TEST DATA OF JMA-2343

Type	JMA-2343	Ser.No. LX54334
Scanner Unit	NKE-249	Ser.No. LX34338
Display Unit	NCD-4170	Ser.No. LX24334
Ship's Main	DC10.8 – 42 V	

Date October.28.2002

Section Chief A. Yoshida

inspector H. Nakamura

1. Mechanical Tests

Appearance and Structure

Scanner Unit	Good
Display Unit	Good

2. Electrical Tests

2.1 Working of each operation unit

Scanner Unit	Good
Control Panel	Good
STBY/OFF Key	Good
X-MIT/OFF Key	Good
EBL Key	Good
VRM Key	Good
BRIL/HL OFF Key	Good
MENU Key	Good
ENTER Key	Good
Range Key	Good
Cross Key	Good
Soft Key 1	Good
Soft Key 2	Good
Soft Key 3	Good
Soft Key 4	Good
[TUNE] Control	Good
[GAIN] Control	Good
[STC] Control	Good
[FTC] Control	Good

2.2 Scanner Unit

VSWR	frequency (MHz)	VSWR
	9380	1.2
	9410	1.2
	9440	1.2

Scanner Rotation Speed 27 rpm

2.3 Transmitter

Magnetron Ser.No.	R3215C
Operating Frequency	
(at 0.08 μs PULS 0.75 n.m.)	9400 MHz
(at 0.25 μs PULS 3.0 n.m.)	9399 MHz
(at 0.5 μs PULS 6.0 n.m.)	9399 MIIz
(at 1.0 μs PULS 12.0 n.m.)	9398 MHz
Peak Output Power	
(at 0.08 μs PULS 0.75 n.m.)	3.33 kW
(at 0.25 μs PULS 3.0 n.m.)	3.33 kW
(at 0.5 μs PULS 6.0 n.m.)	3.39 kW
(at 1.0 μs PULS 12.0 n.m.)	3.39 kW
Pulse Length	
(at 0.08 μs PULS 0.75 n.m.)	0.10 μs
(at 0.25 μs PULS 3.0 n.m.)	0.27 μs
(at 0.5 μs PULS 6.0 n.m.)	0.47 μs
(at 1.0 μs PULS 12.0 n.m.)	0.88 μs

2.3 Receiver

MIC Frontend Ser.No.	A0146A
Diode limiter Ser.No.	Q8262A
IF Center Frequency	60 MHz
IF Bandwidth	20/6/3 MHz

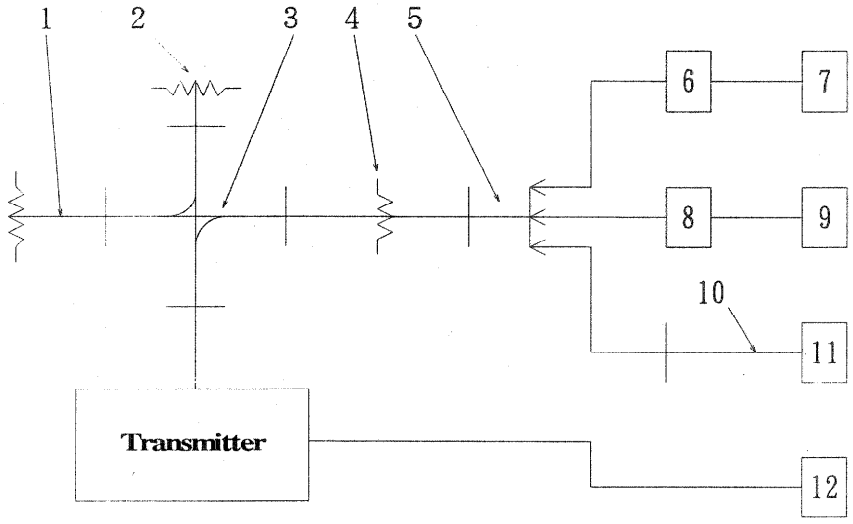
2.4 Display

Input Voltage and Current	DC.24V 1.95A (39W)
Repetition Frequency	
(0.08 μs)	2250 Hz
(0.25 μs)	1700 Hz
(0.5 μs)	1200 Hz
(1.0 μs)	650 Hz

3. Overall Test

Working Time of Timer	1.5 m
Input Variation (10.8Vdc – 42Vdc)	Good
Overall Sensitivity	Good
Minimum Range	Good
Bearing Accuracy	Good
Mechanical Noise	Good

(Sec. 2.985) 1.0 RF Power Output
(Sec. 2.989) 2.0 Occupied Bandwidth



1:Dummy Load	4D104	Shimada
2:high power Dummy Load	4D371A	Shimada
3:Directional Coupler	5D102A	Shimada
Coupling 30dB		
Directivity 30dB		
4:Attenuator	S382C	HP
5:Adaptor	S281A	HP
6:Power Sensor	8481A	HP
7:Power Meter	435A	HP
8:Crystal Detector	423B	HP
9:Oscilloscope	2445B	Tektronix
10:Coaxial Cable	MI-04	SONY/Tectronix
11:Spectrum Analyzer	8592A	HP
12:Frequency Counter	5300A	HP

Measurement Point : Trasmitter Output

FCC Submittal Material Data

(Sec. 2.985) 1.0 RF Power Output

1.1 Peak Power

(at 0.08 μs PULS 0.75 n.m.)	4.33	kW
(at 0.25 μs PULS 1.5 n.m. long)	4.63	kW
(at 0.5 μs PULS 3 n.m. long)	4.87	kW
(at 1.0 μs PULS 12n.m.)	4.95	kW

1.2 Average Power

(at 0.08 μs PULS 0.75 n.m.)	0.78	W
(at 0.25 μs PULS 1.5 n.m. long)	1.81	W
(at 0.5 μs PULS 3 n.m. long)	2.57	W
(at 1.0 μs PULS 12n.m.)	2.7	W

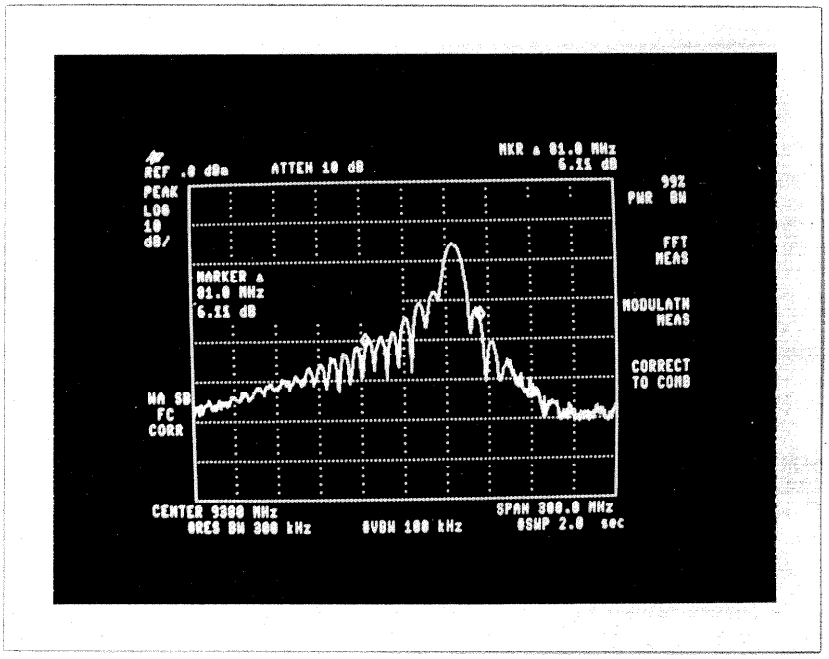
1.3 Load Impedance

VSWR 1.05 at 9.36 – 9.46 GHz

(Sec. 2.989) 2.0 Occupid Bandwidth

2.1 0.08 μS Pulse PRF 2250Hz

0.08 μS Pulse Length 0.08 μS



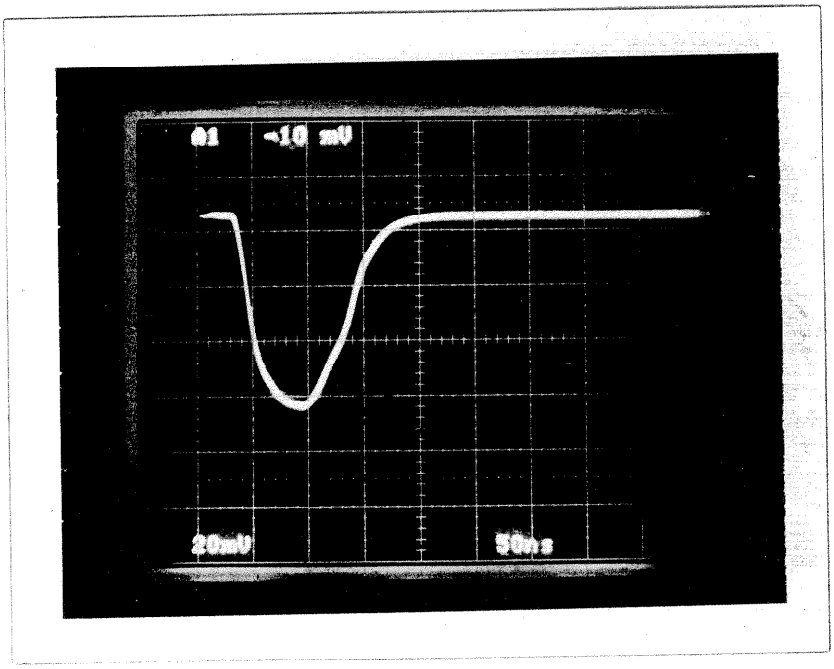
Scale
10dB/Div

RF Spectrum
0.08 μS Pulse

OBW=81.0 MHz

Scale 30MHz/Div
Center Frequency 9380MHz

(Sec. 2.987)



Scale
20mV/Div

← 3 dB

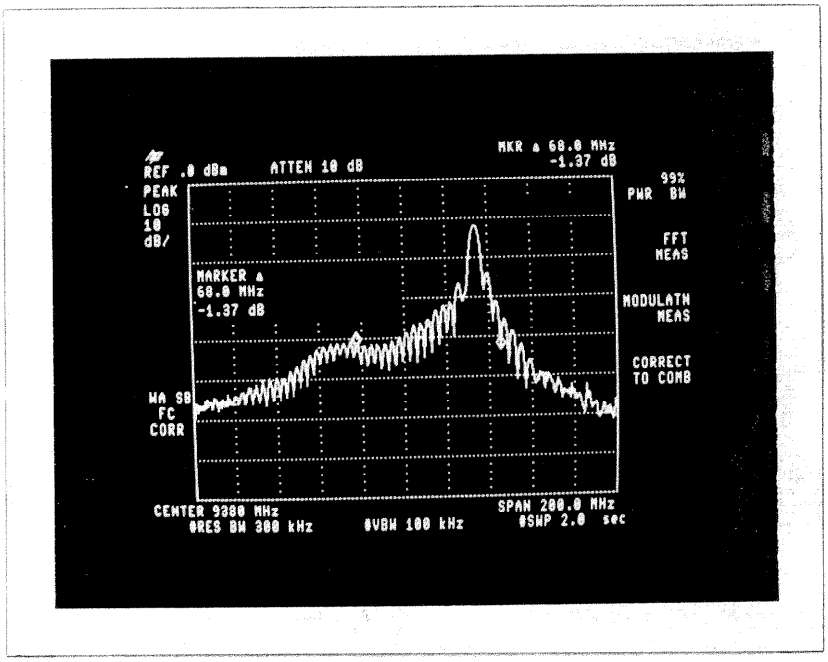
Detected RF
Pulse

0.08 μS Pulse

Scale 0.05 μS/Div

(Sec. 2.989)

2.2 0.25 μS Pulse PRF 1700Hz
0.25 μS Pulse Length 0.23 μS



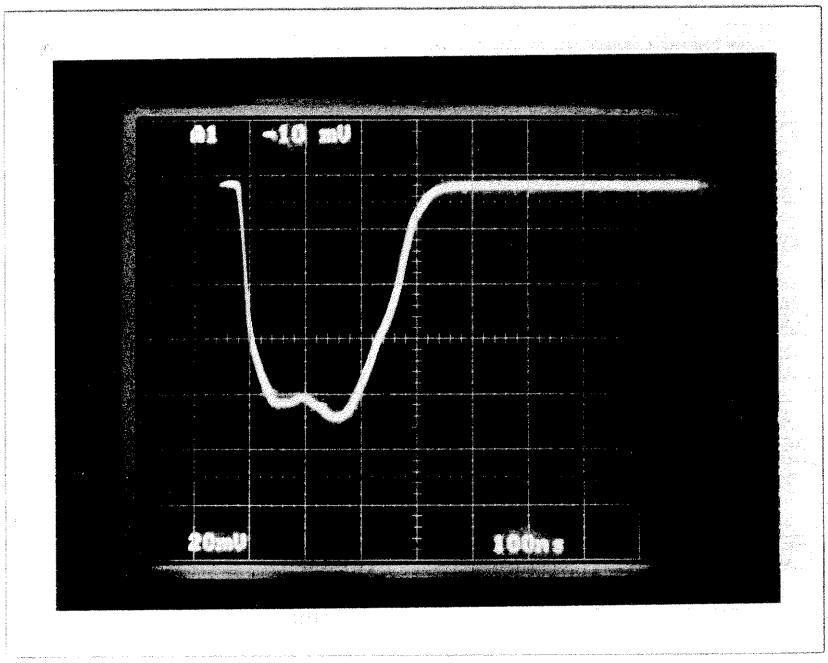
Scale
10dB/Div

RF Spectrum
0.25 μS Pulse

OBW=68.0MHz

Scale 20MHz/Div
Center Frequency 9380MHz

(Sec. 2.987)



Scale
20mV/Div

← - 3 dB

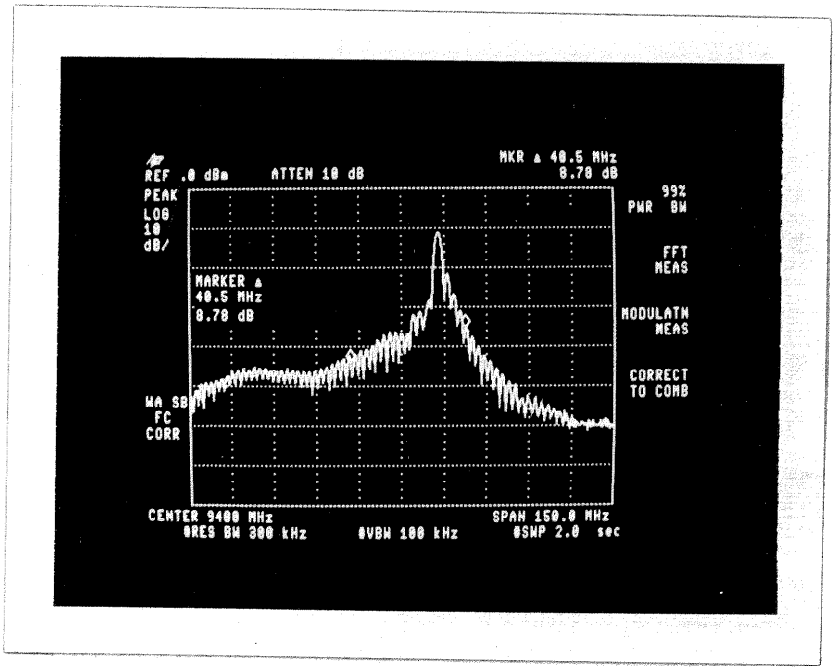
Detected RF
Pulse

0.25 μS Pulse

Scale 0.1 μS/Div

(Sec. 2.989)

2.3 0.5 μS Pulse PRF 1200Hz
0.5 μS Pulse Length 0.44 μS



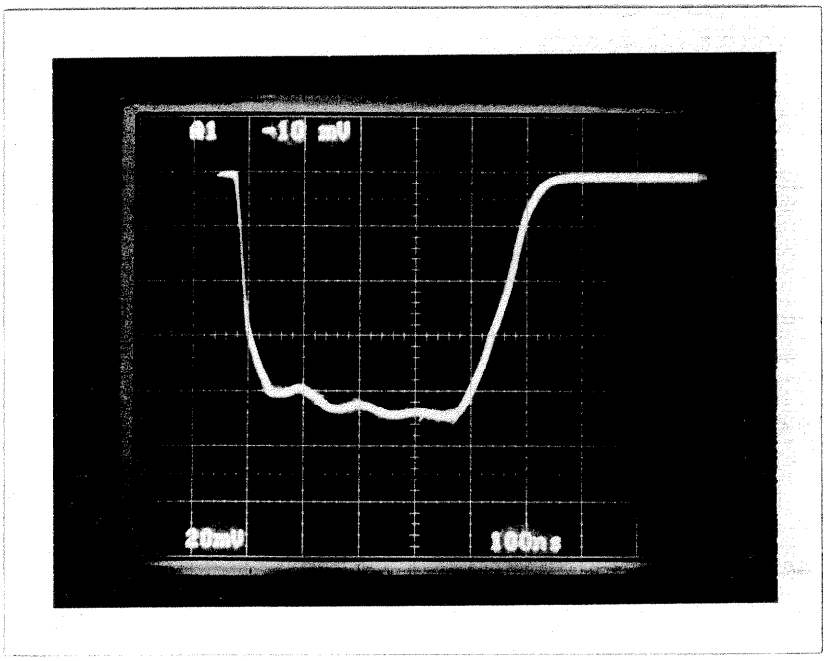
Scale
10dB/Div

RF Spectrum
0.5 μS Pulse

OBW=40.5MHz

Scale 15MHz/Div
Center Frequency 9400MHz

(Sec. 2.987)



Scale
20mV/Div

← 3 dB

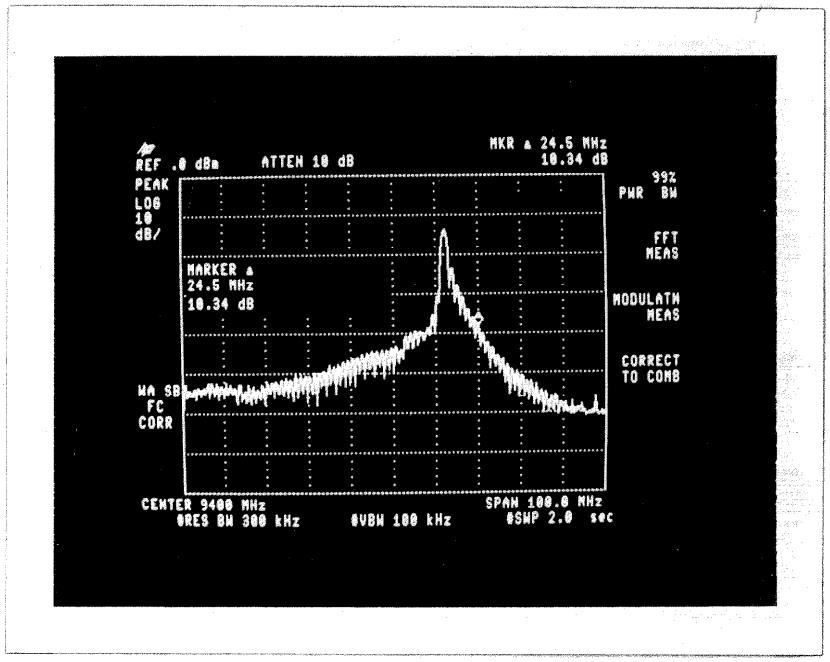
Detected RF
Pulse

0.5 μS Pulse

Scale 0.1 μS/Div

(Sec. 2.989)

2.4 1.0 μS Pulse PRF 650Hz
1.0 μS Pulse Length 0.84 μS



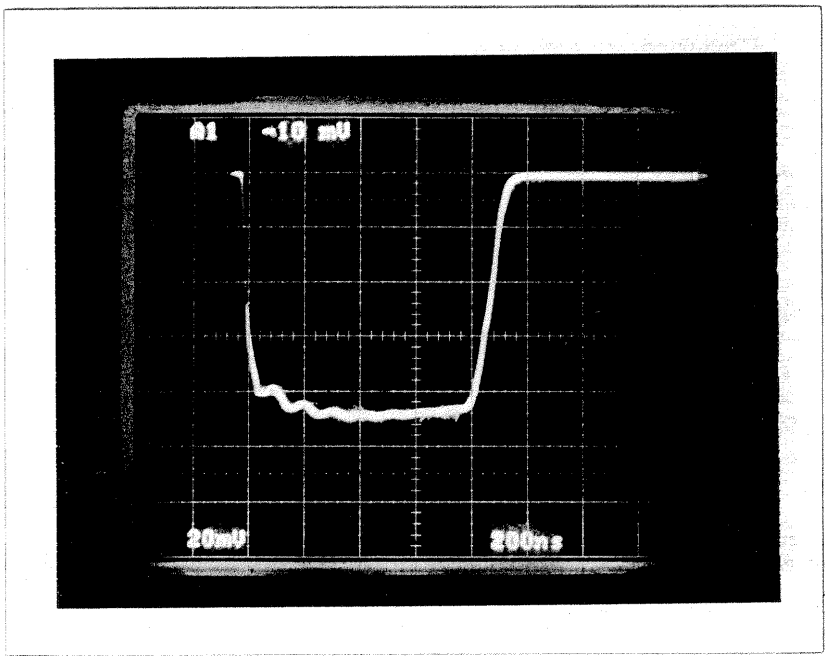
Scale
10dB/Div

RF Spectrum
1.0 μS Pulse

OBW=24.5MHz

Scale 10MHz/Div
Center Frequency 9400MHz

(Sec. 2.987)



Scale
20mV/Div

← -3 dB

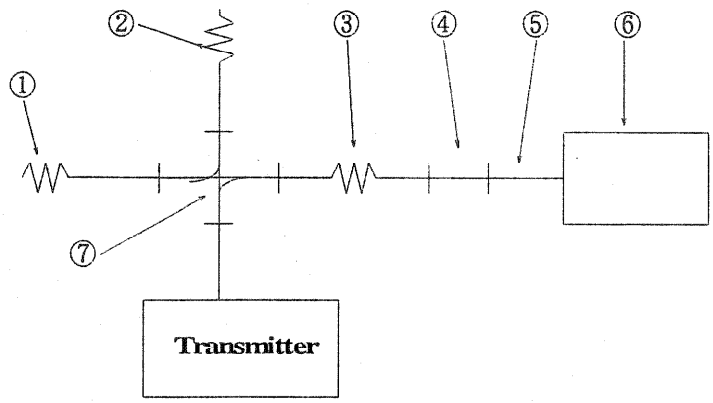
Detected RF
Pulse

1.0 μS Pulse

Scale 0.2 μS/Div

(Sec.2.991) 3.0 Sprious signal at antenna port

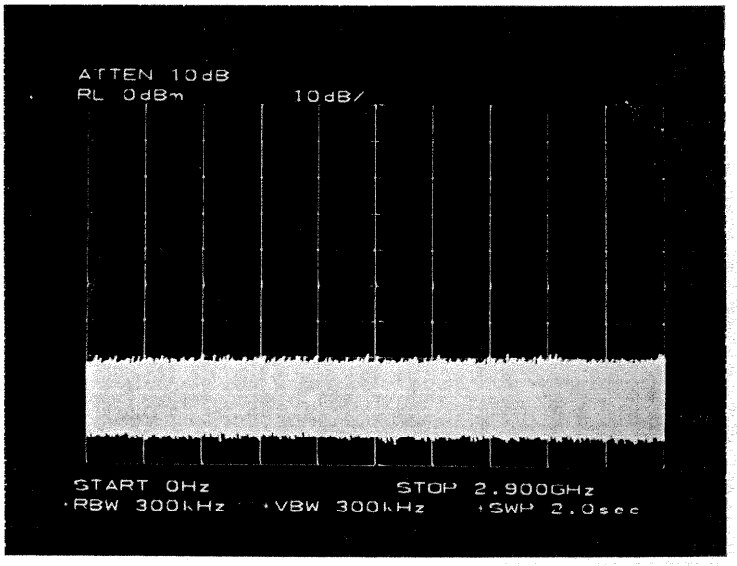
condition 1 : 0 to 20 GHz



1.	Dummy Load	4D104	Shimada
2.	high power Dummy Load	4D371A	Shimada
3.	Attenuator	S382C	HP
4.	Adaptor	S281A	HP
5.	Coaxial Cable	*****	HP
6.	Spectrum Analyzer	8563A	HP
7.	Direction Coupler	5D102A	Shimada
	Coupling 30dB		
	Directivity 30dB		

Attenuation 3 :30 dB
Measurement Point :Transmitter Output

(Sec. 2.991)



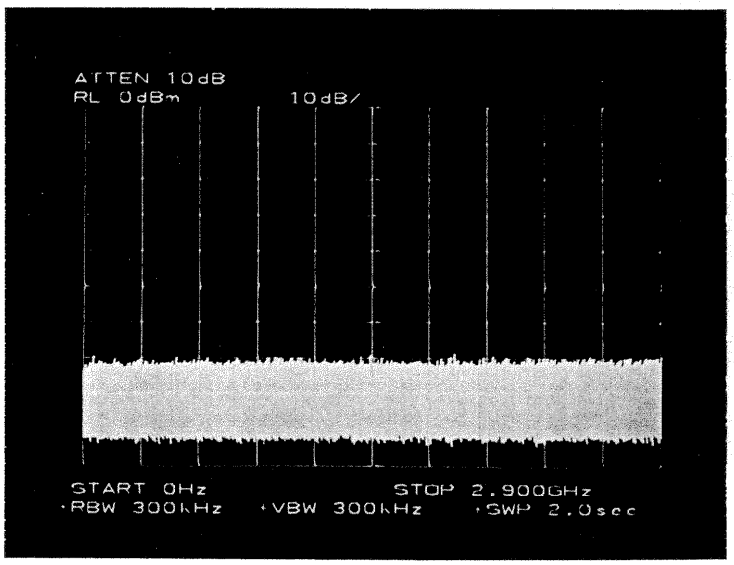
Scale
↑ 10dB/Div

→290MHz/Div

Spurious
Signal

OFF

0 to 2.9 GHz



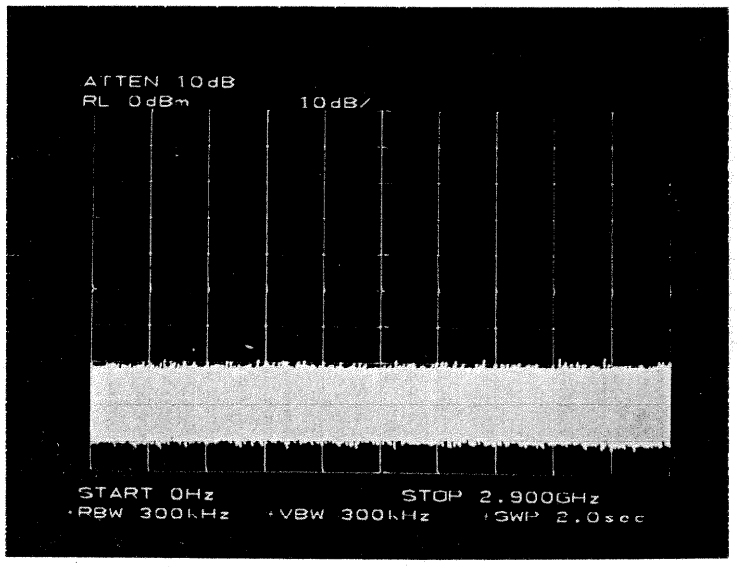
Scale
↑ 10dB/Div

→290MHz/Div

Spurious
Signal

Stand-By

0 to 2.9 GHz



Scale
↑ 10dB/Div

→290MHz/Div

Spurious
Signal

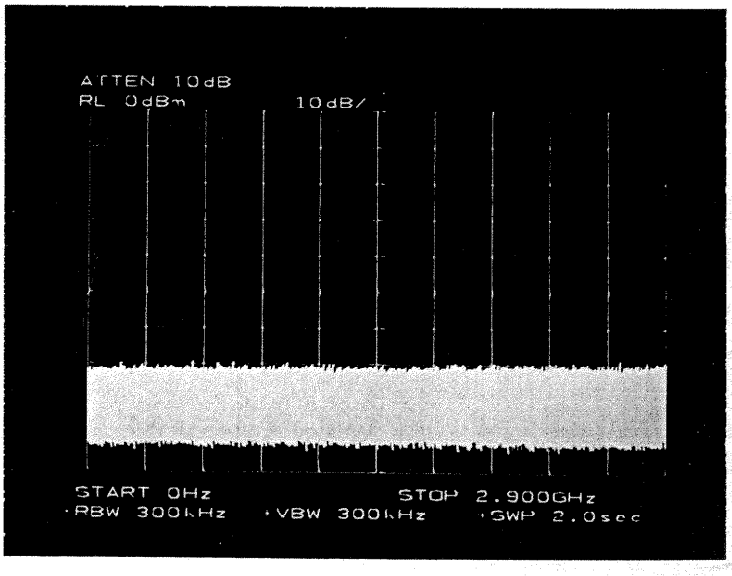
0.08 μS Pulse

0 to 2.9 GHz

(Sec. 2.991)

Scale
↑ 10dB/Div

→290MHz/Div



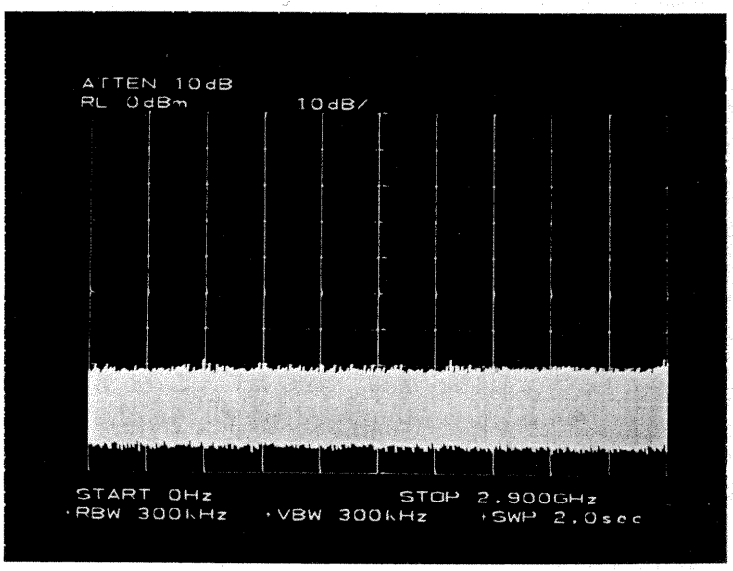
Spurious
Signal

0.25 μS Pulse

0 to 2.9 GHz

Scale
↑ 10dB/Div

→290MHz/Div



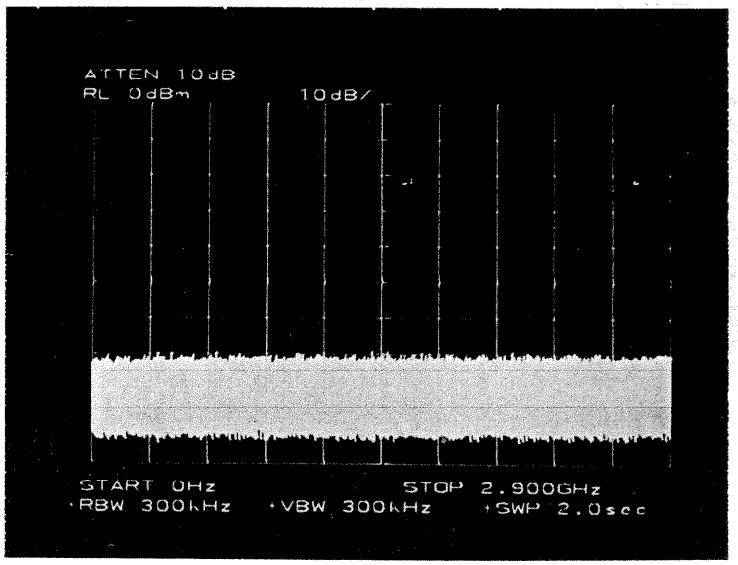
Spurious
Signal

0.5 μS Pulse

0 to 2.9 GHz

Scale
↑ 10dB/Div

→290MHz/Div



Spurious
Signal

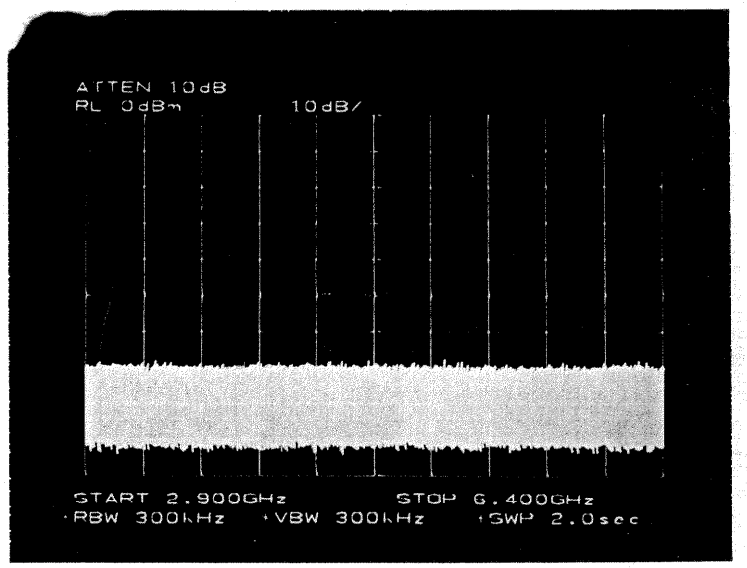
1.0 μS Pulse

0 to 2.9 GHz

(Sec. 2.991)

Scale
↑ 10dB/Div

→350MHz/Div



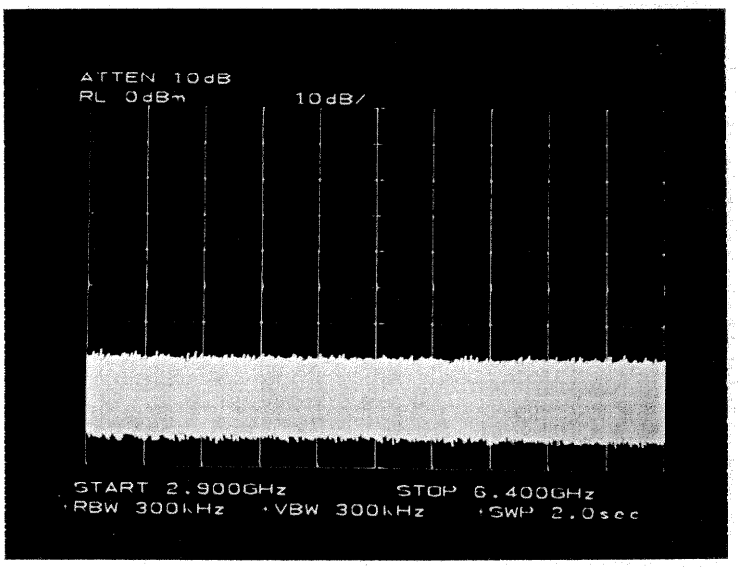
Spurious
Signal

OFF

2.9 to 6.4 GHz

Scale
↑ 10dB/Div

→350MHz/Div



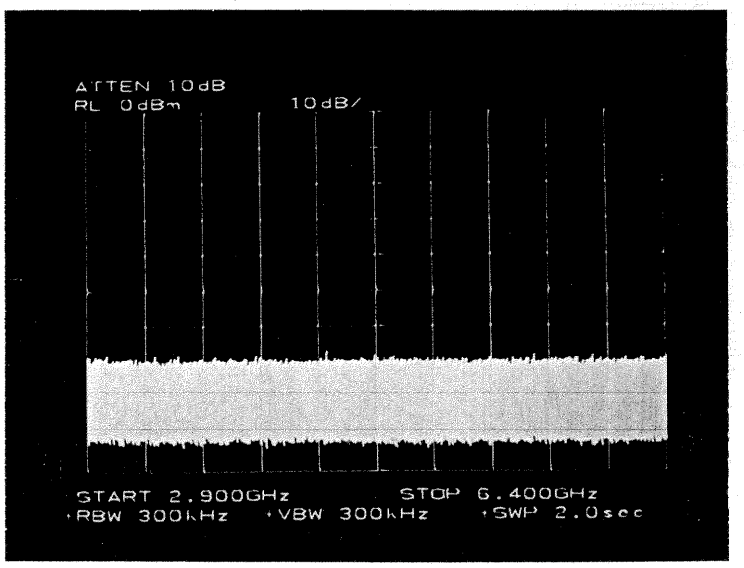
Spurious
Signal

Stand-By

2.9 to 6.4 GHz

Scale
↑ 10dB/Div

→350MHz/Div



Spurious
Signal

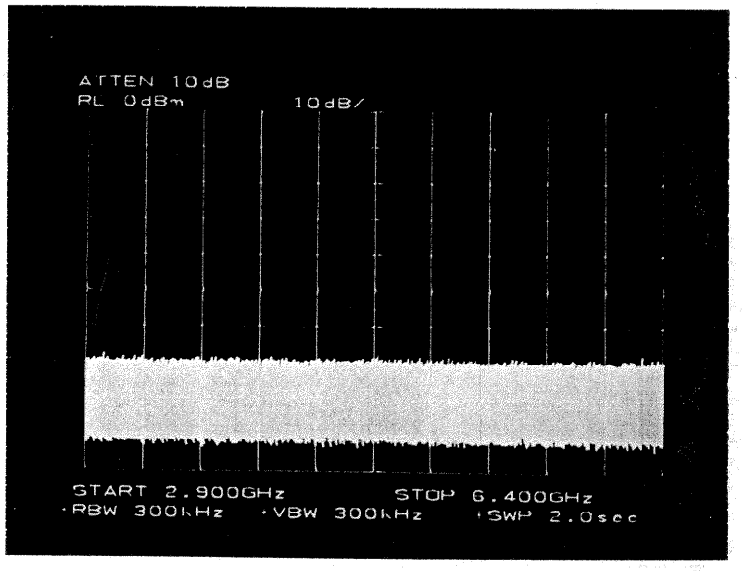
0.08 μS Pulse

2.9 to 6.4 GHz

(Sec. 2.991)

Scale
↑ 10dB/Div

→350MHz/Div



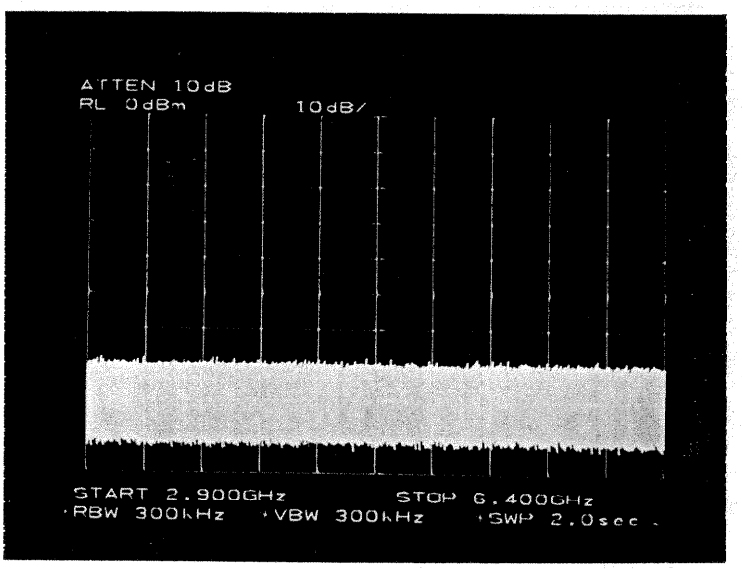
Spurious
Signal

0.25 μS Pulse

2.9 to 6.4 GHz

Scale
↑ 10dB/Div

→350MHz/Div



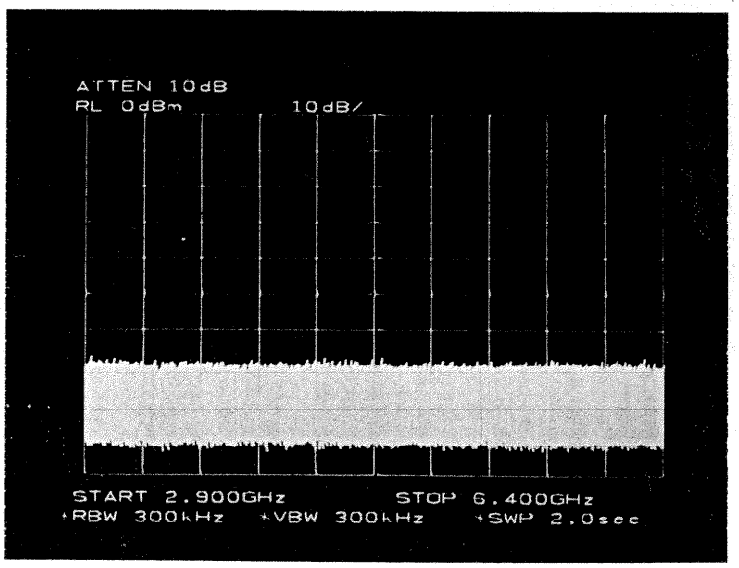
Spurious
Signal

0.5 μS Pulse

2.9 to 6.4 GHz

Scale
↑ 10dB/Div

→350MHz/Div



Spurious
Signal

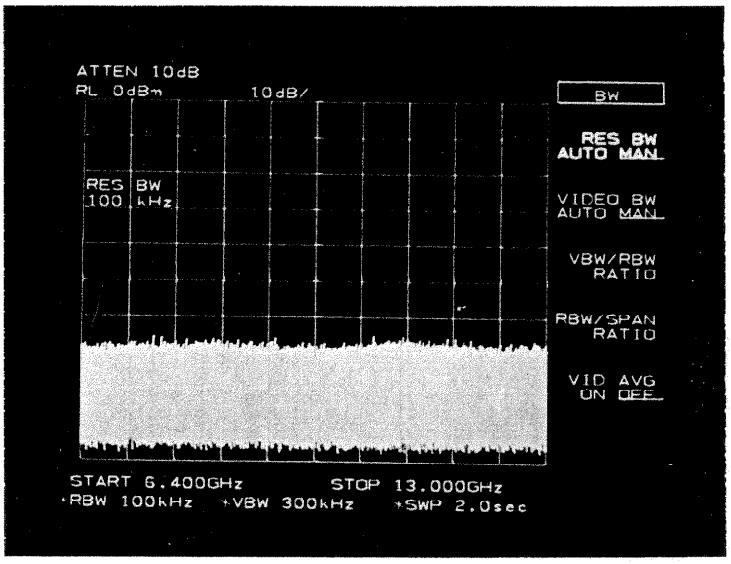
1.0 μS Pulse

2.9 to 6.4 GHz

(Sec. 2.991)

Scale
↑ 10dB/Div

→660MHz/Div



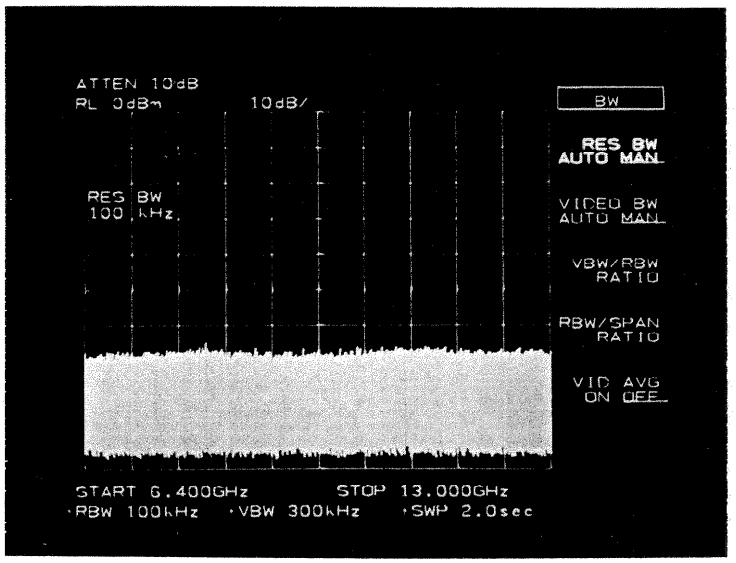
Spurious
Signal

OFF

6.4 to 13.0 GHz

Scale
↑ 10dB/Div

→660MHz/Div



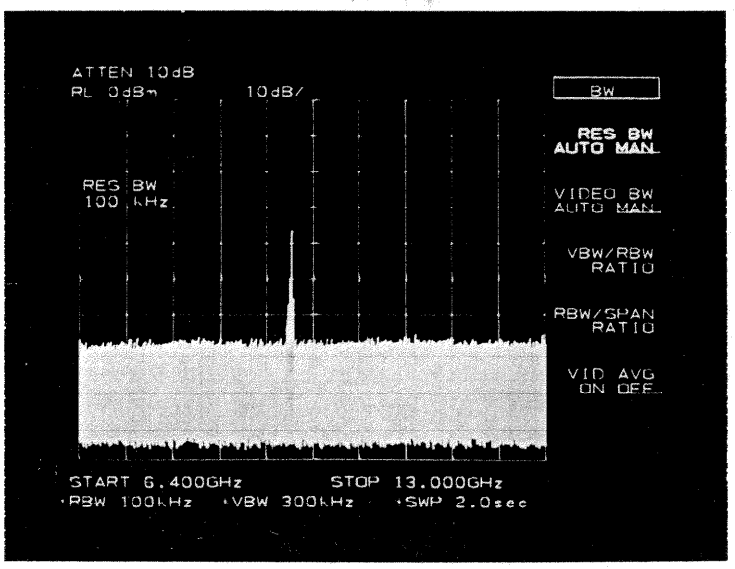
Spurious
Signal

Stand-By

6.4 to 13.0 GHz

Scale
↑ 10dB/Div

→660MHz/Div



Spurious
Signal

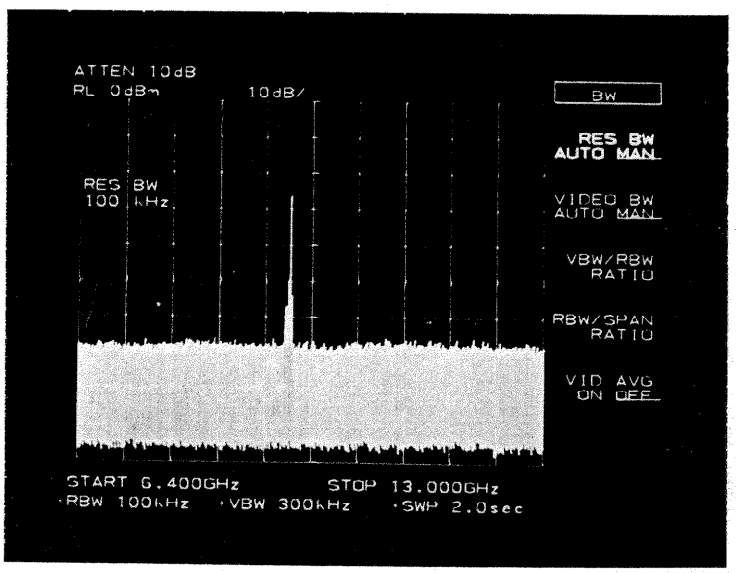
0.08 μS Pulse

6.4 to 13.0 GHz

(Sec. 2.991)

Scale
↑ 10dB/Div

→660MHz/Div



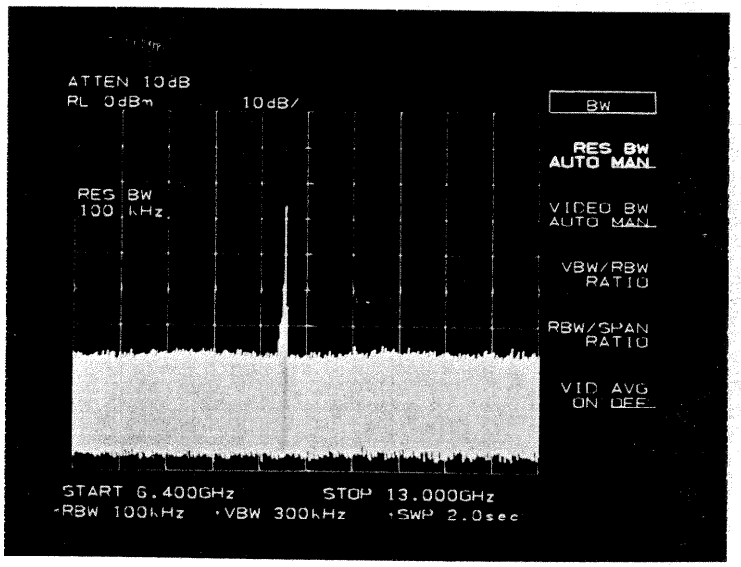
Spurious
Signal

0.25 μS Pulse

6.4 to 13.0 GHz

Scale
↑ 10dB/Div

→660MHz/Div



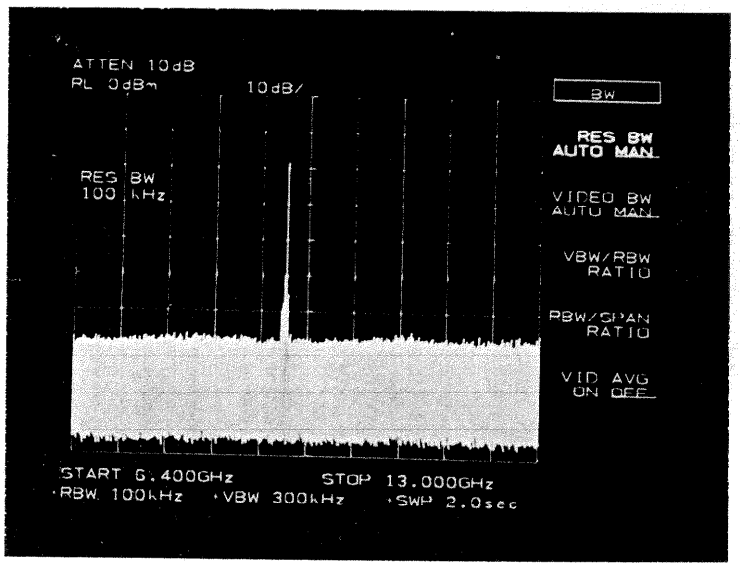
Spurious
Signal

0.5 μS Pulse

6.4 to 13.0 GHz

Scale
↑ 10dB/Div

→660MHz/Div



Spurious
Signal

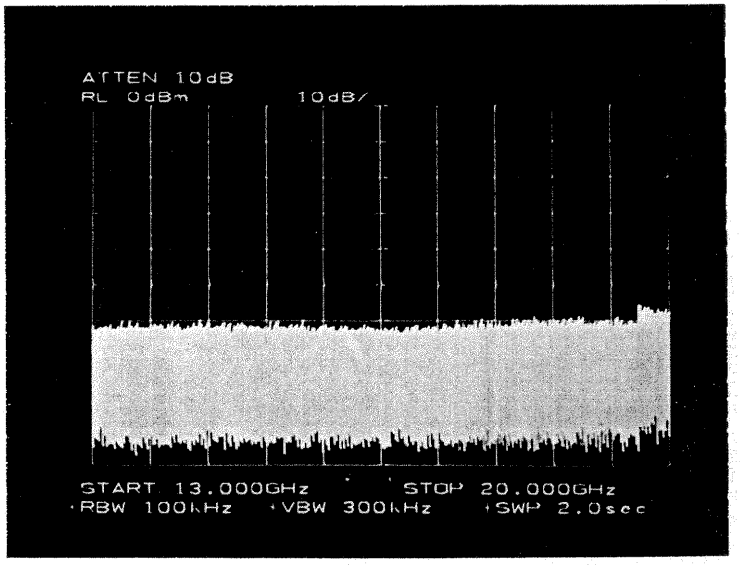
1.0 μS Pulse

6.4 to 13.0 GHz

(Sec. 2.991)

Scale
↑ 10dB/Div

→700MHz/Div



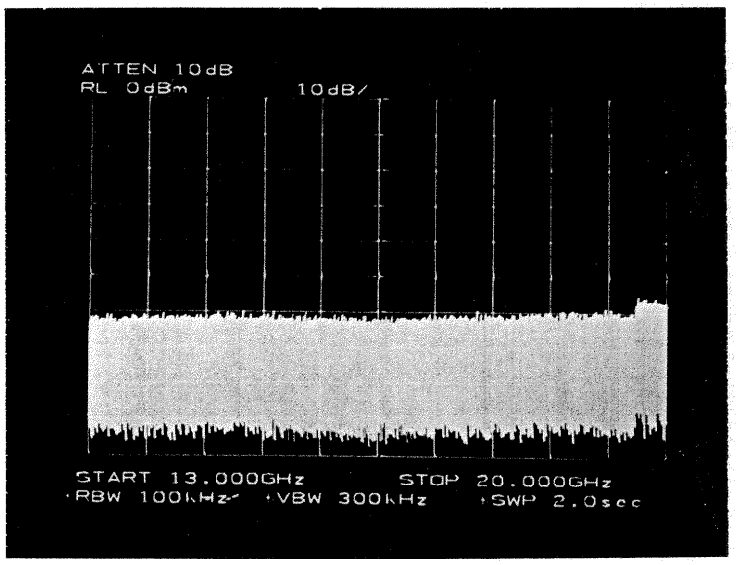
Spurious
Signal

OFF

13.0 to 20 GHz

Scale
↑ 10dB/Div

→700MHz/Div



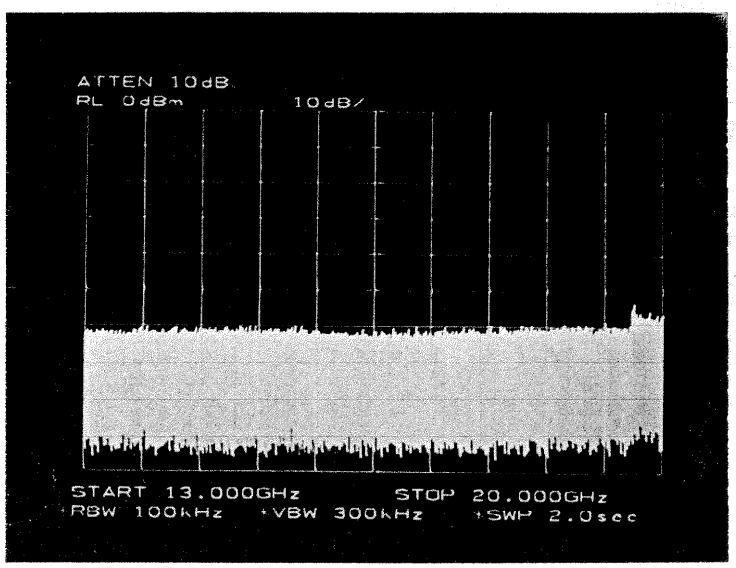
Spurious
Signal

Stand-By

13.0 to 20 GHz

Scale
↑ 10dB/Div

→700MHz/Div



Spurious
Signal

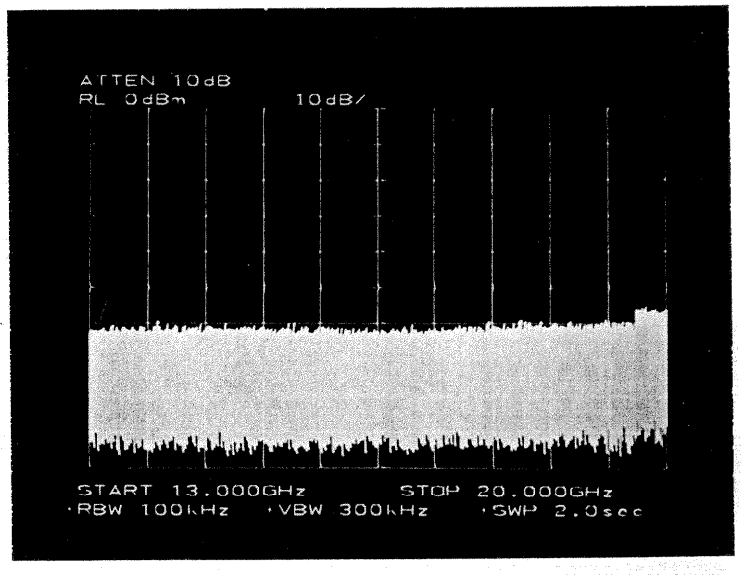
0.08 μS Pulse

13.0 to 20 GHz

(Sec. 2.991)

Scale
↑ 10dB/Div

→700MHz/Div



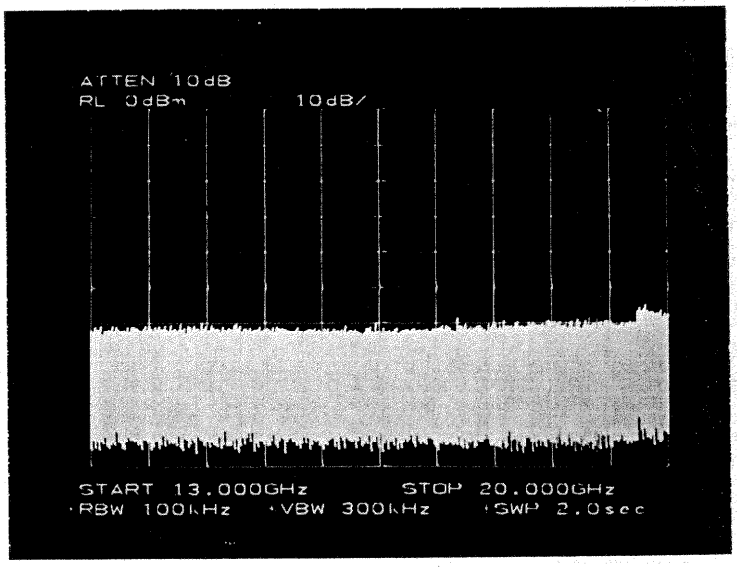
Spurious
Signal

0.25 μS Pulse

13.0 to 20 GHz

Scale
↑ 10dB/Div

→700MHz/Div



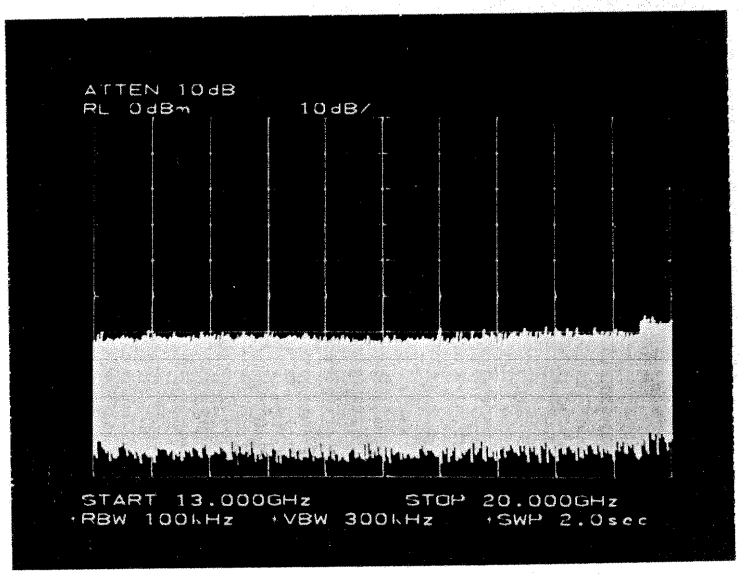
Spurious
Signal

0.5 μS Pulse

13.0 to 20 GHz

Scale
↑ 10dB/Div

→700MHz/Div



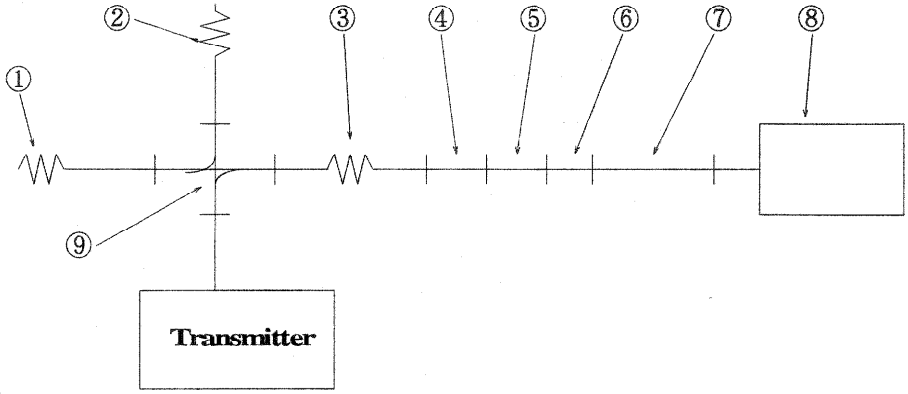
Spurious
Signal

1.0 μS Pulse

13.0 to 20 GHz

(Sec. 2.991)　　3.0　Sprious signals at antenna port

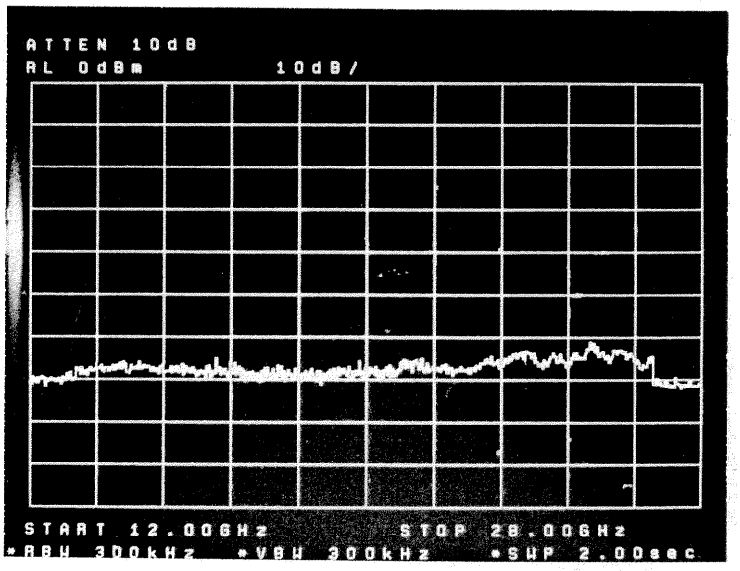
Condition 12.0 – 28.0 GHz



1.	Dummy Load	4D104	Shimada
2.	high power Dummy Load	4D371A	Shimada
3.	Attenuator	S382C	HP
4.	Taperd W/G	195-X KU	AIRCOM
5.	Taperd W/G	****	**
6.	Adapter	BL00-6255-00	Oriet Microwave
7.	Coaxial Cable	SF101	HUBER+SUHNER
8.	Spectrum Analyzer	8565EC	HP
9.	Directional Coupler Coupling 30 dB Directivity 30 dB	5D102A	Shimada

Attenuation 3　　: 30 dB
Measurement Point : Transmitter Output

(Sec. 2.991)



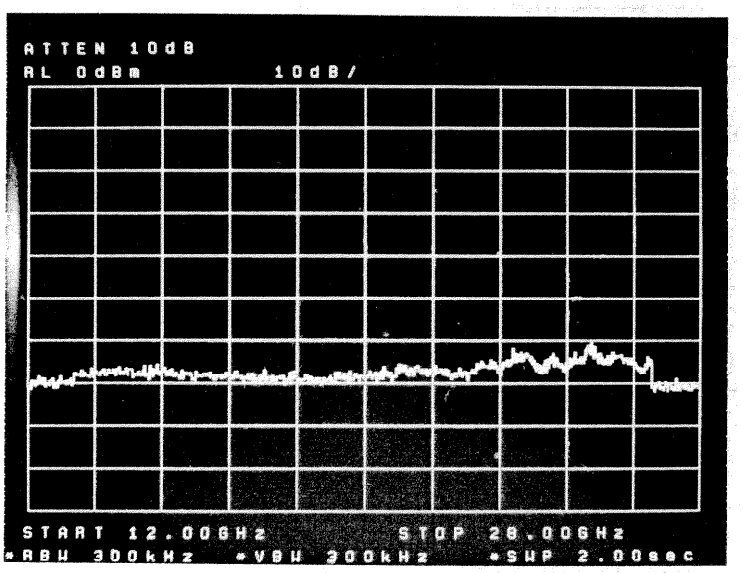
Scale
↑ 10dB/Div

→1.6GHz/Div

Spurious
Signal

OFF

12 to 28 GHz



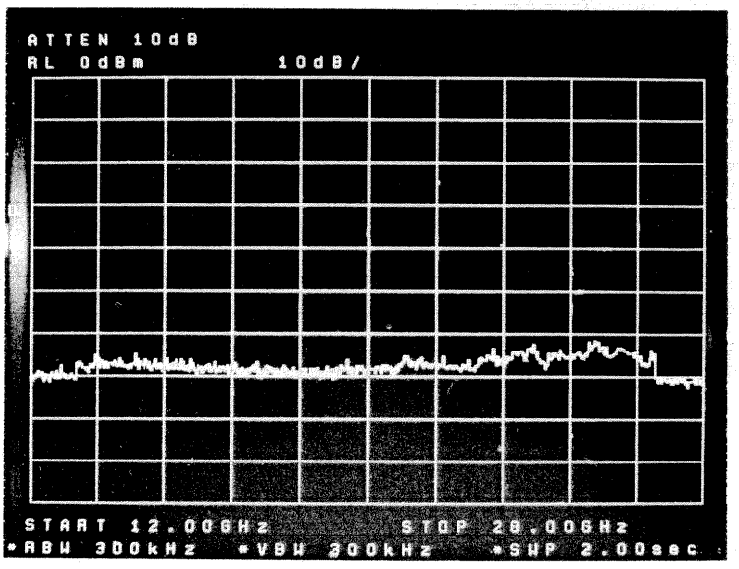
Scale
↑ 10dB/Div

→1.6GHz/Div

Spurious
Signal

Stand-By

12 to 28 GHz



Scale
↑ 10dB/Div

→1.6GHz/Div

Spurious
Signal

0.08 μS Pulse

12 to 28 GHz