

REPORT ON THE CERTIFICATION TESTING

Activboard 100 Series

PRM-AB364-01

PRM-AB378-01

Activboard 300 Series

PRM-AB378-02

PRM-AB387-02

PRM-AB395-02

Activboard 300 Pro Series

PRM-AB378-03

PRM-AB387-03

PRM-AB395-03

**WITH RESPECT TO
THE FCC RULES CFR 47, PART 15.247 July 10th 2008
INTENTIONAL RADIATOR SPECIFICATION
ON BEHALF OF
PROMETHEAN Ltd**

TEST REPORT NO: 22-0003-005057/1

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REPORT ON THE CERTIFICATION TESTING OF

Activboard 100 Series

PRM-AB364-01

PRM-AB378-01

Activboard 300 Series

PRM-AB378-02

PRM-AB387-02

PRM-AB395-02

Activboard 300 Pro Series

PRM-AB378-03

PRM-AB387-03

PRM-AB395-03

**WITH RESPECT TO
THE FCC RULES CFR 47, PART 15.247 July 10th 2008
INTENTIONAL RADIATOR SPECIFICATION
ON BEHALF OF
PROMETHEAN Ltd**

TEST DATE: 13th March - 1st April 2009

TESTED BY: S HODGKINSON

APPROVED BY: J CHARTERS
PRODUCT MANAGER

DATE: 3rd June 2009

Distribution:

- Copy Nos:
1. Promethean Ltd
 2. FCC EVALUATION LABORATORIES
 3. TRaC Telecoms & Radio

THIS DOCUMENT MAY BE REPRODUCED ONLY IN ITS ENTIRETY AND WITHOUT CHANGE

The results herein relate only to the sample tested. Full results are contained in the relevant works order file.

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Notes:		
1. Component failure during test	YES	[]
	NO	[X]
2. If Yes, details of failure:		
3. The facilities used for the testing of the product contain in this report are FCC Listed.		
4. The contents of the attached applicants declarations and other supplied information are not covered by the scope of this laboratory's UKAS or FCC accreditations' and is provided in good faith.		

CERTIFICATE OF CONFORMITY & COMPLIANCE

FCC IDENTITY:	QAM012		
PURPOSE OF TEST:	Certification		
TEST SPECIFICATION:	FCC RULES CFR 47, Part 15.247		
TEST RESULT:	Compliant to Specification		
EQUIPMENT UNDER TEST:	Activboard 100 Series	PRM-AB364-01	PRM-AB378-01
	Activboard 300 Series	PRM-AB378-02	PRM-AB387-02
	Activboard 300 Pro Series	PRM-AB395-02	PRM-AB378-03
		PRM-AB387-03	PRM-AB395-03
ITU: EMISSION CODE:	1M55F7D		
EQUIPMENT TYPE:	Frequency hopping spread spectrum device		
PRODUCT USE:	Teaching Aid		
CARRIER EMISSION:	3.50mW e.i.r.p.		
ANTENNA TYPE:	Integral		
BAND OF OPERATION:	2.4GHz – 2.4835GHz		
CHANNEL SPACING:	1.71MHz		
NUMBER OF CHANNELS:	46		
FREQUENCY GENERATION:	SAW Resonator	☐	Crystal ☐ Synthesiser ☐
MODULATION METHOD:	FHSS	☒	DSSS ☐ Other ☐
POWER SOURCE(s):	110Vac / 5.0Vdc		
TEST DATE(s):	13 th March - 1 st April 2009		
ORDER No(s):	PG 0005855		
APPLICANT:	Promethean Limited		
ADDRESS:	Promethean House Lower Philips Road Whitebirk Ind Estate Blackburn BB1 5TH		

TESTED BY: _____ S HODGKINSON

APPROVED BY: _____ J CHARTERS
PRODUCT
MANAGER

APPLICANT'S SUMMARY

EQUIPMENT UNDER TEST (EUT):	Activboards
EQUIPMENT TYPE:	Frequency hopping spread spectrum device
PURPOSE OF TEST:	Certification
TEST SPECIFICATION(s):	FCC RULES CFR 47, Part 15.247
TEST RESULT:	COMPLIANT Yes [X] No []
APPLICANT'S CATEGORY:	MANUFACTURER [X] IMPORTER [] DISTRIBUTOR [] TEST HOUSE [] AGENT []
APPLICANT'S ORDER No(s):	PG0005855
APPLICANT'S CONTACT PERSON(s):	Mr Bryan Lofthouse
E-mail address:	Bryan.Lofthouse@prometheanworld.com
APPLICANT:	Promethean Limited
ADDRESS:	Promethean House Lower Philips Road Blackburn BB1 5TH
TEL:	+44(0)1254 298598
FAX:	+44(0)1254 581574
EUT(s) COUNTRY OF ORIGIN:	United Kingdom
TEST LABORATORY:	TRaC Telecoms & Radio
UKAS ACCREDITATION No:	0728
TEST DATE(s):	13 th March - 1 st April 2009
TEST REPORT No:	22-0003-005057/1

EQUIPMENT TEST / EXAMINATIONS REQUIRED

1.	TEST/EXAMINATION	RULE PART	DETECTOR	APPLICABILITY
	Intentional Emission Frequency:	15.247	Peak	Yes
	Intentional Emission Field Strength:	-	-	No
	Intentional Emission Band Occupancy:	15.247(a)1	Peak	Yes
	Intentional Emission EIRP (mW):	15.247(b)1	Peak	Yes
	Spurious Emissions – Conducted:	-	-	No
	Spurious Emissions – Conducted:	15.247	Peak	Yes
	Spurious Emissions – Radiated <1000MHz:	15.209 ,15.247	Quasi Peak	Yes
	Spurious Emissions – Radiated >1000MHz:	15.247 15.209	Peak average	Yes
	Transmitter Carrier Frequency Separation:	15.247(a)(1)	Peak	Yes
	Transmitter Maximum Peak Power Output Power:	15.247(b)(1)	Peak	Yes
	Transmitter Band Edge Conducted Emissions:	15.247(c)	Peak	Yes
	Transmitter Band Edge Radiated Emission:	15.247(c)	Peak	Yes
	Extrapolation Factor:	15.31(f)	-	Yes
	Maximum Frequency of Search:	15.33	-	Yes
	Antenna Arrangements Integral:	15.203	-	Yes
	Antenna Arrangements External Connector:	15.204	-	Yes
	Restricted Bands:	15.205	-	Yes

2. Product Use : Teaching Aid
3. Temperatures: Ambient (Tnom) 20°C
4. Supply Voltages: Vnom 110Vac
+5.0Vdc
Note: Vnom voltages are as stated above unless otherwise shown on the test report page
5. Equipment Category: Single channel []
Multi-channel [X]
6. Channel spacing: Narrowband []
Wideband [X]

Equipment description

The Promethean wipeboards are available in four sizes 64", 78", 87", 95", and are available in three configurations.

300 Pro Series are available in three sizes 78", 87", 95", and have the following features:

- Stereo Amplifier
- Stereo Loudspeakers
- USB Hub
- USB Port
- 2.4GHz Radio Link
- 2 Pen Frequencies
- 18.0Vdc Power supply unit, model number DT 6018

300 Series are available in three sizes 78", 87", 95", and have the following features:

- USB Hub
- USB Port
- 2.4GHz Radio Link
- 2 Pen Frequencies
- 5.0Vdc Power supply unit, model number FW7650L/05

The cables for the Loudspeakers are pre installed into the outer case of the boards.

The above board can be upgraded by the addition of the following components

- Stereo Amplifier
- Stereo Loudspeakers

100 Series are available in two sizes 64", 78", and have the following features:

- 2.4GHz Radio Link
- 2 Pen Frequencies
- 5.0Vdc Power supply unit, model number FW7650L/05

The 300 Pro Series, testing was carried out with the audio amplifier and USB Hub and USB port exercised, and connected to the PC via a USB lead.

The 300 Series, testing was carried out with the USB Hub and USB port exercised, and connected to the PC via a USB lead.

The 100 Series, testing was carried out with the USB lead connected to the PC.

When required the testing was carried out with all of the boards connected to the PC via the 2.4GHz radio link.

TRANSMITTER TESTS

TRANSMITTER CARRIER FREQUENCY SEPARATION – CONDUCTED – Part 15.247(a)(1)

Ambient temperature = 21°C
Relative humidity = 51%
Conditions = Conducted –Radio Lab
Supply voltage = 110Vac / 5.0Vdc

Transmitter Carrier Frequency Separation (MHz)
1.711 MHz
LIMIT SPECIFIED IN 15.247 (A)(1): The channels should be separated by at least 25kHz or two thirds of the 20dB bandwidth of a hopping channel which ever is greater.

See spectrum analyser plot – Annex D
See note 1

Notes:

- 1 20dB Bandwidth of one carrier is 1.55MHz therefore carrier frequency separation must be greater than 1.04MHz.
- 2 Conducted measurements were performed with a temporary antenna connector provided by the client.
- 3 For analyser setting see scan data Annex D.

Test Method:

- 1 Test method as per 15.247 and public notice DA 00-705.
- 2 With the unit operating in hopping mode with maximum data rate a graphical plot of two adjacent channels was taken.
- 3 Delta marker function was used to measure the difference between the peak emissions of each channel.

The test equipment used for the tests is shown below:

TYPE OF EQUIPMENT	MAKER/SUPPLIER	MODEL No	SERIAL No	TRL No	ACTUAL EQUIPMENT USED
SPECTRUM ANALYSER	ROHDE & SCHWARZ	FSU 46	200034	UH281	X
ATTENUATOR	BIRD	8304-100-N	N/A	222	X
CABLE	MEGAPHASE	TM26 3131 36	400559	UH293	X

TRANSMITTER TESTS

TRANSMITTER 20dB BANDWIDTH – CONDUCTED – Part 15.247(a)(1)

Ambient temperature	=	20°C
Relative humidity	=	51%
Conditions	=	Conducted –Radio Lab
Supply voltage	=	110Vac / 5.0Vdc

20dB Bandwidth (MHz)
1.55 MHz

See spectrum analyser plot – Annex F

- Notes:**
- 1 The EUT has 46 hopping channels see Annex E.
 - 2 Conducted measurements were performed with a temporary antenna connector provided by the client.
 - 3 For analyser setting see scan data Annex F.

- Test Method:**
- 1 Test method as per 15.247 and public notice DA 00-705.
 - 2 With the unit operating in hopping mode with maximum data rate.
 - 3 The analyser was centre frequency was tuned to the centre of a hopping channel.
 - 4 The peak hold function was used to establish a 20dB bandwidth level.

The test equipment used for the tests is shown below:

TYPE OF EQUIPMENT	MAKER/ SUPPLIER	MODEL No	SERIAL No	TRL No	ACTUAL EQUIPMENT USED
SPECTRUM ANALYSER	ROHDE & SCHWARZ	FSU 46	200034	UH281	X
ATTENUATOR	BIRD	8304-100-N	N/A	222	X
CABLE	MEGAPHASE	TM26 3131 36	400559	UH293	X

TRANSMITTER TESTS

TRANSMITTER AVERAGE TIME OF OCCUPANCY – CONDUCTED – Part 15.247(a)(1)(iii)

Ambient temperature = 21°C
Relative humidity = 55%
Conditions = Conducted –Radio Lab
Supply voltage = 110Vac / 5.0Vdc

Packet Width (ms)	Number of Transmissions in 18.4 Seconds	Average time of Occupancy (seconds)
5.53	48	0.26
Limit 0.4 Seconds		

See spectrum analyser plot – Annex G

Notes:

- 1 Conducted measurements were performed with a temporary antenna connector provided by the client.
- 2 For analyser setting see scan data Annex G.
- 3 18.4 seconds duration = 0.4 * 46 (number of hopping channels)

Test Method:

- 1 As per 15.247 and Public Notice DA 00-705.
- 2 The analyser was tuned to the centre frequency of the hopping channel
- 3 With the analyser set to zero span a sweep of 18.4 seconds was performed. The number of transmission was recorded.
- 4 The sweep time was reduced to show the length of one transmission. The time occupancy of the system was tested on a single carrier. The maximum packet length was measured and multiplied by the number of transmissions within a 18.4 second period. The result was noted as being the average time of occupancy.

The test equipment used for the tests is shown below:

TYPE OF EQUIPMENT	MAKER/SUPPLIER	MODEL No	SERIAL No	TRL No	ACTUAL EQUIPMENT USED
SPECTRUM ANALYSER	ROHDE & SCHWARZ	FSU 46	200034	UH281	X
ATTENUATOR	BIRD	8304-100-N	N/A	222	X
CABLE	MEGAPHASE	TM26 3131 36	400559	UH293	X

TRANSMITTER TESTS

TRANSMITTER PEAK OUTPUT POWER – CONDUCTED – Part 15.247(b)(1)

Ambient temperature = 21°C
Relative humidity = 55%
Conditions = Conducted –Radio Lab
Supply voltage = 110Vac / 5.0Vdc

Channel Frequency (MHz)	Measured Level (dBm)	Cable & Attenuator Loss (dB)	Antenna Gain (dBi)	Transmitter Peak Power Output (dBm)	Transmitter Peak Power Output (Watts)	Limit (Watts)
2402.784	-5.28	10.73	0	5.45	0.0035	0.125
2440.800	-6.01	10.6	0	4.59	0.0028	0.125
2480.544	-6.65	10.67	0	4.02	0.0025	0.125

See spectrum analyser plot – Annex H

Notes:

- 1 Number of hopping channels employed is see Annex E.
- 2 Conducted measurements were performed with a temporary antenna connector provided by the client.
- 3 For analyser setting see scan data Annex H.
- 4 The EUT was set to transmit a permanent carrier on the required channel.

Test Method:

- 1 As per 15.247 and Public Notice DA 00-705.
- 2 The analyser was centered on a hopping channel with peak hold enabled.
- 3 Marker to peak function was used to find the peak emission.

The test equipment used for the tests is shown below:

TYPE OF EQUIPMENT	MAKER/ SUPPLIER	MODEL No	SERIAL No	TRL No	ACTUAL EQUIPMENT USED
SPECTRUM ANALYSER	ROHDE & SCHWARZ	FSU 46	200034	UH281	X
ATTENUATOR	BIRD	8304-100-N	N/A	222	X
CABLE	MEGAPHASE	TM26 3131 36	400559	UH293	X

TRANSMITTER TESTS

TRANSMITTER BAND EDGE EMISSIONS – CONDUCTED – Part 15.247(c)

Ambient temperature = 20°C
Relative humidity = 51%
Conditions = Conducted –Radio Lab
Supply voltage = 110Vac / 5.0Vdc

Test Result

Measured as compliant see analyser plots.

Notes:

- 1 The EUT was set in a hopping mode using all hopping channels.
- 2 A temporary antenna connector was used to take the measurement.
- 3 See Annex I for analysers plots.

Test Method:

- 1 As per section 15.247 and Public Notice DA 00-705.
- 2 A plot covering the lowest channel and band edge was taken. A marker was set on the peak emission of the lowest channel. The delta marker function was then used to measure the highest out of band emissions. (If no peaks exist outside the band the level is taken at the band edge).
- 3 A plot covering the highest channel and band edge was taken. A marker was set on the peak emission of the highest channel. The delta marker function was then used to measure the highest out of band emissions. (If no peaks exist outside the band the level is taken at the band edge).

The test equipment used for the tests is shown below:

TYPE OF EQUIPMENT	MAKER/ SUPPLIER	MODEL No	SERIAL No	TRL No	ACTUAL EQUIPMENT USED
SPECTRUM ANALYSER	ROHDE & SCHWARZ	FSU 46	200034	UH281	X
ATTENUATOR	BIRD	8304-100-N	N/A	222	X
CABLE	MEGAPHASE	TM26 3131 36	400559	UH293	X

TRANSMITTER TESTS

TRANSMITTER CONDUCTED SPURIOUS EMISSIONS – CONDUCTED – Part 15.247(c)

Ambient temperature = 20°C
Relative humidity = 51%
Conditions = Conducted –Radio Lab
Supply voltage = 110Vac / 5.0Vdc

Top Channel

Range Frequency (MHz)	Emission Frequency (MHz)	Emission Level	Cable loss	Level (dBm)	Limit (dBm)
30 - 25000	No Significant Emissions Within 20 dB of the Limit				-14.55

See spectrum analyser scan plots – Annex J

Bottom Channel

Range Frequency (MHz)	Emission Frequency (MHz)	Emission Level	Cable loss	Level (dBm)	Limit (dBm)
30 - 25000	No Significant Emissions Within 20 dB of the Limit				-15.41

See spectrum analyser scan plots – Annex J

Hopping at maximum data rate

Range Frequency (MHz)	Emission Frequency (MHz)	Emission Level	Cable loss	Level (dBm)	Limit (dBm)
30 - 25000	No Significant Emissions Within 20 dB of the Limit				-15.98

See spectrum analyser scan plots – Annex J

Notes:

- 1 During the scans the unit was operated in the following modes:
Hopping stopped unit operating on lowest channel
Hopping stopped unit operating on Middle channel
Hopping stopped unit operating on highest channel
- 2 Section 15.247(c) states that all spurious emissions measured within a 100kHz bandwidth shall be attenuated by at least 20dB below the level of the highest fundamental level measured within a 100kHz bandwidth.
- 3 Only emissions within 20dB of limit are recorded.

Test Method:

- 1 As per section 15.247 and Public Notice DA 00-705.
- 2 Frequency sweeps were performed to check for spurious emissions.
- 3 Any emissions discovered were checked for compliance with the limit.

The test equipment used for the tests is shown below:

TYPE OF EQUIPMENT	MAKER/ SUPPLIER	MODEL No	SERIAL No	TRL No	ACTUAL EQUIPMENT USED
SPECTRUM ANALYSER	ROHDE & SCHWARZ	FSU 46	200034	UH281	X
ATTENUATOR	BIRD	8304-100-N	N/A	222	X
CABLE	MEGAPHASE	TM26 3131 36	400559	UH293	X

TRANSMITTER TESTS

TRANSMITTER EMISSIONS – RADIATED – Part 15.247(c) and 15.209

Ambient temperature = 13°C
 Relative humidity = 51%
 Conditions = Radiated OATS
 Supply voltage = 110Vac 5.0Vdc

Bottom Channel 30MHz -25000MHz

PRM-AB364-01	Emission Frequency (MHz)	Meas. Rx. (dBuV)	Cable loss (dB)	Ant. Factor (dB/m)	Pre Amp (dB)	Field Strength (dBμV/m)	Result (μV/m)	Limit (μV/m)
30MHz – 88MHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							100
88MHz – 216MHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							150
216MHz – 960MHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							200
960MHz – 1GHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							500
1GHz – 26GHz Restricted band	4805.503	59.04	1.78	33.5	34.80	59.52pk	352.37pk	5011.87pk 500AV
	4805.503	35.41	1.78	33.5	34.80	35.89AV	62.30 AV	
	7208.410	56.36	2.16	35.88	35.16	59.24pk	916.22pk	
	7208.410	33.36	2.16	35.88	35.16	36.24 AV	64.86 AV	
	12013.057	47.71	3.70	39.20	34.72	55.89pk	623.01pk	
	12013.057	33.53	3.70	39.20	34.72	41.71 AV	121.75 AV	
30MHz -26GHz	No significant emissions within 20dB of the limit							-20dBc

Middle Channel 30MHz -25000MHz

PRM-AB364-01	Emission Frequency (MHz)	Meas. Rx. (dBuV)	Cable loss (dB)	Ant. Factor (dB/m)	Pre Amp (dB)	Field Strength (dBμV/m)	Result (μV/m)	Limit (μV/m)
30MHz – 88MHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							100
88MHz – 216MHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							150
216MHz – 960MHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							200
960MHz – 1GHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							500
1GHz – 26GHz Restricted band	4881.682	60.01	1.78	33.70	34.79	60.70pk	1083.92pk	5011.87pk 500 AV
	4881.682	34.93	1.78	33.70	34.79	35.62 AV	60.39 AV	
	7322.243	56.06	2.16	36.50	35.20	59.52pk	946.23pk	
	7322.243	33.29	2.16	36.50	35.20	36.75 AV	68.78 AV	
30MHz -26GHz	No significant emissions within 20dB of the limit							-20dBc

Top Channel 30MHz -25000MHz

PRM-AB364-01	Emission Frequency (MHz)	Meas. Rx. (dBuV)	Cable loss (dB)	Ant. Factor (dB/m)	Pre Amp (dB)	Field Strength (dBμV/m)	Result (μV/m)	Limit (μV/m)
30MHz – 88MHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							100
88MHz – 216MHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							150
216MHz – 960MHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							200
960MHz – 1GHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							500
1GHz – 26GHz Restricted band	4961.13 4961.13 7441.74 7441.74	57.32 37.07 55.01 37.04	1.78 1.78 2.36 2.36	34.20 34.20 37.40 37.40	34.76 34.76 35.25 35.25	58.54pk 38.29 AV 59.52pk 41.55 AV	845.27pk 82.13 AV 946.33pk 119.53 AV	5011.87pk 500 AV
30MHz -26GHz	No significant emissions within 20dB of the limit							-20dBc

TRANSMITTER TESTS

TRANSMITTER EMISSIONS – RADIATED – Part 15.247(c) and 15.209

Ambient temperature = 11°C
 Relative humidity = 45%
 Conditions = Radiated OATS
 Supply voltage = 110Vac / 5.0Vdc

Bottom Channel 30MHz -25000MHz

PRM-AB378-03	Emission Frequency (MHz)	Meas. Rx. (dBuV)	Cable loss (dB)	Ant. Factor (dB/m)	Pre Amp (dB)	Field Strength (dBμV/m)	Result (μV/m)	Limit (μV/m)
30MHz – 88MHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							100
88MHz – 216MHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							150
216MHz – 960MHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							200
960MHz – 1GHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							500
1GHz – 26GHz Restricted band	4805.352	59.96	1.78	33.5	34.80	59.96pk	995.40pk	5011.87pk 500 AV
	4805.352	38.08	1.78	33.5	34.80	38.56 AV	84.72 AV	
	7208.373	55.32	2.16	35.88	35.16	58.20pk	812.83pk	
	7208.373	35.07	2.16	35.88	35.16	37.95 AV	78.97 AV	
	12013.822	47.47	3.70	39.20	34.72	55.65pk	606.03pk	
	12013.822	33.16	3.70	39.20	34.72	41.34 AV	116.68 AV	
30MHz -26GHz	No significant emissions within 20dB of the limit							-20dBc

Middle Channel 30MHz -25000MHz

PRM-AB378-03	Emission Frequency (MHz)	Meas. Rx. (dBuV)	Cable loss (dB)	Ant. Factor (dB/m)	Pre Amp (dB)	Field Strength (dBμV/m)	Result (μV/m)	Limit (μV/m)
30MHz – 88MHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							100
88MHz – 216MHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							150
216MHz – 960MHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							200
960MHz – 1GHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							500
1GHz – 26GHz Restricted band	4881.814	61.99	1.78	33.70	34.79	62.68pk	1361.44pk	5011.87pk 500 AV
	4881.814	41.37	1.78	33.70	34.79	42.06 AV	126.76 AV	
	7322.335	57.86	2.16	36.50	35.20	61.32pk	1164.00pk	
	7322.335	36.37	2.16	36.50	35.20	39.83 AV	98.06 AV	
30MHz -26GHz	No significant emissions within 20dB of the limit							-20dBc

Top Channel 30MHz -25000MHz

PRM-AB378-03	Emission Frequency (MHz)	Meas. Rx. (dBuV)	Cable loss (dB)	Ant. Factor (dB/m)	Pre Amp (dB)	Field Strength (dBμV/m)	Result (μV/m)	Limit (μV/m)
30MHz – 88MHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							100
88MHz – 216MHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							150
216MHz – 960MHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							200
960MHz – 1GHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							500
1GHz – 26GHz Restricted band	4962.01 4962.09 7441.73 7441.73	58.16 39.72 62.35 38.93	1.78 1.78 2.36 2.36	34.20 34.20 37.40 37.40	34.76 34.76 35.25 35.25	59.38pk 40.94 AV 66.86pk 43.44 AV	931.10pk 111.42AV 2202.92pk 148.59 AV	5011.87pk 500 AV
30MHz -26GHz	No significant emissions within 20dB of the limit							-20dBc

TRANSMITTER TESTS

TRANSMITTER EMISSIONS – RADIATED – Part 15.247(c) and 15.209

Ambient temperature = 202°C
 Relative humidity = 46%
 Conditions = Radiated OATS
 Supply voltage = 110Vac / 5.0Vdc

Bottom Channel 30MHz -25000MHz

PRM-AB387-03	Emission Frequency (MHz)	Meas. Rx. (dBuV)	Cable loss (dB)	Ant. Factor (dB/m)	Pre Amp (dB)	Field Strength (dBμV/m)	Result (μV/m)	Limit (μV/m)
30MHz – 88MHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							100
88MHz – 216MHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							150
216MHz – 960MHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							200
960MHz – 1GHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							500
1GHz – 26GHz Restricted band	4807.296	55.52	1.78	33.5	34.80	56.00pk	630.95pk	5011.87pk 500 AV
	4807.296	33.61	1.78	33.5	34.80	34.09 AV	34.09 AV	
	7208.128	57.03	2.16	35.88	35.16	59.91pk	989.69pk	
	7208.128	32.66	2.16	35.88	35.16	35.54 AV	59.84 AV	
	12013.910	48.15	3.70	39.20	34.72	56.33pk	655.39pk	
	12013.910	32.47	3.70	39.20	34.72	40.65 AV	107.77 AV	
30MHz -26GHz	No significant emissions within 20dB of the limit							-20dBc

Middle Channel 30MHz -25000MHz

PRM-AB387-03	Emission Frequency (MHz)	Meas. Rx. (dBuV)	Cable loss (dB)	Ant. Factor (dB/m)	Pre Amp (dB)	Field Strength (dBμV/m)	Result (μV/m)	Limit (μV/m)
30MHz – 88MHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							100
88MHz – 216MHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							150
216MHz – 960MHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							200
960MHz – 1GHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							500
1GHz – 26GHz Restricted band	4883.365	51.31	1.78	33.70	34.79	52.00pk	398.10pk	5011.87pk 500 AV
	4883.365	34.27	1.78	33.70	34.79	34.96 AV	55.97 AV	
	7322.371	57.18	2.16	36.50	35.20	60.64pk	1076.46pk	
	7322.371	32.67	2.16	36.50	35.20	36.13 AV	64.04 AV	
30MHz -26GHz	No significant emissions within 20dB of the limit							-20dBc

Top Channel 30MHz -25000MHz

PRM-AB387-03	Emission Frequency (MHz)	Meas. Rx. (dBuV)	Cable loss (dB)	Ant. Factor (dB/m)	Pre Amp (dB)	Field Strength (dBμV/m)	Result (μV/m)	Limit (μV/m)
30MHz – 88MHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							100
88MHz – 216MHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							150
216MHz – 960MHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							200
960MHz – 1GHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							500
1GHz – 26GHz Restricted band	4962.74	51.38	1.78	34.20	34.76	52.60pk	426.58pk	5011.87pk 500 AV
	4962.74	37.60	1.78	34.20	34.76	38.82 AV	87.29 AV	
	7441.73	56.03	2.36	37.40	35.25	60.54pk	1064.14pk	
	7441.73	33.06	2.36	37.40	35.25	37.57 AV	75.59 AV	
30MHz -26GHz	No significant emissions within 20dB of the limit							-20dBc

TRANSMITTER TESTS

TRANSMITTER EMISSIONS – RADIATED – Part 15.247(c) and 15.209

Ambient temperature = 11°C
 Relative humidity = 46%
 Conditions = Radiated OATS
 Supply voltage = 110Vac / 5.0Vdc

Bottom Channel 30MHz -25000MHz

PRM-AB395-03	Emission Frequency (MHz)	Meas. Rx. (dBuV)	Cable loss (dB)	Ant. Factor (dB/m)	Pre Amp (dB)	Field Strength (dBµV/m)	Result (µV/m)	Limit (µV/m)
30MHz – 88MHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							100
88MHz – 216MHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							150
216MHz – 960MHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							200
960MHz – 1GHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							500
1GHz – 26GHz Restricted band	4806.30	55.50	1.78	33.50	34.80	55.98pk	629.50pk	5011.87pk 500 AV
	4806.30	36.48	1.78	33.50	34.80	36.96 AV	70.46 AV	
	7208.844	54.63	2.16	35.88	35.16	57.51pk	750.75pk	
	7208.844	35.13	2.16	35.88	35.16	38.01 AV	79.52 AV	
	12014.016	47.92	3.70	39.20	34.72	56.10pk	638.26pk	
	12014.016	33.65	3.70	39.20	34.72	41.83 AV	123.45 AV	
30MHz -26GHz	No significant emissions within 20dB of the limit							-20dBc

Middle Channel 30MHz -25000MHz

PRM-AB395-03	Emission Frequency (MHz)	Meas. Rx. (dBuV)	Cable loss (dB)	Ant. Factor (dB/m)	Pre Amp (dB)	Field Strength (dBµV/m)	Result (µV/m)	Limit (µV/m)
30MHz – 88MHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							100
88MHz – 216MHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							150
216MHz – 960MHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							200
960MHz – 1GHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							500
1GHz – 26GHz Restricted band	4882.419	56.72	1.78	33.70	34.79	57.41pk	742.16pk	5011.87pk 500 AV
	4882.419	38.28	1.78	33.70	34.79	38.97 AV	88.81 AV	
	7322.772	58.09	2.16	36.50	35.20	61.55pk	1195.36pk	
	7322.772	36.67	2.16	36.50	35.20	40.13 AV	101.50 AV	
30MHz -26GHz	No significant emissions within 20dB of the limit							-20dBc

Top Channel 30MHz -25000MHz

PRM-AB395-03	Emission Frequency (MHz)	Meas. Rx. (dBuV)	Cable loss (dB)	Ant. Factor (dB/m)	Pre Amp (dB)	Field Strength (dBμV/m)	Result (μV/m)	Limit (μV/m)
30MHz – 88MHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							100
88MHz – 216MHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							150
216MHz – 960MHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							200
960MHz – 1GHz Restricted band	Emissions not directly attributable to the 2.4GHz radio transmitter See receive mode emissions							500
1GHz – 26GHz Restricted band	4962.74 4962.74 7441.73 7441.73	55.29 33.96 60.98 34.60	1.78 1.78 2.36 2.36	34.20 34.20 37.40 37.40	34.76 34.76 35.25 35.25	56.51pk 35.18 AV 65.49pk 39.11 AV	669.11pk 57.41 AV 1881.48pk 90.26 AV	5011.87pk 500 AV
30MHz -26GHz	No significant emissions within 20dB of the limit							-20dBc

TRANSMITTER TESTS

TRANSMITTER EMISSIONS cont. – RADIATED – Part 15.247(c) and 15.209

Notes:

- 1 During the scans the unit was operated in the following modes:
Hopping stopped unit operating on lowest channel
Hopping stopped unit operating on highest channel
- 2 Emissions above 1GHz were measured with both a peak and average detectors.
- 3 Measurements <1GHz were performed at 3 meters.
- 4 Measurements >1GHz were initial performed at 0.3metres. This distance was increased if sensitivity of analyser allowed.
- 5 Only emissions with in 20dB of limit are recorded.

Test Method:

- 1 As per section 15.247 and Public Notice DA 00-705.
- 2 Measuring distances as Notes 5 to 6 above.
- 3 EUT 0.8 metre above ground plane.
- 4 Emissions maximised by rotation of EUT, on an automatic turntable.
Raising and lowering the receiver antenna between 1m & 4m >30MHz.
Horizontal and vertical polarisations, of the receive antenna.
EUT orientation in three orthogonal planes. Maximum results recorded.

The test equipment used for the tests is shown below:

TYPE OF EQUIPMENT	MAKER/SUPPLIER	MODEL No	SERIAL No	TRL No	ACTUAL EQUIPMENT USED
RECEIVER	ROHDE & SCHWARZ	ESHS 10	841431/014	UH186	X
SPECTRUM ANALYSER	ROHDE & SCHWARZ	FSU46	200034	UH281	X
RANGE 1	TRL	3 METRE	N/A	UH06	X
BILOG ANTENNA	CHASE	CBL6112B	2803	UH93	X
HORN ANTENNA	EMCO	3115	9010-3581	138	X
PRE AMP	AGILENT	8449B	3008A01610	572	X

TRANSMITTER TESTS

TRANSMITTER BAND EDGE EMISSIONS – RADIATED – Part 15.247(c)

Ambient temperature = 24°C
Relative humidity = 45%
Conditions = Radiated OATS
Supply voltage = 110Vac / 5.0Vdc

Test Result

Measured as compliant see analyser plots

- Notes:**
- 1 The EUT was set in a hopping mode using all hopping channels.
 - 2 See Annex K for analysers plots.

Test Method:

- 1 As per section 15.247 and Public Notice DA 00-705.
- 2 A plot covering the lowest channel and band edge was taken. A marker was set on the peak emission of the lowest channel. The delta marker function was then used to measure the highest out of band emissions. (If no peaks exist outside the band the level is taken at the band edge).
- 3 A plot covering the highest channel and band edge was taken. A marker was set on the peak emission of the highest channel. The delta marker function was then used to measure the highest out of band emissions. (If no peaks exist outside the band the level is taken at the band edge).

The test equipment used for the tests is shown below:

TYPE OF EQUIPMENT	MAKER/ SUPPLIER	MODEL No	SERIAL No	TRL No	ACTUAL EQUIPMENT USED
RECEIVER	ROHDE & SCHWARZ	ESHS 10	841431/014	UH186	
SPECTRUM ANALYSER	ROHDE & SCHWARZ	FSU46	200034	UH281	X
RANGE 1	TRL	3 METRE	N/A	UH06	
BILOG ANTENNA	CHASE	CBL6112B	2803	UH93	
HORN ANTENNA	EMCO	3115	9010-3581	139	X
PRE AMP	AGILENT	8449B	3008A01610	572	X

TRANSMITTER TESTS

TRANSMITTER CONDUCTED EMISSIONS – AC POWER LINE Part 15.207

Ambient temperature = 18°C(<1GHz),
 Relative humidity = 53%(<1GHz),
 Conditions = Power Line Laboratory
 Supply voltage = 110V AC
 Supply Frequency = 60Hz

SIGNIFICANT EMISSIONS

	FREQUENCY (MHz)	MEASUREMENT RECEIVER READING (dBμV)	DETECTOR	CONDUCTOR (L or N)	EMISSION (dBμV) LIMIT
PRM- AB364-01	0.165	37.87	AVERAGE	LIVE LINE	55.21
	2.24	26.43	AVERAGE	LIVE LINE	46.00
	2.47	28.05	AVERAGE	LIVE LINE	46.00
	3.56	39.66	QUASI PEAK	LIVE LINE	56.00
	3.56	30.59	AVERAGE	LIVE LINE	46.00
	3.73	40.53	QUASI PEAK	LIVE LINE	56.00
	3.73	32.00	AVERAGE	LIVE LINE	46.00

SIGNIFICANT EMISSIONS

	FREQUENCY (MHz)	MEASUREMENT RECEIVER READING (dBμV)	DETECTOR	CONDUCTOR (L or N)	EMISSION (dBμV) LIMIT
PRM- AB378-03	0.155	40.63	AVERAGE	NEUTRAL	55.73
	0.160	48.16	QUASI PEAK	NEUTRAL	65.46
	0.210	34.69	AVERAGE	NEUTRAL	53.21
	0.240	36.93	AVERAGE	NEUTRAL	52.10
	0.465	38.38	AVERAGE	NEUTRAL	46.60
	0.470	41.44	QUASI PEAK	NEUTRAL	56.51
	0.52	37.18	QUASI PEAK	NEUTRAL	56.00
	0.52	35.11	AVERAGE	NEUTRAL	46.00
	0.625	28.50	AVERAGE	NEUTRAL	46.00
	0.675	28.84	AVERAGE	NEUTRAL	46.00
	2.55	26.82	AVERAGE	NEUTRAL	46.00

SIGNIFICANT EMISSIONS

	FREQUENCY (MHz)	MEASUREMENT RECEIVER READING (dBµV)	DETECTOR	CONDUCTOR (L or N)	EMISSION (dBµV) LIMIT
PRM- AB387-03	0.155	51.78	QUASI PEAK	NEUTRAL	65.73
	0.155	40.71	AVERAGE	NEUTRAL	55.73
	0.210	44.64	QUASI PEAK	NEUTRAL	63.21
	0.210	34.78	AVERAGE	NEUTRAL	53.21
	0.240	39.78	QUASI PEAK	NEUTRAL	62.10
	0.240	37.38	AVERAGE	NEUTRAL	52.10
	0.470	38.16	AVERAGE	NEUTRAL	46.51
	0.475	41.48	QUASI PEAK	NEUTRAL	56.43
	0.52	37.16	QUASI PEAK	NEUTRAL	56.00
	0.52	34.52	AVERAGE	NEUTRAL	46.00
	0.625	28.10	AVERAGE	NEUTRAL	46.00
	0.675	28.19	AVERAGE	NEUTRAL	46.00
	2.55	2.55	AVERAGE	NEUTRAL	46.00

SIGNIFICANT EMISSIONS

	FREQUENCY (MHz)	MEASUREMENT RECEIVER READING (dBµV)	DETECTOR	CONDUCTOR (L or N)	EMISSION (dBµV) LIMIT
PRM- AB395-03	0.155	52.34	QUASI PEAK	NEUTRAL	65.73
	0.155	41.13	AVERAGE	NEUTRAL	55.73
	0.205	35.35	AVERAGE	NEUTRAL	53.41
	0.210	45.14	QUASI PEAK	NEUTRAL	63.21
	0.240	37.32	AVERAGE	NEUTRAL	52.10
	0.320	34.69	AVERAGE	NEUTRAL	49.71
	0.465	38.44	AVERAGE	NEUTRAL	46.60
	0.470	41.34	QUASI PEAK	NEUTRAL	56.51
	0.52	37.16	QUASI PEAK	NEUTRAL	56.00
	0.52	35.11	AVERAGE	NEUTRAL	46.00
	0.625	28.59	AVERAGE	NEUTRAL	46.00
	0.675	29.01	AVERAGE	NEUTRAL	46.00
	0.960	29.65	AVERAGE	NEUTRAL	46.00
	1.600	31.81	AVERAGE	NEUTRAL	46.00
	2.235	27.81	AVERAGE	NEUTRAL	46.00
	2.875	30.49	AVERAGE	NEUTRAL	46.00
	3.515	27.46	AVERAGE	NEUTRAL	46.00

- Notes:**
- 1 See worst case plot in Annex E.
 - 2 Measurements were taken of both live and neutral lines.
 - 3 Only emissions within 20dBs of the limit are recorded.
 - 4 Only worse case emission listed for the four different board sizes

Test Method: 1 As per Radio – Noise Emissions, ANSI C63.4: 2003

The test equipment used for the Transmitter Conducted Emissions – AC Power Line Part 15.207 test was:

TYPE OF EQUIPMENT	MAKER/ SUPPLIER	MODEL No	SERIAL No	TRL No	ACTUAL EQUIPMENT USED
RECEIVER	ROHDE & SCHWARZ	ESHS 10	830051/01	UH03	X
LISN/AMN	ROHDE & SCHWARZ	ESH3-Z5	863906/018	UH05	X

RECEIVER TESTS

RECEIVER EMISSIONS RADIATED – Part 15.109

Ambient temperature = 13°C
 Relative humidity = 51%
 Conditions = Radiated OATS
 Supply voltage = 110Vac / 5.0Vdc

30MHz -25000MHz

PRM-AB364-01	Emission Frequency (MHz)	Meas. Rx. (dBuV)	Cable loss (dB)	Ant. Factor (dB/m)	Pre Amp (dB)	Field Strength (dBμV/m)	Result (μV/m)	Limit (μV/m)
30MHz – 88MHz	Note 5							100
88MHz – 216MHz	214.45	15.98	2.80	8.22	N/A	27.00	22.38	150
216MHz – 960MHz	285.75 311.05	18.04 20.25	3.35 3.75	12.61 13.50	N/A N/A	34.00 37.50	50.11 74.98	200
960MHz – 1GHz	Note 5							500
1GHz – 25GHz worse case emission from bottom middle & top channel	4962.76 4962.76 9925.57 9925.57	47.28 36.52 48.23 35.83	1.78 1.78 2.65 2.65	34.20 34.20 38.80 38.80	34.76 34.76 35.71 35.71	48.50pk 37.74 AV 53.97pk 41.57 AV	266.07pk 77.09 AV 499.45pk 119.81 AV	5011.87pk 500 AV

30MHz -25000MHz

PRM-AB378-01	Emission Frequency (MHz)	Meas. Rx. (dBuV)	Cable loss (dB)	Ant. Factor (dB/m)	Pre Amp (dB)	Field Strength (dBμV/m)	Result (μV/m)	Limit (μV/m)
30MHz – 88MHz	45.25	14.51	1.09	10.00	N/A	25.60	19.05	100
	46.50	12.91	1.10	9.49	N/A	23.50	14.96	
	47.50	12.58	1.12	9.00	N/A	22.70	13.64	
	57.00	16.08	1.27	5.65	N/A	23.00	14.12	
	58.10	14.23	1.29	5.48	N/A	21.00	11.22	
	81.20	12.65	1.55	6.80	N/A	21.00	11.22	
	81.95	13.45	1.55	6.80	N/A	21.80	12.30	
	83.30	14.15	1.60	7.25	N/A	23.00	14.12	
	84.50	14.07	1.62	7.51	N/A	23.20	14.45	
	87.15	12.78	1.62	8.10	N/A	22.50	13.33	
88MHz – 216MHz	Note 5							150
216MHz – 960MHz	233.30	23.05	2.97	9.98	N/A	36.00	63.09	200
	245.70	19.02	3.50	11.48	N/A	34.00	50.11	
	248.70	17.40	3.90	11.70	N/A	33.00	44.66	
	255.35	14.85	3.70	12.45	N/A	31.00	35.48	
	257.30	13.65	3.75	12.70	N/A	30.10	31.98	
	259.60	14.32	3.23	12.95	N/A	30.50	33.49	
	271.15	14.17	3.35	12.48	N/A	30.00	31.62	
	286.00	18.49	3.40	12.61	N/A	34.50	53.08	
	357.15	19.64	3.85	14.51	N/A	38.00	79.43	
	735.30	10.49	6.31	19.70	N/A	36.50	66.83	
960MHz – 1GHz	Note 5							500
1GHz – 25GHz worse case emission from bottom middle & top channel	4962.74 4962.74 9613.93 9766.57	47.15 37.78 47.37 35.14	1.78 1.78 2.78 2.82	34.20 34.20 38.19 38.10	34.76 34.76 35.60 35.70	48.37pk 39.00 AV 52.74pk 40.36 AV	262.12pk 89.12 AV 433.51pk 104.23 AV	5011.87pk 500 AV

30MHz -25000MHz

PRM-AB378-02	Emission Frequency (MHz)	Meas. Rx. (dBuV)	Cable loss (dB)	Ant. Factor (dB/m)	Pre Amp (dB)	Field Strength (dBμV/m)	Result (μV/m)	Limit (μV/m)
30MHz – 88MHz	36.00	22.35	0.9	14.75	N/A	38.00	79.43	100
88MHz – 216MHz	Note 5							150
216MHz – 960MHz	231.60	23.35	2.97	9.68	N/A	36.00	63.09	200
	233.00	23.02	3.00	9.98	N/A	36.00	63.09	
	237.00	22.37	3.07	10.56	N/A	36.00	63.09	
	239.85	21.33	3.07	10.80	N/A	35.20	57.54	
	243.00	20.14	3.50	11.16	N/A	34.80	54.95	
	244.30	18.30	4.00	11.48	N/A	34.00	50.11	
	248.65	17.90	4.00	11.70	N/A	33.60	47.86	
	256.35	14.40	3.65	12.45	N/A	30.50	33.49	
	263.30	14.78	3.27	12.95	N/A	31.00	35.48	
	268.75	14.09	3.30	12.71	N/A	30.10	31.98	
	299.10	12.48	3.54	12.98	N/A	29.00	28.18	
	357.35	23.44	3.85	14.51	N/A	41.80	123.02	
960MHz – 1GHz	960.05	12.79	7.56	21.15	N/A	41.50	118.85	500
1GHz – 25GHz worse case emission from bottom middle & top channel	4962.74 4962.74 9613.93 9766.57	47.15 37.78 47.37 35.14	1.78 1.78 2.78 2.82	34.20 34.20 38.19 38.10	34.76 34.76 35.60 35.70	48.37pk 39.00 AV 52.74pk 40.36 AV	262.12pk 89.12 AV 433.51pk 104.23 AV	5011.87pk 500 AV

30MHz -25000MHz

PRM-AB387-02	Emission Frequency (MHz)	Meas. Rx. (dBuV)	Cable loss (dB)	Ant. Factor (dB/m)	Pre Amp (dB)	Field Strength (dBμV/m)	Result (μV/m)	Limit (μV/m)
30MHz – 88MHz	82.35	13.42	1.49	7.09	N/A	22.00	12.00	100
	83.75	13.26	1.49	7.25	N/A	22.00	12.00	
	87.15	14.47	1.62	8.11	N/A	24.20	16.21	
88MHz – 216MHz	Note 5							150
216MHz – 960MHz	213.30	26.44	2.76	8.30	N/A	37.50	74.98	200
	215.05	27.61	2.77	8.22	N/A	38.60	85.11	
	224.15	26.76	2.89	8.95	N/A	38.60	85.11	
	230.85	24.85	2.97	9.68	N/A	37.50	74.98	
	240.00	23.09	3.07	10.84	N/A	37.00	70.79	
	242.25	19.64	3.20	11.16	N/A	34.00	50.11	
	245.45	18.02	3.50	11.48	N/A	33.00	44.66	
	286.80	17.86	3.39	12.75	N/A	34.00	50.11	
	287.55	13.90	3.40	12.70	N/A	30.00	31.62	
	311.05	15.53	3.67	13.40	N/A	32.60	42.65	
	480.00	11.51	4.68	17.01	N/A	33.20	45.70	
	959.95	13.79	7.56	21.15	N/A	42.50	133.00	
960MHz – 1GHz	Note 5							500
1GHz – 25GHz worse case emission from bottom middle & top channel	4962.85	47.47	1.78	34.20	34.76	48.69pk	271.95pk	5011.87pk 500 AV
	4962.85	37.52	1.78	34.20	34.76	38.74 AV	86.49 AV	
	9614.54	47.43	2.78	38.19	35.60	52.80pk	436.51pk	
	9614.54	34.15	2.78	38.19	35.60	39.52 AV	94.62 AV	

30MHz -25000MHz

PRM-AB395-02	Emission Frequency (MHz)	Meas. Rx. (dBuV)	Cable loss (dB)	Ant. Factor (dB/m)	Pre Amp (dB)	Field Strength (dBμV/m)	Result (μV/m)	Limit (μV/m)
30MHz – 88MHz	75.00	16.68	1.48	5.84	N/A	24.00	15.84	100
	76.45	15.73	1.48	5.99	N/A	23.20	14.45	
	77.00	15.32	1.49	6.19	N/A	23.00	14.12	
	78.40	14.92	1.49	6.39	N/A	22.80	13.80	
	80.55	15.82	1.50	6.68	N/A	24.00	15.84	
	82.25	15.35	1.56	7.09	N/A	24.00	15.84	
	86.35	14.48	1.62	7.90	N/A	24.00	15.84	
88MHz – 216MHz	125.55	12.58	1.99	11.53	N/A	26.10	20.18	150
216MHz – 960MHz	230.30	26.55	2.97	9.68	N/A	39.20	91.20	200
	242.75	24.59	3.25	11.16	N/A	39.00	89.12	
	246.70	22.53	3.57	11.50	N/A	37.60	75.85	
	269.55	18.17	3.35	12.48	N/A	34.00	50.11	
	274.00	18.89	3.33	12.48	N/A	34.70	54.32	
	279.70	18.13	3.31	12.56	N/A	34.00	50.11	
	286.75	19.45	3.39	12.66	N/A	35.50	59.56	
	294.20	17.19	3.51	12.80	N/A	33.50	47.31	
	299.85	16.98	3.54	12.98	N/A	33.50	47.31	
	360.70	12.99	3.86	14.65	N/A	31.50	37.58	
960MHz – 1GHz	Note 5							500
1GHz – 25GHz worse case emission from bottom middle & top channel	4962.76 4883.03 9614.39 9614.39	49.03 40.44 49.50 38.25	1.78 1.78 2.78 2.78	34.20 34.20 38.19 38.19	34.76 34.76 35.60 35.60	50.25pk 41.66 AV 54.87pk 43.62 AV	325.46pk 121.06 AV 553.98pk 151.70 AV	5011.87pk 500 AV

30MHz -25000MHz

PRM-AB378-03	Emission Frequency (MHz)	Meas. Rx. (dBuV)	Cable loss (dB)	Ant. Factor (dB/m)	Pre Amp (dB)	Field Strength (dBμV/m)	Result (μV/m)	Limit (μV/m)
30MHz – 88MHz	60.00	20.60	1.31	5.09	N/A	27.00	22.38	100
	72.00	26.33	1.47	5.50	N/A	33.30	46.23	
	78.00	20.32	1.49	6.39	N/A	28.20	25.70	
	83.85	20.19	1.56	7.25	N/A	29.00	28.18	
88MHz – 216MHz	112.50	16.81	1.86	11.43	N/A	30.10	31.98	150
	116.40	18.25	1.88	11.47	N/A	31.60	38.01	
	127.25	15.10	1.99	11.51	N/A	28.60	26.91	
	134.95	17.42	2.08	11.30	N/A	30.80	34.67	
	141.30	15.21	2.11	10.88	N/A	28.20	25.70	
	159.35	16.26	2.31	9.43	N/A	28.00	25.11	
	172.05	19.27	2.40	8.83	N/A	30.50	30.49	
	184.75	28.14	2.53	8.33	N/A	39.00	89.12	
	186.15	24.10	2.53	8.37	N/A	35.00	56.23	
	194.95	22.29	2.61	8.60	N/A	33.50	47.31	
	211.50	23.48	2.76	8.56	N/A	34.80	53.08	
216MHz – 960MHz	232.95	25.04	2.98	9.98	N/A	38.00	79.43	200
	237.15	24.12	3.02	10.56	N/A	37.70	76.73	
	286.75	22.00	3.39	12.61	N/A	38.00	79.43	
	358.35	22.43	3.86	14.51	N/A	40.80	109.64	
	719.95	13.00	6.19	19.31	N/A	38.50	84.14	
	959.95	13.29	7.56	21.15	N/A	42.00	125.89	
960MHz – 1GHz	Note 5							500
1GHz – 25GHz worse case emission from bottom middle & top channel	4962.74	47.15	1.78	34.20	34.76	48.37pk	262.12pk	5011.87pk 500 AV
	4962.74	37.78	1.78	34.20	34.76	39.00 AV	89.12 AV	
	9613.93	47.37	2.78	38.19	35.60	52.74pk	433.51pk	
	9766.57	35.14	2.82	38.10	35.70	40.36 AV	104.23 AV	

30MHz -25000MHz

PRM-AB387-03	Emission Frequency (MHz)	Meas. Rx. (dBuV)	Cable loss (dB)	Ant. Factor (dB/m)	Pre Amp (dB)	Field Strength (dBμV/m)	Result (μV/m)	Limit (μV/m)
30MHz – 88MHz	60.00	21.40	1.31	5.09	N/A	27.80	24.54	100
	61.45	14.73	1.33	5.04	N/A	21.10	11.35	
	65.85	17.20	1.37	4.93	N/A	23.50	14.96	
	73.75	17.14	1.47	5.59	N/A	24.20	16.21	
	83.10	21.15	1.55	7.30	N/A	30.00	31.62	
88MHz – 216MHz	113.80	16.19	1.86	11.45	N/A	29.50	29.85	150
	118.85	15.91	1.90	11.49	N/A	29.30	29.17	
	135.15	13.60	2.08	11.12	N/A	26.80	21.87	
	159.10	15.76	2.31	9.43	N/A	27.50	23.71	
	168.00	25.55	2.35	9.10	N/A	37.00	70.79	
	173.20	18.77	2.40	8.83	N/A	30.00	31.62	
	205.15	22.56	2.68	8.76	N/A	34.00	50.11	
	207.80	26.64	2.70	8.66	N/A	38.00	79.43	
216MHz – 960MHz	209.05	24.29	2.75	8.56	N/A	35.60	60.25	200
	242.60	24.14	3.20	11.16	N/A	38.50	84.14	
	357.35	21.64	3.85	14.51	N/A	40.00	100.00	
	480.00	18.31	4.68	17.01	N/A	40.00	100.00	
	575.95	14.89	5.38	18.53	N/A	38.80	87.09	
	719.95	16.80	6.19	19.31	N/A	42.30	130.31	
960MHz – 1GHz	959.95	15.49	7.56	21.15	N/A	44.20	162.18	500
	Note 5							
1GHz – 25GHz worse case emission from bottom middle & top channel	4962.85	47.47	1.78	34.20	34.76	48.69pk	271.95pk	5011.87pk 500 AV
	4962.85	37.52	1.78	34.20	34.76	38.74 AV	86.49 AV	
	9614.54	47.43	2.78	38.19	35.60	52.80pk	436.51pk	
	9614.54	34.15	2.78	38.19	35.60	39.52 AV	94.62 AV	

30MHz -25000MHz

PRM-AB395-03	Emission Frequency (MHz)	Meas. Rx. (dBuV)	Cable loss (dB)	Ant. Factor (dB/m)	Pre Amp (dB)	Field Strength (dBμV/m)	Result (μV/m)	Limit (μV/m)
30MHz – 88MHz	60.00	15.00	1.31	5.09	N/A	21.40	11.74	100
	72.00	30.53	1.47	5.50	N/A	37.50	74.98	
	74.95	16.18	1.48	5.84	N/A	23.50	14.96	
	84.00	27.07	1.62	7.51	N/A	36.20	64.56	
88MHz – 216MHz	136.25	14.32	2.08	11.00	N/A	27.40	23.44	150
	142.65	11.27	2.10	10.63	N/A	24.00	15.84	
	144.25	10.94	2.17	10.39	N/A	23.50	14.96	
	168.00	16.05	2.35	9.10	N/A	27.50	23.71	
	171.90	14.58	2.40	9.02	N/A	26.00	19.95	
216MHz – 960MHz	223.30	21.83	2.80	8.67	N/A	33.30	46.23	200
	230.65	21.55	2.97	9.68	N/A	34.20	51.28	
	232.10	20.94	2.98	9.98	N/A	33.90	49.54	
	236.35	19.29	3.02	10.29	N/A	32.60	42.65	
	242.40	18.07	3.27	11.16	N/A	32.50	42.17	
	250.15	15.95	4.08	11.97	N/A	32.00	39.81	
	254.05	13.95	3.65	12.45	N/A	30.05	31.80	
	281.25	12.33	3.31	12.56	N/A	28.20	25.70	
	284.20	13.27	3.33	12.60	N/A	29.20	28.84	
	312.80	9.80	3.70	13.50	N/A	27.00	22.38	
	356.10	12.67	3.85	14.38	N/A	30.90	35.07	
	414.90	7.79	4.24	16.47	N/A	28.50	26.60	
	430.15	6.72	4.33	16.45	N/A	27.50	23.71	
	460.90	6.37	4.57	16.56	N/A	27.50	23.71	
	468.05	7.16	4.64	16.70	N/A	28.50	26.60	
	480.00	16.51	4.68	17.01	N/A	38.20	81.28	
960MHz – 1GHz	960.05	13.89	7.56	21.15	N/A	42.60	134.89	500
1GHz – 25GHz worse case emission from bottom middle & top channel	4962.76	49.03	1.78	34.20	34.76	50.25pk	325.46pk	5011.87pk 500 AV
	4883.03	40.44	1.78	34.20	34.76	41.66 AV	121.06 AV	
	9614.39	49.50	2.78	38.19	35.60	54.87pk	553.98pk	
	9614.39	38.25	2.78	38.19	35.60	43.62 AV	151.70 AV	

Notes:

- 1 During the scans the unit was operated in the following modes:
Hopping between all operating frequencies in receive mode.
- 2 Emissions above 1GHz were measured with both a peak and average detectors.
- 3 Measurements <1GHz were performed at 3 meters.
- 4 Measurements >1GHz were initially performed at 0.3metres. This distance was increased if sensitivity of analyser allowed.
- 5 Only emissions with in 20dB of limit are recorded.

Test Method:

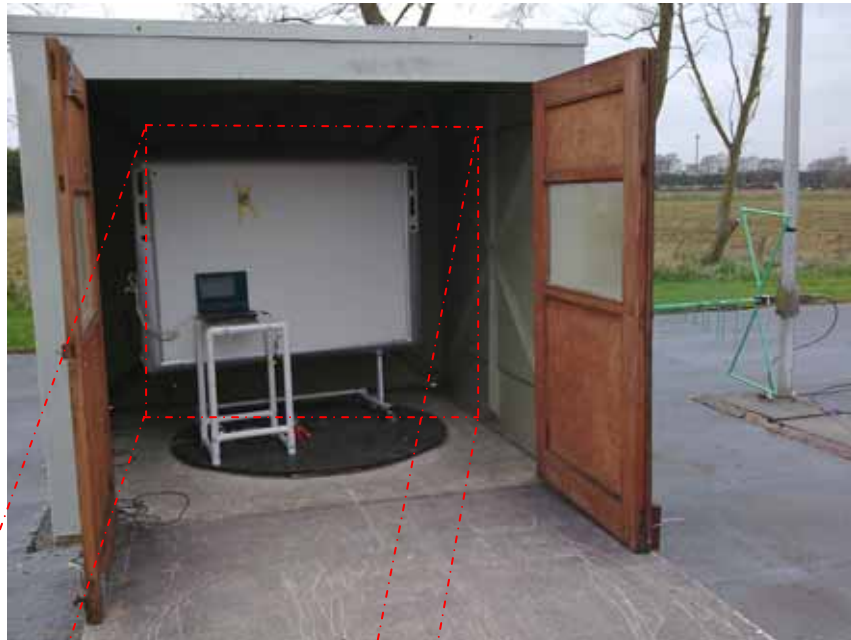
- 1 As per section 15.247 and Public Notice DA 00-705.
- 2 Measuring distances as Notes 3 to 4 above.
- 3 EUT 0.8 metre above ground plane.
- 4 Emissions maximised by rotation of EUT, on an automatic turntable.
Raising and lowering the receiver antenna between 1m & 4m >30MHz.
Horizontal and vertical polarisations, of the receive antenna.
EUT orientation in three orthogonal planes. Maximum results recorded.

The test equipment used for the tests is shown below:

TYPE OF EQUIPMENT	MAKER/ SUPPLIER	MODEL No	SERIAL No	TRL No	ACTUAL EQUIPMENT USED
RECEIVER	ROHDE & SCHWARZ	ESHS 10	841431/014	UH186	X
SPECTRUM ANALYSER	ROHDE & SCHWARZ	FSU 46	200034	UH281	X
RANGE 1	TRL	3 METRE	N/A	UH06	X
BILOG ANTENNA	CHASE	CBL6111	1945	290	X
HORN ANTENNA	EMCO	3115	9010-3581	139	X
PRE AMP	AGILENT	8449B	3008A01610	572	X

ANNEX A
PHOTOGRAPHS

PHOTOGRAPH No. 1 & 2 & 3 TYPICAL E - FIELD TEST SETUP



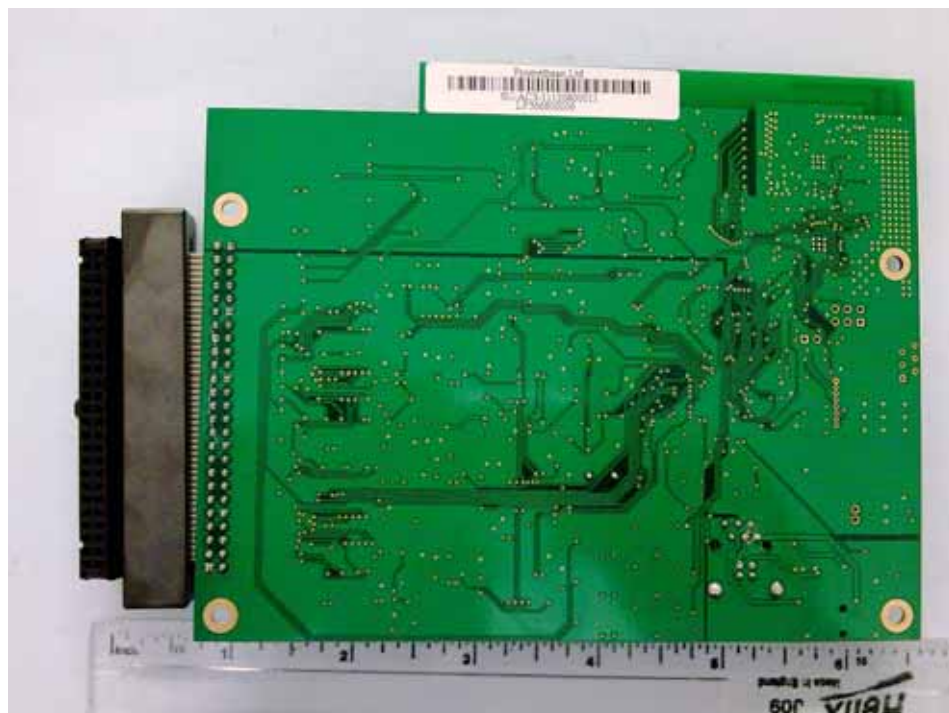
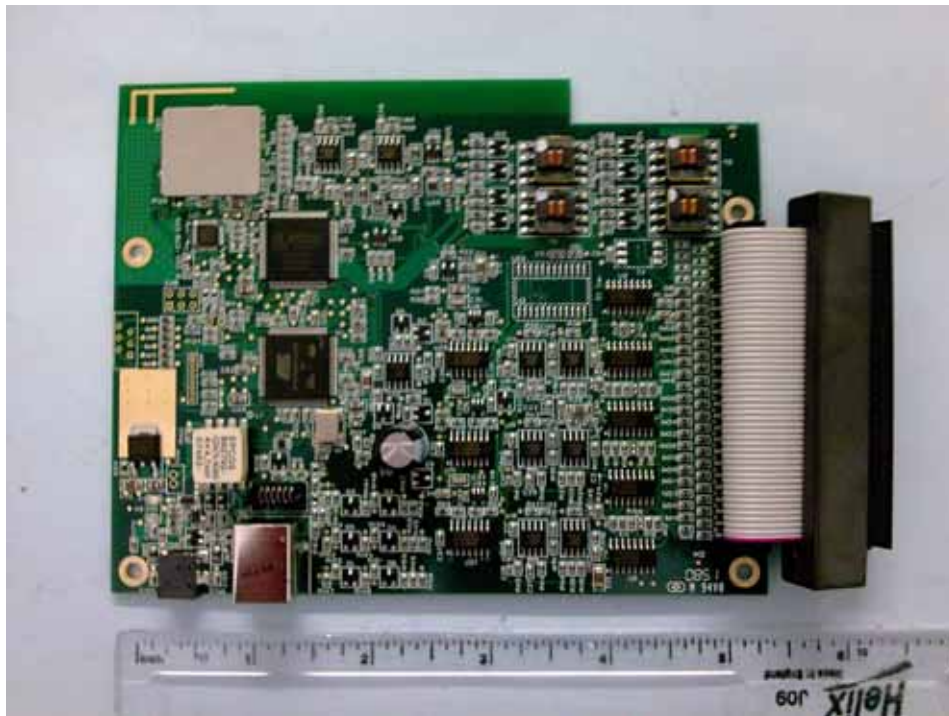
**PHOTOGRAPH No. 4 2.4GHz RADIO PCB FITTED ON REAR OF BOARD
HUB UNIT WITH USB AUDIO AMPLIFIER FITTED IN THE SIDE PANEL**



PHOTOGRAPH No. 5

2.4GHz PCB REMOVED FROM BOARD

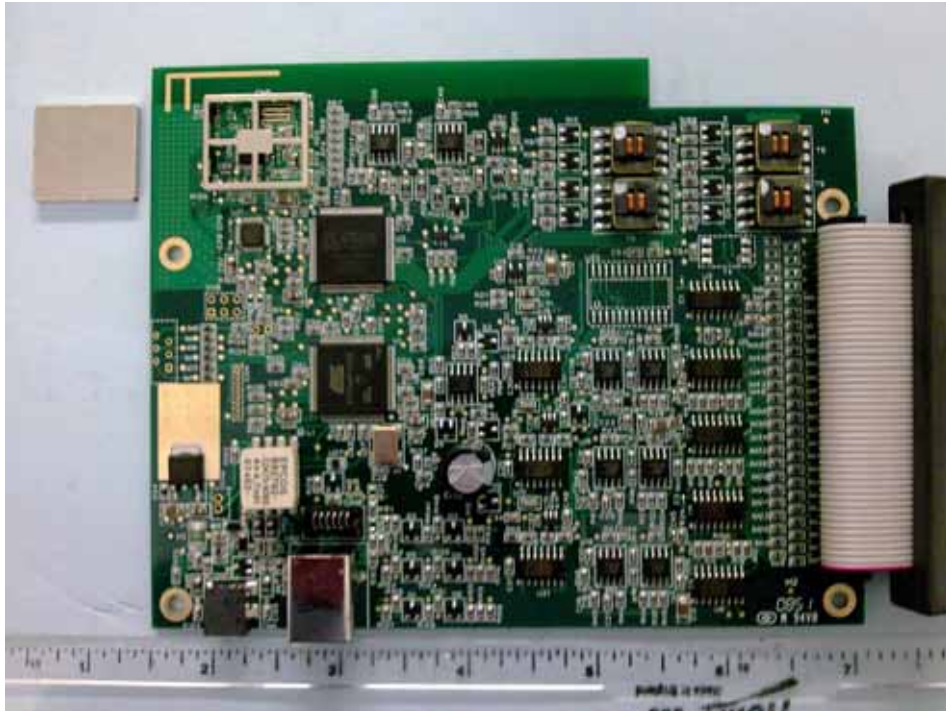
TOP AND UNDERSIDE VIEW



PHOTOGRAPH No. 6

**TOP VIEW OF 2.4GHz PCB
SCREENING CAN REMOVED
FROM RADIO SECTION**

**TOP VIEW OF 2.4GHz PCB
SCREENING CAN REMOVED
FROM RADIO SECTION**



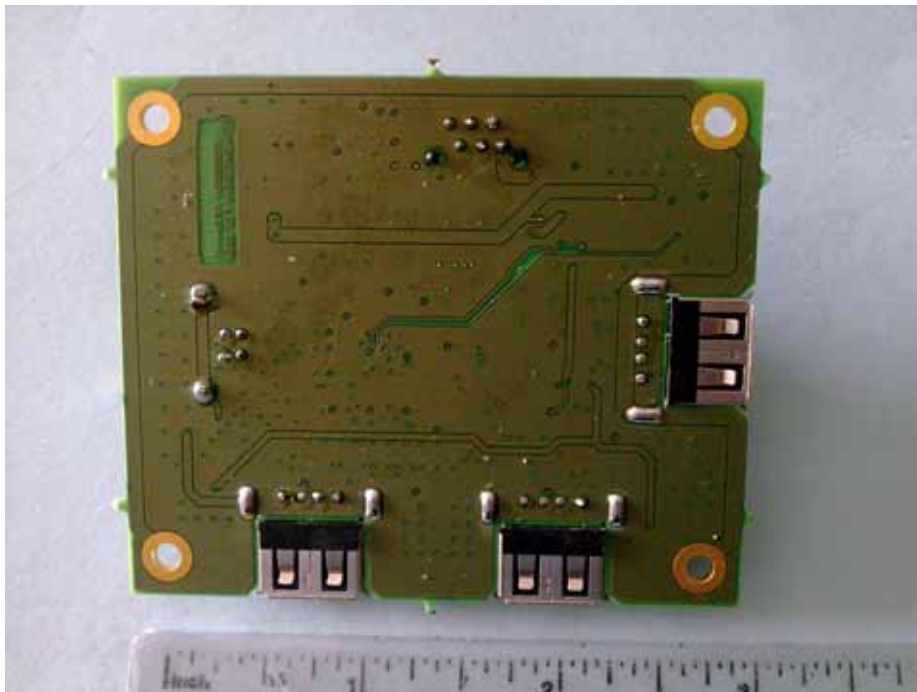
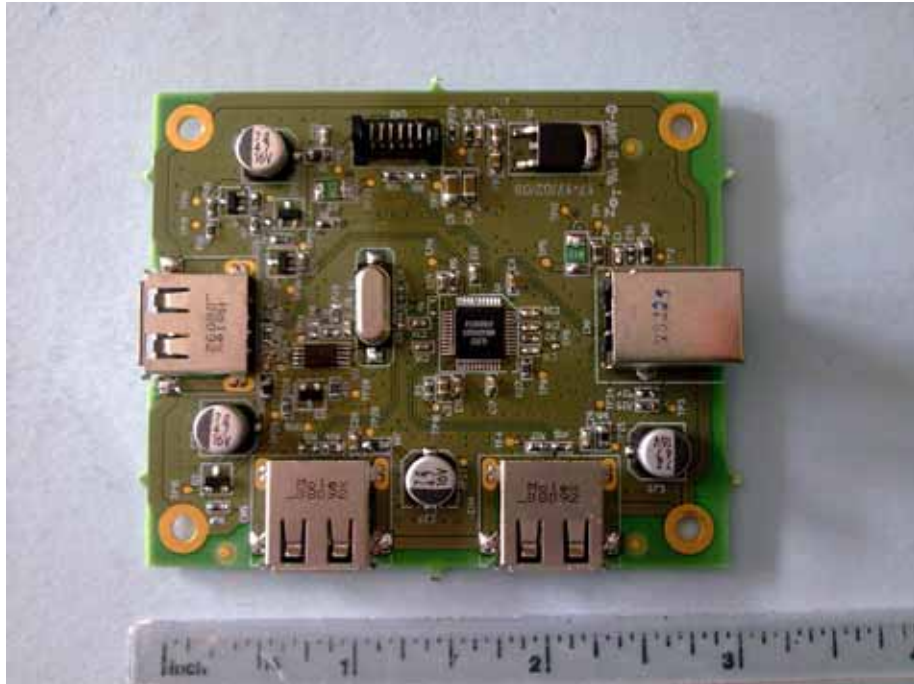
**CLOSE UP VIEW OF PCB
SCREENING CAN REMOVED
FROM RADIO SECTION**

**CLOSE UP VIEW OF PCB
SCREENING CAN REMOVED
FROM RADIO SECTION**



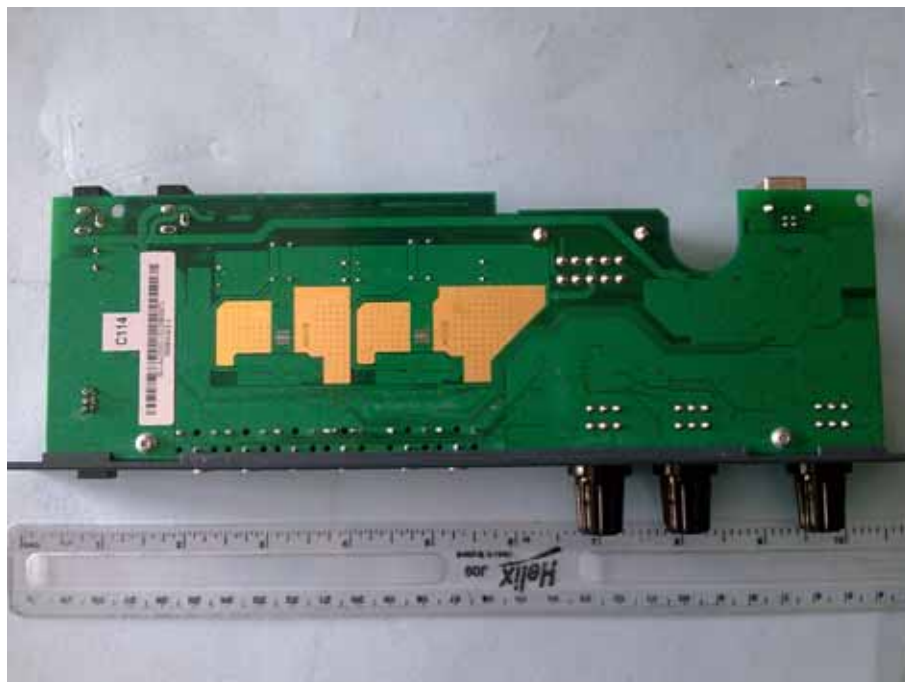
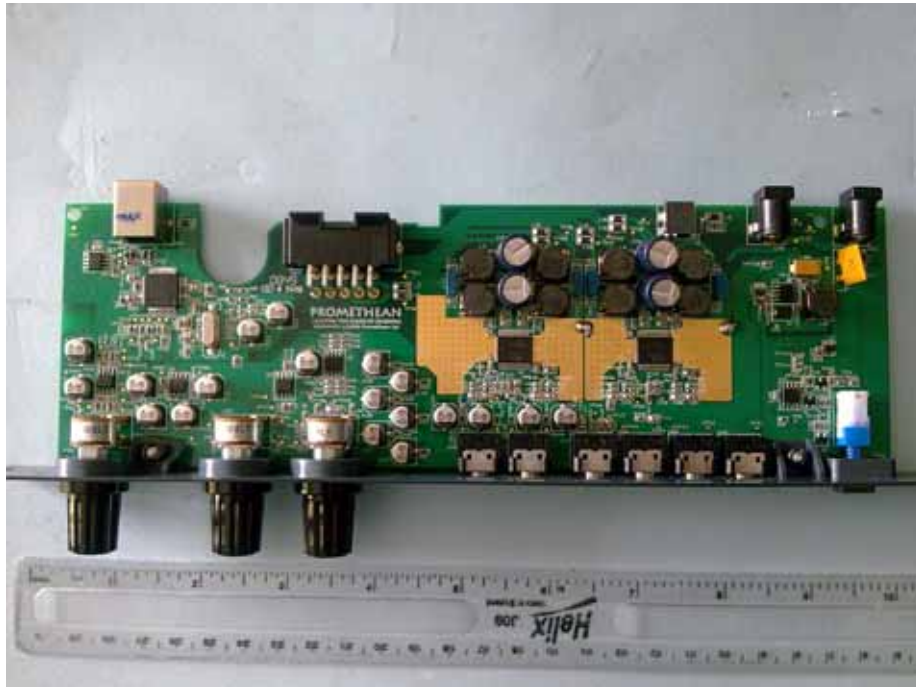
PHOTOGRAPH No. 7

TOP AND UNDERSIDE VIEW OF HUB



PHOTOGRAPH No. 8

TOP AND UNDERSIDE VIEW OF AUDIO AMPLIFIER



ANNEX B
APPLICANT'S SUBMISSION OF DOCUMENTATION LIST

APPLICANT'S SUBMISSION OF DOCUMENTATION LIST

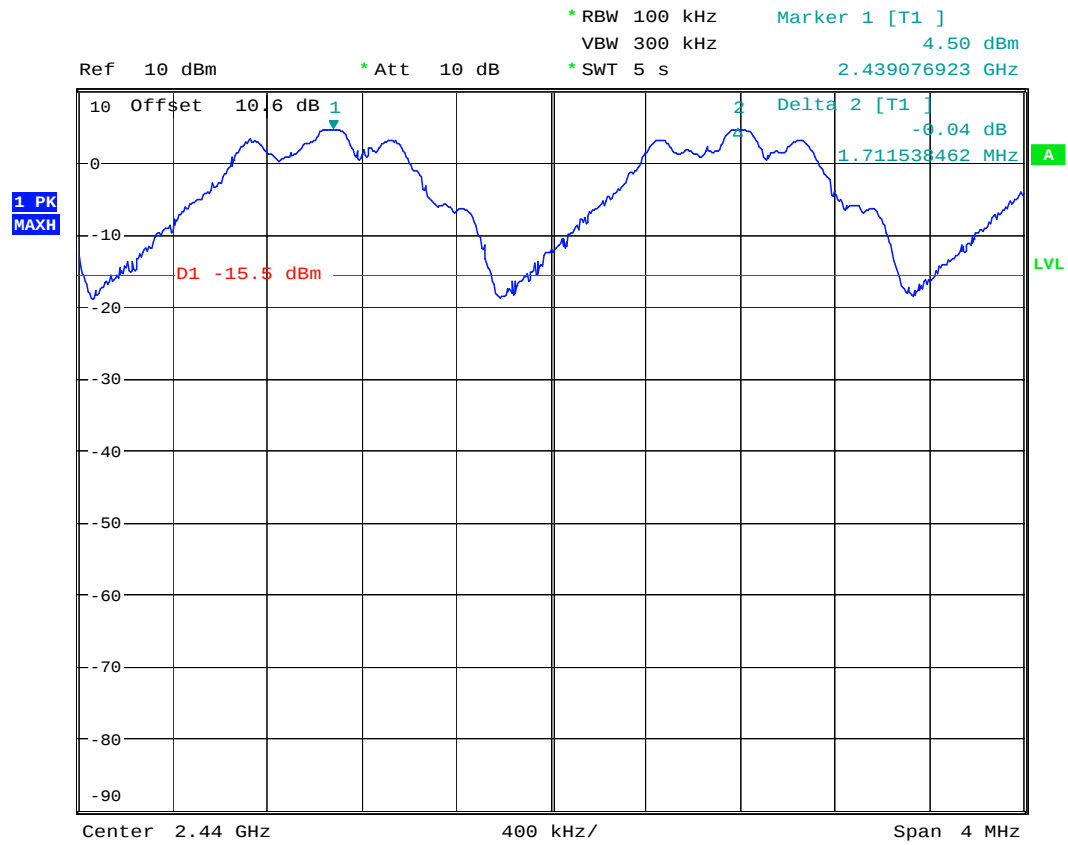
a.	TCB	-	APPLICATION	[X]
		-	FEE	[X]
b.	AGENT'S LETTER OF AUTHORISATION	-		[X]
c.	MODEL(s) vs IDENTITY	-		[]
d.	ALTERNATIVE TRADE NAME DECLARATION(s)	-		[X]
e.	LABELLING	-	PHOTOGRAPHS	[X]
		-	DECLARATION	[]
		-	DRAWINGS	[X]
f.	TECHNICAL DESCRIPTION	-		[X]
g.	BLOCK DIAGRAMS	-	Tx	[X]
		-	Rx	[]
		-	PSU	[]
		-	AUX	[]
h.	CIRCUIT DIAGRAMS	-	Tx	[X]
		-	Rx	[]
		-	PSU	[]
		-	AUX	[]
i.	COMPONENT LOCATION	-	Tx	[X]
		-	Rx	[]
		-	PSU	[]
		-	AUX	[]
j.	PCB TRACK LAYOUT	-	Tx	[X]
		-	Rx	[]
		-	PSU	[]
		-	AUX	[]
k.	BILL OF MATERIALS	-	Tx	[X]
		-	Rx	[]
		-	PSU	[]
		-	AUX	[]
l.	USER INSTALLATION / OPERATING INSTRUCTIONS	-		[X]

ANNEX C
EQUIPMENT CALIBRATION DETAILS

TRL Number	Equipment Type	Manufacturer	Last Cal Calibration	Calibration Period	Due For Calibration
UH06/07	IC OATS Submission	TRL	01/06/2007	24	01/06/2009
UH028	Log Periodic Ant	Schwarbeck	30/05/2007	24	30/05/2009
UH029	Bicone Antenna	Schwarbeck	22/05/2007	24	22/05/2009
UH041	Multimeter	AVOMeter	15/01/2008	12	15/01/2009
UH093	Bilog Antenna	Chase	21/05/2007	24	21/05/2009
UH105	Signal Generator	Marconi	04/06/2008	12	04/06/2009
UH162	ERP Cable Cal	TRL	March 2009	12	March 2010
UH253	1m Cable N type	TRL	18/01/2008	12	20/01/2009
UH254	1m Cable N type	TRL	18/01/2008	12	20/01/2009
UH269	1m Cable N type	TRL	18/01/2008	12	20/01/2009
UH270	1m Cable N type	TRL	18/01/2008	12	20/01/2009
UH271	1.5m Cable N type	TRL	18/01/2008	12	20/01/2009
UH272	1.5m Cable N type	TRL	18/01/2008	12	20/01/2009
UH273	2m Cable N type	TRL	18/01/2008	12	20/01/2009
UH274	2m Cable N type	TRL	18/01/2008	12	20/01/2009
UH281	Spectrum Analyser	R&S	25/10/2007	12	25/10/2008
L005	CMTA	R&S	30/10/2007	12	30/10/2008
L007	Loop Antenna	R&S	22/05/2007	24	22/05/2009
L103	Attenuator	Bird		Calibrate in Use	
L112	Attenuator	Bird		Calibrate in Use	
L138	1-18GHz Horn	EMCO	23/05/2007	24	23/05/2009
L139	1-18GHz Horn	EMCO	23/05/2007	24	23/05/2009
L170	Combiner	Elcom		Calibrate in Use	
L176	Signal Generator	Marconi	06/06/2008	12	06/06/2009
L220	Attenuator	Bird		Calibrate in Use	
L426	Temperature Indicator	Fluke	22/01/2008	12	22/01/2009
L479	Analyser	Anritsu	22/09/2008	12	22/09/2009
TRL254	Signal Generator	Marconi	04/06/2008	12	04/06/2009
TRL225	Attenuator	Spinner		Calibrate in Use	
TRL246	Attenuator	Bird		Calibrate in Use	
UH191	Bilog Antenna	Chase	11/08/2006	24	11/08/2008
L572	Pre Amplifier	Agilent	04/07/2008	12	04/07/2009
UH340	Signal Generator	HP	06/05/2008	12	06/05/2009
TRL352	Receiver	Rhode and Scharz	09/12/2008	12	09/12/2009
TRLUH03	Receiver	Rhode and Scharz	09/12/2008	12	09/12/2009
TRLUH187	Receiver	Rhode and Scharz	09/12/2008	12	09/12/2009

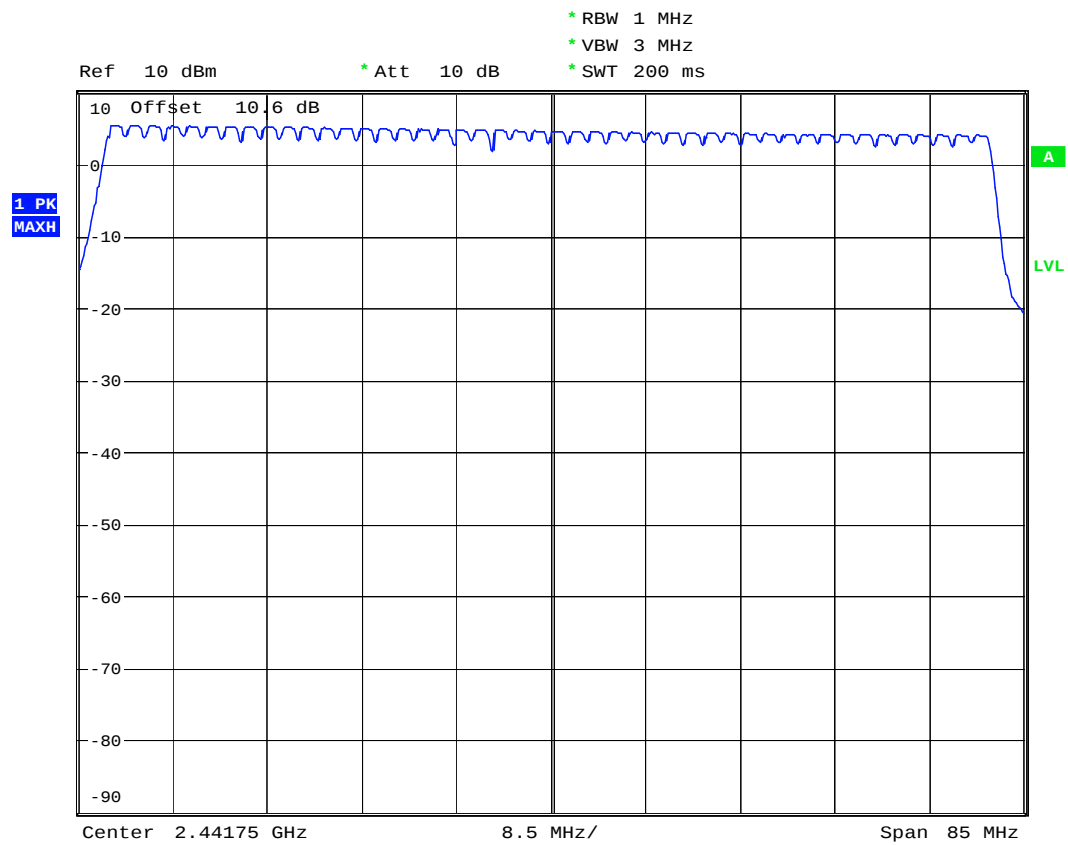
ANNEX D

CARRIER FREQUENCY SEPARATION



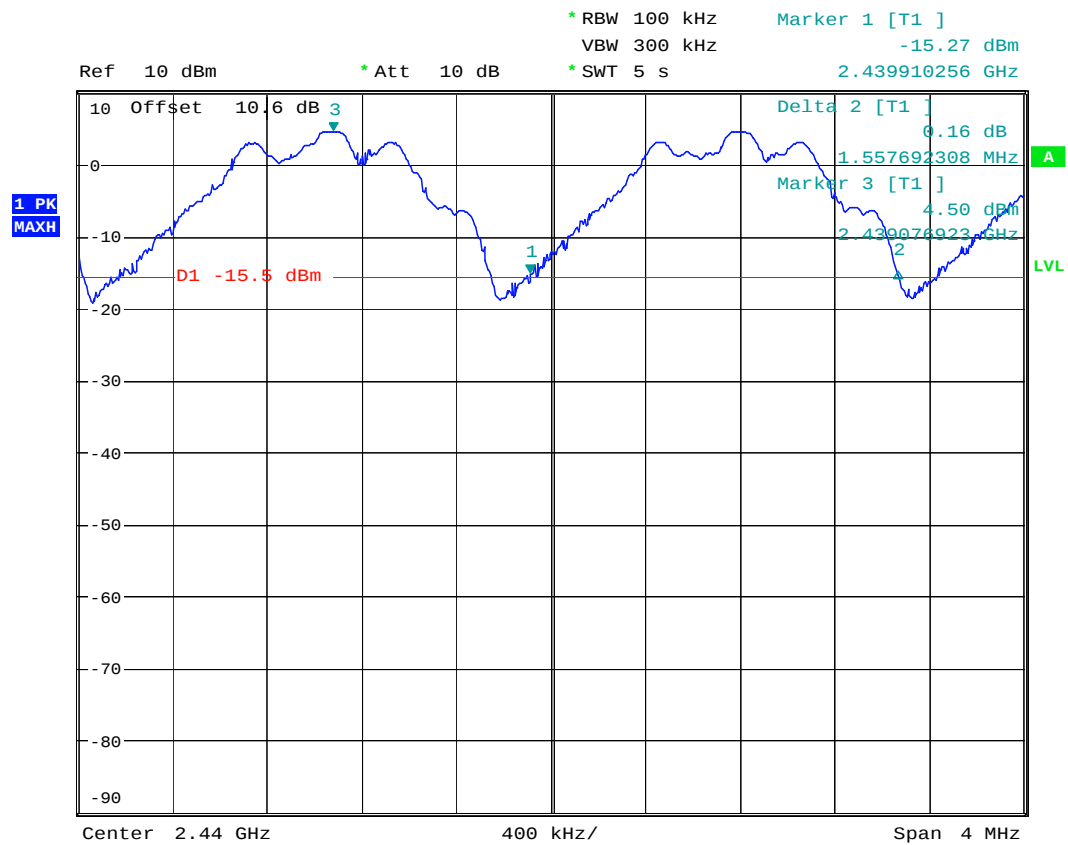
Date: 13.MAR.2009 10:19:21

ANNEX E
NUMBER OF HOPPING CHANNELS



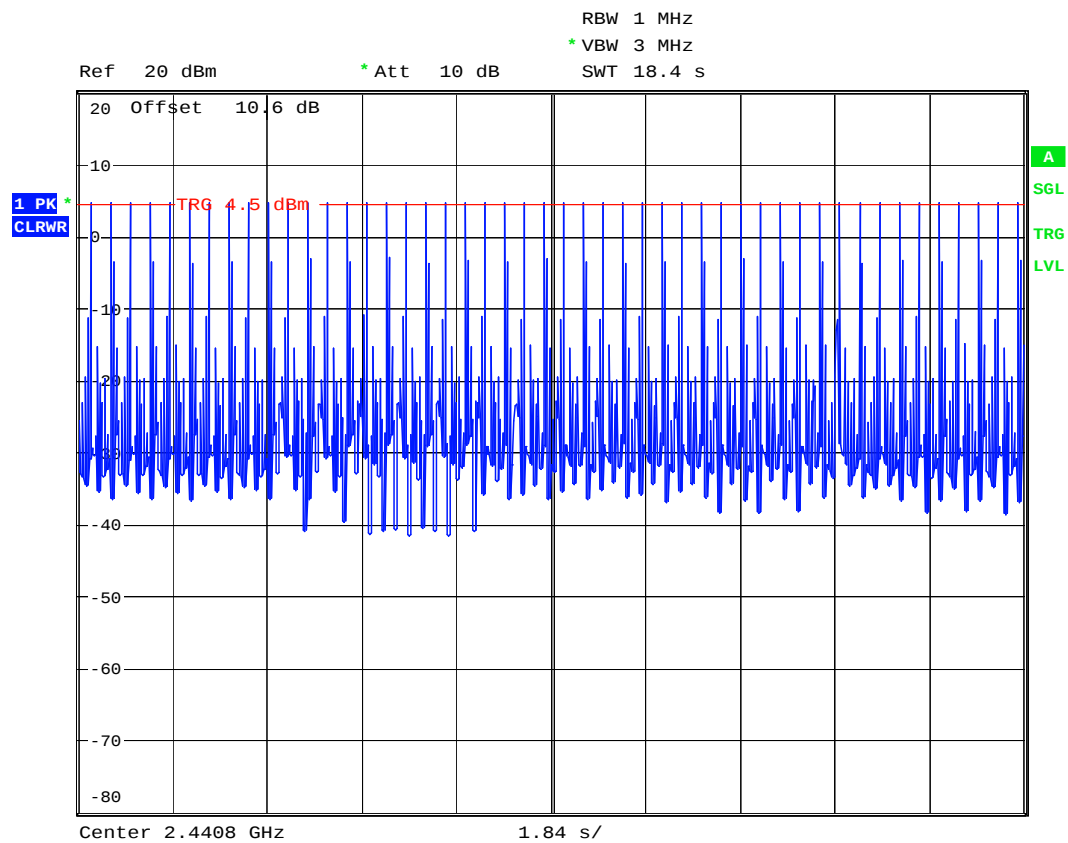
Date: 13.MAR.2009 11:00:48

ANNEX F
20dB BANDWIDTH



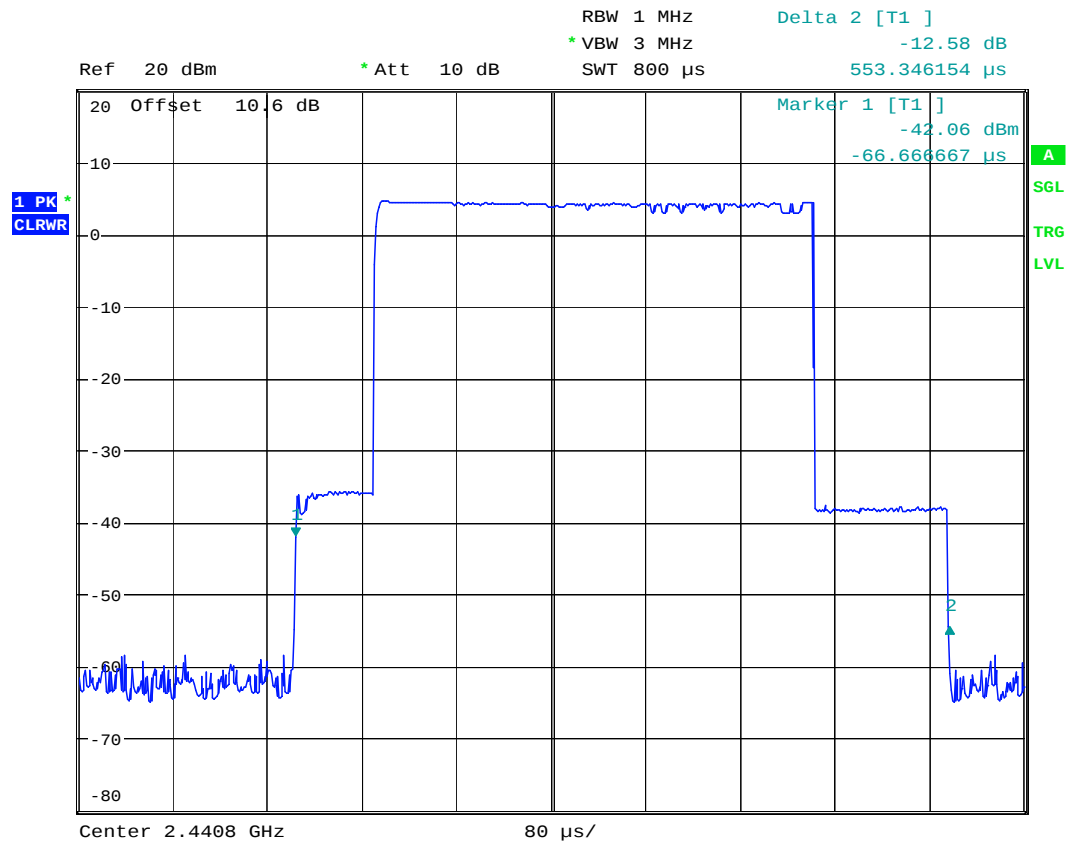
Date: 13.MAR.2009 10:16:12

ANNEX G
AVERAGE TIME OF OCCUPANCY



Date: 13.MAR.2009 12:03:54

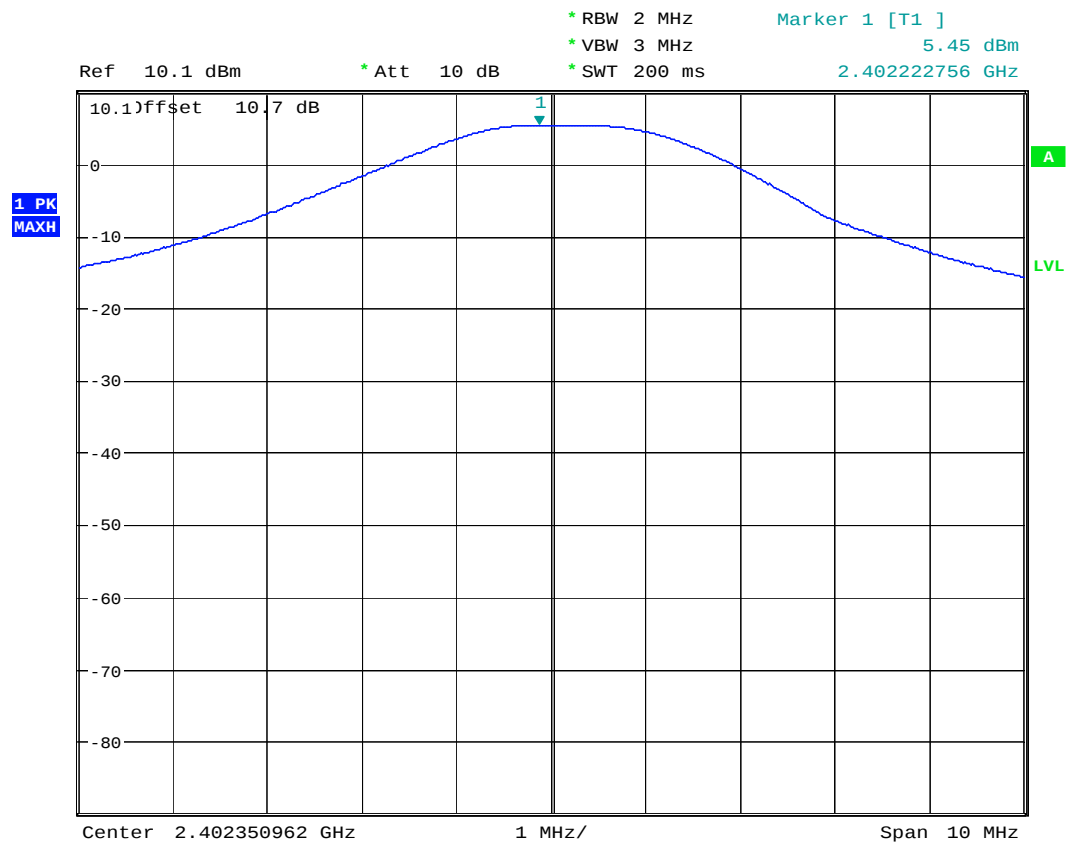
Number of transmissions made within 18.4 seconds



Date: 13.MAR.2009 11:48:30

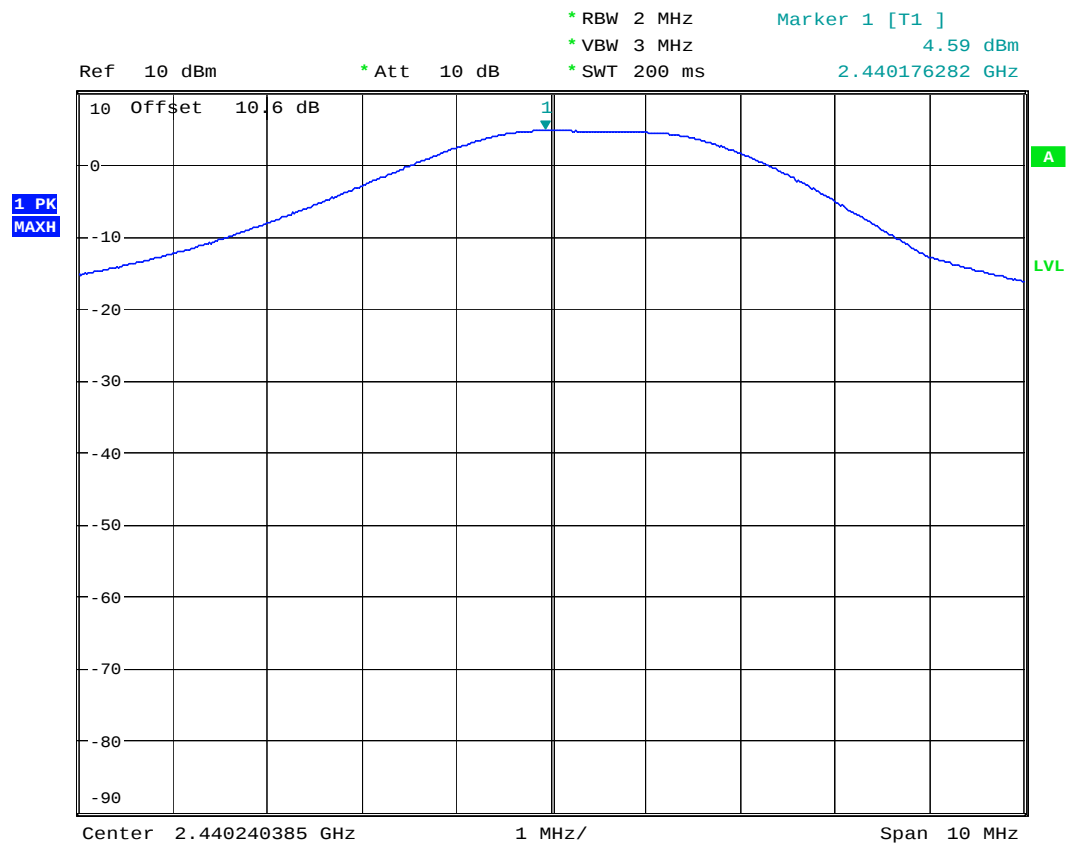
Length of one packet

ANNEX H
PEAK POWER CONDUCTED



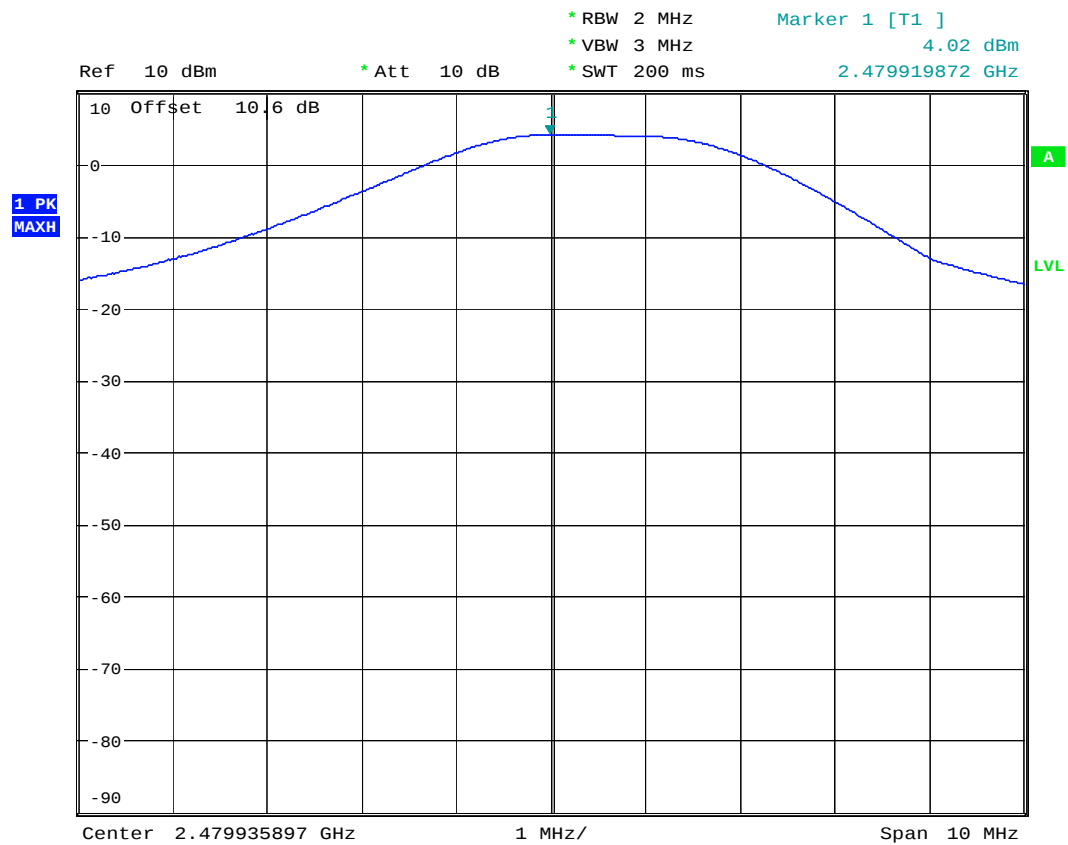
Date: 13.MAR.2009 11:07:59

PEAK POWER LOW CHANNEL



Date: 13.MAR.2009 11:14:29

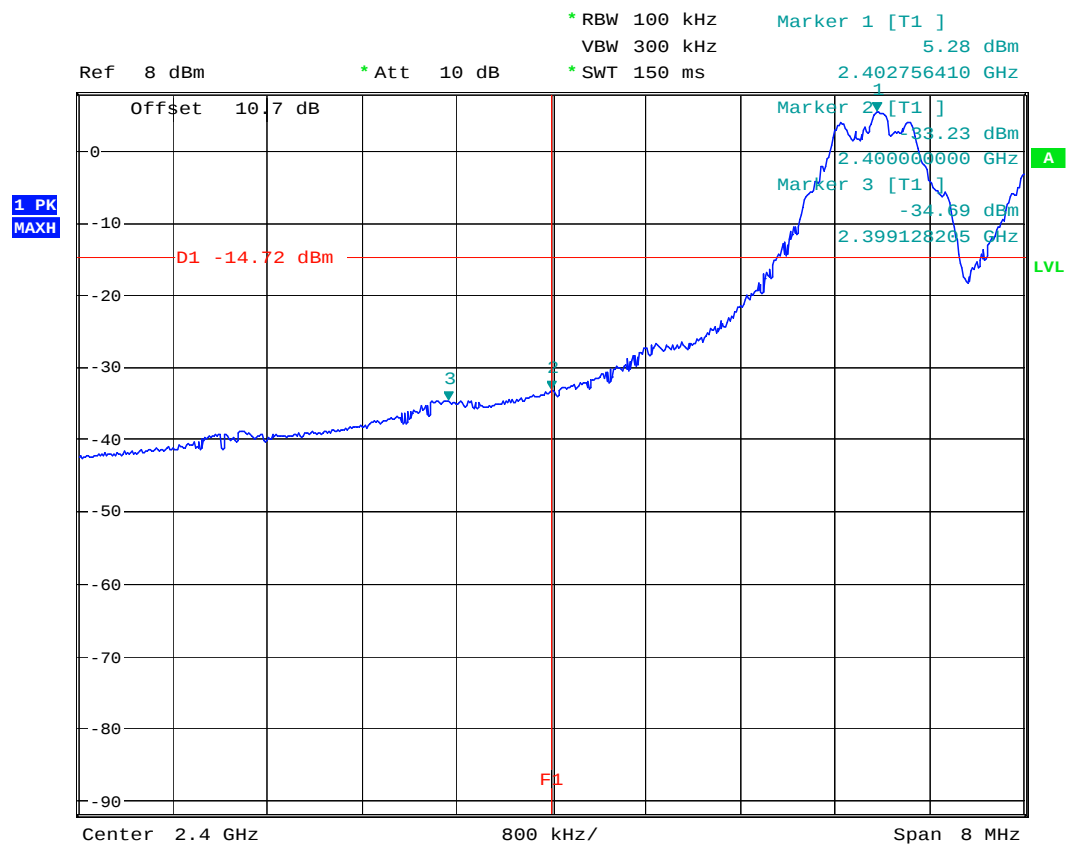
PEAK POWER MID CHANNEL



Date: 13.MAR.2009 11:19:09

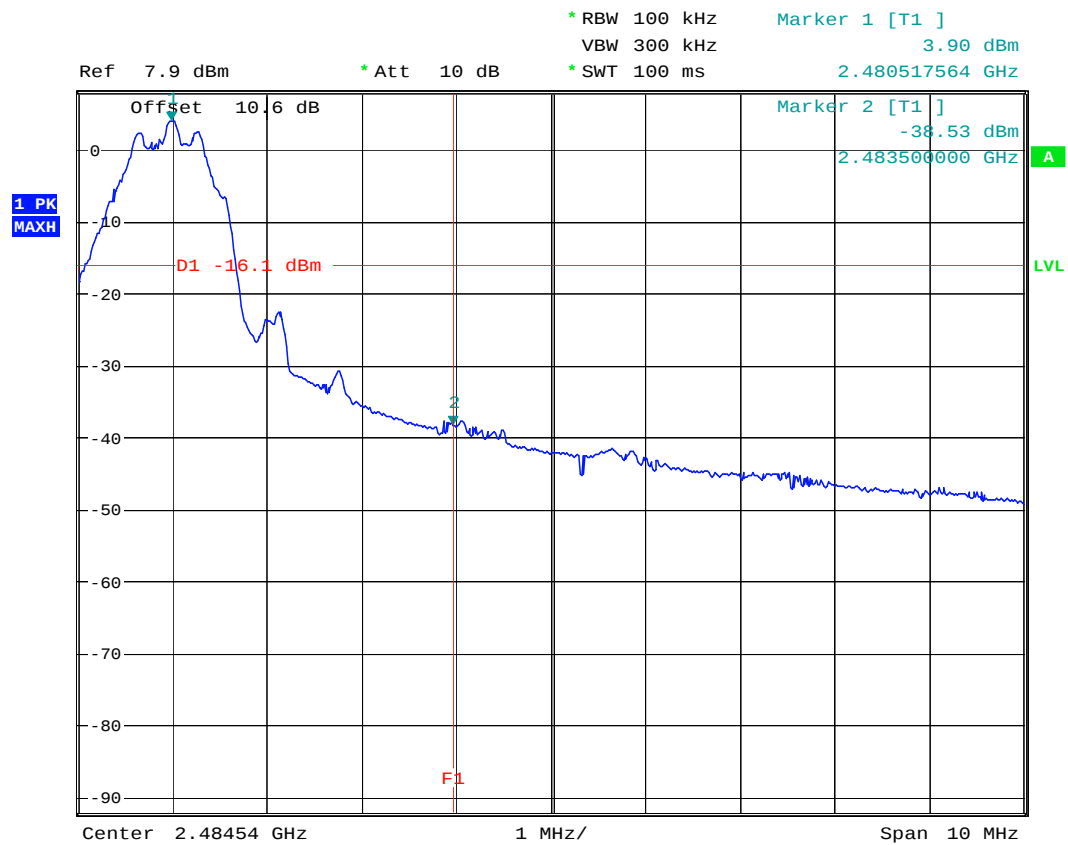
PEAK POWER HIGH CHANNEL

ANNEX I
BAND EDGE CONDUCTED EMISSION



Date: 13.MAR.2009 13:52:41

Lower Band Edge



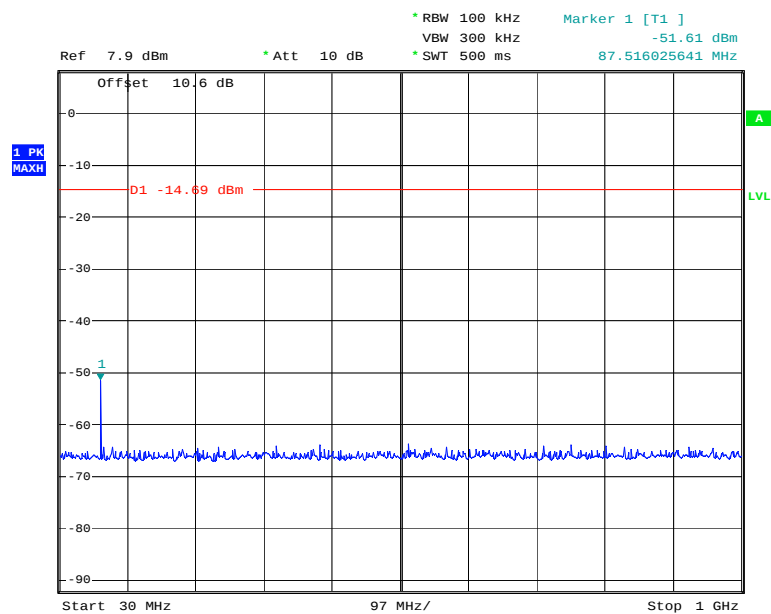
Date: 13.MAR.2009 14:35:55

Upper Band Edge

ANNEX J
CONDUCTED SPURIOUS EMISSION

Bottom Channel

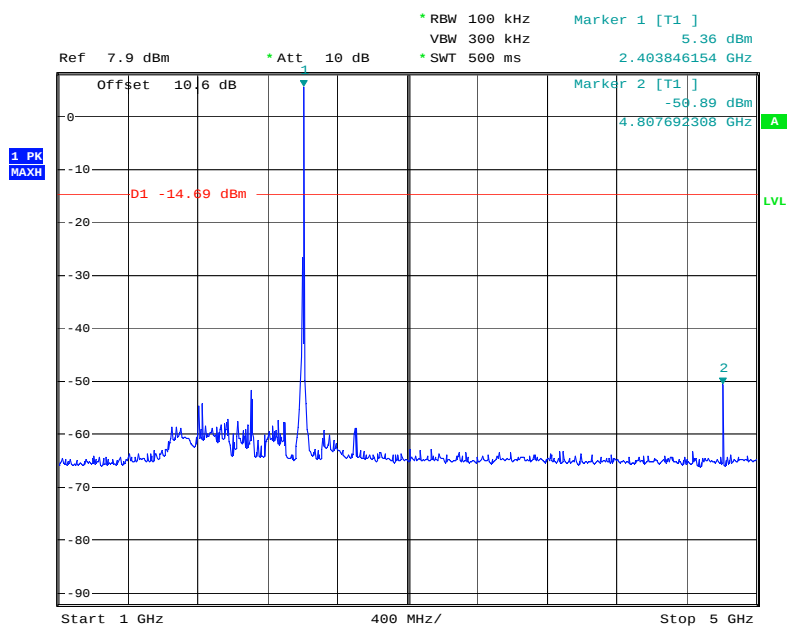
30MHz – 1GHz



Date: 13.MAR.2009 14:58:59

Bottom Channel

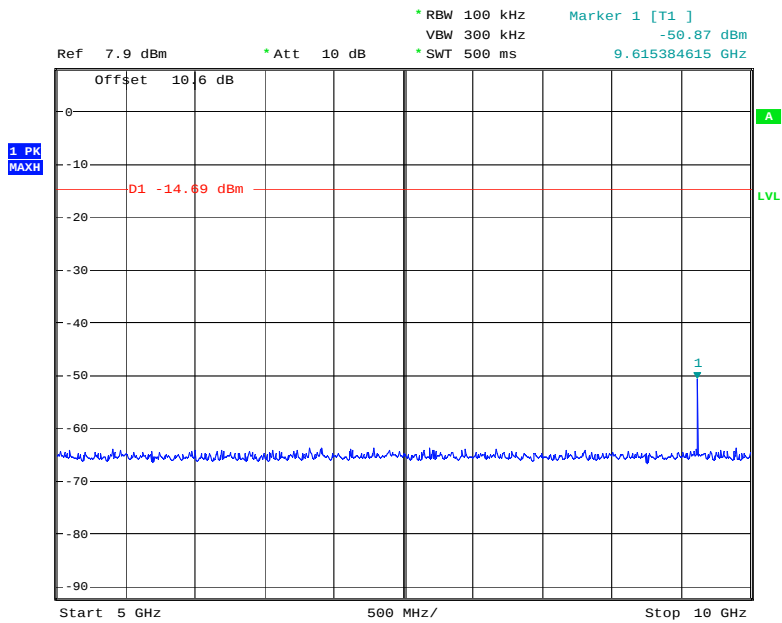
1GHz – 5GHz



Date: 13.MAR.2009 14:57:50

Bottom Channel

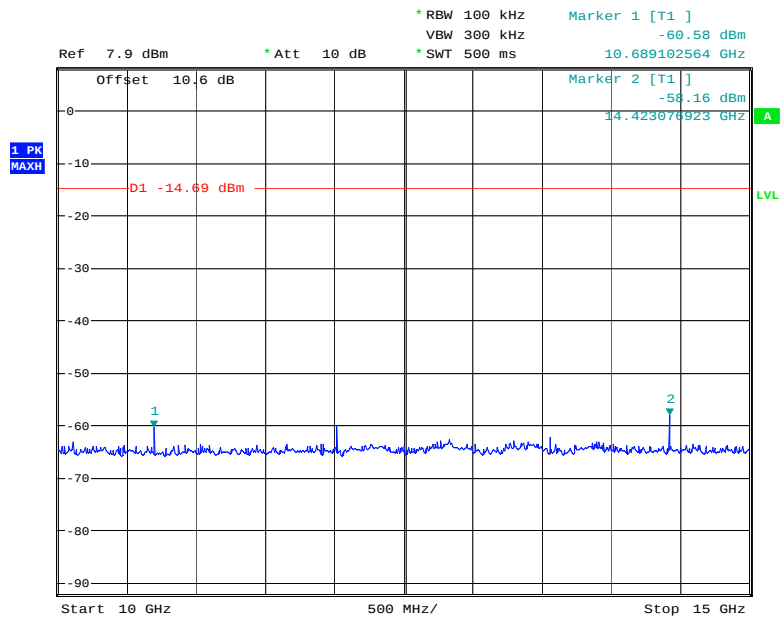
5GHz – 10GHz



Date: 13.MAR.2009 15:00:16

Bottom Channel

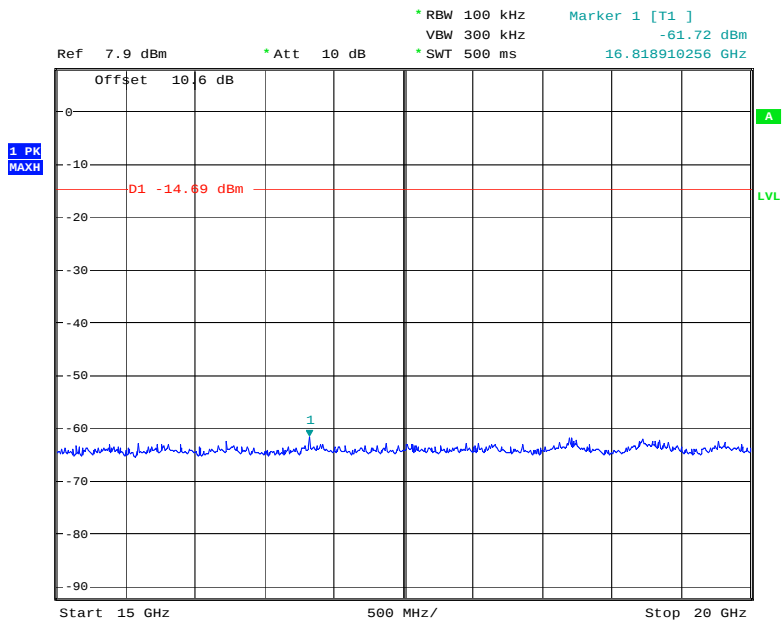
10GHz – 15GHz



Date: 13.MAR.2009 15:03:25

Bottom Channel

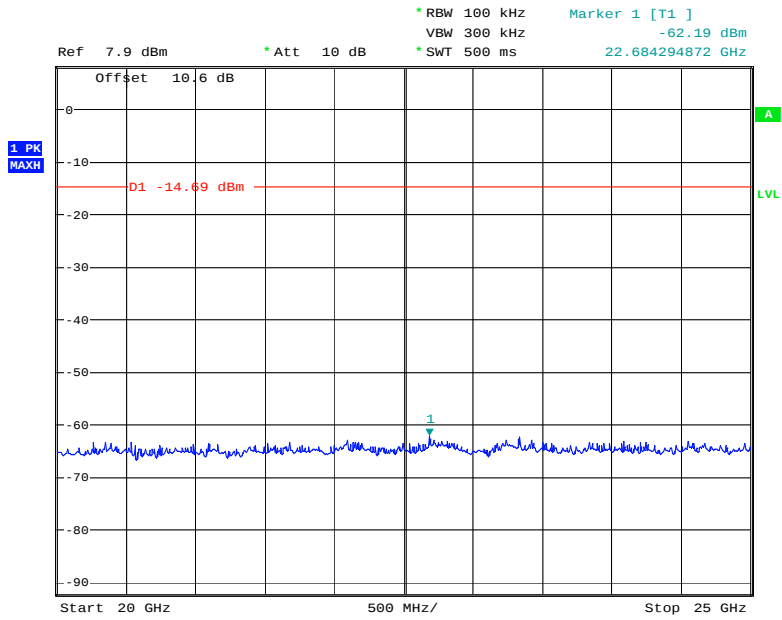
15GHz – 20GHz



Date: 13.MAR.2009 15:08:42

Bottom Channel

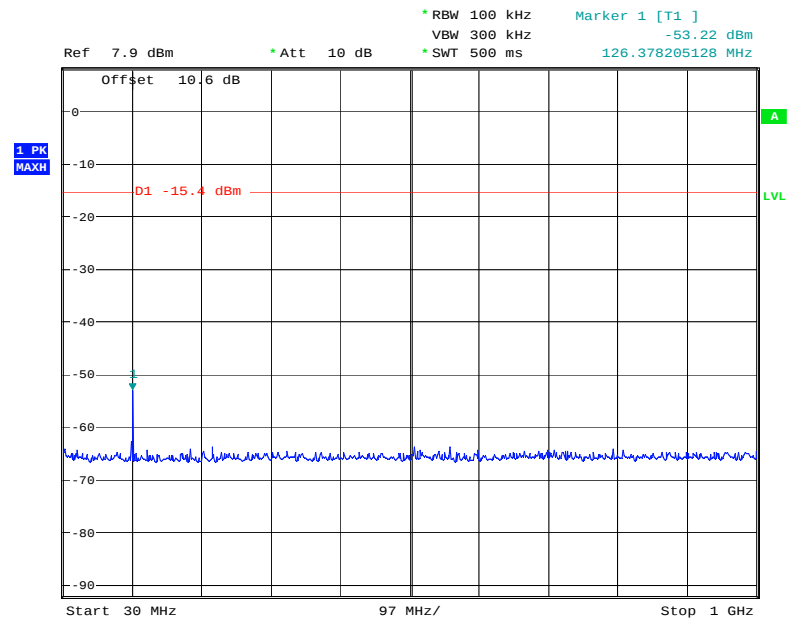
20GHz – 25GHz



Date: 13.MAR.2009 15:09:25

Middle Channel

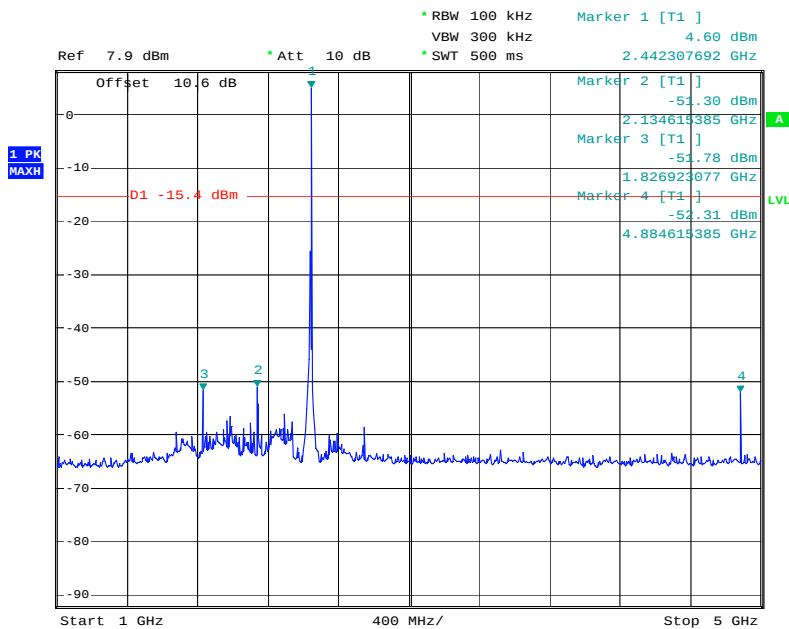
30MHz – 1GHz



Date: 13.MAR.2009 15:19:16

Middle Channel

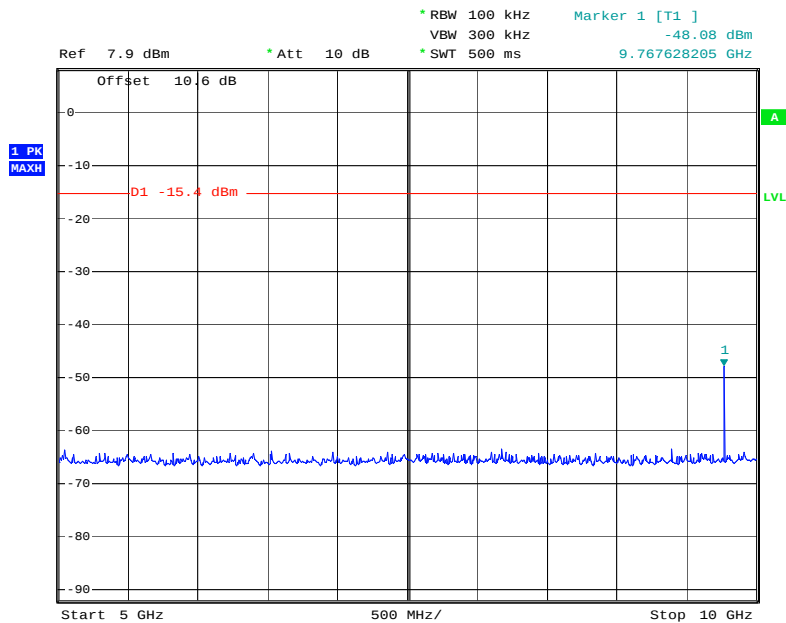
1GHz – 5GHz



Date: 13.MAR.2009 15:17:56

Middle Channel

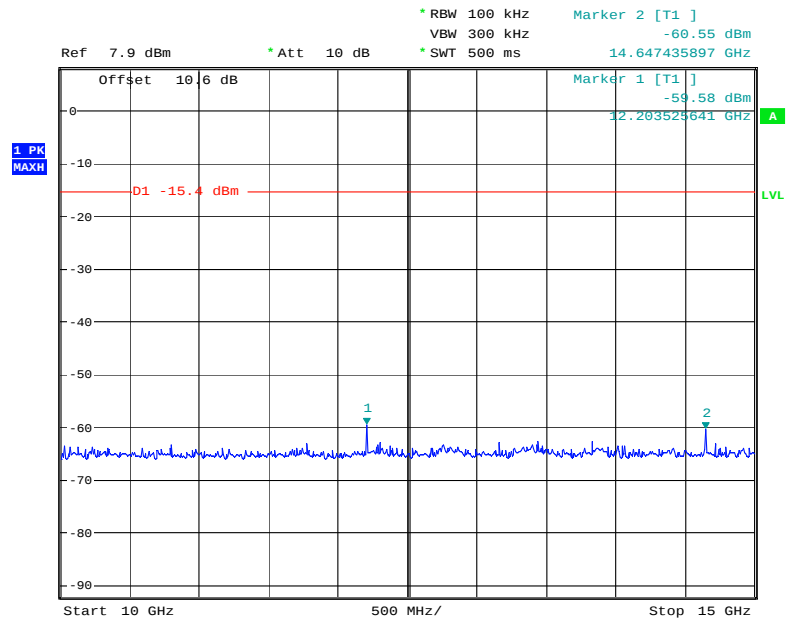
5GHz – 10GHz



Date: 13.MAR.2009 15:19:59

Middle Channel

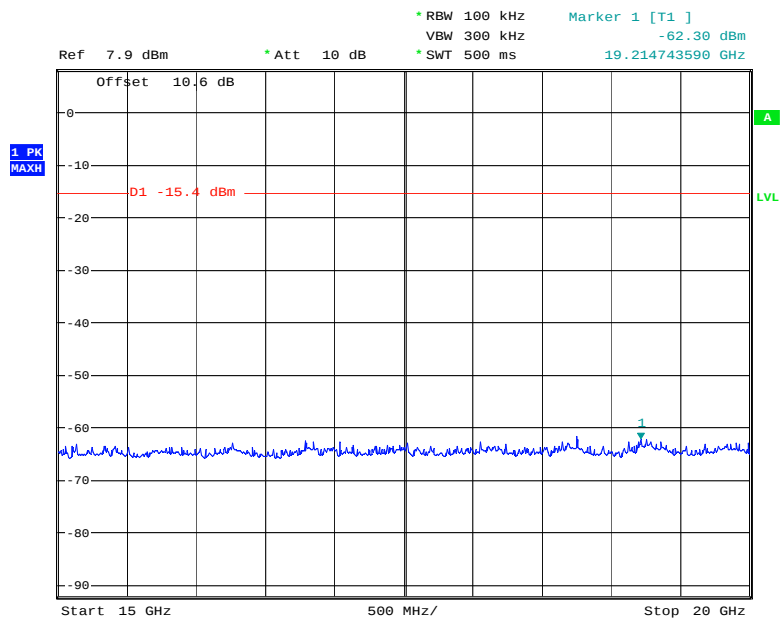
10GHz – 15GHz



Date: 13.MAR.2009 15:21:43

Middle Channel

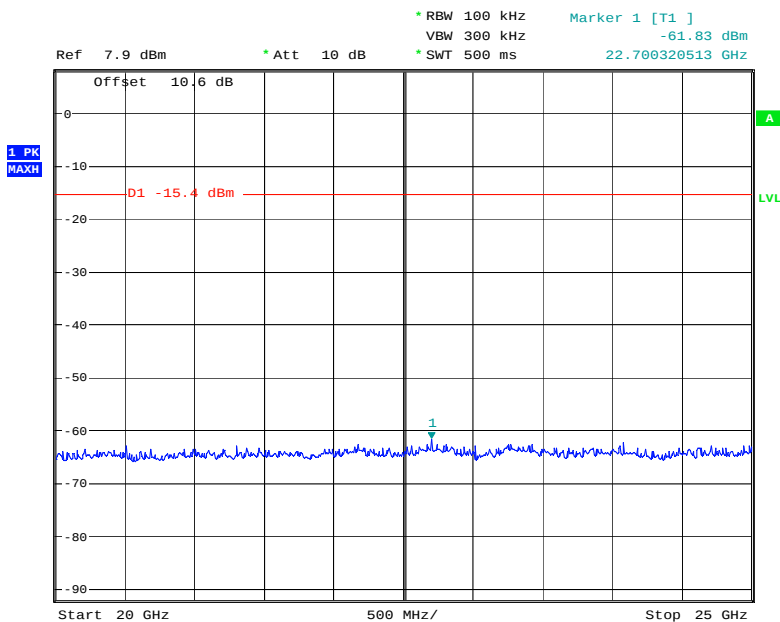
15GHz – 20GHz



Date: 13.MAR.2009 15:23:40

Middle Channel

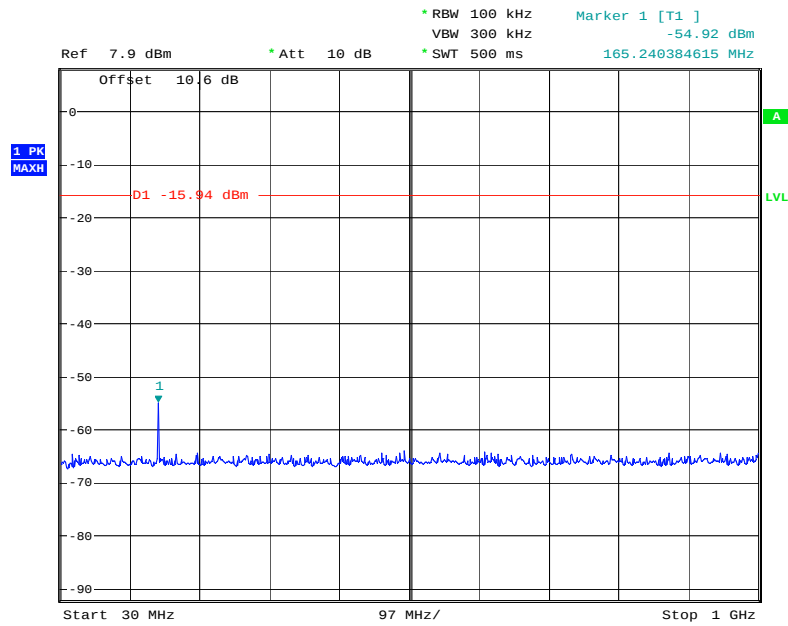
20GHz – 25GHz



Date: 13.MAR.2009 15:25:09

Top Channel

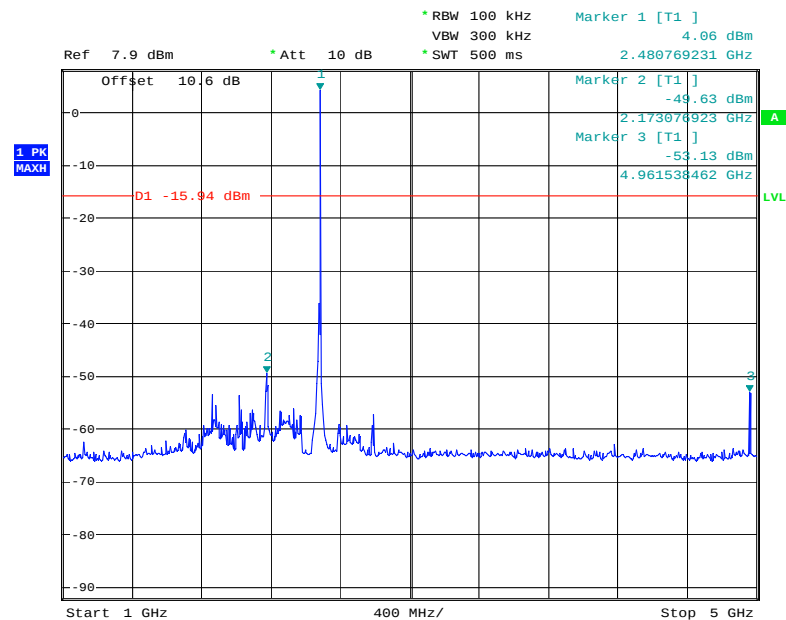
30MHz – 1GHz



Date: 13.MAR.2009 15:29:08

Top Channel

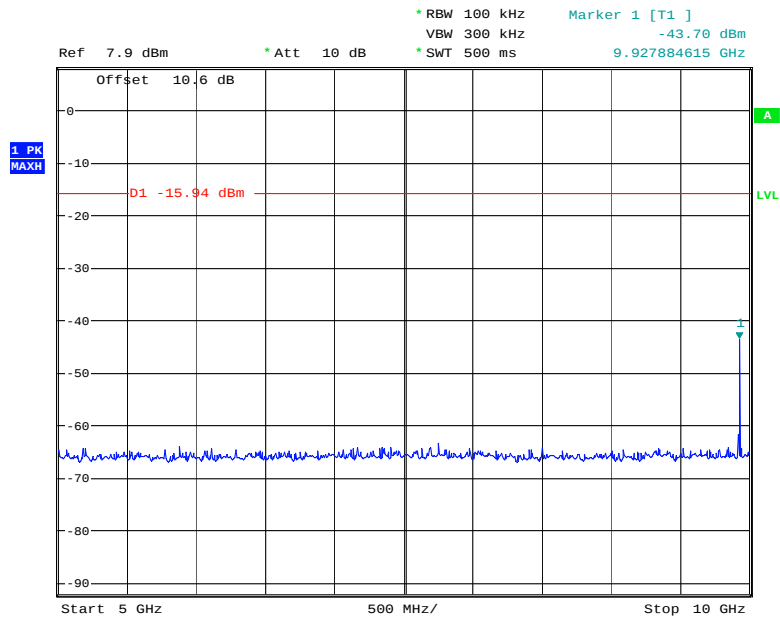
1GHz – 5GHz



Date: 13.MAR.2009 15:28:21

Top Channel

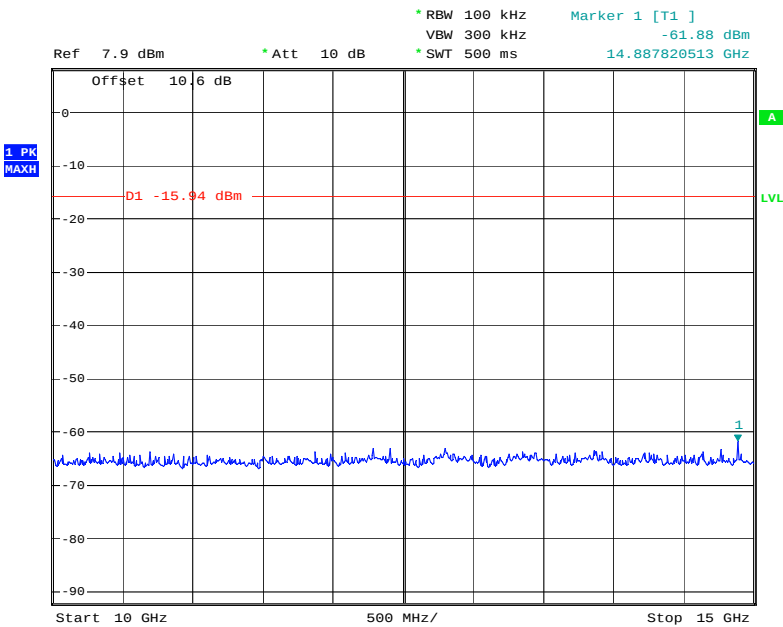
5GHz – 10GHz



Date: 13.MAR.2009 15:29:44

Top Channel

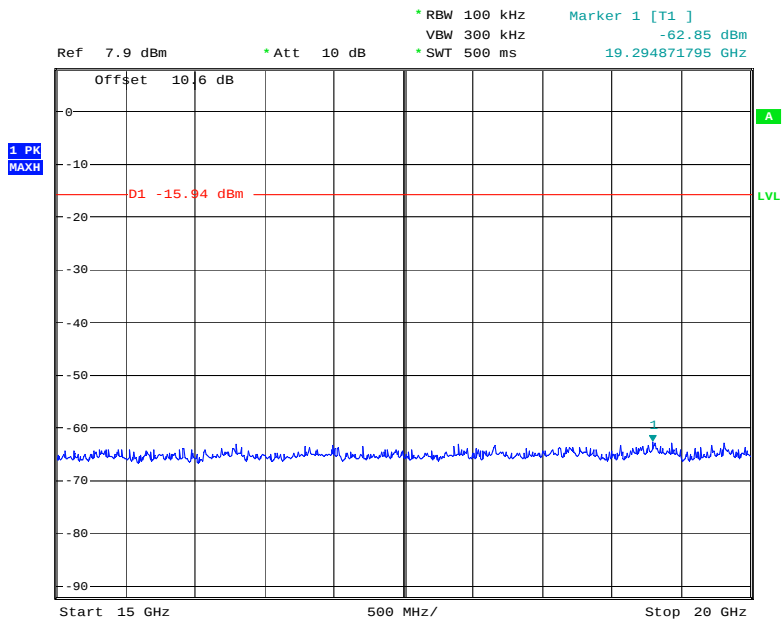
10GHz – 15GHz



Date: 13.MAR.2009 15:30:26

Top Channel

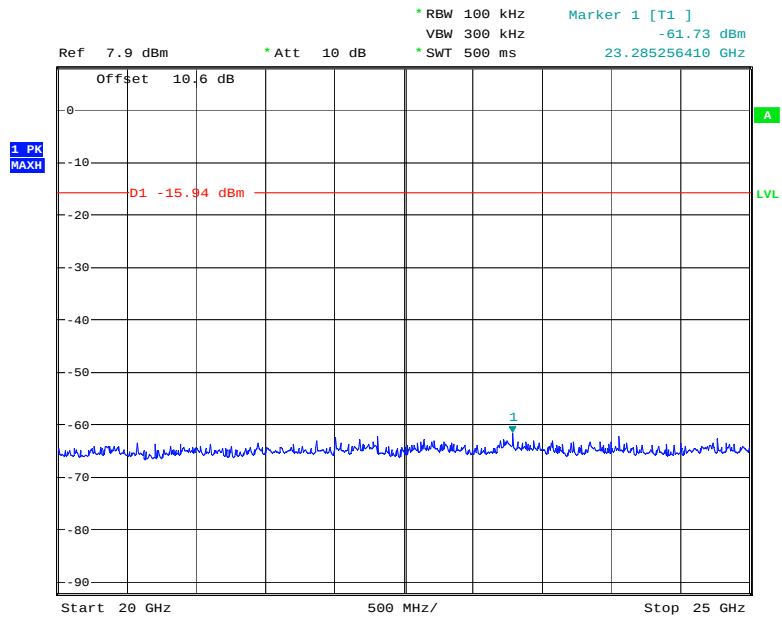
15GHz – 20GHz



Date: 13.MAR.2009 15:31:04

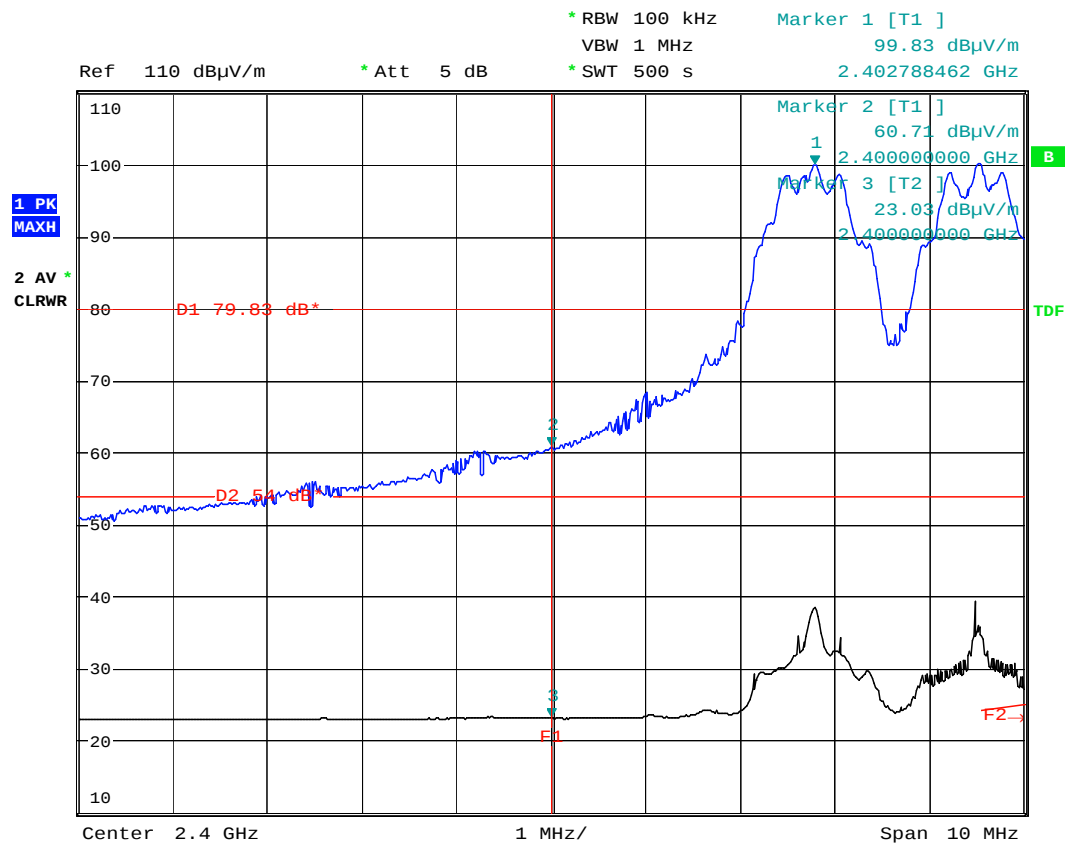
Top Channel

20GHz – 25GHz



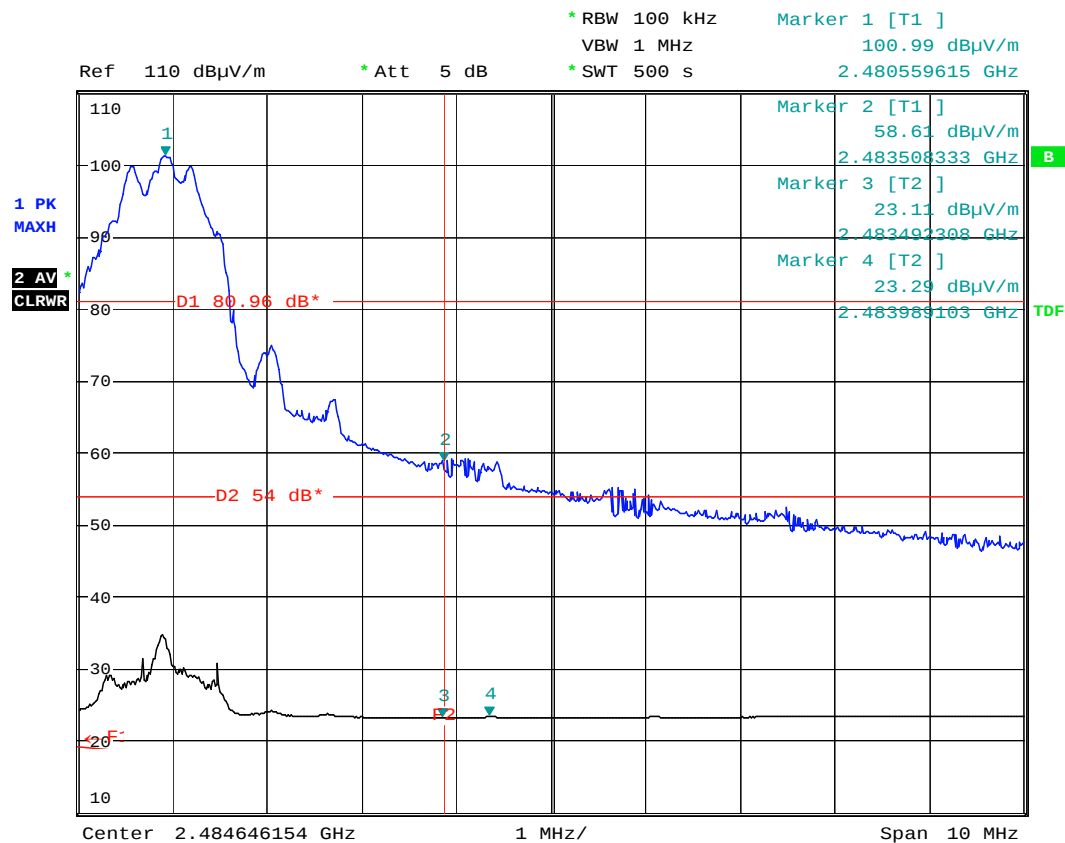
Date: 13.MAR.2009 15:31:38

ANNEX K
BAND EDGE EMISSIONS RADIATED



Date: 6.APR.2009 16:22:43

LOWER BAND EDGE



Date: 6.APR.2009 16:02:23

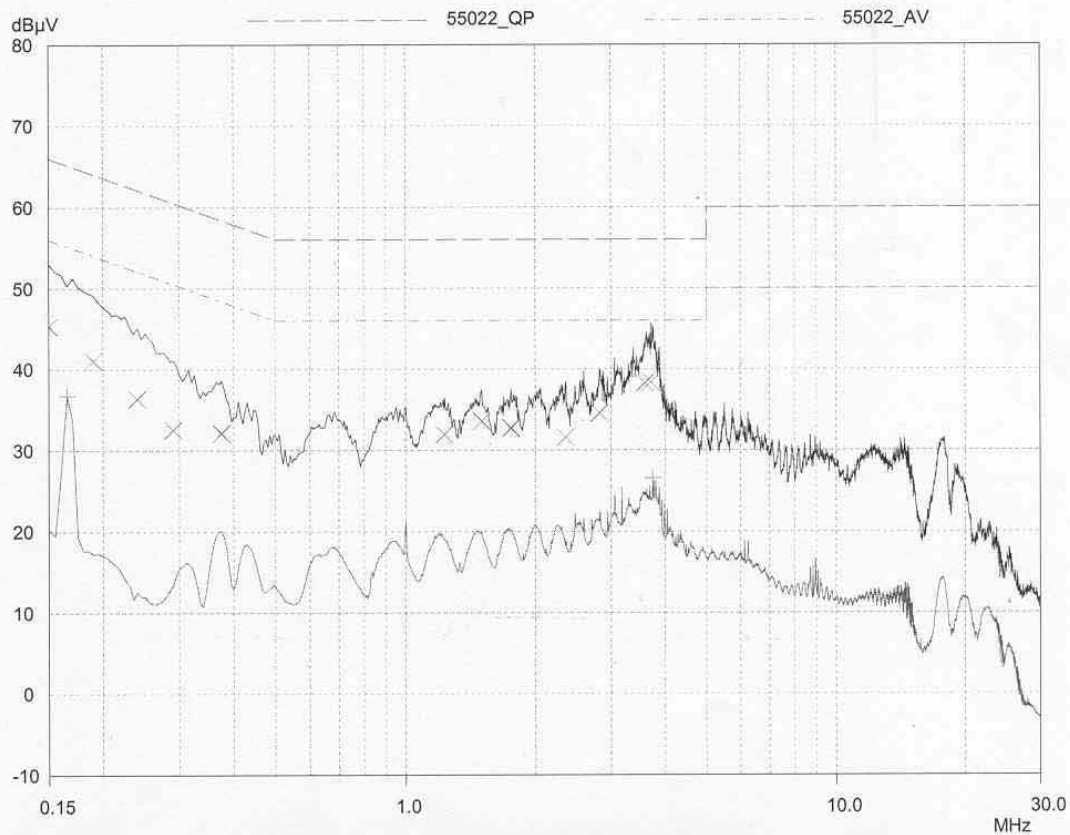
UPPER BAND EDGE

ANNEX L
AC POWERLINE CONDUCTION

Powerline Conduction 150kHz - 30MHz

EUT: 64" Entry Level Board
 Manuf: Promethean
 Op Conid: LISN UH195, cable UH21 & Receiver UH187
 Operator: D Winstanley
 Test Spec: EN55022 Class B (or Variant)
 Comment: Neutral Line, 110V, 60Hz
 Pen Present, Connecte to PC Via USB Cable

Scan Settings			(1 Range)			Receiver Settings			
Frequencies									
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge	
150kHz	30MHz	5kHz	10kHz	PK+AV	50msec	Auto	OFF	60dB	
Transducer	No.	Start	Stop	Name					
1	1	9kHz	30MHz	UH21					
	2	150kHz	30MHz	UH195					
Final Measurement:			Detectors:	X QP / + AV					
			Meas Time:	2sec					
			Subranges:	25					
			Acc Margin:	20 dB					



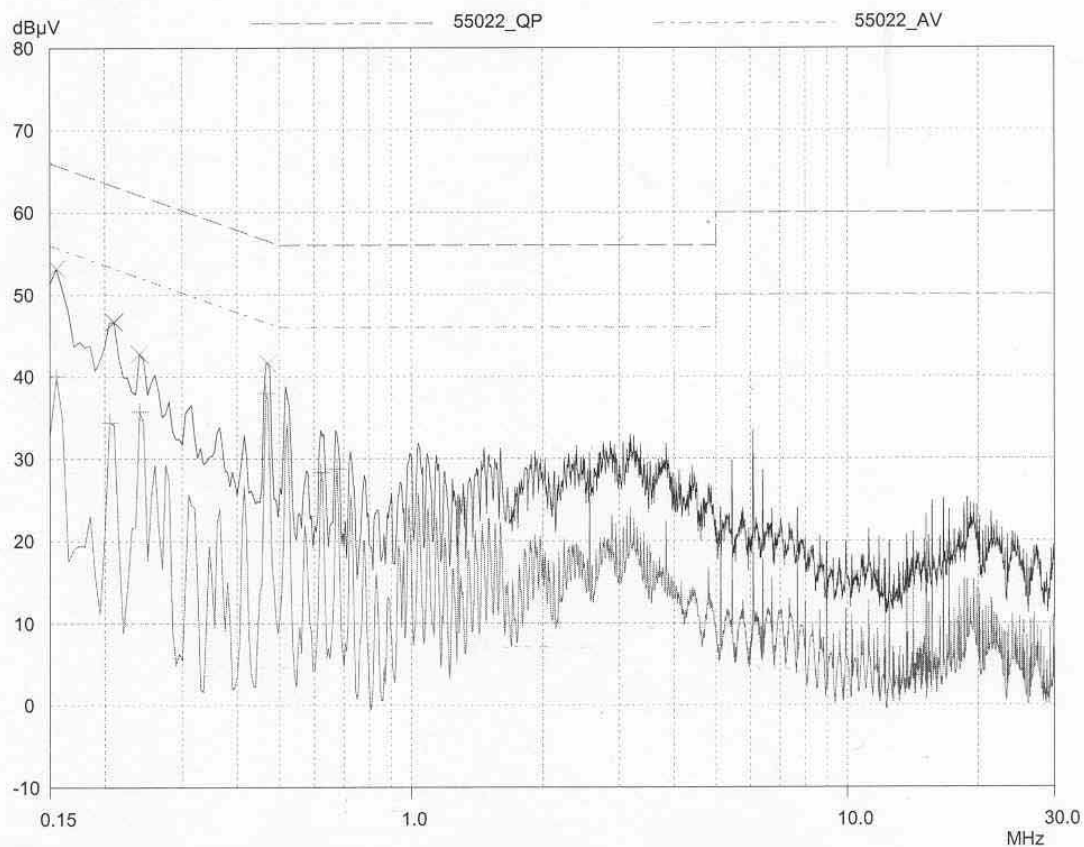
Powerline Conduction 150kHz - 30MHz

EUT: 78" Premium Board
Manuf: Promethean
Op Cond: LISN UH195, cable UH21 & Receiver UH187
Operator: S Hodgkinson
Test Spec: EN55022 Class B (or Variant)
Comment: Live Line, 110V, 60Hz
Pen present, connected to PC via USB cable, playing audio track via memory stick, transmitting middle 2.4GHz.

Scan Settings		(1 Range)		Receiver Settings			
Frequencies							
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp
150kHz	30MHz	5kHz	10kHz	PK+AV	50msec	Auto	OFF

Transducer	No.	Start	Stop	Name
1	1	9kHz	30MHz	UH21
	2	150kHz	30MHz	UH195

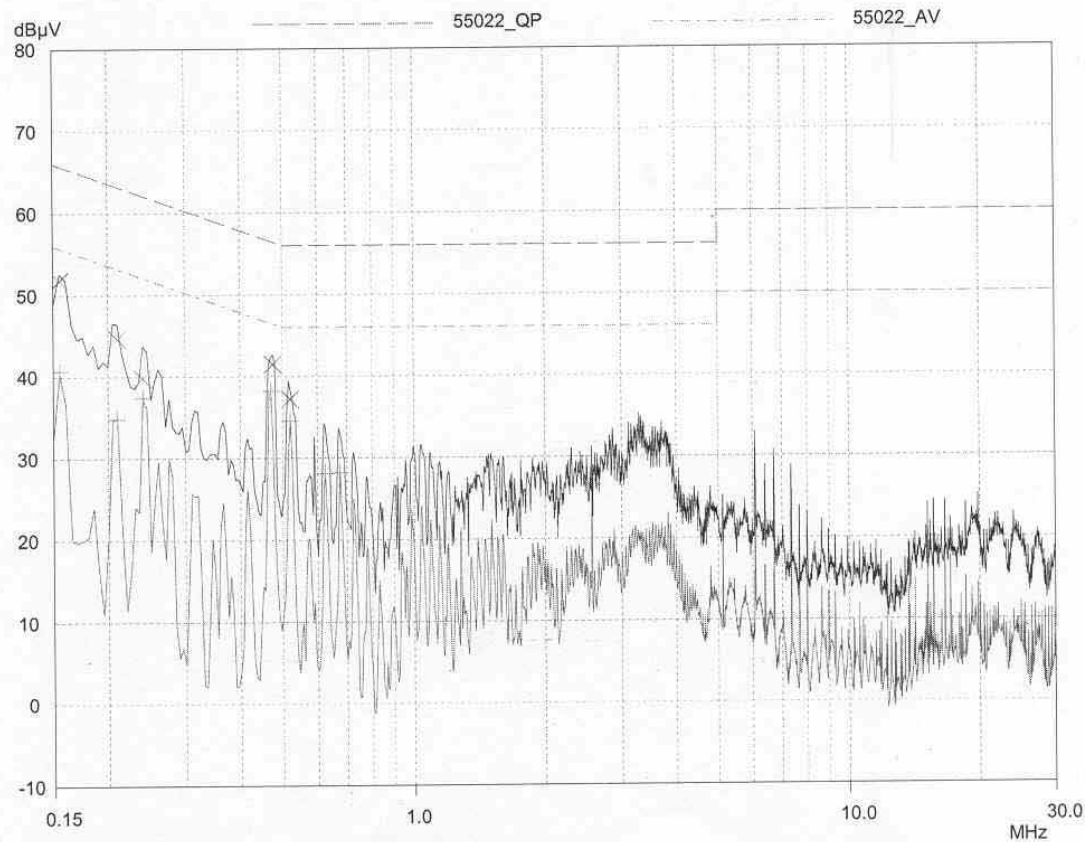
Prescan Measurement: Detectors: X PK / + AV
Meas Time: see scan settings
Subranges: 25
Acc Margin: 20 dB



Powerline Conduction 150kHz - 30MHz

EUT: 87" Premium Board
Manuf: Promethean
Op Cond: LISN UH195, cable UH21 & Receiver UH187
Operator: S Hodgkinson
Test Spec: EN55022 Class B (or Variant)
Comment: Neutral Line, 110V, 60Hz
Pen present, connected to PC via USB cable, playing audio track via memory stick, transmitting middle 2.4GHz.

Scan Settings			(1 Range)		Receiver Settings			
Frequencies								
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge
150kHz	30MHz	5kHz	10kHz	PK+AV	50msec	Auto	OFF	60dB
Transducer	No.	Start	Stop	Name				
1	1	9kHz	30MHz	UH21				
	2	150kHz	30MHz	UH195				
Final Measurement:			Detectors:	X QP / + AV				
			Meas Time:	2sec				
			Subranges:	25				
			Acc Margin:	20 dB				

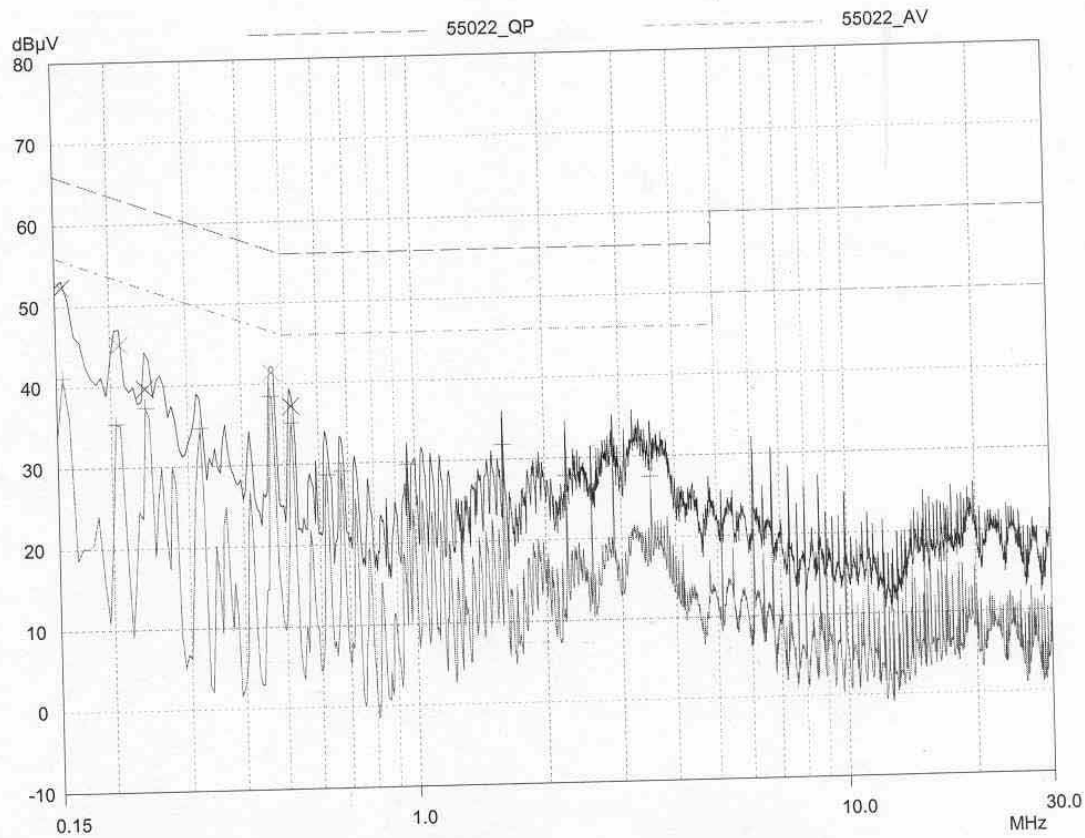


TRaC Global

Powerline Conduction 150kHz - 30MHz

EUT: 95" Premium Board
 Manuf: Promethean
 Op Cond: LISN UH195, cable UH21 & Receiver UH187
 Operator: S Hodgkinson
 Test Spec: EN55022 Class B (or Variant)
 Comment: Neutral Line, 110V, 60Hz
 Pen present, connected to PC via USB cable, playing audio track via memory stick, transmitting middle 2.4GHz.

Scan Settings			(1 Range)		Receiver Settings			
Frequencies			Step	IF BW	Detector	M-Time	Atten	Preamp
Start	Stop							OpRge
150kHz	30MHz		5kHz	10kHz	PK+AV	50msec	Auto	OFF
Transducer	No.	Start	Stop	Name				
1	1	9kHz	30MHz	UH21				
	2	150kHz	30MHz	UH195				
Final Measurement:			Detectors:	X QP / + AV				
			Meas Time:	2sec				
			Subranges:	25				
			Acc Margin:	20 dB				



ANNEX M

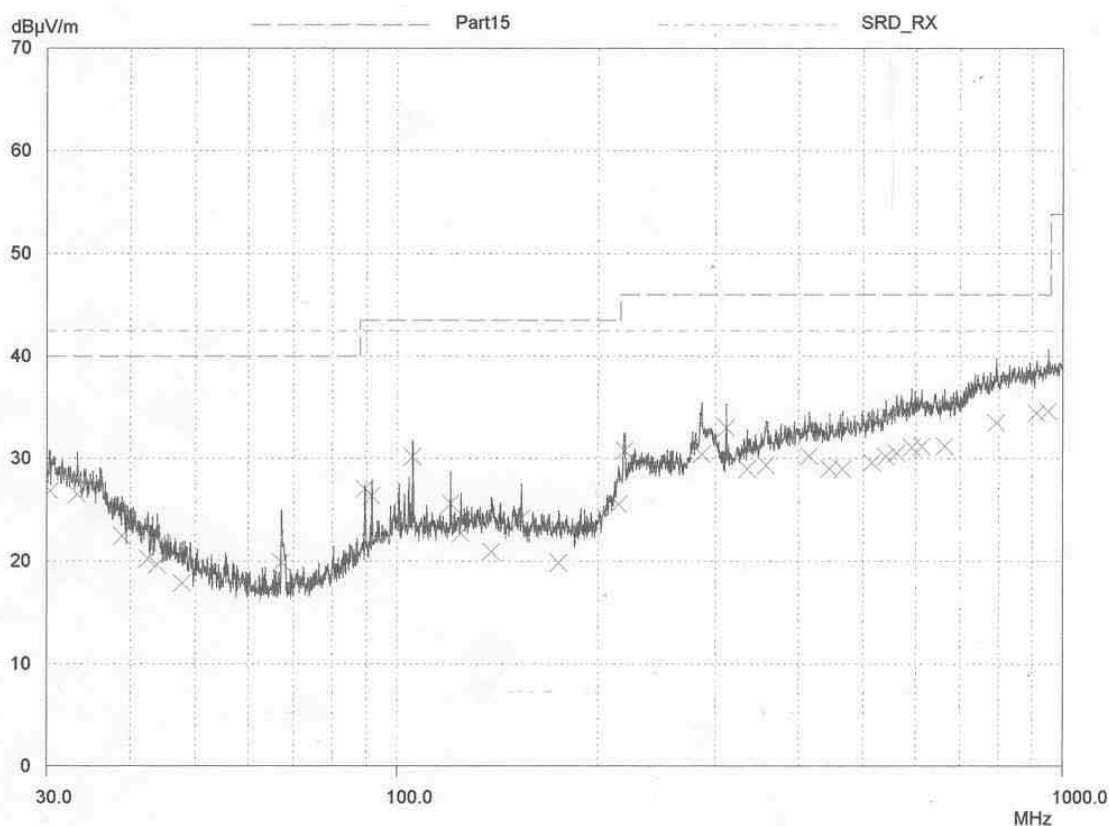
EMISSION GRAPHS

E-Field Radiation (30MHz-1GHz)

EUT: 64" Entry Level Board
Manuf: Promethean
Op Cond: Prescan 30MHz - 1000MHz
Operator: S Hodgkinson
Test Spec: Part15
Comment: Pen present, connected to PC via USB cable. Rx mode 2.4GHz enabled middle channel.
Rx antenna Vertical.

Scan Settings		(1 Range)			Receiver Settings			
		Frequencies						
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge
30MHz	1000MHz	50kHz	120kHz	PK	1msec	Auto	ON	60dB
Transducer	No.	Start	Stop	Name				
1	21	30MHz	1000MHz	UH72				
	22	30MHz	1000MHz	UH93				

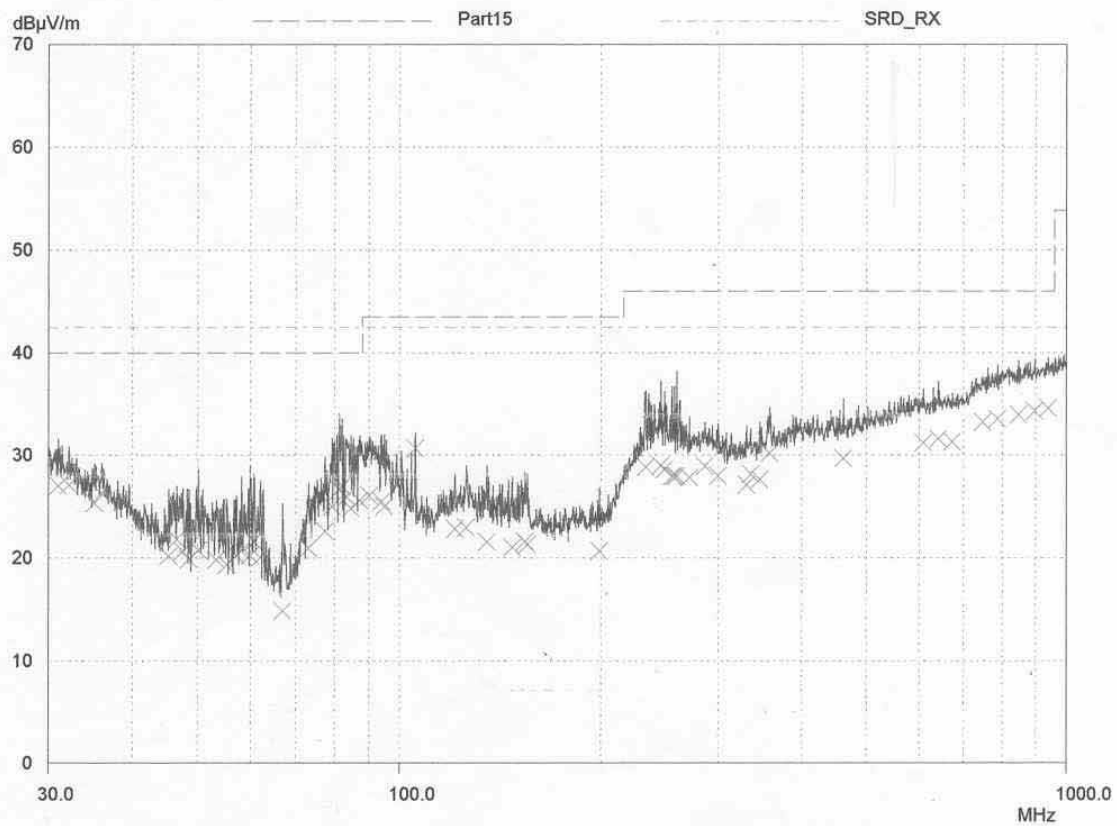
Final Measurement: Detector: X QP
Meas Time: 2sec
Subranges: 50
Acc Margin: 10 dB



E-Field Radiation (30MHz-1GHz)

EUT: 78" Entry Level Board
Manuf: Promethean
Op Cond: Prescan 30MHz - 1000MHz
Operator: S Hodgkinson
Test Spec: Part15
Comment: Pen present, connected to PC via USB cable, Rx 2.4GHz middle channel.
Rx antenna Vertical.

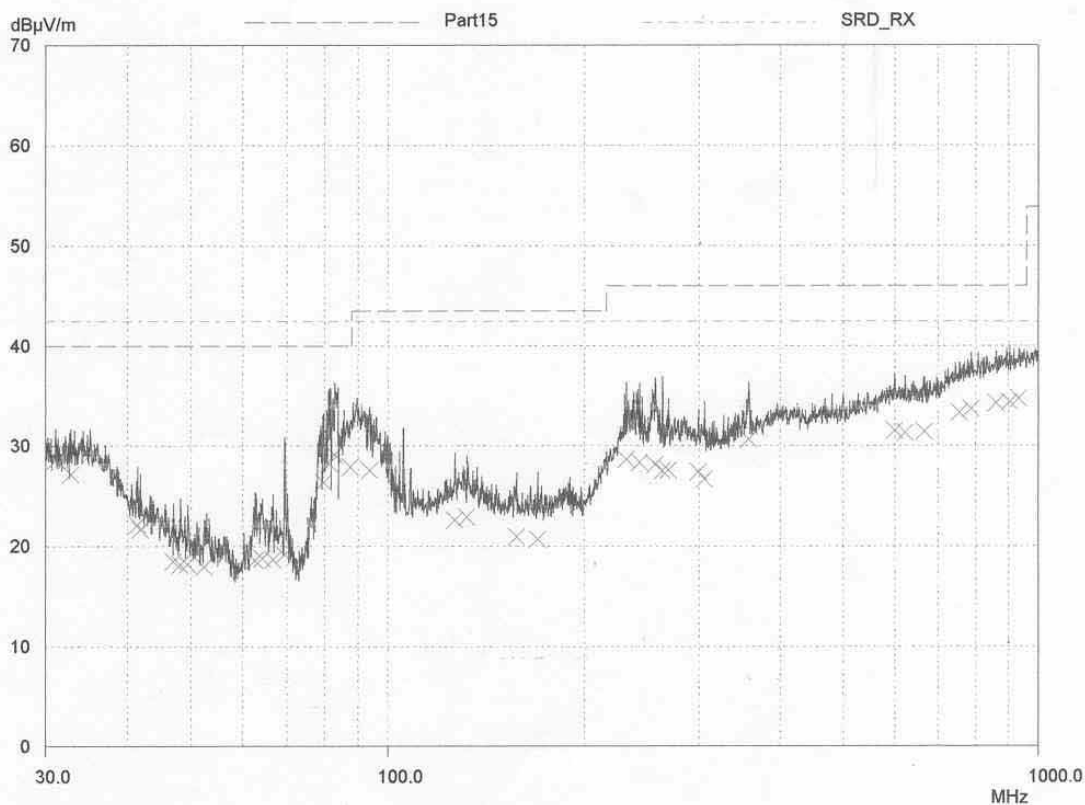
Scan Settings		(1 Range) Frequencies			Receiver Settings			
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge
30MHz	1000MHz	50kHz	120kHz	PK	1msec	Auto	ON	60dB
Transducer	No.	Start	Stop	Name				
1	21	30MHz	1000MHz	UH72				
	22	30MHz	1000MHz	UH93				
Final Measurement:		Detector:	X QP					
		Meas Time:	2sec					
		Subranges:	50					
		Acc Margin:	10 dB					



E-Field Radiation (30MHz-1GHz)

EUT: 78" Standard Level Board
Manuf: Promethean
Op Cond: Prescan 30MHz - 1000MHz
Operator: S Hodgkinson
Test Spec: Part15
Comment: Pen present, connected to PC via USB cable, 2.4GHz Rx middle channel, playing audio track via memory stick. No amp fitted.
Rx antenna Vertical.

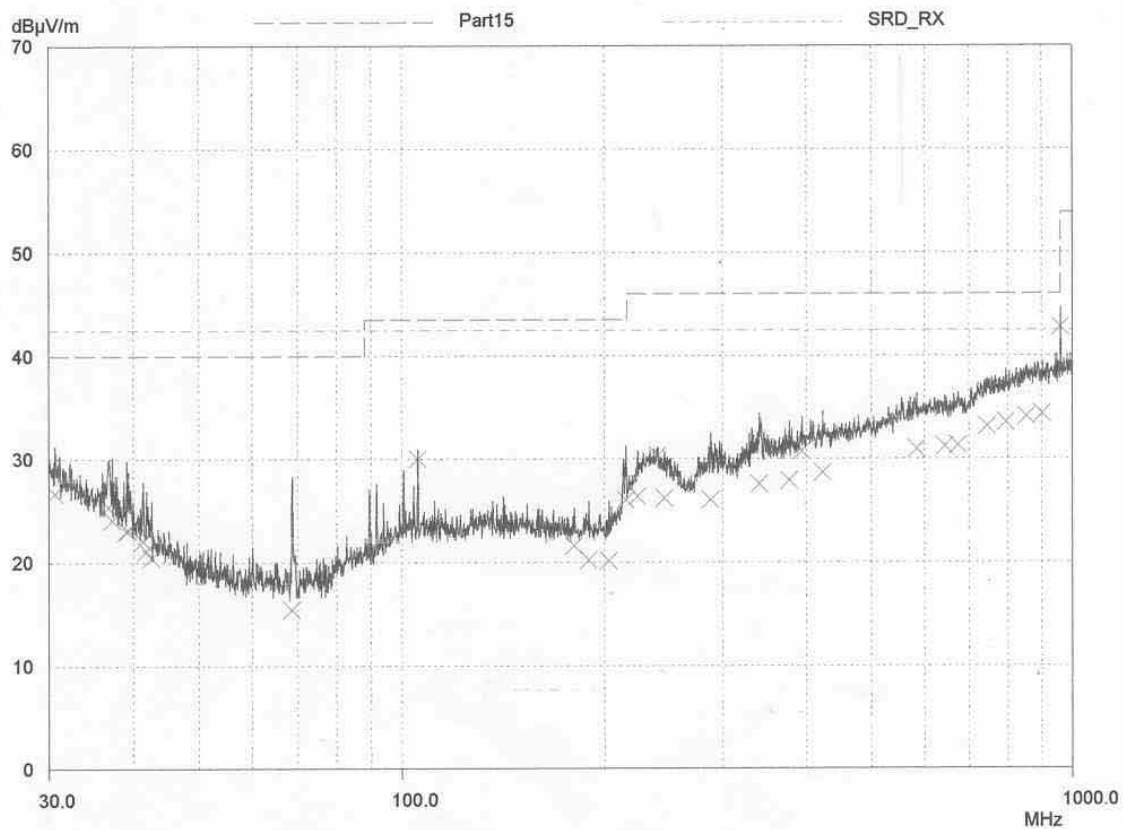
Scan Settings		(1 Range)				Receiver Settings			
		Frequencies							
Start	Stop		Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge
30MHz	1000MHz		50kHz	120kHz	PK	1msec	Auto	ON	60dB
Transducer	No.	Start	Stop	Name					
1	21	30MHz	1000MHz	UH72					
	22	30MHz	1000MHz	UH93					
Final Measurement:		Detector:	X QP						
		Meas Time:	2sec						
		Subranges:	50						
		Acc Margin:	10 dB						



E-Field Radiation (30MHz-1GHz)

EUT: 87" Standard Board
Manuf: Promethean
Op Cond: Prescan 30MHz - 1000MHz
Operator: S Hodgkinson
Test Spec: Part15
Comment: Pen present, Rx 2.4GHz middle channel, playing audio track via memory stick. Connected to PC via USB cable.
Rx antenna Horizontal.

Scan Settings			(1 Range)			Receiver Settings			
Frequencies									
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge	
30MHz	1000MHz	50kHz	120kHz	PK	1msec	Auto	ON	60dB	
Transducer	No.	Start	Stop	Name					
1	21	30MHz	1000MHz	UH72					
	22	30MHz	1000MHz	UH93					
Final Measurement:			Detector:	X QP					
			Meas Time:	2sec					
			Subranges:	50					
			Acc Margin:	10 dB					

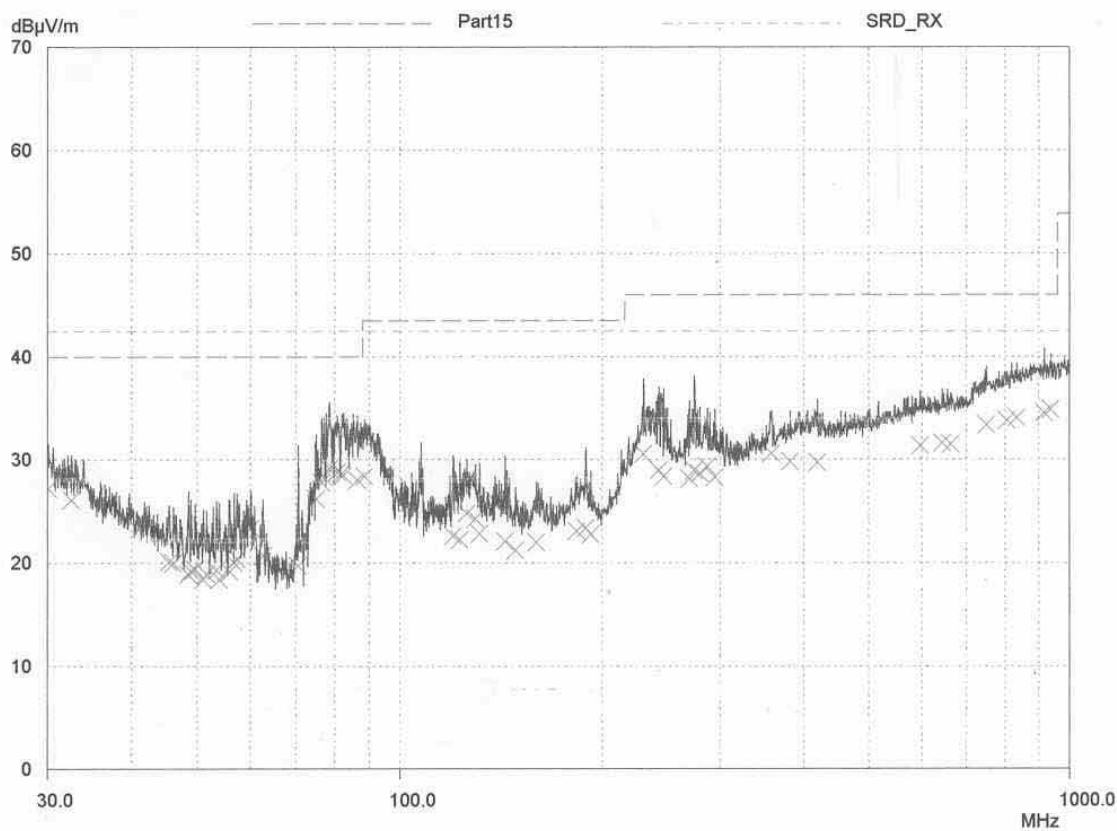


E-Field Radiation (30MHz-1GHz)

EUT: 95" Standard Board
Manuf: Promethean
Op Cond: Prescan 30MHz - 1000MHz
Operator: S Hodgkinson
Test Spec: Part15
Comment: Pen present, Rx 2.4GHz middle channel playing audio track via memory stick. Connected to PC via USB cable.
Rx antenna Vertical.

Scan Settings		(1 Range)				Receiver Settings			
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge	
30MHz	1000MHz	50kHz	120kHz	PK	1msec	Auto	ON	60dB	
Transducer	No.	Start	Stop	Name					
1	21	30MHz	1000MHz	UH72					
	22	30MHz	1000MHz	UH93					

Final Measurement: Detector: X QP
Meas Time: 2sec
Subranges: 50
Acc Margin: 10 dB



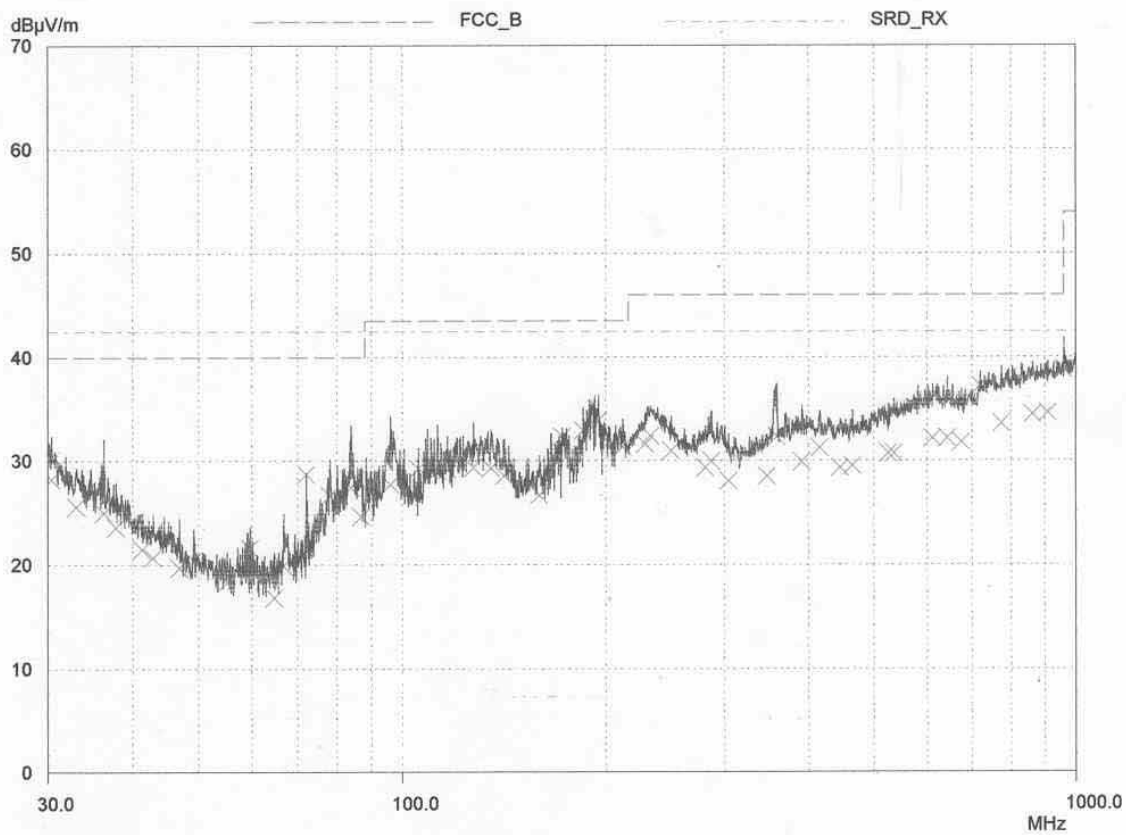
E-Field Radiation (30MHz-1GHz)

EUT: 78" Premium Baord
Manuf: Promethean Ltd
Op Cond: Prescan 30MHz - 1000MHz
Operator: S Hodgkinson
Test Spec: Part15
Comment: Pen Present RX MODE Playing Audio track Via memory stick. PC connected Via USB
Amp Ports Terminated. Rx antenna Vertical
Result File: plot11~1.dat : PART 15.247 TOP TX Vertical

Scan Settings			(1 Range)		Receiver Settings				
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge	
30MHz	1000MHz	50kHz	120kHz	PK	1msec	Auto	ON	60dB	

Transducer	No.	Start	Stop	Name
1	21	30MHz	1000MHz	UH72
	22	30MHz	1000MHz	UH93

Final Measurement: Detector: X QP
Meas Time: 2sec
Subranges: 50
Acc Margin: 20 dB



E-Field Radiation (30MHz-1GHz)

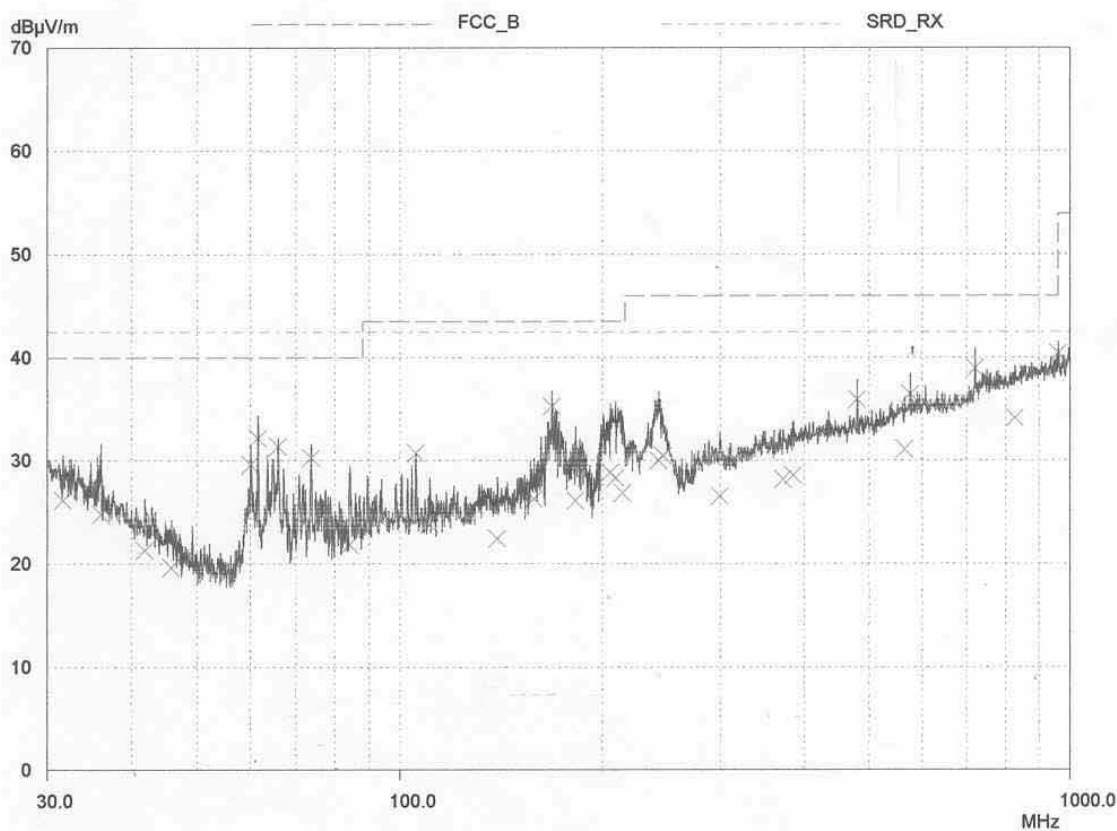
EUT: 87" Premium Baord
Manuf: Promethean Ltd
Op Cond: Prescan 30MHz - 1000MHz
Operator: S Hodgkinson
Test Spec: Part15
Comment: Pen Present RX MODE Playing Audio track Via memory stick. PC connected Via USB
Amp Ports Terminated. Rx antenna Horizontal
Result File: plot11~1.dat : PART 15.247 TOP TX Vertical

Scan Settings

(1 Range)

Frequencies				Receiver Settings				
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge
30MHz	1000MHz	50kHz	120kHz	PK	1msec	Auto	ON	60dB
Transducer	No.	Start	Stop	Name				
1	21	30MHz	1000MHz	UH72				
	22	30MHz	1000MHz	UH93				

Final Measurement: Detector: X QP
Meas Time: 2sec
Subranges: 50
Acc Margin: 20 dB



E-Field Radiation (30MHz-1GHz)

EUT: 95" Premium Board

Manuf: Promethean

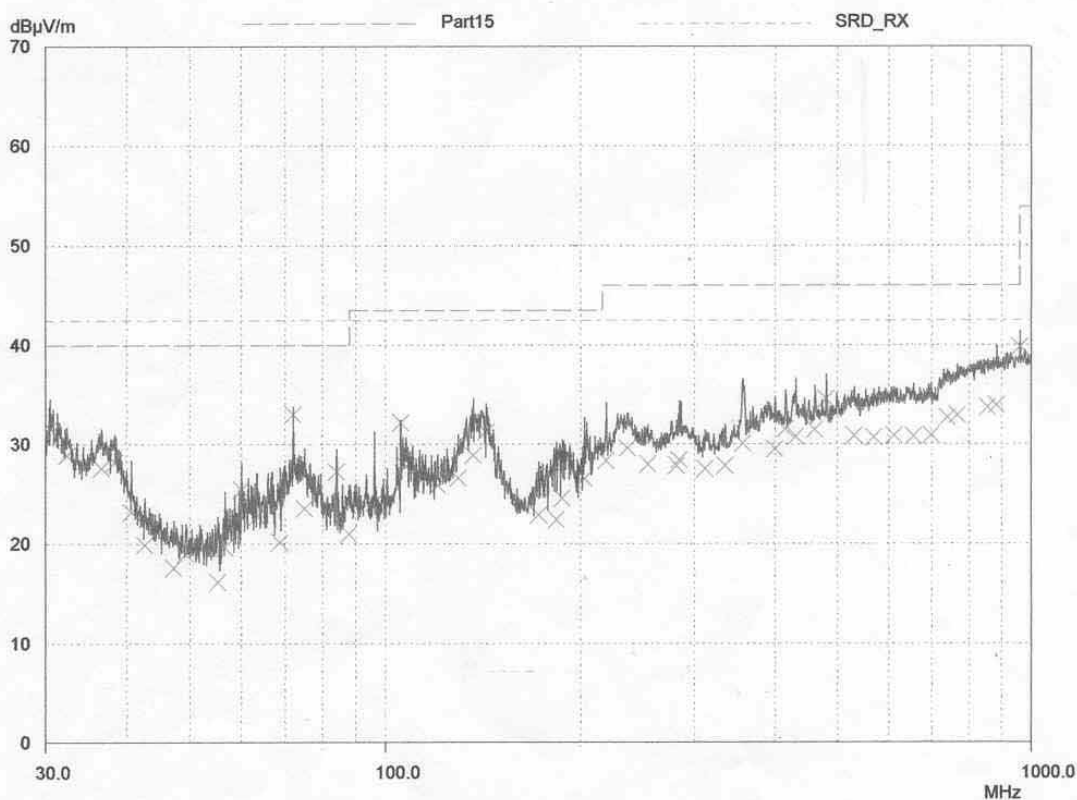
Op Cond: Prescan 30MHz - 1000MHz

Operator: S Hodgkinson

Test Spec: Part15

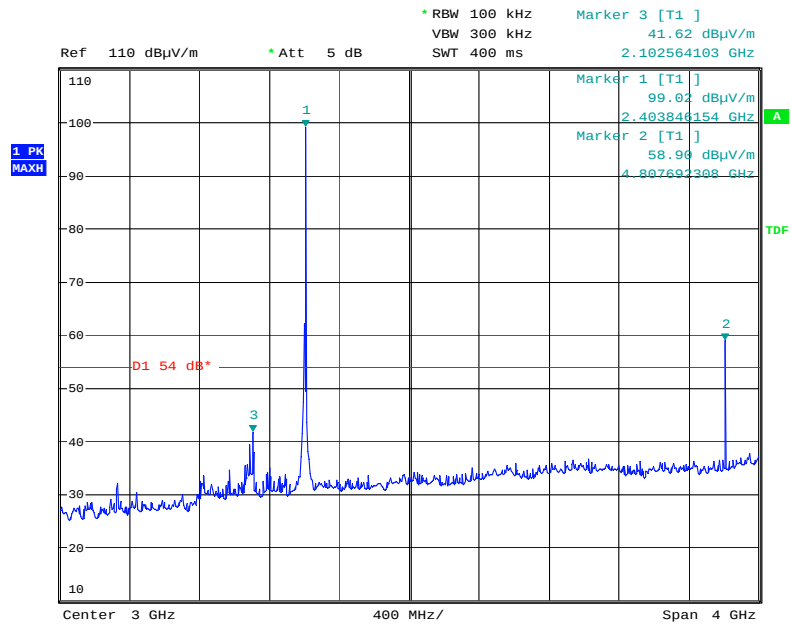
Comment: Pen present, Rx mode middle channel, playing audio track via memory stick, connected to PC via USB lead. amp ports termina
Rx antenna Vertical.

Scan Settings		(1 Range)			Receiver Settings			
Frequencies								
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge
30MHz	1000MHz	50kHz	120kHz	PK	1msec	Auto	ON	60dB
Transducer	No.	Start	Stop	Name				
1	21	30MHz	1000MHz	UH72				
	22	30MHz	1000MHz	UH93				
Final Measurement:		Detector:	X QP					
		Meas Time:	2sec					
		Subranges:	50					
		Acc Margin:	10 dB					



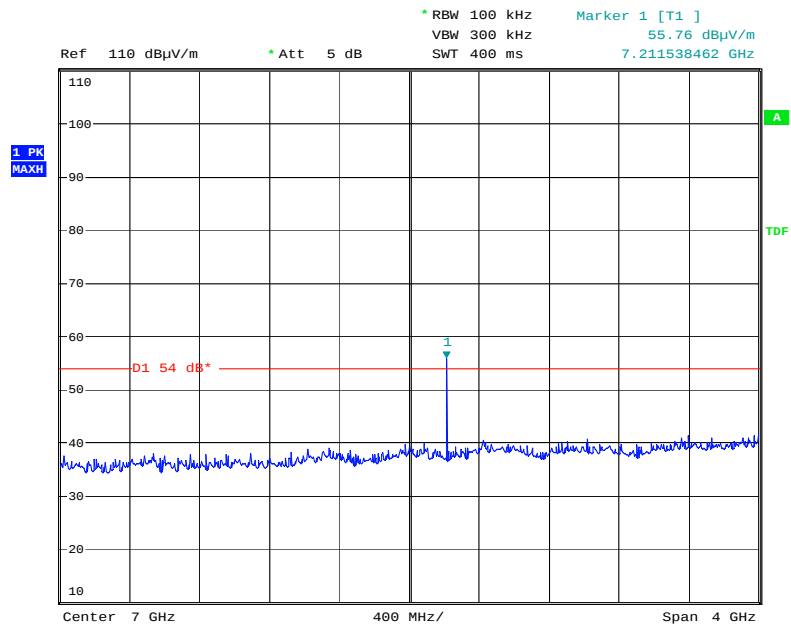
64" BOARD

Tx BOTTOM 1 – 5GHz



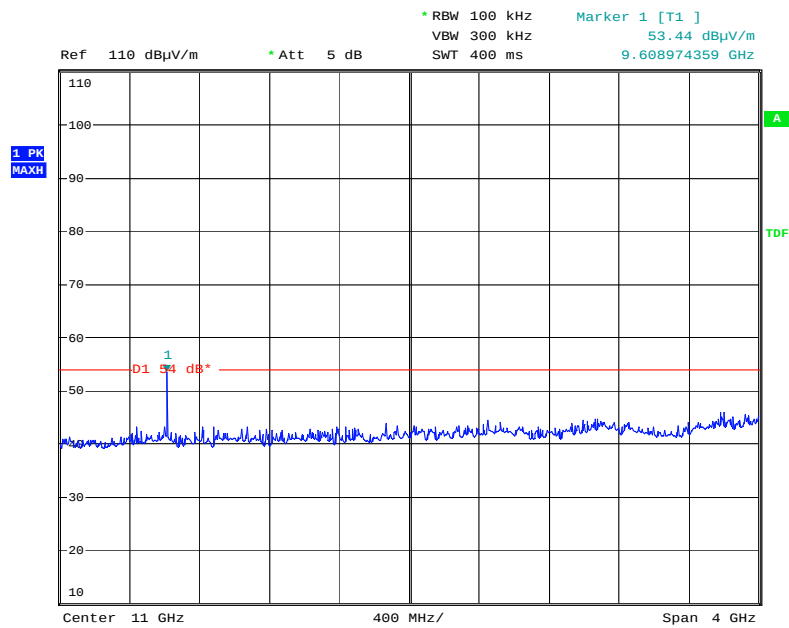
Date: 31.MAR.2009 15:57:03

Tx BOTTOM 5 – 9GHz



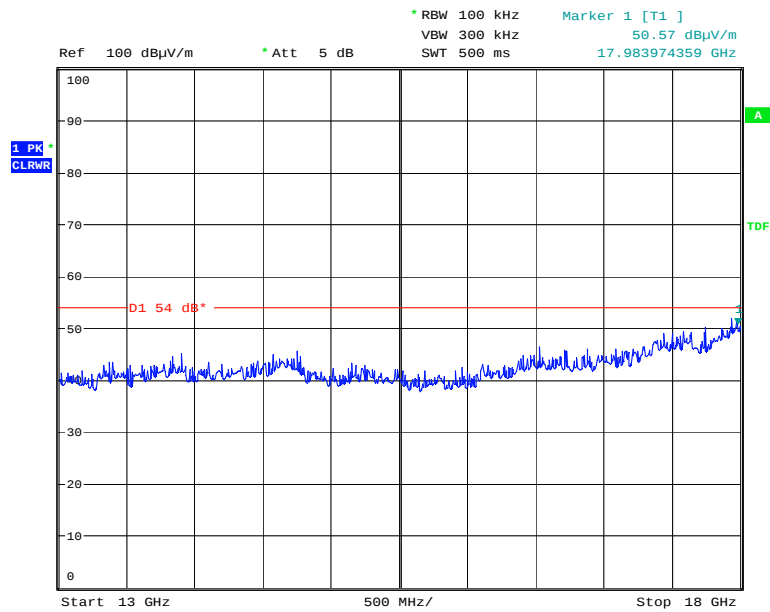
Date: 31.MAR.2009 15:57:13

Tx BOTTOM 9 – 13GHz



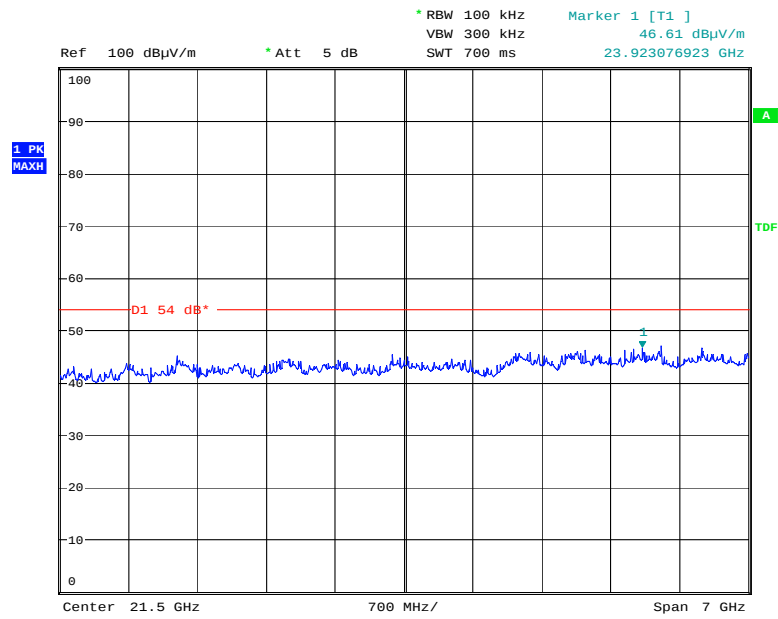
Date: 31.MAR.2009 15:57:22

Tx BOTTOM 13 – 18GHz



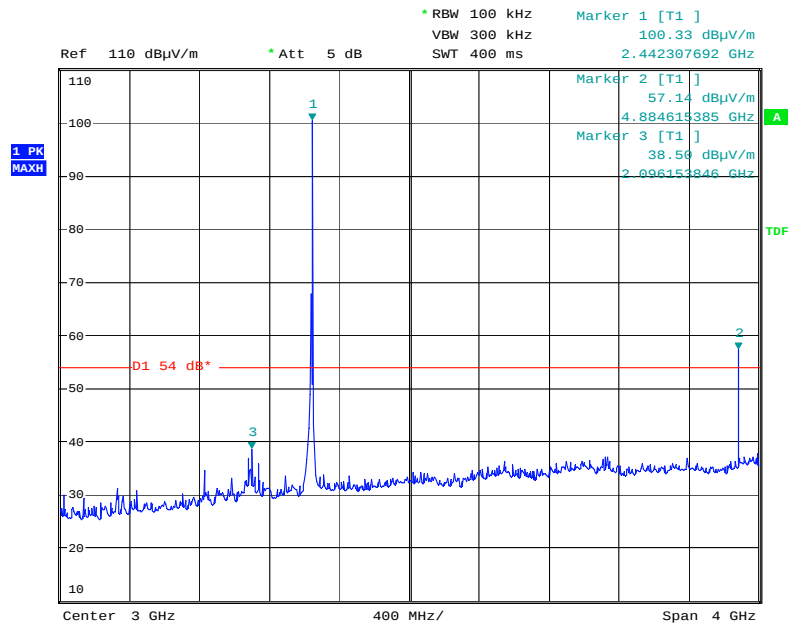
Date: 31.MAR.2009 15:57:37

Tx BOTTOM 18 – 25GHz



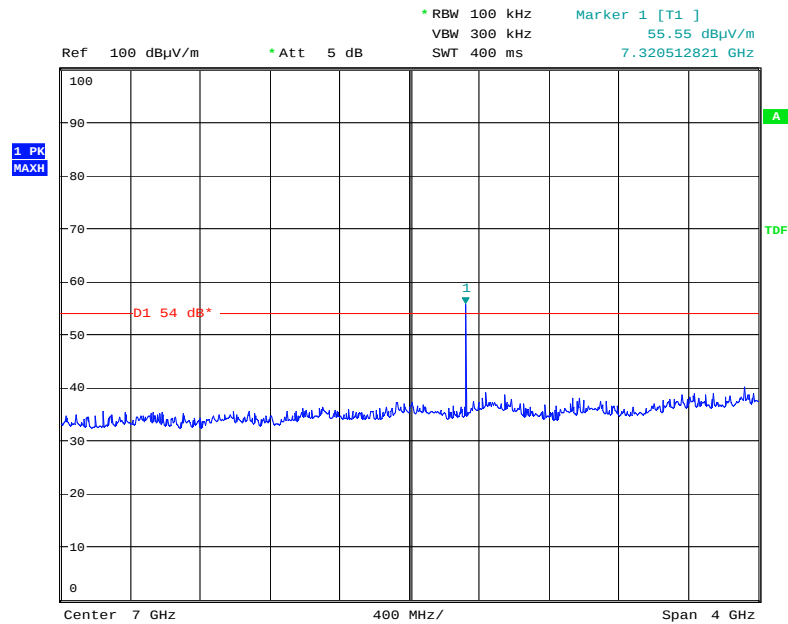
Date: 31.MAR.2009 16:14:50

Tx MIDDLE 1 – 5GHz



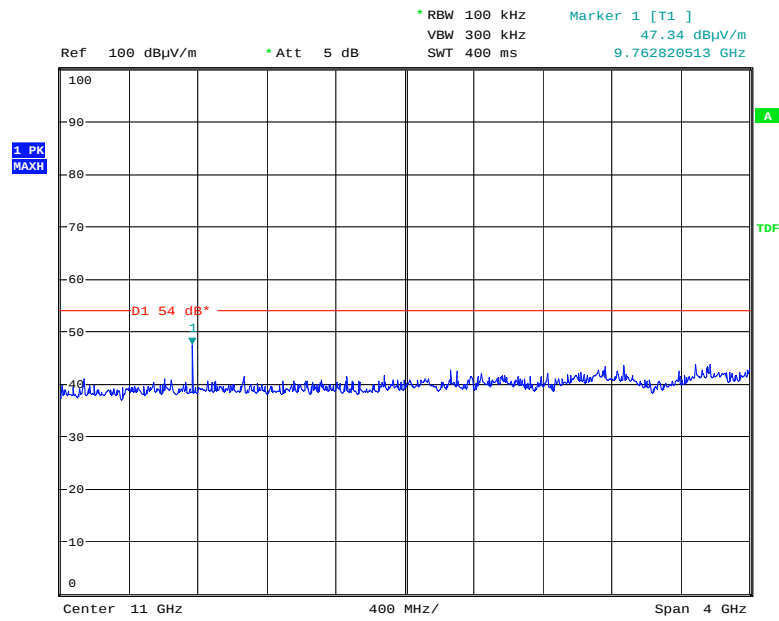
Date: 31.MAR.2009 15:56:29

Tx MIDDLE 5 – 9GHz



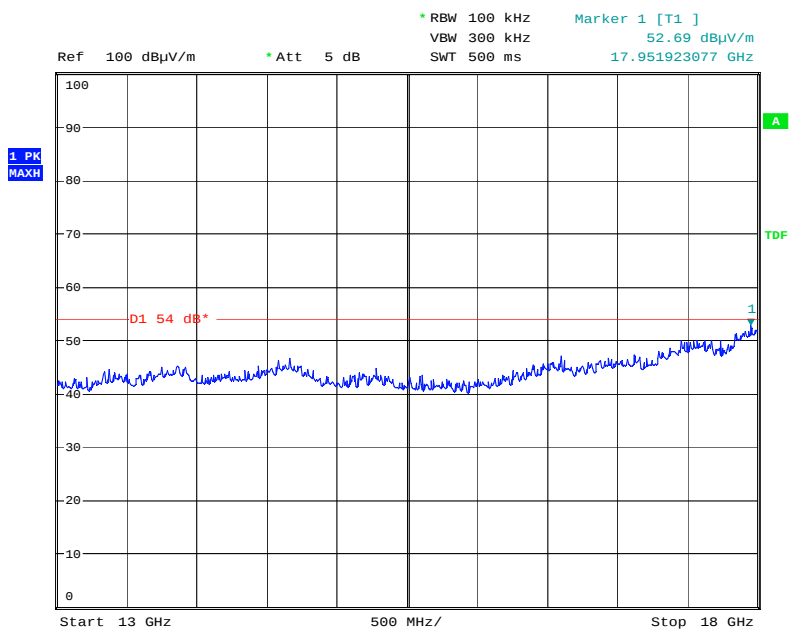
Date: 31.MAR.2009 15:56:08

Tx MIDDLE 9 – 13GHz



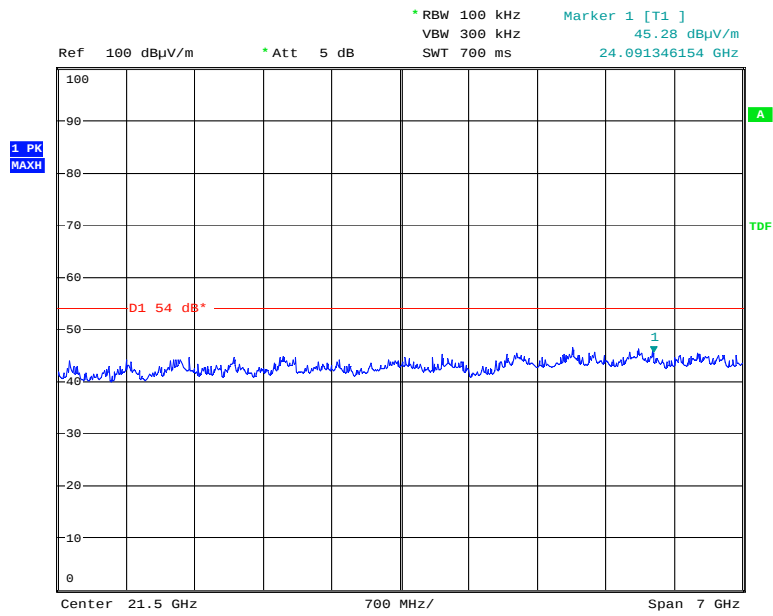
Date: 31.MAR.2009 15:55:59

Tx MIDDLE 13 – 18GHz



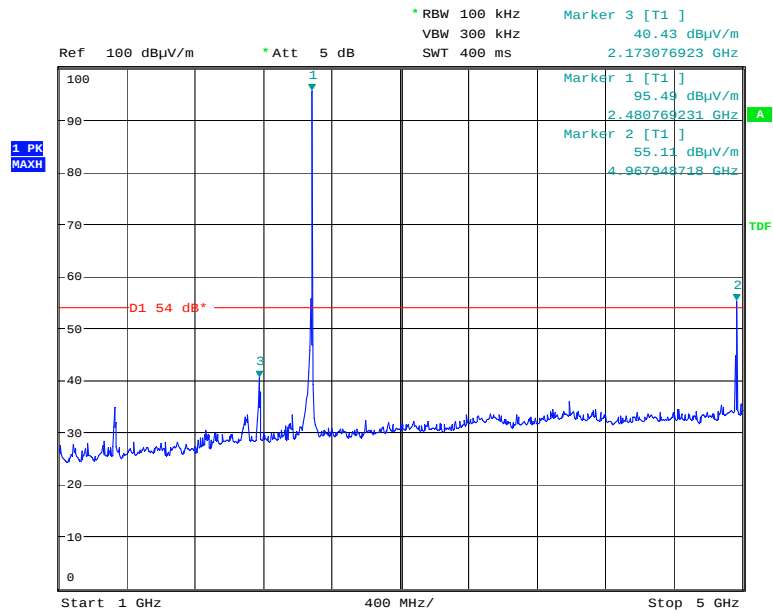
Date: 31.MAR.2009 15:55:47

Tx MIDDLE 18 – 25GHz



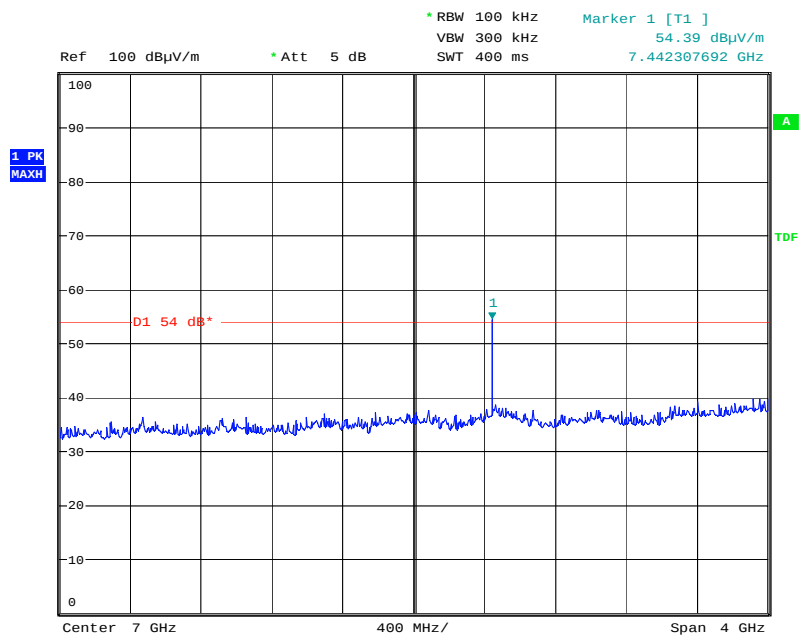
Date: 31.MAR.2009 16:15:13

Tx TOP 1 – 5GHz



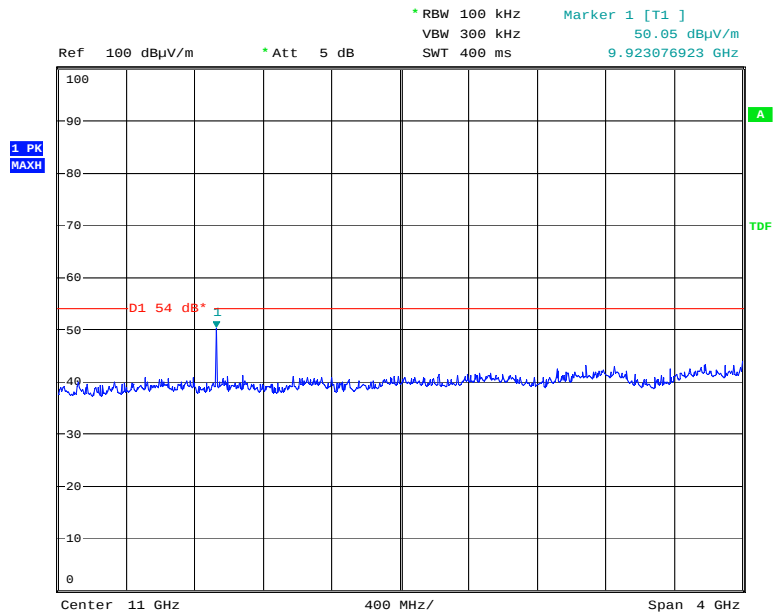
Date: 31.MAR.2009 15:52:08

Tx MIDDLE 5 – 9GHz



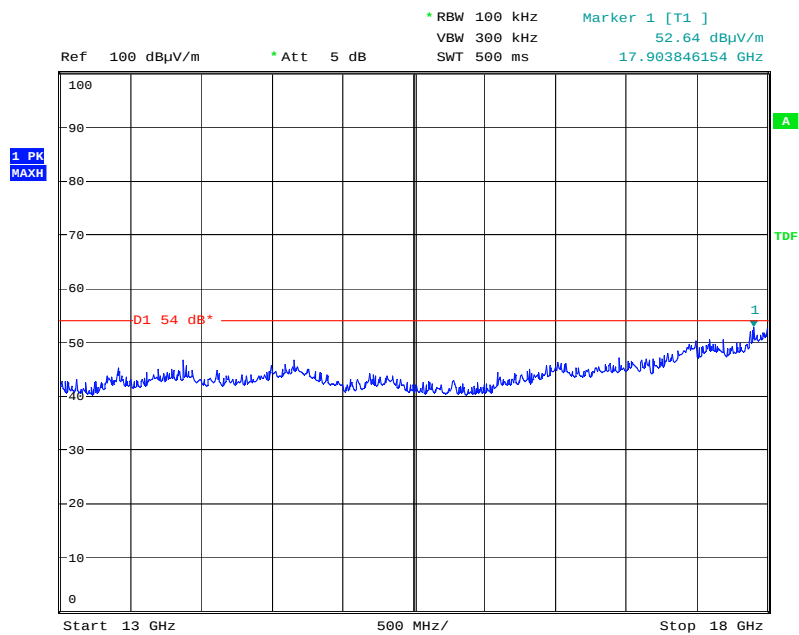
Date: 31.MAR.2009 15:52:32

Tx TOP 9 – 13GHz



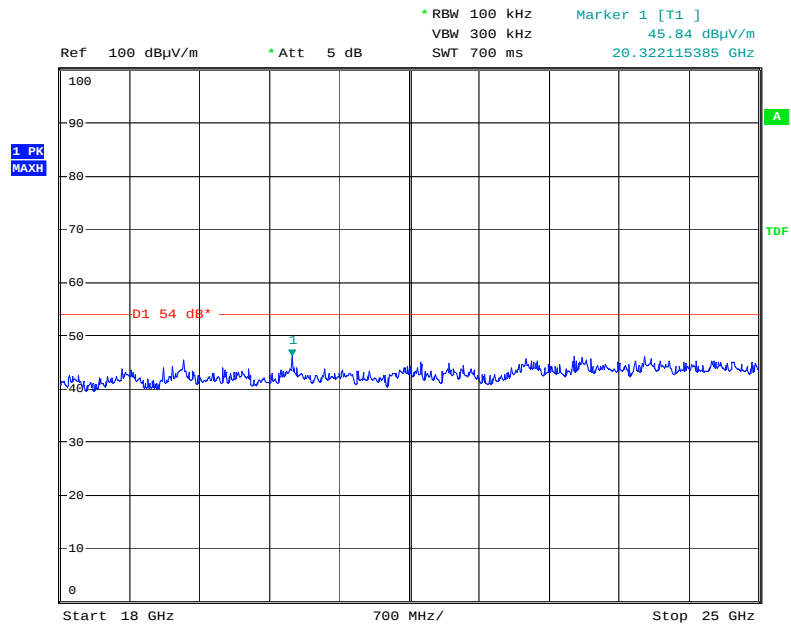
Date: 31.MAR.2009 15:52:43

Tx TOP 13 – 18GHz



Date: 31.MAR.2009 15:52:59

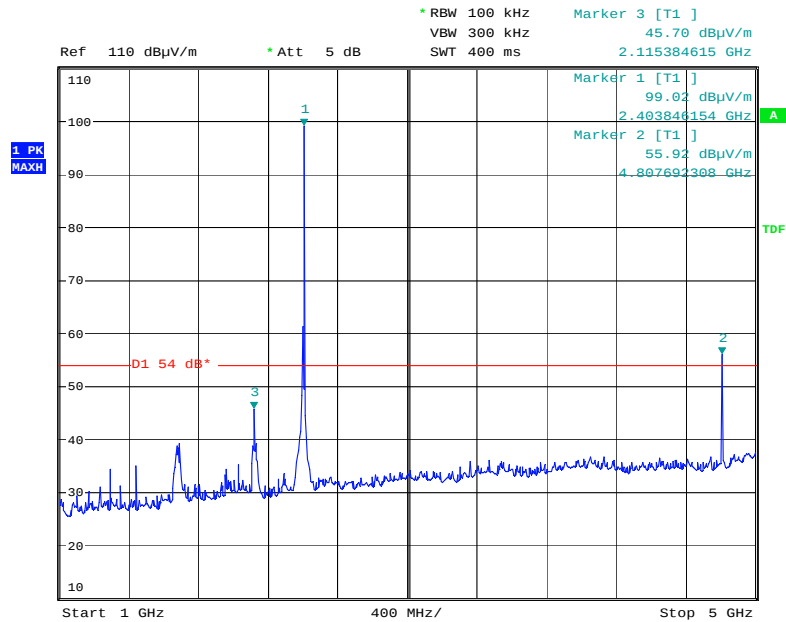
Tx TOP 18 – 25GHz



Date: 31.MAR.2009 16:16:07

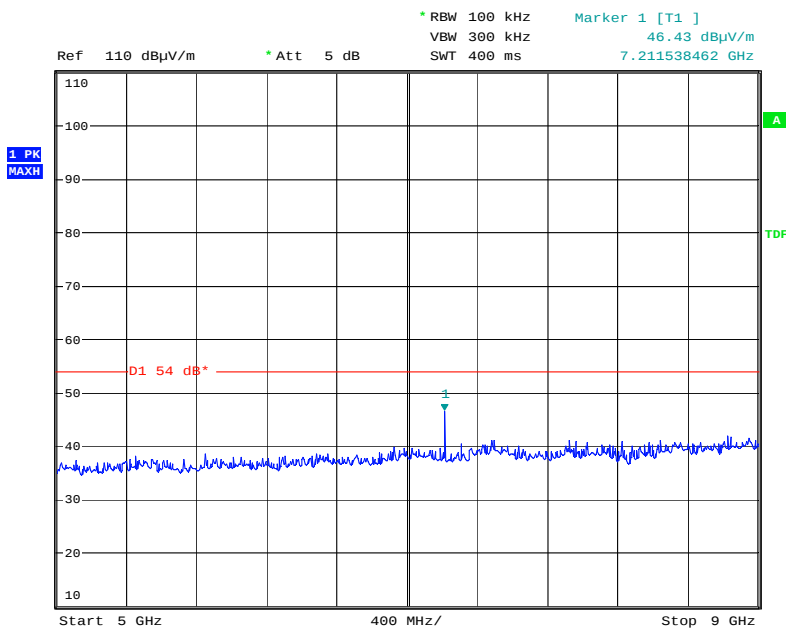
78" BOARD

Tx BOTTOM 1 – 5GHz



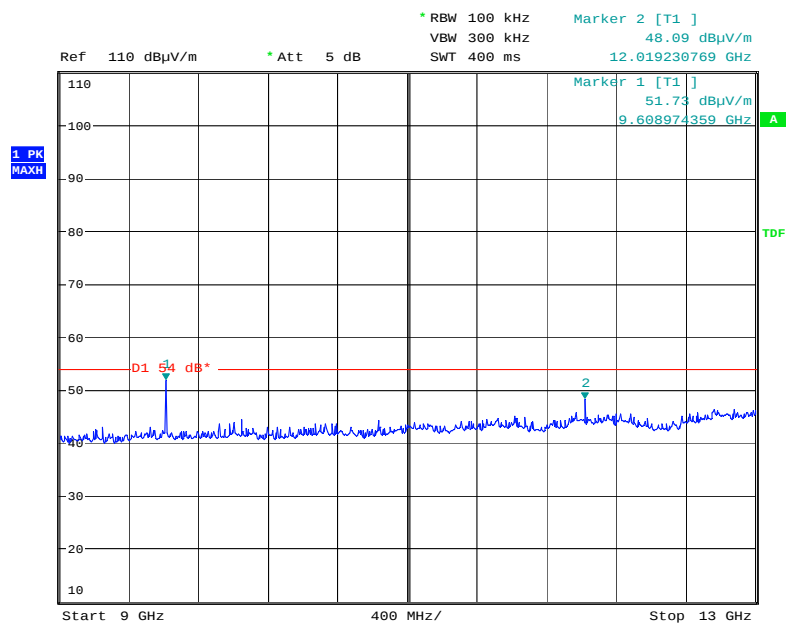
Date: 31.MAR.2009 11:59:47

Tx BOTTOM 5 – 9GHz



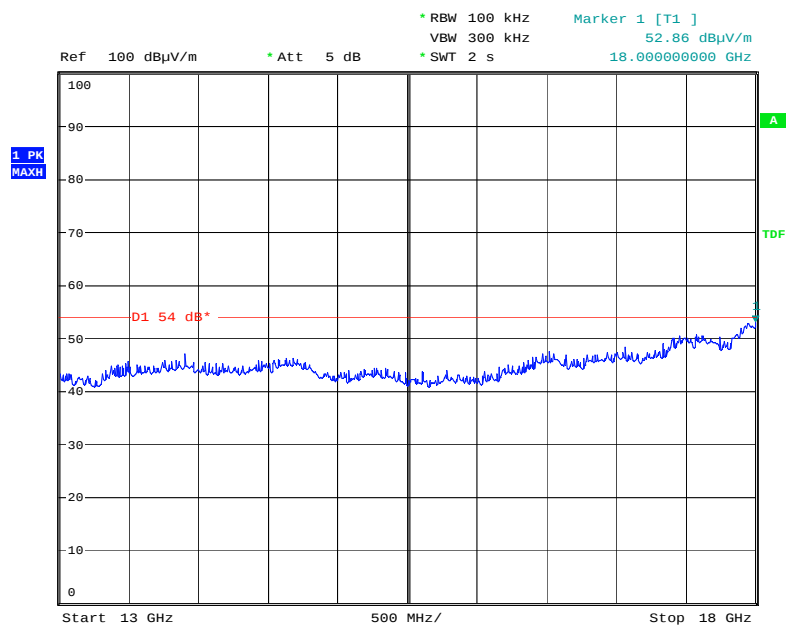
Date: 31.MAR.2009 12:00:00

Tx BOTTOM 9 – 13GHz



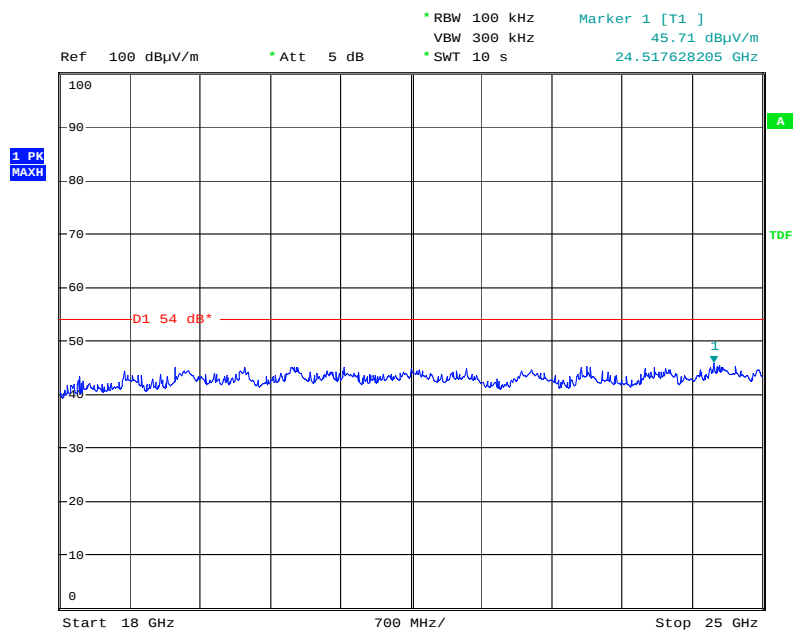
Date: 31.MAR.2009 12:00:29

Tx BOTTOM 13 – 18GHz



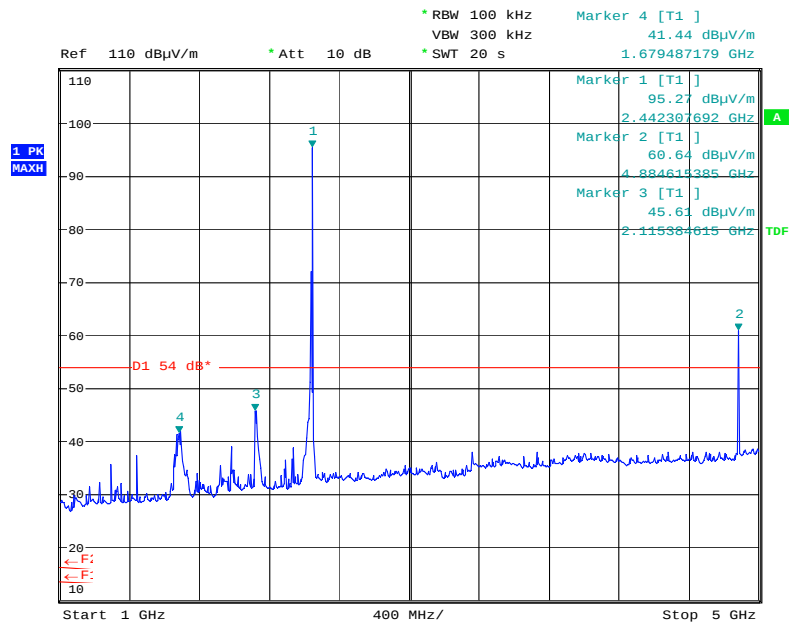
Date: 31.MAR.2009 12:00:57

Tx BOTTOM 18 – 26GHz



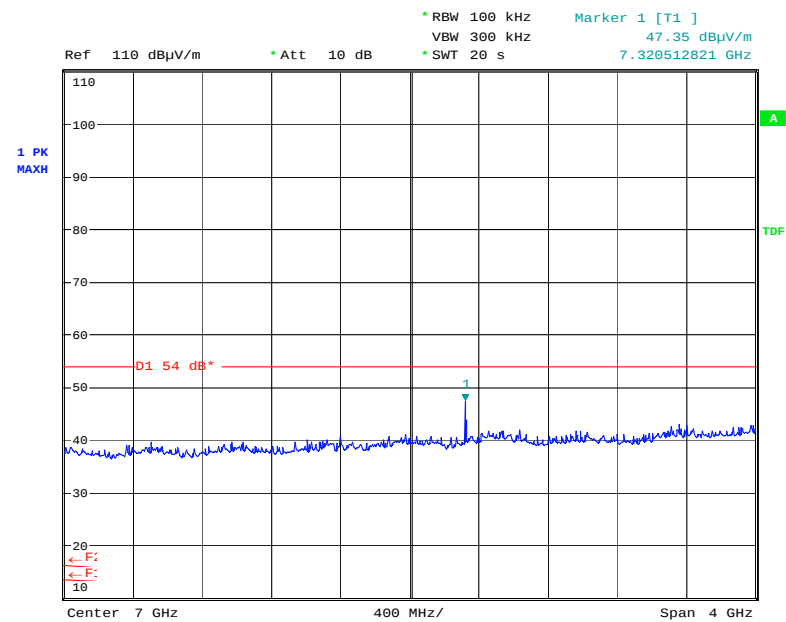
Date: 31.MAR.2009 11:25:58

Tx MIDDLE 1 – 5GHz



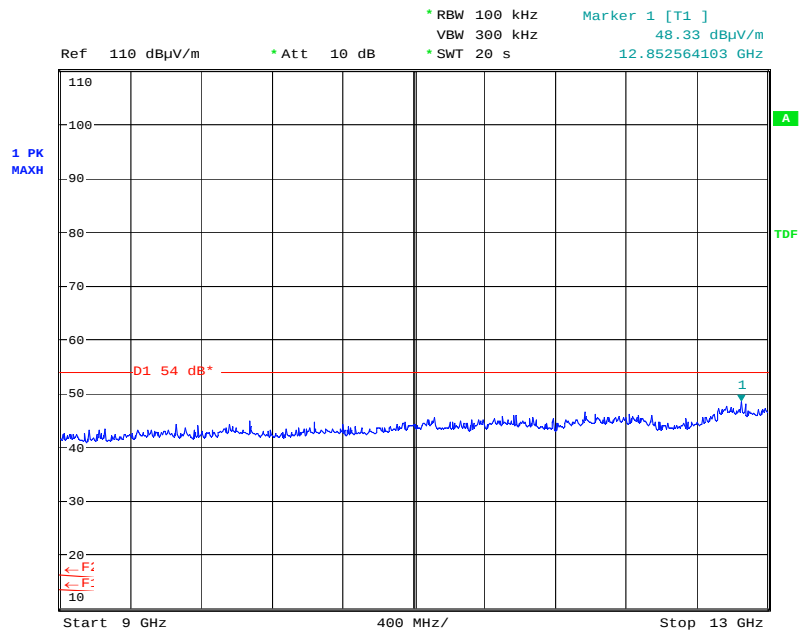
Date: 31.MAR.2009 10:41:28

Tx MIDDLE 5 – 9GHz



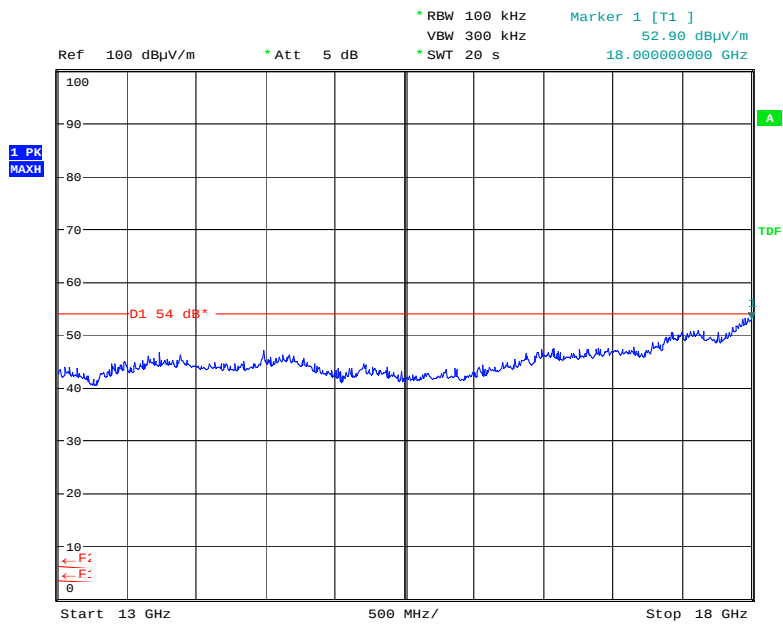
Date: 31.MAR.2009 10:42:44

Tx MIDDLE 9 – 13GHz



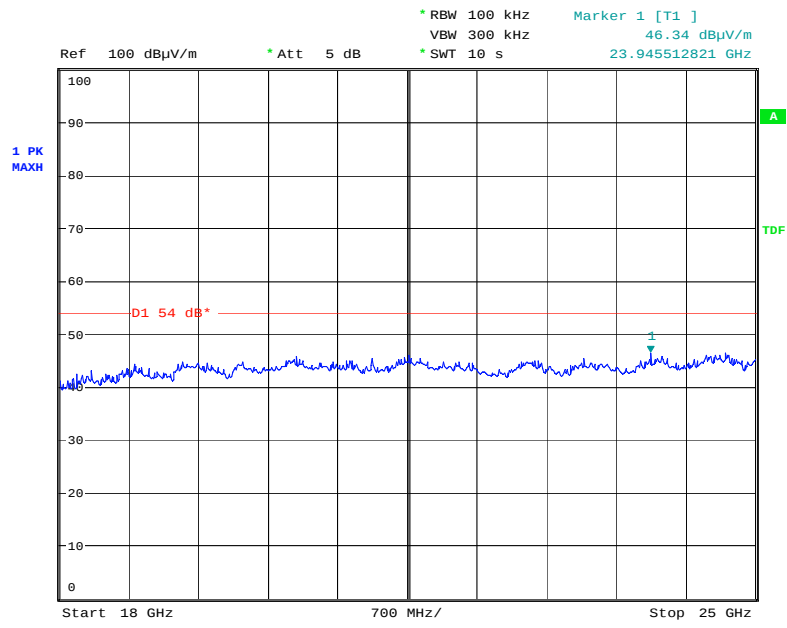
Date: 31.MAR.2009 10:43:43

Tx MIDDLE 13 – 18GHz



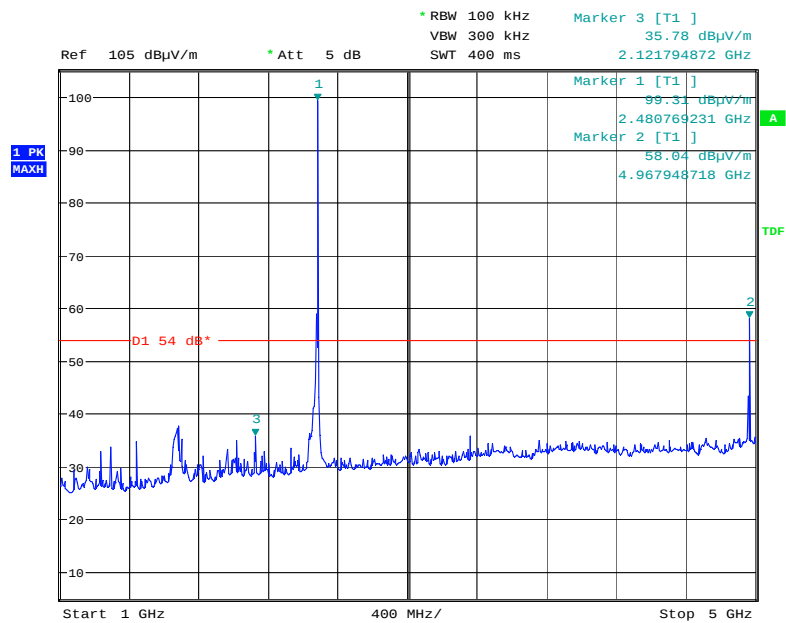
Date: 31.MAR.2009 10:45:14

Tx MIDDLE 18 – 26GHz



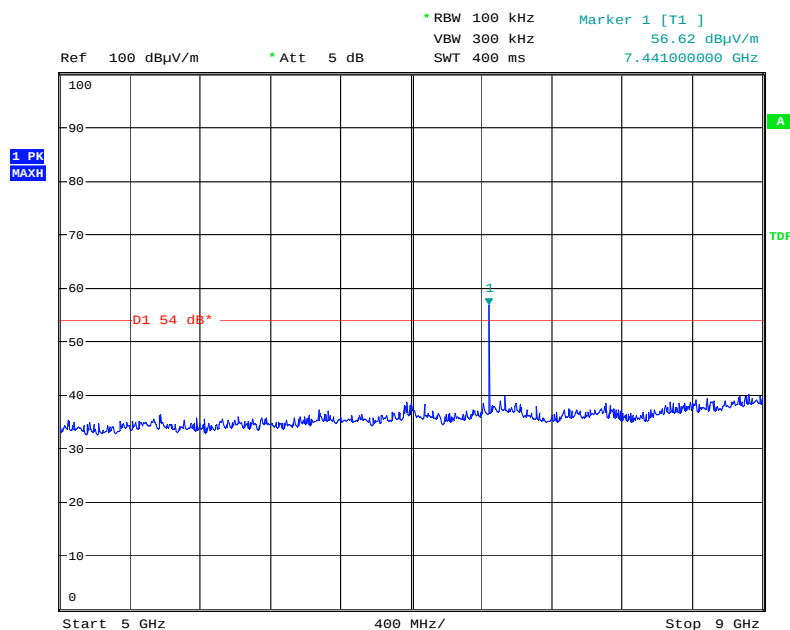
Date: 31.MAR.2009 11:23:16

Tx TOP 1 – 5GHz



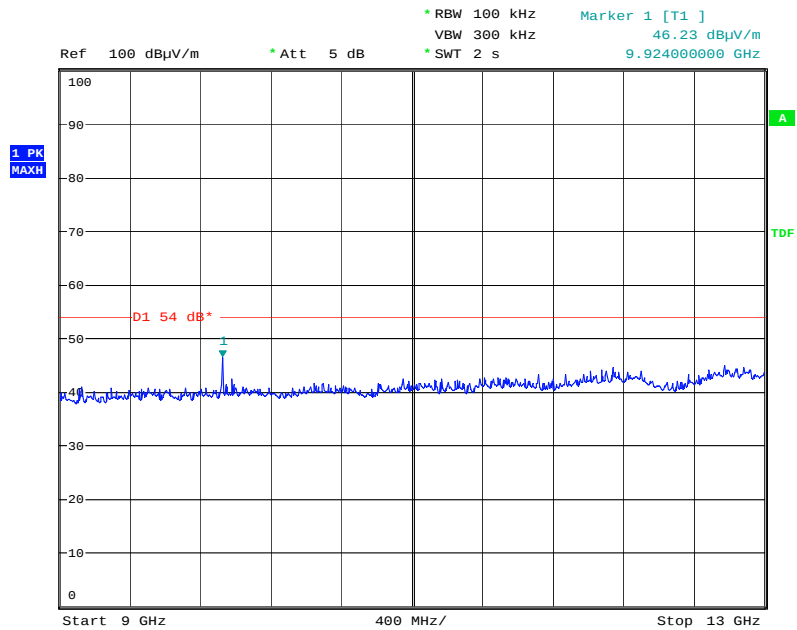
Date: 31.MAR.2009 12:28:29

Tx TOP 5 – 9GHz



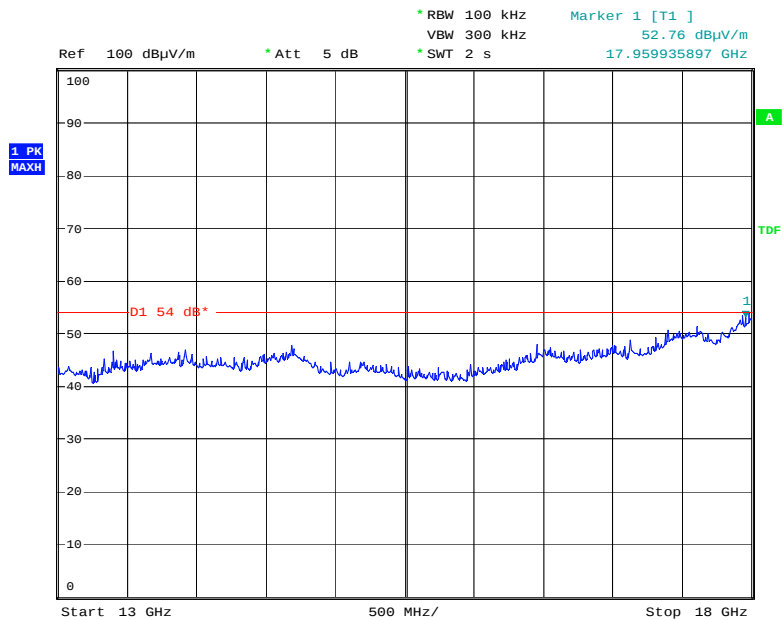
Date: 31.MAR.2009 12:27:55

Tx TOP 9 – 13GHz



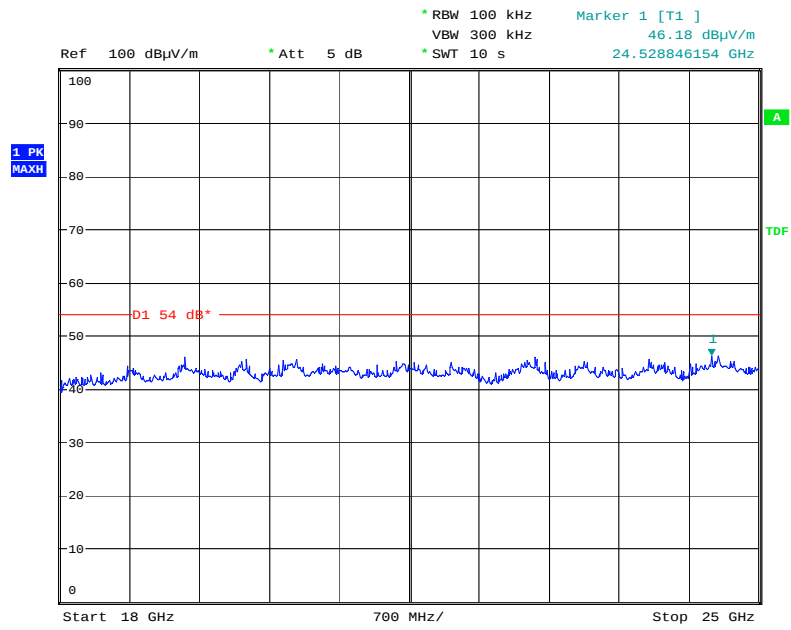
Date: 31.MAR.2009 12:27:28

Tx TOP 13 – 18GHz



Date: 31.MAR.2009 12:27:04

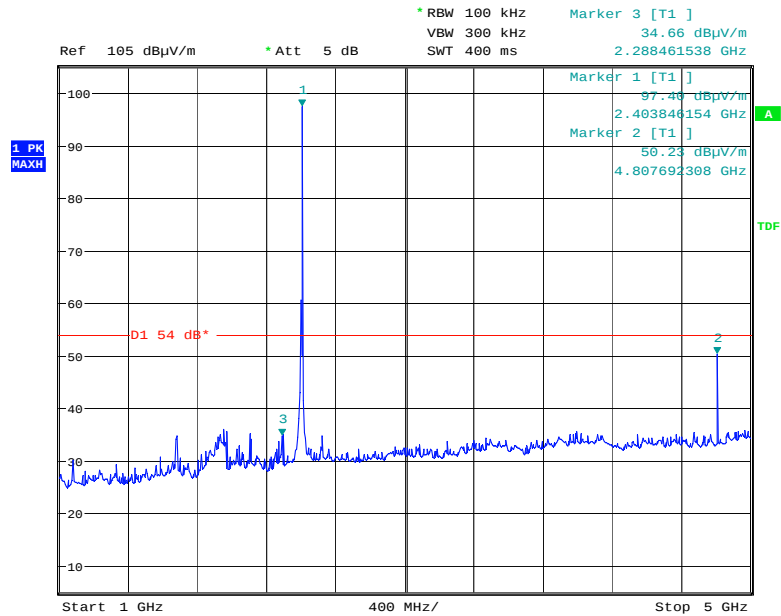
Tx TOP 18 – 26GHz



Date: 31.MAR.2009 11:26:53

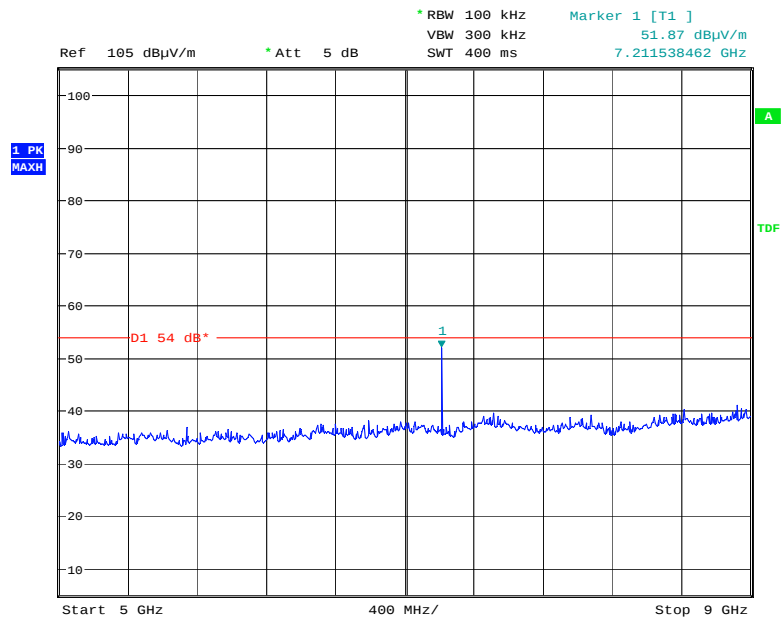
87" BOARD

Tx BOTTOM 1 – 5GHz



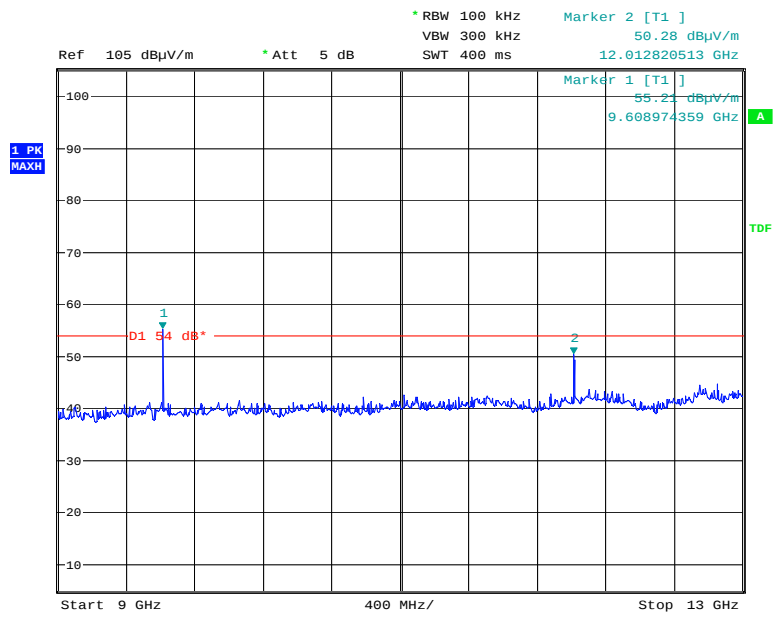
Date: 31.MAR.2009 13:56:53

Tx BOTTOM 5 – 9GHz



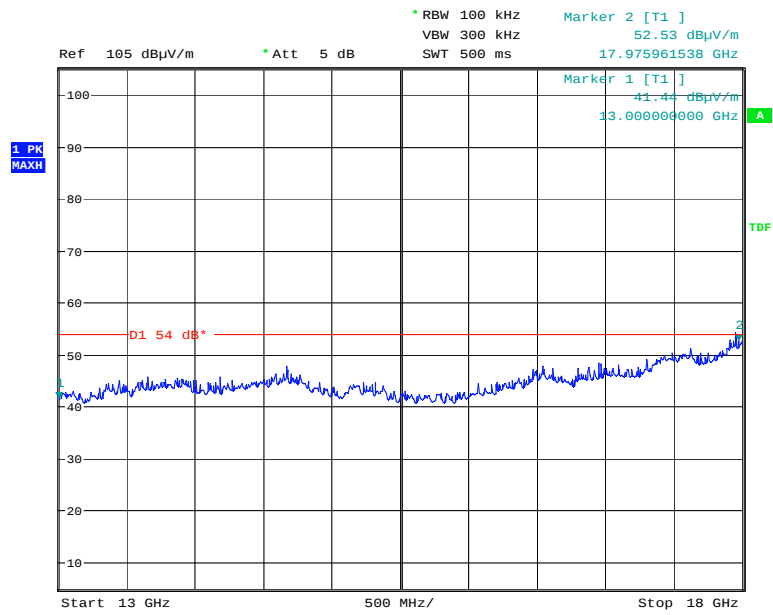
Date: 31.MAR.2009 13:57:30

Tx BOTTOM 9 –13GHz



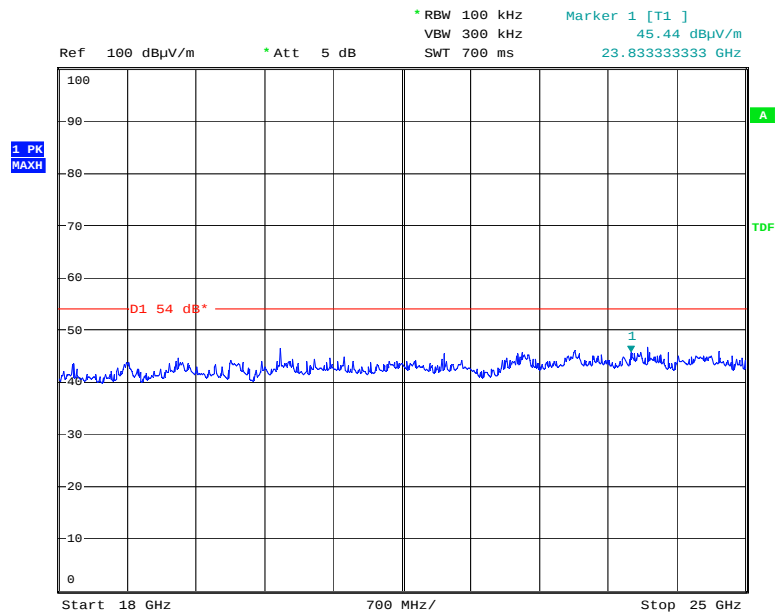
Date: 31.MAR.2009 13:57:43

Tx BOTTOM 13 – 18GHz



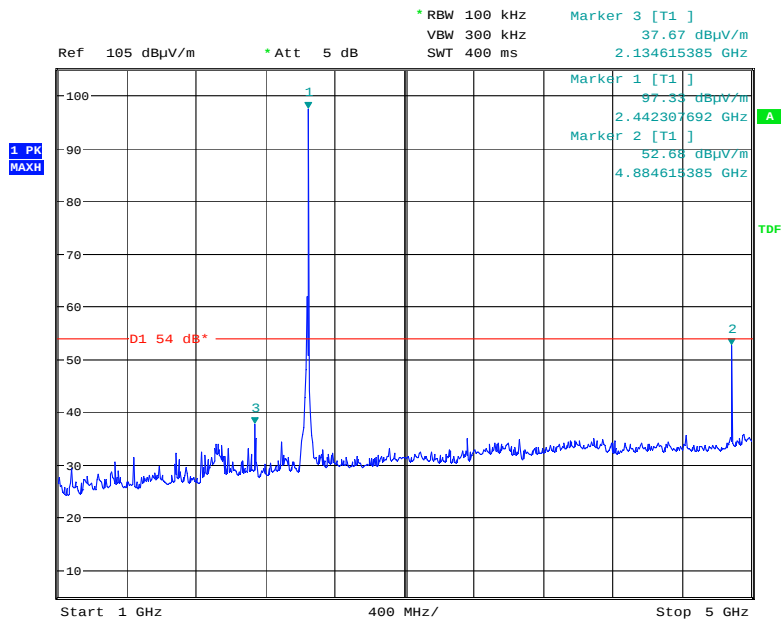
Date: 31.MAR.2009 13:57:57

Tx BOTTOM 18 – 25GHz



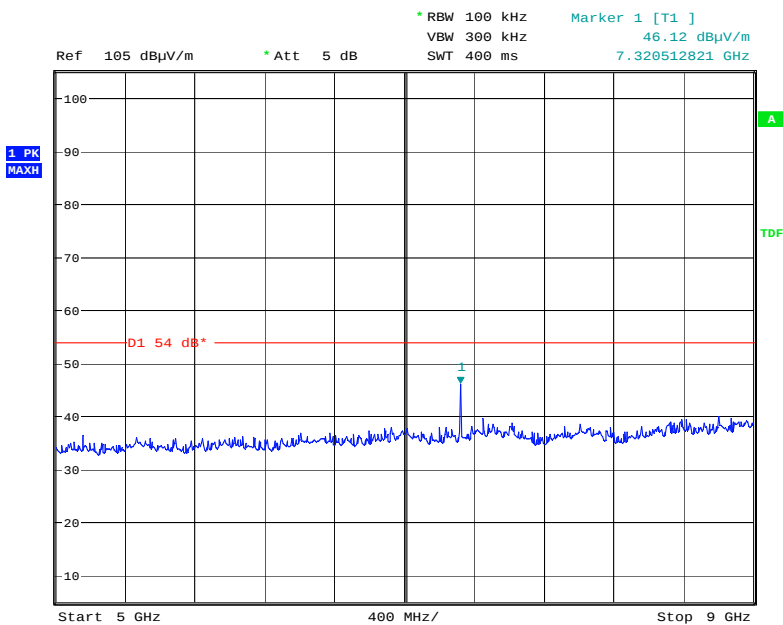
Date: 31.MAR.2009 14:19:18

Tx MIDDLE 1 – 5GHz



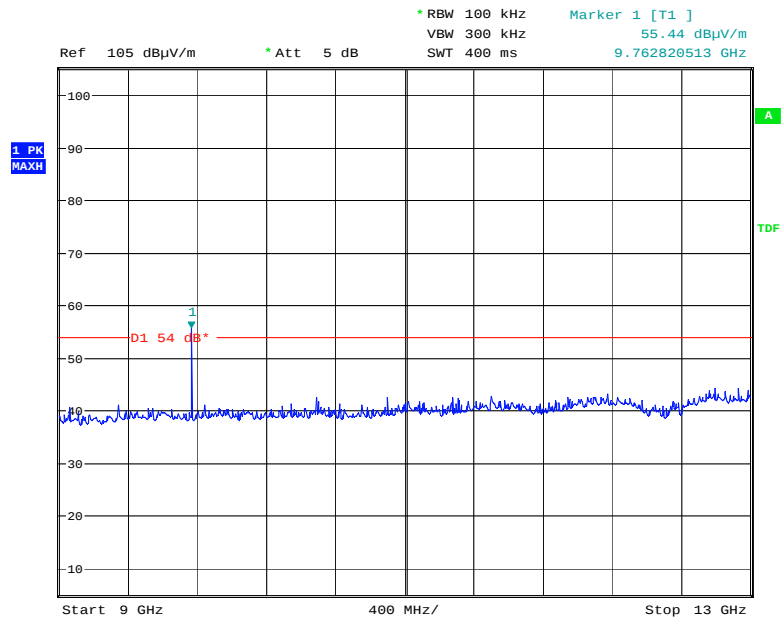
Date: 31.MAR.2009 13:53:10

Tx MIDDLE 5 – 9GHz



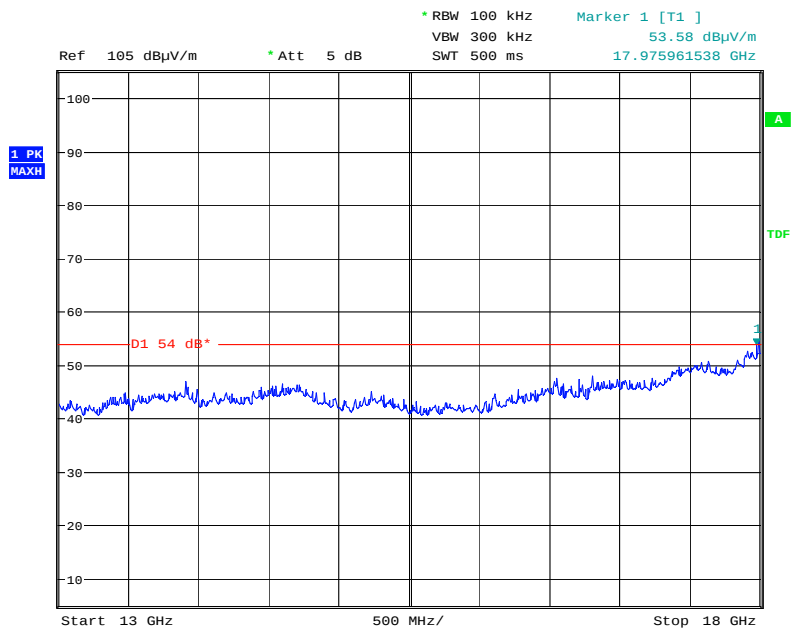
Date: 31.MAR.2009 13:52:48

Tx MIDDLE 9 – 13GHz



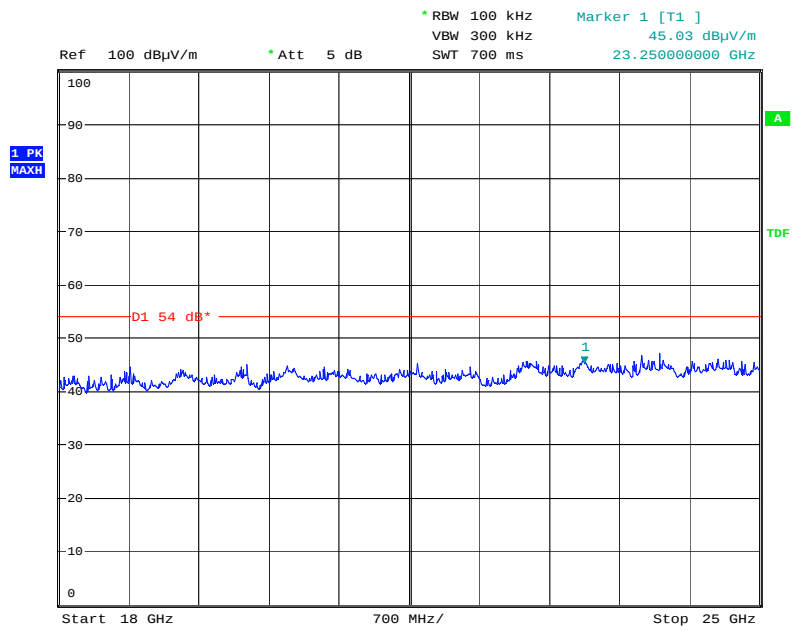
Date: 31.MAR.2009 13:52:37

Tx MIDDLE 13 – 18GHz



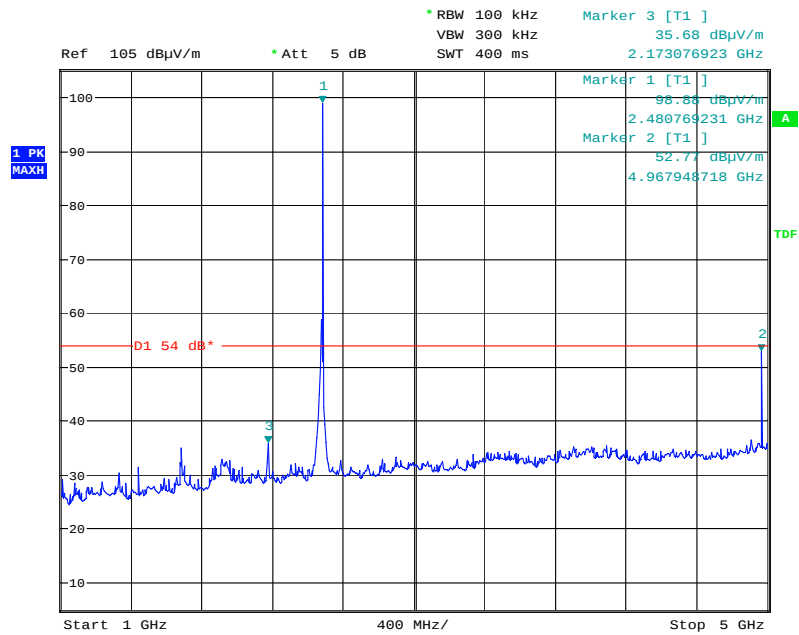
Date: 31.MAR.2009 13:52:25

Tx MIDDLE 18 – 25GHz



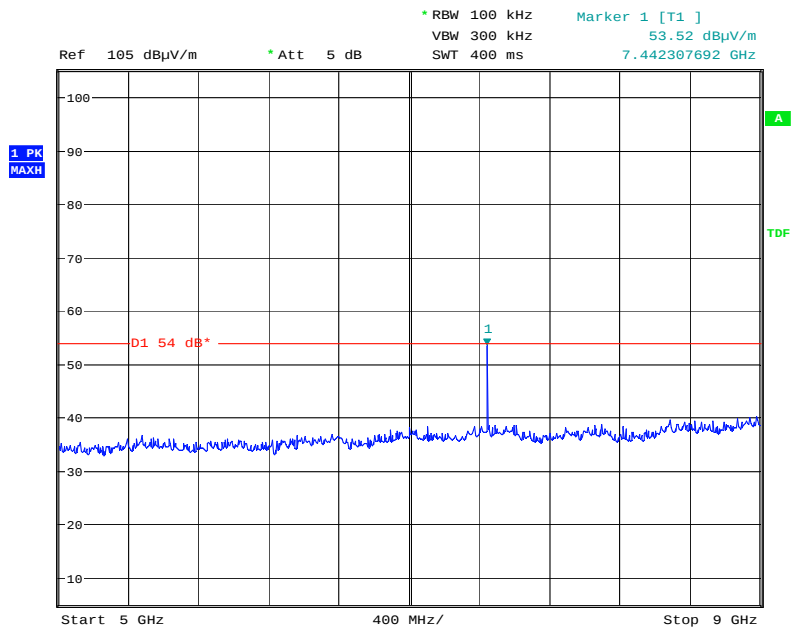
Date: 31.MAR.2009 14:19:42

Tx TOP 1 – 5GHz



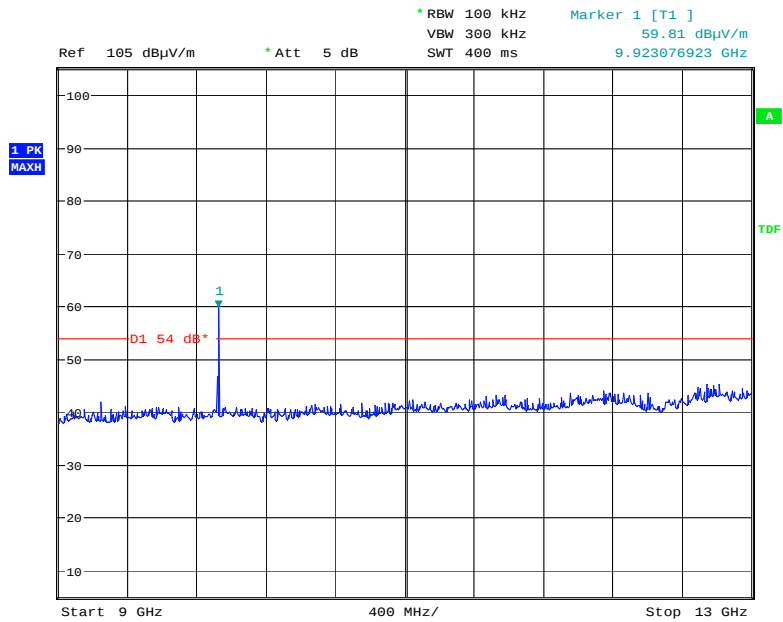
Date: 31.MAR.2009 13:43:11

Tx TOP 5 – 9GHz



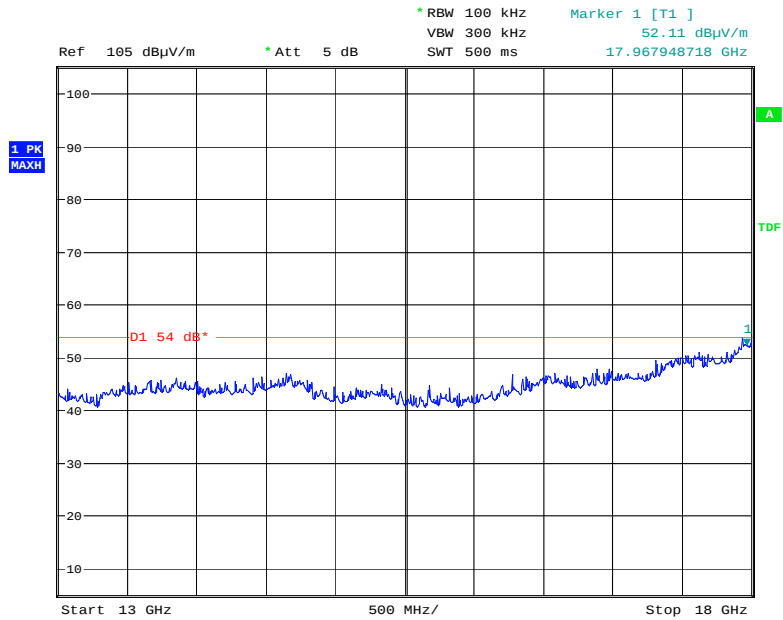
Date: 31.MAR.2009 13:43:24

Tx TOP 9 – 13GHz



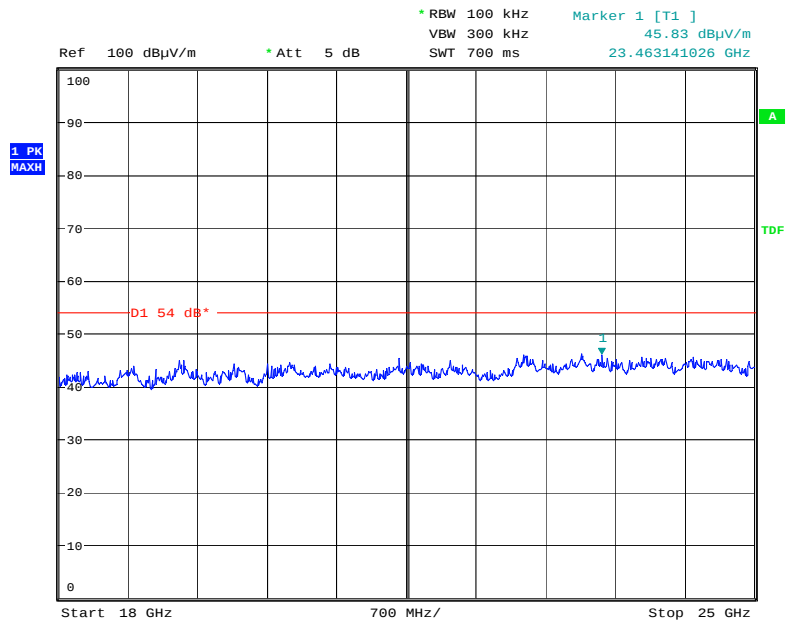
Date: 31.MAR.2009 13:43:41

Tx TOP13 – 18GHz



Date: 31.MAR.2009 13:44:09

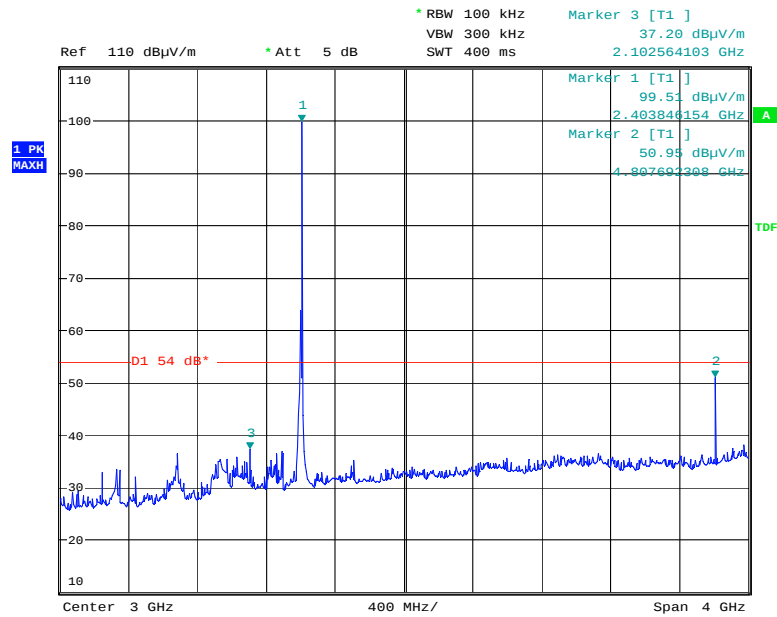
Tx TOP 18 – 26GHz



Date: 31.MAR.2009 14:20:34

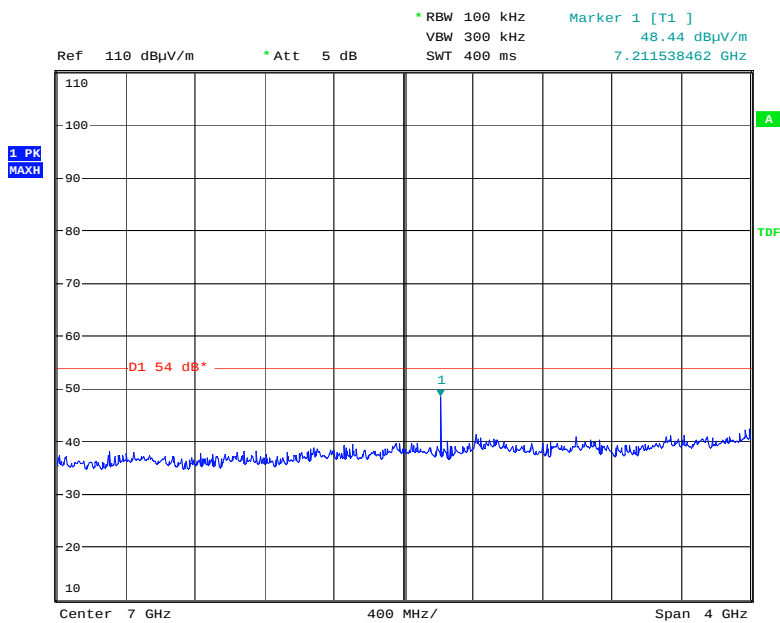
95" BOARD

Tx BOTTOM 1 – 5GHz



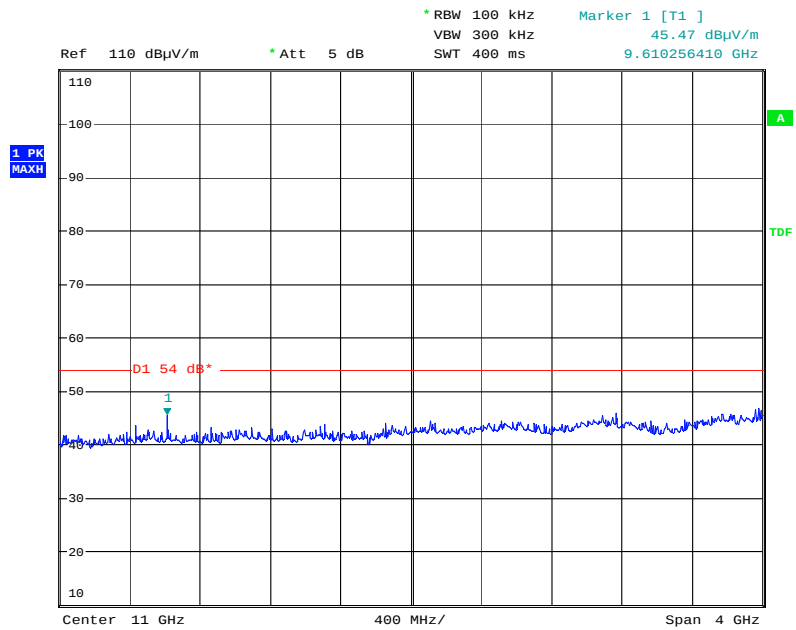
Date: 31.MAR.2009 16:37:35

Tx BOTTOM 5 – 9GHz



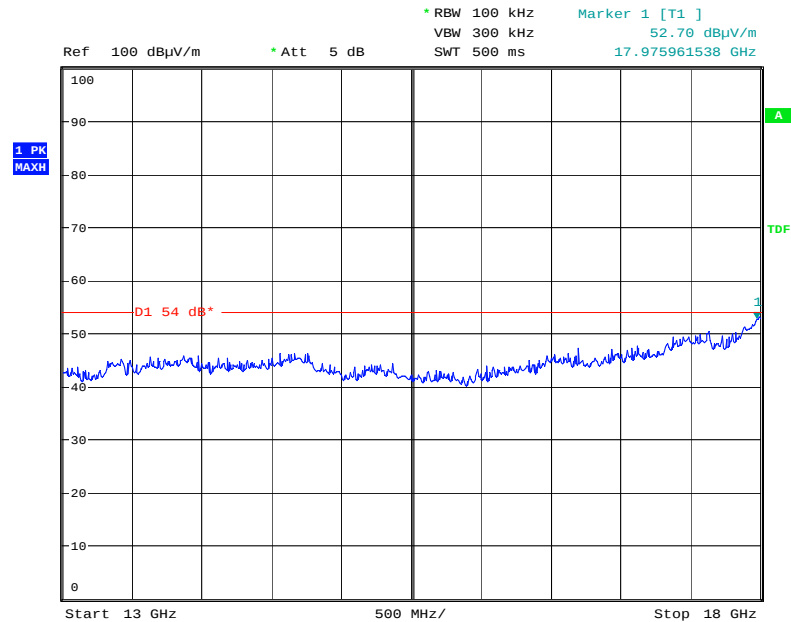
Date: 31.MAR.2009 16:37:49

Tx BOTTOM 9 – 13GHz



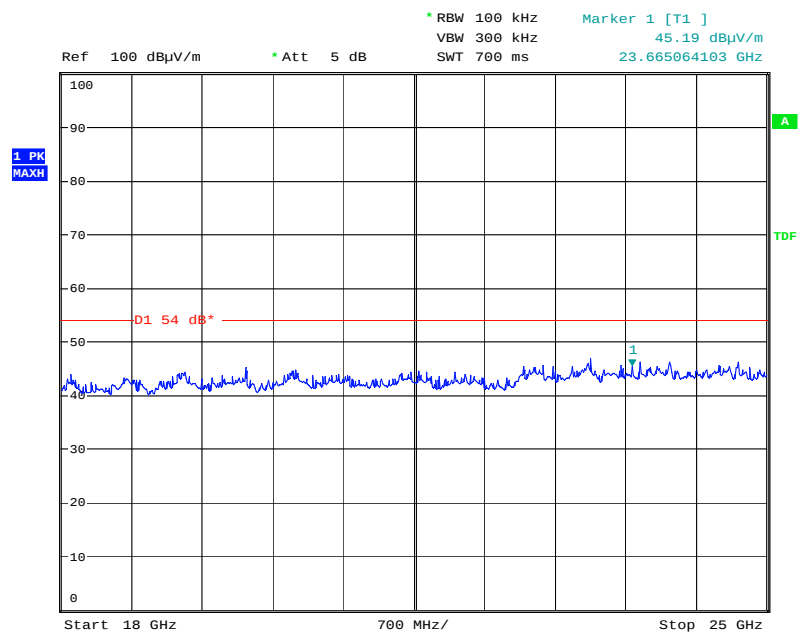
Date: 31.MAR.2009 16:38:07

Tx BOTTOM 13 – 18GHz



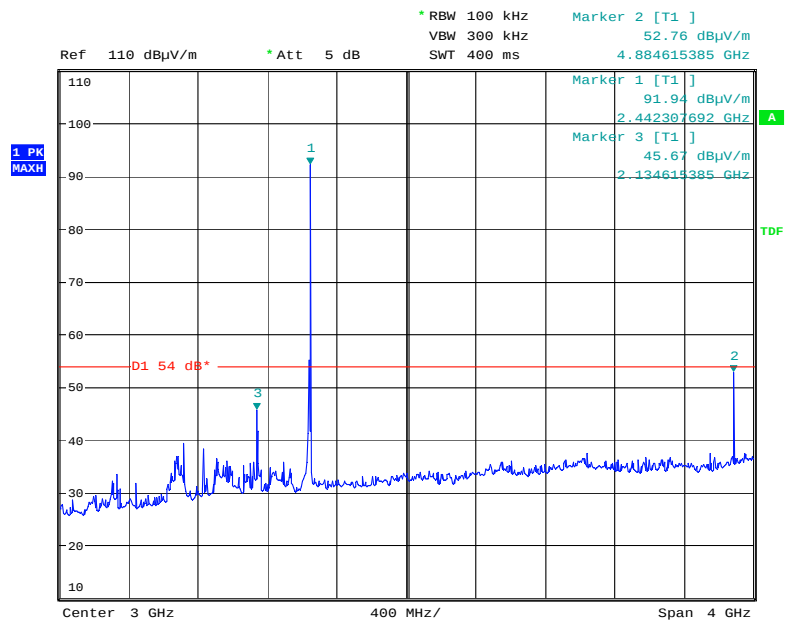
Date: 31.MAR.2009 16:38:22

Tx BOTTOM 18 – 26GHz



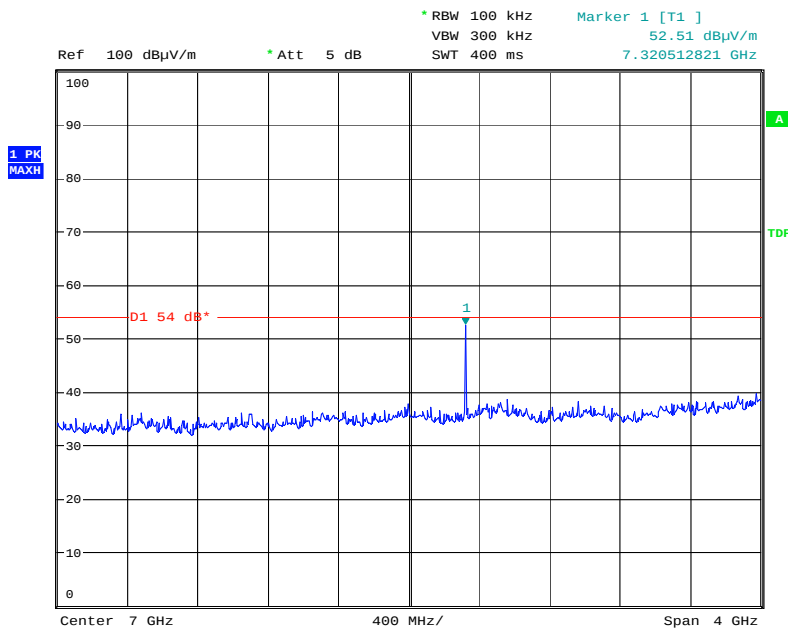
Date: 31.MAR.2009 16:25:36

Tx MIDDLE 1 – 5GHz



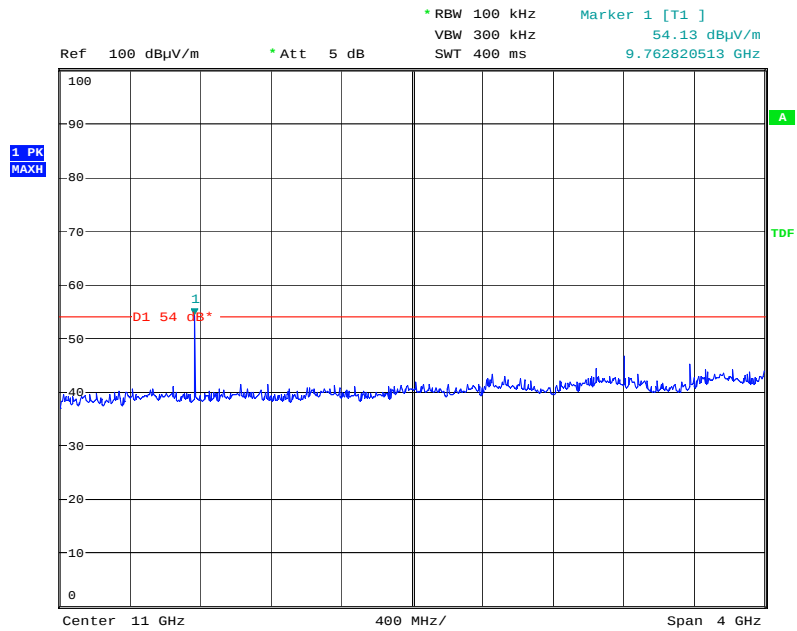
Date: 31.MAR.2009 16:42:20

Tx MIDDLE 5 – 9GHz



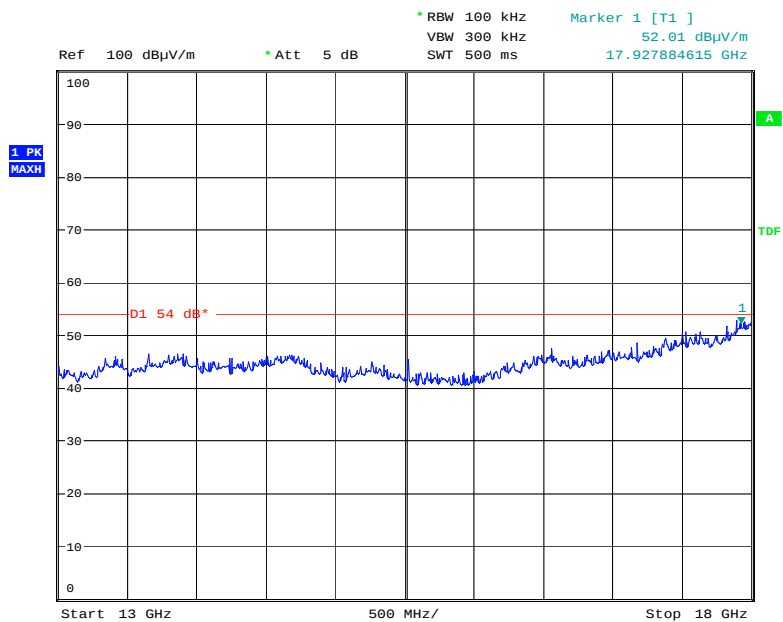
Date: 31.MAR.2009 16:41:47

Tx MIDDLE 9 – 13GHz



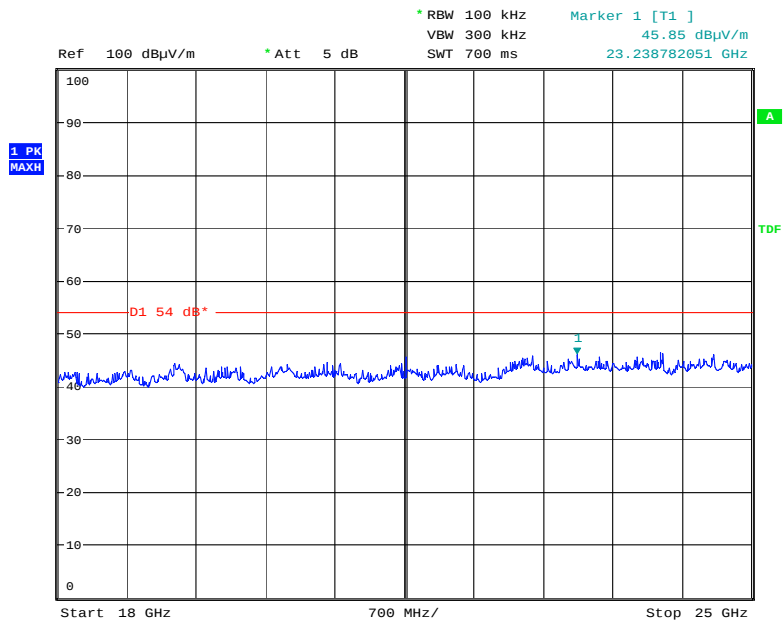
Date: 31.MAR.2009 16:41:38

Tx MIDDLE 13 – 18GHz



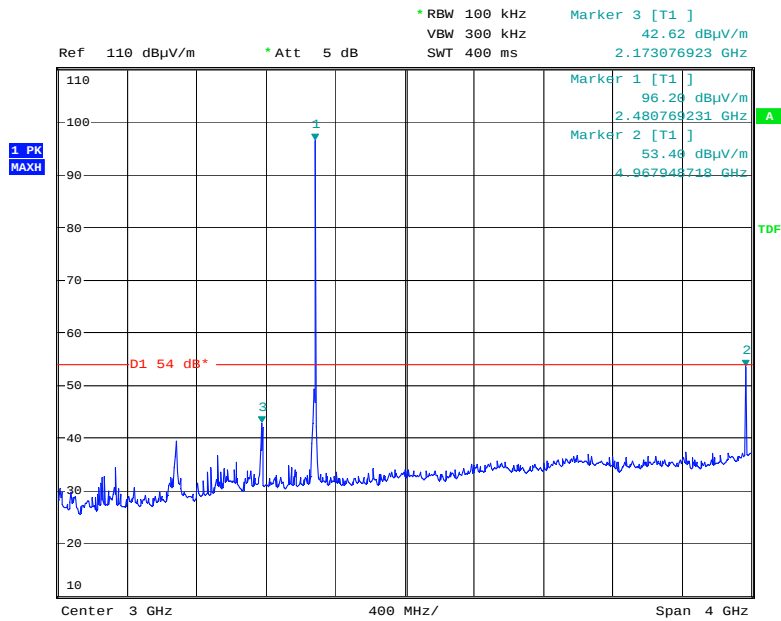
Date: 31.MAR.2009 16:41:24

Tx MIDDLE 18 – 26GHz



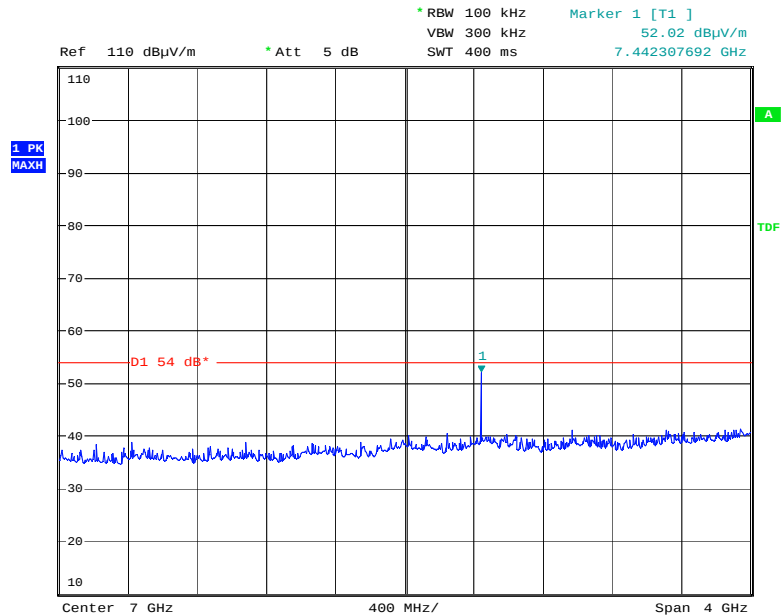
Date: 31.MAR.2009 16:25:15

Tx TOP 1 – 5GHz



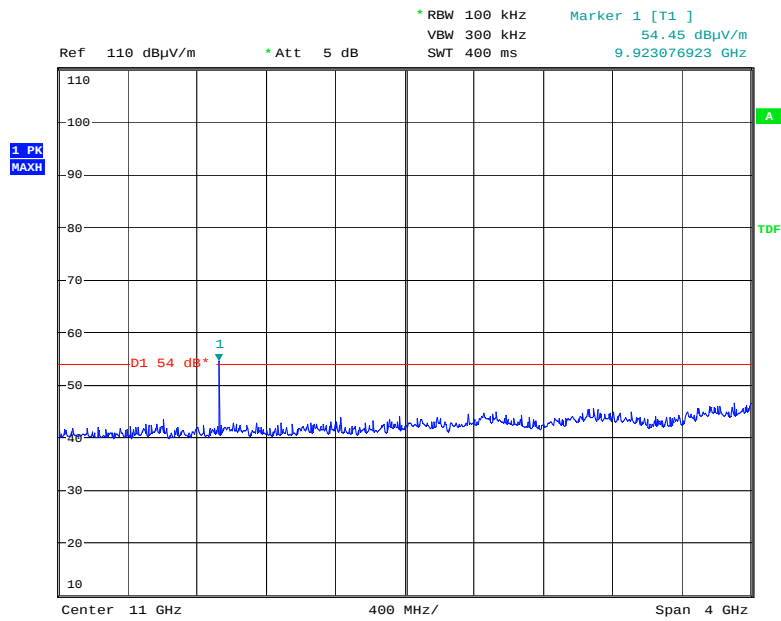
Date: 31.MAR.2009 16:43:12

Tx TOP 5 – 9GHz



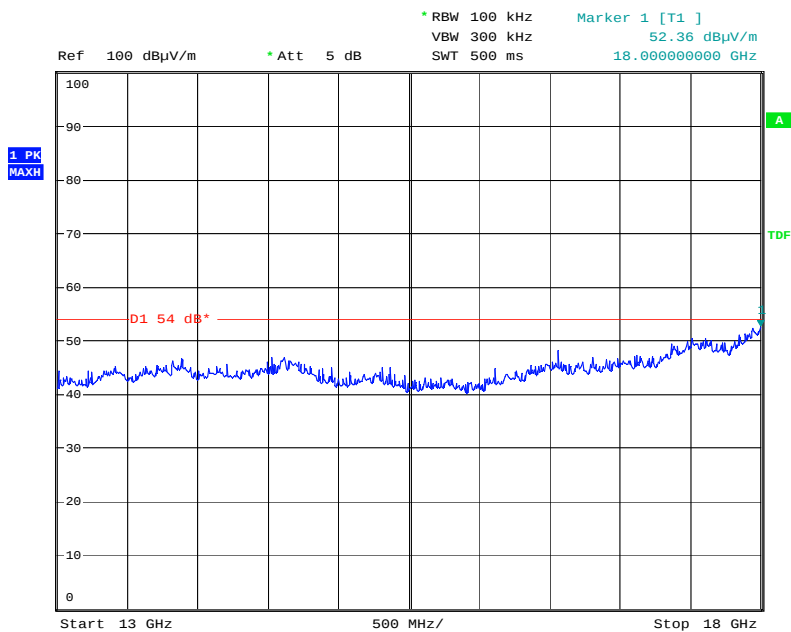
Date: 31.MAR.2009 16:43:22

Tx TOP 9 – 13GHz



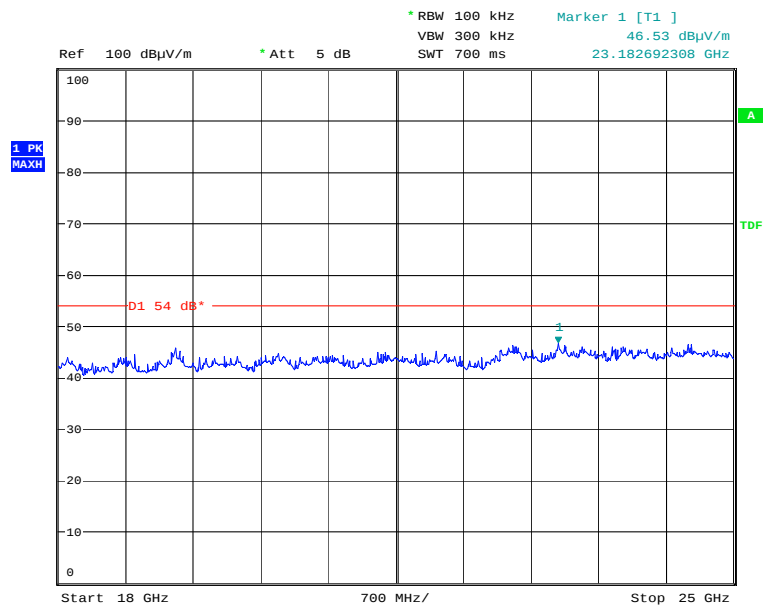
Date: 31.MAR.2009 16:43:36

Tx TOP 13 – 18GHz



Date: 31.MAR.2009 16:43:51

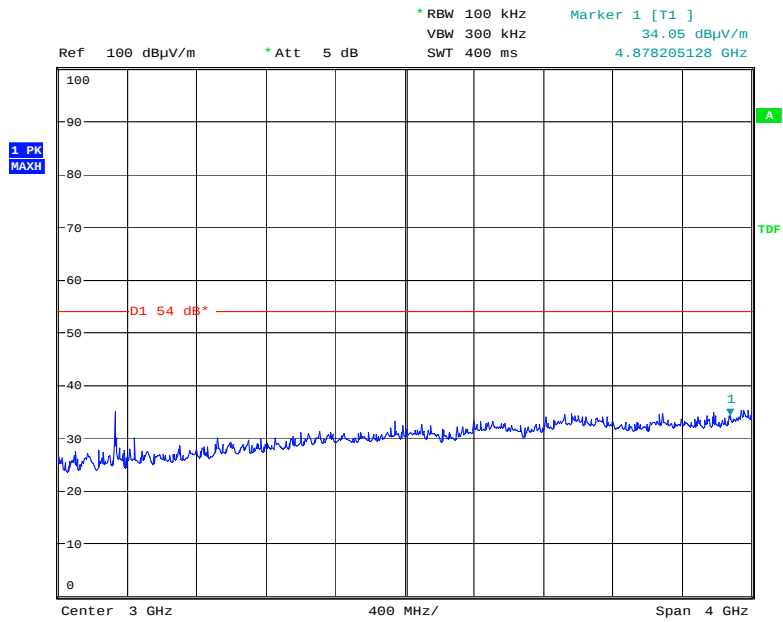
Tx TOP 18 – 26GHz



Date: 31.MAR.2009 16:24:30

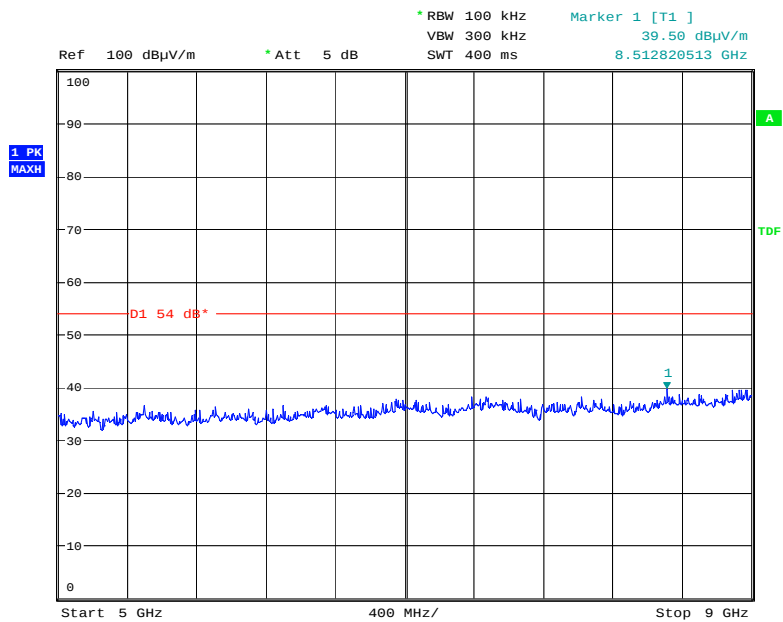
64" BOARD

RX BOTTOM 1 – 5GHz



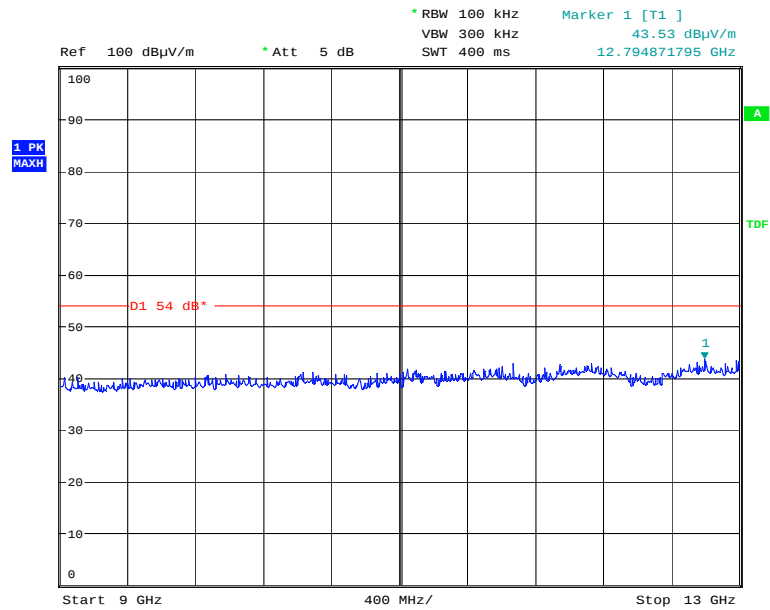
Date: 31.MAR.2009 16:01:18

RX BOTTOM 5 – 9GHz



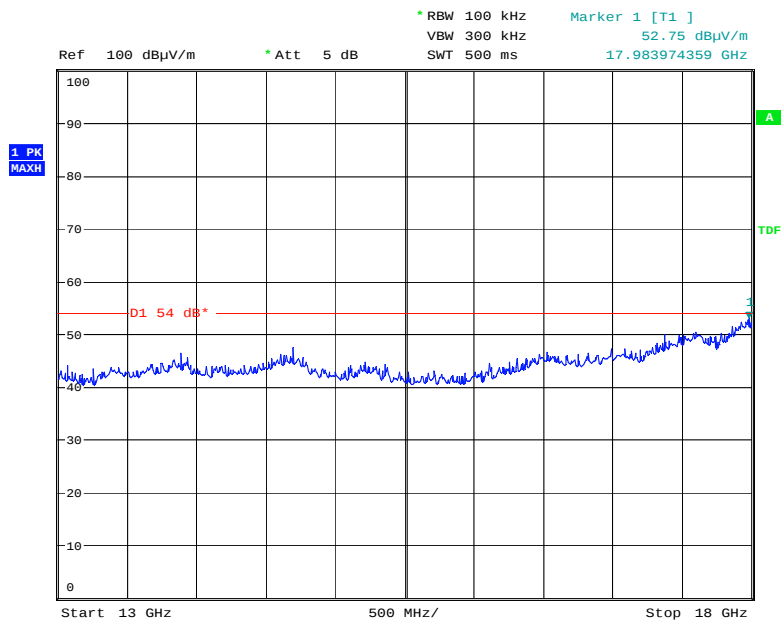
Date: 31.MAR.2009 16:01:50

RX BOTTOM 9 – 13GHz



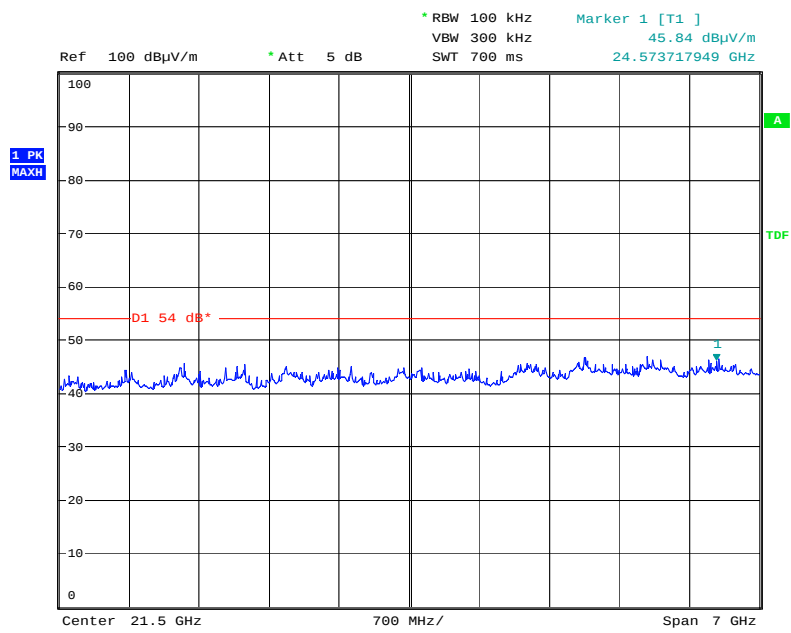
Date: 31.MAR.2009 16:02:03

RX BOTTOM 13 – 18GHz



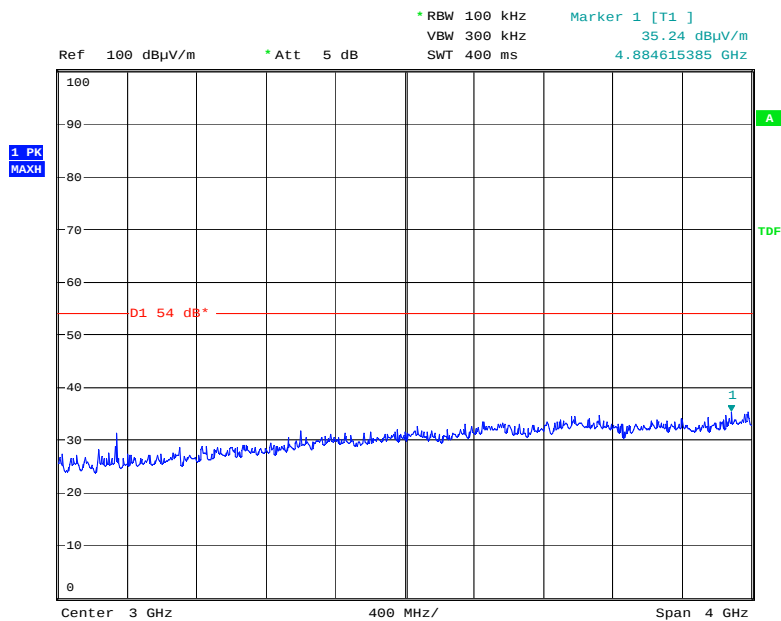
Date: 31.MAR.2009 16:02:17

RX BOTTOM 18 – 26GHz



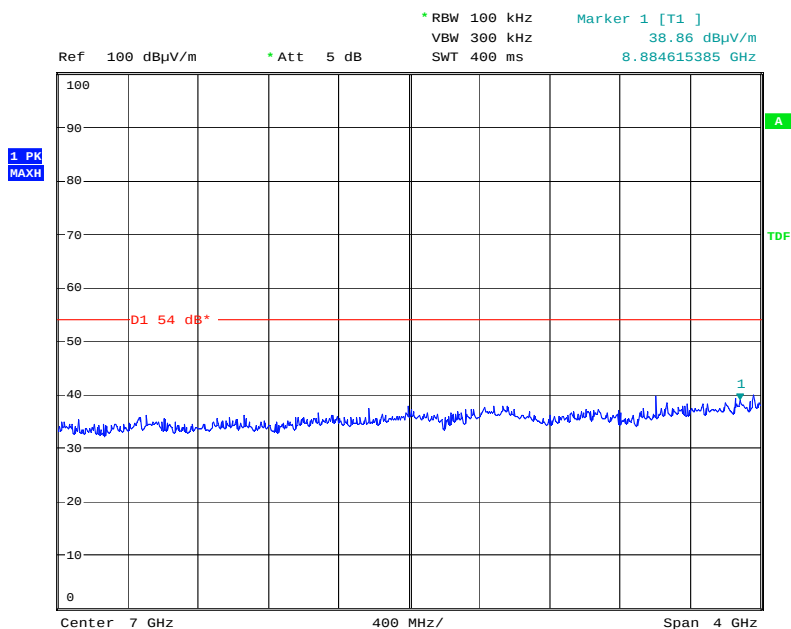
Date: 31.MAR.2009 16:10:02

RX MIDDLE 1 – 5GHz



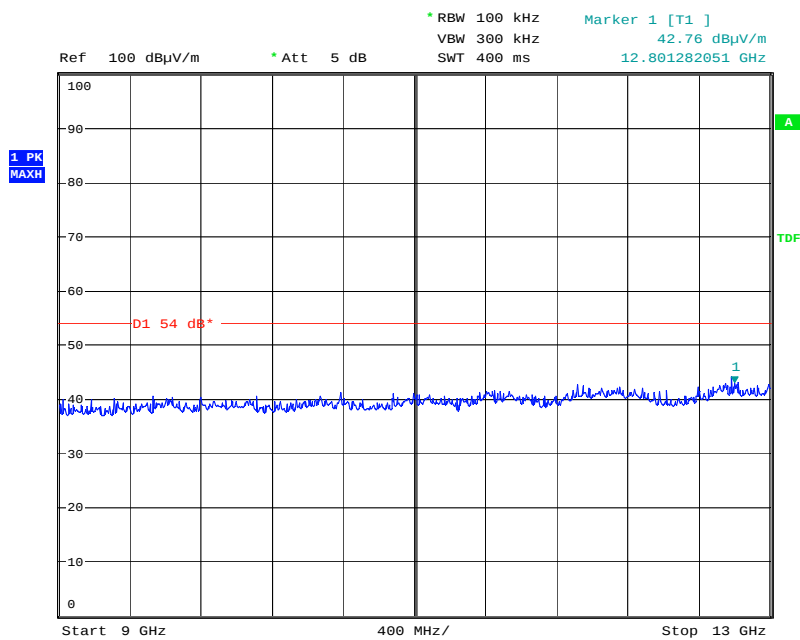
Date: 31.MAR.2009 16:05:43

RX MIDDLE 5 – 9GHz



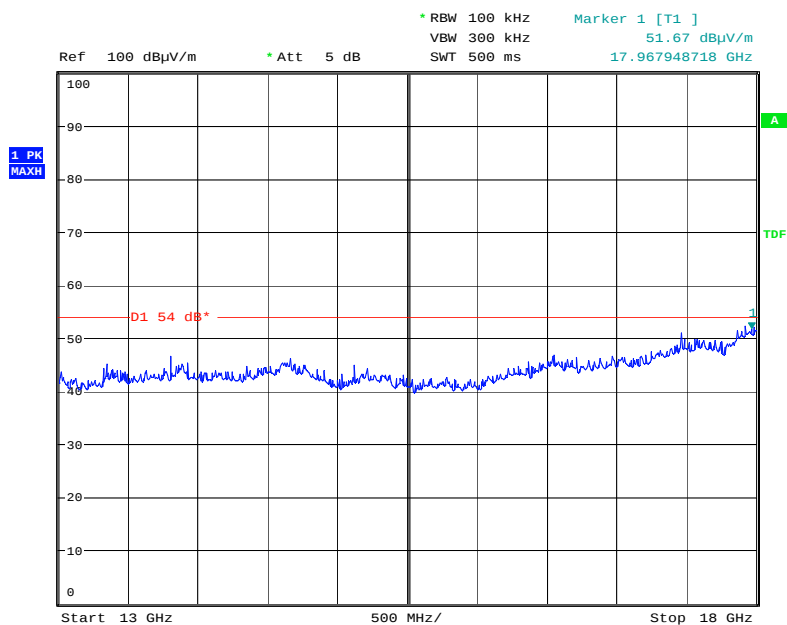
Date: 31.MAR.2009 16:05:28

RX MIDDLE 9 – 13GHz



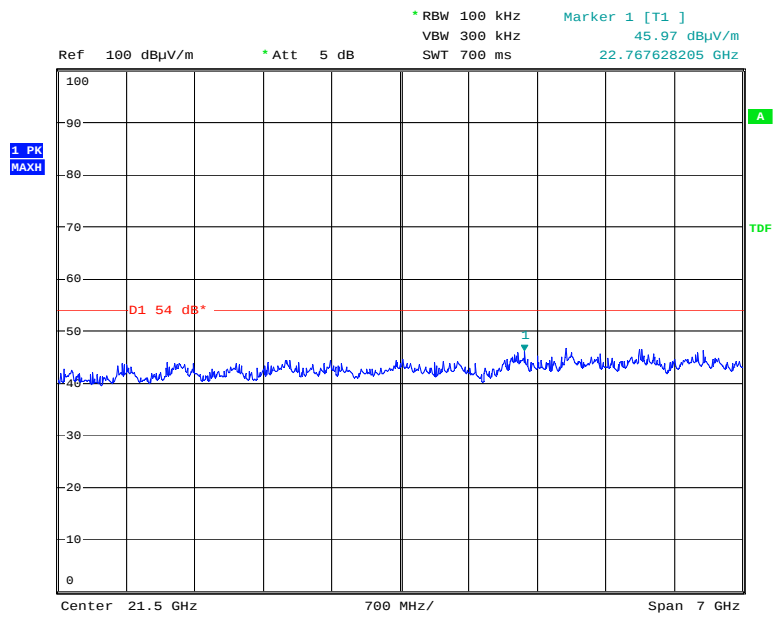
Date: 31.MAR.2009 16:05:18

RX MIDDLE 13 – 18GHz



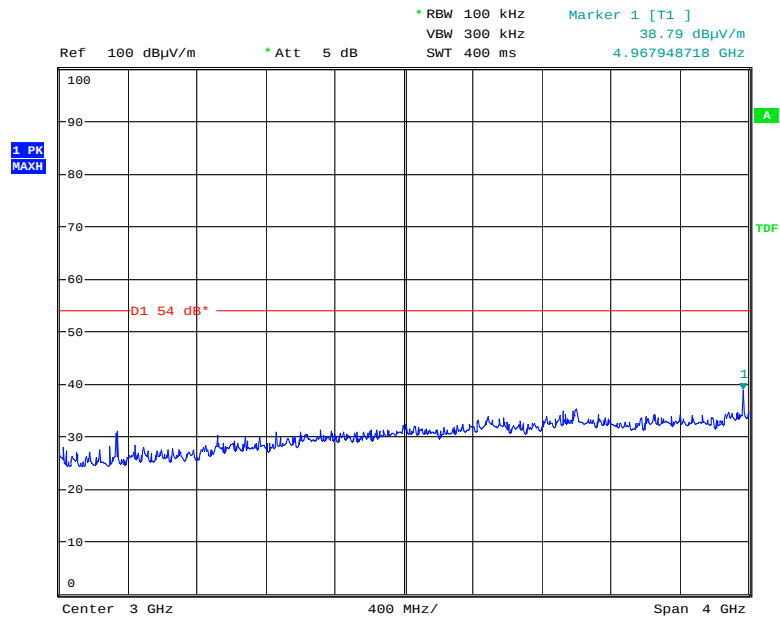
Date: 31.MAR.2009 16:04:56

RX MIDDLE 18 – 25GHz



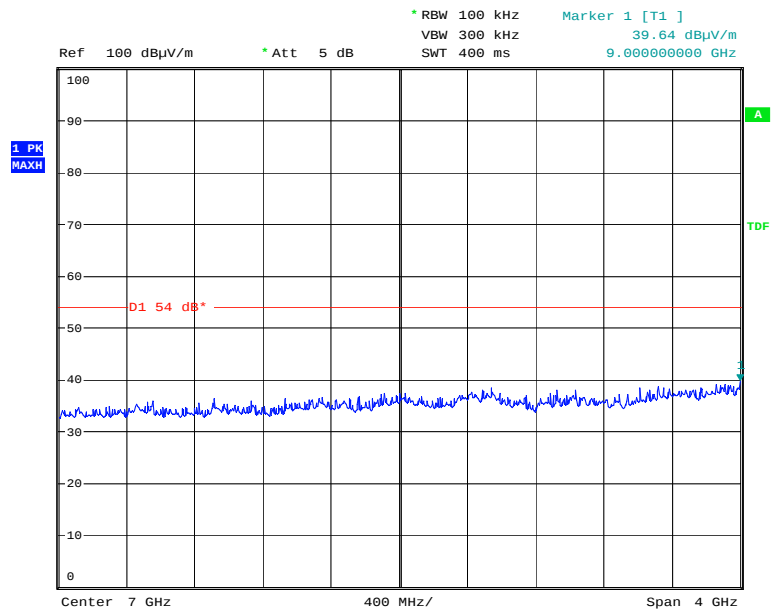
Date: 31.MAR.2009 16:09:35

RX TOP 1 – 5GHz



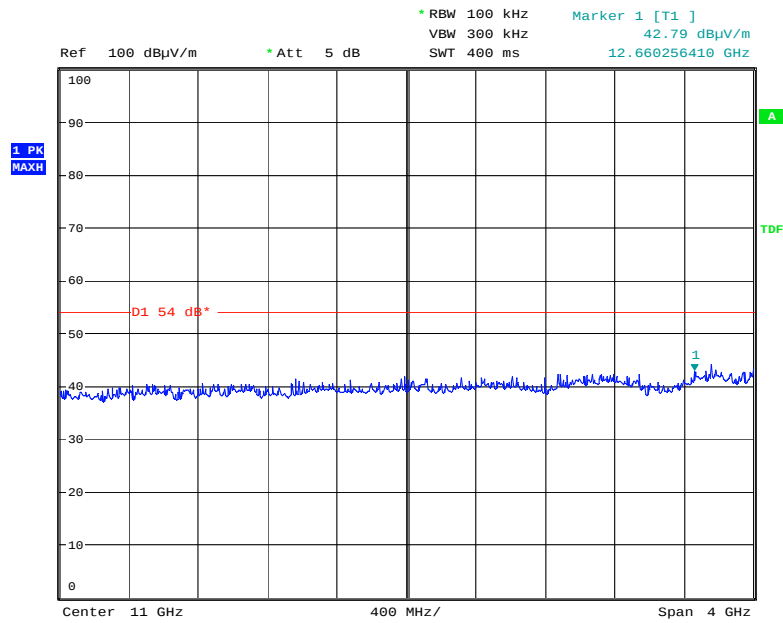
Date: 31.MAR.2009 16:06:09

RX TOP 5 – 9GHz



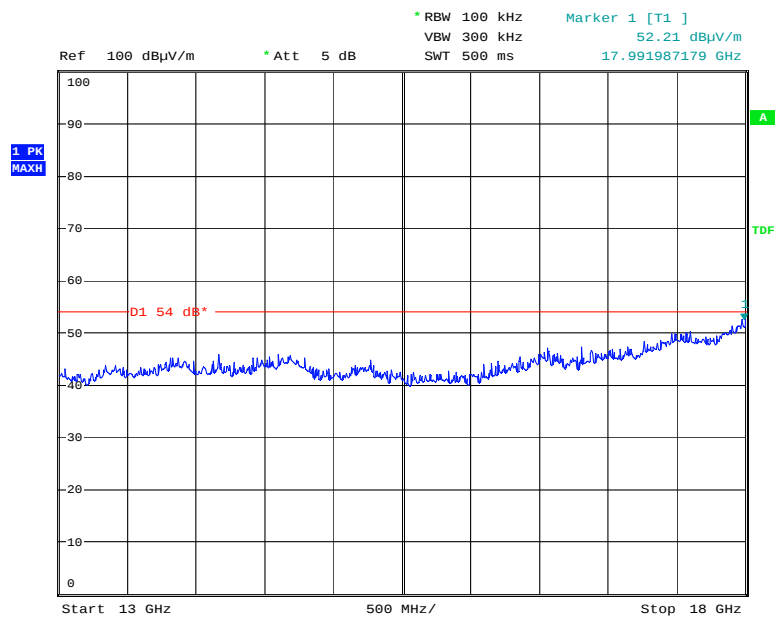
Date: 31.MAR.2009 16:06:20

RX TOP 9 – 13GHz



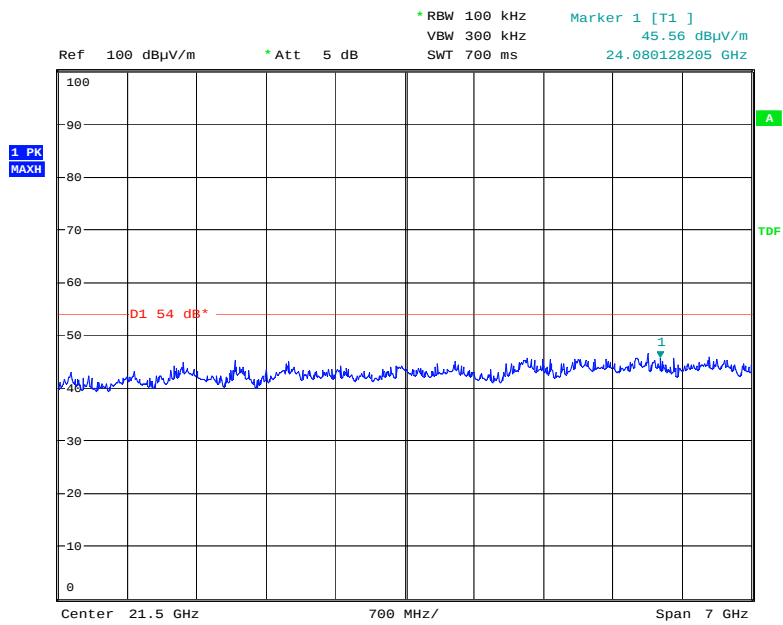
Date: 31.MAR.2009 16:06:31

RX TOP 13 – 18GHz



Date: 31.MAR.2009 16:06:45

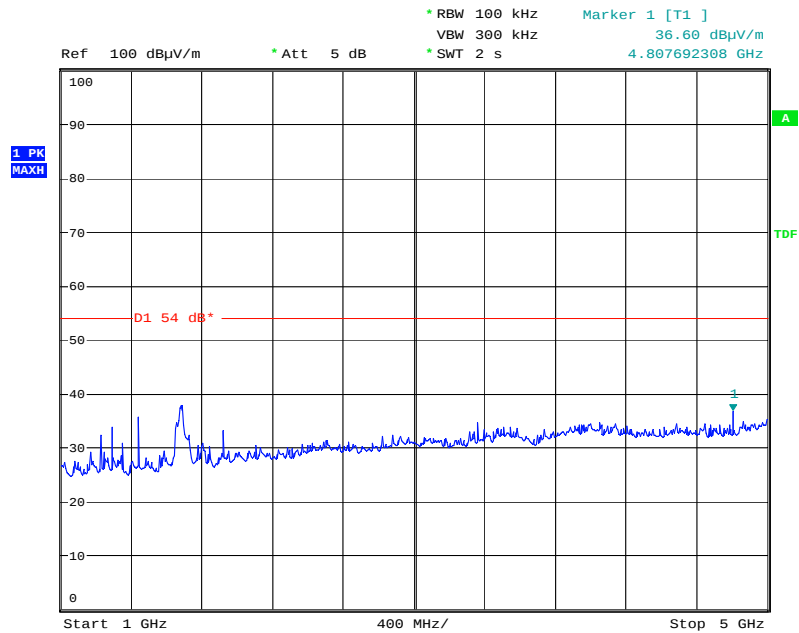
RX TOP 18 – 25GHz



Date: 31.MAR.2009 16:08:43

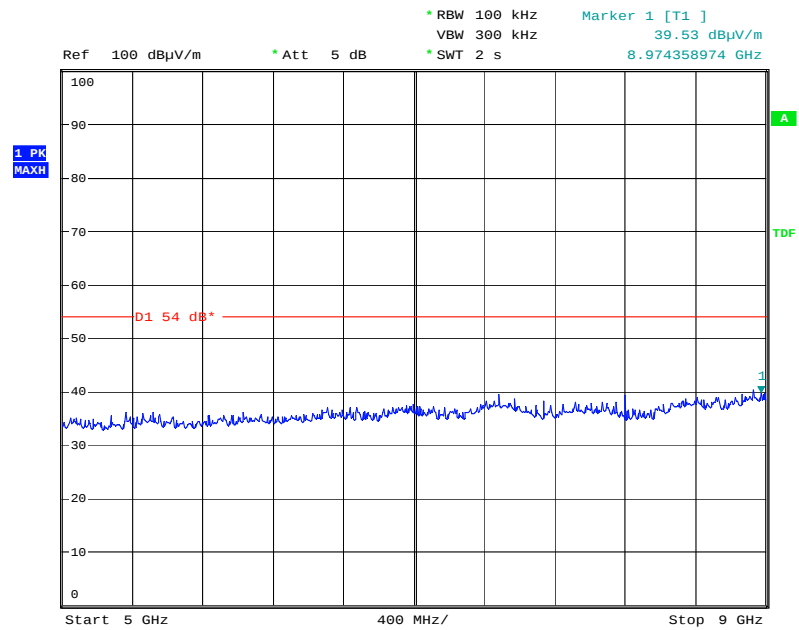
78" BOARD

RX BOTTOM 1 – 5GHz



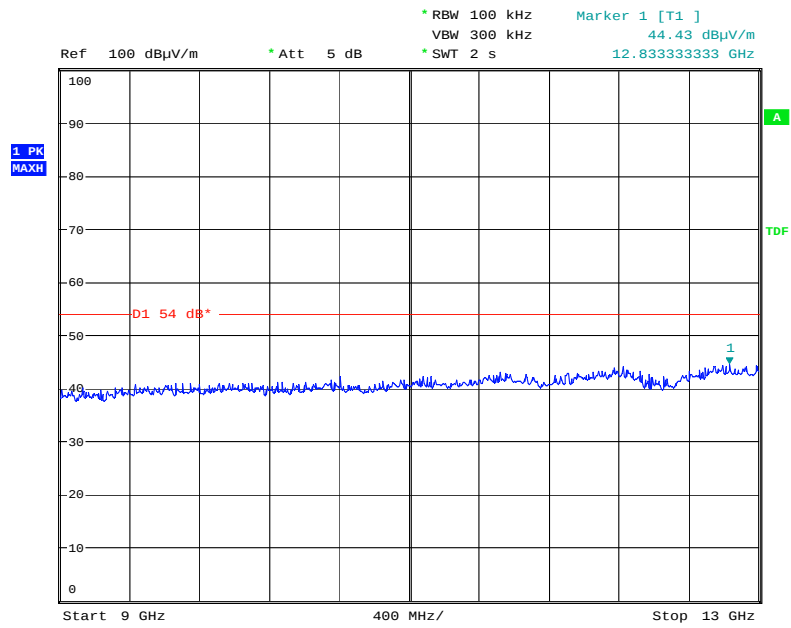
Date: 31.MAR.2009 11:44:00

RX BOTTOM 5 – 9GHz



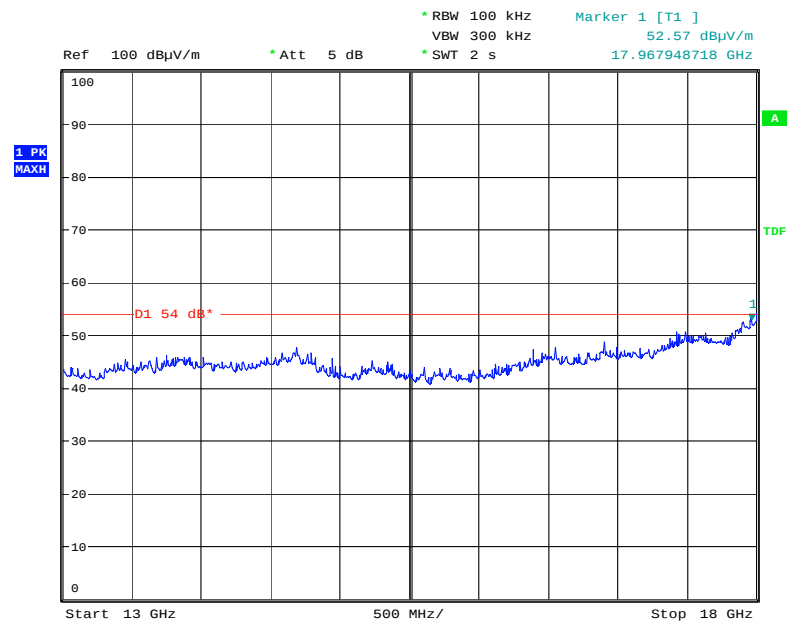
Date: 31.MAR.2009 11:44:15

RX BOTTOM 9 – 13GHz



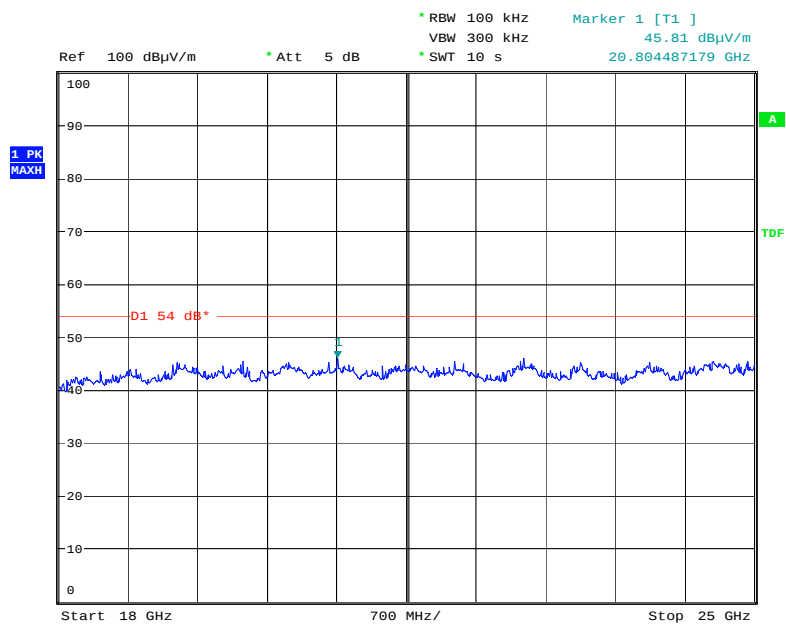
Date: 31.MAR.2009 11:44:33

RX BOTTOM 13 – 18GHz



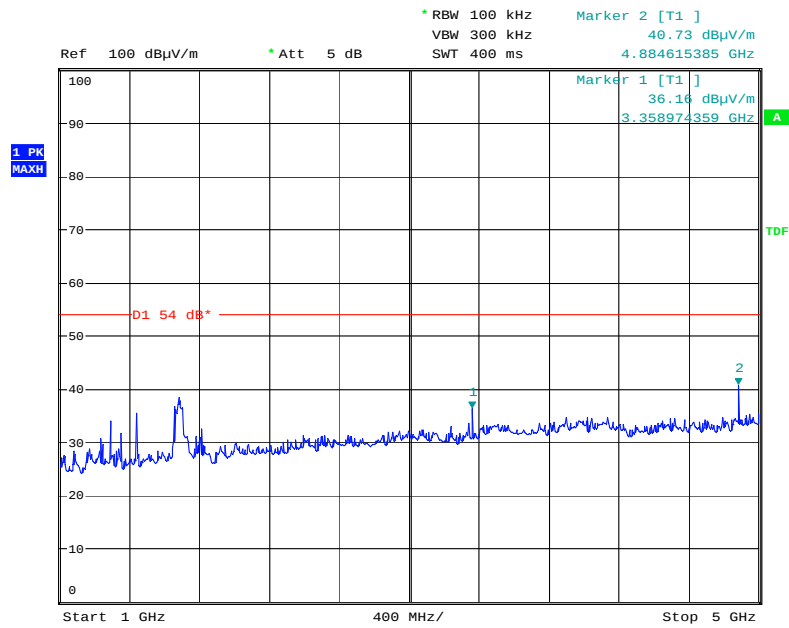
Date: 31.MAR.2009 11:44:50

RX BOTTOM 18 – 26GHz



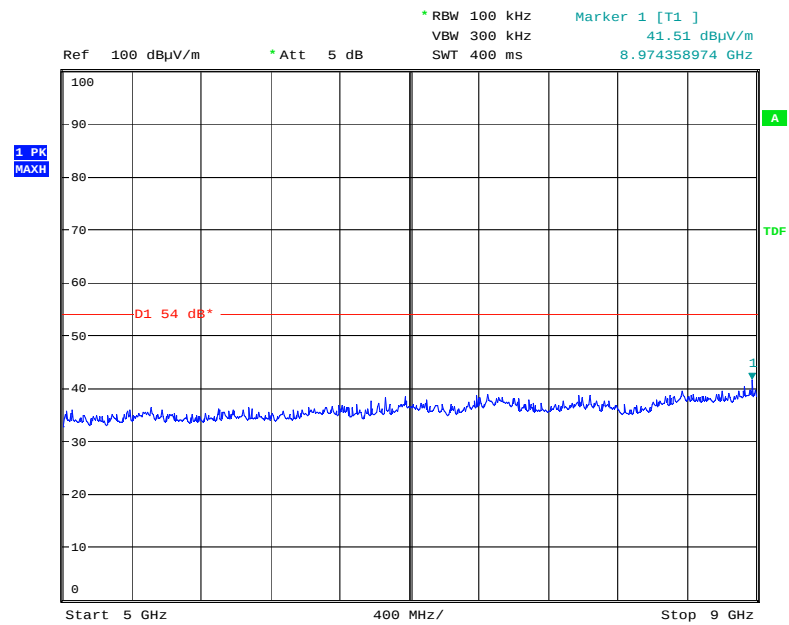
Date: 31.MAR.2009 11:28:53

RX MIDDLE 1 – 5GHz



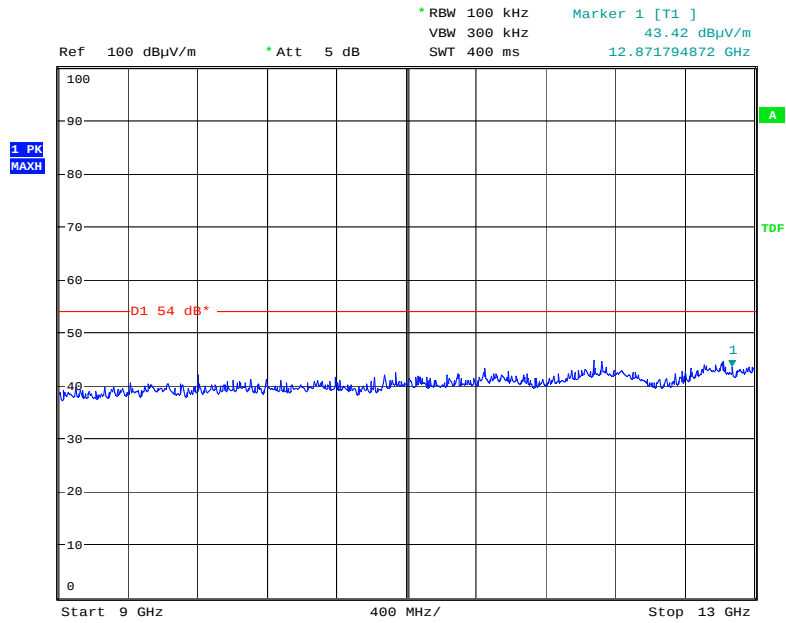
Date: 31.MAR.2009 11:36:47

RX MIDDLE 5 – 9GHz



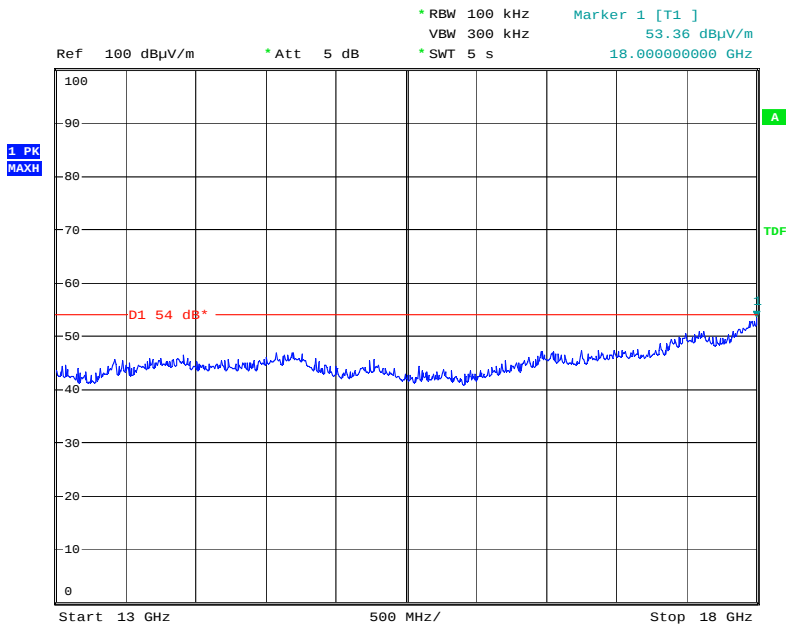
Date: 31.MAR.2009 11:37:12

RX MIDDLE 9 – 13GHz



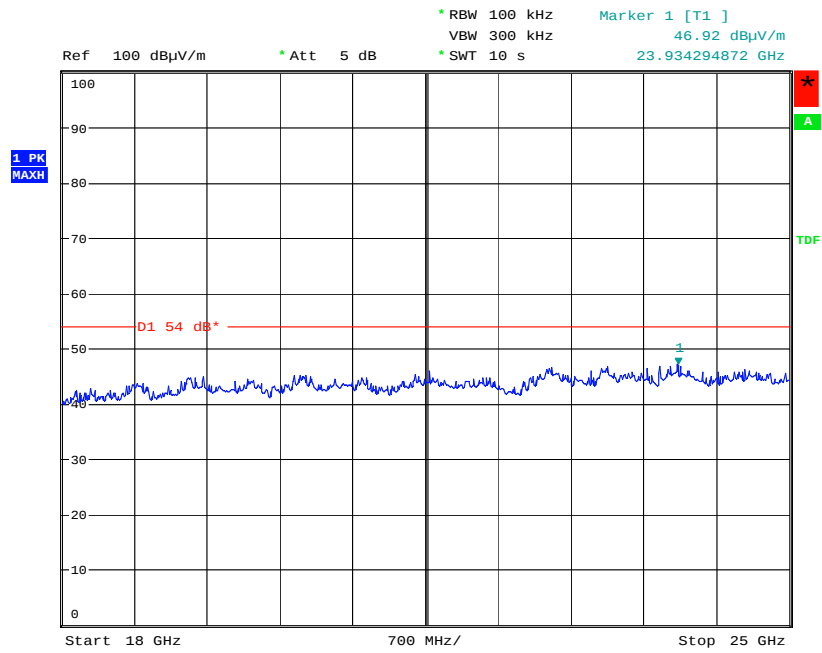
Date: 31.MAR.2009 11:37:46

RX MIDDLE 13 – 18GHz



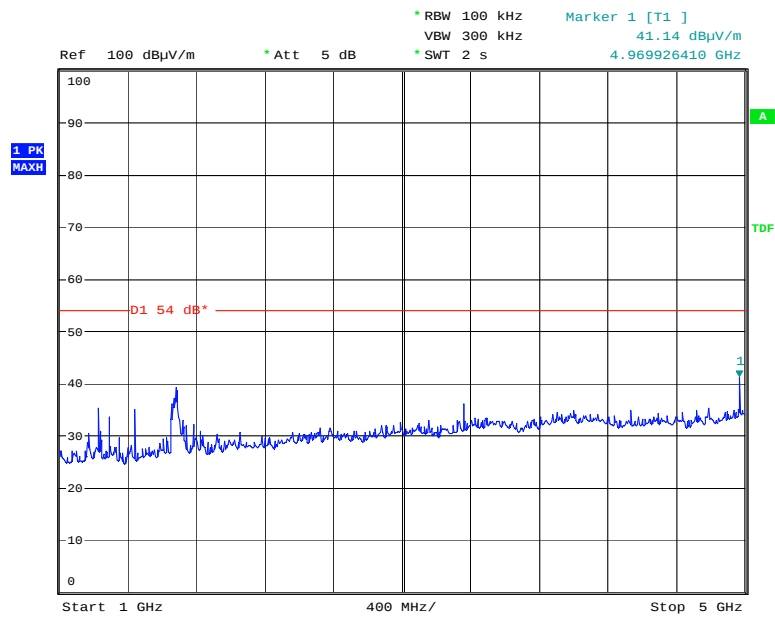
Date: 31.MAR.2009 11:38:17

RX MIDDLE 18 – 26GHz



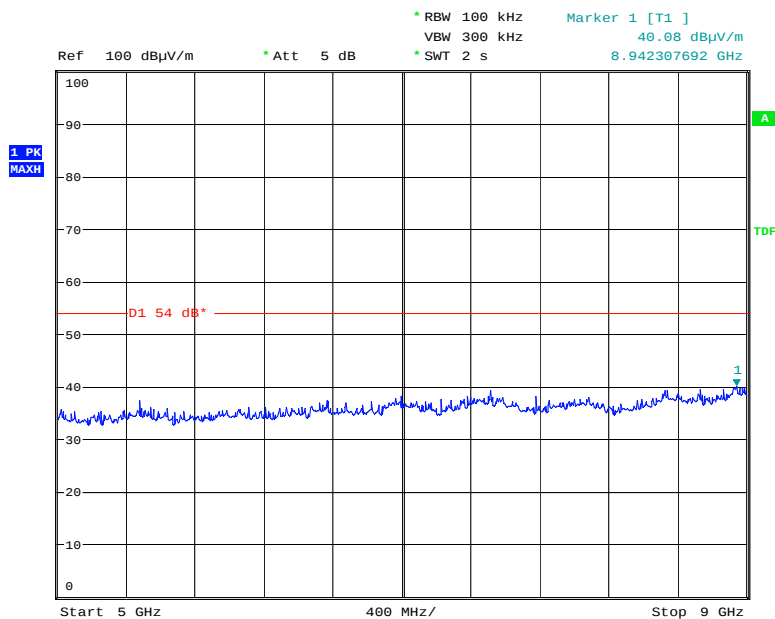
Date: 31.MAR.2009 11:30:33

RX TOP 1 – 5GHz



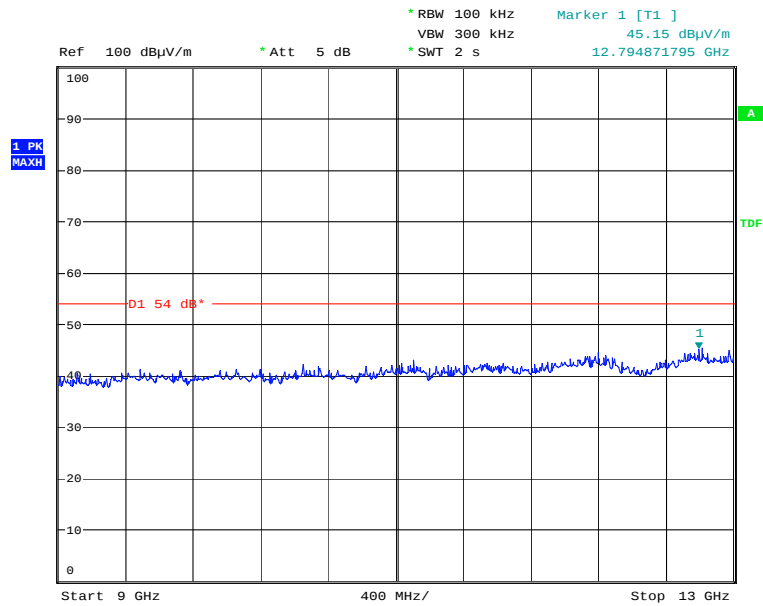
Date: 31.MAR.2009 11:52:01

RX TOP 5 – 9GHz



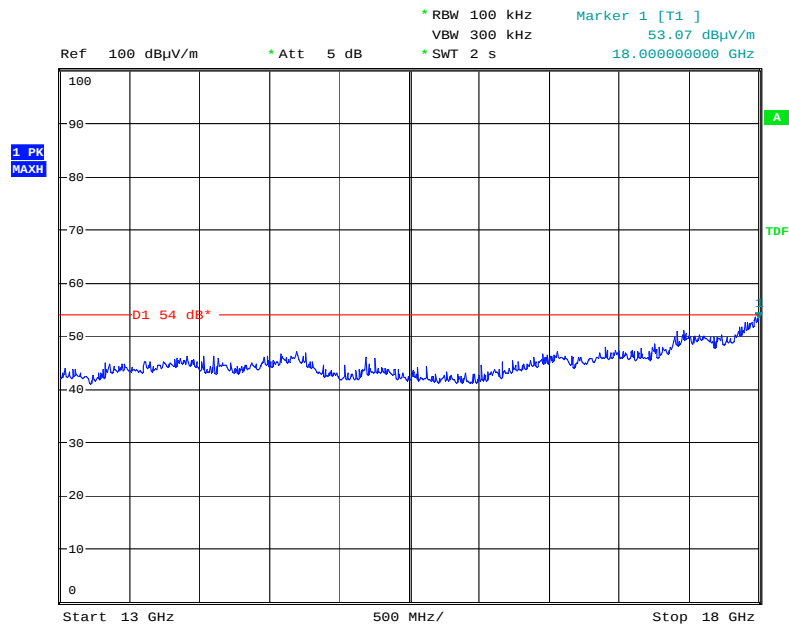
Date: 31.MAR.2009 11:52:16

RX TOP 9 – 13GHz



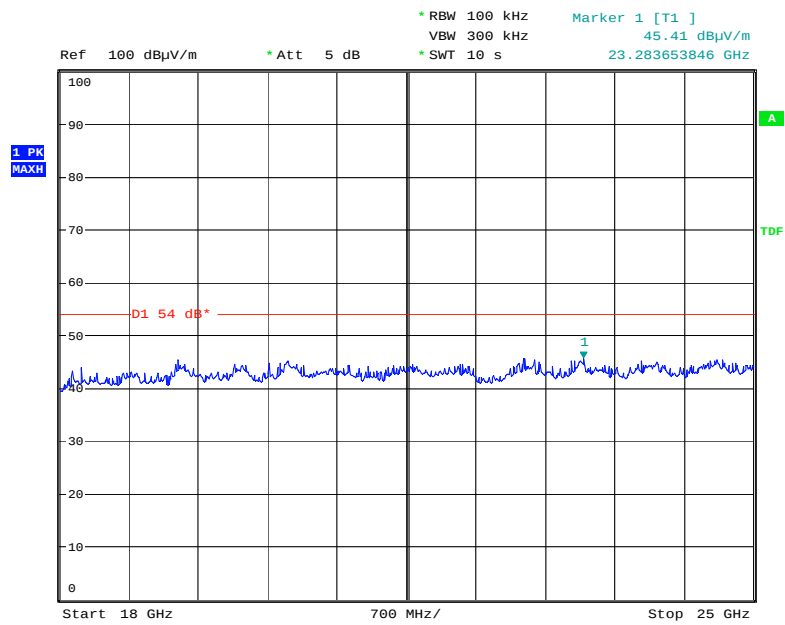
Date: 31.MAR.2009 11:52:33

RX TOP 13 – 18GHz



Date: 31.MAR.2009 11:52:49

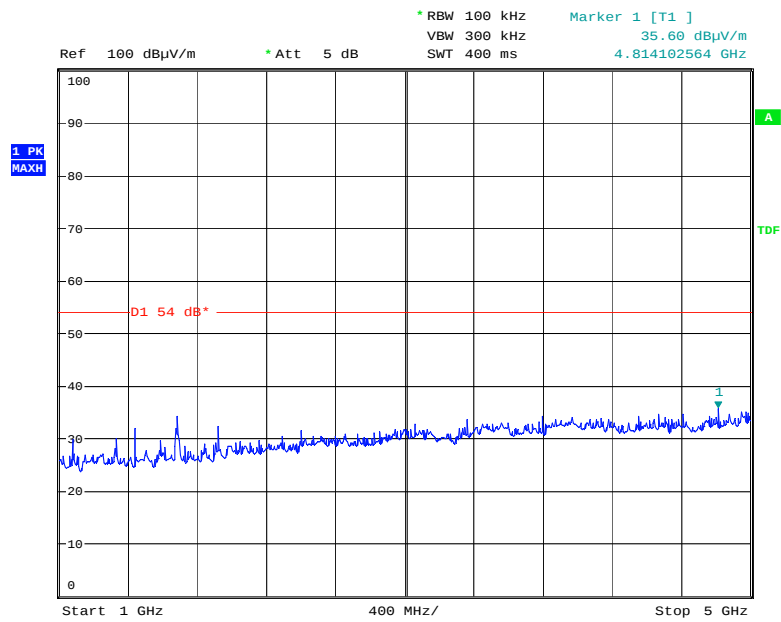
RX TOP 18 – 26GHz



Date: 31.MAR.2009 11:27:38

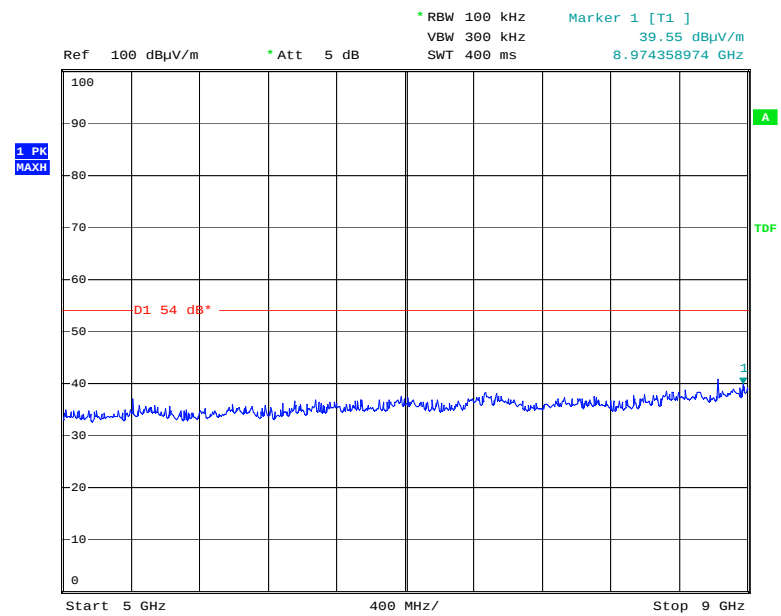
87" BOARD

RX BOTTOM 1 – 5GHz



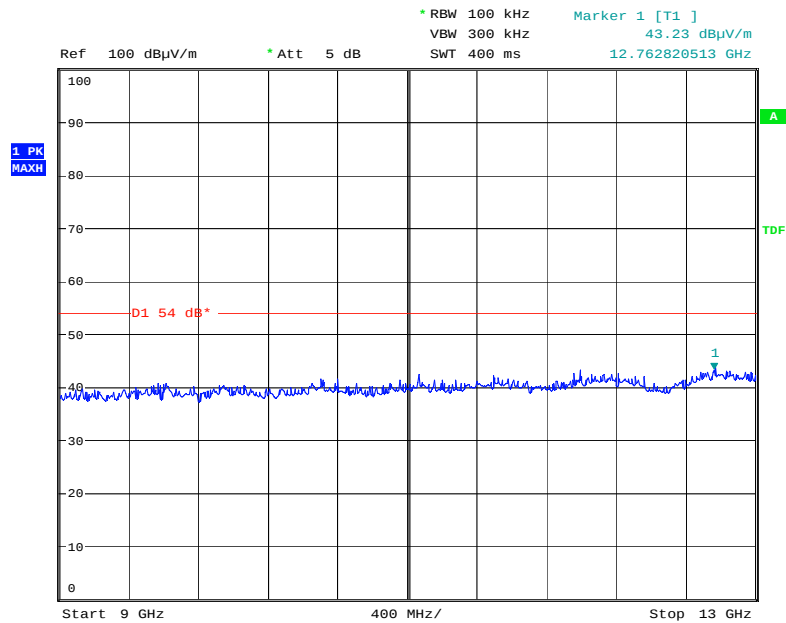
Date: 31.MAR.2009 14:02:21

RX BOTTOM 5 – 9GHz



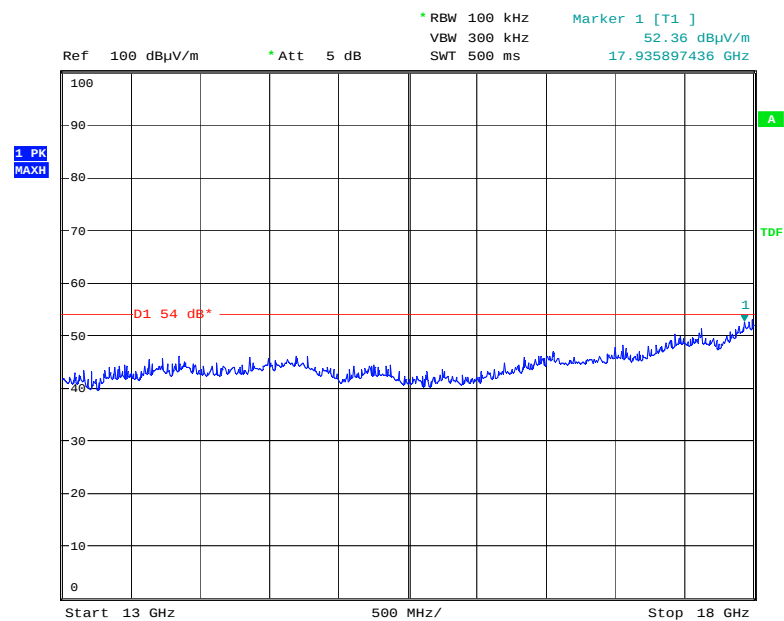
Date: 31.MAR.2009 14:02:01

RX BOTTOM 9 – 13GHz



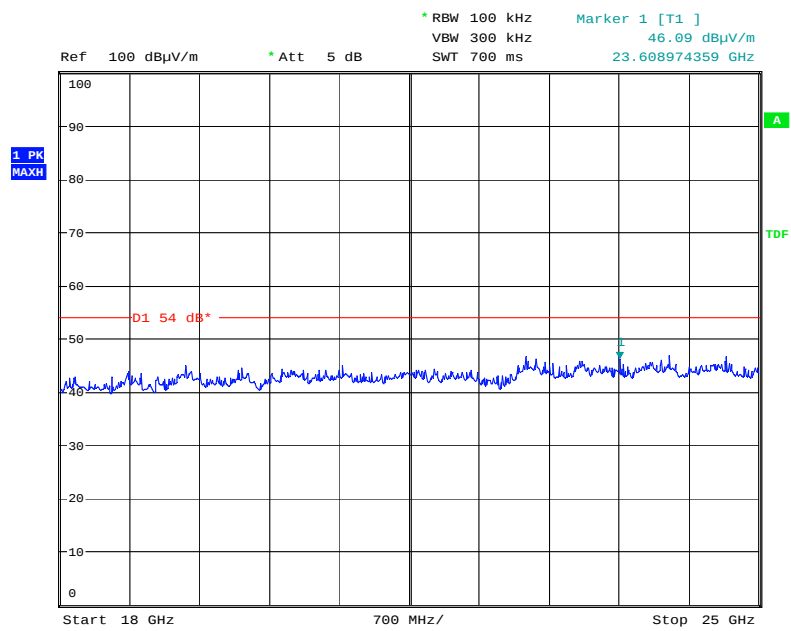
Date: 31.MAR.2009 14:01:48

RX BOTTOM 13 – 18GHz



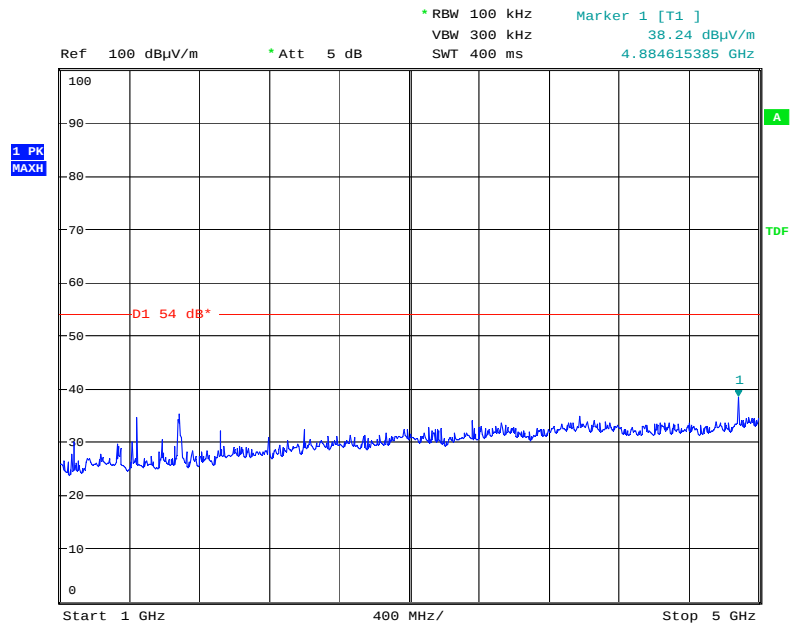
Date: 31.MAR.2009 14:01:33

RX BOTTOM 18 – 25GHz



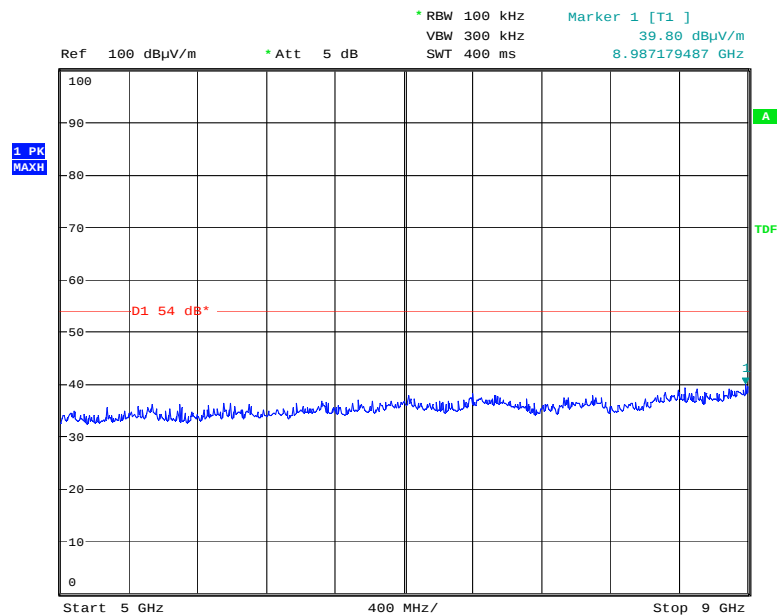
Date: 31.MAR.2009 14:18:24

RX MIDDLE 1 – 5GHz



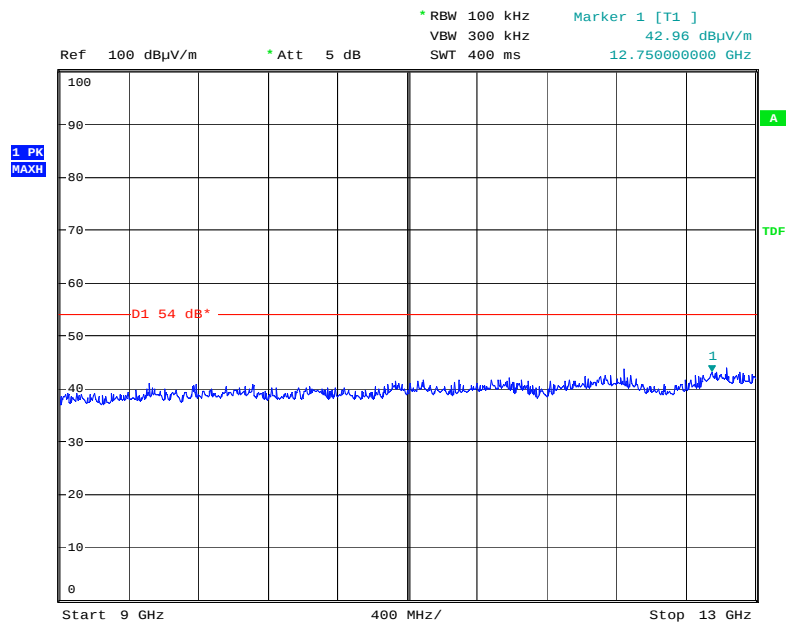
Date: 31.MAR.2009 14:02:44

RX MIDDLE 5 – 9GHz



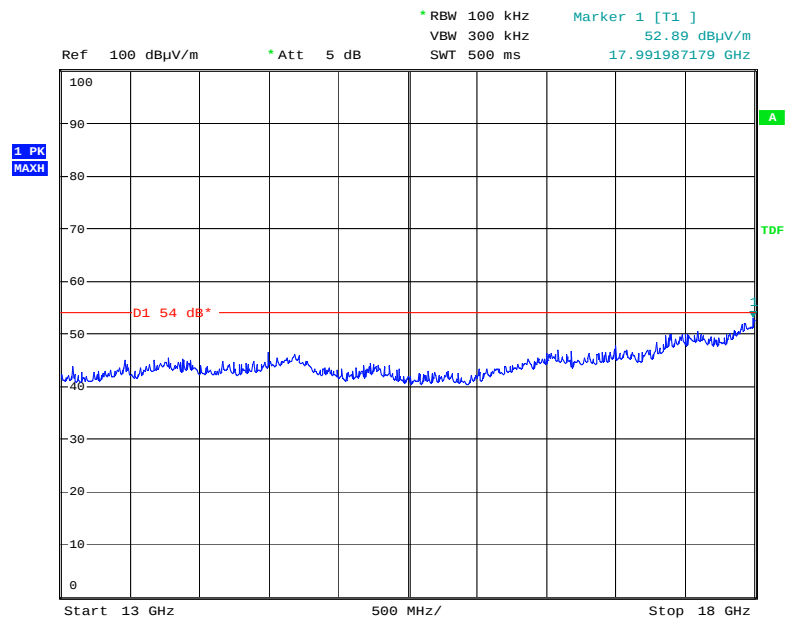
Date: 31.MAR.2009 14:02:58

RX MIDDLE 9 – 13GHz



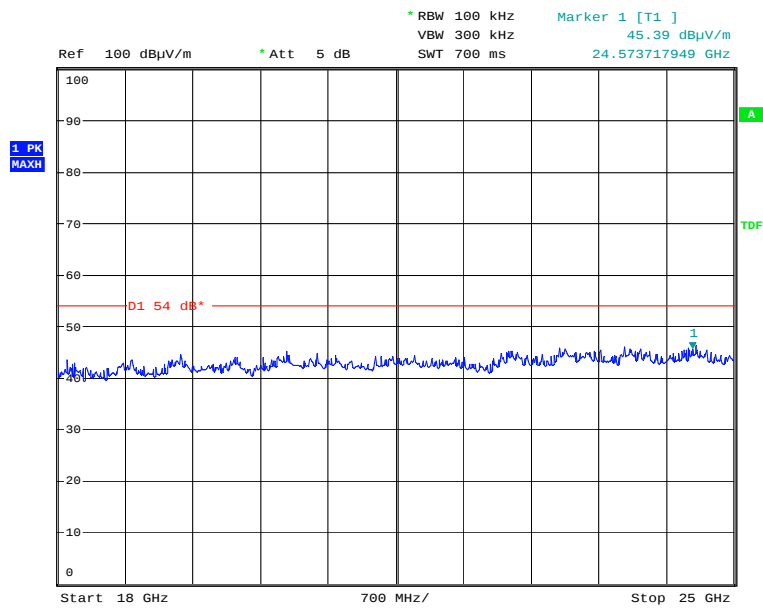
Date: 31.MAR.2009 14:03:11

RX MIDDLE 13 – 18GHz



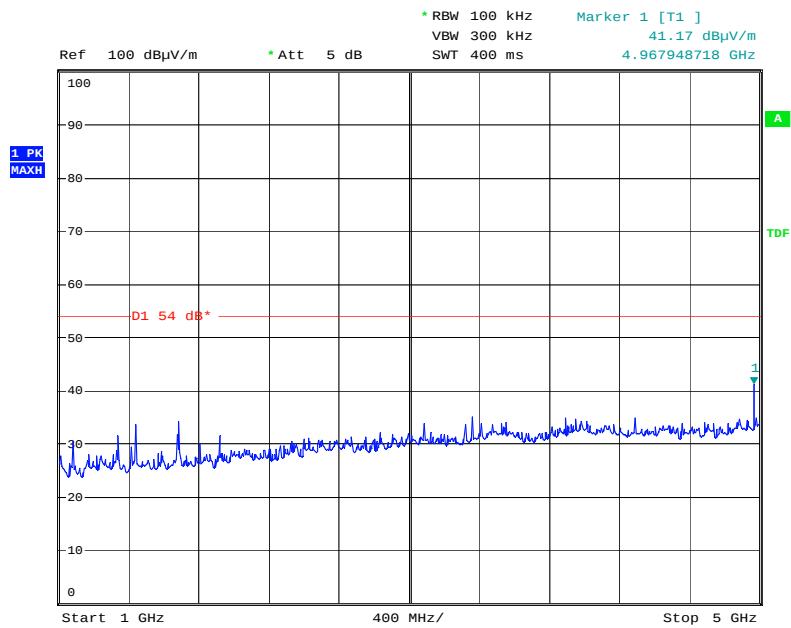
Date: 31.MAR.2009 14:03:24

RX MIDDLE 18 – 26GHz



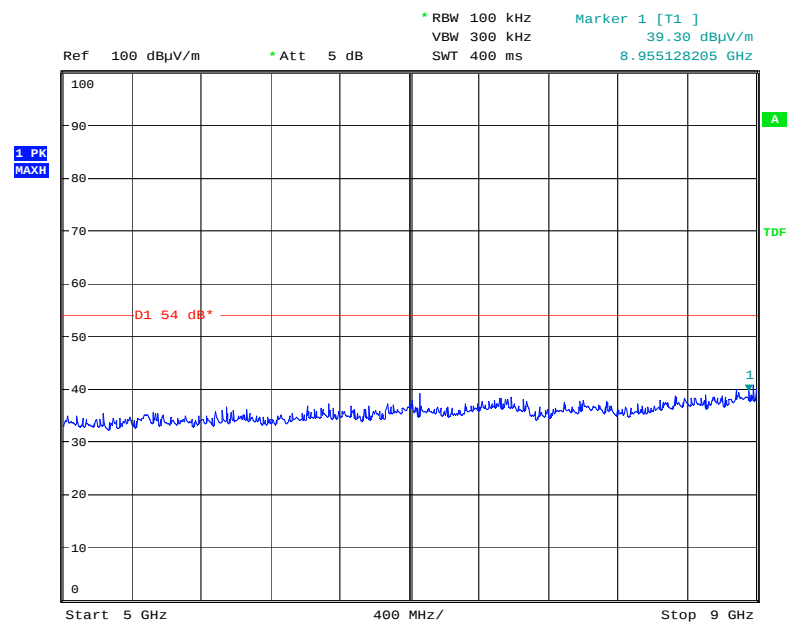
Date: 31.MAR.2009 14:18:00

RX TOP 1 – 5GHz



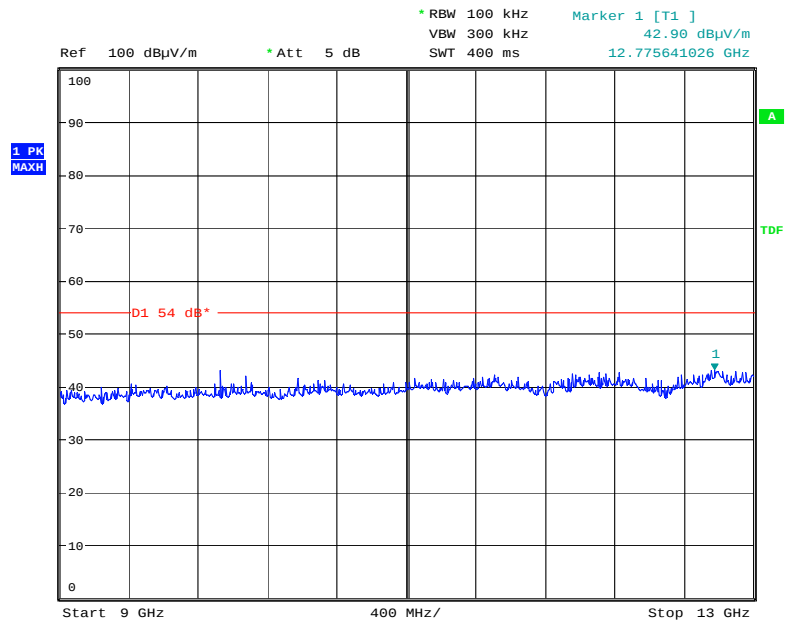
Date: 31.MAR.2009 14:06:05

RX TOP 5 – 9GHz



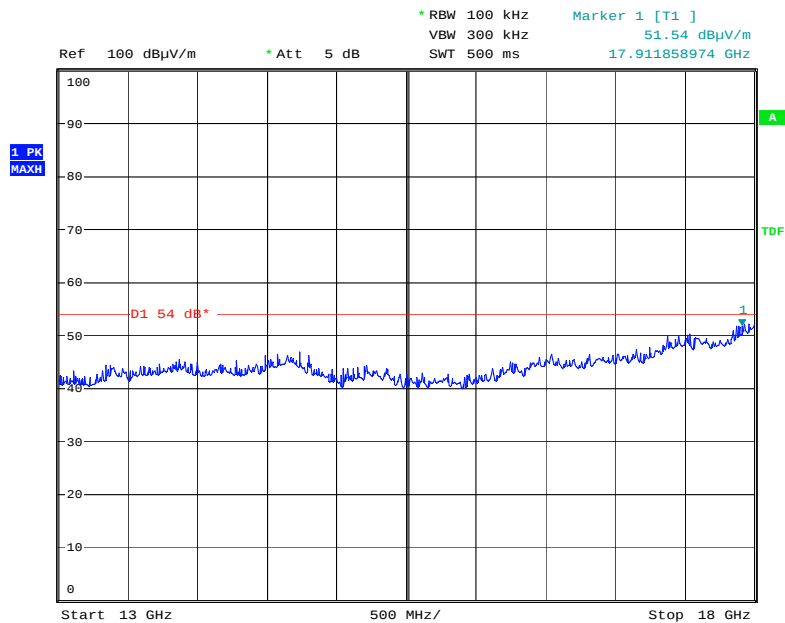
Date: 31.MAR.2009 14:06:16

RX TOP 9 – 13GHz



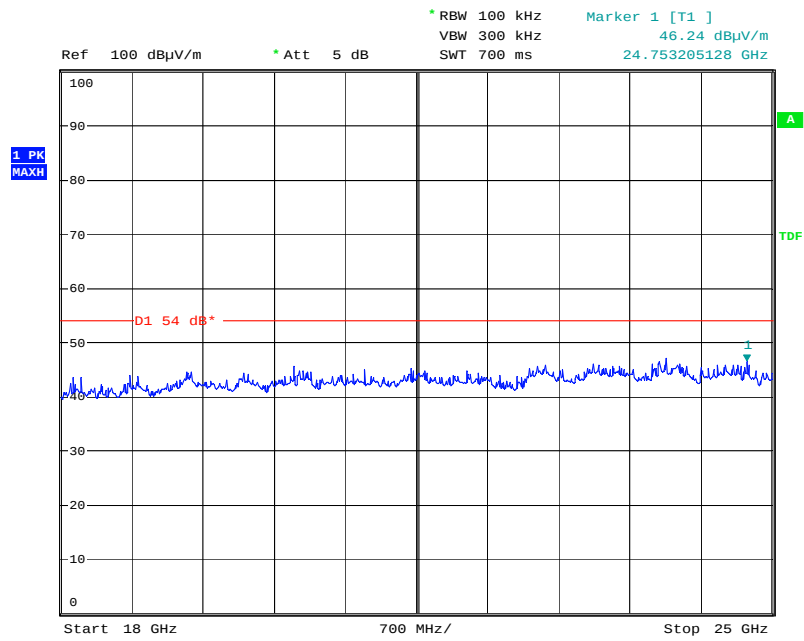
Date: 31.MAR.2009 14:06:27

RX TOP 13 – 18GHz



Date: 31.MAR.2009 14:05:53

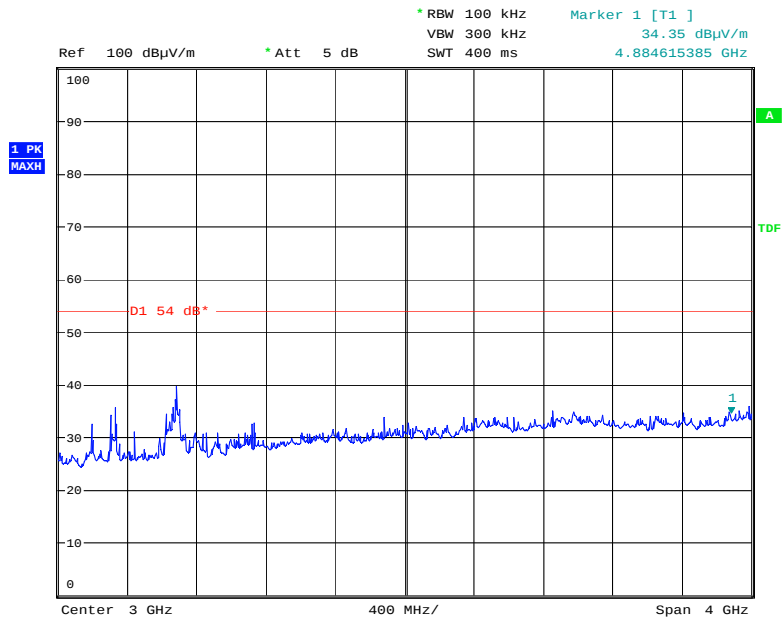
RX TOP 18 – 25GHz



Date: 31.MAR.2009 14:17:07

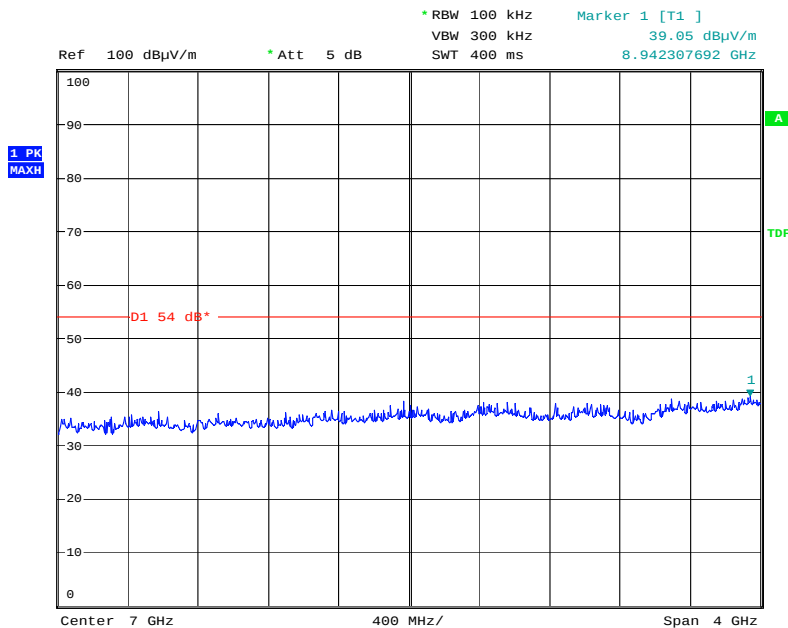
95" BOARD

RX BOTTOM 1– 5GHz



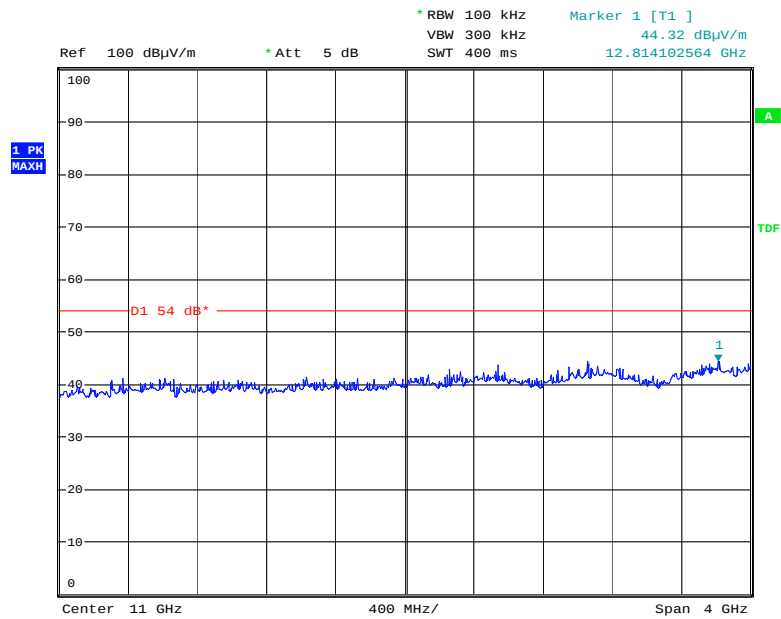
Date: 31.MAR.2009 16:36:15

RX BOTTOM 5 – 9GHz



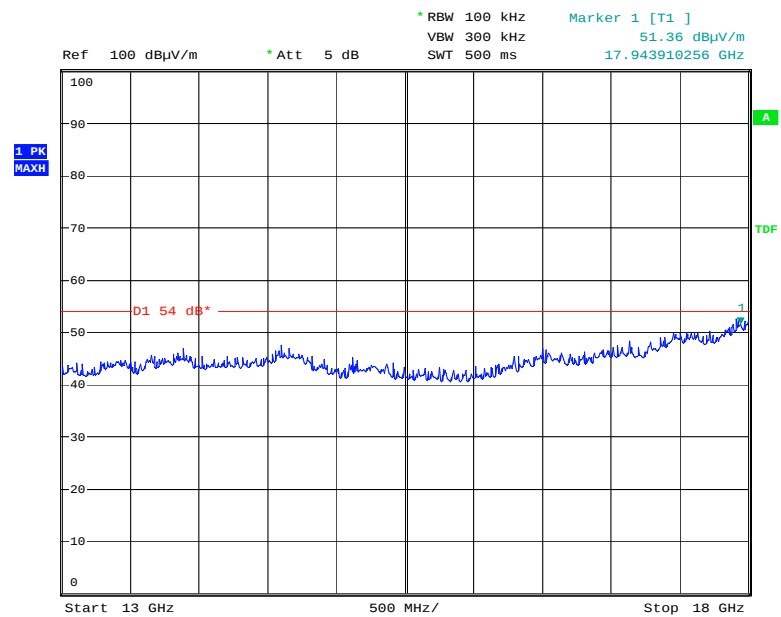
Date: 31.MAR.2009 16:35:54

RX BOTTOM 9 – 13GHz



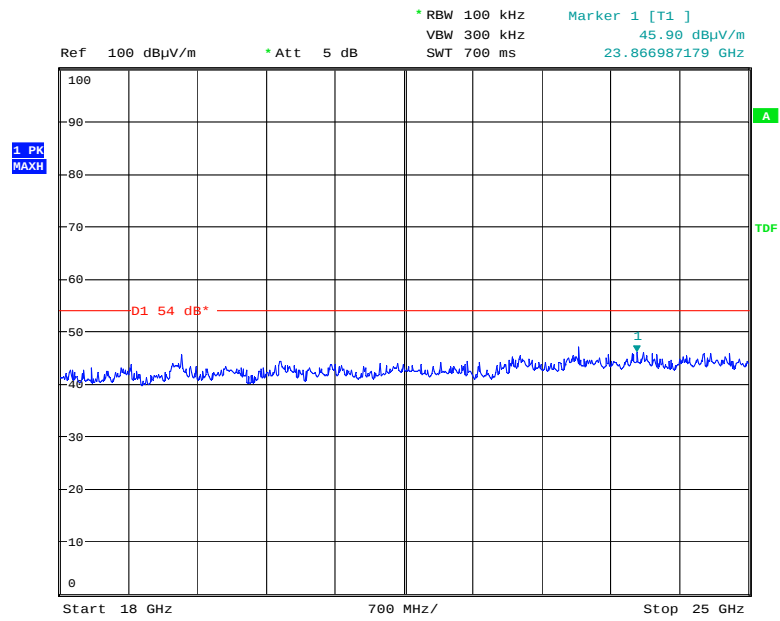
Date: 31.MAR.2009 16:35:45

RX BOTTOM 13 – 18GHz



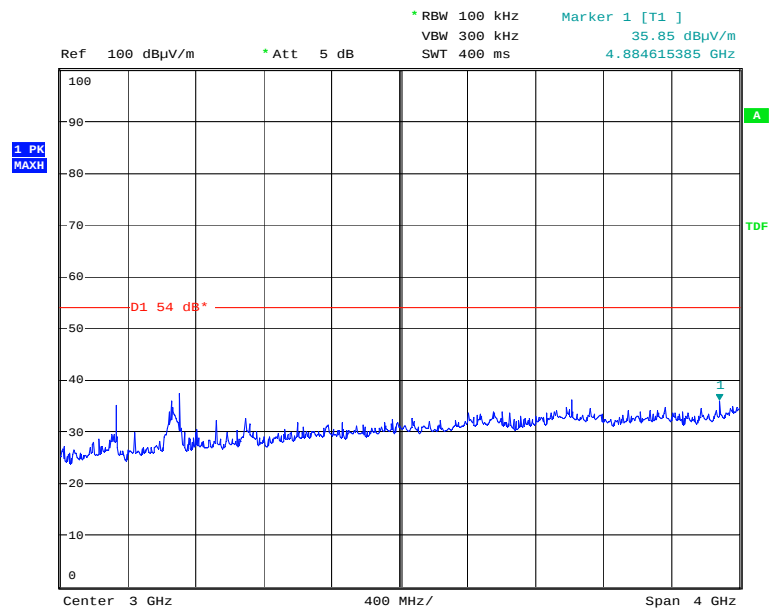
Date: 31.MAR.2009 16:35:32

RX BOTTOM 18 – 25GHz



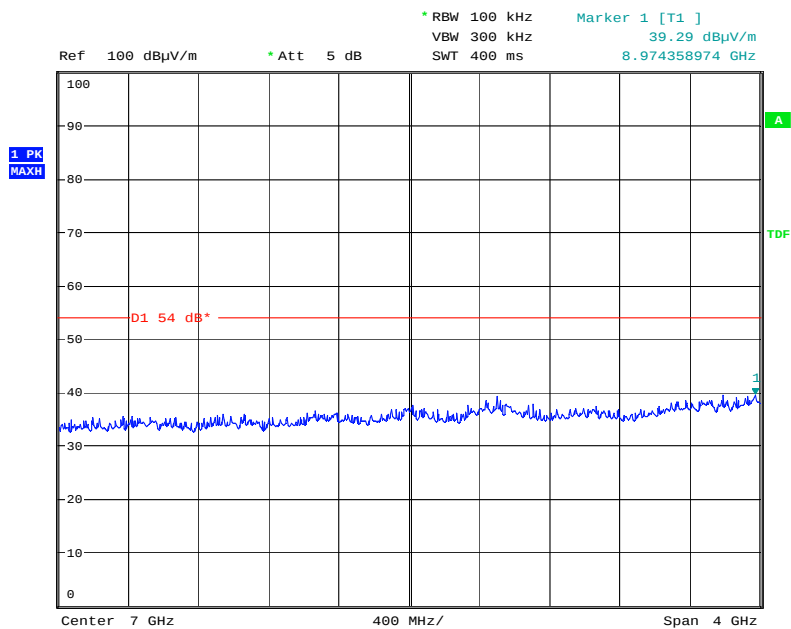
Date: 31.MAR.2009 16:26:28

RX MIDDLE 1 – 5GHz



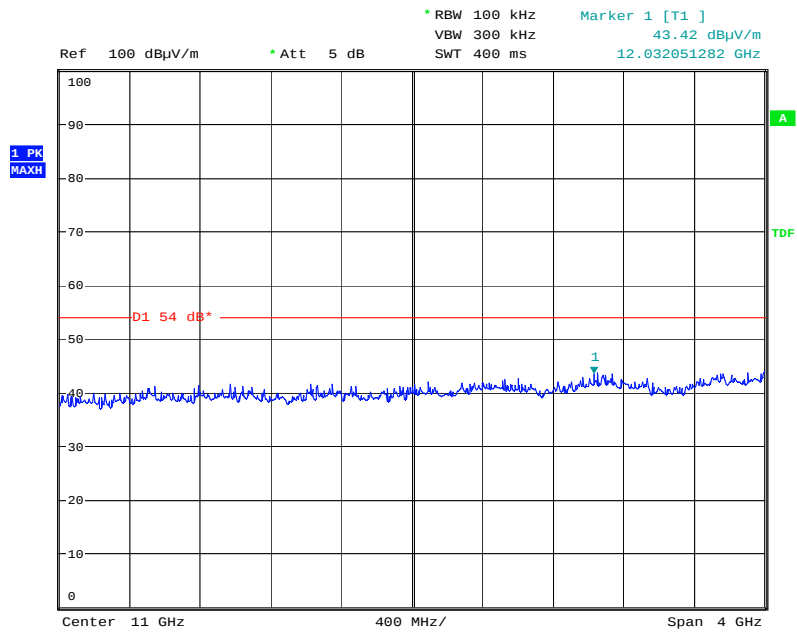
Date: 31.MAR.2009 16:31:07

RX MIDDLE 5 – 9GHz



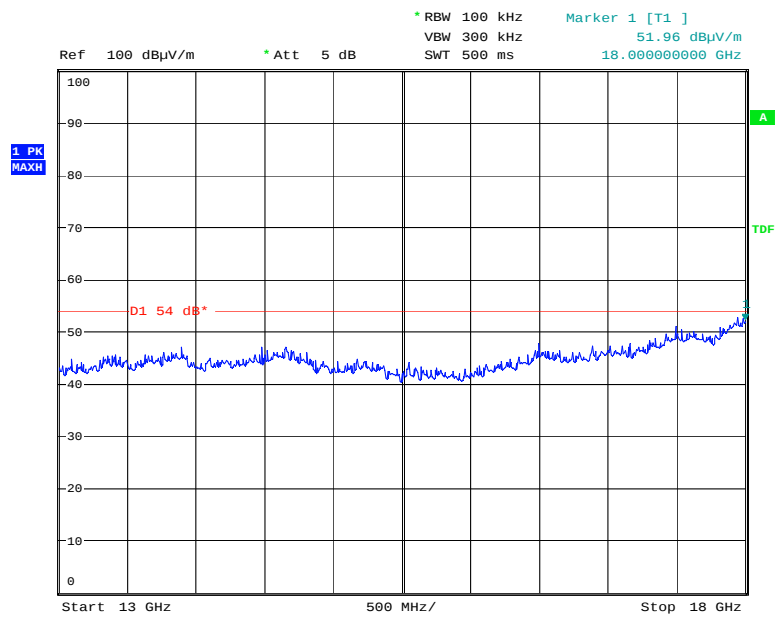
Date: 31.MAR.2009 16:31:17

RX MIDDLE 9 – 13GHz



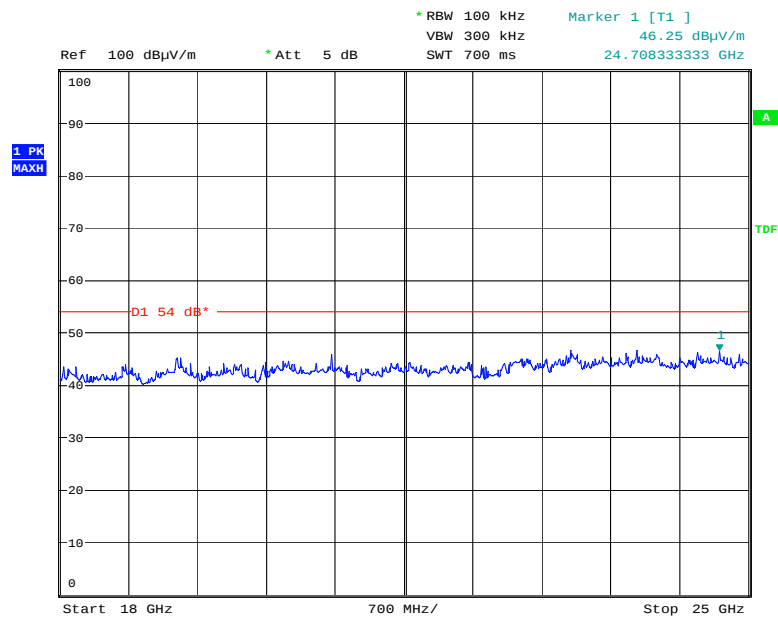
Date: 31.MAR.2009 16:31:27

RX MIDDLE 13 – 18GHz



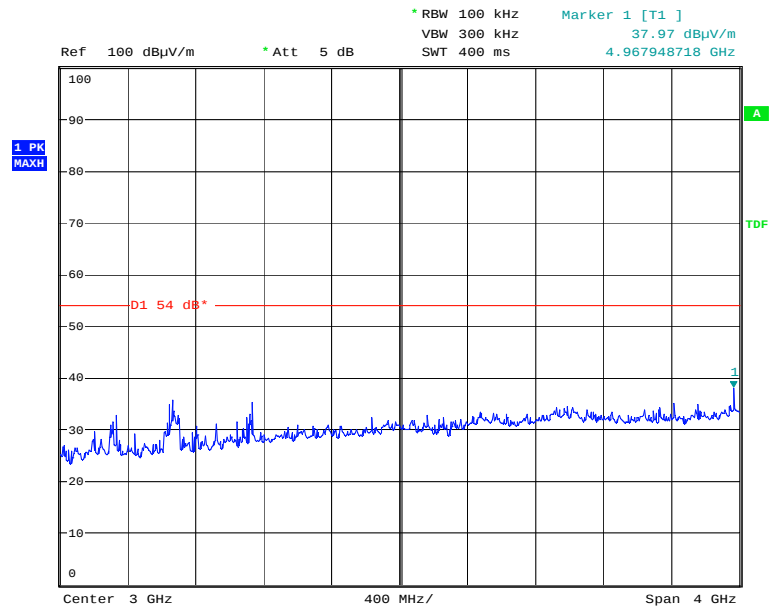
Date: 31.MAR.2009 16:31:42

RX MIDDLE 18 – 25GHz



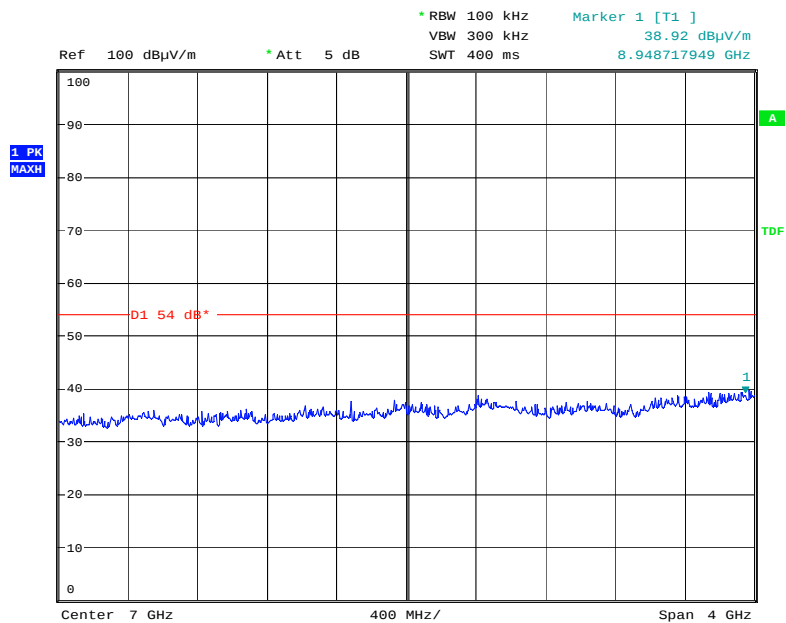
Date: 31.MAR.2009 16:26:48

RX TOP 1 – 5GHz



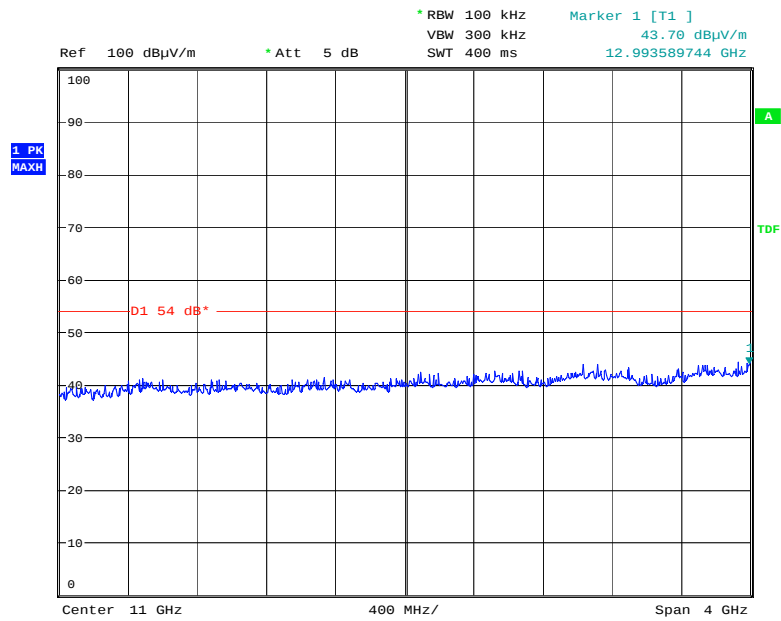
Date: 31.MAR.2009 16:30:38

RX TOP 5 – 9GHz



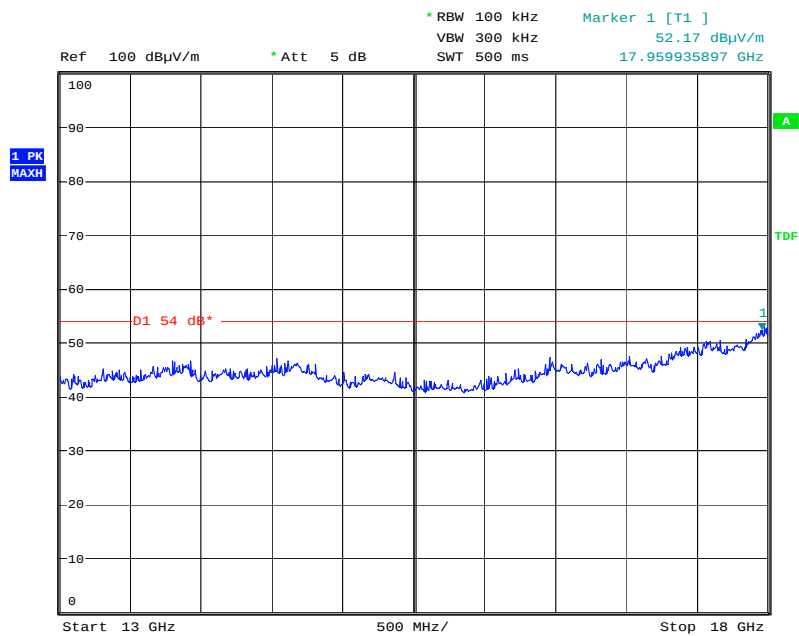
Date: 31.MAR.2009 16:30:27

RX TOP 9 – 13GHz



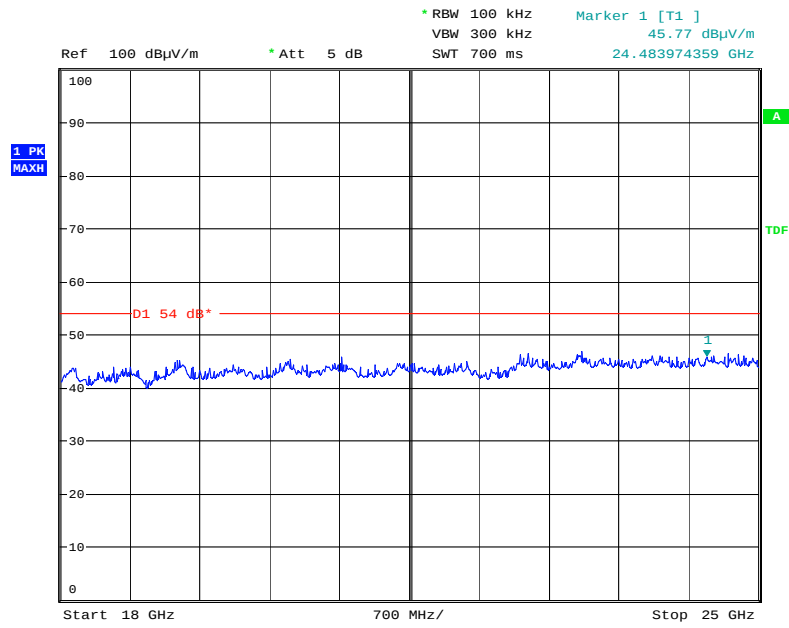
Date: 31.MAR.2009 16:30:13

RX TOP 13 – 18GHz



Date: 31.MAR.2009 16:30:00

RX TOP 18 – 25GHz



Date: 31.MAR.2009 16:27:50

Radio Testing – General Uncertainty Schedule

All statements of uncertainty are expanded standard uncertainty using a coverage factor of 1.96 to give a 95% confidence where no required test level exists.

[1] Adjacent Channel Power

Uncertainty in test result = **1.86dB**

[2] Carrier Power

Uncertainty in test result (Equipment - TRLUH120) = **2.18dB**

Uncertainty in test result (Equipment – TRL05) = **1.08dB**

Uncertainty in test result (Equipment – TRL479) = **2.48dB**

[3] Effective Radiated Power

Uncertainty in test result = **4.71dB**

[4] Spurious Emissions

Uncertainty in test result = **4.75dB**

[5] Maximum frequency error

Uncertainty in test result (Equipment - TRLUH120) = **119ppm**

Uncertainty in test result (Equipment – TRL05) = **0.113ppm**

Uncertainty in test result (Equipment – TRL479) = **0.265ppm**

[6] Radiated Emissions, field strength OATS 14kHz-18GHz Electric Field

Uncertainty in test result (14kHz – 30MHz) = **4.8dB**, Uncertainty in test result (30MHz – 1GHz) = **4.6dB**,
Uncertainty in test result (1GHz-18GHz) = **4.7dB**

[7] Frequency deviation

Uncertainty in test result = **3.2%**

[8] Magnetic Field Emissions

Uncertainty in test result = **2.3dB**

[9] Conducted Spurious

Uncertainty in test result (Equipment TRL479) Up to 8.1GHz = **3.31dB**

Uncertainty in test result (Equipment TRL479) 8.1GHz – 15.3GHz = **4.43dB**

Uncertainty in test result (Equipment TRL479) 15.3GHz – 21GHz = **5.34dB**

Uncertainty in test result (Equipment TRLUH120) Up to 26GHz = **3.14dB**

[10] Channel Bandwidth

Uncertainty in test result = **15.5%**

[11] Amplitude and Time Measurement – Oscilloscope

Uncertainty in overall test level = **2.1dB**, Uncertainty in time measurement = **0.59%**, Uncertainty in Amplitude measurement = **0.82%**

[11] Power Line Conduction

Uncertainty in test result = **3.4dB**

[12] Spectrum Mask Measurements

Uncertainty in test result = **2.59% (frequency)**

Uncertainty in test result = **1.32dB (amplitude)**

[13] Adjacent Sub Band Selectivity

Uncertainty in test result = **1.24dB**

[14] Receiver Blocking – Listen Mode, Radiated

Uncertainty in test result = **3.42dB**

[15] Receiver Blocking – Talk Mode, Radiated

Uncertainty in test result = **3.36dB**

[16] Receiver Blocking – Talk Mode, Conducted

Uncertainty in test result = **1.24dB**

[17] Receiver Threshold

Uncertainty in test result = **3.23dB**

[18] Transmission Time Measurement

Uncertainty in test result = **7.98%**