

Field Strength of Spurious Radiation (§2.1053)

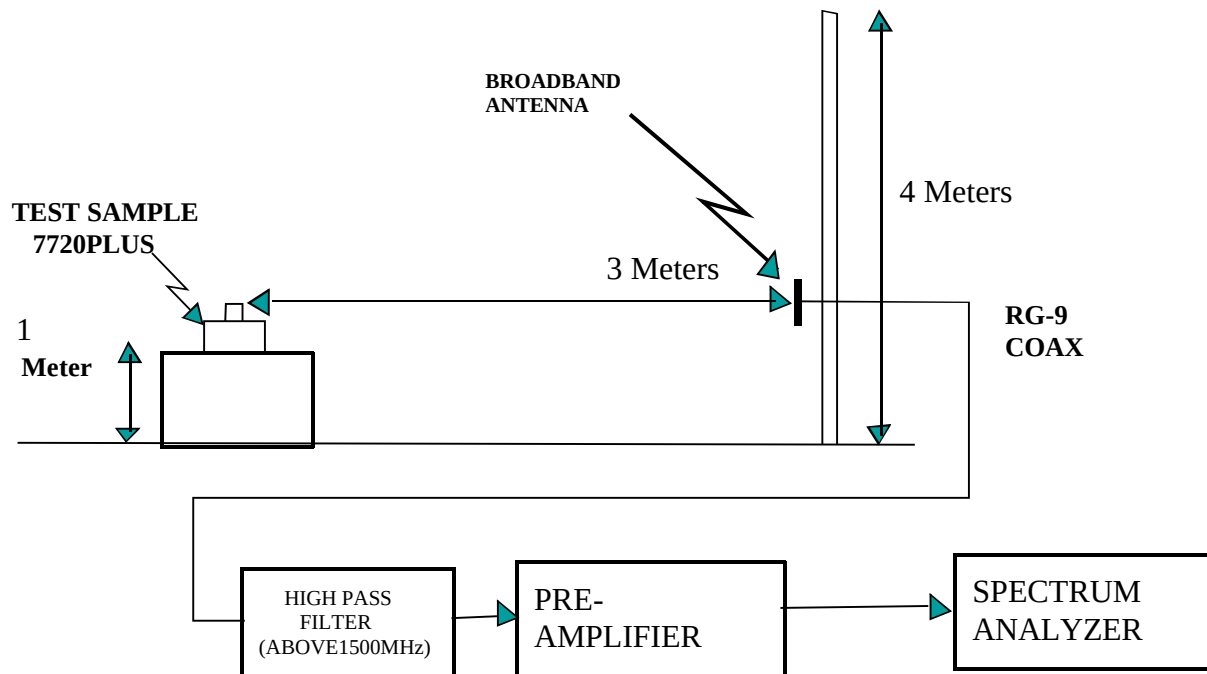
Measurement Procedure:

The RF output of the test sample was terminated utilizing a shielded 50 ohm load. The test sample was put into diagnostic mode by grounding pin #16 of the microprocessor (U4) at power on. Zones 1 and 4 were pulled high. This causes the 7720PLUS to transmit for 20ms every 500ms. This increases the speed and accuracy of the measurement. The test sample was then placed on a one meter high plastic test stand, which was located three meters from the test antenna on an FCC listed test site. The frequency range was scanned from the lowest frequency generated by the test sample up to tenth harmonic of the transmitter fundamental. In order to maximize the level of each emission observed, the test sample was rotated 360 degrees, the calibrated broadband antenna was both horizontally and vertically polarized, and then was raised and lowered from one to four meters from the ground plane. This procedure was done for three orientations (x,y,z) of the 7720PLUS test sample. The limit for the spurious emissions was calculated utilizing the measured output power and the following equation:

$$\text{Field Strength of Spurious Radiation Limit at 3 meters} = 84.4 \text{ dB}\mu\text{V/m}$$

(See APPENDIX A for Limit derivation)

The test setup was as shown below:



Test Results:

The results for the above test are shown on the following pages.



TABULAR DATA SHEET

TEST METHOD: **FIELD STRENGTH OF SPURIOUS RADIATION (§2.1053)**

TEST SAMPLE: **INTEGRATED RADIO TRANSMITTER**

MODEL No: **7720PLUS** SERIAL No: **NA**

TEST SPECS: **FCC RULES & REGULATIONS, §101.111(a)(6)**

OPERATING MODE: **TRANSMITTING**

TESTED BY: **G. BARBATO** DATE: **NOVEMBER 11, 1999**

FREQUENCY	RECEIVE ANTENNA POLARIZATION	EUT POLARIZATION	SPECTRUM ANALYZER READING	RECEIVE ANTENNA FACTOR	POST RECEIVE ANTENNA GAIN	FEILD STRENGTH @ 3 METERS		LIMIT @ 3 METERS
GHz	H/V	X.Y.Z	dBuv	dB/m	dB	dBuv/m		dBuv/m
1.856475	V	X	43.58	28.58	26.00	46.16		84.4
		Y	44.67	↓	↓	47.25		↓
		Z	42.00	↓	↓	44.58		↓
	H	X	46.00	↓	↓	48.58		↓
		Y	45.92	↓	↓	48.50		↓
		Z	40.75	↓	↓	43.33		↓
2.7847125	V	X	40.83	30.35	27.16	44.02		
		Y	41.00	↓	↓	44.19		↓
		Z	40.92	↓	↓	44.11		↓
	H	X	43.92	↓	↓	47.11		↓
		Y	42.17	↓	↓	45.36		↓
		Z	40.92	↓	↓	44.11		↓
3.712950	V	X	51.08	32.78	23.11	60.75		
		Y	53.57	↓	↓	63.24		↓
		Z	41.00	↓	↓	50.67		↓
	H	X	50.93	↓	↓	60.60		↓
		Y	49.25	↓	↓	58.92		↓
		Z	39.85	↓	↓	49.52		84.4

THE FREQUENCY SPECTRUM WAS SCANNED FROM 30MHz TO 10GHz.

ALL EMISSIONS NOT RECORDED WERE MORE THAN 20dB BELOW THE SPECIFIED LIMIT.

SPURIOUS RADIATED EMISSIONS FROM THE TEST SAMPLE DO NOT EXCEED THE SPECIFIED LIMIT.



ALARM DEVICE MANUFACTURING COMPANY
160 Eileen Way
Syosset, NY 11791

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FREQUENCY	RECEIVE ANTENNA POLARIZATION	EUT POLARIZATION	SPECTRUM ANALYZER READING	RECEIVE ANTENNA FACTOR	POST RECEIVE ANTENNA GAIN	FEILD STRENGTH @ 3 METERS		LIMIT @ 3 METERS
GHz	H/V	X.Y.Z	dBuv	dB/m	dB	dBuv/m		dBuv/m
4.6411875	V	X	55.17	33.24	23.50	64.91		84.4
		Y	57.00	↓	↓	66.74		
		Z	49.25	↓	↓	58.99		
	H	X	55.50	↓	↓	65.24		
		Y	51.92	↓	↓	61.66		
		Z	49.00	↓	↓	58.74		
5.5694250	V	X	54.50	35.14	23.33	66.31		
		Y	52.75	↓	↓	64.56		
		Z	56.82	↓	↓	68.63		
	H	X	54.33	↓	↓	66.14		
		Y	53.50	↓	↓	65.31		
		Z	50.67	↓	↓	62.48		
6.4976625	V	X	53.00	36.35	22.67	66.68		
		Y	51.13	↓	↓	64.81		
		Z	50.00	↓	↓	63.68		
	H	X	54.03	↓	↓	67.71		
		Y	51.00	↓	↓	64.68		↓
		Z	49.66	↓	↓	63.34		84.4

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MODEL No:	7720PLUS	SERIAL No:	NA
TEST SPECS:	FCC RULES & REGULATIONS, §101.111(a)(6)		
OPERATING MODE:	TRANSMITTING		
TESTED BY:	G. BARBATO	DATE:	NOVEMBER 11, 1999

FREQUENCY	RECEIVE ANTENNA POLARIZATION	EUT POLARIZATION	SPECTRUM ANALYZER READING	RECEIVE ANTENNA FACTOR	POST RECEIVE ANTENNA GAIN	FEILD STRENGTH @ 3 METERS	LIMIT @ 3 METERS
GHz	H/V	X.Y.Z	dBuv	dB/m	dB	dBuv/m	dBuv/m
7.42590	V	X	41.20	37.08	22.50	55.78	84.4
		Y	42.42			57.00	
		Z	38.33			52.91	
	H	X	45.33			59.91	
		Y	41.00			55.58	
		Z	38.97	✓	✓	53.55	
8.3541375	V	X	42.75	37.45	22.33	57.87	
		Y	41.00			57.87	
		Z	46.58			61.70	
	H	X	41.97			57.09	
		Y	40.00			55.12	
		Z	45.55	✓	✓	60.67	
9.282375	V	X	44.50	37.92	21.33	61.09	
		Y	41.58			58.17	
		Z	48.00			64.59	
	H	X	52.00			68.59	
		Y	42.67			59.26	✓
		Z	46.00	✓	✓	62.59	84.4

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