

7. Base station configuration measurements 15.407

7.1. Maximum peak transmit power

7.1.1. Requirements

The peak transmit power shall not exceed the lesser of 250mW or $11\text{dBm} + 10\log B$, where B is the 26dB emission bandwidth in MHz as required in sec. 15.407 (a) (2). The base station antenna has 16dBi gain and is provided with coaxial connection cable and connector. The attenuation of the connection cable and connector at the working frequencies is $\geq 0.5\text{dB}$. The total antenna gain is $16 - 0.5 = 15.5\text{dBi}$. Calculated limit is $24 - (15.5 - 6) = 14.5\text{dBm}$.

7.1.2. Test results:

The peak output power is measured according to method #3 as defined in the measurement procedure updated for peak transmit power in the unlicensed national information Infrastructure (U-NII) bands; Public Notice Aut-30-2002.

The measured maximum peak power is:

Middle channel (5300MHz), channel bandwidth 10MHz:	13.86dBm
Middle channel (5300MHz), channel bandwidth 20MHz:	14.27dBm
Middle channel (5300MHz), channel bandwidth 40MHz:	14.35dBm

7.1.3. Test results:

The measured results are shown in Appendix 3, clause [12.3](#), – for 15.5dBi total antenna gain.

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

7.2.1. Requirements:

All emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27dBm/MHz as required in sec. 15.407 (b)-(2)(4).

7.2.2. Test results:

The measured results are shown in Appendix 3, clause 12.11.

8. Subscriber unit configuration measurements 15.407

The base station and subscriber have an identical outdoor unit. The difference is the output power according to the antenna gain. This section repeats the measurements that are output power dependent for the subscriber unit antenna gain.

8.1. Maximum peak transmit power

8.1.1. Requirements

The peak transmit power shall not exceed the lesser of 250mW or $11\text{dBm} + 10\log B$, where B is the 26dB emission bandwidth in MHz as require in sec.15.407 (a) (2).

The subscriber unit has an integrated antenna with 21dBi gain.

Calculated limit is $24 - (21 - 6) = 9\text{dBm}$

8.1.2. Test results:

The peak output power is measured according to method #3 as defined in the measurement procedure updated for peak transmit power in the unlicensed national information Infrastructure (U-NII) bands; Public Notice Aut-30-2002.

The measured maximum peak power for antenna 21dBi is:

Middle channel (5300MHz), channel bandwidth 10MHz:	8.30dBm
Middle channel (5300MHz), channel bandwidth 20MHz:	8.86dBm
Middle channel (5300MHz), channel bandwidth 40MHz:	8.96dBm

8.1.3. Test results:

The measured results are shown in Appendix 3, clause [12.4](#). – for 21dBi antenna gain.

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

8.2.1. Requirements:

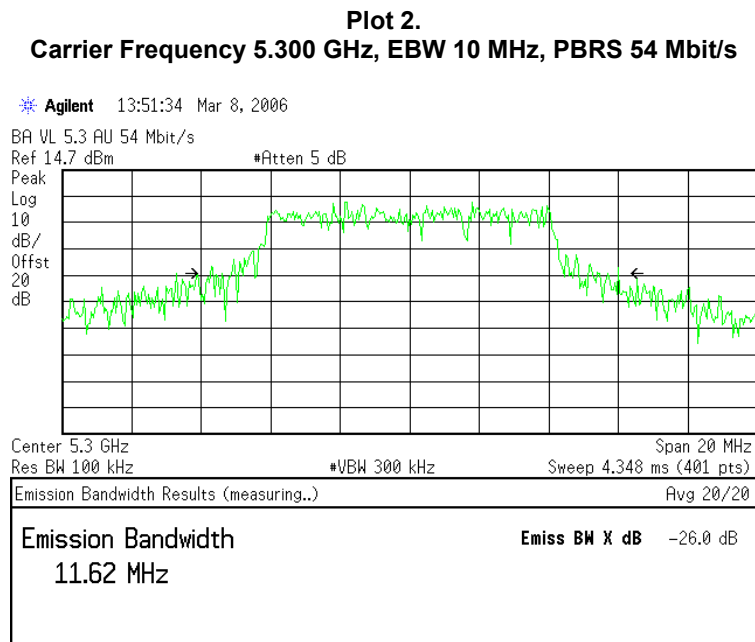
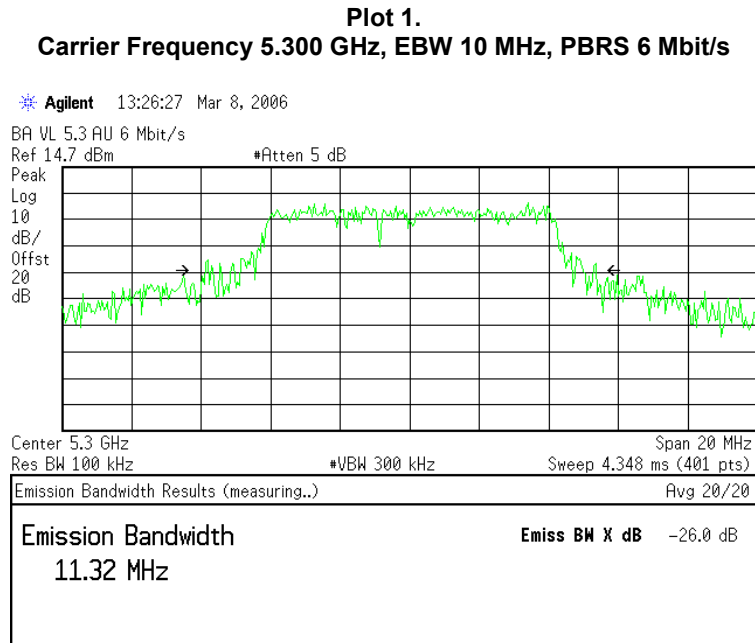
All emissions outside of the 5.15 – 5.35 GHz band shall not exceed an EIRP of -27dBm/MHz as required in sec. 15.407 (b)-(2)(4).

8.2.2. Test results:

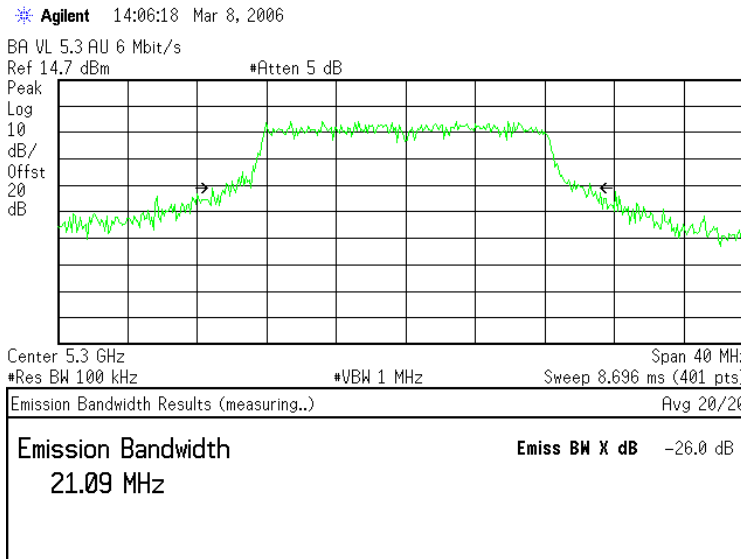
The measured results are shown in Appendix 3, clause 12.12.

12. Appendix 3: Test results (plots)

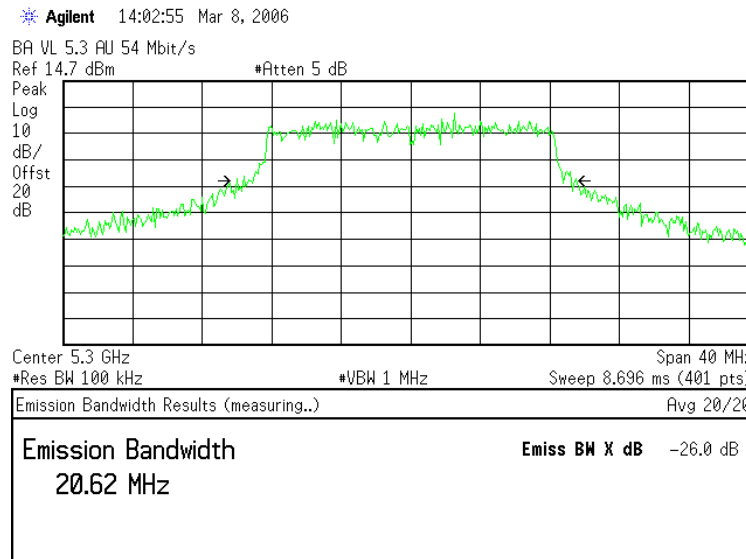
12.1. AU Unit 26 dB – Emissions bandwidth test 15.407 a(2)



Plot 3.
Carrier Frequency 5.300 GHz, EBW 20 MHz, PBRs 6 Mbit/s



Plot 4.
Carrier Frequency 5.300 GHz, EBW 20 MHz, PBRs 54 Mbit/s



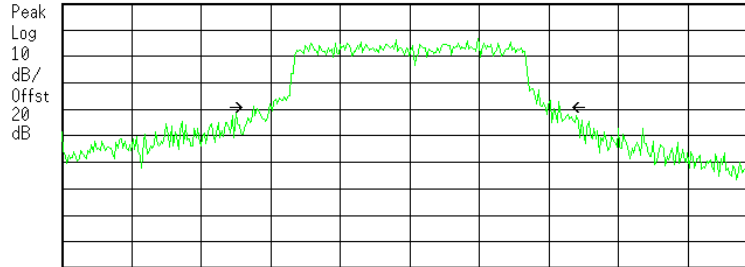
Plot 5.
Carrier Frequency 5.300 GHz, EBW 40 MHz, PBRs 6 Mbit/s

Agilent 14:12:53 Mar 8, 2006

BA VL 5.3 AU 6 Mbit/s

Ref 14.7 dBm

#Atten 5 dB



Center 5.3 GHz

Span 100 MHz

#Res BW 300 kHz

#VBW 1 MHz

Sweep 4 ms (401 pts)

Emission Bandwidth Results (measuring..)

Avg 20/20

Emission Bandwidth
42.02 MHz

Emiss BW X dB -26.0 dB

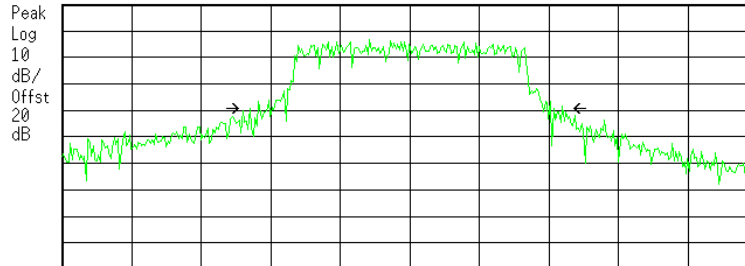
Plot 6.
Carrier Frequency 5.300 GHz, EBW 40 MHz, PBRs 54 Mbit/s

Agilent 15:04:05 Mar 8, 2006

BA VL 5.3 AU 54 Mbit/s

Ref 14.7 dBm

#Atten 5 dB



Center 5.3 GHz

Span 100 MHz

#Res BW 300 kHz

#VBW 1 MHz

Sweep 4 ms (401 pts)

Emission Bandwidth Results (measuring..)

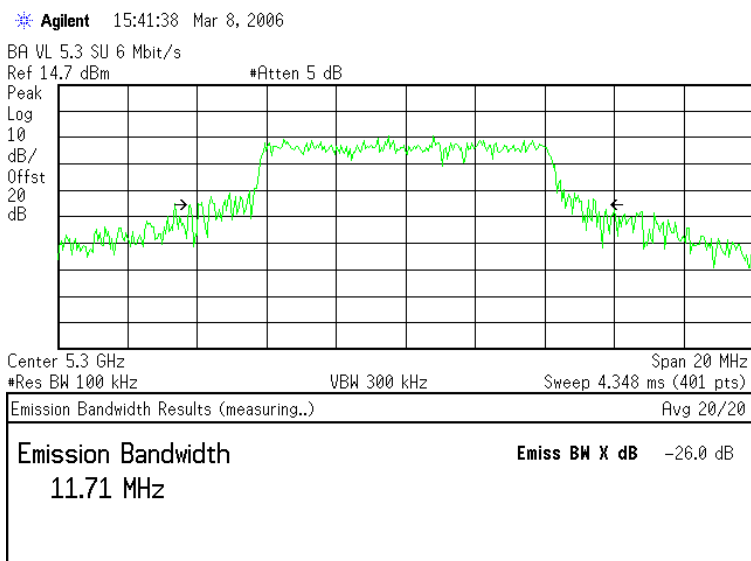
Avg 20/20

Emission Bandwidth
41.87 MHz

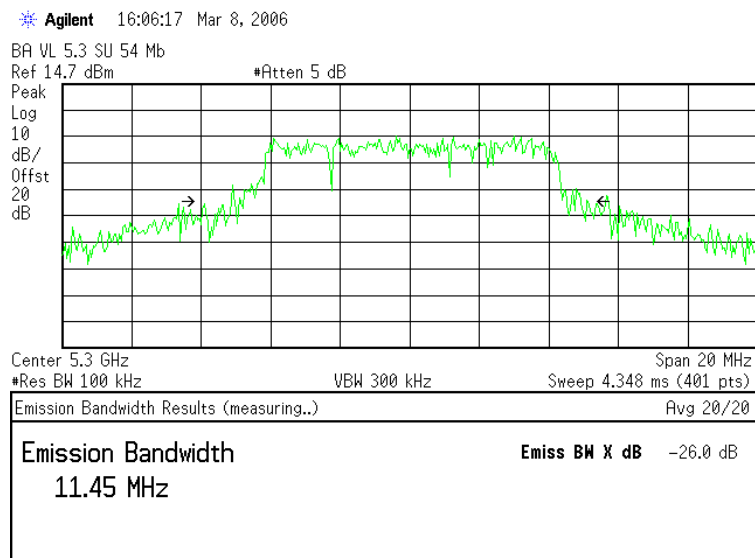
Emiss BW X dB -26.0 dB

12.2. SU Unit 26 dB – Emissions bandwidth test 15.407 a(2)

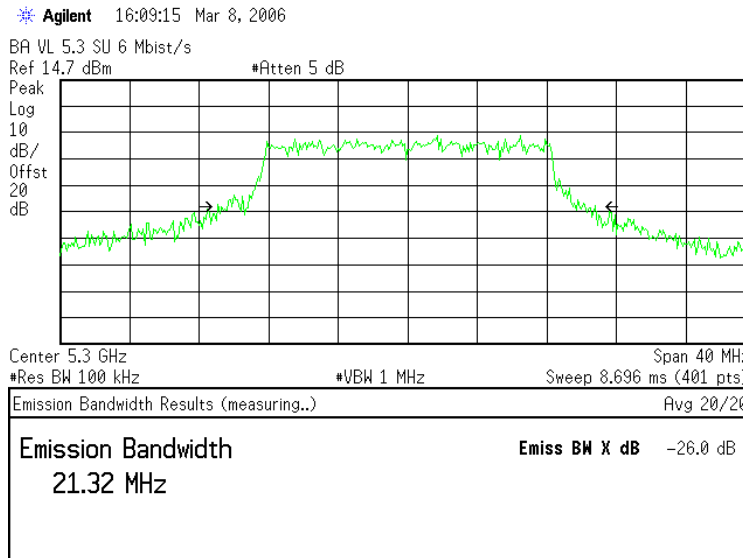
Plot 7.
Carrier Frequency 5.300 GHz, EBW 10 MHz, PBRs 6 Mbit/s



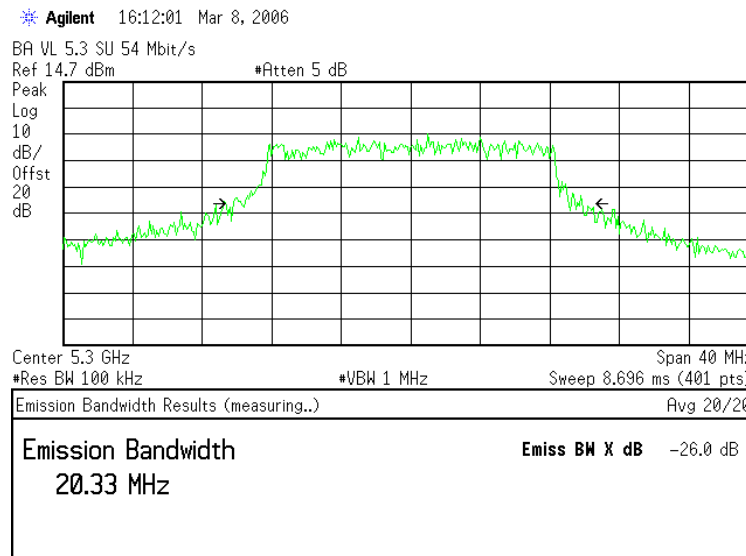
Plot 8.
Carrier Frequency 5.300 GHz, EBW 10 MHz, PBRs 54 Mbit/s



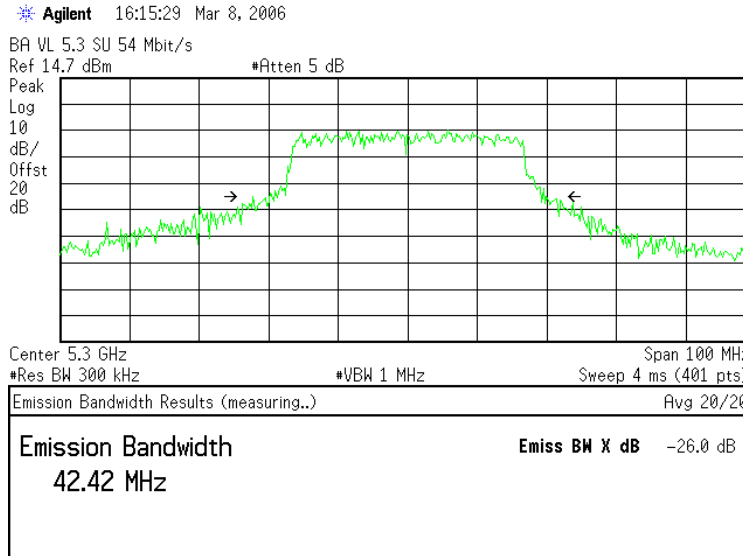
Plot 9.
Carrier Frequency 5.300 GHz, EBW 20 MHz, PBRs 6 Mbit/s



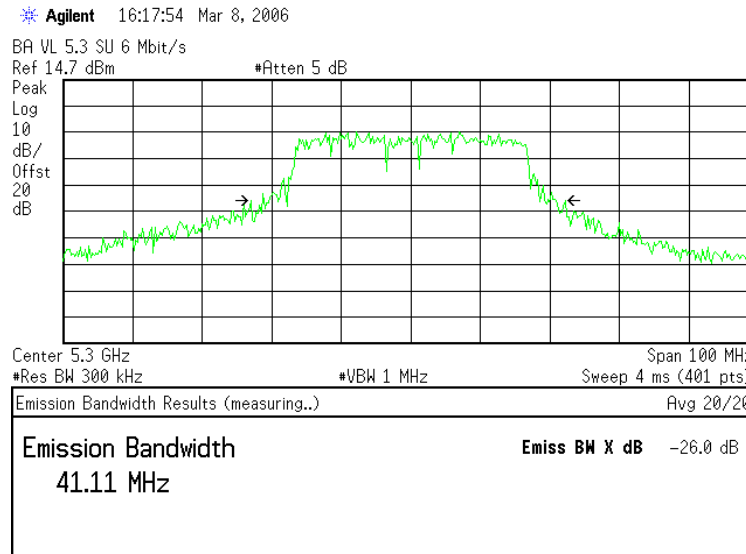
Plot 10.
Carrier Frequency 5.300 GHz, EBW 20 MHz, PBRs 54 Mbit/s



Plot 11.
Carrier Frequency 5.300 GHz, EBW 40 MHz, PBRs 6 Mbit/s

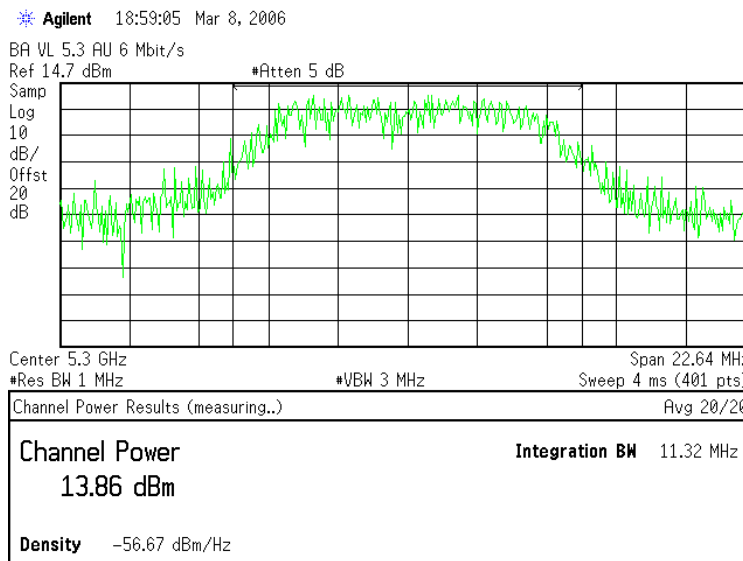


Plot 12.
Carrier Frequency 5.300 GHz, EBW 40 MHz, PBRs 54 Mbit/s

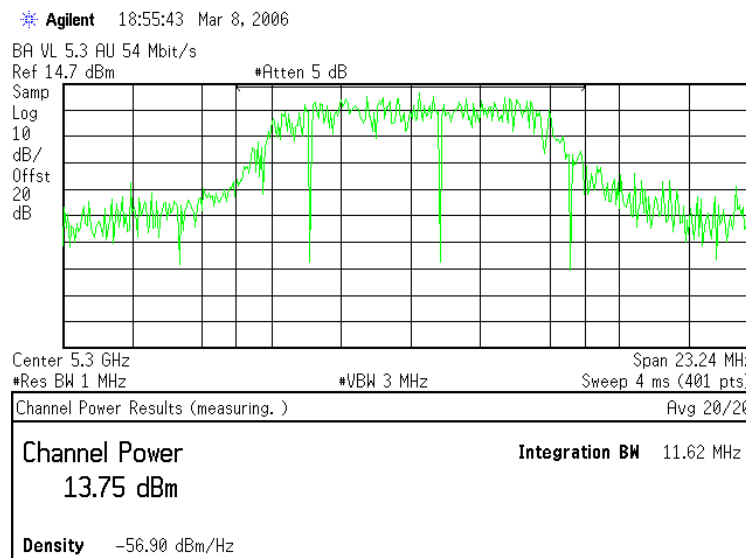


12.3. AU Unit. Antenna 16dBi – Peak Transmit Power test 15.407 a(2)

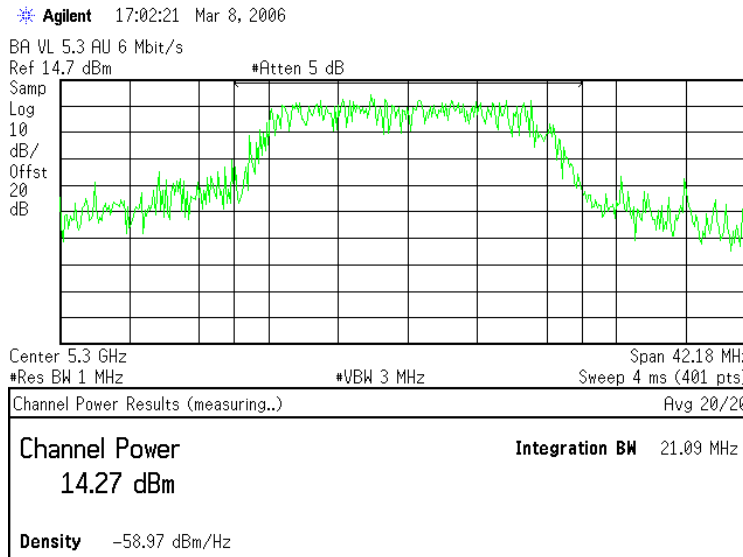
Plot 13.
Carrier Frequency 5.300 GHz, EBW 10 MHz, PBRs 6 Mbit/s



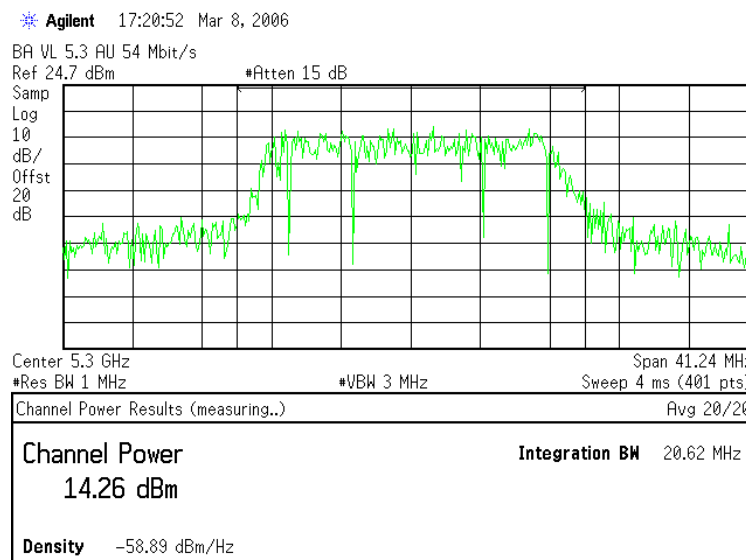
Plot 14.
Carrier Frequency 5.300 GHz, EBW 10 MHz, PBRs 54 Mbit/s



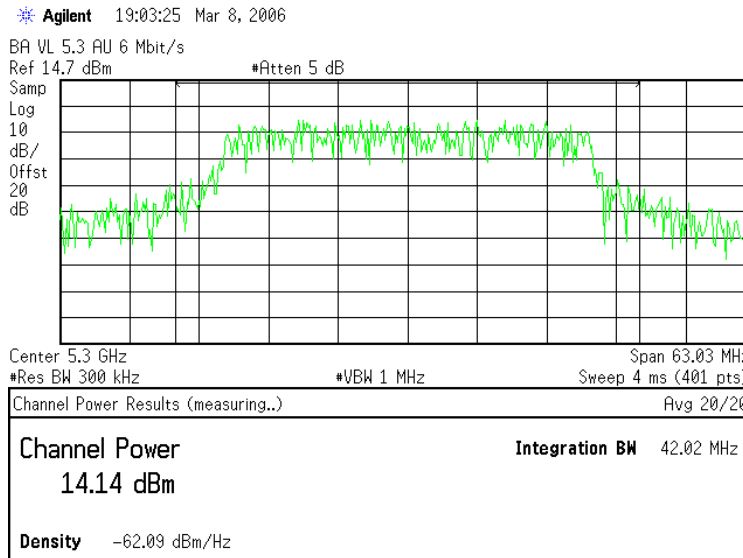
Plot 15.
Carrier Frequency 5.300 GHz, EBW 20 MHz, PBRs 6 Mbit/s



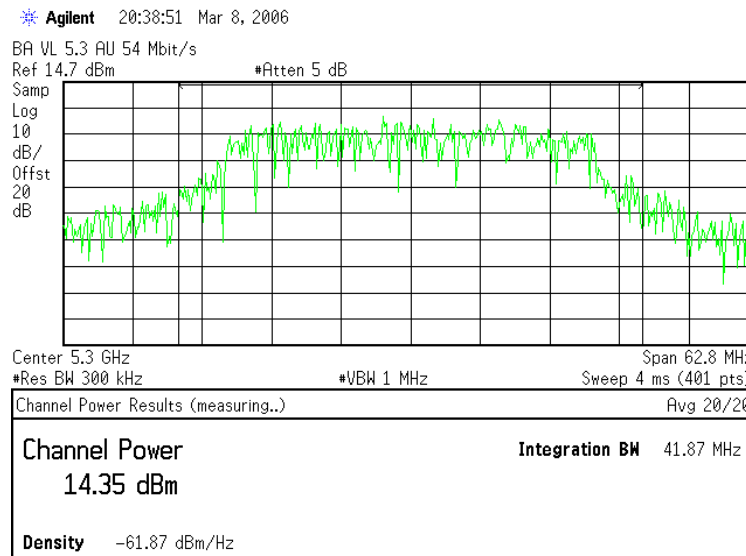
Plot 16.
Carrier Frequency 5.300 GHz, EBW 20 MHz, PBRs 54 Mbit/s



Plot 17.
Carrier Frequency 5.300 GHz, EBW 40 MHz, PBRs 6 Mbit/s

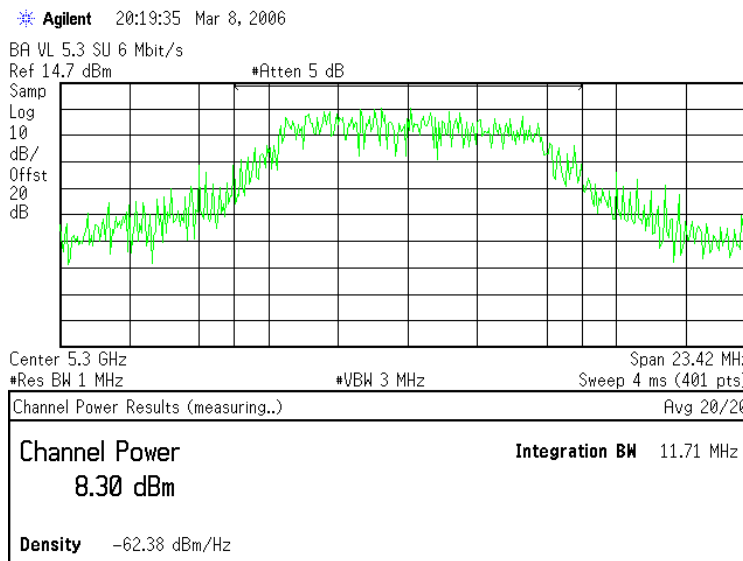


Plot 18.
Carrier Frequency 5.300 GHz, EBW 40 MHz, PBRs 54 Mbit/s

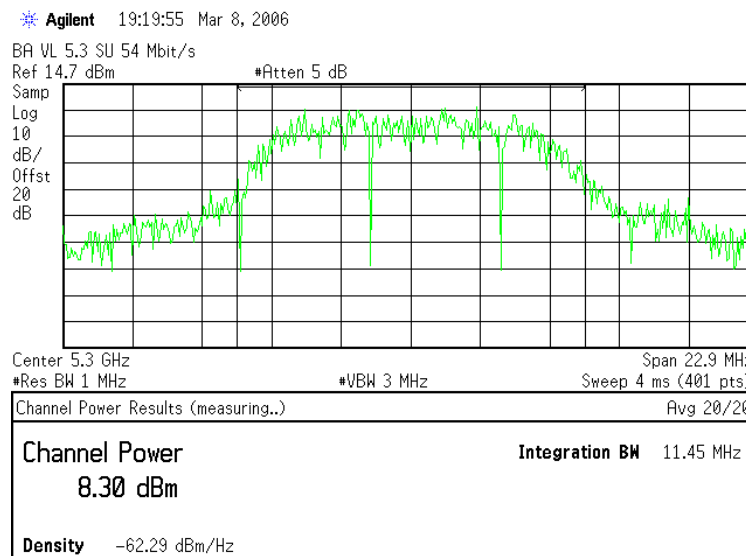


12.4. SU Unit. Antenna 21dBi – Peak Transmit Power test 15.407 a(2)

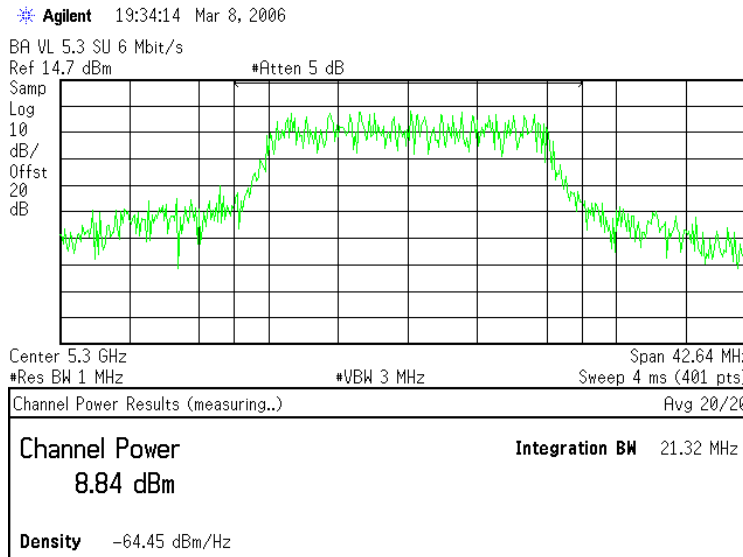
Plot 19.
Carrier Frequency 5.300 GHz, EBW 10 MHz, PBRs 6 Mbit/s



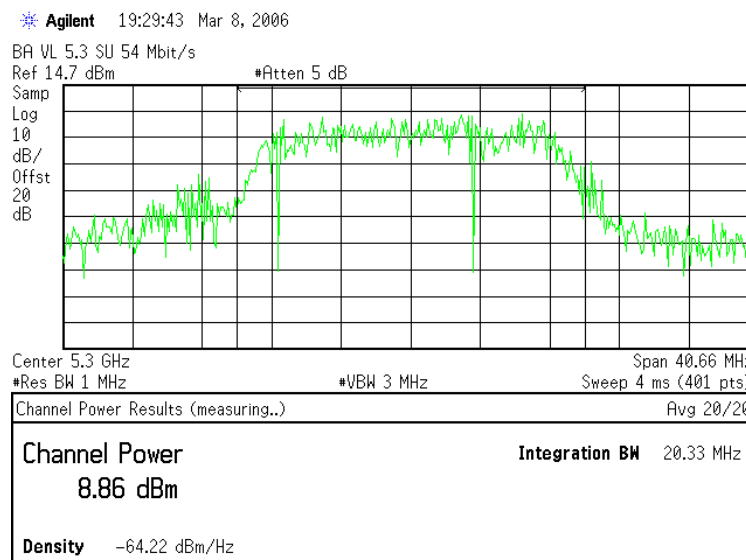
Plot 20.
Carrier Frequency 5.300 GHz, EBW 10 MHz, PBRs 54 Mbit/s



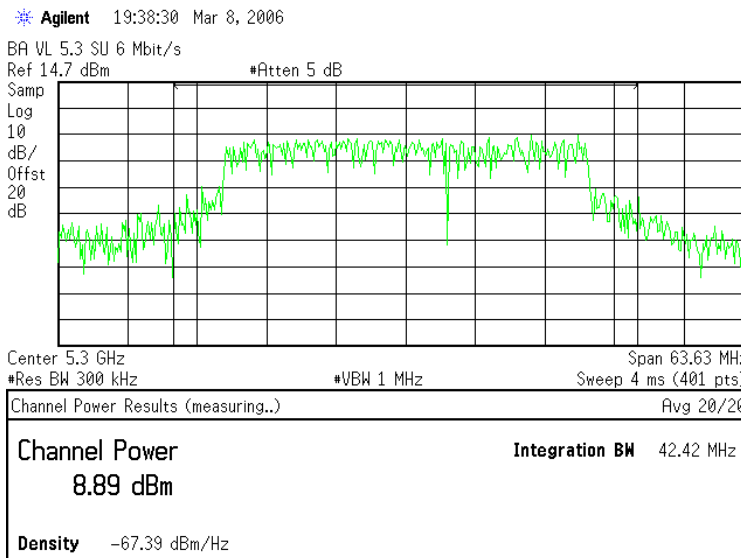
Plot 21.
Carrier Frequency 5.300 GHz, EBW 20 MHz, PBRs 6 Mbit/s



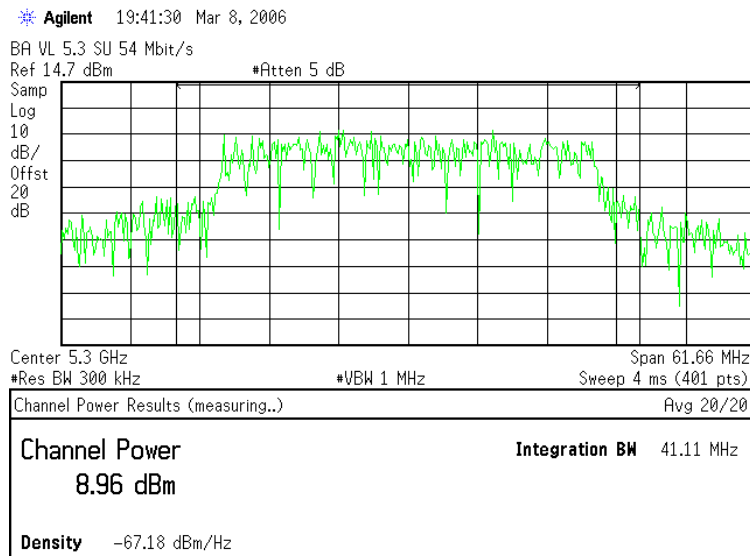
Plot 22.
Carrier Frequency 5.300 GHz, EBW 20 MHz, PBRs 54 Mbit/s



Plot 23.
Carrier Frequency 5.300 GHz, EBW 40 MHz, PBRs 6 Mbit/s



Plot 24.
Carrier Frequency 5.300 GHz, EBW 40 MHz, PBRs 54 Mbit/s



Observations (only for your use and to see in an easier manner the corresponding plots of the 26dB bandwidth and the maximum peak transmit power):

- The tested unit Serial Number is 6429774
- The settings of the spectrum analyzer are the same as those used in SII report No. 8612303651
- The test results are synthesized in the following tables:

AU Unit	EBW [MHz]											
	10				20				40			
	PBRs [Mbit/s]				PBRs [Mbit/s]				PBRs [Mbit/s]			
	6		54		6		54		6		54	
	BW [MHz]	PTP [dBm]	BW [MHz]	PTP [dBm]	BW [MHz]	PTP [dBm]	BW [MHz]	PTP [dBm]	BW [MHz]	PTP [dBm]	BW [MHz]	PTP [dBm]
Value	11.32	13.86	11.62	13.75	21.09	14.27	20.62	14.26	42.02	14.14	41.87	14.35
Plot #	Plot 1	Plot 13	Plot 2	Plot 14	Plot 3	Plot 15	Plot 4	Plot 16	Plot 5	Plot 17	Plot 6	Plot 18

SU Unit	EBW [MHz]											
	10				20				40			
	PBRs [Mbit/s]				PBRs [Mbit/s]				PBRs [Mbit/s]			
	6		54		6		54		6		54	
	BW [MHz]	PTP [dBm]	BW [MHz]	PTP [dBm]	BW [MHz]	PTP [dBm]	BW [MHz]	PTP [dBm]	BW [MHz]	PTP [dBm]	BW [MHz]	PTP [dBm]
Value	11.71	8.30	11.45	8.30	21.32	8.84	20.33	8.86	42.42	8.89	41.11	8.96
Plot #	Plot 7	Plot 19	Plot 8	Plot 20	Plot 9	Plot 21	Plot 10	Plot 22	Plot 11	Plot 23	Plot 12	Plot 24

Note:

BW = 26dB emission bandwidth
PTP = maximum Peak Transmit Power

- Page (1 - clause 7 of this sheet) is an addendum to page (24 - clause 7 of SII Test report No. 8612303651).
- Page (2 - clause 8 of this sheet) is an addendum to page (26 - clause 8 of SII Test report No. 8612303651).
- Pages (3 to 5 – plots 1 to 6, clause 12.1. of this sheet) are addendum to pages (32 to 37 – plots 1 to 15 clause “AU Unit 26 dB Emission Bandwidth test” of SII Test report No. 8612303651).
- Pages (6 to 8 – plots 7 to 12, clause 12.2. of this sheet) are addendum to pages (38 to 46 – plots 16 to 33, clause 12.1 of SII Test report No. 8612303651).
- Pages (9 to 11 – plots 13 to 18, clause 12.3. of this sheet) are addendum to pages (47 to 52 – plots 34 to 45, clause 12.2. of SII Test report No. 8612303651).
- Pages (12 to 14 – plots 19 to 24, clause 12.4. of this sheet) are addendum to pages (53 to 61 – plots 46 to 63, clause 12.3. of SII Test report No. 8612303651).