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Declaration of conformity to FCC Part 80 for Marine Radar

FCC ID: CKENKE1532

We: Japan Radio Company Limited

We declare that the CKENKE1532 conforms to the CFR part 80 rules for Marine Radars.

Section Chief: *H. Hashimoto*

Date: 6th January, 2011

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

Inspector: *D. Wakamiya*

Mr. D. Wakamiya
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
	3020	1.10
	3050	1.10
	3080	1.10

Scanner Rotation Speed 24 rpm

3.2.3 Transmitter

Type / Ser. No. CMN-750 / No.4

○Operating Frequency	P0N	Q0N
SP1 (1st : 0.07 μ s, 2nd : 4.6 μ s)	3040.2 MHz	3060MHz± 4MHz
MP1(1st : 0.14 μ s, 2nd : 9.1 μ s)	3040.2 MHz	3060MHz± 4MHz
MP2(1st : 0.29 μ s, 2nd : 9.1 μ s)	3040.2 MHz	3060MHz± 4MHz
LP1(1st : 0.57 μ s, 2nd : 9.1 μ s)	3040.2 MHz	3060MHz± 4MHz
LP2(1st : 1.14 μ s, 2nd : 18.3 μ s)	3040.2 MHz	3060MHz± 4MHz

○RF Power Output (Mean Power)	P0N	Q0N
SP1(1st : 0.07 μ s, 2nd : 4.6 μ s)	0.04W	2.4W
MP1(1st : 0.14 μ s, 2nd : 9.1 μ s)	0.07W	4.6W
MP2(1st : 0.29 μ s, 2nd : 9.1 μ s)	0.16W	4.6W
LP1(1st : 0.57 μ s, 2nd : 9.1 μ s)	0.18W	2.6W
LP2(1st : 1.14 μ s, 2nd : 18.3 μ s)	0.18W	2.6W

○Pulse Width	P0N	Q0N
SP1(1st : 0.07 μ s, 2nd : 4.6 μ s)	0.07 μ s	4.5 μ s
MP1(1st : 0.14 μ s, 2nd : 9.1 μ s)	0.14 μ s	9.1 μ s
MP2(1st : 0.29 μ s, 2nd : 9.1 μ s)	0.28 μ s	9.1 μ s
LP1(1st : 0.57 μ s, 2nd : 9.1 μ s)	0.56 μ s	9.1 μ s
LP2(1st : 1.14 μ s, 2nd : 18.3 μ s)	1.13 μ s	18.2 μ s

○Repetition Frequency	
SP1(1st : 0.07 μ s, 2nd : 4.6 μ s)	1860Hz
MP1(1st : 0.14 μ s, 2nd : 9.1 μ s)	1860Hz
MP2(1st : 0.29 μ s, 2nd : 9.1 μ s)	1860Hz
LP1(1st : 0.57 μ s, 2nd : 9.1 μ s)	1280Hz
LP2(1st : 1.14 μ s, 2nd : 18.3 μ s)	640Hz

○Spurious Emission at Antenna Terminal	Good
○Field strength of spurious radiation	Good
○Radiofrequency radiation exposure limits	Good

3.2.4 Receiver

IF Center Frequency	63MHz
IF Bandwidth	30MHz

3.2.5 Input Voltage and Current (at MP2)	DC.48V 1.75A (84W)
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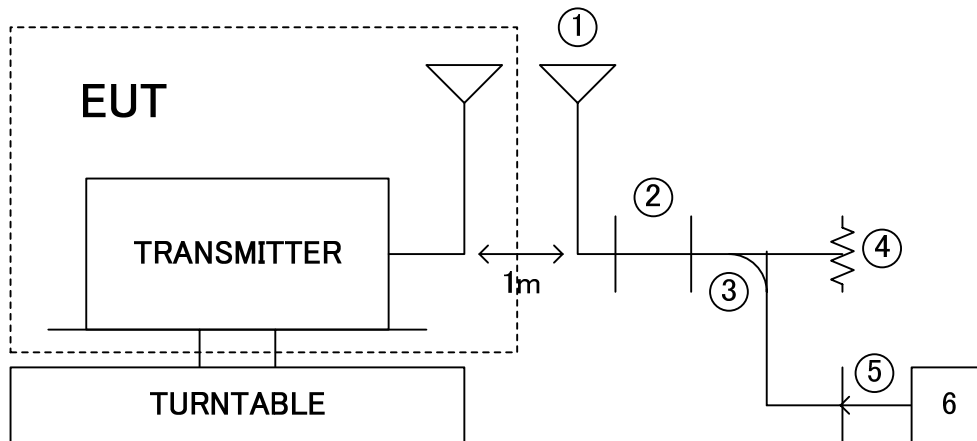
3.3 Overall Tests

Preheat Time (stand-by to transmission)	6 seconds
Input Variation (43.2Vdc - 52.8Vdc)	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 MDL	MFR-01456 284AC106-E-CPRF	0741	NA	NA
3	Direction Coupler (30dB) NIHONKOHSYA	WDK-039U30	97105.3	NA	NA
4	High Power Dummy Load ATM	2D4-745-7	327905-01	NA	NA
5	Coaxial Cable STORM	90-078-10MTR MFP-57500	05-02-201	NA	NA
6	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

- Placed the EUT on the testing table.
- Prepared other computer systems for controlling EUT and placed them outside of testing area.
- EUT will be transmitted five pulses are 0.07usec/4.6usec/2280Hz, 0.14usec/9.1usec/2280Hz, 0.29usec/9.1usec/2280Hz, 0.57usec/9.1usec/1280Hz and 1.14usec/18.3usec/640Hz.

4.1.5 TEST RESULTS

The radiated power output is calculated by the following:

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

○RF Power Output (P0N)

Pulse width [usec]	0.07(P0N)		0.14(P0N)		0.29(P0N)		0.57(P0N)		1.14(P0N)	
PRF [Hz]	2280		2280		2280		1280		640	
averageradiated power [dBm]	6.5		11.5		17.0		21.9		24.7	
i	LVL [dBm]	LVL + LOSS [dBm]	LVL [dBm]	LVL + LOSS [dBm]	LVL [dBm]	LVL + LOSS [dBm]	LVL [dBm]	LVL + LOSS [dBm]	LVL [dBm]	LVL + LOSS [dBm]
1	-27.27	6.52	-22.25	11.54	-16.76	17.03	-11.89	21.9	-9.09	24.7
2	-27.28	6.51	-22.25	11.54	-16.75	17.04	-11.89	21.9	-9.09	24.7
3	-27.27	6.52	-22.26	11.53	-16.75	17.04	-11.87	21.92	-9.12	24.67
4	-27.27	6.52	-22.26	11.53	-16.75	17.04	-11.87	21.92	-9.12	24.67
5	-27.28	6.51	-22.25	11.54	-16.74	17.05	-11.88	21.91	-9.11	24.68
6	-27.27	6.52	-22.26	11.53	-16.75	17.04	-11.88	21.91	-9.12	24.67
7	-27.27	6.52	-22.26	11.53	-16.75	17.04	-11.88	21.91	-9.12	24.67
8	-27.27	6.52	-22.25	11.54	-16.75	17.04	-11.87	21.92	-9.12	24.67

○RF Power Output (Q0N)

Pulse width [usec]	4.6(Q0N)		9.1(Q0N)		9.1(Q0N)		18.3(Q0N)	
PRF [Hz]	2280		2280		1280		640	
Averageradiated power [dBm]	22.6		22.9		22.9		23.0	
i	LVL [dBm]	LVL + LOSS [dBm]	LVL [dBm]	LVL + LOSS [dBm]	LVL [dBm]	LVL + LOSS [dBm]	LVL [dBm]	LVL + LOSS [dBm]
1	-11.15	22.64	-10.9	22.89	-10.9	22.88	-10.79	23
2	-11.14	22.65	-10.9	22.89	-10.9	22.87	-10.8	22.99
3	-11.14	22.65	-10.9	22.89	-10.9	22.87	-10.82	22.97
4	-11.15	22.64	-10.9	22.89	-10.9	22.88	-10.81	22.98
5	-11.14	22.65	-10.9	22.89	-10.9	22.88	-10.82	22.97
6	-11.14	22.65	-10.88	22.91	-10.9	22.88	-10.82	22.97
7	-11.13	22.66	-10.89	22.90	-10.9	22.87	-10.81	22.98
8	-11.14	22.65	-10.89	22.90	-10.9	22.87	-10.8	22.99

*Loss : 33.79dB

*LOSS = 55.80dB

4.1.6 TEST CONDITIONS

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

EUT input = 48 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

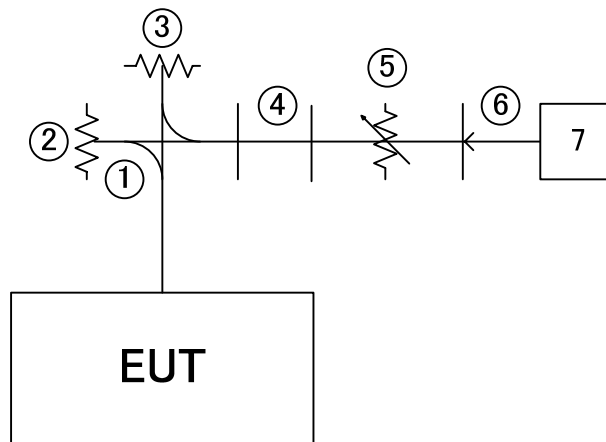
29th October, 2010

TESTED BY D.Wakamiya

4.2 Spurious emission at antenna terminals

47 CFR sec. 2.1051

4.2.1.1 TEST SETUP for range 10kHz to 3.95GHz



4.2.1.2 TEST INSTRUMENT

	DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATION DATE	CALIBRATION DUE DATE
1	Direction Coupler (30dB) SHIMADARIKA	5D102	R8200	NA	NA
2	High Power Dummy Load ATM	2D4-745-7	327905-01	NA	NA
3	High Power Dummy Load ATM	2D4-745-7	327905-02	NA	NA
4	Adaptor MDL	MFR-01456 284AC106-E-CPRF	0741	NA	NA
5	Variable Attenuator HP	8495B	2814A14581	May. 2010	May. 2011
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 five pulses are 0.07usec/4.6usec/2280Hz, 0.14usec/9.1usec/2280Hz, 0.29usec/9.1usec /2280Hz, 0.57usec/9.1usec/1280Hz and 1.14usec/18.3usec/640Hz, and capture the spectrum at 10kHz to 3.95GHz.

4.2.1.4 EUT OPERATING CONDITIONS

- Placed the EUT on the testing table.
- 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 4.2.1.14

4.2.1.6 TEST CONDITIONS

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

EUT input = 48 VDC

4.2.1.7 STABILIZATION

EUT energized for 10 minutes minimum.

4.2.1.8 TEST EQUIPMENT

JRC Original – Shielded Room

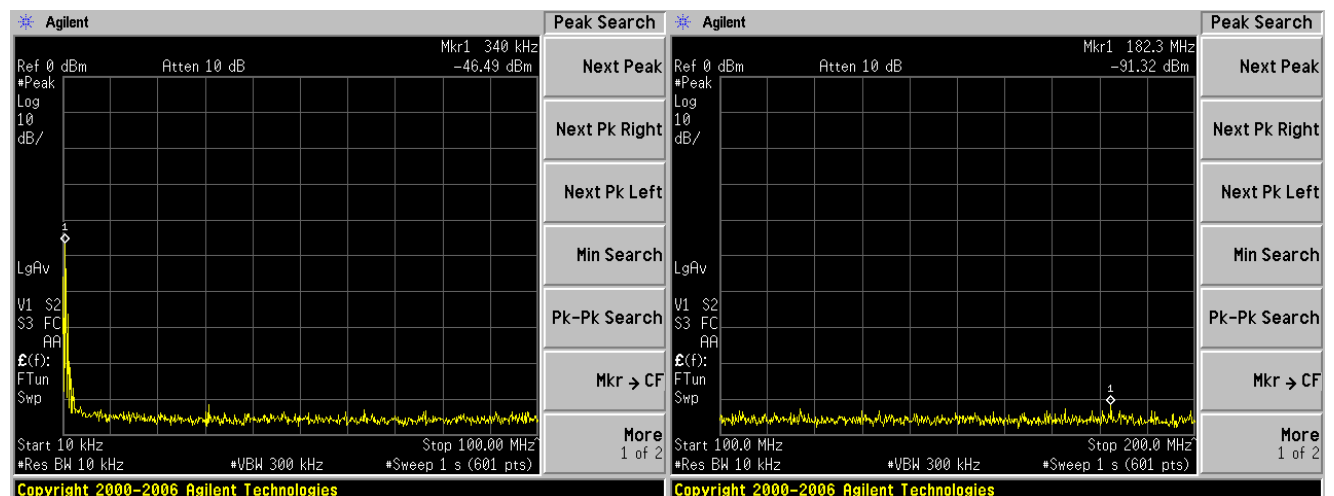
Other equipment – see test set-ups.

4.2.1.9 DATE

27th November, 2010

TESTED BY D.Wakamiya

4.2.1.10 TEST RESULTS of SP1 : 0.07usec/ 4.6usec / 2280Hz pulse

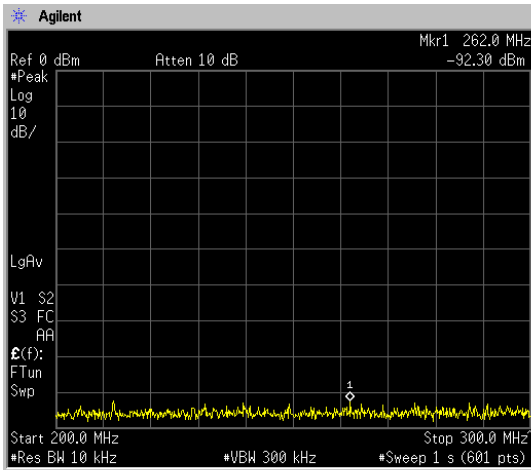


10kHz to 100MHz

(Scale: ↑ 10dB/Div → 9.99MHz/Div)

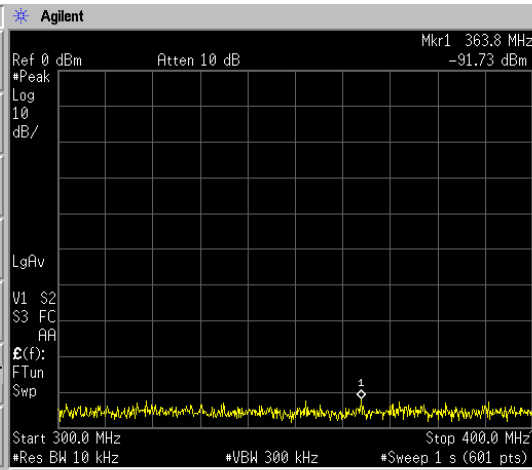
100MHz to 200MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



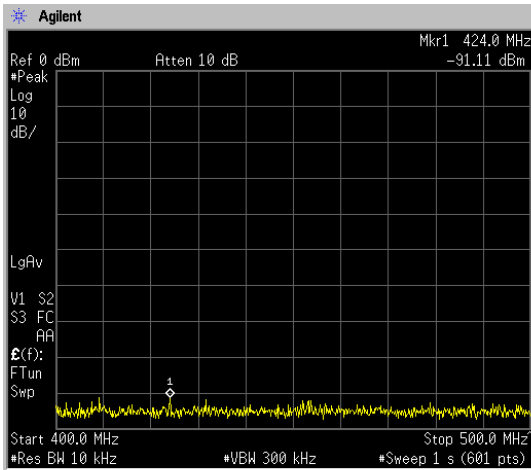
200MHz to 300MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



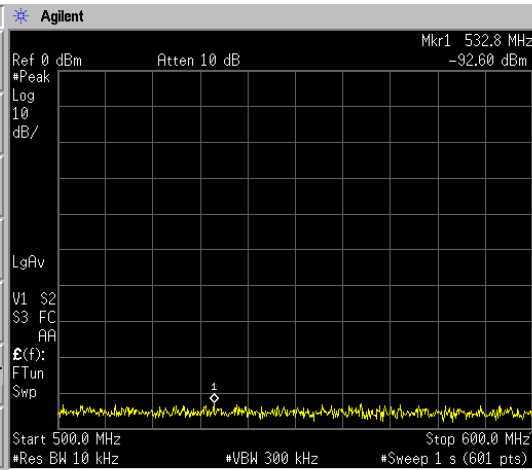
300MHz to 400MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



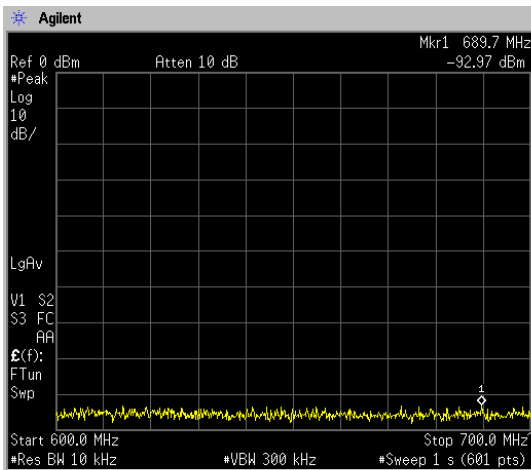
400MHz to 500MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



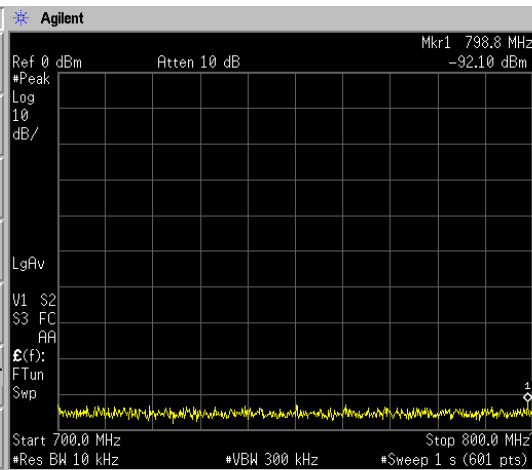
500MHz to 600MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



600MHz to 700MHz

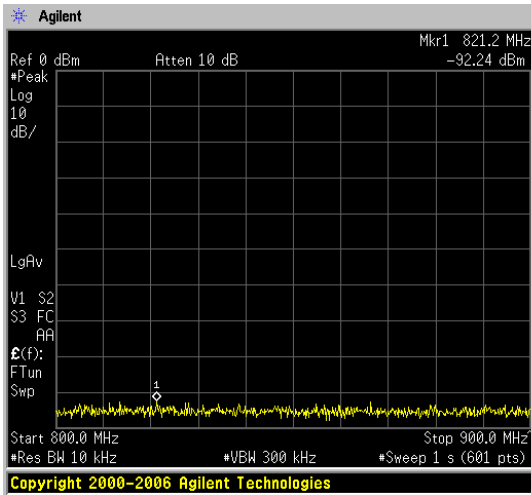
(Scale: ↑ 10dB/Div → 10MHz/Div)



700MHz to 800MHz

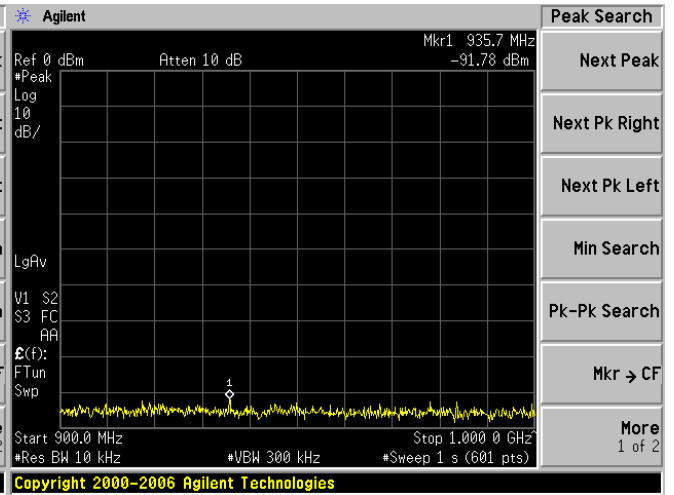
(Scale: ↑ 10dB/Div → 10MHz/Div)





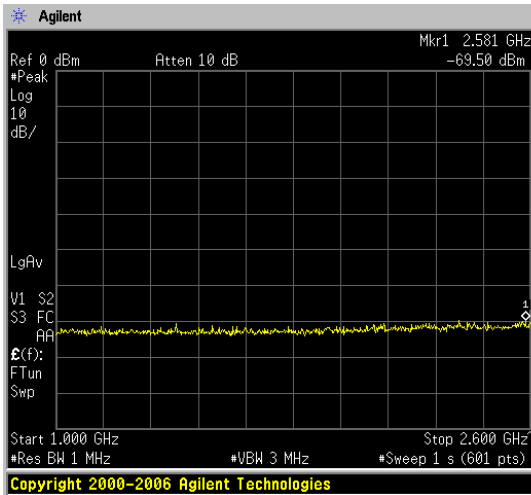
800MHz to 900MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



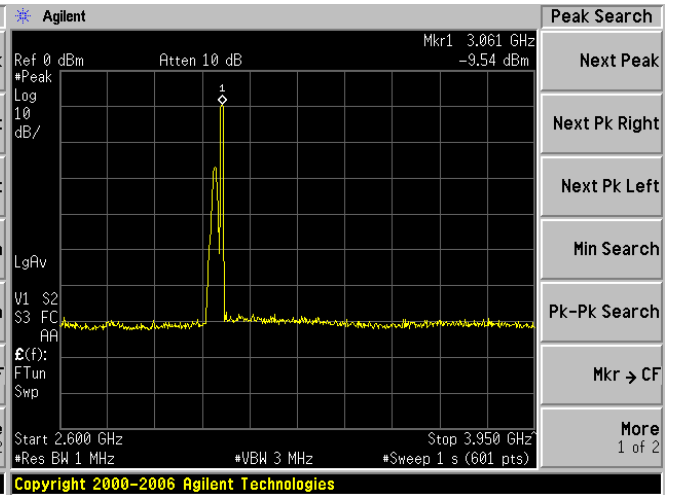
900MHz to 1GHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



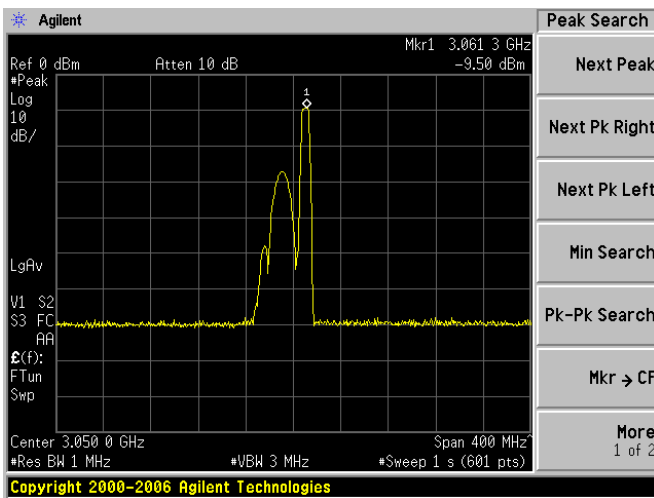
1.0GHz to 2.6GHz

(Scale: ↑ 10dB/Div → 160MHz/Div)



2.6GHz to 3.95GHz

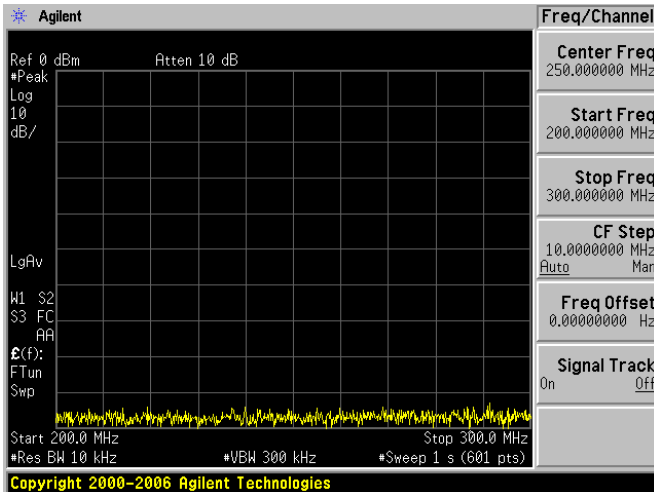
(Scale: ↑ 10dB/Div → 135MHz/Div)



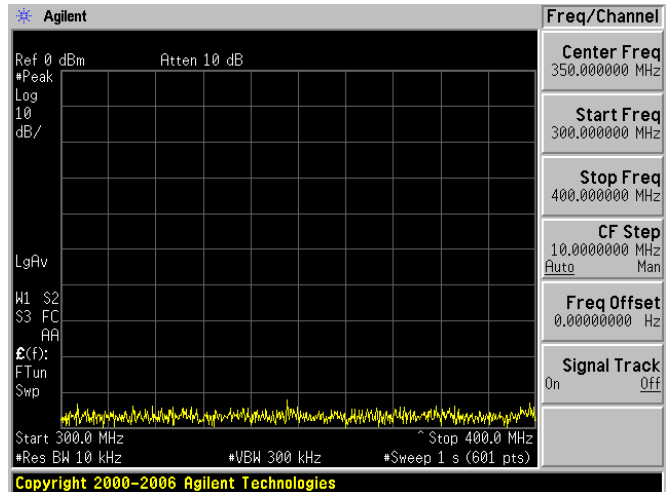
Center 3050MHz, Span 400MHz

(Scale: ↑ 10dB/Div → 40MHz/Div)

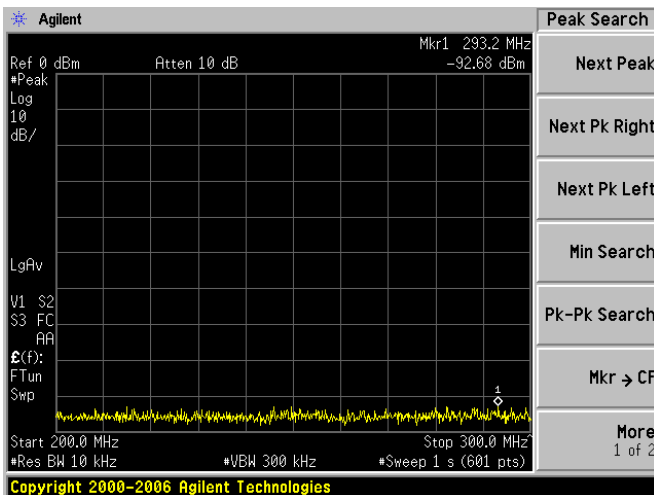
4.2.1.11 TEST RESULTS of MP1 : 0.14usec/ 9.1usec / 2280Hz pulse



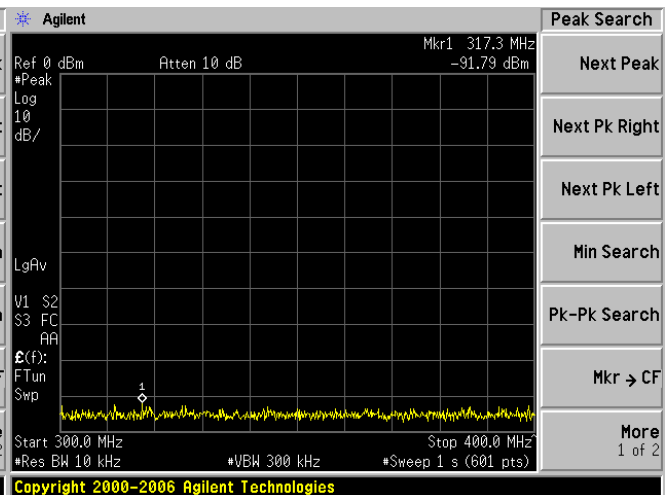
10kHz to 100MHz
(Scale: ↑ 10dB/Div → 9.99MHz/Div)



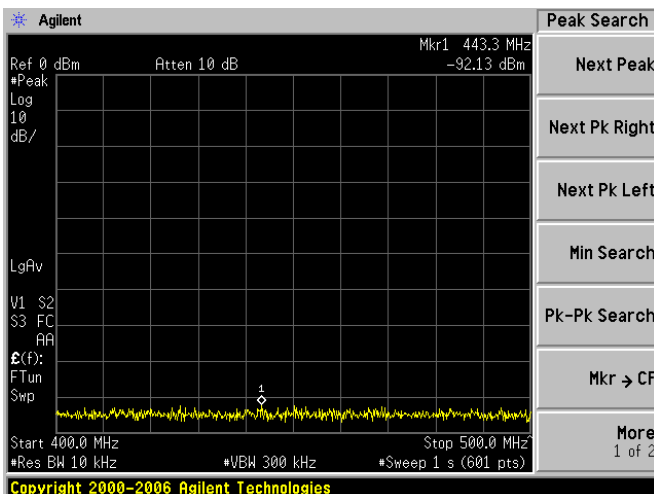
100MHz to 200MHz
(Scale: ↑ 10dB/Div → 10MHz/Div)



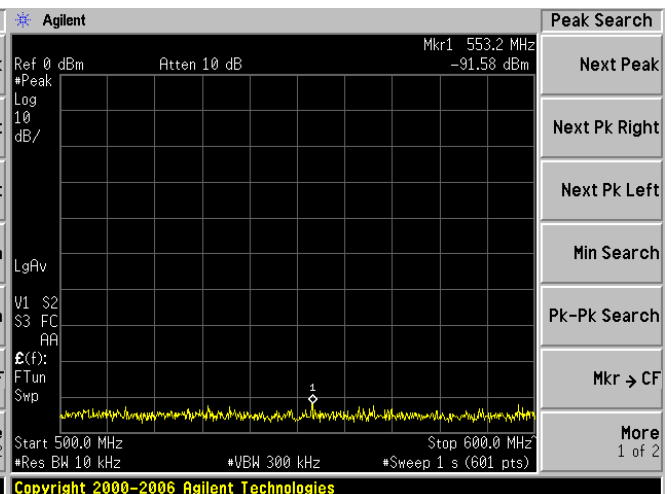
200MHz to 300MHz
(Scale: ↑ 10dB/Div → 10MHz/Div)



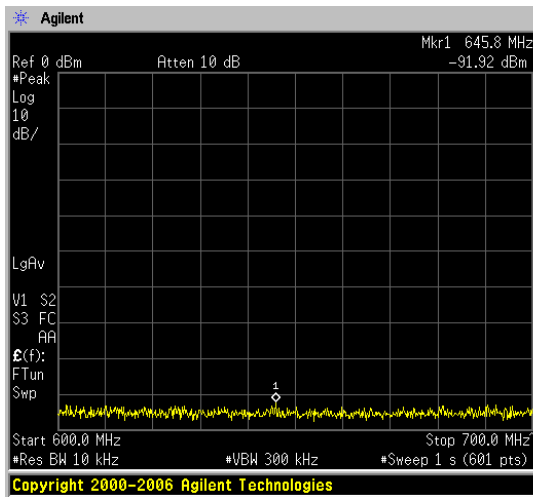
300MHz to 400MHz
(Scale: ↑ 10dB/Div → 10MHz/Div)



400MHz to 500MHz
(Scale: ↑ 10dB/Div → 10MHz/Div)

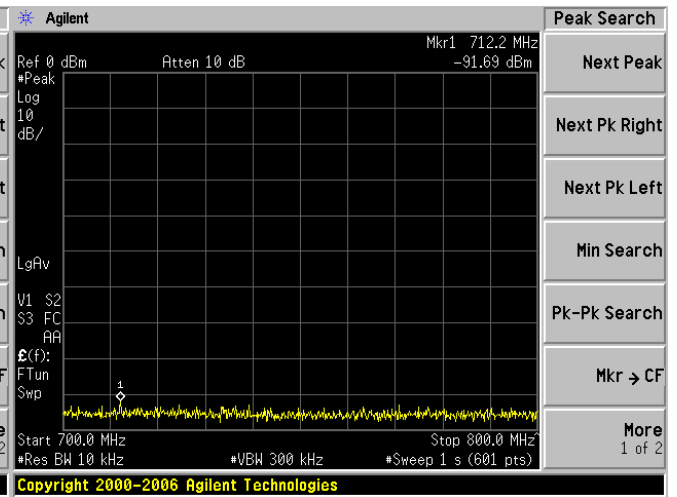


500MHz to 600MHz
(Scale: ↑ 10dB/Div → 10MHz/Div)



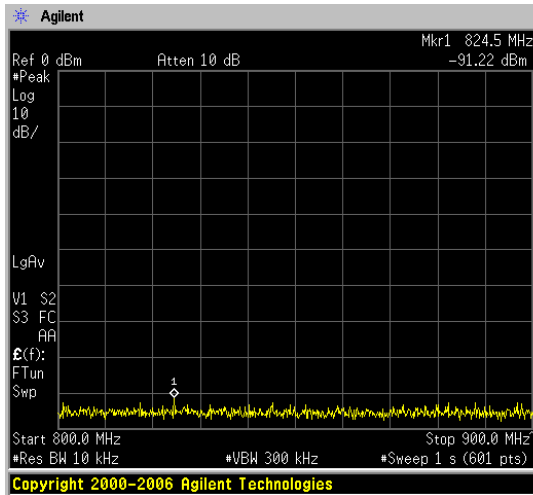
600MHz to 700MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



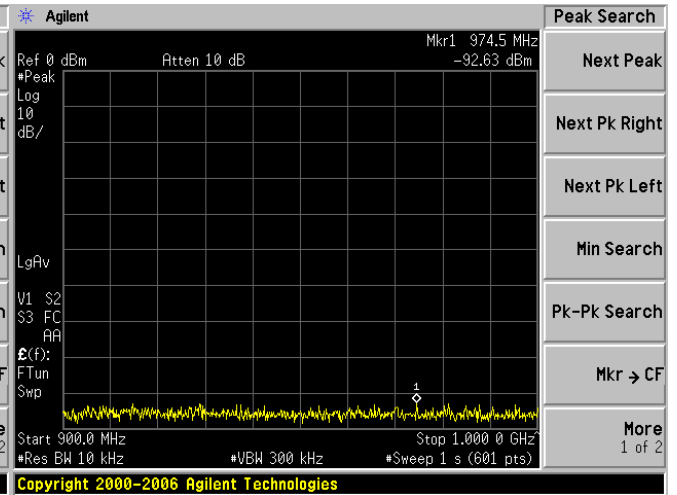
700MHz to 800MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



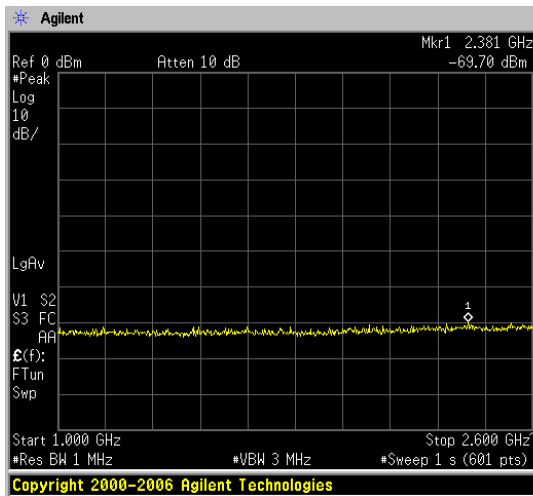
800MHz to 900MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



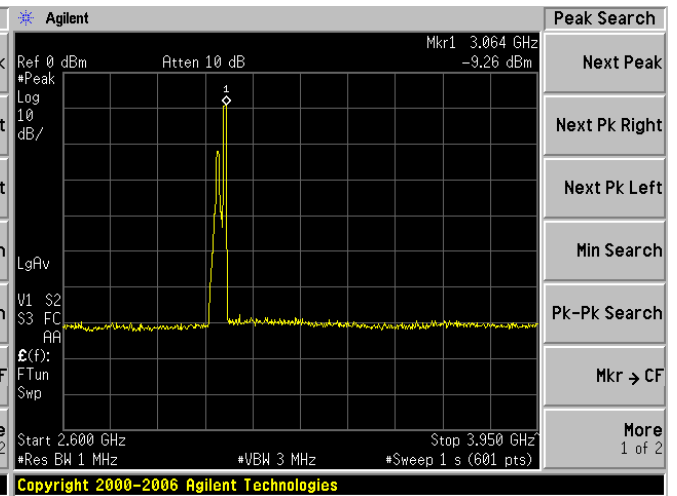
900MHz to 1GHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



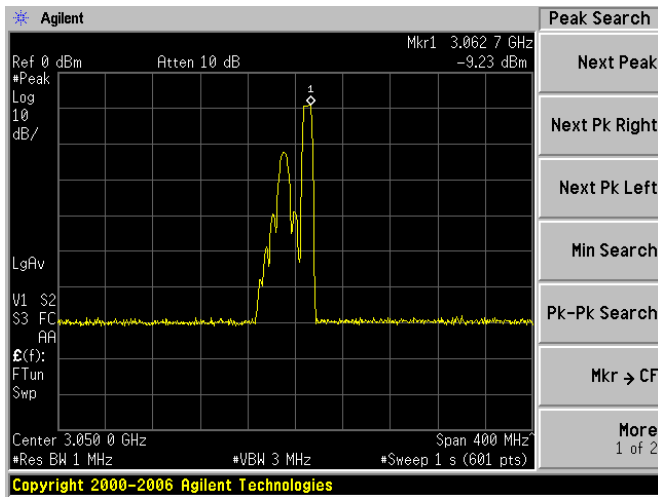
1GHz to 2.6GHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



2.6GHz to 3.95GHz

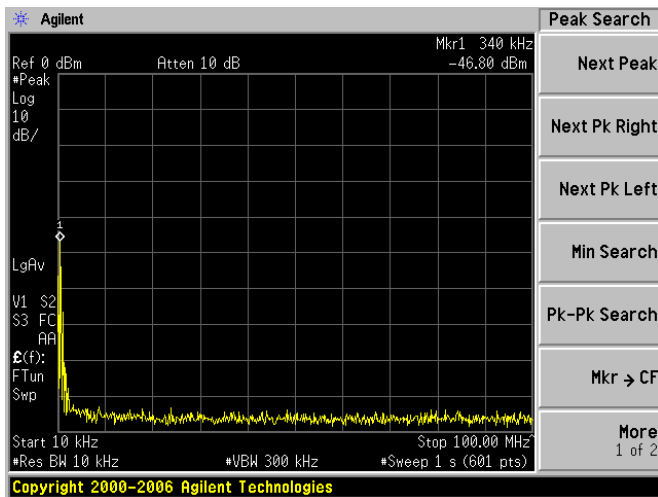
(Scale: ↑ 10dB/Div → 10MHz/Div)



Center 3050MHz, Span 400MHz

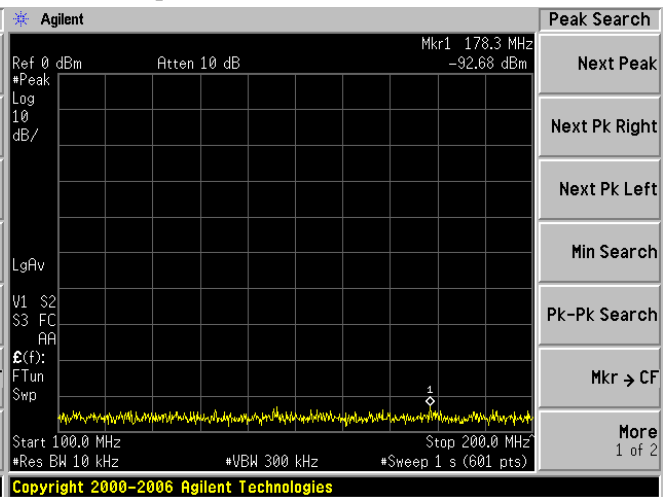
(Scale: \uparrow 10dB/Div \rightarrow 40MHz/Div)

4.2.1.12 TEST RESULTS of MP2 : 0.29usec/ 9.1usec / 2280Hz pulse



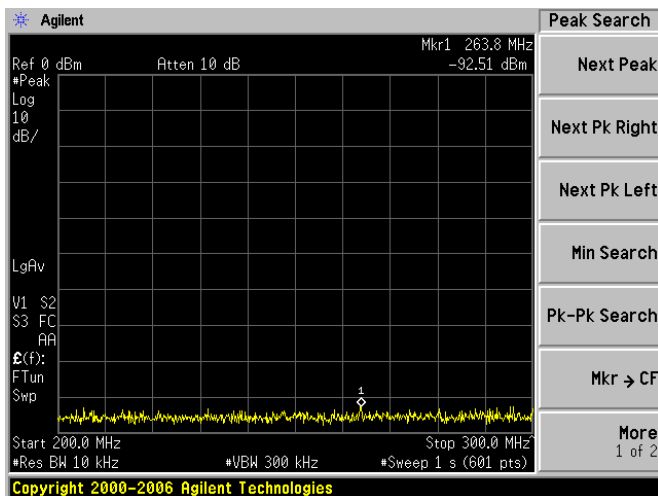
10kHz to 100MHz

(Scale: \uparrow 10dB/Div \rightarrow 9.99MHz/Div)



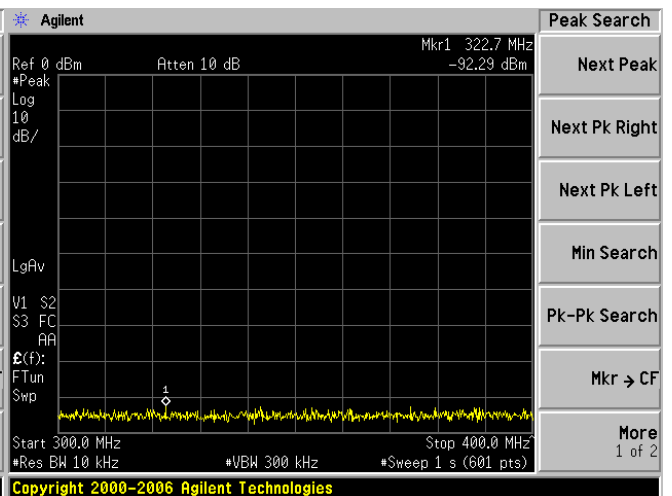
100MHz to 200MHz

(Scale: \uparrow 10dB/Div \rightarrow 10MHz/Div)



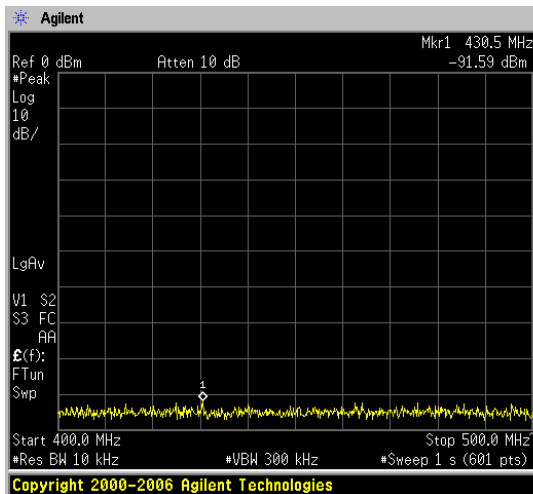
200MHz to 300MHz

(Scale: \uparrow 10dB/Div \rightarrow 10MHz/Div)



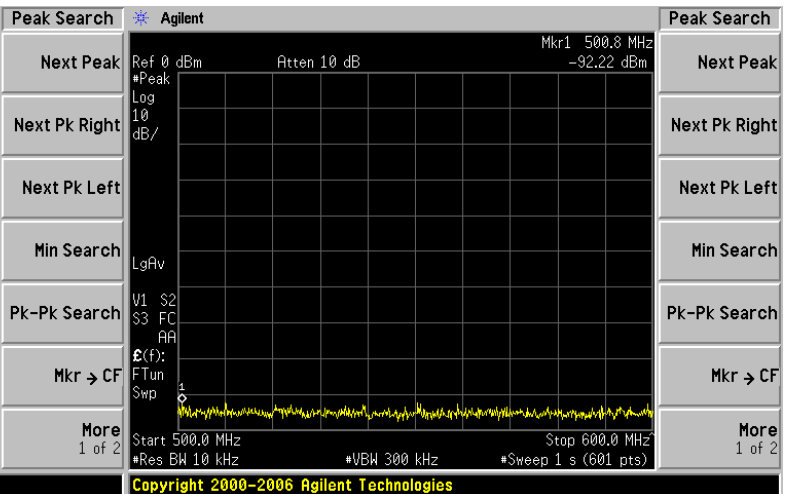
300MHz to 400MHz

(Scale: \uparrow 10dB/Div \rightarrow 10MHz/Div)



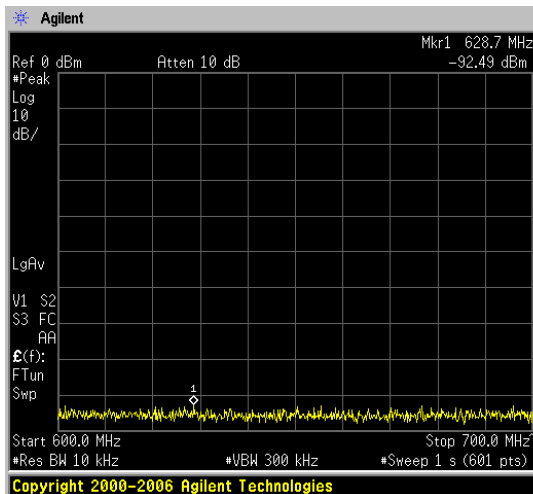
400MHz to 500MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



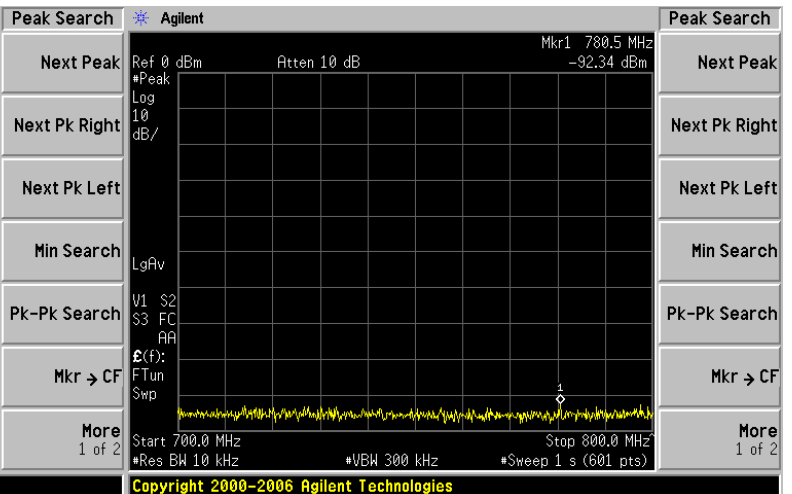
500MHz to 600MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



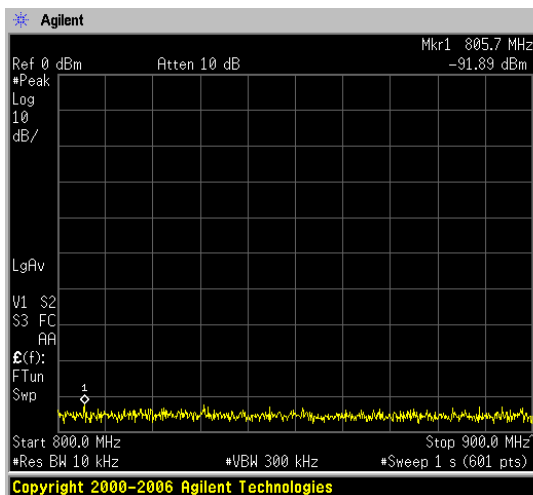
600MHz to 700MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



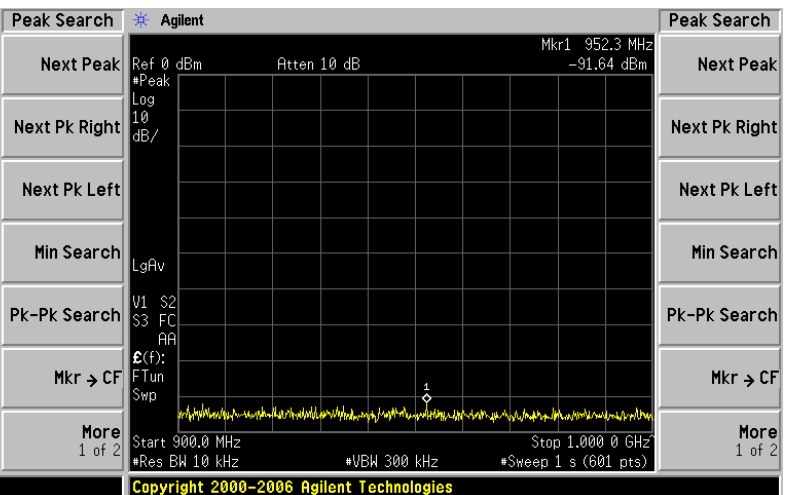
700MHz to 800MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



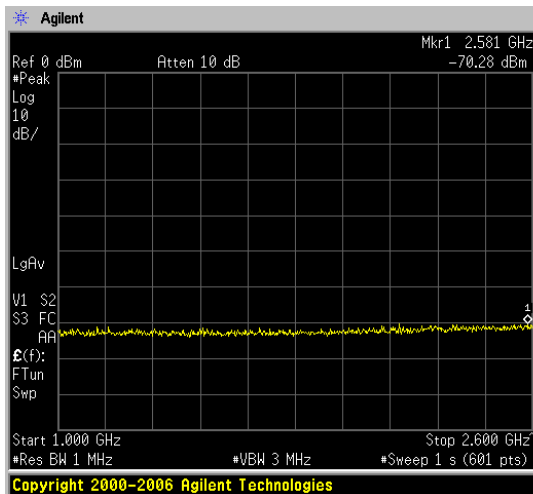
800MHz to 900MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)

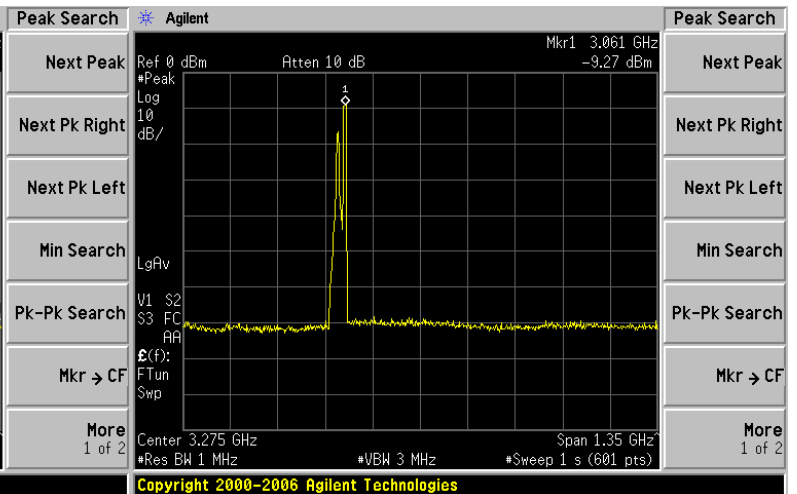


900MHz to 1GHz

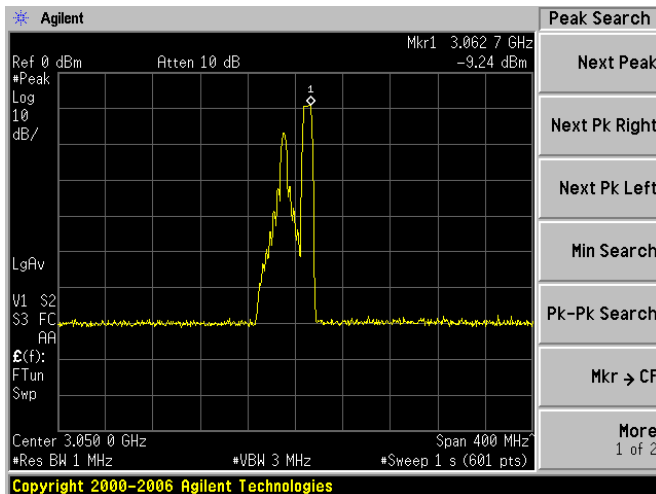
(Scale: ↑ 10dB/Div → 10MHz/Div)



1GHz to 2.6GHz
(Scale: \uparrow 10dB/Div \rightarrow 160MHz/Div)

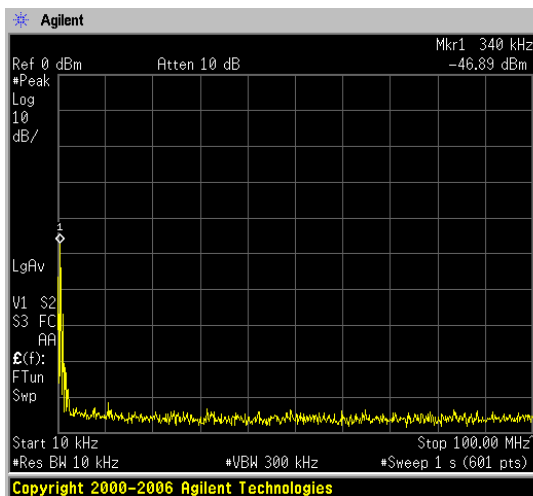


2.6GHz to 3.95GHz
(Scale: \uparrow 10dB/Div \rightarrow 135MHz/Div)

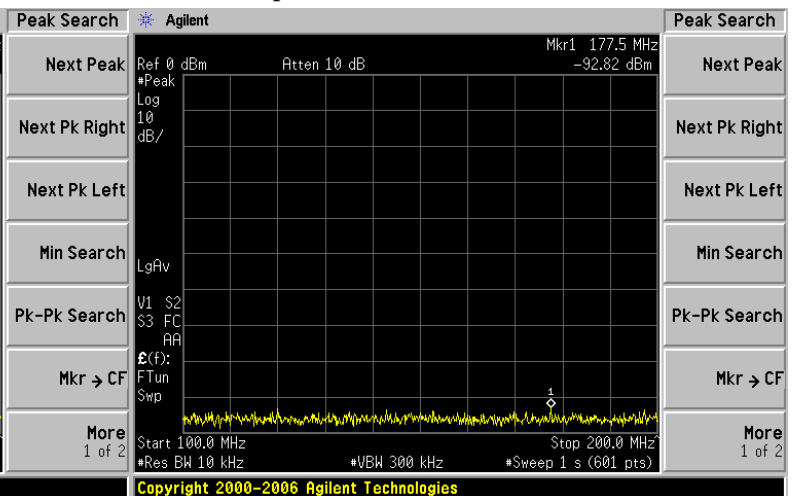


Center 3050MHz, Span 400MHz
(Scale: \uparrow 10dB/Div \rightarrow 40MHz/Div)

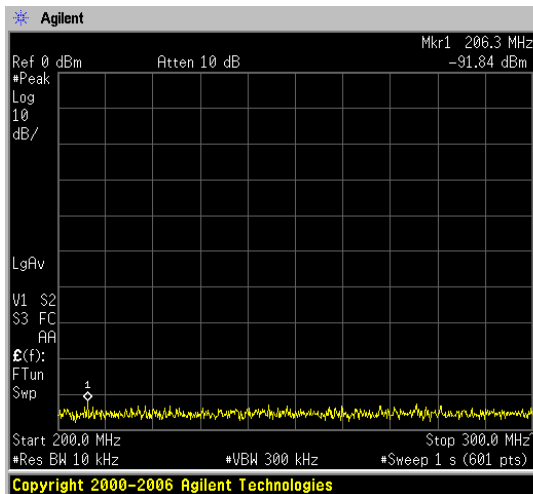
4.2.1.13 TEST RESULTS of LP1 : 0.57usec/ 9.1usec / 1280Hz pulse



10kHz to 100MHz
(Scale: \uparrow 10dB/Div \rightarrow 9.99MHz/Div)

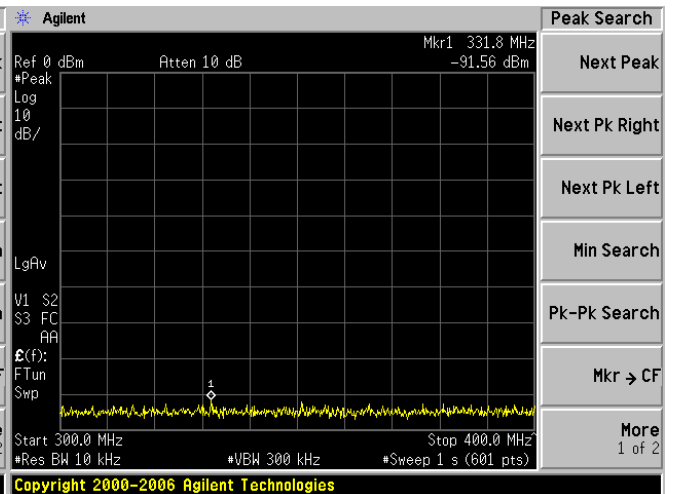


100MHz to 200MHz
(Scale: \uparrow 10dB/Div \rightarrow 10MHz/Div)



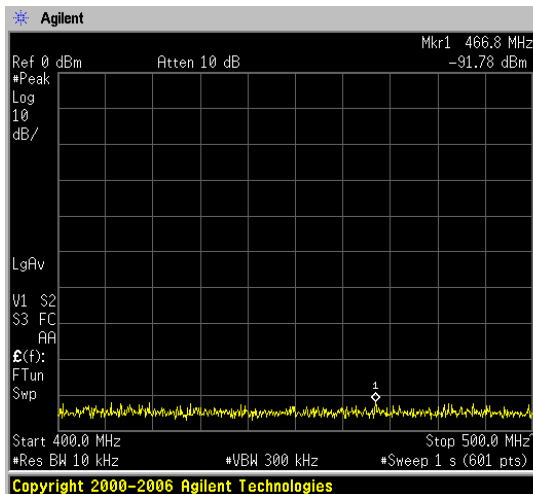
200MHz to 300MHz

(Scale: \uparrow 10dB/Div \rightarrow 10MHz/Div)



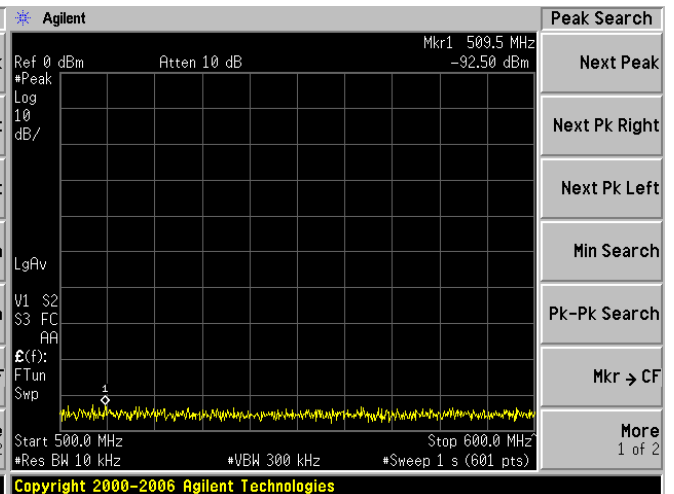
300MHz to 400MHz

(Scale: \uparrow 10dB/Div \rightarrow 10MHz/Div)



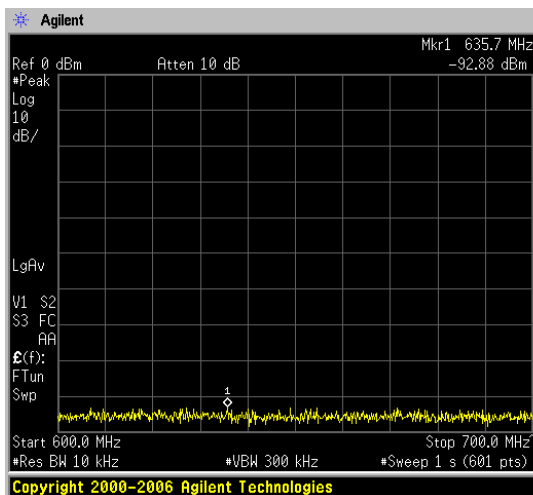
400MHz to 500MHz

(Scale: \uparrow 10dB/Div \rightarrow 10MHz/Div)



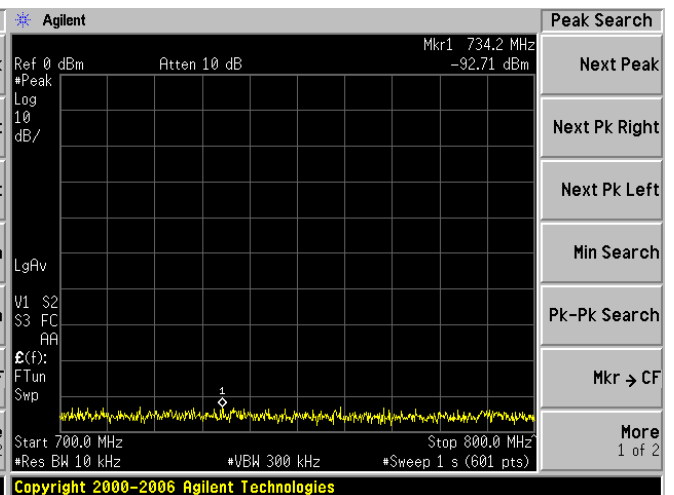
500MHz to 600MHz

(Scale: \uparrow 10dB/Div \rightarrow 10MHz/Div)



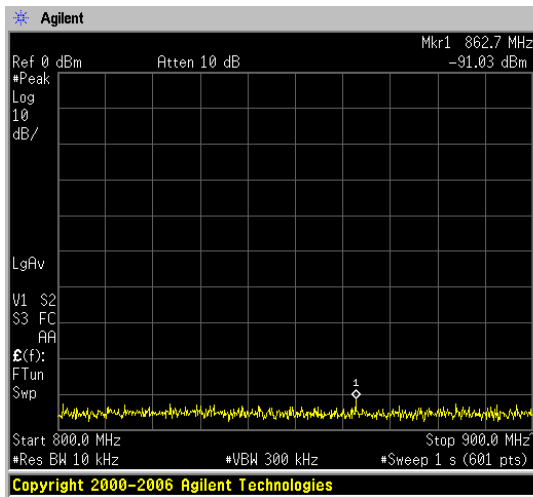
600MHz to 700MHz

(Scale: \uparrow 10dB/Div \rightarrow 10MHz/Div)



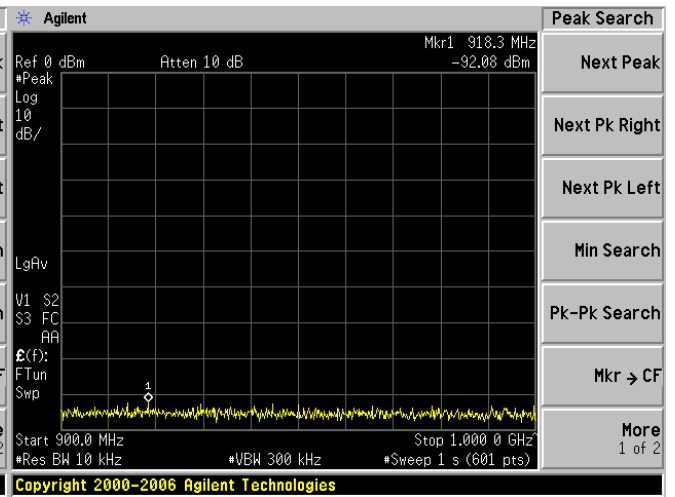
700MHz to 800MHz

(Scale: \uparrow 10dB/Div \rightarrow 10MHz/Div)



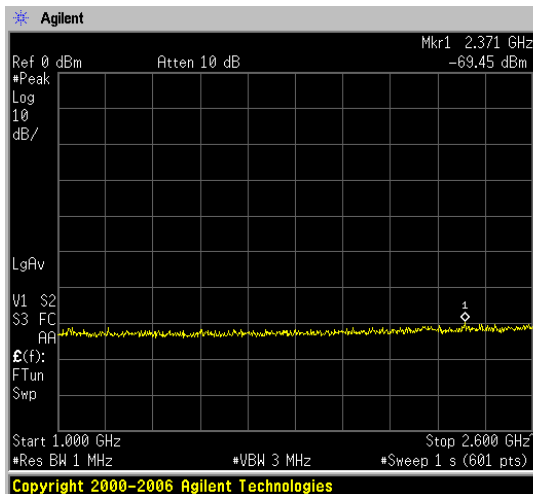
800MHz to 900MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



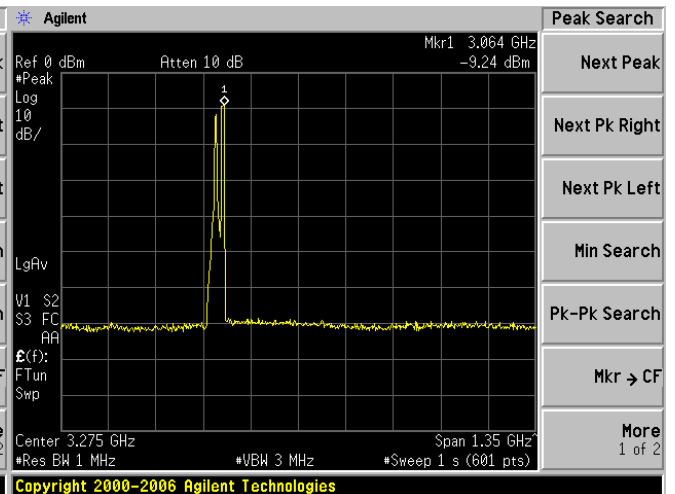
900MHz to 1GHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



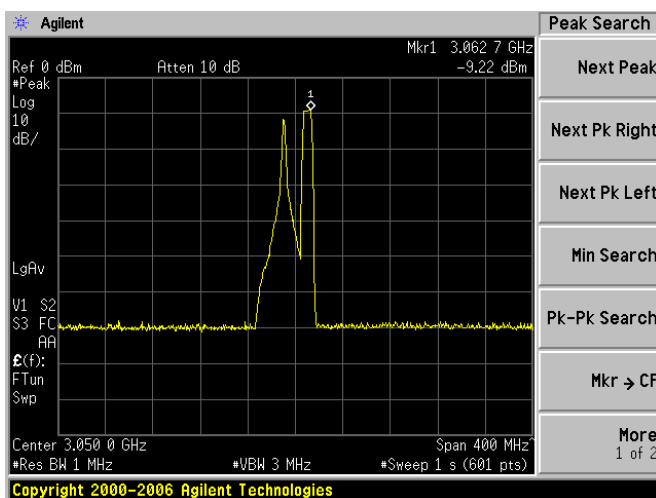
1GHz to 2.6GHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



2.6GHz to 3.95GHz

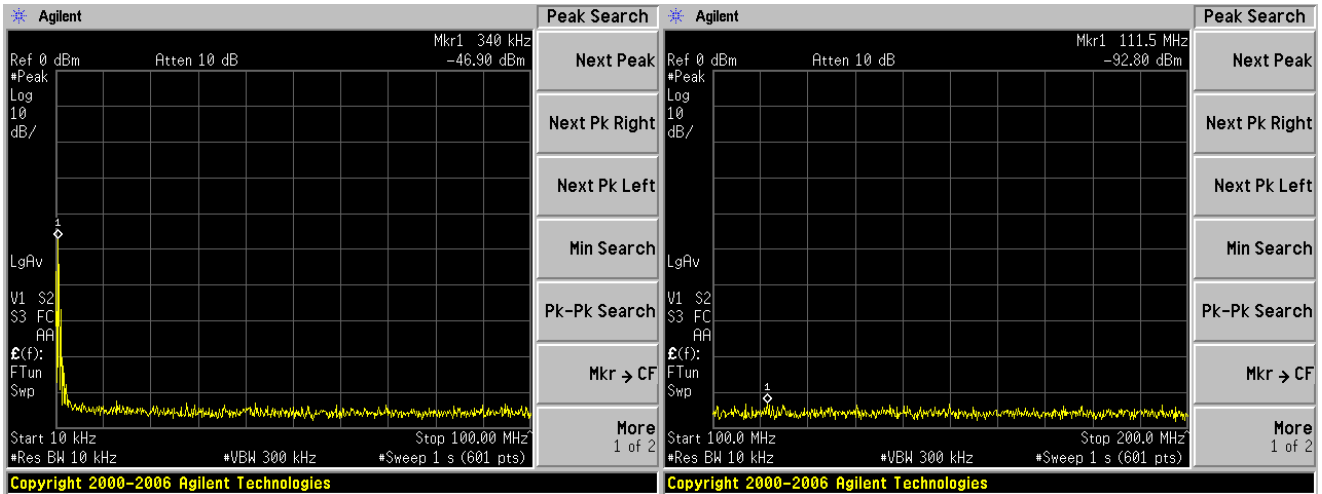
(Scale: ↑ 10dB/Div → 10MHz/Div)



Center 3050MHz, Span 400MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)

4.2.1.14 TEST RESULTS of LP2 : 1.14usec/ 18.3usec / 640Hz pulse

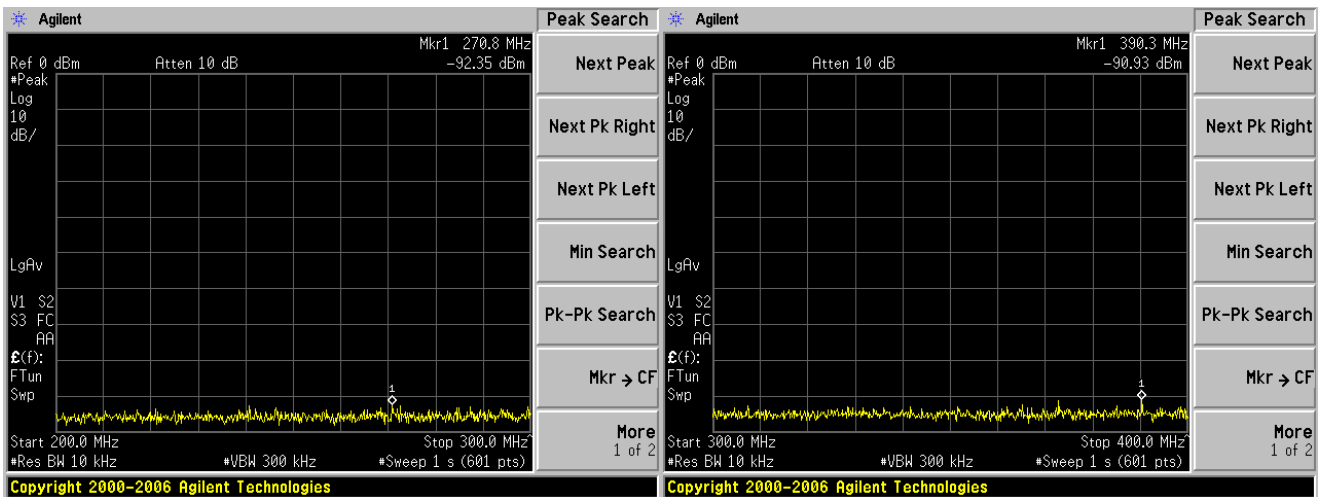


10kHz to 100MHz

(Scale: ↑ 10dB/Div → 9.99MHz/Div)

100MHz to 200MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)

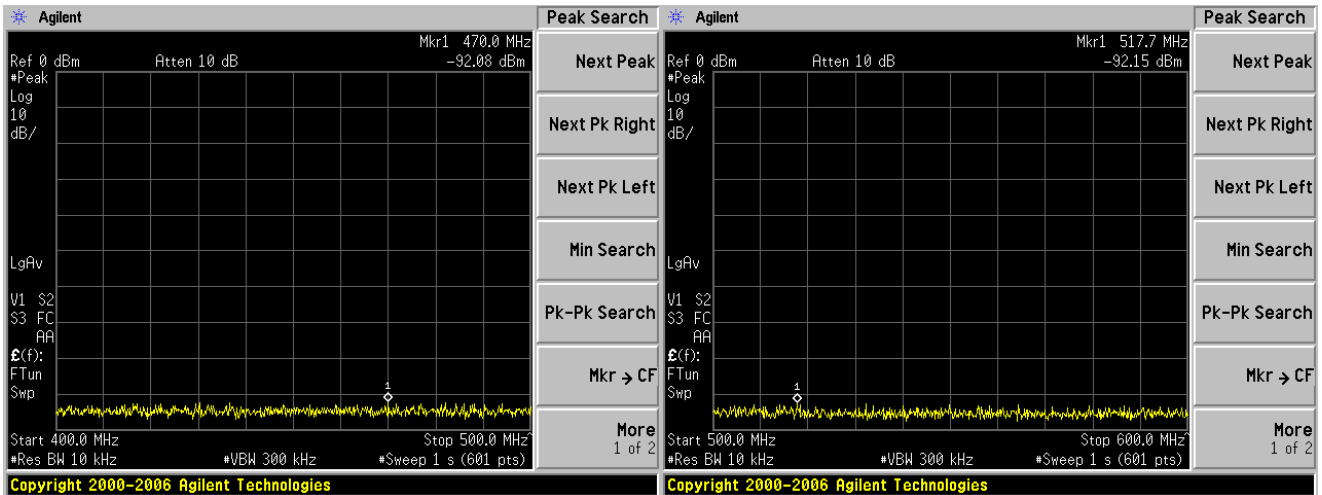


200MHz to 300MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)

300MHz to 400MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)

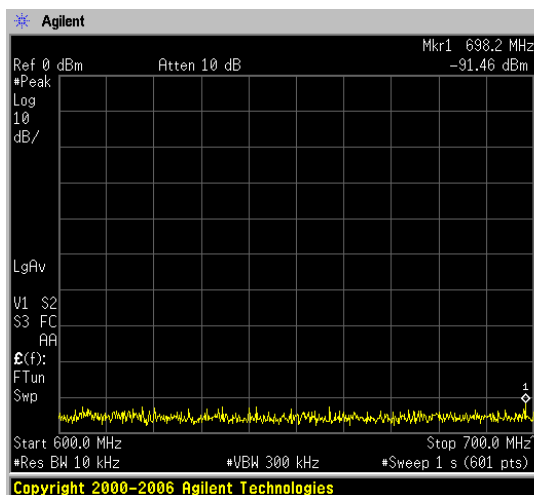


400MHz to 500MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)

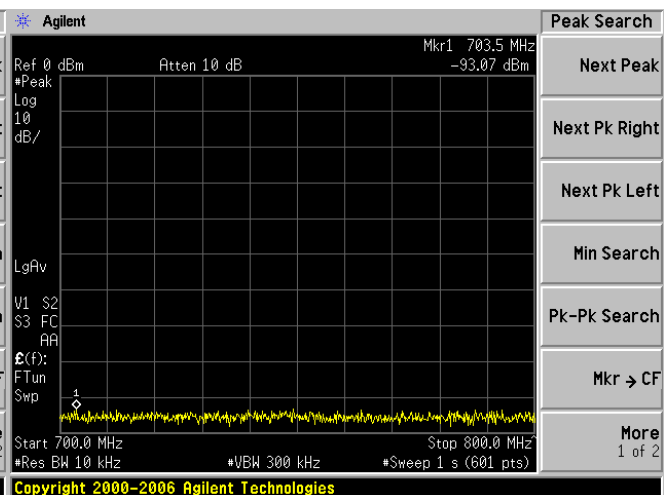
500MHz to 600MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



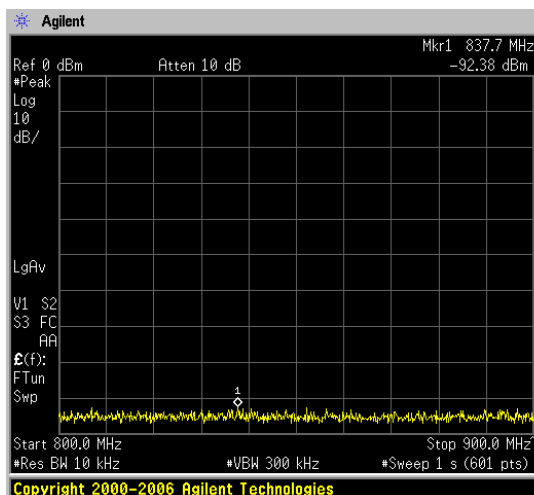
600MHz to 700MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



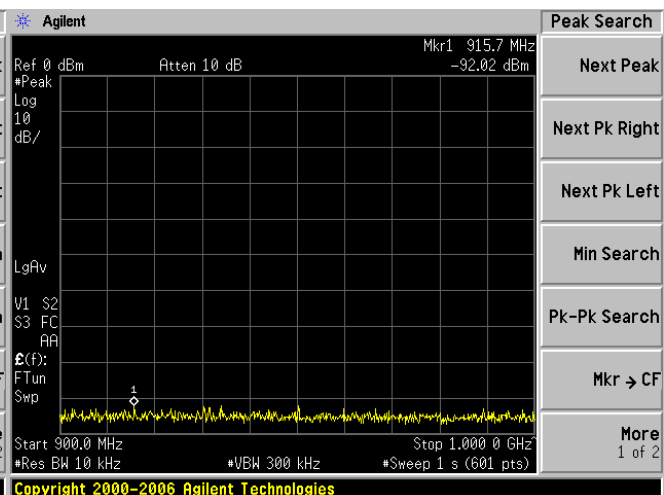
700MHz to 800MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



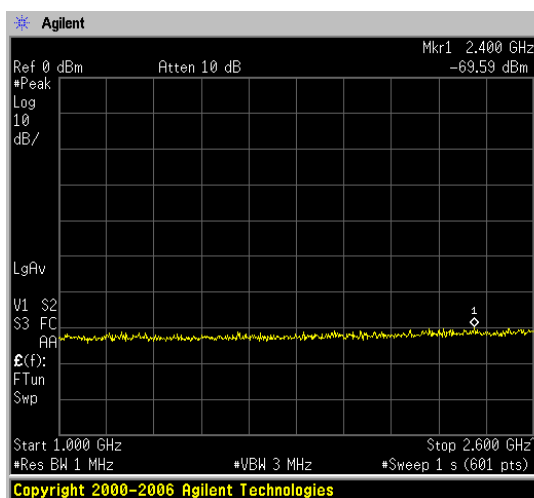
800MHz to 900MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



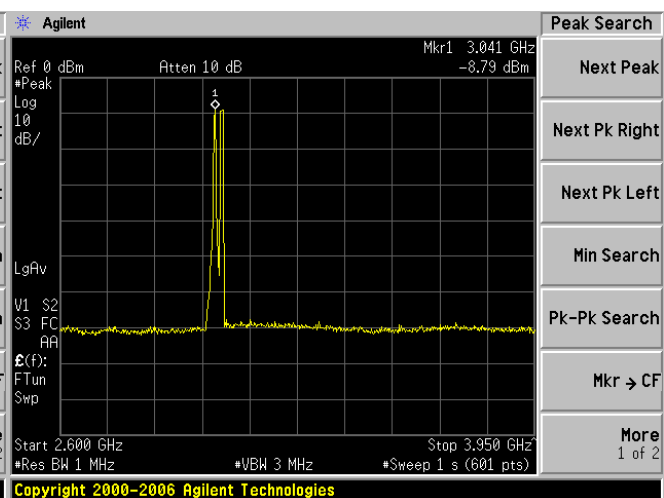
900MHz to 1GHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



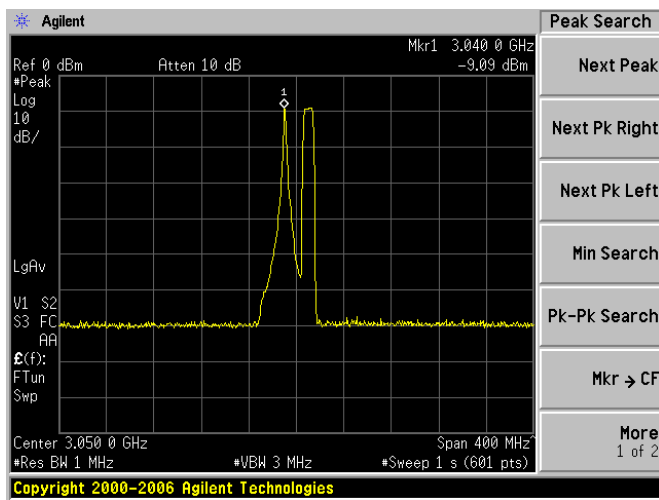
1GHz to 2.6GHz

(Scale: ↑ 10dB/Div → 160MHz/Div)



2.6GHz to 3.95GHz

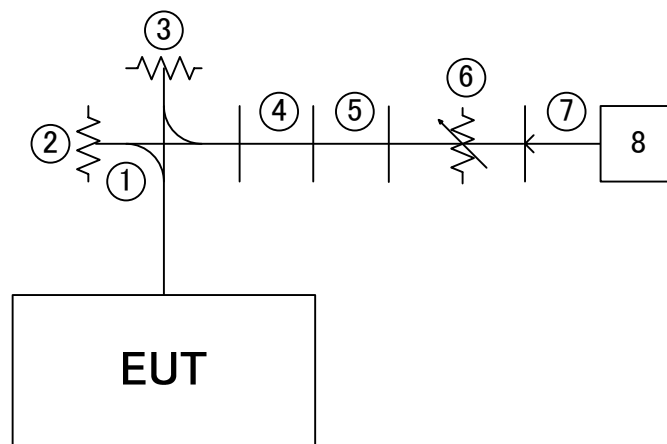
(Scale: ↑ 10dB/Div → 135MHz/Div)



Center 3050MHz, Span 400MHz

(Scale: \uparrow 10dB/Div \rightarrow 40MHz/Div)

4.2.2.1 TEST SETUP for range 3.95GHz to 5.95GHz



4.2.2.2 TEST INSTRUMENT

	DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATION DATE	CALIBRATION DUE DATE
1	Direction Coupler (30dB) SHIMADARIKA	5D102	R8200	NA	NA
2	High Power Dummy Load ATM	2D4-745-7	327905-01	NA	NA
3	High Power Dummy Load ATM	2D4-745-7	327905-02	NA	NA
4	Tapered Waveguide ATM	187/284-12-2-2	F580610-01	NA	NA
5	Adaptor MDL	MFR-01456 187AC106-CPRF-E	0551	NA	NA
6	Variable Attenuator HP	8495B	2814A14581	May. 2010	May. 2011
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 five pulses are 0.07usec/4.6usec/2280Hz, 0.14usec/9.1usec/2280Hz, 0.29usec/9.1usec/2280Hz, 0.57usec/9.1usec/1280Hz and 1.14usec/18.3usec/640Hz, and capture the spectrum at 3.95GHz to 5.95GHz.

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 = 48 VDC

4.2.2.7 STABILIZATION

EUT energized for 10 minutes minimum.

4.2.2.8 TEST EQUIPMENT

JRC Original – Shielded Room

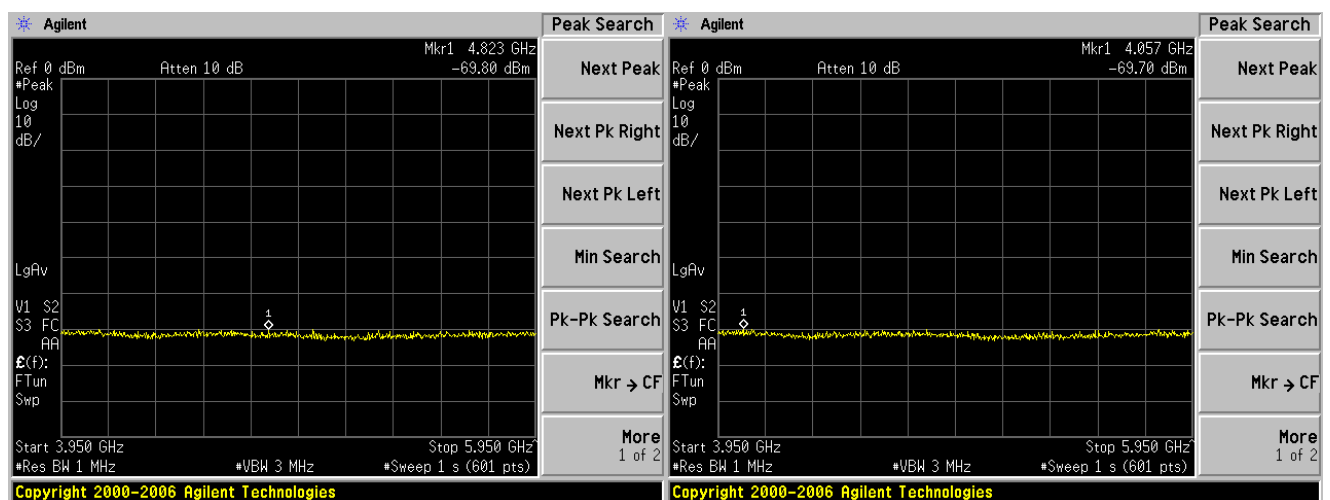
Other equipment – see test set-ups.

4.2.2.9 DATE

27th November, 2010

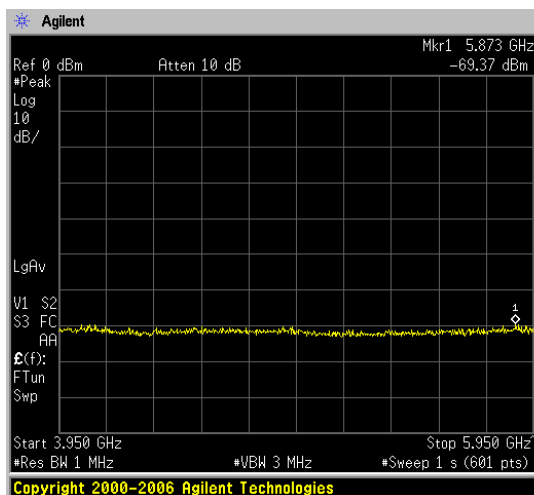
TESTED BY D.Wakamiya

4.2.2.10 TEST RESULTS (Scale: ↑ 10dB/Div → 200MHz/Div)

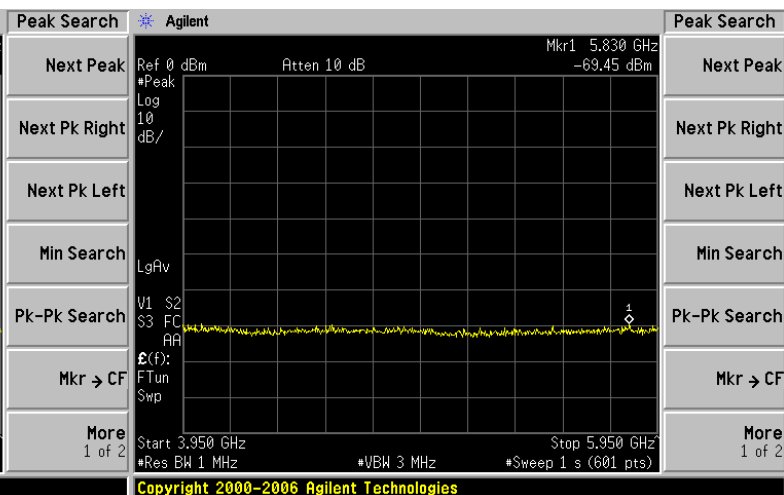


SP1 : 0.07usec/ 4.6usec / 2280Hz pulse

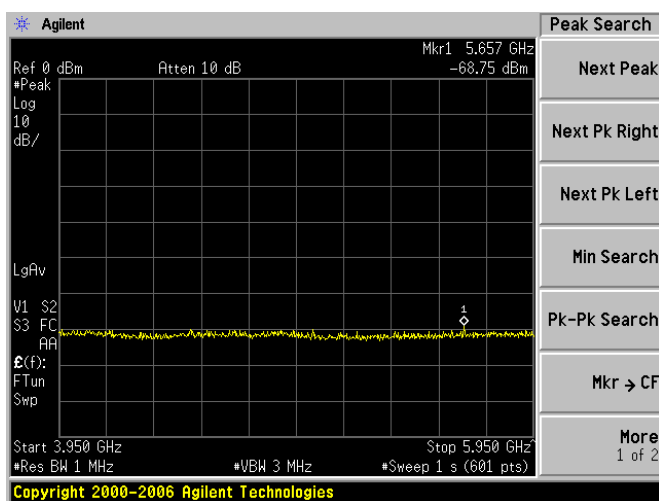
MP1 : 0.14usec/ 9.1usec / 2280Hz pulse



MP2 : 0.29usec/ 9.1usec / 2280Hz pulse

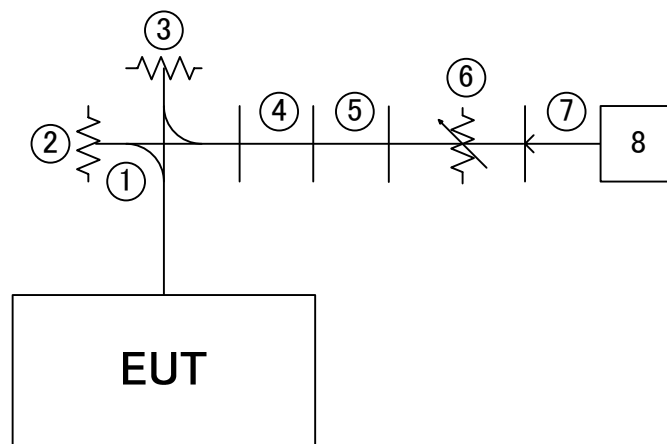


LP1 : 0.57usec/ 9.1usec / 1280Hz pulse



LP2 : 1.14usec/ 18.3usec / 640Hz pulse

4.2.3.1 TEST SETUP for range 5.85GHz to 8.2GHz



4.2.3.2 TEST INSTRUMENT

	DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATION DATE	CALIBRATION DUE DATE
1	Direction Coupler (30dB) SHIMADARIKA	5D102	R8200	NA	NA
2	High Power Dummy Load ATM	2D4-745-7	327905-01	NA	NA
3	High Power Dummy Load ATM	2D4-745-7	327905-02	NA	NA
4	Tapered Waveguide ATM	137/284-10-2-2	F580710-01	NA	NA
5	Adaptor MDL	MFR-01456 137AC106-CPRF-E	0551	NA	NA
6	Variable Attenuator HP	8495B	2814A14581	May. 2010	May. 2011
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

4.2.3.3 TEST PROCEDURES

- a. Setup EUT as 4.2.3.1.
- b. Transmitted at most powerful pulse and adjusted attenuator for not exceeding the spectrum analyzer maximum rating.

c. Transmitted at five pulses are 0.07usec/4.6usec/2280Hz, 0.14usec/9.1usec/2280Hz, 0.29usec/9.1usec /2280Hz, 0.57usec/9.1usec/1280Hz and 1.14usec/18.3usec/640Hz, and capture the spectrum at 5.85GHz to 8.2GHz.

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

4.2.3.6 TEST CONDITIONS

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

EUT input = 48 VDC

4.2.3.7 STABILIZATION

EUT energized for 10 minutes minimum.

4.2.3.8 TEST EQUIPMENT

JRC Original – Shielded Room

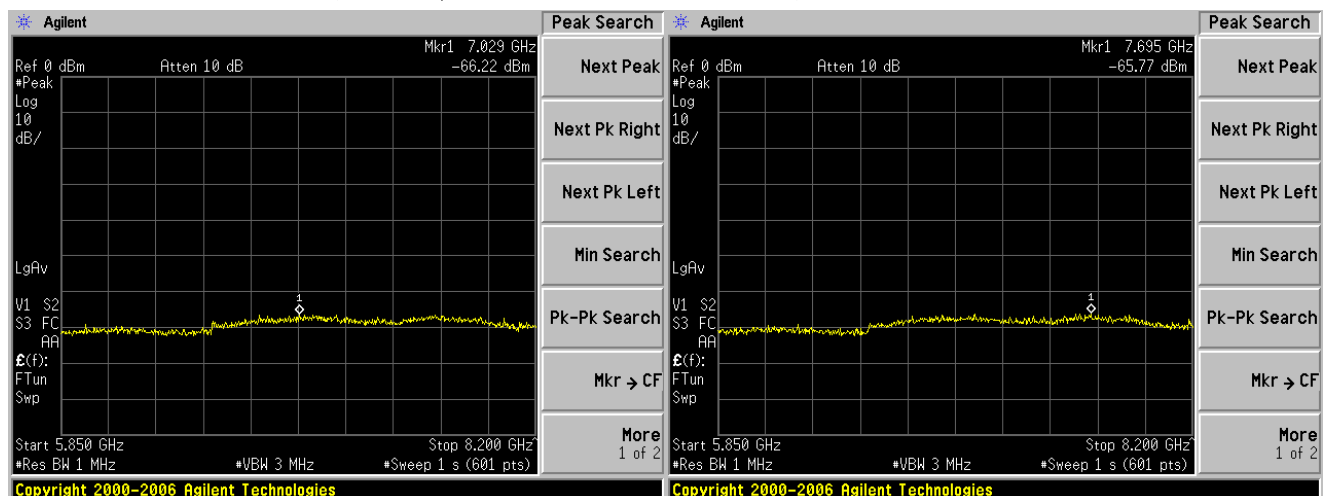
Other equipment – see test set-ups.

4.2.3.9 DATE

27th November, 2010

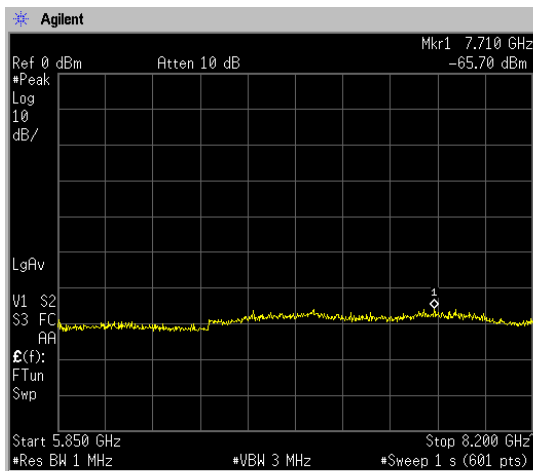
TESTED BY D.Wakamiya

4.2.3.10 TEST RESULTS (Scale: ↑ 10dB/Div → 235MHz/Div)



SP1 : 0.07usec/ 4.6usec / 2280Hz pulse

MP1 : 0.14usec/ 9.1usec / 2280Hz pulse



Peak Search

Next Peak

Next Pk Right

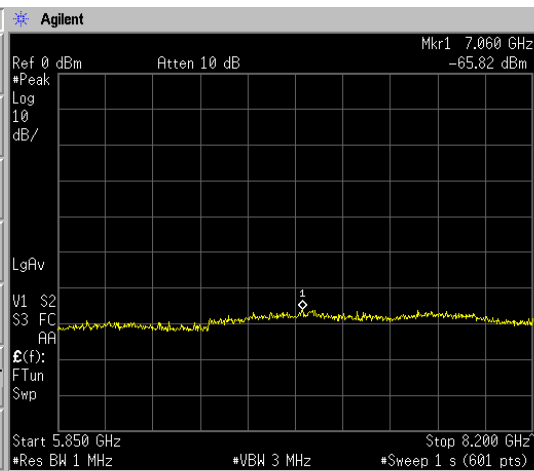
Next Pk Left

Min Search

Pk-Pk Search

Mkr → CF

More
1 of 2



Peak Search

Next Peak

Next Pk Right

Next Pk Left

Min Search

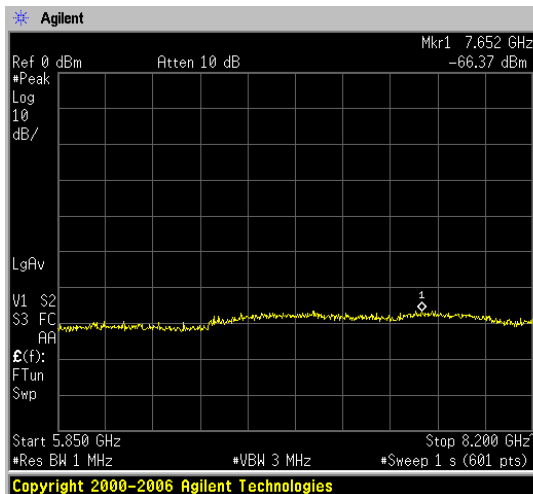
Pk-Pk Search

Mkr → CF

More
1 of 2

MP2 : 0.29usec/ 9.1usec / 2280Hz pulse

LP1 : 0.57usec/ 9.1usec / 1280Hz pulse



Peak Search

Next Peak

Next Pk Right

Next Pk Left

Min Search

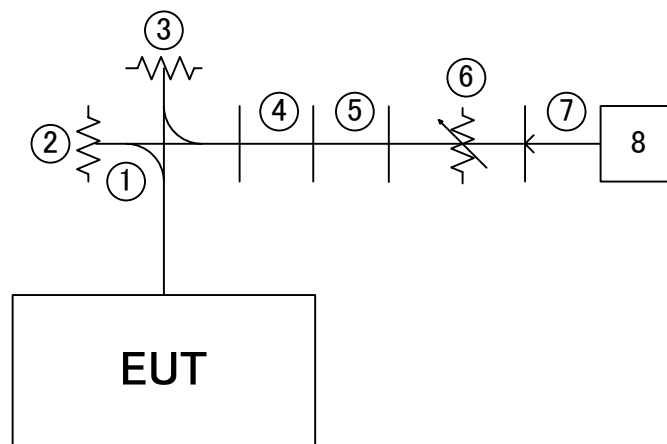
Pk-Pk Search

Mkr → CF

More
1 of 2

LP2 : 1.14usec/ 18.3usec / 640Hz pulse

4.2.4.1 TEST SETUP for range 8.2GHz to 12.4GHz



4.2.4.2 TEST INSTRUMENT

	DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATION DATE	CALIBRATION DUE DATE
1	Direction Coupler (30dB) SHIMADARIKA	5D102	R8200	NA	NA
2	High Power Dummy Load ATM	2D4-745-7	327905-01	NA	NA
3	High Power Dummy Load ATM	2D4-745-7	327905-02	NA	NA
4	Tapered Waveguide ATM	90/284-12-6-2	F580810-01	NA	NA
5	Variable Attenuator HP	X382A	1005-00684	May. 2010	May. 2011
6	Adaptor MDL	MFR-01456 90AC106-1E	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

Measurement Point : Antenna terminal

Spectrum Analyzer setting: RBW = 1MHz

VBW = 3MHz

Detector Mode = Positive Peak

4.2.4.3 TEST PROCEDURES

- a. Setup EUT as 4.2.4.1.
- b. Transmitted at most powerful pulse and adjusted attenuator for not exceeding the spectrum analyzer maximum rating.

c. Transmitted at five pulses are 0.07usec/4.6usec/2280Hz, 0.14usec/9.1usec/2280Hz, 0.29usec/9.1usec /2280Hz, 0.57usec/9.1usec/1280Hz and 1.14usec/18.3usec/640Hz, and capture the spectrum at 8.2GHz to 12.4GHz.

4.2.4.4 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.

4.2.4.5 TEST RESULTS

No spurious emissions observed above minimum standard.

Test data is described at section 4.2.4.10

4.2.4.6 TEST CONDITIONS

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

EUT input = 48 VDC

4.2.4.7 STABILIZATION

EUT energized for 10 minutes minimum.

4.2.4.8 TEST EQUIPMENT

JRC Original – Shielded Room

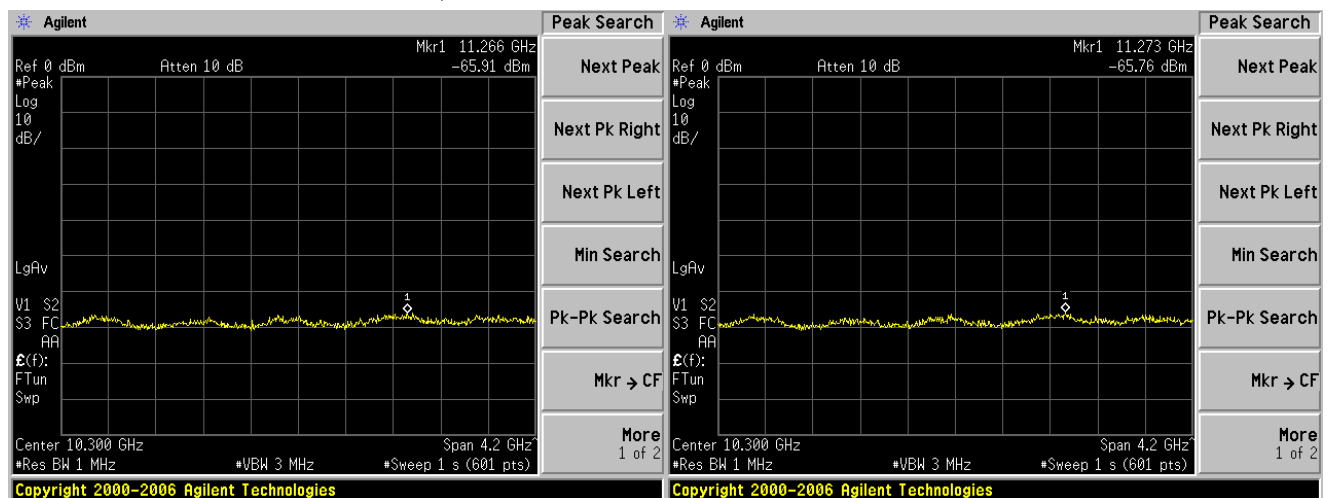
Other equipment – see test set-ups.

4.2.4.9 DATE

27th November, 2010

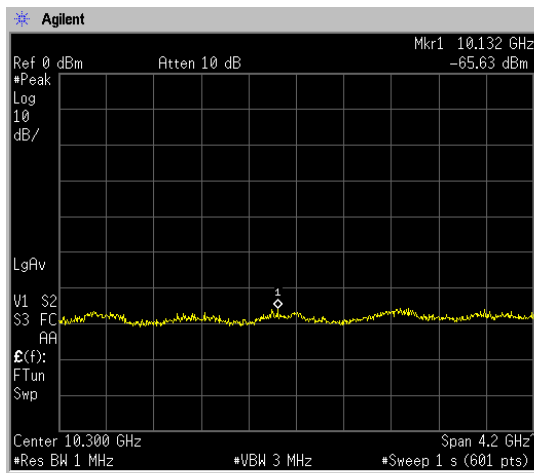
TESTED BY D.Wakamiya

4.2.4.10 TEST RESULTS (Scale: ↑ 10dB/Div → 420MHz/Div)



SP1 : 0.07usec/ 4.6usec / 2280Hz pulse

MP1 : 0.14usec/ 9.1usec / 2280Hz pulse



Peak Search

Next Peak

Next Pk Right

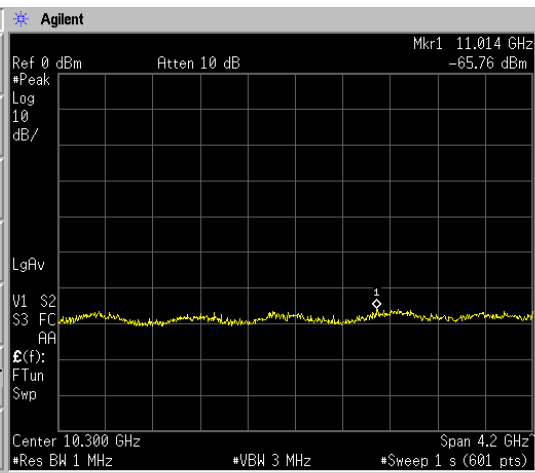
Next Pk Left

Min Search

Pk-Pk Search

Mkr → CF

More
1 of 2



Peak Search

Next Peak

Next Pk Right

Next Pk Left

Min Search

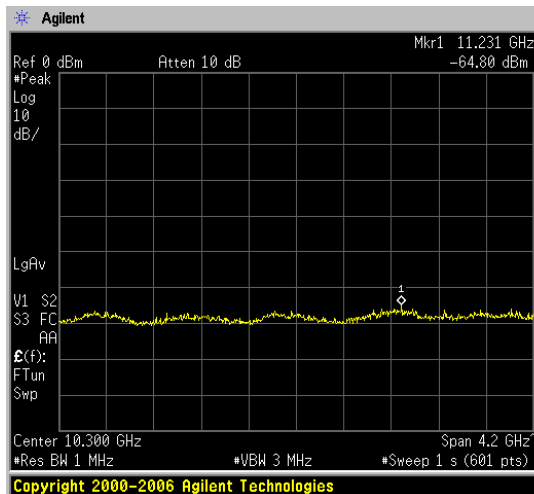
Pk-Pk Search

Mkr → CF

More
1 of 2

MP2 : 0.29usec/ 9.1usec / 2280Hz pulse

LP1 : 0.57usec/ 9.1usec / 1280Hz pulse



Peak Search

Next Peak

Next Pk Right

Next Pk Left

Min Search

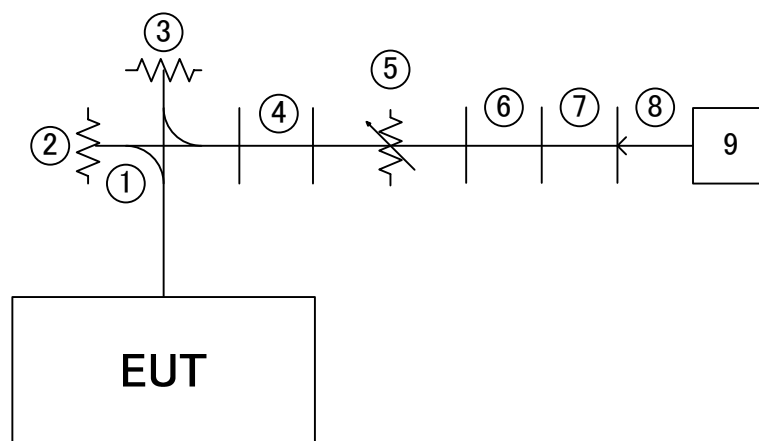
Pk-Pk Search

Mkr → CF

More
1 of 2

LP2 : 1.14usec/ 18.3usec / 640Hz pulse

4.2.5.1 TEST SETUP for range 11.9GHz to 18.0GHz



4.2.5.2 TEST INSTRUMENT

	DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATION DATE	CALIBRATION DUE DATE
1	Direction Coupler (30dB) SHIMADARIKA	5D102	R8200	NA	NA
2	High Power Dummy Load ATM	2D4-745-7	327905-01	NA	NA
3	High Power Dummy Load ATM	2D4-745-7	327905-02	NA	NA
4	Tapered Waveguide ATM	90/284-12-6-2	F580810-01	NA	NA
5	Variable Attenuator HP	X382A	1005-00684	May. 2010	May. 2011
6	Tapered Waveguide ATM	62/90-6-6-6	G239605-01	NA	NA
7	Adaptor MDL	MFR-01456 62AC106-1E	0622	NA	NA
8	Coaxial Cable HUBER+SUHNER	SUCOFLEX 104PA	5784 /4PA	NA	NA
9	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

4.2.5.3 TEST PROCEDURES

- a. Setup EUT as 4.2.5.1.
- b. Transmitted at most powerful pulse and adjusted attenuator for not exceeding the spectrum analyzer maximum rating.

c. Transmitted at five pulses are 0.07usec/4.6usec/2280Hz, 0.14usec/9.1usec/2280Hz, 0.29usec/9.1usec /2280Hz, 0.57usec/9.1usec/1280Hz and 1.14usec/18.3usec/640Hz, and capture the spectrum at 11.9GHz to 18GHz.

4.2.5.4 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.

4.2.5.5 TEST RESULTS

No spurious emissions observed above minimum standard.

Test data is described at section 4.2.5.10

4.2.5.6 TEST CONDITIONS

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

EUT input = 48 VDC

4.2.5.7 STABILIZATION

EUT energized for 10 minutes minimum.

4.2.5.8 TEST EQUIPMENT

JRC Original – Shielded Room

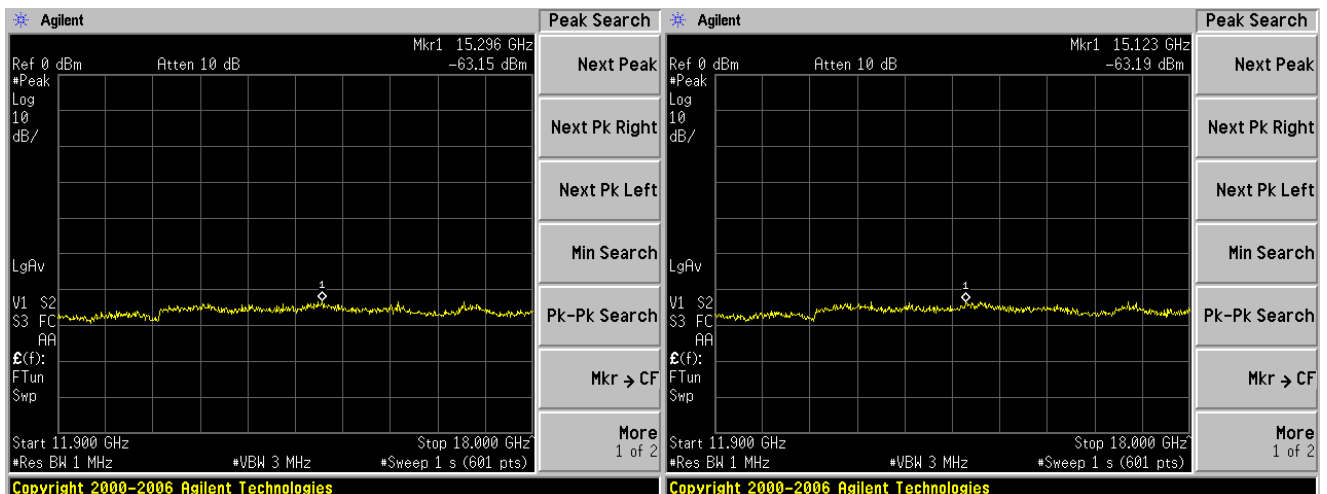
Other equipment – see test set-ups.

4.2.5.9 DATE

27th November, 2010

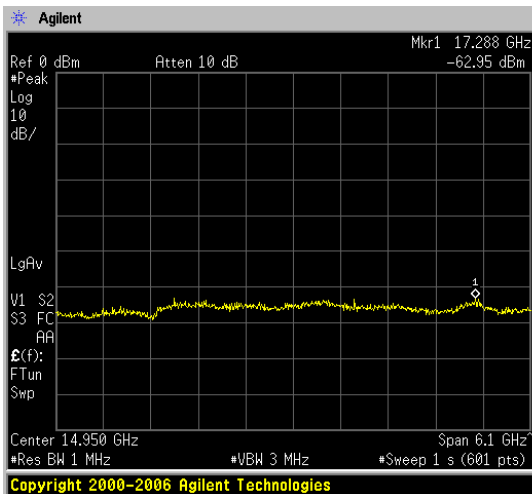
TESTED BY D.Wakamiya

4.2.5.10 TEST RESULTS (Scale: ↑ 10dB/Div → 610MHz/Div)

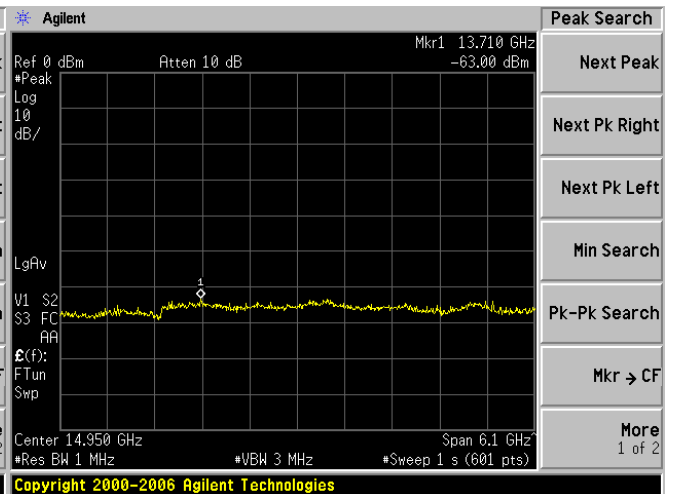


SP1 : 0.07usec/ 4.6usec / 2280Hz pulse

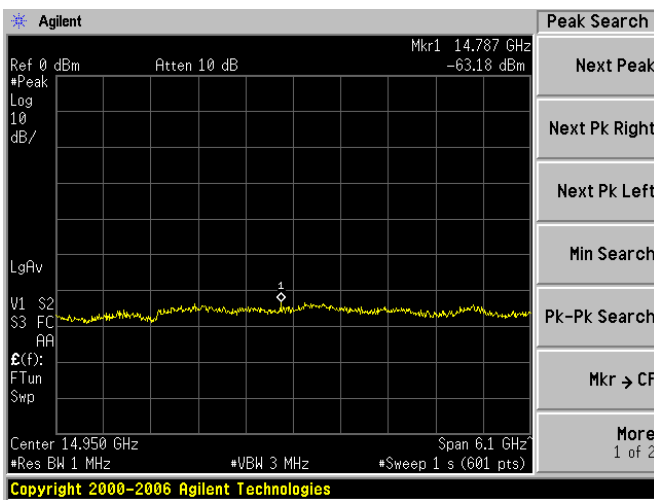
MP1 : 0.14usec/ 9.1usec / 2280Hz pulse



MP2 : 0.29usec/ 9.1usec / 2280Hz pulse

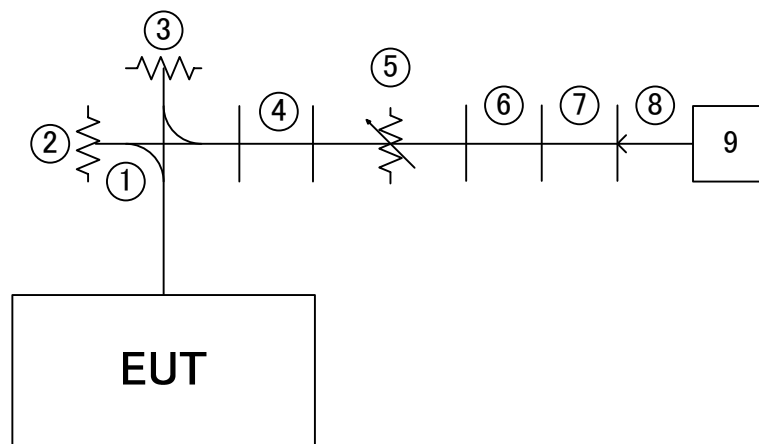


LP1 : 0.57usec/ 9.1usec / 1280Hz pulse



LP2 : 1.14usec/ 18.3usec / 640Hz pulse

4.2.6.1 TEST SETUP for range 17.6GHz to 31.0GHz



4.2.6.2 TEST INSTRUMENT

	DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATION DATE	CALIBRATION DUE DATE
1	Direction Coupler (30dB) SHIMADARIKA	5D102	R8200	NA	NA
2	High Power Dummy Load ATM	2D4-745-7	327905-01	NA	NA
3	High Power Dummy Load ATM	2D4-745-7	327905-02	NA	NA
4	Tapered Waveguide ATM	90/284-12-6-2	F580810-01	NA	NA
5	Variable Attenuator HP	X382A	1005-00684	May. 2010	May. 2011
6	Tapered Waveguide ATM	42/90-8-6-6	G239705-01	NA	NA
7	Adaptor MDL	MFR-01456 42AC206	0616	NA	NA
8	Coaxial Cable HUBER+SUHNER	SUCOFLEX 104PA	5784 /4PA	NA	NA
9	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

4.2.6.3 TEST PROCEDURES

- a. Setup EUT as 4.2.6.1.
- b. Transmitted at most powerful pulse and adjusted attenuator for not exceeding the spectrum analyzer maximum rating.

c. Transmitted at five pulses are 0.07usec/4.6usec/2280Hz, 0.14usec/9.1usec/2280Hz, 0.29usec/9.1usec /2280Hz, 0.57usec/9.1usec/1280Hz and 1.14usec/18.3usec/640Hz, and capture the spectrum at 17.6GHz to 31GHz.

4.2.6.4 EUT OPERATING CONDITIONS

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

4.2.6.5 TEST RESULTS

No spurious emissions observed above minimum standard.

Test data is described at section 4.2.6.10

4.2.6.6 TEST CONDITIONS

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

EUT input = 48 VDC

4.2.6.7 STABILIZATION

EUT energized for 10 minutes minimum.

4.2.6.8 TEST EQUIPMENT

JRC Original – Shielded Room

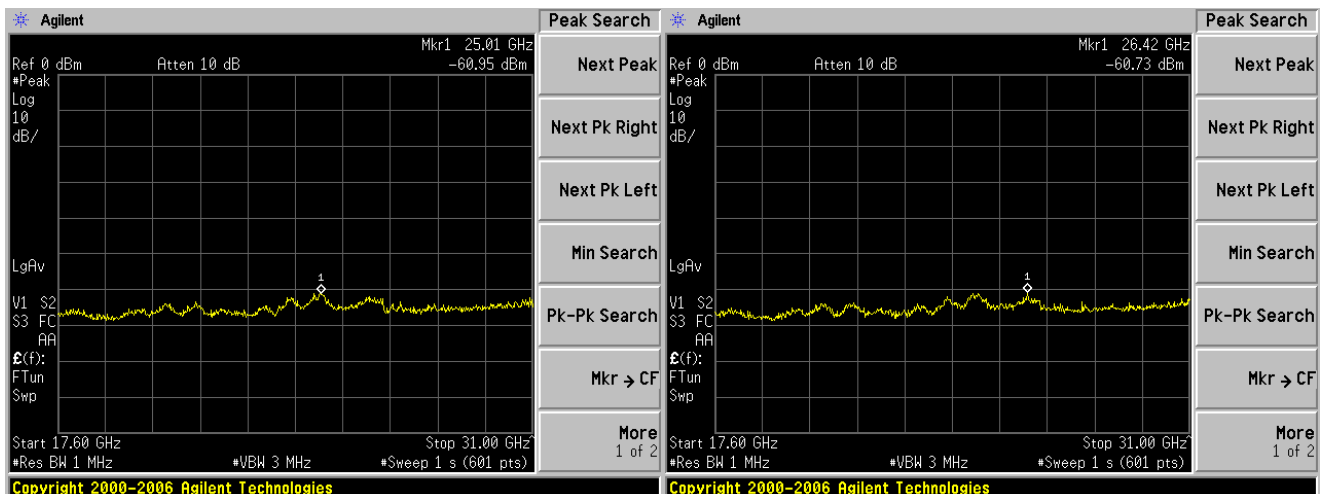
Other equipment – see test set-ups.

4.2.6.9 DATE

27th November, 2010

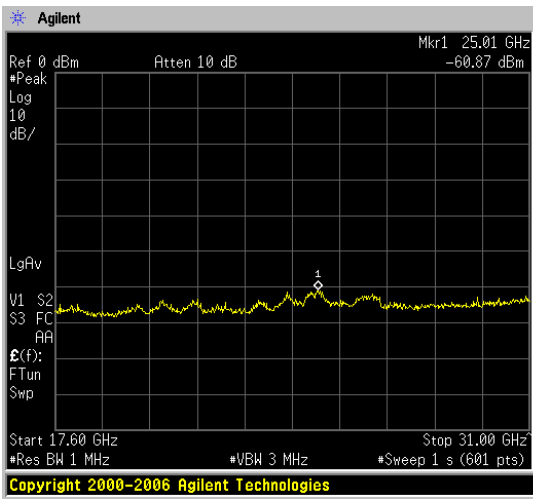
TESTED BY D.Wakamiya

4.2.6.10 TEST RESULTS (Scale: ↑ 10dB/Div → 1.43GHz/Div)

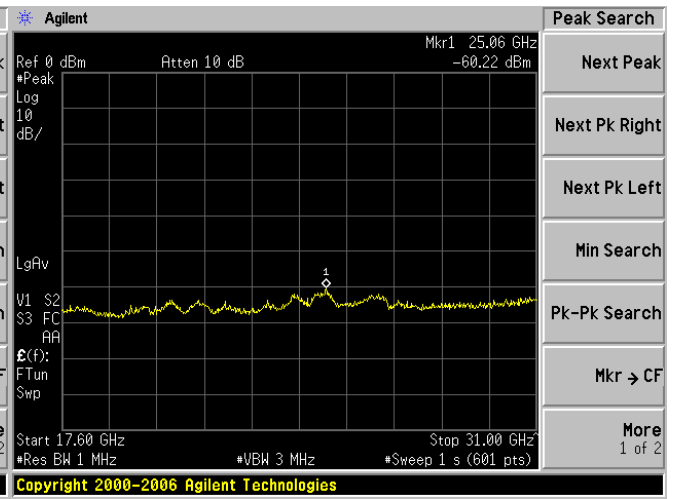


SP1 : 0.07usec/ 4.6usec / 2280Hz pulse

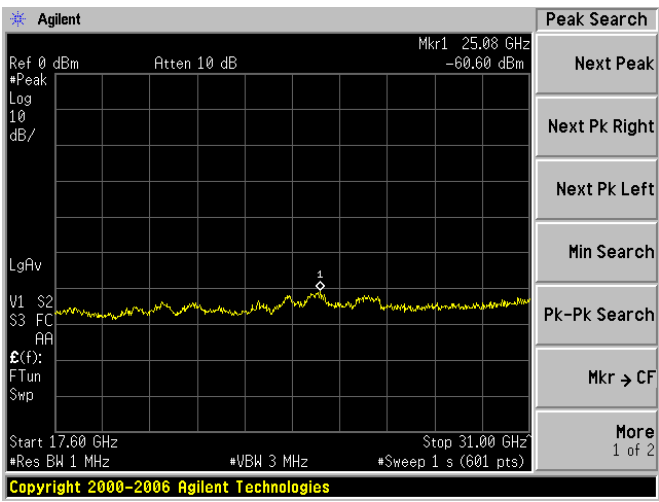
MP1 : 0.14usec/ 9.1usec / 2280Hz pulse



MP2 : 0.29usec/ 9.1usec / 2280Hz pulse



LP1 : 0.57usec/ 9.1usec / 1280Hz pulse

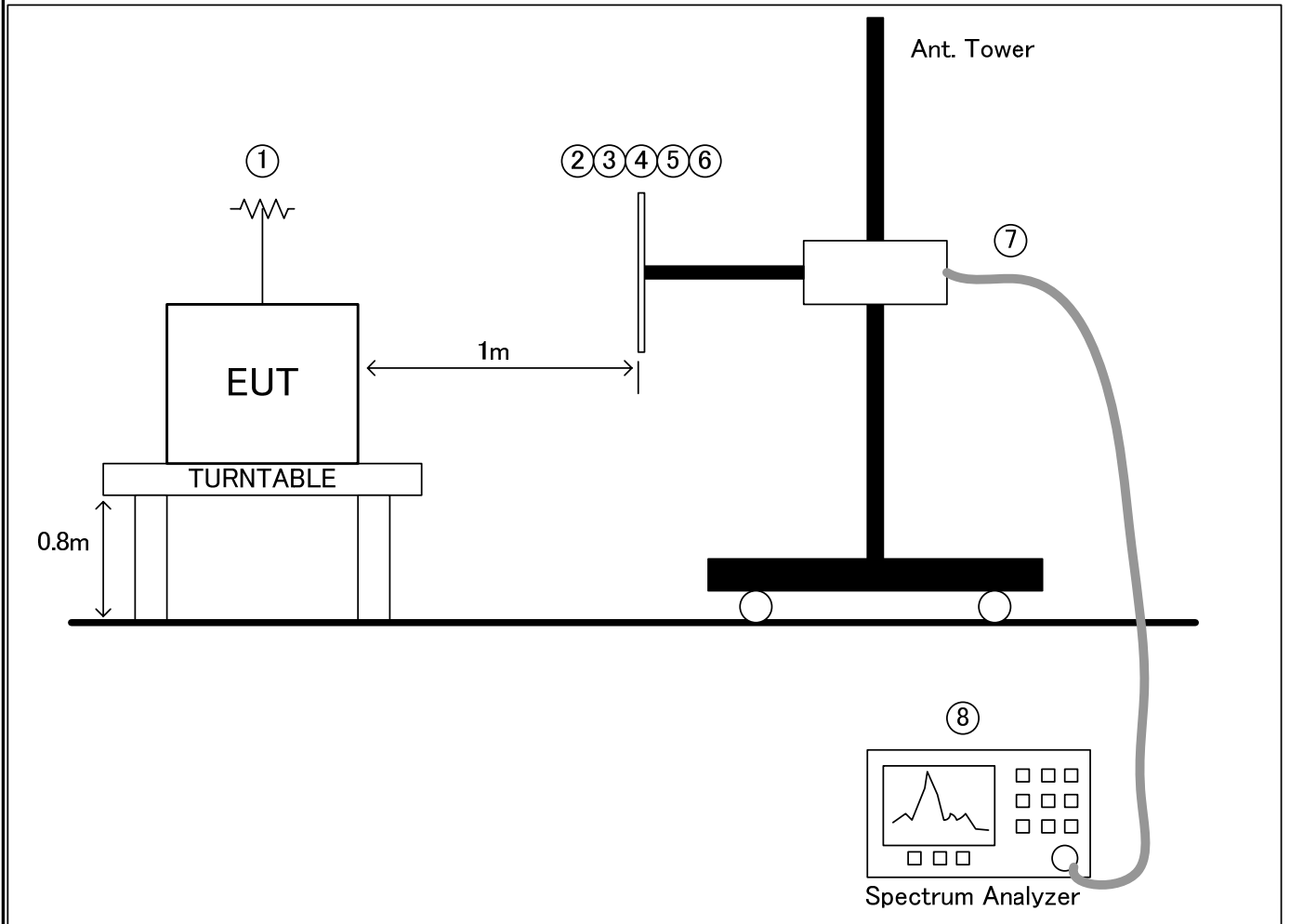


LP2 : 1.14usec/ 18.3usec / 640Hz pulse

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.

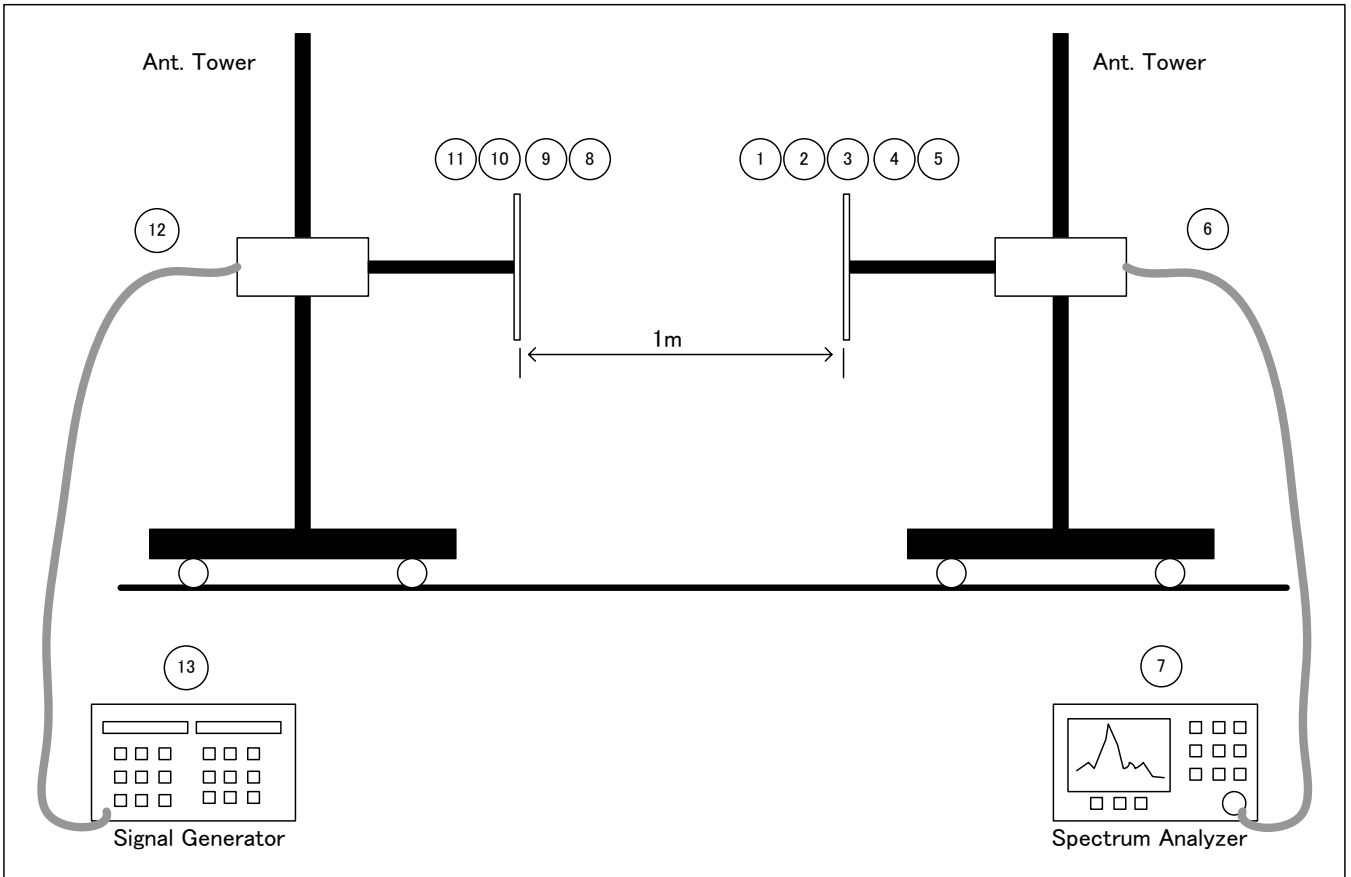


4.3.1.2 TEST INSTRUMENT

	DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATION DATE	CALIBRATION DUE DATE
1	High Power Dummy Load ATM	2D4-745-7	327905-01	NA	NA
2	Bi-conical 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. 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	Bi-conical 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	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 = 48 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

29th October, 2010

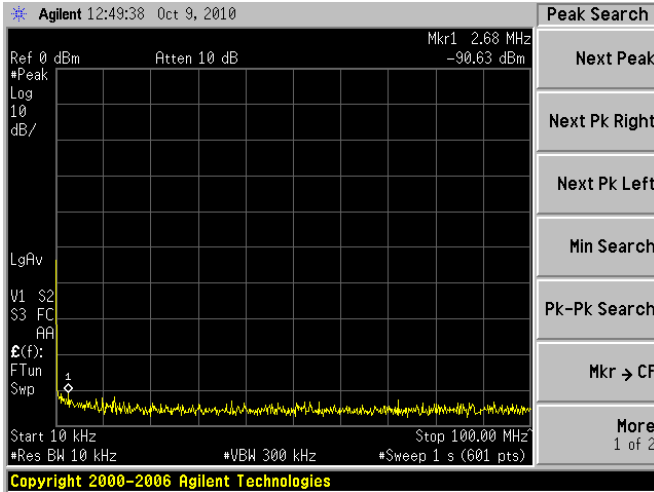
TEST ENGINEER: D.Wakamiya

4.4.10.1 TEST RESULTS of Ambient Noise

Horizontally Polarized: Ambient							
Range	Frequency [MHz]	level [dBm]	Pg [dBm]	Cable Loss [dB]	Antenna Gain [dB]	Pd [dBm]	Radiated spurious emission [dBm]
10kHz – 100MHz	2.68	-90.63	-72.41	0.5	-20.5	93.41	-154.04
100MHz – 200MHz	192	-88.4	-71.98	0.5	1	71.48	-129.88
200MHz – 300MHz	240	-90.01	-65.89	0.5	-0.1	66.49	-126.50
300MHz – 400MHz	356.8	-91.68	-71.55	0.5	4.57	67.48	-129.16
400MHz – 500MHz	444.8	-92.39	-78.31	0.5	4.47	74.34	-136.73
500MHz – 600MHz	521.2	-92.16	-72.16	0.5	4.76	67.90	-130.06
600MHz – 700MHz	692.5	-93.14	-69.28	0.5	4.89	64.89	-128.03
700MHz – 800MHz	723.2	-91.59	-68.85	0.5	5.07	64.28	-125.87
800MHz – 900MHz	886.5	-92.87	-65.04	0.5	5.26	60.28	-123.15
900MHz – 1.0GHz	966.8	-91.09	-63.41	0.5	5.39	58.52	-119.61
1.0GHz – 2.9GHz	2340	-69.63	-35.42	1	6	30.42	-70.05
2.9GHz – 6.4GHz	3209	-67.86	-34.24	1.7	7	28.94	-66.80
6.4GHz – 12.5GHz	11280	-65.3	-20.29	2.5	12.5	10.29	-45.59
12.5G – 28GHz	15296	-63.03	-15.89	3	12.9	5.99	-39.02
17.6G – 26.7GHz	24865	-60.6	-36.37	3	26.6	12.77	-43.37
26.7G – 40.0GHz	37050	-49.87	-16.74	3	26.6	6.86	-26.73

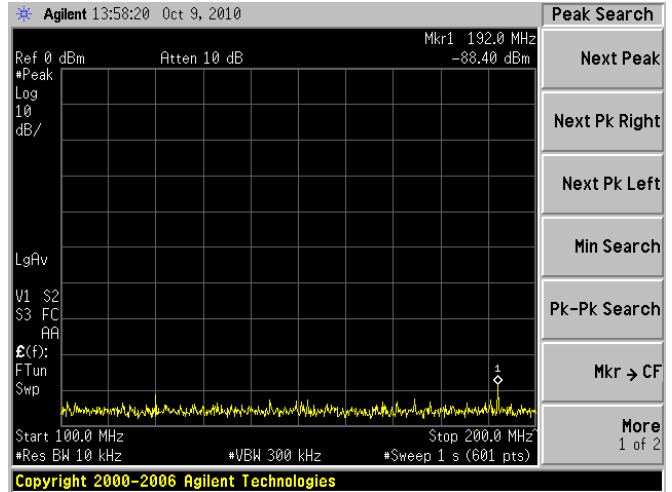
Vertically Polarized: Ambient							
Range	Frequency [MHz]	level [dBm]	Pg [dBm]	Cable Loss [dB]	Antenna Gain [dB]	Pd [dBm]	Radiated spurious emission [dBm]
10kHz – 100MHz	72	-84.6	-66.14	0.5	-1.07	67.71	-122.31
100MHz – 200MHz	120	-86.96	-70.84	0.5	1.12	70.22	-127.18
200MHz – 300MHz	250	-92.31	-70.54	0.5	0.24	70.80	-133.11
300MHz – 400MHz	361.8	-92.01	-72.93	0.5	4.57	68.86	-130.87
400MHz – 500MHz	408.3	-91.73	-72.04	0.5	4.28	68.26	-129.99
500MHz – 600MHz	536.8	-91.54	-70.12	0.5	4.76	65.86	-127.40
600MHz – 700MHz	696.8	-92.24	-66.84	0.5	7.06	60.28	-122.52
700MHz – 800MHz	713.8	-92.39	-67.47	0.5	5	62.97	-125.36
800MHz – 900MHz	800.3	-92.66	-68.13	0.5	5.29	63.34	-126.00
900MHz – 1.0GHz	944.8	-92.35	-65.7	0.5	5.3	60.90	-123.25
1.0GHz – 2.9GHz	2783	-69.61	-38.11	1	6.8	32.31	-71.92
2.9GHz – 6.4GHz	3262	-67.78	-33.74	1.7	7	28.44	-66.22
6.4GHz – 12.5GHz	11219	-65.87	-19.84	2.5	12.5	9.84	-45.71
12.5G – 18GHz	14031	-63.33	-15.96	3	13.7	5.26	-38.59
17.6G – 26.7GHz	25016	-60.57	-35.67	3	26.7	11.97	-42.54
26.7G – 40.0GHz	37050	-49.84	-16.42	3	26.6	7.18	-27.02

•Horizontally Polarized



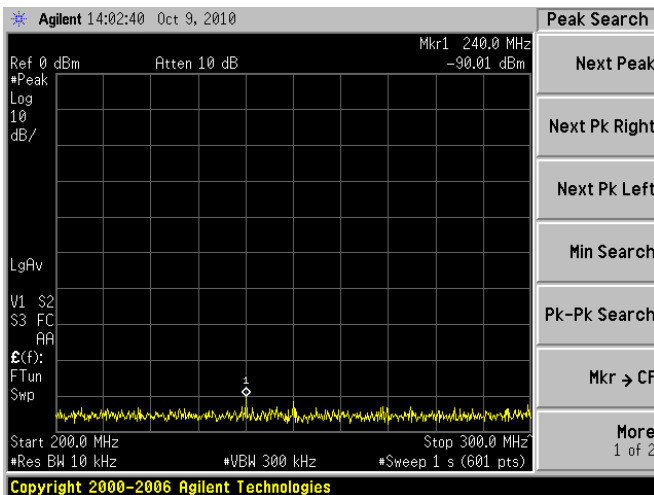
10kHz to 100MHz

(Scale: ↑ 10dB/Div →9.99MHz/Div)



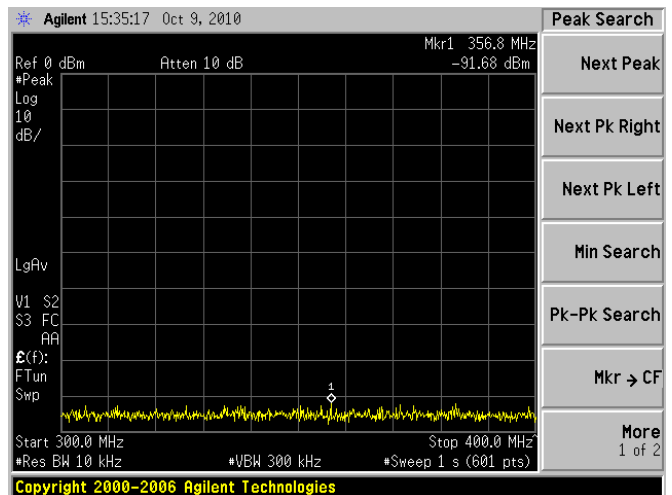
100MHz to 200MHz

(Scale: ↑ 10dB/Div →10MHz/Div)



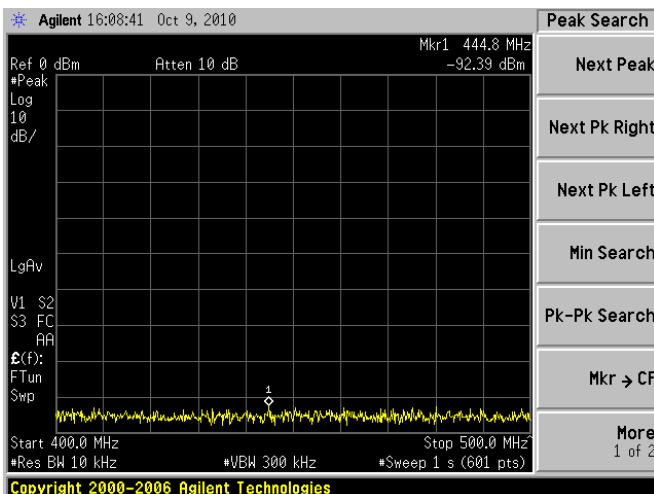
200MHz to 300MHz

(Scale: ↑ 10dB/Div →10MHz/Div)



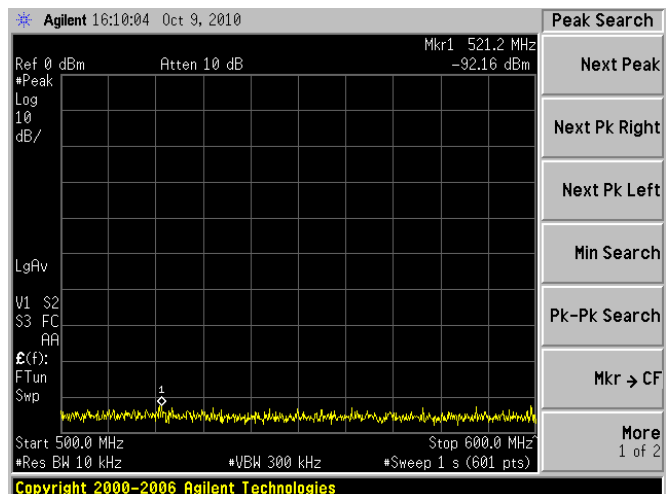
300MHz to 400MHz

(Scale: ↑ 10dB/Div →10MHz/Div)



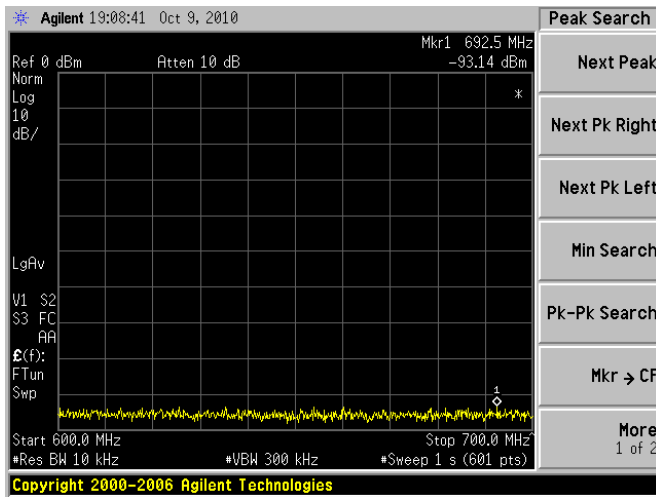
400MHz to 500MHz

(Scale: ↑ 10dB/Div →10MHz/Div)



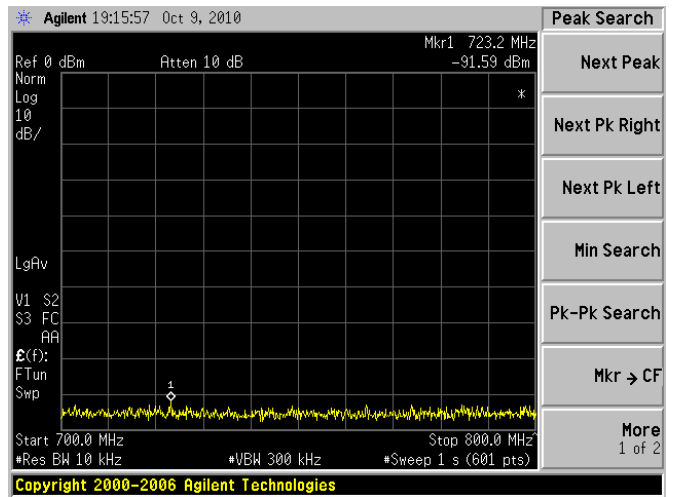
500MHz to 600MHz

(Scale: ↑ 10dB/Div →10MHz/Div)



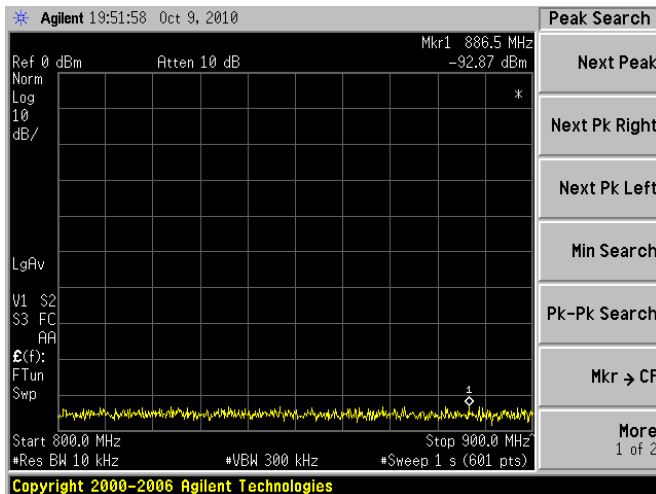
600MHz to 700MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



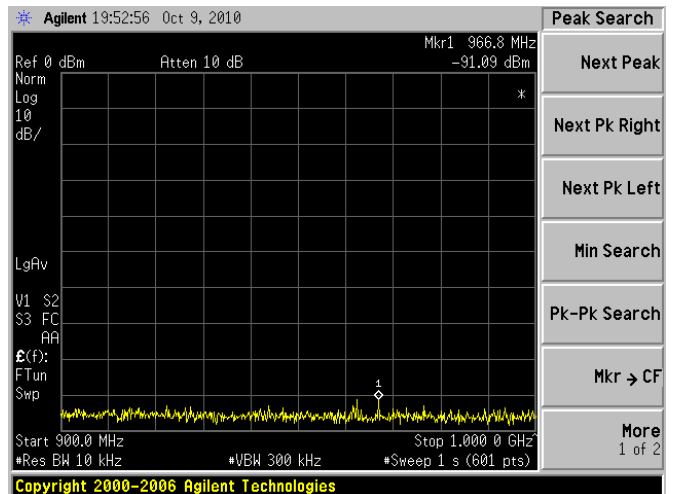
700MHz to 800MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



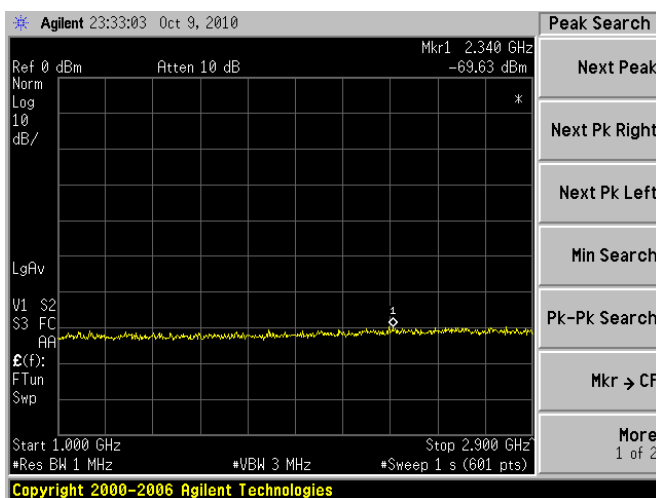
800MHz to 900MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



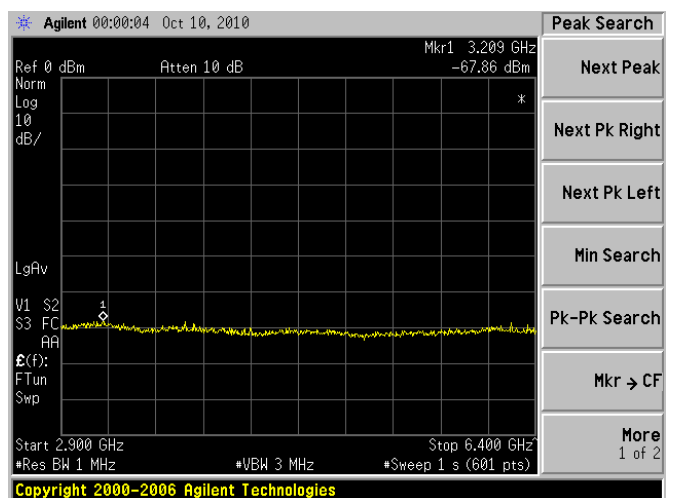
900MHz to 1GHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



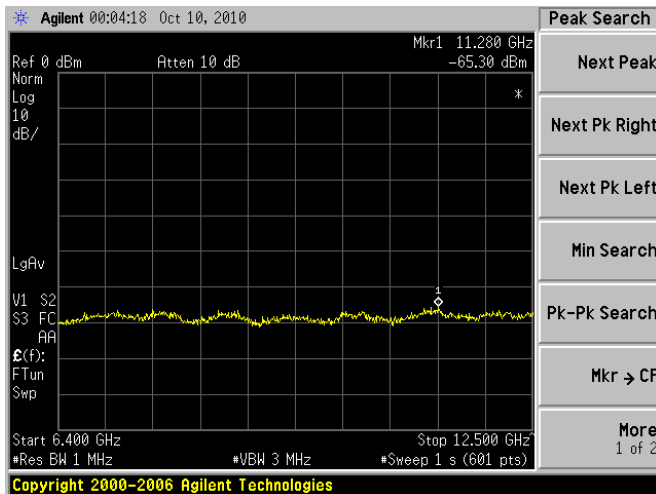
1GHz to 2.9GHz

(Scale: ↑ 10dB/Div → 190MHz/Div)

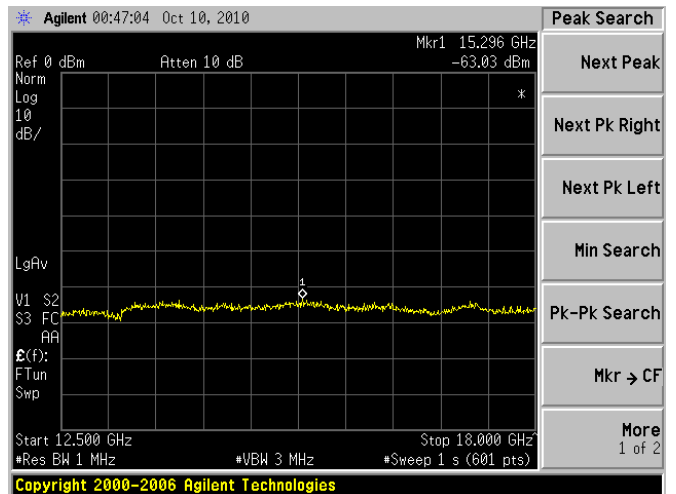


2.9GHz to 6.4GHz

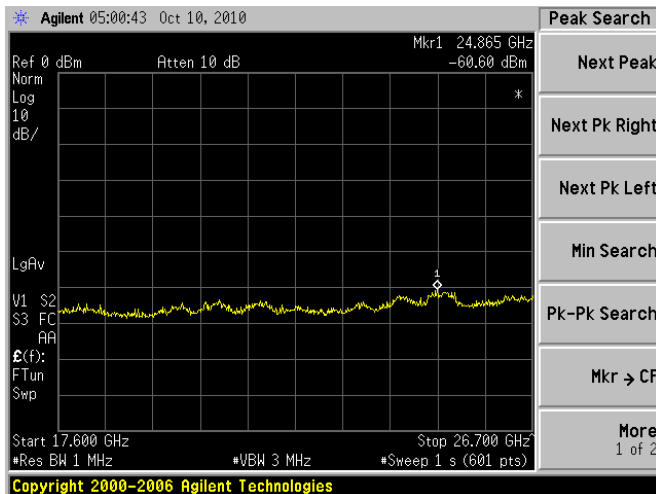
(Scale: ↑ 10dB/Div → 350MHz/Div)



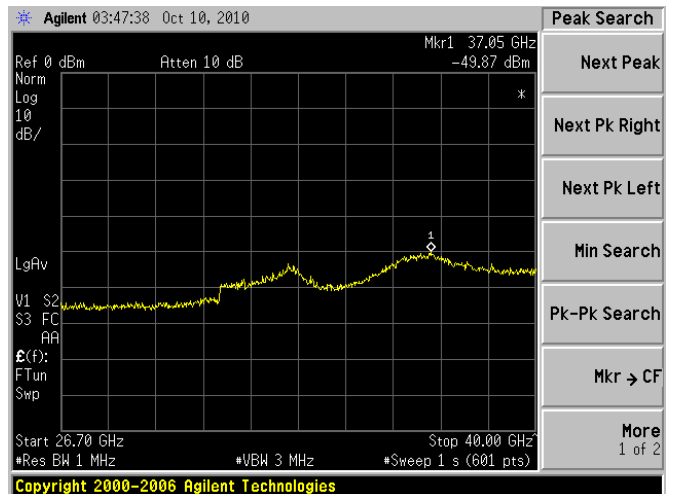
6.4GHz to 12.5GHz
(Scale: ↑ 10dB/Div → 610MHz/Div)



12.5GHz to 18GHz
(Scale: ↑ 10dB/Div → 550MHz/Div)

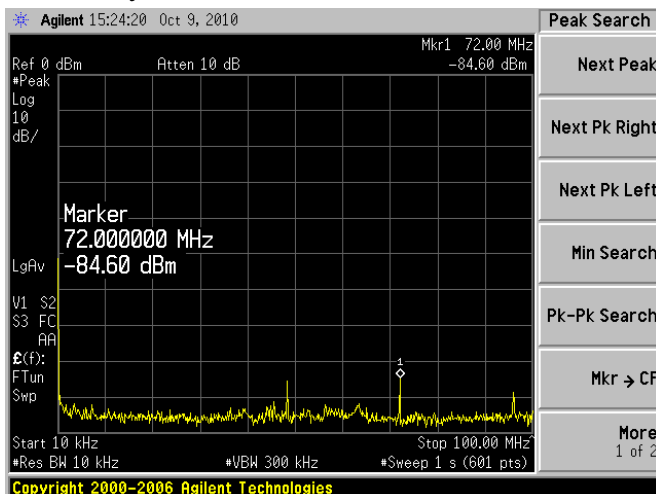


17.6GHz to 26.7GHz
(Scale: ↑ 10dB/Div → 910MHz/Div)

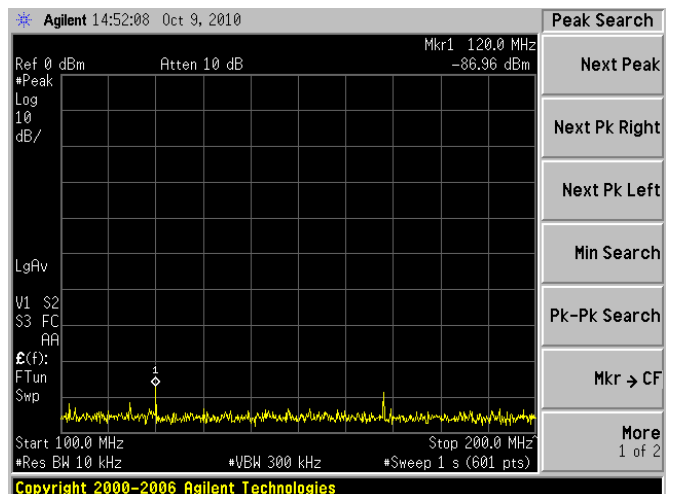


26.7GHz to 40.0GHz
(Scale: ↑ 10dB/Div → 1330MHz/Div)

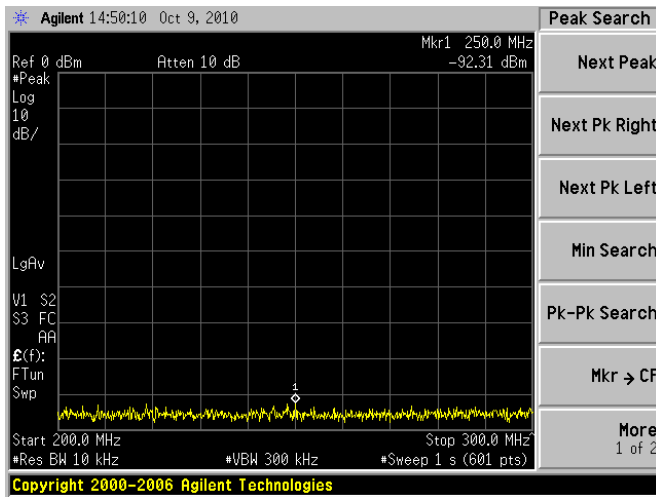
•Vertically Polarized



10kHz to 100MHz
(Scale: ↑ 10dB/Div → 9.99MHz/Div)

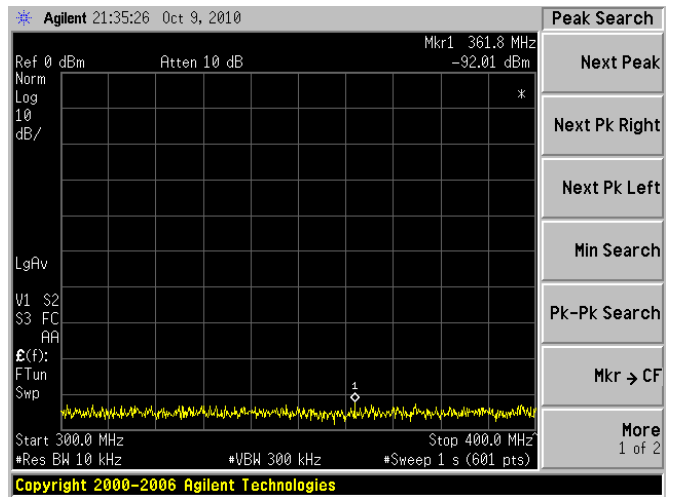


100MHz to 200MHz
(Scale: ↑ 10dB/Div → 10MHz/Div)



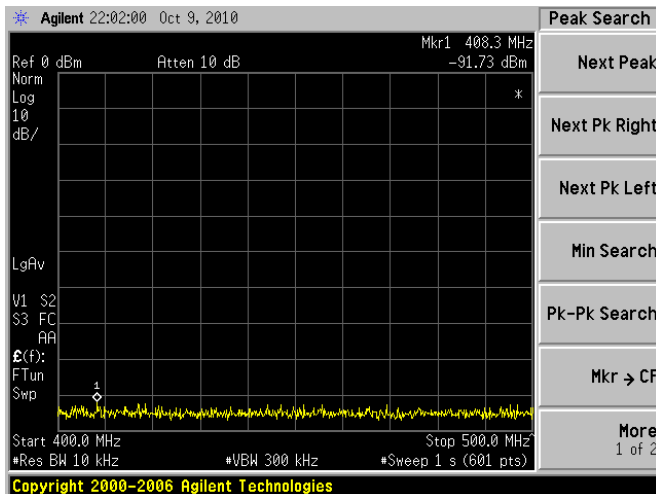
200MHz to 300MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



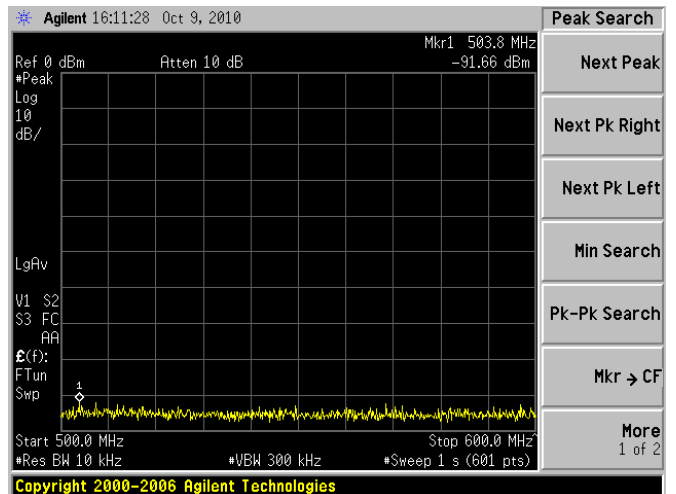
300MHz to 400MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



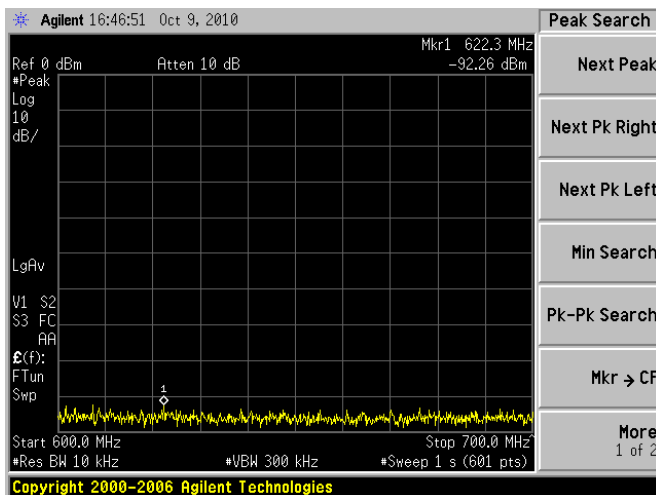
400MHz to 500MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



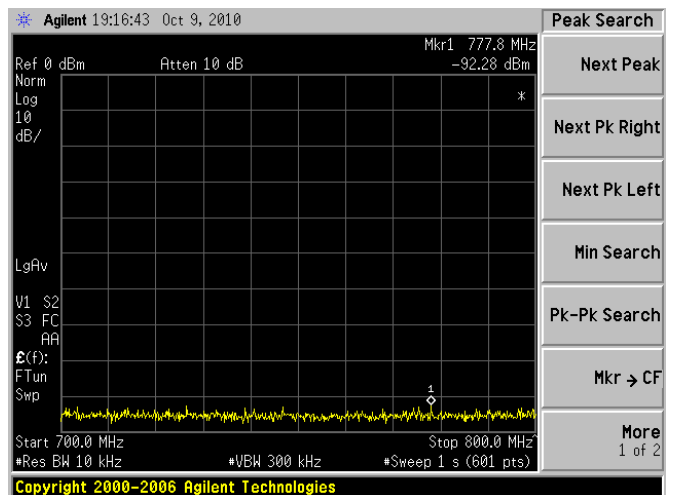
500MHz to 600MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



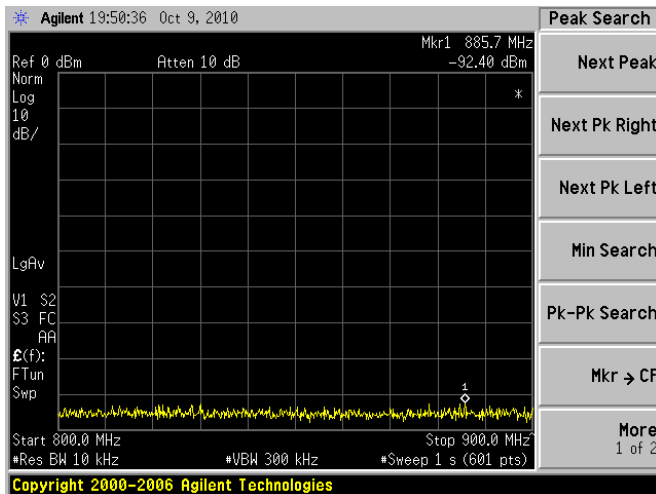
600MHz to 700MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



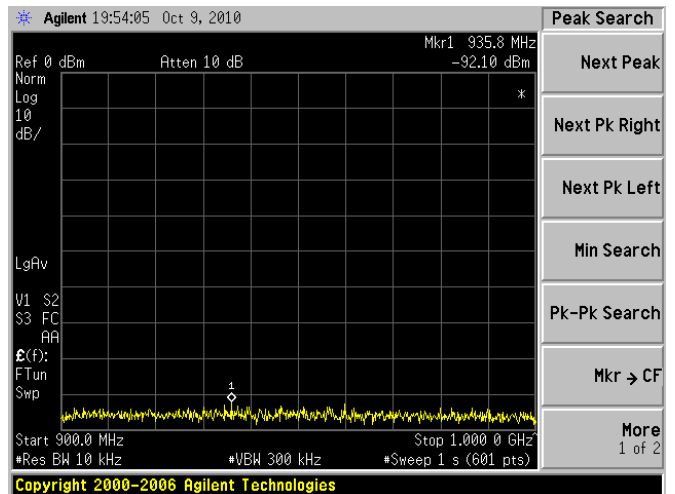
700MHz to 800MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



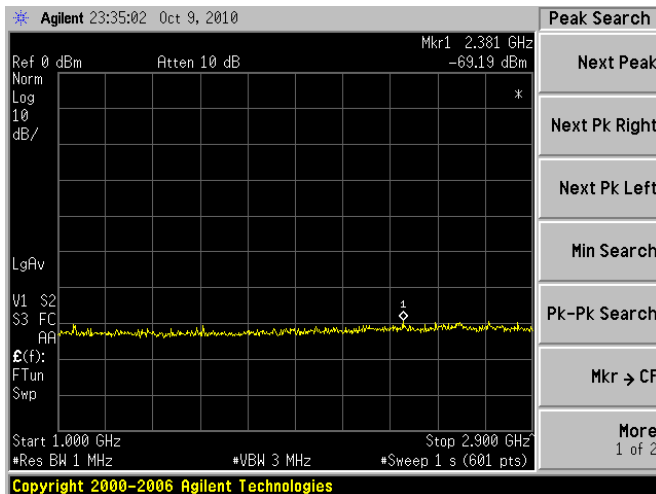
800MHz to 900MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



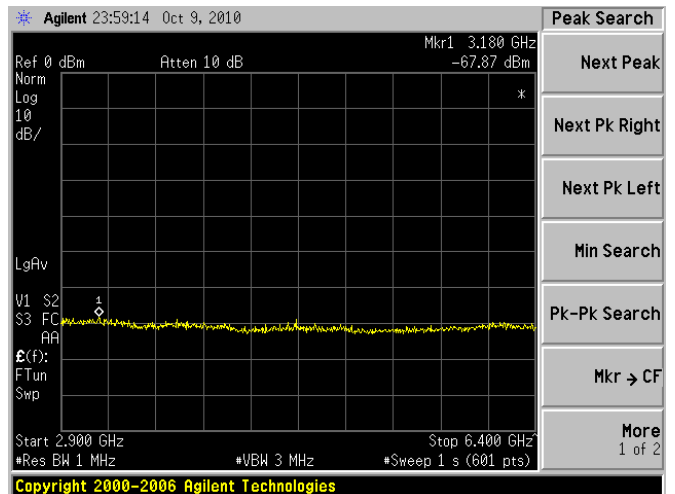
900MHz to 1GHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



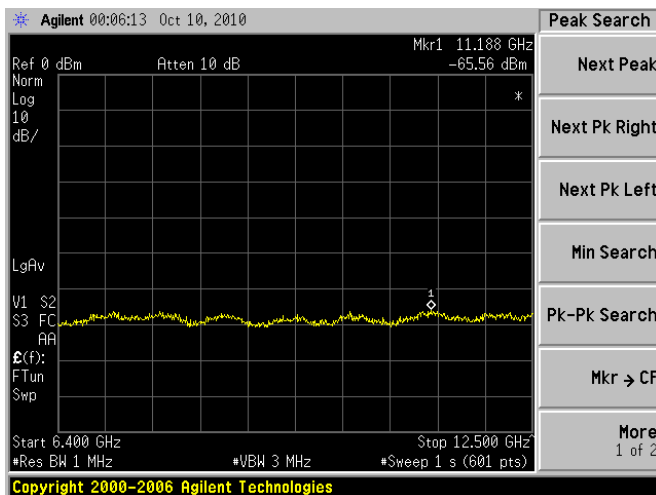
1GHz to 2.9GHz

(Scale: ↑ 10dB/Div → 190MHz/Div)



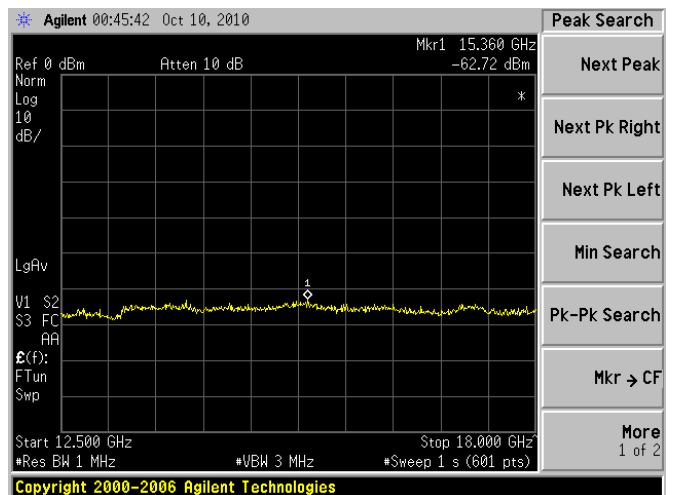
2.9GHz 6.4GHz

(Scale: ↑ 10dB/Div → 350MHz/Div)



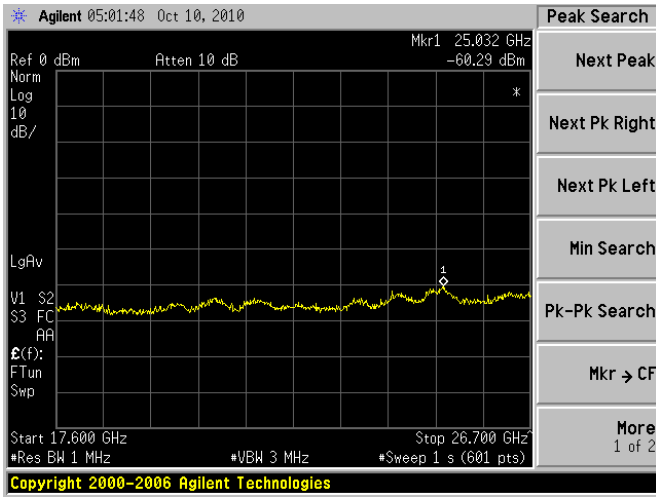
6.4GHz to 12.5GHz

(Scale: ↑ 10dB/Div → 610MHz/Div)

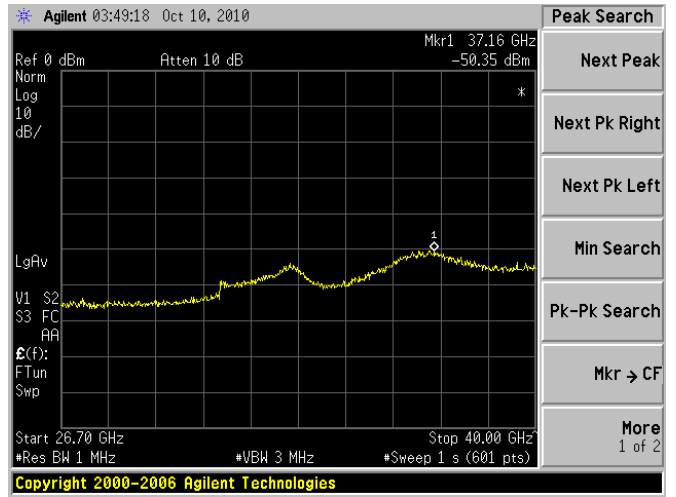


12.5GHz to 18.0GHz

(Scale: ↑ 10dB/Div → 550MHz/Div)



17.6GHz to 26.7GHz
(Scale: ↑ 10dB/Div → 910MHz/Div)



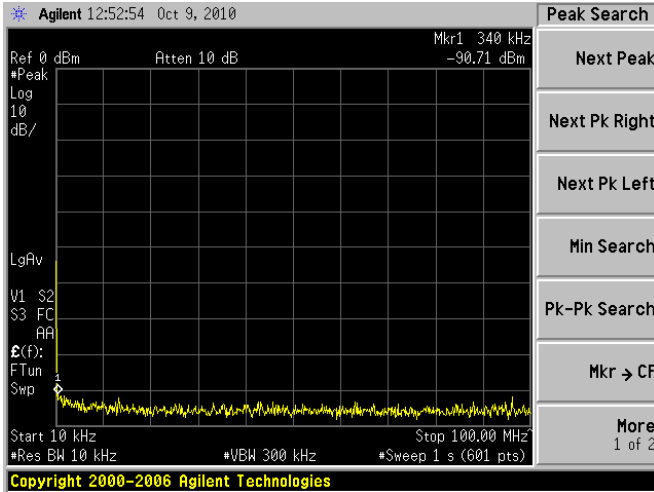
26.7GHz to 40GHz
(Scale: ↑ 10dB/Div → 1330MHz/Div)

4.4.10.2 TEST RESULTS of STBY

Horizontally Polarized: STBY							
Range	Frequency [MHz]	level [dBm]	Pg [dBm]	Cable Loss [dB]	Antenna Gain [dB]	Pd [dBm]	Radiated spurious emission [dBm]
10kHz – 100MHz	0.34	-90.71	-72.49	0.5	-21.2	94.19	-154.90
100MHz – 200MHz	168	-79.24	-62.77	0.5	1.1	62.17	-111.41
200MHz – 300MHz	250	-90.31	-68.48	0.5	0.24	68.74	-129.05
300MHz – 400MHz	324.3	-92.23	-73.25	0.5	4.46	69.29	-131.52
400MHz – 500MHz	498.3	-92.49	-71.63	0.5	4.71	67.42	-129.91
500MHz – 600MHz	503.8	-91.66	-71.38	0.5	4.71	67.17	-128.83
600MHz – 700MHz	622.3	-92.26	-71.4	0.5	4.79	67.11	-129.37
700MHz – 800MHz	777.8	-92.28	-65.93	0.5	5.35	61.08	-123.36
800MHz – 900MHz	885.7	-92.4	-64.36	0.5	5.25	59.61	-122.01
900MHz – 1.0GHz	935.8	-92.1	-68.3	0.5	5.3	63.50	-125.60
1.0GHz – 2.9GHz	2381	-69.19	-37.06	1	6	32.06	-71.25
2.9GHz – 6.4GHz	3180	-67.87	-34.86	1.7	7	29.56	-67.43
6.4GHz – 12.5GHz	11188	-65.56	-21.7	2.5	12.5	11.70	-47.26
12.5G – 18GHz	15360	-62.72	-14.35	3	12.8	4.55	-37.27
17.6G – 26.7GHz	25032	-60.29	-35.41	3	26.7	11.71	-42.00
26.7G – 40.0GHz	37160	-50.35	-19.07	3	26.6	4.53	-24.88

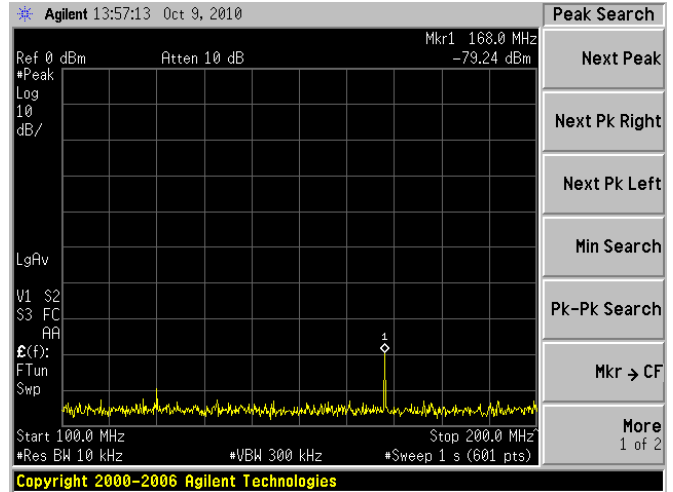
Vertically Polarized: STBY							
Range	Frequency [MHz]	level [dBm]	Pg [dBm]	Cable Loss [dB]	Antenna Gain [dB]	Pd [dBm]	Radiated spurious emission [dBm]
10kHz – 100MHz	46.17	-76.55	-53.11	0.5	-5.21	58.82	-105.37
100MHz – 200MHz	168	-76.73	-58.84	0.5	1.1	58.24	-104.97
200MHz – 300MHz	252	-91.02	-69.22	0.5	0.28	69.44	-130.46
300MHz – 400MHz	394.2	-92.07	-71.86	0.5	4.27	68.09	-130.16
400MHz – 500MHz	430.5	-91.85	-71.91	0.5	4.4	68.01	-129.86
500MHz – 600MHz	514	-92	-70.24	0.5	4.75	65.99	-127.99
600MHz – 700MHz	691.8	-91.67	-66.72	0.5	4.89	62.33	-124.00
700MHz – 800MHz	716.8	-92.42	-67.36	0.5	5.03	62.83	-125.25
800MHz – 900MHz	812.3	-92.01	-67.78	0.5	5.25	63.03	-125.04
900MHz – 1.0GHz	906	-91.95	-65.94	0.5	5.29	61.15	-123.10
1.0GHz – 2.9GHz	2548	-69.76	-36.15	1	6.3	30.85	-70.61
2.9GHz – 6.4GHz	3122	-68.09	-34.05	1.7	6.7	29.05	-67.14
6.4GHz – 12.5GHz	11148	-65.69	-19.96	2.5	12.5	9.96	-45.65
12.5G – 18GHz	16093	-62.79	-13.01	3	13.3	2.71	-35.50
17.6G – 26.7GHz	25001	-60.16	-35	3	26.7	11.30	-41.46
26.7G – 40.0GHz	37050	-49.59	-15.26	3	26.6	8.34	-27.93

•Horizontally Polarized



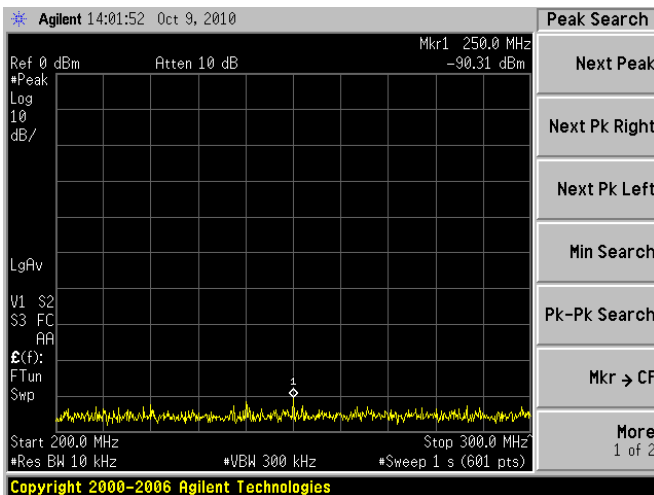
10kHz to 100MHz

(Scale: ↑ 10dB/Div →9.99MHz/Div)



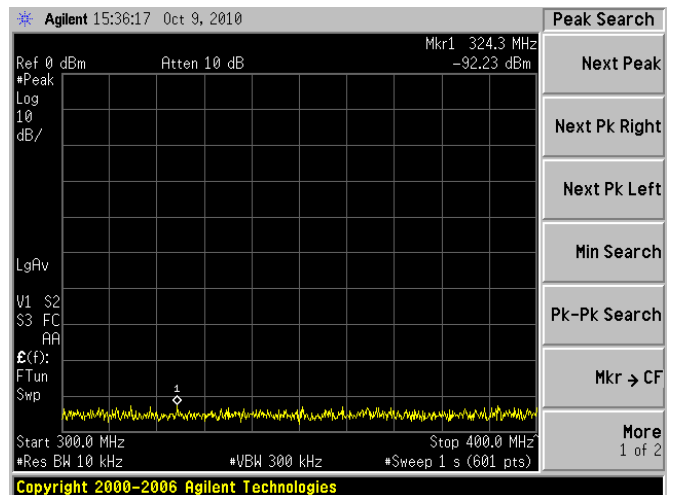
100MHz to 200MHz

(Scale: ↑ 10dB/Div →10MHz/Div)



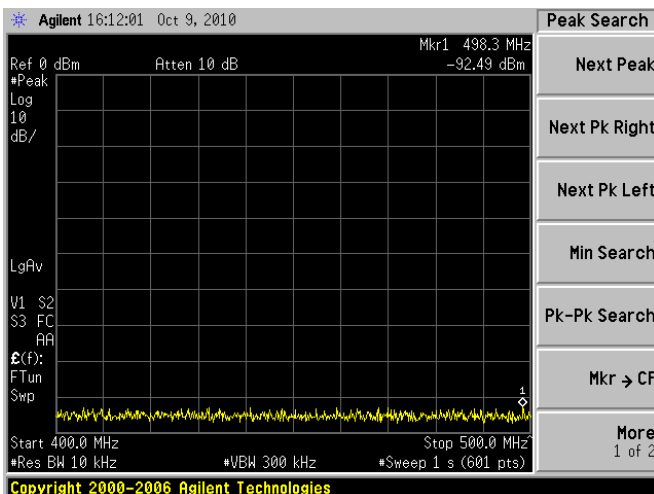
200MHz to 300MHz

(Scale: ↑ 10dB/Div →10MHz/Div)



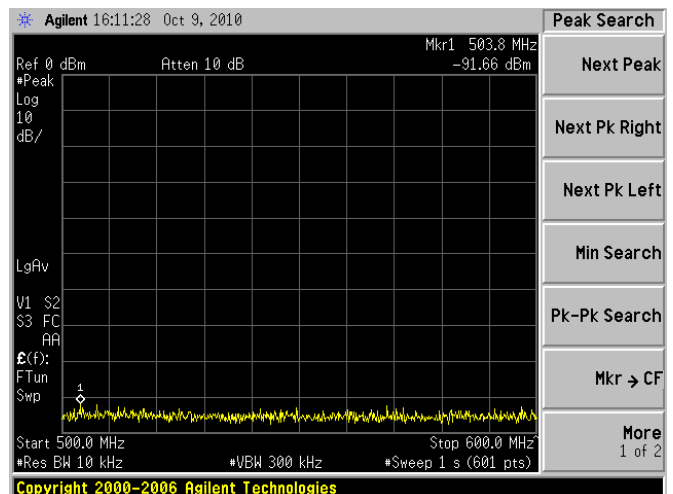
300MHz to 400MHz

(Scale: ↑ 10dB/Div →10MHz/Div)



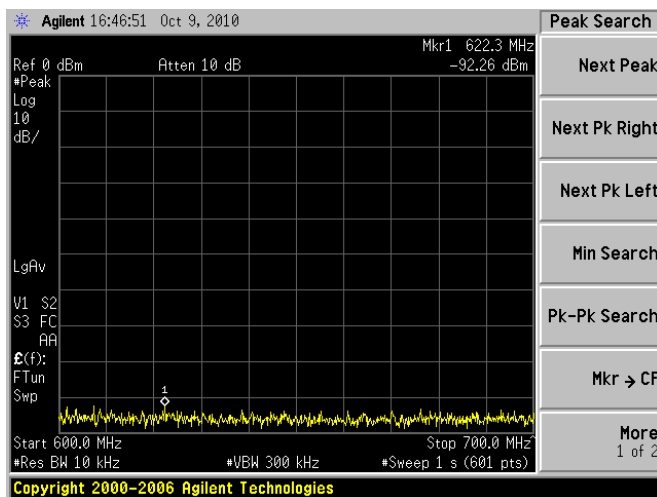
400MHz to 500MHz

(Scale: ↑ 10dB/Div →10MHz/Div)



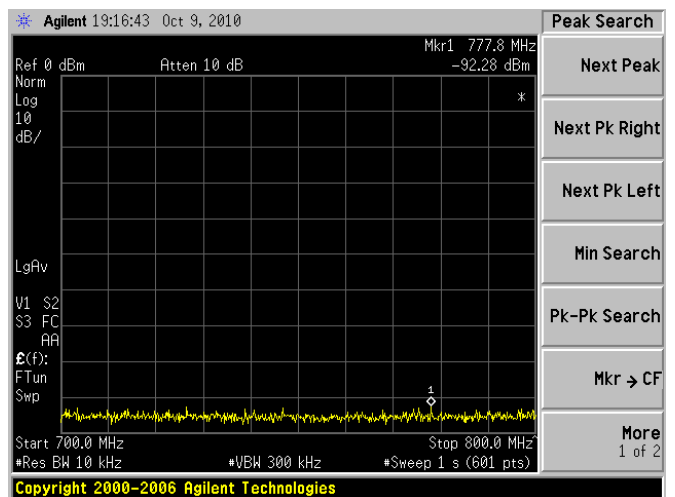
500MHz to 600MHz

(Scale: ↑ 10dB/Div →10MHz/Div)



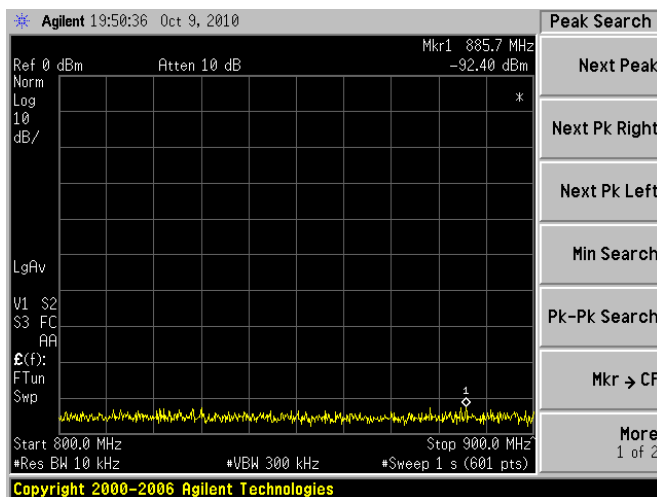
600MHz to 700MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



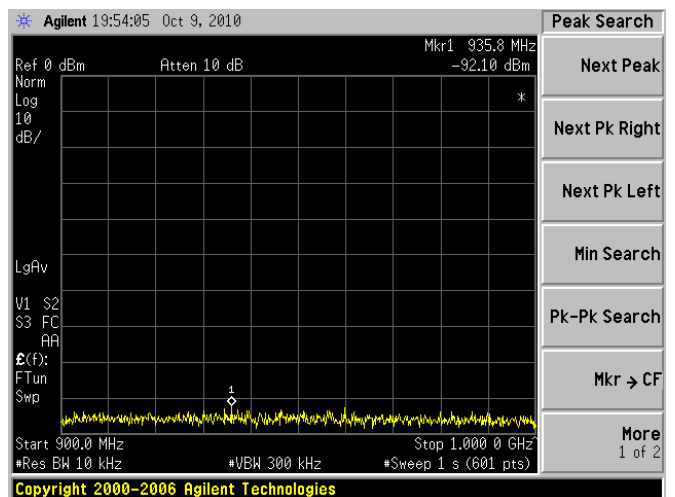
700MHz to 800MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



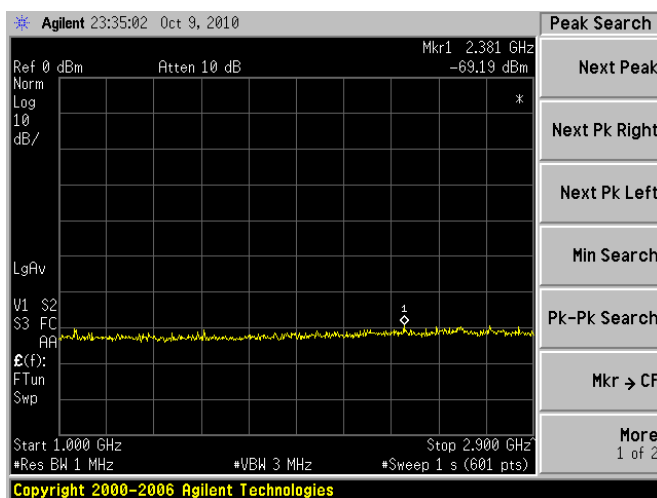
800MHz to 900MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



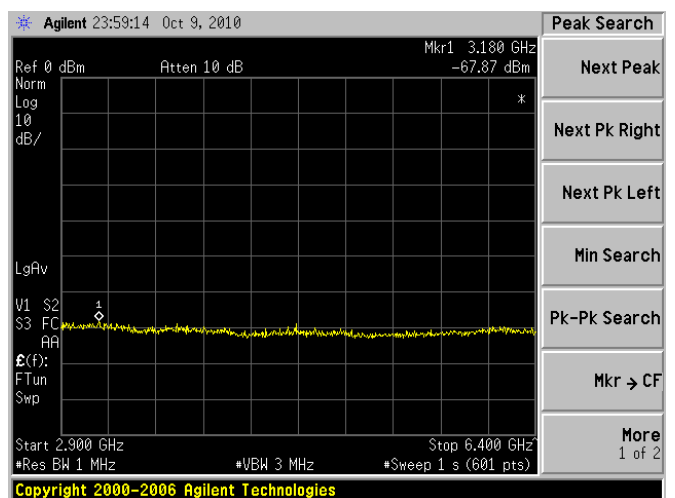
900MHz to 1GHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



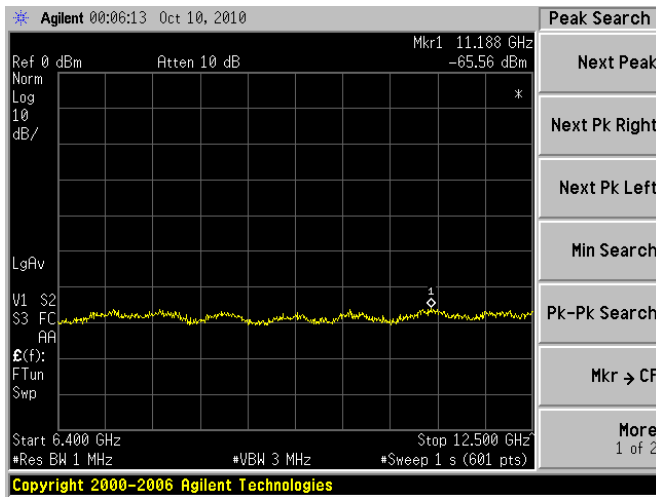
1GHz to 2.9GHz

(Scale: ↑ 10dB/Div → 190MHz/Div)

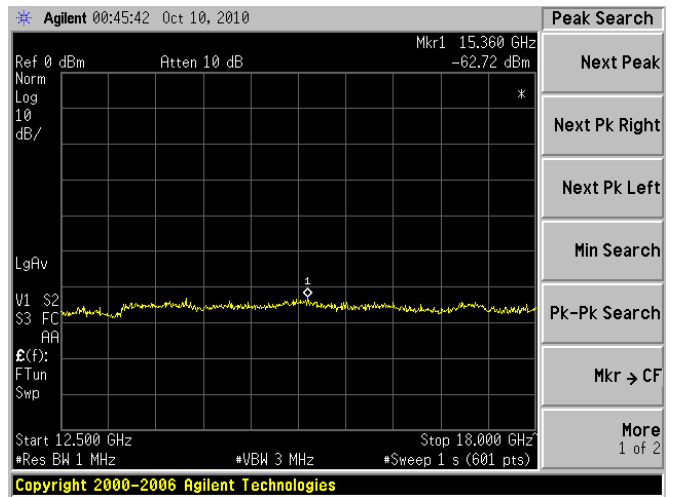


2.9GHz to 6.4GHz

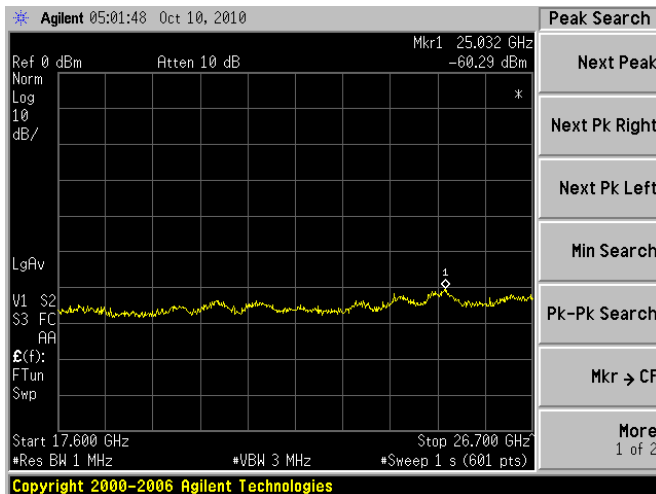
(Scale: ↑ 10dB/Div → 350MHz/Div)



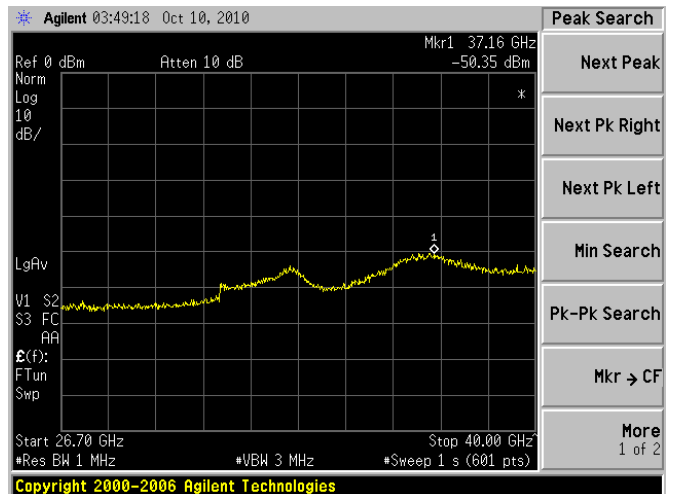
6.4GHz to 12.5GHz
(Scale: ↑ 10dB/Div → 610MHz/Div)



12.5GHz to 18GHz
(Scale: ↑ 10dB/Div → 550MHz/Div)

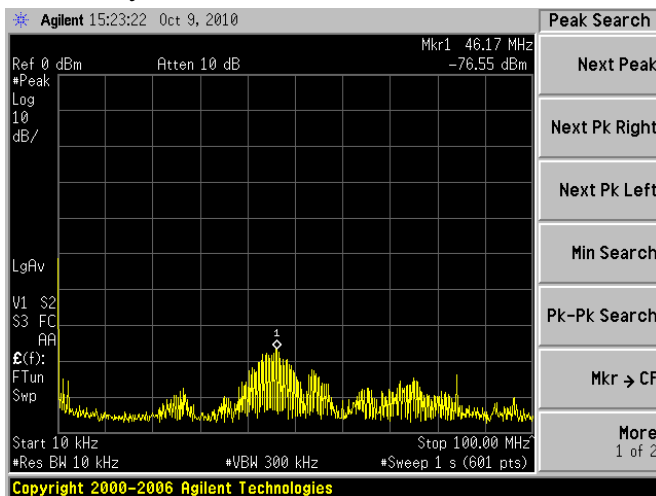


17.6GHz to 26.7GHz
(Scale: ↑ 10dB/Div → 910MHz/Div)

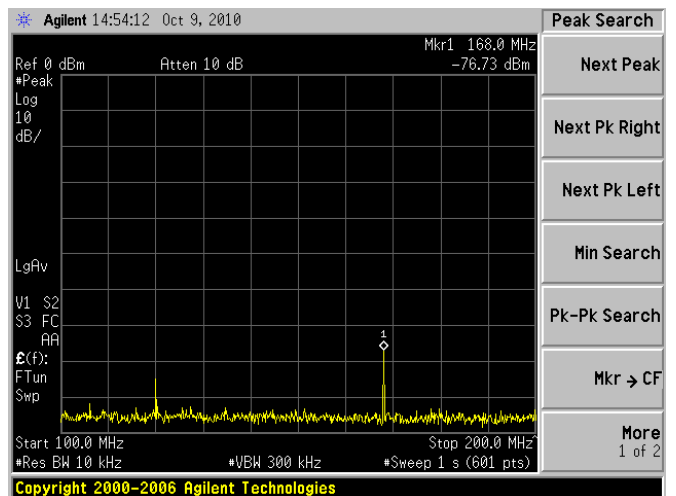


26.7GHz to 40.0GHz
(Scale: ↑ 10dB/Div → 1330MHz/Div)

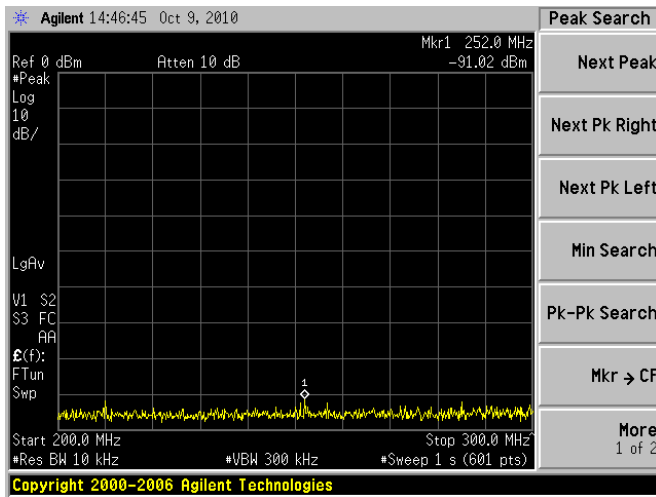
•Vertically Polarized



10kHz to 100MHz
(Scale: ↑ 10dB/Div → 9.99MHz/Div)

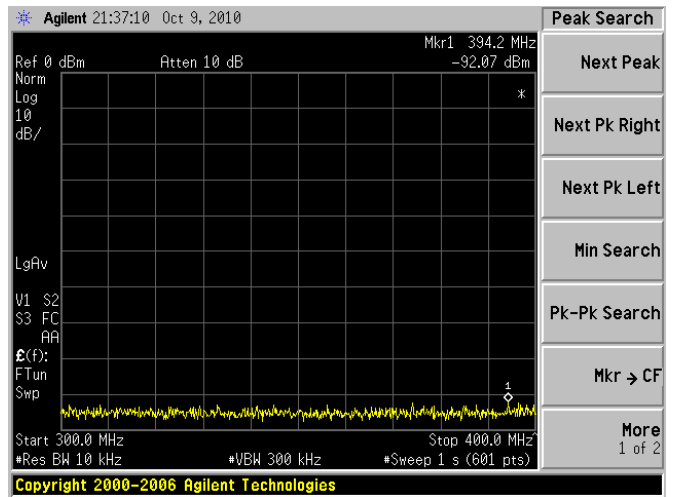


100MHz to 200MHz
(Scale: ↑ 10dB/Div → 10MHz/Div)



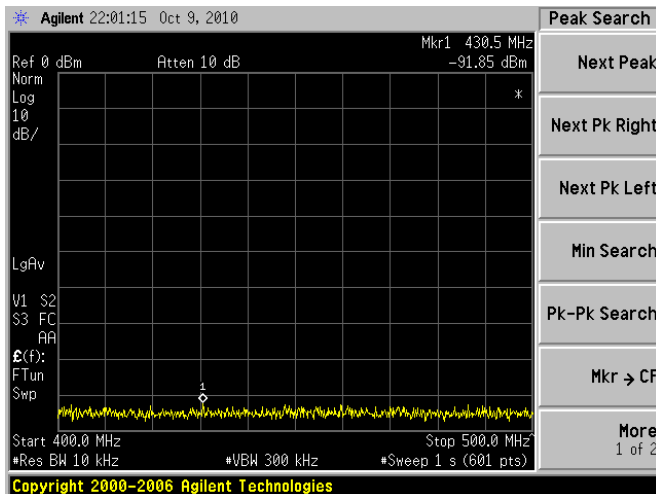
200MHz to 300MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



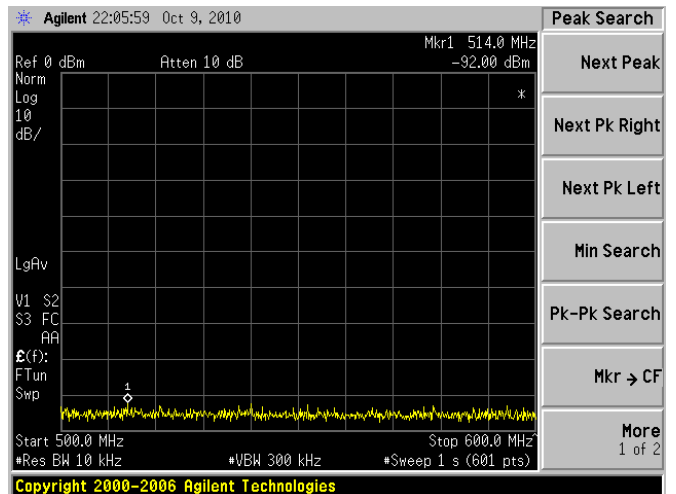
300MHz to 400MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



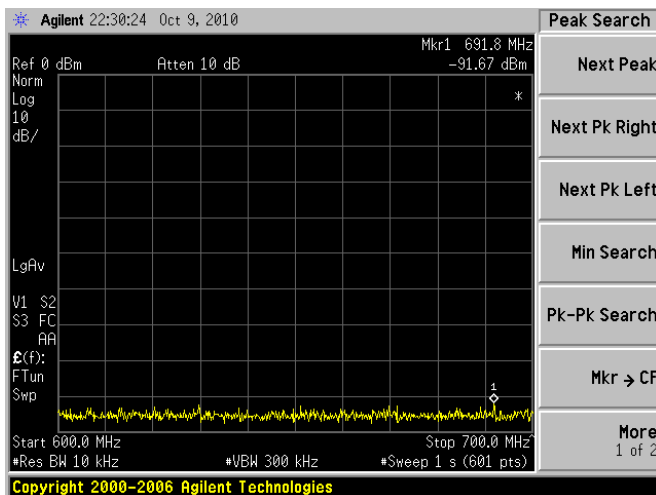
400MHz to 500MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



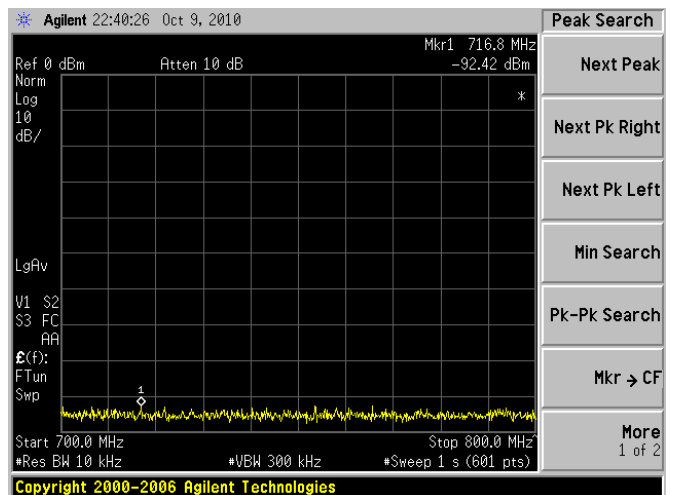
500MHz to 600MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



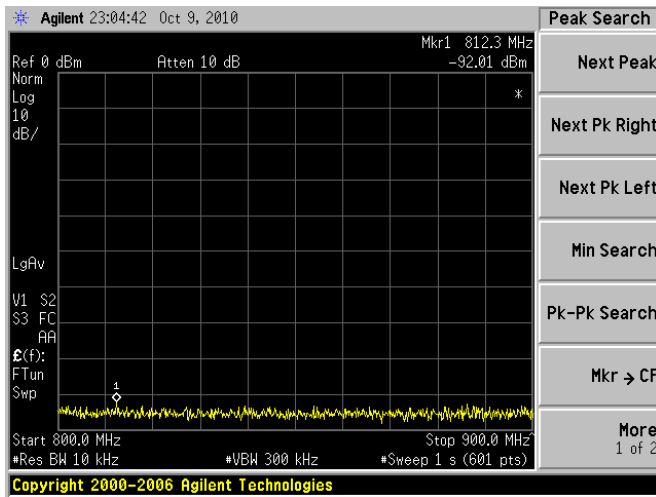
600MHz to 700MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



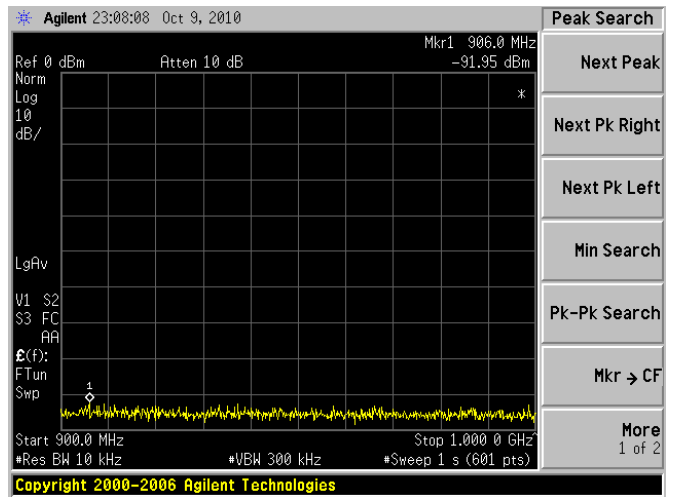
700MHz to 800MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



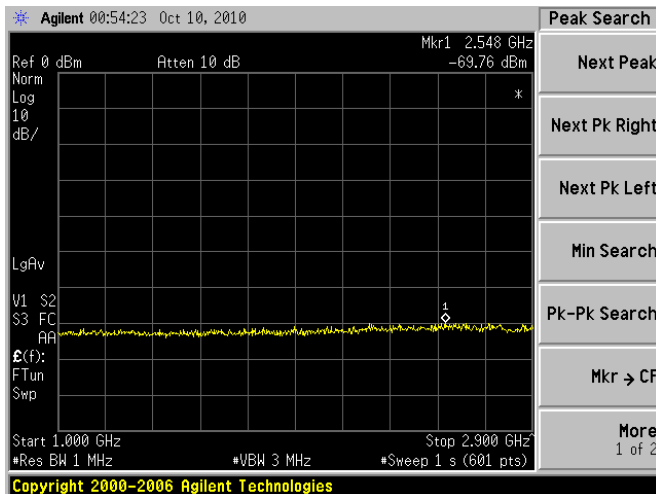
800MHz to 900MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



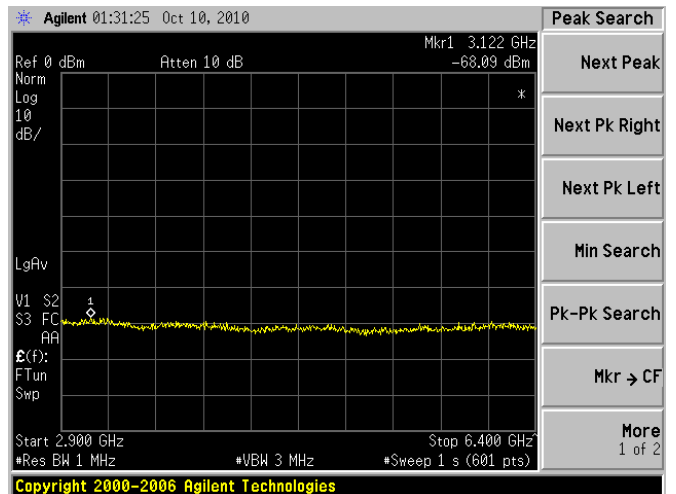
900MHz to 1GHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



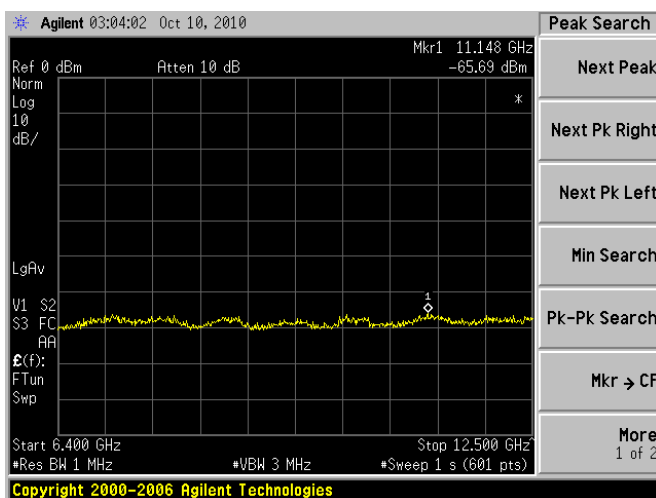
1GHz to 2.9GHz

(Scale: ↑ 10dB/Div → 190MHz/Div)



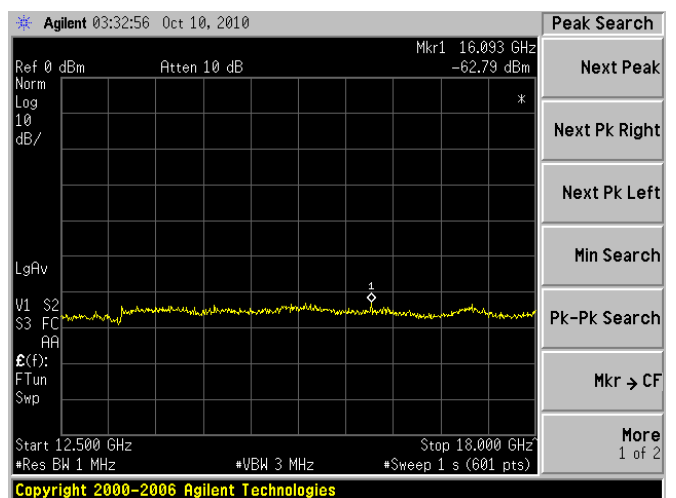
2.9GHz 6.4GHz

(Scale: ↑ 10dB/Div → 350MHz/Div)



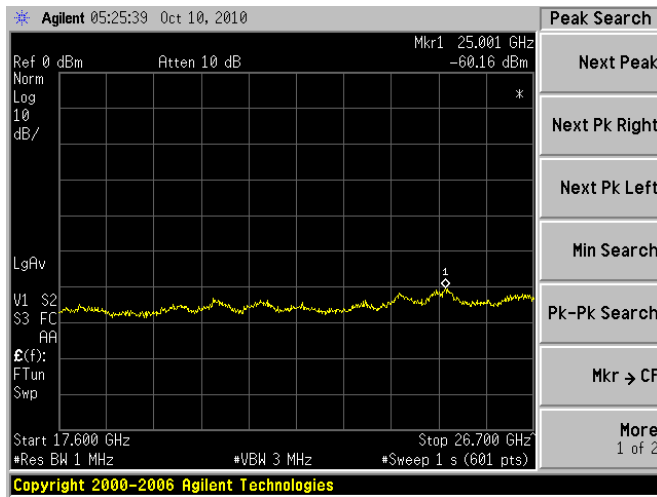
6.4GHz to 12.5GHz

(Scale: ↑ 10dB/Div → 610MHz/Div)

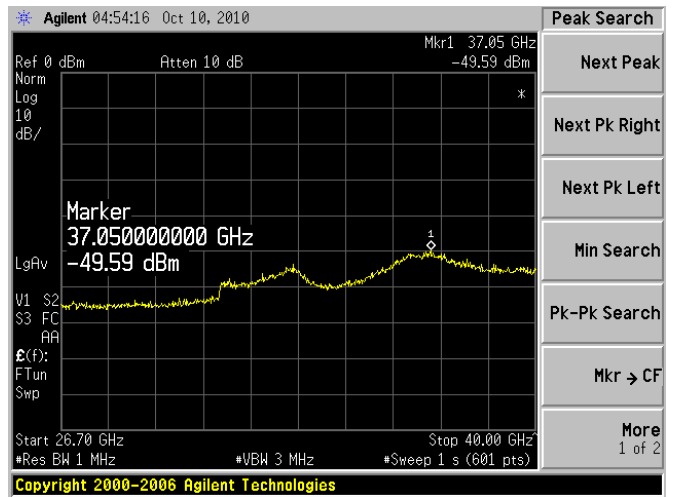


12.5GHz to 18.0GHz

(Scale: ↑ 10dB/Div → 550MHz/Div)



17.6GHz to 26.7GHz
 (Scale: ↑ 10dB/Div → 910MHz/Div)



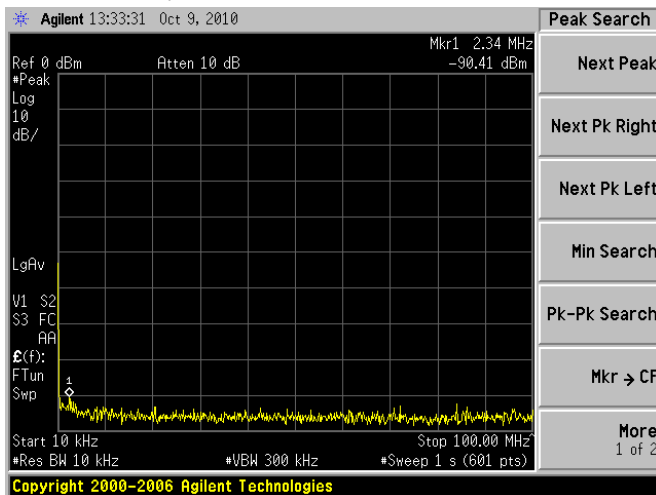
26.4GHz to 40GHz
 (Scale: ↑ 10dB/Div → 1330MHz/Div)

4.4.10.3 TEST RESULTS of SP1:0.07usec/4.6usec/2280Hz

Horizontally Polarized: SP1:0.07usec/4.6usec/2280Hz							
Range	Frequency [MHz]	level [dBm]	Pg [dBm]	Cable Loss [dB]	Antenna Gain [dB]	Pd [dBm]	Radiated spurious emission [dBm]
10kHz – 100MHz	2.34	-90.41	-72.19	0.5	-20.3	92.99	-153.40
100MHz – 200MHz	168	-80.97	-64.5	0.5	1.1	63.90	-114.87
200MHz – 300MHz	240	-89.78	-65.66	0.5	-0.1	66.26	-126.04
300MHz – 400MHz	368.2	-92.06	-73.8	0.5	4.45	69.85	-131.91
400MHz – 500MHz	432.5	-91.39	-70.7	0.5	4.41	66.79	-128.18
500MHz – 600MHz	542.7	-91.14	-68.84	0.5	4.73	64.61	-125.75
600MHz – 700MHz	611.5	-91.92	-71.14	0.5	4.78	66.86	-128.78
700MHz – 800MHz	750.8	-92.55	-67.67	0.5	5.29	62.88	-125.43
800MHz – 900MHz	855.5	-91.39	-66.03	0.5	5.17	61.36	-122.75
900MHz – 1.0GHz	908.3	-91.67	-65.89	0.5	5.29	61.10	-122.77
1.0GHz – 2.9GHz	2574	-69.56	-37.74	1	8.7	30.04	-69.60
2.9GHz – 6.4GHz	3063	-33.77	-0.31	1.7	6.7	4.69	-8.46
6.4GHz – 12.5GHz	11239	-65.96	-22.03	2.5	12.5	12.03	-47.99
12.5G – 28GHz	15287	-62.82	-16.04	3	12.9	6.14	-38.96
17.6G – 26.7GHz	25047	-60.26	-35.43	3	26.7	11.73	-41.99
26.7G – 40.0GHz	37050	-49.87	-16.74	3	26.6	6.86	-26.73

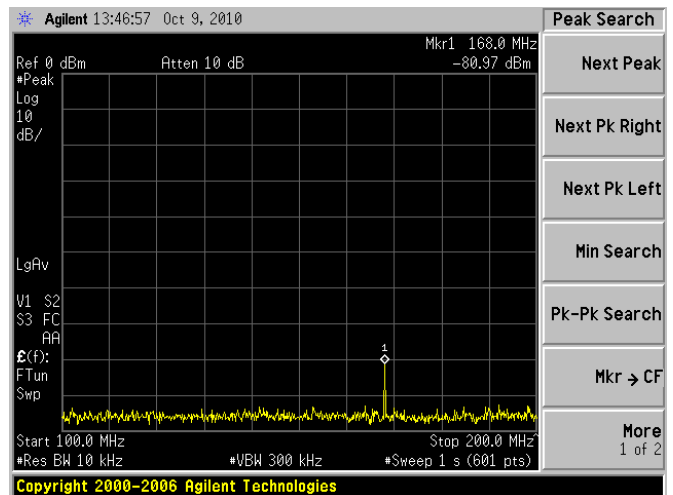
Vertically Polarized: SP1:0.07usec/4.6usec/2280Hz							
Range	Frequency [MHz]	level [dBm]	Pg [dBm]	Cable Loss [dB]	Antenna Gain [dB]	Pd [dBm]	Radiated spurious emission [dBm]
10kHz – 100MHz	46.17	-82.67	-65.45	0.5	-5.21	64.94	-117.61
100MHz – 200MHz	168	-77.49	-59.12	0.5	1.1	59.00	-106.49
200MHz – 300MHz	250	-92.39	-65.79	0.5	0.24	70.88	-133.27
300MHz – 400MHz	322.2	-92.24	-65.93	0.5	4.4	69.48	-131.72
400MHz – 500MHz	408.5	-92.03	-65.95	0.5	4.29	68.75	-130.78
500MHz – 600MHz	570.5	-92.62	-67.84	0.5	4.65	66.64	-129.26
600MHz – 700MHz	650.2	-92.23	-67.39	0.5	4.83	64.79	-127.02
700MHz – 800MHz	735	-91.98	-66.36	0.5	5.16	61.82	-123.80
800MHz – 900MHz	897.2	-91.89	-64.7	0.5	5.28	61.23	-123.12
900MHz – 1.0GHz	923.2	-91.58	-65.69	0.5	5.3	60.76	-122.34
1.0GHz – 2.9GHz	2362	-69.76	-38.02	1	6	31.80	-71.56
2.9GHz – 6.4GHz	3063	-36.07	-34.99	1.7	6.7	2.15	-8.22
6.4GHz – 12.5GHz	7122	-65.13	-20.44	2.5	11	15.69	-50.82
12.5G – 18GHz	15140	-63.33	-14.7	3	13	6.07	-39.40
17.6G – 26.7GHz	24971	-60.03	-28.96	3	26.7	12.18	-42.21
26.7G – 40.0GHz	37230	-50.1	-17.2	3	26.6	5.84	-25.94

• Horizontally Polarized



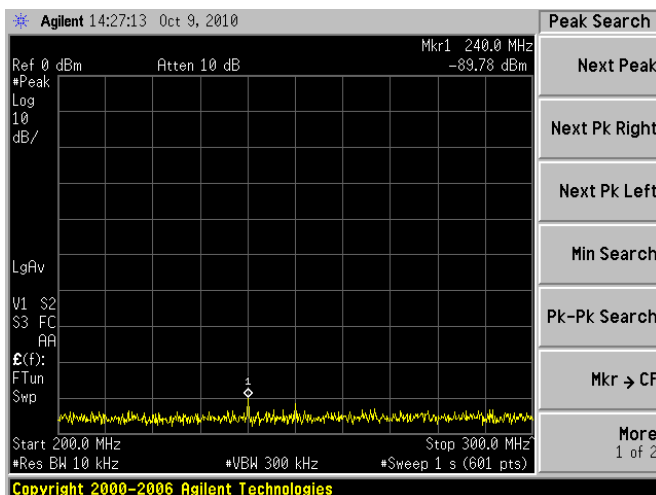
10kHz to 100MHz

(Scale: ↑ 10dB/Div → 9.99MHz/Div)



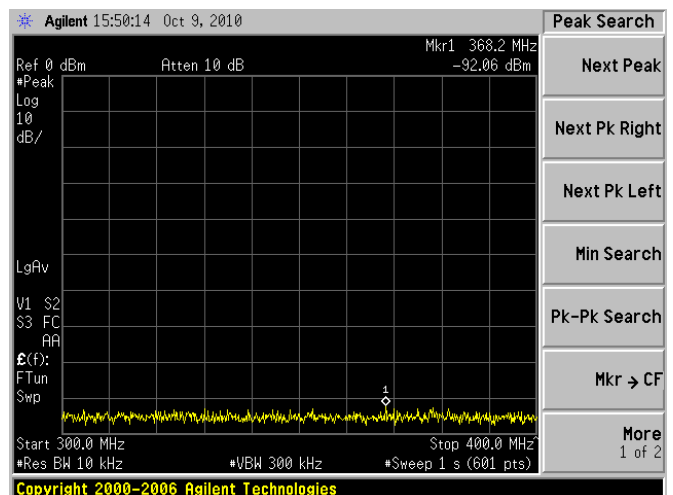
100MHz to 200MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



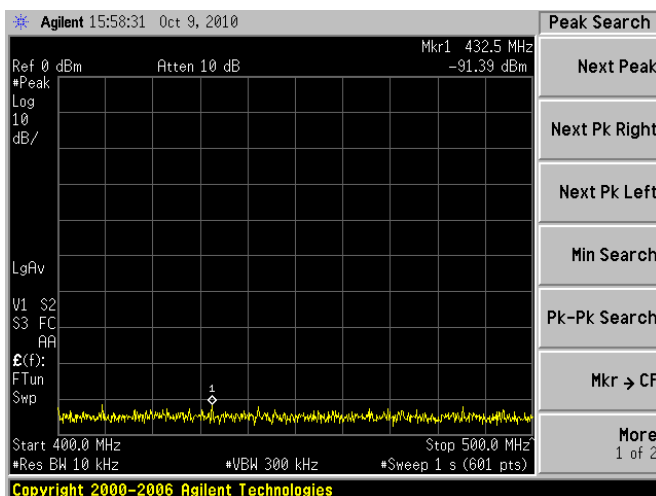
200MHz to 300MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



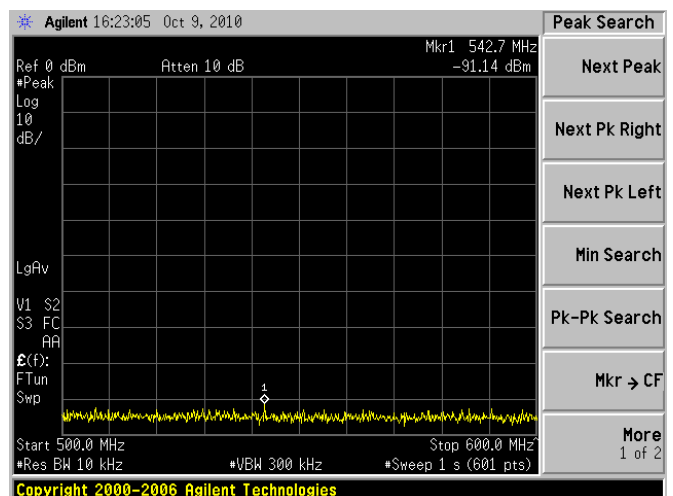
300MHz to 400MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



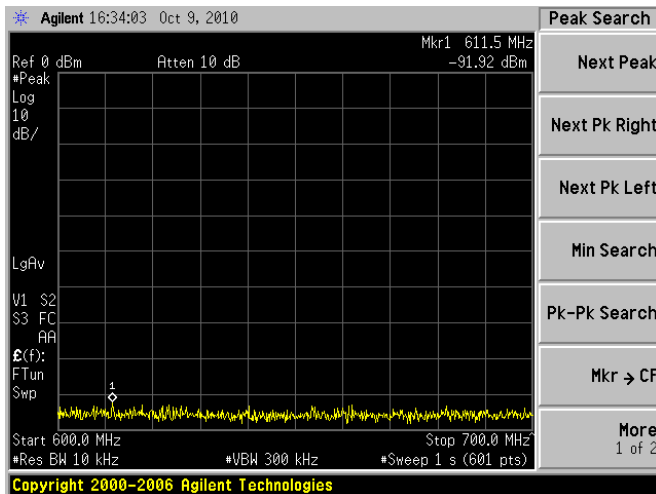
400MHz to 500MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



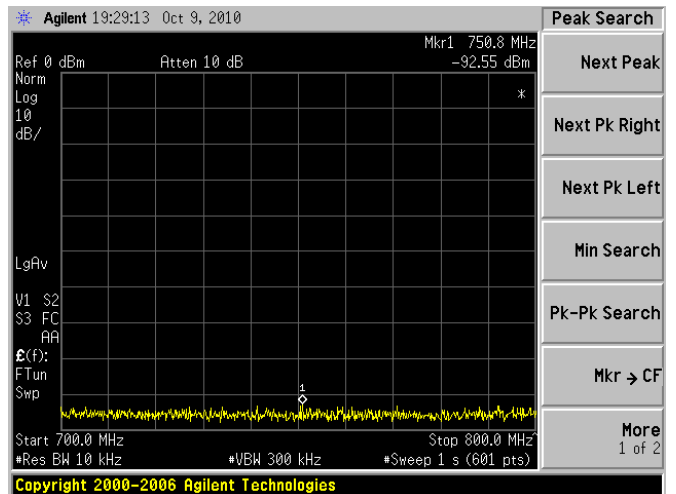
500MHz to 600MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



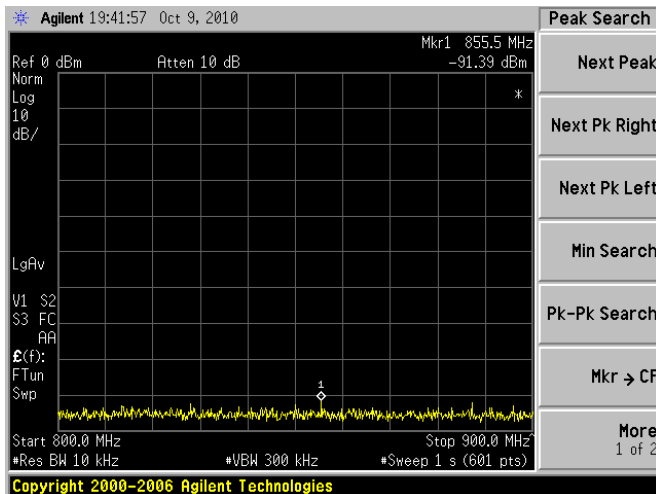
600MHz to 700MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



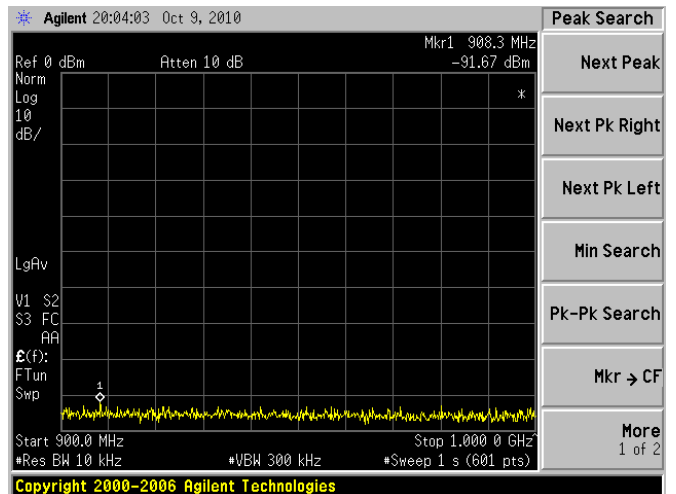
700MHz to 800MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



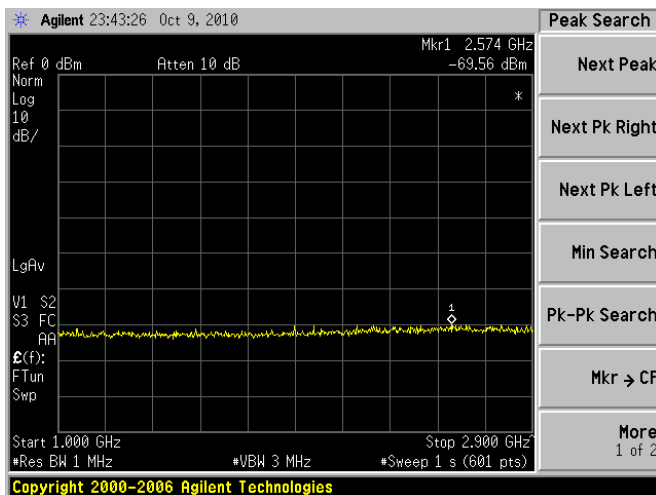
800MHz to 900MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



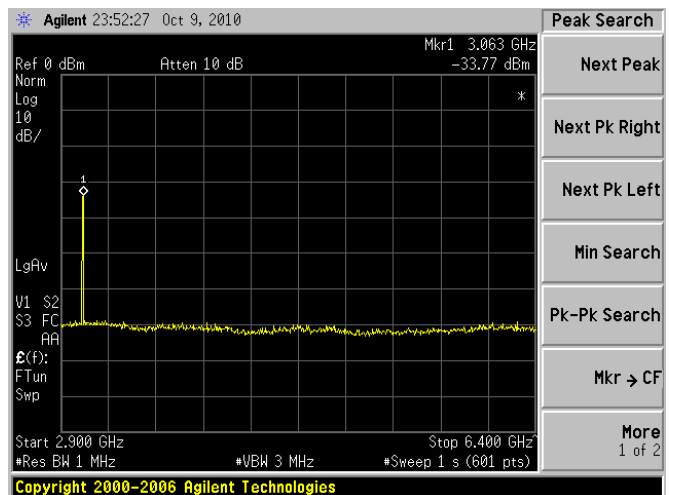
900MHz to 1GHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



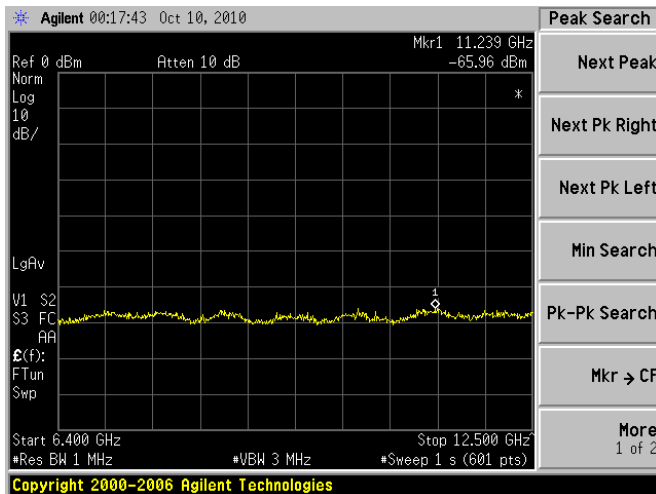
1GHz to 2.9GHz

(Scale: ↑ 10dB/Div → 190MHz/Div)

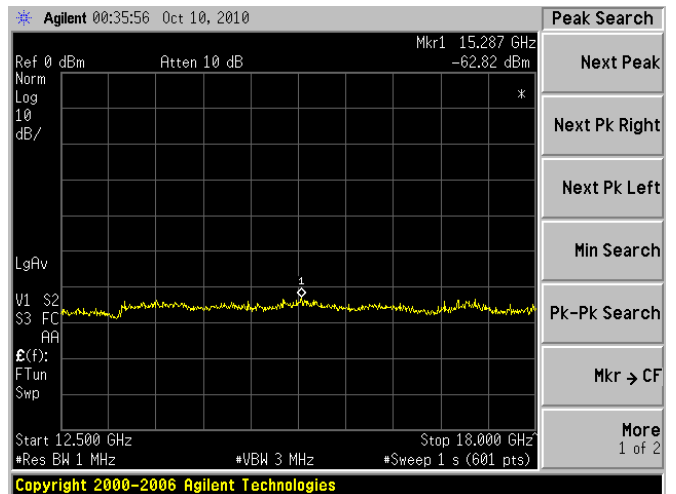


2.9GHz to 6.4GHz

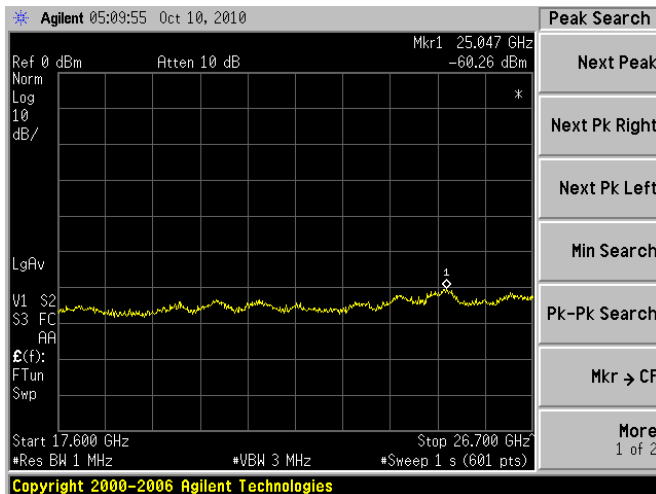
(Scale: ↑ 10dB/Div → 350MHz/Div)



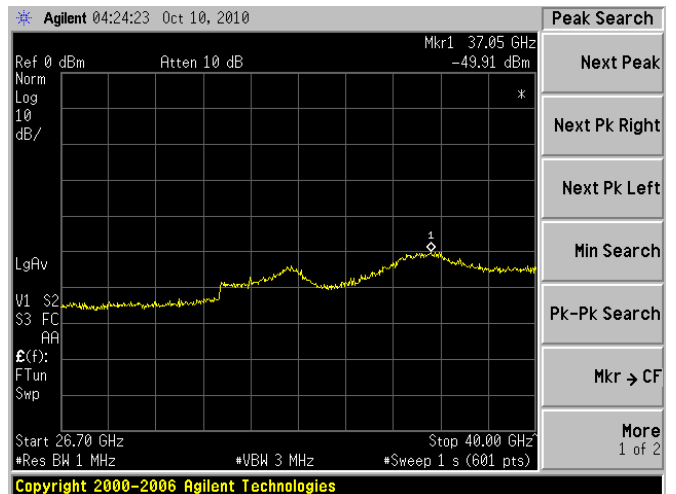
6.4GHz to 12.5GHz
(Scale: ↑ 10dB/Div → 610MHz/Div)



12.5GHz to 18GHz
(Scale: ↑ 10dB/Div → 550MHz/Div)

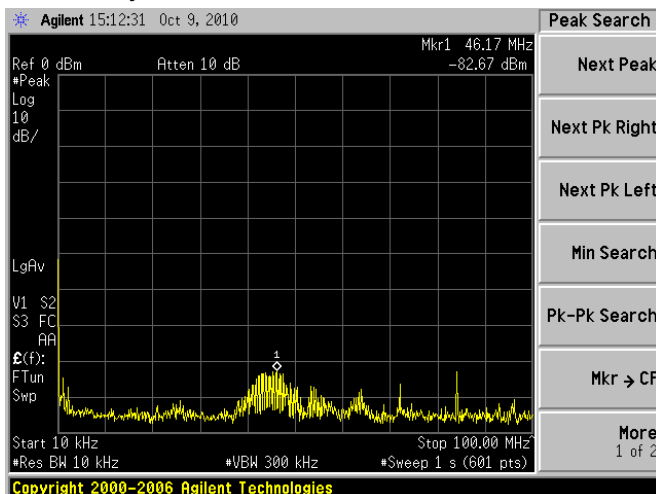


17.6GHz to 26.7GHz
(Scale: ↑ 10dB/Div → 910MHz/Div)

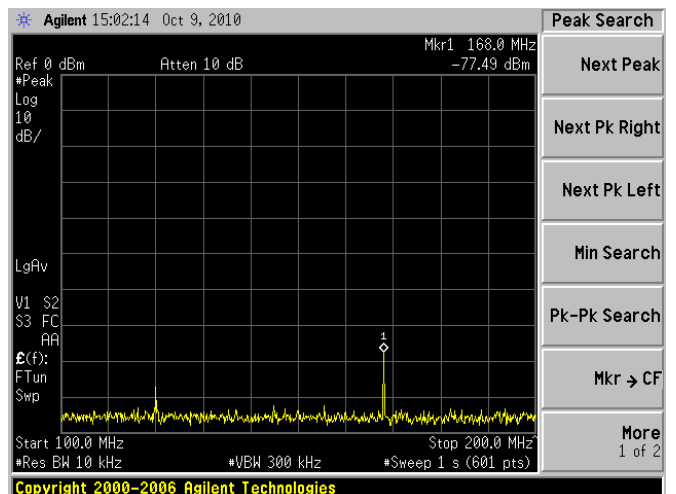


26.7GHz to 40.0GHz
(Scale: ↑ 10dB/Div → 1330MHz/Div)

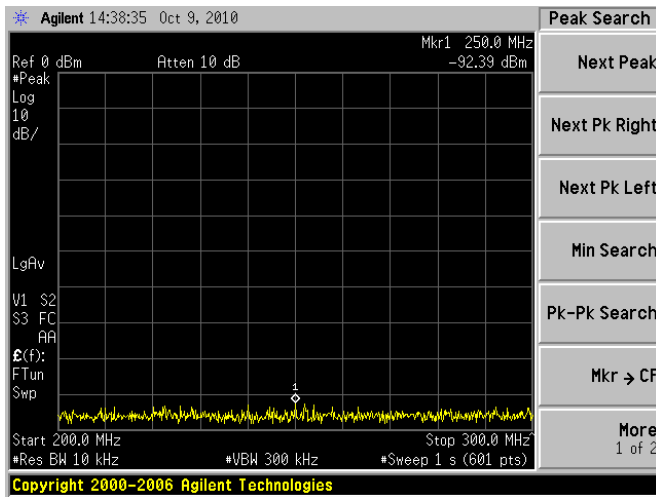
•Vertically Polarized



10kHz to 100MHz
(Scale: ↑ 10dB/Div → 9.99MHz/Div)

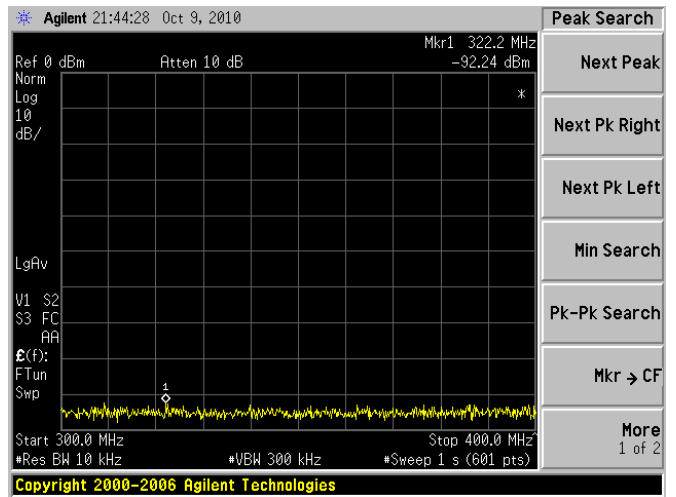


100MHz to 200MHz
(Scale: ↑ 10dB/Div → 10MHz/Div)



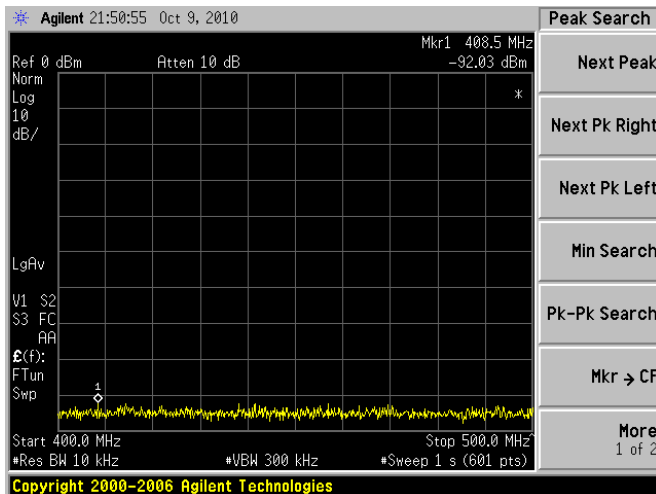
200MHz to 300MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



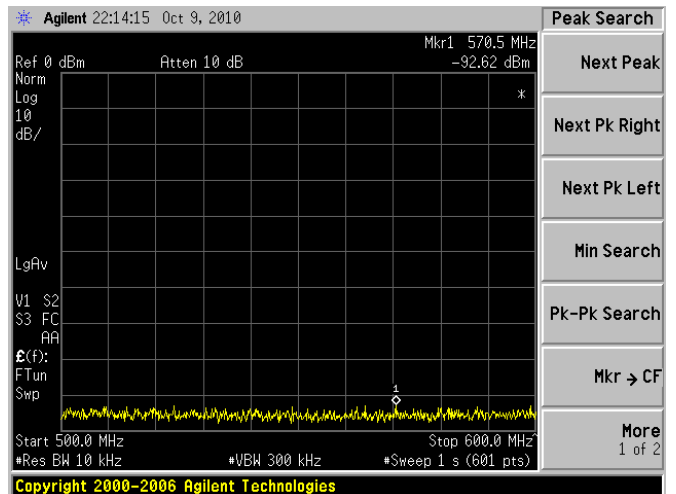
300MHz to 400MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



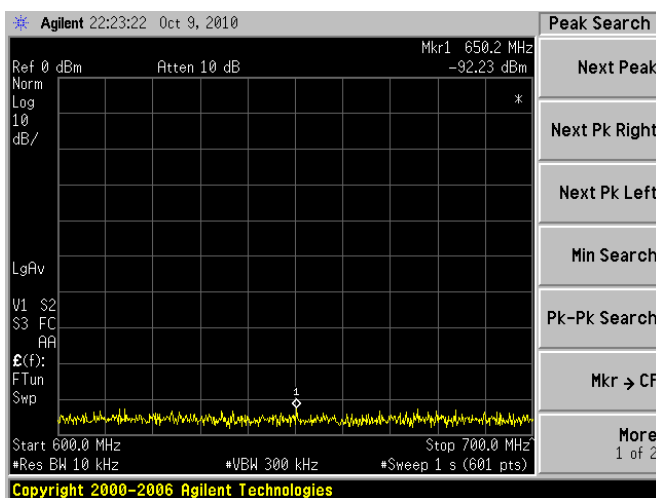
400MHz to 500MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



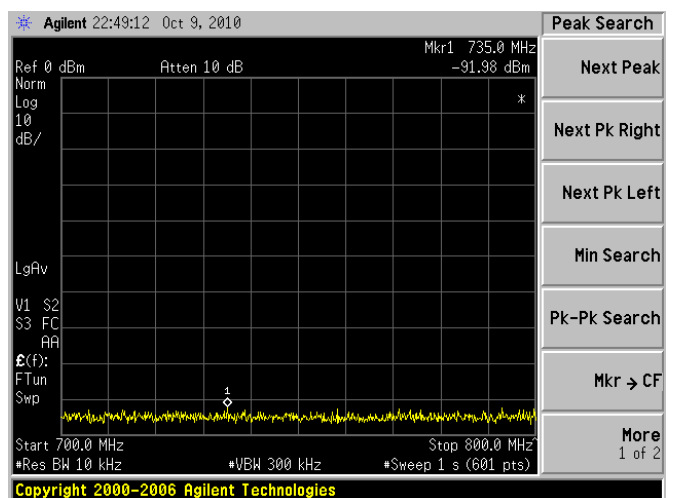
500MHz to 600MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



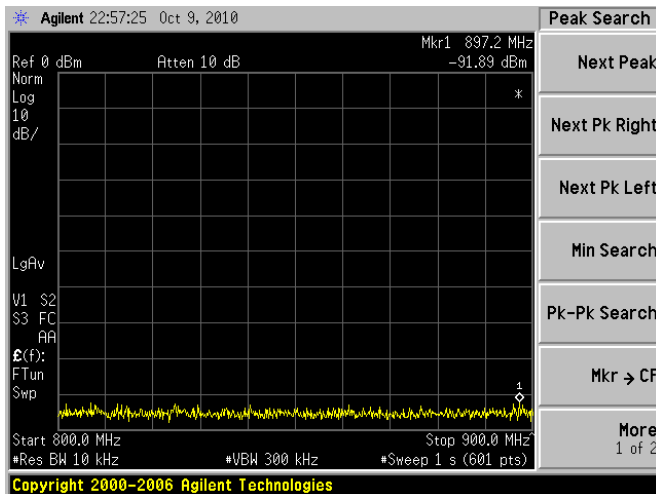
600MHz to 700MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



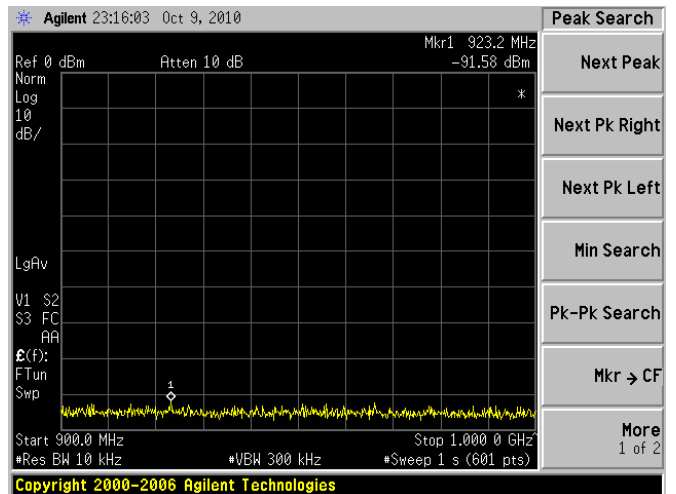
700MHz to 800MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



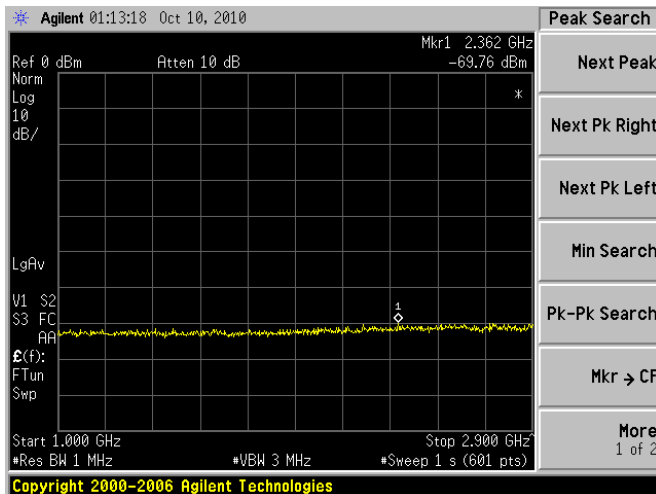
800MHz to 900MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



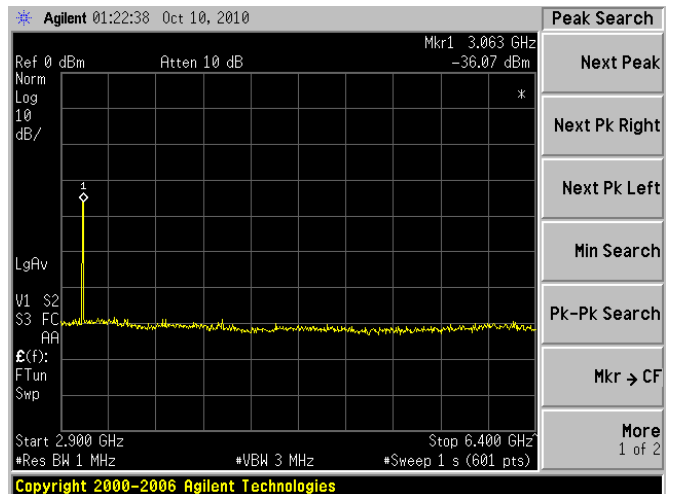
900MHz to 1GHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



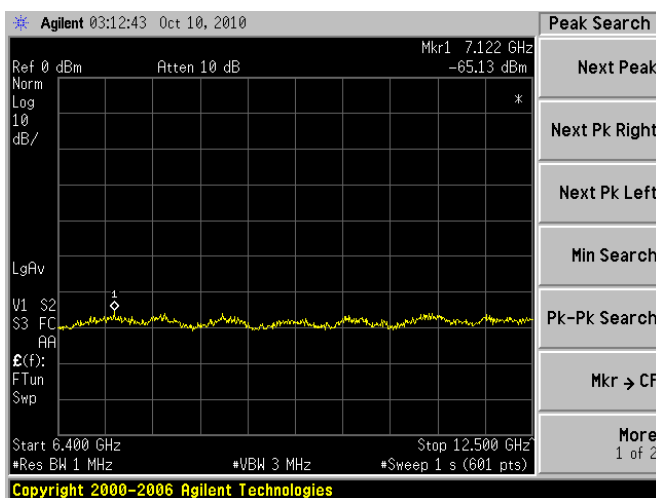
1GHz to 2.9GHz

(Scale: ↑ 10dB/Div → 190MHz/Div)



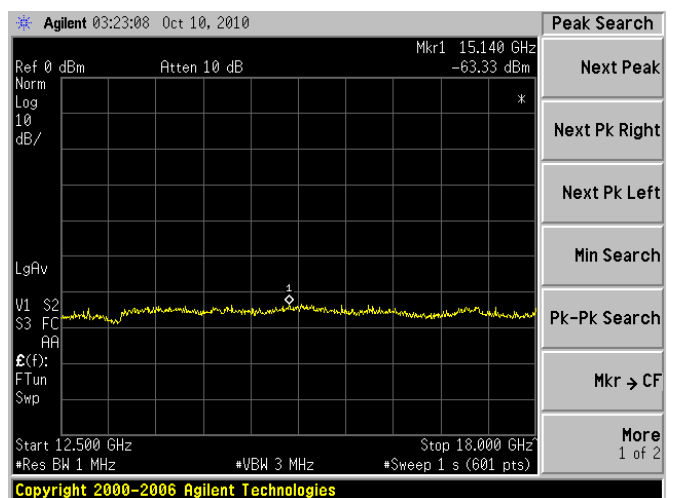
2.9GHz 6.4GHz

(Scale: ↑ 10dB/Div → 350MHz/Div)



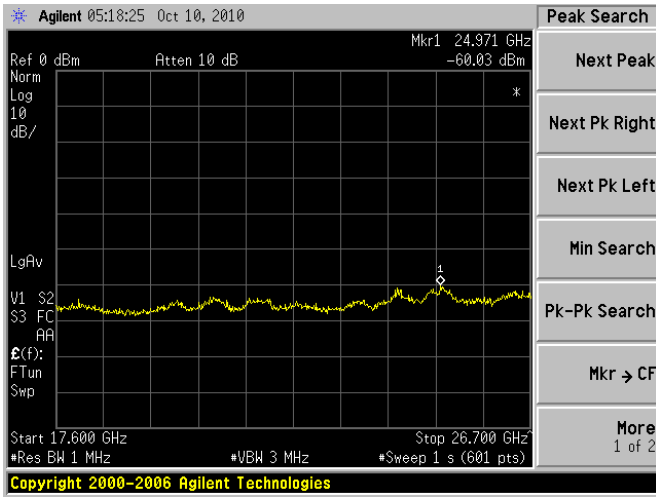
6.4GHz to 12.5GHz

(Scale: ↑ 10dB/Div → 610MHz/Div)



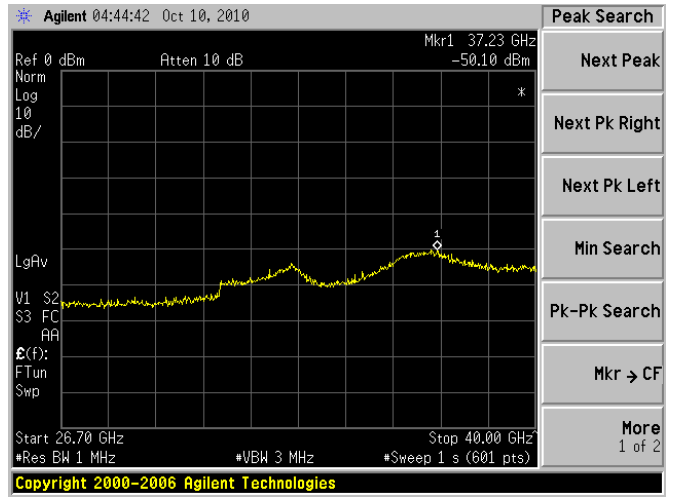
12.5GHz to 18.0GHz

(Scale: ↑ 10dB/Div → 550MHz/Div)



17.6GHz to 26.7GHz

(Scale: ↑ 10dB/Div → 910MHz/Div)



26.7GHz to 40GHz

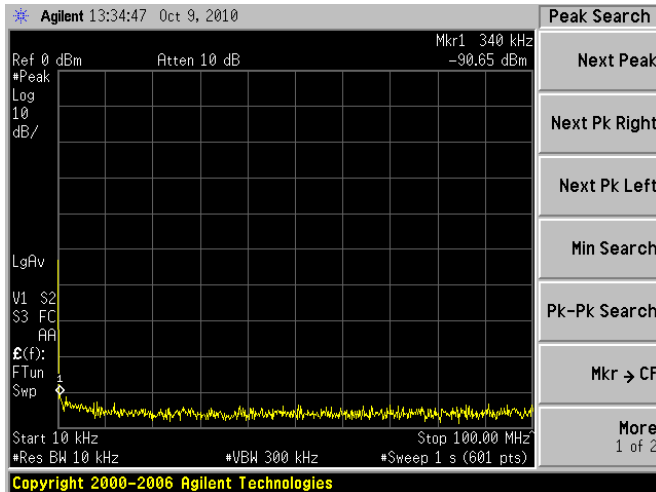
(Scale: ↑ 10dB/Div → 1330MHz/Div)

4.4.10.4 TEST RESULTS of MP1:0.14usec/9.1usec/2280Hz

Horizontally Polarized: MP1:0.14usec/9.1usec/2280Hz							
Range	Frequency [MHz]	level [dBm]	Pg [dBm]	Cable Loss [dB]	Antenna Gain [dB]	Pd [dBm]	Radiated spurious emission [dBm]
10kHz – 100MHz	0.34	-90.65	-72.43	0.5	-21.2	94.13	-154.78
100MHz – 200MHz	168	-79.88	-63.41	0.5	1.1	62.81	-112.69
200MHz – 300MHz	240	-88.28	-64.16	0.5	-0.1	64.76	-123.04
300MHz – 400MHz	330.2	-91.39	-72.25	0.5	4.5	68.25	-129.64
400MHz – 500MHz	489	-91.84	-70.57	0.5	4.64	66.43	-128.27
500MHz – 600MHz	567.3	-91.51	-67.07	0.5	4.66	62.91	-124.42
600MHz – 700MHz	619	-92.75	-71.95	0.5	4.8	67.65	-130.40
700MHz – 800MHz	709	-91.77	-68.98	0.5	4.97	64.51	-126.28
800MHz – 900MHz	860.7	-92.39	-66.42	0.5	5.18	61.74	-124.13
900MHz – 1.0GHz	952.2	-92.22	-66.64	0.5	5.31	61.83	-124.05
1.0GHz – 2.9GHz	2621	-68.86	-36.39	1	6.4	30.99	-69.85
2.9GHz – 6.4GHz	3063	-33.36	0.1	1.7	6.7	5.10	-8.46
6.4GHz – 12.5GHz	11158	-65.83	-22.21	2.5	12.5	12.21	-48.04
12.5G – 18GHz	15232	-62.84	-16.27	3	12.8	6.47	-39.31
17.6G – 26.7GHz	25047	-59.84	-35.01	3	26.7	11.31	-41.15
26.7G – 40.0GHz	37230	-50.22	-17.72	3	26.6	5.88	-26.10

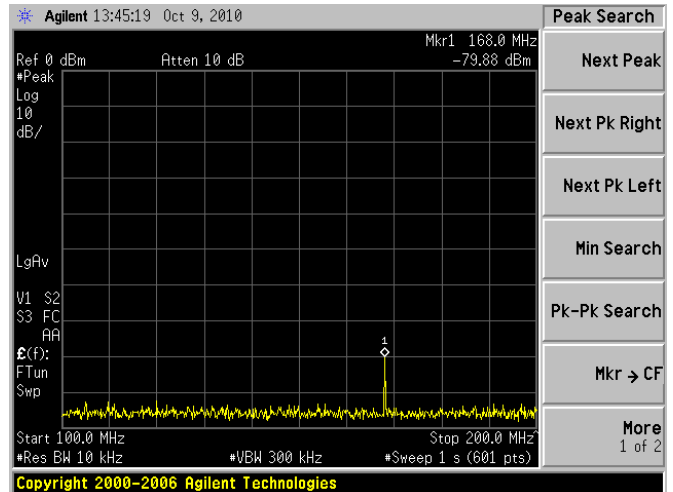
Vertically Polarized: MP1:0.14usec/9.1usec/2280Hz							
Range	Frequency [MHz]	level [dBm]	Pg [dB]	Cable Loss [dB]	Antenna Gain [dB]	Pd [dBm]	Radiated spurious emission [dB]
10kHz – 100MHz	45.84	-76.14	-52.77	0.5	-5.06	58.33	-104.47
100MHz – 200MHz	168	-76.26	-58.37	0.5	1.1	57.77	-104.03
200MHz – 300MHz	252	-92.28	-70.48	0.5	0.28	70.70	-132.98
300MHz – 400MHz	339.2	-92.93	-74.03	0.5	4.56	69.97	-132.90
400MHz – 500MHz	428.3	-91.88	-72.29	0.5	4.39	68.40	-130.28
500MHz – 600MHz	574	-92.21	-70.32	0.5	4.64	66.18	-128.39
600MHz – 700MHz	667	-92.74	-68.12	0.5	4.85	63.77	-126.51
700MHz – 800MHz	736.7	-91.92	-66.43	0.5	5.18	61.75	-123.67
800MHz – 900MHz	854	-92.43	-67.23	0.5	5.16	62.57	-125.00
900MHz – 1.0GHz	917.3	-92.62	-66.48	0.5	5.29	61.69	-124.31
1.0GHz – 2.9GHz	2539	-69.52	-36.14	1	6.4	30.74	-70.26
2.9GHz – 6.4GHz	3063	-35.78	-2.56	1.7	6.7	2.44	-8.22
6.4GHz – 12.5GHz	7793	-65.78	-26.96	2.5	11.8	17.66	-53.44
12.5G – 18GHz	15351	-63.02	-13.7	3	12.8	3.90	-36.92
17.6G – 26.7GHz	25016	-60.95	-36.05	3	26.7	12.35	-43.30
26.7G – 40.0GHz	36850	-50.09	-19.1	3	26.6	4.50	-24.59

•Horizontally Polarized



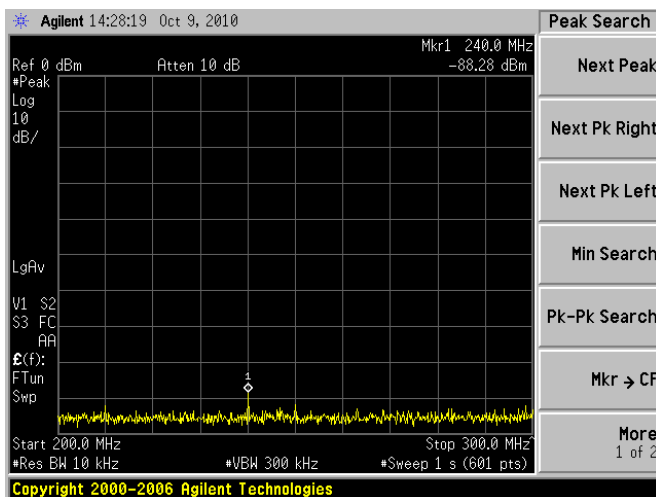
10kHz to 100MHz

(Scale: ↑ 10dB/Div →9.99MHz/Div)



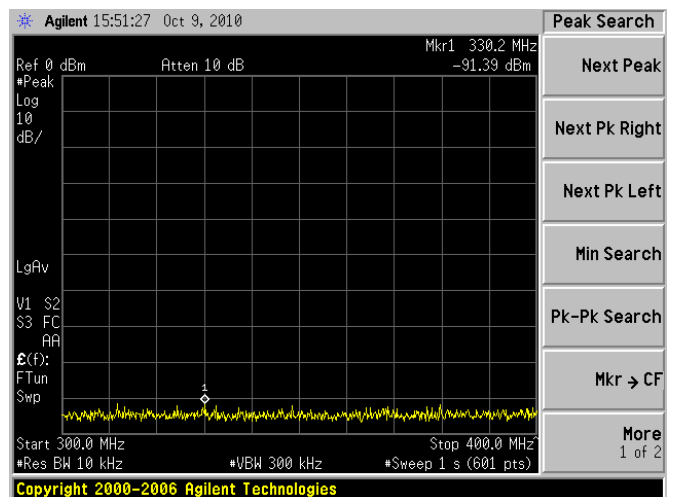
100MHz to 200MHz

(Scale: ↑ 10dB/Div →10MHz/Div)



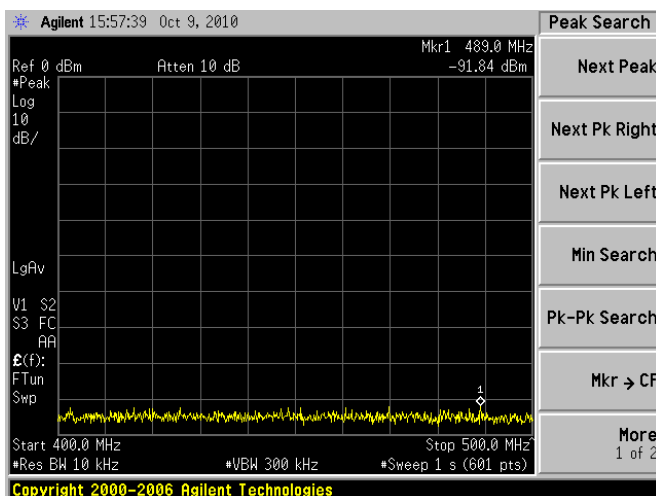
200MHz to 300MHz

(Scale: ↑ 10dB/Div →10MHz/Div)



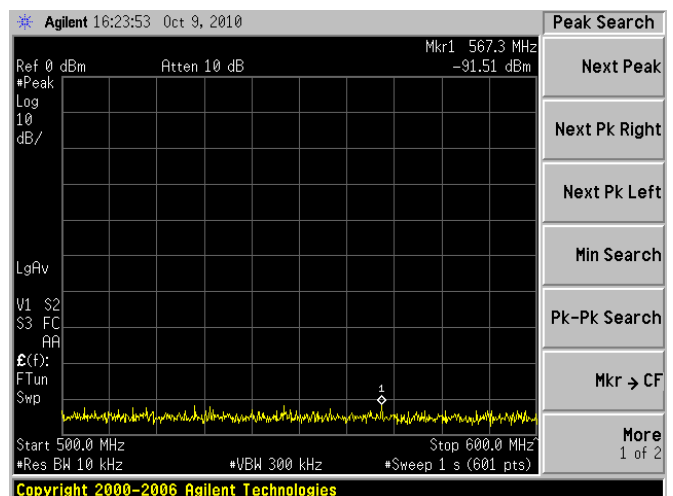
300MHz to 400MHz

(Scale: ↑ 10dB/Div →10MHz/Div)



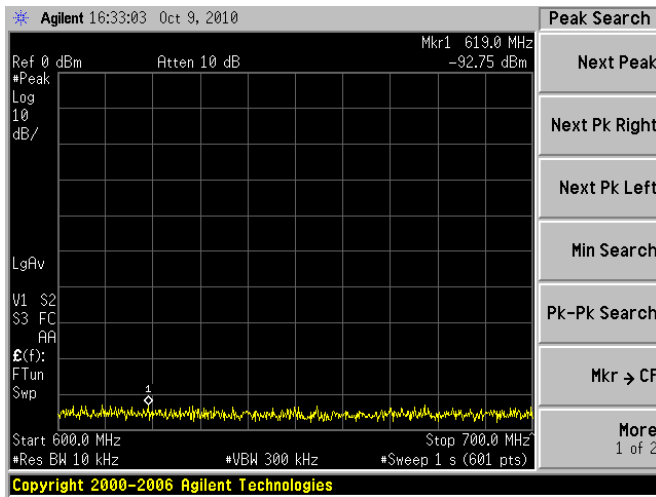
400MHz to 500MHz

(Scale: ↑ 10dB/Div →10MHz/Div)



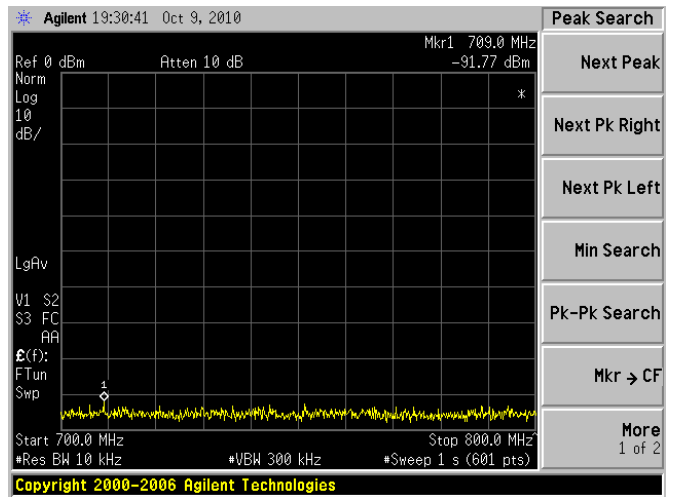
500MHz to 600MHz

(Scale: ↑ 10dB/Div →10MHz/Div)



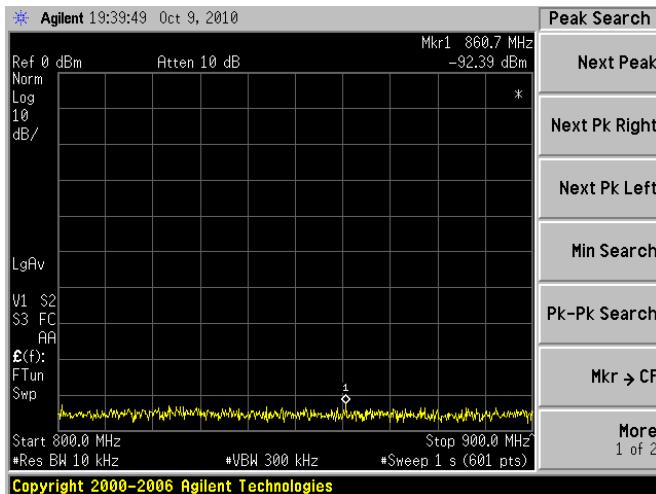
600MHz to 700MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



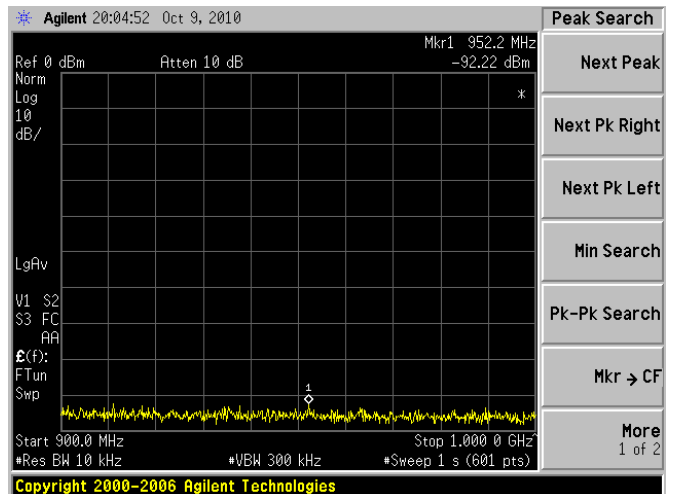
700MHz to 800MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



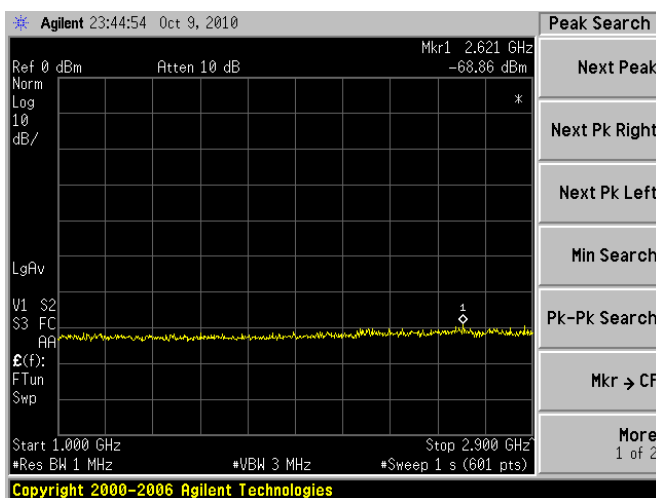
800MHz to 900MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



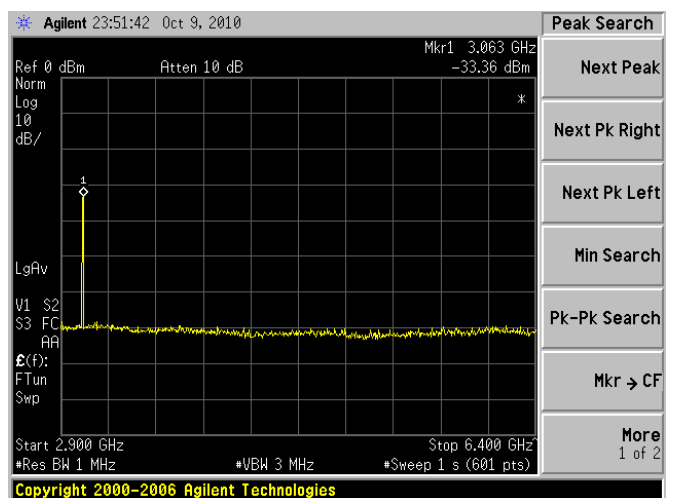
900MHz to 1GHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



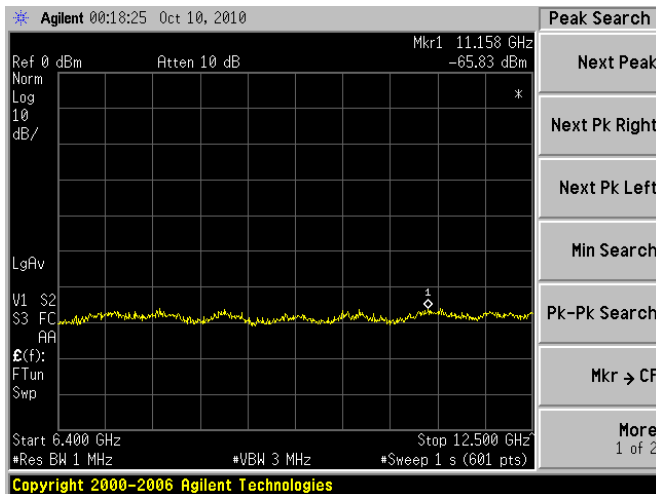
1GHz to 2.9GHz

(Scale: ↑ 10dB/Div → 190MHz/Div)

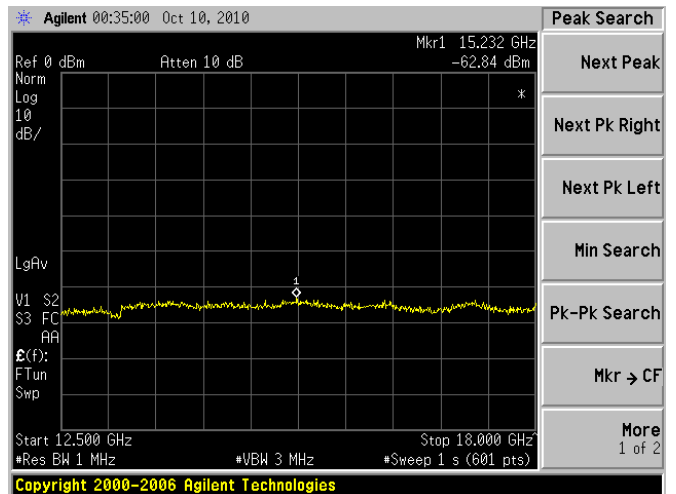


2.9GHz to 6.4GHz

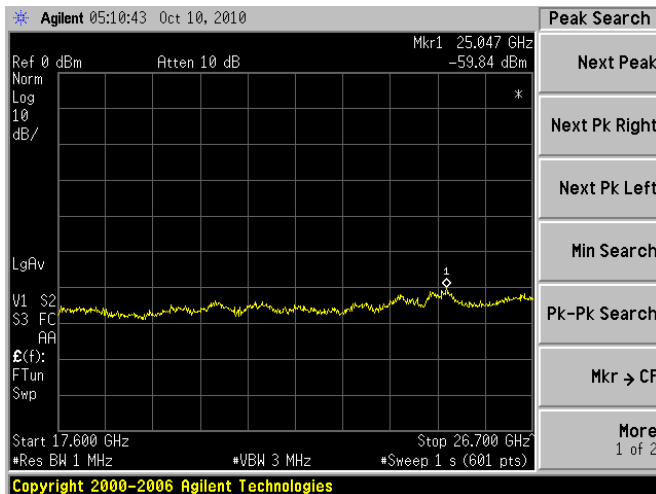
(Scale: ↑ 10dB/Div → 350MHz/Div)



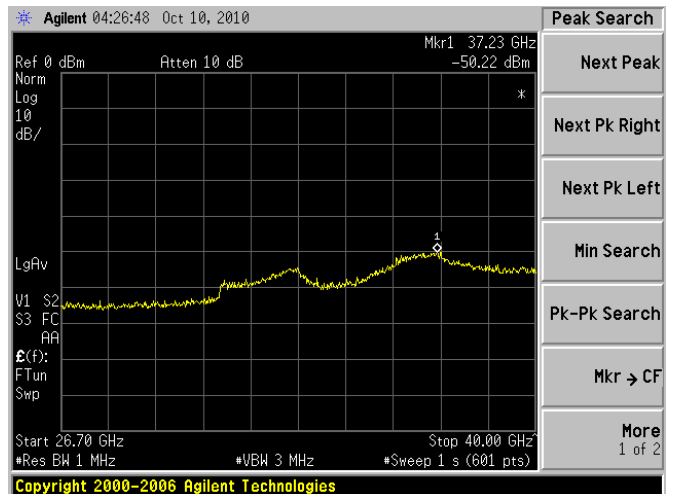
6.4GHz to 12.5GHz
(Scale: ↑ 10dB/Div → 610MHz/Div)



12.5GHz to 18GHz
(Scale: ↑ 10dB/Div → 550MHz/Div)

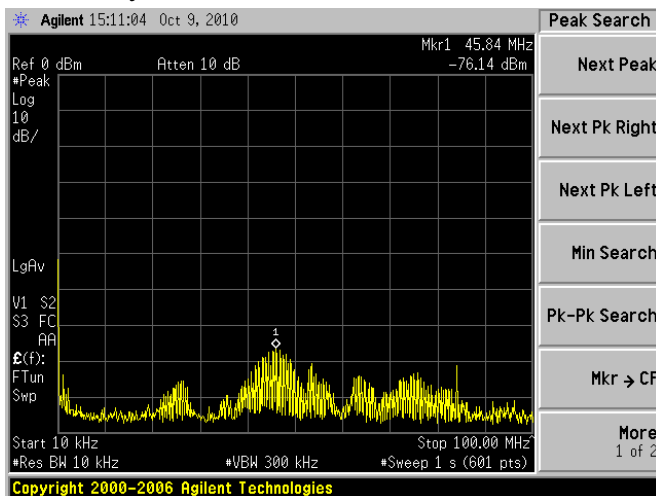


17.6GHz to 26.7GHz
(Scale: ↑ 10dB/Div → 910MHz/Div)

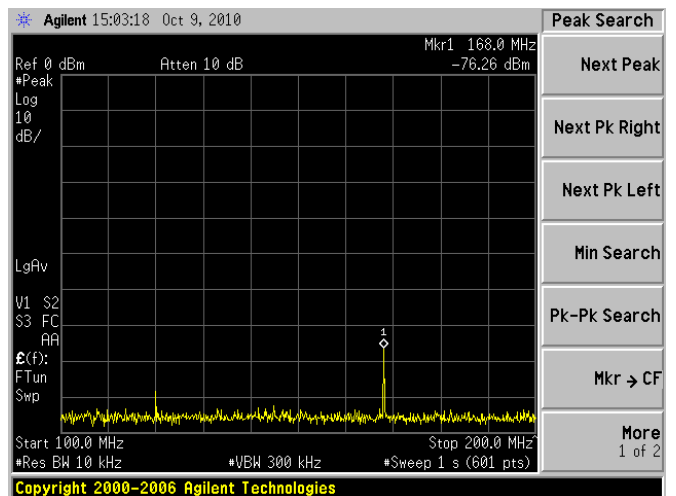


26.5GHz to 40.0GHz
(Scale: ↑ 10dB/Div → 1330MHz/Div)

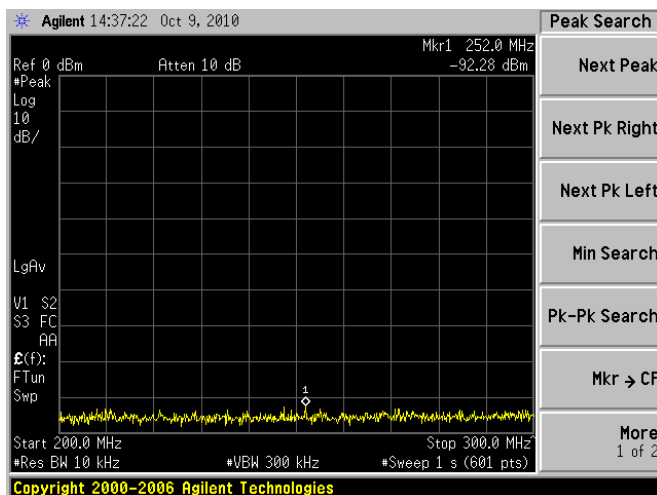
•Vertically Polarized



10kHz to 100MHz
(Scale: ↑ 10dB/Div → 9.99MHz/Div)

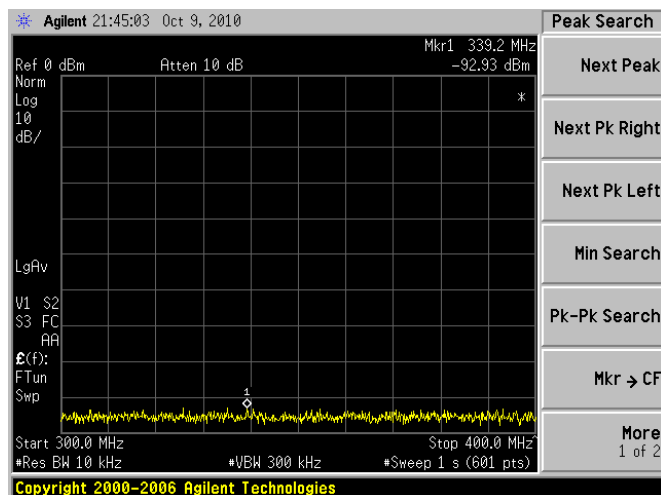


100MHz to 200MHz
(Scale: ↑ 10dB/Div → 10MHz/Div)



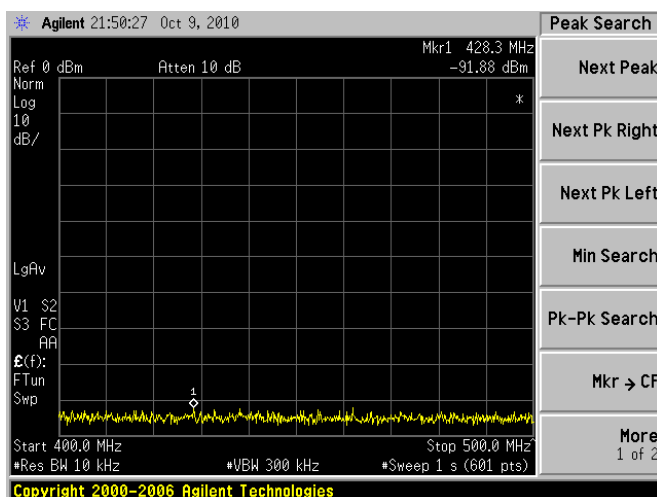
200MHz to 300MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



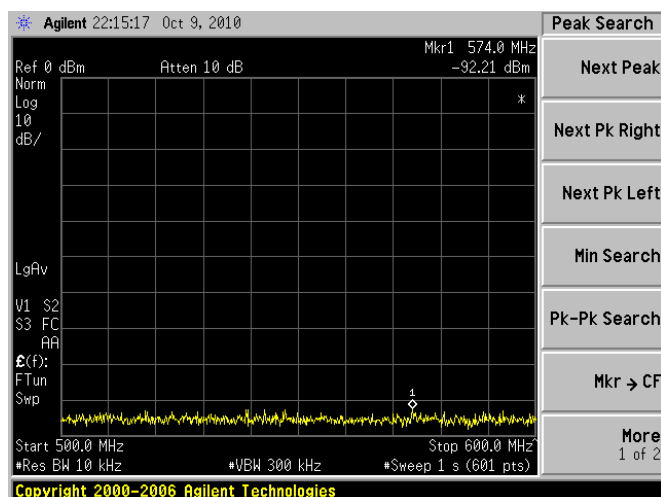
300MHz to 400MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



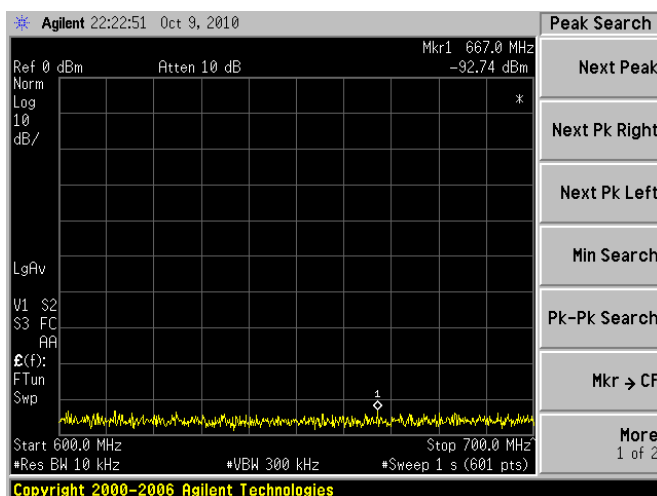
400MHz to 500MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



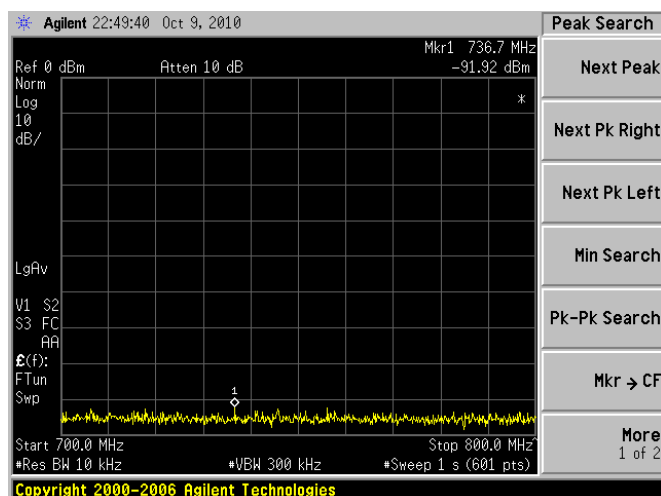
500MHz to 600MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



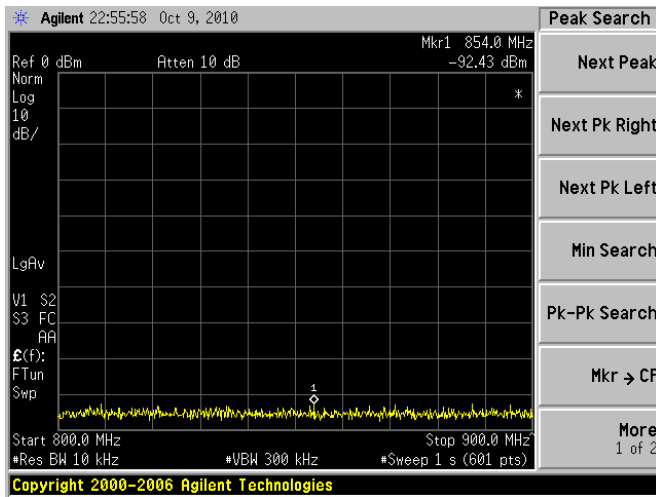
600MHz to 700MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



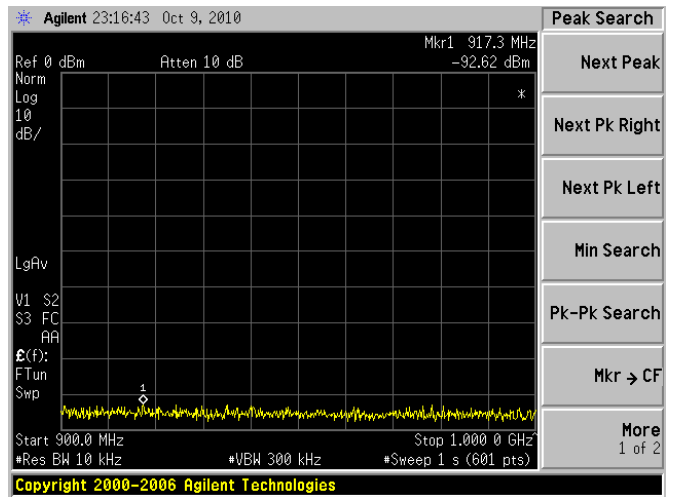
700MHz to 800MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



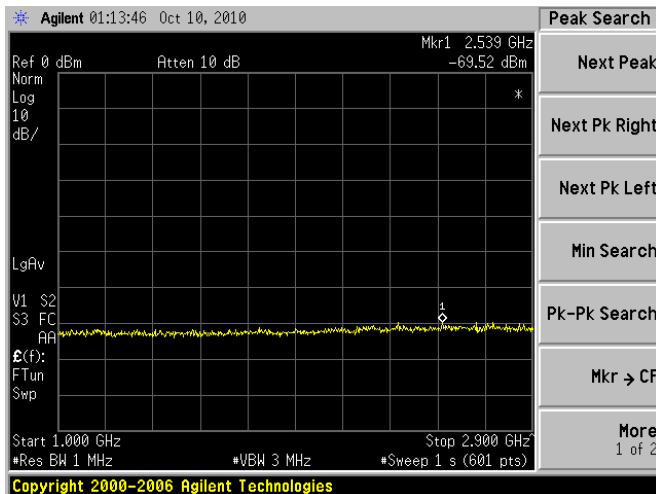
800MHz to 900MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



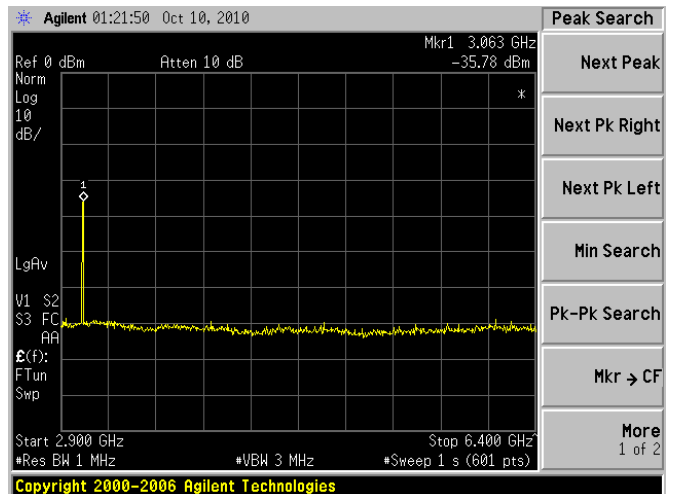
900MHz to 1GHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



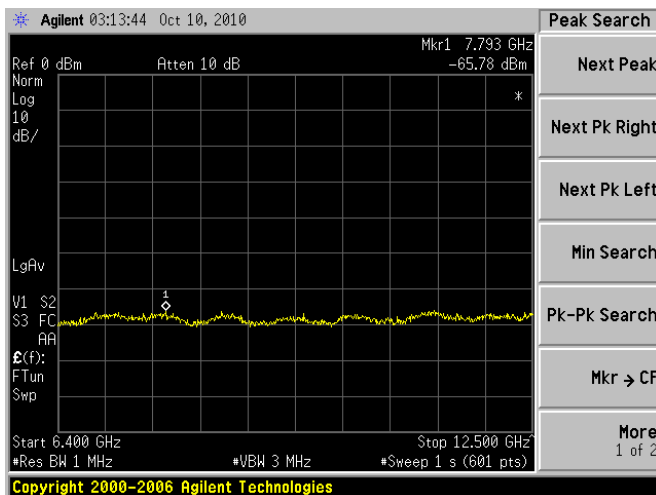
1GHz to 2.9GHz

(Scale: ↑ 10dB/Div → 190MHz/Div)



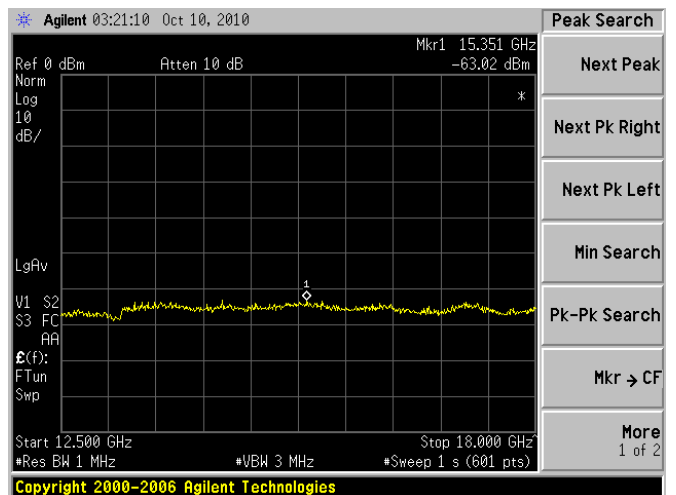
2.9GHz 6.4GHz

(Scale: ↑ 10dB/Div → 350MHz/Div)



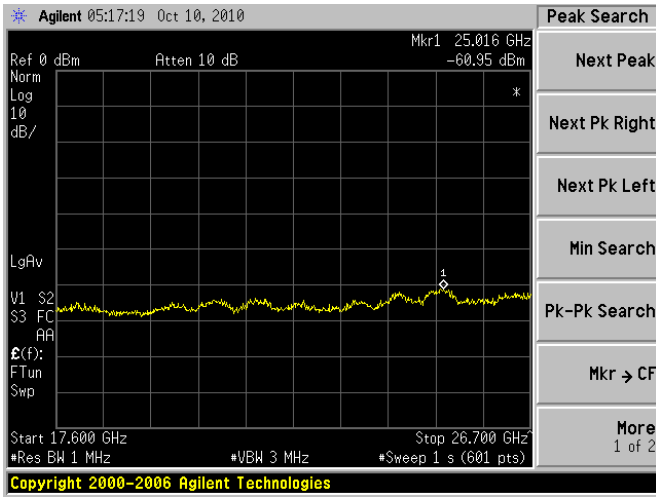
6.4GHz to 12.5GHz

(Scale: ↑ 10dB/Div → 610MHz/Div)

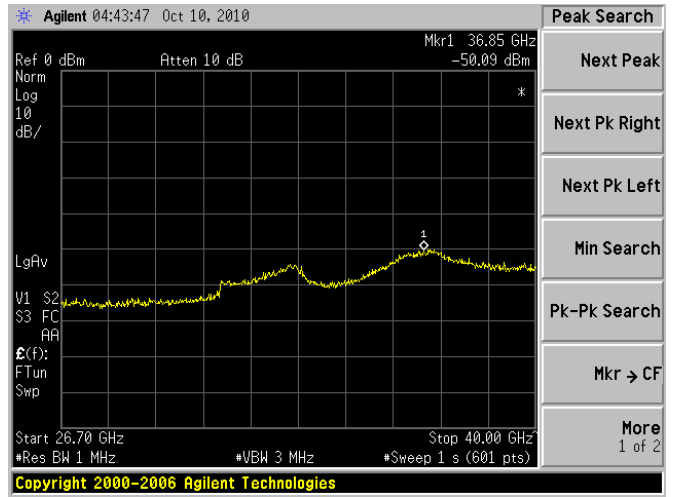


12.5GHz to 18.0GHz

(Scale: ↑ 10dB/Div → 550MHz/Div)



17.6GHz to 26.7GHz
(Scale: ↑ 10dB/Div → 910MHz/Div)



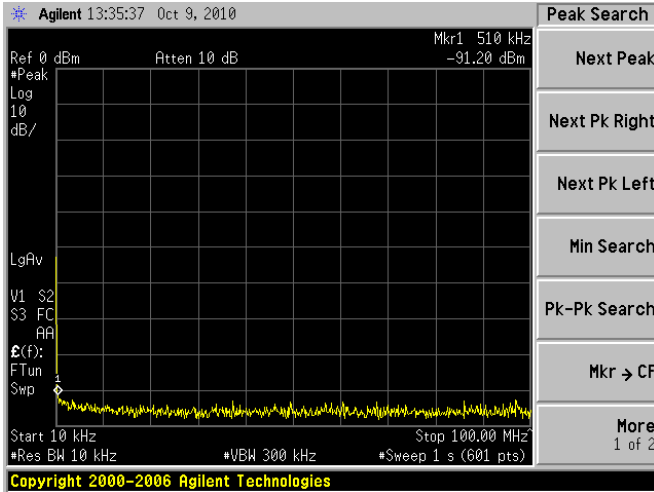
26.7GHz to 40GHz
(Scale: ↑ 10dB/Div → 1330MHz/Div)

4.4.10.5 TEST RESULTS of MP2:0.29usec/9.1usec/2280Hz

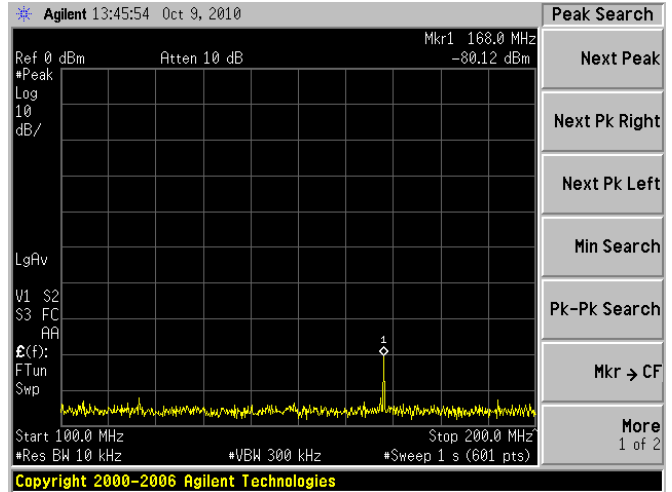
Horizontally Polarized: MP2:0.29usec/9.1usec/2280Hz							
Range	Frequency [MHz]	level [dBm]	Pg [dBm]	Cable Loss [dB]	Antenna Gain [dB]	Pd [dBm]	Radiated spurious emission [dBm]
10kHz – 100MHz	0.51	-91.2	-72.98	0.5	-20.8	94.28	-155.48
100MHz – 200MHz	168	-80.12	-63.65	0.5	1.1	63.05	-113.17
200MHz – 300MHz	240	-89.09	-64.97	0.5	-0.1	65.57	-124.66
300MHz – 400MHz	358	-92.16	-72.17	0.5	4.56	68.11	-130.27
400MHz – 500MHz	461.3	-92.24	-71.69	0.5	4.52	67.67	-129.91
500MHz – 600MHz	518.8	-92.54	-72.7	0.5	4.76	68.44	-130.98
600MHz – 700MHz	604.8	-92.1	-70.73	0.5	4.76	66.47	-128.57
700MHz – 800MHz	700	-91.93	-68.56	0.5	4.91	64.15	-126.08
800MHz – 900MHz	815.5	-90.73	-67.05	0.5	5.24	62.31	-123.04
900MHz – 1.0GHz	944.2	-92.68	-68.21	0.5	5.31	63.40	-126.08
1.0GHz – 2.9GHz	2583	-69.55	-37.67	1	6.4	32.27	-71.82
2.9GHz – 6.4GHz	3063	-33.43	0.03	1.7	6.7	5.03	-8.46
6.4GHz – 12.5GHz	11239	-65.96	-22.03	2.5	12.5	12.03	-47.99
12.5G – 18GHz	15305	-63.45	-16.02	3	12.8	6.22	-39.67
17.6G – 26.7GHz	25062	-60.68	-35.85	3	26.7	12.15	-42.83
26.7G – 40.0GHz	36850	-49.61	-18.76	3	26.6	4.84	-24.45

Vertically Polarized: MP2:0.29usec/9.1usec/2280Hz							
Range	Frequency [MHz]	level [dBm]	Pg [dB]	Cable Loss [dB]	Antenna Gain [dB]	Pd [dBm]	Radiated spurious emission [dB]
10kHz – 100MHz	45.84	-76.24	-52.87	0.5	-5.06	58.43	-104.67
100MHz – 200MHz	168	-76.19	-58.3	0.5	1.1	57.70	-103.89
200MHz – 300MHz	258.7	-91.04	-68.86	0.5	0.43	68.93	-129.97
300MHz – 400MHz	303.8	-91.69	-71.43	0.5	4.01	67.92	-129.61
400MHz – 500MHz	424.8	-91.51	-72.21	0.5	4.37	68.34	-129.85
500MHz – 600MHz	575.5	-91.75	-69.77	0.5	4.64	65.63	-127.38
600MHz – 700MHz	630.5	-92.1	-69.99	0.5	4.81	65.68	-127.78
700MHz – 800MHz	788.2	-91.55	-66.52	0.5	5.33	61.69	-123.24
800MHz – 900MHz	812.2	-92.15	-68.06	0.5	5.29	63.27	-125.42
900MHz – 1.0GHz	940.7	-92.21	-65.82	0.5	5.31	61.01	-123.22
1.0GHz – 2.9GHz	2577	-69.69	-34.98	1	6.3	29.68	-69.37
2.9GHz – 6.4GHz	3063	-35.82	-2.6	1.7	6.7	2.40	-8.22
6.4GHz – 12.5GHz	11300	-65.06	-19.07	2.5	12.5	9.07	-44.13
12.5G – 18GHz	15259	-62.99	-14.74	3	12.8	4.94	-37.93
17.6G – 26.7GHz	24744	-60.19	-36.69	3	26.6	13.09	-43.28
26.7G – 40.0GHz	37070	-50.17	-17.63	3	26.6	5.97	-26.14

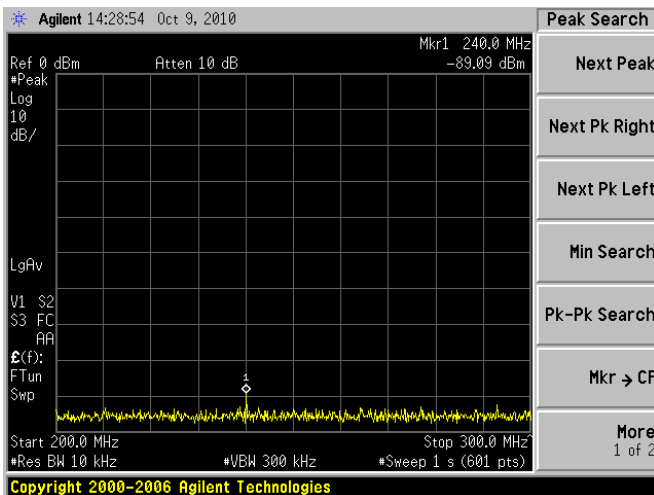
•Horizontally Polarized



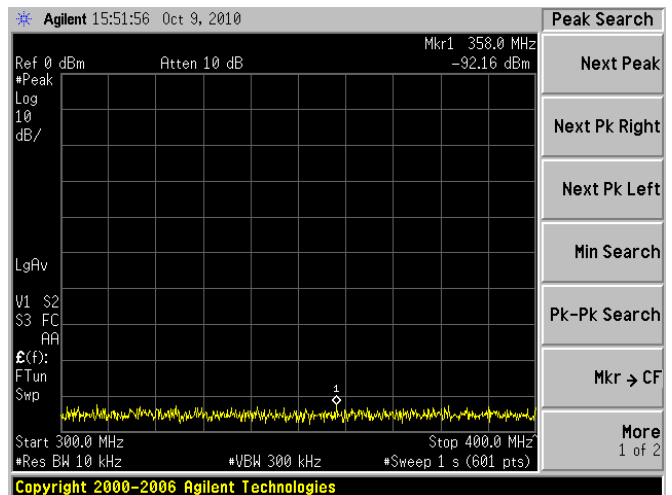
10kHz to 100MHz
(Scale: ↑ 10dB/Div →9.99MHz/Div)



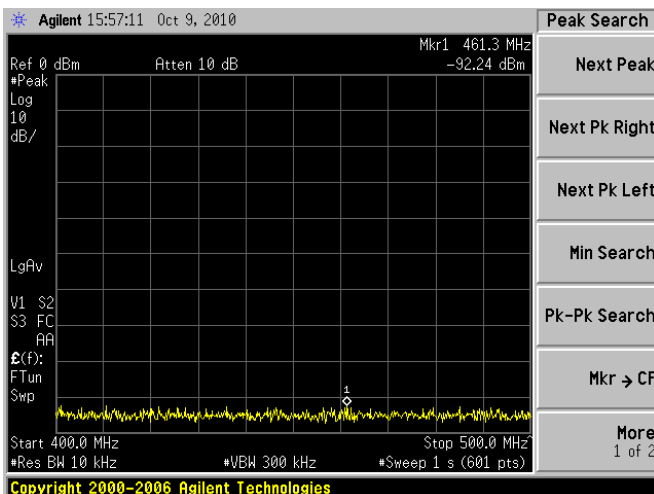
100MHz to 200MHz
(Scale: ↑ 10dB/Div →10MHz/Div)



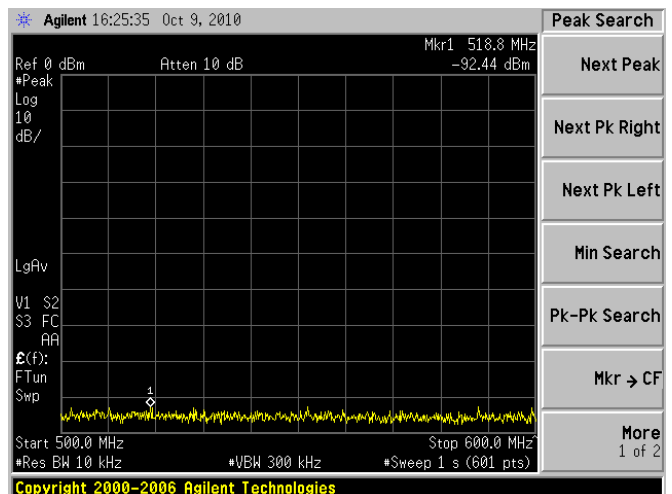
200MHz to 300MHz
(Scale: ↑ 10dB/Div →10MHz/Div)



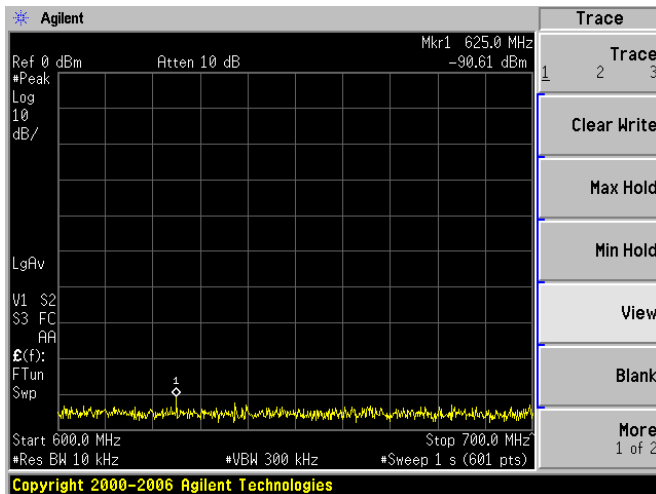
300MHz to 400MHz
(Scale: ↑ 10dB/Div →10MHz/Div)



400MHz to 500MHz
(Scale: ↑ 10dB/Div →10MHz/Div)

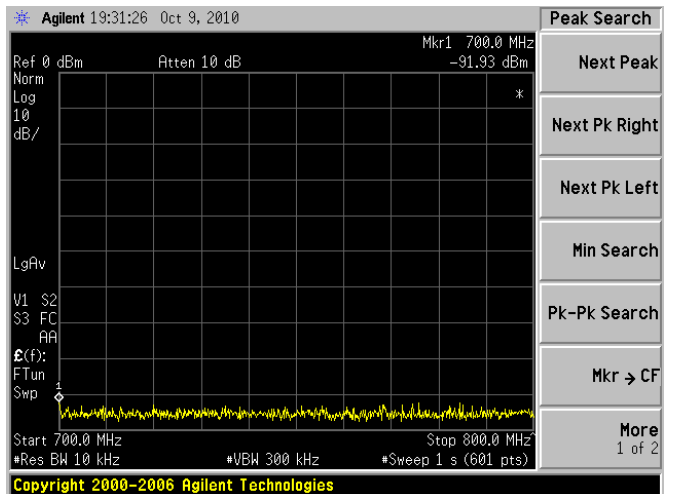


500MHz to 600MHz
(Scale: ↑ 10dB/Div →10MHz/Div)



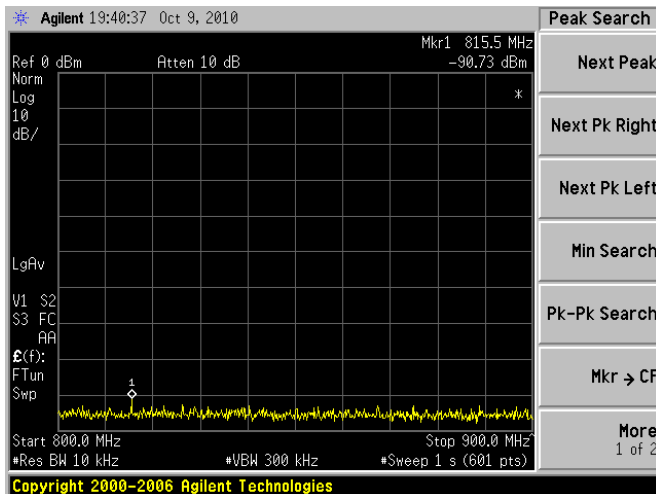
600MHz to 700MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



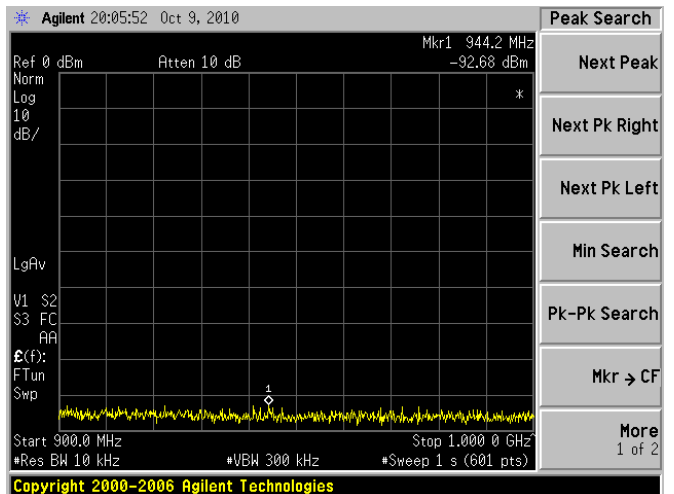
700MHz to 800MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



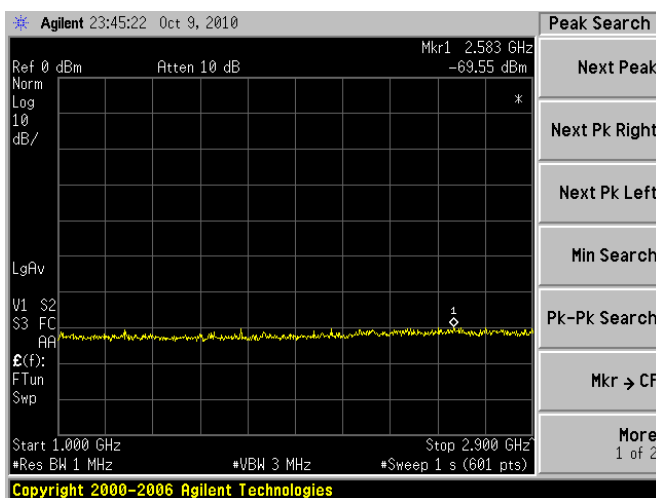
800MHz to 900MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



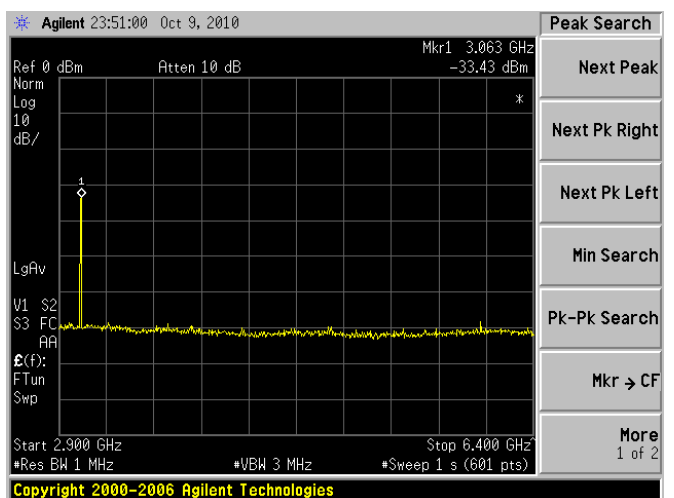
900MHz to 1GHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



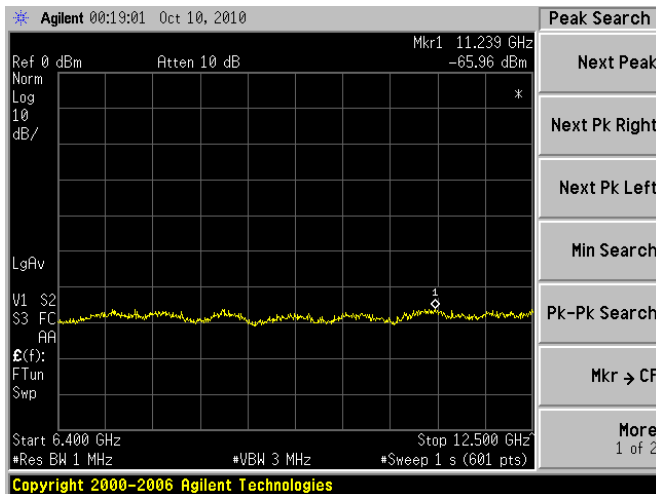
1GHz to 2.9GHz

(Scale: ↑ 10dB/Div → 190MHz/Div)

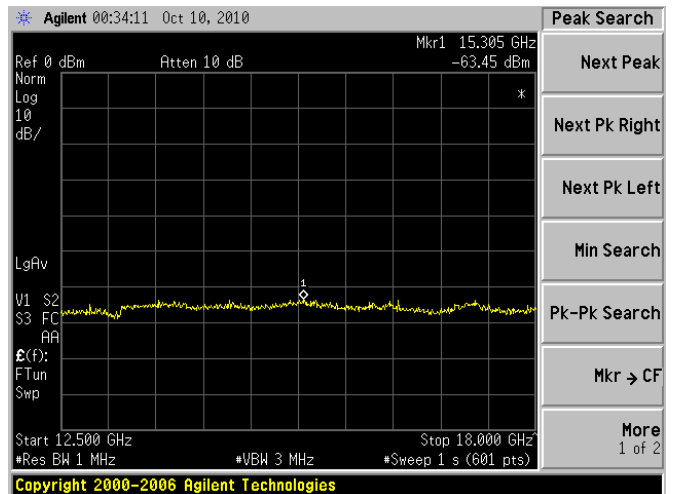


2.9GHz to 6.4GHz

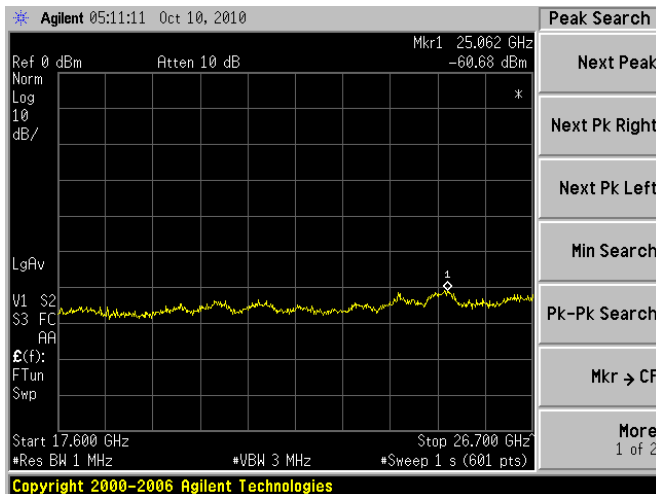
(Scale: ↑ 10dB/Div → 350MHz/Div)



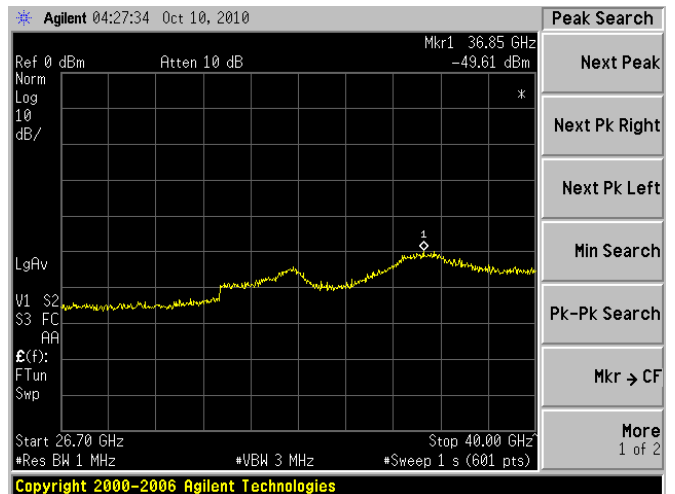
6.4GHz to 12.5GHz
(Scale: ↑ 10dB/Div → 610MHz/Div)



12.5GHz to 18GHz
(Scale: ↑ 10dB/Div → 550MHz/Div)

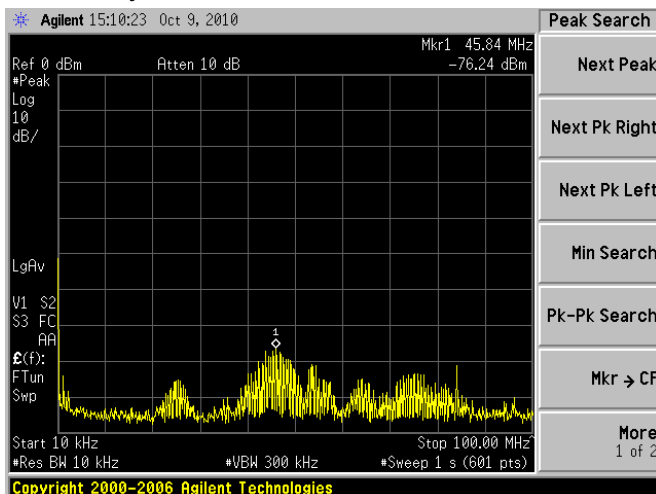


17.6GHz to 26.7GHz
(Scale: ↑ 10dB/Div → 910MHz/Div)

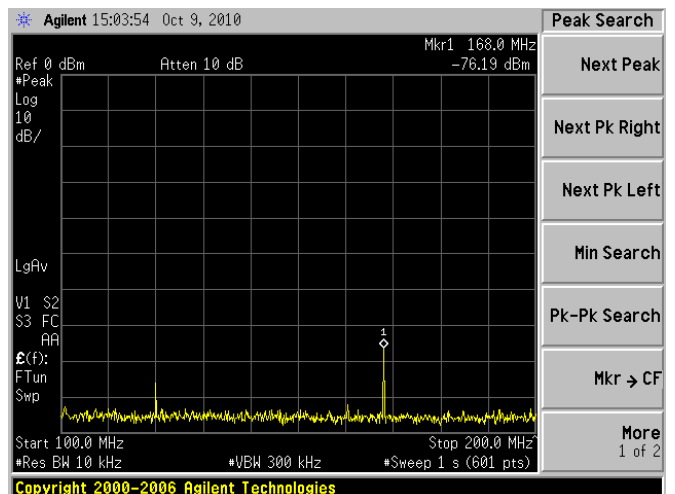


26.5GHz to 40.0GHz
(Scale: ↑ 10dB/Div → 1330MHz/Div)

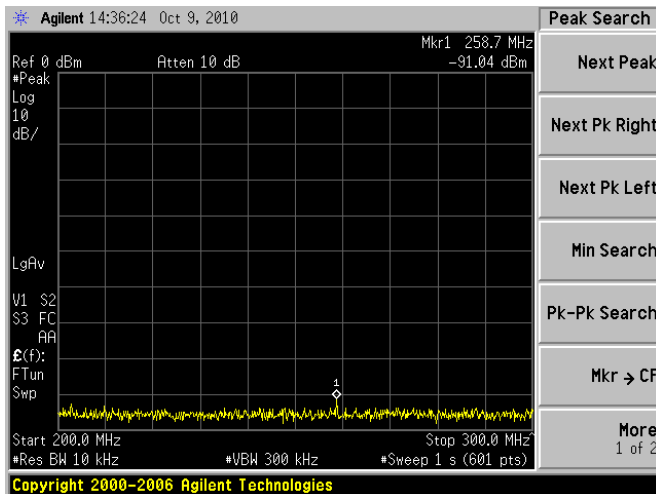
•Vertically Polarized



10kHz to 100MHz
(Scale: ↑ 10dB/Div → 9.99MHz/Div)

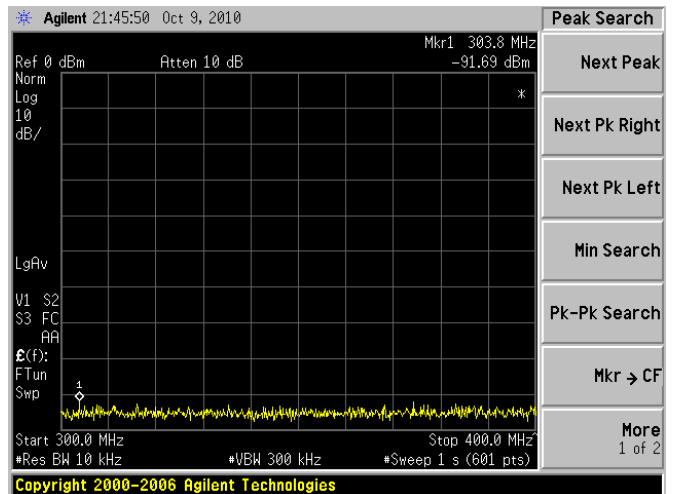


100MHz to 200MHz
(Scale: ↑ 10dB/Div → 10MHz/Div)



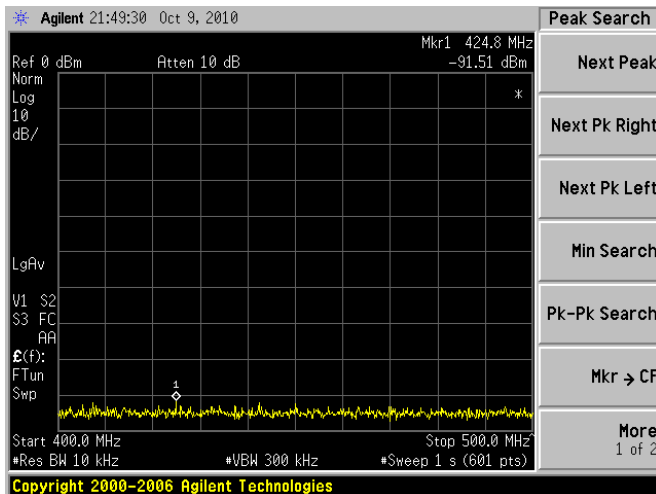
200MHz to 300MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



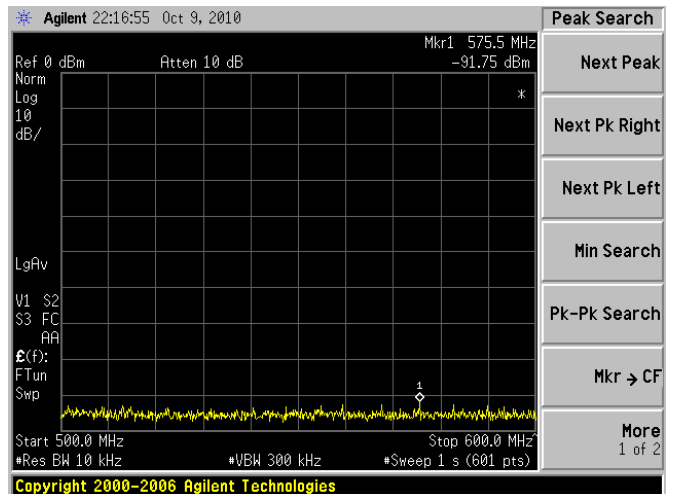
300MHz to 400MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



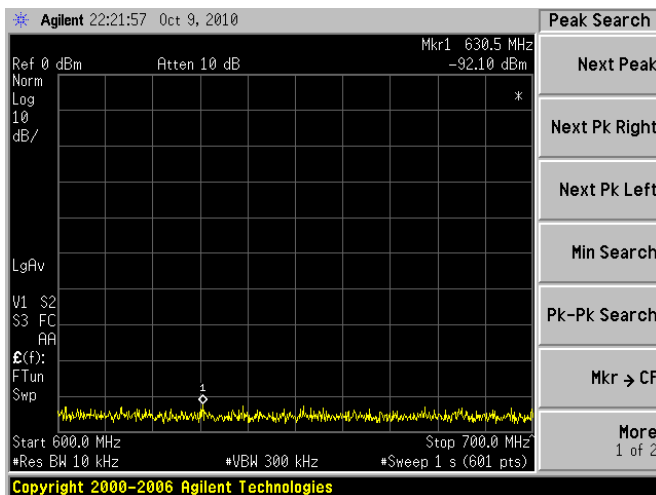
400MHz to 500MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



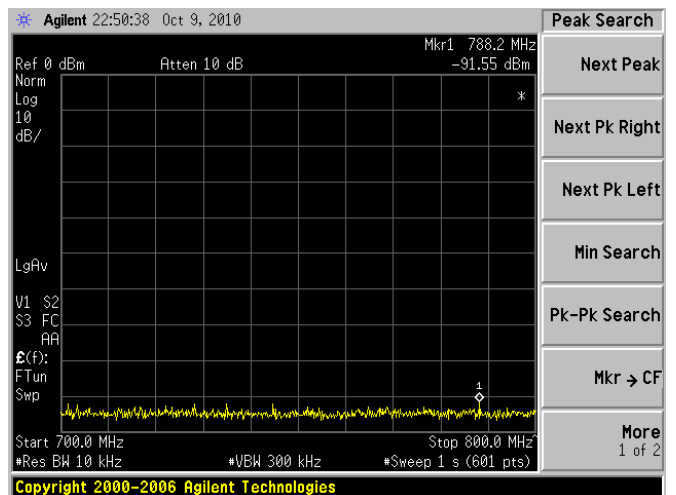
500MHz to 600MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



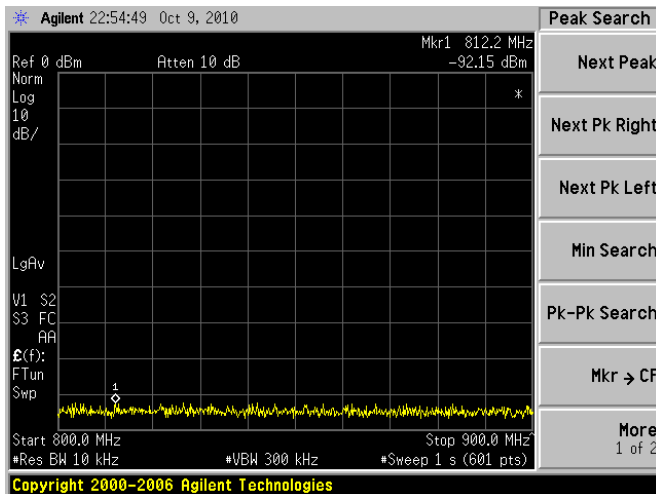
600MHz to 700MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



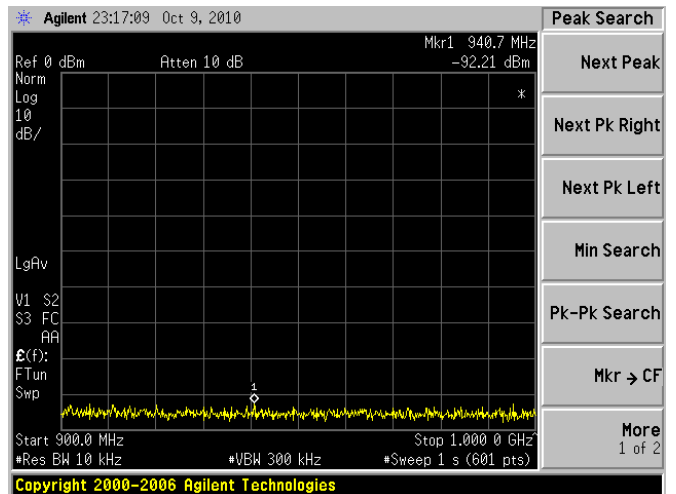
700MHz to 800MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



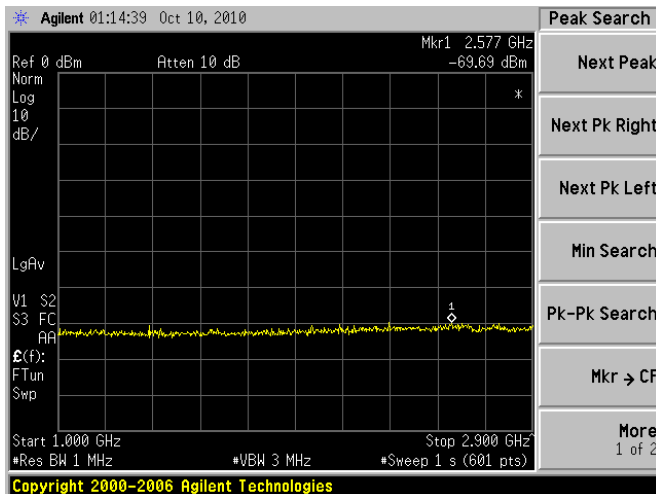
800MHz to 900MHz

(Scale: \uparrow 10dB/Div \rightarrow 10MHz/Div)



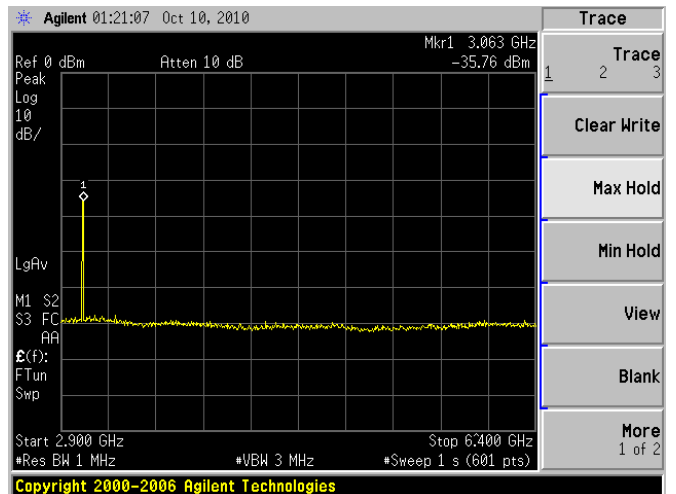
900MHz to 1GHz

(Scale: \uparrow 10dB/Div \rightarrow 10MHz/Div)



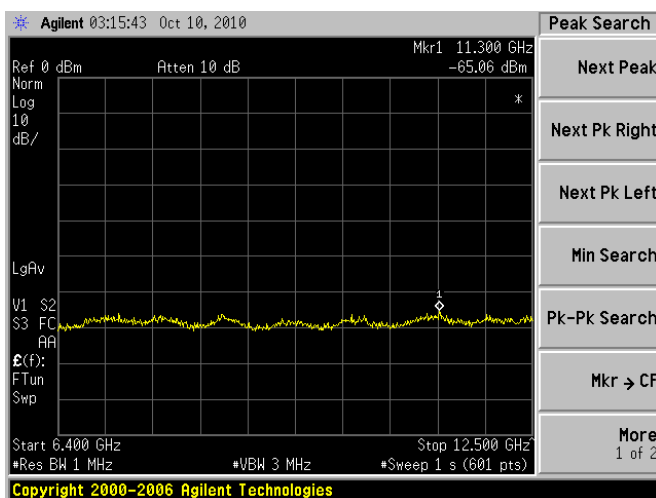
1GHz to 2.9GHz

(Scale: \uparrow 10dB/Div \rightarrow 190MHz/Div)



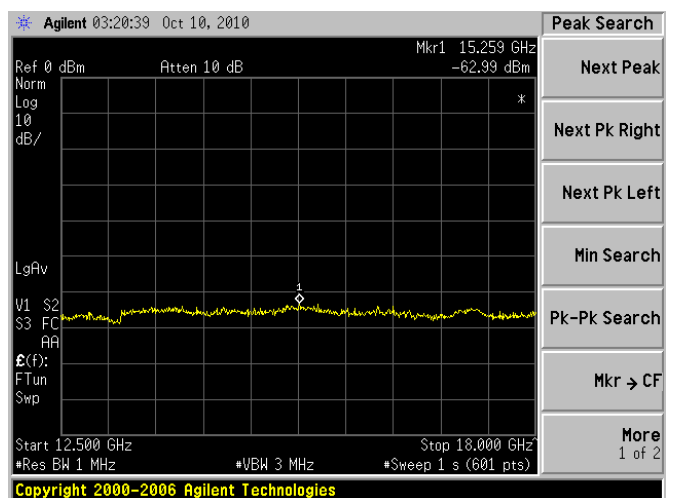
2.9GHz 6.4GHz

(Scale: \uparrow 10dB/Div \rightarrow 350MHz/Div)



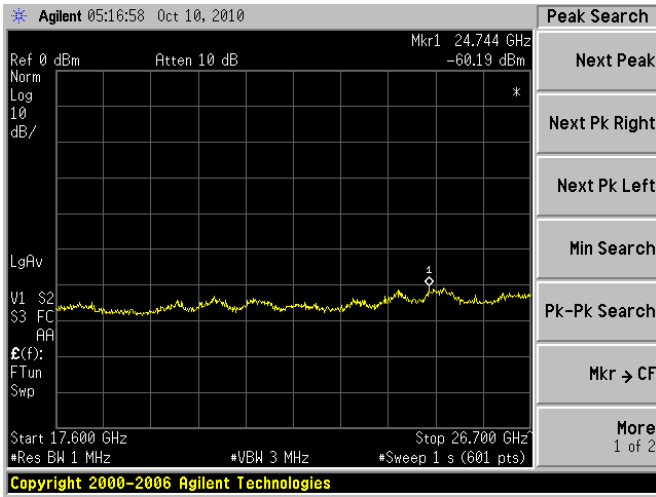
6.4GHz to 12.5GHz

(Scale: \uparrow 10dB/Div \rightarrow 610MHz/Div)



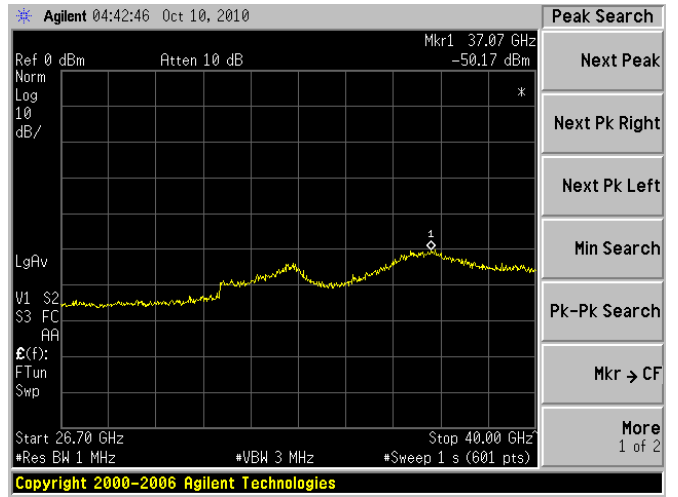
12.5GHz to 18.0GHz

(Scale: \uparrow 10dB/Div \rightarrow 550MHz/Div)



17.6GHz to 26.7GHz

(Scale: ↑ 10dB/Div → 910MHz/Div)



26.7GHz to 40GHz

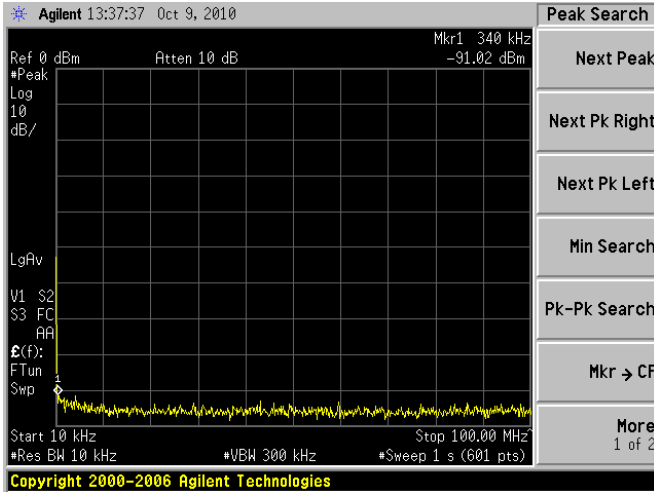
(Scale: ↑ 10dB/Div → 1330MHz/Div)

4.4.10.6 TEST RESULTS of LP1:0.57usec/9.1usec/1280Hz

Horizontally Polarized: LP1:0.57usec/9.1usec/1280Hz							
Range	Frequency [MHz]	level [dBm]	Pg [dBm]	Cable Loss [dB]	Antenna Gain [dB]	Pd [dBm]	Radiated spurious emission [dBm]
10kHz – 100MHz	0.34	-91.02	-72.8	0.5	-21.2	94.50	-155.52
100MHz – 200MHz	168	-78.9	-62.43	0.5	1.1	61.83	-110.73
200MHz – 300MHz	240	-90.23	-66.11	0.5	-0.1	66.71	-126.94
300MHz – 400MHz	317.3	-92.65	-73.65	0.5	4.29	69.86	-132.51
400MHz – 500MHz	430.3	-92.05	-71.75	0.5	4.34	67.91	-129.96
500MHz – 600MHz	551.2	-92.06	-68.35	0.5	4.71	64.14	-126.20
600MHz – 700MHz	688	-92.21	-68.28	0.5	4.89	63.89	-126.10
700MHz – 800MHz	739.7	-91.77	-68.07	0.5	5.21	63.36	-125.13
800MHz – 900MHz	826.7	-92.18	-67.49	0.5	5.21	62.78	-124.96
900MHz – 1.0GHz	950.2	-92.44	-67.06	0.5	5.31	62.25	-124.69
1.0GHz – 2.9GHz	2628	-69.17	-36.43	1	6.4	31.03	-70.20
2.9GHz – 6.4GHz	3063	-33.42	0.04	1.7	6.7	5.04	-8.46
6.4GHz – 12.5GHz	7792	-65.05	-25.71	2.5	11.8	16.41	-51.46
12.5G – 18GHz	15314	-62.37	-14.64	3	12.8	4.84	-37.21
17.6G – 26.7GHz	24880	-61.03	-36.54	3	26.7	12.84	-43.87
26.7G – 40.0GHz	36830	-49.88	-18.26	3	26.6	5.34	-25.22

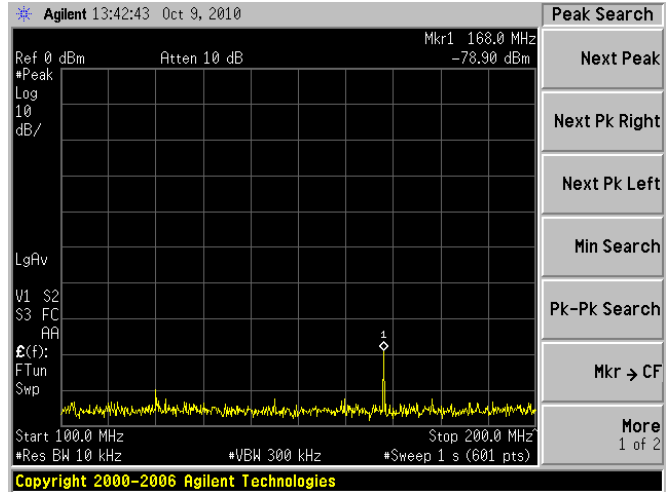
Vertically Polarized: LP1:0.57usec/9.1usec/1280Hz							
Range	Frequency [MHz]	level [dBm]	Pg [dB]	Cable Loss [dB]	Antenna Gain [dB]	Pd [dBm]	Radiated spurious emission [dB]
10kHz – 100MHz	46.67	-81.77	-58.27	0.5	-4.81	63.58	-115.35
100MHz – 200MHz	168	-77.2	-59.31	0.5	1.1	58.71	-105.91
200MHz – 300MHz	252	-90.25	-68.45	0.5	0.28	68.67	-128.92
300MHz – 400MHz	334	-91.97	-72.97	0.5	4.52	68.95	-130.92
400MHz – 500MHz	417.2	-91.3	-71.63	0.5	4.31	67.82	-129.12
500MHz – 600MHz	538	-91.78	-70.14	0.5	4.74	65.90	-127.68
600MHz – 700MHz	619.8	-92.04	-70.11	0.5	4.8	65.81	-127.85
700MHz – 800MHz	778.3	-91.97	-66.76	0.5	5.36	61.90	-123.87
800MHz – 900MHz	801.5	-92	-67.68	0.5	5.29	62.89	-124.89
900MHz – 1.0GHz	948.7	-92.05	-65.35	0.5	5.31	60.54	-122.59
1.0GHz – 2.9GHz	2754	-69.16	-37.95	1	6.5	32.45	-71.61
2.9GHz – 6.4GHz	3063	-35.83	-2.61	1.7	6.7	2.39	-8.22
6.4GHz – 12.5GHz	6939	-65.18	-24.9	2.5	10.8	16.60	-51.78
12.5G – 18GHz	15177	-62.64	-15.59	3	13	5.59	-38.23
17.6G – 26.7GHz	24850	-60.74	-37.53	3	26.7	13.83	-44.57
26.7G – 40.0GHz	36850	-49.26	-18.28	3	26.6	5.32	-24.58

•Horizontally Polarized



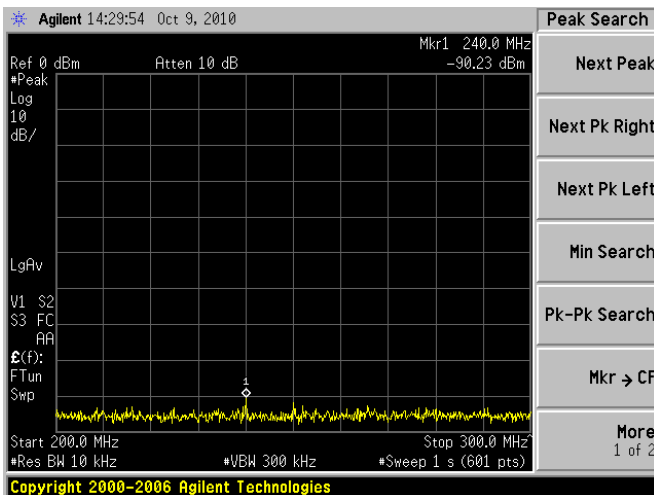
10kHz to 100MHz

(Scale: ↑ 10dB/Div →9.99MHz/Div)



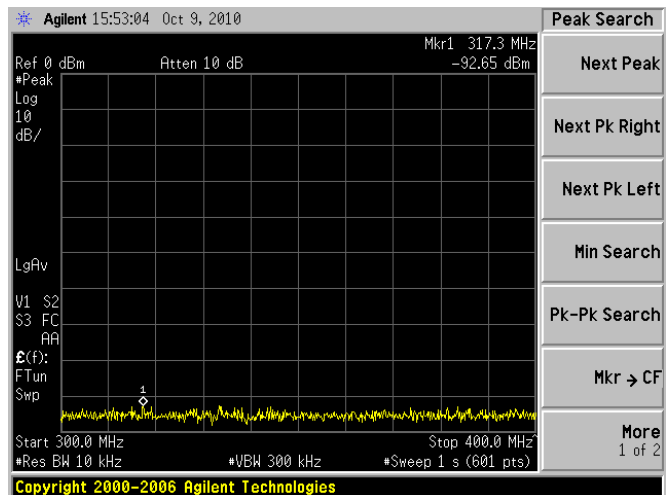
100MHz to 200MHz

(Scale: ↑ 10dB/Div →10MHz/Div)



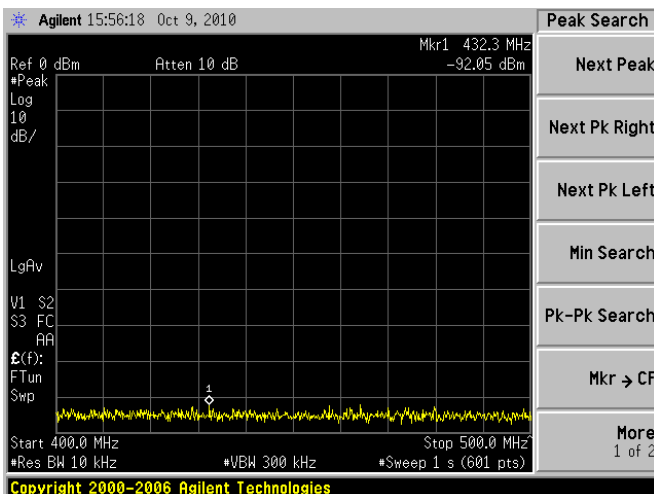
200MHz to 300MHz

(Scale: ↑ 10dB/Div →10MHz/Div)



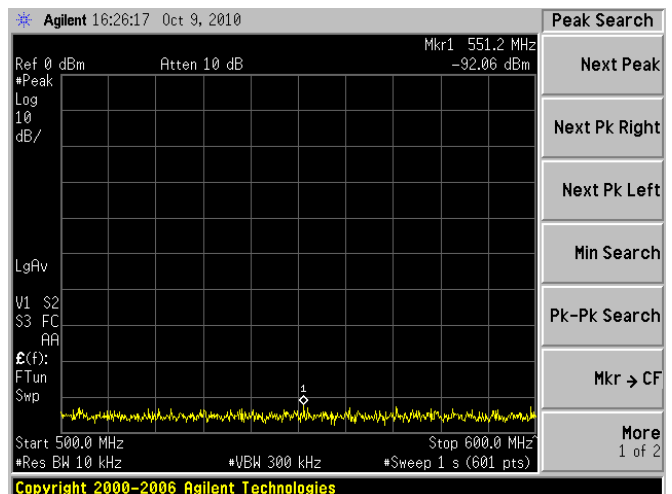
300MHz to 400MHz

(Scale: ↑ 10dB/Div →10MHz/Div)



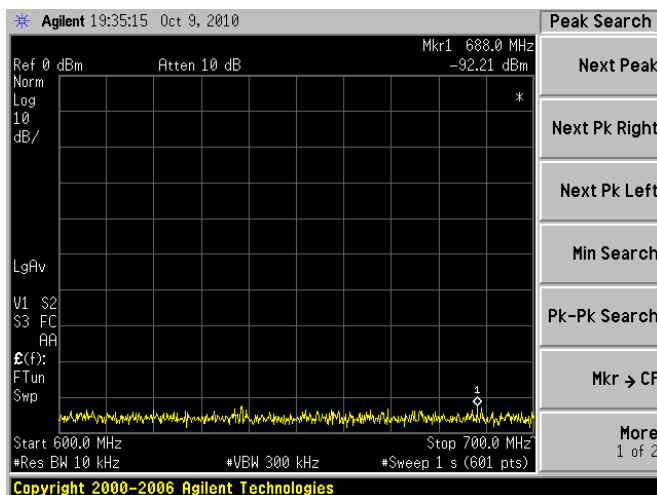
400MHz to 500MHz

(Scale: ↑ 10dB/Div →10MHz/Div)



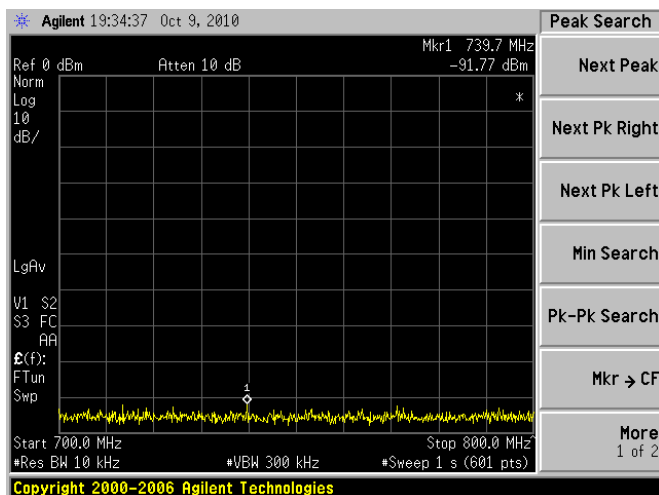
500MHz to 600MHz

(Scale: ↑ 10dB/Div →10MHz/Div)



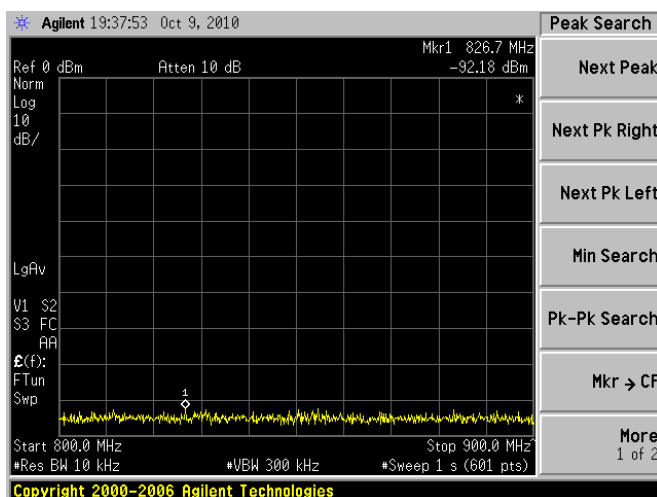
600MHz to 700MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



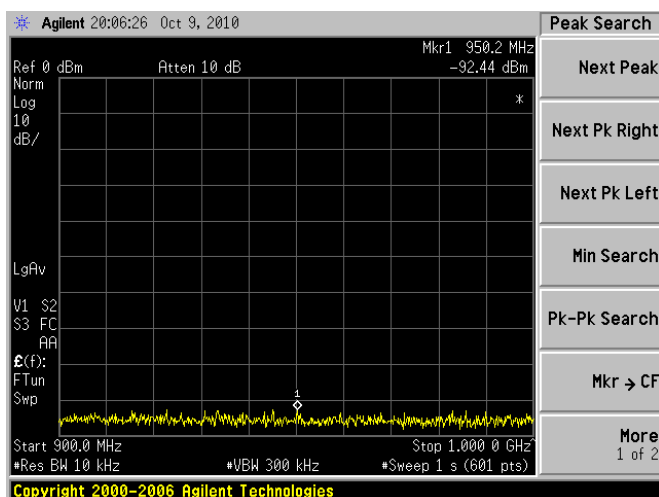
700MHz to 800MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



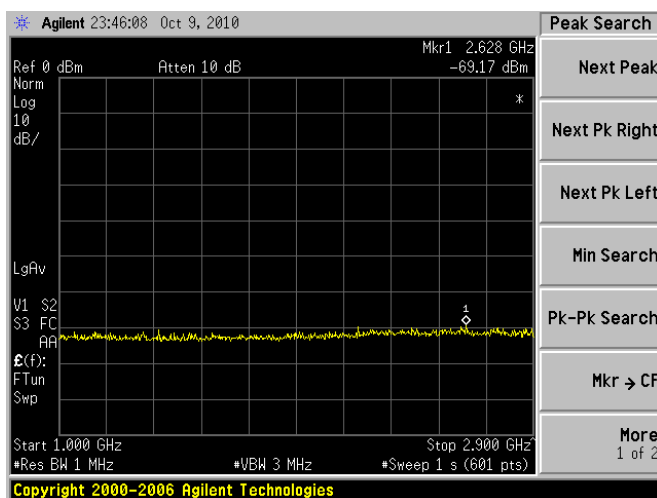
800MHz to 900MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



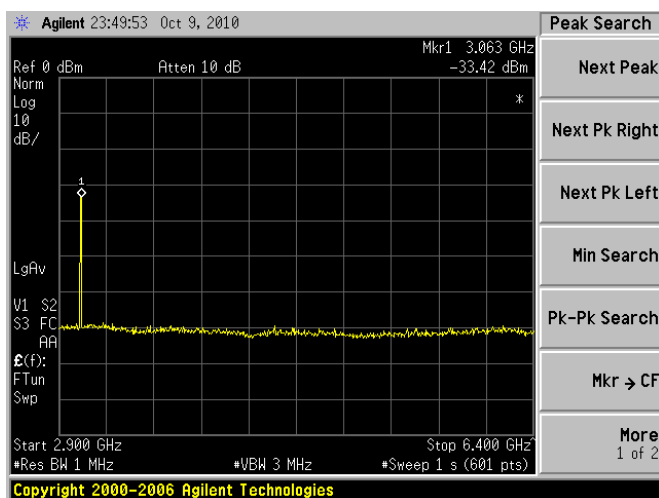
900MHz to 1GHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



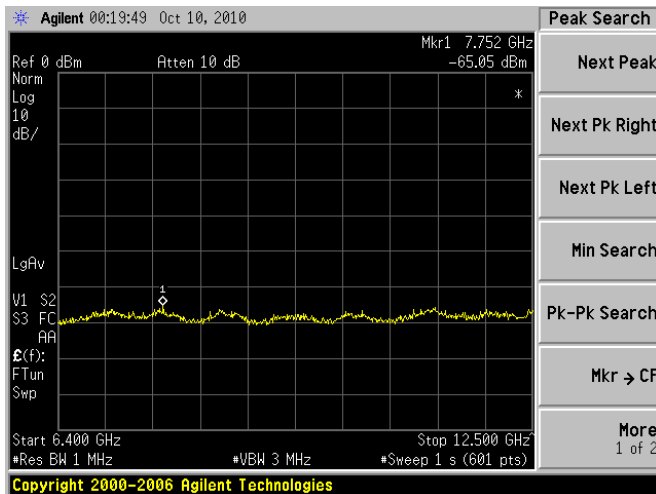
1GHz to 2.9GHz

(Scale: ↑ 10dB/Div → 190MHz/Div)

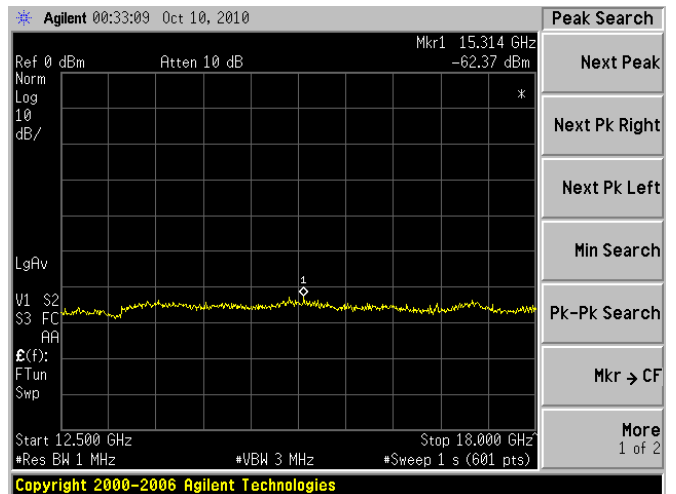


2.9GHz to 6.4GHz

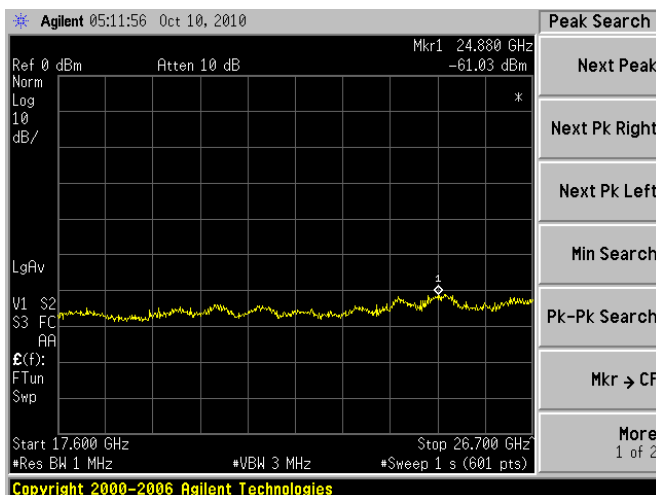
(Scale: ↑ 10dB/Div → 350MHz/Div)



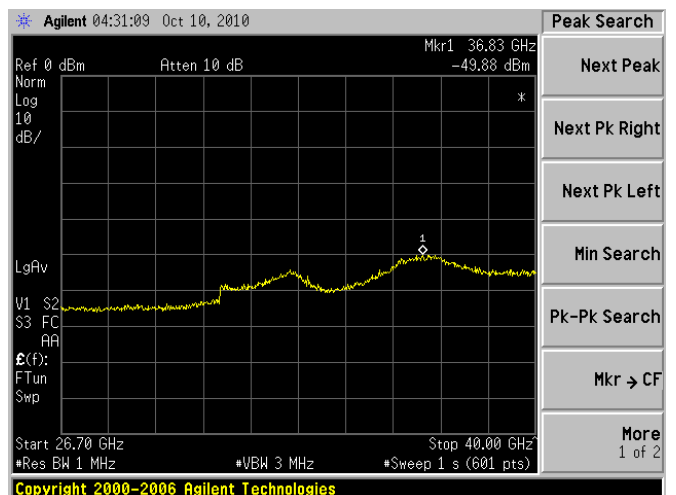
6.4GHz to 12.5GHz
(Scale: ↑ 10dB/Div → 610MHz/Div)



12.5GHz to 18GHz
(Scale: ↑ 10dB/Div → 550MHz/Div)

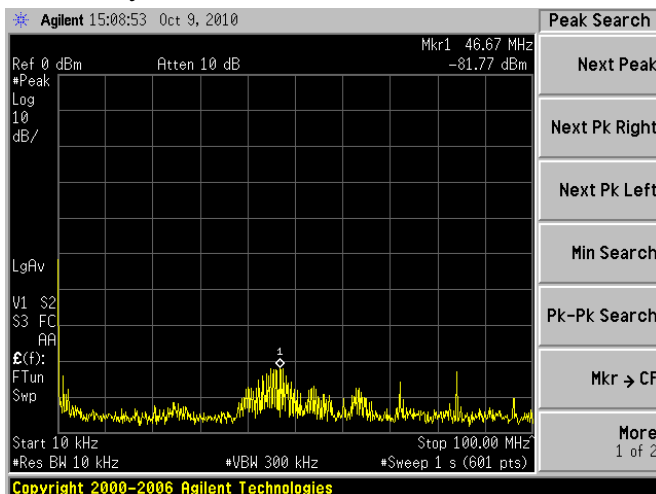


17.6GHz to 26.7GHz
(Scale: ↑ 10dB/Div → 910MHz/Div)

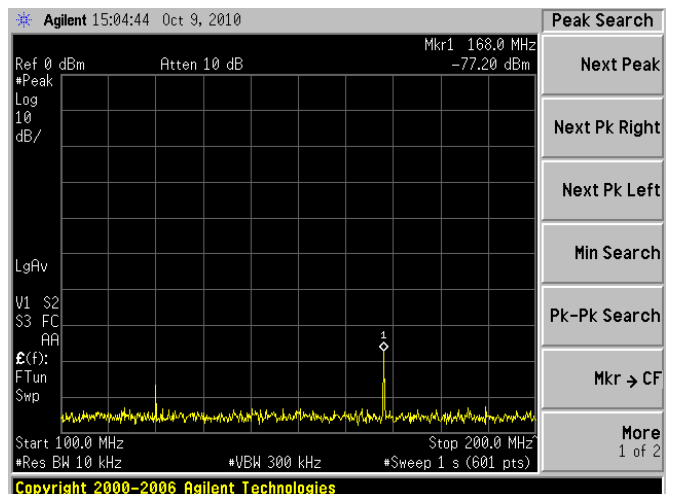


26.7GHz to 40.0GHz
(Scale: ↑ 10dB/Div → 1330MHz/Div)

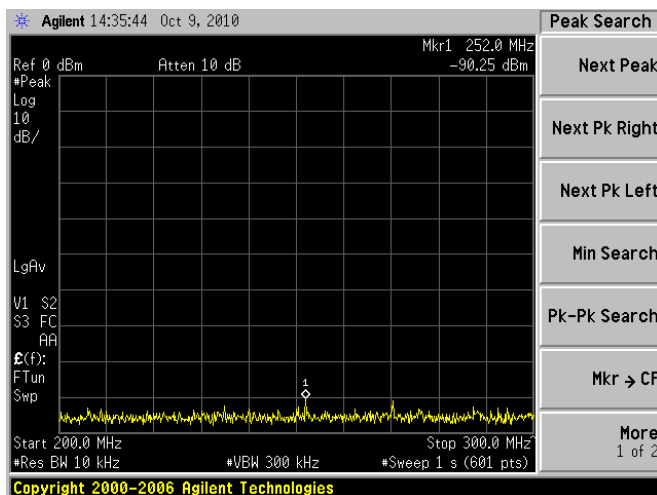
•Vertically Polarized



10kHz to 100MHz
(Scale: ↑ 10dB/Div → 9.99MHz/Div)

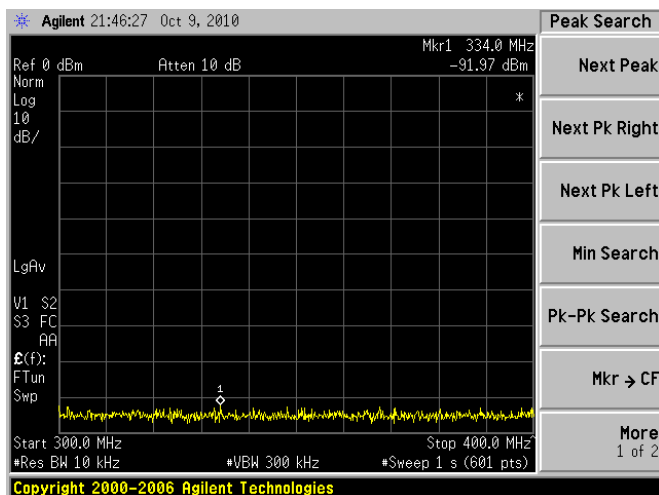


100MHz to 200MHz
(Scale: ↑ 10dB/Div → 10MHz/Div)



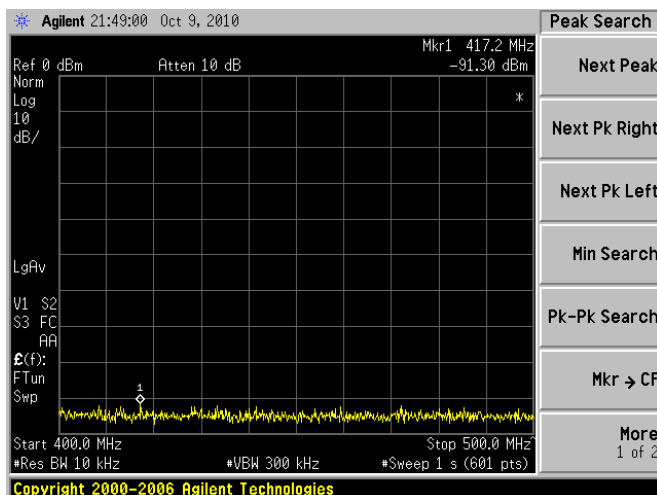
200MHz to 300MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



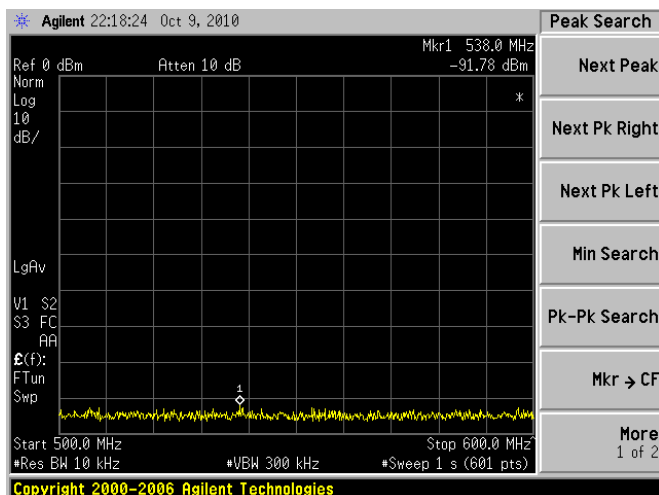
300MHz to 400MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



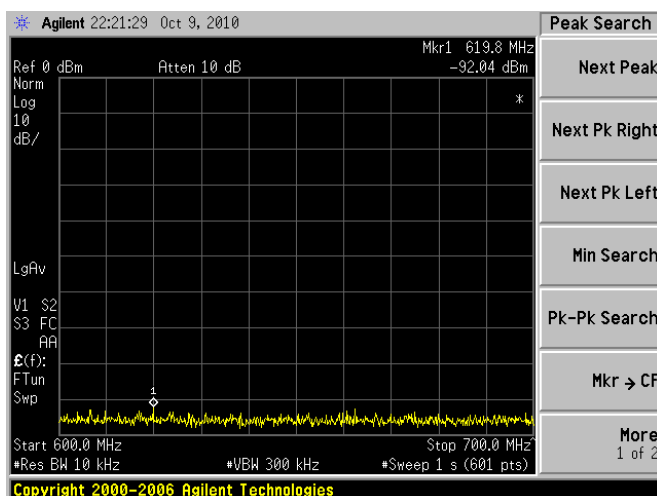
400MHz to 500MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



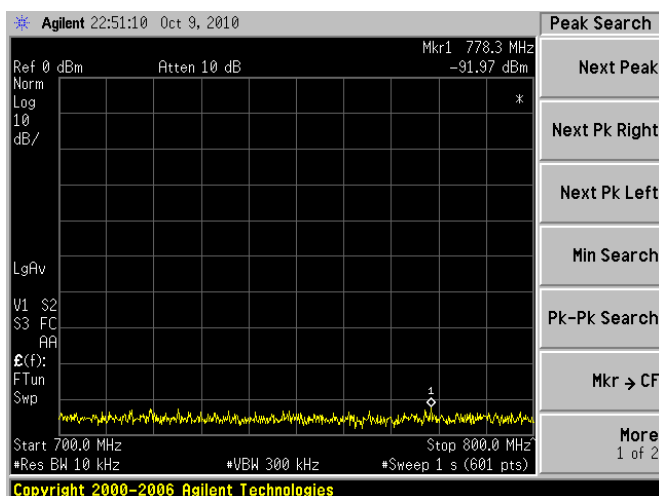
500MHz to 600MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



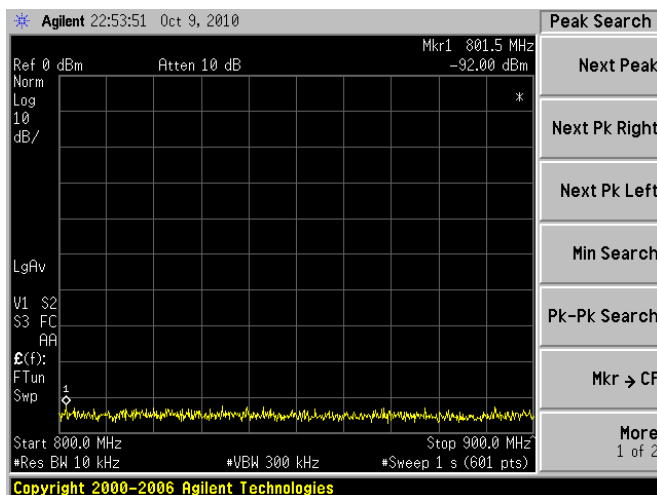
600MHz to 700MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



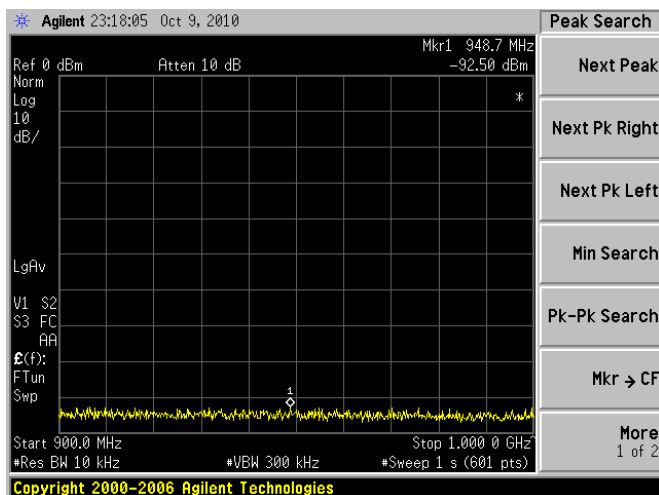
700MHz to 800MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



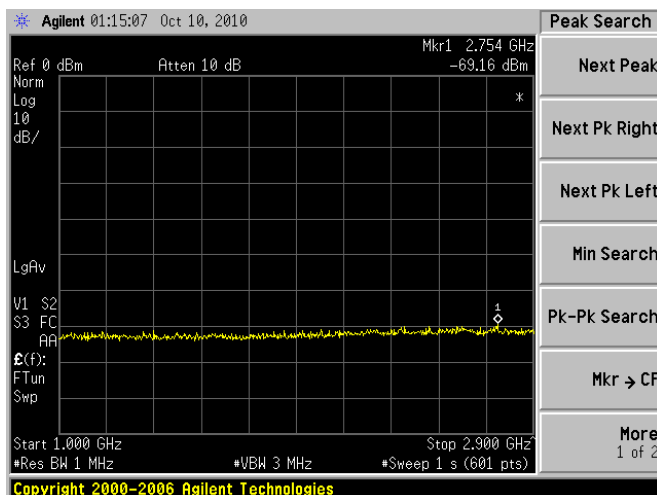
800MHz to 900MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



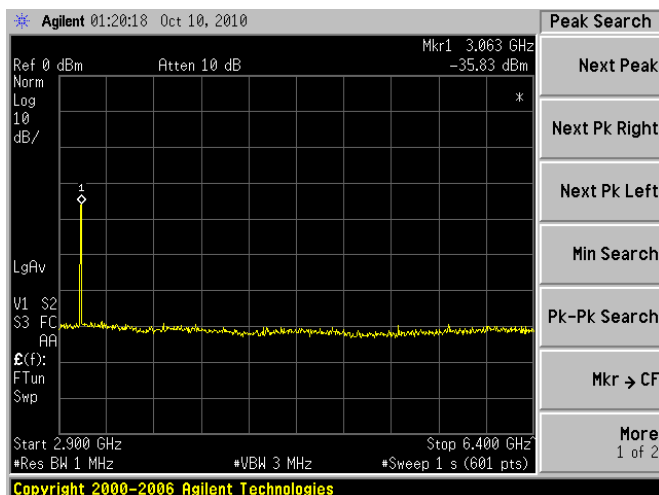
900MHz to 1GHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



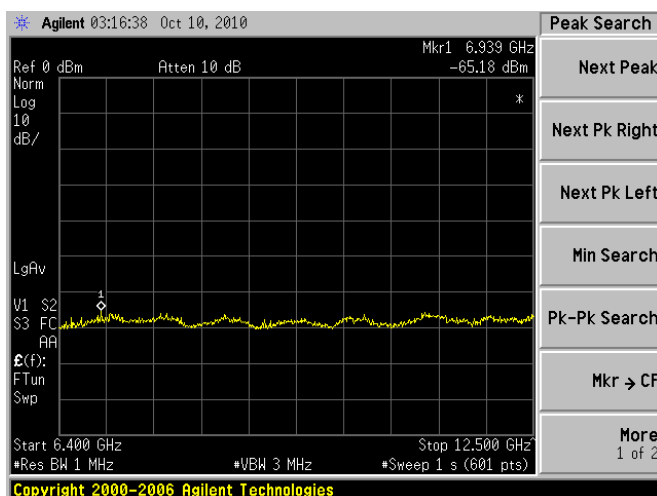
1GHz to 2.9GHz

(Scale: ↑ 10dB/Div → 190MHz/Div)



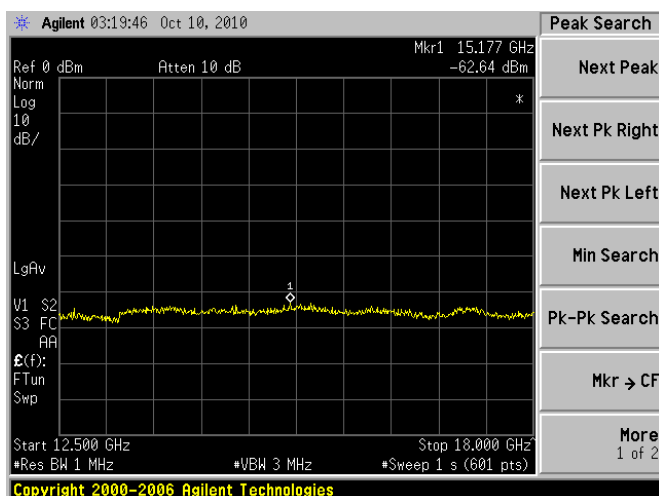
2.9GHz 6.4GHz

(Scale: ↑ 10dB/Div → 350MHz/Div)



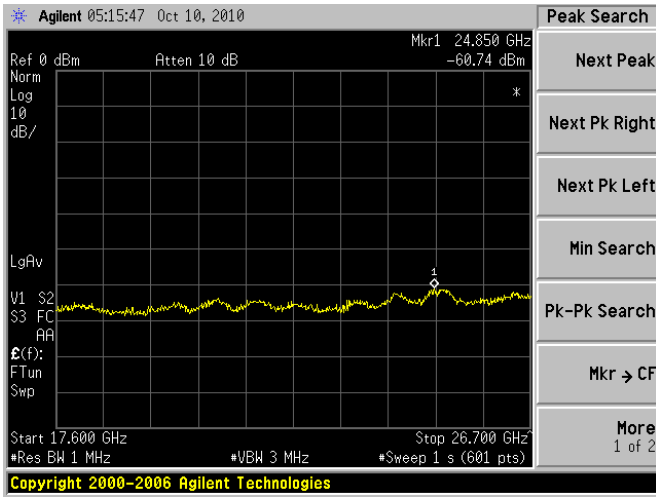
6.4GHz to 12.5GHz

(Scale: ↑ 10dB/Div → 610MHz/Div)



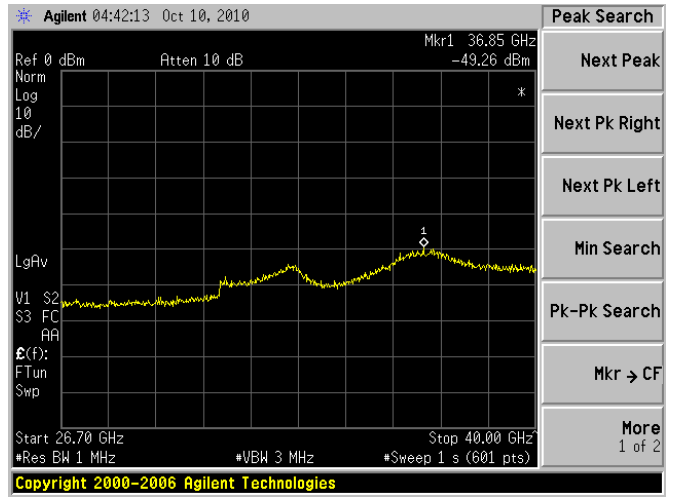
12.5GHz to 18.0GHz

(Scale: ↑ 10dB/Div → 550MHz/Div)



17.6GHz to 26.7GHz

(Scale: ↑ 10dB/Div → 910MHz/Div)



26.7GHz to 40GHz

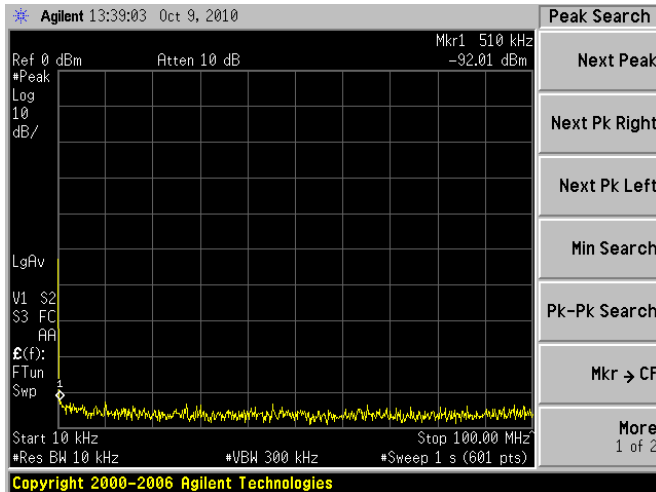
(Scale: ↑ 10dB/Div → 1330MHz/Div)

4.4.10.6 TEST RESULTS of LP2:1.14usec/18.3usec/640Hz

Horizontally Polarized: LP2:1.14usec/18.3usec/640Hz							
Range	Frequency [MHz]	level [dBm]	Pg [dBm]	Cable Loss [dB]	Antenna Gain [dB]	Pd [dBm]	Radiated spurious emission [dBm]
10kHz – 100MHz	0.51	-92.01	-73.79	0.5	-20.8	95.09	-157.10
100MHz – 200MHz	168	-80.13	-63.66	0.5	1.1	63.06	-113.19
200MHz – 300MHz	240	-89.32	-65.2	0.5	-0.1	65.80	-125.12
300MHz – 400MHz	358.8	-91.94	-71.95	0.5	4.55	67.90	-129.84
400MHz – 500MHz	464.2	-91.54	-71.04	0.5	4.52	67.02	-128.56
500MHz – 600MHz	527.2	-92.35	-72.01	0.5	4.77	67.74	-130.09
600MHz – 700MHz	680.8	-92.24	-67.74	0.5	4.87	63.37	-125.61
700MHz – 800MHz	776.2	-92.36	-66.02	0.5	5.37	61.15	-123.51
800MHz – 900MHz	813.8	-91.94	-68.01	0.5	5.25	63.26	-125.20
900MHz – 1.0GHz	904.3	-92.47	-66.2	0.5	5.29	61.41	-123.88
1.0GHz – 2.9GHz	2485	-69.22	-37.42	1	6.3	32.12	-71.34
2.9GHz – 6.4GHz	3063	-33.24	0.22	1.7	6.7	5.22	-8.46
6.4GHz – 12.5GHz	8484	-66.09	-26.59	2.5	12.3	16.79	-52.88
12.5G – 18GHz	15314	-62.4	-14.67	3	12.8	4.87	-37.27
17.6G – 26.7GHz	24986	-60.85	-35.7	3	26.7	12.00	-42.85
26.7G – 40.0GHz	37010	-49.77	-18.56	3	26.6	5.04	-24.81

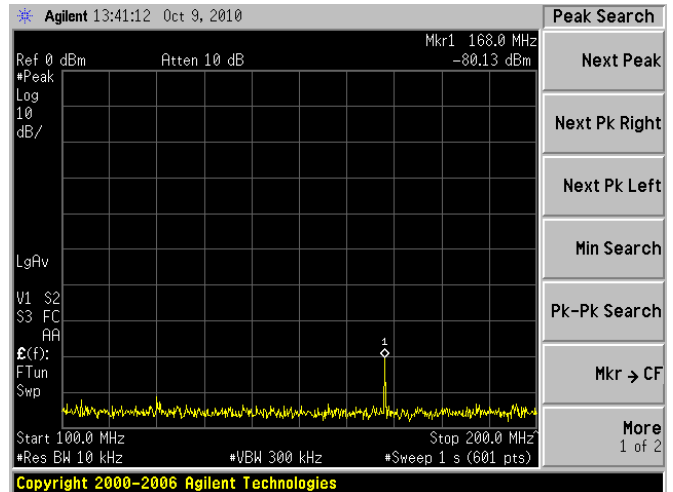
Vertically Polarized: LP2:1.14usec/18.3usec/640Hz							
Range	Frequency [MHz]	level [dBm]	Pg [dB]	Cable Loss [dB]	Antenna Gain [dB]	Pd [dBm]	Radiated spurious emission [dB]
10kHz – 100MHz	43.01	-81.95	-59.37	0.5	-4.58	64.45	-116.40
100MHz – 200MHz	168	-76.41	-58.52	0.5	1.1	57.92	-104.33
200MHz – 300MHz	240	-90.85	-69.69	0.5	1.38	68.81	-129.66
300MHz – 400MHz	376	-91.14	-72.33	0.5	4.38	68.45	-129.59
400MHz – 500MHz	447	-91.71	-71.16	0.5	4.48	67.18	-128.89
500MHz – 600MHz	540	-92.07	-70.47	0.5	4.74	66.23	-128.30
600MHz – 700MHz	678	-92.96	-68.61	0.5	4.87	64.24	-127.20
700MHz – 800MHz	709.8	-91.88	-67.11	0.5	4.98	62.63	-124.51
800MHz – 900MHz	836.8	-91.91	-67	0.5	5.18	62.32	-124.23
900MHz – 1.0GHz	920.5	-92.05	-65.92	0.5	5.3	61.12	-123.17
1.0GHz – 2.9GHz	2637	-69.82	-37.75	1	6.3	32.45	-72.27
2.9GHz – 6.4GHz	3063	-35.79	-2.57	1.7	6.7	2.43	-8.22
6.4GHz – 12.5GHz	11290	-65.35	-19.24	2.5	12.5	9.24	-44.59
12.5G – 18GHz	15360	-63.09	-13.75	3	12.8	3.95	-37.04
17.6G – 26.7GHz	25032	-60.08	-35.8	3	26.7	12.10	-42.18
26.7G – 40.0GHz	37010	-48.43	-16.85	3	26.6	6.75	-25.18

•Horizontally Polarized



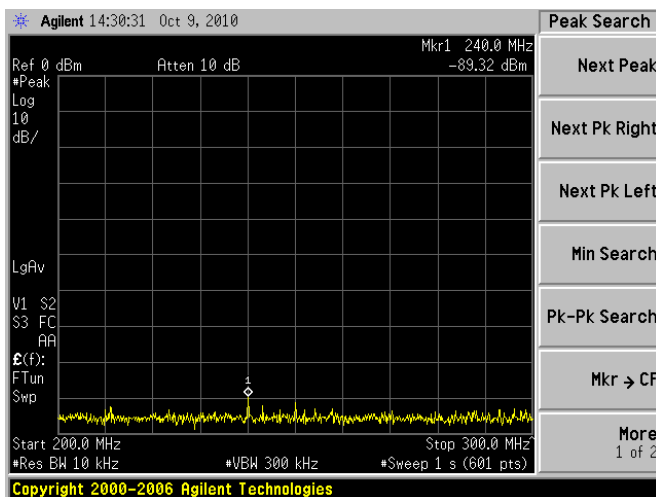
10kHz to 100MHz

(Scale: ↑ 10dB/Div →9.99MHz/Div)



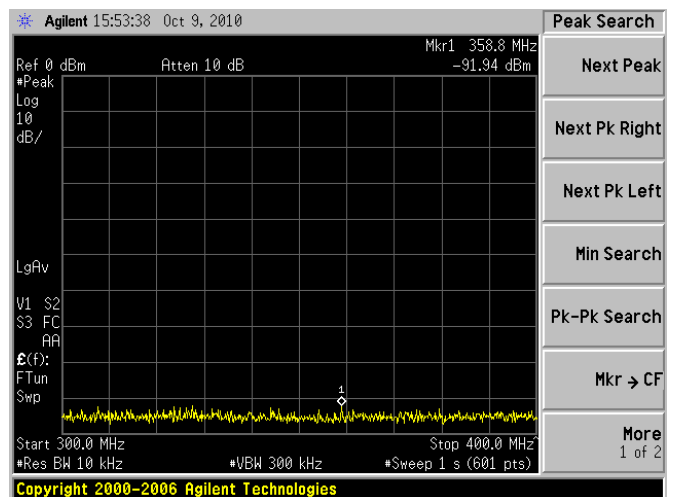
100MHz to 200MHz

(Scale: ↑ 10dB/Div →10MHz/Div)



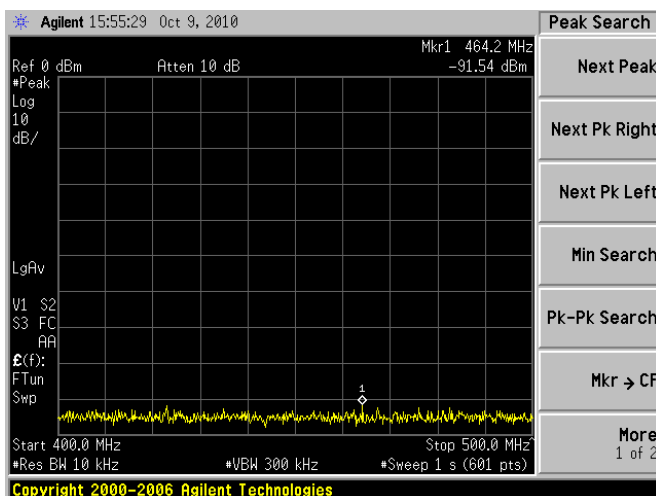
200MHz to 300MHz

(Scale: ↑ 10dB/Div →10MHz/Div)



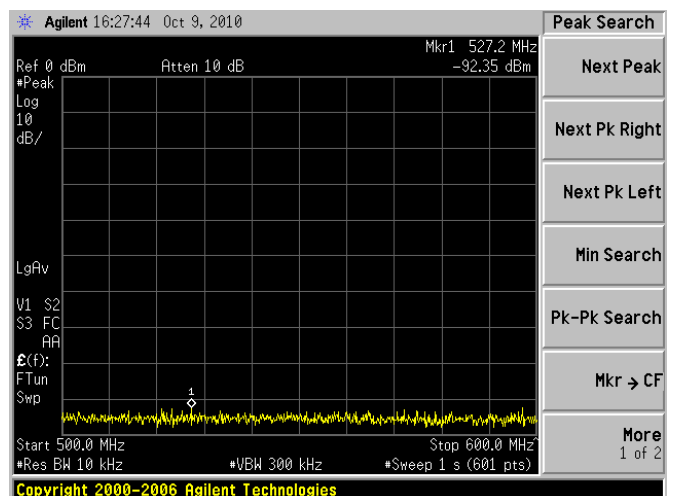
300MHz to 400MHz

(Scale: ↑ 10dB/Div →10MHz/Div)



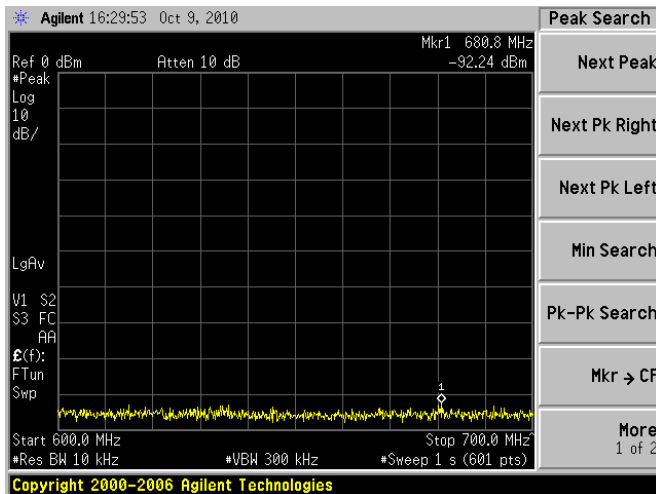
400MHz to 500MHz

(Scale: ↑ 10dB/Div →10MHz/Div)



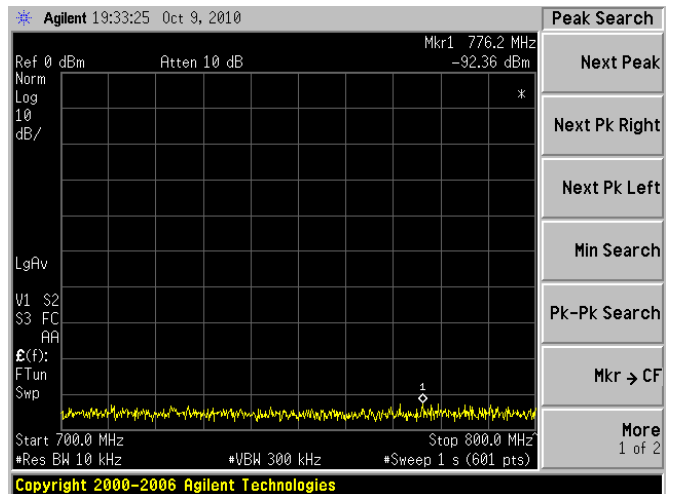
500MHz to 600MHz

(Scale: ↑ 10dB/Div →10MHz/Div)



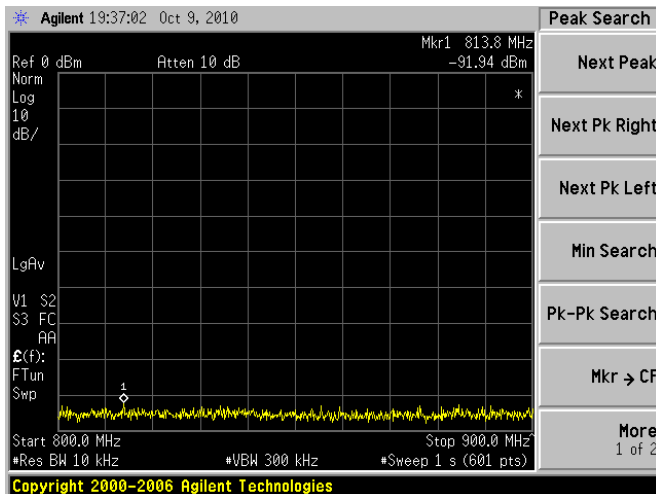
600MHz to 700MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



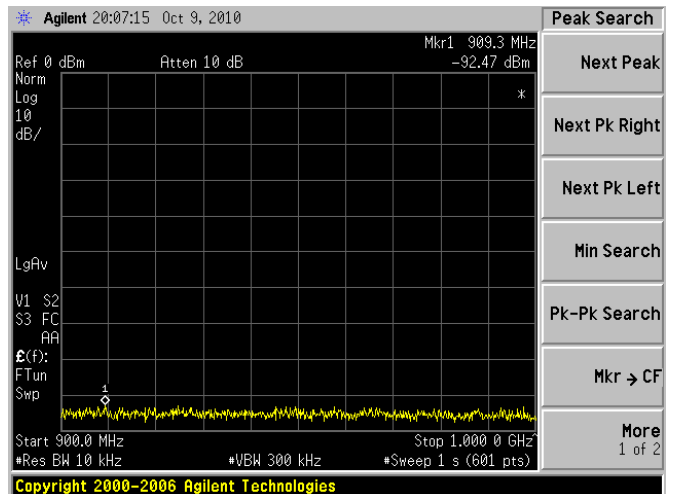
700MHz to 800MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



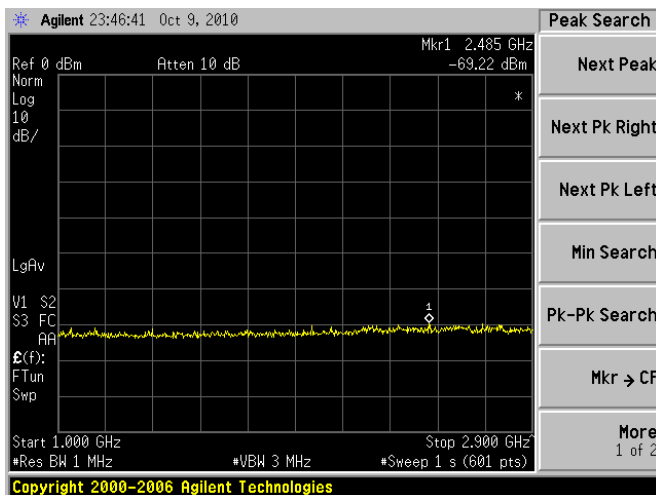
800MHz to 900MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



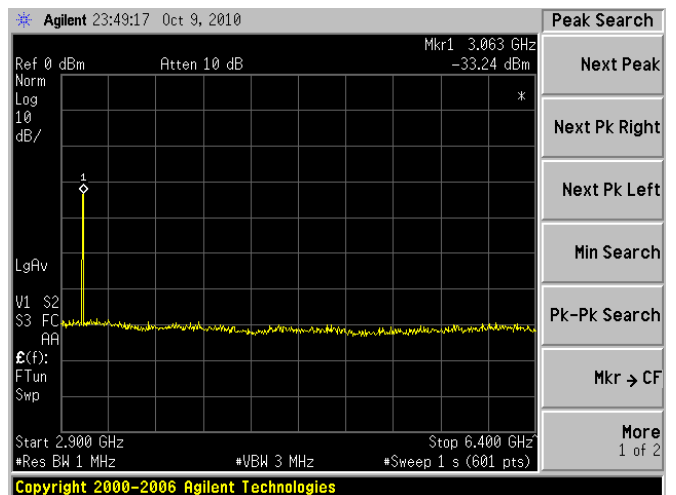
900MHz to 1GHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



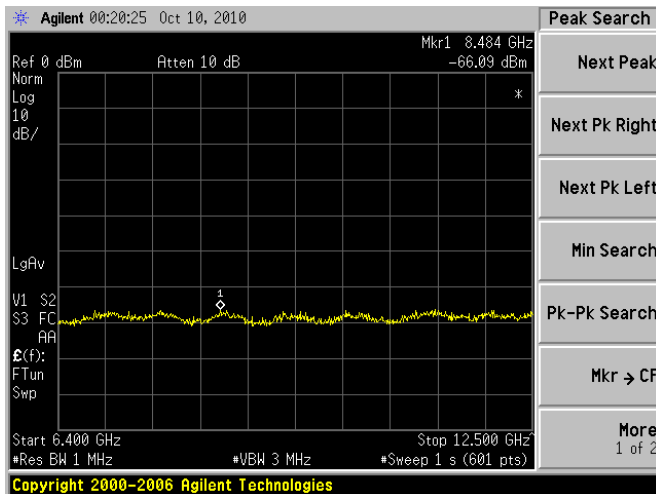
1GHz to 2.9GHz

(Scale: ↑ 10dB/Div → 190MHz/Div)

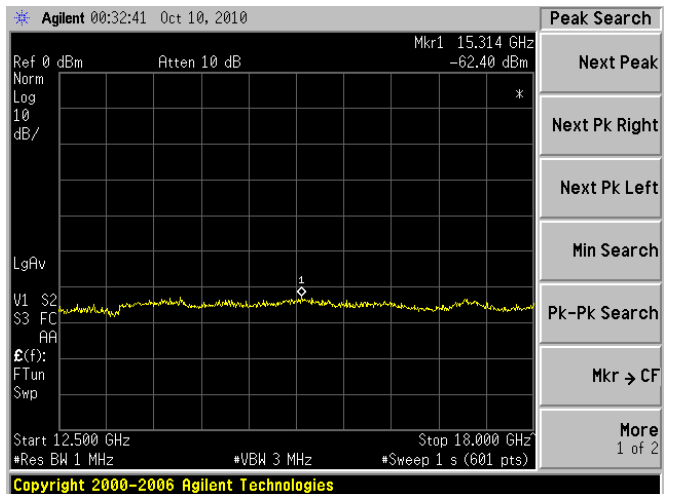


2.9GHz to 6.4GHz

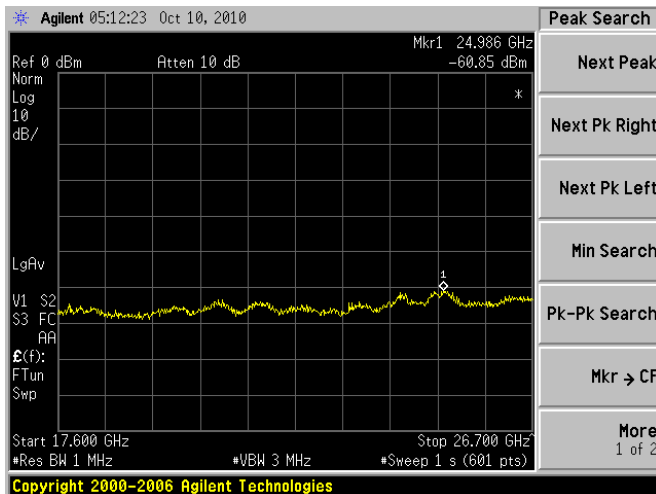
(Scale: ↑ 10dB/Div → 350MHz/Div)



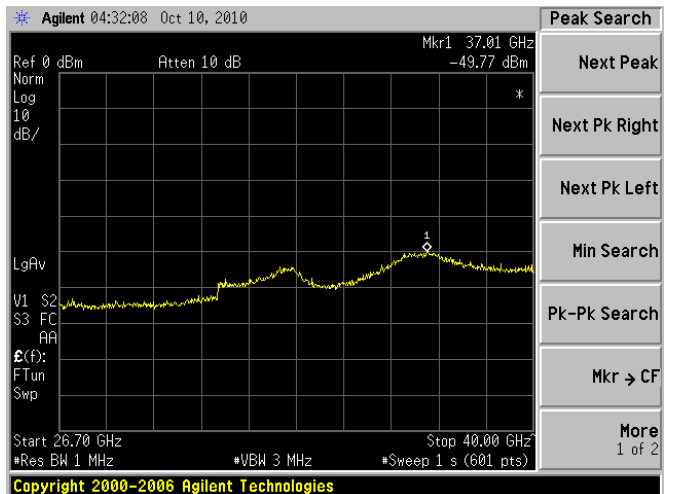
6.4GHz to 12.5GHz
(Scale: ↑ 10dB/Div → 610MHz/Div)



12.5GHz to 18GHz
(Scale: ↑ 10dB/Div → 550MHz/Div)

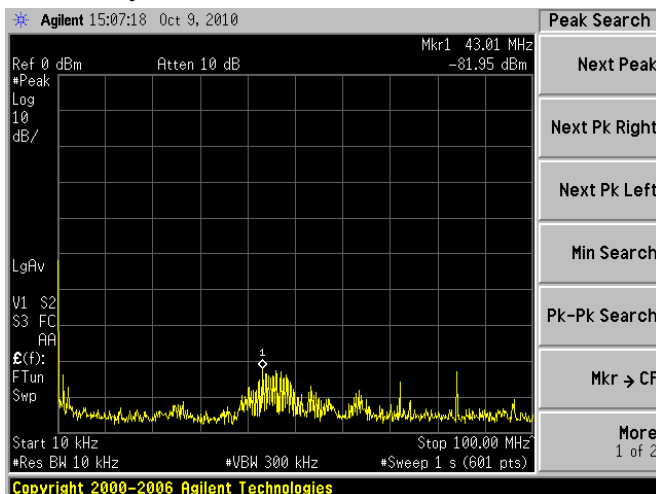


17.6GHz to 26.7GHz
(Scale: ↑ 10dB/Div → 910MHz/Div)

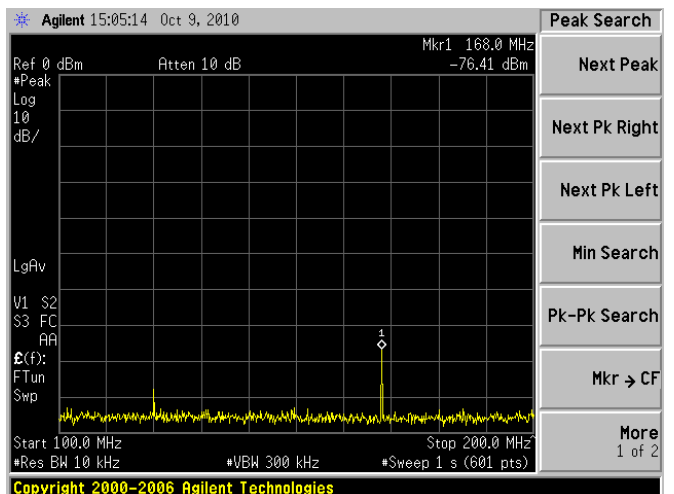


26.7GHz to 40.0GHz
(Scale: ↑ 10dB/Div → 1330MHz/Div)

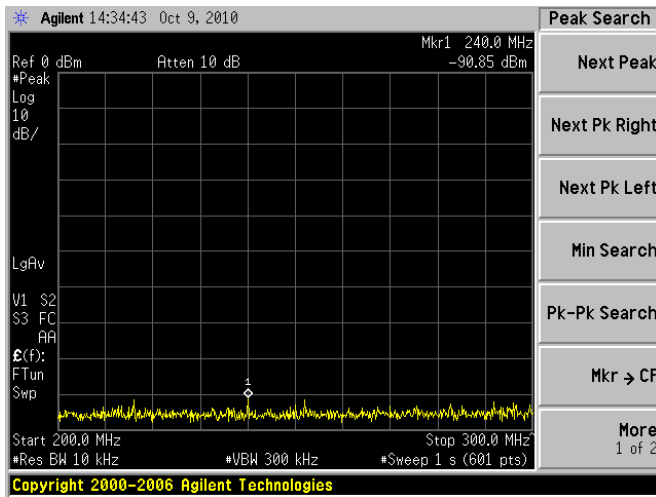
•Vertically Polarized



10kHz to 100MHz
(Scale: ↑ 10dB/Div → 9.99MHz/Div)

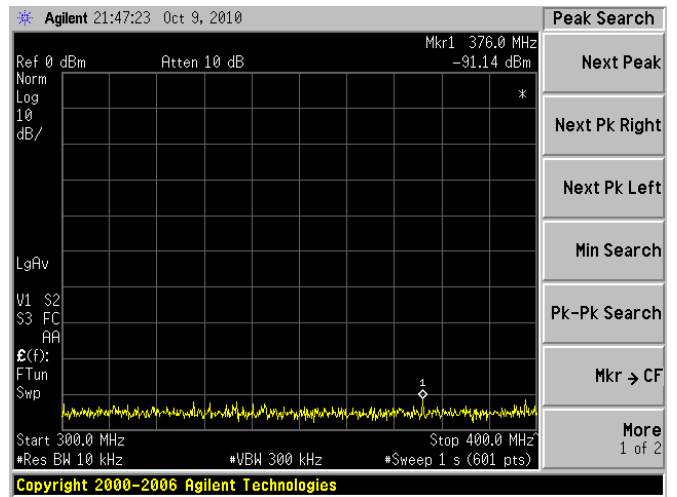


100MHz to 200MHz
(Scale: ↑ 10dB/Div → 10MHz/Div)



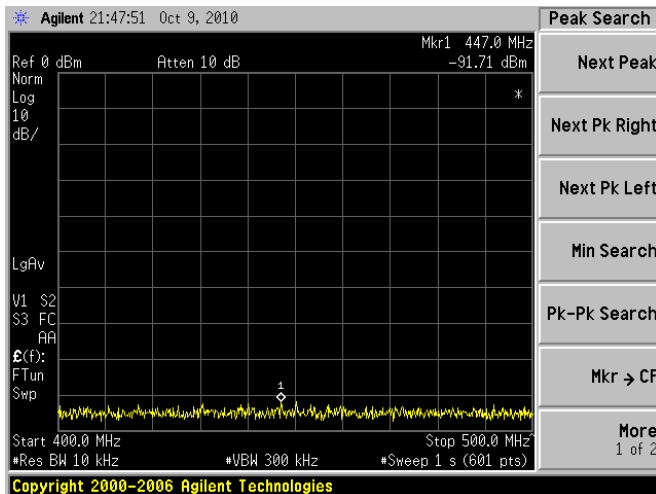
200MHz to 300MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



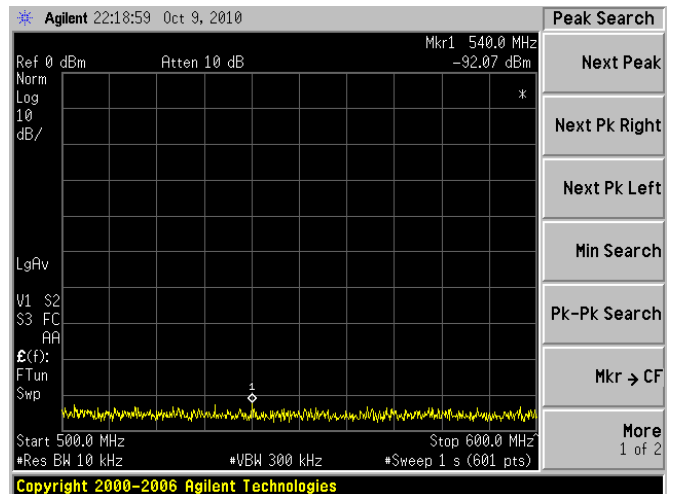
300MHz to 400MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



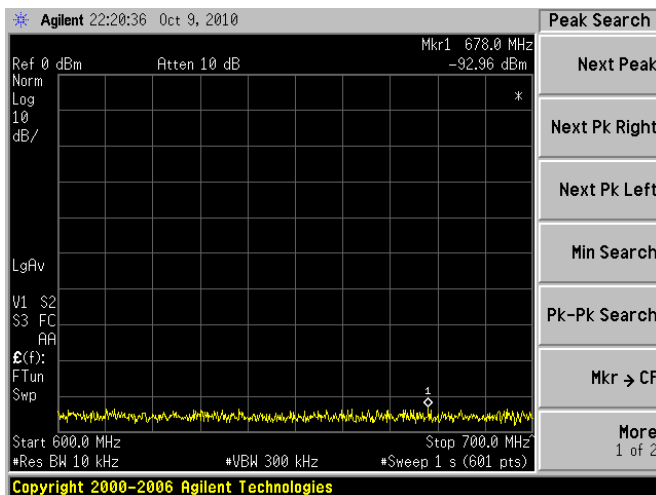
400MHz to 500MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



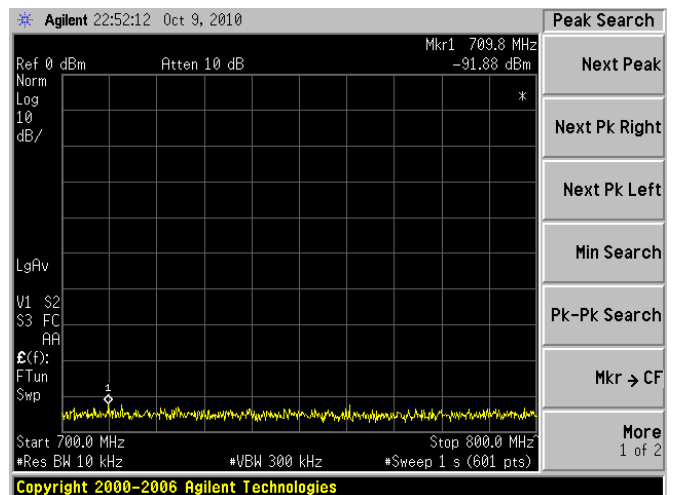
500MHz to 600MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



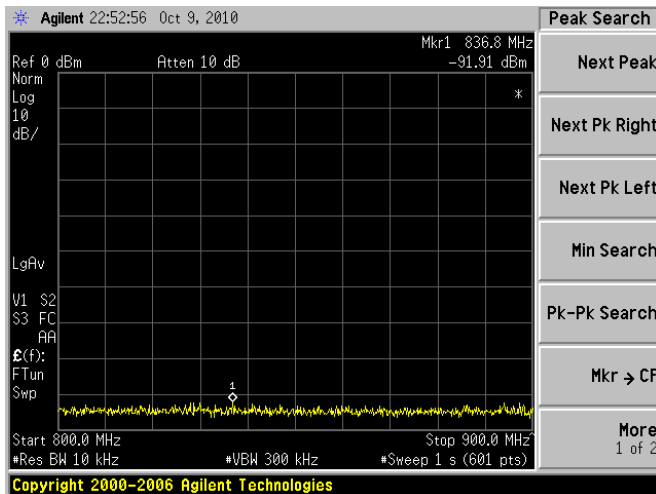
600MHz to 700MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



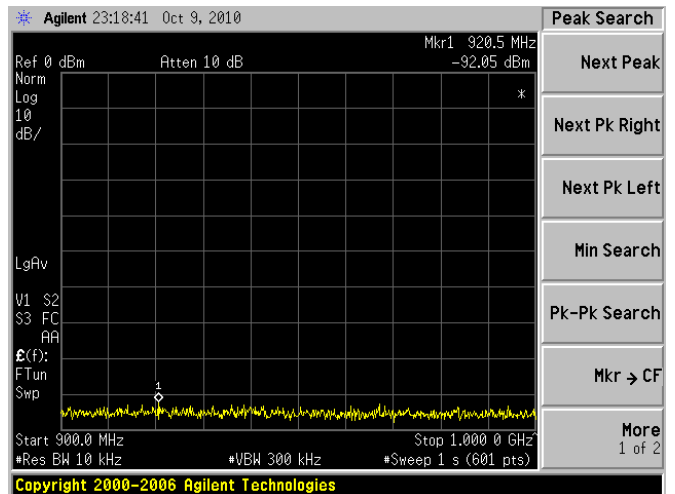
700MHz to 800MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



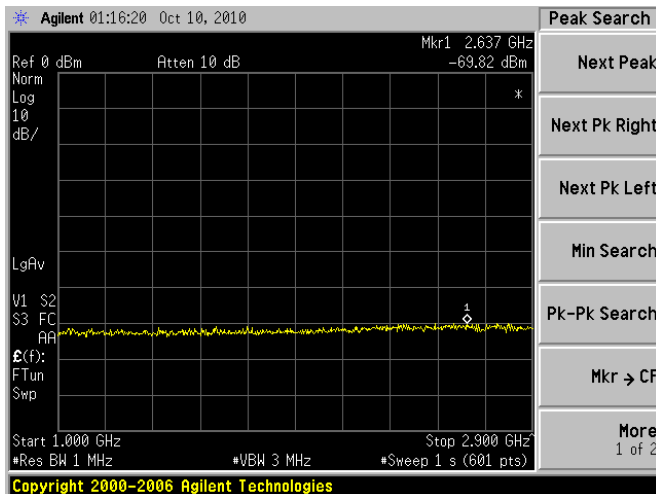
800MHz to 900MHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



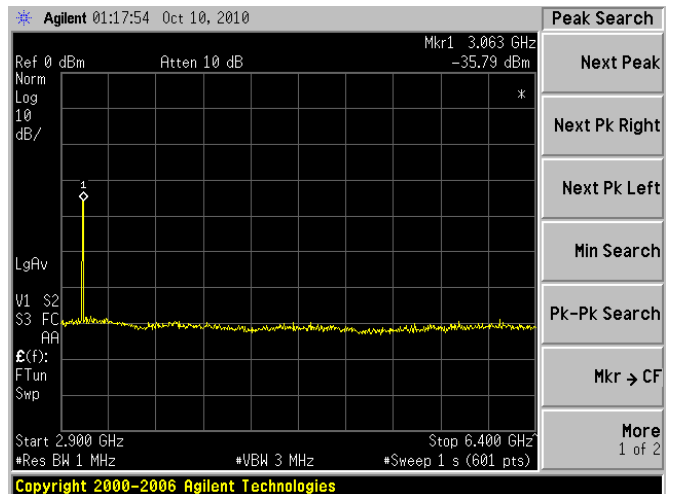
900MHz to 1GHz

(Scale: ↑ 10dB/Div → 10MHz/Div)



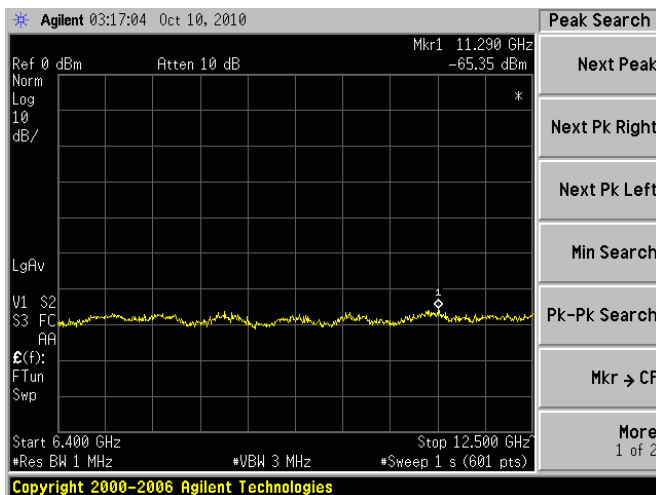
1GHz to 2.9GHz

(Scale: ↑ 10dB/Div → 190MHz/Div)



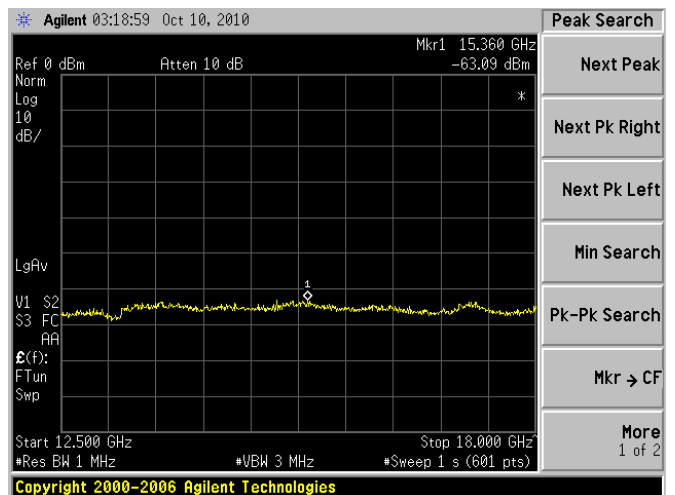
2.9GHz 6.4GHz

(Scale: ↑ 10dB/Div → 350MHz/Div)



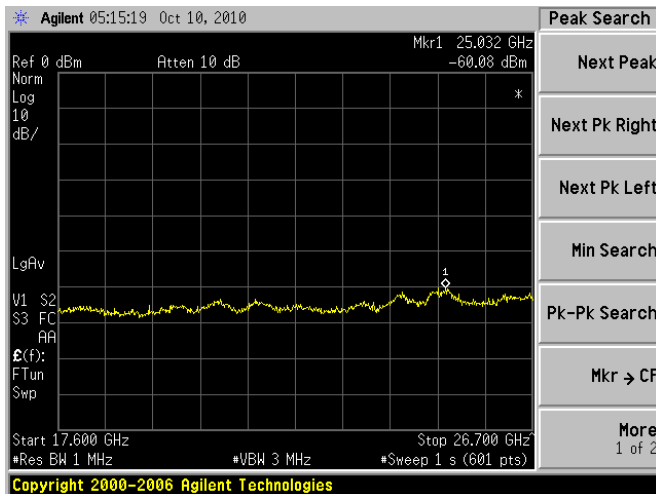
6.4GHz to 12.5GHz

(Scale: ↑ 10dB/Div → 610MHz/Div)



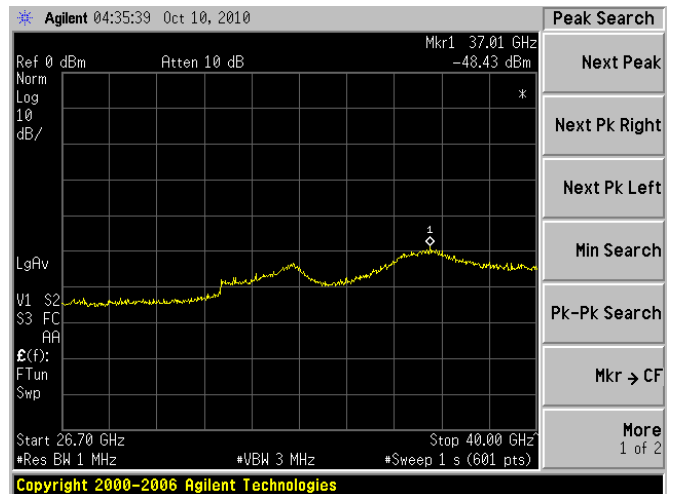
12.5GHz to 18.0GHz

(Scale: ↑ 10dB/Div → 550MHz/Div)



17.6GHz to 26.7GHz

(Scale: ↑ 10dB/Div → 910MHz/Div)



26.7GHz to 40GHz

(Scale: ↑ 10dB/Div → 1330MHz/Div)

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

where;

P_g is the generator output power into the substitution antenna.

P_d is the dipole equivalent power

and radiated spurious emissions will be calculated by the following:

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

4.4 Radiofrequency radiation exposure limits.

47 CFR sec. 1.1310

Power density = 0.0195 [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	8.57	0.0227	0.0195	6

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

$$\begin{aligned}
 \text{Power density } S_{\text{limit}} &= \frac{PG}{4\pi R^2} \\
 &= \frac{5190 * 524.81}{4 * \pi * 8157.34^2} \\
 &= 0.00326 \text{ [mW / cm}^2\text{]}
 \end{aligned}$$

where: P = 5190mW (Transmitted Mean power to antenna)
 G = 10^(dB/10) = 10^(27.2/10) = 524.81 (power gain of the antenna)
 R = 8157.34cm (distance to the center of radiation of antenna)

Distance to the center of radiation of antenna

$$\begin{aligned}
 R &= \frac{0.6D^2}{\lambda} \\
 &= \frac{0.6 * 365.76^2}{9.84} \\
 &= 8157.34
 \end{aligned}$$

where: D = 365.76cm (antenna diameter)
 λ = 9.84cm (wavelength) f = 3050MHz

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

$$\begin{aligned}
 \sum S_{\text{exp}} t_{\text{exp}} &= S_{\text{limit}} t_{\text{ave}} \\
 &= 0.00326 * 6 \\
 &= 0.0195
 \end{aligned}$$

Electric field strength

$$\begin{aligned}
 E &= \sqrt{S * 3770} \\
 &= \sqrt{0.0195 * 3770} \\
 &= 8.57 \text{ [V/m]}
 \end{aligned}$$

Magnetic field strength

$$\begin{aligned}
 H &= \sqrt{\frac{S}{37.7}} \\
 &= \sqrt{\frac{0.0188}{37.7}} \\
 &= 0.0227 \text{ [A/m]}
 \end{aligned}$$