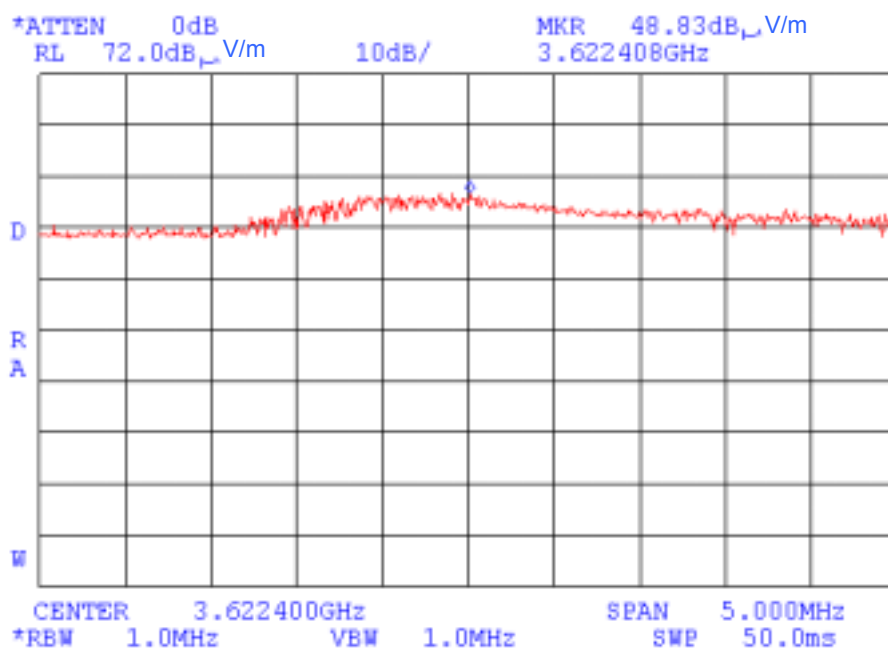


No spurious emissions except harmonics.



Plot A 8

Test Name: Radiated spurious emissions
Site description: OATS
Notes: f(Tx)=905.6 MHz

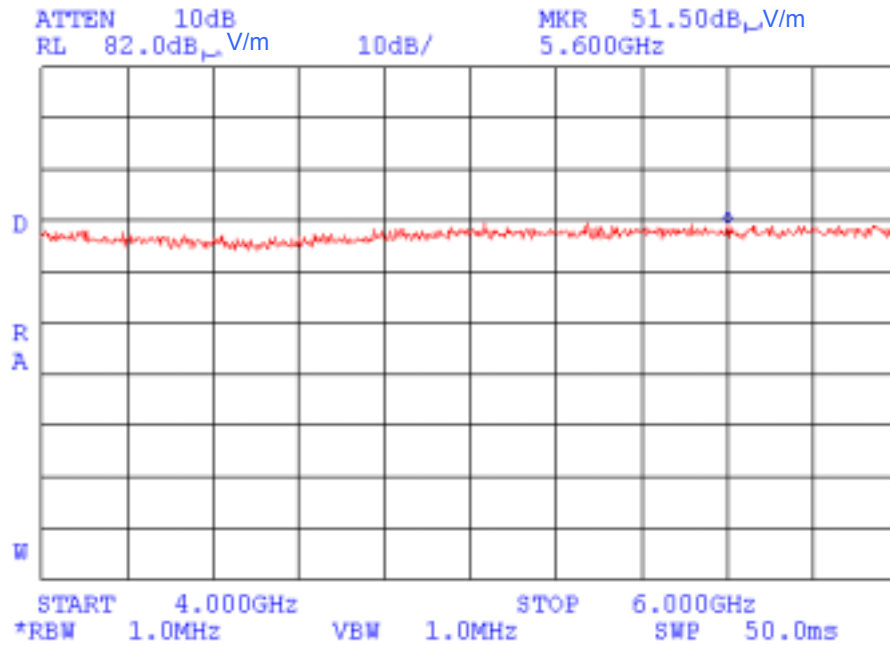


The 4th harmonic of fundamental.



Plot A 9

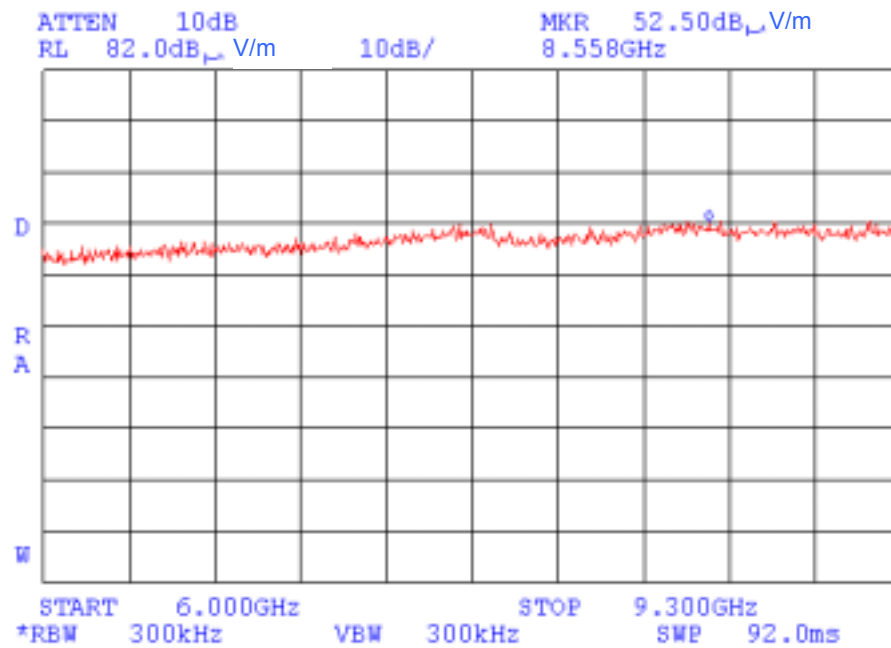
Test Name: Radiated spurious emissions
Site description: OATS
Notes: f(Tx)=905.6 MHz





Plot A 10

Test Name: Radiated spurious emissions
Site description: OATS
Notes: f(Tx)=905.6 MHz



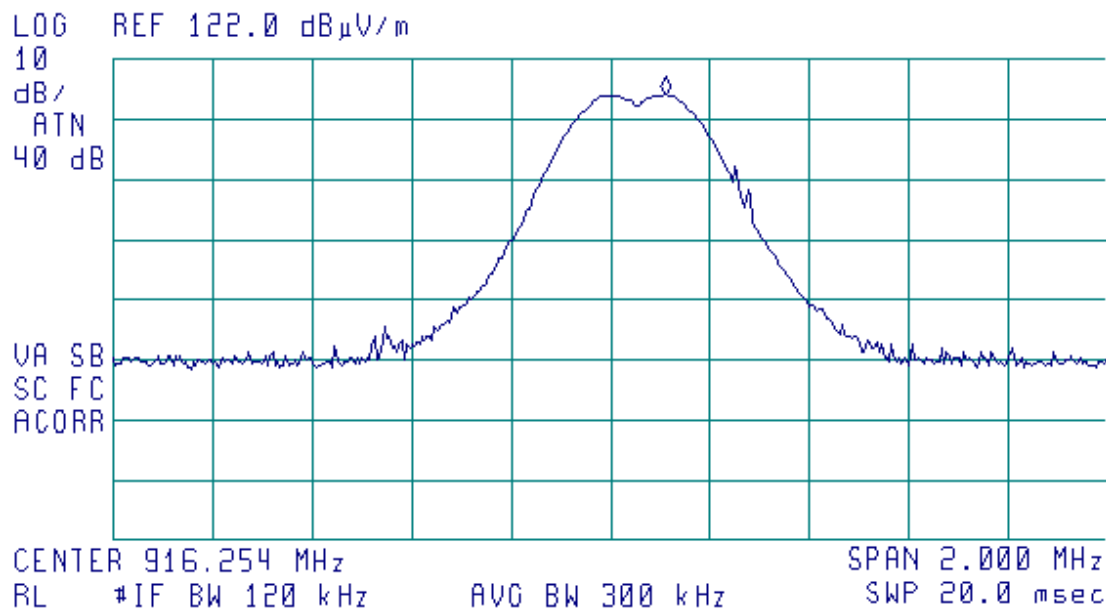


Plot A 11

Test Name FCC 15.247 (c) Spurious emissions (radiated)
Site Description Anechoic chamber
Notes f(Tx)=916.3 MHz

17:39:18 AUG 18, 2002
VERTICAL&HORIZONTAL POLARIZATION

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 916.364 MHz
115.88 dB μ V/m



Field strength of fundamental (maximum value)

Notes

Fmiddle= 916.364 MHz

Antenna polarization: vertical&horizontal

E = 115.88 dB(μ V/m) @ 3 m

EIRP = 115.88 - 95.23 = 20.65 dBm

Calculation of peak output power: 20.65 - 2.5 (Antenna gain) = 18.15 dBm

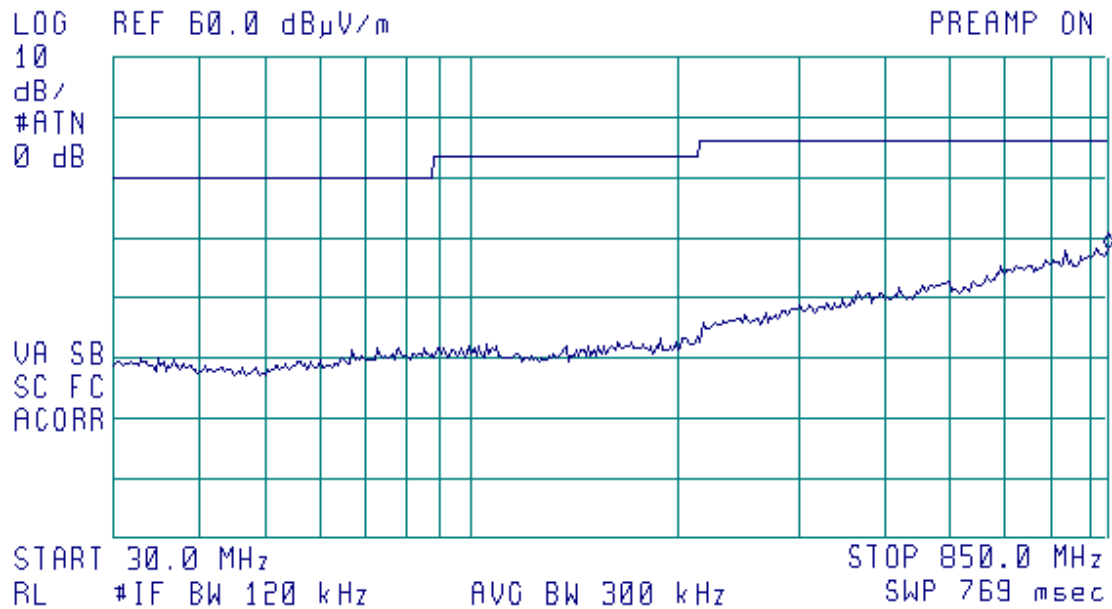


Plot A 12

Test Name FCC 15.247 (c) Spurious emissions (radiated)
Site Description Anechoic chamber
Notes f(Tx)=916.3 MHz

17:48:05 AUG 18, 2002
VERTICAL&HORIZONTAL POLARIZATION

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 850.0 MHz
28.05 dB μ V/m



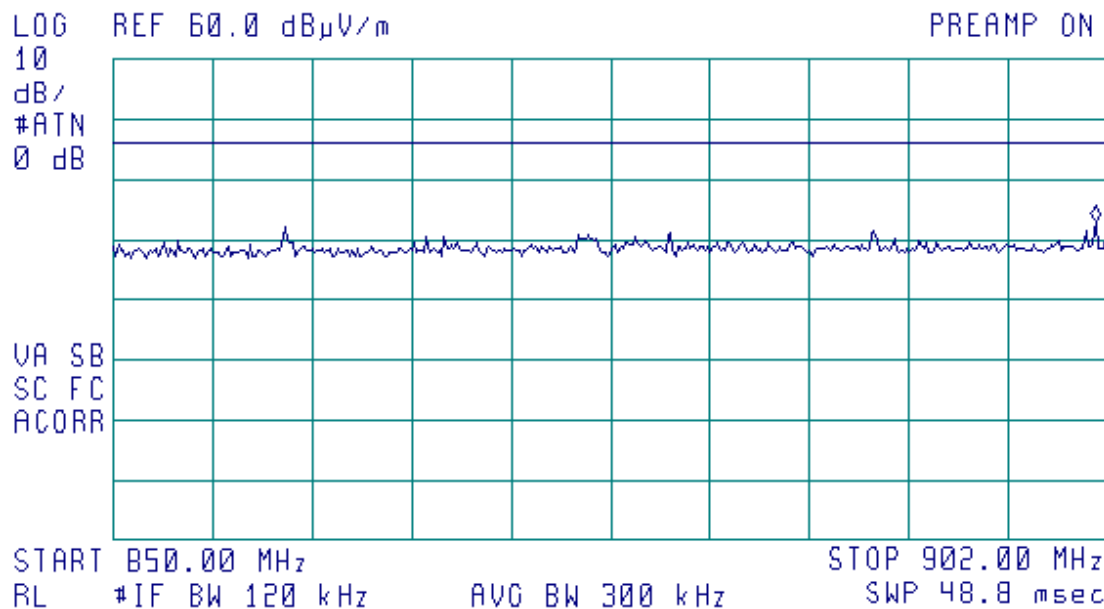


Plot A 13

Test Name FCC 15.247 (c) Spurious emissions (radiated)
Site Description Anechoic chamber
Notes f(Tx)=916.3 MHz

17:52:57 AUG 18, 2002
VERTICAL & HORIZONTAL POLARIZATION

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 901.35 MHz
33.04 dB μ V/m



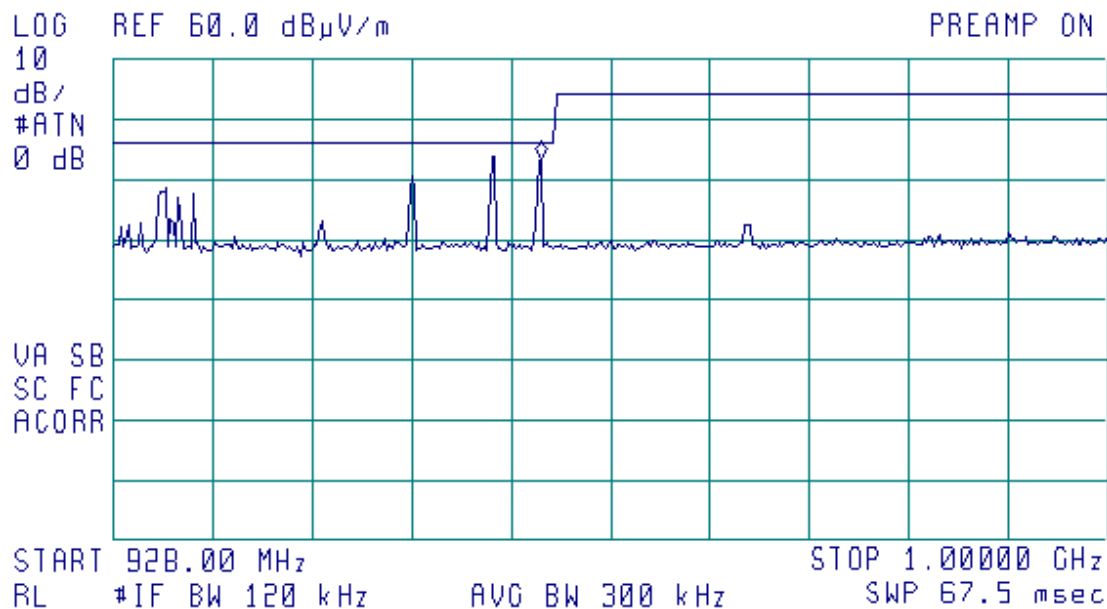


Plot A 14

Test Name FCC 15.247 (c) Spurious emissions (radiated)
Site Description Anechoic chamber
Notes f(Tx)=916.3 MHz

17:57:02 AUG 18, 2002
VERTICAL&HORIZONTAL POLARIZATION

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 958.96 MHz
43.34 dB μ V/m



All these spurious are not in restricted bands.

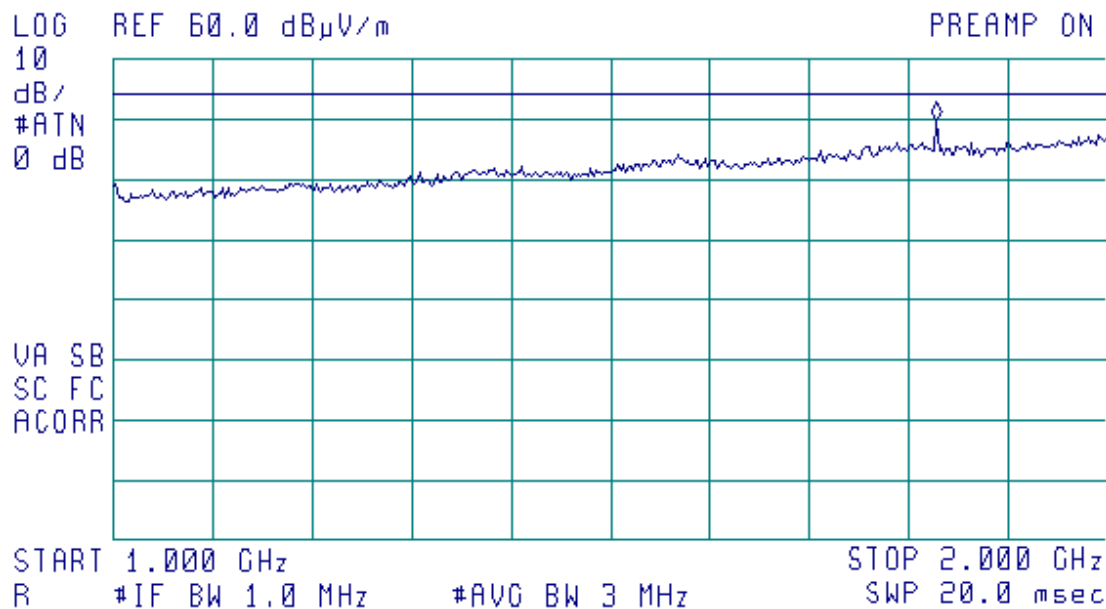


Plot A 15

Test Name FCC 15.247 (c) Spurious emissions (radiated)
Site Description Anechoic chamber
Notes f(Tx)=916.3 MHz

18:02:03 AUG 18, 2002
VERTICAL & HORIZONTAL POLARIZATION

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 1.828 GHz
49.97 dB μ V/m



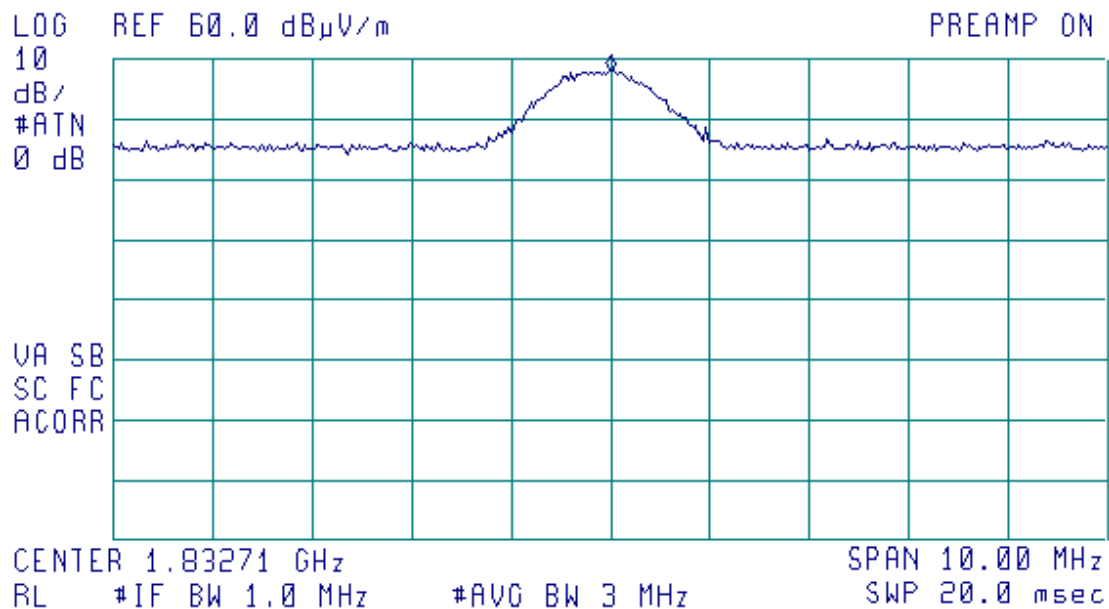


Plot A 16

Test Name FCC 15.247 (c) Spurious emissions (radiated)
Site Description Anechoic chamber
Notes f(Tx)=916.3 MHz

18:21:44 AUG 18, 2002
VERTICAL & HORIZONTAL POLARIZATION

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 1.83271 GHz
57.93 dB μ V/m



The second harmonic of fundamental.
Not a restricted band.

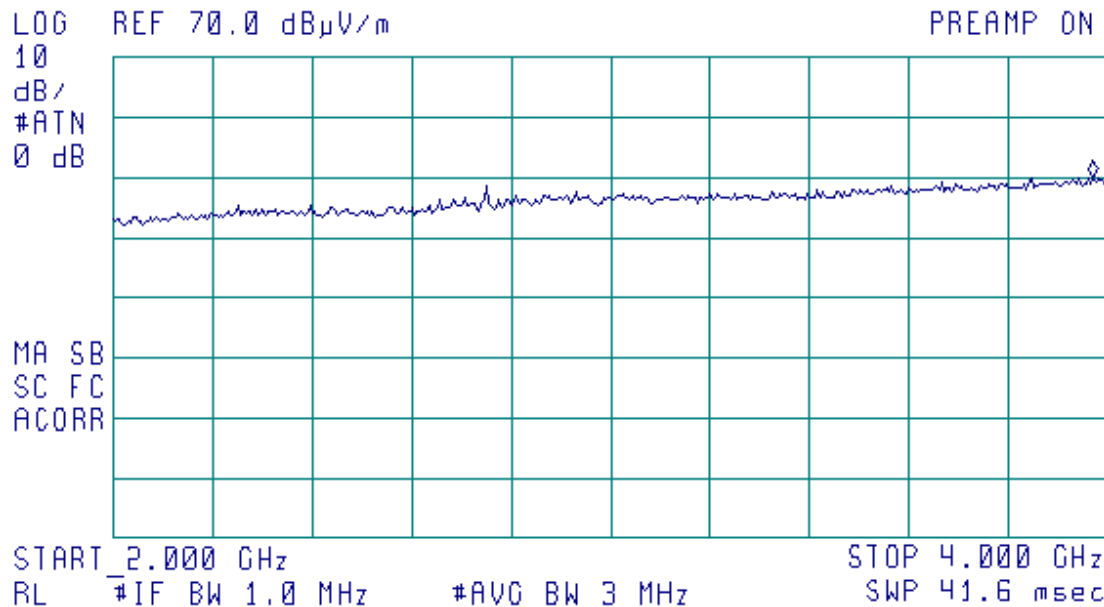


Plot A 17

Test Name FCC 15.247 (c) Spurious emissions (radiated)
Site Description Anechoic chamber
Notes f(Tx)=916.3 MHz

20:03:04 AUG 18, 2002
VERTICAL & HORIZONTAL POLARIZATION

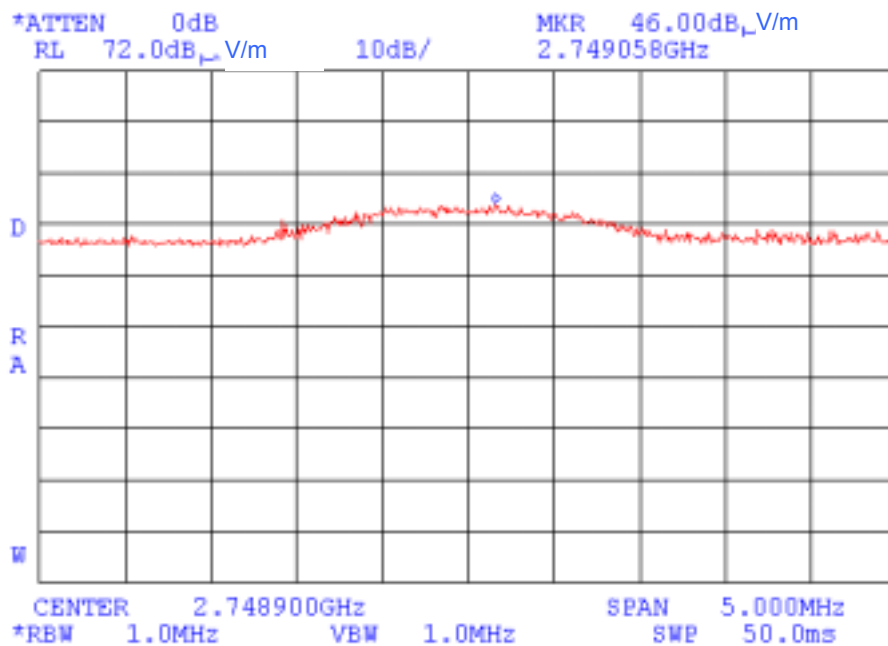
ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 3.970 GHz
50.05 dB μ V/m





Plot A 18

Test Name: Radiated spurious emissions
Site Description: OATS
Notes: f(Tx)=916.3 MHz

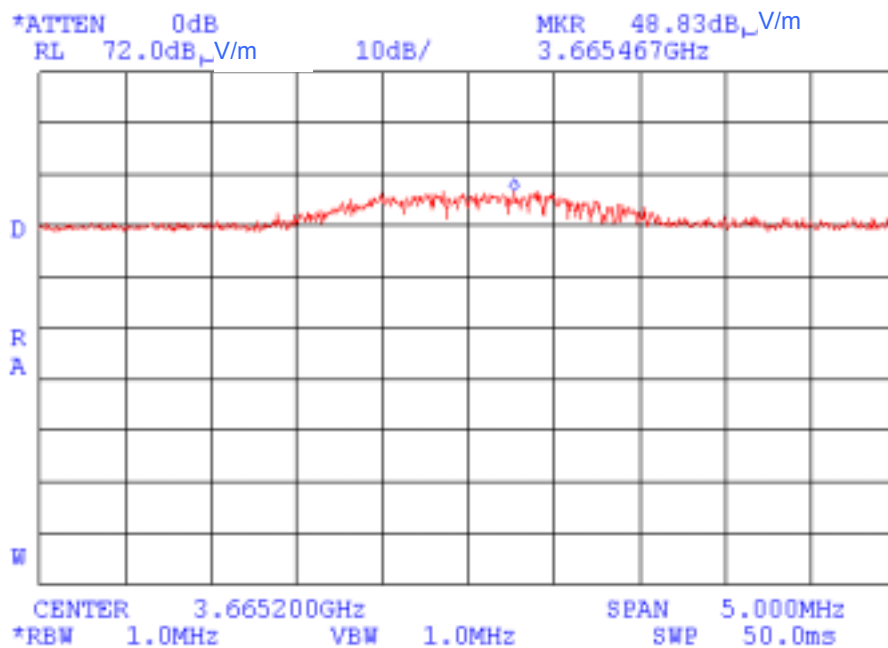


The 3rd harmonic of fundamental.



Plot A 19

Test Name: Radiated spurious emissions
Site Description: OATS
Notes: f(Tx)=916.3 MHz

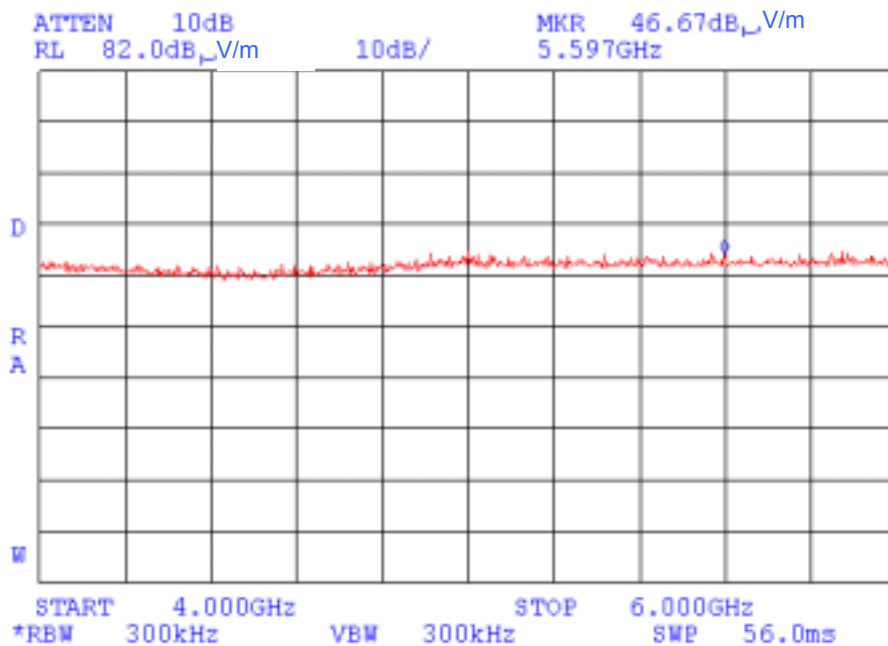


The 4th harmonic of fundamental.



Plot A 20

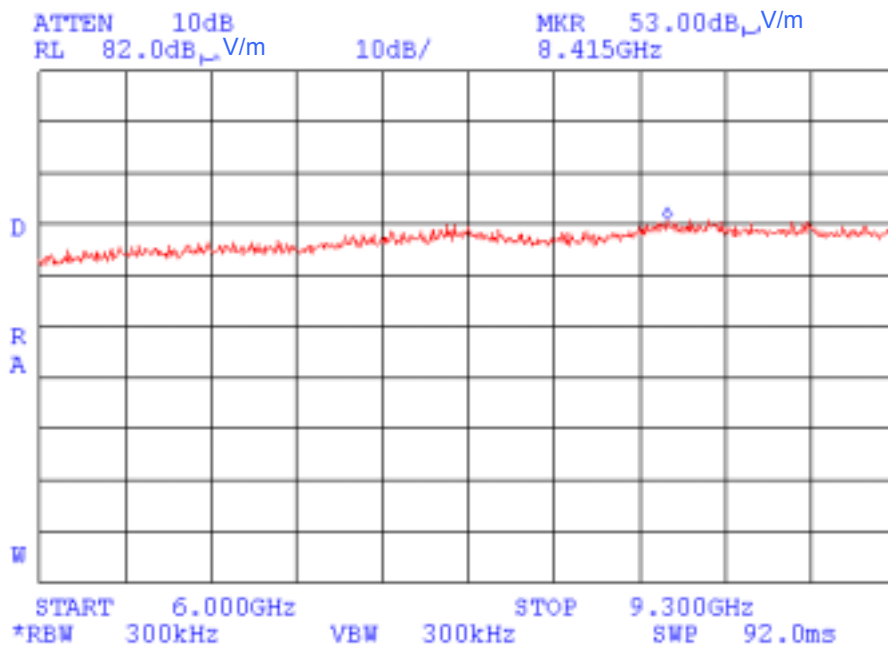
Test Name: Radiated spurious emissions
Site Description: OATS
Notes: f(Tx)=916.3 MHz





Plot A 21

Test Name: Radiated spurious emissions
Site Description: OATS
Notes: f(Tx)=916.3 MHz





Plot A 22

Test Name FCC 15.247 (c) Spurious emissions (radiated)
Site Description Anechoic chamber
Notes f(Tx)=923.175 MHz

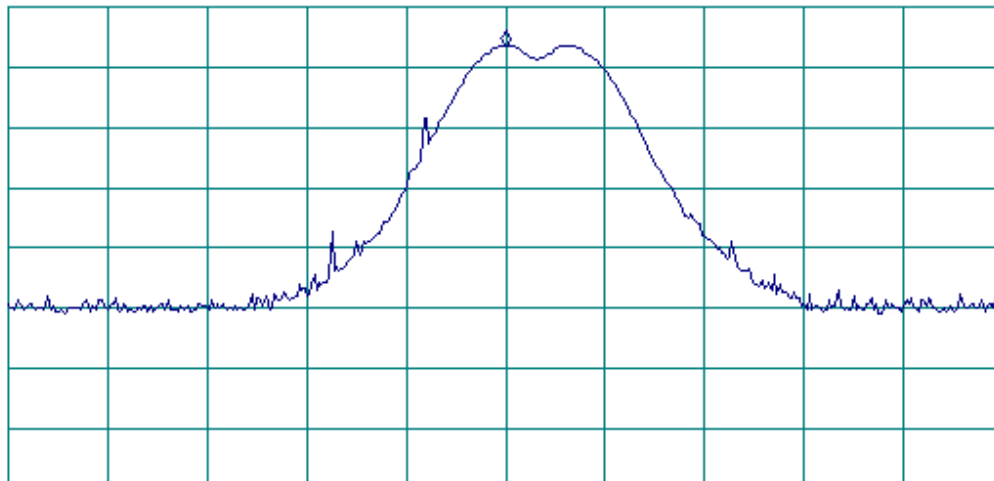
17:05:02 AUG 18, 2002
VERTICAL&HORIZONTAL POLARIZATION

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 923.122 MHz
115.45 dB μ V/m

LOG REF 122.0 dB μ V/m

10
dB/
ATN
40 dB

VA SB
SC FC
ACORR



CENTER 923.122 MHz

RL IF BW 120 kHz

AVG BW 300 kHz

SPAN 2.000 MHz

SWP 20.0 msec

Notes

Fmax= 923.122 MHz

Antenna polarization: vertical&horizontal

E = 115.45 dB(μ V/m) @ 3 m

EIRP = 115.45 - 95.23 = 20.22 dBm

Calculation of peak output power: 20.22 - 2.5 (Antenna gain) = 17.72 dBm



Plot A 23

Test Name FCC 15.247 (c) Spurious emissions (radiated)
Site Description Anechoic chamber
Notes f(Tx)=923.175 MHz

16:25:04 AUG 18, 2002
VERTICAL & HORIZONTAL POLARIZATION

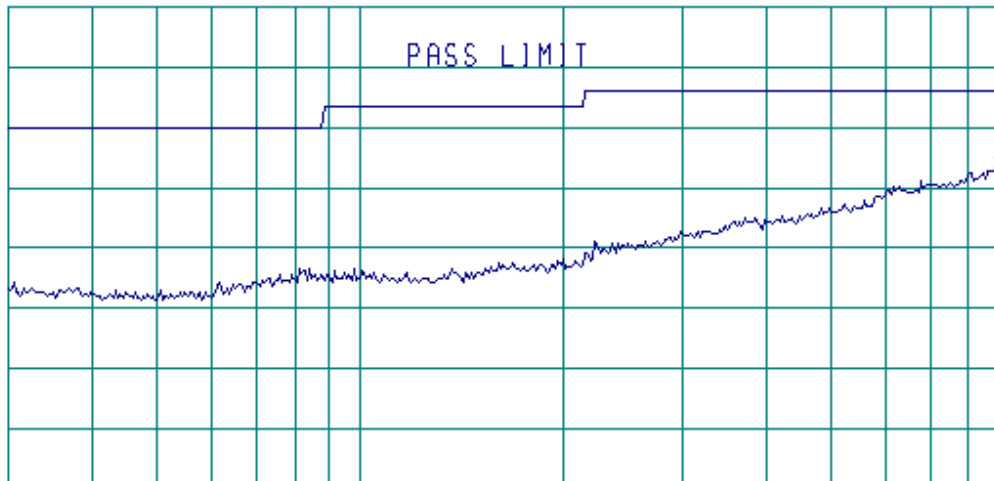
ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 891.7 MHz
33.56 dB μ V/m

LOG REF 60.0 dB μ V/m

10
dB/
#ATN
0 dB

VA SB
SC FC
ACORR

START 30.0 MHz STOP 900.0 MHz
RL IF BW 120 kHz AVG BW 300 kHz SWP 816 msec





Plot A 24

Test Name FCC 15.247 (c) Spurious emissions (radiated)
Site Description Anechoic chamber
Notes f(Tx)=923.175 MHz

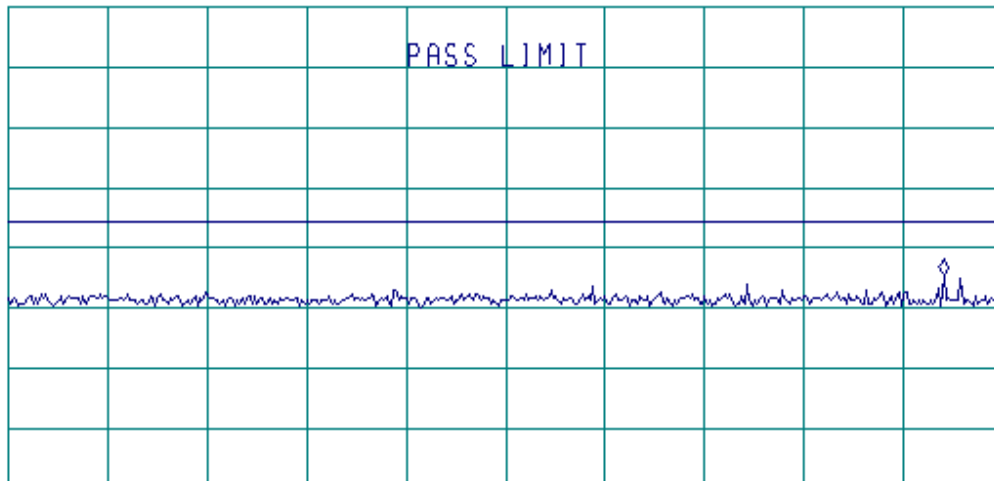
16:36:47 AUG 18, 2002
VERTICAL&HORIZONTAL POLARIZATION

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 901.800 MHz
37.26 dB μ V/m

LOG REF 82.0 dB μ V/m

10
dB/
#ATN
0 dB

VA SB
SC FC
ACORR



START 900.000 MHz STOP 902.000 MHz
R IF BW 120 kHz AVG BW 300 kHz SWP 20.0 msec



Plot A 25

Test Name FCC 15.247 (c) Spurious emissions (radiated)
Site Description Anechoic chamber
Notes f(Tx)=923.175 MHz

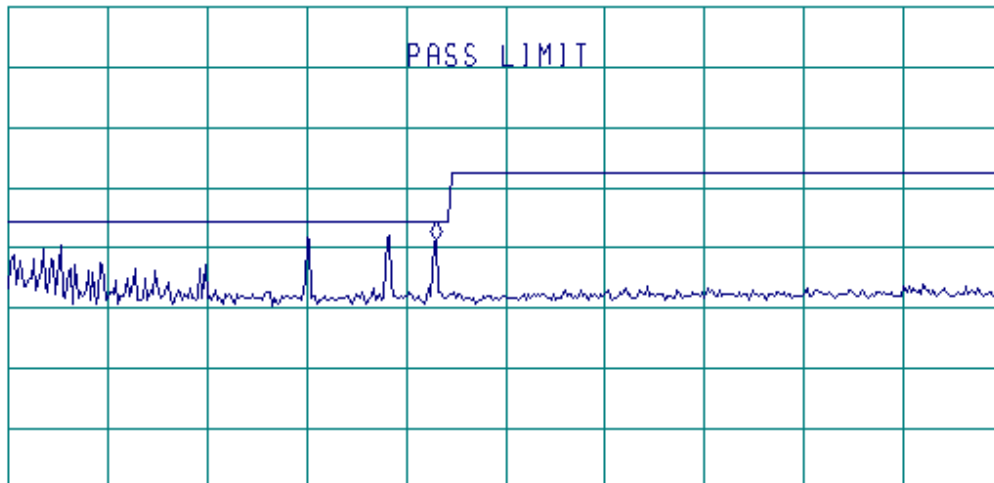
16:41:40 AUG 18, 2002
VERTICAL&HORIZONTAL POLARIZATION

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 958.96 MHz
43.21 dB μ V/m

LOG REF 82.0 dB μ V/m

10
dB/
#ATN
0 dB

VA SB
SC FC
ACORR



Not a restricted band

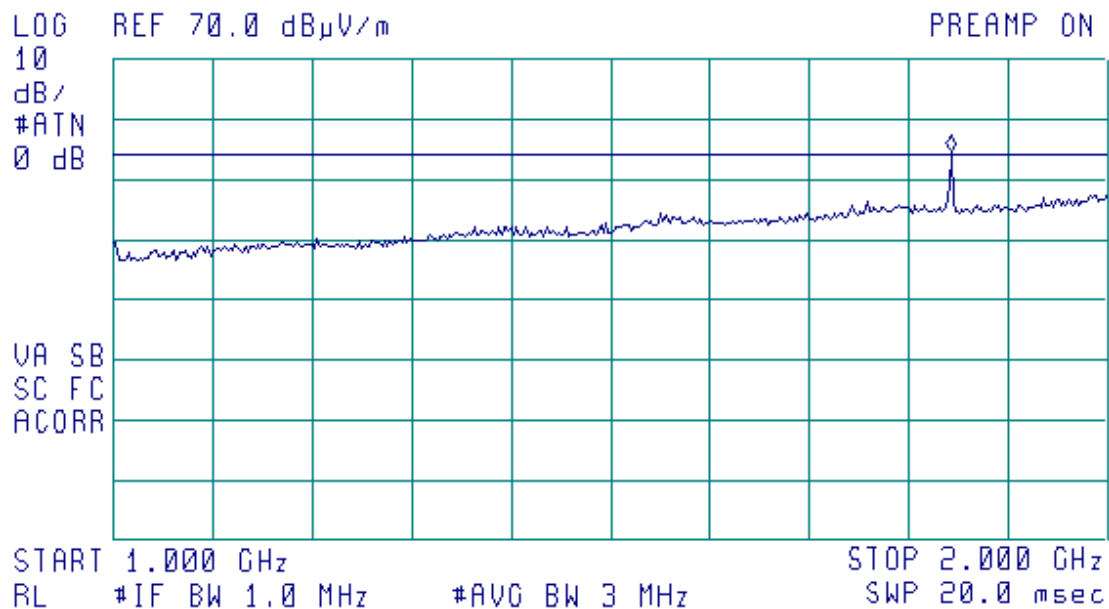


Plot A 26

Test Name FCC 15.247 (c) Spurious emissions (radiated)
Site Description Anechoic chamber
Notes f(Tx)=923.175 MHz

17:11:17 AUG 18, 2002
VERTICAL & HORIZONTAL POLARIZATION

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 1.843 GHz
54.35 dB μ V/m



No spurious emissions were found except of the second harmonic of fundamental.

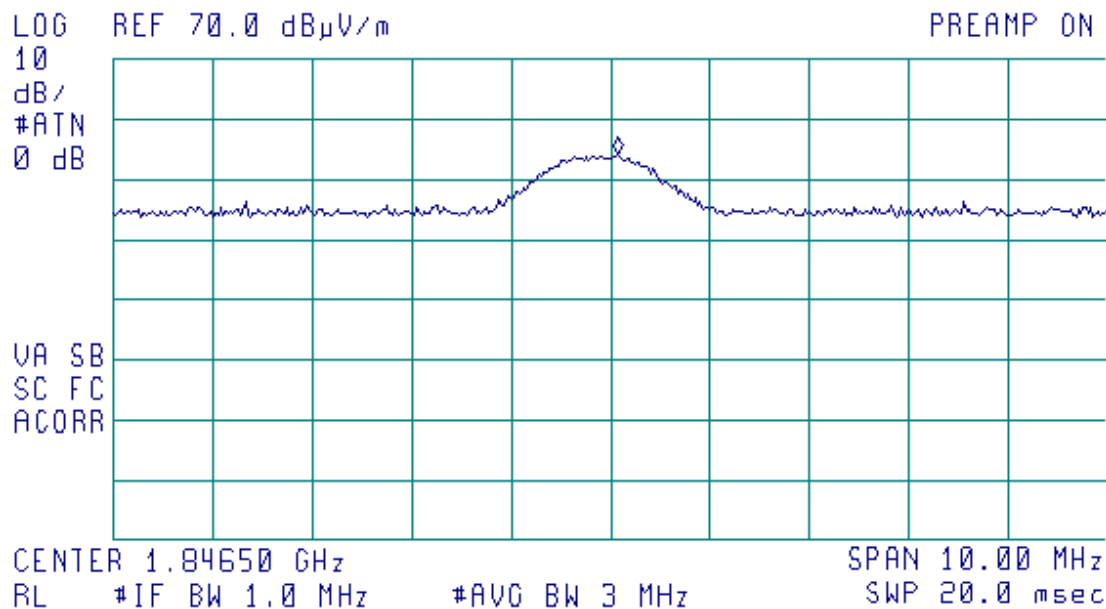


Plot A 27

Test Name FCC 15.247 (c) Spurious emissions (radiated)
Site Description Anechoic chamber
Notes f(Tx)=923.175 MHz

17:21:18 AUG 18, 2002
VERTICAL & HORIZONTAL POLARIZATION

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 1.84650 GHz
54.32 dB μ V/m



The second harmonic of fundamental.
Not a restricted band.

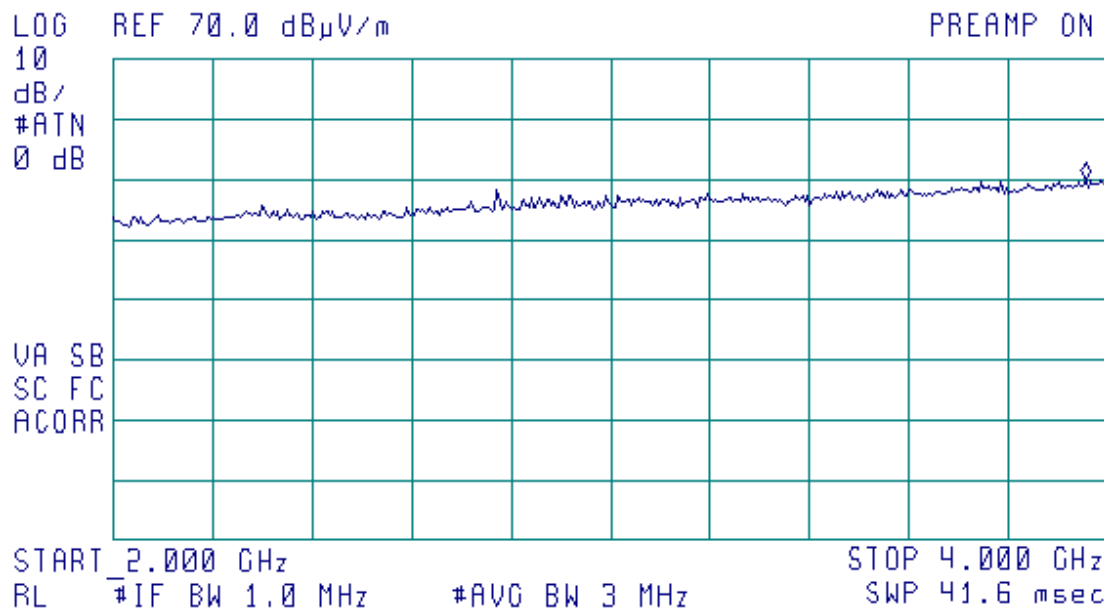


Plot A 28

Test Name FCC 15.247 (c) Spurious emissions (radiated)
Site Description Anechoic chamber
Notes f(Tx)=923.175 MHz

20:09:27 AUG 18, 2002
VERTICAL&HORIZONTAL POLARIZATION

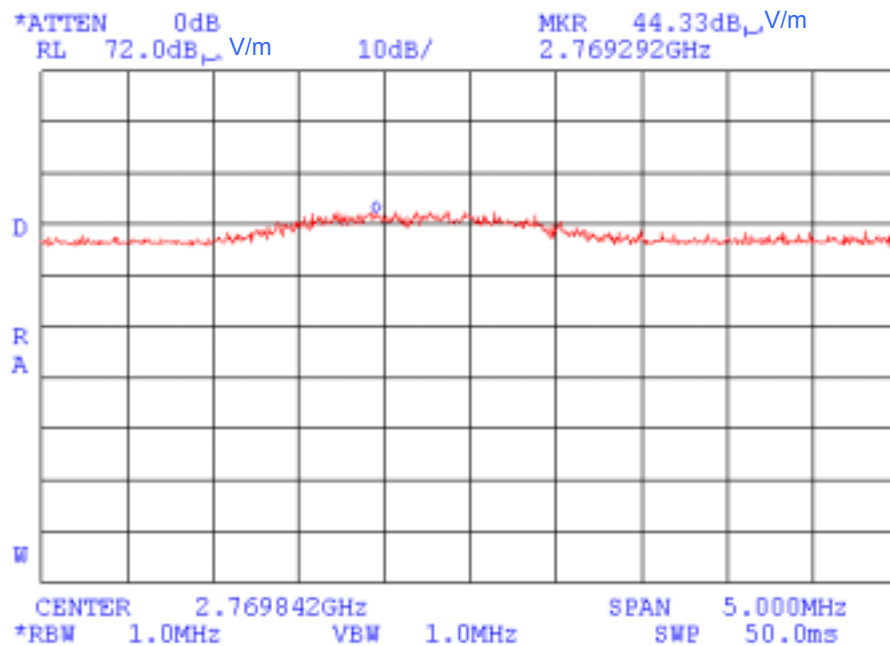
ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 3.955 GHz
49.93 dB μ V/m





Plot A 29

Test Name: Radiated spurious emissions
Site Description: OATS
Notes: f(Tx)=923.175 MHz

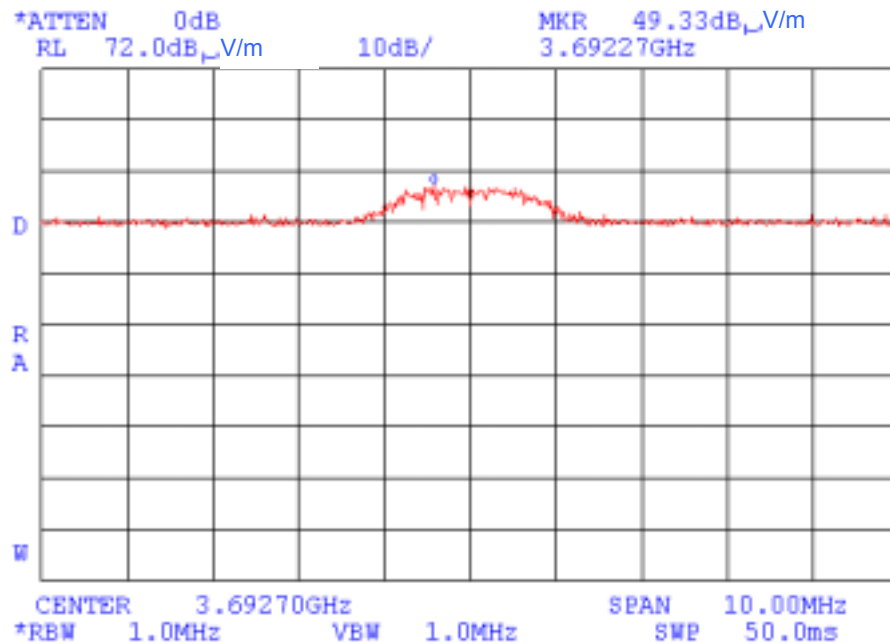


The 3rd harmonic of fundamental.



Plot A 30

Test Name: Radiated spurious emissions
Site Description: OATS
Notes: f(Tx)=923.175 MHz

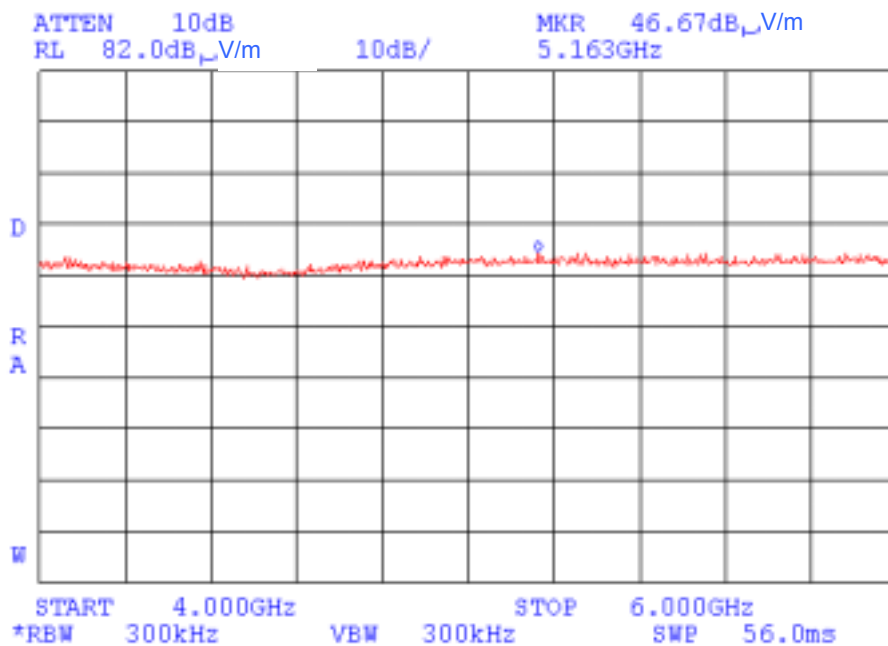


The 4th harmonic of fundamental.



Plot A 31

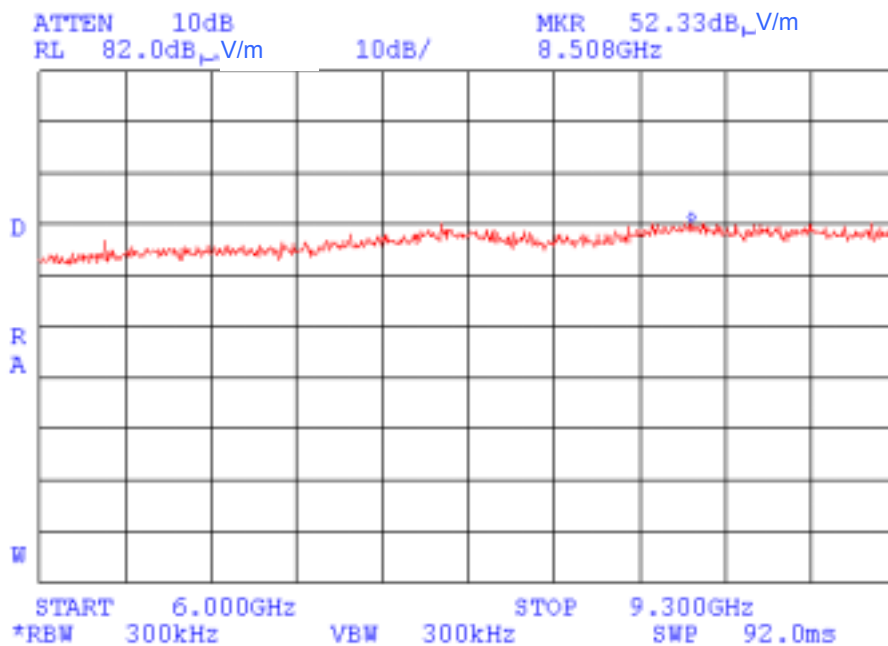
Test Name: Radiated spurious emissions
Site Description: OATS
Notes: f(Tx)=923.175 MHz





Plot A 32

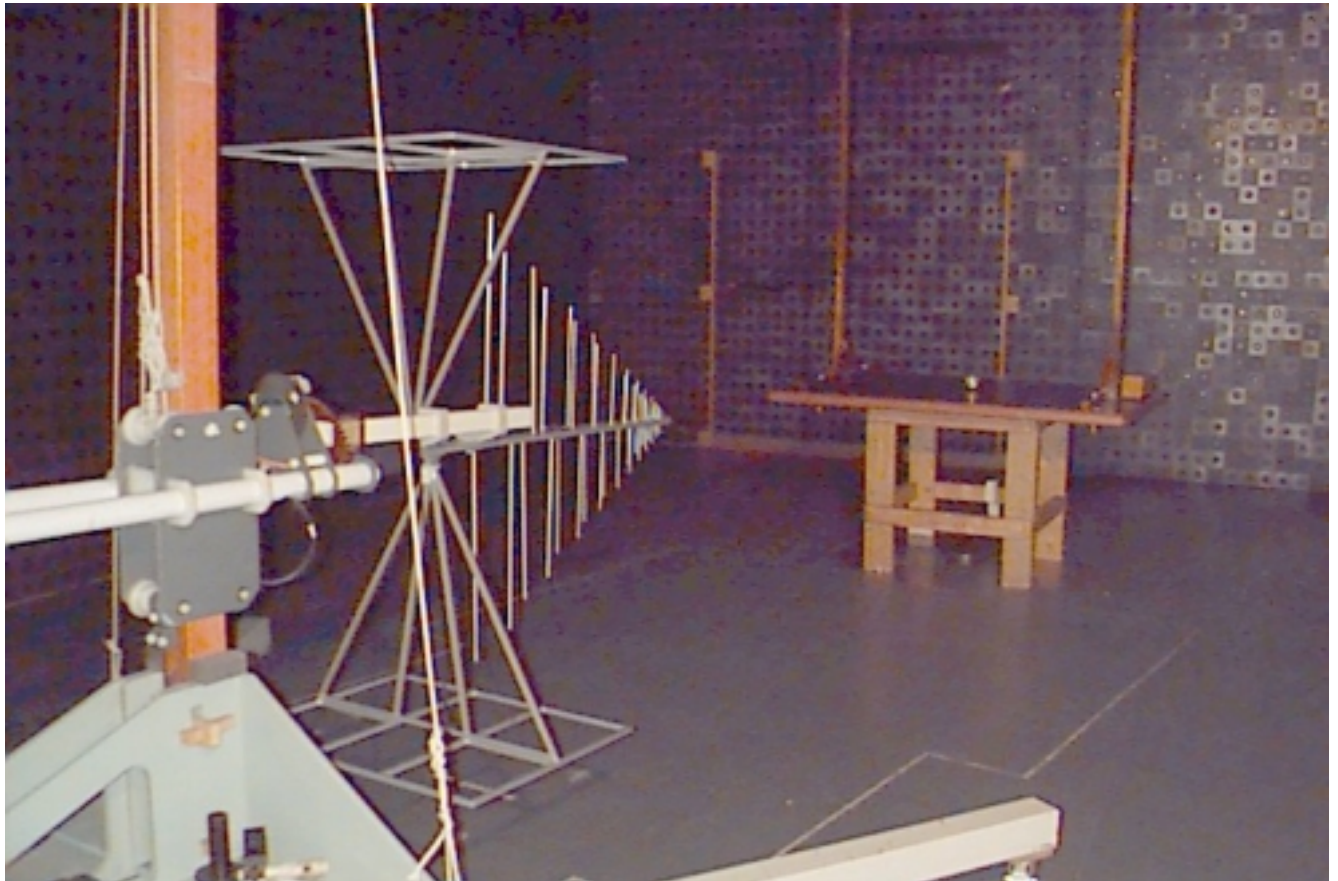
Test Name: Radiated spurious emissions
Site Description: OATS
Notes: f(Tx)=923.175 MHz





Appendix B Setup photographs

SPURIOUS EMISSIONS MEASUREMENTS WITH BICONILOG ANTENNA





SPURIOUS EMISSIONS MEASUREMENTS WITH HORN ANTENNA





Appendix B Test equipment used for tests

HL Serial No.	Description	Manufacturer information			Due Calibr. Month/ year
		Name	Model No.	Serial No.	
0038	Antenna Mast, 1-4 m	Hermon Labs	AM-1	028	2/03 Check
0041	Double ridged guide antenna, 1-18 GHz	Electro-Metrics	RGA 50/60	2811	3/03
0465	Anechoic Chamber 9 (L) x 6.5 (W) x 5.5 (H) m	Hermon Labs	AC-1	023	11/02 check
0521	Spectrum Analyzer with RF filter section (EMI Receiver 9 kHz - 6.5 GHz)	Hewlett Packard	8546A	0319	9/02
0589	Cable Coaxial, GORE A2POL118.2, 3m	Hermon Labs	GORE-3	589	12/02
0604	Antenna Biconilog Log-Periodic/T Bow-Tie, 26 - 2000 MHz	EMCO	3141	9611-1011	01/03
1004	Cable coaxial, ANDREW PSWJ4, 6 m	Hermon Labs	ANDREW-6	163	12/02
1424	Spectrum analyzer, 30 Hz - 40 GHz	Agilent Technologies	8564EC	3946A00219	8/03
1942	Cable 18 GHz, 4 m, blue	Rhophase Microwave Ltd	SPS-1803A- 4000-NPS	T4658	10/02
1947	Cable 18 GHz, 6.5 m, blue	Rhophase Microwave Ltd	NPS-1803A- 6500-NPS	T4974	10/02
2009	Cable RF, 8 m	Alpha Wire	RG-214	NA	12/02



Appendix C Test equipment correction factors

Antenna factor, 3 m test distance
Log periodic antenna
Electro-Metrics, model LPA-25/30
Ser.No.1953

Frequency MHz	Antenna Factor dB(1/m)	Frequency MHz	Antenna Factor dB(1/m)
200	15.2	625	25.2
225	15.1	650	25.8
250	16.3	675	27.2
275	17.2	700	27.6
300	19.6	725	27.6
325	18.4	750	27.6
350	19.0	775	28.0
375	20.0	800	28.2
400	20.9	825	29.4
425	21.3	850	29.9
450	22.1	875	30.0
475	22.7	900	30.4
500	23.2	925	30.6
525	23.9	950	30.8
550	24.2	975	31.6
575	24.6	1000	32.1
600	24.7		

Antenna factor is to be added to receiver meter reading in dB(μ V) to convert to field intensity in dB(μ V/meter)



Antenna Factor
Biconilog Antenna EMCO Model 3141
Ser.No.1011

Frequency, MHz	Antenna Factor, dB(1/m)	Frequency, MHz	Antenna Factor, dB(1/m)
26	7.8	940	24.0
28	7.8	960	24.1
30	7.8	980	24.5
40	7.2	1000	24.9
60	7.1	1020	25.0
70	8.5	1040	25.2
80	9.4	1060	25.4
90	9.8	1080	25.6
100	9.7	1100	25.7
110	9.3	1120	26.0
120	8.8	1140	26.4
130	8.7	1160	27.0
140	9.2	1180	27.0
150	9.8	1200	26.7
160	10.2	1220	26.5
170	10.4	1240	26.5
180	10.4	1260	26.5
190	10.3	1280	26.6
200	10.6	1300	27.0
220	11.6	1320	27.8
240	12.4	1340	28.3
260	12.8	1360	28.2
280	13.7	1380	27.9
300	14.7	1400	27.9
320	15.2	1420	27.9
340	15.4	1440	27.8
360	16.1	1460	27.8
380	16.4	1480	28.0
400	16.6	1500	28.5
420	16.7	1520	28.9
440	17.0	1540	29.6
460	17.7	1560	29.8
480	18.1	1580	29.6
500	18.5	1600	29.5
520	19.1	1620	29.3
540	19.5	1640	29.2
560	19.8	1660	29.4
580	20.6	1680	29.6
600	21.3	1700	29.8
620	21.5	1720	30.3
640	21.2	1740	30.8
660	21.4	1760	31.1
680	21.9	1780	31.0
700	22.2	1800	30.9
720	22.2	1820	30.7
740	22.1	1840	30.6
760	22.3	1860	30.6
780	22.6	1880	30.6
800	22.7	1900	30.6
820	22.9	1920	30.7
840	23.1	1940	30.9
860	23.4	1960	31.2
880	23.8	1980	31.6
900	24.1	2000	32.0
920	24.1		

Antenna factor is to be added to receiver meter reading in dB(μ V) to convert to field intensity in dB(μ V/meter).



**Antenna Factor
Double Ridged Guide Antenna
Model RGA-50/60
S/N 2811**

Frequency, MHz	Antenna Factor, dB
1000	24.3
1500	25.4
2000	28.4
2500	29.2
3000	30.5
3500	31.6
4000	33.7
4500	32.2
5000	34.5
5500	34.5
6000	34.6
6500	35.3
7000	35.5
7500	35.9
8000	36.6
8500	37.3
9000	37.7
9500	37.7
10000	38.2
10500	38.5
11000	39.0
11500	40.1
12000	40.2
12500	39.3
13000	39.9
13500	40.6
14000	41.1
14500	40.5
15000	39.9
15500	37.8
16000	39.1
16500	41.1
17000	41.7
17500	45.1
18000	44.3

Antenna factor is to be added to receiver meter reading in dB(μ V) to convert to field intensity in dB(μ V)/meter



Cable Coaxial, GORE A2P01POL118, 2.3 m, model:GORE-3, s/n 176 (HL 0589)
+ Cable Coaxial, ANDREW PSWJ4, 6m, model: ANDREW-6, s/n 163 (HL 1004)
Calibration data

No.	Parameter	SET, MHz	Measured, dB	Deviation, dB	Tolerance (Specification), dB	Meas. Uncert., dB	Notes
1	Insertion Loss	30	0.33	-	≤ 6.5	± 0.12	
2		50	0.40	-			
3		100	0.57	-			
4		300	0.97	-			
5		500	1.25	-			
6		800	1.59	-			
7		1000	1.81	-			
8		1200	1.97	-			
9		1400	2.15	-			
10		1600	2.28	-			
11		1800	2.43	-			
12		2000	2.61	-			
13		2200	2.75	-			
14		2400	2.89	-			
15		2600	2.97	-			
16	Insertion Loss	2800	3.21	-	≤ 6.5	± 0.12	
17		3000	3.32	-		± 0.17	
18		3300	3.47	-			
19		3600	3.62	-			
20		3900	3.84	-			
21		4200	3.92	-			
22		4500	4.07	-			
23		4800	4.36	-			
24		5100	4.62	-			
25		5400	4.78	-			
26		5700	5.16	-			
27		6000	5.67	-			
28		6500	5.99	-			



Cable 18GHz, 6.5 m, blue, model: NPS-1803A-6500-NPS, s/n T4974 (HL 1947)
Calibration data

Frequency, GHz	Insertion Loss, dB
	HL1947
0.03	0.30
0.05	0.38
0.10	0.53
0.20	0.74
0.30	0.91
0.40	1.05
0.50	1.18
0.60	1.29
0.70	1.40
0.80	1.50
0.90	1.59
1.00	1.68
1.10	1.77
1.20	1.86
1.30	1.94
1.40	2.01
1.50	2.08
1.60	2.16
1.70	2.22
1.80	2.29
1.90	2.36
2.00	2.42
2.10	2.48
2.20	2.54
2.30	2.60
2.40	2.66
2.50	2.71
2.60	2.77
2.70	2.83
2.80	2.89
2.90	2.95
3.10	3.06
3.30	3.17
3.50	3.28
3.70	3.39
3.90	3.51
4.10	3.62
4.30	3.76
4.50	3.87
4.70	4.01
4.90	4.10
5.10	4.21
5.30	4.31
5.50	4.43
5.70	4.56
5.90	4.71

Frequency, GHz	Insertion Loss, dB
	HL1947
6.10	4.87
6.30	4.95
6.50	4.94
6.70	4.88
6.90	4.87
7.10	4.83
7.30	4.85
7.50	4.86
7.70	4.91
7.90	4.96
8.10	5.03
8.30	5.08
8.50	5.13
8.70	5.21
8.90	5.22
9.10	5.34
9.30	5.35
9.50	5.52
9.70	5.51
9.90	5.66
10.10	5.70
10.30	5.78
10.50	5.79
10.70	5.82
10.90	5.86
11.10	5.94
11.30	6.06
11.50	6.21
11.70	6.44
11.90	6.61
12.10	6.76
12.40	6.68
13.00	6.66
13.50	6.81
14.00	6.90
14.50	6.90
15.00	6.97
15.50	7.17
16.00	7.28
16.50	7.27
17.00	7.38
17.50	7.68
18.00	7.92



Cable RF, 8 m, model: RG-214 (HL 2009)
Calibration data

No.	Parameter	SET, MHz	Measured, dB	Deviation	Tolerance (Specification)	Meas. Uncert., dB	Notes
1	Insertion Loss	1	0.10	NA	NA	±0.12	
2		10	0.14				
3		30	0.25				
4		50	0.34				
5		100	0.53				
6		300	0.99				
7		500	1.31				
8		800	1.73				
9		1000	1.98				
10		1100	2.11				
11		1200	2.21				
12		1300	2.35				
13		400	2.46				
14		1500	2.55				
15		1600	2.68				
16		1700	2.78				
17		1800	2.88				
18		1900	2.98				
19		2000	3.09				