



## TEST REPORT

Test report no.: 1-6965/13-20-15



Deutsche  
 Akkreditierungsstelle  
 D-PL-12076-01-01

### Testing laboratory

**CETECOM ICT Services GmbH**  
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#### Accredited Testing Laboratory:

The testing laboratory (area of testing) is accredited according to DIN EN ISO/IEC 17025 (2005) by the Deutsche Akkreditierungsstelle GmbH (DAkkS). The accreditation is valid for the scope of testing procedures as stated in the accreditation certificate with the registration number: D-PL-12076-01-01  
 Area of Testing:  
 Radio Communications & EMC (RCE)

### Applicant

**Sony Mobile Communications AB**  
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 22188 Lund / SWEDEN  
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 Phone: +46 7 03 22 75 03

### Manufacturer

**Sony Mobile Communications AB**  
 Nya Vattentornet  
 22188 Lund / SWEDEN

### Test standard/s

47 CFR Part 15 Title 47 of the Code of Federal Regulations; Chapter I; Part 15 - Radio frequency devices

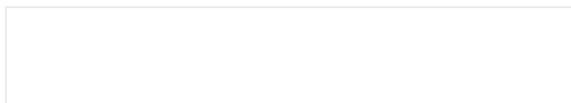
For further applied test standards please refer to section 3 of this test report.

### Test Item

**Kind of test item:** Smart Phone GPRS/EGPRS 850/900/1800/1900; UMTS HSPA FDD/III/V/VIII; LTE FDD2/3/4/7/13; CDMA 2K BC0/BC1; WLAN b/g/n/a/ac; BT 4.0; RFID; A-GPS  
**FCC ID:** PY7PM-0742  
**IC:** -/  
**Frequency:** UNII bands: 5150 MHz to 5250 MHz; 5250 MHz to 5350 MHz and 5470 MHz to 5725 MHz  
**Technology tested:** WLAN (OFDM/a – mode; n/ac HT20 – mode; n/ac HT40 – mode and ac HT80 – mode)  
**Antenna:** Integrated antenna  
**Power supply:** 4.2V DC by Li - polymer battery  
**Temperature range:** -30°C to +50°C

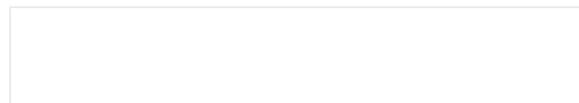
This test report is electronically signed and valid without handwriting signature. For verification of the electronic signatures, the public keys can be requested at the testing laboratory.

### Test report authorised:



Stefan BöS  
 Senior Testing Manager

### Test performed:



Marco Bertolino  
 Testing Manager

<b>1 Table of contents</b>	
1	Table of contents .....2
2	General information .....3
2.1	Notes and disclaimer .....3
2.2	Application details.....3
3	Test standard/s .....3
3.1	Measurement guidance.....3
4	Test environment.....4
5	Test item .....4
5.1	Additional information .....4
6	Test laboratories sub-contracted .....4
7	Description of the test setup .....5
7.1	Radiated measurements chamber F.....5
7.2	Radiated measurements chamber C .....6
7.3	Radiated measurements 12.75 GHz to 40 GHz .....7
7.4	AC conducted .....8
7.5	Conducted measurements .....9
8	Summary of measurement results .....10
9	Additional comments .....11
10	Measurement results .....12
10.1	Gain .....12
10.2	Band edge compliance radiated.....13
10.3	TX spurious emissions radiated.....26
10.4	RX spurious emissions radiated .....106
10.5	Spurious emissions radiated < 30 MHz .....110
10.6	Spurious emissions conducted < 30 MHz .....112
11	Test equipment and ancillaries used for tests .....115
12	Observations .....116
Annex A	Document history .....117
Annex B	Further information.....117
Annex C	Accreditation Certificate .....118

## 2 General information

### 2.1 Notes and disclaimer

The test results of this test report relate exclusively to the test item specified in this test report. CETECOM ICT Services GmbH does not assume responsibility for any conclusions and generalizations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the test item.

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This test report is electronically signed and valid without handwritten signature. For verification of the electronic signatures, the public keys can be requested at the testing laboratory.

### 2.2 Application details

Date of receipt of order:	2014-05-19
Date of receipt of test item:	2014-05-22
Start of test:	2014-05-28
End of test:	2014-06-05
Person(s) present during the test:	-/-

## 3 Test standard/s

Test standard	Date	Test standard description
47 CFR Part 15	-/-	Title 47 of the Code of Federal Regulations; Chapter I; Part 15 - Radio frequency devices

### 3.1 Measurement guidance

UNII: KDB 789033	2013-04	Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - Part 15, Subpart E
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#### 4 Test environment

Temperature:	$T_{nom}$	+22 °C during room temperature tests
	$T_{max}$	+50 °C during high temperature tests
	$T_{min}$	-30 °C during low temperature tests
Relative humidity content:		52 %
Barometric pressure:		not relevant for this kind of testing
Power supply:	$V_{nom}$	4.2 V DC by Li - polymer battery
	$V_{max}$	4.2 V
	$V_{min}$	3.3 V

#### 5 Test item

Kind of test item	:	Smart Phone GPRS/EGPRS 850/900/1800/1900; UMTS HSPA FDDI/II/V/VIII; LTE FDD2/3/4/7/13; CDMA 2K BC0/BC1; WLAN b/g/n/a/ac; BT 4.0; RFID; A-GPS
S/N serial number	:	Radiated units: CB5A1Z1Y2Y; CB5A1Z1Y8P
HW hardware status	:	TP3.0
SW software status	:	RF test software
Frequency band [MHz]	:	UNII bands: 5150 MHz to 5250 MHz; 5250 MHz to 5350 MHz and 5470 MHz to 5725 MHz (lowest channel 36 – 5180 MHz; highest channel 140 – 5700 MHz)
Type of radio transmission	:	OFDM
Use of frequency spectrum	:	
Type of modulation	:	BPSK, QPSK, 16 – QAM, 64 – QAM and 256 – QAM
Number of channels	:	19
Antenna	:	Integrated antenna
Power supply	:	4.2 V DC by Li - polymer battery
Temperature range	:	-30°C to +50 °C

#### 5.1 Additional information

Test setup- and EUT-photos are included in test report: 1-6965/13-20-01\_AnnexA  
 1-6965/13-20-01\_AnnexB  
 1-6965/13-20-01\_AnnexD

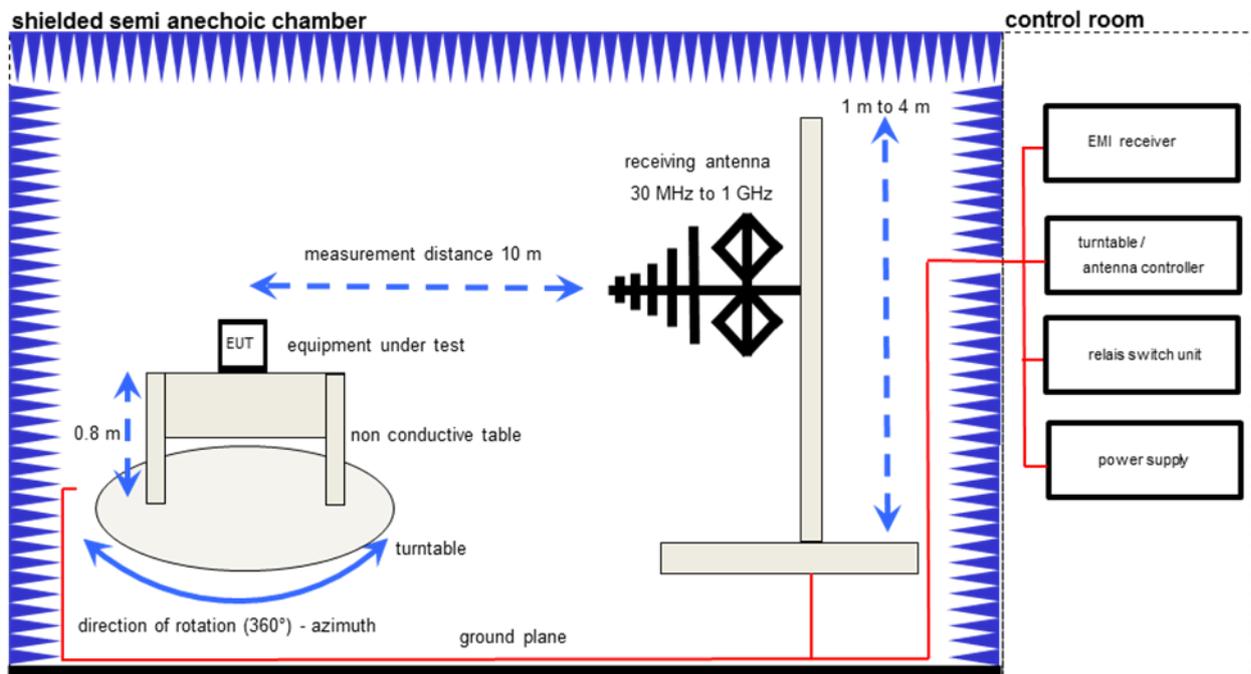
#### 6 Test laboratories sub-contracted

None

## 7 Description of the test setup

### 7.1 Radiated measurements chamber F

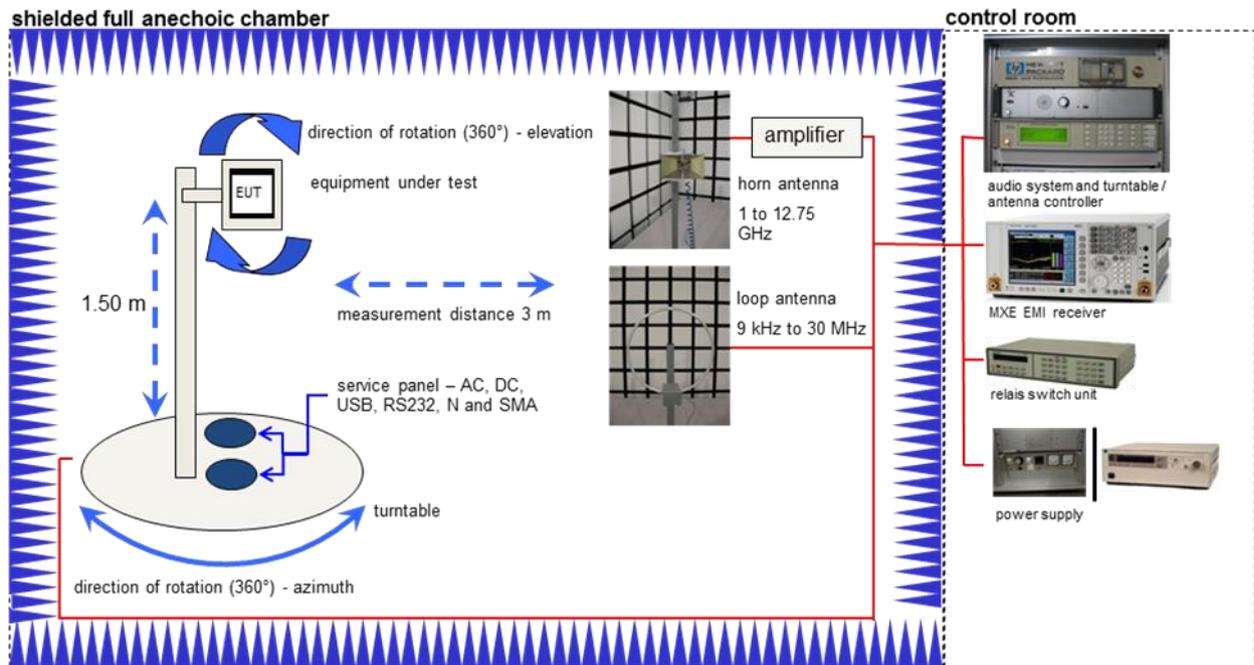
The radiated measurements are performed in vertical and horizontal plane in the frequency range from 9 kHz to 1 GHz in semi-anechoic chambers. The EUT is positioned on a non-conductive support with a height of 0.80 m above a conductive ground plane that covers the whole chamber. The receiving antennas are confirmed with specifications ANSI C63. These antennas can be moved over the height range between 1.0 m and 4.0 m in order to search for maximum field strength emitted from EUT. The measurement distances between EUT and receiving antennas are indicated in the test setups for the various frequency ranges. For each measurement, the EUT is rotated in all three axes until the maximum field strength is received. The wanted and unwanted emissions are received by spectrum analyzers where the detector modes and resolution bandwidths over various frequency ranges are set according to requirement ANSI C63.



#### Equipment table:

Equipment	Type	Manufacturer	Serial No.	INV. No Cetecom
Switch-Unit	3488A	HP Meßtechnik	2719A14505	300000368
DC power supply, 60Vdc, 50A, 1200 W	6032A	HP Meßtechnik	2920A04466	300000580
EMI Test Receiver	ESCI 3	R&S	100083	300003312
Amplifier	JS42-00502650-28-5A	MITEQ	1084532	300003379
Antenna Tower	Model 2175	ETS-LINDGREN	64762	300003745
Positioning Controller	Model 2090	ETS-LINDGREN	64672	300003746
Turntable Interface-Box	Model 105637	ETS-LINDGREN	44583	300003747
TRILOG Broadband Test-Antenna 30 MHz - 3 GHz	VULB9163	Schwarzbeck	295	300003787

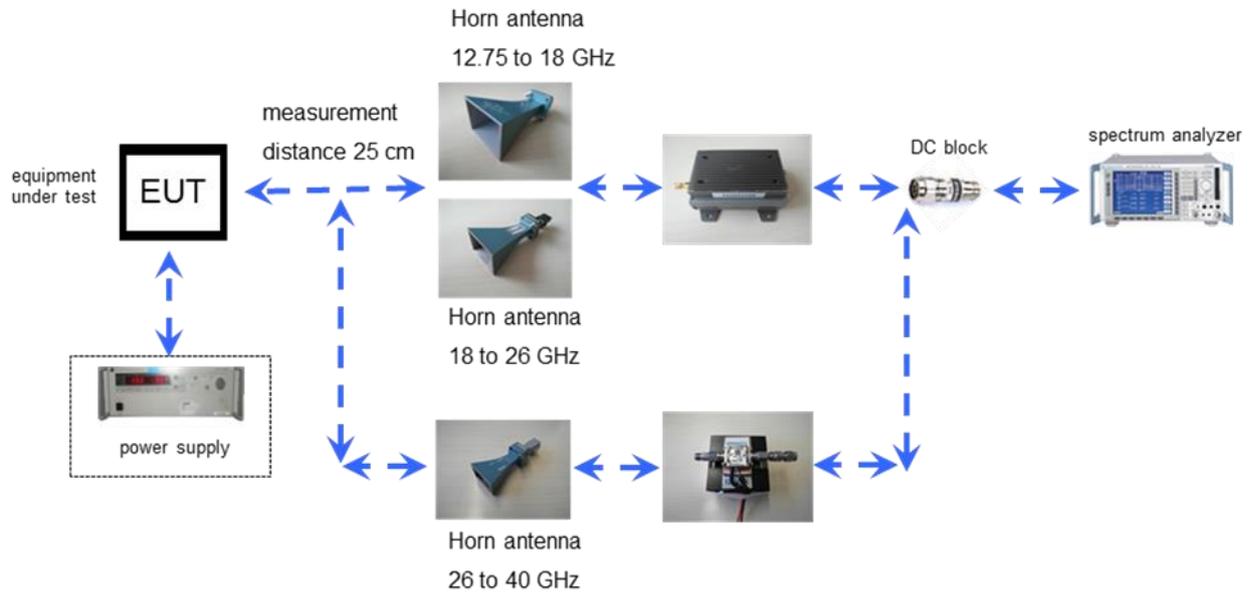
## 7.2 Radiated measurements chamber C



### Equipment table:

Equipment	Type	Manufacturer	Serial No.	INV. No Cetecom
MXE EMI Receiver 20 Hz bis 26,5 GHz	N9038A	Agilent Technologies	MY51210197	300004405
Highpass Filter	WHKX7.0/18G-8SS	Wainwright	18	300003789
Double-Ridged Waveguide Horn Antenna 1-18.0GHz	3115	EMCO	8812-3088	300001032
Active Loop Antenna	6502	EMCO	8905-2342	300000256
Anechoic chamber	FAC 3/5m	MWB / TDK	87400/02	300000996
Switch / Control Unit	3488A	HP Meßtechnik	*	300000199
Switch / Control Unit	3488A	HP Meßtechnik	2719A15013	300001156
Isolating Transformer	MPL IEC625 Bus Regeltrenntrafo	Erfi	91350	300001155
Three-Way Power Splitter, 50 Ohm	11850C	HP Meßtechnik		300000997
Amplifier	js42-00502650-28-5a	Parzich GMBH	928979	300003143

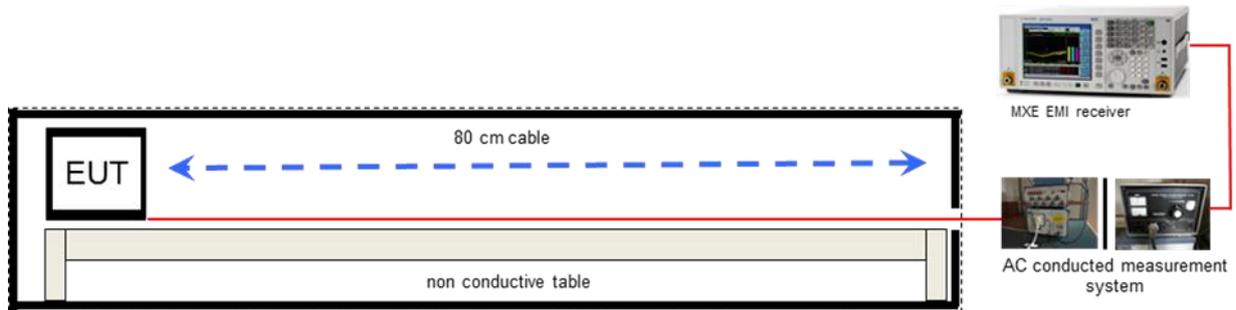
### 7.3 Radiated measurements 12.75 GHz to 40 GHz



#### Equipment table:

Equipment	Type	Manufacturer	Serial No.	INV. No Cetecom
Std. Gain Horn Antenna 12.4 to 18.0 GHz	639	Narda	8402	300000787
Std. Gain Horn Antenna 18.0 to 26.5 GHz	638	Narda	8205	300002442
Microwave System Amplifier, 0.5-26.5 GHz	83017A	HP Meßtechnik	00419	300002268
Std. Gain Horn Antenna 26.5-40.0 GHz	V637	Narda	7911	300001751
Broadband Low Noise Amplifier 18-50 GHz	CBL18503070-XX	CERNEX	19338	300004273
Signal Analyzer 40 GHz	FSV40	R&S	101042	300004517

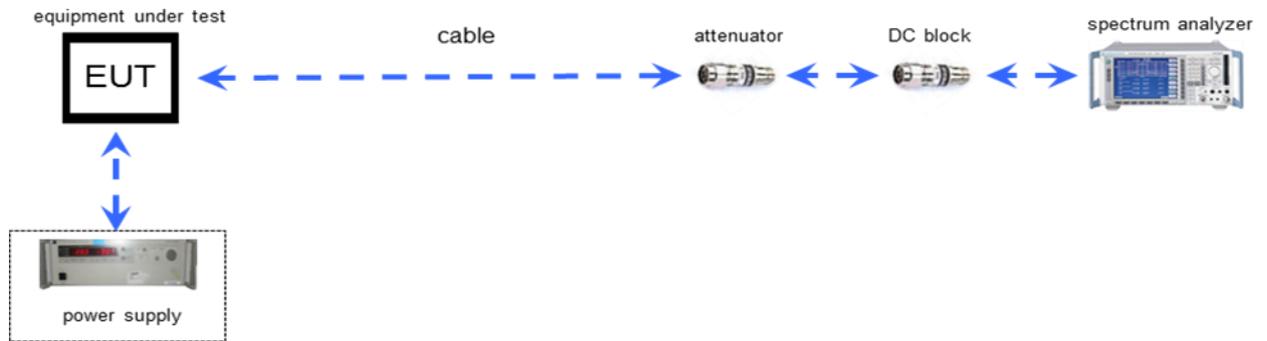
## 7.4 AC conducted



### Equipment table:

Equipment	Type	Manufacturer	Serial No.	INV. No Cetecom
MXE EMI Receiver 20 Hz bis 26,5 GHz	N9038A	Agilent Technologies	MY51210197	300004405
Isolating Transformer	MPL IEC625 Bus Regeltrenntrafo	Erfi	91350	300001155
Switch / Control Unit	3488A	HP Meßtechnik	*	300000199
Switch / Control Unit	3488A	HP Meßtechnik	2719A15013	300001168
Artificial Mains 9 kHz to 30 MHz	ESH3-Z5	R&S	828576/020	300001210

## 7.5 Conducted measurements



### Equipment table:

Equipment	Type	Manufacturer	Serial No.	INV. No Cetecom
Signal Analyzer 40 GHz	FSV40	R&S	101042	300004517

## 8 Summary of measurement results

- No deviations from the technical specifications were ascertained
- There were deviations from the technical specifications ascertained

TC Identifier	Description	Verdict	Date	Remark
RF-Testing	CFR Part 15	Passed	2014-06-12	Delta tests according to manufacturer test plan!

Test specification clause	Test case	Temperature conditions	Power source voltages	Pass	Fail	NA	NP	Remark
-/-	Output power verification (conducted)	Nominal	Nominal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-/-
-/-	Gain	Nominal	Nominal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Declared
U-NII Part 15	Duty cycle	Nominal	Nominal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-/-
§15.407(a)	Maximum output power (conducted & radiated)	Nominal	Nominal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-/-
§15.407(a)	Power spectral density	Nominal	Nominal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-/-
§15.407(a)	Spectrum bandwidth 26dB bandwidth	Nominal	Nominal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-/-
§15.407(a)	Peak excursion measurements	Nominal	Nominal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-/-
§15.205	Band edge compliance radiated	Nominal	Nominal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Complies
§15.407(b)	TX spurious emissions radiated	Nominal	Nominal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Complies
§15.109	RX spurious emissions radiated	Nominal	Nominal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Complies
§15.209(a)	Spurious emissions radiated < 30 MHz	Nominal	Nominal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Complies
§15.107(a) §15.207	Spurious emissions conducted emissions < 30 MHz	Nominal	Nominal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Complies

**Note:** NA = Not Applicable; NP = Not Performed

## 9 Additional comments

Reference documents: Main test report: 1-6965/13-04-16-B (FCC ID: PY7PM-0740)

Special test descriptions: None

Configuration descriptions: None

Test mode:  No test mode available.  
 Special software is used.  
EUT is transmitting pseudo random data by itself

## 10 Measurement results

### 10.1 Gain

**Limits:**

Antenna Gain
Maximum 6 dBi

**Result:**

OFDM Band 5150 MHz to 5250 MHz	Gain		
Channel	Lowest 5180 MHz	-/-	Highest 5240 MHz
Gain Declared by the manufacturer	-0.8	-/-	0.1
Measurement uncertainty	± 3 dB		

OFDM Band 5250 MHz to 5350 MHz	Gain		
Channel	Lowest 5260 MHz	-/-	Highest 5320 MHz
Gain Declared by the manufacturer	0.4	-/-	1.4
Measurement uncertainty	± 3 dB		

OFDM Band 5470 MHz to 5725 MHz	Gain		
Channel	Lowest 5500 MHz	Middle 5600 MHz	Highest 5700 MHz
Gain Declared by the manufacturer	1.7	1.1	1.4
Measurement uncertainty	± 3 dB		

**Result:** Passed

## 10.2 Band edge compliance radiated

### Description:

Measurement of the radiated band edge compliance. The EUT is turned in the position that results in the maximum level at the band edge. Then a sweep over the corresponding restricted band is performed. The EUT is set to the lowest channel for the lower restricted band and to the highest channel for the upper restricted band. Measurement distance is 3m.

### Measurement:

Measurement parameter	
Detector:	Peak / RMS
Sweep time:	Auto
Resolution bandwidth:	1 MHz
Video bandwidth:	10 Hz / 1 MHz
Span:	See plots!
Trace-Mode:	Max Hold

### Limits:

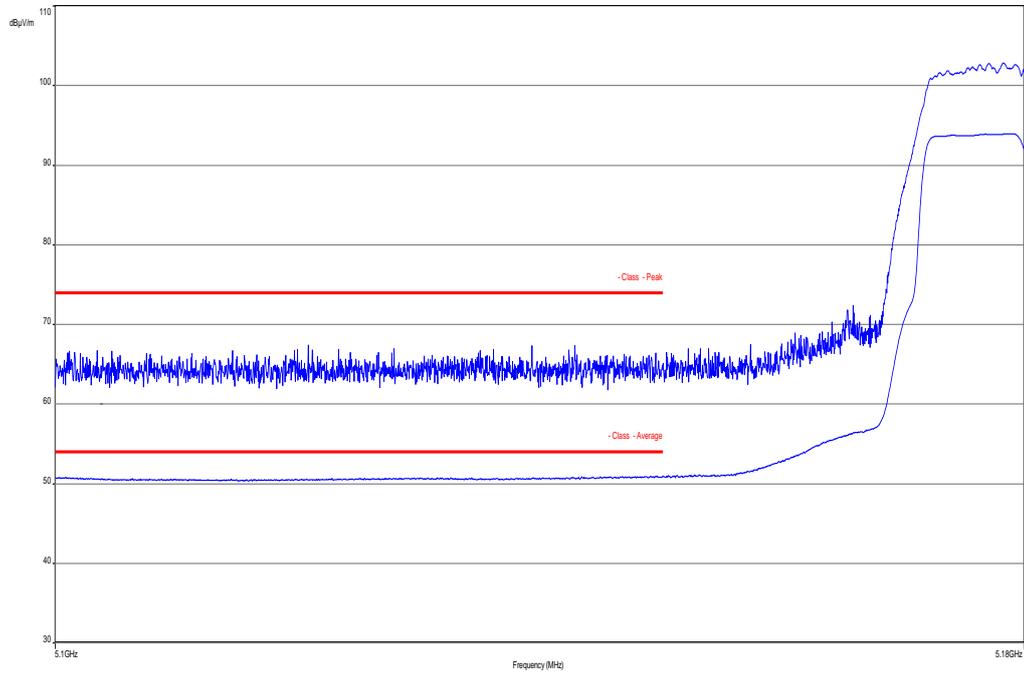
Band Edge Compliance Radiated
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 5.205(c)).
74 dB $\mu$ V/m PEAK 54 dB $\mu$ V/m AVG

### Result:

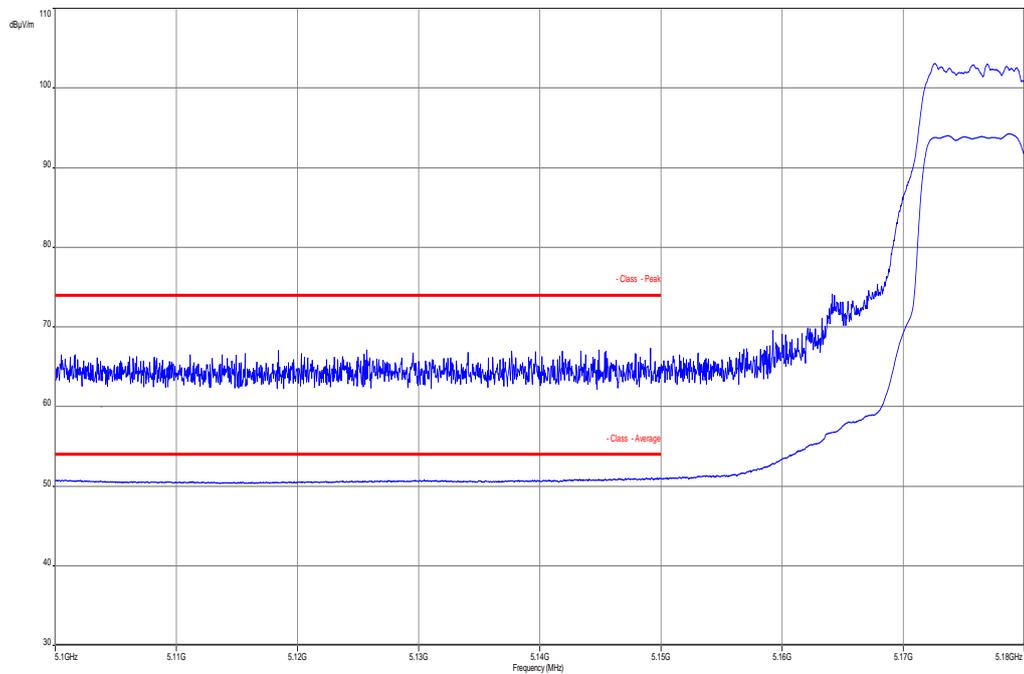
Scenario	Band Edge Compliance Radiated [dB $\mu$ V/m]
band edge	< 74 dB $\mu$ V/m (AVG) < 54 dB $\mu$ V/m (PEAK)
Measurement uncertainty	$\pm$ 3 dB

**Plots:**

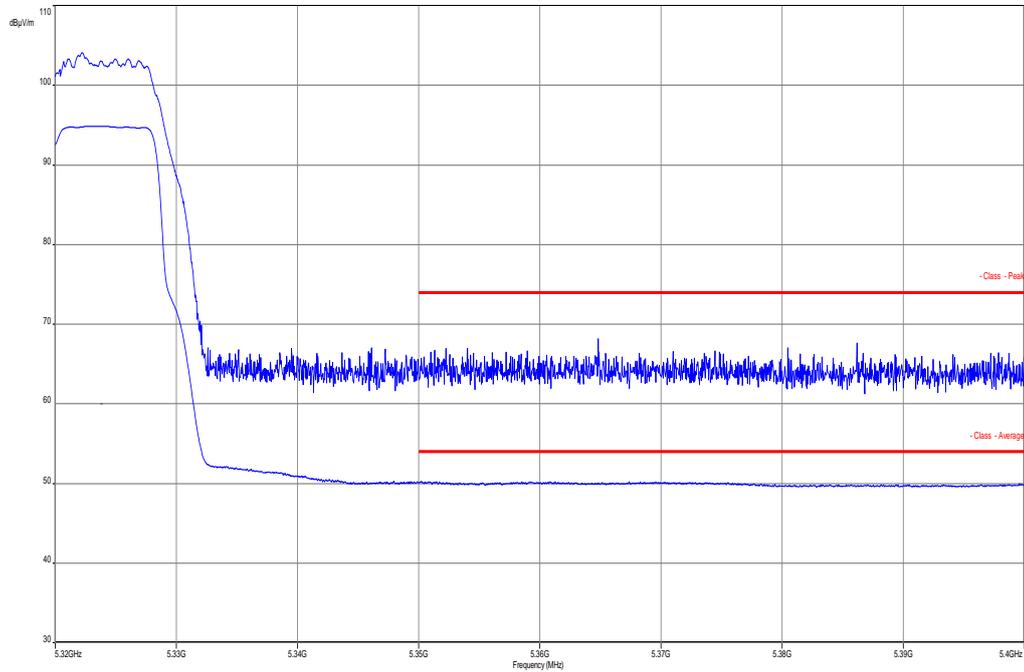
**Plot 1:** lower band edge, vertical & horizontal polarization (a mode), channel 36, low data rate



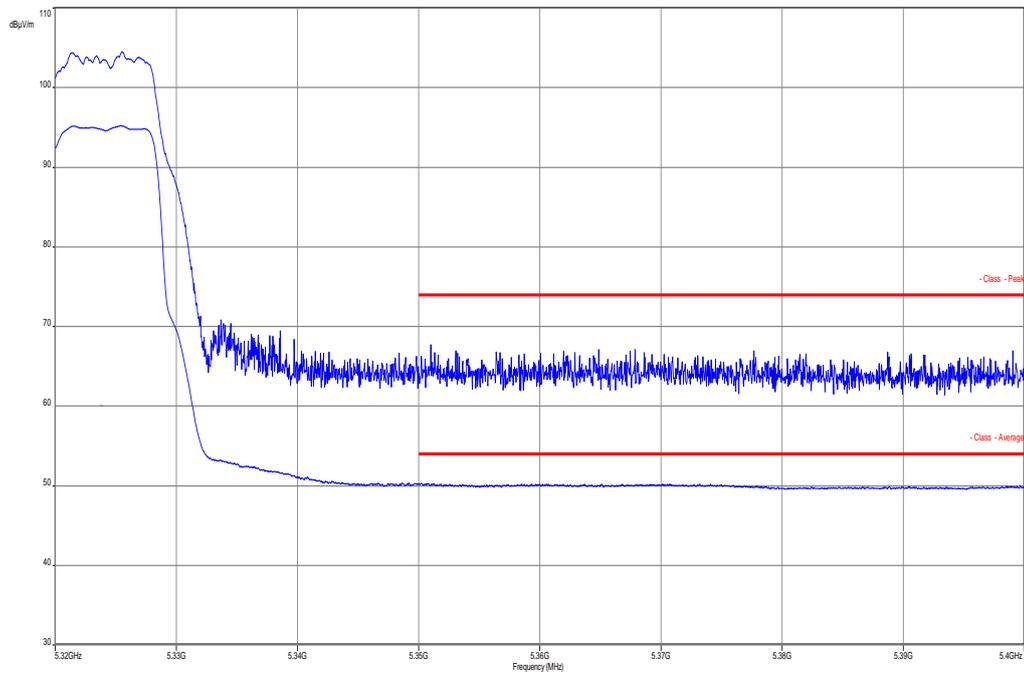
**Plot 2:** lower band edge, vertical & horizontal polarization (a mode), channel 36, high data rate



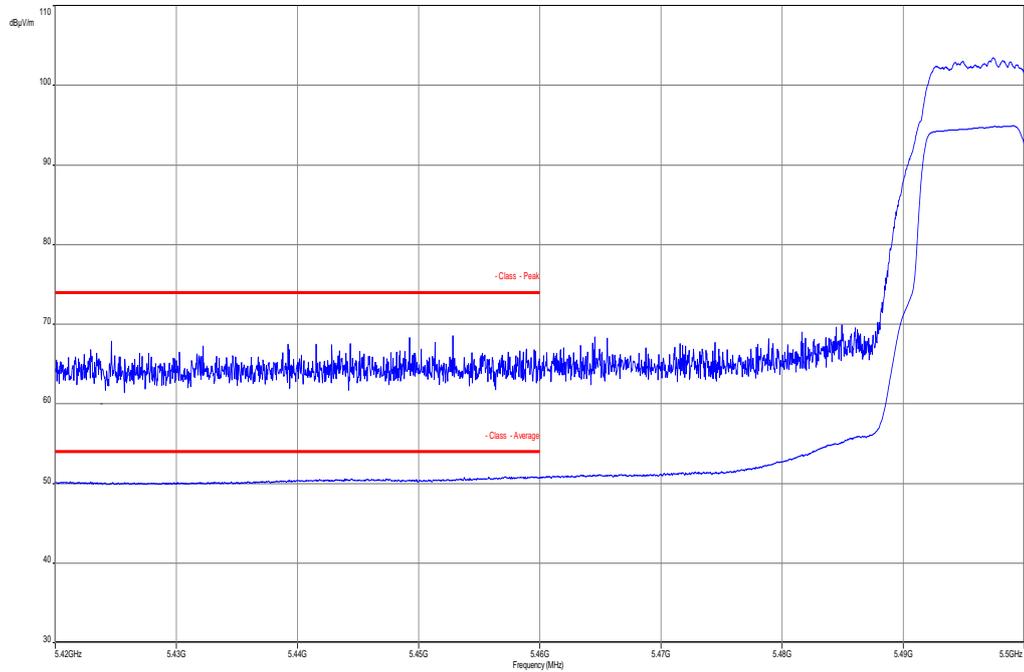
**Plot 3:** upper band edge, vertical & horizontal polarization (a mode), channel 64, low data rate



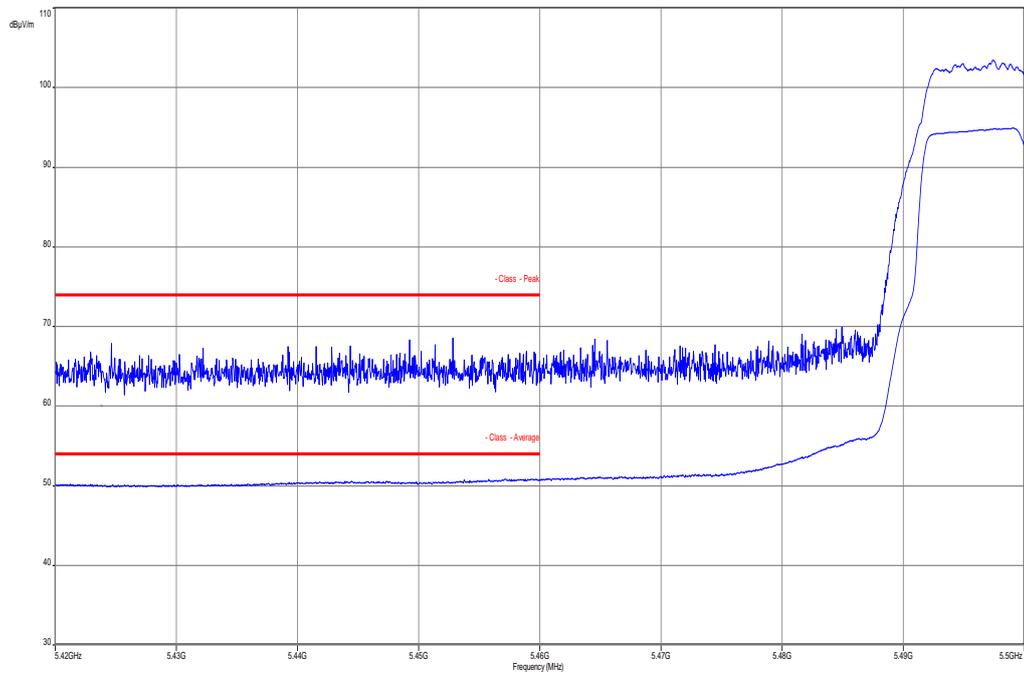
**Plot 4:** upper band edge, vertical & horizontal polarization (a mode), channel 64, high data rate



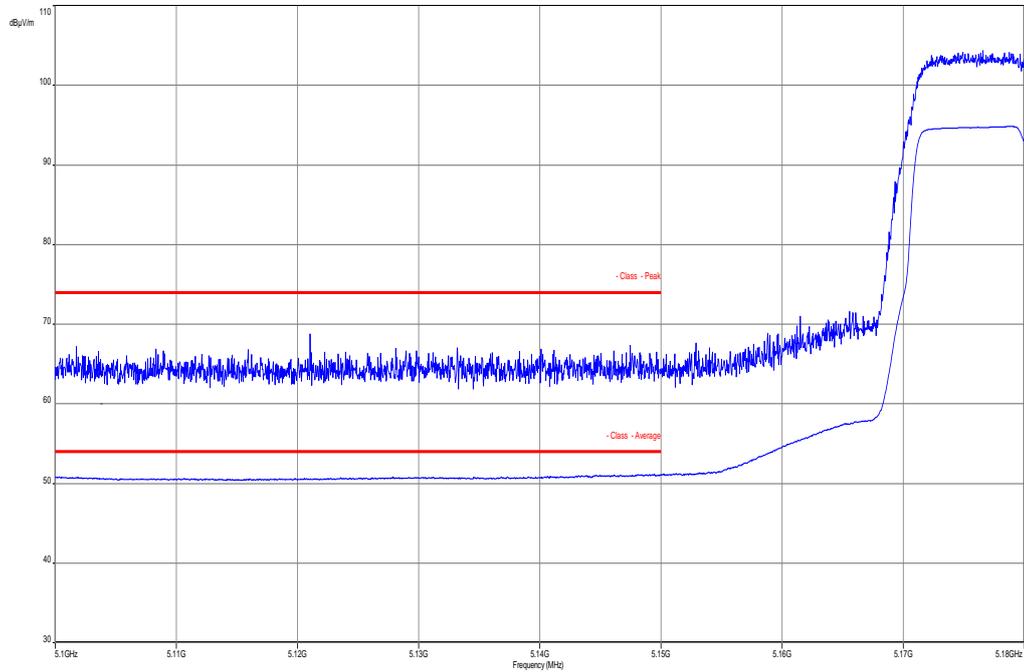
**Plot 5:** lower band edge, vertical & horizontal polarization (a mode), channel 100, low data rate



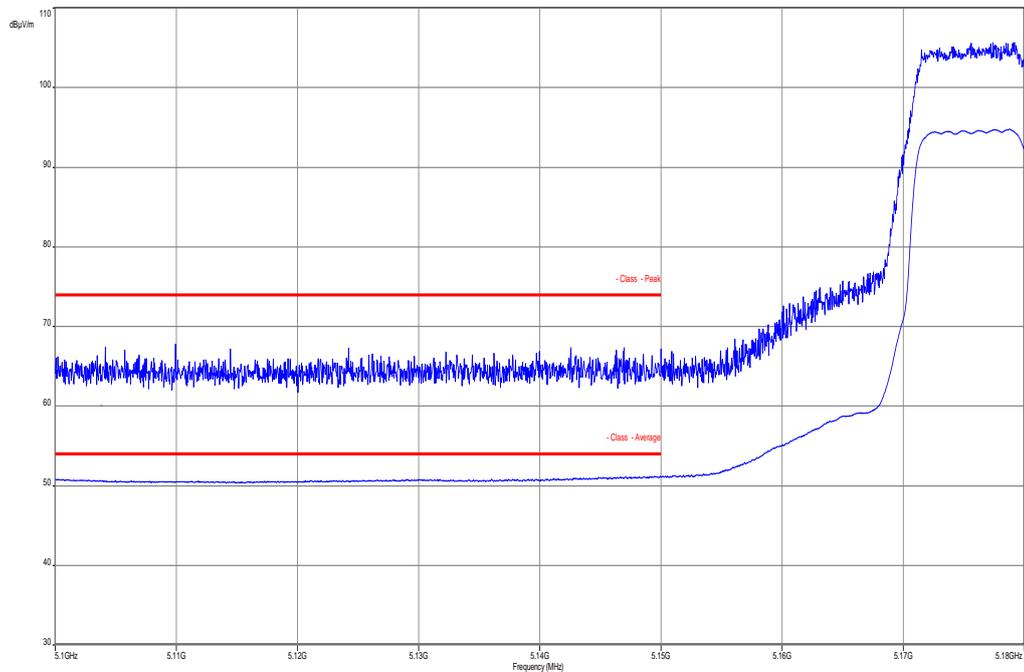
**Plot 6:** lower band edge, vertical & horizontal polarization (a mode), channel 100, high data rate



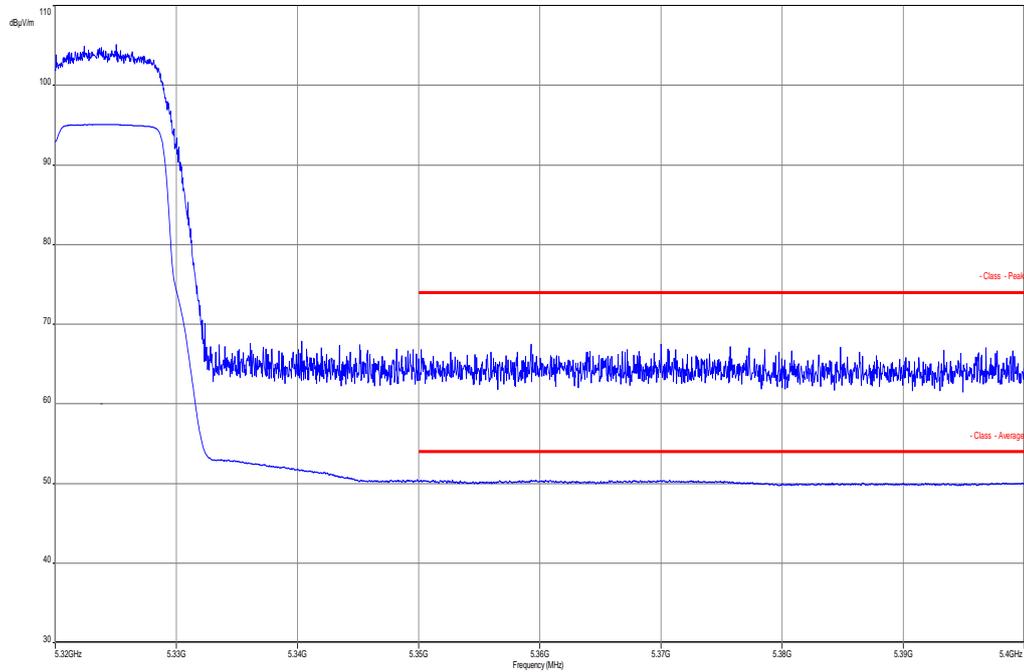
**Plot 7:** lower band edge, vertical & horizontal polarization (n HT 20 mode), channel 36, low data rate



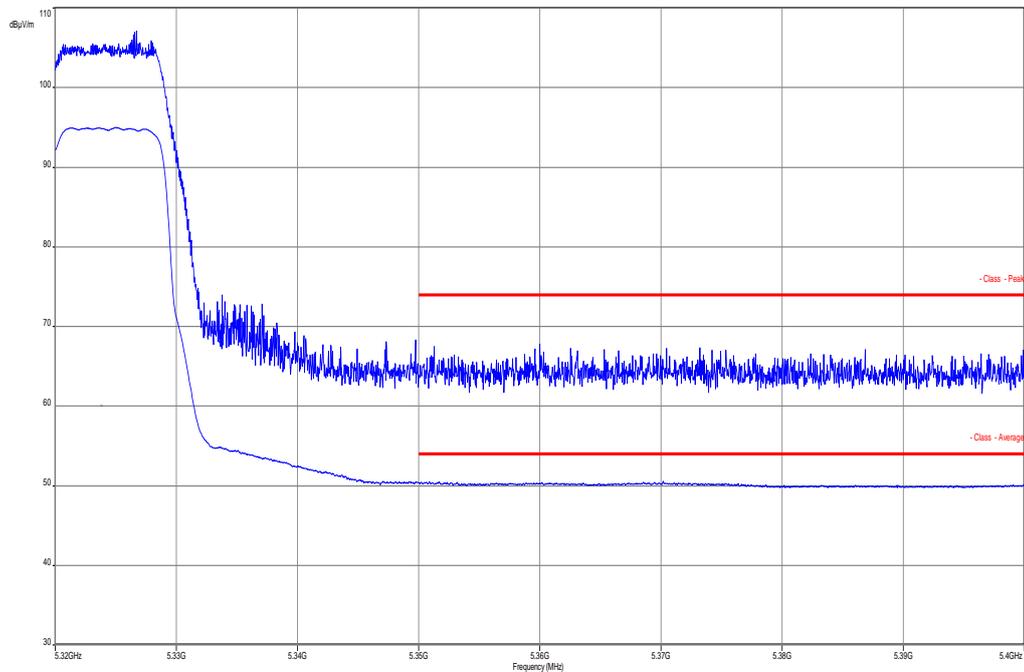
**Plot 8:** lower band edge, vertical & horizontal polarization (n HT 20 mode), channel 36, high data rate



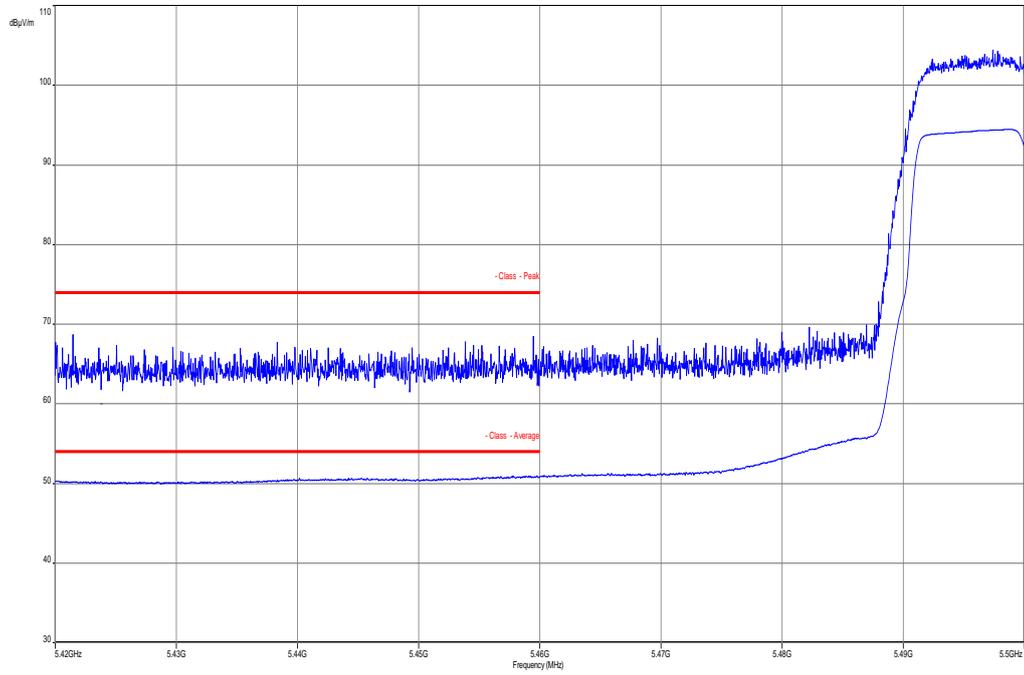
**Plot 9:** upper band edge, vertical & horizontal polarization (n HT 20 mode), channel 64, low data rate



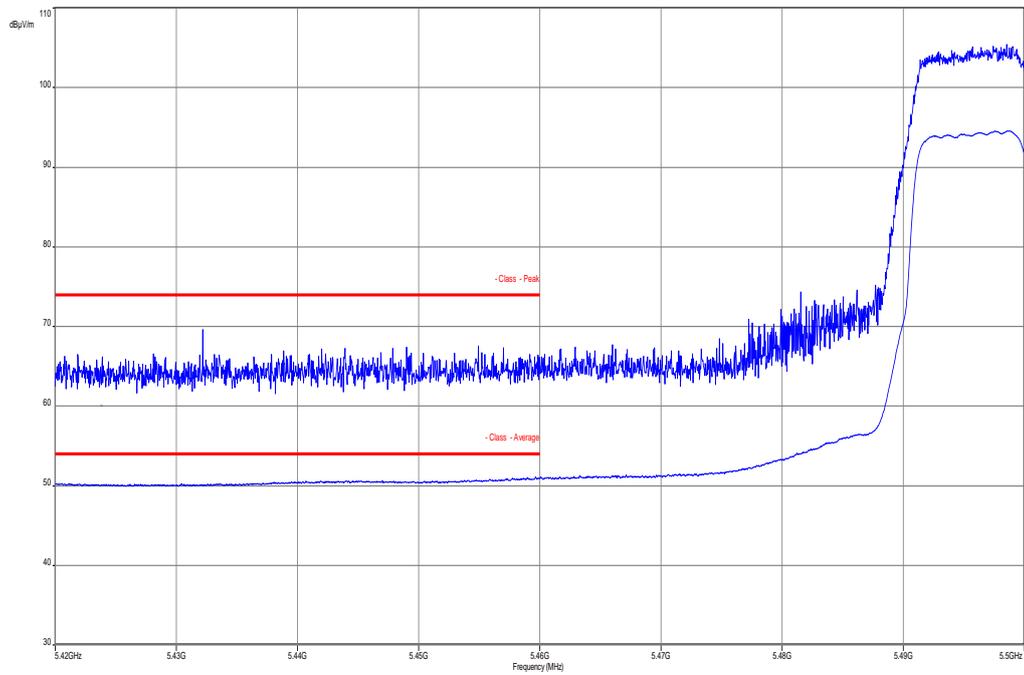
**Plot 10:** upper band edge, vertical & horizontal polarization (n HT 20 mode), channel 64, high data rate



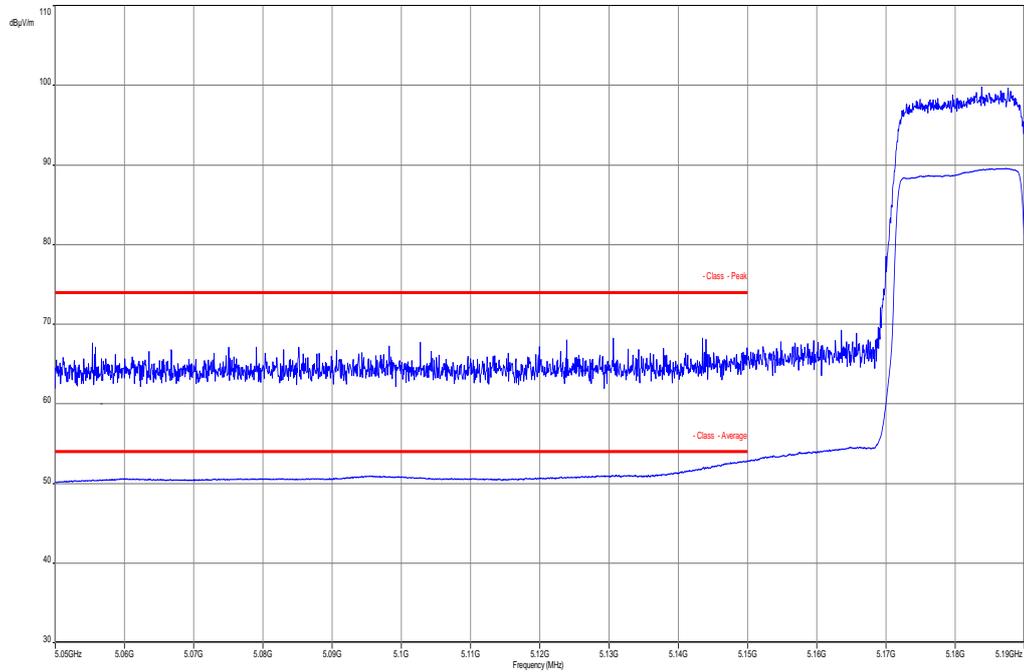
**Plot 11:** lower band edge, vertical & horizontal polarization (n HT 20 mode), channel 100, low data rate



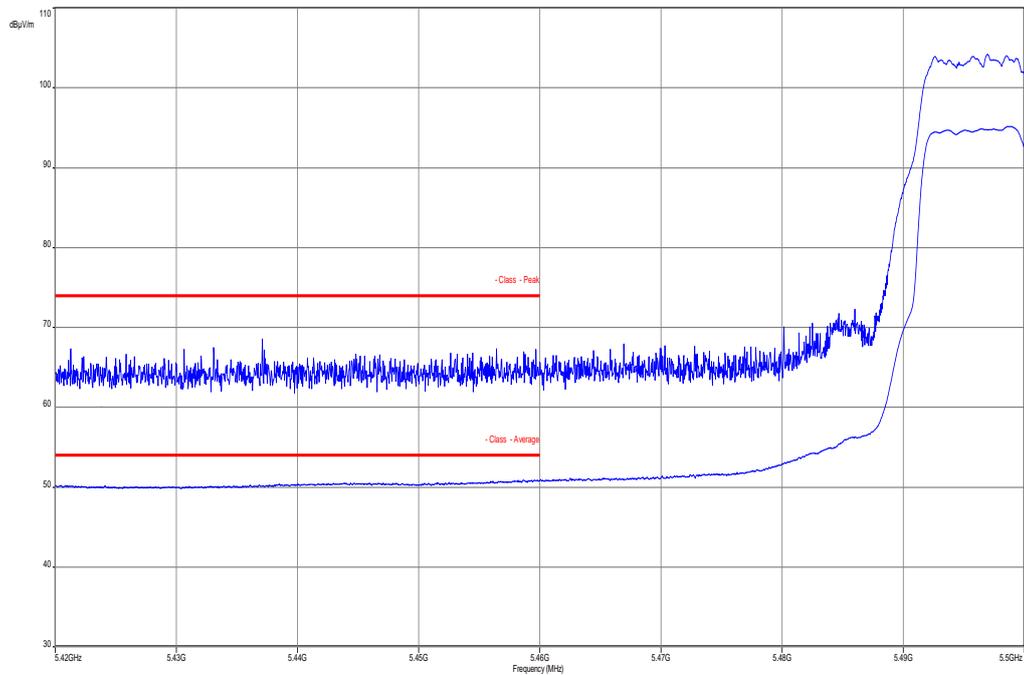
**Plot 12:** lower band edge, vertical & horizontal polarization (n HT 20 mode), channel 100, high data rate



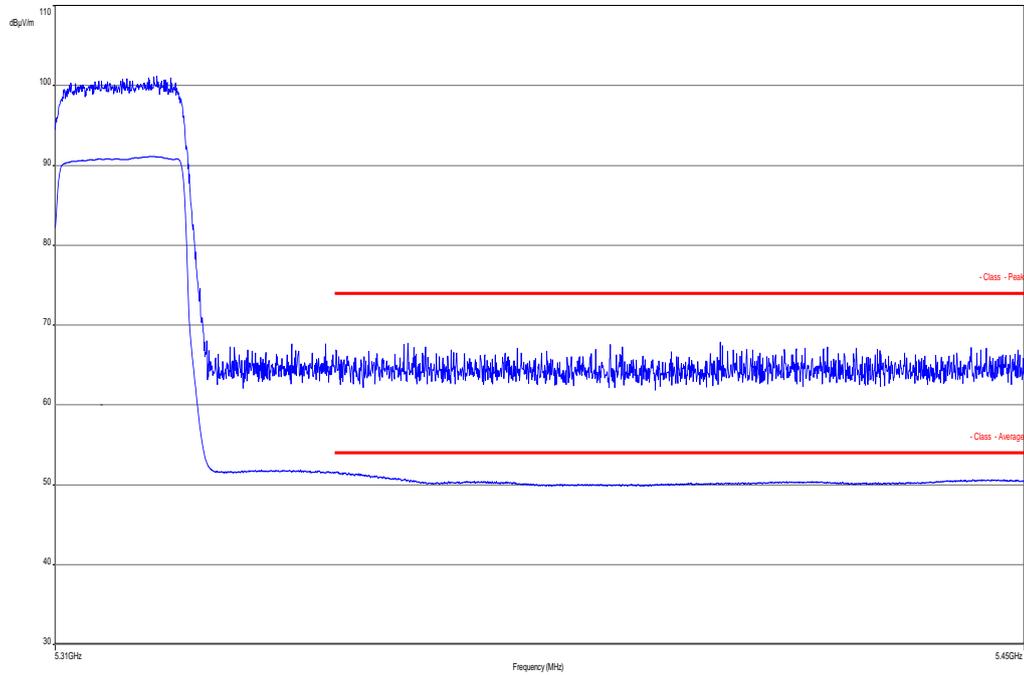
**Plot 13:** lower band edge, vertical & horizontal polarization (n HT 40 mode), channel 38, low data rate



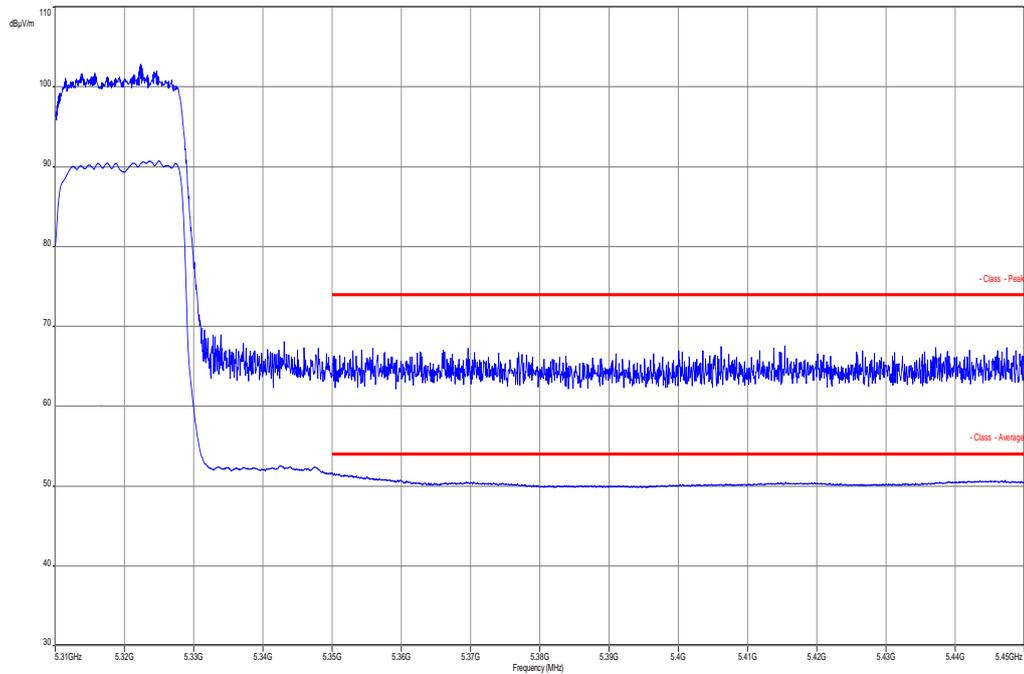
**Plot 14:** lower band edge, vertical & horizontal polarization (n HT 40 mode), channel 38, high data rate



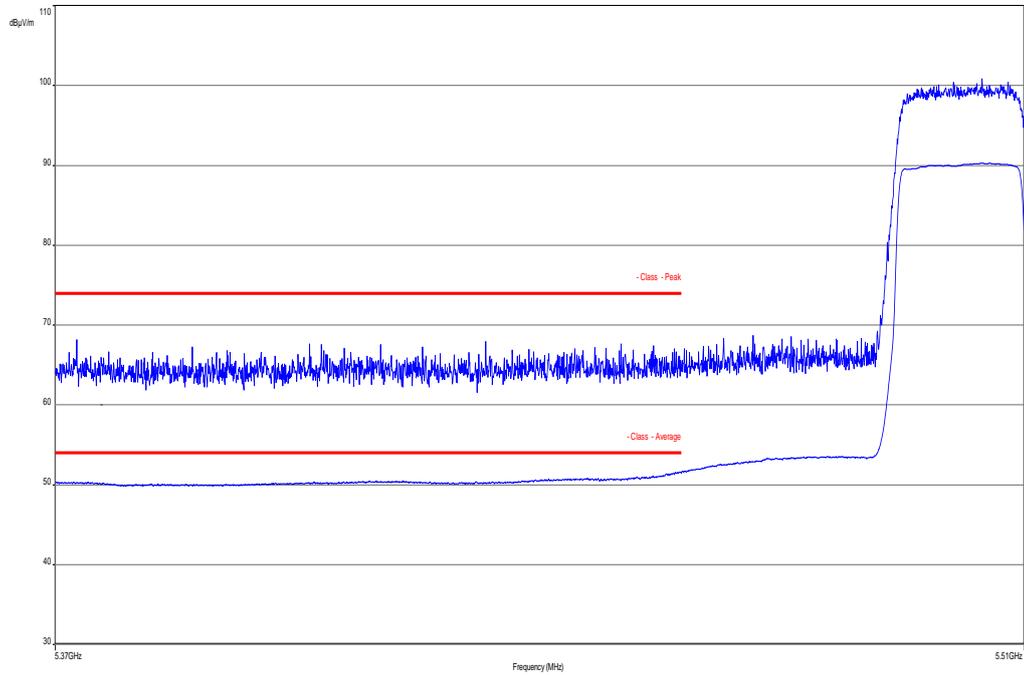
**Plot 15:** upper band edge, vertical & horizontal polarization (n HT 40 mode), channel 62, low data rate



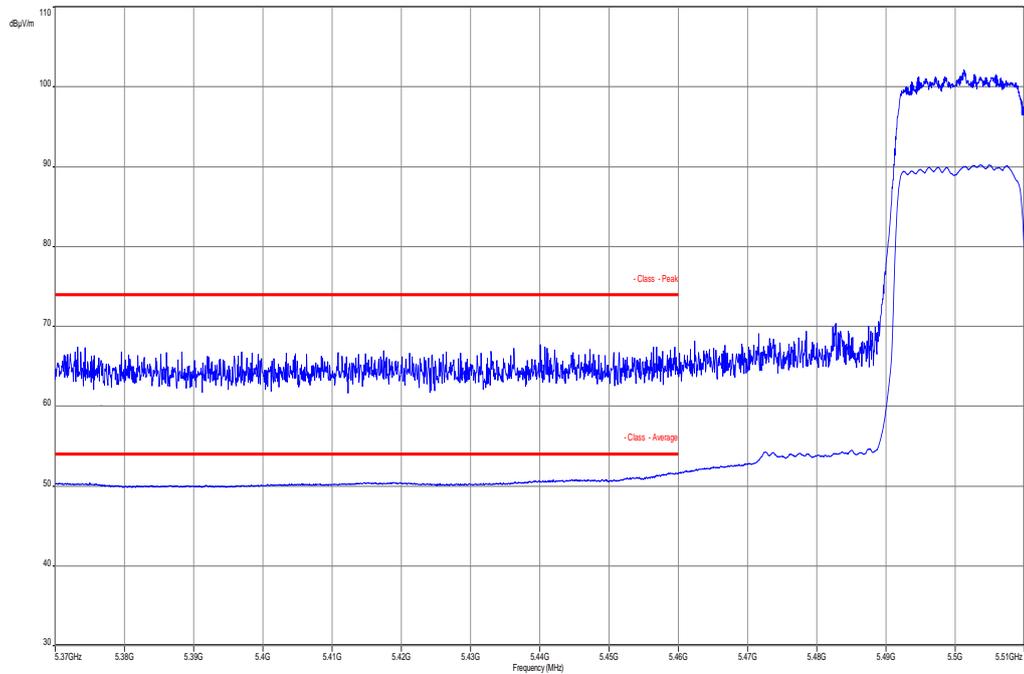
**Plot 16:** upper band edge, vertical & horizontal polarization (n HT 40 mode), channel 62, high data rate



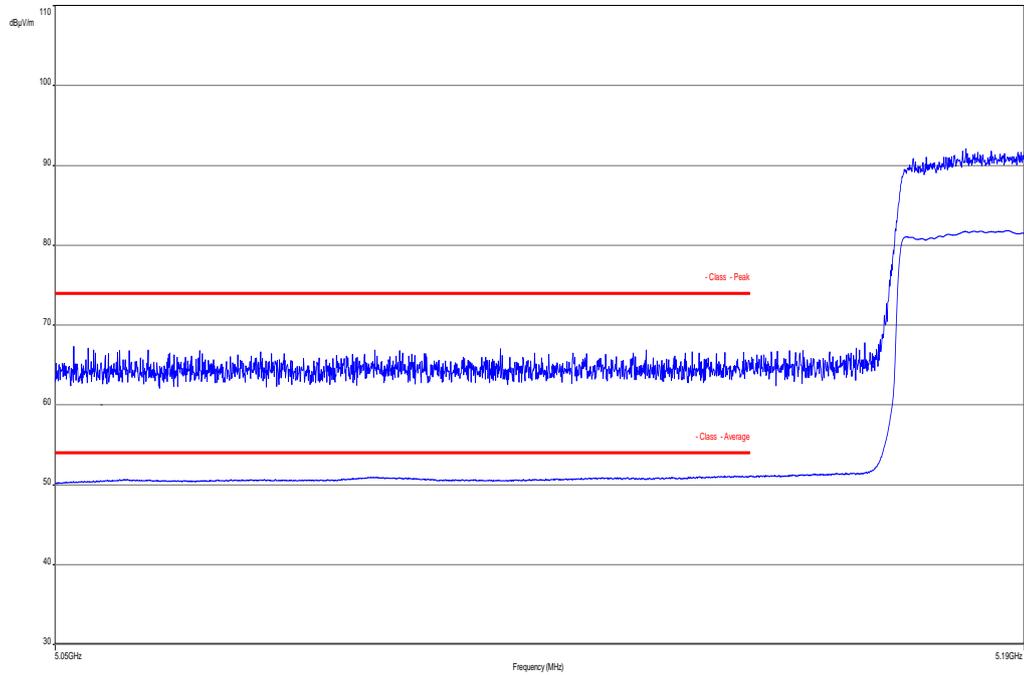
**Plot 17:** lower band edge, vertical & horizontal polarization (n HT 40 mode), channel 102, low data rate



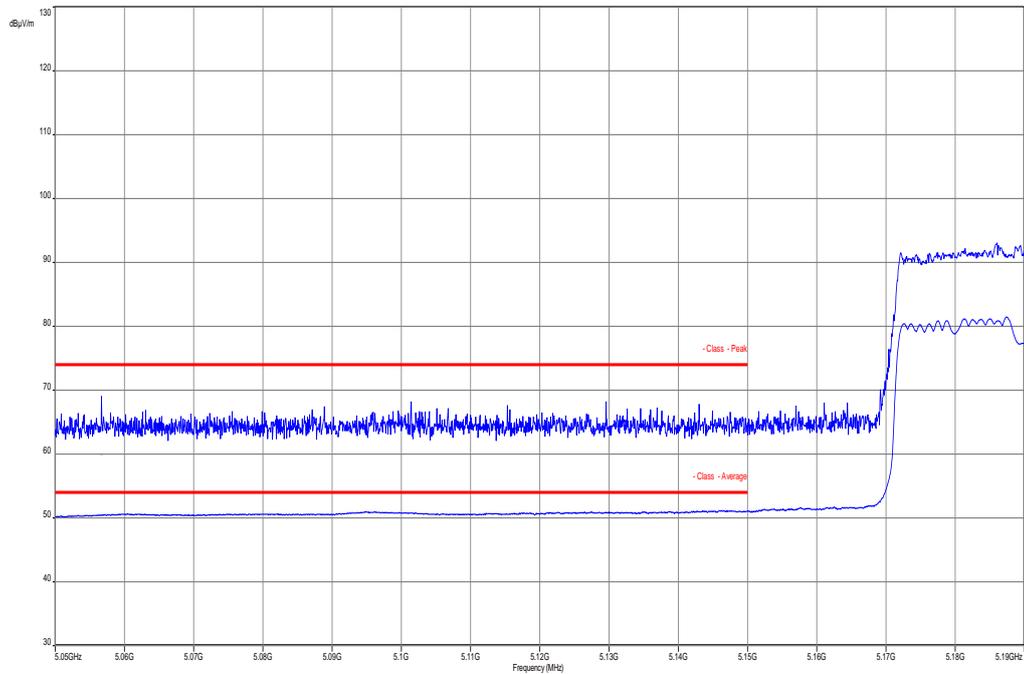
**Plot 18:** lower band edge, vertical & horizontal polarization (n HT 40 mode), channel 102, high data rate



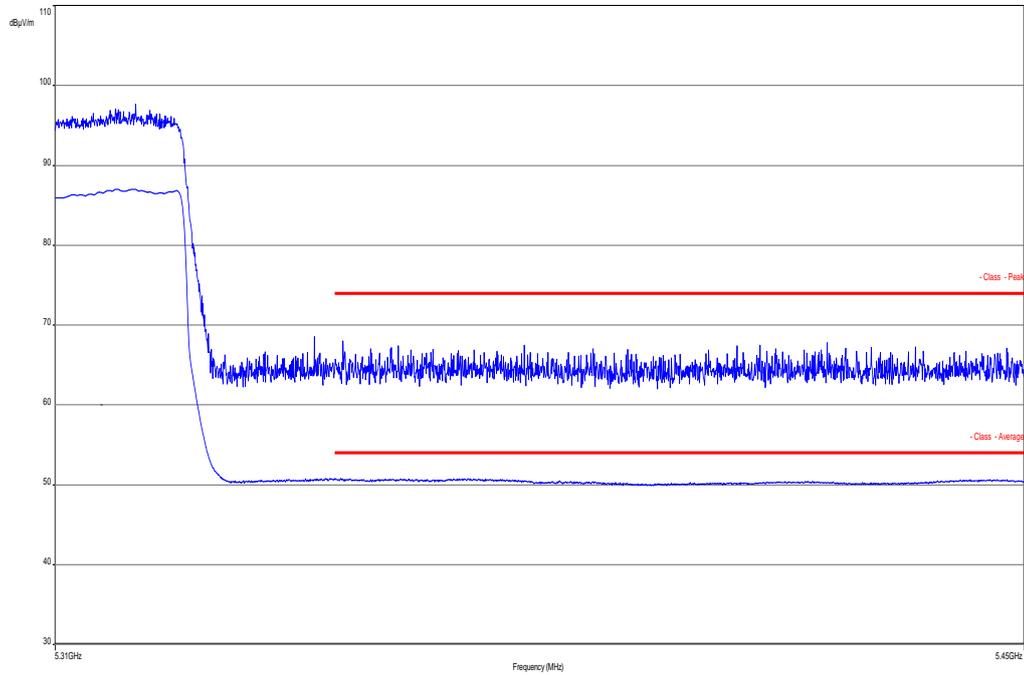
**Plot 19:** lower band edge, vertical & horizontal polarization (ac HT 80 mode), channel 42, low data rate



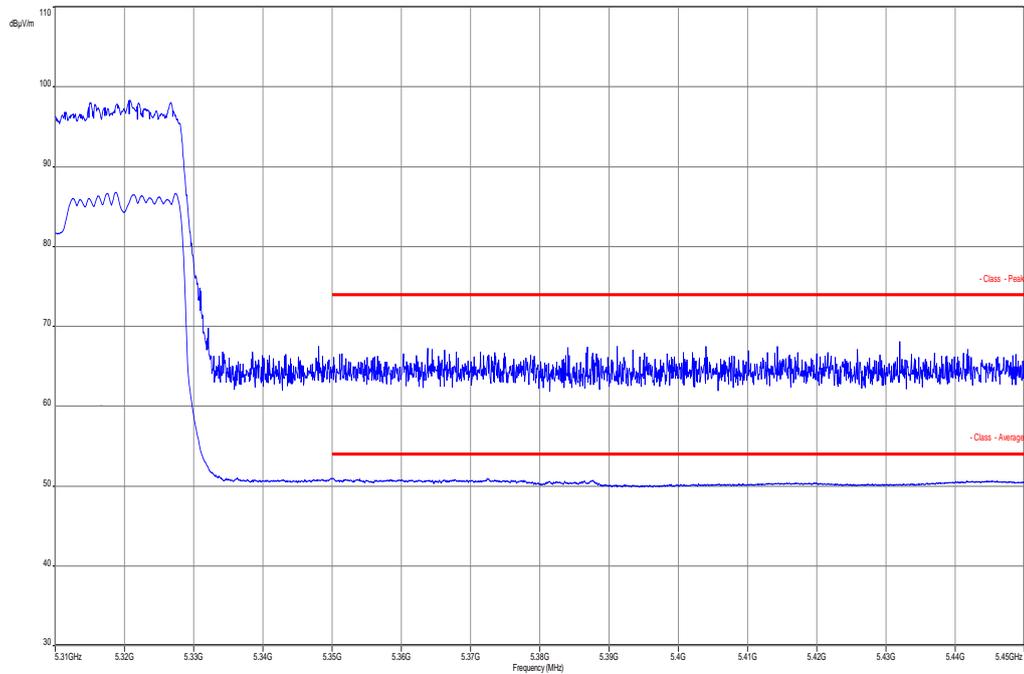
**Plot 20:** lower band edge, vertical & horizontal polarization (ac HT 80 mode), channel 42, high data rate



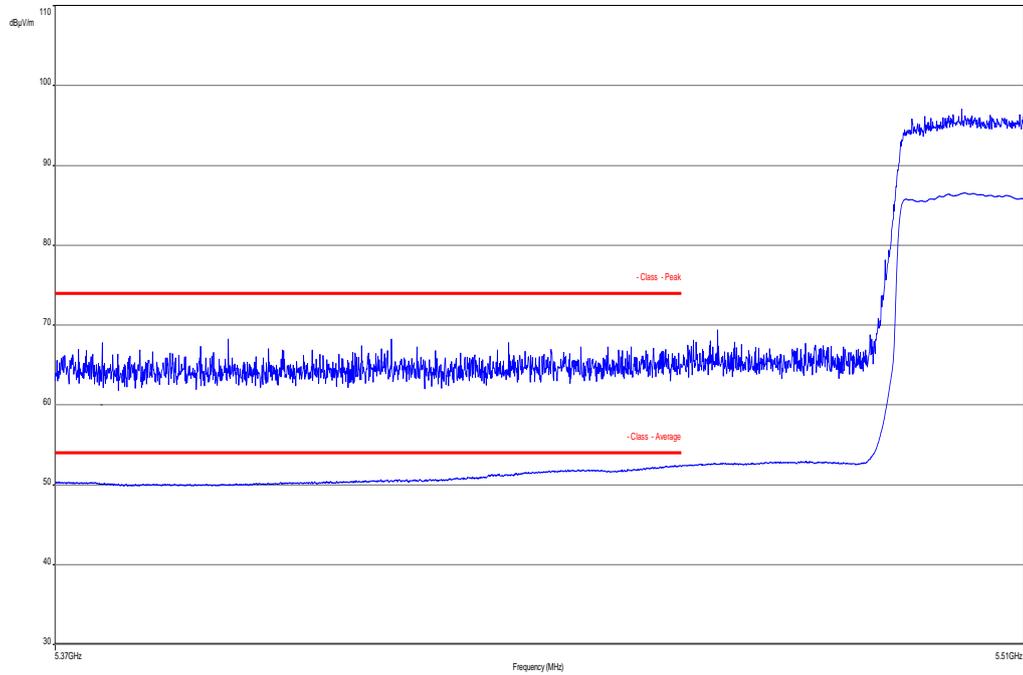
**Plot 21:** upper band edge, vertical & horizontal polarization (ac HT 80 mode), channel 58, low data rate



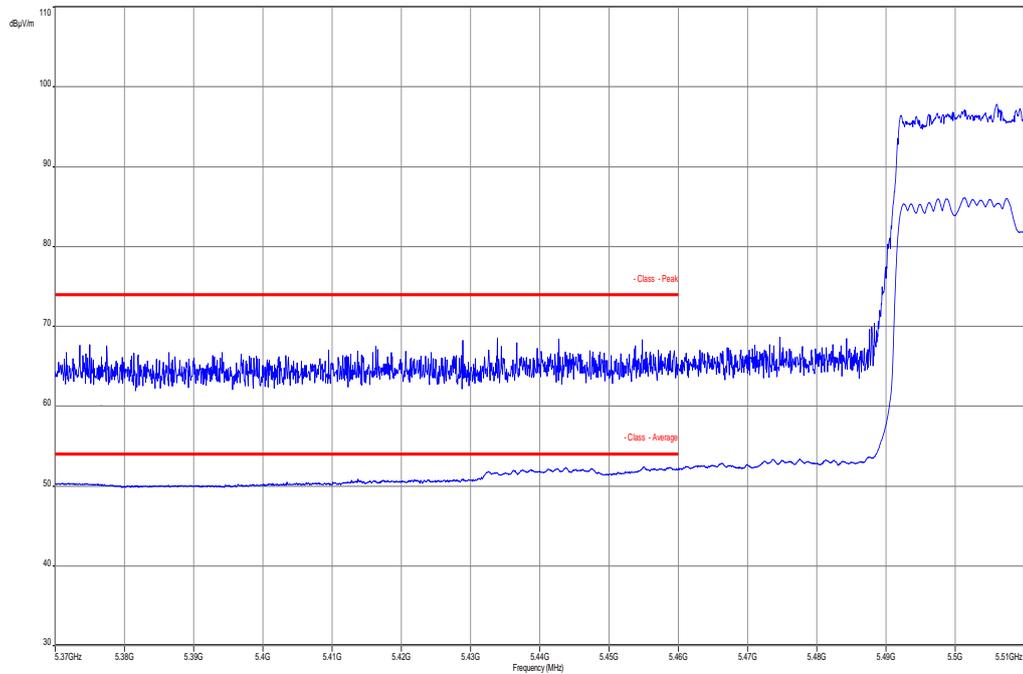
**Plot 22:** upper band edge, vertical & horizontal polarization (ac HT 80 mode), channel 58, high data rate



**Plot 23:** lower band edge, vertical & horizontal polarization (ac HT 80 mode), channel 106, low data rate



**Plot 24:** lower band edge, vertical & horizontal polarization (ac HT 80 mode), channel 106, high data rate



**Result:** Passed

### 10.3 TX spurious emissions radiated

**Description:**

Measurement of the radiated spurious emissions in transmit mode. The measurement is performed at lowest, middle and highest channel.

**Measurement:**

Measurement parameter	
Detector:	Quasi Peak below 1 GHz (alternative Peak) Peak above 1 GHz / RMS
Sweep time:	Auto
Resolution bandwidth:	F < 1 GHz: 100 kHz F > 1 GHz: 1 MHz
Video bandwidth:	F < 1 GHz: 100 kHz F > 1 GHz: ≥ 3 MHz / 10 Hz
Span:	30 MHz to 40 GHz
Trace-Mode:	Max Hold / Average with 100 counts + 20 log (1 / X) for duty cycle lower than 100 %

**Limits:**

TX Spurious Emissions Radiated		
§15.209		
Frequency (MHz)	Field Strength (dBµV/m)	Measurement distance
30 - 88	30.0	10
88 – 216	33.5	10
216 – 960	36.0	10
Above 960	54.0	3
§15.407		
Outside the restricted bands!	-27 dBm / MHz	

**Results: OFDM / a – mode**

TX Spurious Emissions Radiated [dBµV/m] / dBm								
OFDM a – mode								
Lowest 5180 MHz			-/-			Highest 5240 MHz		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.			-/-			For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.		
All detected peaks are below the average limit!						All detected peaks are below the average limit!		
Measurement uncertainty			± 3 dB					

TX Spurious Emissions Radiated [dBµV/m] / dBm								
OFDM a – mode								
Lowest 5260 MHz			-/-			Highest 5320 MHz		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.			-/-			For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.		
All detected peaks are below the average limit!						All detected peaks are below the average limit!		
Measurement uncertainty			± 3 dB					

TX Spurious Emissions Radiated [dBµV/m] / dBm								
OFDM a – mode								
Lowest 5500 MHz			Middle 5600 MHz			Highest 5700 MHz		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.			For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.			For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.		
All detected peaks are below the average limit!			All detected peaks are below the average limit!			All detected peaks are below the average limit!		
Measurement uncertainty			± 3 dB					

**Result: Passed**

**Results: OFDM / n/ac – modeHT20**

TX Spurious Emissions Radiated [dBµV/m] / dBm								
OFDM n/ac – mode HT20								
Lowest 5180 MHz			-/-			Highest 5240 MHz		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.			-/-			For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.		
All detected peaks are below the average limit!						All detected peaks are below the average limit!		
Measurement uncertainty			± 3 dB					

TX Spurious Emissions Radiated [dBµV/m] / dBm								
OFDM n/ac – mode HT20								
Lowest 5260 MHz			-/-			Highest 5320 MHz		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.			-/-			For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.		
All detected peaks are below the average limit!						All detected peaks are below the average limit!		
Measurement uncertainty			± 3 dB					

TX Spurious Emissions Radiated [dBµV/m] / dBm								
OFDM n/ac – mode HT20								
Lowest 5500 MHz			Middle 5600 MHz			Highest 5700 MHz		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.			For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.			For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.		
All detected peaks are below the average limit!			All detected peaks are below the average limit!			All detected peaks are below the average limit!		
Measurement uncertainty			± 3 dB					

**Result: Passed**

**Results: OFDM / n/ac – modeHT40**

TX Spurious Emissions Radiated [dBµV/m] / dBm								
OFDM n/ac – mode HT40								
Lowest 5190 MHz			-/-			Middle 5270 MHz		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.			-/-			For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.		
All detected peaks are below the average limit!						All detected peaks are below the average limit!		
Measurement uncertainty			± 3 dB					

TX Spurious Emissions Radiated [dBµV/m] / dBm								
OFDM n/ac – mode HT40								
Highest 5310 MHz			-/-			Lowest 5590 MHz		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.			-/-			For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.		
All detected peaks are below the average limit!						All detected peaks are below the average limit!		
Measurement uncertainty			± 3 dB					

TX Spurious Emissions Radiated [dBµV/m] / dBm								
OFDM n/ac – mode HT40								
Highest 5670 MHz			-/-			-/-		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.			-/-			-/-		
All detected peaks are below the average limit!								
Measurement uncertainty			± 3 dB					

**Result: Passed**

**Results: OFDM / ac – modeHT80**

TX Spurious Emissions Radiated [dBµV/m] / dBm								
OFDM ac – mode HT80								
Lowest 5210 MHz			-/-			Highest 5290 MHz		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.			-/-			For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.		
All detected peaks are below the average limit!						All detected peaks are below the average limit!		
Measurement uncertainty			± 3 dB					

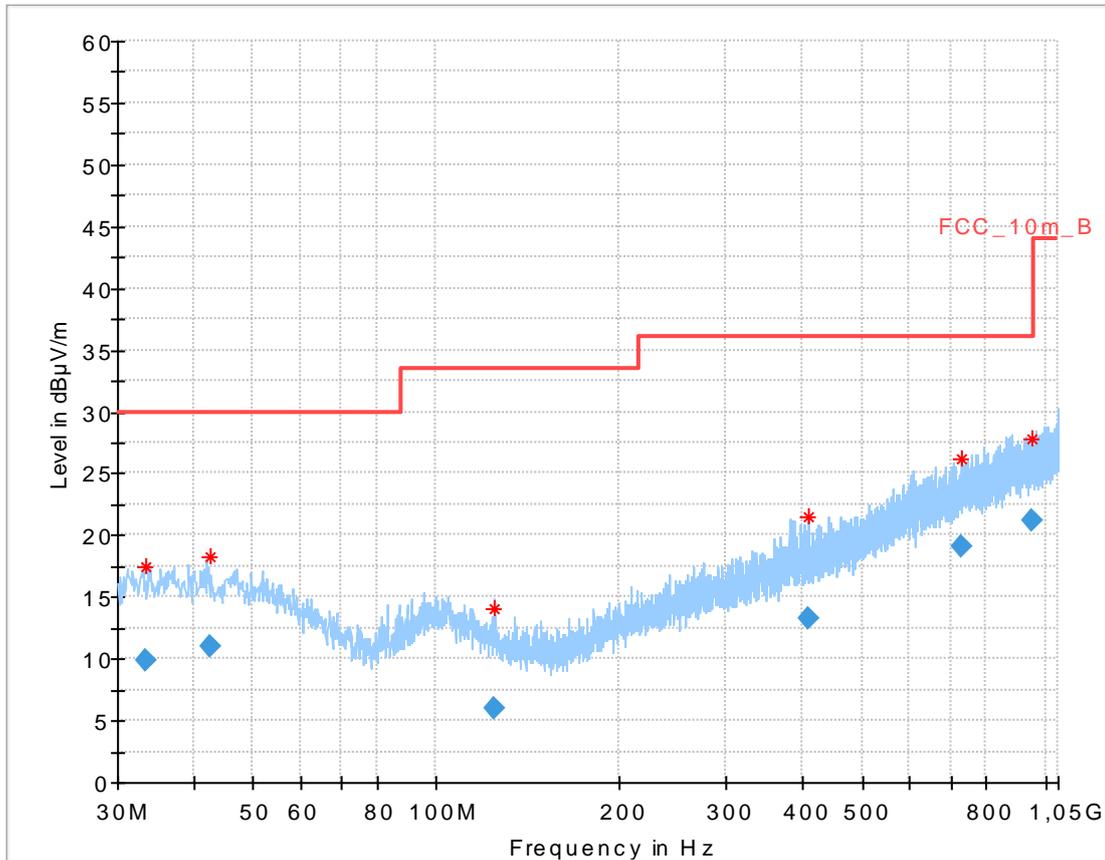
TX Spurious Emissions Radiated [dBµV/m] / dBm								
OFDM ac – mode HT80								
Lowest 5530 MHz			-/-			Highest 5610 MHz		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.			-/-			For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.		
All detected peaks are below the average limit!						All detected peaks are below the average limit!		
Measurement uncertainty			± 3 dB					

**Result: Passed**

**Note:** The limit was recalculated with 20 dB / decade (Part 15.31) for all radiated spurious emissions 30 MHz to 1 GHz from 3 meter limit to a 10 meter distance. (40dB/decade for emissions < 30MHz)

**Plots:** OFDM / a – mode

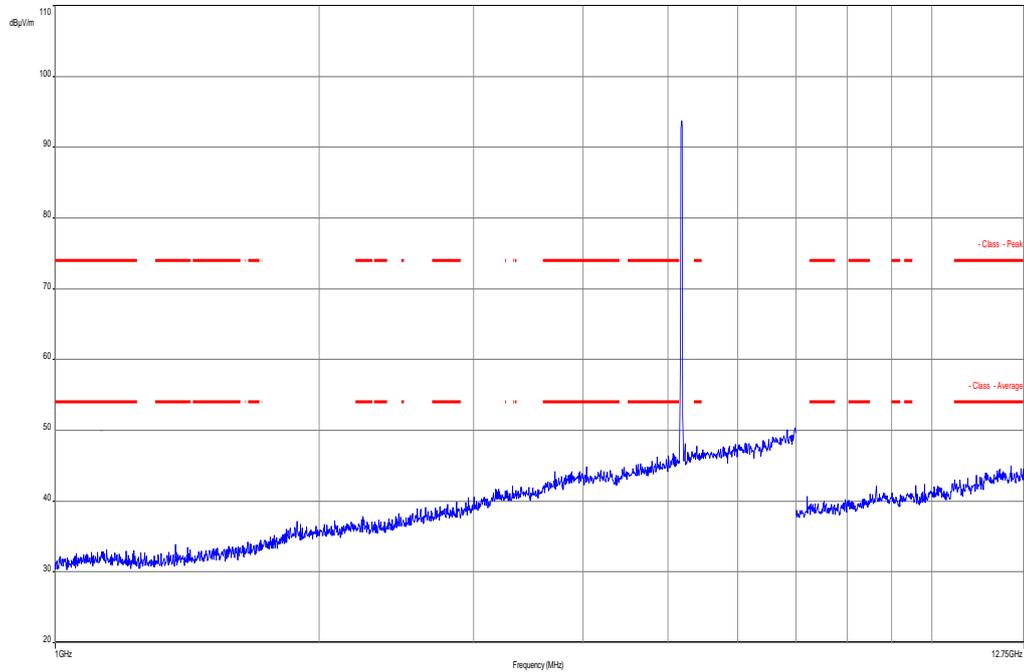
**Plot 1:** 30 MHz to 1 GHz, 5180 MHz, vertical & horizontal polarization



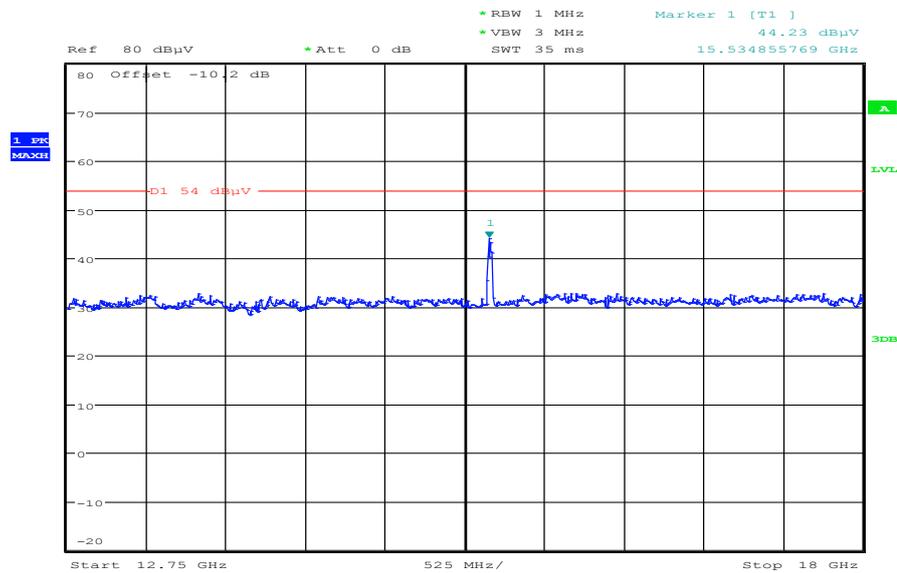
**Final results:**

Frequency (MHz)	Quasi Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
33.382200	9.87	30.00	20.13	1000.0	120.000	112.0	H	83.0	13.7
42.426300	10.93	30.00	19.07	1000.0	120.000	155.0	V	280.0	14.0
124.589700	5.91	33.50	27.59	1000.0	120.000	170.0	H	280.0	9.8
409.537800	13.33	36.00	22.67	1000.0	120.000	98.0	V	260.0	17.0
728.570550	19.15	36.00	16.85	1000.0	120.000	154.0	H	261.0	22.2
950.337300	21.15	36.00	14.85	1000.0	120.000	137.0	H	264.0	24.3

**Plot 2:** 1 GHz to 12.75 GHz, 5180 MHz, vertical & horizontal polarization

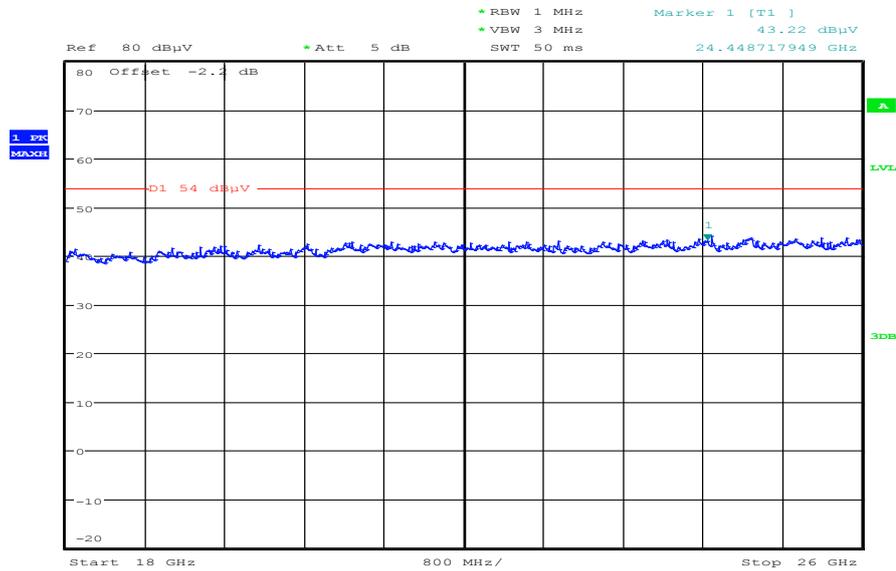


**Plot 3:** 12 GHz to 18 GHz, 5180 MHz, vertical & horizontal polarization



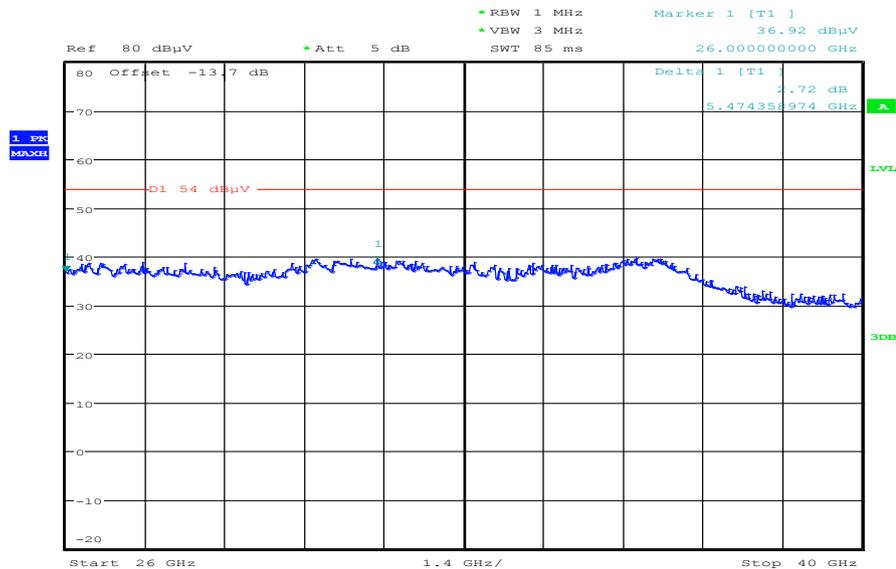
Date: 28.MAY.2014 11:34:43

**Plot 4:** 18 GHz to 26 GHz, 5180 MHz, vertical & horizontal polarization



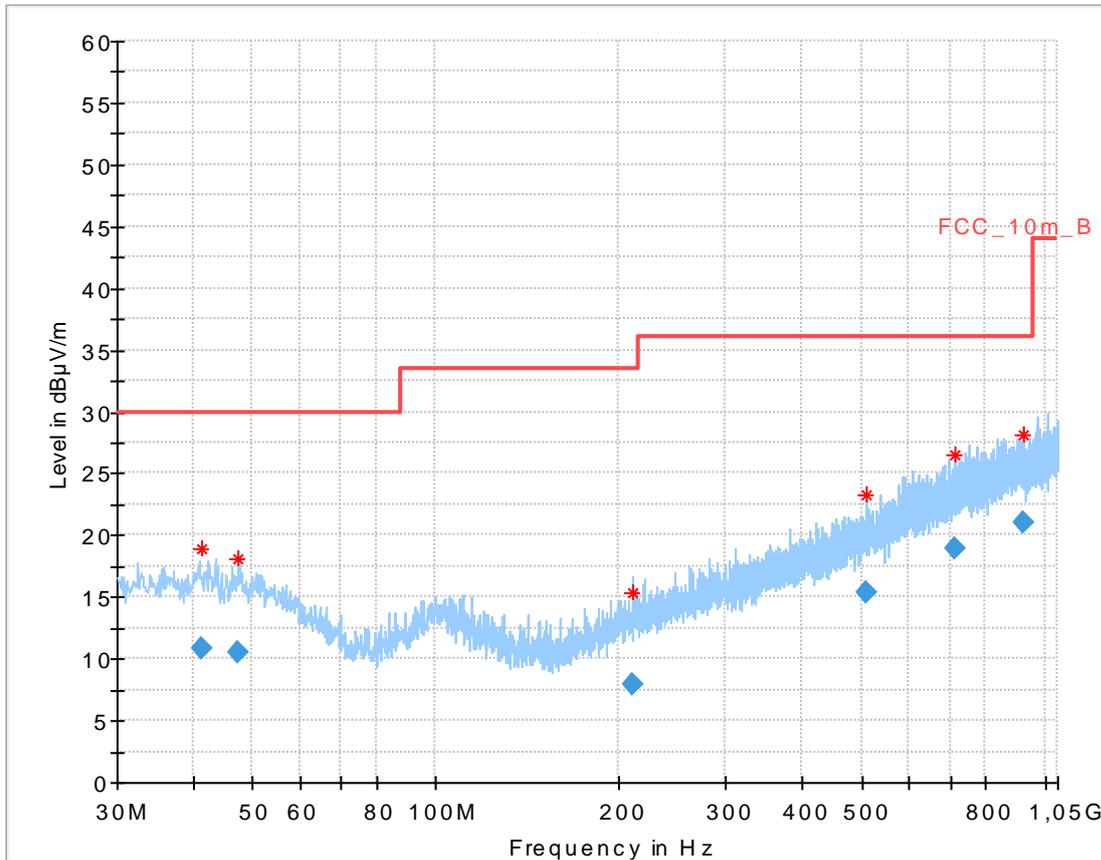
Date: 28.MAY.2014 13:31:37

**Plot 5:** 26 GHz to 40 GHz, 5180 MHz, vertical & horizontal polarization



Date: 28.MAY.2014 14:42:56

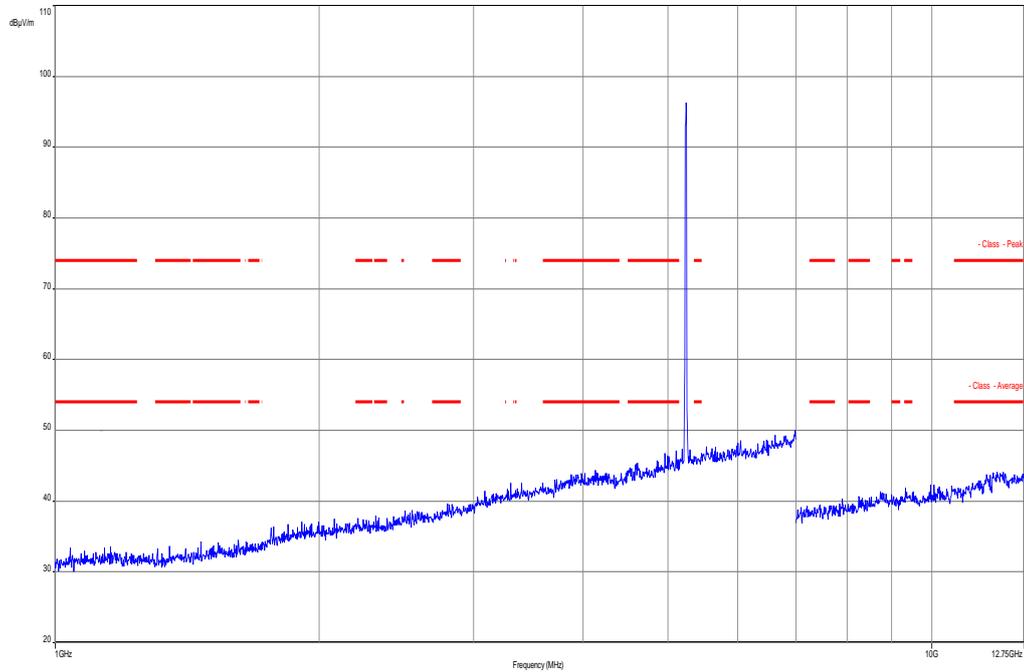
**Plot 6:** 30 MHz to 1 GHz, 5240 MHz, vertical & horizontal polarization



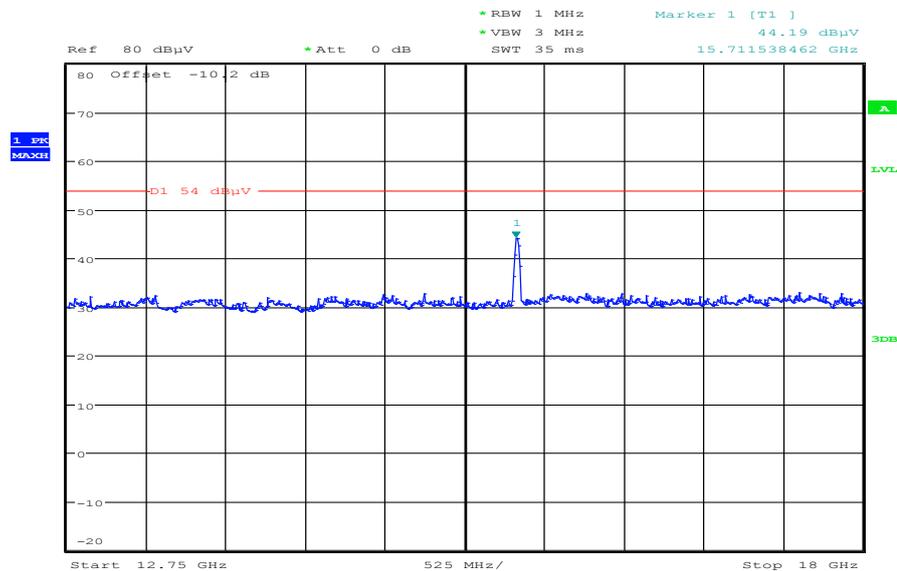
**Final results:**

Frequency (MHz)	Quasi Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
41.359800	10.89	30.00	19.11	1000.0	120.000	170.0	V	10.0	14.0
47.231250	10.51	30.00	19.49	1000.0	120.000	106.0	H	280.0	13.8
211.123350	7.92	33.50	25.58	1000.0	120.000	170.0	V	280.0	12.1
510.970650	15.40	36.00	20.60	1000.0	120.000	170.0	V	88.0	18.8
713.674800	18.90	36.00	17.10	1000.0	120.000	170.0	V	273.0	21.8
924.124950	21.02	36.00	14.98	1000.0	120.000	106.0	H	280.0	24.2

**Plot 7:** 1 GHz to 12.75 GHz, 5240 MHz, vertical & horizontal polarization

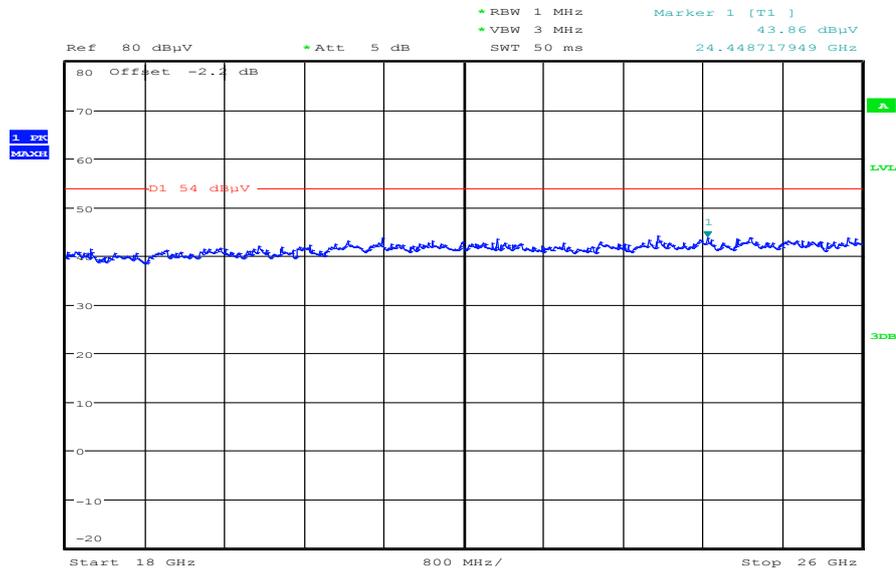


**Plot 8:** 12 GHz to 18 GHz, 5240 MHz, vertical & horizontal polarization



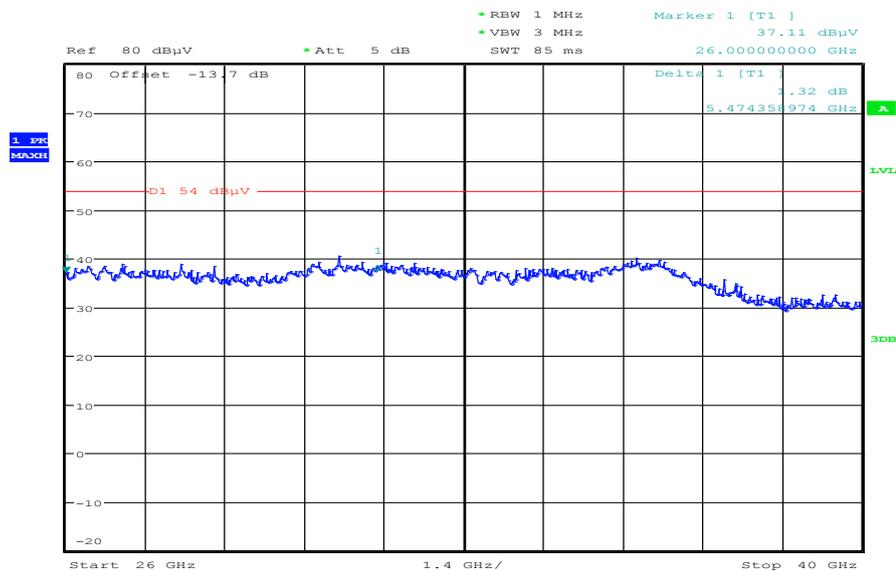
Date: 28.MAY.2014 11:37:22

**Plot 9:** 18 GHz to 26 GHz, 5240 MHz, vertical & horizontal polarization



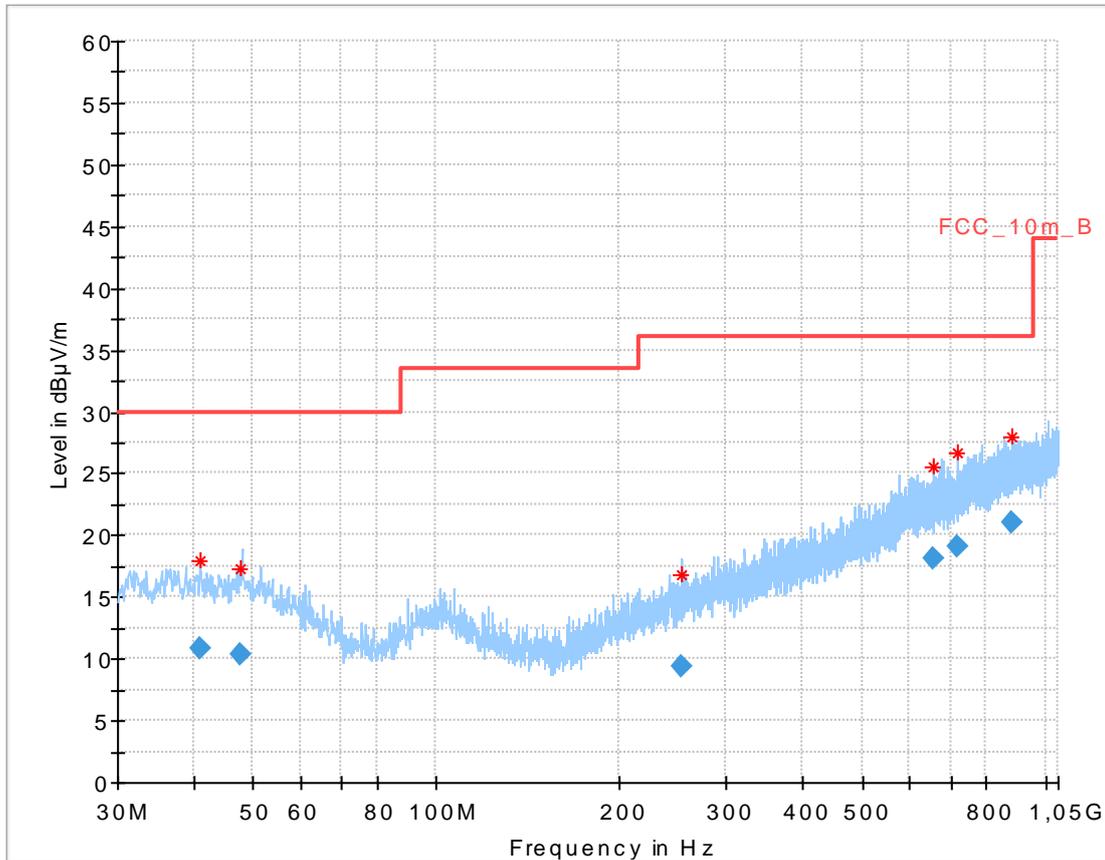
Date: 28.MAY.2014 13:34:16

**Plot 10:** 26 GHz to 40 GHz, 5240 MHz, vertical & horizontal polarization



Date: 28.MAY.2014 14:44:24

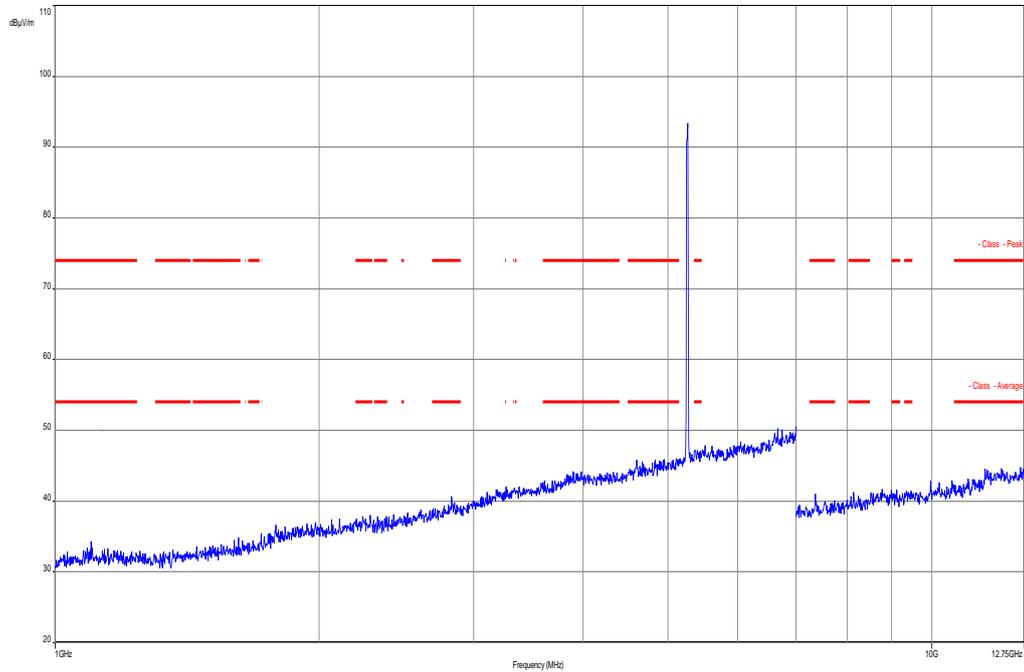
Plot 11: 30 MHz to 1 GHz, 5260 MHz, vertical & horizontal polarization



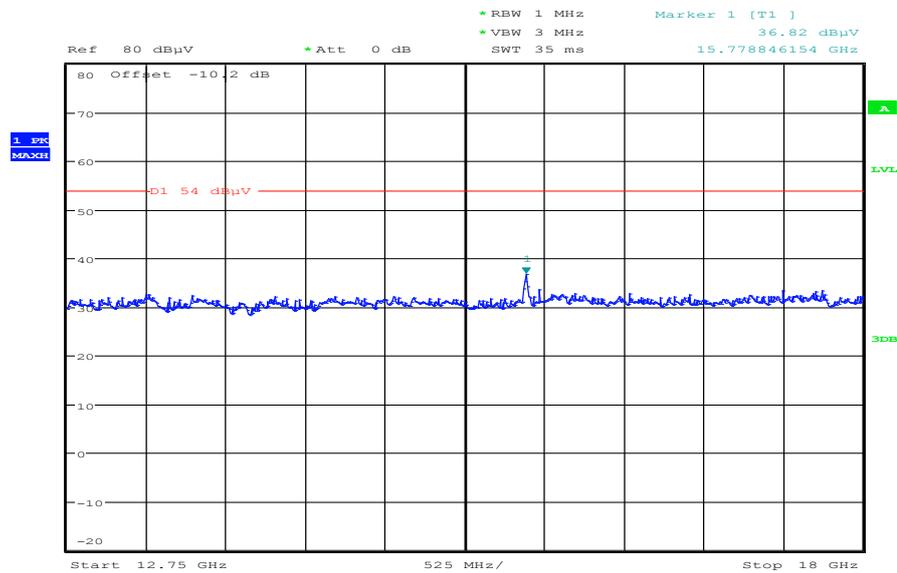
Final results:

Frequency (MHz)	Quasi Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
41.052150	10.78	30.00	19.22	1000.0	120.000	144.0	H	190.0	14.0
47.761800	10.28	30.00	19.72	1000.0	120.000	135.0	V	260.0	13.7
253.461150	9.41	36.00	26.59	1000.0	120.000	170.0	V	183.0	13.4
654.006150	18.10	36.00	17.90	1000.0	120.000	116.0	H	10.0	21.1
718.225950	19.07	36.00	16.93	1000.0	120.000	170.0	V	261.0	22.0
880.442250	20.96	36.00	15.04	1000.0	120.000	98.0	V	83.0	23.9

**Plot 12:** 1 GHz to 12.75 GHz, 5260 MHz, vertical & horizontal polarization

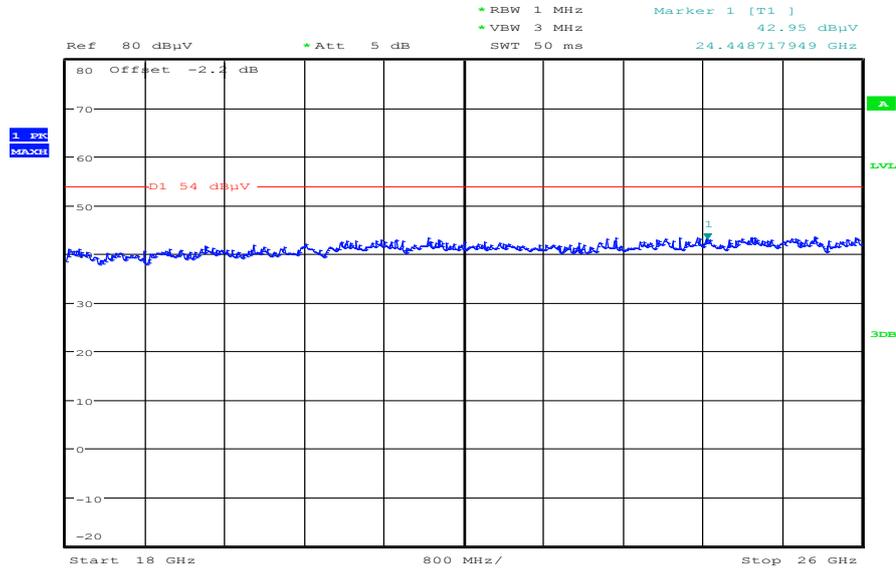


**Plot 13:** 12 GHz to 18 GHz, 5260 MHz, vertical & horizontal polarization



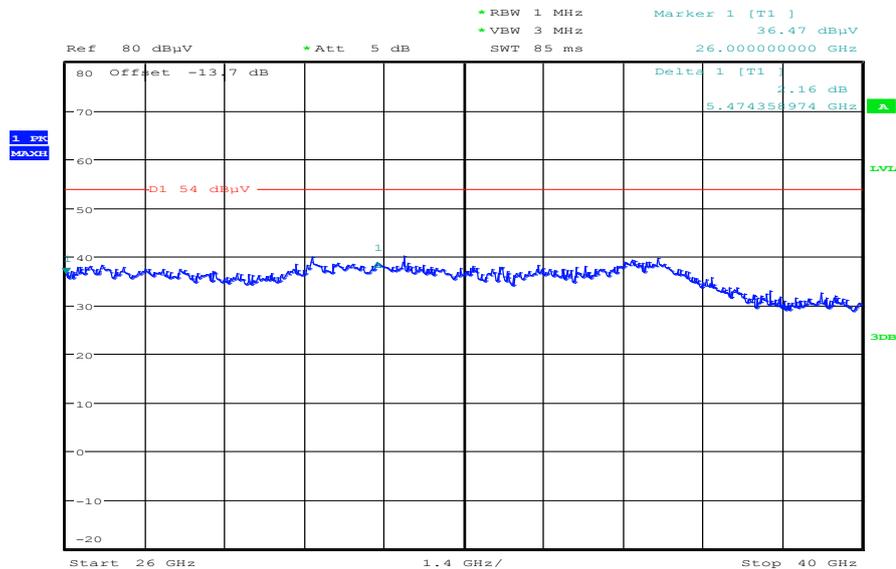
Date: 28.MAY.2014 11:39:54

Plot 14: 18 GHz to 26 GHz, 5260 MHz, vertical & horizontal polarization



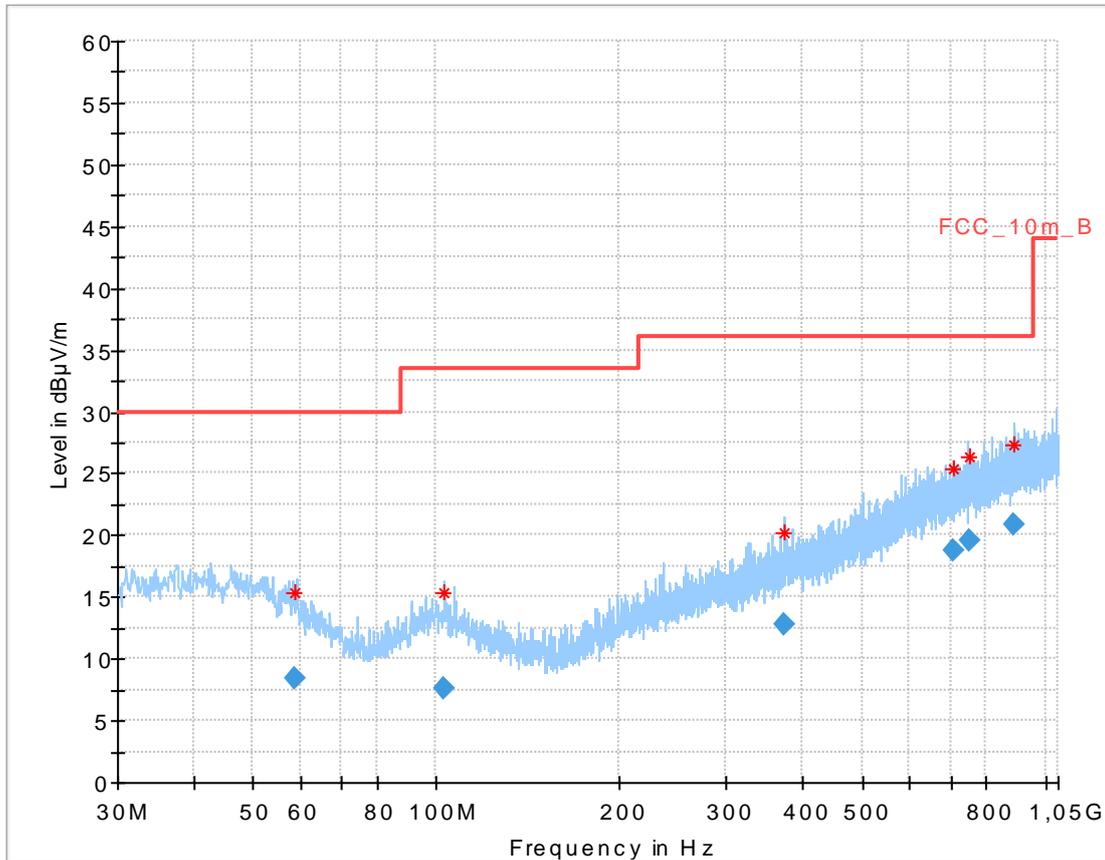
Date: 28.MAY.2014 13:35:40

Plot 15: 26 GHz to 40 GHz, 5260 MHz, vertical & horizontal polarization



Date: 28.MAY.2014 14:45:10

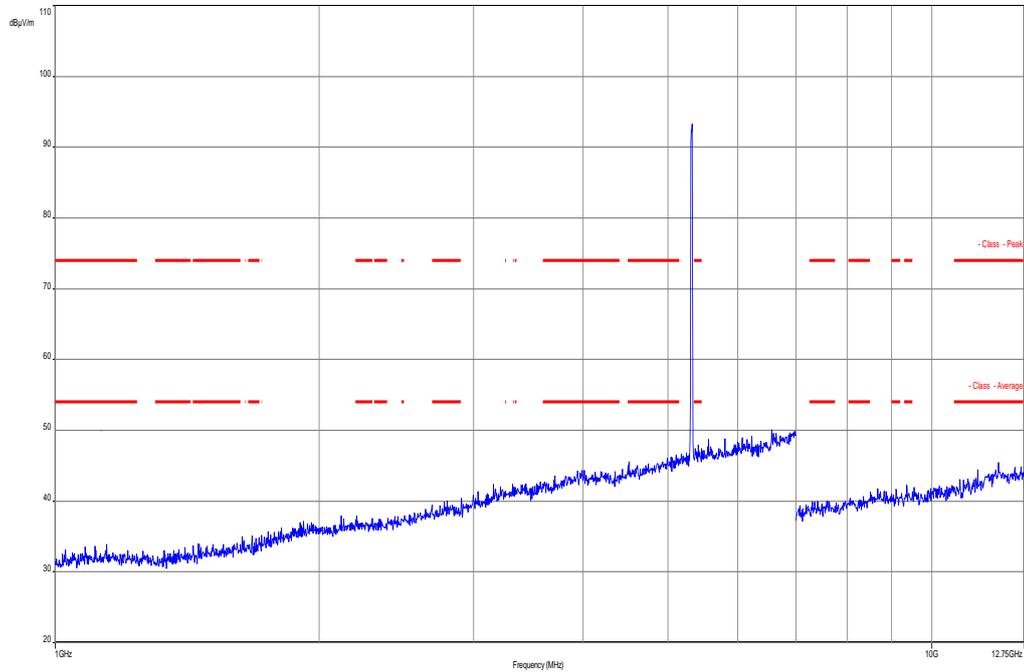
**Plot 16:** 30 MHz to 1 GHz, 5320 MHz, vertical & horizontal polarization



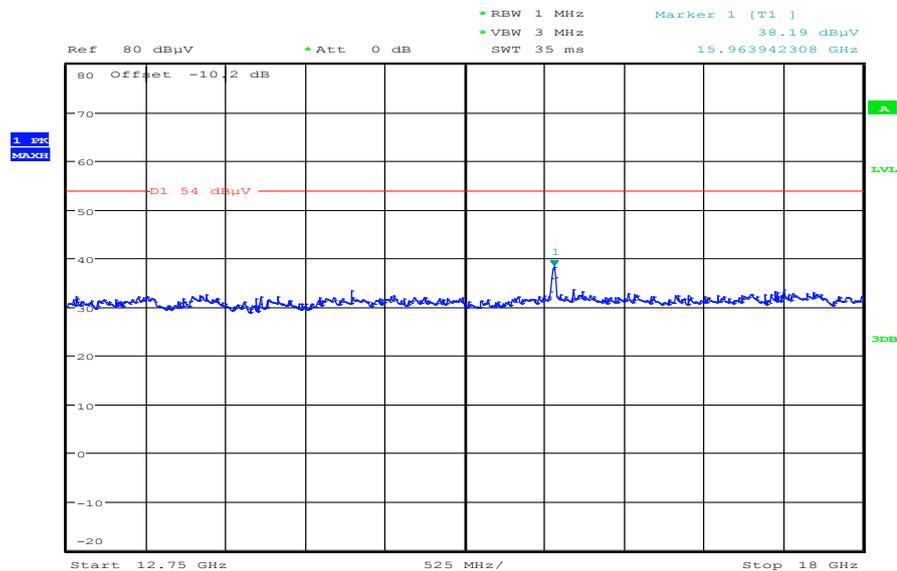
**Final results:**

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
58.656450	8.44	30.00	21.56	1000.0	120.000	170.0	H	93.0	11.9
102.814050	7.64	33.50	25.86	1000.0	120.000	98.0	V	91.0	11.9
373.512750	12.71	36.00	23.29	1000.0	120.000	98.0	H	190.0	16.4
707.619000	18.77	36.00	17.23	1000.0	120.000	170.0	V	10.0	21.7
748.297350	19.64	36.00	16.36	1000.0	120.000	170.0	H	10.0	22.7
890.827650	20.94	36.00	15.06	1000.0	120.000	170.0	H	10.0	24.0

**Plot 17:** 1 GHz to 12.75 GHz, 5320 MHz, vertical & horizontal polarization

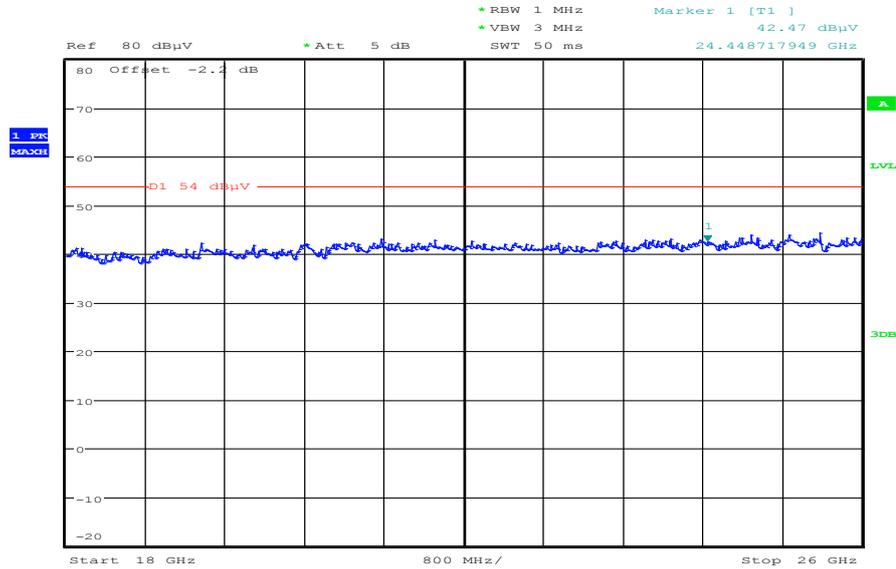


**Plot 18:** 12 GHz to 18 GHz, 5320 MHz, vertical & horizontal polarization



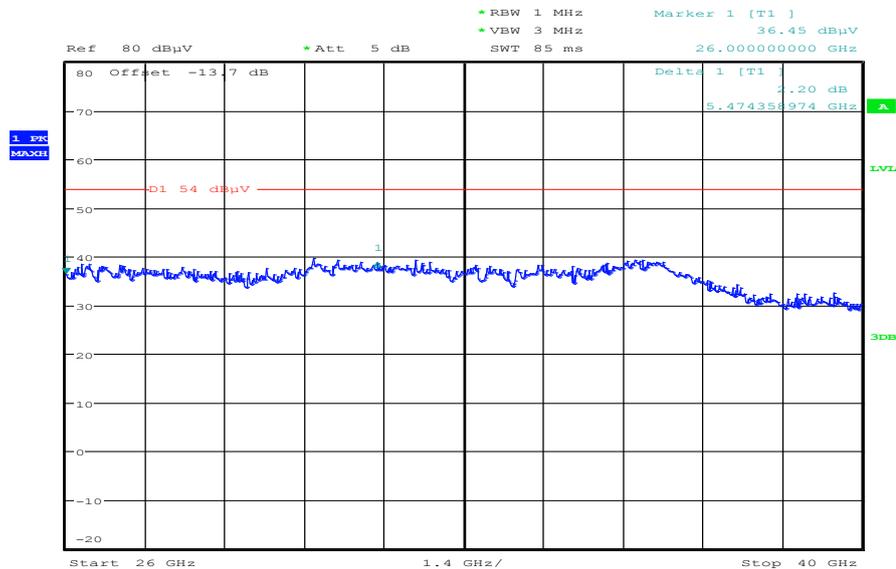
Date: 28.MAY.2014 11:44:14

**Plot 19:** 18 GHz to 26 GHz, 5320 MHz, vertical & horizontal polarization



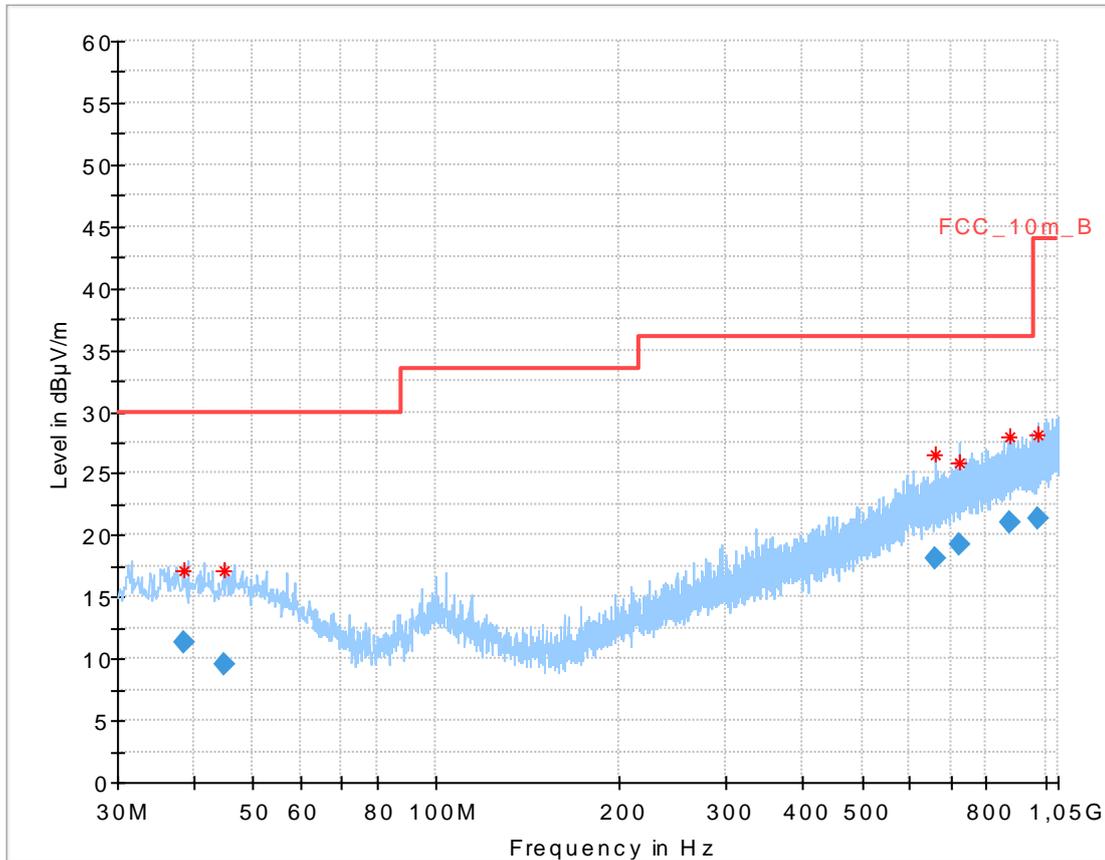
Date: 28.MAY.2014 13:37:05

**Plot 20:** 26 GHz to 40 GHz, 5320 MHz, vertical & horizontal polarization



Date: 28.MAY.2014 14:46:03

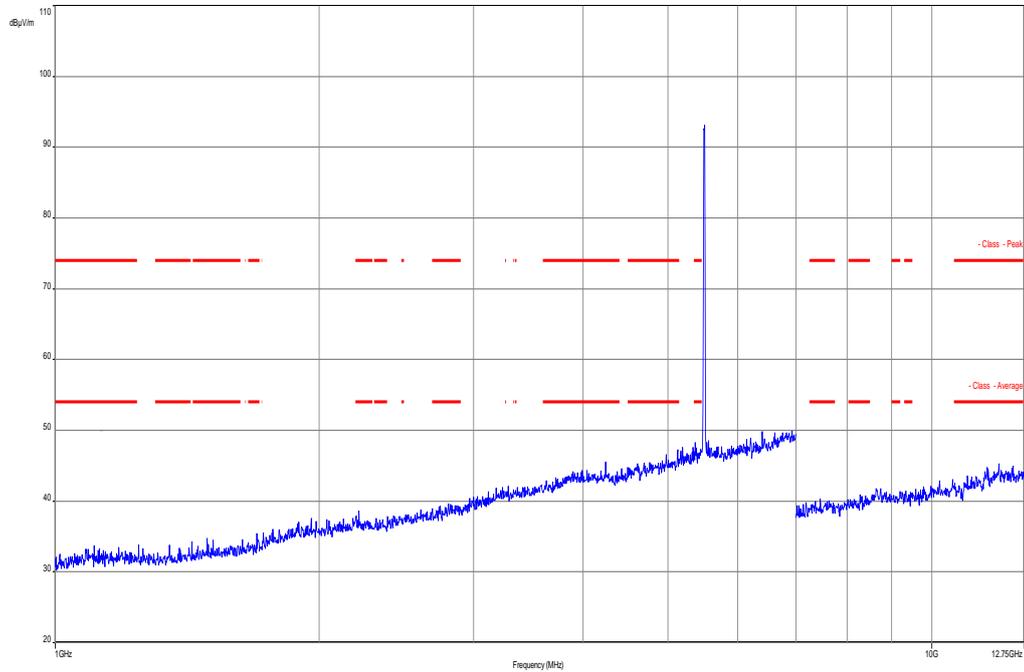
**Plot 21:** 30 MHz to 1 GHz, 5500 MHz, vertical & horizontal polarization



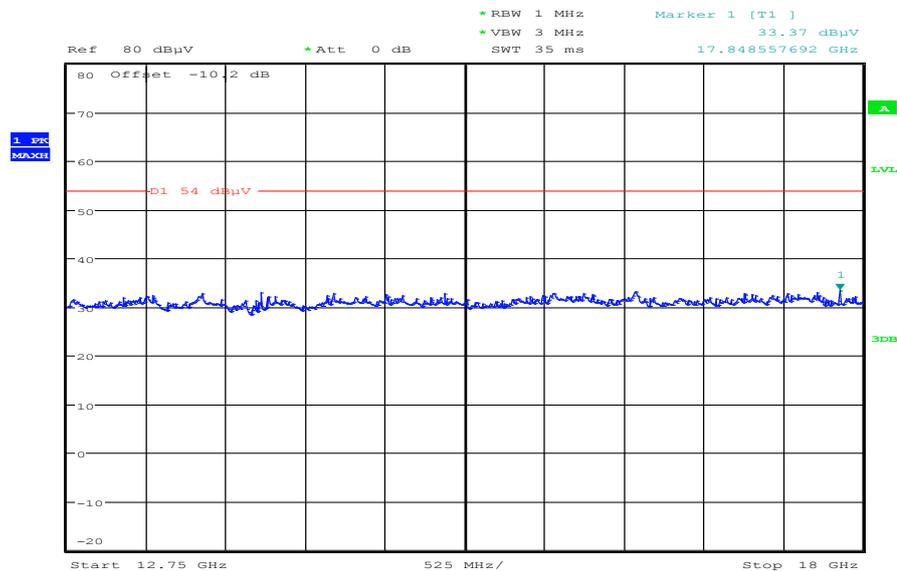
**Final results:**

Frequency (MHz)	Quasi Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
38.672250	11.40	30.00	18.60	1000.0	120.000	101.0	V	3.0	14.0
44.934750	9.60	30.00	20.40	1000.0	120.000	170.0	H	80.0	13.9
658.040700	18.17	36.00	17.83	1000.0	120.000	155.0	V	100.0	21.2
725.288250	19.20	36.00	16.80	1000.0	120.000	105.0	H	268.0	22.1
874.416900	20.98	36.00	15.02	1000.0	120.000	127.0	V	280.0	23.8
974.486100	21.42	44.00	22.58	1000.0	120.000	170.0	H	81.0	24.5

**Plot 22:** 1 GHz to 12.75 GHz, 5500 MHz, vertical & horizontal polarization

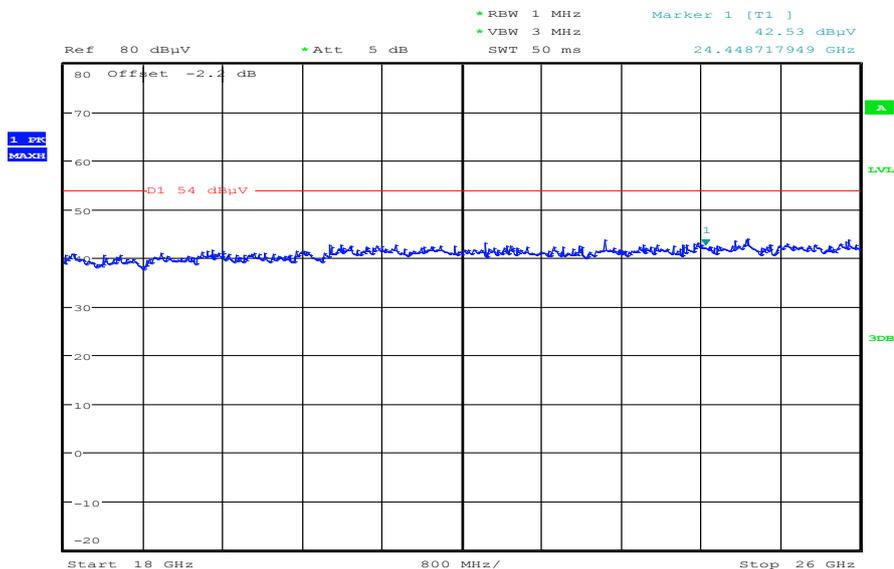


**Plot 23:** 12 GHz to 18 GHz, 5500 MHz, vertical & horizontal polarization



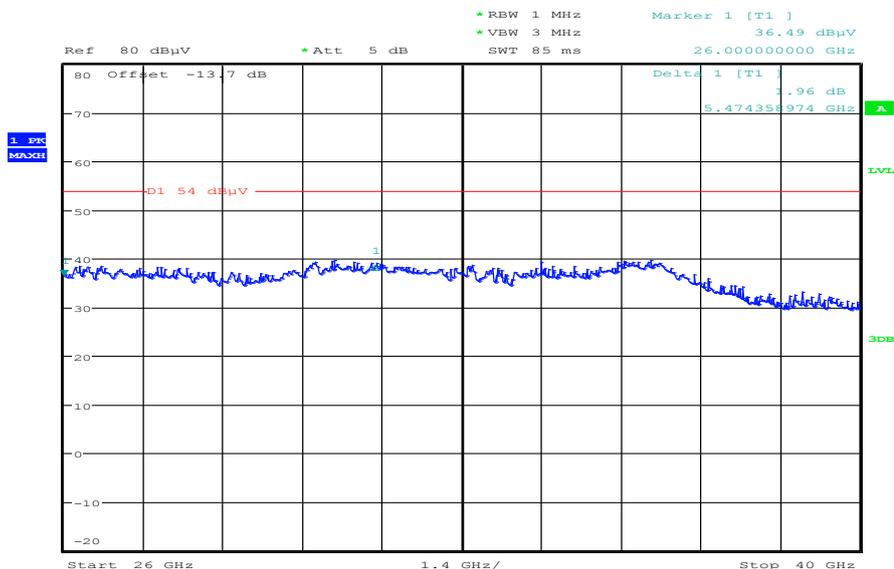
Date: 28.MAY.2014 11:47:06

Plot 24: 18 GHz to 26 GHz, 5500 MHz, vertical & horizontal polarization



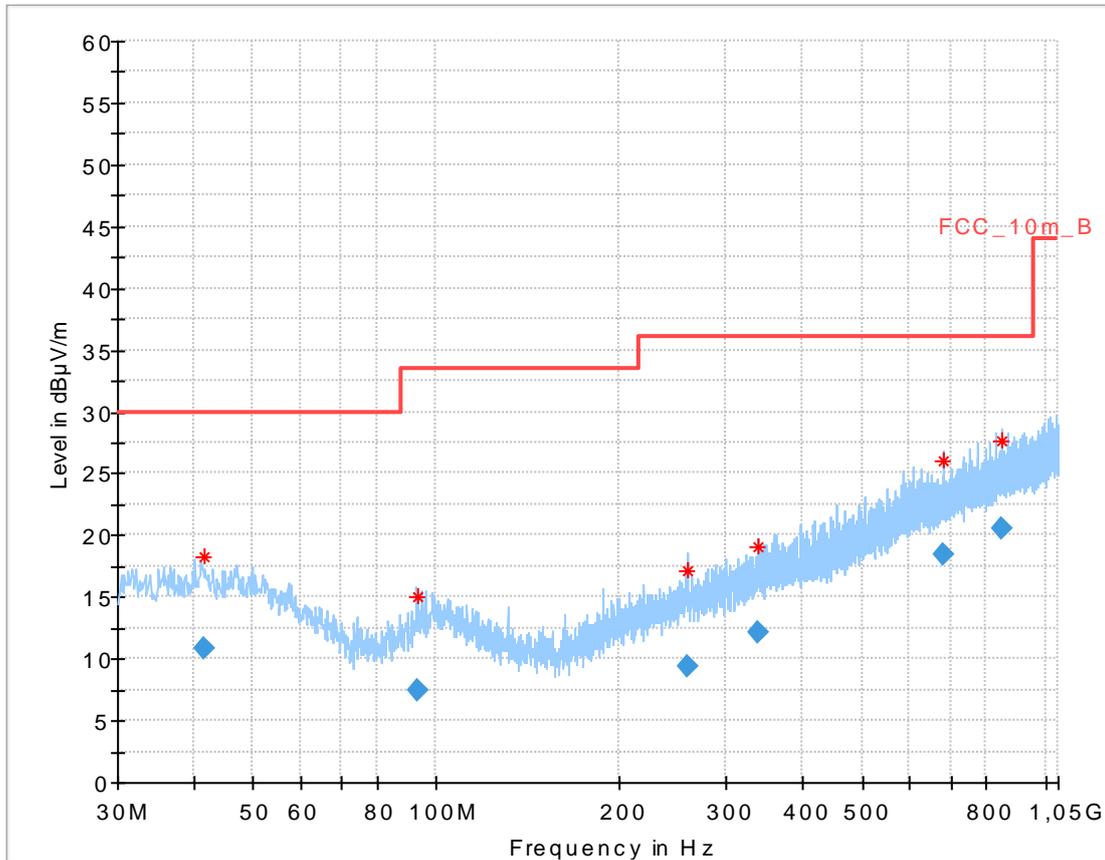
Date: 28.MAY.2014 13:38:27

Plot 25: 26 GHz to 40 GHz, 5500 MHz, vertical & horizontal polarization



Date: 28.MAY.2014 14:47:43

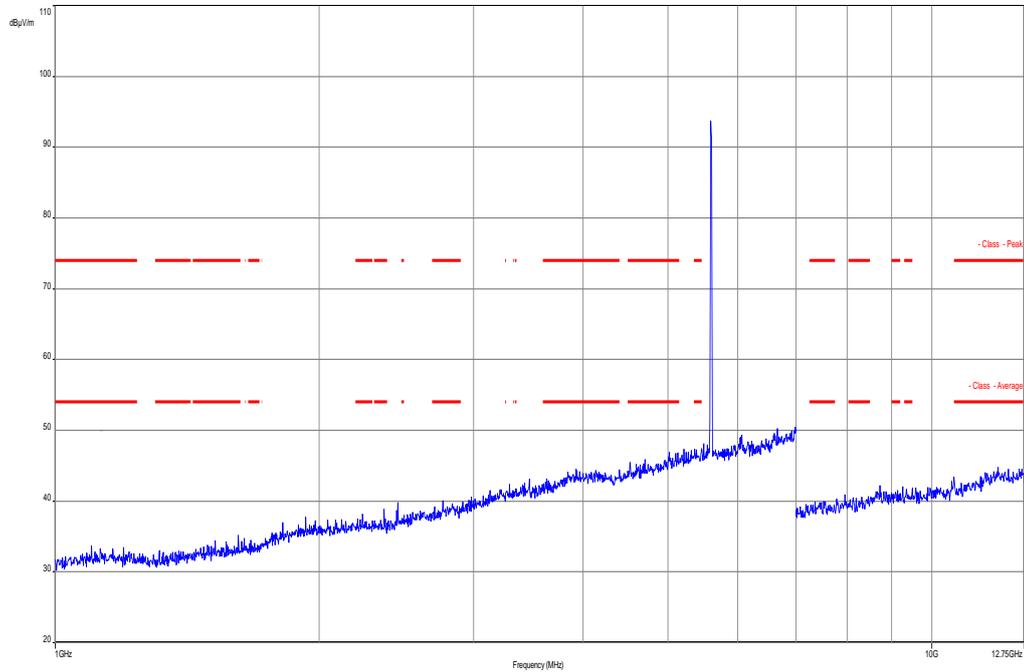
**Plot 26:** 30 MHz to 1 GHz, 5600 MHz, vertical & horizontal polarization



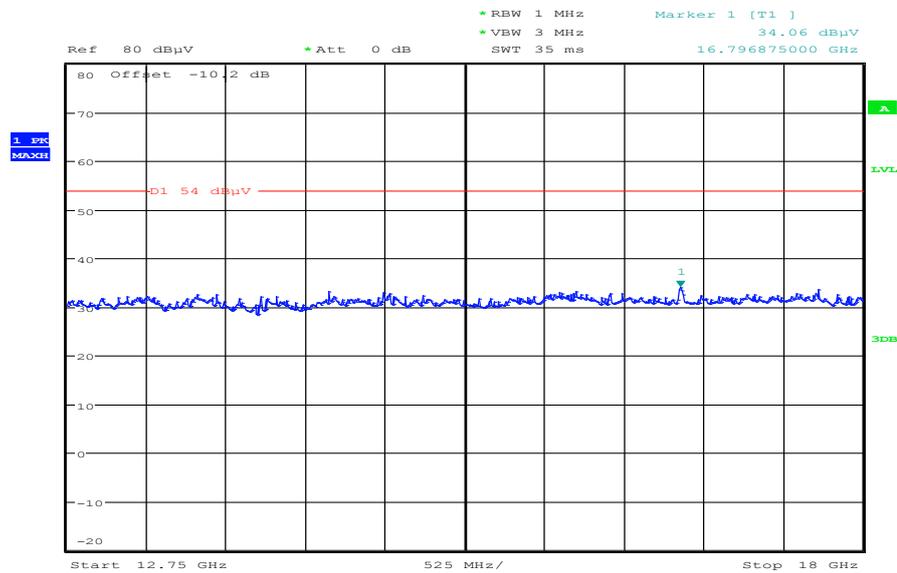
**Final results:**

Frequency (MHz)	Quasi Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
41.667300	10.88	30.00	19.12	1000.0	120.000	170.0	H	280.0	14.0
93.181500	7.45	33.50	26.05	1000.0	120.000	158.0	H	260.0	11.0
259.415400	9.42	36.00	26.58	1000.0	120.000	170.0	H	100.0	13.6
336.626250	12.09	36.00	23.91	1000.0	120.000	113.0	H	86.0	15.6
677.993850	18.36	36.00	17.64	1000.0	120.000	170.0	H	179.0	21.3
850.177800	20.51	36.00	15.49	1000.0	120.000	147.0	V	263.0	23.5

**Plot 27:** 1 GHz to 12.75 GHz, 5600 MHz, vertical & horizontal polarization

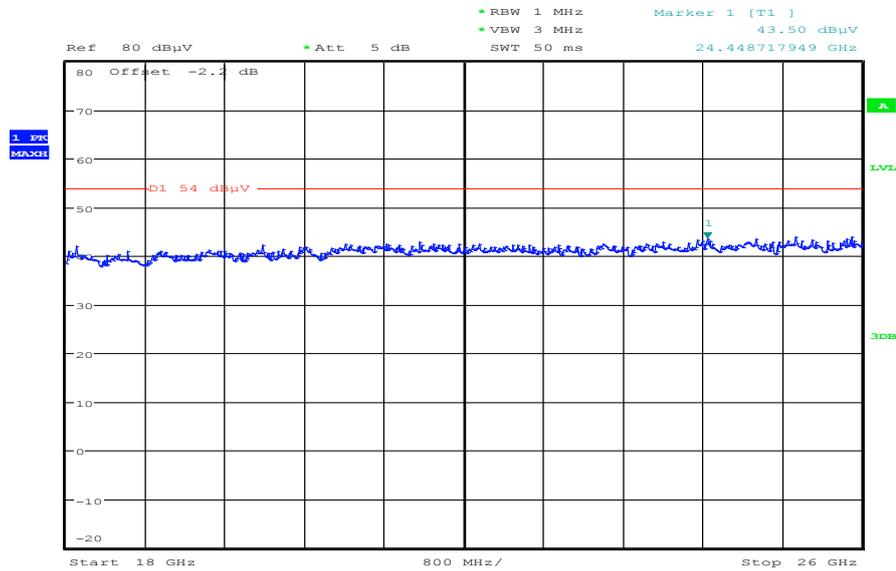


**Plot 28:** 12 GHz to 18 GHz, 5600 MHz, vertical & horizontal polarization



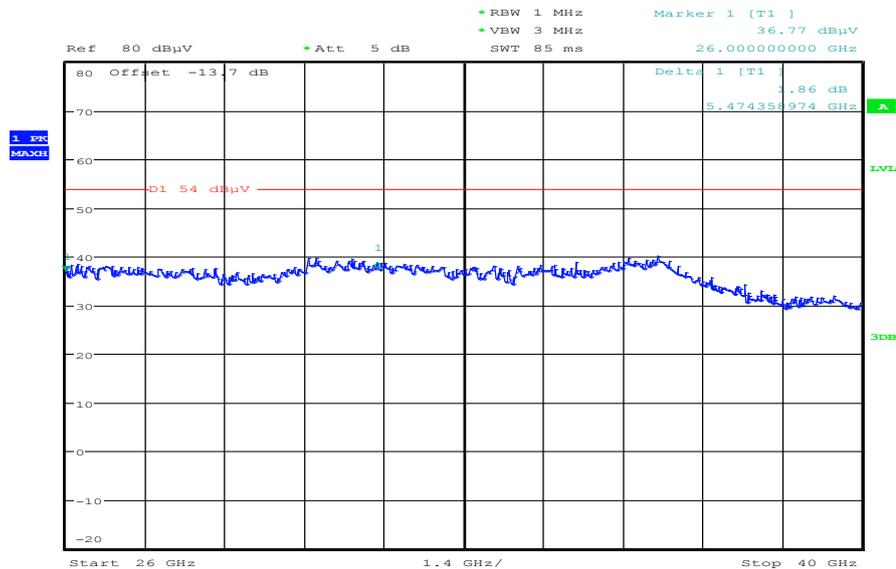
Date: 28.MAY.2014 11:49:56

**Plot 29:** 18 GHz to 26 GHz, 5600 MHz, vertical & horizontal polarization



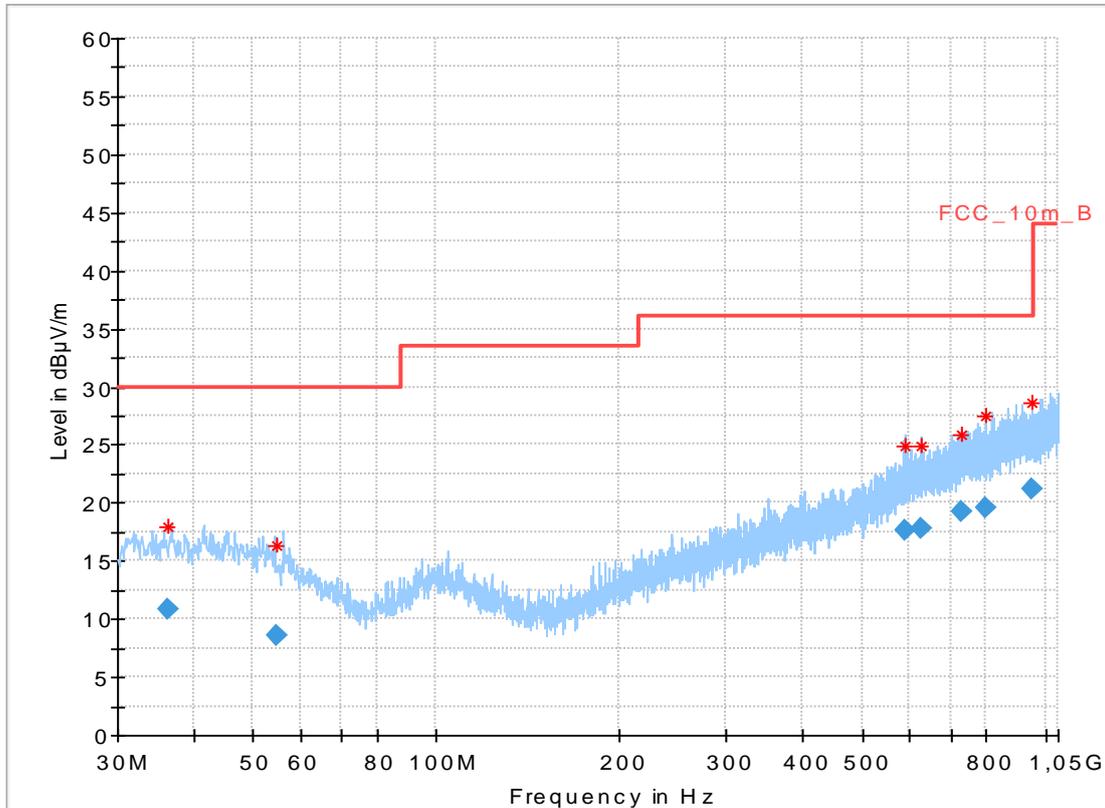
Date: 28.MAY.2014 13:39:37

**Plot 30:** 26 GHz to 40 GHz, 5600 MHz, vertical & horizontal polarization



Date: 28.MAY.2014 14:48:51

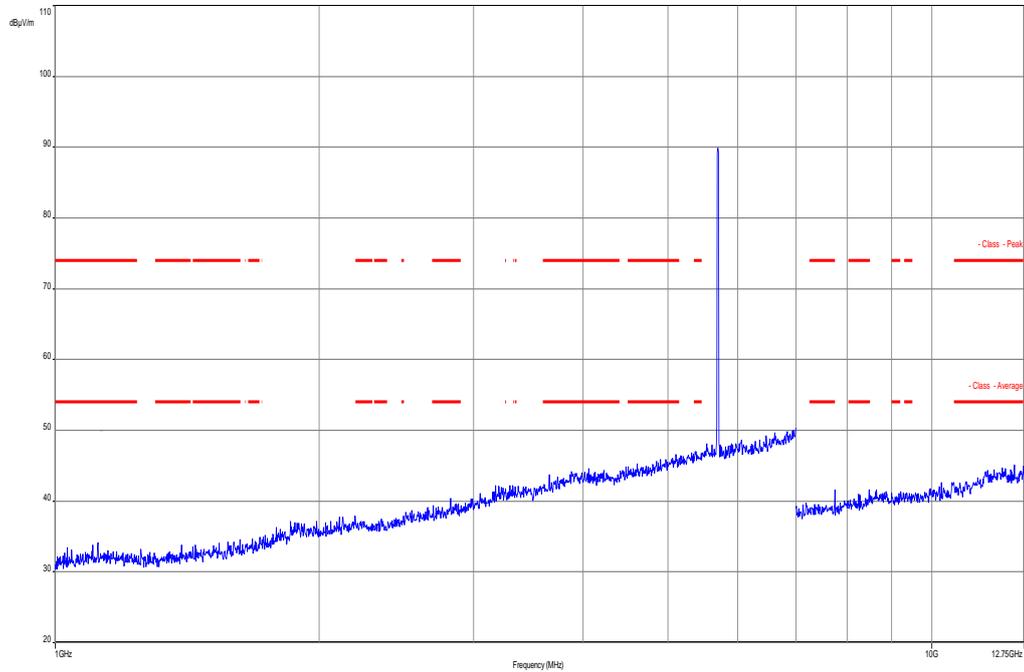
**Plot 31:** 30 MHz to 1 GHz, 5700 MHz, vertical & horizontal polarization



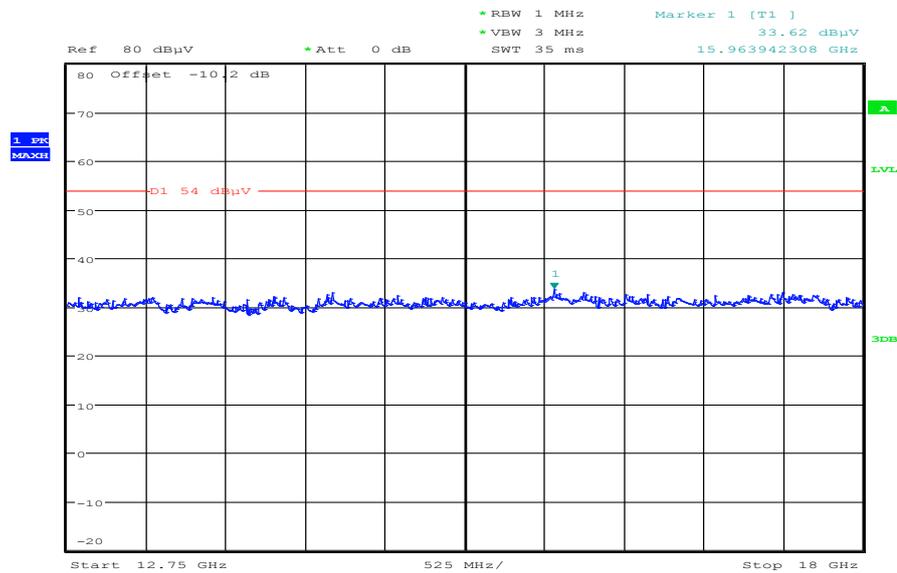
**Final results:**

Frequency (MHz)	Quasi Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
36.284550	10.84	30.00	19.16	1000.0	120.000	170.0	H	174.0	13.9
54.877200	8.61	30.00	21.39	1000.0	120.000	170.0	H	176.0	12.9
589.876200	17.60	36.00	18.40	1000.0	120.000	157.0	V	190.0	20.4
625.874850	17.85	36.00	18.15	1000.0	120.000	170.0	V	280.0	20.9
729.635100	19.22	36.00	16.78	1000.0	120.000	165.0	H	280.0	22.2
796.626300	19.55	36.00	16.45	1000.0	120.000	170.0	H	10.0	22.7
947.991900	21.12	36.00	14.88	1000.0	120.000	170.0	H	280.0	24.3

**Plot 32:** 1 GHz to 12.75 GHz, 5700 MHz, vertical & horizontal polarization

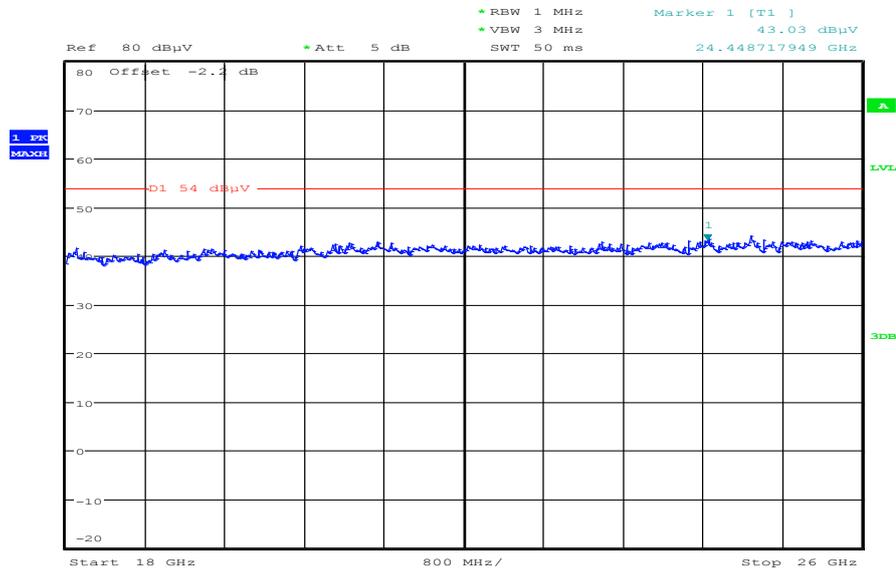


**Plot 33:** 12 GHz to 18 GHz, 5700 MHz, vertical & horizontal polarization



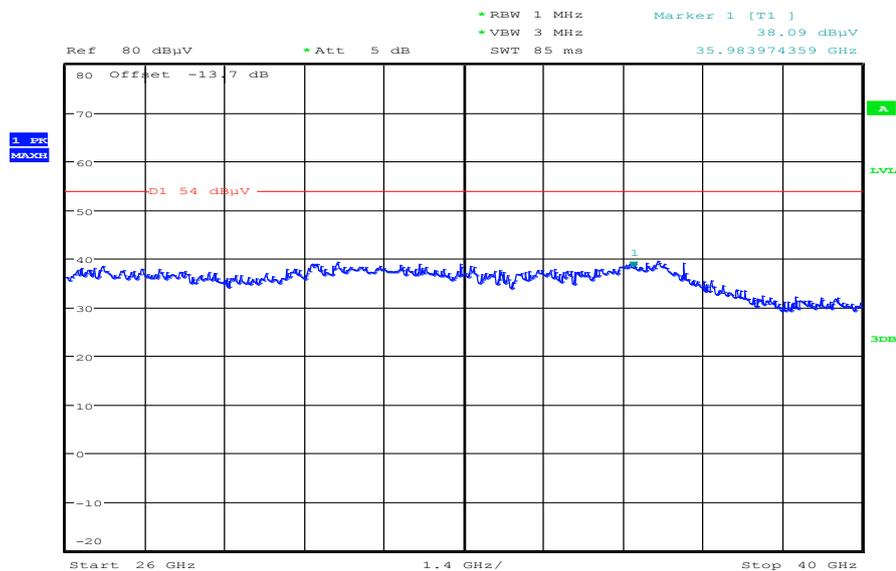
Date: 28.MAY.2014 11:53:18

**Plot 34:** 18 GHz to 26 GHz, 5700 MHz, vertical & horizontal polarization



Date: 28.MAY.2014 13:41:14

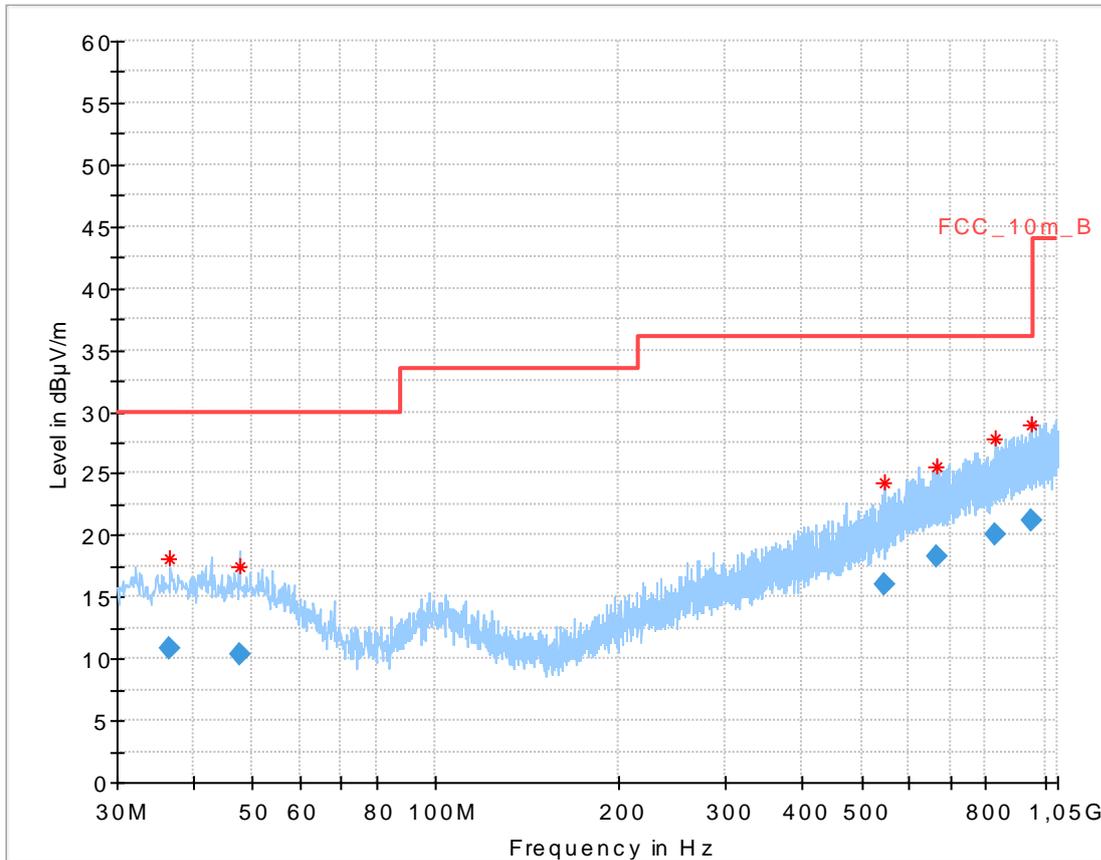
**Plot 35:** 26 GHz to 40 GHz, 5700 MHz, vertical & horizontal polarization



Date: 28.MAY.2014 14:53:36

**Plots:** OFDM / n/ac – mode HT20

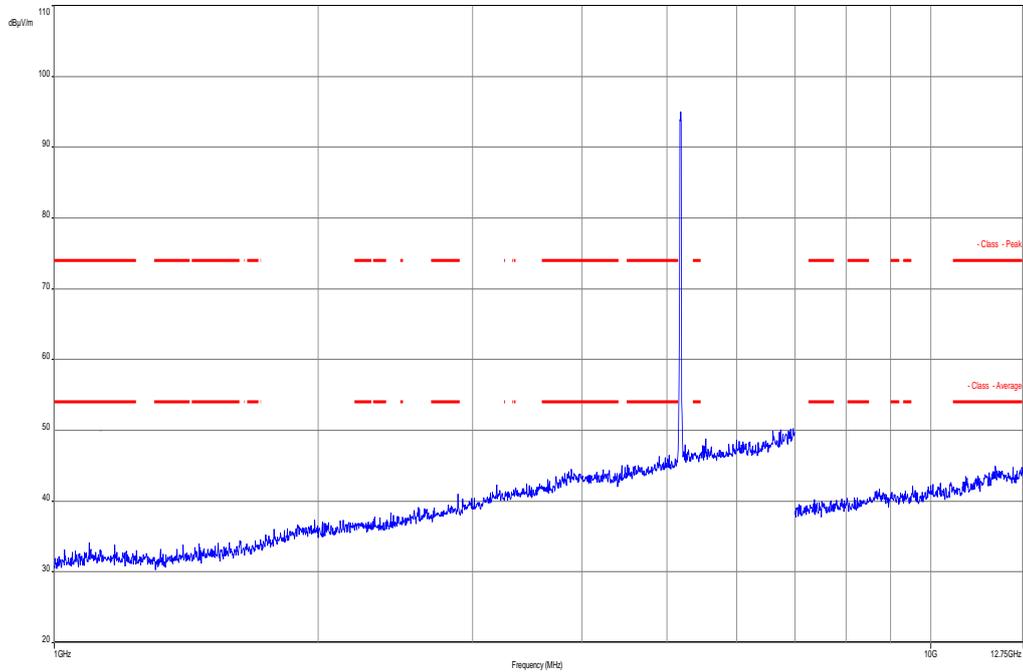
**Plot 1:** 30 MHz to 1 GHz, 5180 MHz, vertical & horizontal polarization



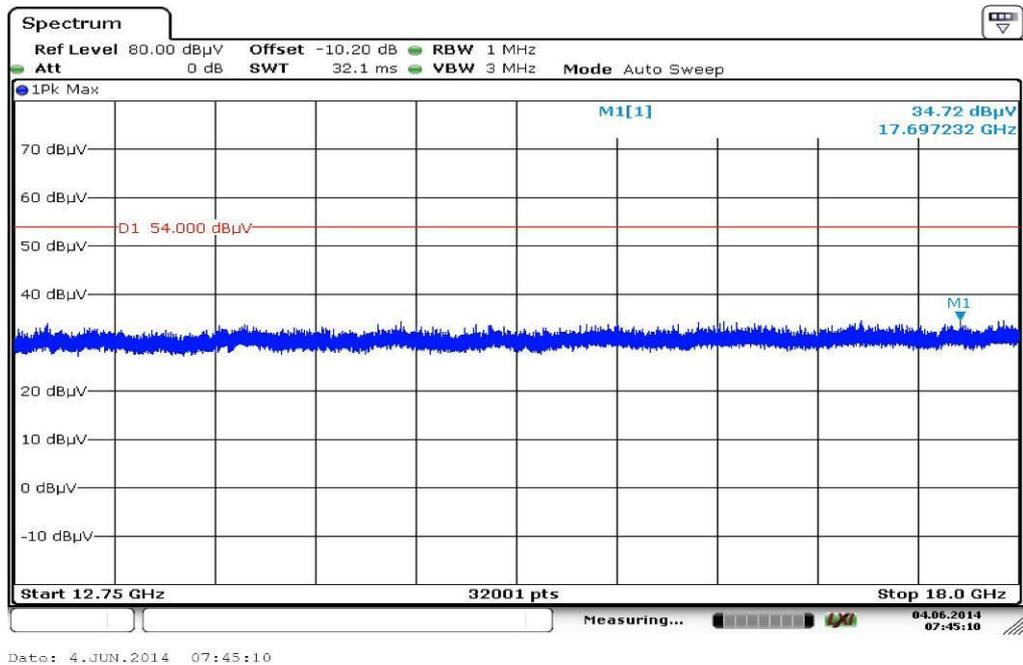
**Final results:**

Frequency (MHz)	Quasi Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
36.432900	10.85	30.00	19.15	1000.0	120.000	170.0	H	10.0	13.9
47.579400	10.37	30.00	19.63	1000.0	120.000	113.0	V	-2.0	13.7
543.880800	15.94	36.00	20.06	1000.0	120.000	170.0	V	-9.0	19.2
663.988950	18.24	36.00	17.76	1000.0	120.000	135.0	V	-3.0	21.2
826.990950	20.06	36.00	15.94	1000.0	120.000	170.0	H	83.0	23.1
951.082650	21.19	36.00	14.81	1000.0	120.000	170.0	H	280.0	24.3

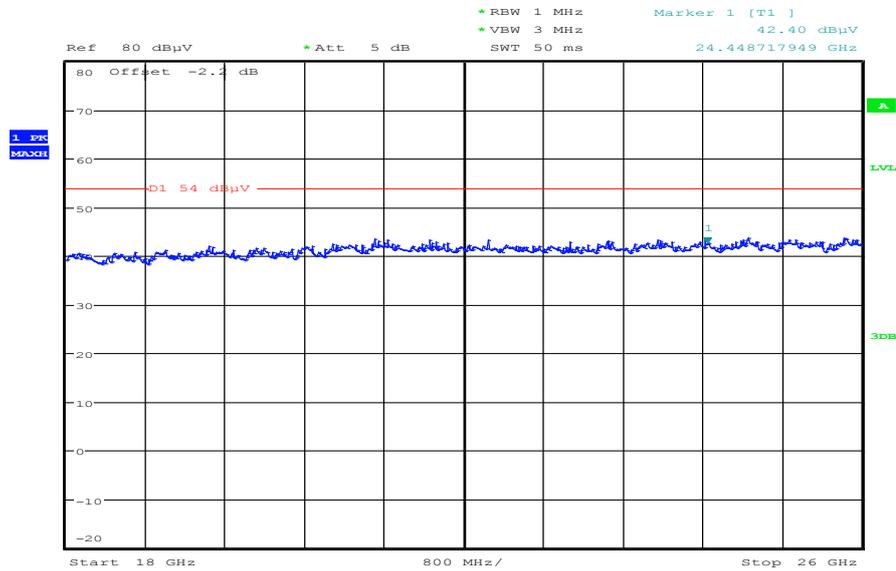
**Plot 2:** 1 GHz to 12.75 GHz, 5180 MHz, vertical & horizontal polarization



**Plot 3:** 12 GHz to 18 GHz, 5180 MHz, vertical & horizontal polarization

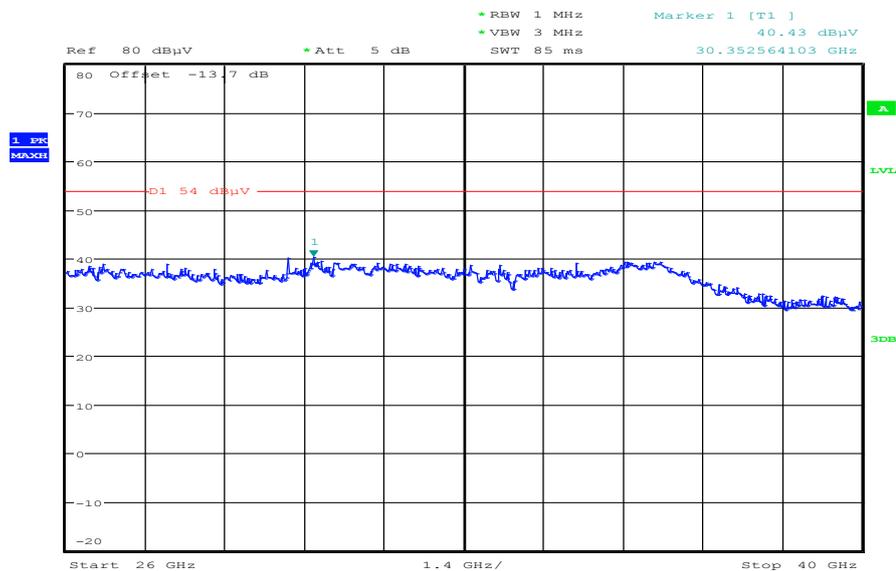


**Plot 4:** 18 GHz to 26 GHz, 5180 MHz, vertical & horizontal polarization



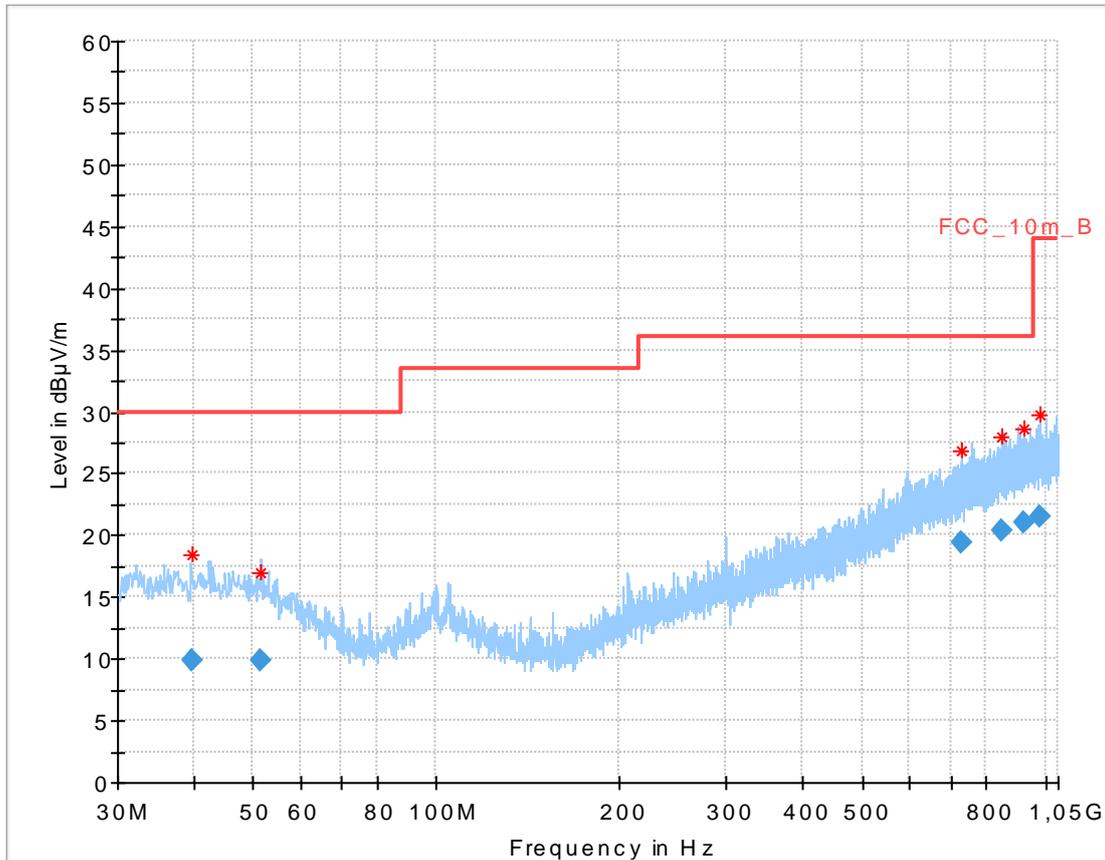
Date: 28.MAY.2014 13:50:26

**Plot 5:** 26 GHz to 40 GHz, 5180 MHz, vertical & horizontal polarization



Date: 28.MAY.2014 15:00:44

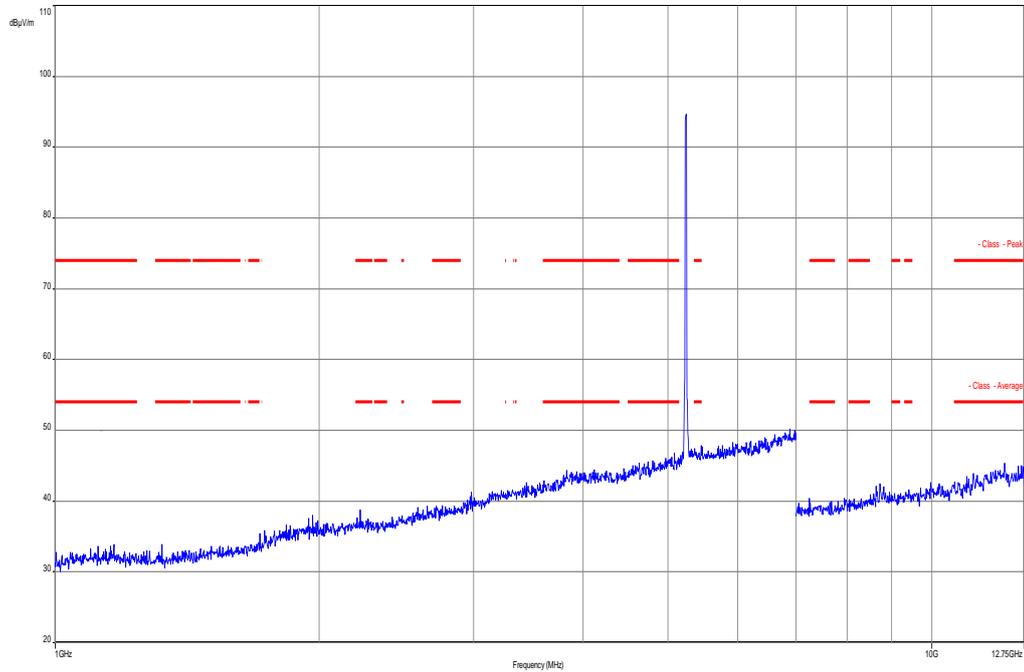
**Plot 6:** 30 MHz to 1 GHz, 5240 MHz, vertical & horizontal polarization



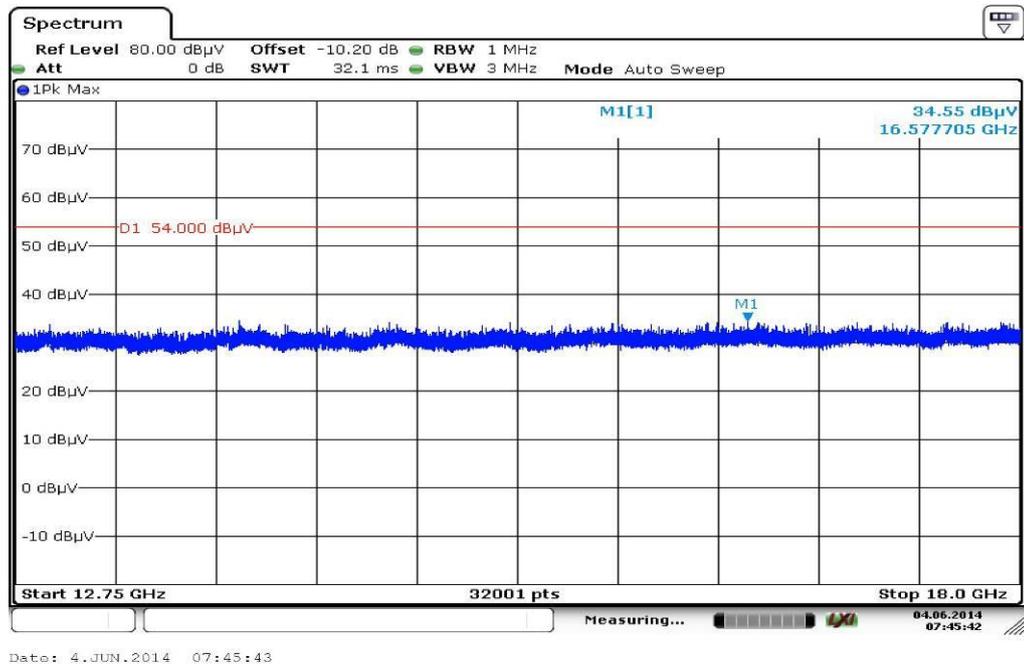
**Final results:**

Frequency (MHz)	Quasi Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
39.697500	9.83	30.00	20.17	1000.0	120.000	157.0	V	100.0	14.0
51.512100	9.94	30.00	20.06	1000.0	120.000	170.0	H	269.0	13.4
731.288250	19.33	36.00	16.67	1000.0	120.000	106.0	V	190.0	22.3
846.008250	20.43	36.00	15.57	1000.0	120.000	170.0	H	261.0	23.4
921.909300	21.03	36.00	14.97	1000.0	120.000	170.0	V	10.0	24.2
983.602200	21.48	44.00	22.52	1000.0	120.000	117.0	V	10.0	24.6

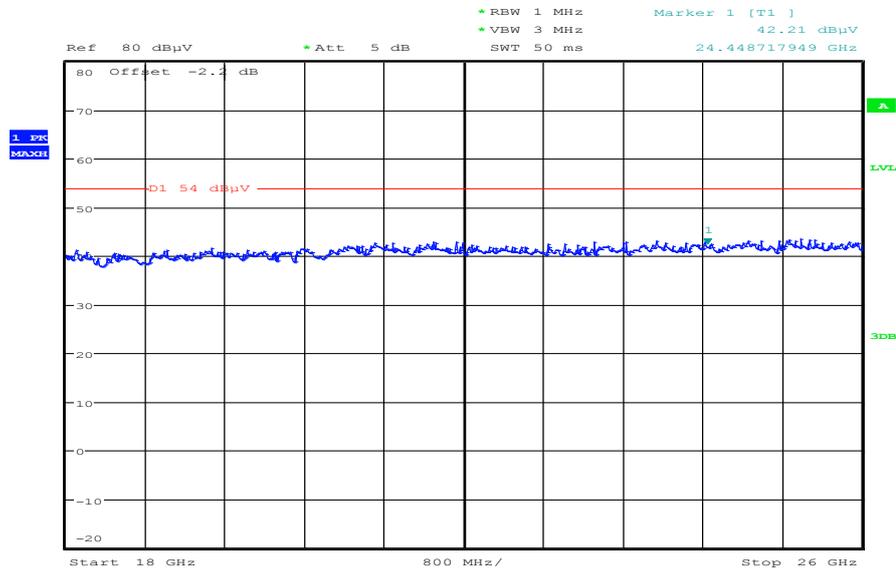
**Plot 7:** 1 GHz to 12.75 GHz, 5240 MHz, vertical & horizontal polarization



**Plot 8:** 12 GHz to 18 GHz, 5240 MHz, vertical & horizontal polarization

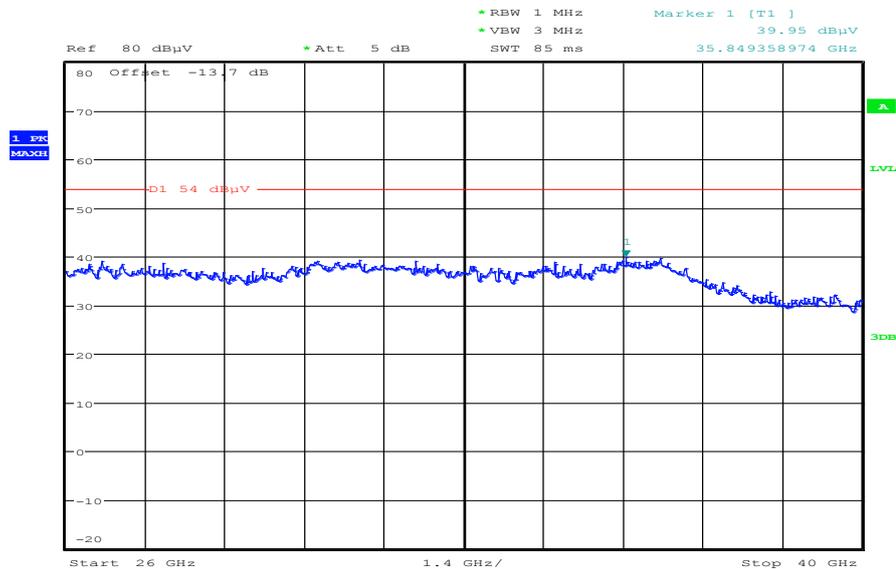


**Plot 9:** 18 GHz to 26 GHz, 5240 MHz, vertical & horizontal polarization



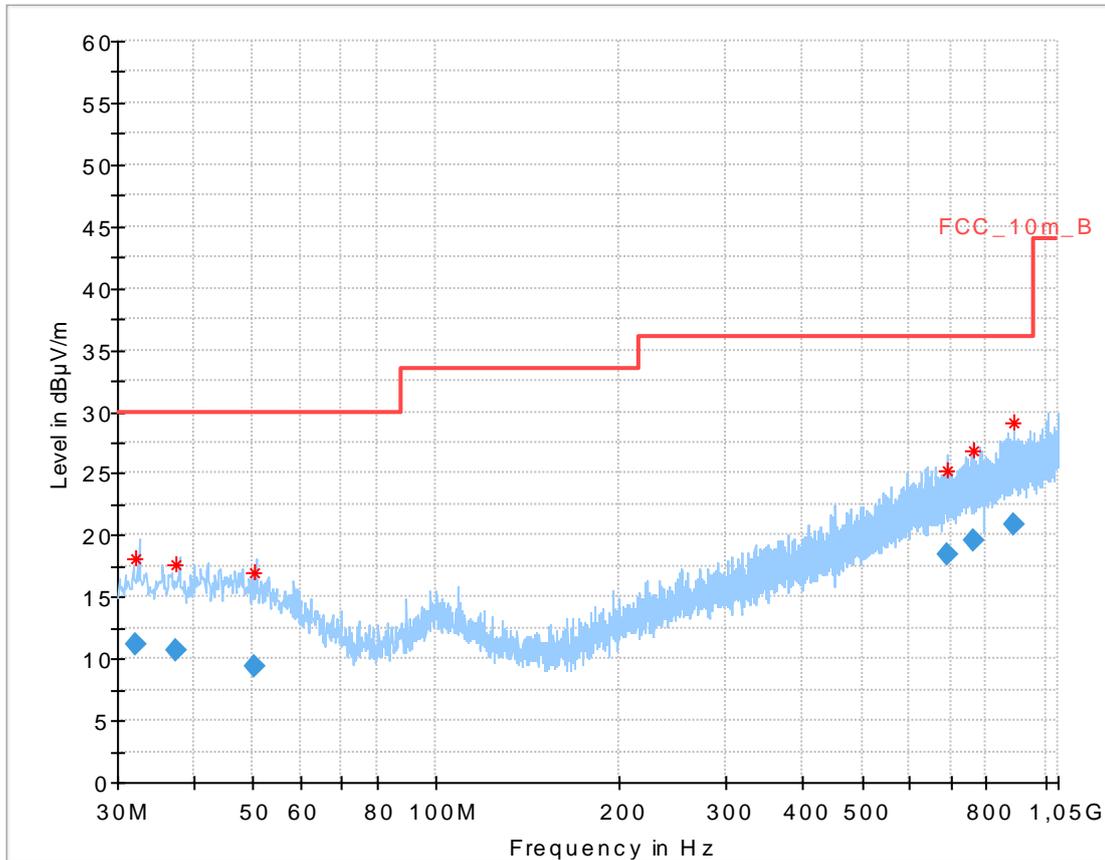
Date: 28.MAY.2014 13:51:35

**Plot 10:** 26 GHz to 40 GHz, 5240 MHz, vertical & horizontal polarization



Date: 28.MAY.2014 15:02:05

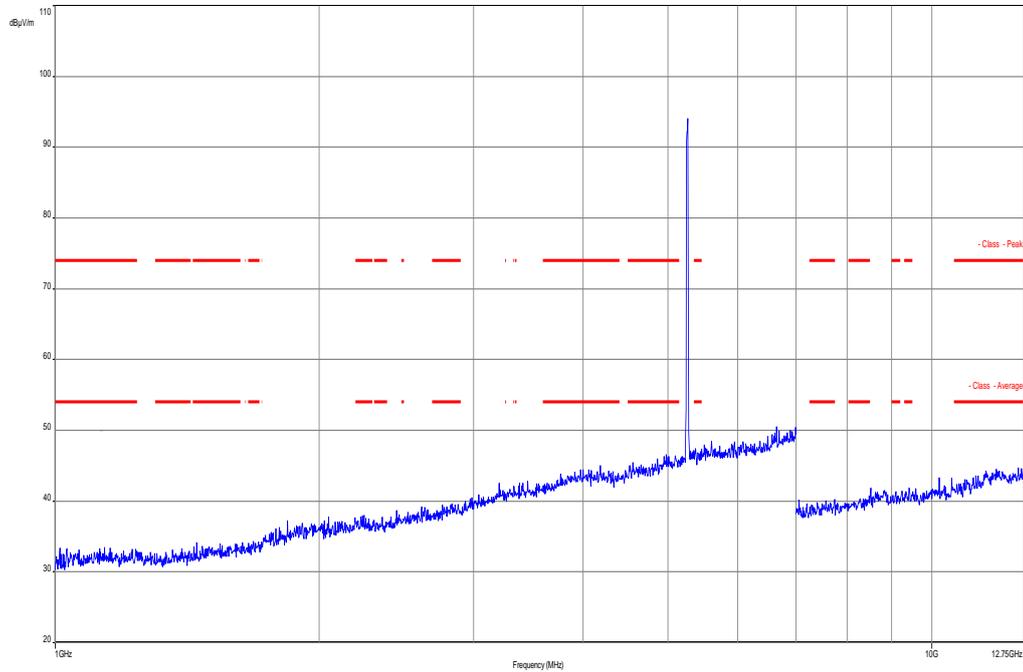
Plot 11: 30 MHz to 1 GHz, 5260 MHz, vertical & horizontal polarization



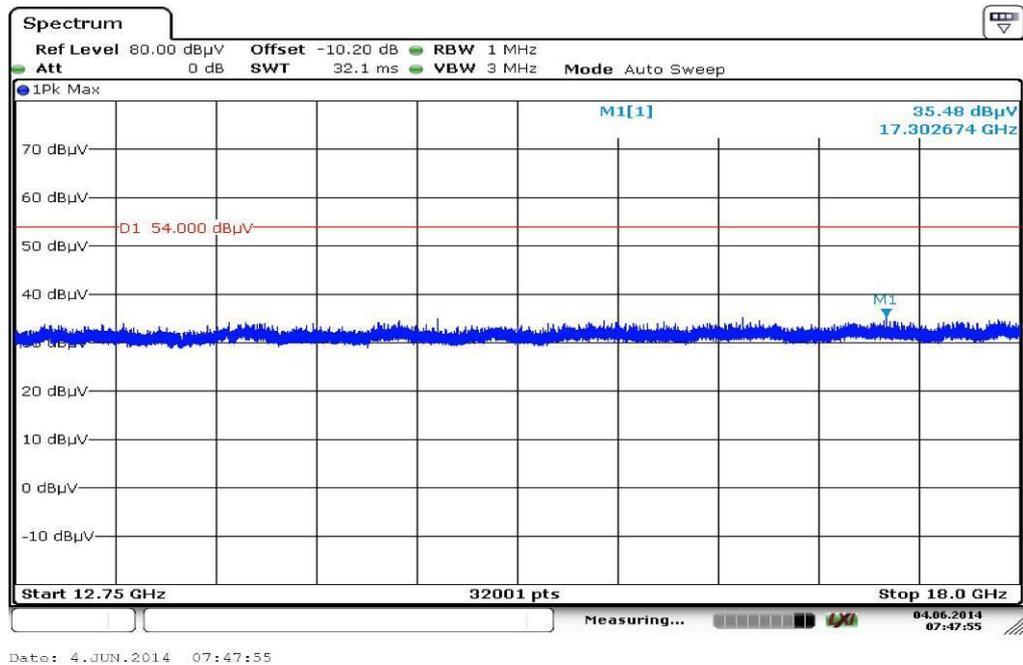
Final results:

Frequency (MHz)	Quasi Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
32.041800	11.13	30.00	18.87	1000.0	120.000	170.0	V	10.0	13.5
37.362900	10.67	30.00	19.33	1000.0	120.000	170.0	H	271.0	13.9
50.416800	9.46	30.00	20.54	1000.0	120.000	170.0	V	280.0	13.6
690.789600	18.47	36.00	17.53	1000.0	120.000	170.0	H	280.0	21.4
764.680650	19.62	36.00	16.38	1000.0	120.000	101.0	H	-4.0	22.7
890.440950	20.90	36.00	15.10	1000.0	120.000	105.0	H	91.0	24.0

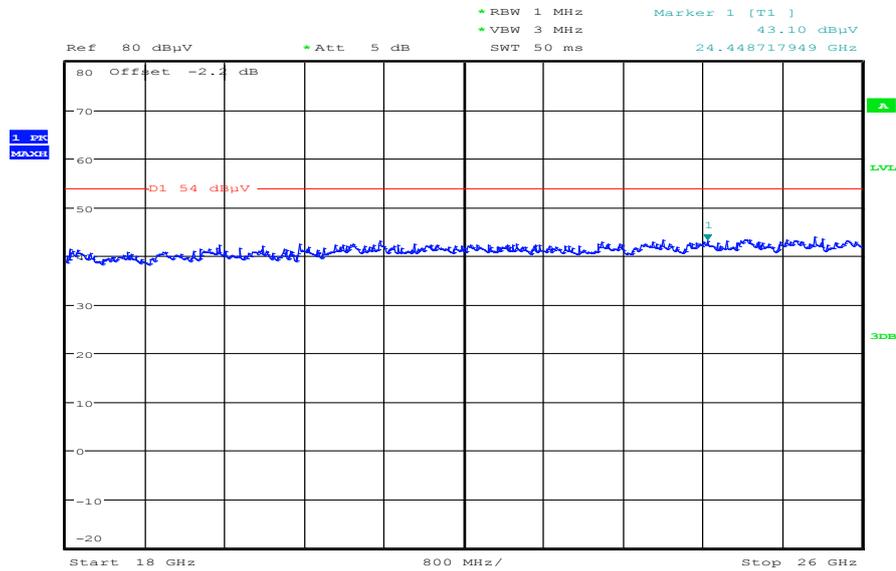
**Plot 12:** 1 GHz to 12.75 GHz, 5260 MHz, vertical & horizontal polarization



**Plot 13:** 12 GHz to 18 GHz, 5260 MHz, vertical & horizontal polarization

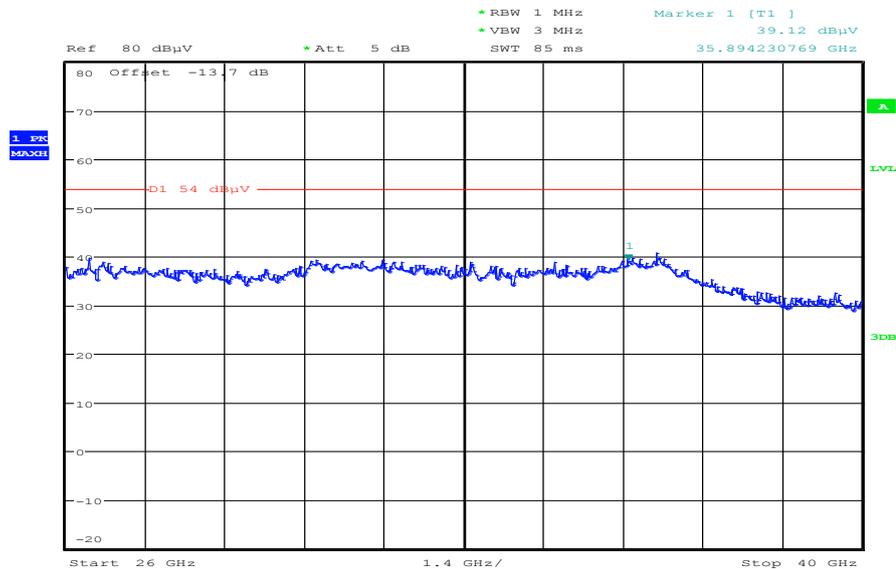


Plot 14: 18 GHz to 26 GHz, 5260 MHz, vertical & horizontal polarization



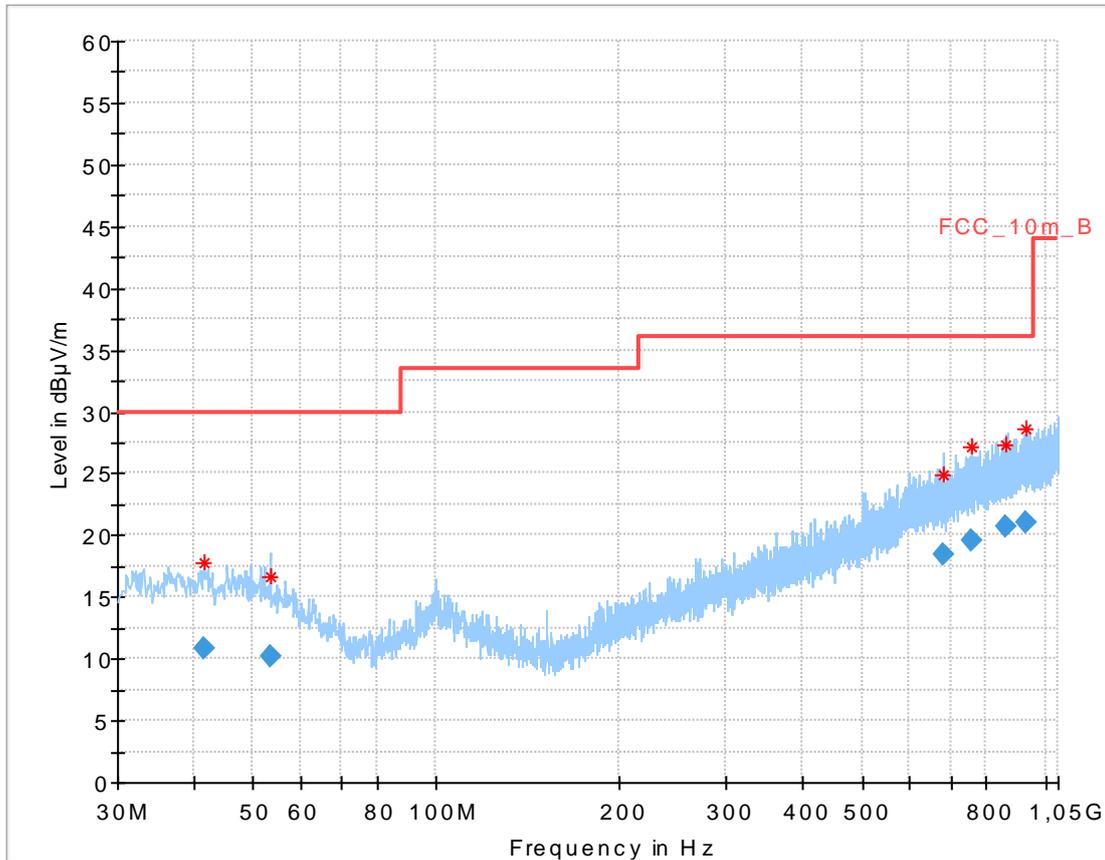
Date: 28.MAY.2014 14:11:38

Plot 15: 26 GHz to 40 GHz, 5260 MHz, vertical & horizontal polarization



Date: 28.MAY.2014 15:03:29

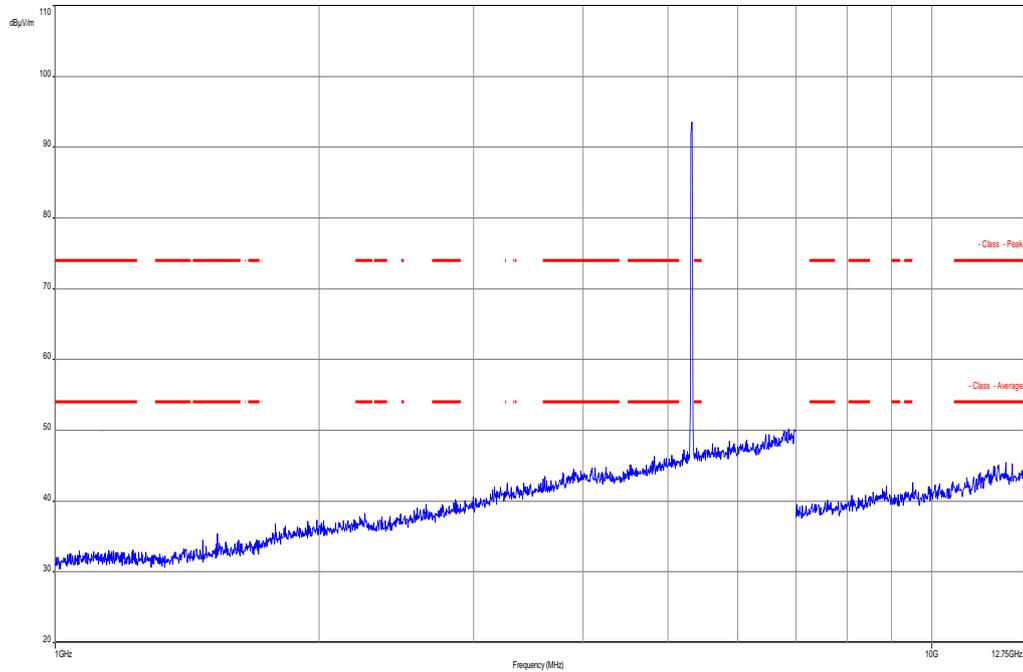
**Plot 16:** 30 MHz to 1 GHz, 5320 MHz, vertical & horizontal polarization



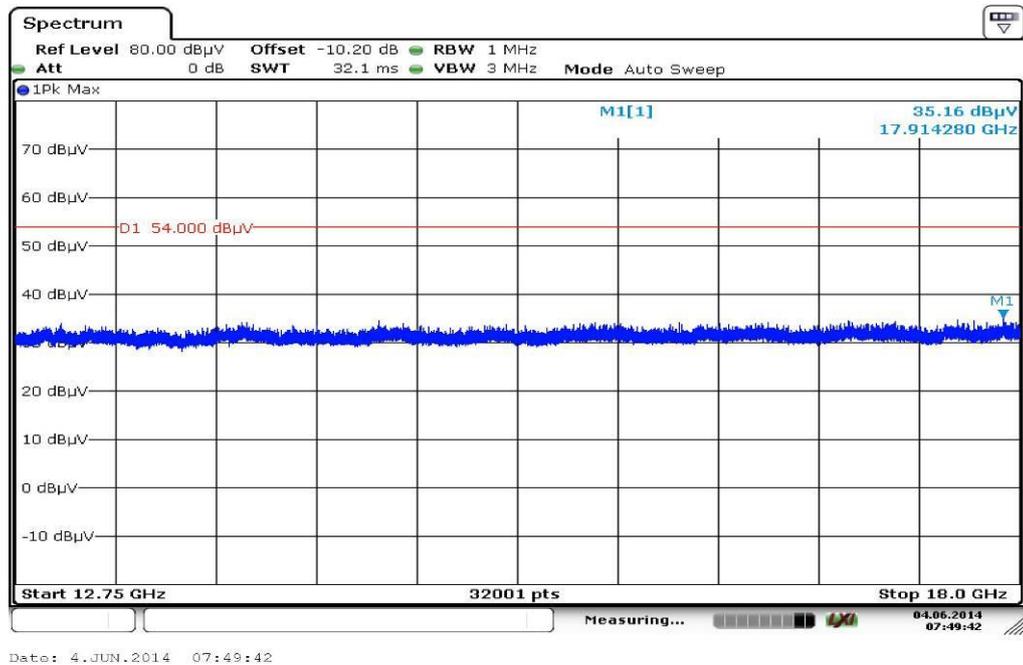
**Final results:**

Frequency (MHz)	Quasi Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
41.518650	10.86	30.00	19.14	1000.0	120.000	170.0	H	280.0	14.0
53.459700	10.18	30.00	19.82	1000.0	120.000	105.0	V	86.0	13.1
680.823300	18.38	36.00	17.62	1000.0	120.000	170.0	V	271.0	21.4
755.786700	19.57	36.00	16.43	1000.0	120.000	170.0	V	0.0	22.7
864.087900	20.68	36.00	15.32	1000.0	120.000	170.0	H	190.0	23.6
926.902950	21.09	36.00	14.91	1000.0	120.000	170.0	V	-7.0	24.2

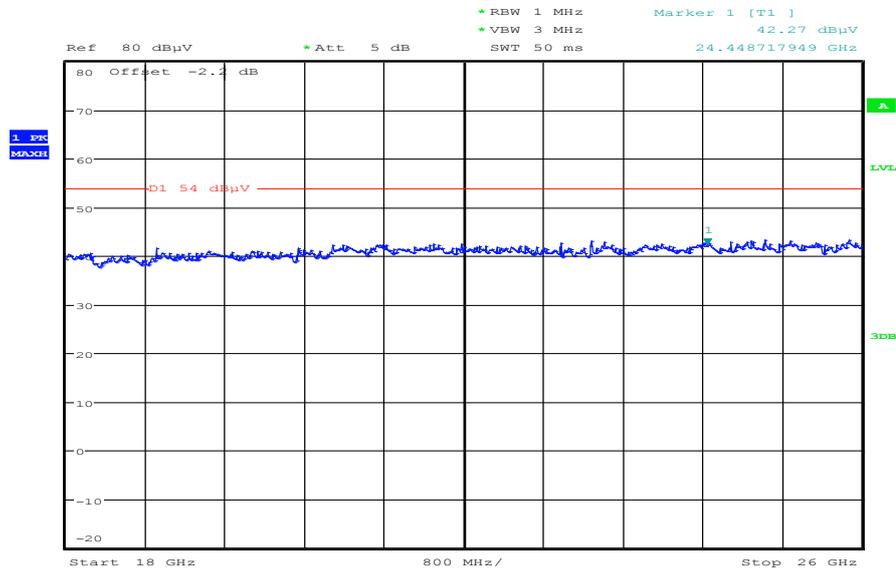
**Plot 17:** 1 GHz to 12.75 GHz, 5320 MHz, vertical & horizontal polarization



**Plot 18:** 12 GHz to 18 GHz, 5320 MHz, vertical & horizontal polarization

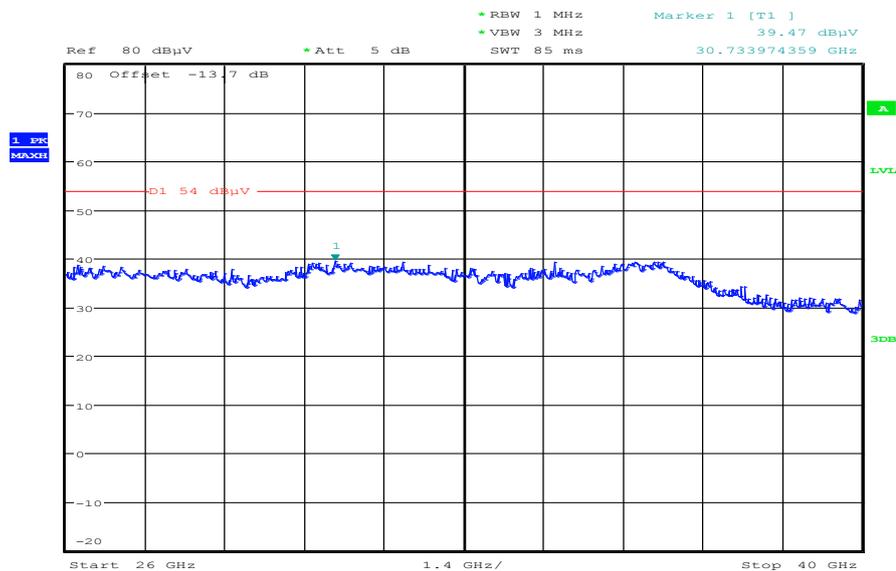


**Plot 19:** 18 GHz to 26 GHz, 5320 MHz, vertical & horizontal polarization



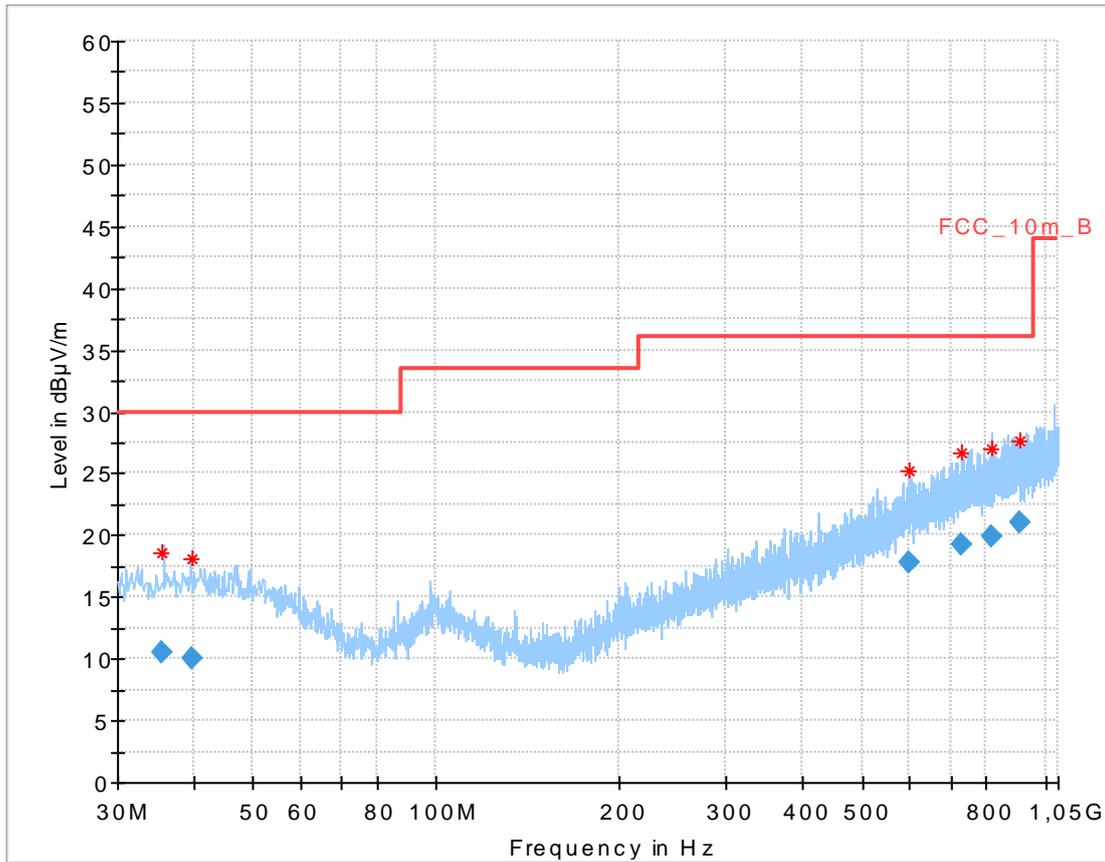
Date: 28.MAY.2014 14:12:36

**Plot 20:** 26 GHz to 40 GHz, 5320 MHz, vertical & horizontal polarization



Date: 28.MAY.2014 15:04:42

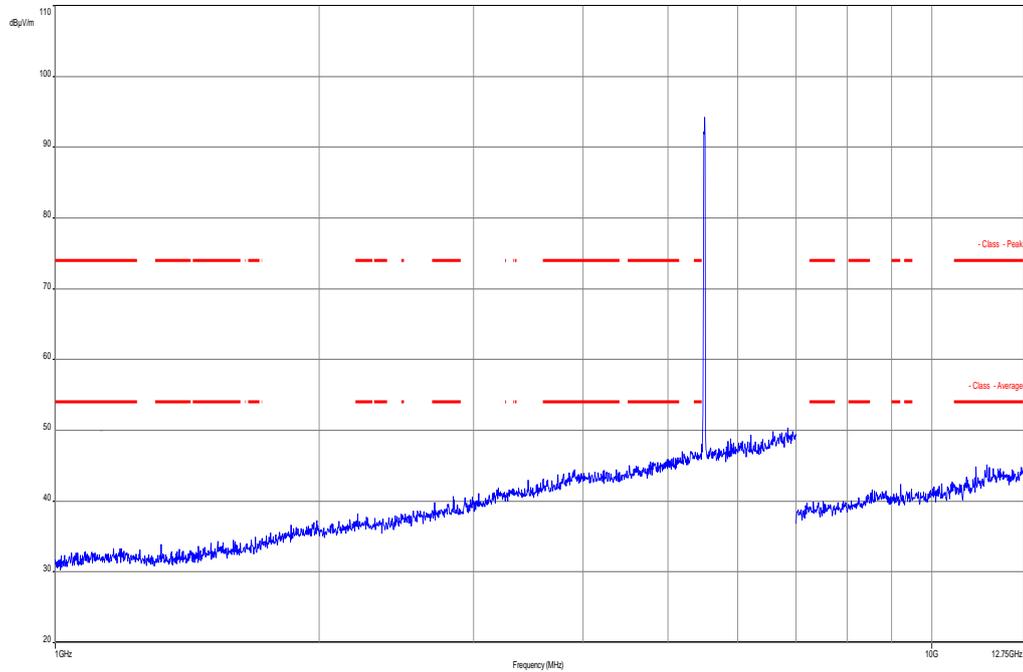
**Plot 21:** 30 MHz to 1 GHz, 5500 MHz, vertical & horizontal polarization



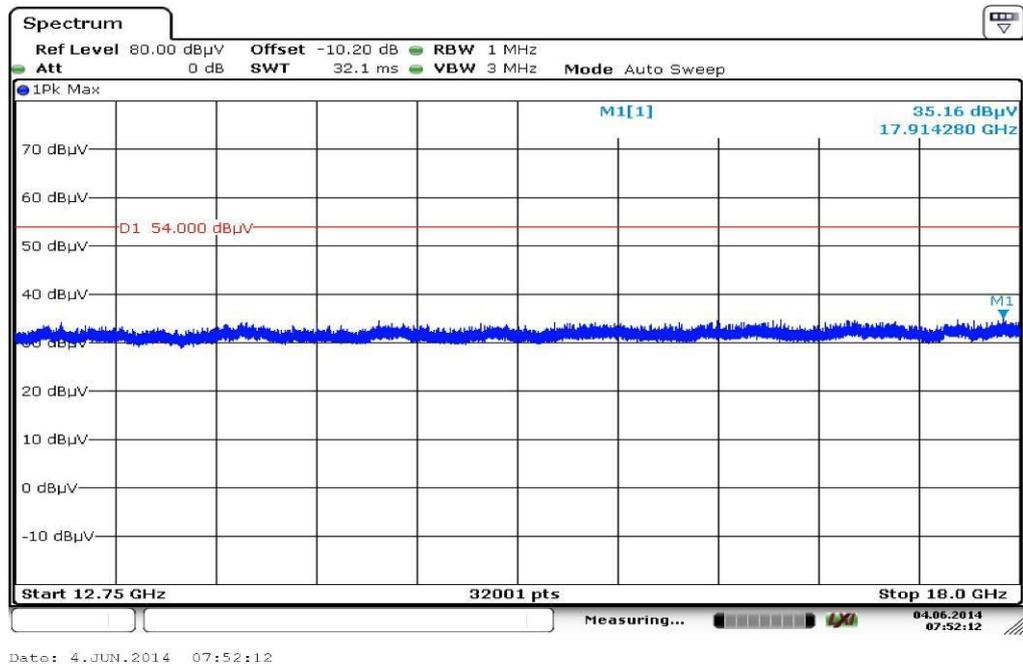
**Final results:**

Frequency (MHz)	Quasi Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
35.491350	10.48	30.00	19.52	1000.0	120.000	170.0	V	86.0	13.8
39.777450	9.96	30.00	20.04	1000.0	120.000	124.0	V	176.0	14.0
599.946900	17.80	36.00	18.20	1000.0	120.000	107.0	H	280.0	20.7
730.678050	19.30	36.00	16.70	1000.0	120.000	170.0	V	273.0	22.2
817.006200	19.84	36.00	16.16	1000.0	120.000	170.0	H	-2.0	23.0
908.820900	21.04	36.00	14.96	1000.0	120.000	146.0	H	170.0	24.1

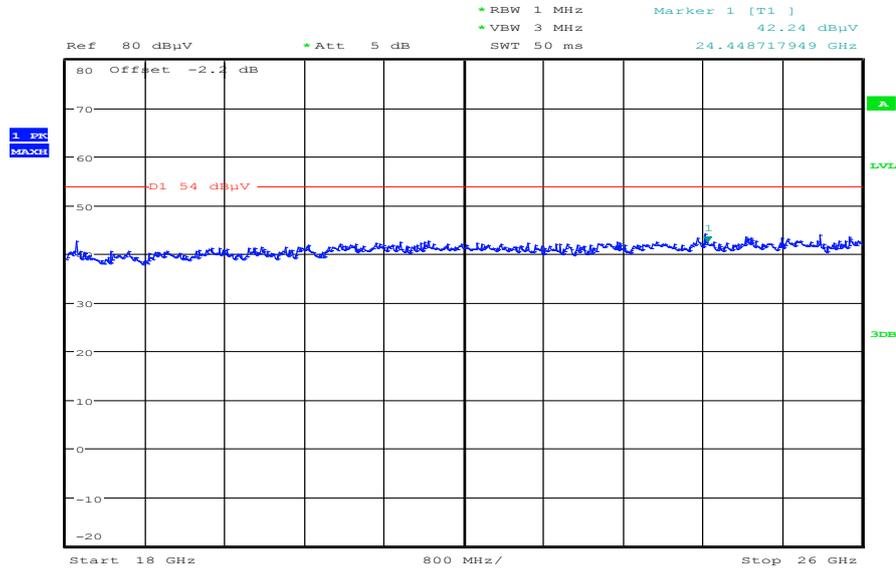
**Plot 22:** 1 GHz to 12.75 GHz, 5500 MHz, vertical & horizontal polarization



**Plot 23:** 12 GHz to 18 GHz, 5500 MHz, vertical & horizontal polarization

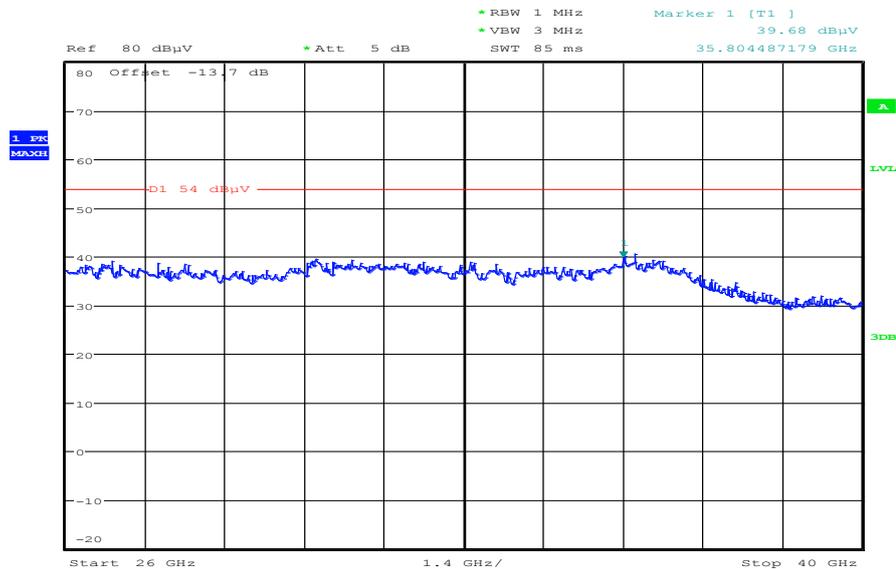


**Plot 24:** 18 GHz to 26 GHz, 5500 MHz, vertical & horizontal polarization



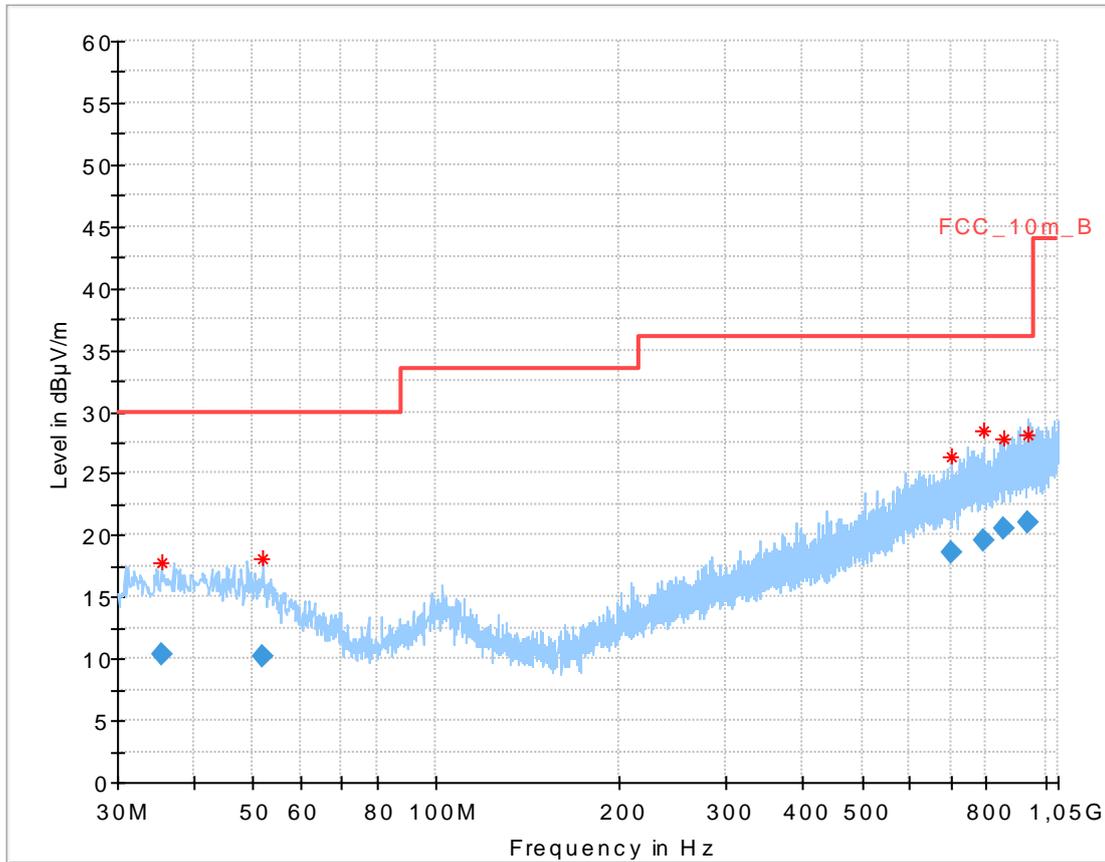
Date: 28.MAY.2014 14:13:28

**Plot 25:** 26 GHz to 40 GHz, 5500 MHz, vertical & horizontal polarization



Date: 28.MAY.2014 15:05:46

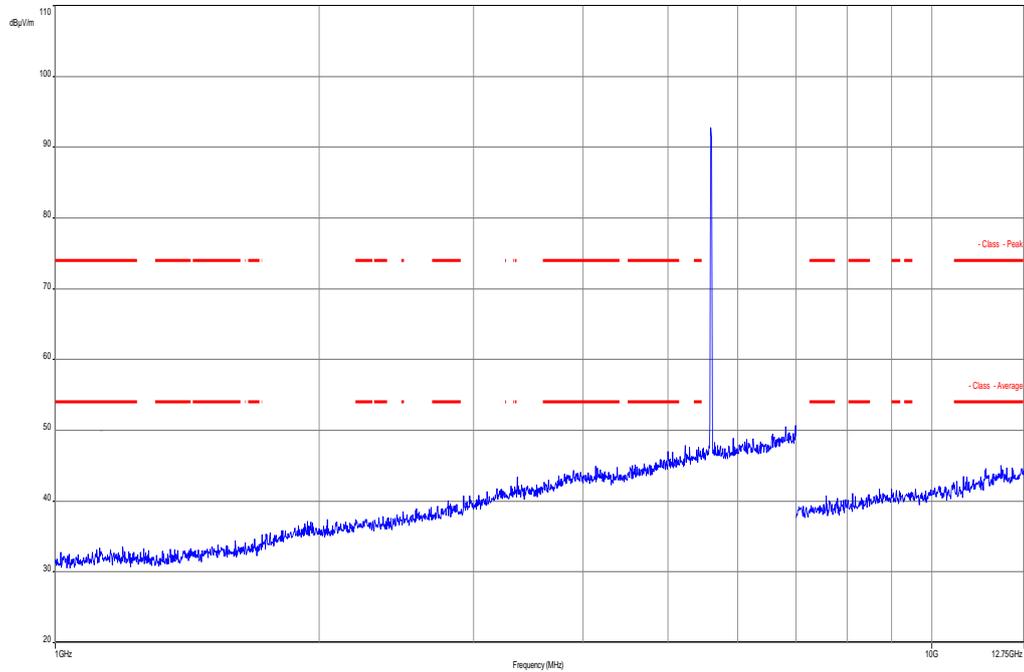
**Plot 26:** 30 MHz to 1 GHz, 5600 MHz, vertical & horizontal polarization



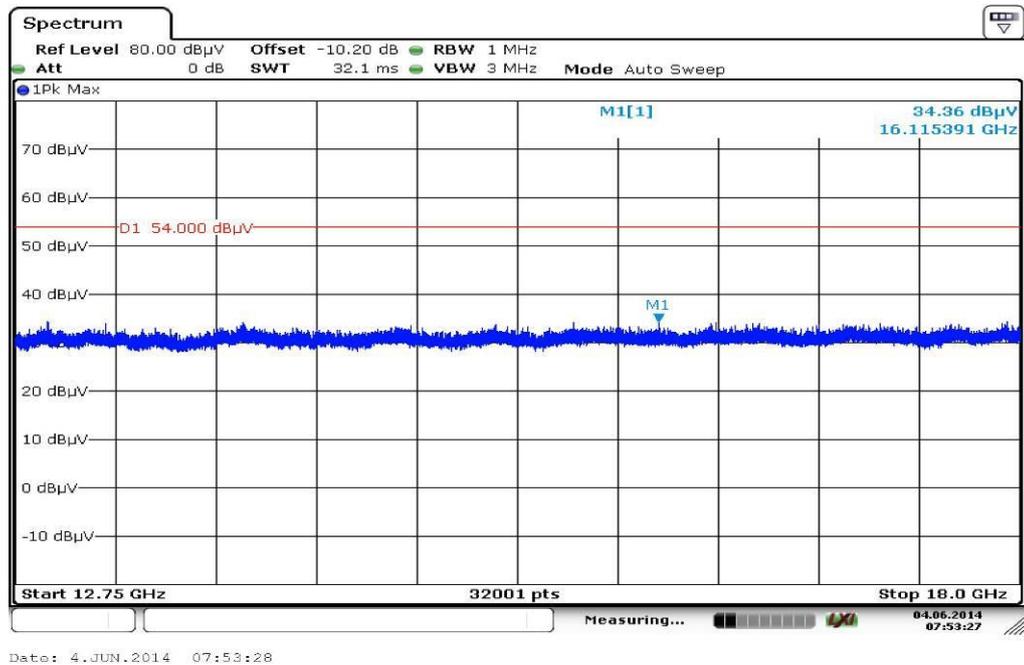
**Final results:**

Frequency (MHz)	Quasi Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
35.551650	10.27	30.00	19.73	1000.0	120.000	101.0	H	3.0	13.8
52.093350	10.23	30.00	19.77	1000.0	120.000	101.0	V	-4.0	13.3
700.942800	18.57	36.00	17.43	1000.0	120.000	170.0	H	190.0	21.5
792.647700	19.54	36.00	16.46	1000.0	120.000	101.0	H	273.0	22.7
852.554400	20.52	36.00	15.48	1000.0	120.000	170.0	V	271.0	23.5
936.417600	21.10	36.00	14.90	1000.0	120.000	124.0	H	260.0	24.2

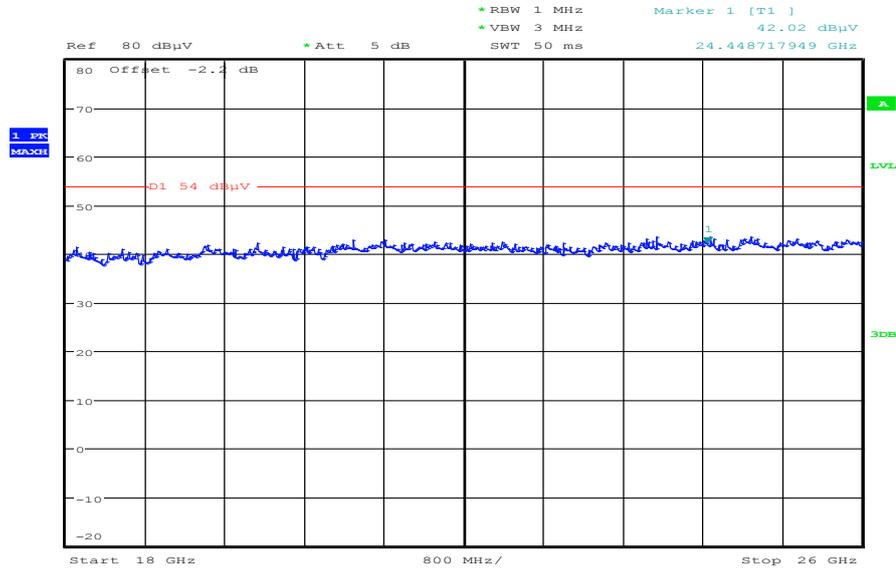
**Plot 27:** 1 GHz to 12.75 GHz, 5600 MHz, vertical & horizontal polarization



**Plot 28:** 12 GHz to 18 GHz, 5600 MHz, vertical & horizontal polarization

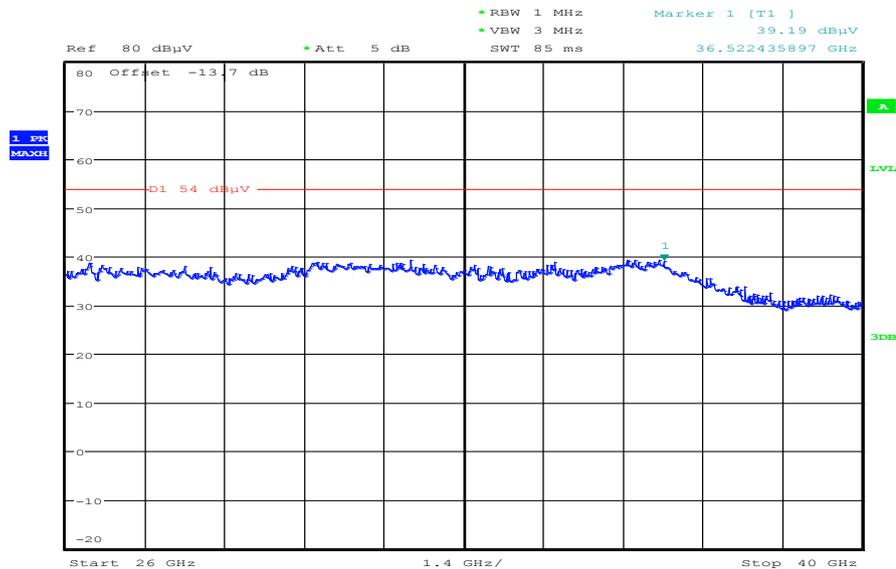


**Plot 29:** 18 GHz to 26 GHz, 5600 MHz, vertical & horizontal polarization



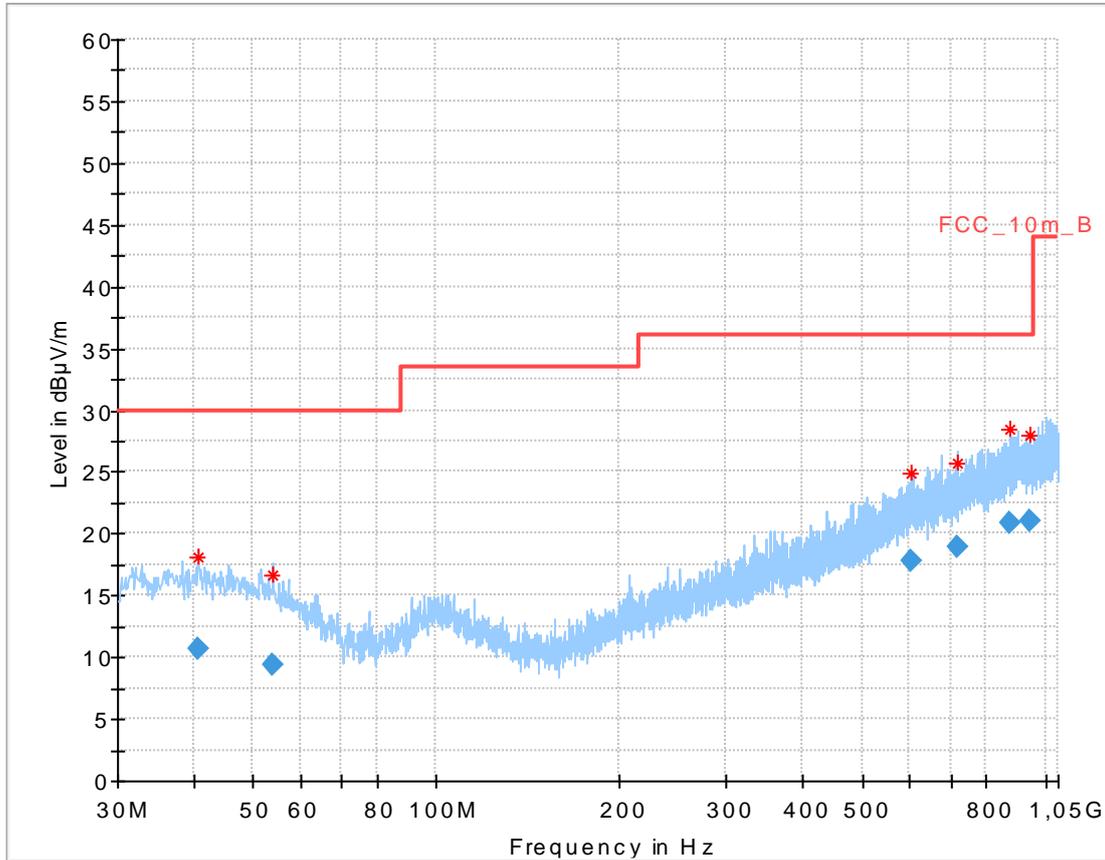
Date: 28.MAY.2014 14:14:29

**Plot 30:** 26 GHz to 40 GHz, 5600 MHz, vertical & horizontal polarization



Date: 28.MAY.2014 15:06:55

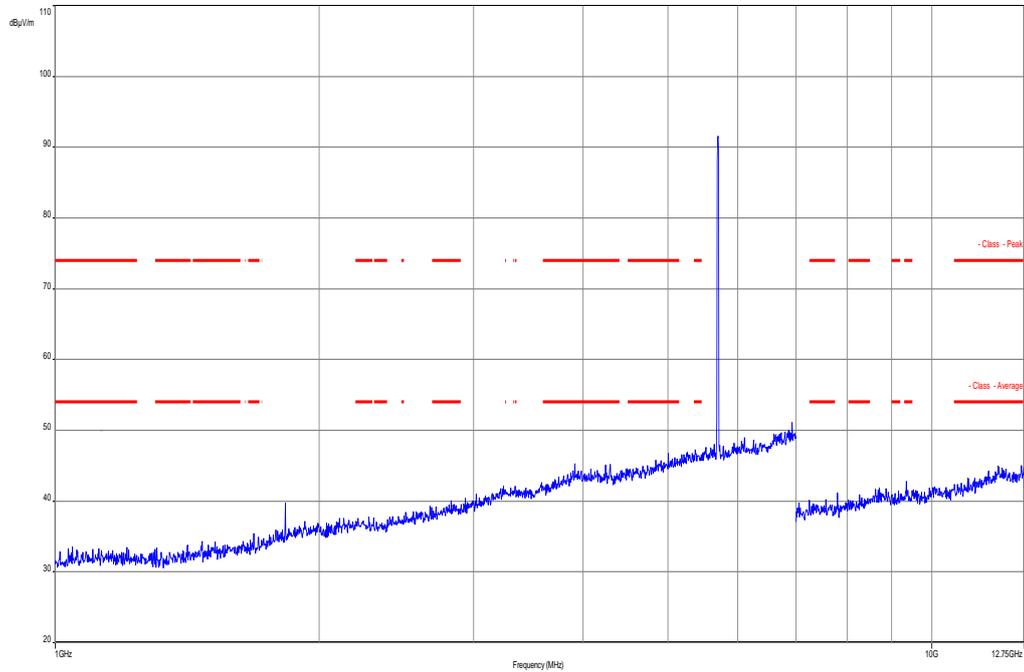
**Plot 31:** 30 MHz to 1 GHz, 5700 MHz, vertical & horizontal polarization



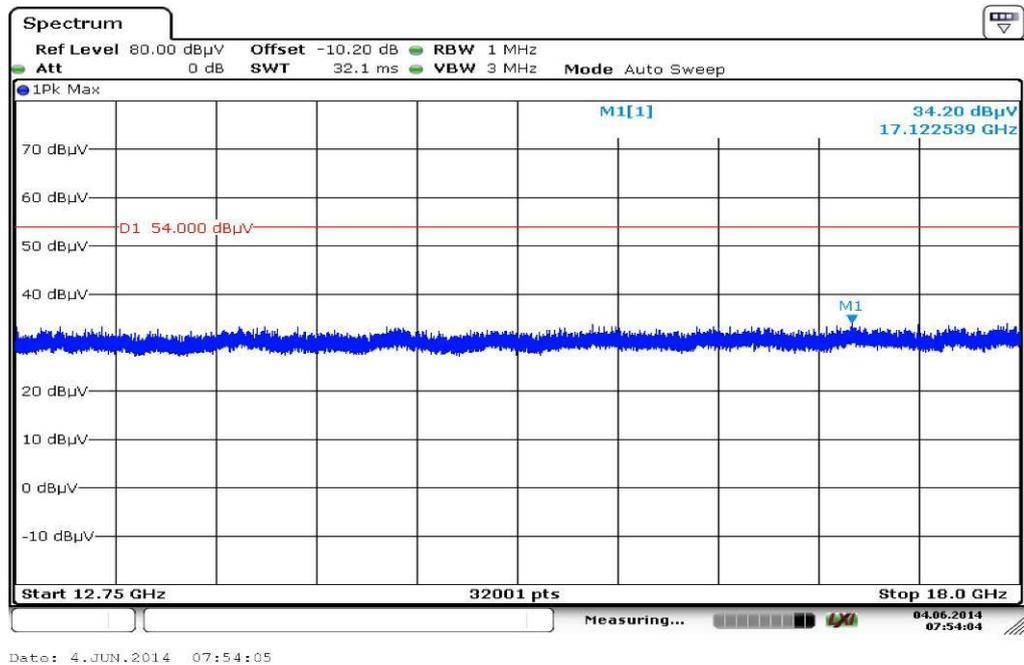
**Final results:**

Frequency (MHz)	Quasi Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
40.565550	10.67	30.00	19.33	1000.0	120.000	146.0	V	83.0	14.0
53.727300	9.42	30.00	20.58	1000.0	120.000	101.0	V	100.0	13.0
603.565350	17.79	36.00	18.21	1000.0	120.000	101.0	V	181.0	20.7
715.814850	18.97	36.00	17.03	1000.0	120.000	170.0	H	-4.0	21.9
873.424050	20.92	36.00	15.08	1000.0	120.000	170.0	V	91.0	23.8
944.609850	21.10	36.00	14.90	1000.0	120.000	170.0	V	100.0	24.2

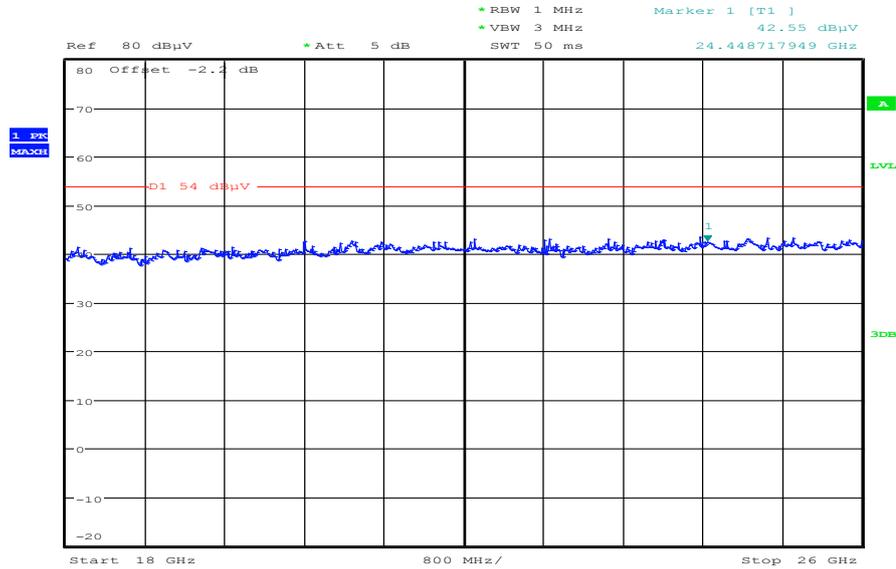
**Plot 32:** 1 GHz to 12.75 GHz, 5700 MHz, vertical & horizontal polarization



**Plot 33:** 12 GHz to 18 GHz, 5700 MHz, vertical & horizontal polarization

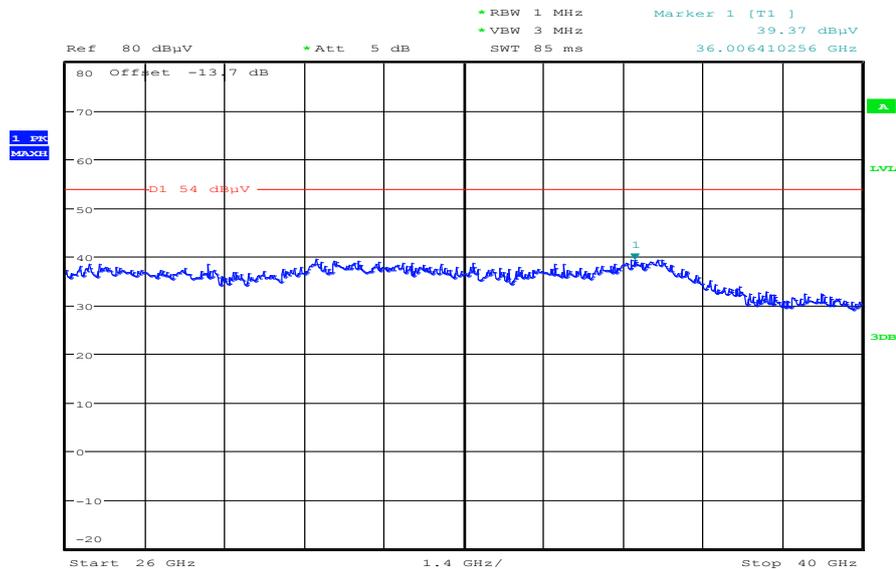


**Plot 34:** 18 GHz to 26 GHz, 5700 MHz, vertical & horizontal polarization



Date: 28.MAY.2014 14:15:30

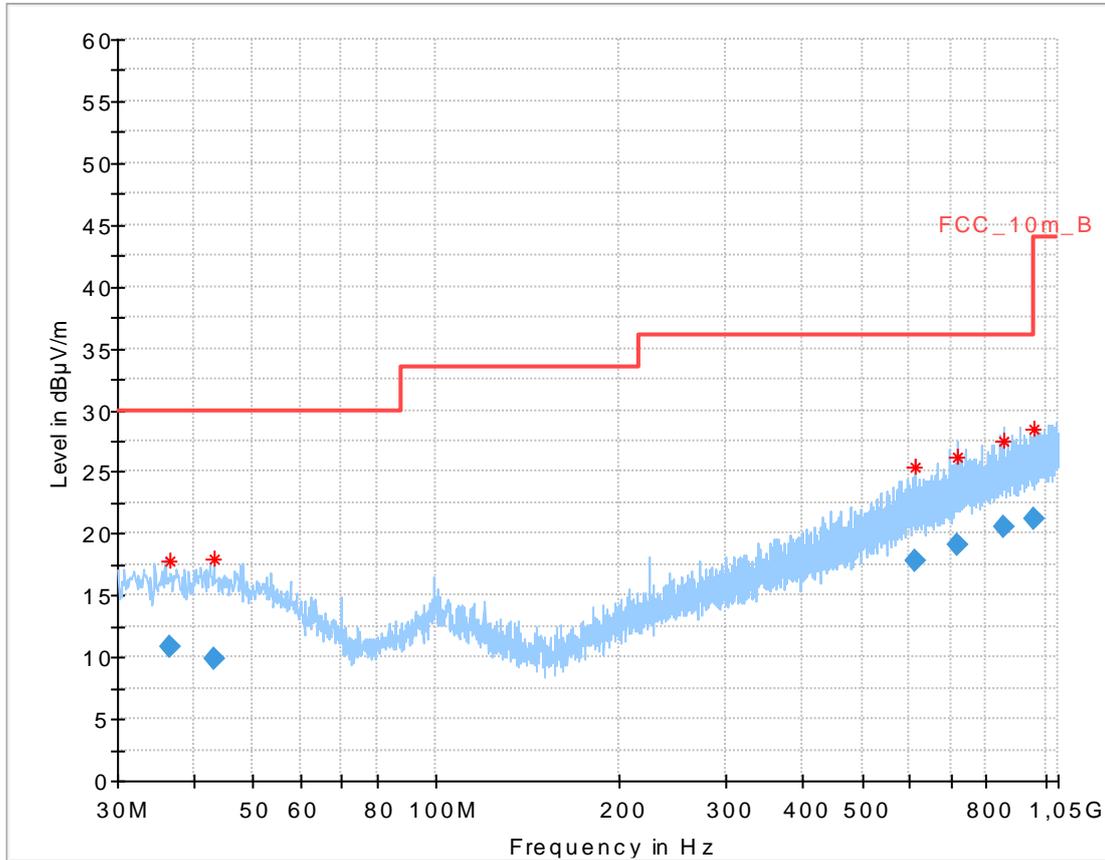
**Plot 35:** 26 GHz to 40 GHz, 5700 MHz, vertical & horizontal polarization



Date: 28.MAY.2014 15:08:43

**Plots:** OFDM / n/ac – mode HT40

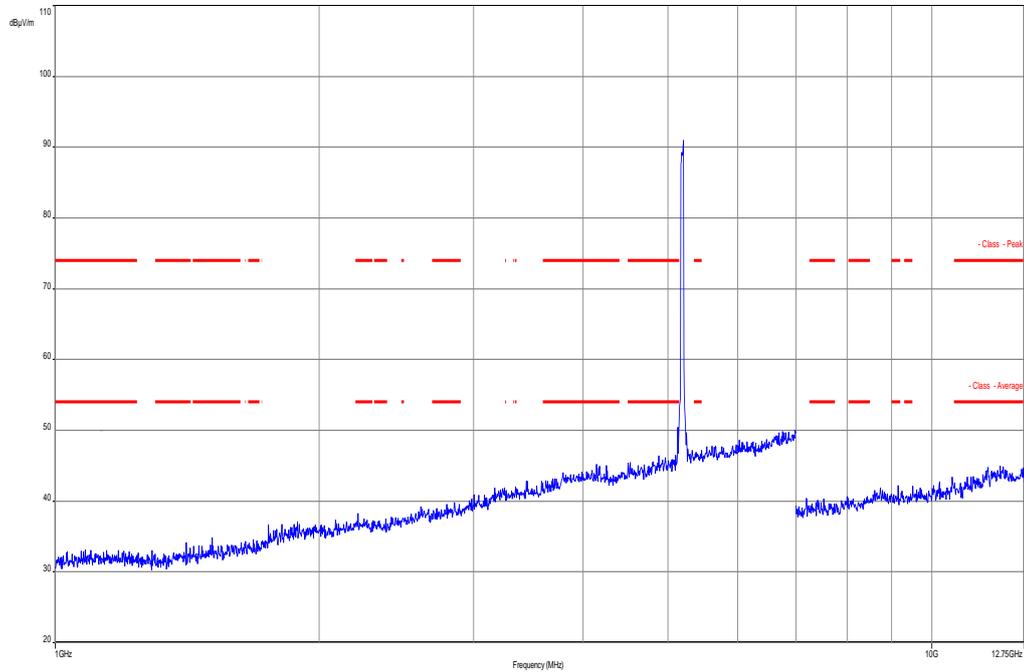
**Plot 1:** 30 MHz to 1 GHz, 5190 MHz, vertical & horizontal polarization



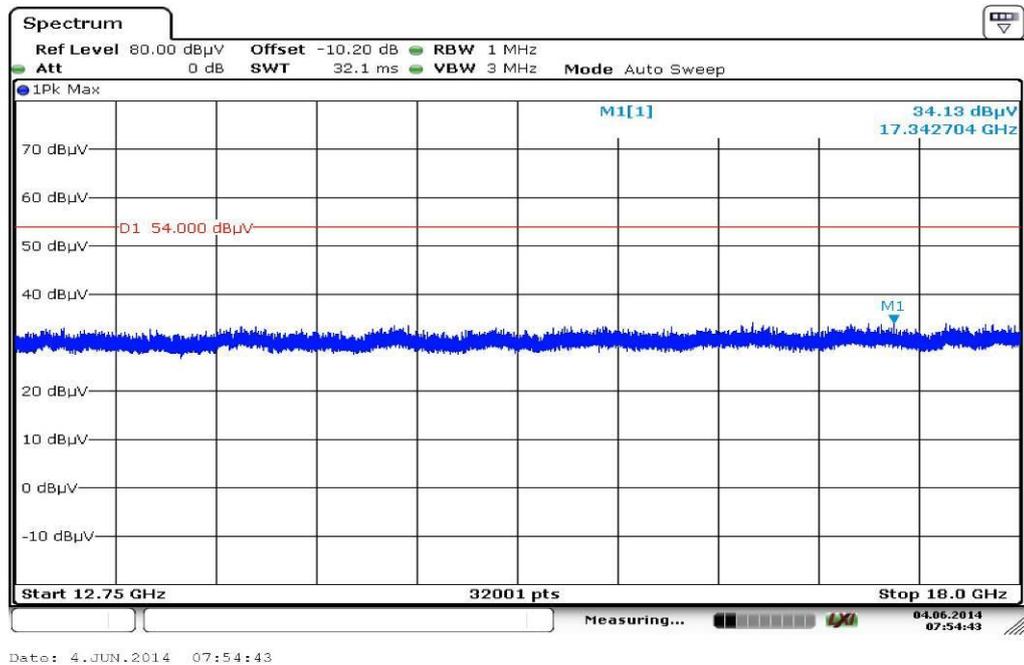
**Final results:**

Frequency (MHz)	Quasi Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
36.538500	10.88	30.00	19.12	1000.0	120.000	170.0	H	10.0	13.9
43.089000	9.93	30.00	20.07	1000.0	120.000	146.0	H	91.0	13.9
611.879700	17.84	36.00	18.16	1000.0	120.000	147.0	V	173.0	20.8
718.895400	19.04	36.00	16.96	1000.0	120.000	170.0	H	100.0	22.0
855.307950	20.57	36.00	15.43	1000.0	120.000	170.0	V	280.0	23.5
956.588550	21.25	36.00	14.75	1000.0	120.000	170.0	H	280.0	24.3

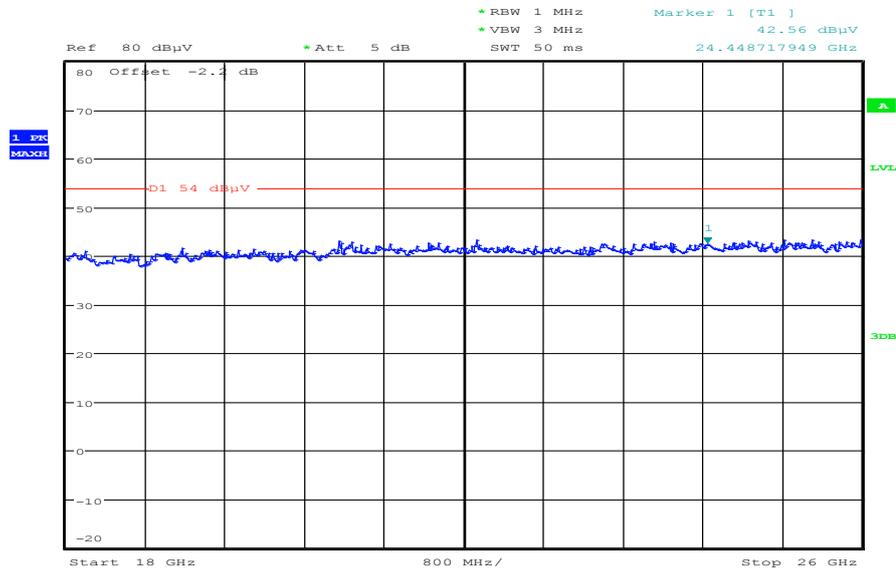
**Plot 2:** 1 GHz to 12.75 GHz, 5190 MHz, vertical & horizontal polarization



**Plot 3:** 12 GHz to 18 GHz, 5190 MHz, vertical & horizontal polarization

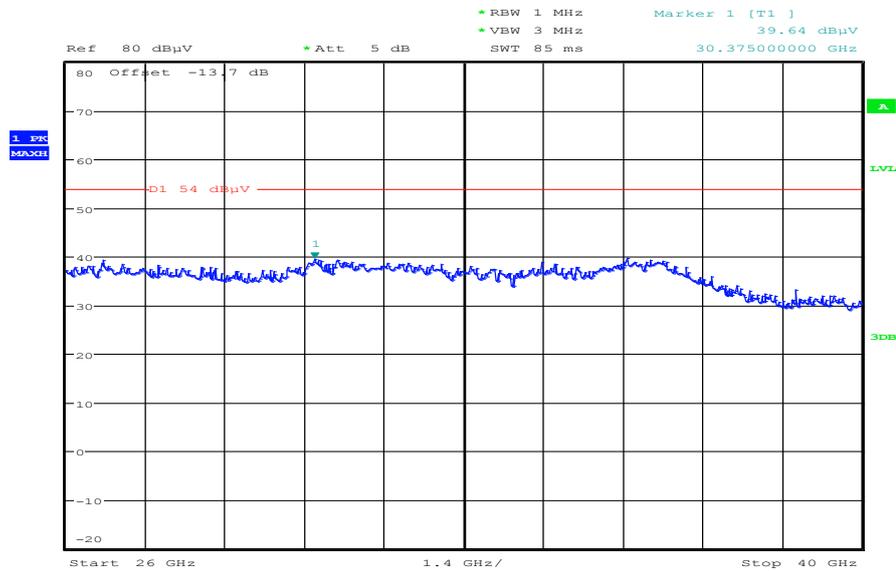


**Plot 4:** 18 GHz to 26 GHz, 5190 MHz, vertical & horizontal polarization



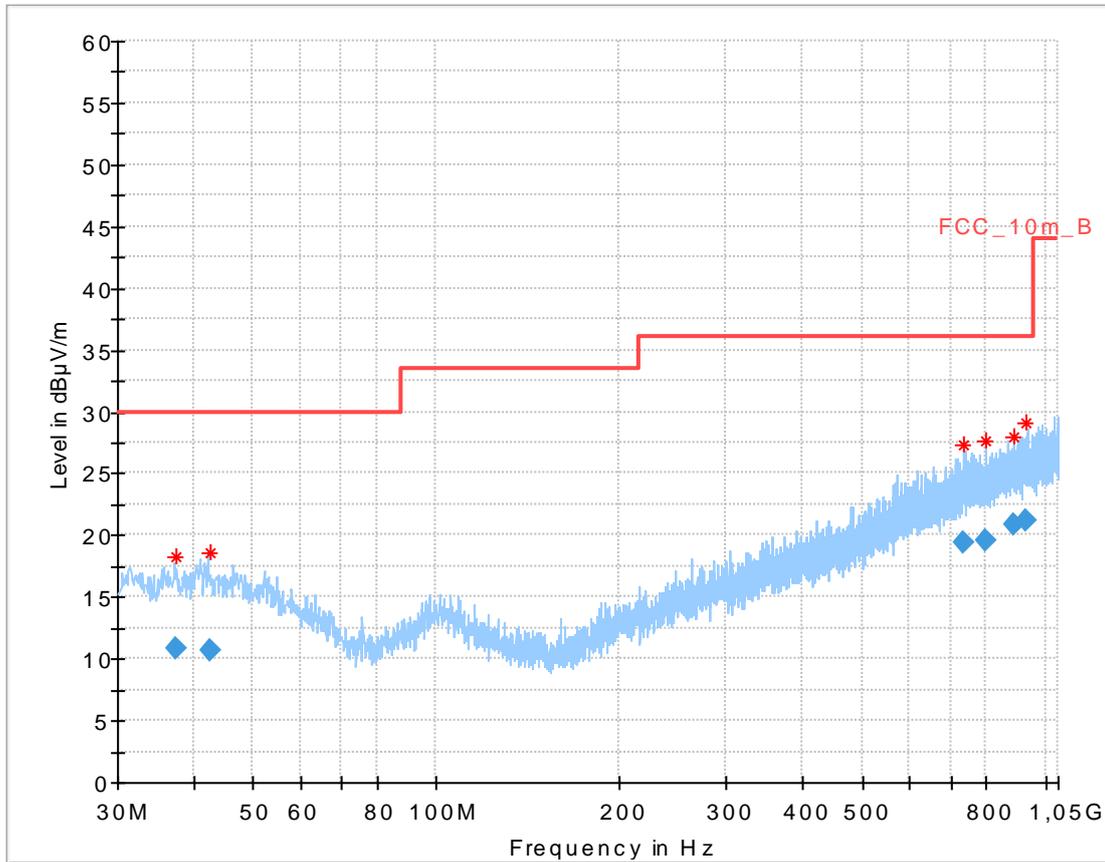
Date: 28.MAY.2014 14:20:11

**Plot 5:** 26 GHz to 40 GHz, 5190 MHz, vertical & horizontal polarization



Date: 28.MAY.2014 15:15:28

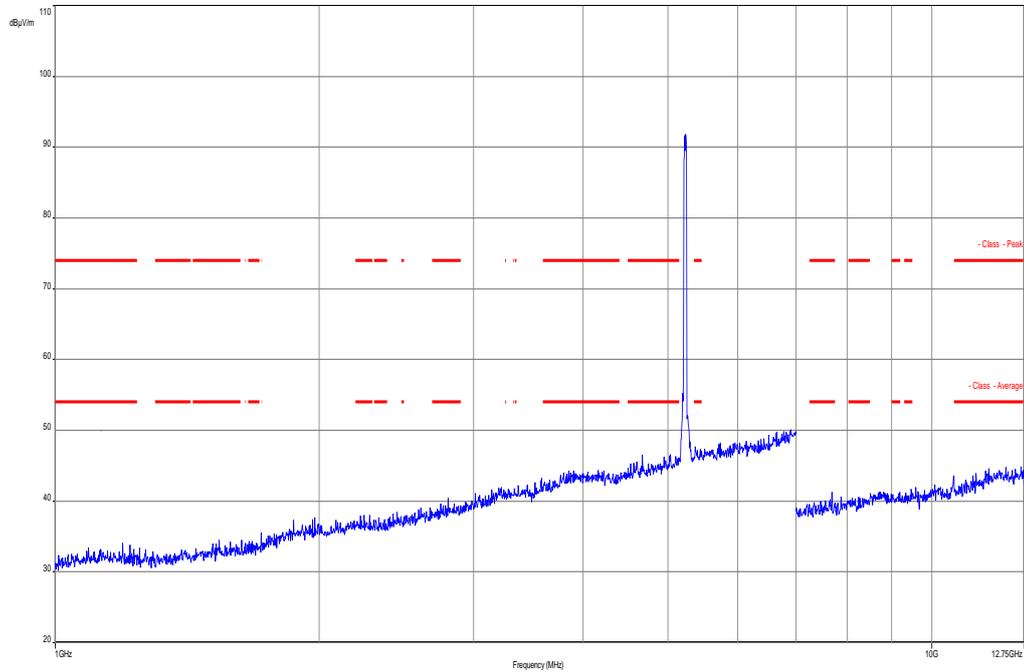
**Plot 6:** 30 MHz to 1 GHz, 5230 MHz, vertical & horizontal polarization



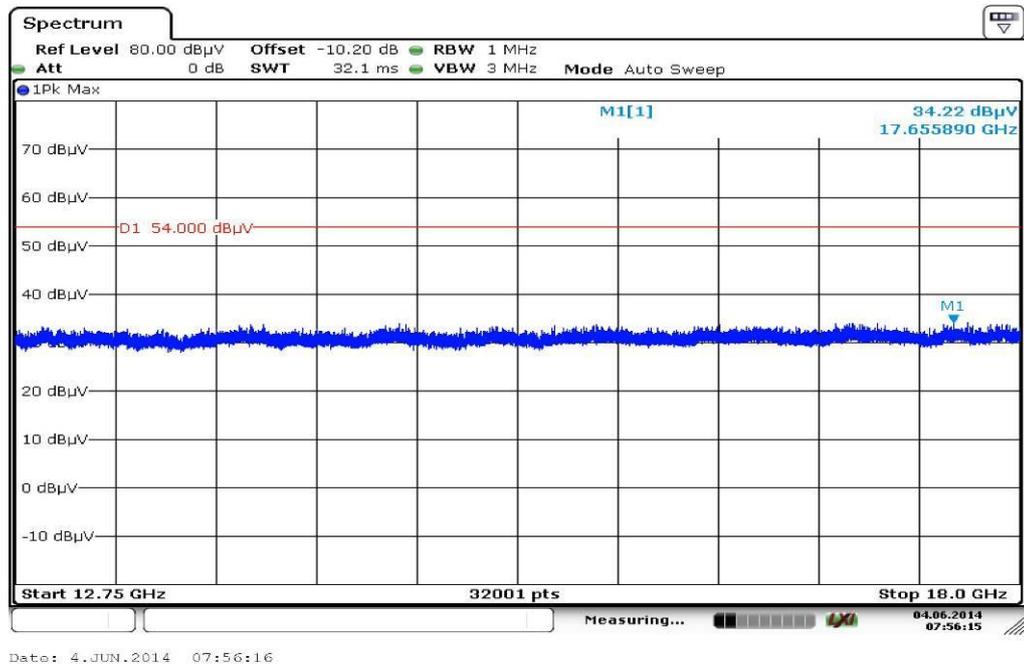
**Final results:**

Frequency (MHz)	Quasi Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
37.347450	10.78	30.00	19.22	1000.0	120.000	170.0	V	178.0	13.9
42.516750	10.61	30.00	19.39	1000.0	120.000	105.0	V	-7.0	13.9
734.502450	19.33	36.00	16.67	1000.0	120.000	98.0	H	170.0	22.3
800.442000	19.61	36.00	16.39	1000.0	120.000	170.0	V	280.0	22.7
889.165350	20.93	36.00	15.07	1000.0	120.000	98.0	V	280.0	24.0
933.114300	21.14	36.00	14.86	1000.0	120.000	165.0	H	280.0	24.2

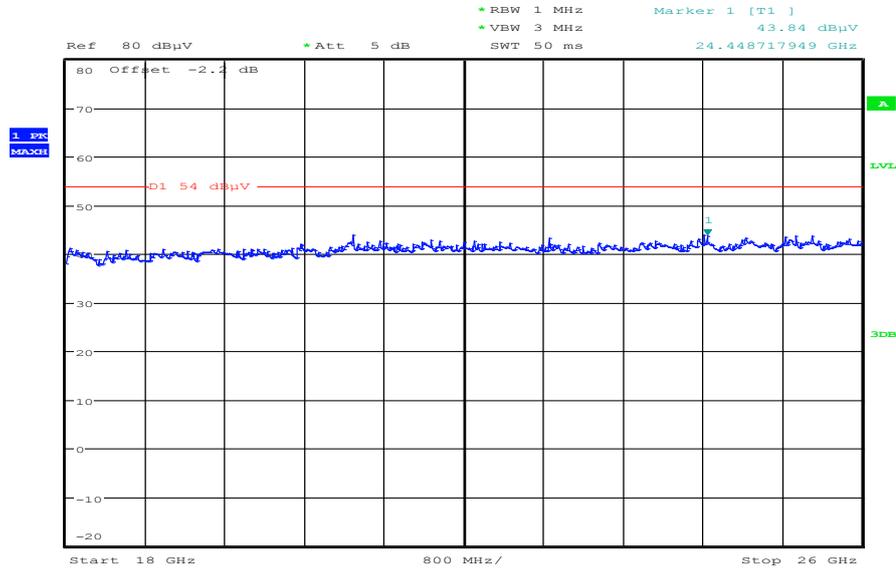
**Plot 7:** 1 GHz to 12.75 GHz, 5230 MHz, vertical & horizontal polarization



**Plot 8:** 12 GHz to 18 GHz, 5230 MHz, vertical & horizontal polarization

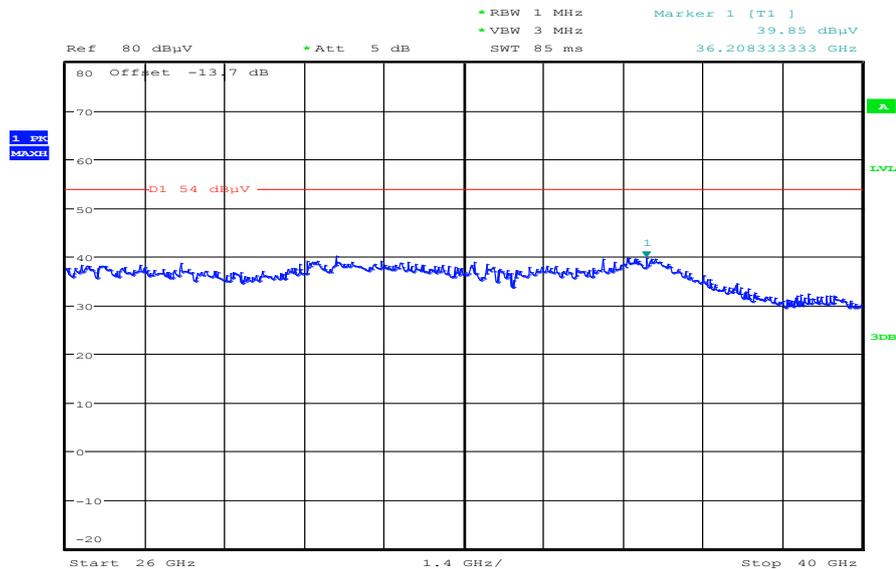


**Plot 9:** 18 GHz to 26 GHz, 5230 MHz, vertical & horizontal polarization



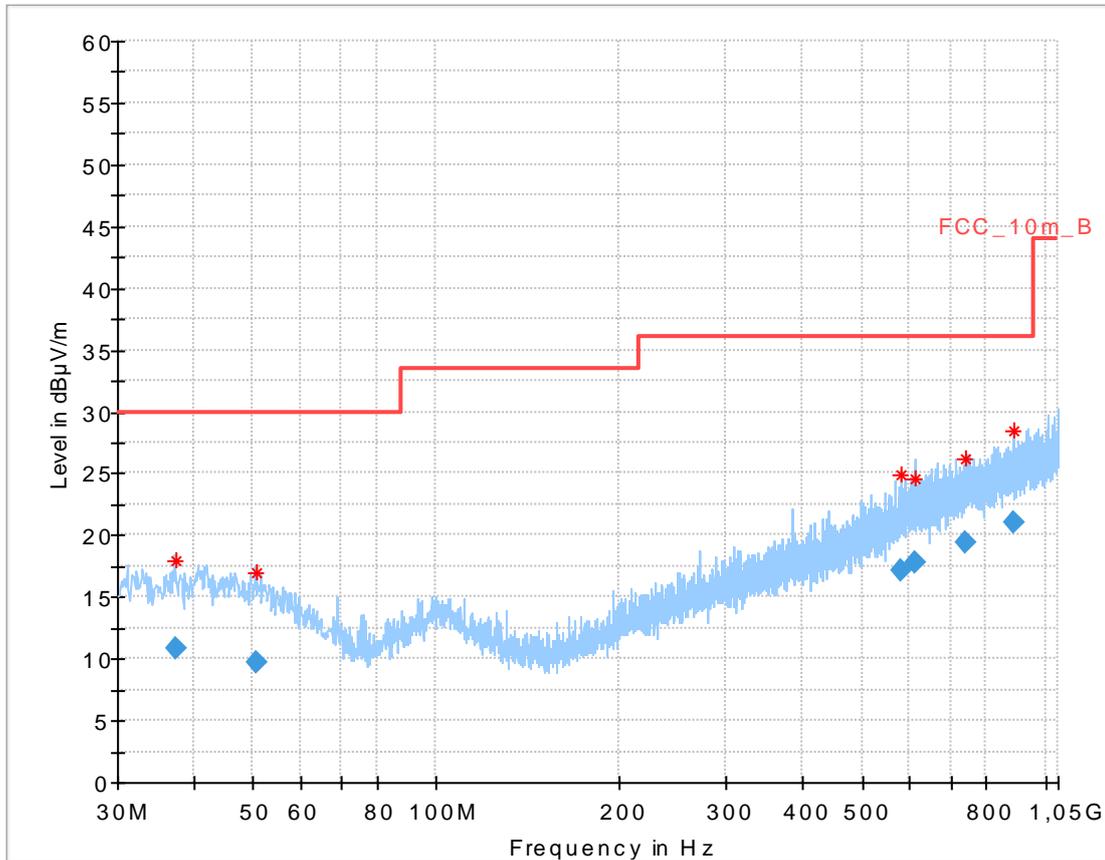
Date: 28.MAY.2014 14:21:01

**Plot 10:** 26 GHz to 40 GHz, 5230 MHz, vertical & horizontal polarization



Date: 28.MAY.2014 15:16:56

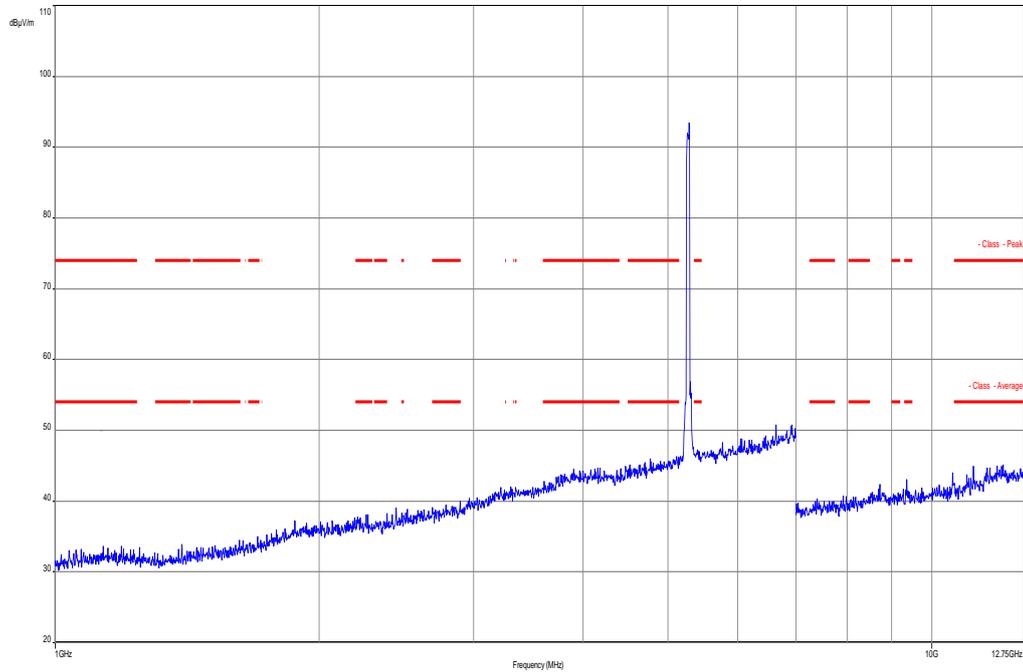
Plot 11: 30 MHz to 1 GHz, 5270 MHz, vertical & horizontal polarization



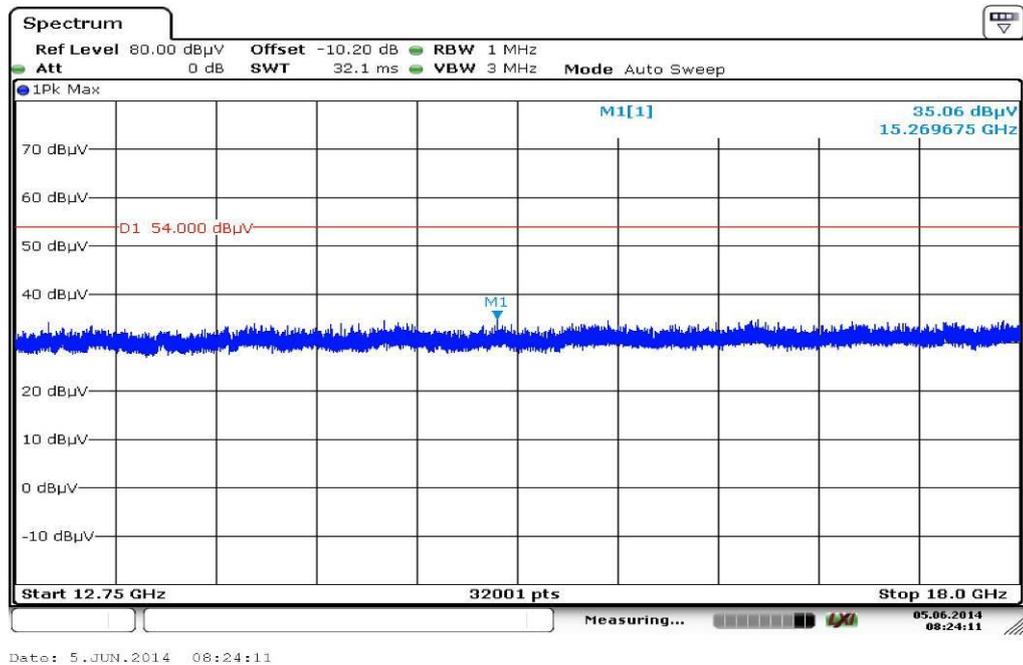
Final results:

Frequency (MHz)	Quasi Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
37.464150	10.79	30.00	19.21	1000.0	120.000	101.0	V	176.0	13.9
50.633400	9.66	30.00	20.34	1000.0	120.000	101.0	V	190.0	13.5
578.262750	17.18	36.00	18.82	1000.0	120.000	170.0	H	181.0	20.1
609.341550	17.72	36.00	18.28	1000.0	120.000	170.0	V	100.0	20.8
738.079050	19.45	36.00	16.55	1000.0	120.000	170.0	H	190.0	22.4
887.980950	21.04	36.00	14.96	1000.0	120.000	115.0	H	280.0	24.0

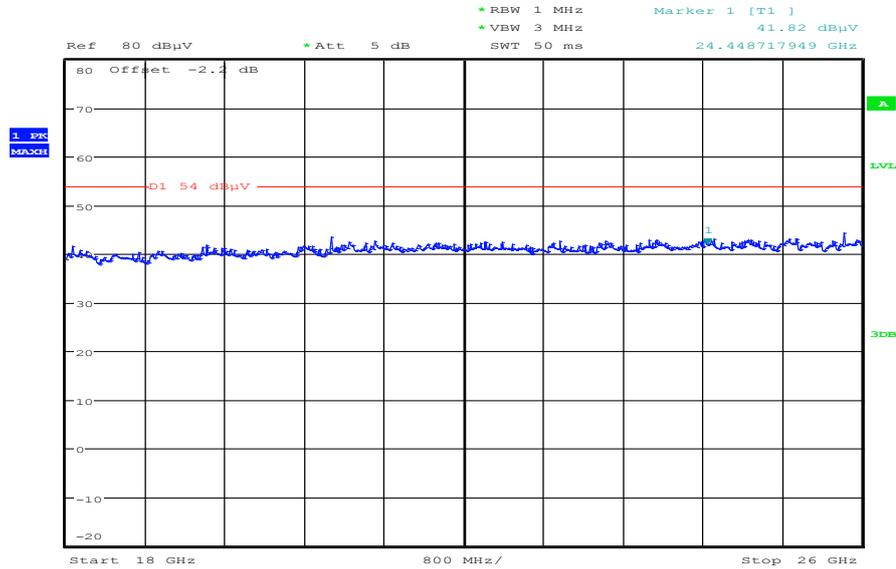
**Plot 12:** 1 GHz to 12.75 GHz, 5270 MHz, vertical & horizontal polarization



**Plot 13:** 12 GHz to 18 GHz, 5270 MHz, vertical & horizontal polarization

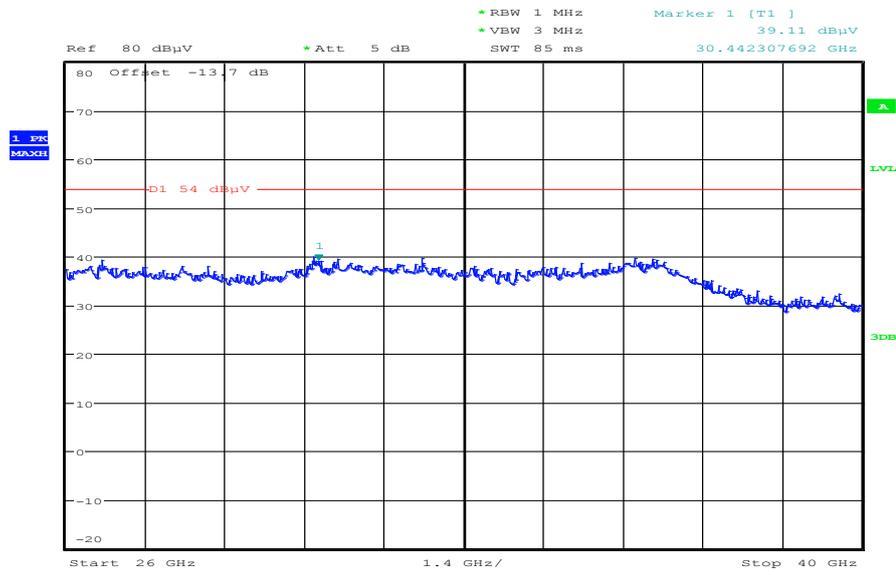


Plot 14: 18 GHz to 26 GHz, 5270 MHz, vertical & horizontal polarization



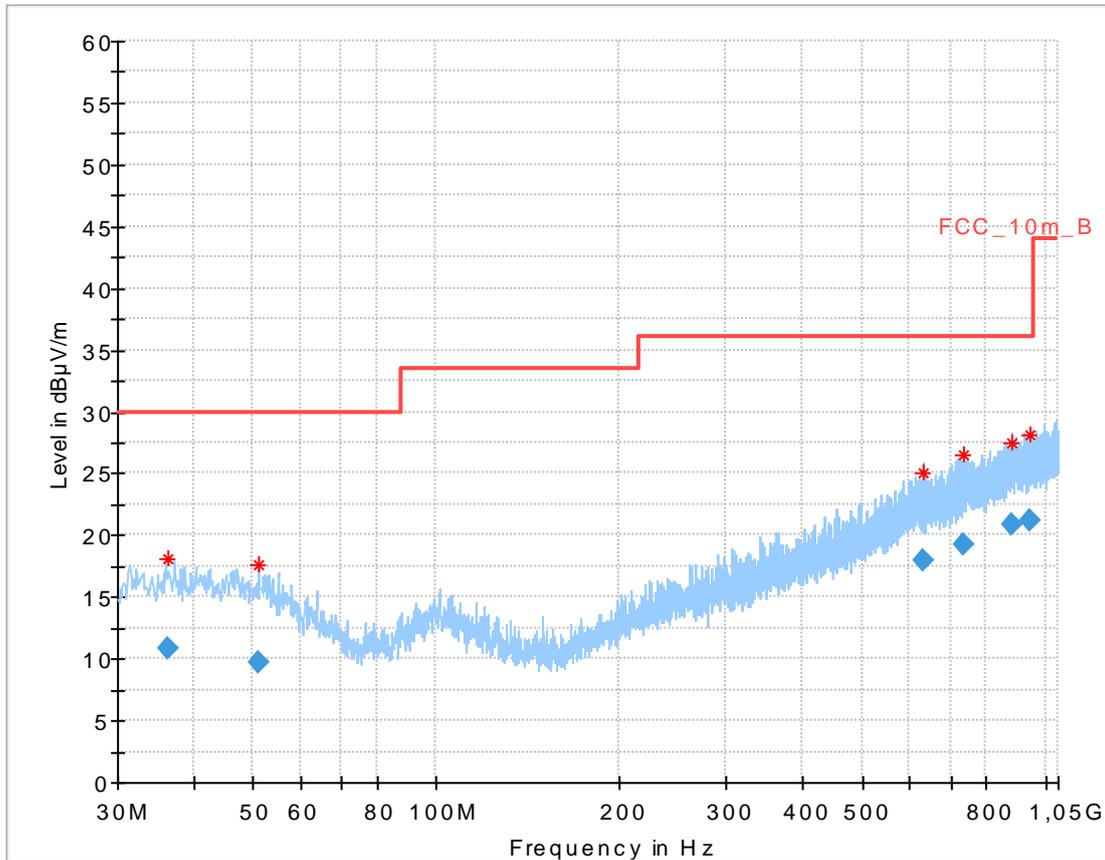
Date: 28.MAY.2014 14:21:53

Plot 15: 26 GHz to 40 GHz, 5270 MHz, vertical & horizontal polarization



Date: 28.MAY.2014 15:17:45

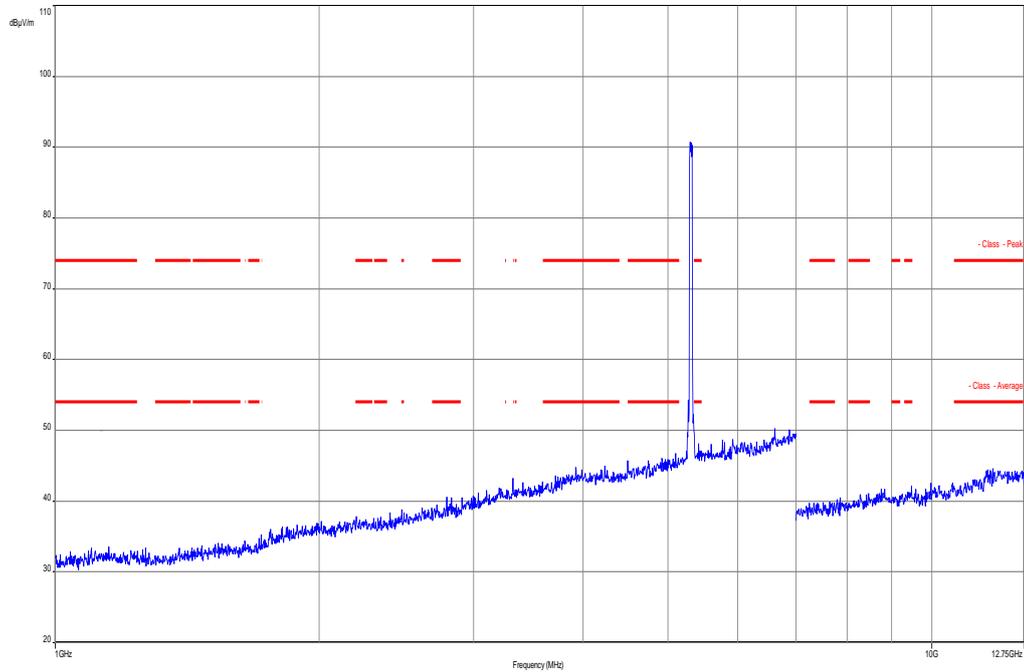
**Plot 16:** 30 MHz to 1 GHz, 5310 MHz, vertical & horizontal polarization



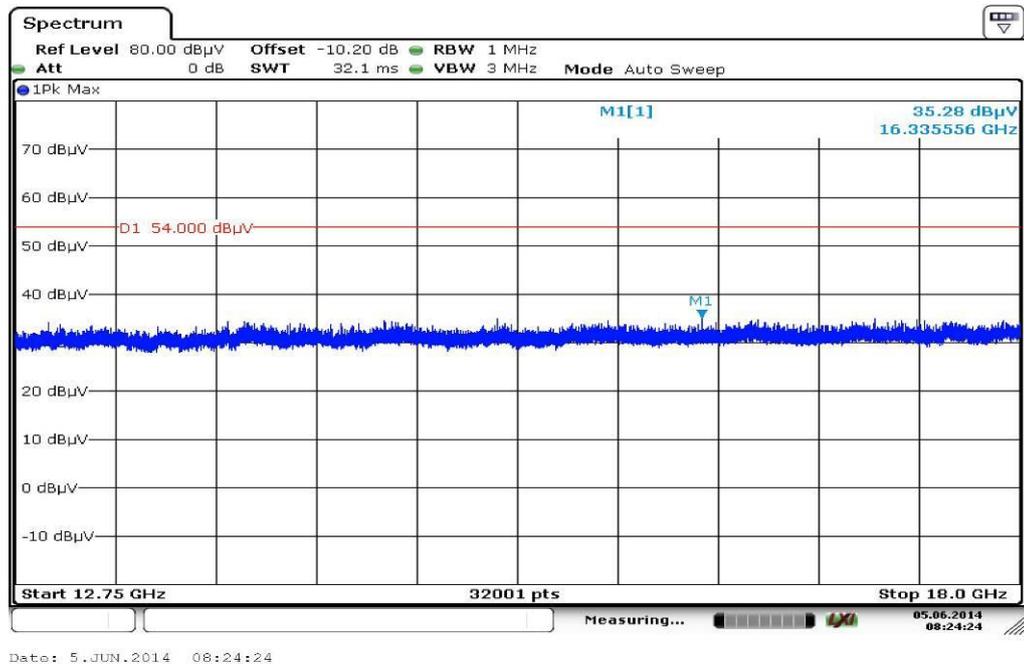
**Final results:**

Frequency (MHz)	Quasi Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
36.352500	10.88	30.00	19.12	1000.0	120.000	170.0	H	190.0	13.9
51.021600	9.77	30.00	20.23	1000.0	120.000	170.0	H	4.0	13.5
631.226550	17.98	36.00	18.02	1000.0	120.000	170.0	V	184.0	21.0
732.720600	19.31	36.00	16.69	1000.0	120.000	164.0	V	268.0	22.3
878.860350	20.93	36.00	15.07	1000.0	120.000	170.0	H	190.0	23.8
947.370450	21.14	36.00	14.86	1000.0	120.000	170.0	H	190.0	24.3

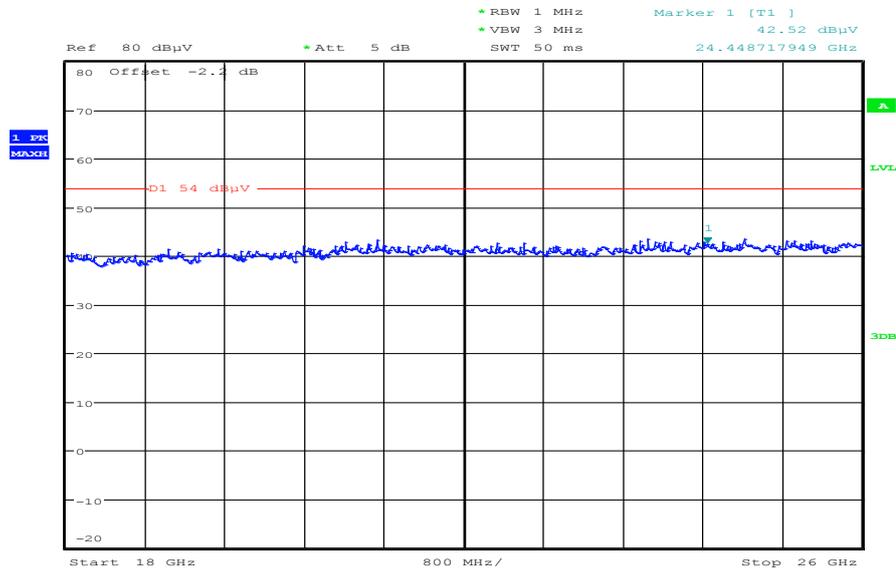
Plot 17: 1 GHz to 12.75 GHz, 5310 MHz, vertical & horizontal polarization



Plot 18: 12 GHz to 18 GHz, 5310 MHz, vertical & horizontal polarization

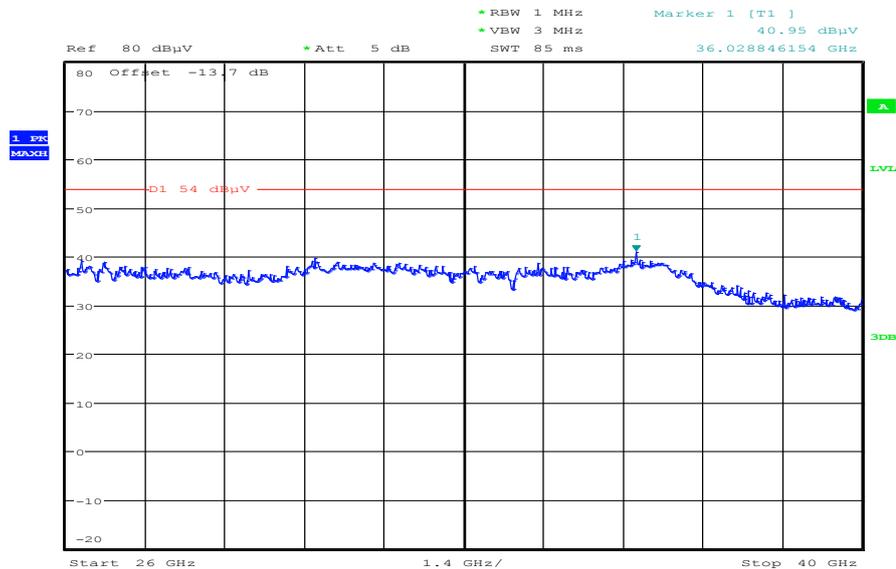


**Plot 19:** 18 GHz to 26 GHz, 5310 MHz, vertical & horizontal polarization



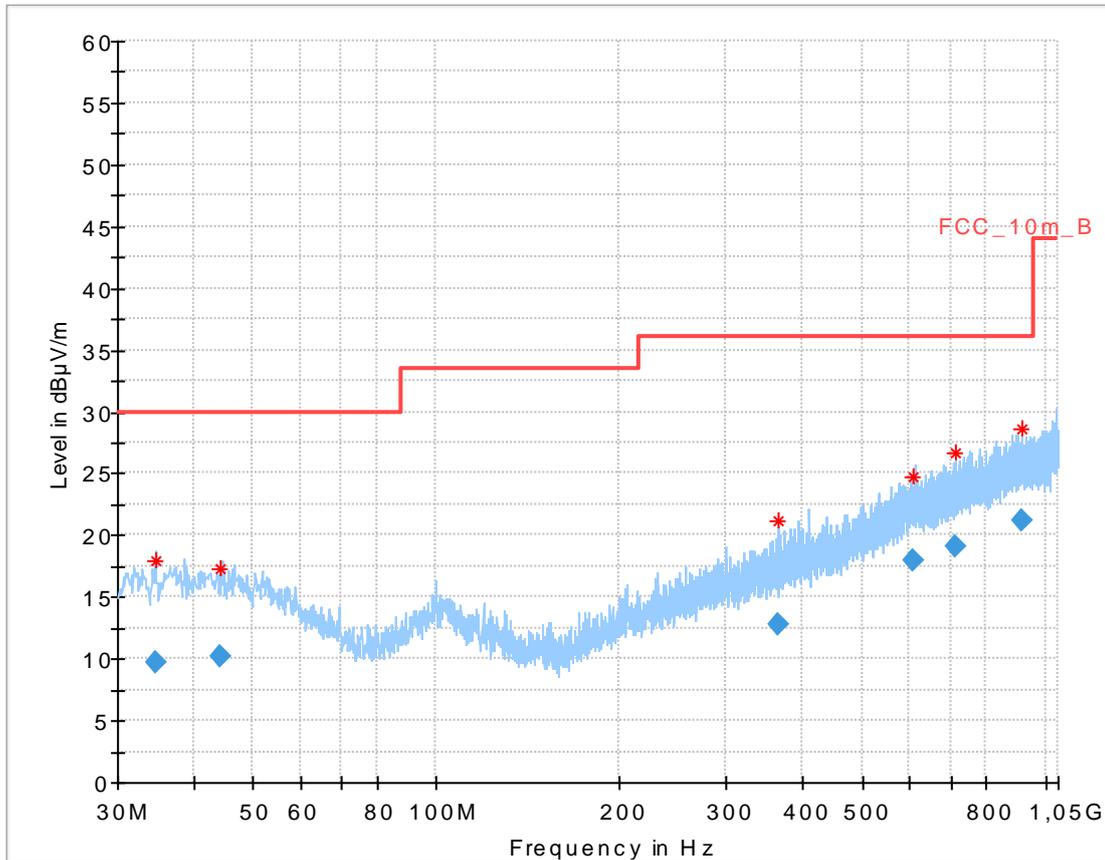
Date: 28.MAY.2014 14:16:27

**Plot 20:** 26 GHz to 40 GHz, 5310 MHz, vertical & horizontal polarization



Date: 28.MAY.2014 15:18:44

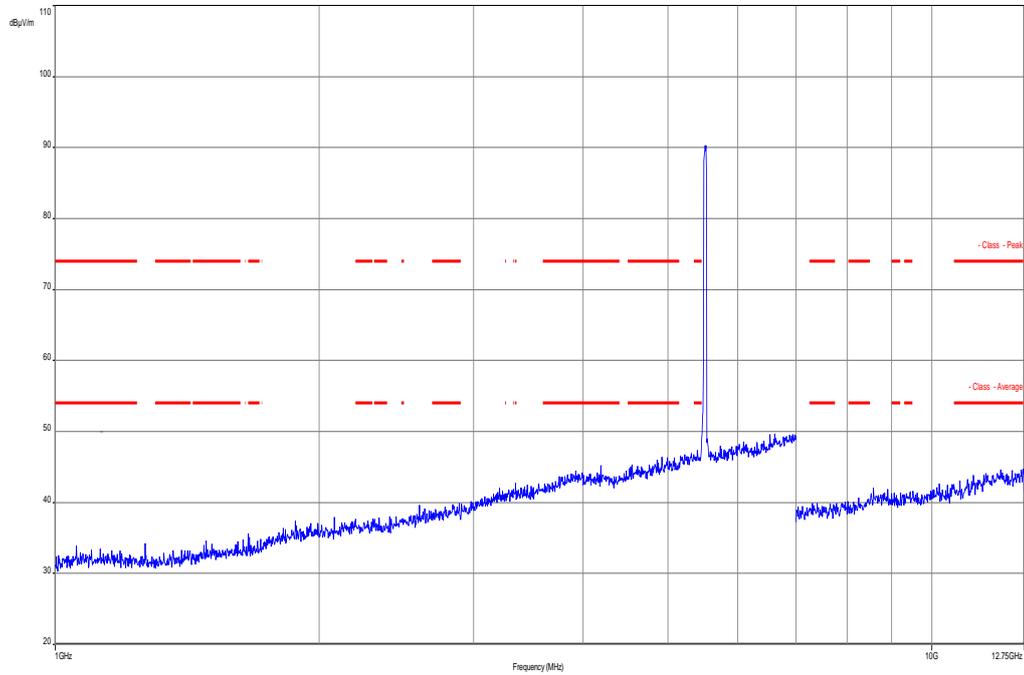
**Plot 21:** 30 MHz to 1 GHz, 5510 MHz, vertical & horizontal polarization



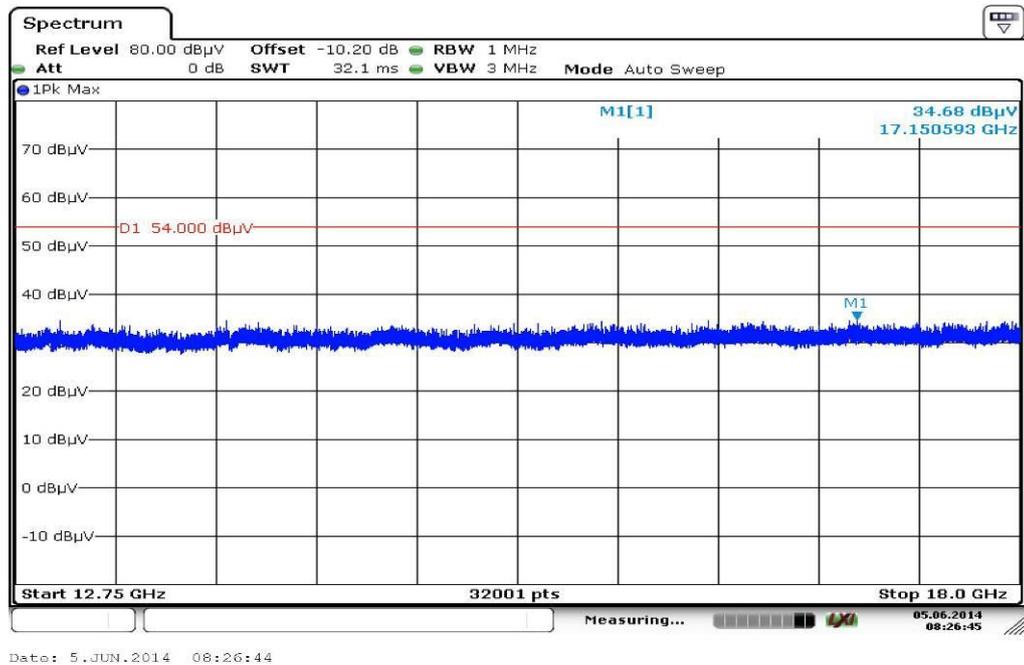
**Final results:**

Frequency (MHz)	Quasi Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
34.552350	9.70	30.00	20.30	1000.0	120.000	170.0	H	173.0	13.8
44.212200	10.25	30.00	19.75	1000.0	120.000	101.0	V	280.0	13.9
364.408200	12.75	36.00	23.25	1000.0	120.000	170.0	V	266.0	16.3
609.091800	17.90	36.00	18.10	1000.0	120.000	170.0	V	-8.0	20.8
709.875300	19.04	36.00	16.96	1000.0	120.000	170.0	V	181.0	21.8
917.473500	21.23	36.00	14.77	1000.0	120.000	170.0	V	-9.0	24.2

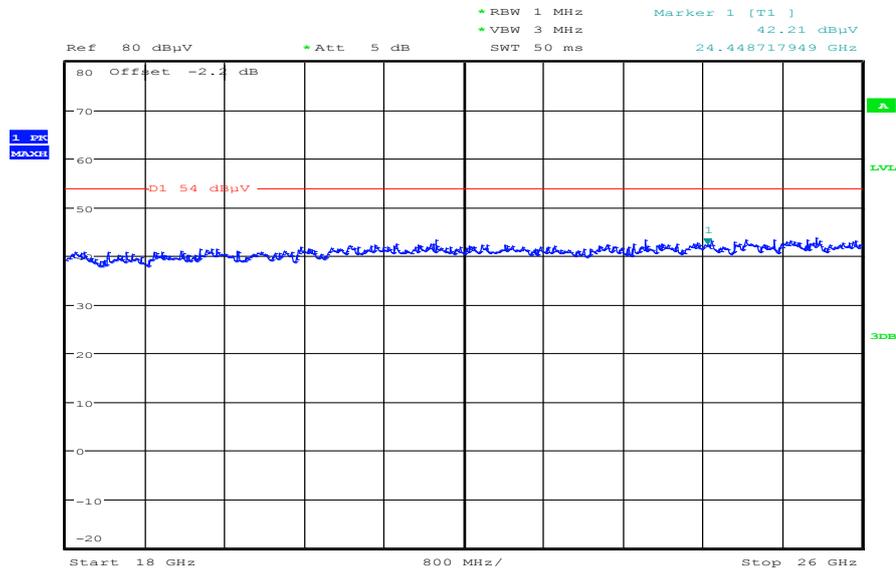
**Plot 22:** 1 GHz to 12.75 GHz, 5510 MHz, vertical & horizontal polarization



**Plot 23:** 12 GHz to 18 GHz, 5510 MHz, vertical & horizontal polarization

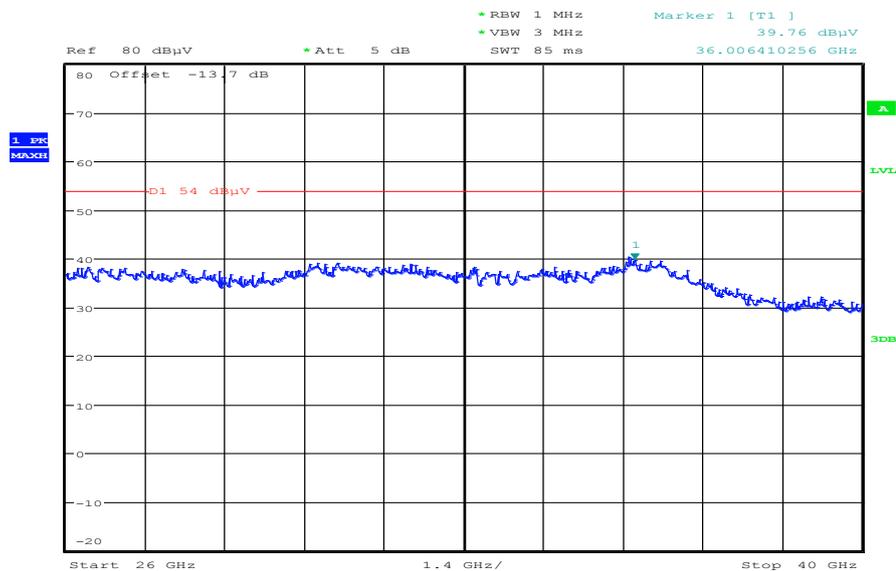


**Plot 24:** 18 GHz to 26 GHz, 5510 MHz, vertical & horizontal polarization



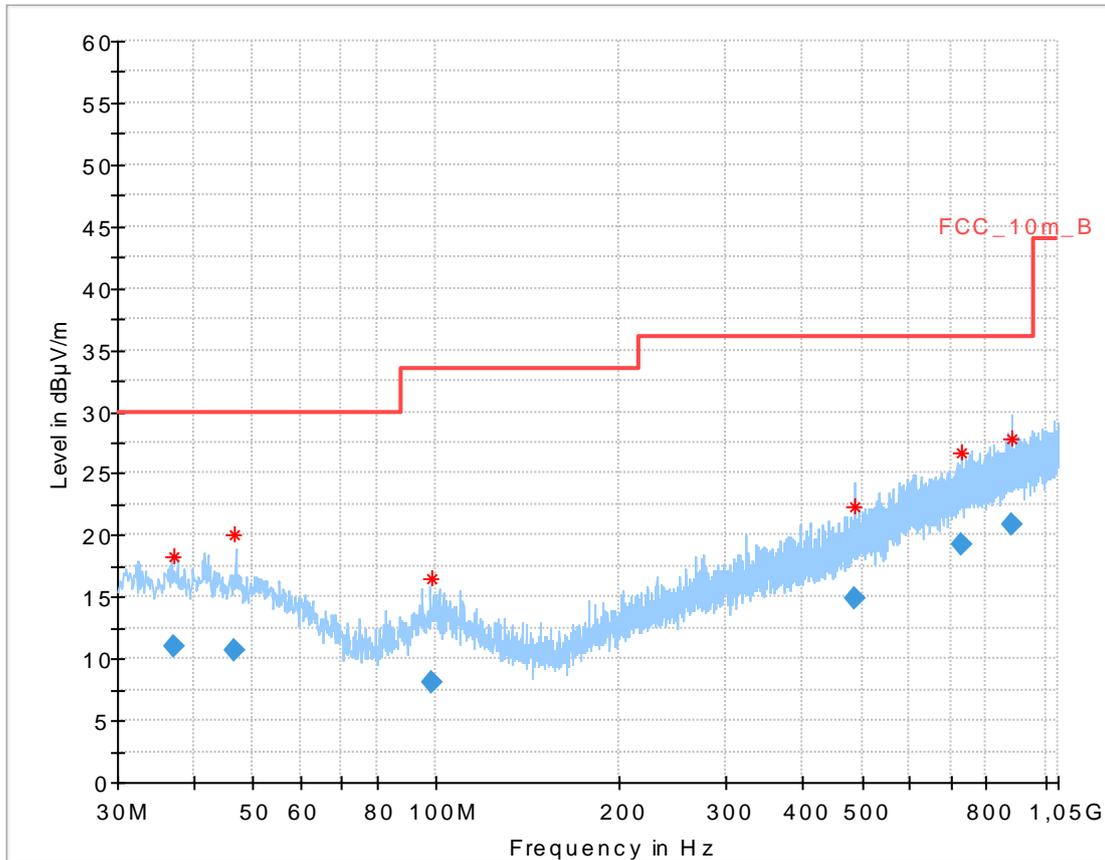
Date: 28.MAY.2014 14:24:47

**Plot 25:** 26 GHz to 40 GHz, 5510 MHz, vertical & horizontal polarization



Date: 28.MAY.2014 15:19:40

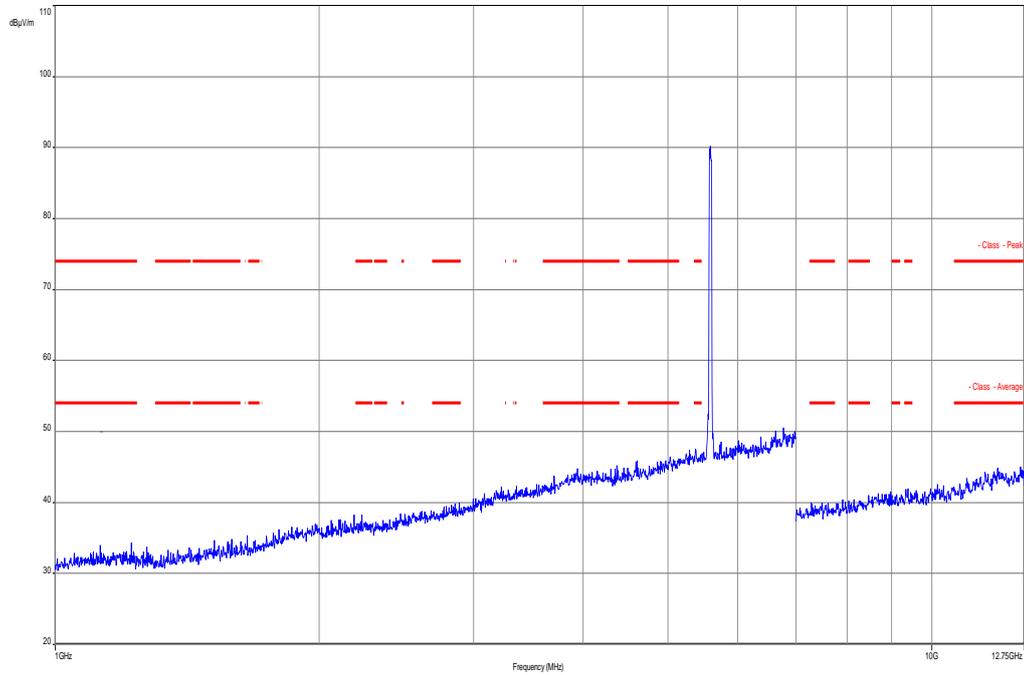
**Plot 26:** 30 MHz to 1 GHz, 5590 MHz, vertical & horizontal polarization



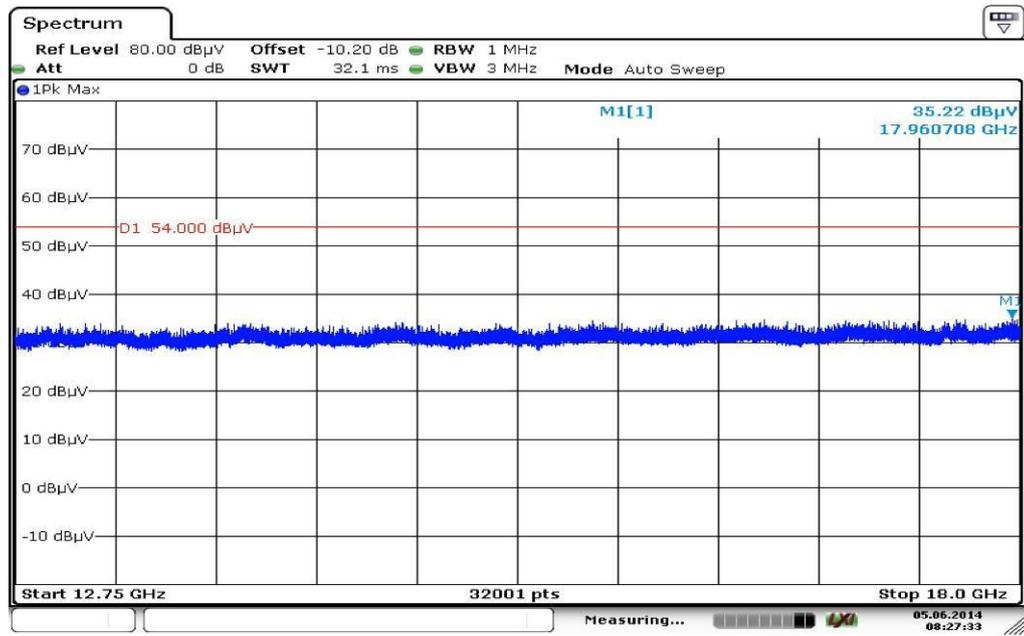
**Final results:**

Frequency (MHz)	Quasi Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
37.064550	11.00	30.00	19.00	1000.0	120.000	170.0	V	280.0	13.9
46.555650	10.63	30.00	19.37	1000.0	120.000	98.0	V	173.0	13.8
98.072250	8.07	33.50	25.43	1000.0	120.000	106.0	H	100.0	11.9
486.664800	14.83	36.00	21.17	1000.0	120.000	134.0	H	-9.0	18.4
725.895300	19.20	36.00	16.80	1000.0	120.000	170.0	V	280.0	22.1
878.548500	20.94	36.00	15.06	1000.0	120.000	160.0	V	260.0	23.8

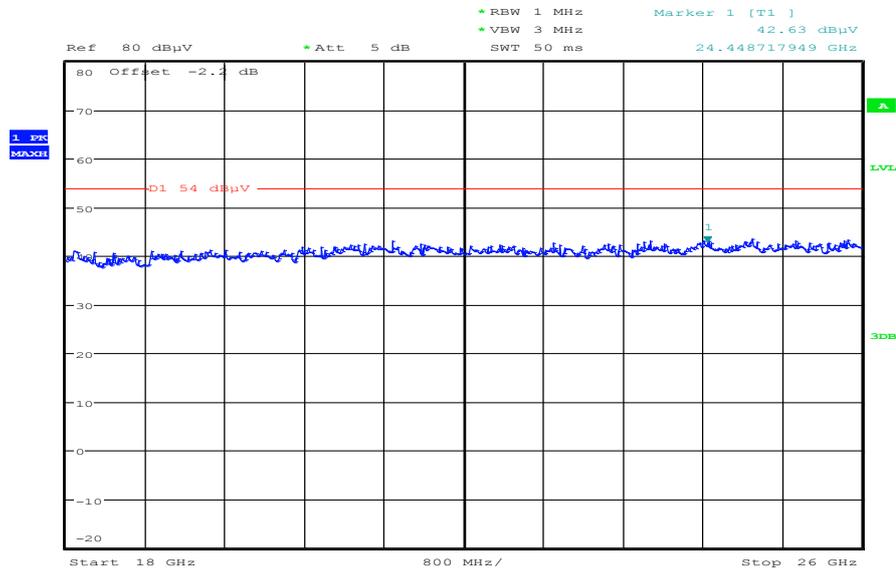
**Plot 27:** 1 GHz to 12.75 GHz, 5590 MHz, vertical & horizontal polarization



**Plot 28:** 12 GHz to 18 GHz, 5590 MHz, vertical & horizontal polarization

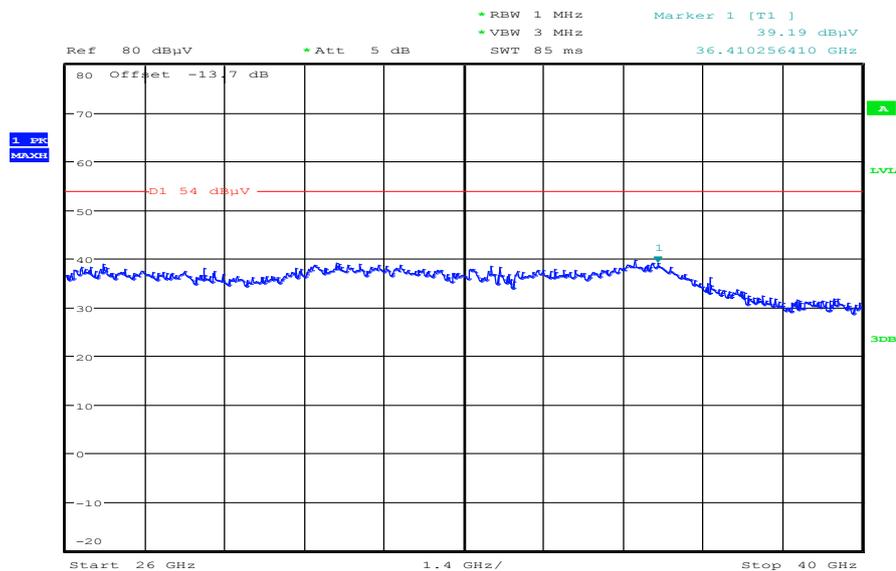


**Plot 29:** 18 GHz to 26 GHz, 5590 MHz, vertical & horizontal polarization



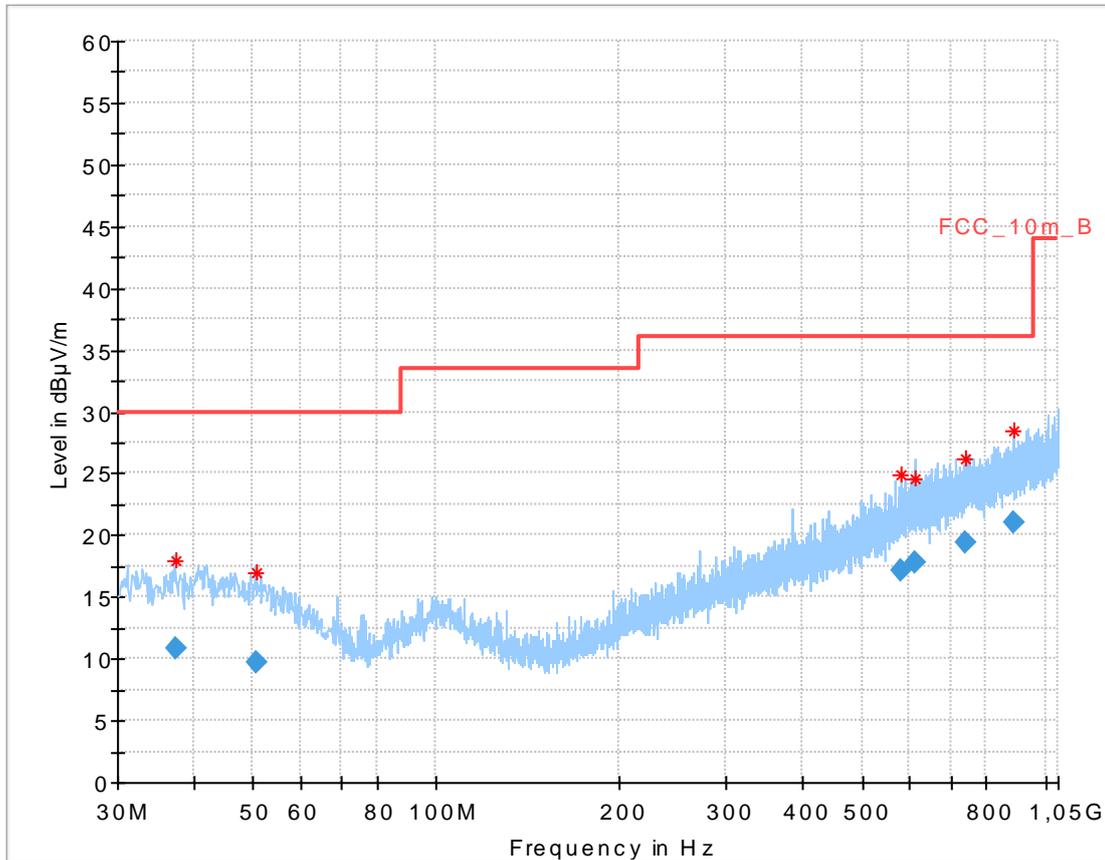
Date: 28.MAY.2014 14:25:32

**Plot 30:** 26 GHz to 40 GHz, 5590 MHz, vertical & horizontal polarization



Date: 28.MAY.2014 15:20:43

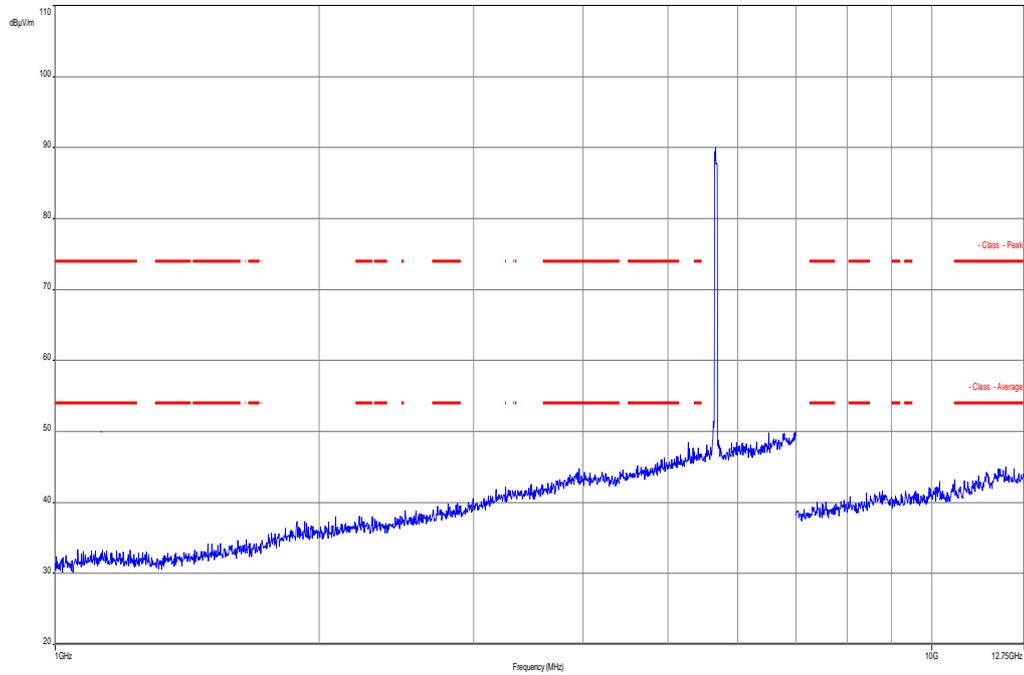
**Plot 31:** 30 MHz to 1 GHz, 5670 MHz, vertical & horizontal polarization



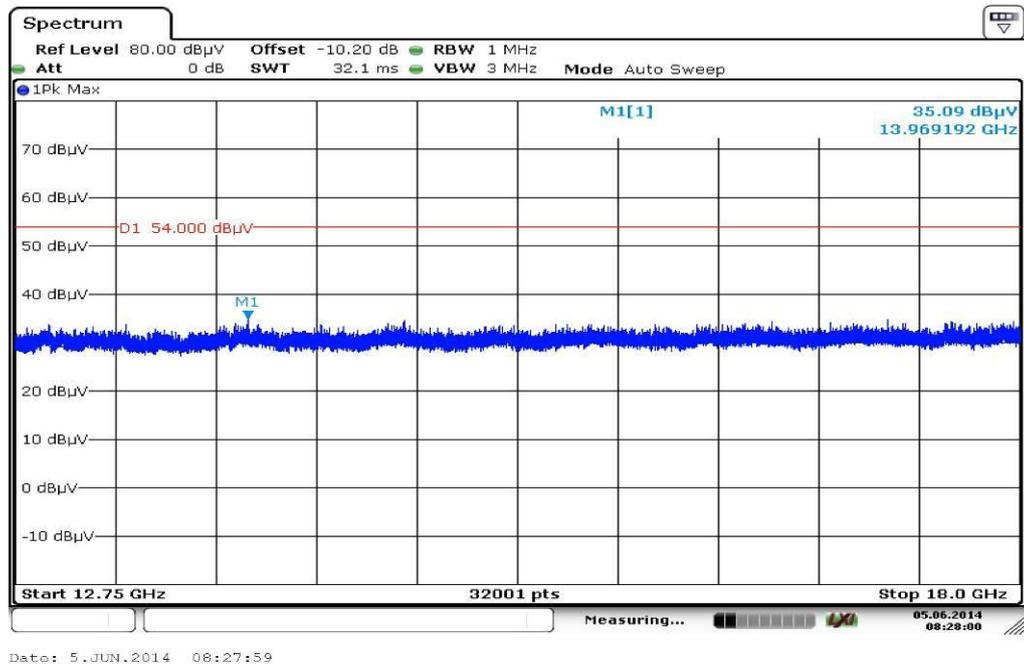
**Final results:**

Frequency (MHz)	Quasi Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
37.464150	10.79	30.00	19.21	1000.0	120.000	101.0	V	176.0	13.9
50.633400	9.66	30.00	20.34	1000.0	120.000	101.0	V	190.0	13.5
578.262750	17.18	36.00	18.82	1000.0	120.000	170.0	H	181.0	20.1
609.341550	17.72	36.00	18.28	1000.0	120.000	170.0	V	100.0	20.8
738.079050	19.45	36.00	16.55	1000.0	120.000	170.0	H	190.0	22.4
887.980950	21.04	36.00	14.96	1000.0	120.000	115.0	H	280.0	24.0

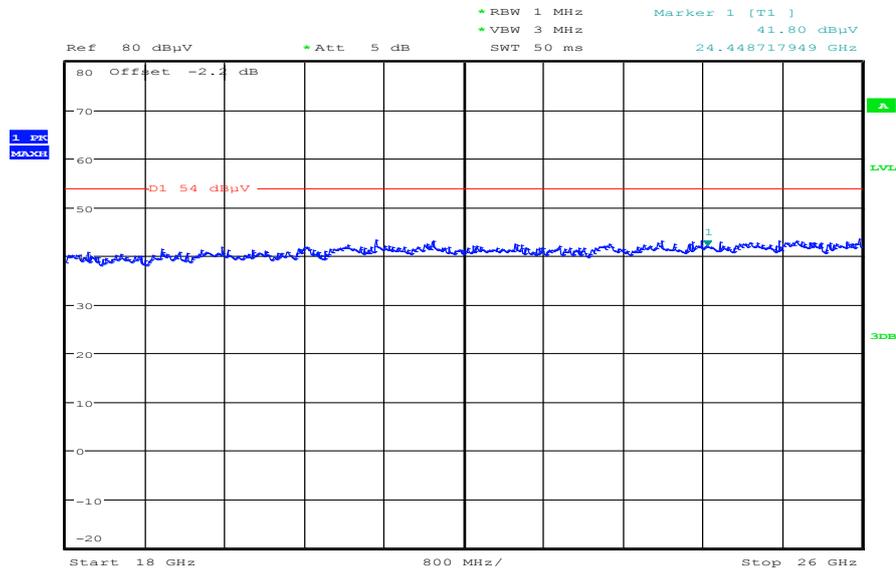
**Plot 32:** 1 GHz to 12.75 GHz, 5670 MHz, vertical & horizontal polarization



**Plot 33:** 12 GHz to 18 GHz, 5670 MHz, vertical & horizontal polarization

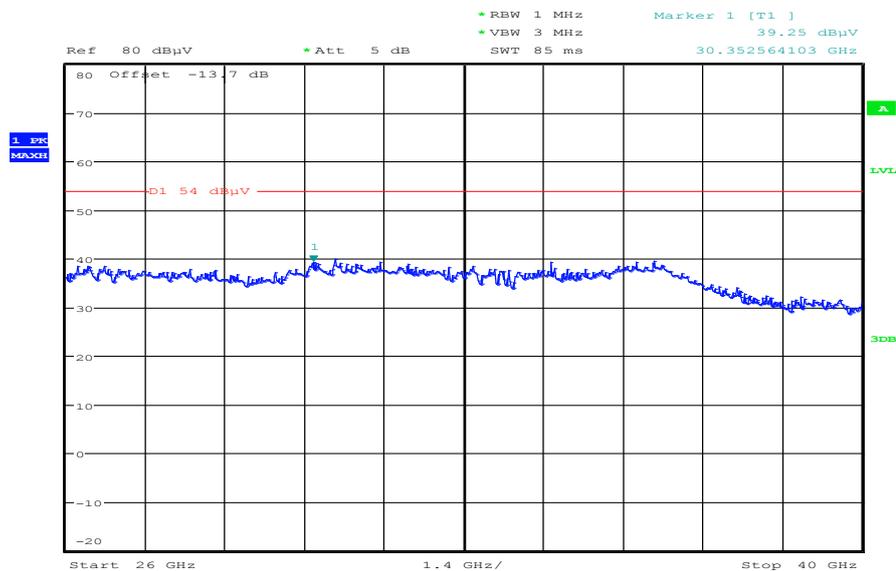


**Plot 34:** 18 GHz to 26 GHz, 5670 MHz, vertical & horizontal polarization



Date: 28.MAY.2014 14:26:27

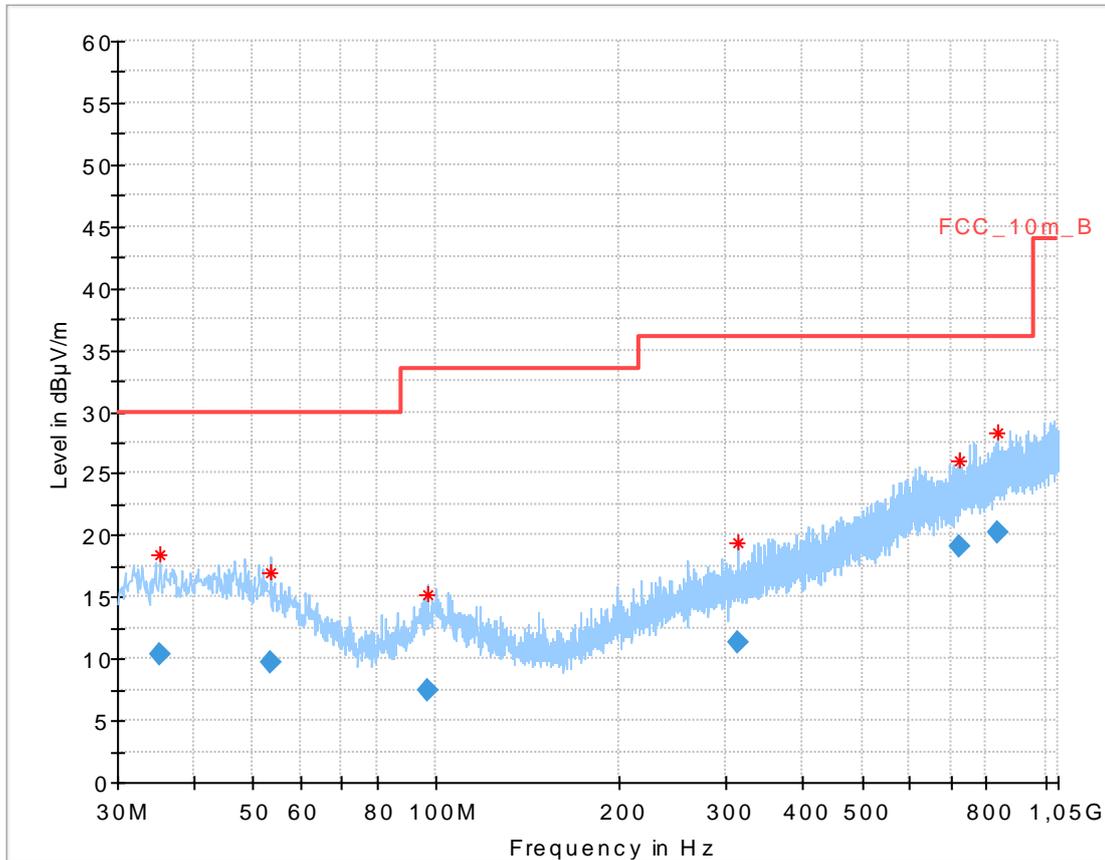
**Plot 35:** 26 GHz to 40 GHz, 5670 MHz, vertical & horizontal polarization



Date: 28.MAY.2014 15:22:15

**Plots:** OFDM / ac – mode HT80

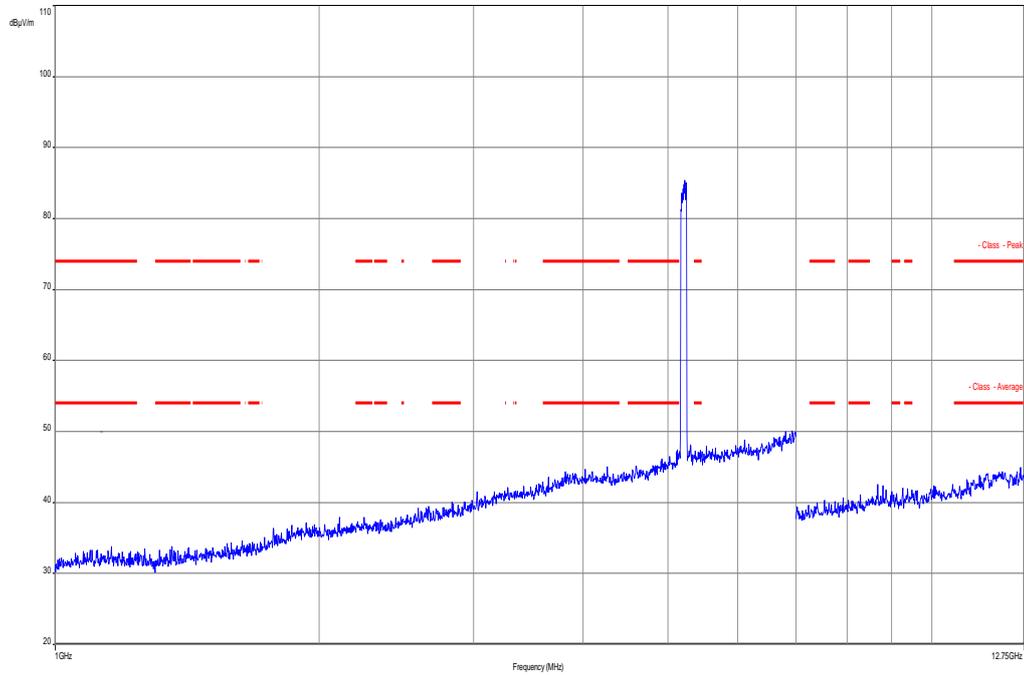
**Plot 1:** 30 MHz to 1 GHz, 5210 MHz, vertical & horizontal polarization



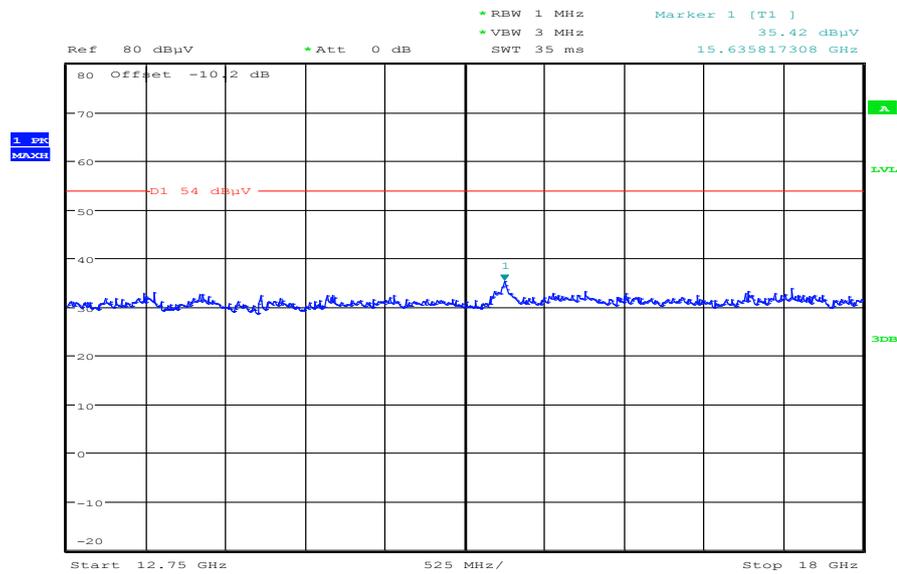
**Final results:**

Frequency (MHz)	Quasi Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
35.131950	10.29	30.00	19.71	1000.0	120.000	101.0	V	100.0	13.8
53.313900	9.64	30.00	20.36	1000.0	120.000	105.0	V	183.0	13.1
97.137900	7.43	33.50	26.07	1000.0	120.000	170.0	V	280.0	11.7
313.993950	11.30	36.00	24.70	1000.0	120.000	101.0	H	88.0	14.9
720.521100	19.06	36.00	16.94	1000.0	120.000	134.0	V	-6.0	22.0
836.711850	20.29	36.00	15.71	1000.0	120.000	156.0	H	266.0	23.3

**Plot 2:** 1 GHz to 12.75 GHz, 5210 MHz, vertical & horizontal polarization

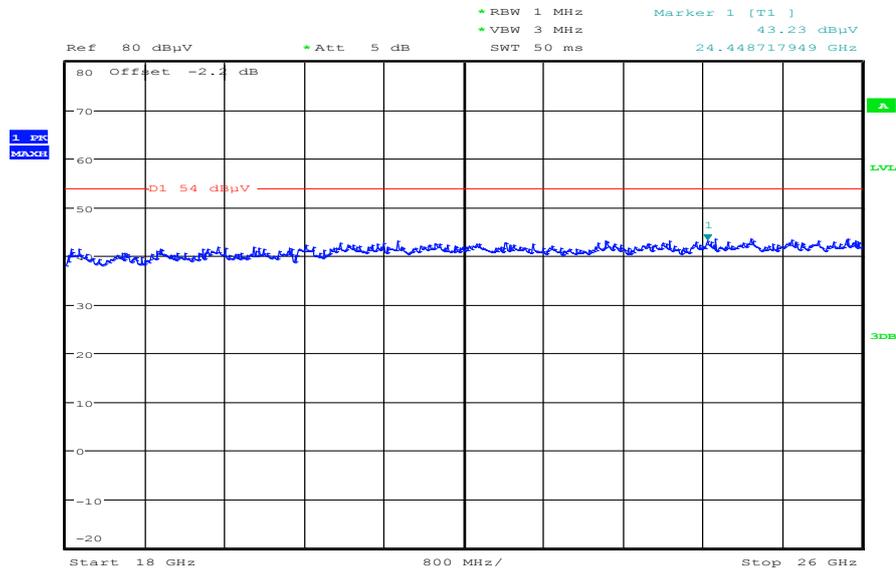


**Plot 3:** 12 GHz to 18 GHz, 5210 MHz, vertical & horizontal polarization



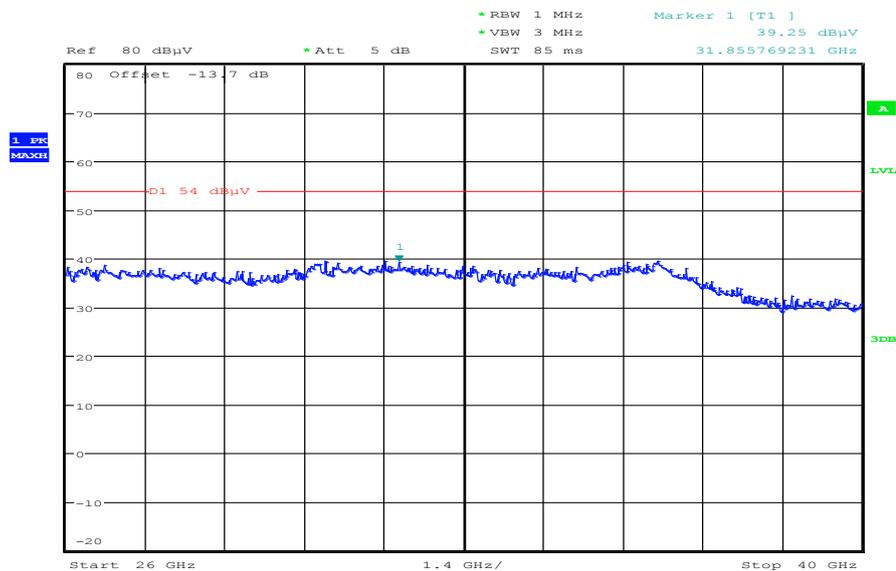
Date: 28.MAY.2014 13:19:14

**Plot 4:** 18 GHz to 26 GHz, 5210 MHz, vertical & horizontal polarization



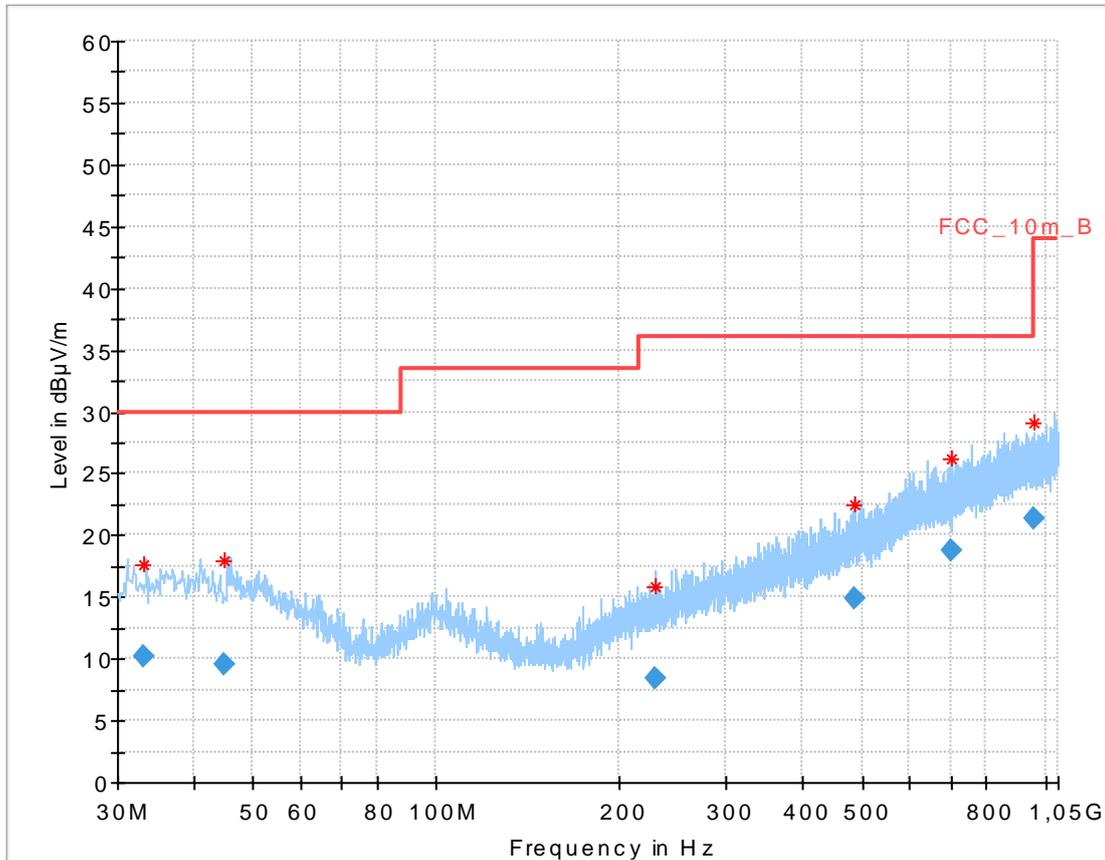
Date: 28.MAY.2014 14:29:23

**Plot 5:** 26 GHz to 40 GHz, 5210 MHz, vertical & horizontal polarization



Date: 28.MAY.2014 15:25:57

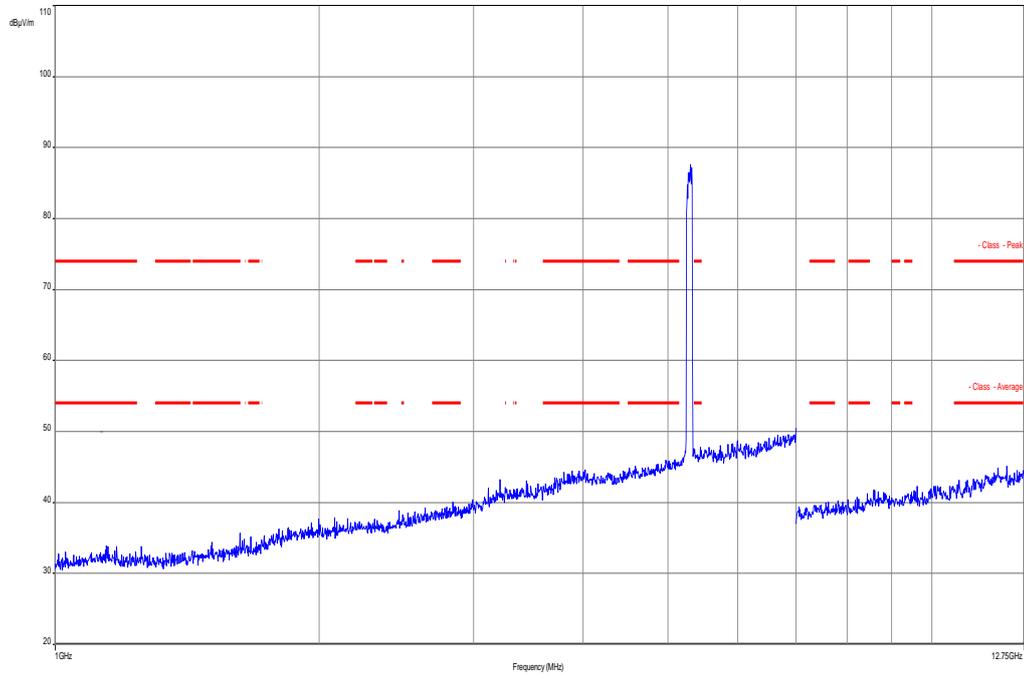
**Plot 6:** 30 MHz to 1 GHz, 5290 MHz, vertical & horizontal polarization



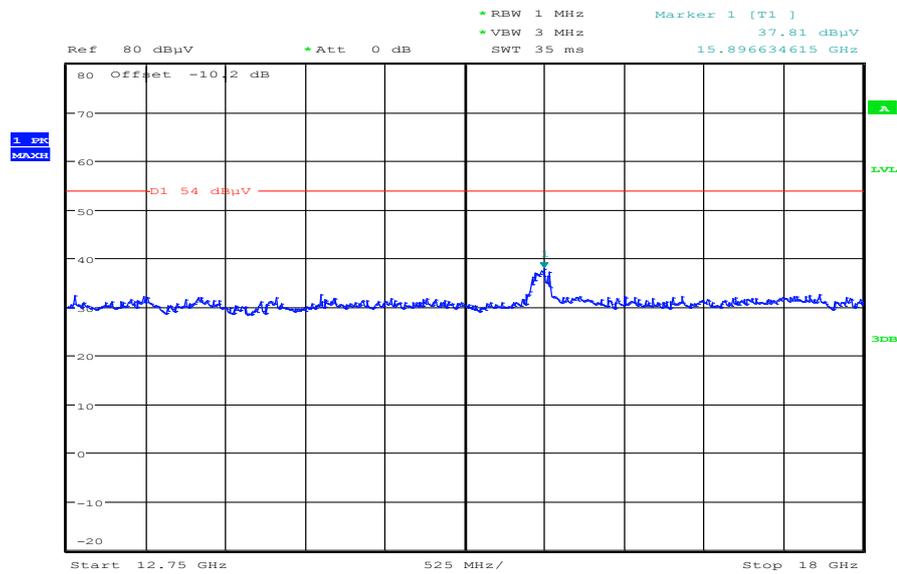
**Final results:**

Frequency (MHz)	Quasi Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
33.186750	10.20	30.00	19.80	1000.0	120.000	170.0	V	171.0	13.6
44.977200	9.58	30.00	20.42	1000.0	120.000	98.0	H	280.0	13.9
228.316950	8.35	36.00	27.65	1000.0	120.000	156.0	V	280.0	12.7
486.663750	14.82	36.00	21.18	1000.0	120.000	170.0	H	268.0	18.4
703.618800	18.72	36.00	17.28	1000.0	120.000	153.0	V	10.0	21.6
959.196000	21.29	36.00	14.71	1000.0	120.000	170.0	H	86.0	24.4

**Plot 7:** 1 GHz to 12.75 GHz, 5290 MHz, vertical & horizontal polarization

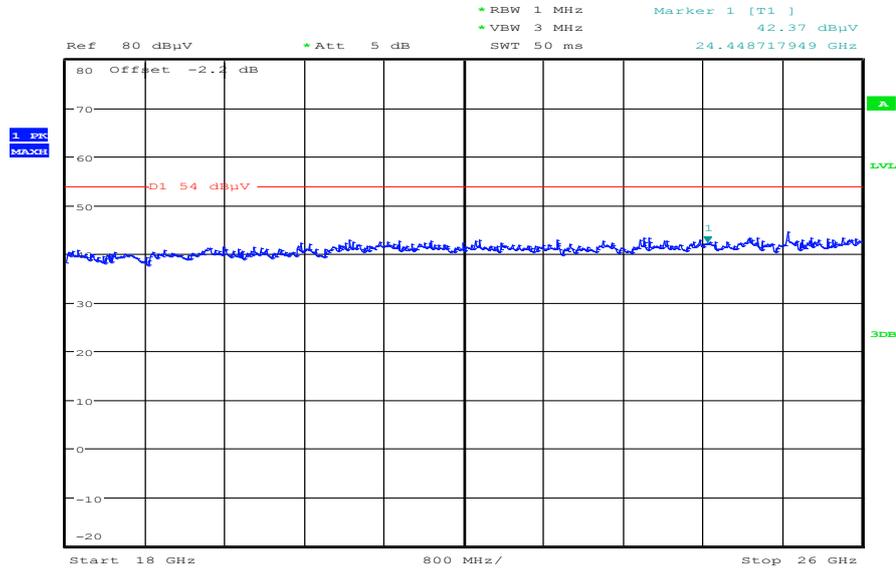


**Plot 8:** 12 GHz to 18 GHz, 5290 MHz, vertical & horizontal polarization



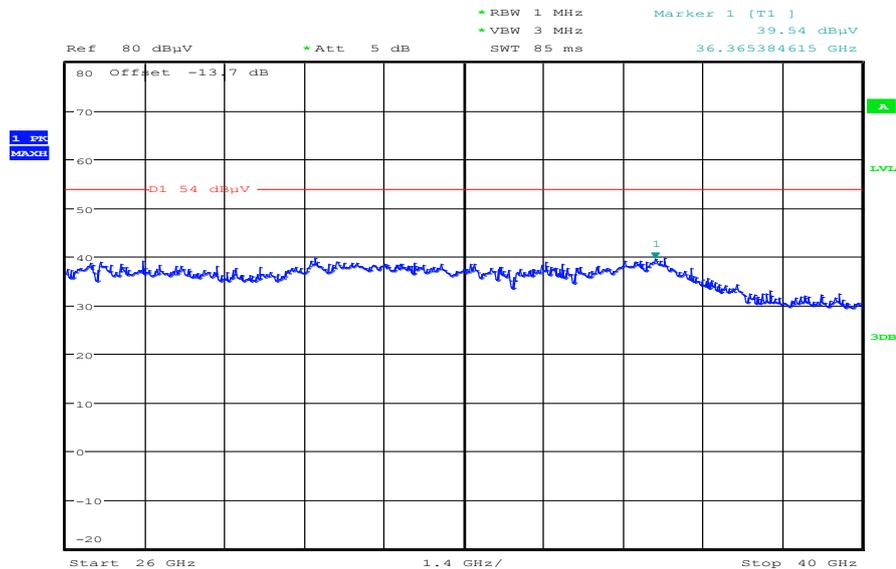
Date: 28.MAY.2014 13:20:43

**Plot 9:** 18 GHz to 26 GHz, 5290 MHz, vertical & horizontal polarization



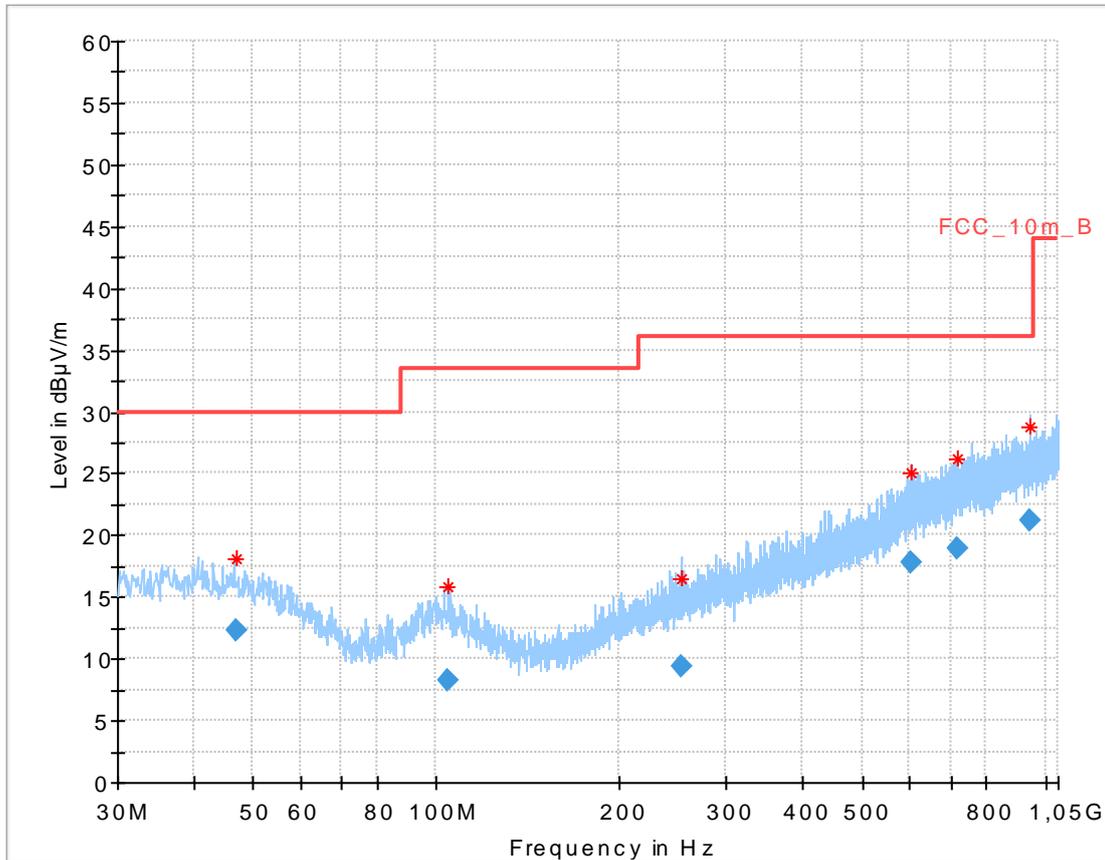
Date: 28.MAY.2014 14:30:15

**Plot 10:** 26 GHz to 40 GHz, 5290 MHz, vertical & horizontal polarization



Date: 28.MAY.2014 15:27:16

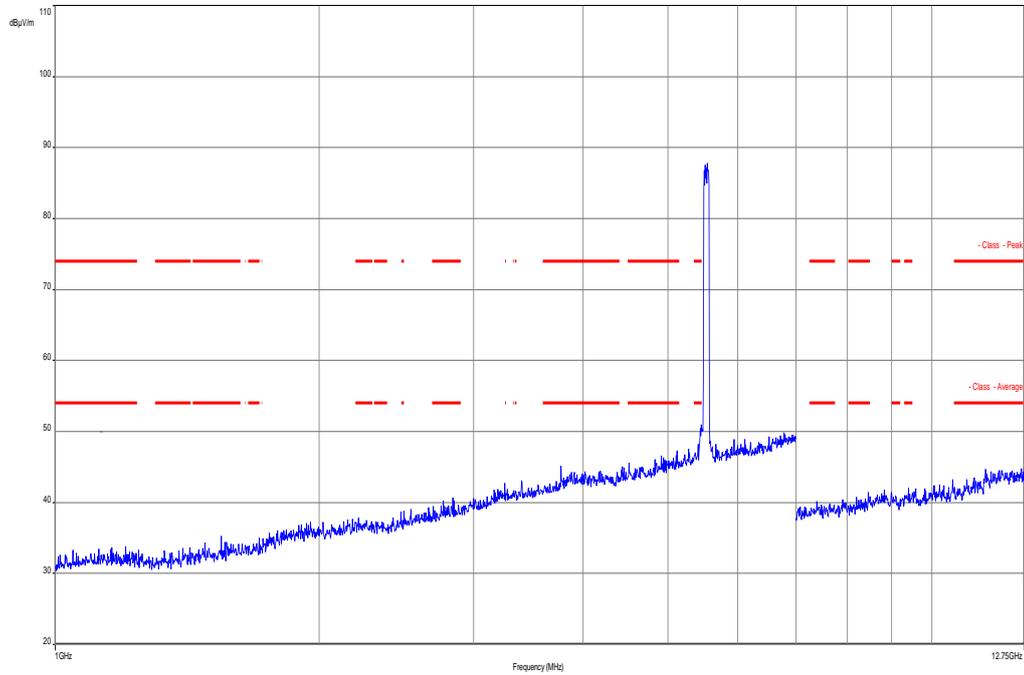
Plot 11: 30 MHz to 1 GHz, 5530 MHz, vertical & horizontal polarization



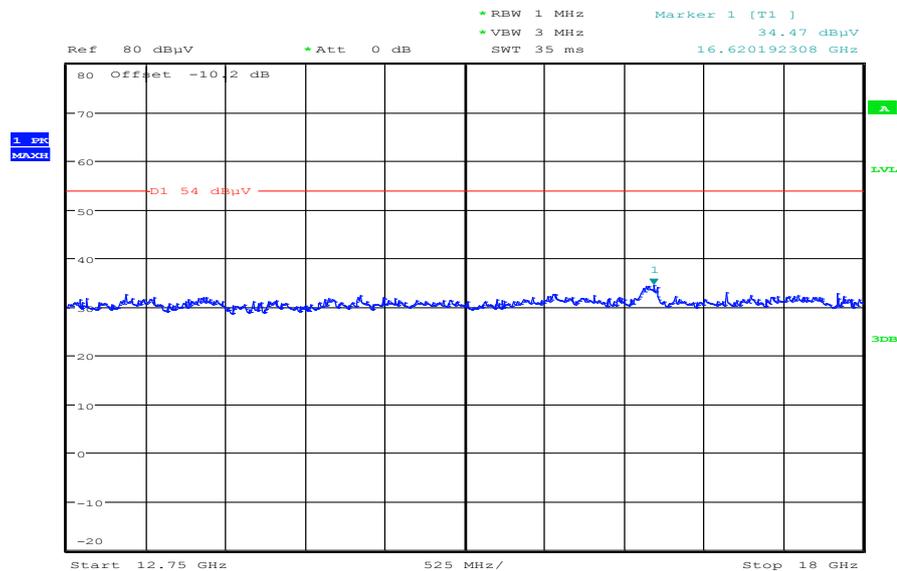
Final results:

Frequency (MHz)	Quasi Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
46.941000	12.29	30.00	17.71	1000.0	120.000	170.0	V	274.0	13.8
104.487750	8.22	33.50	25.28	1000.0	120.000	145.0	V	92.0	11.7
252.106800	9.37	36.00	26.63	1000.0	120.000	98.0	H	100.0	13.4
601.894200	17.75	36.00	18.25	1000.0	120.000	98.0	H	280.0	20.7
717.351000	18.95	36.00	17.05	1000.0	120.000	145.0	H	-9.0	21.9
944.439000	21.15	36.00	14.85	1000.0	120.000	154.0	H	100.0	24.2

**Plot 12:** 1 GHz to 12.75 GHz, 5530 MHz, vertical & horizontal polarization

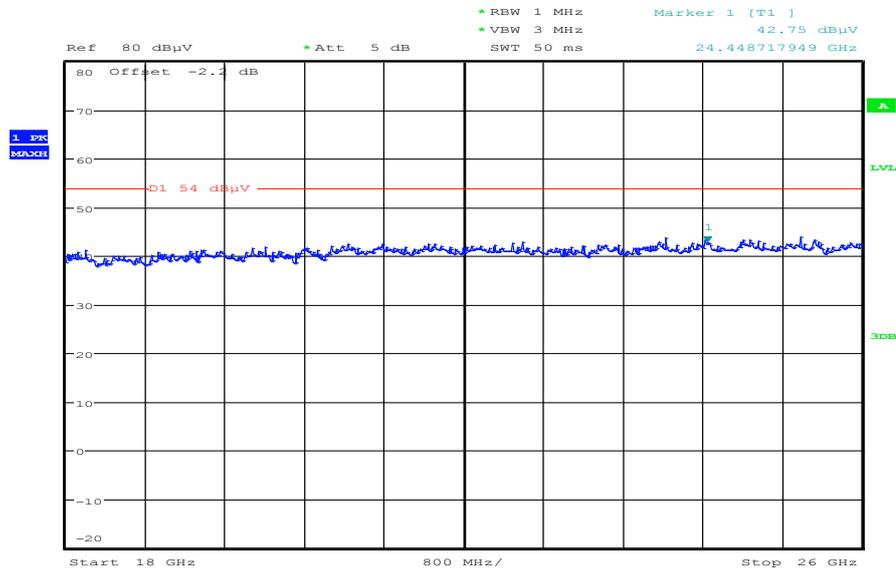


**Plot 13:** 12 GHz to 18 GHz, 5530 MHz, vertical & horizontal polarization



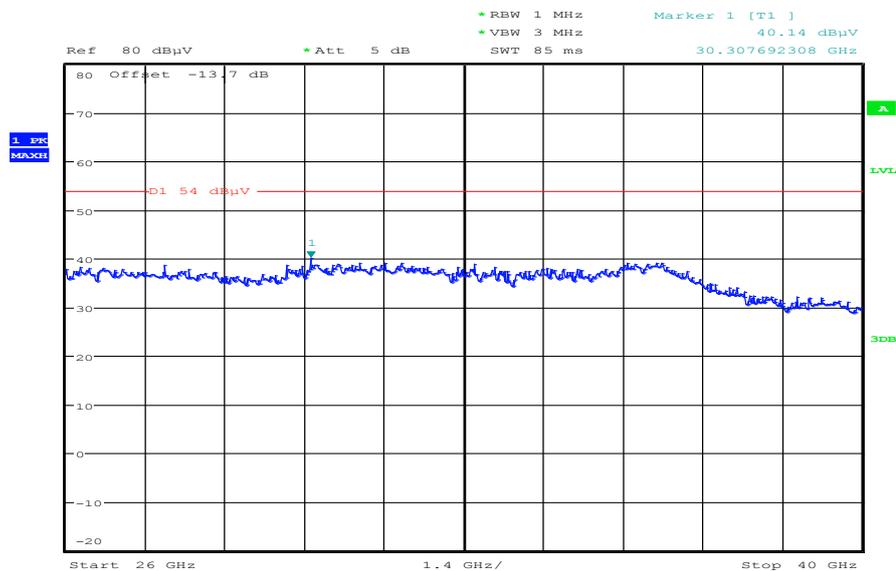
Date: 28.MAY.2014 13:23:18

Plot 14: 18 GHz to 26 GHz, 5530 MHz, vertical & horizontal polarization



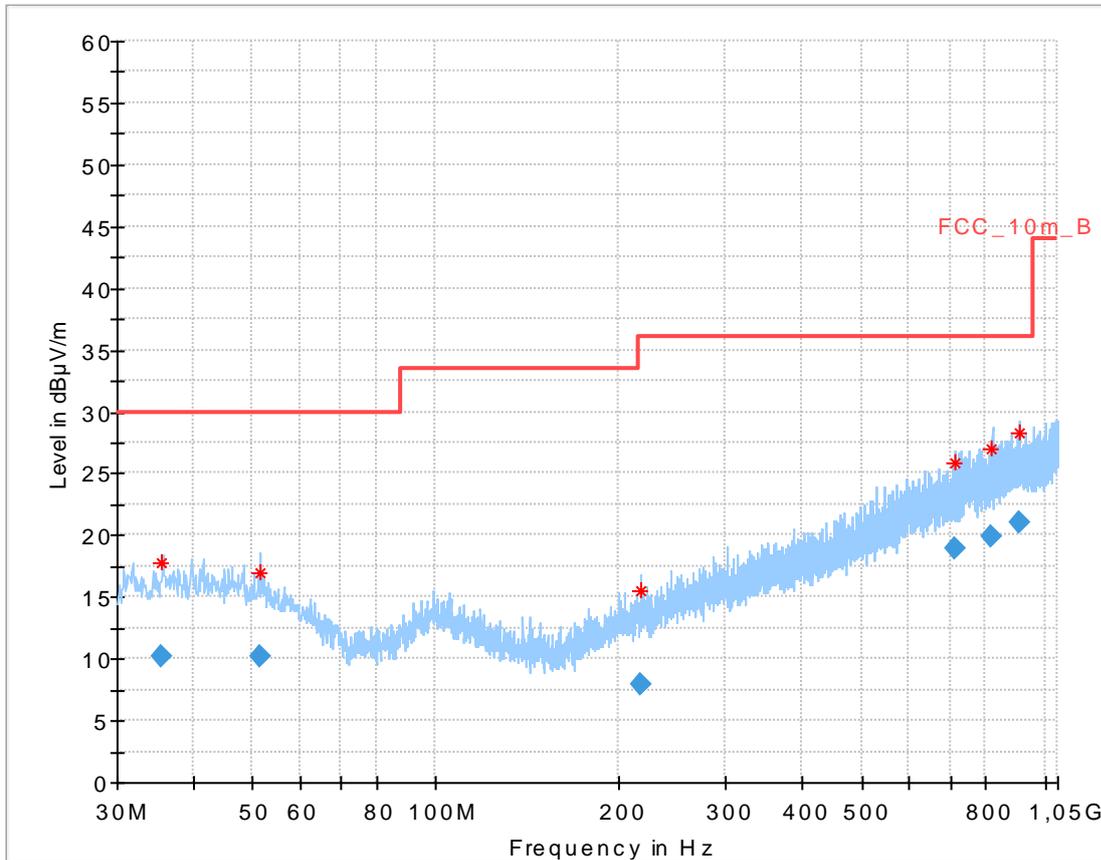
Date: 28.MAY.2014 14:31:07

Plot 15: 26 GHz to 40 GHz, 5530 MHz, vertical & horizontal polarization



Date: 28.MAY.2014 15:28:30

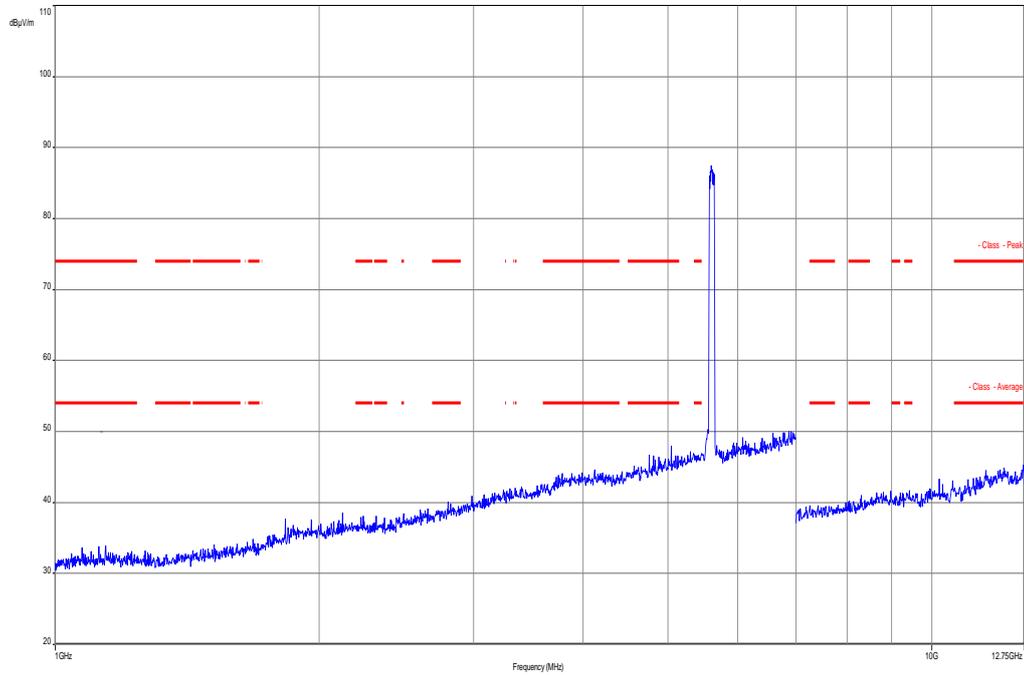
**Plot 16:** 30 MHz to 1 GHz, 5610 MHz, vertical & horizontal polarization



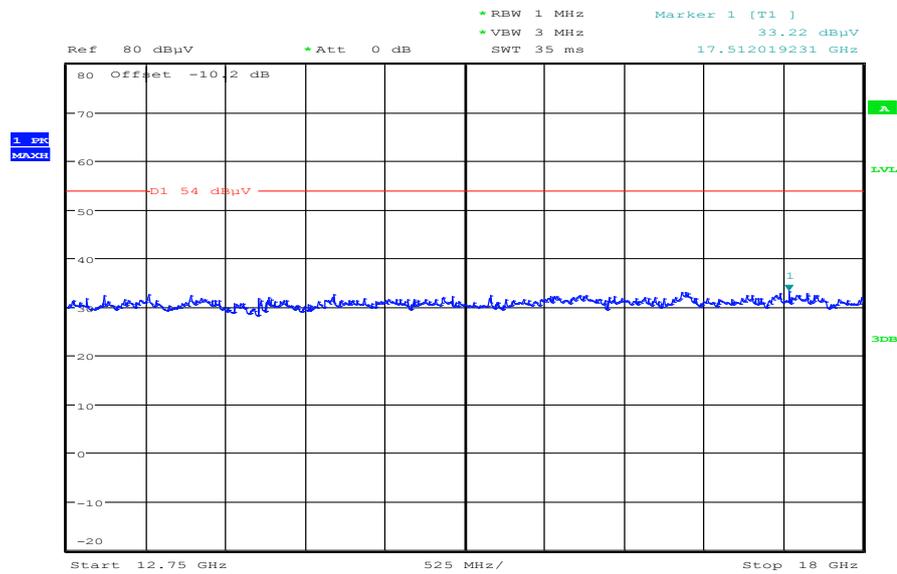
**Final results:**

Frequency (MHz)	Quasi Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
35.518350	10.23	30.00	19.77	1000.0	120.000	101.0	H	181.0	13.8
51.665100	10.19	30.00	19.81	1000.0	120.000	105.0	V	81.0	13.4
216.363750	8.00	36.00	28.00	1000.0	120.000	170.0	H	80.0	12.3
713.948850	19.00	36.00	17.00	1000.0	120.000	101.0	V	280.0	21.9
819.522300	19.91	36.00	16.09	1000.0	120.000	170.0	H	86.0	23.0
907.780500	21.01	36.00	14.99	1000.0	120.000	170.0	H	173.0	24.1

**Plot 17:** 1 GHz to 12.75 GHz, 5610 MHz, vertical & horizontal polarization

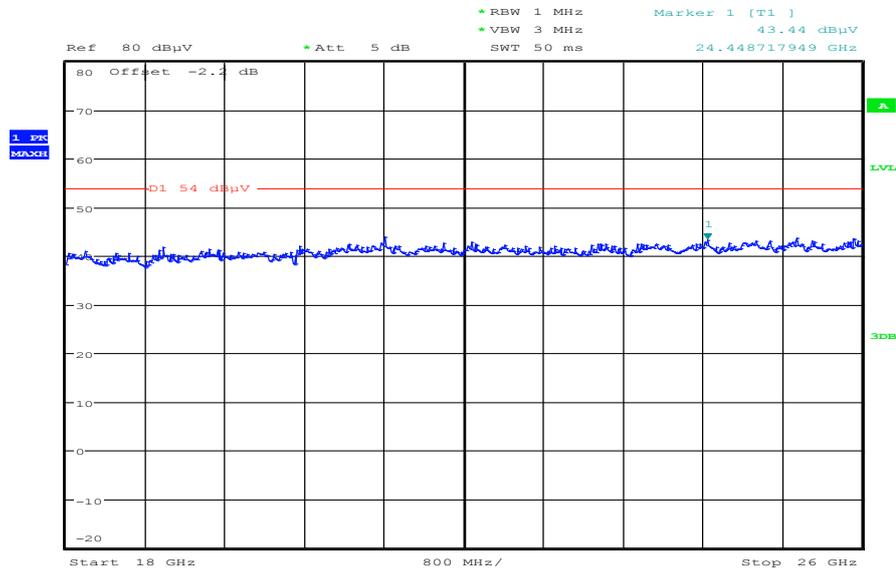


**Plot 18:** 12 GHz to 18 GHz, 5610 MHz, vertical & horizontal polarization



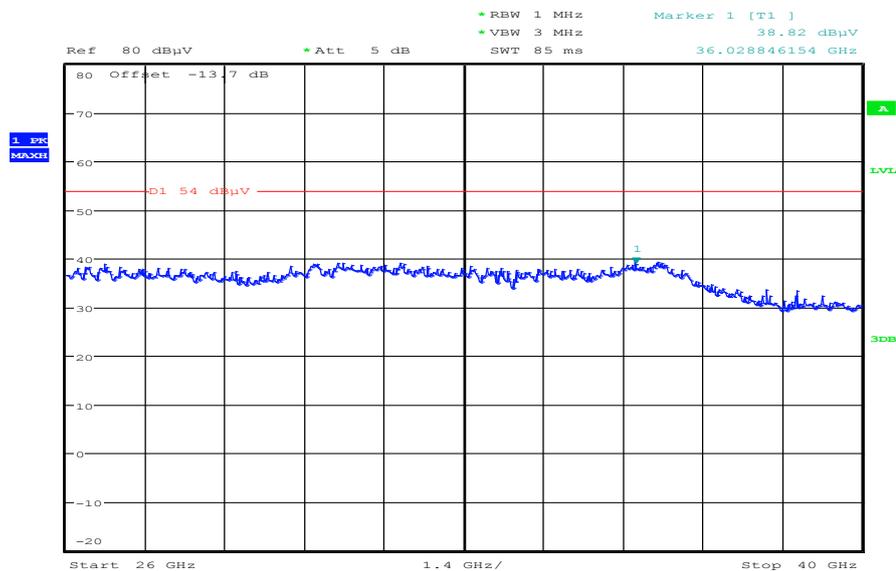
Date: 28.MAY.2014 13:25:00

**Plot 19:** 18 GHz to 26 GHz, 5610 MHz, vertical & horizontal polarization



Date: 28.MAY.2014 14:31:54

**Plot 20:** 26 GHz to 40 GHz, 5610 MHz, vertical & horizontal polarization



Date: 28.MAY.2014 15:29:28

## 10.4 RX spurious emissions radiated

### Description:

Measurement of the radiated spurious emissions in idle/receive mode.

### Measurement:

Measurement parameter	
Detector:	Quasi Peak below 1 GHz (alternative Peak)  Peak above 1 GHz / RMS
Sweep time:	Auto
Resolution bandwidth:	F < 1 GHz: 100 kHz F > 1 GHz: 1 MHz
Video bandwidth:	F < 1 GHz: 100 kHz F > 1 GHz: ≥ 3 MHz /10 Hz
Span:	30 MHz to 40 GHz
Trace-Mode:	Max Hold / Average with 100 counts + 20 log (1 / X) for duty cycle lower than 100 %

### Limits:

RX Spurious Emissions Radiated		
Frequency (MHz)	Field Strength (dBµV/m)	Measurement distance
30 - 88	30.0	10
88 – 216	33.5	10
216 – 960	36.0	10
Above 960	54.0	3

### Results:

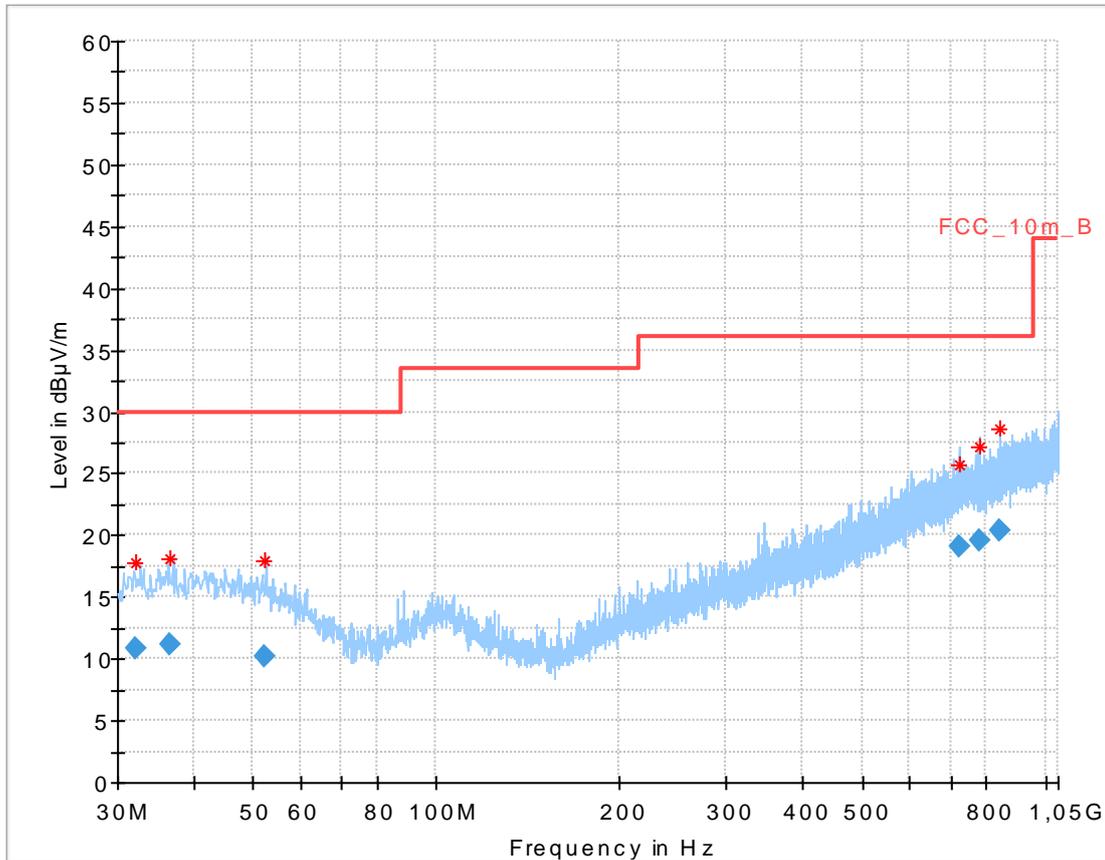
RX Spurious Emissions Radiated [dBµV/m]		
F [MHz]	Detector	Level [dBµV/m]
For emissions below 1 GHz, please take a look at the table below the 1 GHz plot.		
All detected peaks are below the average limit!		
Measurement uncertainty	± 3 dB	

**Result:** Passed

**Note:** The limit was recalculated with 20 dB / decade (Part 15.31) for all radiated spurious emissions 30 MHz to 1 GHz from 3 meter limit to a 10 meter distance. (40dB/decade for emissions < 30MHz)

**Plots: RX / Idle – mode**

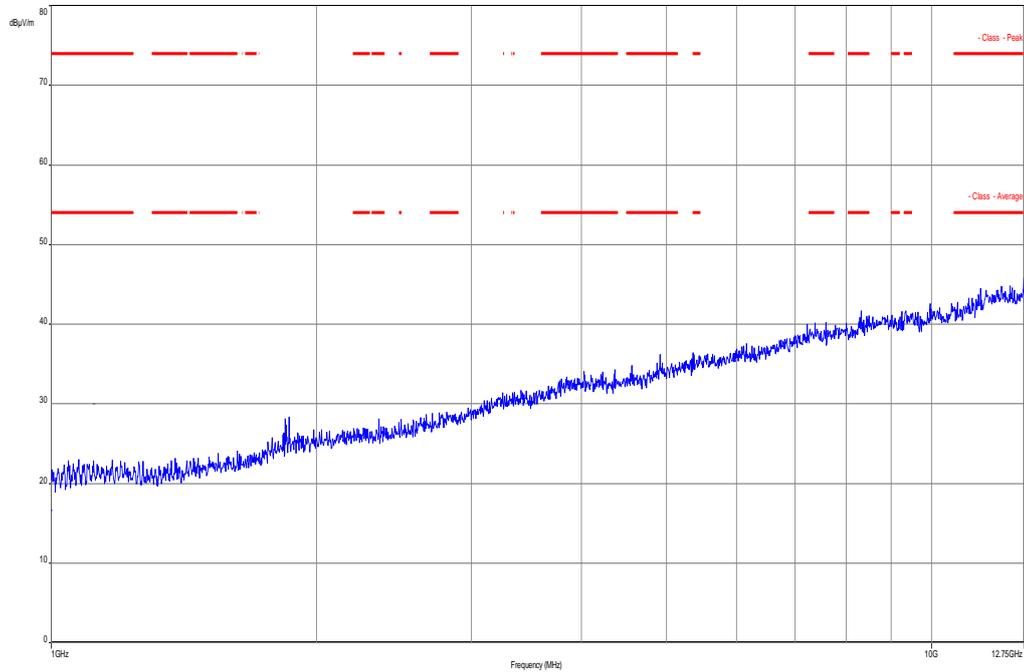
**Plot 1:** 30 MHz to 1 GHz, vertical & horizontal polarization



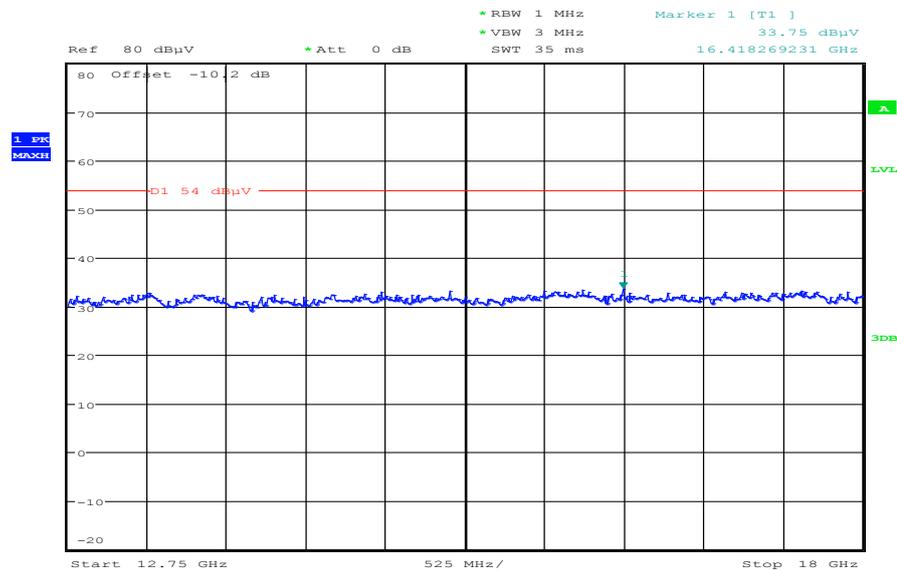
**Final results:**

Frequency (MHz)	Quasi Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
32.143050	10.87	30.00	19.13	1000.0	120.000	105.0	H	93.0	13.5
36.593550	11.15	30.00	18.85	1000.0	120.000	170.0	V	10.0	13.9
52.201650	10.19	30.00	19.81	1000.0	120.000	101.0	V	190.0	13.3
720.973500	19.03	36.00	16.97	1000.0	120.000	170.0	V	88.0	22.0
779.729550	19.58	36.00	16.42	1000.0	120.000	170.0	H	91.0	22.7
841.501800	20.31	36.00	15.69	1000.0	120.000	146.0	V	1.0	23.3

**Plot 2:** 1 GHz to 12.75 GHz, vertical & horizontal polarization

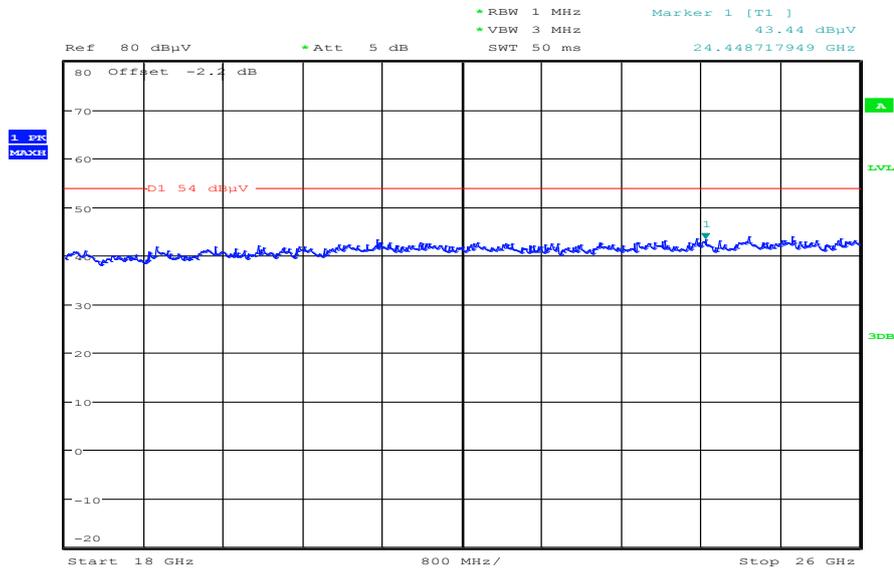


**Plot 3:** 12 GHz to 18 GHz, vertical & horizontal polarization



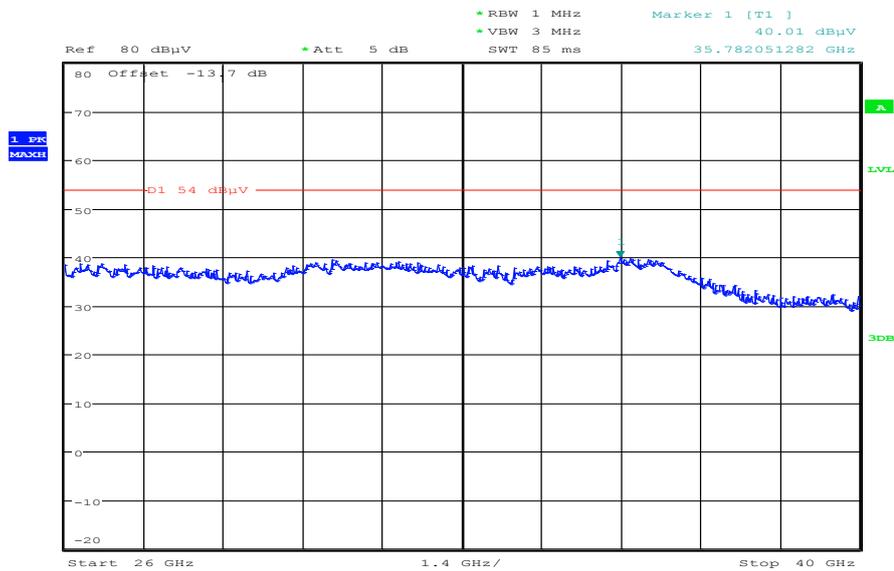
Date: 28.MAY.2014 12:01:53

**Plot 4:** 18 GHz to 26 GHz, vertical & horizontal polarization



Date: 28.MAY.2014 13:46:53

**Plot 5:** 26 GHz to 40 GHz, vertical & horizontal polarization



Date: 28.MAY.2014 14:58:46

## 10.5 Spurious emissions radiated < 30 MHz

### Description:

Measurement of the radiated spurious emissions in transmit mode and receive mode below 30 MHz. The EUT is set first to middle channel. This measurement is representative for all channels and modes. If peaks are found the lowest channel and the highest channel will be measured too. Then the EUT is set to receive or idle mode. The limits are recalculated to a measurement distance of 3 m with 40 dB/decade according CFR Part 2.

### Measurement:

Measurement parameter	
Detector:	Peak / Quasi Peak
Sweep time:	Auto
Video bandwidth:	F < 150 kHz: 200 Hz F > 150 kHz: 9 kHz
Resolution bandwidth:	F < 150 kHz: 1 kHz F > 150 kHz: 100 kHz
Span:	9 kHz to 30 MHz
Trace-Mode:	Max Hold

### Limits:

Spurious Emissions Radiated < 30 MHz		
Frequency (MHz)	Field Strength (dB $\mu$ V/m)	Measurement distance
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30

### Results:

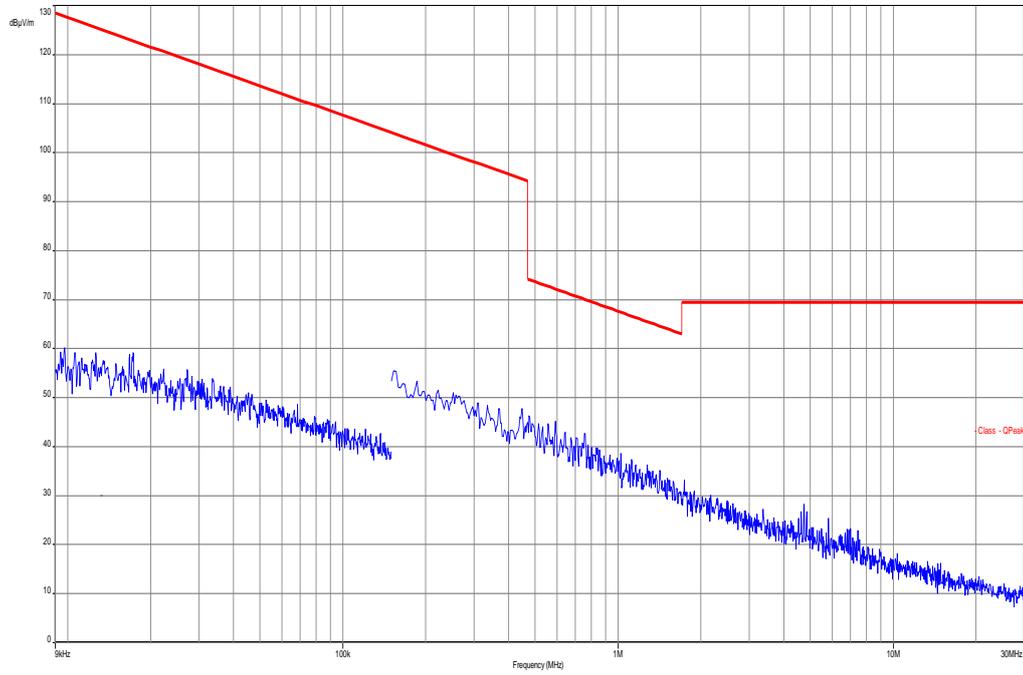
Spurious Emissions Radiated < 30 MHz [dB $\mu$ V/m]		
F [MHz]	Detector	Level [dB $\mu$ V/m]
No spurious emissions detected.		
Measurement uncertainty	± 3 dB	

### Result: **Passed**

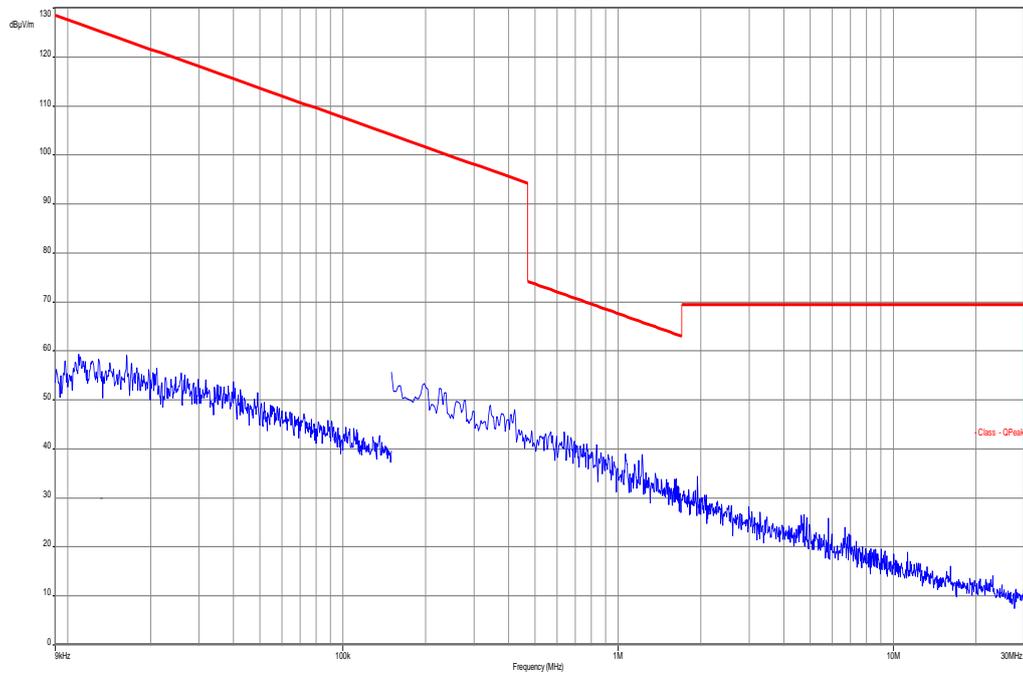
**Note:** The limit was recalculated with 20 dB / decade (Part 15.31) for all radiated spurious emissions 30 MHz to 1 GHz from 3 meter limit to a 10 meter distance. (40dB/decade for emissions < 30MHz)

**Plots:**

**Plot 1:** 9 kHz to 30 MHz, TX mode



**Plot 2:** 9 kHz to 30 MHz, RX mode



## 10.6 Spurious emissions conducted < 30 MHz

### Description:

Measurement of the conducted spurious emissions in transmit mode below 30 MHz. The EUT is set to middle channel. If peaks are found the lowest channel and the highest channel will be measured too. Both power lines, phase and neutral line, are measured. Found peaks are remeasured with average and quasi peak detection to show compliance to the limits.

### Measurement:

Measurement parameter	
Detector:	Peak - Quasi Peak / Average
Sweep time:	Auto
Video bandwidth:	F > 150 kHz: 9 kHz
Resolution bandwidth:	F > 150 kHz: 100 kHz
Span:	150 kHz to 30 MHz
Trace-Mode:	Max Hold

### Limits:

Spurious Emissions Conducted < 30 MHz		
Frequency (MHz)	Quasi-Peak (dB $\mu$ V/m)	Average (dB $\mu$ V/m)
0.15 – 0.5	66 to 56*	56 to 46*
0.5 – 5	56	46
5 – 30.0	60	50

\*Decreases with the logarithm of the frequency

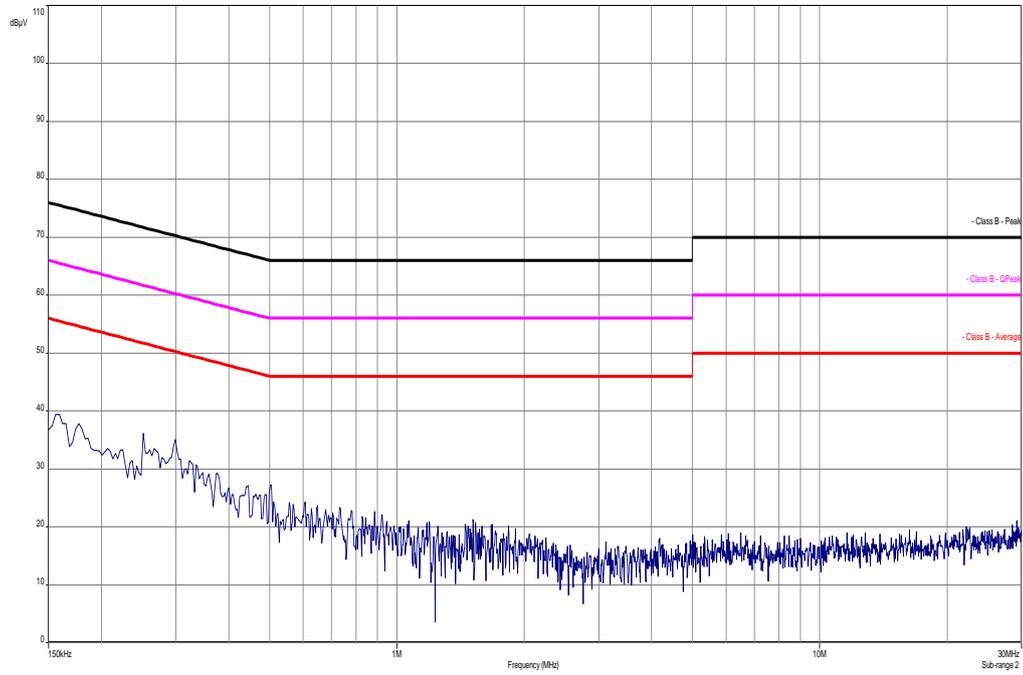
### Results:

Spurious Emissions Conducted < 30 MHz [dB $\mu$ V/m]		
F [MHz]	Detector	Level [dB $\mu$ V/m]
No spurious emissions detected.		
Measurement uncertainty	± 3 dB	

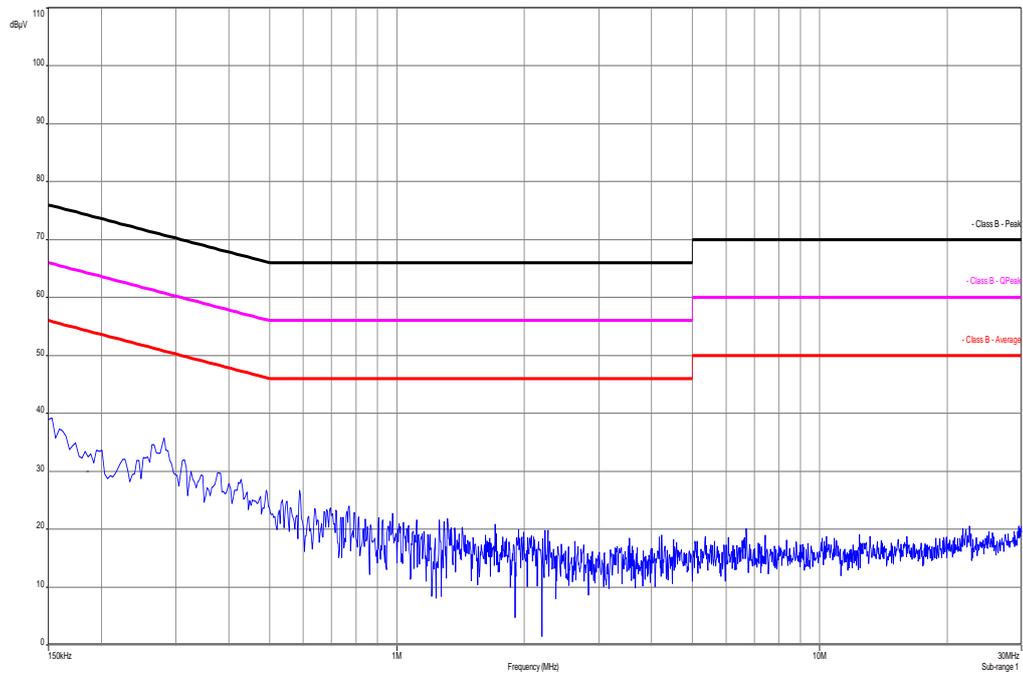
**Result: Passed**

**Plots:**

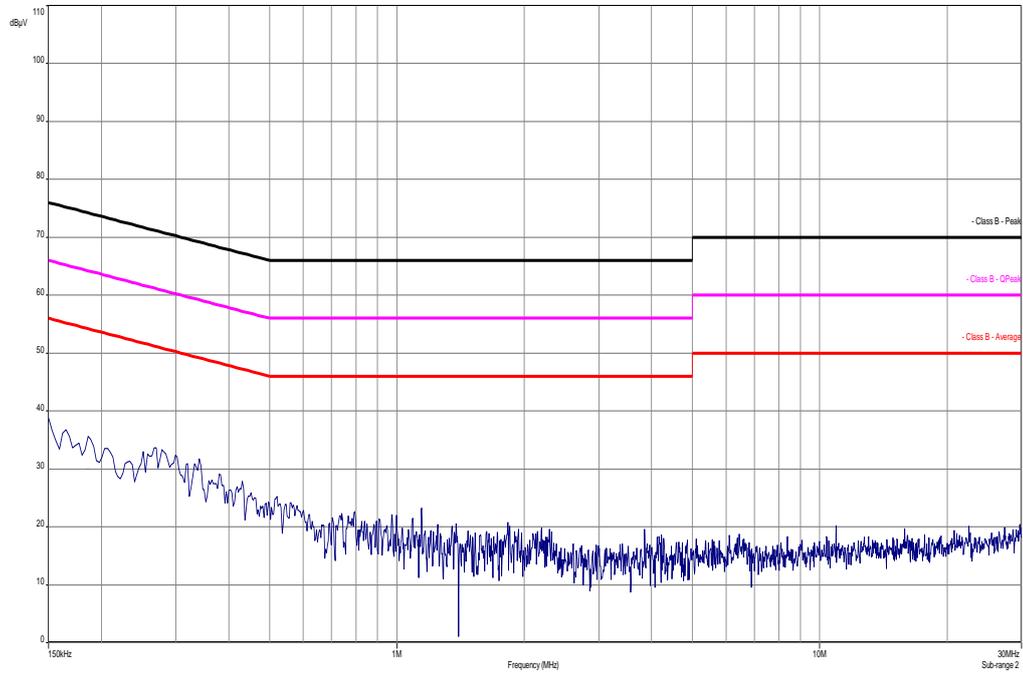
**Plot 1:** 150 kHz to 30 MHz / phase Line, TX mode



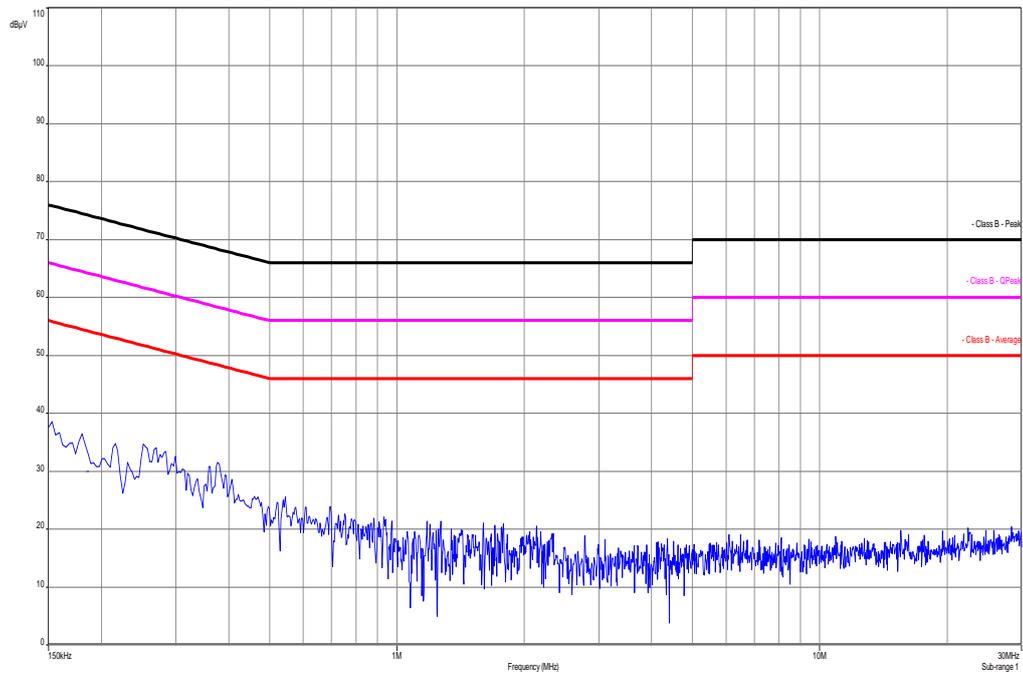
**Plot 2:** 150 kHz to 30 MHz / neutral Line, TX mode



Plot 3: 150 kHz to 30 MHz / phase Line, RX mode



Plot 4: 150 kHz to 30 MHz / neutral Line, RX mode



## 11 Test equipment and ancillaries used for tests

Typically, the calibrations of the test apparatus are commissioned to and performed by an accredited calibration laboratory. The calibration intervals are determined in accordance with the DIN EN ISO/IEC 17025. In addition to the external calibrations, the laboratory executes comparison measurements with other calibrated test systems or effective verifications. Weekly chamber inspections and range calibrations are performed. Where possible, rf-generating and signalling equipment as well as measuring receivers and analyzers are connected to an external high-precision 10 MHz reference (GPS-based or rubidium frequency standard).

In order to simplify the identification of the equipment used at some special tests, some items of test equipment and ancillaries can be provided with an identifier or number in the equipment list below (Lab/Item).

No.	Lab / Item	Equipment	Type	Manufact.	Serial No.	INV. No Cetecom	Kind of Calibration	Last Calibration	Next Calibration
1	45	Switch-Unit	3488A	HP Meßtechnik	2719A14505	300000368	g		
2	50	DC power supply, 60Vdc, 50A, 1200 W	6032A	HP Meßtechnik	2920A04466	300000580	ne		
3	n. a.	EMI Test Receiver	ESCI 3	R&S	100083	300003312	k	27.01.2014	27.01.2015
4	n. a.	Funkstörmessempfänger 20Hz-26,5GHz	ESU26	R&S	100037	300003555	k	28.02.2014	28.02.2015
5	n. a.	Antenna Tower	Model 2175	ETS-LINDGREN	64762	300003745	izw		
6	n. a.	Positioning Controller	Model 2090	ETS-LINDGREN	64672	300003746	izw		
7	n. a.	Turntable Interface-Box	Model 105637	ETS-LINDGREN	44583	300003747	izw		
8	n. a.	TRILOG Broadband Test-Antenna 30 MHz - 3 GHz	VULB9163	Schwarzbeck	295	300003787	k	22.04.2014	22.04.2016
9	n. a.	Double-Ridged Waveguide Horn Antenna 1-18.0GHz	3115	EMCO	8812-3088	300001032	vIKI!	08.05.2013	08.05.2015
10	n. a.	Anechoic chamber	FAC 3/5m	MWB / TDK	87400/02	300000996	ev		
11	n. a.	Switch / Control Unit	3488A	HP Meßtechnik	*	300000199	ne		
12	9	Isolating Transformer	MPL IEC625 Bus Regeltrennt ravo	Erfi	91350	300001155	ne		
13	90	Active Loop Antenna 10 kHz to 30 MHz	6502	Kontron Psychotech	8905-2342	300000256	k	13.06.2013	13.06.2015
14	n. a.	Amplifier	js42-00502650-28-5a	Parzich GMBH	928979	300003143	ne		
15	n. a.	TRILOG Broadband Test-Antenna 30 MHz - 3 GHz	VULB9163	Schwarzbeck	371	300003854	vIKI!	14.10.2011	14.10.2014
16	n. a.	MXE EMI Receiver 20 Hz bis 26,5 GHz	N9038A	Agilent Technologies	MY51210197	300004405	k	13.03.2014	13.03.2015
17	11b	Microwave System Amplifier, 0.5-26.5 GHz	83017A	HP Meßtechnik	00419	300002268	ev		
18	A026	Std. Gain Horn Antenna 12.4 to 18.0 GHz	639	Narda	8402	300000787	k	22.07.2013	22.07.2015
19	A029	Std. Gain Horn Antenna 18.0 to 26.5 GHz	638	Narda	8205	300002442	k	19.07.2013	19.07.2015
20	A031	Std. Gain Horn Antenna 26.5 to 40.0 GHz	637	Narda		300000510	k	19.07.2013	19.07.2015
21	n. a.	Broadband Low Noise Amplifier 18-50 GHz	CBL18503 070-XX	CERNEX	19338	300004273	ne		
22	n. a.	Signal Analyzer 40 GHz	FSV40	R&S	101042	300004517	k	21.01.2014	21.01.2015

**Agenda:** Kind of Calibration

k	calibration / calibrated	EK	limited calibration
ne	not required (k, ev, izw, zw not required)	zw	cyclical maintenance (external cyclical maintenance)
ev	periodic self verification	izw	internal cyclical maintenance
Ve	long-term stability recognized	g	blocked for accredited testing
vlk!	Attention: extended calibration interval		
NK!	Attention: not calibrated	*)	next calibration ordered / currently in progress

## 12 Observations

No observations exceeding those reported with the single test cases have been made.

**Annex A Document history**

Version	Applied changes	Date of release
	Initial release	2014-06-12

**Annex B Further information****Glossary**

AVG	-	Average
DUT	-	Device under test
EMC	-	Electromagnetic Compatibility
EN	-	European Standard
EUT	-	Equipment under test
ETSI	-	European Telecommunications Standard Institute
FCC	-	Federal Communication Commission
FCC ID	-	Company Identifier at FCC
HW	-	Hardware
IC	-	Industry Canada
Inv. No.	-	Inventory number
N/A	-	Not applicable
PP	-	Positive peak
QP	-	Quasi peak
S/N	-	Serial number
SW	-	Software

