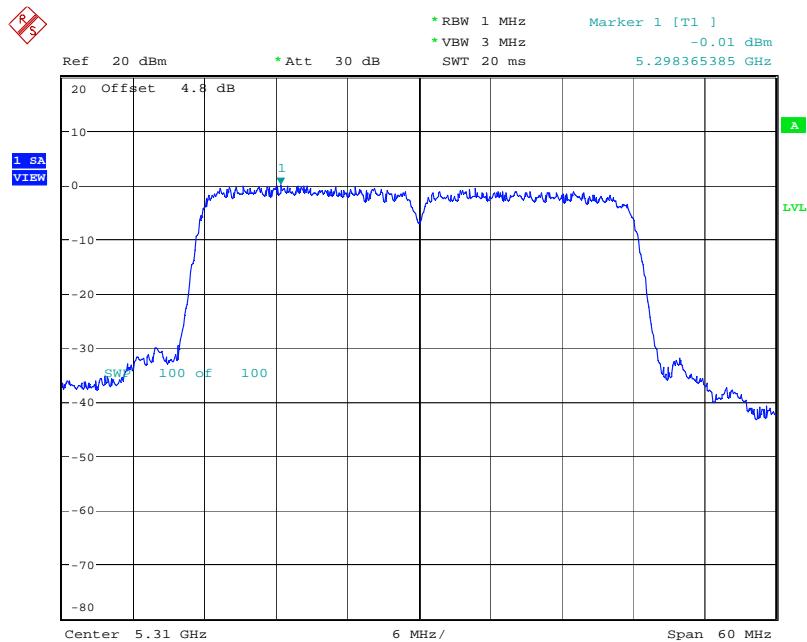
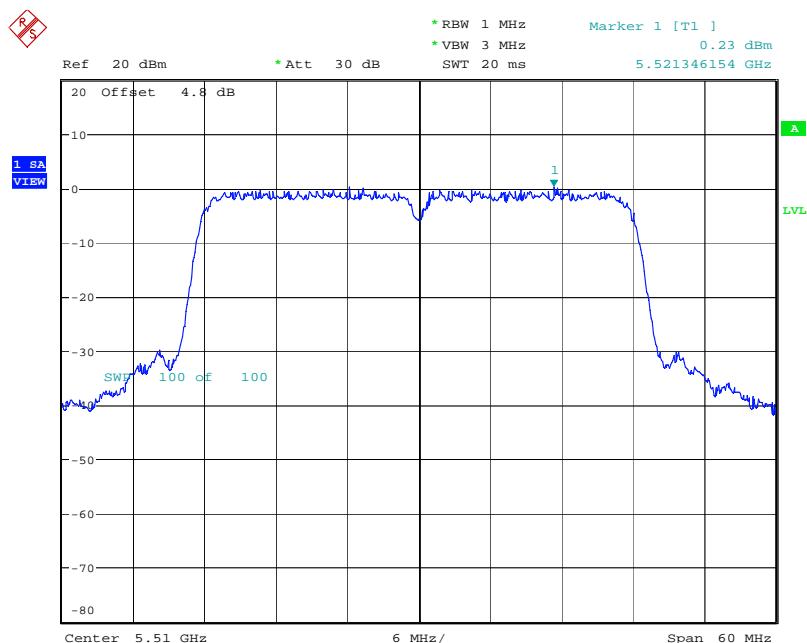


Power Density Plot on Configuration Draft n MCS8 40MHz Ant. A + Ant. B / 5310 MHz



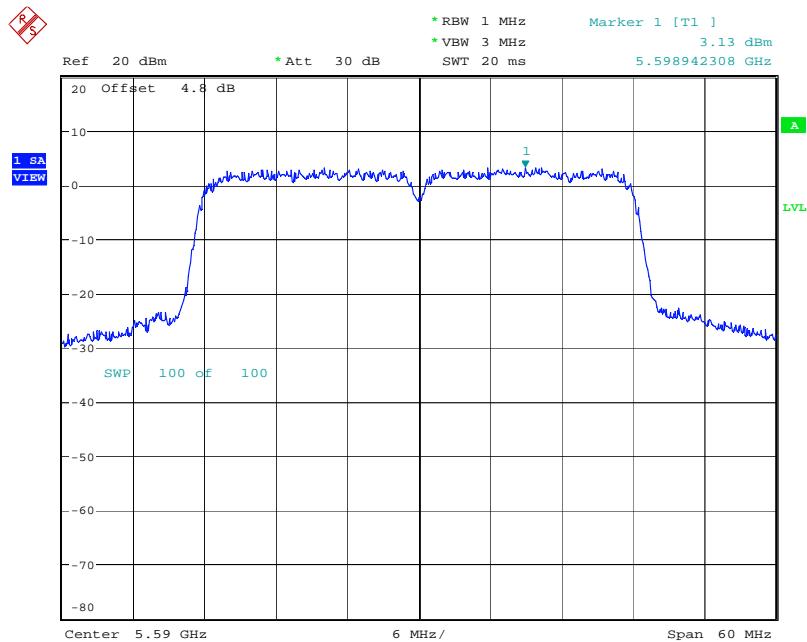
Date: 2.FEB.2008 12:07:01

Power Density Plot on Configuration Draft n MCS8 40MHz Ant. A + Ant. B / 5510MHz



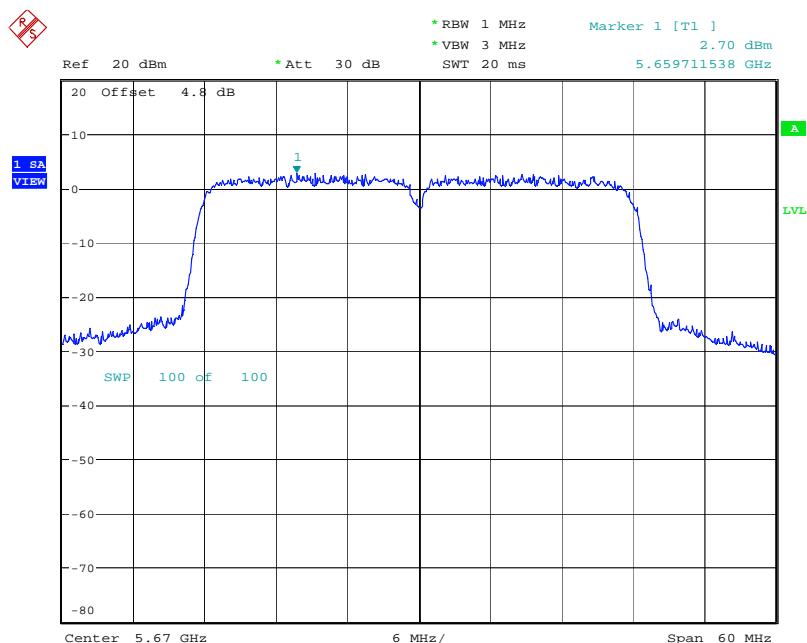
Date: 2.FEB.2008 10:42:36

Power Density Plot on Configuration Draft n MCS8 40MHz Ant. A + Ant. B / 5590 MHz



Date: 2.FEB.2008 10:45:14

Power Density Plot on Configuration Draft n MCS8 40MHz Ant. A + Ant. B / 5670 MHz



Date: 2.FEB.2008 10:49:11

4.5. Peak Excursion Measurement

4.5.1. Limit

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 emissions bandwidth whichever is less.

4.5.2. Measuring Instruments and Setting

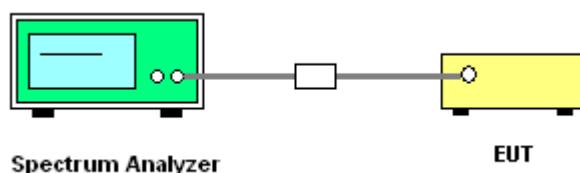
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Encompass the entire emissions bandwidth (EBW) of the signal
RB	1000 kHz (Peak Trace) / 1000 kHz (Average Trace)
VB	3000 kHz (Peak Trace) / 300 kHz (Average Trace)
Detector	Peak (Peak Trace) / Sample (Average Trace)
Trace	Max Hold
Sweep Time	60s

4.5.3. Test Procedures

1. The transmitter output (antenna port) was connected to the spectrum analyzer.
2. Set the spectrum analyzer span to view the entire emissions bandwidth. The largest difference between the following two traces (Peak Trace and Average Trace) must be ≤ 13 dB for all frequencies across the emissions bandwidth. Submit a plot.
3. Peak Trace: Set RBW = 1 MHz, VBW \geq 3 MHz with peak detector and max-hold settings.
4. Average Trace: Method #3—video averaging with max hold--and sum power across the band. Set span to encompass the entire emissions bandwidth (EBW) of the signal. Set sweep trigger to “free run”. Set RBW = 1 MHz. Set VBW $\geq 1/T$ (Draft n VBW = 300kHz $\geq 1/4\mu s$). Use sample detector mode if bin width (i.e., span/number of points in spectrum) < 0.5 RBW. Otherwise use peak detector mode . Set max hold. Allow max hold to run for 60 seconds.
5. Measuring multiple antennas, the connector is required to link with spectrum analyzer through a combiner.

4.5.4. Test Setup Layout



4.5.5. Test Deviation

There is no deviation with the original standard.

4.5.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.5.7. Test Result of Peak Excursion

Temperature	20°C	Humidity	70%
Test Engineer	Jacky Ho	Configurations	Draft n

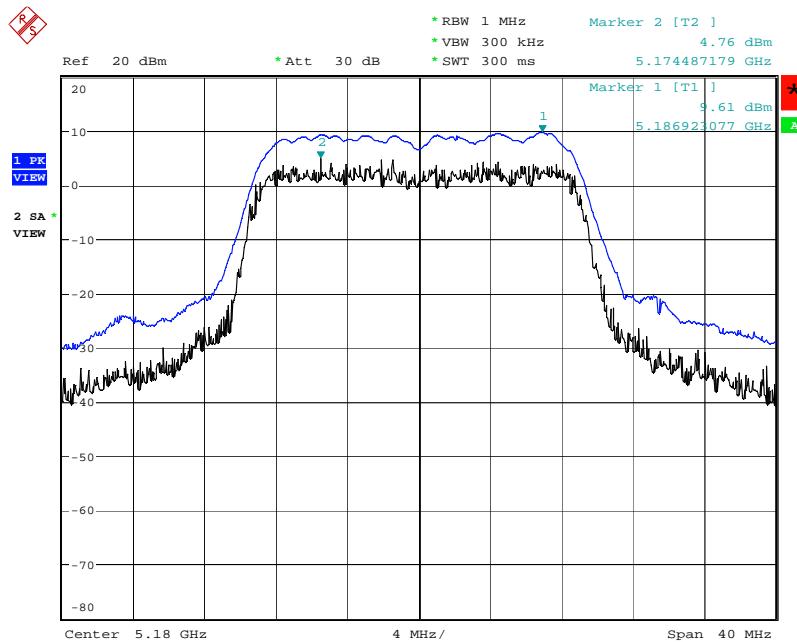
Configuration Draft n MCS8 20MHz Ant. A + Ant. B

Channel	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
36	5180 MHz	4.85	13	Complies
40	5200 MHz	4.57	13	Complies
48	5240 MHz	5.07	13	Complies
52	5260 MHz	4.91	13	Complies
60	5300 MHz	4.96	13	Complies
64	5320 MHz	5.29	13	Complies
100	5500 MHz	5.09	13	Complies
120	5600 MHz	4.76	13	Complies
140	5700 MHz	4.75	13	Complies

Configuration Draft n MCS8 40MHz Ant. A + Ant. B

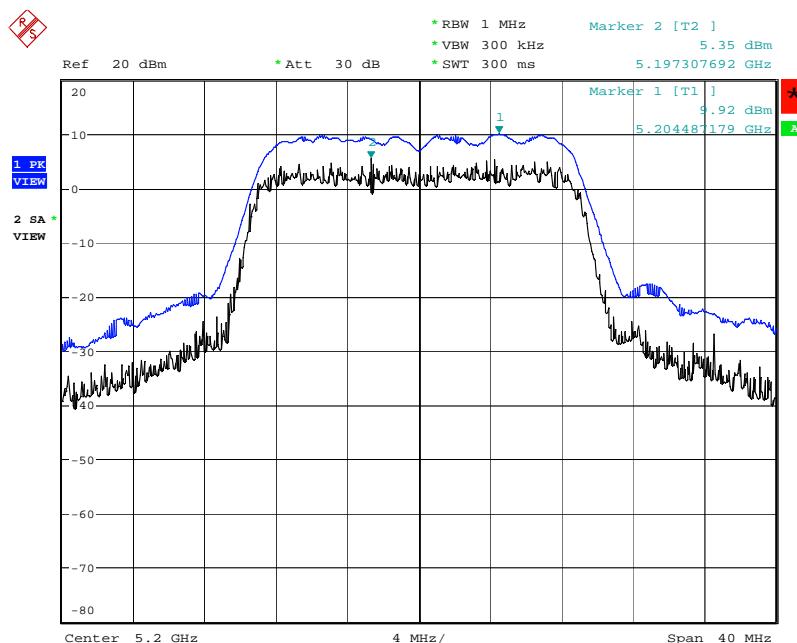
Channel	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
38	5190 MHz	4.73	13	Complies
46	5230 MHz	4.98	13	Complies
54	5270 MHz	5.37	13	Complies
62	5310 MHz	4.53	13	Complies
102	5510MHz	4.83	13	Complies
118	5590 MHz	5.24	13	Complies
134	5670 MHz	5.15	13	Complies

Peak Excursion Plot on Configuration Draft n MCS8 20MHz Ant. A + Ant. B / 5180 MHz



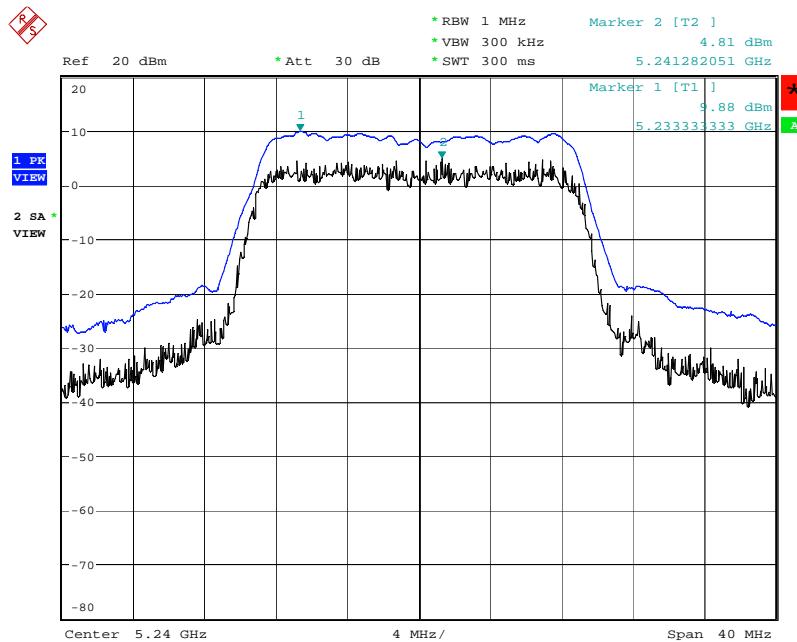
Date: 2.FEB.2008 10:56:31

Peak Excursion Plot on Configuration Draft n MCS8 20MHz Ant. A + Ant. B / 5200 MHz



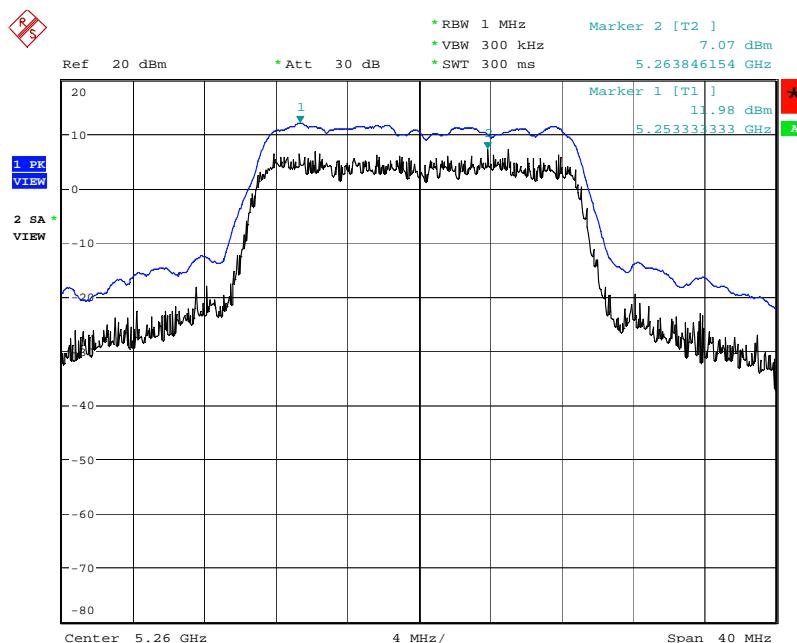
Date: 2.FEB.2008 11:01:26

Peak Excursion Plot on Configuration Draft n MCS8 20MHz Ant. A + Ant. B / 5240 MHz



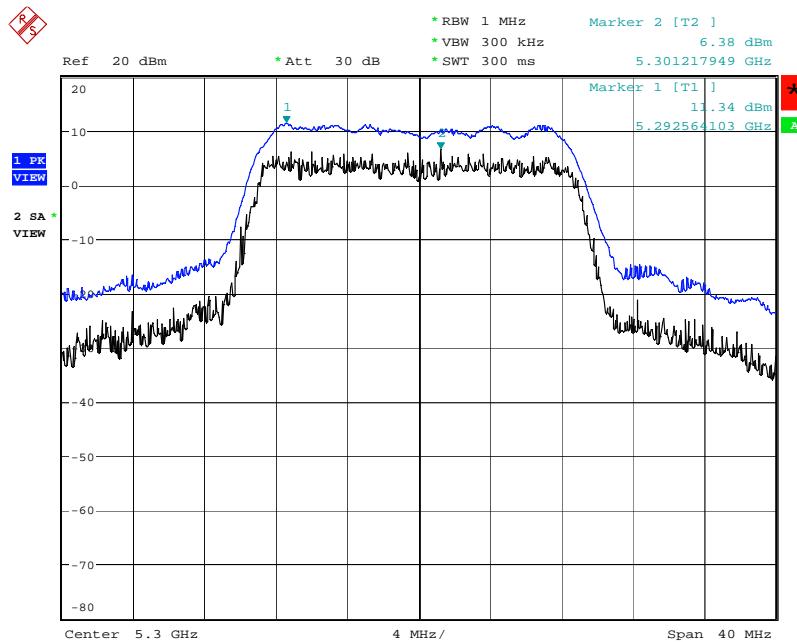
Date: 2.FEB.2008 11:04:49

Peak Excursion Plot on Configuration Draft n MCS8 20MHz Ant. A + Ant. B / 5260 MHz



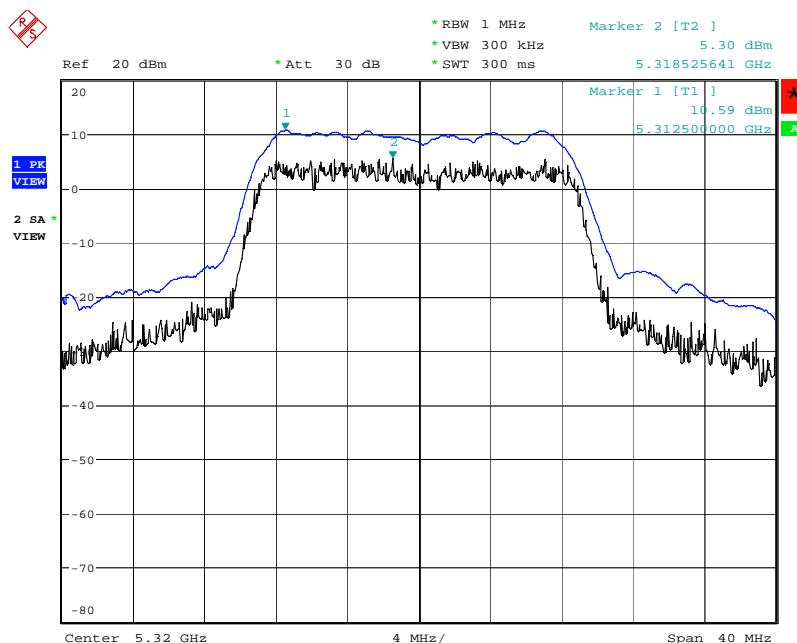
Date: 2.FEB.2008 11:06:19

Peak Excursion Plot on Configuration Draft n MCS8 20MHz Ant. A + Ant. B / 5300 MHz



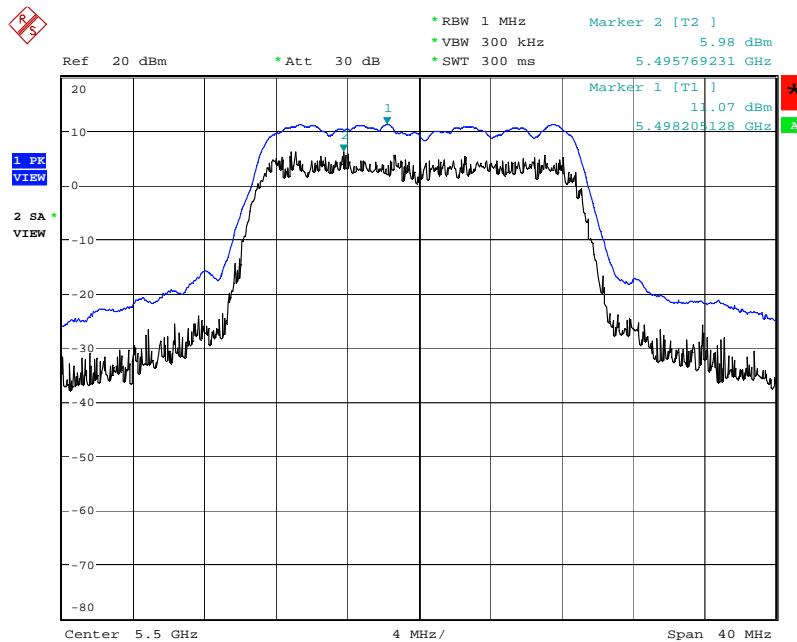
Date: 2.FEB.2008 11:11:39

Peak Excursion Plot on Configuration Draft n MCS8 20MHz Ant. A + Ant. B / 5320 MHz



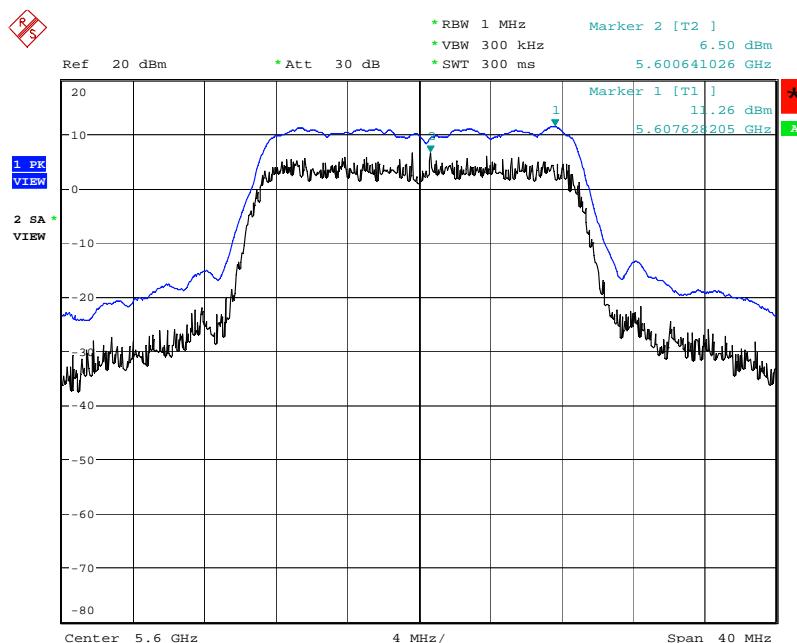
Date: 2.FEB.2008 11:08:28

Peak Excursion Plot on Configuration Draft n MCS8 20MHz Ant. A + Ant. B / 5500 MHz



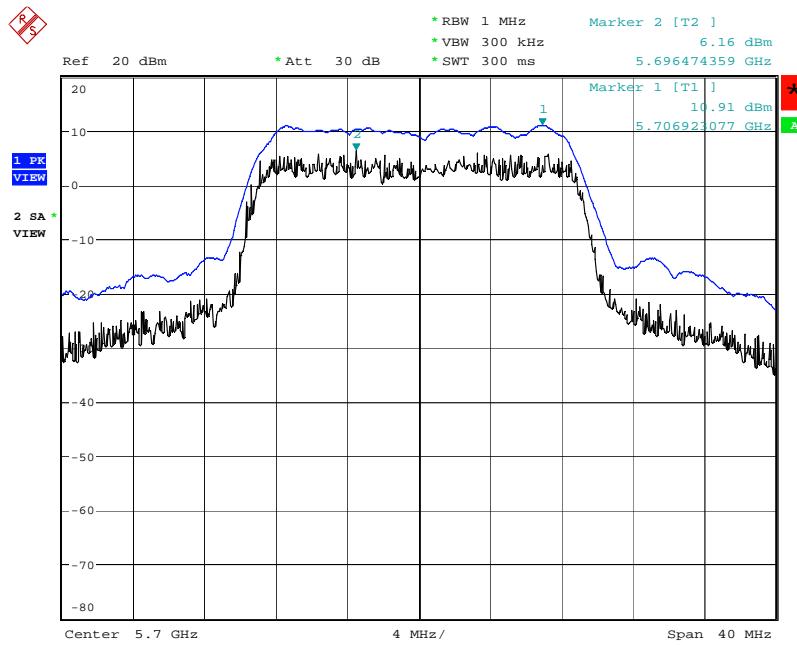
Date: 2.FEB.2008 11:28:24

Peak Excursion Plot on Configuration Draft n MCS8 20MHz Ant. A + Ant. B / 5600 MHz



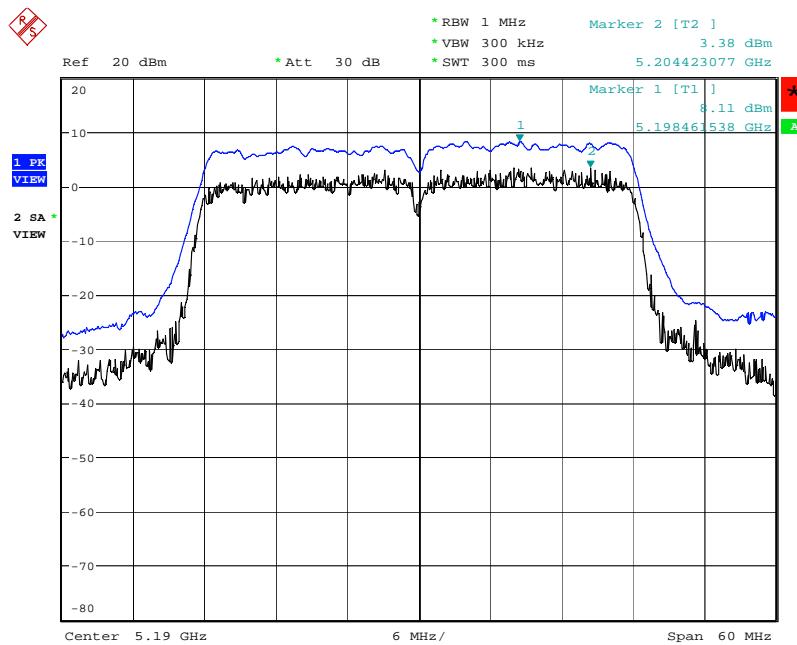
Date: 2.FEB.2008 11:30:02

Peak Excursion Plot on Configuration Draft n MCS8 20MHz Ant. A + Ant. B / 5700 MHz



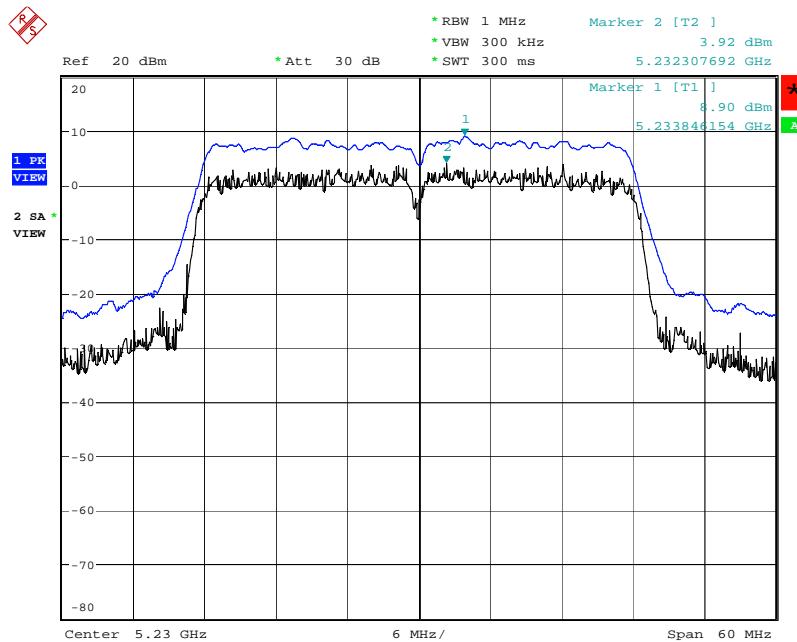
Date: 2.FEB.2008 11:32:00

Peak Excursion Plot on Configuration Draft n MCS8 40MHz Ant. A + Ant. B / 5190 MHz



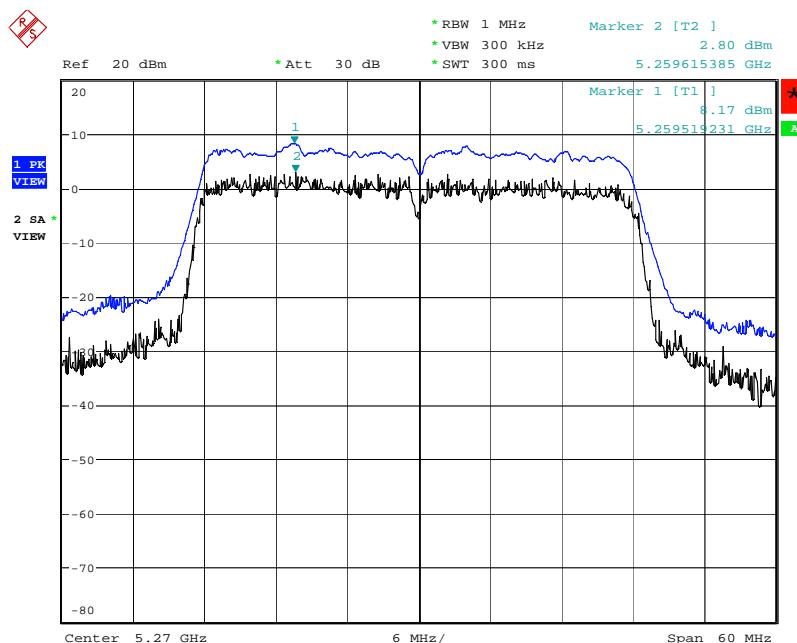
Date: 2.FEB.2008 10:27:13

Peak Excursion Plot on Configuration Draft n MCS8 40MHz Ant. A + Ant. B / 5230 MHz



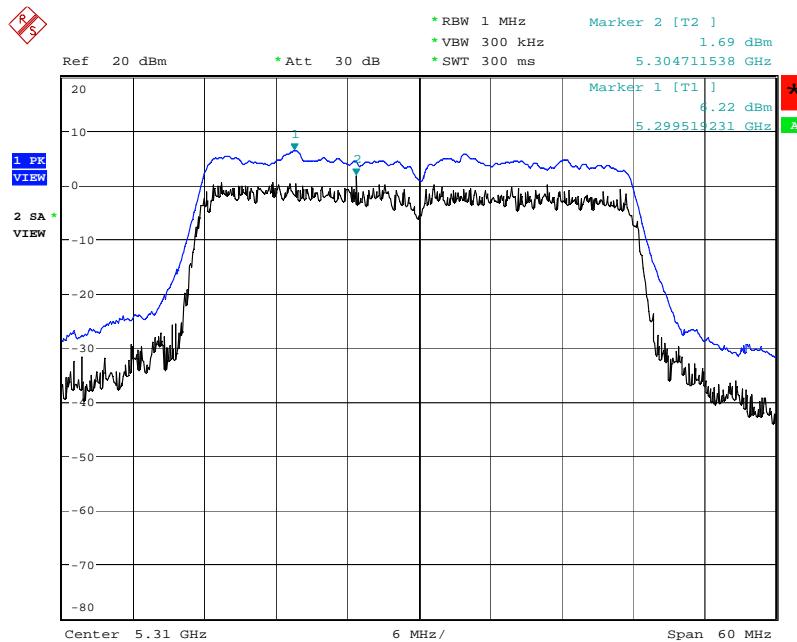
Date: 2.FEB.2008 10:33:41

Peak Excursion Plot on Configuration Draft n MCS8 40MHz Ant. A + Ant. B / 5270 MHz



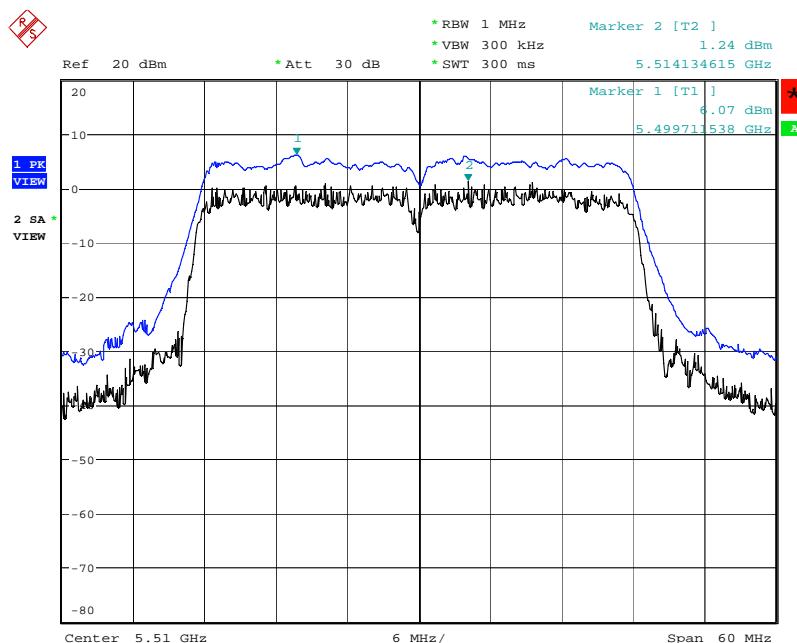
Date: 2.FEB.2008 10:35:49

Peak Excursion Plot on Configuration Draft n MCS8 40MHz Ant. A + Ant. B / 5310 MHz



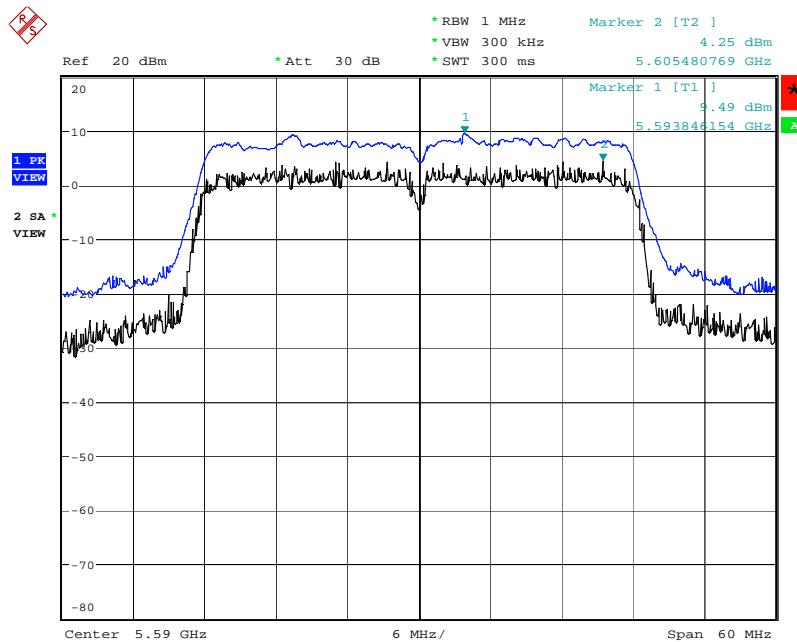
Date: 2.FEB.2008 12:07:47

Peak Excursion Plot on Configuration Draft n MCS8 40MHz Ant. A + Ant. B / 5510MHz



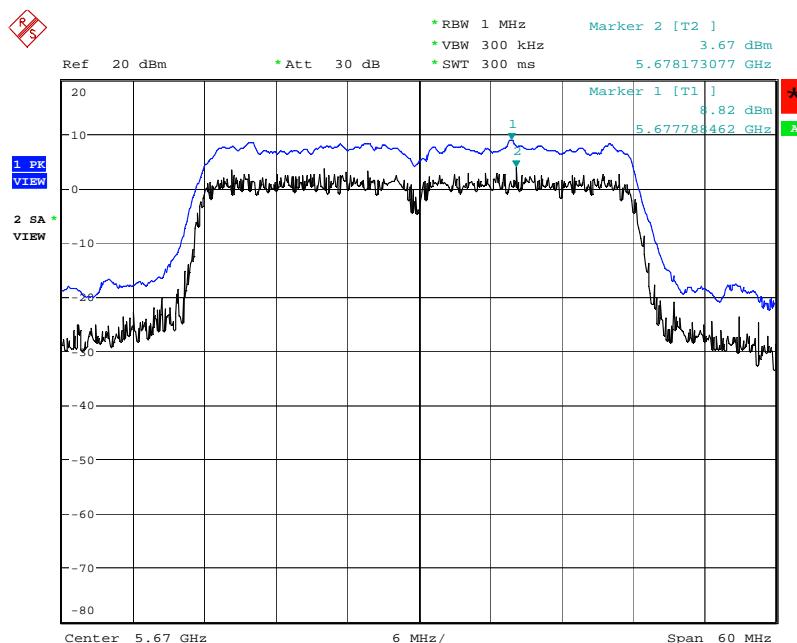
Date: 2.FEB.2008 10:43:23

Peak Excursion Plot on Configuration Draft n MCS8 40MHz Ant. A + Ant. B / 5590 MHz



Date: 2.FEB.2008 10:46:01

Peak Excursion Plot on Configuration Draft n MCS8 40MHz Ant. A + Ant. B / 5670 MHz



Date: 2.FEB.2008 10:49:57

4.6. Radiated Emissions Measurement

4.6.1. Limit

For transmitters operating in the 5.15-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz (68.3dBuV/m at 3m). For transmitters operating in the 5.470-5.725 GHz band: all emissions outside of the 5.470-5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz (68.3dBuV/m at 3m). For transmitters operating in the 5.725-5.825 GHz band: all emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an EIRP of -17 dBm/MHz (78.3dBuV/m at 3m); for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an EIRP of -27 dBm/MHz (68.3dBuV/m at 3m). In addition, In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

4.6.2. Measuring Instruments and Setting

Please refer to section 5 of equipments list in this report. The following table is the setting of spectrum analyzer and receiver.

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	40 GHz
RB / VB (Emission in restricted band)	1MHz / 1MHz for Peak, 1 MHz / 10Hz for Average
RB / VB (Emission in non-restricted band)	1000KHz / 1000KHz for peak

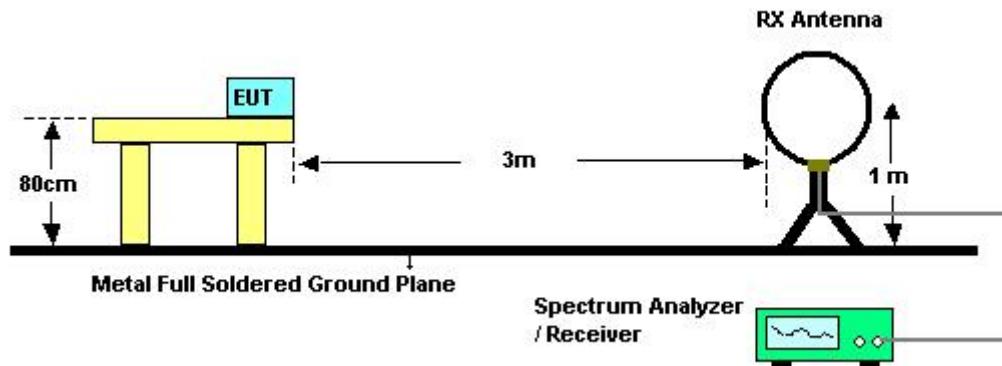
Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

4.6.3. Test Procedures

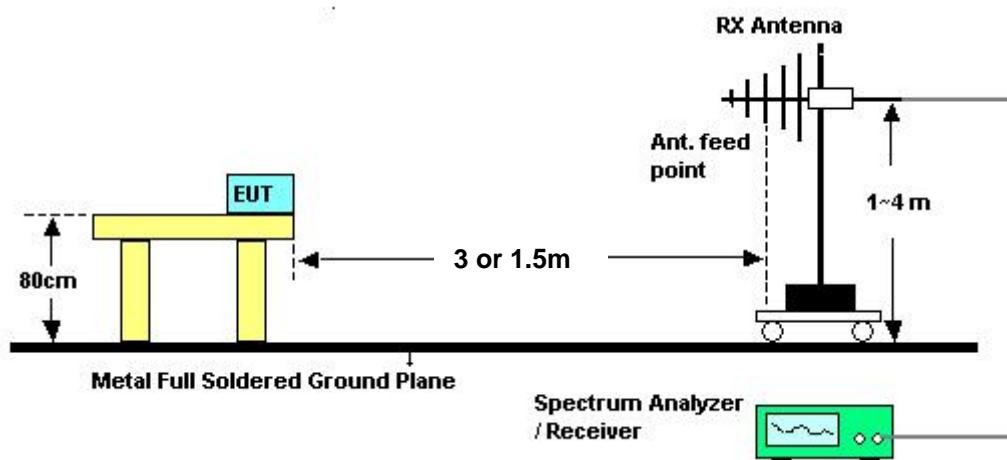
1. Configure the EUT according to ANSI C63.4. The EUT was placed on the top of the turntable 0.8 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1GHz, use 1MHz VBW and RBW for peak reading. Then 1MHz RBW and 10Hz VBW for average reading in spectrum analyzer.
7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum value.
8. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High – Low scan is not required in this case.

4.6.4. Test Setup Layout

For radiated emissions below 30MHz



For radiated emissions above 30MHz



Above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade from 3m to 1.5m.

Distance extrapolation factor = $20 \log (\text{specific distance [3m]} / \text{test distance [1.5m]})$ (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor [6 dB].

4.6.5. Test Deviation

There is no deviation with the original standard.

4.6.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.6.7. Results of Radiated Emissions (9kHz~30MHz)

Temperature	24°C	Humidity	56%
Test Engineer	Jax Chen		

Freq. (MHz)	Level (dBuV)	Over Limit (dB)	Limit Line (dBuV)	Remark
-	-	-	-	See Note

Note:

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

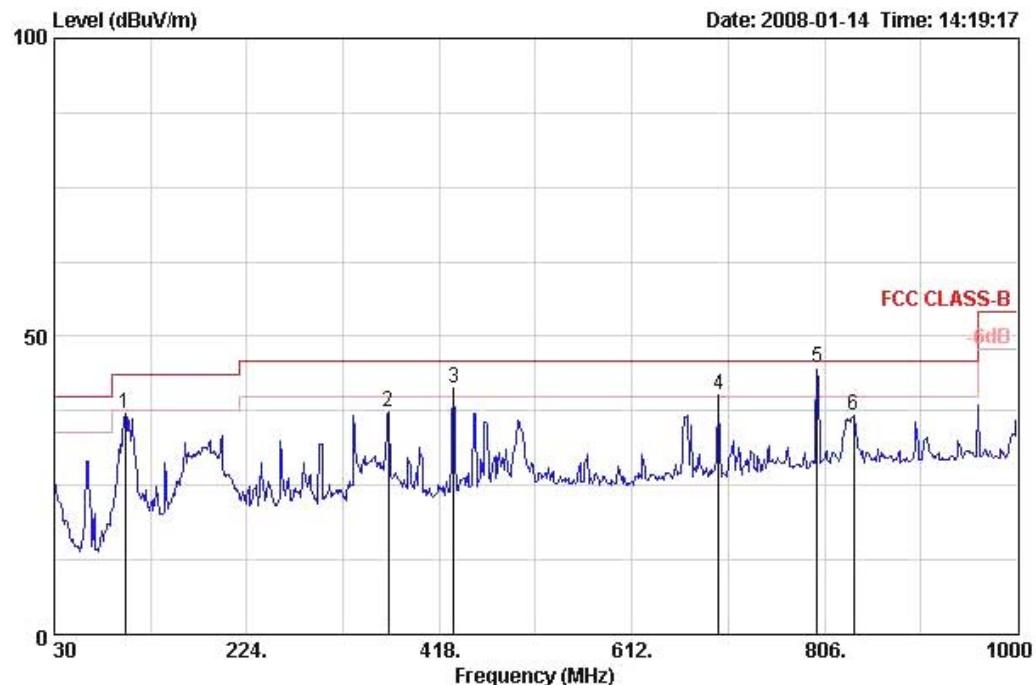
Distance extrapolation factor = $40 \log (\text{specific distance} / \text{test distance})$ (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor.

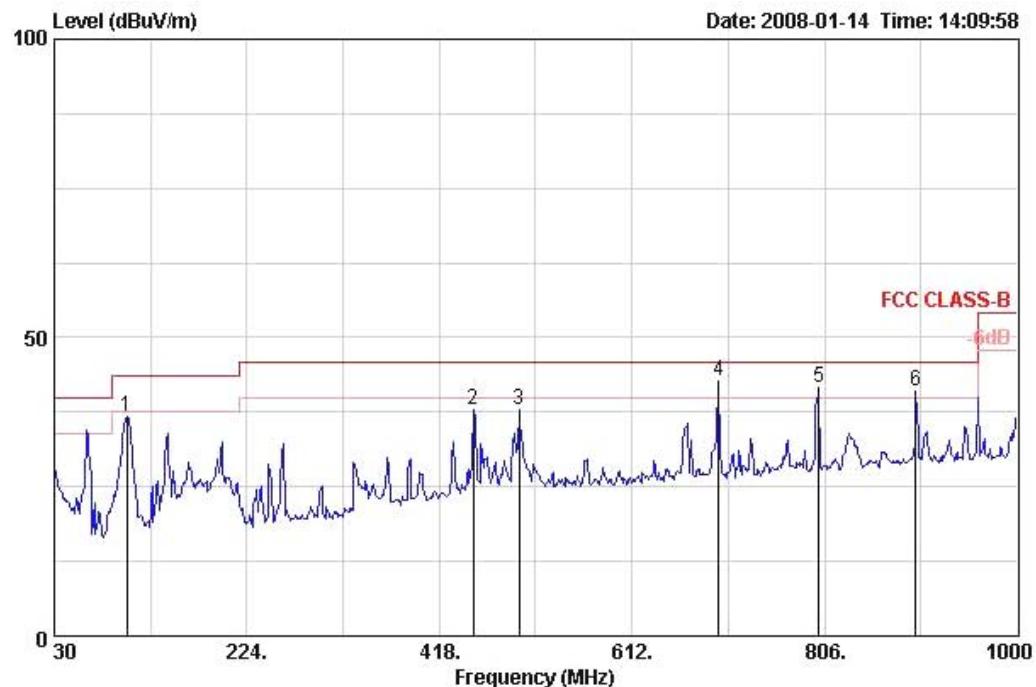
4.6.8. Results of Radiated Emissions (30MHz~1GHz)

Temperature	24°C	Humidity	56%
Test Engineer	Jax Chen	Configurations	Normal Link

Horizontal



Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Remark	Table	
		Line	Limit	Level	Factor	Cable	Preamp			
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	101.780	37.05	-6.45	43.50	55.74	11.52	1.50	31.71 Peak	400	-1 HORIZONTAL
2 @	366.590	37.35	-8.65	46.00	50.22	15.80	2.50	31.17 Peak	400	-1 HORIZONTAL
3 @	432.550	41.30	-4.70	46.00	52.44	16.99	2.83	30.96 Peak	400	-1 HORIZONTAL
4 @	699.300	40.10	-5.90	46.00	47.22	19.80	3.60	30.52 Peak	400	-1 HORIZONTAL
5 @	798.710	44.81	-1.20	46.00	50.50	20.68	3.80	30.18 QP	128	86 HORIZONTAL
6 @	835.100	36.74	-9.26	46.00	41.81	21.12	3.94	30.14 Peak	400	-1 HORIZONTAL

Vertical


Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	
		Limit	Line	Level	Factor	Loss	Factor			
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	102.750	36.74	-6.76	43.50	55.27	11.68	1.50	31.72	Peak	400
2 @	451.950	37.91	-8.09	46.00	48.69	17.23	2.92	30.92	Peak	400
3 @	498.510	37.88	-8.12	46.00	47.66	17.87	3.28	30.94	Peak	400
4 @	699.300	42.76	-3.24	46.00	49.88	19.80	3.60	30.52	Peak	400
5 @	800.180	41.58	-4.42	46.00	47.26	20.70	3.80	30.18	Peak	400
6 @	898.150	41.00	-5.00	46.00	45.03	21.59	4.10	29.71	Peak	400

Note:

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

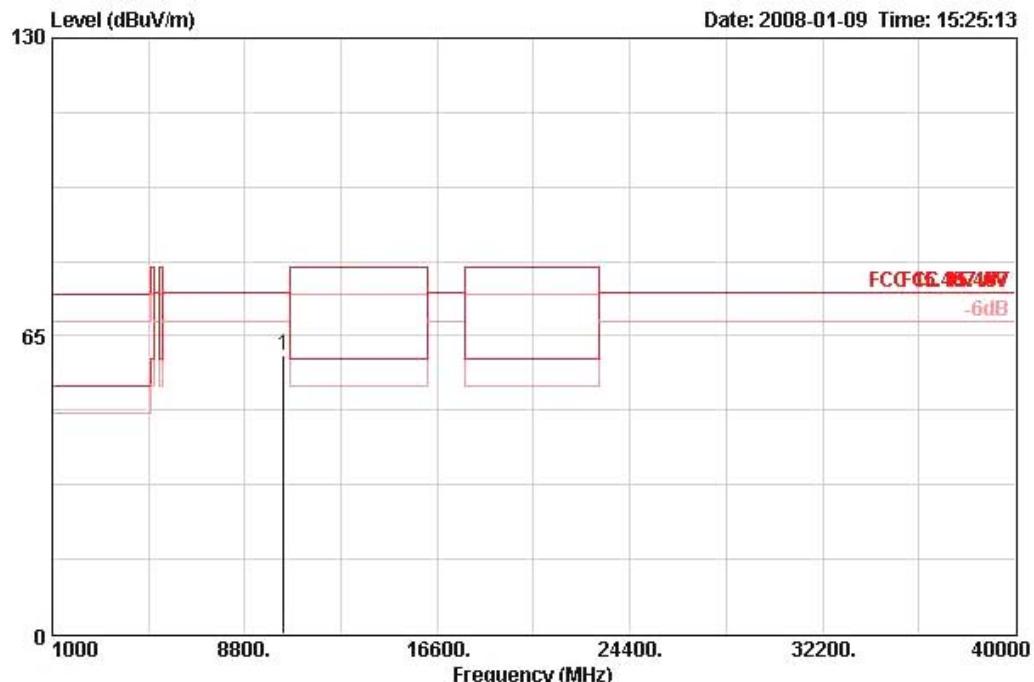
Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

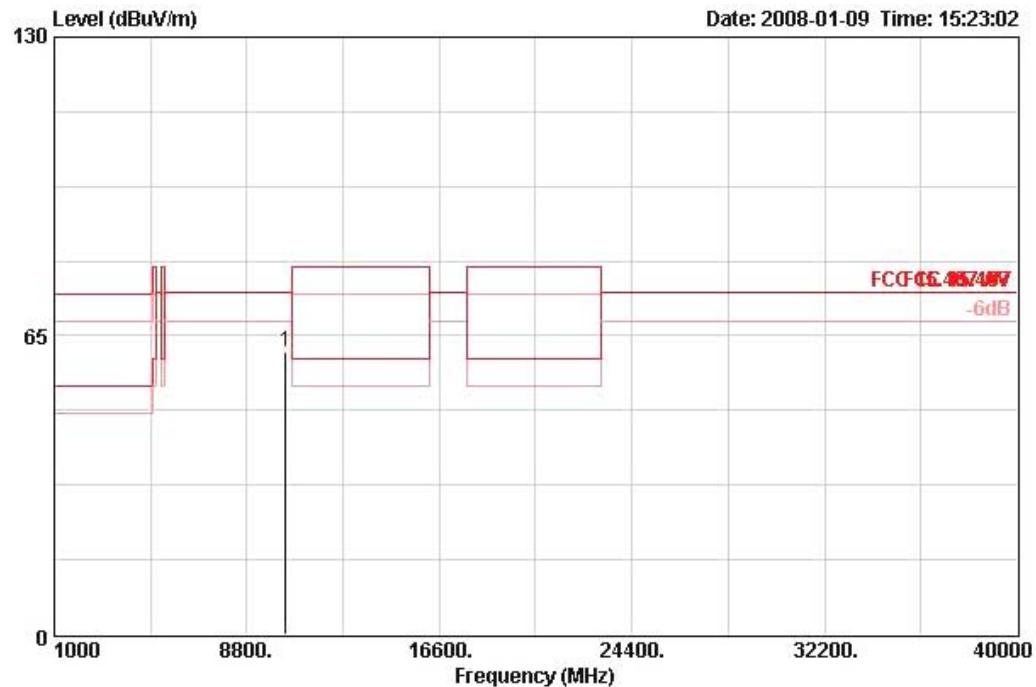
4.6.9. Results for Radiated Emissions (1GHz~40GHz)

Temperature	24°C	Humidity	56%
Test Engineer	Jax Chen	Configurations	Draft n MCS8 20MHz Ch 36 Ant. A + Ant. B

Horizontal

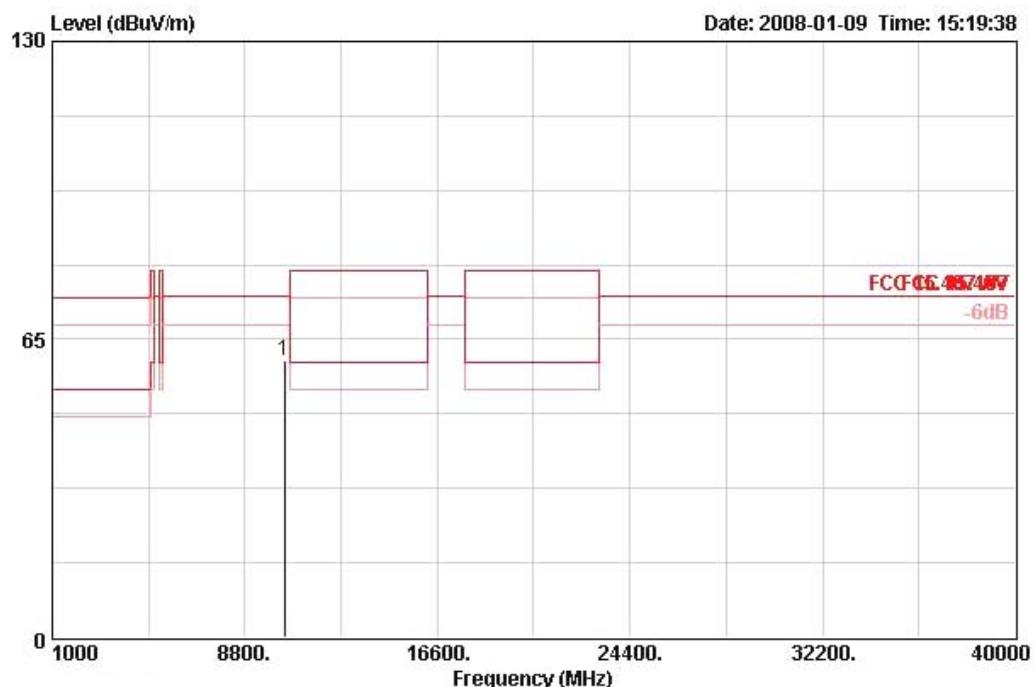


Freq	Level	Over Limit	Read Line	Antenna		Cable Preamp		Remark	Ant Pos	Table Pos	Table Pol/Phase
				MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
10357.480	60.73	-13.57	74.30	48.16	38.37	9.32	35.12	PERK	131	121	HORIZONTAL

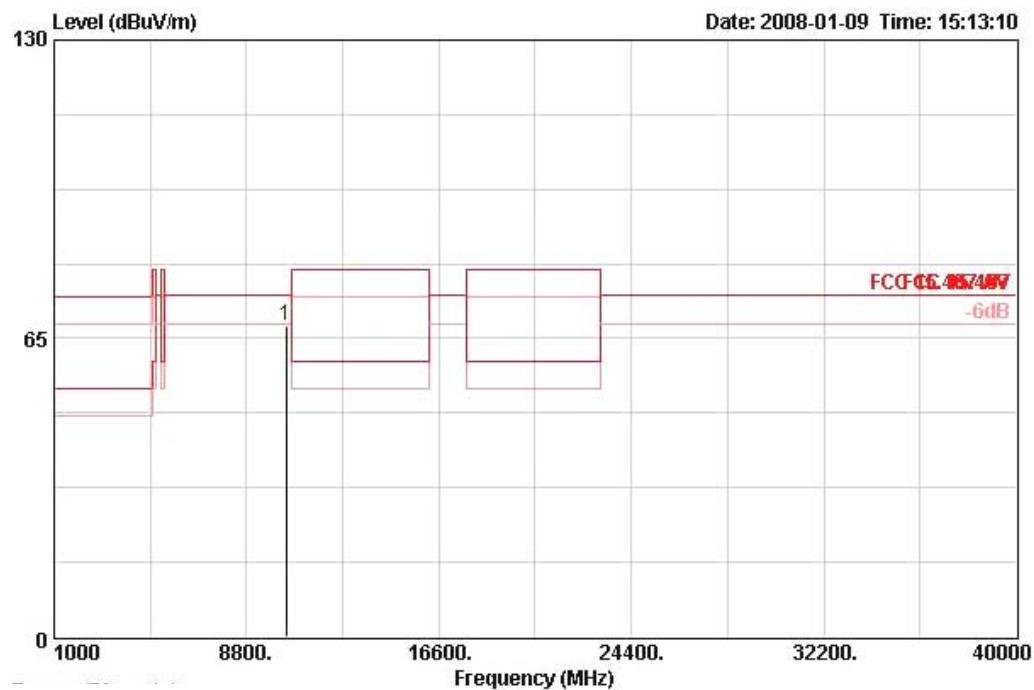
Vertical


Freq	Level	Over Limit	Limit	Read		Ant	Table		
				Line	Antenna			Pos	Pos
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
10357.440	61.47	-12.83	74.30	48.90	38.37	9.32	35.12	PERK	121 279 VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Jax Chen	Configurations	Draft n MCS8 20MHz Ch 40 Ant. A + Ant. B

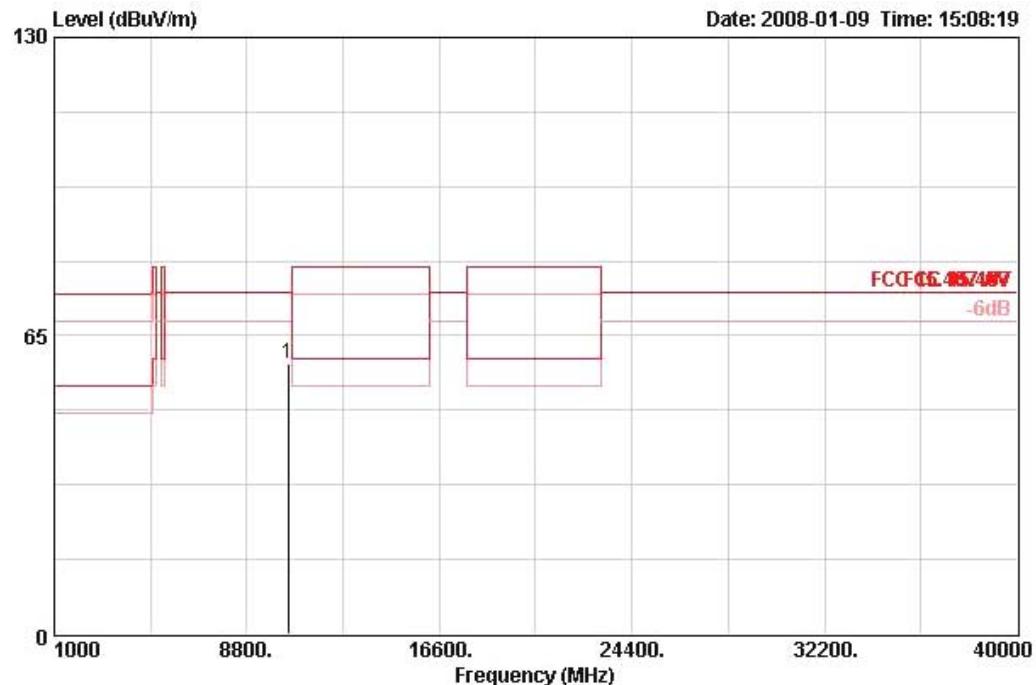
Horizontal


Freq	Level	Over Limit	Limit	Read		Ant	Table		
				Antenna	Cable			Pos	Pos
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
10397.240	60.42	-13.88	74.30	47.74	38.38	9.36	35.05	PERK	
								130	128 HORIZONTAL

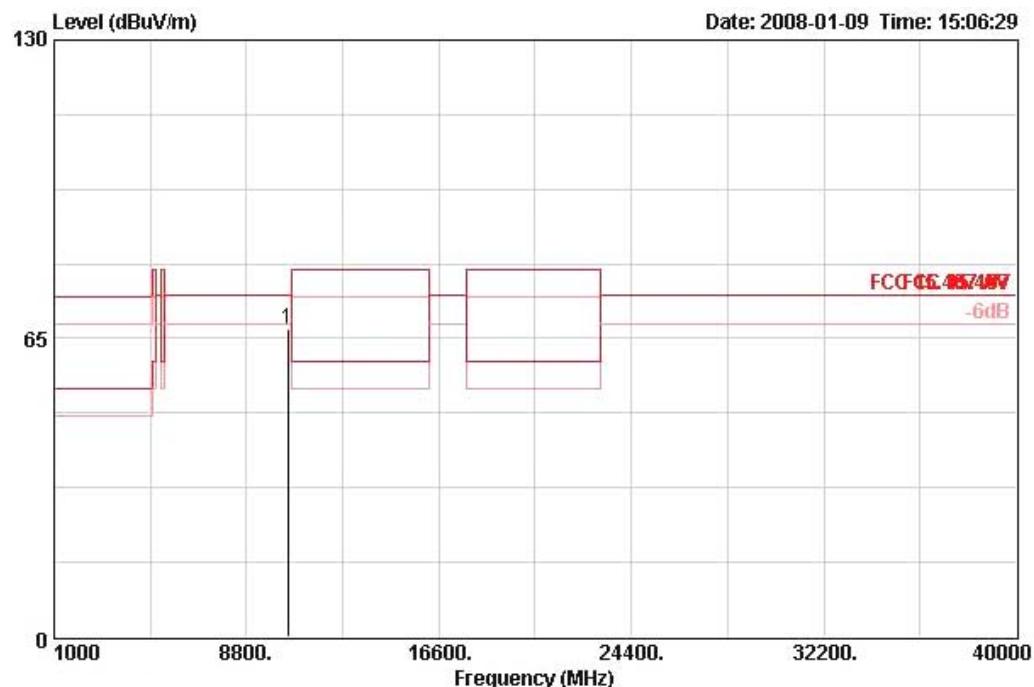
Vertical


Freq	Level	Over Limit		ReadAntenna		Cable Preamp		Remark	Ant Pos	Table Pos	Table Pol/Phase
		MHz	dBuV/m	dB	Line	Level Factor	dB				
1 0	10402.440	67.64	-6.66	74.30	54.95	38.38	9.36	35.05 PEAK	118	289	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Jax Chen	Configurations	Draft n MCS8 20MHz Ch 48 Ant. A + Ant. B

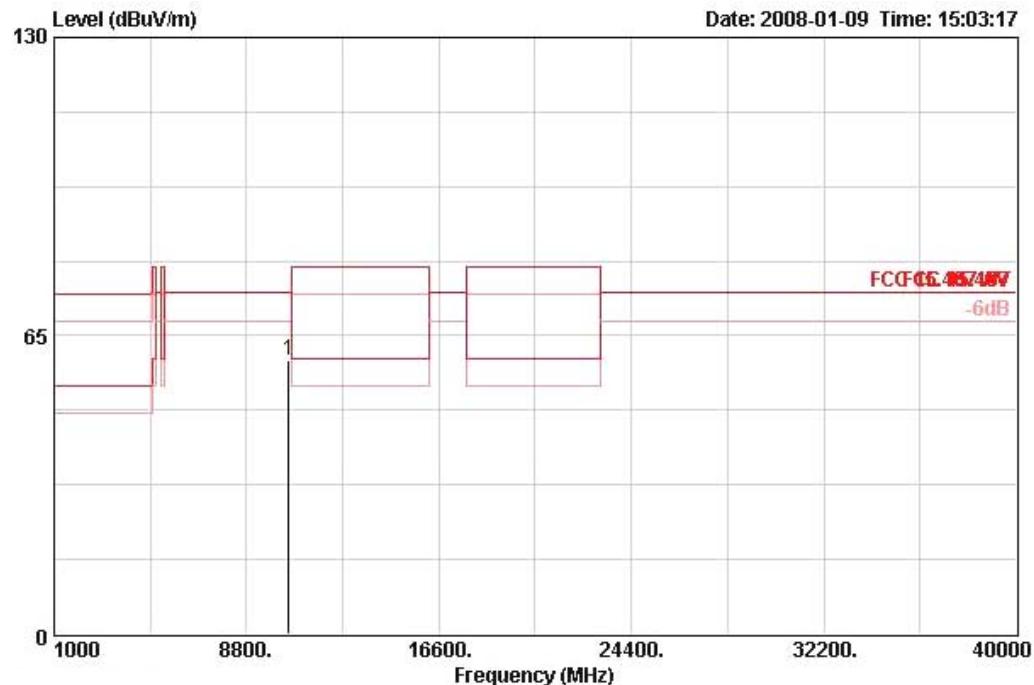
Horizontal


Freq	Level	Over Limit	Limit Line	Read		Ant	Table		
				Antenna	Cable			Pos	Pos
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
10479.600	59.00	-15.30	74.30	46.16	38.40	9.41	34.96	PERK	HORIZONTAL

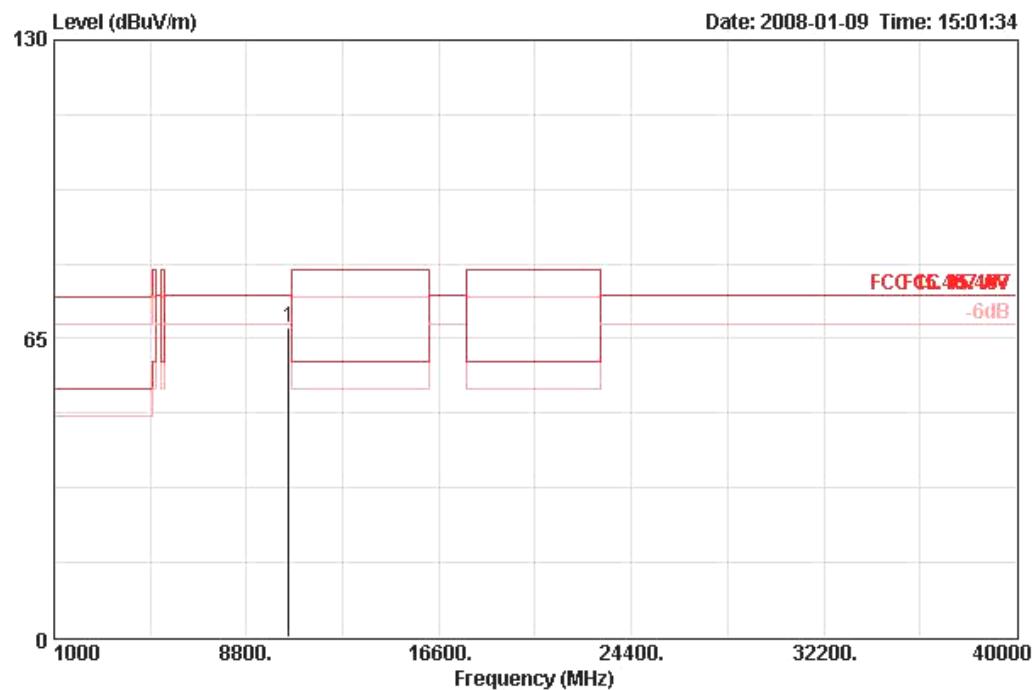
Vertical


Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Remark	Ant	Table	
		Limit	Line	Level	Factor	Loss	Factor		Pos	Pos	Pol/Phase
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
10482.440	66.97	-7.33	74.30	54.12	38.40	9.41	34.96	PERK	121	307	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Jax Chen	Configurations	Draft n MCS8 20MHz Ch 52 Ant. A + Ant. B

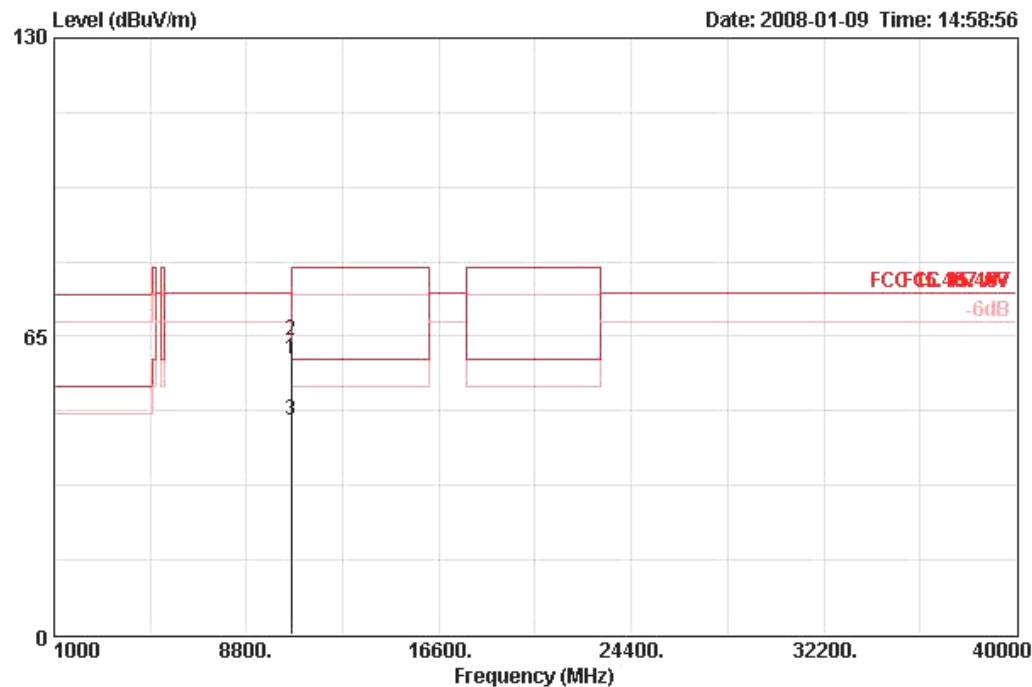
Horizontal


Freq	Level	Over Limit	Limit Line	ReadAntenna		Cable Preamp		Remark	Ant Pos	Table Pos	Table Pol/Phase
				Level	Factor	Level	Factor				
10519.920	59.75	-14.55	74.30	46.85	38.40	9.43	34.93	PERK	129	142	HORIZONTAL

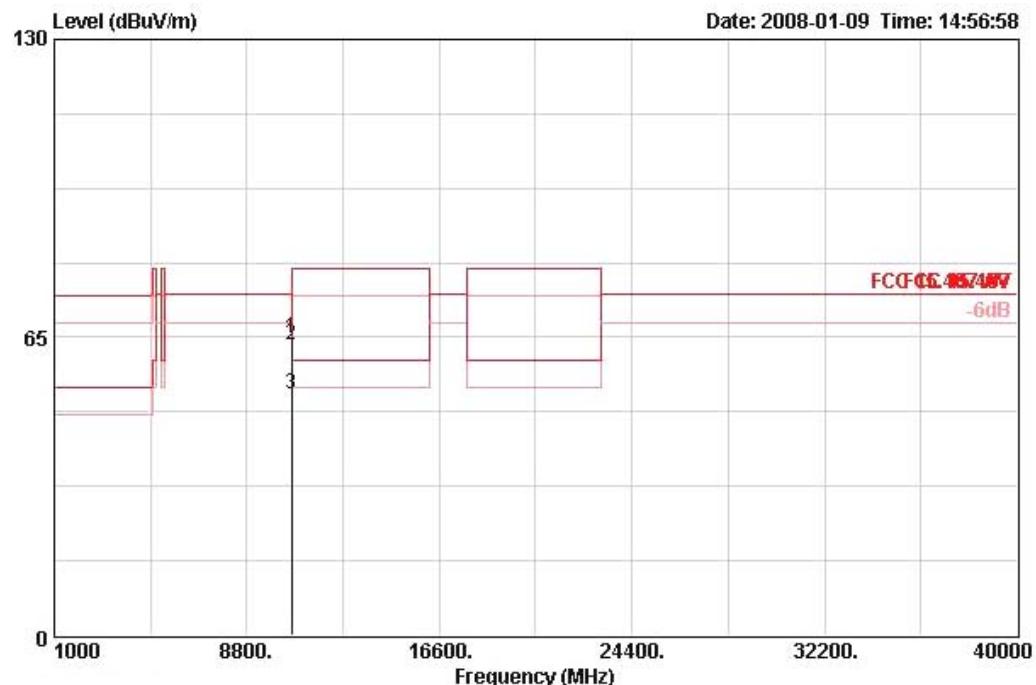
Vertical


Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Remark	Ant	Table	
		Limit	Line	Level	Factor	Loss	Factor		Pos	Pos	Pol/Phase
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
10526.240	67.36	-6.94	74.30	54.44	38.40	9.44	34.92	PERK	122	280	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Jax Chen	Configurations	Draft n MCS8 20MHz Ch 60 Ant. A + Ant. B

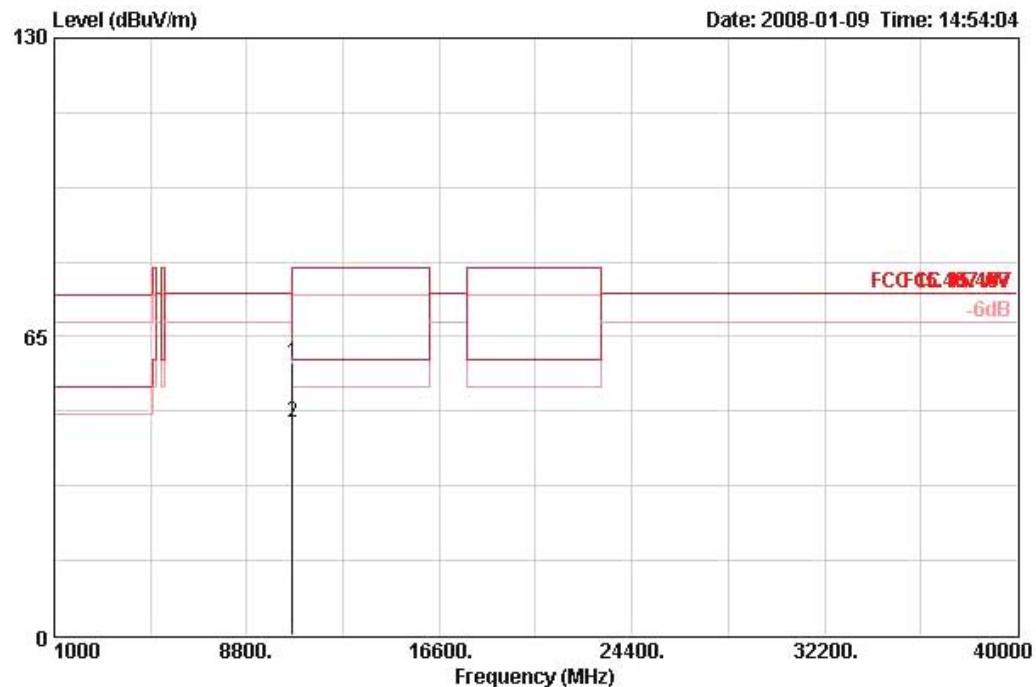
Horizontal


Freq	Level	Over Limit	Limit Line	Read		Ant	Table Pos	Pos	Table Pol/Phase
				Antenna Level	Factor				
1 @	10597.240	59.96	-14.34	74.30	47.00	38.38	9.47	34.90	PEAK
2 @	10600.000	63.94	-16.06	80.00	50.99	38.38	9.47	34.90	PEAK
3 @	10601.240	46.50	-13.50	60.00	33.52	38.38	9.48	34.89	AVERAGE

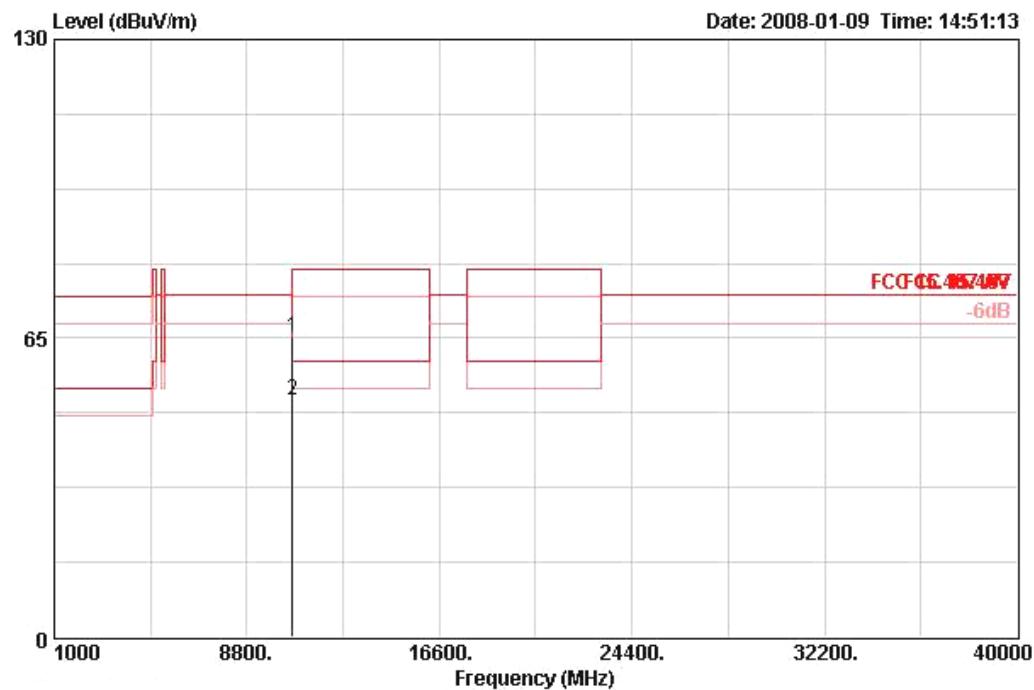
Vertical


Freq	Level	Over Limit	Limit	Read		Ant	Table		
				Antenna	Line			Pos	Pos
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1 @	10599.990	64.78	-9.52	74.30	51.83	38.38	9.47	34.90	PERK
2 @	10600.000	63.42	-16.58	80.00	50.47	38.38	9.47	34.90	PERK
3 @	10600.010	52.45	-7.55	60.00	39.50	38.38	9.47	34.90	AVERAGE

Temperature	24°C	Humidity	56%
Test Engineer	Jax Chen	Configurations	Draft n MCS8 20MHz Ch 64 Ant. A + Ant. B

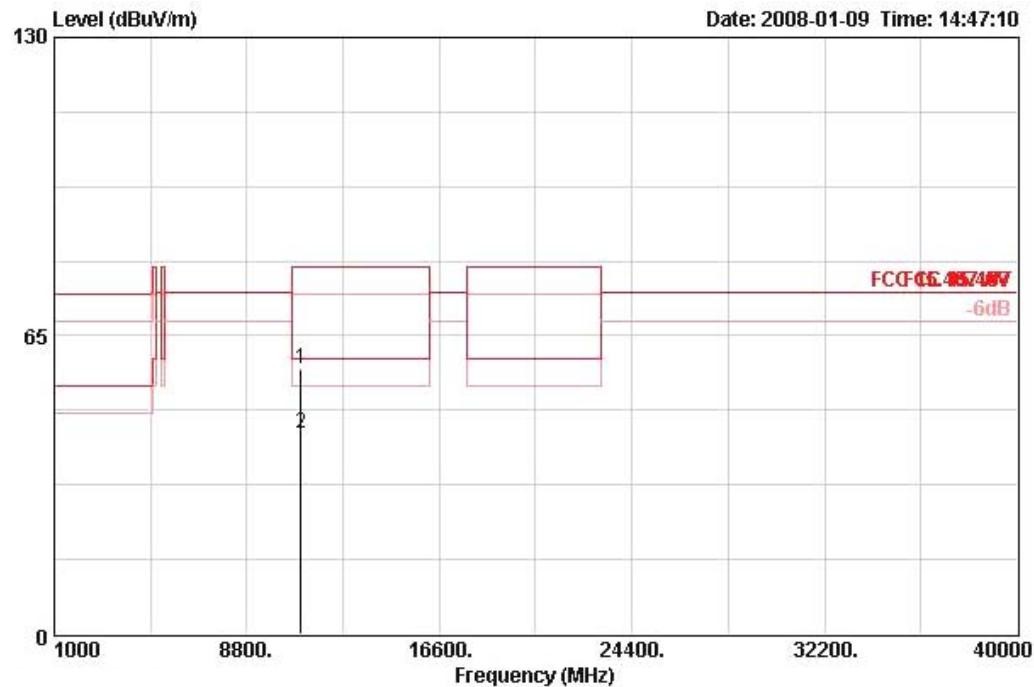
Horizontal


Freq	Level	Over Limit	Limit Line	ReadAntenna		Cable Preamp		Remark	Ant Pos	Table Pos	Table Pol/Phase	
				Level	Factor	dB	dBuV/m	dBuV	dB/m	dB	dB	cm
1	10637.920	59.38	-20.62	80.00	46.39	38.37	9.50	34.88	PERK	138	141	HORIZONTAL
2	10638.360	46.33	-13.67	60.00	33.34	38.37	9.50	34.88	AVERAGE	138	141	HORIZONTAL

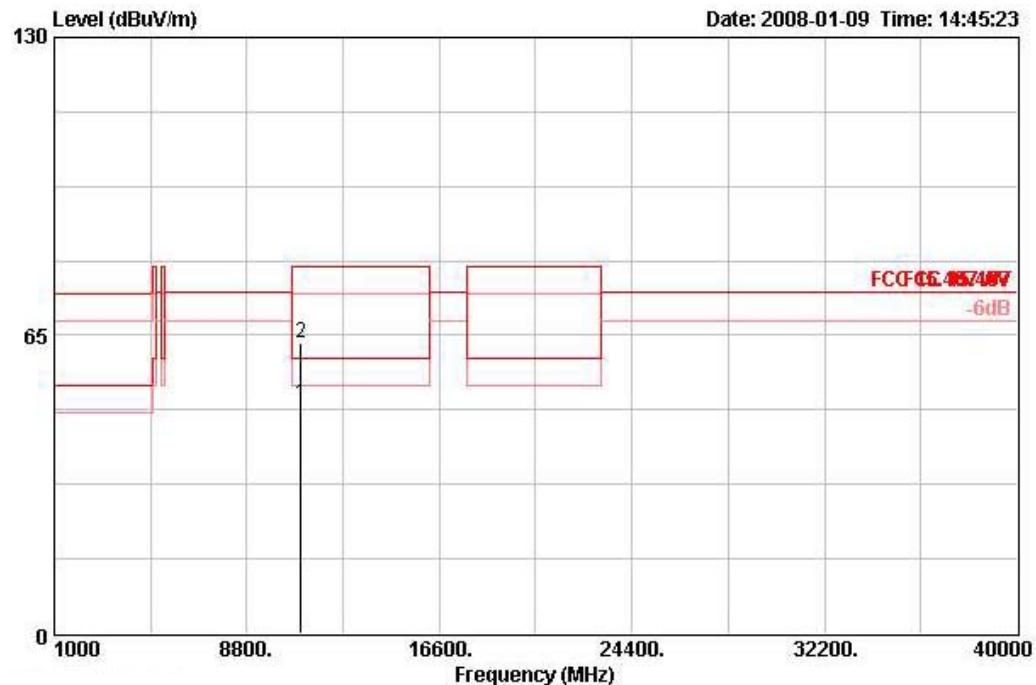
Vertical


Freq	Level	Over Limit		Read		Ant	Table		
		Line	Limit	Antenna	Cable			Pos	Pos
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1 0	10638.320	65.35	-14.65	80.00	52.36	38.37	9.50	34.88	PERK
2 0	10640.600	51.55	-8.45	60.00	38.56	38.37	9.50	34.88	AVERAGE
								120	281 VERTICAL
								120	281 VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Jax Chen	Configurations	Draft n MCS8 20MHz Ch 100 Ant. A + Ant. B

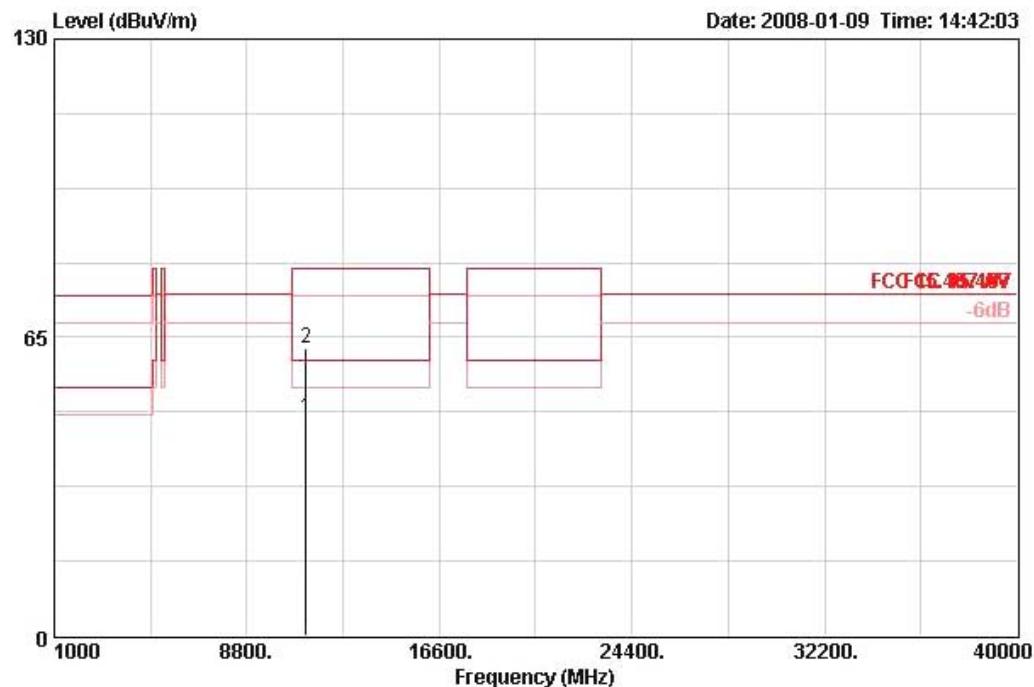
Horizontal


Freq	Level	Over Limit	Limit	Read		Ant	Table		
				Antenna	Line			Pos	Pos
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
11000.200	57.89	-22.11	80.00	44.65	38.30	9.69	34.76	PERK	
11004.600	43.72	-16.28	60.00	30.47	38.32	9.69	34.76	AVERAGE	
								100	121 HORIZONTAL
								100	121 HORIZONTAL

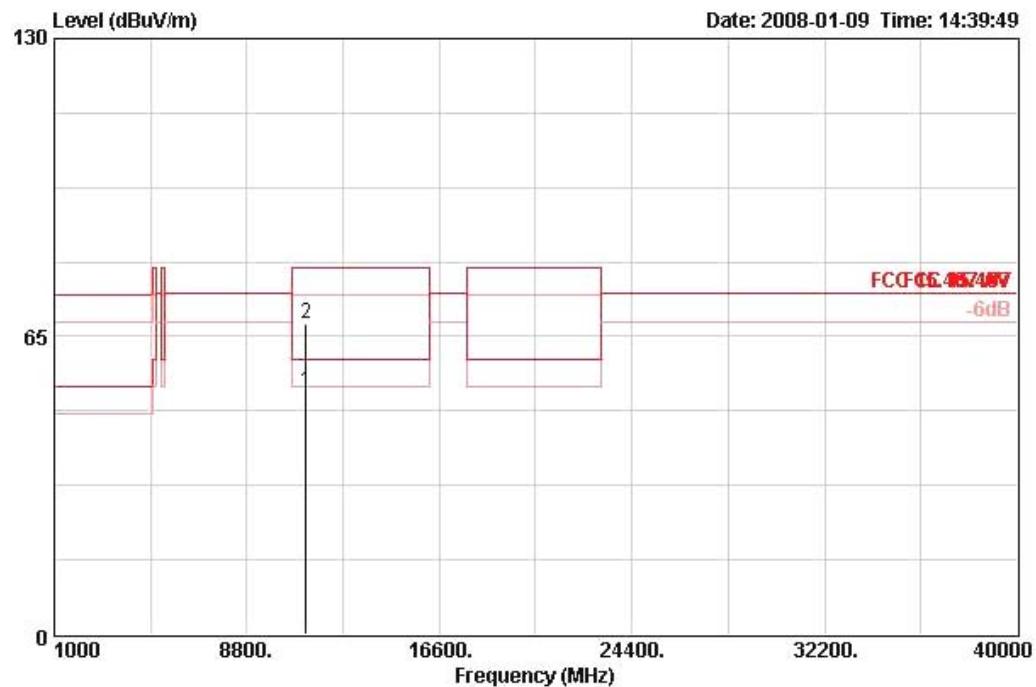
Vertical


Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Remark	Ant	Table	
		Limit	Line	Level	Factor	Loss	Factor				
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1 0	10998.960	50.00	-10.00	60.00	36.76	38.30	9.69	34.76 AVERAGE	119	297	VERTICAL
2 0	11000.360	63.27	-16.73	80.00	50.04	38.30	9.69	34.76 PEAK	119	297	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Jax Chen	Configurations	Draft n MCS8 20MHz Ch 120 Ant. A + Ant. B

Horizontal


Freq	Level	Over Limit	Limit Line	ReadAntenna		Cable Preamp		Ant Pos	Table Pos	Table Pol/Phase	
				Level	Factor	Level	Factor				
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg		
1 @	11200.960	47.55	-12.45	60.00	34.18	38.50	9.73	34.85	AVERAGE	122	166 HORIZONTAL
2 @	11200.960	62.60	-17.40	80.00	49.22	38.50	9.73	34.85	PERK	122	166 HORIZONTAL

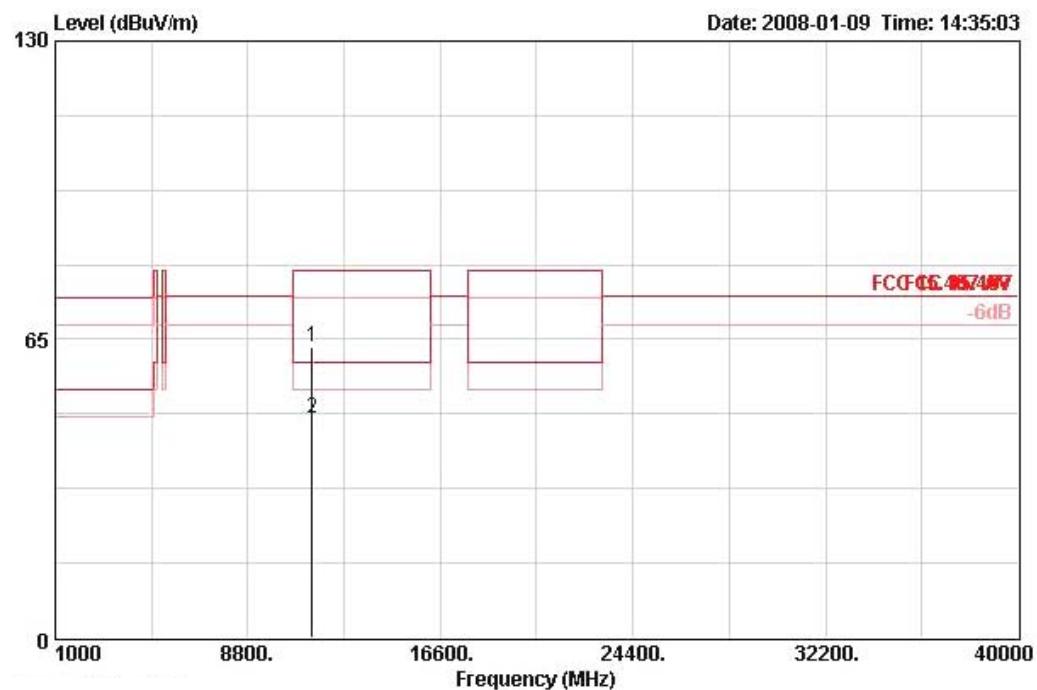
Vertical


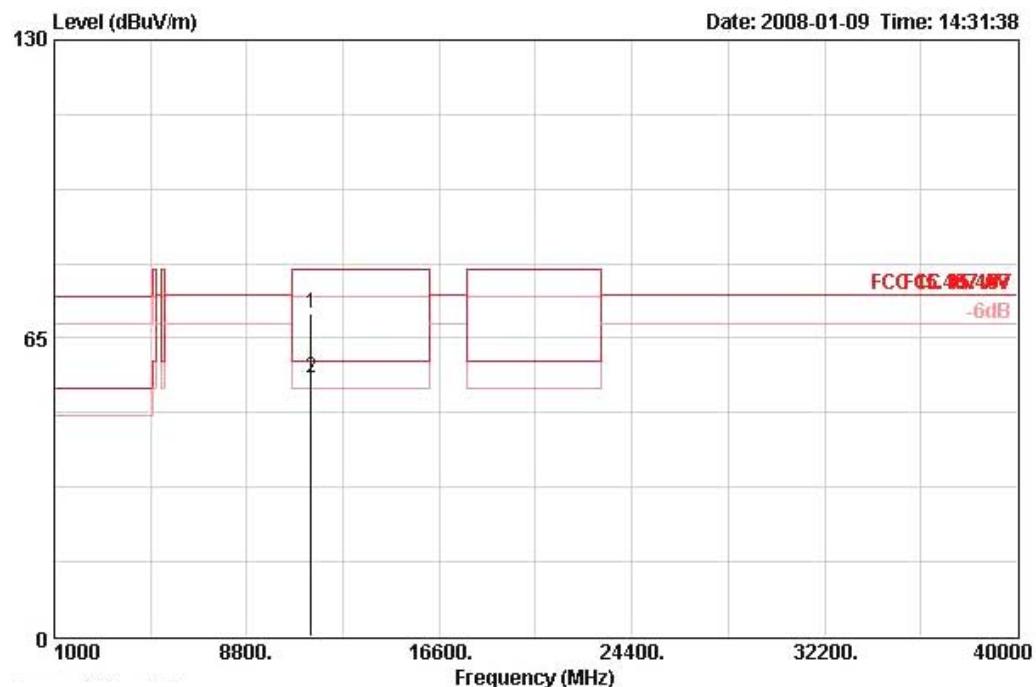
Freq	Level	Over Limit	Limit Line	ReadAntenna		Cable Preamp		Remark	Ant Pos	Table Pos	Table Pol/Phase	
				MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm
1 @	11198.720	52.94	-7.06	60.00	39.57	38.50	9.73	34.85	AVERAGE	113	304	VERTICAL
2 @	11200.640	67.95	-12.05	80.00	54.58	38.50	9.73	34.85	PERK	113	304	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Jax Chen	Configurations	Draft n MCS8 20MHz Ch 140 Ant. A + Ant. B

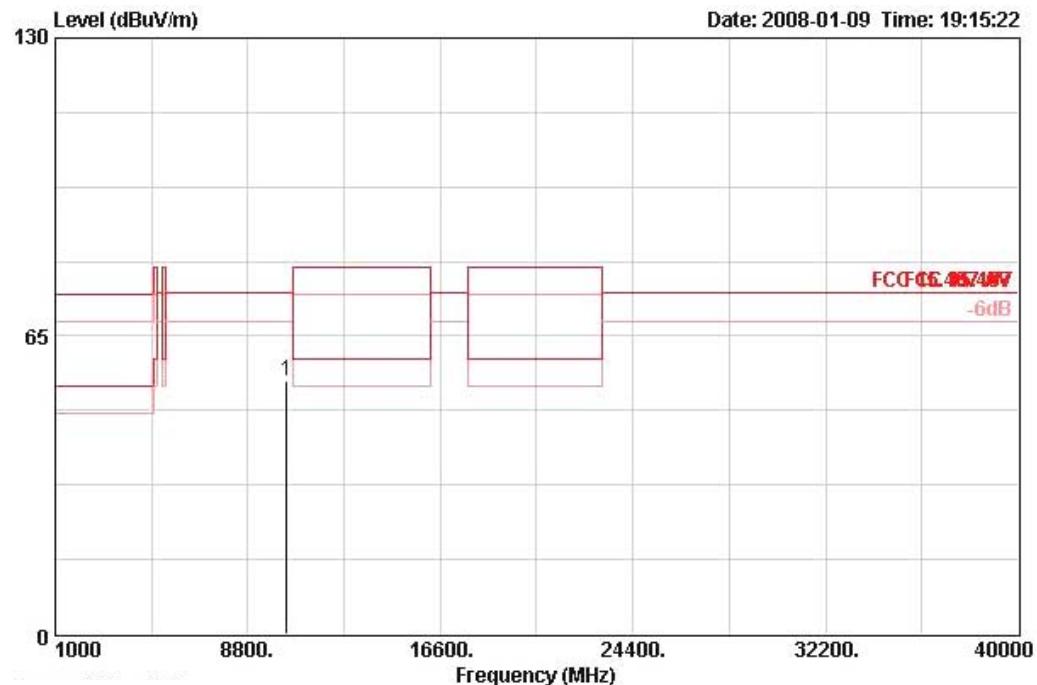
Horizontal



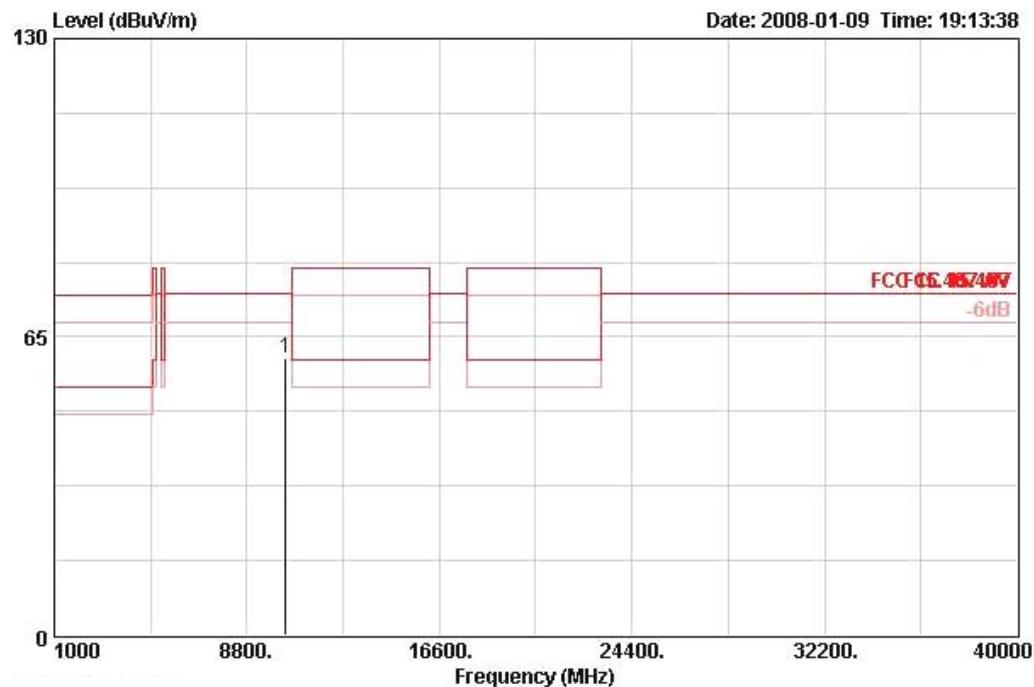
Vertical


Freq	Level	Over Limit		Read Line		Ant Pos	Table Pos	Table Pol/Phase	
		Limit	Line	Antenna Level	Preamp Factor				
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1 @	11393.680	70.33	-9.67	80.00	56.83	38.68	9.76	34.95	PERK
2 @	11399.240	56.48	-3.52	60.00	42.96	38.70	9.76	34.95	AVERAGE

Temperature	24°C	Humidity	56%
Test Engineer	Jax Chen	Configurations	Draft n MCS8 40MHz Ch 38 Ant. A + Ant. B

Horizontal


Freq MHz	Level dBuV/m	Over Limit dB	Limit Line dBuV/m	Read Level dBuV	Antenna Factor	Cable Loss dB	Preamp Factor	Remark	Ant Pos	Table Pos	Table Pol/Phase
									cm	deg	
10374.280	55.08	-19.22	74.30	42.46	38.37	9.34	35.09	PERK	117	360	HORIZONTAL

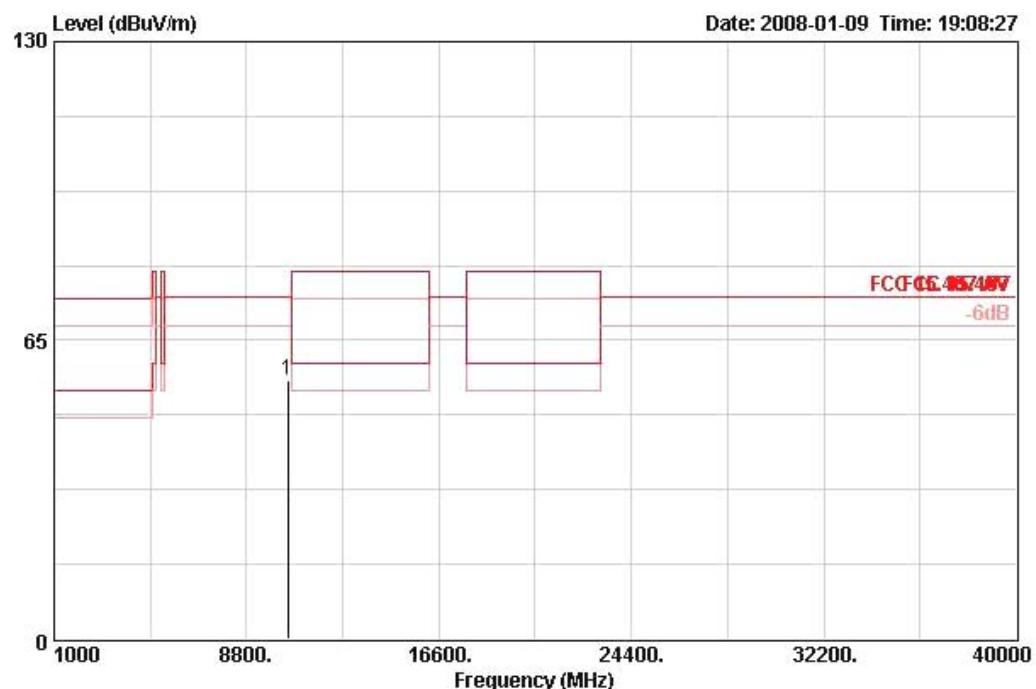
Vertical


Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Remark	Ant	Table	
		Limit	Line	Level	Factor	Loss	Factor		Pos	Pos	Pol/Phase
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
10374.280	60.37	-13.93	74.30	47.74	38.37	9.34	35.09	PERK	120	80	VERTICAL

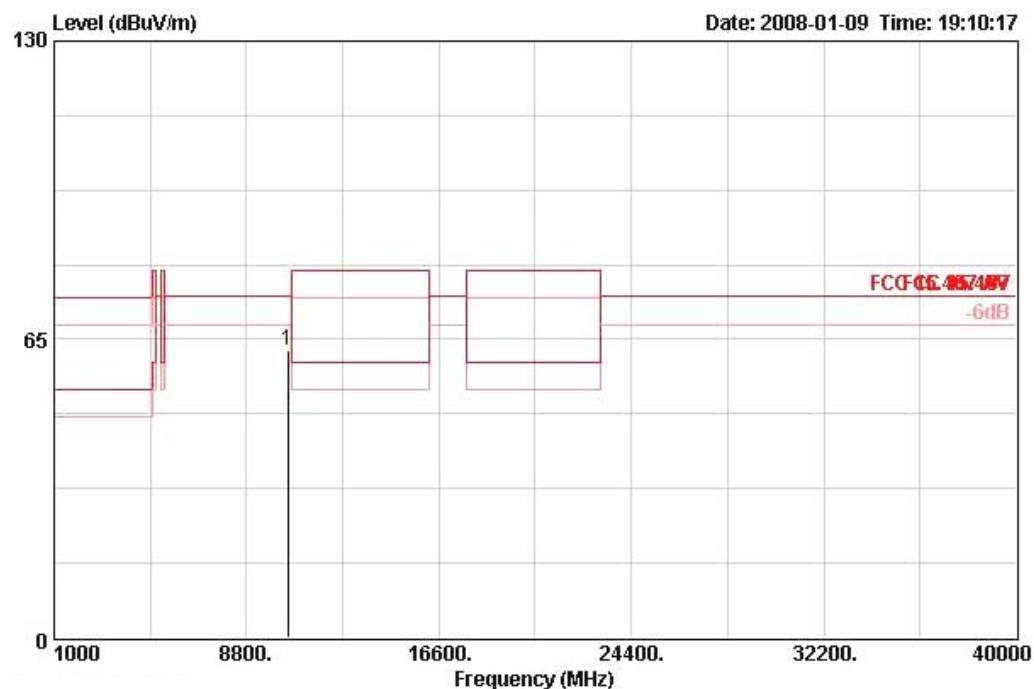


Temperature	24°C	Humidity	56%
Test Engineer	Jax Chen	Configurations	Draft n MCS8 40MHz Ch 46 Ant. A + Ant. B

Horizontal

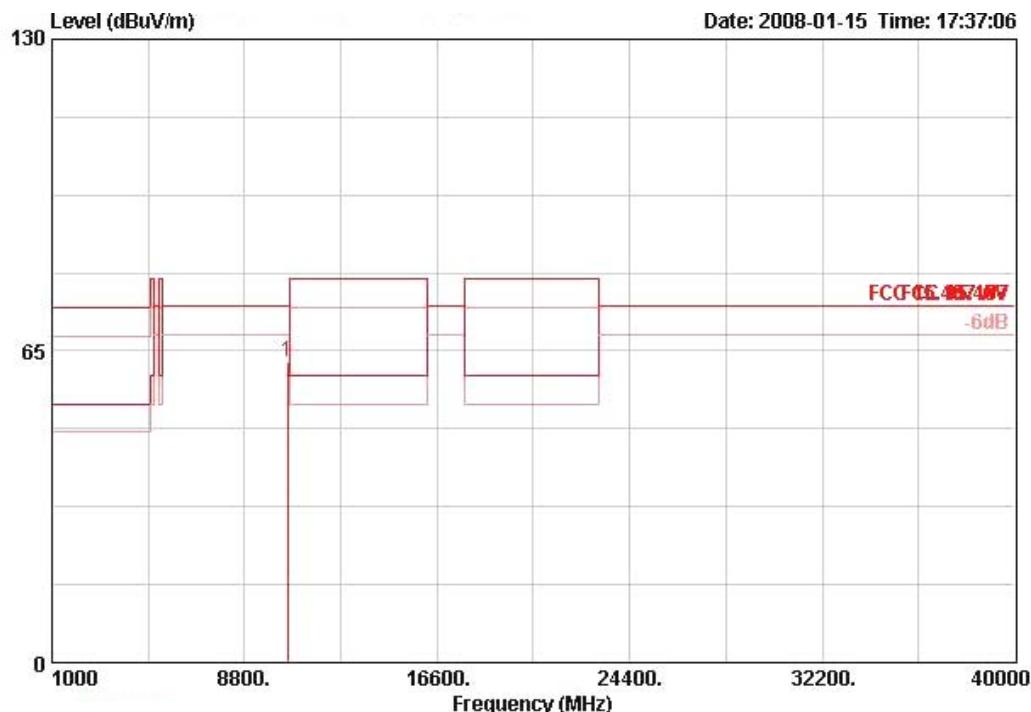


Freq	Level	Over	Limit	ReadAntenna		Cable	Preamp		Remark	Ant	Table
		Limit	Line	Level	Factor	Loss	Factor	Factor			Pos
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg		Pos
1.0	10458.240	56.22	-18.08	74.30	43.43	38.39	9.39	34.99	PERK	142	10 HORIZONTAL

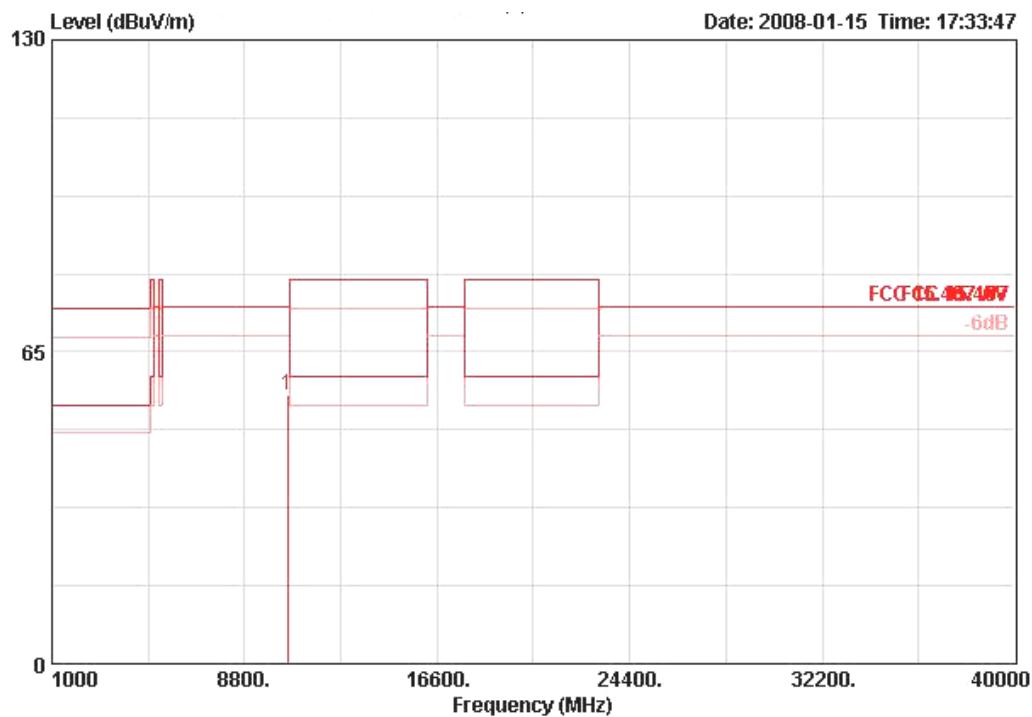
Vertical


Freq	Level	Over Limit	Limit Line	ReadAntenna		Cable Preamp		Remark	Ant Pos	Table Pos	Pol/Phase
				dB	dBuV/m	dB	dBuV/m				
10458.240	62.55	-11.75	74.30	49.76	38.39	9.39	34.99	PERK	117	66	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Jax Chen	Configurations	Draft n MCS8 40MHz Ch 54 Ant. A + Ant. B

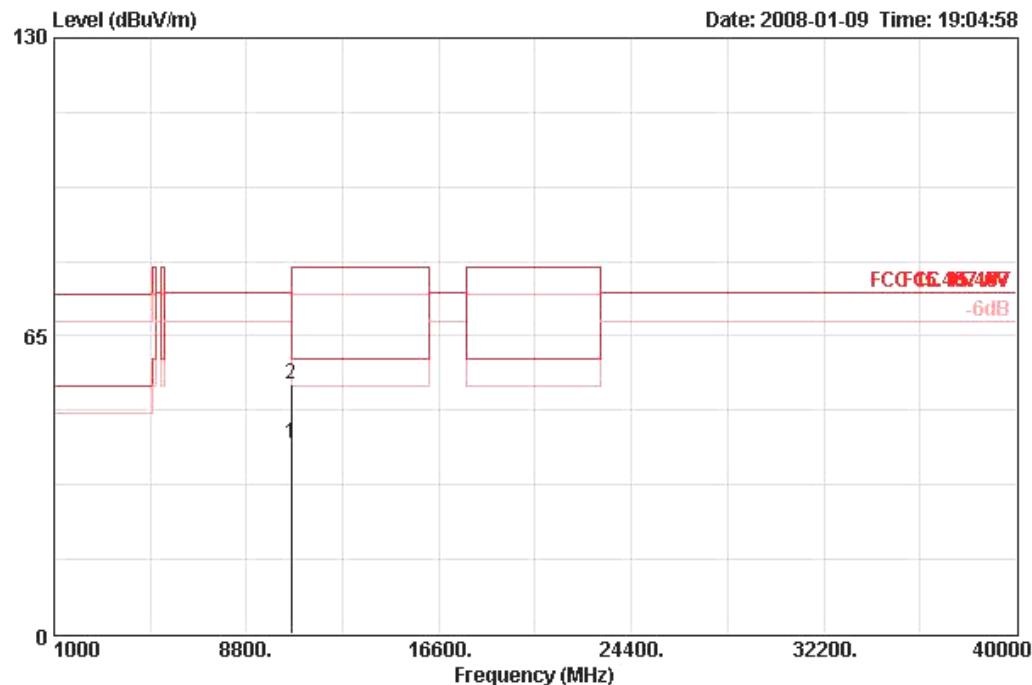
Horizontal


Freq	Level	Over Limit	Read Line	Antenna		Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
				MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	deg
1 @	10540.200	62.66	-11.64	74.30	45.30	39.97	11.99	34.60	PERK	100	64 HORIZONTAL

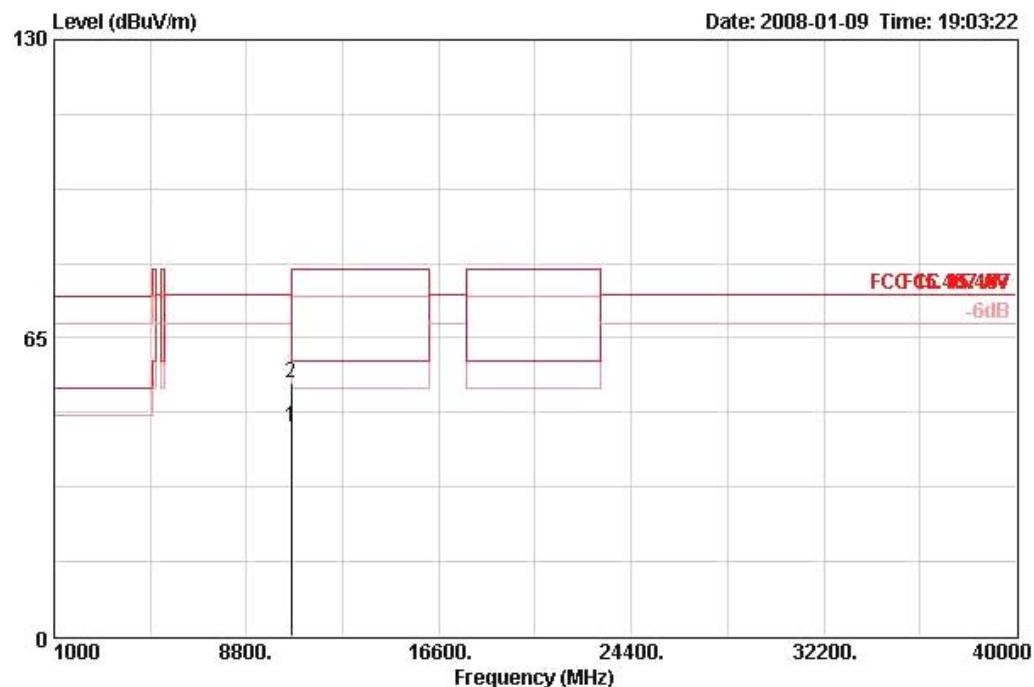
Vertical


Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Remark	Ant	Table	
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m		Pos	Pos	Pol/Phase
1 @	10540.370	55.99	-18.31	74.30	38.63	39.97	11.99	34.60 PEAK	0	0	HORIZONTAL

Temperature	24°C	Humidity	56%
Test Engineer	Jax Chen	Configurations	Draft n MCS8 40MHz Ch 62 Ant. A + Ant. B

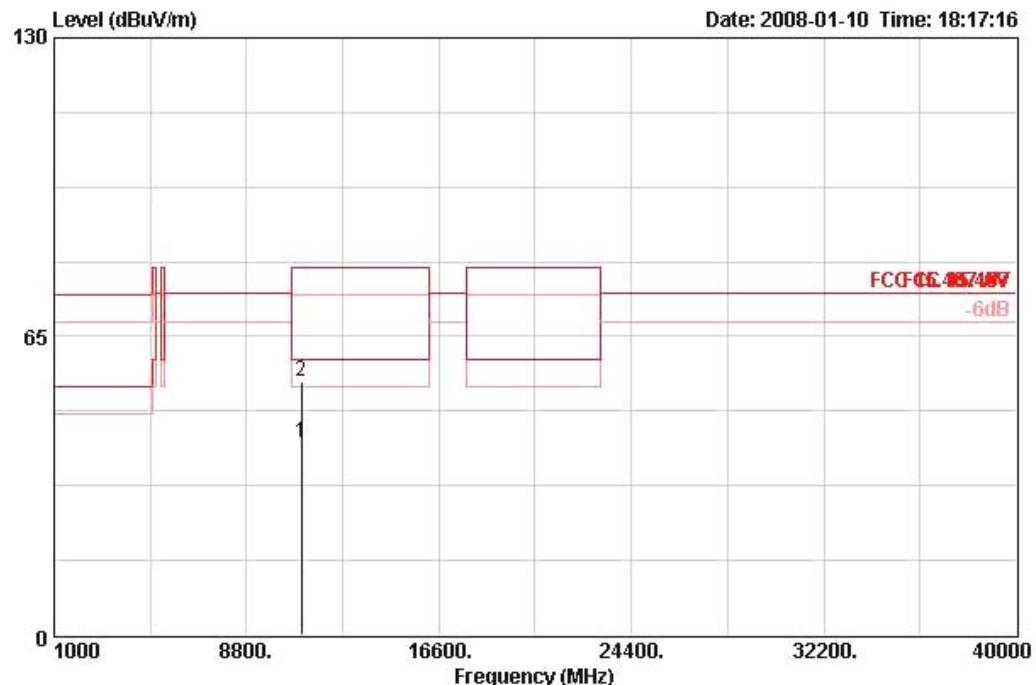
Horizontal


Freq	Level	Over Limit	Limit Line	ReadAntenna		Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Table Pol/Phase
				MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	deg
1 @	10623.000	41.46	-18.54	60.00	28.49	38.38	9.48	34.89	AVERAGE	113	360 HORIZONTAL
2	10625.080	54.43	-25.57	80.00	41.46	38.38	9.48	34.89	PERK	113	360 HORIZONTAL

Vertical


Freq	Level	Over Limit	Limit	Read		Ant	Table		
				Antenna	Cable			Pos	Pos
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
10618.160	45.70	-14.30	60.00	32.73	38.38	9.48	34.89	AVERAGE	120
10623.040	55.32	-24.68	80.00	42.35	38.38	9.48	34.89	PERK	120

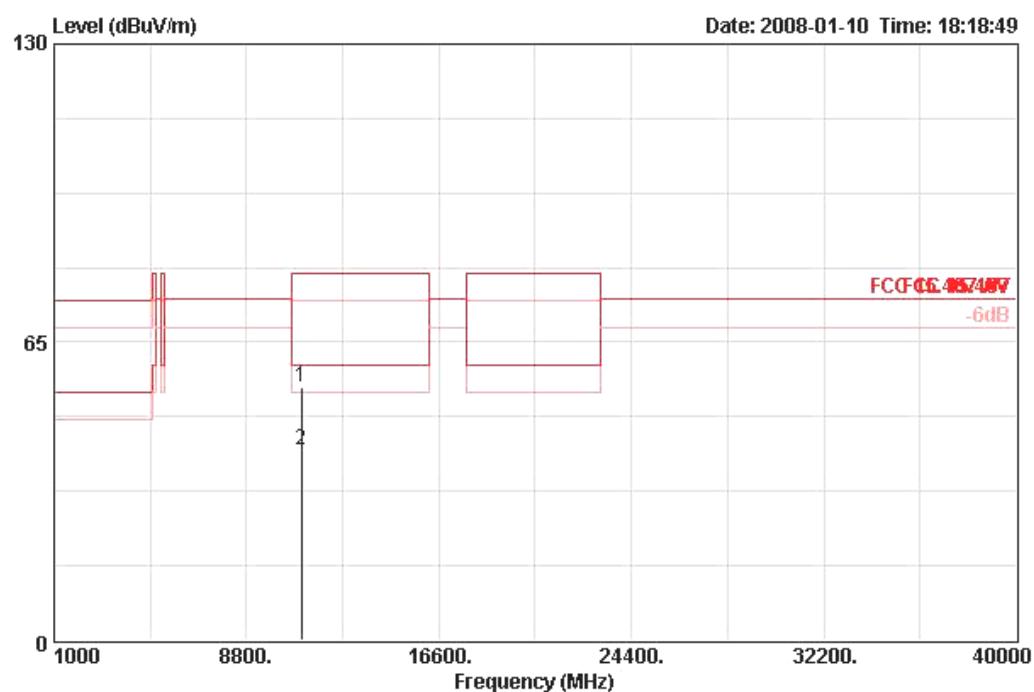
Temperature	24°C	Humidity	56%
Test Engineer	Jax Chen	Configurations	Draft n MCS8 40MHz Ch 102 Ant. A + Ant. B

Horizontal


Freq	Level	Over Limit	Read Antenna		Cable Preamp		Ant Pos	Table Pos	Table Pos	Table Pol/Phase
			Line	Level Factor	Cable Loss	Preamp Factor				
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 0	11022.360	41.87	-18.13	60.00	28.60	38.33	9.69	34.77	AVERAGE	133
2	11022.450	55.25	-24.75	80.00	41.99	38.33	9.69	34.77	PERK	133
										5 HORIZONTAL

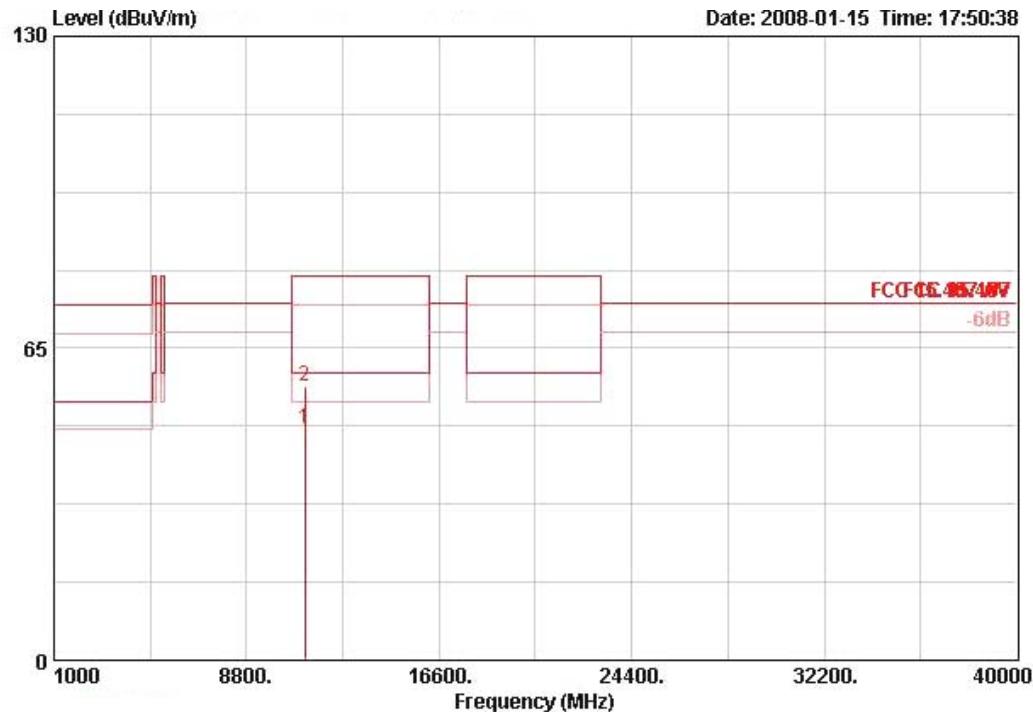


Vertical

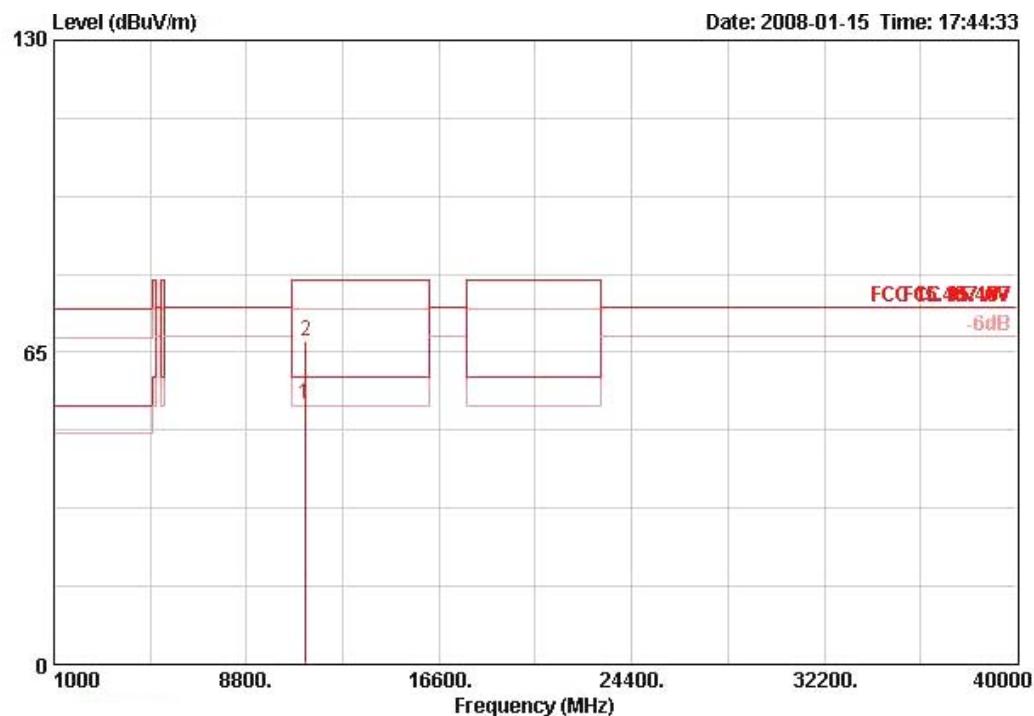


Freq	Level	Over	Limit	ReadAntenna		Cable Preamp		Remark	Ant Pos	Table	
		Limit	Line	Level	Factor	Loss	Factor			Pos	Pol/Phase
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1	11019.370	55.23	-24.77	80.00	41.99	38.32	9.69	34.77 PEAK	155	318	VERTICAL
2	11019.910	41.51	-18.49	60.00	28.26	38.32	9.69	34.77 AVERAGE	155	318	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Jax Chen	Configurations	Draft n MCS8 40MHz Ch 118 Ant. A + Ant. B

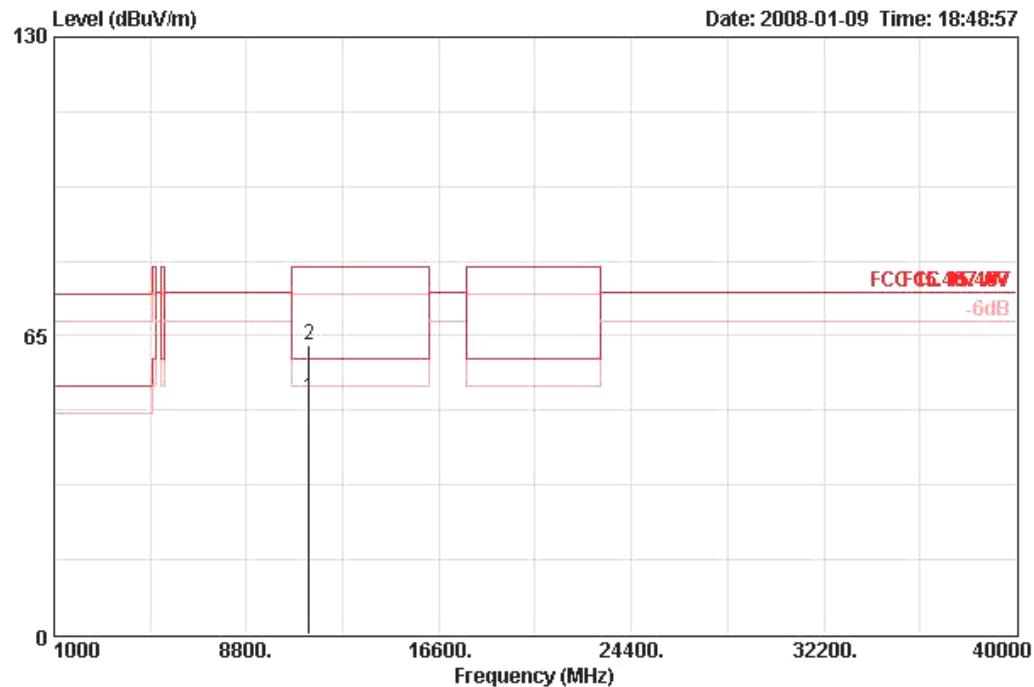
Horizontal


Freq	Level	Over Limit	Limit	Read		Ant	Table		
				Antenna	Cable			Pos	Pos
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1 11179.500	48.13	-11.87	60.00	31.51	39.50	11.96	34.84	AVERAGE	101
2 11179.640	56.88	-23.12	80.00	40.25	39.50	11.96	34.84	PEAK	101

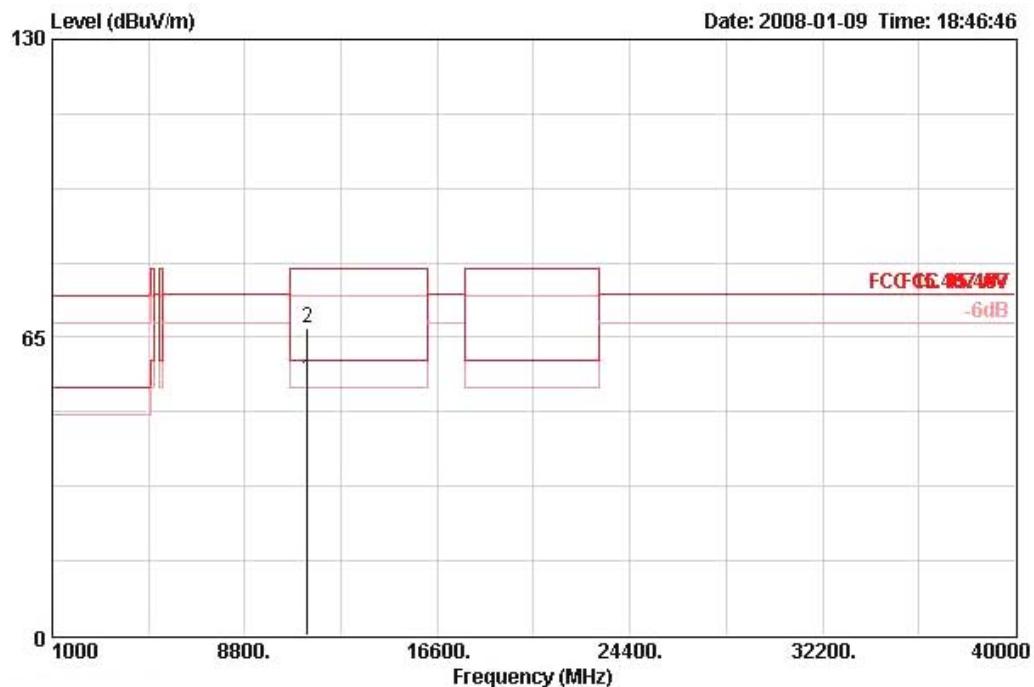
Vertical


Freq	Level	Over Limit	Line	ReadAntenna		Cable Preamp		Remark	Ant Pos	Table Pos	Table Pol/Phase
				MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB
1 @	11179.500	54.07	-5.93	60.00	37.44	39.50	11.96	34.84	AVERAGE	100	30 VERTICAL
2 @	11180.030	67.18	-12.82	80.00	50.55	39.50	11.96	34.84	PEAK	100	30 VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Jax Chen	Configurations	Draft n MCS8 40MHz Ch 134 Ant. A + Ant. B

Horizontal


Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Remark	Ant	Table	
		Limit	Line	Level	Factor	Loss	Factor		Pos	Pos	Pol/Phase
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1 0	11342.560	51.49	-8.51	60.00	38.03	38.63	9.75	34.92 AVERAGE	132	57	HORIZONTAL
2 0	11344.320	62.87	-17.13	80.00	49.40	38.63	9.75	34.92 PEAK	132	57	HORIZONTAL

Vertical


Freq	Level	Over Limit	Limit Line	Read		Ant Pos	Table Pos	Table Pol/Phase	
				Antenna Factor	Cable Loss				
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1 0	11346.960	56.04	-3.96	60.00	42.56	38.65	9.75	34.92	AVERAGE
2 0	11350.000	66.89	-13.11	80.00	53.41	38.65	9.75	34.92	PERK
								117	78 VERTICAL
								117	78 VERTICAL

Note:

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade from 3m to 1.5m.

Distance extrapolation factor = 20 log (specific distance [3m] / test distance [1.5m]) (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor [6 dB].

4.7. Band Edge Emissions Measurement

4.7.1. Limit

For transmitters operating in the 5.15-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz (68.3dBuV/m at 3m). For transmitters operating in the 5.470-5.725 GHz band: all emissions outside of the 5.470-5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz (68.3dBuV/m at 3m). For transmitters operating in the 5.725-5.825 GHz band: all emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an EIRP of -17 dBm/MHz (78.3dBuV/m at 3m); for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an EIRP of -27 dBm/MHz (68.3dBuV/m at 3m). In addition, In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

4.7.2. Measuring Instruments and Setting

Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	100 MHz
RB / VB (Emission in restricted band)	1MHz / 1MHz for Peak, 1 MHz / 10Hz for Average
RB / VB (Emission in non-restricted band)	1 MHz /1 MHz for Peak

4.7.3. Test Procedures

1. The test procedure is the same as section 4.6.3, only the frequency range investigated is limited to 100MHz around bandedges.
2. In case the emission is fail due to the used RB/VB is too wide, marker-delta method of FCC Public Notice DA00-705 will be followed.

4.7.4. Test Setup Layout

This test setup layout is the same as that shown in section 4.6.4.

4.7.5. Test Deviation

There is no deviation with the original standard.

4.7.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.7.7. Test Result of Band Edge and Fundamental Emissions

Temperature	24°C	Humidity	56%								
Test Engineer	Jax Chen	Configurations	Draft n MCS8 20MHz Ch 36,40, 60, 64 Ant. A + Ant. B								

Channel 36

	Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Pos
			Line	Level	Level	Factor	Loss	Factor			
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1 @	5150.000	56.48	-3.52	60.00	16.27	33.67	6.54	0.00	AVERAGE	100	135
2 @	5150.000	67.47	-12.53	80.00	27.26	33.67	6.54	0.00	PERK	100	135
3 @	5176.800	110.53			70.24	33.73	6.55	0.00	PERK	100	135
4 @	5187.400	100.02			59.73	33.73	6.55	0.00	AVERAGE	100	135

Item 3, 4 are the fundamental frequency at 5180 MHz.

Channel 52

	Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Pos
			Line	Level	Level	Factor	Loss	Factor			
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1 @	5150.000	56.22	-3.78	60.00	16.01	33.67	6.54	0.00	AVERAGE	100	134
2 @	5150.000	67.66	-12.34	80.00	27.44	33.67	6.54	0.00	PERK	100	134
3 @	5192.600	99.27			58.96	33.76	6.55	0.00	AVERAGE	100	134
4 @	5197.200	108.09			67.76	33.76	6.57	0.00	PERK	100	134

Item 3, 4 are the fundamental frequency at 5260 MHz.

Channel 60

	Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Pos
			Line	Level	Level	Factor	Loss	Factor			
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1 @	5296.600	98.67			58.13	33.94	6.60	0.00	AVERAGE	100	128
2 @	5301.200	108.51			67.95	33.94	6.62	0.00	PERK	100	128
3 @	5350.000	57.04	-2.96	60.00	16.37	34.03	6.64	0.00	AVERAGE	100	128
4 @	5350.000	68.25	-11.75	80.00	27.58	34.03	6.64	0.00	PERK	100	128

Item 1, 2 are the fundamental frequency at 5300 MHz.

Channel 64

Freq	Level	Over Limit	Limit Line	Read	Antenna	Cable	Preamp	Ant	Table	
									Pos	Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	0	5312.800	106.13		65.54	33.97	6.62	0.00	PEAK	100
2	0	5325.200	98.49		57.90	33.97	6.63	0.00	AVERAGE	100
3	0	5350.000	57.24	-2.76	60.00	16.57	34.03	6.64	0.00	AVERAGE
4	0	5350.000	67.37	-12.63	80.00	26.70	34.03	6.64	0.00	PEAK

Item 1, 2 are the fundamental frequency at 5320 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Jax Chen	Configurations	Draft n MCS8 20MHz Ch 100, 140 Ant. A + Ant. B

Channel 100

Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Remark	Ant	Table	Pos	Pos	Pol/Phase
		Limit	Line	Level	Factor	Loss	Factor						
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg			
1 @	5460.000	56.86	-3.14	60.00	15.96	34.21	6.69	0.00 AVERAGE	100	184	VERTICAL		
2 @	5460.000	67.91	-12.09	80.00	27.01	34.21	6.69	0.00 PEAK	100	184	VERTICAL		
3 @	5470.000	68.07	-6.23	74.30	27.14	34.24	6.69	0.00 PEAK	100	184	VERTICAL		
4 @	5498.600	109.50			68.50	34.30	6.70	0.00 PEAK	100	184	VERTICAL		
5 @	5504.000	99.55			58.54	34.30	6.71	0.00 AVERAGE	100	184	VERTICAL		

Item 4, 5 are the fundamental frequency at 5500 MHz.

Channel 140

Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Remark	Ant	Table	Pos	Pos	Pol/Phase
		Limit	Line	Level	Factor	Loss	Factor						
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg			
1 @	5692.600	101.81			60.66	34.34	6.81	0.00 AVERAGE	129	192	VERTICAL		
2 @	5695.600	111.99			70.84	34.34	6.81	0.00 PEAK	129	192	VERTICAL		
3 @	5725.000	74.17	-0.13	74.30	33.00	34.34	6.82	0.00 PEAK	129	192	VERTICAL		

Item 1, 2 are the fundamental frequency at 5700 MHz.

Temperature	20°C	Humidity	70%
Test Engineer	Jax Chen	Configurations	Draft n MCS8 40MHz Ch 38, 46, 54, 62 Ant. A + Ant. B

Channel 38

	Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Remark	Ant	Table
			Limit	Line	Level	Factor	Loss	Factor		Pos	Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1 @	5144.800	73.19	-6.81	80.00	32.97	33.67	6.54	0.00	PERK	146	37 HORIZONTAL
2 @	5150.000	58.93	-1.07	60.00	18.72	33.67	6.54	0.00	AVERAGE	146	37 HORIZONTAL
3 @	5174.800	97.20			56.91	33.73	6.55	0.00	AVERAGE	146	37 HORIZONTAL
4 @	5176.400	108.06			67.77	33.73	6.55	0.00	PERK	146	37 HORIZONTAL

Item 3, 4 are the fundamental frequency at 5190 MHz.

Channel 46

	Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Remark	Ant	Table
			Limit	Line	Level	Factor	Loss	Factor		Pos	Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1 @	5149.600	67.15	-12.85	80.00	26.93	33.67	6.54	0.00	PERK	100	0 HORIZONTAL
2 @	5150.000	56.00	-4.00	60.00	15.79	33.67	6.54	0.00	AVERAGE	100	0 HORIZONTAL
3 @	5239.600	90.49			50.09	33.82	6.58	0.00	AVERAGE	100	0 HORIZONTAL
4 @	5240.800	100.82			60.42	33.82	6.58	0.00	PERK	100	0 HORIZONTAL

Item 3, 4 are the fundamental frequency at 5230 MHz.

Channel 54

	Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Remark	Ant	Table
			Limit	Line	Level	Factor	Loss	Factor		Pos	Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1 @	5282.000	98.76			56.26	34.27	8.23	0.00	AVERAGE	100	360 VERTICAL
2 @	5282.400	107.22			64.72	34.27	8.23	0.00	PERK	100	360 VERTICAL
3 @	5350.000	58.73	-1.27	60.00	16.05	34.40	8.27	0.00	AVERAGE	100	360 VERTICAL
4 @	5351.600	70.28	-9.72	80.00	27.61	34.40	8.27	0.00	PERK	100	360 VERTICAL

Item 1, 2 are the fundamental frequency at 5270 MHz.

Channel 62

	Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Remark	Ant	Table
			Limit	Line	Level	Factor	Loss	Factor		Pos	Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1 @	5300.400	100.84			60.29	33.94	6.62	0.00	AVERAGE	143	14 HORIZONTAL
2 @	5313.600	111.16			70.58	33.97	6.62	0.00	PERK	143	14 HORIZONTAL
3 @	5350.000	59.46	-0.54	60.00	18.79	34.03	6.64	0.00	AVERAGE	143	14 HORIZONTAL
4 @	5353.600	73.00	-7.00	80.00	32.33	34.03	6.64	0.00	PERK	143	14 HORIZONTAL

Item 1, 2 are the fundamental frequency at 5310 MHz.

Temperature	20°C	Humidity	70%
Test Engineer	Jax Chen	Configurations	Draft n MCS8 40MHz Ch 102, 118, 134 Ant. A + Ant. B

Channel 102

	Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Remark	Ant	Table
			Limit	Line	Level	Factor	Loss	Factor		Pos	Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1 @	5434.400	69.74	-10.26	80.00	28.88	34.18	6.68	0.00	PEAK	126	201 VERTICAL
2 @	5460.000	57.15	-2.85	60.00	16.26	34.21	6.69	0.00	AVERAGE	126	201 VERTICAL
3 @	5469.200	70.56	-3.74	74.30	29.63	34.24	6.69	0.00	PEAK	126	201 VERTICAL
4 @	5499.200	96.55			55.55	34.30	6.70	0.00	AVERAGE	126	201 VERTICAL
5 @	5500.000	107.88			66.88	34.30	6.70	0.00	PEAK	126	201 VERTICAL

Item 4, 5 are the fundamental frequency at 5510MHz.

Channel 118

	Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Remark	Ant	Table
			Limit	Line	Level	Factor	Loss	Factor		Pos	Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1 @	5595.600	98.94			55.79	34.77	8.38	0.00	AVERAGE	116	0 HORIZONTAL
2 @	5598.000	110.44			67.29	34.77	8.38	0.00	PEAK	116	0 HORIZONTAL

Item 1, 2 are the fundamental frequency at 5590 MHz.

Channel 134

	Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Remark	Ant	Table
			Limit	Line	Level	Factor	Loss	Factor		Pos	Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1 @	5666.800	114.31			73.18	34.33	6.79	0.00	AVERAGE	147	11 HORIZONTAL
2 @	5667.200	104.34			63.21	34.33	6.79	0.00	AVERAGE	147	11 HORIZONTAL
3 @	5726.600	72.37	-1.93	74.30	31.20	34.34	6.82	0.00	PEAK	147	11 HORIZONTAL

Item 1, 2 are the fundamental frequency at 5670 MHz.

Note:

Emission level (dBuV/m) = 20 log Emission level (uV/m)

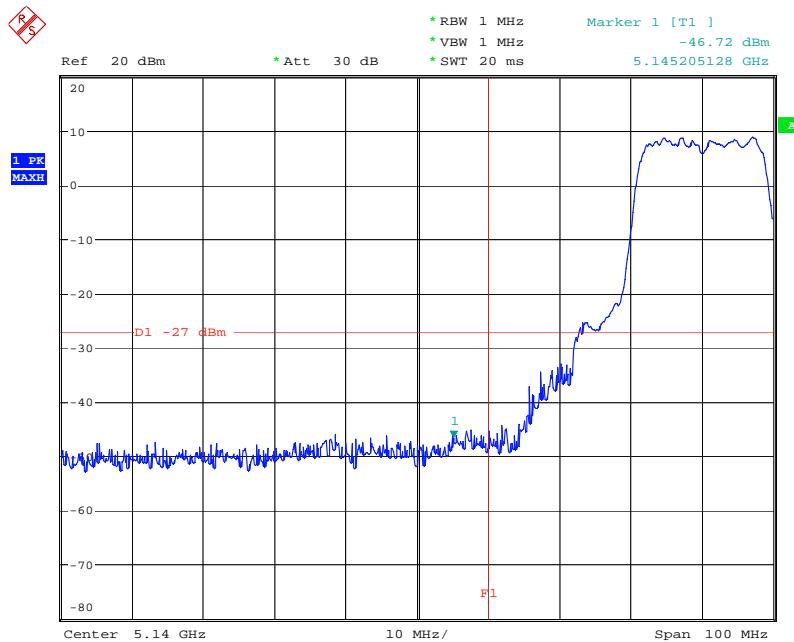
Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade from 3m to 1.5m.

Distance extrapolation factor = 20 log (specific distance [3m] / test distance [1.5m]) (dB);

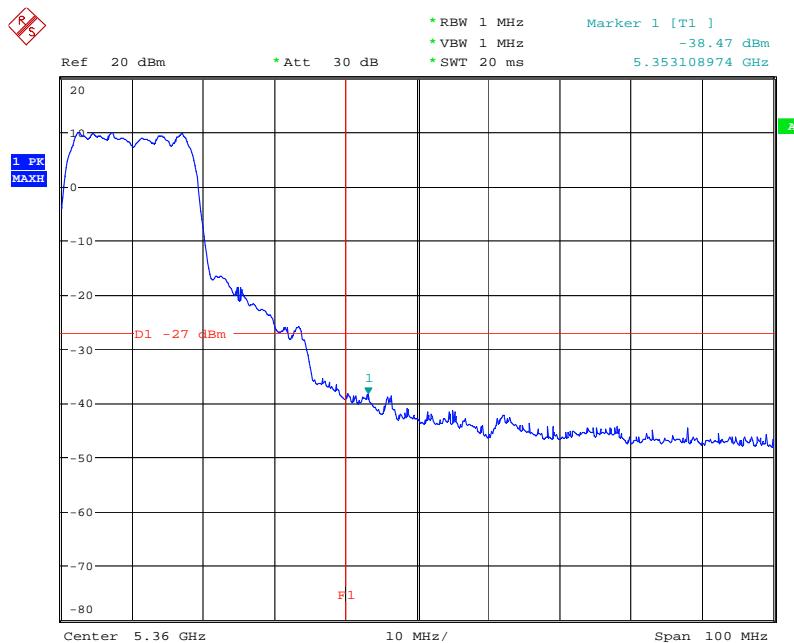
Limit line = specific limits (dBuV) + distance extrapolation factor [6 dB].

EIRP Emission in Band on Configuration Draft n MCS8 20MHz Ant. A + Ant. B / 5180 MHz



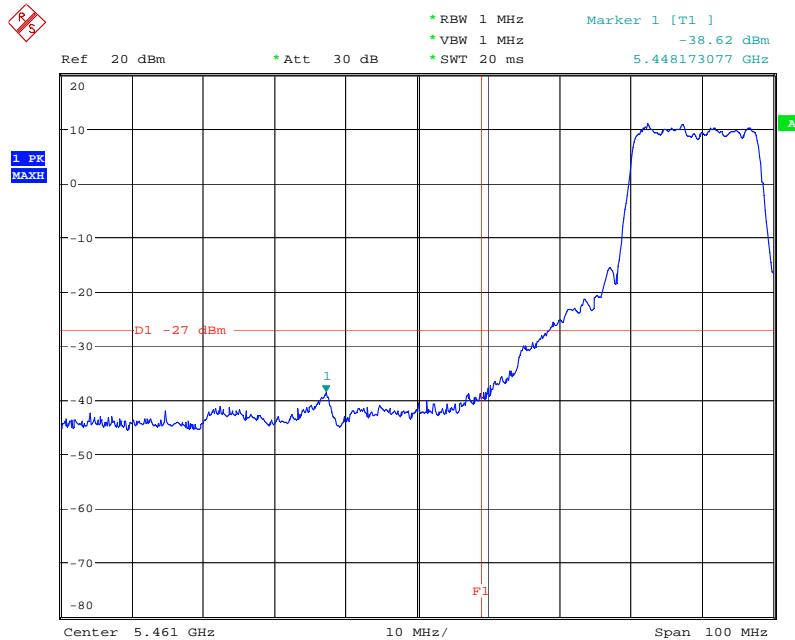
Date: 2.FEB.2008 10:57:25

EIRP Emission in Band on Configuration Draft n MCS8 20MHz Ant. A + Ant. B / 5320 MHz



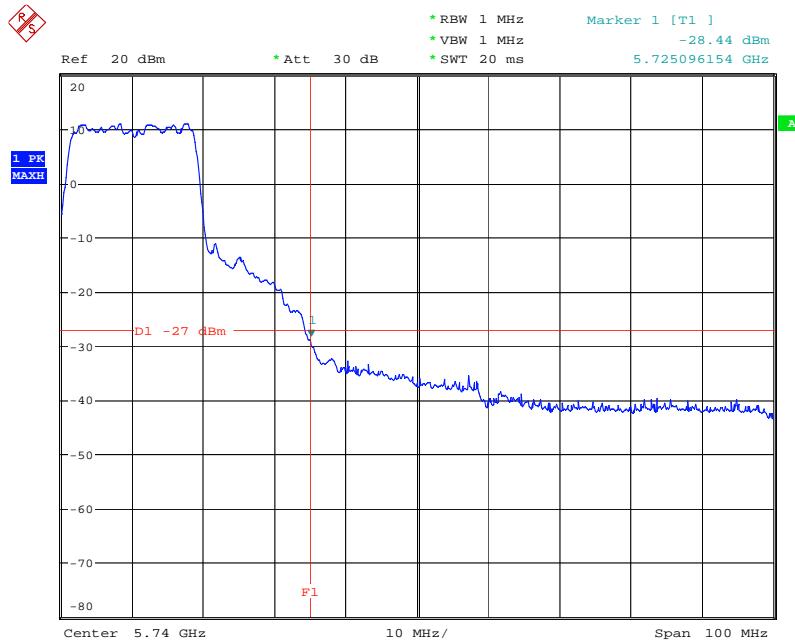
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EIRP Emission in Band on Configuration Draft n MCS8 20MHz Ant. A + Ant. B / 5500 MHz

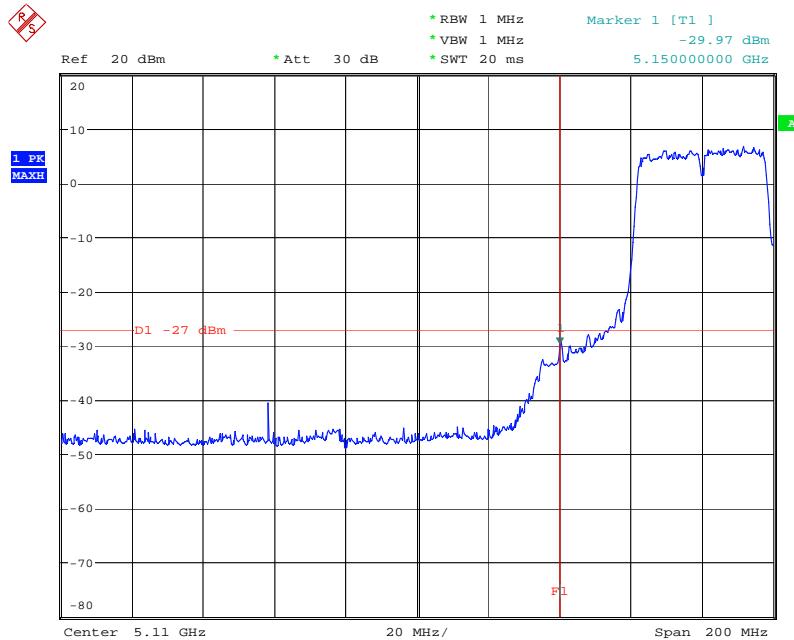


Date: 2.FEB.2008 11:26:02

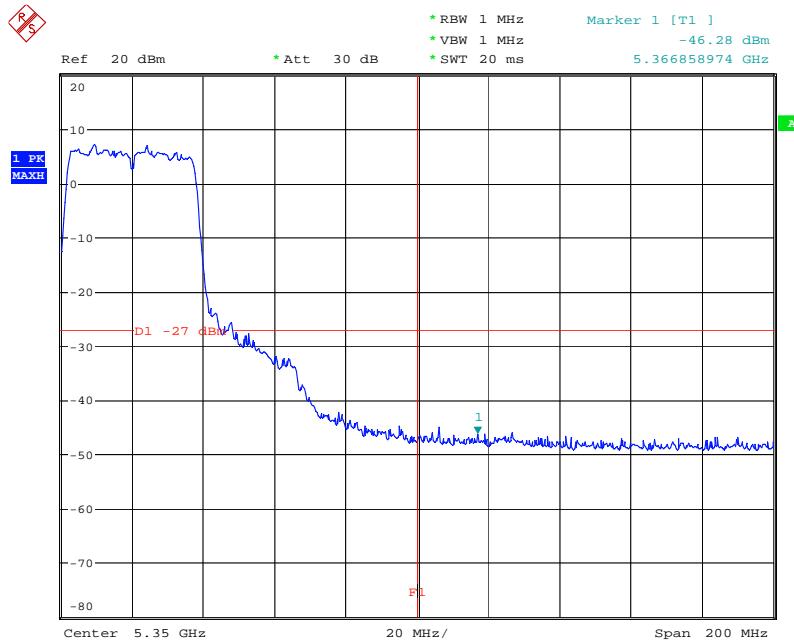
EIRP Emission in Band on Configuration Draft n MCS8 20MHz Ant. A + Ant. B / 5700 MHz



Date: 2.FEB.2008 12:22:49

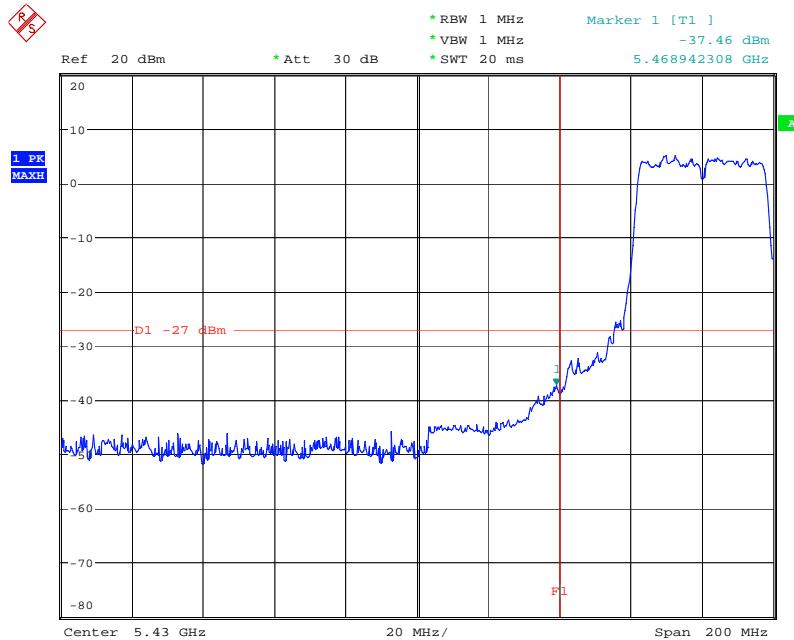
EIRP Emission in Band on Configuration Draft n MCS8 40MHz Ant. A + Ant. B / 5190 MHz


Date: 2.FEB.2008 10:31:06

EIRP Emission in Band on Configuration Draft n MCS8 40MHz Ant. A + Ant. B / 5270 MHz


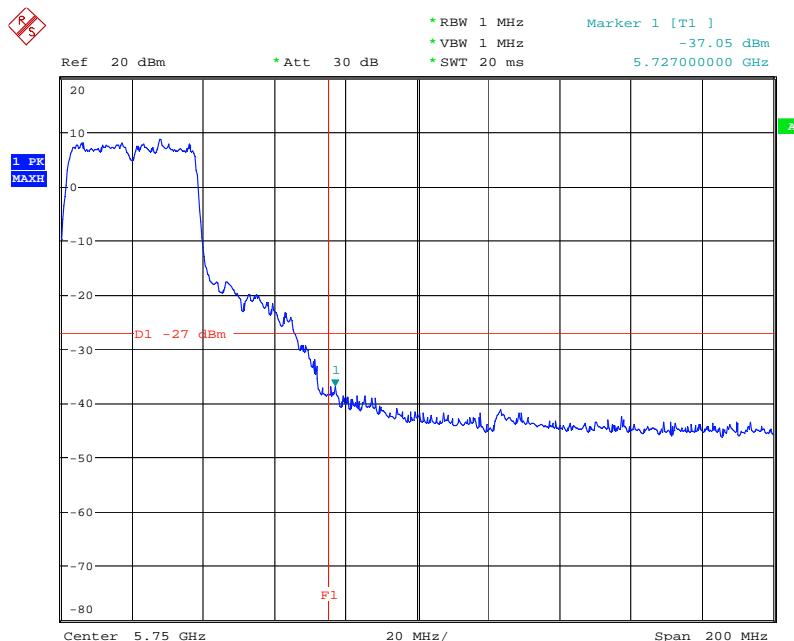
Date: 2.FEB.2008 10:37:49

EIRP Emission in Band on Configuration Draft n MCS8 40MHz Ant. A + Ant. B / 5510 MHz



Date: 2.FEB.2008 10:44:14

EIRP Emission in Band on Configuration Draft n MCS8 40MHz Ant. A + Ant. B / 5670MHz



Date: 2.FEB.2008 10:48:46

4.8. Frequency Stability Measurement

4.8.1. Limit

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emissions is maintained within the band of operation under all conditions of normal operation as specified in the user's manual or $\pm 20\text{ppm}$ (Draft n specification).

4.8.2. Measuring Instruments and Setting

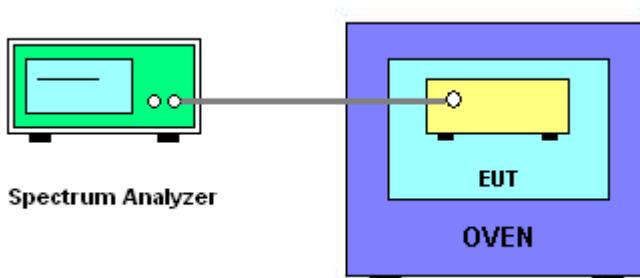
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Entire absence of modulation emissions bandwidth
RB	10 kHz
VB	10 kHz
Sweep Time	Auto

4.8.3. Test Procedures

1. The transmitter output (antenna port) was connected to the spectrum analyser.
2. EUT have transmitted absence of modulation signal and fixed channelize.
3. Set the spectrum analyzer span to view the entire absence of modulation emissions bandwidth.
4. Set RBW = 10 kHz, VBW = 10 kHz with peak detector and maxhold settings.
5. fc is declaring of channel frequency. Then the frequency error formula is $(fc-f)/fc \times 10^6 \text{ ppm}$ and the limit is less than $\pm 20\text{ppm}$ (Draft n specification).
6. The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value
7. Extreme temperature rule is $-30^\circ\text{C} \sim 50^\circ\text{C}$.

4.8.4. Test Setup Layout



4.8.5. Test Deviation

There is no deviation with the original standard.

4.8.6. EUT Operation during Test

The EUT was programmed to be in continuously un-modulation transmitting mode.

4.8.7. Test Result of Frequency Stability

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)
(V)	5260
126.50	5260.009300
110.00	5260.023500
93.50	5259.993200
Max. Deviation (MHz)	0.023500
Max. Deviation (ppm)	4.47

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)
(°C)	5260
-30	5260.046300
-20	5260.050570
-10	5260.045700
0	5260.014100
10	5260.012900
20	5259.983500
30	5259.965300
40	5259.961200
50	5259.955600
Max. Deviation (MHz)	0.050570
Max. Deviation (ppm)	9.61

4.9. Antenna Requirements

4.9.1. Limit

Except for special regulations, the Low-power Radio-frequency Devices must not be equipped with any jacket for installing an antenna with extension cable. An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.

4.9.2. Antenna Connector Construction

Please refer to section 3.3 in this test report; antenna connector complied with the requirements.

5. LIST OF MEASURING EQUIPMENTS

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
EMC Receiver	R&S	ESCS 30	100174	9kHz – 2.75GHz	Mar. 03, 2007	Conduction (CO04-HY)
LISN	MessTec	NNB-2/16Z	99079	9kHz – 30MHz	Mar. 31, 2007	Conduction (CO04-HY)
LISN (Support Unit)	EMCO	3810/2NM	9703-1839	9kHz – 30MHz	Mar. 22, 2007	Conduction (CO04-HY)
RF Cable-CON	UTIFLEX	3102-26886-4	CB049	9kHz – 30MHz	Apr. 20, 2007	Conduction (CO04-HY)
ISN	SCHAFFNER	ISN T400	21653	9kHz – 30MHz	Mar. 27, 2007	Conduction (CO04-HY)
EMI Filter	LINDGREN	LRE-2030	2651	< 450 Hz	N/A	Conduction (CO04-HY)
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30 MHz - 1 GHz 3m	Jun. 14, 2007	Radiation (03CH03-HY)
Amplifier	SCHAFFNER	COA9231A	18667	9 kHz - 2 GHz	Jan. 14, 2008	Radiation (03CH03-HY)
Amplifier	Agilent	8449B	3008A02120	1 GHz - 26.5 GHz	Jun. 07, 2007	Radiation (03CH03-HY)
Amplifier	MITEQ	AMF-6F-260400	9121372	26.5 GHz - 40 GHz	Jan. 22, 2007*	Radiation (03CH03-HY)
Spectrum Analyzer	R&S	FSP40	100305	9 kHz - 40 GHz	Sep. 27, 2007	Radiation (03CH03-HY)
Loop Antenna	R&S	HFH2-Z2	860004/001	9 kHz - 30 MHz	May 23, 2006*	Radiation (03CH03-HY)
Bilog Antenna	SCHAFFNER	CBL 6112D	22237	30 MHz – 1 GHz	Jul. 21, 2007	Radiation (03CH03-HY)
Horn Antenna	EMCO	3115	6741	1GHz ~ 18GHz	May 04, 2007	Radiation (03CH03-HY)
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA9170154	15 GHz - 40 GHz	Jan. 18, 2008	Radiation (03CH03-HY)
RF Cable-R03m	Jye Bao	RG142	CB021	30 MHz - 1 GHz	Dec. 03, 2007	Radiation (03CH03-HY)
RF Cable-HIGH	SUHNER	SUCOFLEX 106	03CH03-HY	1 GHz - 40 GHz	Dec. 03, 2007	Radiation (03CH03-HY)
Turn Table	HD	DS 420	420/650/00	0 – 360 degree	N/A	Radiation (03CH03-HY)
Antenna Mast	HD	MA 240	240/560/00	1 m - 4 m	N/A	Radiation (03CH03-HY)
Spectrum Analyzer	R&S	FSP30	100023	9kHz ~ 30GHz	Jan. 10, 2008	Conducted (TH01-HY)
Power Meter	R&S	NRVS	100444	DC ~ 40GHz	Jun. 27, 2007	Conducted (TH01-HY)
Power Sensor	R&S	NRV-Z51	100458	DC ~ 30GHz	Jun. 27, 2007	Conducted (TH01-HY)
Power Sensor	R&S	NRV-Z32	100057	30MHz ~ 6GHz	Jun. 27, 2007	Conducted (TH01-HY)
AC Power Source	HPC	HPA-500W	HPA-9100024	AC 0 ~ 300V	May 04, 2007*	Conducted (TH01-HY)
DC Power Source	G.W.	GPC-6030D	C671845	DC 1V ~ 60V	Mar. 03, 2007	Conducted (TH01-HY)
Temp. and Humidity Chamber	KSON	THS-C3L	612	N/A	Jan. 14, 2008	Conducted (TH01-HY)
RF CABLE-1m	Jye Bao	RG142	CB034-1m	20MHz ~ 7GHz	Jan. 04, 2008	Conducted (TH01-HY)
RF CABLE-2m	Jye Bao	RG142	CB035-2m	20MHz ~ 1GHz	Jan. 04, 2008	Conducted (TH01-HY)
Vector Signal Generator	R&S	SMU200A	102098	100kHz ~ 6GHz	Nov. 14, 2007	Conducted (TH01-HY)
Signal Generator	R&S	SMR40	100116	10MHz ~ 40GHz	Mar. 07, 2007	Conducted (TH01-HY)

Note: Calibration Interval of instruments listed above is one year.

Note: Calibration Interval of instruments listed above is two year.



6. TEST LOCATION

SHIJR	ADD : 6Fl., No. 106, Sec. 1, Shintai 5th Rd., Shijr City, Taipei, Taiwan 221, R.O.C. TEL : 886-2-2696-2468 FAX : 886-2-2696-2255
HWA YA	ADD : No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL : 886-3-327-3456 FAX : 886-3-318-0055
LINKOU	ADD : No. 30-2, Dingfu Tsuen, Linkou Shiang, Taipei, Taiwan 244, R.O.C TEL : 886-2-2601-1640 FAX : 886-2-2601-1695
DUNGHU	ADD : No. 3, Lane 238, Kangle St., Neihu Chiu, Taipei, Taiwan 114, R.O.C. TEL : 886-2-2631-4739 FAX : 886-2-2631-9740
JUNGHE	ADD : 7Fl., No. 758, Jungjeng Rd., Junghe City, Taipei, Taiwan 235, R.O.C. TEL : 886-2-8227-2020 FAX : 886-2-8227-2626
NEIHU	ADD : 4Fl., No. 339, Hsin Hu 2 nd Rd., Taipei 114, Taiwan, R.O.C. TEL : 886-2-2794-8886 FAX : 886-2-2794-9777
JHUBEI	ADD : No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C. TEL : 886-3-656-9065 FAX : 886-3-656-9085

7. TAF CERTIFICATE OF ACCREDITATION



Certificate No. : L1190-070110

財團法人全國認證基金會
Taiwan Accreditation Foundation

Certificate of Accreditation

This is to certify that

Sportun International Inc.
EMC & Wireless Communications Laboratory
No.52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien,
Taiwan, R.O.C.

is accredited in respect of laboratory

Accreditation Criteria : ISO/IEC 17025:2005
Accreditation Number : 1190
Originally Accredited : December 15, 2003
Effective Period : January 10, 2007 to January 09, 2010
Accredited Scope : Testing Field, see described in the Appendix
Specific Accreditation Program : Accreditation Program for Designated Testing Laboratory
for Commodities Inspection
Accreditation Program for Telecommunication Equipment
Testing Laboratory



Jay-San Chen
President, Taiwan Accreditation Foundation
Date : January 10, 2007

P1, total 9 pages

The Appendix forms an integral part of this Certificate, which shall be invalid when used without the Appendix.