



Product Service

Modulation: 64-QAM

Ratio (dB)	8.283
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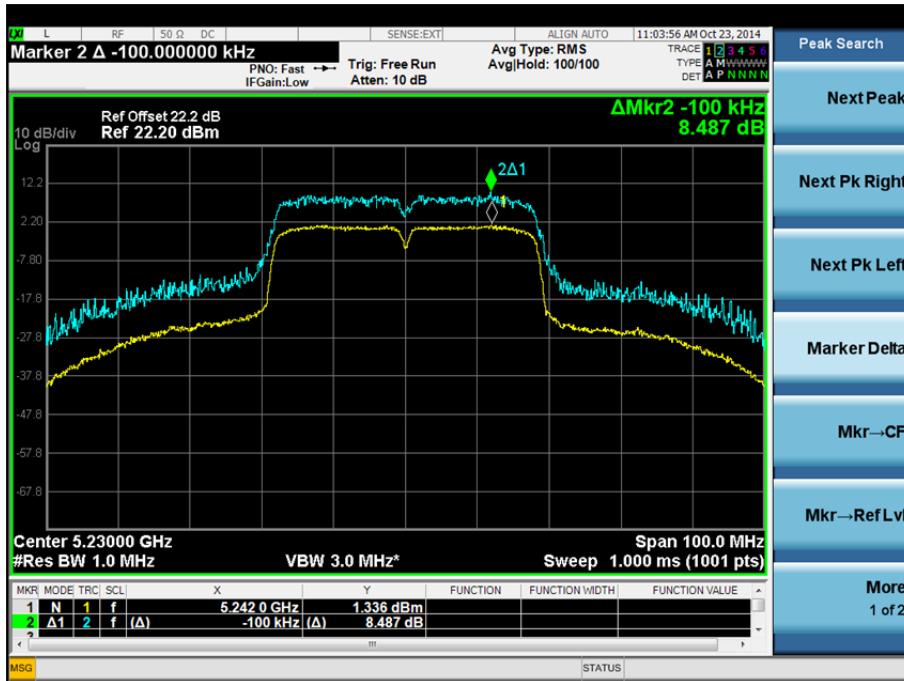




Product Service

5230 MHz

Ratio (dB)	8.487
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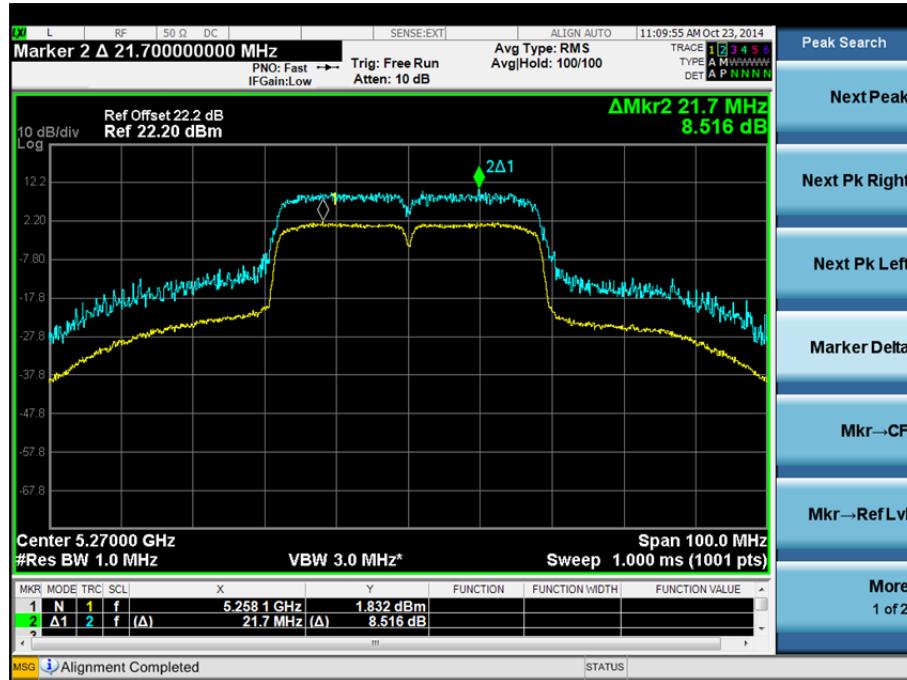


Product Service

Frequency Band 25270 MHz

Modulation: BPSK

Ratio (dB)	8.516
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Product Service

Modulation: QPSK

Ratio (dB)	8.286
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Product Service

Modulation: 16-QAM

Ratio (dB)	8.688
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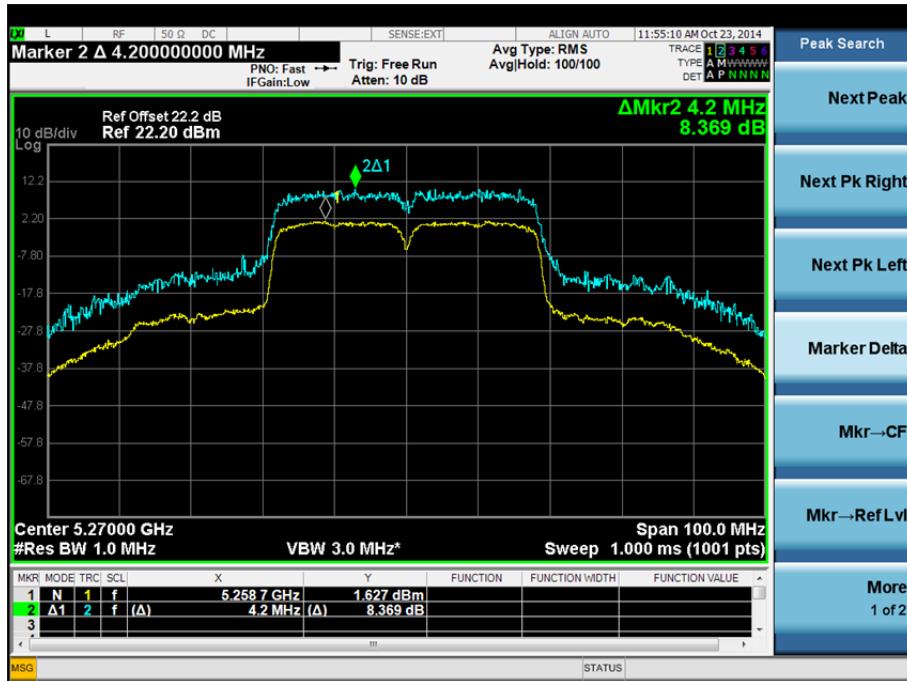




Product Service

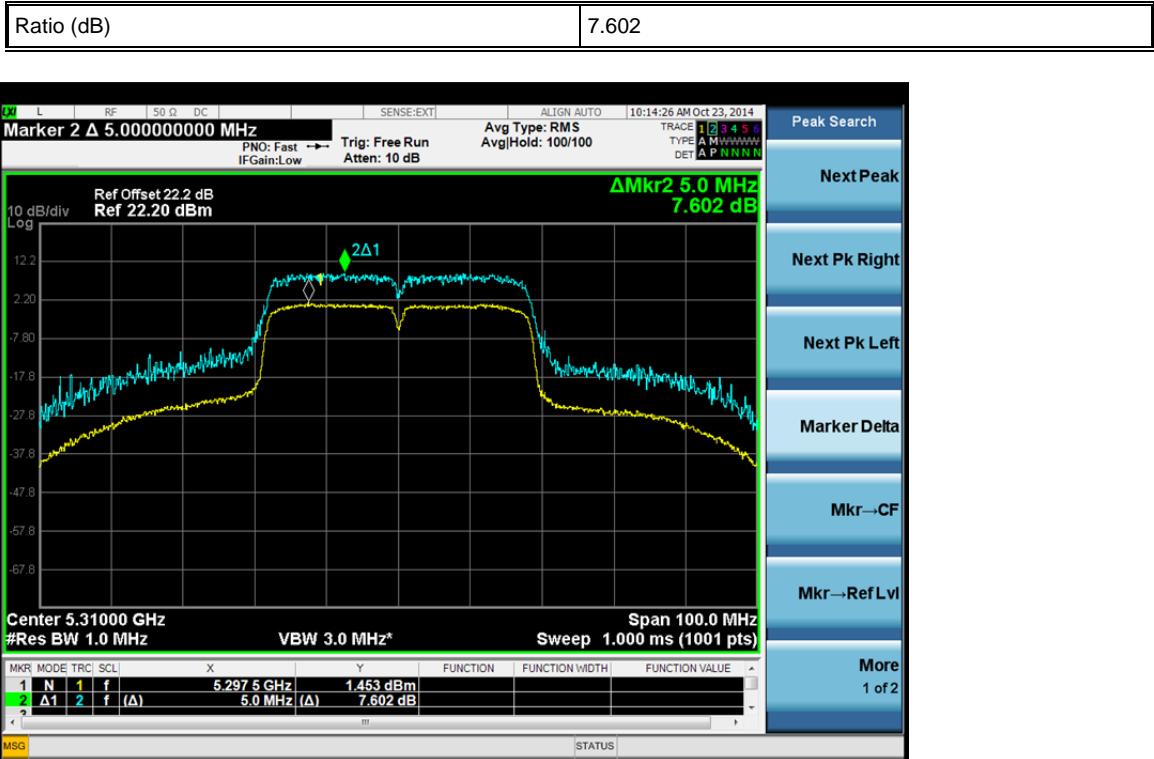
Modulation: 64-QAM

Ratio (dB)	8.369
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Product Service

5310 MHz

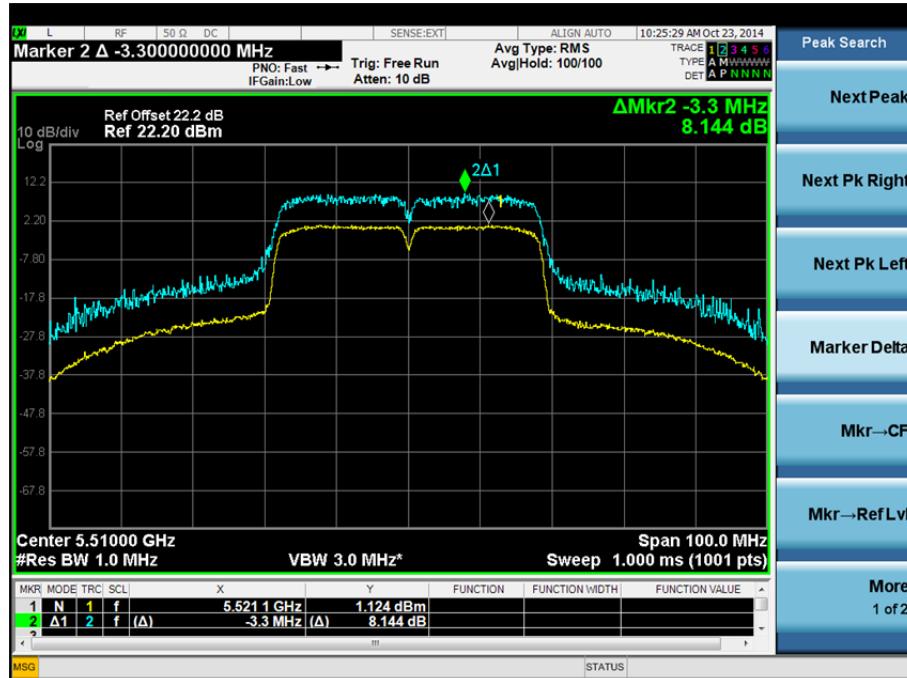


Product Service

Frequency Band 35510 MHz

Modulation: BPSK

Ratio (dB)	8.144
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Product Service

Modulation: QPSK





Product Service

Modulation: 16-QAM

Ratio (dB)	8.457
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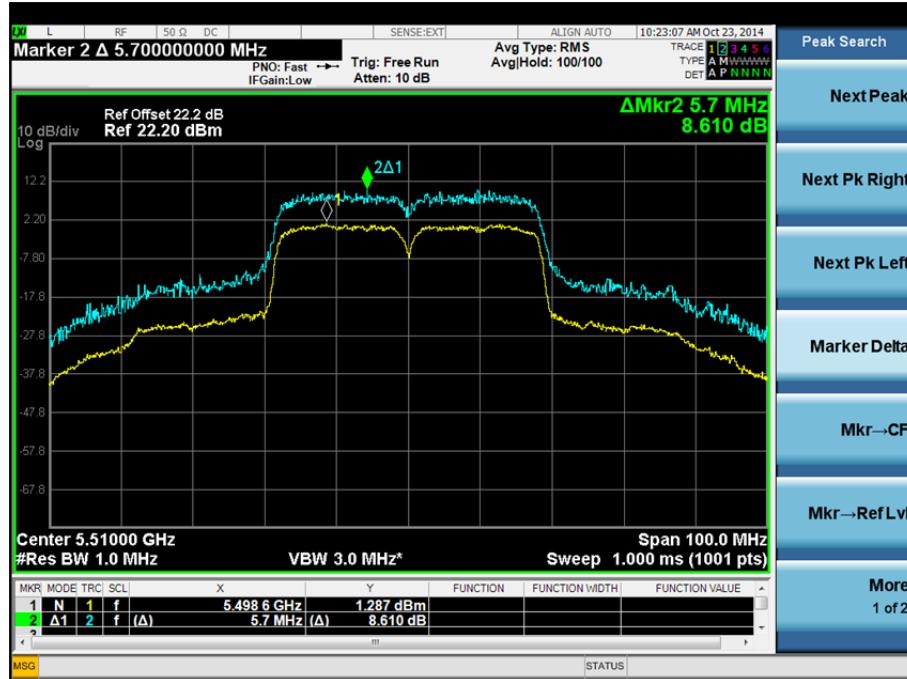




Product Service

Modulation: 64-QAM

Ratio (dB)	8.610
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Product Service

5550 MHz



Product Service

5670 MHzLimit

The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the maximum conducted output power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.



## **2.6 UNDESIRABLE EMISSION LIMITS**

### **2.6.1 Specification Reference**

FCC CFR 47 Part 15E, Clause 15.407 (b)(1)(2)(3)(4)(6)(7)

### **2.6.2 Equipment Under Test and Modification State**

YotaPhone2/ YD201 S/N: Not Serialised (75927375-TSR0008)- Modification State 0  
 YotaPhone2/ YD201 S/N: IMEI 004402600038248 - Modification State 0

### **2.6.3 Date of Test**

24 October 2014, 25 October 2014, 26 October 2014, 27 October 2014, 7 November 2014, 11 November 2014, 14 November 2014 & 17 November 2014

### **2.6.4 Test Equipment Used**

The major items of test equipment used for the above tests are identified in Section 3.1.

### **2.6.5 Test Procedure**

The test was applied in accordance with the test method requirements of FCC CFR 47 Part 15.407 (b) and KDB 789033 D01 General UNII Test Procedures 1 Old Rules v01r04.

For conducted emissions, the EUT was set to operate at maximum power with a data rate that was determined to produce the greatest average RF output power. The analyser settings were configured with a peak detector and max hold trace; the measurement path loss in each relevant frequency band was measured and entered as a reference level offset. The test was performed on the bottom, middle and top channels of each sub-band. The test was performed over the frequency range 9 kHz to 40 GHz.

For radiated emissions, the test method described above was also used. However, the measurement was performed from 30 MHz to 40 GHz and the path loss is incorporated as a transducer factor and entered into the spectrum analyser. In each frequency span the level was maximised by rotating the EUT 360° and a height search of the measuring antenna.

Band edge measurements were performed in accordance with ANSI C63.10, Clause 6.9.3. The results were analysed to ensure compliance with restricted bands. The EUT was set to the lowest and highest operating frequencies.

### **2.6.6 Environmental Conditions**

Ambient Temperature	19.0 - 20.6°C
Relative Humidity	42.0 - 53.2%



Product Service

## 2.6.7 Test Results

### 802.11(a)

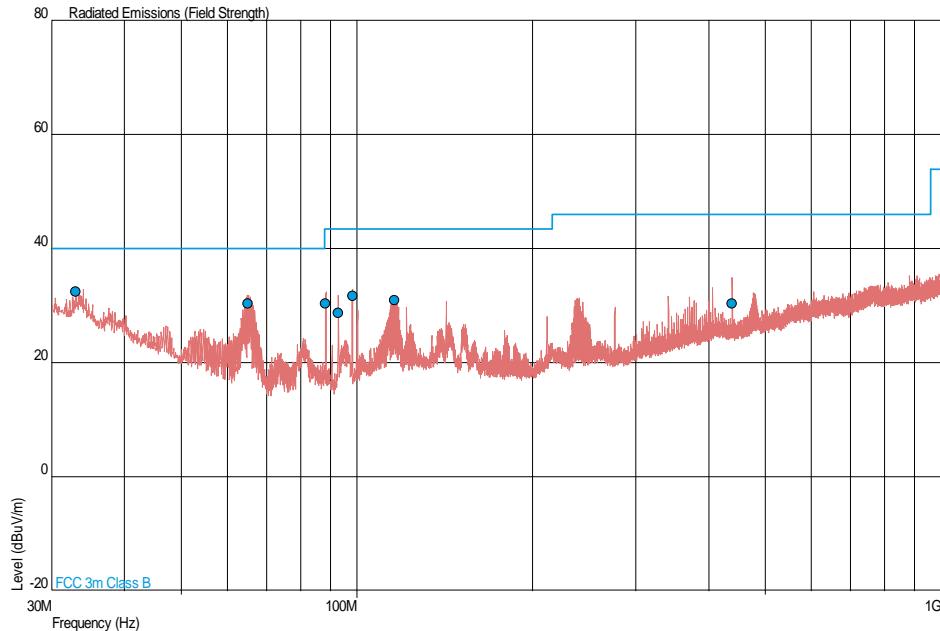
3.8 V DC Supply

#### Spurious Radiated Emissions

##### Frequency Band 1

##### 5180 MHz

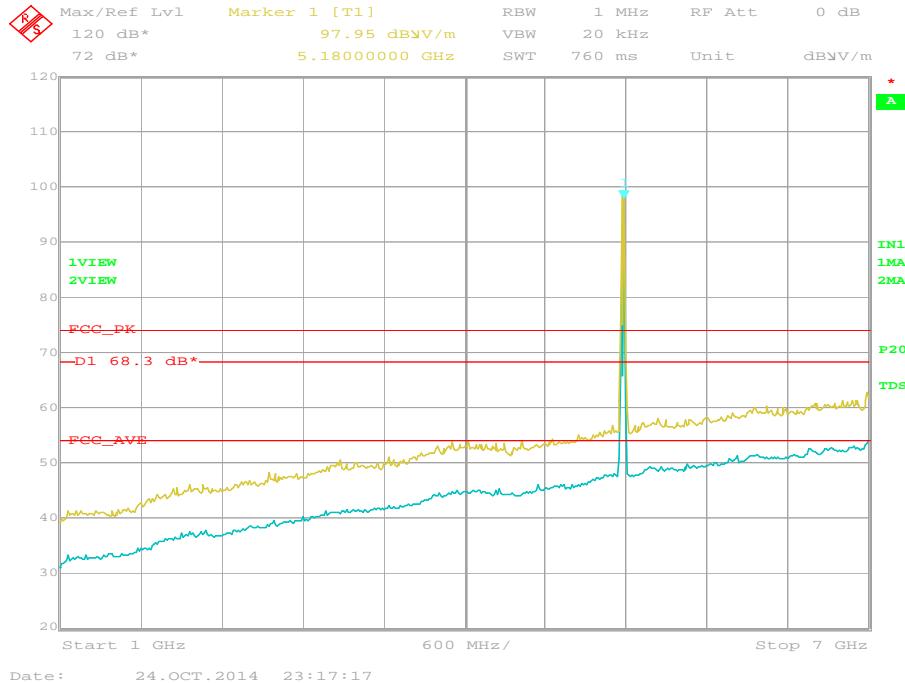
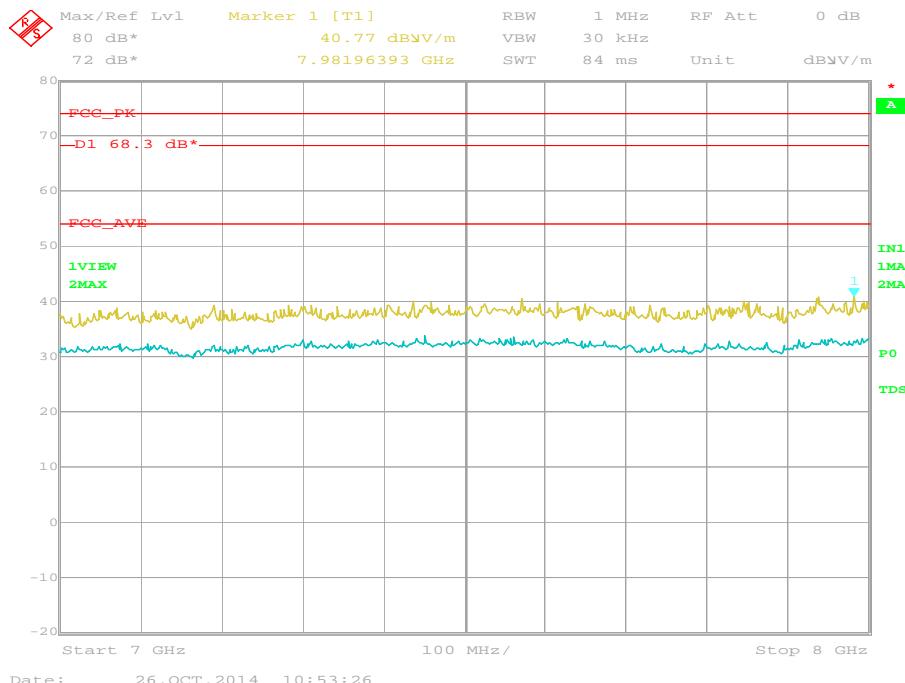
##### 30 MHz to 1 GHz



Frequency (MHz)	QP Level (dB $\mu$ V/m)	QP Level ( $\mu$ V/m)	QP Limit (dB $\mu$ V/m)	QP Limit ( $\mu$ V/m)	QP Margin (dB $\mu$ V/m)	QP Margin ( $\mu$ V/m)	Angle (Deg)	Height (m)	Polarity
33.046	32.4	41.7	40.0	100	-7.6	-58.3	358	1.00	Vertical
64.976	30.4	33.1	40.0	100	-9.6	-66.9	60	1.00	Vertical
88.448	30.3	32.7	43.5	150	-13.2	-117.3	360	1.00	Vertical
92.899	28.7	27.2	43.5	150	-14.8	-122.8	0	1.00	Vertical
98.197	31.7	38.5	43.5	150	-11.8	-111.5	13	1.03	Vertical
115.791	31.0	35.5	43.5	150	-12.5	-114.5	17	1.00	Vertical
438.807	30.3	32.7	46.0	200	-15.7	-167.3	229	1.00	Vertical

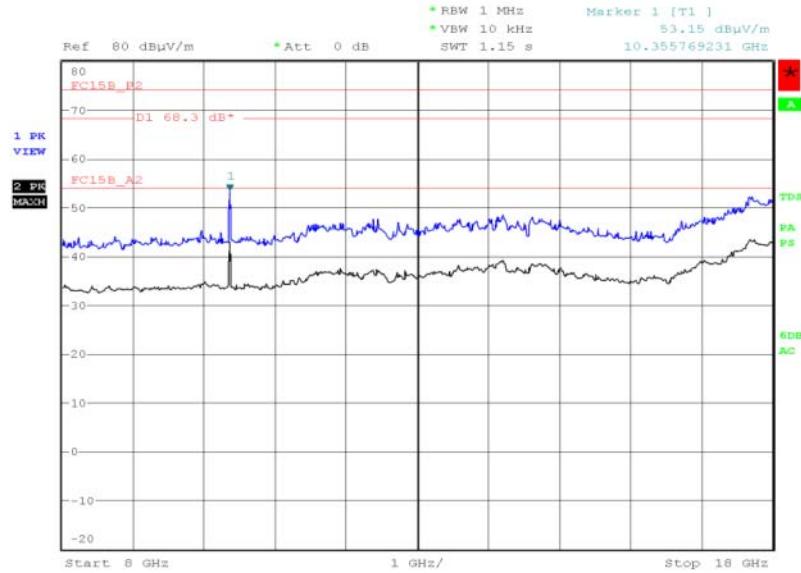


Product Service

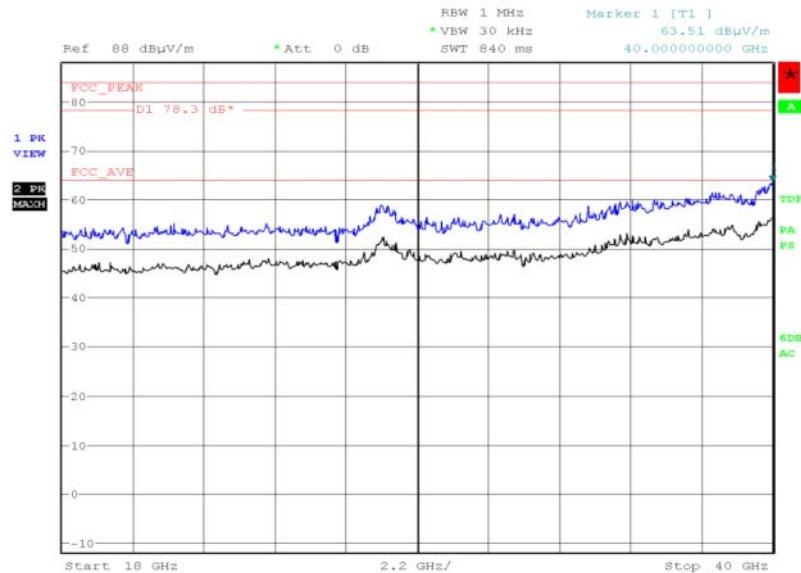
1 GHz to 7 GHz7 GHz to 8 GHz



Product Service

8 GHz to 18 GHz

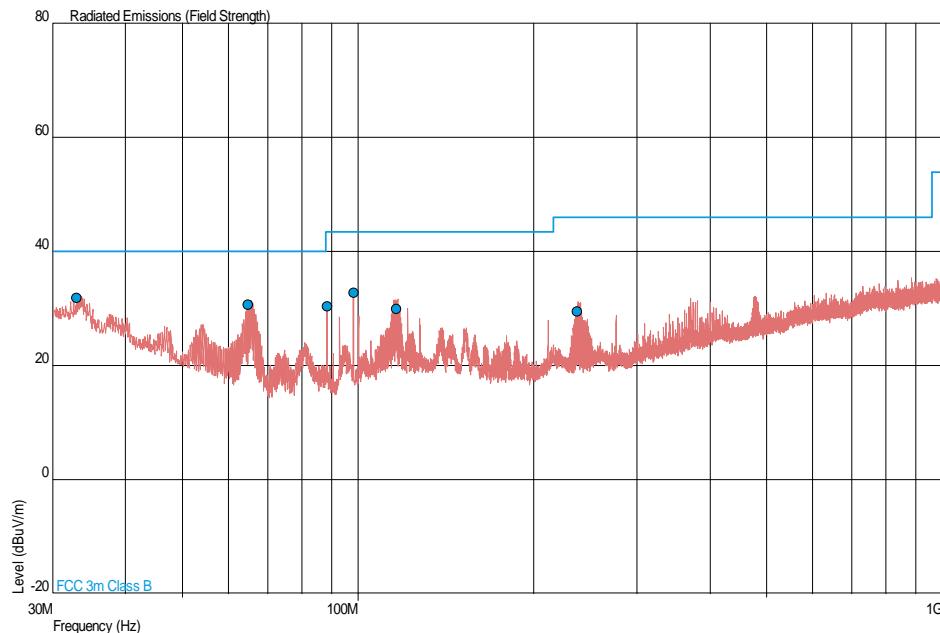
Date: 27.OCT.2014 22:07:26

18 GHz to 40 GHz

Date: 17.NOV.2014 19:15:57



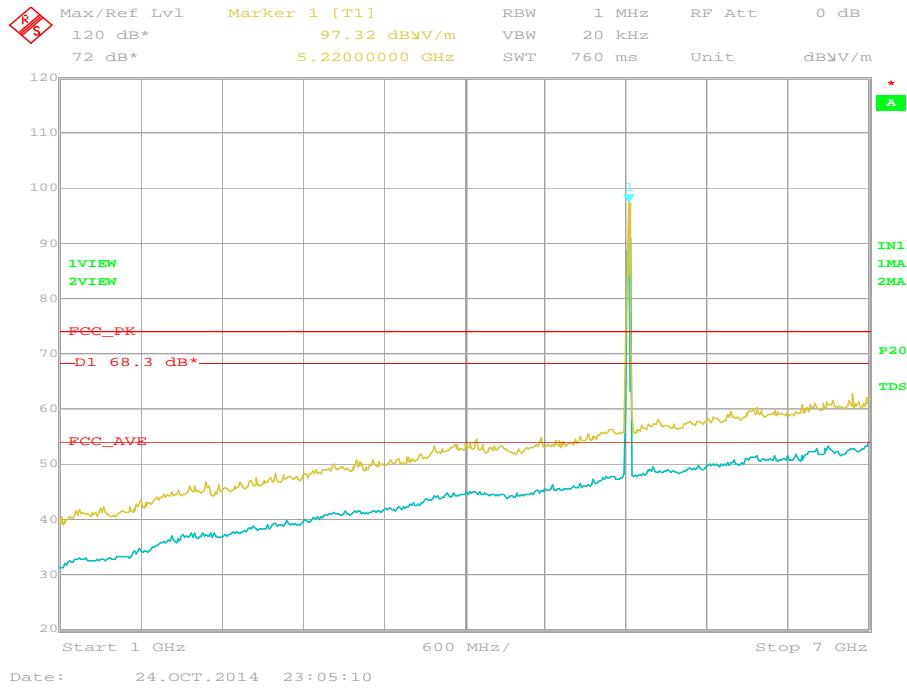
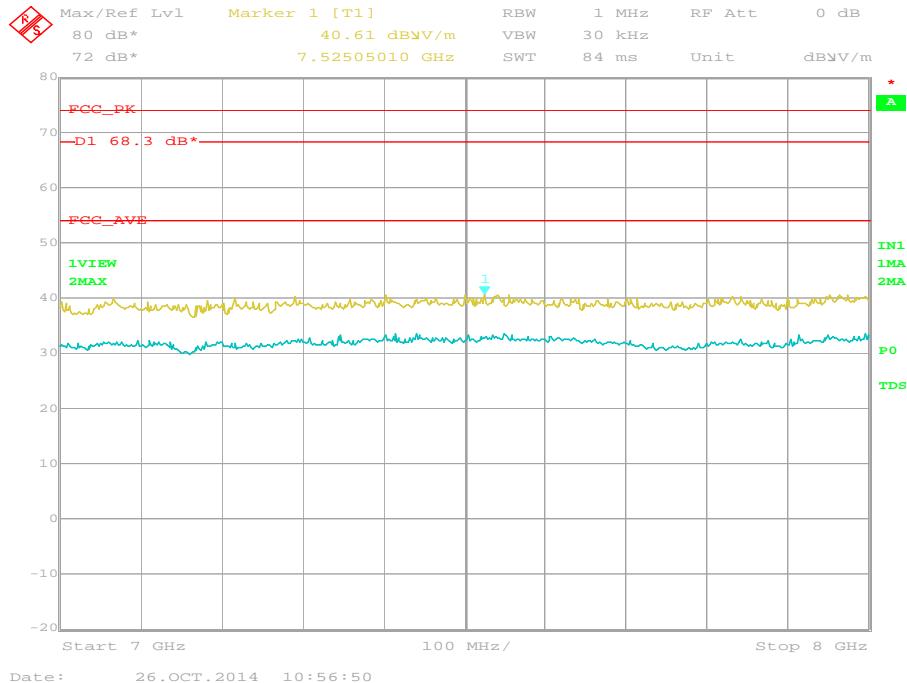
Product Service

5220 MHz30 MHz to 1 GHz

Frequency (MHz)	QP Level (dB $\mu$ V/m)	QP Level ( $\mu$ V/m)	QP Limit (dB $\mu$ V/m)	QP Limit ( $\mu$ V/m)	QP Margin (dB $\mu$ V/m)	QP Margin ( $\mu$ V/m)	Angle (Deg)	Height (m)	Polarity
33.013	31.9	39.4	40.0	100	-8.1	-60.6	360	1.00	Vertical
64.935	30.7	34.3	40.0	100	-9.3	-65.7	311	1.00	Vertical
88.500	30.4	33.1	43.5	150	-13.1	-116.9	323	1.00	Vertical
98.193	32.7	43.2	43.5	150	-10.8	-106.8	268	1.06	Vertical
116.145	30.0	31.6	43.5	150	-13.5	-118.4	321	1.00	Vertical
237.315	29.5	29.9	46.0	200	-16.5	-170.1	5	1.00	Vertical

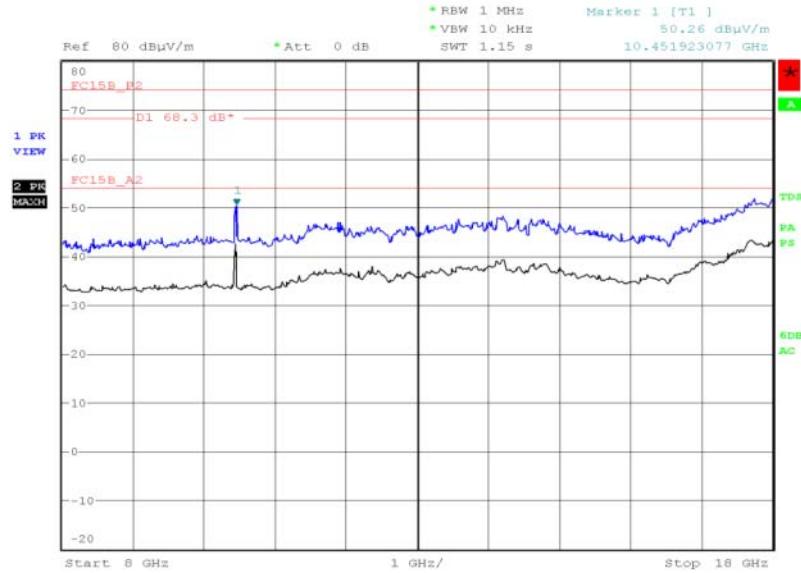


Product Service

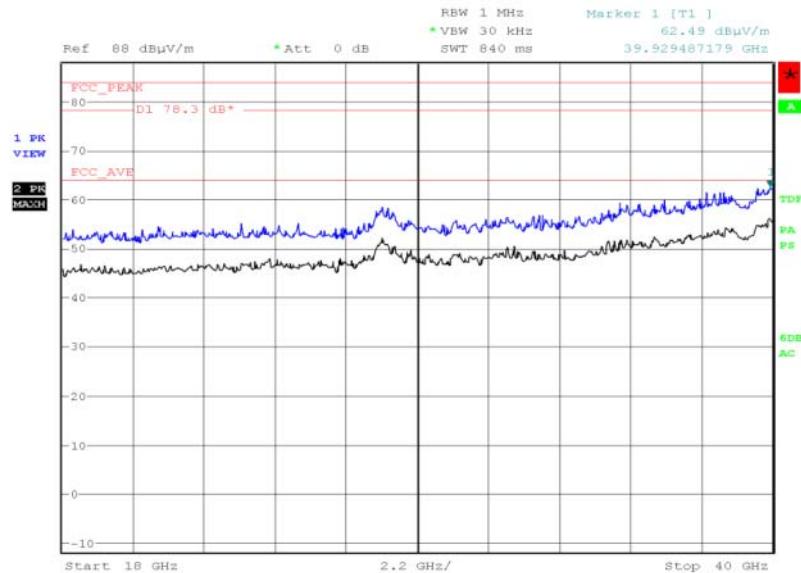
1 GHz to 7 GHz7 GHz to 8 GHz



Product Service

8 GHz to 18 GHz

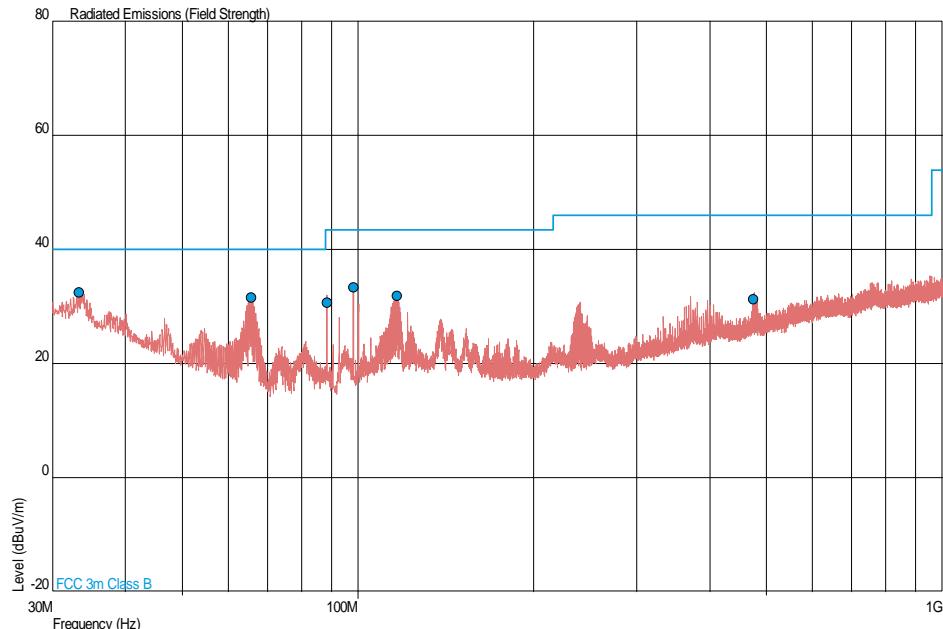
Date: 27.OCT.2014 22:20:56

18 GHz to 40 GHz

Date: 17.NOV.2014 19:27:39



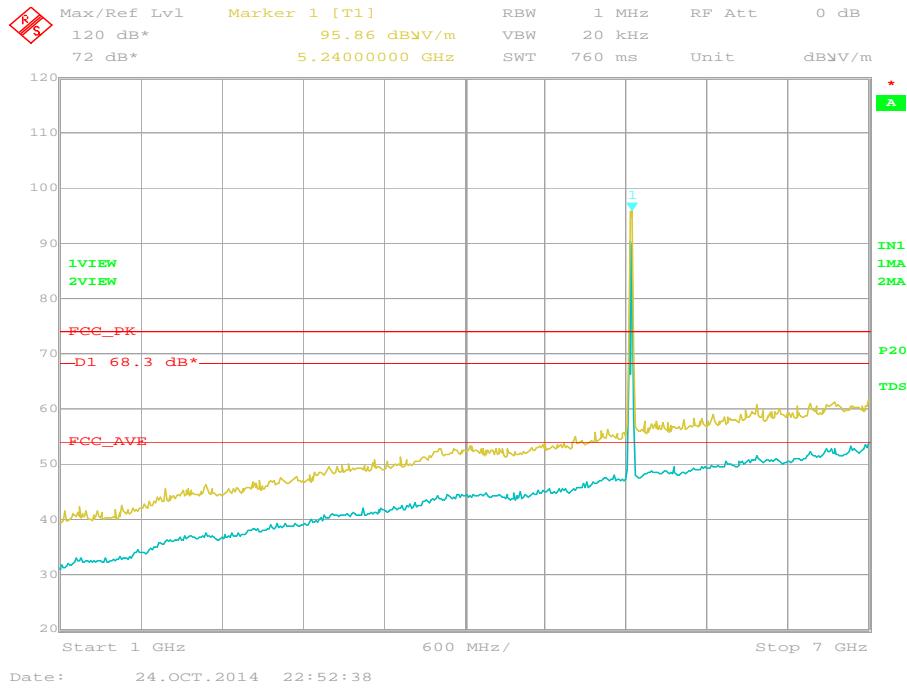
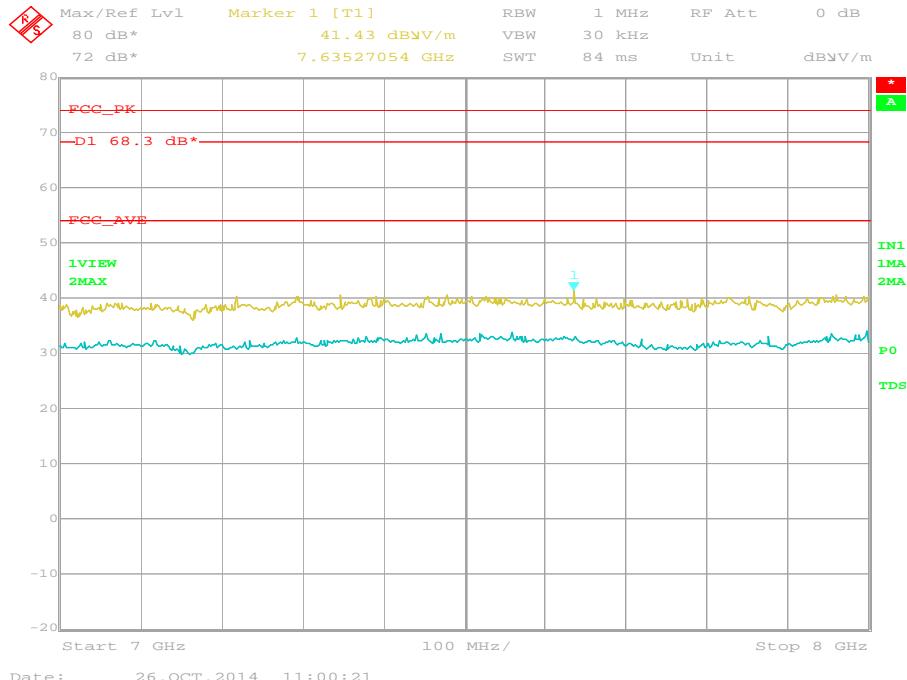
Product Service

5240 MHz30 MHz to 1 GHz

Frequency (MHz)	QP Level (dB $\mu$ V/m)	QP Level ( $\mu$ V/m)	QP Limit (dB $\mu$ V/m)	QP Limit ( $\mu$ V/m)	QP Margin (dB $\mu$ V/m)	QP Margin ( $\mu$ V/m)	Angle (Deg)	Height (m)	Polarity
33.395	32.5	42.2	40.0	100	-7.5	-57.8	360	1.00	Vertical
65.701	31.5	37.6	40.0	100	-8.5	-62.4	329	1.04	Vertical
88.503	30.7	34.3	43.5	150	-12.8	-115.7	340	1.00	Vertical
98.218	33.4	46.8	43.5	150	-10.1	-103.2	261	1.16	Vertical
116.584	31.9	39.4	43.5	150	-11.6	-110.6	9	1.03	Vertical
475.812	31.2	36.3	46.0	200	-14.8	-163.7	14	1.00	Vertical

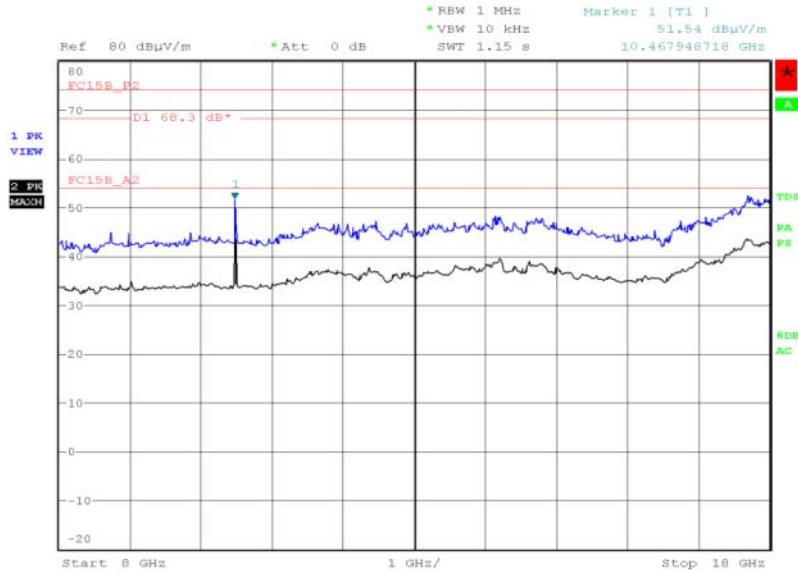


Product Service

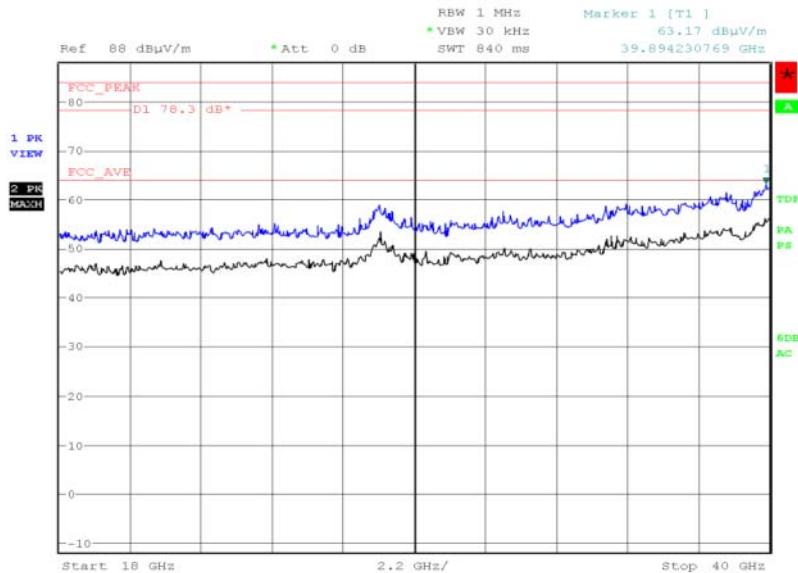
1 GHz to 7 GHz7 GHz to 8 GHz



Product Service

8 GHz to 18 GHz

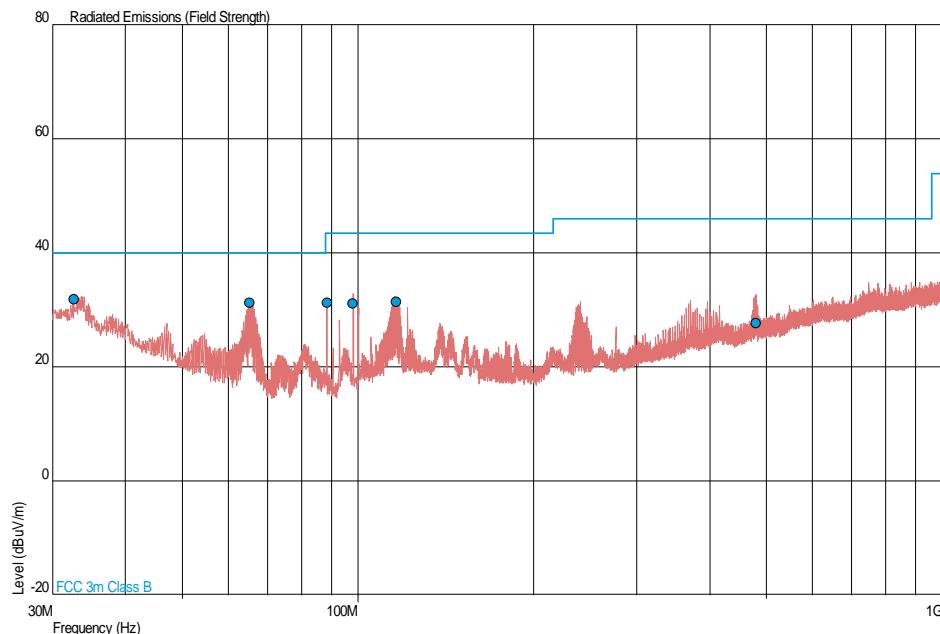
Date: 27.OCT.2014 22:37:10

18 GHz to 40 GHz

Date: 17.NOV.2014 19:39:53



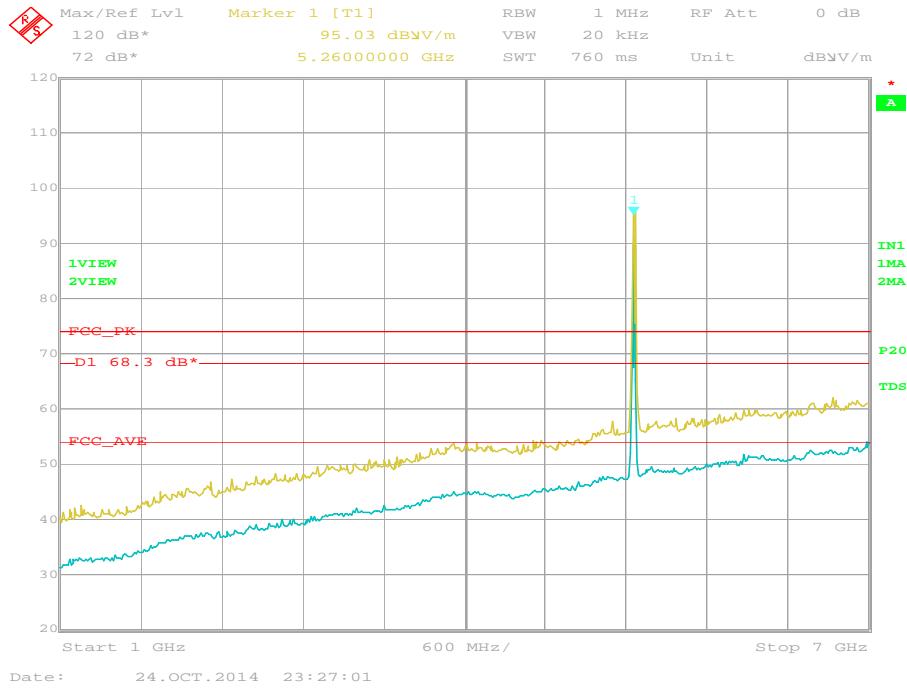
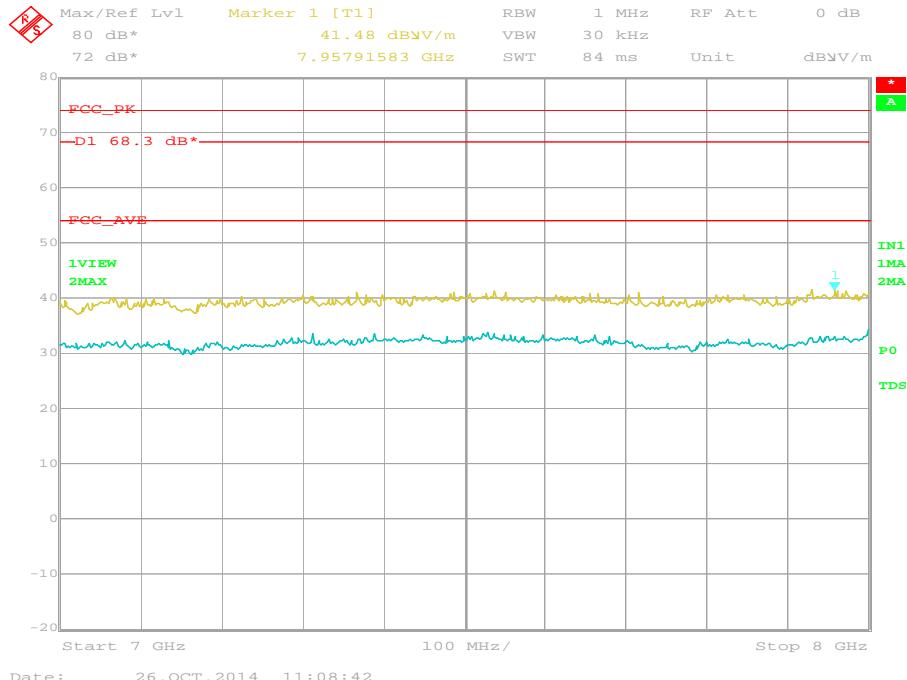
Product Service

Frequency Band 25260 MHz30 MHz to 1 GHz

Frequency (MHz)	QP Level (dB $\mu$ V/m)	QP Level ( $\mu$ V/m)	QP Limit (dB $\mu$ V/m)	QP Limit ( $\mu$ V/m)	QP Margin (dB $\mu$ V/m)	QP Margin ( $\mu$ V/m)	Angle (Deg)	Height (m)	Polarity
32.638	31.9	39.4	40.0	100	-8.1	-60.6	359	1.06	Vertical
65.325	31.2	36.3	40.0	100	-8.8	-63.7	0	1.00	Vertical
88.499	31.2	36.3	43.5	150	-12.3	-113.7	353	1.00	Vertical
98.172	31.1	35.9	43.5	150	-12.4	-114.1	238	1.00	Vertical
116.204	31.5	37.6	43.5	150	-12.0	-112.4	0	1.00	Vertical
479.773	27.7	24.3	46.0	200	-18.3	-175.7	162	3.86	Vertical

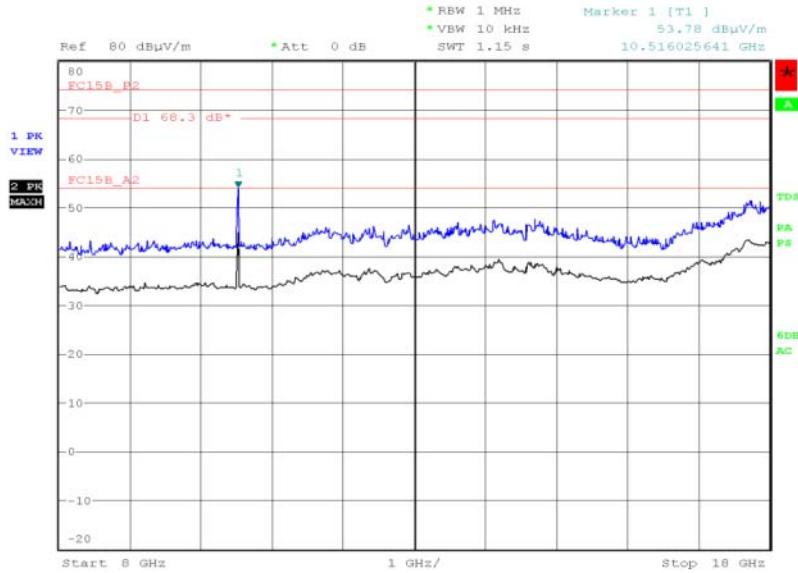


Product Service

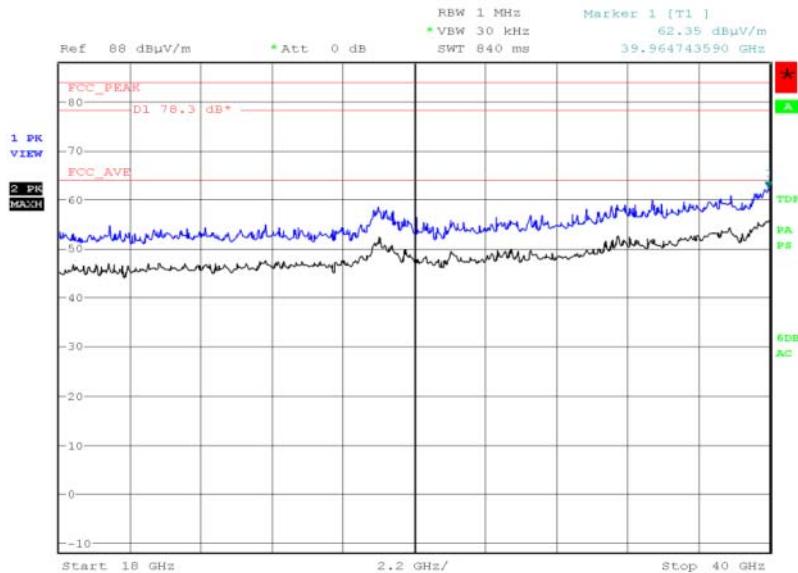
1 GHz to 7 GHz7 GHz to 8 GHz



Product Service

8 GHz to 18 GHz

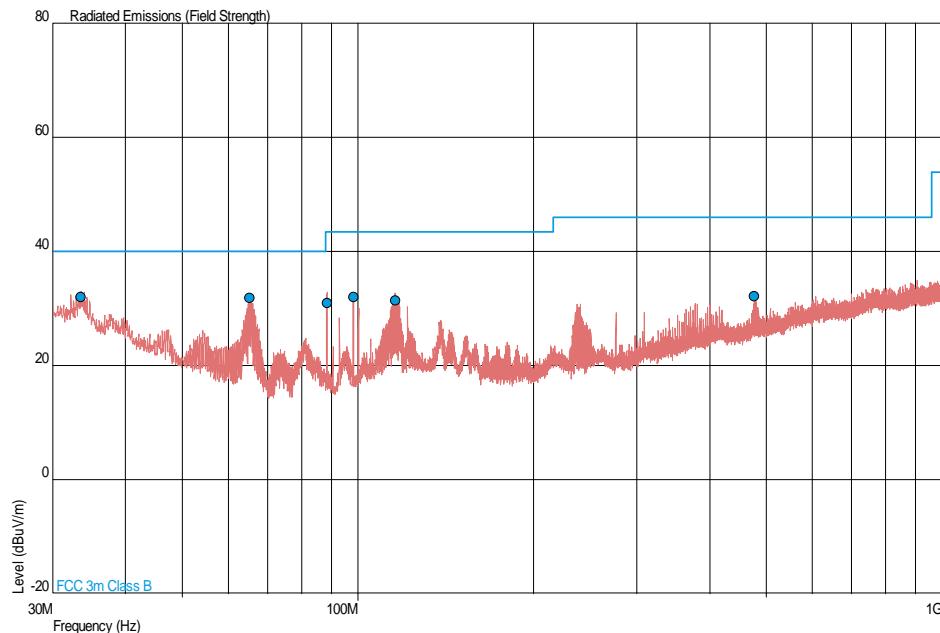
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18 GHz to 40 GHz

Date: 17.NOV.2014 19:50:58



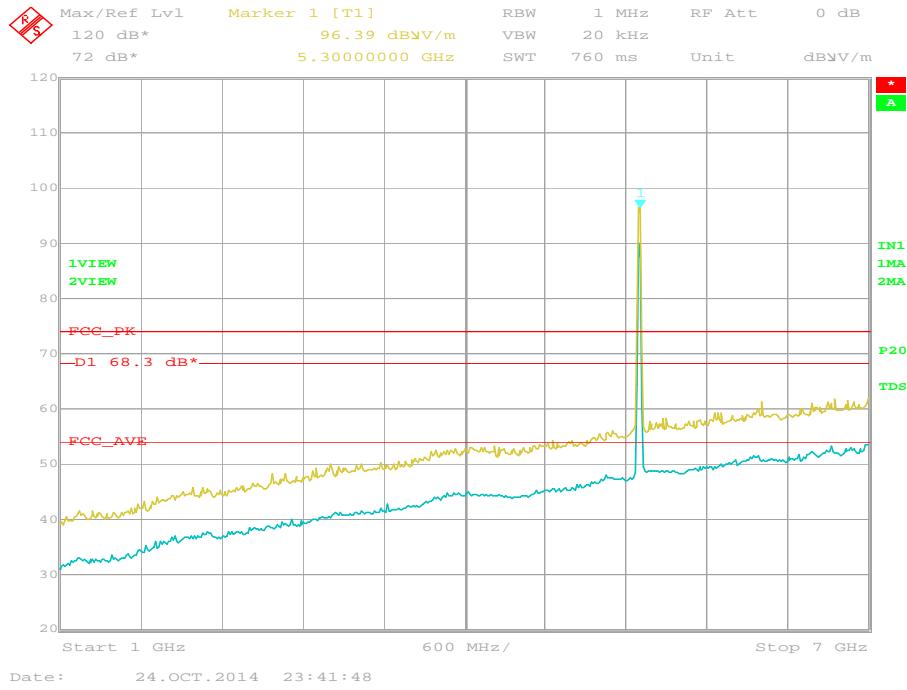
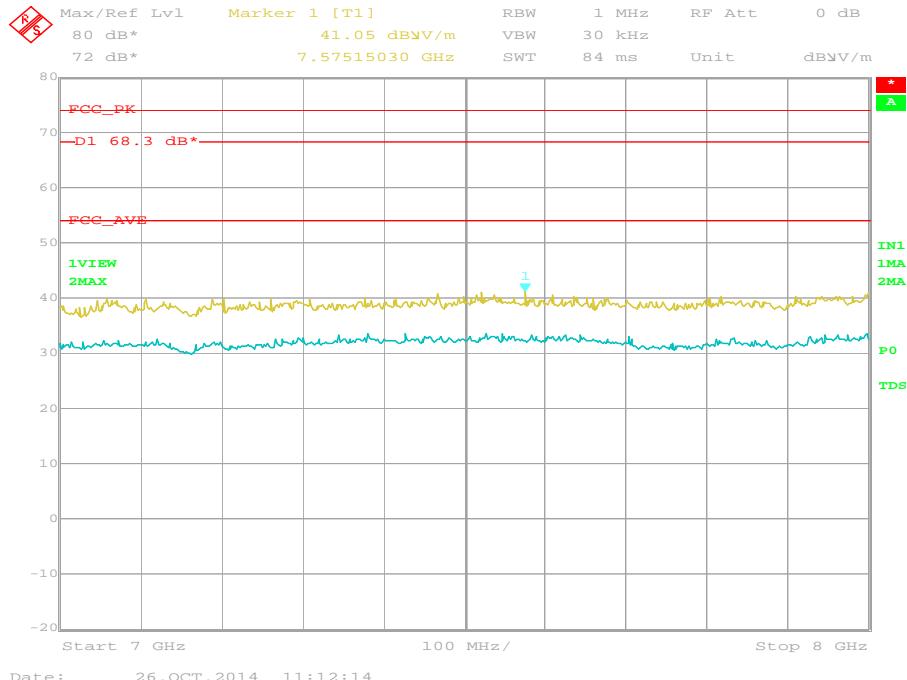
Product Service

5300 MHz30 MHz to 1 GHz

Frequency (MHz)	QP Level (dB $\mu$ V/m)	QP Level ( $\mu$ V/m)	QP Limit (dB $\mu$ V/m)	QP Limit ( $\mu$ V/m)	QP Margin (dB $\mu$ V/m)	QP Margin ( $\mu$ V/m)	Angle (Deg)	Height (m)	Polarity
33.618	32.1	40.3	40.0	100	-7.9	-59.7	35	1.00	Vertical
65.318	31.8	38.9	40.0	100	-8.2	-61.1	360	1.00	Vertical
88.507	31.0	35.5	43.5	150	-12.5	-114.5	0	1.00	Vertical
98.220	32.1	40.3	43.5	150	-11.4	-109.7	253	1.00	Vertical
115.800	31.5	37.6	43.5	150	-12.0	-112.4	0	1.00	Vertical
476.950	32.1	40.3	46.0	200	-13.9	-159.7	190	1.00	Vertical

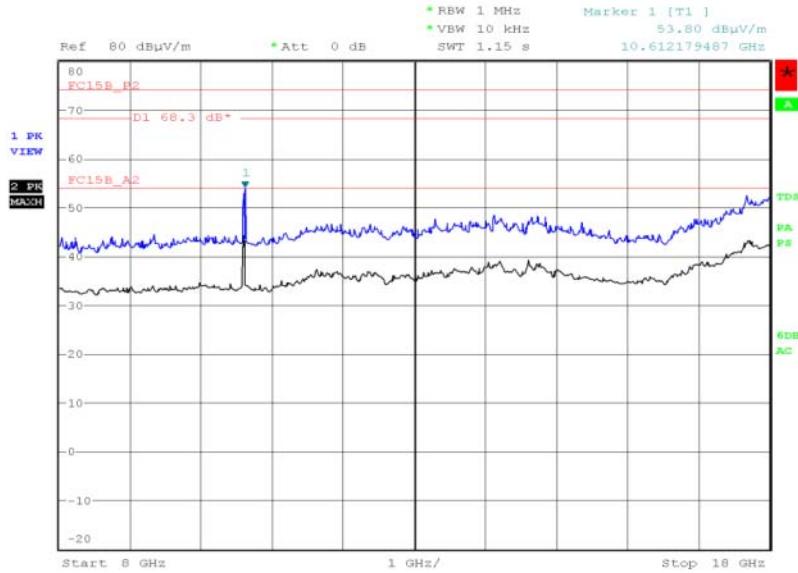


Product Service

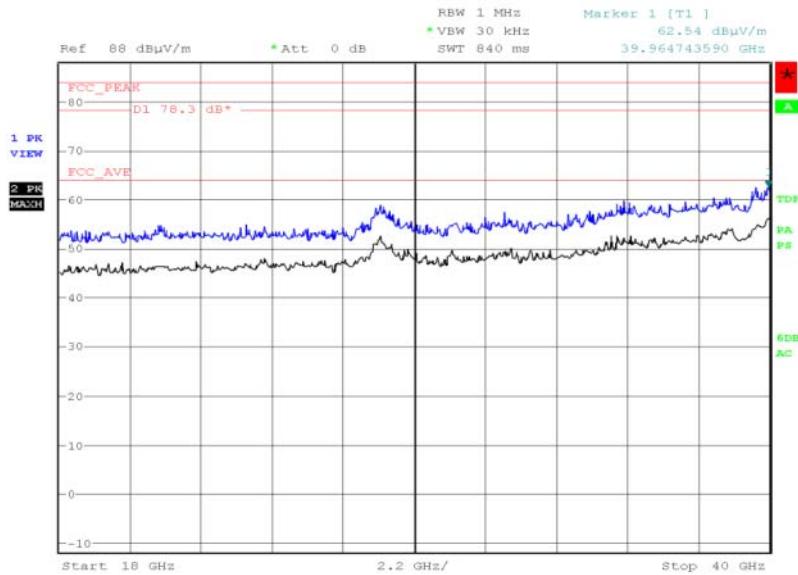
1 GHz to 7 GHz7 GHz to 8 GHz



Product Service

8 GHz to 18 GHz

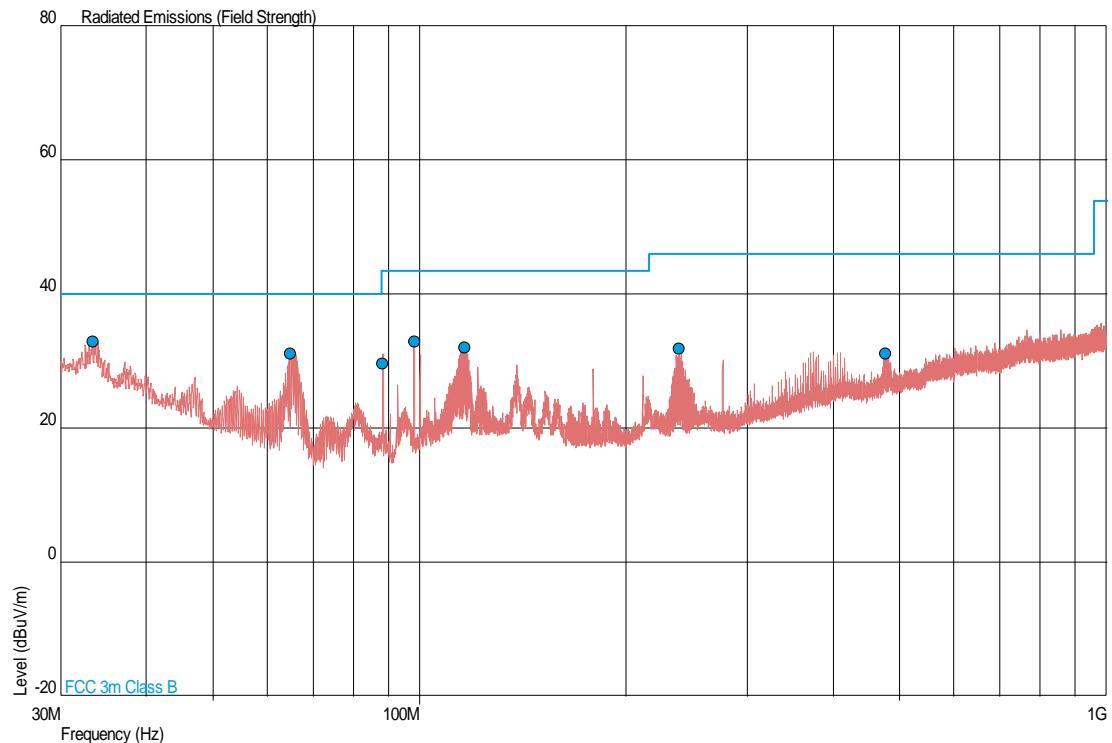
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18 GHz to 40 GHz

Date: 17.NOV.2014 20:01:00



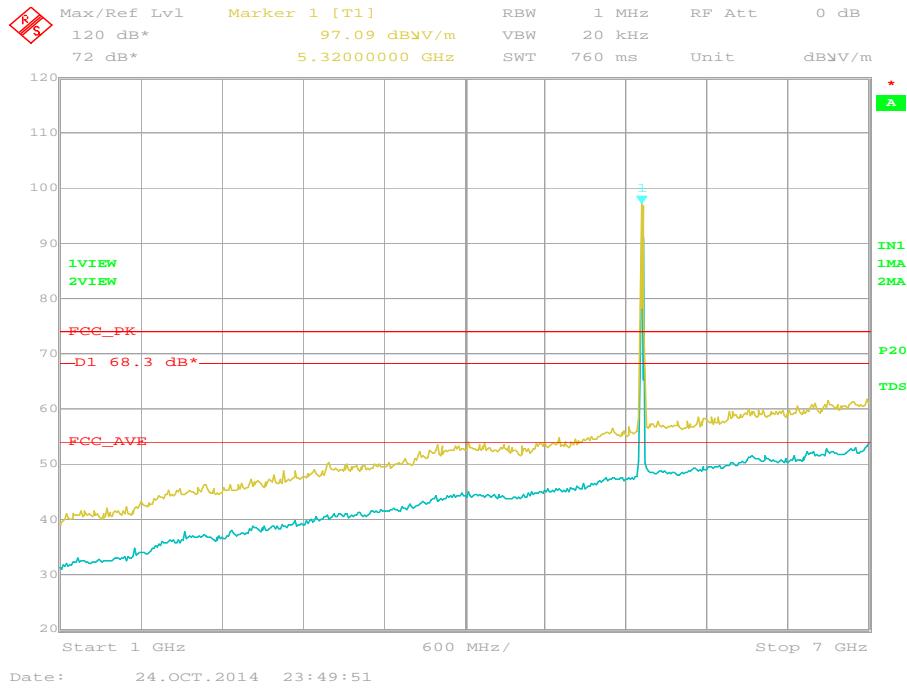
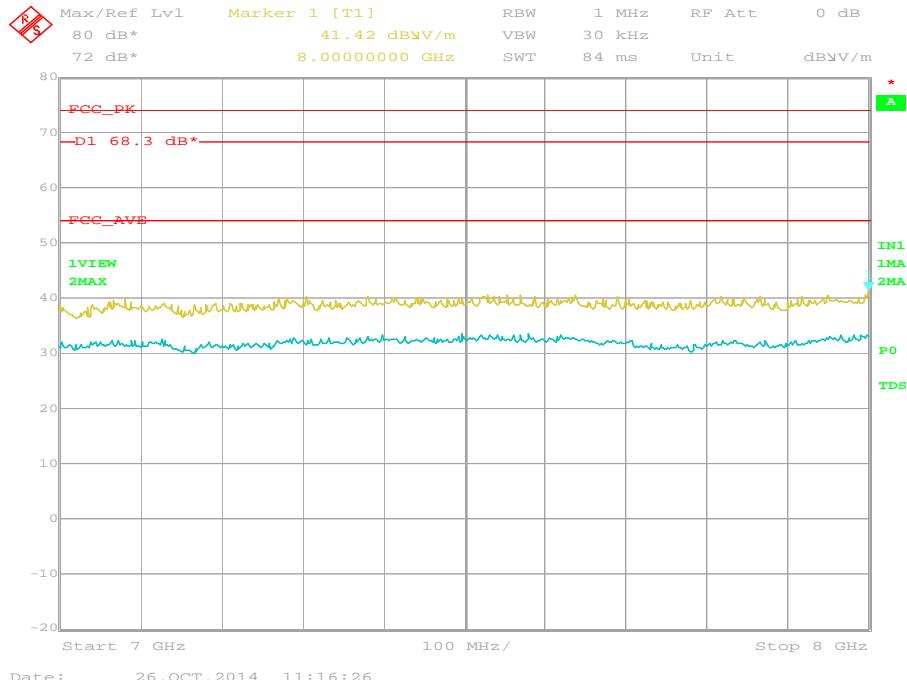
Product Service

5320 MHz30 MHz to 1 GHz

Frequency (MHz)	QP Level (dB $\mu$ V/m)	QP Level ( $\mu$ V/m)	QP Limit (dB $\mu$ V/m)	QP Limit ( $\mu$ V/m)	QP Margin (dB $\mu$ V/m)	QP Margin ( $\mu$ V/m)	Angle (Deg)	Height (m)	Polarity
33.409	32.9	44.2	40.0	100	-7.1	-55.8	44	1.00	Vertical
64.932	31.1	35.9	40.0	100	-8.9	-64.1	359	1.00	Vertical
88.451	29.6	30.2	43.5	150	-13.9	-119.8	306	1.00	Vertical
98.194	32.8	43.7	43.5	150	-10.7	-106.3	262	1.09	Vertical
116.188	32.0	39.8	43.5	150	-11.5	-110.2	4	1.00	Vertical
238.461	31.8	38.9	46.0	200	-14.2	-161.1	326	1.94	Vertical
476.174	31.1	35.9	46.0	200	-14.9	-164.1	0	1.00	Vertical

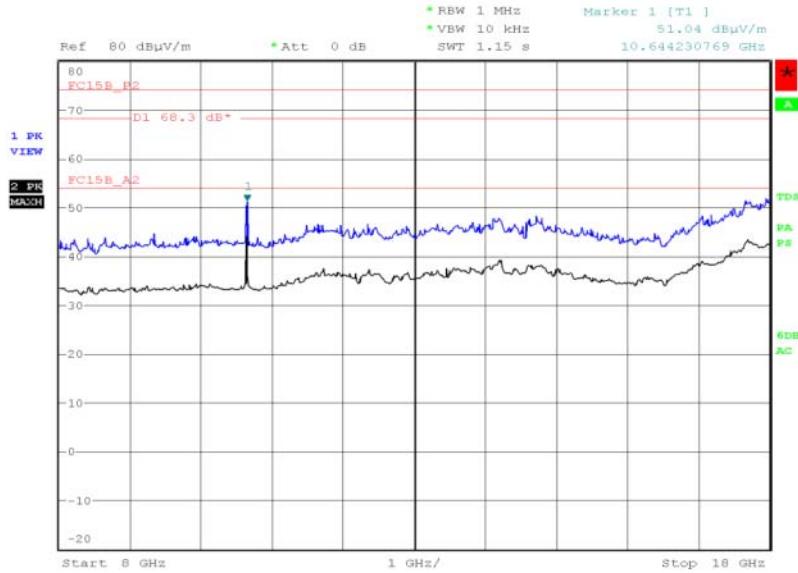


Product Service

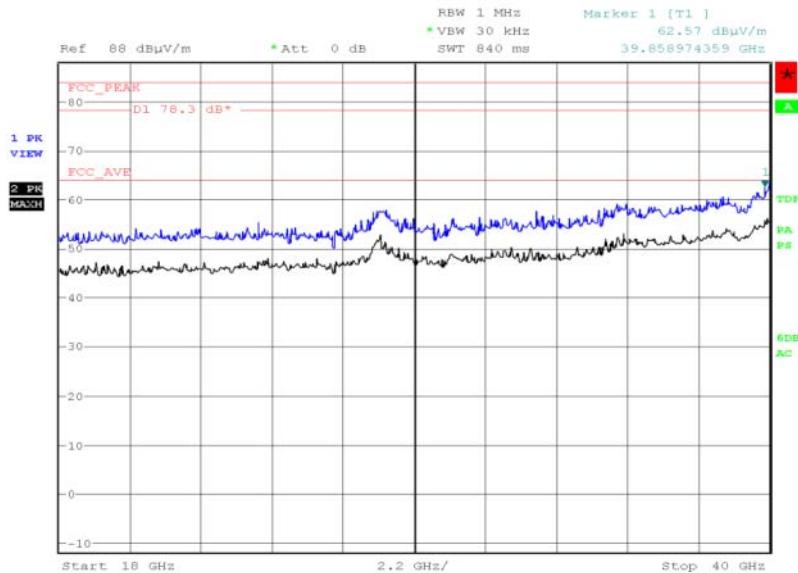
1 GHz to 7 GHz7 GHz to 8 GHz



Product Service

8 GHz to 18 GHz

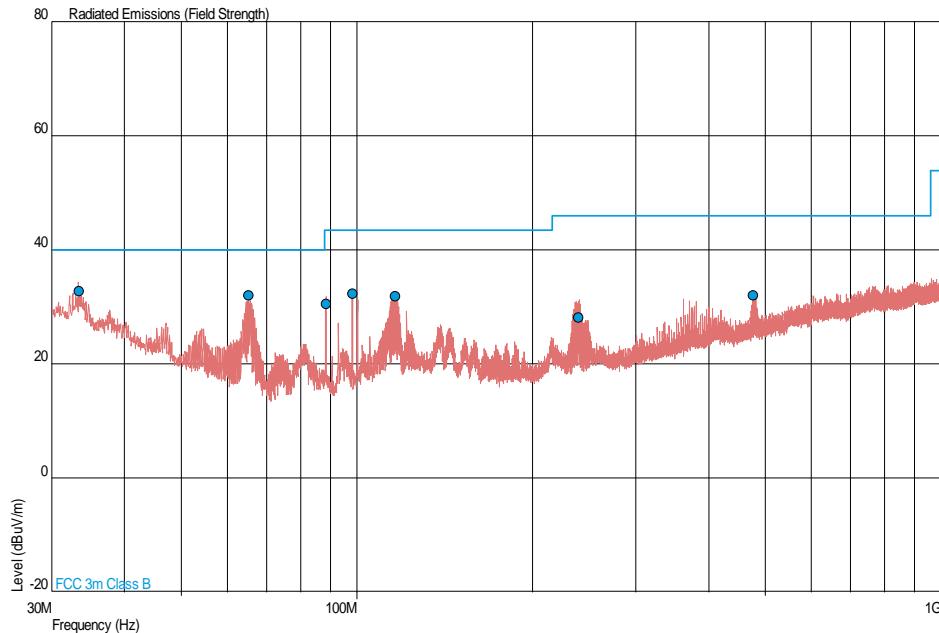
Date: 27.OCT.2014 23:41:03

18 GHz to 40 GHz

Date: 17.NOV.2014 20:10:44



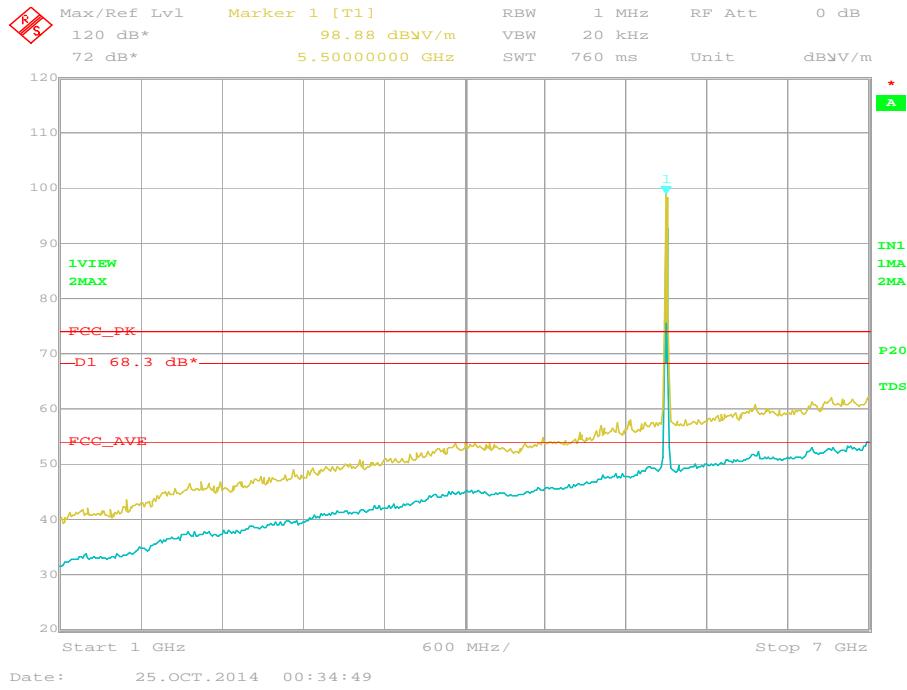
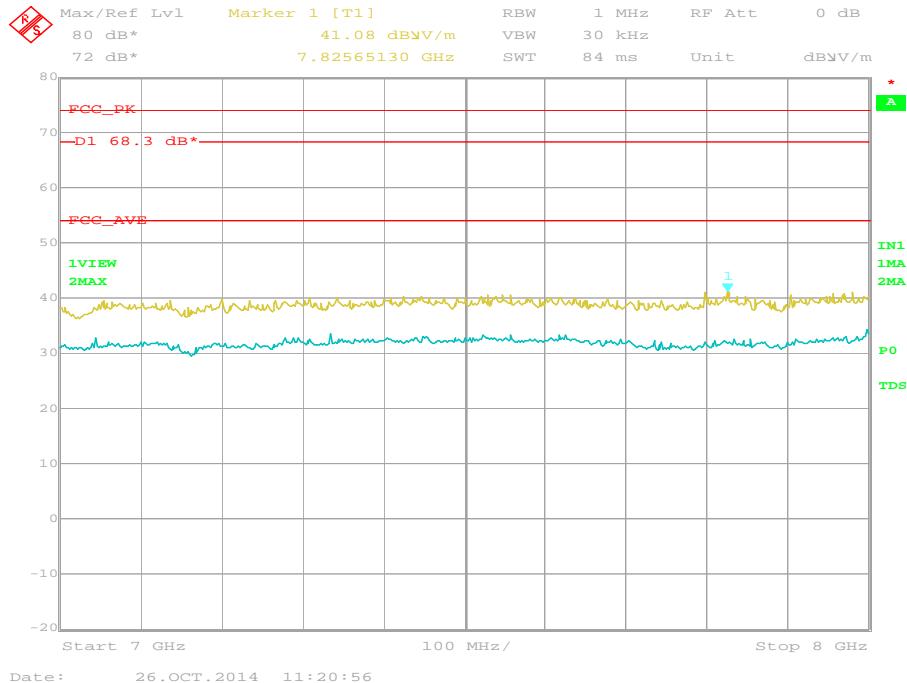
Product Service

Frequency Band 35500 MHz30 MHz to 1 GHz

Frequency (MHz)	QP Level (dB $\mu$ V/m)	QP Level ( $\mu$ V/m)	QP Limit (dB $\mu$ V/m)	QP Limit ( $\mu$ V/m)	QP Margin (dB $\mu$ V/m)	QP Margin ( $\mu$ V/m)	Angle (Deg)	Height (m)	Polarity
33.420	32.8	43.7	40.0	100	-7.2	-56.3	54	1.00	Vertical
65.323	32.0	39.8	40.0	100	-8.0	-60.2	352	1.00	Vertical
88.484	30.5	33.5	43.5	150	-13.0	-116.5	0	1.28	Vertical
98.212	32.4	41.7	43.5	150	-11.1	-108.3	281	1.00	Vertical
116.197	31.9	39.4	43.5	150	-11.6	-110.6	13	1.00	Vertical
239.194	28.1	25.4	46.0	200	-17.9	-174.6	359	1.91	Vertical
476.573	32.0	39.8	46.0	200	-14.0	-160.2	192	1.08	Vertical

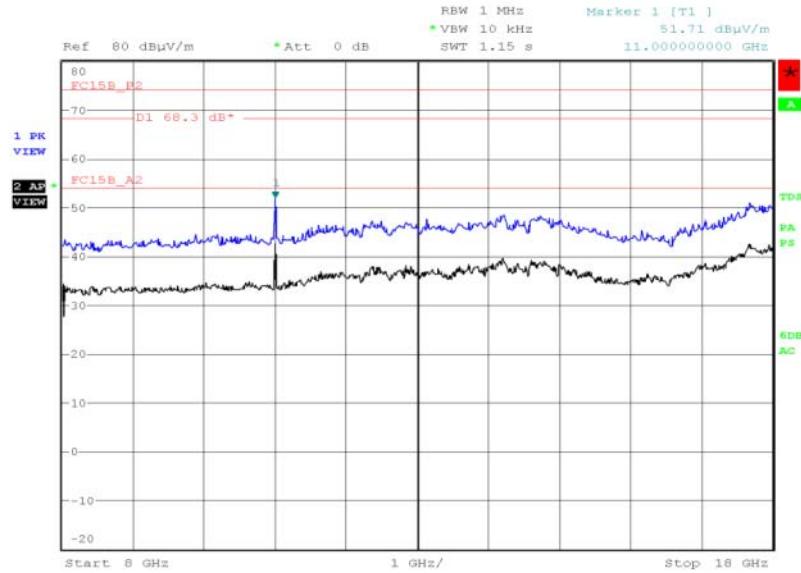


Product Service

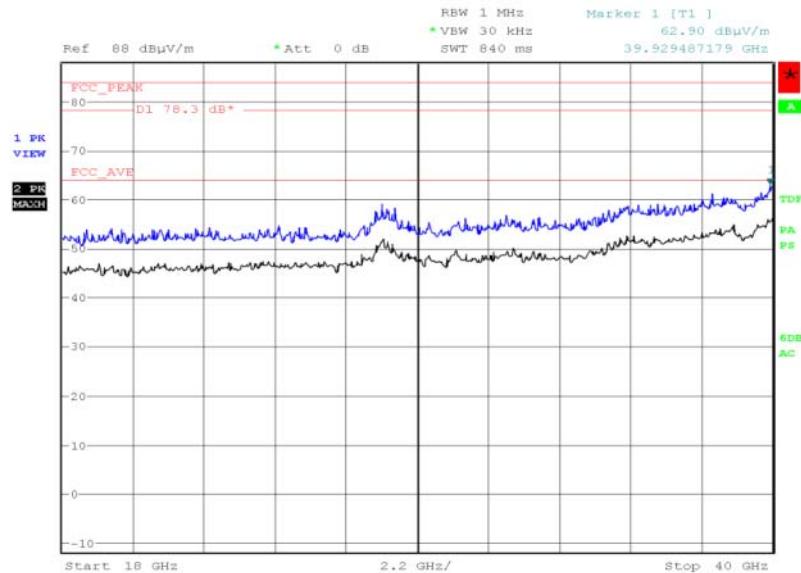
1 GHz to 7 GHz7 GHz to 8 GHz



Product Service

8 GHz to 18 GHz

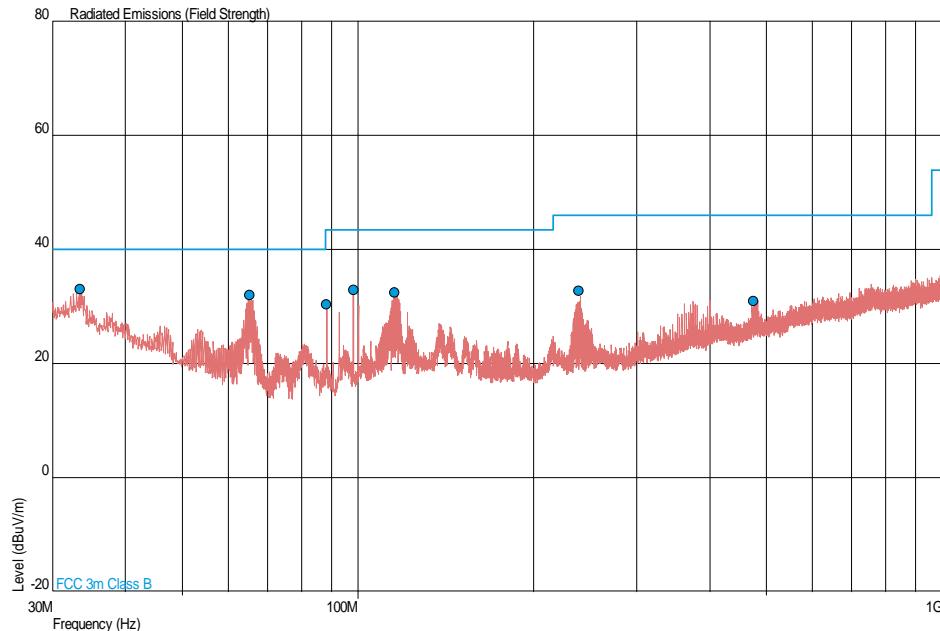
Date: 7.NOV.2014 21:33:51

18 GHz to 40 GHz

Date: 17.NOV.2014 20:20:40



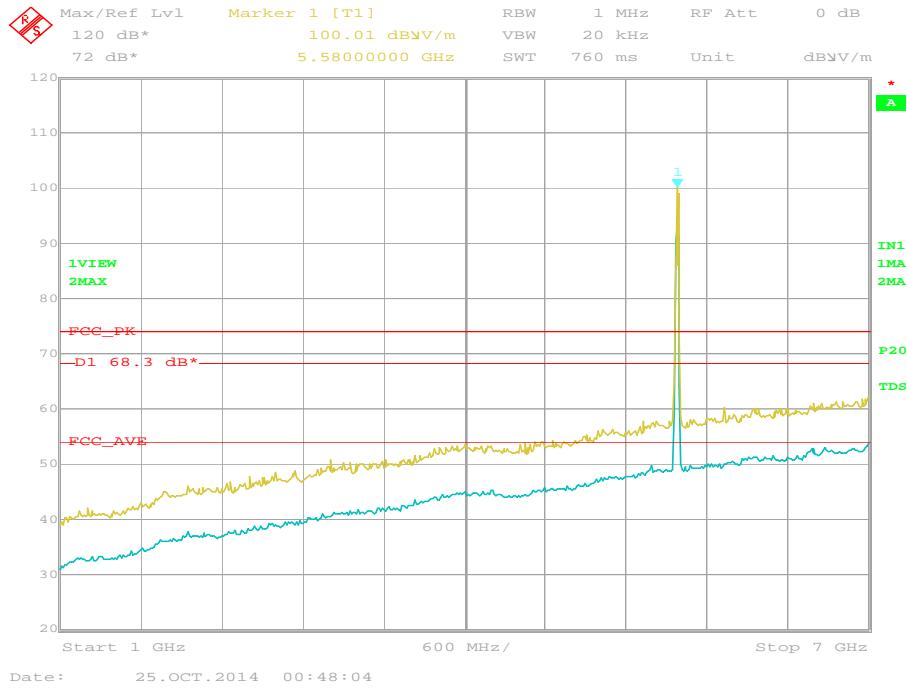
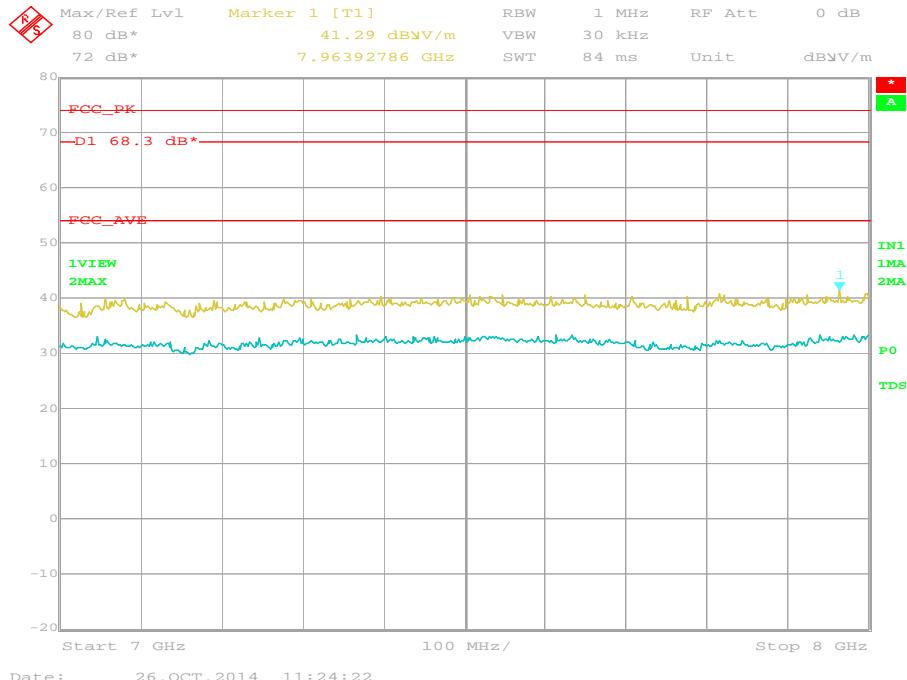
Product Service

5580 MHz30 MHz to 1 GHz

Frequency (MHz)	QP Level (dB $\mu$ V/m)	QP Level ( $\mu$ V/m)	QP Limit (dB $\mu$ V/m)	QP Limit ( $\mu$ V/m)	QP Margin (dB $\mu$ V/m)	QP Margin ( $\mu$ V/m)	Angle (Deg)	Height (m)	Polarity
33.405	33.1	45.2	40.0	100	-6.9	-54.8	360	1.00	Vertical
65.311	32.1	40.3	40.0	100	-7.9	-59.7	334	1.00	Vertical
88.447	30.4	33.1	43.5	150	-13.1	-116.9	0	1.00	Vertical
98.226	32.9	44.2	43.5	150	-10.6	-105.8	264	1.00	Vertical
115.410	32.5	42.2	43.5	150	-11.0	-107.8	0	1.00	Vertical
238.861	32.8	43.7	46.0	200	-13.2	-156.3	278	1.92	Vertical
475.424	31.0	35.5	46.0	200	-15.0	-164.5	0	1.00	Vertical

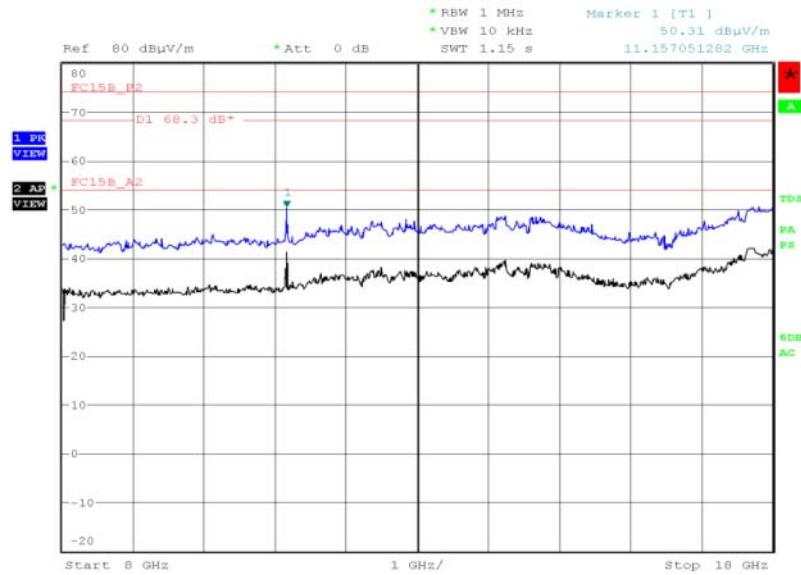
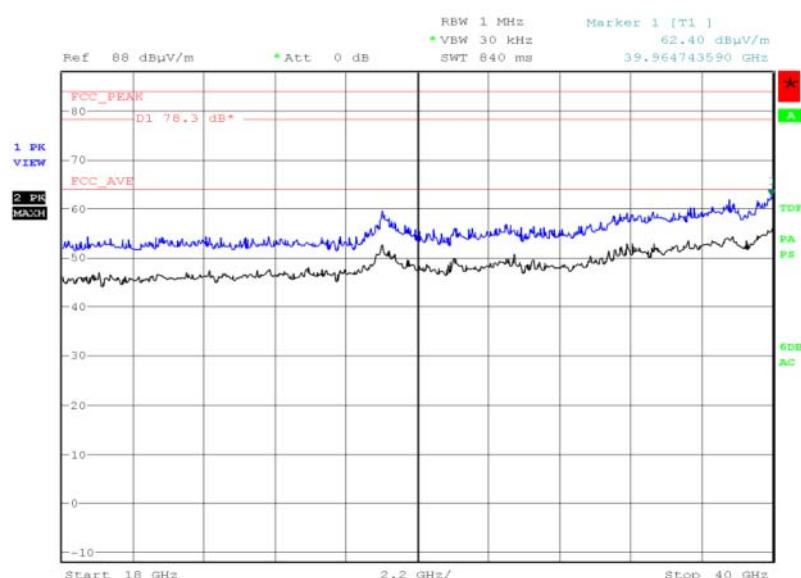


Product Service

1 GHz to 7 GHz7 GHz to 8 GHz

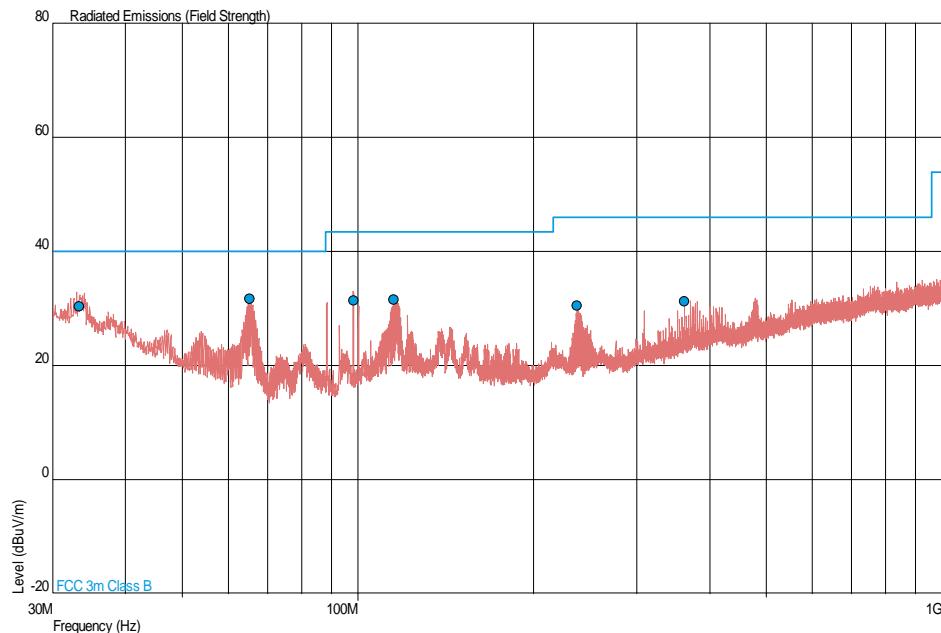


Product Service

8 GHz to 18 GHz18 GHz to 40 GHz



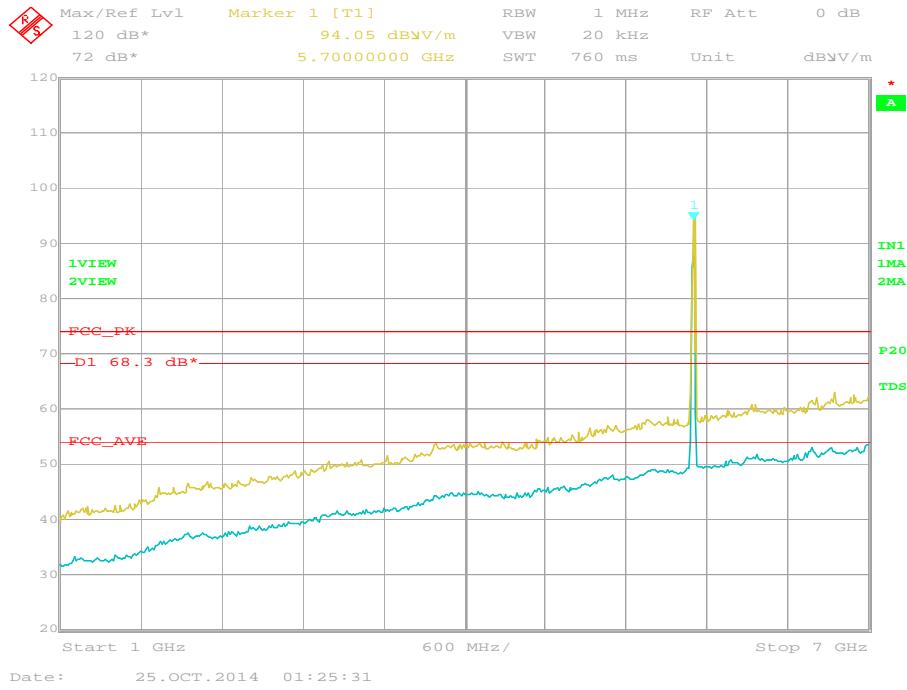
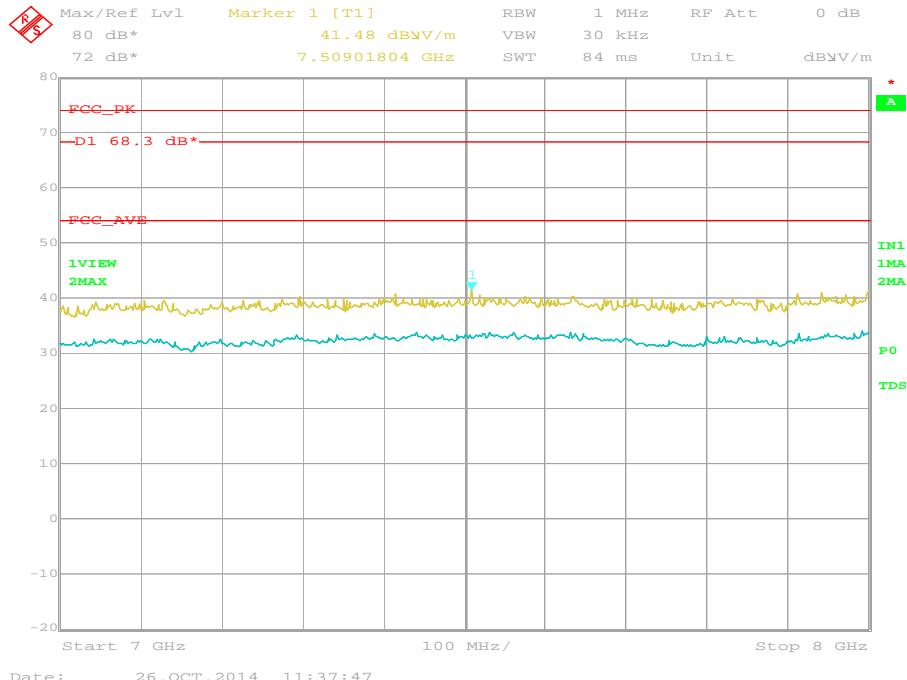
Product Service

5700 MHz30 MHz to 1 GHz

Frequency (MHz)	QP Level (dB $\mu$ V/m)	QP Level ( $\mu$ V/m)	QP Limit (dB $\mu$ V/m)	QP Limit ( $\mu$ V/m)	QP Margin (dB $\mu$ V/m)	QP Margin ( $\mu$ V/m)	Angle (Deg)	Height (m)	Polarity
33.357	30.3	32.7	40.0	100	-9.7	-67.3	207	1.00	Vertical
65.315	31.7	38.5	40.0	100	-8.3	-61.5	305	1.00	Vertical
98.227	31.4	37.2	43.5	150	-12.1	-112.8	277	1.00	Vertical
115.032	31.6	38.0	43.5	150	-11.9	-112.0	86	1.00	Vertical
237.327	30.5	33.5	46.0	200	-15.5	-166.5	357	1.78	Vertical
361.595	31.2	36.3	46.0	200	-14.8	-163.7	181	1.48	Vertical

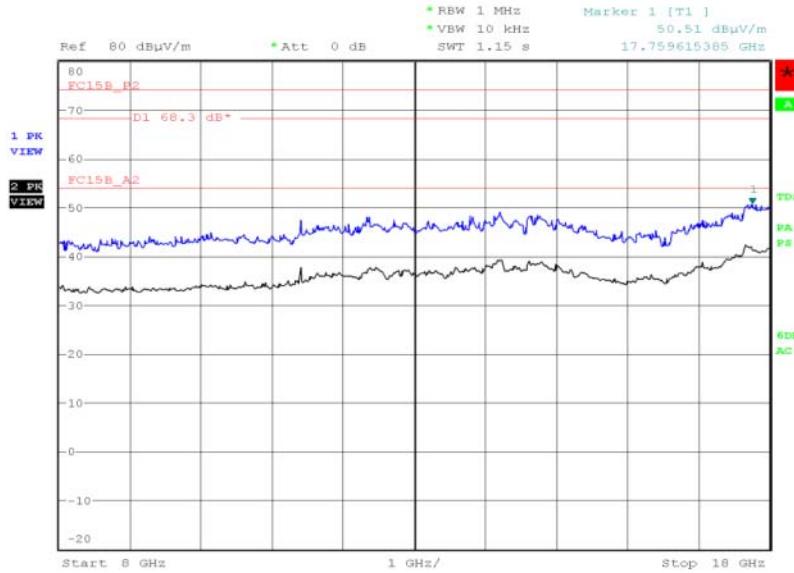


Product Service

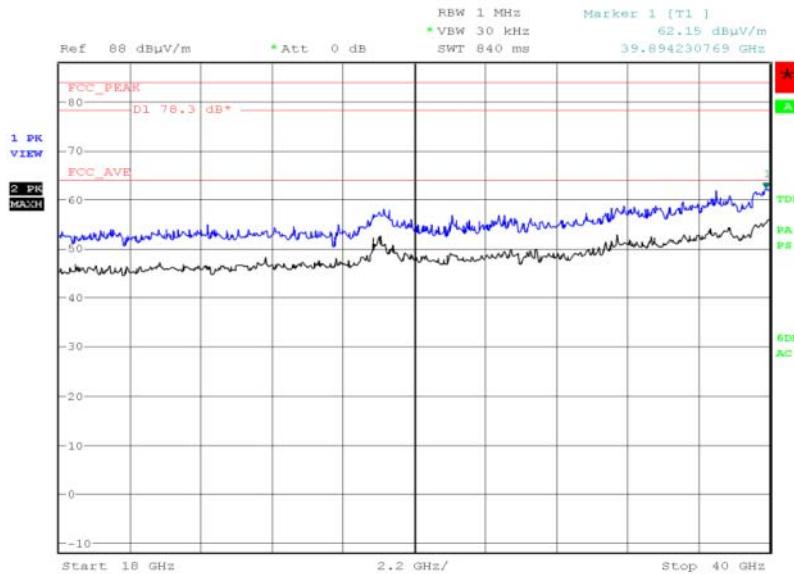
1 GHz to 7 GHz7 GHz to 8 GHz



Product Service

8 GHz to 18 GHz

Date: 7.NOV.2014 22:14:19

18 GHz to 40 GHz

Date: 17.NOV.2014 20:40:10

Limit

Peak (dB $\mu$ V/m)	Average (dB $\mu$ V/m)
74.0	54.0

COMMERCIAL-IN-CONFIDENCE



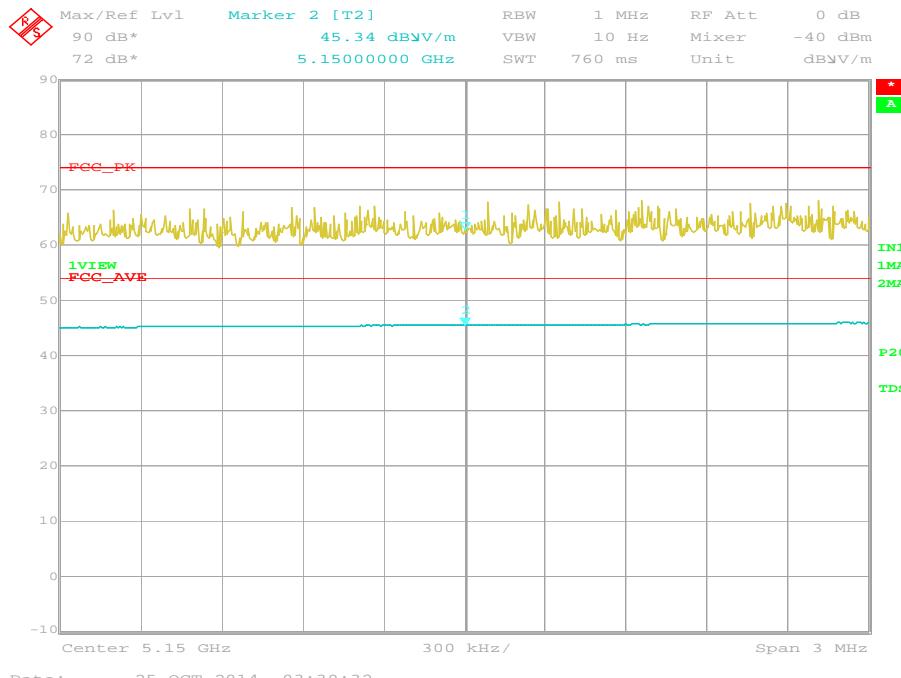
Product Service



Product Service

Band Edge Emissions5180 MHz

Polarisation	Final Peak (dB $\mu$ V/m)	Final Average (dB $\mu$ V/m)
Vertical	62.66	45.34

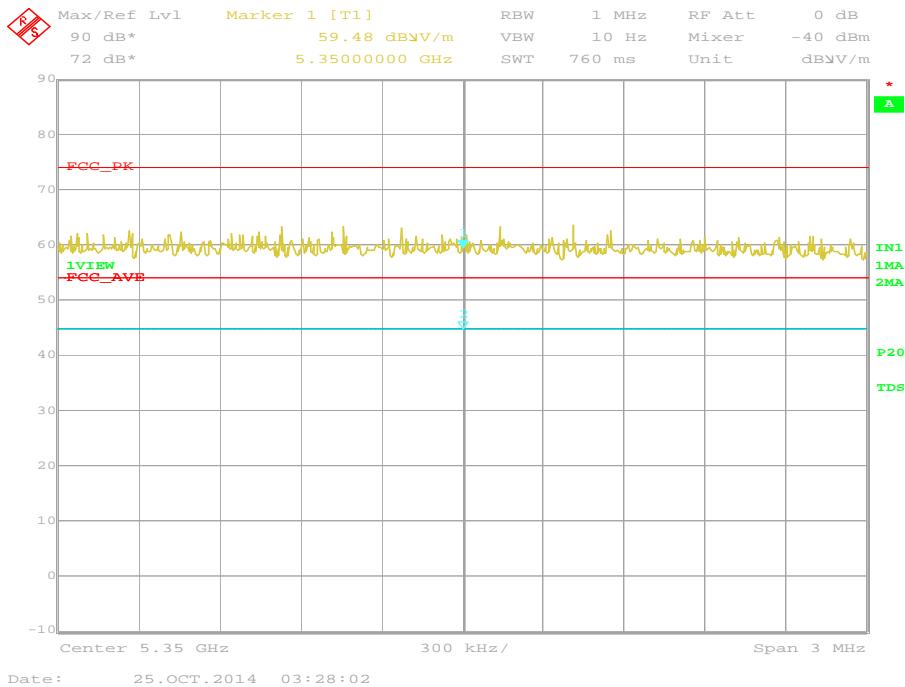




Product Service

5320 MHz

Polarisation	Final Peak (dB $\mu$ V/m)	Final Average (dB $\mu$ V/m)
Vertical	59.48	44.71

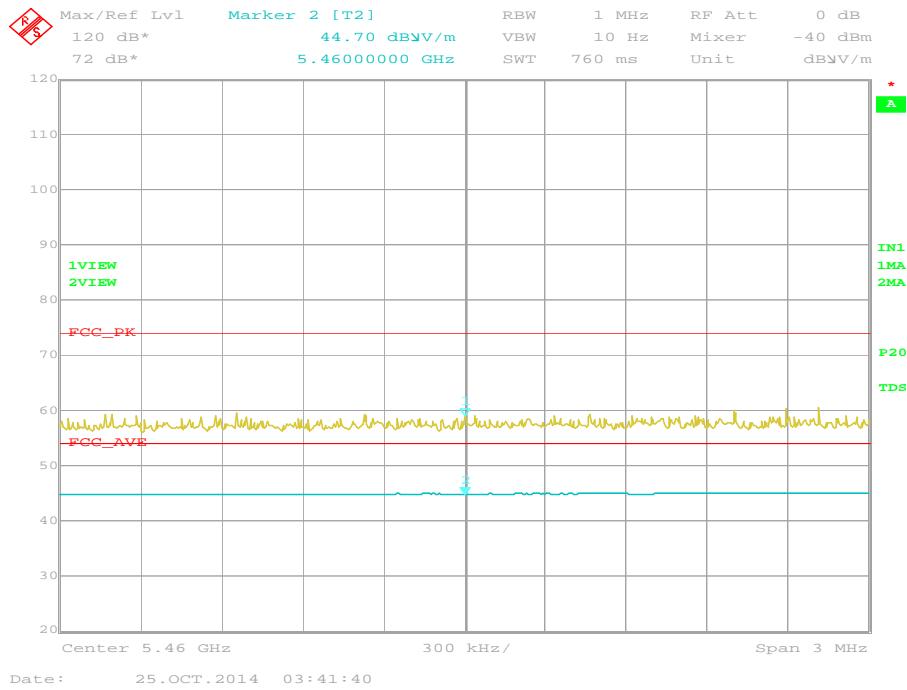




Product Service

5500 MHz

Polarisation	Final Peak (dB $\mu$ V/m)	Final Average (dB $\mu$ V/m)
Vertical	58.78	44.70

Limit

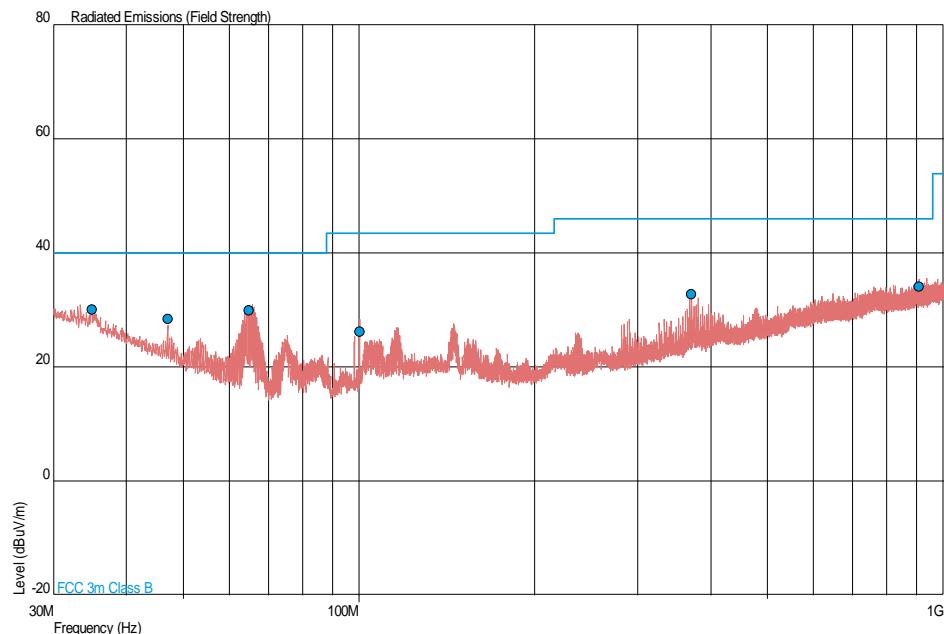
Peak (dB $\mu$ V/m)	Average (dB $\mu$ V/m)
74.0	54.0



Product Service

802.11(ac) 20 MHz BW

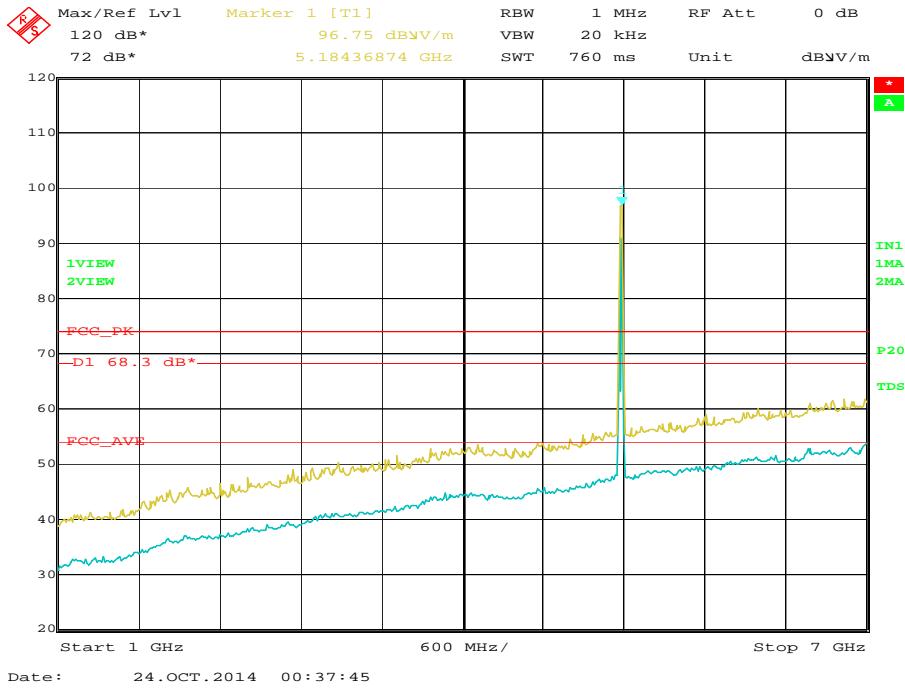
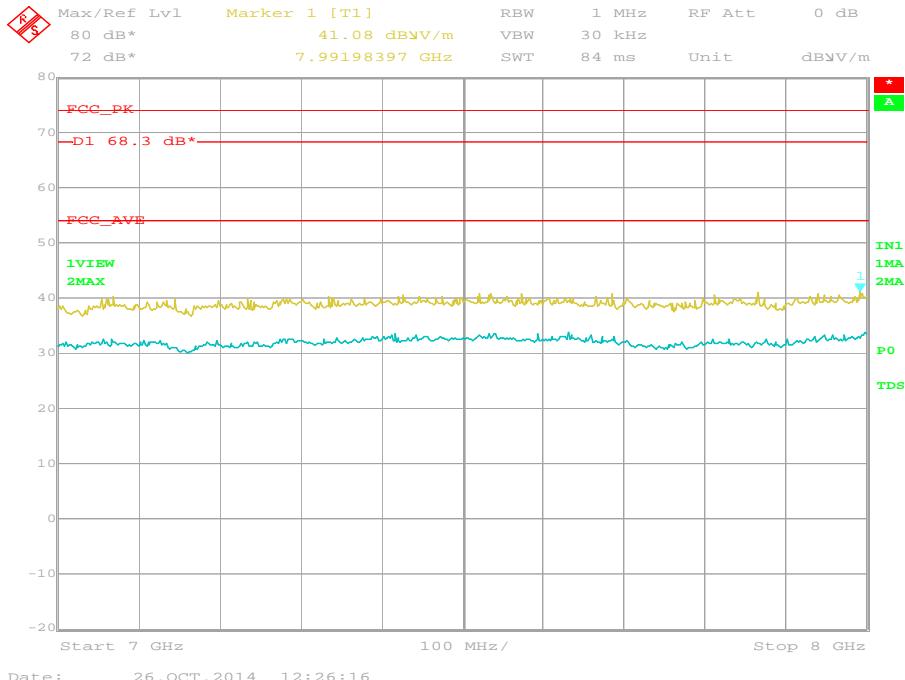
3.8 V DC Supply

Spurious Radiated EmissionsFrequency Band 15180 MHz30 MHz to 1 GHz

Frequency (MHz)	QP Level (dB $\mu$ V/m)	QP Level ( $\mu$ V/m)	QP Limit (dB $\mu$ V/m)	QP Limit ( $\mu$ V/m)	QP Margin (dB $\mu$ V/m)	QP Margin ( $\mu$ V/m)	Angle (Deg)	Height (m)	Polarity
34.947	30.1	32.0	40.0	100	-9.9	-68.0	297	1.00	Vertical
47.089	28.5	26.6	40.0	100	-11.5	-73.4	285	1.00	Vertical
64.929	29.9	31.3	40.0	100	-10.1	-68.7	0	1.00	Vertical
100.294	26.2	20.4	43.5	150	-17.3	-129.6	259	1.00	Vertical
371.186	32.7	43.2	46.0	200	-13.3	-156.8	131	1.48	Vertical
908.505	34.1	50.7	46.0	200	-11.9	-149.3	219	1.00	Horizontal

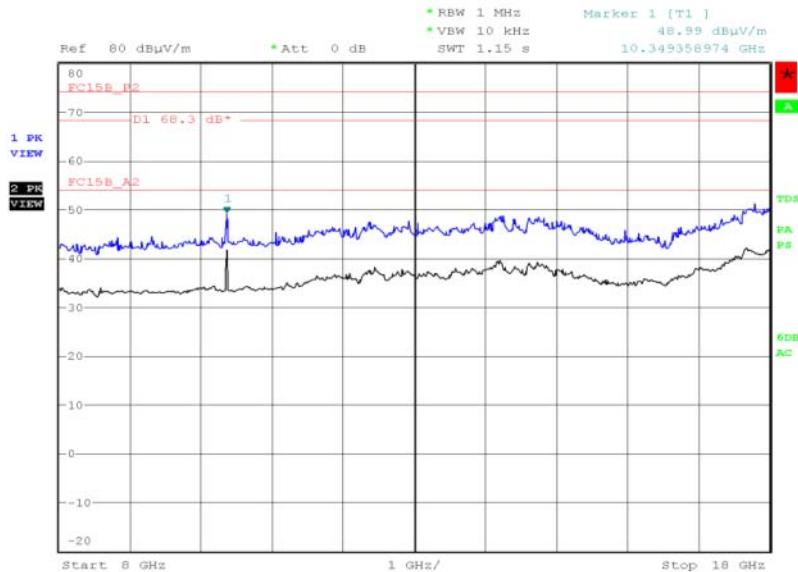


Product Service

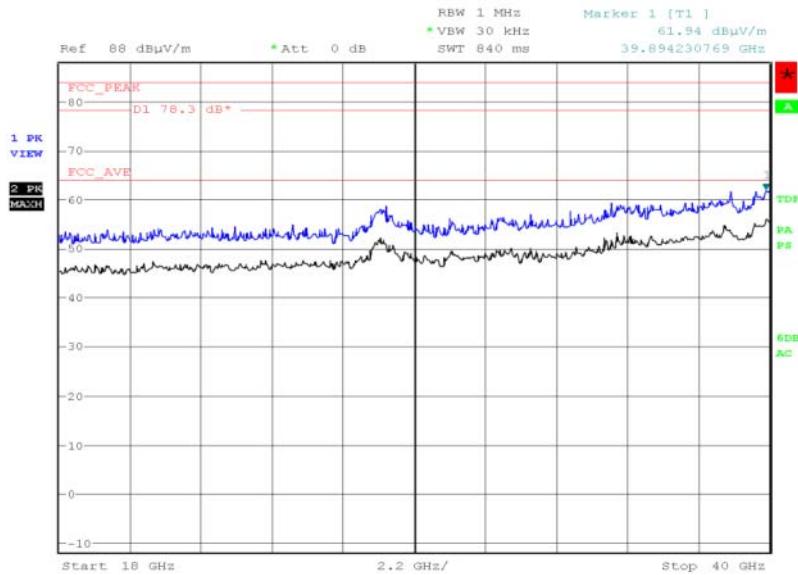
1 GHz to 7 GHz7 GHz to 8 GHz



Product Service

8 GHz to 18 GHz

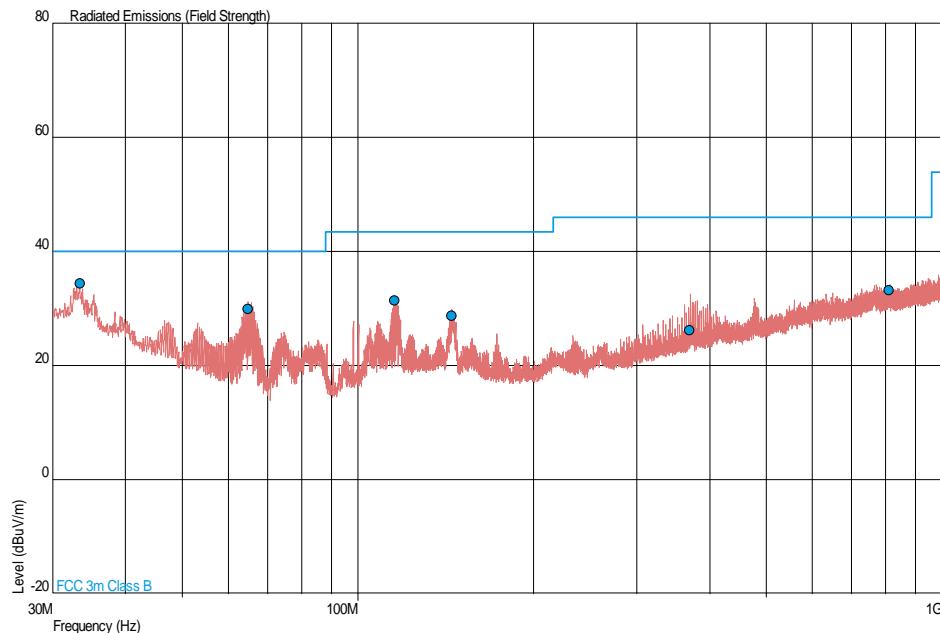
Date: 7.NOV.2014 22:34:40

18 GHz to 40 GHz

Date: 17.NOV.2014 22:17:29



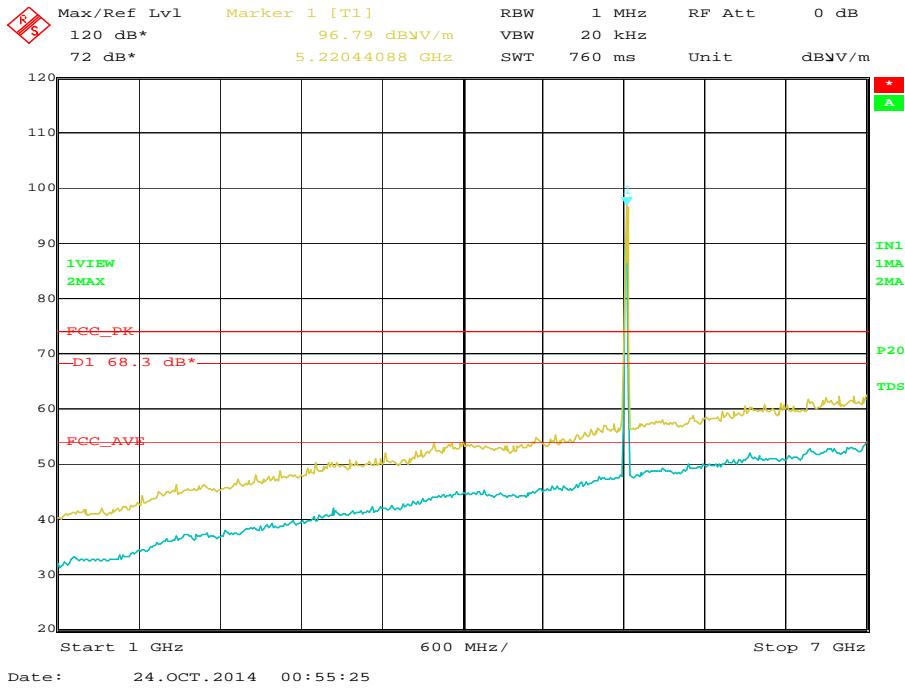
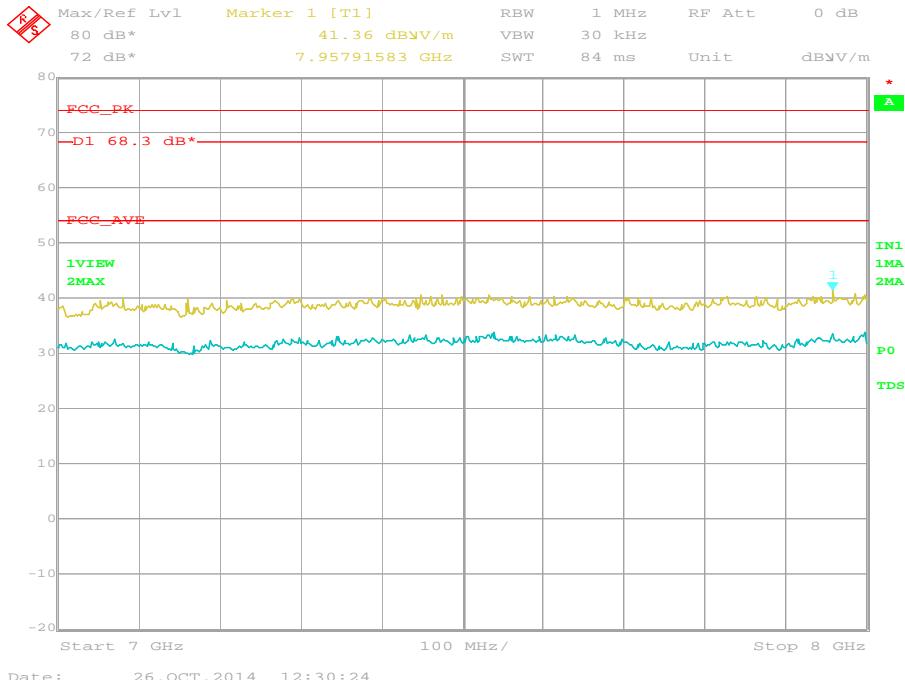
Product Service

5220 MHz30 MHz to 1 GHz

Frequency (MHz)	QP Level (dB $\mu$ V/m)	QP Level ( $\mu$ V/m)	QP Limit (dB $\mu$ V/m)	QP Limit ( $\mu$ V/m)	QP Margin (dB $\mu$ V/m)	QP Margin ( $\mu$ V/m)	Angle (Deg)	Height (m)	Polarity
33.421	34.5	53.1	40.0	100	-5.5	-46.9	315	1.00	Vertical
64.936	29.9	31.3	40.0	100	-10.1	-68.7	0	1.00	Vertical
115.436	31.5	37.6	43.5	150	-12.0	-112.4	254	1.00	Vertical
144.663	28.7	27.2	43.5	150	-14.8	-122.8	236	1.12	Vertical
369.876	26.2	20.4	46.0	200	-19.8	-179.6	146	1.64	Vertical
810.291	33.3	46.2	46.0	200	-12.7	-153.8	19	1.00	Vertical

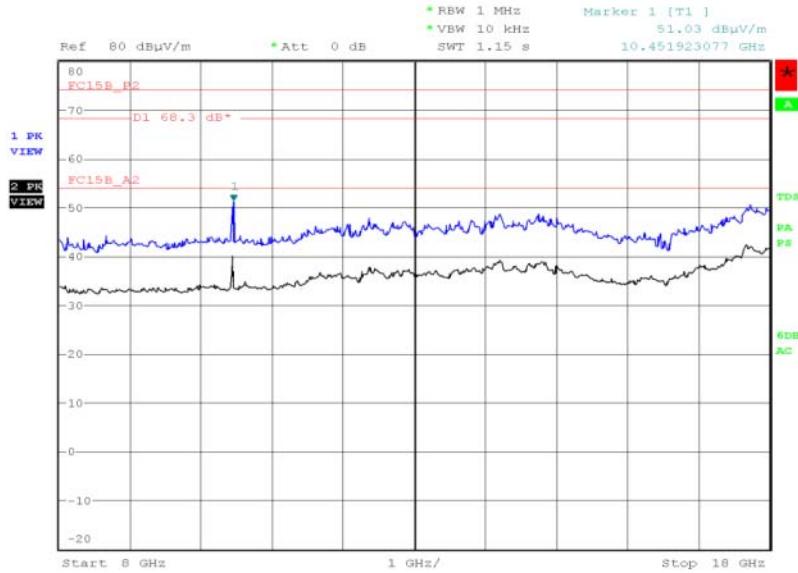


Product Service

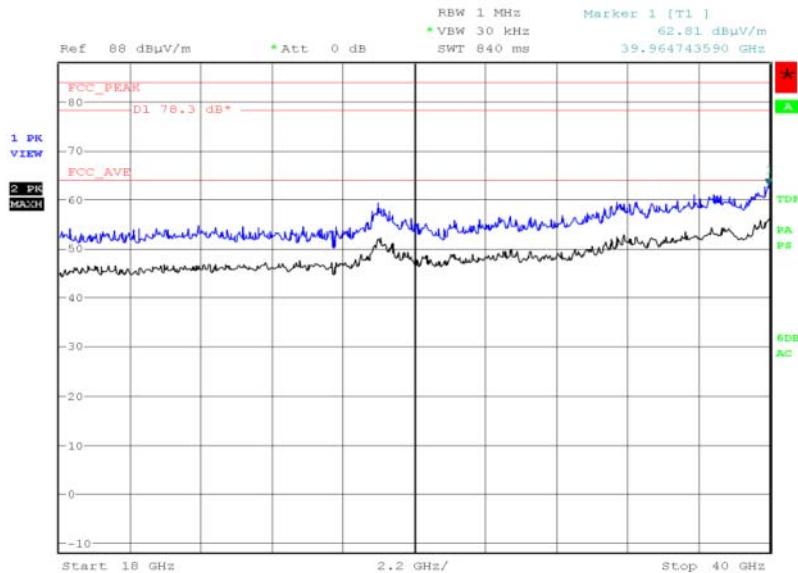
1 GHz to 7 GHz7 GHz to 8 GHz



Product Service

8 GHz to 18 GHz

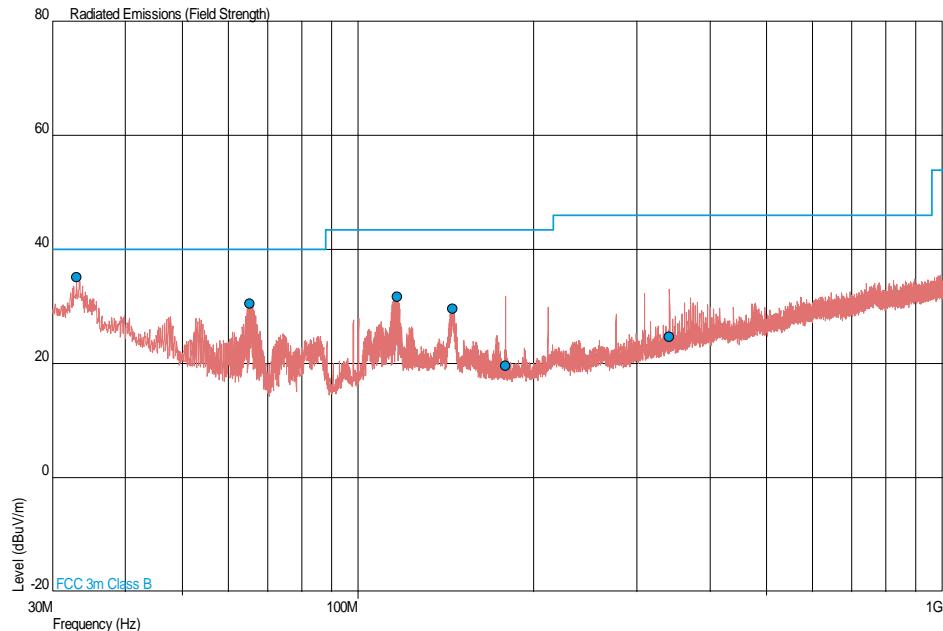
Date: 7.NOV.2014 22:45:25

18 GHz to 40 GHz

Date: 17.NOV.2014 22:27:07



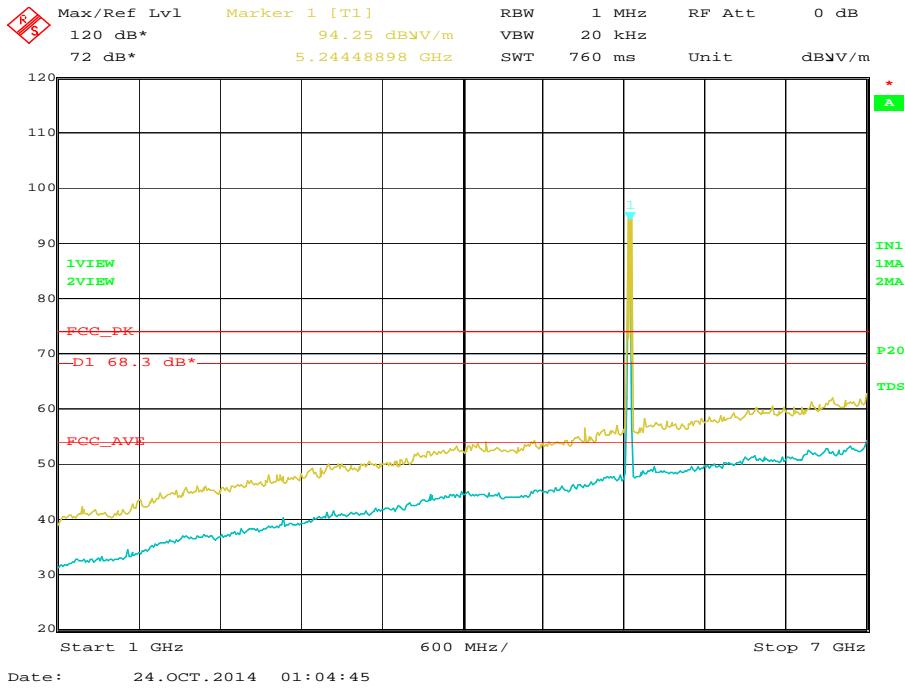
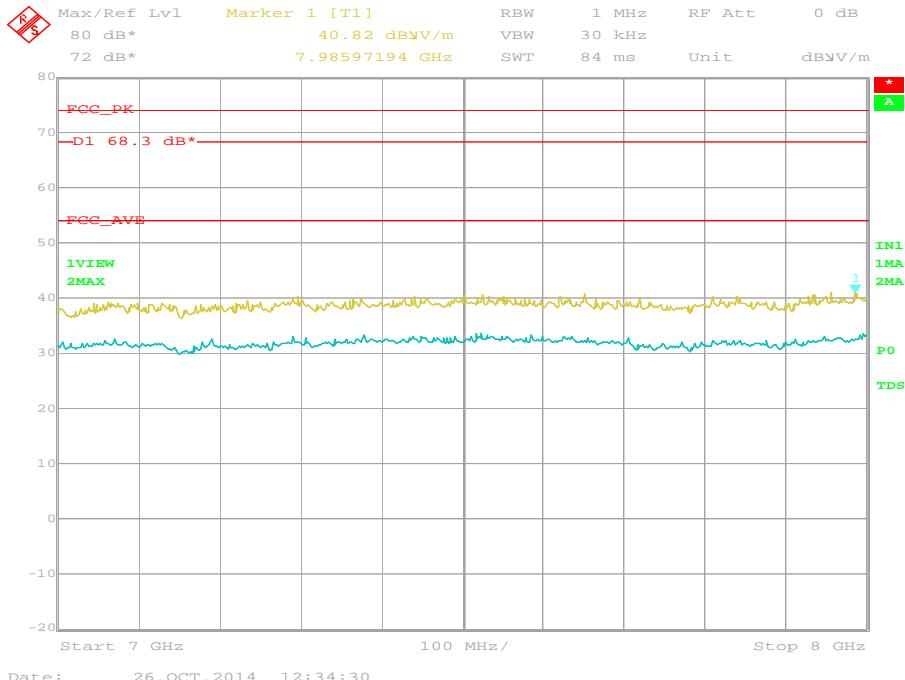
Product Service

5240 MHz30 MHz to 1 GHz

Frequency (MHz)	QP Level (dB $\mu$ V/m)	QP Level ( $\mu$ V/m)	QP Limit (dB $\mu$ V/m)	QP Limit ( $\mu$ V/m)	QP Margin (dB $\mu$ V/m)	QP Margin ( $\mu$ V/m)	Angle (Deg)	Height (m)	Polarity
33.039	35.1	56.9	40.0	100	-4.9	-43.1	288	1.00	Vertical
65.325	30.6	33.9	40.0	100	-9.4	-66.1	0	1.00	Vertical
116.586	31.7	38.5	43.5	150	-11.8	-111.5	353	1.00	Vertical
145.072	29.7	30.5	43.5	150	-13.8	-119.5	225	1.08	Vertical
178.761	19.7	9.7	43.5	150	-23.8	-140.3	233	1.00	Vertical
341.338	24.6	17.0	46.0	200	-21.4	-183.0	153	1.00	Vertical

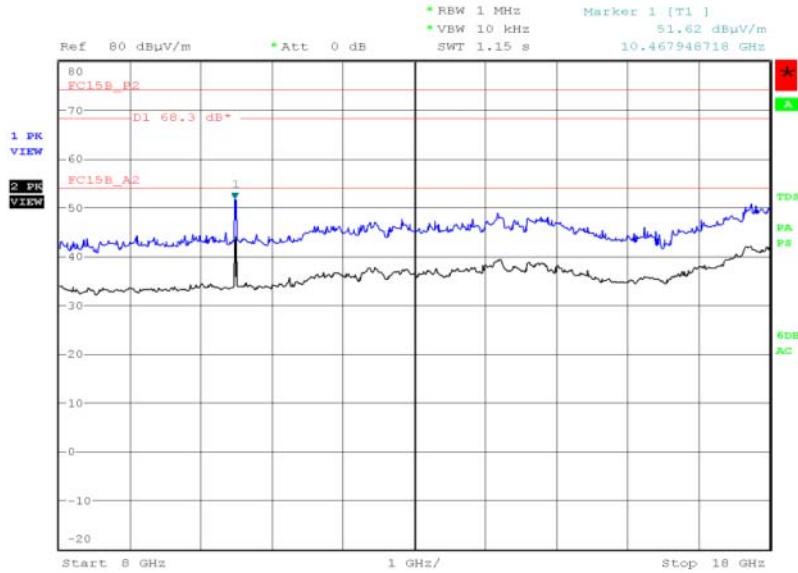


Product Service

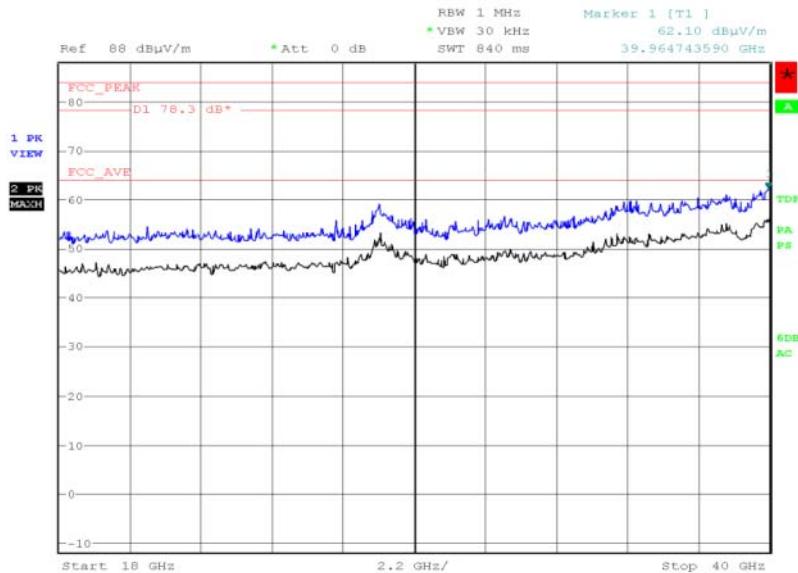
1 GHz to 7 GHz7 GHz to 8 GHz



Product Service

8 GHz to 18 GHz

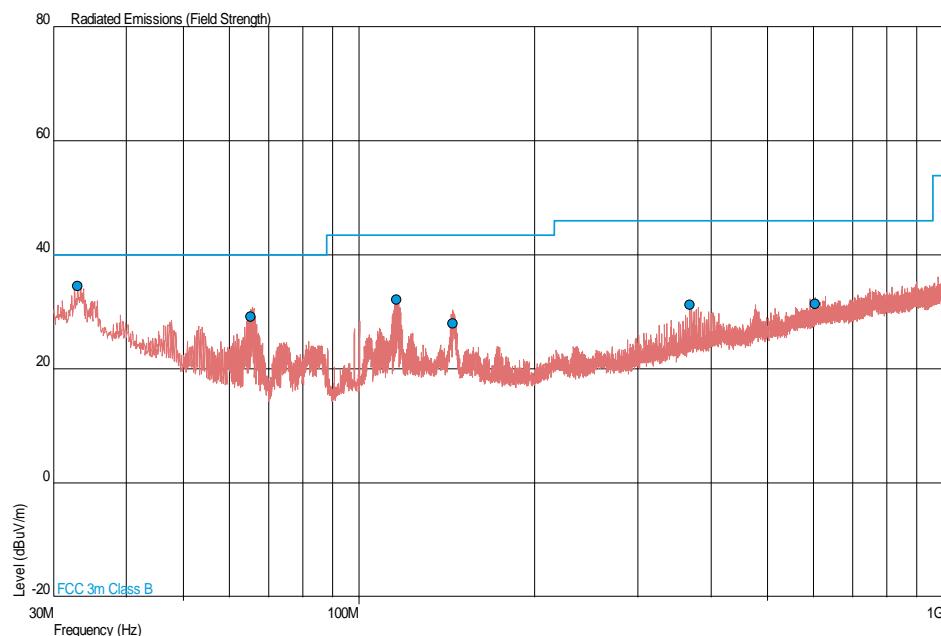
Date: 7.NOV.2014 23:00:25

18 GHz to 40 GHz

Date: 17.NOV.2014 22:37:35



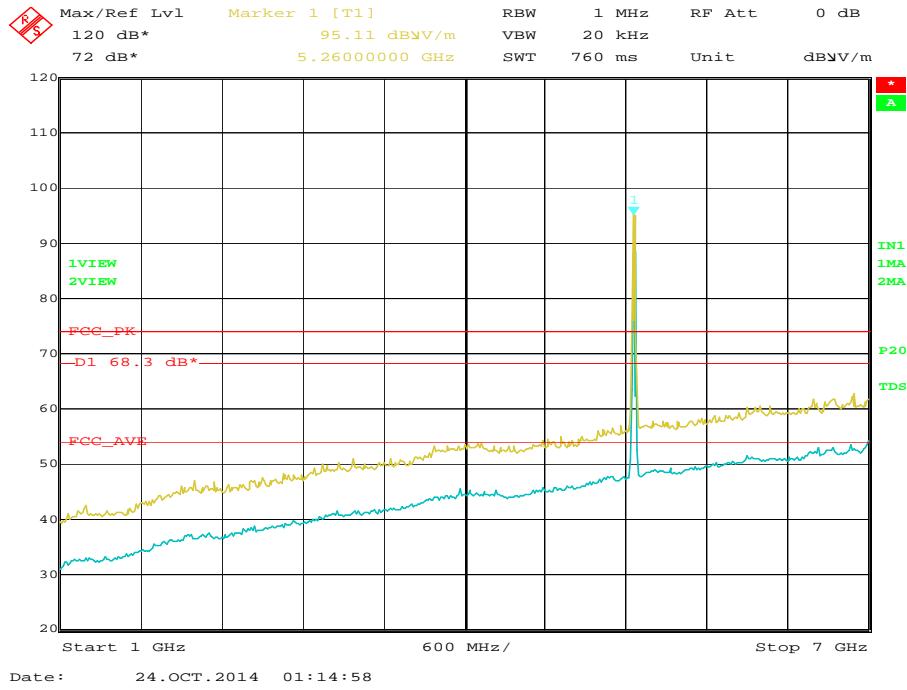
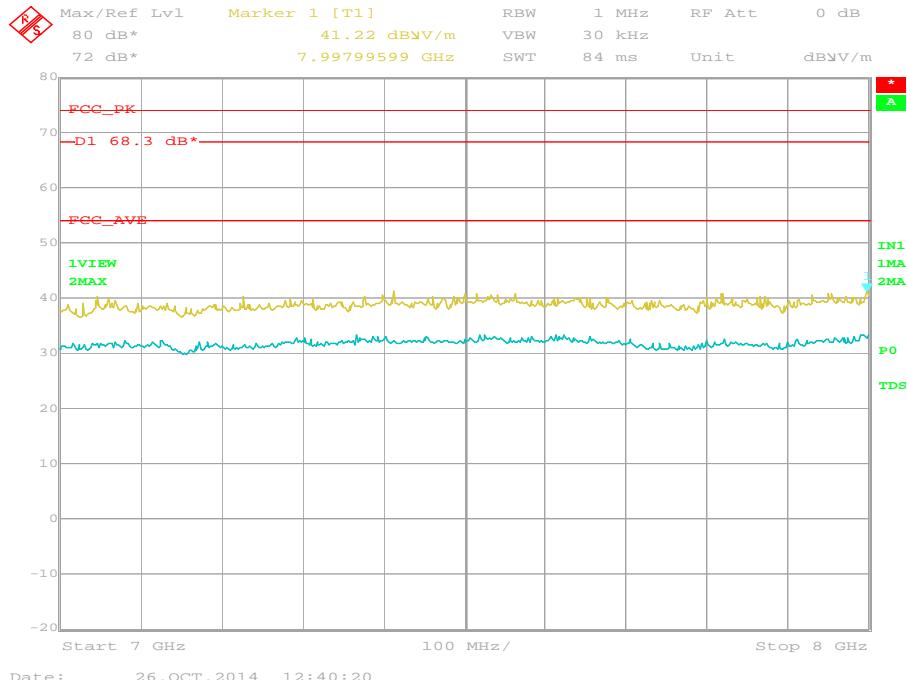
Product Service

Frequency Band 25260 MHz30 MHz to 1 GHz

Frequency (MHz)	QP Level (dB $\mu$ V/m)	QP Level ( $\mu$ V/m)	QP Limit (dB $\mu$ V/m)	QP Limit ( $\mu$ V/m)	QP Margin (dB $\mu$ V/m)	QP Margin ( $\mu$ V/m)	Angle (Deg)	Height (m)	Polarity
33.036	34.6	53.7	40.0	100	-5.4	-46.3	243	1.00	Vertical
65.302	29.2	28.8	40.0	100	-10.8	-71.2	0	1.15	Vertical
115.813	32.1	40.3	43.5	150	-11.4	-109.7	309	1.00	Vertical
144.696	28.0	25.1	43.5	150	-15.5	-124.9	115	1.21	Vertical
367.991	31.3	36.7	46.0	200	-14.7	-163.3	204	1.09	Vertical
603.192	31.4	37.2	46.0	200	-14.6	-162.8	34	1.00	Vertical

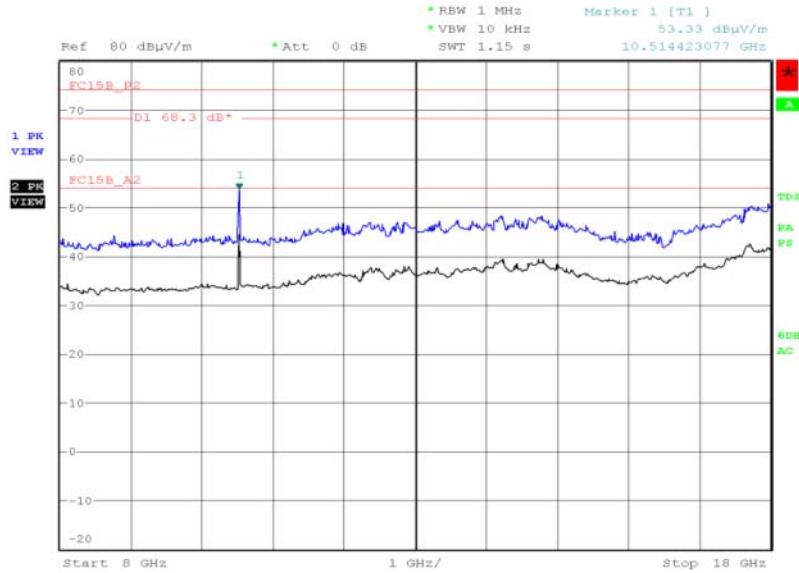


Product Service

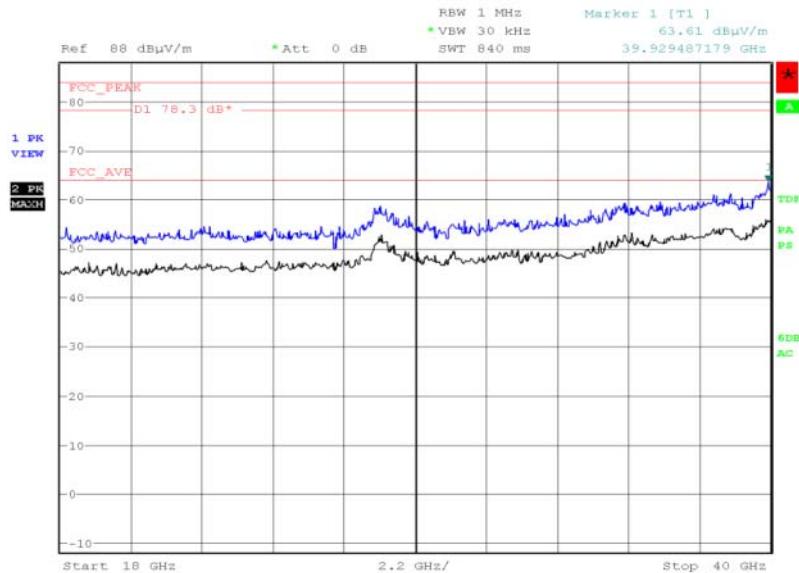
1 GHz to 7 GHz7 GHz to 8 GHz



Product Service

8 GHz to 18 GHz

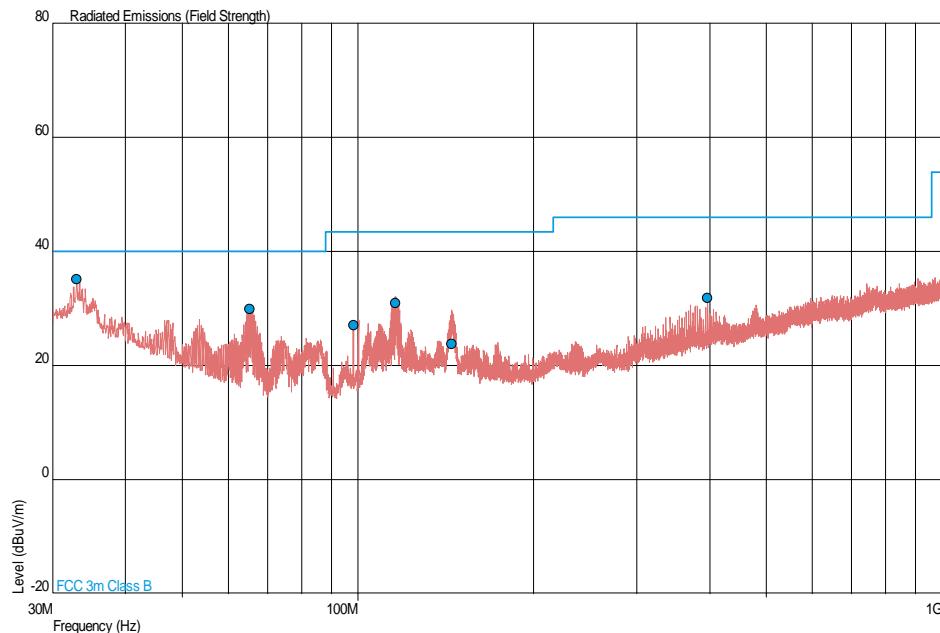
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18 GHz to 40 GHz

Date: 17.NOV.2014 22:51:03



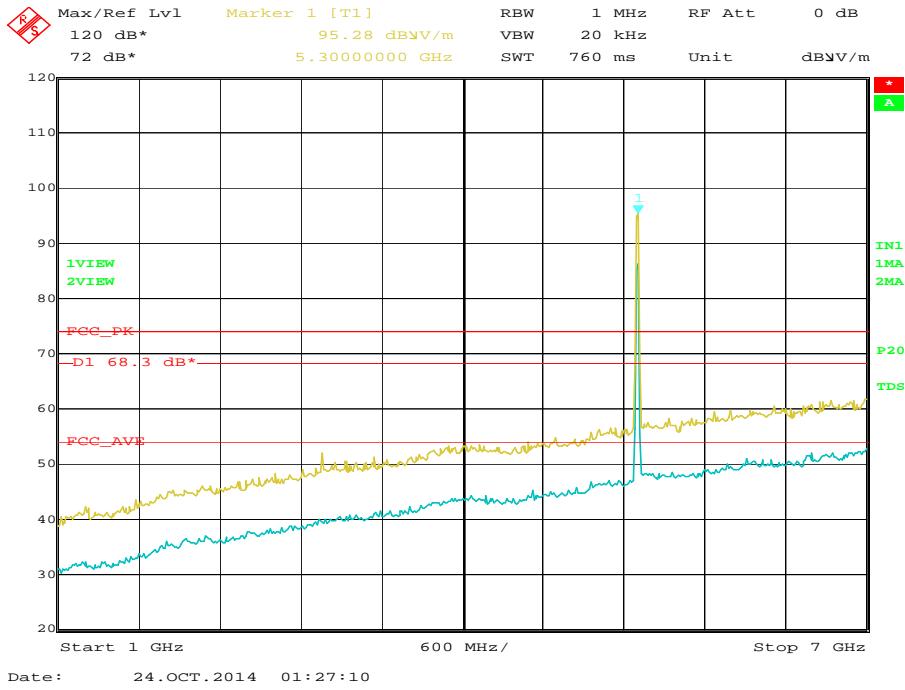
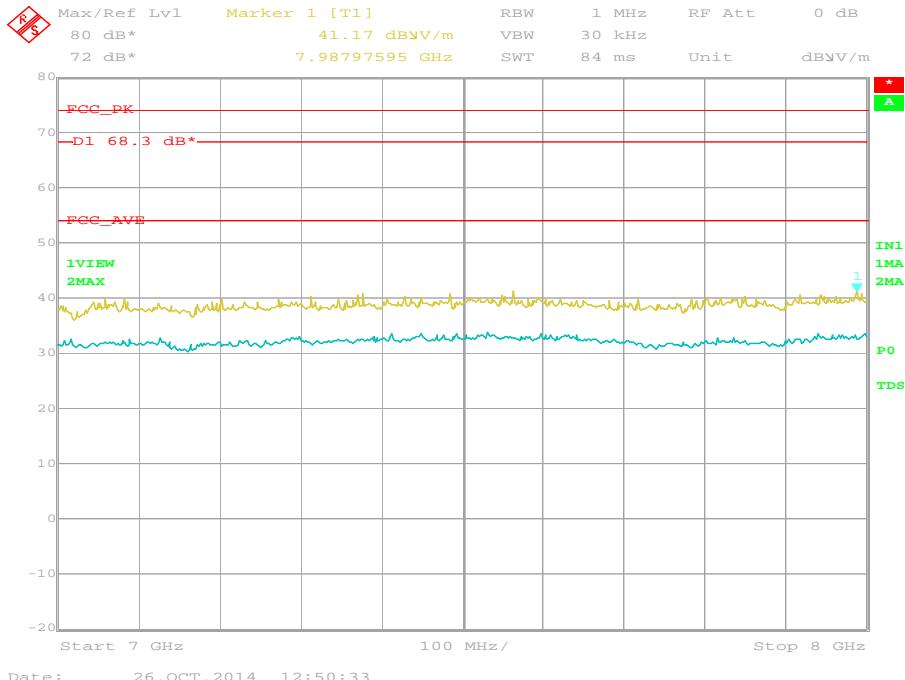
Product Service

5300 MHz30 MHz to 1 GHz

Frequency (MHz)	QP Level (dB $\mu$ V/m)	QP Level ( $\mu$ V/m)	QP Limit (dB $\mu$ V/m)	QP Limit ( $\mu$ V/m)	QP Margin (dB $\mu$ V/m)	QP Margin ( $\mu$ V/m)	Angle (Deg)	Height (m)	Polarity
33.025	35.2	57.5	40.0	100	-4.8	-42.5	360	1.00	Vertical
65.322	30.0	31.6	40.0	100	-10.0	-68.4	1	1.98	Vertical
98.251	27.1	22.6	43.5	150	-16.4	-127.4	360	1.00	Vertical
115.801	31.0	35.5	43.5	150	-12.5	-114.5	352	1.00	Vertical
144.893	23.9	15.7	43.5	150	-19.6	-134.3	128	1.00	Vertical
396.799	31.9	39.4	46.0	200	-14.1	-160.6	169	1.06	Vertical

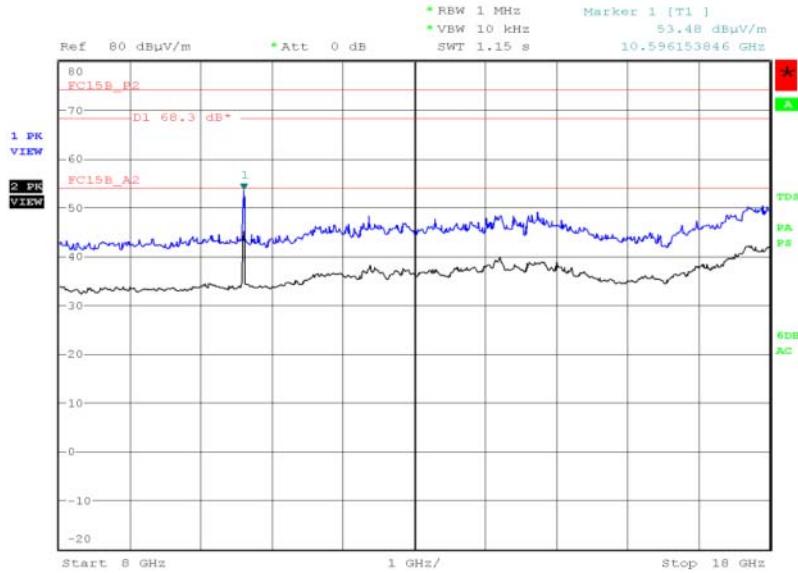


Product Service

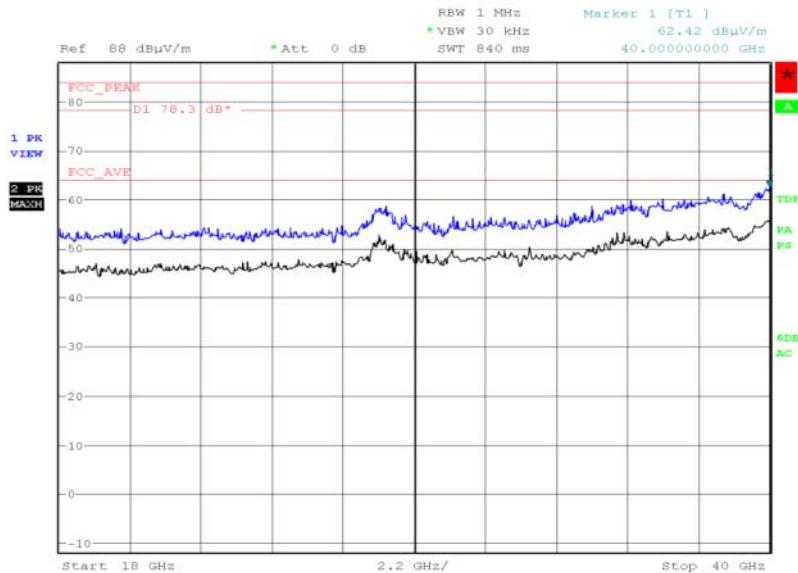
1 GHz to 7 GHz7 GHz to 8 GHz



Product Service

8 GHz to 18 GHz

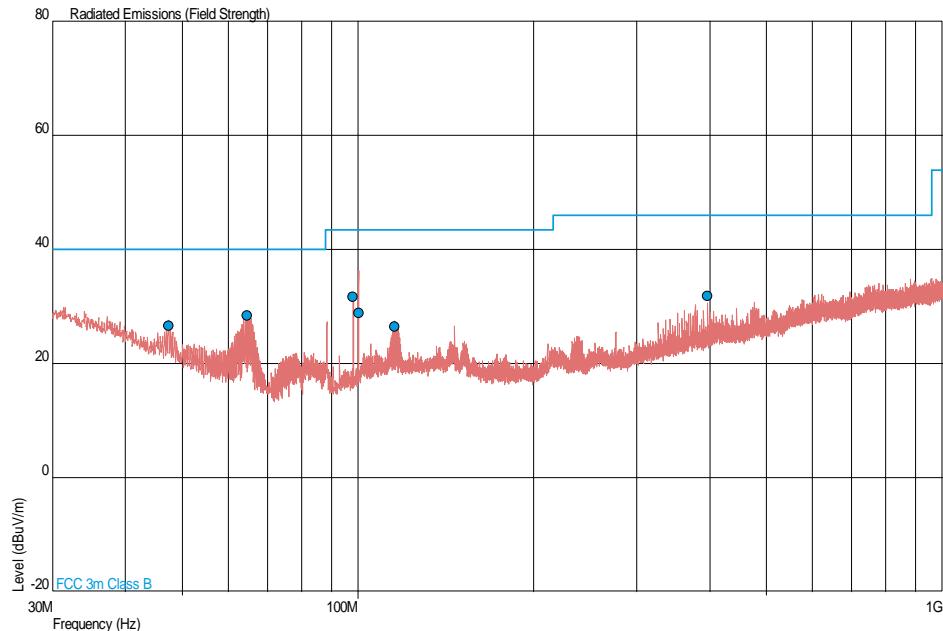
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18 GHz to 40 GHz

Date: 17.NOV.2014 23:07:01



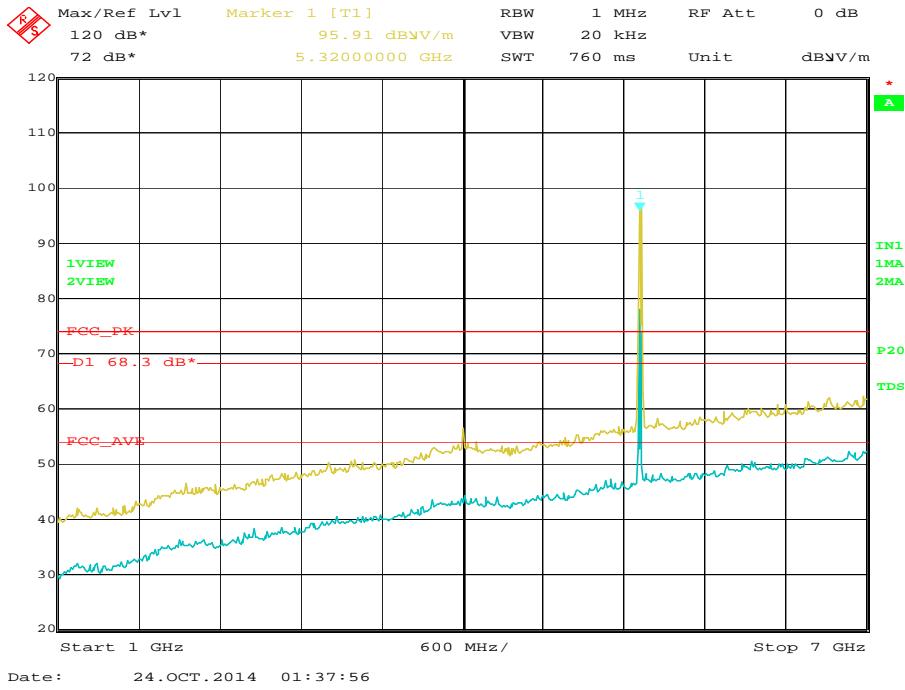
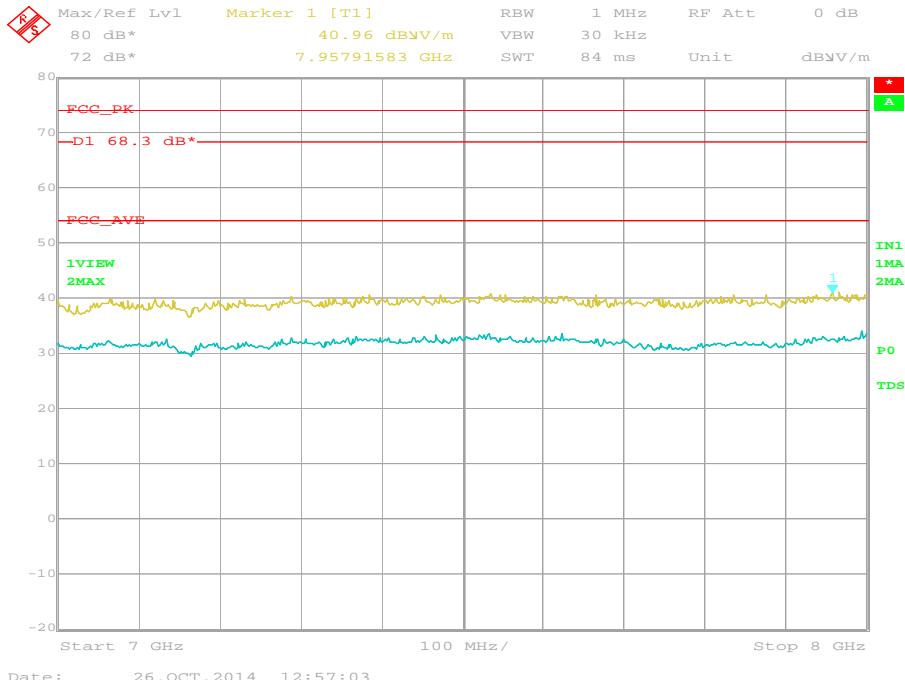
Product Service

5320 MHz30 MHz to 1 GHz

Frequency (MHz)	QP Level (dB $\mu$ V/m)	QP Level ( $\mu$ V/m)	QP Limit (dB $\mu$ V/m)	QP Limit ( $\mu$ V/m)	QP Margin (dB $\mu$ V/m)	QP Margin ( $\mu$ V/m)	Angle (Deg)	Height (m)	Polarity
47.464	26.6	21.4	40.0	100	-13.4	-78.6	360	1.00	Vertical
64.559	28.5	26.6	40.0	100	-11.5	-73.4	0	1.51	Vertical
98.169	31.6	38.0	43.5	150	-11.9	-112.0	325	1.00	Vertical
100.281	28.9	27.9	43.5	150	-14.6	-122.1	311	1.00	Vertical
115.427	26.5	21.1	43.5	150	-17.0	-128.9	341	1.00	Vertical
396.786	31.9	39.4	46.0	200	-14.1	-160.6	231	1.49	Vertical

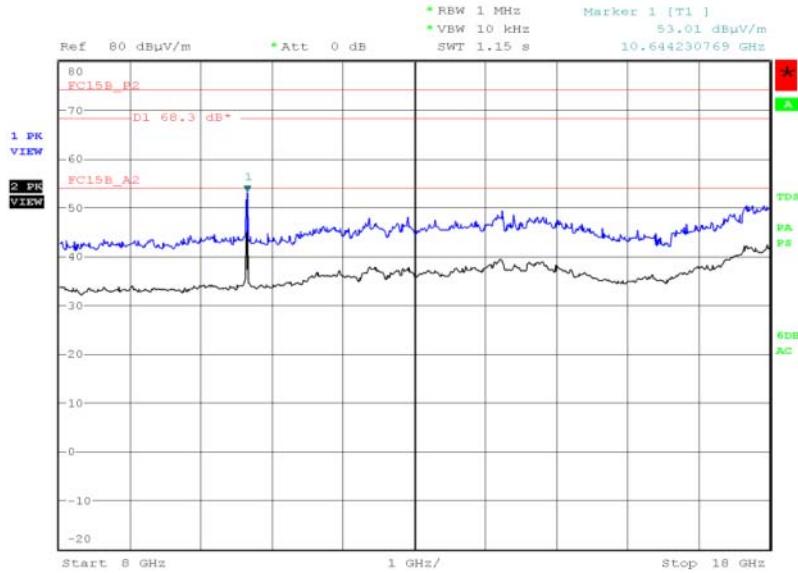


Product Service

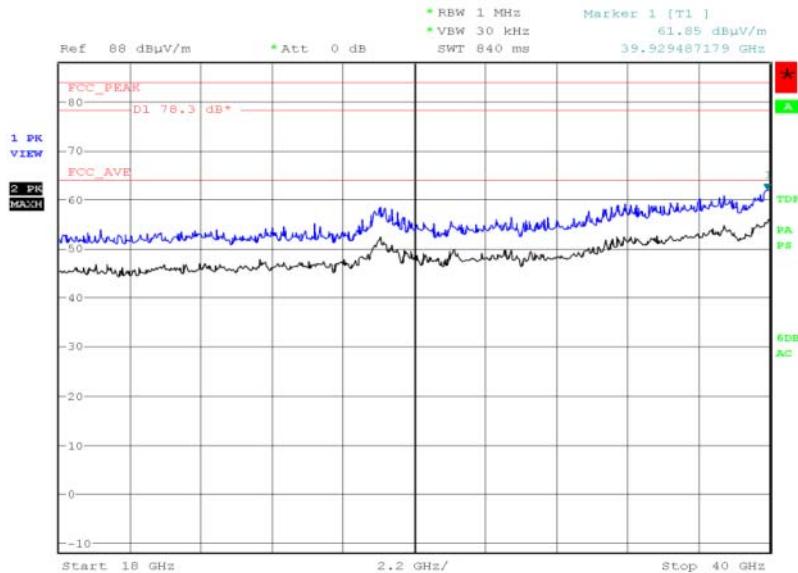
1 GHz to 7 GHz7 GHz to 8 GHz



Product Service

8 GHz to 18 GHz

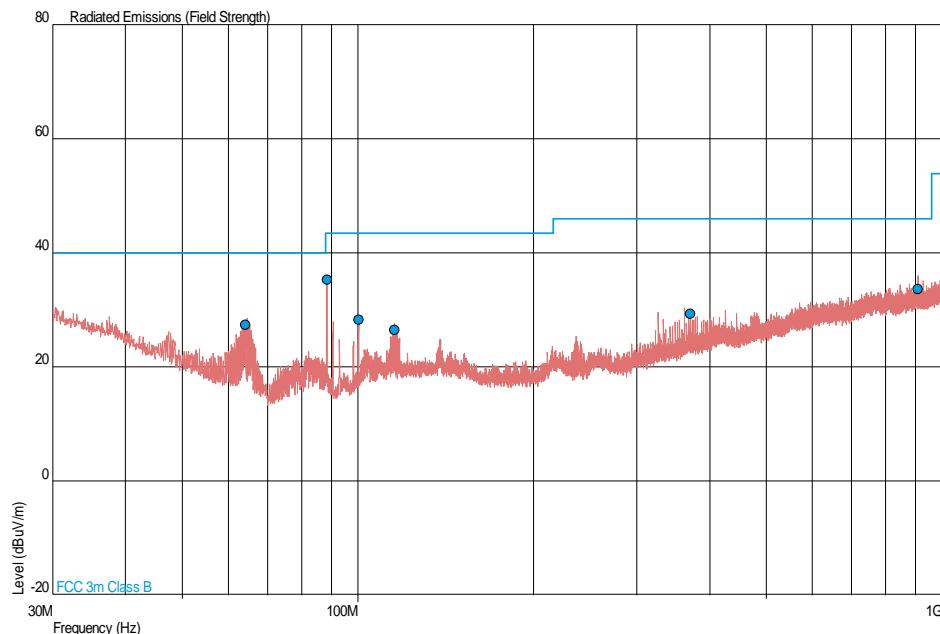
Date: 7.NOV.2014 23:30:15

18 GHz to 40 GHz

Date: 17.NOV.2014 23:18:04



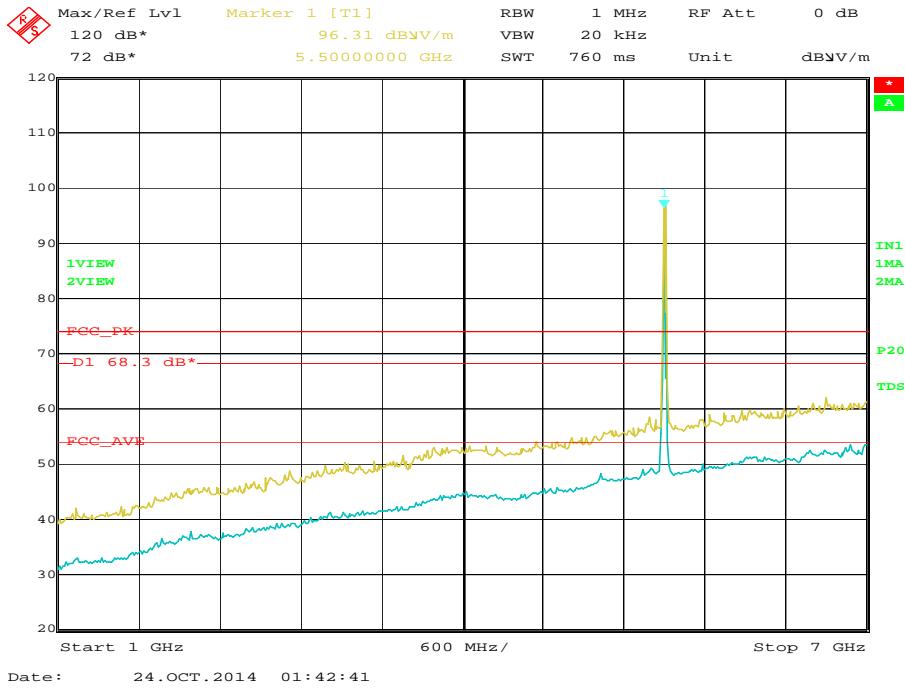
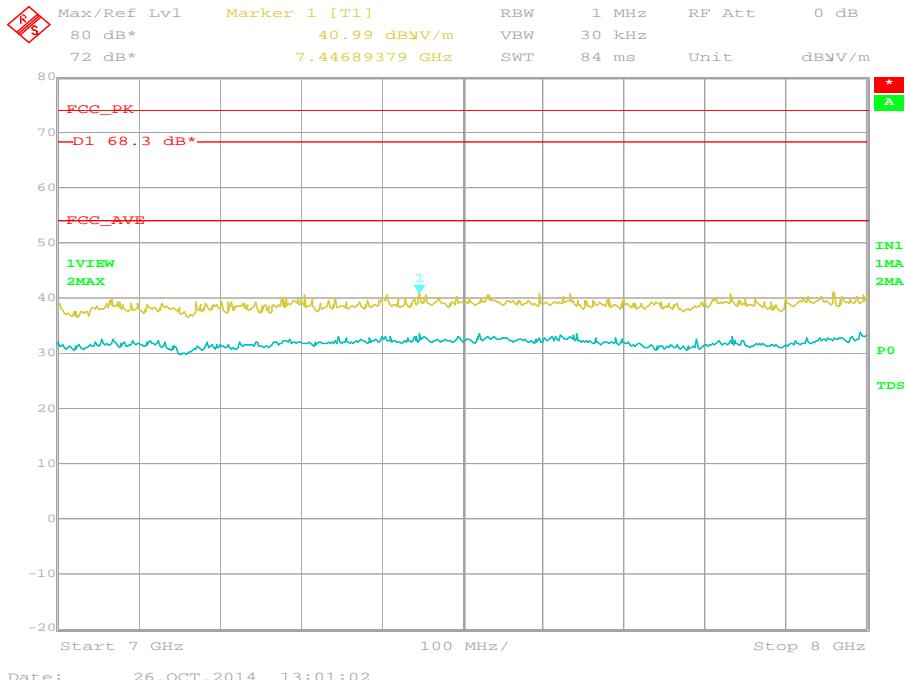
Product Service

Frequency Band 35500 MHz30 MHz to 1 GHz

Frequency (MHz)	QP Level (dB $\mu$ V/m)	QP Level ( $\mu$ V/m)	QP Limit (dB $\mu$ V/m)	QP Limit ( $\mu$ V/m)	QP Margin (dB $\mu$ V/m)	QP Margin ( $\mu$ V/m)	Angle (Deg)	Height (m)	Polarity
64.177	27.3	23.2	40.0	100	-12.7	-76.8	360	1.00	Vertical
88.501	35.3	58.2	43.5	150	-8.2	-91.8	330	1.00	Vertical
100.310	28.3	26.0	43.5	150	-15.2	-124.0	324	1.02	Vertical
115.431	26.5	21.1	43.5	150	-17.0	-128.9	289	1.00	Vertical
371.245	29.3	29.2	46.0	200	-16.7	-170.8	192	1.58	Vertical
908.306	33.7	48.4	46.0	200	-12.3	-151.6	188	1.00	Vertical

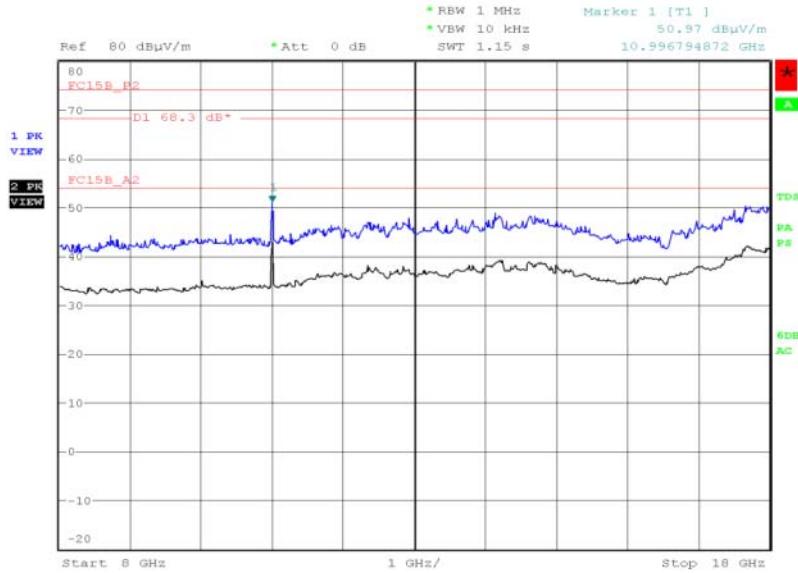


Product Service

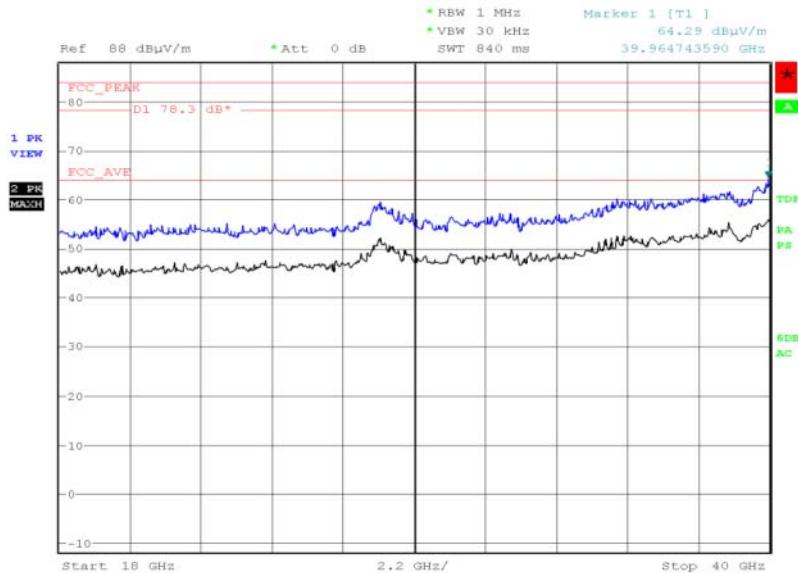
1 GHz to 7 GHz7 GHz to 8 GHz



Product Service

8 GHz to 18 GHz

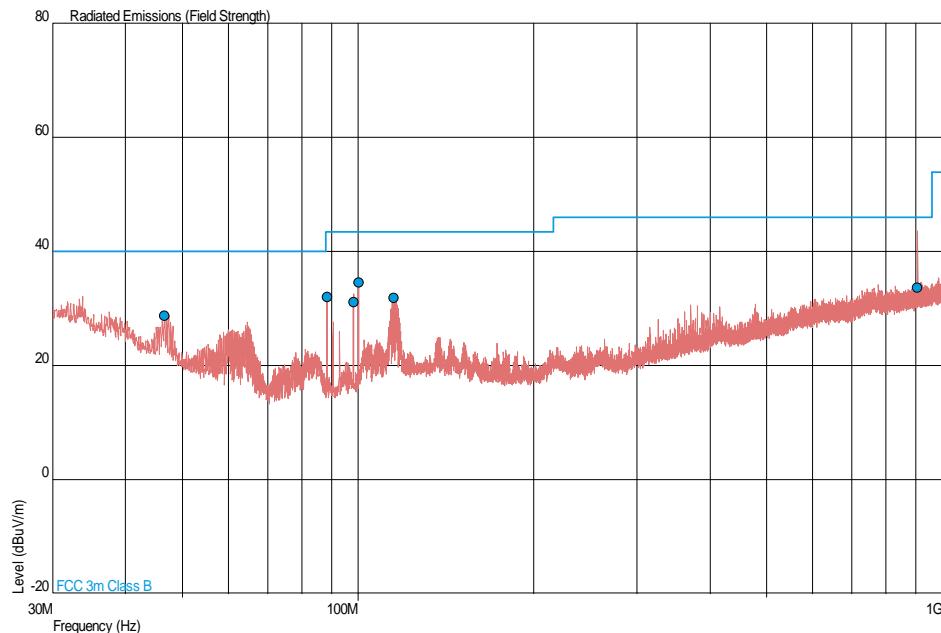
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18 GHz to 40 GHz

Date: 17.NOV.2014 23:19:59



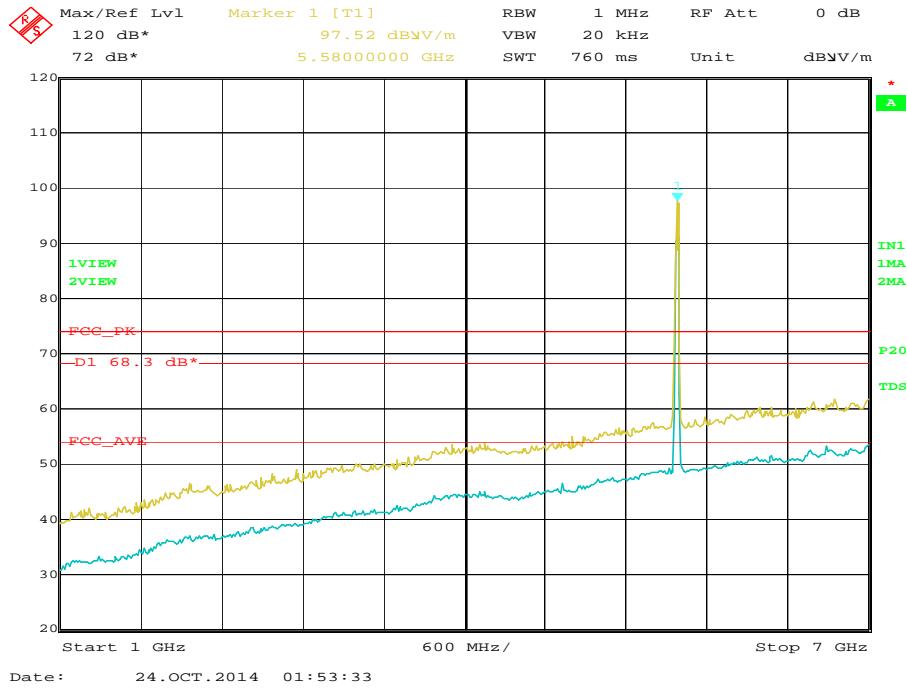
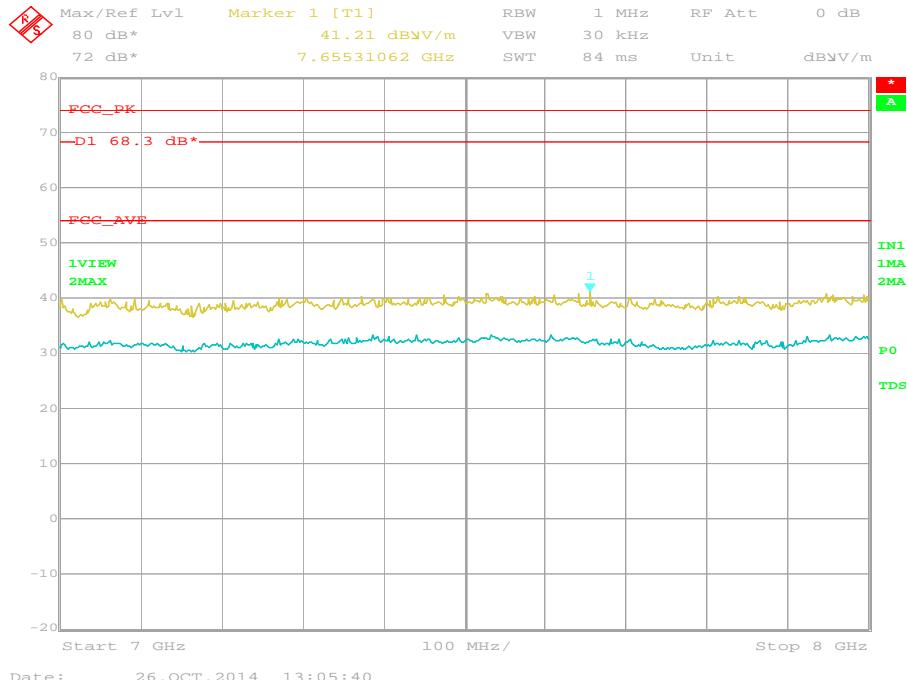
Product Service

5580 MHz30 MHz to 1 GHz

Frequency (MHz)	QP Level (dB $\mu$ V/m)	QP Level ( $\mu$ V/m)	QP Limit (dB $\mu$ V/m)	QP Limit ( $\mu$ V/m)	QP Margin (dB $\mu$ V/m)	QP Margin ( $\mu$ V/m)	Angle (Deg)	Height (m)	Polarity
46.691	28.7	27.2	40.0	100	-11.3	-72.8	360	1.00	Vertical
88.481	32.0	39.8	43.5	150	-11.5	-110.2	312	1.00	Vertical
98.243	31.1	35.9	43.5	150	-12.4	-114.1	284	1.16	Vertical
100.273	34.5	53.1	43.5	150	-9.0	-96.9	299	1.06	Vertical
115.044	31.8	38.9	43.5	150	-11.7	-111.1	279	1.00	Vertical
906.463	33.7	48.4	46.0	200	-12.3	-151.6	108	1.00	Horizontal

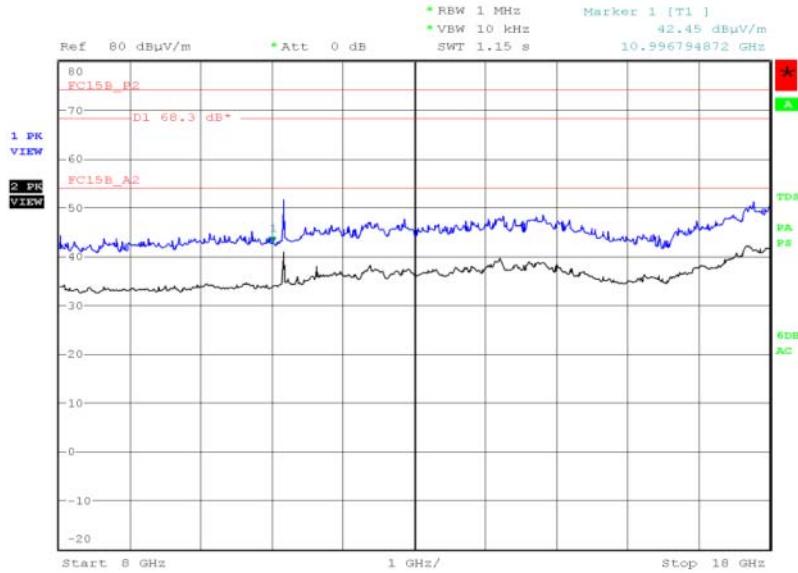


Product Service

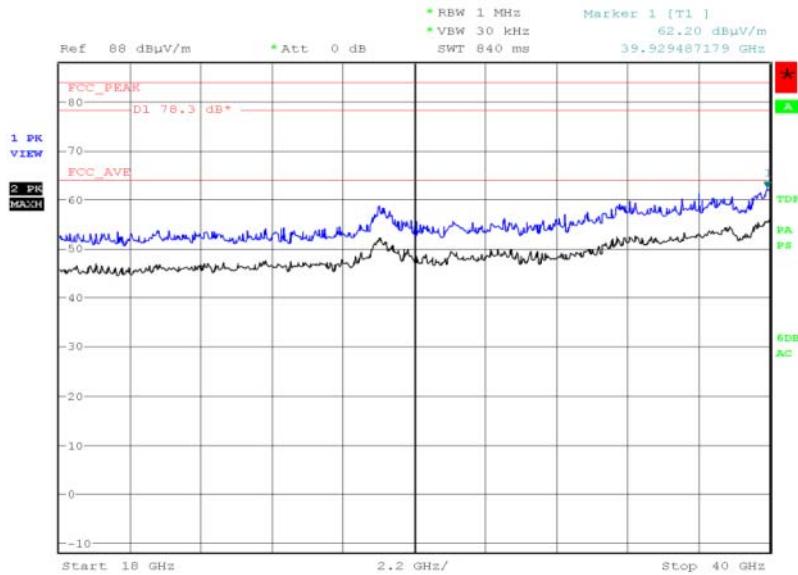
1 GHz to 7 GHz7 GHz to 8 GHz



Product Service

8 GHz to 18 GHz

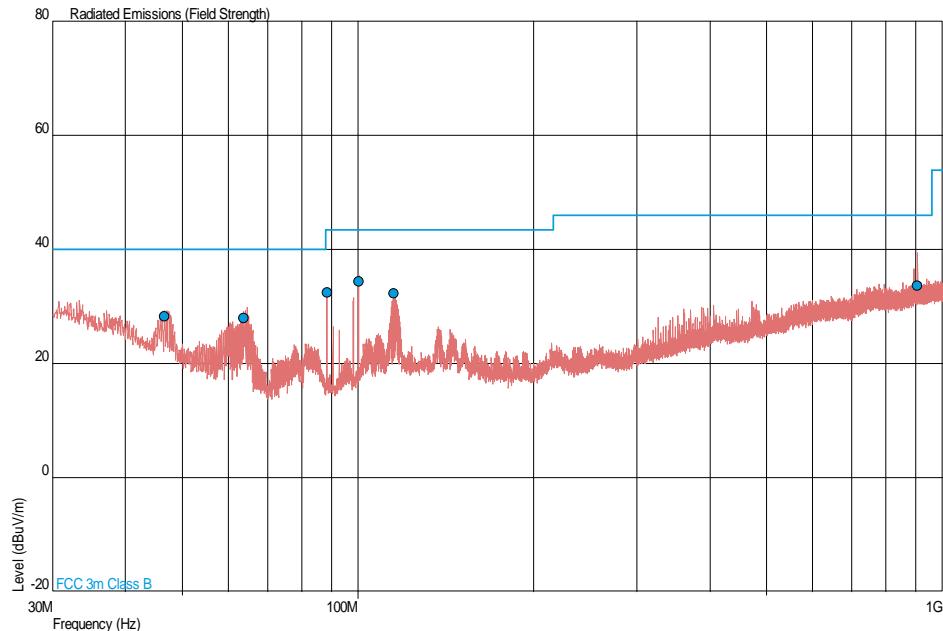
Date: 7.NOV.2014 23:45:15

18 GHz to 40 GHz

Date: 17.NOV.2014 23:31:17



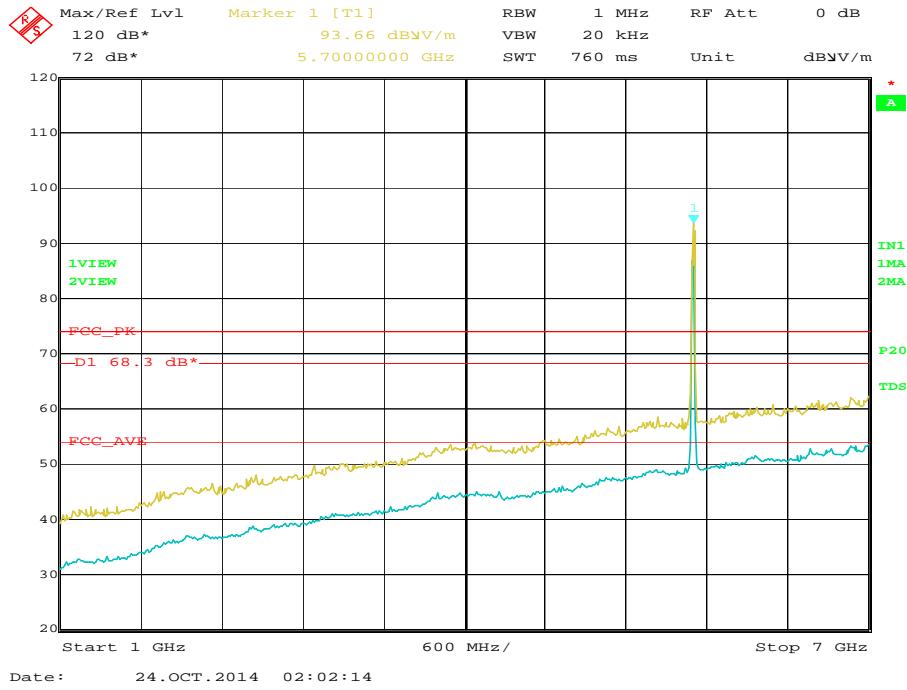
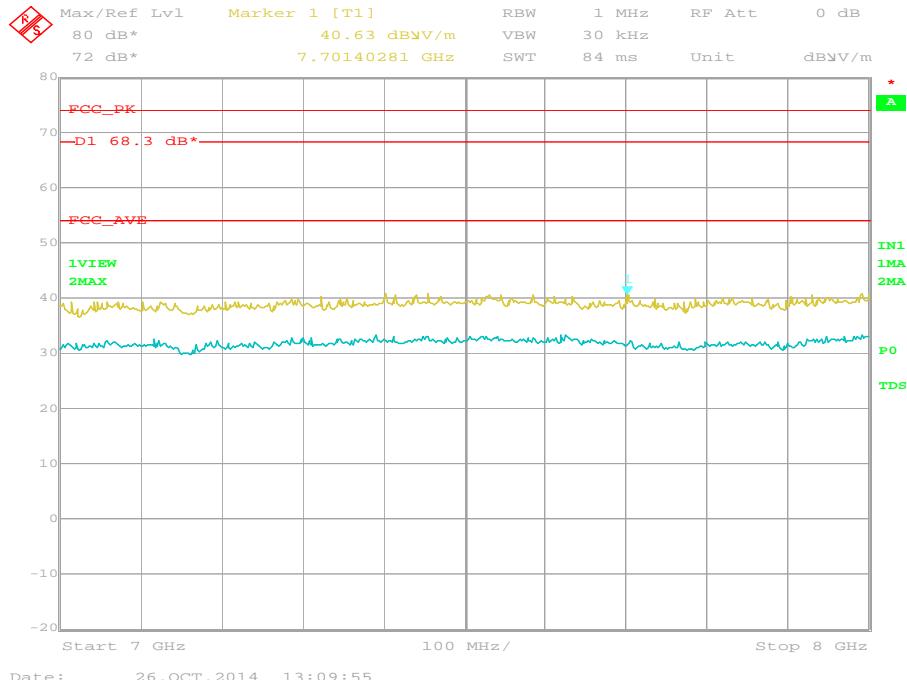
Product Service

5700 MHz30 MHz to 1 GHz

Frequency (MHz)	QP Level (dB $\mu$ V/m)	QP Level ( $\mu$ V/m)	QP Limit (dB $\mu$ V/m)	QP Limit ( $\mu$ V/m)	QP Margin (dB $\mu$ V/m)	QP Margin ( $\mu$ V/m)	Angle (Deg)	Height (m)	Polarity
46.712	28.2	25.7	40.0	100	-11.8	-74.3	344	1.00	Vertical
63.803	27.9	24.8	40.0	100	-12.1	-75.2	25	1.17	Vertical
88.497	32.4	41.7	43.5	150	-11.1	-108.3	360	1.00	Vertical
100.271	34.5	53.1	43.5	150	-9.0	-96.9	264	1.00	Vertical
115.065	32.3	41.2	43.5	150	-11.2	-108.8	270	1.06	Vertical
906.909	33.7	48.4	46.0	200	-12.3	-151.6	173	1.30	Vertical

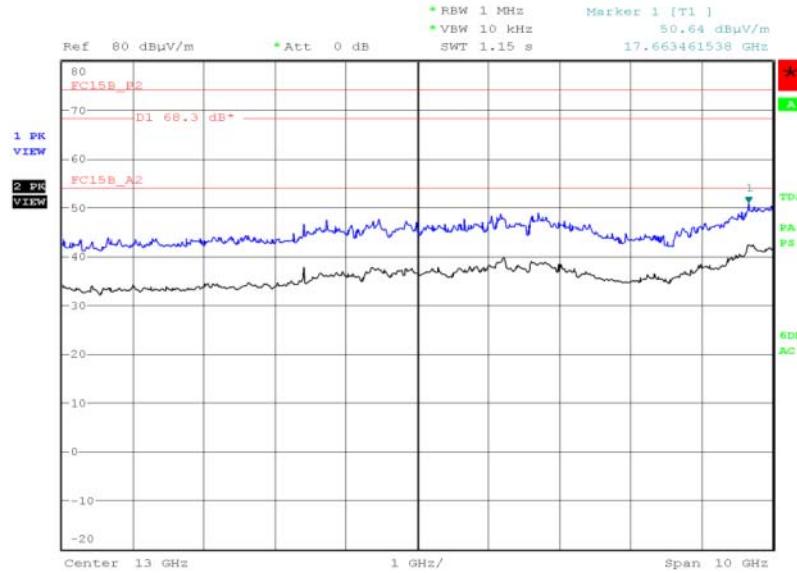


Product Service

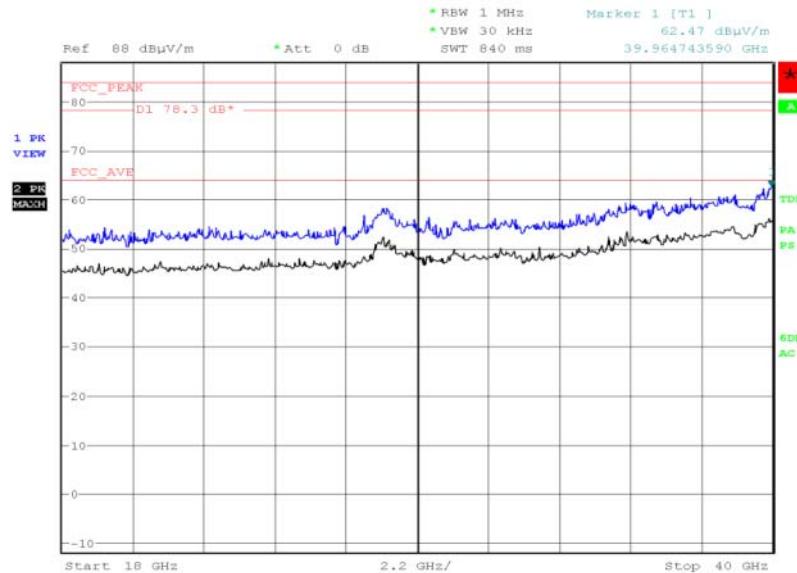
1 GHz to 7 GHz7 GHz to 8 GHz



Product Service

8 GHz to 18 GHz

Date: 7.NOV.2014 23:59:52

18 GHz to 40 GHz

Date: 17.NOV.2014 23:49:42

Limit

Peak (dB $\mu$ V/m)	Average (dB $\mu$ V/m)
74.0	54.0

COMMERCIAL-IN-CONFIDENCE



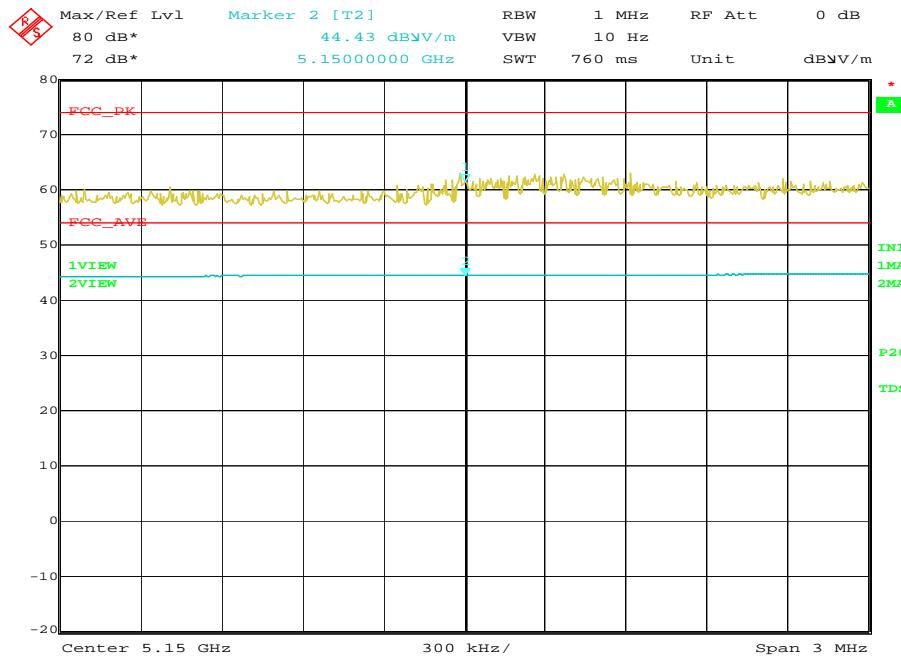
Product Service



Product Service

Band Edge Emissions5180 MHz

Polarisation	Final Peak (dB $\mu$ V/m)	Final Average (dB $\mu$ V/m)
Vertical	61.27	44.43

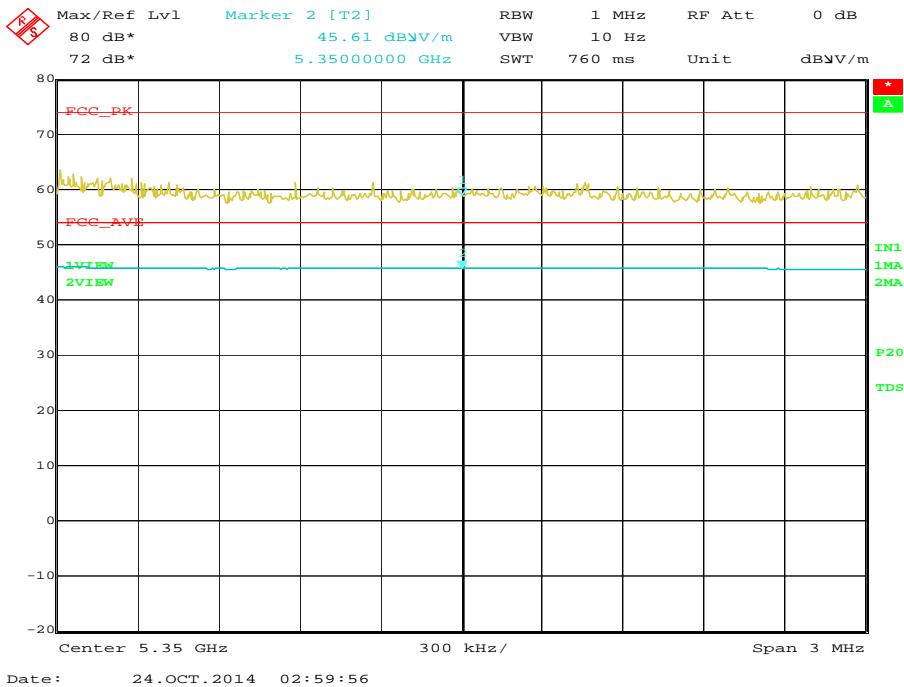




Product Service

5320 MHz

Polarisation	Final Peak (dB $\mu$ V/m)	Final Average (dB $\mu$ V/m)
Vertical	58.81	45.61

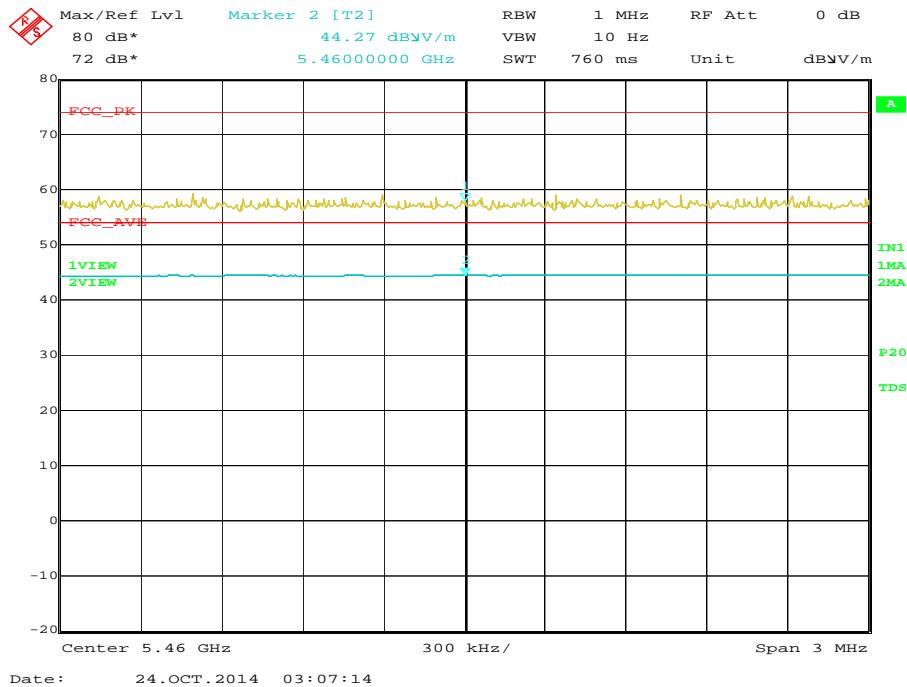




Product Service

5500 MHz

Polarisation	Final Peak (dB $\mu$ V/m)	Final Average (dB $\mu$ V/m)
Vertical	57.90	44.27

Limit

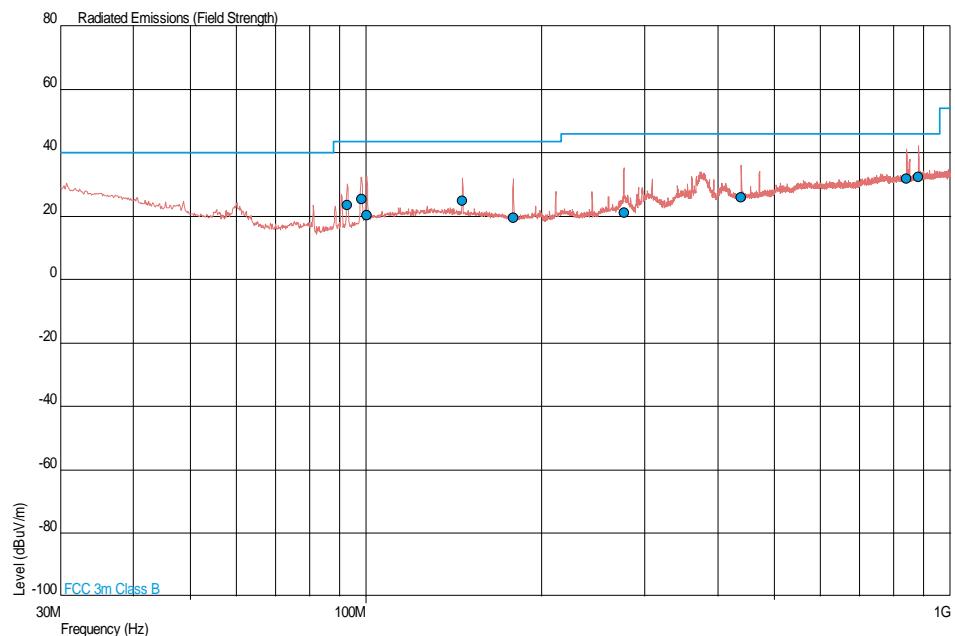
Peak (dB $\mu$ V/m)	Average (dB $\mu$ V/m)
74.0	54.0



Product Service

802.11(n) 20 MHz BW

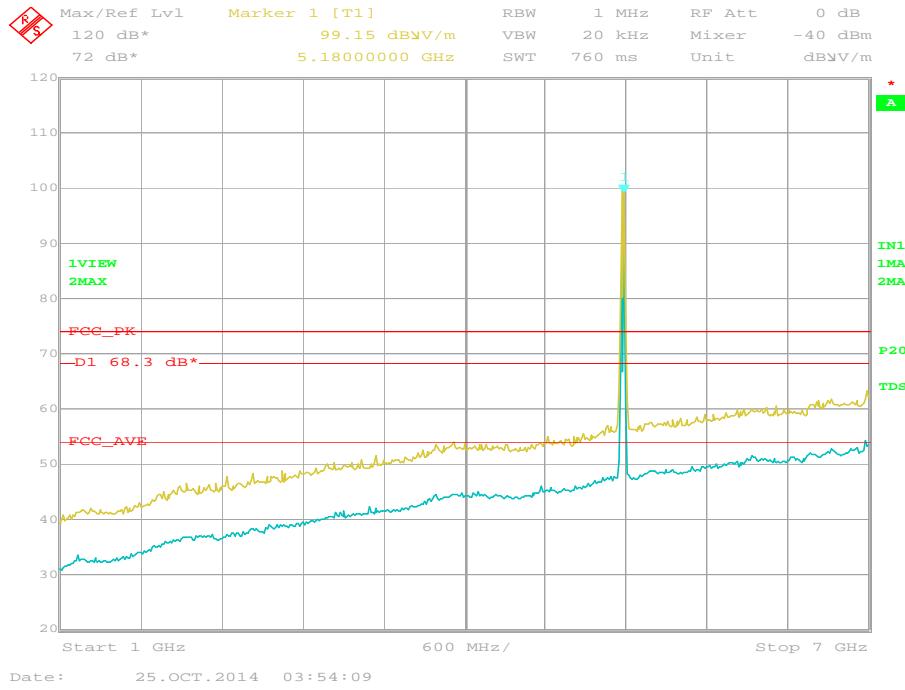
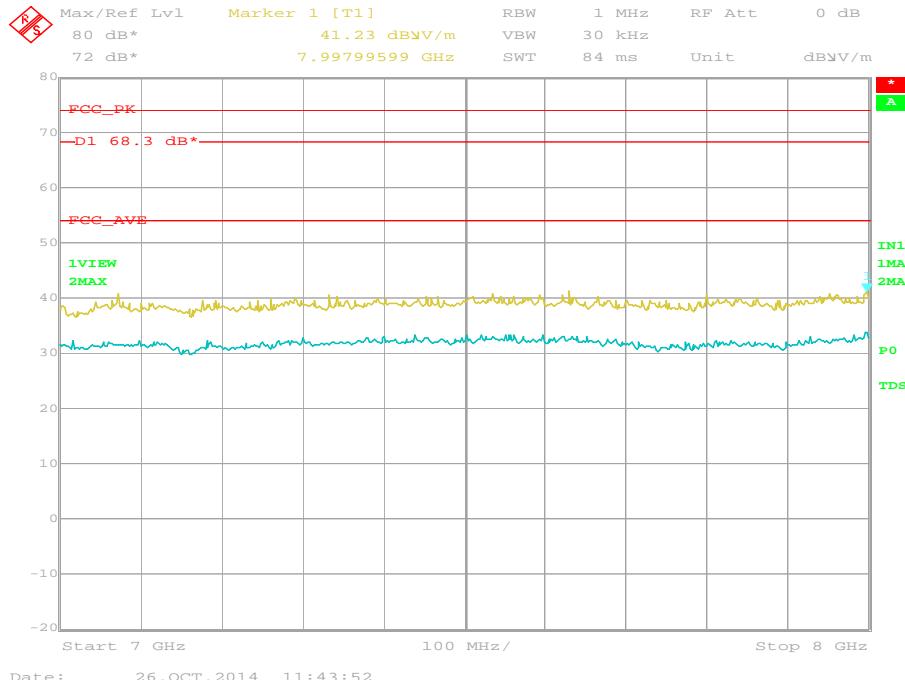
3.8 V DC Supply

Spurious Radiated EmissionsFrequency Band 15180 MHz30 MHz to 1 GHz

Frequency (MHz)	QP Level (dB $\mu$ V/m)	QP Level ( $\mu$ V/m)	QP Limit (dB $\mu$ V/m)	QP Limit ( $\mu$ V/m)	QP Margin (dB $\mu$ V/m)	QP Margin ( $\mu$ V/m)	Angle (Deg)	Height (m)	Polarity
92.905	23.4	14.8	43.5	150	-20.1	-135.2	296	1.00	Vertical
98.205	25.2	18.2	43.5	150	-18.3	-131.8	123	1.00	Vertical
100.297	20.2	10.2	43.5	150	-23.3	-139.8	319	1.00	Vertical
146.251	24.8	17.4	43.5	150	-18.7	-132.6	222	1.00	Vertical
178.652	19.5	9.4	43.5	150	-24.0	-140.6	170	1.00	Vertical
276.314	21.1	11.4	46.0	200	-24.9	-188.6	199	1.00	Vertical
438.604	25.8	19.5	46.0	200	-20.2	-180.5	230	1.00	Vertical
842.558	31.6	38.0	46.0	200	-14.4	-162.0	151	1.00	Vertical
880.976	32.2	40.7	46.0	200	-13.8	-159.3	13	1.00	Vertical

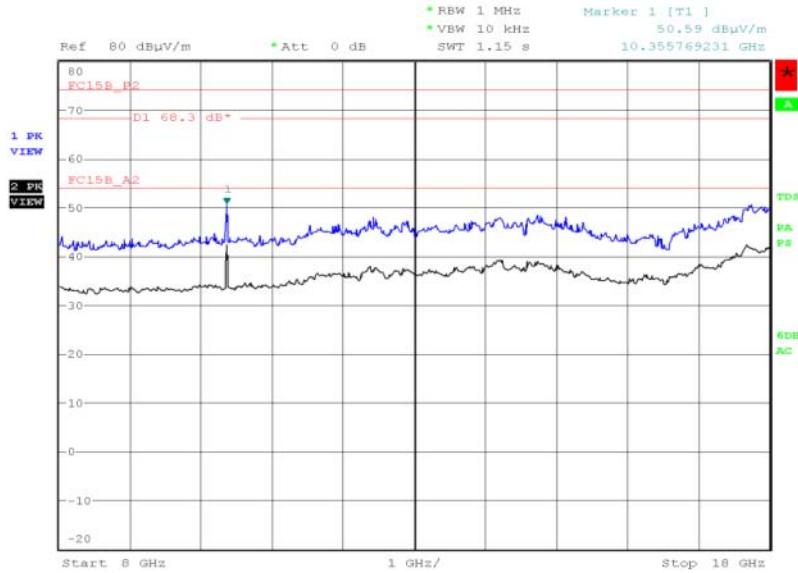


Product Service

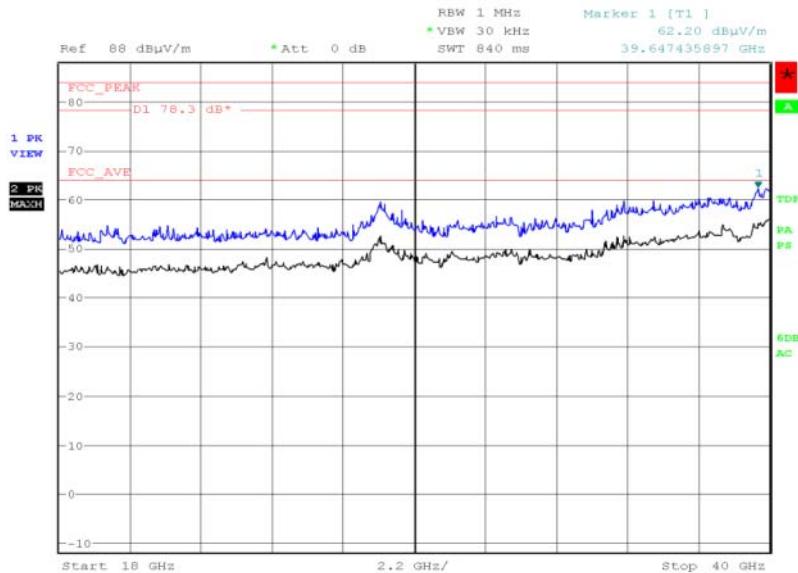
1 GHz to 7 GHz7 GHz to 8 GHz



Product Service

8 GHz to 18 GHz

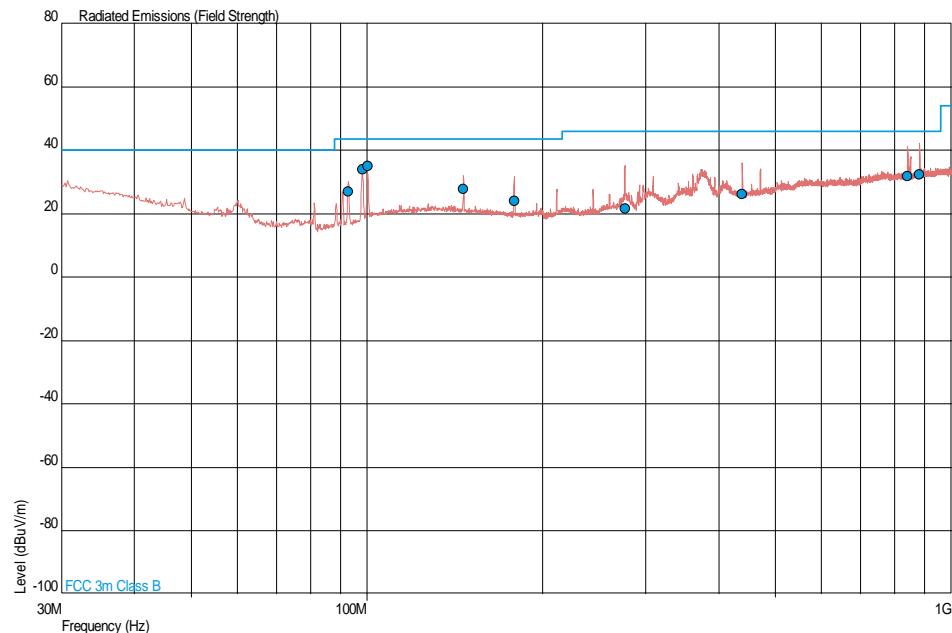
Date: 7.NOV.2014 23:52:55

18 GHz to 40 GHz

Date: 17.NOV.2014 20:52:13



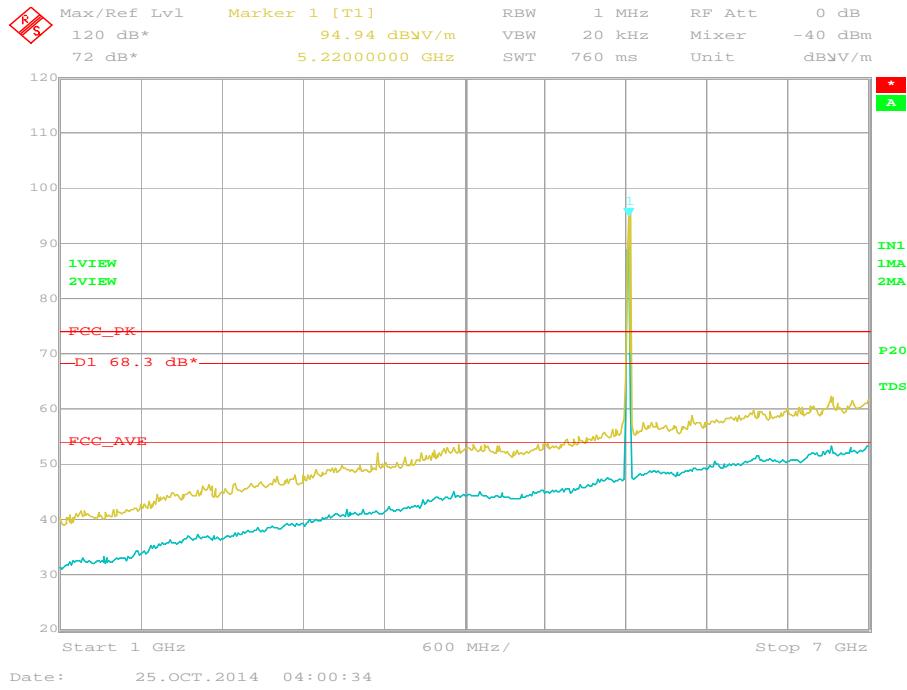
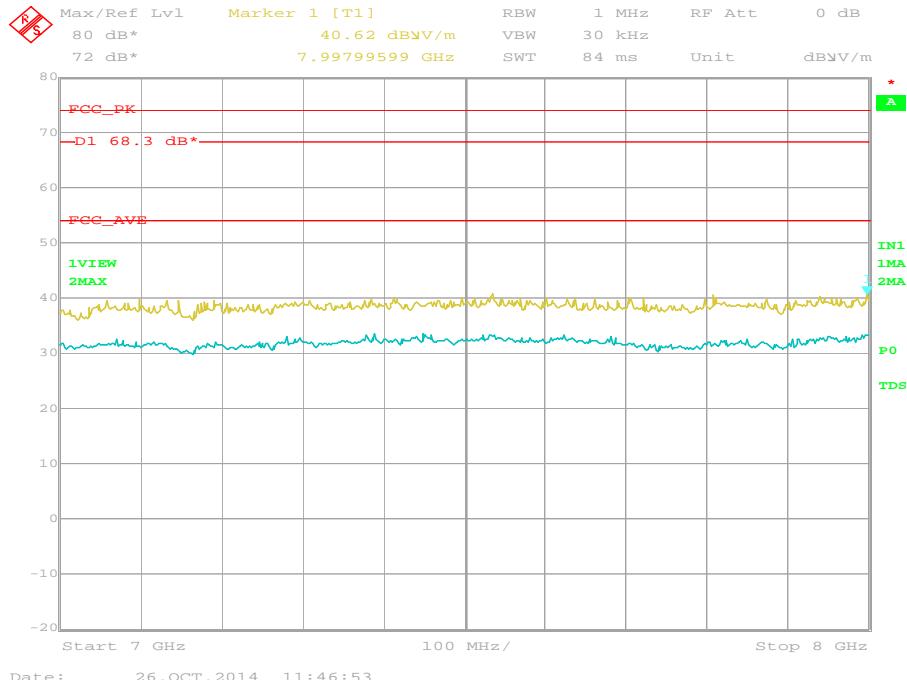
Product Service

5220 MHz30 MHz to 1 GHz

Frequency (MHz)	QP Level (dB $\mu$ V/m)	QP Level ( $\mu$ V/m)	QP Limit (dB $\mu$ V/m)	QP Limit ( $\mu$ V/m)	QP Margin (dB $\mu$ V/m)	QP Margin ( $\mu$ V/m)	Angle (Deg)	Height (m)	Polarity
92.896	26.8	21.9	43.5	150	-16.7	-128.1	183	1.00	Vertical
98.211	34.0	50.1	43.5	150	-9.5	-99.9	98	1.16	Vertical
100.299	35.0	56.2	43.5	150	-8.5	-93.8	103	1.00	Vertical
146.210	27.8	24.5	43.5	150	-15.7	-125.5	236	1.00	Vertical
178.859	24.0	15.8	43.5	150	-19.5	-134.2	0	1.00	Vertical
276.308	21.4	11.7	46.0	200	-24.6	-188.3	342	1.00	Vertical
438.411	26.0	20.0	46.0	200	-20.0	-180.0	67	1.00	Vertical
842.542	31.6	38.0	46.0	200	-14.4	-162.0	360	1.00	Vertical
880.941	32.2	40.7	46.0	200	-13.8	-159.3	335	1.30	Vertical

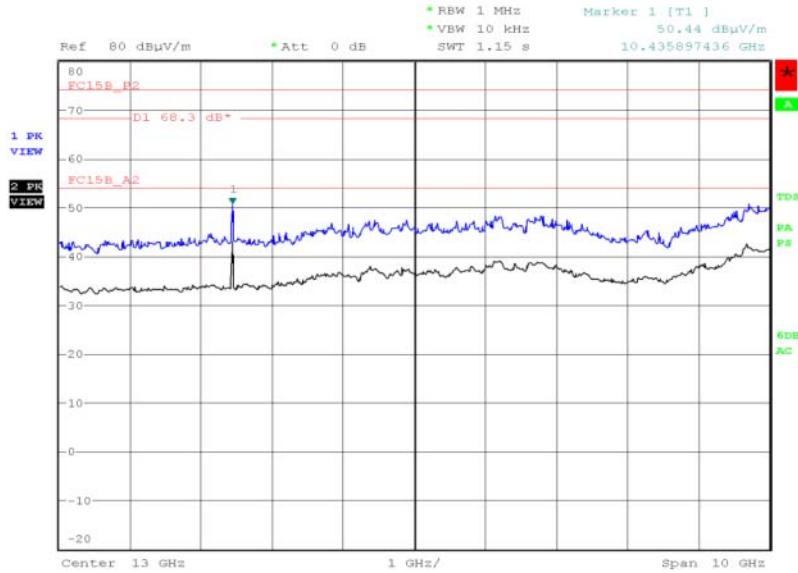
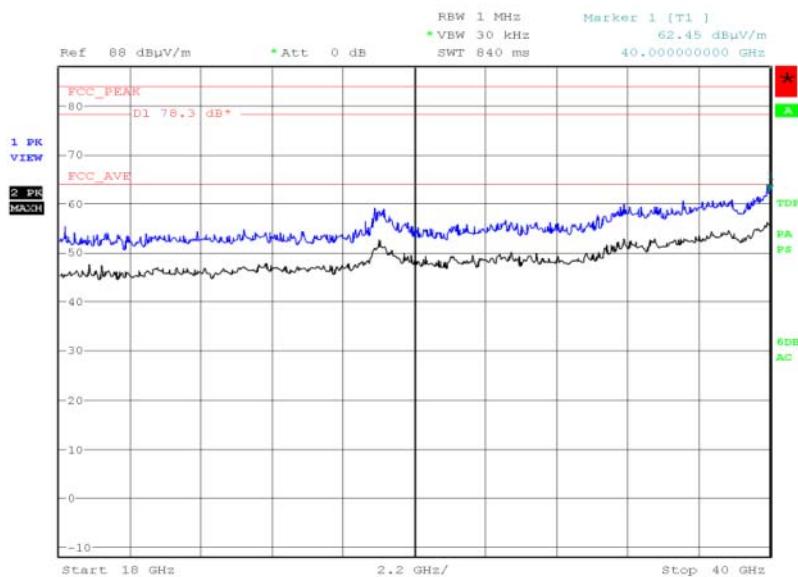


Product Service

1 GHz to 7 GHz7 GHz to 8 GHz

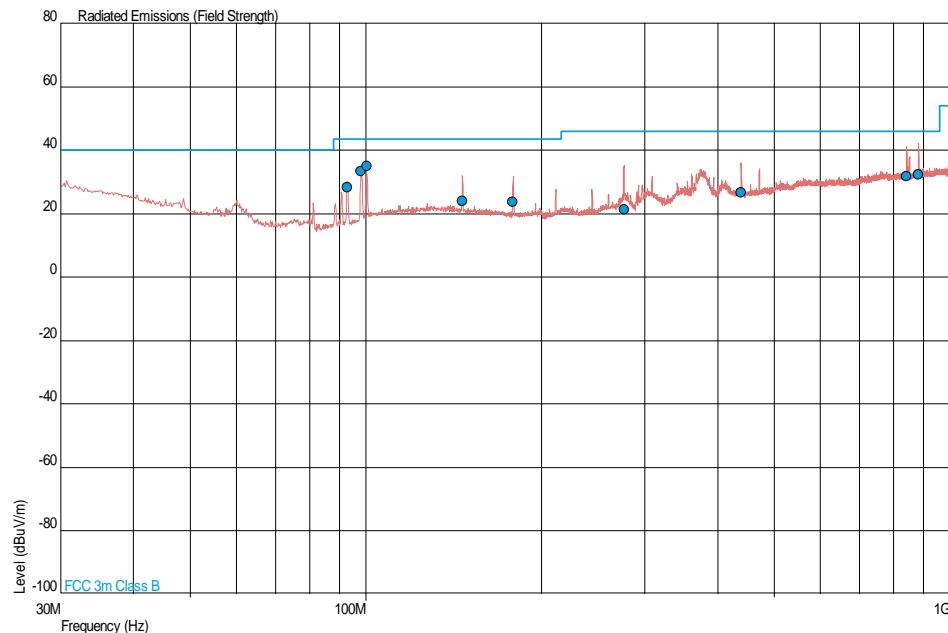


Product Service

8 GHz to 18 GHz18 GHz to 40 GHz



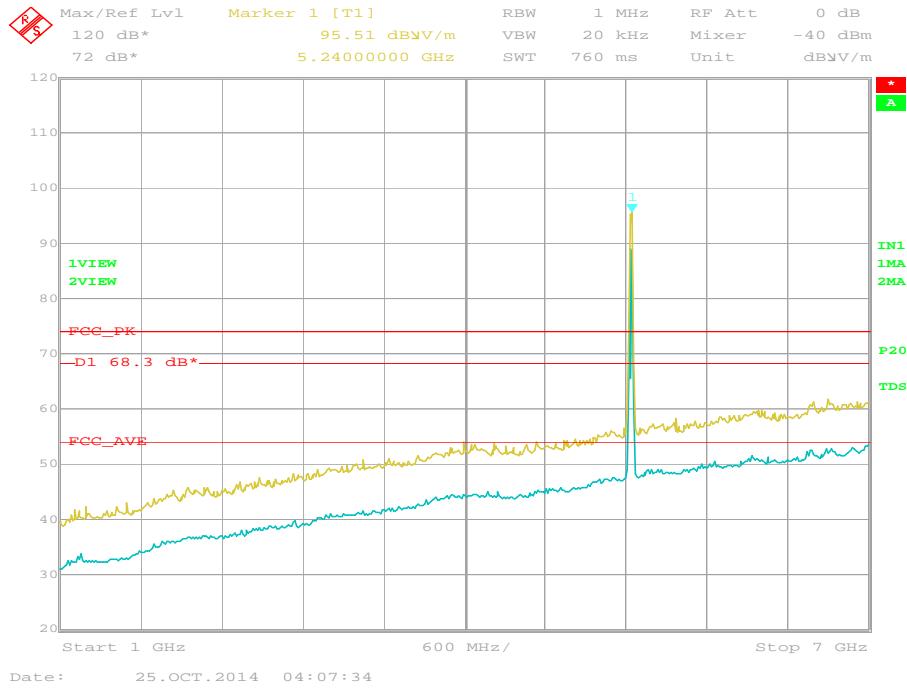
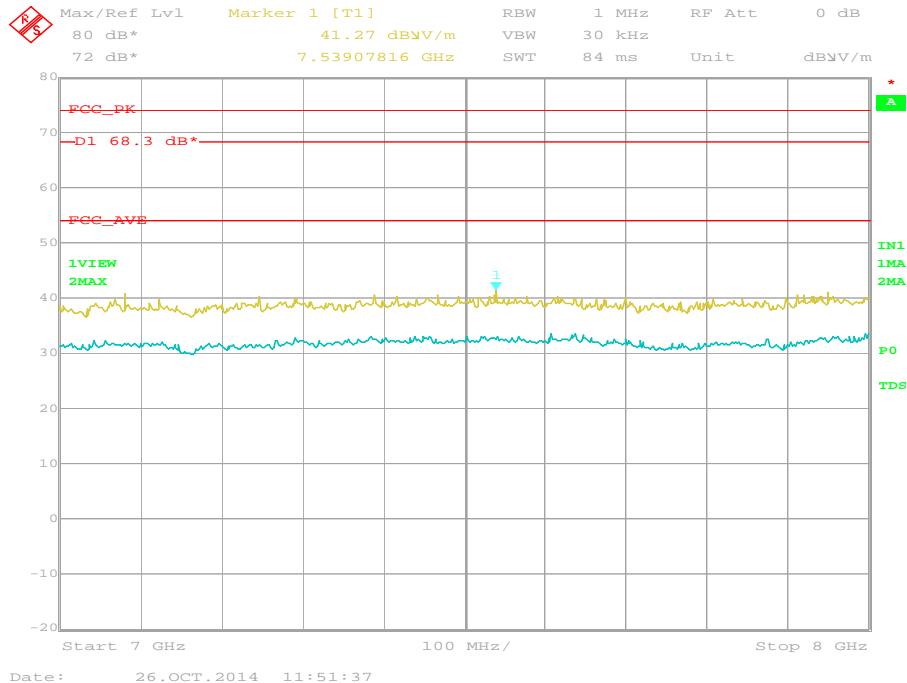
Product Service

5240 MHz30 MHz to 1 GHz

Frequency (MHz)	QP Level (dB $\mu$ V/m)	QP Level ( $\mu$ V/m)	QP Limit (dB $\mu$ V/m)	QP Limit ( $\mu$ V/m)	QP Margin (dB $\mu$ V/m)	QP Margin ( $\mu$ V/m)	Angle (Deg)	Height (m)	Polarity
92.910	28.4	26.3	43.5	150	-15.1	-123.7	76	1.00	Vertical
98.178	33.3	46.2	43.5	150	-10.2	-103.8	135	1.00	Vertical
100.261	35.0	56.2	43.5	150	-8.5	-93.8	104	1.00	Vertical
146.257	24.0	15.8	43.5	150	-19.5	-134.2	287	1.00	Vertical
178.487	23.7	15.3	43.5	150	-19.8	-134.7	0	1.00	Vertical
276.308	21.4	11.7	46.0	200	-24.6	-188.3	343	1.00	Vertical
438.429	26.6	21.4	46.0	200	-19.4	-178.6	206	1.00	Vertical
842.525	31.6	38.0	46.0	200	-14.4	-162.0	29	1.00	Vertical
880.747	32.2	40.7	46.0	200	-13.8	-159.3	113	1.00	Vertical

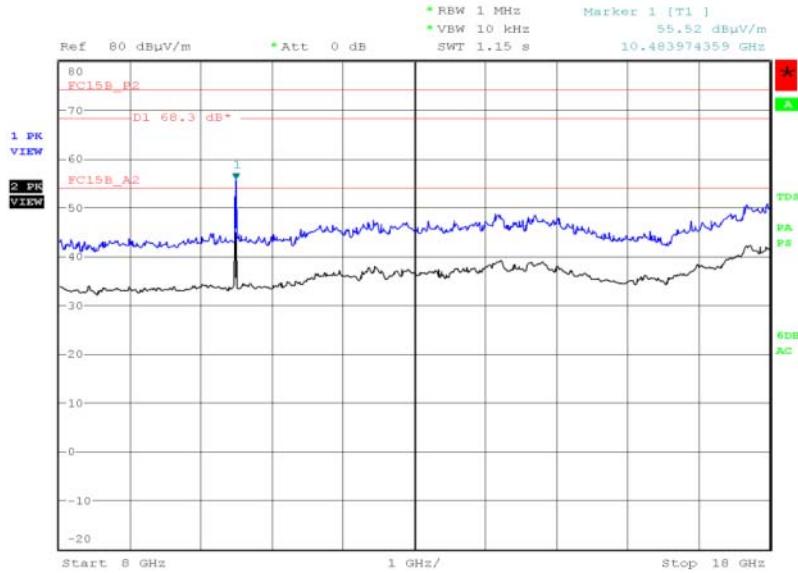


Product Service

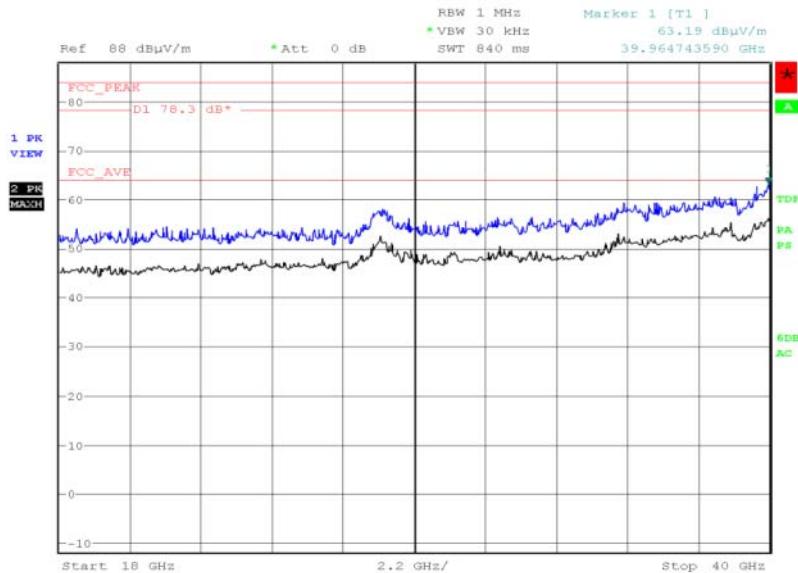
1 GHz to 7 GHz7 GHz to 8 GHz



Product Service

8 GHz to 18 GHz

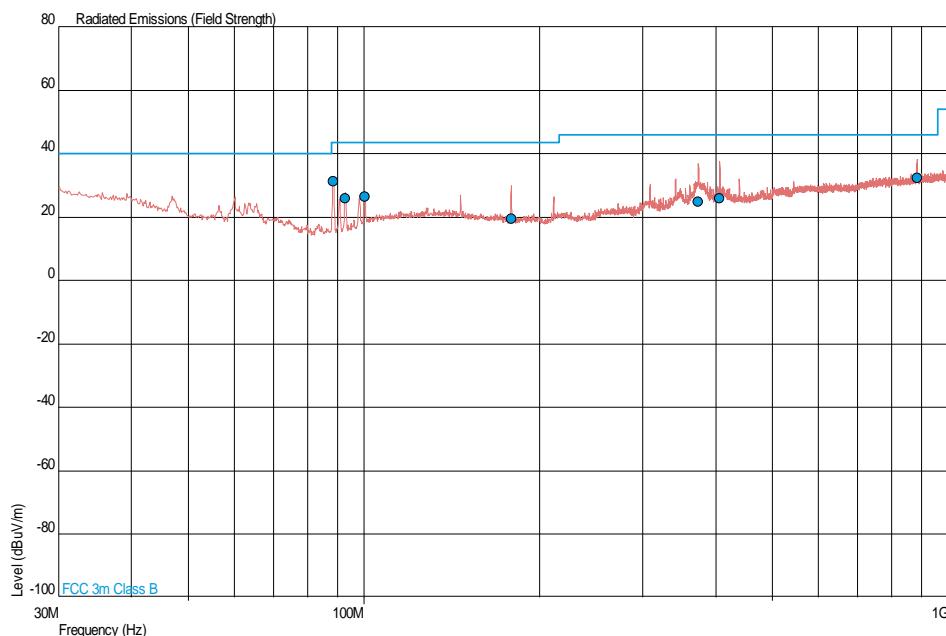
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18 GHz to 40 GHz

Date: 17.NOV.2014 21:05:36



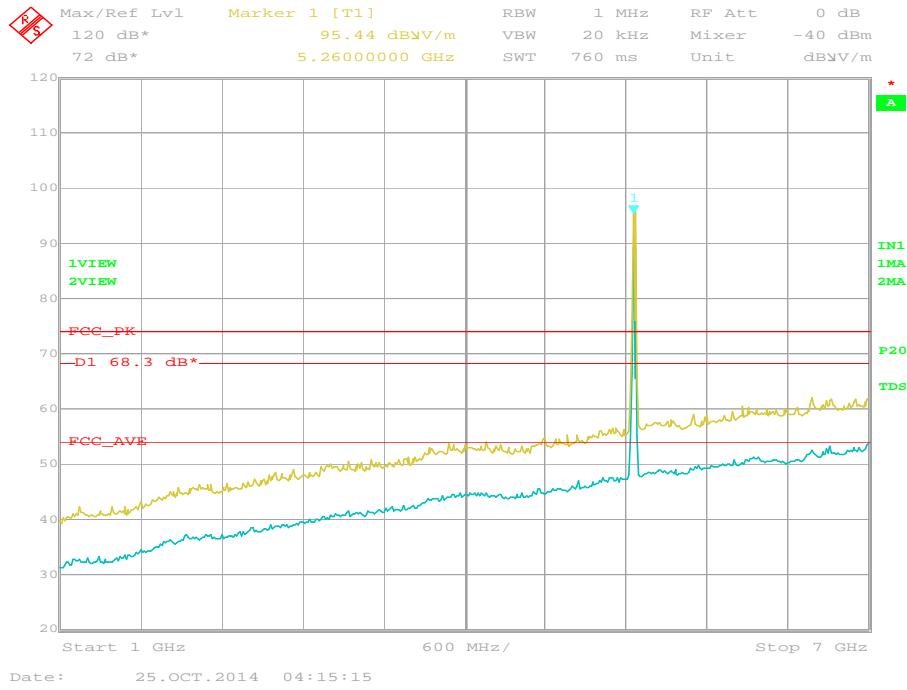
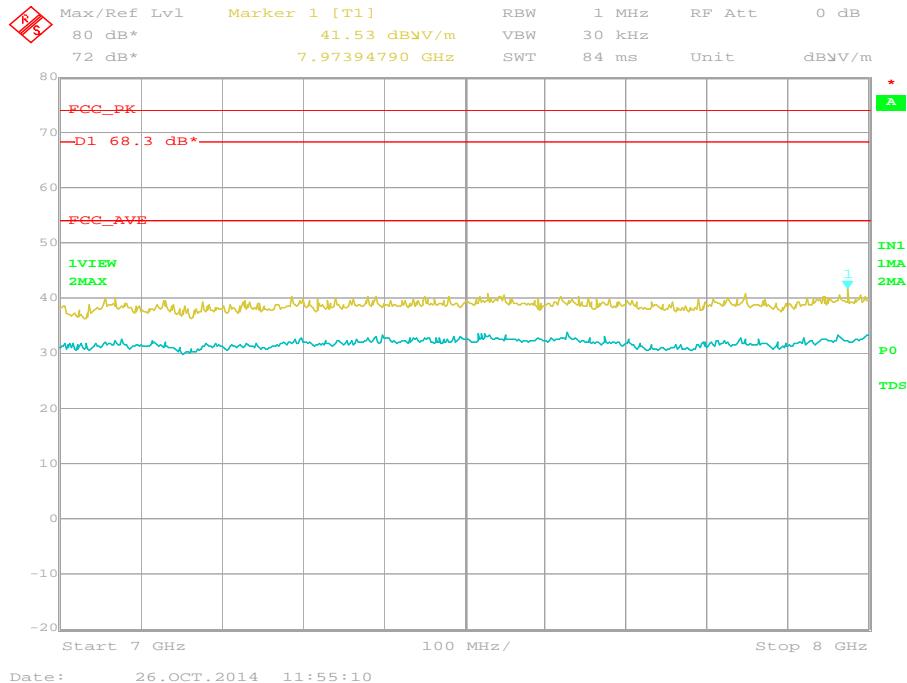
Product Service

Frequency Band 25260 MHz30 MHz to 1 GHz

Frequency (MHz)	QP Level (dB $\mu$ V/m)	QP Level ( $\mu$ V/m)	QP Limit (dB $\mu$ V/m)	QP Limit ( $\mu$ V/m)	QP Margin (dB $\mu$ V/m)	QP Margin ( $\mu$ V/m)	Angle (Deg)	Height (m)	Polarity
88.504	31.1	35.9	43.5	150	-12.4	-114.1	102	1.00	Vertical
92.890	26.0	20.0	43.5	150	-17.5	-130.0	360	1.00	Vertical
100.291	26.3	20.7	43.5	150	-17.2	-129.3	143	1.31	Vertical
178.780	19.5	9.4	43.5	150	-24.0	-140.6	352	1.00	Vertical
373.669	24.9	17.6	46.0	200	-21.1	-182.4	165	1.63	Vertical
406.245	26.0	20.0	46.0	200	-20.0	-180.0	178	1.00	Vertical
883.491	32.4	41.7	46.0	200	-13.6	-158.3	360	2.74	Vertical

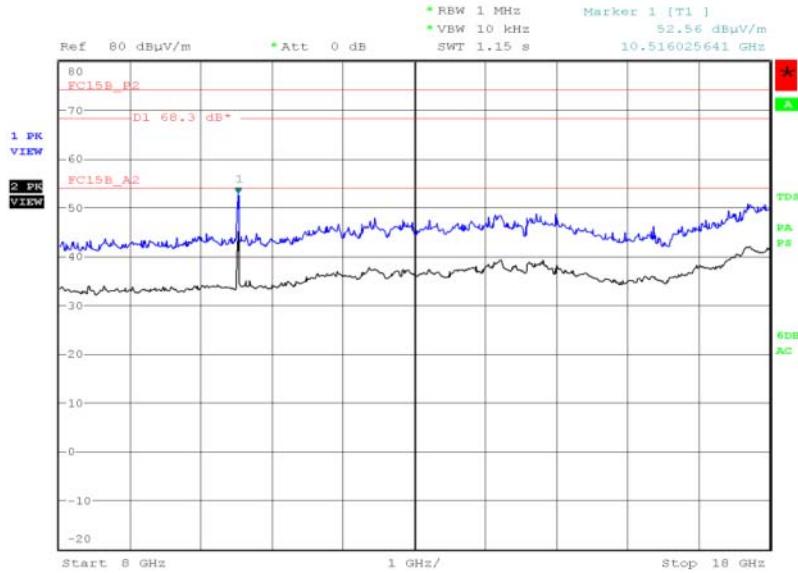
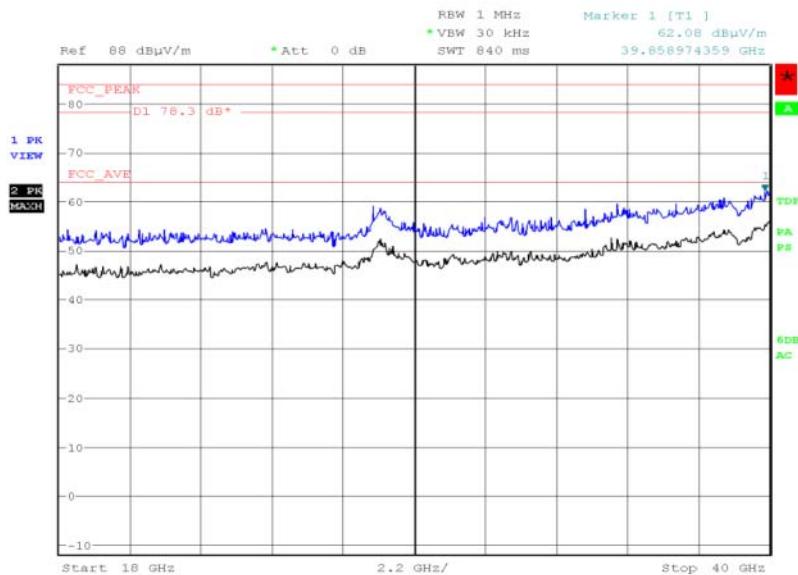


Product Service

1 GHz to 7 GHz7 GHz to 8 GHz

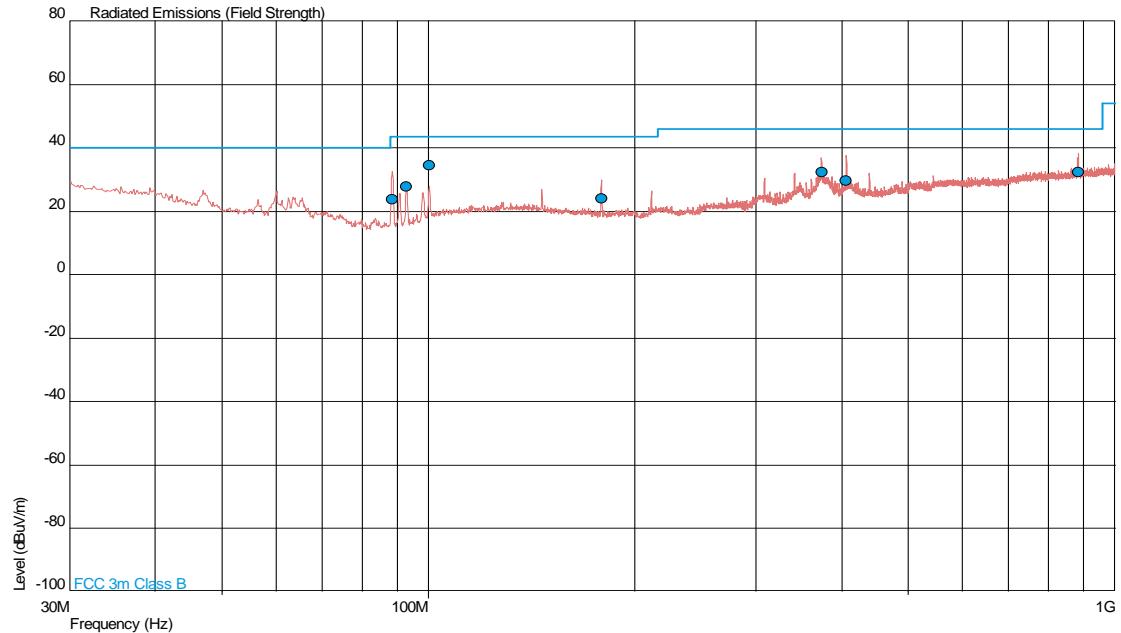


Product Service

8 GHz to 18 GHz18 GHz to 40 GHz



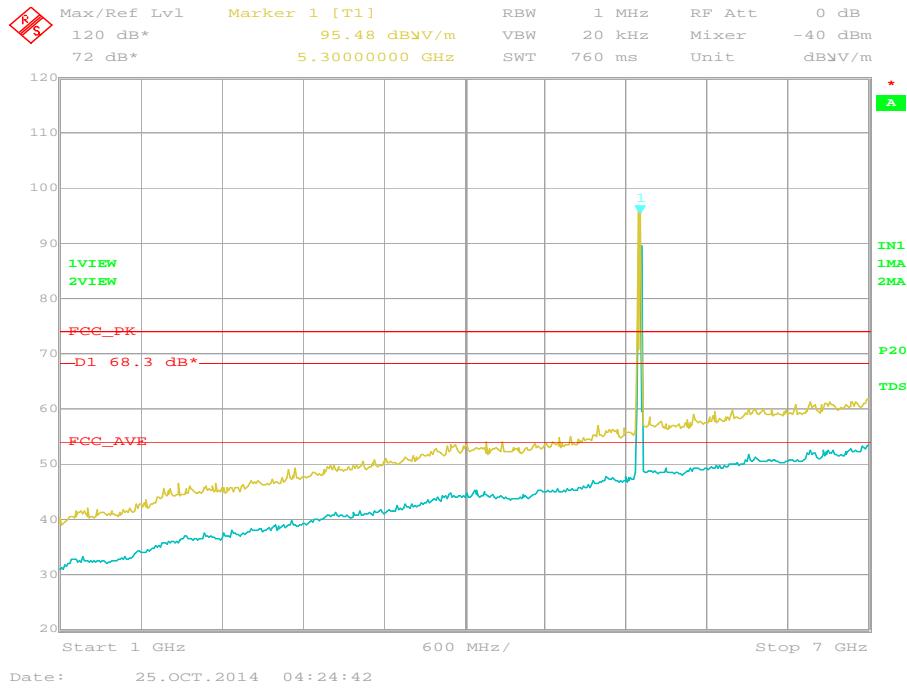
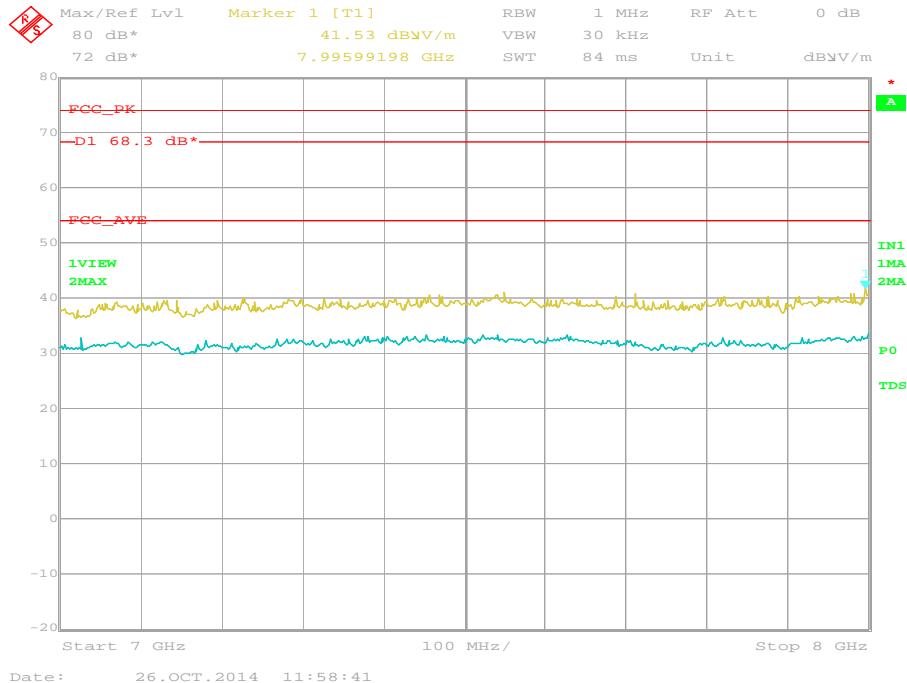
Product Service

5300 MHz30 MHz to 1 GHz

Frequency (MHz)	QP Level (dB $\mu$ V/m)	QP Level ( $\mu$ V/m)	QP Limit (dB $\mu$ V/m)	QP Limit ( $\mu$ V/m)	QP Margin (dB $\mu$ V/m)	QP Margin ( $\mu$ V/m)	Angle (Deg)	Height (m)	Polarity
88.487	23.8	15.5	43.5	150	-19.7	-134.5	358	1.00	Vertical
92.890	27.7	24.3	43.5	150	-15.8	-125.7	18	1.00	Vertical
100.343	34.5	53.1	43.5	150	-9.0	-96.9	159	1.00	Vertical
178.863	24.0	15.8	43.5	150	-19.5	-134.2	311	1.00	Vertical
374.410	32.3	41.2	46.0	200	-13.7	-158.8	185	1.36	Vertical
406.391	29.7	30.5	46.0	200	-16.3	-169.5	0	1.00	Vertical
883.562	32.4	41.7	46.0	200	-13.6	-158.3	93	1.00	Vertical

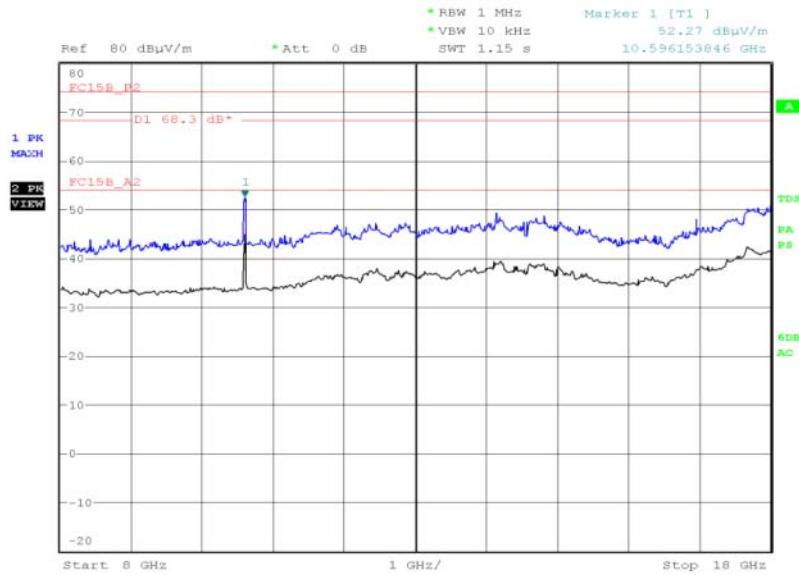


Product Service

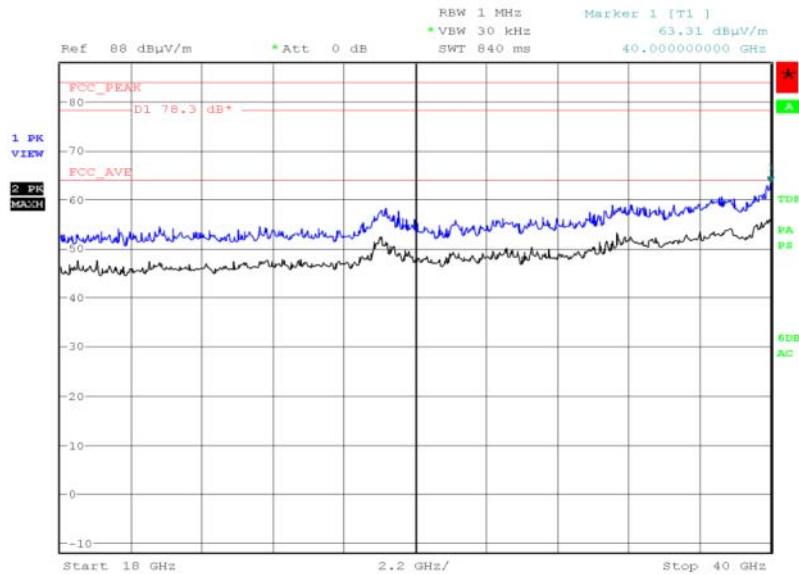
1 GHz to 7 GHz7 GHz to 8 GHz



Product Service

8 GHz to 18 GHz

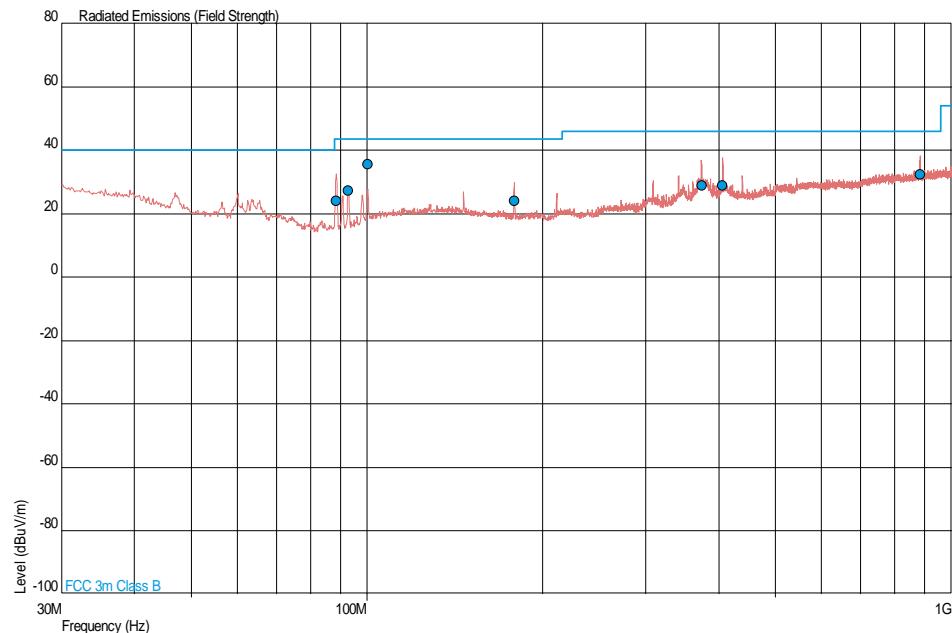
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18 GHz to 40 GHz

Date: 17.NOV.2014 21:25:46



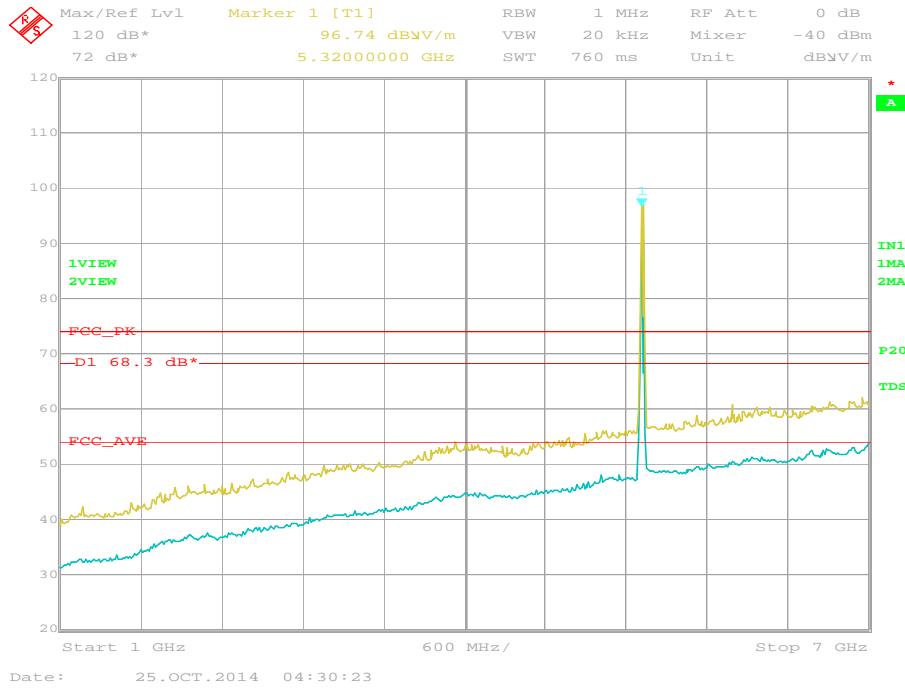
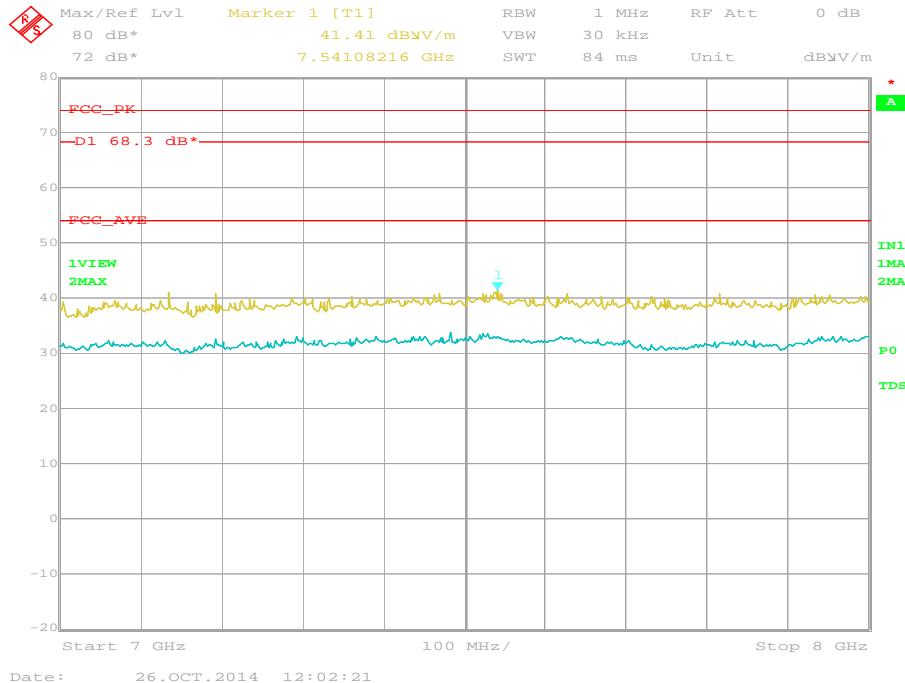
Product Service

5320 MHz30 MHz to 1 GHz

Frequency (MHz)	QP Level (dB $\mu$ V/m)	QP Level ( $\mu$ V/m)	QP Limit (dB $\mu$ V/m)	QP Limit ( $\mu$ V/m)	QP Margin (dB $\mu$ V/m)	QP Margin ( $\mu$ V/m)	Angle (Deg)	Height (m)	Polarity
88.512	24.1	16.0	43.5	150	-19.4	-134.0	360	1.00	Vertical
92.866	27.3	23.2	43.5	150	-16.2	-126.8	50	1.06	Vertical
100.347	35.5	59.6	43.5	150	-8.0	-90.4	168	1.00	Vertical
178.859	24.0	15.8	43.5	150	-19.5	-134.2	304	1.00	Vertical
374.403	28.8	27.5	46.0	200	-17.2	-172.5	153	1.00	Vertical
406.399	28.9	27.9	46.0	200	-17.1	-172.1	106	1.62	Vertical
883.580	32.4	41.7	46.0	200	-13.6	-158.3	329	1.94	Vertical

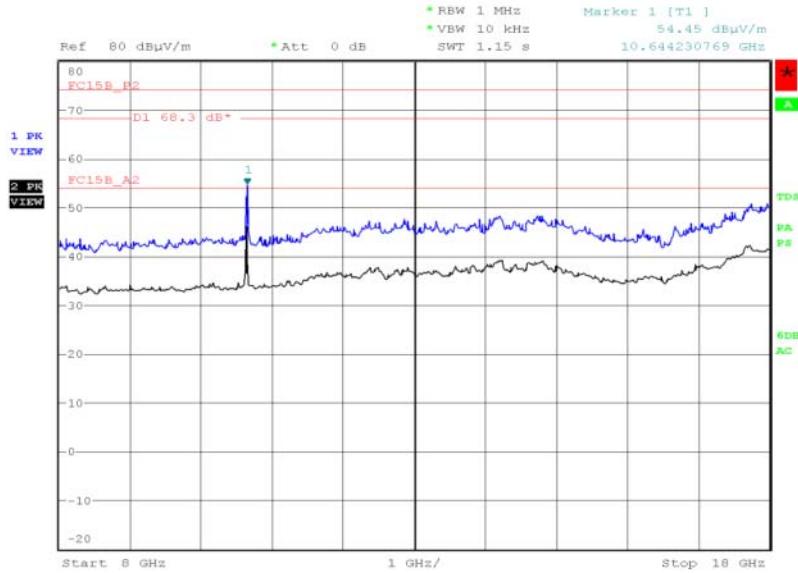


Product Service

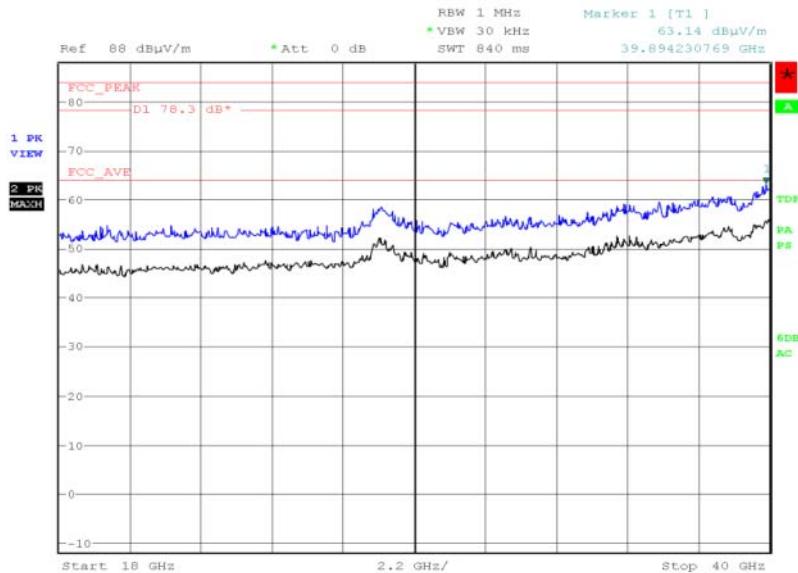
1 GHz to 7 GHz7 GHz to 8 GHz



Product Service

8 GHz to 18 GHz

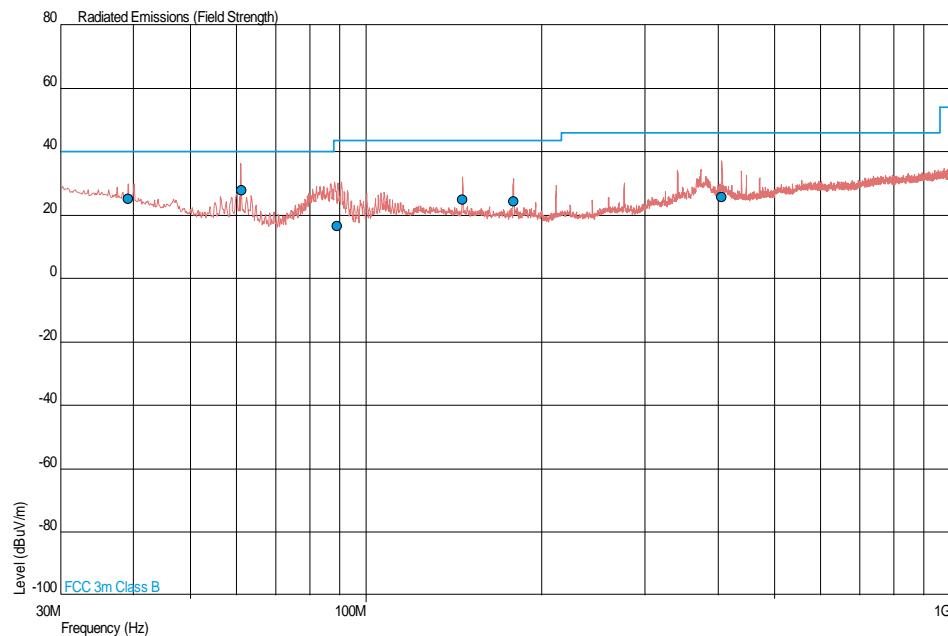
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18 GHz to 40 GHz

Date: 17.NOV.2014 21:35:56



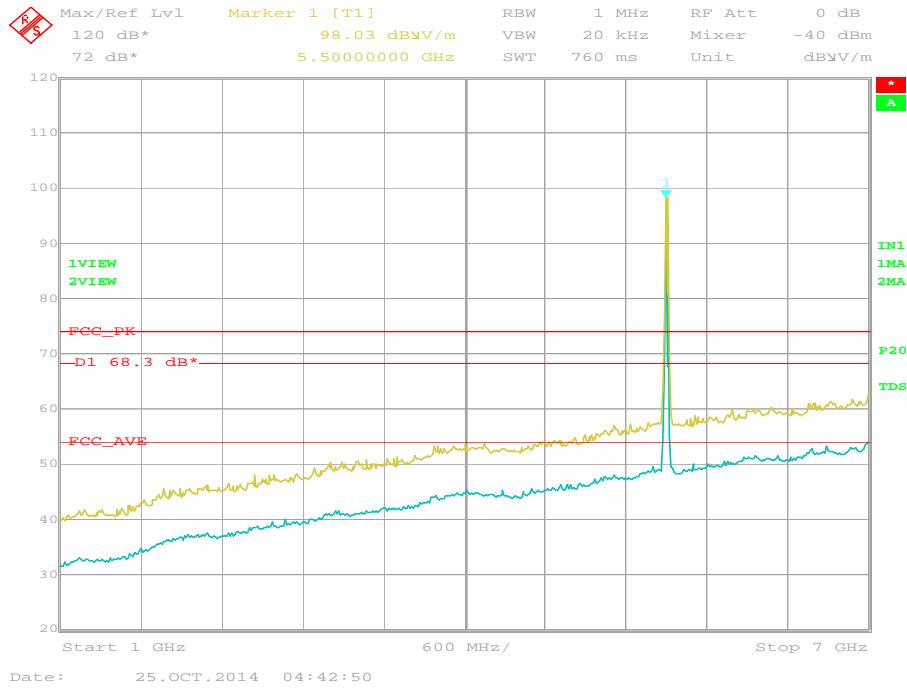
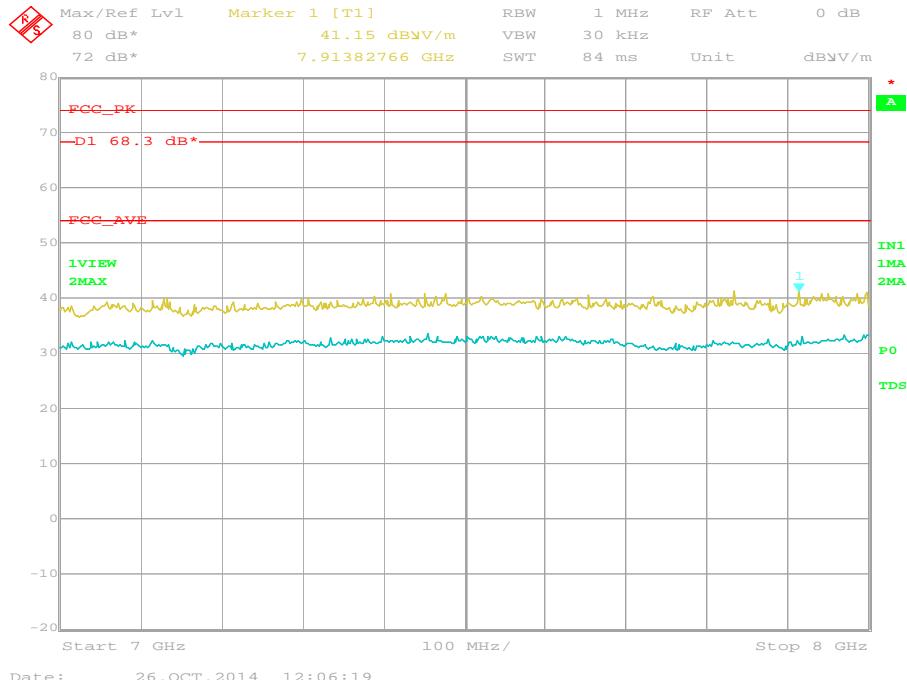
Product Service

Frequency Band 35500 MHz30 MHz to 1 GHz

Frequency (MHz)	QP Level (dB $\mu$ V/m)	QP Level ( $\mu$ V/m)	QP Limit (dB $\mu$ V/m)	QP Limit ( $\mu$ V/m)	QP Margin (dB $\mu$ V/m)	QP Margin ( $\mu$ V/m)	Angle (Deg)	Height (m)	Polarity
39.154	25.0	17.8	40.0	100	-15.0	-82.2	13	1.00	Vertical
61.150	27.8	24.5	40.0	100	-12.2	-75.5	124	1.02	Vertical
89.277	16.5	6.7	43.5	150	-27.0	-143.3	54	1.00	Vertical
146.251	24.8	17.4	43.5	150	-18.7	-132.6	274	1.00	Vertical
178.863	24.3	16.4	43.5	150	-19.2	-133.6	295	1.00	Vertical
406.281	25.6	19.1	46.0	200	-20.4	-180.9	23	1.00	Vertical

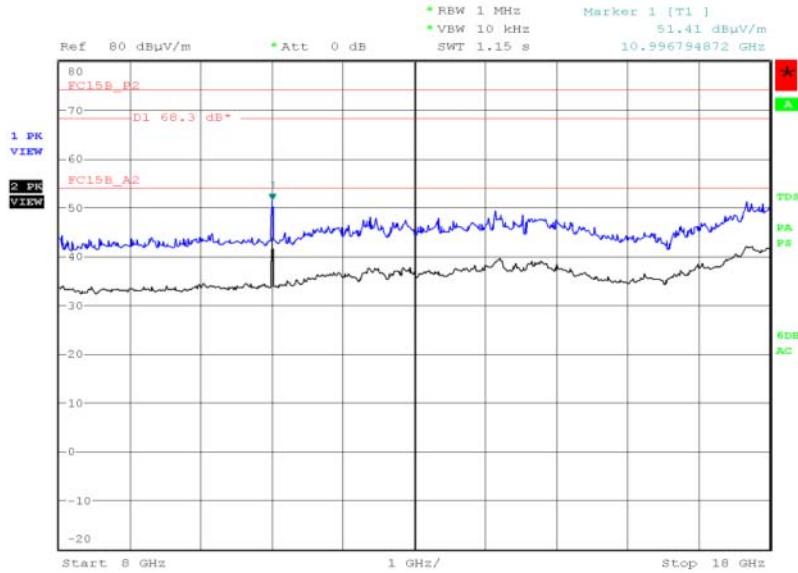


Product Service

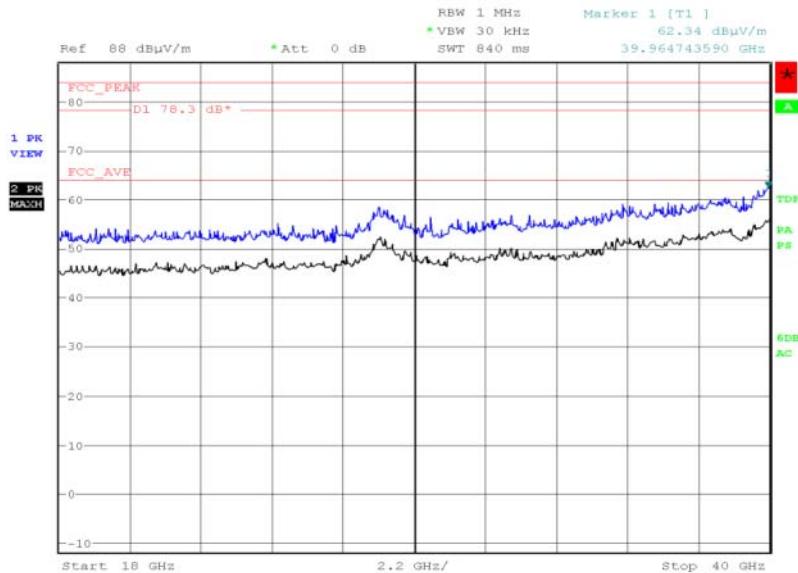
1 GHz to 7 GHz7 GHz to 8 GHz



Product Service

8 GHz to 18 GHz

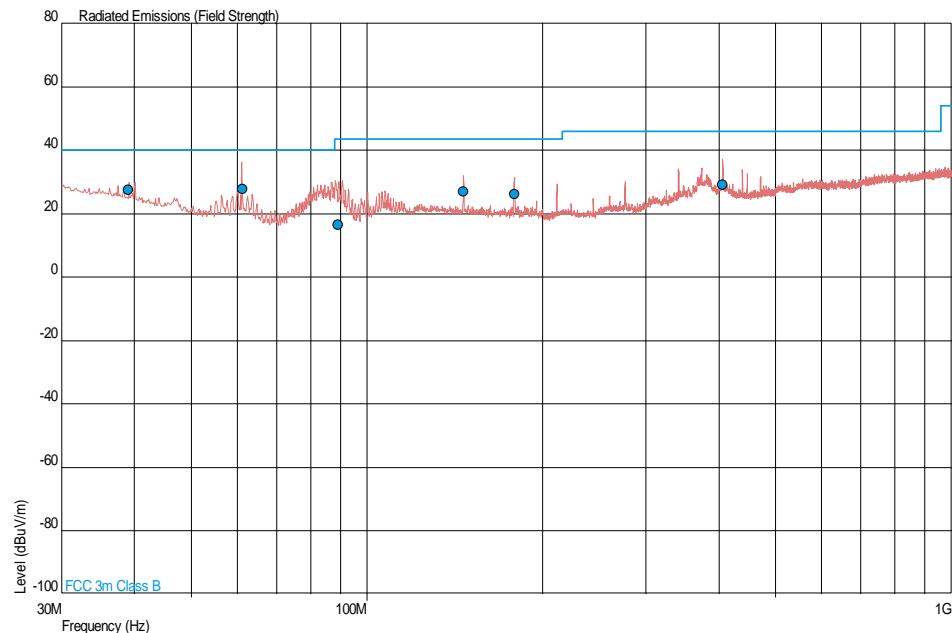
Date: 8.NOV.2014 00:38:01

18 GHz to 40 GHz

Date: 17.NOV.2014 21:45:27



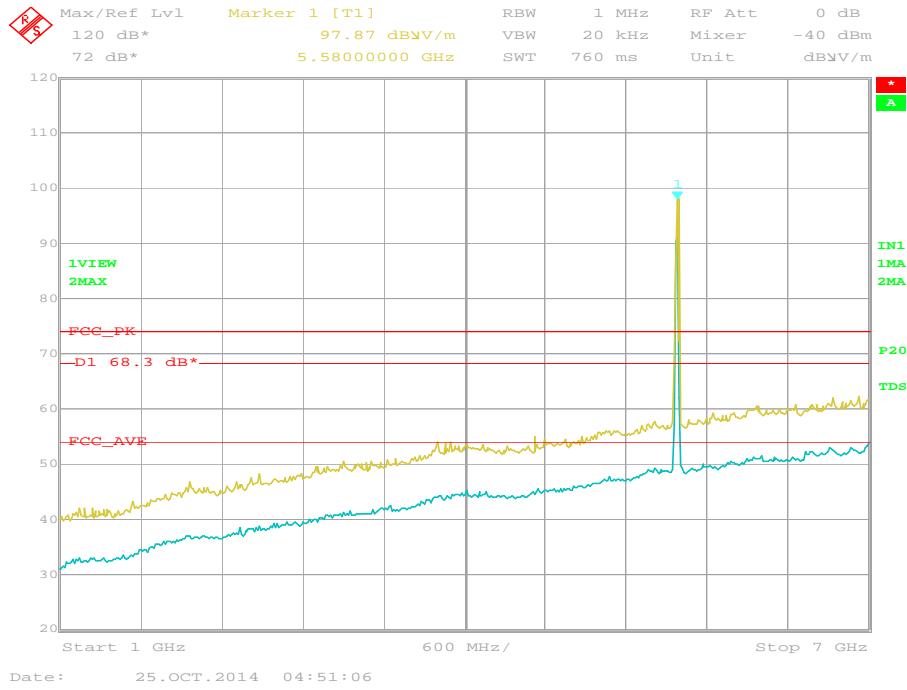
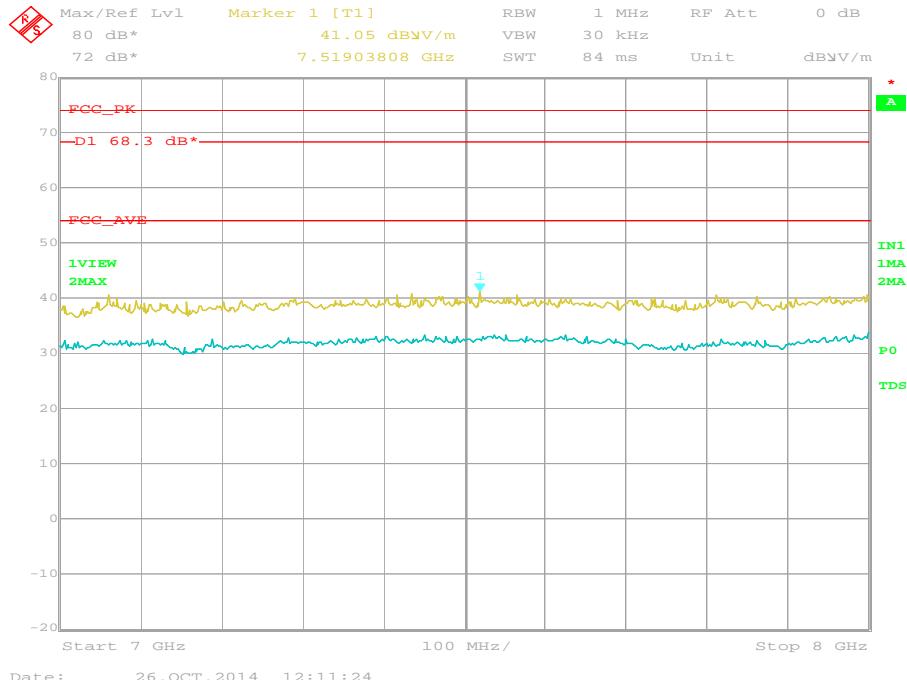
Product Service

5580 MHz30 MHz to 1 GHz

Frequency (MHz)	QP Level (dB $\mu$ V/m)	QP Level ( $\mu$ V/m)	QP Limit (dB $\mu$ V/m)	QP Limit ( $\mu$ V/m)	QP Margin (dB $\mu$ V/m)	QP Margin ( $\mu$ V/m)	Angle (Deg)	Height (m)	Polarity
39.110	27.6	24.0	40.0	100	-12.4	-76.0	58	1.00	Vertical
61.150	27.8	24.5	40.0	100	-12.2	-75.5	131	1.00	Vertical
89.145	16.5	6.7	43.5	150	-27.0	-143.3	170	1.00	Vertical
146.210	26.9	22.1	43.5	150	-16.6	-127.9	248	1.00	Vertical
178.859	26.0	20.0	43.5	150	-17.5	-130.0	0	1.00	Vertical
406.395	29.0	28.2	46.0	200	-17.0	-171.8	258	1.15	Vertical

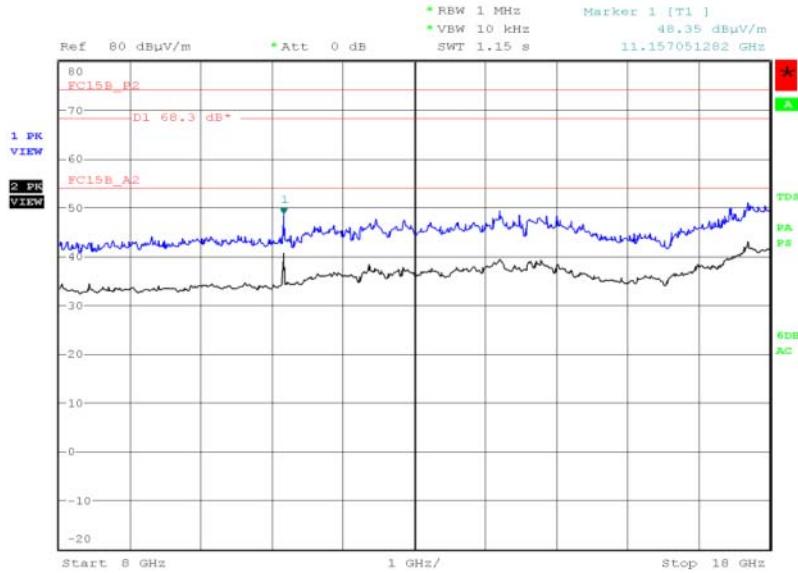


Product Service

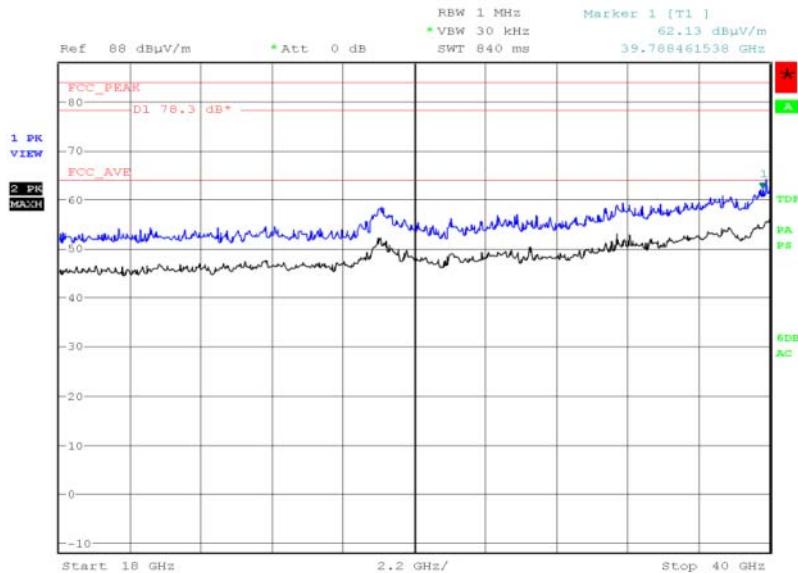
1 GHz to 7 GHz7 GHz to 8 GHz



Product Service

8 GHz to 18 GHz

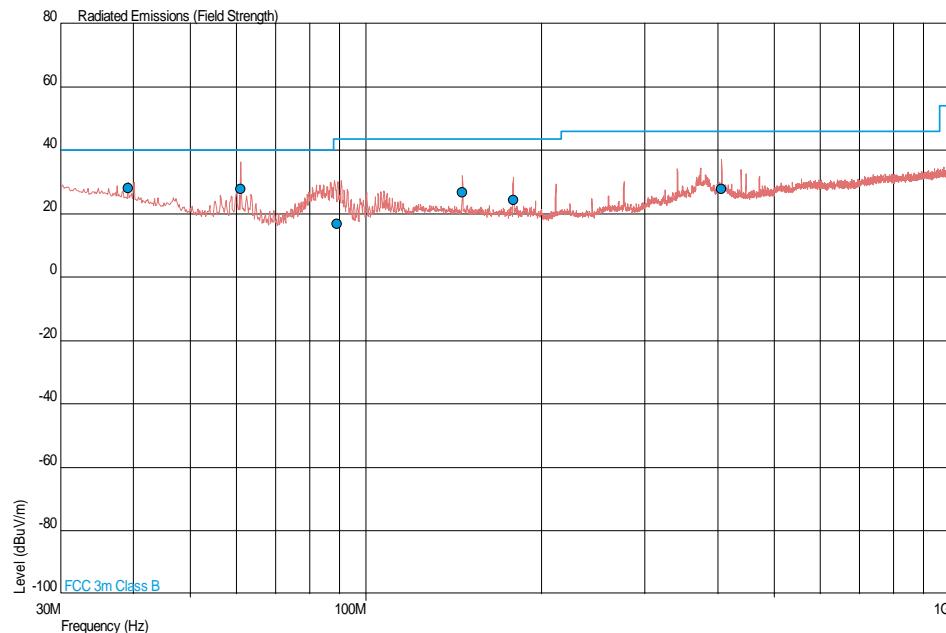
Date: 8.NOV.2014 00:43:59

18 GHz to 40 GHz

Date: 17.NOV.2014 21:55:42



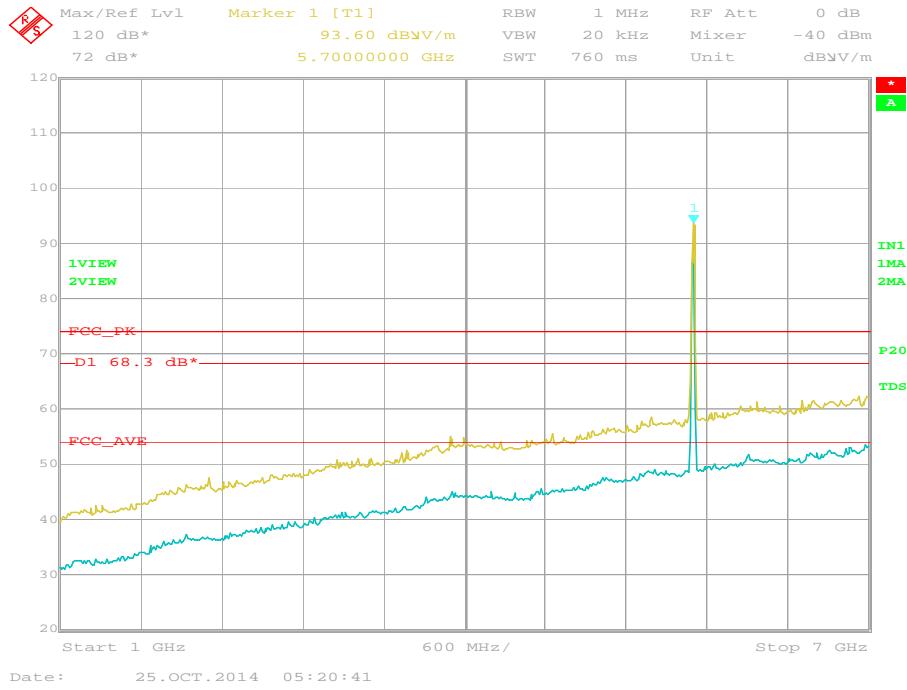
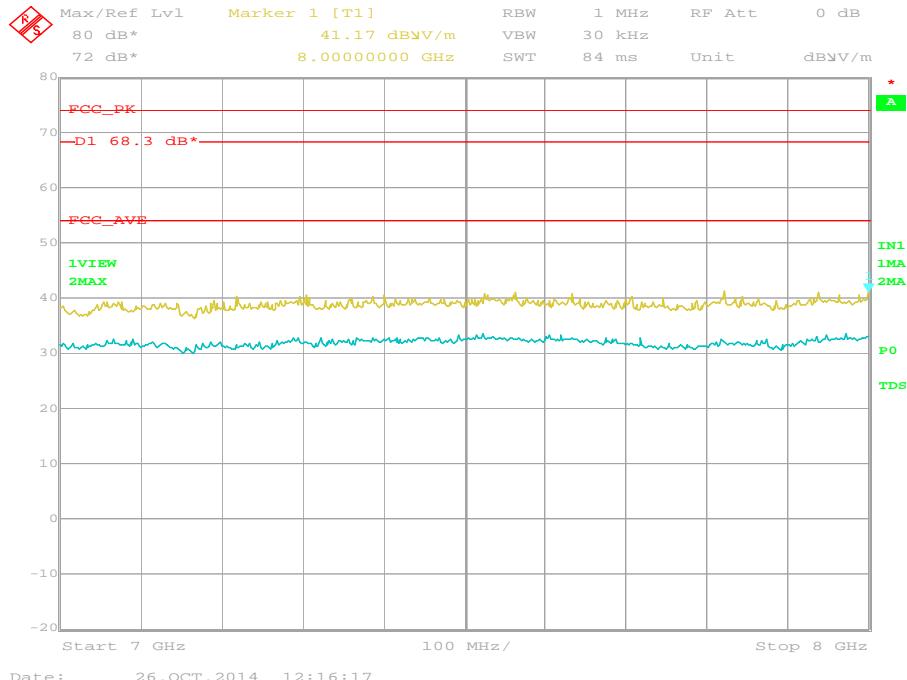
Product Service

5700 MHz30 MHz to 1 GHz

Frequency (MHz)	QP Level (dB $\mu$ V/m)	QP Level ( $\mu$ V/m)	QP Limit (dB $\mu$ V/m)	QP Limit ( $\mu$ V/m)	QP Margin (dB $\mu$ V/m)	QP Margin ( $\mu$ V/m)	Angle (Deg)	Height (m)	Polarity
39.120	27.9	24.8	40.0	100	-12.1	-75.2	139	1.00	Vertical
61.141	27.8	24.5	40.0	100	-12.2	-75.5	201	1.00	Vertical
89.249	16.7	6.8	43.5	150	-26.8	-143.2	136	1.00	Vertical
146.213	26.7	21.6	43.5	150	-16.8	-128.4	233	1.00	Vertical
178.877	24.3	16.4	43.5	150	-19.2	-133.6	0	1.00	Vertical
406.444	27.7	24.3	46.0	200	-18.3	-175.7	240	1.00	Vertical

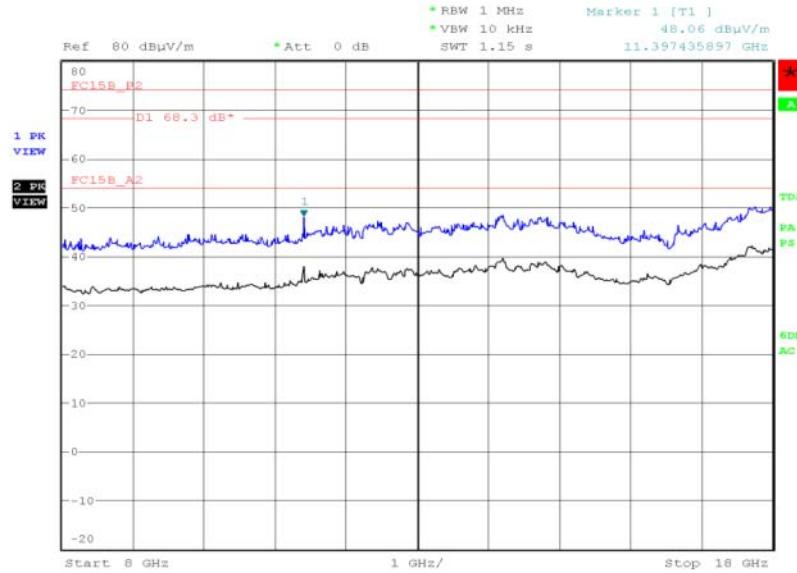


Product Service

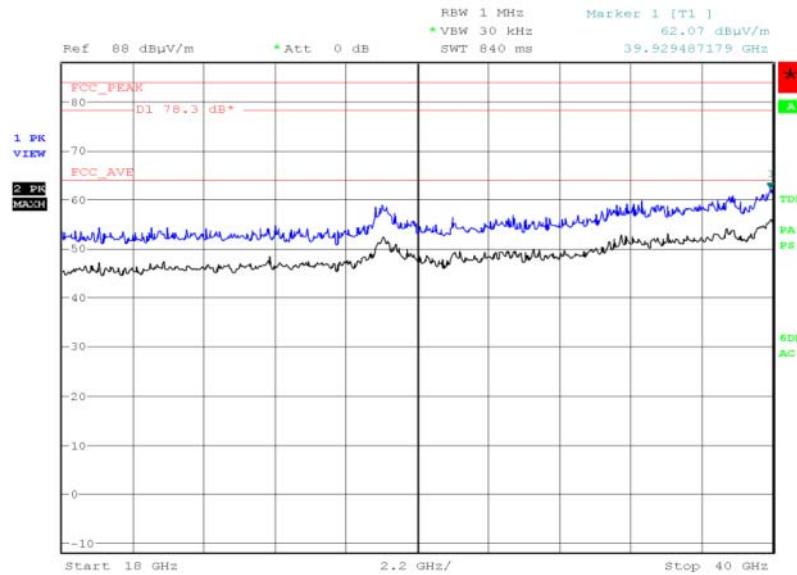
1 GHz to 7 GHz7 GHz to 8 GHz



Product Service

8 GHz to 18 GHz

Date: 8.NOV.2014 00:48:51

18 GHz to 40 GHz

Date: 17.NOV.2014 22:06:20

Limit

Peak (dB $\mu$ V/m)	Average (dB $\mu$ V/m)
74.0	54.0

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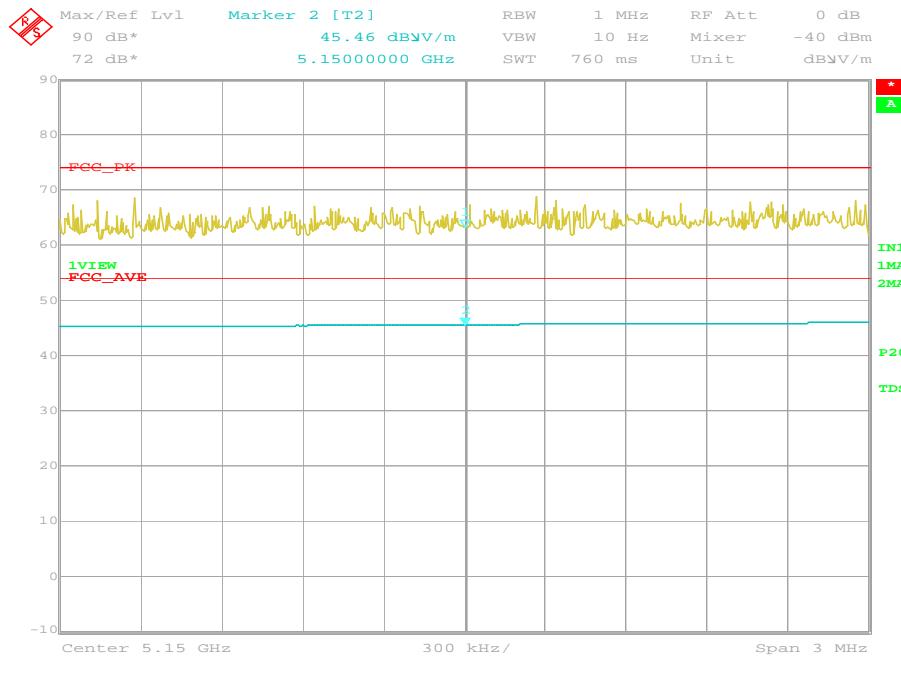
Product Service



Product Service

Band Edge Emissions5180MHz

Polarisation	Final Peak (dB $\mu$ V/m)	Final Average (dB $\mu$ V/m)
Vertical	63.12	45.38

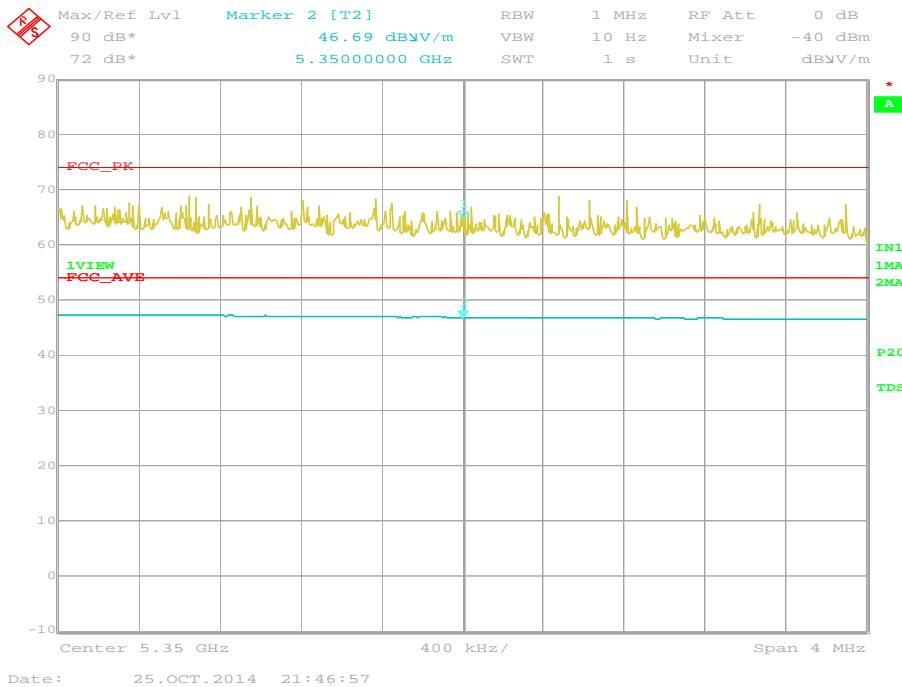




Product Service

5320 MHz

Polarisation	Final Peak (dB $\mu$ V/m)	Final Average (dB $\mu$ V/m)
Vertical	64.72	46.69

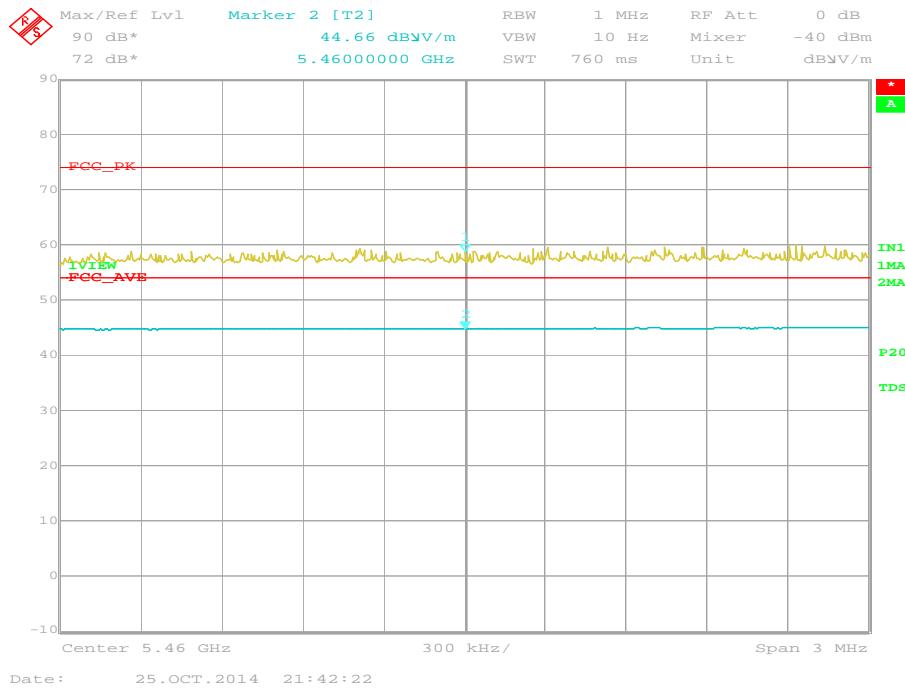




Product Service

5500 MHz

Polarisation	Final Peak (dB $\mu$ V/m)	Final Average (dB $\mu$ V/m)
Vertical	58.61	44.66

Limit

Peak (dB $\mu$ V/m)	Average (dB $\mu$ V/m)
74.0	54.0



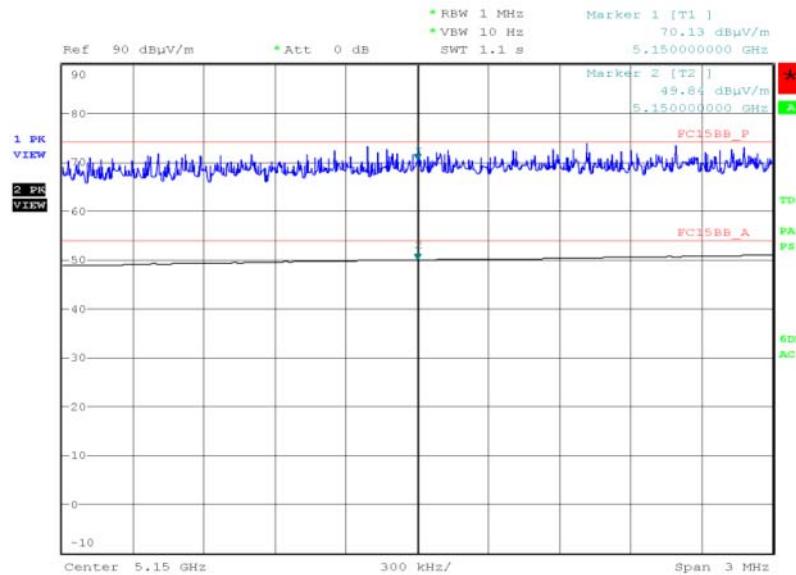
Product Service

802.11(n) 40 MHz BW

3.8 V DC Supply

Band Edge Emissions5190 MHz

Polarisation	Final Peak (dB $\mu$ V/m)	Final Average (dB $\mu$ V/m)
Vertical	70.30	49.84



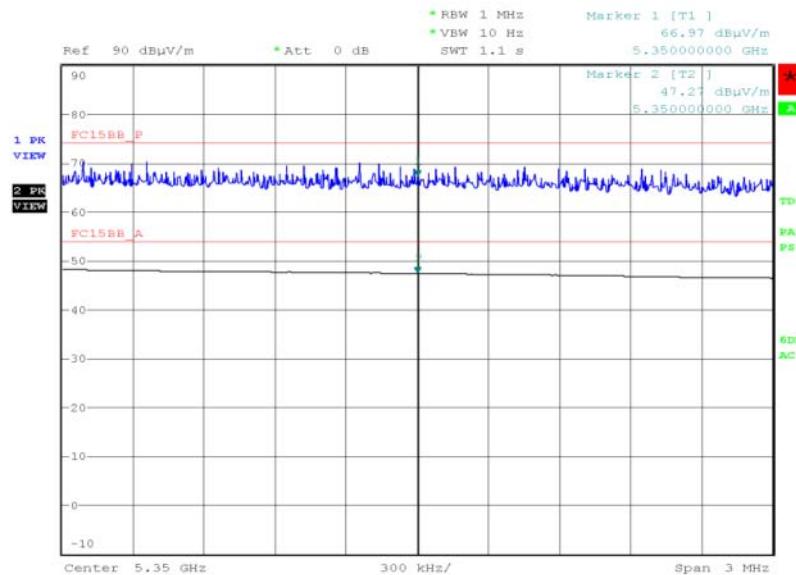
Date: 13.NOV.2014 04:44:35



Product Service

5310 MHz

Polarisation	Final Peak (dB $\mu$ V/m)	Final Average (dB $\mu$ V/m)
Vertical	66.97	47.27



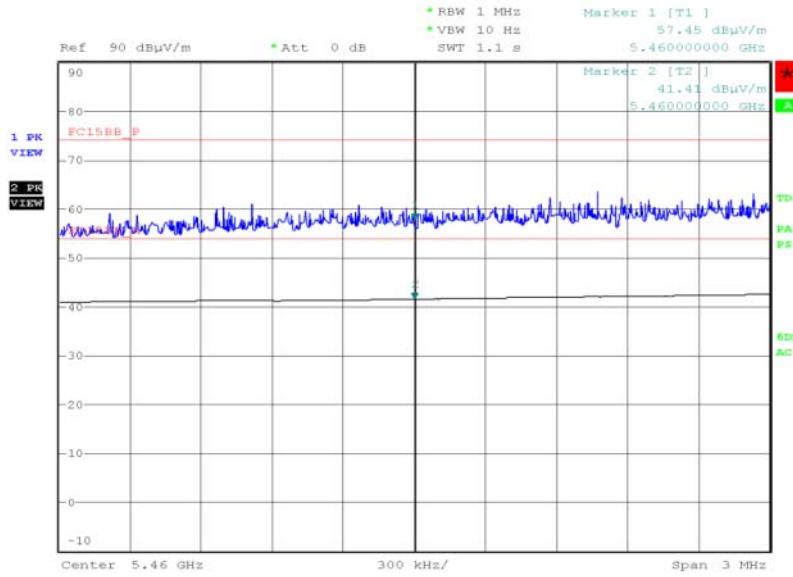
Date: 13.NOV.2014 04:56:09



Product Service

5510 MHz

Polarisation	Final Peak (dB $\mu$ V/m)	Final Average (dB $\mu$ V/m)
Vertical	57.45	41.41



Date: 13.NOV.2014 05:05:40

Limit

Peak (dB $\mu$ V/m)	Average (dB $\mu$ V/m)
74.0	54.0



## **2.7 FREQUENCY STABILITY**

### **2.7.1 Specification Reference**

FCC CFR 47 Part 15E, Clause 2.1055 and 15.407 (g)

### **2.7.2 Equipment Under Test and Modification State**

YotaPhone2/ YD201 S/N: Not Serialised (75927375-TSR0007) - Modification State 1

### **2.7.3 Date of Test**

31 October 2014

### **2.7.4 Test Equipment Used**

The major items of test equipment used for the above tests are identified in Section 3.1.

### **2.7.5 Test Procedure**

The EUT was set to transmit at maximum power on Bottom and top channels within each contiguous frequency band. The EUT was connected to a spectrum analyser via a cable and attenuator and the resultant trace was displayed on screen with the operating band edges shown as an emission limit of -27dBm/MHz to ensure the emission is maintained with the band of operation.

With a data rate that was determined to produce the greatest average RF output power . The EUT was stabilised at each temperature variation prior to measurements being made.

### **2.7.6 Environmental Conditions**

Ambient Temperature	24.2°C
Relative Humidity	48.0%



Product Service

## 2.7.7 Test Results

### 802.11(a)

#### Frequency Band 1

##### Hand Carried Battery Powered

Temperature Interval	Supply Voltage	Frequency Stability
		5180 MHz
-10°C	3.8 V DC	Pass
	3.4 V DC	Pass
+40°C	3.8 V DC	Pass
	3.4 V DC	Pass

#### Frequency Band 2

##### Hand Carried Battery Powered

Temperature Interval	Supply Voltage	Frequency Stability
		5320 MHz
-10°C	3.8 V DC	Pass
	3.4 V DC	Pass
+40°C	3.8 V DC	Pass
	3.4 V DC	Pass

#### Frequency Band 3

##### Hand Carried Battery Powered

Temperature Interval	Supply Voltage	Frequency Stability	
		5500 MHz	5700 MHz
-10°C	3.8 V DC	Pass	Pass
	3.4 V DC	Pass	Pass
+40°C	3.8 V DC	Pass	Pass
	3.4 V DC	Pass	Pass

#### Limit

Maintained within the band of operation under all conditions of normal operations as specified in the user's manual.

### 802.11(ac) 20 MHz BW



Product Service

Frequency Band 1Hand Carried Battery Powered

Temperature Interval	Supply Voltage	Frequency Stability
		5180 MHz
-10°C	3.8 V DC	Pass
	3.4 V DC	Pass
+40°C	3.8 V DC	Pass
	3.4 V DC	Pass

Frequency Band 2Hand Carried Battery Powered

Temperature Interval	Supply Voltage	Frequency Stability
		5320 MHz
-10°C	3.8 V DC	Pass
	3.4 V DC	Pass
+40°C	3.8 V DC	Pass
	3.4 V DC	Pass

Frequency Band 3Hand Carried Battery Powered

Temperature Interval	Supply Voltage	Frequency Stability	
		5500 MHz	5700 MHz
-10°C	3.8 V DC	Pass	Pass
	3.4 V DC	Pass	Pass
+40°C	3.8 V DC	Pass	Pass
	3.4 V DC	Pass	Pass

Limit

Maintained within the band of operation under all conditions of normal operations as specified in the user's manual.



Product Service

802.11(n) 20 MHz BWFrequency Band 1Hand Carried Battery Powered

Temperature Interval	Supply Voltage	Frequency Stability
		5180 MHz
-10°C	3.8 V DC	Pass
	3.4 V DC	Pass
+40°C	3.8 V DC	Pass
	3.4 V DC	Pass

Frequency Band 2Hand Carried Battery Powered

Temperature Interval	Supply Voltage	Frequency Stability
		5320 MHz
-10°C	3.8 V DC	Pass
	3.4 V DC	Pass
+40°C	3.8 V DC	Pass
	3.4 V DC	Pass

Frequency Band 3Hand Carried Battery Powered

Temperature Interval	Supply Voltage	Frequency Stability	
		5500 MHz	5700 MHz
-10°C	3.8 V DC	Pass	Pass
	3.4 V DC	Pass	Pass
+40°C	3.8 V DC	Pass	Pass
	3.4 V DC	Pass	Pass

Limit

Maintained within the band of operation under all conditions of normal operations as specified in the user's manual.



Product Service

802.11(n) 40 MHz BWFrequency Band 1Hand Carried Battery Powered

Temperature Interval	Supply Voltage	Frequency Stability
		5190 MHz
-10°C	3.8 V DC	Pass
	3.4 V DC	Pass
+40°C	3.8 V DC	Pass
	3.4 V DC	Pass

Frequency Band 2Hand Carried Battery Powered

Temperature Interval	Supply Voltage	Frequency Stability
		5310 MHz
-10°C	3.8 V DC	Pass
	3.4 V DC	Pass
+40°C	3.8 V DC	Pass
	3.4 V DC	Pass

Frequency Band 3Hand Carried Battery Powered

Temperature Interval	Supply Voltage	Frequency Stability	
		5510 MHz	5670 MHz
-10°C	3.8 V DC	Pass	Pass
	3.4 V DC	Pass	Pass
+40°C	3.8 V DC	Pass	Pass
	3.4 V DC	Pass	Pass

Limit

Maintained within the band of operation under all conditions of normal operations as specified in the user's manual.



Product Service

### **SECTION 3**

#### **TEST EQUIPMENT USED**



### 3.1 TEST EQUIPMENT USED

List of absolute measuring and other principal items of test equipment.

Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Due
<b>Section 2.1 – AC Line Conducted Emissions</b>					
Transient Limiter	Hewlett Packard	11947A	15	12	10-Dec-2014
LISN (1 Phase)	Chase	MN 2050	336	12	28-Mar-2015
Screened Room (5)	Rainford	Rainford	1545	24	10-Jan-2015
EMI Test Receiver	Rohde & Schwarz	ESU40	3506	12	27-Oct-2015
7m Armoured RF Cable	SSI Cable Corp.	1501-13-13-7m WA(-)	3600	-	TU
<b>Section 2.2 - 26 dB Bandwidth</b>					
Power Supply Unit	Hewlett Packard	6282A	132	-	TU
Multimeter	Fluke	75 Mk3	455	12	23-Jul-2015
Attenuator (10dB)	Weinschel	47-10-34	481	12	28-Mar-2015
Rubidium Standard	Rohde & Schwarz	XSRM	1316	6	18-Jan-2015
Attenuator (10dB, 50W)	Aeroflex / Weinschel	47-10-34	3166	12	16-Sep-2015
Hygrometer	Rotronic	I-1000	3220	12	24-Jul-2015
Network Analyser	Rohde & Schwarz	ZVA 40	3548	12	3-Sep-2015
'N' - 'N' RF Cable (1m)	Rhophase	NPS-1803-1000-NPS	3700	12	26-Nov-2014
1 Metre K Type Cable	Rhophase	KPS-1501A-1000-KPS	4106	12	5-Nov-2014
Calibration Unit	Rohde & Schwarz	ZV-Z54	4368	12	24-Sep-2015
Frequency Standard	Spectracom	Secure Sync 1200-0408-0601	4393	6	18-Jan-2015
PXA Signal Analyser	Agilent Technologies	N9030A PXA	4409	12	27-Feb-2015
<b>Section 2.3 - Power Limits</b>					
Power Supply Unit	Hewlett Packard	6282A	132	-	TU
Antenna (Double Ridge Guide, 1GHz-18GHz)	EMCO	3115	234	12	2-May-2015
Antenna (Double Ridge Guide, 1GHz-18GHz)	EMCO	3115	235	22	30-Nov-2014
Multimeter	Fluke	75 Mk3	455	12	23-Jul-2015
Attenuator (10dB)	Weinschel	47-10-34	481	12	28-Mar-2015
Signal Generator (10MHz to 40GHz)	Rohde & Schwarz	SMR40	1002	12	19-Sep-2015
Screened Room (5)	Rainford	Rainford	1545	24	10-Jan-2015
Turntable Controller	Inn-Co GmbH	CO 1000	1606	-	TU
Antenna (DRG Horn)	ETS-LINDGREN	3115	3125	12	16-Jul-2015
Attenuator (10dB, 50W)	Aeroflex / Weinschel	47-10-34	3166	12	16-Sep-2015
Hygrometer	Rotronic	I-1000	3220	12	24-Jul-2015
EMI Test Receiver	Rohde & Schwarz	ESU40	3506	12	27-Oct-2015
Network Analyser	Rohde & Schwarz	ZVA 40	3548	12	3-Sep-2015
7m Armoured RF Cable	SSI Cable Corp.	1501-13-13-7m WA(-)	3600	-	TU
'N' - 'N' RF Cable (1m)	Rhophase	NPS-1803-1000-NPS	3700	12	26-Nov-2014
9m RF Cable (N Type)	Rhophase	NPS-2303-9000-NPS	3791	-	TU
Tilt Antenna Mast	maturo GmbH	TAM 4.0-P	3916	-	TU
Mast Controller	maturo GmbH	NCD	3917	-	TU
P-Series Power Meter	Agilent Technologies	N1911A	3980	12	22-Sep-2015
P-Series Power Meter	Agilent Technologies	N1911A	3981	12	22-Sep-2015
50 MHz-18 GHz Wideband Power Sensor	Agilent Technologies	N1921A	3983	12	22-Sep-2015
1 Metre K Type Cable	Rhophase	KPS-1501A-1000-KPS	4106	12	5-Nov-2014
Calibration Unit	Rohde & Schwarz	ZV-Z54	4368	12	24-Sep-2015



Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Due
<b>Section 2.4 - Peak Power Spectral Density</b>					
Power Supply Unit	Hewlett Packard	6282A	132	-	TU
Multimeter	Fluke	75 Mk3	455	12	23-Jul-2015
Attenuator (10dB)	Weinschel	47-10-34	481	12	28-Mar-2015
Rubidium Standard	Rohde & Schwarz	XSRM	1316	6	18-Jan-2015
Attenuator (10dB, 50W)	Aeroflex / Weinschel	47-10-34	3166	12	16-Sep-2015
Hygrometer	Rotronic	I-1000	3220	12	24-Jul-2015
Network Analyser	Rohde & Schwarz	ZVA 40	3548	12	3-Sep-2015
'N' - 'N' RF Cable (1m)	Rhophase	NPS-1803-1000-NPS	3700	12	26-Nov-2014
P-Series Power Meter	Agilent Technologies	N1911A	3981	12	22-Sep-2015
50 MHz-18 GHz Wideband Power Sensor	Agilent Technologies	N1921A	3983	12	22-Sep-2015
1 Metre K Type Cable	Rhophase	KPS-1501A-1000-KPS	4106	12	5-Nov-2014
Calibration Unit	Rohde & Schwarz	ZV-Z54	4368	12	24-Sep-2015
Frequency Standard	Spectracom	Secure Sync 1200-0408-0601	4393	6	18-Jan-2015
PXA Signal Analyser	Agilent Technologies	N9030A PXA	4409	12	27-Feb-2015
<b>Section 2.5 - Ratio of the Peak Excursion of the Modulation Envelope</b>					
Power Supply Unit	Hewlett Packard	6282A	132	-	TU
Multimeter	Fluke	75 Mk3	455	12	23-Jul-2015
Attenuator (10dB)	Weinschel	47-10-34	481	12	28-Mar-2015
Rubidium Standard	Rohde & Schwarz	XSRM	1316	6	18-Jan-2015
Attenuator (10dB, 50W)	Aeroflex / Weinschel	47-10-34	3166	12	16-Sep-2015
Hygrometer	Rotronic	I-1000	3220	12	24-Jul-2015
Network Analyser	Rohde & Schwarz	ZVA 40	3548	12	3-Sep-2015
'N' - 'N' RF Cable (1m)	Rhophase	NPS-1803-1000-NPS	3700	12	26-Nov-2014
P-Series Power Meter	Agilent Technologies	N1911A	3981	12	22-Sep-2015
50 MHz-18 GHz Wideband Power Sensor	Agilent Technologies	N1921A	3983	12	22-Sep-2015
1 Metre K Type Cable	Rhophase	KPS-1501A-1000-KPS	4106	12	5-Nov-2014
Calibration Unit	Rohde & Schwarz	ZV-Z54	4368	12	24-Sep-2015
Frequency Standard	Spectracom	Secure Sync 1200-0408-0601	4393	6	18-Jan-2015
PXA Signal Analyser	Agilent Technologies	N9030A PXA	4409	12	27-Feb-2015



Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Due
<b>Section 2.6 - Undesirable Emission Limits</b>					
Power Supply Unit	Hewlett Packard	6267B	21	-	TU
Antenna (Double Ridge Guide)	Link Microtek Ltd	AM180HA-K-TU2	230	24	26-Nov-2015
Antenna (Double Ridge Guide, 1GHz-18GHz)	EMCO	3115	234	12	2-May-2015
Pre-Amplifier	Phase One	PS04-0086	1533	12	19-Dec-2014
Pre-Amplifier	Phase One	PSO4-0087	1534	12	1-Oct-2015
Screened Room (5)	Rainford	Rainford	1545	24	10-Jan-2015
Turntable Controller	Inn-Co GmbH	CO 1000	1606	-	TU
Filter (Hi Pass)	Lorch	9HP7-7000-SR	2833	12	4-Feb-2015
Antenna (Bilog)	Chase	CBL6143	2904	24	10-Jun-2015
EMI Test Receiver	Rohde & Schwarz	ESU40	3506	12	27-Oct-2015
'3.5mm' - '3.5mm' RF Cable (1m)	Rhophase	3PS-1803-1000-3PS	3697	12	28-Feb-2015
EMI Test Receiver	Rohde & Schwarz	ESIB26	3763	12	3-Jul-2015
9m RF Cable (N Type)	Rhophase	NPS-2303-9000-NPS	3791	-	TU
Tilt Antenna Mast	matureo Gmbh	TAM 4.0-P	3916	-	TU
Mast Controller	matureo Gmbh	NCD	3917	-	TU
1 Metre K Type Cable	Rhophase	KPS-1501A-1000-KPS	4105	12	7-Nov-2015
Cable 1503 2M 2.92(P)m 2.92(P)m	Rhophase	KPS-1503A-2000-KPS	4293	12	3-Jun-2015
1GHz to 8GHz Low Noise Amplifier	Wright Technologies	APS04-0085	4365	12	1-Oct-2015
<b>Section 2.7- Frequency Stability</b>					
Power Supply Unit	Hewlett Packard	6282A	132	-	TU
Multimeter	Fluke	75 Mk3	455	12	23-Jul-2015
Attenuator (10dB)	Weinschel	47-10-34	481	12	28-Mar-2015
Rubidium Standard	Rohde & Schwarz	XSRM	1316	6	18-Jan-2015
Attenuator (10dB, 50W)	Aeroflex / Weinschel	47-10-34	3166	12	16-Sep-2015
Hygrometer	Rotronic	I-1000	3220	12	24-Jul-2015
'N' - 'N' RF Cable (1m)	Rhophase	NPS-1803-1000-NPS	3700	12	26-Nov-2014
P-Series Power Meter	Agilent Technologies	N1911A	3980	12	22-Sep-2015
1 Metre K Type Cable	Rhophase	KPS-1501A-1000-KPS	4106	12	7-Nov-2015
Frequency Standard	Spectracom	Secure Sync 1200-0408-0601	4393	6	18-Jan-2015

TU – Traceability Unscheduled



### 3.2 MEASUREMENT UNCERTAINTY

For a 95% confidence level, the measurement uncertainties for defined systems are:-

Test Discipline	MU
Frequency Stability	± 90.32 Hz
Power Limits	Conducted: ± 0.70 dB Radiated: 30MHz to 1GHz: ± 5.1 dB Radiated: 1GHz to 40GHz: ± 6.3 dB
26 dB Bandwidth	± 5.72 kHz
Ratio of the Peak Excursion of the Modulation Envelope	± 0.70 dB
Undesirable Emission Limits	Conducted: ± 3.454 dB Radiated: ± 3.08 dB
AC Line Conducted Emissions	± 3.2 dB
Peak Power Spectral Density	± 3.0 dB



Product Service

## **SECTION 4**

### **ACCREDITATION, DISCLAIMERS AND COPYRIGHT**



Product Service

#### 4.1 ACCREDITATION, DISCLAIMERS AND COPYRIGHT



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Results of tests not covered by our UKAS Accreditation Schedule are marked NUA  
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TÜV SÜD Product Service

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