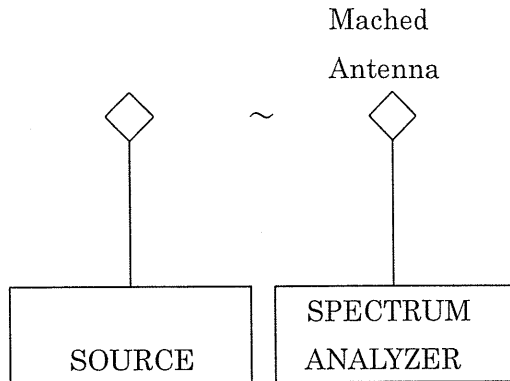


CALIBRATION OF TESTS 6~11 (1~50 GHz)

Instead of using a signal source of known amplitude to calibrate the receiving system, the path and antenna characteristics were computed.



The power density at distance R is : $P = \frac{1.64 P_t}{4 \pi R^2}$

Where P_t is power transmitted.
 The power to the analyzer is : $P_{sa} = P_{Ar} = \frac{PG \lambda^2}{4 \pi}$

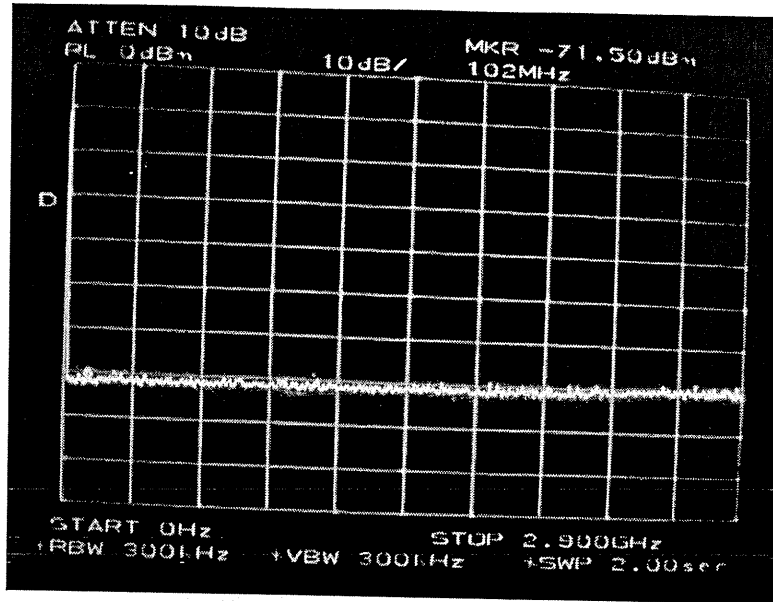
Where G is the receiving antenna gain and A_r is the effective area of the receiving antenna

$$\text{Hence } P_{sa} = \frac{1.64 P_t}{4 \pi R^2} \times \frac{PG \lambda^2}{4 \pi} = \frac{1.6 G \lambda^2}{16 \pi^2} \times P_t \text{ at 1 meter}$$

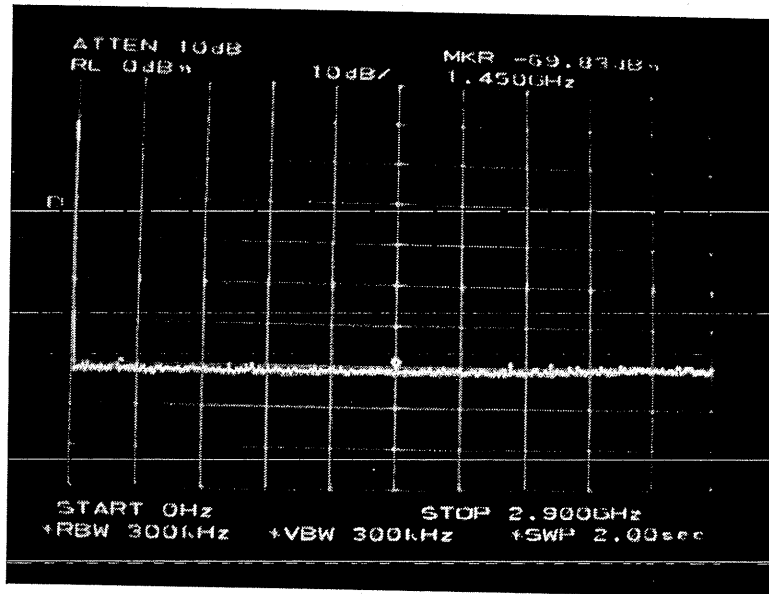
$$\text{and } P_t = \frac{16 \pi^2 P_{sa}}{1.64 G \lambda^2} = \frac{96.3 P_{sa}}{G \lambda^2}$$

$$= P_{sa} \text{ (dBm)} + 19.8 \text{ (dB)} - G \text{ (dB)} - 20 \log \lambda \text{ (dB)}$$

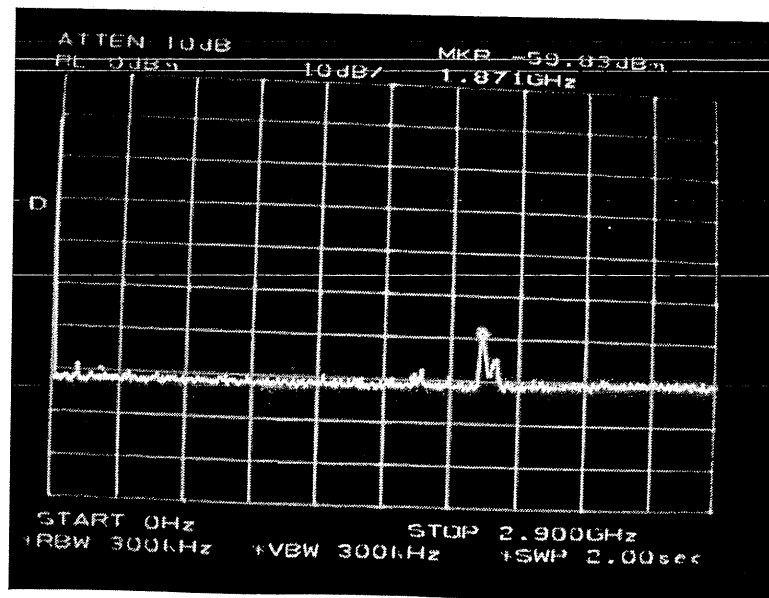
TEST	HORN GAIN		WAVELENGTH		Pt - Psa		LOG REF LEVEL	
	(AVG)	dB	(dB)		LO	HI		
	LO	HI	LO	HI				
6		6	-10.5	-21.6	24.3	35.4	0 dBm	0 – 2.9 G
7		6	-21.3	-28.0	35.1	41.8	0 dBm	2.9 – 6.4 G
8		6	-27.6	-34.1	41.4	47.9	0 dBm	6.4 – 12.5 G
9		6	-31.2	-35.6	45.0	49.4	0 dBm	12.5 – 20 G
10	23.3	24.9	-35.6	-38.8	32.1	33.7	0 dBm	12.5 – 28 G
11	23.6	25.1	-39.4	-42.5	35.6	37.2	0 dBm	28 – 50 G



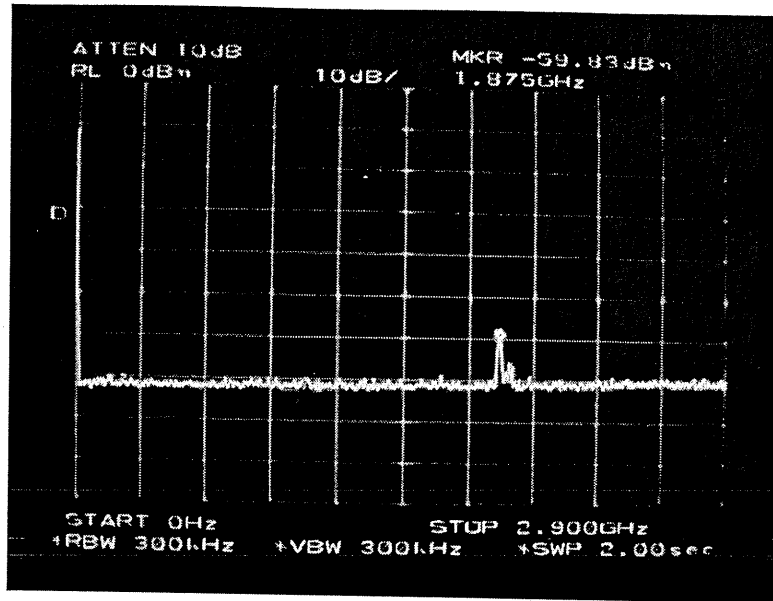
Ambient



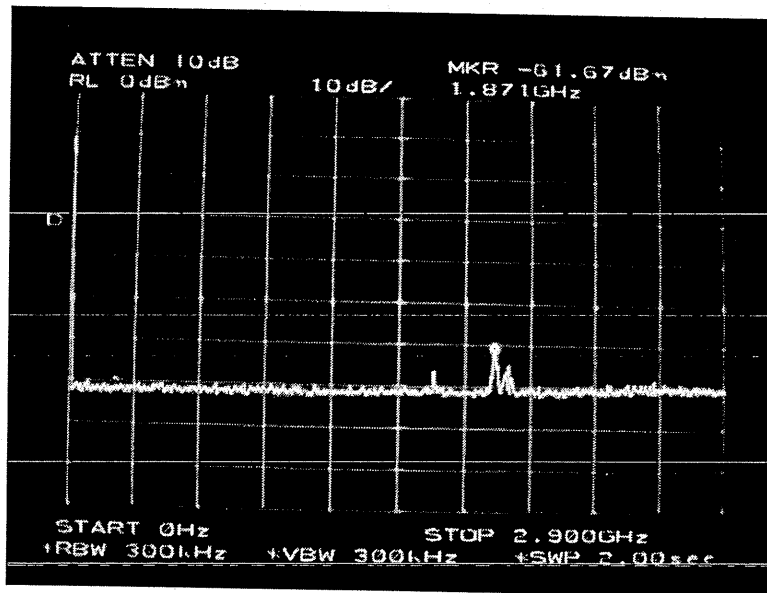
Stand-By



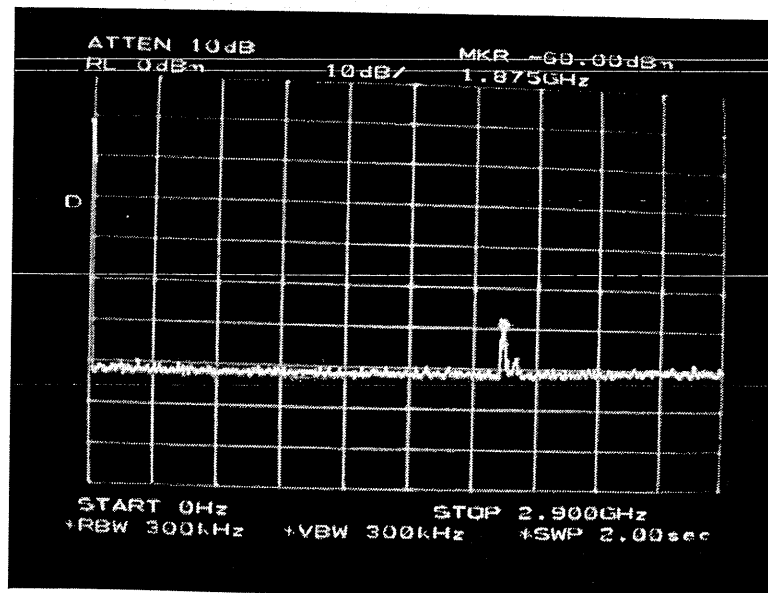
0.07 μ S Pulse



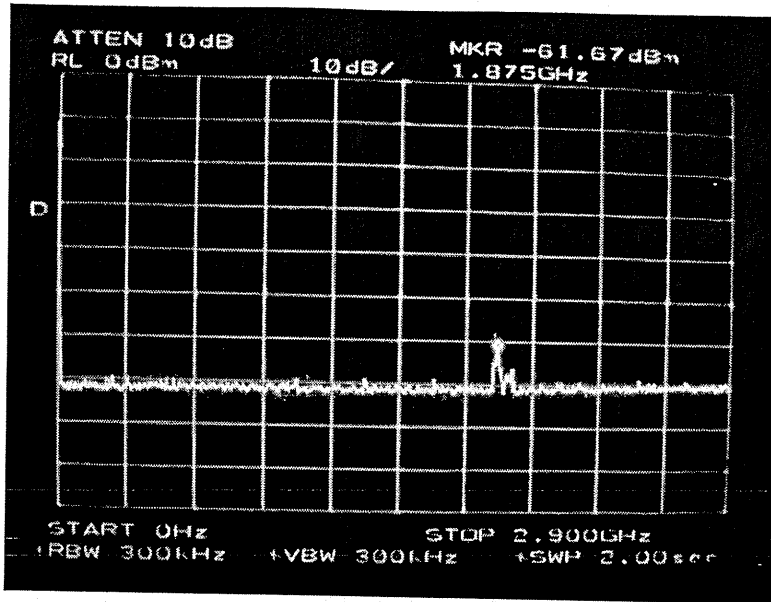
0.2 μ S Pulse



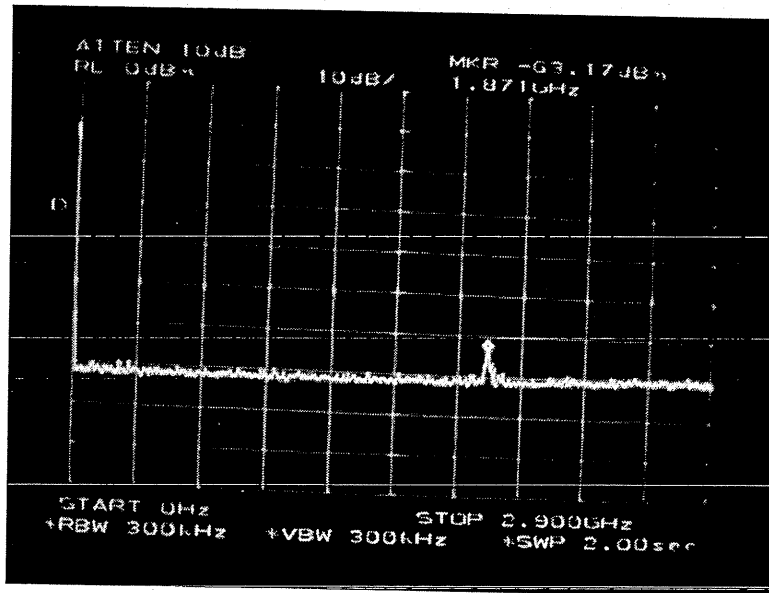
0.4 μ S Pulse



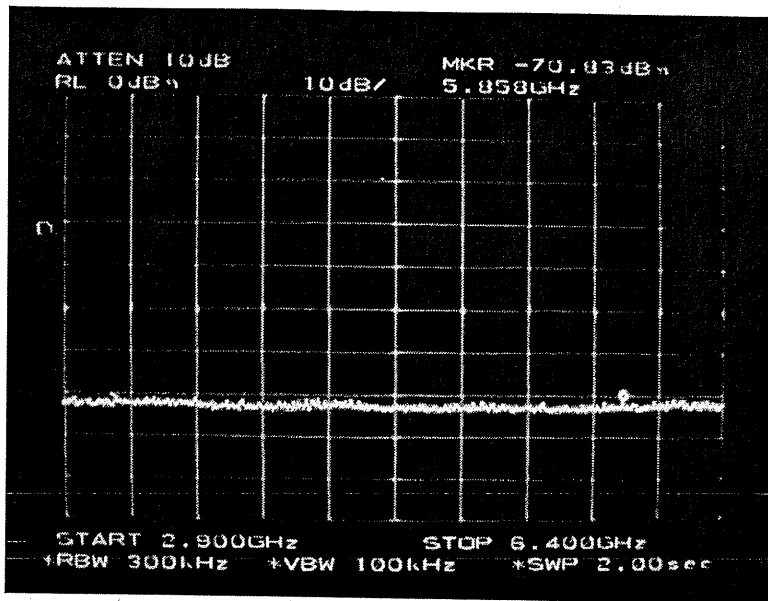
0.8 μ S Pulse



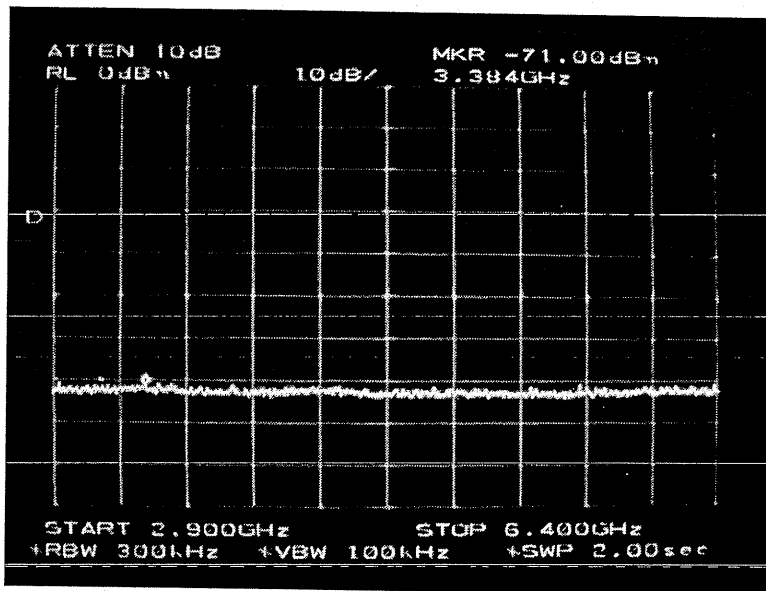
1.0 μ S Pulse



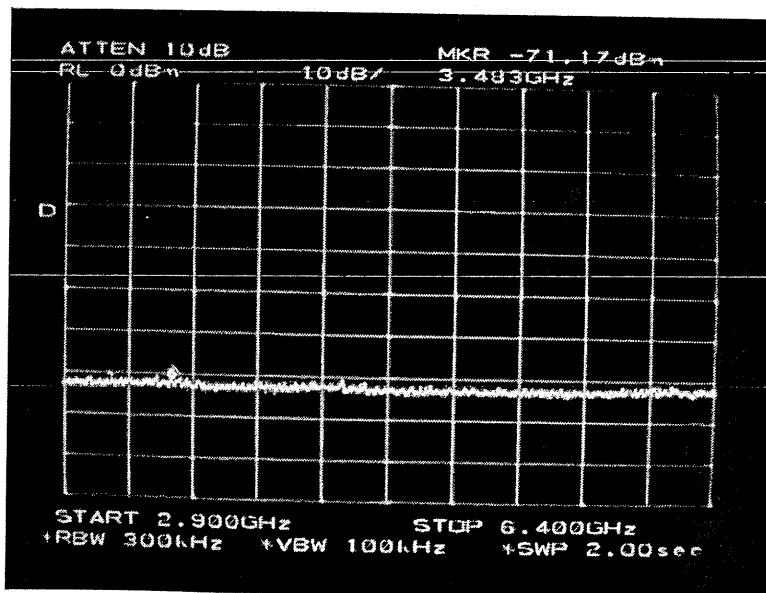
1.2 μ S Pulse



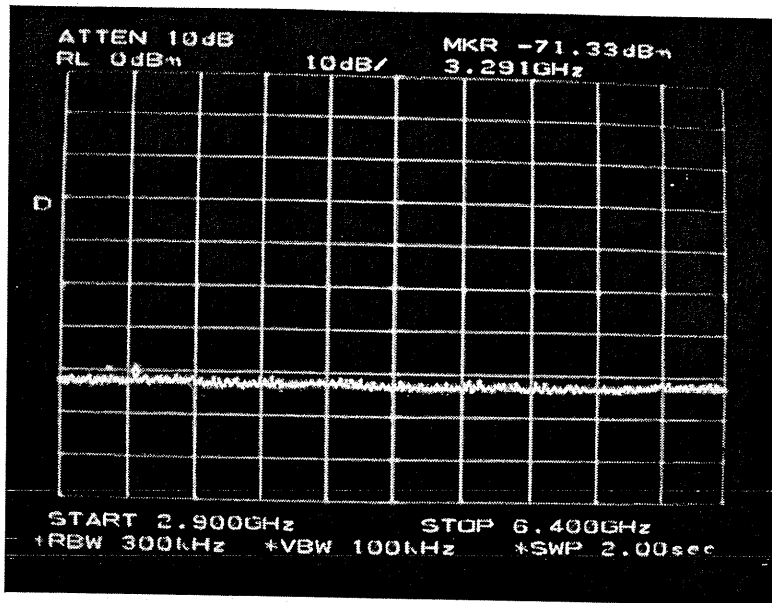
Ambient



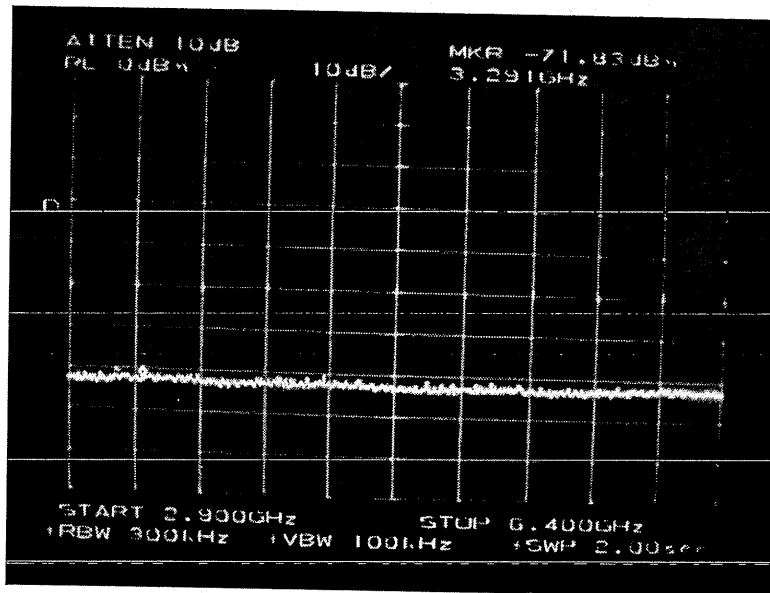
Stand-By



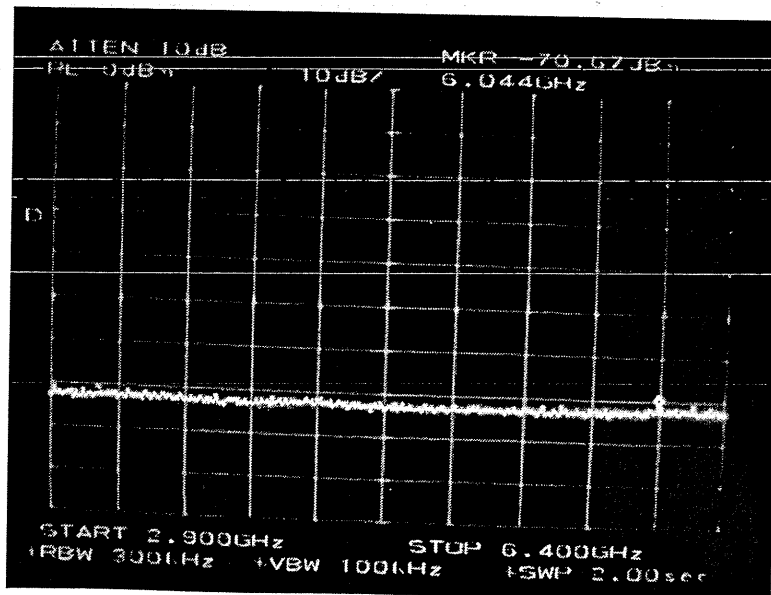
0.07 μ S Pulse



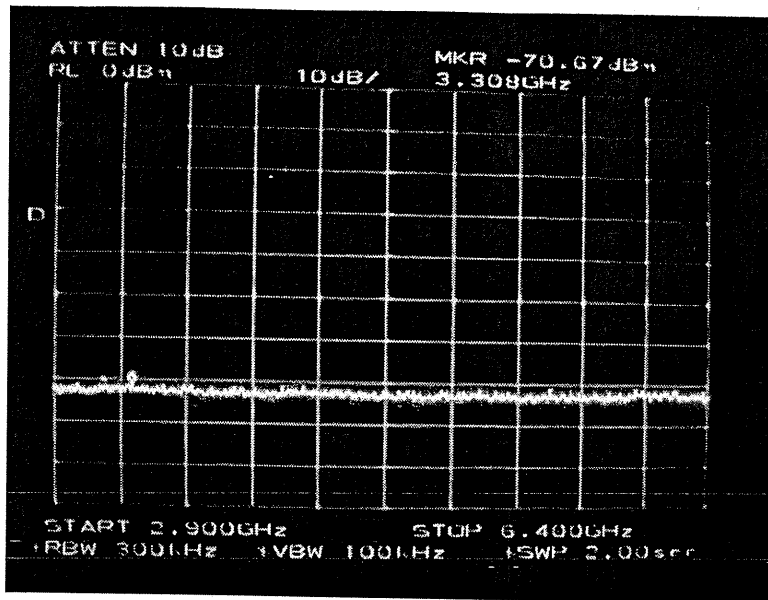
0.2 μS Pulse



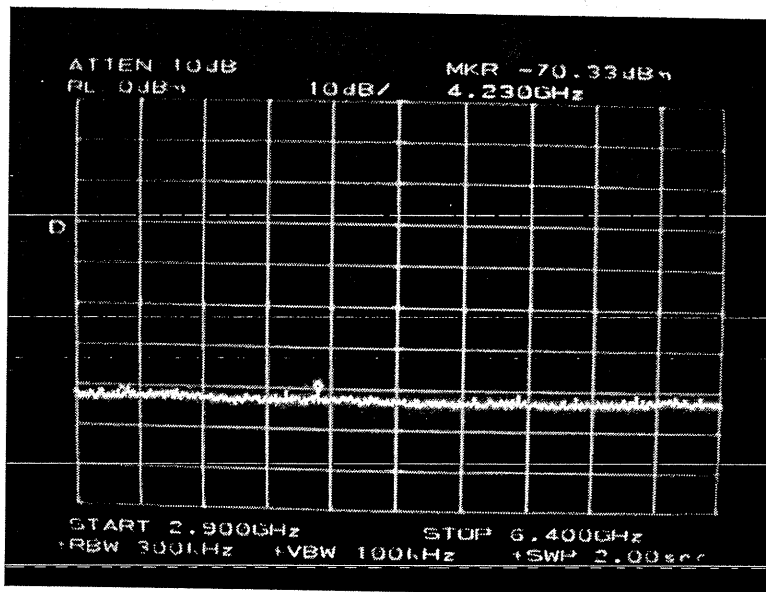
0.4 μS Pulse



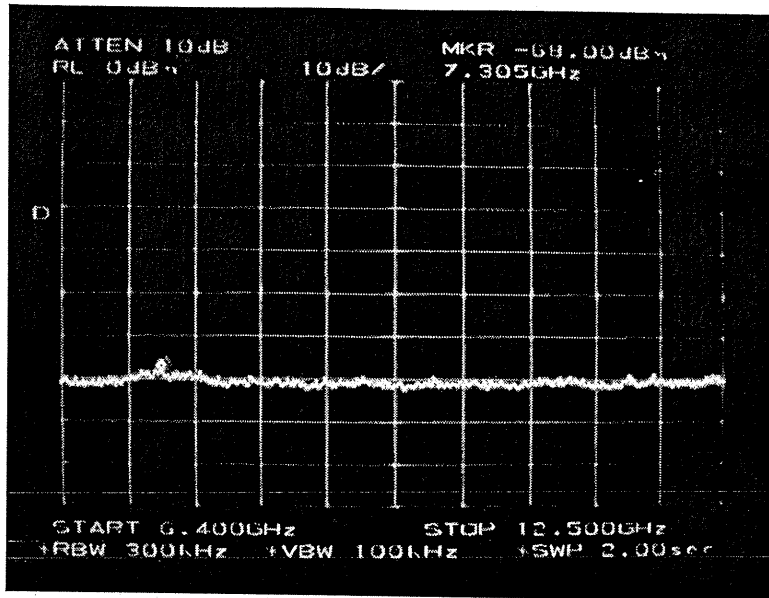
0.8 μS Pulse



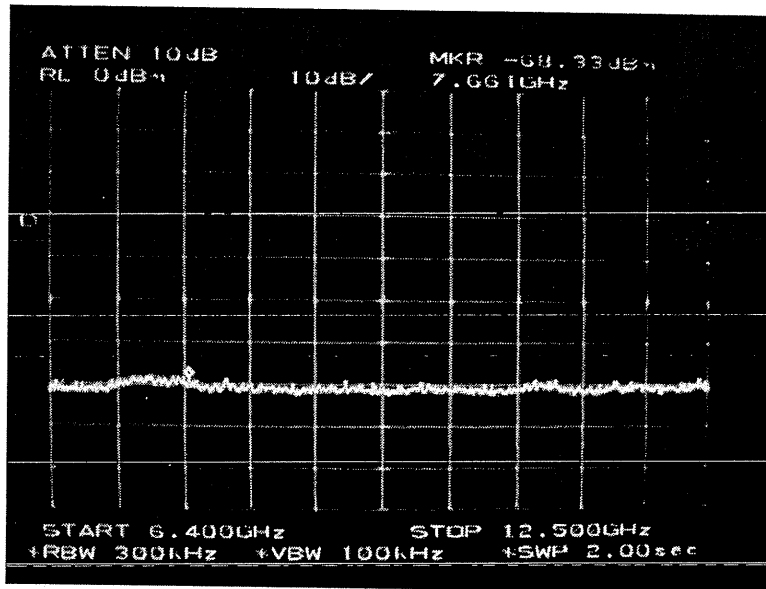
1.0 μ S Pulse



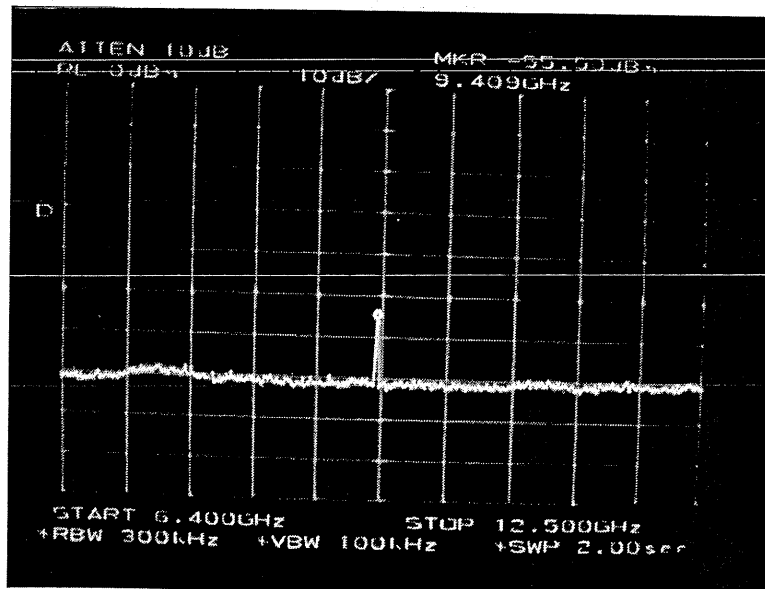
1.2 μ S Pulse



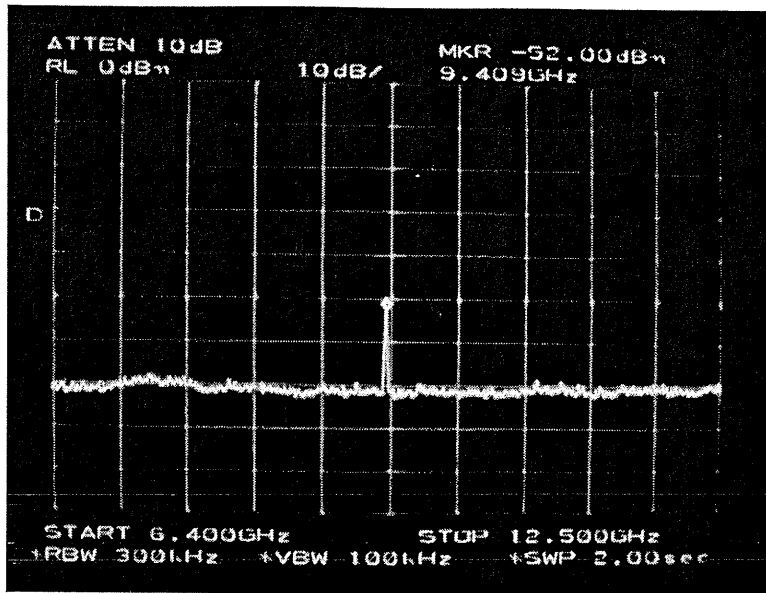
Ambient



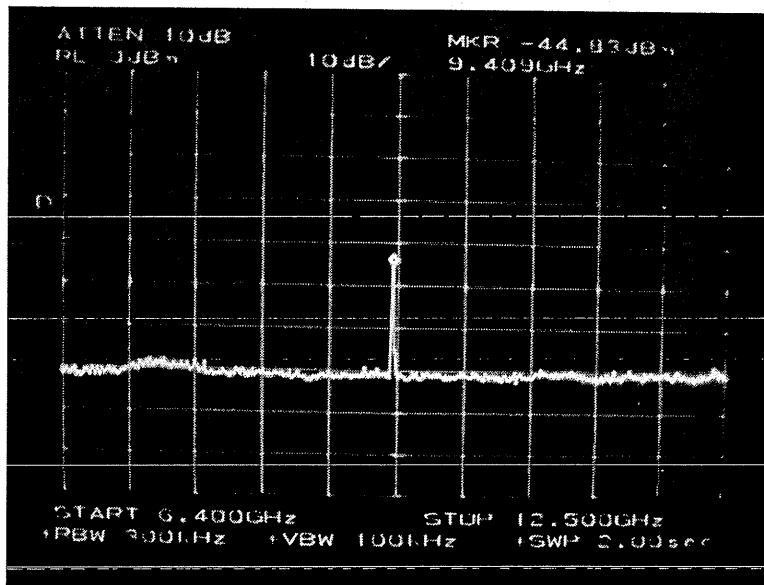
Stand-By



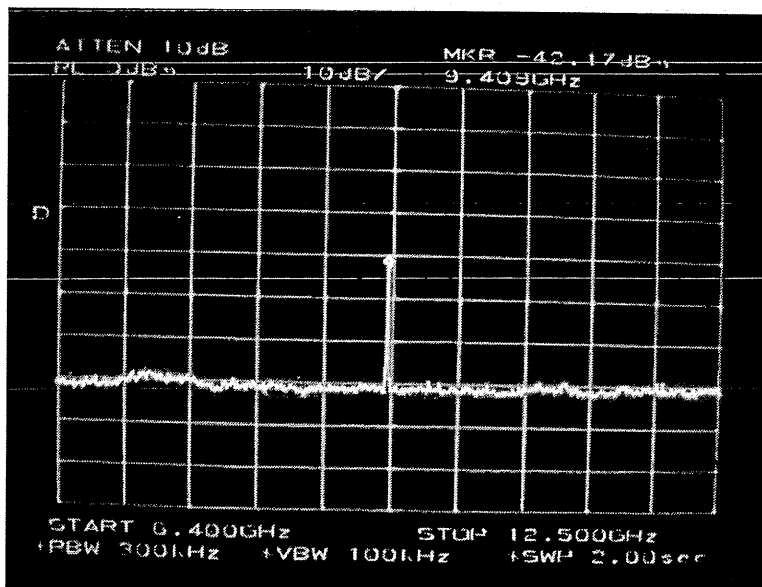
0.07 μ S Pulse



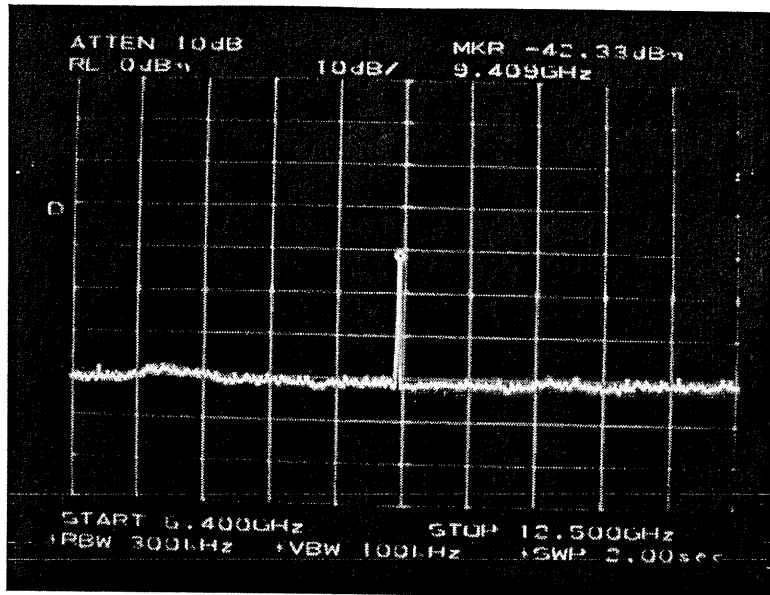
0.2 μ S Pulse



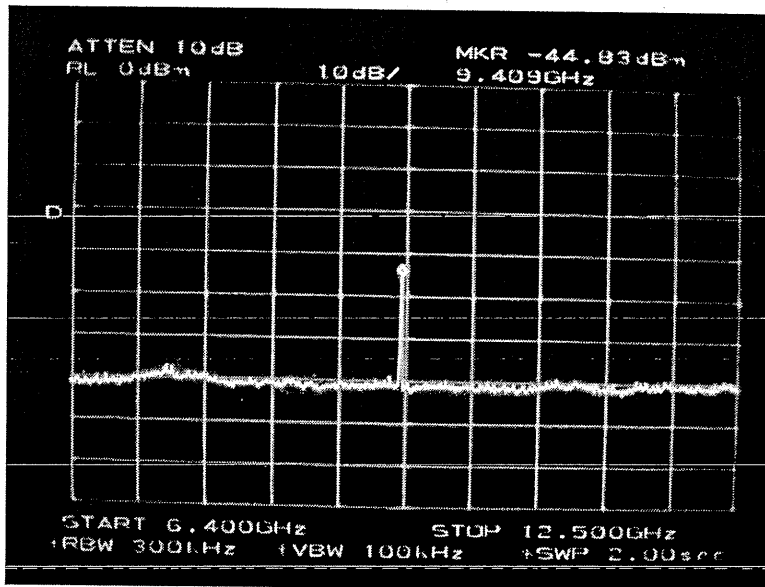
0.4 μ S Pulse



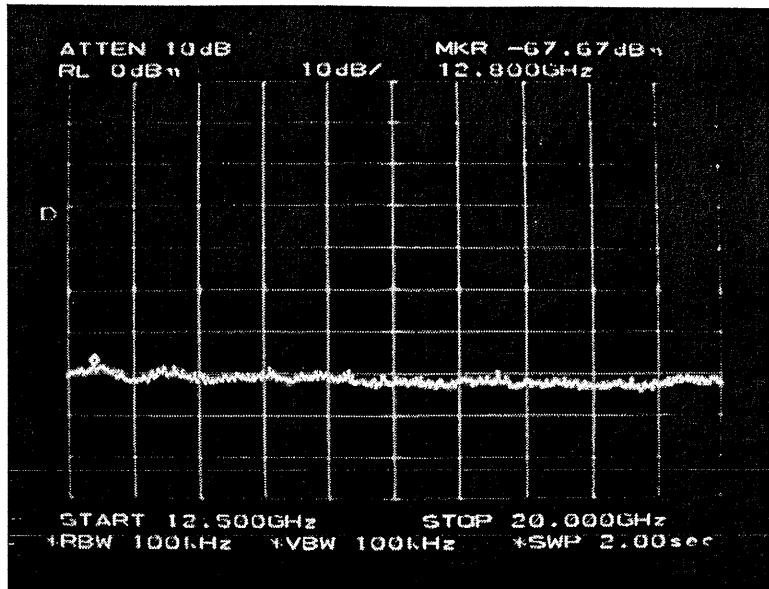
0.8 μ S Pulse



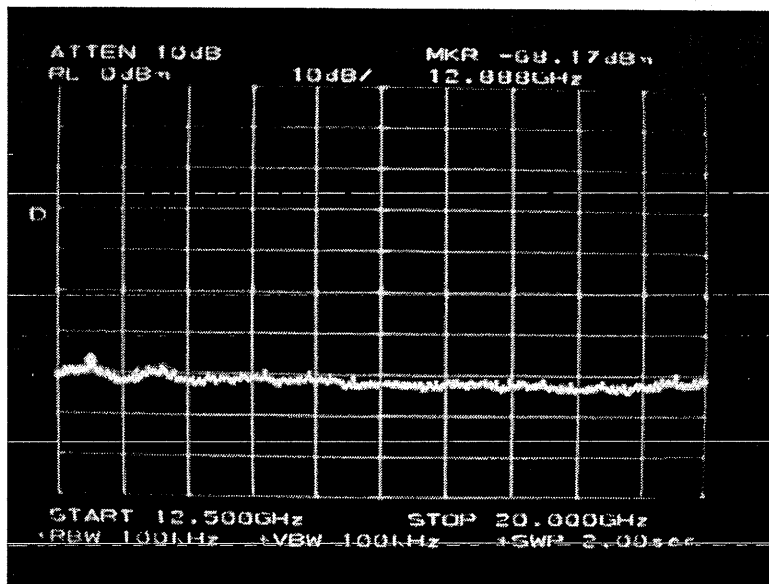
1.0 μ S Pulse



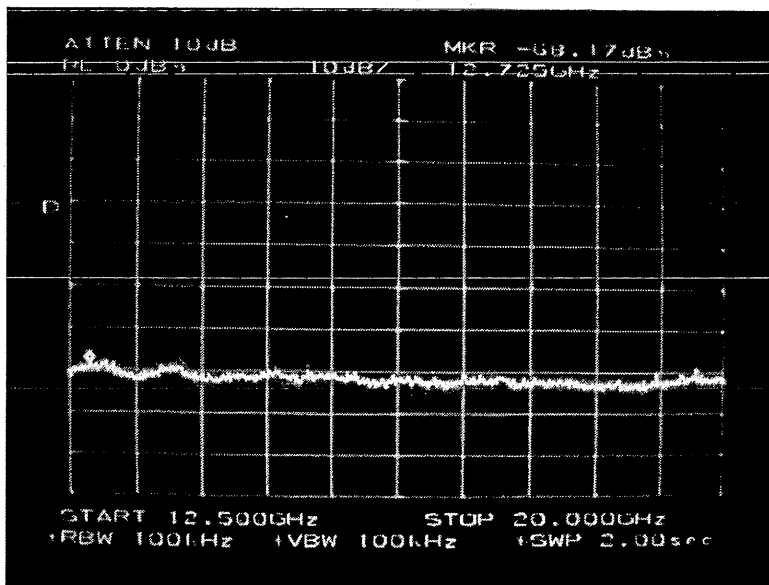
1.2 μ S Pulse



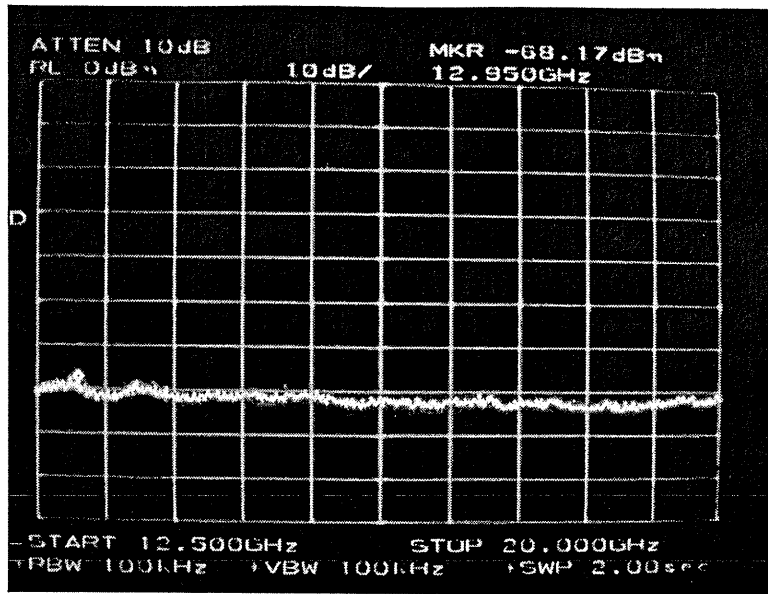
Ambient



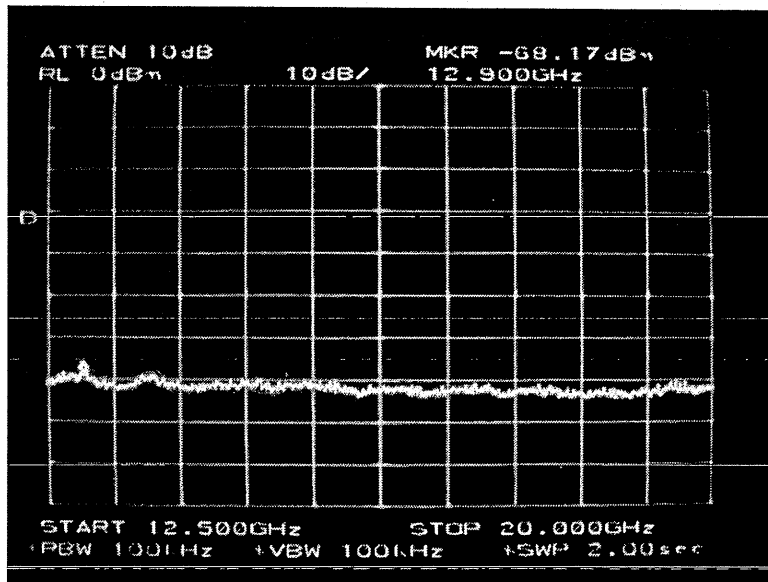
Stand-By



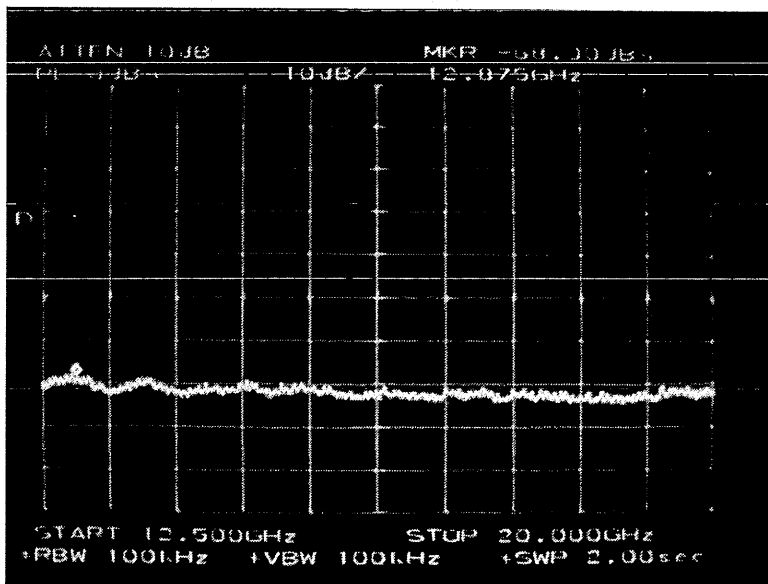
0.07 μ S Pulse



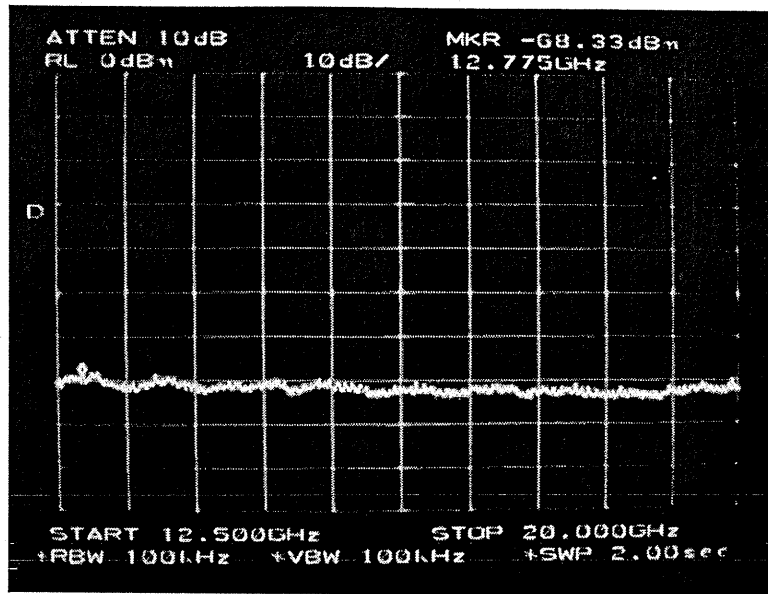
0.2 μ S Pulse



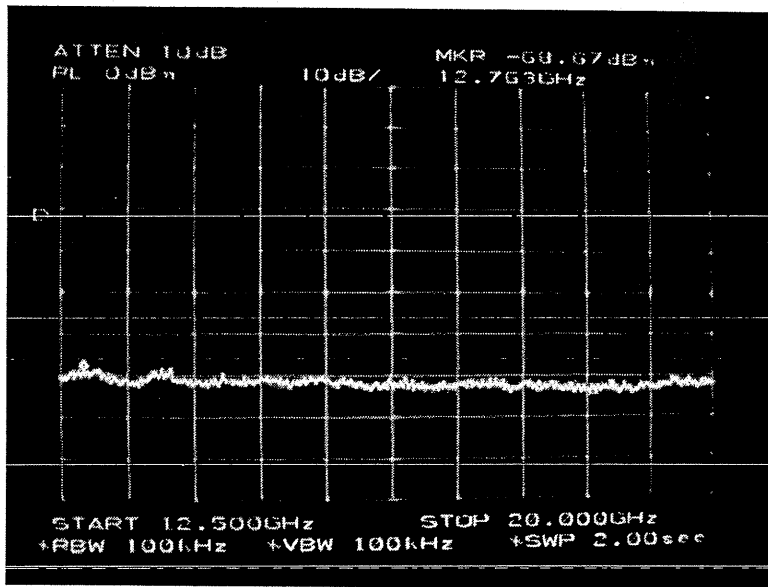
0.4 μ S Pulse



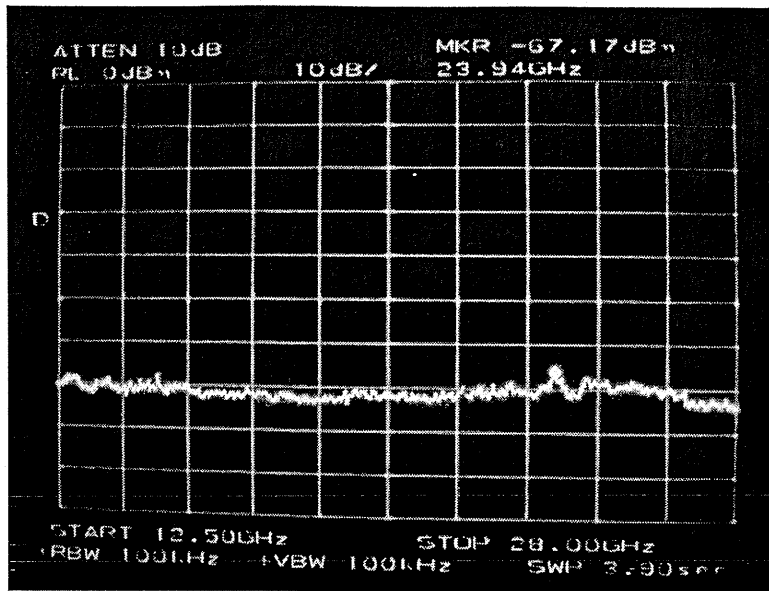
0.8 μ S Pulse



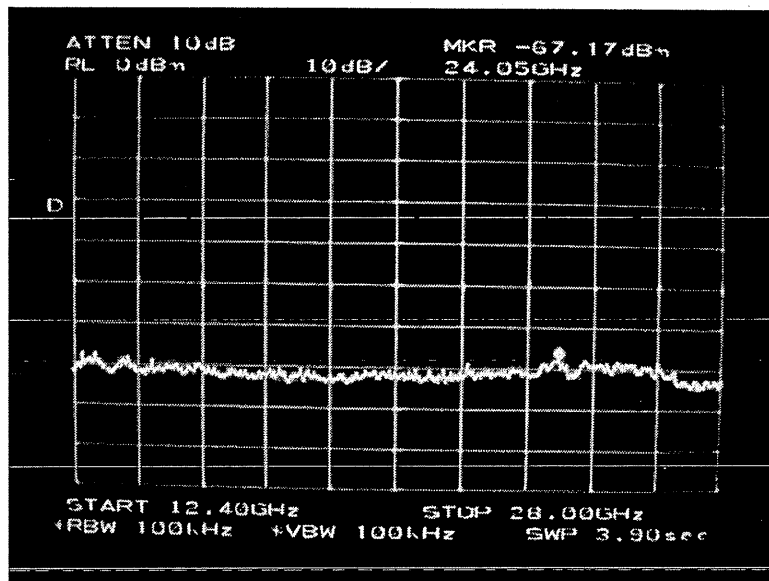
1.0 μ S Pulse



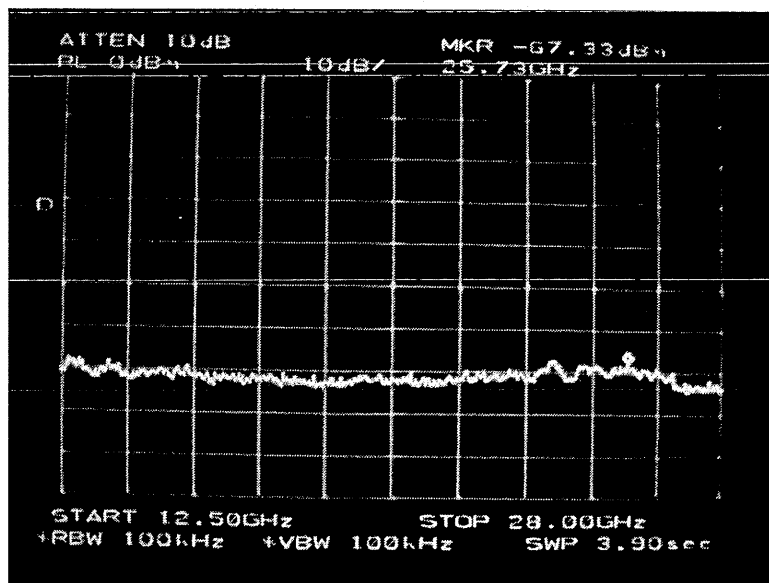
1.2 μ S Pulse



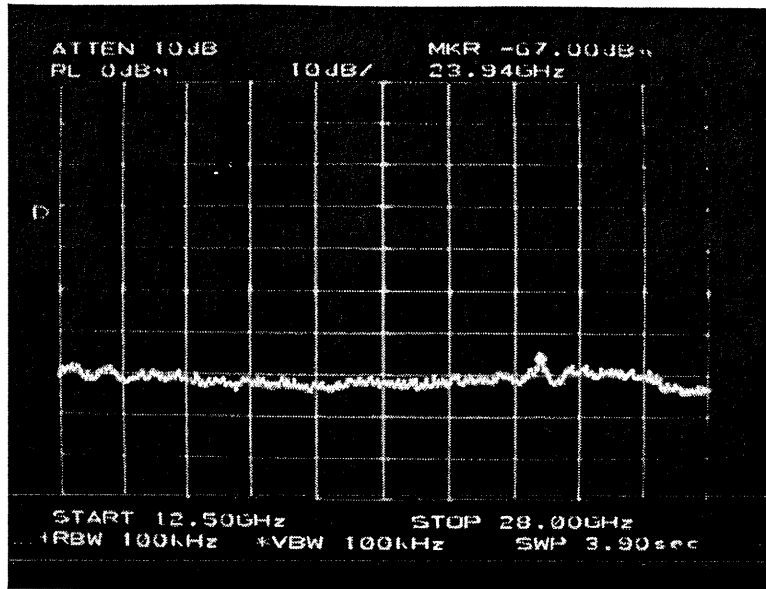
Ambient



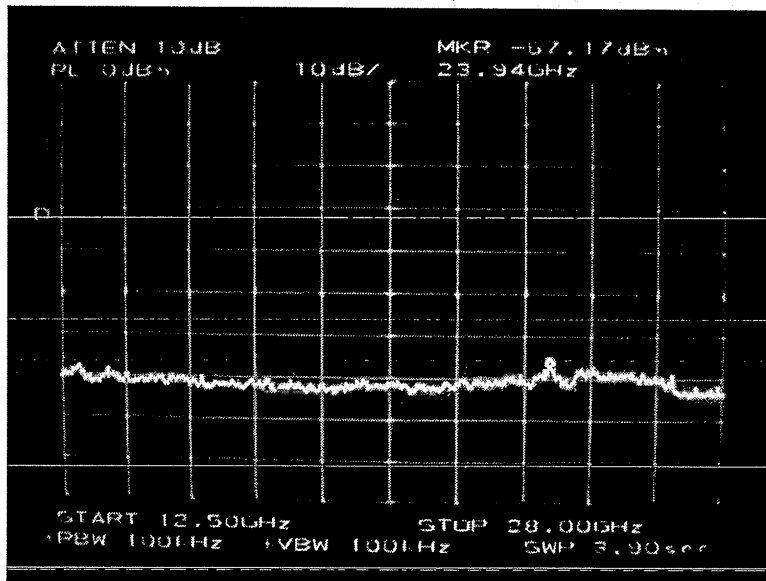
Stand-By



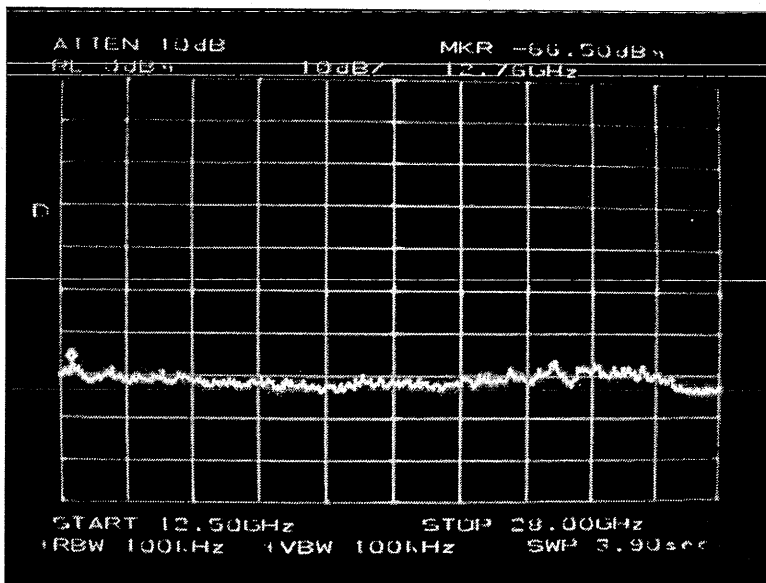
0.07 μ S Pulse



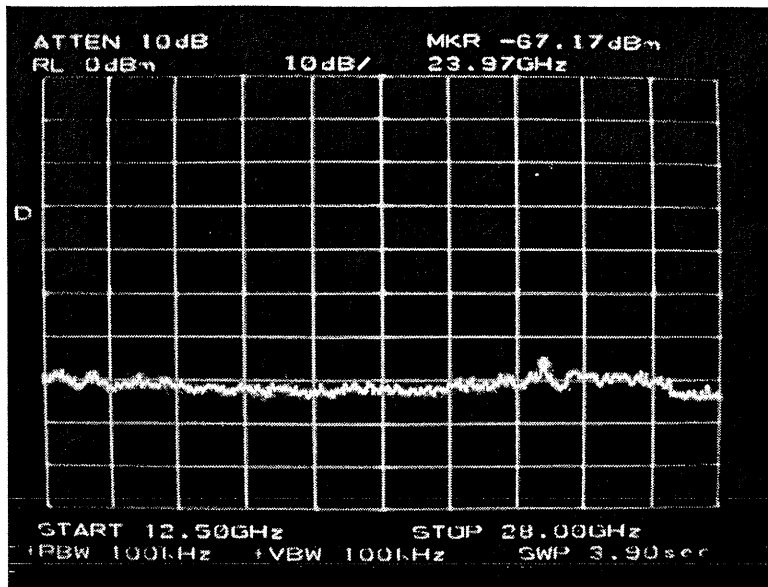
0.2 μ S Pulse



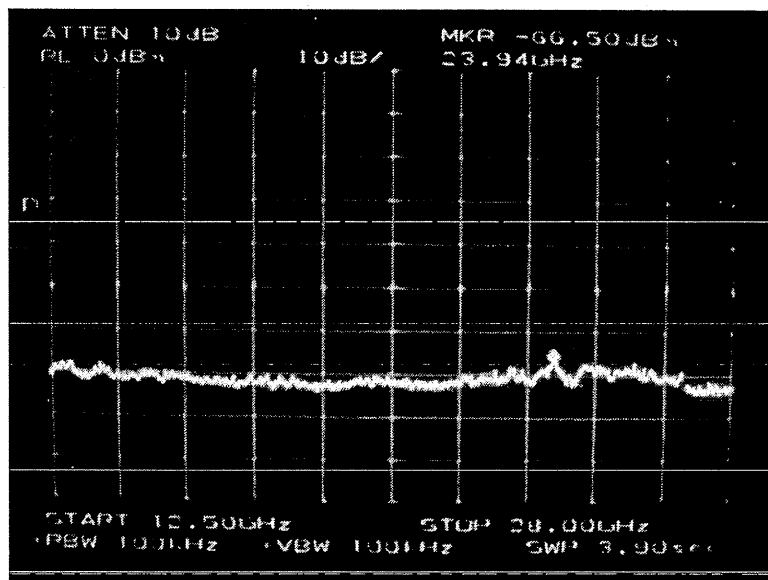
0.4 μ S Pulse



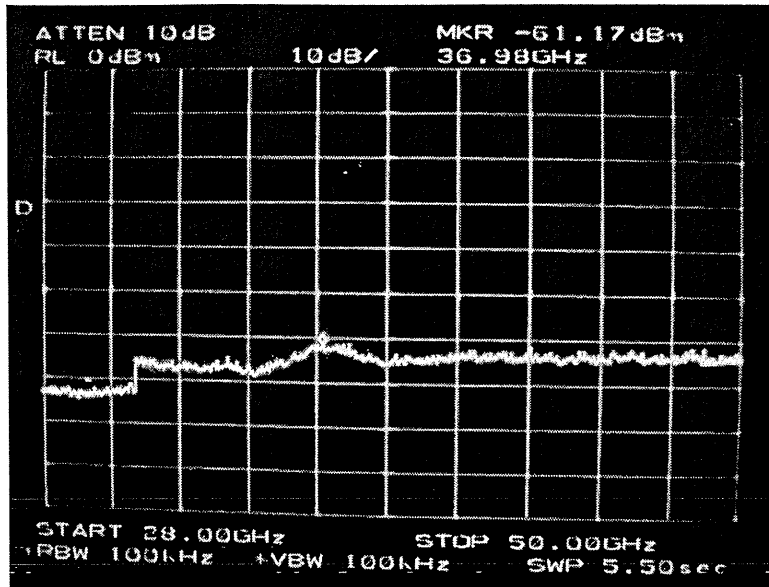
0.8 μ S Pulse



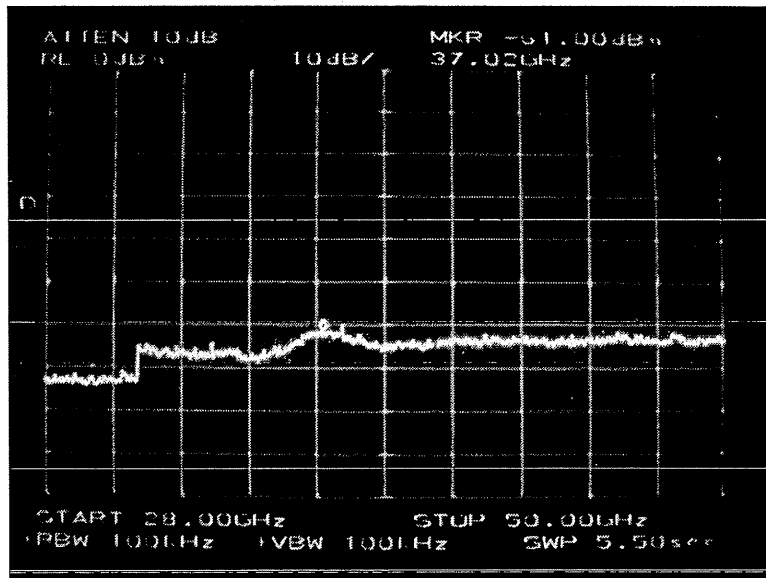
1.0 μ S Pulse



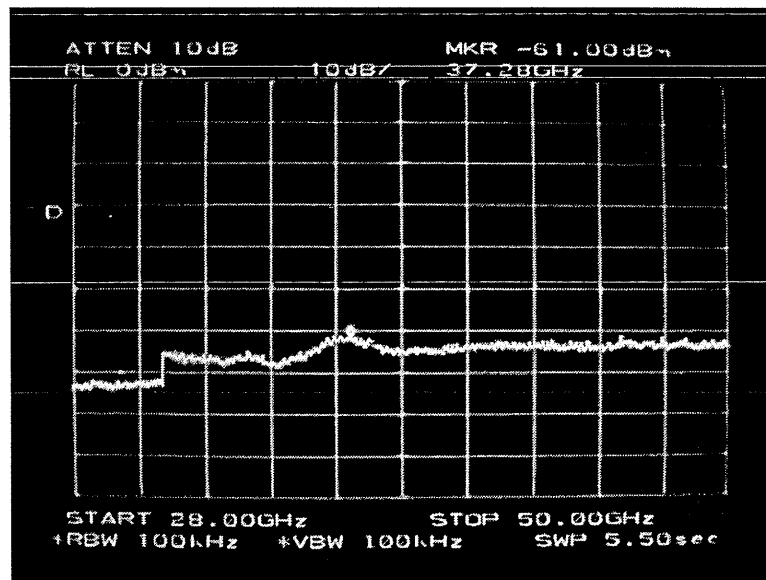
1.2 μ S Pulse



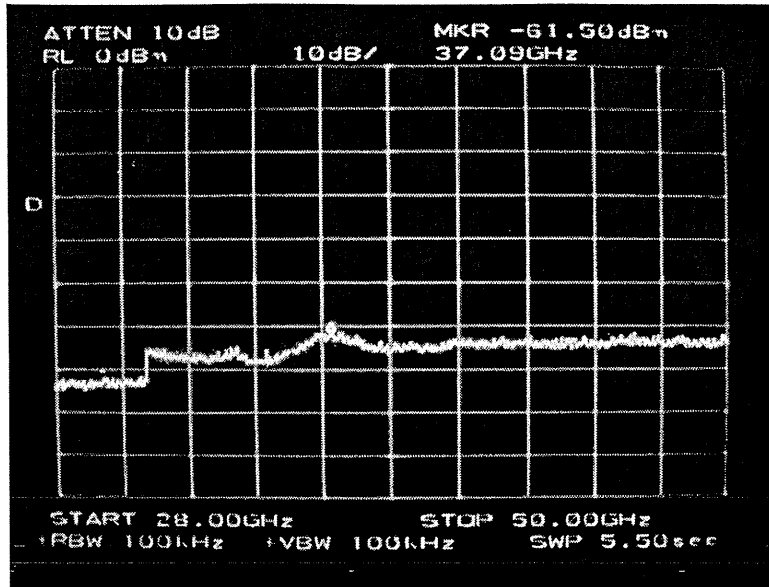
Ambient



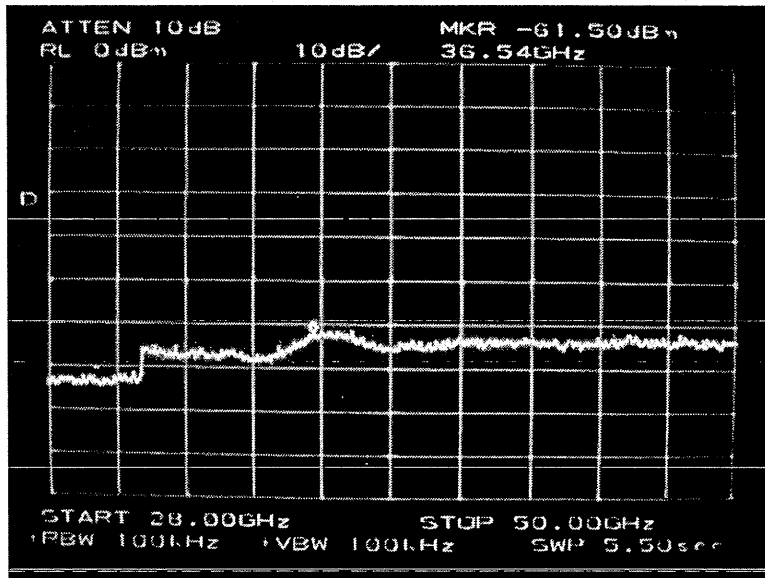
Stand-By



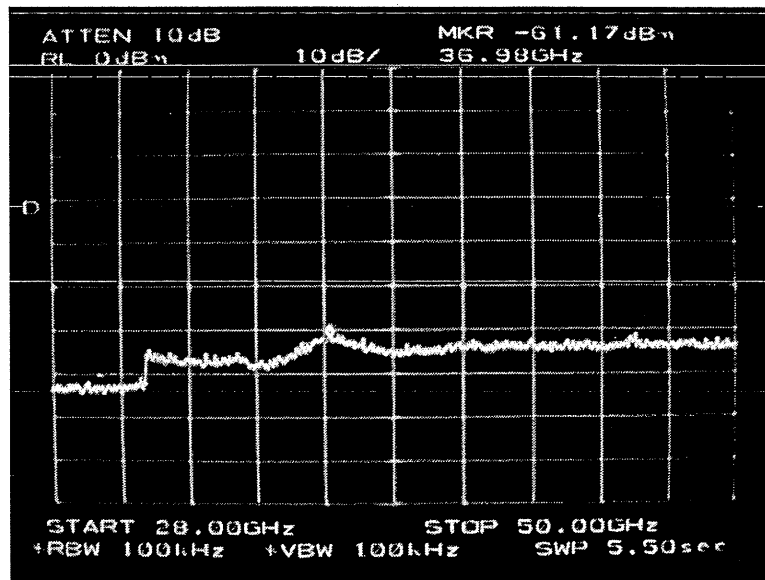
0.07 μ S Pulse



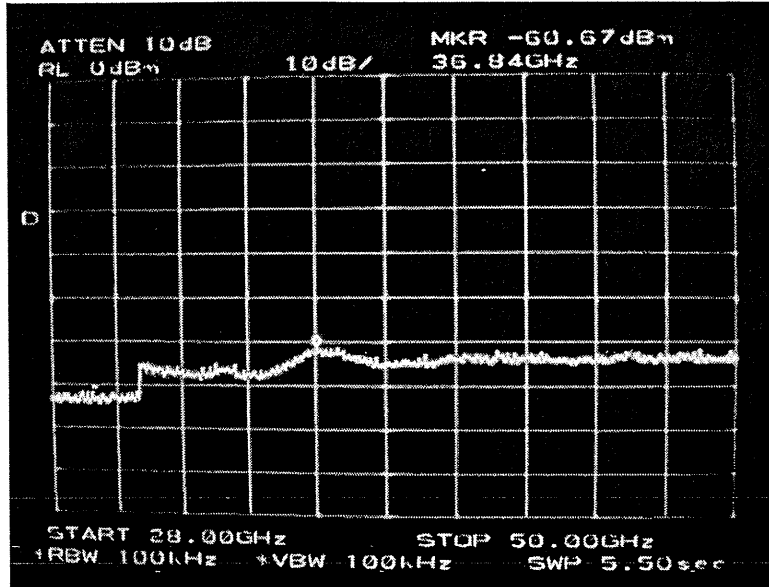
0.2 μS Pulse



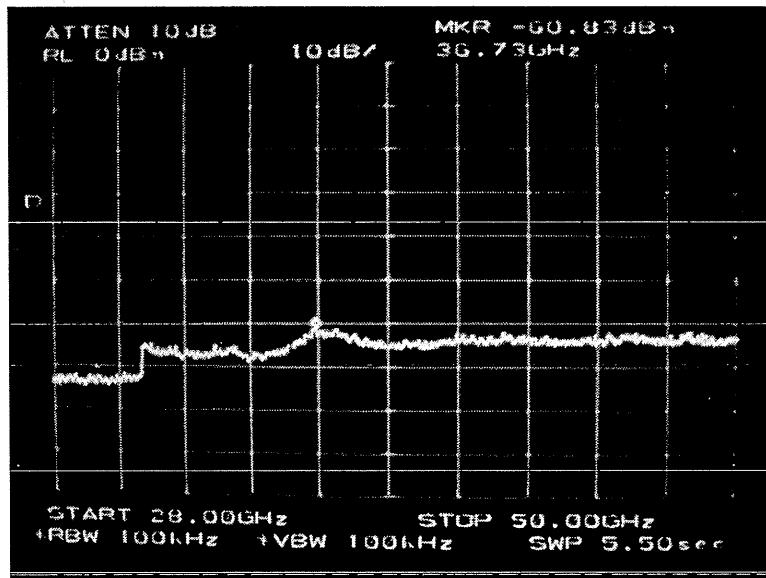
0.4 μS Pulse



0.8 μS Pulse



1.0 μ S Pulse



1.2 μ S Pulse