

## 11.8 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:

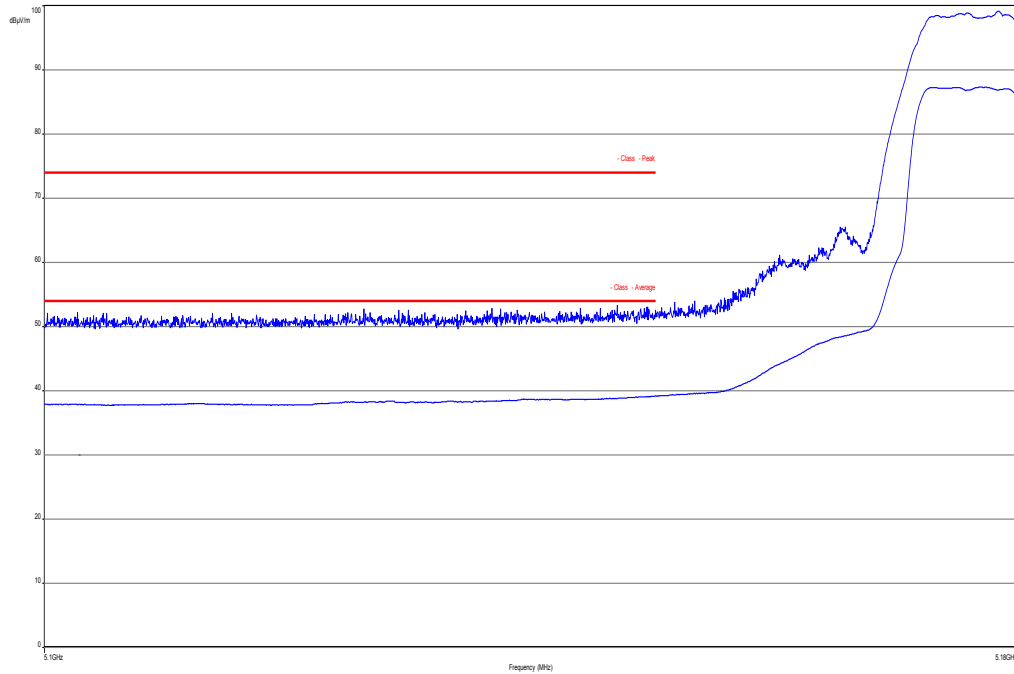
Band Edge Compliance Radiated
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within 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:

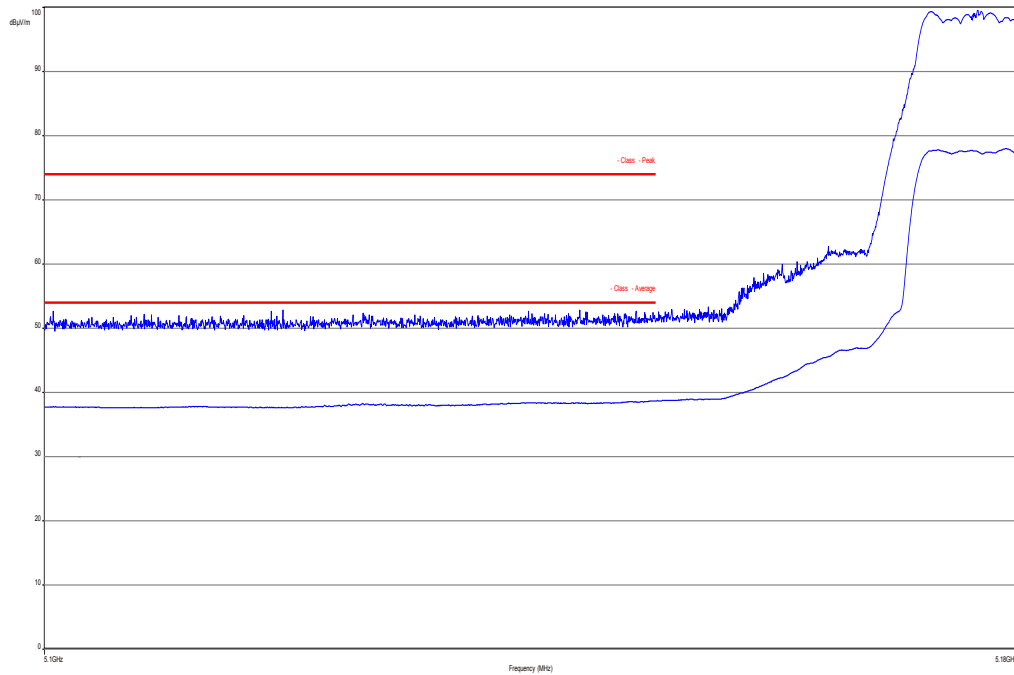
Scenario	Band Edge Compliance Radiated [dB $\mu$ V/m]
band edge	< 74 dB $\mu$ V/m (Peak) < 54 dB $\mu$ V/m (AVG)
Measurement uncertainty	± 3 dB

**Plots:**

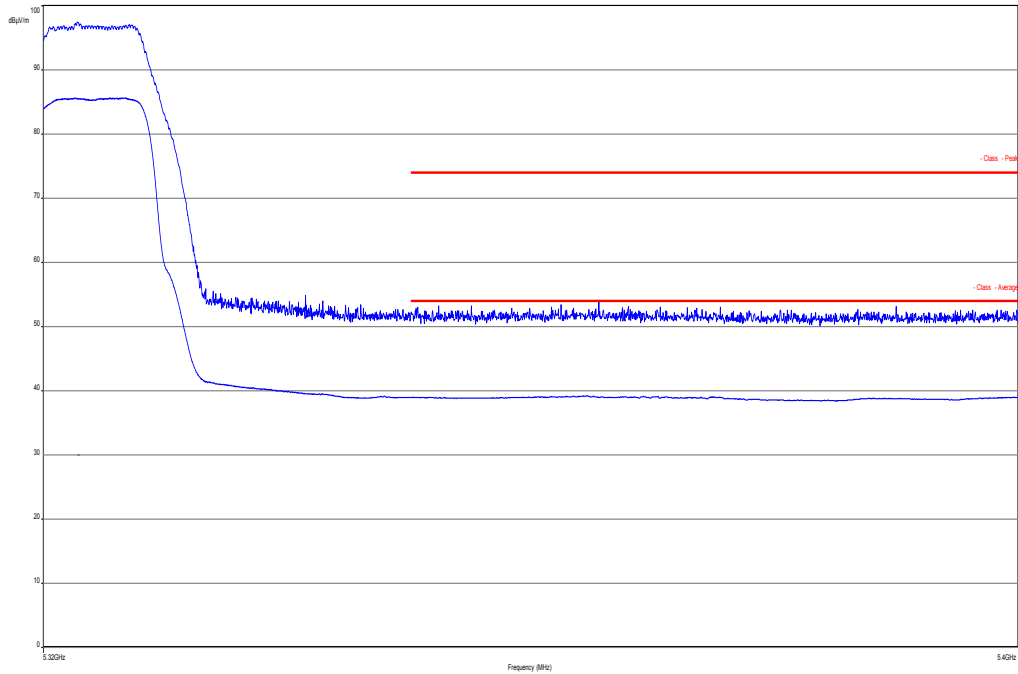
**Plot 1:** lower band edge, vertical & horizontal polarization (a mode), channel 36, low d. r.



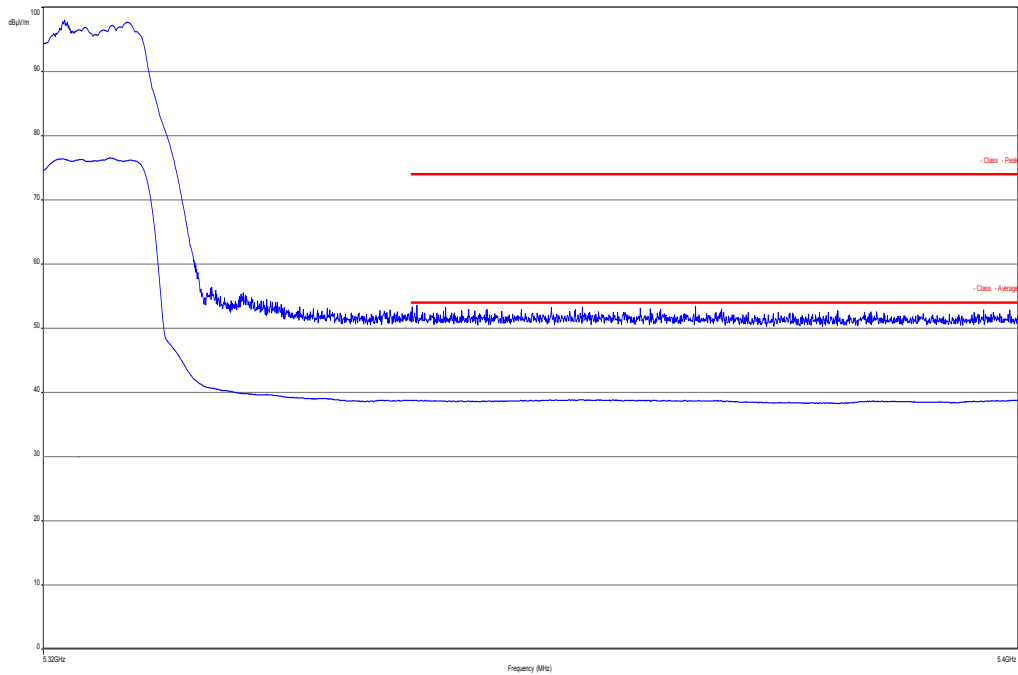
**Plot 2:** lower band edge, vertical & horizontal polarization (a mode), channel 36, high d. r.



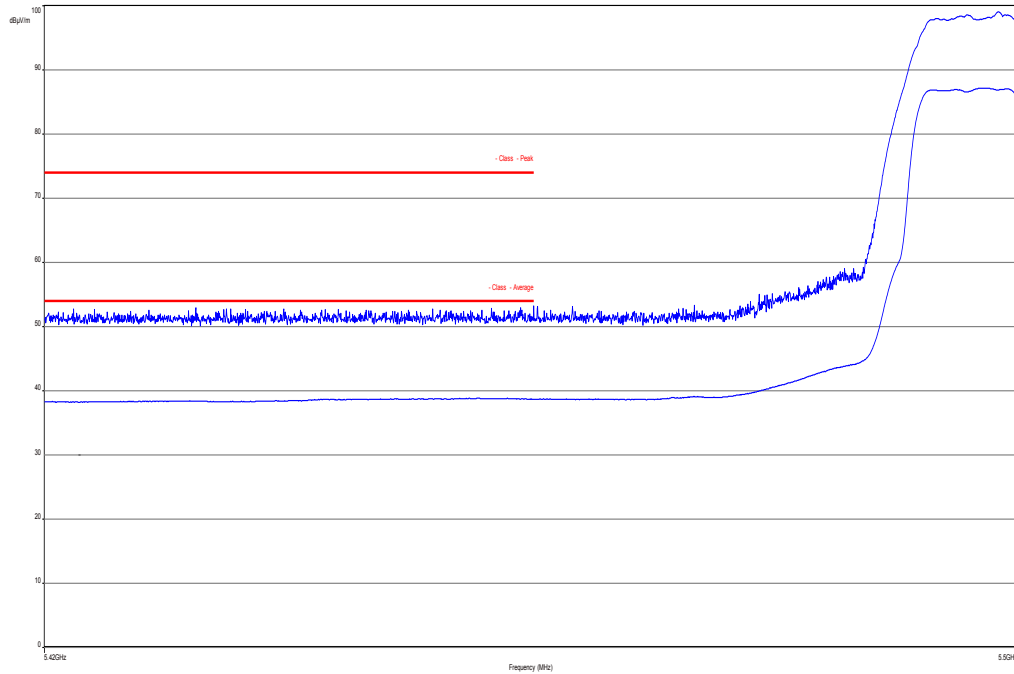
**Plot 3:** upper band edge, vertical & horizontal polarization (a mode), channel 64, low d. r.



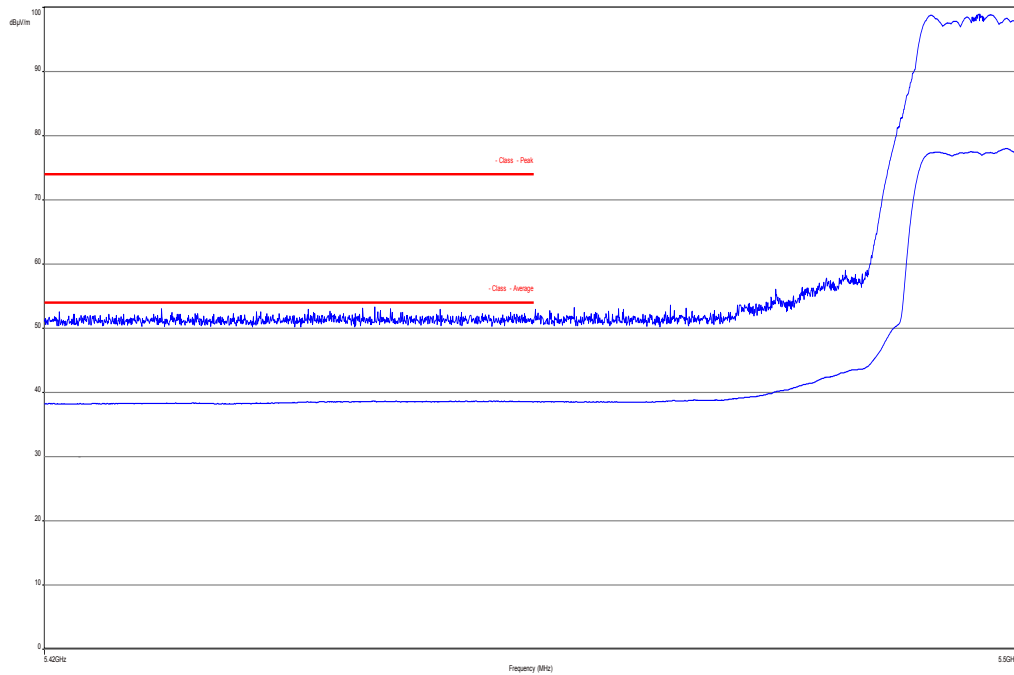
**Plot 4:** upper band edge, vertical & horizontal polarization (a mode), channel 64, high d. r.



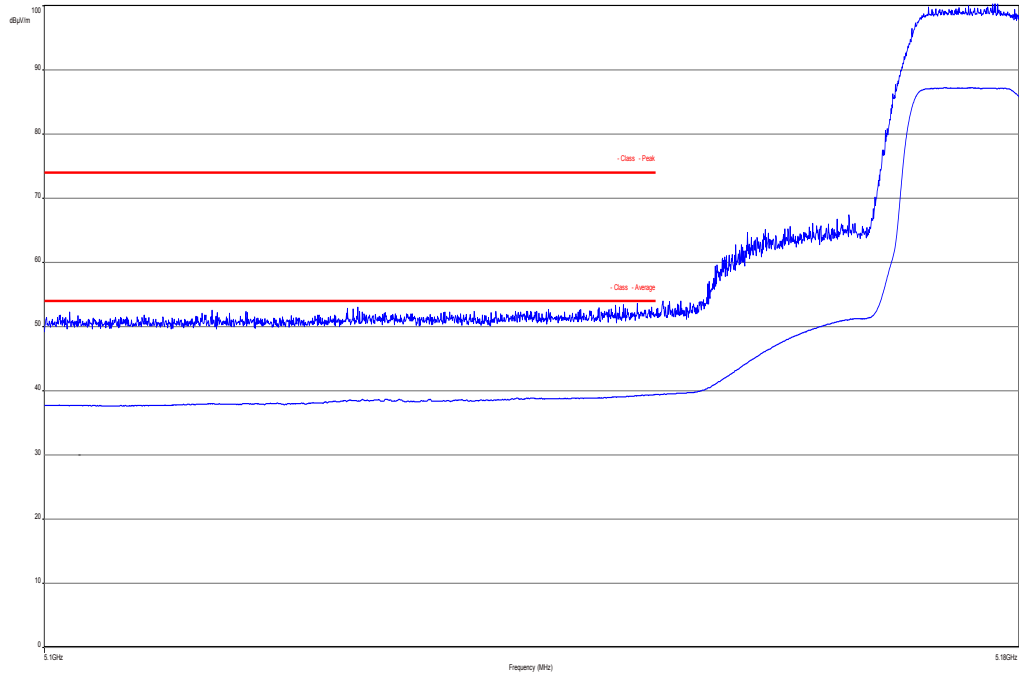
**Plot 5:** lower band edge, vertical & horizontal polarization (a mode), channel 100, low d. r.



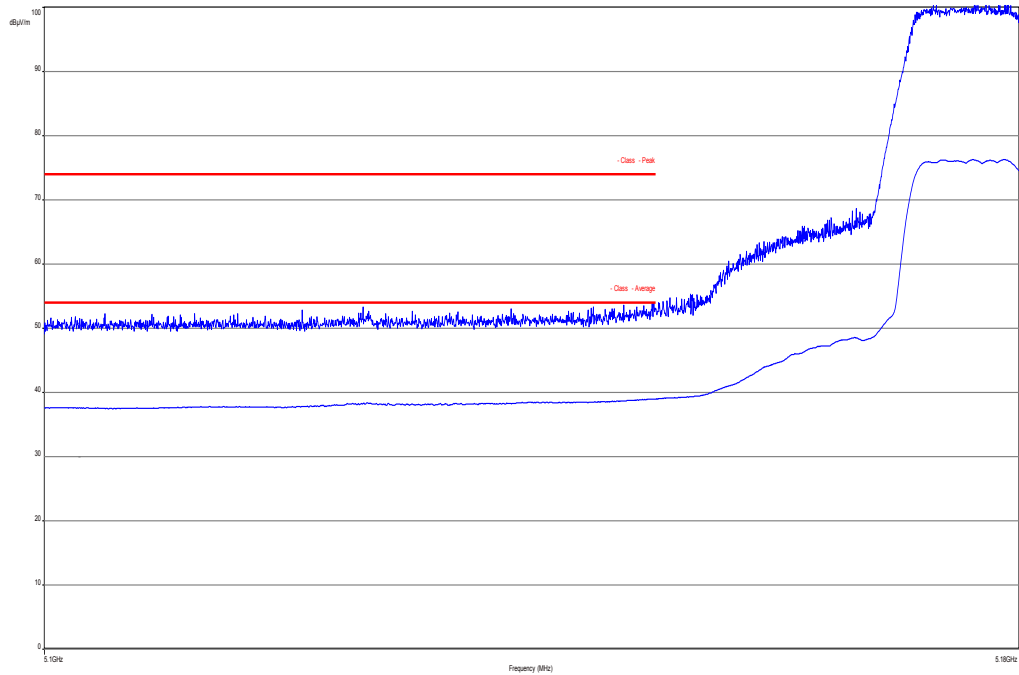
**Plot 6:** lower band edge, vertical & horizontal polarization (a mode), channel 100, high d. r.



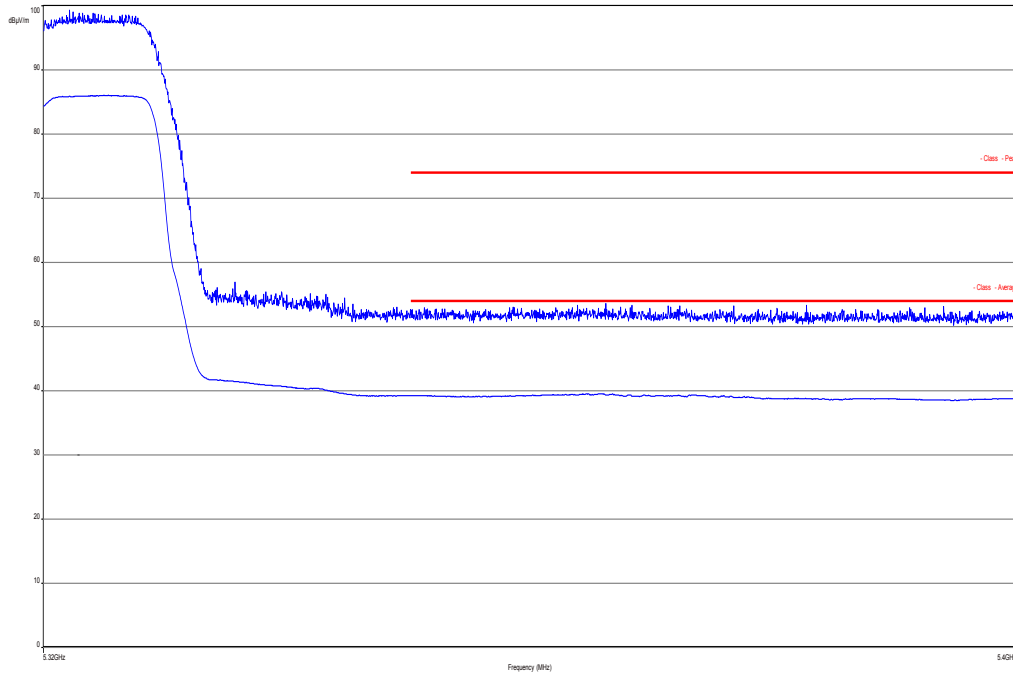
**Plot 7:** lower band edge, vertical & horizontal polarization (n/ac HT 20 mode), channel 36, low d. r.



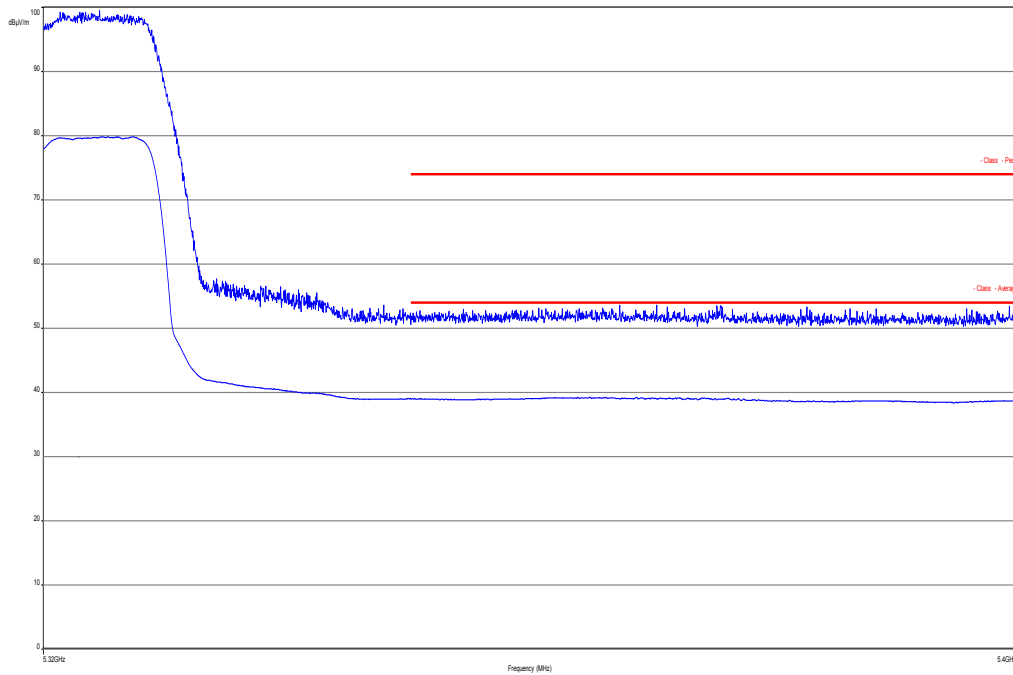
**Plot 8:** lower band edge, vertical & horizontal polarization (n/ac HT 20 mode), channel 36, high d. r.



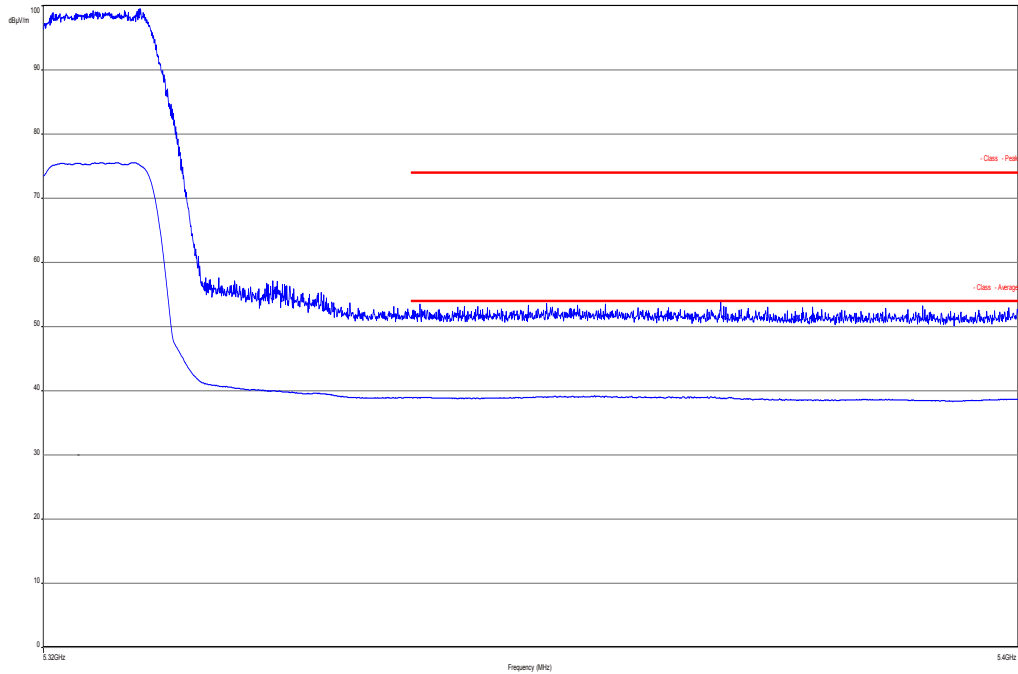
**Plot 9:** upper band edge, vertical & horizontal polarization (n/ac HT 20 mode), channel 64, low d. r.



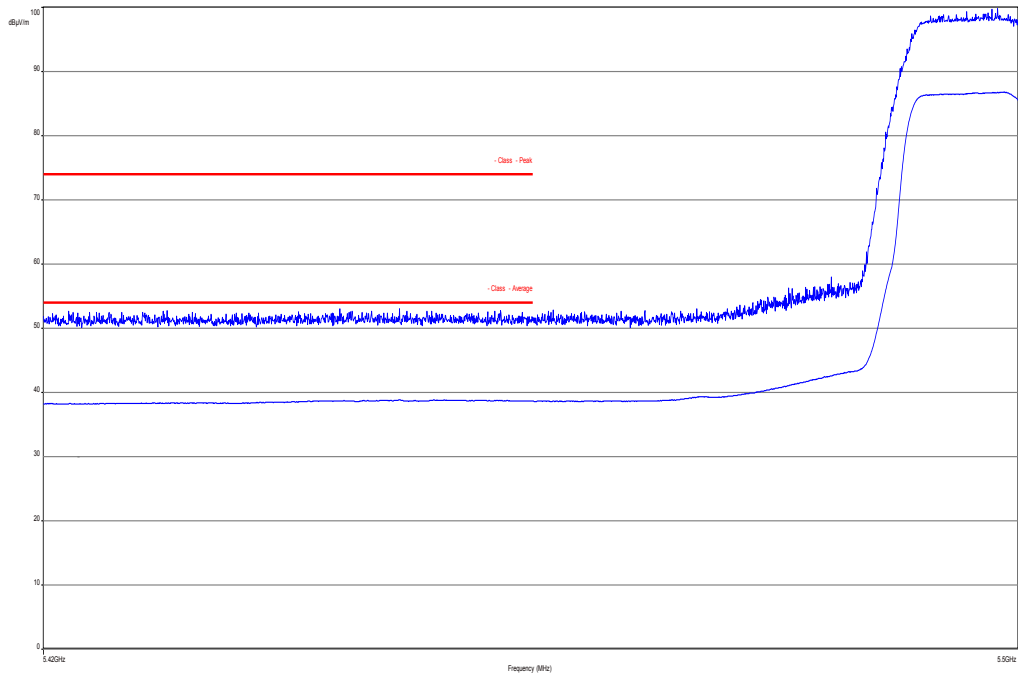
**Plot 10:** upper band edge, vertical & horizontal polarization (n/ac HT 20 mode), channel 64, high power d. r.



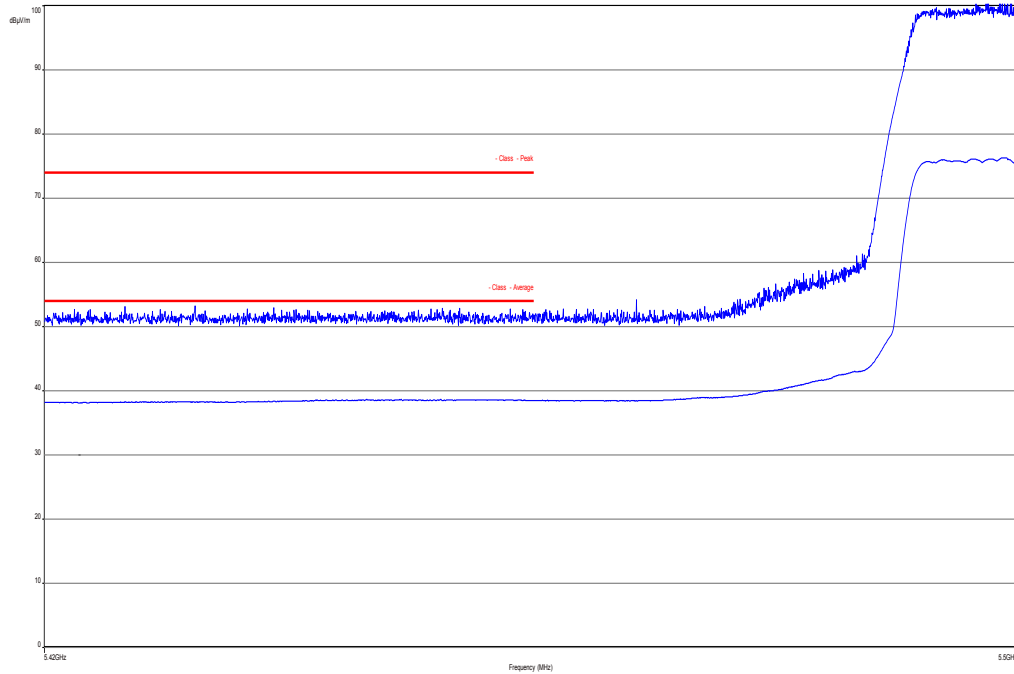
**Plot 11:** upper band edge, vertical & horizontal polarization (n/ac HT 20 mode), channel 64, high d. r.



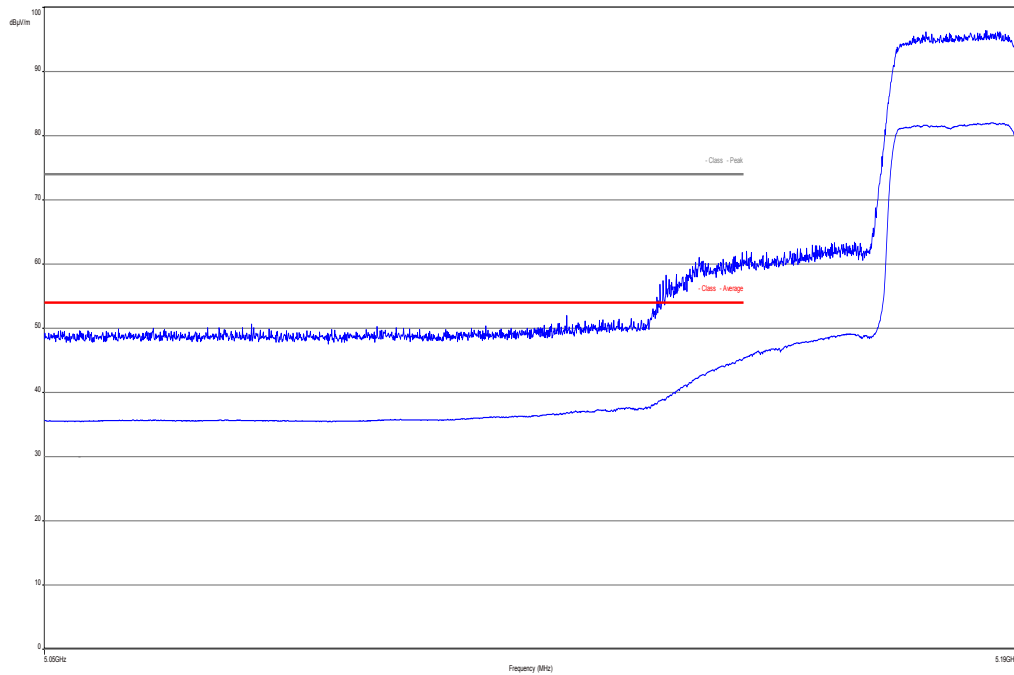
**Plot 12:** lower band edge, vertical & horizontal polarization (n/ac HT 20 mode), channel 100, low d. r.



**Plot 13:** lower band edge, vertical & horizontal polarization (n/ac HT 20 mode), channel 100, high d. r.

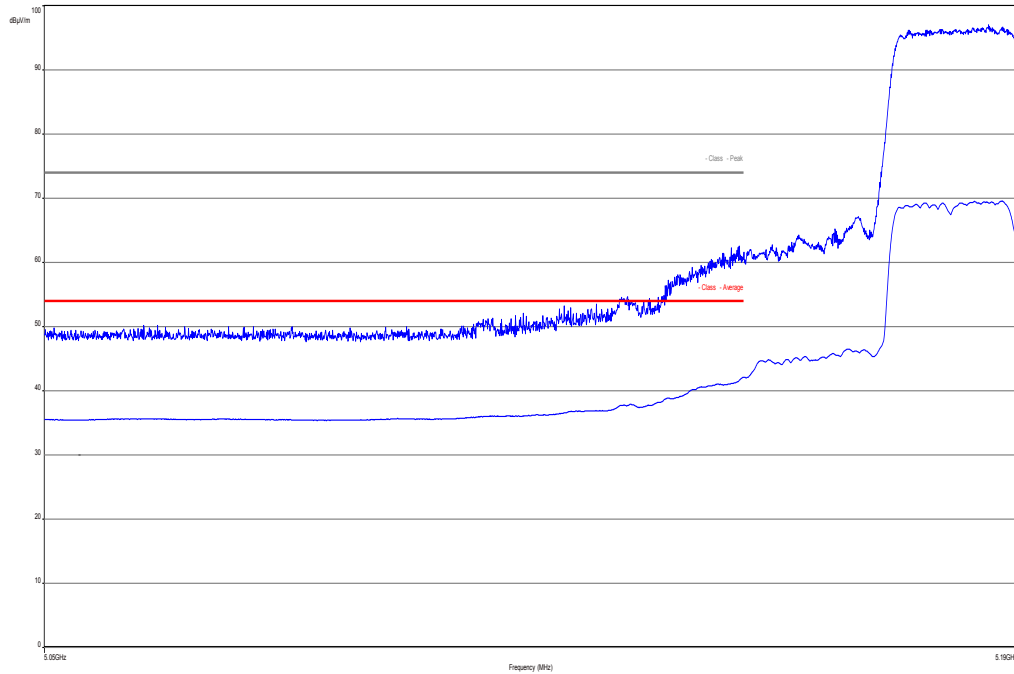


**Plot 14:** lower band edge, vertical & horizontal polarization (n/ac HT 40 mode), channel 38, low d. r.

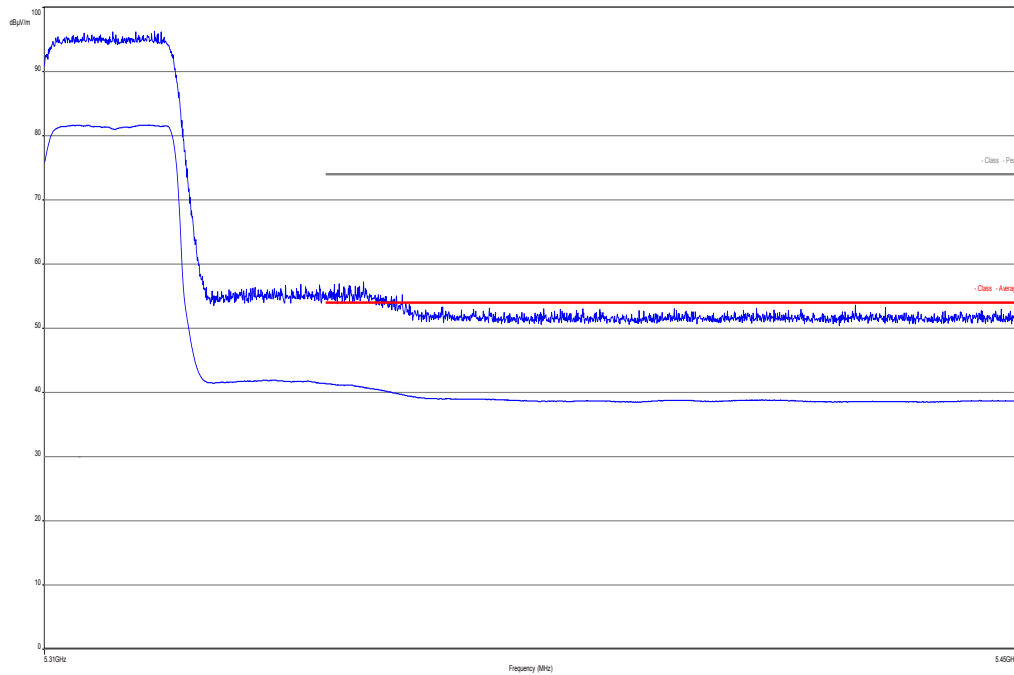




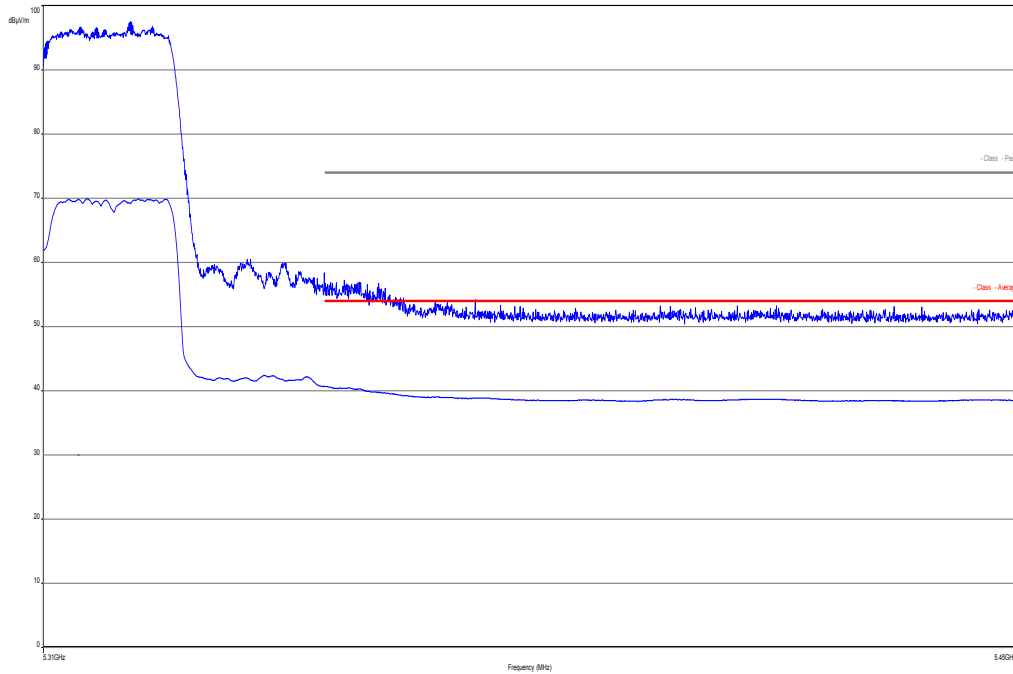
**Plot 15:** lower band edge, vertical & horizontal polarization (n/ac HT 40 mode), channel 38, high d. r.



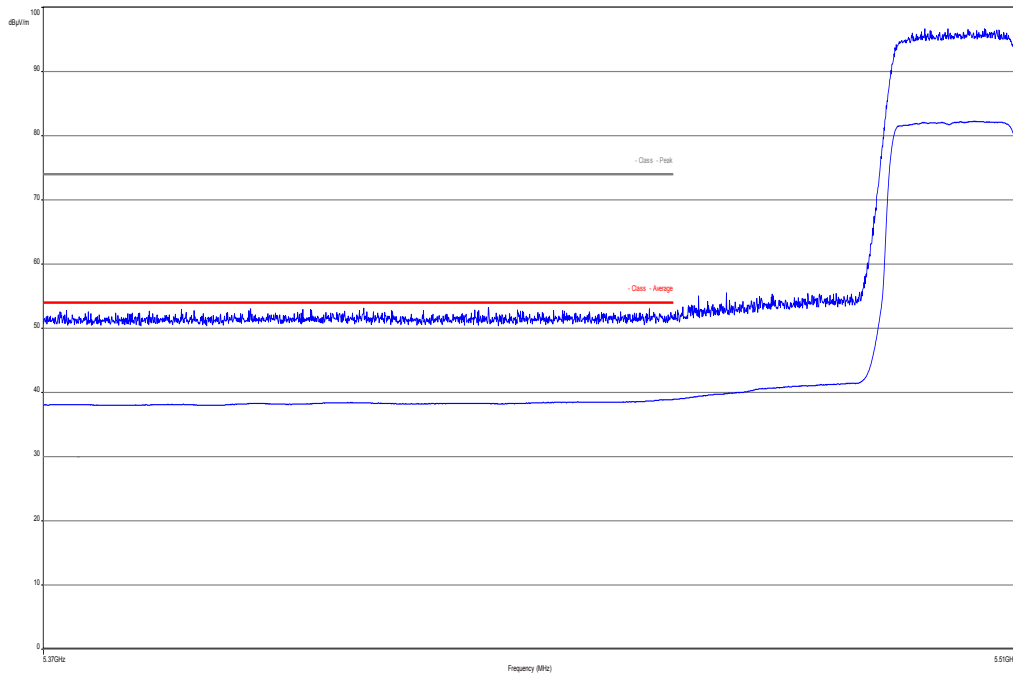
**Plot 16:** upper band edge, vertical & horizontal polarization (n/ac HT 40 mode), channel 62, low d. r.



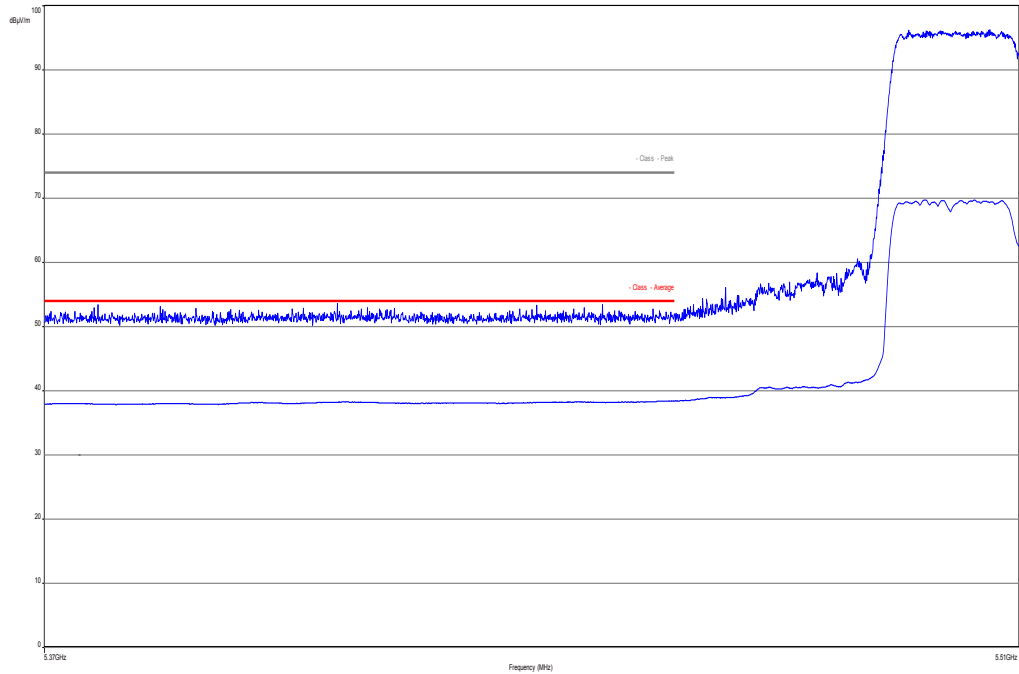
**Plot 17:** upper band edge, vertical & horizontal polarization (n/ac HT 40 mode), channel 62, high d. r.



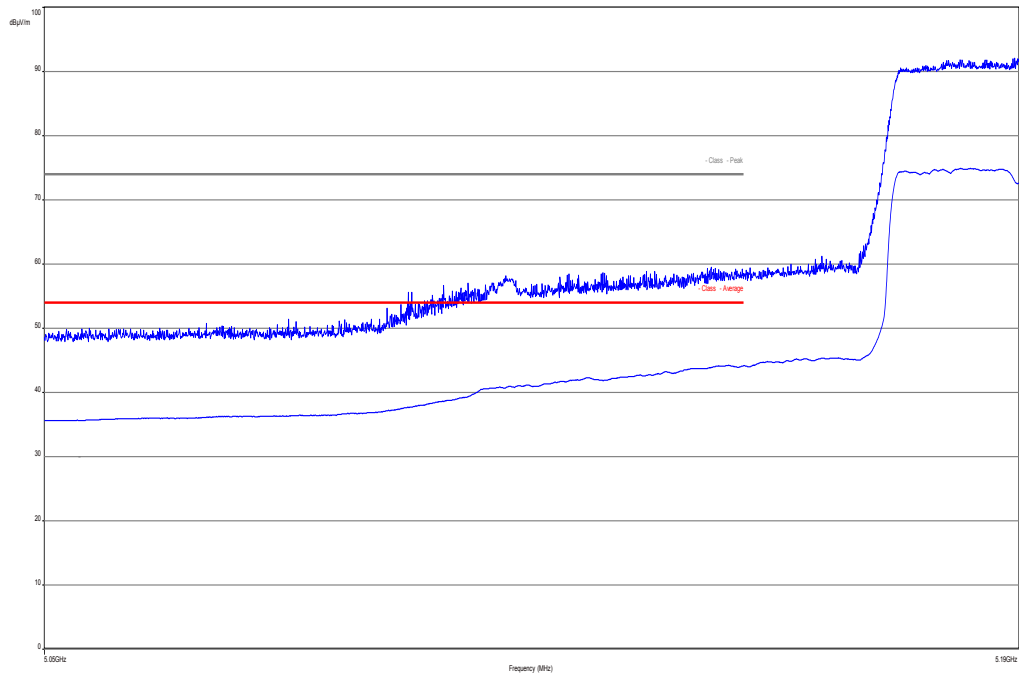
**Plot 18:** lower band edge, vertical & horizontal polarization (n/ac HT 40 mode), channel 102, low d. r.



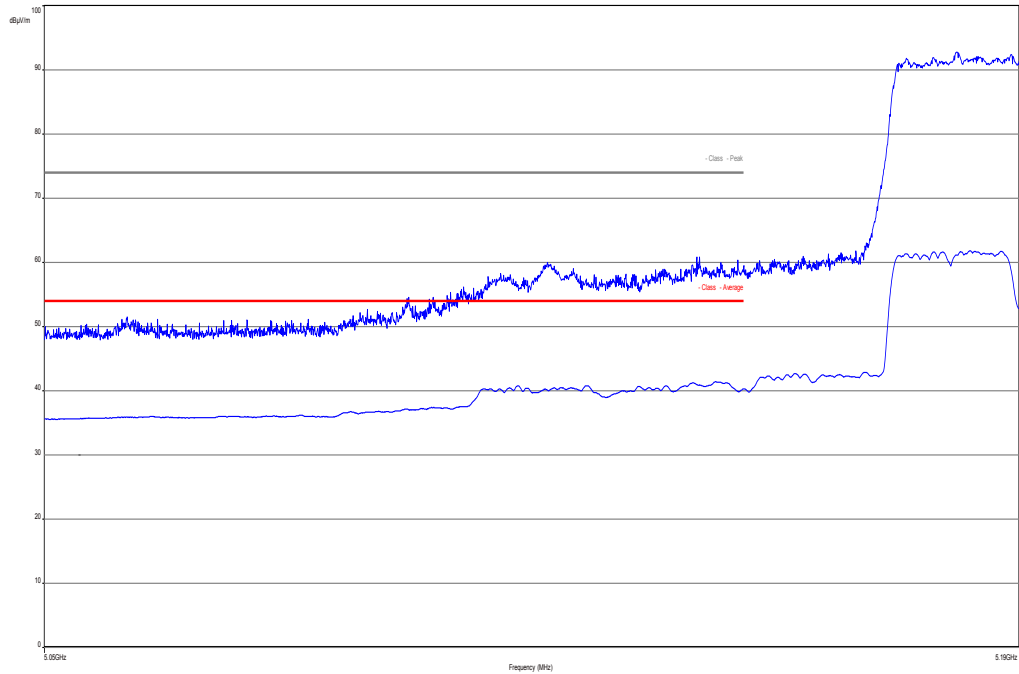
**Plot 19:** lower band edge, vertical & horizontal polarization (n/ac HT 40 mode), channel 102, high d. r.



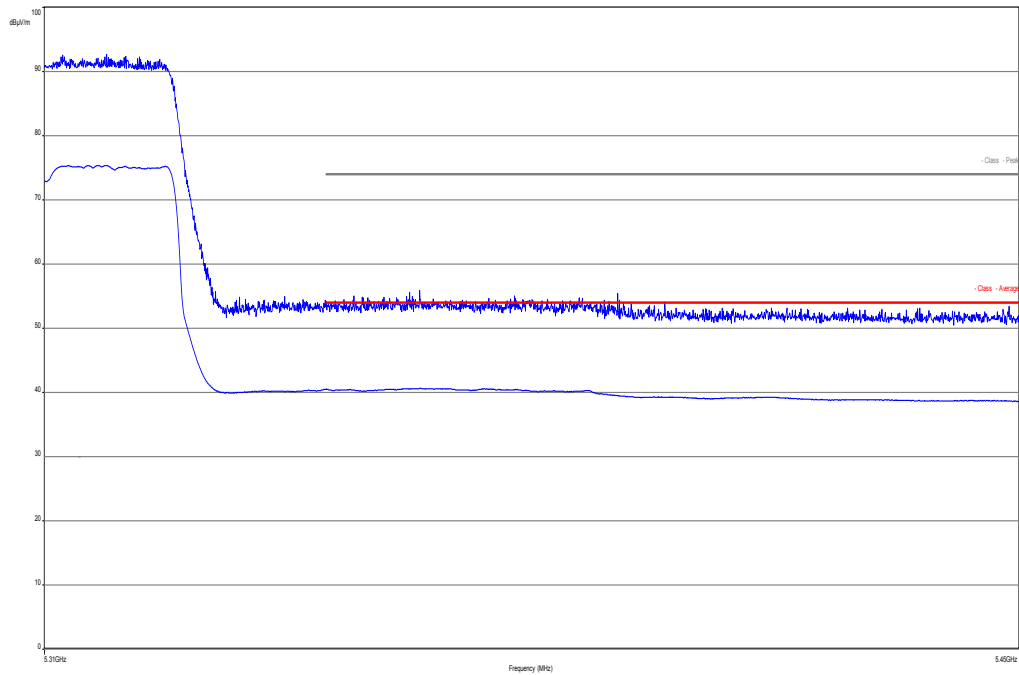
**Plot 20:** lower band edge, vertical & horizontal polarization (ac HT 80 mode), channel 42, low d. r.



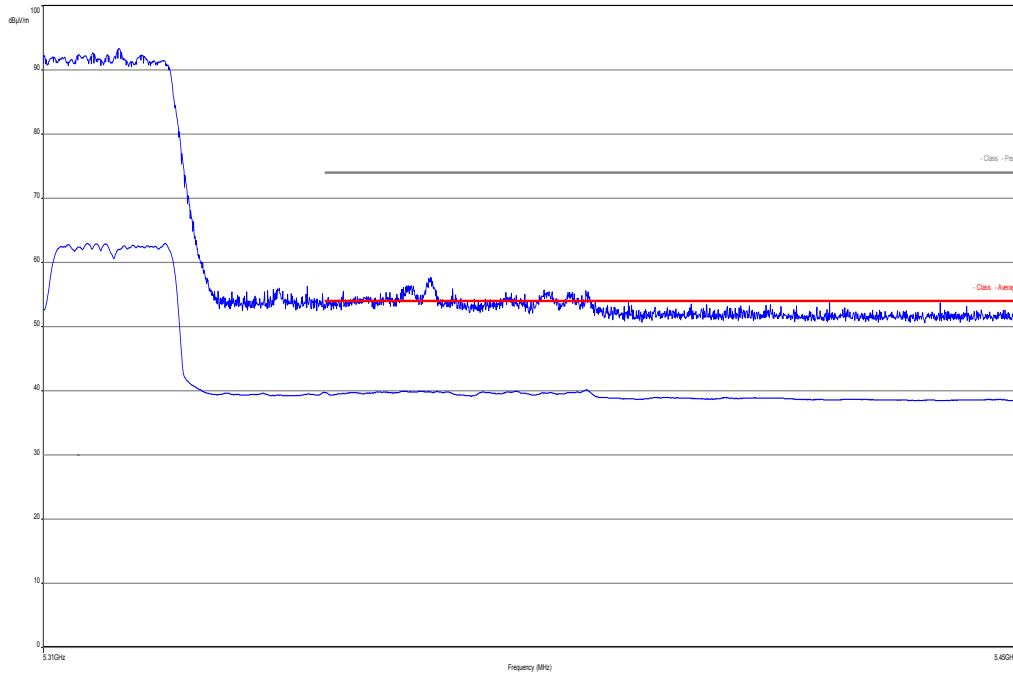
**Plot 21:** lower band edge, vertical & horizontal polarization (ac HT 80 mode), channel 42, high d. r.



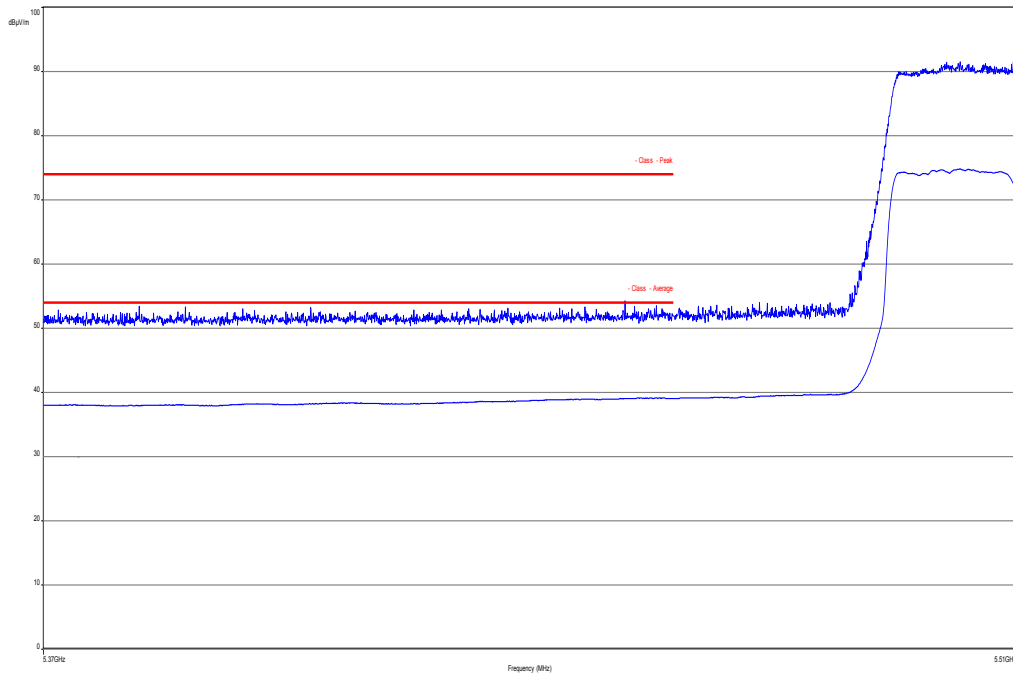
**Plot 22:** highest band edge, vertical & horizontal polarization (ac HT 80 mode), channel 58, low d. r.



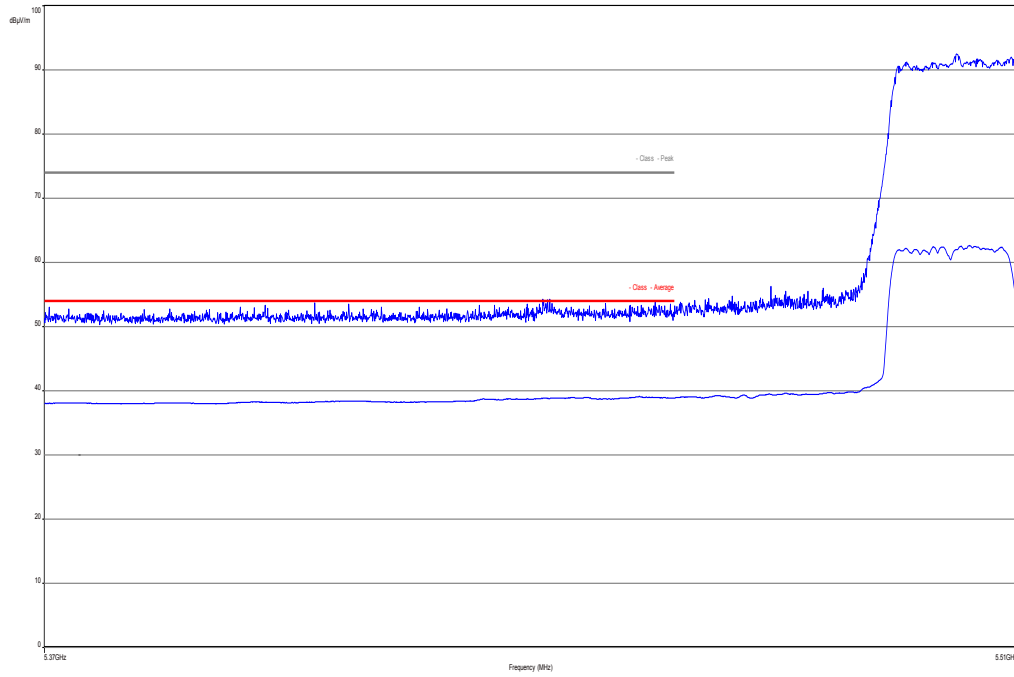
**Plot 23:** highest band edge, vertical & horizontal polarization (ac HT 80 mode), channel 58, high d. r.



**Plot 24:** lowest band edge, vertical & horizontal polarization (ac HT80 mode), channel 106, low d. r.



**Plot 25:** lowest band edge, vertical & horizontal polarization (ac HT80 mode), channel 106, high d. r.



**Result:** Passed

## 11.9 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.		
For emissions above 1 GHz, please take a look at the plots.			-/-			For emissions above 1 GHz, please take a look at the plots.		
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.		
For emissions above 1 GHz, please take a look at the plots.			-/-			For emissions above 1 GHz, please take a look at the plots.		
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.		
For emissions above 1 GHz, please take a look at the plots.			For emissions above 1 GHz, please take a look at the plots.			For emissions above 1 GHz, please take a look at the plots.		
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.		
For emissions above 1 GHz, please take a look at the plots.			-/-			For emissions above 1 GHz, please take a look at the plots.		
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.		
For emissions above 1 GHz, please take a look at the plots.			-/-			For emissions above 1 GHz, please take a look at the plots.		
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.		
For emissions above 1 GHz, please take a look at the plots.			For emissions above 1 GHz, please take a look at the plots.			For emissions above 1 GHz, please take a look at the plots.		
Measurement uncertainty			± 3 dB					

**Result: Passed**

**Results: OFDM / n/ac – modeHT40**

TX Spurious Emissions Radiated [dB $\mu$ V/m] / dBm								
OFDM n/ac – mode HT40								
Lowest 5190 MHz			Middle 5230 MHz			Highest 5270 MHz		
F [MHz]	Detector	Level [dB $\mu$ V/m]	F [MHz]	Detector	Level [dB $\mu$ V/m]	F [MHz]	Detector	Level [dB $\mu$ V/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.		
For emissions above 1 GHz, please take a look at the plots.			For emissions above 1 GHz, please take a look at the plots.			For emissions above 1 GHz, please take a look at the plots.		
Measurement uncertainty			± 3 dB					

TX Spurious Emissions Radiated [dB $\mu$ V/m] / dBm								
OFDM n/ac – mode HT40								
Lowest 5310 MHz			Middle 5510 MHz			Highest 5590 MHz		
F [MHz]	Detector	Level [dB $\mu$ V/m]	F [MHz]	Detector	Level [dB $\mu$ V/m]	F [MHz]	Detector	Level [dB $\mu$ V/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.		
For emissions above 1 GHz, please take a look at the plots.			For emissions above 1 GHz, please take a look at the plots.			For emissions above 1 GHz, please take a look at the plots.		
Measurement uncertainty			± 3 dB					

**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.		
For emissions above 1 GHz, please take a look at the plots.			-/-			For emissions above 1 GHz, please take a look at the plots.		
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.		
For emissions above 1 GHz, please take a look at the plots.			-/-			For emissions above 1 GHz, please take a look at the plots.		
Measurement uncertainty			± 3 dB					

**Result: Passed**

**Plots:** OFDM / a – mode

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

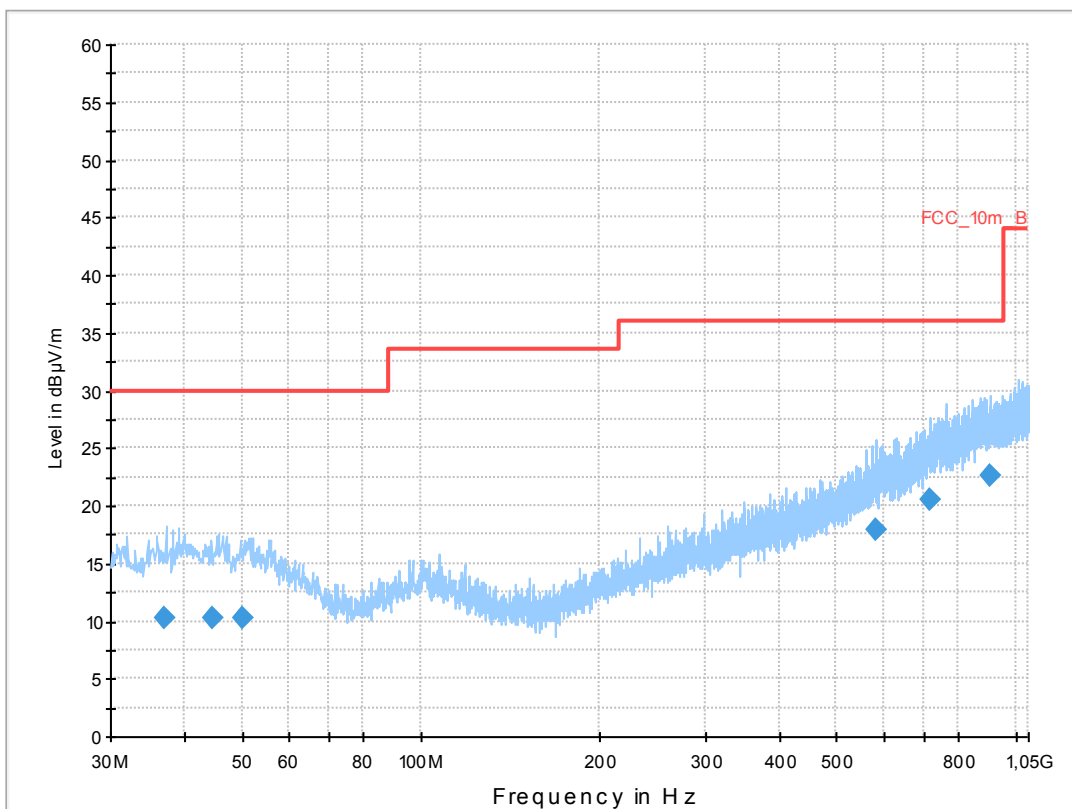
### Common Information

EUT: TS-0020-BV  
 Serial Number: CB51268FN3  
 Test Description: FCC part 15 class B @ 10 m  
 Operating Conditions: WLAN a-mode TX Ch 36  
 Operator Name: Hennemann  
 Comment: battery powered

### Scan Setup: STAN\_Fin [EMI radiated]

Hardware Setup: Electric Field (NOS)  
 Receiver: [ESC1 3]  
 Level Unit: dBµV/m

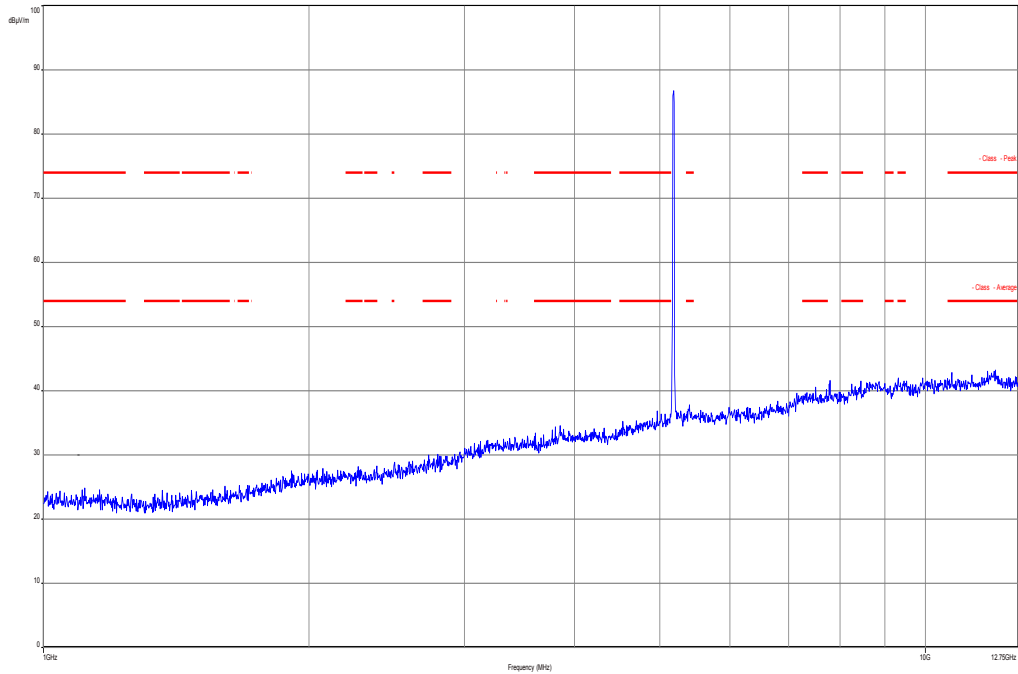
Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



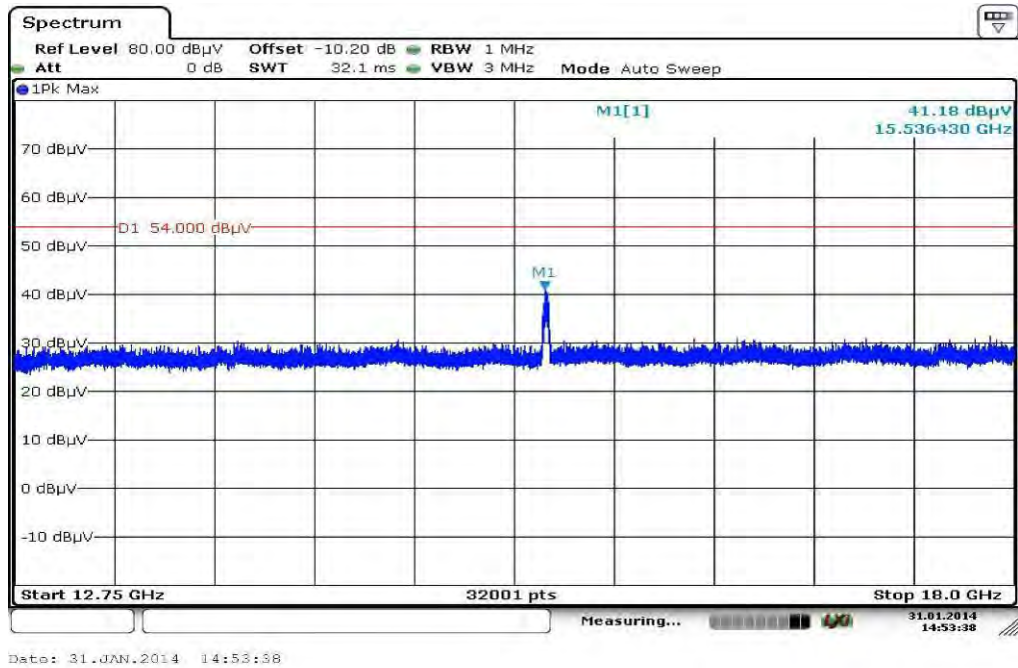
### Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
36.907200	10.2	1000.0	120.000	170.0	H	178.0	13.2	19.8	30.0	
44.713500	10.3	1000.0	120.000	170.0	V	280.0	13.3	19.7	30.0	
49.955100	10.2	1000.0	120.000	170.0	H	261.0	13.4	19.8	30.0	
583.635150	17.9	1000.0	120.000	170.0	V	280.0	20.3	18.1	36.0	
719.908500	20.5	1000.0	120.000	170.0	H	88.0	23.0	15.5	36.0	
909.434100	22.6	1000.0	120.000	170.0	V	265.0	25.2	13.4	36.0	

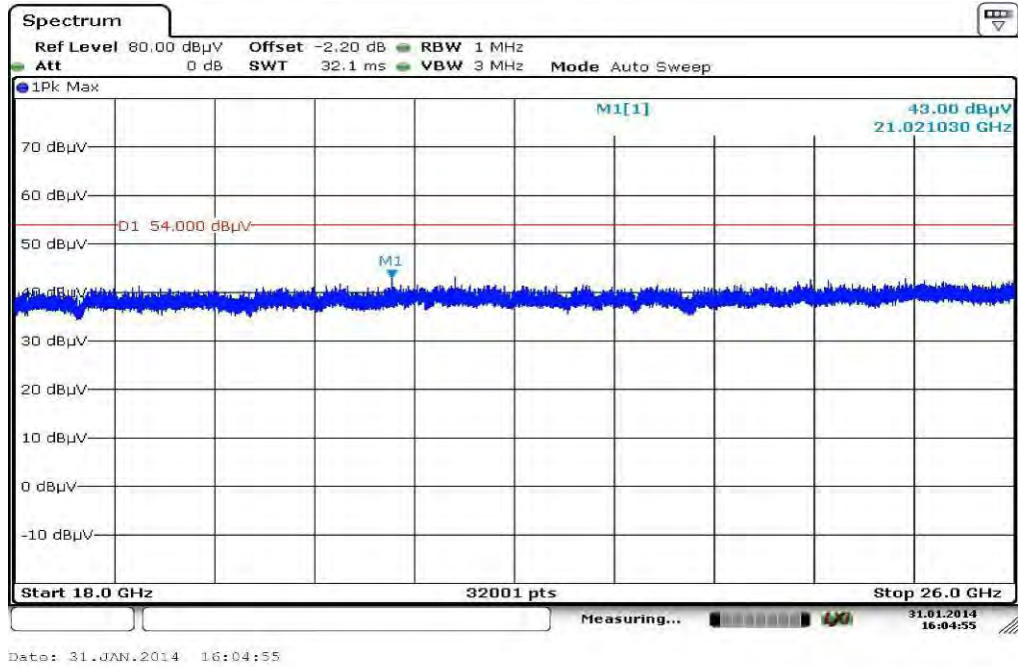
**Plot 2:** 1 GHz to 12.75 GHz, 5180 MHz, vertical & horizontal polarization



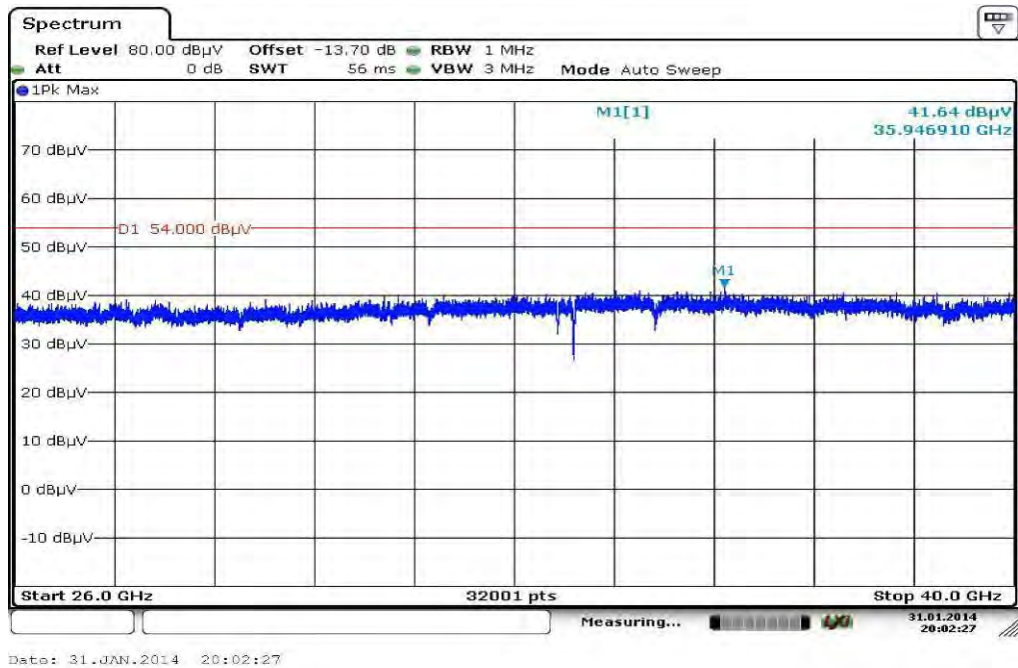
**Plot 3:** 12 GHz to 18 GHz, 5180 MHz, vertical & horizontal polarization



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



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



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

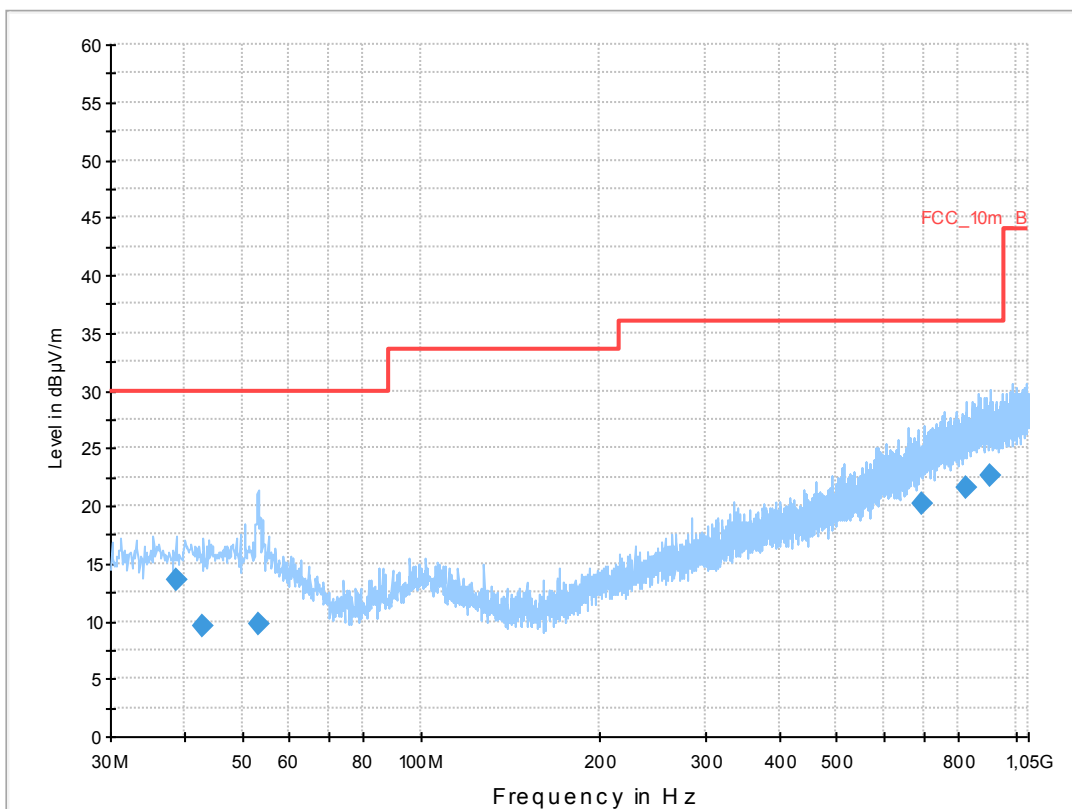
### Common Information

EUT: TS-0020-BV  
 Serial Number: CB51268FN3  
 Test Description: FCC part 15 class B @ 10 m  
 Operating Conditions: WLAN a-mode TX Ch 48  
 Operator Name: Hennemann  
 Comment: battery powered

### Scan Setup: STAN\_Fin [EMI radiated]

Hardware Setup: Electric Field (NOS)  
 Receiver: [ESC1 3]  
 Level Unit: dBµV/m

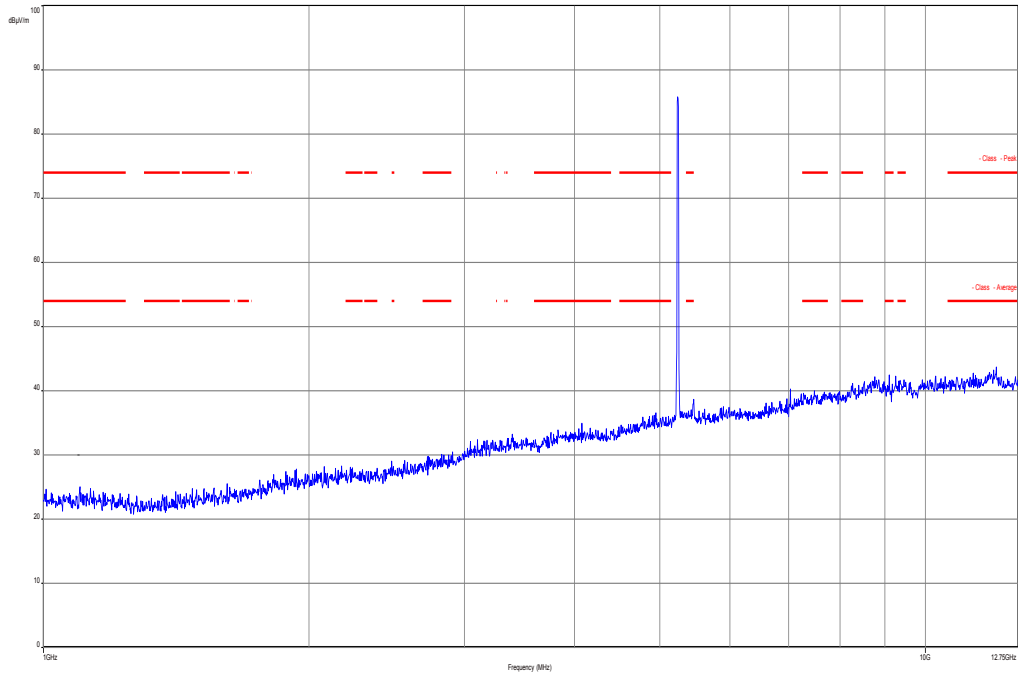
Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



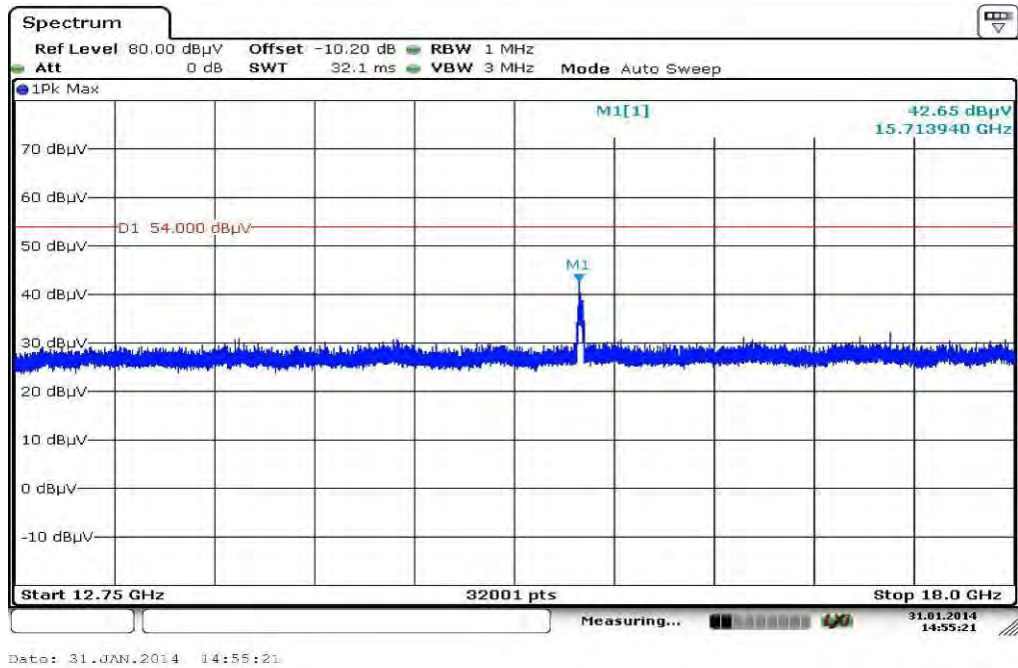
### Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
38.691900	13.7	1000.0	120.000	98.0	V	265.0	13.3	16.4	30.0	
42.820350	9.6	1000.0	120.000	170.0	V	178.0	13.3	20.4	30.0	
53.404350	9.8	1000.0	120.000	104.0	V	280.0	13.0	20.2	30.0	
698.529450	20.1	1000.0	120.000	133.0	H	2.0	22.5	15.9	36.0	
823.011300	21.6	1000.0	120.000	151.0	H	100.0	24.2	14.4	36.0	
906.410100	22.7	1000.0	120.000	170.0	V	261.0	25.2	13.3	36.0	

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

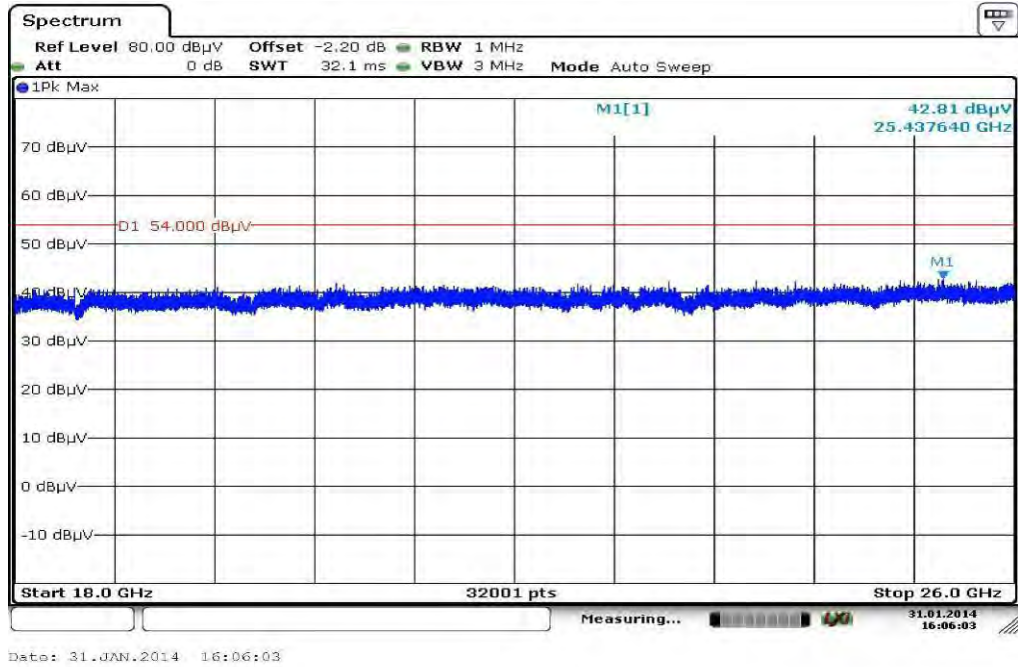


Plot 8: 12 GHz to 18 GHz, 5240 MHz, vertical & horizontal polarization

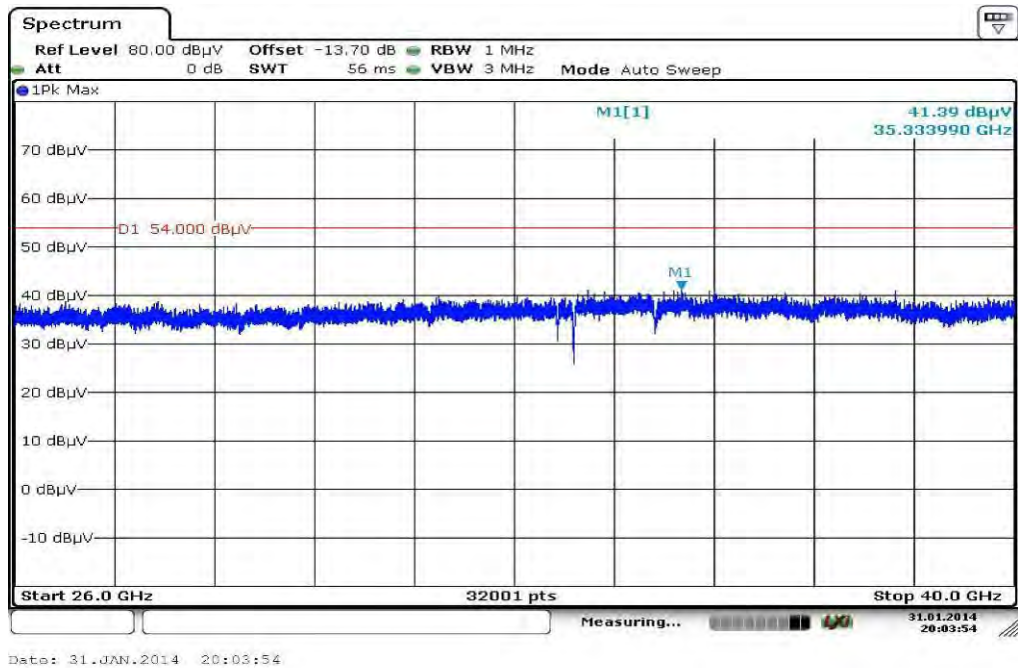




**Plot 9:** 18 GHz to 26 GHz, 5240 MHz, vertical & horizontal polarization



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



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

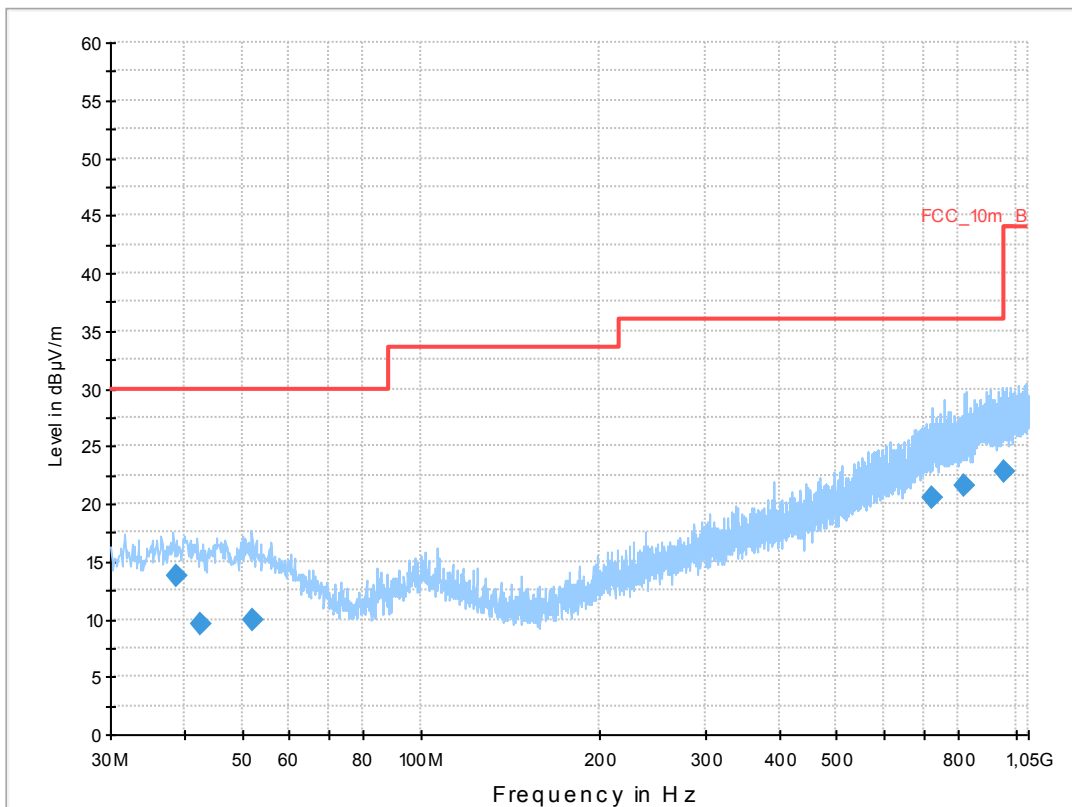
### Common Information

EUT: TS-0020-BV  
 Serial Number: CB51268FN3  
 Test Description: FCC part 15 class B @ 10 m  
 Operating Conditions: WLAN a-mode TX Ch 52  
 Operator Name: Hennemann  
 Comment: battery powered

### Scan Setup: STAN\_Fin [EMI radiated]

Hardware Setup: Electric Field (NOS)  
 Receiver: [ESC1 3]  
 Level Unit: dBµV/m

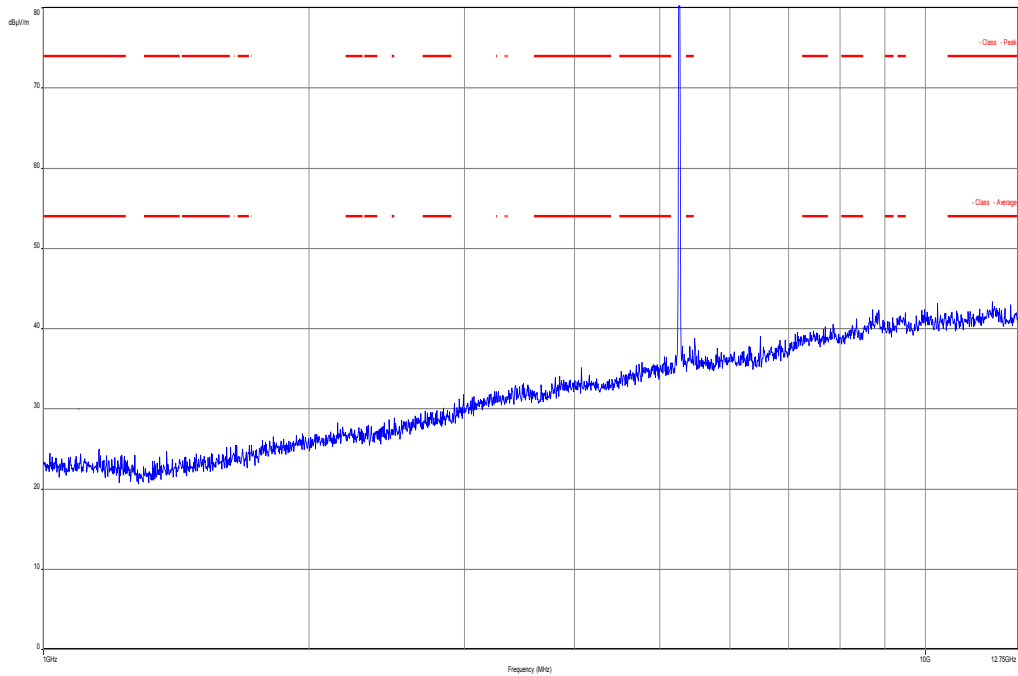
Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



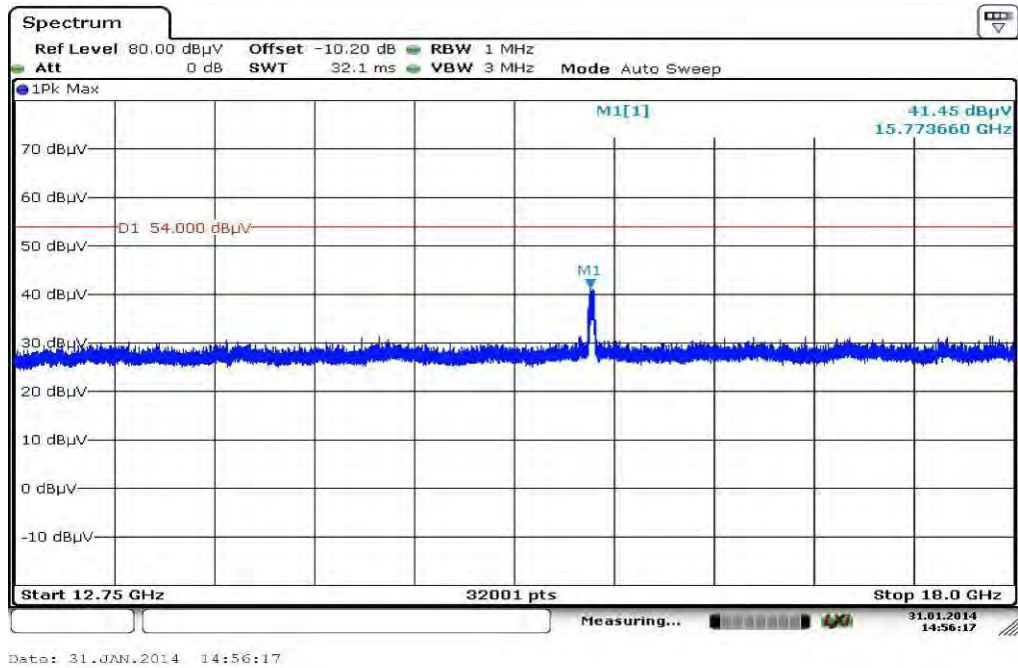
### Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
38.704200	13.7	1000.0	120.000	120.0	V	272.0	13.3	16.3	30.0	
42.529950	9.6	1000.0	120.000	170.0	H	100.0	13.3	20.4	30.0	
52.210500	9.9	1000.0	120.000	98.0	H	260.0	13.2	20.1	30.0	
724.640550	20.6	1000.0	120.000	170.0	V	269.0	23.1	15.4	36.0	
819.838800	21.6	1000.0	120.000	170.0	V	272.0	24.1	14.4	36.0	
953.181900	22.8	1000.0	120.000	133.0	H	10.0	25.4	13.2	36.0	

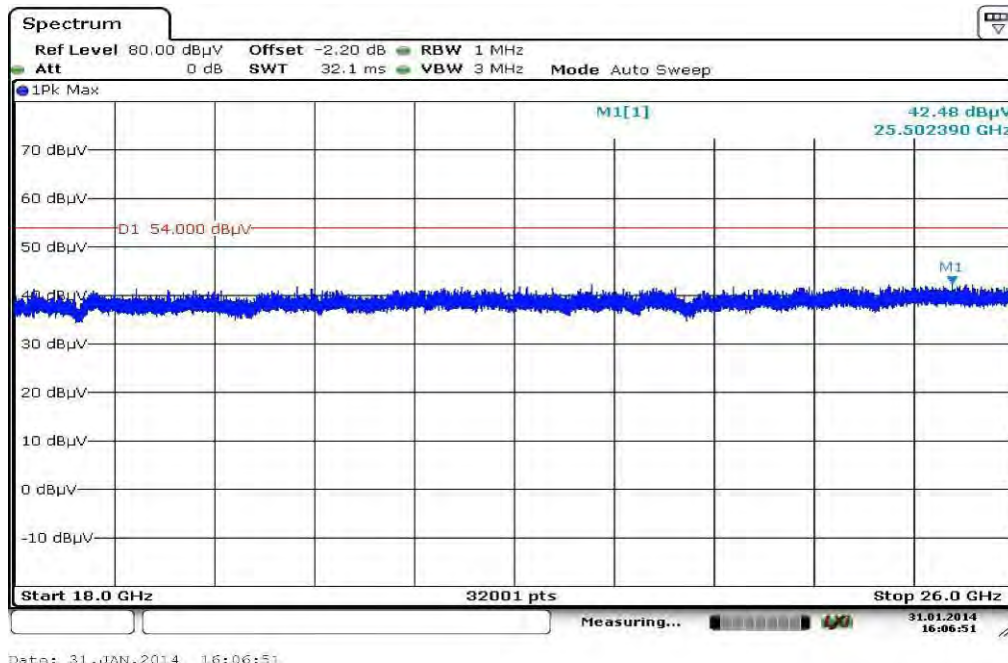
**Plot 12:** 1 GHz to 12.75 GHz, 5260 MHz, vertical & horizontal polarization



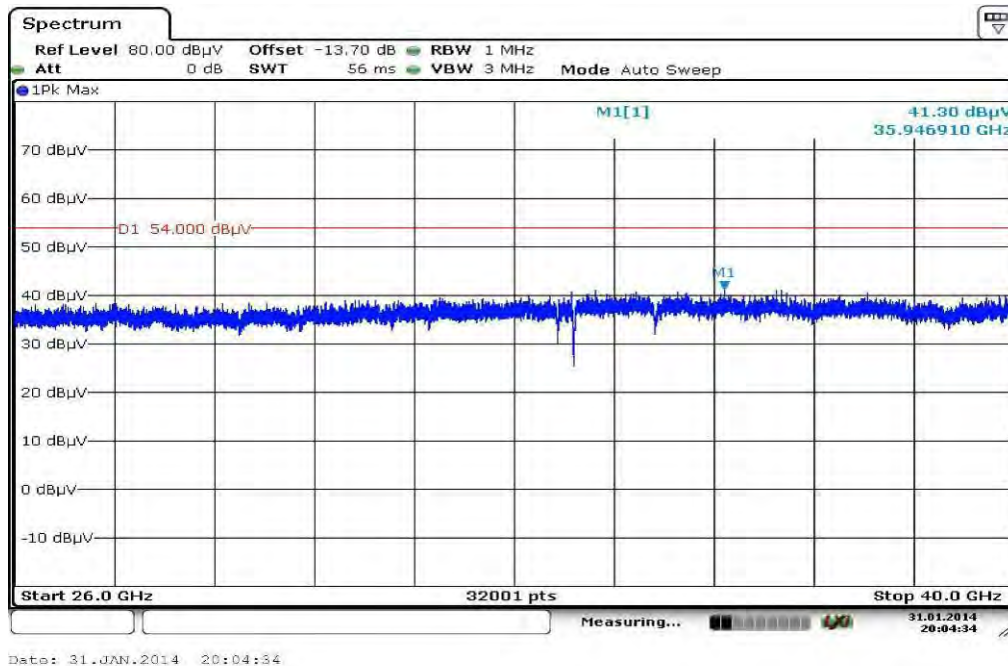
**Plot 13:** 12 GHz to 18 GHz, 5260 MHz, vertical & horizontal polarization



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



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



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

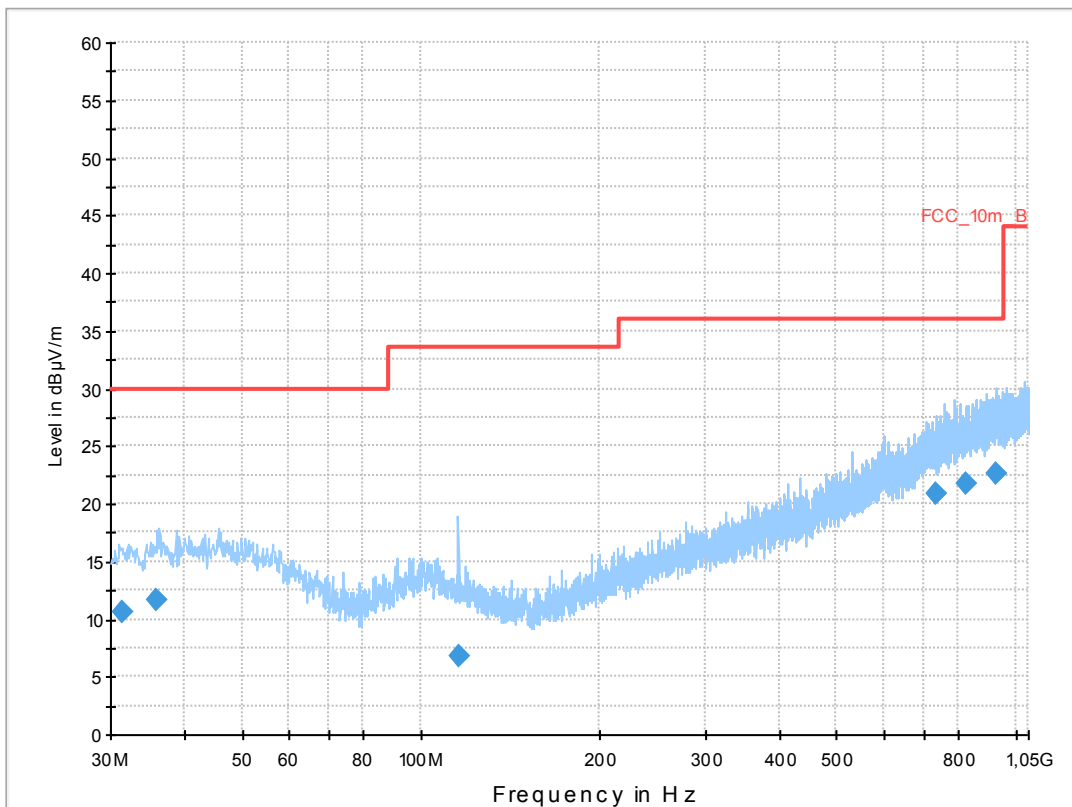
### Common Information

EUT: TS-0020-BV  
 Serial Number: CB51268FN3  
 Test Description: FCC part 15 class B @ 10 m  
 Operating Conditions: WLAN a-mode TX Ch 64  
 Operator Name: Hennemann  
 Comment: battery powered

### Scan Setup: STAN\_Fin [EMI radiated]

Hardware Setup: Electric Field (NOS)  
 Receiver: [ESC1 3]  
 Level Unit: dBµV/m

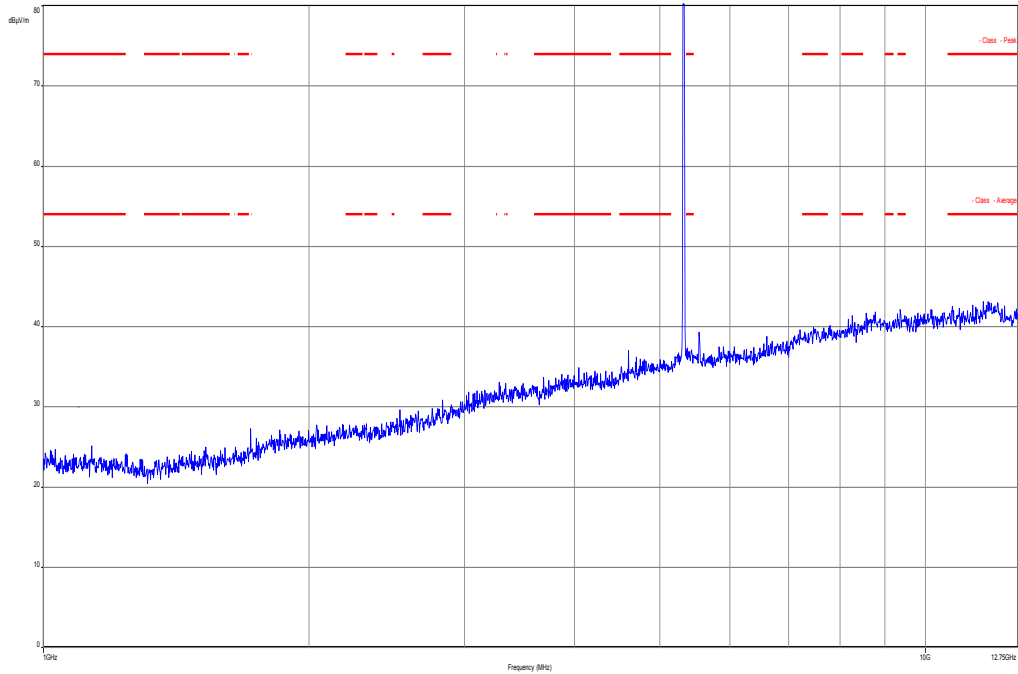
Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



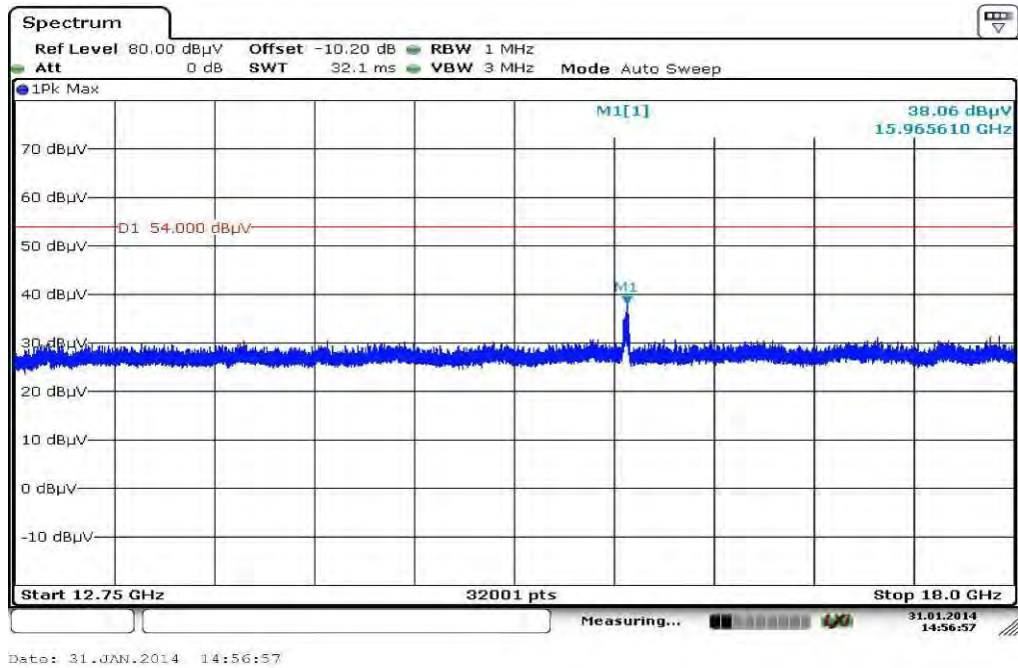
### Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
31.409550	10.7	1000.0	120.000	160.0	V	100.0	12.7	19.3	30.0	
35.980350	11.6	1000.0	120.000	170.0	V	92.0	13.1	18.4	30.0	
115.587300	6.7	1000.0	120.000	153.0	V	100.0	10.6	26.8	33.5	
734.169300	20.9	1000.0	120.000	170.0	H	10.0	23.3	15.1	36.0	
825.537150	21.8	1000.0	120.000	170.0	H	-5.0	24.2	14.2	36.0	
924.291750	22.7	1000.0	120.000	170.0	H	265.0	25.3	13.3	36.0	

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

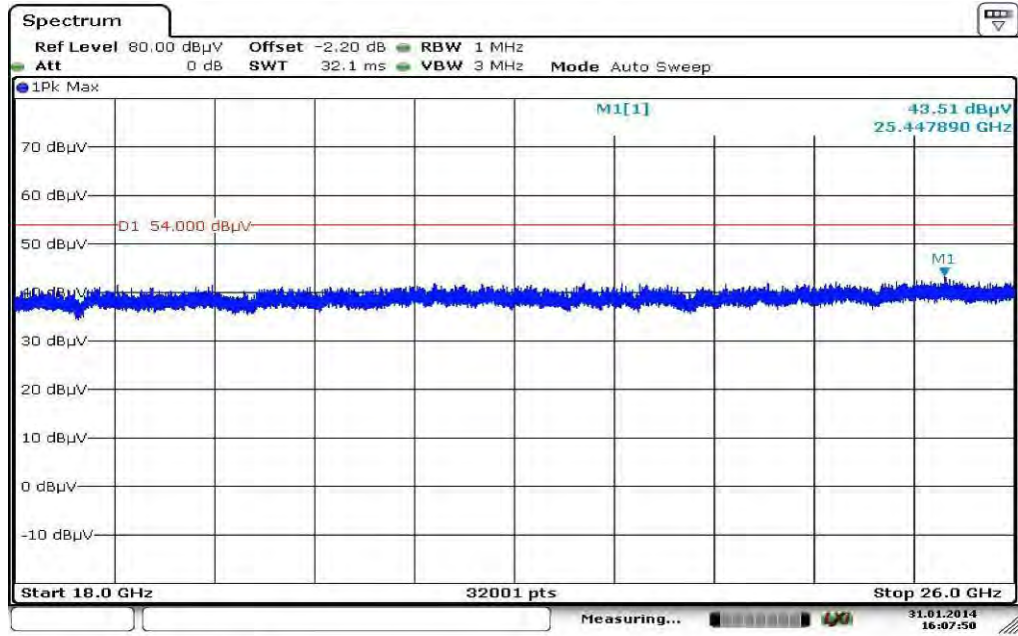


**Plot 18:** 12 GHz to 18 GHz, 5320 MHz, vertical & horizontal polarization



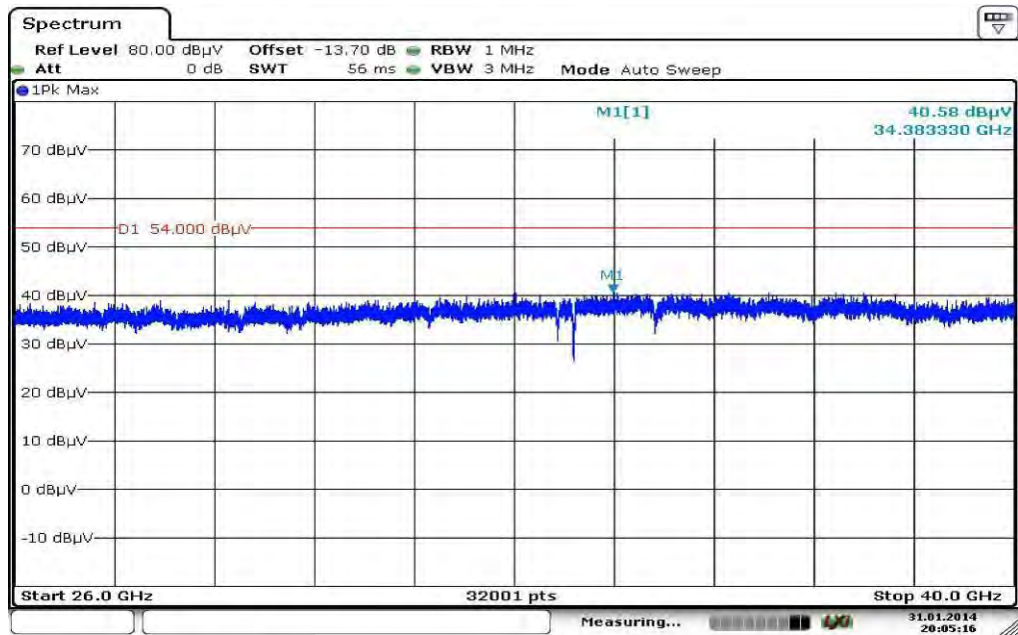


Plot 19: 18 GHz to 26 GHz, 5320 MHz, vertical & horizontal polarization



Date: 31.JAN.2014 16:07:50

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



Date: 31.JAN.2014 20:05:16

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

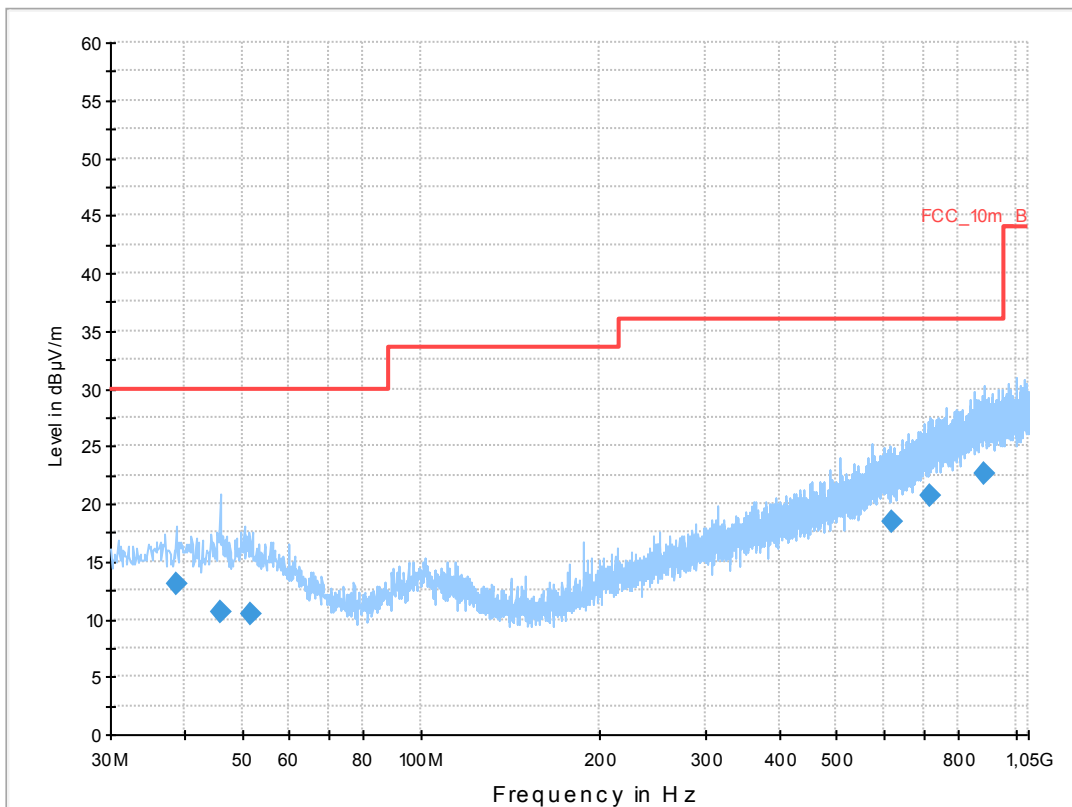
### Common Information

EUT: TS-0020-BV  
 Serial Number: CB51268FN3  
 Test Description: FCC part 15 class B @ 10 m  
 Operating Conditions: WLAN a-mode TX Ch 100  
 Operator Name: Hennemann  
 Comment: battery powered

### Scan Setup: STAN\_Fin [EMI radiated]

Hardware Setup: Electric Field (NOS)  
 Receiver: [ESC1 3]  
 Level Unit: dBµV/m

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB

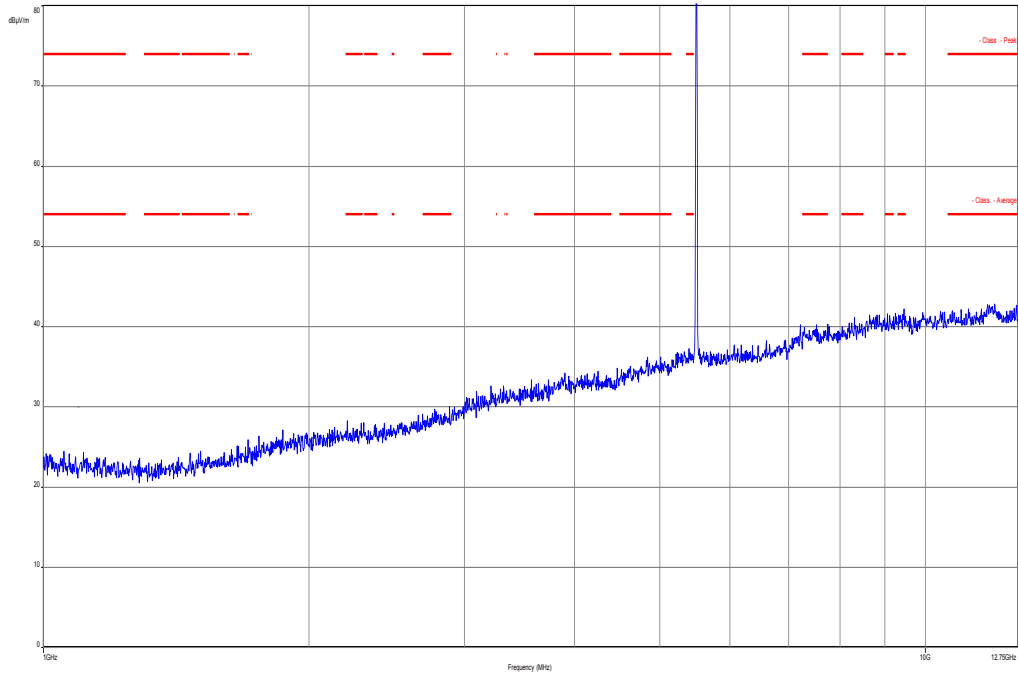


### Final Result 1

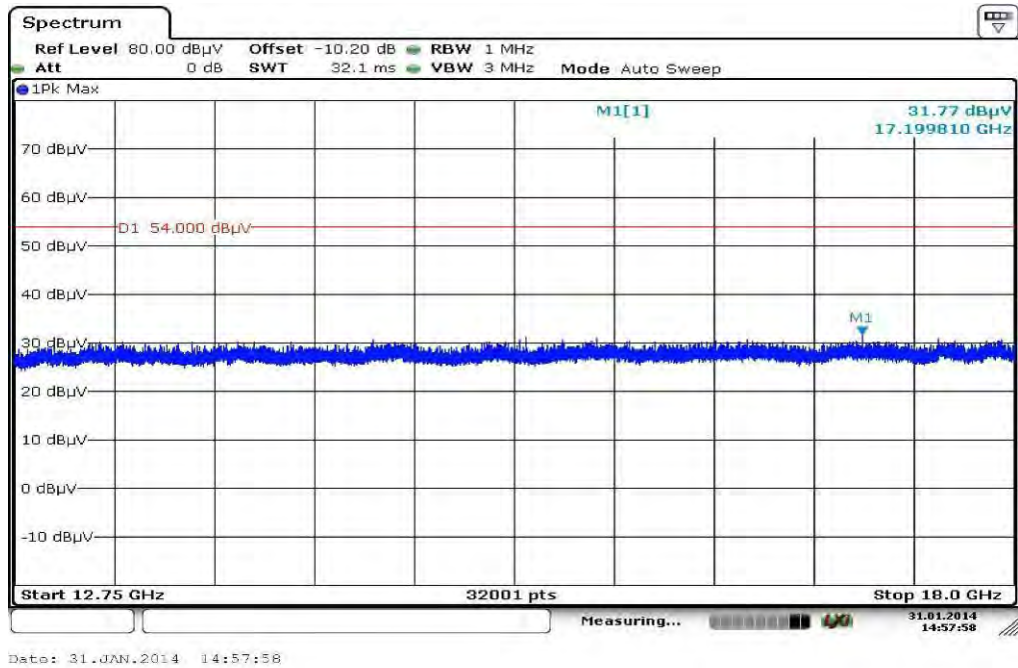
Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
38.728350	13.1	1000.0	120.000	133.0	V	2.0	13.3	16.9	30.0	
45.834450	10.7	1000.0	120.000	162.0	H	170.0	13.3	19.3	30.0	
51.610050	10.4	1000.0	120.000	170.0	H	100.0	13.2	19.6	30.0	
617.102700	18.5	1000.0	120.000	104.0	V	272.0	20.9	17.5	36.0	
720.000000	20.7	1000.0	120.000	170.0	V	92.0	23.0	15.3	36.0	
884.565300	22.6	1000.0	120.000	170.0	H	2.0	25.0	13.4	36.0	



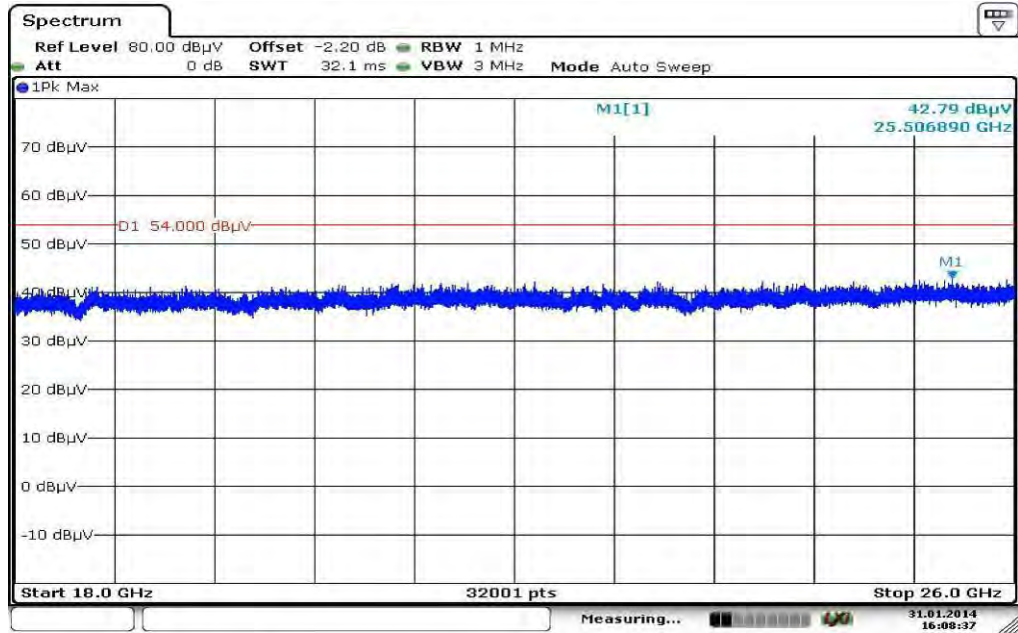
**Plot 22:** 1 GHz to 12.75 GHz, 5500 MHz, vertical & horizontal polarization



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

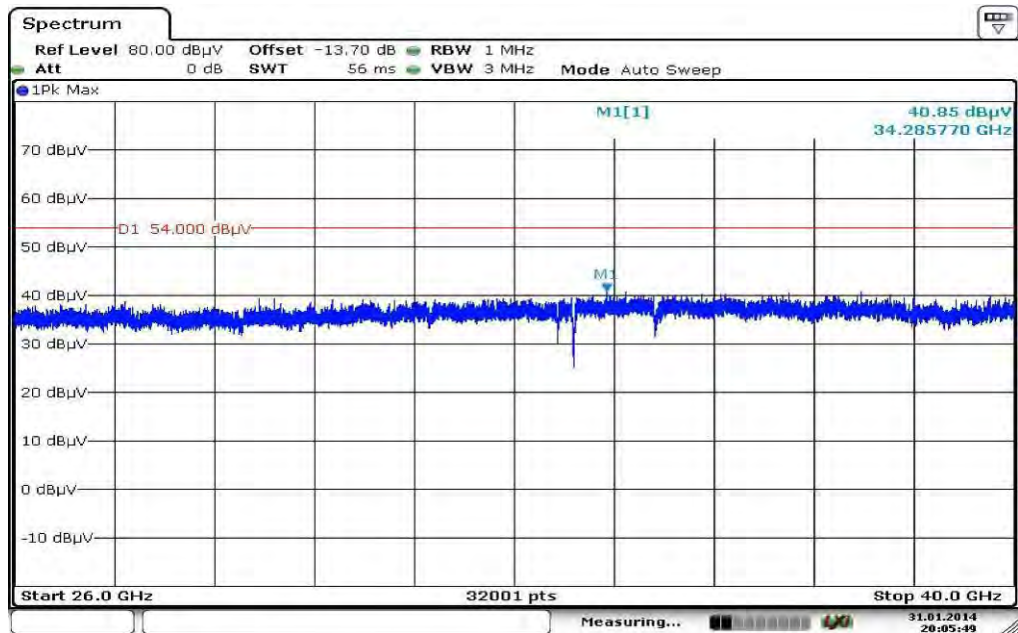


**Plot 24:** 18 GHz to 26 GHz, 5500 MHz, vertical & horizontal polarization



Date: 31.JAN.2014 16:08:37

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



Date: 31.JAN.2014 20:05:49

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

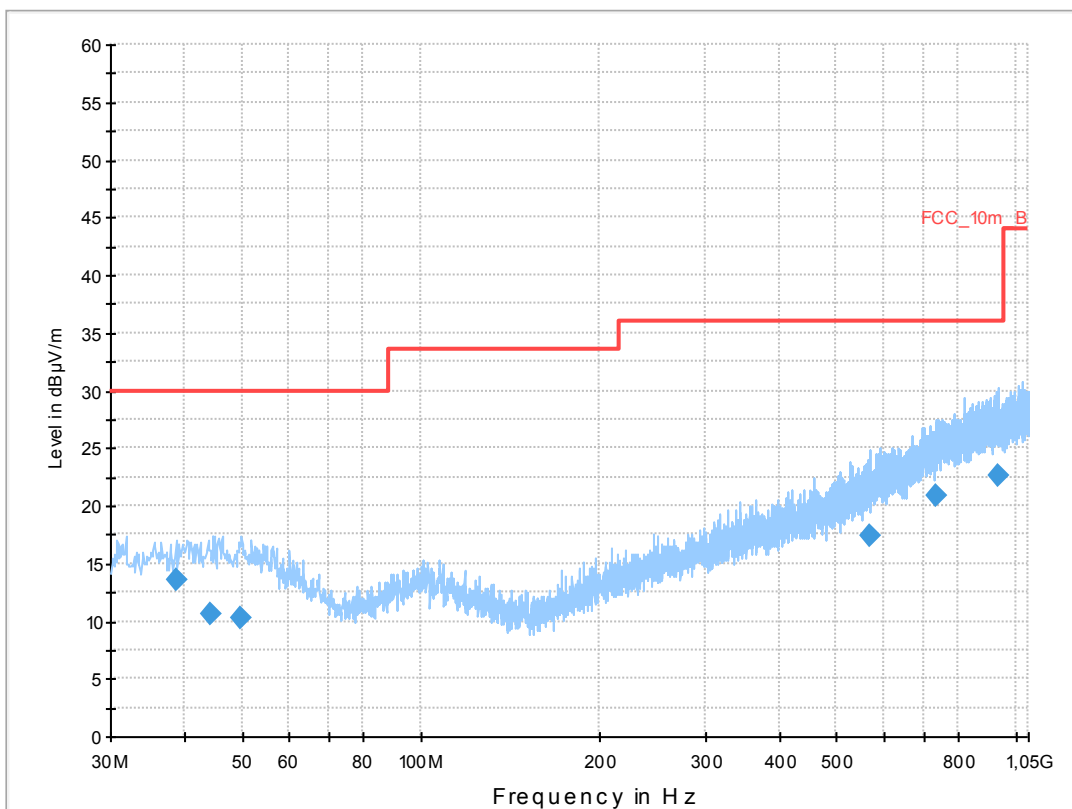
### Common Information

EUT: TS-0020-BV  
 Serial Number: CB51268FN3  
 Test Description: FCC part 15 class B @ 10 m  
 Operating Conditions: WLAN a-mode TX Ch 120  
 Operator Name: Hennemann  
 Comment: battery powered

### Scan Setup: STAN\_Fin [EMI radiated]

Hardware Setup: Electric Field (NOS)  
 Receiver: [ESC1 3]  
 Level Unit: dBµV/m

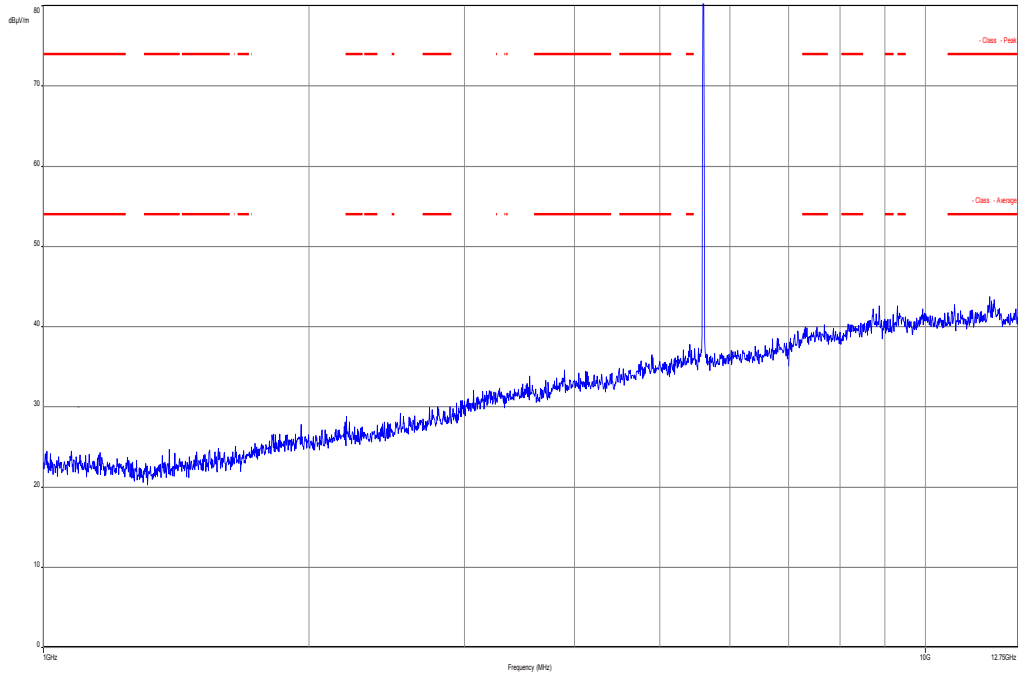
Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



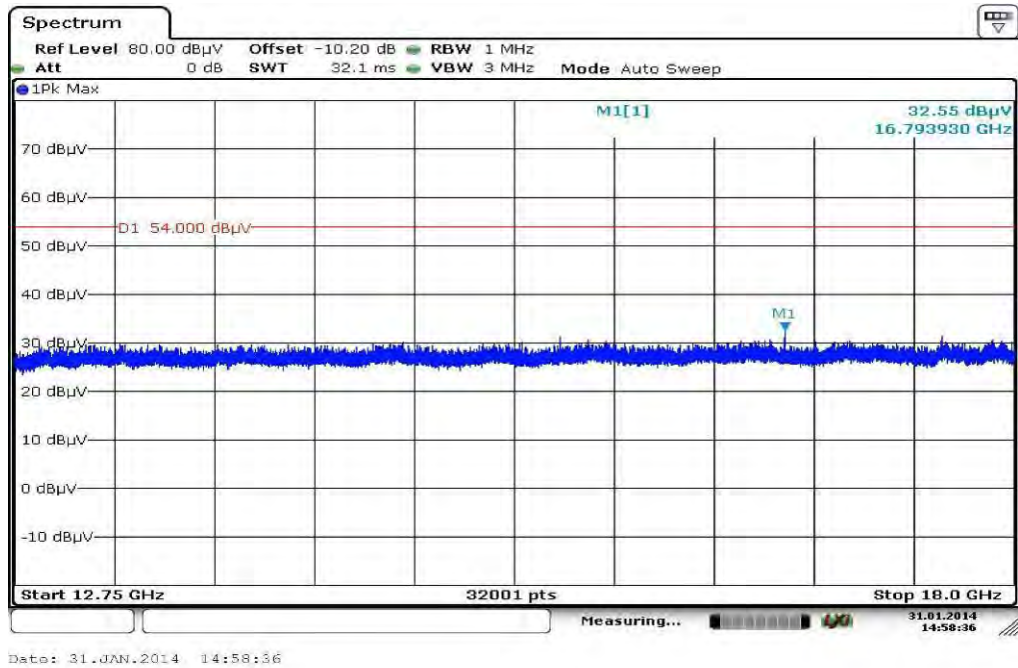
### Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
38.705850	13.5	1000.0	120.000	170.0	V	265.0	13.3	16.5	30.0	
44.159850	10.7	1000.0	120.000	104.0	V	280.0	13.3	19.3	30.0	
49.835550	10.2	1000.0	120.000	170.0	V	10.0	13.4	19.8	30.0	
568.866450	17.3	1000.0	120.000	170.0	V	81.0	19.9	18.7	36.0	
734.931300	20.9	1000.0	120.000	170.0	H	280.0	23.3	15.1	36.0	
935.004000	22.6	1000.0	120.000	170.0	V	280.0	25.3	13.4	36.0	

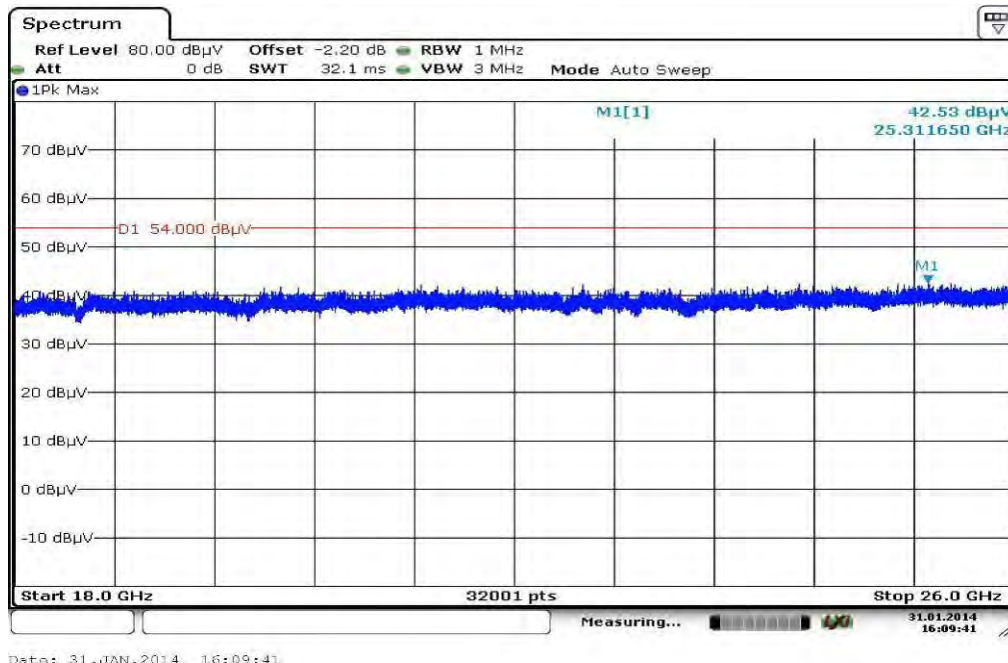
**Plot 27:** 1 GHz to 12.75 GHz, 5600 MHz, vertical & horizontal polarization



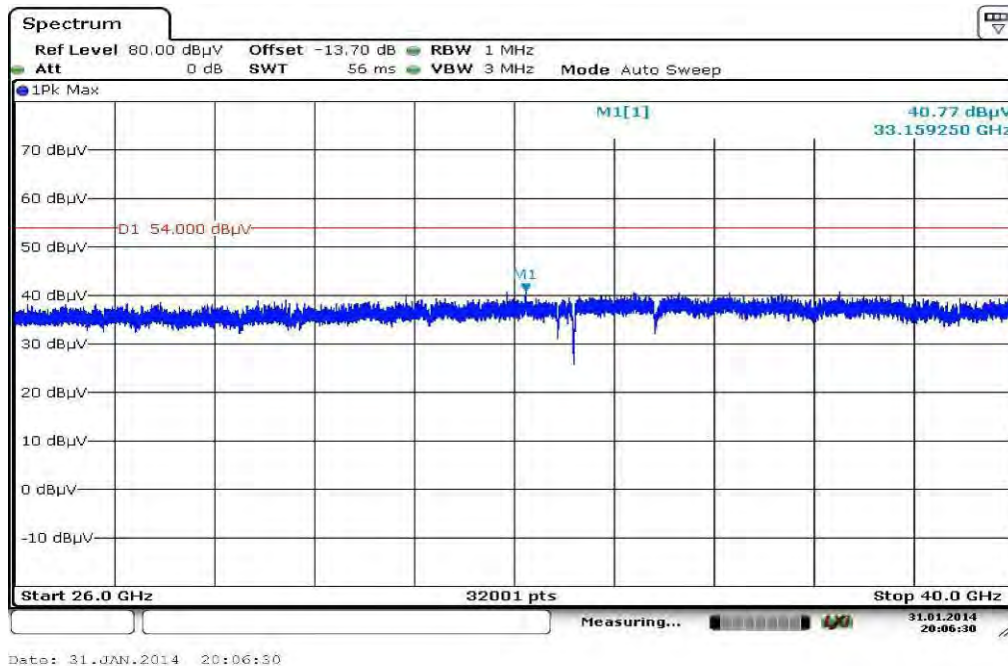
**Plot 28:** 12 GHz to 18 GHz, 5600 MHz, vertical & horizontal polarization



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



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



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

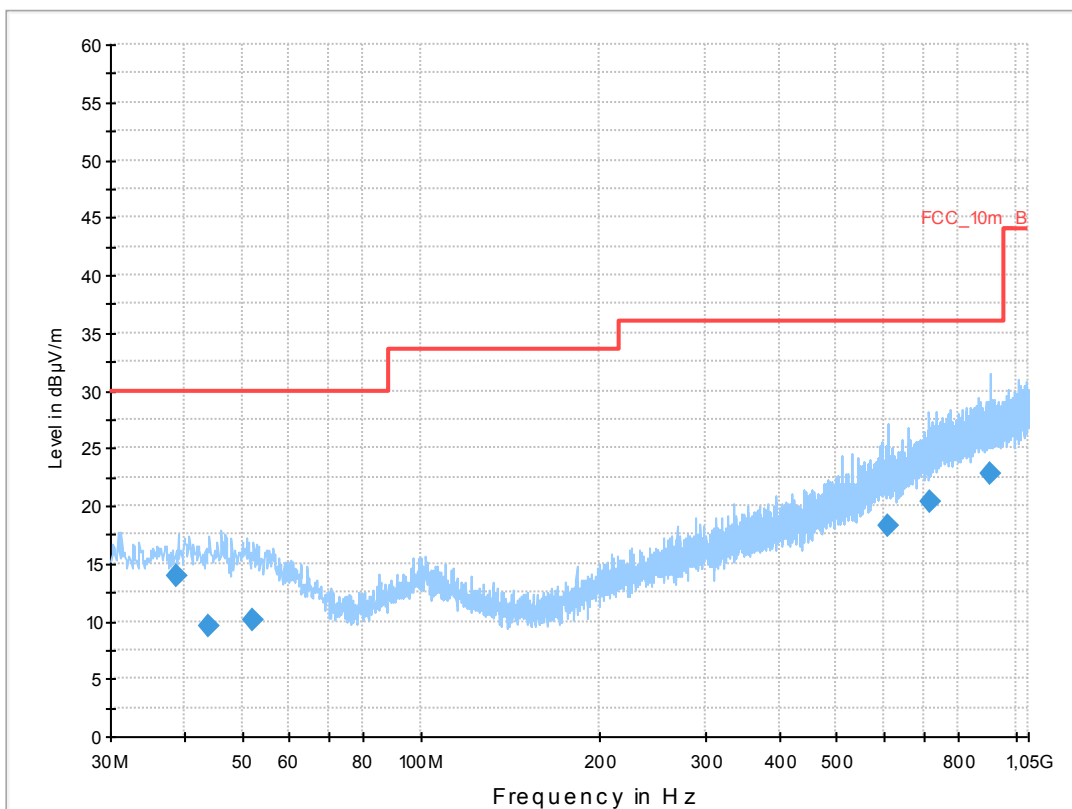
### Common Information

EUT: TS-0020-BV  
 Serial Number: CB51268FN3  
 Test Description: FCC part 15 class B @ 10 m  
 Operating Conditions: WLAN a-mode TX Ch 140  
 Operator Name: Hennemann  
 Comment: battery powered

### Scan Setup: STAN\_Fin [EMI radiated]

Hardware Setup: Electric Field (NOS)  
 Receiver: [ESC1 3]  
 Level Unit: dBµV/m

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB

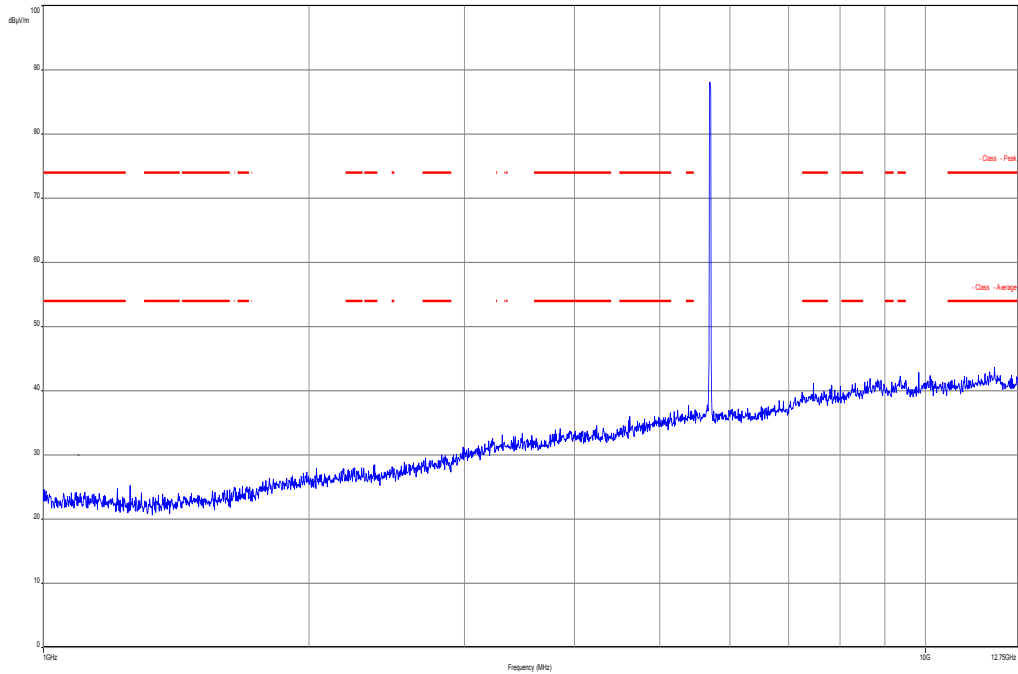


### Final Result 1

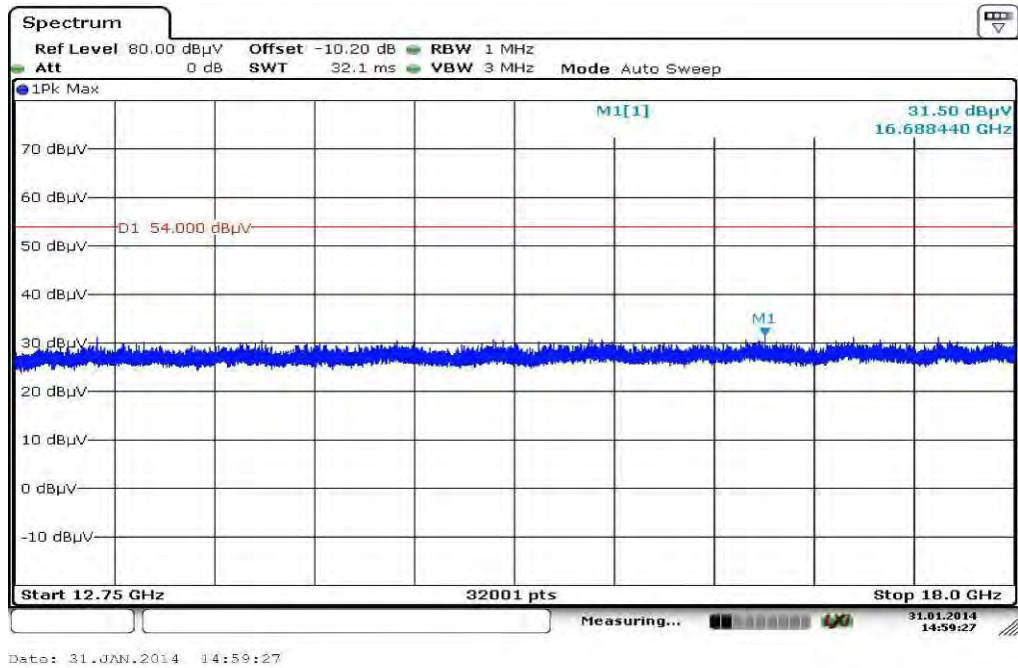
Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
38.712000	13.9	1000.0	120.000	98.0	V	88.0	13.3	16.1	30.0	
43.890450	9.5	1000.0	120.000	98.0	H	10.0	13.3	20.5	30.0	
52.165950	10.2	1000.0	120.000	170.0	V	260.0	13.2	19.8	30.0	
607.794750	18.3	1000.0	120.000	120.0	H	88.0	20.8	17.7	36.0	
715.414800	20.4	1000.0	120.000	170.0	V	2.0	22.9	15.6	36.0	
909.010800	22.7	1000.0	120.000	120.0	V	280.0	25.2	13.3	36.0	



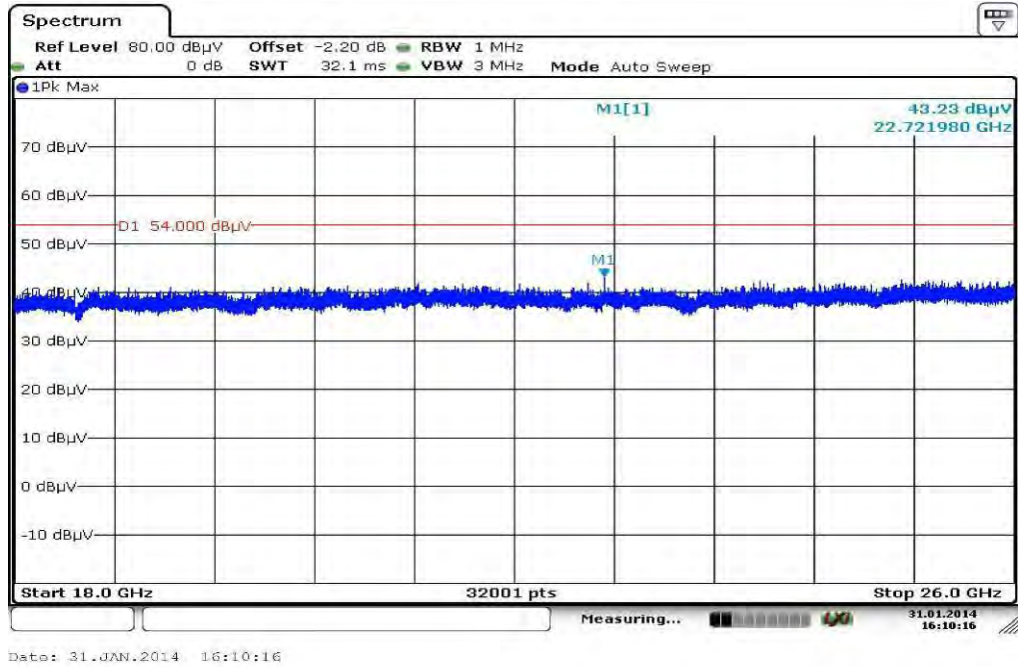
**Plot 32:** 1 GHz to 12.75 GHz, 5700 MHz, vertical & horizontal polarization



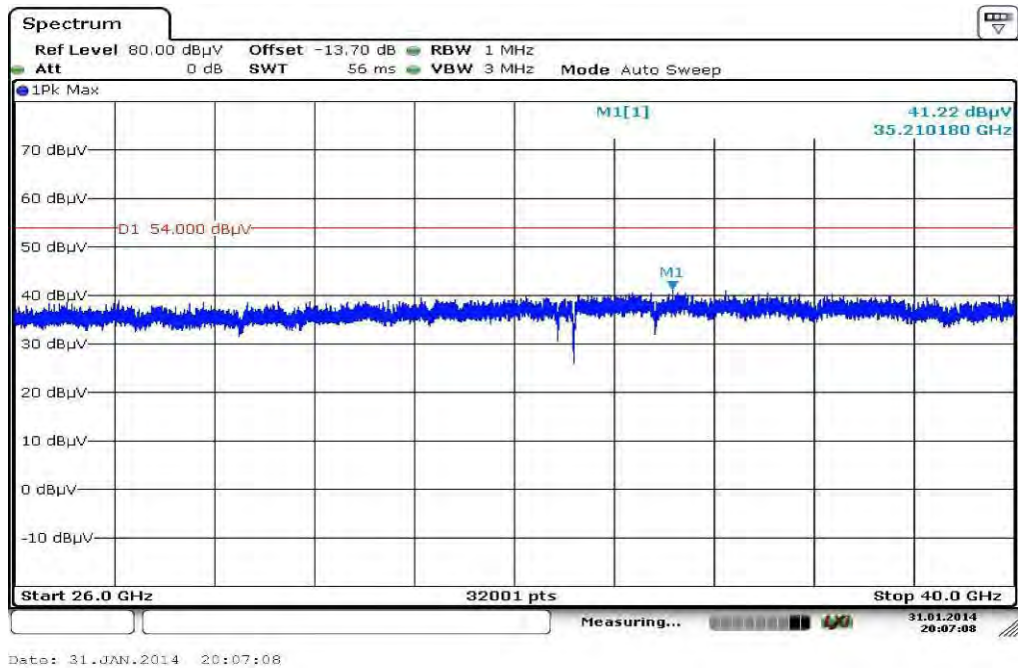
**Plot 33:** 12 GHz to 18 GHz, 5700 MHz, vertical & horizontal polarization



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



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





**Plots:** OFDM / n/ac – mode HT20

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

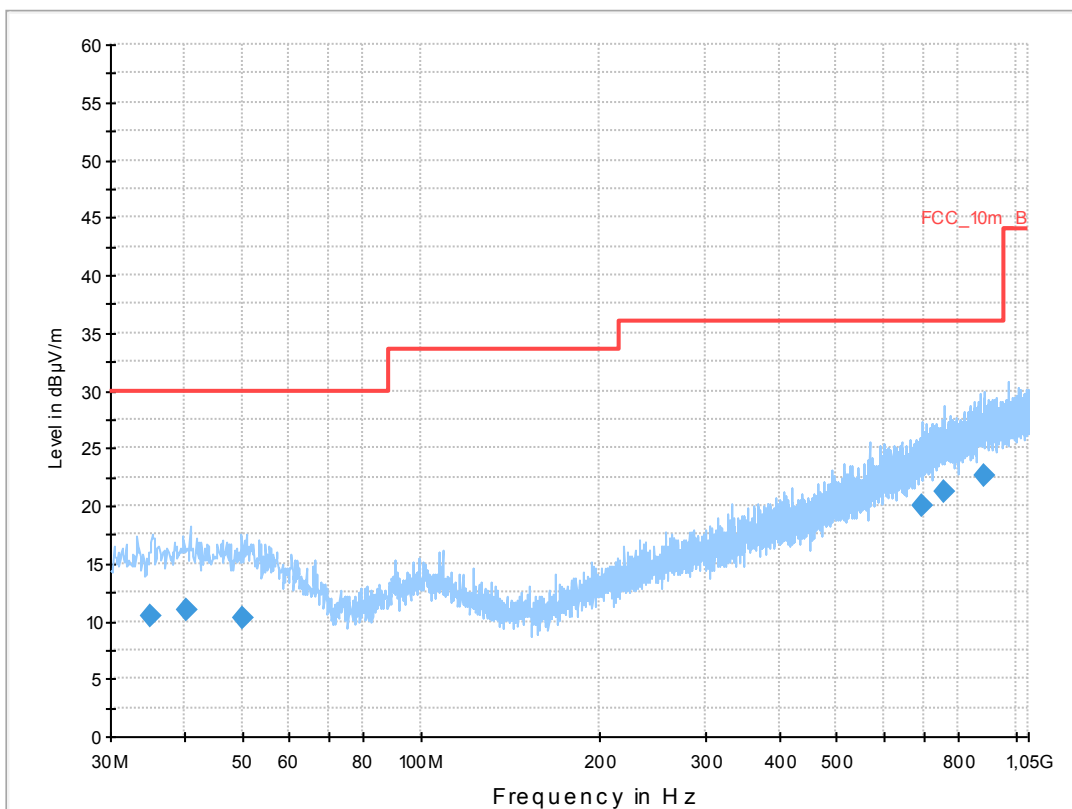
### Common Information

EUT: TS-0020-BV  
 Serial Number: CB51268FN3  
 Test Description: FCC part 15 class B @ 10 m  
 Operating Conditions: WLAN n-mode (HT20) TX Ch 36  
 Operator Name: Hennemann  
 Comment: battery powered

### Scan Setup: STAN\_Fin [EMI radiated]

Hardware Setup: Electric Field (NOS)  
 Receiver: [ESC1 3]  
 Level Unit: dBµV/m

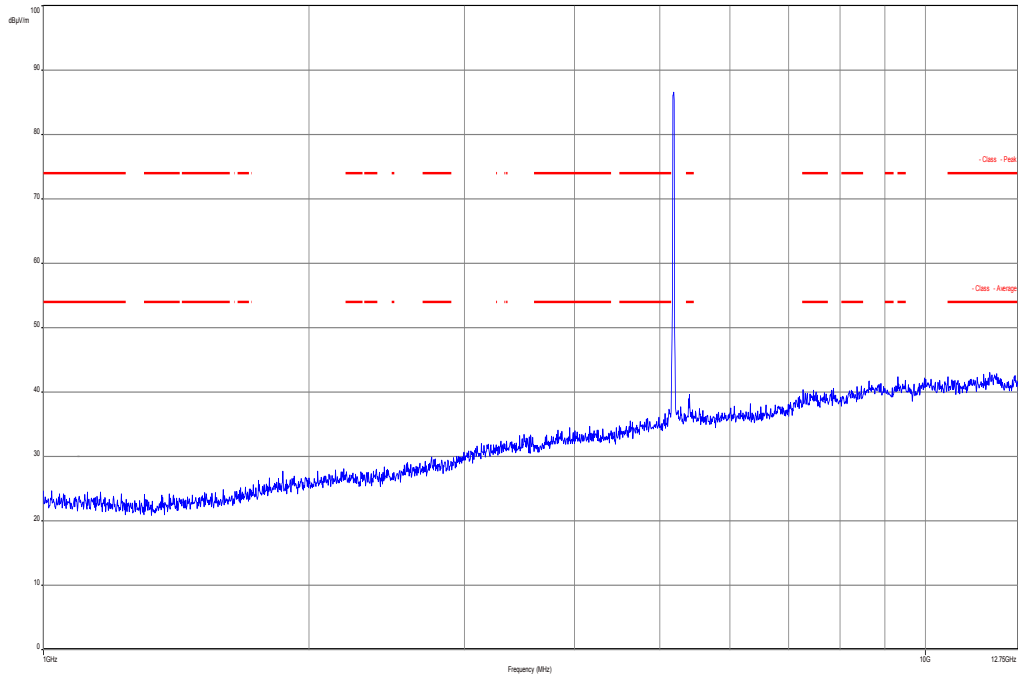
Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



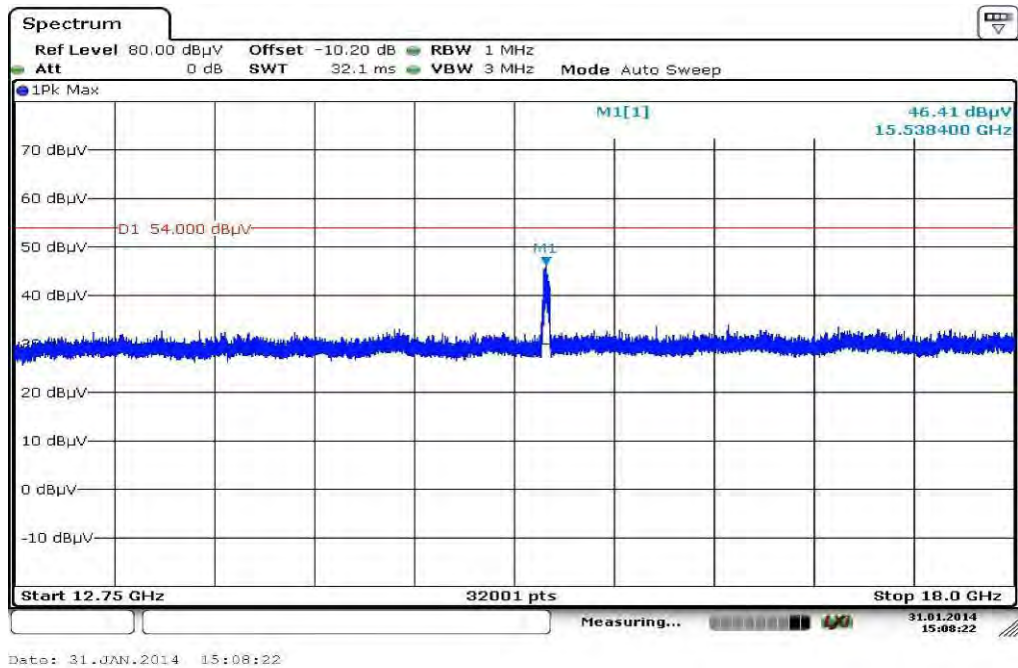
### Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
35.094150	10.4	1000.0	120.000	112.0	V	92.0	13.0	19.6	30.0	
40.304850	10.9	1000.0	120.000	170.0	V	100.0	13.4	19.1	30.0	
50.063550	10.3	1000.0	120.000	152.0	V	100.0	13.4	19.7	30.0	
694.782600	19.9	1000.0	120.000	121.0	V	100.0	22.4	16.1	36.0	
757.450650	21.2	1000.0	120.000	105.0	V	100.0	23.7	14.8	36.0	
887.816700	22.6	1000.0	120.000	170.0	H	10.0	25.0	13.4	36.0	

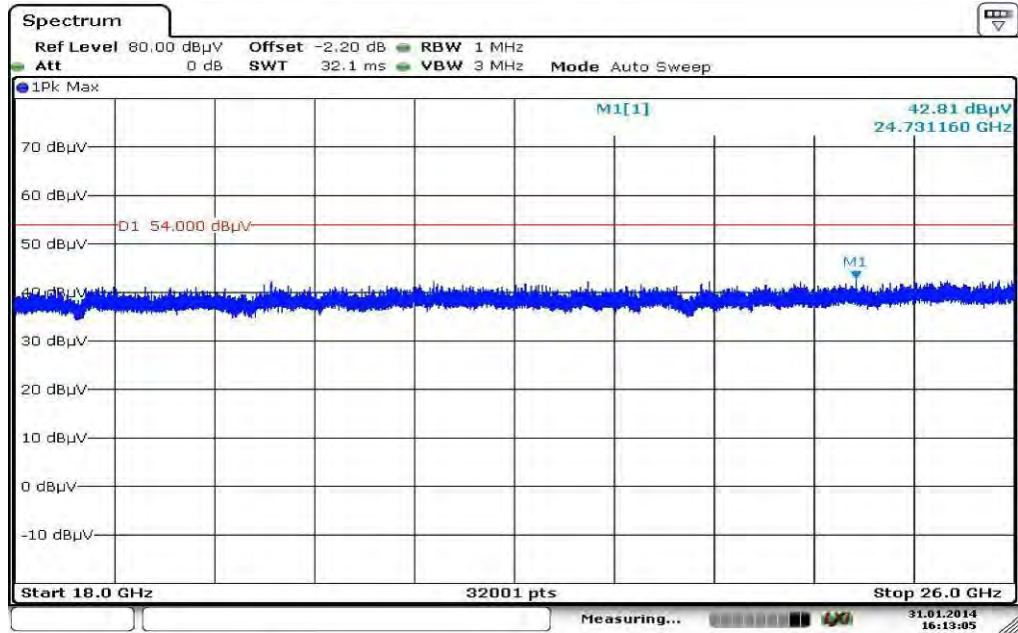
Plot 2: 1 GHz to 12.75 GHz, 5180 MHz, vertical & horizontal polarization



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

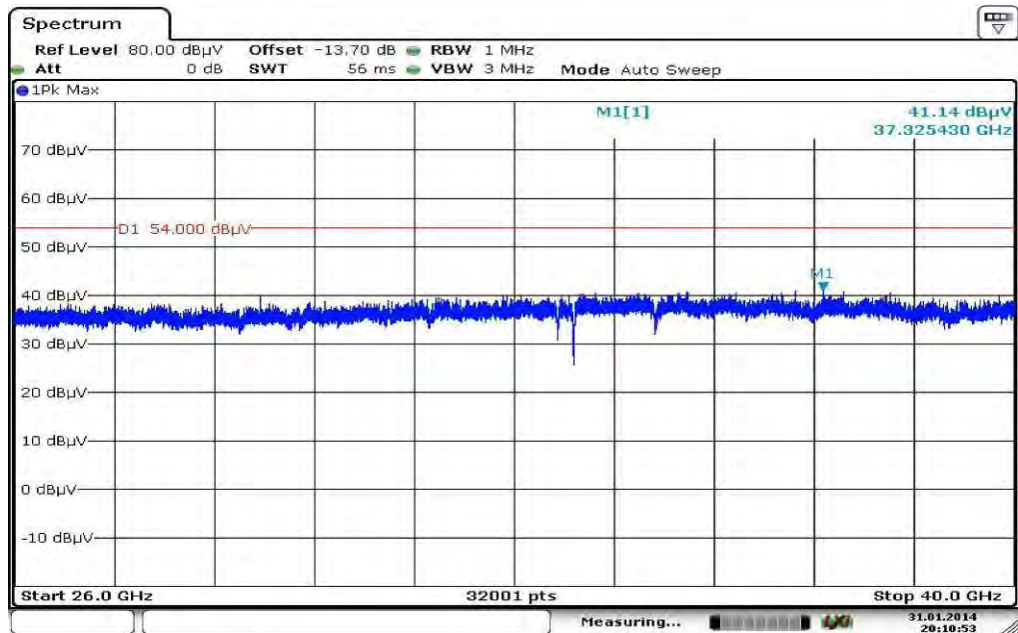


**Plot 4:** 18 GHz to 26 GHz, 5180 MHz, vertical & horizontal polarization



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



Date: 31.JAN.2014 20:10:53

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

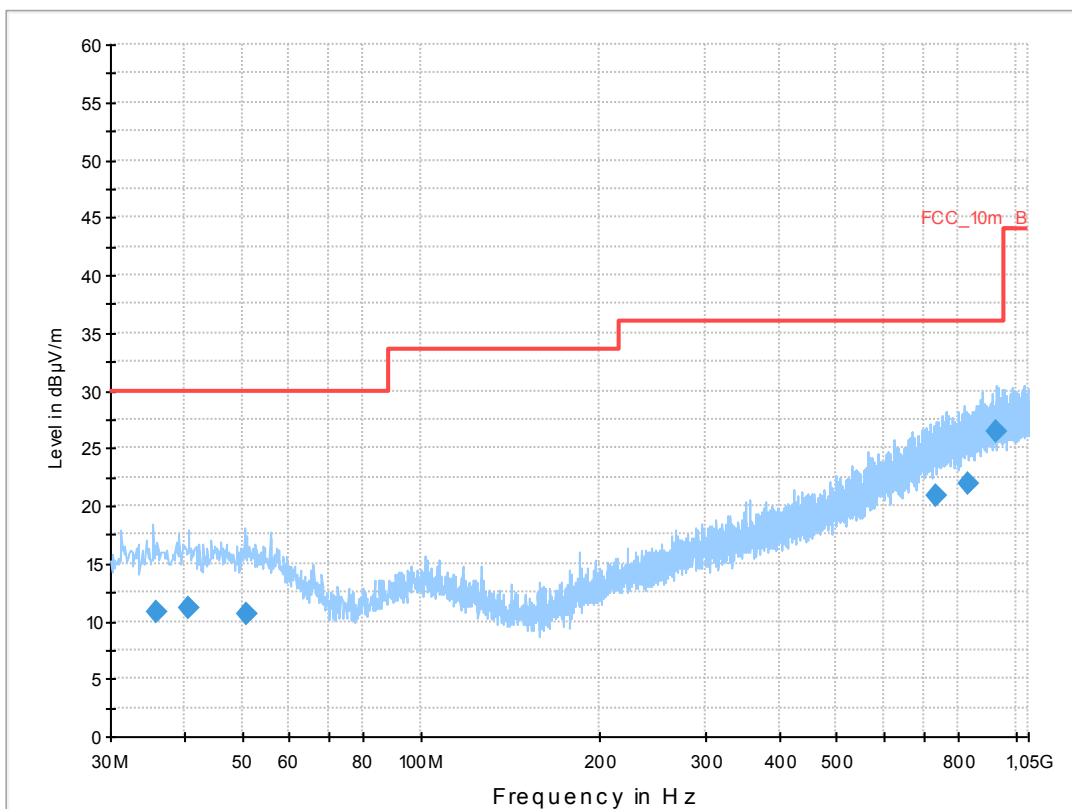
### Common Information

EUT: TS-0020-BV  
 Serial Number: CB51268FN3  
 Test Description: FCC part 15 class B @ 10 m  
 Operating Conditions: WLAN n-mode (HT20) TX Ch 48  
 Operator Name: Hennemann  
 Comment: battery powered

### Scan Setup: STAN\_Fin [EMI radiated]

Hardware Setup: Electric Field (NOS)  
 Receiver: [ESC1 3]  
 Level Unit: dBµV/m

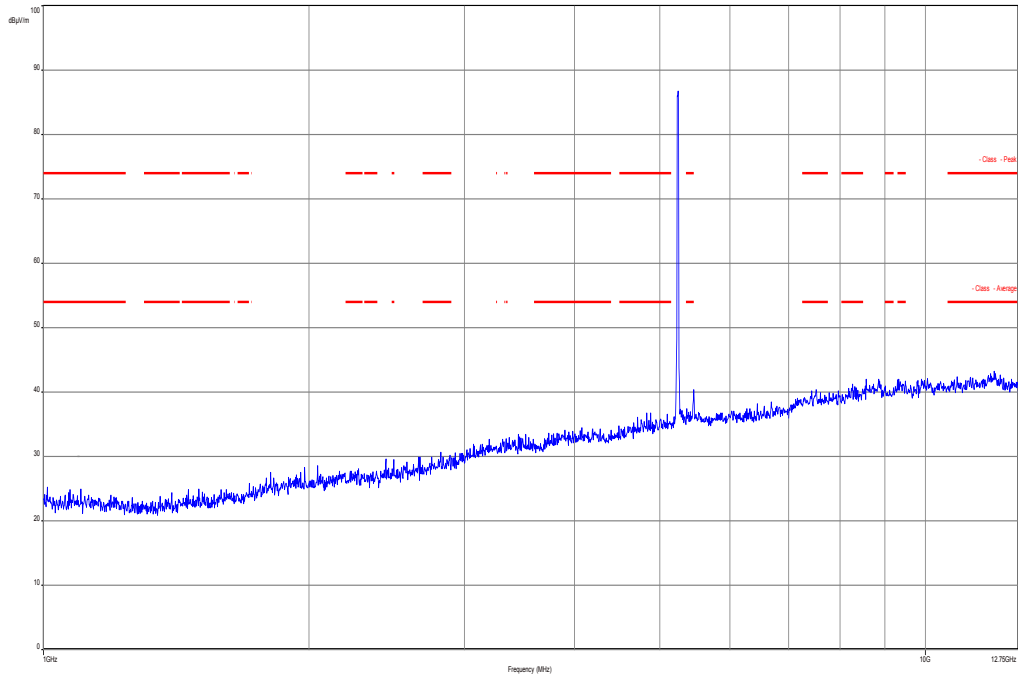
Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



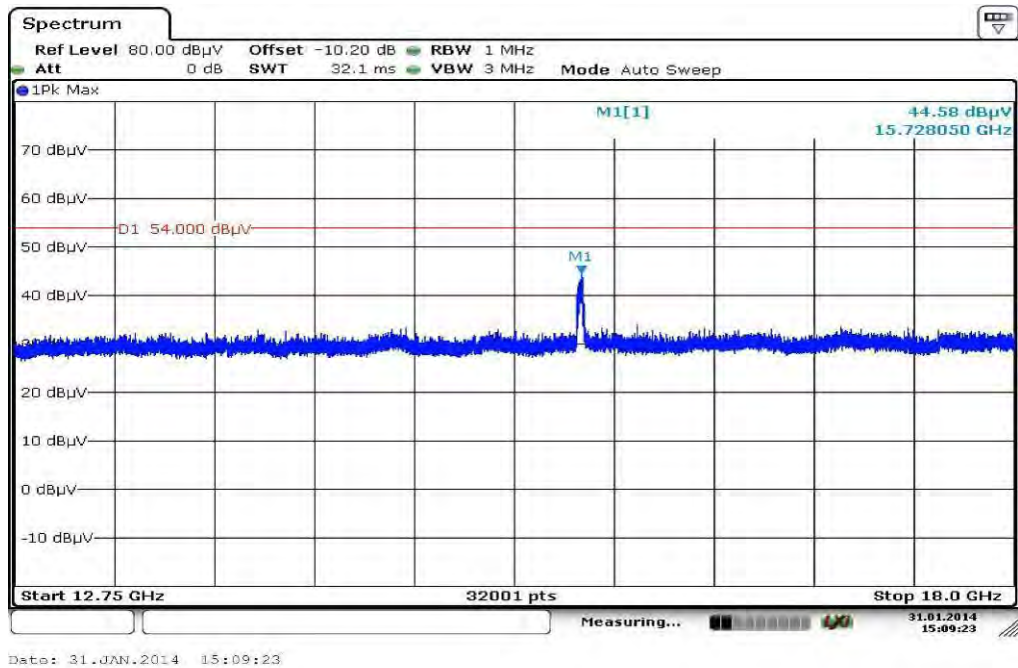
### Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
35.881350	10.7	1000.0	120.000	170.0	V	10.0	13.1	19.3	30.0	
40.514700	11.1	1000.0	120.000	121.0	V	178.0	13.4	18.9	30.0	
50.885400	10.5	1000.0	120.000	145.0	H	80.0	13.3	19.5	30.0	
734.983050	20.9	1000.0	120.000	170.0	H	80.0	23.3	15.1	36.0	
832.573500	21.8	1000.0	120.000	98.0	H	182.0	24.3	14.2	36.0	
927.385350	26.5	1000.0	120.000	98.0	V	280.0	25.3	9.5	36.0	

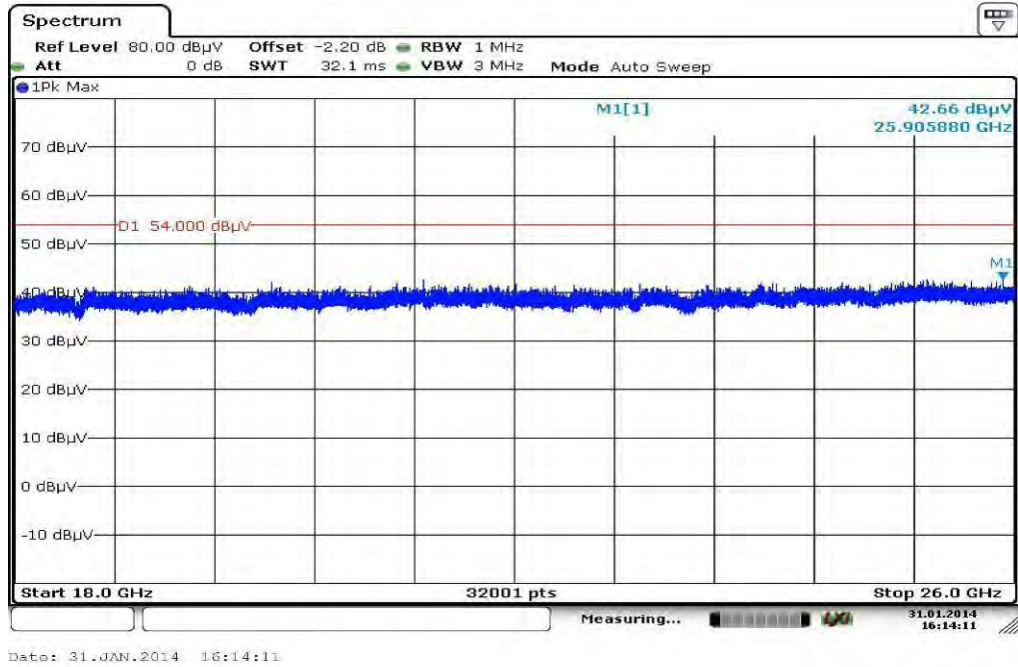
**Plot 7:** 1 GHz to 12.75 GHz, 5240 MHz, vertical & horizontal polarization



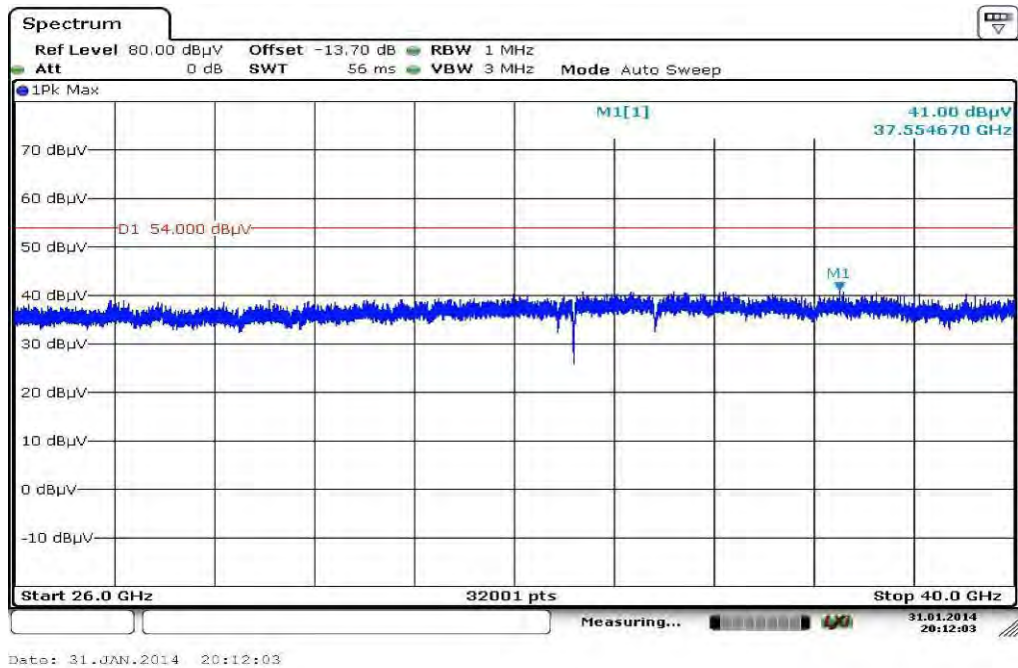
**Plot 8:** 12 GHz to 18 GHz, 5240 MHz, vertical & horizontal polarization



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



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





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

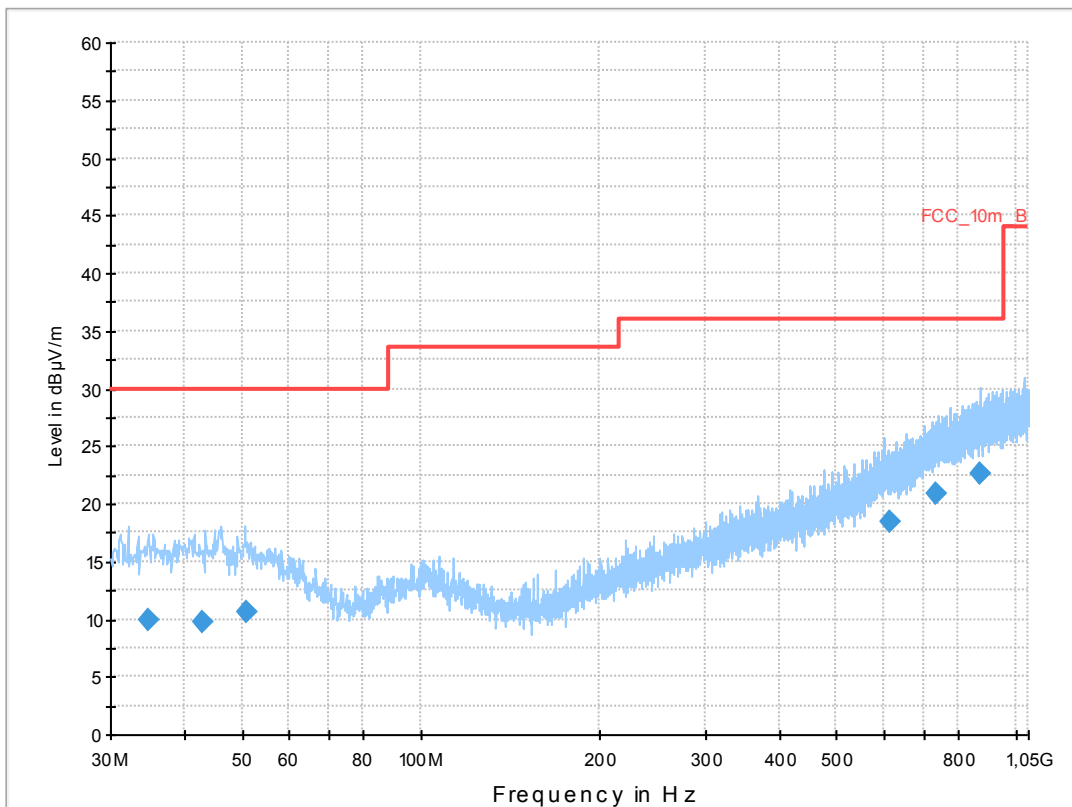
### Common Information

EUT: TS-0020-BV  
 Serial Number: CB51268FN3  
 Test Description: FCC part 15 class B @ 10 m  
 Operating Conditions: WLAN n-mode (HT20) TX Ch 52  
 Operator Name: Hennemann  
 Comment: battery powered

### Scan Setup: STAN\_Fin [EMI radiated]

Hardware Setup: Electric Field (NOS)  
 Receiver: [ESC1 3]  
 Level Unit: dBµV/m

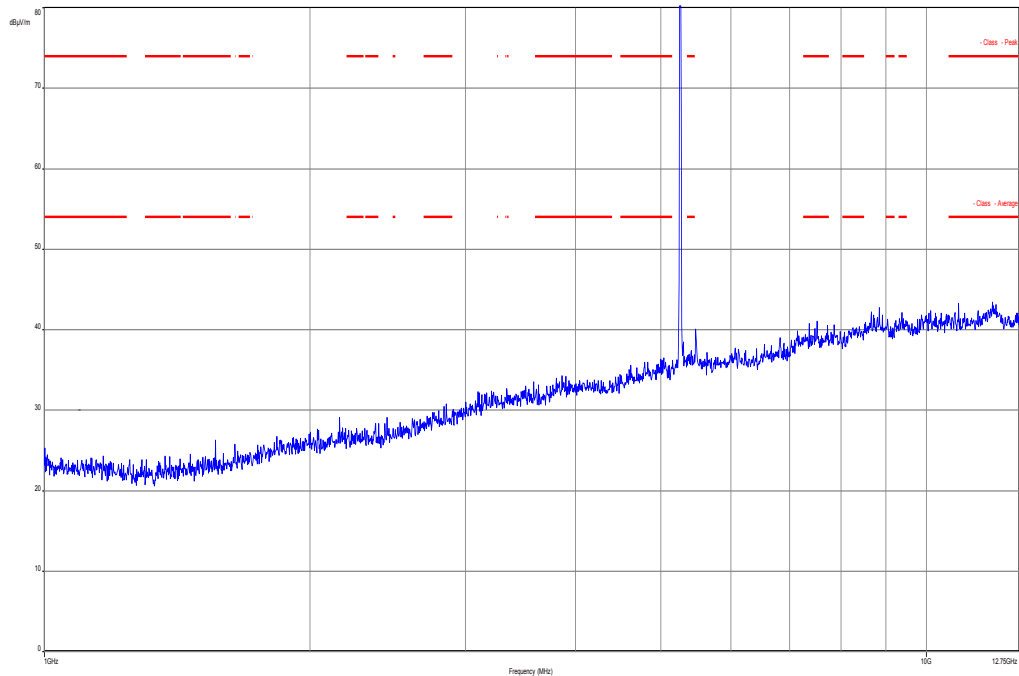
Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



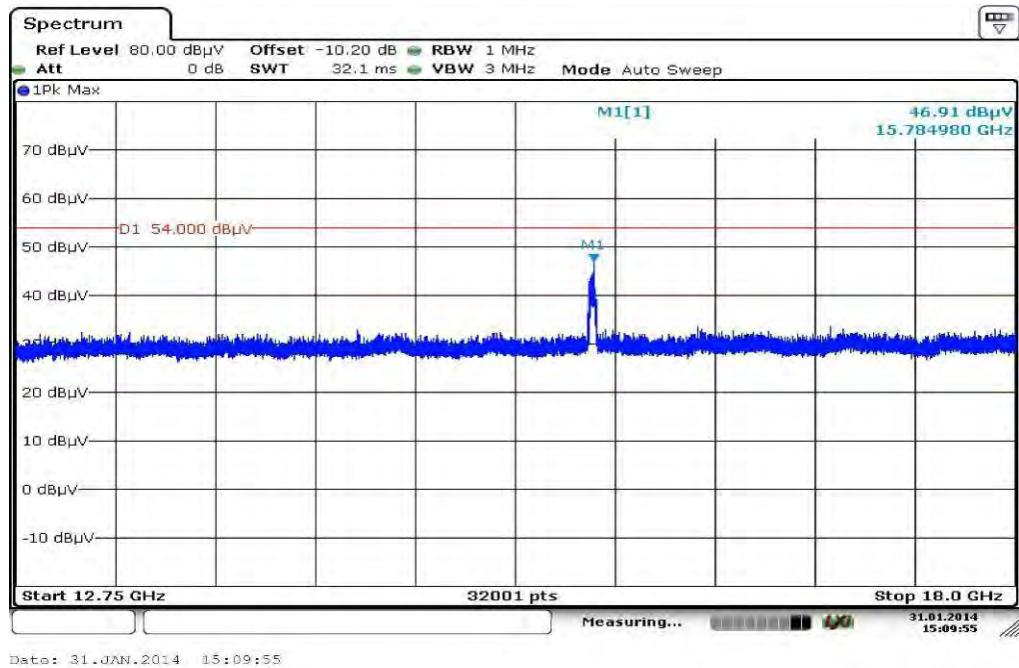
### Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
34.788000	10.0	1000.0	120.000	143.0	H	92.0	13.0	20.0	30.0	
43.014300	9.8	1000.0	120.000	112.0	V	190.0	13.3	20.2	30.0	
50.711850	10.6	1000.0	120.000	170.0	V	-10.0	13.3	19.4	30.0	
612.423450	18.4	1000.0	120.000	144.0	V	182.0	20.9	17.6	36.0	
732.494550	20.8	1000.0	120.000	170.0	V	-10.0	23.3	15.2	36.0	
873.299850	22.5	1000.0	120.000	144.0	V	265.0	24.9	13.5	36.0	

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

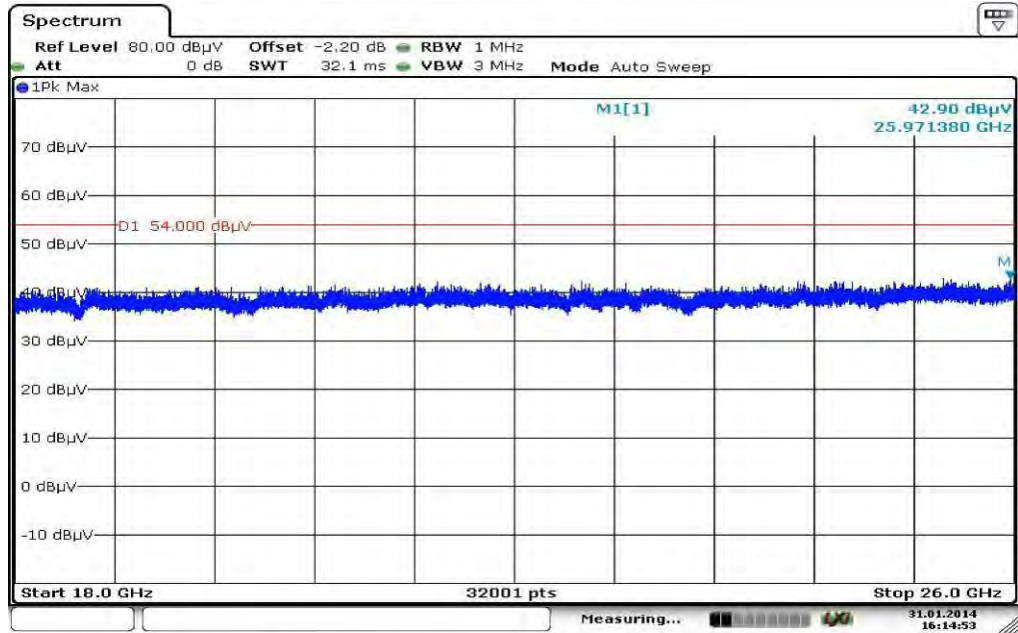


**Plot 13:** 12 GHz to 18 GHz, 5260 MHz, vertical & horizontal polarization



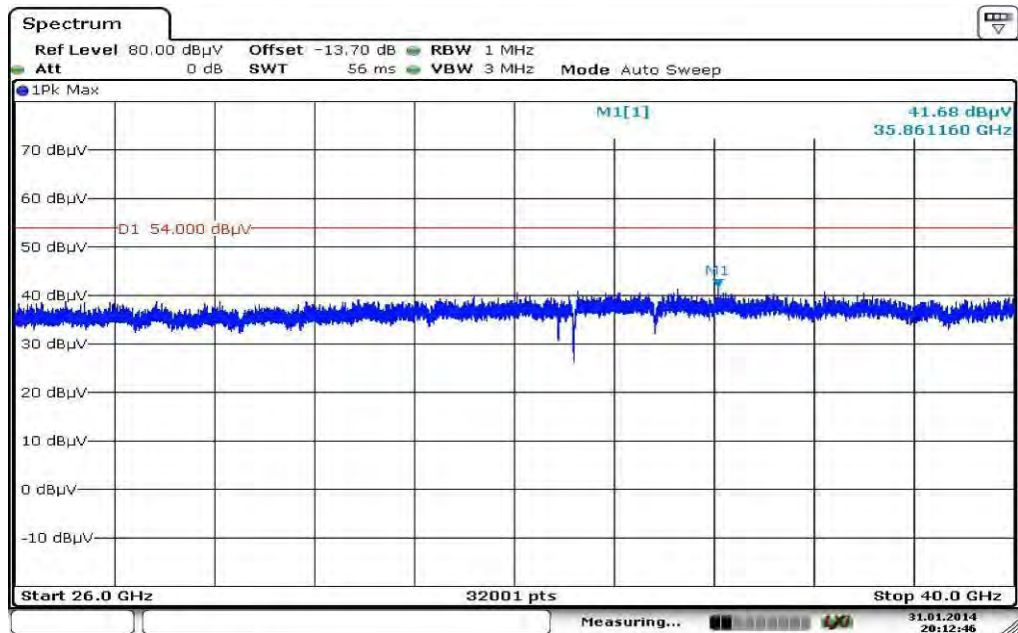


Plot 14: 18 GHz to 26 GHz, 5260 MHz, vertical & horizontal polarization



Date: 31.JAN.2014 16:14:52

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



Date: 31.JAN.2014 20:12:46

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

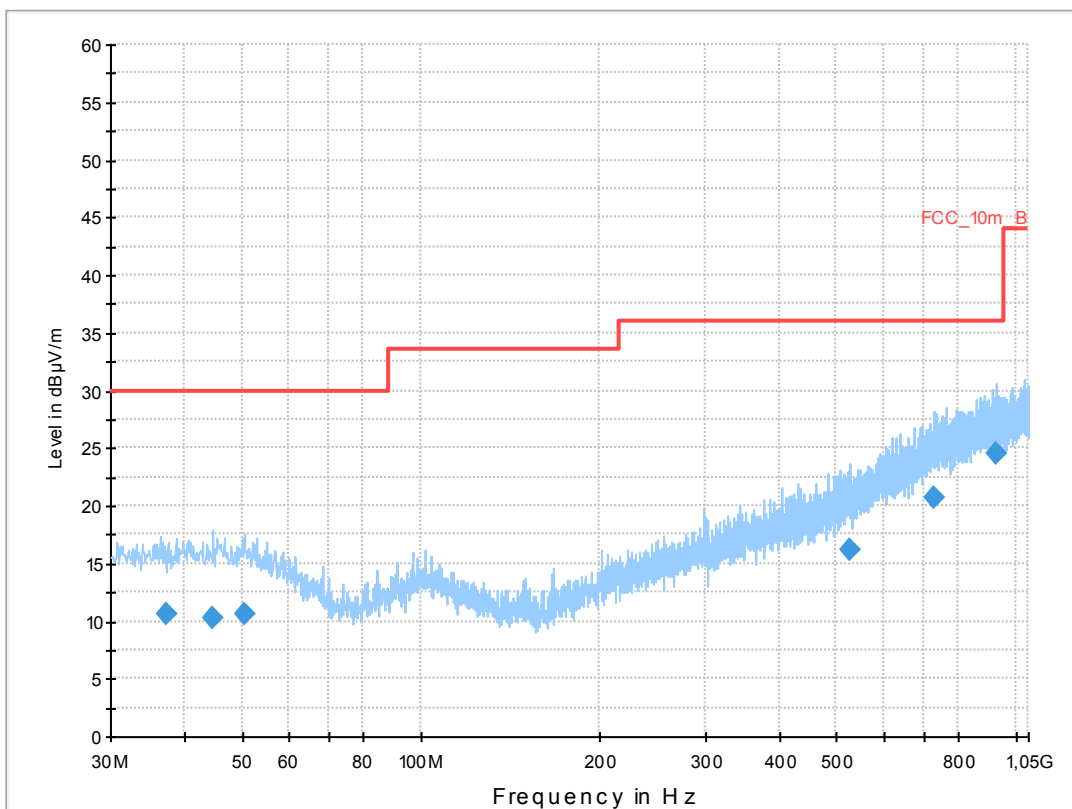
### Common Information

EUT: TS-0020-BV  
 Serial Number: CB51268FN3  
 Test Description: FCC part 15 class B @ 10 m  
 Operating Conditions: WLAN n-mode (HT20) TX Ch 64  
 Operator Name: Hennemann  
 Comment: battery powered

### Scan Setup: STAN\_Fin [EMI radiated]

Hardware Setup: Electric Field (NOS)  
 Receiver: [ESC1 3]  
 Level Unit: dBµV/m

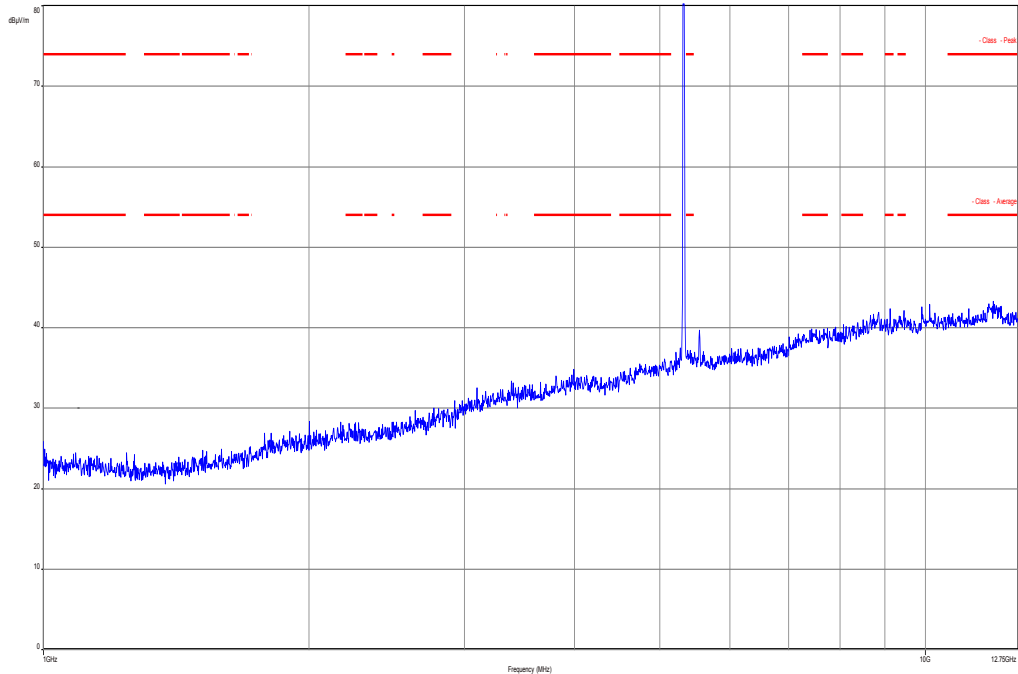
Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



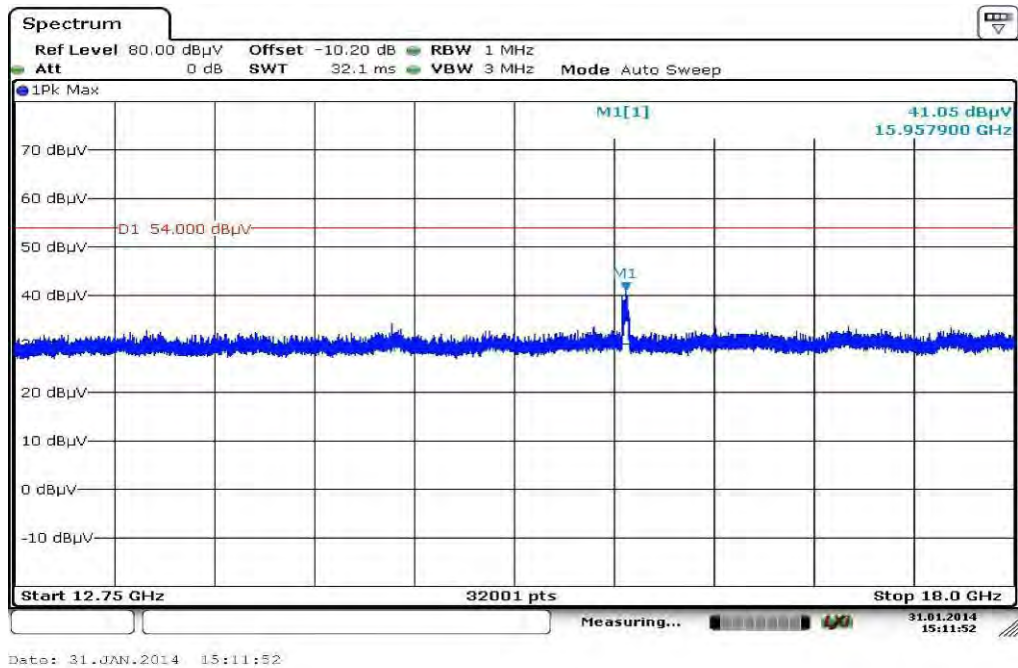
### Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
37.350150	10.6	1000.0	120.000	98.0	V	0.0	13.2	19.4	30.0	
44.551650	10.2	1000.0	120.000	144.0	V	190.0	13.3	19.8	30.0	
50.447400	10.6	1000.0	120.000	170.0	V	270.0	13.3	19.4	30.0	
525.211200	16.2	1000.0	120.000	170.0	V	170.0	19.0	19.8	36.0	
728.163900	20.8	1000.0	120.000	104.0	H	81.0	23.2	15.2	36.0	
927.297450	24.6	1000.0	120.000	152.0	V	171.0	25.3	11.4	36.0	

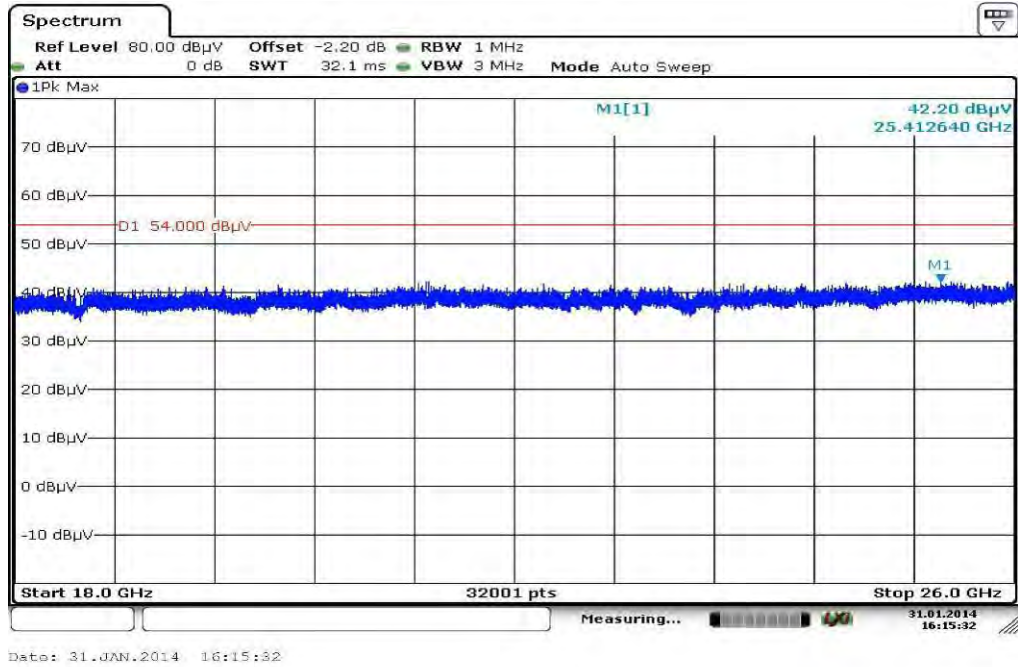
**Plot 17:** 1 GHz to 12.75 GHz, 5320 MHz, vertical & horizontal polarization



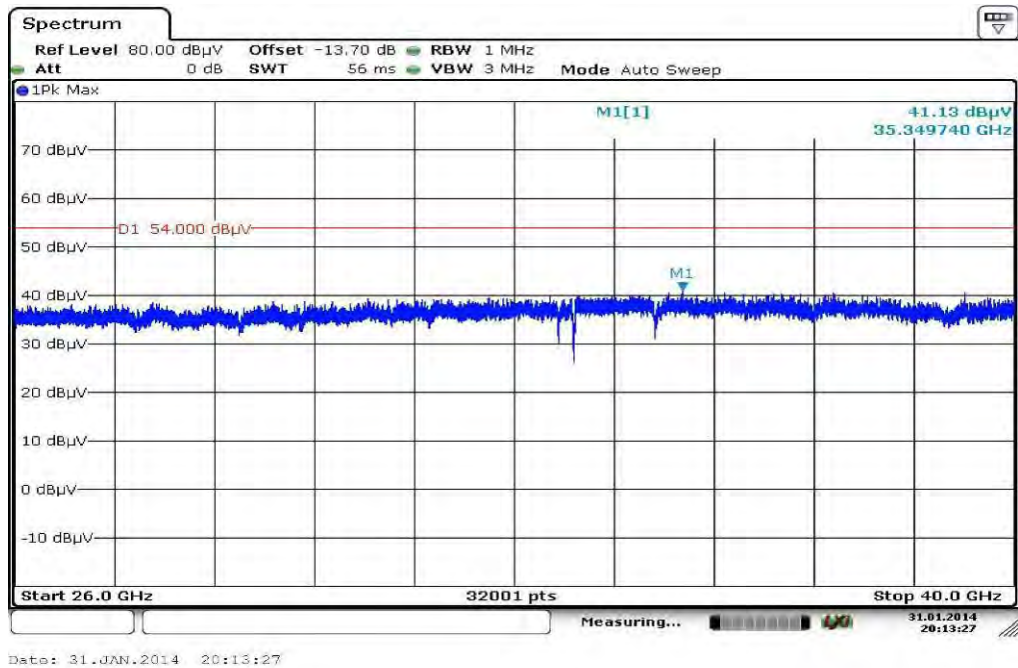
**Plot 18:** 12 GHz to 18 GHz, 5320 MHz, vertical & horizontal polarization



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



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



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

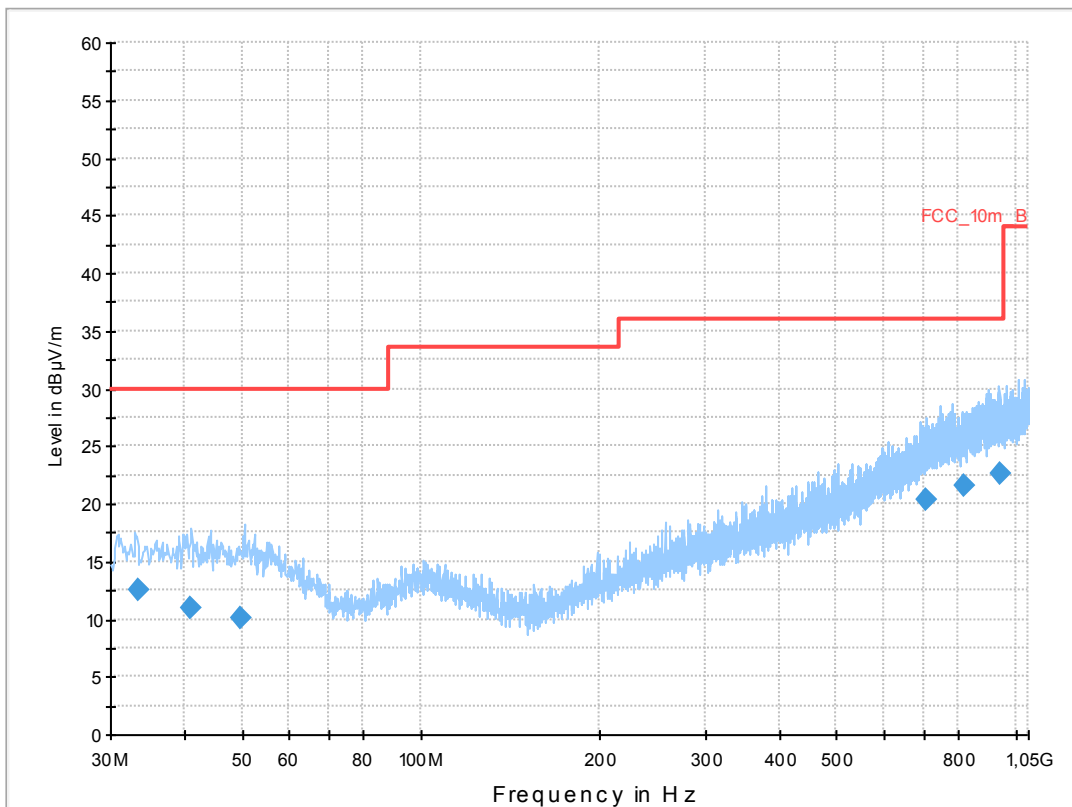
### Common Information

EUT: TS-0020-BV  
 Serial Number: CB51268FN3  
 Test Description: FCC part 15 class B @ 10 m  
 Operating Conditions: WLAN n-mode (HT20) TX Ch 100  
 Operator Name: Hennemann  
 Comment: battery powered

### Scan Setup: STAN\_Fin [EMI radiated]

Hardware Setup: Electric Field (NOS)  
 Receiver: [ESC1 3]  
 Level Unit: dBµV/m

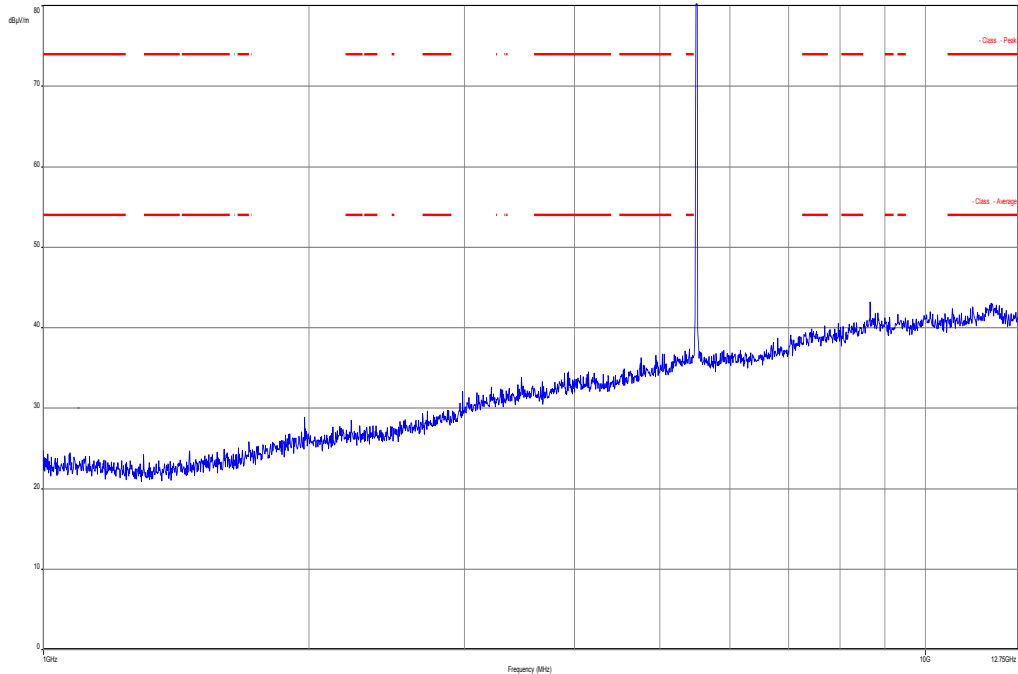
Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



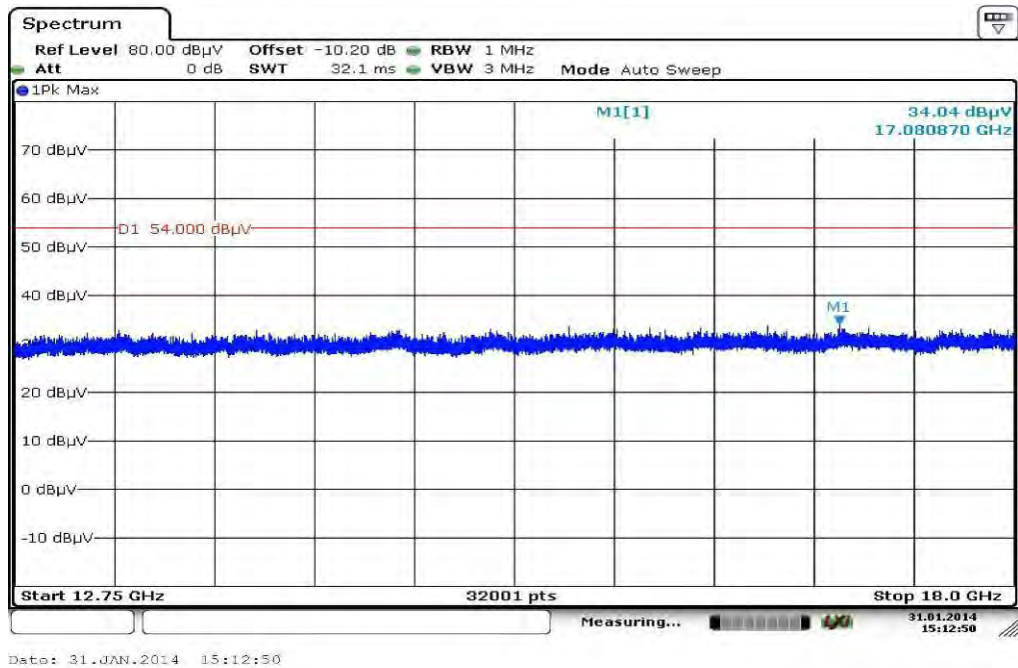
### Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
33.383550	12.5	1000.0	120.000	120.0	V	88.0	12.9	17.5	30.0	
40.920600	10.9	1000.0	120.000	143.0	V	260.0	13.4	19.1	30.0	
49.803600	10.1	1000.0	120.000	170.0	H	92.0	13.4	19.9	30.0	
707.788050	20.3	1000.0	120.000	170.0	V	86.0	22.7	15.7	36.0	
820.609350	21.6	1000.0	120.000	170.0	V	80.0	24.1	14.4	36.0	
938.726100	22.7	1000.0	120.000	126.0	V	81.0	25.3	13.3	36.0	

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

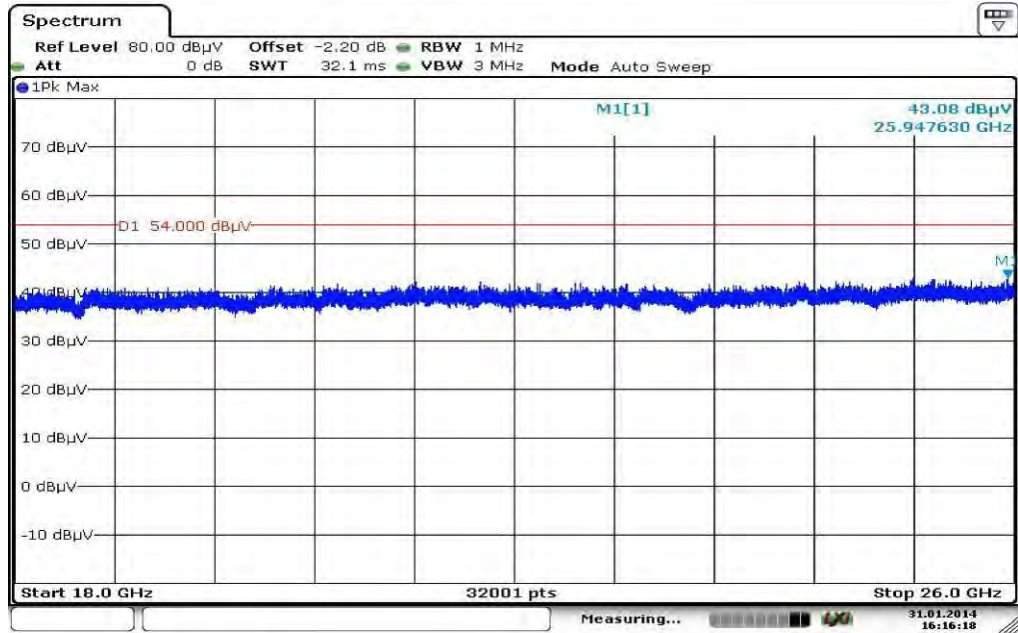


**Plot 23:** 12 GHz to 18 GHz, 5500 MHz, vertical & horizontal polarization



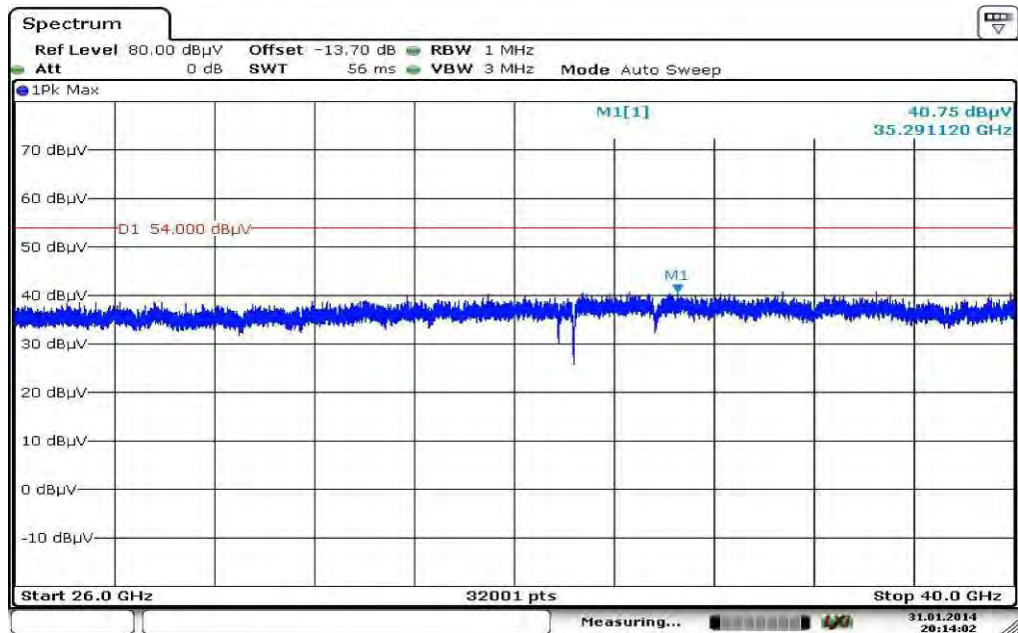


Plot 24: 18 GHz to 26 GHz, 5500 MHz, vertical & horizontal polarization



Date: 31.JAN.2014 16:16:18

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



Date: 31.JAN.2014 20:14:02

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

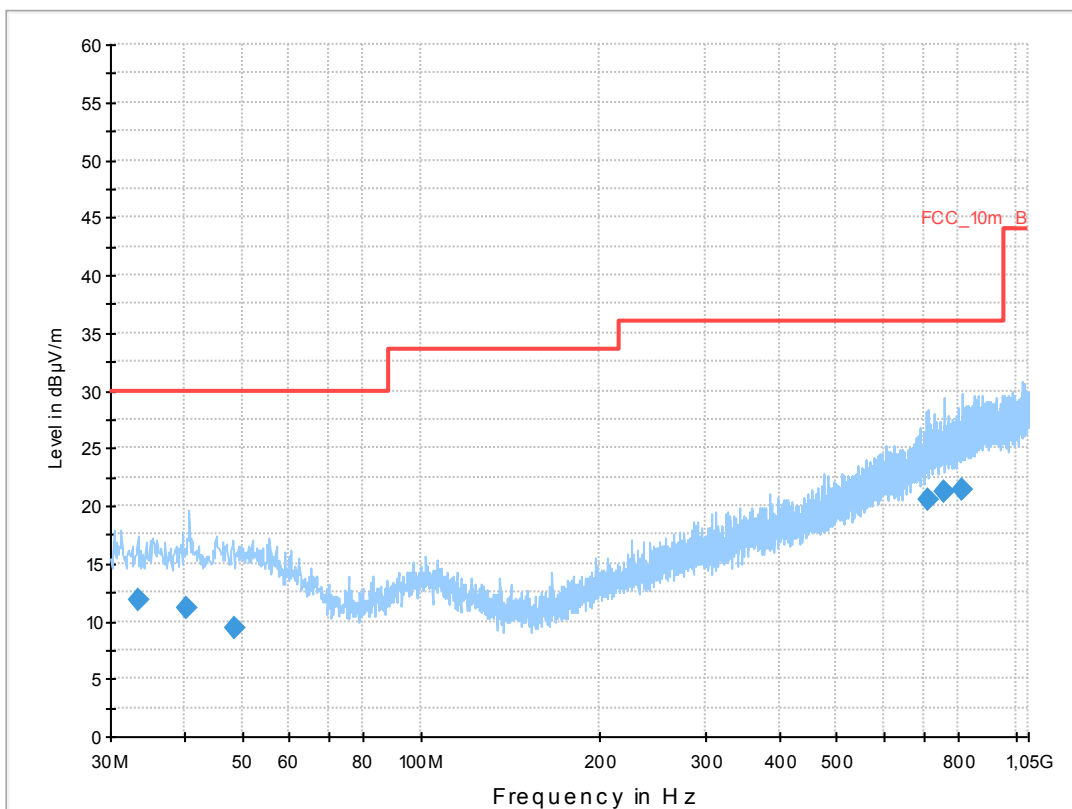
### Common Information

EUT: TS-0020-BV  
 Serial Number: CB51268FN3  
 Test Description: FCC part 15 class B @ 10 m  
 Operating Conditions: WLAN n-mode (HT20) TX Ch 120  
 Operator Name: Hennemann  
 Comment: battery powered

### Scan Setup: STAN\_Fin [EMI radiated]

Hardware Setup: Electric Field (NOS)  
 Receiver: [ESC1 3]  
 Level Unit: dBµV/m

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB

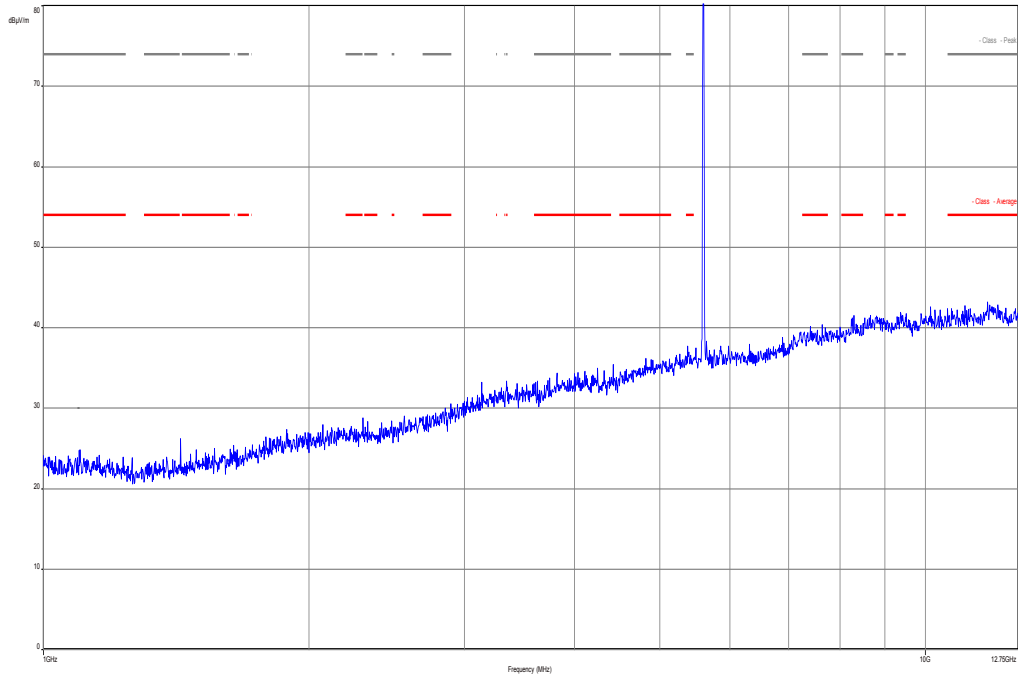


### Final Result 1

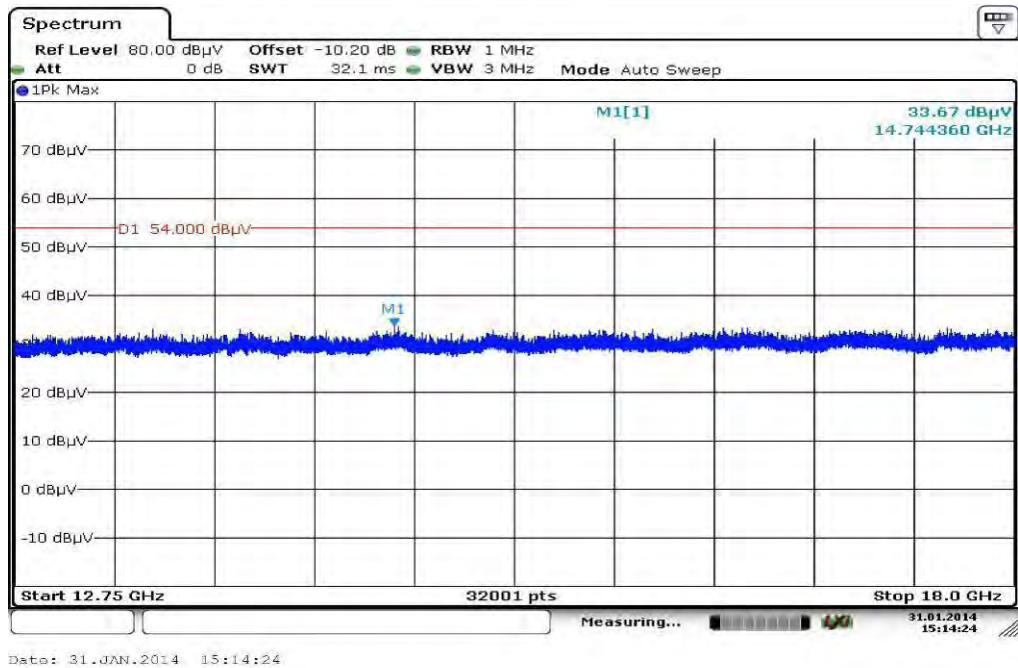
Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
33.318900	11.8	1000.0	120.000	170.0	V	100.0	12.9	18.2	30.0	
40.325100	11.1	1000.0	120.000	170.0	V	10.0	13.4	18.9	30.0	
48.457950	9.4	1000.0	120.000	155.0	V	280.0	13.3	20.6	30.0	
710.954550	20.4	1000.0	120.000	98.0	H	92.0	22.8	15.6	36.0	
756.347550	21.2	1000.0	120.000	170.0	V	280.0	23.7	14.8	36.0	
811.375200	21.4	1000.0	120.000	170.0	V	-10.0	24.0	14.6	36.0	



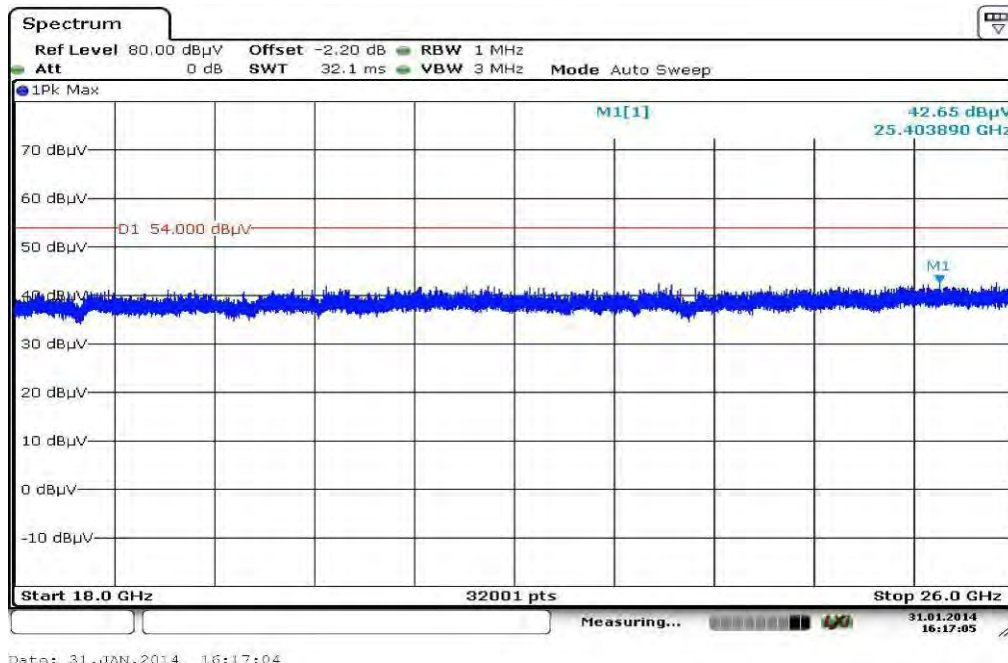
**Plot 27:** 1 GHz to 12.75 GHz, 5600 MHz, vertical & horizontal polarization



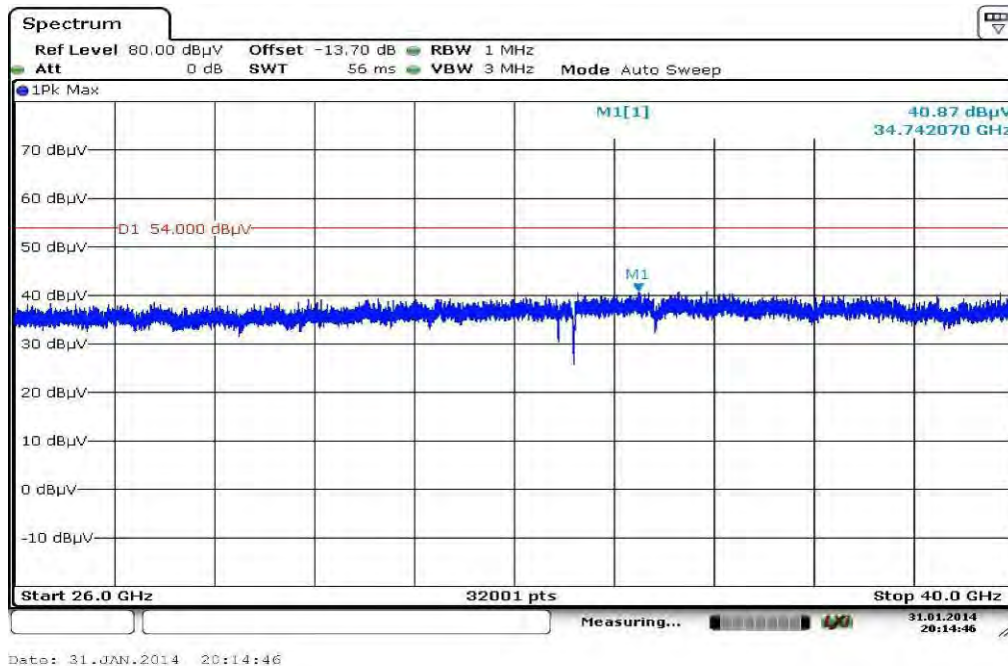
**Plot 28:** 12 GHz to 18 GHz, 5600 MHz, vertical & horizontal polarization



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



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



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

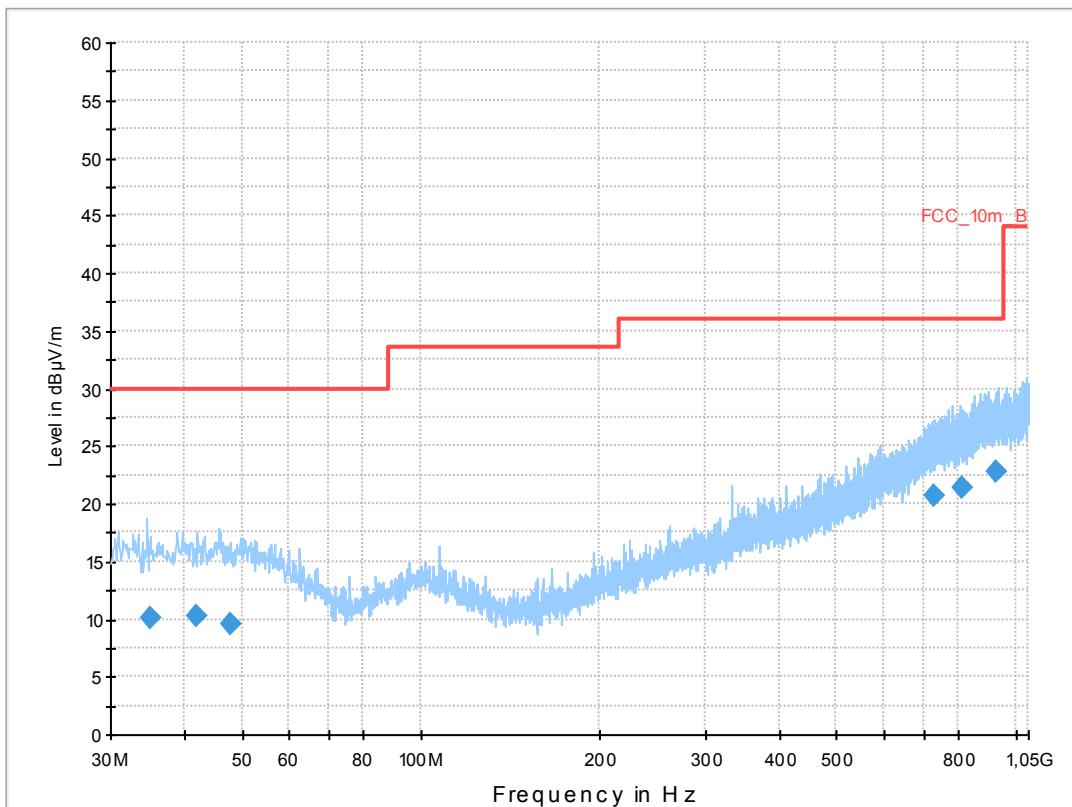
### Common Information

EUT: TS-0020-BV  
 Serial Number: CB51268FN3  
 Test Description: FCC part 15 class B @ 10 m  
 Operating Conditions: WLAN n-mode (HT20) TX Ch 140  
 Operator Name: Hennemann  
 Comment: battery powered

### Scan Setup: STAN\_Fin [EMI radiated]

Hardware Setup: Electric Field (NOS)  
 Receiver: [ESC1 3]  
 Level Unit: dBµV/m

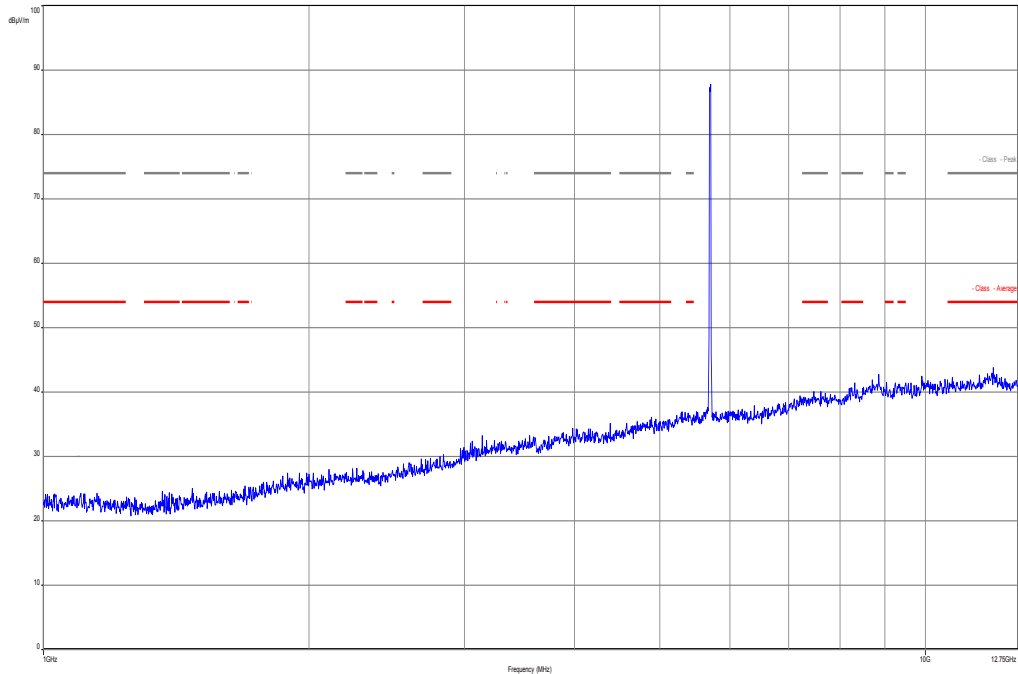
Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



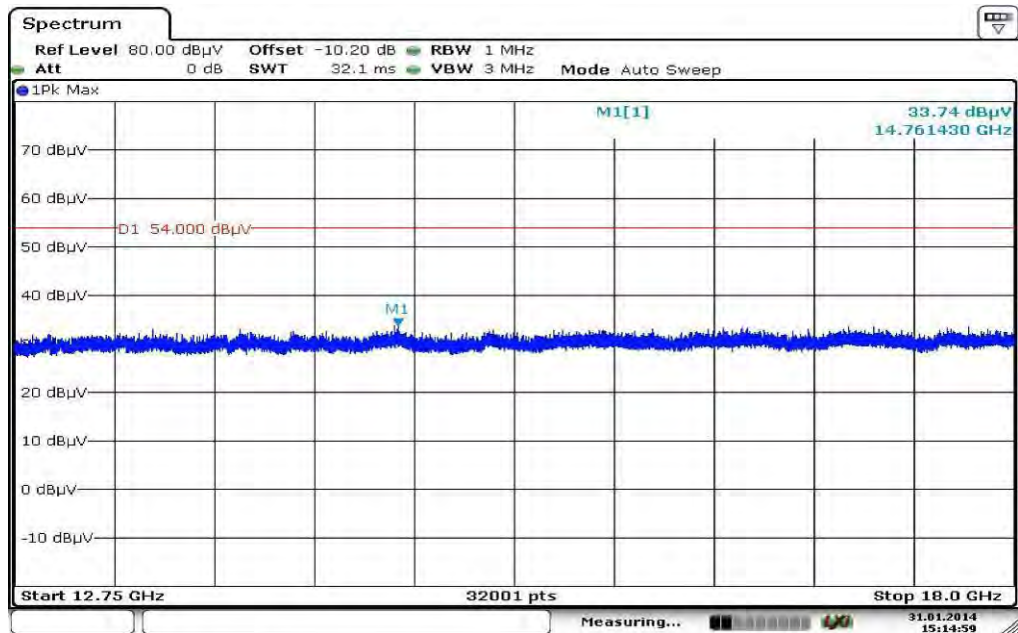
### Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
34.926600	10.1	1000.0	120.000	170.0	V	175.0	13.0	19.9	30.0	
41.917500	10.2	1000.0	120.000	135.0	V	3.0	13.4	19.8	30.0	
47.654400	9.5	1000.0	120.000	143.0	H	182.0	13.3	20.5	30.0	
727.646700	20.7	1000.0	120.000	170.0	H	-2.0	23.1	15.3	36.0	
811.420800	21.4	1000.0	120.000	170.0	H	100.0	24.0	14.6	36.0	
930.909000	22.7	1000.0	120.000	170.0	V	81.0	25.3	13.3	36.0	

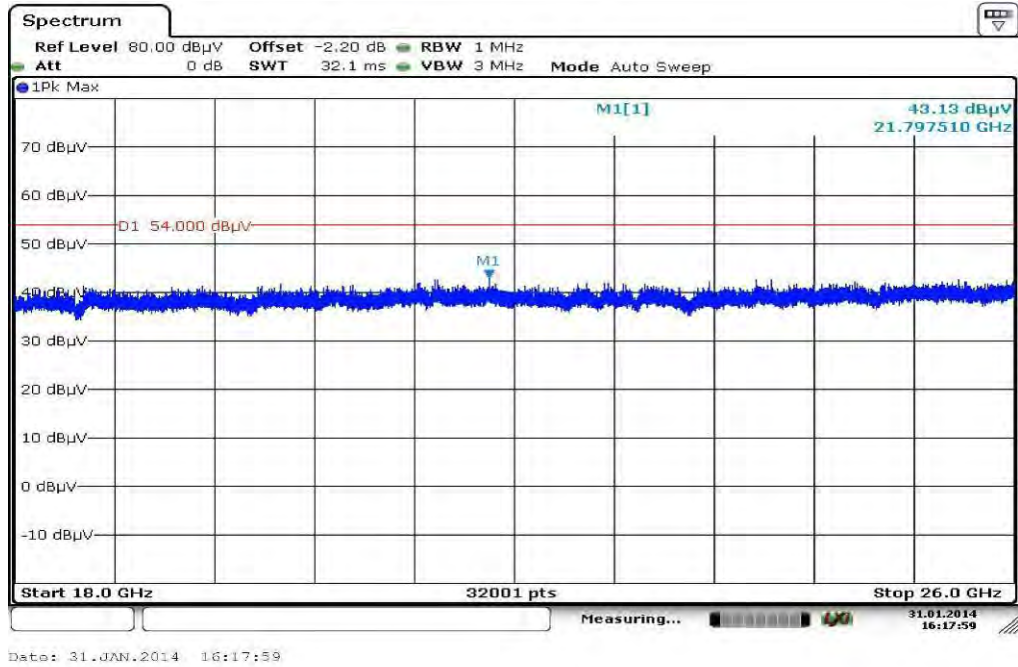
**Plot 32:** 1 GHz to 12.75 GHz, 5700 MHz, vertical & horizontal polarization



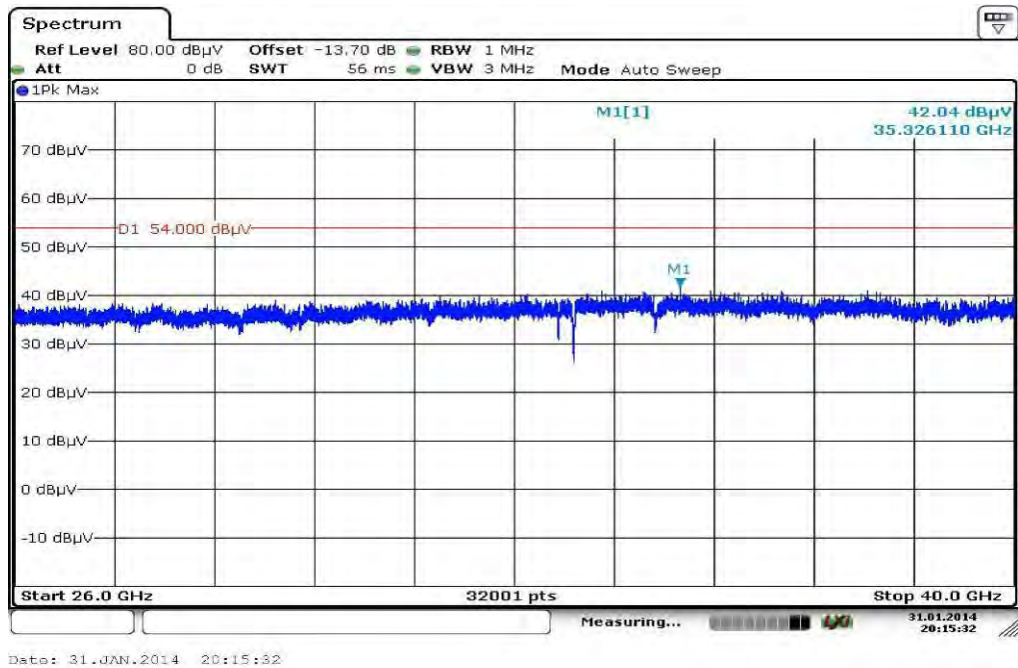
**Plot 33:** 12 GHz to 18 GHz, 5700 MHz, vertical & horizontal polarization



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



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



**Plots:** OFDM / n/ac – mode HT40

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

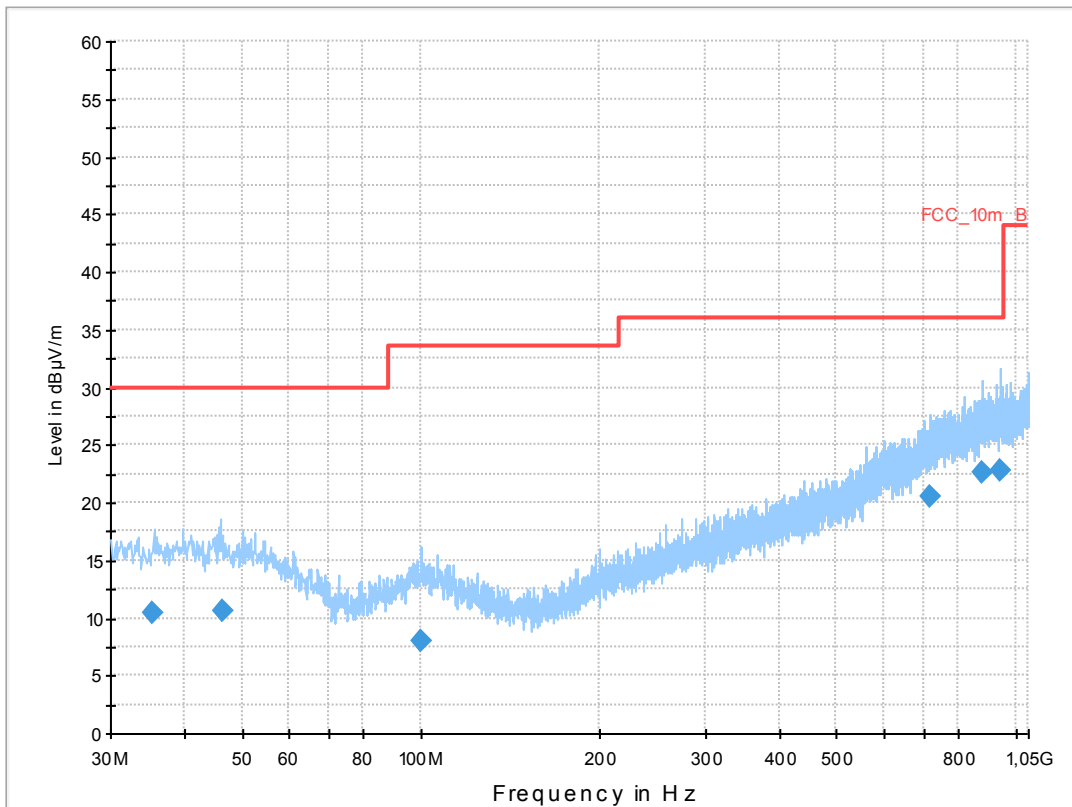
### Common Information

EUT: TS-0020-BV  
 Serial Number: CB51268FN3  
 Test Description: FCC part 15 B class B @ 10 m  
 Operating Conditions: WLAN n-mode (HT40) TX Ch 38  
 Operator Name: Wolsdorfer  
 Comment: battery powered

### Scan Setup: STAN\_Fin [EMI radiated]

Hardware Setup: Electric Field (NOS)  
 Receiver: [ESC1 3]  
 Level Unit: dBµV/m

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB

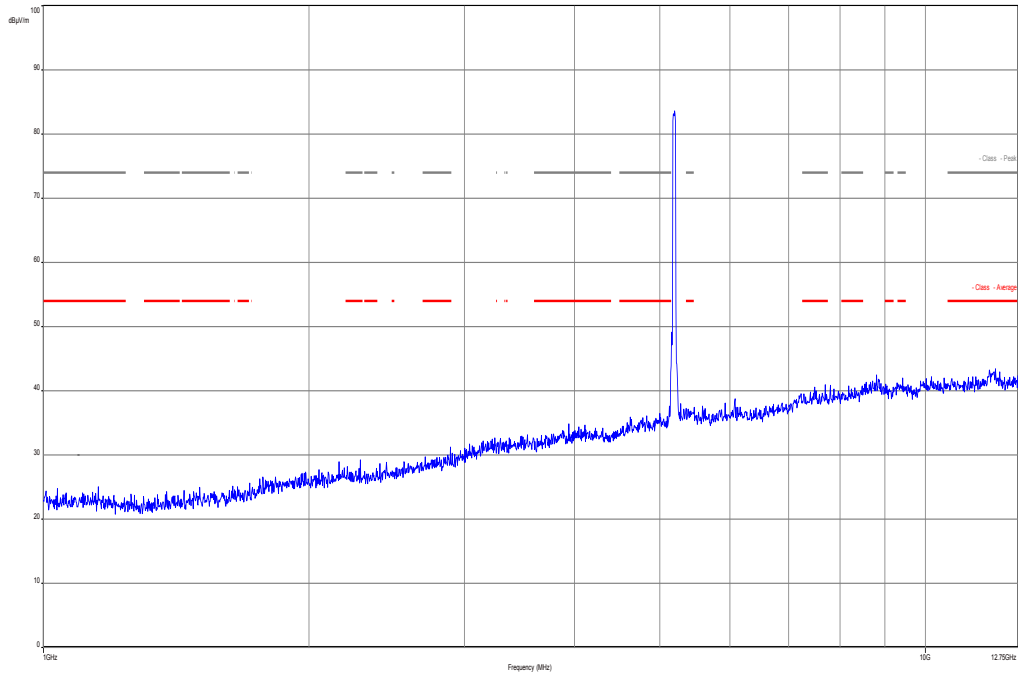


### Final Result 1

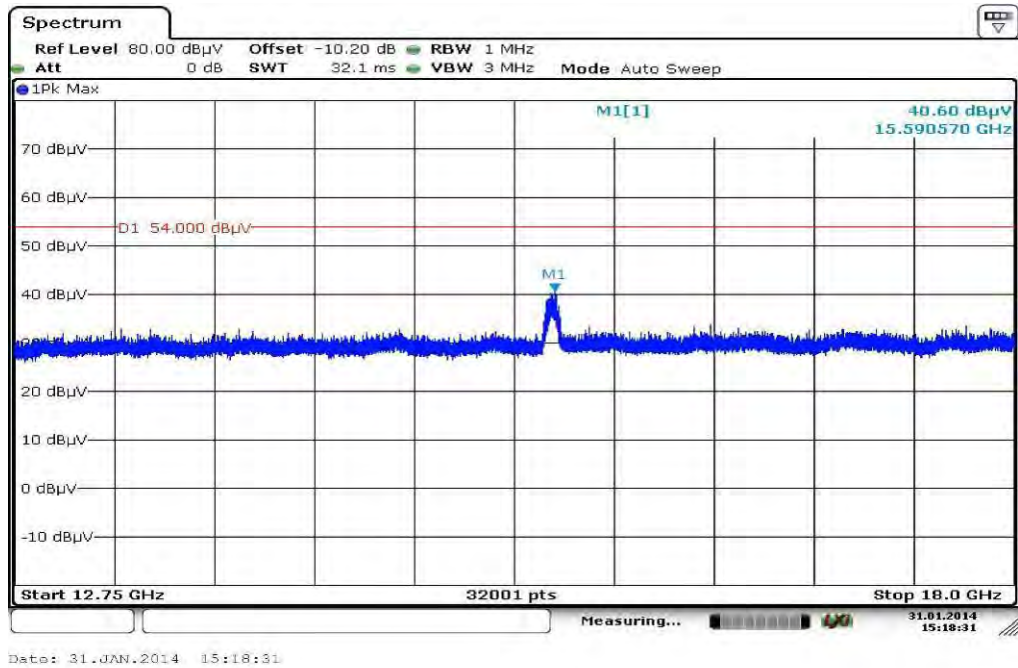
Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
35.432550	10.5	1000.0	120.000	153.0	H	280.0	13.1	19.5	30.0	
46.377600	10.6	1000.0	120.000	143.0	V	272.0	13.3	19.4	30.0	
99.656100	8.0	1000.0	120.000	148.0	V	178.0	11.9	25.5	33.5	
715.993350	20.5	1000.0	120.000	170.0	H	171.0	22.9	15.5	36.0	
878.366100	22.6	1000.0	120.000	170.0	H	100.0	24.9	13.4	36.0	



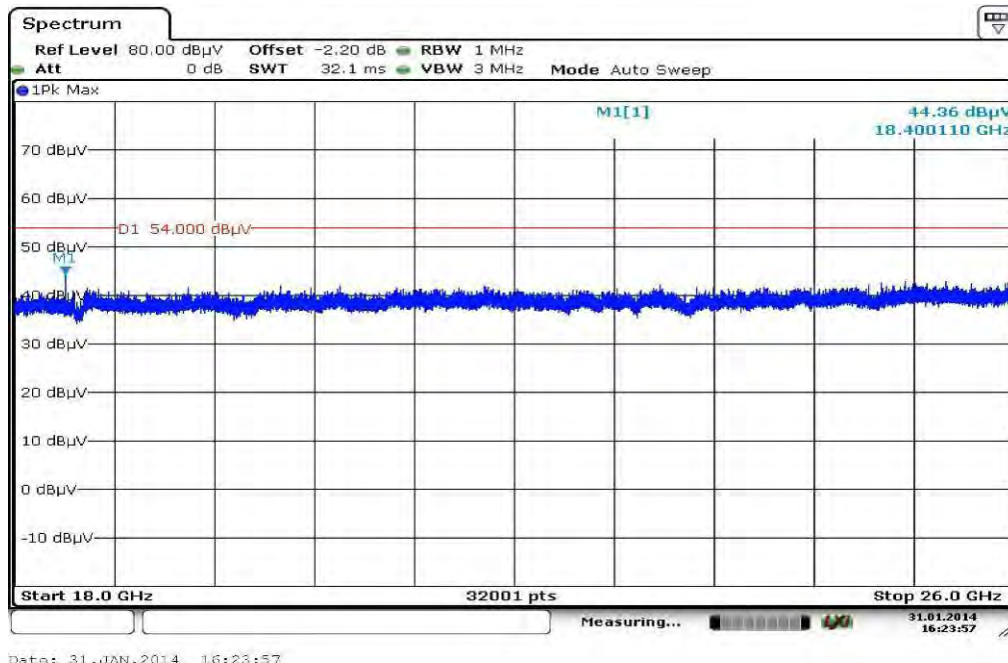
**Plot 2:** 1 GHz to 12.75 GHz, 5190 MHz, vertical & horizontal polarization



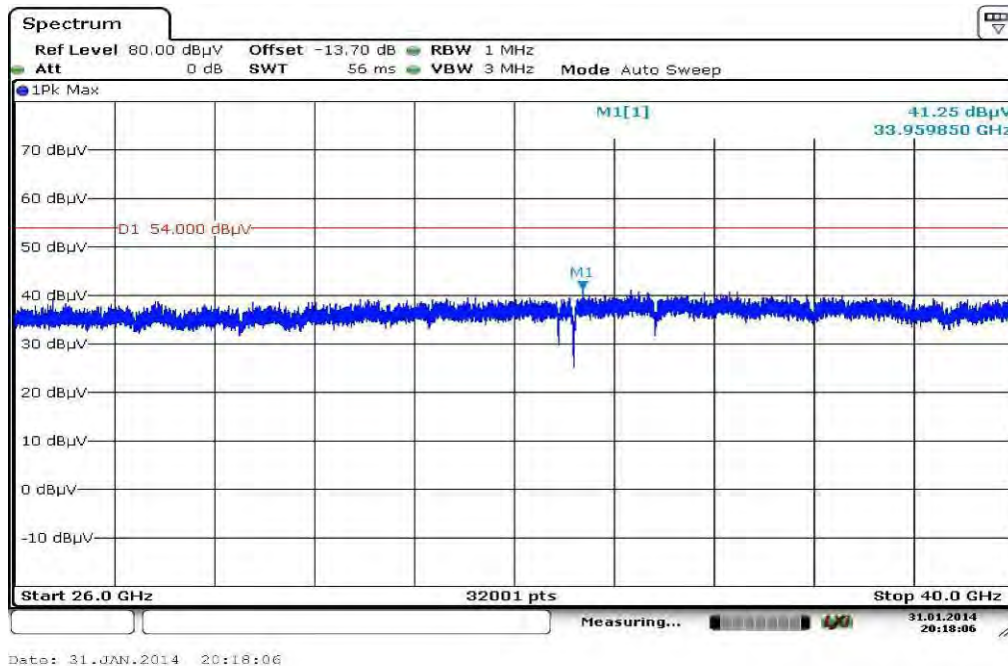
**Plot 3:** 12 GHz to 18 GHz, 5190 MHz, vertical & horizontal polarization



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



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





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

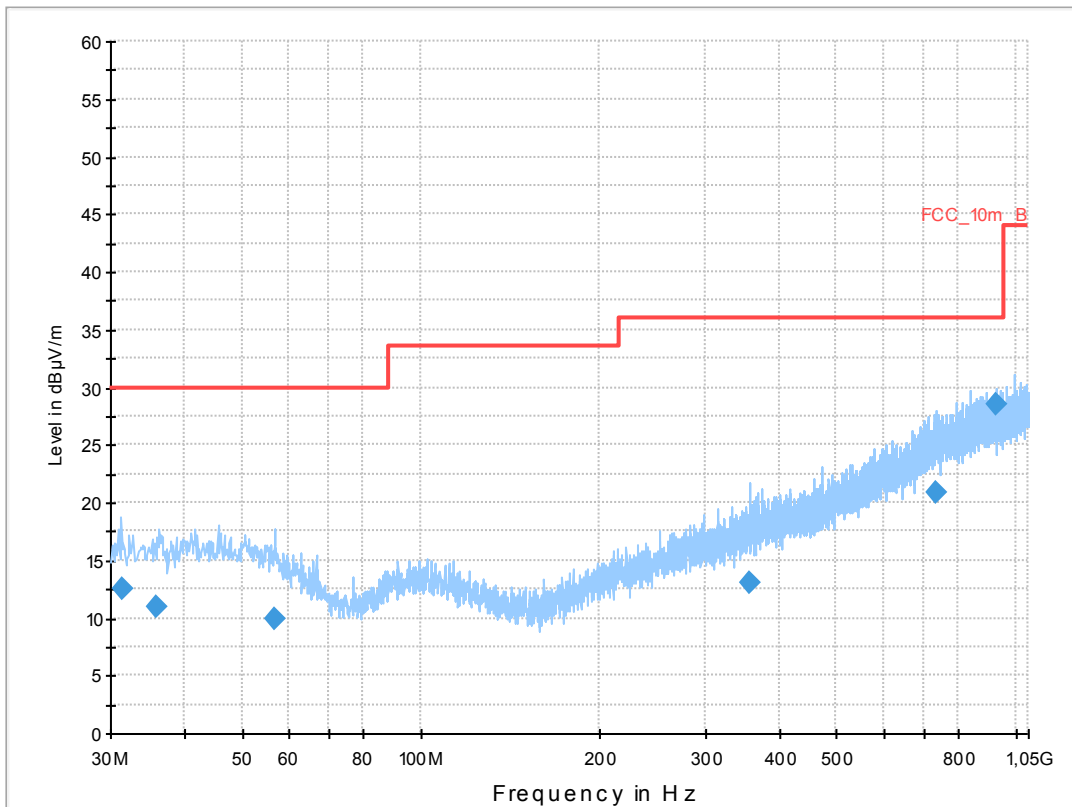
### Common Information

EUT: TS-0020-BV  
 Serial Number: CB51268FN3  
 Test Description: FCC part 15 class B @ 10 m  
 Operating Conditions: WLAN n-mode (HT40) TX Ch 46  
 Operator Name: Wolsdorfer  
 Comment: battery powered

### Scan Setup: STAN\_Fin [EMI radiated]

Hardware Setup: Electric Field (NOS)  
 Receiver: [ESC1 3]  
 Level Unit: dBµV/m

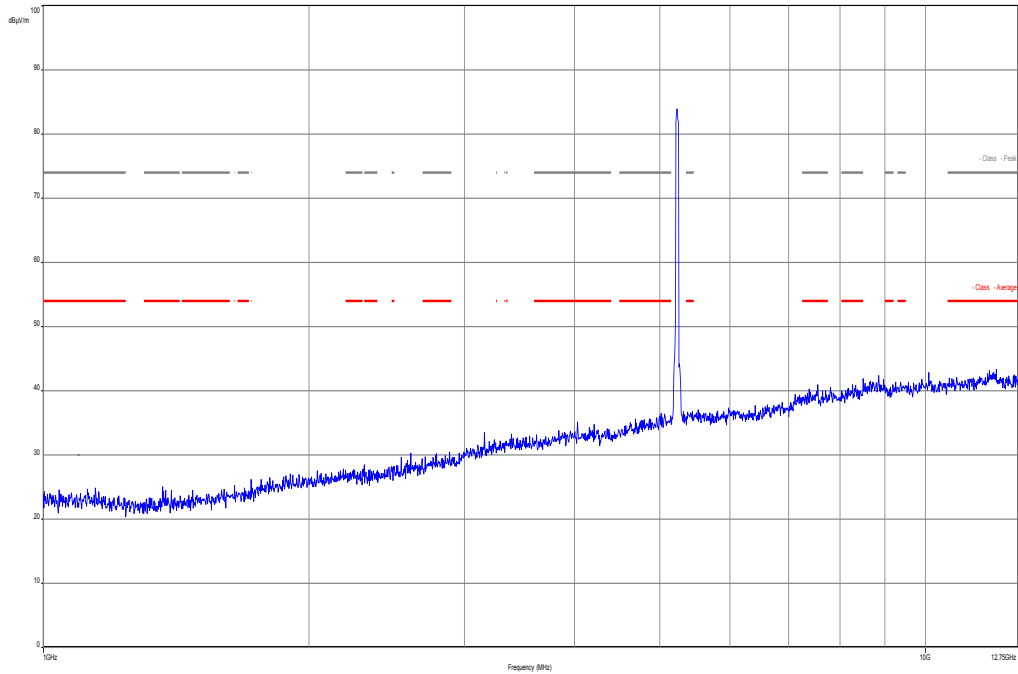
Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



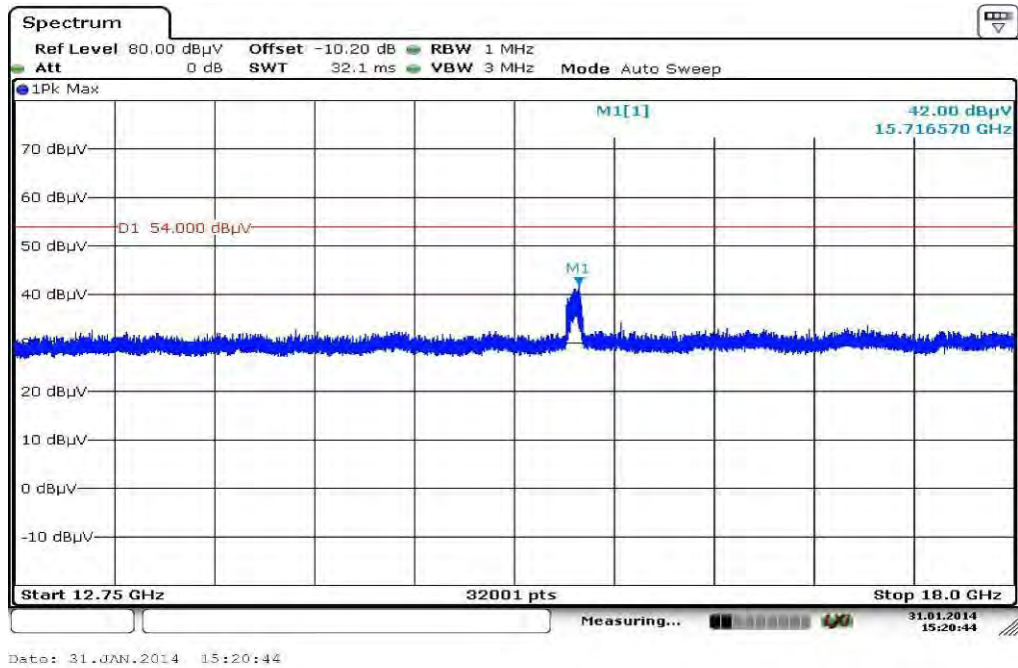
### Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
31.344750	12.6	1000.0	120.000	170.0	V	268.0	12.6	17.4	30.0	
35.822550	10.9	1000.0	120.000	170.0	V	183.0	13.1	19.1	30.0	
56.727750	9.9	1000.0	120.000	121.0	V	81.0	12.4	20.1	30.0	
357.360900	13.0	1000.0	120.000	170.0	V	170.0	16.2	23.0	36.0	
732.131700	20.9	1000.0	120.000	170.0	V	10.0	23.2	15.1	36.0	

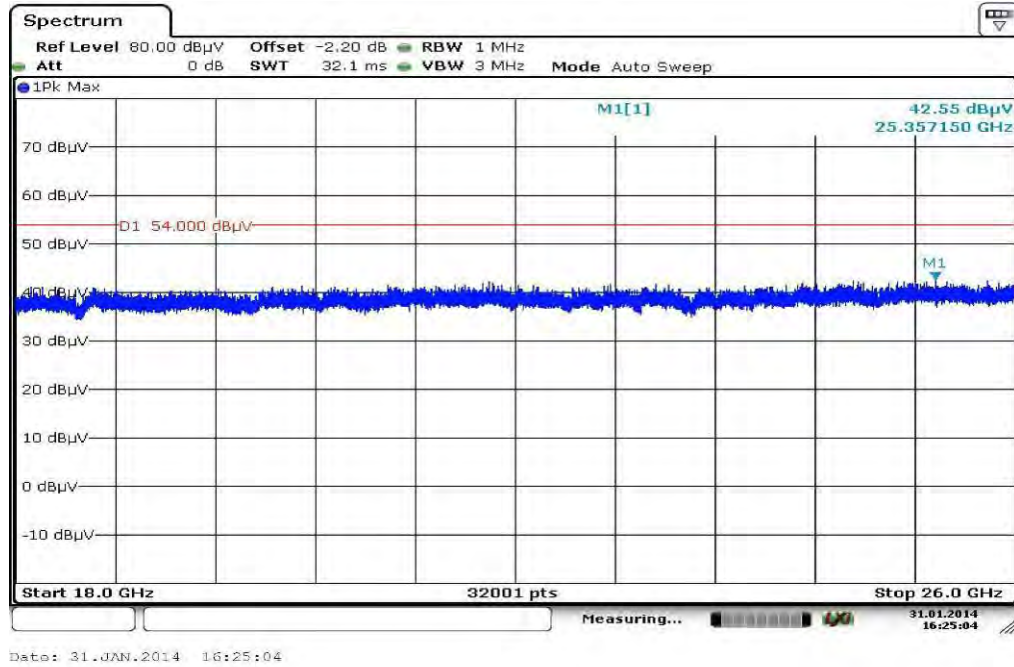
**Plot 7:** 1 GHz to 12.75 GHz, 5230 MHz, vertical & horizontal polarization



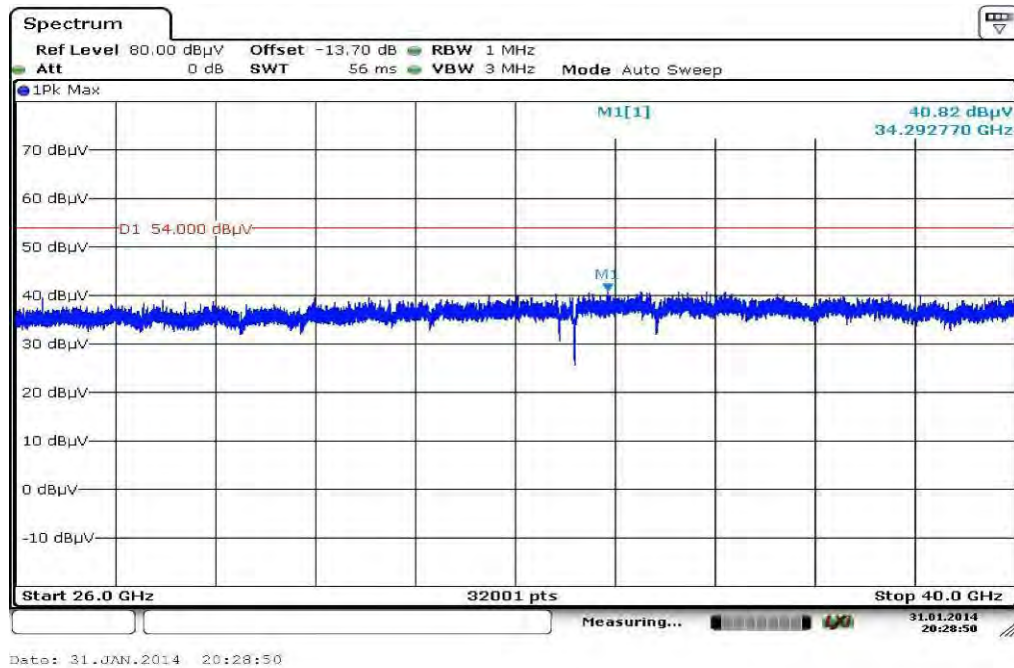
**Plot 8:** 12 GHz to 18 GHz, 5230 MHz, vertical & horizontal polarization



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



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



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

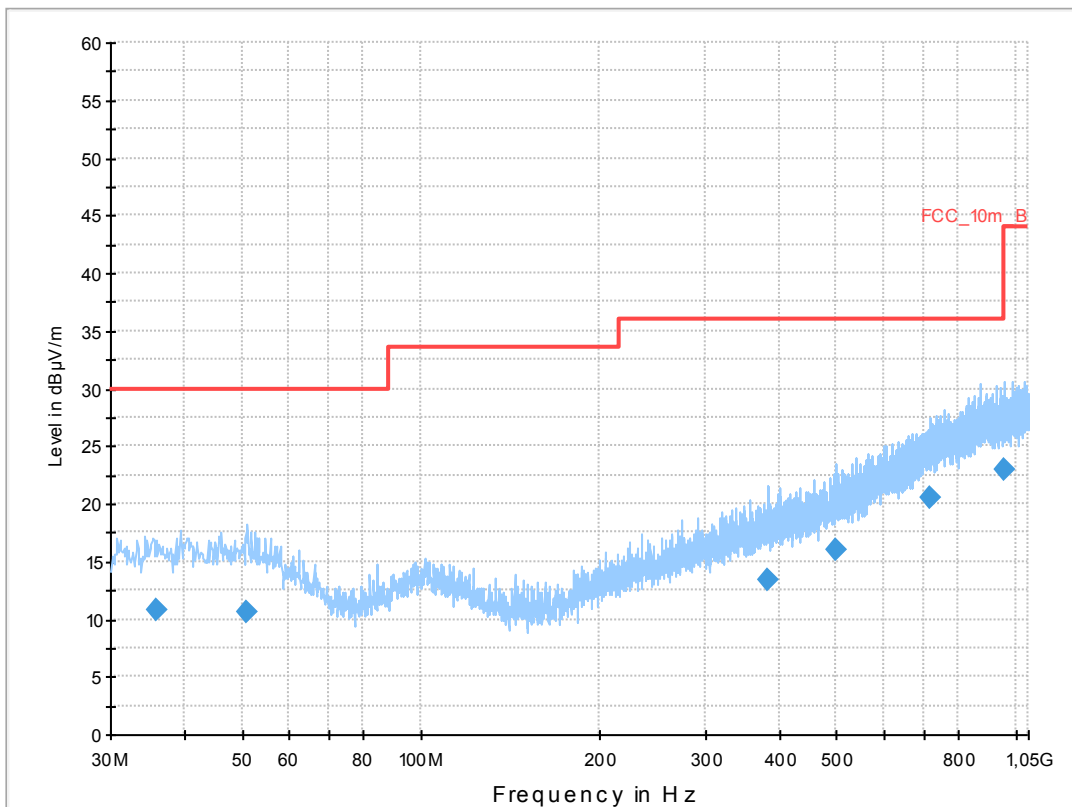
### Common Information

EUT: TS-0020-BV  
 Serial Number: CB51268FN3  
 Test Description: FCC part 15 class B @ 10 m  
 Operating Conditions: WLAN n-mode (HT40) TX Ch 54  
 Operator Name: Wolsdorfer  
 Comment: battery powered

### Scan Setup: STAN\_Fin [EMI radiated]

Hardware Setup: Electric Field (NOS)  
 Receiver: [ESC1 3]  
 Level Unit: dBµV/m

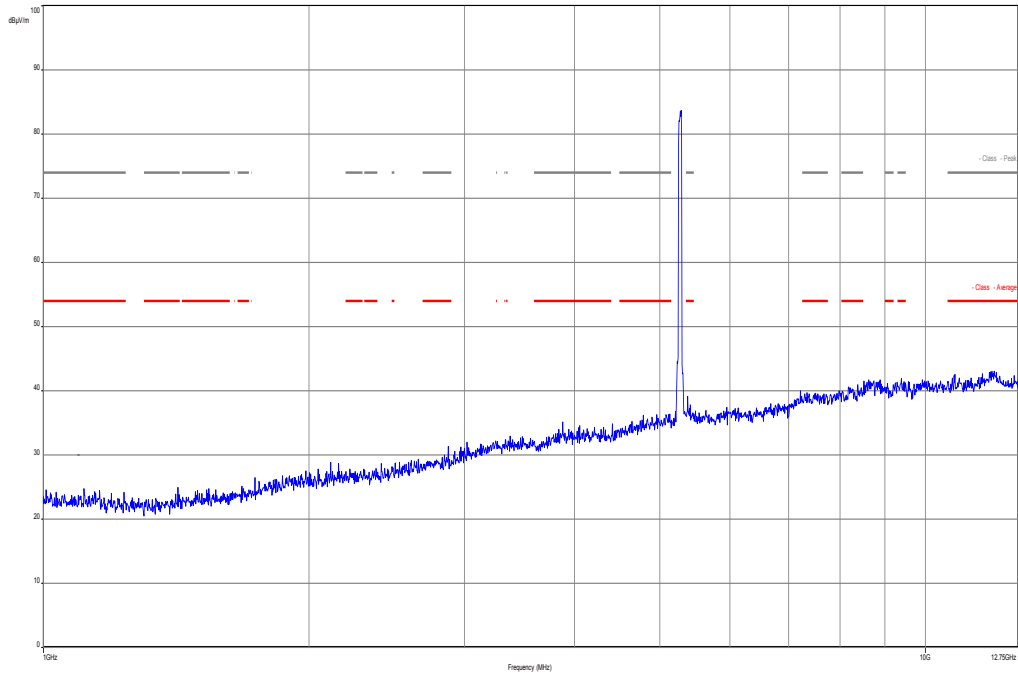
Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



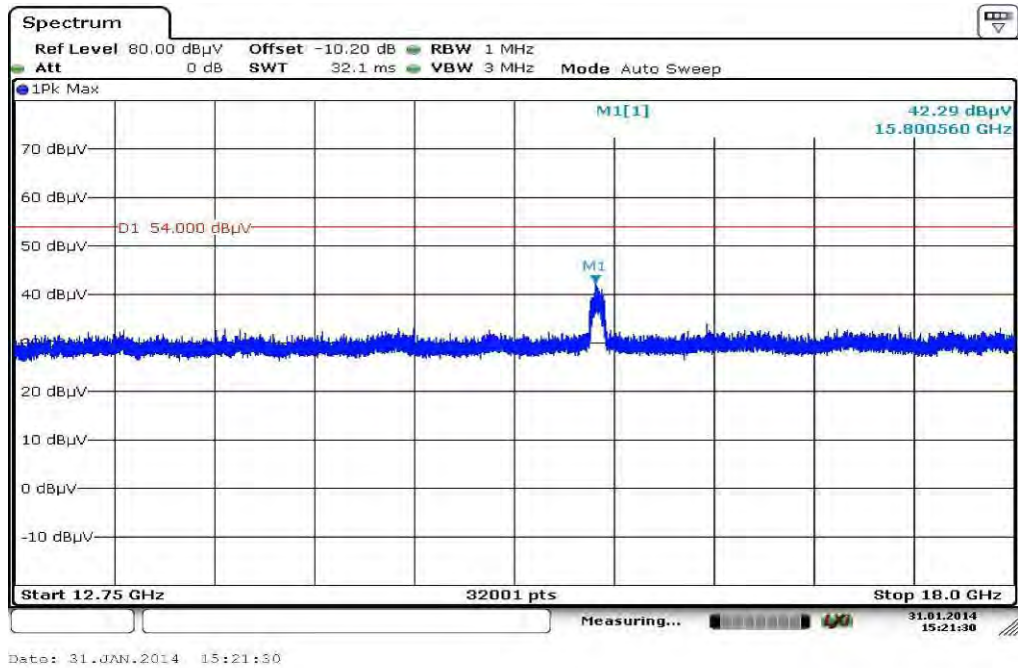
### Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
35.828550	10.8	1000.0	120.000	114.0	V	178.0	13.1	19.2	30.0	
50.805900	10.6	1000.0	120.000	135.0	H	190.0	13.3	19.4	30.0	
381.757950	13.5	1000.0	120.000	170.0	V	-2.0	16.6	22.5	36.0	
497.980350	16.0	1000.0	120.000	170.0	V	100.0	18.7	20.0	36.0	
717.421500	20.6	1000.0	120.000	170.0	V	100.0	22.9	15.4	36.0	
954.566250	22.9	1000.0	120.000	134.0	V	10.0	25.4	13.1	36.0	

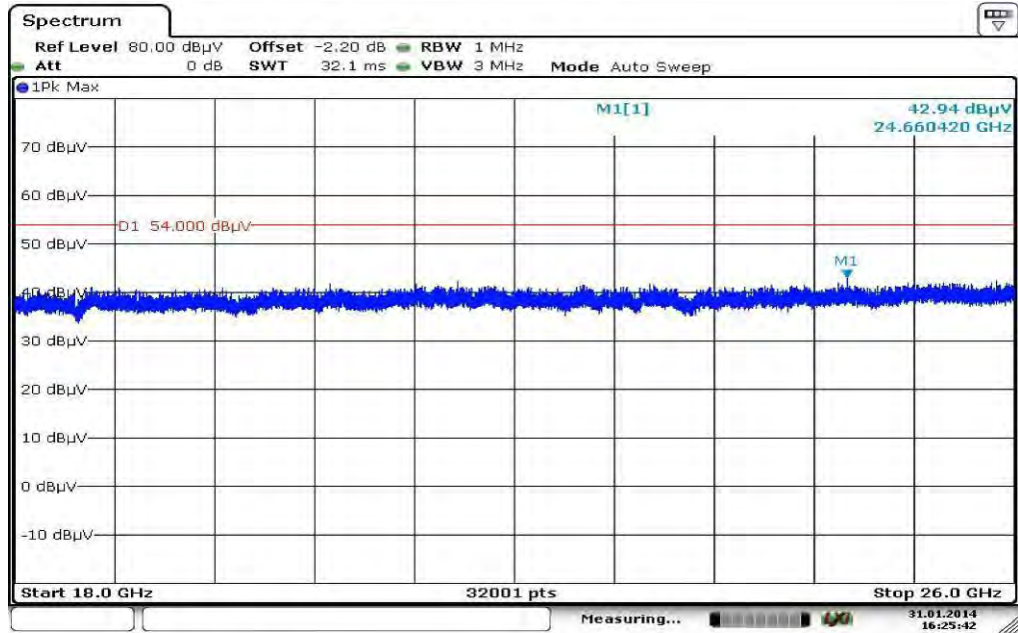
Plot 12: 1 GHz to 12.75 GHz, 5270 MHz, vertical & horizontal polarization



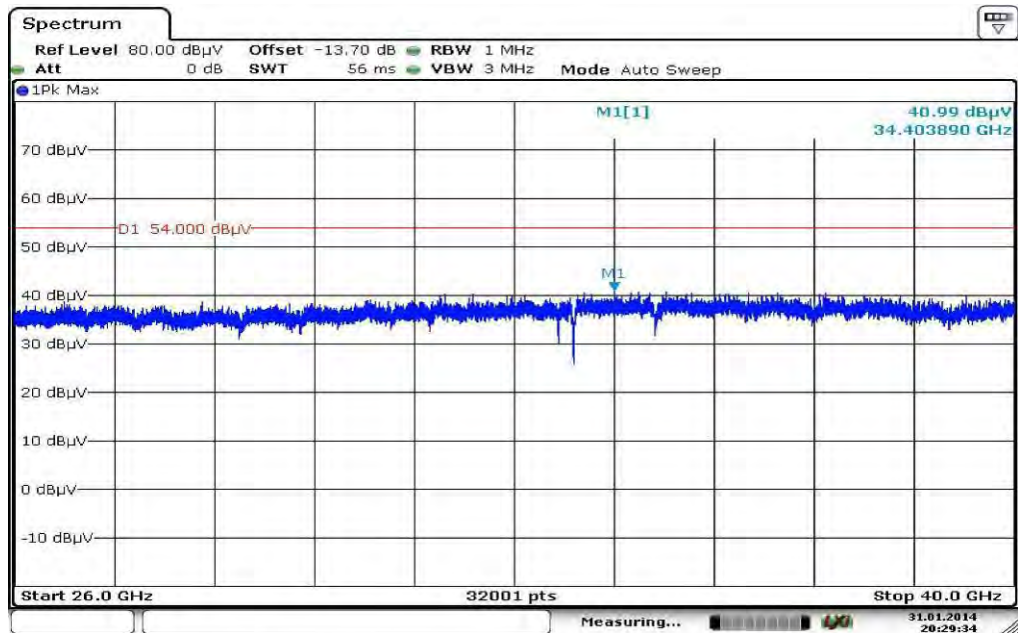
Plot 13: 12 GHz to 18 GHz, 5270 MHz, vertical & horizontal polarization



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



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





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

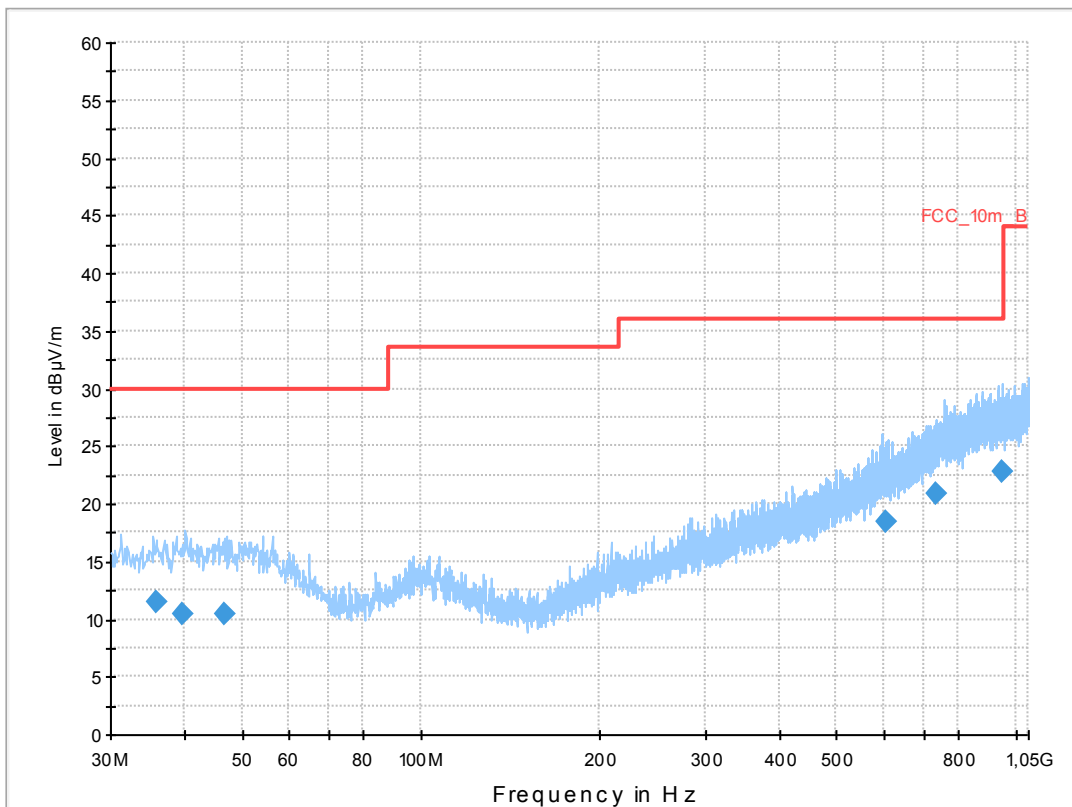
### Common Information

EUT: TS-0020-BV  
 Serial Number: CB51268FN3  
 Test Description: FCC part 15 class B @ 10 m  
 Operating Conditions: WLAN n-mode (HT40) TX Ch 62  
 Operator Name: Hennemann  
 Comment: battery powered

### Scan Setup: STAN\_Fin [EMI radiated]

Hardware Setup: Electric Field (NOS)  
 Receiver: [ESC1 3]  
 Level Unit: dBµV/m

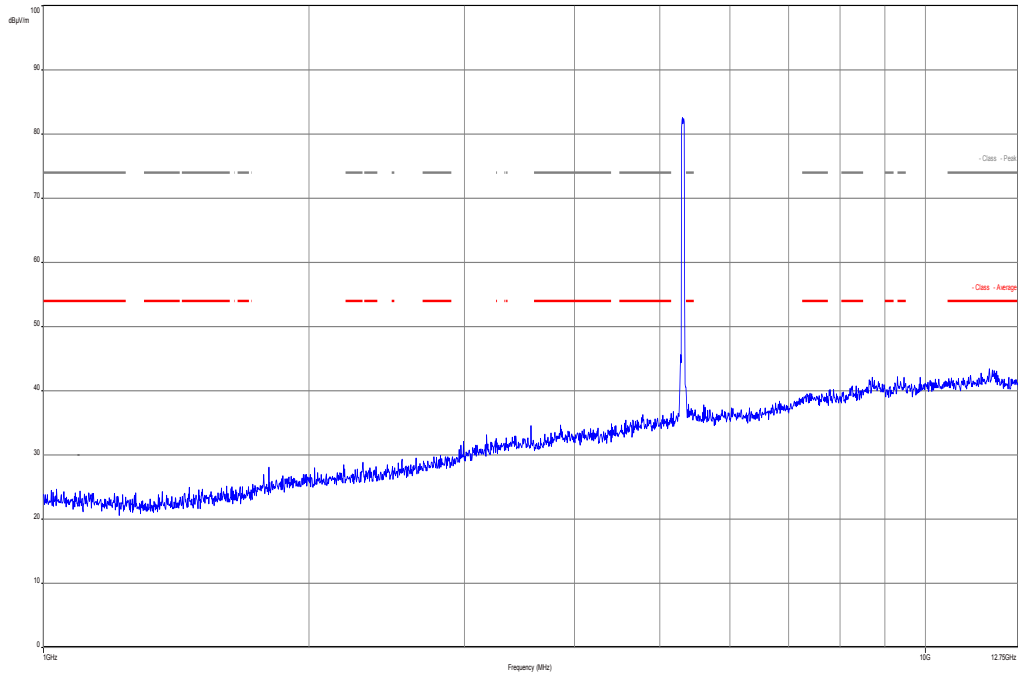
Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



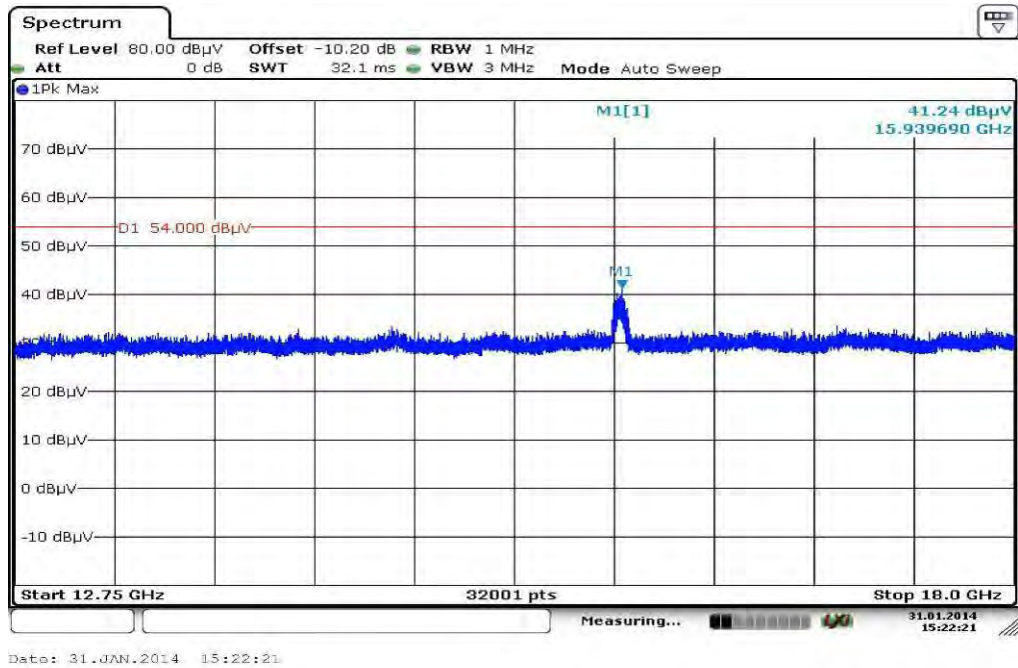
### Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
35.986500	11.5	1000.0	120.000	170.0	V	190.0	13.1	18.5	30.0	
39.695550	10.5	1000.0	120.000	170.0	V	183.0	13.4	19.5	30.0	
46.516800	10.5	1000.0	120.000	98.0	V	190.0	13.3	19.5	30.0	
604.395300	18.4	1000.0	120.000	170.0	H	-9.0	20.8	17.6	36.0	
731.881650	20.8	1000.0	120.000	170.0	H	261.0	23.2	15.2	36.0	
947.773800	22.8	1000.0	120.000	170.0	H	260.0	25.3	13.2	36.0	

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

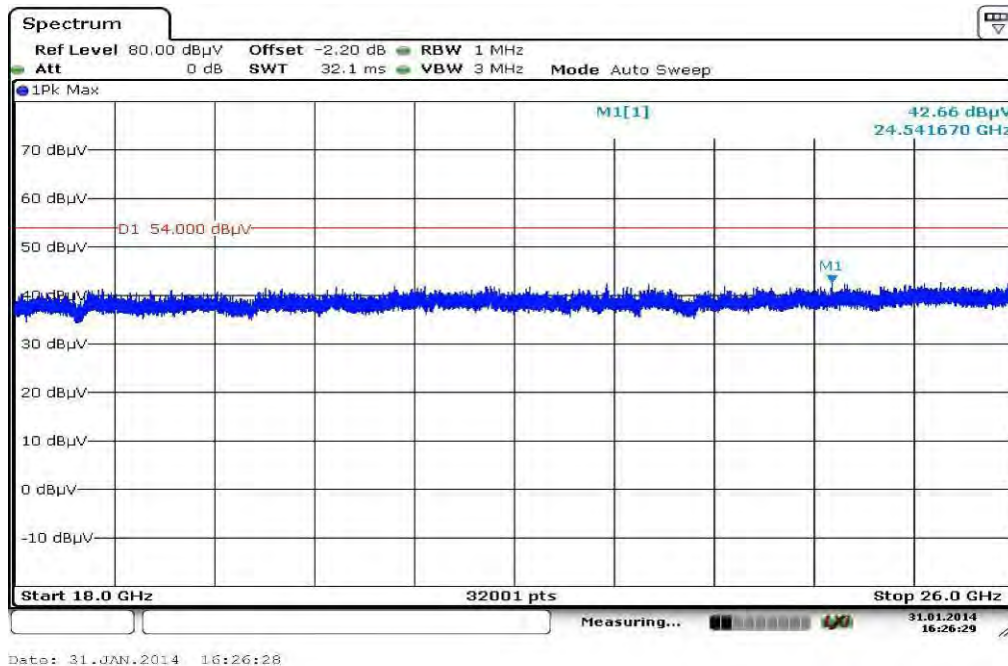


Plot 18: 12 GHz to 18 GHz, 5310 MHz, vertical & horizontal polarization

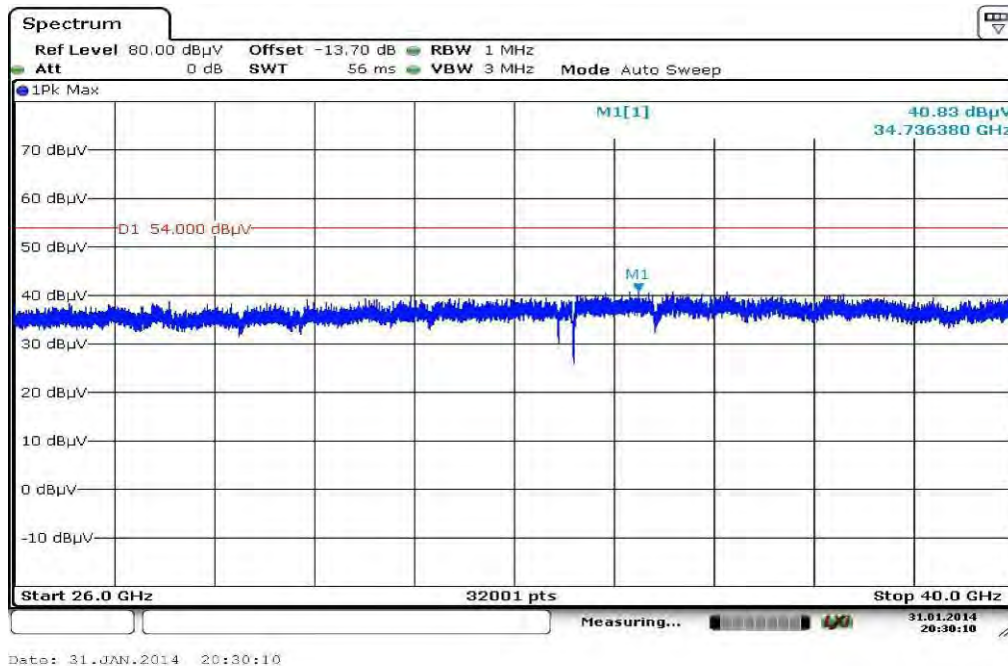




Plot 19: 18 GHz to 26 GHz, 5310 MHz, vertical & horizontal polarization



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



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

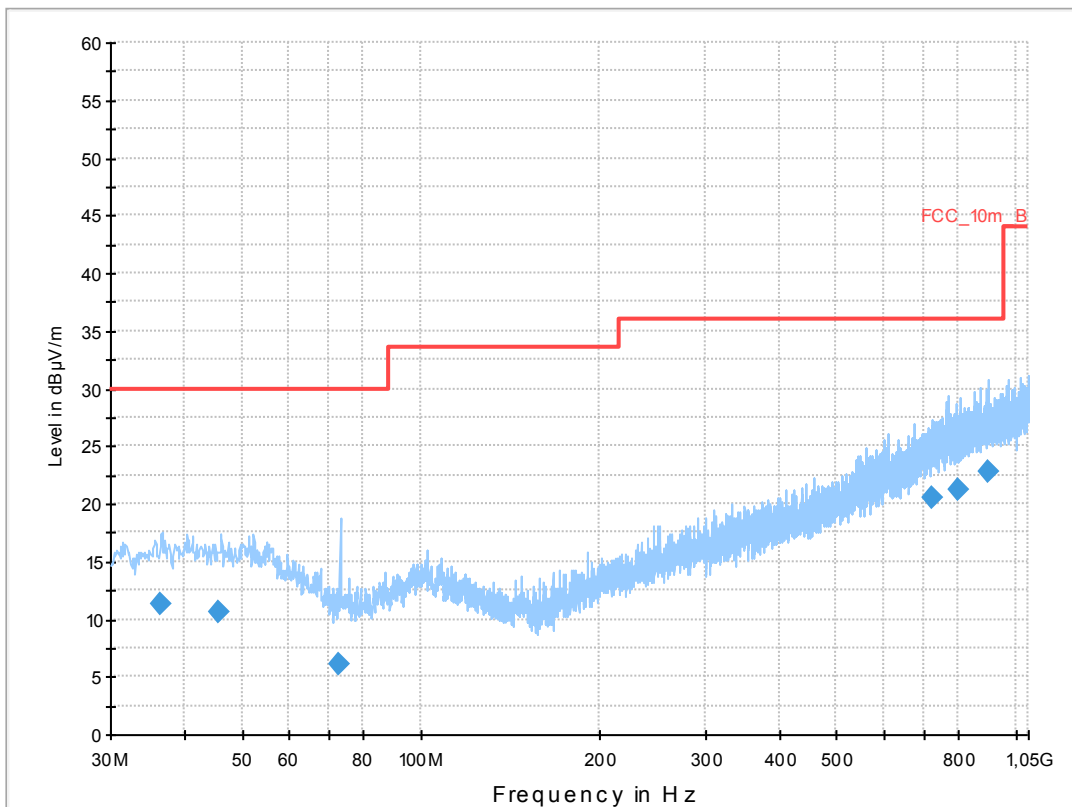
### Common Information

EUT: TS-0020-BV  
 Serial Number: CB51268FN3  
 Test Description: FCC part 15 class B @ 10 m  
 Operating Conditions: WLAN n-mode (HT40) TX Ch 102  
 Operator Name: Hennemann  
 Comment: battery powered

### Scan Setup: STAN\_Fin [EMI radiated]

Hardware Setup: Electric Field (NOS)  
 Receiver: [ESC1 3]  
 Level Unit: dBµV/m

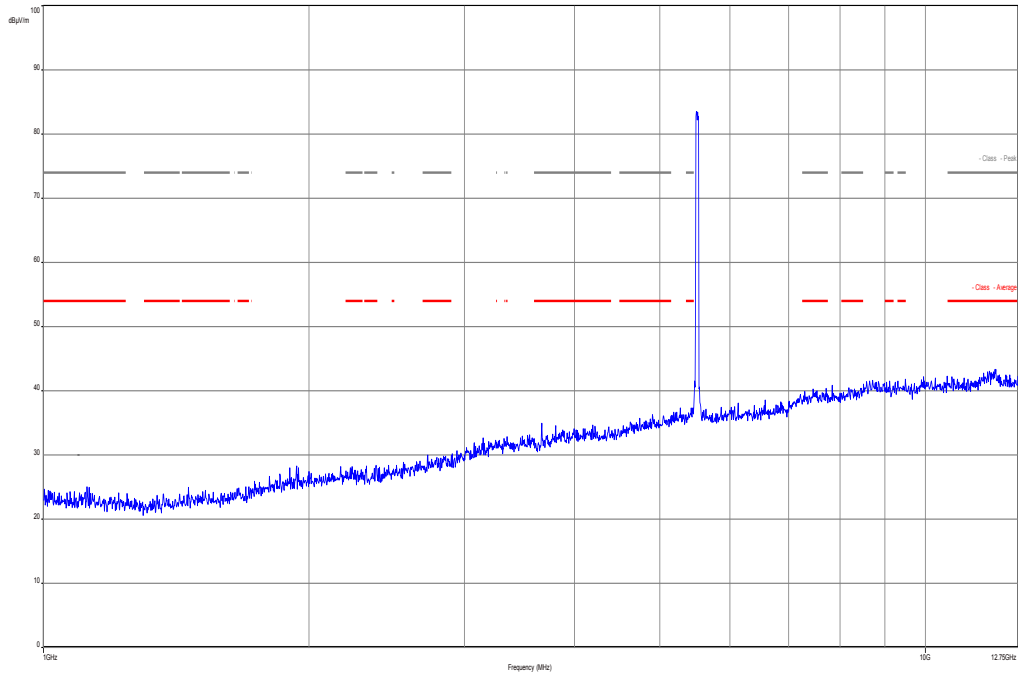
Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



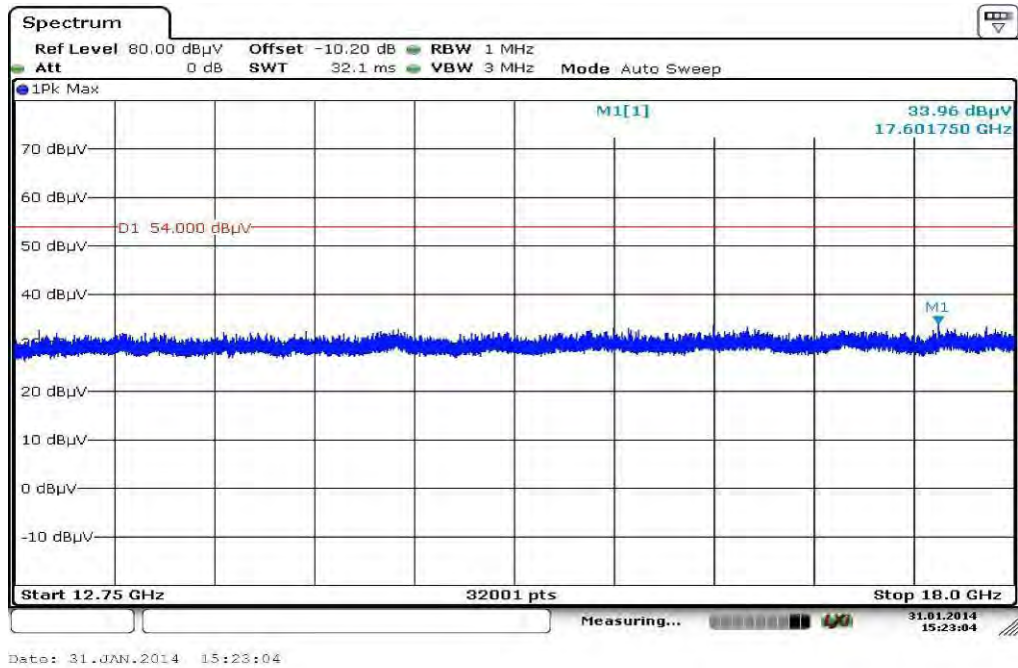
### Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
36.421650	11.3	1000.0	120.000	132.0	V	10.0	13.1	18.7	30.0	
45.644700	10.7	1000.0	120.000	170.0	H	10.0	13.3	19.3	30.0	
72.908100	6.0	1000.0	120.000	130.0	V	-10.0	9.2	24.0	30.0	
724.749600	20.5	1000.0	120.000	170.0	H	100.0	23.1	15.5	36.0	
803.248200	21.3	1000.0	120.000	131.0	H	-9.0	23.9	14.7	36.0	
898.659000	22.7	1000.0	120.000	160.0	V	90.0	25.2	13.3	36.0	

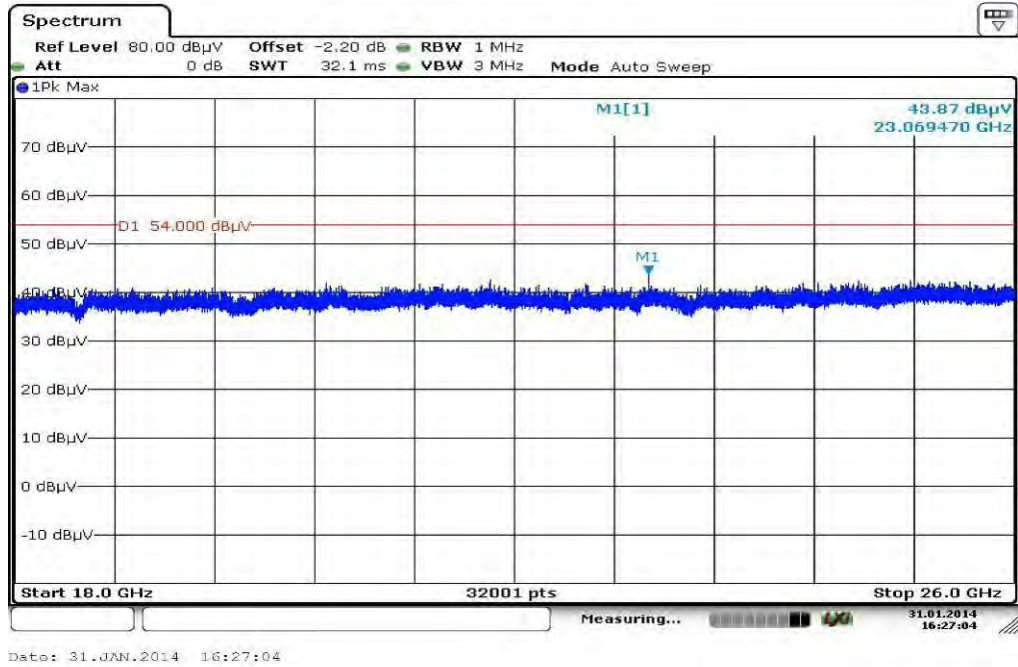
Plot 22: 1 GHz to 12.75 GHz, 5510 MHz, vertical & horizontal polarization



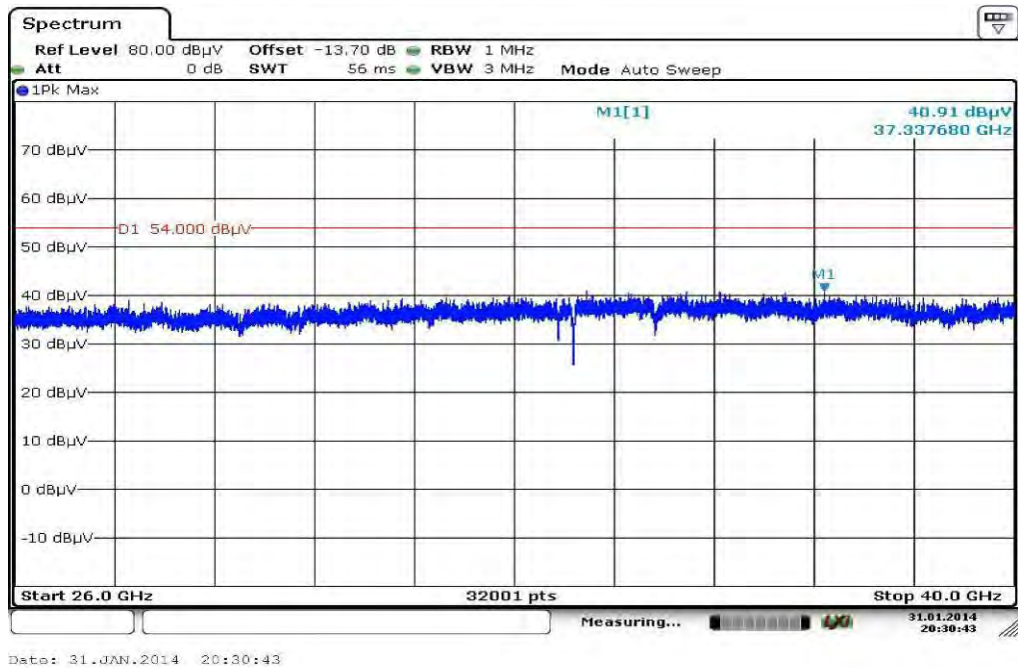
Plot 23: 12 GHz to 18 GHz, 5510 MHz, vertical & horizontal polarization



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



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



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

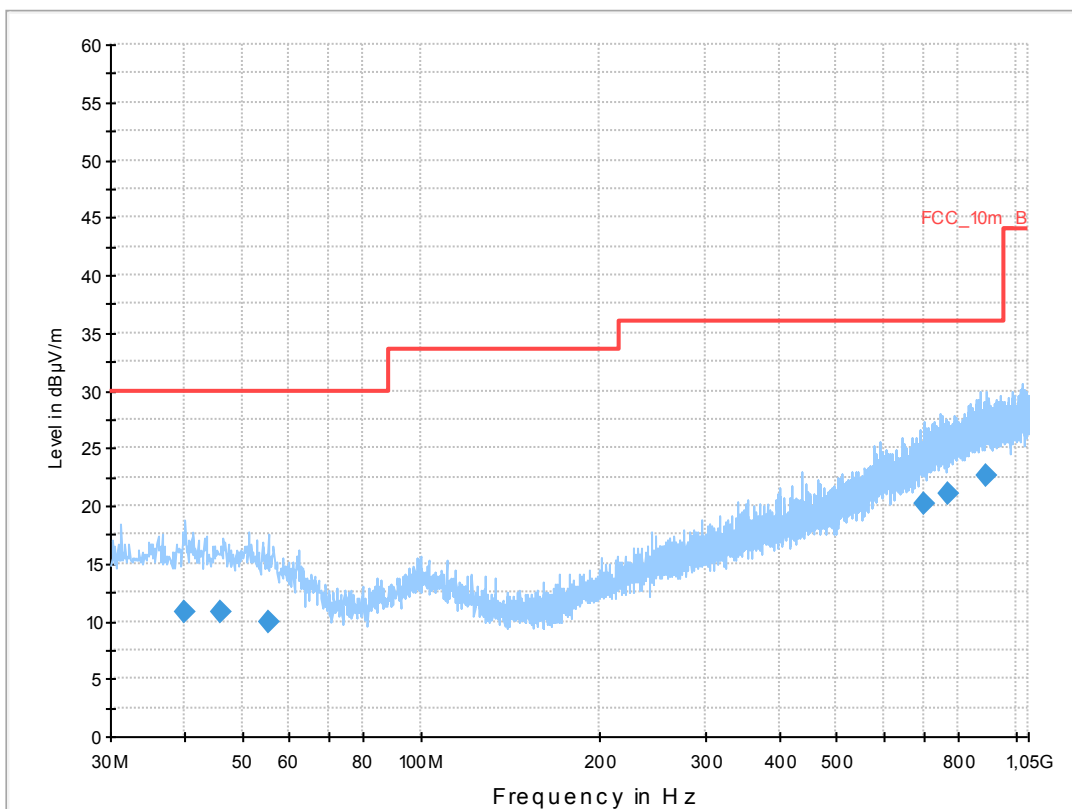
### Common Information

EUT: TS-0020-BV  
 Serial Number: CB51268FN3  
 Test Description: FCC part 15 class B @ 10 m  
 Operating Conditions: WLAN n-mode (HT40) TX Ch 118  
 Operator Name: Hennemann  
 Comment: battery powered

### Scan Setup: STAN\_Fin [EMI radiated]

Hardware Setup: Electric Field (NOS)  
 Receiver: [ESC1 3]  
 Level Unit: dBµV/m

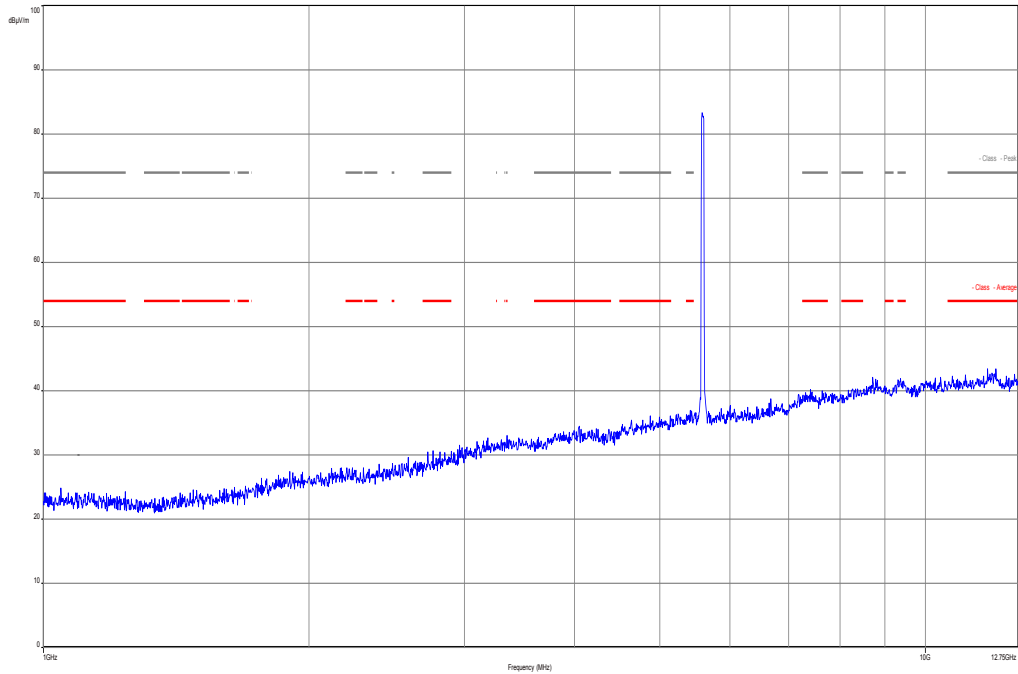
Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



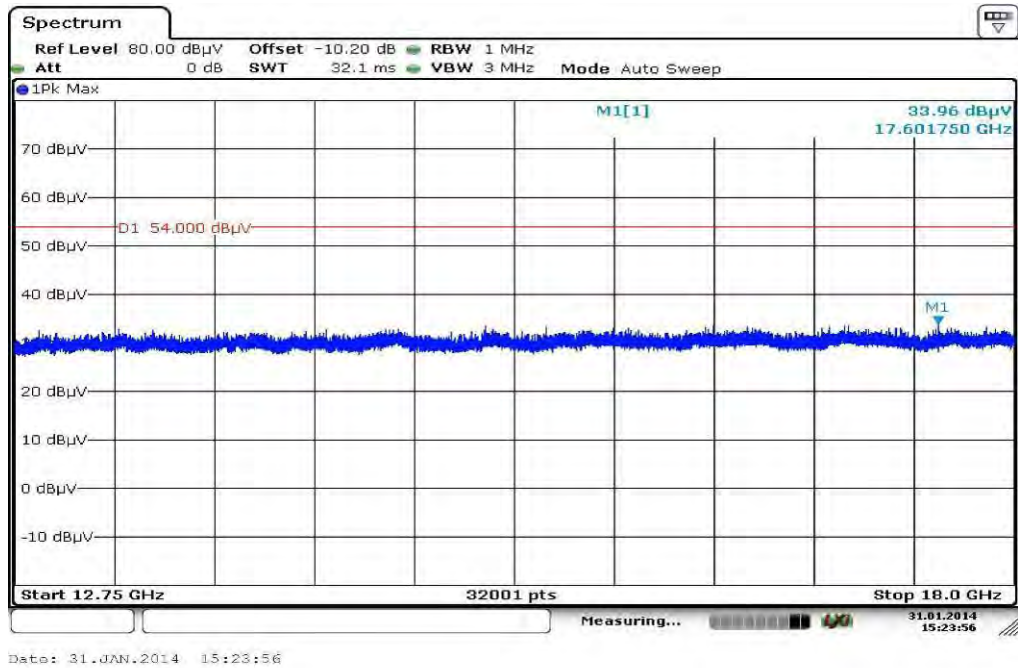
### Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
39.968250	10.7	1000.0	120.000	145.0	H	190.0	13.4	19.3	30.0	
45.943950	10.8	1000.0	120.000	170.0	V	270.0	13.3	19.2	30.0	
55.462800	9.8	1000.0	120.000	170.0	H	88.0	12.8	20.2	30.0	
698.931150	20.1	1000.0	120.000	170.0	H	280.0	22.5	15.9	36.0	
769.678650	21.1	1000.0	120.000	170.0	H	182.0	23.7	14.9	36.0	
895.087050	22.6	1000.0	120.000	170.0	V	100.0	25.1	13.4	36.0	

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

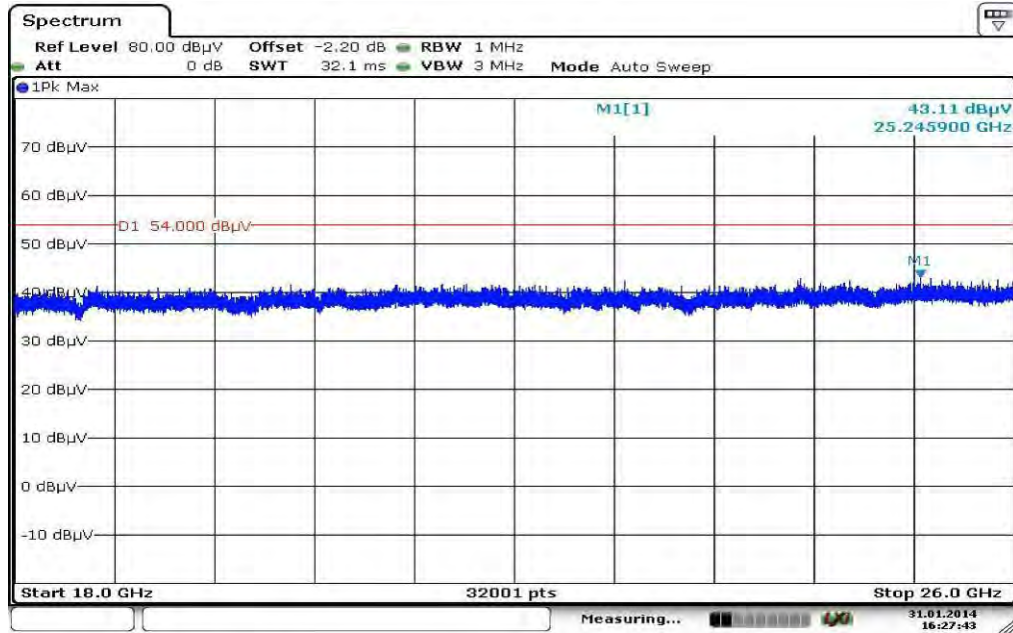


Plot 28: 12 GHz to 18 GHz, 5590 MHz, vertical & horizontal polarization



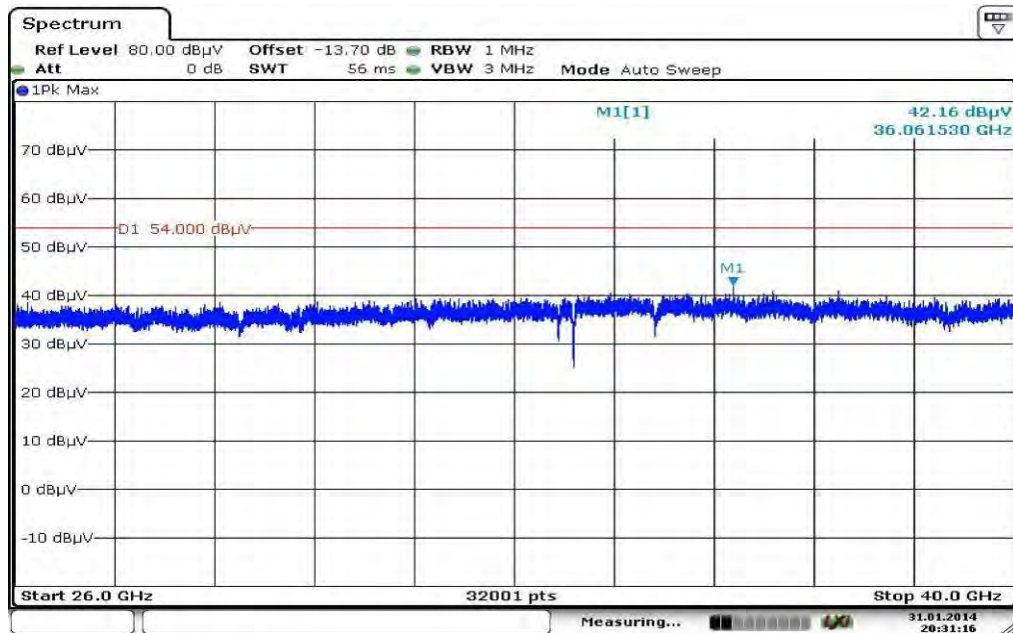


**Plot 29:** 18 GHz to 26 GHz, 5590 MHz, vertical & horizontal polarization



Date: 31.JAN.2014 16:27:43

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



Date: 31.JAN.2014 20:31:16

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

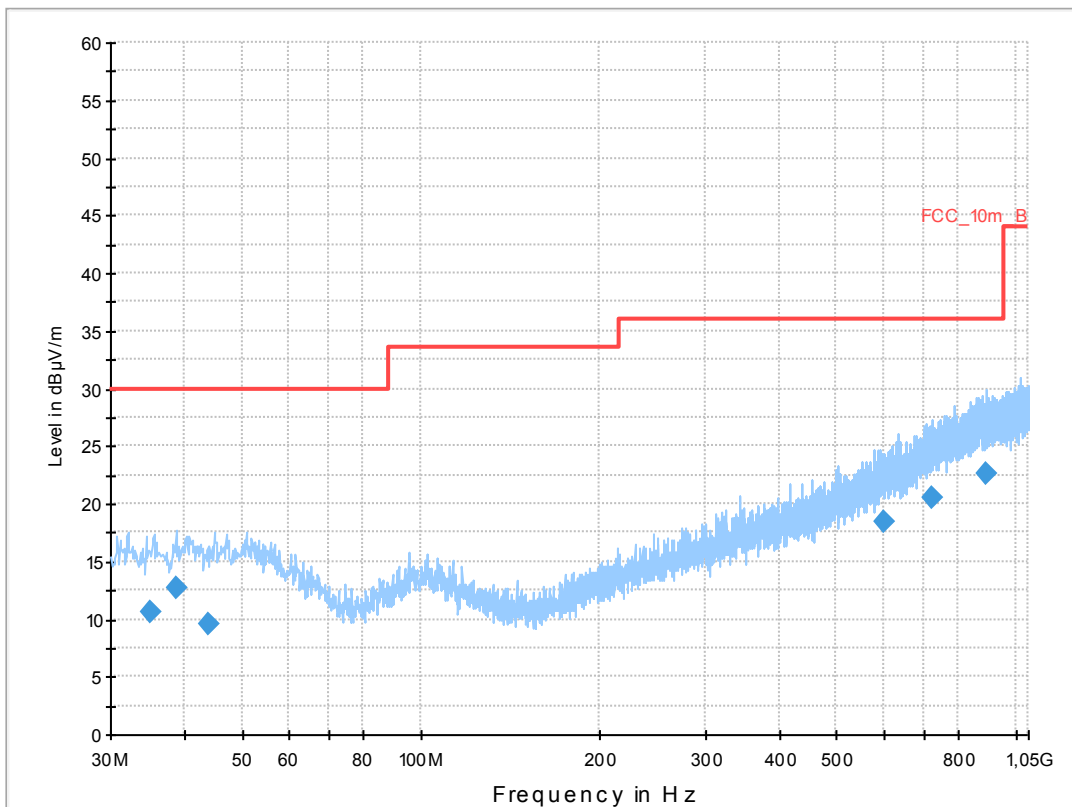
### Common Information

EUT: TS-0020-BV  
 Serial Number: CB51268FN3  
 Test Description: FCC part 15 class B @ 10 m  
 Operating Conditions: WLAN n-mode (HT40) TX Ch 134  
 Operator Name: Hennemann  
 Comment: battery powered

### Scan Setup: STAN\_Fin [EMI radiated]

Hardware Setup: Electric Field (NOS)  
 Receiver: [ESC1 3]  
 Level Unit: dBµV/m

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB

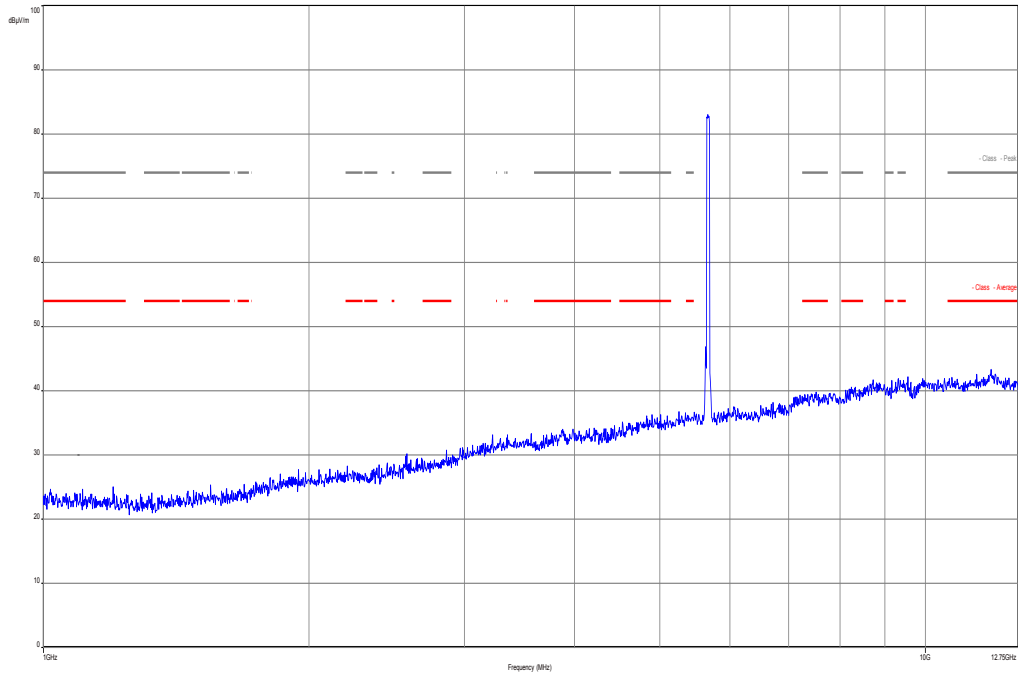


### Final Result 1

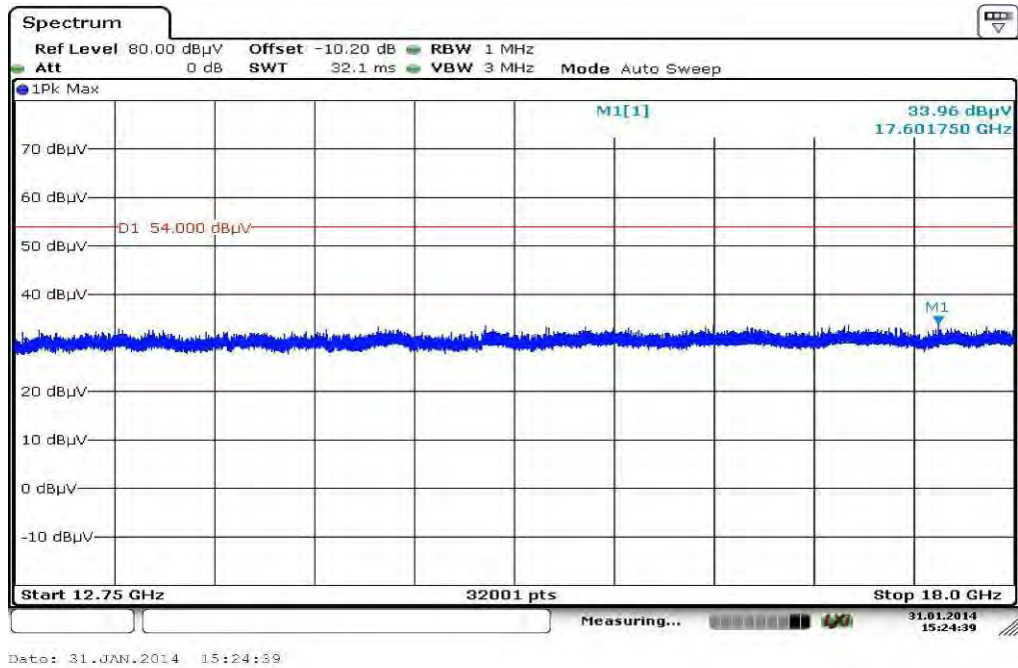
Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
35.012850	10.6	1000.0	120.000	170.0	V	171.0	13.0	19.4	30.0	
38.737500	12.7	1000.0	120.000	104.0	V	270.0	13.3	17.3	30.0	
43.775700	9.5	1000.0	120.000	170.0	H	2.0	13.3	20.5	30.0	
602.236350	18.4	1000.0	120.000	170.0	V	93.0	20.8	17.6	36.0	
723.085650	20.6	1000.0	120.000	143.0	V	170.0	23.0	15.4	36.0	
892.026450	22.6	1000.0	120.000	170.0	H	280.0	25.1	13.4	36.0	



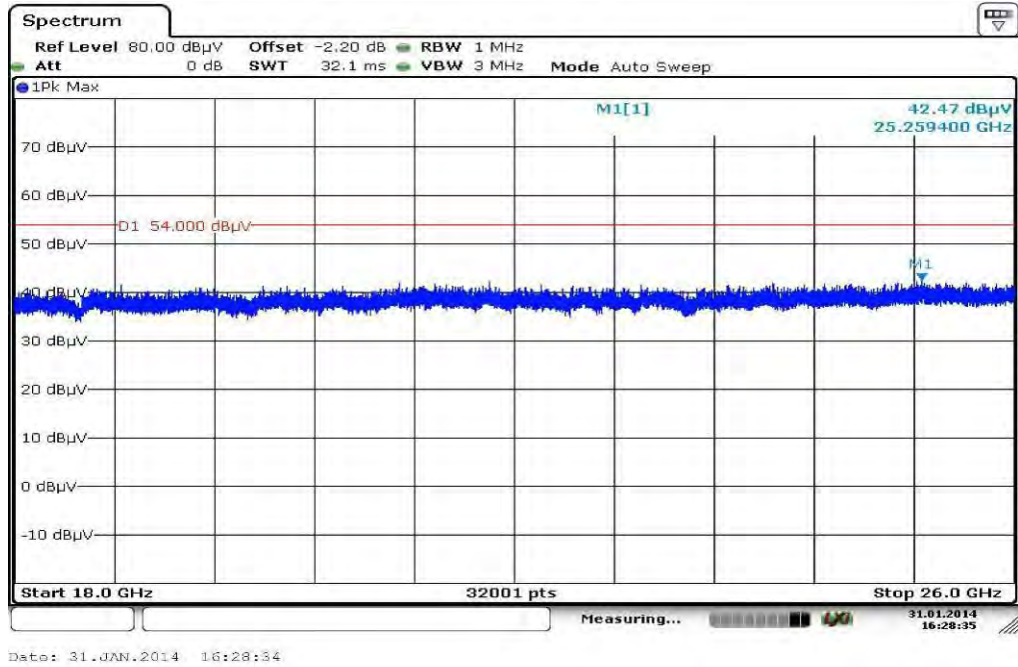
Plot 32: 1 GHz to 12.75 GHz, 5670 MHz, vertical & horizontal polarization



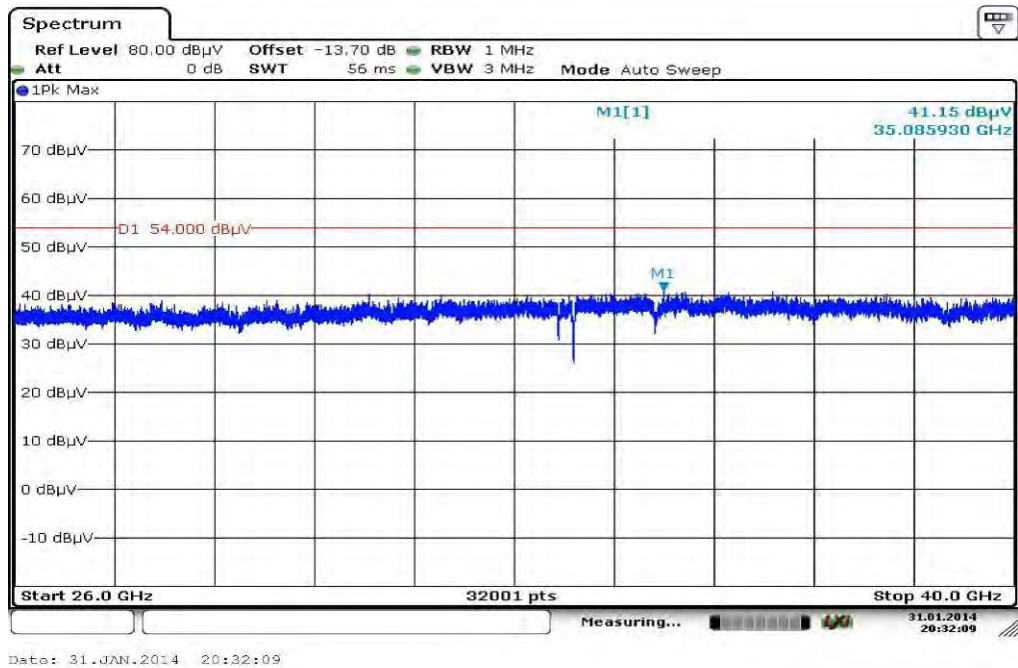
Plot 33: 12 GHz to 18 GHz, 5670 MHz, vertical & horizontal polarization



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



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



**Plots:** OFDM / ac – mode HT80

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

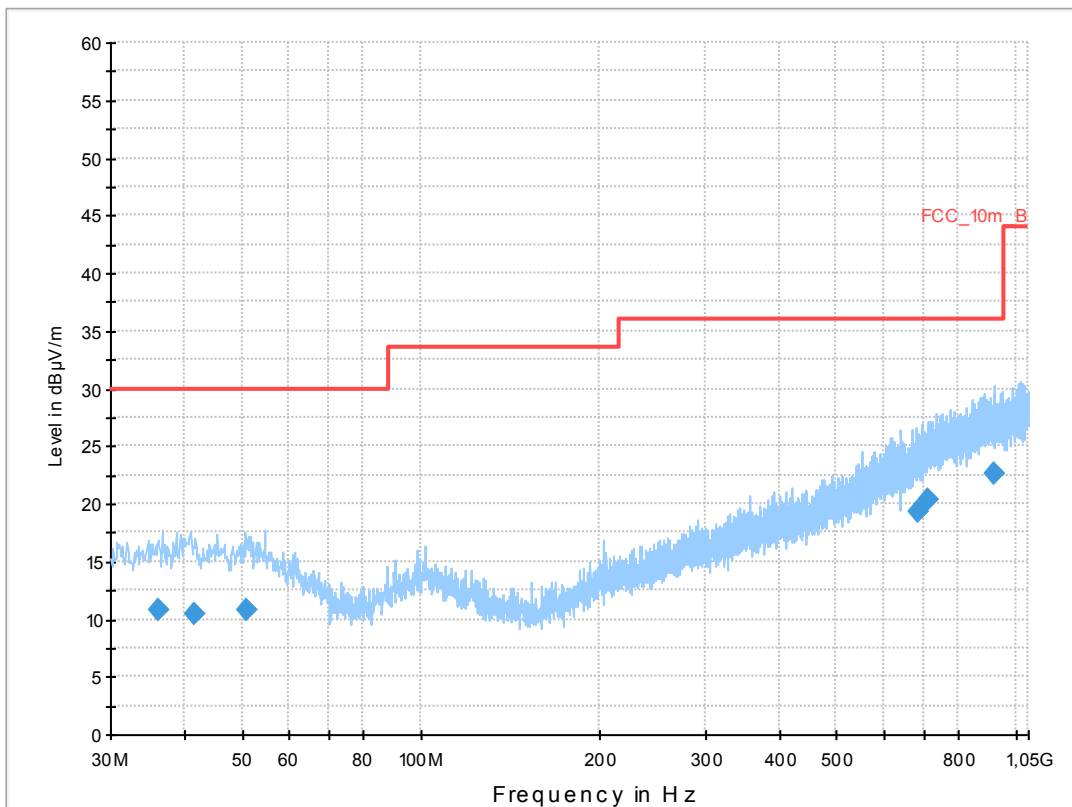
### Common Information

EUT: TS-0020-BV  
 Serial Number: CB51268FN3  
 Test Description: FCC part 15 class B @ 10 m  
 Operating Conditions: WLAN ac-mode (HT80) TX Ch 42  
 Operator Name: Hennemann  
 Comment: battery powered

### Scan Setup: STAN\_Fin [EMI radiated]

Hardware Setup: Electric Field (NOS)  
 Receiver: [ESC1 3]  
 Level Unit: dBµV/m

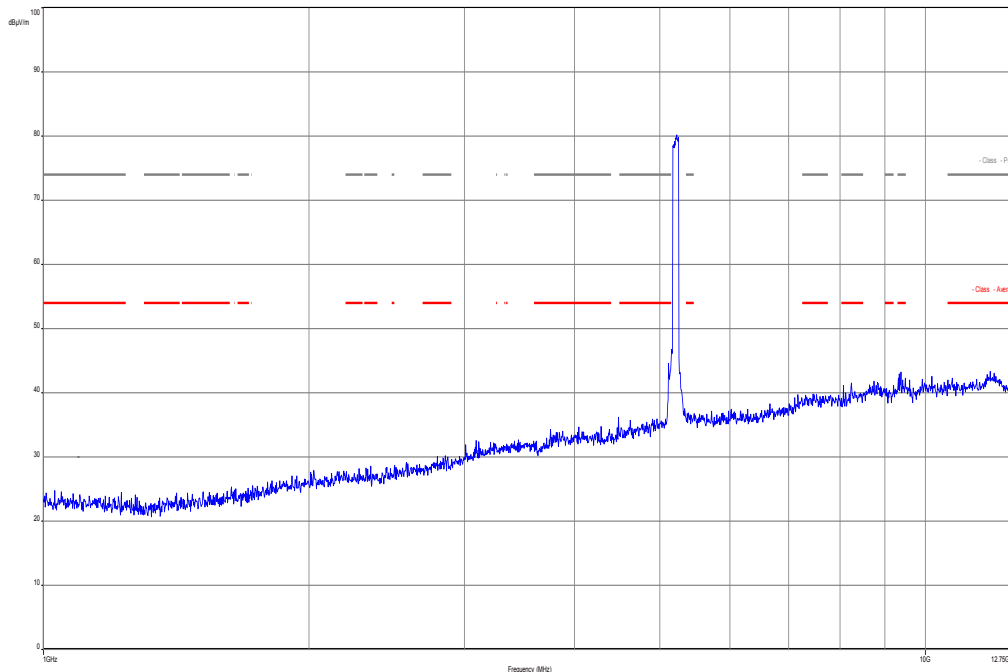
Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



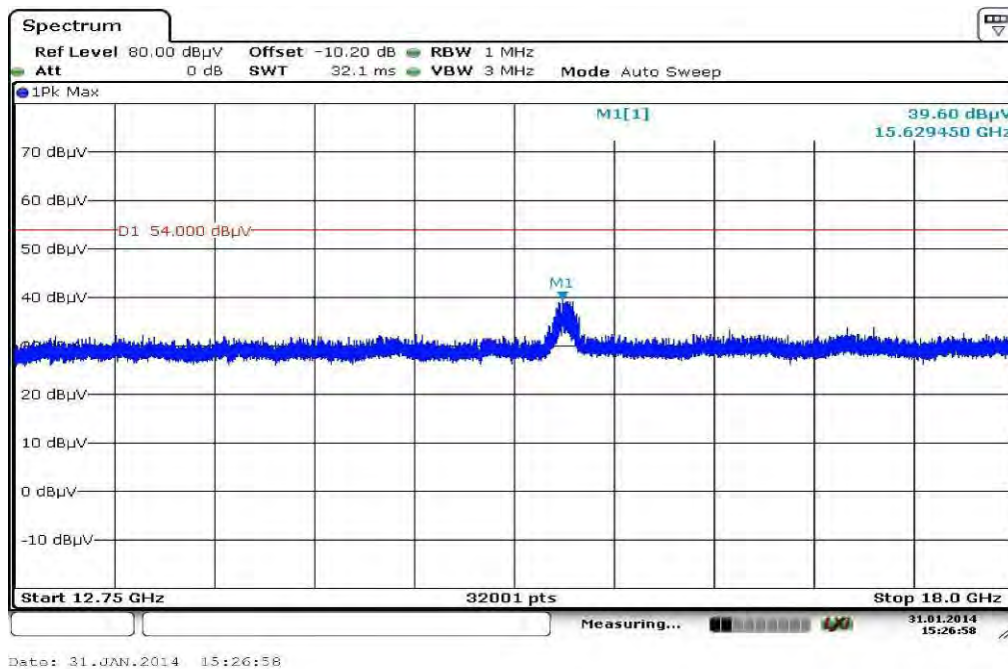
### Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
36.076800	10.8	1000.0	120.000	143.0	V	100.0	13.1	19.2	30.0	
41.404650	10.5	1000.0	120.000	170.0	H	10.0	13.4	19.5	30.0	
51.041700	10.7	1000.0	120.000	170.0	V	-9.0	13.3	19.3	30.0	
686.312500	19.3	1000.0	120.000	135.0	V	173.0	25.0	16.7	36.0	
712.063500	20.4	1000.0	120.000	121.0	H	280.0	22.8	15.6	36.0	
918.311400	22.6	1000.0	120.000	170.0	V	-3.0	25.3	13.4	36.0	

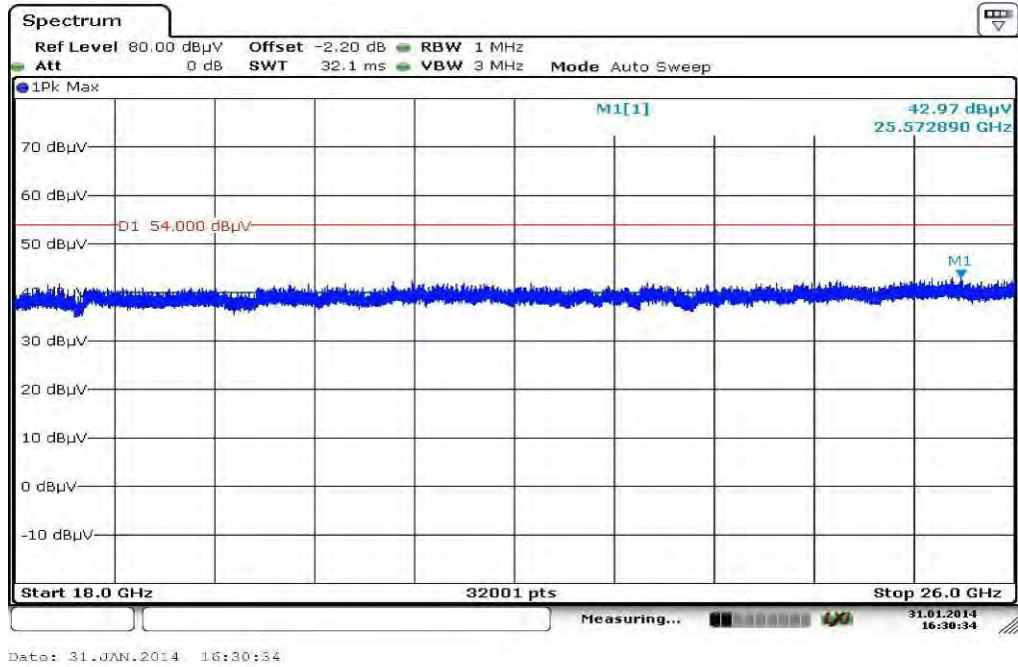
Plot 2: 1 GHz to 12.75 GHz, 5210 MHz, vertical & horizontal polarization



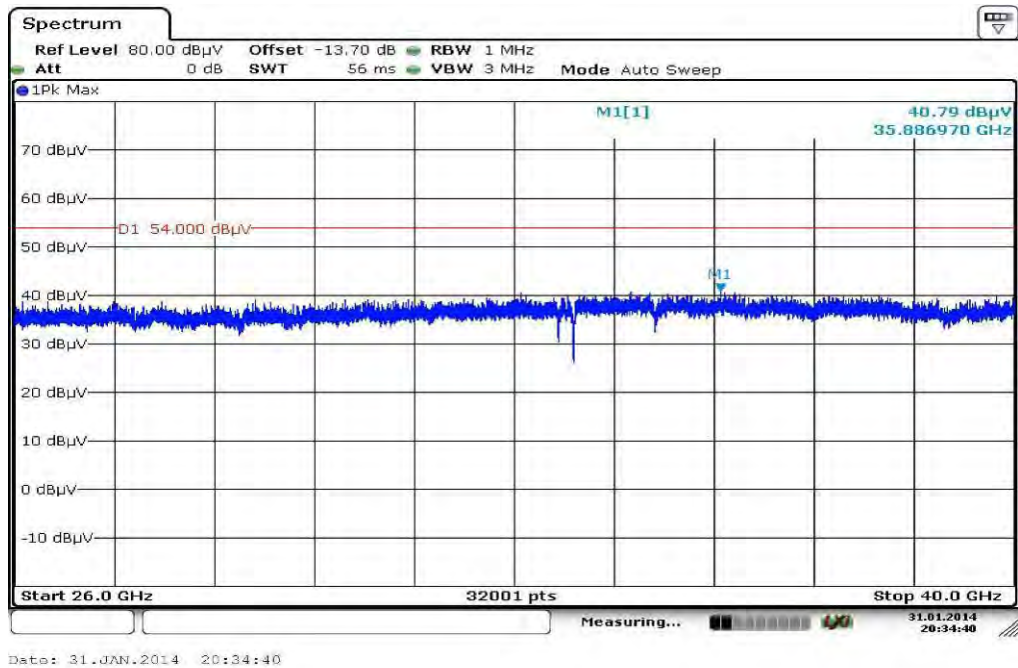
Plot 3: 12 GHz to 18 GHz, 5210 MHz, vertical & horizontal polarization



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



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



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

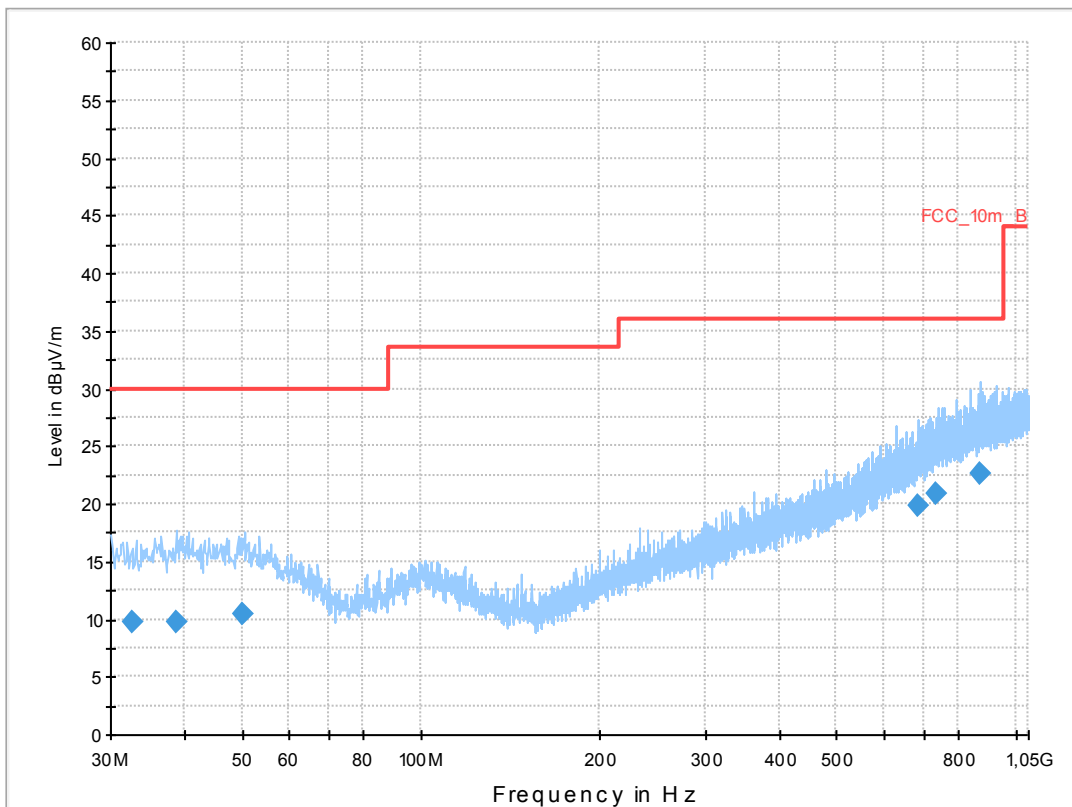
### Common Information

EUT: TS-0020-BV  
 Serial Number: CB51268FN3  
 Test Description: FCC part 15 class B @ 10 m  
 Operating Conditions: WLAN ac-mode (HT80) TX Ch 58  
 Operator Name: Hennemann  
 Comment: battery powered

### Scan Setup: STAN\_Fin [EMI radiated]

Hardware Setup: Electric Field (NOS)  
 Receiver: [ESC1 3]  
 Level Unit: dBµV/m

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB

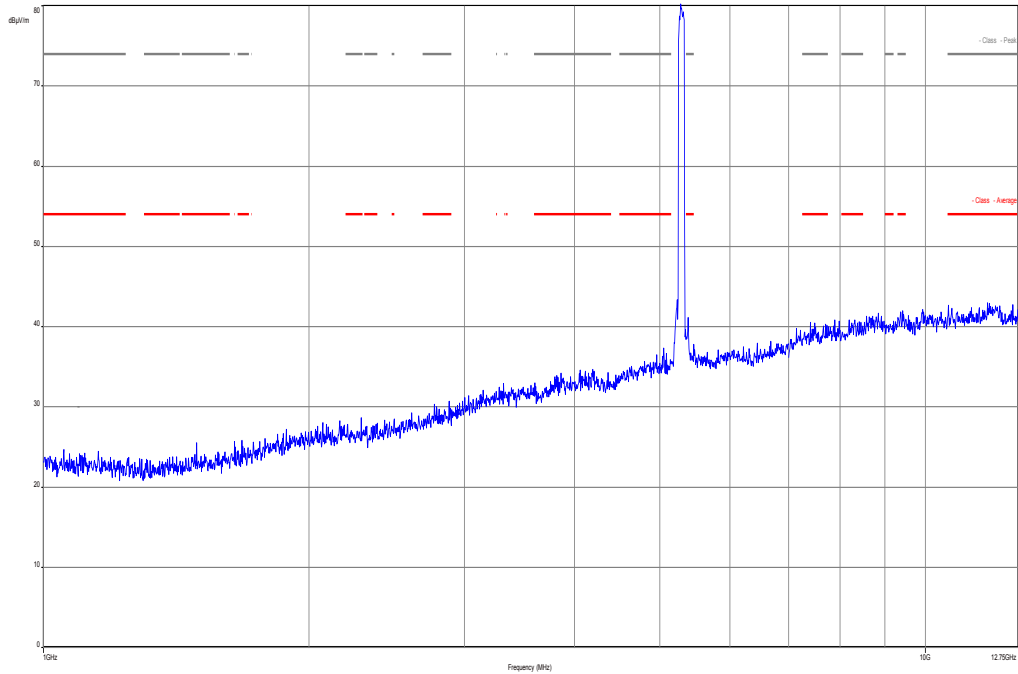


### Final Result 1

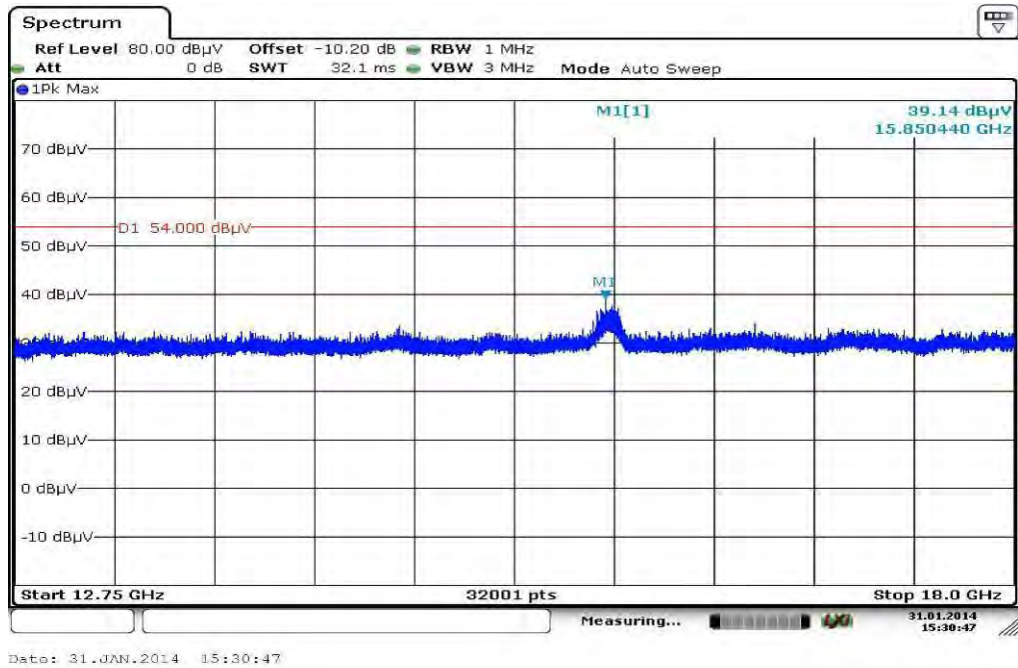
Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
32.608650	9.7	1000.0	120.000	98.0	H	178.0	12.8	20.3	30.0	
38.837100	9.8	1000.0	120.000	170.0	V	175.0	13.3	20.2	30.0	
50.179500	10.4	1000.0	120.000	104.0	H	100.0	13.4	19.6	30.0	
687.649350	19.8	1000.0	120.000	120.0	H	260.0	22.2	16.2	36.0	
733.424550	20.9	1000.0	120.000	170.0	V	85.0	23.3	15.1	36.0	
872.630550	22.5	1000.0	120.000	170.0	H	100.0	24.8	13.5	36.0	



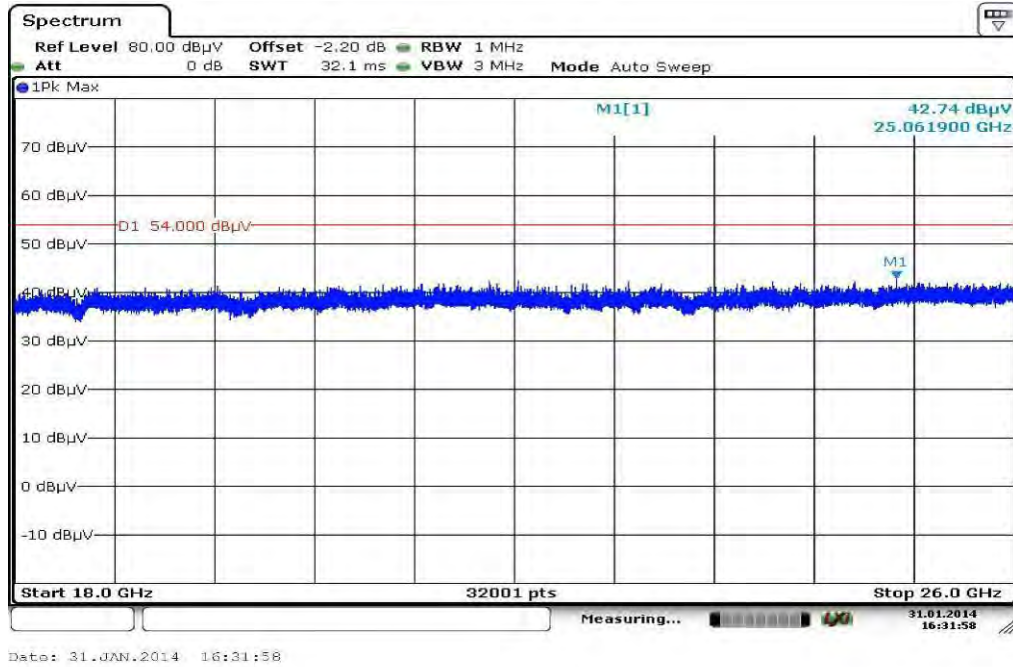
**Plot 7:** 1 GHz to 12.75 GHz, 5290 MHz, vertical & horizontal polarization



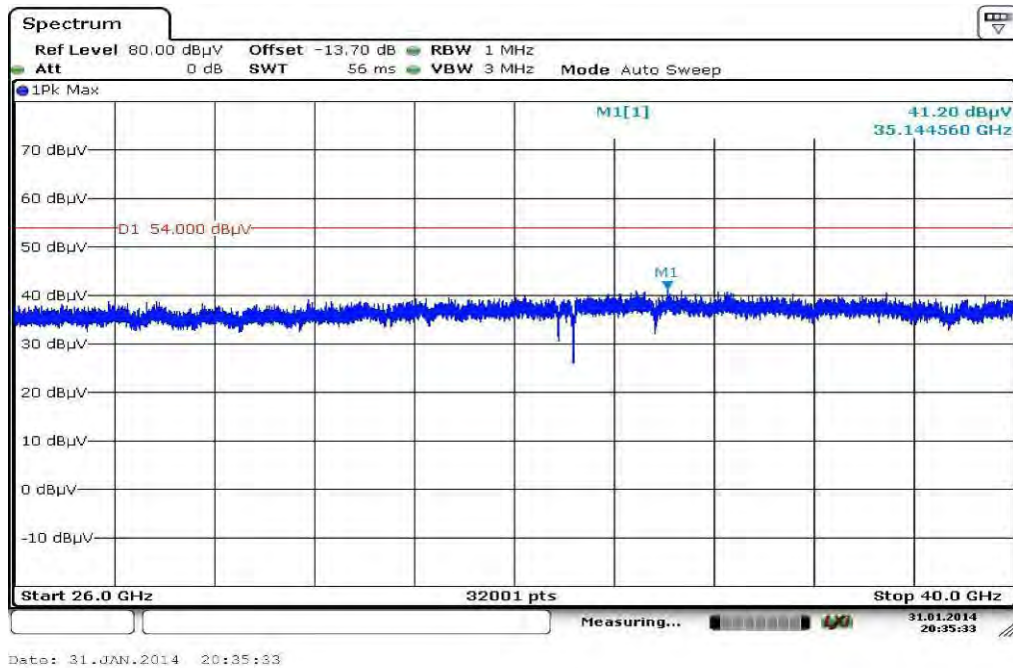
**Plot 8:** 12 GHz to 18 GHz, 5290 MHz, vertical & horizontal polarization



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



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





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

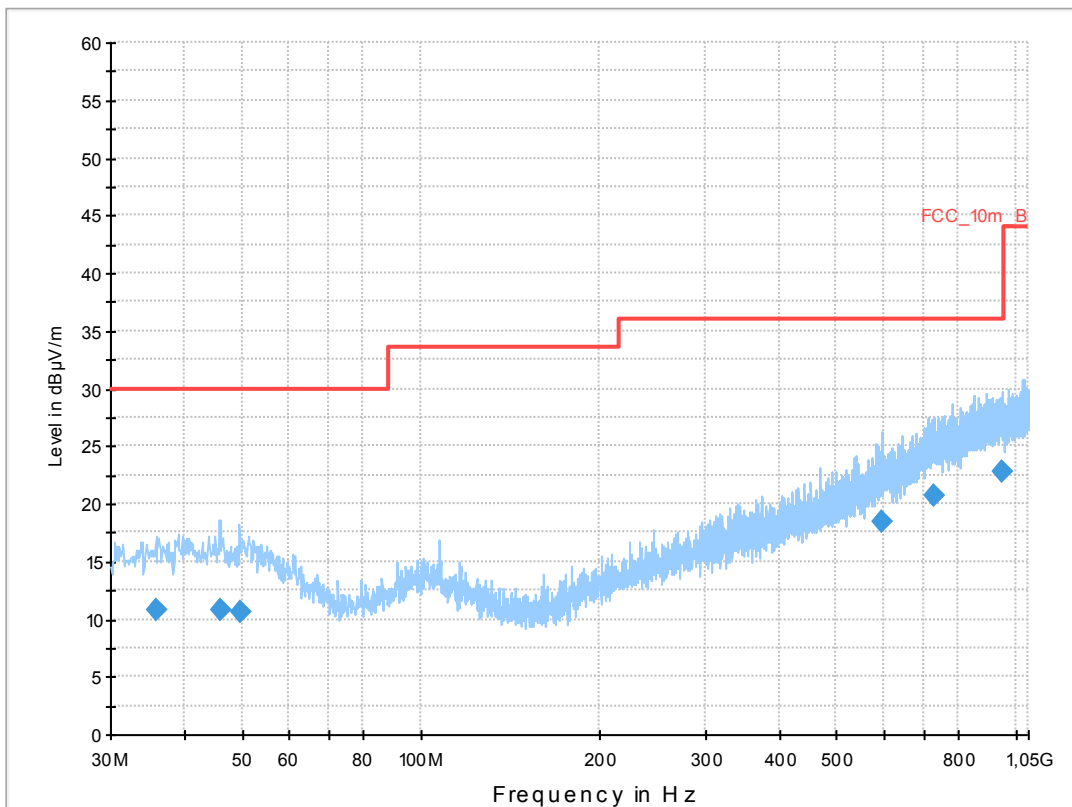
### Common Information

EUT: TS-0020-BV  
 Serial Number: CB51268FN3  
 Test Description: FCC part 15 class B @ 10 m  
 Operating Conditions: WLAN ac-mode (HT80) TX Ch 106  
 Operator Name: Hennemann  
 Comment: battery powered

### Scan Setup: STAN\_Fin [EMI radiated]

Hardware Setup: Electric Field (NOS)  
 Receiver: [ESC1 3]  
 Level Unit: dBµV/m

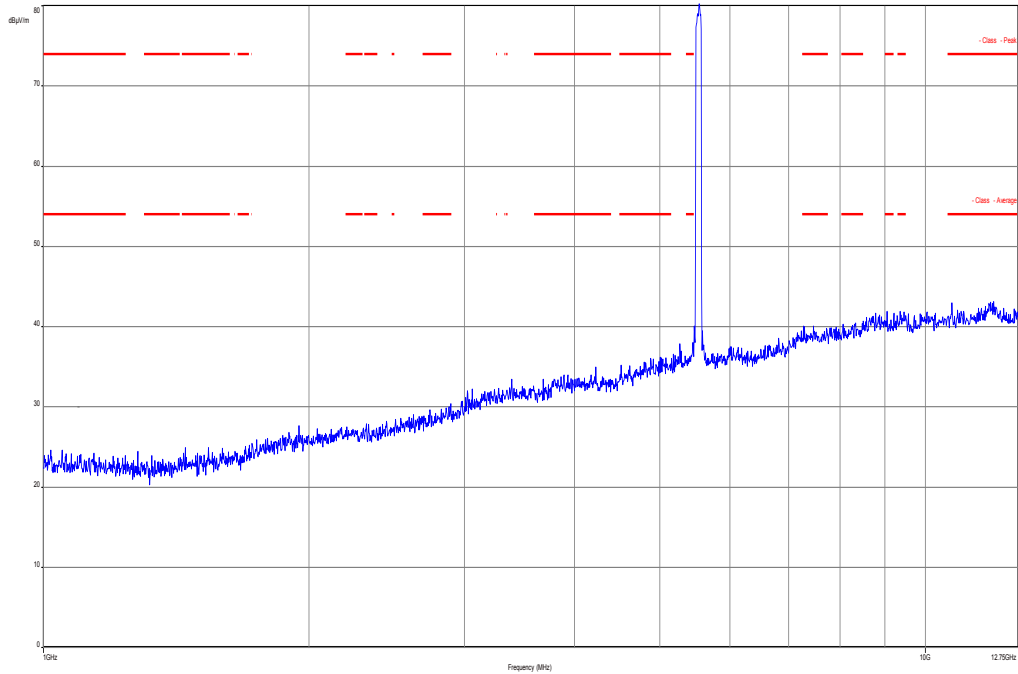
Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



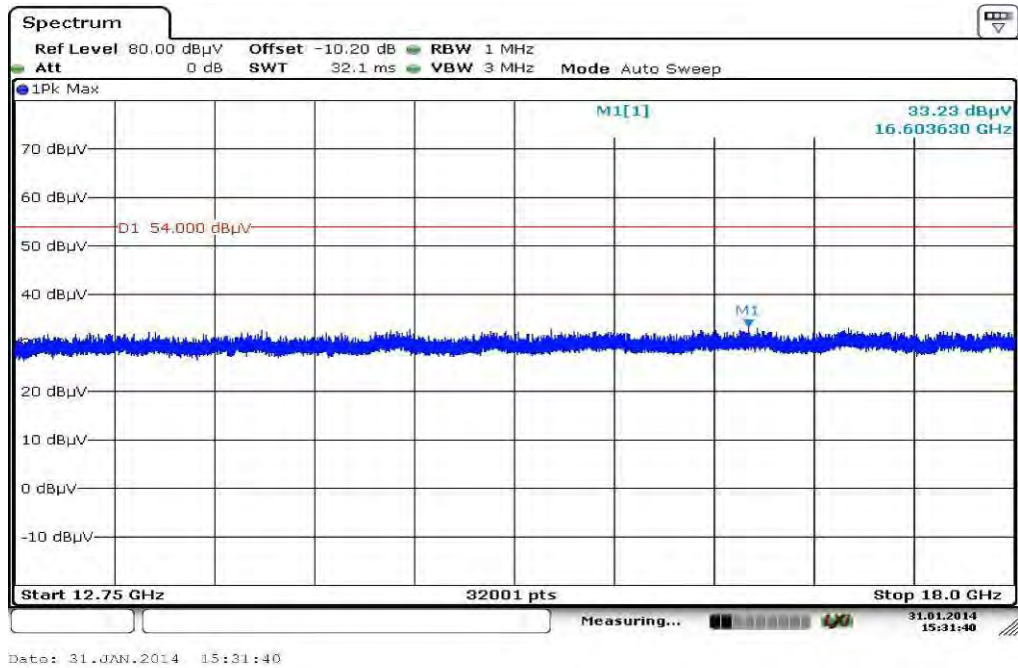
### Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
35.767200	10.7	1000.0	120.000	112.0	H	171.0	13.1	19.3	30.0	
45.955200	10.8	1000.0	120.000	98.0	H	182.0	13.3	19.2	30.0	
49.762200	10.6	1000.0	120.000	98.0	V	280.0	13.4	19.4	30.0	
596.748150	18.4	1000.0	120.000	98.0	H	10.0	20.7	17.6	36.0	
728.790900	20.8	1000.0	120.000	121.0	H	81.0	23.2	15.2	36.0	
949.578900	22.7	1000.0	120.000	98.0	V	10.0	25.4	13.3	36.0	

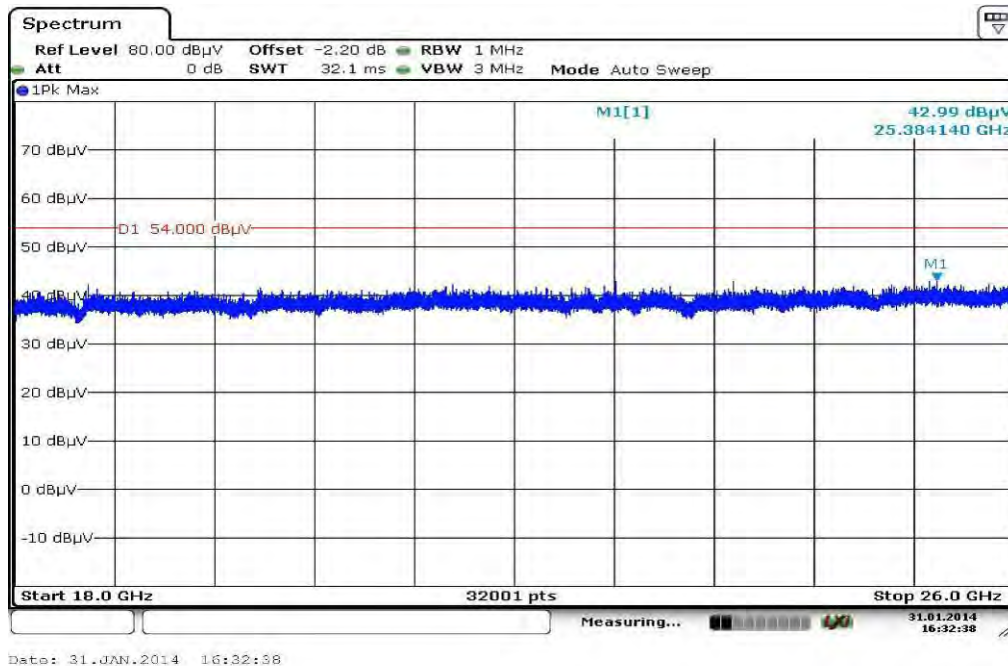
Plot 12: 1 GHz to 12.75 GHz, 5530 MHz, vertical & horizontal polarization



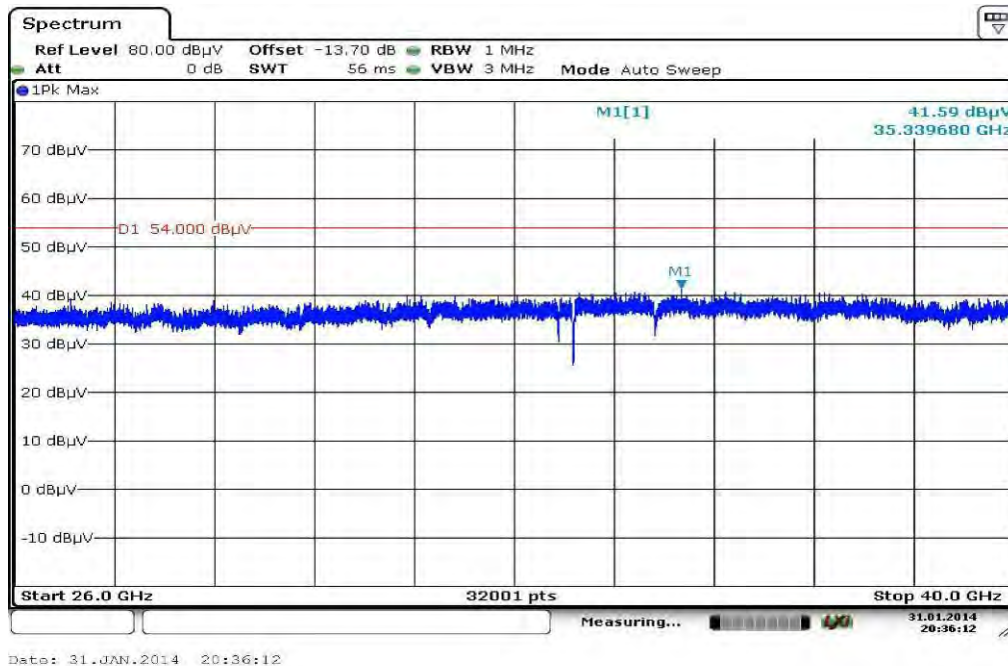
Plot 13: 12 GHz to 18 GHz, 5530 MHz, vertical & horizontal polarization



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



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



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

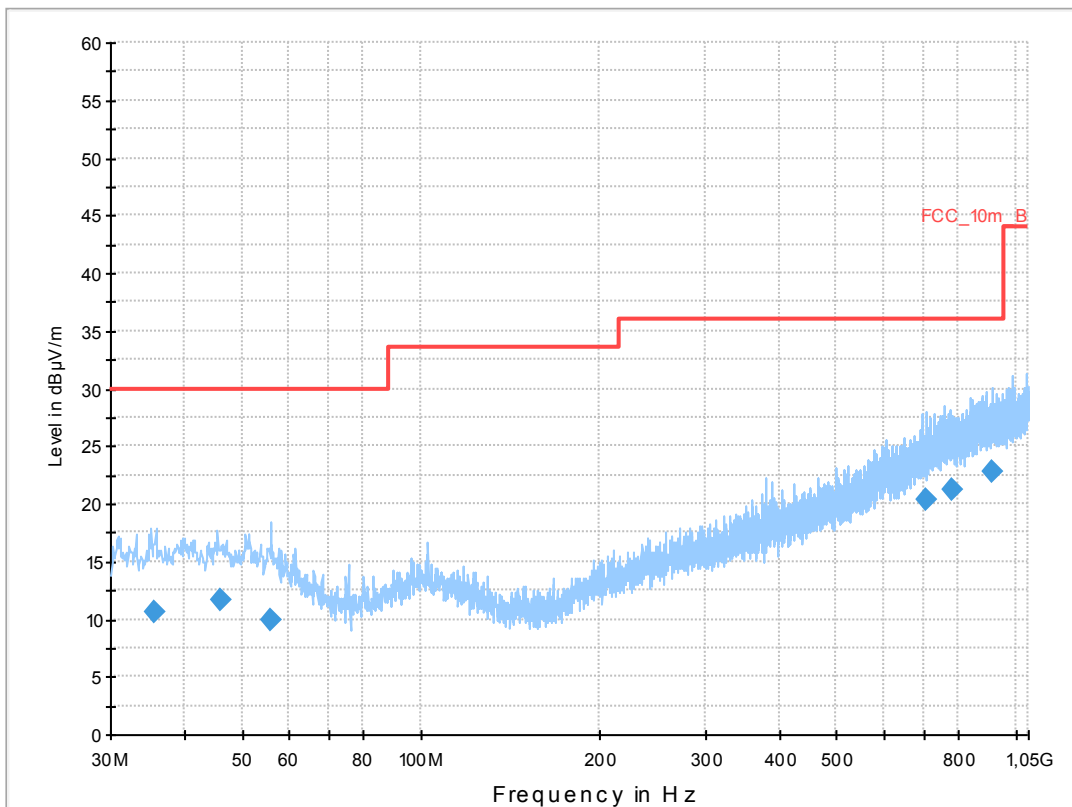
### Common Information

EUT: TS-0020-BV  
 Serial Number: CB51268FN3  
 Test Description: FCC part 15 class B @ 10 m  
 Operating Conditions: WLAN ac-mode (HT80) TX Ch 122  
 Operator Name: Hennemann  
 Comment: battery powered

### Scan Setup: STAN\_Fin [EMI radiated]

Hardware Setup: Electric Field (NOS)  
 Receiver: [ESC1 3]  
 Level Unit: dBµV/m

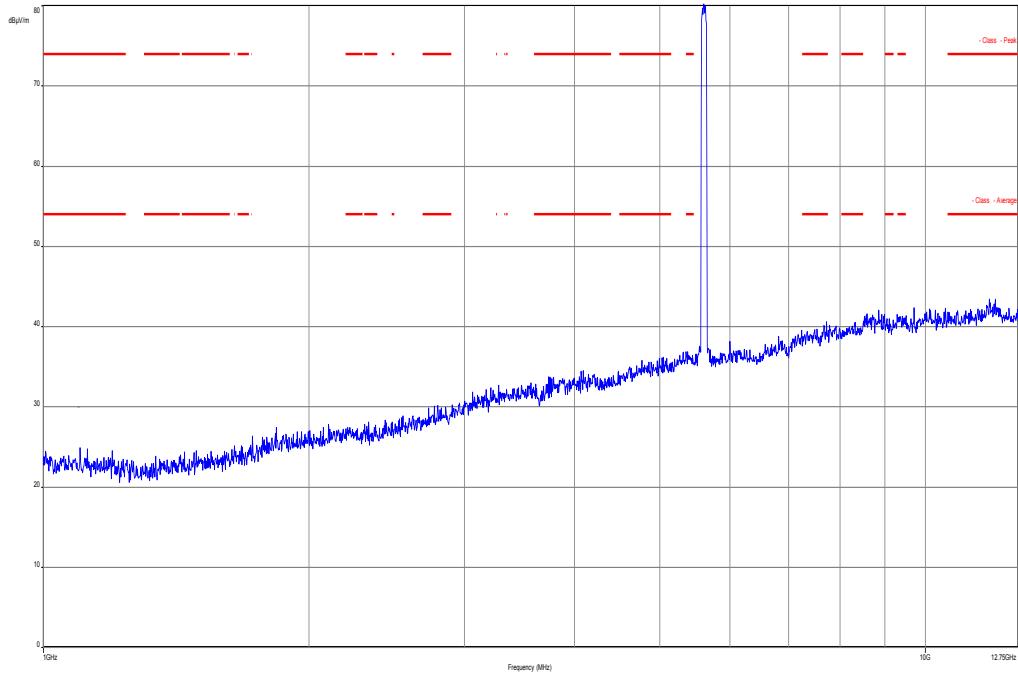
Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB



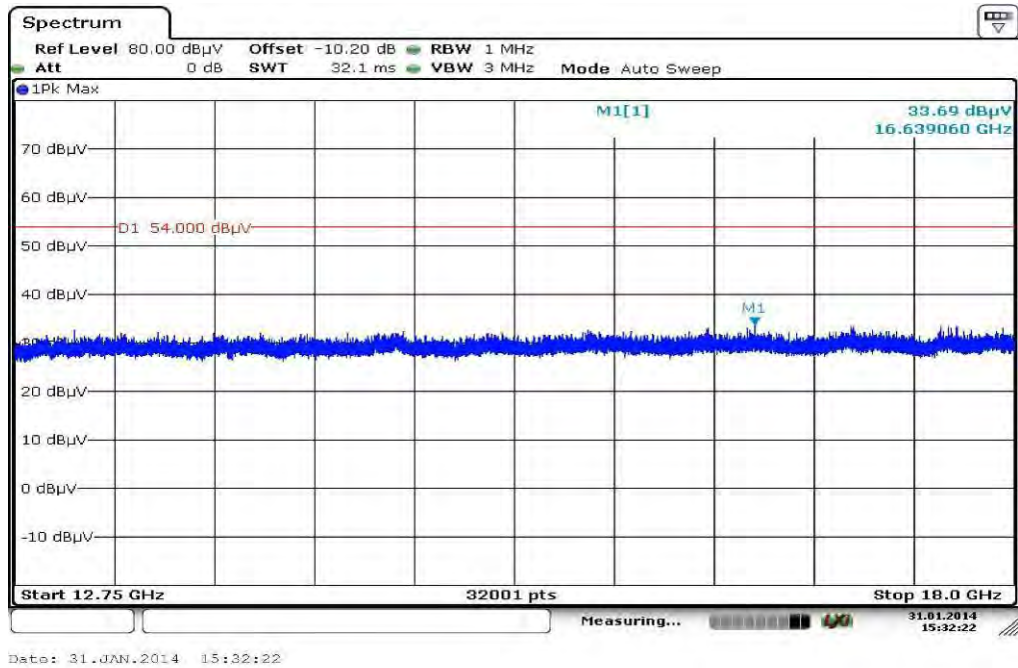
### Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
35.488050	10.6	1000.0	120.000	170.0	H	280.0	13.1	19.4	30.0	
45.963900	11.7	1000.0	120.000	104.0	V	-2.0	13.3	18.3	30.0	
55.818450	9.9	1000.0	120.000	120.0	H	2.0	12.7	20.1	30.0	
706.789200	20.3	1000.0	120.000	170.0	H	3.0	22.7	15.7	36.0	
782.163300	21.2	1000.0	120.000	98.0	V	170.0	23.7	14.8	36.0	
914.159700	22.7	1000.0	120.000	98.0	H	280.0	25.2	13.3	36.0	

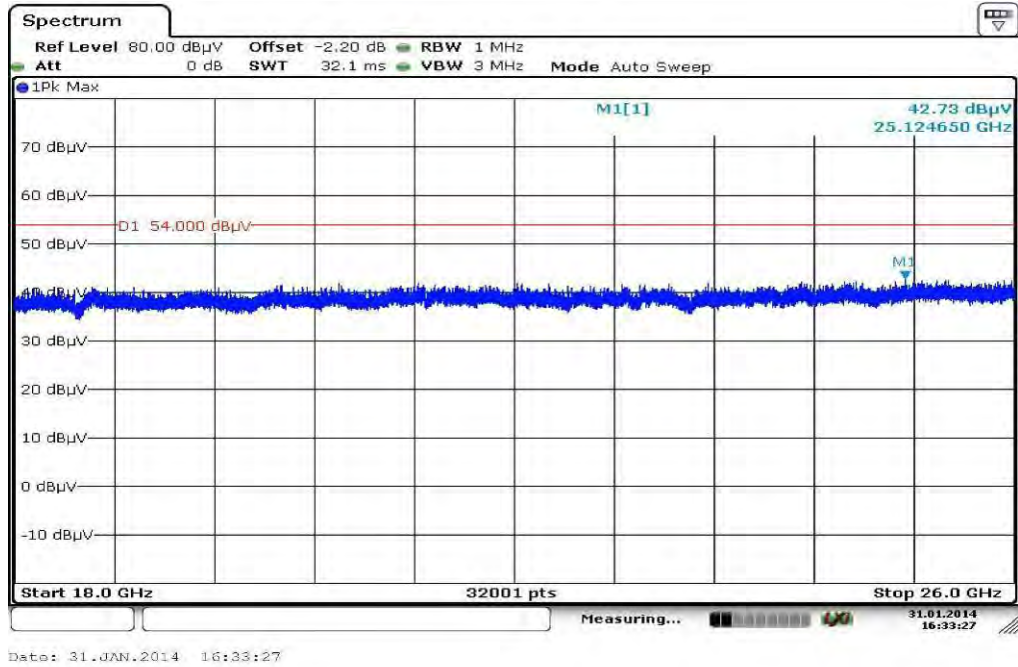
Plot 17: 1 GHz to 12.75 GHz, 5610 MHz, vertical & horizontal polarization



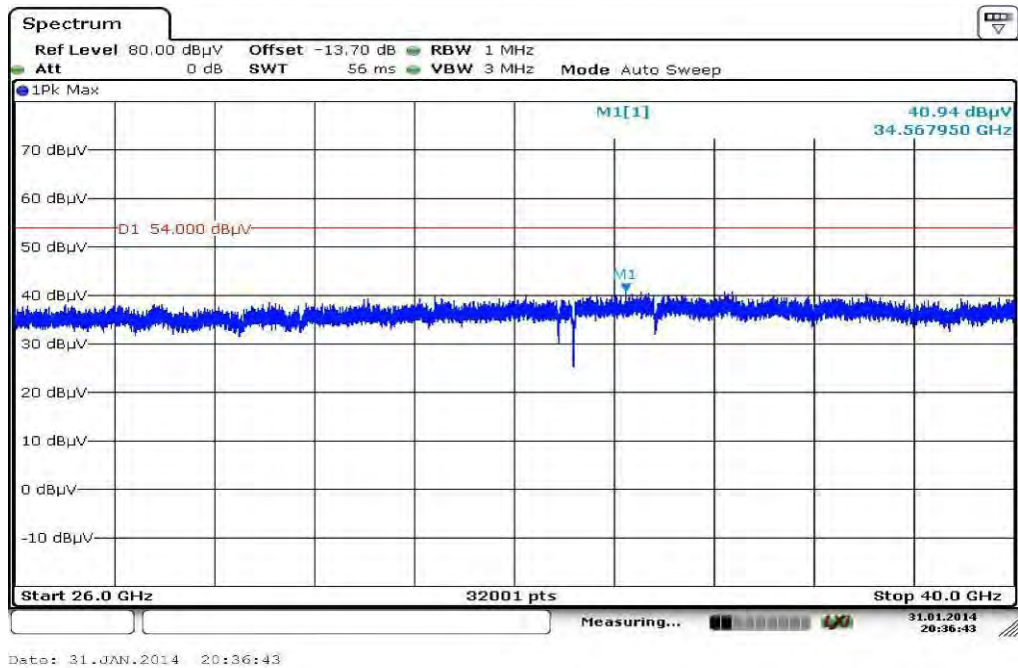
Plot 18: 12 GHz to 18 GHz, 5610 MHz, vertical & horizontal polarization



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



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



### 11.10 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]
No peaks 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: RX / Idle – mode**

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

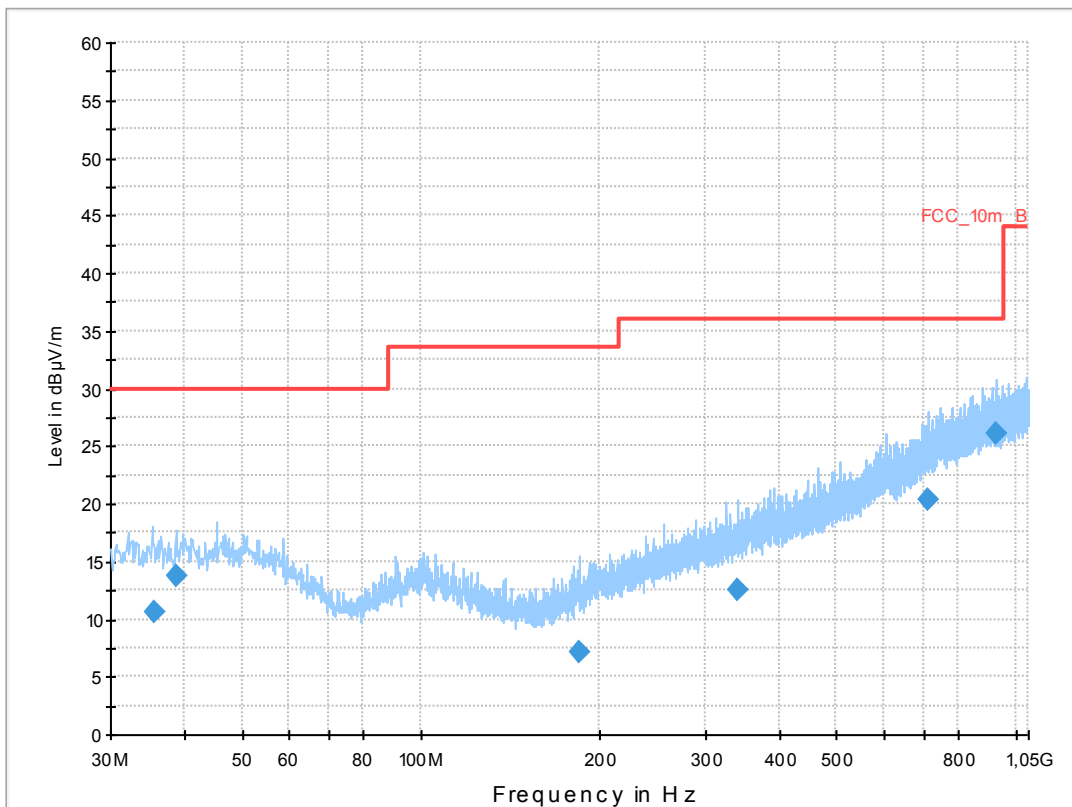
**Common Information**

EUT: TS-0020-BV  
 Serial Number: CB51268FN3  
 Test Description: FCC part 15 class B @ 10 m  
 Operating Conditions: wlan idle  
 Operator Name: Wolsdorfer  
 Comment: battery powered

**Scan Setup: STAN\_Fin [EMI radiated]**

Hardware Setup: Electric Field (NOS)  
 Receiver: [ESC1 3]  
 Level Unit: dBµV/m

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 2 GHz	60 kHz	QPK	120 kHz	1 s	20 dB

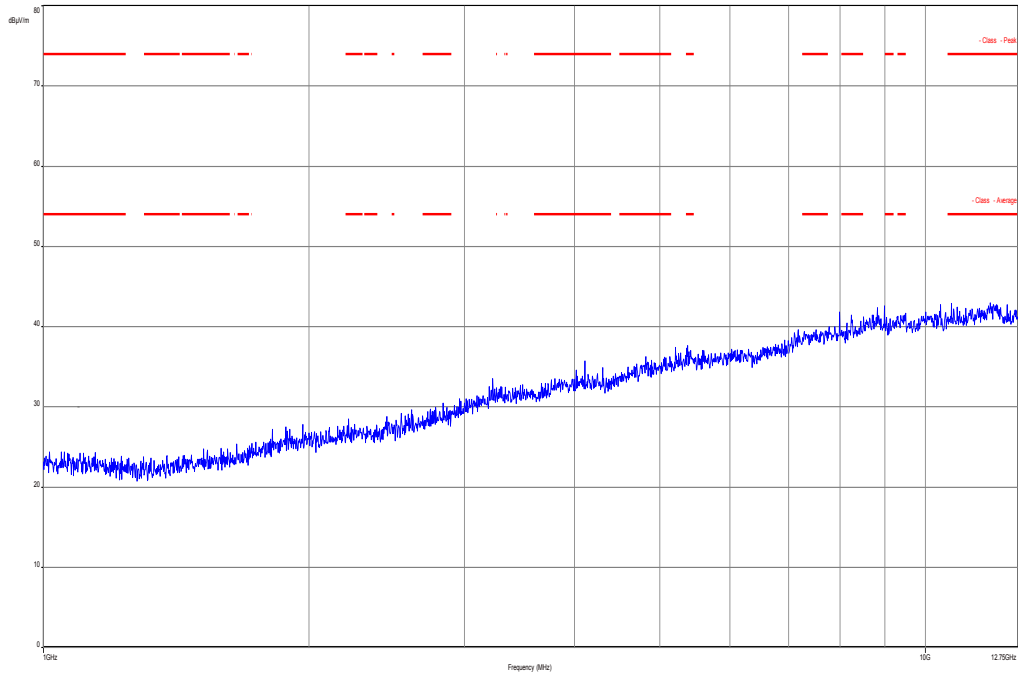


**Final Result 1**

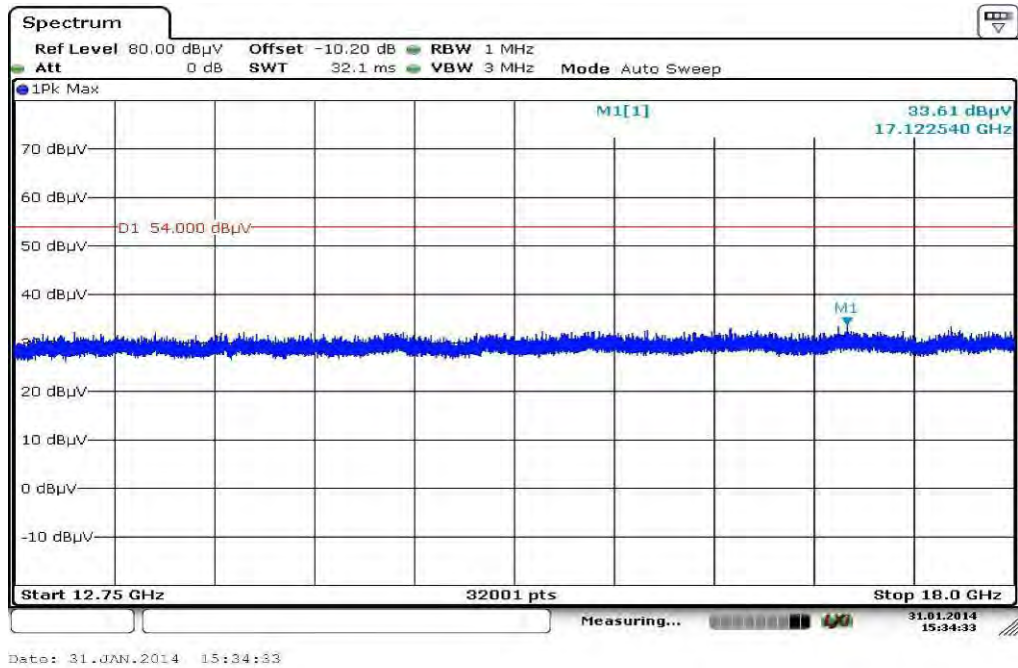
Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
35.511750	10.6	1000.0	120.000	132.0	H	190.0	13.1	19.4	30.0	
38.696250	13.7	1000.0	120.000	98.0	V	268.0	13.3	16.3	30.0	
183.855600	7.2	1000.0	120.000	170.0	H	190.0	10.7	26.3	33.5	
340.353600	12.6	1000.0	120.000	98.0	V	180.0	15.8	23.4	36.0	
714.690600	20.4	1000.0	120.000	121.0	H	0.0	22.8	15.6	36.0	
927.418500	26.0	1000.0	120.000	98.0	V	260.0	25.3	10.0	36.0	



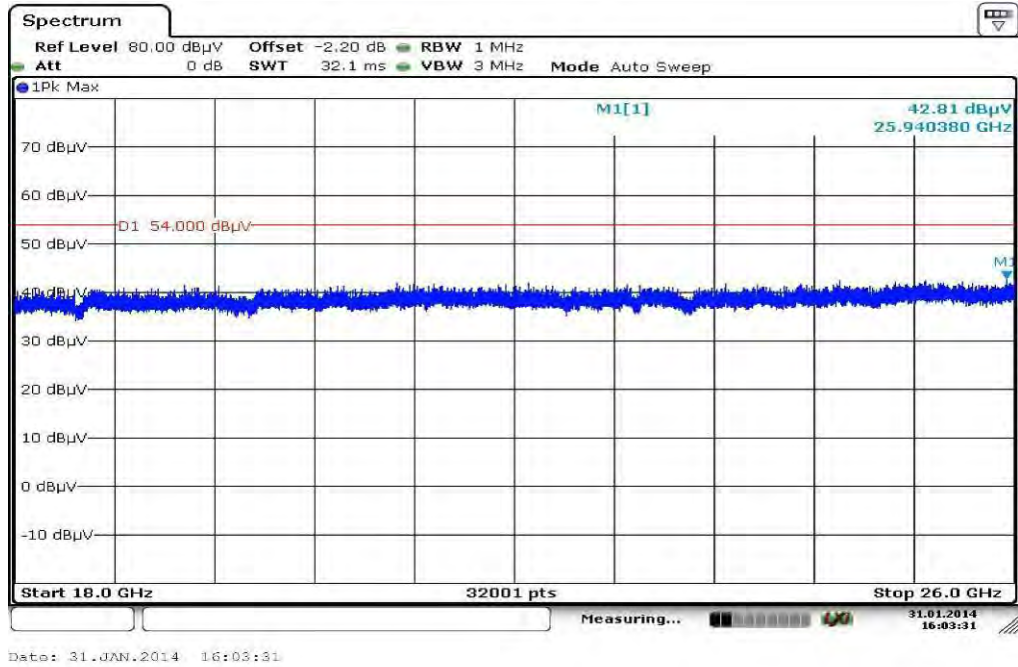
**Plot 2:** 1 GHz to 12.75 GHz, vertical & horizontal polarization



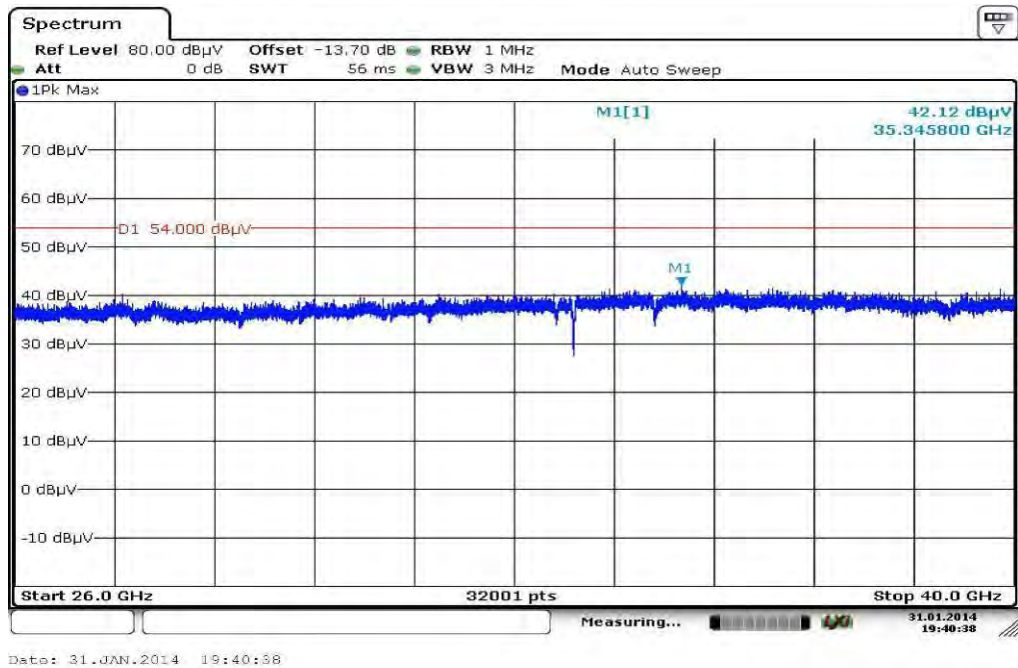
**Plot 3:** 12 GHz to 18 GHz, vertical & horizontal polarization



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



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



### 11.11 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 critical 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 (dBµV/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:**

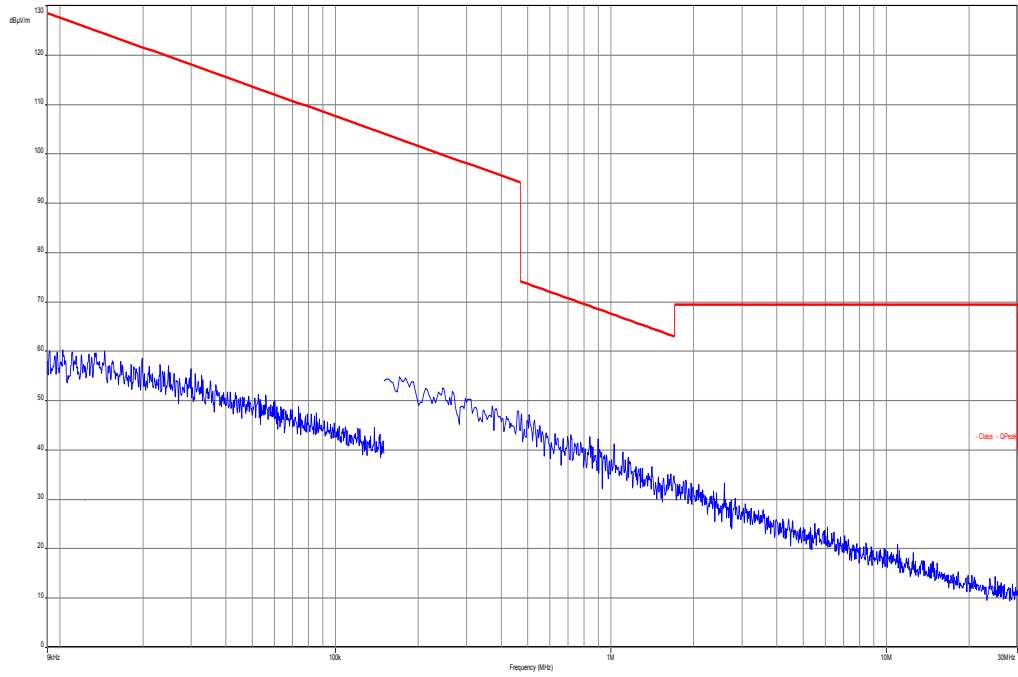
Spurious Emissions Radiated < 30 MHz [dBµV/m]		
F [MHz]	Detector	Level [dBµV/m]
No peaks detected.		
Measurement uncertainty	± 3 dB	

**Result: Passed**

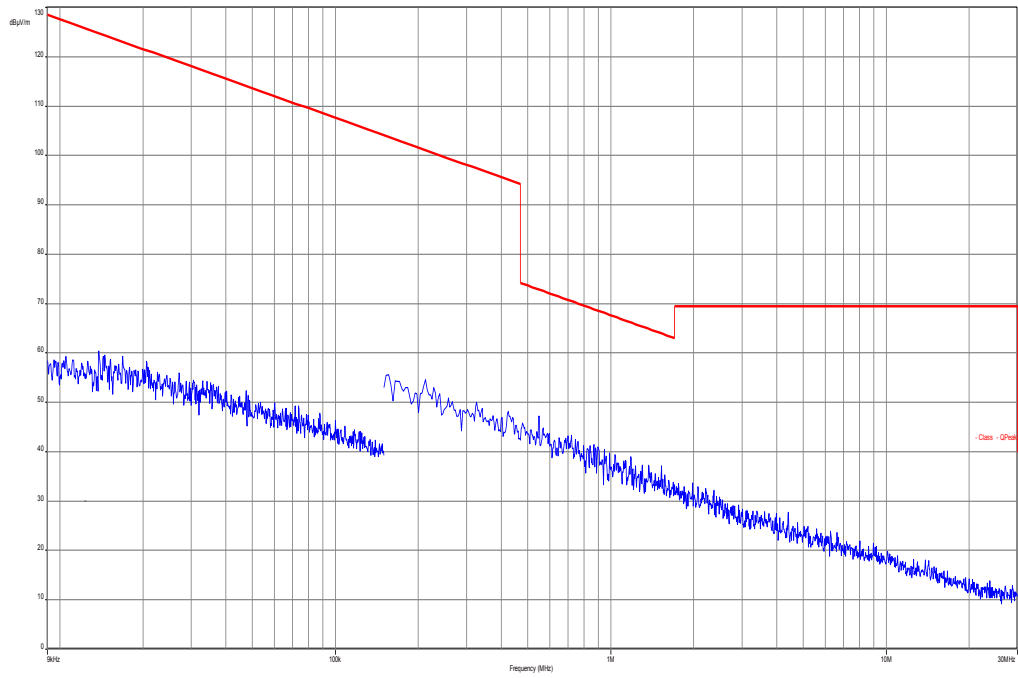
**Note:** The limit was recalculated with 20 dB / decade (Part 15.31) for all radiated spurious emissions 30 MHz to 1 GHz from 3 meter limit to a 10 meter distance. (40dB/decade for emissions < 30MHz)

**Plots:**

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



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



### 11.12 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 critical 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 (dBµV/m)	Average (dBµV/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

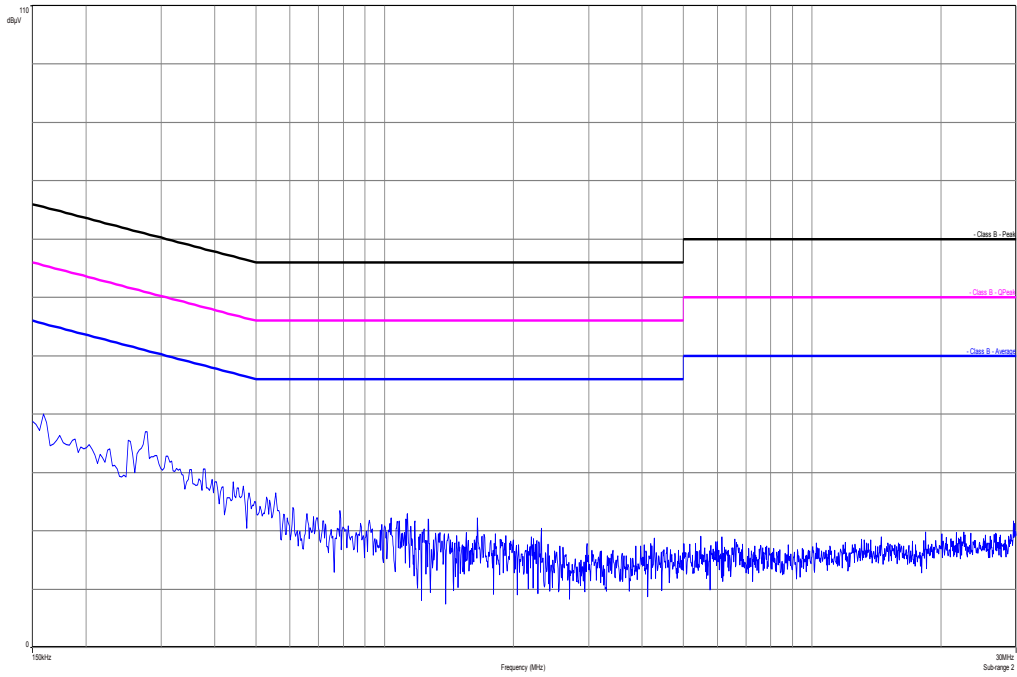
**Results:**

Spurious Emissions Conducted < 30 MHz [dBµV/m]		
F [MHz]	Detector	Level [dBµV/m]
No peaks detected.		
Measurement uncertainty	± 3 dB	

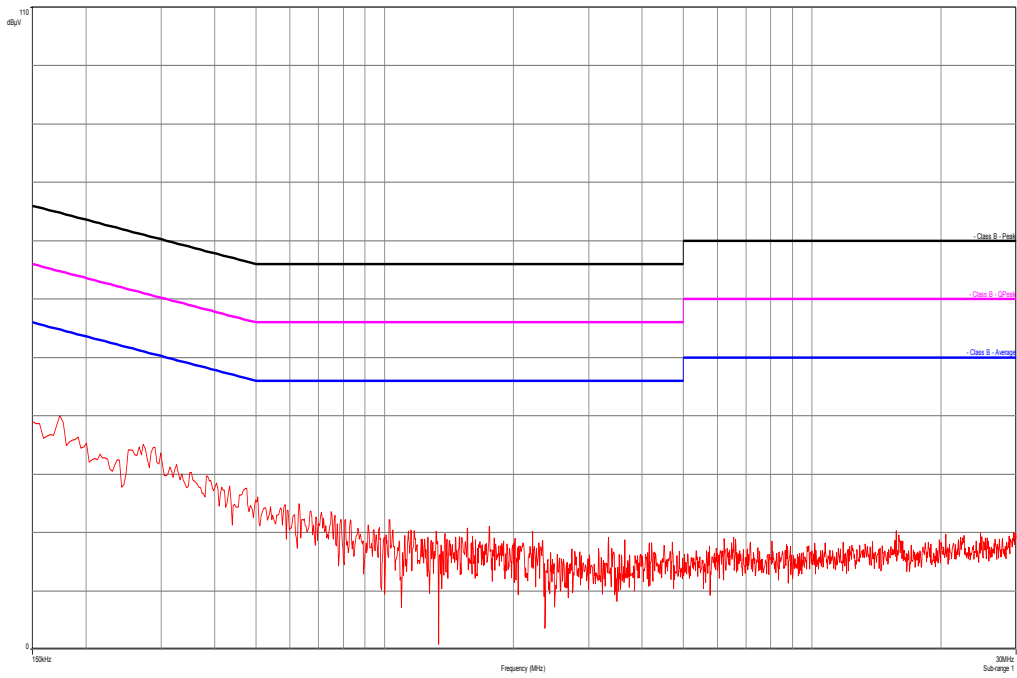
**Result: Passed**

**Plots:**

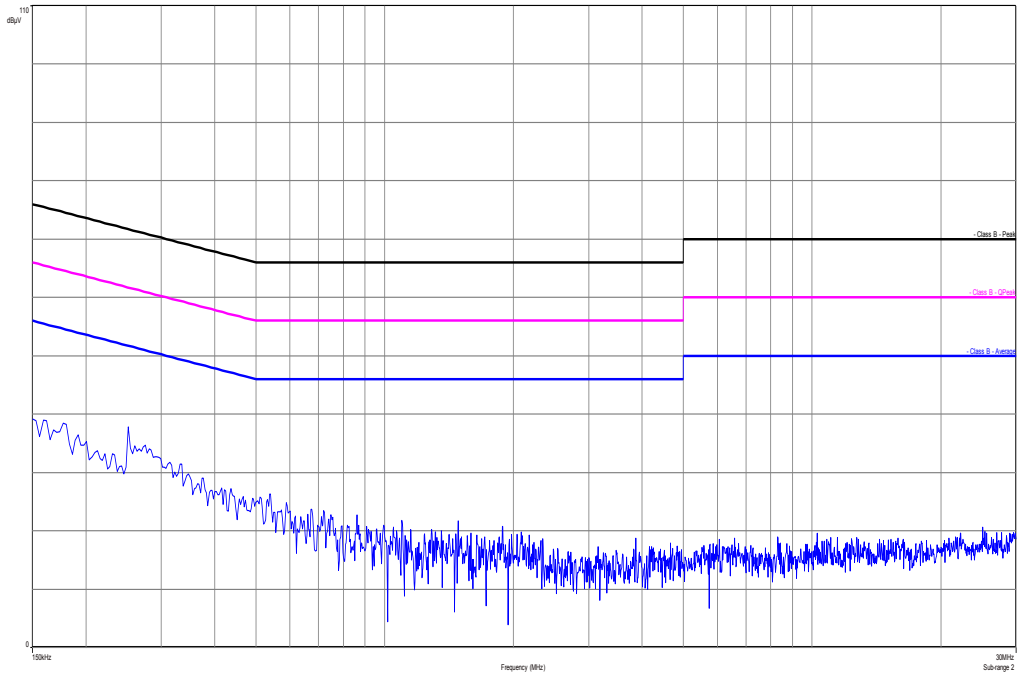
**Plot 1:** 150 kHz to 30 MHz / phase Line, TX mode



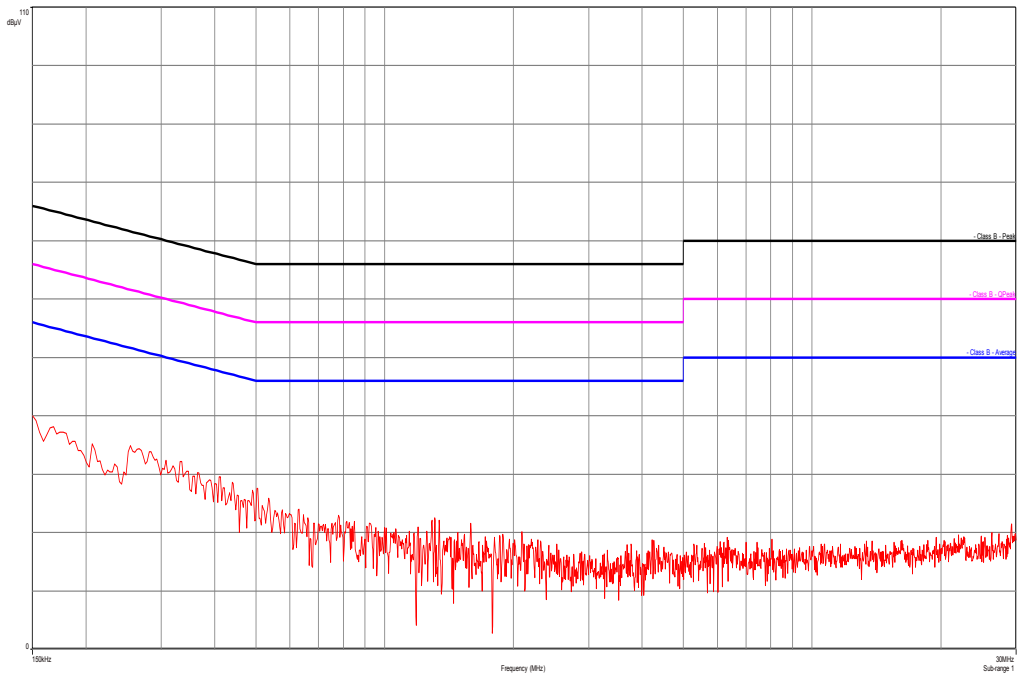
**Plot 2:** 150 kHz to 30 MHz / neutral Line, TX mode



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



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





## 12 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	11b	Microwave System Amplifier, 0.5-26.5 GHz	83017A	HP Meßtechnik	00419	300002268	ev		
2	A026	Std. Gain Horn Antenna 12.4 to 18.0 GHz	639	Narda	8402	300000787	k	22.07.2013	22.07.2015
3	A029	Std. Gain Horn Antenna 18.0 to 26.5 GHz	638	Narda	8205	300002442	k	19.07.2013	19.07.2015
4	A031	Std. Gain Horn Antenna 26.5 to 40.0 GHz	637	Narda		300000510	k	19.07.2013	19.07.2015
5	n. a.	Broadband Low Noise Amplifier 18-50 GHz	CBL18503 070-XX	CERNEX	19338	300004273	ne		
6	n. a.	Signal Analyzer 40 GHz	FSV40	R&S	101042	300004517	k	21.01.2014	21.01.2015
7	n. a.	Double-Ridged Waveguide Horn Antenna 1-18.0GHz	3115	EMCO	8812-3088	300001032	vIK!!	08.05.2013	08.05.2015
8	n. a.	Anechoic chamber	FAC 3/5m	MWB / TDK	87400/02	300000996	ev		
9	n. a.	Switch / Control Unit	3488A	HP Meßtechnik	*	300000199	ne		
10	9	Artificial Mains 9 kHz to 30 MHz	ESH3-Z5	R&S	828576/020	300001210	Ve	06.01.2012	30.01.2015
11	n. a.	Switch / Control Unit	3488A	HP Meßtechnik	2719A15013	300001156	ne		
12	9	Isolating Transformer	MPL IEC625 Bus Regeltrennt ravo	Erfi	91350	300001155	ne		
13	n. a.	Three-Way Power Splitter, 50 Ohm	11850C	HP Meßtechnik		300000997	ne		
14	90	Active Loop Antenna 10 kHz to 30 MHz	6502	Kontron Psychotech	8905-2342	300000256	k	13.06.2013	13.06.2015
15	n. a.	Amplifier	js42-00502650-28-5a	Parzich GMBH	928979	300003143	ne		
16	n. a.	Highpass Filter	WHKX7.0/1 8G-8SS	Wainwright	18	300003789	ne		
17	n. a.	TRILOG Broadband Test-Antenna 30 MHz - 3 GHz	VULB9163	Schwarzbeck	371	300003854	vIK!!	14.10.2011	14.10.2014
18	n. a.	MXE EMI Receiver 20 Hz bis 26,5 GHz	N9038A	Agilent Technologies	MY51210197	300004405	k	21.02.2013	21.02.2014
19	45	Switch-Unit	3488A	HP Meßtechnik	2719A14505	300000368	g		
20	n. a.	EMI Test Receiver	ESCI 3	R&S	100083	300003312	k	27.01.2014	27.01.2015
21	n. a.	Antenna Tower	Model 2175	ETS-LINDGREN	64762	300003745	izw		
22	n. a.	Positioning Controller	Model 2090	ETS-LINDGREN	64672	300003746	izw		
23	n. a.	Turntable	Model	ETS-	44583	300003747	izw		

		Interface-Box	105637	LINDGREN					
24	n. a.	TRILOG Broadband Test-Antenna 30 MHz - 3 GHz	VULB9163	Schwarzbe ck	295	300003787	k	12.04.2012	12.04.2014

**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

### 13 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	2014-02-06

**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

## Annex C Accreditation Certificate

Front side of certificate



Back side of certificate



**Note:**

The current certificate including annex is published on our website (see link below) or may be received from CETECOM ICT Services on request.

<http://www.cetecom.com/eu/de/cetecom-group/europa/deutschland-saarbruecken/akkreditierungen.html>