



Japan Radio Co., Ltd.

Mitaka Plant, 1-1 Shimorenjaku, 5-Chome, Mitaka-shi

Tokyo 181-8510 Japan

Fax:+81(0)422 45 9922

Tel:+81(0)422 45 9281

Declaration of conformity to FCC Part 80 for Marine Radar

Unwanted emission of radar systems

FCC ID: CKENKE2042

We: Japan Radio Company Limited

declare under our sole responsibility that the CKENKE2042 scanner unit
conforms to the CFR part 80 rules for Marine Radars

Signed: H. Hashimoto

Date: 18th January, 2011

Mr. H. Hashimoto
Manager of Radar Group
Engineering Department
Marine Electronics Division

Signed: G. Higuchi

G. Higuchi
Radar Group
Engineering Department
Marine Electronics Division

3. TEST RESULTS SUMMARY

3.1 Mechanical Tests

Appearance and Structure

Scanner Unit Good

3.2 Electrical Tests

3.2.1 Working of each operation unit

Scanner Unit Good

3.2.2 Scanner

VSWR	frequency (MHz)	VSWR
	9380	1.02
	9410	1.03
	9440	1.04

Scanner Rotation Speed 27rpm

3.2.3 Transmitter

Magnetron Ser. No. SJ1B/S9143C

Operating Frequency

(at 0.08 μ s pulse, SP) 9423.5 MHz

(at 0.25 μ s pulse, MP1) 9422.2 MHz

(at 0.5 μ s pulse, MP2) 9420.2 MHz

(at 1.0 μ s pulse, LP) 9420.2 MHz

RF power output (Mean power)

(at 0.08 μ s pulse, SP) 0.21 W

(at 0.25 μ s pulse, MP1) 1.29 W

(at 0.5 μ s pulse, MP2) 3.24 W

(at 1.0 μ s pulse, LP) 6.76 W

Pulse Length

(at 0.08 μ s pulse, SP) 0.086 μ s

(at 0.25 μ s pulse, MP1) 0.278 μ s

(at 0.5 μ s pulse, MP2) 0.516 μ s

(at 1.0 μ s pulse, LP) 1.000 μ s

Repetition Frequency

(0.08 μ s) 2251 Hz

(0.25 μ s) 1704 Hz

(0.5 μ s) 1205 Hz

(1.0 μ s) 651 Hz

Spurious Emission at Antenna Terminal Good

Field strength of spurious radiation	Good
Radiofrequency radiation exposure limits	Good

3.2.4 Receiver

MIC Front-end Ser. No.	B0978A
Diode limiter Ser. No.	Z0454A
IF Center Frequency	60 MHz
IF Bandwidth	20/6/3 MHz

3.2.5 Input Voltage and Current(at 24NM-LP1) DC.24V 1.07A (25.68W)

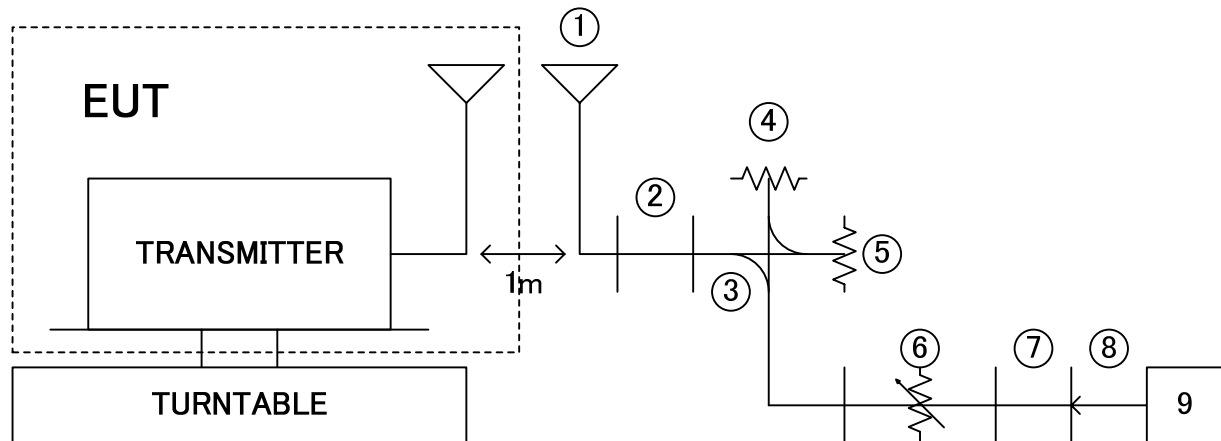
3.3 Overall Tests

Working Time of Timer	1min30sec
Input Variation (21.6Vdc – 42Vdc)	Good
Overall Sensitivity	Good
Minimum Range	Good
Bearing Accuracy	Good
Mechanical Noise	Good

4.1 RF Power Output

47 CFR sec. 2.1046

4.1.1 TEST SETUP



4.1.2 TEST INSTRUMENTS

	DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATION DATE	CALIBRATION DUE DATE
1	Double Ridge Horn Antenna ETS LINDGREN	3117	00091928	NA	NA
2	Adaptor HP	X281A	NA	NA	NA
3	Direction Coupler (30dB) SHIMADARIKA	5D363	R11421	NA	NA
4	Dummy Load PASTERNAK	PE6815	NA	NA	NA
5	High Power Dummy Load PASTERNAK	PE6824	NA	NA	NA
6	Variable Attenuator HP	X382A	1005-00684	May. 2010	May. 2011
7	Adaptor HP	X281A	NA	NA	NA
8	Coaxial Cable HUBER+SUHNER	SUCOFLEX 104PA	5784 /4PA	NA	NA
9	Spectrum Analyzer Agilent	E4448A	MY46180420	Sep. 24. 2010	Sep. 2011

4.1.3 TEST PROCEDURES

Reference to Section 2.2.17 Radiated Power Output on TIA-603-C.

4.1.4 EUT OPERATING CONDITIONS

- a. Placed the EUT on the testing table.
- b. Prepared other computer systems for controlling EUT and placed them outside of testing area.
- c. EUT can be transmitted four pulses are 0.08usec/2250Hz, 0.25usec/1700Hz, 0.5usec/1200Hz and

1.0usec/650Hz.

4.1.5 TEST RESULTS

The radiated power output is calculated by the following:

$$averageradiated\ power = 10\log\left(\frac{1}{8}\sum_{i=1}^{i=8} 10^{\frac{LVL_i+LOSS}{10}}\right)dBm$$

Pulse Length [usec]	0.08		0.25		0.5		1.0	
PRF [Hz]	2250		1700		1200		650	
averageradiated power [dBm]	23.3		31.1		35.1		38.3	
i	LVL [dBm]	LVL + LOSS [dBm]	LVL [dBm]	LVL + LOSS [dBm]	LVL [dBm]	LVL + LOSS [dBm]	LVL [dBm]	LVL + LOSS [dBm]
1	-31.92	23.51	-24.34	31.09	-20.04	35.39	-17.23	38.2
2	-31.82	23.61	-24.19	31.24	-20.57	34.86	-16.90	38.53
3	-31.99	23.44	-24.20	31.23	-20.41	35.02	-17.23	38.2
4	-32.18	23.25	-24.81	30.62	-20.57	34.86	-17.27	38.16
5	-32.00	23.43	-24.35	31.08	-20.24	35.19	-17.70	37.73
6	-32.55	22.88	-24.06	31.37	-20.11	35.32	-16.99	38.44
7	-32.47	22.96	-24.43	31	-20.25	35.18	-17.29	38.14
8	-32.20	23.23	-24.47	30.96	-20.21	35.22	-16.84	38.59

*LOSS = 55.43dB

4.1.6 TEST CONDITIONS

Tamb = 20°C to 25°C, RHamb = 40% ~ 60%

EUT input = 24 VDC

4.1.7 STABILIZATION

EUT energized for 10 minutes minimum.

4.1.8 TEST EQUIPMENT

JRC Original – Shielded Room

Other equipment – see test set-ups.

4.1.9 DATE

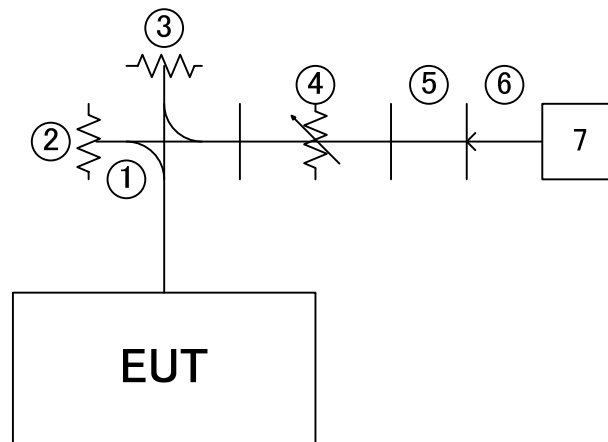
11th October, 2010

TESTED BY G. Higuchi

4.2 Spurious emission at antenna terminals

47 CFR sec. 2.1051

4.2.1.1 TEST SETUP for range 10kHz to 12.5GHz



4.2.1.2 TEST INSTRUMENT

	DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATION DATE	CALIBRATION DUE DATE
1	Direction Coupler (30dB) SHIMADARIKA	5D363	R11421	NA	NA
2	Dummy Load PASTERNAK	PE6815	NA	NA	NA
3	High Power Dummy Load PASTERNAK	PE6824	NA	NA	NA
4	Variable Attenuator HP	X382A	1005-00684	May. 2010	May. 2011
5	Adaptor HP	X281A	NA	NA	NA
6	Coaxial Cable HUBER+SUHNER	SUCOFLEX 104PA	5784 /4PA	NA	NA
7	Spectrum Analyzer Agilent	E4448A	MY46180420	Sep. 24. 2010	Sep. 2011

Measurement Point : Antenna terminal

Spectrum Analyzer setting: RBW = 10kHz less than 1GHz, 1MHz above 1GHz

VBW = 300kHz less than 1GHz, 3MHz above 1GHz

Detector Mode = Positive Peak

4.2.1.3 TEST PROCEDURES

- a. Setup EUT as 4.2.1.
- b. Transmitted at most powerful pulse and adjusted attenuator for not exceeding the spectrum analyzer maximum rating.
- c. Transmitted at four pulses are 0.08usec/2250Hz, 0.25usec/1700Hz, 0.5usec/1200Hz and 1.0usec/650Hz, and capture the spectrum at 10kHz to 12.5GHz.

4.2.1.4 EUT OPERATING CONDITIONS

- a. Placed the EUT on the testing table.
- b. Prepared other computer systems for controlling EUT and placed them outside of testing area.

4.2.1.5 TEST RESULTS

No spurious emissions observed above minimum standard.

Test data is described at section 4.2.1.10 to 4.2.1.13

4.2.1.6 TEST CONDITIONS

Tamb = 20°C to 25°C, RHamb = 40% ~ 60%

EUT input = 24 VDC

4.2.1.7 STABILIZATION

EUT energized for 10 minutes minimum.

4.2.1.8 TEST EQUIPMENT

JRC Original – Shielded Room

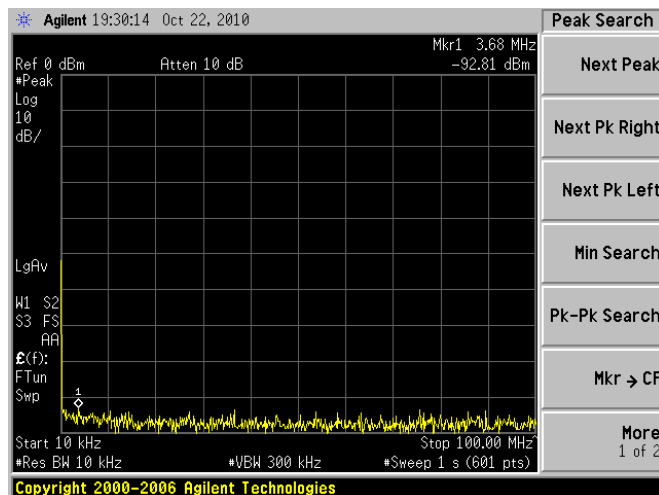
Other equipment – see test set-ups.

4.2.1.9 DATE

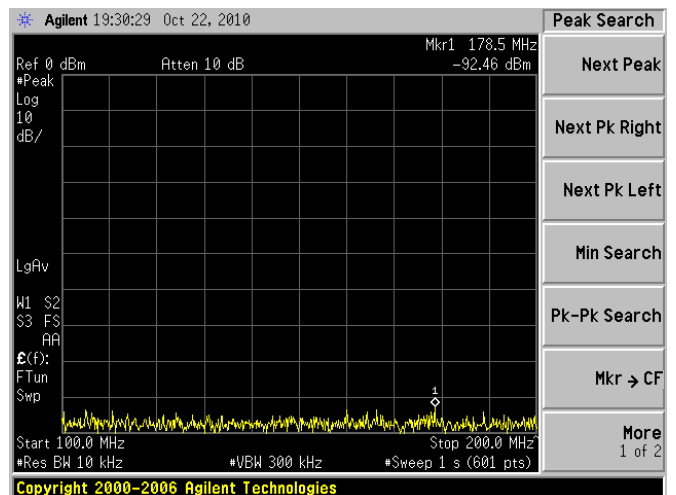
11th January, 2011

TESTED BY G.Higuchi

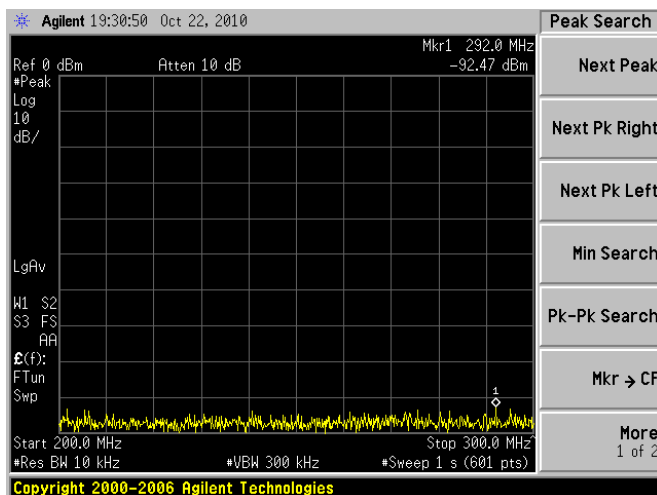
4.2.1.10 TEST RESULTS of 0.08usec/2250Hz pulse



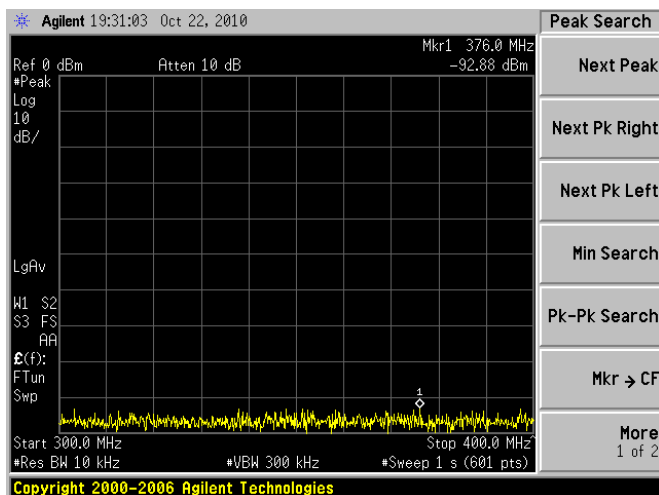
10kHz to 100MHz



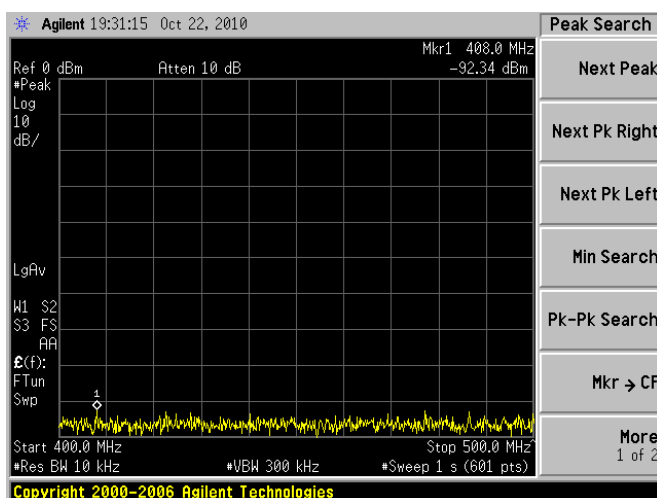
100MHz to 200MHz



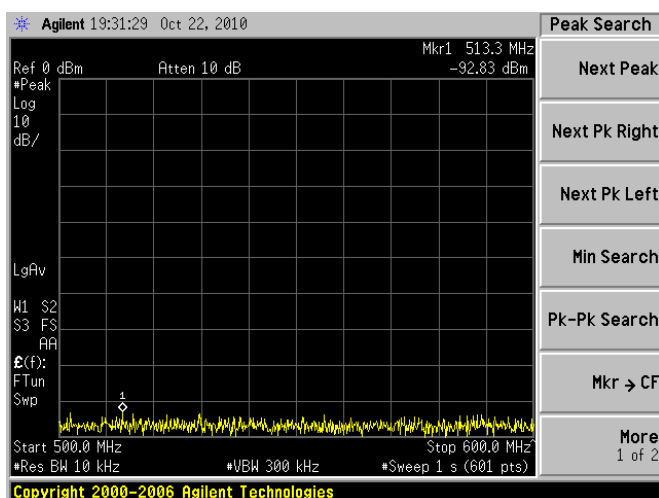
200MHz to 300MHz



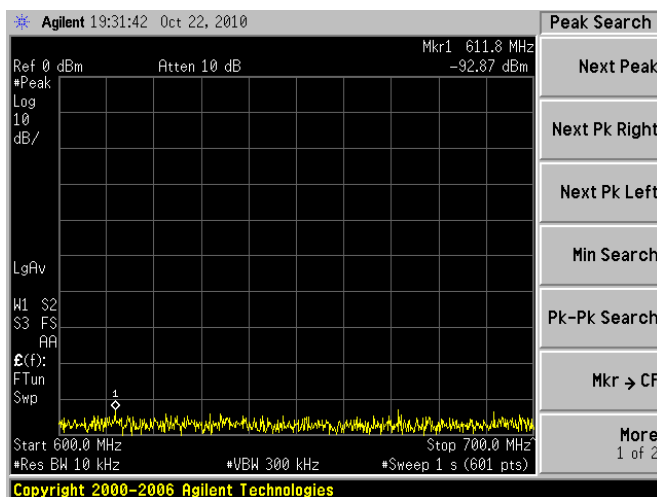
300MHz to 400MHz



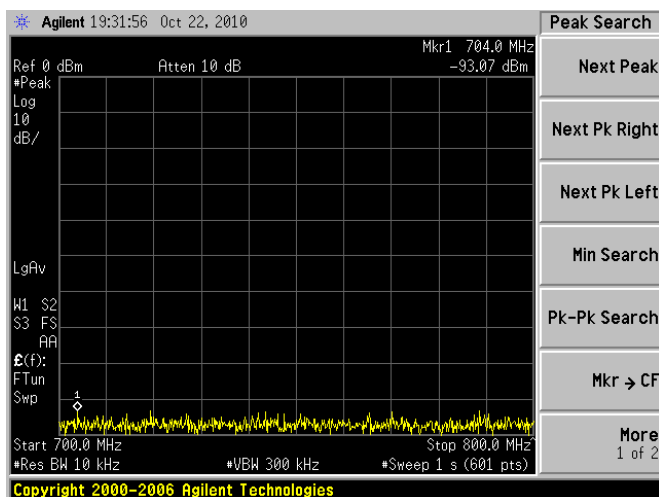
400MHz to 500MHz



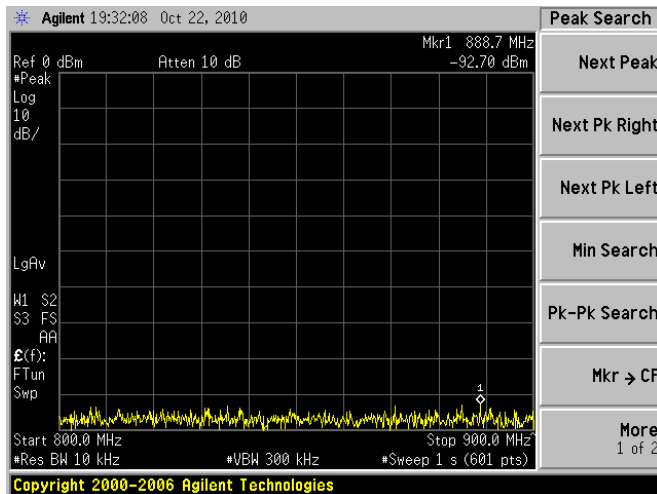
500MHz to 600MHz



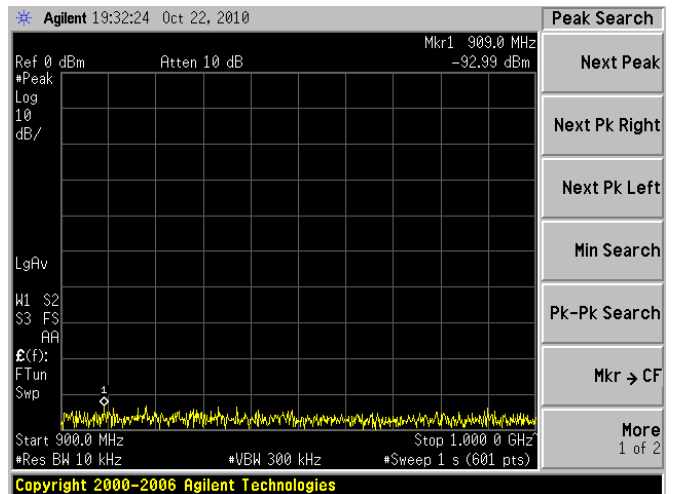
600MHz to 700MHz



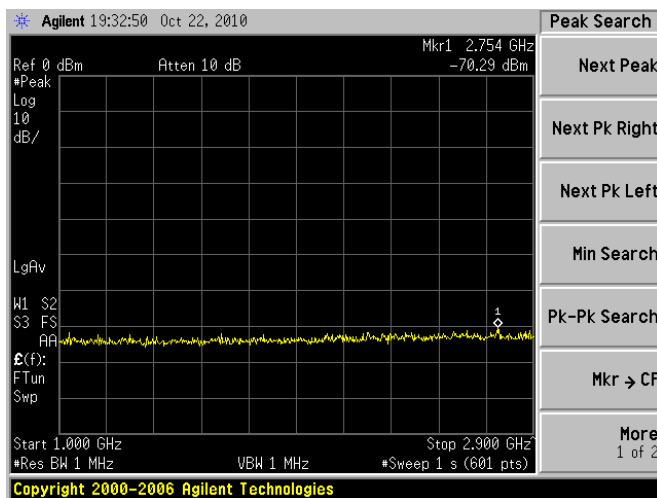
700MHz to 800MHz



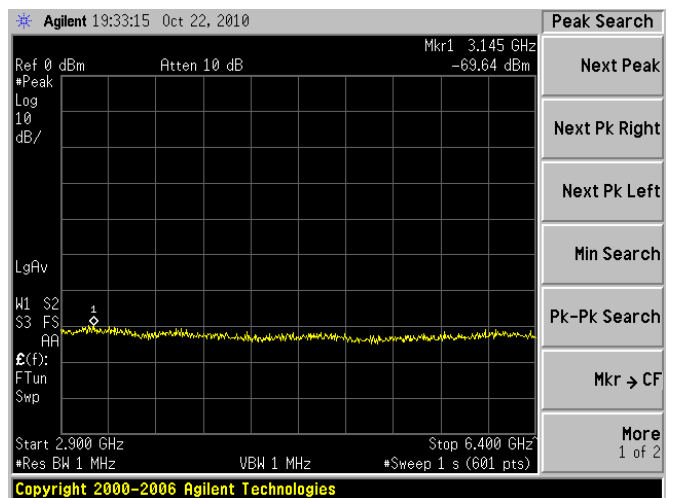
800MHz to 900MHz



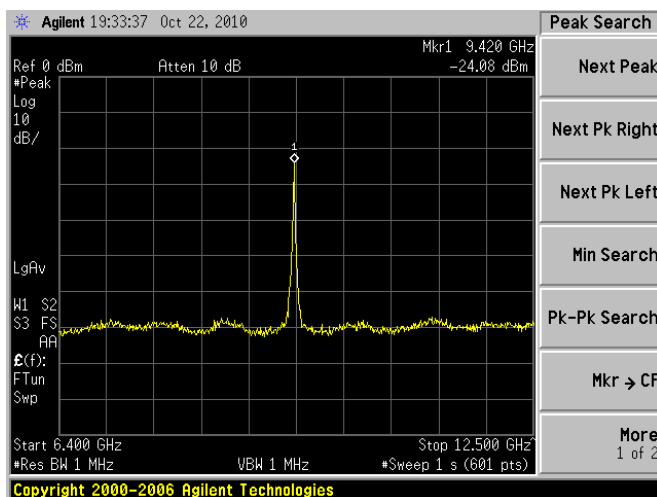
900MHz to 1GHz



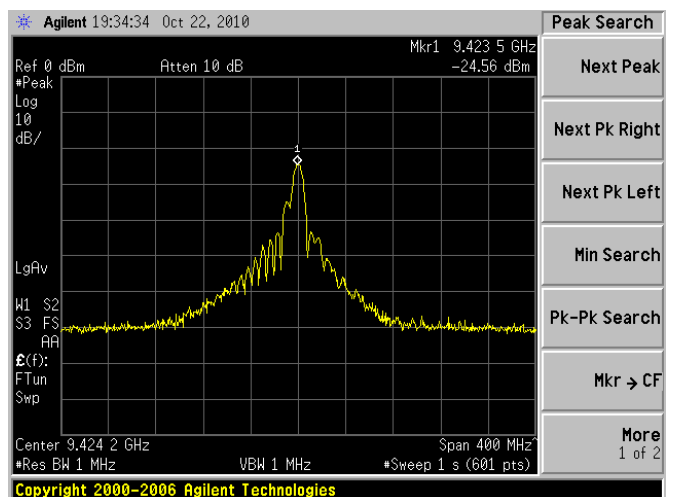
1.0GHz to 2.9GHz



2.9GHz to 6.4GHz

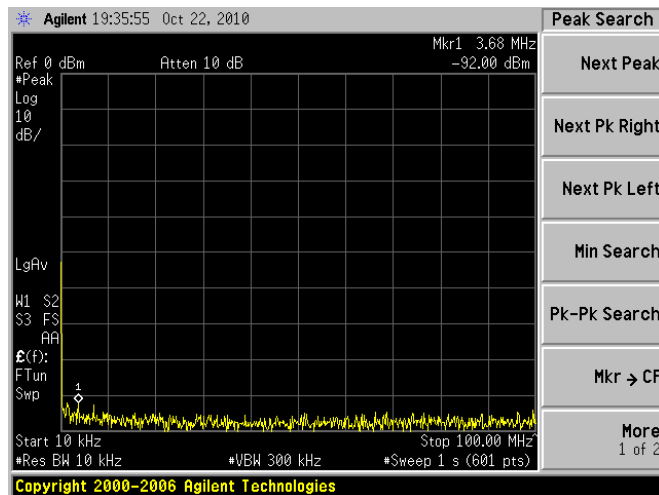


6.4GHz to 12.5GHz

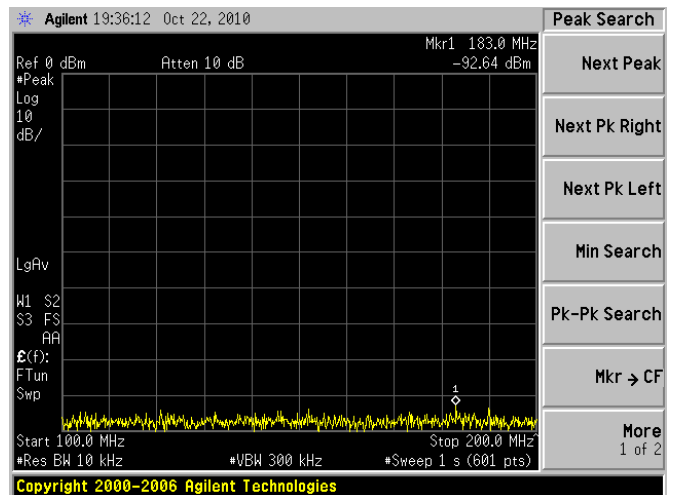


Center 9423.5MHz, Span 400MHz

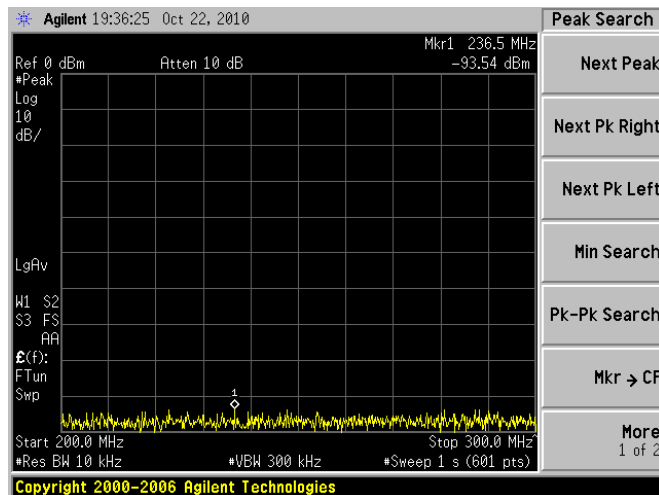
4.2.1.11 TEST RESULTS of 0.25usec/1700Hz pulse



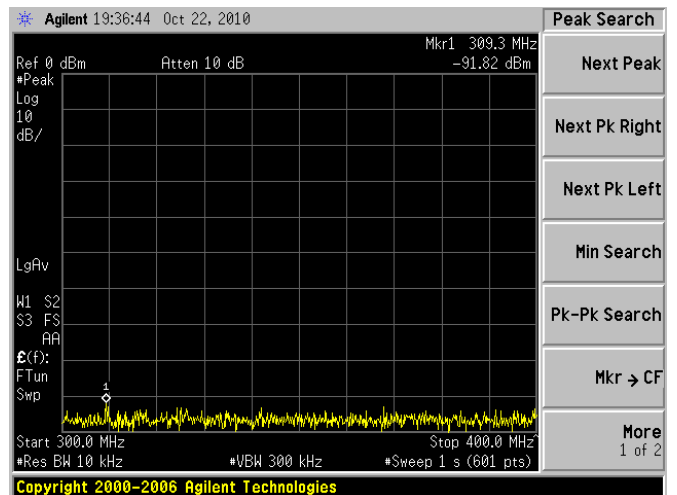
10kHz to 100MHz



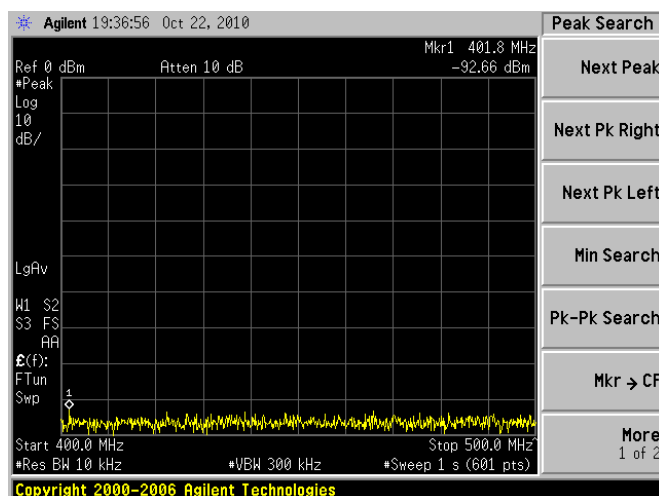
100MHz to 200MHz



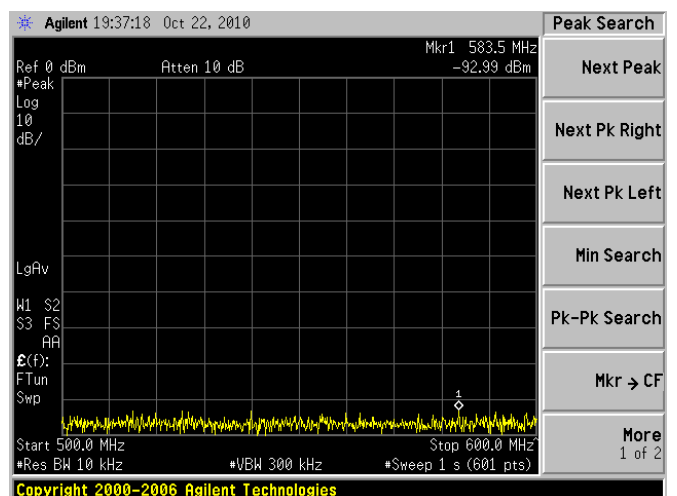
200MHz to 300MHz



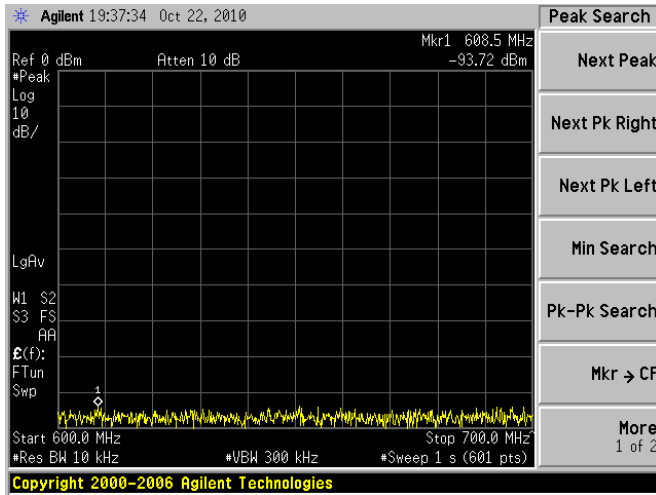
300MHz to 400MHz



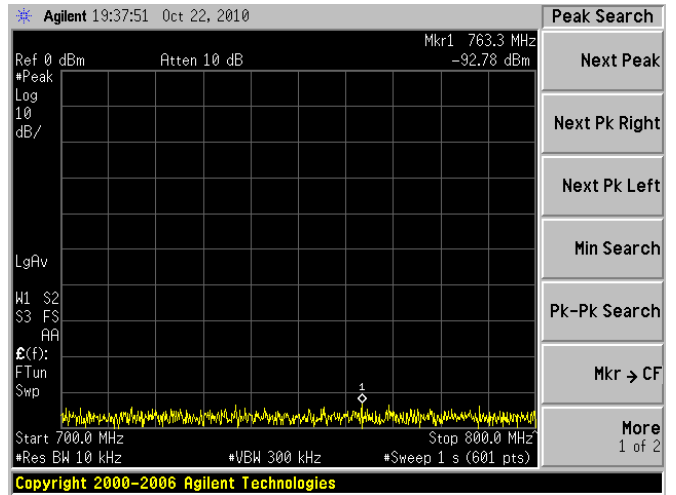
400MHz to 500MHz



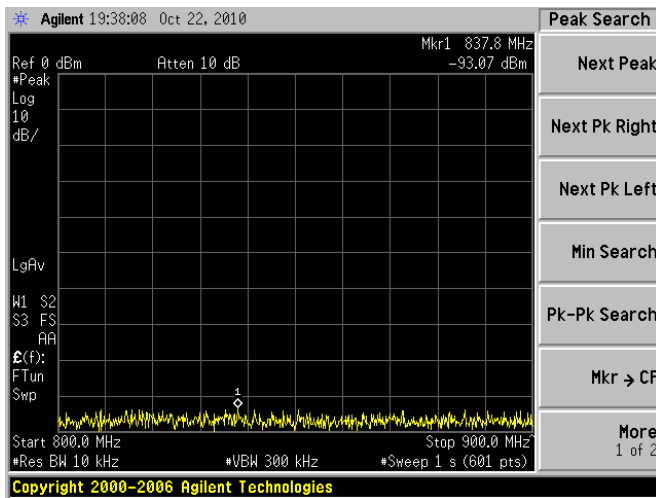
500MHz to 600MHz



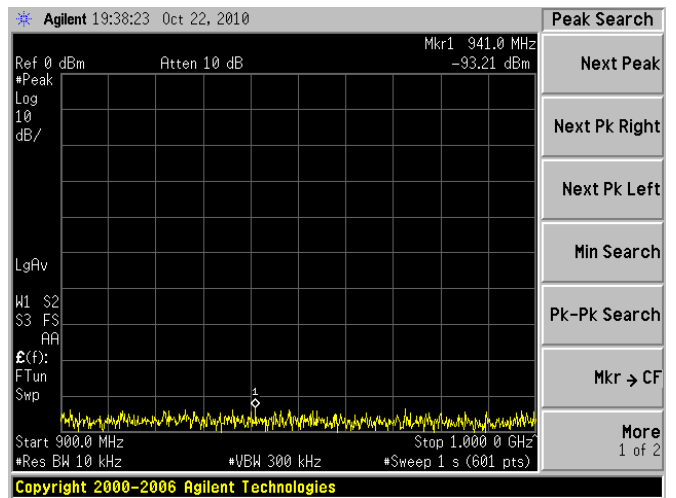
600MHz to 700MHz



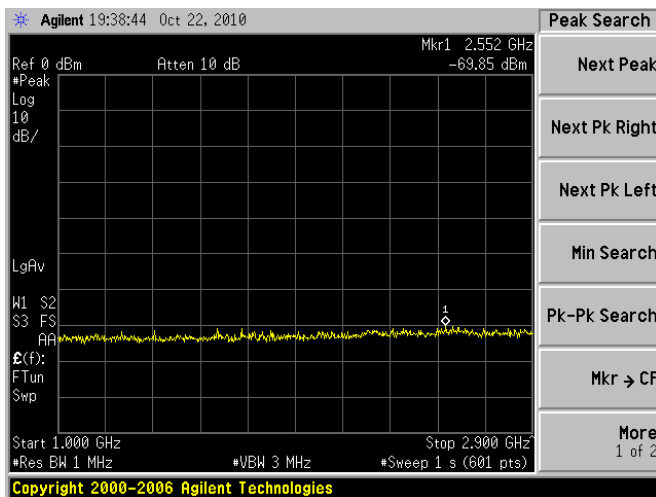
700MHz to 800MHz



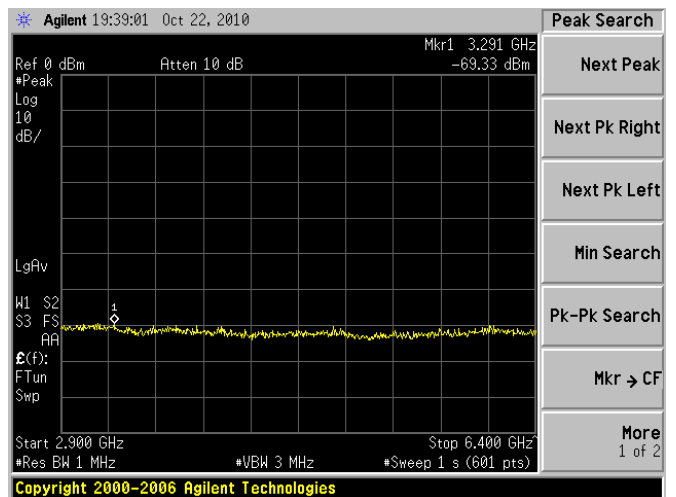
800MHz to 900MHz



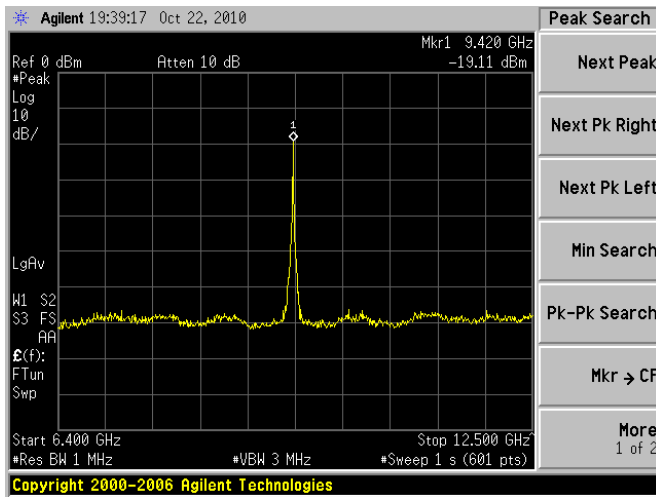
900MHz to 1.0GHz



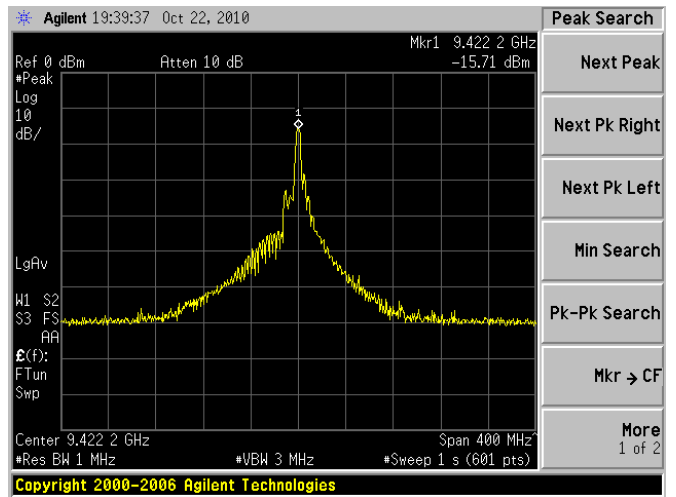
1.0GHz to 2.9GHz



2.9GHz to 6.4GHz

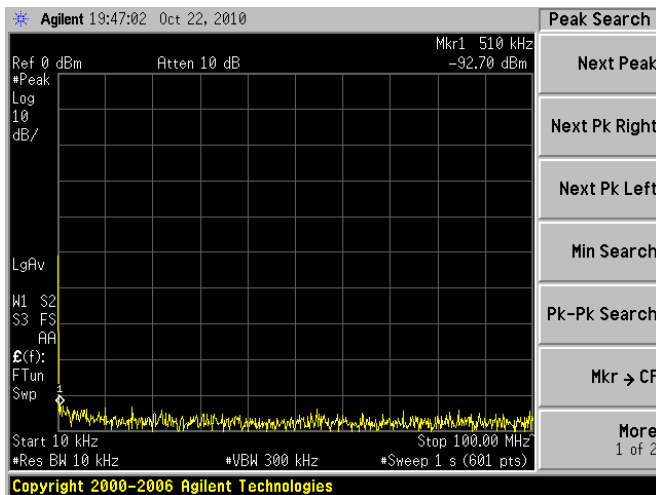


6.4GHz to 12.5GHz

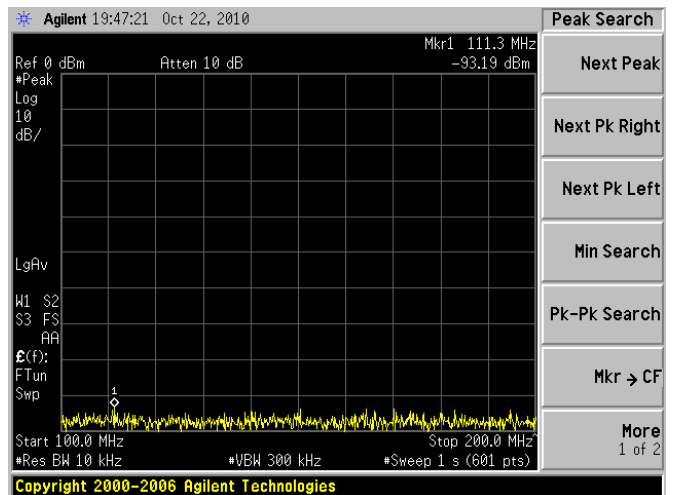


Center 9422.2MHz, Span 400MHz

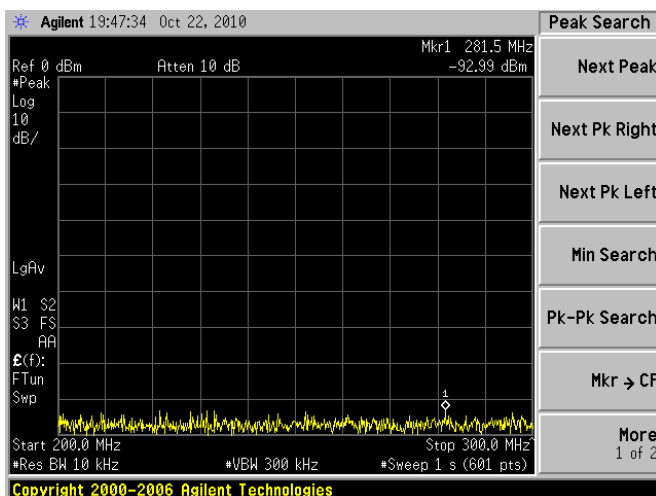
4.2.1.12 TEST RESULTS of 0.5usec/1200Hz pulse



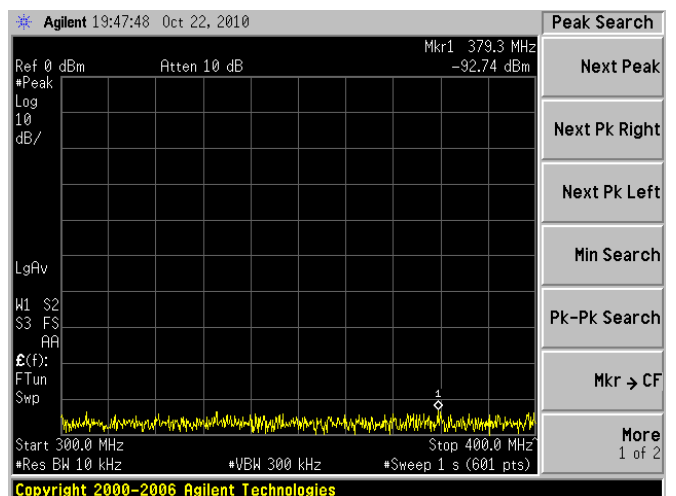
10kHz to 100MHz



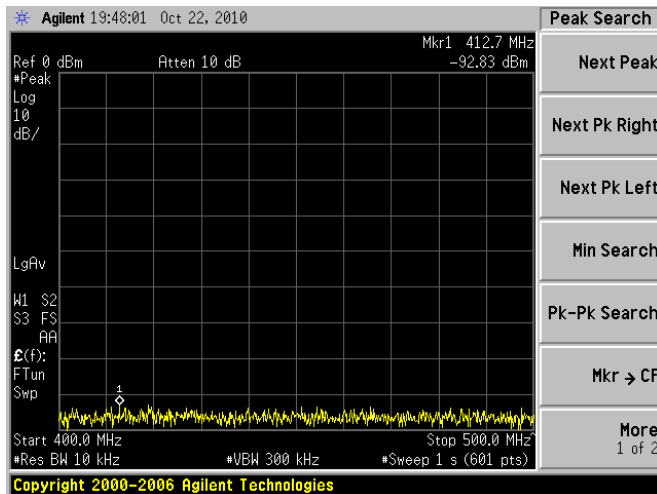
100MHz to 200MHz



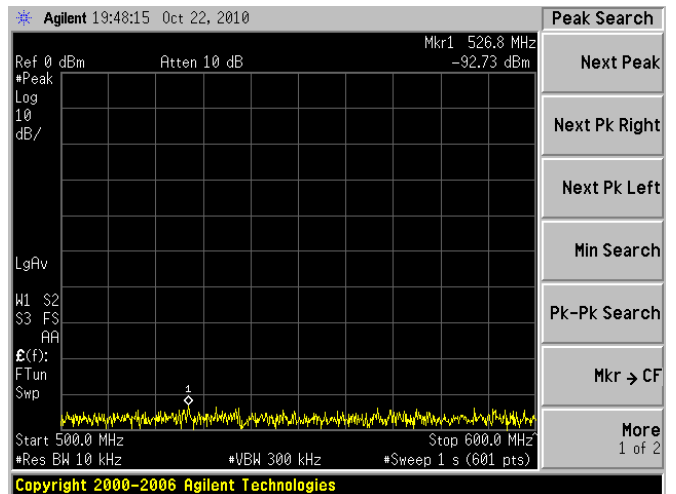
200MHz to 300MHz



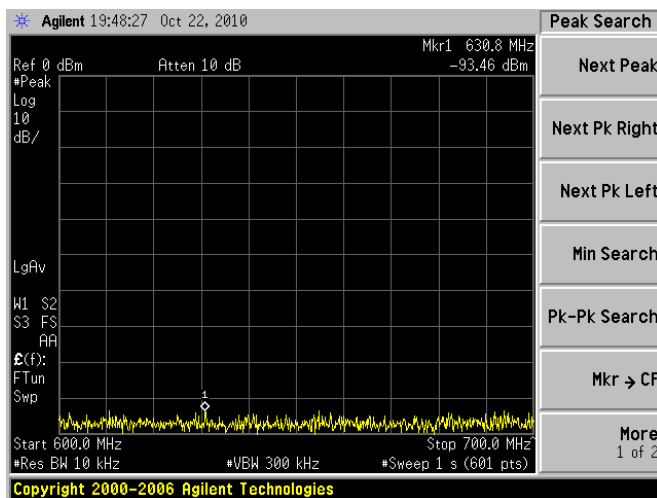
300MHz to 400MHz



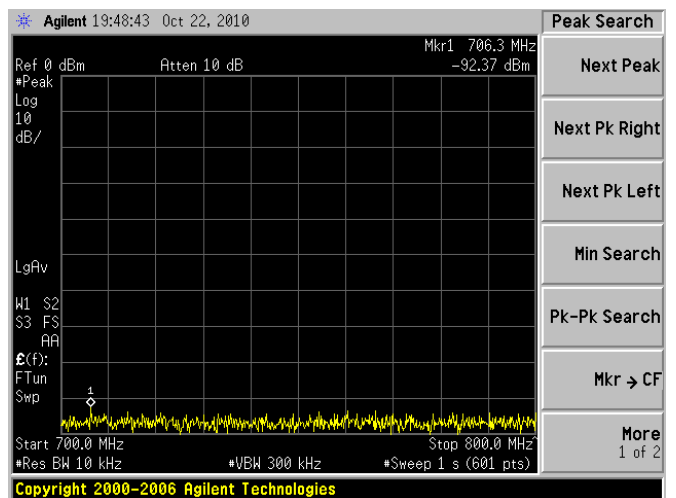
400MHz to 500MHz



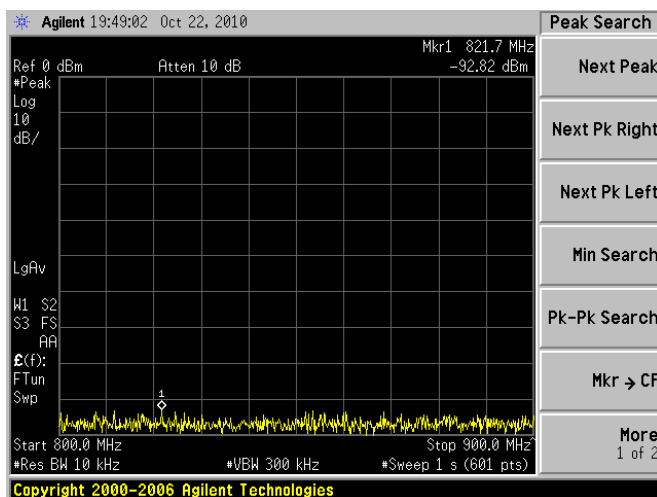
500MHz to 600MHz



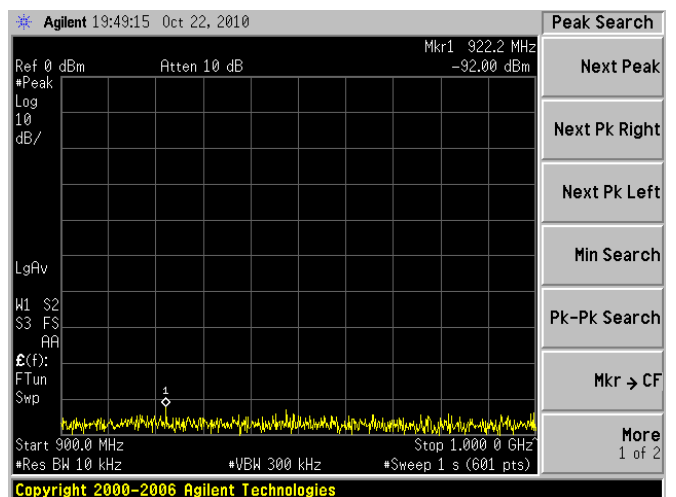
600MHz to 700MHz



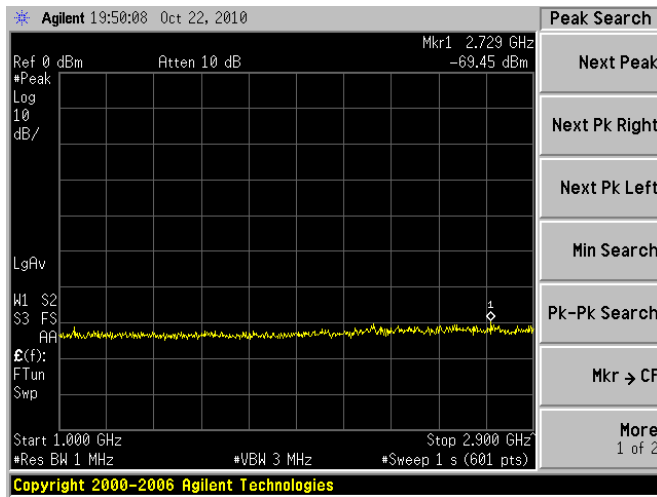
700MHz to 800MHz



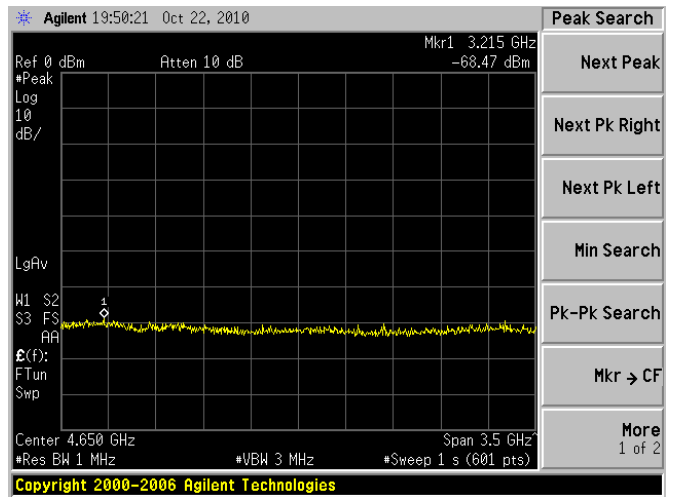
800MHz to 900MHz



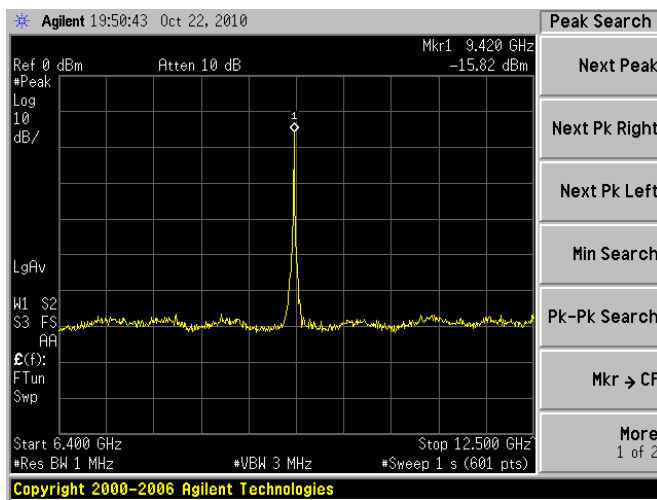
900MHz to 1GHz



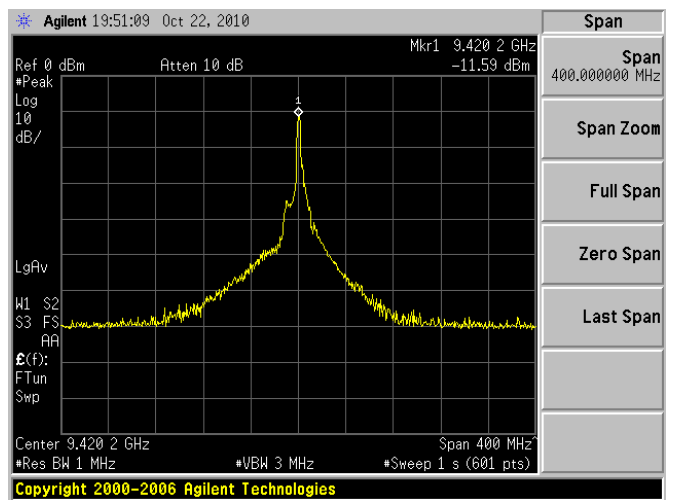
1.0GHz to 2.9GHz



2.9GHz to 6.4GHz

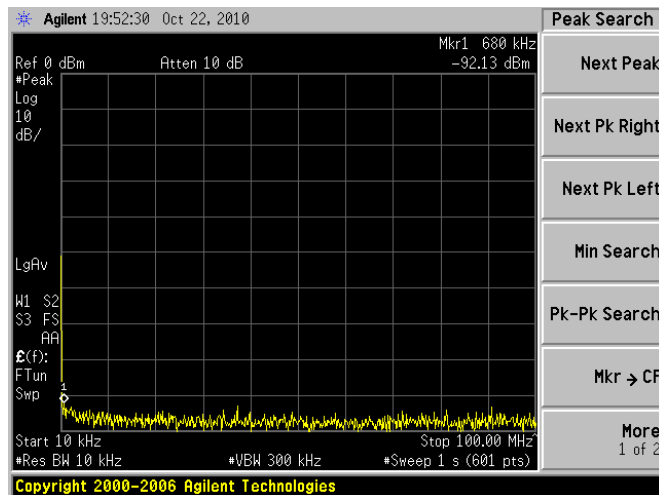


6.4GHz to 12.5GHz

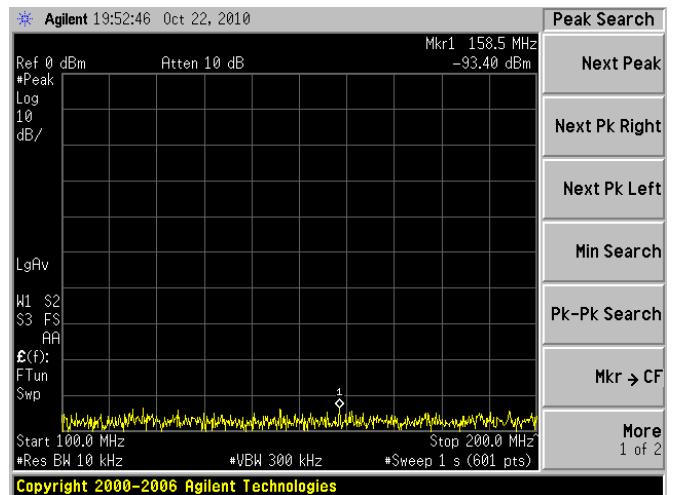


Center 9420.2MHz, Span 400MHz

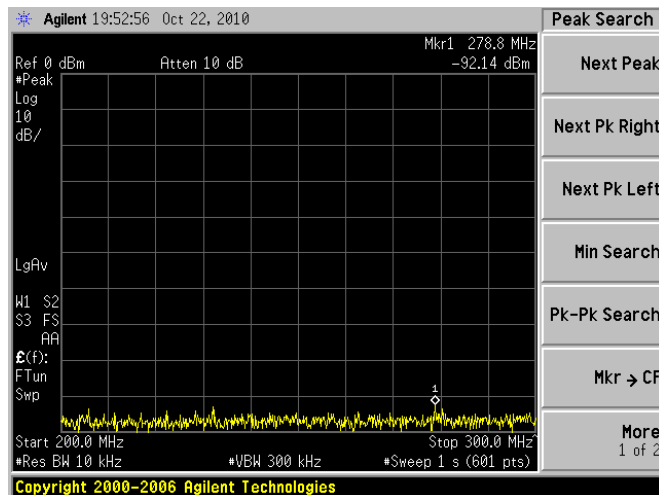
4.2.1.13 TEST RESULTS of 1.0usec/650Hz pulse



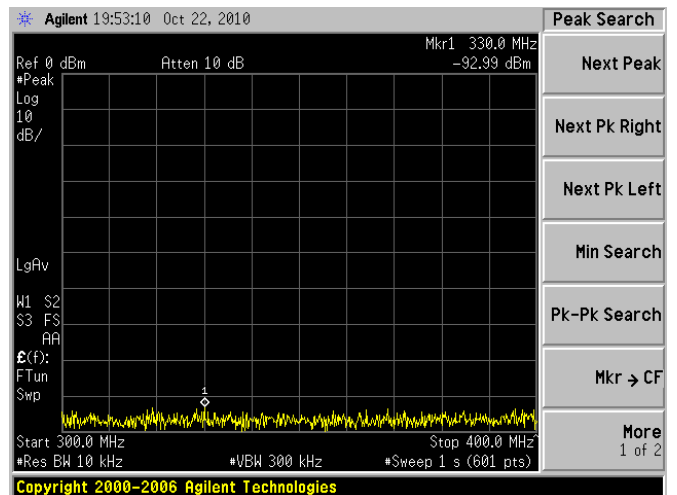
10kHz to 100MHz



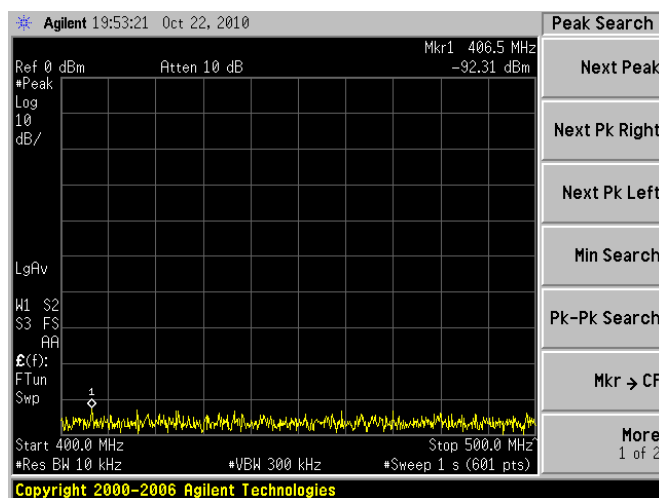
100MHz to 200MHz



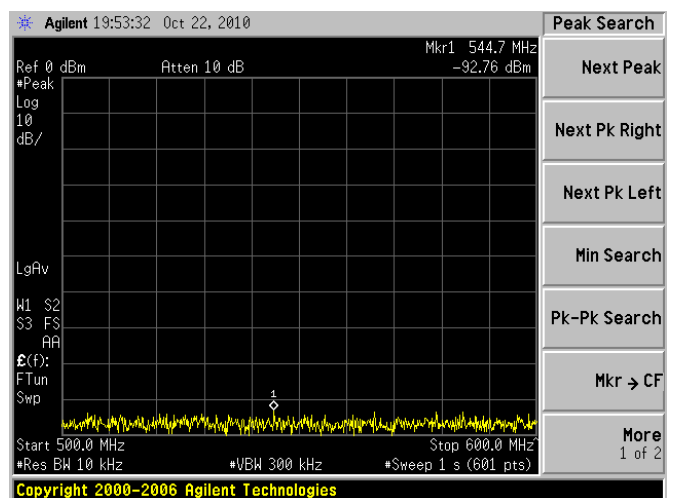
200MHz to 300MHz



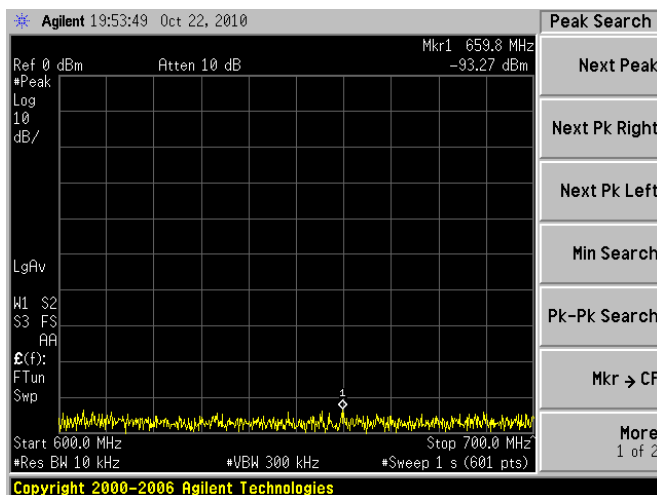
300MHz to 400MHz



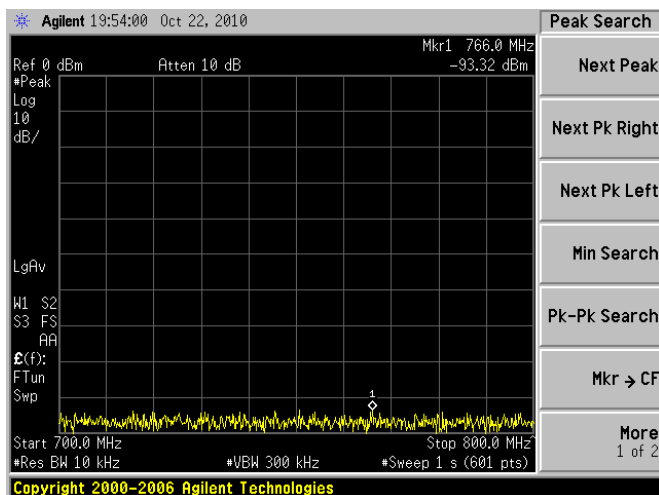
400MHz to 500MHz



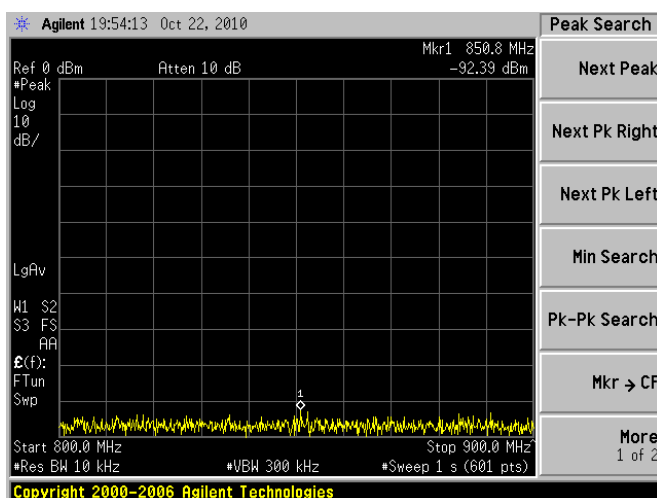
500MHz to 600MHz



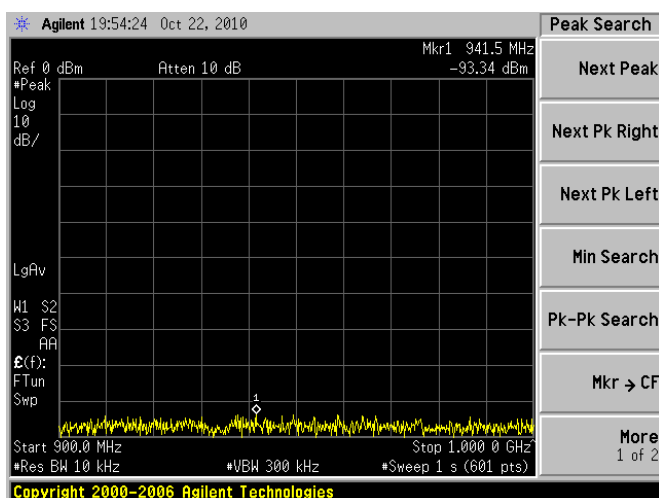
600MHz to 700MHz



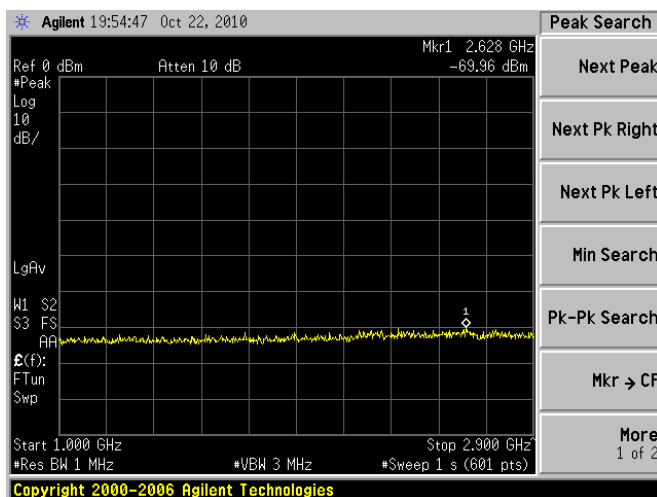
700MHz to 800MHz



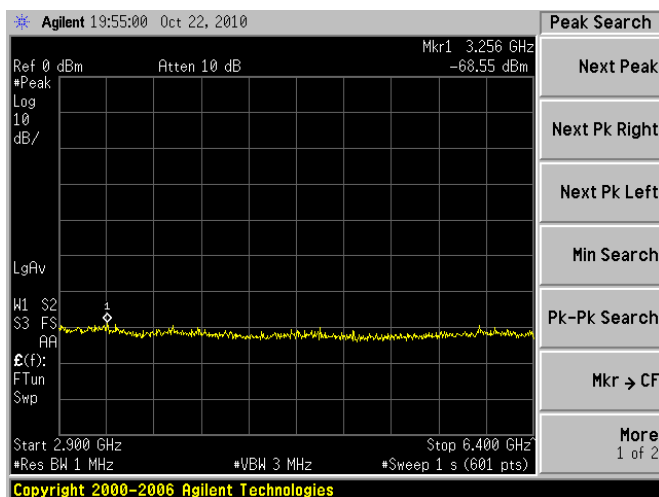
800MHz to 900MHz



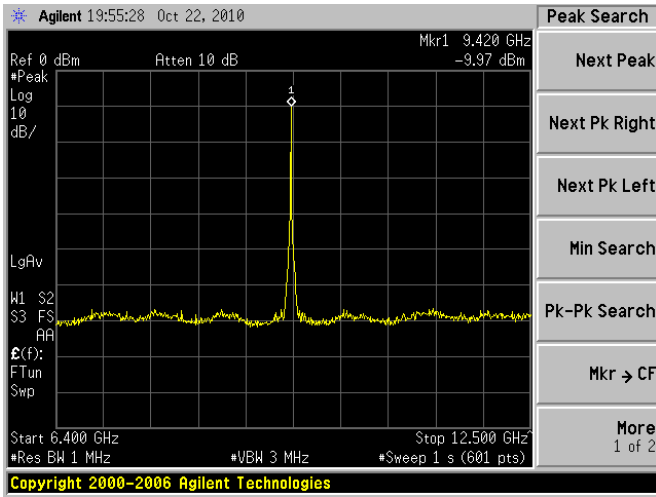
900MHz to 1GHz



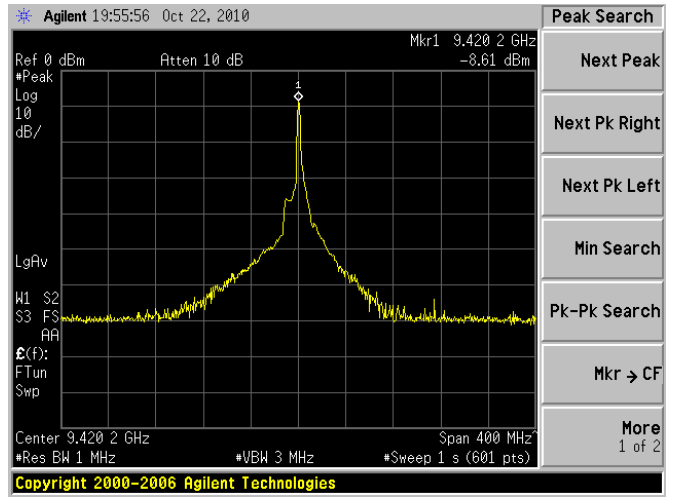
1.0GHz to 2.9GHz



2.9GHz to 6.4GHz

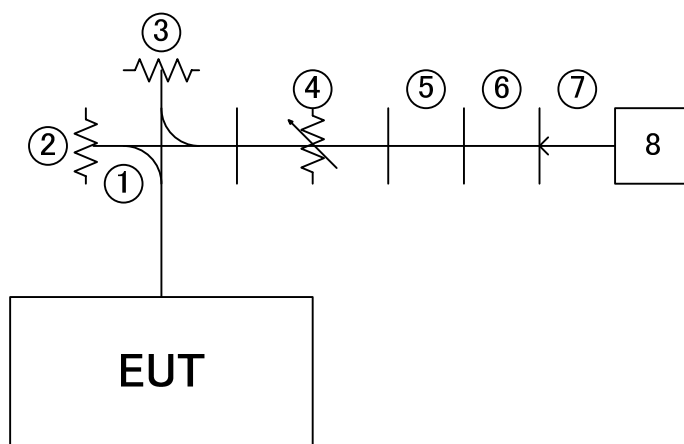


6.4GHz to 12.5GHz



Center 9420.2MHz, Span 400MHz

4.2.2.1 TEST SETUP for range 12.5GHz to 18.0GHz



4.2.2.2 TEST INSTRUMENT

	DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATION DATE	CALIBRATION DUE DATE
1	Direction Coupler (30dB) SHIMADARIKA	5D363	R11421	NA	NA
2	Dummy Load PASTERNAK	PE6815	NA	NA	NA
3	High Power Dummy Load PASTERNAK	PE6824	NA	NA	NA
4	Variable Attenuator HP	X382A	1005-00684	May. 2010	May. 2011
5	Tapered Waveguide ATM	62/90-6-6-6	G239605-02	NA	NA
6	Adaptor MDL	62AC126	0622	NA	NA
7	Coaxial Cable HUBER+SUHNER	SUCOFLEX 104PA	5784 /4PA	NA	NA
8	Spectrum Analyzer Agilent	E4448A	MY46180420	Sep. 24. 2010	Sep. 2011

Measurement Point : Antenna terminal

Spectrum Analyzer setting: RBW = 1MHz

VBW = 3MHz

Detector Mode = Positive Peak

4.2.2.3 TEST PROCEDURES

- a. Setup EUT as 4.2.2.1.
- b. Transmitted at most powerful pulse and adjusted attenuator for not exceeding the spectrum analyzer maximum rating.
- c. Transmitted at four pulses are 0.08usec/2250Hz, 0.25usec/1700Hz, 0.5usec/1200Hz and 1.0usec/650Hz, and capture the spectrum at 10kHz to 12.5GHz.

4.2.2.4 EUT OPERATING CONDITIONS

- a. Placed the EUT on the testing table.
- b. Prepared other computer systems for controlling EUT and placed them outside of testing area.

4.2.2.5 TEST RESULTS

No spurious emissions observed above minimum standard.

Test data is described at section 4.2.2.10

4.2.2.6 TEST CONDITIONS

Tamb = 20°C to 25°C, RHamb = 40% ~ 60%

EUT input = 24 VDC

4.2.2.7 STABILIZATION

EUT energized for 10 minutes minimum.

4.2.2.8 TEST EQUIPMENT

JRC Original – Shielded Room

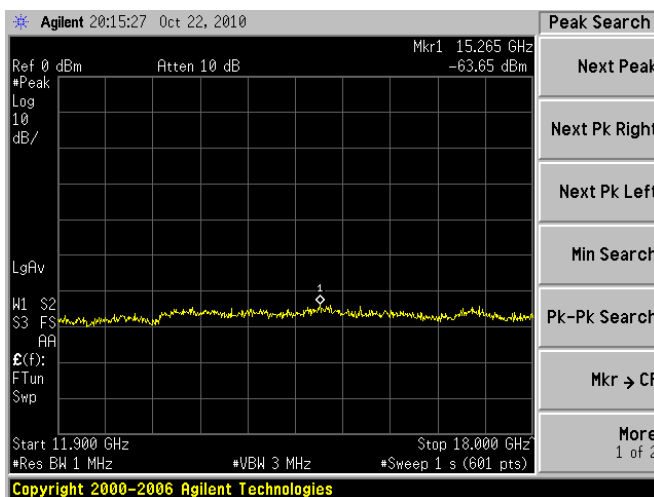
Other equipment – see test set-ups.

4.2.2.9 DATE

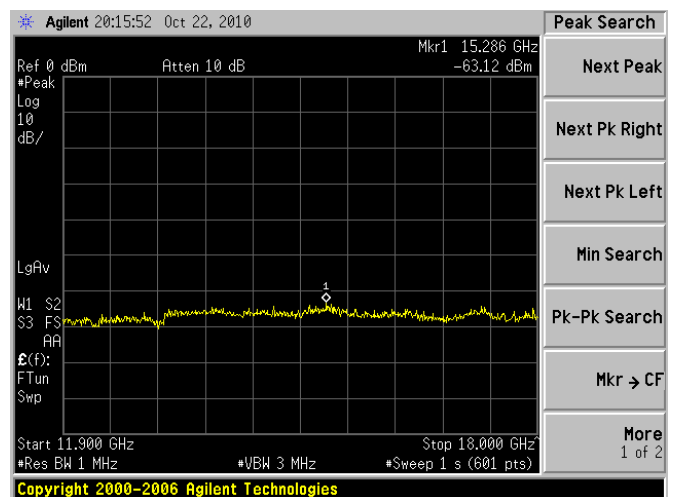
11th January, 2011

TESTED BY G.Higuchi

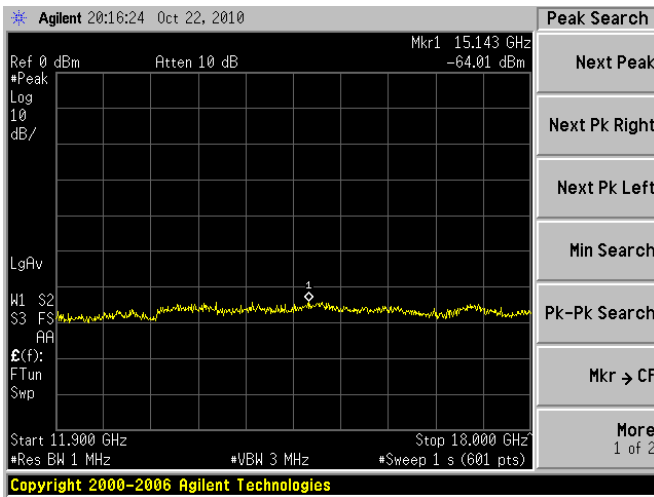
4.2.2.10 TEST RESULTS of 12.5GHz to 18GHz



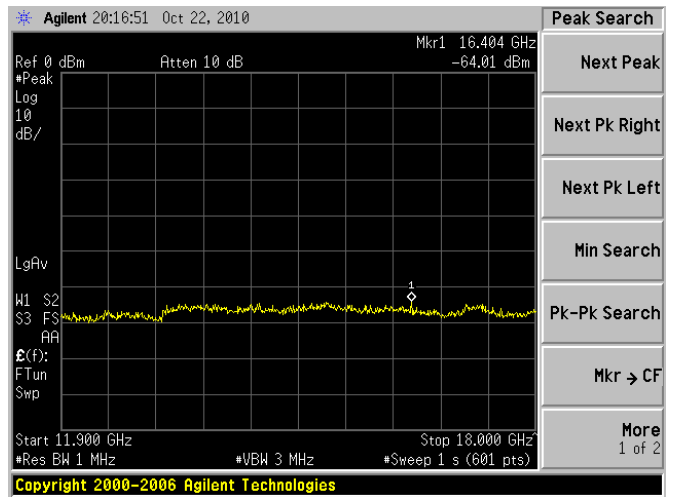
0.08usec/2250Hz



0.25usec/1700Hz

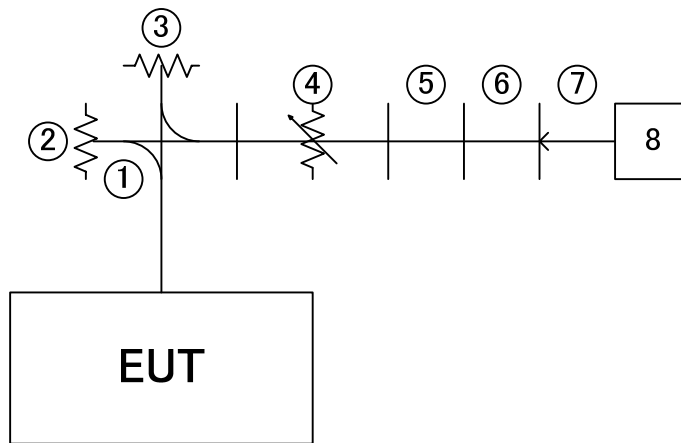


0.5usec/1200Hz



1.0usec/650Hz

4.2.3.1 TEST SETUP for range 17.6GHz to 40.0GHz



4.2.3.2 TEST INSTRUMENT

	DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATION DATE	CALIBRATION DUE DATE
1	Direction Coupler (30dB) SHIMADARIKA	5D363	R11421	NA	NA
2	Dummy Load PASTERNAK	PE6815	NA	NA	NA
3	High Power Dummy Load PASTERNAK	PE6824	NA	NA	NA
4	Variable Attenuator HP	X382A	1005-00684	May. 2010	May. 2011
5	Tapered Waveguide ATM	42/90-8-6-6	G239705-02	NA	NA
6	Adaptor MDL	42AC206	0616	NA	NA
7	Coaxial Cable HUBER+SUHNER	SUCOFLEX 104PA	5784 /4PA	NA	NA

8	Spectrum Analyzer Agilent	E4448A	MY46180420	Sep. 24. 2010	Sep. 2011
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Measurement Point : Antenna terminal

Spectrum Analyzer setting: RBW = 1MHz

VBW = 3MHz

Detector Mode = Positive Peak

4.2.3.3 TEST PROCEDURES

- a. Setup EUT as 4.2.2.1.
- b. Transmitted at most powerful pulse and adjusted attenuator for not exceeding the spectrum analyzer maximum rating.
- c. Transmitted at four pulses are 0.08usec/2250Hz, 0.25usec/1700Hz, 0.5usec/1200Hz and 1.0usec/650Hz, and capture the spectrum at 10kHz to 12.5GHz.

4.2.3.4 EUT OPERATING CONDITIONS

- a. Placed the EUT on the testing table.
- b. Prepared other computer systems for controlling EUT and placed them outside of testing area.

4.2.3.5 TEST RESULTS

No spurious emissions observed above minimum standard.

Test data is described at section 4.2.3.10 to 4.2.3.13

4.2.3.6 TEST CONDITIONS

Tamb = 20°C to 25°C, RHamb = 40% ~ 60%

EUT input = 24 VDC

4.2.3.7 STABILIZATION

EUT energized for 10 minutes minimum.

4.2.3.8 TEST EQUIPMENT

JRC Original – Shielded Room

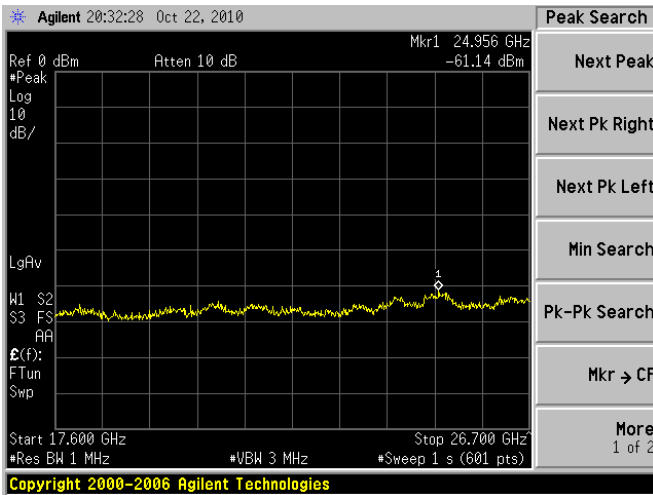
Other equipment – see test set-ups.

4.2.3.9 DATE

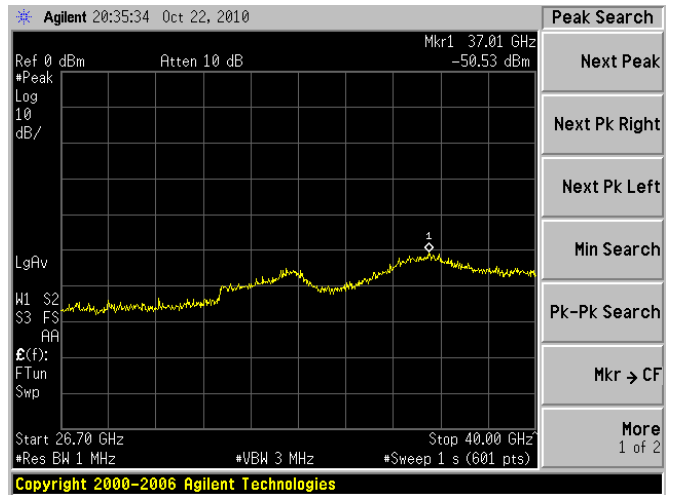
11th January, 2011

TESTED BY G.Higuchi

4.2.3.10 TEST RESULTS of 0.08usec/2250Hz

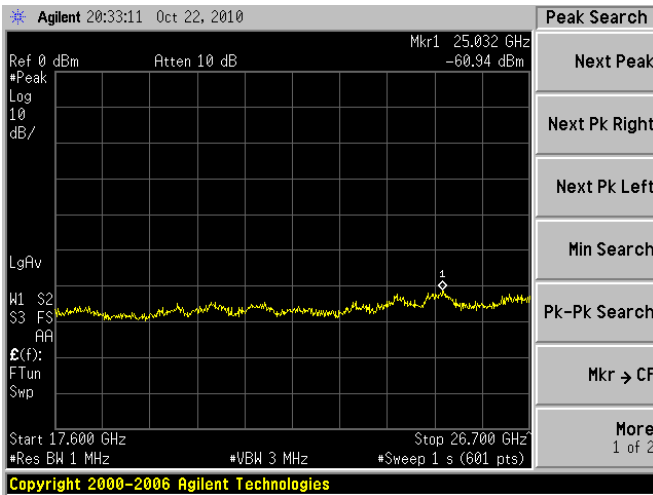


17.6GHz to 26.7GHz

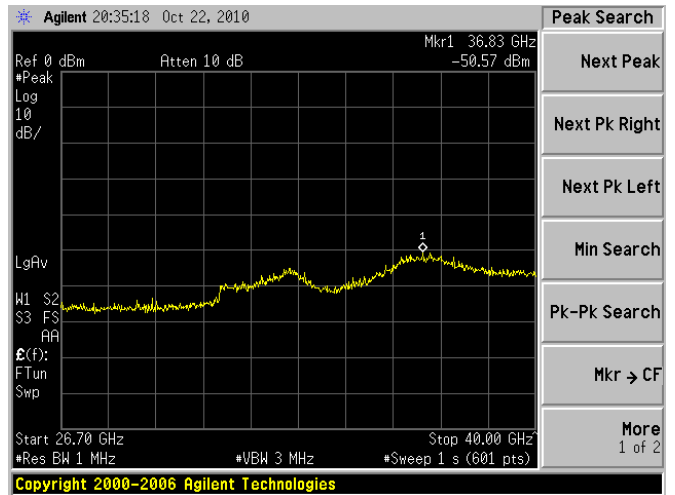


26.7GHz to 40.0GHz

4.2.3.11 TEST RESULTS of 0.25usec/1700Hz

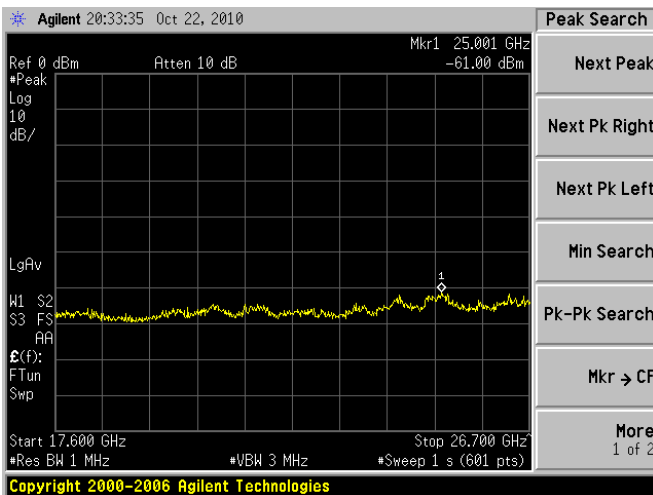


17.6GHz to 26.7GHz

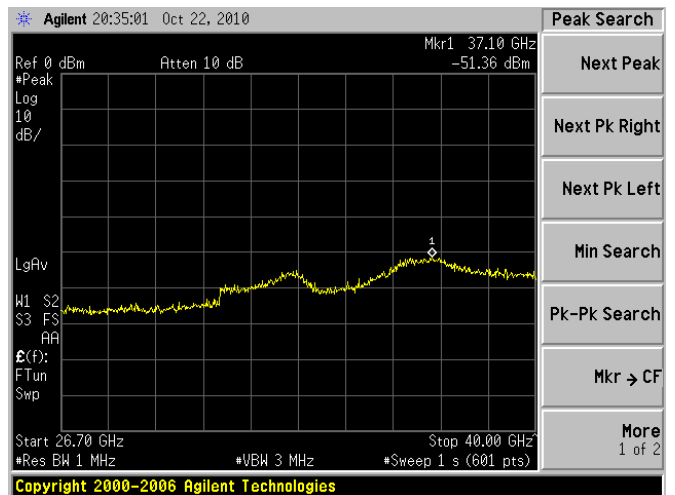


26.7GHz to 40.0GHz

4.2.3.12 TEST RESULTS of 0.5usec/1200Hz

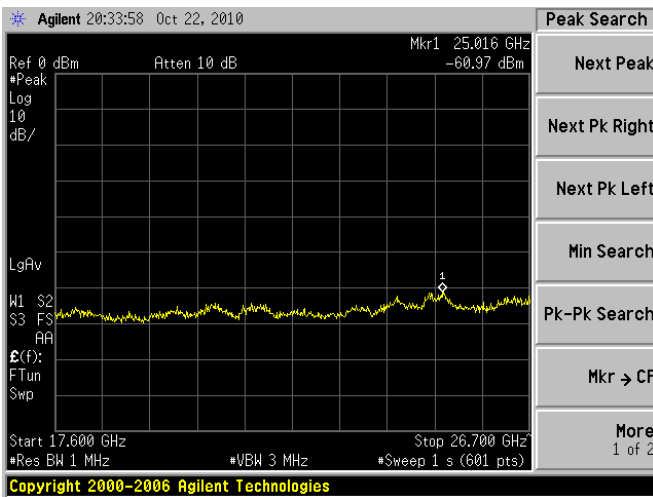


17.6GHz to 26.7GHz

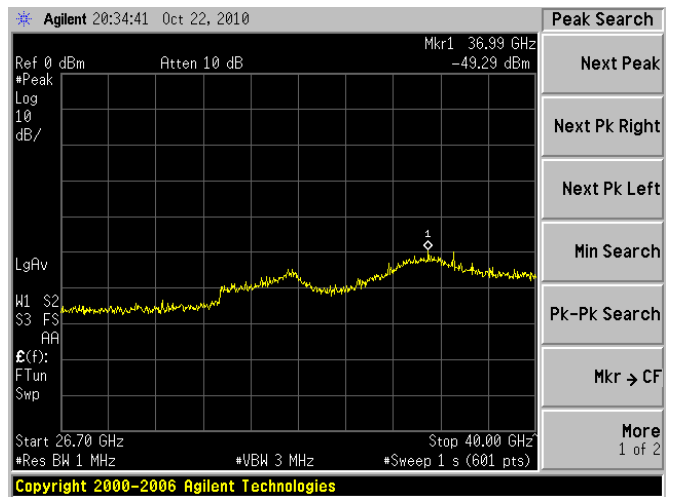


26.7GHz to 40.0GHz

4.2.3.13 TEST RESULTS of 1.0usec/650Hz



17.6GHz to 26.7GHz

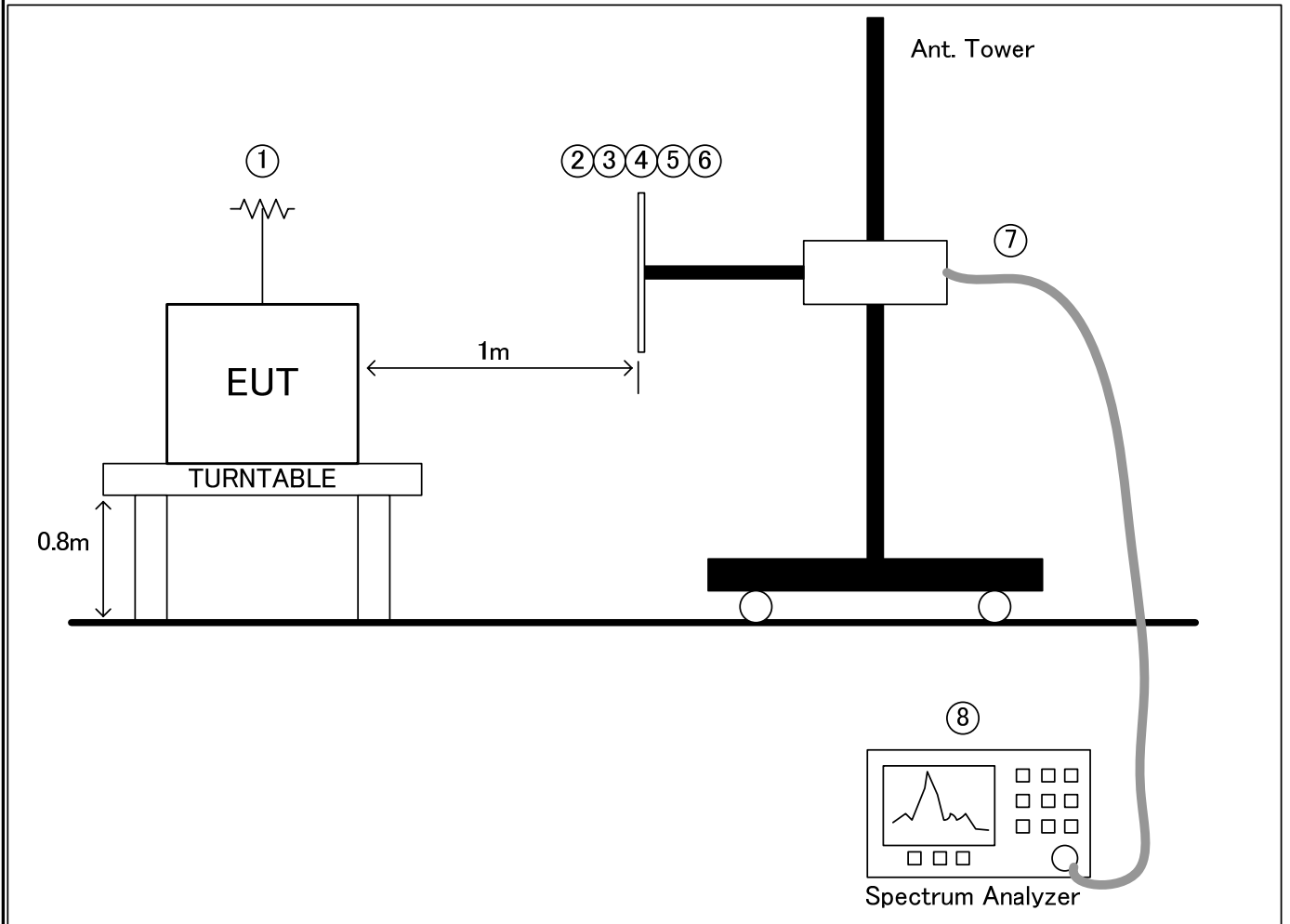


26.7GHz to 40.0GHz

4.3 Field strength of spurious radiation

47 CFR sec. 2.1053

4.3.1.1 TEST SETUP for measuring the radiated spurious emissions are from the EUT.

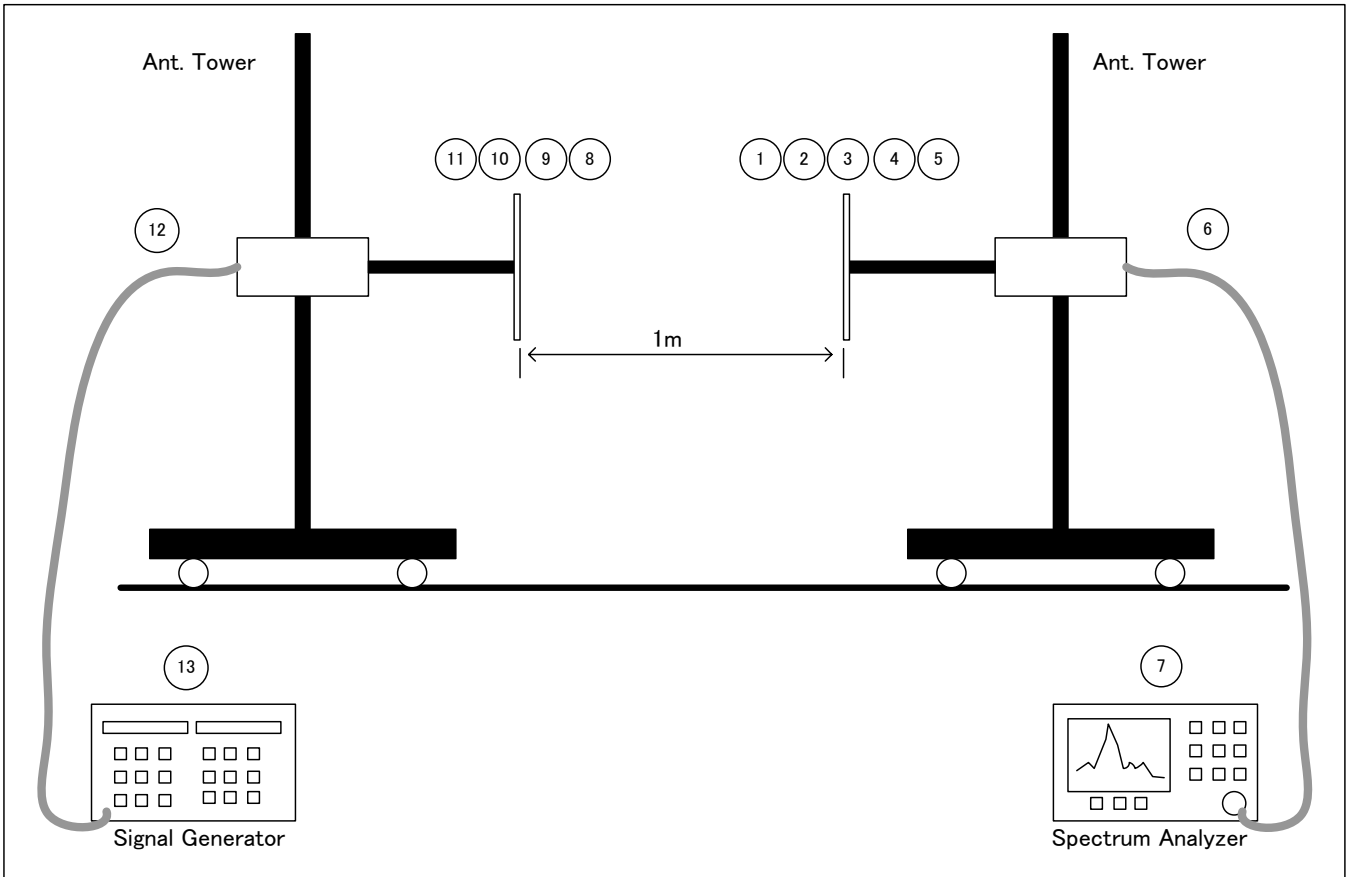


4.3.1.2 TEST INSTRUMENT

	DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATION DATE	CALIBRATION DUE DATE
1	High Power Dummy Load PASTERNAK	PE6824	1005-00684	NA	NA
2	Biconical Schwarzbeck	BBA9106	NA	NA	NA
3	Logarithmic Periodic Schwarzbeck	UHALP9107	91071314	NA	NA
4	Double Ridge Horn ETS LINDGREN	3117	00091928	NA	NA
5	Standard Gain Horn Flann	20240	NA	NA	NA
6	Standard Gain Horn Flann	22240	NA	NA	NA
7	Coaxial Cable HUBER+SUHNER	SUCOFLEX 104PA	5784 /4PA	NA	NA

8	Spectrum Analyzer Agilent	E4448A	MY46180420	Sep. 24. 2010	Sep. 2011
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4.3.2.1 TEST SETUP for measuring the level of particular spurious frequency from Signal Generator.



4.3.2.2 TEST INSTRUMENT

	DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATION DATE	CALIBRATION DUE DATE
1	Biconical Schwarzbeck	BBA9106	NA	NA	NA
2	Logarithmic Periodic Schwarzbeck	UHALP9107	91071314	NA	NA
3	Double Ridge Horn ETS LINDGREN	3117	91928	NA	NA
4	Standard Gain Horn Flann	20240	NA	NA	NA
5	Standard Gain Horn Flann	22240	NA	NA	NA
6	Coaxial Cable HUBER+SUHNER	SUCOFLEX 104PA	5784 /4PA	NA	NA
7	Spectrum Analyzer Agilent	E4448A	MY46180420	Sep. 24. 2010	Sep. 2011

8	Dipole Schwazbeck	UHA9105		NA	NA
9	Logarithmic Periodic EATON	94612-1	0203	NA	NA
10	Standard Gain Horn Flann	20240	NA	NA	NA
11	Standard Gain Horn Flann	22240	NA	NA	NA
12	Coaxial Cable JUNKOSHA	WMX313-02000 NMSNMS	J04137	NA	NA
13	Signal Generator Agilent	EE8274C	MY43321154	Sep. 22. 2010	Sep. 2011

Measurement Point : Antenna terminal

Spectrum Analyzer setting: RBW = 10kHz less than 1GHz, 1MHz above 1GHz
 VBW = 300kHz less than 1GHz, 3MHz above 1GHz
 Detector Mode = Positive Peak

4.3.3 TEST PROCEDURES

Reference to Section 2.2.12 Unwanted Emission: Radiated Spurious on TIA-603-C.

4.3.4 MINIMUM STANDARD

Emissions \leq -13.0 dBm

4.3.5 TEST RESULTS

No spurious emissions observed above minimum standard.
 Test data is described at section 4.3.10.

4.3.6 TEST CONDITIONS

Tamb = 20°C to 25°C, RHamb = 40% ~ 60%
 EUT input = 24 VDC

4.3.7 STABILIZATION

EUT energized for 10 minutes minimum.

4.3.8 TEST EQUIPMENT

JRC Original – Shielded Room
 Other equipment – see test set-ups.

4.3.9 DATE

22 December, 2010

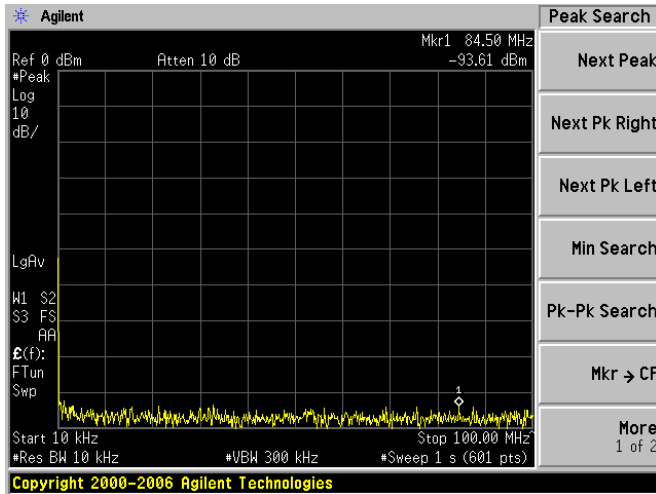
TEST ENGINEER: G. Higuchi

4.4.10.1 TEST RESULTS of Ambient Noise

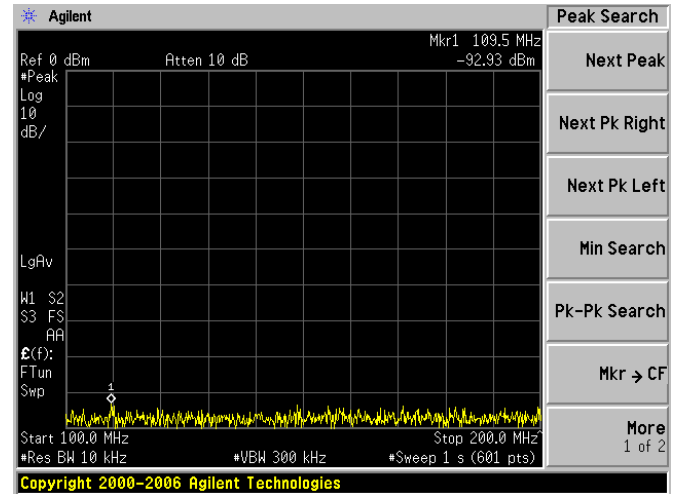
ambient								
Range	Frequency [MHz]	level [dBm]	ref leve [dB]	Pg [dB]	Cable Loss [dB]	Antenna Gain [dB]	[Pd] [dBm]	Radiated spurious emission [dB]
10kHz – 100MHz	84.5	-93.61	less than -93	-93	0.5	-2.49	95.99	less than noise floor
100MHz – 200MHz	109.5	-92.93	less than -93	-93	0.5	-0.94	94.44	less than noise floor
200MHz – 300MHz	258.5	-92.75	less than -80	-80	0.5	-1.12	81.62	less than noise floor
300MHz – 400MHz	352.3	-92.31	less than -85	-85	0.5	2.86	82.64	less than noise floor
400MHz – 500MHz	435	-93.45	less than -82	-82	0.5	3.16	79.34	less than noise floor
500MHz – 600MHz	514.7	-92.59	less than -83	-83	0.5	3.06	80.44	less than noise floor
600MHz – 700MHz	696.7	-92.86	less than -76	-76	0.5	2.41	74.09	less than noise floor
700MHz – 800MHz	778.5	-91.96	less than -78	-78	0.5	2.86	75.64	less than noise floor
800MHz – 900MHz	814.3	-92.33	less than -78	-78	0.5	3.16	75.34	less than noise floor
900MHz – 1.0GHz	953.5	-93.23	less than -79	-79	0.5	3.01	76.49	less than noise floor
1.0GHz – 2.9GHz	2323	-69.36	less than -56	-56	1	5	52.00	less than noise floor
2.9GHz – 6.4GHz	3157	-67.83	less than -51	-51	1.2	5	47.20	less than noise floor
6.4GHz – 12.5GHz	7722	-65.63	less than -46	-46	2.5	10.5	38.00	less than noise floor
12.5G – 18GHz	15287	-62.81	less than -32	-32	3	13	22.00	less than noise floor
17.6G – 26.7GHz	24986	-61.04	less than -58	-58	3	20	41.00	less than noise floor
26.7G – 40.0GHz	37010	-49.95	less than -39	-39	3	20	22.00	less than noise floor

ambient								
Range	Frequency [MHz]	level [dBm]	ref leve [dB]	Pg [dB]	Cable Loss [dB]	Antenna Gain [dB]	[Pd] [dBm]	Radiated spurious emission [dB]
10kHz – 100MHz	81.84	-92.11	less than -93	-93	0.5	-2.66	96.16	less than noise floor
100MHz – 200MHz	176.8	-92.99	less than -93	-93	0.5	-0.42	93.92	less than noise floor
200MHz – 300MHz	252.7	-91.43	less than -80	-80	0.5	-0.84	81.34	less than noise floor
300MHz – 400MHz	394.7	-92.51	less than -81	-81	0.5	3.26	78.24	less than noise floor
400MHz – 500MHz	489.7	-92.64	less than -82	-82	0.5	3.16	79.34	less than noise floor
500MHz – 600MHz	560.2	-92.88	less than -81	-81	0.5	2.86	78.64	less than noise floor
600MHz – 700MHz	617.7	-92.84	less than -80	-80	0.5	2.56	77.94	less than noise floor
700MHz – 800MHz	722.8	-92.22	less than -78	-78	0.5	2.46	76.04	less than noise floor
800MHz – 900MHz	882.5	-93.04	less than -76	-76	0.5	3.06	73.44	less than noise floor
900MHz – 1.0GHz	972.3	-92.73	less than -76	-76	0.5	2.96	73.54	less than noise floor
1.0GHz – 2.9GHz	2704	-69.11	less than -55	-55	1	5	51.00	less than noise floor
2.9GHz – 6.4GHz	3104	-68.06	less than -51	-51	1.2	5	47.20	less than noise floor
6.4GHz – 12.5GHz	7762	-65.77	less than -46	-46	2.5	10.5	38.00	less than noise floor
12.5G – 18GHz	15305	-63.04	less than -36	-36	3	13	26.00	less than noise floor
17.6G – 26.7GHz	25001	-60.48	less than -59	-59	3	20	42.00	less than noise floor
26.7G – 40.0GHz	37010	-50.57	less than -38	-38	3	20	21.00	less than noise floor

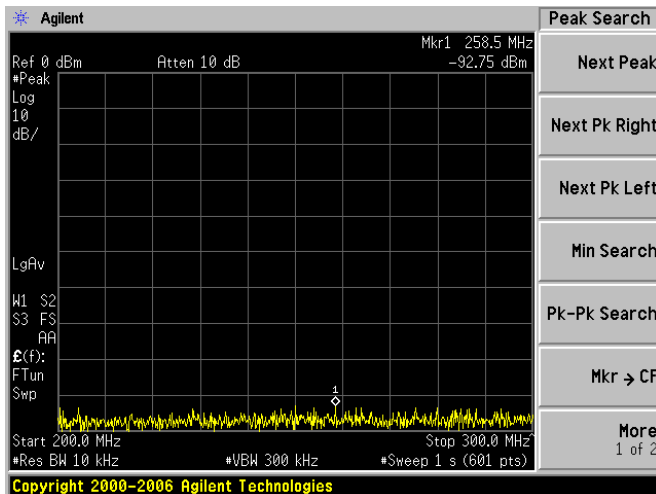
•Horizontally Polarized



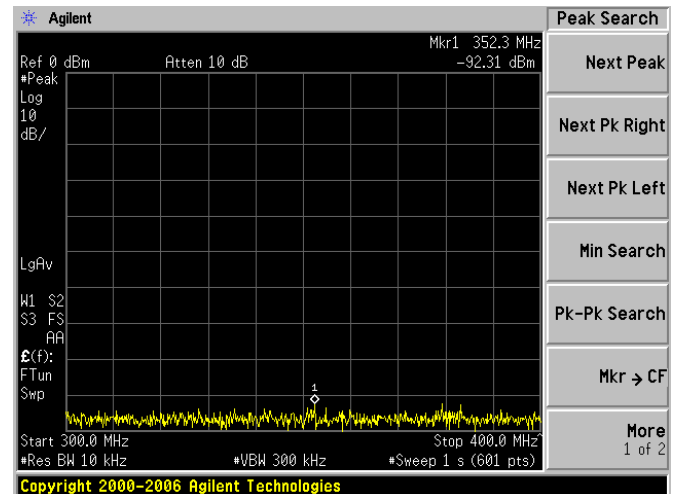
10kHz to 100MHz



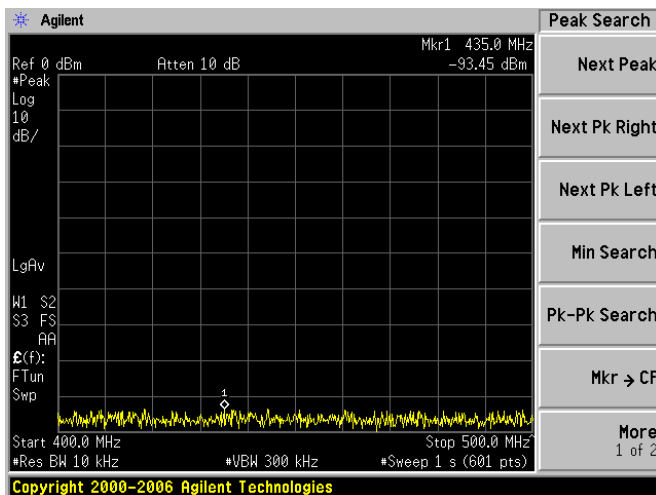
100MHz to 200MHz



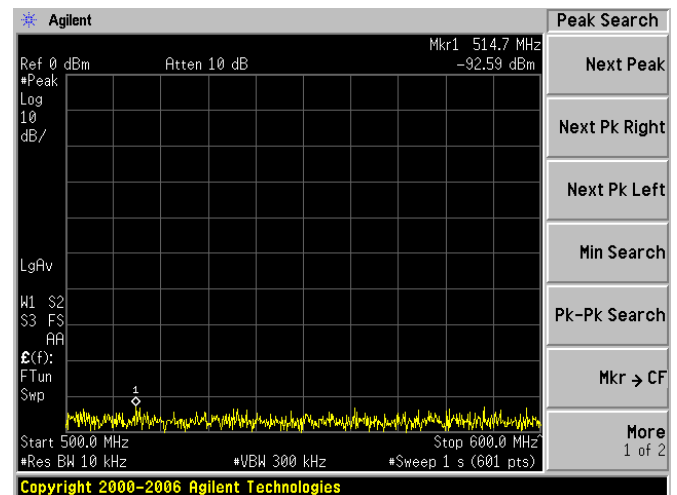
200MHz to 300MHz



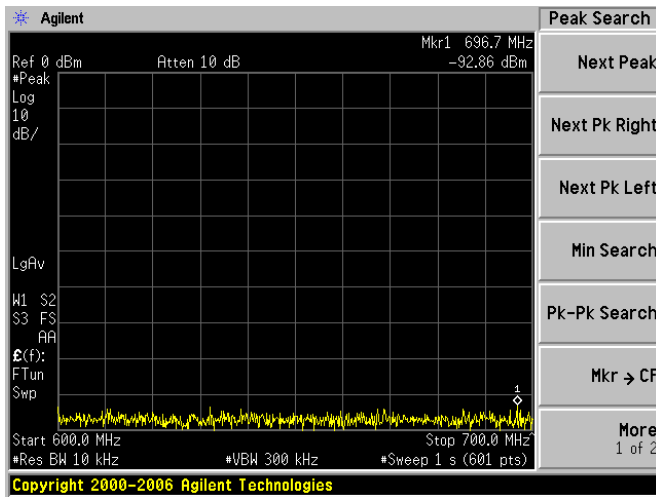
300MHz to 400MHz



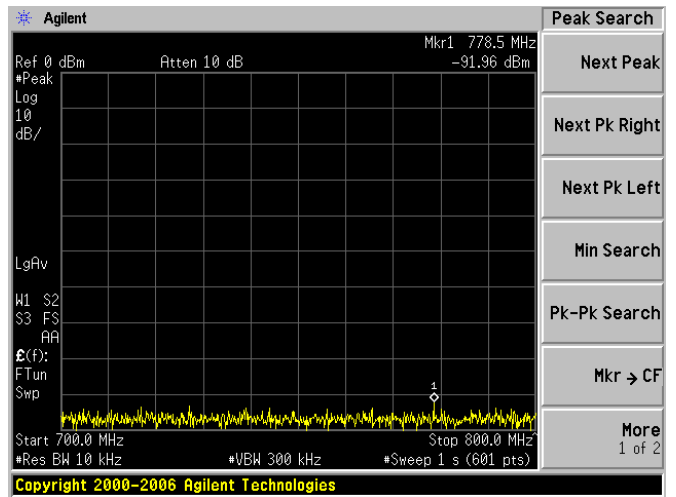
400MHz to 500MHz



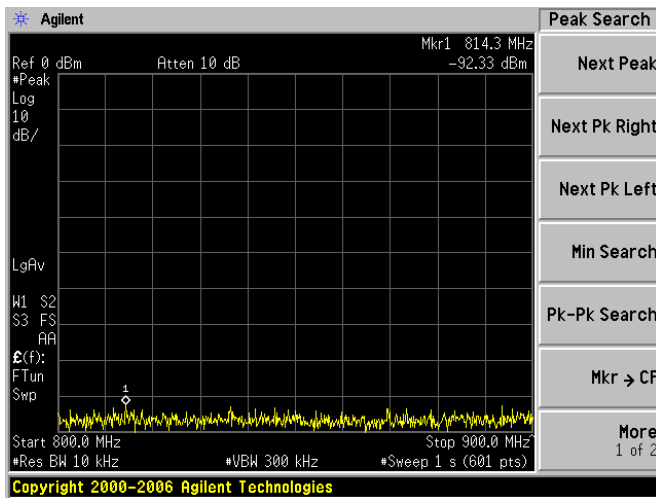
500MHz to 600MHz



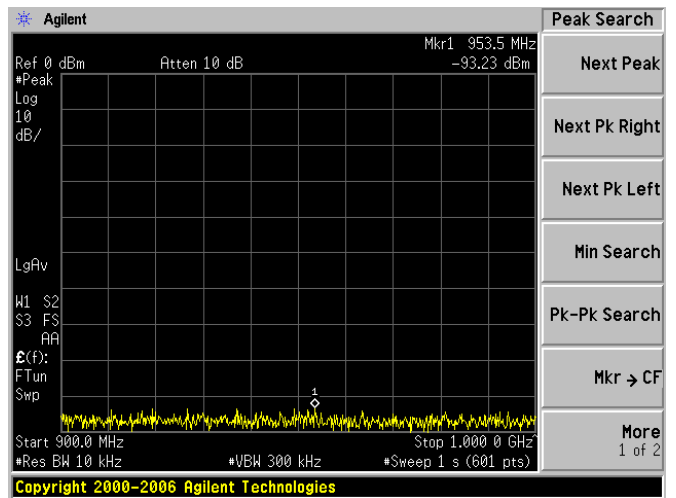
600MHz to 700MHz



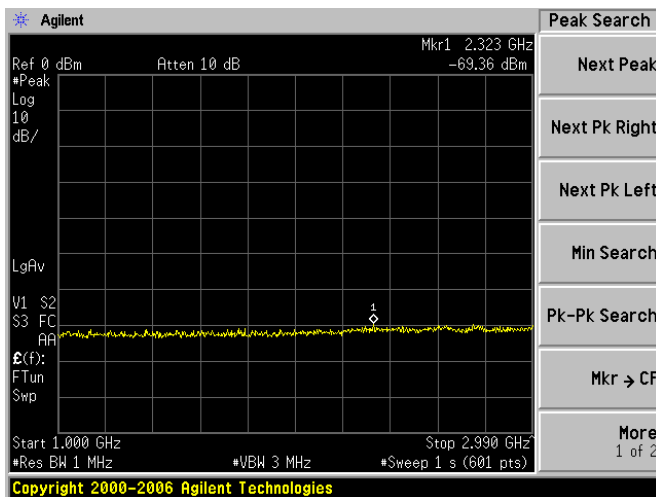
700MHz to 800MHz



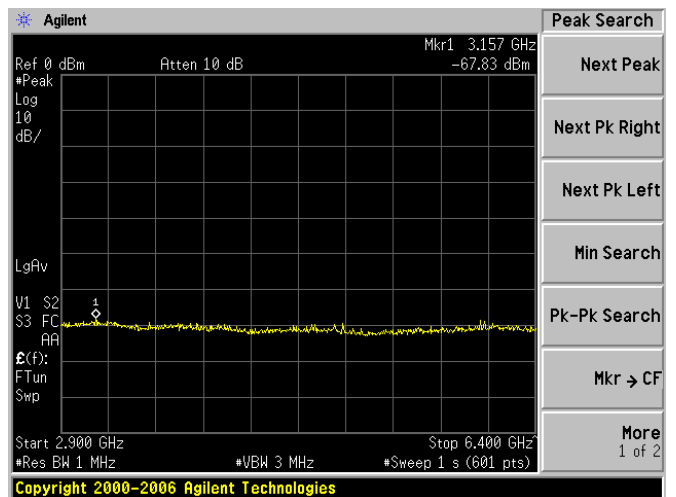
800MHz to 900MHz



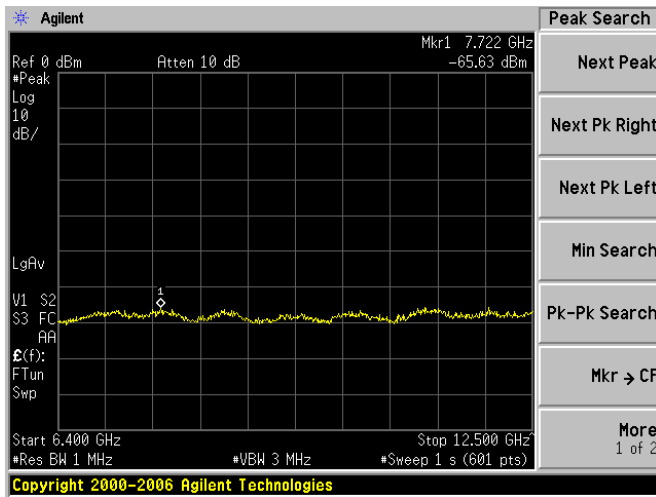
900MHz to 1GHz



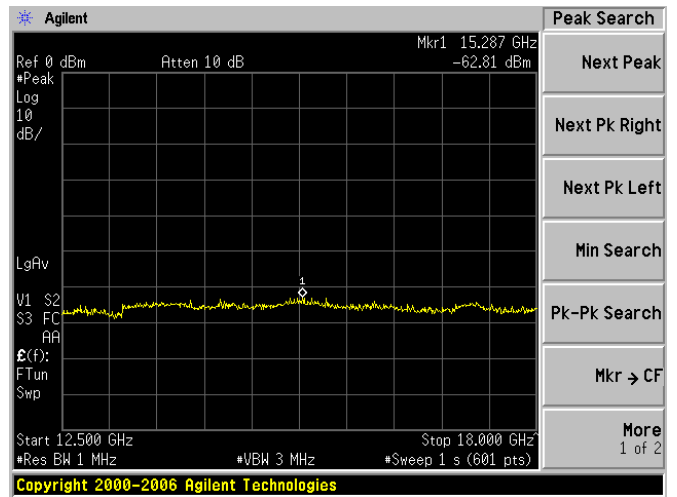
1GHz to 2.9GHz



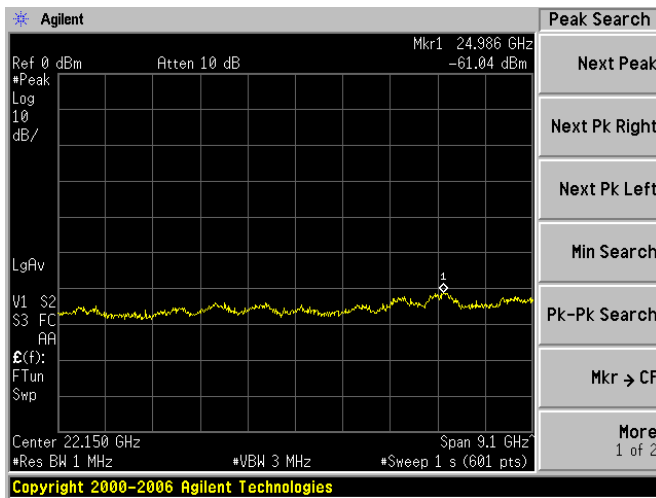
2.9GHz to 6.4GHz



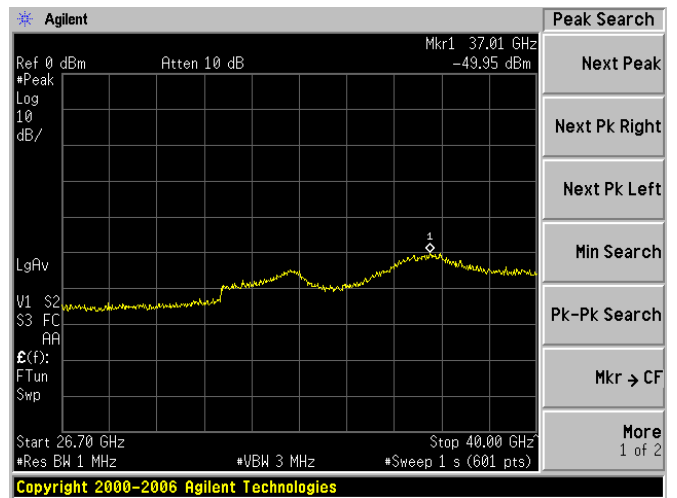
6.4GHz to 12.5GHz



12.5GHz to 18GHz

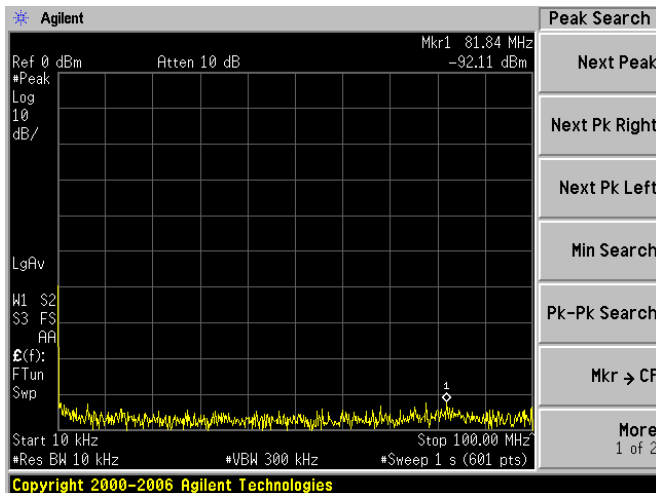


17.6GHz to 26.7GHz

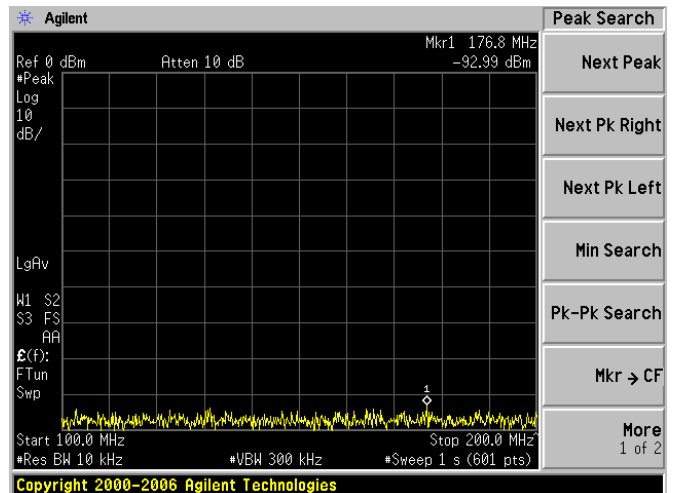


26.5GHz to 40.0GHz

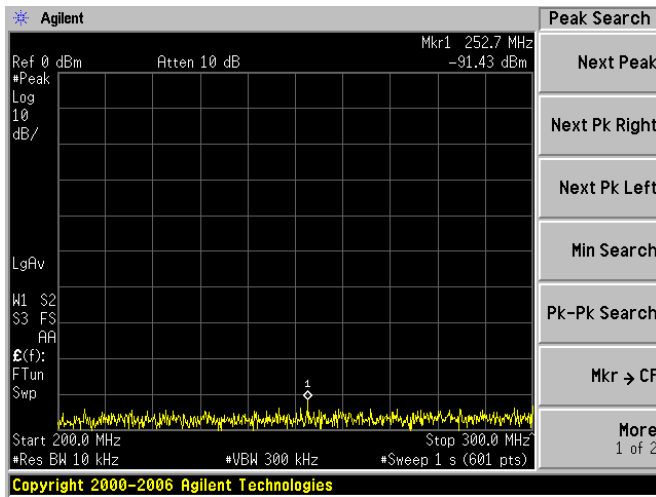
•Vertically Polarized



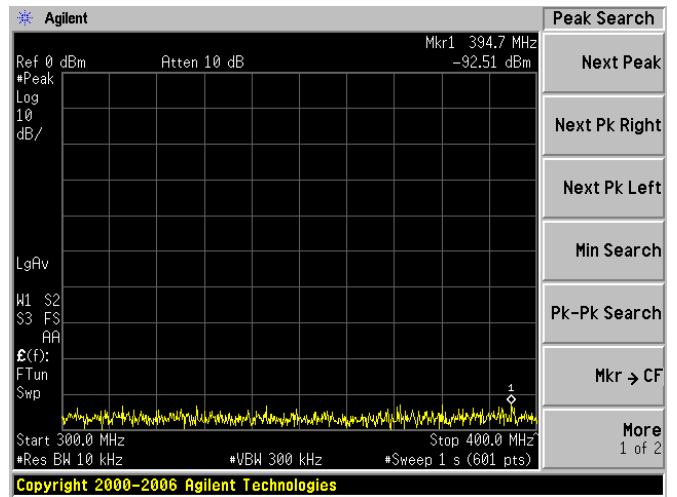
10kHz to 100MHz



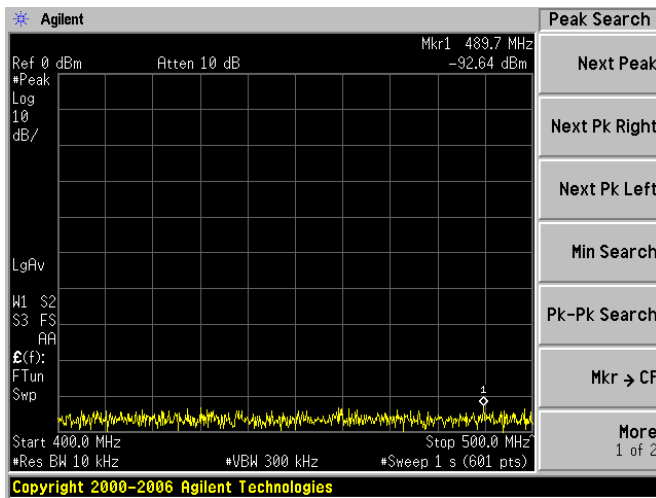
100MHz to 200MHz



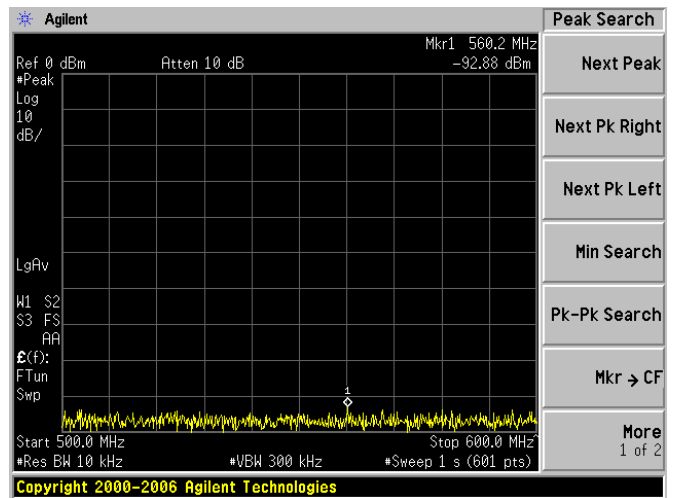
200MHz to 300MHz



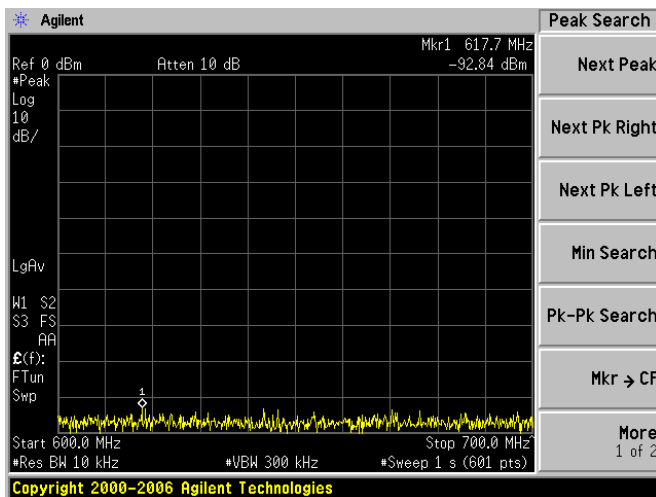
300MHz to 400MHz



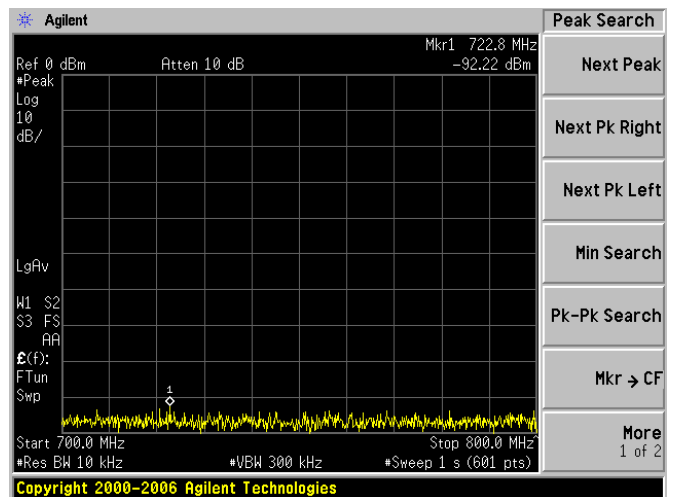
400MHz to 500MHz



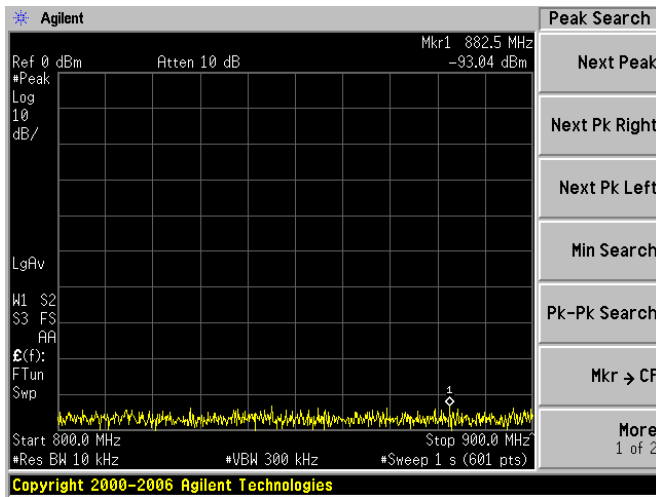
500MHz to 600MHz



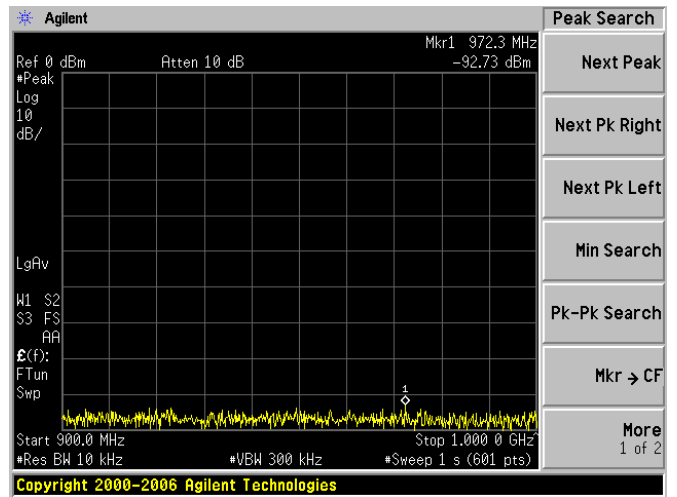
600MHz to 700MHz



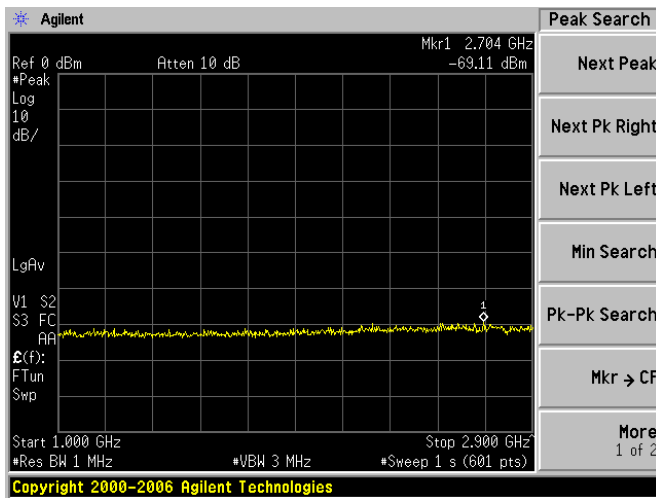
700MHz to 800MHz



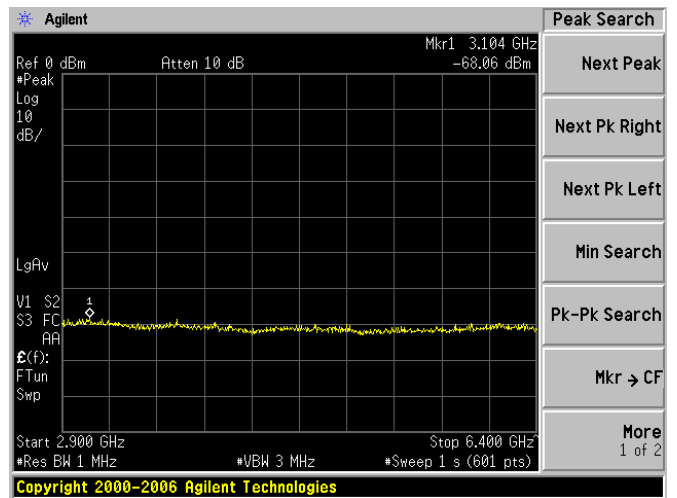
800MHz to 900MHz



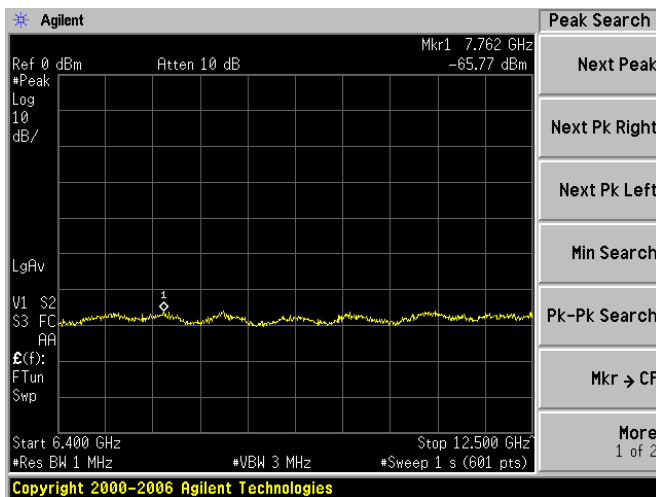
900MHz to 1GHz



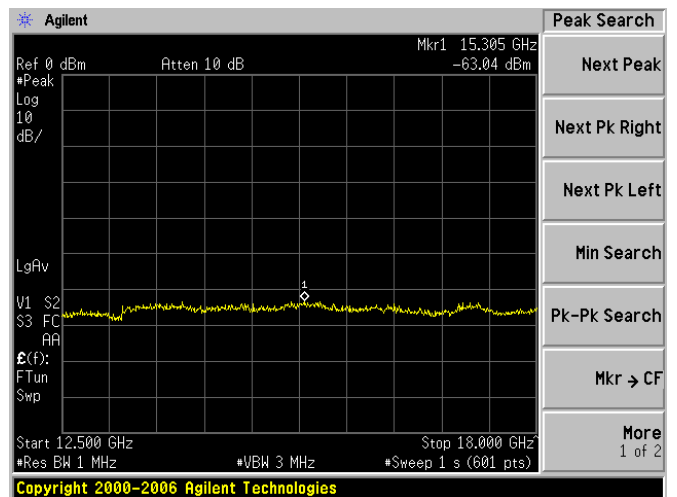
1GHz to 2.9GHz



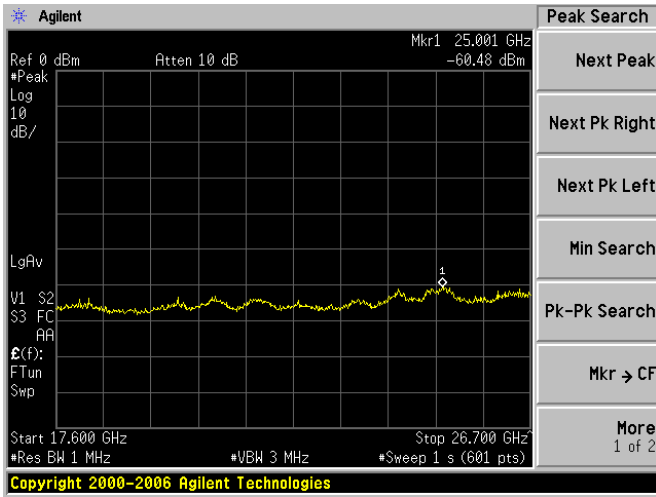
2.9GHz 6.4GHz



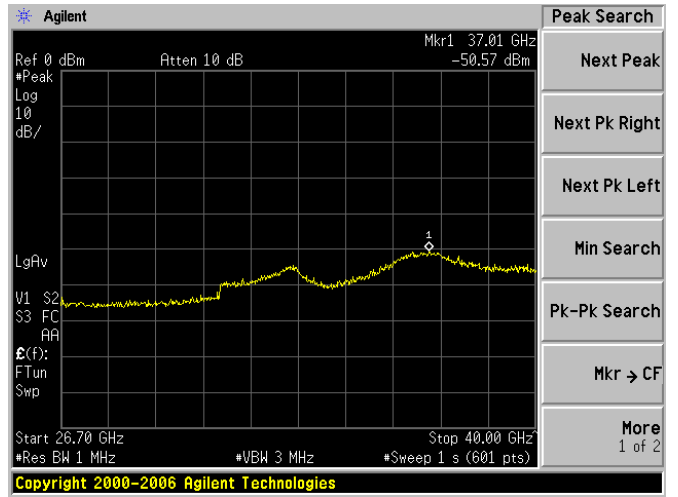
6.4GHz to 12.5GHz



12.5GHz to 18.0GHz



17.6GHz to 26.7GHz



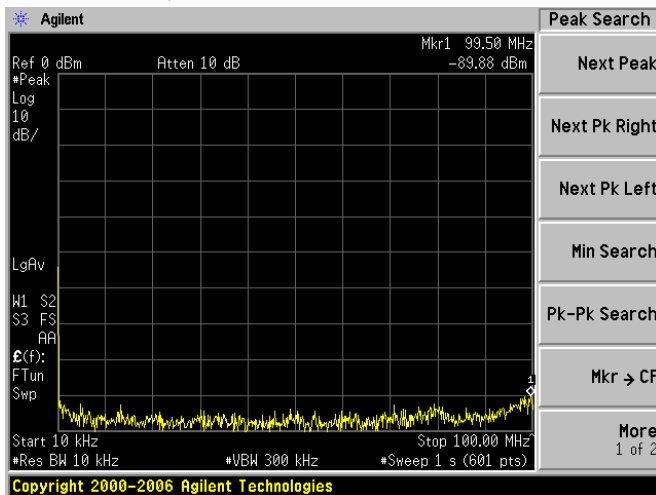
26.4GHz to 40GHz

4.4.10.2 TEST RESULTS of STBY

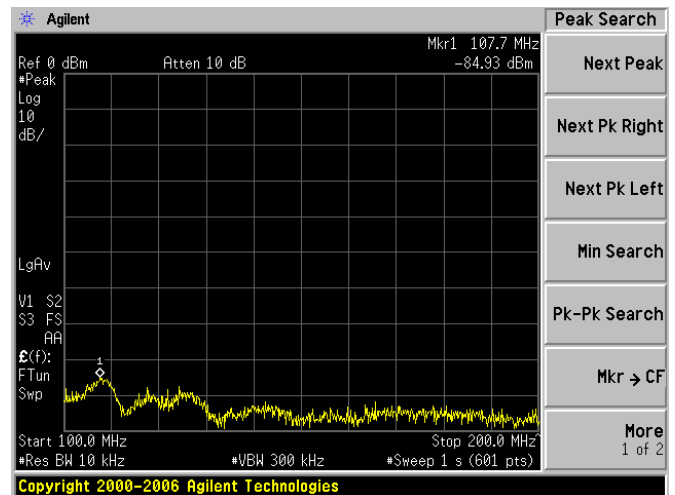
STBY								
Range	Frequency [MHz]	level [dBm]	ref leve [dB]	Pg [dB]	Cable Loss [dB]	Antenna Gain [dB]	Pd [dBm]	Radiated spurious emission [dB]
10kHz - 100MHz	99.5	-89.88	-85	-85	0.5	-1.71	87.21	-147.09
100MHz - 200MHz	107.7	-84.93	-75.8	-75.8	0.5	-0.94	77.24	-132.17
200MHz - 300MHz	261.3	-92.54	less than -80	-80	0.5	-1.12	81.62	less than noise floor
300MHz - 400MHz	325.2	-91.87	less than -85	-85	0.5	2.56	82.94	less than noise floor
400MHz - 500MHz	426	-92.53	less than -84	-84	0.5	3.21	81.29	less than noise floor
500MHz - 600MHz	518.3	-92.89	less than -84	-84	0.5	3.06	81.44	less than noise floor
600MHz - 700MHz	668	-92.69	less than -77	-77	0.5	2.46	75.04	less than noise floor
700MHz - 800MHz	761.7	-92.37	less than -78	-78	0.5	2.76	75.74	less than noise floor
800MHz - 900MHz	819.3	-92.1	less than -78	-78	0.5	3.26	75.24	less than noise floor
900MHz - 1.0GHz	962.8	-92.03	less than -78	-78	0.5	3.01	75.49	less than noise floor
1.0GHz - 2.9GHz	2811	-69.42	less than -56	-56	1	5	52.00	less than noise floor
2.9GHz - 6.4GHz	3122	-68.39	less than -52	-52	1.2	5	48.20	less than noise floor
6.4GHz - 12.5GHz	11077	-65.59	less than -45	-45	2.5	10.5	37.00	less than noise floor
12.5G - 18GHz	15543	-62.86	less than -35	-35	3	13	25.00	less than noise floor
17.6G - 26.7GHz	24971	-60.66	less than -58	-58	3	20	41.00	less than noise floor
26.7G - 40.0GHz	36990	-49.49	less than -43	-43	3	20	26.00	less than noise floor

STBY								
Range	Frequency [MHz]	level [dBm]	ref leve [dB]	Pg [dB]	Cable Loss [dB]	Antenna Gain [dB]	Pd [dBm]	Radiated spurious emission [dB]
10kHz - 100MHz	82.17	-88.23	-85	-85	0.5	-2.66	88.16	-146.39
100MHz - 200MHz	107.5	-85.61	-70.2	-70.2	0.5	-0.94	71.64	-127.25
200MHz - 300MHz	250	-92.56	less than -80	-80	0.5	-0.84	81.34	less than noise floor
300MHz - 400MHz	367.7	-92.65	less than -83	-83	0.5	3.06	80.44	less than noise floor
400MHz - 500MHz	476.2	-92.64	less than -82	-82	0.5	3.16	79.34	less than noise floor
500MHz - 600MHz	536.3	-93.04	less than -80	-80	0.5	2.96	77.54	less than noise floor
600MHz - 700MHz	613.7	-92.78	less than -80	-80	0.5	2.66	77.84	less than noise floor
700MHz - 800MHz	758.3	-92.89	less than -79	-79	0.5	2.76	76.74	less than noise floor
800MHz - 900MHz	804	-92.07	less than -78	-78	0.5	3.06	75.44	less than noise floor
900MHz - 1.0GHz	957.3	-93.61	less than -76	-76	0.5	2.96	73.54	less than noise floor
1.0GHz - 2.9GHz	2726	-69.38	less than -56	-56	1	5	52.00	less than noise floor
2.9GHz - 6.4GHz	3192	-67.43	less than -51	-51	1.2	5	47.20	less than noise floor
6.4GHz - 12.5GHz	7162	-65.35	less than -45	-45	2.5	10.5	37.00	less than noise floor
12.5G - 18GHz	15424	-62.88	less than -33	-33	3	13	23.00	less than noise floor
17.6G - 26.7GHz	25016	-60.31	less than -58	-58	3	20	41.00	less than noise floor
26.7G - 40.0GHz	37250	-50.08	less than -38	-38	3	20	21.00	less than noise floor

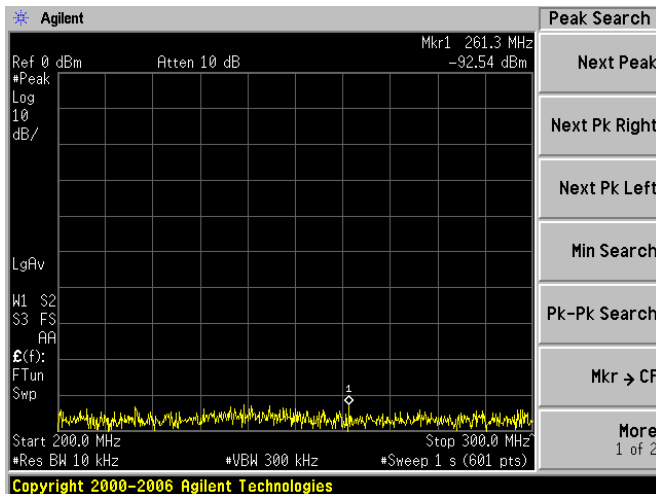
•Horizontally Polarized



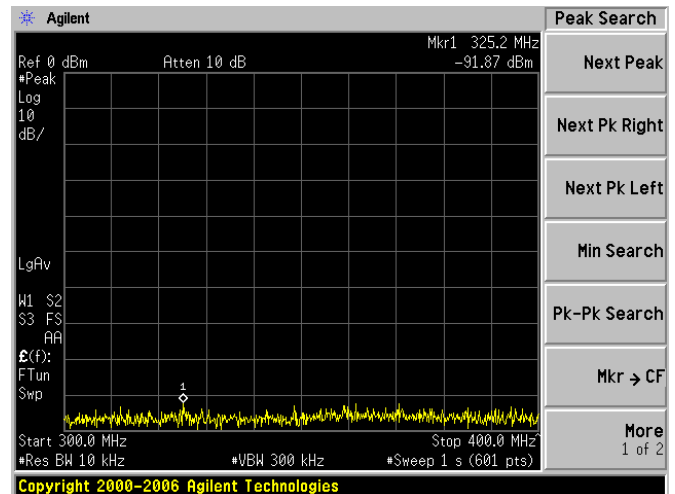
10kHz to 100MHz



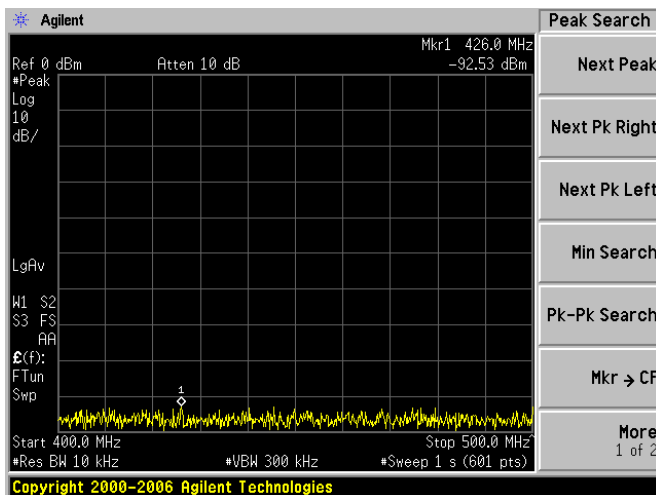
100MHz to 200MHz



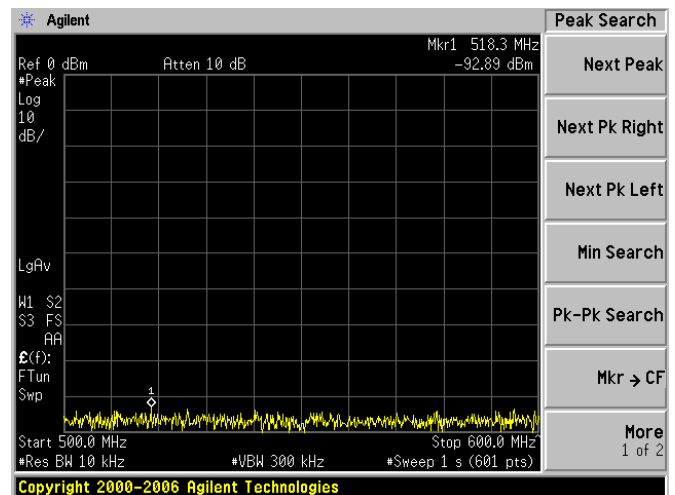
200MHz to 300MHz



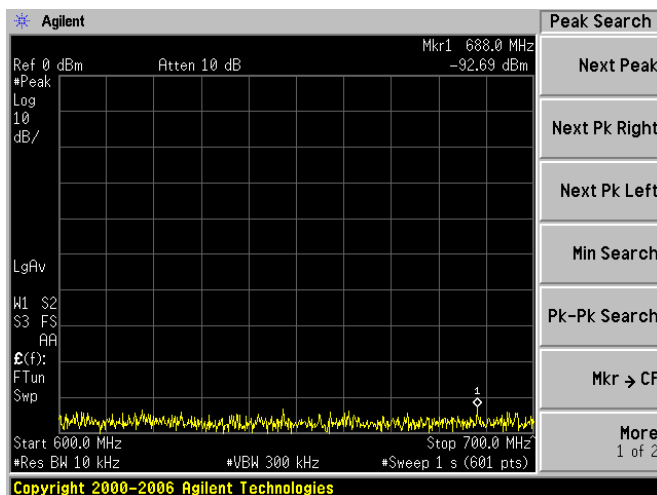
300MHz to 400MHz



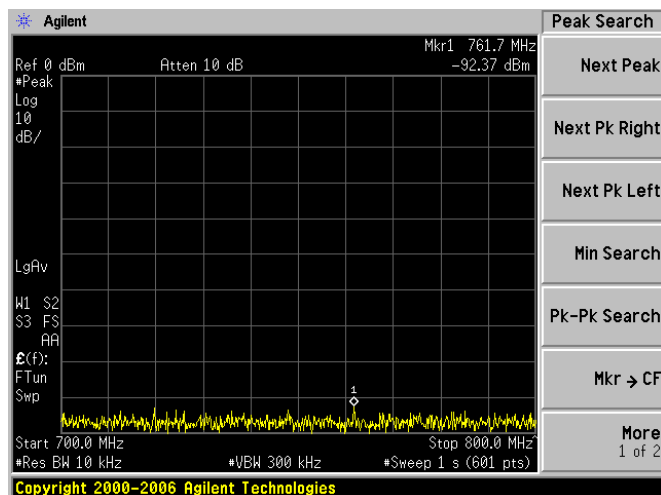
400MHz to 500MHz



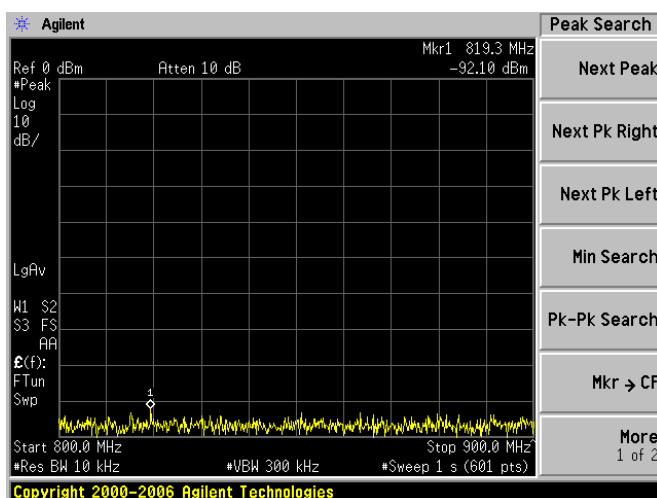
500MHz to 600MHz



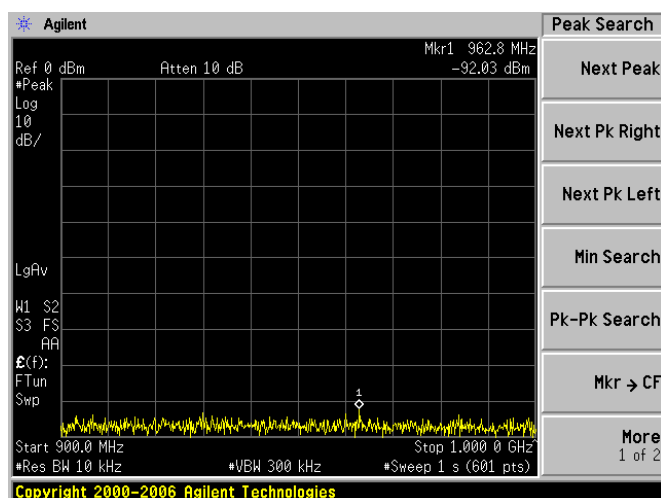
600MHz to 700MHz



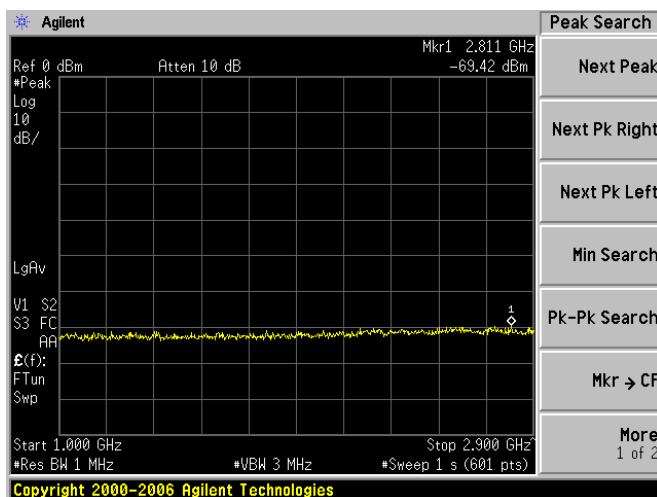
700MHz to 800MHz



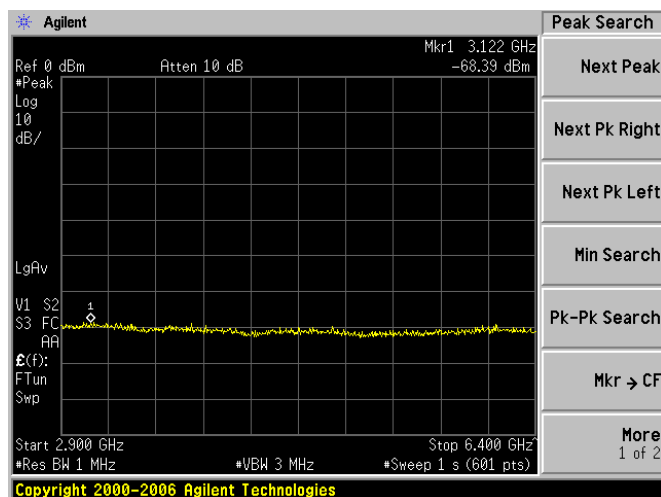
800MHz to 900MHz



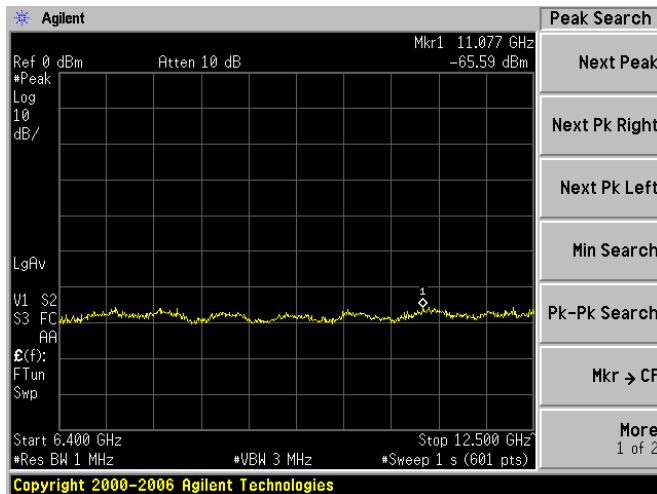
900MHz to 1GHz



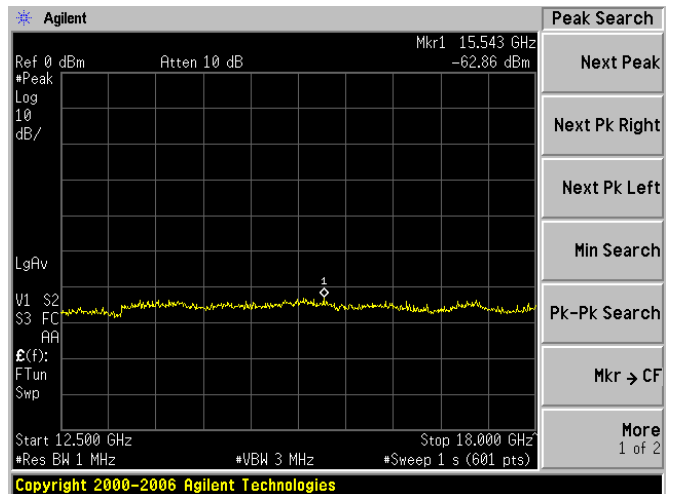
1GHz to 2.9GHz



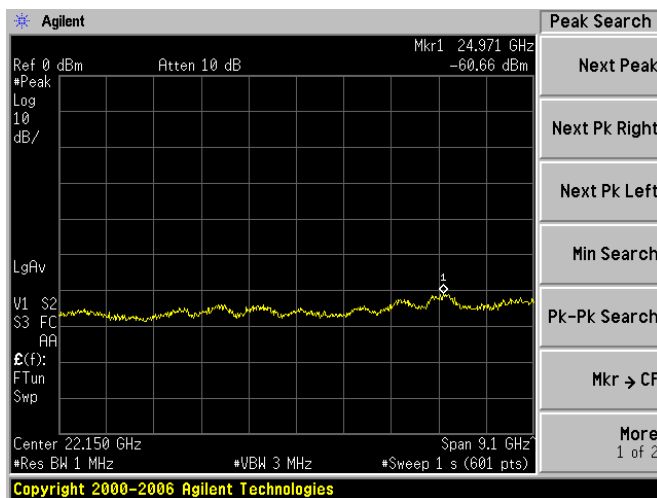
2.9GHz to 6.4GHz



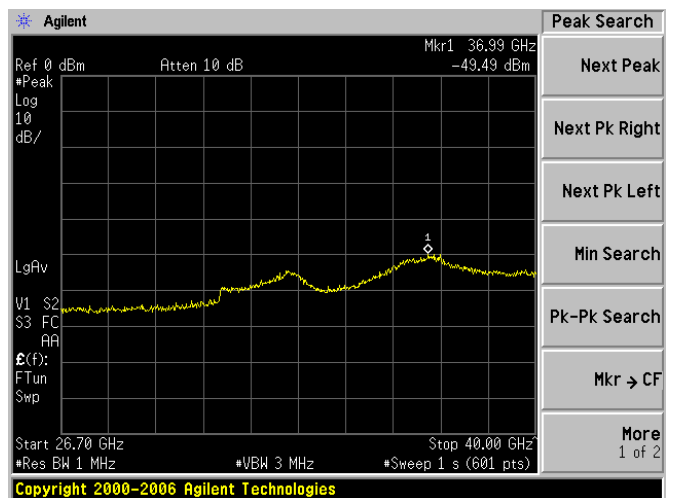
6.4GHz to 12.5GHz



12.5GHz to 18GHz

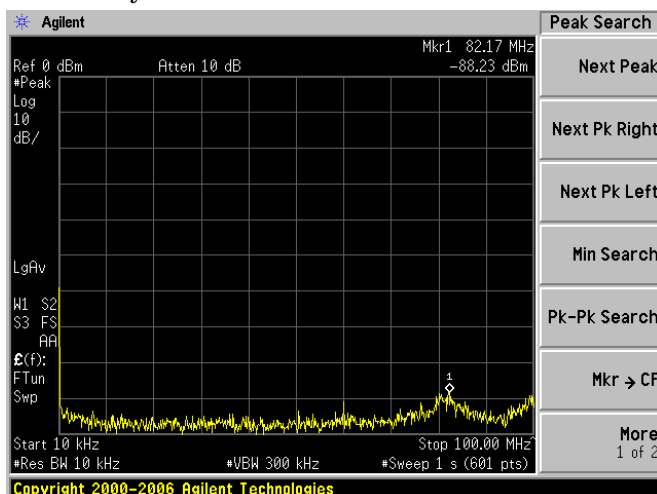


17.6GHz to 26.7GHz

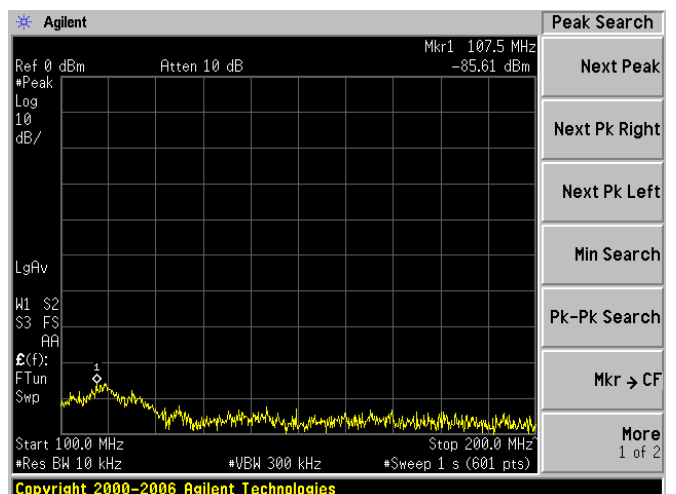


26.5GHz to 40.0GHz

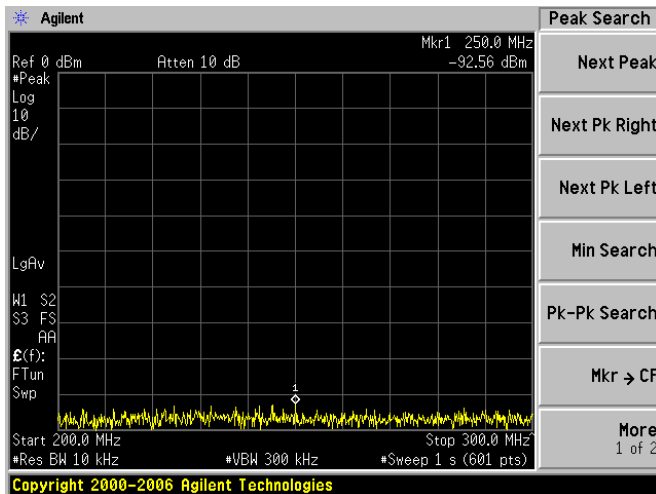
•Vertically Polarized



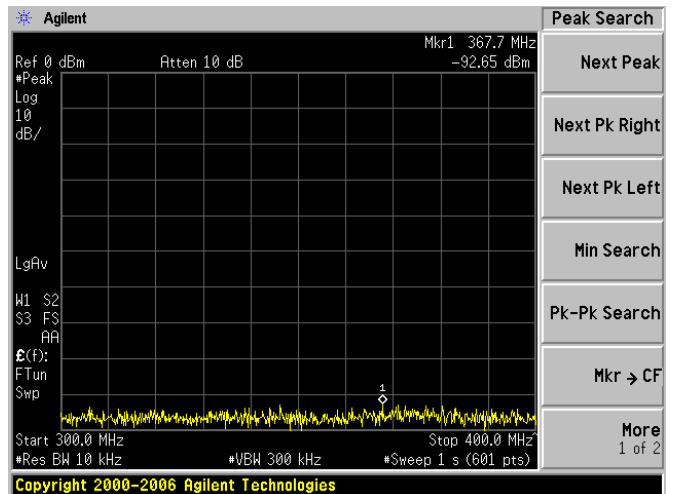
10kHz to 100MHz



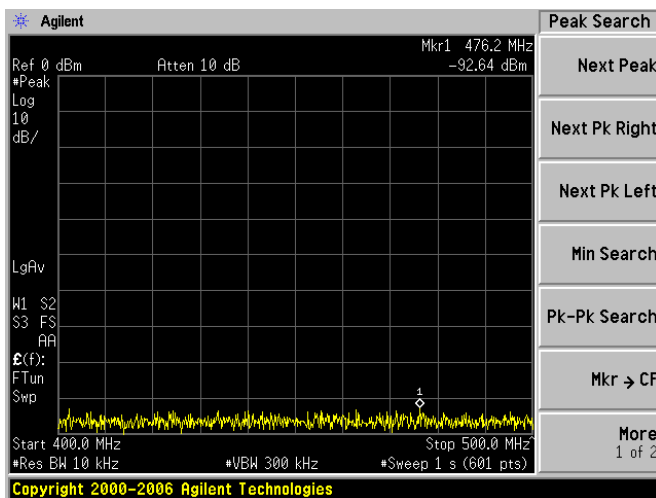
100MHz to 200MHz



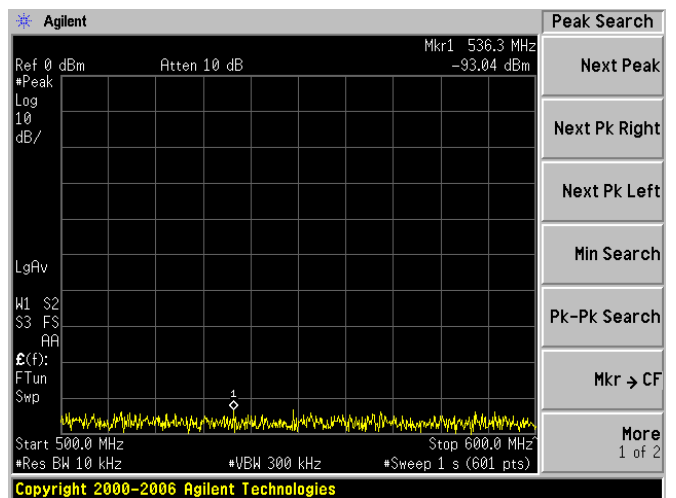
200MHz to 300MHz



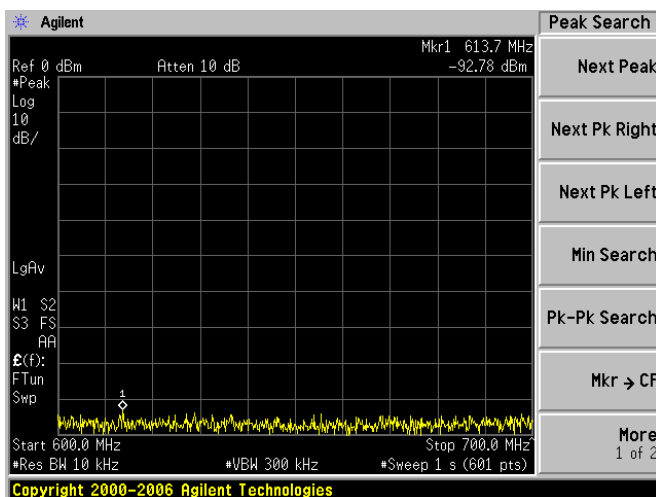
300MHz to 400MHz



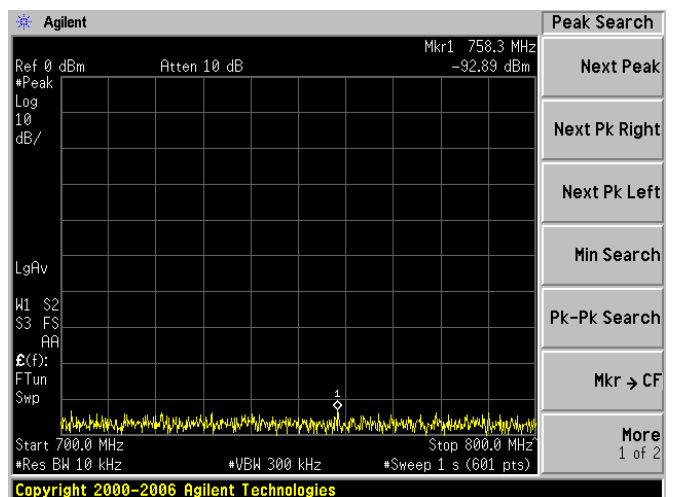
400MHz to 500MHz



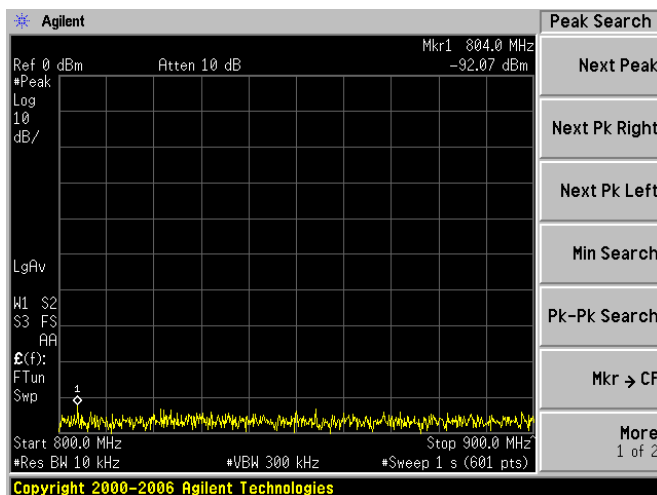
500MHz to 600MHz



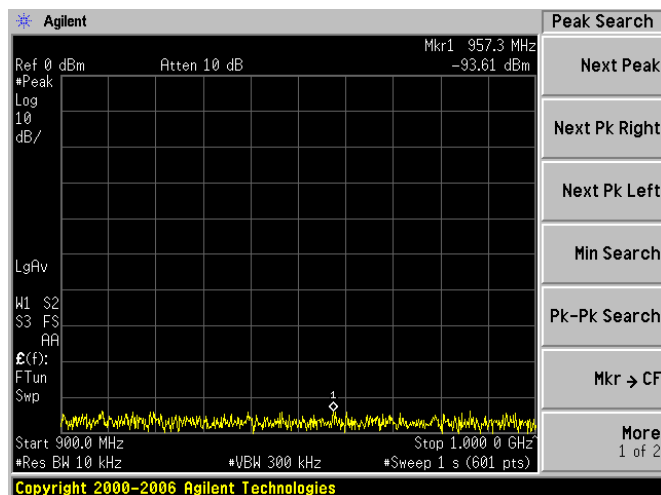
600MHz to 700MHz



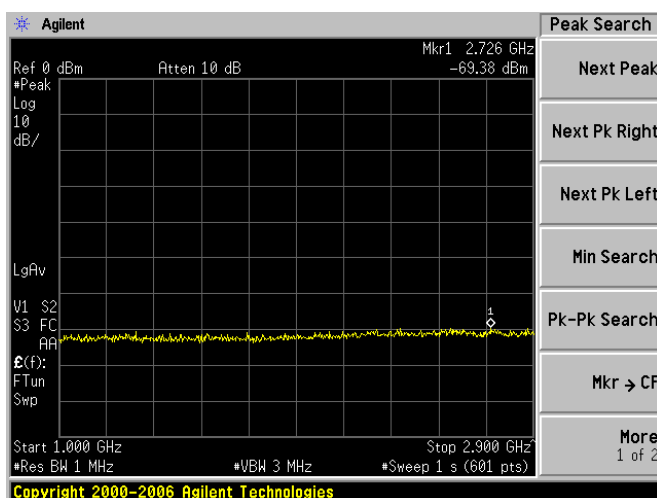
700MHz to 800MHz



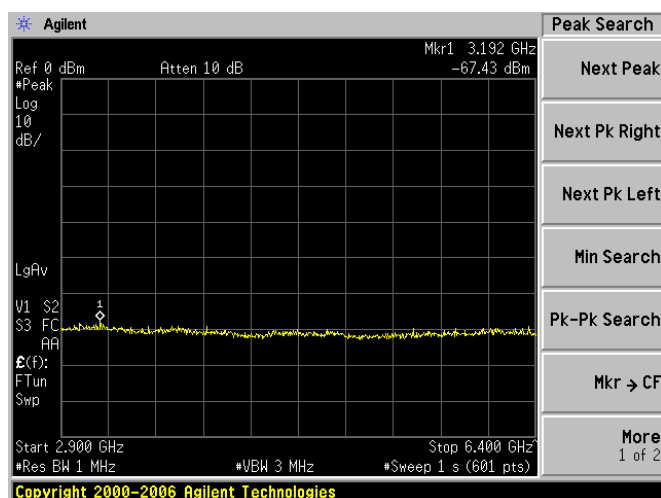
800MHz to 900MHz



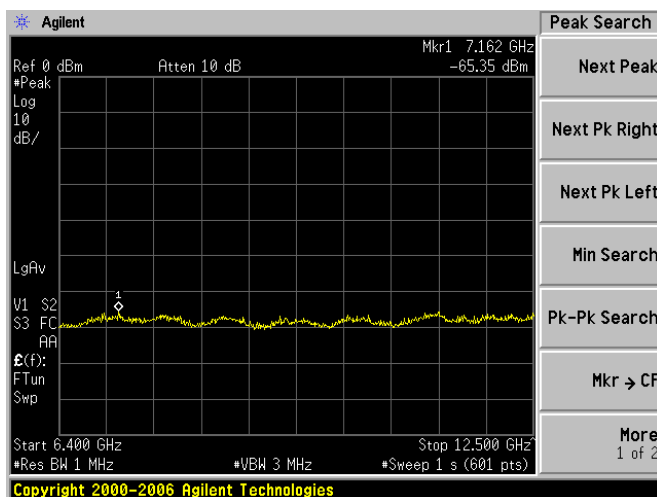
900MHz to 1GHz



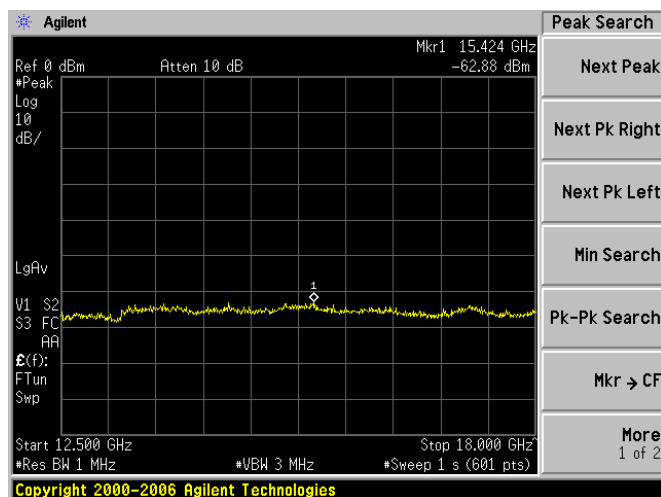
1GHz to 2.9GHz



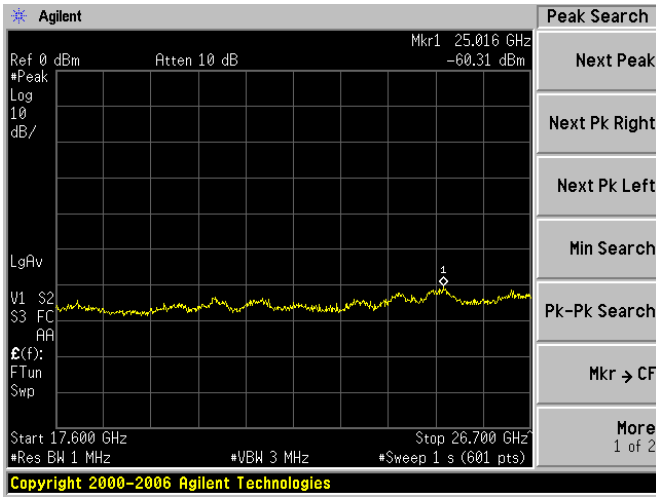
2.9GHz 6.4GHz



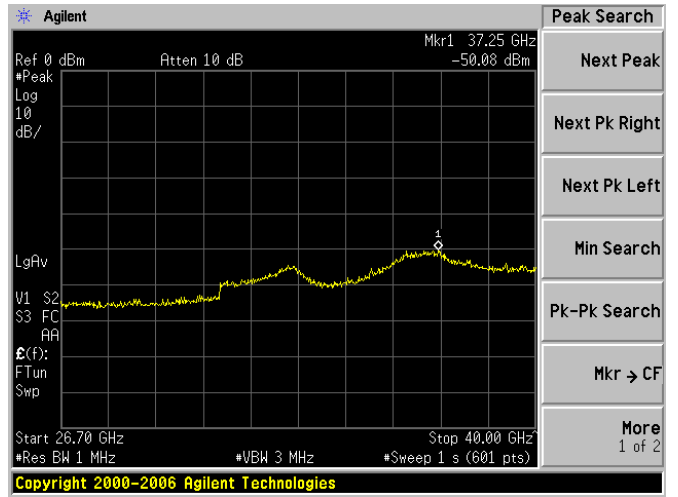
6.4GHz to 12.5GHz



12.5GHz to 18.0GHz



17.6GHz to 26.7GHz



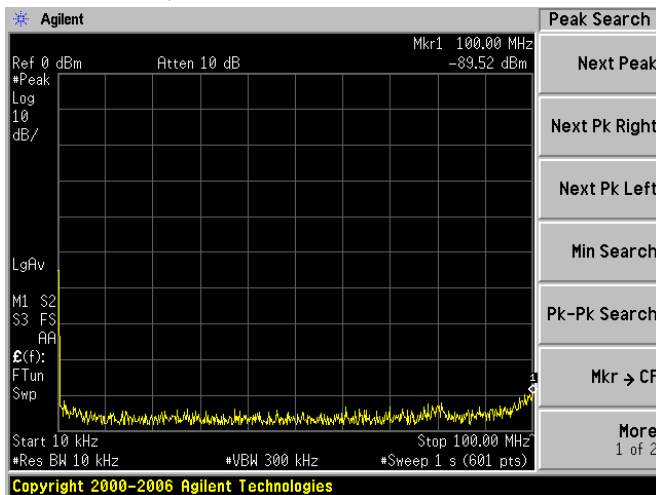
26.4GHz to 40GHz

4.4.10.3 TEST RESULTS of 0.08usec/2250Hz

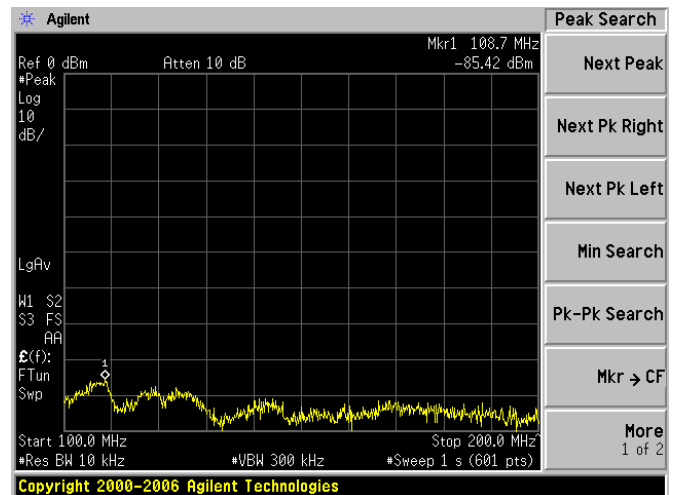
0.08usec/2250Hz								
Range	Frequency [MHz]	level [dBm]	ref leve [dB]	Pg [dB]	Cable Loss [dB]	Antenna Gain [dB]	Pd [dBm]	Radiated spurious emission [dB]
10kHz – 100MHz	100	-89.52	-85	-85	0.5	-2.46	87.96	-147.48
100MHz – 200MHz	108.7	-85.42	-77.3	-77.3	0.5	-0.94	78.74	-134.16
200MHz – 300MHz	231.2	-91.02	less than -83	-83	0.5	-0.81	84.31	less than noise floor
300MHz – 400MHz	375.8	-91.98	less than -82	-82	0.5	3.06	79.44	less than noise floor
400MHz – 500MHz	453.7	-91.87	less than -82	-82	0.5	3.16	79.34	less than noise floor
500MHz – 600MHz	549.5	-92.14	less than -82	-82	0.5	2.86	79.64	less than noise floor
600MHz – 700MHz	644.2	-92.9	less than -80	-80	0.5	2.36	78.14	less than noise floor
700MHz – 800MHz	747.5	-93.18	less than -78	-78	0.5	2.66	75.84	less than noise floor
800MHz – 900MHz	881.2	-92.99	less than -77	-77	0.5	3.06	74.44	less than noise floor
900MHz – 1.0GHz	924	-93.09	less than -78	-78	0.5	2.86	75.64	less than noise floor
1.0GHz – 2.9GHz	2089	-66.78	-45.5	-45.5	1	5	41.50	-78.28
2.9GHz – 6.4GHz	3157	-68.42	less than -52	-52	1.2	5	48.20	less than noise floor
6.4GHz – 12.5GHz	9420	-34.32	5.7	5.7	2.5	10.5	13.70	-18.02
12.5G – 18GHz	15140	-62.63	less than -35	-35	3	13	25.00	less than noise floor
17.6G – 26.7GHz	24971	-60.09	less than -58	-58	3	20	41.00	less than noise floor
26.7G – 40.0GHz	37070	-49.67	less than -41	-41	3	20	24.00	less than noise floor

0.08usec/2250Hz								
Range	Frequency [MHz]	level [dBm]	ref leve [dB]	Pg [dB]	Cable Loss [dB]	Antenna Gain [dB]	Pd [dBm]	Radiated spurious emission [dB]
10kHz – 100MHz	81.84	-87.13	-84	-84	0.5	-2.66	87.16	-144.29
100MHz – 200MHz	110.2	-85.26	-69.9	-69.9	0.5	-0.94	71.34	-126.60
200MHz – 300MHz	247.5	-92.65	less than -80	-80	0.5	-0.84	81.34	less than noise floor
300MHz – 400MHz	377.2	-91.94	less than -83	-83	0.5	3.16	80.34	less than noise floor
400MHz – 500MHz	489	-92.64	less than -81	-81	0.5	3.16	78.34	less than noise floor
500MHz – 600MHz	532.2	-93.69	less than -81	-81	0.5	2.96	78.54	less than noise floor
600MHz – 700MHz	628.2	-92.82	less than -80	-80	0.5	2.46	78.04	less than noise floor
700MHz – 800MHz	767.5	-93.09	less than -78	-78	0.5	2.86	75.64	less than noise floor
800MHz – 900MHz	811.2	-92.38	less than -78	-78	0.5	3.16	75.34	less than noise floor
900MHz – 1.0GHz	917.2	-92.98	less than -77	-77	0.5	2.76	74.74	less than noise floor
1.0GHz – 2.9GHz	1187	-69.03	less than -56	-56	1	5	52.00	less than noise floor
2.9GHz – 6.4GHz	3139	-68.27	less than -51	-51	1.2	5	47.20	less than noise floor
6.4GHz – 12.5GHz	9420	-40.65	-1	-1	2.5	10.5	7.00	-17.65
12.5G – 18GHz	14407	-63.43	less than -38	-38	3	13	28.00	less than noise floor
17.6G – 26.7GHz	25047	-60.21	less than -57	-57	3	20	40.00	less than noise floor
26.7G – 40.0GHz	36990	-48.84	less than -41	-41	3	20	24.00	less than noise floor

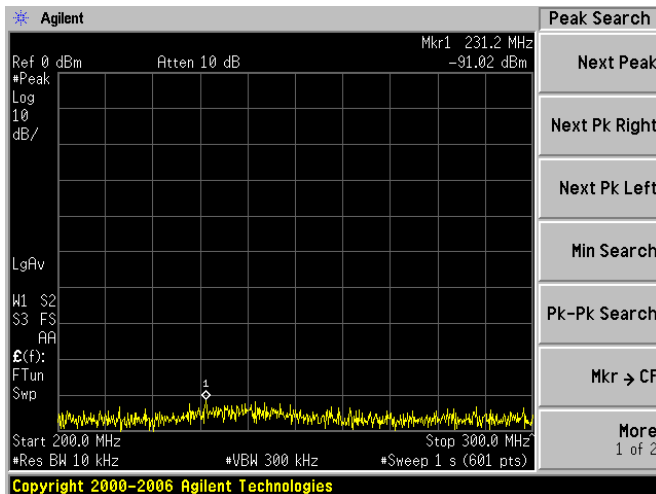
·Horizontally Polarized



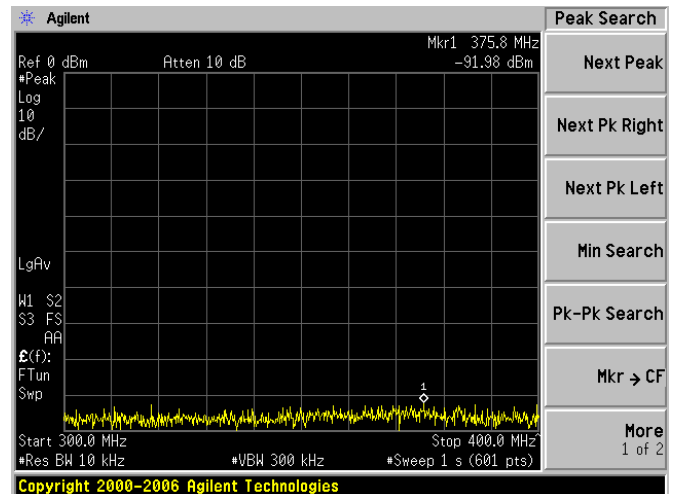
10kHz to 100MHz



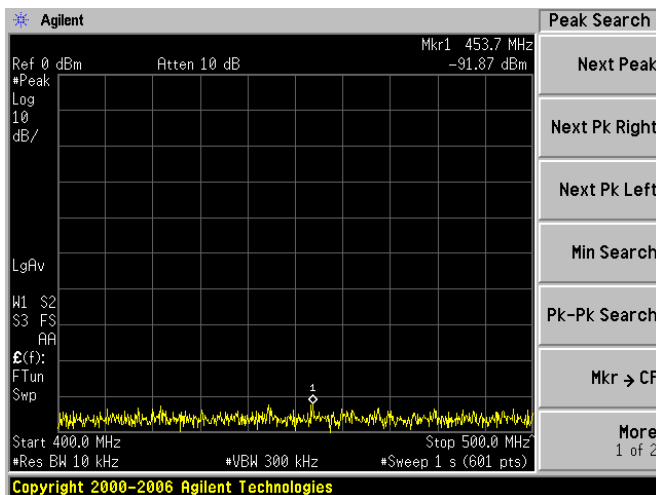
100MHz to 200MHz



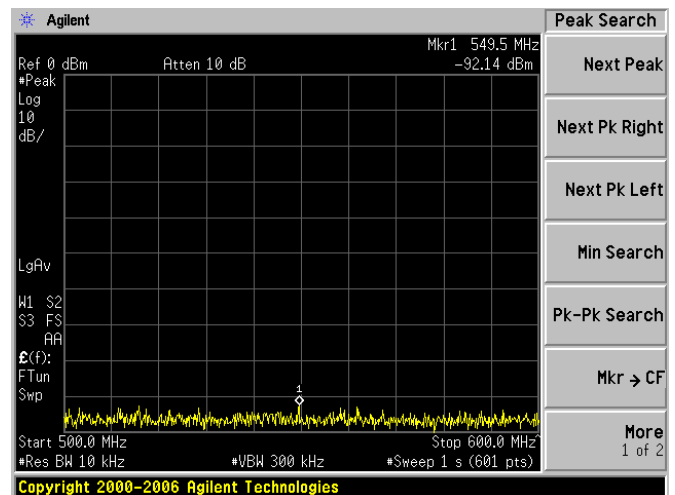
200MHz to 300MHz



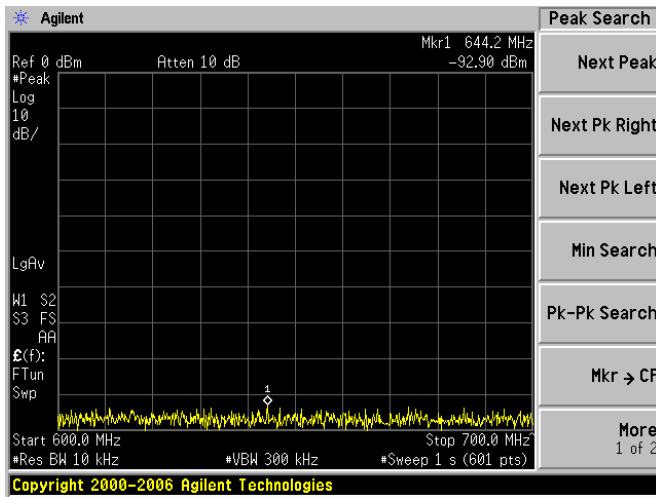
300MHz to 400MHz



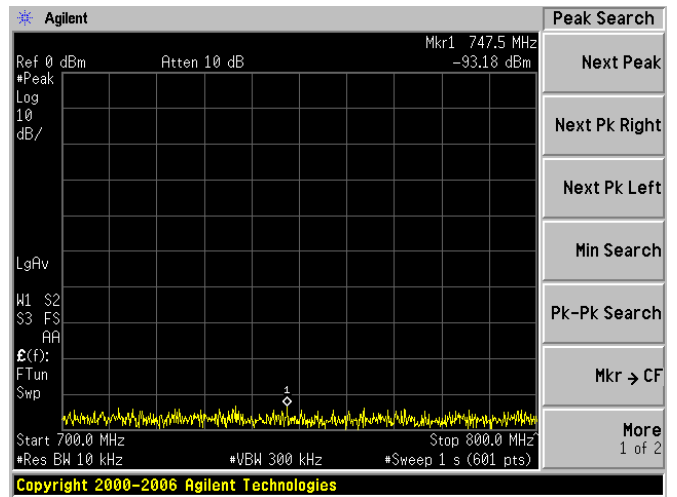
400MHz to 500MHz



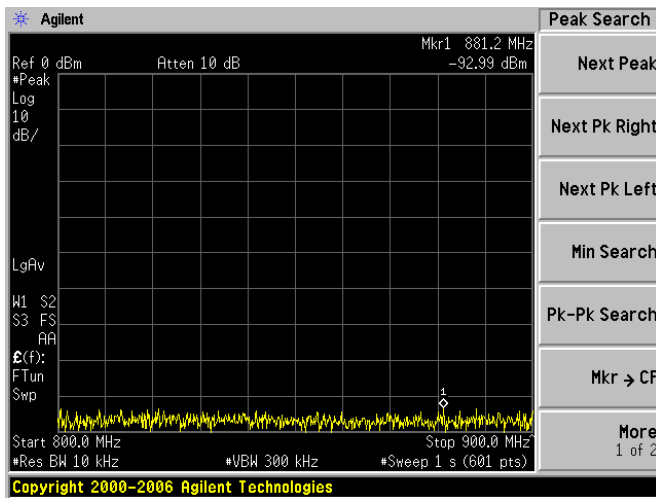
500MHz to 600MHz



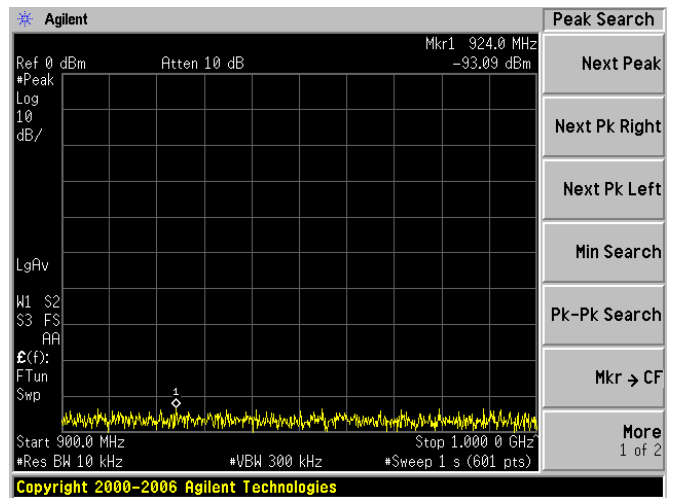
600MHz to 700MHz



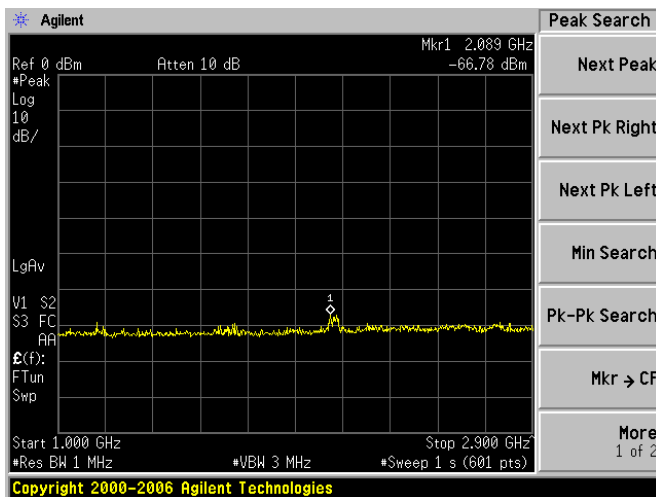
700MHz to 800MHz



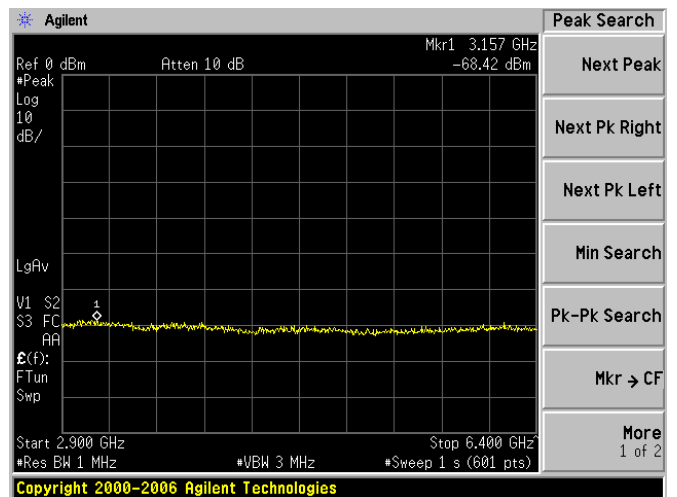
800MHz to 900MHz



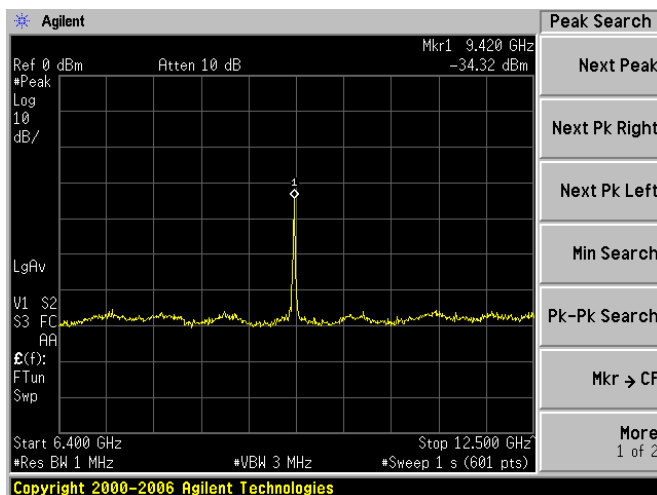
900MHz to 1GHz



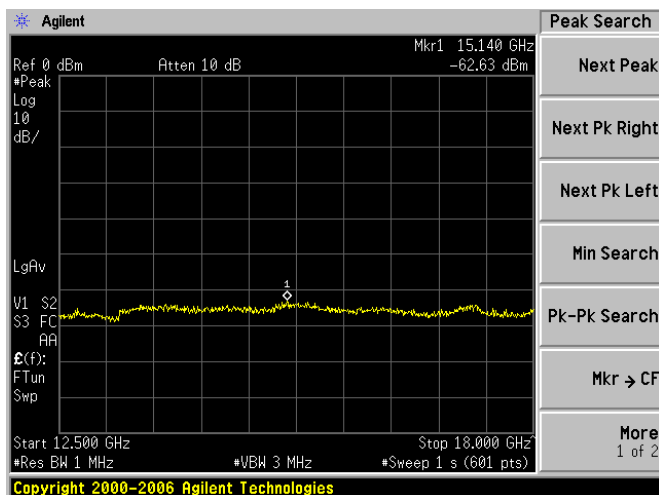
1GHz to 2.9GHz



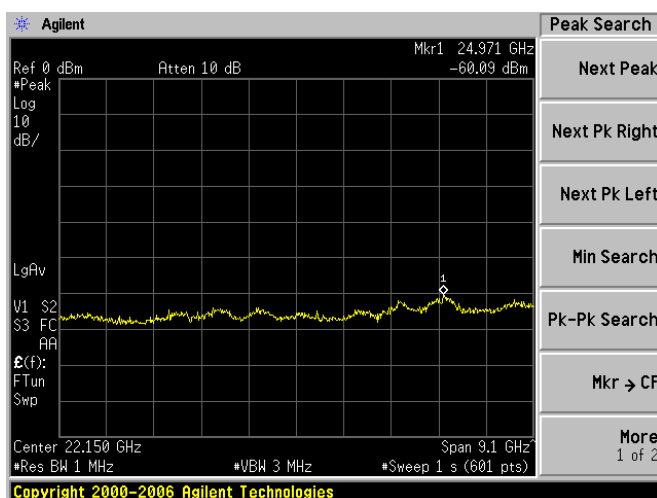
2.9GHz to 6.4GHz



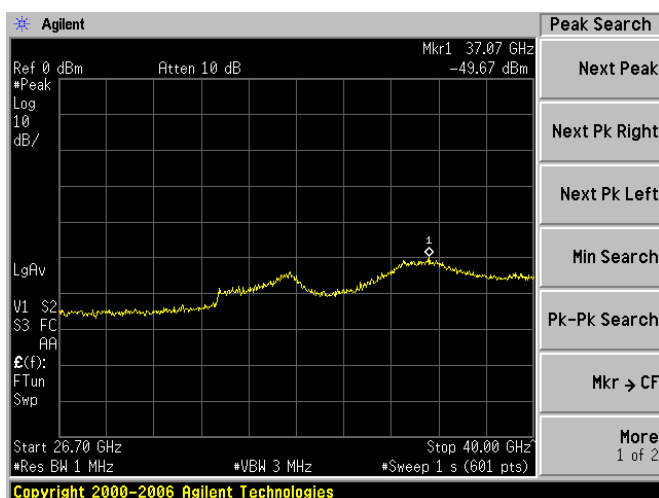
6.4GHz to 12.5GHz



12.5GHz to 18GHz

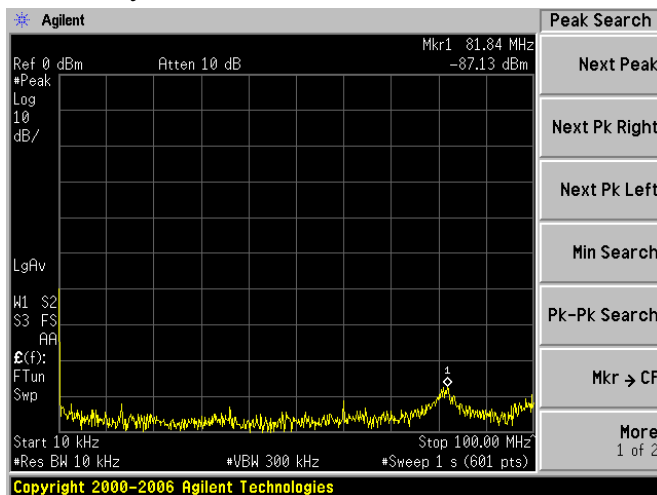


17.6GHz to 26.7GHz

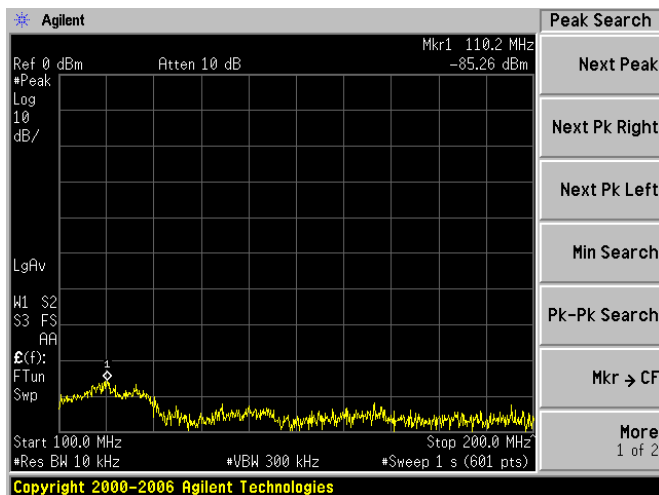


26.5GHz to 40.0GHz

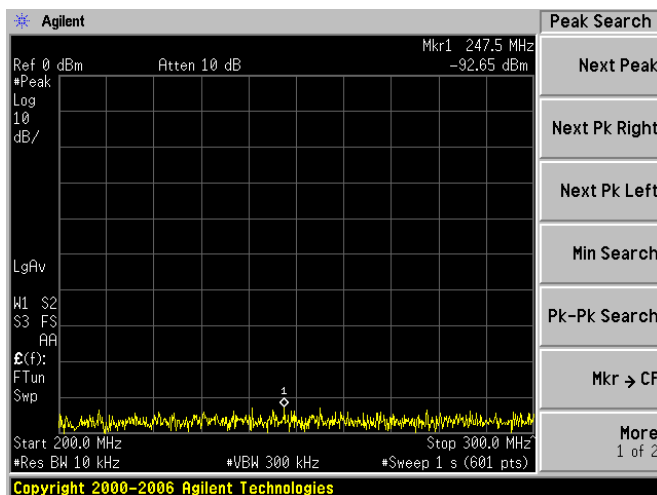
•Vertically Polarized



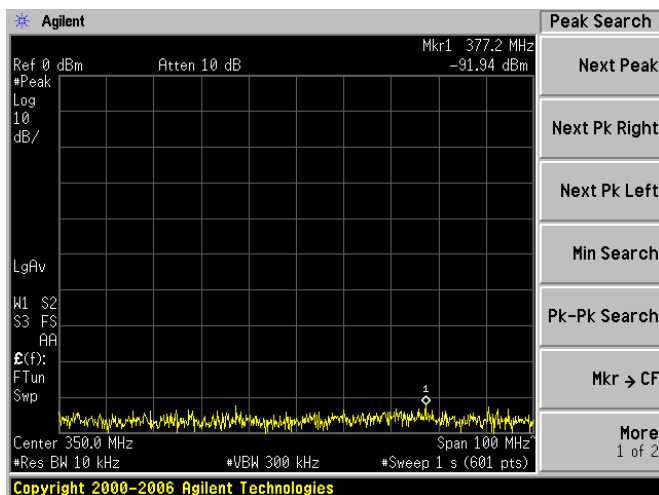
10kHz to 100MHz



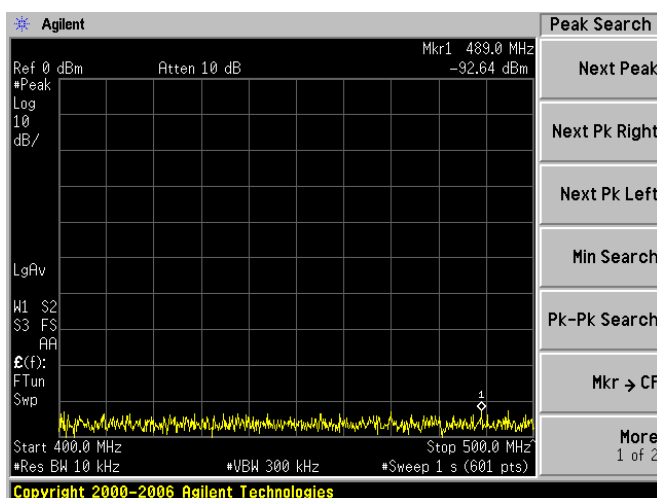
100MHz to 200MHz



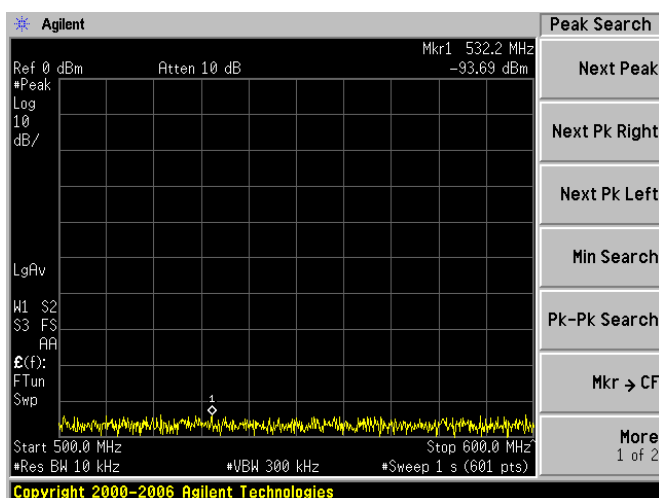
200MHz to 300MHz



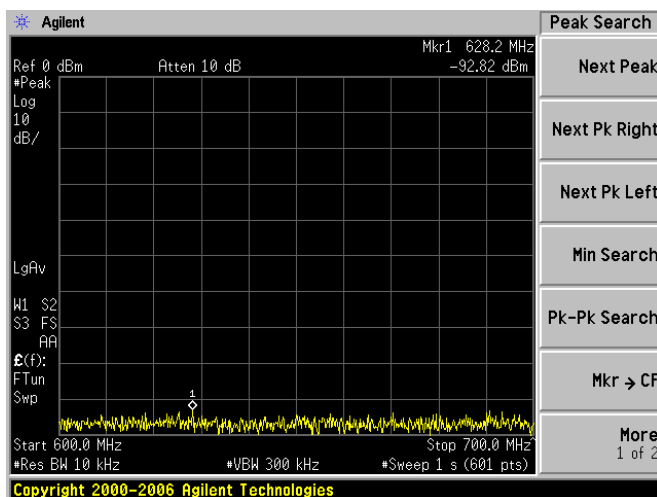
300MHz to 400MHz



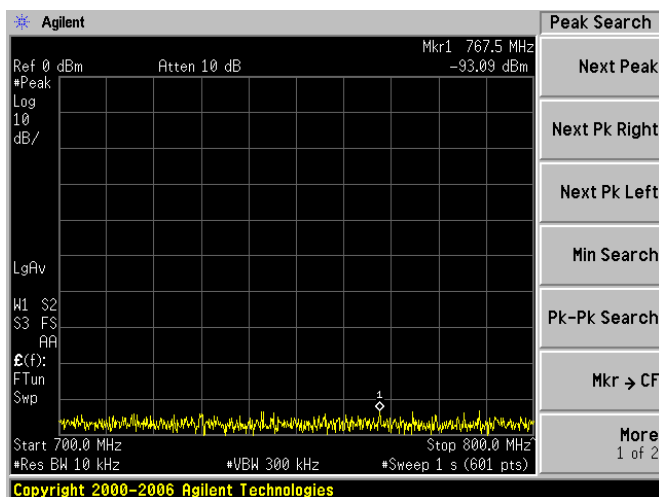
400MHz to 500MHz



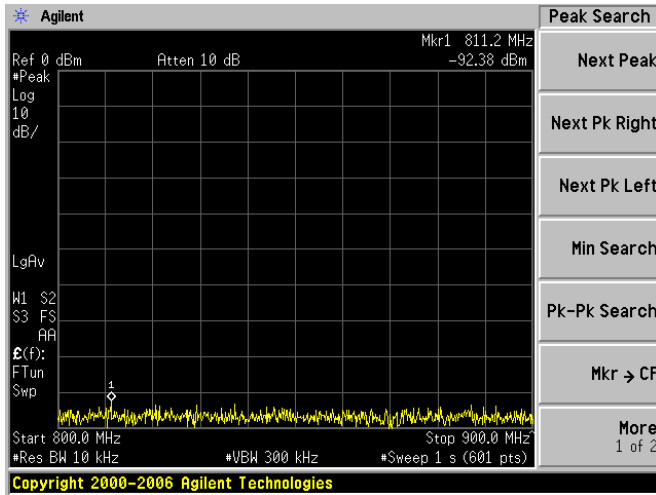
500MHz to 600MHz



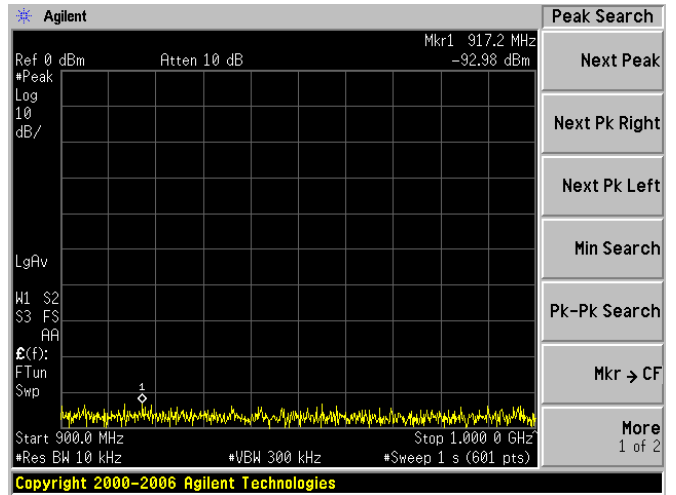
600MHz to 700MHz



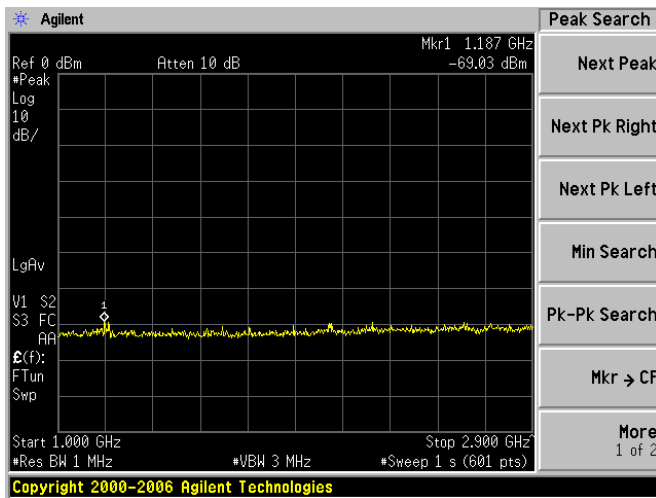
700MHz to 800MHz



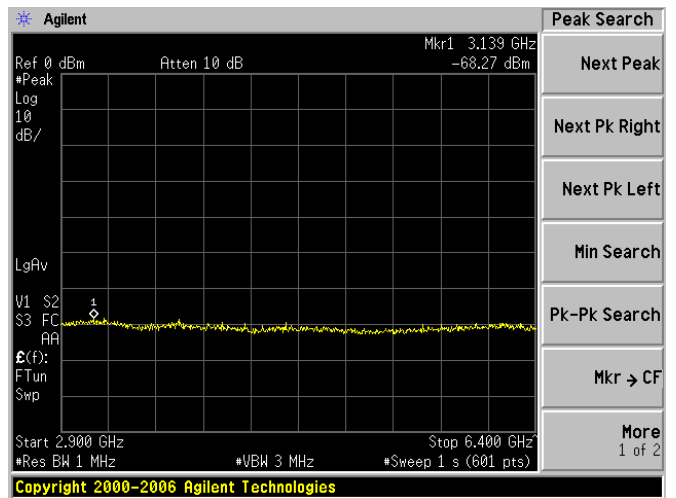
800MHz to 900MHz



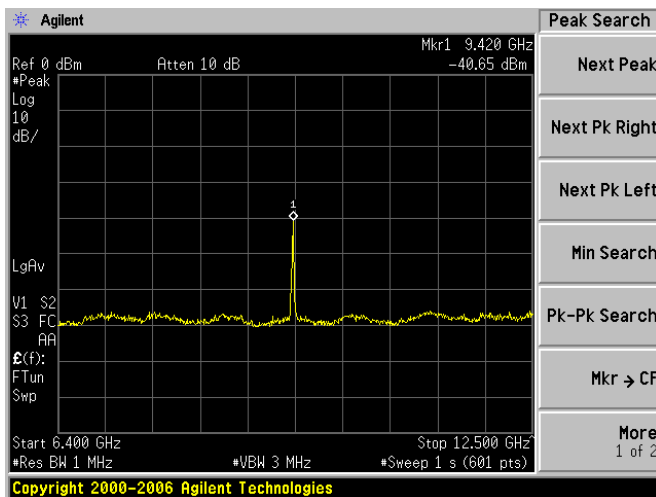
900MHz to 1GHz



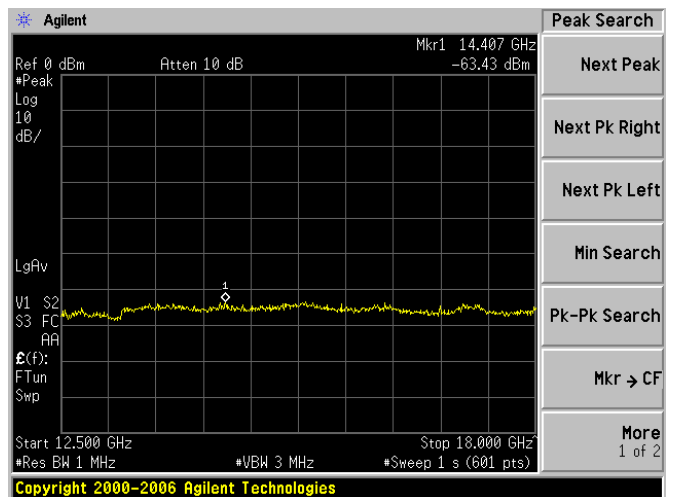
1GHz to 2.9GHz



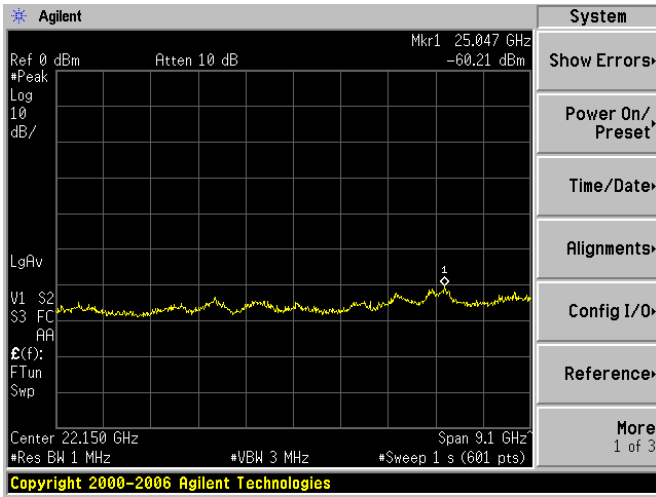
2.9GHz 6.4GHz



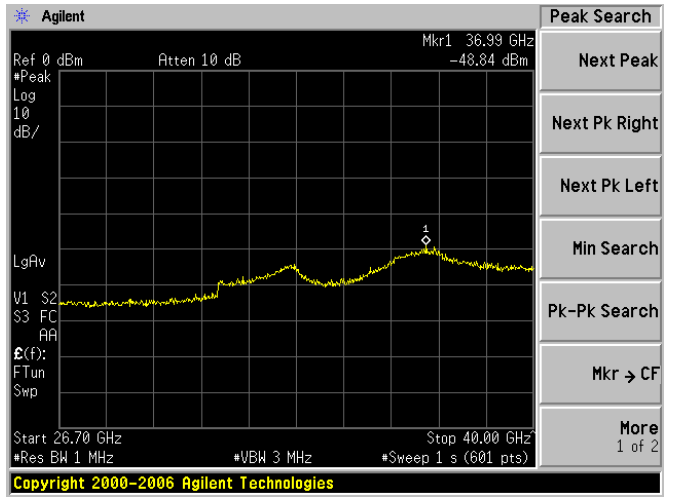
6.4GHz to 12.5GHz



12.5GHz to 18.0GHz



17.6GHz to 26.7GHz



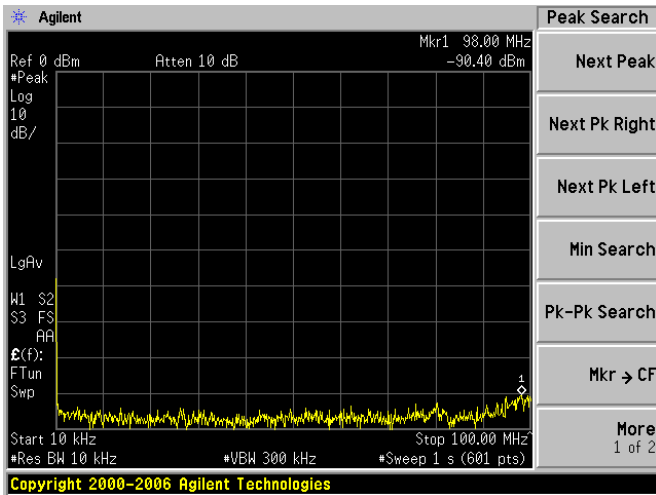
26.4GHz to 40GHz

4.4.10.4 TEST RESULTS of 0.25usec/1700Hz

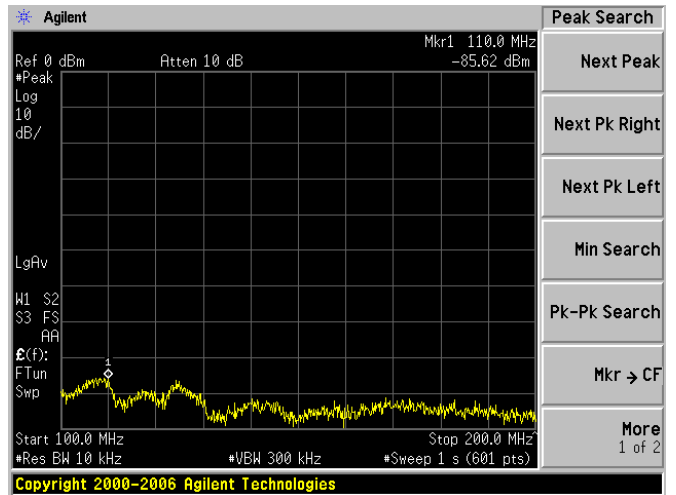
0.25usec/1700Hz								
Range	Frequency [MHz]	level [dBm]	ref level [dB]	Pg [dB]	Cable Loss [dB]	Antenna Gain [dB]	[Pd] [dBm]	Radiated spurious emission [dB]
10kHz - 100MHz	98	-90.4	-85.6	-85.6	0.5	-1.71	87.81	-148.21
100MHz - 200MHz	110	-85.62	-77.3	-77.3	0.5	-0.94	78.74	-134.36
200MHz - 300MHz	216.8	-90.39	less than -83	-83	0.5	-0.84	84.34	less than noise floor
300MHz - 400MHz	329.3	-92.02	less than -83	-83	0.5	2.66	80.84	less than noise floor
400MHz - 500MHz	446.2	-92.57	less than -81	-81	0.5	3.16	78.34	less than noise floor
500MHz - 600MHz	546.3	-92.05	less than -82	-82	0.5	2.86	79.64	less than noise floor
600MHz - 700MHz	657.7	-93.21	less than -79	-79	0.5	2.26	77.24	less than noise floor
700MHz - 800MHz	712.3	-92.74	less than -75	-75	0.5	2.46	73.04	less than noise floor
800MHz - 900MHz	824.2	-93.36	less than -78	-78	0.5	3.26	75.24	less than noise floor
900MHz - 1.0GHz	917.5	-92.44	less than -78	-78	0.5	2.66	75.84	less than noise floor
1.0GHz - 2.9GHz	2583	-69.08	less than -56	-56	1	5	52.00	less than noise floor
2.9GHz - 6.4GHz	3122	-68.04	less than -52	-52	1.2	5	48.20	less than noise floor
6.4GHz - 12.5GHz	9420	-27.01	12.7	12.7	2.5	10.5	20.70	-17.71
12.5G - 18GHz	15351	-63.55	less than -36	-36	3	13	26.00	less than noise floor
17.6G - 26.7GHz	24986	-61.49	less than -58	-58	3	20	41.00	less than noise floor
26.7G - 40.0GHz	36390	-49.97	less than -43	-43	3	20	26.00	less than noise floor

0.25usec/1700Hz								
Range	Frequency [MHz]	level [dBm]	ref level [dB]	Pg [dB]	Cable Loss [dB]	Antenna Gain [dB]	[Pd] [dBm]	Radiated spurious emission [dB]
10kHz - 100MHz	81.34	-86.76	-82.5	-82.5	0.5	-2.66	85.66	-142.42
100MHz - 200MHz	108.3	-86.34	-71.4	-71.4	0.5	-0.94	72.84	-129.18
200MHz - 300MHz	247.5	-91.49	less than -80	-80	0.5	-0.84	81.34	less than noise floor
300MHz - 400MHz	368	-91.41	less than -84	-84	0.5	3.06	81.44	less than noise floor
400MHz - 500MHz	498	-93.13	less than -81	-81	0.5	3.16	78.34	less than noise floor
500MHz - 600MHz	588.3	-92.76	less than -81	-81	0.5	2.66	78.84	less than noise floor
600MHz - 700MHz	632	-92.04	less than -80	-80	0.5	2.46	78.04	less than noise floor
700MHz - 800MHz	718	-93.33	less than -78	-78	0.5	2.46	76.04	less than noise floor
800MHz - 900MHz	892	-93.14	less than -77	-77	0.5	3.06	74.44	less than noise floor
900MHz - 1.0GHz	949.3	-92.98	less than -77	-77	0.5	2.96	74.54	less than noise floor
1.0GHz - 2.9GHz	2596	-69.14	less than -56	-56	1	5	52.00	less than noise floor
2.9GHz - 6.4GHz	3139	-67.66	less than -51	-51	1.2	5	47.20	less than noise floor
6.4GHz - 12.5GHz	9420	-32.53	6.4	6.4	2.5	10.5	14.40	-16.93
12.5G - 18GHz	15287	-62.5	less than -34	-34	3	13	24.00	less than noise floor
17.6G - 26.7GHz	24941	-61.13	less than -56	-56	3	20	39.00	less than noise floor
26.7G - 40.0GHz	37140	-50.13	less than -41	-41	3	20	24.00	less than noise floor

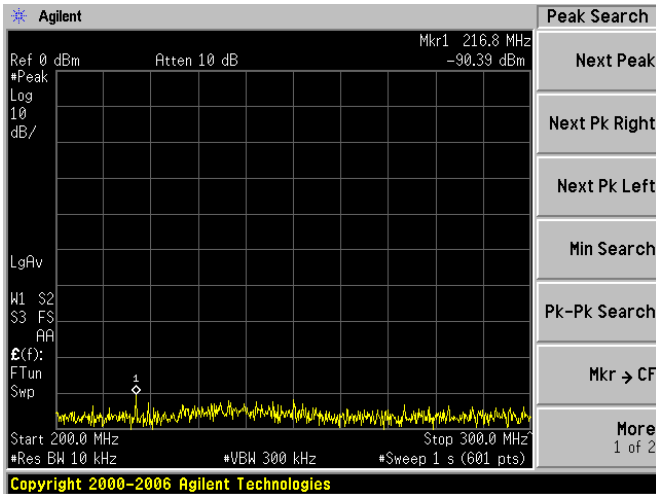
·Horizontally Polarized



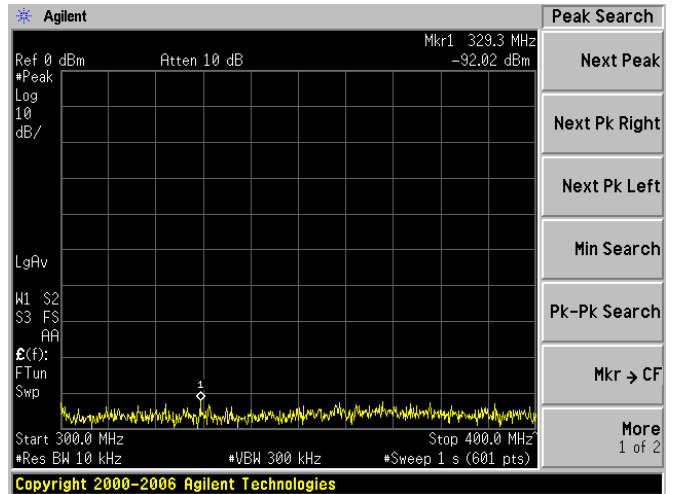
10kHz to 100MHz



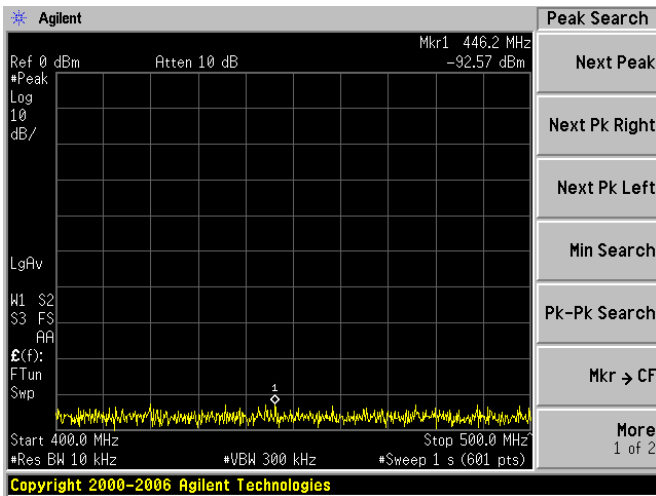
100MHz to 200MHz



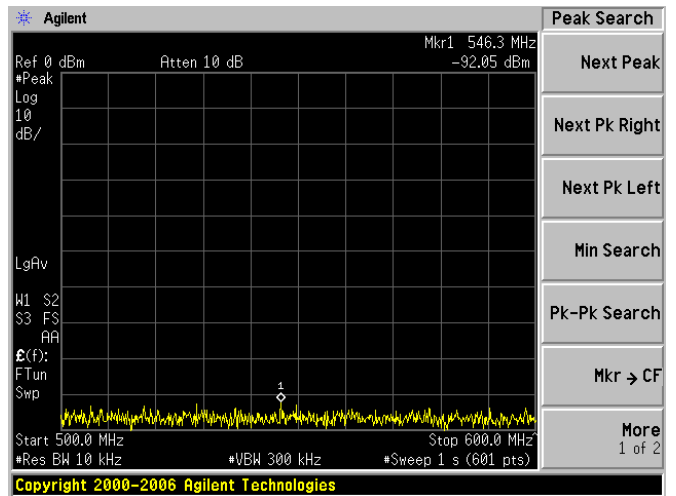
200MHz to 300MHz



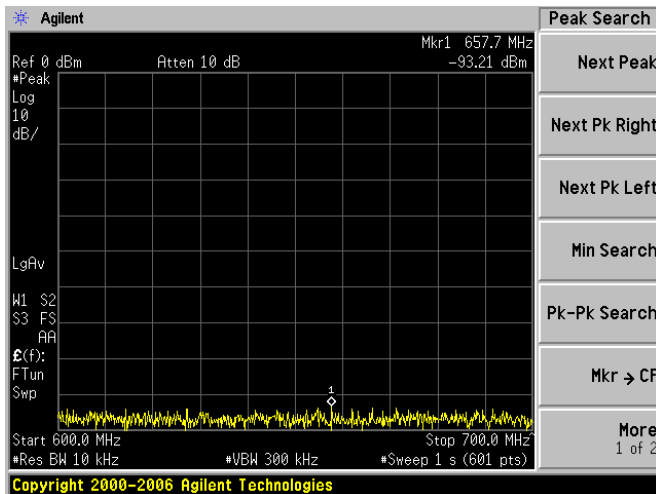
300MHz to 400MHz



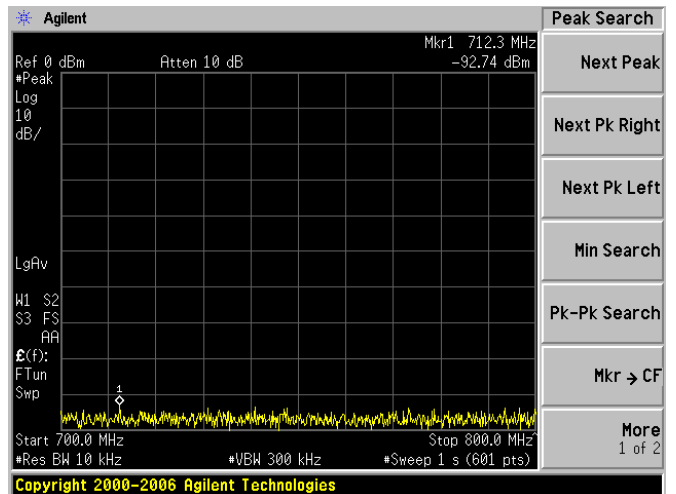
400MHz to 500MHz



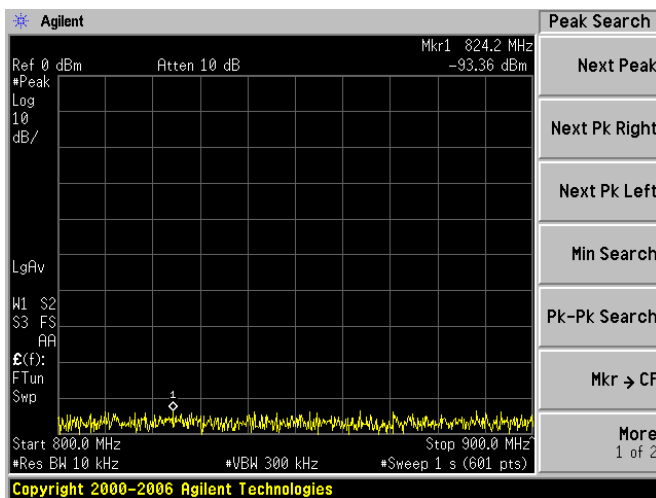
500MHz to 600MHz



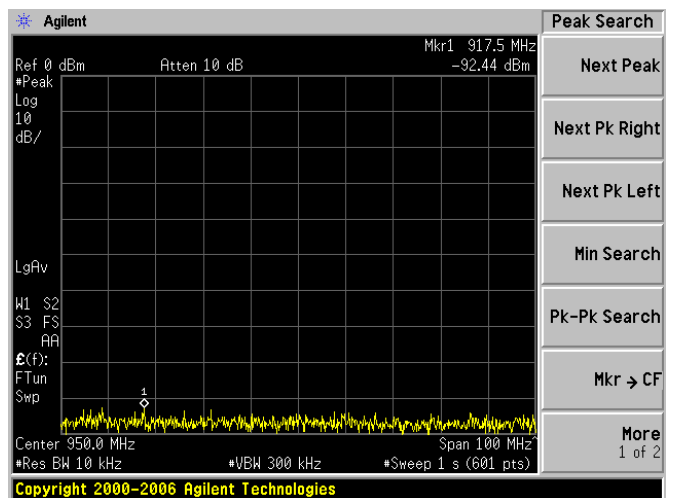
600MHz to 700MHz



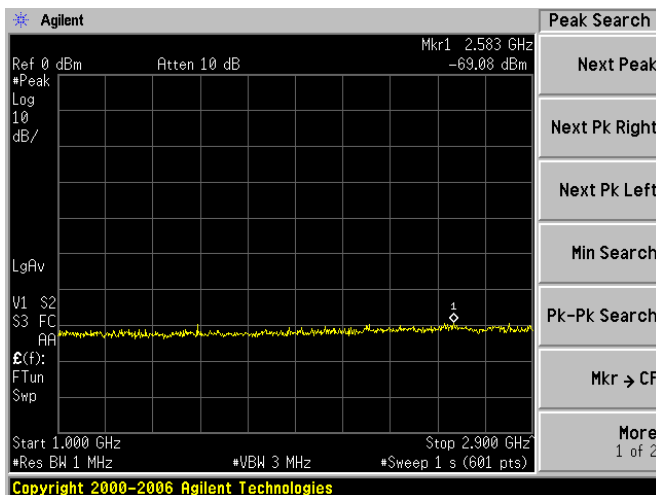
700MHz to 800MHz



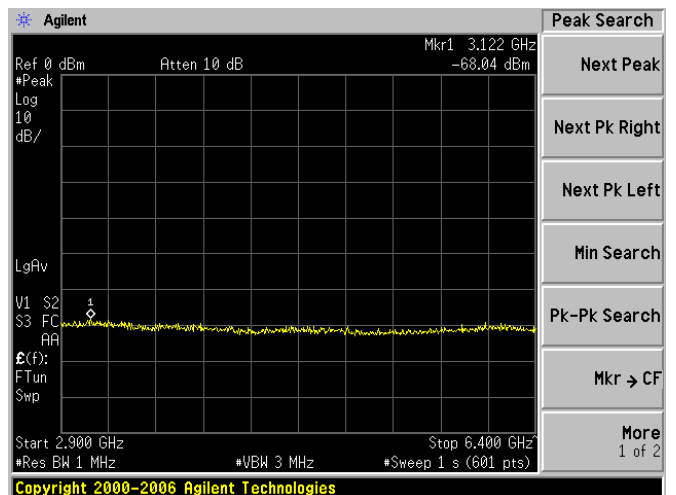
800MHz to 900MHz



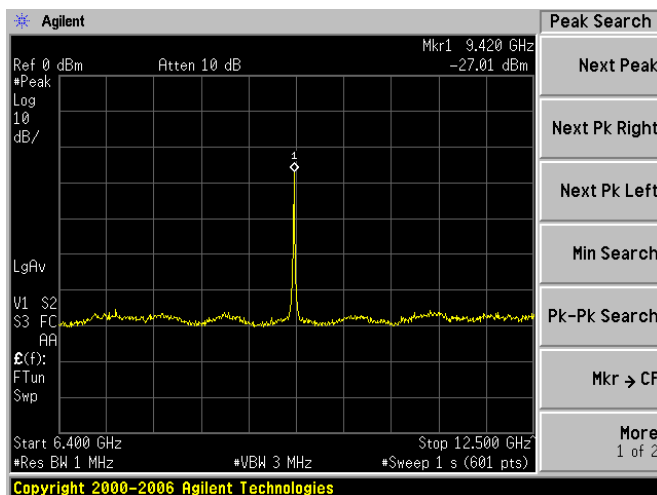
900MHz to 1GHz



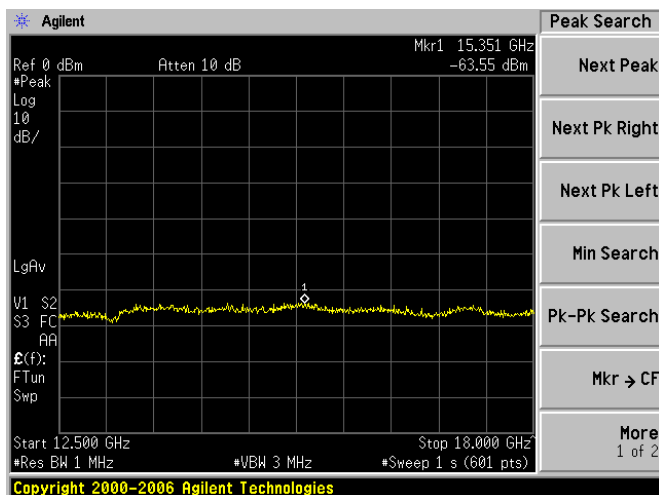
1GHz to 2.9GHz



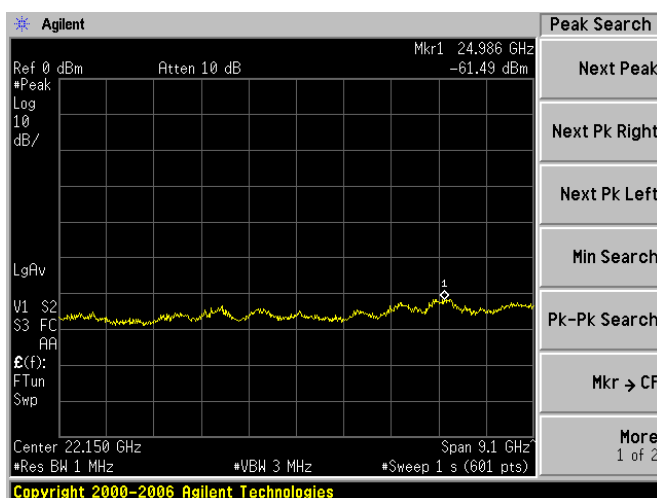
2.9GHz to 6.4GHz



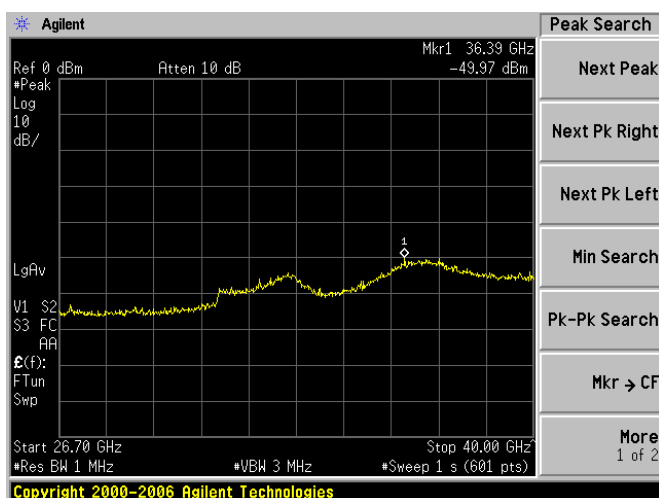
6.4GHz to 12.5GHz



12.5GHz to 18GHz

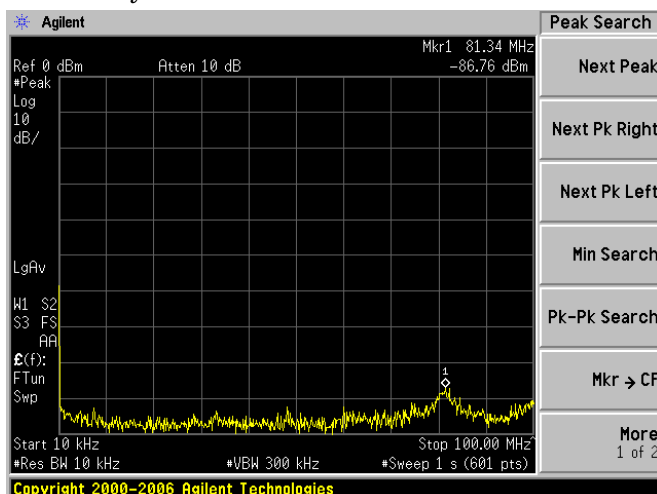


17.6GHz to 26.7GHz

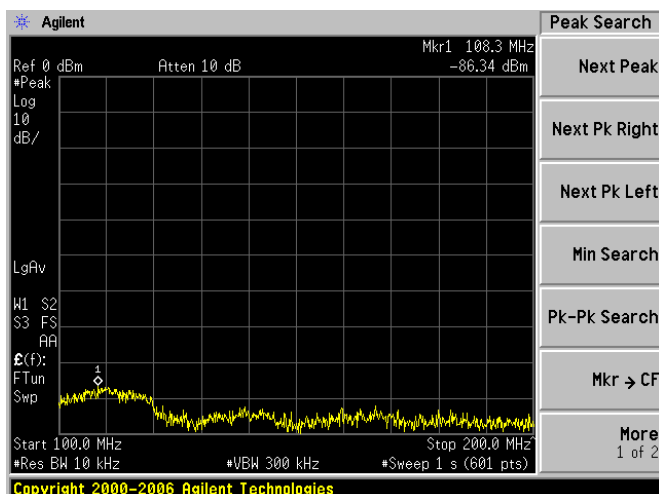


26.5GHz to 40.0GHz

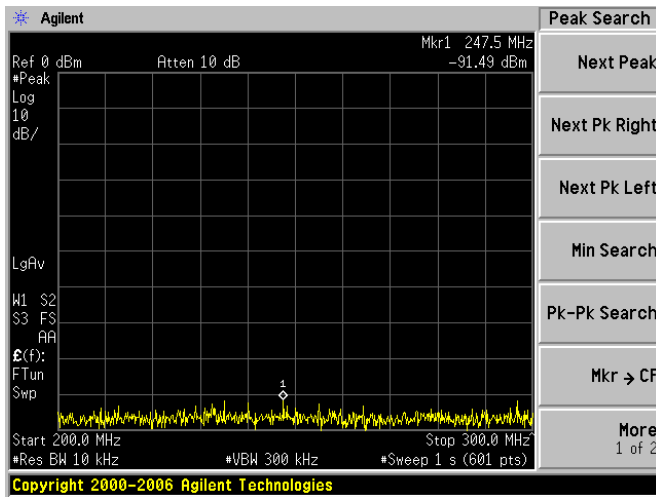
•Vertically Polarized



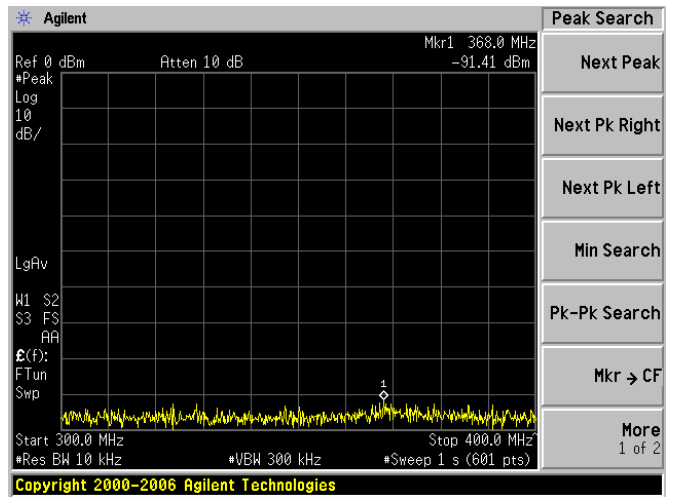
10kHz to 100MHz



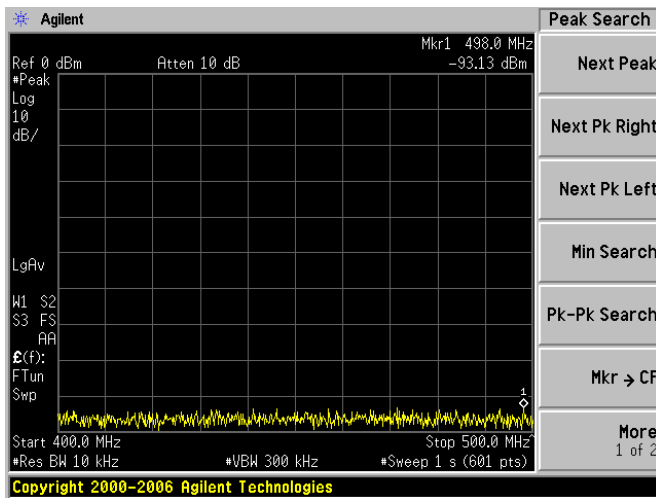
100MHz to 200MHz



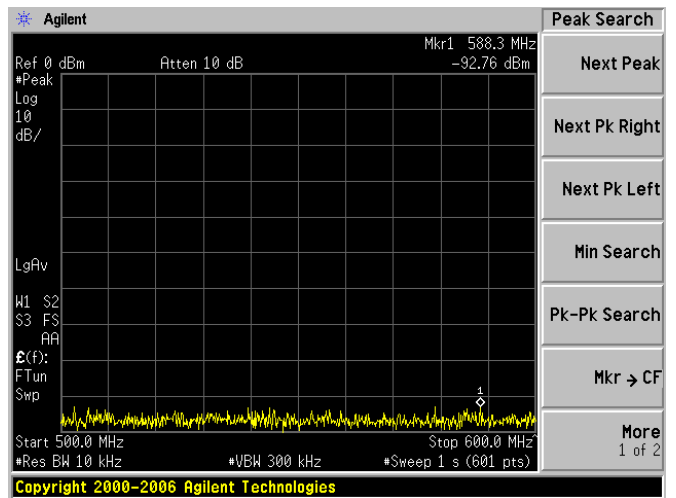
200MHz to 300MHz



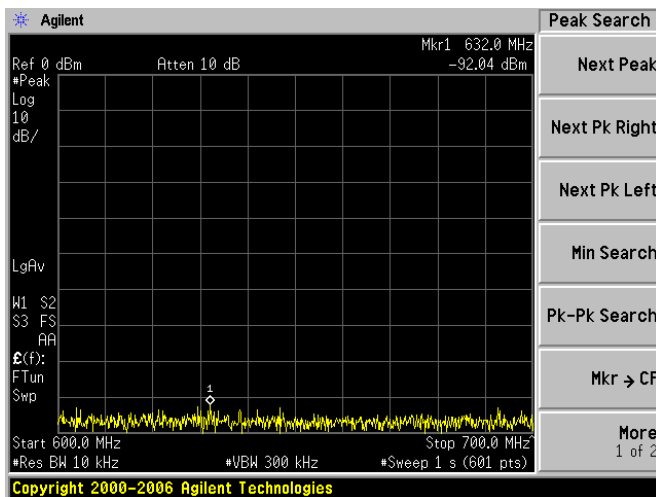
300MHz to 400MHz



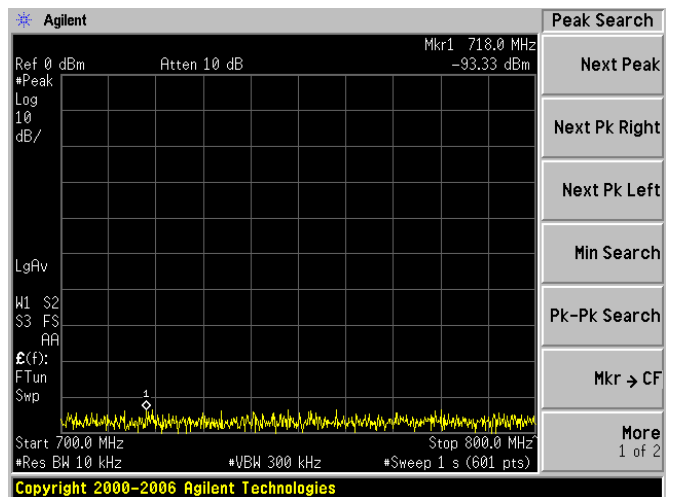
400MHz to 500MHz



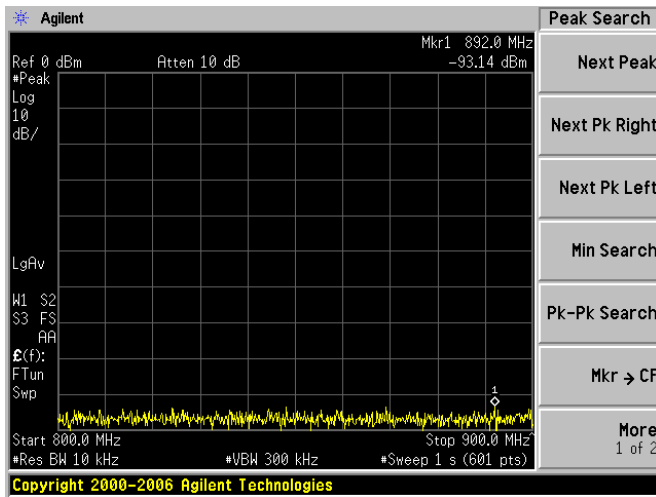
500MHz to 600MHz



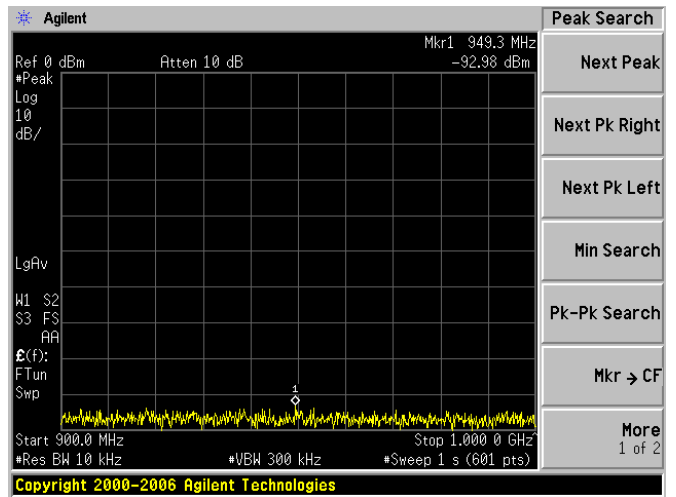
600MHz to 700MHz



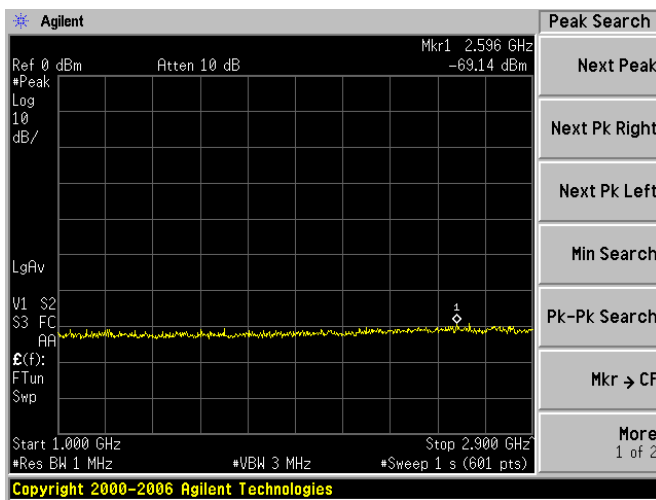
700MHz to 800MHz



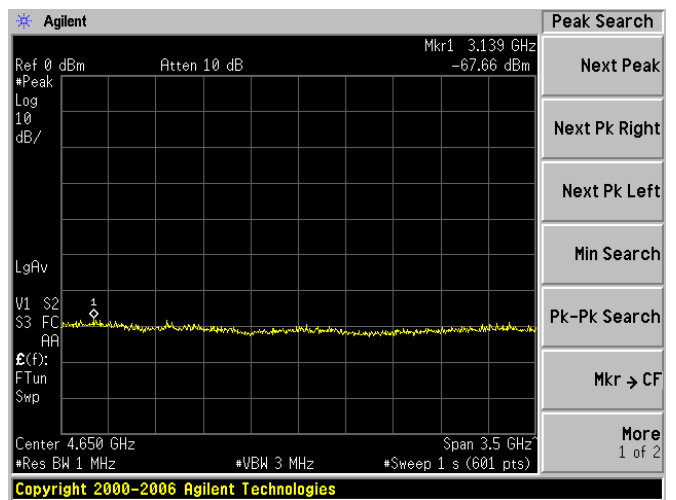
800MHz to 900MHz



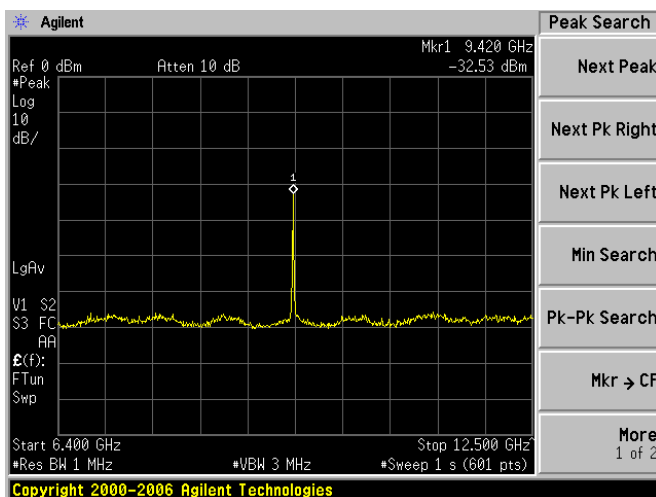
900MHz to 1GHz



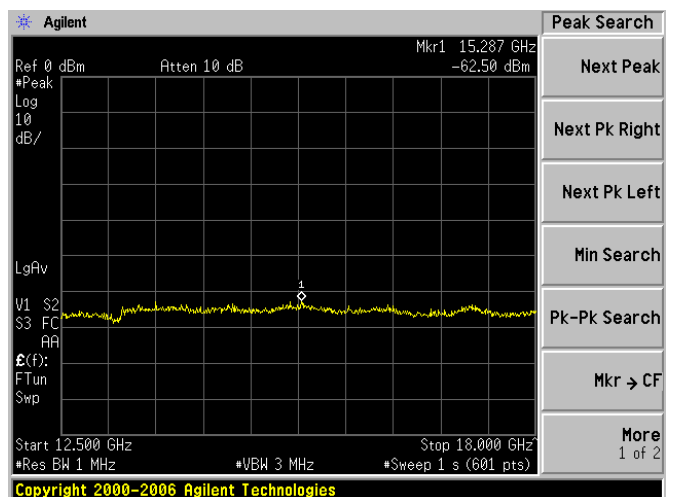
1GHz to 2.9GHz



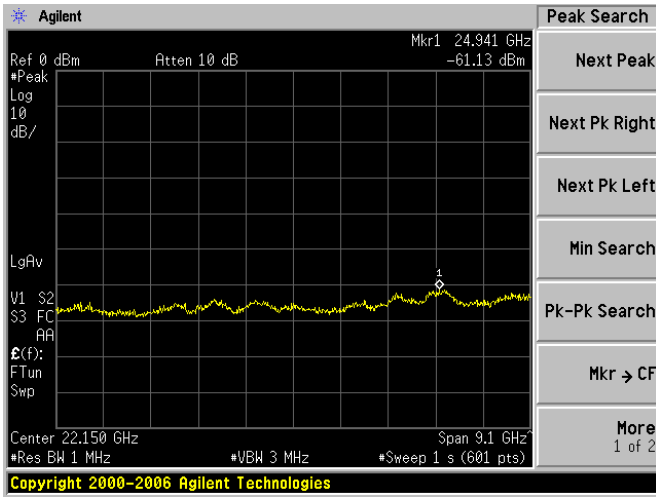
2.9GHz 6.4GHz



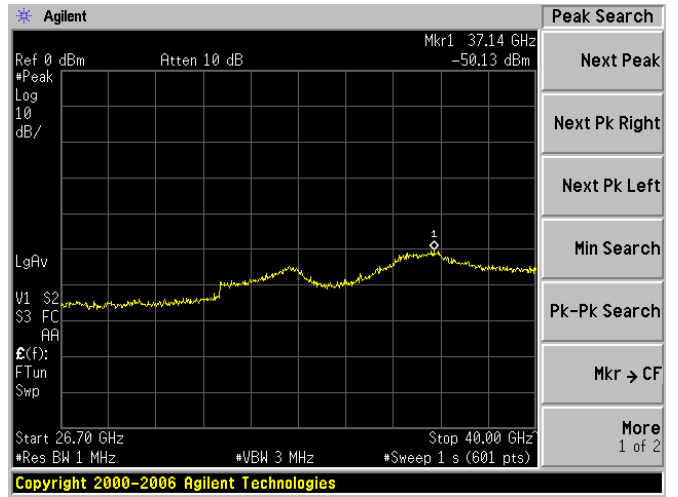
6.4GHz to 12.5GHz



12.5GHz to 18.0GHz



17.6GHz to 26.7GHz



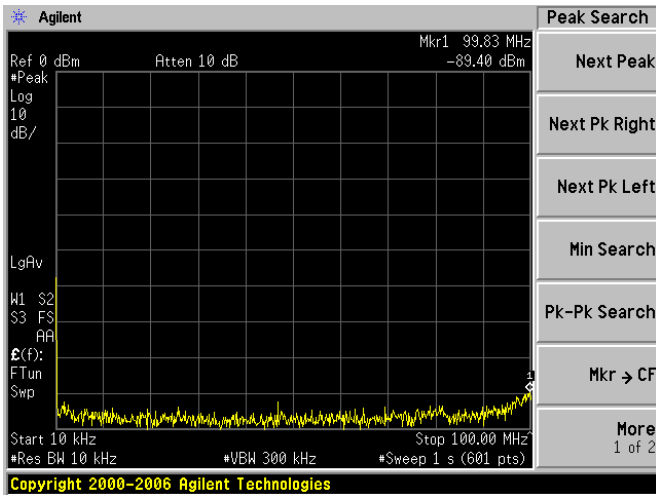
26.4GHz to 40GHz

4.4.10.5 TEST RESULTS of 0.5usec/1200Hz

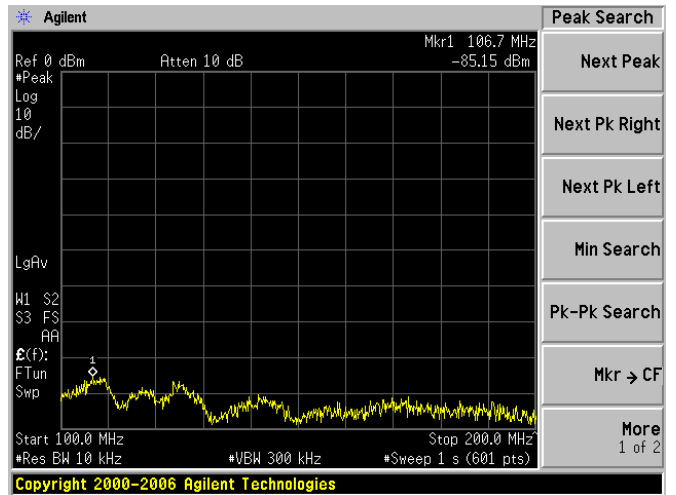
0.5usec/1200Hz									
Range	Frequency [MHz]	level [dBm]	ref leve [dB]	Pg [dB]	Cable Loss [dB]	Antenna Gain [dB]	[Pd] [dBm]	Radiated spurious emission [dB]	
10kHz - 100MHz	99.83	-89.4	-85.6	-85.6	0.5	-1.71	87.81	-147.21	
100MHz - 200MHz	106.7	-85.15	-76.9	-76.9	0.5	-0.94	78.34	-133.49	
200MHz - 300MHz	245.3	-91.07	less than -81	-81	0.5	-0.84	82.34	less than noise floor	
300MHz - 400MHz	371.2	-91.03	less than -82	-82	0.5	3.06	79.44	less than noise floor	
400MHz - 500MHz	406.7	-92.9	less than -83	-83	0.5	3.26	80.24	less than noise floor	
500MHz - 600MHz	549.2	-92.38	less than -82	-82	0.5	2.86	79.64	less than noise floor	
600MHz - 700MHz	604.8	-92.78	less than -80	-80	0.5	2.66	77.84	less than noise floor	
700MHz - 800MHz	707.5	-92.28	less than -75	-75	0.5	2.46	73.04	less than noise floor	
800MHz - 900MHz	867.3	-92.13	less than -78	-78	0.5	3.06	75.44	less than noise floor	
900MHz - 1.0GHz	902.3	-92.77	less than -78	-78	0.5	2.76	75.74	less than noise floor	
1.0GHz - 2.9GHz	2738	-69.15	less than -57	-57	1	5	53.00	less than noise floor	
2.9GHz - 6.4GHz	3128	-67.84	less than -52	-52	1.2	5	48.20	less than noise floor	
6.4GHz - 12.5GHz	9420	-22.68	17.4	17.4	2.5	10.5	25.40	-18.08	
12.5G - 18GHz	15314	-63.29	less than -34	-34	3	13	24.00	less than noise floor	
17.6G - 26.7GHz	25047	-60.51	less than -58	-58	3	20	41.00	less than noise floor	
26.7G - 40.0GHz	37270	-49.94	less than -42	-42	3	20	25.00	less than noise floor	

0.5usec/1200Hz									
Range	Frequency [MHz]	level [dBm]	ref leve [dB]	Pg [dB]	Cable Loss [dB]	Antenna Gain [dB]	[Pd] [dBm]	Radiated spurious emission [dB]	
10kHz - 100MHz	81.17	-86.91	-83.3	-83.3	0.5	-2.66	86.46	-143.37	
100MHz - 200MHz	109.3	-84.05	-68.1	-68.1	0.5	-0.94	69.54	-123.59	
200MHz - 300MHz	237.5	-91.92	less than -80	-80	0.5	-0.76	81.26	less than noise floor	
300MHz - 400MHz	381.5	-92.28	less than -83	-83	0.5	3.16	80.34	less than noise floor	
400MHz - 500MHz	465.2	-92	less than -82	-82	0.5	3.16	79.34	less than noise floor	
500MHz - 600MHz	505.2	-92.7	less than -80	-80	0.5	3.16	77.34	less than noise floor	
600MHz - 700MHz	625.5	-92.16	less than -81	-81	0.5	2.56	78.94	less than noise floor	
700MHz - 800MHz	731	-92.82	less than -78	-78	0.5	2.56	75.94	less than noise floor	
800MHz - 900MHz	806.7	-92.11	less than -78	-78	0.5	3.16	75.34	less than noise floor	
900MHz - 1.0GHz	927.3	-92.98	less than -78	-78	0.5	2.86	75.64	less than noise floor	
1.0GHz - 2.9GHz	2802	-68.75	less than -55	-55	1	5	51.00	less than noise floor	
2.9GHz - 6.4GHz	3005	-67.96	less than -51	-51	1.2	5	47.20	less than noise floor	
6.4GHz - 12.5GHz	9420	-31.88	8.2	8.2	2.5	10.5	16.20	-18.08	
12.5G - 18GHz	15342	-63.22	less than -34	-34	3	13	24.00	less than noise floor	
17.6G - 26.7GHz	25047	-60.42	less than -57	-57	3	20	40.00	less than noise floor	
26.7G - 40.0GHz	37030	-49.69	less than -39	-39	3	20	22.00	less than noise floor	

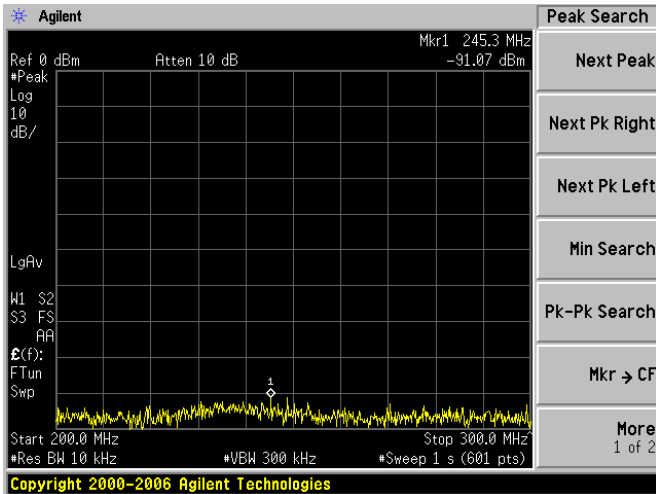
·Horizontally Polarized



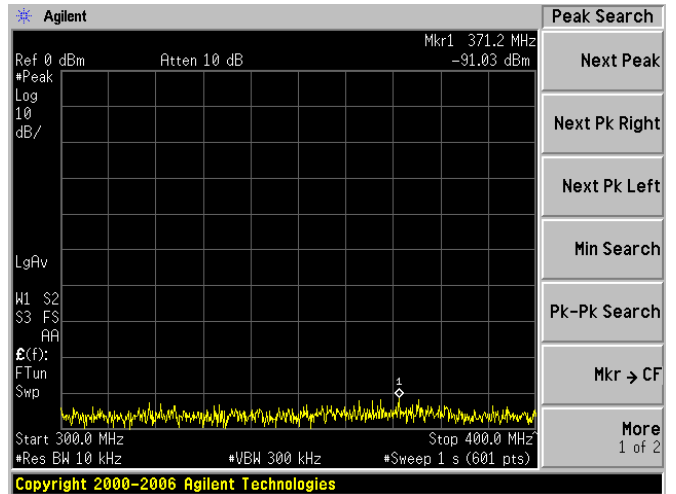
10kHz to 100MHz



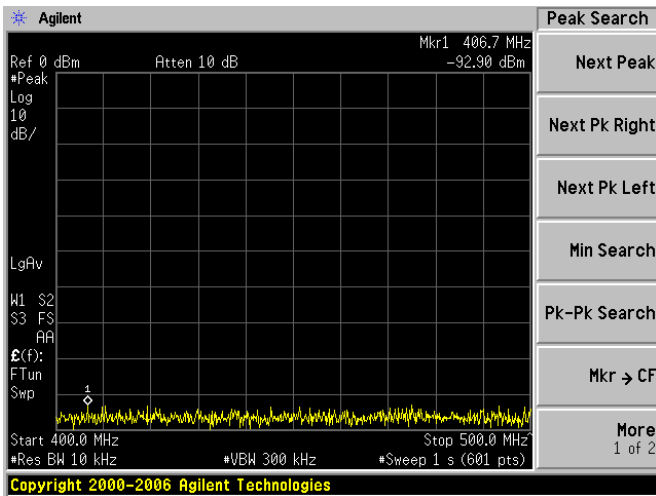
100MHz to 200MHz



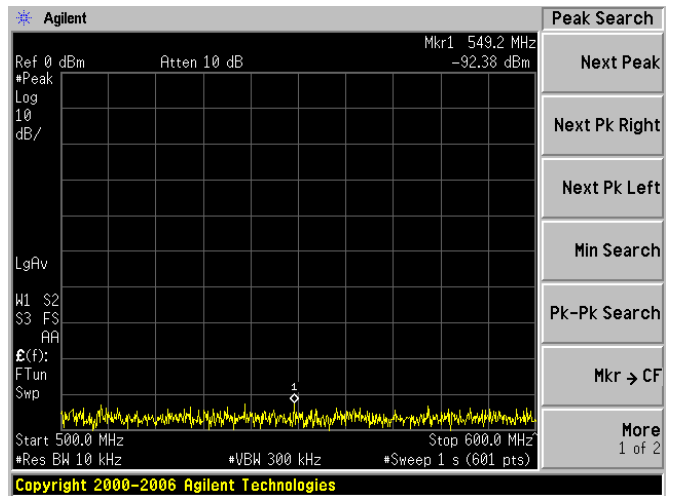
200MHz to 300MHz



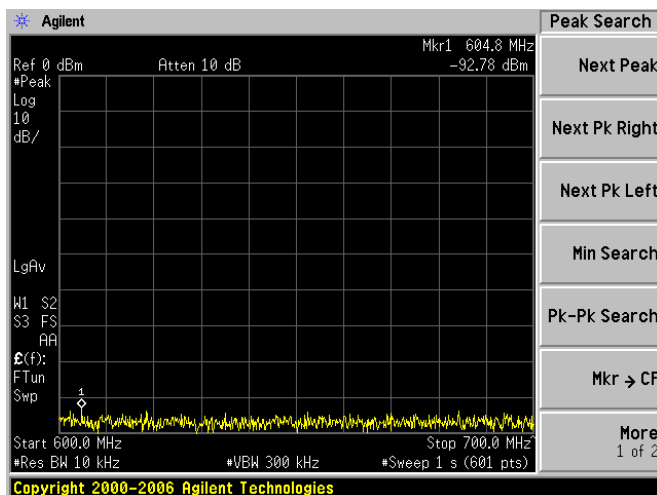
300MHz to 400MHz



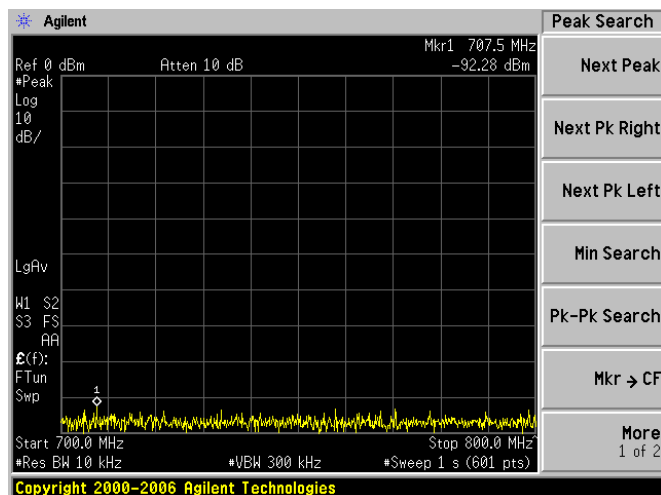
400MHz to 500MHz



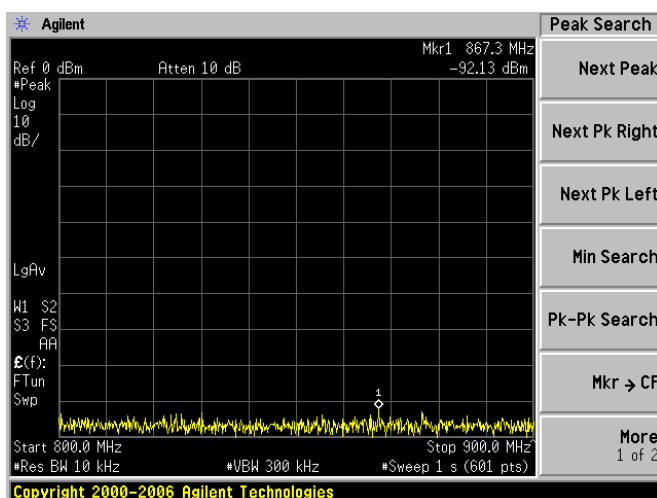
500MHz to 600MHz



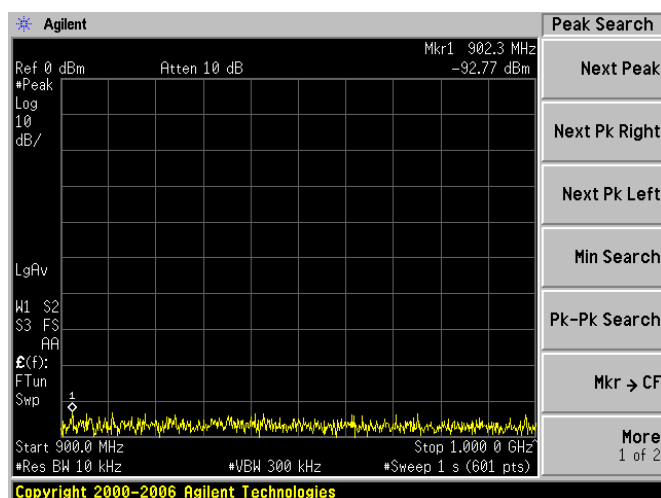
600MHz to 700MHz



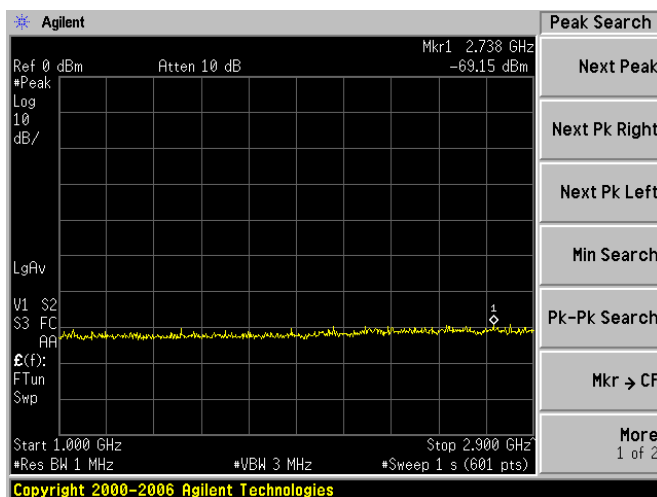
700MHz to 800MHz



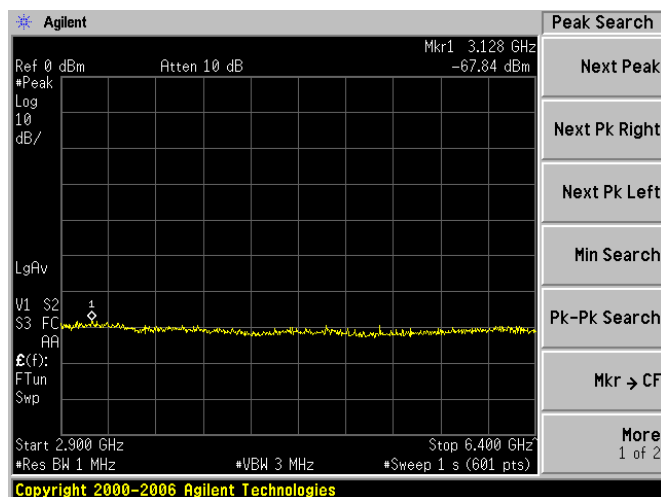
800MHz to 900MHz



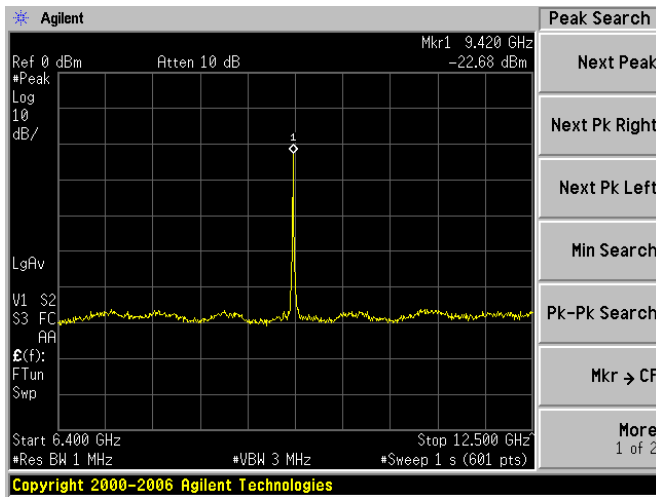
900MHz to 1GHz



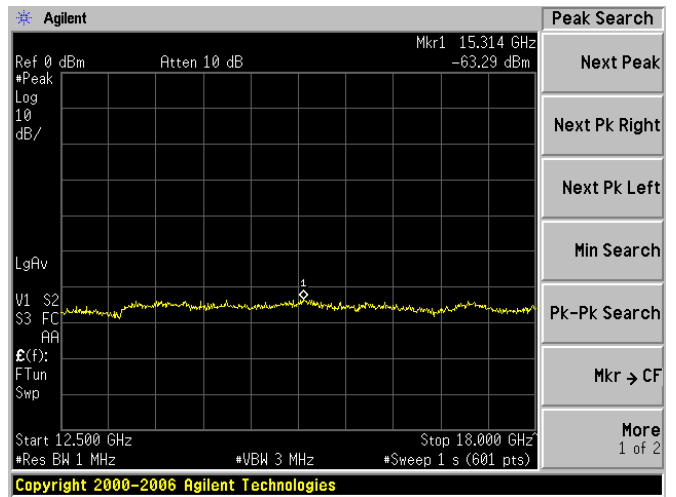
1GHz to 2.9GHz



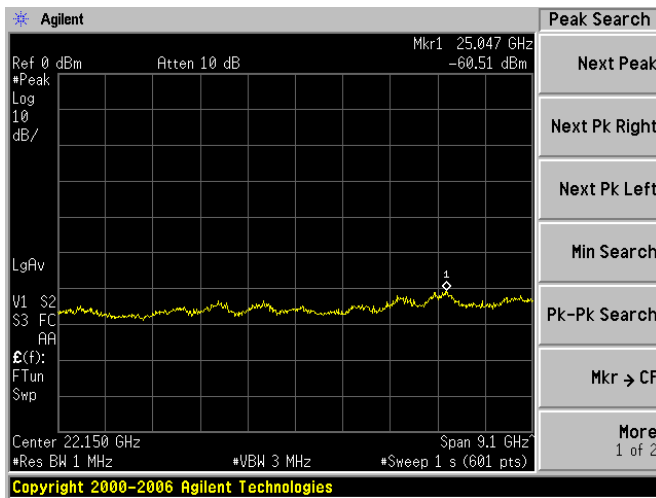
2.9GHz to 6.4GHz



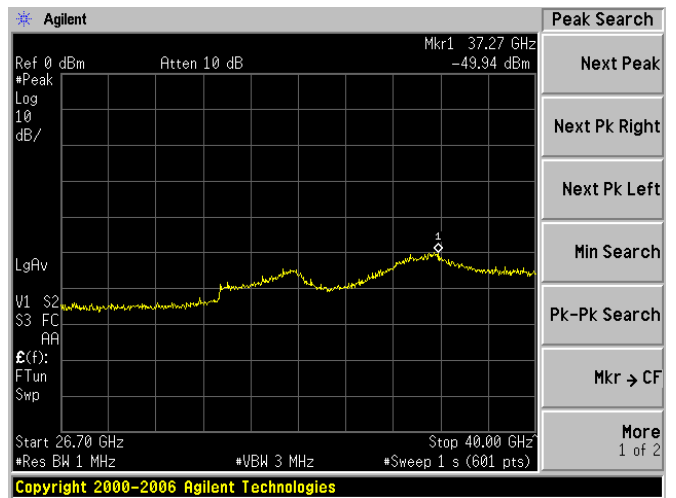
6.4GHz to 12.5GHz



12.5GHz to 18GHz

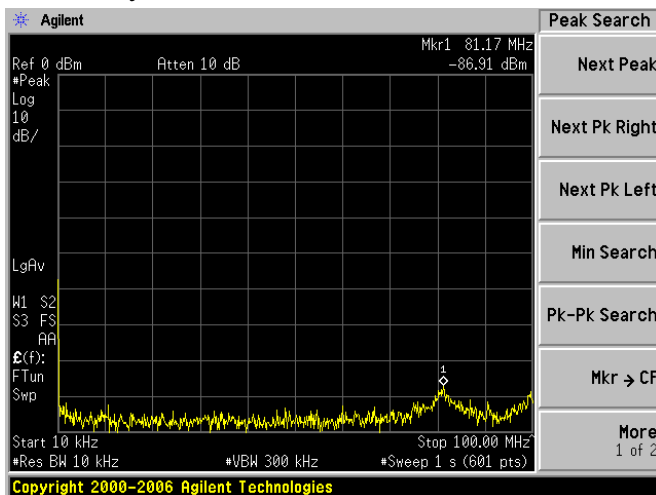


17.6GHz to 26.7GHz

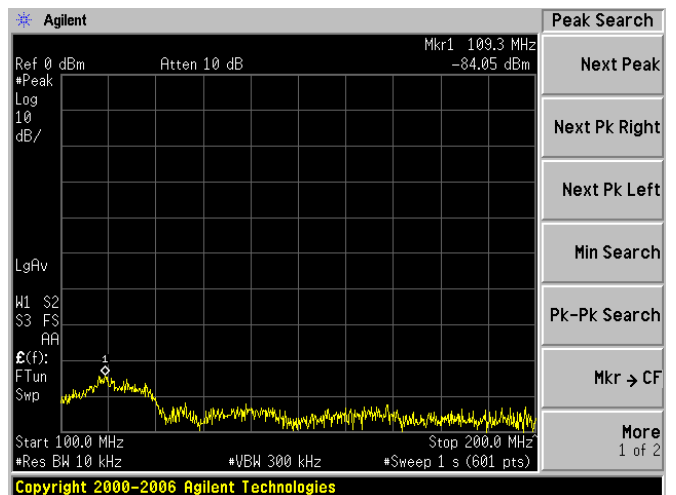


26.5GHz to 40.0GHz

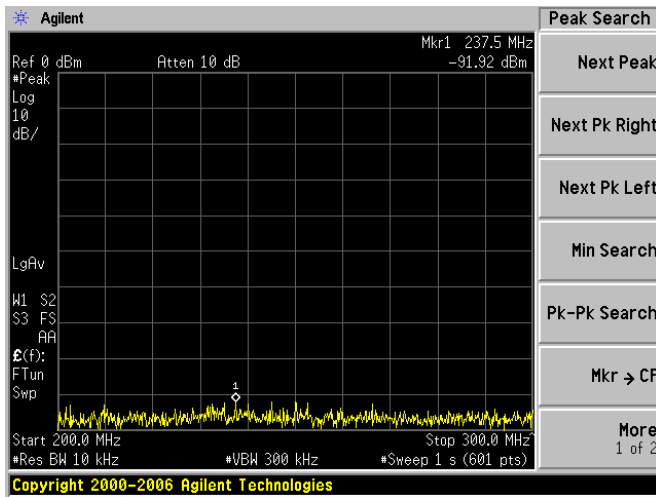
• Vertically Polarized



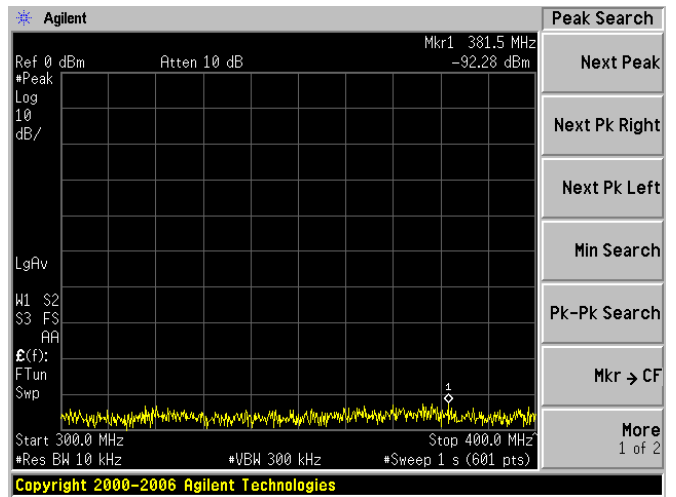
10kHz to 100MHz



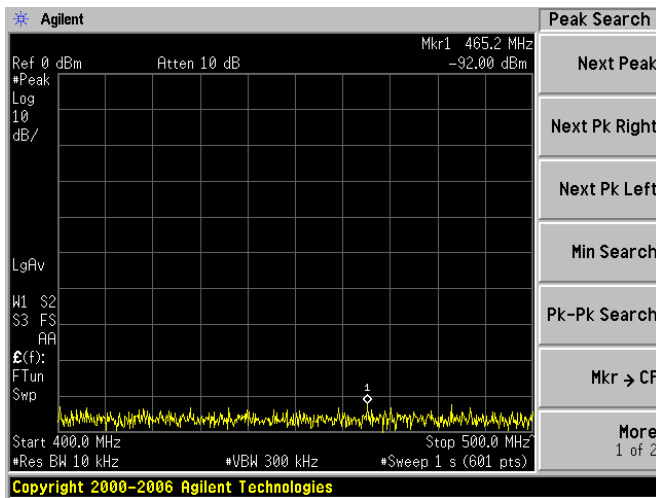
100MHz to 200MHz



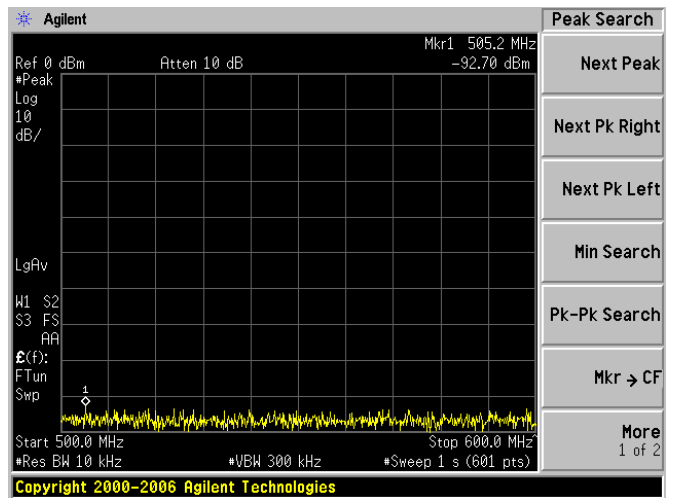
200MHz to 300MHz



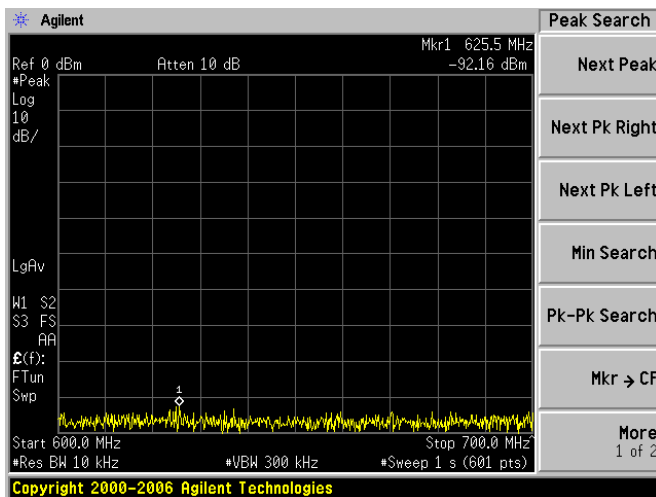
300MHz to 400MHz



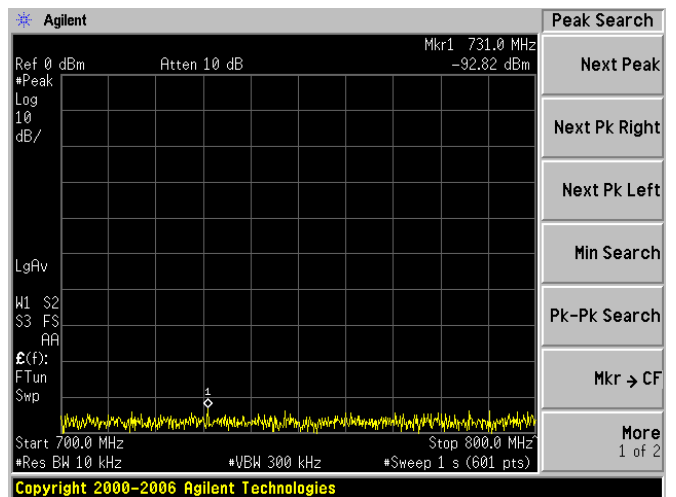
400MHz to 500MHz



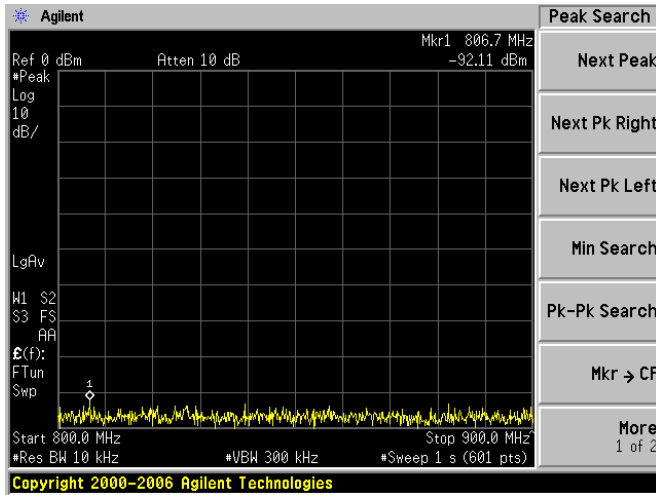
500MHz to 600MHz



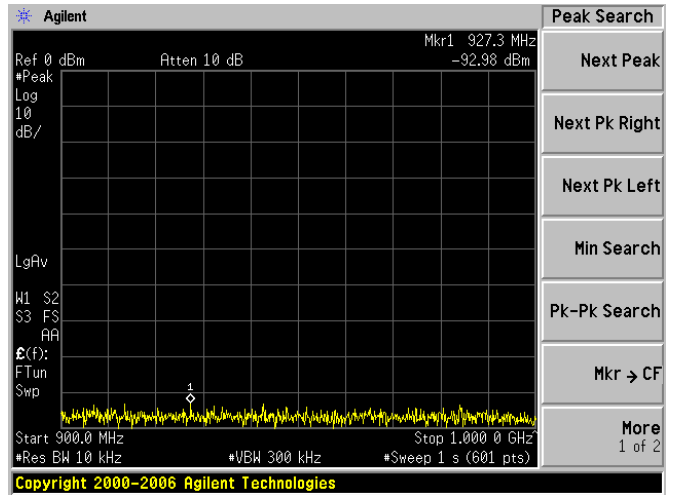
600MHz to 700MHz



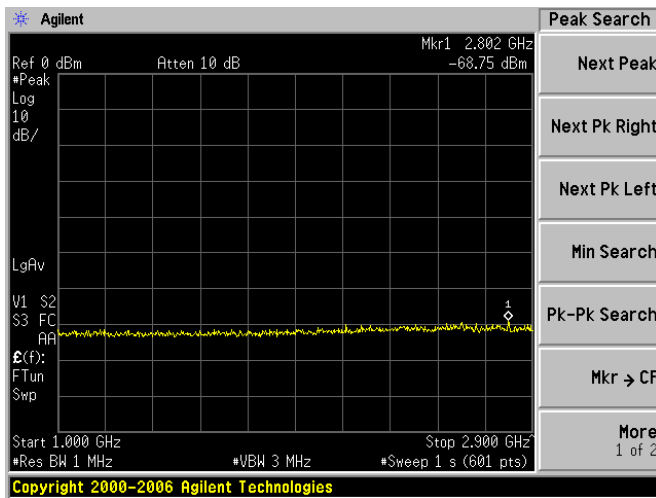
700MHz to 800MHz



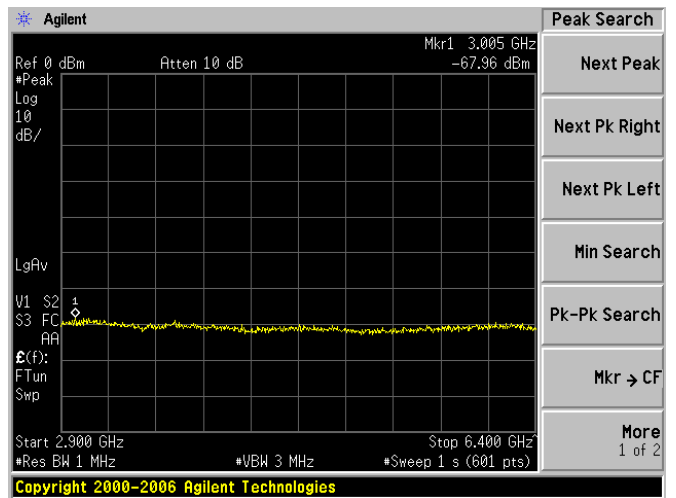
800MHz to 900MHz



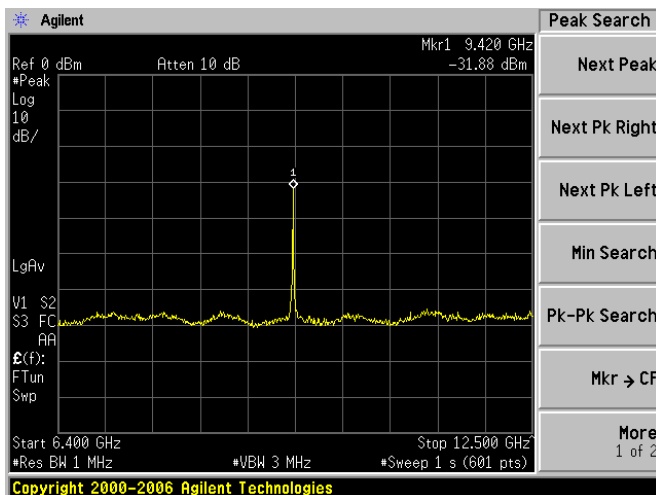
900MHz to 1GHz



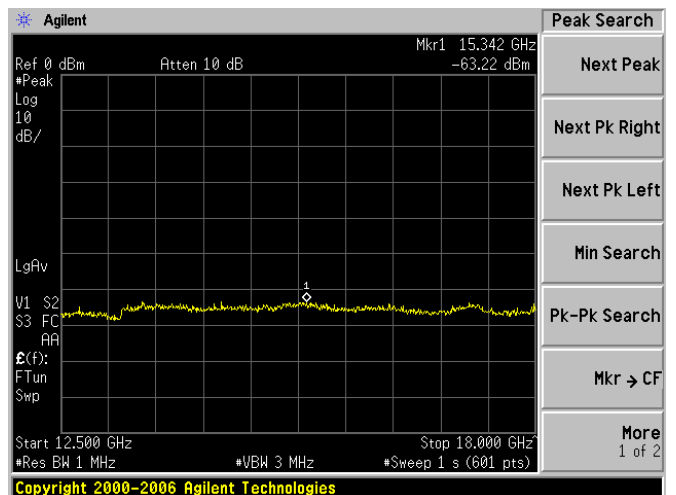
1GHz to 2.9GHz



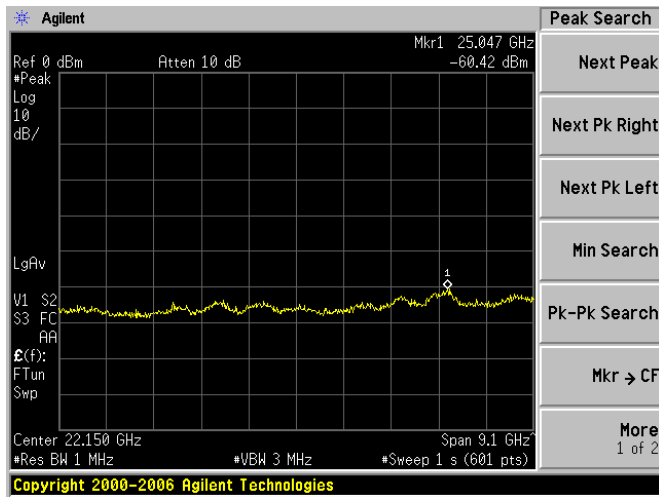
2.9GHz 6.4GHz



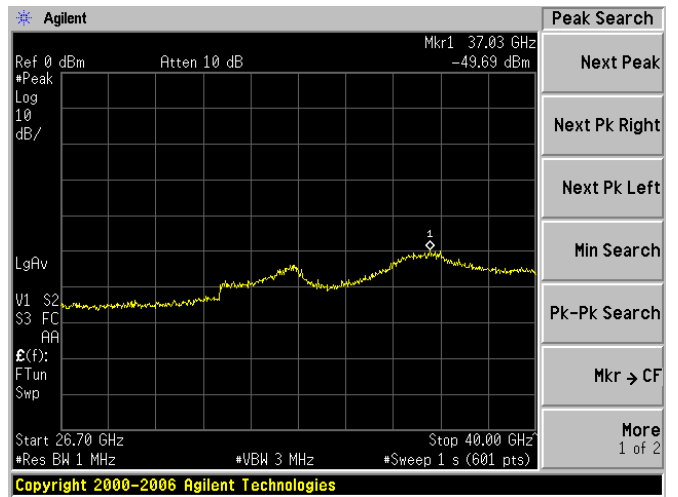
6.4GHz to 12.5GHz



12.5GHz to 18.0GHz



17.6GHz to 26.7GHz



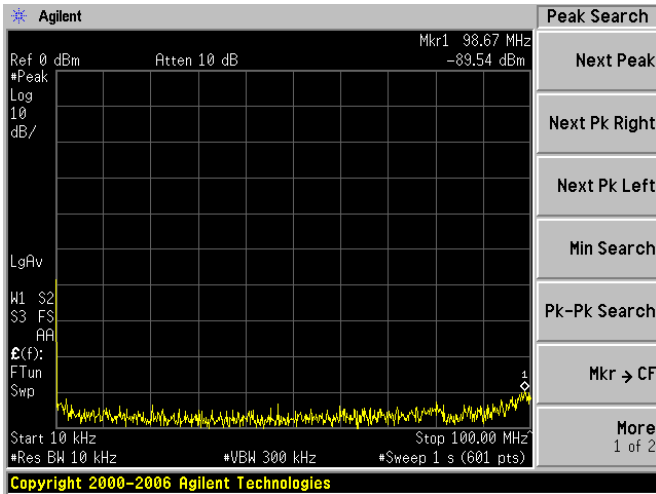
26.4GHz to 40GHz

4.4.10.6 TEST RESULTS of 1.0usec/650Hz

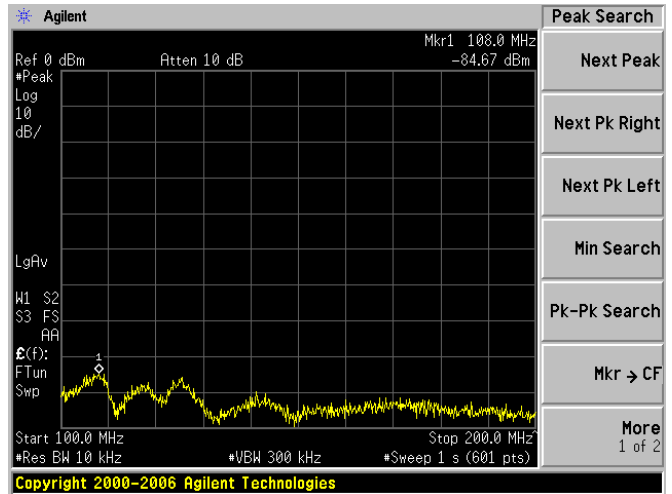
1.0usec/650Hz									
Range	Frequency [MHz]	level [dBm]	ref leve [dB]	Pg [dB]	Cable Loss [dB]	Antenna Gain [dB]	Pd [dBm]	Radiated spurious emission [dB]	
10kHz – 100MHz	98.67	-89.54	-85.6	-85.6	0.5	-1.71	87.81	-147.35	
100MHz – 200MHz	108	-84.67	-76.2	-76.2	0.5	-0.94	77.64	-132.31	
200MHz – 300MHz	255.8	-90.05	less than -79	-79	0.5	-1.12	80.62	less than noise floor	
300MHz – 400MHz	383.8	-92.3	less than -82	-82	0.5	3.16	79.34	less than noise floor	
400MHz – 500MHz	493.5	-92.12	less than -84	-84	0.5	3.16	81.34	less than noise floor	
500MHz – 600MHz	550.7	-92.63	less than -80	-80	0.5	2.86	77.64	less than noise floor	
600MHz – 700MHz	679.5	-93.29	less than -79	-79	0.5	2.36	77.14	less than noise floor	
700MHz – 800MHz	717.2	-93.26	less than -75	-75	0.5	2.46	73.04	less than noise floor	
800MHz – 900MHz	849.5	-91.46	less than -77	-77	0.5	3.36	74.14	less than noise floor	
900MHz – 1.0GHz	998.3	-91.93	less than -77	-77	0.5	2.86	74.64	less than noise floor	
1.0GHz – 2.9GHz	1659	-72.64	less than -58	-58	1	5	54.00	less than noise floor	
2.9GHz – 6.4GHz	3087	-67.95	less than -53	-53	1.2	5	49.20	less than noise floor	
6.4GHz – 12.5GHz	9420	-19.98	20	20	2.5	10.5	28.00	-17.98	
12.5G – 18GHz	15351	-62.71	less than -36	-36	3	13	26.00	less than noise floor	
17.6G – 26.7GHz	25061	-60.4	less than -58	-58	3	20	41.00	less than noise floor	
26.7G – 40.0GHz	37030	-50.07	less than -41	-41	3	20	24.00	less than noise floor	

1.0usec/650Hz									
Range	Frequency [MHz]	level [dBm]	ref leve [dB]	Pg [dB]	Cable Loss [dB]	Antenna Gain [dB]	Pd [dBm]	Radiated spurious emission [dB]	
10kHz – 100MHz	82.17	-87.26	-83.3	-83.3	0.5	-2.66	86.46	-143.72	
100MHz – 200MHz	108	-85.96	-71	-71	0.5	-0.94	72.44	-128.40	
200MHz – 300MHz	230.8	-91.9	less than -80	-80	0.5	-0.81	81.31	less than noise floor	
300MHz – 400MHz	384	-92.41	less than -84	-84	0.5	3.16	81.34	less than noise floor	
400MHz – 500MHz	489.8	-92.32	less than -82	-82	0.5	3.16	79.34	less than noise floor	
500MHz – 600MHz	507.7	-92.51	less than -81	-81	0.5	3.06	78.44	less than noise floor	
600MHz – 700MHz	658	-92.92	less than -80	-80	0.5	2.26	78.24	less than noise floor	
700MHz – 800MHz	778	-93.39	less than -77	-77	0.5	2.86	74.64	less than noise floor	
800MHz – 900MHz	827.5	-92.76	less than -79	-79	0.5	3.26	76.24	less than noise floor	
900MHz – 1.0GHz	922.7	-93.06	less than -78	-78	0.5	2.76	75.74	less than noise floor	
1.0GHz – 2.9GHz	2802	-68.94	less than -55	-55	1	5	51.00	less than noise floor	
2.9GHz – 6.4GHz	3862	-68.62	less than -49	-49	1.2	5	45.20	less than noise floor	
6.4GHz – 12.5GHz	9420	-23.54	16.5	16.5	2.5	10.5	24.50	-18.04	
12.5G – 18GHz	15030	-63.36	less than -35	-35	3	13	25.00	less than noise floor	
17.6G – 26.7GHz	24834	-61.02	less than -58	-58	3	20	41.00	less than noise floor	
26.7G – 40.0GHz	36790	-49.65	less than -40	-40	3	20	23.00	less than noise floor	

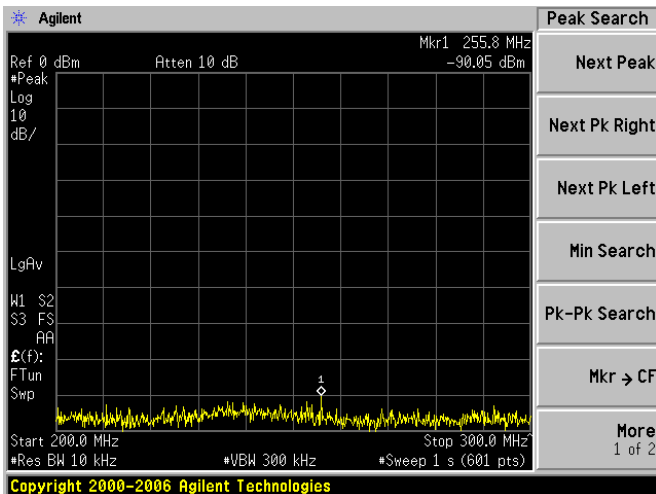
•Horizontally Polarized



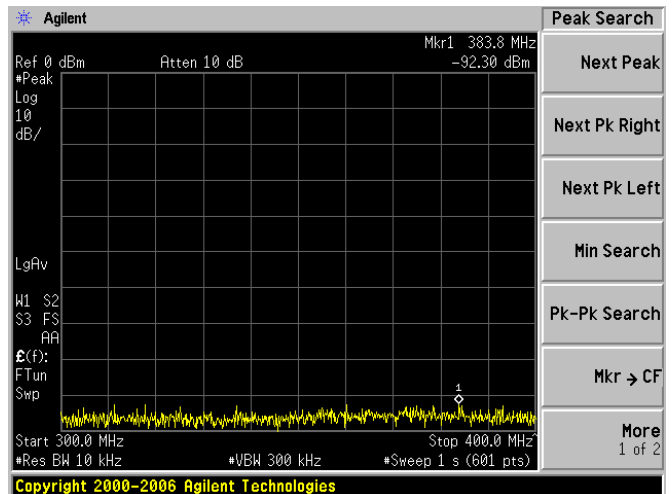
10kHz to 100MHz



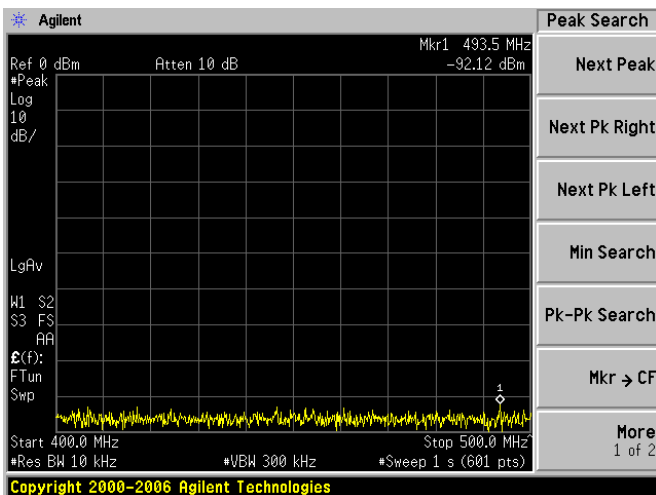
100MHz to 200MHz



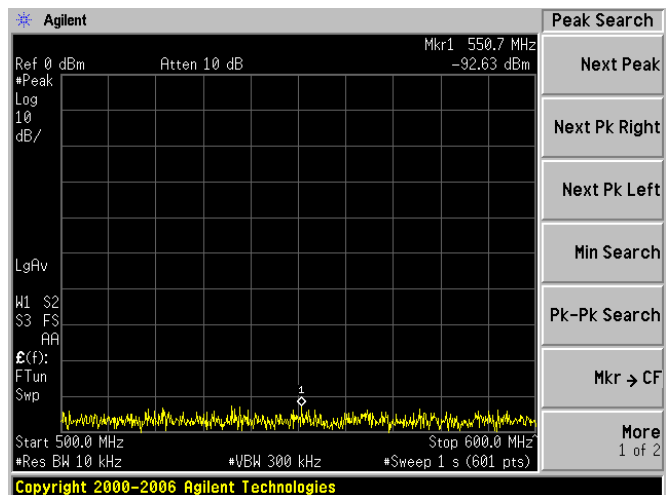
200MHz to 300MHz



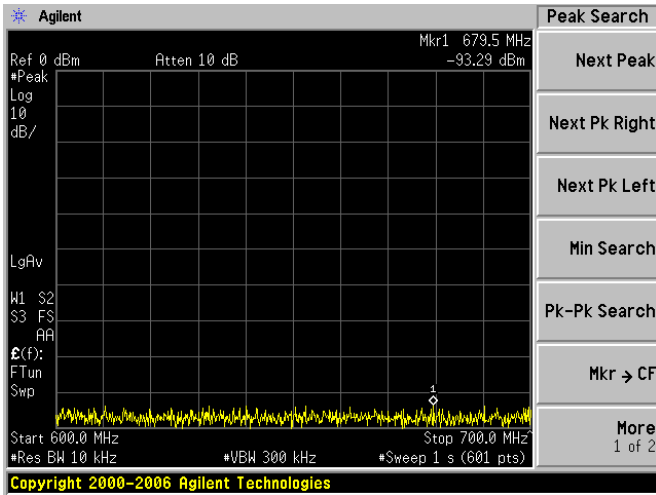
300MHz to 400MHz



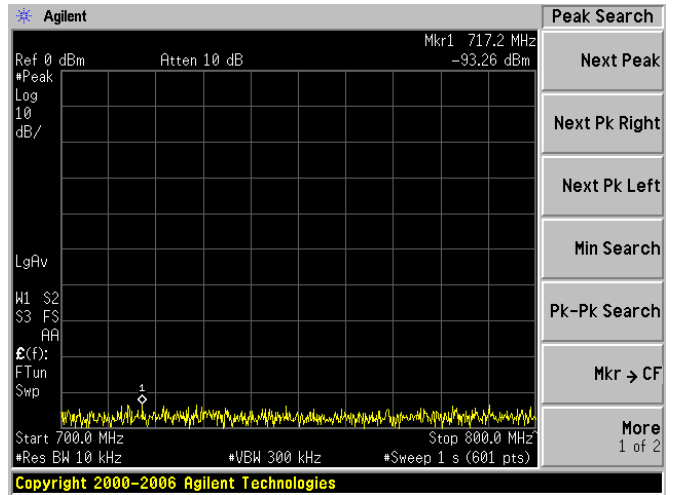
400MHz to 500MHz



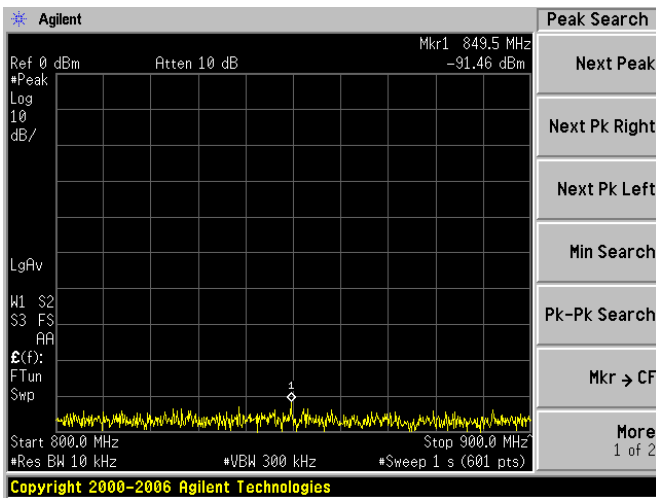
500MHz to 600MHz



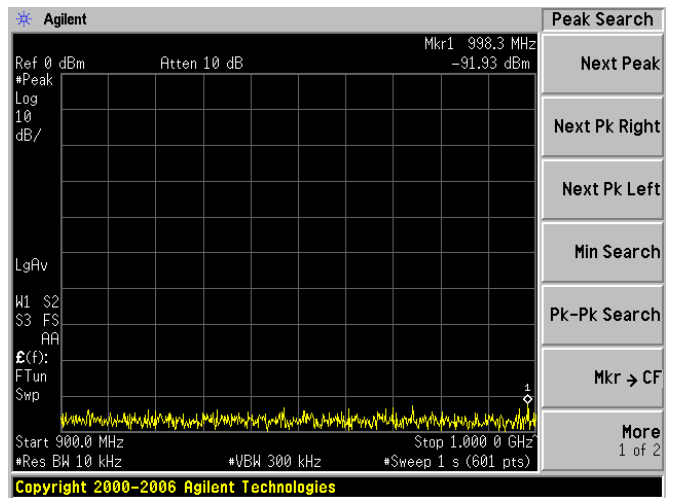
600MHz to 700MHz



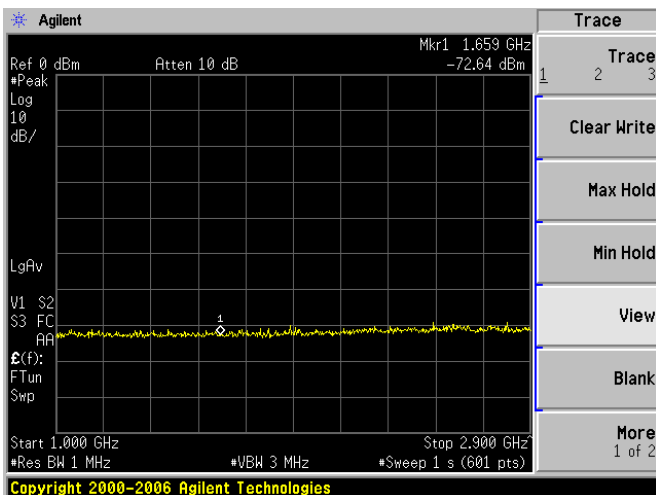
700MHz to 800MHz



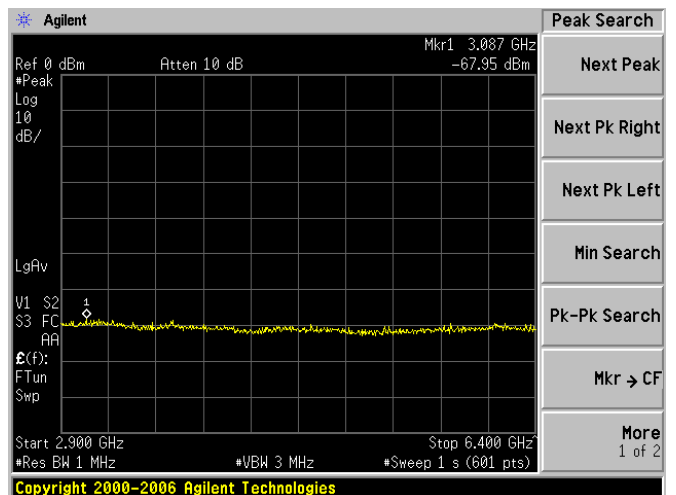
800MHz to 900MHz



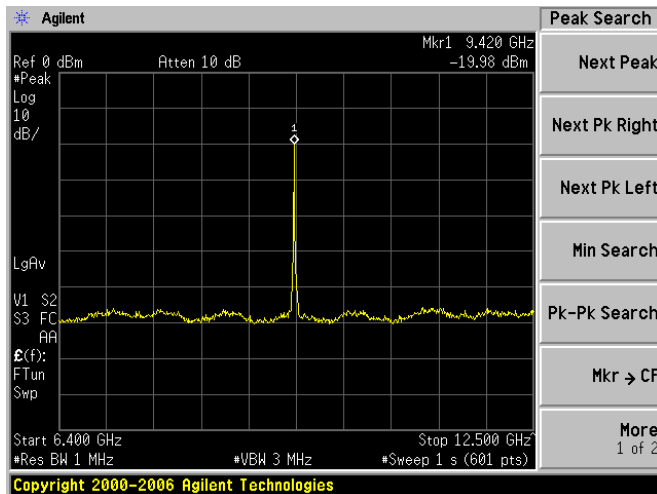
900MHz to 1GHz



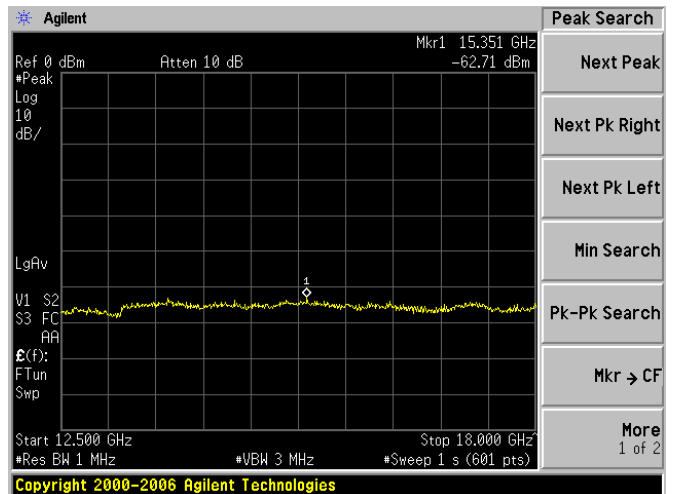
1GHz to 2.9GHz



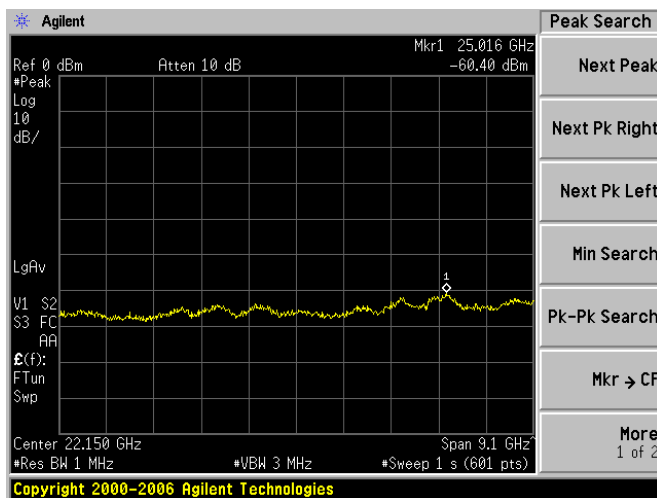
2.9GHz to 6.4GHz



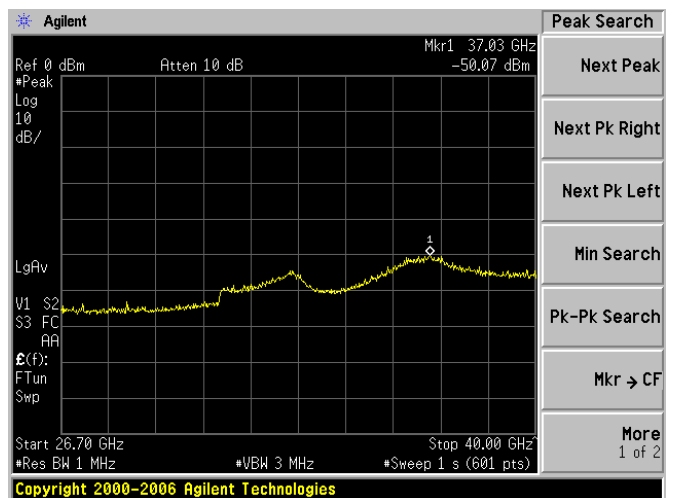
6.4GHz to 12.5GHz



12.5GHz to 18GHz

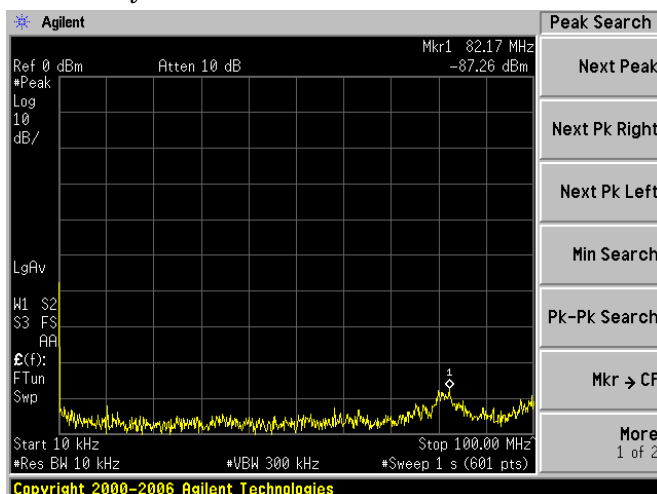


17.6GHz to 26.7GHz

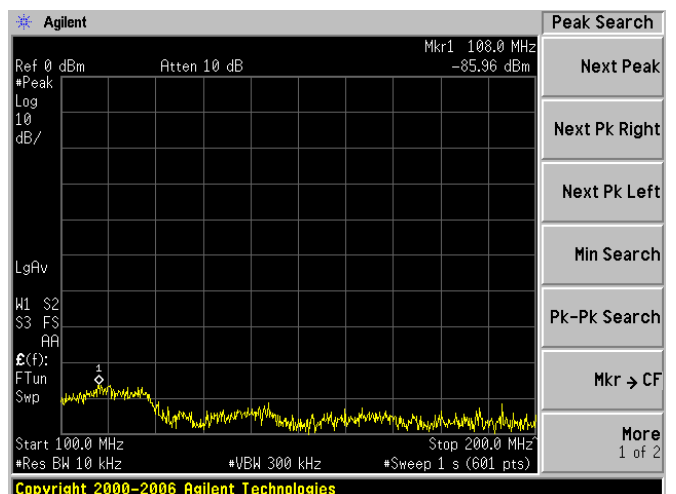


26.5GHz to 40.0GHz

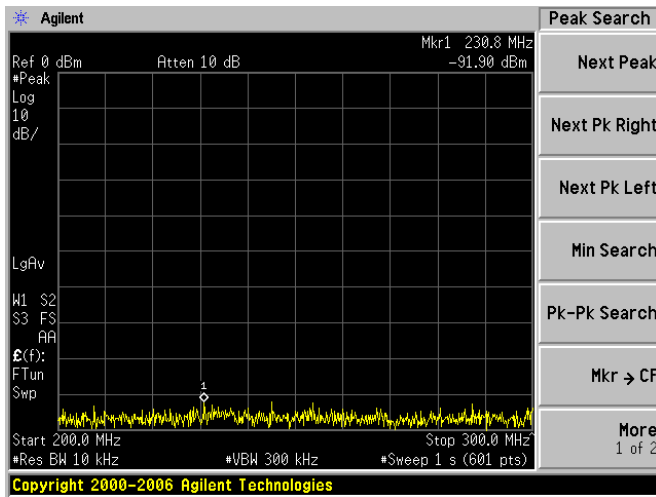
•Vertically Polarized



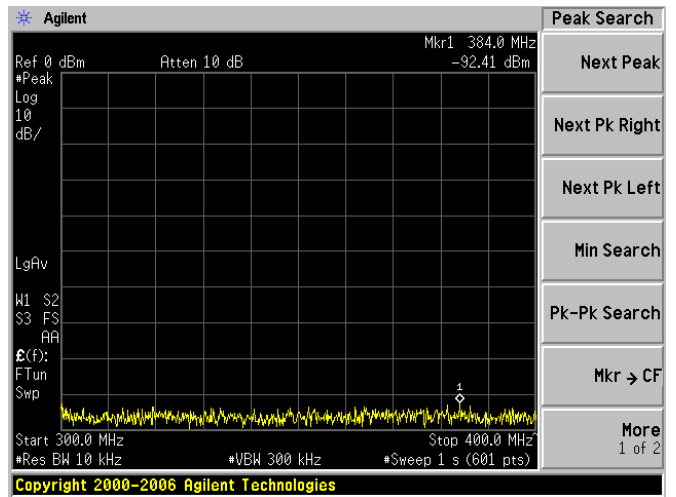
10kHz to 100MHz



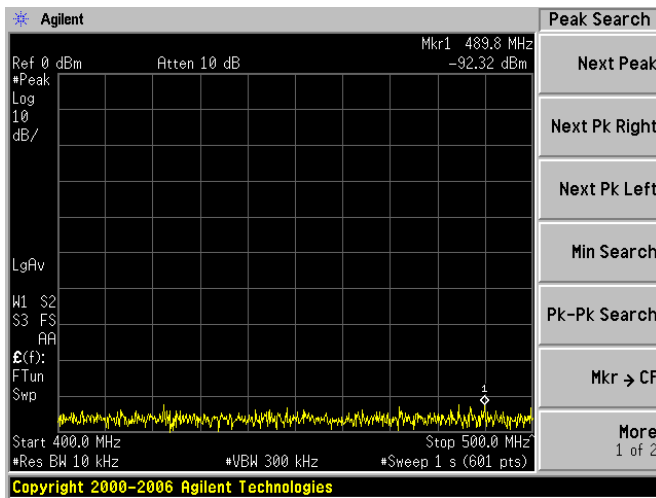
100MHz to 200MHz



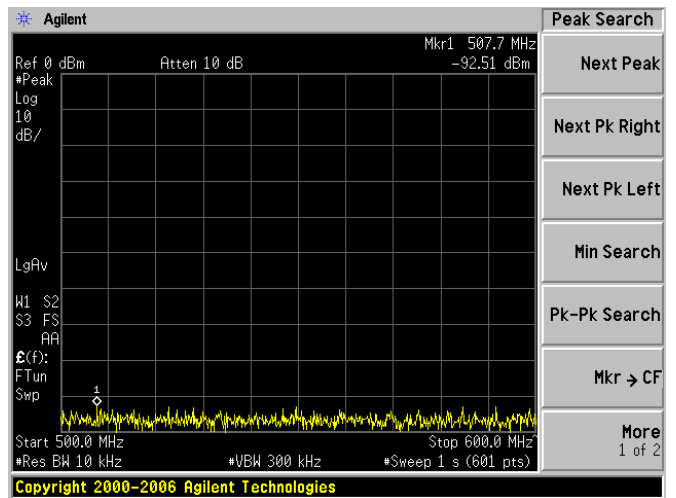
200MHz to 300MHz



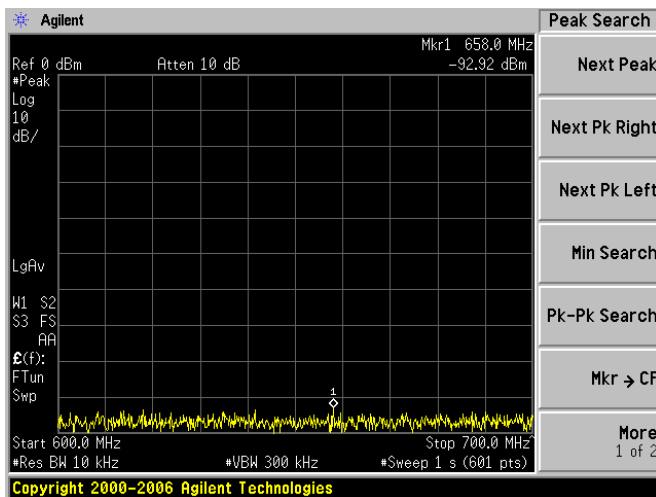
300MHz to 400MHz



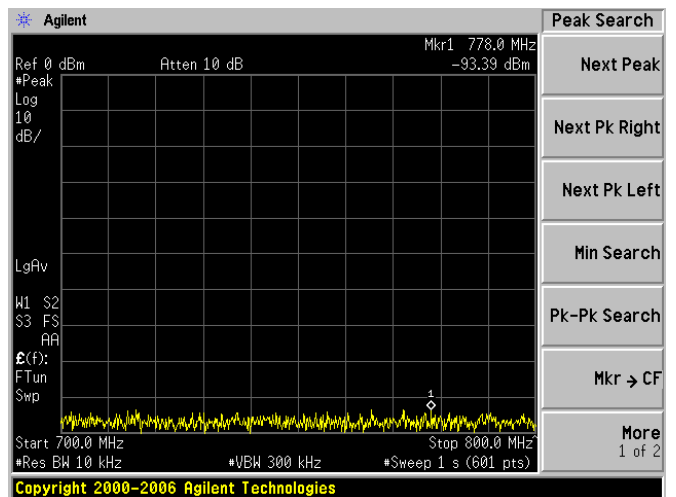
400MHz to 500MHz



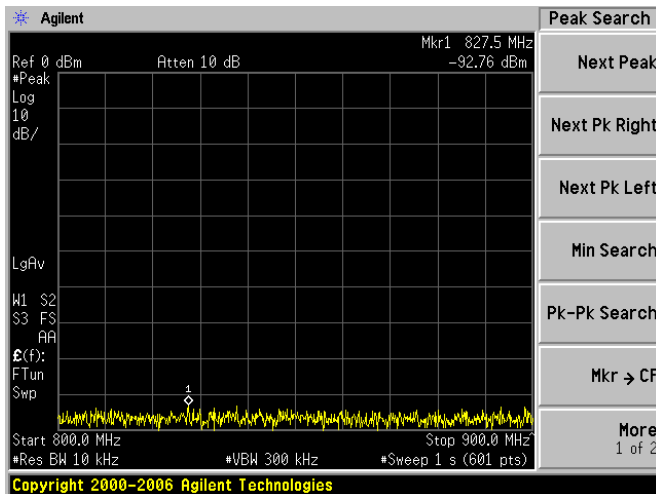
500MHz to 600MHz



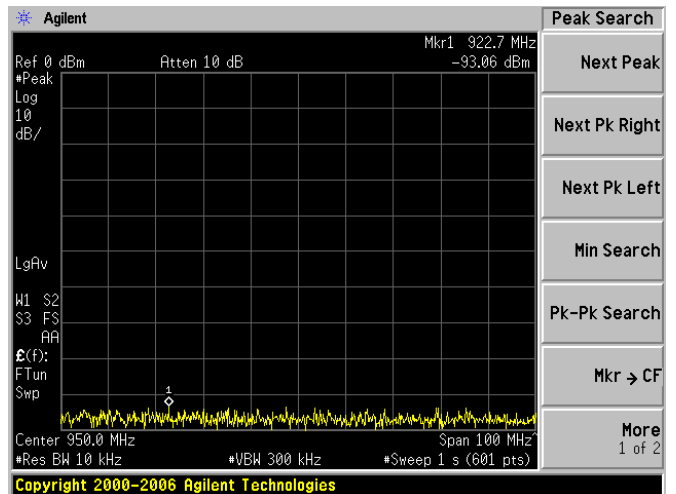
600MHz to 700MHz



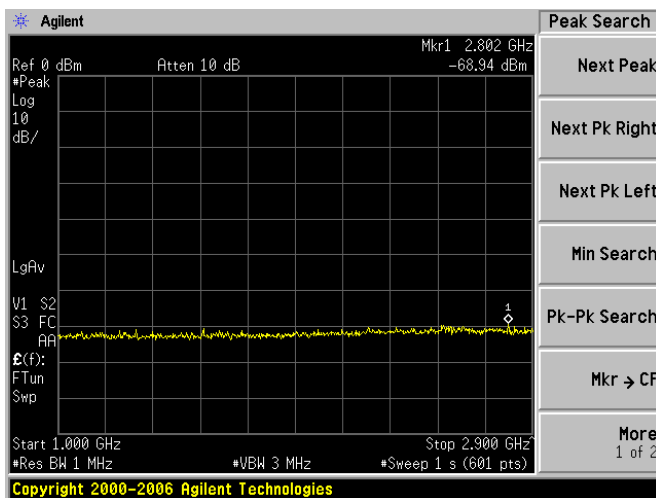
700MHz to 800MHz



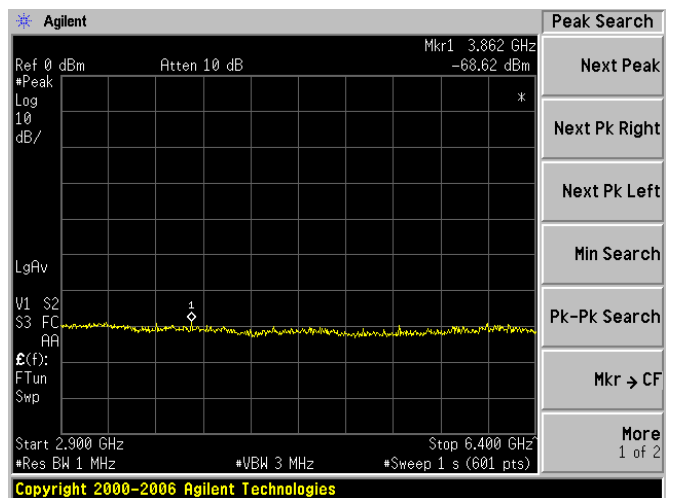
800MHz to 900MHz



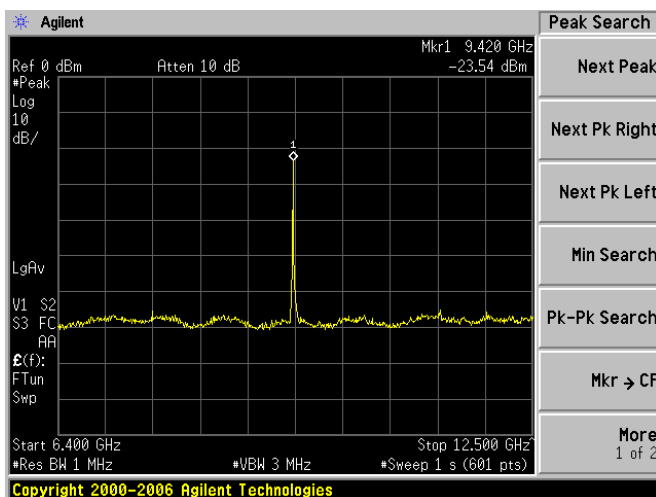
900MHz to 1GHz



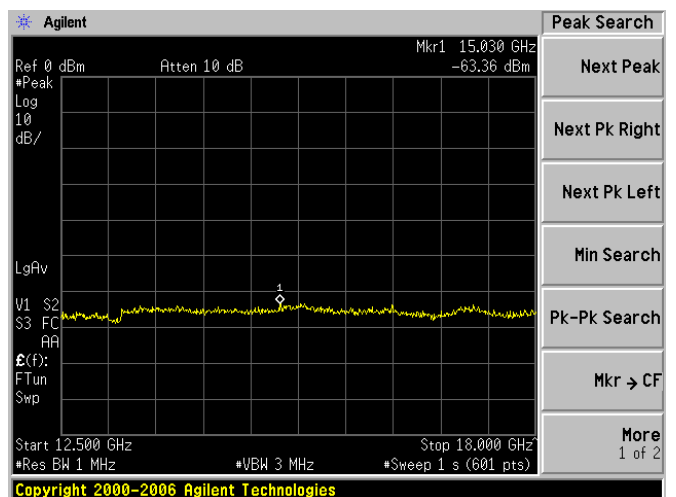
1GHz to 2.9GHz



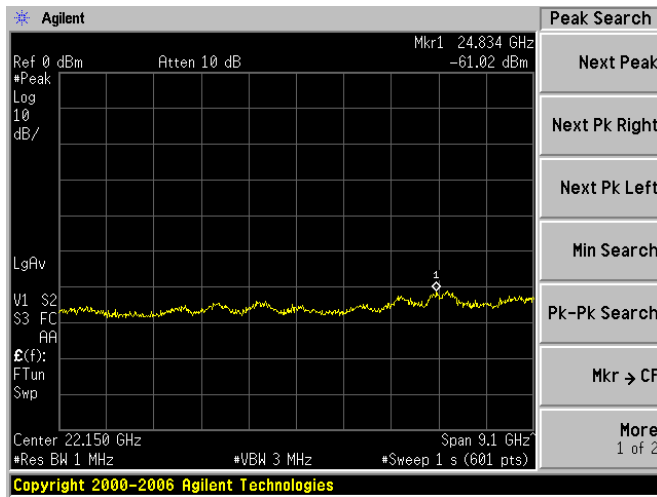
2.9GHz 6.4GHz



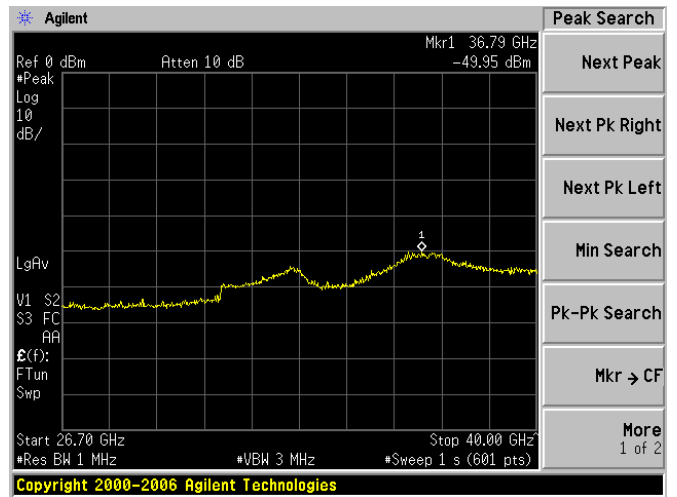
6.4GHz to 12.5GHz



12.5GHz to 18.0GHz



17.6GHz to 26.7GHz



26.4GHz to 40GHz

$$P_d \text{ (dBm)} = P_g \text{ (dBm)} - \text{Cable Loss (dB)} + \text{antenna gain (dB)}$$

where;

P_g is the generator output power into the substitution antenna.

P_d is the dipole equivalent power

and radiated spurious emissions can be calculated by the following:

$$\text{Radiated spurious emissions (dBm)} = 10 \log \left(\frac{\text{TX power in watts}}{0.001} \right) - P_d \text{ (dBm)}$$

4.4 Radiofrequency radiation exposure limits.

47 CFR sec. 1.1310

Power density = 0.63 [mW/cm²] is satisfied about 5 [mW/cm²].

Frequency range [MHz]	Electric field strength [V/m]	Magnetic field strength [A/m]	Power density [mW/cm ²]	Averaging time [minutes]
1500 – 100,000	48.7	0.13	0.63	6

Calculated by prediction method refer to OET Bulletin 65 as follows:

$$\begin{aligned}
 \text{Power density } S_{\text{limit}} &= \frac{PG}{4\pi R^2} \\
 &= \frac{2600 * 250}{4 * \pi * 702^2} \\
 &= 0.105 \text{ [mW / cm}^2\text{]}
 \end{aligned}$$

where: P = 5000mW (power input to antenna)
 G = 10^(dB/10) = 10^(24.0/10) = 250 (power gain of the antenna)
 R = 2803cm (distance to the center of radiation of antenna)

Distance to the center of radiation of antenna

$$\begin{aligned}
 R &= \frac{0.6D^2}{\lambda} \\
 &= \frac{0.6 * 61.0^2}{3.18} \\
 &= 702
 \end{aligned}$$

where: D = 61.0cm (antenna diameter)
 λ = 3.18cm (wavelength) f = 9410MHz

Power density level(s) during the appropriate time-averaging interval

$$\begin{aligned}
 \sum S_{\text{exp}} t_{\text{exp}} &= S_{\text{limit}} t_{\text{ave}} \\
 &= 0.105 * 6 \\
 &= 0.63
 \end{aligned}$$

Electric field strength

$$\begin{aligned}
 E &= \sqrt{S * 3770} \\
 &= \sqrt{0.63 * 3770} \\
 &= 48.7 \text{ [V/m]}
 \end{aligned}$$

Magnetic field strength

$$\begin{aligned}
 H &= \sqrt{\frac{S}{37.7}} \\
 &= \sqrt{\frac{0.63}{37.7}} \\
 &= 0.13 \text{ [A/m]}
 \end{aligned}$$