THE STANDARDS INSTITUTION OF ISRAEL

Electronics & Telematics Laboratory

Test Report No. 8712311214

For Alvarion Ltd.

Equipment Under Test:

Broadband Wireless Access BreezeACCESS VL 5.4 System and Point to Point BreezeNET B system

From The Standards Institution
Of Israel
Industry Division
Telematics Laboratory
EMC Section

ACCREDITED

Certificate No. 1487-01

Test Report No.: 8712311214 **Page 1 of 173 Pages**
Title: Test on Broadband Wireless Access system:
BreezeACCESS VL 5.4 System and Point to Point BreezeNET B system
FCC ID: LKT-VL-53C

Order placed by:	Alvarion Ltd.
Address:	21A Habarzel str, Tel-Aviv, 69710, Israel
Sample for test selected by:	The customer
The date of test:	March 2007

Description of Equipment Under Test (EUT): BreezeACCESS VL 5.4 System and Point to Point BreezeNET B system

Manufactured by: Alvarion Ltd.

Reference Documents:

- CFR 47 FCC: Rules and Regulations; Part 15. “Radio frequency devices”; Subpart C: “Intentional radiators”, Subpart E: “UNII devices”

Test Results: The EUT was found meeting with the relevant requirements of CFR 47 FCC Part 15 Sections: 15.205, 15.207, 15.209, and 15.407.

This Test Report contains 173 pages and may be used only in full.	This Test Report applies only to the specimen tested and may not be applied to other specimens of the same product.

Table of Contents

1. Scope

Test item: BreezeACCESS VL 5.4 System and Point to Point BreezeNET B system .

Manufacturer: Alvarion LTD

Types (Models): Base Station

IDU:	BS-SH-VL (Generic) shelf
BS-AU-VL	Plugged-in card
BS-PS-AC-VL	AC Power supply
ODU: AU-D-BS-5.4-ODU-90/120	Radio unit

Subscribe unit:

SU-A-5.4-3/6/54-B/1D-VL	Complete system
IDU:	Universal indoor unit, Model: PS1065/1073

Base station ODU unit and Subscriber ODU unit are identical hardware units and system construction. The two configurations are distinguished by software application only. BreezeNET B system hardware configuration and system construction is identical to the following BreezeAccess VL units:

BU/RB14/28/100-5.4 system configuration is identical to subscriber unit SU-A-5.4-3/6/54-B/1D-VL.
The two systems are distinguished by software application only.
The radio conducted tests were performed on AU-E-SA-5.4-VL, which represents all above described models as far as power and frequency of operation.

Permissive change

The BreezeACCESS VL and BreezeNET B 5.4GHz radio is based on the same Atheros chip set (AR5112 – ROC and AR5212 - MAC) as the VL 5.3GHz radio.
The permissive change is related to band pass filters used to define the operating frequency bands. MFE5550BBA01 NTK band pass filters are used on RX-path and on Tx-path of 5.4GHz radio, instead of MFE5250BBA22 NTK band pass filters that are used on 5.3GHz radio; Insertion loss values as well as attenuation values at LO related frequencies are similar for these filters.
Basic frequency determining and stabilizing circuitry (including clock or data rates), frequency multiplication stages, basic modulator circuits as well as harmonic suppression filters have not been changed.

2. System content

2.1. BreezeACCESS VL system and BreezeNETB system

Base station	
AU-D-BS-5.4-90/120-VL	Complete system
BS-SH-VL (Generic)	Shelf
BS-PS-AC-VL	Power supply AC
BS-PS-DC-VL	Power supply DC
BS-AU-VL	Indoor card
AU-D-BS-5.4 -ODU-90/120	Outdoor unit with detached antenna
Base station Stand alone	
AU-D-SA-5.3-60/90/120-VL AU-5.4-120-EZ (alternate name)	Complete system with detached antenna
Subscriber unit	
SU-A-5.4-3/6/54-B/1D-VL	Complete system with integrated antenna
BreezeNETB p-to-p system	
BU/RB-B14/28/100D-5.4[1]	Remote Base/bridge D: antenna detached

Comments:
[1] D can be blank or D

2.2. Applicant information

Company:	Alvarion LTD
P.O.B.:	13139
Postal code:	61131
City:	Tel Aviv
Country:	Israel
Telephone number:	+972 3 6456262
Telefax number:	+972 3 6456222

2.3. Test performance

Location:	SII EMC Section Alvarion LTD
Purpose of test:	Apparatus compliance verification according with CFR 47 FCC Requirement
Test specification:	CFR 47 FCC Part 15 Sections: 15.205, 15.207, 15.209, 15.407

3. General description

BreezeACCESS VL is a high capacity, IP services oriented Broadband Wireless Access system.
The BreezeAccess VL is digital modulated TDD system operating in the 5470 MHz up to 5725 MHz band. The system contains a base station unit and a subscriber unit. The system is operating with software selectable bandwidth of 10MHz, 20MHz, and 40MHz.

The base station and subscriber radio are identical radio hardware.
The basic system configuration is a two-box configuration that contains

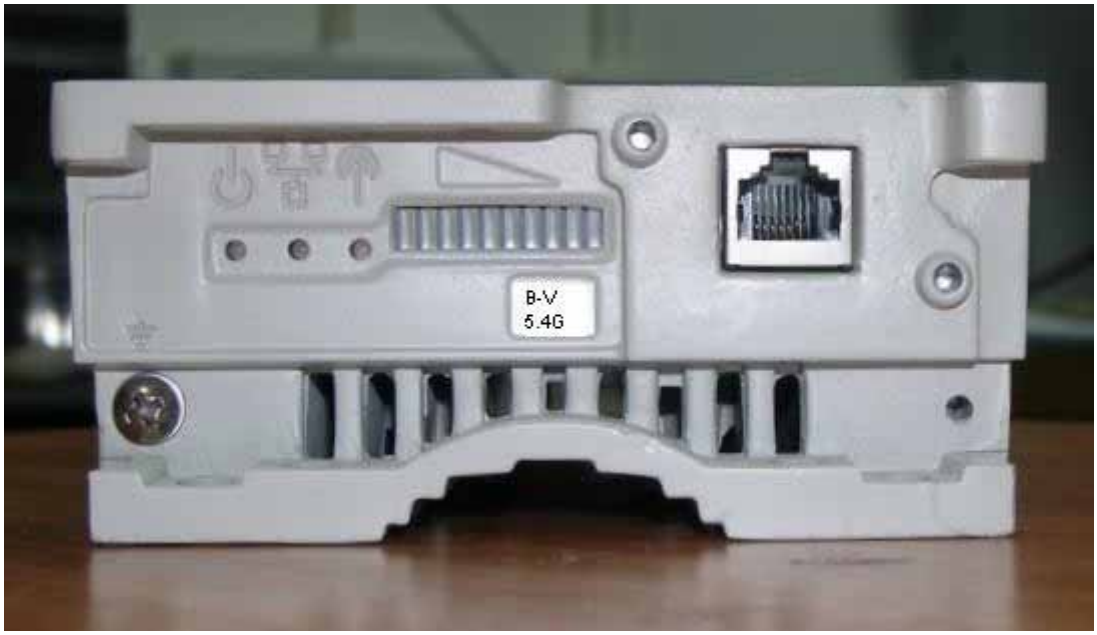
1. Indoor unit that contains a power supply and an Ethernet 10Base-T bypass.
2. Outdoor unit containing the entire radio and digital section.
3. A single CAT5 cable connecting the indoor and outdoor unit carrying the DC power and the data.

The subscriber indoor unit is a single power supply (55VDC) and Ethernet 10Base-T bypass. The base station indoor unit is a 19" rack containing several indoor units cards were there is one main power supply for all units or a single power supply supporting only one outdoor unit.
The subscriber unit is typically supplied with a 21dBi antenna or a high gain antenna for point-to-point application.
The Base station unit is typically supplied with a 17dBi antenna for point to multi point application or with a high gain antenna for point-to-point application.
The measurements are done for the worst-case high output power for the subscriber and base station applications. For high gain antenna the output power is attenuated automatically to maintain the 30dBm EIRP limit.

Photo # 1. Radio Unit. PWB component side

Photo # 2. Radio Unit. PCB component side

Photo # 3. Radio Unit. PCB print side



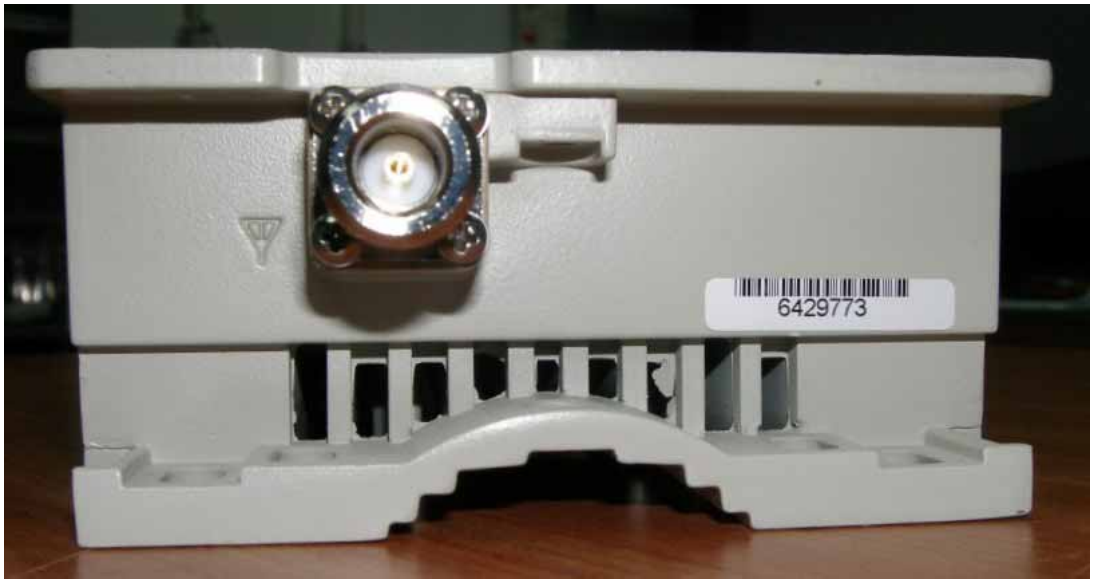


Photo # 4. Radio unit. RF & RJ45 connectors view

4. Test configuration:

1. For Radiated emission measurements per sec. 15.407 requirements the Subscriber Unit and the Base Station Unit were configured for tests as shown in Figures 1, 2.

2. For Radiated emission measurements per sec. 15.407 requirements the Radio unit was tested with two various antennas, as shown in table:

No	Name	Freq. Range [GHz]	Gain dBi	P/N or Model	Type
1	MTI (AU/SU)	5.15 - 5.875	8	AN 1299	Omni
2	MTI (AU)	5.15 - 5.875	17	AN 1353	Sector antenna
3	MTI (SU)	5.15 - 5.875	23	AN 1231	Planar Array Unidirectional antenna

Environmental evaluation and exposure limit according to FCC CFR 47part 1, §1.1307, §1.1310
Limit for power density for general population/uncontrolled exposure is 1 mW/cm2.

The power density P (mW/cm2) = $Pt/4\pi .r2$

Where:

PT - The transmitted power (EIRP) (mW)
r - The distance from the unit. (cm)

The 1(mW/cm2) limit can be calculated from the above based on the following data:
Pt = 30dBm (maximum EIRP) 1000mW

r = SQRT(1000/4π) = 8.92cm

The allowed distance “r”, where RF exposure limits may not be exceeded, is 8.92 cm from the unit antenna main lobe.

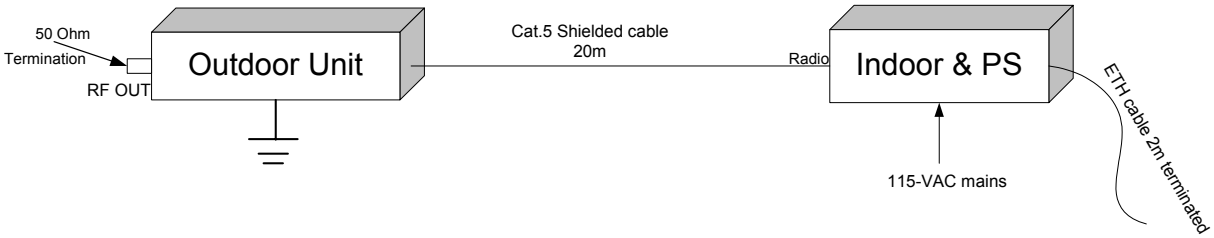


Figure 1. Subscriber Unit test setup

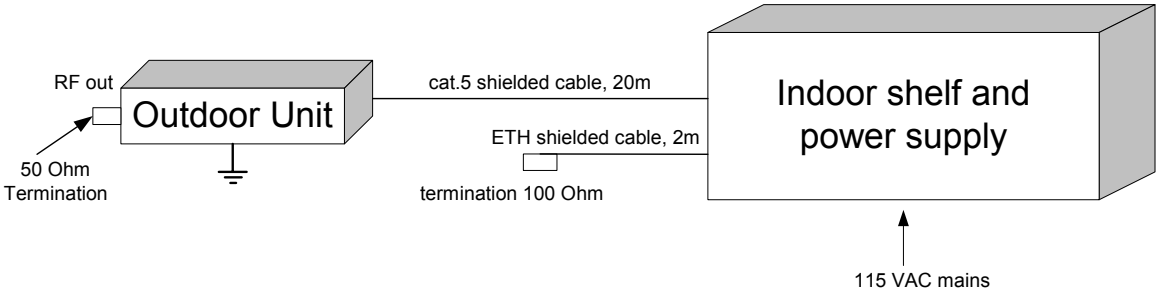


Figure 2. Base Station test setup

5. Test specification, Methods and Procedures

Test Specification:

- CFR 47 FCC: Rules and Regulations; Part 15. “Radio frequency devices”; Subpart E: “Intentional radiators” (2006)

Methods and Procedures:

- ANSI C63.4:2003: "American National Standard for Method of Measurement of Radio Noise Emissions from Low Voltage Electrical and Electronic Equipment in the Range 9 kHz to 40 GHz".

6. Measurements, examinations and derived results

6.1. Location of the Test Site:

The tests were conducted in the EMC laboratory of the Standards Institution of Israel in Tel-Aviv and at open test site located at Kibbutz Native Halamed Hai in Emek HaEla, Israel.

6.2. Normal test condition:

Temperature: 22 °C
Humidity: 50 %

6.3. Conducted emission test (per Section 15.207):

6.3.1. Requirements:

EUTs conducted emission within the band 150 kHz to 30 MHz shall not exceed value required in section 15.207 (a).

6.3.2. Tested units:

The measurements were performed on:
- Subscriber Unit - on Universal Indoor unit AC power adaptor PS 1073
- Base Station Unit - on AC input.

6.3.3. Test procedure:

Each EUT was placed on a non-metallic table in a shielded chamber at a height of 80 cm from the floor and 40 cm from the nearest wall.

The EUT was operated to transmitting through the customer software.
First, initial scans were performed. Final measurements were performed at the frequencies where emission exceeded the tolerance limit.

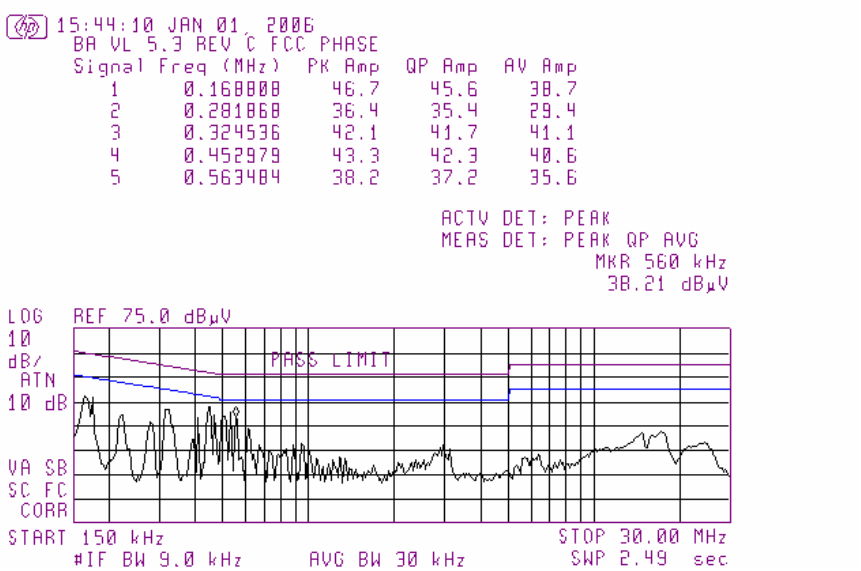
Test equipment (EMI receiver) setup was as follow:

Initial scan:	
Detector type	Peak
Mode	Max hold
Bandwidth	9 kHz
Step size	Continuous sweep
Sweep time	>100 msec
Measurements	
Detector type	Quasi-peak, Avg (CISPR)
Bandwidth	9 kHz
Measurement time	200 seconds/MHz
Observation	>15 seconds

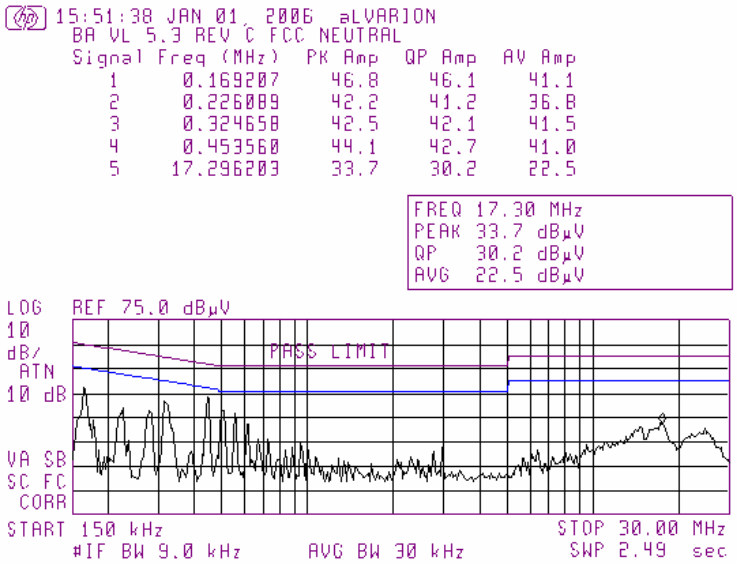
6.3.4. Test results:

Subscriber Unit. Test results are shown in Plots #1, 2.

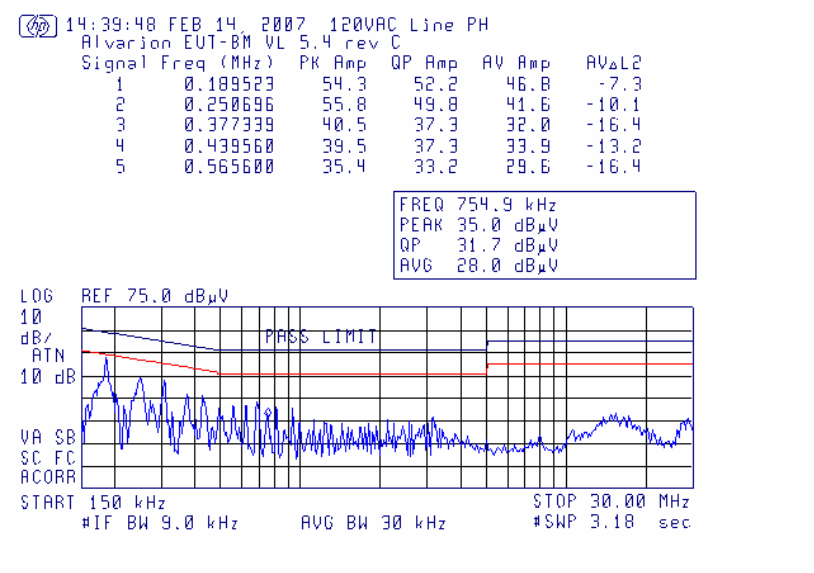
Base station unit. Test results are shown in Plots #3, 4



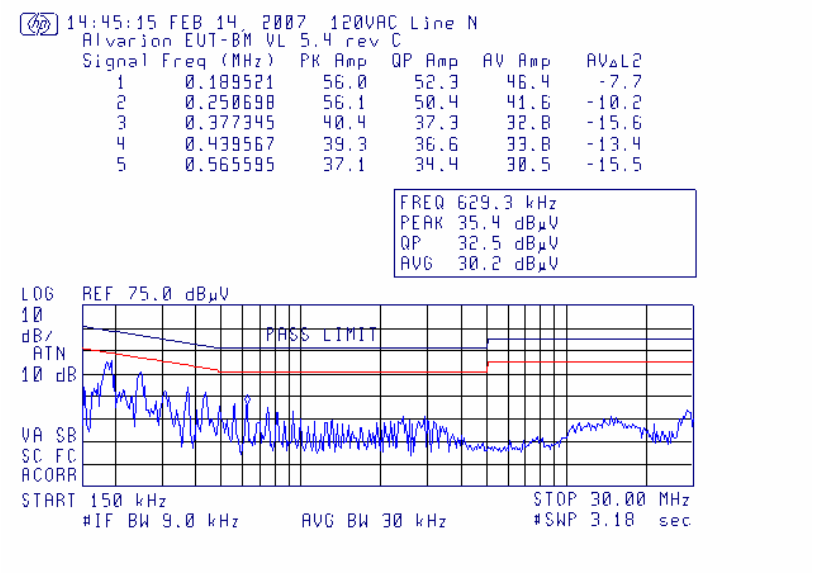
Plot 1. Subscriber Unit
Conducted emissions measurement result on 120 VAC power line: phase



Plot 2. Subscriber Unit
Conducted emissions measurement result on 120 VAC power line: neutral



Plot 3.AU (Base station)
Conducted emissions measurement result on 120 VAC power line: phase



Plot 4. AU (Base station)
Conducted emissions measurement result on 120 VAC power line: neutral

6.4. Radiated emission test, general requirements (per section 15.209):

6.4.1. Requirements:

EUT's radiated emission shall not exceed value required in section 15.209.

6.4.2. Test description:

The measurements were performed at the Open Area Test Site.
The test configuration is shown in Fig.1, 2.

The EUT was arranged on a non-metallic table 0.8 m placed on the turn-table.
The measurements were performed at a 10 m measurement distance.

The Biconilog 30 MHz-2 GHz antenna was used.

The frequency range was investigated from 30 MHz to 2 GHz.

The measurements were performed at each frequency at which the signal was 10 dB below the limit or less.

The level were maximized by initially rotating turntable through 360°, varying the antenna height between 1 m and 4 m, rerouting EUT cables and changing antenna polarization from vertical to horizontal. The measuring equipment settings were:

Initial scan:	
Detector type	Peak
Mode	Max hold
Bandwidth	120 kHz
Step size	Continuous sweep
Sweep time	>1 seconds/MHz
Measurements:	
Detector type	Quasi-peak (CISPR 16)
Bandwidth	120 kHz
Measurement time	20 seconds/MHz
Observation	>15 seconds

6.4.3. Radiated emission test results:

Test results are presented in Table 1.

Table 1. Radiated emission test results
EUT: BreezeACCESS VL 5.4 System

Frequency (MHz)	Turn-table Angle (°)	Antenna Polariz.	Antenna Height (m)	Emission Level Note 1 (dBμV/m)	Limit @ 3 m (dBμV/m)	Margin Note 2 (dB)	Results
35.0	V	235	1.0	24.8	40.0	15.2	Complies
66.5	V	235	1.0	23.7	40.0	16.3	Complies
75.8	V	129	1.0	23.0	40.0	17.0	Complies
250.0	H	11	3.8	38.9	46.0	7.1	Complies
355.8	H	169	1.9	27.1	46.0	18.9	Complies
375.0	H	181	2.1	35.8	46.0	10.2	Complies
400.0	H	98	2.1	38.8	46.0	7.2	Complies

Note 1: Emission level = E Reading (dBμV) + Cable loss (dB) + Antenna Factor (dB/m) + 10 dB

Where 10 dB is an extrapolation distance factor.
For Cable Loss and Antenna Factor refer to Appendix 2.

Note 2: Margin (dB) = Limit (dBμV/m) – Emission level (dBμV/m)

6.5. Radiated emission test on Radio Unit – spurious (per Section 15.209):

6.5.1. Requirements:

The levels of any unwanted emission shall not exceed value required in section 15.209.

6.5.2. EUT configuration:

The radio unit was tested with antennas:

-Omni antenna, AN1299 for Base and Subscribe Units
- Sector antenna, AN 1353 for Base Station (AU)
- Unidirectional antenna AN 1231 for Subscriber unit (SU)

The output power was adjusted according to 15.407 (a)(2) requirement:
Outdoor unit – antenna 8 dBi via cable 2 dB loss, EBW-10 MHz – 21 dBm
EBW – 20/40 MHz – 24 dBm.
Base Station – antenna 17dBi, EBW – 10 MHz – 21-(17-6) = 10 dBm
Base Station – antenna 17dBi, EBW – 20 MHz – 24-(17-6) = 13 dBm
Subscriber unit – antenna 23 dBi, EBW – 20 MHz – 24-(23-6) = 7 dBm
Subscriber unit – antenna 23 dBi, EBW – 40 MHz – 24-(23-6) = 7 dBm

6.5.3. Test procedure:

The measurements were performed in the anechoic chamber.
The EUT was arranged on a non-metallic table 0.8 m placed on the turntable.

Measuring antennas used: Up to 18 GHz - Double Ridge EMCO model 3115
above 18 GHz - Alpha TRG model A361

Antenna height = 1 m.
Polarization: Vertical/Horizontal
Measurement distance = 1m.
The frequency range was investigated up to 40 GHz.
The measurements were performed in vertical and horizontal polarization, the maximum reading recorded.

Measuring detector function and bandwidths:

Detector type	Peak	Average
RBW	1 MHz	1 MHz
VBW	3 MHz	3 kHz

6.5.4. Radiated emission test results and calculation ratio:

The test results are shown in Tables ## 2-3.

The emission level was calculated as:
E Reading (dBμV) + measuring cable loss (dB) + measuring antenna factor (dB/m)
For measuring cable loss and measuring antenna factor refer to Appendix 2.
Limit distance correction factor = 10 dB (an extrapolation factor from 1 m measuring distance to 3m specified distance).

Table 2. Spurious emissions test results

Antenna used: 8 dBi. EBW 10 MHz

Frequency (GHz)	Emission Level (dBμV/m)		Limit @ 1m (dBμV/m)		Margin (dB)		Results
	Peak	Average	Peak	Average	Peak	Average	
LOW 5.485 GHz							
10.97	63.8	56.0	84	64	20.2	8.0	Complies
16.45	69.6	59.0			14.4	5.0	Complies
21.94	Noise floor	Noise floor			-	-	Complies
27.42	Noise floor	Noise floor			-	-	Complies
32.91	Noise floor	Noise floor			-	-	Complies
38.39	Noise floor	Noise floor			-	-	Complies
MIDDLE 5.600 GHz							
11.2	63.6	57.0	84	64	20.4	7.0	Complies
16.8	69.1	61.0			14.9	3.0	Complies
22.4	Noise floor	Noise floor			-	-	Complies
28.0	Noise floor	Noise floor			-	-	Complies
33.6	Noise floor	Noise floor			-	-	Complies
39.2	Noise floor	Noise floor			-	-	Complies
HIGH 5.710 GHz							
11.42	63.0	57.0	84	64	21.0	7.0	Complies
17.13	69.8	62.6			14.2	1.4	Complies
22.84	Noise floor	Noise floor			-	-	Complies
28.55	Noise floor	Noise floor			-	-	Complies
34.36	Noise floor	Noise floor			-	-	Complies
39.97	Noise floor	Noise floor			-	-	Complies

Table 3. Spurious emissions test results

Antenna used: 8 dBi. EBW 20 MHz

Frequency (GHz)	Emission Level (dBμV/m)		Limit @ 1m (dBμV/m)		Margin (dB)		Results
	Peak	Average	Peak	Average	Peak	Average	
LOW 5.500 GHz							
11.0	64.6	56.3	84	64	19.4	7.7	Complies
16.5	67.4	59.5			16.6	4.5	Complies
22.0	Noise floor	Noise floor			-	-	Complies
27.5	Noise floor	Noise floor			-	-	Complies
33.0	Noise floor	Noise floor			-	-	Complies
38.5	Noise floor	Noise floor			-	-	Complies
MIDDLE 5.600 GHz							
11.2	65.5	56.7	84	64	18.5	7.3	Complies
16.8	70.9	61.0			13.1	3.0	Complies
22.4	Noise floor	Noise floor			-	-	Complies
28.0	Noise floor	Noise floor			-	-	Complies
33.6	Noise floor	Noise floor			-	-	Complies
39.2	Noise floor	Noise floor			-	-	Complies
HIGH 5.700 GHz							
11.4	63.0	57.0	84	64	21.0	7.0	Complies
17.1	68.6	62.7			15.4	2.3	Complies
22.8	Noise floor	Noise floor			-	-	Complies
28.5	Noise floor	Noise floor			-	-	Complies
34.3	Noise floor	Noise floor			-	-	Complies
39.9	Noise floor	Noise floor			-	-	Complies

Table 4. Spurious emissions test results

Antenna used: 8 dBi. EBW 40 MHz

Frequency (GHz)	Emission Level (dBμV/m)		Limit @ 1m (dBμV/m)		Margin (dB)		Results
	Peak	Average	Peak	Average	Peak	Average	
LOW 5.520 GHz							
11.0	65.2	56.2	84	64	18.8	7.8	Complies
16.5	67.0	59.8			17.0	4.2	Complies
22.0	Noise floor	Noise floor			-	-	Complies
27.5	Noise floor	Noise floor			-	-	Complies
33.0	Noise floor	Noise floor			-	-	Complies
38.5	Noise floor	Noise floor			-	-	Complies
MIDDLE 5.600 GHz							
11.2	65.7	57.1	84	64	18.3	6.9	Complies
16.8	69.1	61.8			14.9	2.2	Complies
22.4	Noise floor	Noise floor			-	-	Complies
28.0	Noise floor	Noise floor			-	-	Complies
33.6	Noise floor	Noise floor			-	-	Complies
39.2	Noise floor	Noise floor			-	-	Complies
HIGH 5.680 GHz							
11.36	66.3	57.6	84	64	17.7	6.4	Complies
17.04	70.3	62.4			13.7	1.6	Complies
22.72	Noise floor	Noise floor			-	-	Complies
28.4	Noise floor	Noise floor			-	-	Complies
34.08	Noise floor	Noise floor			-	-	Complies
39.76	Noise floor	Noise floor			-	-	Complies

Table 5. Spurious emissions test results

Antenna used: 17 dBi. EBW 10 MHz

Frequency (GHz)	Emission Level (dBμV/m)		Limit @ 1m (dBμV/m)		Margin (dB)		Results
	Peak	Average	Peak	Average	Peak	Average	
LOW 5.485 GHz							
10.97	68.2	56.0	84	64	15.8	8.0	Complies
16.45	69.0	59.6			15.0	4.4	Complies
21.94	Noise floor	Noise floor			-	-	Complies
27.42	Noise floor	Noise floor			-	-	Complies
32.91	Noise floor	Noise floor			-	-	Complies
38.39	Noise floor	Noise floor			-	-	Complies
MIDDLE 5.600 GHz							
11.2	66.1	57.2	84	64	17.9	6.8	Complies
16.8	69.8	61.8			14.2	2.2	Complies
22.4	Noise floor	Noise floor			-	-	Complies
28.0	Noise floor	Noise floor			-	-	Complies
33.6	Noise floor	Noise floor			-	-	Complies
39.2	Noise floor	Noise floor			-	-	Complies
HIGH 5.710 GHz							
11.42	64.6	57.2	84	64	19.4	6.8	Complies
17.13	70.3	62.8			13.7	2.2	Complies
22.84	Noise floor	Noise floor			-	-	Complies
28.55	Noise floor	Noise floor			-	-	Complies
34.36	Noise floor	Noise floor			-	-	Complies
39.97	Noise floor	Noise floor			-	-	Complies

Table 6. Spurious emissions test results

Antenna used: 17 dBi. EBW 20 MHz

Frequency (GHz)	Emission Level (dBμV/m)		Limit @ 1m (dBμV/m)		Margin (dB)		Results
	Peak	Average	Peak	Average	Peak	Average	
LOW 5.500 GHz							
11.0	60.5	56.3	84	64	23.5	7.7	Complies
16.5	69.4	59.9			14.6	4.1	Complies
22.0	Noise floor	Noise floor			-	-	Complies
27.5	Noise floor	Noise floor			-	-	Complies
33.0	Noise floor	Noise floor			-	-	Complies
38.5	Noise floor	Noise floor			-	-	Complies
MIDDLE 5.600 GHz							
11.2	65.1	56.8	84	64	18.9	7.2	Complies
16.8	67.9	61.3			16.1	2.7	Complies
22.4	Noise floor	Noise floor			-	-	Complies
28.0	Noise floor	Noise floor			-	-	Complies
33.6	Noise floor	Noise floor			-	-	Complies
39.2	Noise floor	Noise floor			-	-	Complies
HIGH 5.700 GHz							
11.4	65.8	57.5	84	64	19.2	6.5	Complies
17.1	69.2	62.7			14.8	2.3	Complies
22.8	Noise floor	Noise floor			-	-	Complies
28.5	Noise floor	Noise floor			-	-	Complies
34.3	Noise floor	Noise floor			-	-	Complies
39.9	Noise floor	Noise floor			-	-	Complies

Table 7. Spurious emissions test results

Antenna used: 23 dBi. EBW 20 MHz

Frequency (GHz)	Emission Level (dBμV/m)		Limit @ 1m (dBμV/m)		Margin (dB)		Results
	Peak	Average	Peak	Average	Peak	Average	
LOW 5.500 GHz							
11.0	71.7	56.3	84	64	12.3	7.7	Complies
16.5	69.1	59.7			14.9	4.3	Complies
22.0	Noise floor	Noise floor			-	-	Complies
27.5	Noise floor	Noise floor			-	-	Complies
33.0	Noise floor	Noise floor			-	-	Complies
38.5	Noise floor	Noise floor			-	-	Complies
MIDDLE 5.600 GHz							
11.2	65.7	57.7	84	64	18.3	6.3	Complies
16.8	70.0	61.1			14.0	2.9	Complies
22.4	Noise floor	Noise floor			-	-	Complies
28.0	Noise floor	Noise floor			-	-	Complies
33.6	Noise floor	Noise floor			-	-	Complies
39.2	Noise floor	Noise floor			-	-	Complies
HIGH 5.700 GHz							
11.4	65.1	57.1	84	64	18.9	6.9	Complies
17.1	71.8	62.8			12.2	1.3	Complies
22.8	Noise floor	Noise floor			-	-	Complies
28.5	Noise floor	Noise floor			-	-	Complies
34.3	Noise floor	Noise floor			-	-	Complies
39.9	Noise floor	Noise floor			-	-	Complies

Table 8. Spurious emissions test results

Antenna used: 23 dBi. EBW 40 MHz

Frequency (GHz)	Emission Level (dBμV/m)		Limit @ 1m (dBμV/m)		Margin (dB)		Results
	Peak	Average	Peak	Average	Peak	Average	
LOW 5.520 GHz							
11.0	65.0	56.5	84	64	19.0	7.5	Complies
16.5	68.1	59.8			15.9	4.2	Complies
22.0	Noise floor	Noise floor			-	-	Complies
27.5	Noise floor	Noise floor			-	-	Complies
33.0	Noise floor	Noise floor			-	-	Complies
38.5	Noise floor	Noise floor			-	-	Complies
MIDDLE 5.600 GHz							
11.2	65.3	57.1	84	64	18.7	6.9	Complies
16.8	69.1	61.9			14.9	2.1	Complies
22.4	Noise floor	Noise floor			-	-	Complies
28.0	Noise floor	Noise floor			-	-	Complies
33.6	Noise floor	Noise floor			-	-	Complies
39.2	Noise floor	Noise floor			-	-	Complies
HIGH 5.680 GHz							
11.36	66.0	57.4	84	64	18.0	6.6	Complies
17.04	71.5	62.5			12.5	1.5	Complies
22.72	Noise floor	Noise floor			-	-	Complies
28.4	Noise floor	Noise floor			-	-	Complies
34.08	Noise floor	Noise floor			-	-	Complies
39.76	Noise floor	Noise floor			-	-	Complies

6.6. Radiated emission test on Radio Unit - restricted bands (per Section 15.205):

6.6.1. Requirements:

Radiated emission in restricted bands should meet the requirements sec. 15.205.
The following frequency bands should be measured:

Frequency carrier, GHz		Harmonic Frequency, GHz	Restricted band to be tested GHz
LOW	5.485 5.500 5.520	10.97, 11.0,11.04	10.6 – 12.7
		22.08	22.01 – 23.12
MIDDLE	5.600	11.2	10.6 – 12.7
		22.4	22.01 – 23.12
HIGH	5.680 5.700 5.710	11.36, 11.4, 11.42	10.6 – 12.7
		22.72, 22.8, 22.84	22.01 – 23.12

6.6.2. EUT configuration:

The measurements were performed with four various antennas.

6.6.3. Test procedure:

The measurements were performed in the anechoic chamber.
The EUT was arranged on a non-metallic table 0.8 m placed on the turntable.
Measuring antennas used: Up to 18 GHz - Double Ridge EMCO model 3115
above 18 GHz - Alpha TRG model A361
Antenna height = 1 m.
Measurement distance = 1m.
Measuring detector function and bandwidths:

Detector type	Peak	Average
RBW	1 MHz	1 MHz
VBW	3 MHz	3 kHz

All measurements were compared with the limit.

6.6.4. Test results and calculation ratio:

The test results are shown in Plots #90 to #250 , see tables below:

Antenna 8 dBi

Frequency carrier, GHz		Harmonic Frequency, GHz	Restricted band	Antenna name
				AN 1299
LOW	5.485 5.500 5.520	11.0. 11.04	10.6 – 12.7	#92, 93 #112, 113 #132, 133
		22.08	22.01 – 23.12	#136
MIDDLE	5.600	11.2	10.6 – 12.7	#98, 99 #118, 119 #139, 140
		22.4	22.01 – 23.12	#102, #122 #143
HIGH	5.680 5.700 5.710	11.36, 11.41	10.6 – 12.7	#105, 106 # 125, 126 #146, 147
		22.72, 22.8	22.01 – 23.12	#109 #129 #150

Antenna 17 dBi

Frequency carrier, GHz		Harmonic Frequency, GHz	Restricted band	Antenna name
				AN 1353
LOW	5.485 5.500	10.97, 11.0	10.6 – 12.7	#172, 173 #192, 193
MIDDLE	5.600	11.2	10.6 – 12.7	#178, 179 #198, 199
		22.4	22.01 – 23.12	#182, #202
HIGH	5.700	11.4, 11.42	10.6 – 12.7	#185, 186 #205, 206
	5.710	22.8, 22.84	22.01 – 23.12	#189, #209

Antenna 23 dBi

Frequency carrier, GHz		Harmonic Frequency, GHz	Restricted band	Antenna name
				AN 1231
LOW	**5.500**	11.0. 11.04	10.6 – 12.7	#212, 213, #232, 233
	5.520	22.08	22.01 – 23.12	#236
MIDDLE	**5.600**	11.2	10.6 – 12.7	#218, 219, #239, 240
		22.4	22.01 – 23.12	#222, #243
HIGH	**5.680**	11.36, 11.41	10.6 – 12.7	#225, 226, #246, 247
	5.700	22.72, 22.8	22.01 – 23.12	#229, #250

Notes: The AVG limit line 64 dBµV/m (at 1m distance) is not shown in the plots. All measurements in restricted bands on frequency ranges above 22 GHz not exceed the SA noise floor level.

7. Radio Unit measurements 15.407

7.1. Maximum peak transmit power

7.1.1. Requirements:

The peak transmit power shall not exceed the lesser of 250mW(24dBm) or 11dBm+10logB, where B is the 26-dB emission bandwidth in MHz. as required in sec. 15.407 (a) (2). Maximum output power limit is 11dBm+10log(10MHz) = 21 dBm for EBW=10 MHz and 24 dBm for EBW = 20 and 40 MHz.

7.1.2. Test procedure:

The peak output power is measured according to method #3 as defined in the measurement procedure for peak transmit power in the Unlicensed National Information Infrastructure (U-NII) bands; Public Notice DA 02-2138 Aug-30-2002. Measurements were performed with maximum allowed output power without respect to antenna gain.

7.1.3. Test results:

The measured maximum peak power is:

Frequency carrier, GHz	EBW 10 MHz	Measured power dBm	EBW 20 MHz	Measured power dBm	EBW 40 MHz	Measured power dBm
Low	5.485	20.93	5.500	23.57	5.520	22.39
Middle	5.600	20.39	5.600	23.25	5.600	22.20
High	5.710	20.47	5.700	22.84	5.680	22.09

The measured results are shown in Appendix 3, clause 11.1.

7.2. The peak emissions outside of the frequency bands of operation.

7.2.1. Requirements:

All emissions outside of the 5.47-5.725 GHz band shall not exceed an EIRP of –27 dBm/MHz as required in sec. 15.407 (b) (3).

7.2.2. Test results:

The measured results are shown in Appendix 3, clause 11.5.

7.3. 26dB bandwidth

7.3.1. Requirements:

The signal bandwidth is defined at the –26dBc points from the signal peak in section 15.403 (i).

7.3.2. Test results:

The measured results are shown in clause 11.

7.4. Peak power spectral density

7.4.1. Requirements:

The peak power spectral density shall not exceed 11dBm in any 1MHz band as required in section 15.407 (a) (2).

7.4.2. Test results:

Measurements were performed without respect to antenna gain with maximum output power. All measurements were found under the limit.
The measured results are shown in Appendix 3, clause 11.2.

7.5. Peak excursion

7.5.1. Requirements:

The ratio of the peak excursion of the modulation envelope to the peak transmit power shall not exceed 13dB across any 1MHz bandwidth or the emission bandwidth whichever is less as required in sec. 15.407 (a) (6).

7.5.2. Test results:

The peak excursion is measured according to method as defined in the guidelines for assessing unlicensed national information infrastructure (U-NII) Devices-part 15, subpart E.
The measured results are shown in Appendix 3:
clause 11.3 - BA VL transmitter time duration for the ratio of the Peak Execution measurements;
clause 11.4 – the ratio of the Peak Execution result.

8. Compliance with specification

Test	FCC Part 15	Test result
Radiated emissions in restricted bands	Sec.15.205	Complies
Conducted emission	Sec.15.207	Complies
Radiated emission – general requirements	Sec.15.209	Complies
Maximum peak output power	Sec.15.407	Complies
Conducted spurious emissions	Sec.15.407	Complies
Peak power density	Sec.15.407	Complies
Peak excursion ratio	Sec 15.407	Complies

Telematics Laboratory

March 2007

Approved by: Yuri Rozenberg

Position: Head of EMC Branch

Tested by: Michael Feldman

Position: Testing Technician

9. Appendix 1: Test equipment used

All measurements equipment is on SII calibration schedule with a recalibration interval not exceeding one year.

Instrument	Manufac-turer	Model	Serial No.	Due calibration date
Spectrum analyzer 10 KHz-26.5 GHz	HP	E7405	SII 4944	04/07
Spectrum analyzer 9 KHz-50 GHz	HP	8565E	720A00699	07/07
Spectrum analyzer 9 KHz-26.5 GHz	Adjilent	E4407B	US40241729	01/08
Antenna Double Ridge 1-18 GHz	EMCO	3115	SII4873	04/07
Antenna Standard Gain Horn 18-40 GHz	WILTRON	Alpha TRG A361	861A/590	04/07
LISN 9 kHz – 30 MHz	FCC	LISN-50/250-32-4-16	SII 5023	05/06
Transient limiter 0.009-200 MHz	HP	11947A	31074A3105	05/07
Attenuator 20 dB DC – 18 GHz	Mini-Circuit	VAT-20	0134	05/07

10. Appendix 2: Antenna Factor and Cable Loss

Antenna Factor
Standard Gain Horn 26 – 40 GHz Alpha TRG Model A361

Point	Frequency (MHz)	Antenna Factor (dB/m)
1	26000	35.22
2	27000	35.40
3	28000	35.52
4	29000	35.64
5	30000	35.76
6	31000	35.90
7	32000	36.07
8	33000	36.16
9	34000	36.31
10	35000	36.46
11	36000	36.60
12	37000	36.74
13	38000	36.93
14	39000	37.21
15	40000	37.28

Biconilog Antenna, Model Number: CBL-6112B, S/N: 2531
3 m calibration

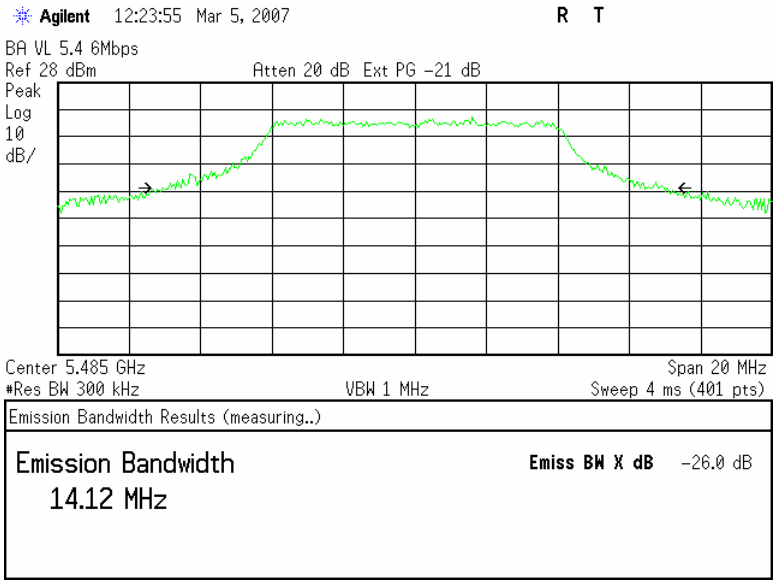
Frequency (MHz)	Antenna Factor (dB/m)	Frequency (MHz)	Antenna Factor (dB/m)	Frequency (MHz)	Antenna Factor (dB/m)	Frequency (MHz)	Antenna Factor (dB/m)
Vertical Polarization				Horizontal Polarization			
26.00	20.77	625.00	19.10	26.00	20.39	625.00	19.08
28.00	19.77	650.00	19.20	28.00	19.15	650.00	19.26
30.00	18.72	675.00	19.05	30.00	18.29	675.00	19.12
40.00	14.76	700.00	19.26	40.00	12.64	700.00	19.11
50.00	8.32	725.00	19.73	50.00	7.99	725.00	19.49
60.00	6.15	750.00	20.11	60.00	5.95	750.00	19.94
70.00	6.49	775.00	20.41	70.00	6.04	775.00	20.07
80.00	7.26	800.00	20.50	80.00	7.60	800.00	20.18
90.00	8.83	825.00	20.57	90.00	9.07	825.00	20.36
100.00	10.55	850.00	20.73	100.00	10.34	850.00	20.57
110.00	11.38	875.00	20.92	110.00	11.12	875.00	20.83
120.00	11.71	900.00	20.79	120.00	11.46	900.00	20.74
130.00	11.57	925.00	21.02	130.00	11.47	925.00	21.17
140.00	11.09	950.00	21.32	140.00	11.15	950.00	21.11
150.00	10.46	975.00	21.76	150.00	10.50	975.00	21.52
160.00	9.82	1,000.00	21.97	160.00	9.86	1,000.00	21.64
170.00	9.52	1,050.00	22.55	170.00	9.58	1,050.00	22.02
180.00	9.18	1,100.00	22.47	180.00	9.28	1,100.00	22.16
190.00	8.90	1,150.00	22.78	190.00	9.54	1,150.00	22.44
200.00	9.11	1,200.00	22.77	200.00	9.82	1,200.00	22.86
225.00	9.70	1,250.00	23.36	225.00	10.42	1,250.00	23.37
250.00	12.41	1,300.00	23.90	250.00	12.43	1,300.00	23.86
275.00	12.81	1,350.00	24.19	275.00	13.19	1,350.00	24.02
300.00	13.37	1,400.00	24.42	300.00	13.48	1,400.00	24.42
325.00	13.70	1,450.00	24.83	325.00	13.73	1,450.00	24.61
350.00	14.45	1,500.00	24.88	350.00	14.61	1,500.00	25.02
375.00	14.90	1,550.00	24.85	375.00	15.15	1,550.00	25.27
400.00	15.63	1,600.00	25.06	400.00	15.74	1,600.00	25.27
425.00	16.38	1,650.00	25.55	425.00	16.52	1,650.00	25.50
450.00	16.43	1,700.00	26.20	450.00	16.54	1,700.00	25.48
475.00	17.28	1,750.00	26.45	475.00	17.28	1,750.00	26.35
500.00	17.41	1,800.00	26.58	500.00	17.47	1,800.00	26.51
525.00	17.35	1,850.00	27.30	525.00	17.31	1,850.00	26.63
550.00	18.97	1,900.00	27.96	550.00	18.64	1,900.00	27.04
575.00	18.87	1,950.00	27.80	575.00	18.60	1,950.00	27.13
600.00	18.82	2,000.00	27.73	600.00	19.04	2,000.00	27.20

Antenna Factor
Double Ridged Guide Antenna mfr EMCO model 3115 1m calibration

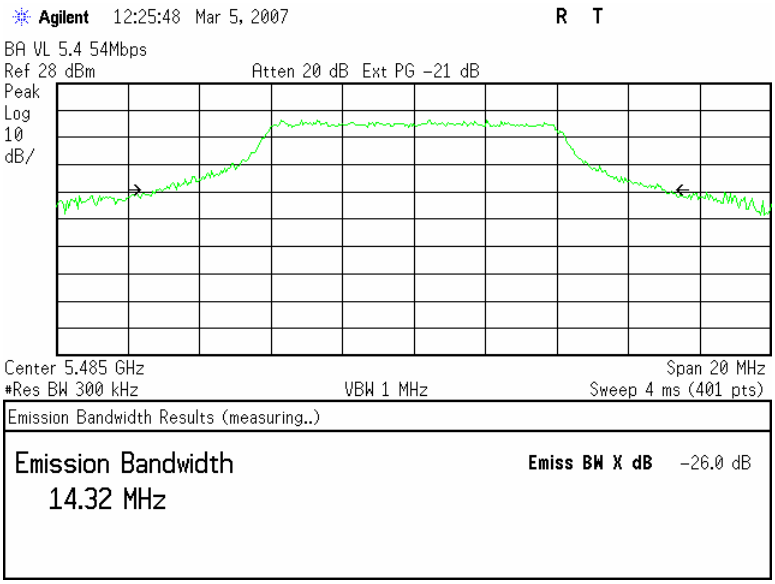
Point	Frequency (MHz)	Antenna Factor (dB/m)
1	1000	23.9
2	2000	28.3
3	3000	31.0
4	4000	33.1
5	4500	32.5
6	5000	32.4
7	6000	53.7
8	6500	35.6
9	7000	36.4
10	7500	36.9
11	8000	37.0
12	8500	38.0
13	9000	38.6
14	9500	38.4
15	10000	38.4
16	10500	38.4
17	11000	38.9
18	11500	39.6
19	12000	39.4
20	12500	39.2
21	13000	40.3
22	13500	41.0
23	14000	41.2
24	14500	41.3
25	15000	40.0
26	15500	38.0
27	16000	38.1
28	16500	40.3
29	17000	42.2
30	17500	44.6
31	18000	46.2

11. Appendix 3: Test results (plots)

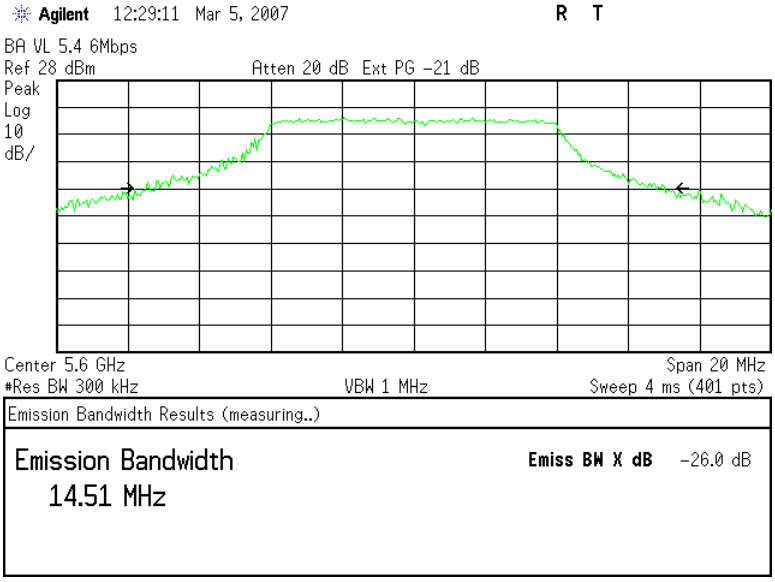
26 dB - Emissions bandwidth test 15.407 a(2)



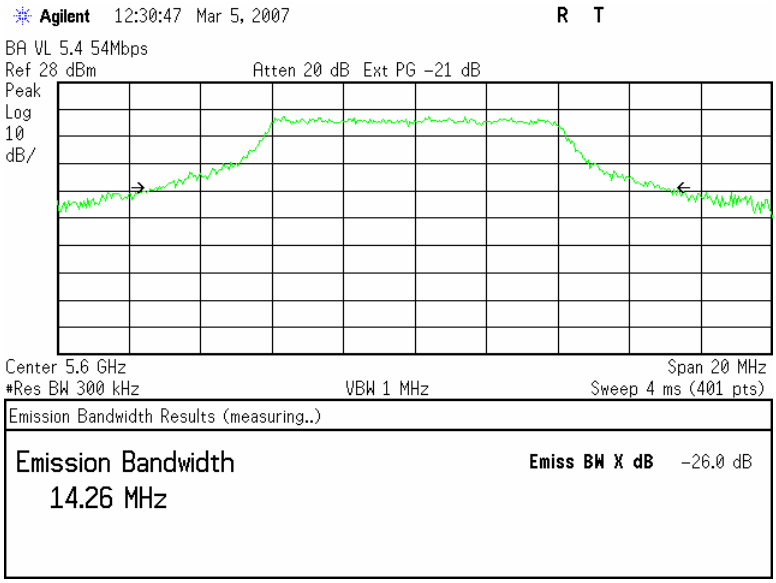
Plot 5. Carrier Frequency 5.485 GHz, EBW 10 MHz, PRBS 6 Mbit/s



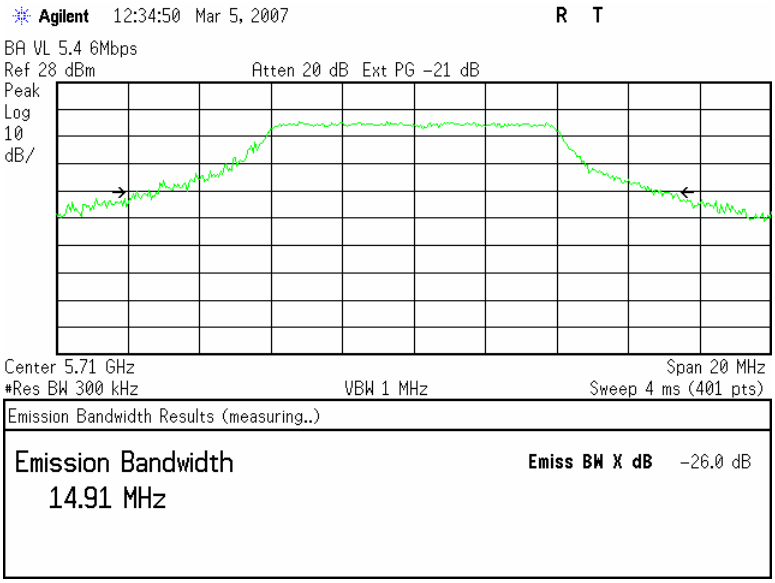
Plot 6. Carrier Frequency 5.485 GHz , EBW 10 MHz, PRBS 54 Mbit/s



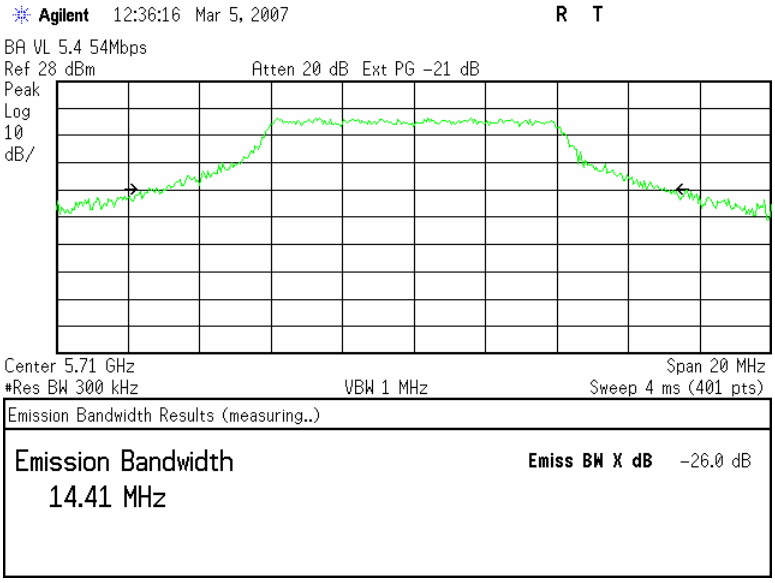
Plot 7. Carrier Frequency 5.600 GHz, EBW 10 MHz, PRBS 6 Mbit/s



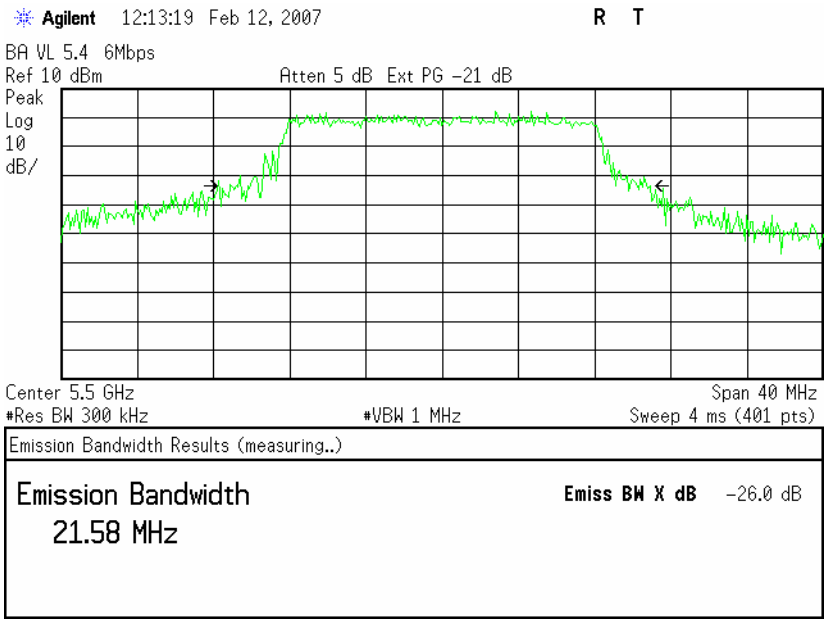
Plot 8. Carrier Frequency 5.600 GHz, EBW 10 MHz, PRBS 54 Mbit/s



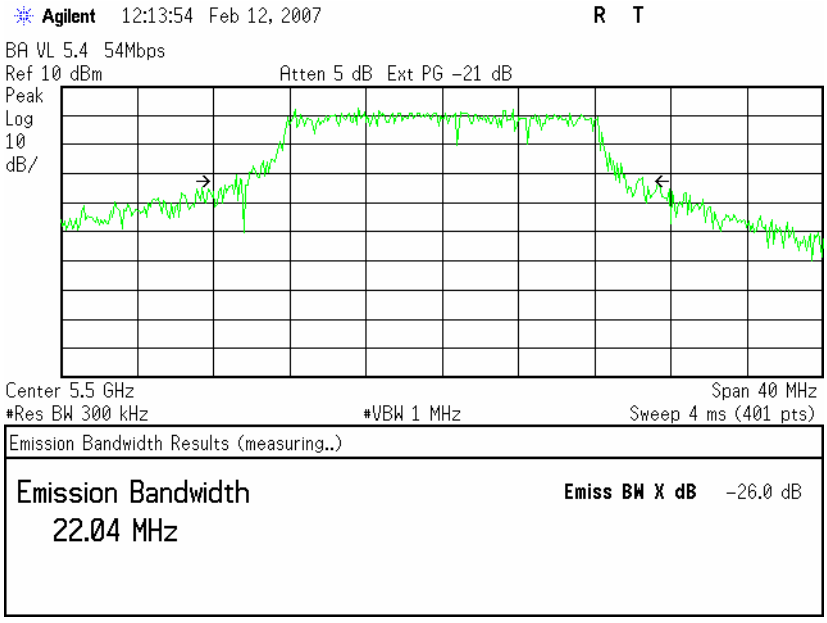
Plot 9. Carrier Frequency 5.710 GHz, EBW 10 MHz, PRBS 6 Mbit/s



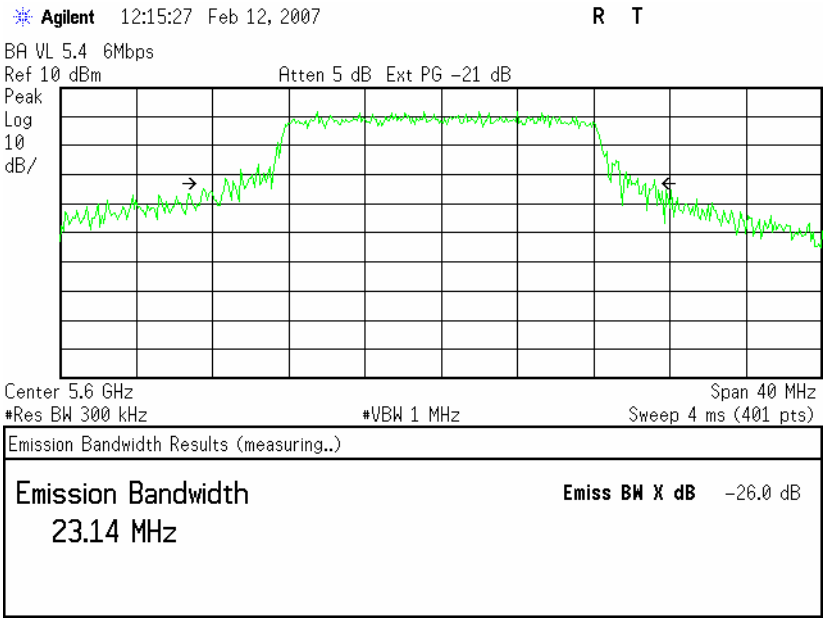
Plot 10. Carrier Frequency 5.710 GHz, EBW 10 MHz, PRBS 54 Mbit/s



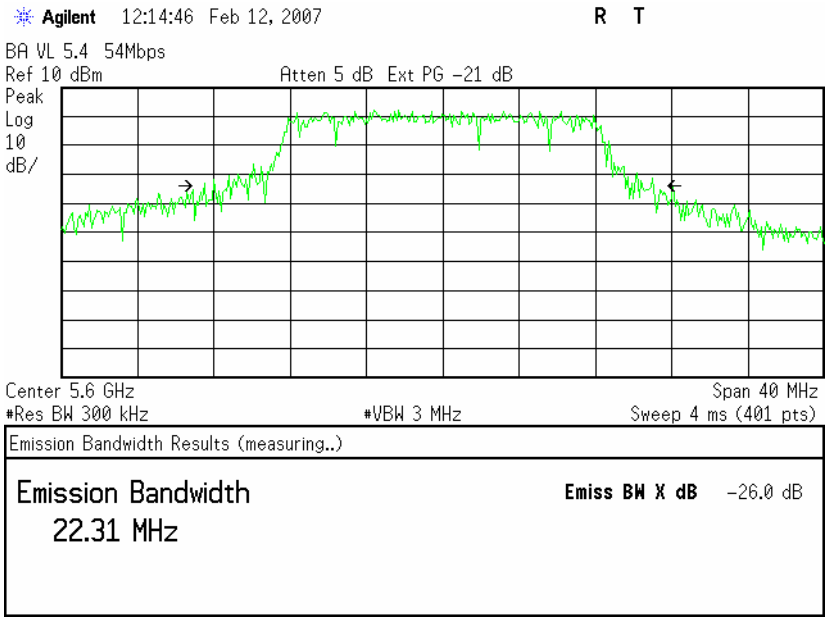
Plot 11. Carrier Frequency 5.500 GHz, EBW 20 MHz, PRBS 6 Mbit/s



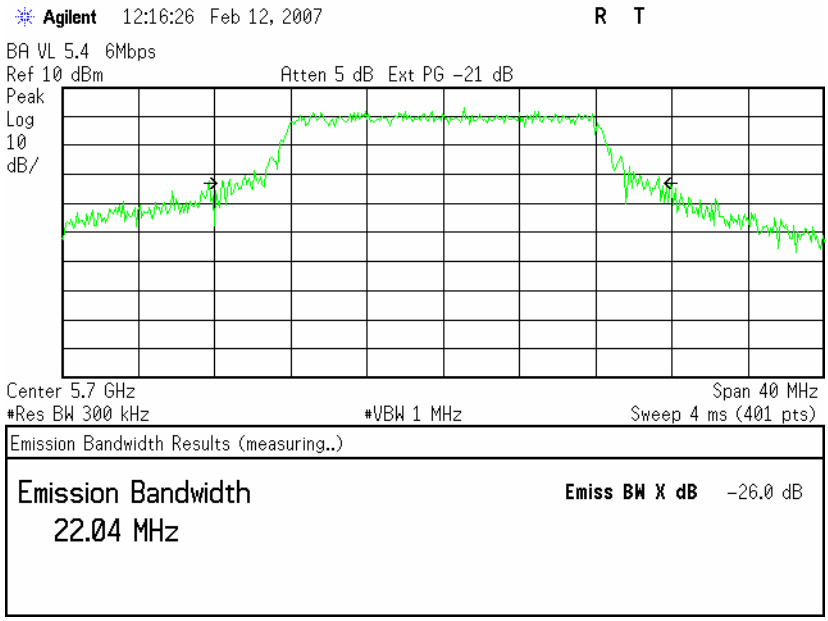
Plot 12. Carrier Frequency 5.500 GHz, EBW 20 MHz, PRBS 54 Mbit/s



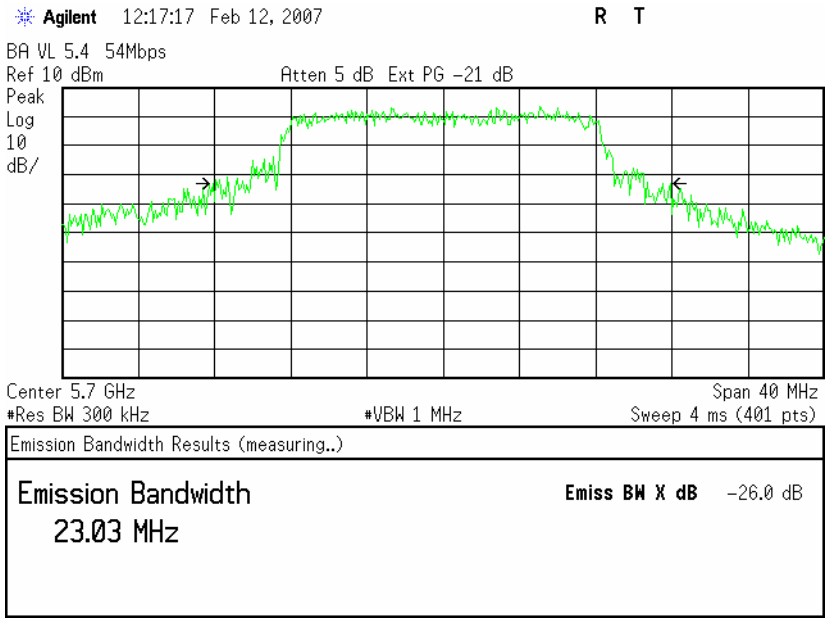
Plot 13. Carrier Frequency 5.600 GHz, EBW 20 MHz, PRBS 6 Mbit/s



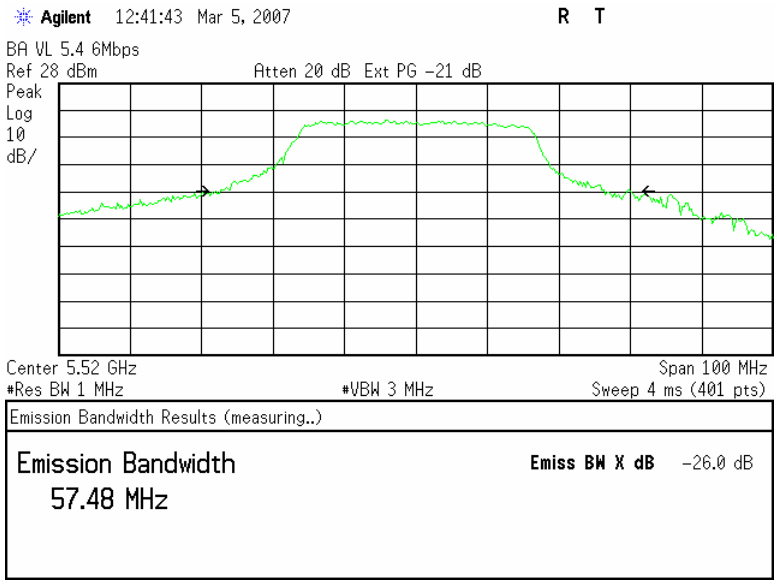
Plot 14. Carrier Frequency 5.600 GHz, EBW 20 MHz, PRBS 54 Mbit/s



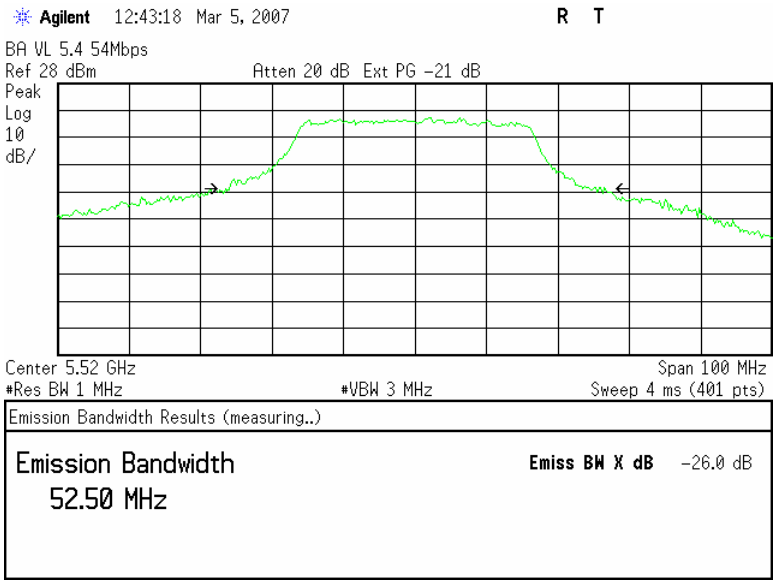
Plot 15. Carrier Frequency 5.700 GHz, EBW 20 MHz, PRBS 6 Mbit/s



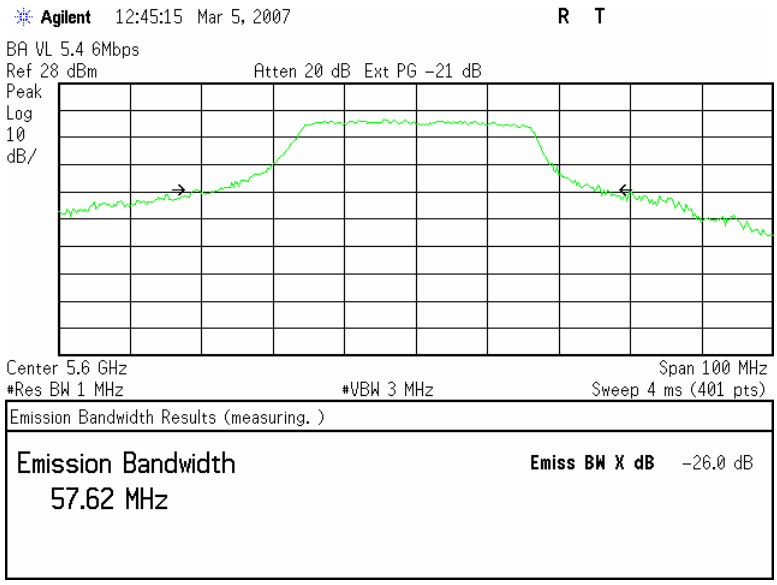
Plot 16. Carrier Frequency 5.700 GHz, EBW 20 MHz, PRBS 54 Mbit/s



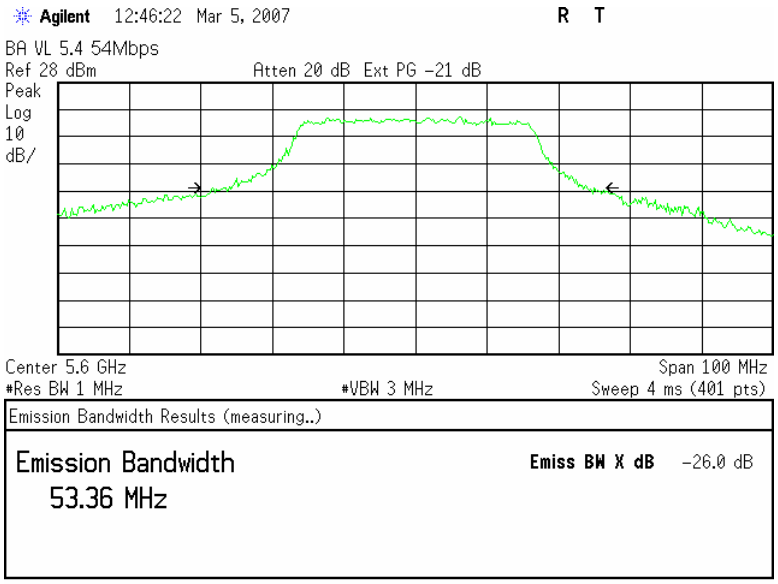
Plot 17. Carrier Frequency 5.520 GHz, EBW 40 MHz, PRBS 6 Mbit/s



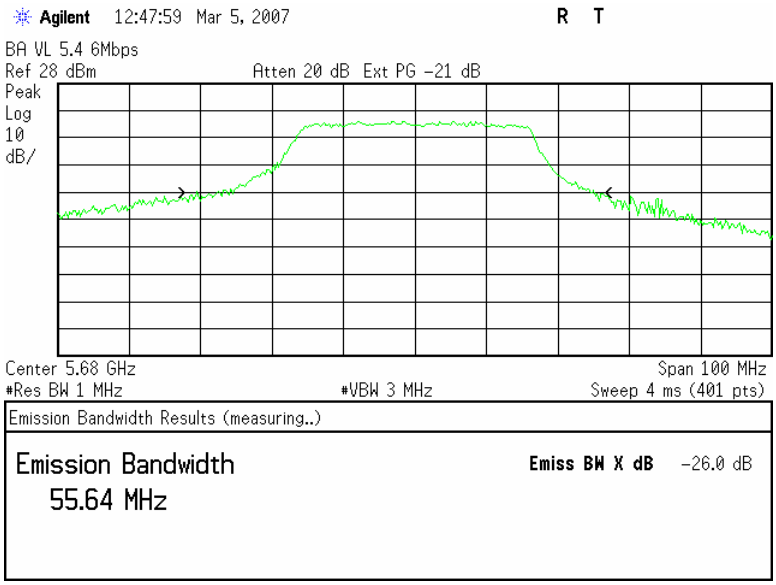
Plot 18. Carrier Frequency 5.520 GHz, EBW 40 MHz, PRBS 54 Mbit/s



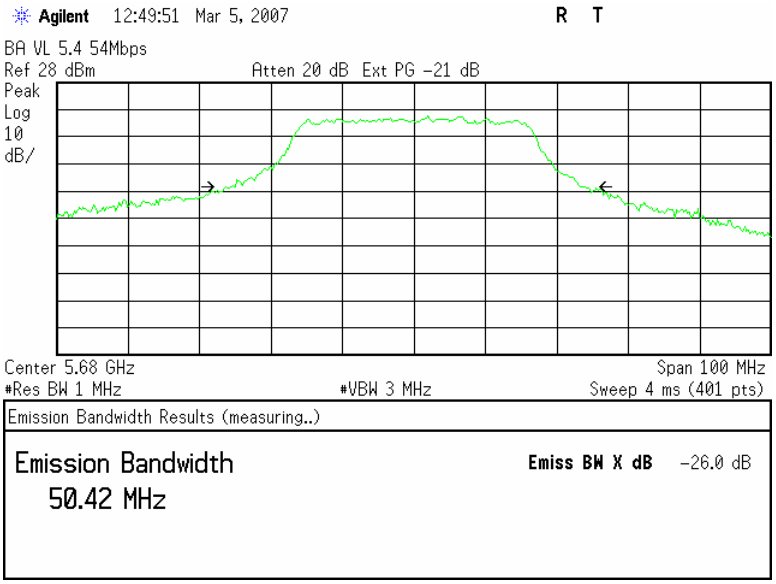
Plot 19. Carrier Frequency 5.600 GHz, EBW 40 MHz, PRBS 6 Mbit/s



Plot 20. Carrier Frequency 5.600 GHz, EBW 40 MHz, PRBS 54 Mbit/s

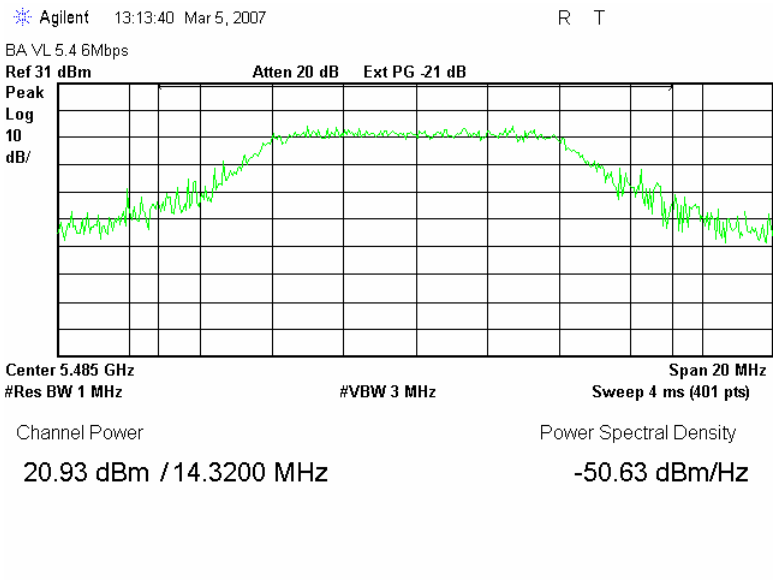


Plot 21. Carrier Frequency 5.680 GHz, EBW 40 MHz, PRBS 6 Mbit/s

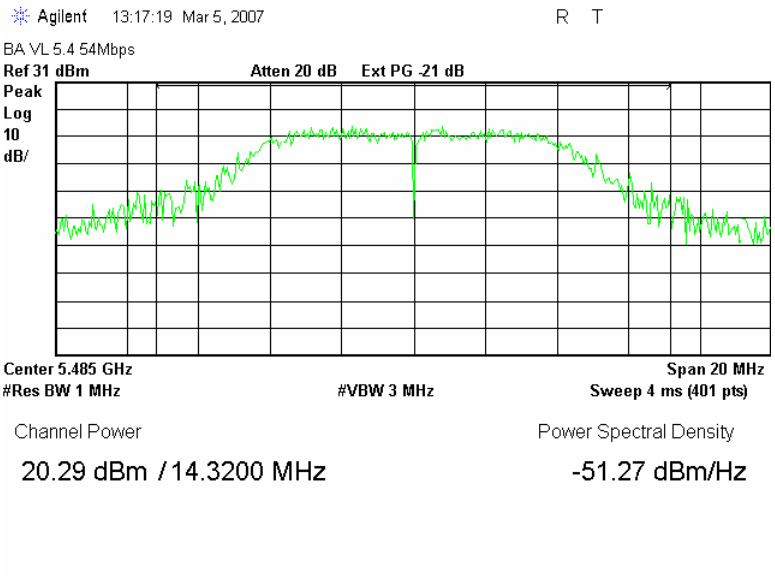


Plot 22. Carrier Frequency 5.680 GHz, EBW 40 MHz, PRBS 54 Mbit/s

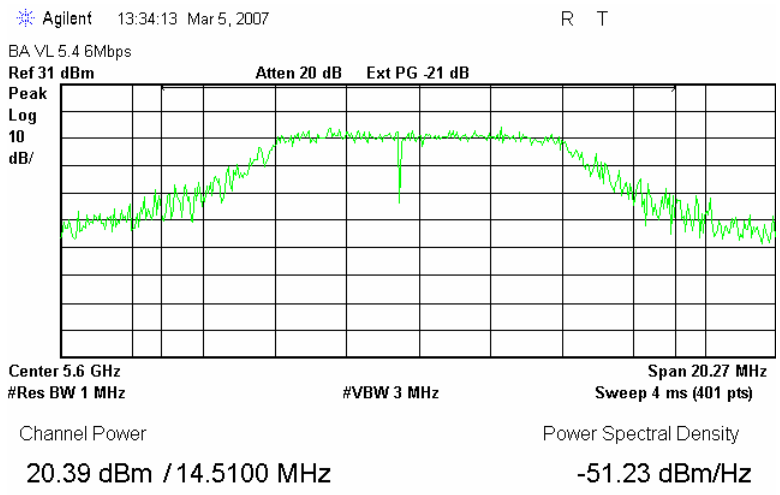
11.1. Peak Transmit Power test 15.407a (2)



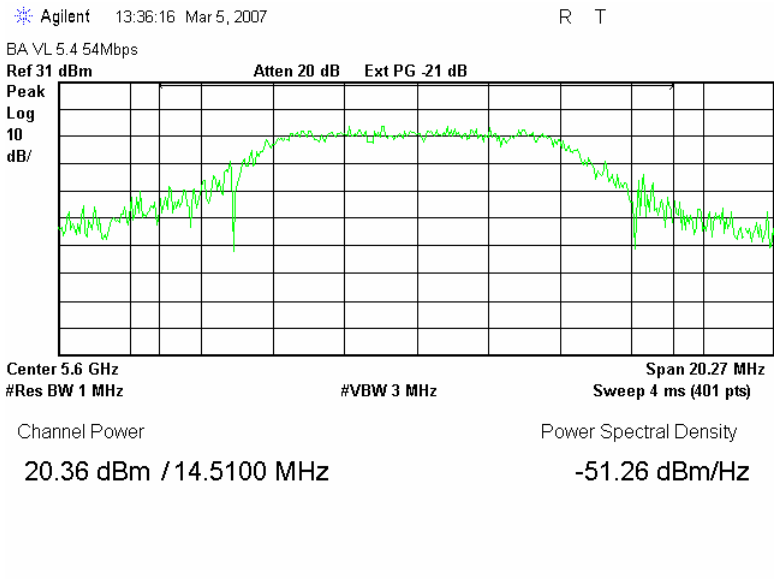
Plot 23. Carrier Frequency 5.485 GHz, EBW 10 MHz, PRBS 6 Mbit/s



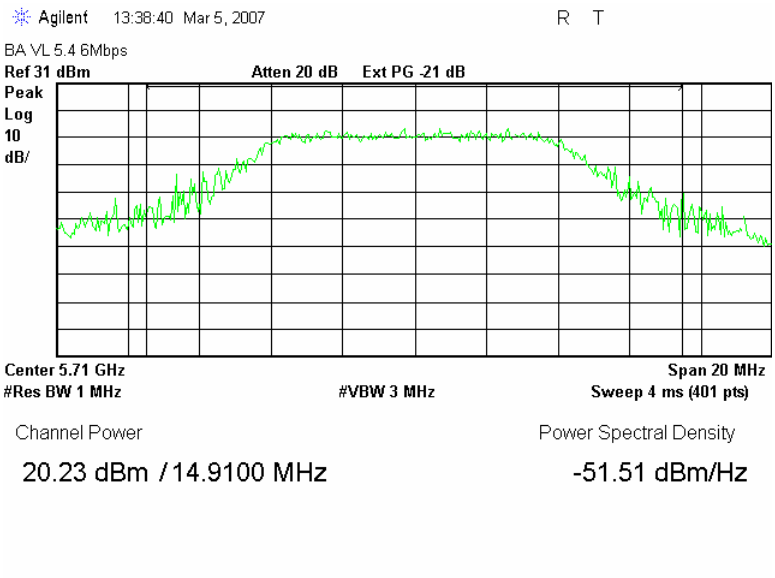
Plot 24. Carrier Frequency 5.485 GHz, EBW 10 MHz, PRBS 54 Mbit/s



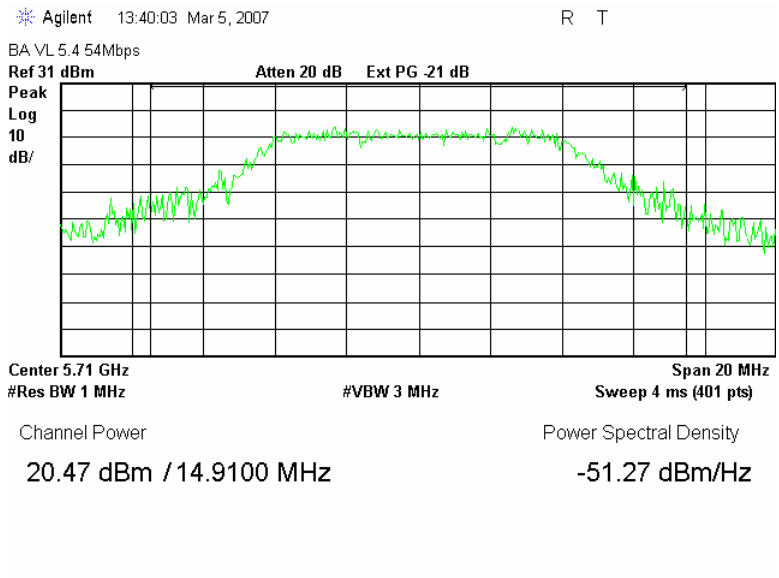
Plot 25. Carrier Frequency 5.600 GHz, EBW 10 MHz, PRBS 6 Mbit/s



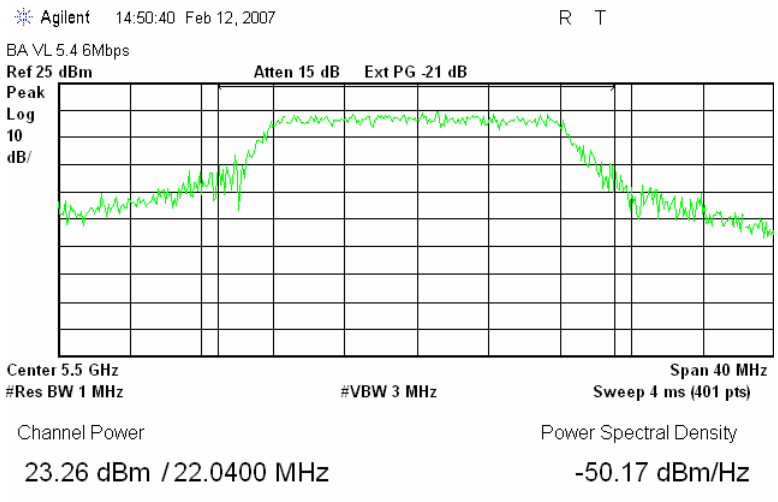
Plot 26. Carrier Frequency 5.600 GHz, EBW 10 MHz, PRBS 54 Mbit/s



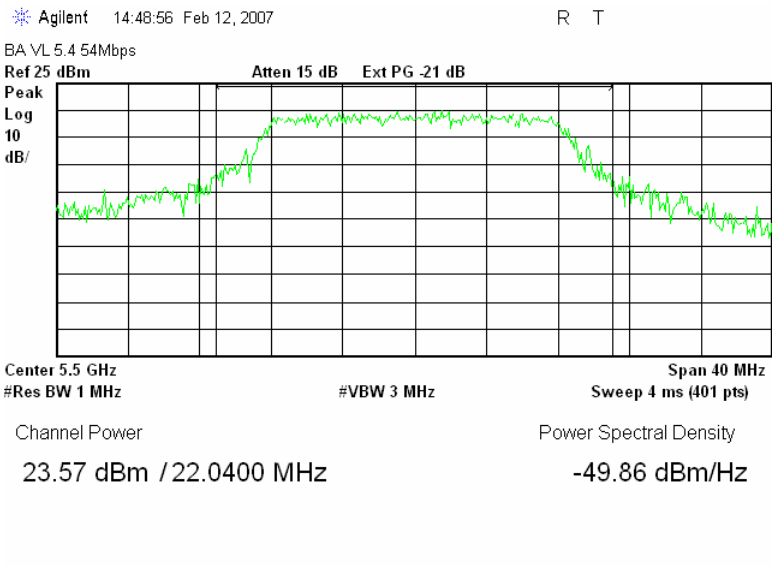
Plot 27. Carrier Frequency 5.710 GHz, EBW 10 MHz, PRBS 6 Mbit/s



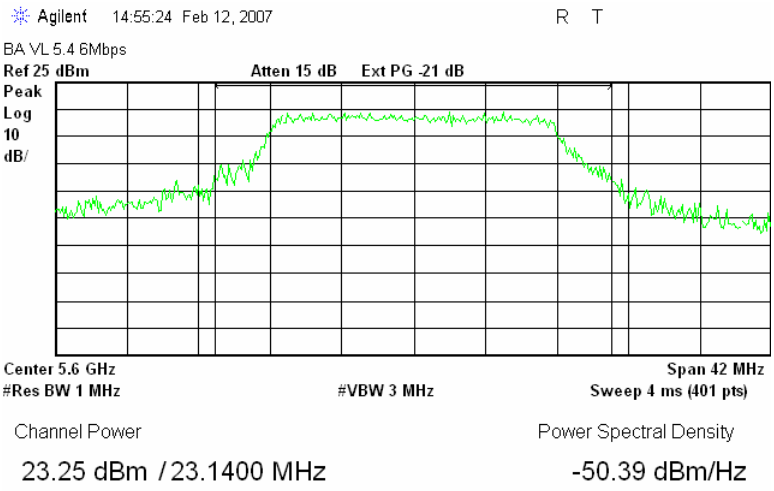
Plot 28. Carrier Frequency 5.710 GHz, EBW 10 MHz, PRBS 54 Mbit/s



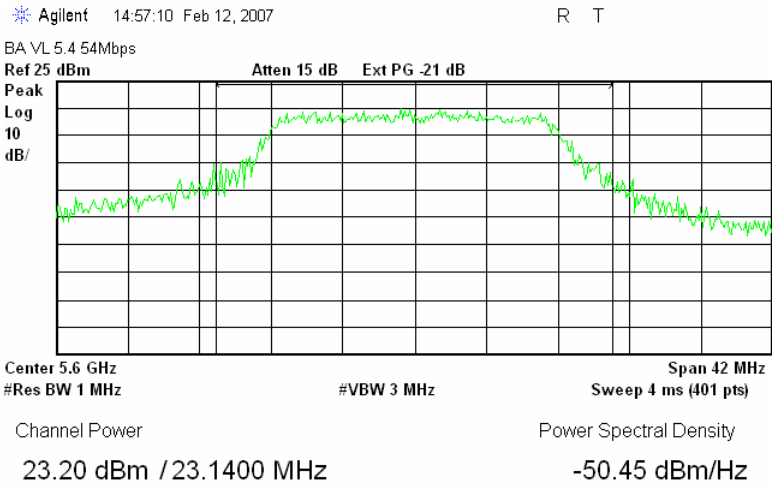
Plot 29. Carrier Frequency 5.500 GHz, EBW 20 MHz, PRBS 6 Mbit/s



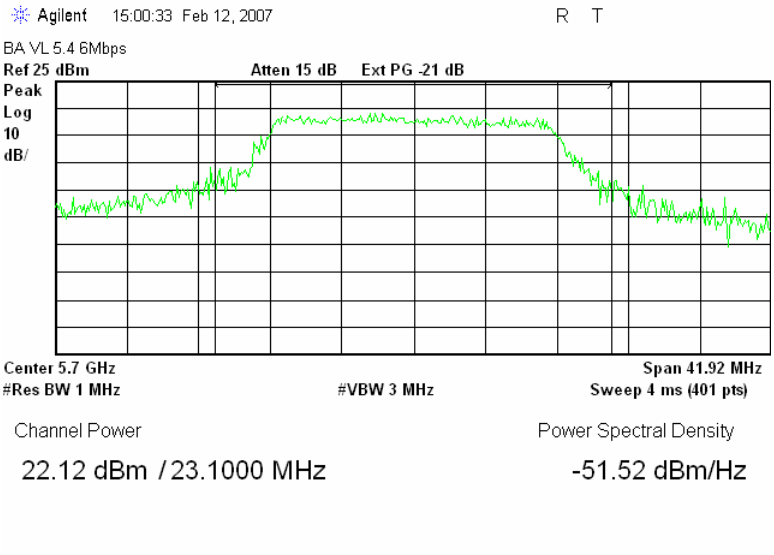
Plot 30. Carrier Frequency 5.500 GHz, EBW 20 MHz, PRBS 54 Mbit/s



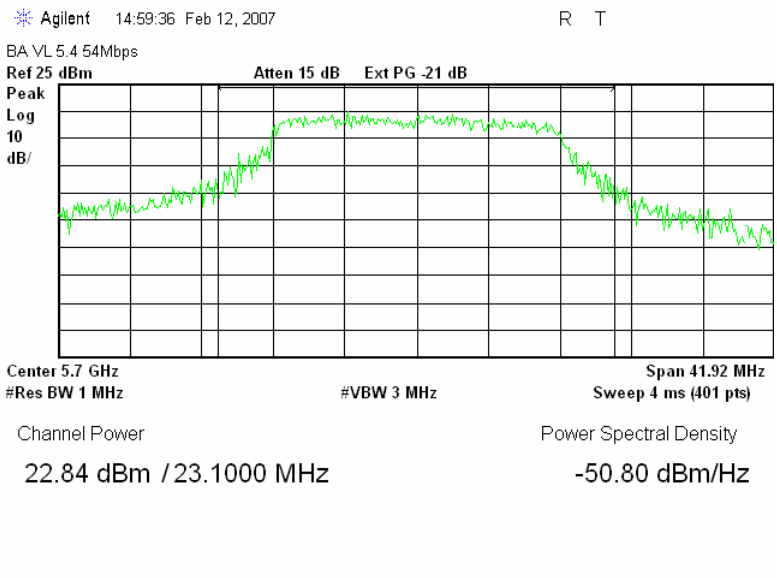
Plot 31. Carrier Frequency 5.600 GHz, EBW 20 MHz, PRBS 6 Mbit/s



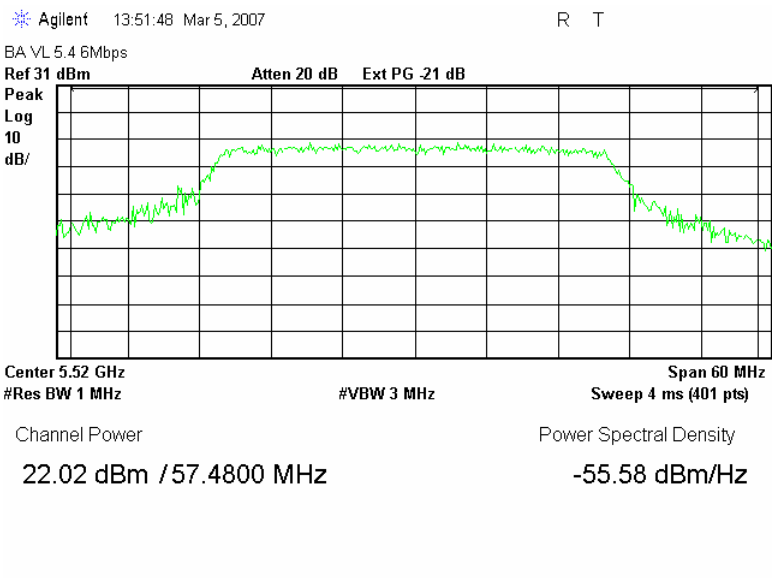
Plot 32. Carrier Frequency 5.600 GHz, EBW 20 MHz, PRBS 54 Mbit/s



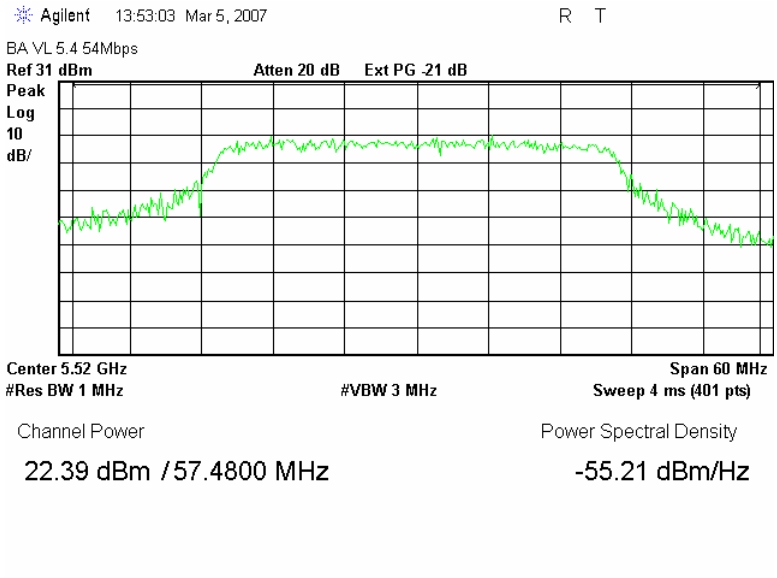
Plot 33. Carrier Frequency 5.700 GHz, EBW 20 MHz, PRBS 6 Mbit/s



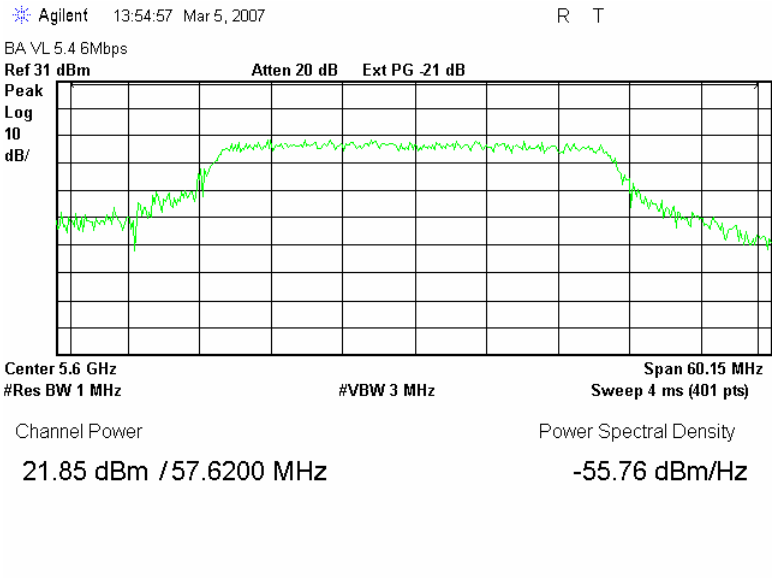
Plot 34. Carrier Frequency 5.700 GHz, EBW 20 MHz, PRBS 54 Mbit/s



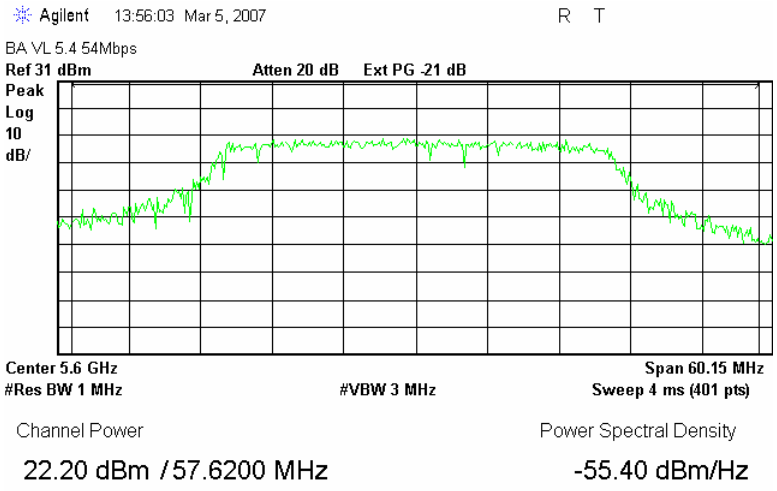
Plot 35. Carrier Frequency 5.520 GHz, EBW 40 MHz, PRBS 6 Mbit/s



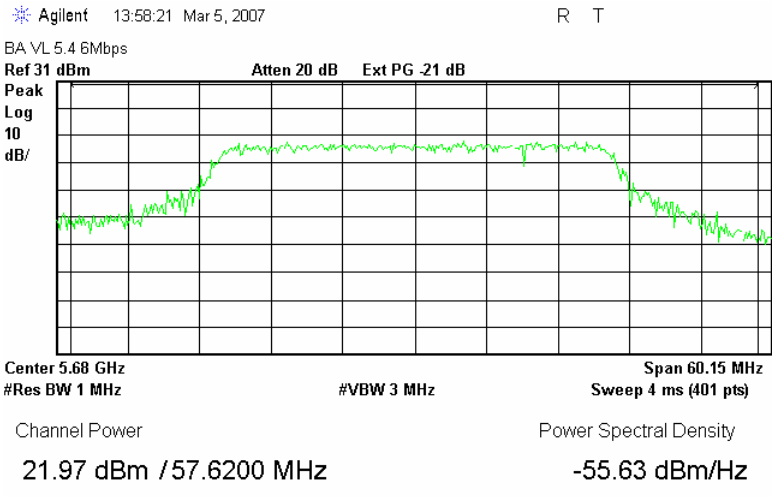
Plot 36. Carrier Frequency 5.520 GHz, EBW 40 MHz, PRBS 54 Mbit/s



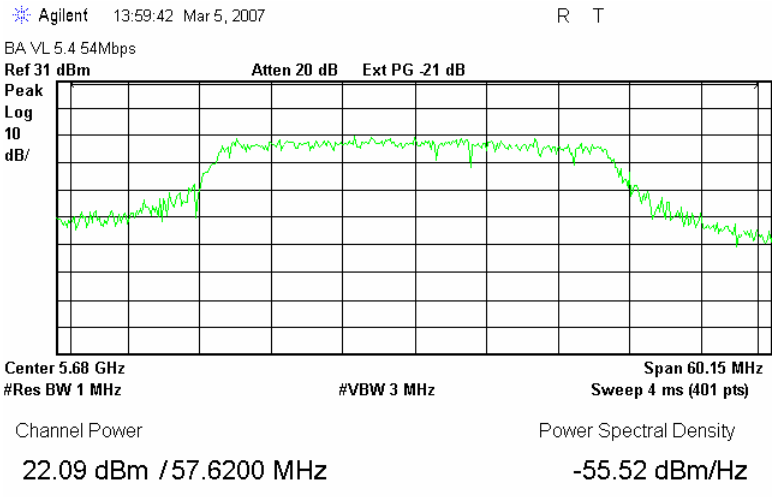
Plot 37. Carrier Frequency 5.600 GHz, EBW 40 MHz, PRBS 6 Mbit/s



Plot 38. Carrier Frequency 5.600 GHz, EBW 40 MHz, PRBS 54 Mbit/s

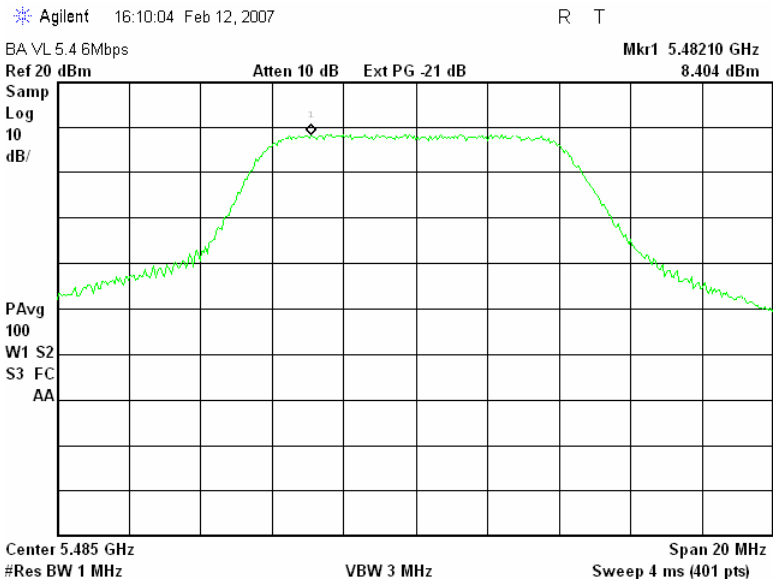


Plot 39. Carrier Frequency 5.680 GHz, EBW 40 MHz, PRBS 6 Mbit/s

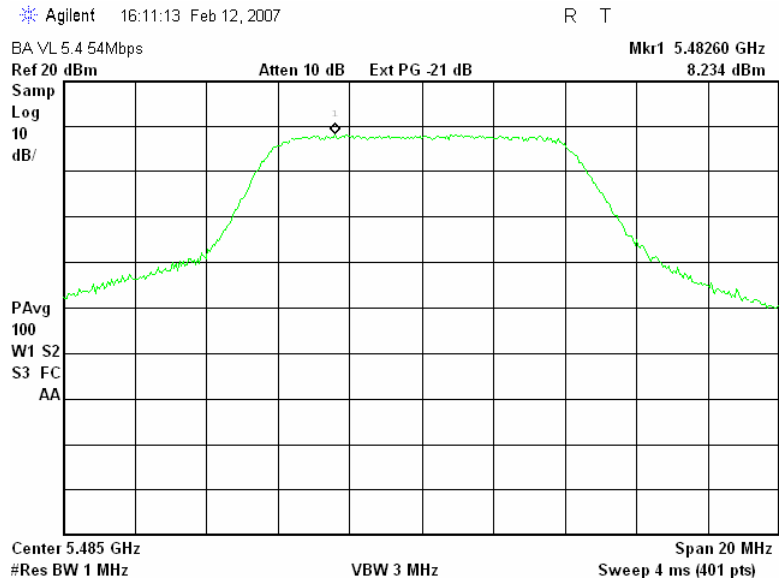


Plot 40. Carrier Frequency 5.680 GHz, EBW 40 MHz, PRBS 54 Mbit/s

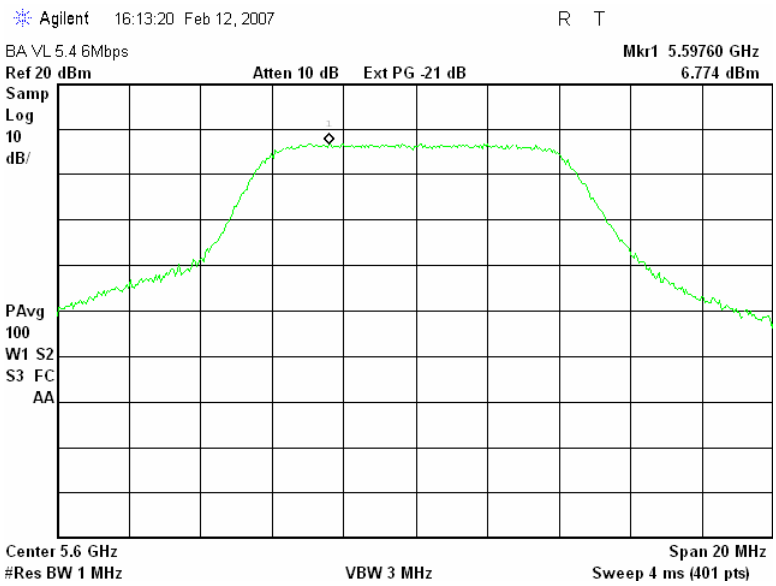
11.2. Peak Power Spectral Density 15.407a (2)



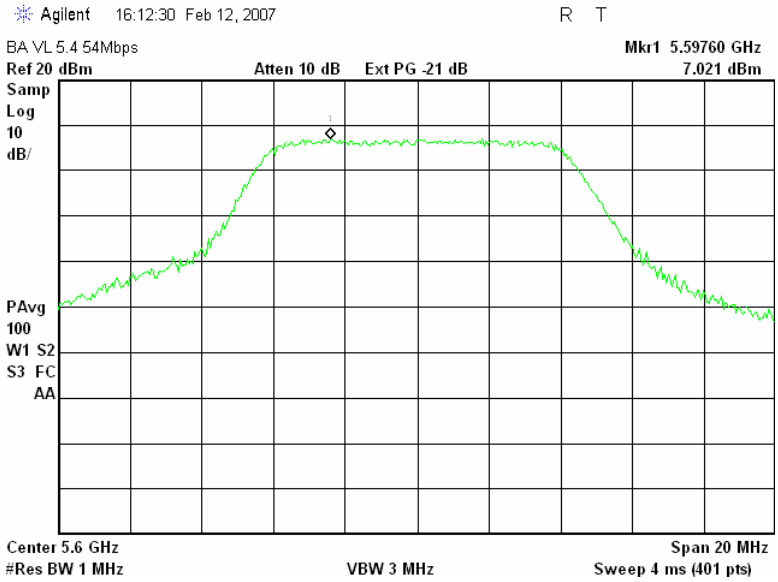
Plot 41. Carrier Frequency 5.485 GHz, EBW 10 MHz, PRBS 6 Mbit/s



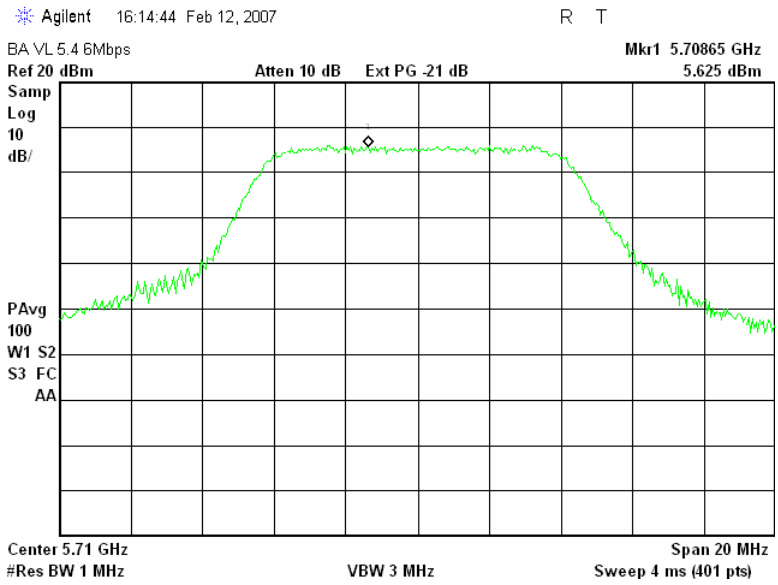
Plot 42. Carrier Frequency 5.485 GHz, EBW 10 MHz, PRBS 54 Mbit/s



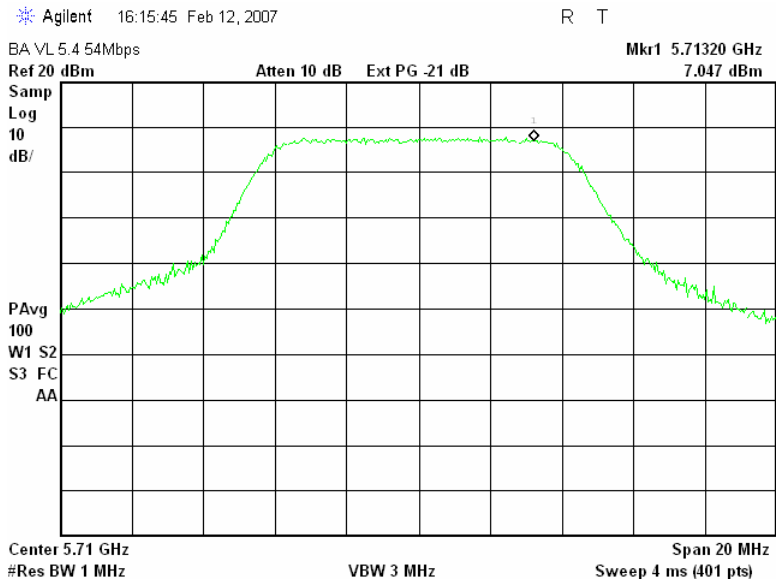
Plot 43. Carrier Frequency 5.600 GHz, EBW 10 MHz, PRBS 6 Mbit/s



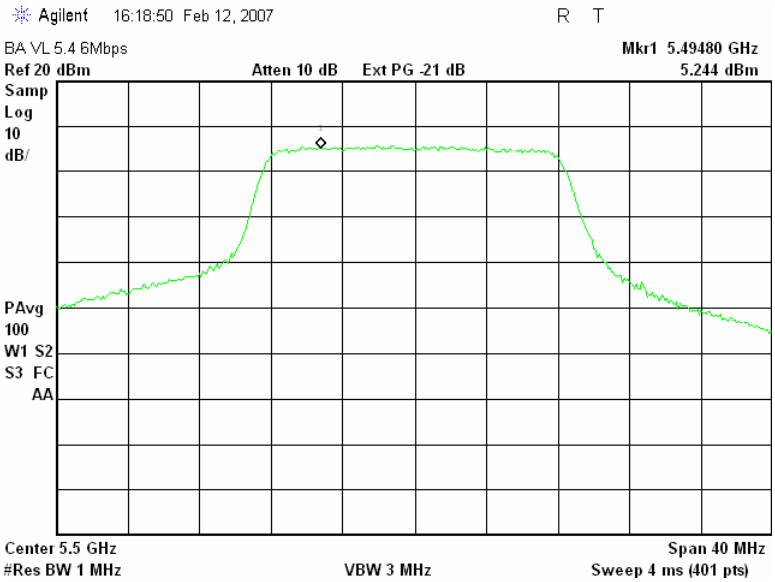
Plot 44. Carrier Frequency 5.600 GHz, EBW 10 MHz, PRBS 54 Mbit/s



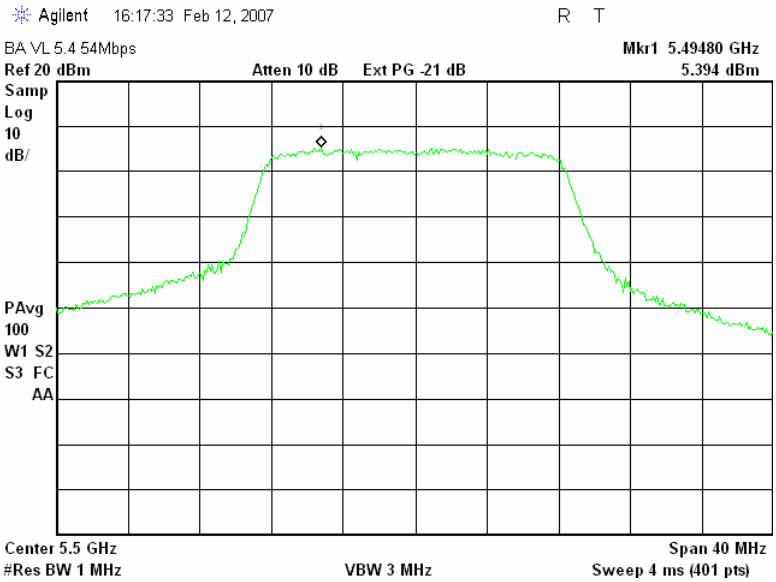
Plot 45. Carrier Frequency 5.710 GHz, EBW 10 MHz, PRBS 6 Mbit/s



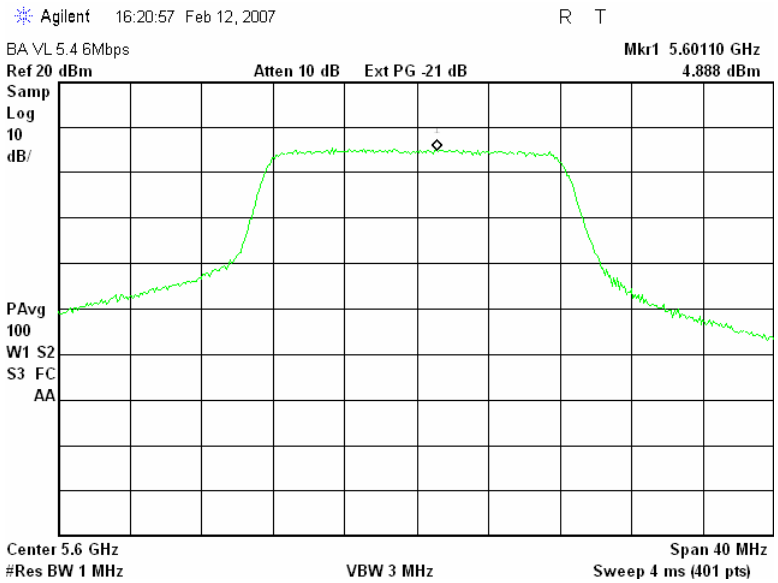
Plot 46. Carrier Frequency 5.710 GHz, EBW 10 MHz, PRBS 54 Mbit/s



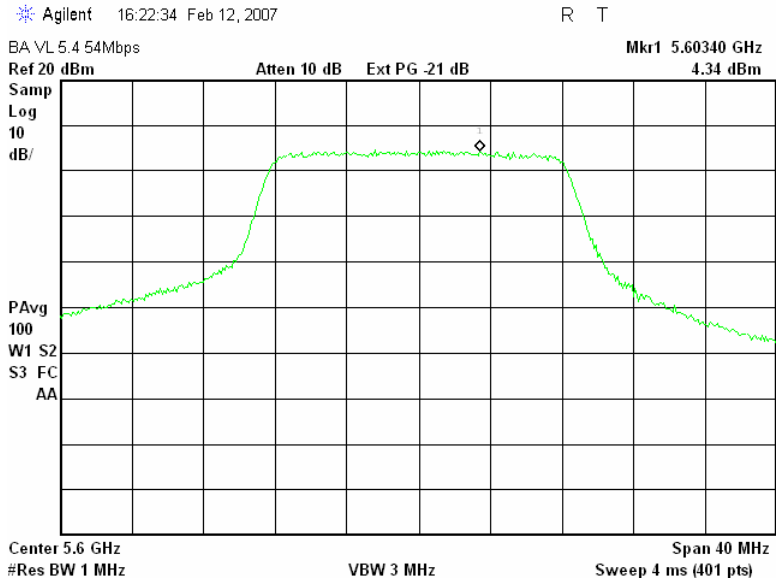
Plot 47. Carrier Frequency 5.500 GHz, EBW 20 MHz, PRBS 6 Mbit/s



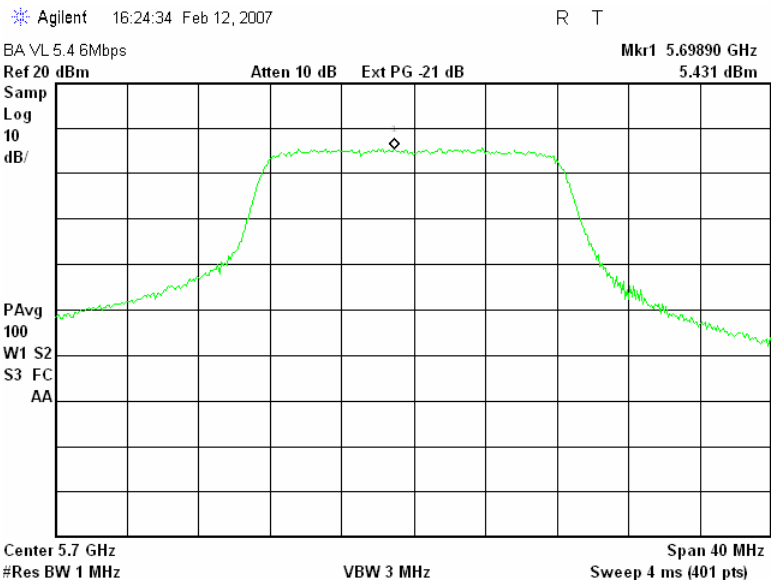
Plot 48. Carrier Frequency 5.500 GHz, EBW 20 MHz, PRBS 54 Mbit/s



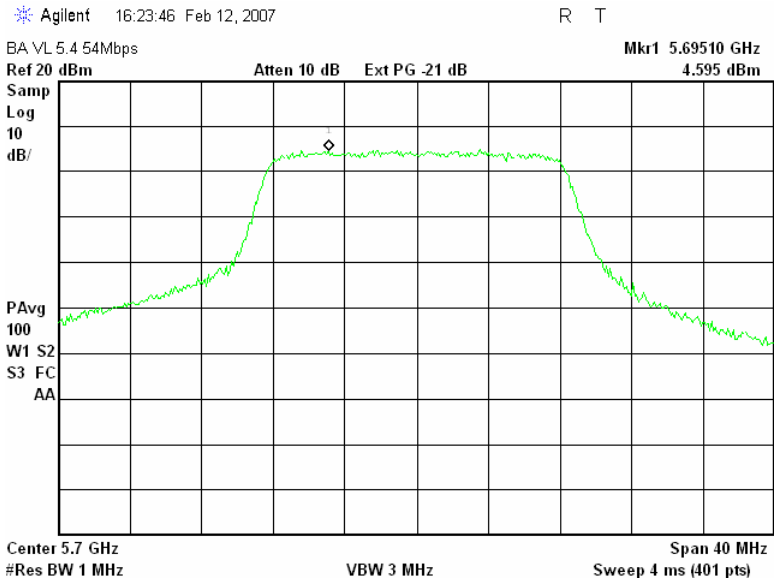
Plot 49. Carrier Frequency 5.600 GHz, EBW 20 MHz, PRBS 6 Mbit/s



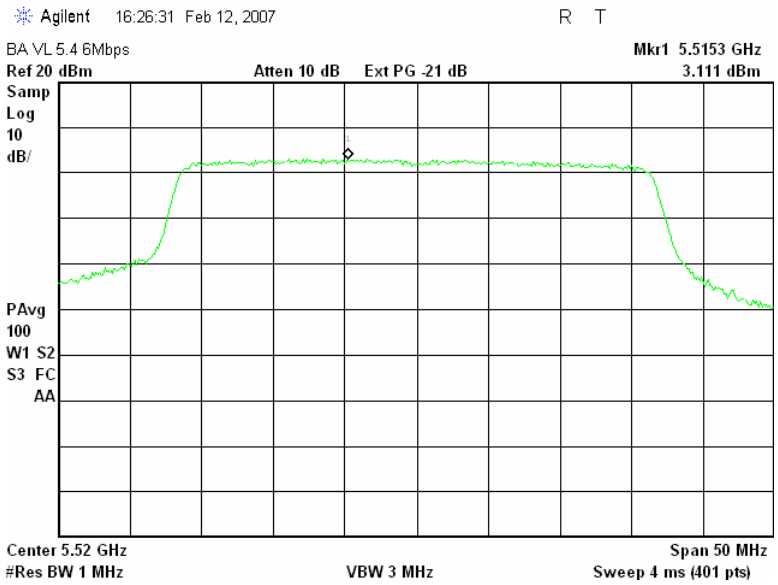
Plot 50. Carrier Frequency 5.600 GHz, EBW 20 MHz, PRBS 54 Mbit/s



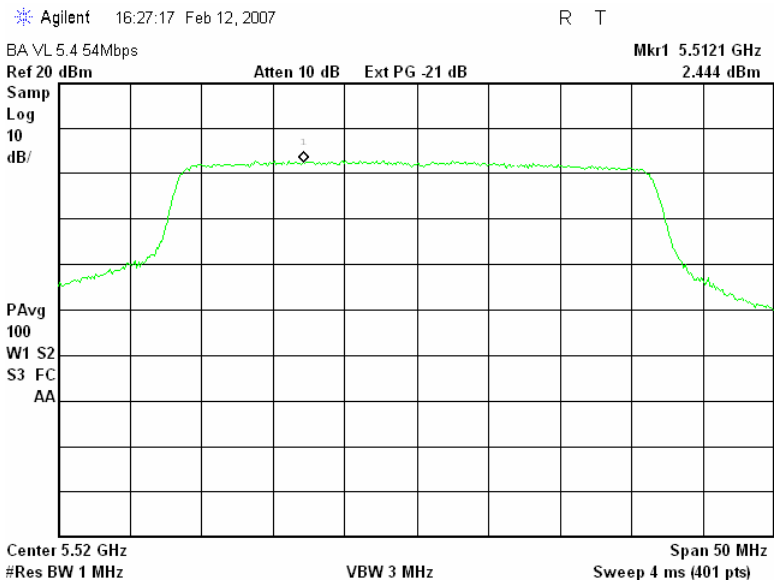
Plot 51. Carrier Frequency 5.700 GHz, EBW 20 MHz, PRBS 6 Mbit/s



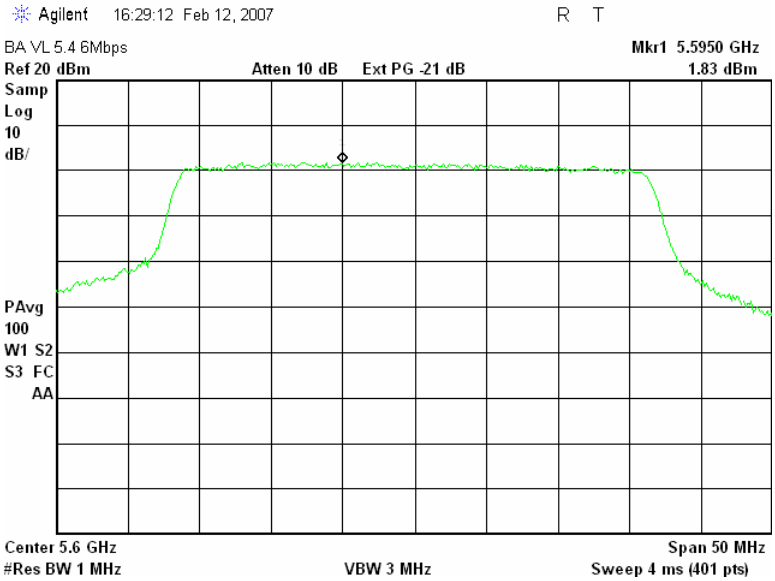
Plot 52. Carrier Frequency 5.700 GHz, EBW 20 MHz, PRBS 54 Mbit/s



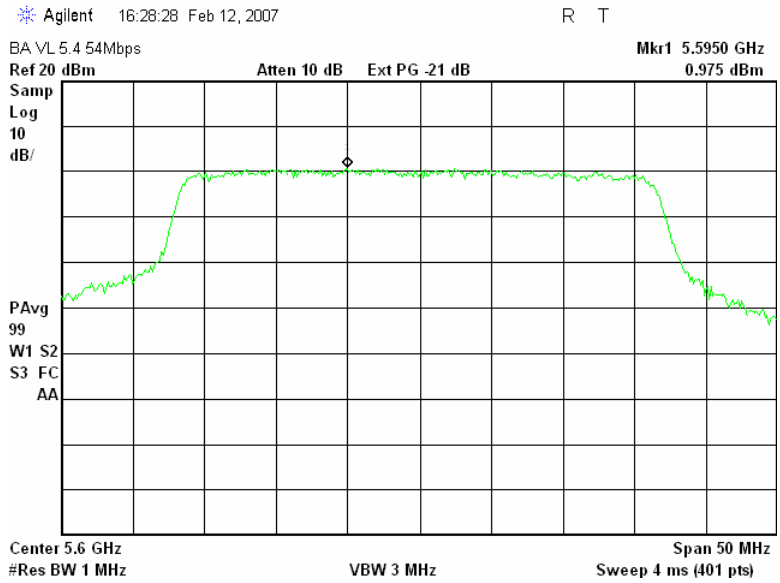
Plot 53. Carrier Frequency 5.520 GHz, EBW 40 MHz, PRBS 6 Mbit/s



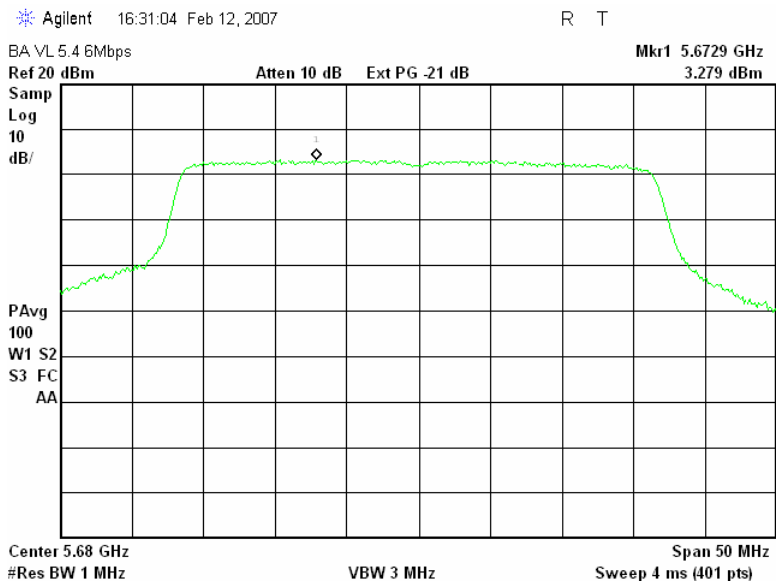
Plot 54. Carrier Frequency 5.520 GHz, EBW 40 MHz, PRBS 54 Mbit/s



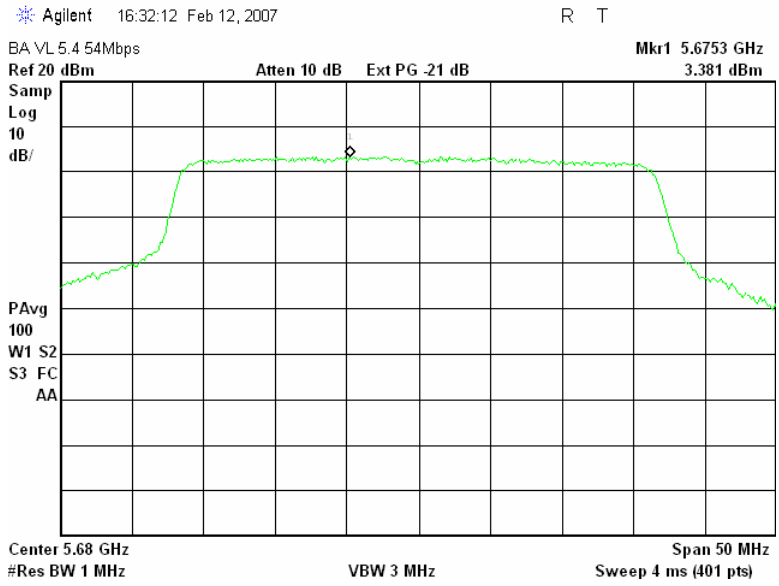
Plot 55. Carrier Frequency 5.600 GHz, EBW 40 MHz, PRBS 6 Mbit/s



Plot 56. Carrier Frequency 5.600 GHz, EBW 40 MHz, PRBS 54 Mbit/s

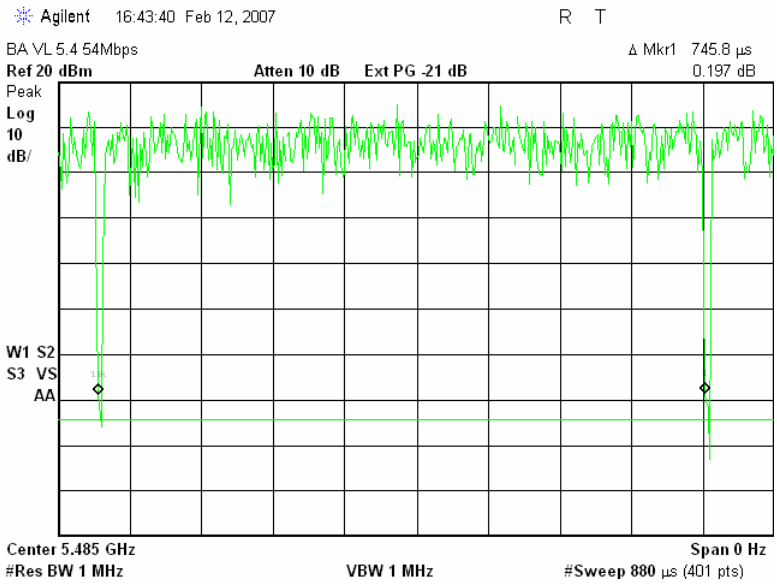


Plot 57. Carrier Frequency 5.680 GHz, EBW 40 MHz, PRBS 6 Mbit/s



Plot 58. Carrier Frequency 5.680 GHz, EBW 40 MHz, PRBS 54 Mbit/s

11.3. BA VL transmitter time duration for the ratio of the Peak Execution measurements 15.407a (6)

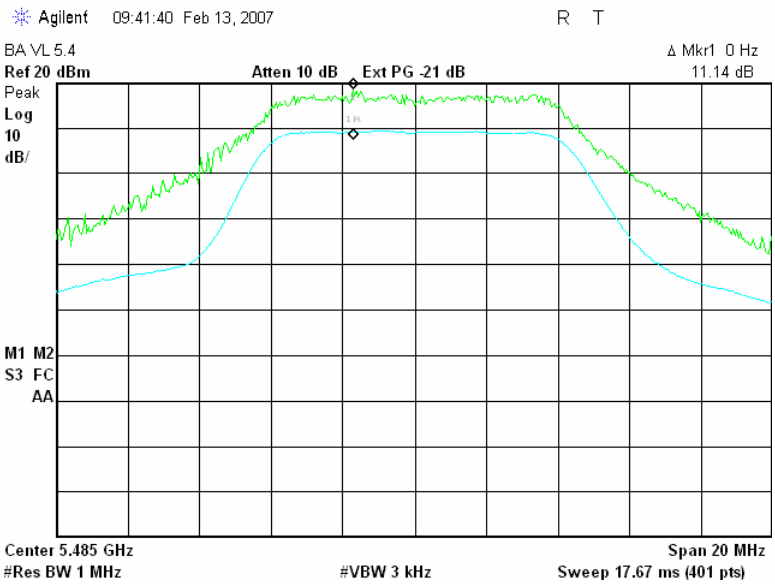


Plot 59.

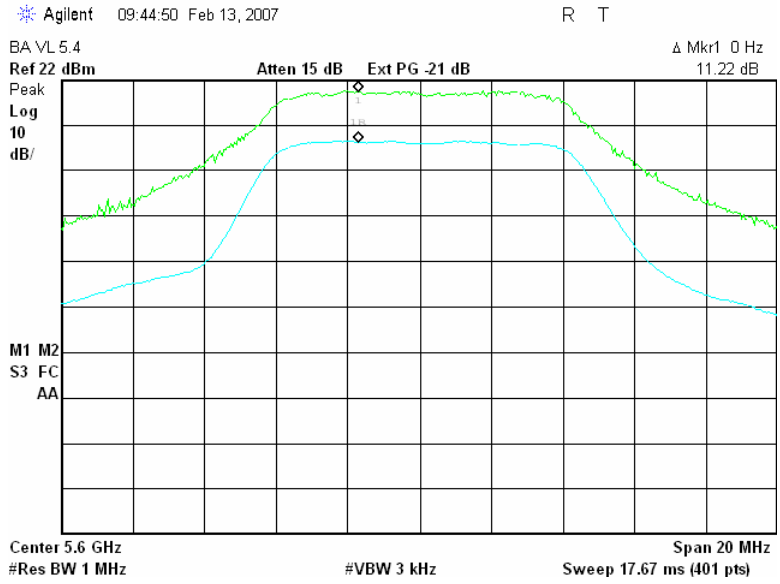
Video bandwidth was calculated from maximum usable pulse duration T, shown in plot

VBW ≥ 1/T=1/0.746 ms = 1.3 kHz.
Calculated VBW = 3 kHz

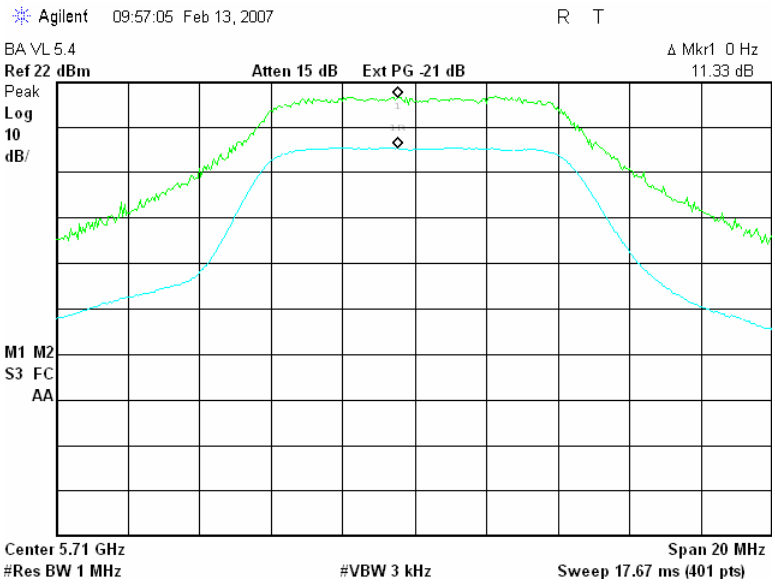
11.4. Ratio of the Peak Execution 15.407a (6)



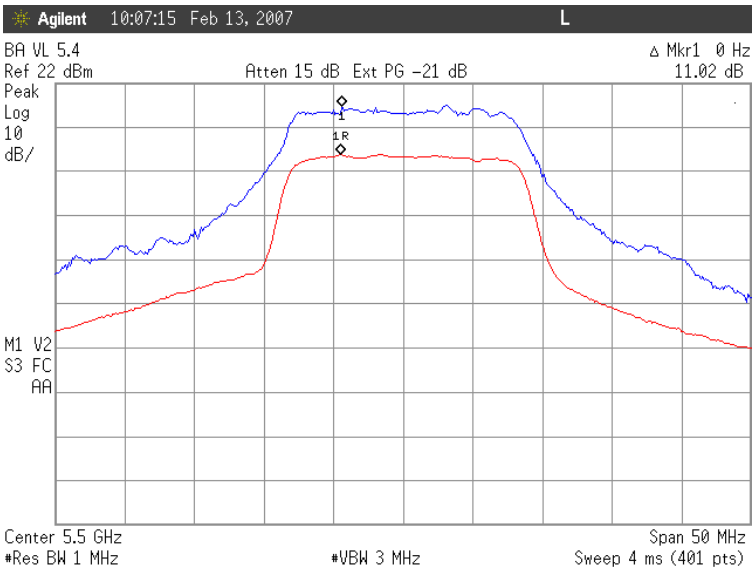
Plot 60. Carrier Frequency 5.485 GHz, EBW 10 MHz



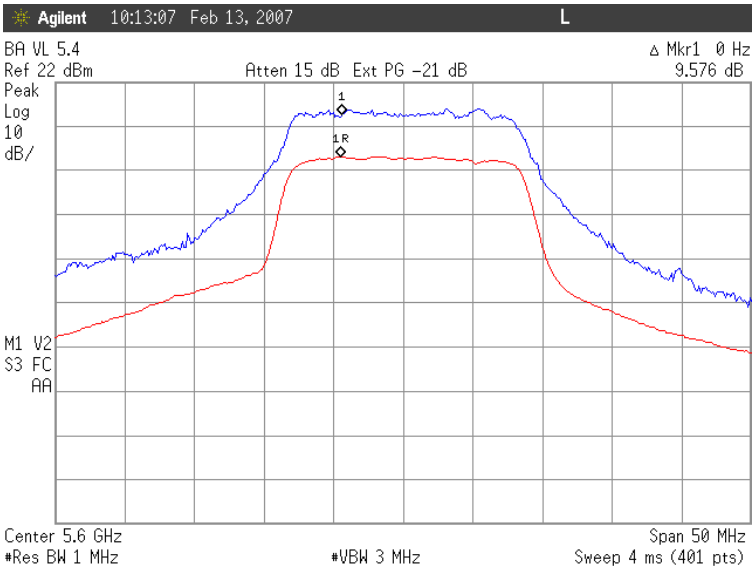
Plot 61. Carrier Frequency 5.600 GHz, EBW 10 MHz



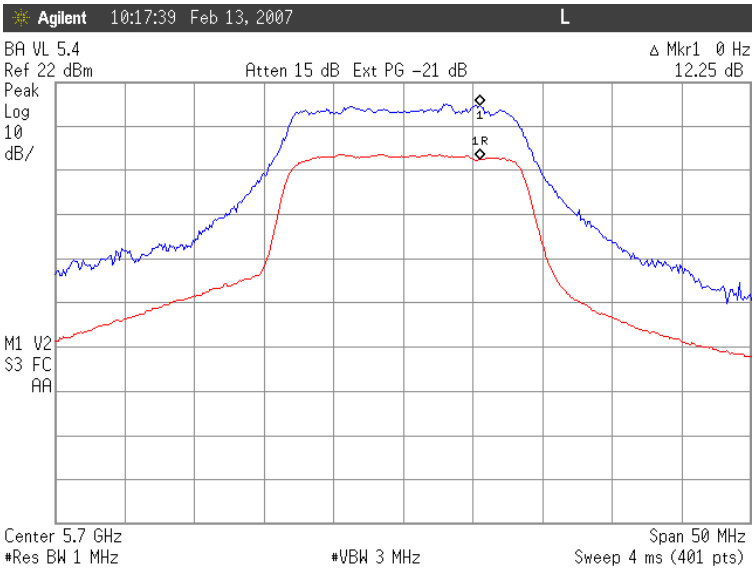
Plot 62. Carrier Frequency 5.710 GHz, EBW 10 MHz



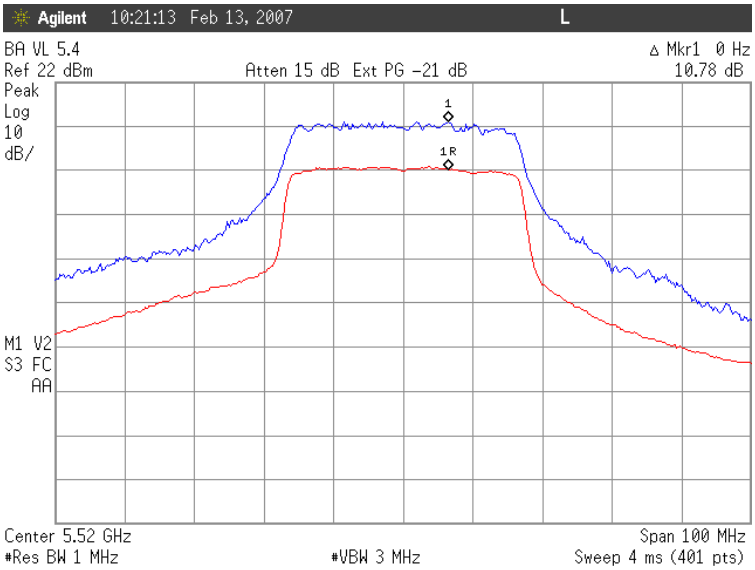
Plot 63. Carrier Frequency 5.500 GHz, EBW 20 MHz



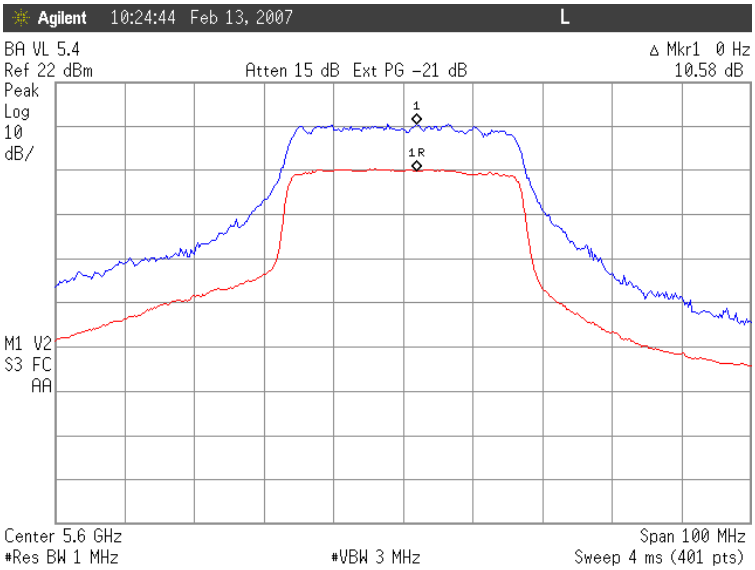
Plot 64. Carrier Frequency 5.600 GHz, EBW 20 MHz



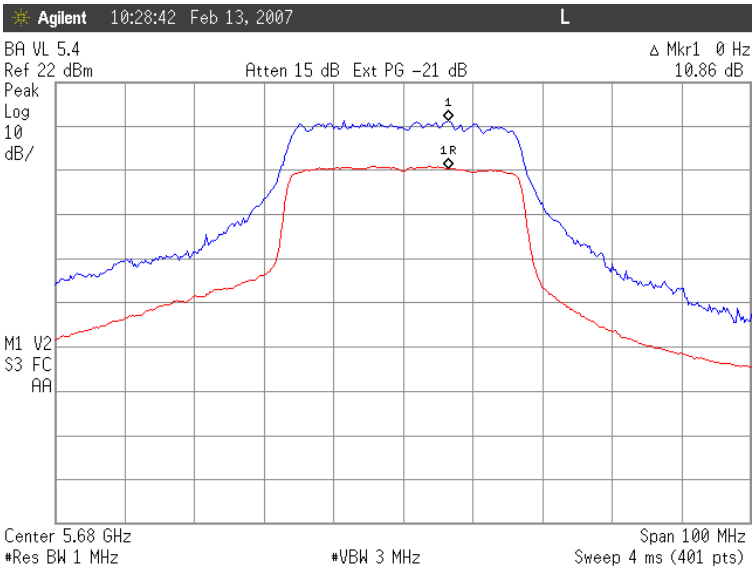
Plot 65. Carrier Frequency 5.700 GHz, EBW 20 MHz



Plot 66. Carrier Frequency 5.520 GHz, EBW 40 MHz



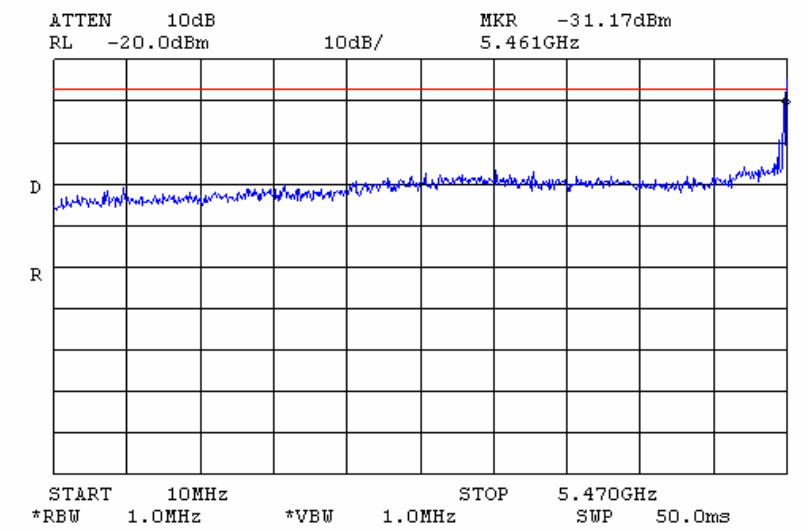
Plot 67. Carrier Frequency 5.600 GHz, EBW 40 MHz



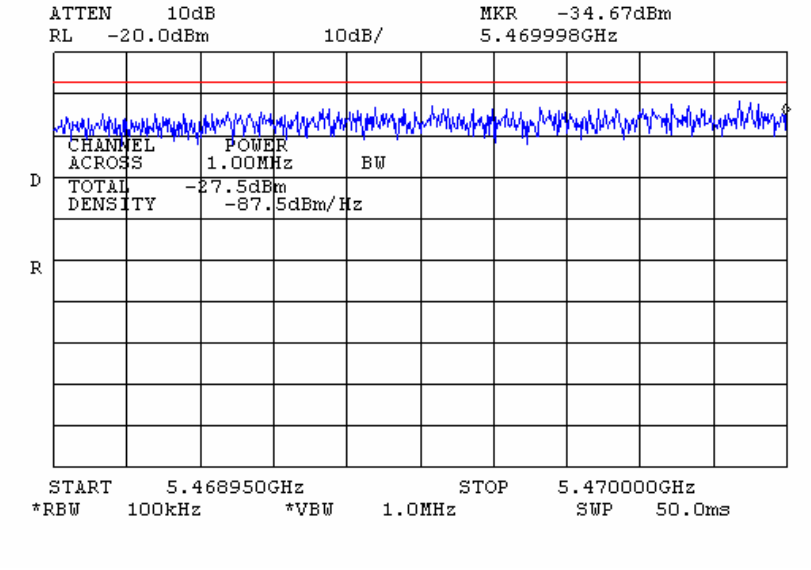
Plot 68. Carrier Frequency 5.680 GHz, EBW 40 MHz

11.5. *Peak Emissions outside of the frequency band 15.407b (3).*

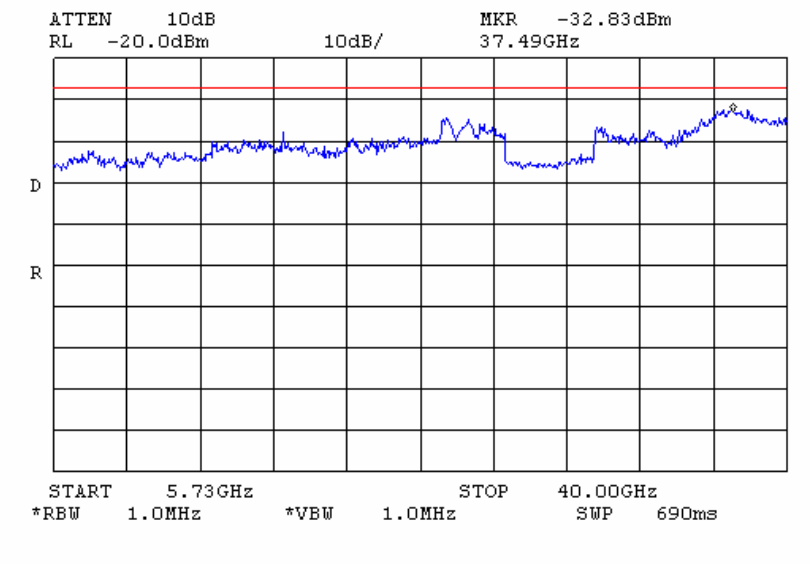
Limit line - -27 dBm/MHz



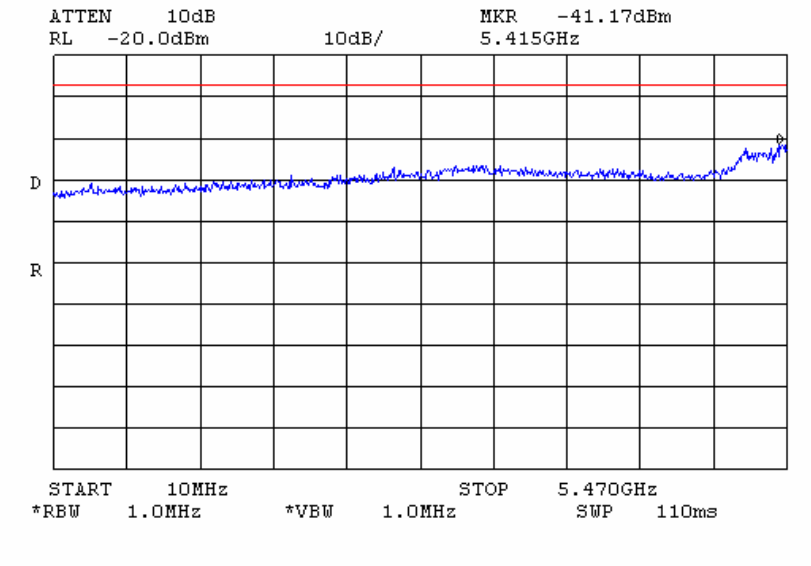
Plot 69. Carrier Frequency 5.485 GHz, EBW 10 MHz, Output power 20 dBm



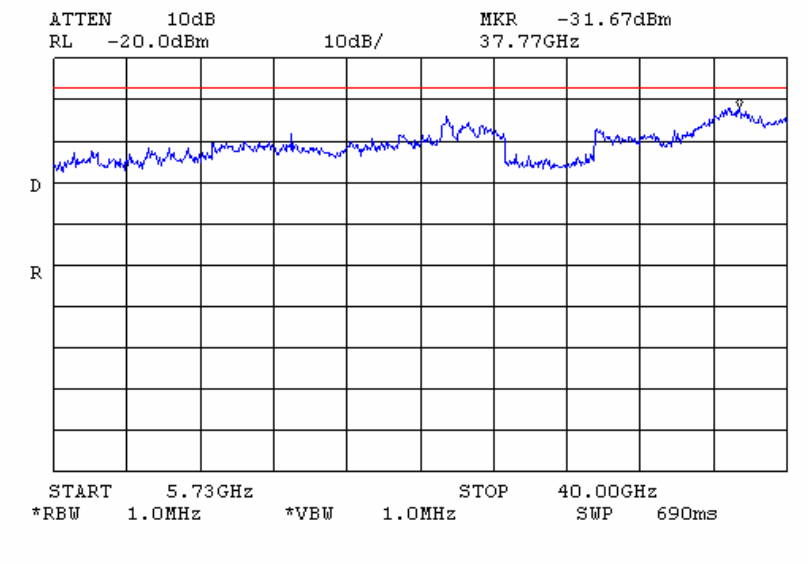
Plot 70. Carrier Frequency 5.485 GHz, EBW 10 MHz



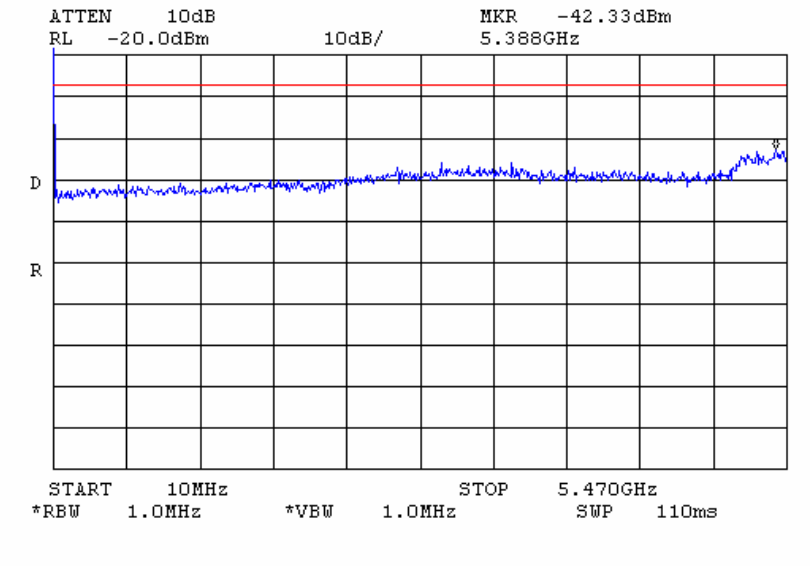
Plot 71. Carrier Frequency 5.485 GHz, EBW 10 MHz



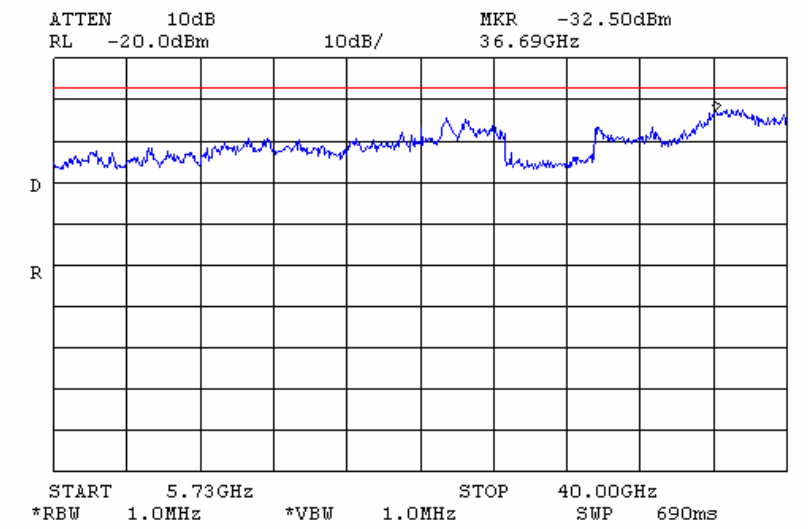
Plot 72. Carrier Frequency 5.600 GHz, EBW 10 MHz



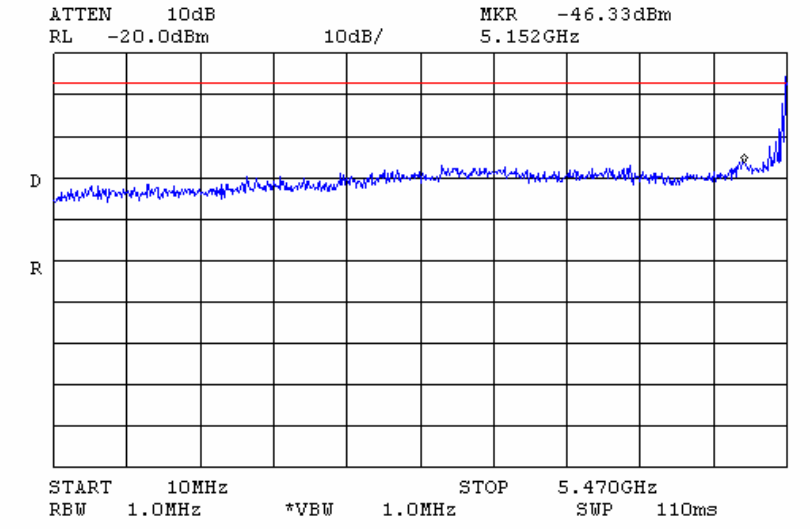
Plot 73. Carrier Frequency 5.600 GHz, EBW 10 MHz



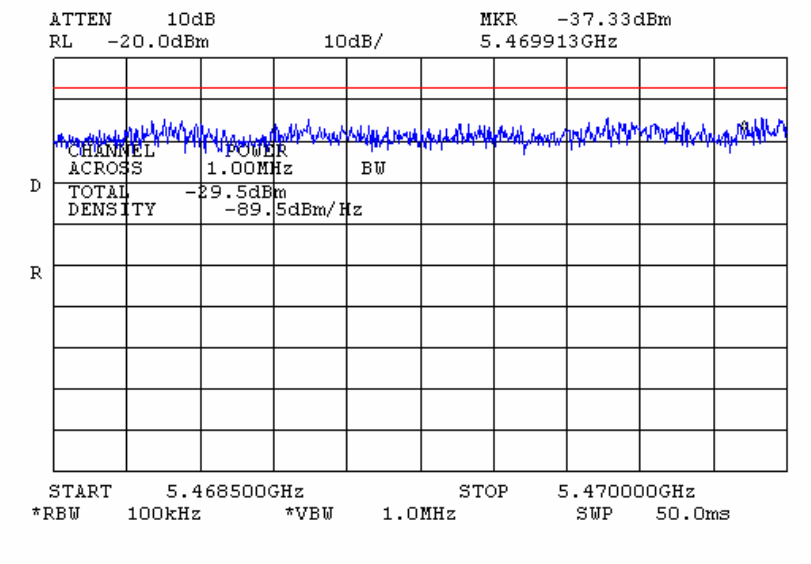
Plot 74. Carrier Frequency 5.710 GHz, EBW 10 MHz



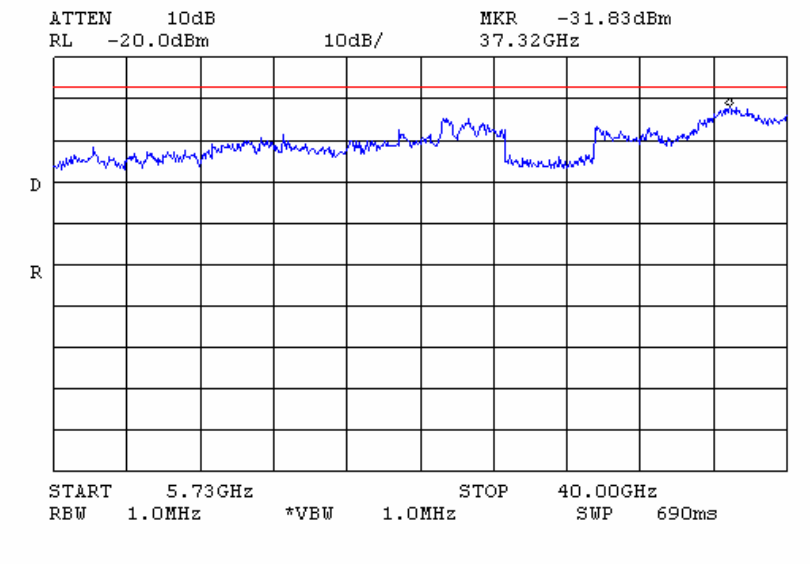
Plot 75. Carrier Frequency 5.710 GHz, EBW 10 MHz



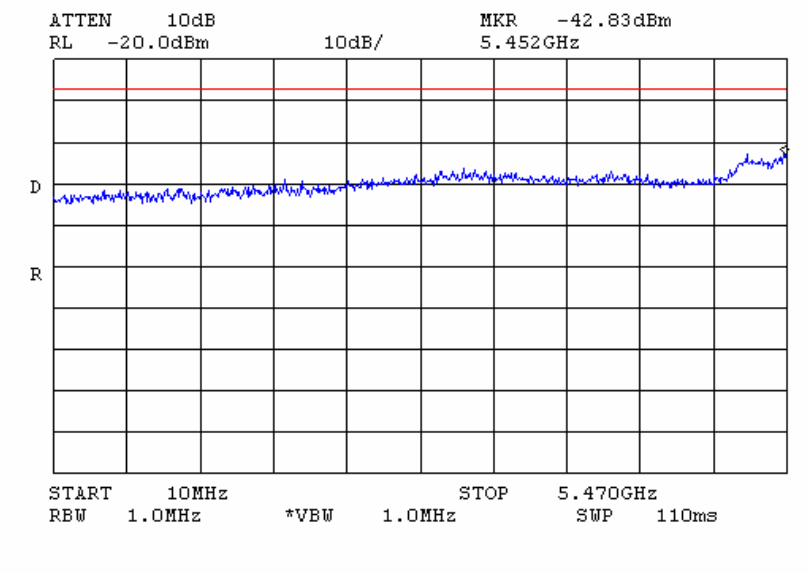
Plot 76. Carrier Frequency 5.500 GHz, EBW 20 MHz



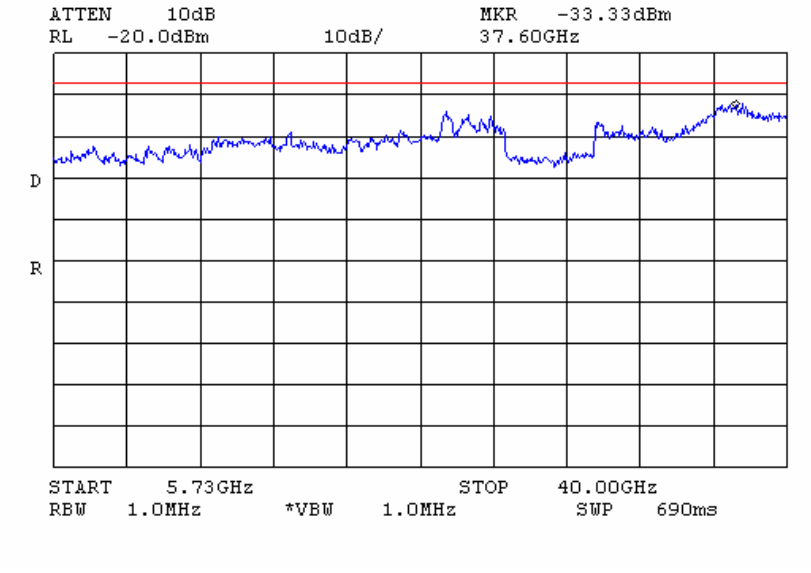
Plot 77. Carrier Frequency 5.500 GHz, EBW 20 MHz



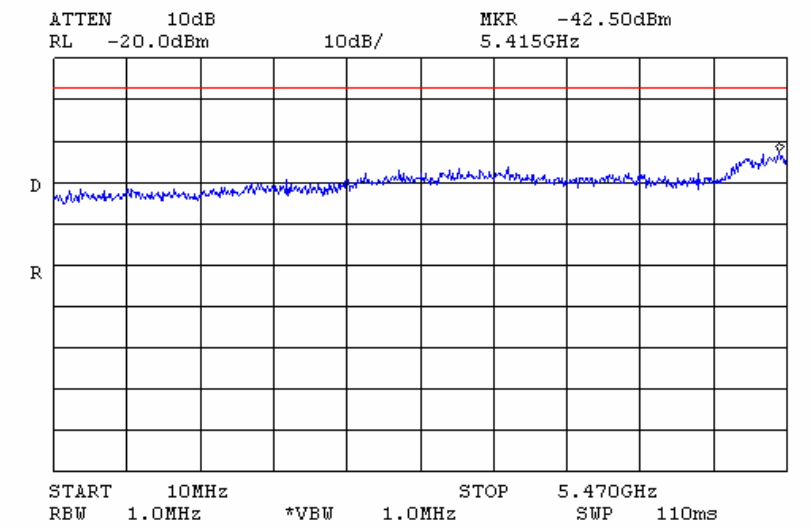
Plot 78. Carrier Frequency 5.500 GHz, EBW 20 MHz



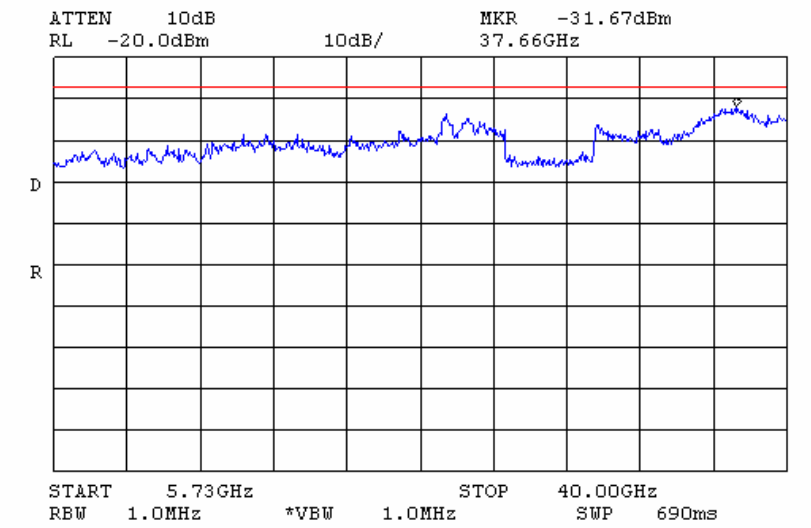
Plot 79. Carrier Frequency 5.600 GHz, EBW 20 MHz



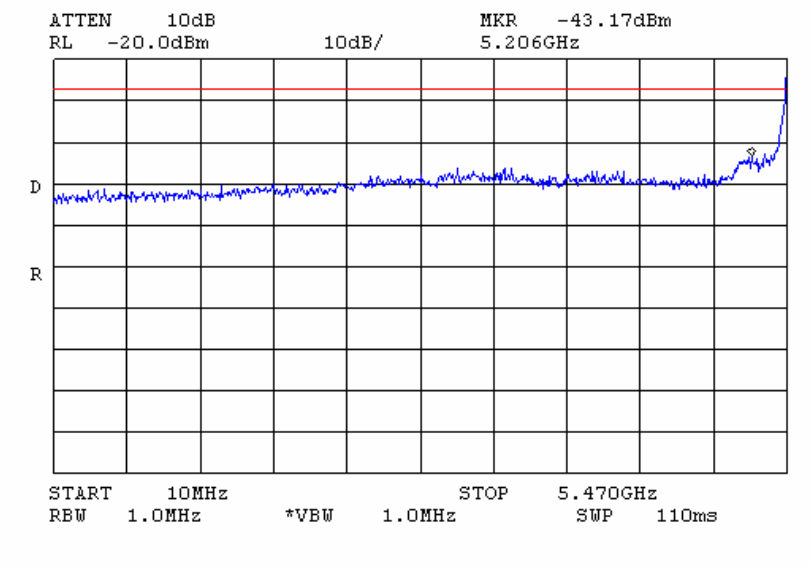
Plot 80. Carrier Frequency 5.600 GHz, EBW 20 MHz



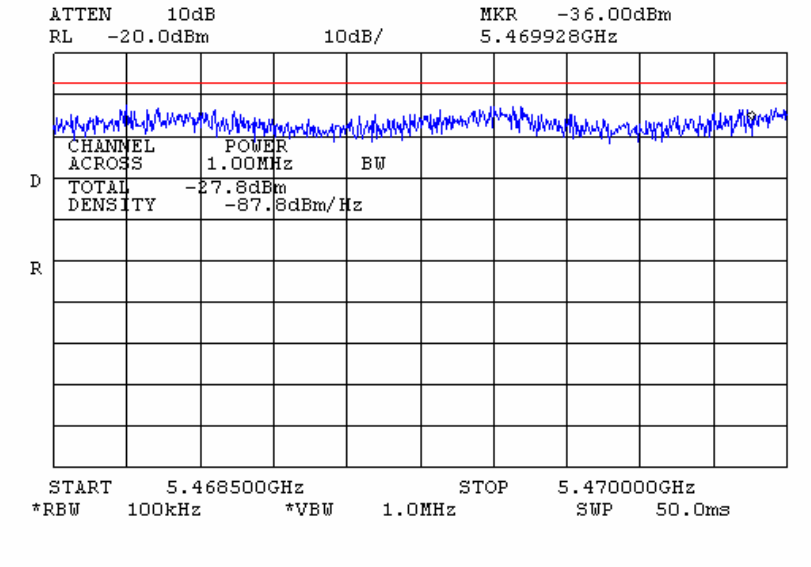
Plot 81. Carrier Frequency 5.700 GHz, EBW 20 MHz



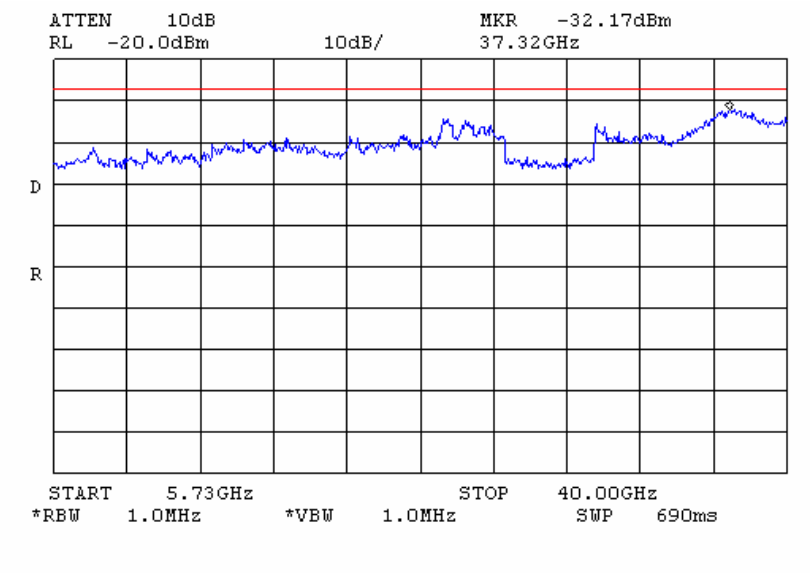
Plot 82. Carrier Frequency 5.700 GHz, EBW 20 MHz



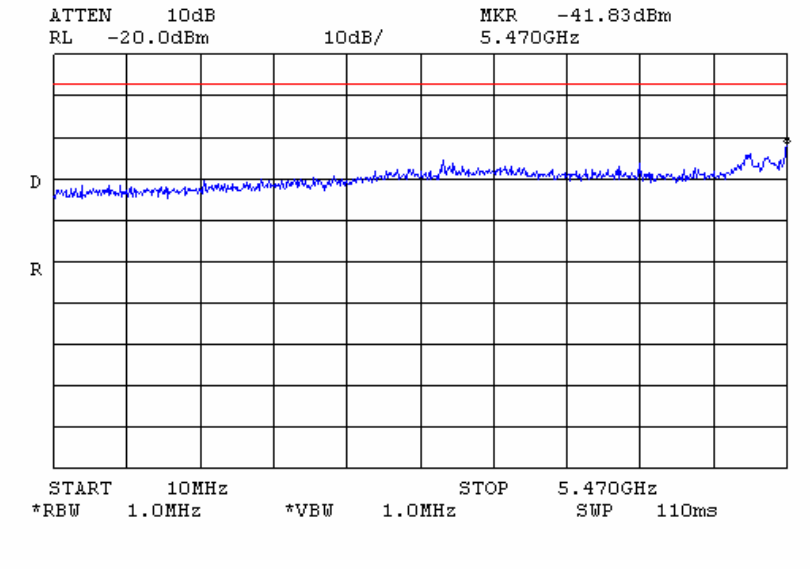
Plot 83. Carrier Frequency 5.520 GHz, EBW 40 MHz



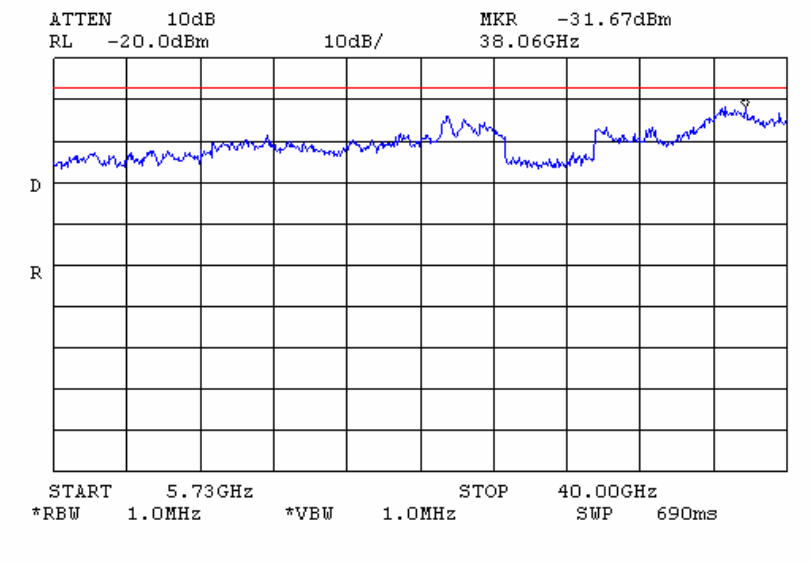
Plot 84. Carrier Frequency 5.520 GHz, EBW 40 MHz



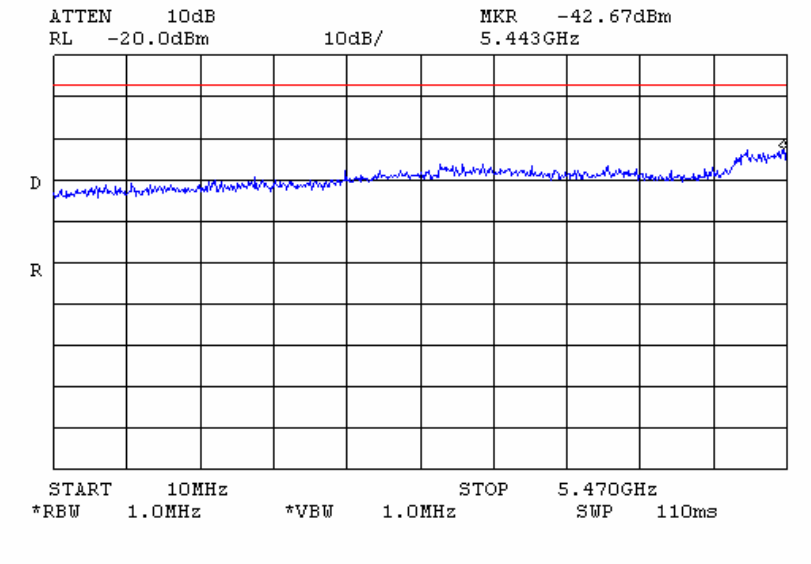
Plot 85. Carrier Frequency 5.520 GHz, EBW 40 MHz



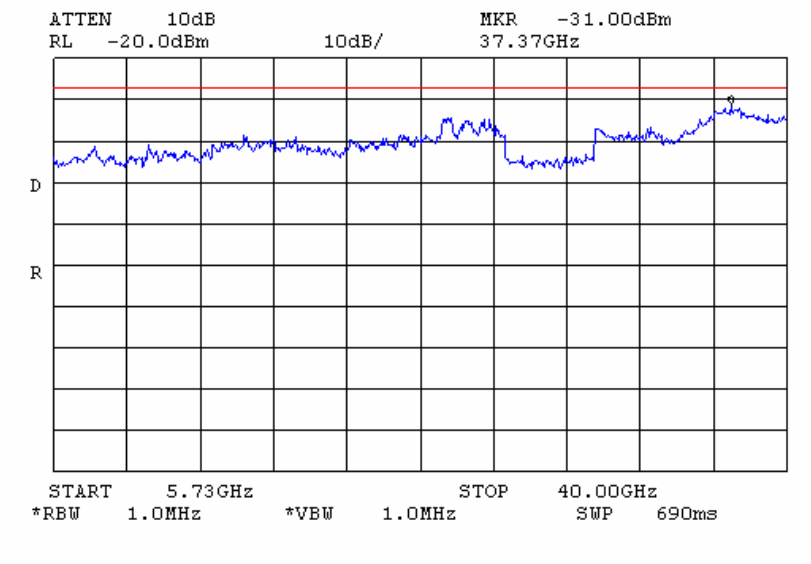
Plot 86. Carrier Frequency 5.600 GHz, EBW 40 MHz



Plot 87. Carrier Frequency 5.600 GHz, EBW 40 MHz



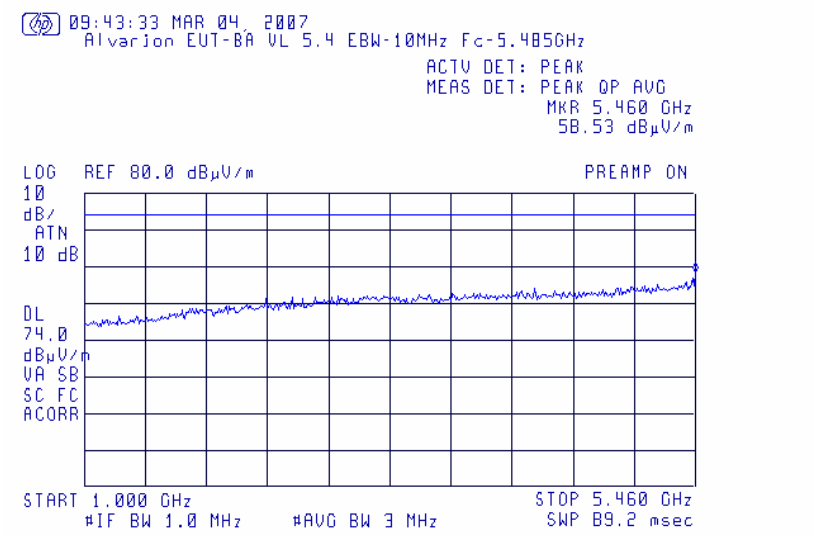
Plot 88. Carrier Frequency 5.680 GHz, EBW 40 MHz



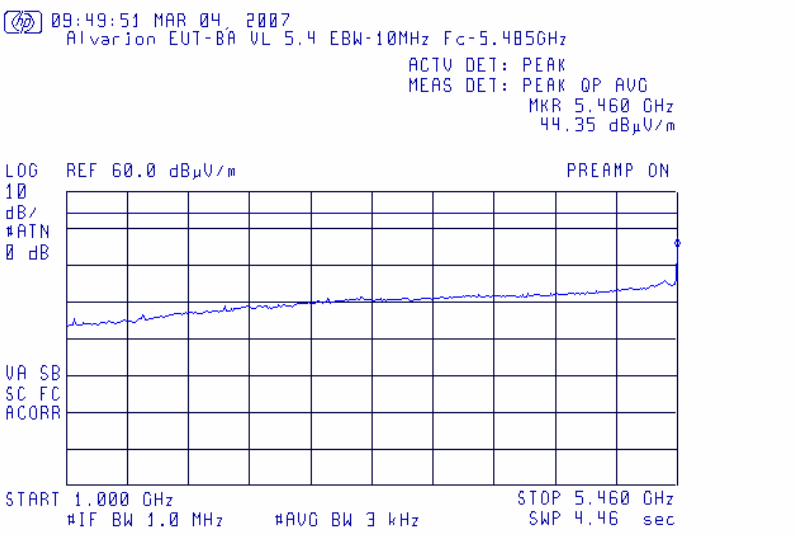
Plot 89. Carrier Frequency 5.680 GHz, EBW 40 MHz

11.6. *Radiated Spurious Emissions 15.407b (7)*

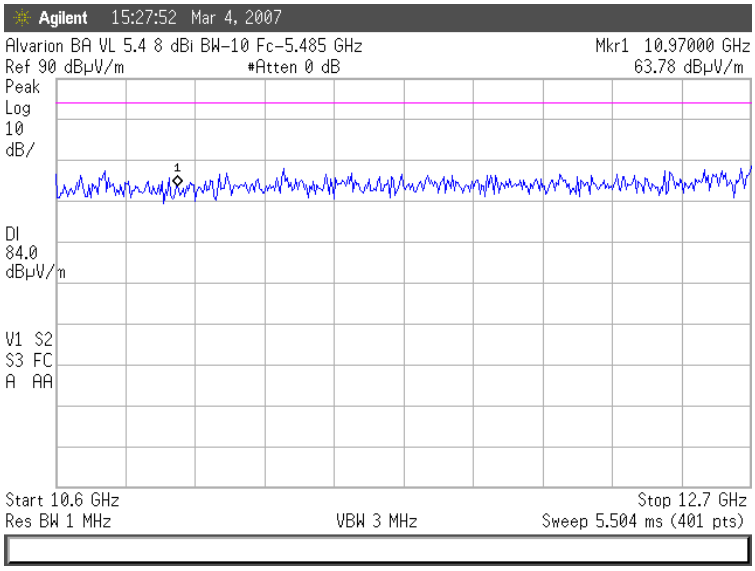
Antenna - 8 dBi. Output power 21 dBm.



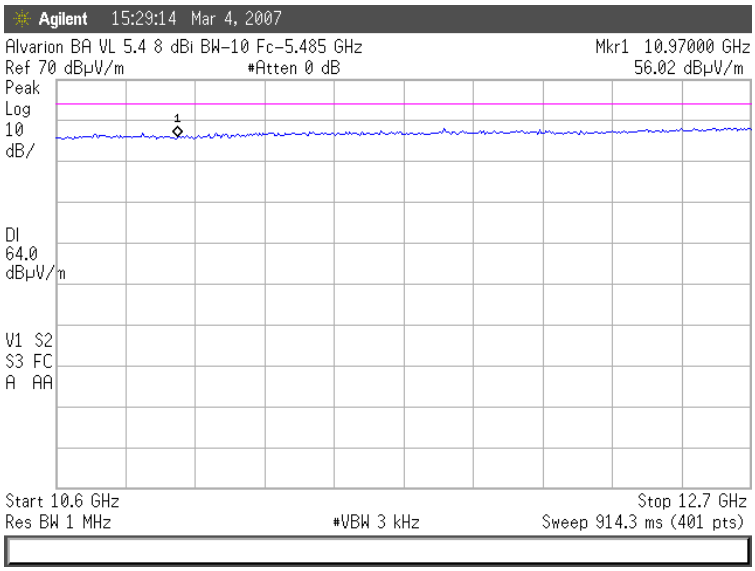
Plot 90. Carrier Frequency 5.485 GHz, EBW-10 MHz, Antenna 8 dBi Detector Peak



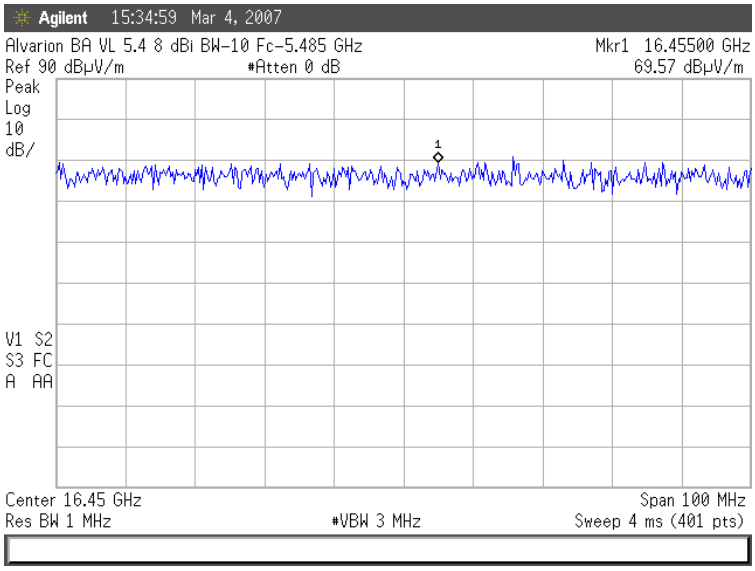
Plot 91. Carrier Frequency 5.485 GHz, EBW 10 MHz, Antenna 8 dBi Detector Average



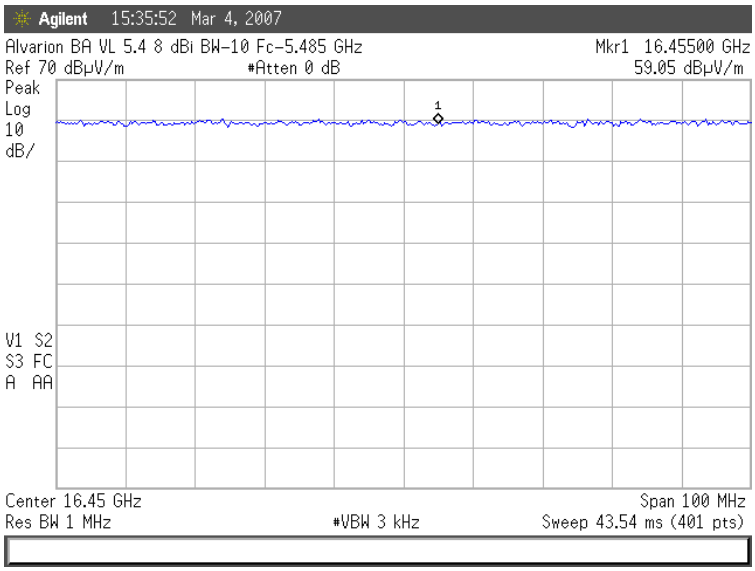
Plot 92. Carrier Frequency 5.485 GHz, EBW-10 MHz, Antenna 8 dBi Detector Peak



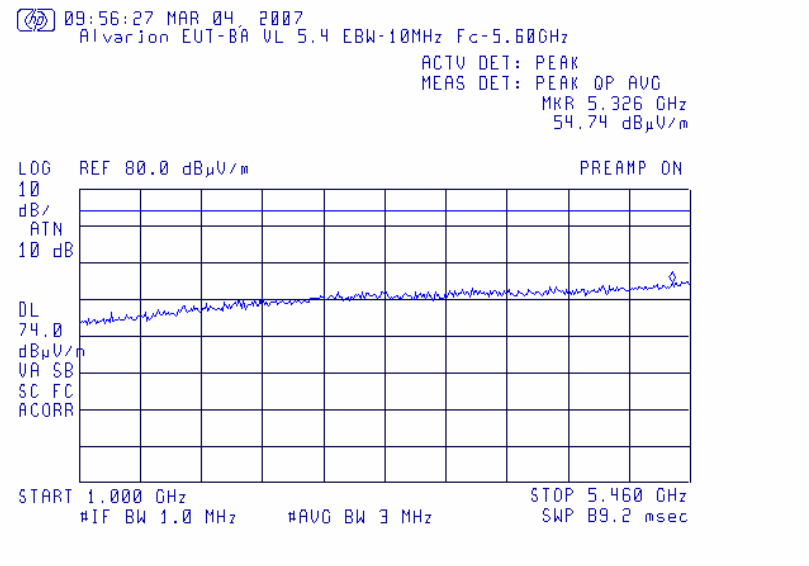
Plot 93. Carrier Frequency 5.485 GHz, EBW 10 MHz, Antenna 8 dBi Detector Average



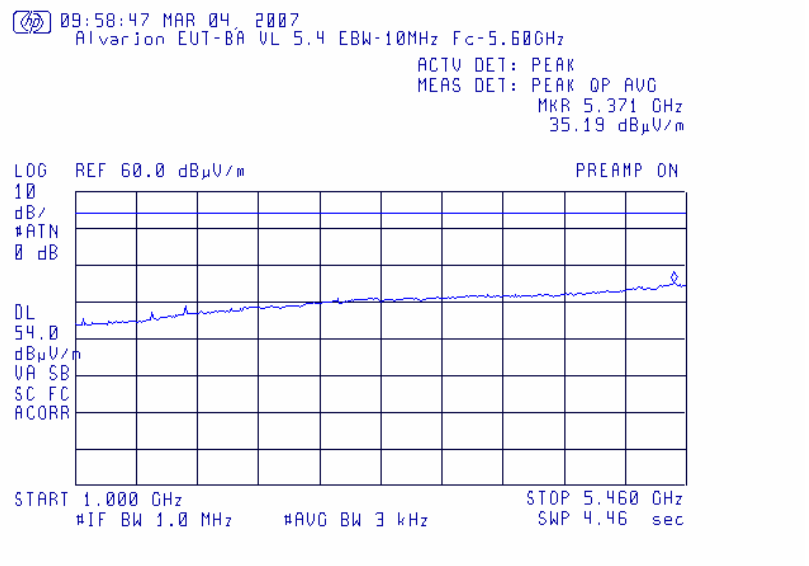
Plot 94. Carrier Frequency 5.485 GHz, EBW-10 MHz, Antenna 8 dBi Detector Peak



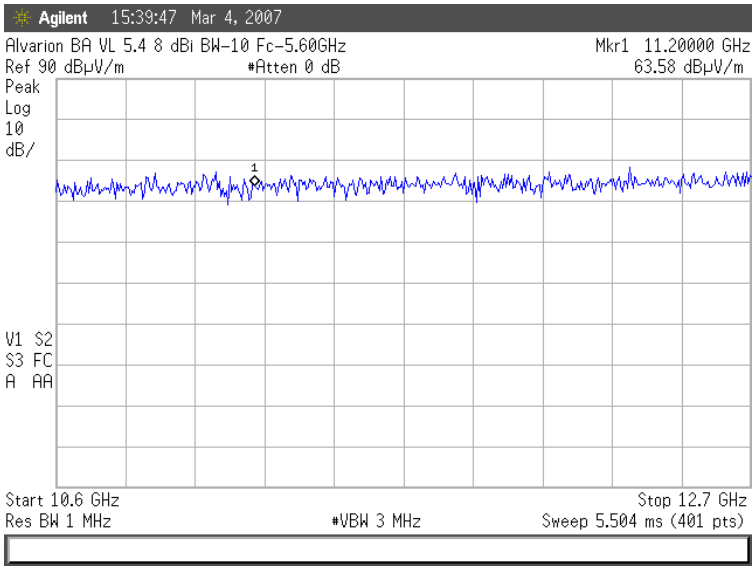
Plot 95. Carrier Frequency 5.485 GHz, EBW 10 MHz, Antenna 8 dBi Detector Average



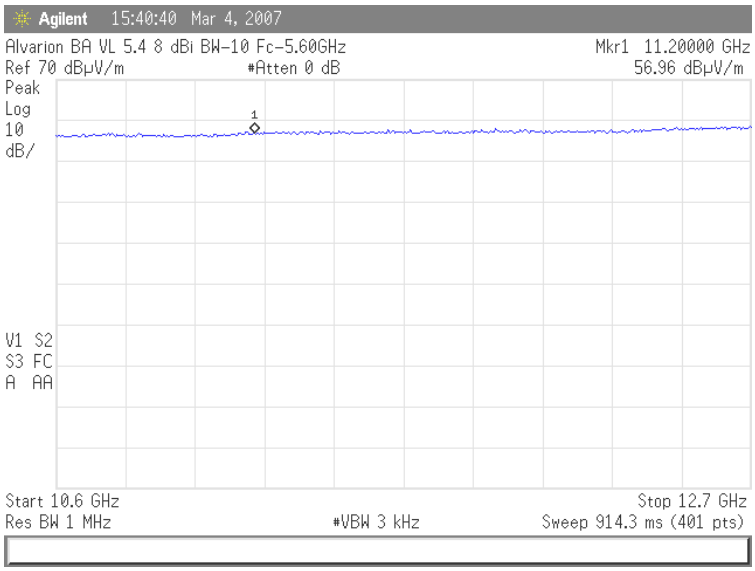
Plot 96. Carrier Frequency 5.600 GHz, EBW-10 MHz, Antenna 8 dBi Detector Peak



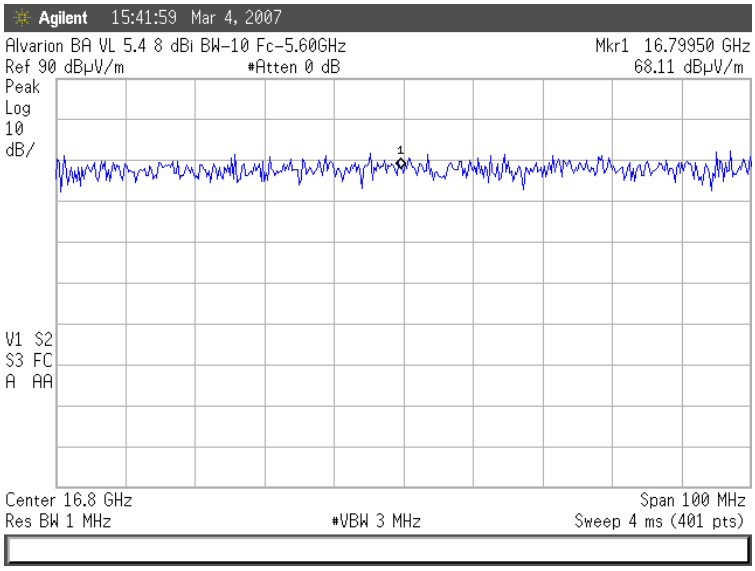
Plot 97. Carrier Frequency 5.600 GHz, EBW 10 MHz, Antenna 8 dBi Detector Average



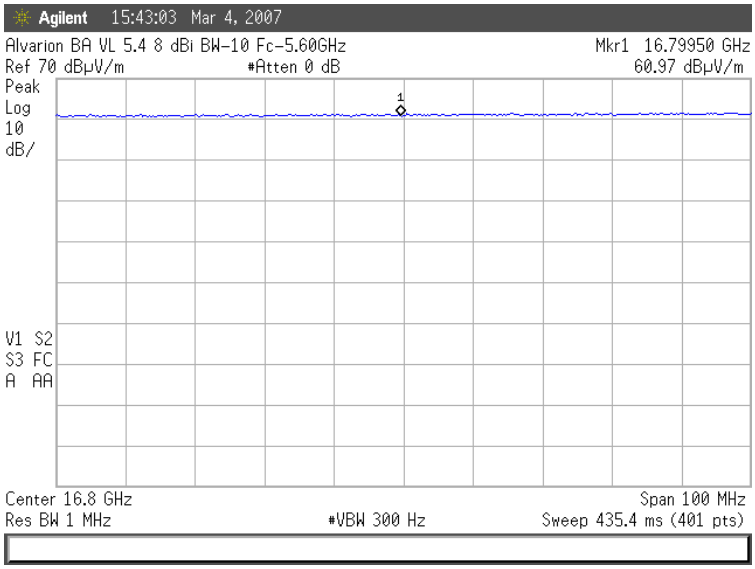
Plot 98. Carrier Frequency 5.600 GHz, EBW-10 MHz, Antenna 8 dBi Detector Peak



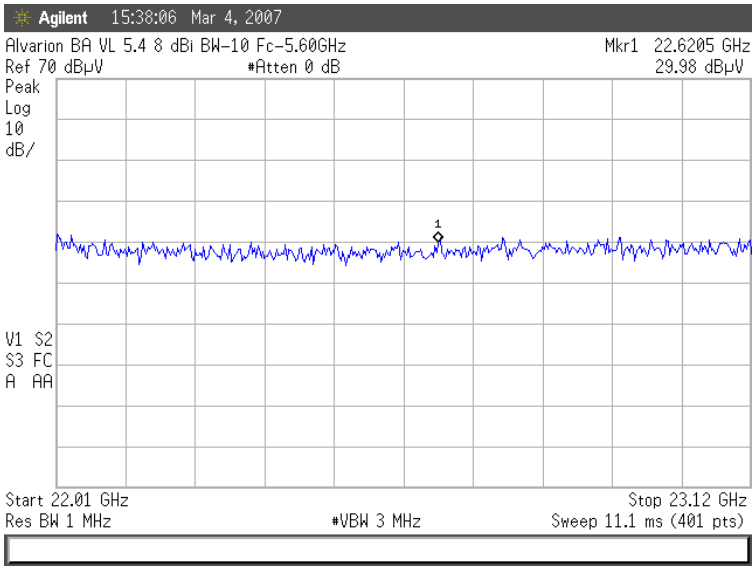
Plot 99. Carrier Frequency 5.600 GHz, EBW 10 MHz, Antenna 8 dBi Detector Average



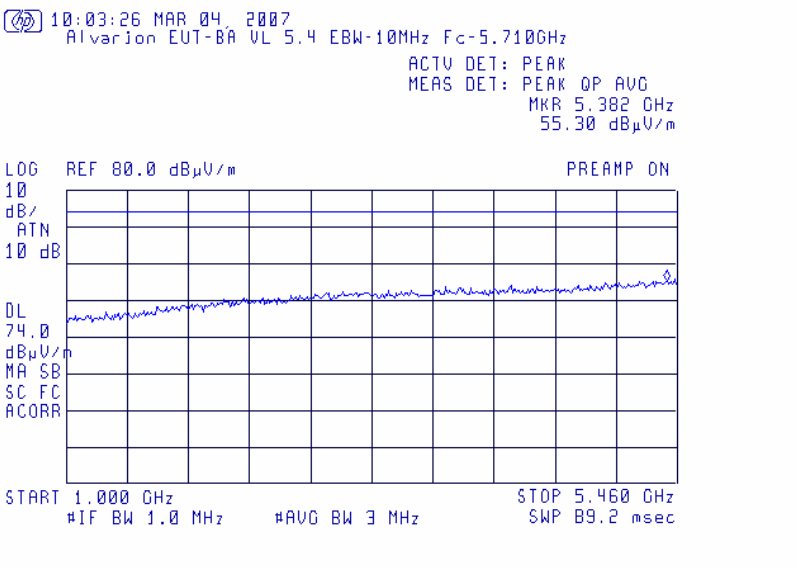
Plot 100. Carrier Frequency 5.600 GHz, EBW-10 MHz, Antenna 8 dBi Detector Peak



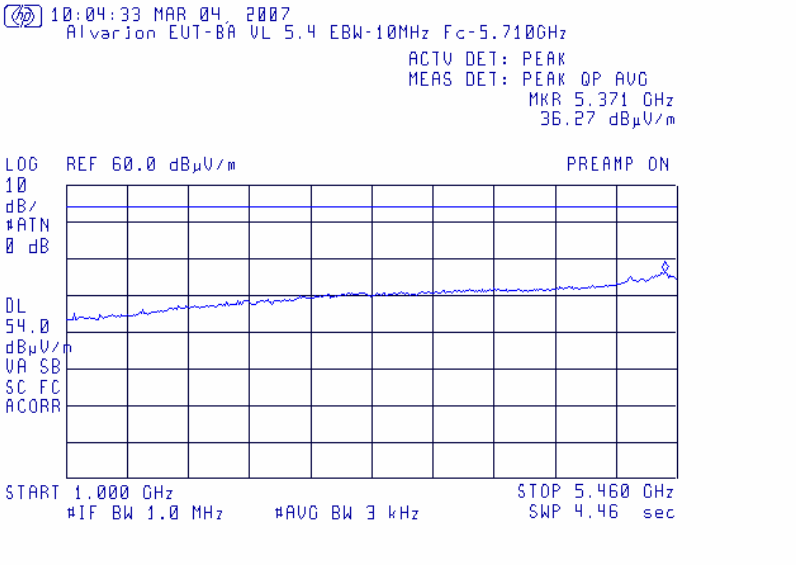
Plot 101. Carrier Frequency 5.600 GHz, EBW 10 MHz, Antenna 8 dBi Detector Average



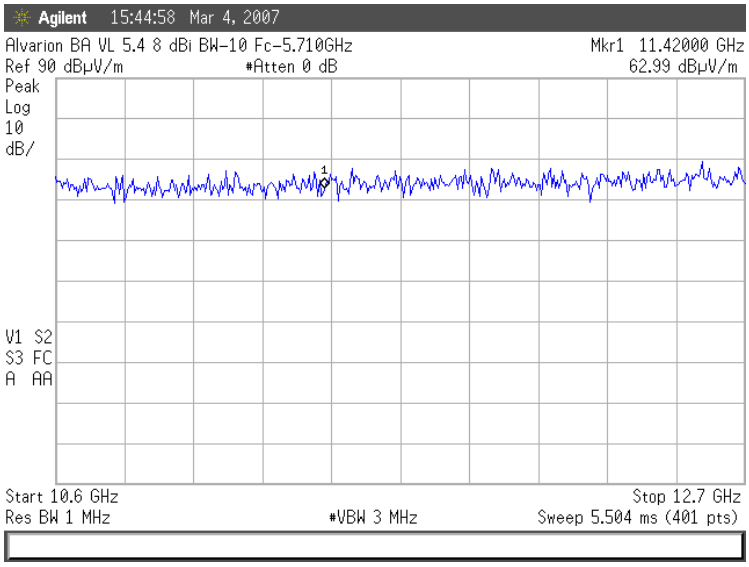
Plot 102. Carrier Frequency 5.600 GHz, EBW-10 MHz, Antenna 8 dBi Detector Peak



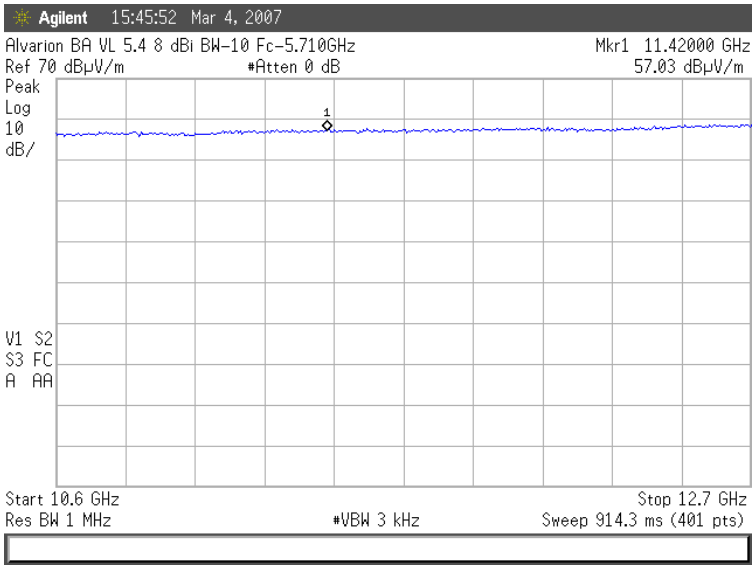
Plot 103. Carrier Frequency 5.710 GHz, EBW-10 MHz, Antenna 8 dBi Detector Peak



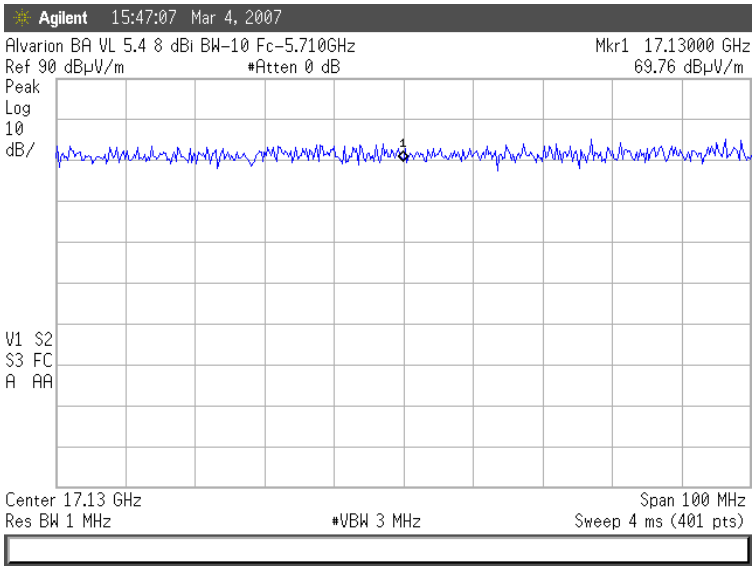
Plot 104. Carrier Frequency 5.710 GHz, EBW 10 MHz, Antenna 8 dBi Detector Average



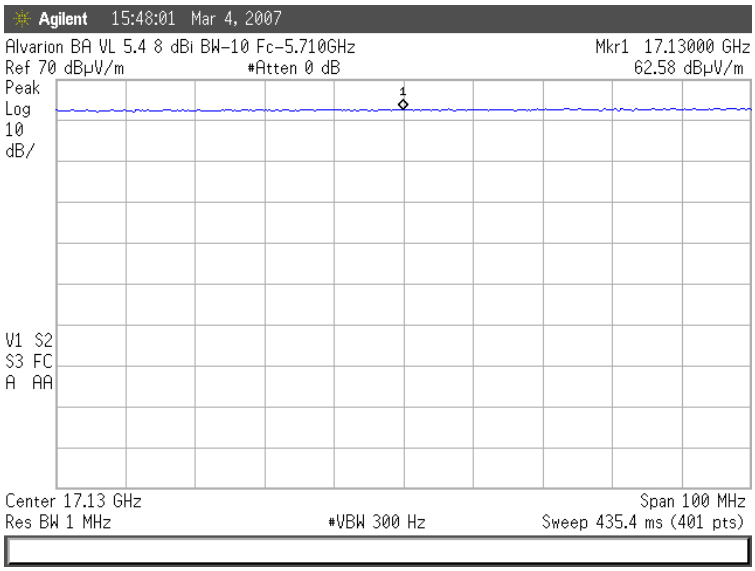
Plot 105. Carrier Frequency 5.710 GHz, EBW-10 MHz, Antenna 8 dBi Detector Peak



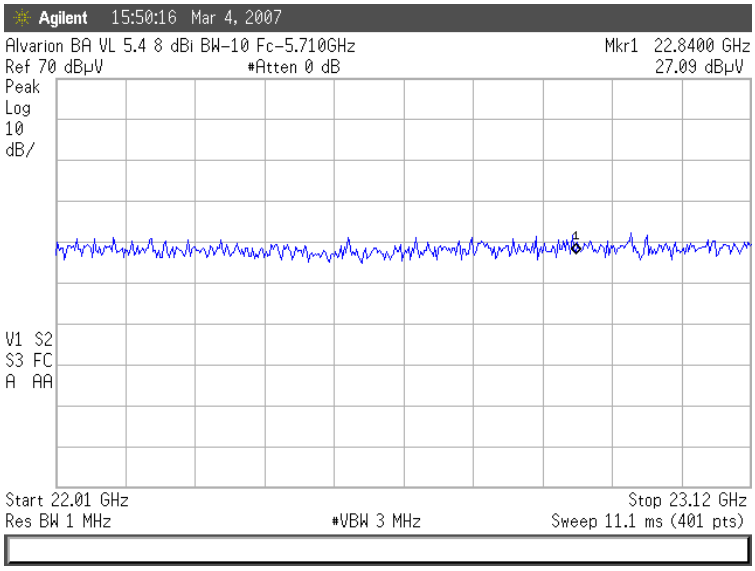
Plot 106. Carrier Frequency 5.710 GHz, EBW 10 MHz, Antenna 8 dBi Detector Average



Plot 107. Carrier Frequency 5.710 GHz, EBW-10 MHz, Antenna 8 dBi Detector Peak

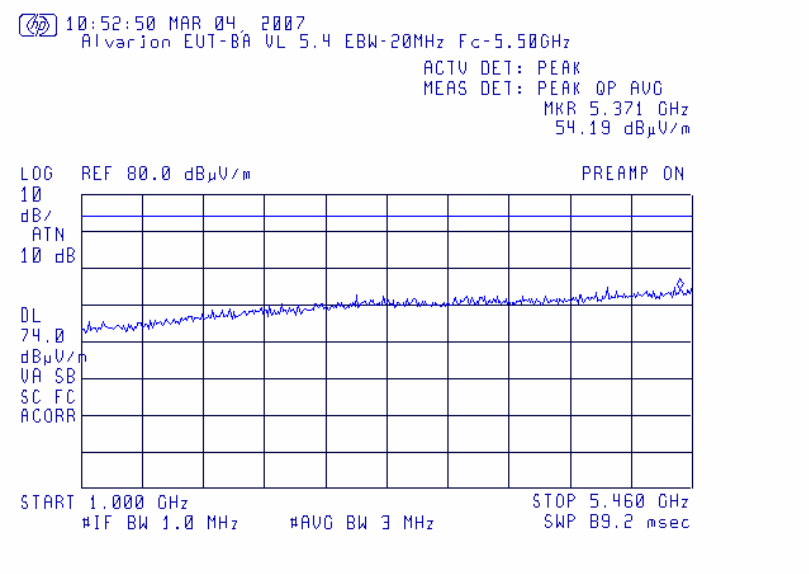


Plot 108. Carrier Frequency 5.710 GHz, EBW 10 MHz, Antenna 8 dBi Detector Average

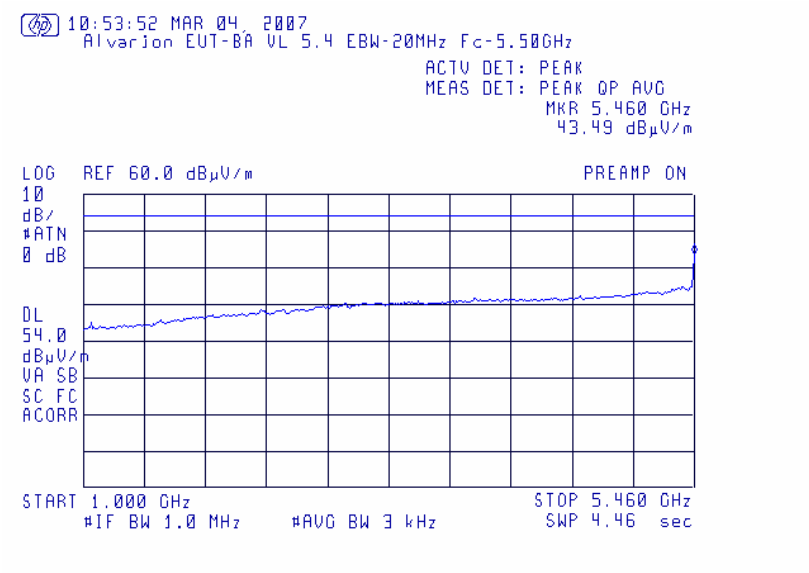


Plot 109. Carrier Frequency 5.710 GHz, EBW-10 MHz, Antenna 8 dBi Detector Peak

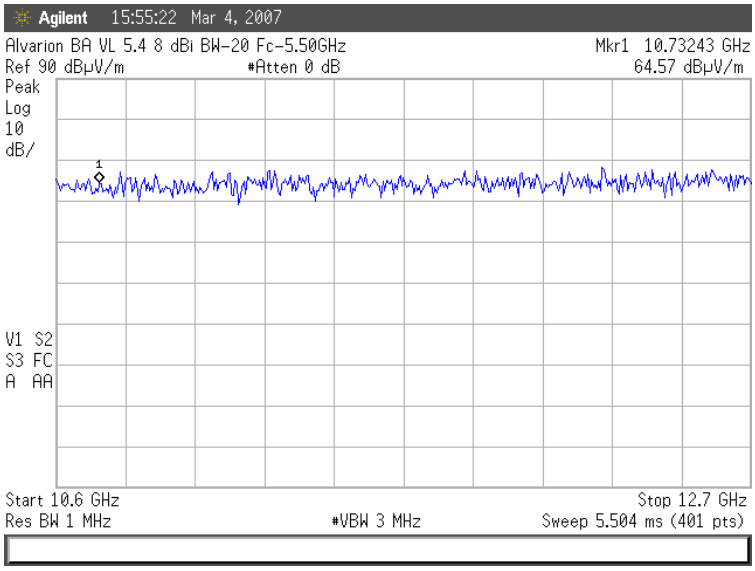
Antenna - 8 dBi. Output power 24 dBm.



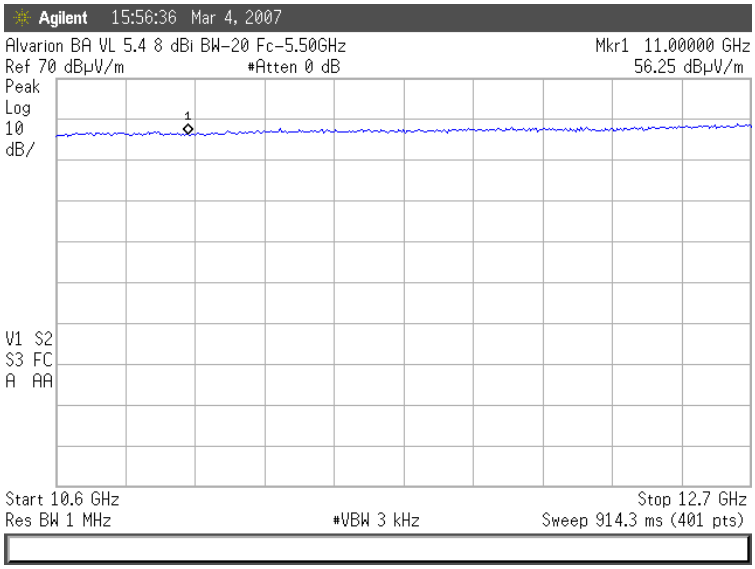
Plot 110. Carrier Frequency 5.500 GHz, EBW-20 MHz, Antenna 8 dBi Detector Peak



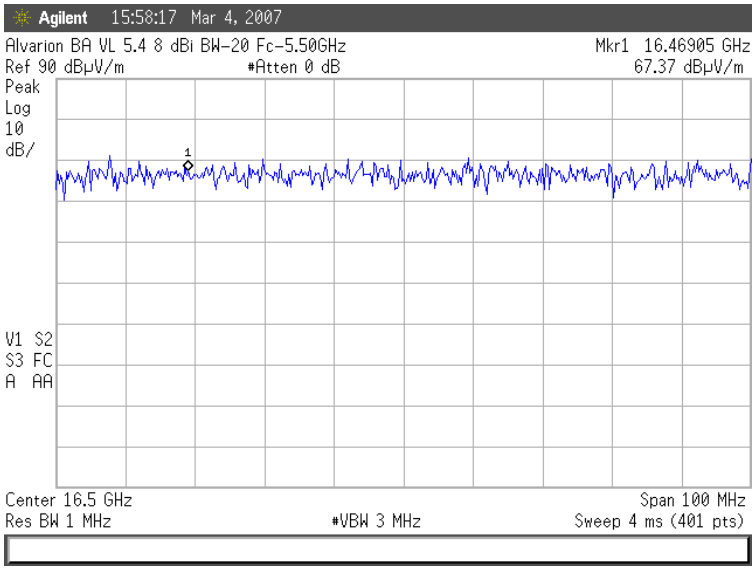
Plot 111. Carrier Frequency 5.500 GHz, EBW 20 MHz, Antenna 8 dBi Detector Average



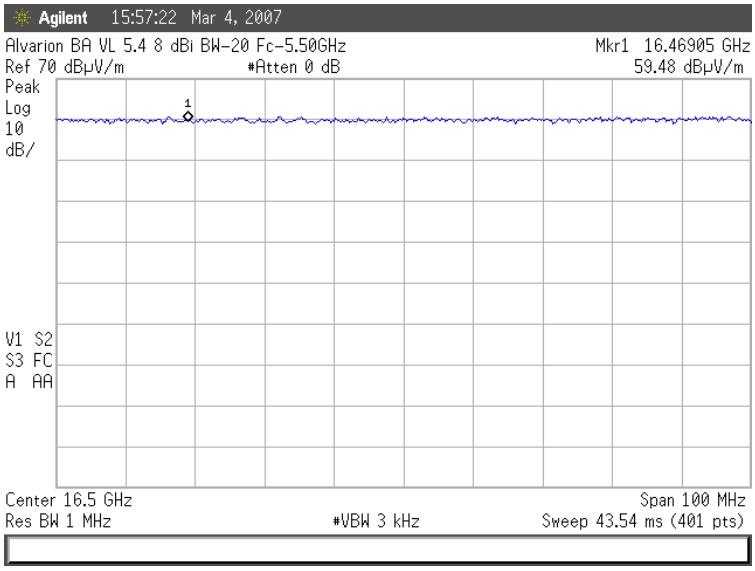
Plot 112. Carrier Frequency 5.500 GHz, EBW-20 MHz, Antenna 8 dBi Detector Peak



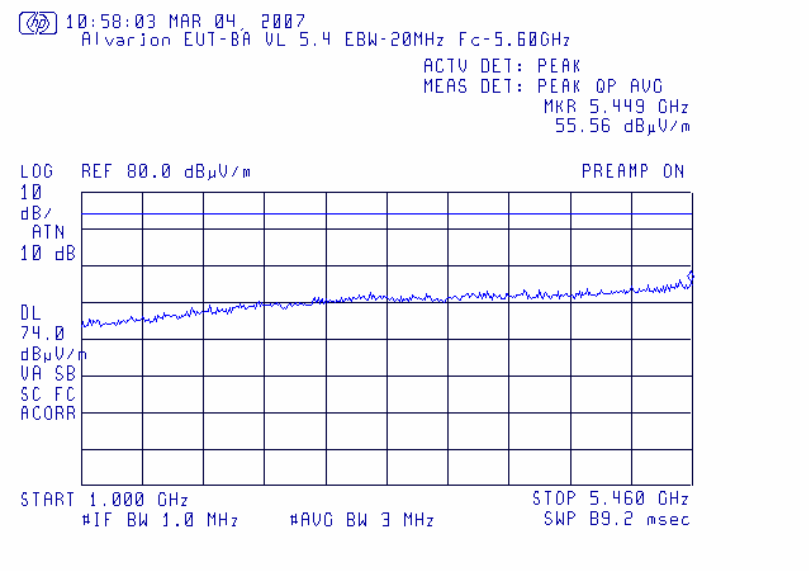
Plot 113. Carrier Frequency 5.500 GHz, EBW 20 MHz, Antenna 8 dBi Detector Average



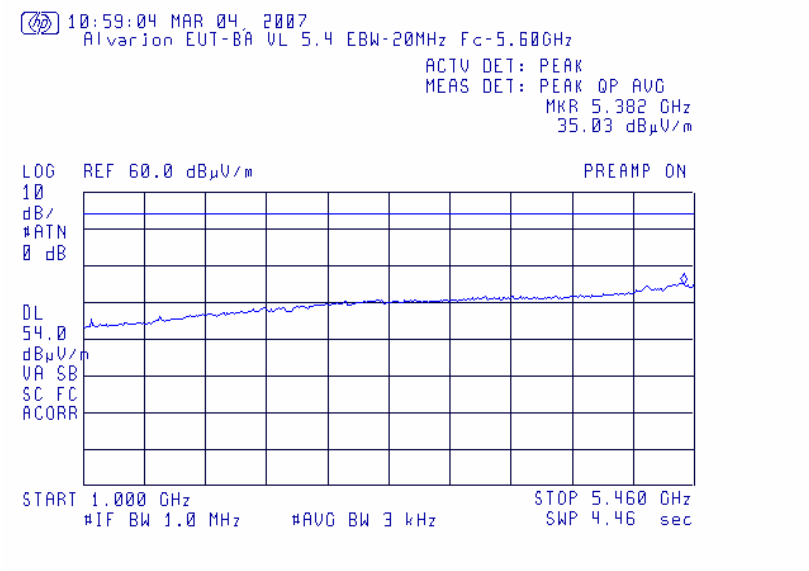
Plot 114. Carrier Frequency 5.500 GHz, EBW-20 MHz, Antenna 8 dBi Detector Peak



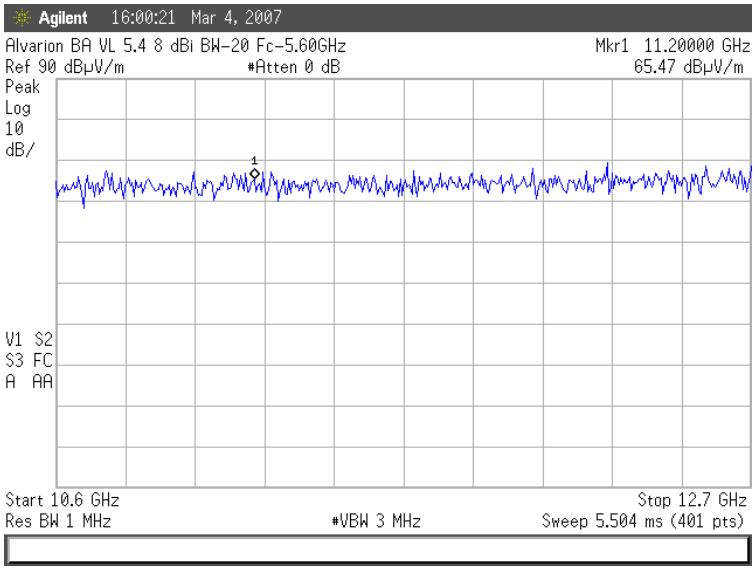
Plot 115. Carrier Frequency 5.500 GHz, EBW 20 MHz, Antenna 8 dBi Detector Average



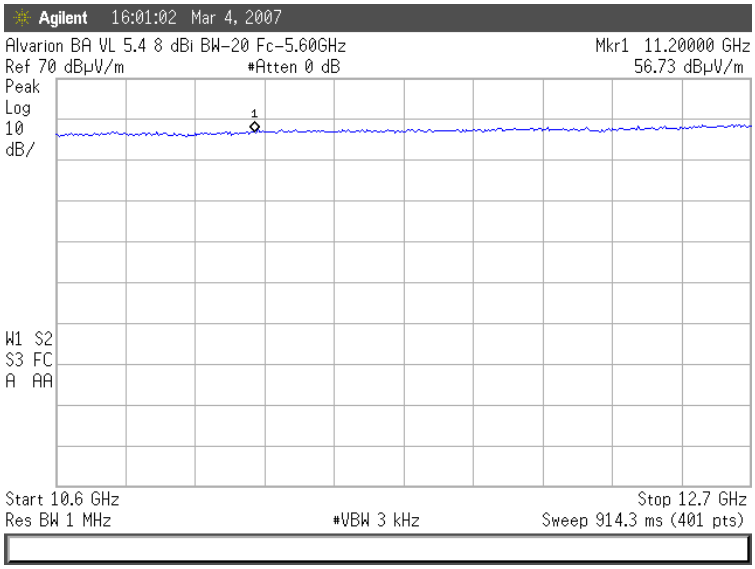
Plot 116. Carrier Frequency 5.600 GHz, EBW-20 MHz, Antenna 8 dBi Detector Peak



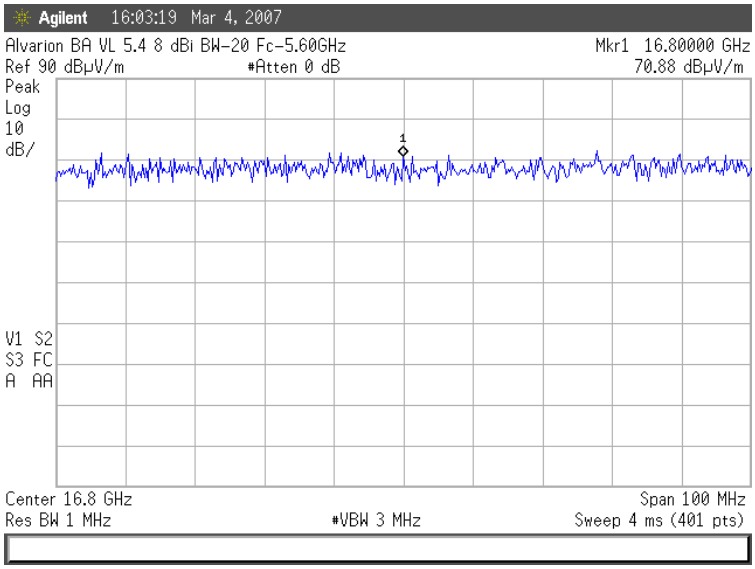
Plot 117. Carrier Frequency 5.600 GHz, EBW 20 MHz, Antenna 8 dBi Detector Average



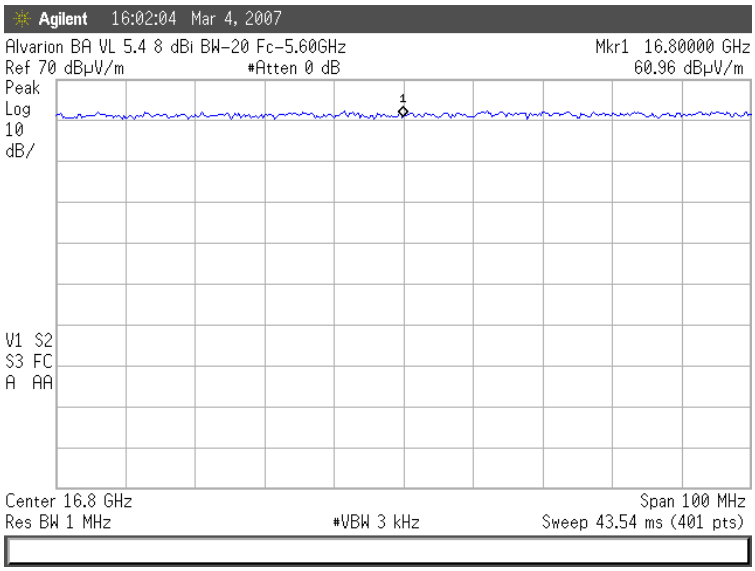
Plot 118. Carrier Frequency 5.600 GHz, EBW-20 MHz, Antenna 8 dBi Detector Peak



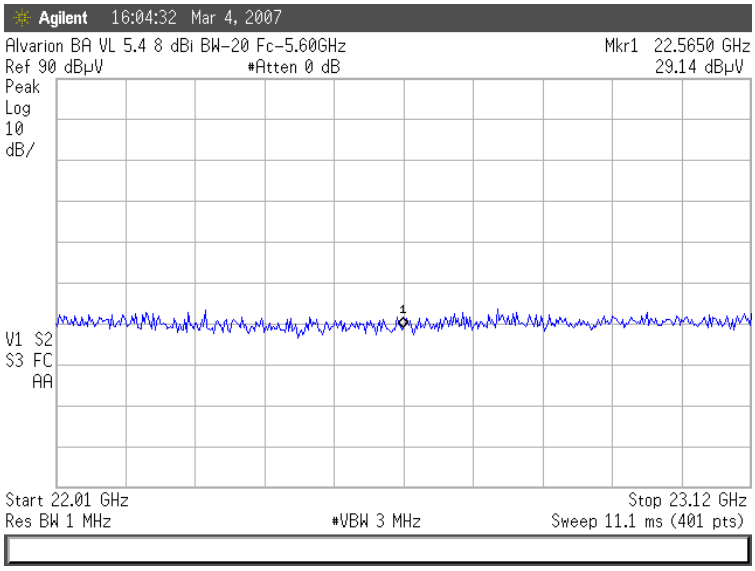
Plot 119. Carrier Frequency 5.600 GHz, EBW 20 MHz, Antenna 8 dBi Detector Average



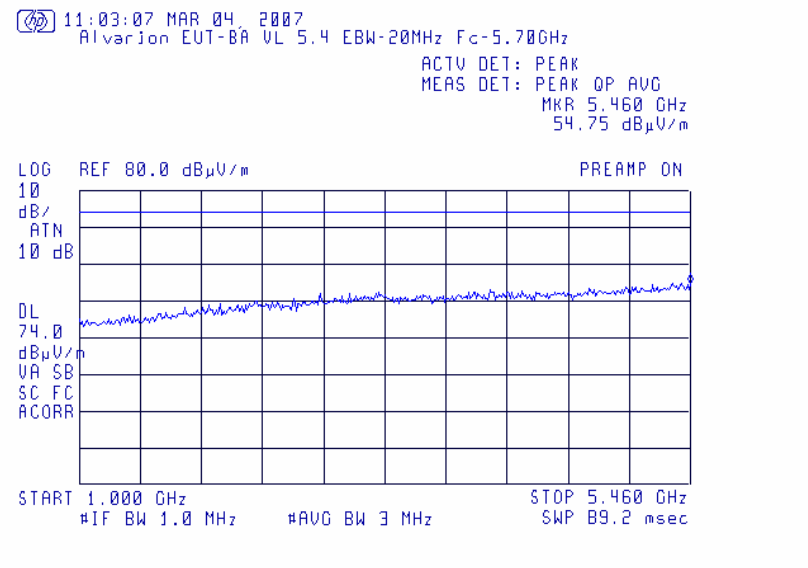
Plot 120. Carrier Frequency 5.600 GHz, EBW-20 MHz, Antenna 8 dBi Detector Peak



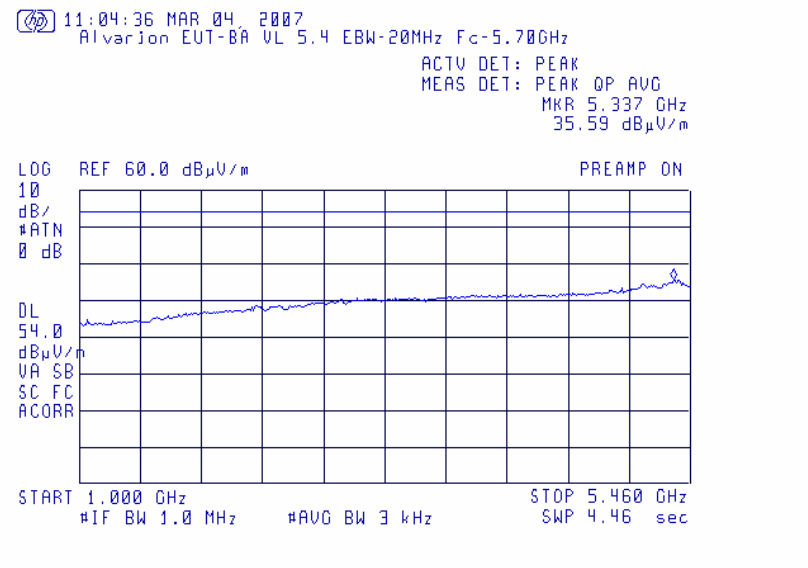
Plot 121. Carrier Frequency 5.600 GHz, EBW 20 MHz, Antenna 8 dBi Detector Average



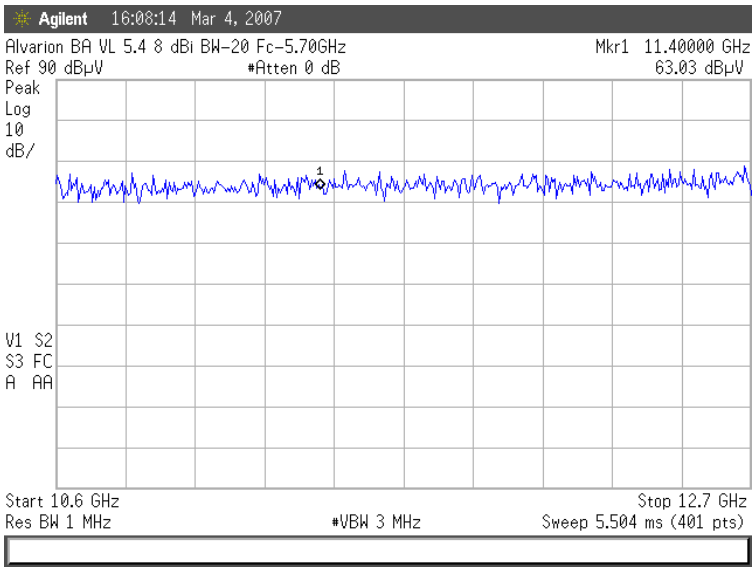
Plot 122. Carrier Frequency 5.600 GHz, EBW-20 MHz, Antenna 8 dBi Detector Peak



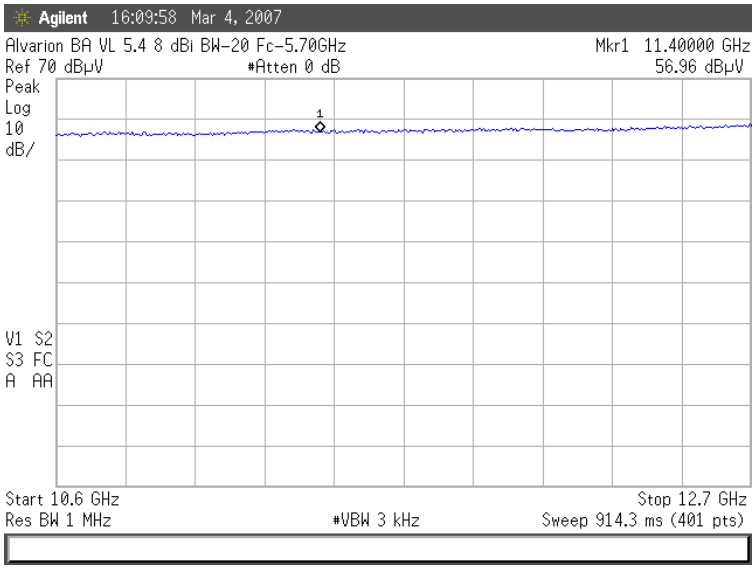
Plot 123. Carrier Frequency 5.700 GHz, EBW-20 MHz, Antenna 8 dBi Detector Peak



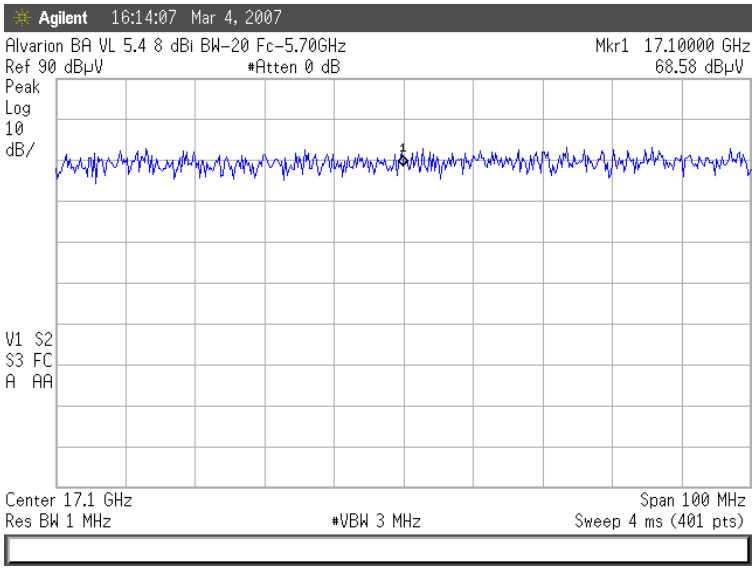
Plot 124. Carrier Frequency 5.700 GHz, EBW 20 MHz, Antenna 8 dBi Detector Average



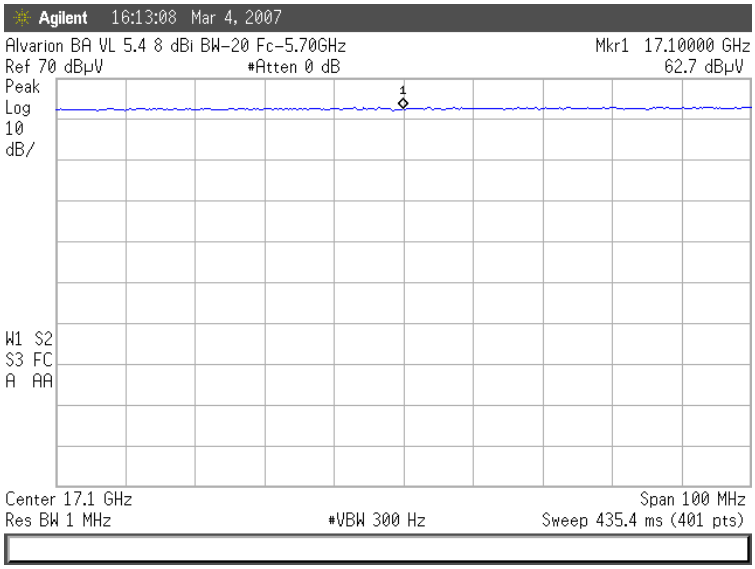
Plot 125. Carrier Frequency 5.700 GHz, EBW-20 MHz, Antenna 8 dBi Detector Peak



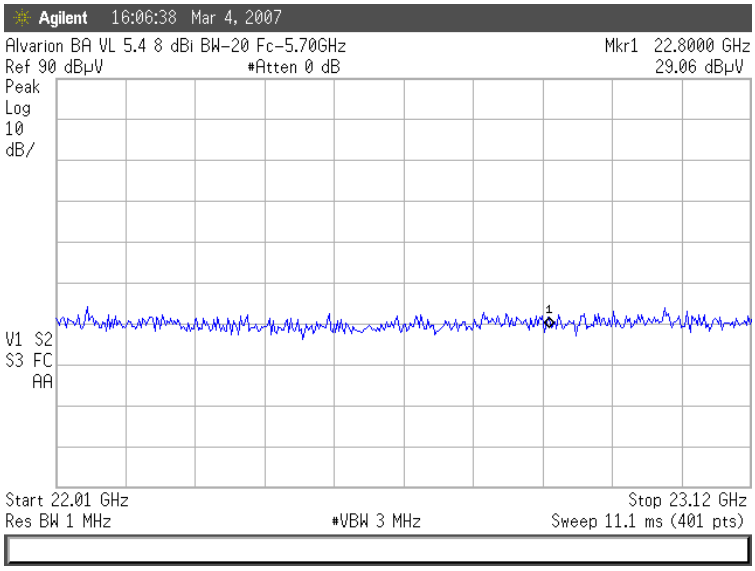
Plot 126. Carrier Frequency 5.700 GHz, EBW 20 MHz, Antenna 8 dBi Detector Average



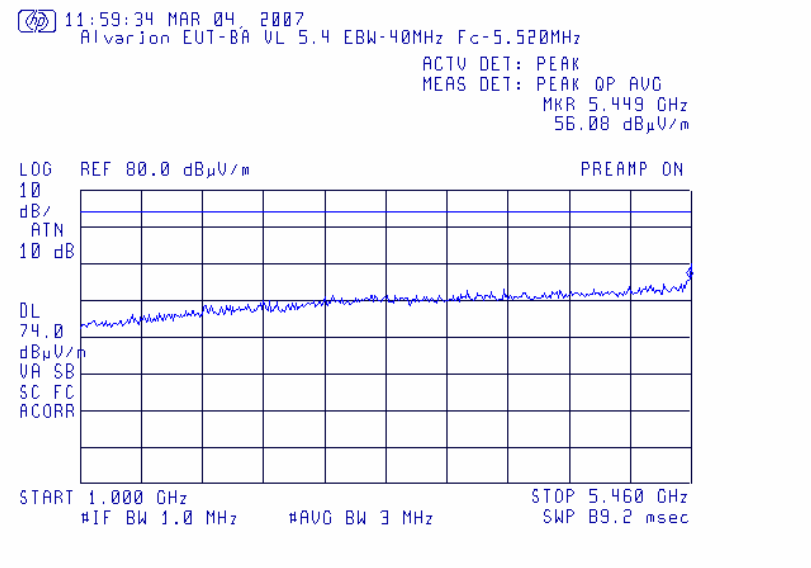
Plot 127. Carrier Frequency 5.700 GHz, EBW-20 MHz, Antenna 8 dBi Detector Peak



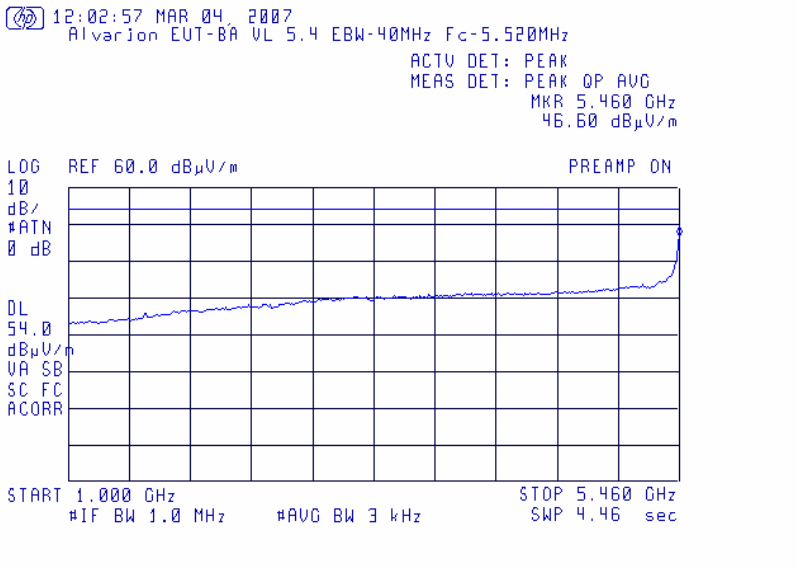
Plot 128. Carrier Frequency 5.700 GHz, EBW 20 MHz, Antenna 8 dBi Detector Average



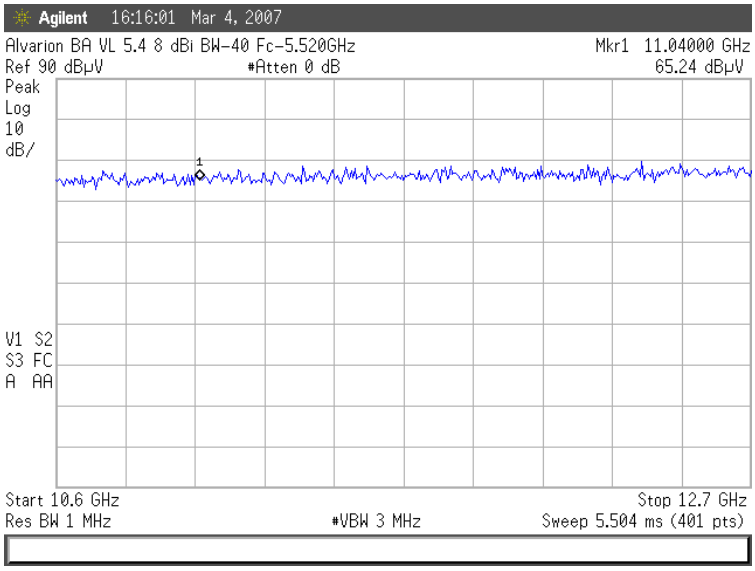
Plot 129. Carrier Frequency 5.700 GHz, EBW-20 MHz, Antenna 8 dBi Detector Peak



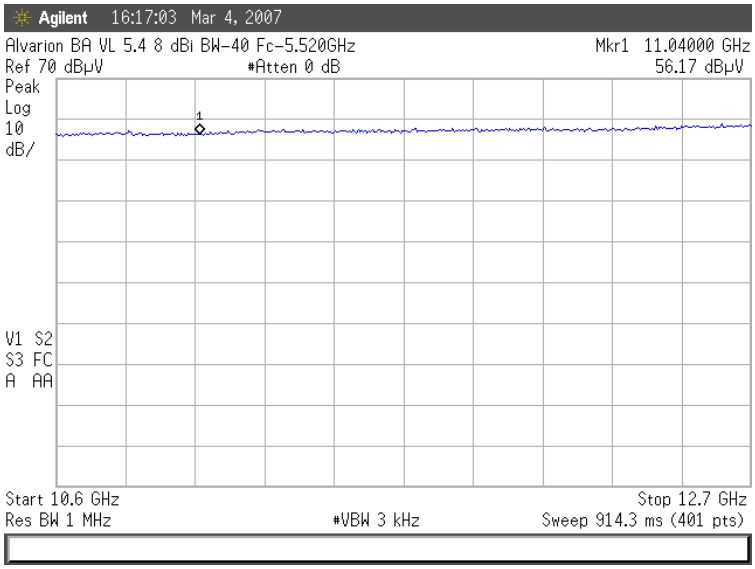
Plot 130. Carrier Frequency 5.520 GHz, EBW-40 MHz, Antenna 8 dBi Detector Peak



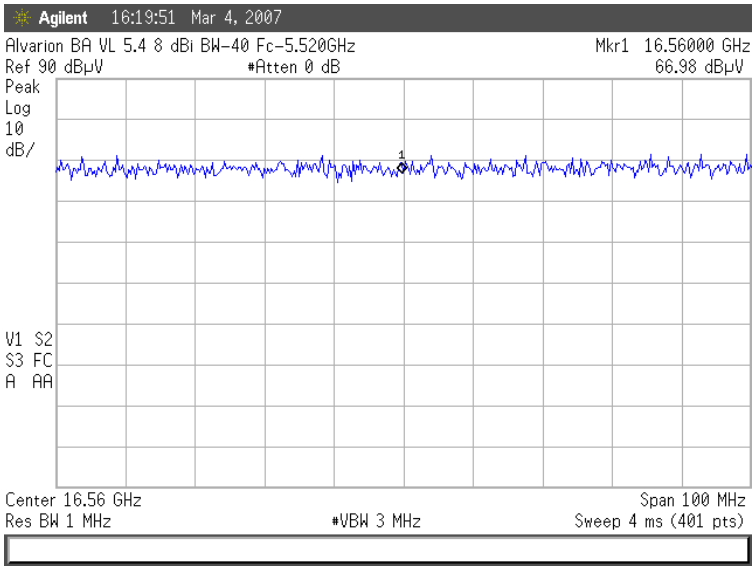
Plot 131. Carrier Frequency 5.520 GHz, EBW 40 MHz, Antenna 8 dBi Detector Average



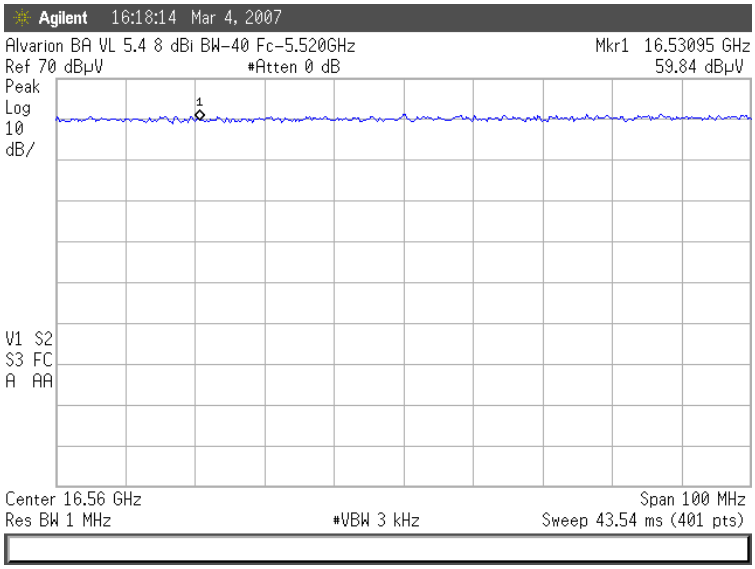
Plot 132. Carrier Frequency 5.520 GHz, EBW-40 MHz, Antenna 8 dBi Detector Peak



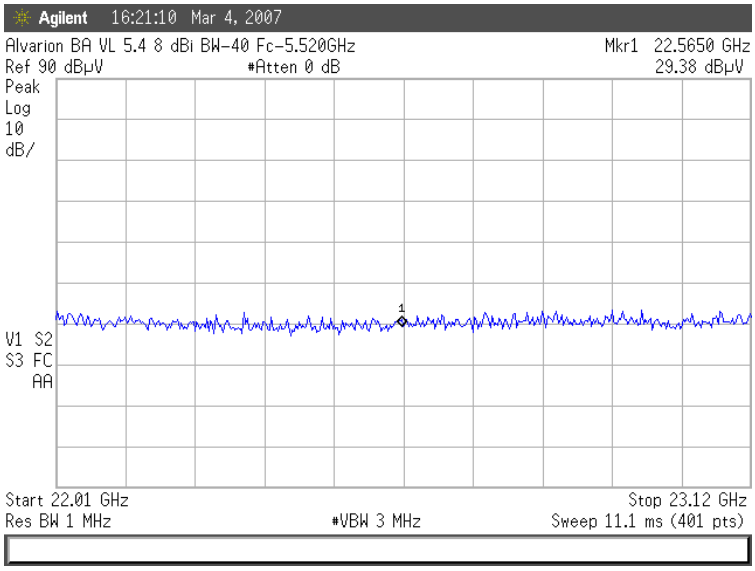
Plot 133. Carrier Frequency 5.520 GHz, EBW 40 MHz, Antenna 8 dBi Detector Average



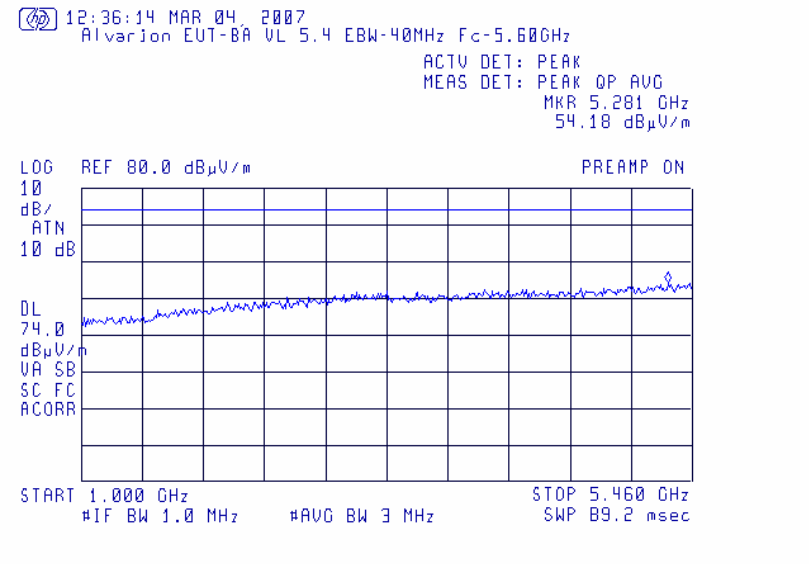
Plot 134. Carrier Frequency 5.520 GHz, EBW-40 MHz, Antenna 8 dBi Detector Peak



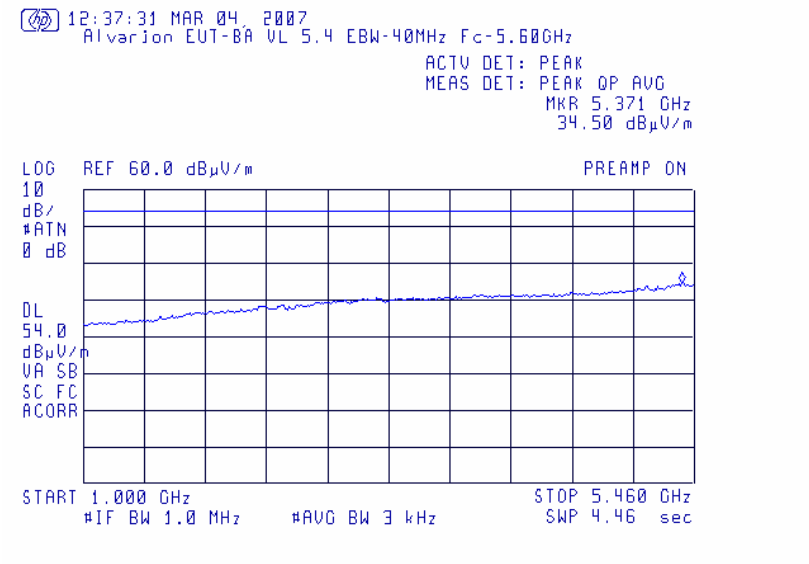
Plot 135. Carrier Frequency 5.520 GHz, EBW 40 MHz, Antenna 8 dBi Detector Average



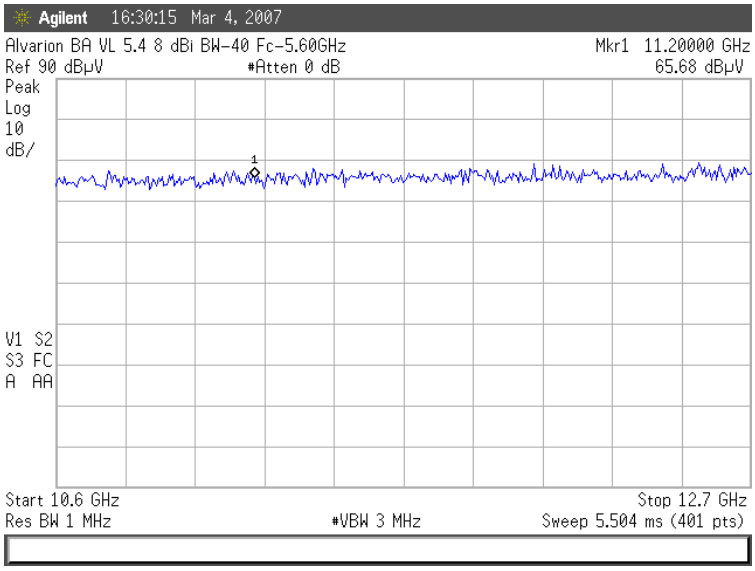
Plot 136. Carrier Frequency 5.520 GHz, EBW-40 MHz, Antenna 8 dBi Detector Peak



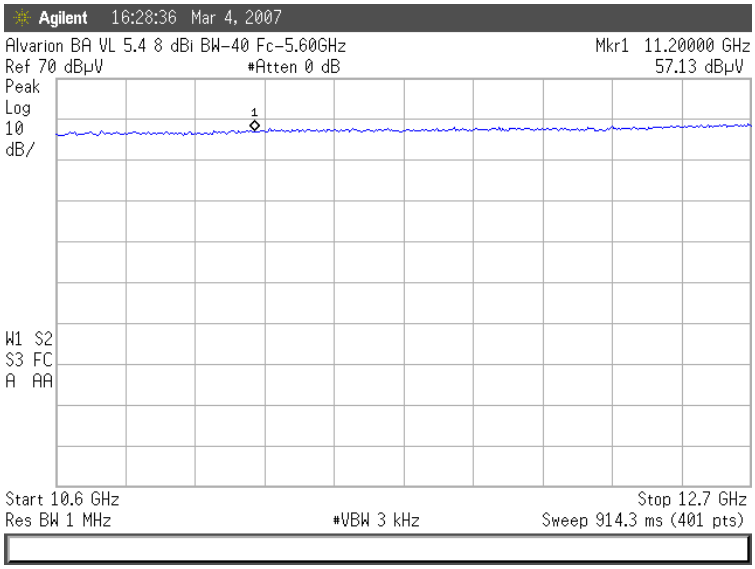
Plot 137. Carrier Frequency 5.600 GHz, EBW-40 MHz, Antenna 8 dBi Detector Peak



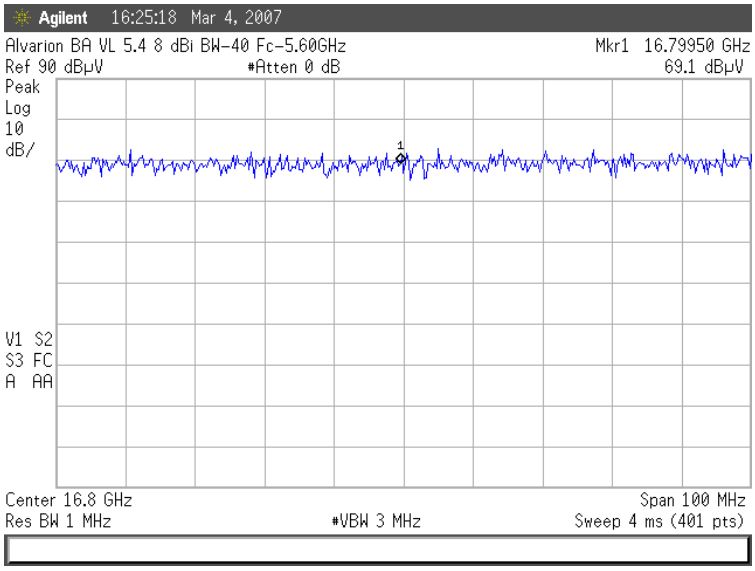
Plot 138. Carrier Frequency 5.600 GHz, EBW 40 MHz, Antenna 8 dBi Detector Average



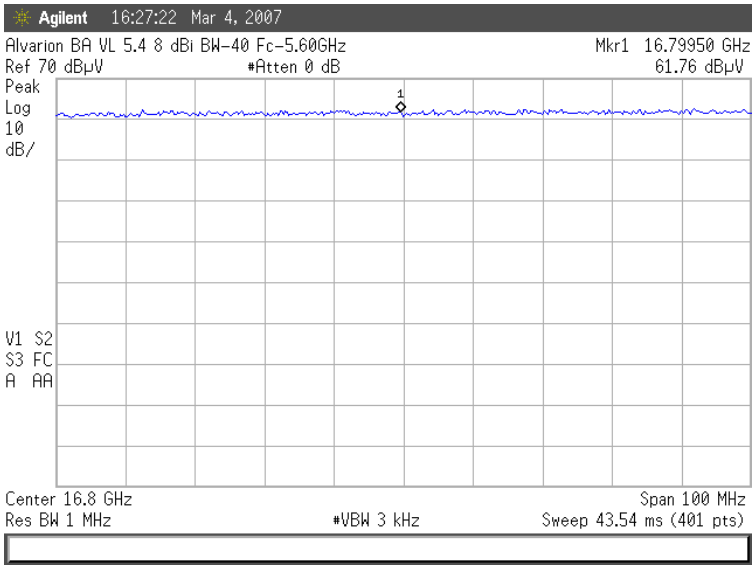
Plot 139. Carrier Frequency 5.600 GHz, EBW-40 MHz, Antenna 8 dBi Detector Peak



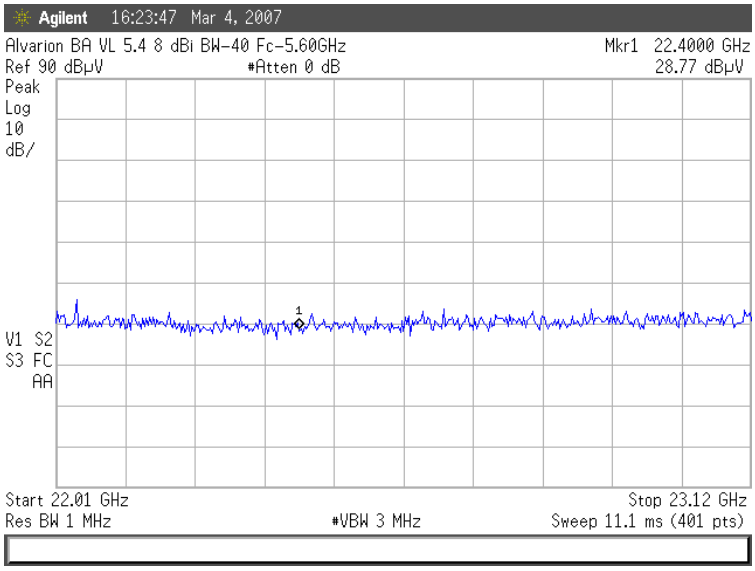
Plot 140. Carrier Frequency 5.600 GHz, EBW 40 MHz, Antenna 8 dBi Detector Average



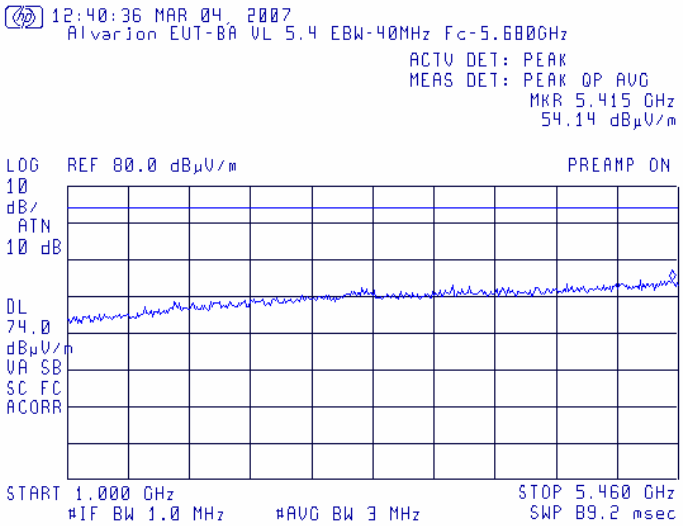
Plot 141. Carrier Frequency 5.600 GHz, EBW-40 MHz, Antenna 8 dBi Detector Peak



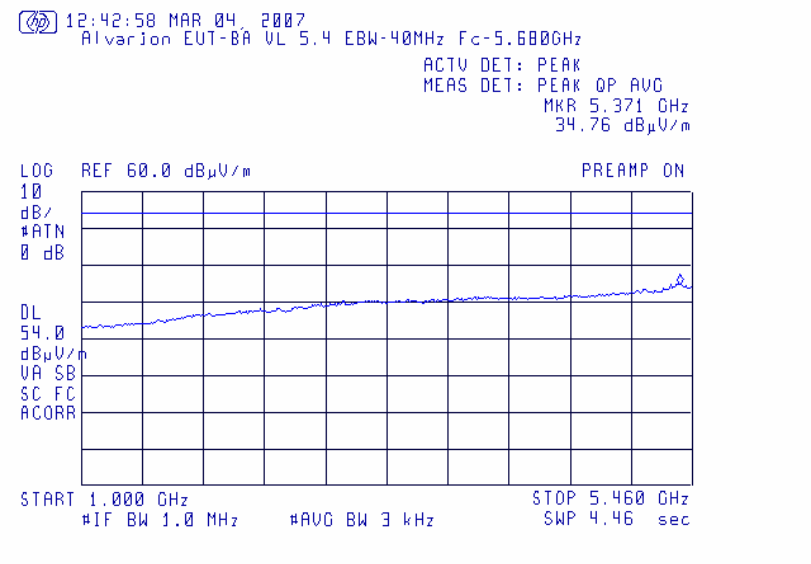
Plot 142. Carrier Frequency 5.600 GHz, EBW 40 MHz, Antenna 8 dBi Detector Average



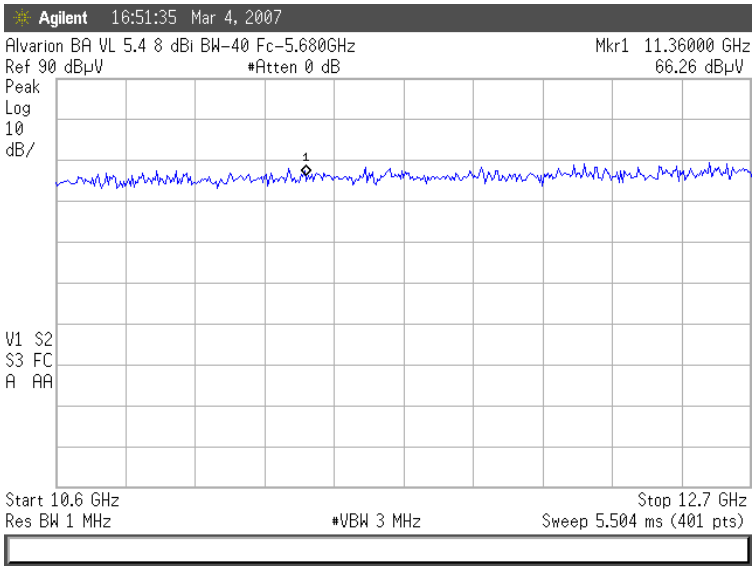
Plot 143. Carrier Frequency 5.600 GHz, EBW-40 MHz, Antenna 8 dBi Detector Peak



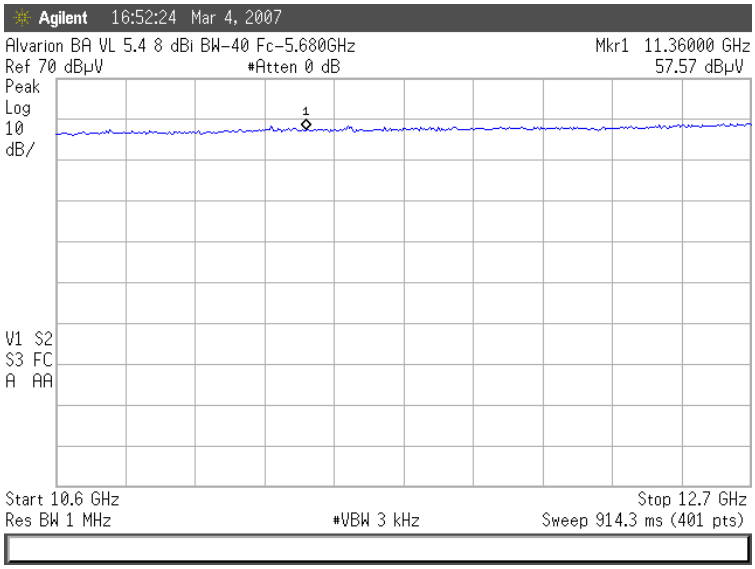
Plot 144. Carrier Frequency 5.680 GHz, EBW-40 MHz, Antenna 8 dBi Detector Peak



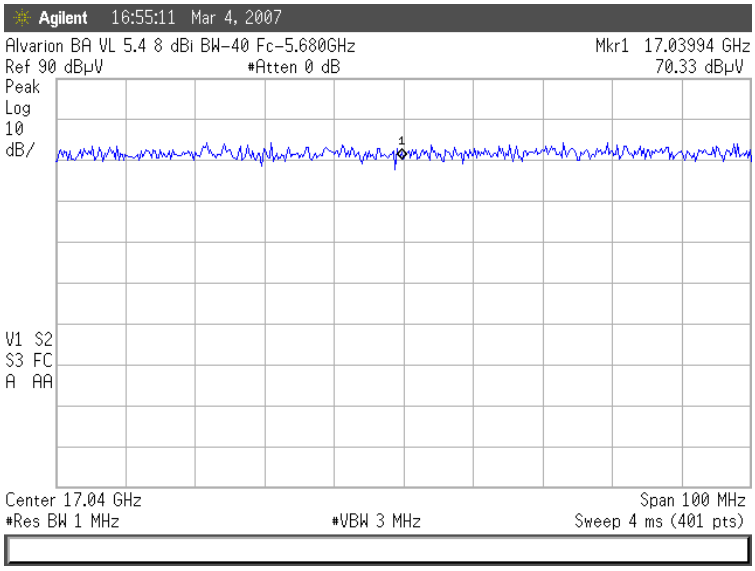
Plot 145. Carrier Frequency 5.680 GHz, EBW 40 MHz, Antenna 8 dBi Detector Average



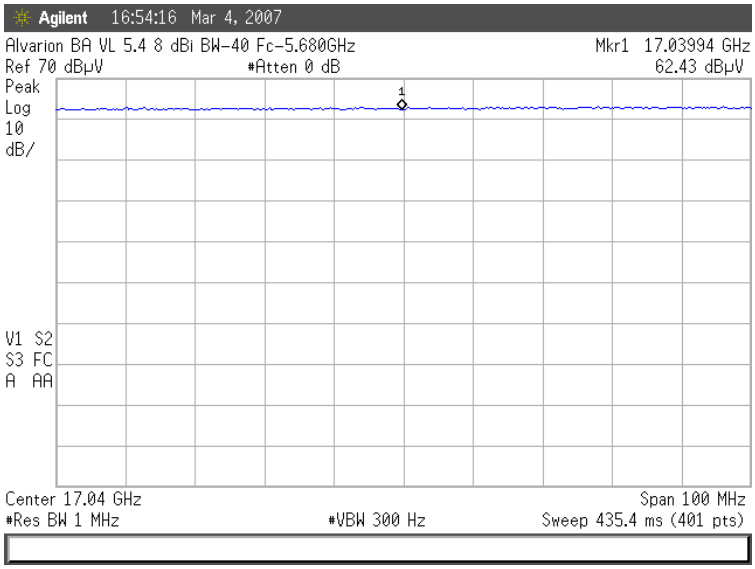
Plot 146. Carrier Frequency 5.680 GHz, EBW-40 MHz, Antenna 8 dBi Detector Peak



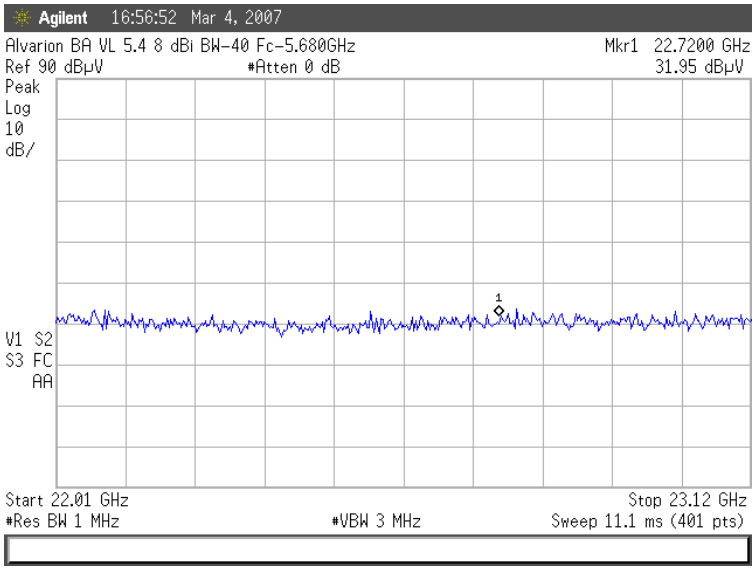
Plot 147. Carrier Frequency 5.680 GHz, EBW 40 MHz, Antenna 8 dBi Detector Average



Plot 148. Carrier Frequency 5.680 GHz, EBW-40 MHz, Antenna 8 dBi Detector Peak

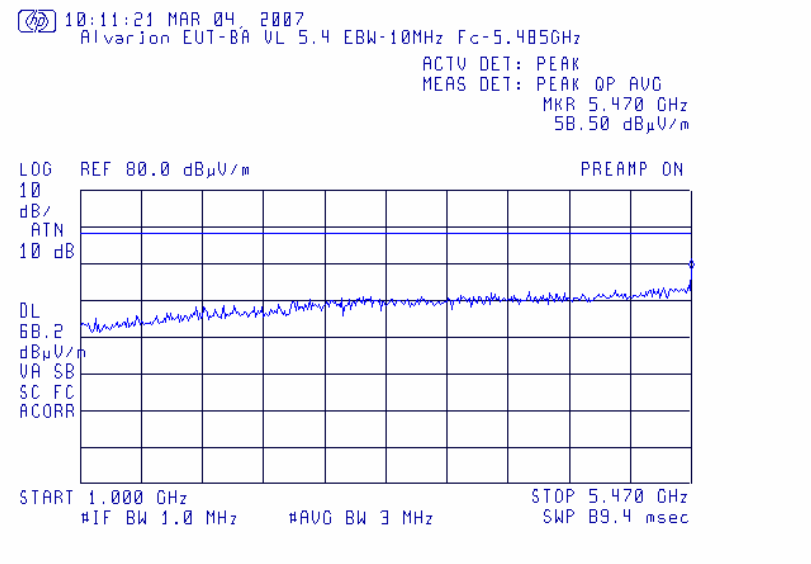


Plot 149. Carrier Frequency 5.680 GHz, EBW 40 MHz, Antenna 8 dBi Detector Average

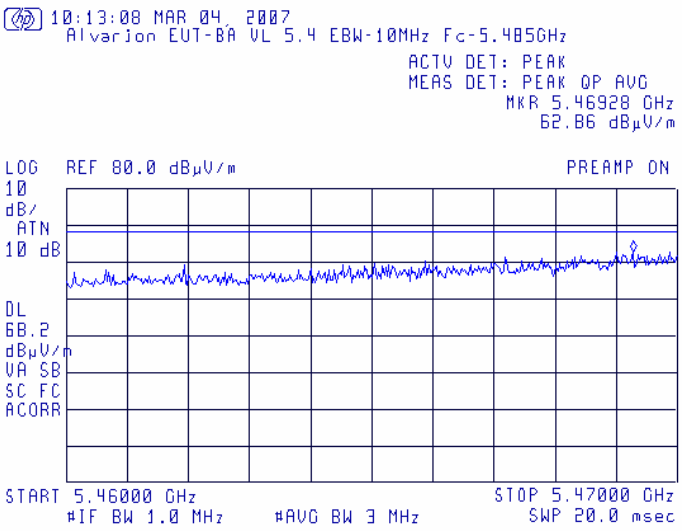


Plot 150. Carrier Frequency 5.680 GHz, EBW-40 MHz, Antenna 8 dBi Detector Peak

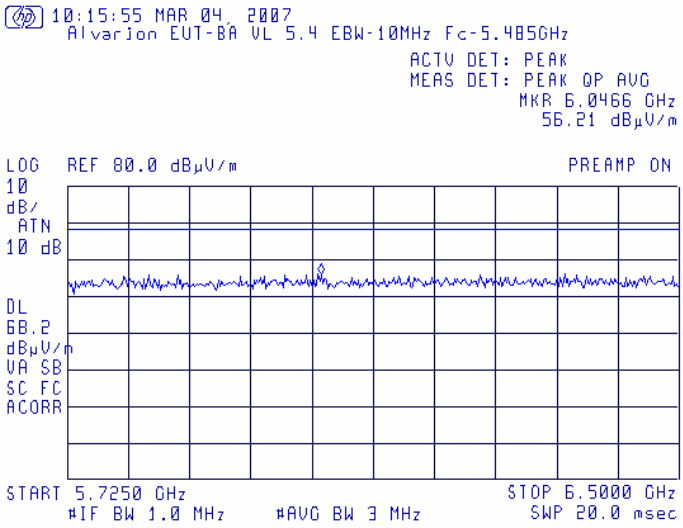
Out of band measurement according to 15.407(b)(3).
Limit EIRP –27 dBm/MHz was correlated by substitution method to 68.2 dBµV/m@3m distance.



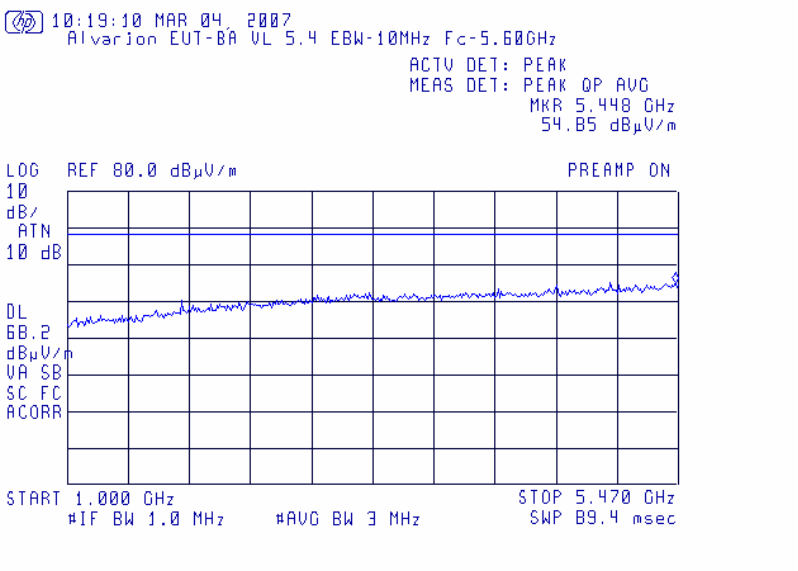
Plot 151. Carrier Frequency 5.485 GHz, EBW-10 MHz, Antenna 8 dBi Detector Peak



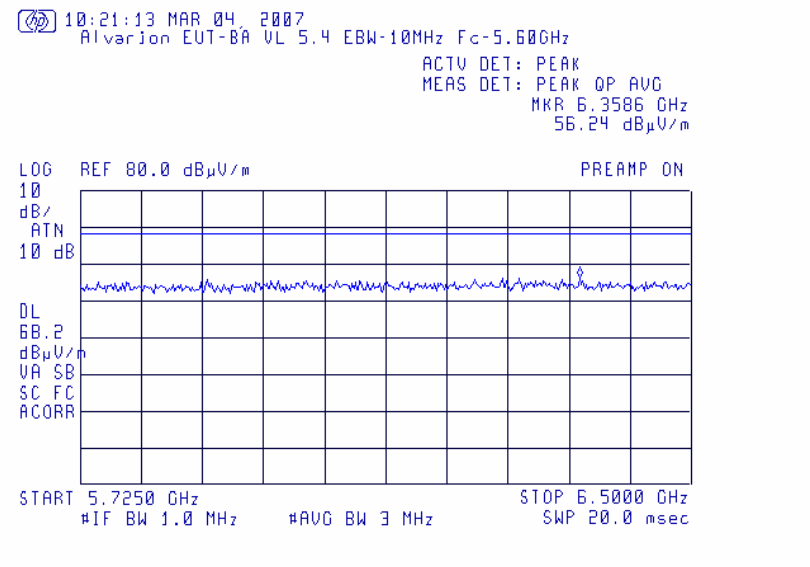
Plot 152. Carrier Frequency 5.485 GHz, EBW-10 MHz, Antenna 8 dBi Detector Peak



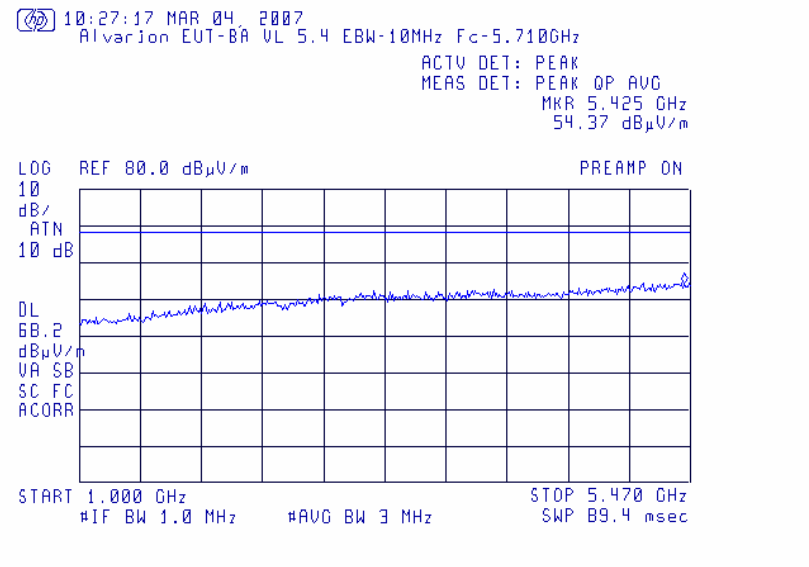
Plot 153. Carrier Frequency 5.485 GHz, EBW-10 MHz, Antenna 8 dBi Detector Peak



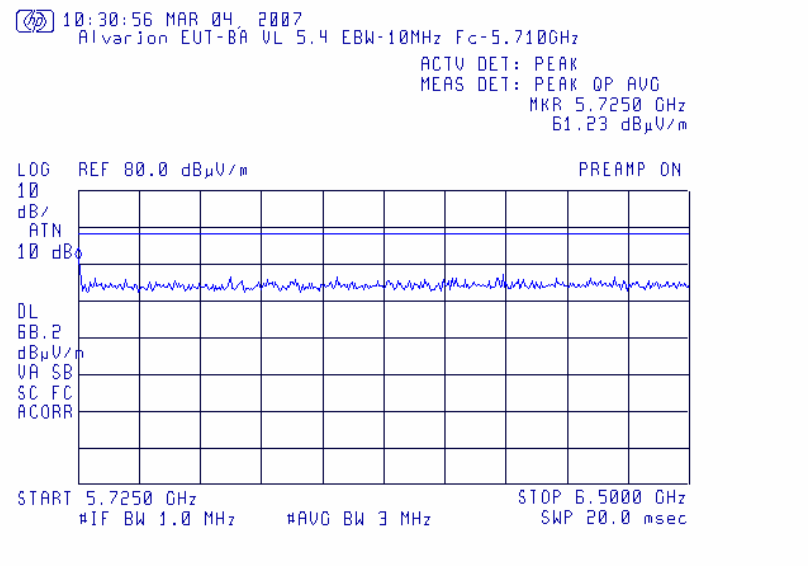
Plot 154. Carrier Frequency 5.600 GHz, EBW-10 MHz, Antenna 8 dBi Detector Peak



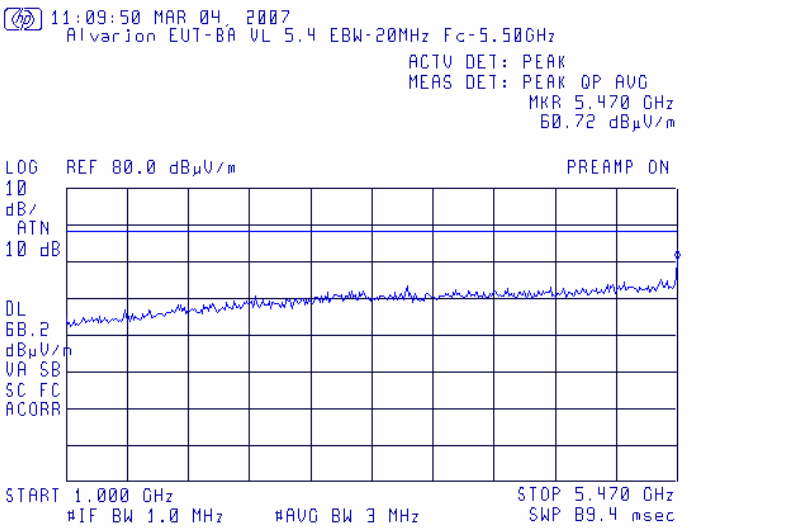
Plot 155. Carrier Frequency 5.600 GHz, EBW-10 MHz, Antenna 8 dBi Detector Peak



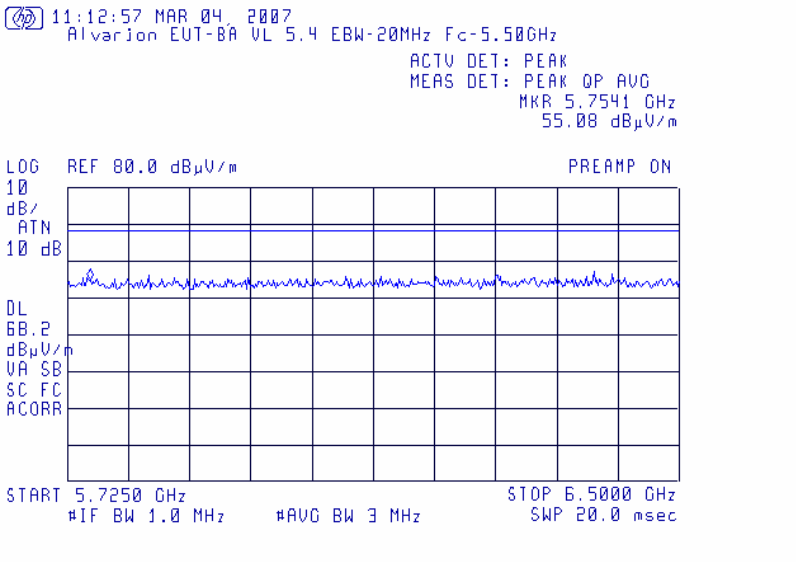
Plot 156. Carrier Frequency 5.710 GHz, EBW-10 MHz, Antenna 8 dBi Detector Peak



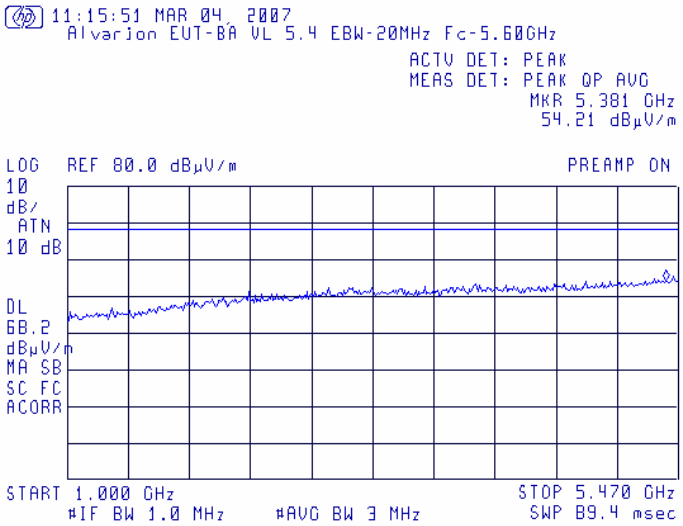
Plot 157. Carrier Frequency 5.710 GHz, EBW-10 MHz, Antenna 8 dBi Detector Peak



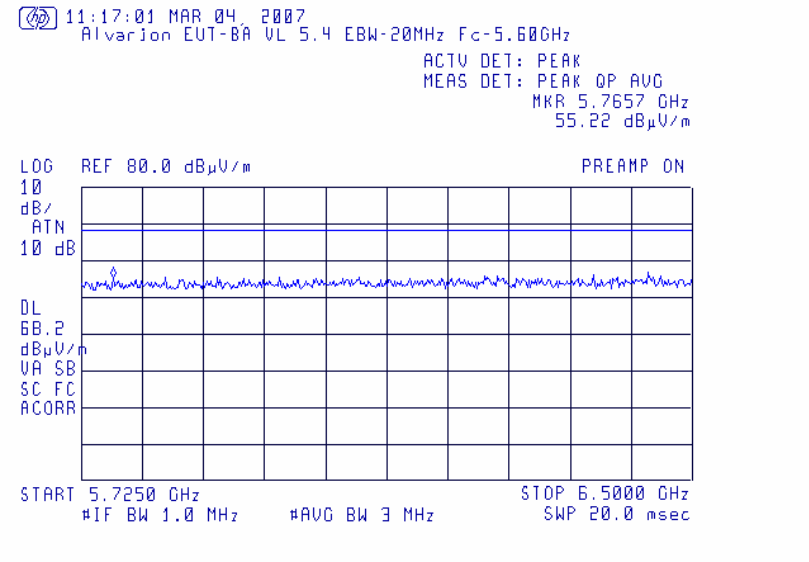
Plot 158. Carrier Frequency 5.500 GHz, EBW-20 MHz, Antenna 8 dBi Detector Peak



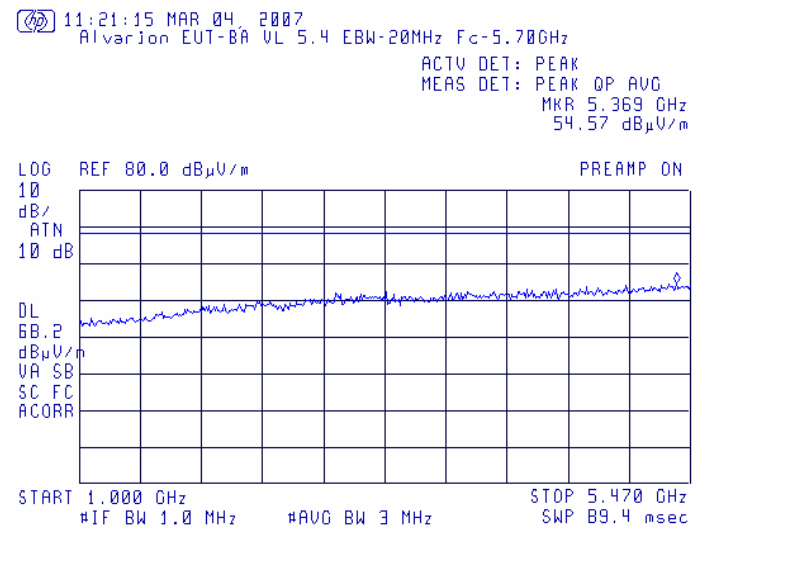
Plot 159. Carrier Frequency 5.500 GHz, EBW-20 MHz, Antenna 8 dBi Detector Peak



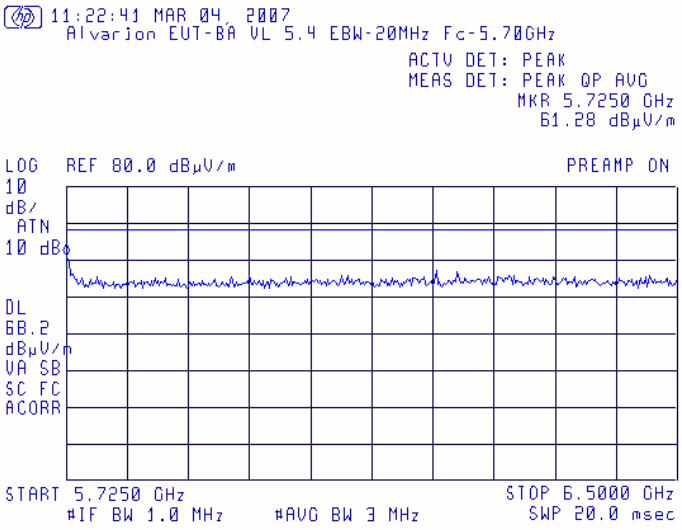
Plot 160. Carrier Frequency 5.600 GHz, EBW-20 MHz, Antenna 8 dBi Detector Peak



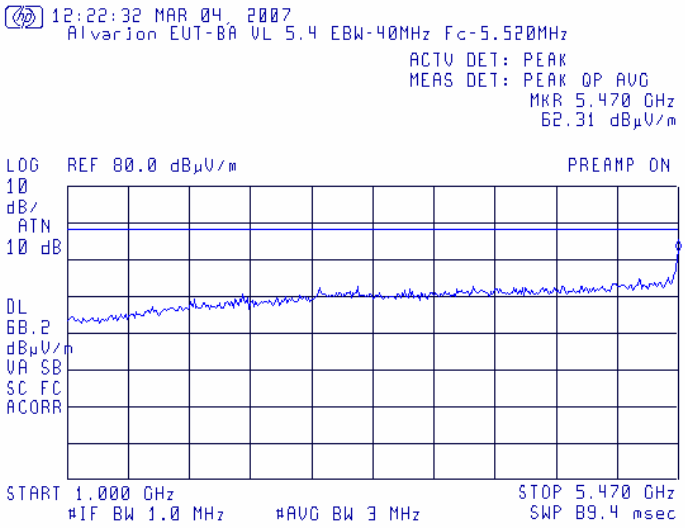
Plot 161. Carrier Frequency 5.600 GHz, EBW-20 MHz, Antenna 8 dBi Detector Peak



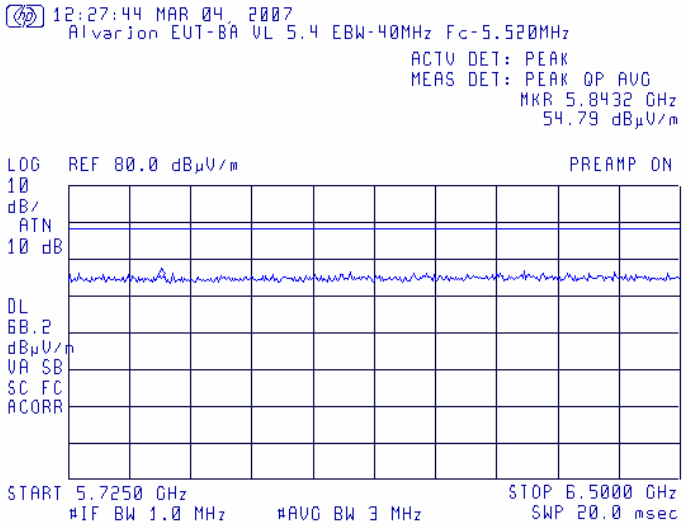
Plot 162. Carrier Frequency 5.700 GHz, EBW-20 MHz, Antenna 8 dBi Detector Peak



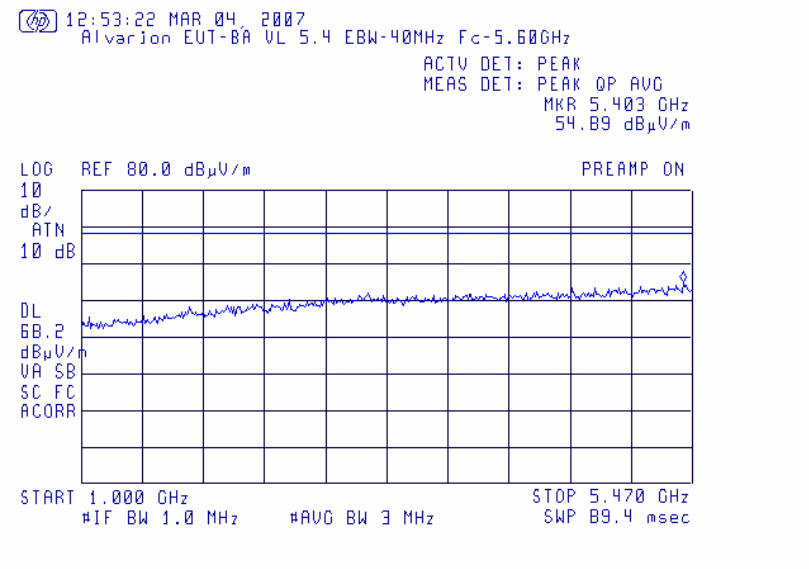
Plot 163. Carrier Frequency 5.700 GHz, EBW-20 MHz, Antenna 8 dBi Detector Peak



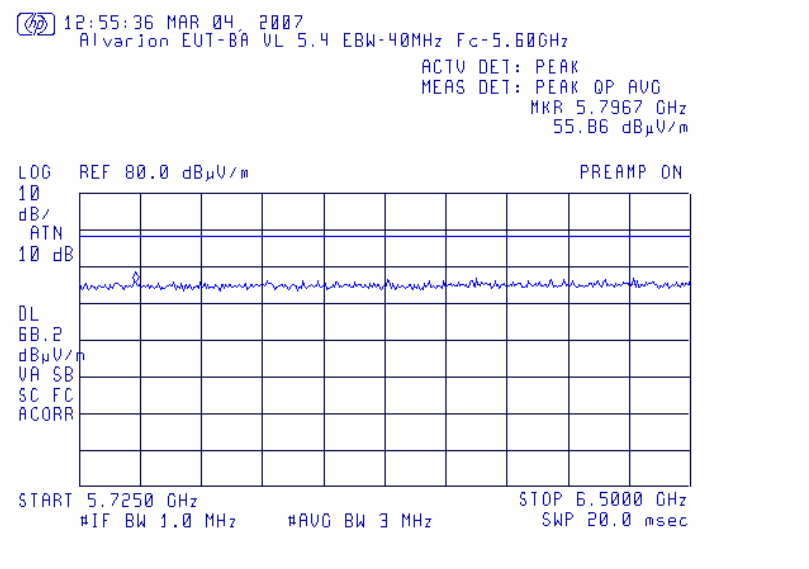
Plot 164. Carrier Frequency 5.520 GHz, EBW-40 MHz, Antenna 8 dBi Detector Peak



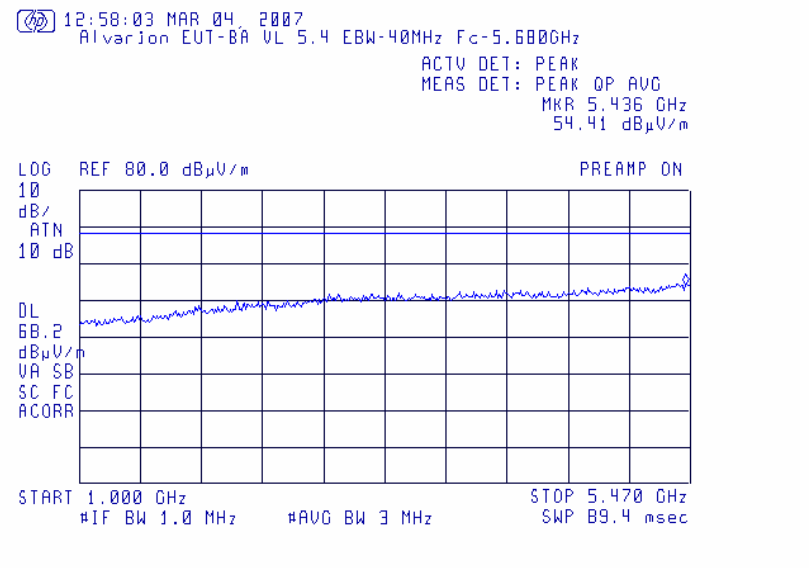
Plot 165. Carrier Frequency 5.520 GHz, EBW-40 MHz, Antenna 8 dBi Detector Peak



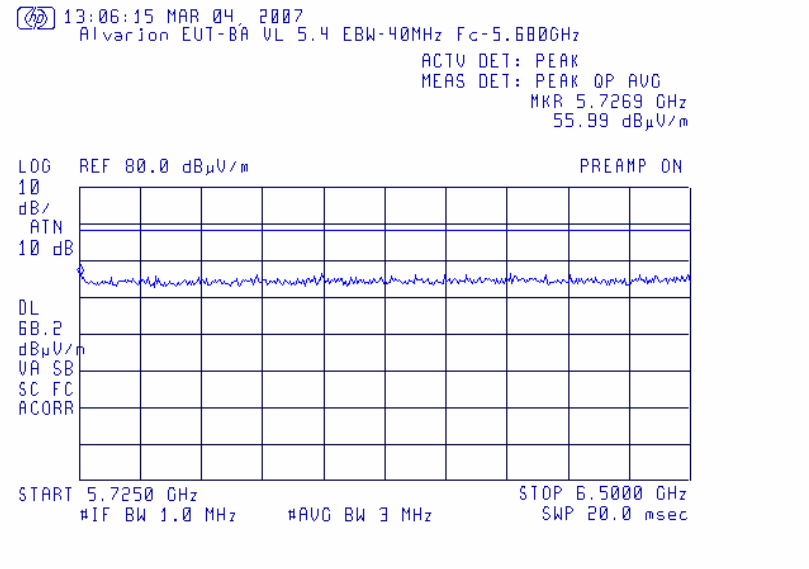
Plot 166. Carrier Frequency 5.600 GHz, EBW-40 MHz, Antenna 8 dBi Detector Peak



Plot 167. Carrier Frequency 5.600 GHz, EBW-40 MHz, Antenna 8 dBi Detector Peak

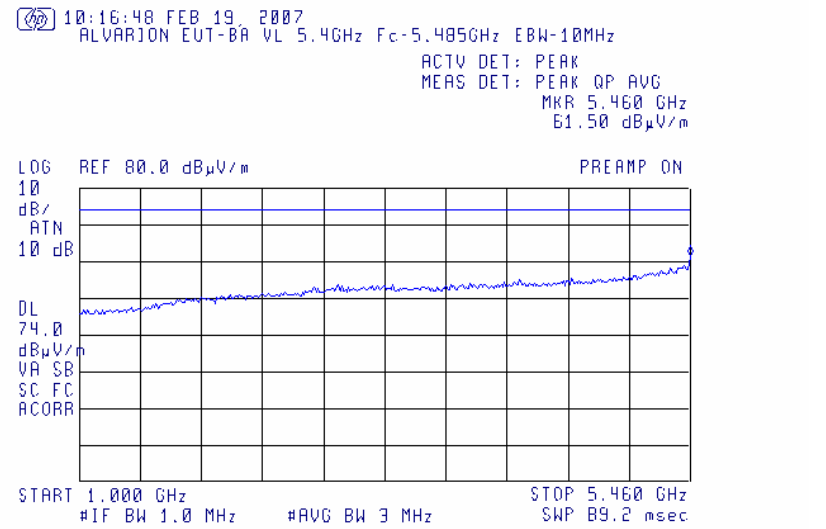


Plot 168. Carrier Frequency 5.680 GHz, EBW-40 MHz, Antenna 8 dBi Detector Peak

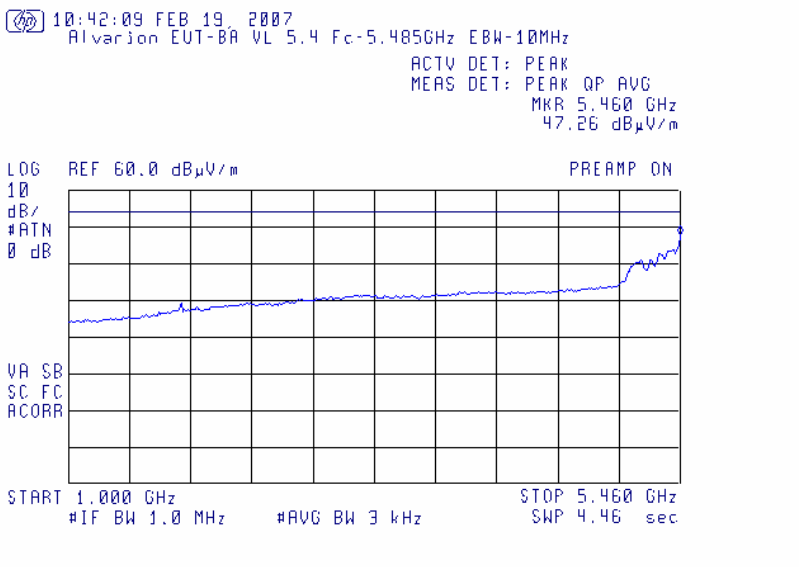


Plot 169. Carrier Frequency 5.680 GHz, EBW-40 MHz, Antenna 8 dBi Detector Peak

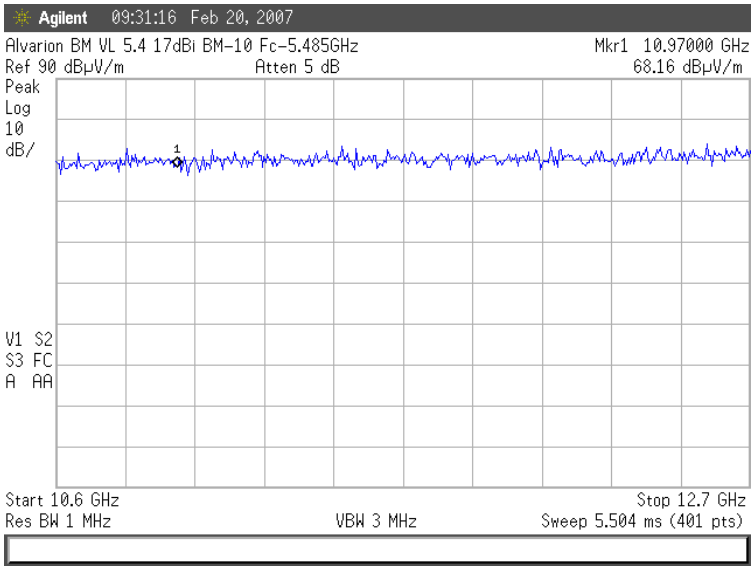
Antenna - 17 dBi. Output power 10 dBm.



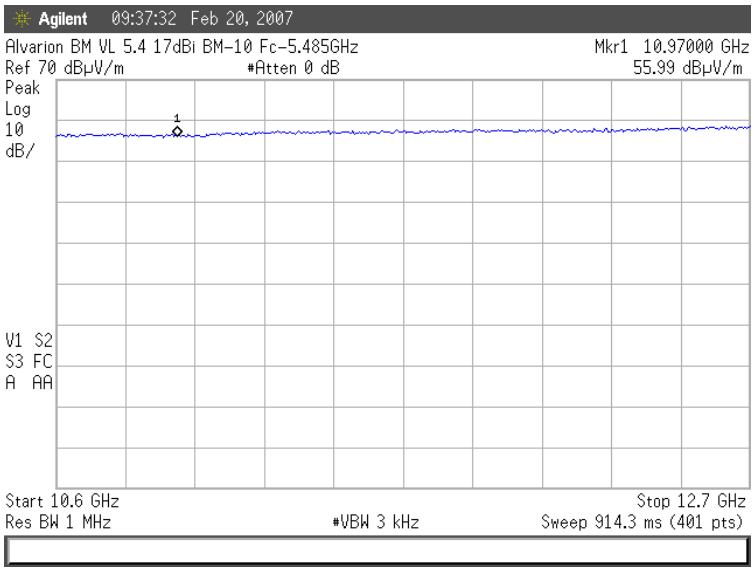
Plot 170. Carrier Frequency 5.485 GHz, EBW-10 MHz, Antenna 17 dBi Detector Peak



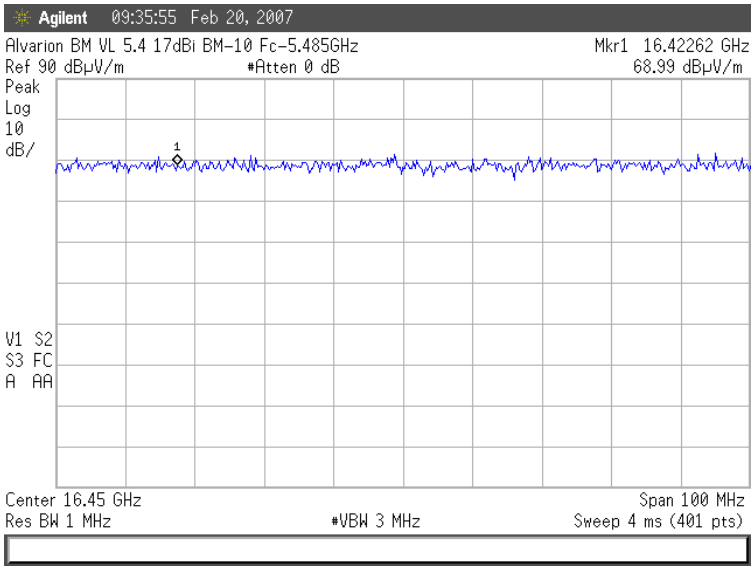
Plot 171. Carrier Frequency 5.485 GHz, EBW 10 MHz, Antenna 17 dBi Detector Average



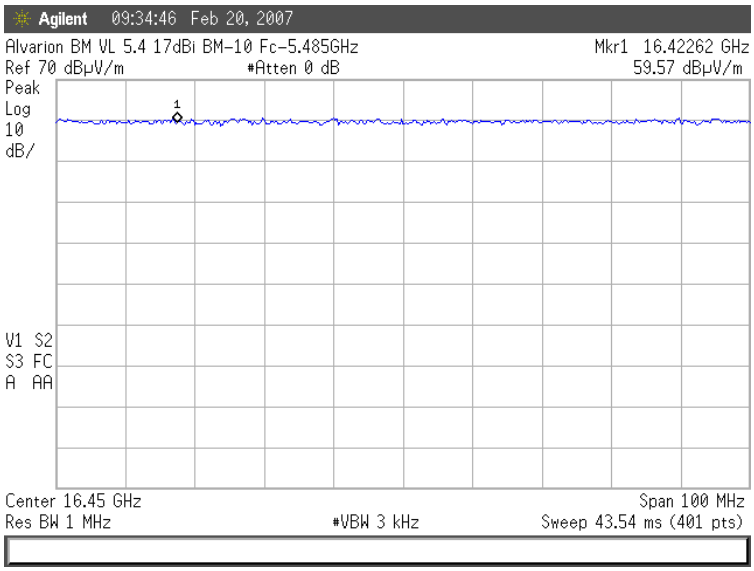
Plot 172. Carrier Frequency 5.485 GHz, EBW-10 MHz, Antenna 17 dBi Detector Peak



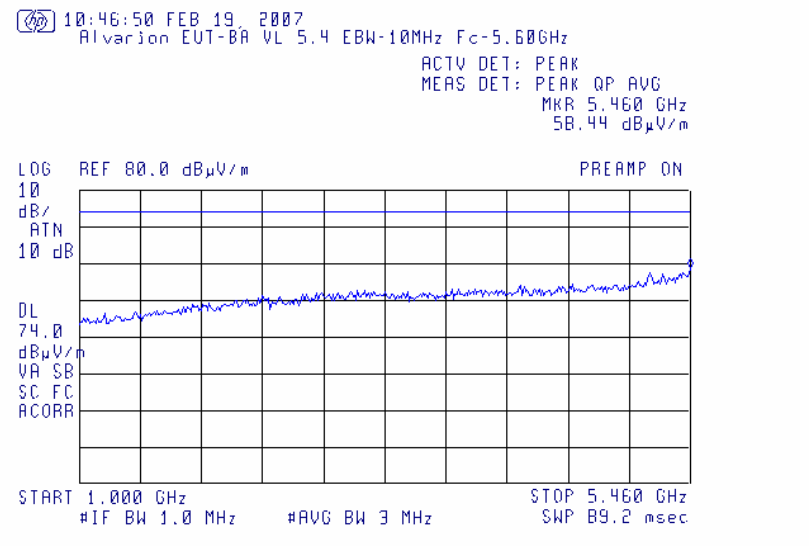
Plot 173. Carrier Frequency 5.485 GHz, EBW 10 MHz, Antenna 17 dBi Detector Average



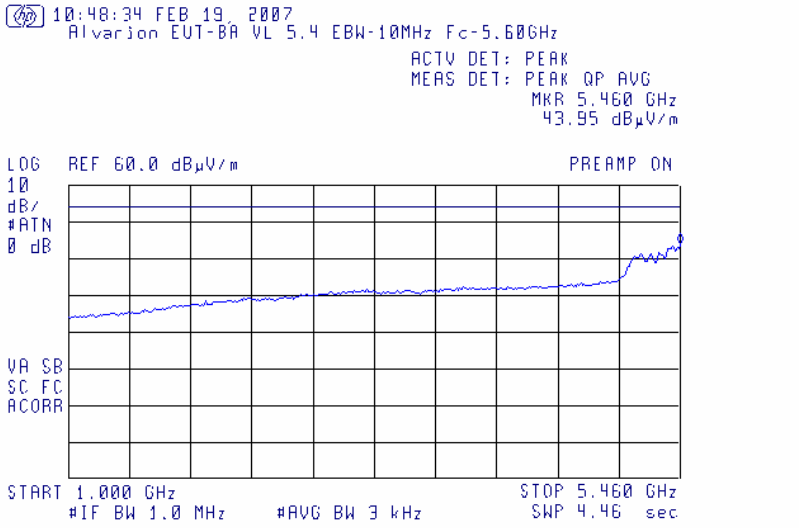
Plot 174. Carrier Frequency 5.485 GHz, EBW-10 MHz, Antenna 17 dBi Detector Peak



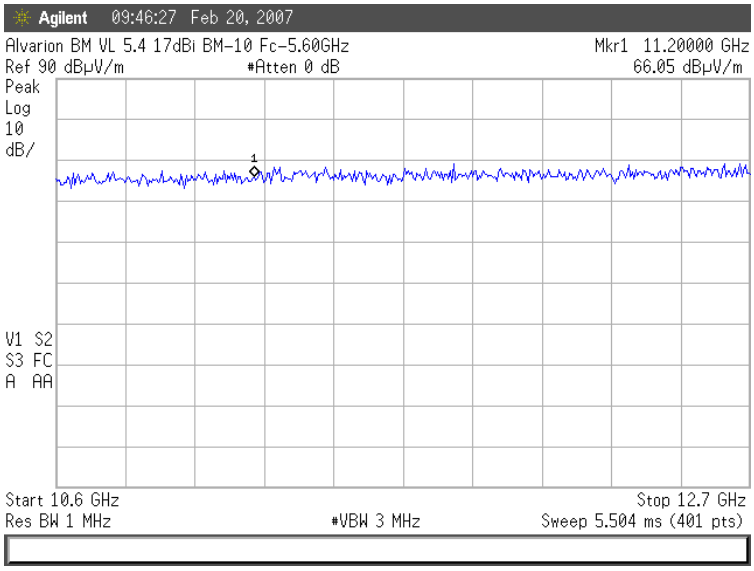
Plot 175. Carrier Frequency 5.485 GHz, EBW 10 MHz, Antenna 17 dBi Detector Average



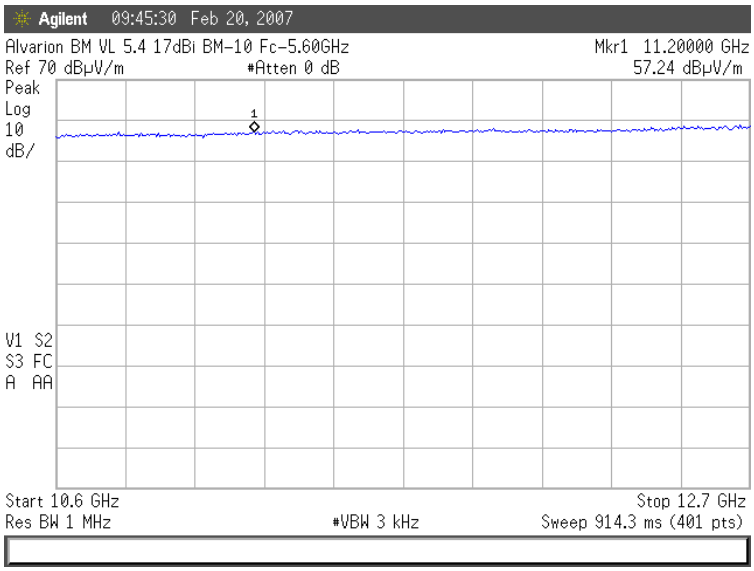
Plot 176. Carrier Frequency 5.600 GHz, EBW-10 MHz, Antenna 17 dBi Detector Peak



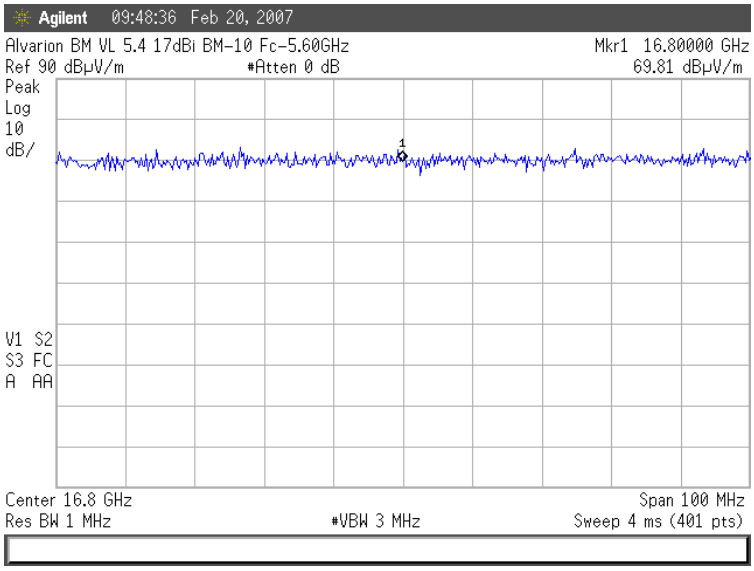
Plot 177. Carrier Frequency 5.600 GHz, EBW 10 MHz, Antenna 17 dBi Detector Average



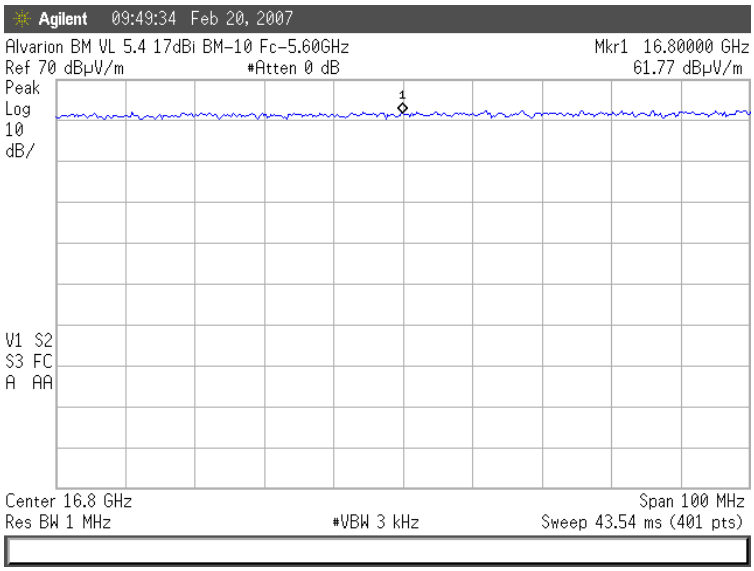
Plot 178. Carrier Frequency 5.600 GHz, EBW-10 MHz, Antenna 17 dBi Detector Peak



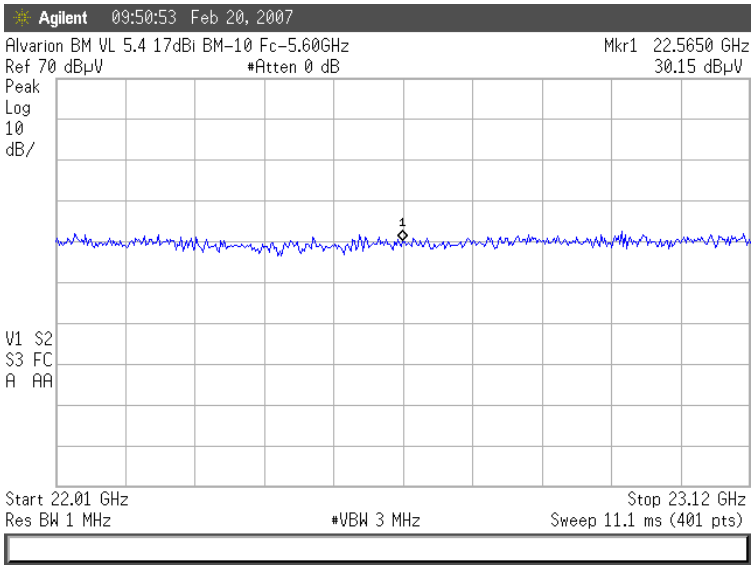
Plot 179. Carrier Frequency 5.600 GHz, EBW 10 MHz, Antenna 17 dBi Detector Average



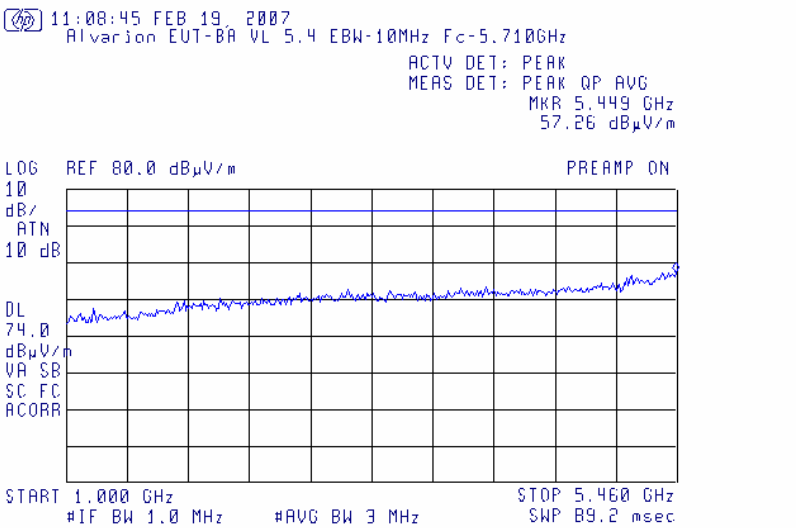
Plot 180. Carrier Frequency 5.600 GHz, EBW-10 MHz, Antenna 17 dBi Detector Peak



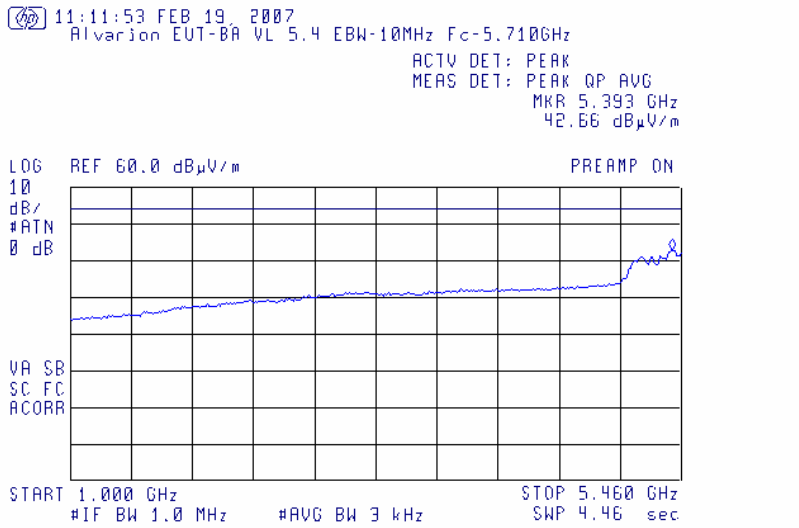
Plot 181. Carrier Frequency 5.600 GHz, EBW 10 MHz, Antenna 17 dBi Detector Average



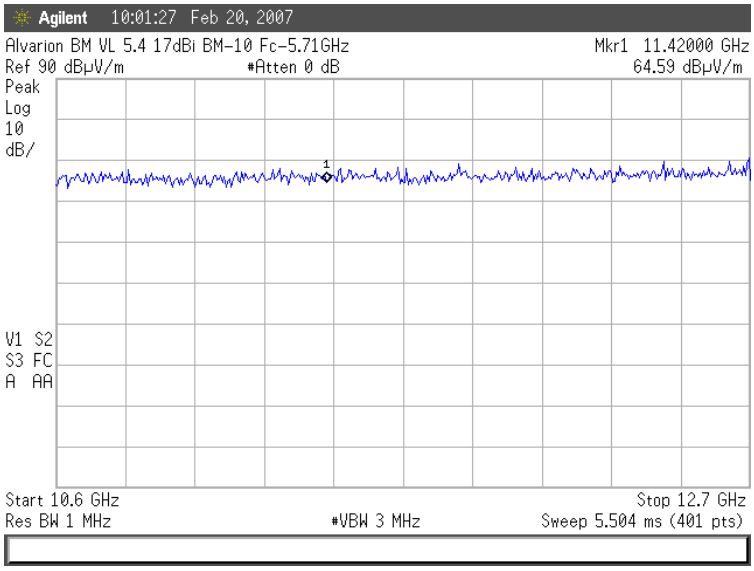
Plot 182. Carrier Frequency 5.600 GHz, EBW-10 MHz, Antenna 17 dBi Detector Peak



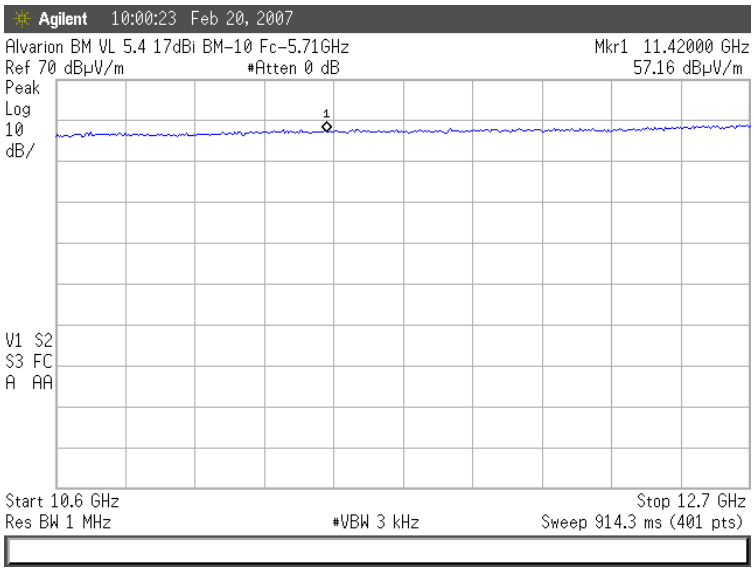
Plot 183. Carrier Frequency 5.710 GHz, EBW-10 MHz, Antenna 17 dBi Detector Peak



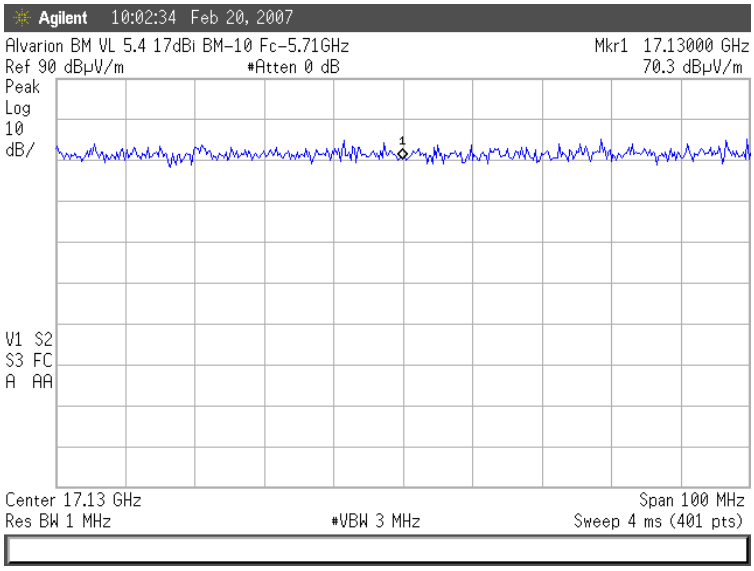
Plot 184. Carrier Frequency 5.710 GHz, EBW 10 MHz, Antenna 17 dBi Detector Average



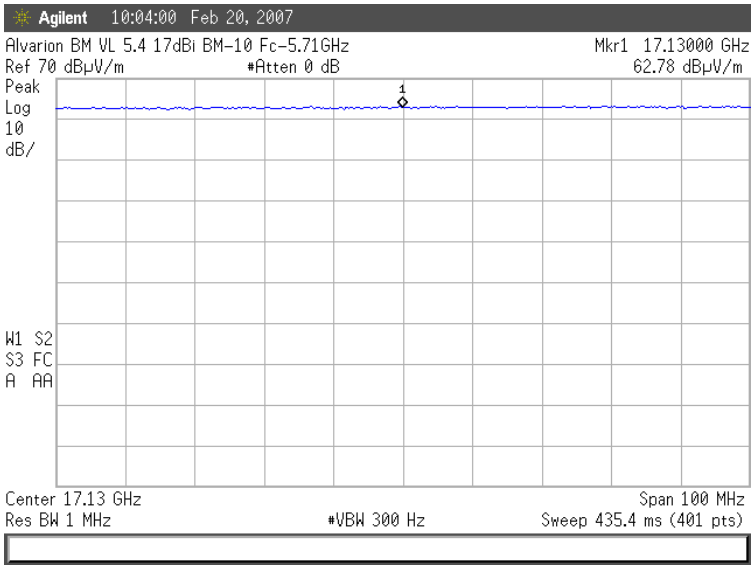
Plot 185. Carrier Frequency 5.710 GHz, EBW-10 MHz, Antenna 17 dBi Detector Peak



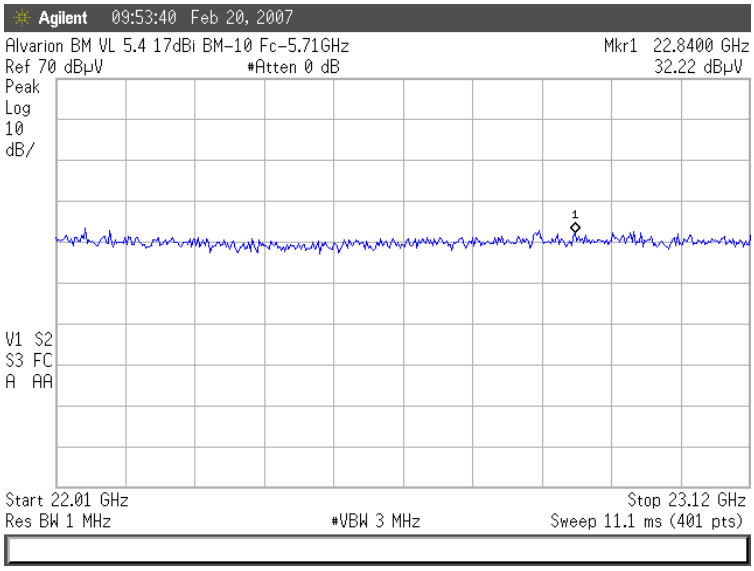
Plot 186. Carrier Frequency 5.710 GHz, EBW 10 MHz, Antenna 17 dBi Detector Average



Plot 187. Carrier Frequency 5.710 GHz, EBW-10 MHz, Antenna 17 dBi Detector Peak

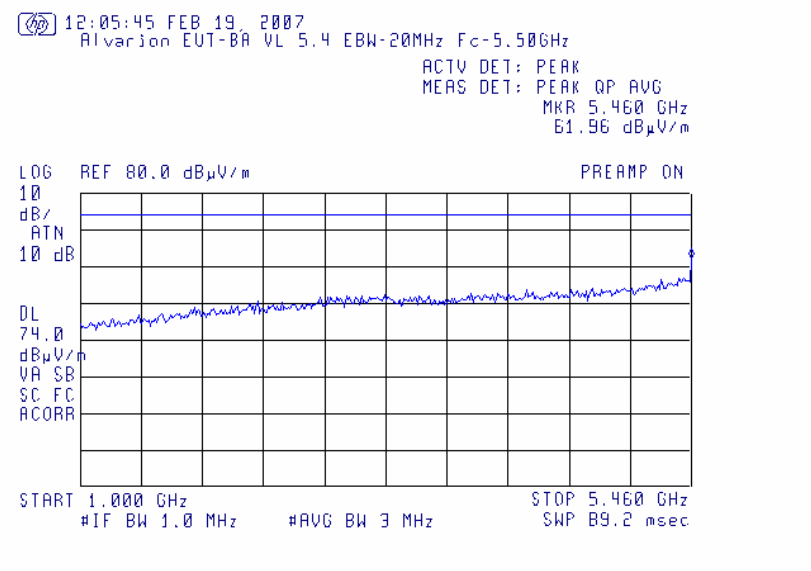


Plot 188. Carrier Frequency 5.710 GHz, EBW 10 MHz, Antenna 17 dBi Detector Average

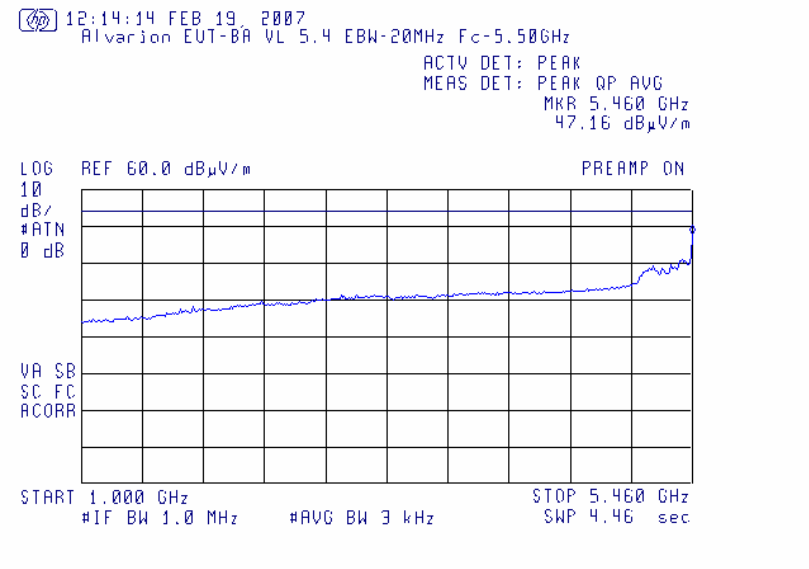


Plot 189. Carrier Frequency 5.710 GHz, EBW-10 MHz, Antenna 17 dBi Detector Peak

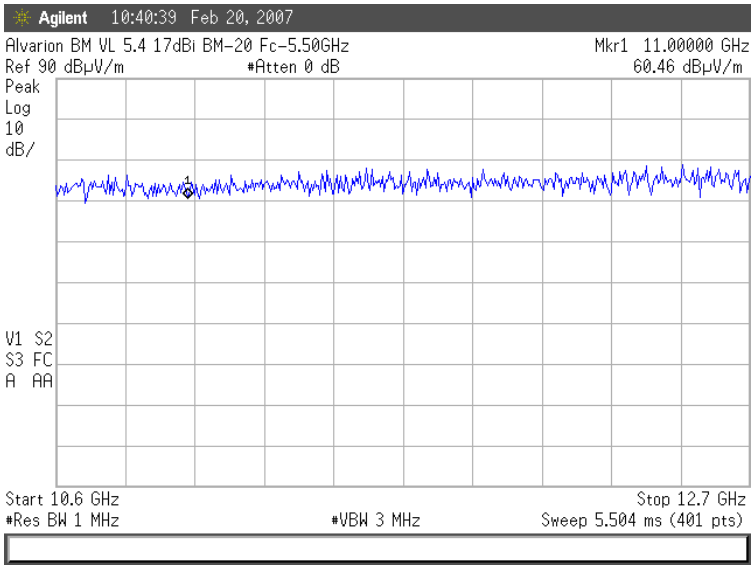
Antenna - 17 dBi. Output power 13 dBm



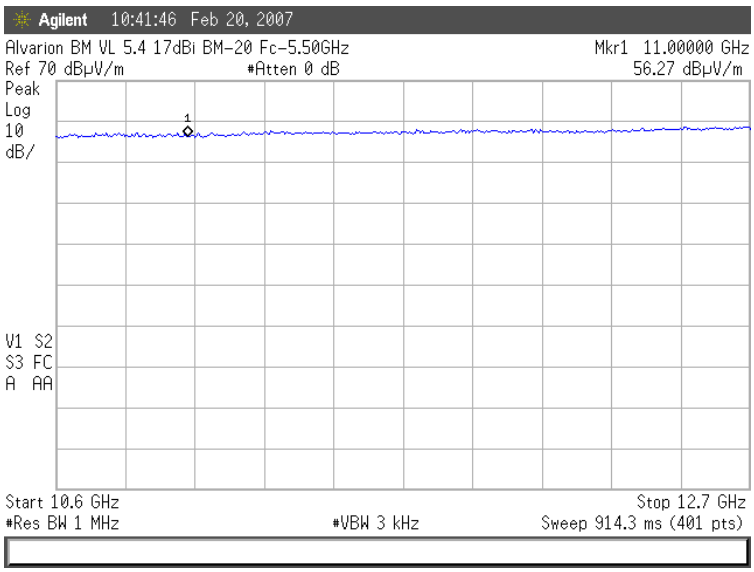
Plot 190. Carrier Frequency 5.500 GHz, EBW-20 MHz, Antenna 17 dBi Detector Peak



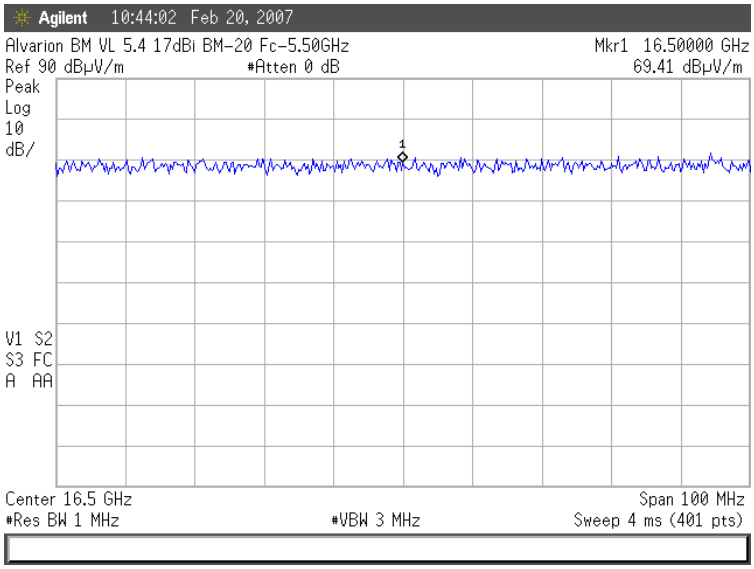
Plot 191. Carrier Frequency 5.500 GHz, EBW 20 MHz, Antenna 17 dBi Detector Average



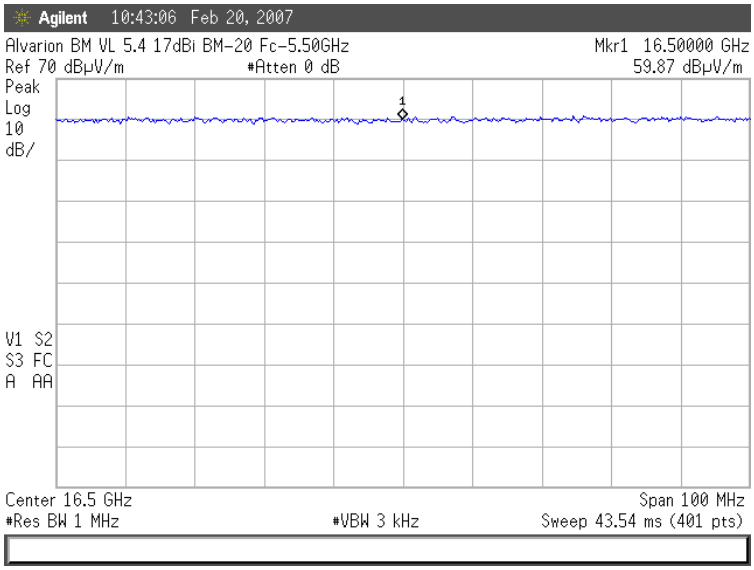
Plot 192. Carrier Frequency 5.500 GHz, EBW-20 MHz, Antenna 17 dBi Detector Peak



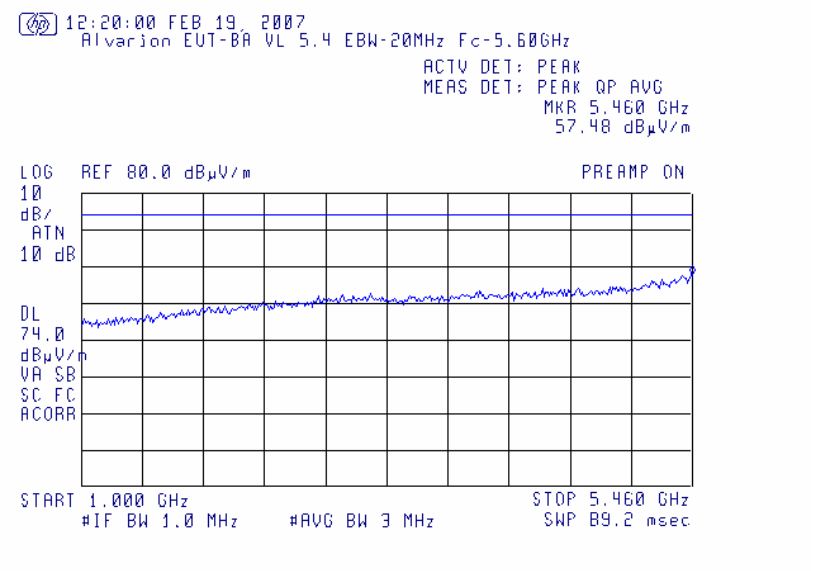
Plot 193. Carrier Frequency 5.500 GHz, EBW 20 MHz, Antenna 17 dBi Detector Average



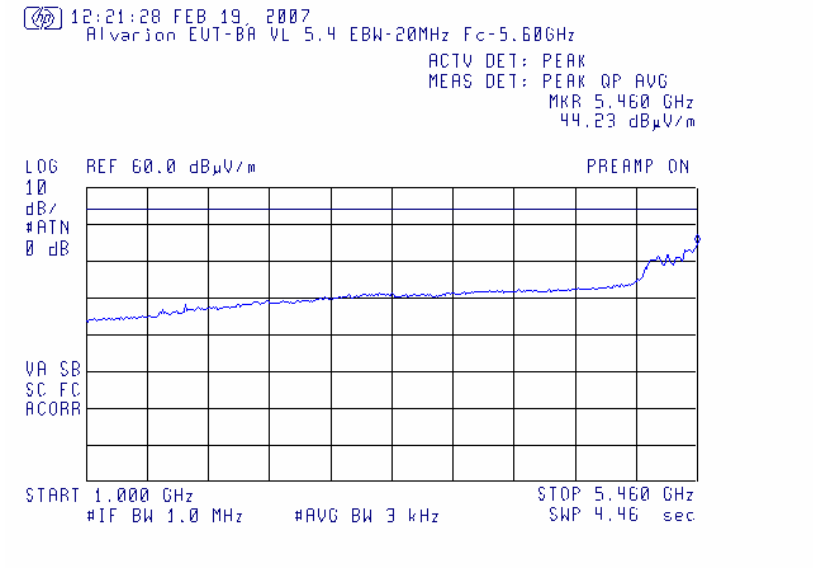
Plot 194. Carrier Frequency 5.500 GHz, EBW-20 MHz, Antenna 17 dBi Detector Peak



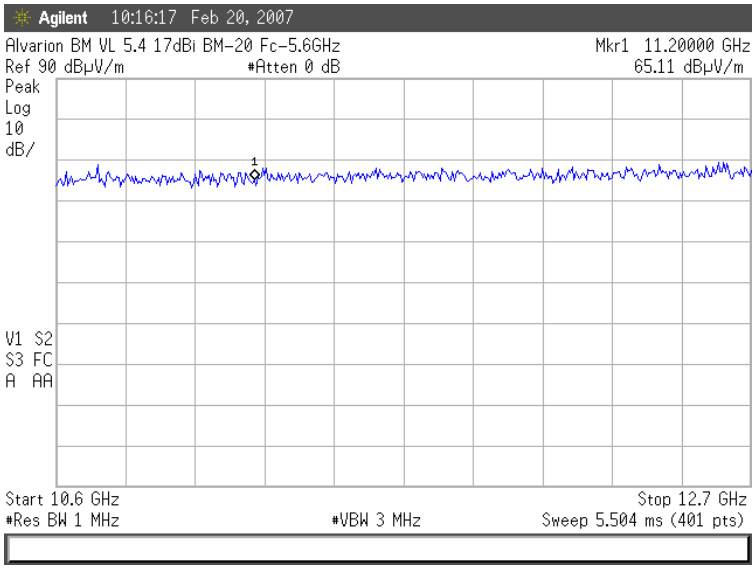
Plot 195. Carrier Frequency 5.500 GHz, EBW 20 MHz, Antenna 17 dBi Detector Average



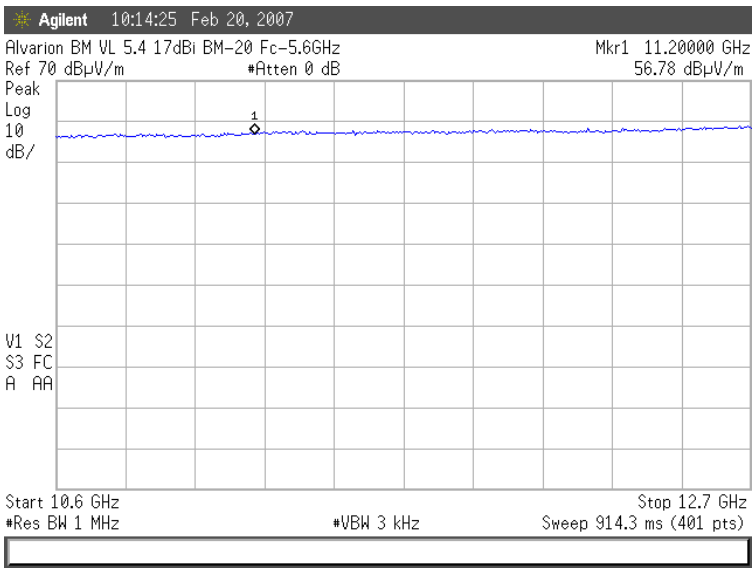
Plot 196. Carrier Frequency 5.600 GHz, EBW-20 MHz, Antenna 17 dBi Detector Peak



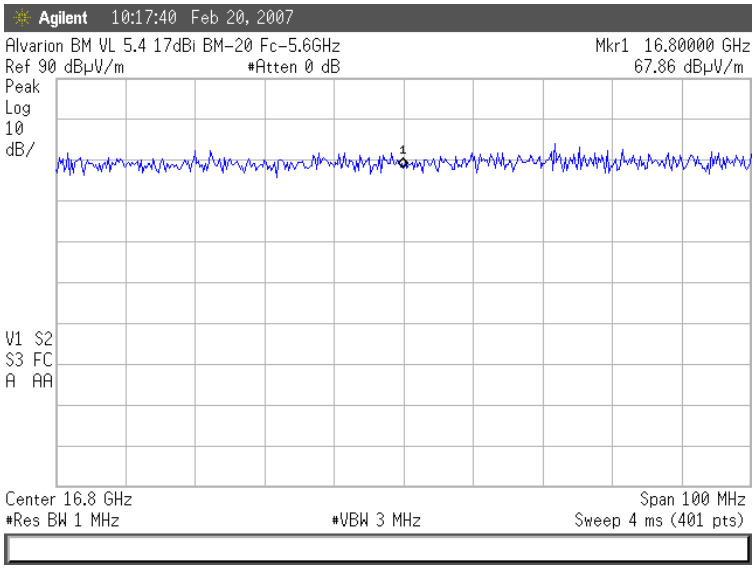
Plot 197. Carrier Frequency 5.600 GHz, EBW 20 MHz, Antenna 17 dBi Detector Average



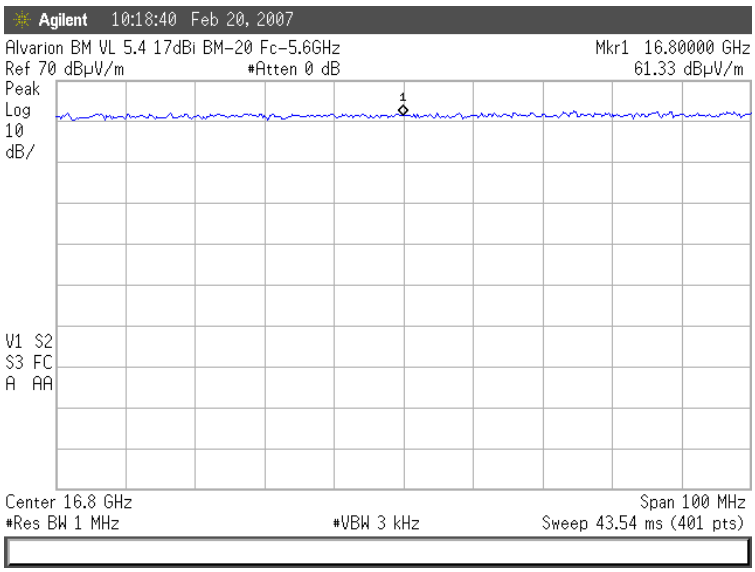
Plot 198. Carrier Frequency 5.600 GHz, EBW-20 MHz, Antenna 17 dBi Detector Peak



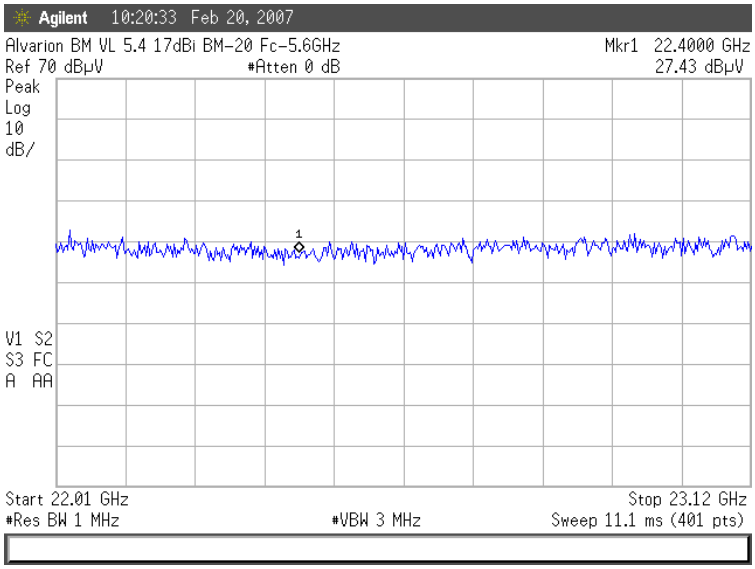
Plot 199. Carrier Frequency 5.600 GHz, EBW 20 MHz, Antenna 17 dBi Detector Average



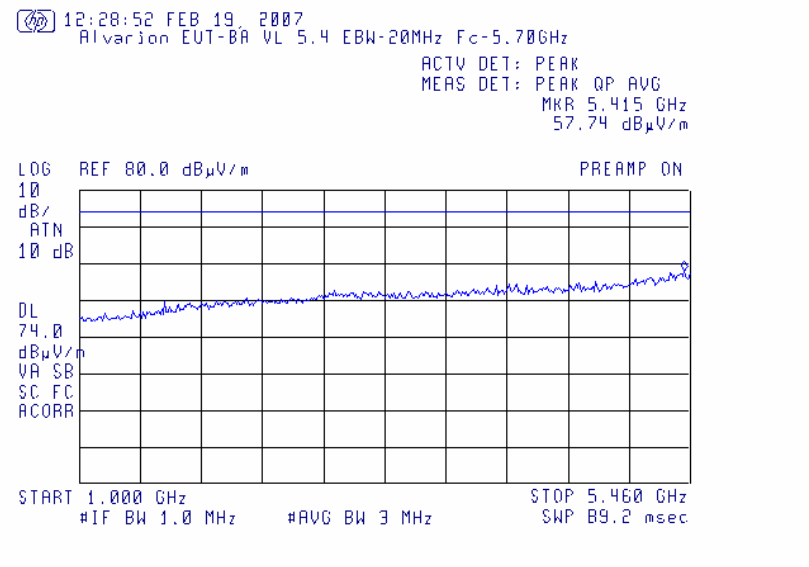
Plot 200. Carrier Frequency 5.600 GHz, EBW-20 MHz, Antenna 17 dBi Detector Peak



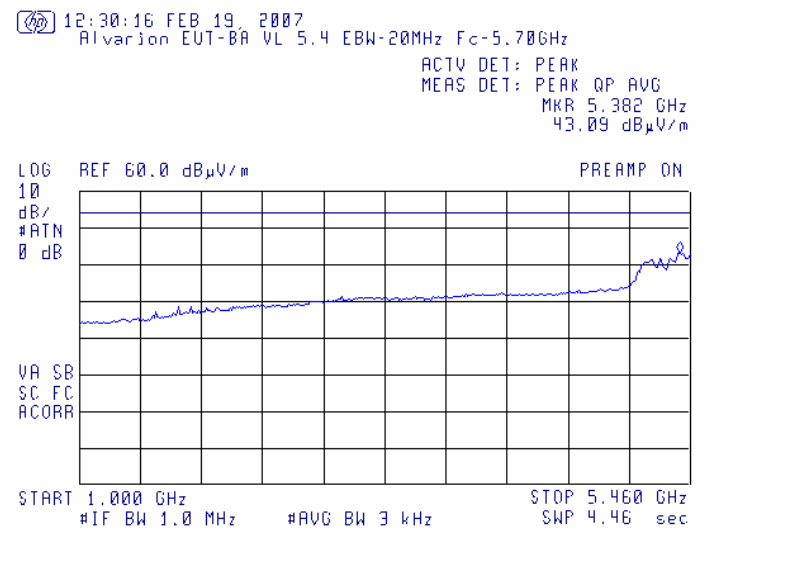
Plot 201. Carrier Frequency 5.600 GHz, EBW 20 MHz, Antenna 17 dBi Detector Average



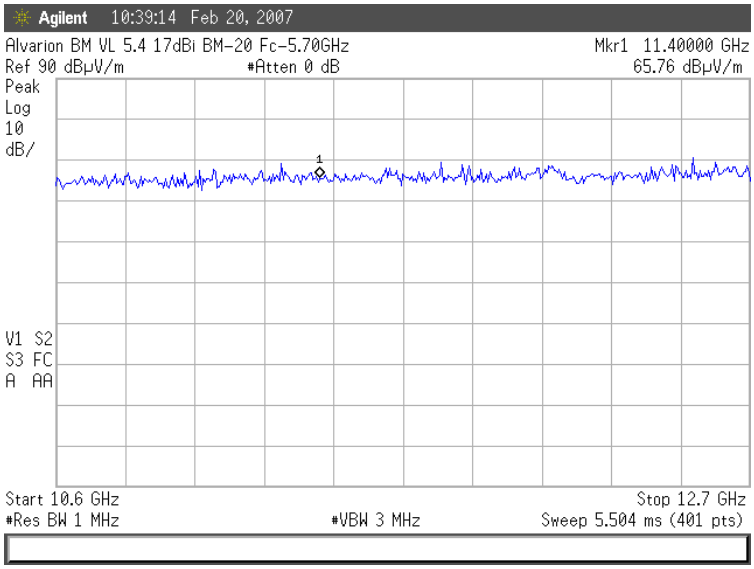
Plot 202. Carrier Frequency 5.600 GHz, EBW-20 MHz, Antenna 17 dBi Detector Peak



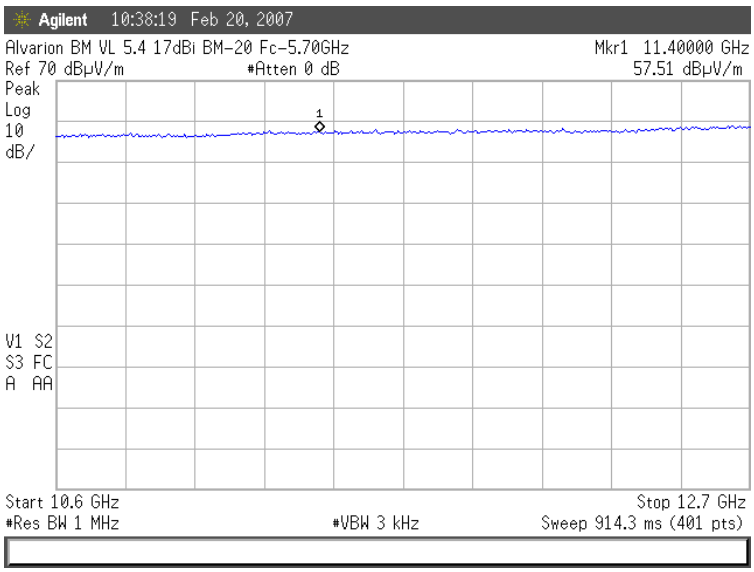
Plot 203. Carrier Frequency 5.700 GHz, EBW-20 MHz, Antenna 17 dBi Detector Peak



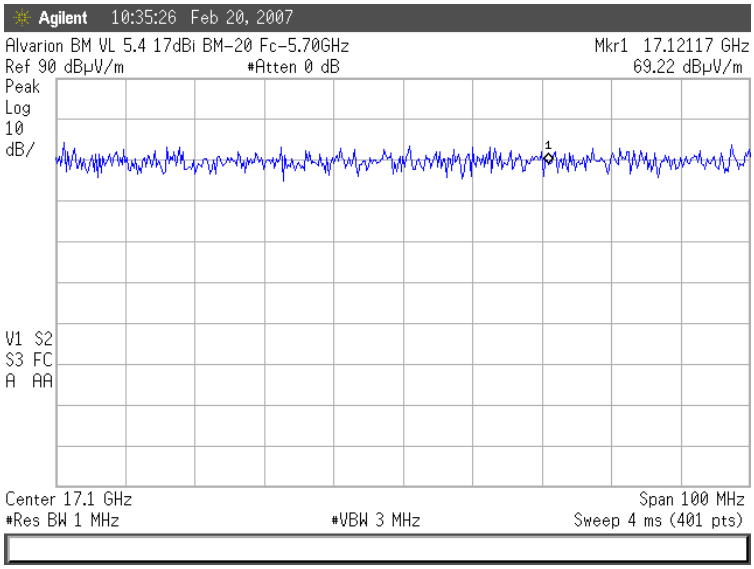
Plot 204. Carrier Frequency 5.700 GHz, EBW 20 MHz, Antenna 17 dBi Detector Average



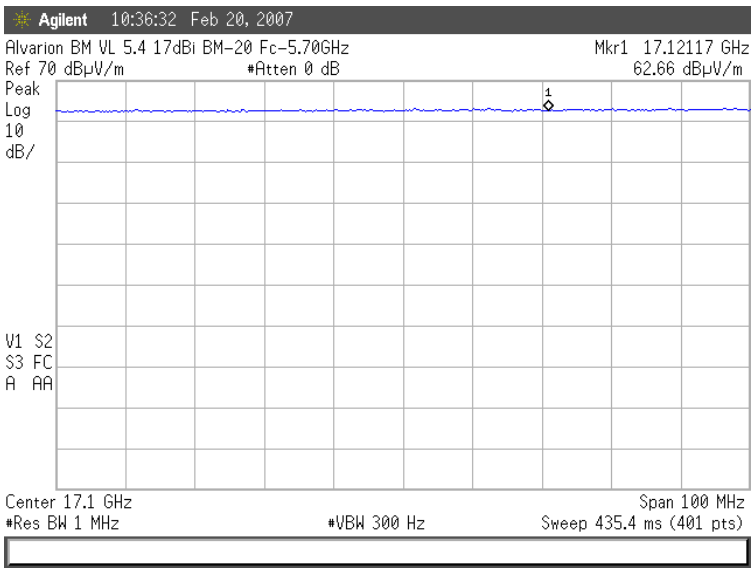
Plot 205. Carrier Frequency 5.700 GHz, EBW-20 MHz, Antenna 17 dBi Detector Peak



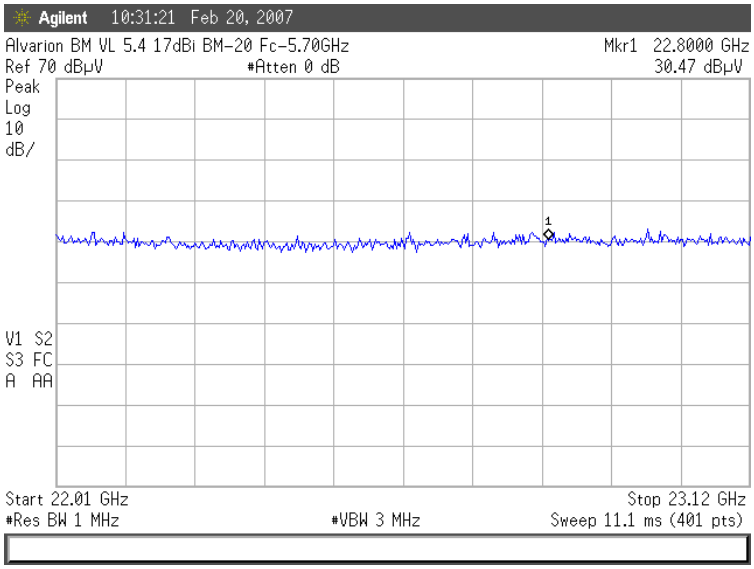
Plot 206. Carrier Frequency 5.700 GHz, EBW 20 MHz, Antenna 17 dBi Detector Average



Plot 207. Carrier Frequency 5.700 GHz, EBW-20 MHz, Antenna 17 dBi Detector Peak

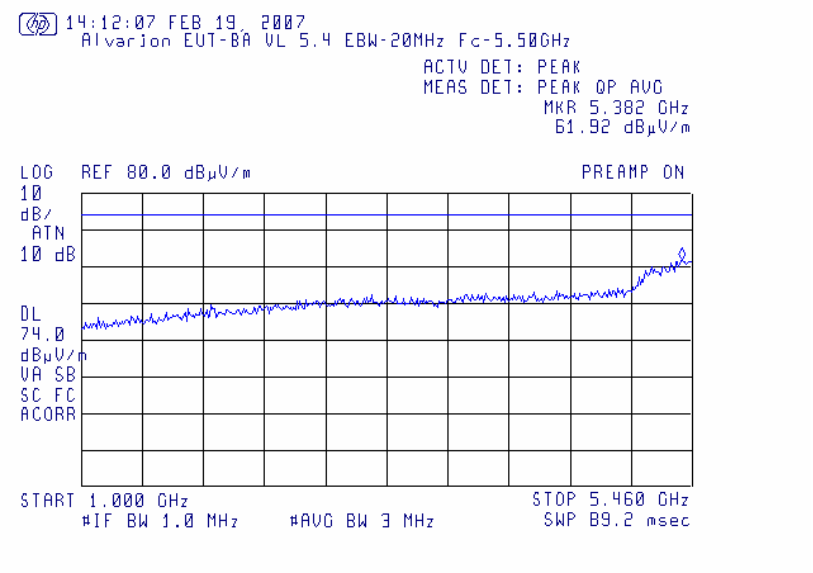


Plot 208. Carrier Frequency 5.700 GHz, EBW 20 MHz, Antenna 17 dBi Detector Average

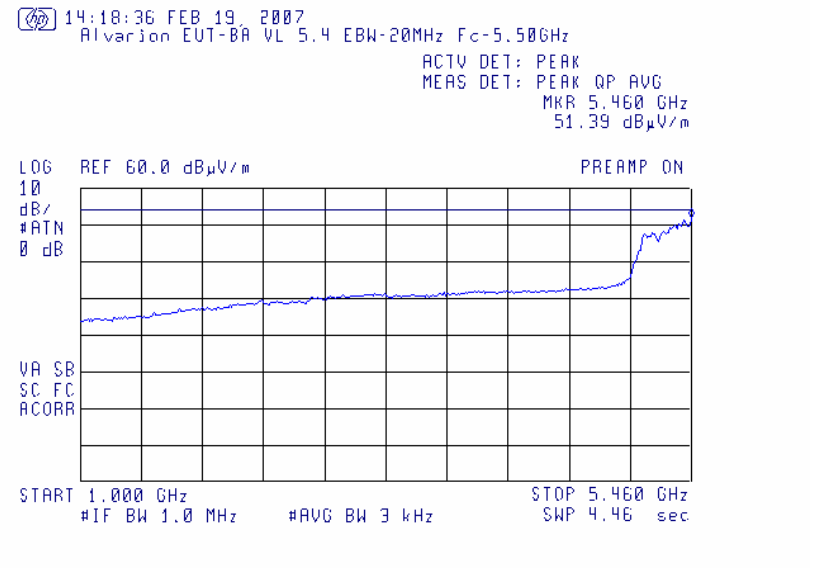


Plot 209. Carrier Frequency 5.700 GHz, EBW-20 MHz, Antenna 17 dBi Detector Peak

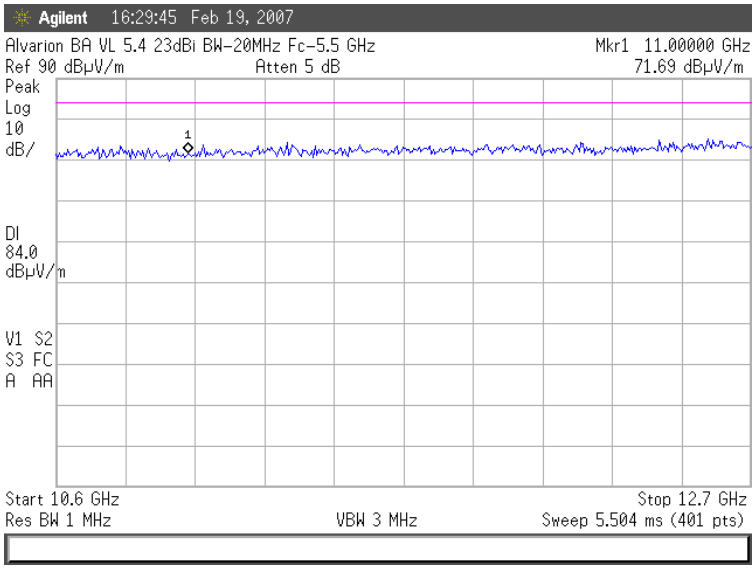
Antenna - 23 dBi. Output power 7 dBm.



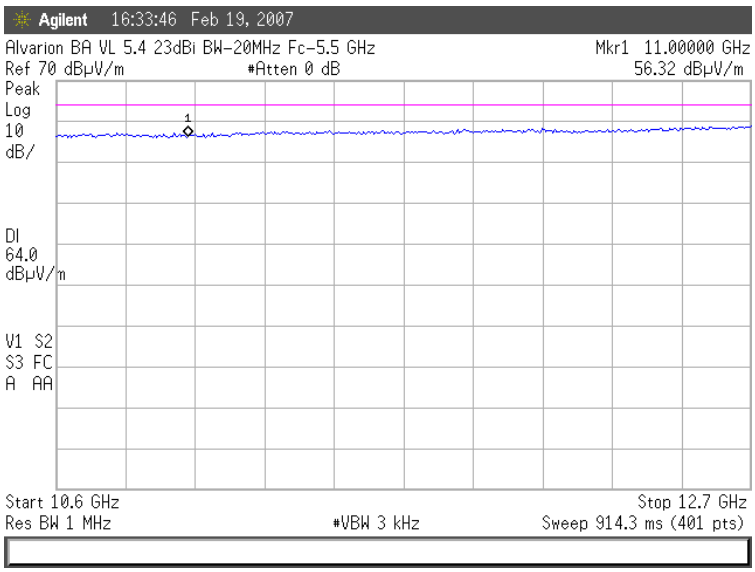
Plot 210. Carrier Frequency 5.500 GHz, EBW-20 MHz, Antenna 23 dBi Detector Peak



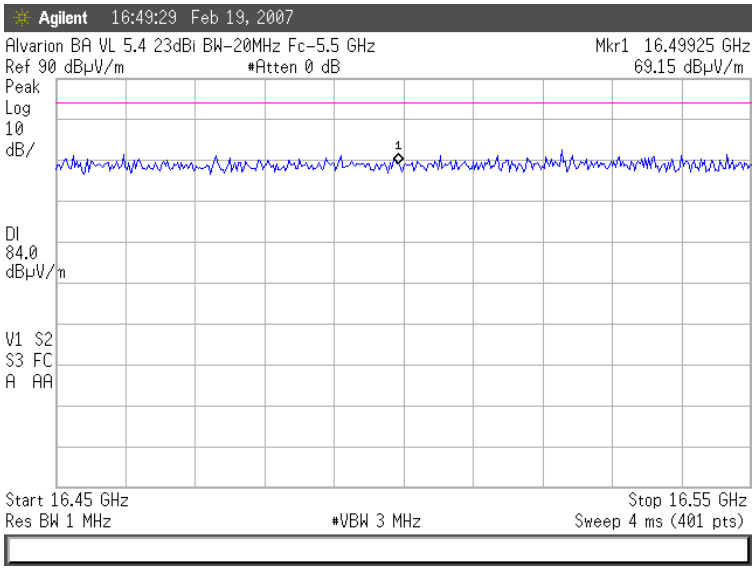
Plot 211. Carrier Frequency 5.500 GHz, EBW 20 MHz, Antenna 23 dBi Detector Average



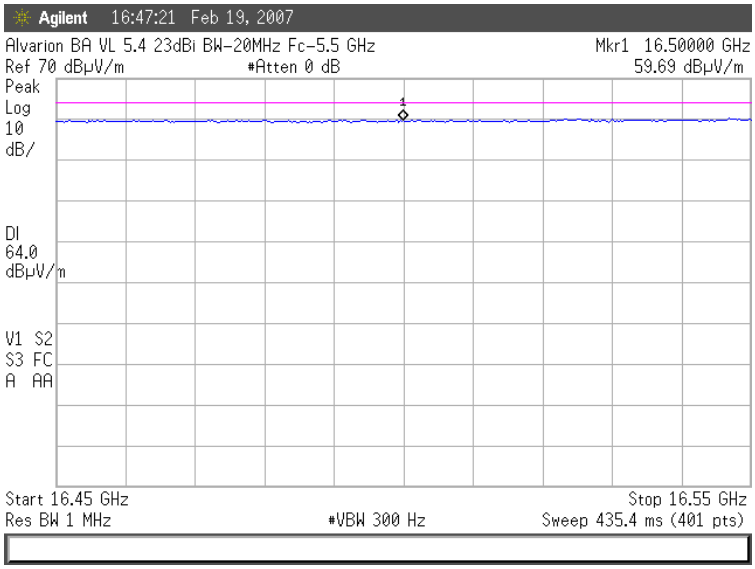
Plot 212. Carrier Frequency 5.500 GHz, EBW-20 MHz, Antenna 23 dBi Detector Peak



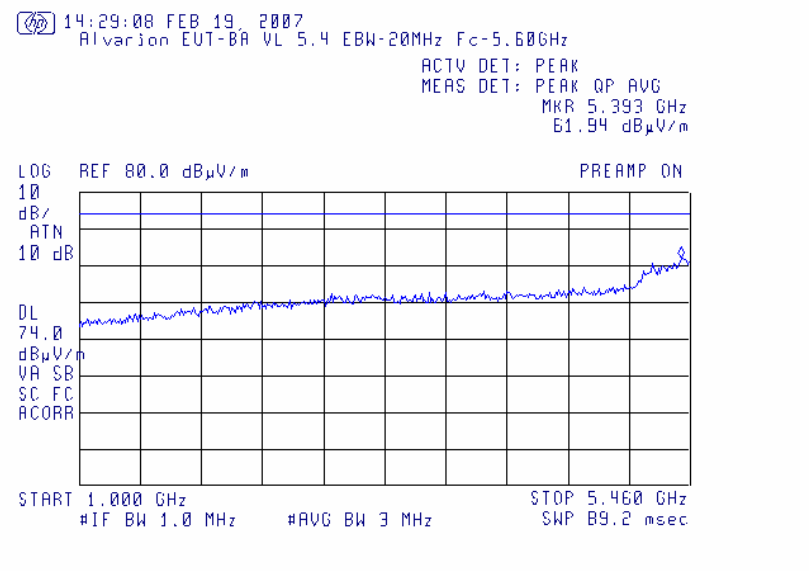
Plot 213. Carrier Frequency 5.500 GHz, EBW 20 MHz, Antenna 23 dBi Detector Average



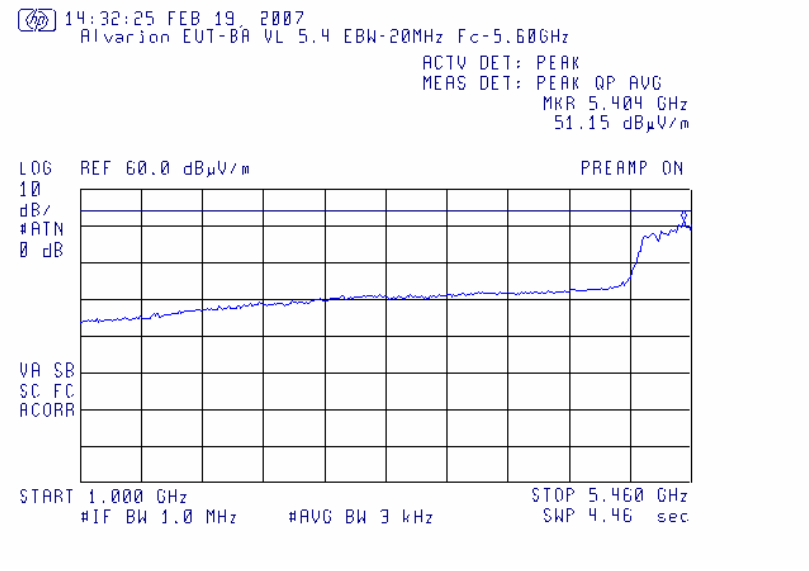
Plot 214. Carrier Frequency 5.500 GHz, EBW-20 MHz, Antenna 23 dBi Detector Peak



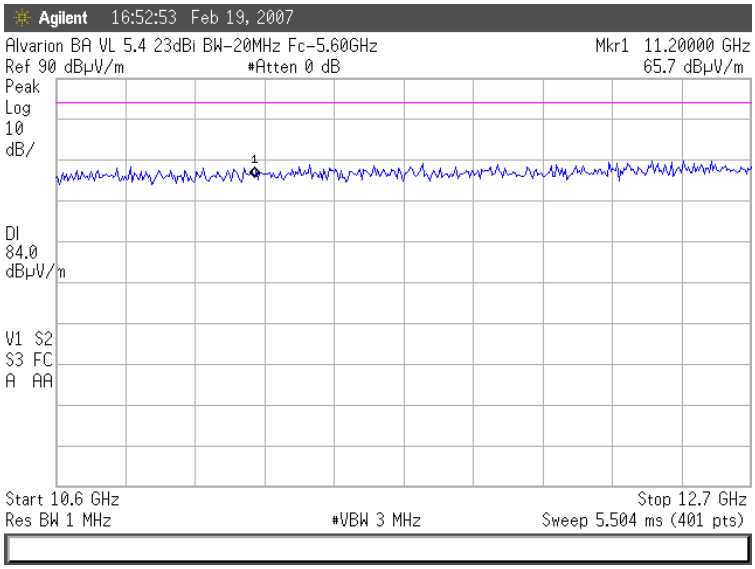
Plot 215. Carrier Frequency 5.500 GHz, EBW 20 MHz, Antenna 23 dBi Detector Average



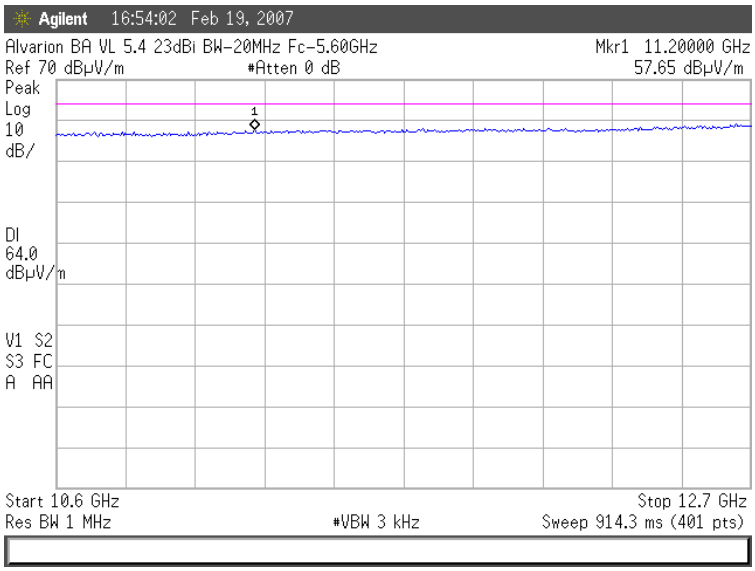
Plot 216. Carrier Frequency 5.600 GHz, EBW-20 MHz, Antenna 23 dBi Detector Peak



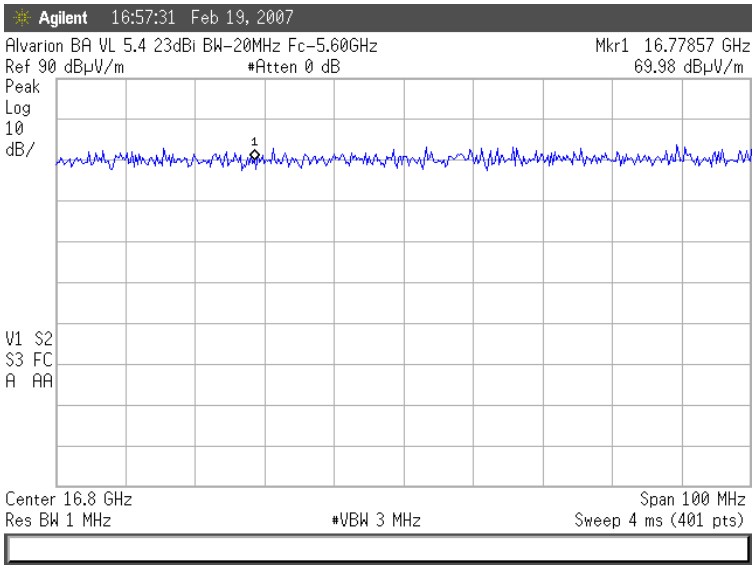
Plot 217. Carrier Frequency 5.600 GHz, EBW 20 MHz, Antenna 23 dBi Detector Average



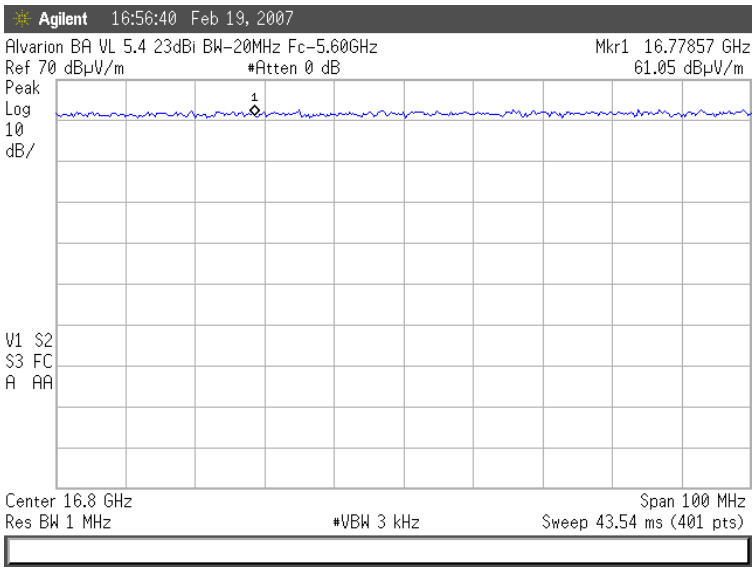
Plot 218. Carrier Frequency 5.600 GHz, EBW-20 MHz, Antenna 23 dBi Detector Peak



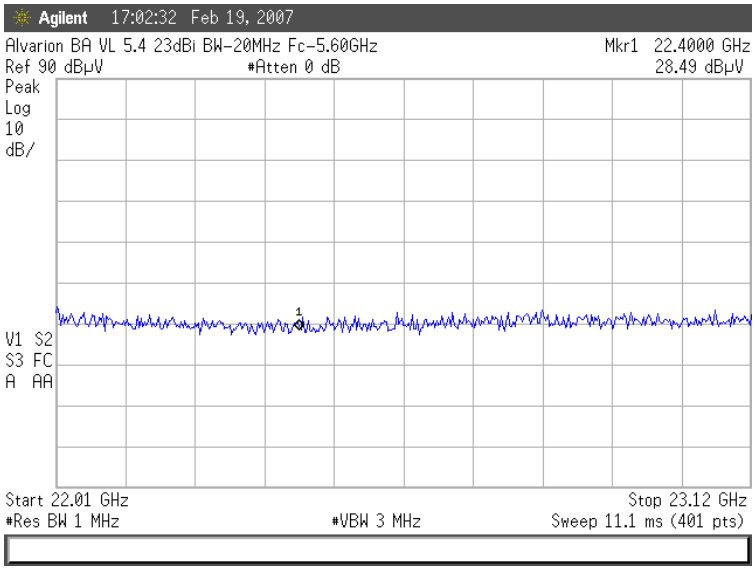
Plot 219. Carrier Frequency 5.600 GHz, EBW 20 MHz, Antenna 23 dBi Detector Average



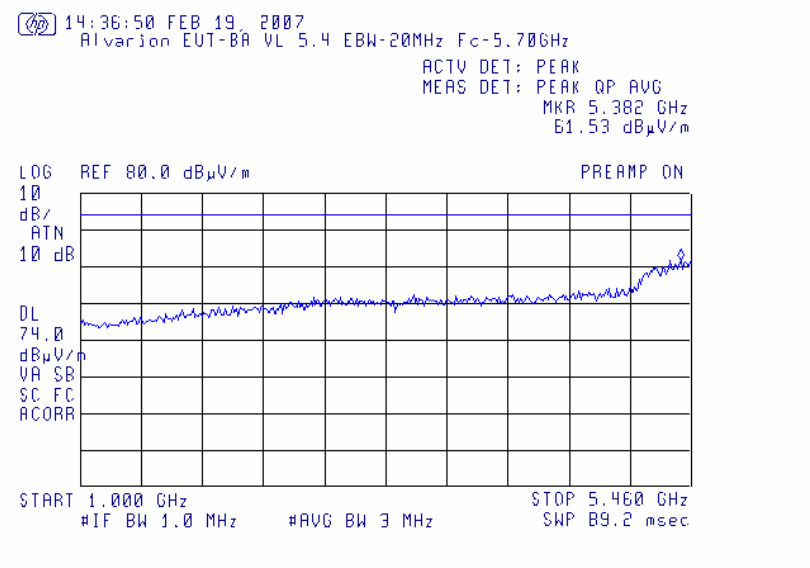
Plot 220. Carrier Frequency 5.600 GHz, EBW-20 MHz, Antenna 23 dBi Detector Peak



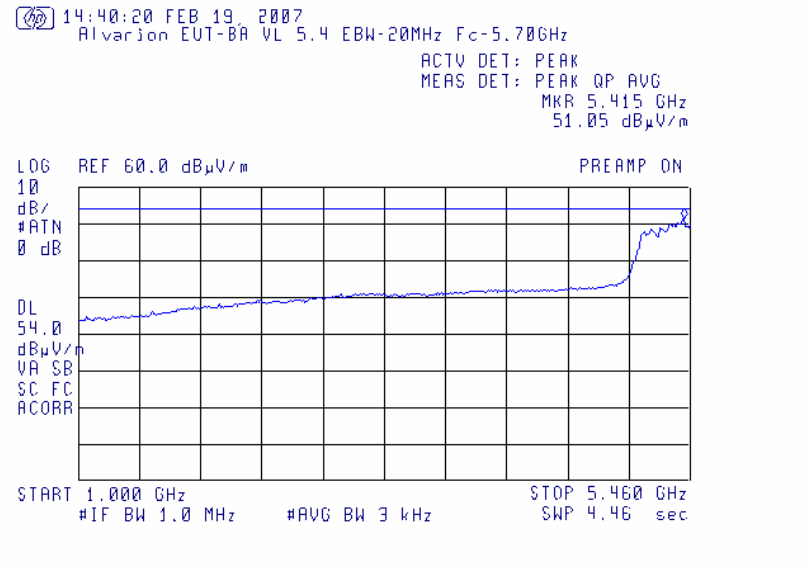
Plot 221. Carrier Frequency 5.600 GHz, EBW 20 MHz, Antenna 23 dBi Detector Average



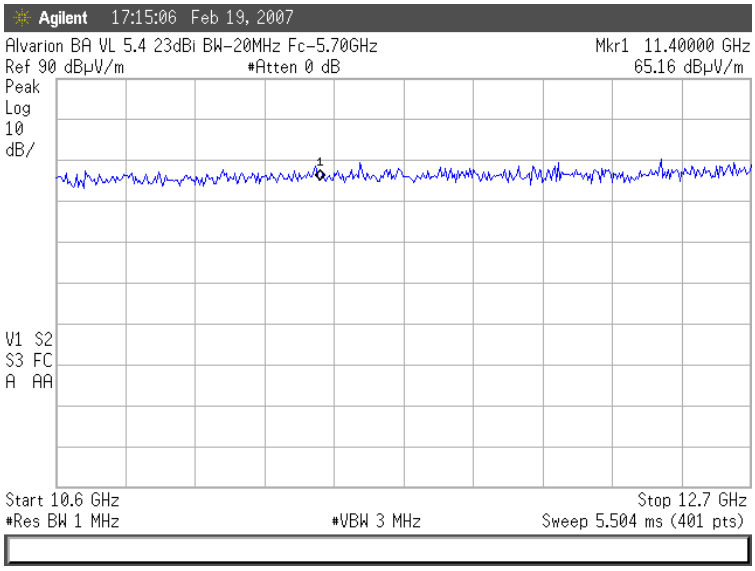
Plot 222. Carrier Frequency 5.600 GHz, EBW-20 MHz, Antenna 23 dBi Detector Peak



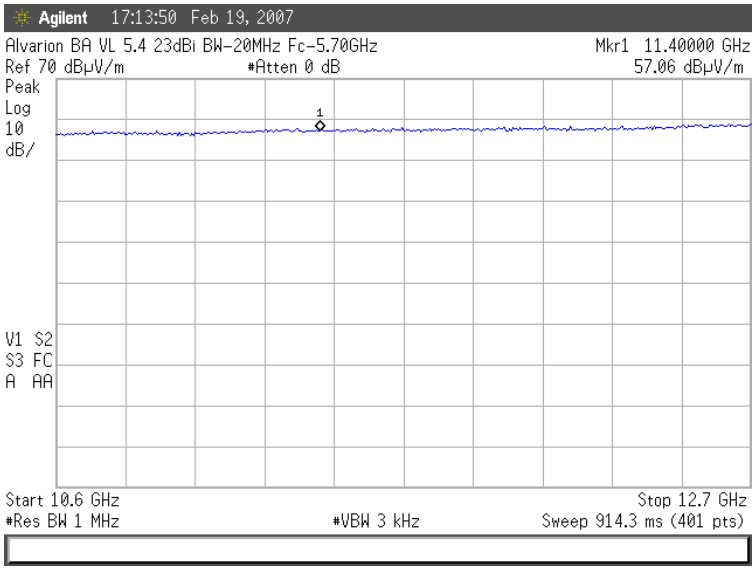
Plot 223. Carrier Frequency 5.700 GHz, EBW-20 MHz, Antenna 23 dBi Detector Peak



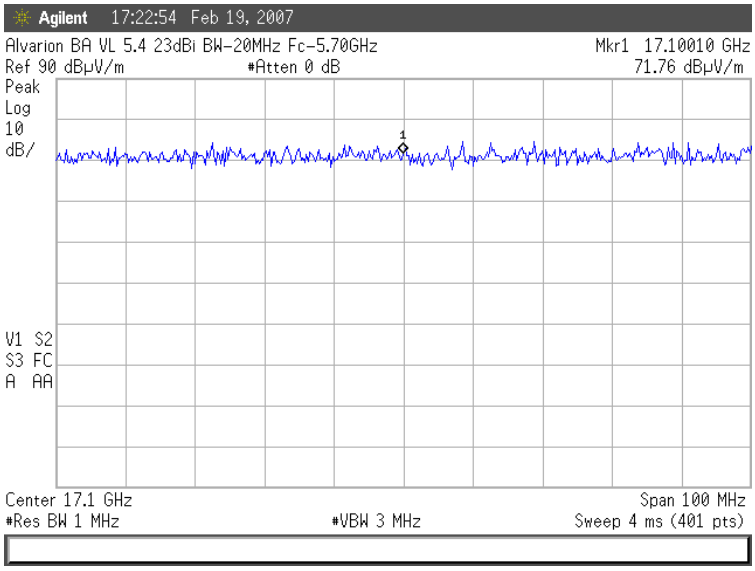
Plot 224. Carrier Frequency 5.700 GHz, EBW 20 MHz, Antenna 23 dBi Detector Average



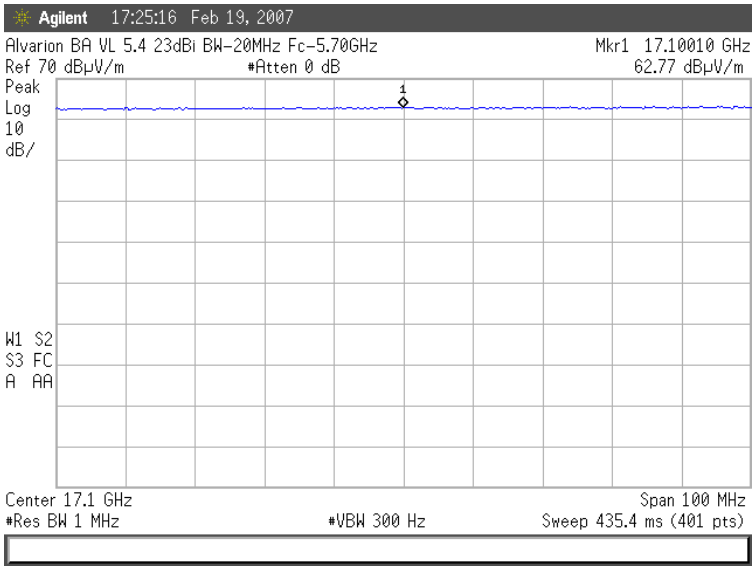
Plot 225. Carrier Frequency 5.700 GHz, EBW-20 MHz, Antenna 23 dBi Detector Peak



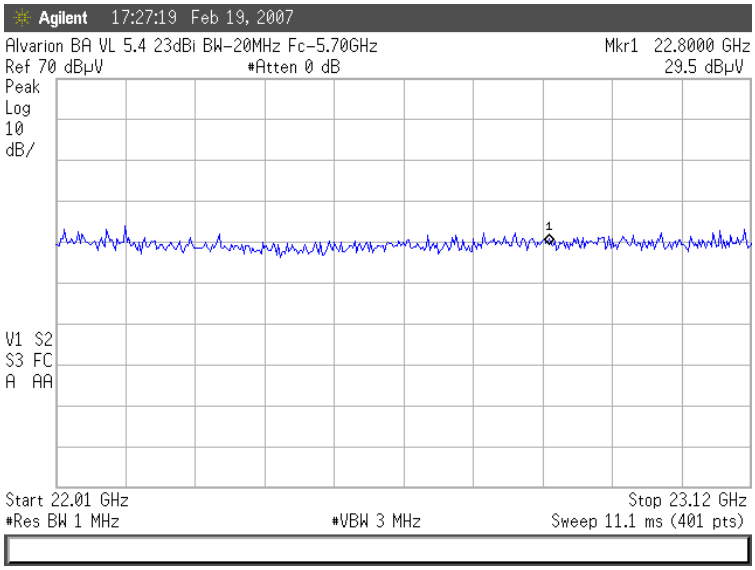
Plot 226. Carrier Frequency 5.700 GHz, EBW 20 MHz, Antenna 23 dBi Detector Average



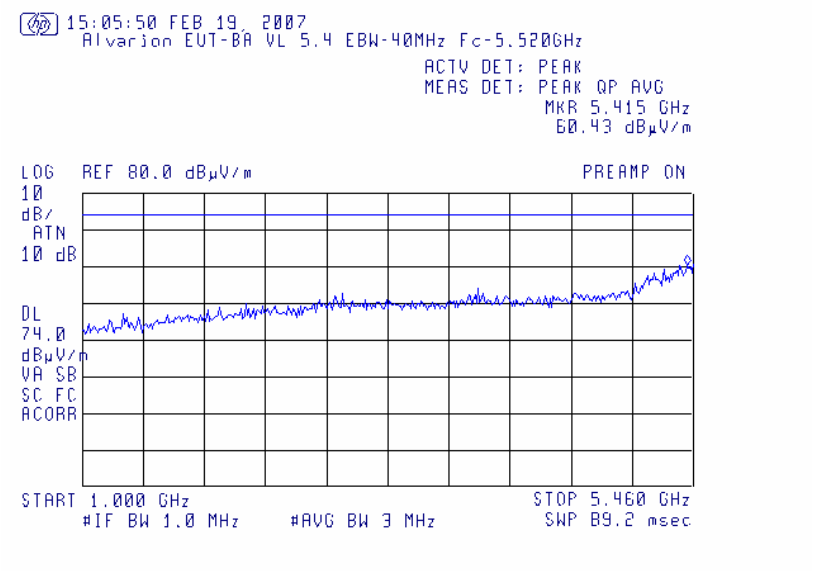
Plot 227. Carrier Frequency 5.700 GHz, EBW-20 MHz, Antenna 23 dBi Detector Peak



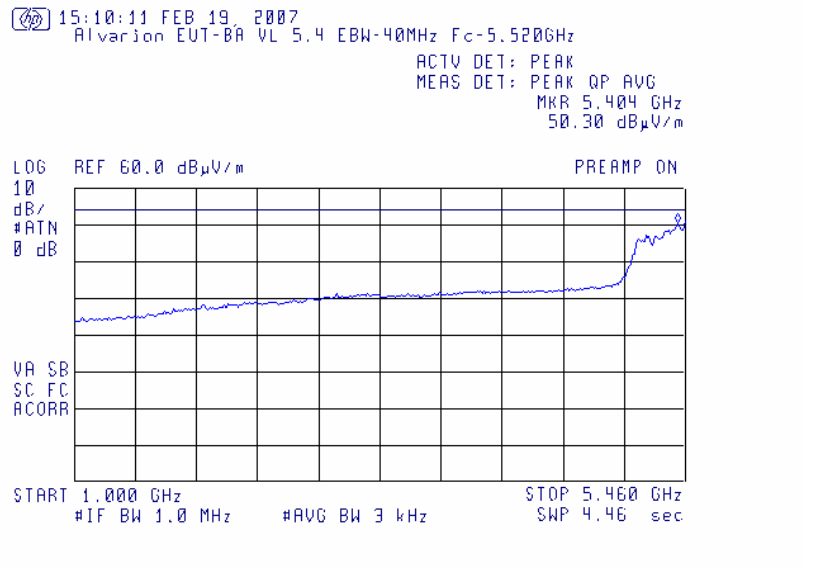
Plot 228. Carrier Frequency 5.700 GHz, EBW 20 MHz, Antenna 23 dBi Detector Average



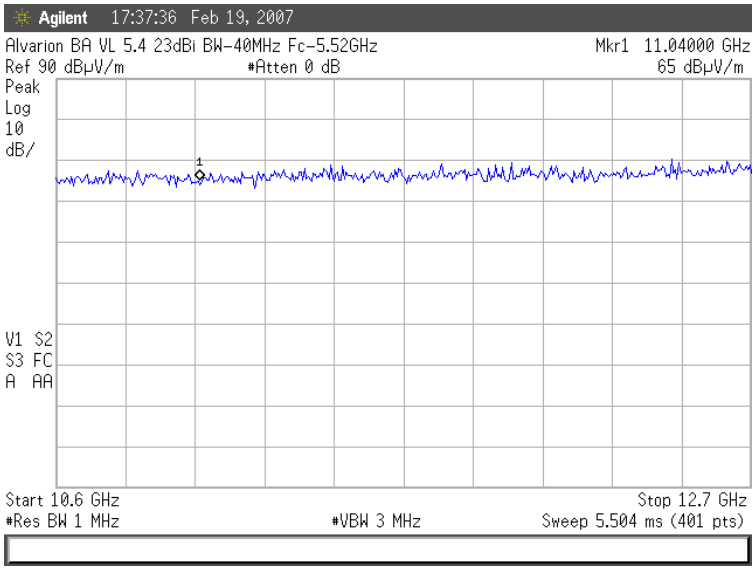
Plot 229. Carrier Frequency 5.700 GHz, EBW-20 MHz, Antenna 23 dBi Detector Peak



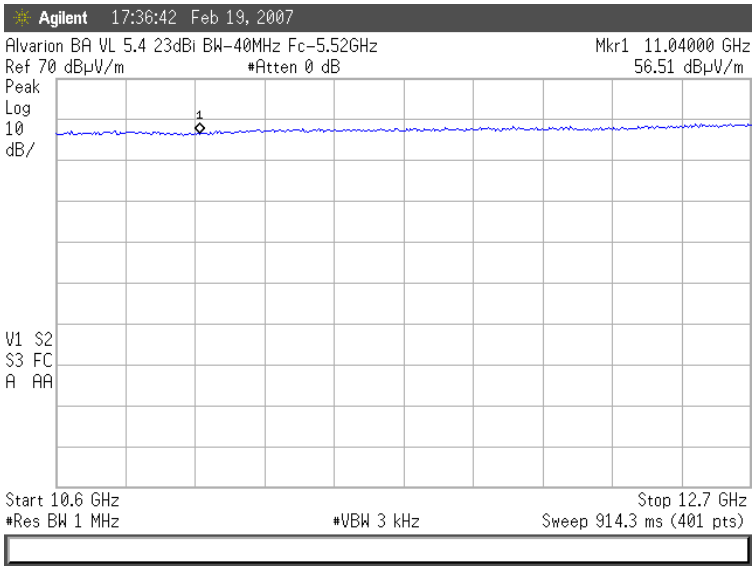
Plot 230. Carrier Frequency 5.520 GHz, EBW-40 MHz, Antenna 23 dBi Detector Peak



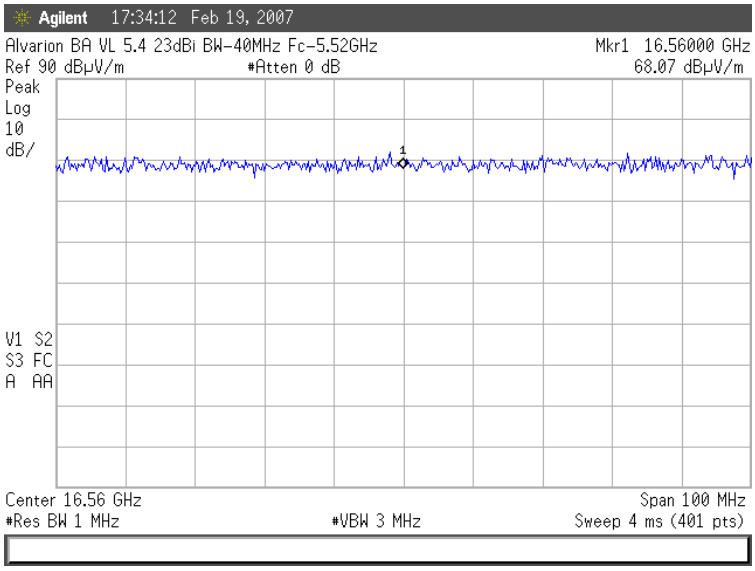
Plot 231. Carrier Frequency 5.520 GHz, EBW 40 MHz, Antenna 23 dBi Detector Average



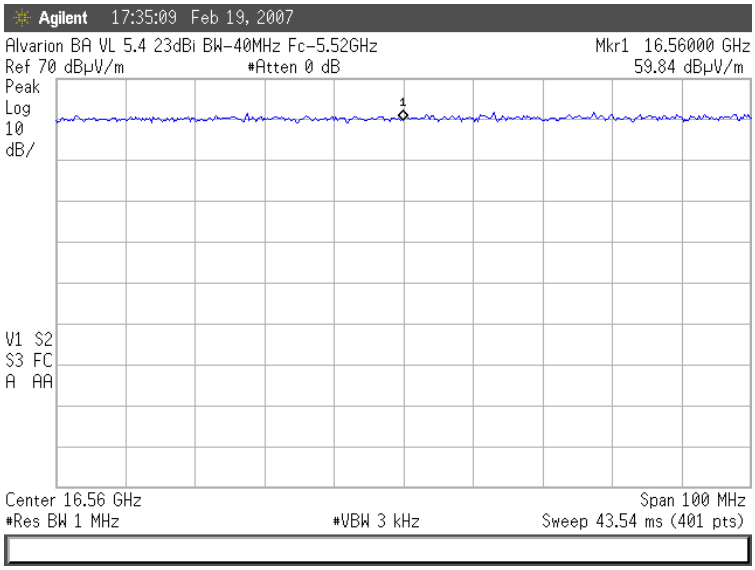
Plot 232. Carrier Frequency 5.520 GHz, EBW-40 MHz, Antenna 23 dBi Detector Peak



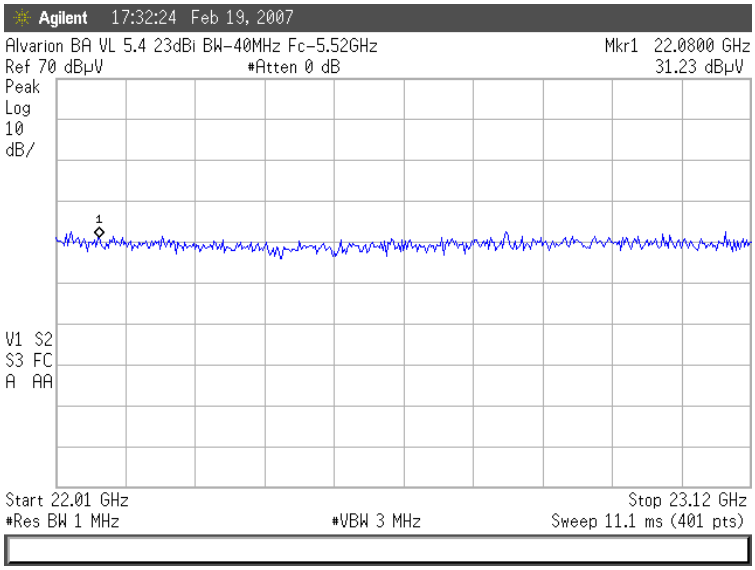
Plot 233. Carrier Frequency 5.520 GHz, EBW 40 MHz, Antenna 23 dBi Detector Average



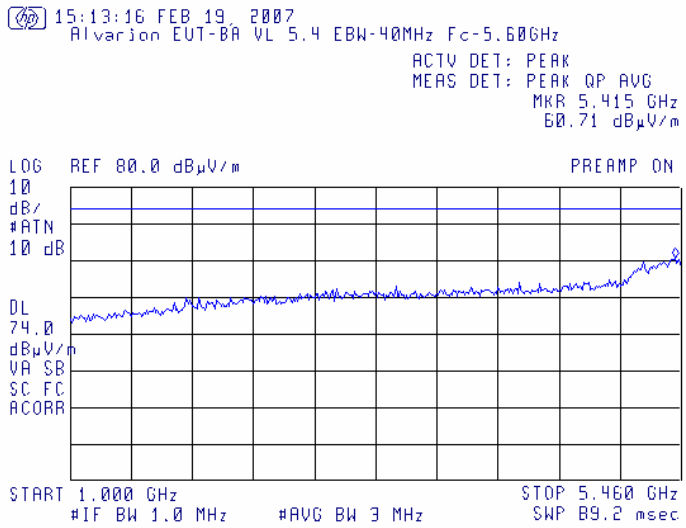
Plot 234. Carrier Frequency 5.520 GHz, EBW-40 MHz, Antenna 23 dBi Detector Peak



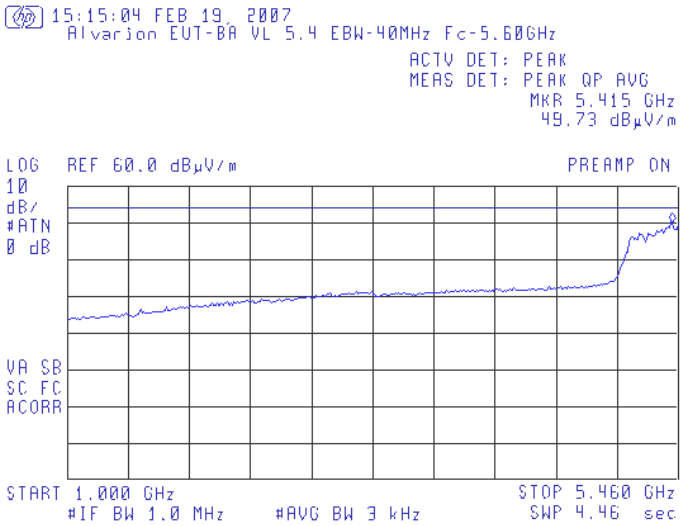
Plot 235. Carrier Frequency 5.520 GHz, EBW 40 MHz, Antenna 23 dBi Detector Average



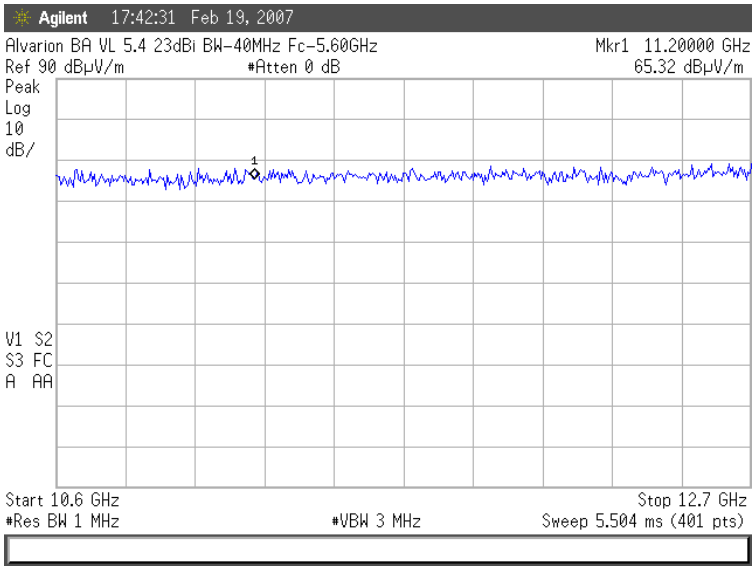
Plot 236. Carrier Frequency 5.520 GHz, EBW-40 MHz, Antenna 23 dBi Detector Peak



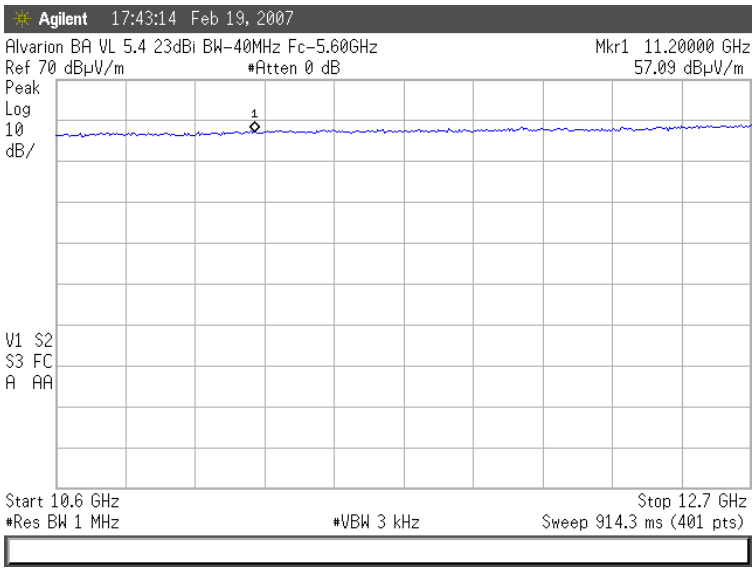
Plot 237. Carrier Frequency 5.600 GHz, EBW-40 MHz, Antenna 23 dBi Detector Peak



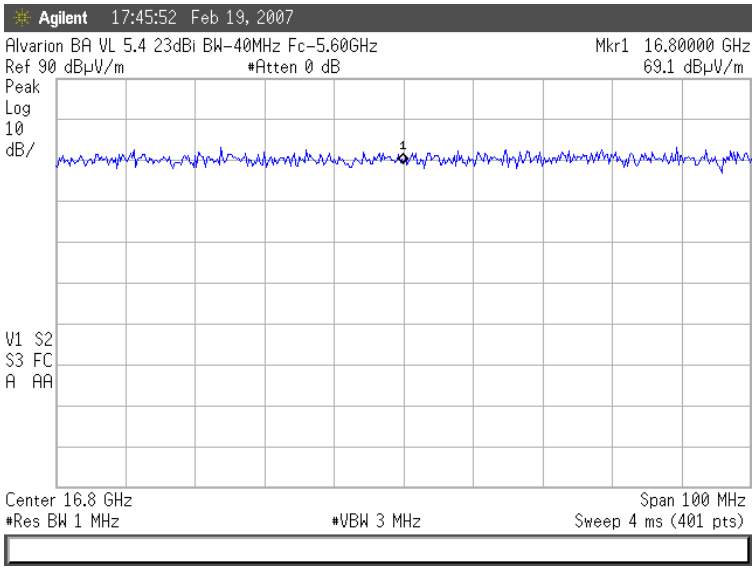
Plot 238. Carrier Frequency 5.600 GHz, EBW 40 MHz, Antenna 23 dBi Detector Average



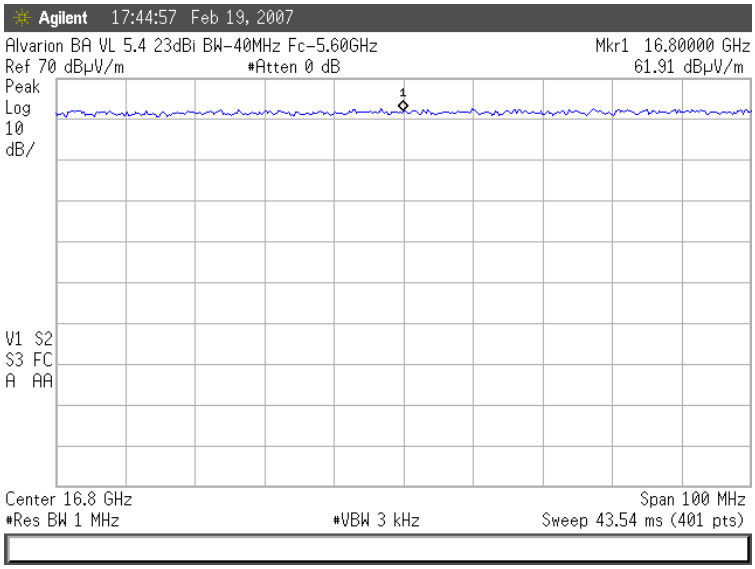
Plot 239. Carrier Frequency 5.600 GHz, EBW-40 MHz, Antenna 23 dBi Detector Peak



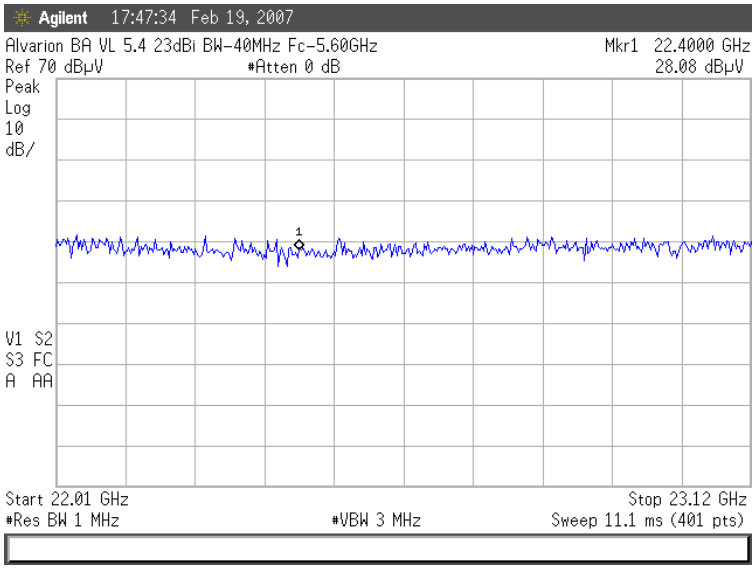
Plot 240. Carrier Frequency 5.600 GHz, EBW 40 MHz, Antenna 23 dBi Detector Average



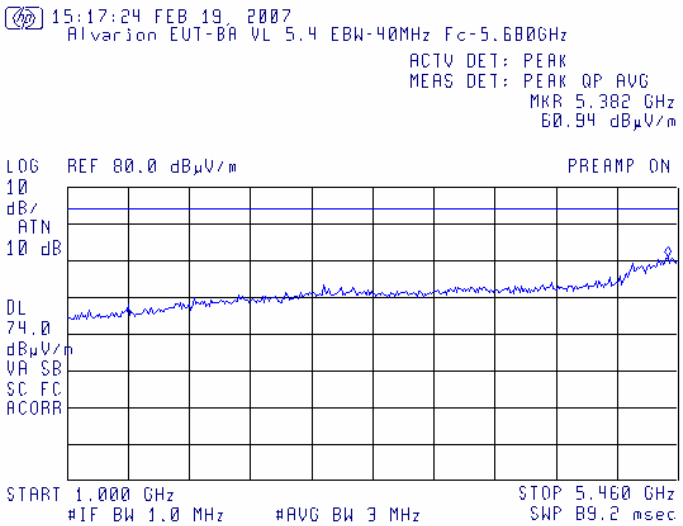
Plot 241. Carrier Frequency 5.600 GHz, EBW-40 MHz, Antenna 23 dBi Detector Peak



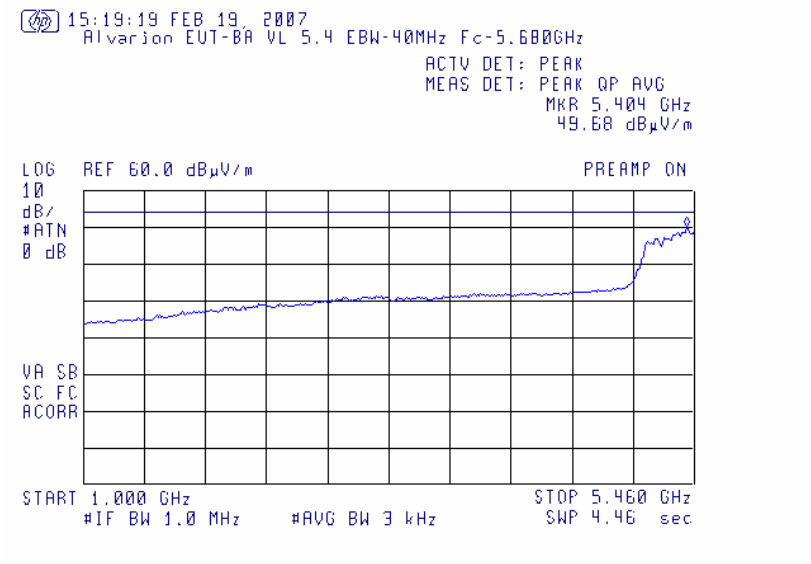
Plot 242. Carrier Frequency 5.600 GHz, EBW 40 MHz, Antenna 23 dBi Detector Average



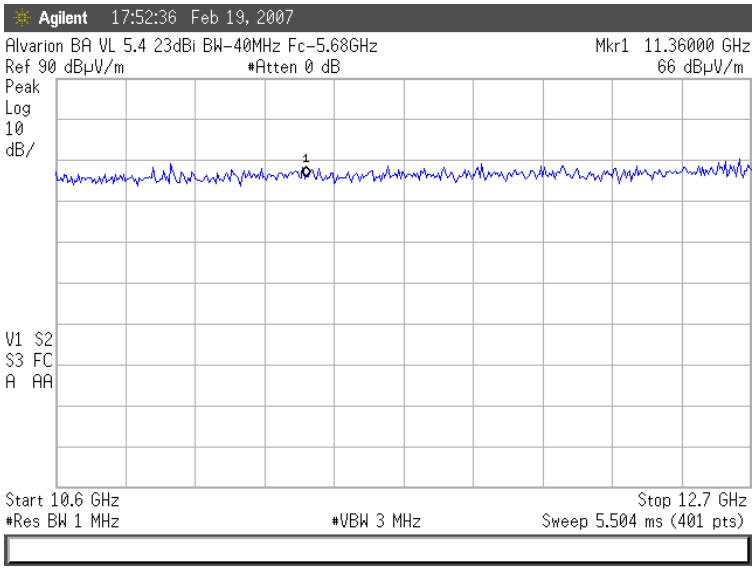
Plot 243. Carrier Frequency 5.600 GHz, EBW-40 MHz, Antenna 23 dBi Detector Peak



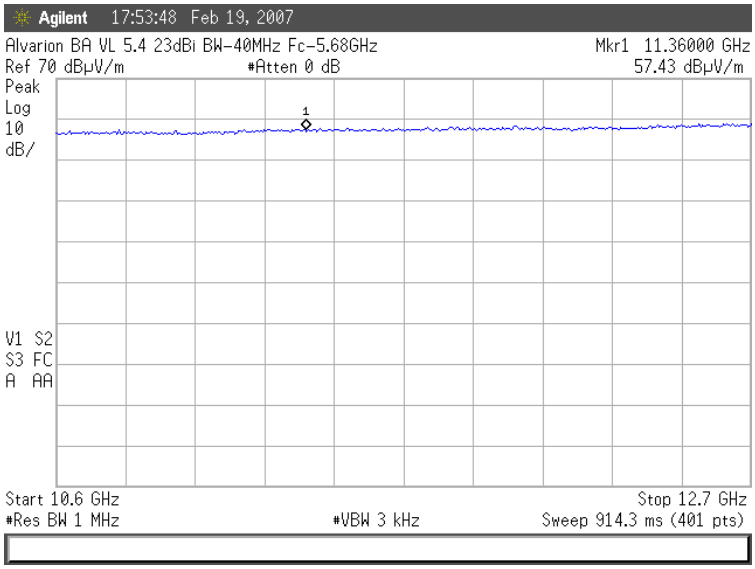
Plot 244. Carrier Frequency 5.680 GHz, EBW-40 MHz, Antenna 23 dBi Detector Peak



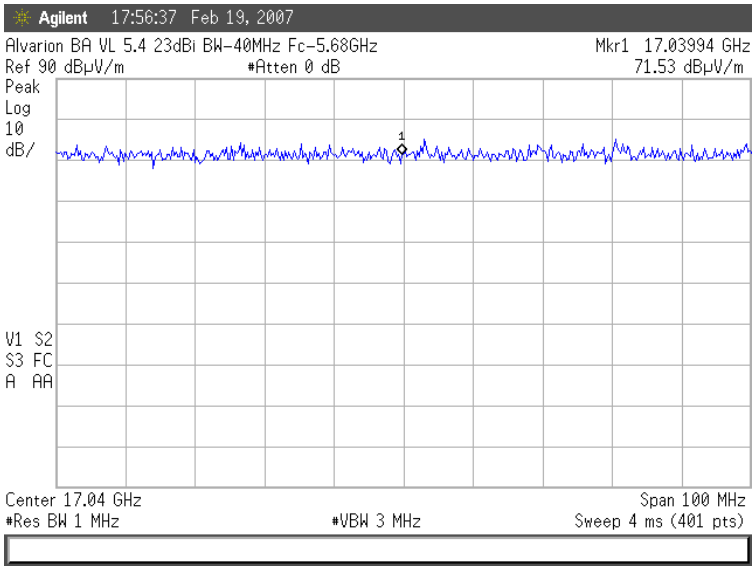
Plot 245. Carrier Frequency 5.680 GHz, EBW 40 MHz, Antenna 23 dBi Detector Average



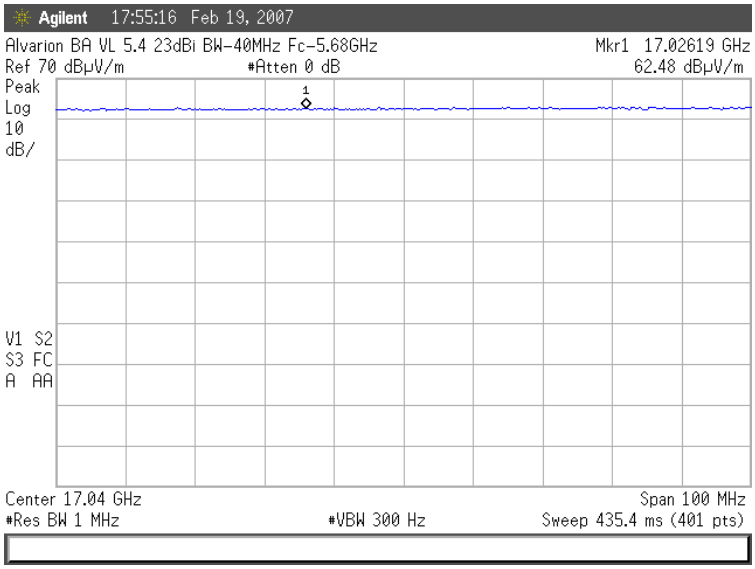
Plot 246. Carrier Frequency 5.680 GHz, EBW-40 MHz, Antenna 23 dBi Detector Peak



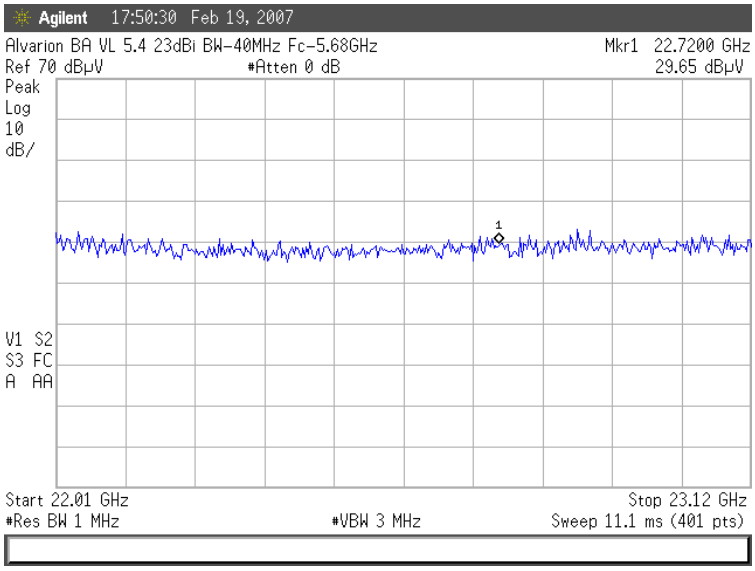
Plot 247. Carrier Frequency 5.680 GHz, EBW 40 MHz, Antenna 23 dBi Detector Average



Plot 248. Carrier Frequency 5.680 GHz, EBW-40 MHz, Antenna 23 dBi Detector Peak



Plot 249. Carrier Frequency 5.680 GHz, EBW 40 MHz, Antenna 23 dBi Detector Average



Plot 250. Carrier Frequency 5.680 GHz, EBW-40 MHz, Antenna 23 dBi Detector Peak

12. Appendix 4: Test configuration illustration

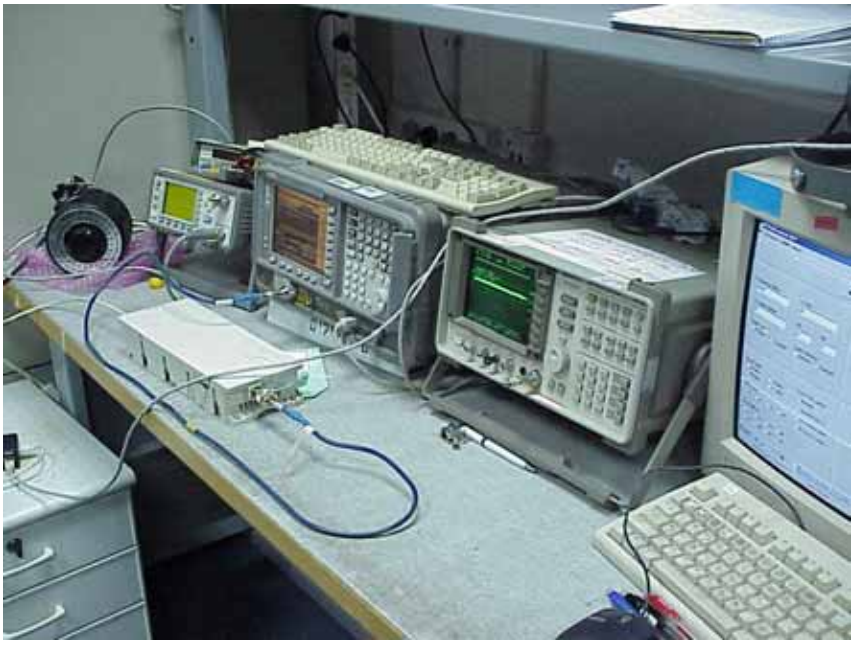


Photo # 5.
Conducted measurements setup.

Photo # 6.
Base Station + Subscriber Unit
Radiated emission test on open site

Photo # 7.
Base Station + Subscriber Unit
Radiated emission test on open site

Photo # 8.
Base Station + Subscriber Unit
Radiated emission test on open site

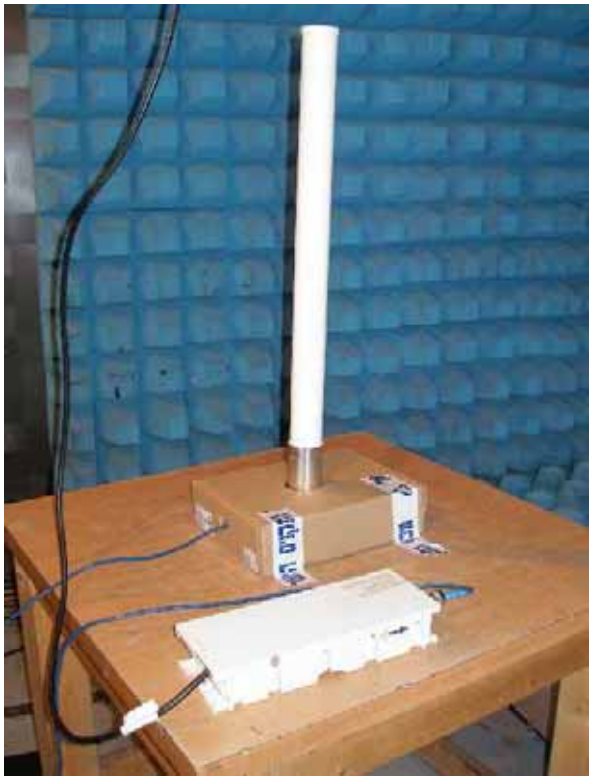


Photo # 9.
Radio unit with MTI Omni antenna AN1299 8 dBi
Spurious emission test

Photo # 10.

Photo # 11.
Radio unit with MTI sector antenna AN1353 17 dBi
Spurious emission test

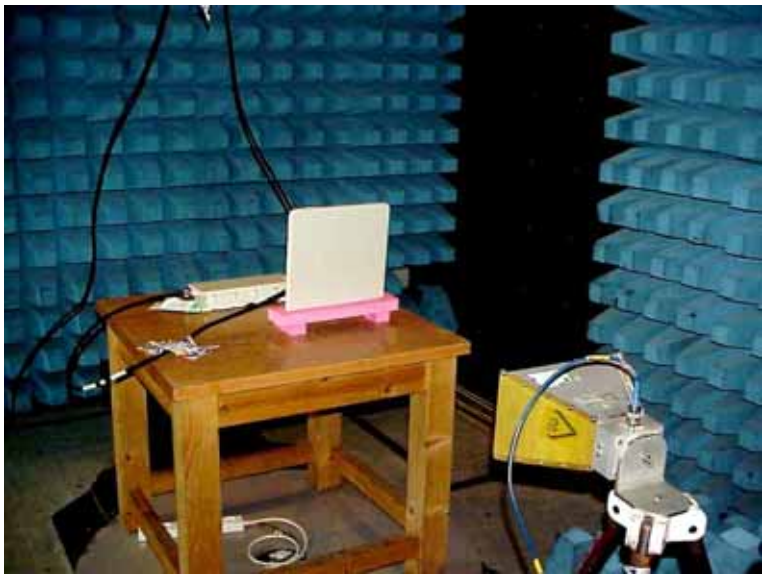


Photo # 12

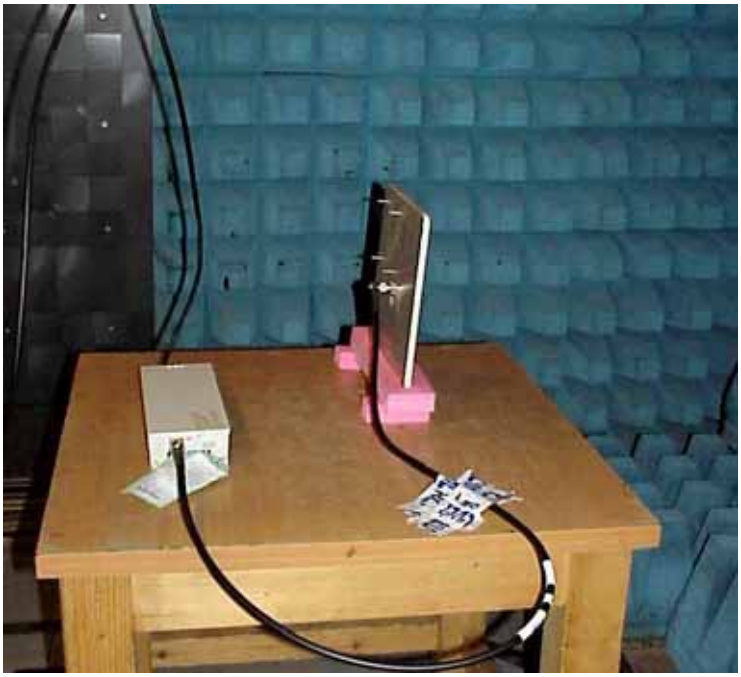


Photo # 13.
Radio unit with Unidirectional antenna AN1231 23 dBi
Spurious emission test