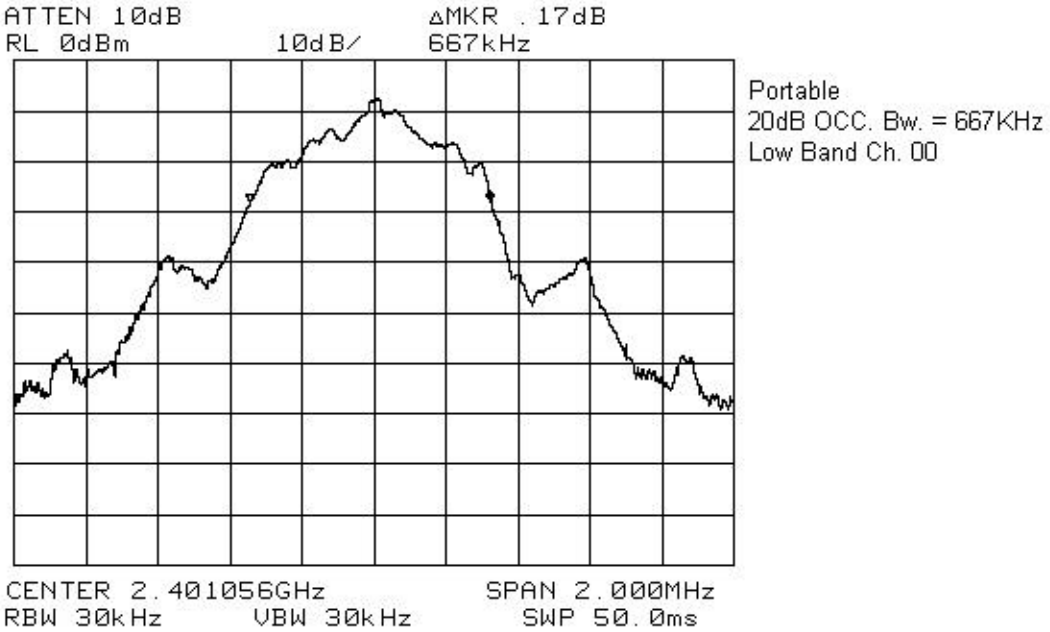
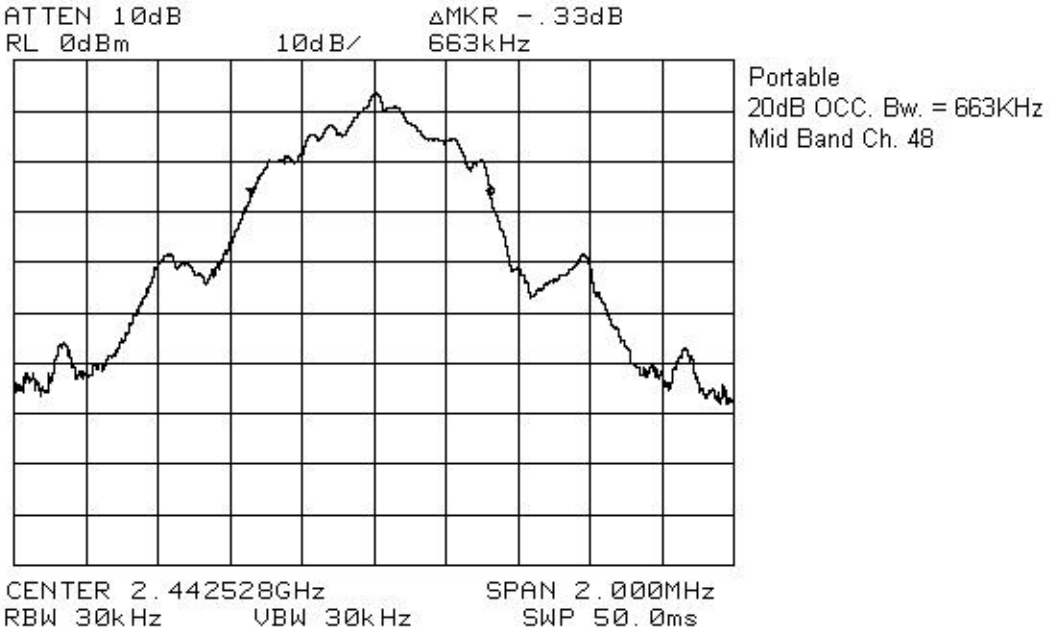
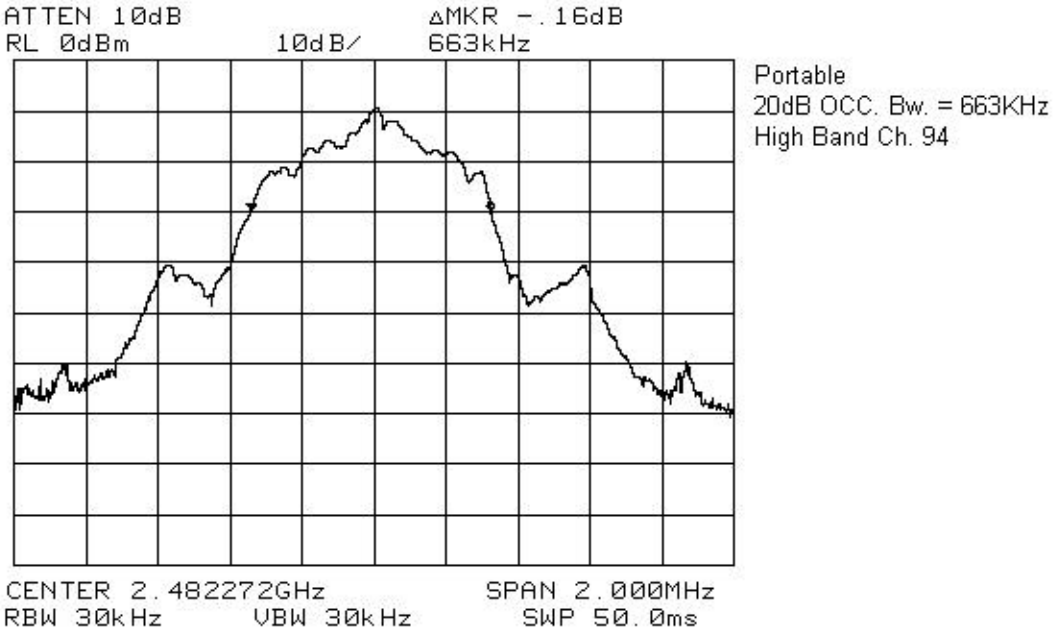
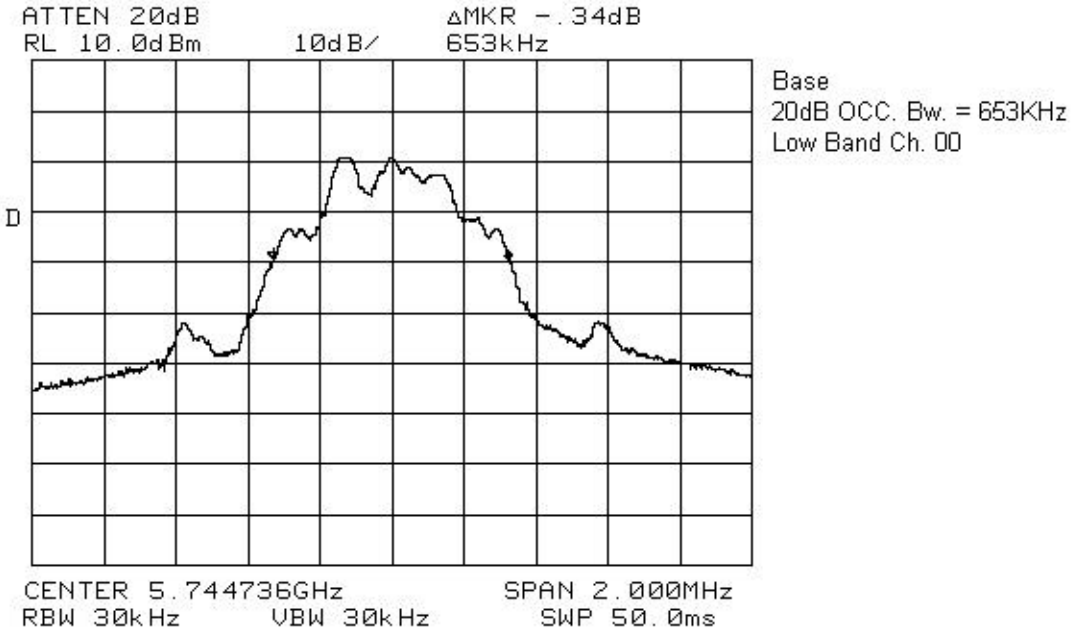
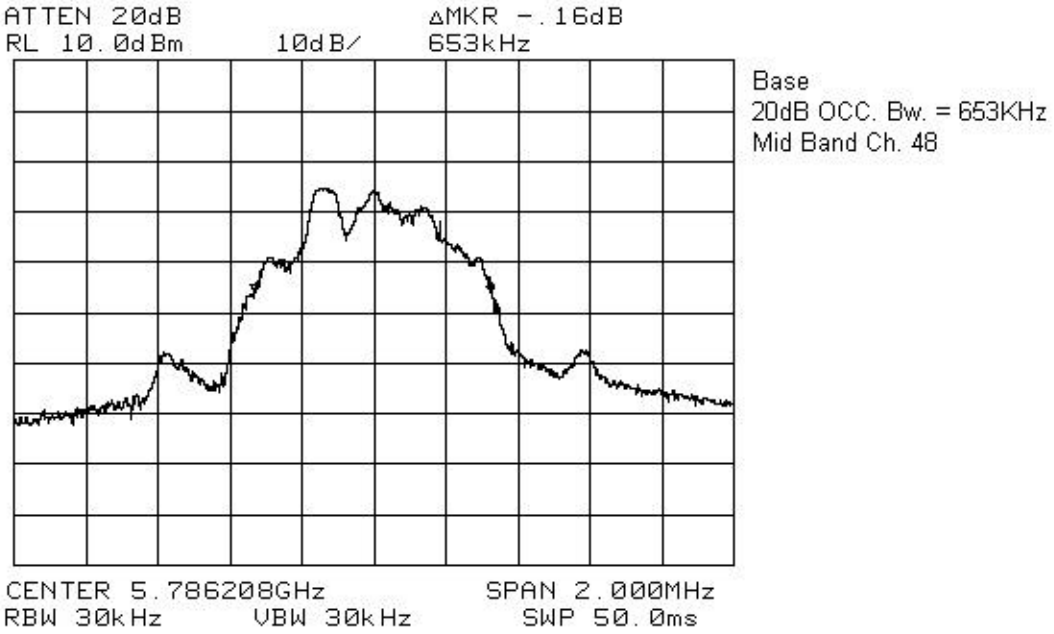
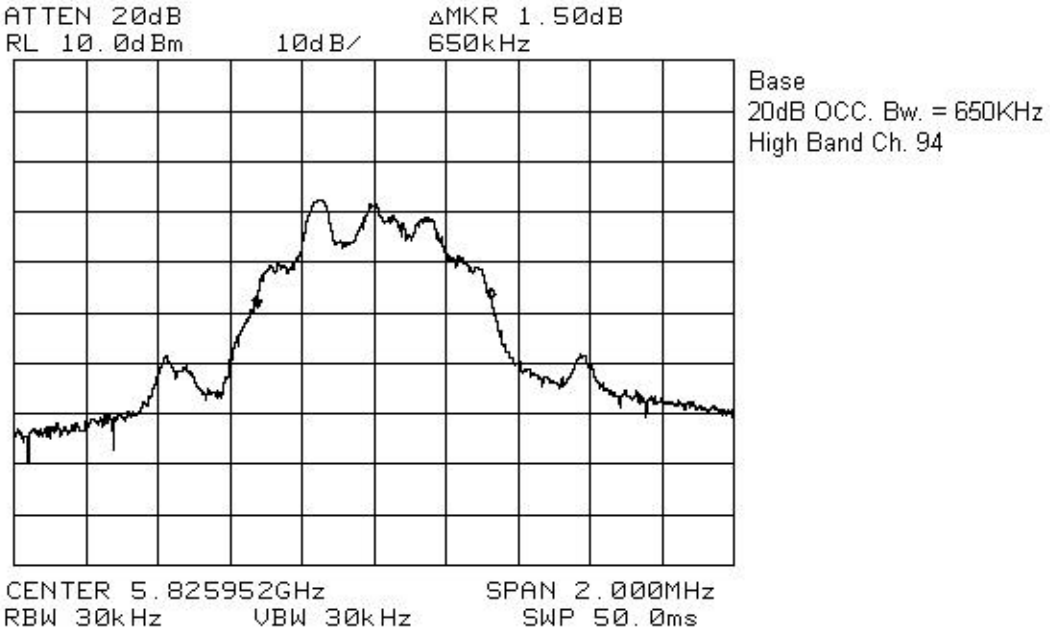

ATTEN 10dB
RL 0dBm
10dB/
ΔMKR .17dB
667kHz
Portable
20dB OCC. Bw. = 667KHz
Low Band Ch. 00
CENTER 2.401056GHz
RBW 30kHz
VBW 30kHz
SPAN 2.000MHz
SWP 50.0ms


ATTEN 10dB
RL 0dBm
10dB/
ΔMKR -.33dB
663kHz
Portable
20dB OCC. Bw. = 663KHz
Mid Band Ch. 48
CENTER 2.442528GHz
RBW 30kHz
VBW 30kHz
SPAN 2.000MHz
SWP 50.0ms


ATTEN 10dB
RL 0dBm
10dB/
ΔMKR -.16dB
663kHz
Portable
20dB OCC. Bw. = 663KHz
High Band Ch. 94
CENTER 2.482272GHz
RBW 30kHz
VBW 30kHz
SPAN 2.000MHz
SWP 50.0ms


ATTEN 20dB
RL 10.0dBm
10dB/
ΔMKR -.34dB
653kHz
D
Base
20dB OCC. Bw. = 653KHz
Low Band Ch. 00
CENTER 5.744736GHz
RBW 30kHz
VBW 30kHz
SPAN 2.000MHz
SWP 50.0ms


ATTEN 20dB
RL 10.0dBm
10dB/
ΔMKR -.16dB
653kHz
Base
20dB OCC. Bw. = 653KHz
Mid Band Ch. 48
CENTER 5.786208GHz
RBW 30kHz
VBW 30kHz
SPAN 2.000MHz
SWP 50.0ms


ATTEN 20dB
RL 10.0dBm
10dB/
ΔMKR 1.50dB
650kHz
Base
20dB OCC. Bw. = 650KHz
High Band Ch. 94
CENTER 5.825952GHz
RBW 30kHz
VBW 30kHz
SPAN 2.000MHz
SWP 50.0ms

Section 8. Peak Power Output

Para. No.: 15.247 (b)

Test Performed By: Glen Westwell	**Date of Test: 26 Feb 2002**

Test Results: Complies. The maximum peak power output of the transmitter is:

Base = 0.918 watts / 29.6dBm (E.I.R.P.)

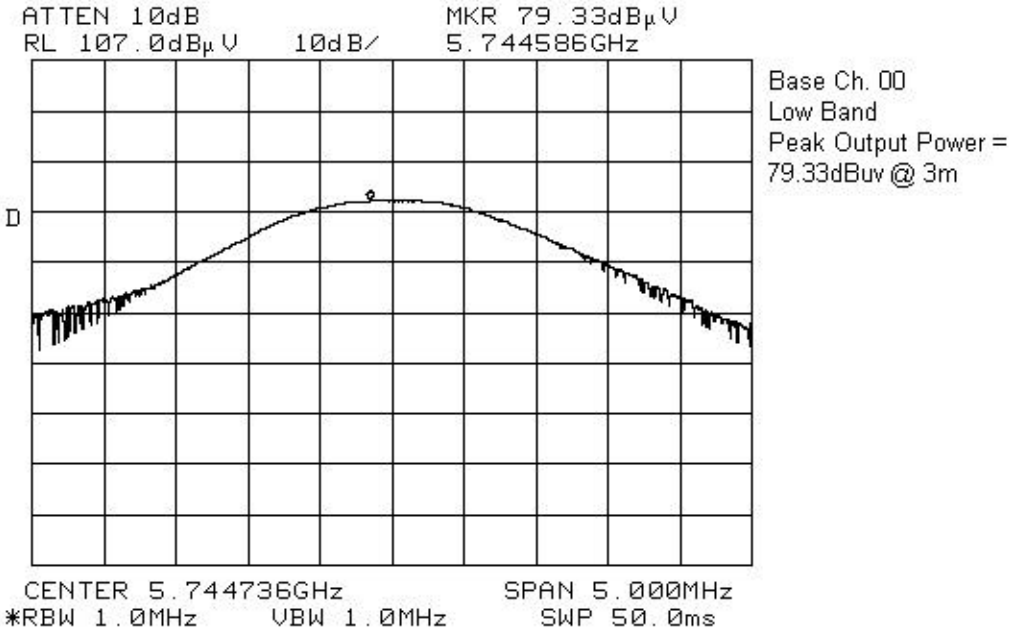
Portable = 0.164 watts / 22.2dBm (E.R.I.P.)

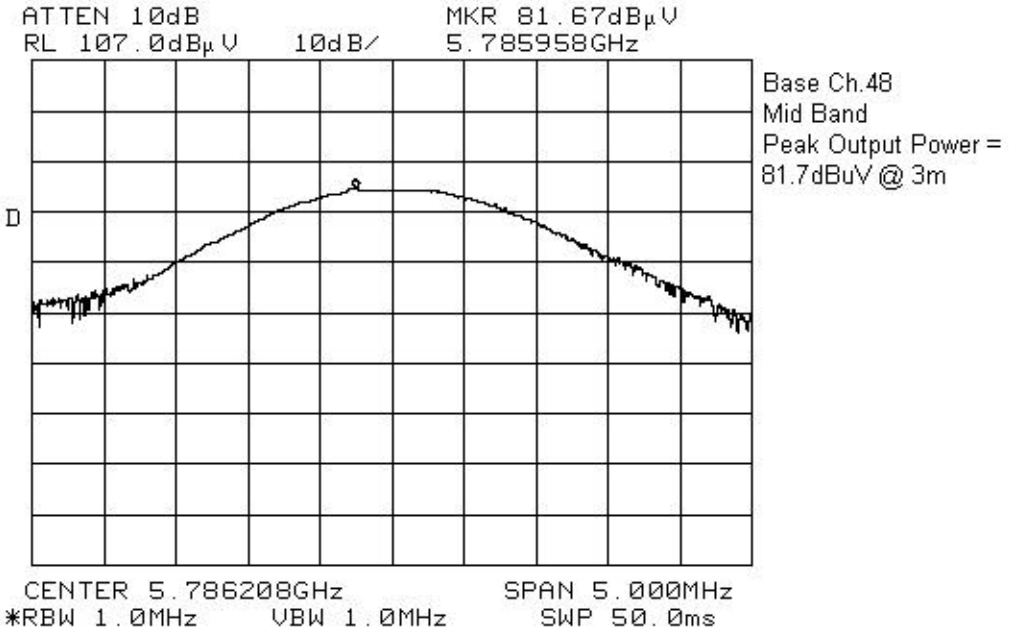
Measurement Data: Detachable antenna? ☐ Yes ☒ No

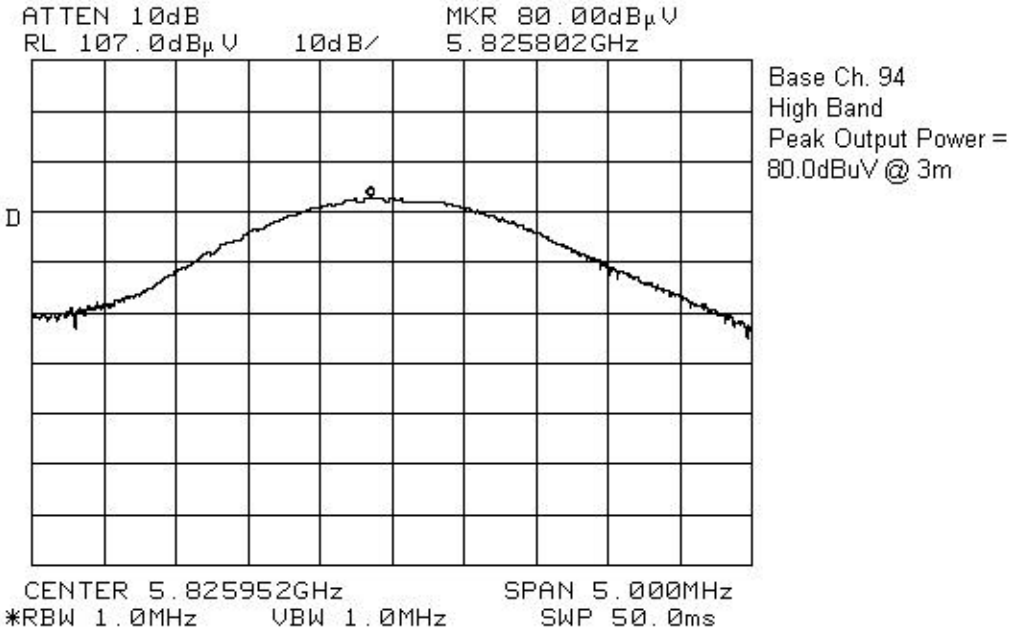
Directional Gain of Antenna: 2dBi or 1.6 Numeric.

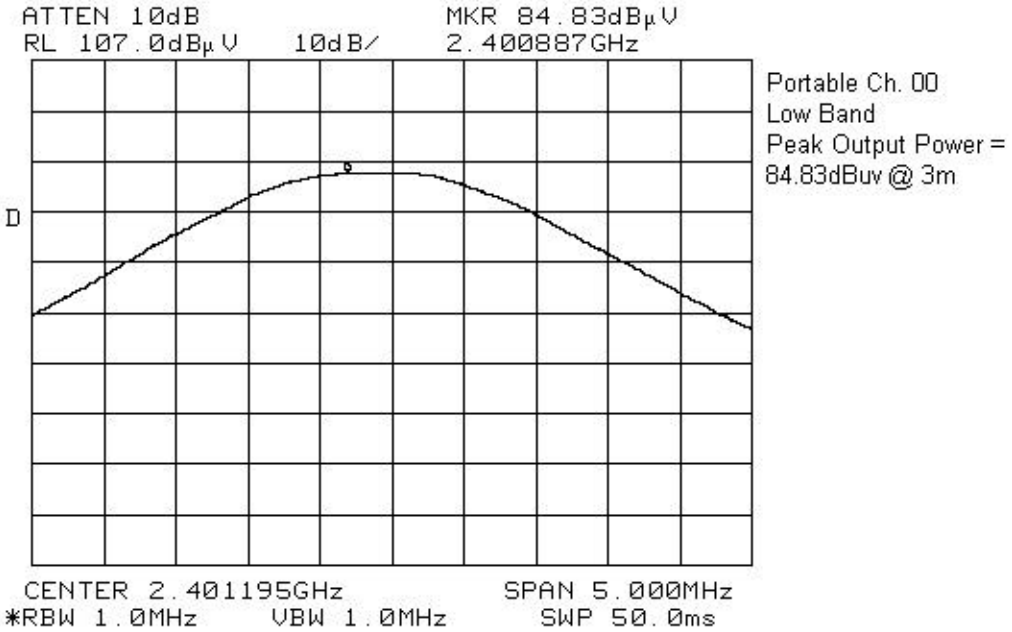
Base (worst case):
Field Strength: 126.9 dBμV/m @ 3m or 2.2131 V/m @ 3m.

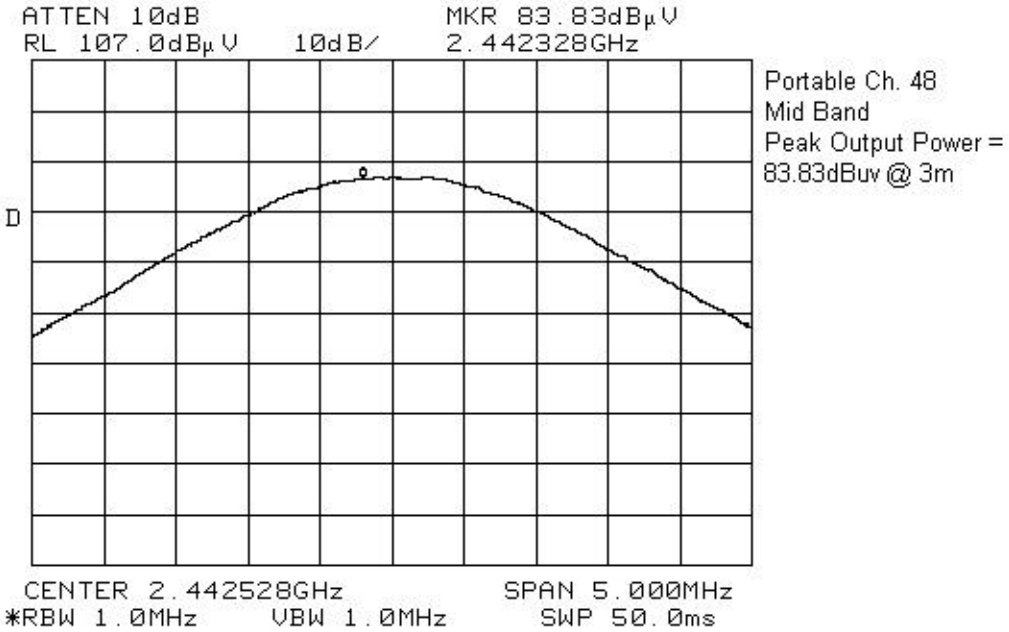
Portable (worst case):
Field Strength: 119.43 dBμV/m @ 3m or 0.93648 V/m @ 3m.

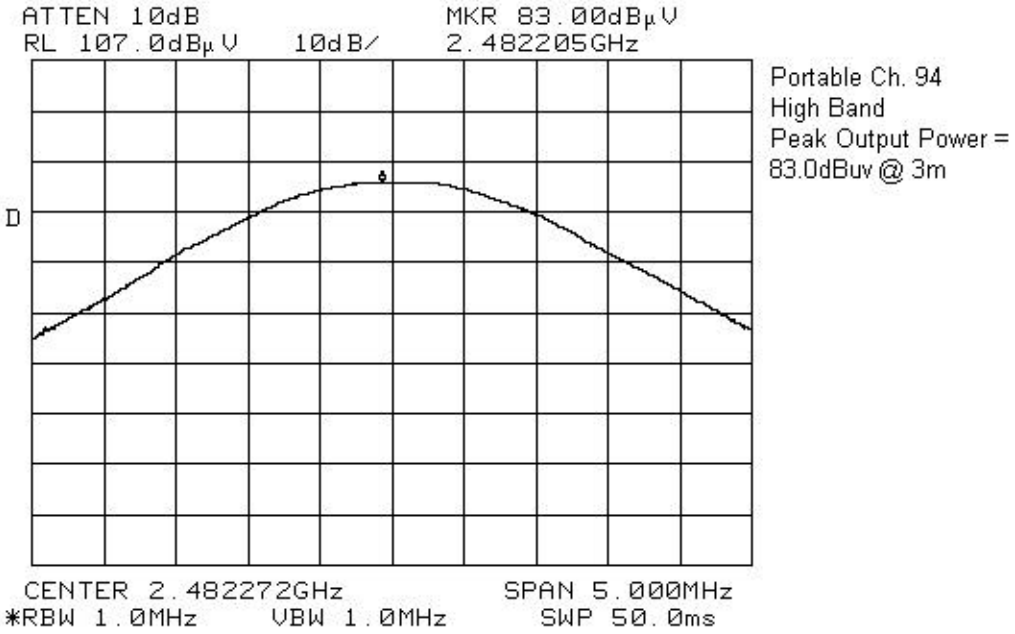

ATTEN 10dB
RL 107.0dBμV
10dB/
MKR 79.33dBμV
5.744586GHz
D
Base Ch. 00
Low Band
Peak Output Power =
79.33dBuv @ 3m
CENTER 5.744736GHz
SPAN 5.000MHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 50.0ms


ATTEN 10dB
RL 107.0dBμV
10dB/
MKR 81.67dBμV
5.785958GHz
D
Base Ch.48
Mid Band
Peak Output Power =
81.7dBuV @ 3m
CENTER 5.786208GHz
SPAN 5.000MHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 50.0ms


ATTEN 10dB
RL 107.0dBμV 10dB/
MKR 80.00dBμV
5.825802GHz
D
Base Ch. 94
High Band
Peak Output Power =
80.0dBuV @ 3m
CENTER 5.825952GHz
SPAN 5.000MHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 50.0ms


ATTEN 10dB
MKR 84.83dBμV
RL 107.0dBμV
10dB/
2.400887GHz
D
Portable Ch. 00
Low Band
Peak Output Power =
84.83dBuv @ 3m
CENTER 2.401195GHz
SPAN 5.000MHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 50.0ms


ATTEN 10dB
MKR 83.83dBμV
RL 107.0dBμV
10dB/
2.442328GHz
D
Portable Ch. 48
Mid Band
Peak Output Power =
83.83dBuv @ 3m
CENTER 2.442528GHz
SPAN 5.000MHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 50.0ms


ATTEN 10dB
MKR 83.00dBμV
RL 107.0dBμV
10dB/
2.482205GHz
D
Portable Ch. 94
High Band
Peak Output Power =
83.0dBuv @ 3m
CENTER 2.482272GHz
SPAN 5.000MHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 50.0ms

Section 9. Spurious Emissions

Para. No.: 15.247 (c)

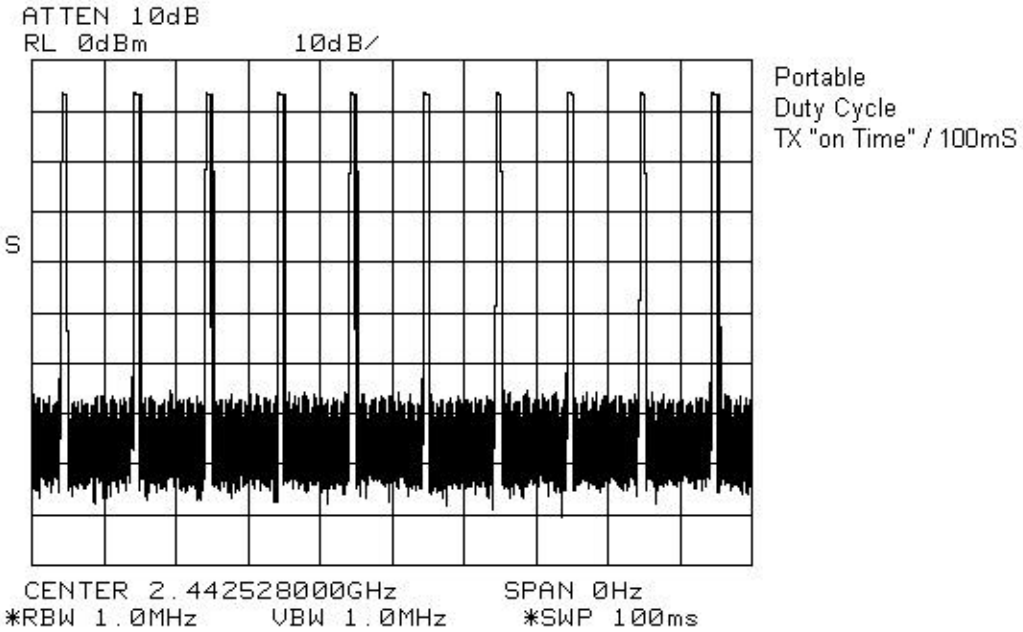
Test Performed By: Glen Westwell	**Date of Test: 27 Feb 2002**

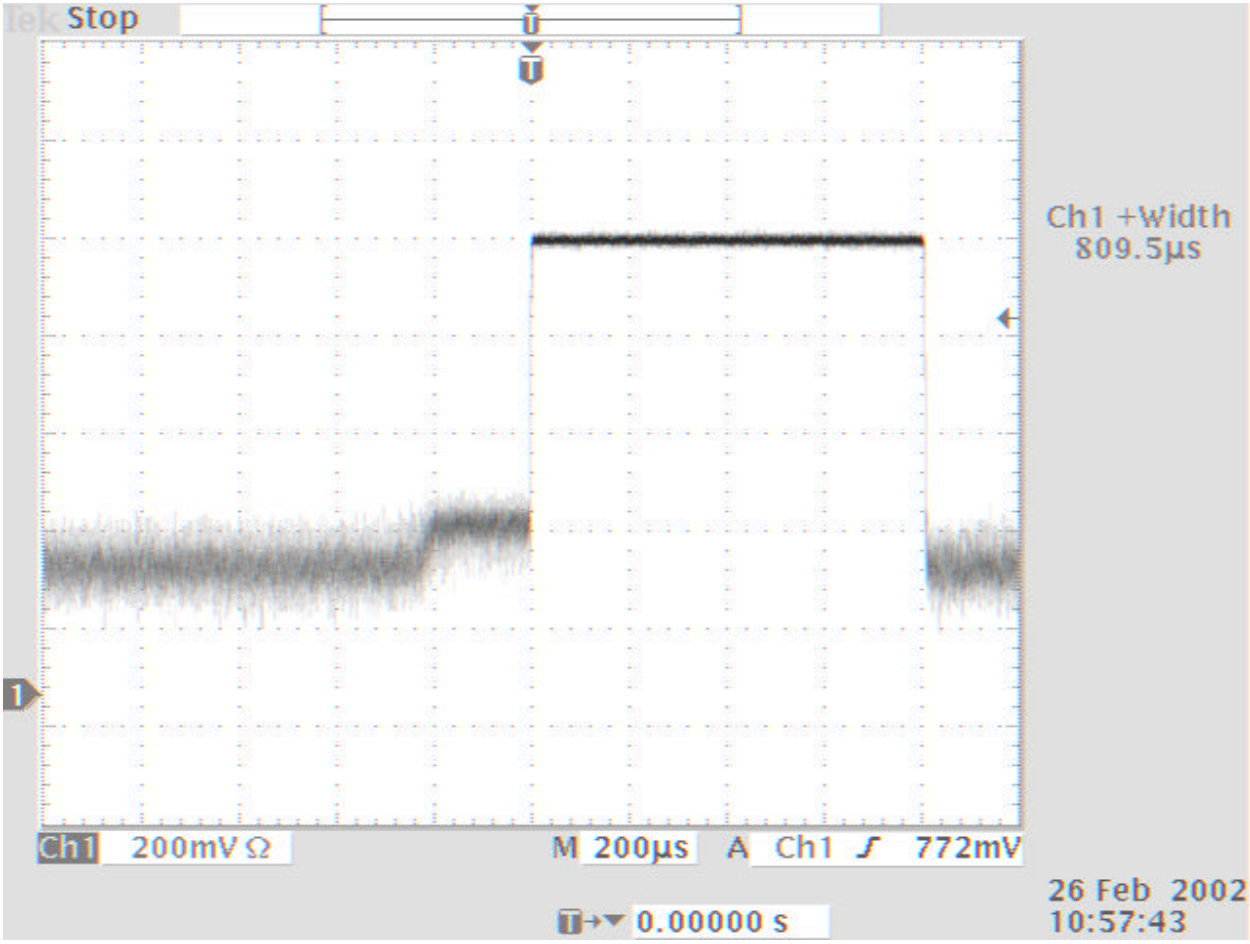
Test Results: Complies

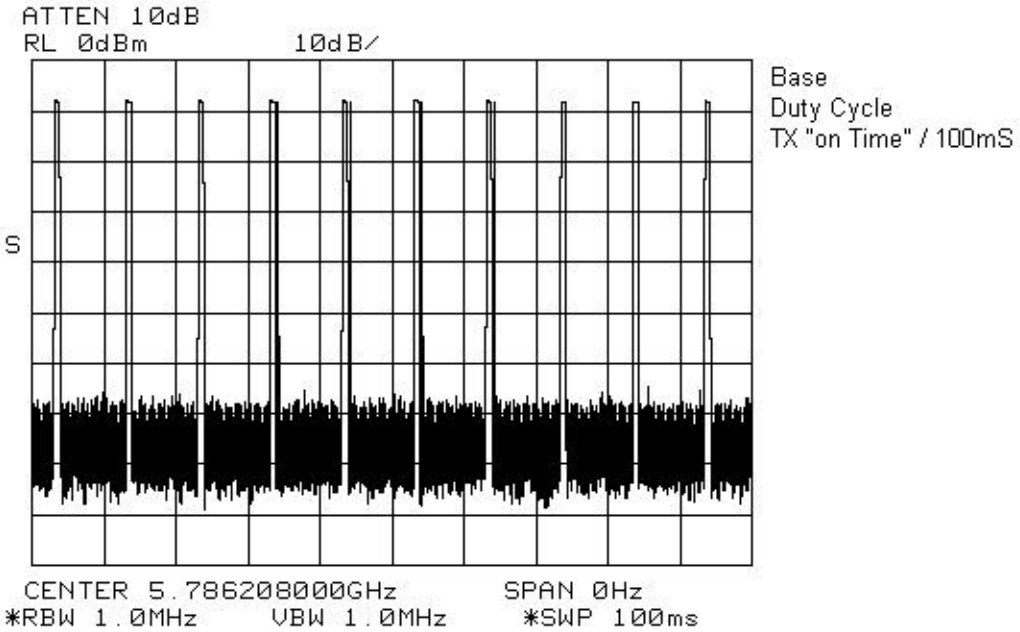
Measurement Data: See Attached Plots & Tables.

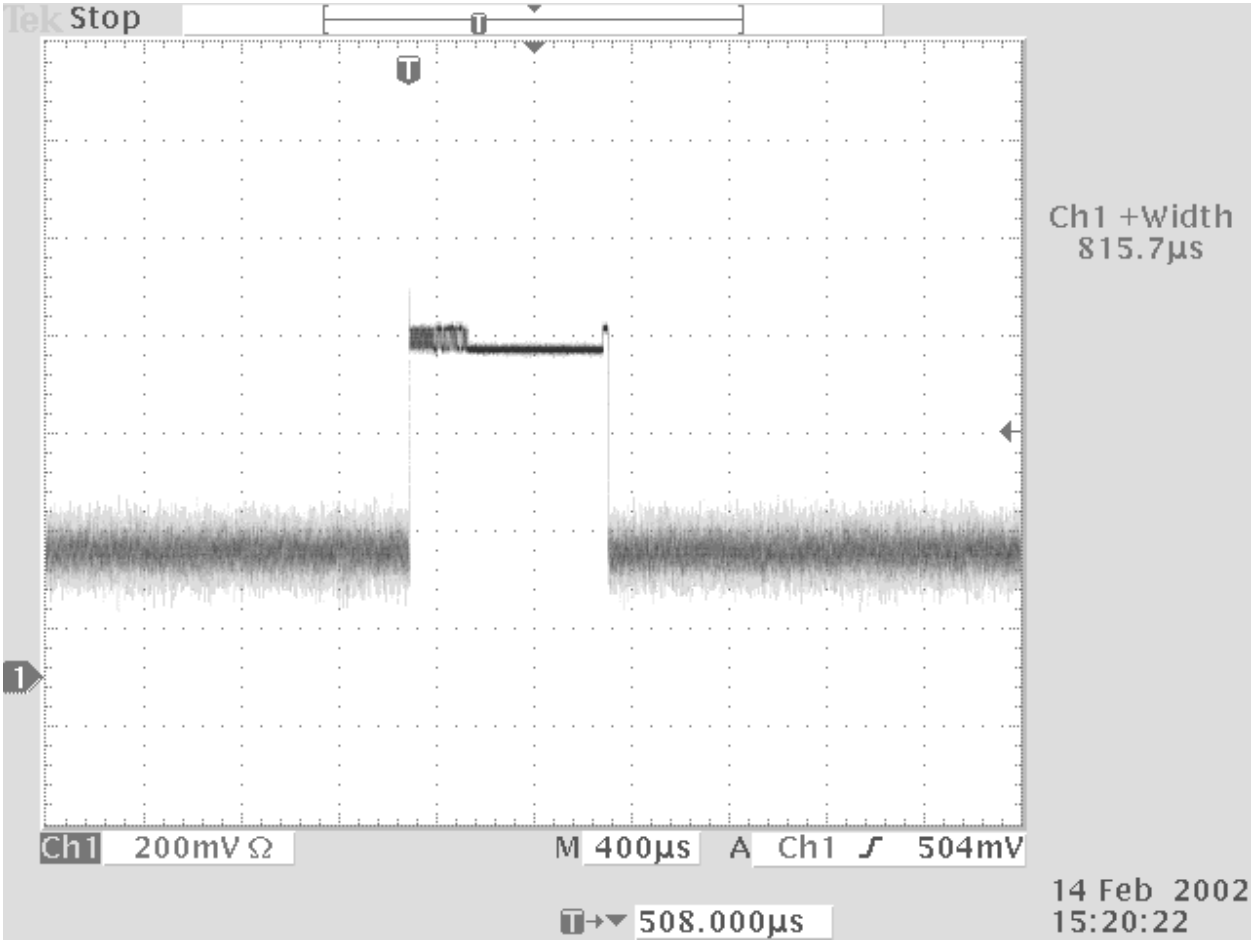
Duty Cycle Calculation:

(1) 20Log (TX "on" Time/100mS)
20Log (8.16mS / 100mS)
= -21.8dB
∴ -20dB

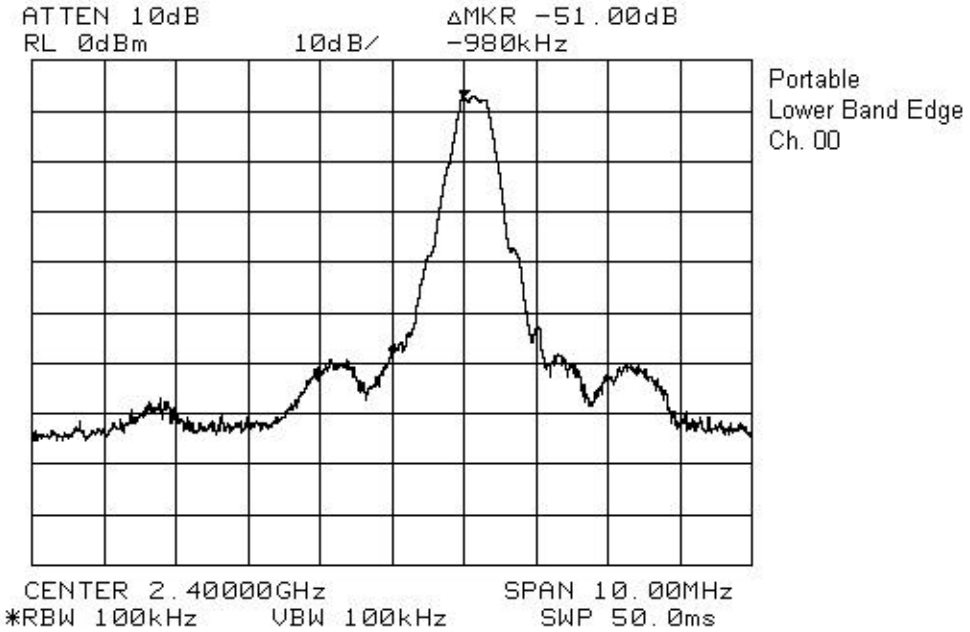

ATTEN 10dB
RL 0dBm
10dB/
S
Portable
Duty Cycle
TX "on Time" / 100mS
CENTER 2.442528000GHz
SPAN 0Hz
*RBW 1.0MHz
VBW 1.0MHz
*SWP 100ms


Stop
Ch1 +Width
809.5µs
Ch1 200mV Ω
M 200µs A Ch1 772mV
0.00000 s
26 Feb 2002
10:57:43

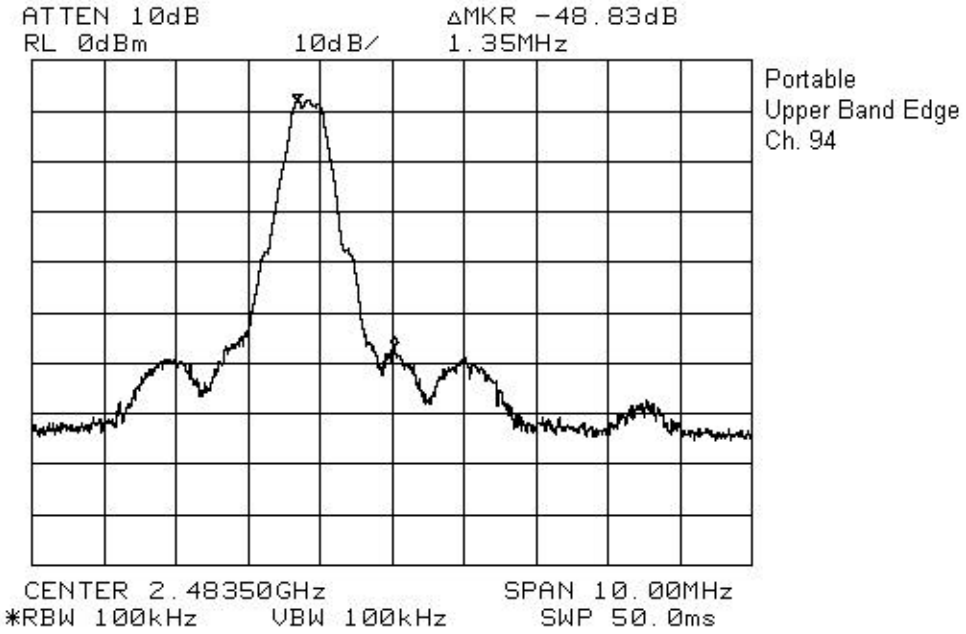

ATTEN 10dB
RL 0dBm
10dB/
S
Base
Duty Cycle
TX "on Time" / 100mS
CENTER 5.786208000GHz
SPAN 0Hz
*RBW 1.0MHz
VBW 1.0MHz
*SWP 100ms


Tek Stop
Ch1 +Width
815.7µs
Ch1 200mV Ω
M 400µs A Ch1 504mV
508.000µs
14 Feb 2002
15:20:22

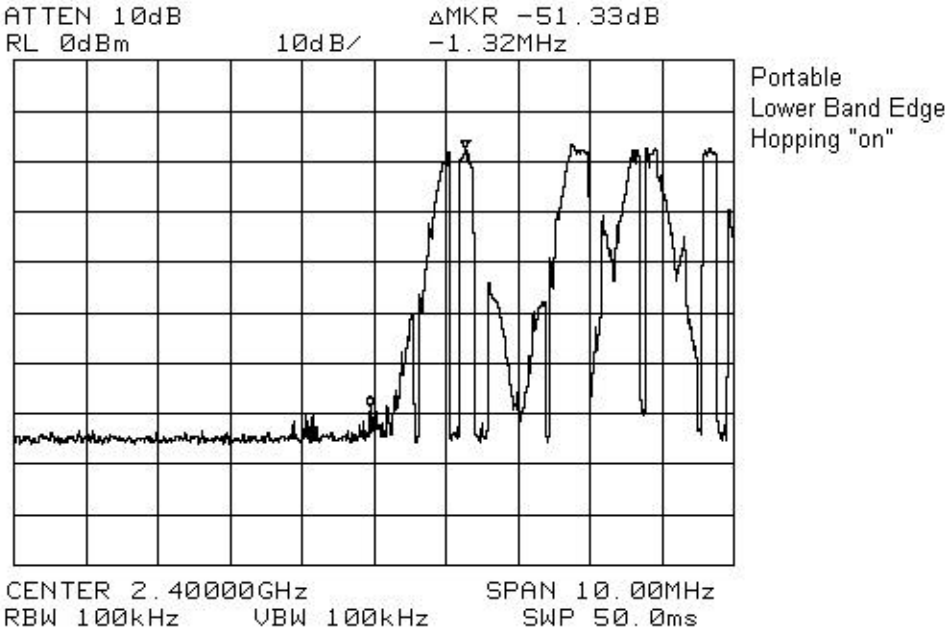
20dB Band Edge



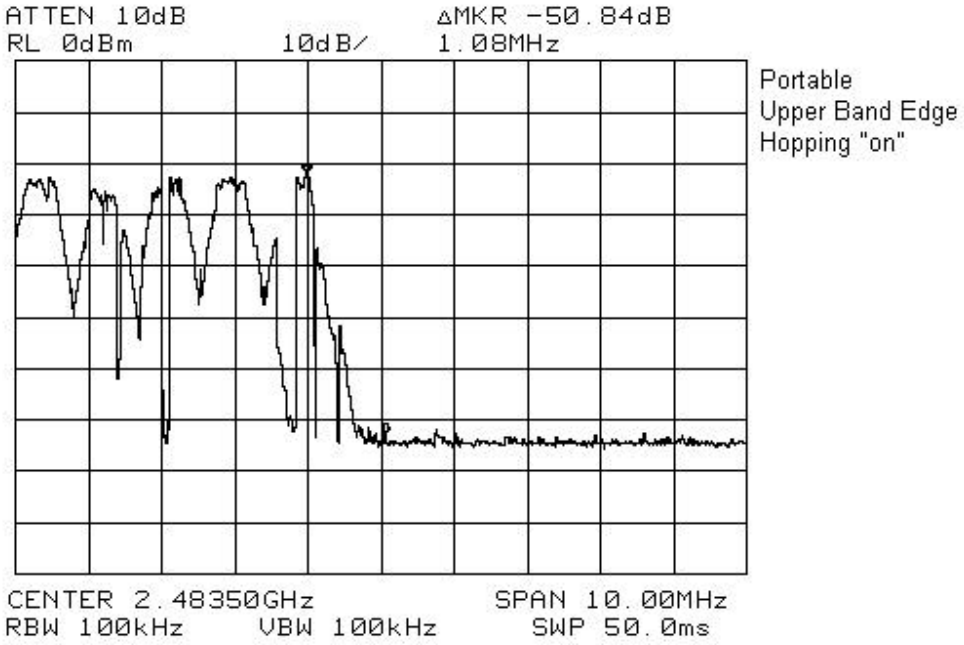
20dB Band Edge



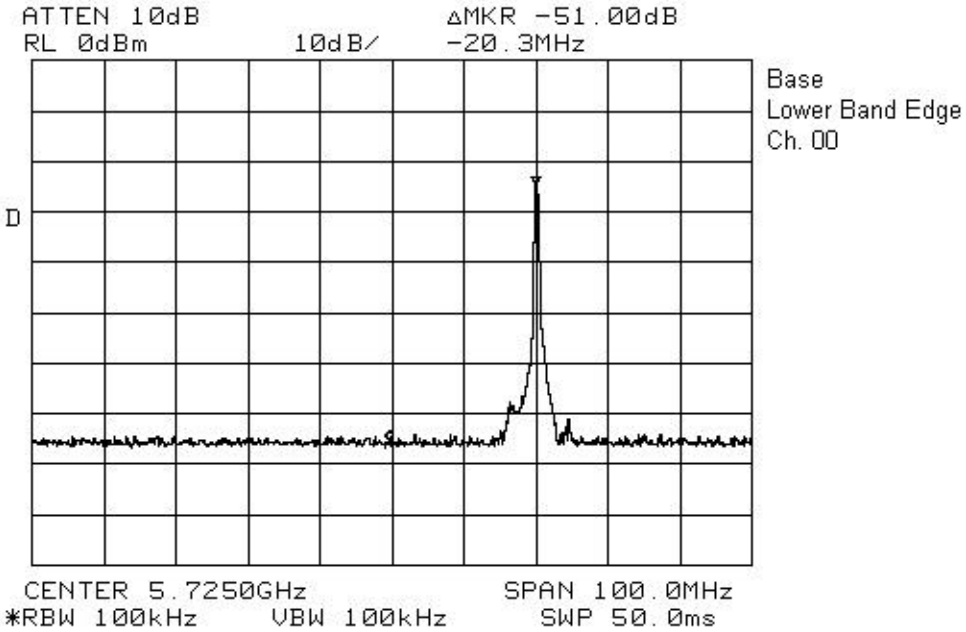
20dB Band Edge



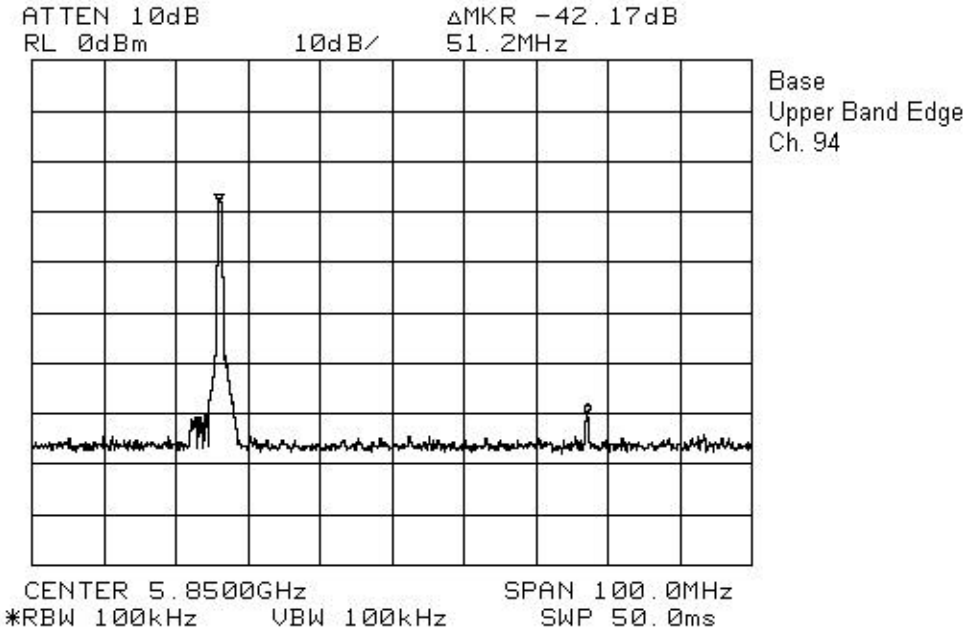
20dB Band Edge



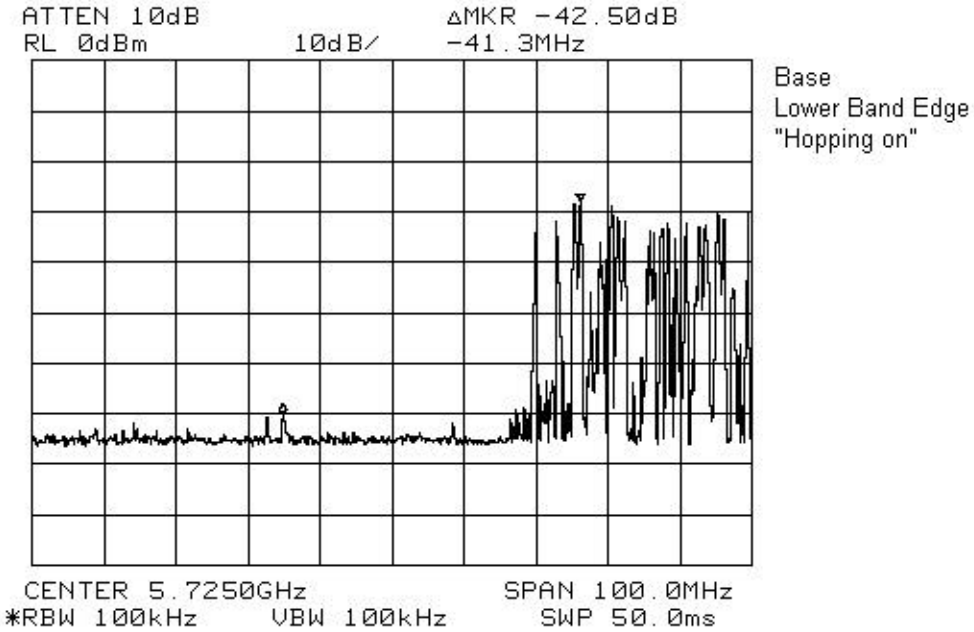
20dB Band Edge



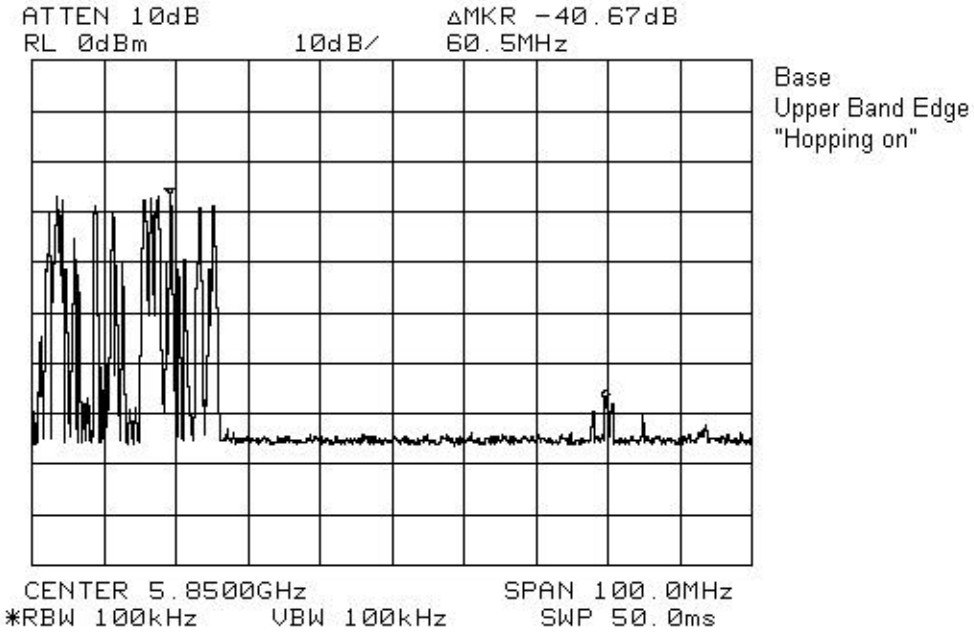
20dB Band Edge



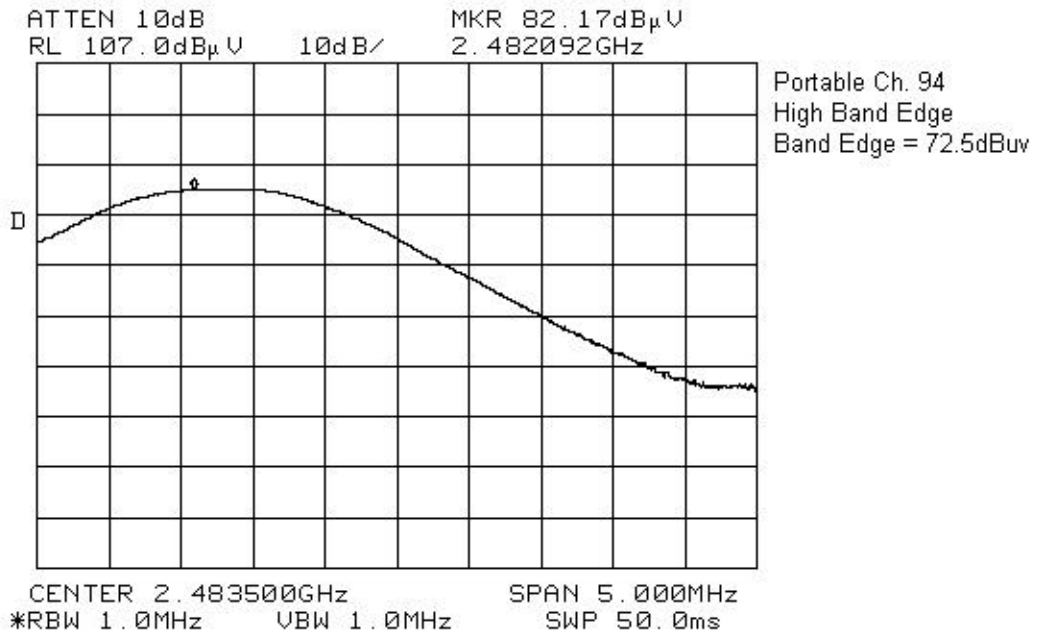
20dB Band Edge



20dB Band Edge

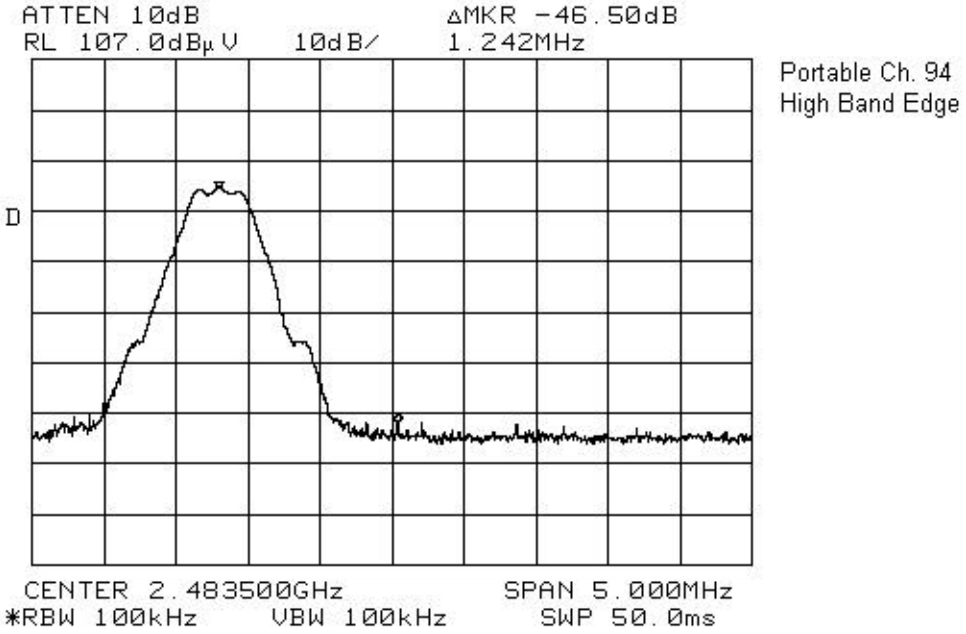


Band Edge (Restricted Band)
Marker Delta Method



Peak Level Band Edge = 72.5dBìV + 35dB = 107.5dBìV @ 3m
Band Edge Level (marker delta) = 107.5 – 46.5 = 61dBìV @ 3m
Average = 61.0- 20 = 41dBìV @ 3m

Band Edge (Restricted Band)
Marker Delta Method



Test Data - Radiated Emissions (Peak)

Test Distance (meters) : 3		Range: A		Receiver: 8565E		RBW(kHz): 1000		Detector: Peak	
Freq. (MHz)	**Ant. ***	**Pol. (V/H)**	**RCVD Signal (dBµV/m)**	**Ant. Factor (dB)****	**Amp. Gain (dB)*****	**Dist. Corr. (dB)**	**Field Strength (dBµV/m)**	**Limit (dBµV/m)**	**Margin (dB)**
Portable									
Ch.00									
4802.1	Hrn 2	V	72.2	42.0	-56.1		58.1	74	15.9
4802.1	Hrn 2	H	71.1	42.0	-56.1		57.0	74	17.0
7203.16	Hrn 2	V	70.5	47.8	-56.7		61.6	74	12.4
7203.16	Hrn 2	H	70.0	47.8	-56.7		61.1	74	12.9
Ch.48									
4885.05	Hrn 2	V	72.0	42.3	-55.5		58.8	74	15.2
4885.05	Hrn 2	H	70.8	42.3	-55.5		57.6	74	16.4
7327.58	Hrn 2	V	69.2	48.2	-56.2		61.2	74	12.8
7327.58	Hrn 2	H	68.8	48.2	-56.2		60.8	74	13.2
Ch.94									
4964.54	Hrn 2	V	72.8	42.8	-54.8		60.8	74	13.2
4964.54	Hrn 2	H	72.2	42.8	-54.8		60.2	74	13.8
7446.81	Hrn 2	V	69.5	48.6	-55.8		62.3	74	11.7
7446.81	Hrn 2	H	69.0	48.6	-55.8		61.8	74	12.2
Base									
Ch.00									
11 489.47	Hrn 2	V	68.2	42.9	-42		69.1	74	4.9
11 489.47	Hrn 2	H	63.5	42.9	-42		64.6	74	9.6
17 234.21	Hrn 2	V	64.2	47.0	-41		70.2	74	3.8
17 234.21	Hrn 2	H	64.7	47.0	-41		70.7	74	3.3
Ch.48									
11 572.42	Hrn	V	64.2	42.9	-42		65.1	74	8.9

	2								
11 572.42	Hrn 2	H	61.5	42.9	-42		62.4	74	11.6
17 358.62	Hrn 2	V	66.8	47.0	-41		72.8	74	1.2
17 358.62	Hrn 2	H	65.8	47.0	-41		71.8	74	2.2
Ch.94									
11 651.90	Hrn 2	V	62.3	42.9	-42		63.2	74	10.8
11 651.90	Hrn 2	H	57.9	42.9	-42		58.5	74	15.2
17 477.86	Hrn 2	V	66.3	47.0	-41		72.3	74	1.7
17 477.86	Hrn 2	H	66.0	47.0	-41		72.0	74	2.0

Notes:
* Re-measured using dipole antenna.
** Includes cable loss when amplifier is not used.
*** Includes cable loss.

All spurious & harmonic emissions were searched. Only those within 20dB of the limit were reported.

Test Data - Radiated Emissions (Average)

Test Distance (meters) : 3		Range: A		Receiver: 8565E		RBW(kHz): 1000		Detector: Peak	
Freq. (MHz)	Ant. *	Pol. (V/H)	RCVD Signal (dBµV/m)	Ant. Factor (dB)**	Amp. Gain (dB)***	Duty Cycle Corr. (dB)	Field Strength (dBµV/m)	Limit (dBµV/m)	Margin (dB)
Portable									
Ch.00									
4802.1	Hrn 2	V	72.2	42.0	-56.1	-20	38.1	54	15.9
4802.1	Hrn 2	H	71.1	42.0	-56.1	-20	37.0	54	17.0
7203.16	Hrn 2	V	70.5	47.8	-56.7	-20	41.6	54	12.4
7203.16	Hrn 2	H	70.0	47.8	-56.7	-20	41.1	54	12.9
Ch.48									
4885.05	Hrn 2	V	72.0	42.3	-55.5	-20	38.8	54	15.2
4885.05	Hrn 2	H	70.8	42.3	-55.5	-20	37.6	54	16.4
7327.58	Hrn 2	V	69.2	48.2	-56.2	-20	41.2	54	12.8
7327.58	Hrn 2	H	68.8	48.2	-56.2	-20	40.8	54	13.2
Ch.94									
4964.54	Hrn 2	V	72.8	42.8	-54.8	-20	40.8	54	13.2
4964.54	Hrn 2	H	72.2	42.8	-54.8	-20	40.2	54	13.8
7446.81	Hrn 2	V	69.5	48.6	-55.8	-20	42.3	54	11.7
7446.81	Hrn 2	H	69.0	48.6	-55.8	-20	41.8	54	12.2
Base									
Ch.00									
11 489.47	Hrn 2	V	68.2	42.9	-42	-20	49.1	54	4.9
11 489.47	Hrn 2	H	63.5	42.9	-42	-20	44.6	54	9.6
17 234.21	Hrn 2	V	64.2	47.0	-41	-20	50.2	54	3.8
17 234.21	Hrn 2	H	64.7	47.0	-41	-20	50.7	54	3.3
Ch.48									

11 572.42	Hrn 2	V	64.2	42.9	-42	-20	45.1	54	8.9
11 572.42	Hrn 2	H	61.5	42.9	-42	-20	42.4	54	11.6
17 358.62	Hrn 2	V	66.8	47.0	-41	-20	52.8	54	1.2
17 358.62	Hrn 2	H	65.8	47.0	-41	-20	51.8	54	2.2
Ch.94									
11 651.90	Hrn 2	V	62.3	42.9	-42	-20	43.2	54	10.8
11 651.90	Hrn 2	H	57.9	42.9	-42	-20	38.5	54	15.2
17 477.86	Hrn 2	V	66.3	47.0	-41	-20	52.3	54	1.7
17 477.86	Hrn 2	H	66.0	47.0	-41	-20	52.0	54	2.0

Notes:

* Re-measured using dipole antenna.

** Includes cable loss when amplifier is not used.

*** Includes cable loss.

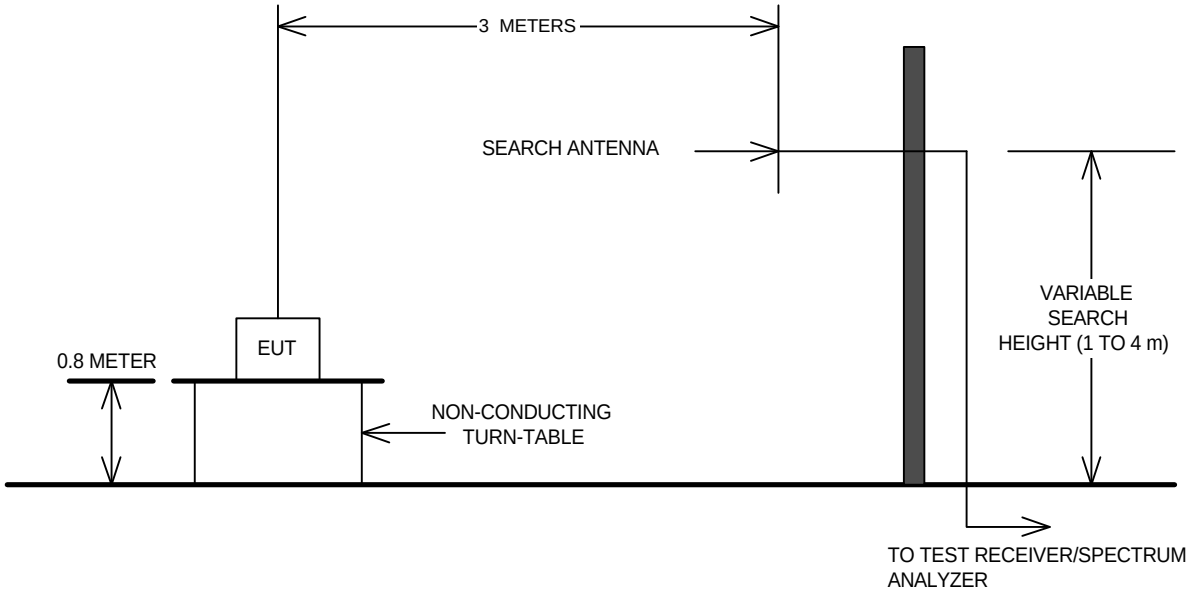
All spurious & harmonic emissions were searched. Only those within 20dB of the limit were reported.

Portable

Base

Section 10. Block Diagrams

Test Site For Radiated Emissions



Section 11. Test Equipment List

RADIO TEST EQUIPMENT LIST

CAL CYCLE	EQUIPMENT	MANUFACTURER	MODEL	SERIAL	LAST CAL.	NEXT CAL.
1 Year	Spectrum Analyzer	Hewlett Packard	8565E	FA000981	June 08/01	June 08/02
1 Year	Spectrum Analyzer-**1**	Hewlett Packard	8566B	2311A02238	27 Nov 01	27 Nov 02
1 Year	Spectrum Analyzer Display-**1**	Hewlett Packard	8566B	2314A04759	27 Nov 01	27 Nov 02
1 Year	Quasi-peak adapter-**1**	Hewlett-Packard	85650A	2043A00302	27 Nov 01	27 Nov 02
	Plotter	Hewlett Packard	7470A	2308A30807	NCR	NCR
1 Year	LISN	EMCO	4825/2	0002-1/47	09 Oct 01	09 Oct 02
1 Year	Receiver	Rohde & Schwarz	ESVP	892661/014	Apr. 3/01	Apr. 3/02
1 Year	Horn Antenna	EMCO #2	3115	4336	Dec. 1/01	Dec. 1/02
3 Year	Horn Antenna	Electro-Metrics	SH50/60-1	FA000479	07 Jul 00	07 Jul 03
3 year	Horn Antenna	Electro-Metrics	SH50/60-2	FA000485	07 Jul 03	07 Jul 03
1 Year	Log Periodic Antenna 1	EMCO	LPA-25	1141	Aug. 28/01	Aug. 28/02
1 Year	Biconical (1) Antenna	EMCO	3109	9204-2708	Aug. 22/01	Aug. 22/02
3 Year	Signal Generator	Hewlett Packard	8673B	2332A00378	Jan. 27/01	Jan. 27/04
1 Year	RF AMP	JCA	4-8 GHz	FA001497	May 31/01	May 31/02
	RF AMP	Narda	5 - 18GHz	FA001409	COU	COU
	RF AMP	Narda	18 - 26.5GHz	FA001550	COU	COU
	RF AMP	Narda	26.5 - 40GHz	FA001556	COU	COU
	High Pass Filter	K&L	11SH10-4000	FA001340	COU	COU
	Band Pass Filter	Dorado	WR-62	1651	COU	COU
	Band Pass Filter	Dorado	WR-90	1650	COU	COU