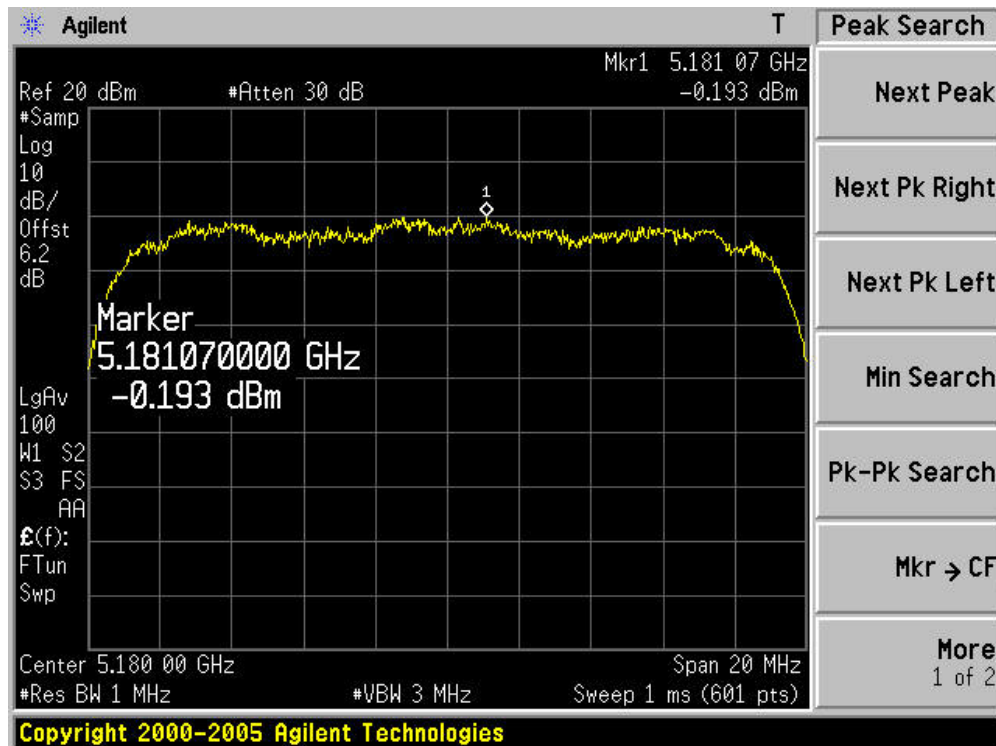
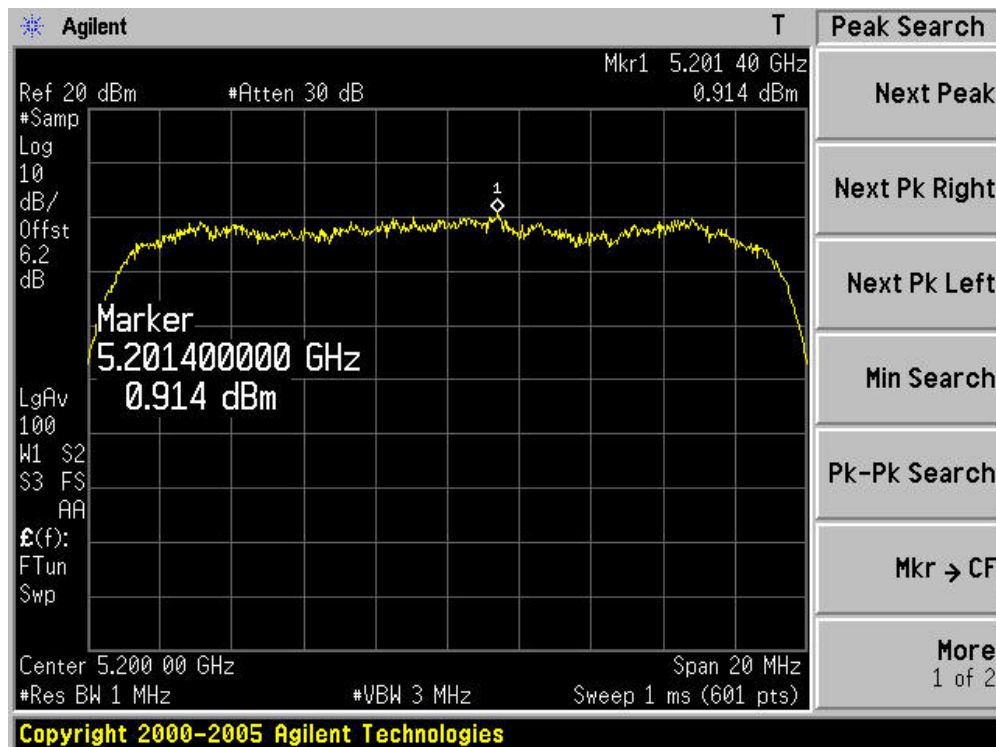


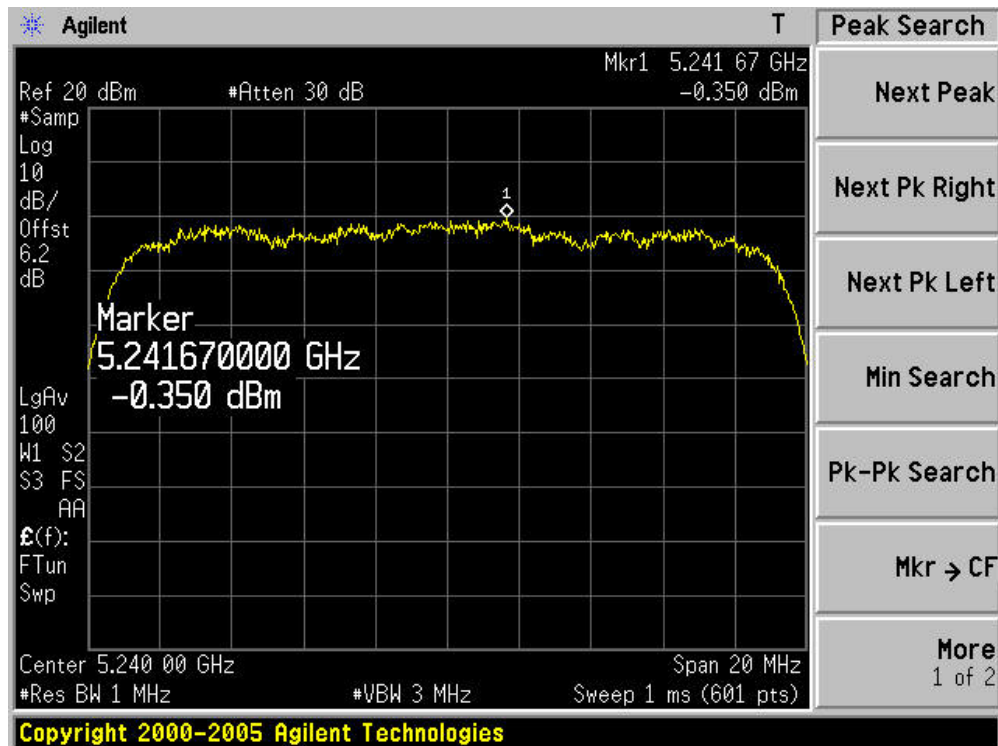
Channel 36 (5180MHz) - Ant 2



Channel 40 (5200MHz) - Ant 2



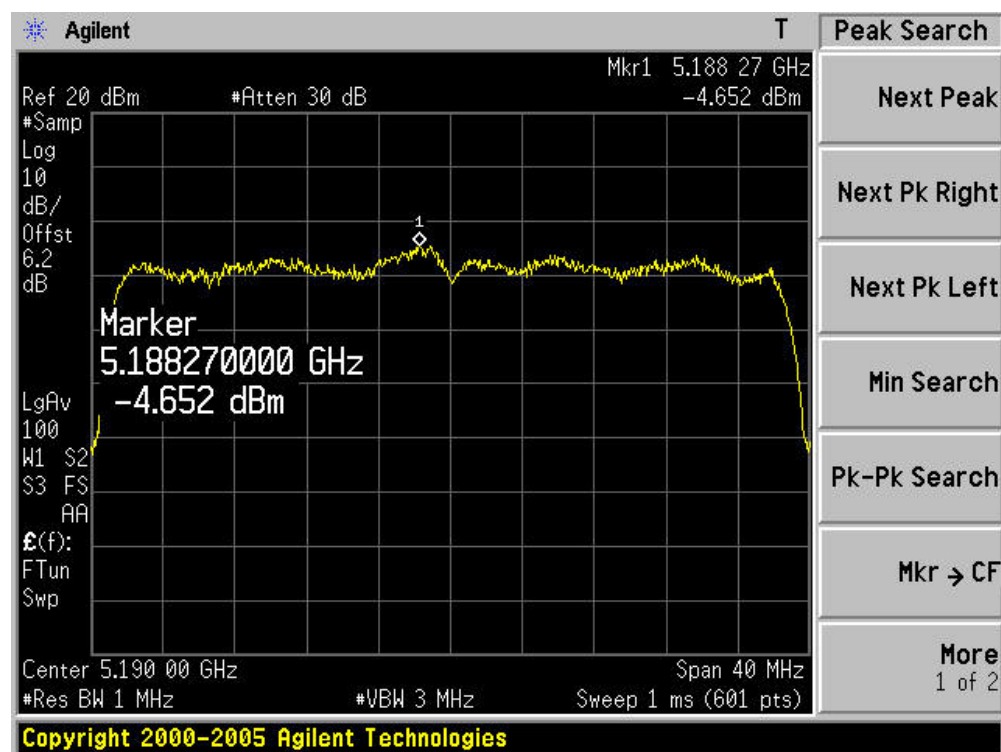
Channel 48 (5240MHz) - Ant 2



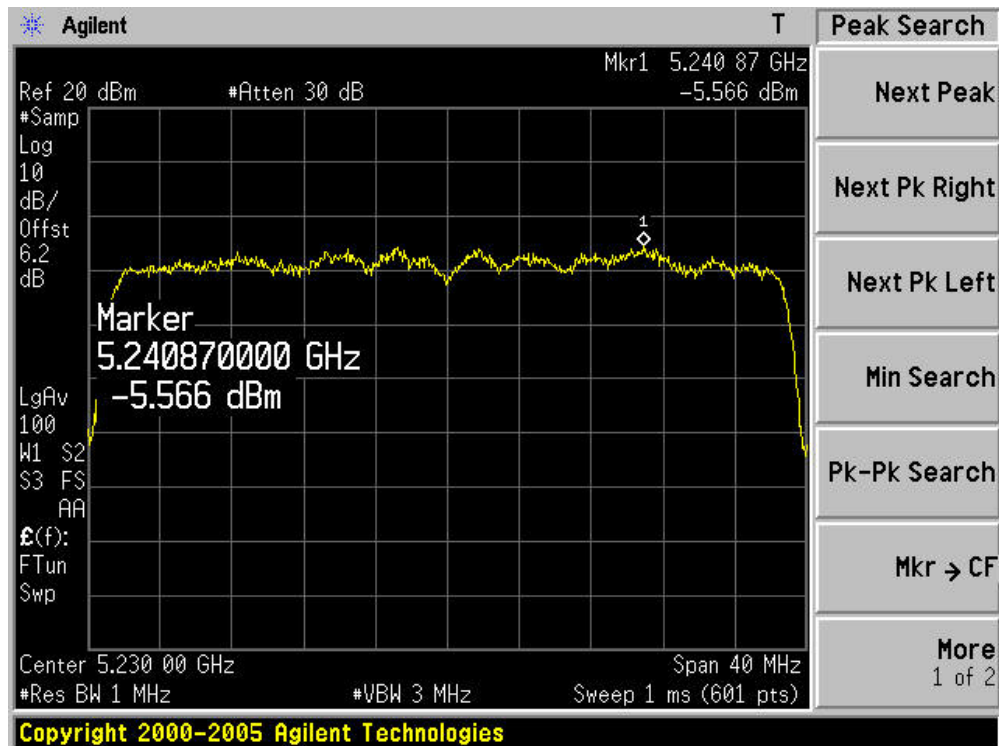
Product	:	IP-STB
Test Item	:	Peak Power Spectral Density
Test Site	:	TR-8
Test Mode	:	Mode 3: Transmit by 802.11n(40MHz) (Ant 1)

Channel No.	Frequency (MHz)	Measurement PPSD (dBm/MHz)		Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Result
		Ant 0	Ant 1			
38	5190	-4.652	N/A	-4.652	4.0	Pass
46	5230	-5.566	N/A	-5.566	4.0	Pass

Channel 38 (5190MHz)



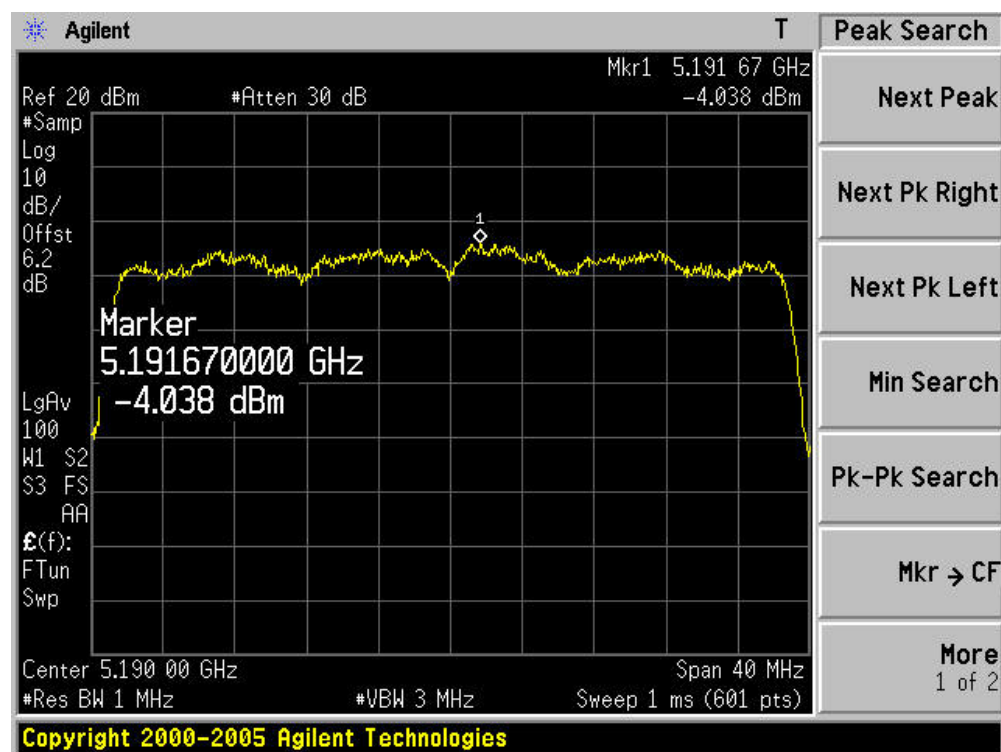
Channel 46 (5230MHz)



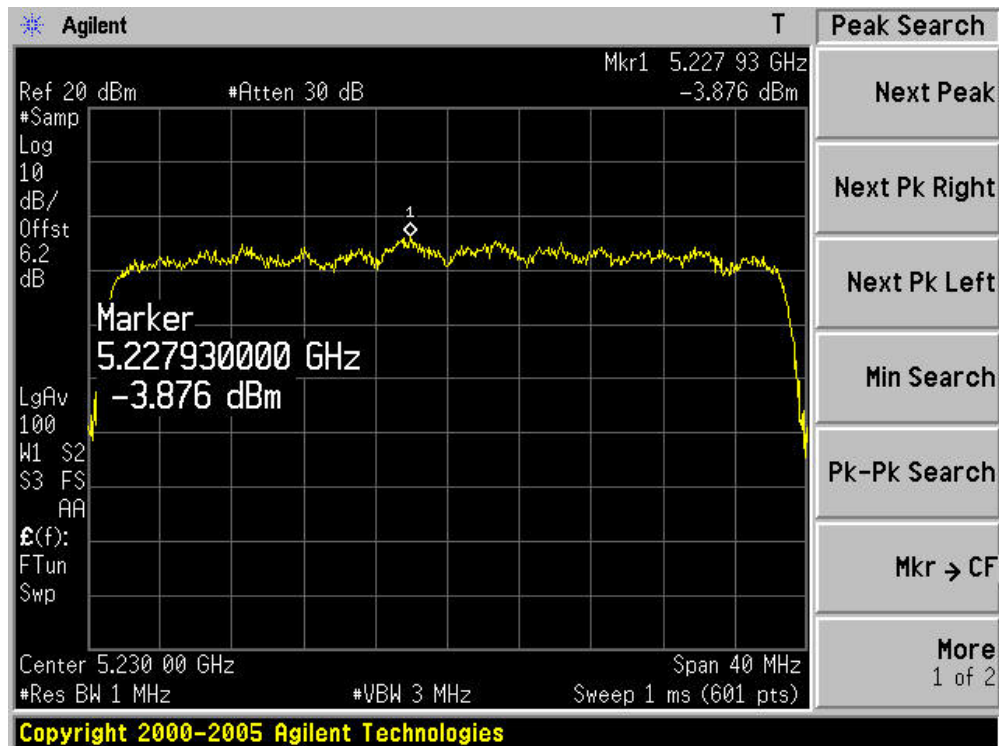
Product	:	IP-STB
Test Item	:	Peak Power Spectral Density
Test Site	:	TR-8
Test Mode	:	Mode 3: Transmit by 802.11n(40MHz) (ant 1)

Channel No.	Frequency (MHz)	Measurement PPSD (dBm/MHz)		Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Result
		Ant 0	Ant 1			
38	5190	N/A	-4.083	-4.083	4.0	Pass
46	5230	N/A	-3.876	-3.876	4.0	Pass

Channel 38 (5190MHz)



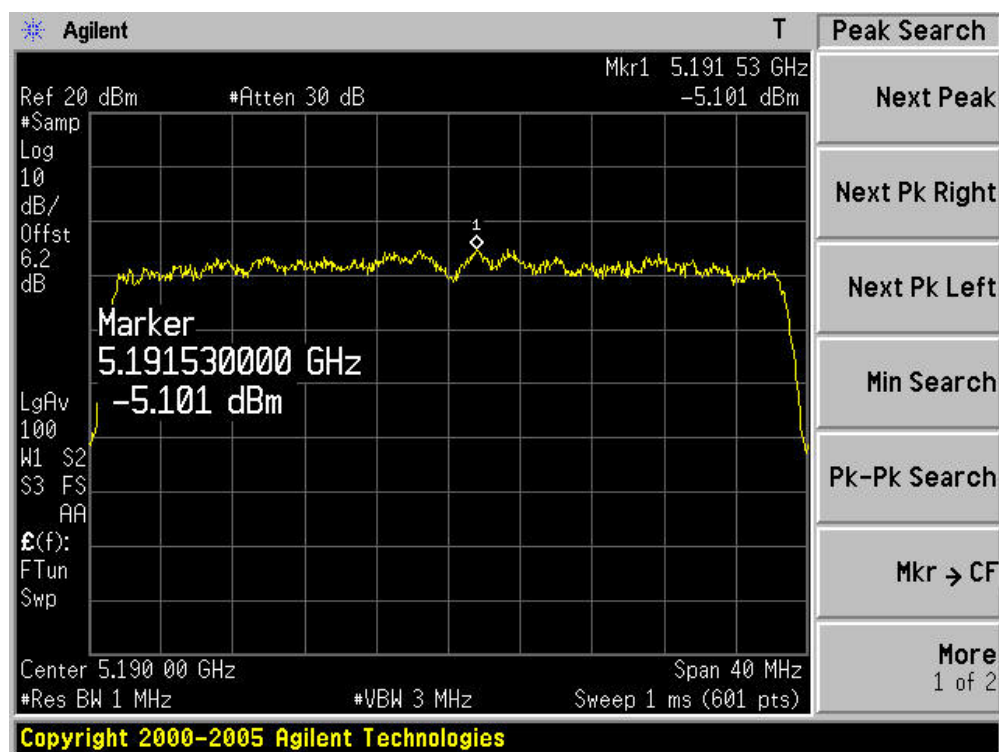
Channel 46 (5230MHz)



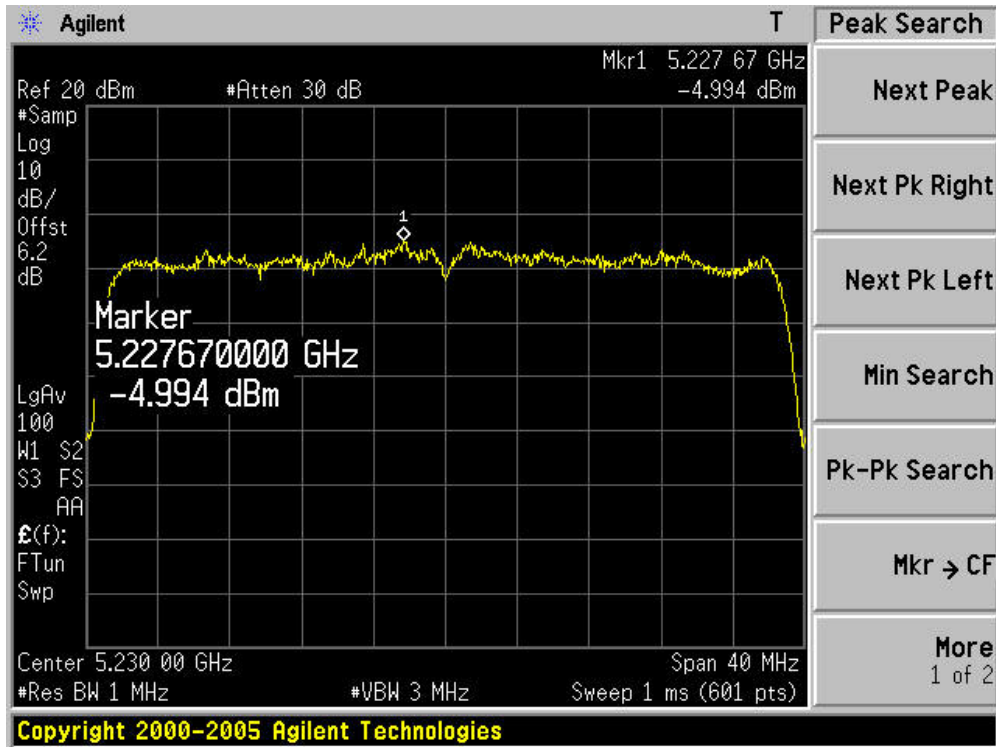
Product	:	IP-STB
Test Item	:	Peak Power Spectral Density
Test Site	:	TR-8
Test Mode	:	Mode 3: Transmit by 802.11n(40MHz) (ant0+1)

Channel No.	Frequency (MHz)	Measurement PPSD (dBm/MHz)		Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Result
		Ant 0	Ant 1			
38	5190	-5.101	-3.379	-1.140	4.0	Pass
46	5230	-4.994	-3.911	-1.410	4.0	Pass

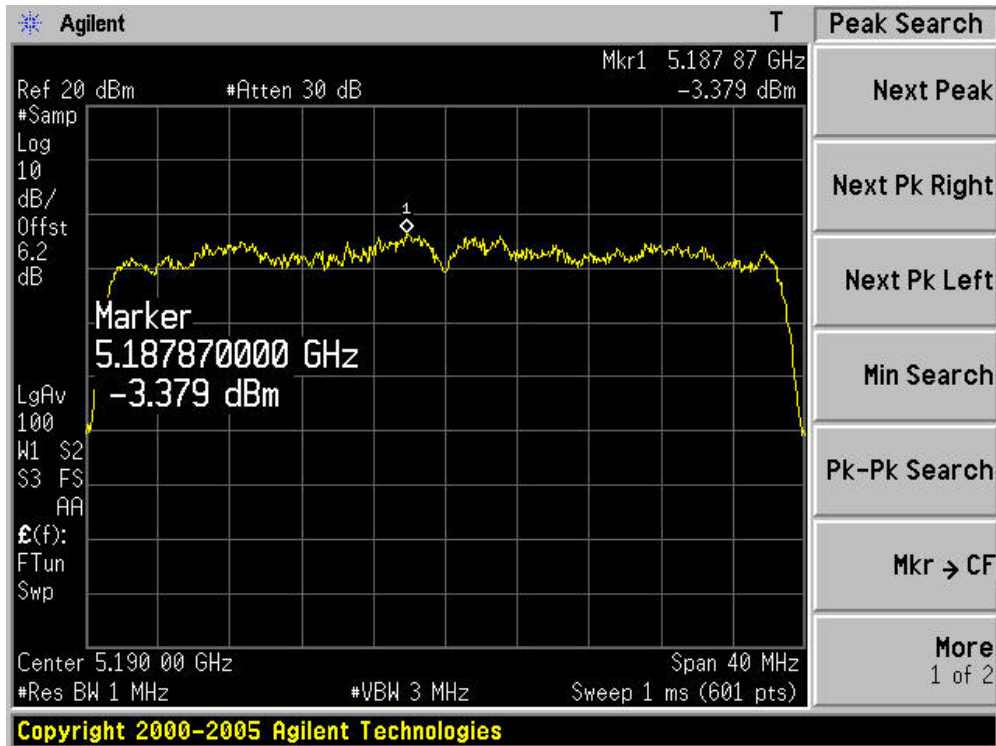
Channel 38 (5190MHz) – Ant 1



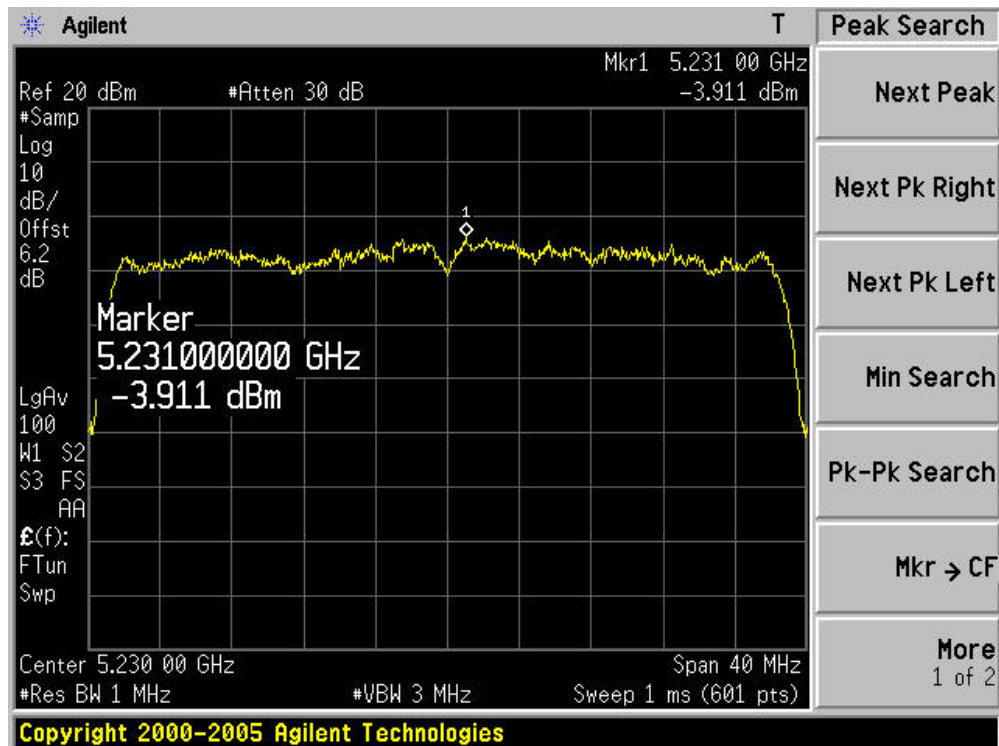
Channel 46 (5230MHz) - Ant 1



Channel 38 (5190MHz) - Ant 2



Channel 46 (5230MHz) - Ant 2



9. Peak Excursion

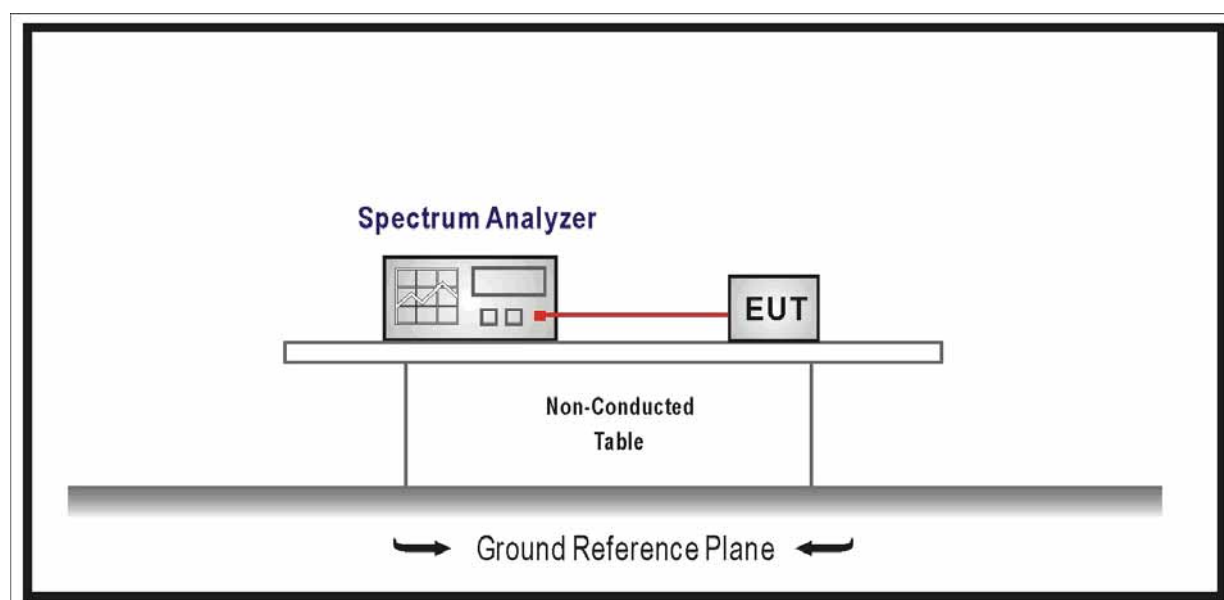
9.1. Test Equipment

Peak Excursion / TR-8

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2015.01.07
Temperature/Humidity Meter	zhicheng	ZC1-2	TR8-TH	2014.05.07

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

9.2. Test Setup



9.3. 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 emission bandwidth whichever is less.

9.4. Test Procedure

The EUT was tested according to KDB 789033 for compliance to FCC 47CFR 15.407 requirements.

Set the spectrum analyzer span to view the entire emission bandwidth. The largest difference between the following two traces must be ≤ 13 dB for all frequencies across the emission bandwidth.

- 1st Trace: Set RBW = 1 MHz, VBW ≥ 3 MHz with peak detector and max-hold settings.
- 2nd Trace: The result is the peak value of the PPSD.

9.5. Uncertainty

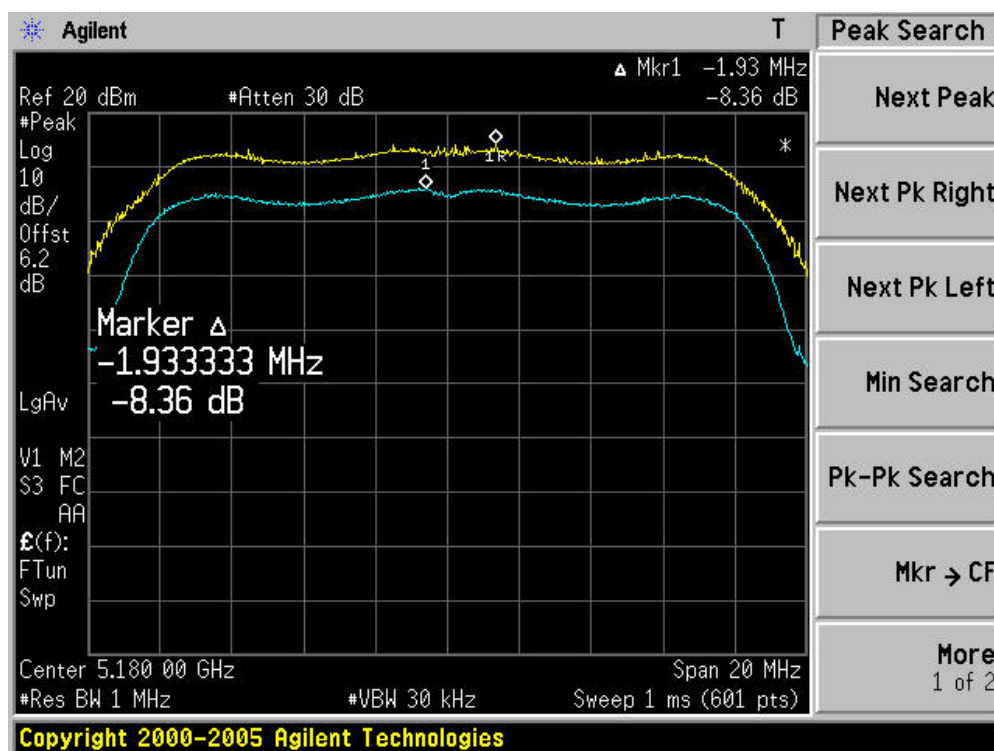
The measurement uncertainty is defined as ± 1.27 dB

9.6. Test Result

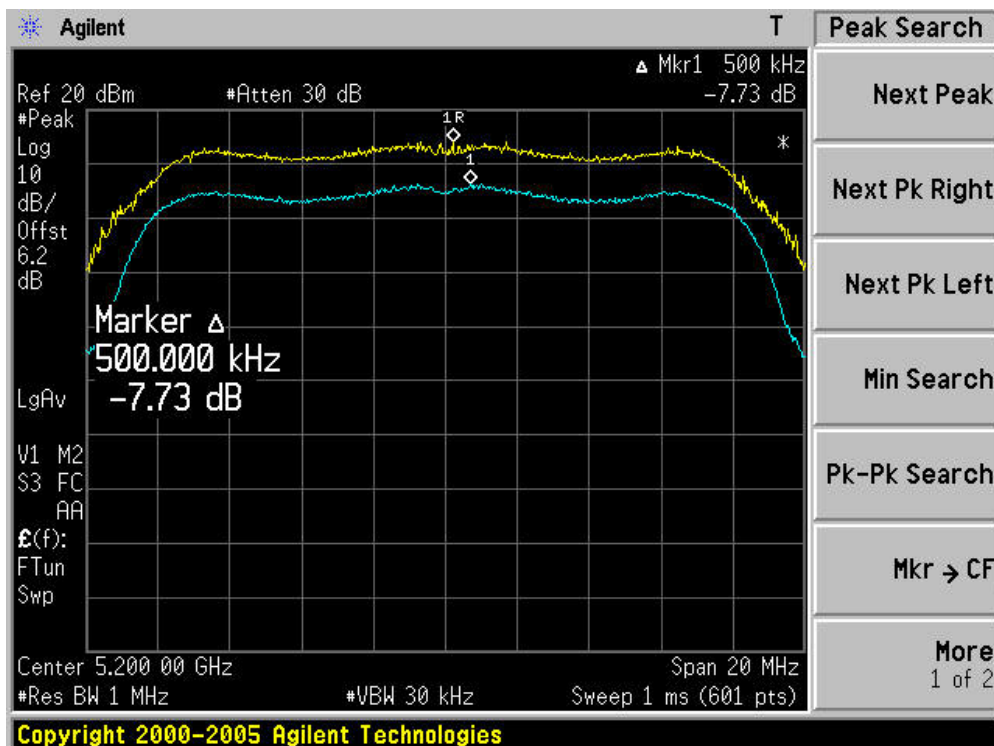
Product	:	IP-STB
Test Item	:	Peak Excursion
Test Site	:	TR-8
Test Mode	:	Mode 1: Transmit by 802.11a (ant 0)

Channel No.	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Result
36	5180	8.36	13	Pass
40	5200	7.73	13	Pass
48	5240	7.23	13	Pass

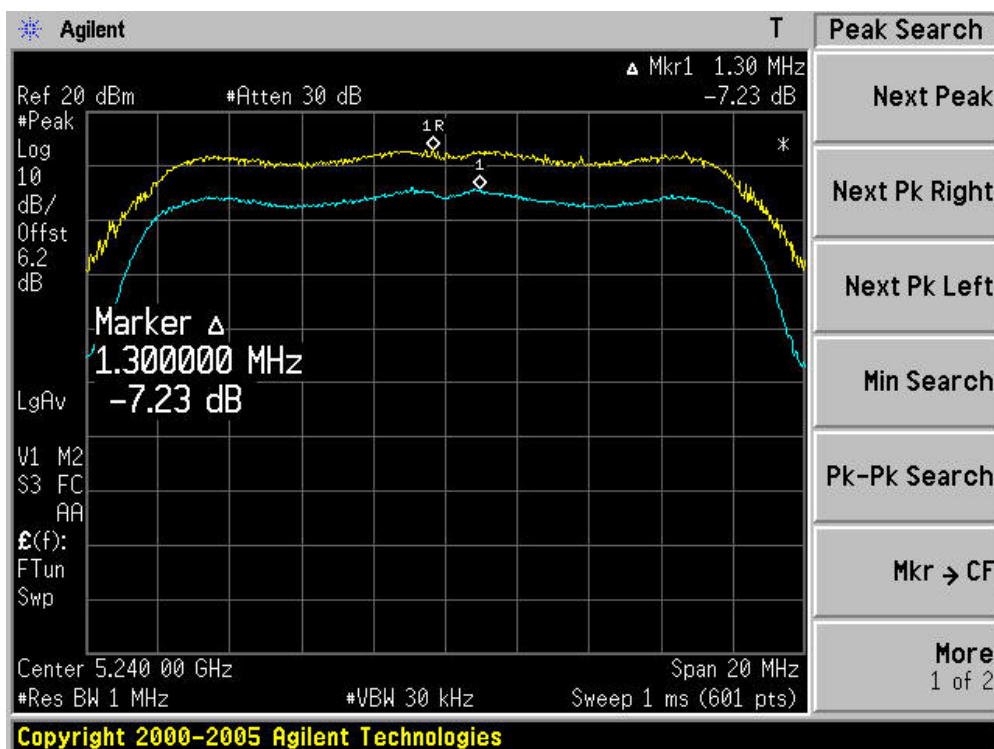
Channel 36 (5180MHz)



Channel 40 (5200MHz)



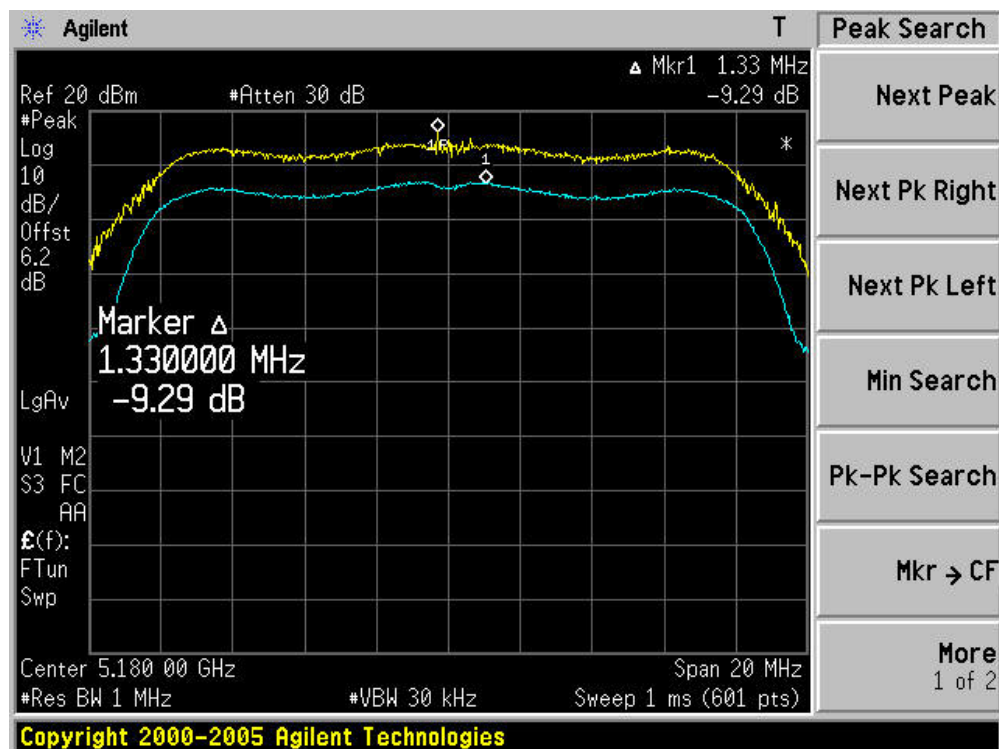
Channel 48 (5240MHz)



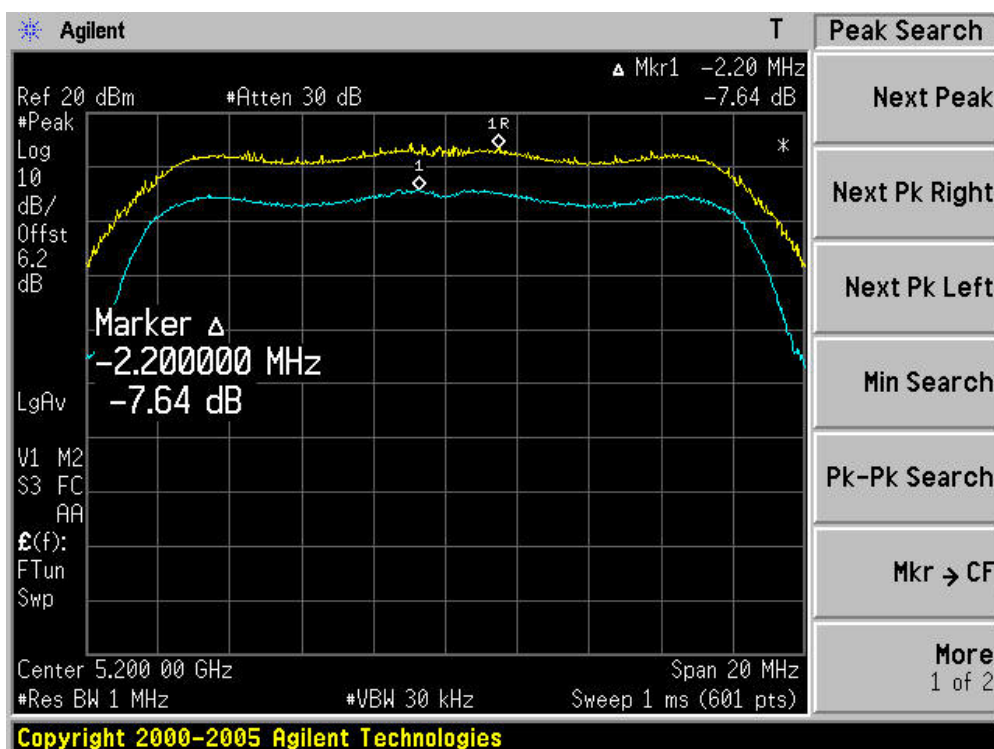
Product	:	IP-STB
Test Item	:	Peak Excursion
Test Site	:	TR-8
Test Mode	:	Mode 1: Transmit by 802.11a (ant 1)

Channel No.	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Result
36	5180	9.29	13	Pass
40	5200	7.64	13	Pass
48	5240	7.88	13	Pass

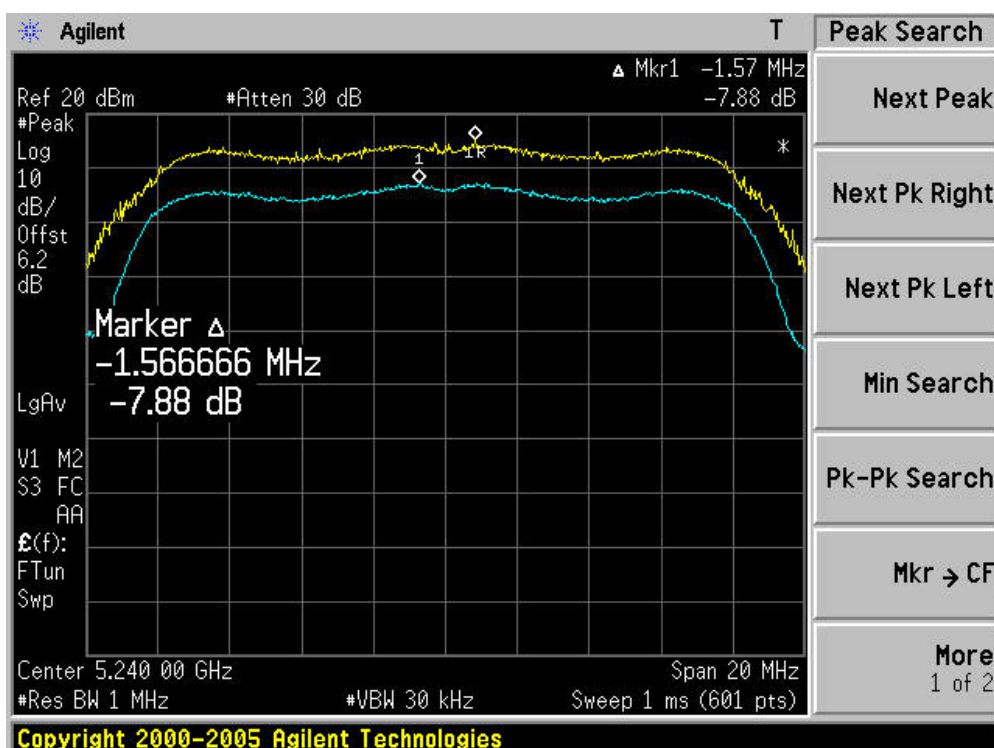
Channel 36 (5180MHz)



Channel 40 (5200MHz)



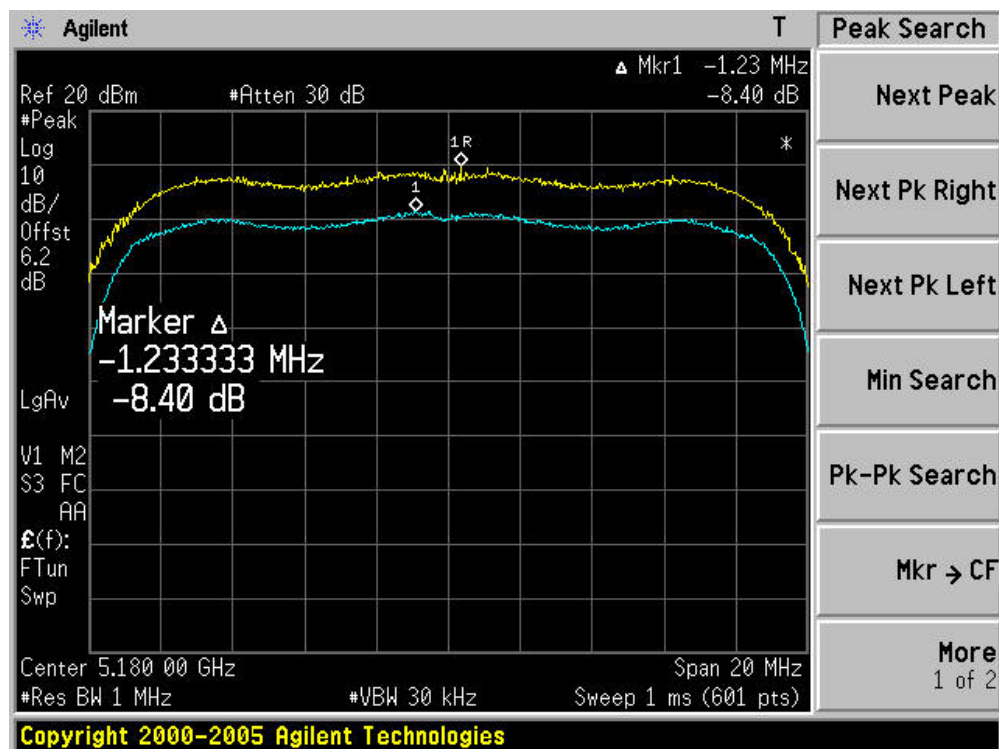
Channel 48 (5240MHz)



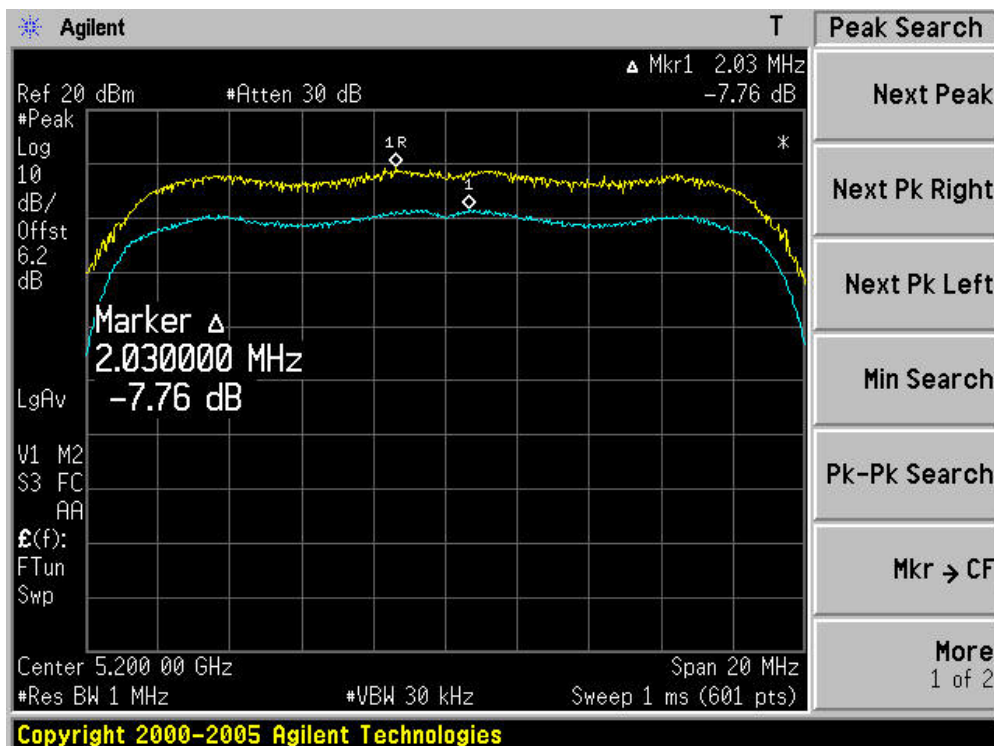
Product	:	IP-STB
Test Item	:	Peak Excursion
Test Site	:	TR-8
Test Mode	:	Mode 2: Transmit by 802.11n (20MHz) (ant 0)

Channel No.	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Result
36	5180	8.40	13	Pass
40	5200	7.76	13	Pass
48	5240	7.49	13	Pass

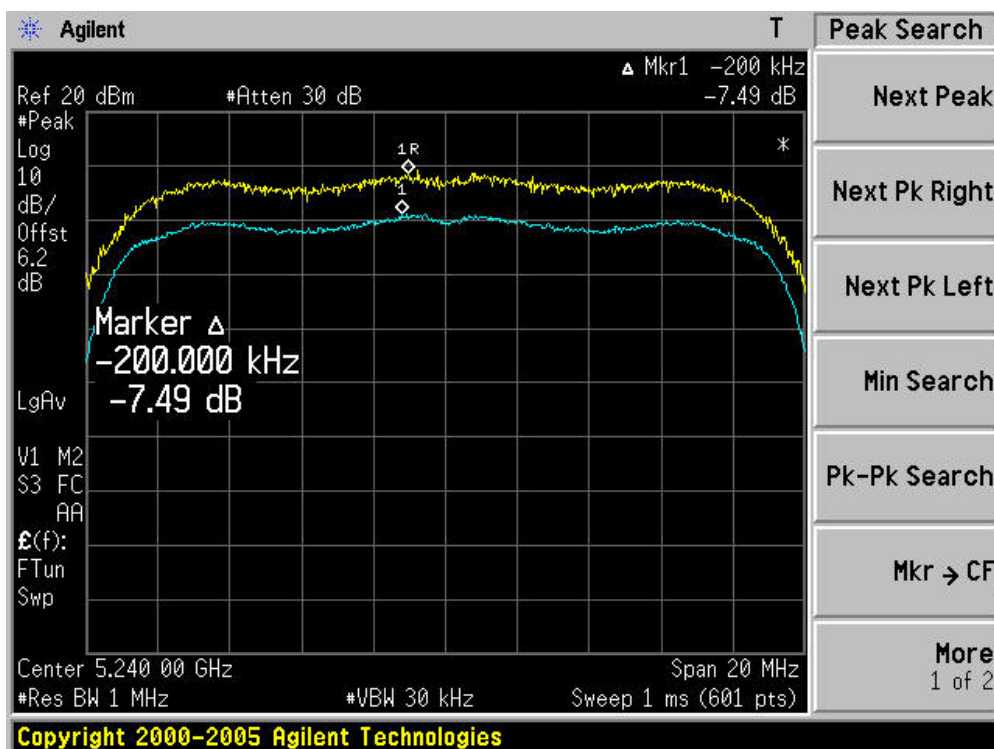
Channel 36 (5180MHz)



Channel 40 (5200MHz)



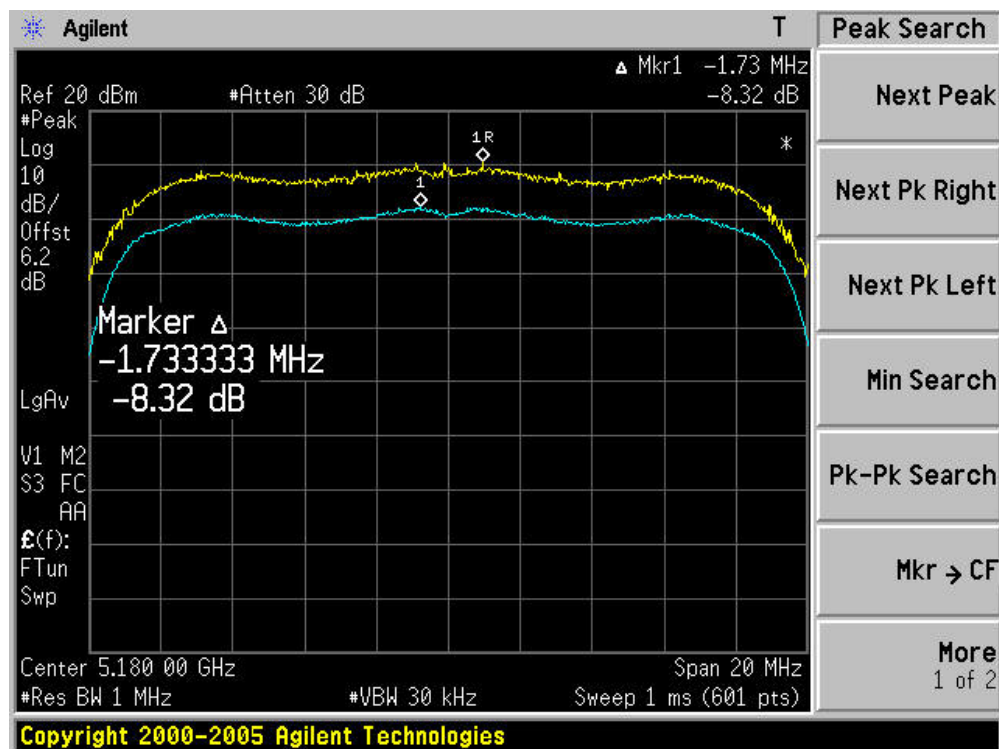
Channel 48 (5240MHz)



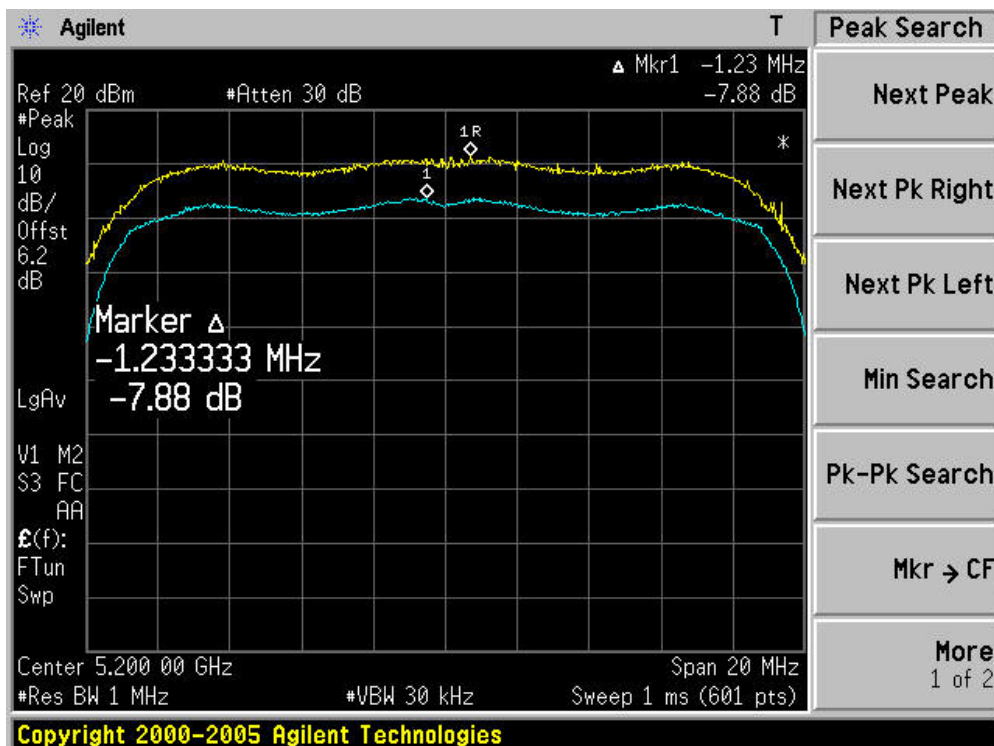
Product	:	IP-STB
Test Item	:	Peak Excursion
Test Site	:	TR-8
Test Mode	:	Mode 2: Transmit by 802.11n (20MHz) (ant 1)

Channel No.	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Result
36	5180	8.32	13	Pass
40	5200	7.88	13	Pass
48	5240	7.62	13	Pass

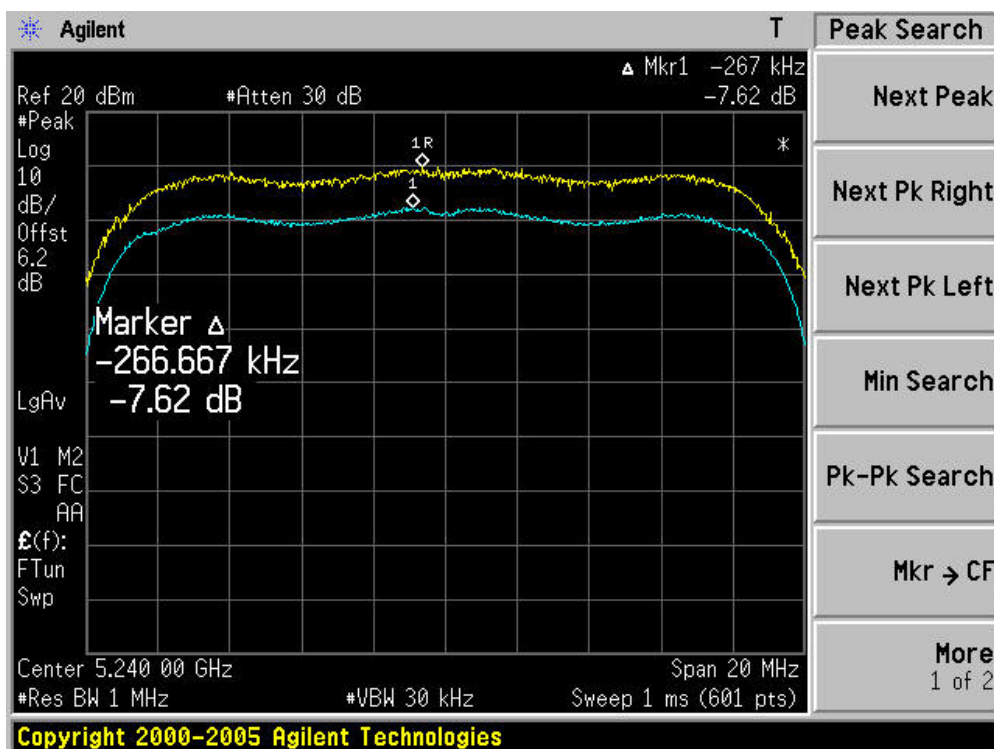
Channel 36 (5180MHz)



Channel 40 (5200MHz)



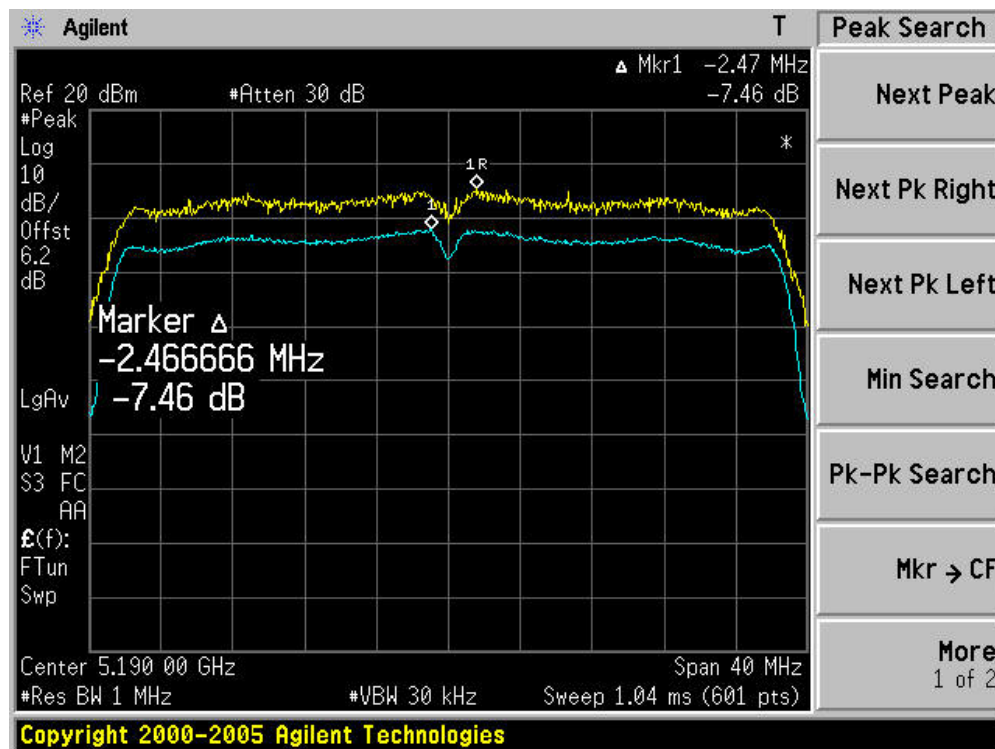
Channel 48 (5240MHz)



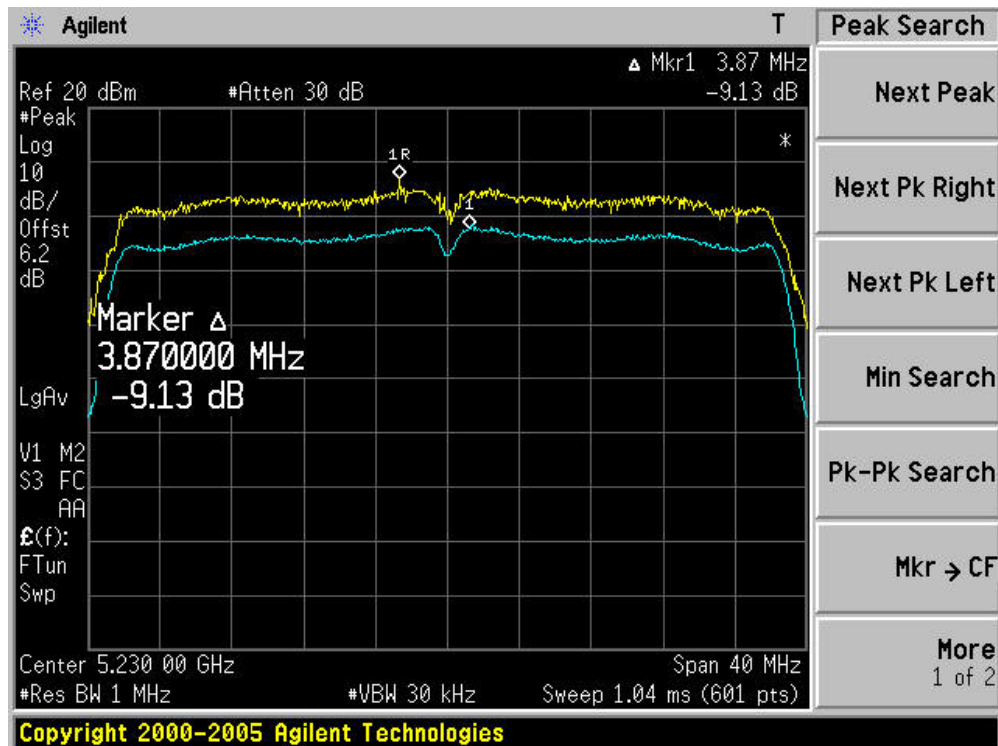
Product	:	IP-STB
Test Item	:	Peak Excursion
Test Site	:	TR-8
Test Mode	:	Mode 3: Transmit by 802.11n (40MHz) (ant 0)

Channel No.	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Result
38	5190	7.46	13	Pass
46	5230	9.13	13	Pass

Channel 38 (5190MHz)



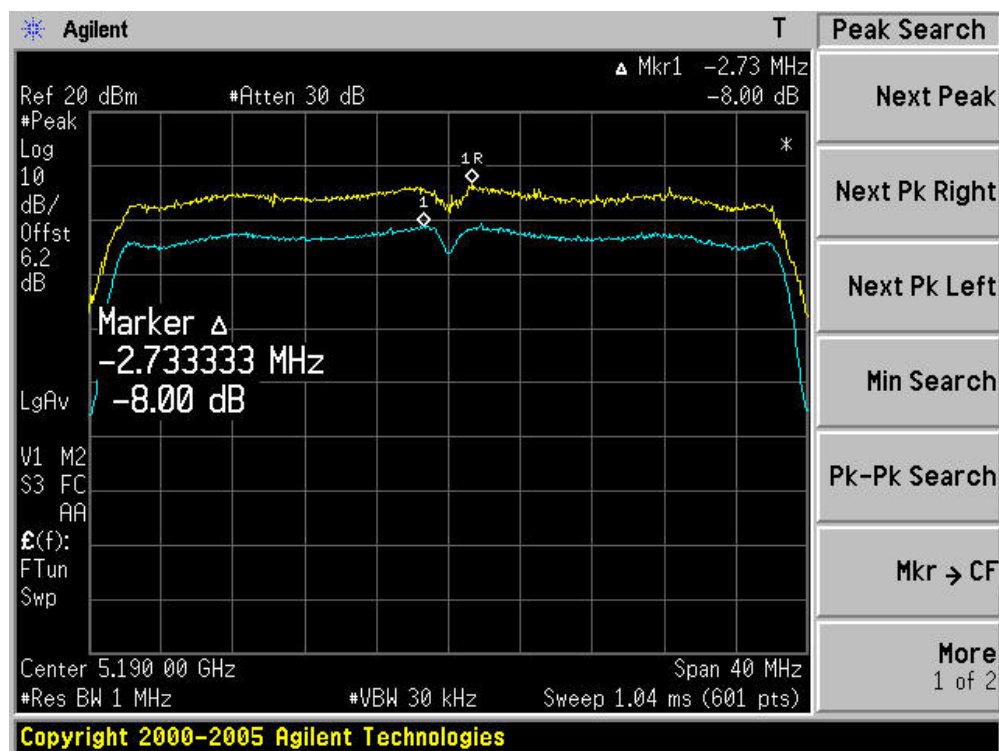
Channel 46 (5230MHz)



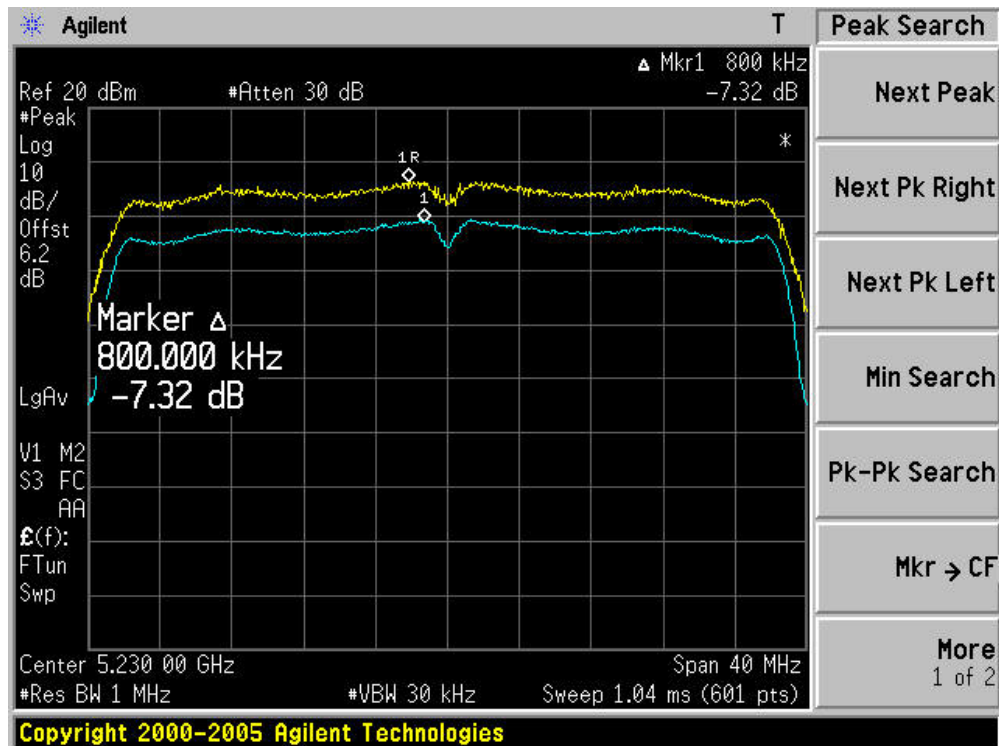
Product	:	IP-STB
Test Item	:	Peak Excursion
Test Site	:	TR-8
Test Mode	:	Mode 3: Transmit by 802.11n (40MHz) (ant 1)

Channel No.	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Result
38	5190	8.00	13	Pass
46	5230	7.32	13	Pass

Channel 38 (5190MHz)



Channel 46 (5230MHz)



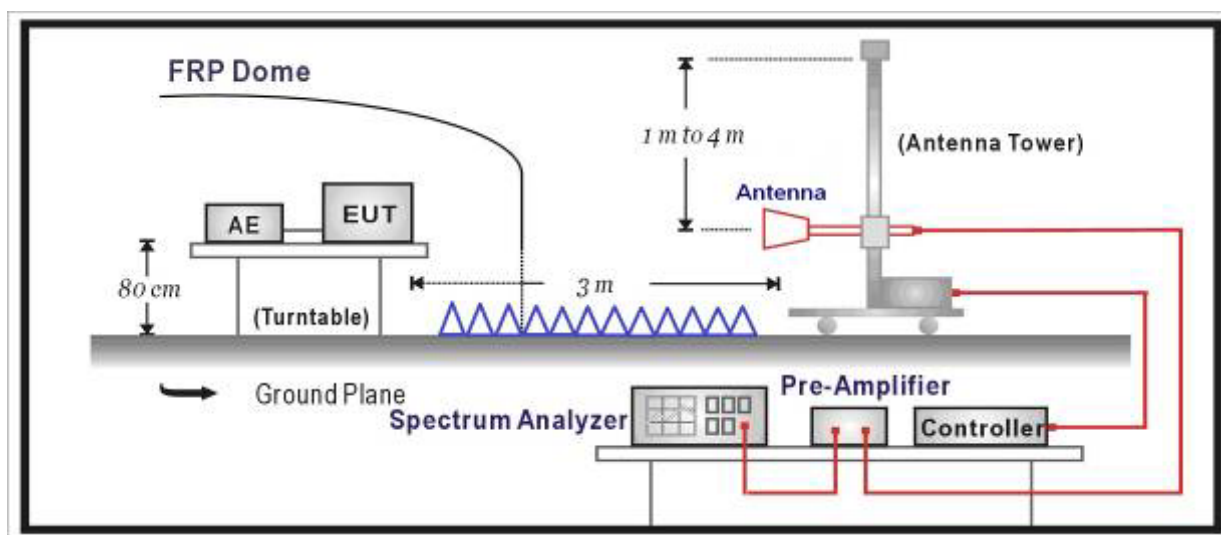
10. Radiated Emission Band Edge

10.1. Test Equipment

☒ Radiated Emission Band Edge / AC-5

Instrument	Manufacturer	Type No.	Serial No.	Cali. Due Date
Spectrum Analyzer	Agilent	N9020A	MY49100159	2014.03.30
Preamplifier	Miteq	NSP1800-25	1364185	2014.05.04
Preamplifier	Quietek	AP-040G	CHM-0906001	2014.05.04
Bilog Antenna	Teseq GmbH	CBL6112D	27612	2014.10.15
DRG Horn	ETS-Lindgren	3117	00123988	2015.01.21
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	2014.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2014.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 102	AC5-C3	2014.03.01
EMI Receiver	Agilent	N9038A	MY51210196	2014.06.09
Temperature/Humidity Meter	Zhichen	ZC1-2	AC5-TH	2015.01.08

10.2. Test Setup



10.3. Limit

For 15.205 requirement:

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a) of FCC part 15, must also comply with the radiated emission limits specified in Section 15.209(a).

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(²)

For 15.407(b) requirement:

- For transmitters operating in the 5.15-5.25 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz.

Operating Frequency Band (MHz)	EIRP Limit (dBm/MHz)	Equivalent Field Strength at 3m (dBuV/m)
5150 - 5250	-27	68.3
5250 - 5350	-27	68.3
5470 - 5725	-27	68.3
5725 - 5825	-27 [Note(1)]	68.3
	-17 [Note(2)]	78.3

Note(1): Outside the frequency range 5715 - 5835MHz.

Note(2): Within the frequency range from the band edge to 10MHz below or above the band edge, 5715 – 5725MHz and 5825 - 5835MHz.

10.4. Test Procedure

The EUT was tested according to KDB 789033 for compliance to FCC 47CFR 15.407 requirements.

The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4: 2009 on radiated measurement.

Note: When doing emission measurement above 1GHz, the horn Chainenna will be bended down a little (as horn Chainenna has the narrow beamwidth) in order to keeping the Chainenna in the "cone of radiation" of EUT. The 3dB beamwidth is 10~60 degrees for H-plane and 10~90 degrees for E-plane.

10.5. Uncertainty

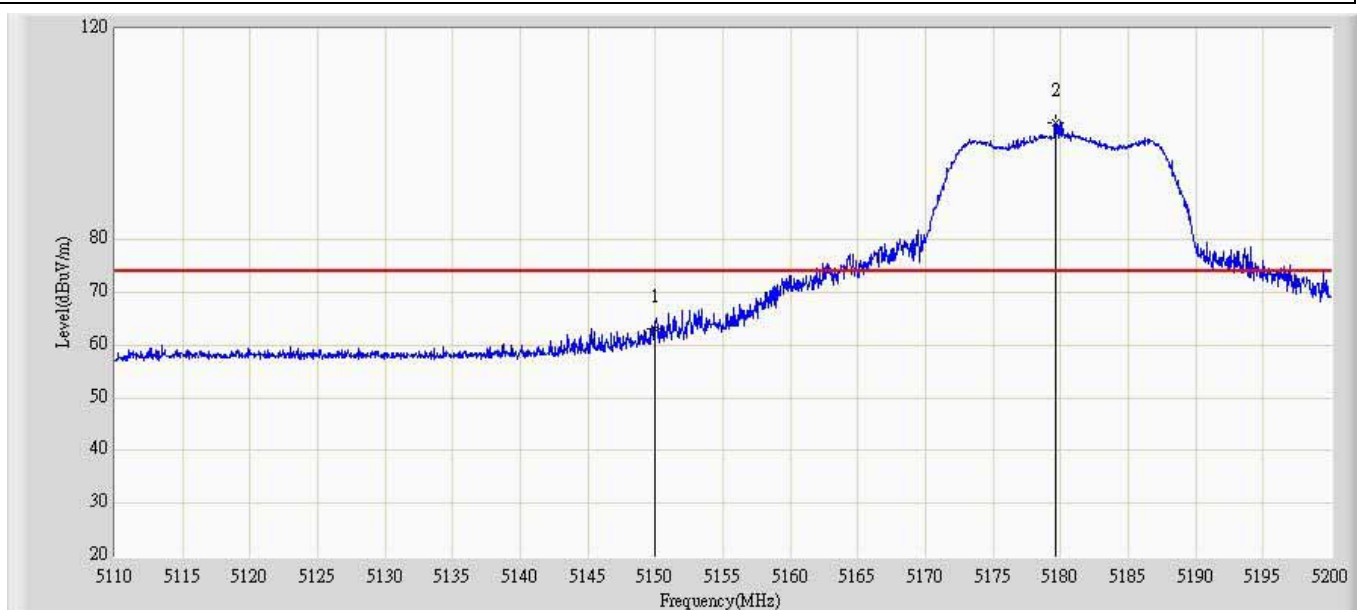
The measurement uncertainty above 1GHz is defined as ± 3.9 dB

10.6. Test Result

Peak detector: RBW = 1MHz, VBW = 3MHz, sweep time = 200ms;

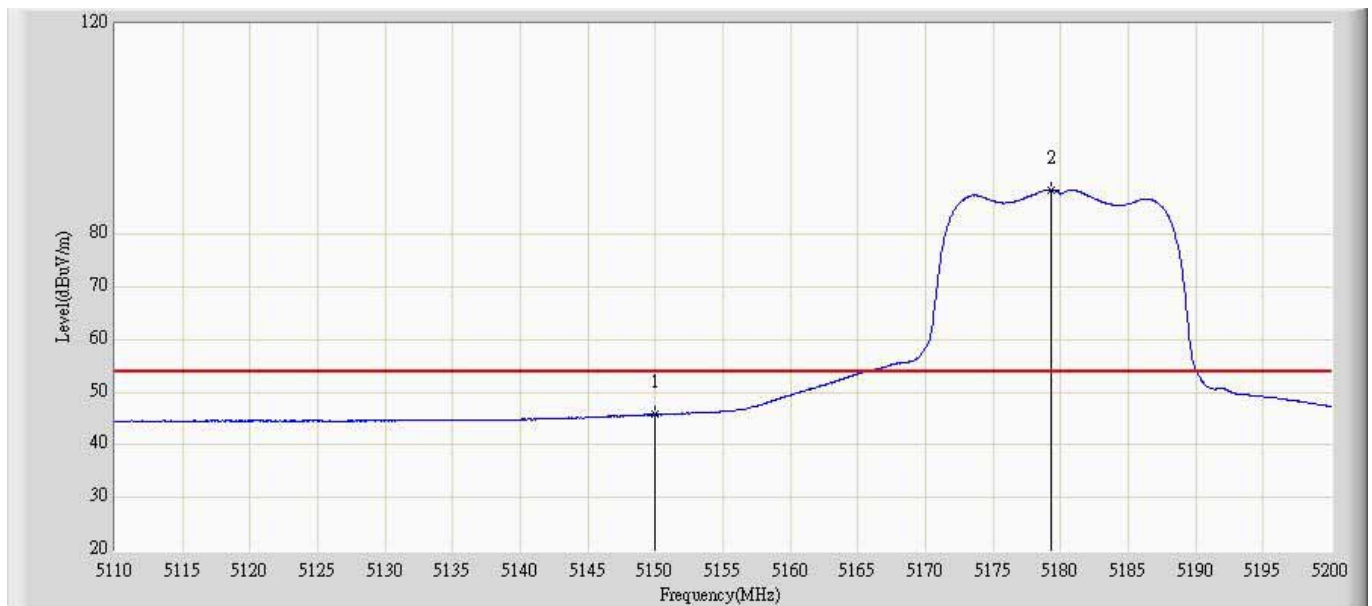
Average detector: RBW = 1MHz, VBW = 10Hz, sweep time = auto.

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 14:15
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: 120V/60Hz
Note: Mode1: Transmit at CH5180 by 802.11a ant0	



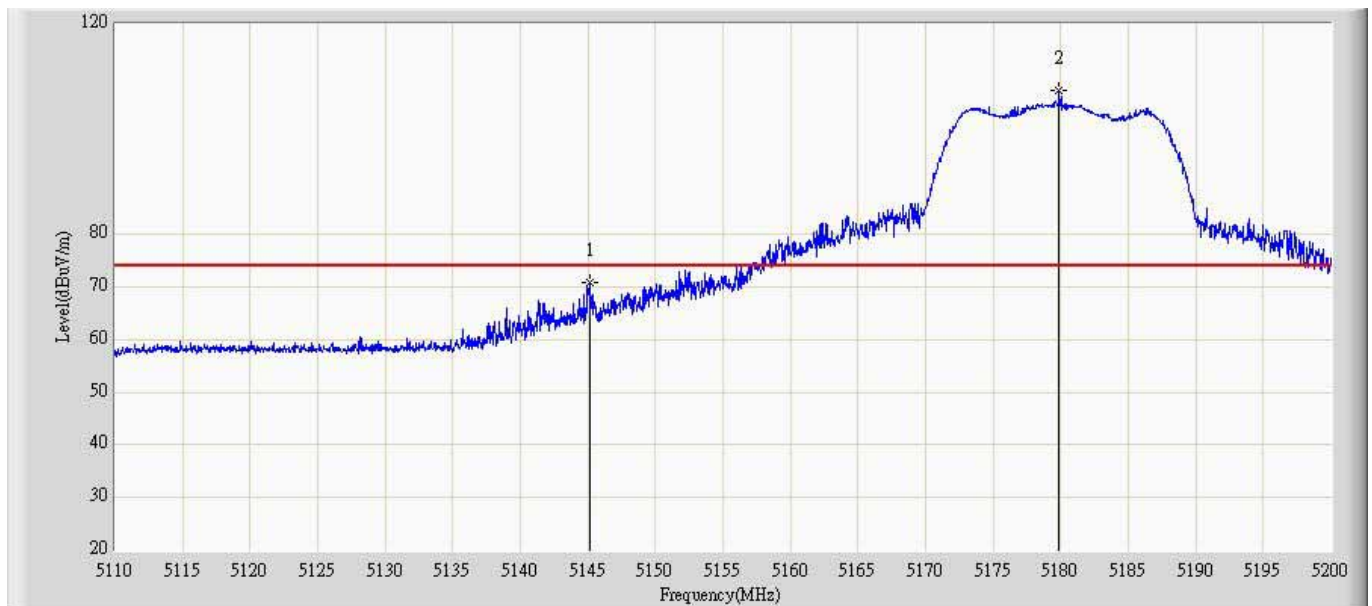
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5150.000	63.235	21.194	-10.765	74.000	42.041	PK
2		*	5179.660	102.173	60.056	N/A	N/A	42.117	PK

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 14:21
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: 120V/60Hz
Note: Mode1: Transmit at CH5180 by 802.11a ant0	



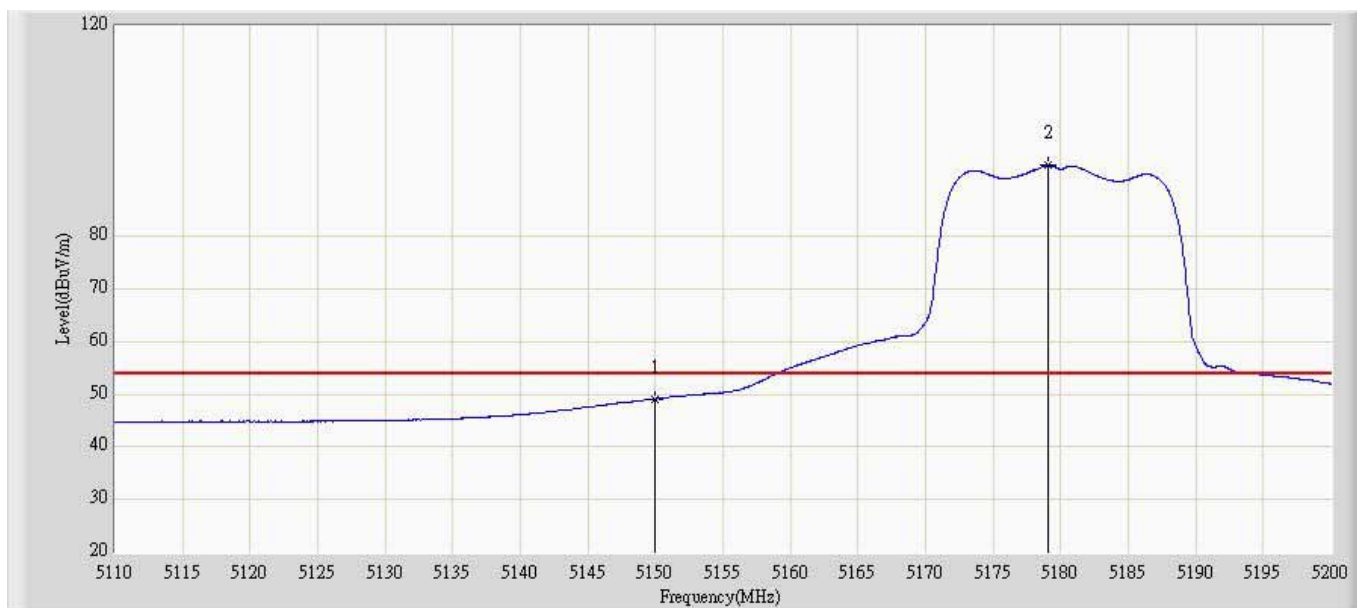
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5150.000	45.737	3.696	-8.263	54.000	42.041	AV
2		*	5179.255	88.480	46.364	N/A	N/A	42.117	AV

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 14:23
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: 120V/60Hz
Note: Mode1: Transmit at CH5180 by 802.11a ant0	



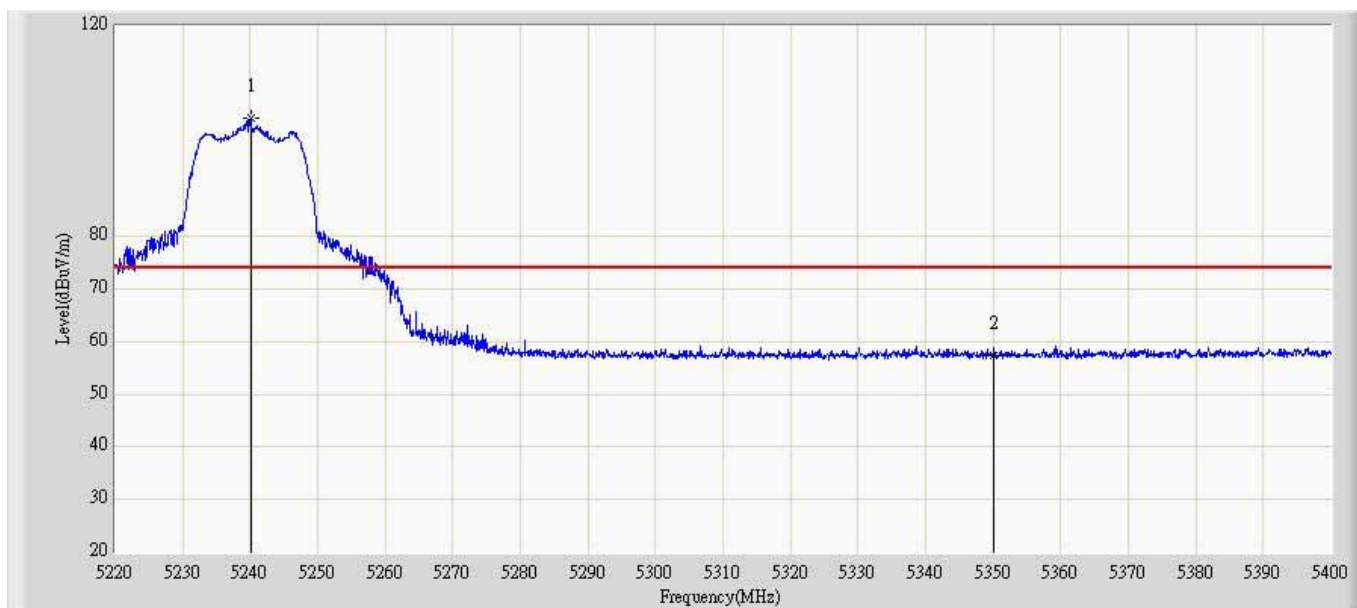
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5145.100	70.906	28.908	-3.094	74.000	41.998	PK
2		*	5179.885	107.432	65.402	N/A	N/A	42.030	PK

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 14:28
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: 120V/60Hz
Note: Mode1: Transmit at CH5180 by 802.11a ant0	



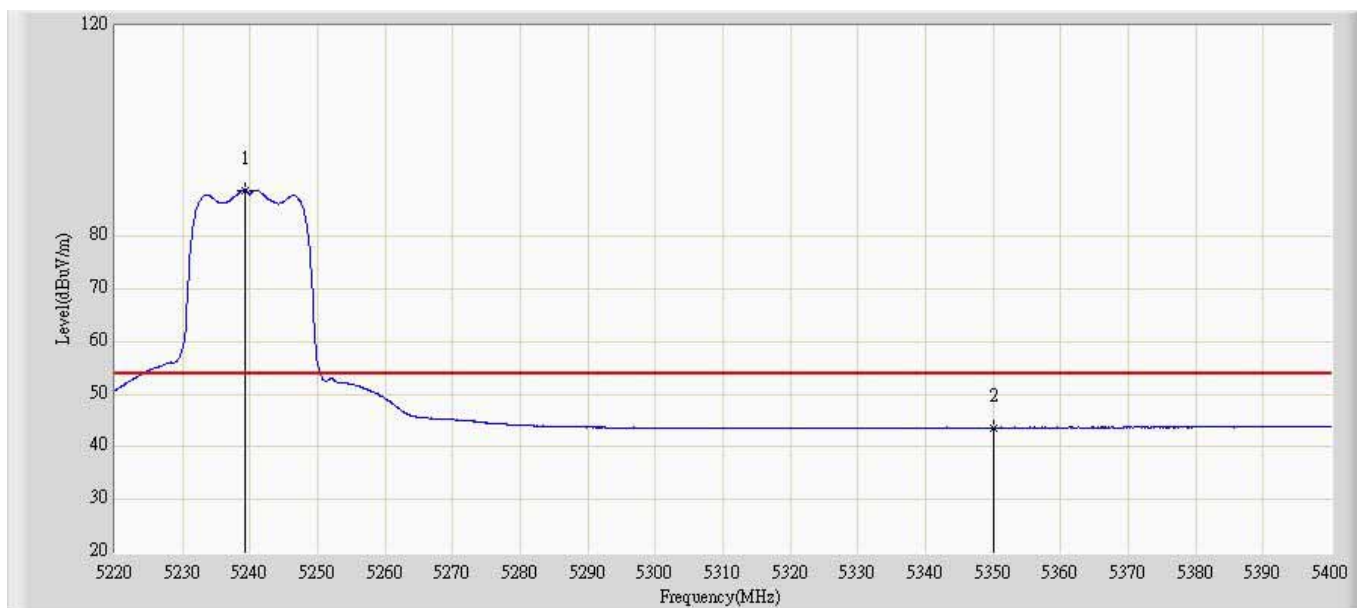
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5150.000	49.135	7.134	-4.865	54.000	42.001	AV
2		*	5179.075	93.487	51.457	N/A	N/A	42.030	AV

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 14:31
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: 120V/60Hz
Note: Mode1: Transmit at CH5240 by 802.11a ant0	



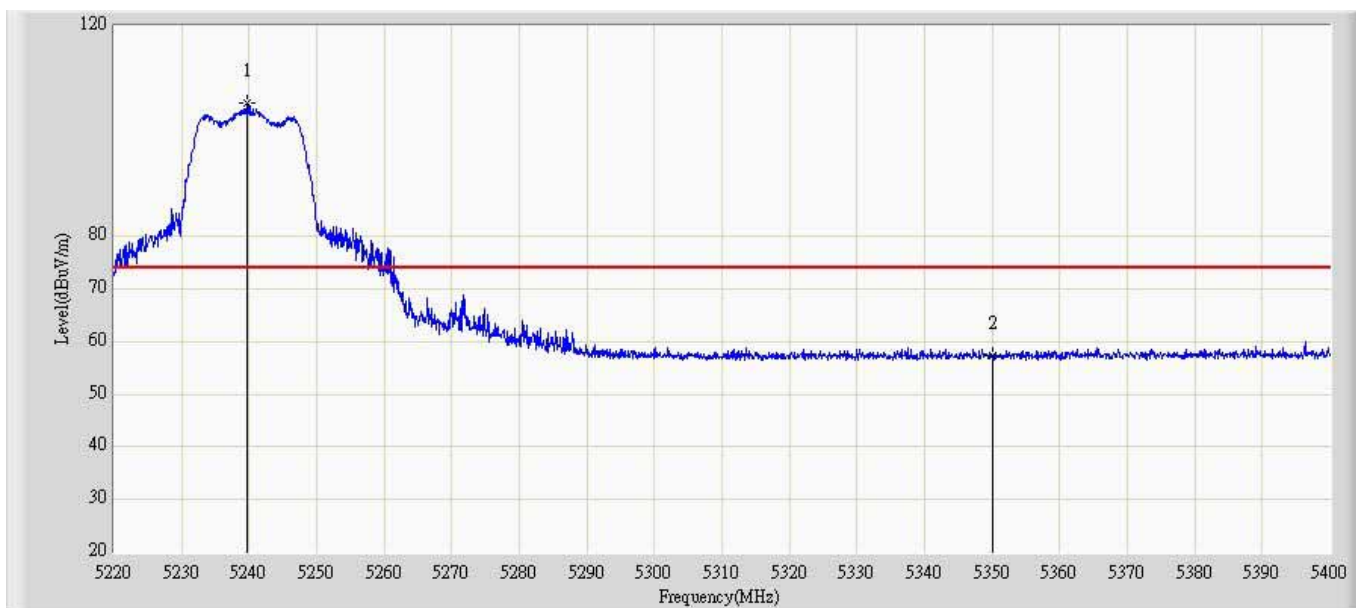
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5240.070	102.483	60.222	N/A	N/A	42.261	PK
2			5350.000	57.452	15.058	-16.548	74.000	42.393	PK

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 14:36
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: 120V/60Hz
Note: Mode1: Transmit at CH5240 by 802.11a ant0	



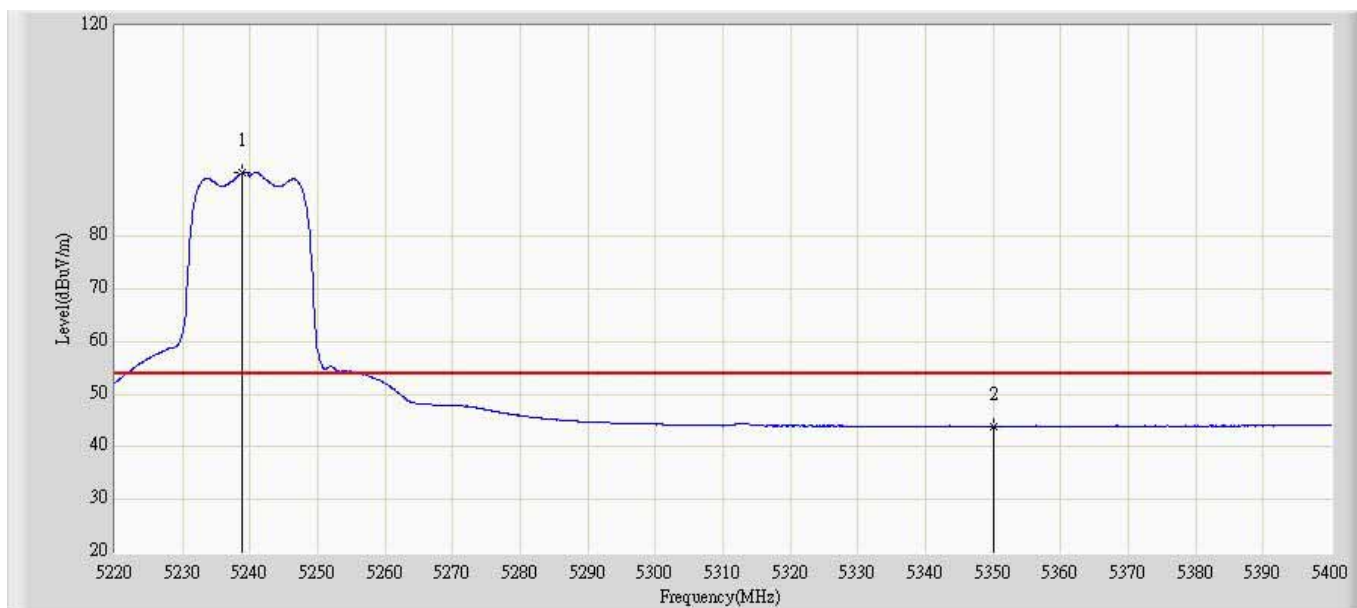
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5239.260	88.808	46.549	N/A	N/A	42.259	AV
2			5350.000	43.598	1.204	-10.402	54.000	42.393	AV

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 14:38
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: 120V/60Hz
Note: Mode1: Transmit at CH5240 by 802.11a ant0	



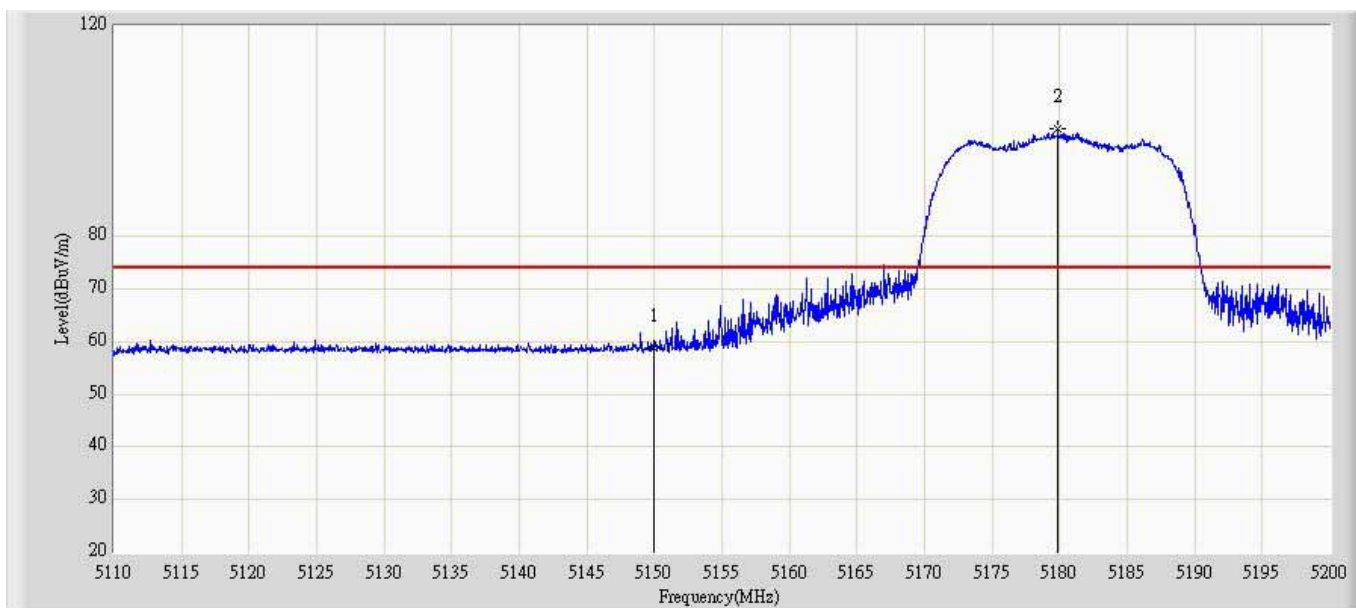
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5239.800	105.219	63.142	N/A	N/A	42.077	PK
2			5350.000	57.240	15.006	-16.760	74.000	42.233	PK

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 14:41
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: 120V/60Hz
Note: Mode1: Transmit at CH5240 by 802.11a ant0	



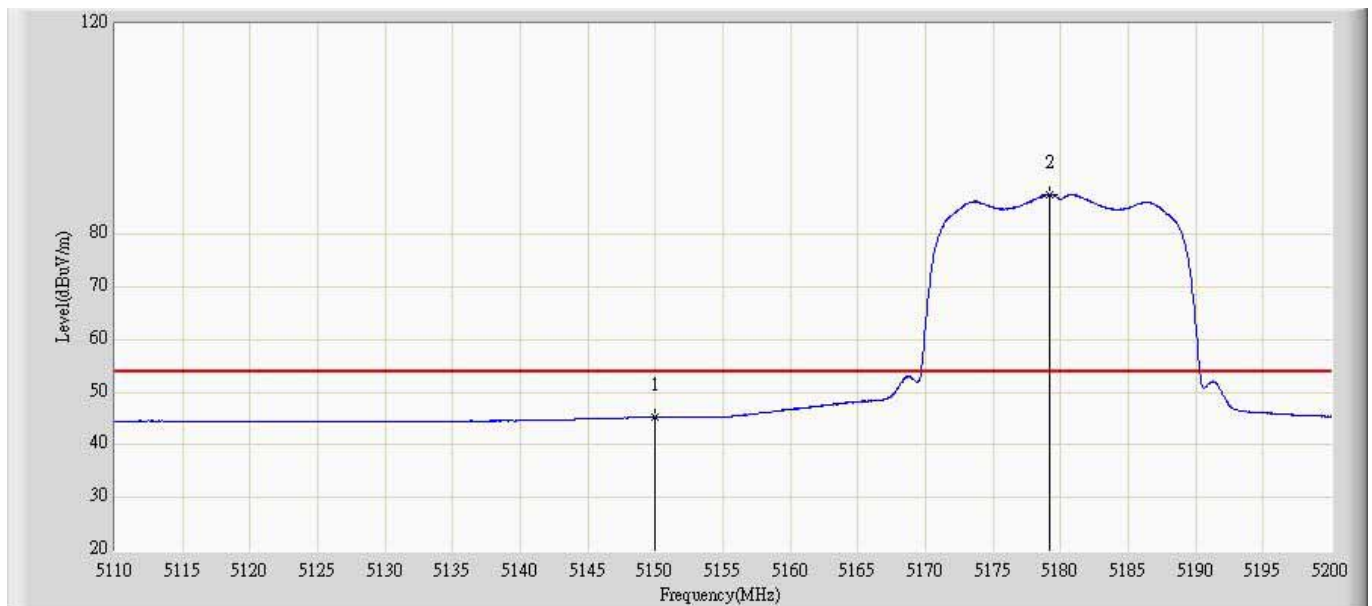
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5238.900	92.144	50.068	N/A	N/A	42.076	AV
2			5350.000	43.940	1.706	-10.060	54.000	42.233	AV

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 14:45
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: 120V/60Hz
Note: Mode2: Transmit at CH5180 by 802.11n(20MHz) ant0	



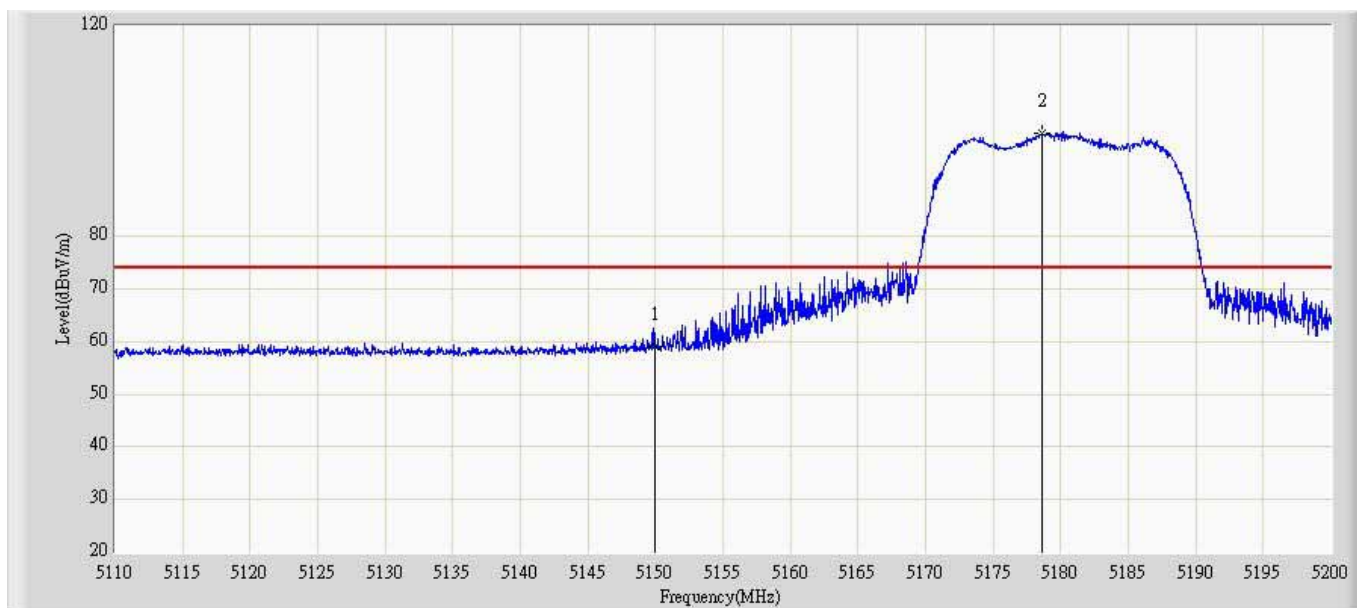
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5150.000	58.721	16.680	-15.279	74.000	42.041	PK
2		*	5179.840	100.369	58.251	N/A	N/A	42.118	PK

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 15:00
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: 120V/60Hz
Note: Mode2: Transmit at CH5180 by 802.11n(20MHz) ant0	



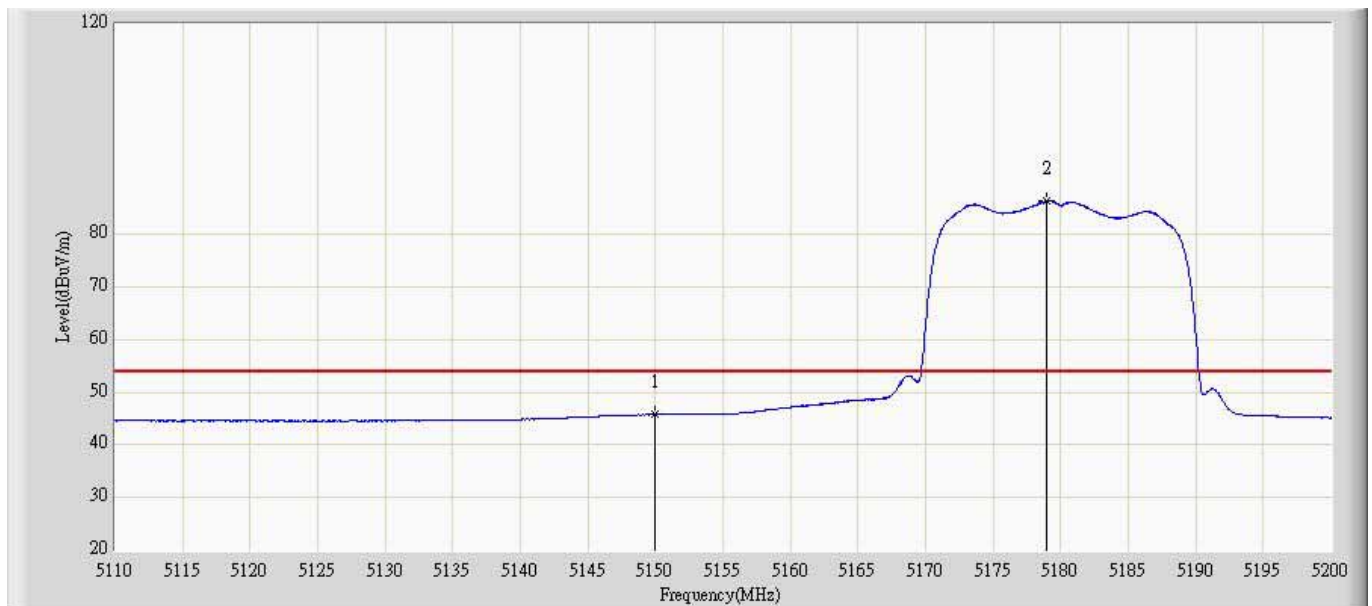
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5150.000	45.233	3.192	-8.767	54.000	42.041	AV
2		*	5179.165	87.557	45.441	N/A	N/A	42.116	AV

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 15:02
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: 120V/60Hz
Note: Mode2: Transmit at CH5180 by 802.11n(20MHz) ant0	



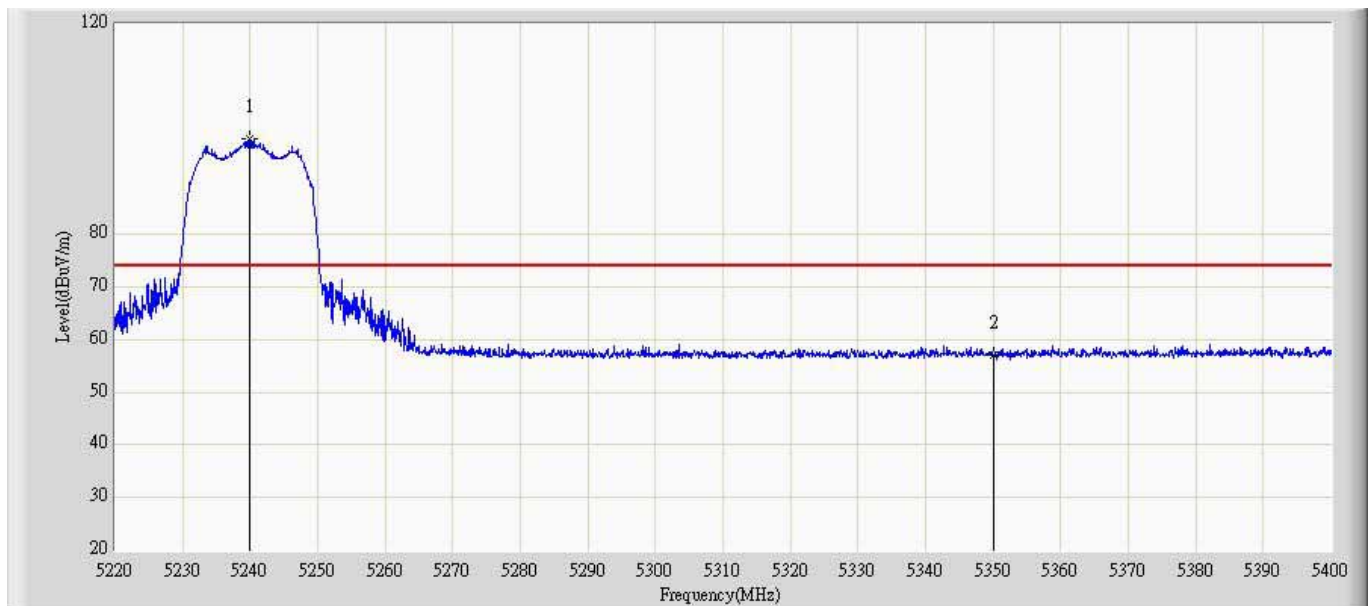
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5150.000	58.979	16.978	-15.021	74.000	42.001	PK
2		*	5178.580	99.460	57.431	N/A	N/A	42.029	PK

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 15:06
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: 120V/60Hz
Note: Mode2: Transmit at CH5180 by 802.11n(20MHz) ant0	



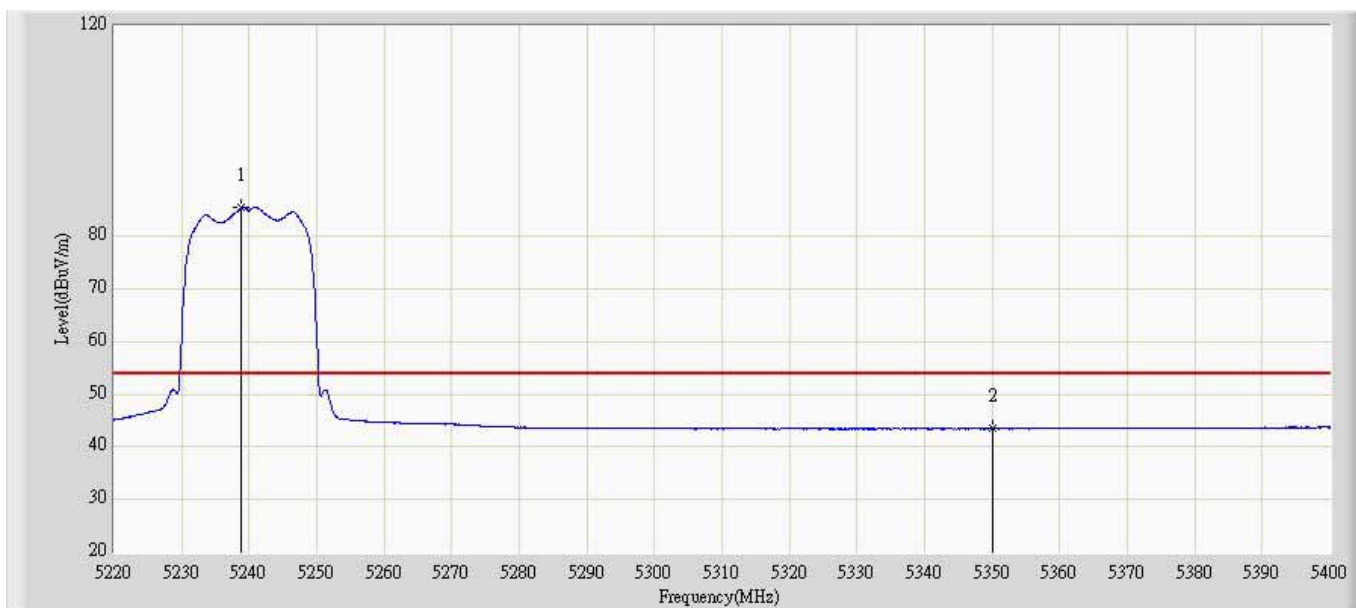
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5150.000	45.818	3.817	-8.182	54.000	42.001	AV
2		*	5178.940	86.363	44.334	N/A	N/A	42.029	AV

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 15:09
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: 120V/60Hz
Note: Mode2: Transmit at CH5240 by 802.11n(20MHz) ant0	



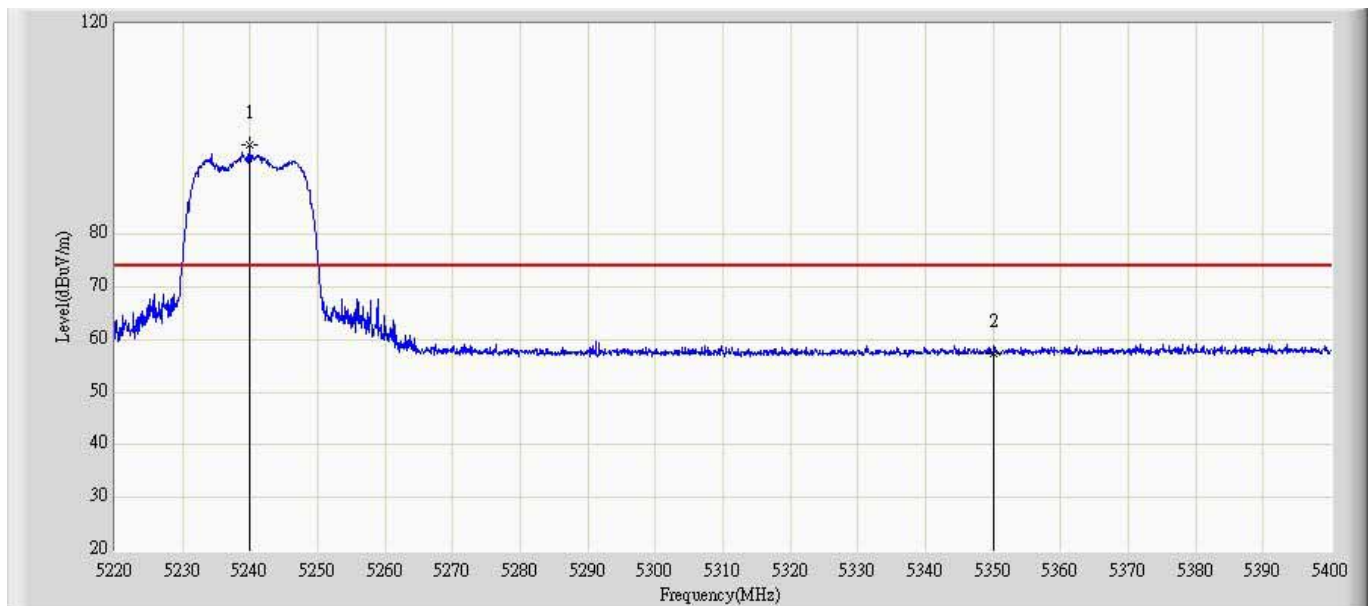
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5239.890	98.300	56.039	N/A	N/A	42.261	PK
2			5350.000	57.206	14.812	-16.794	74.000	42.393	PK

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 15:13
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: 120V/60Hz
Note: Mode2: Transmit at CH5240 by 802.11n(20MHz) ant0	



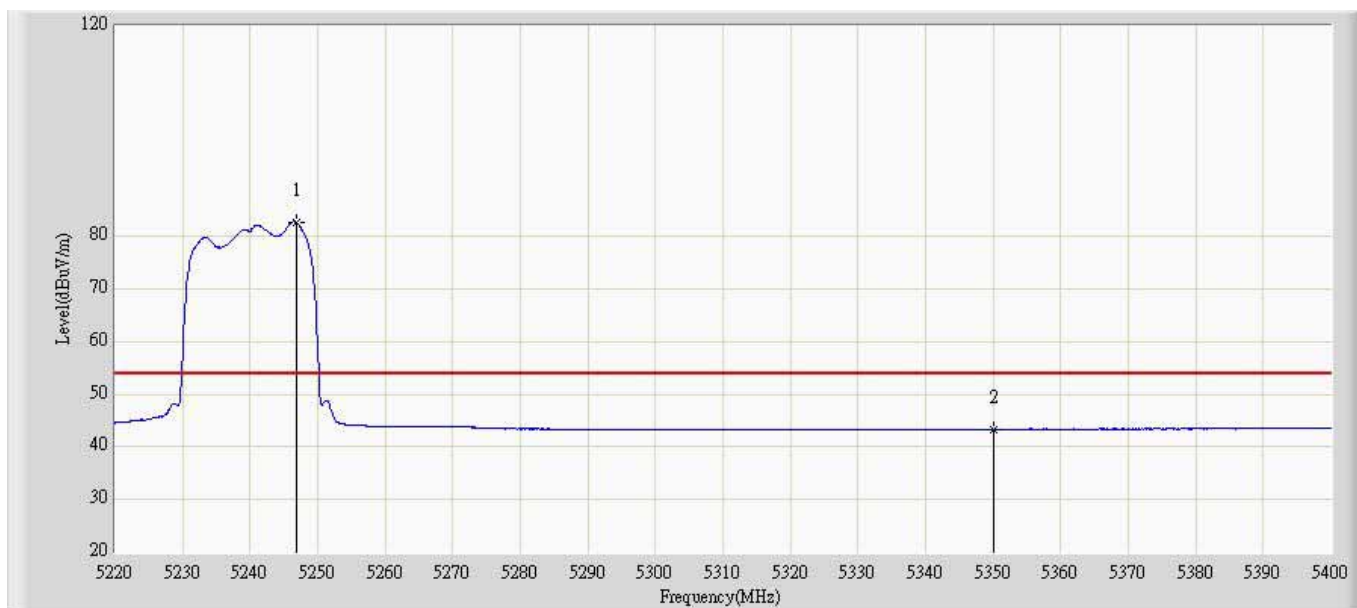
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5238.900	85.427	43.169	N/A	N/A	42.258	AV
2			5350.000	43.466	1.072	-10.534	54.000	42.393	AV

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 15:17
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: 120V/60Hz
Note: Mode2: Transmit at CH5240 by 802.11n(20MHz) ant0	



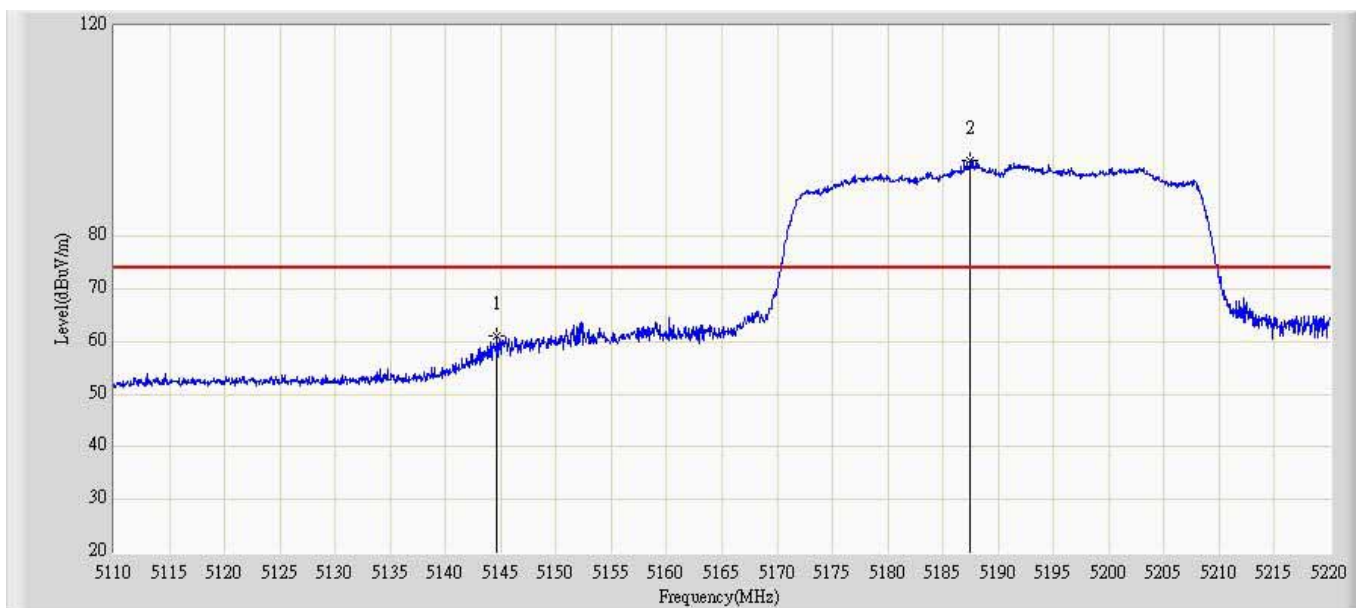
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5239.890	97.019	54.942	N/A	N/A	42.077	PK
2			5350.000	57.302	15.068	-16.698	74.000	42.233	PK

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 15:30
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: 120V/60Hz
Note: Mode2: Transmit at CH5240 by 802.11n(20MHz) ant0	



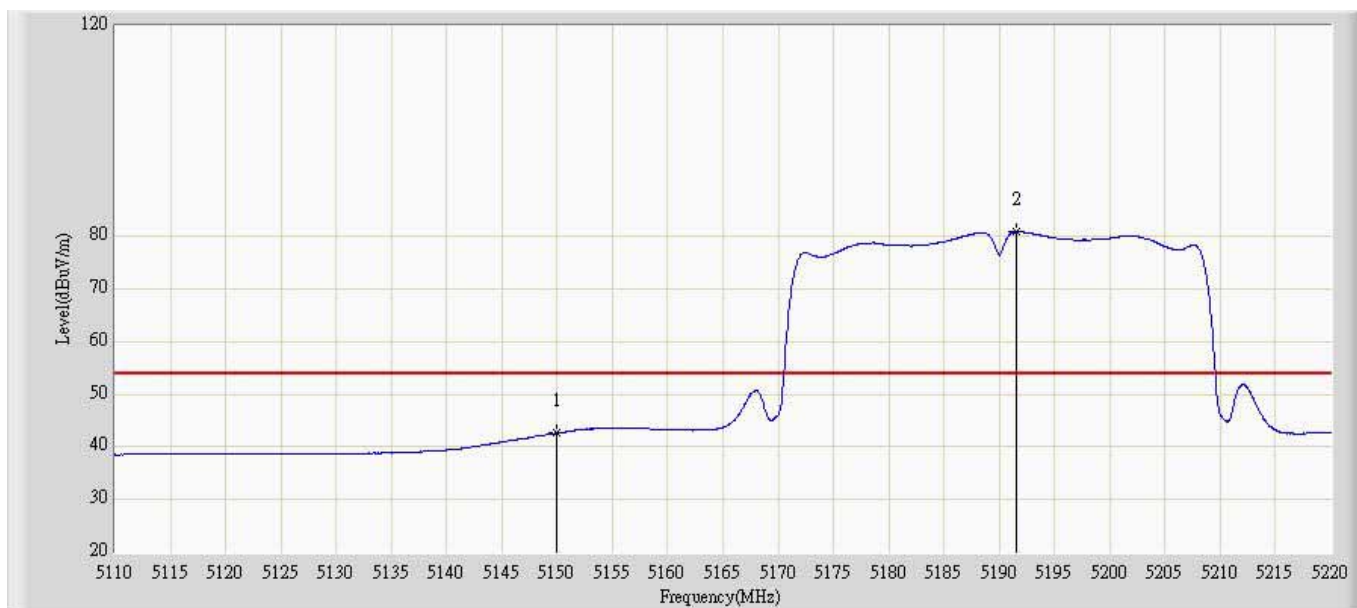
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5246.820	82.763	40.679	N/A	N/A	42.084	AV
2			5350.000	43.365	1.131	-10.635	54.000	42.233	AV

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 15:38
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: 120V/60Hz
Note: Mode3: Transmit at CH5190 by 802.11n(40MHz) ant0	



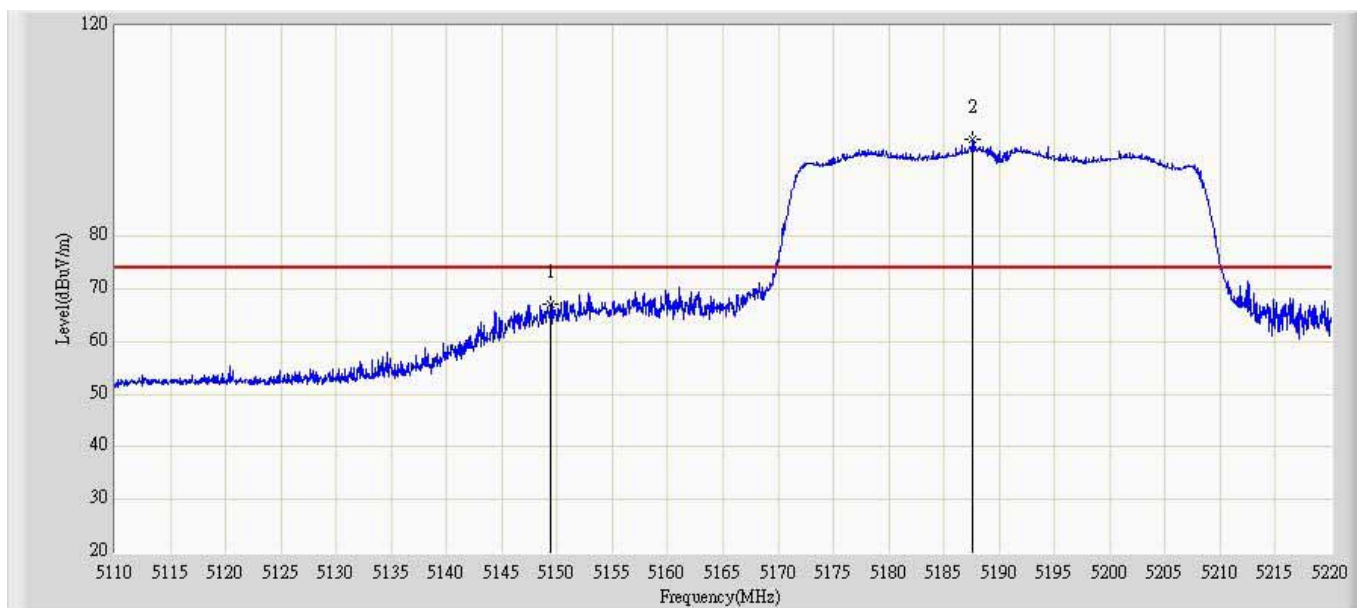
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5144.650	61.159	19.130	-12.841	74.000	42.029	PK
2		*	5187.495	94.419	52.284	N/A	N/A	42.135	PK

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 15:51
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: 120V/60Hz
Note: Mode3: Transmit at CH5190 by 802.11n(40MHz) ant0	



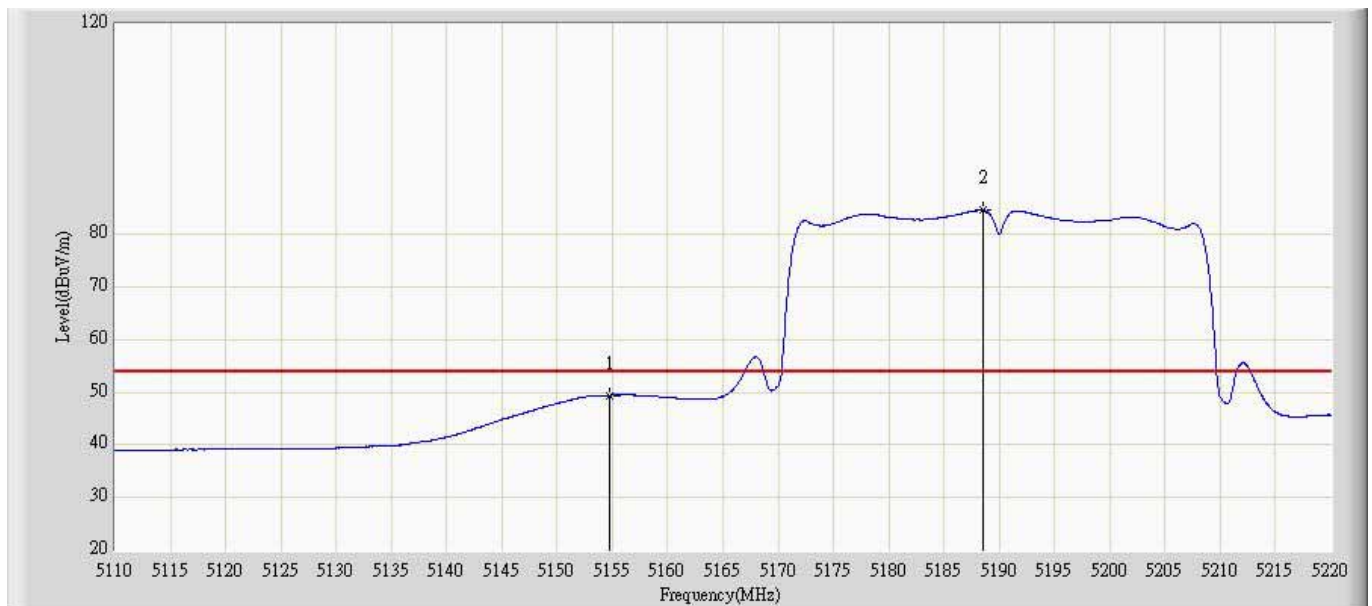
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5150.000	42.599	0.558	-11.401	54.000	42.041	AV
2		*	5191.565	80.851	38.707	N/A	N/A	42.144	AV

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 15:55
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: 120V/60Hz
Note: Mode3: Transmit at CH5190 by 802.11n(40MHz) ant0	



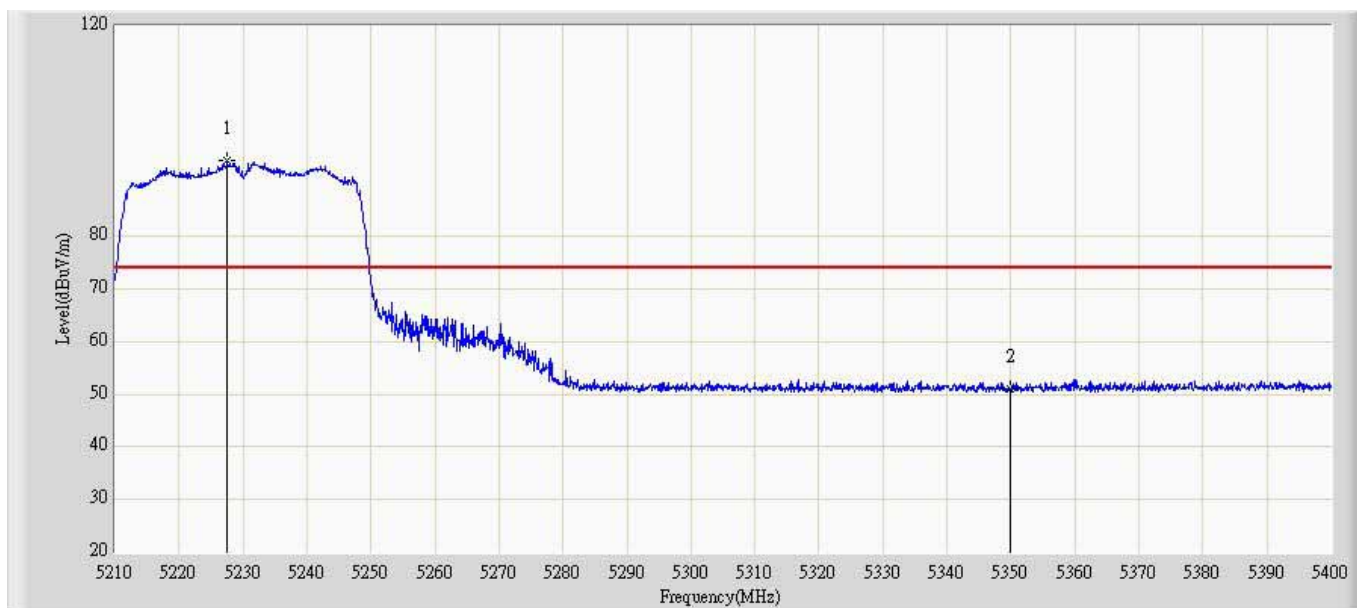
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5149.435	67.221	25.220	-6.779	74.000	42.001	PK
2		*	5187.605	98.411	56.376	N/A	N/A	42.035	PK

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 16:03
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: 120V/60Hz
Note: Mode3: Transmit at CH5190 by 802.11n(40MHz) ant0	



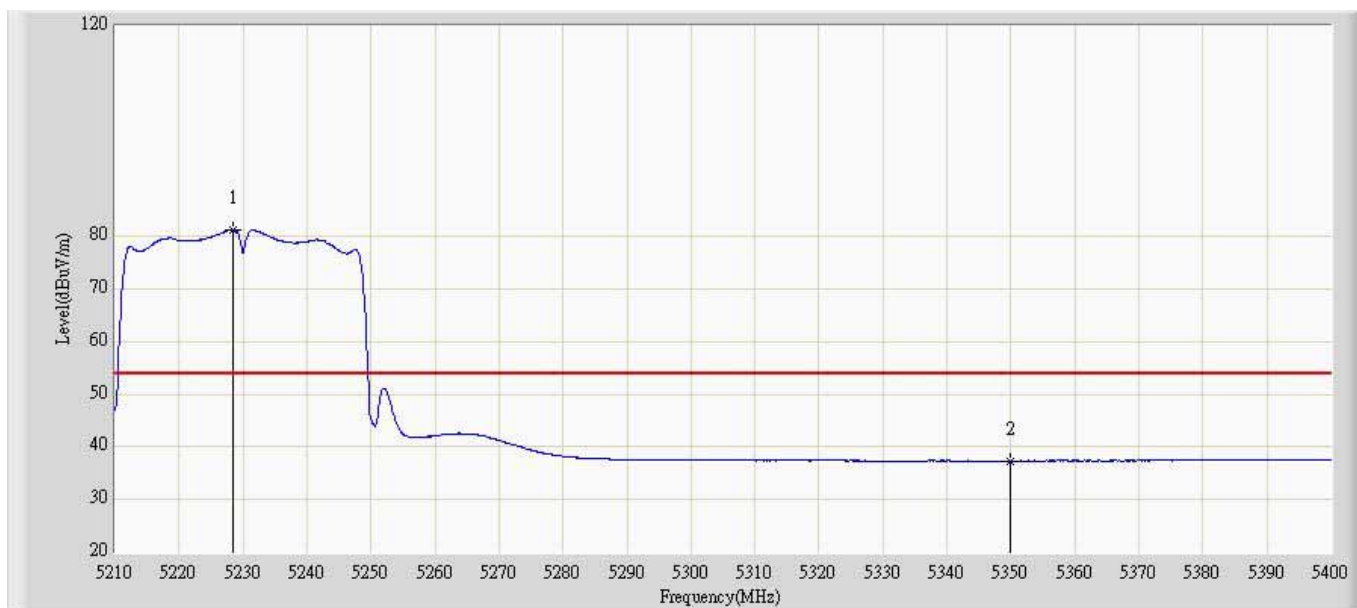
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5154.770	49.434	7.427	-4.566	54.000	42.007	AV
2		*	5188.485	84.553	42.517	N/A	N/A	42.036	AV

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 16:06
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: 120V/60Hz
Note: Mode3: Transmit at CH5230 by 802.11n(40MHz) ant0	



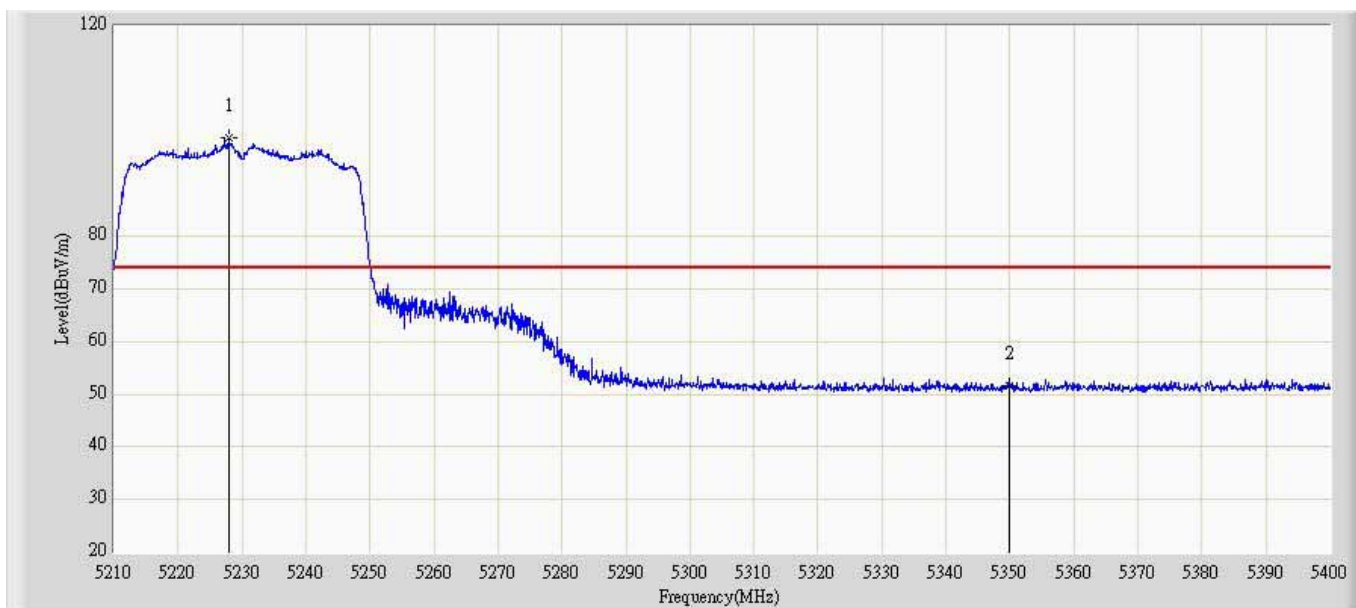
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5227.575	94.483	52.254	N/A	N/A	42.229	PK
2			5350.000	51.150	8.756	-22.850	74.000	42.393	PK

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 16:11
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: 120V/60Hz
Note: Mode3: Transmit at CH5230 by 802.11n(40MHz) ant0	



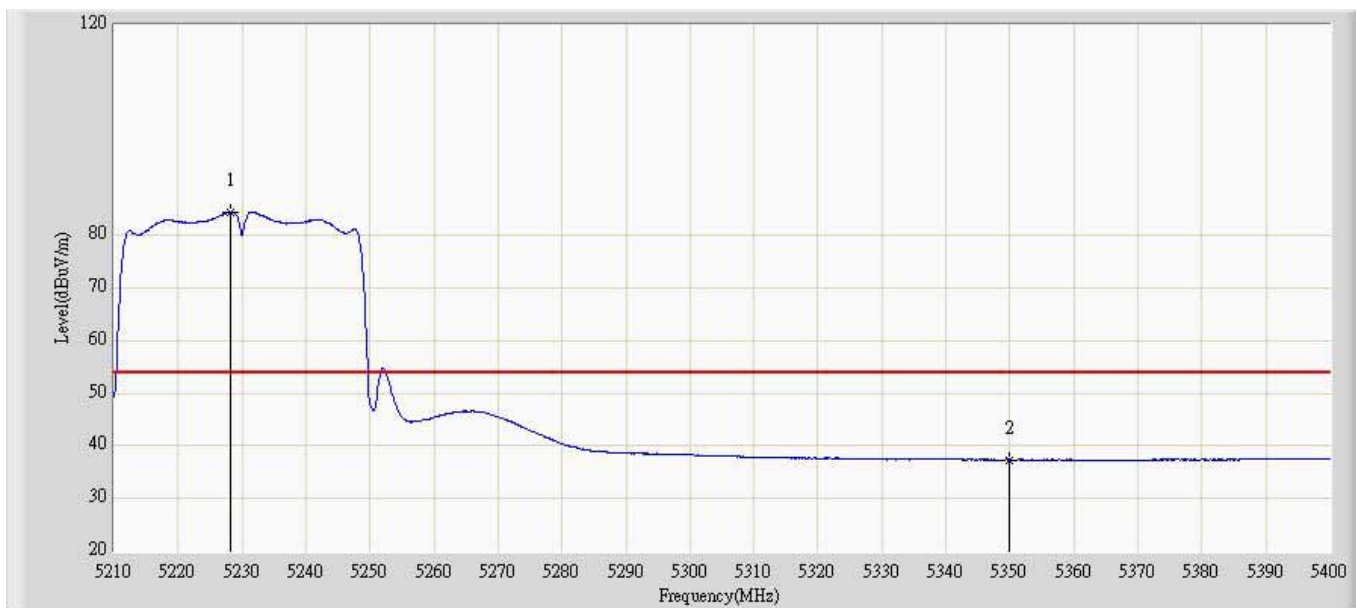
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5228.525	81.319	39.087	N/A	N/A	42.232	AV
2			5350.000	37.312	-5.082	-16.688	54.000	42.393	AV

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 16:14
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: 120V/60Hz
Note: Mode3: Transmit at CH5230 by 802.11n(40MHz) ant0	



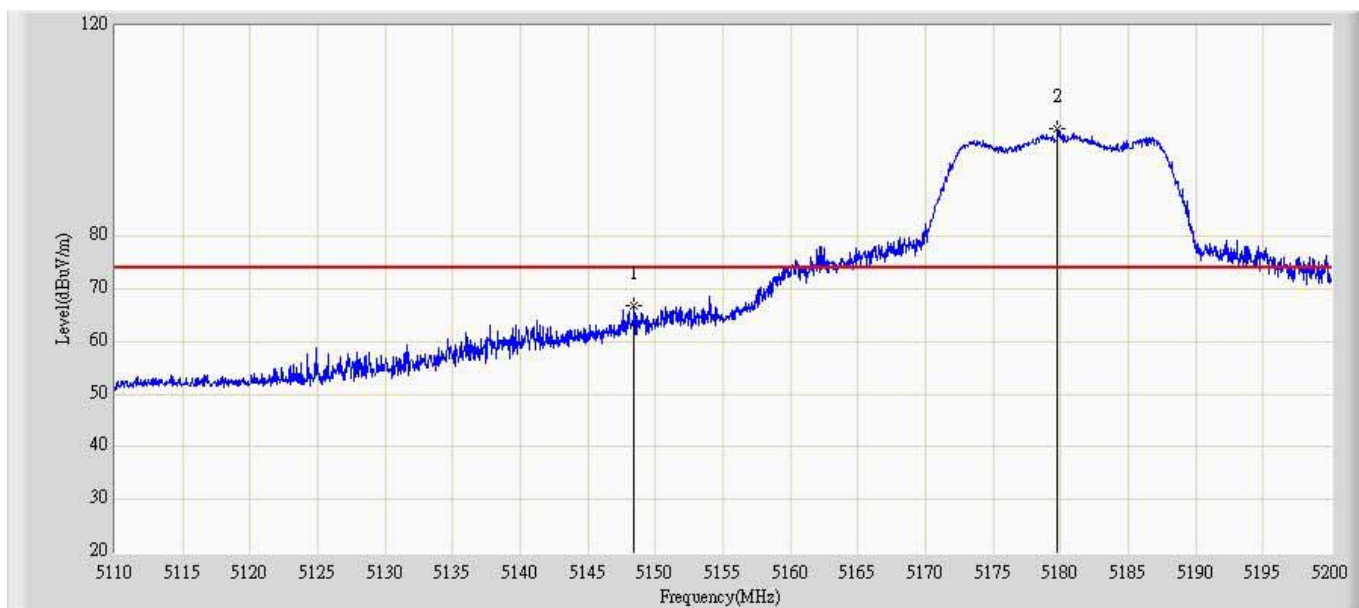
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5227.860	98.711	56.646	N/A	N/A	42.065	PK
2			5350.000	51.675	9.441	-22.325	74.000	42.233	PK

Site: AC5	Time: 2014/01/26 - 16:17
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: 120V/60Hz
Note: Mode3: Transmit at CH5230 by 802.11n(40MHz) ant0	



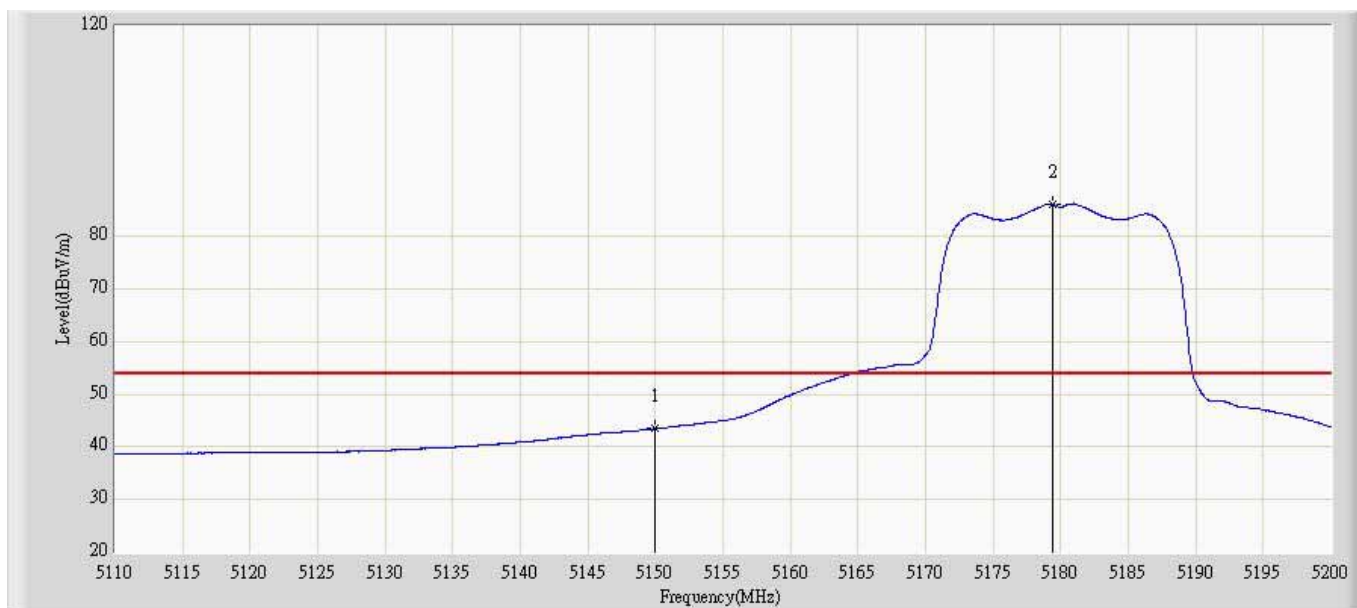
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5228.240	84.468	42.402	N/A	N/A	42.066	AV
2			5350.000	37.343	-4.891	-16.657	54.000	42.233	AV

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 16:21
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: 120V/60Hz
Note: Mode1: Transmit at CH5180 by 802.11a ant1	



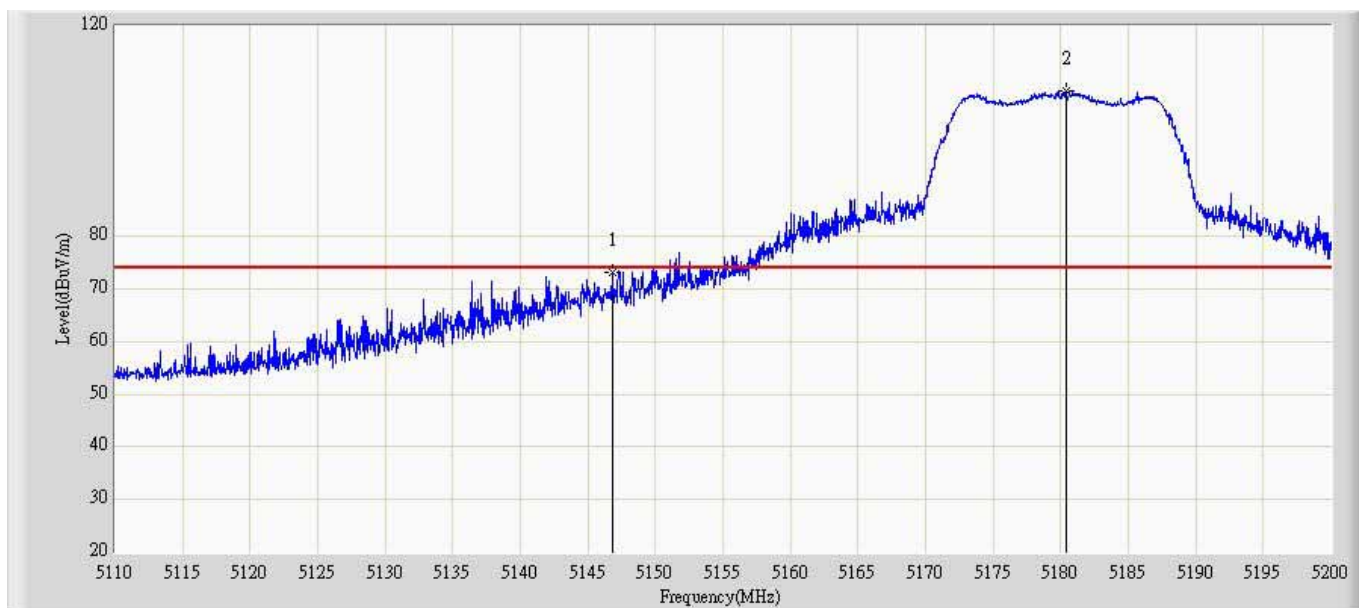
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5148.430	66.842	24.805	-7.158	74.000	42.037	PK
2		*	5179.750	100.338	58.220	N/A	N/A	42.117	PK

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 16:25
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: 120V/60Hz
Note: Mode1: Transmit at CH5180 by 802.11a ant1	



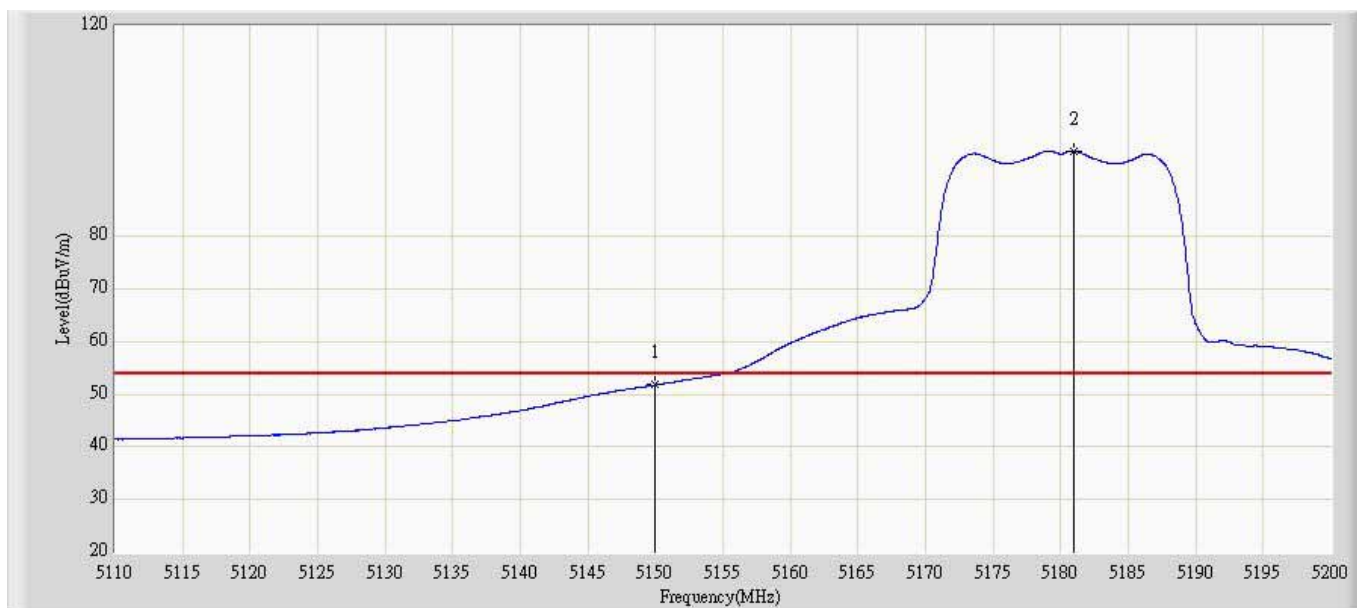
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5150.000	43.446	1.405	-10.554	54.000	42.041	AV
2		*	5179.390	86.097	43.980	N/A	N/A	42.117	AV

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 16:27
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: 120V/60Hz
Note: Mode1: Transmit at CH5180 by 802.11a ant1	



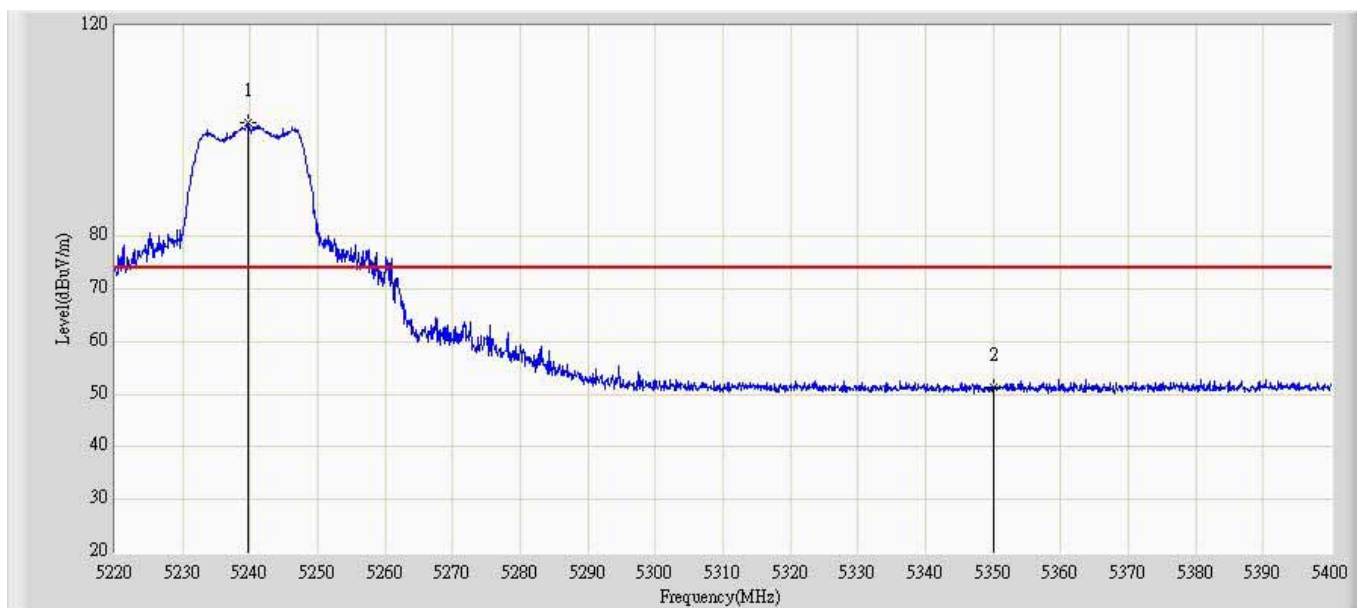
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5146.810	73.302	31.304	-0.698	74.000	41.998	PK
2		*	5180.380	107.547	65.516	N/A	N/A	42.031	PK

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 16:31
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: 120V/60Hz
Note: Mode1: Transmit at CH5180 by 802.11a ant1	



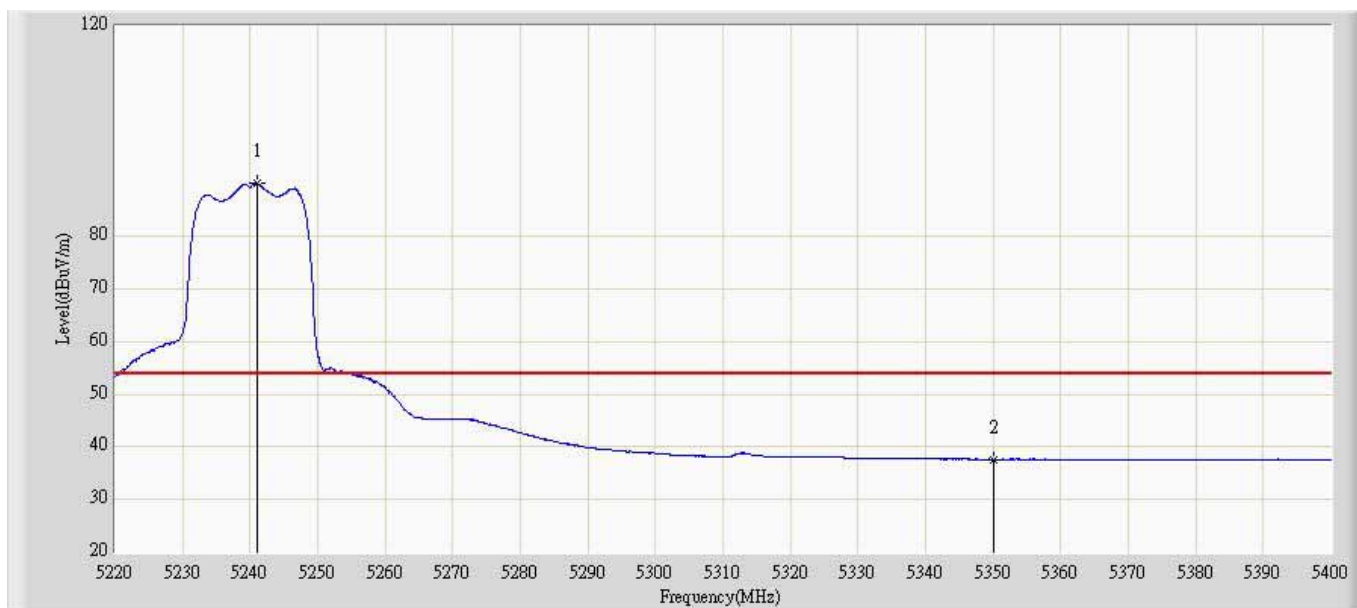
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5150.000	51.755	9.754	-2.245	54.000	42.001	AV
2		*	5180.920	96.248	54.217	N/A	N/A	42.031	AV

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 16:33
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: 120V/60Hz
Note: Mode1: Transmit at CH5240 by 802.11a ant1	



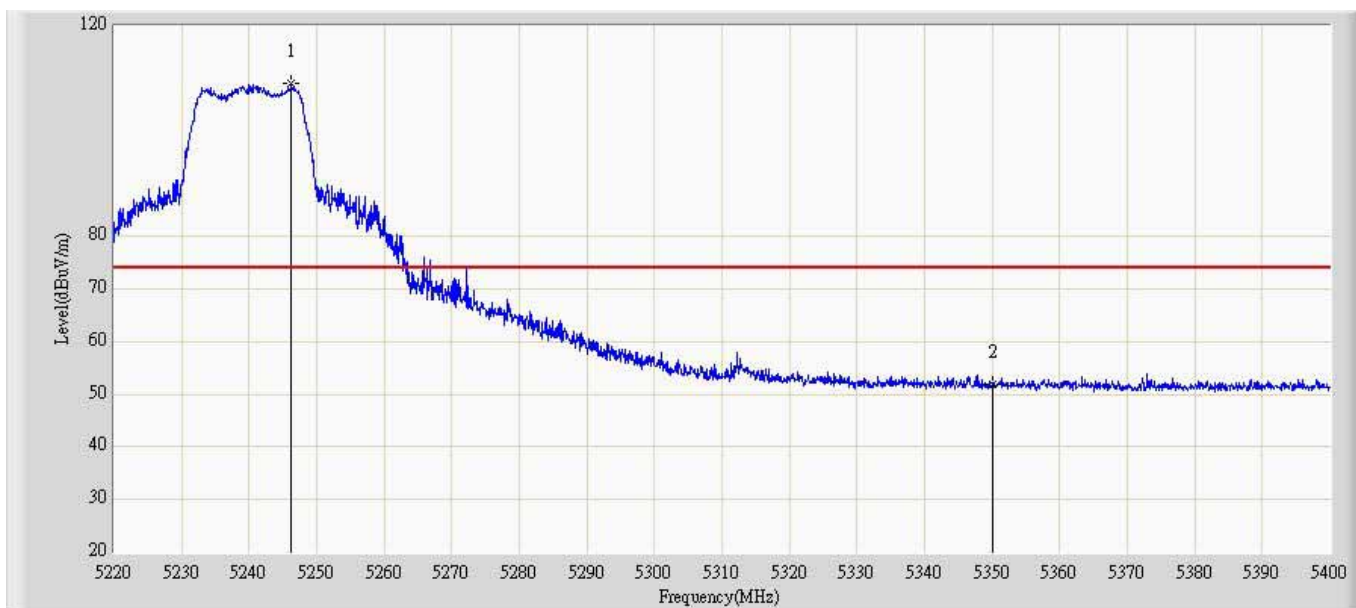
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5239.710	101.485	59.225	N/A	N/A	42.261	PK
2			5350.000	51.421	9.027	-22.579	74.000	42.393	PK

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 16:37
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: 120V/60Hz
Note: Mode1: Transmit at CH5240 by 802.11a ant1	



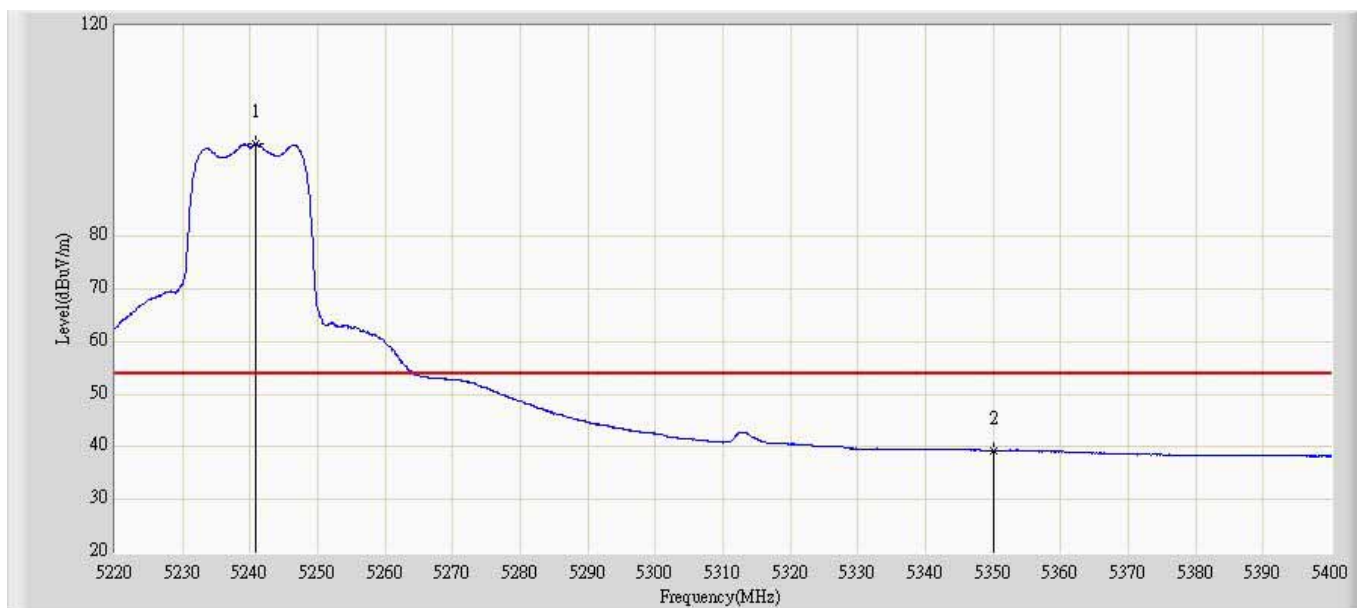
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5241.150	90.040	47.776	N/A	N/A	42.264	AV
2			5350.000	37.586	-4.808	-16.414	54.000	42.393	AV

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 16:38
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: 120V/60Hz
Note: Mode1: Transmit at CH5240 by 802.11a ant1	



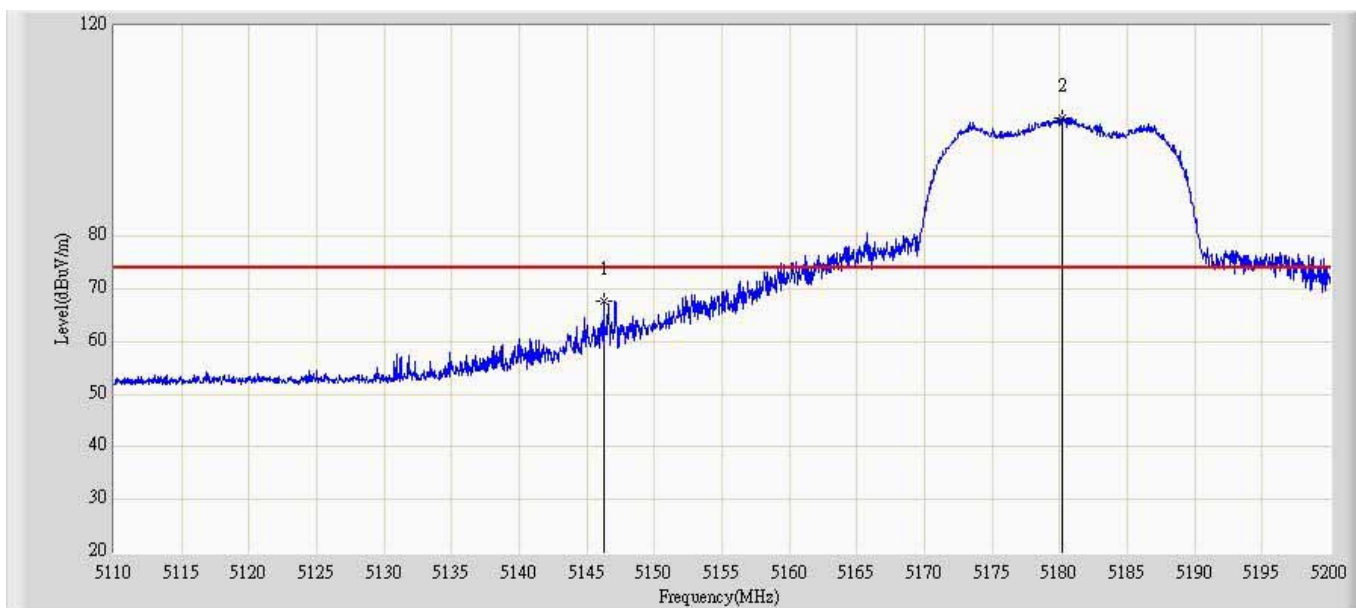
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5246.280	109.205	67.122	N/A	N/A	42.083	PK
2			5350.000	51.831	9.597	-22.169	74.000	42.233	PK

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 16:42
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: 120V/60Hz
Note: Mode1: Transmit at CH5240 by 802.11a ant1	



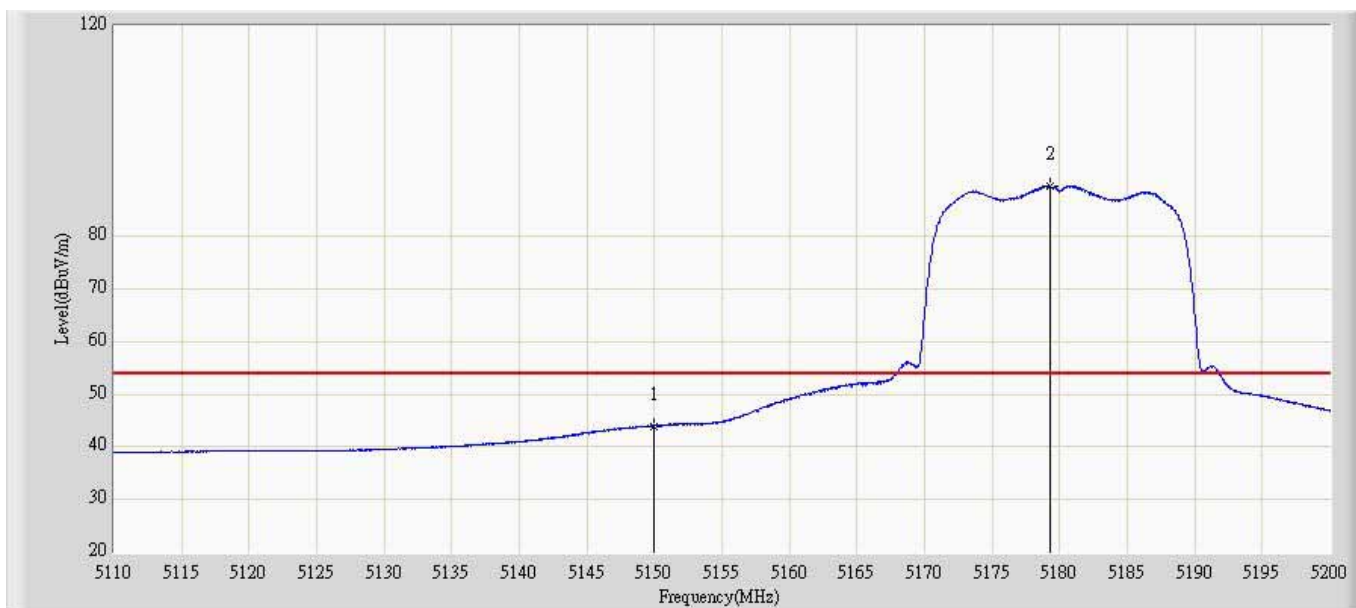
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5240.790	97.524	55.446	N/A	N/A	42.078	AV
2			5350.000	39.274	-2.960	-14.726	54.000	42.233	AV

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 16:44
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: 120V/60Hz
Note: Mode2: Transmit at CH5180 by 802.11n(20MHz) ant1	



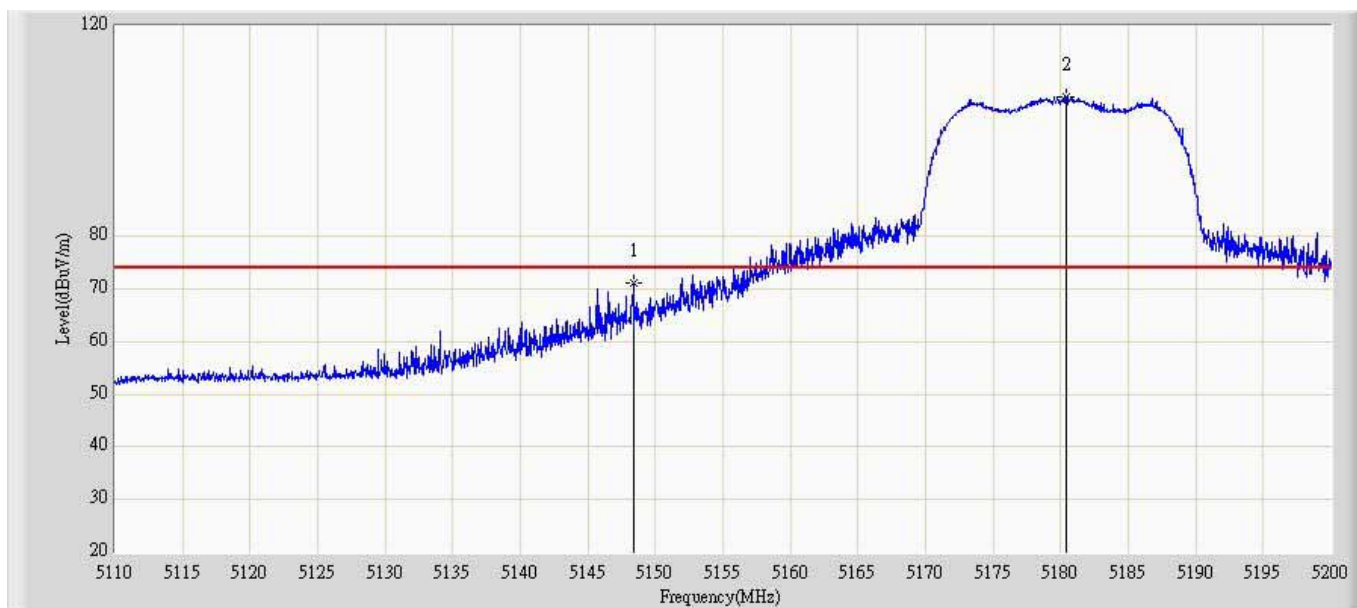
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5146.270	67.751	25.719	-6.249	74.000	42.032	PK
2		*	5180.155	102.526	60.407	N/A	N/A	42.118	PK

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 16:51
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: 120V/60Hz
Note: Mode2: Transmit at CH5180 by 802.11n(20MHz) ant1	



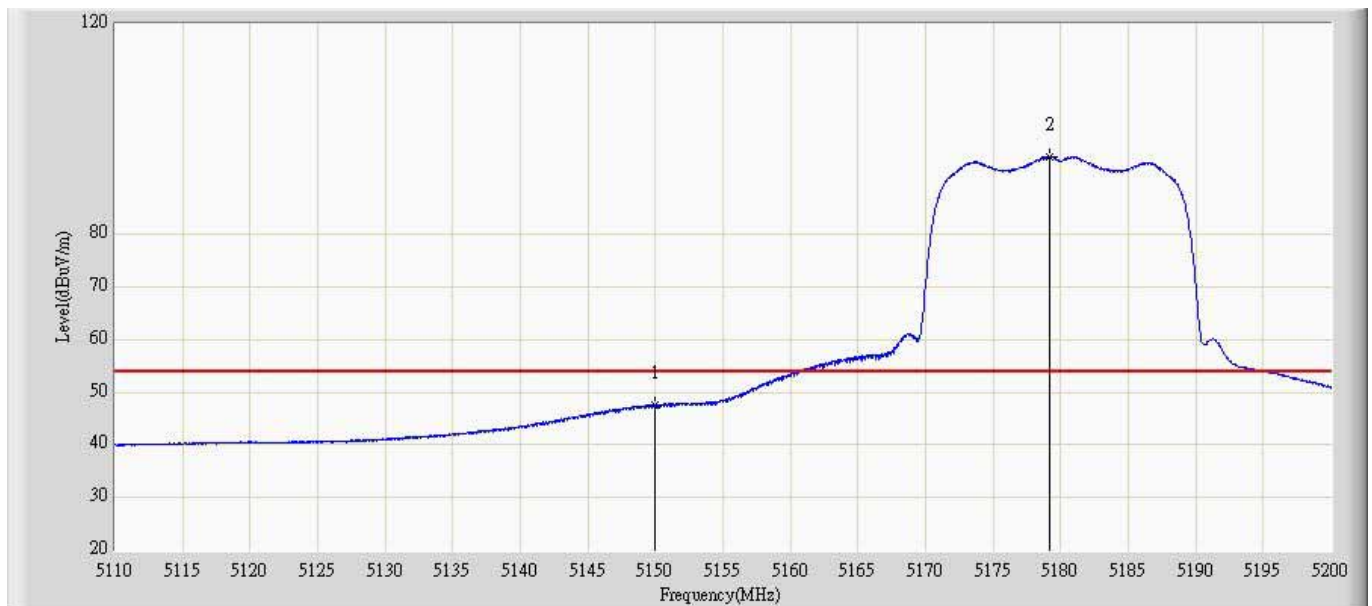
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5150.000	43.967	1.926	-10.033	54.000	42.041	AV
2		*	5179.255	89.494	47.378	N/A	N/A	42.117	AV

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 16:53
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: 120V/60Hz
Note: Mode2: Transmit at CH5180 by 802.11n(20MHz) ant1	



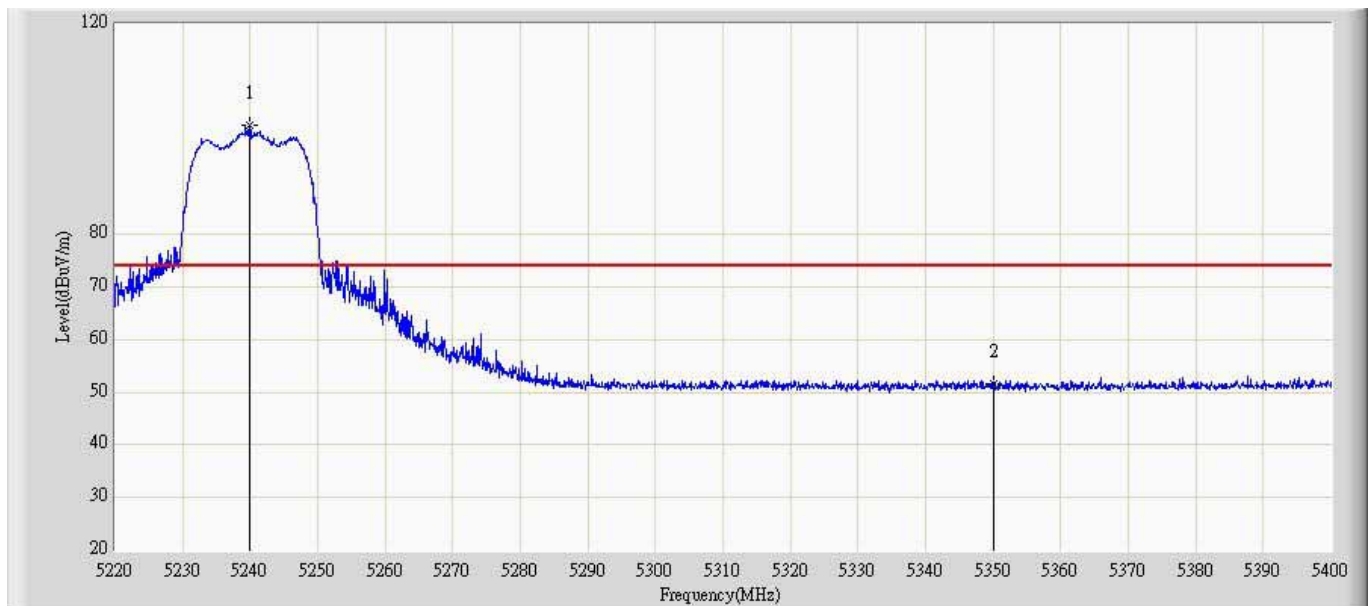
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5148.340	71.185	29.186	-2.815	74.000	41.999	PK
2		*	5180.380	106.517	64.486	N/A	N/A	42.031	PK

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 16:57
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: 120V/60Hz
Note: Mode2: Transmit at CH5180 by 802.11n(20MHz) ant1	



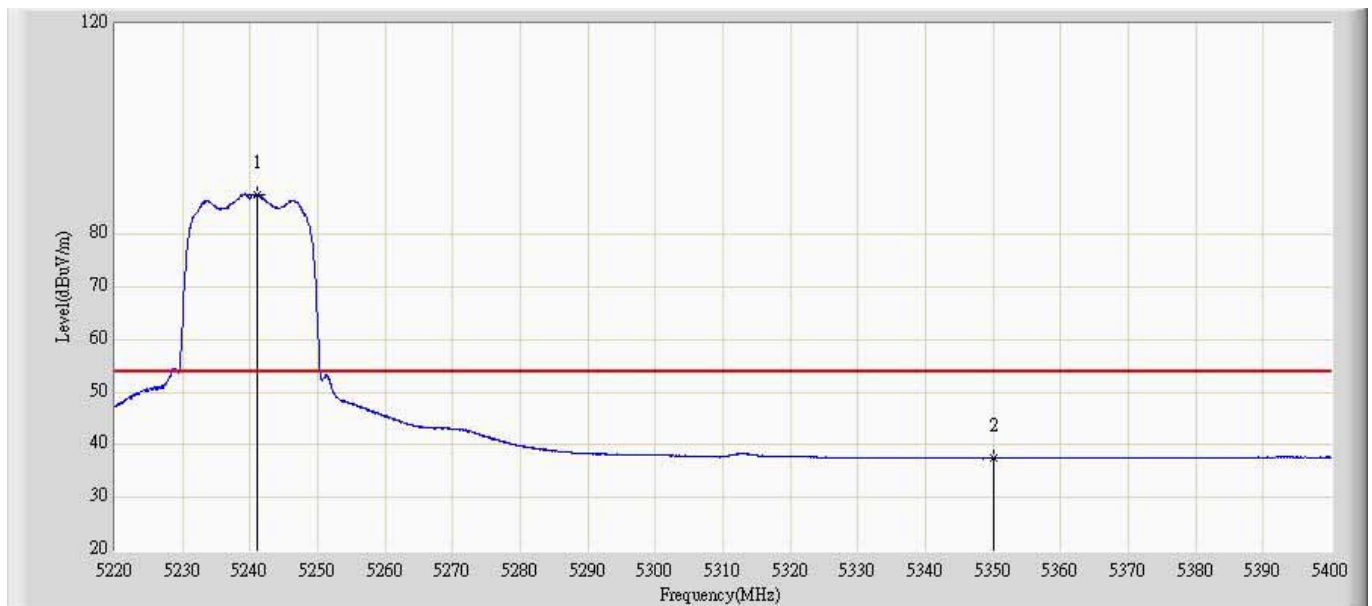
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5150.000	47.573	5.572	-6.427	54.000	42.001	AV
2		*	5179.165	94.757	52.727	N/A	N/A	42.030	AV

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 17:00
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: 120V/60Hz
Note: Mode2: Transmit at CH5240 by 802.11n(20MHz) ant1	



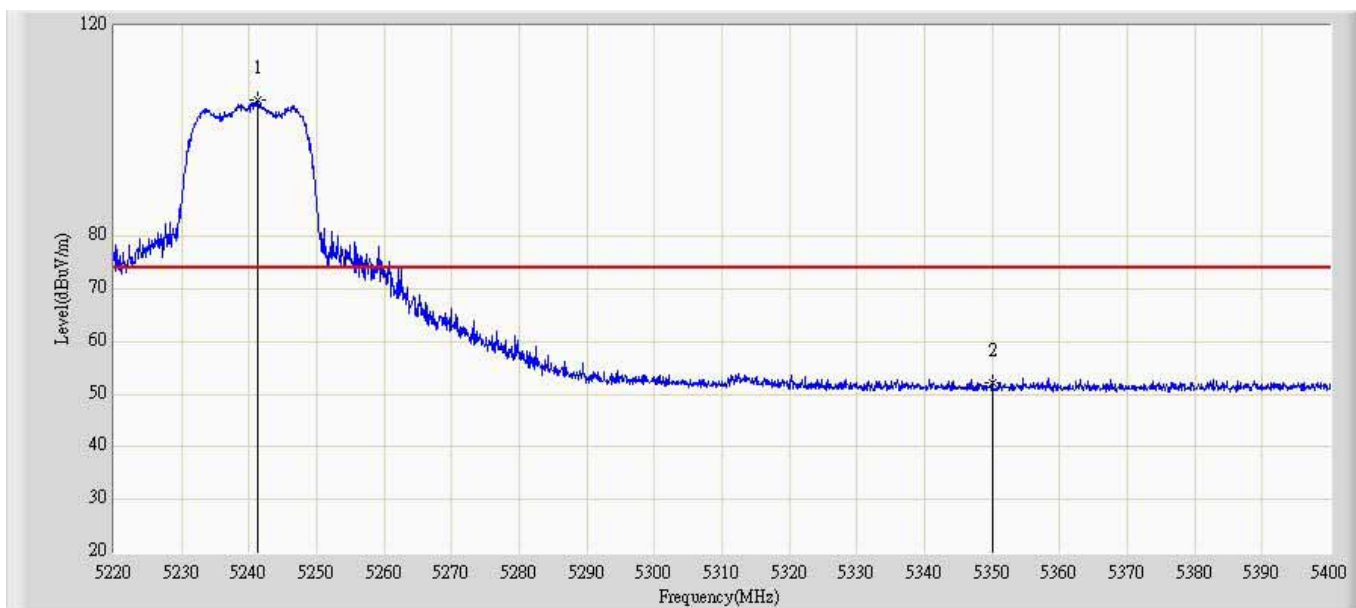
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5239.980	100.841	58.580	N/A	N/A	42.261	PK
2			5350.000	51.535	9.141	-22.465	74.000	42.393	PK

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 17:05
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: 120V/60Hz
Note: Mode2: Transmit at CH5240 by 802.11n(20MHz) ant1	



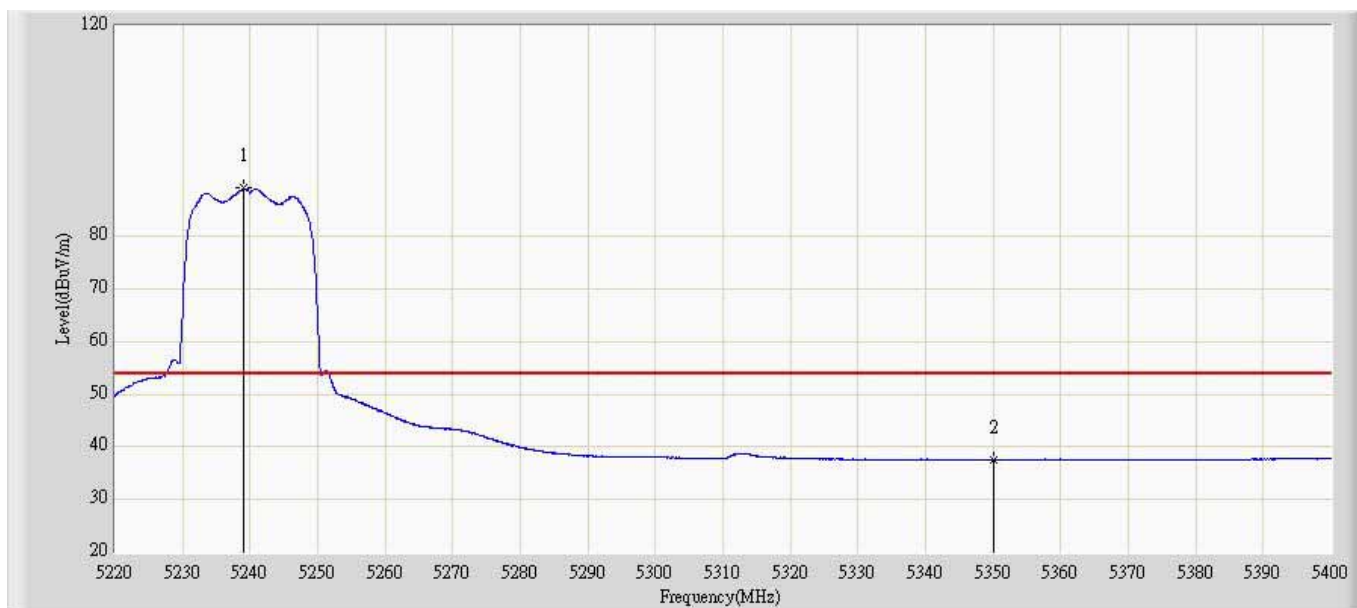
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5241.150	87.605	45.341	N/A	N/A	42.264	AV
2			5350.000	37.465	-4.929	-16.535	54.000	42.393	AV

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 17:06
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: 120V/60Hz
Note: Mode2: Transmit at CH5240 by 802.11n(20MHz) ant1	



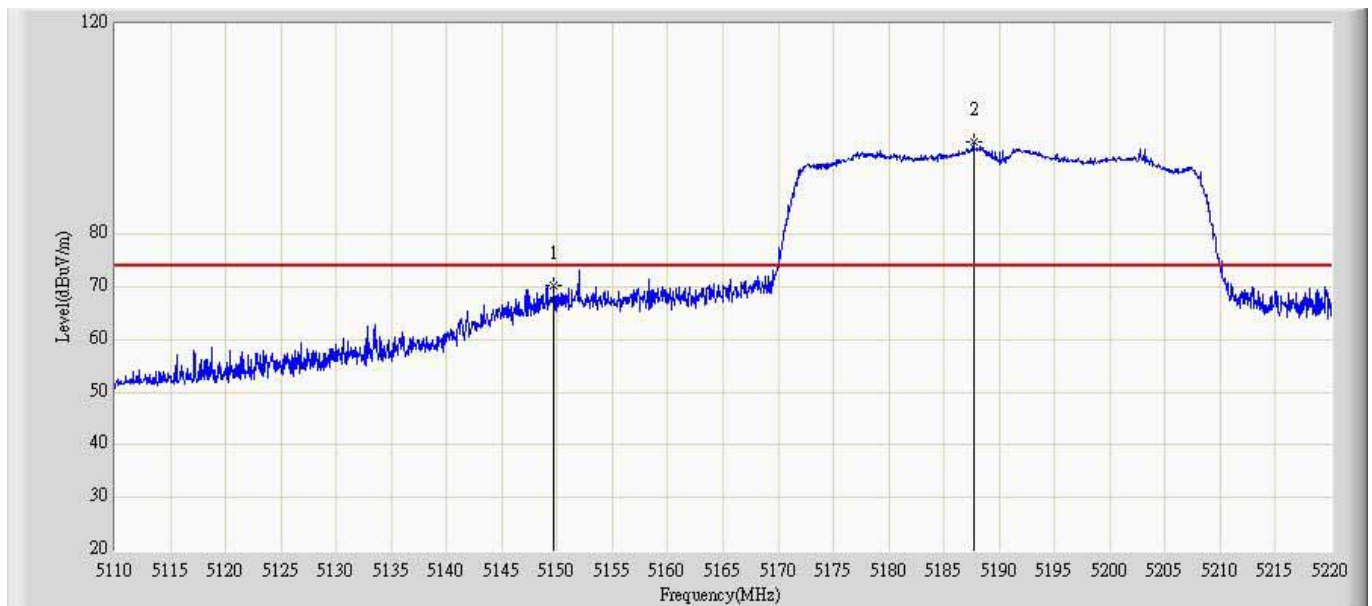
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5241.240	105.827	63.749	N/A	N/A	42.078	PK
2			5350.000	52.067	9.833	-21.933	74.000	42.233	PK

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 17:10
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: 120V/60Hz
Note: Mode2: Transmit at CH5240 by 802.11n(20MHz) ant1	



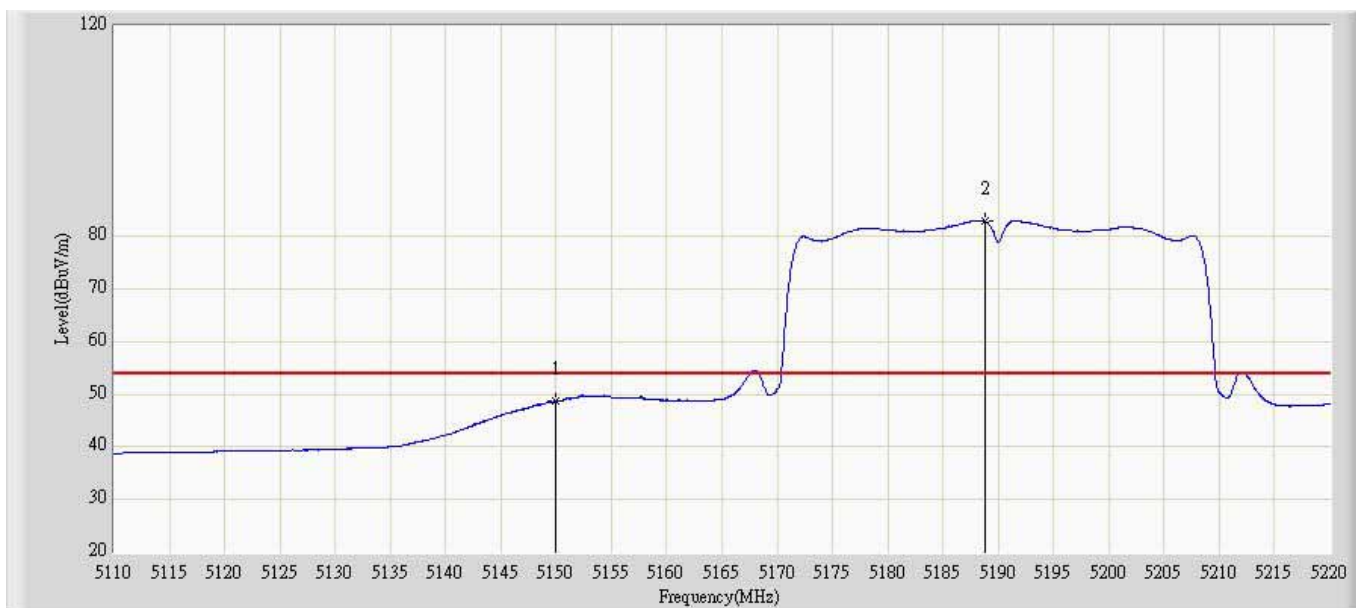
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5239.080	89.142	47.066	N/A	N/A	42.076	AV
2			5350.000	37.482	-4.752	-16.518	54.000	42.233	AV

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 17:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: 120V/60Hz
Note: Mode3: Transmit at CH5190 by 802.11n(40MHz) ant1	



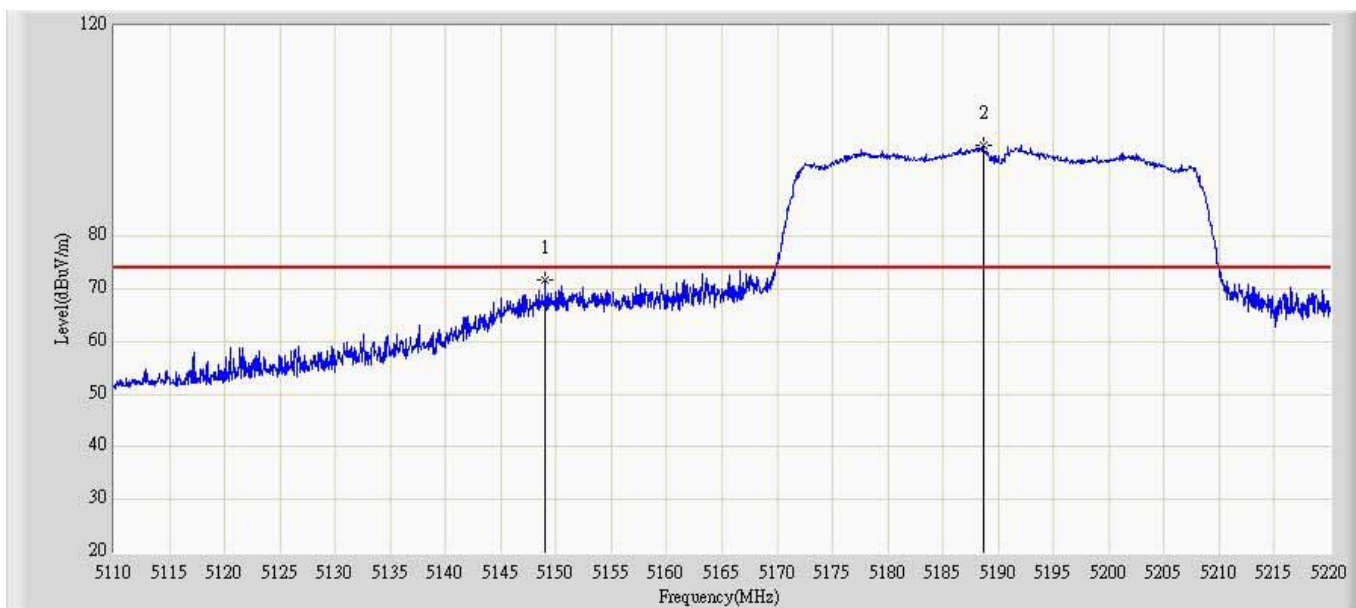
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5149.710	70.188	28.147	-3.812	74.000	42.041	PK
2		*	5187.660	97.727	55.592	N/A	N/A	42.135	PK

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 17:16
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: 120V/60Hz
Note: Mode3: Transmit at CH5190 by 802.11n(40MHz) ant1	



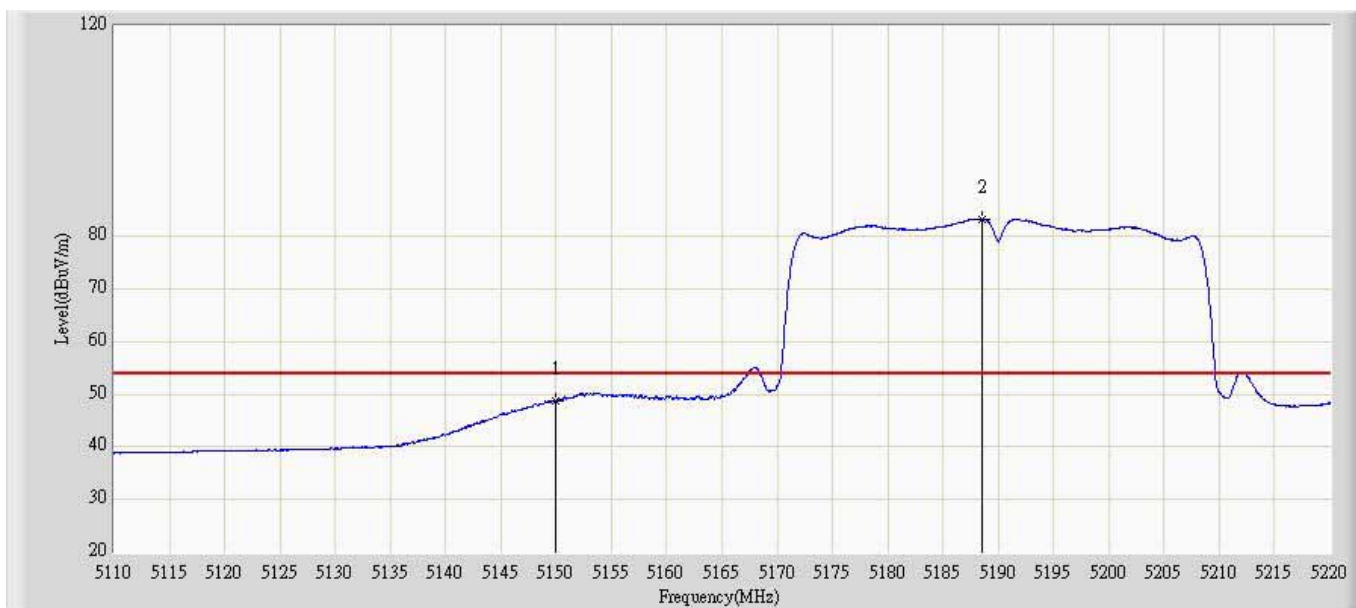
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5150.000	48.663	6.622	-5.337	54.000	42.041	AV
2		*	5188.815	82.918	40.780	N/A	N/A	42.138	AV

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 17:17
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: 120V/60Hz
Note: Mode3: Transmit at CH5190 by 802.11n(40MHz) ant1	



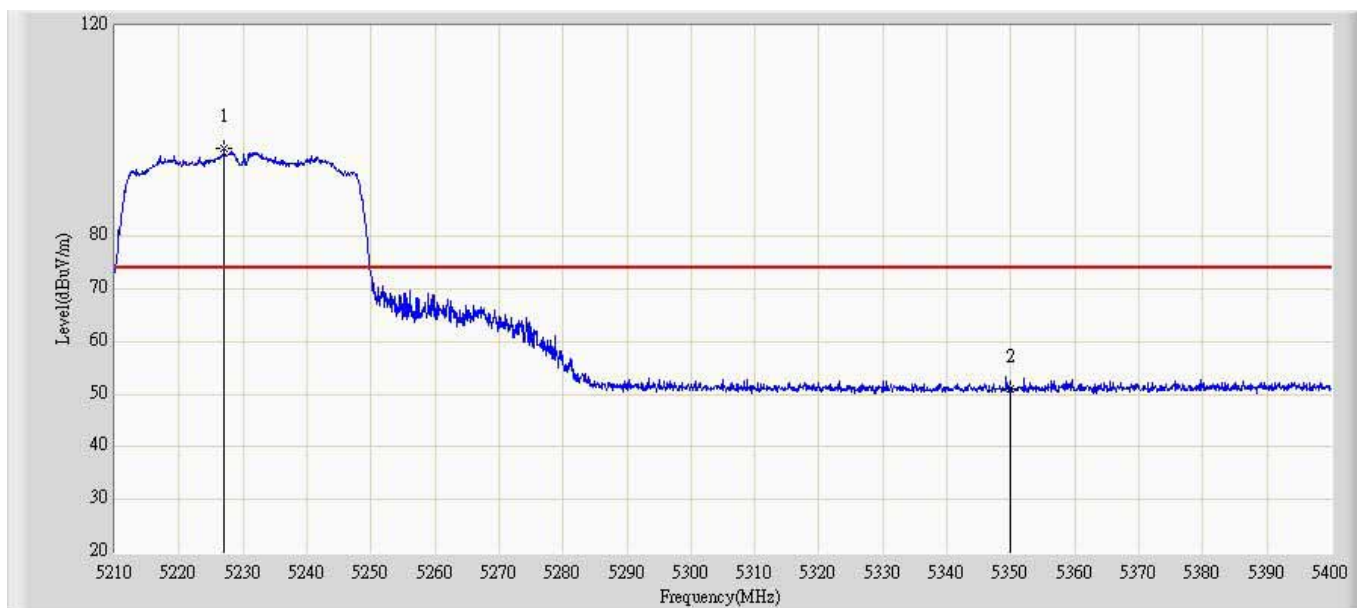
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5149.050	71.665	29.665	-2.335	74.000	42.000	PK
2		*	5188.650	97.256	55.220	N/A	N/A	42.036	PK

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 17:21
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: 120V/60Hz
Note: Mode3: Transmit at CH5190 by 802.11n(40MHz) ant1	



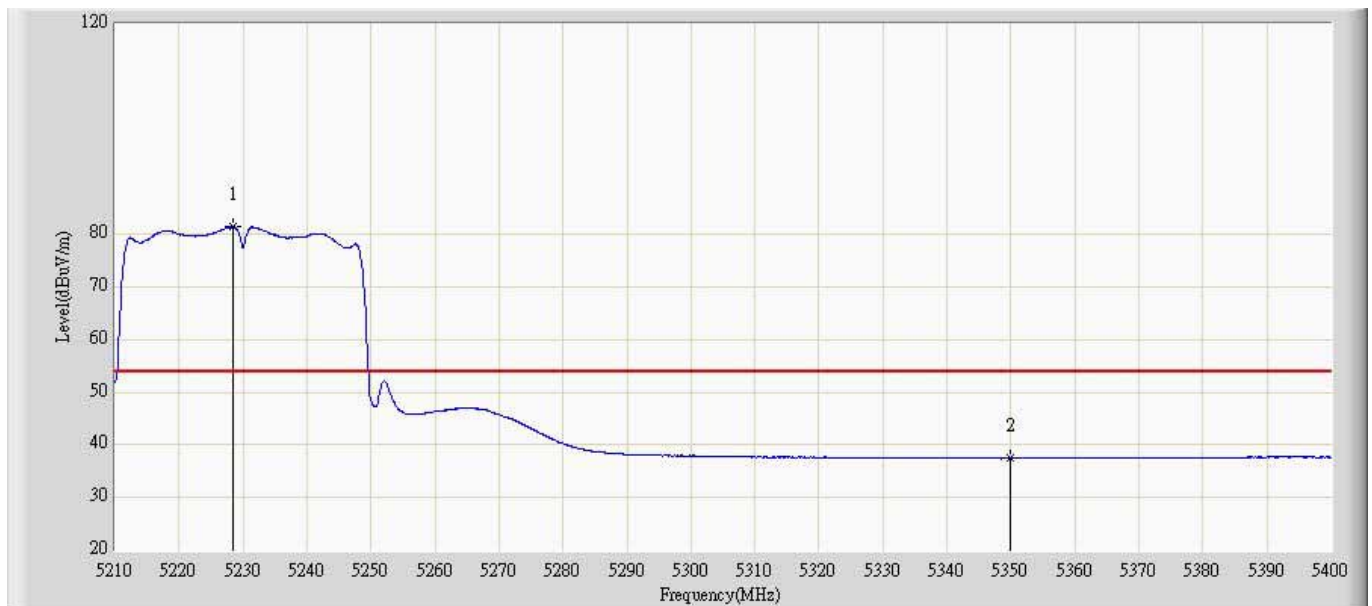
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5150.000	48.717	6.716	-5.283	54.000	42.001	AV
2		*	5188.485	83.229	41.193	N/A	N/A	42.036	AV

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 17:23
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: 120V/60Hz
Note: Mode3: Transmit at CH5230 by 802.11n(40MHz) ant1	



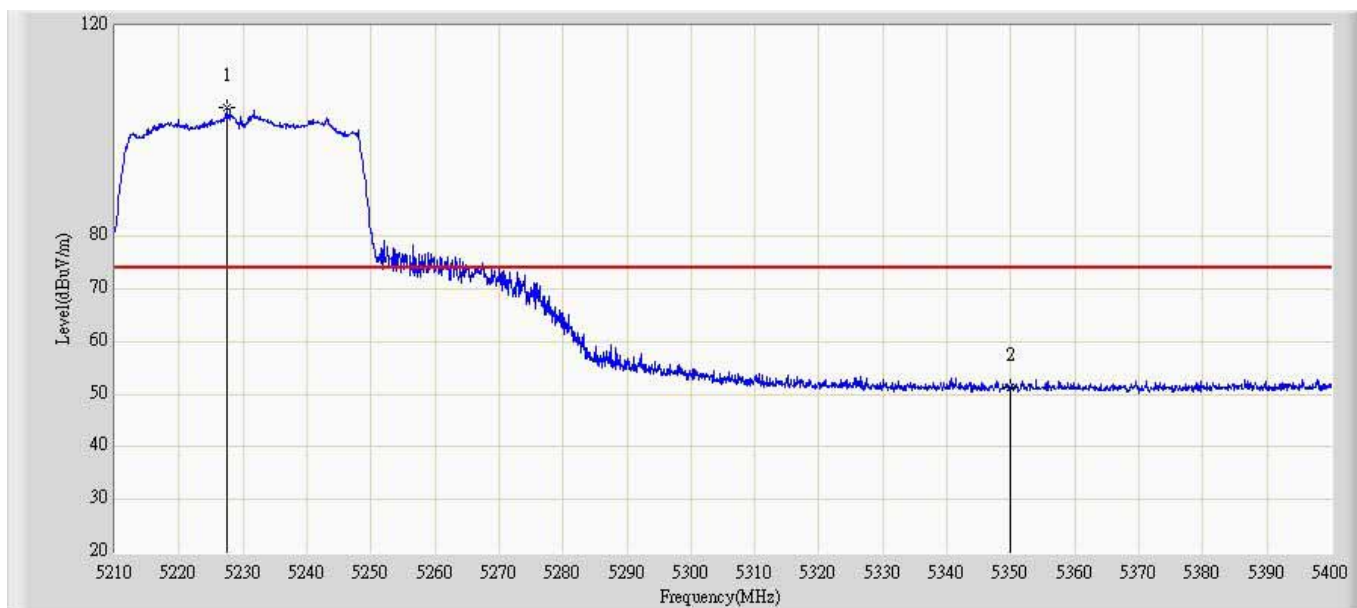
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5227.005	96.858	54.630	N/A	N/A	42.227	PK
2			5350.000	50.898	8.504	-23.102	74.000	42.393	PK

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 17:26
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: 120V/60Hz
Note: Mode3: Transmit at CH5230 by 802.11n(40MHz) ant1	



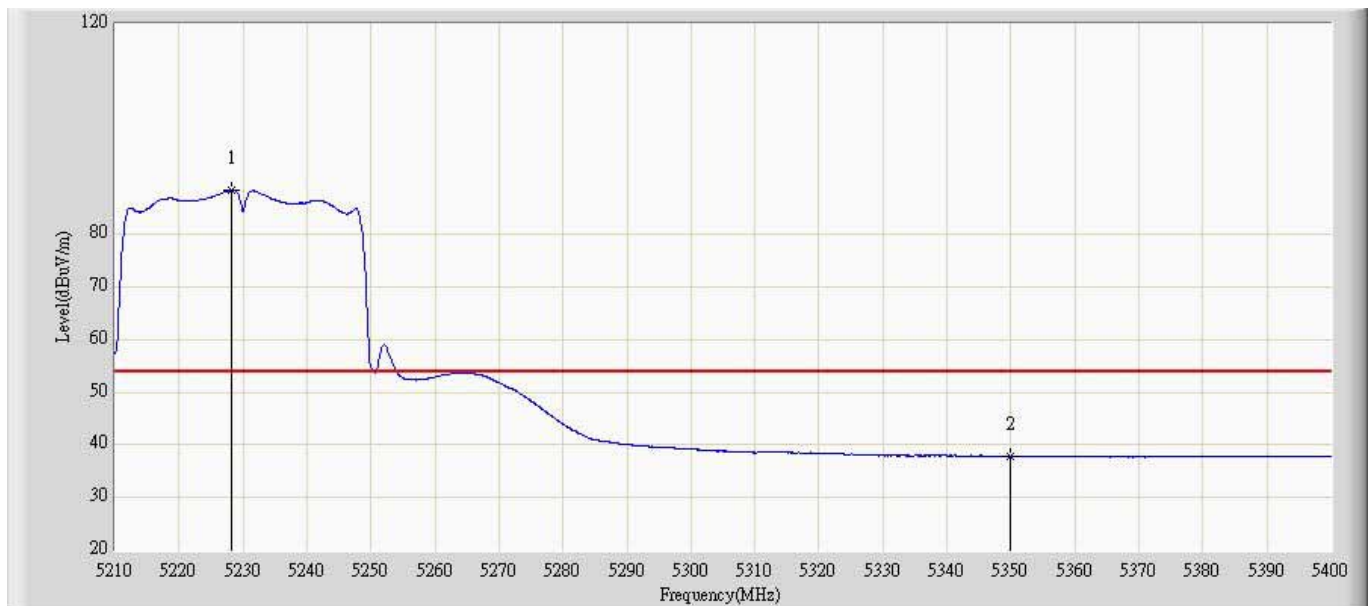
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5228.525	81.415	39.183	N/A	N/A	42.232	AV
2			5350.000	37.421	-4.973	-16.579	54.000	42.393	AV

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 17:28
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: 120V/60Hz
Note: Mode3: Transmit at CH5230 by 802.11n(40MHz) ant1	



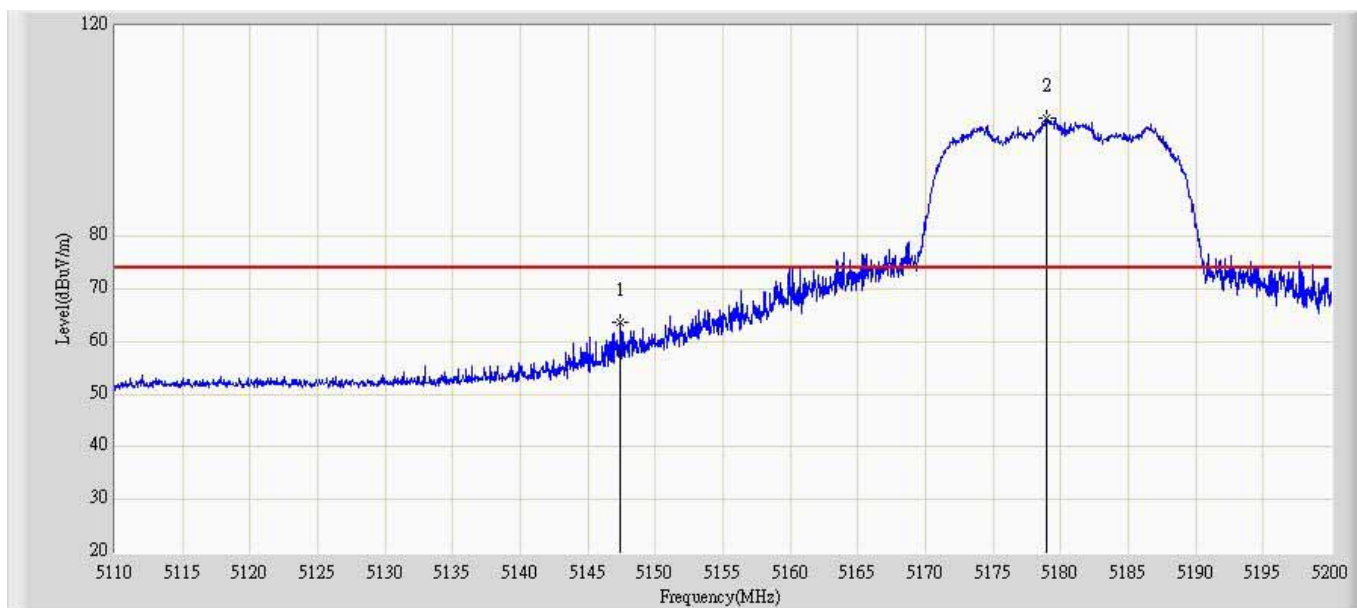
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5227.385	104.543	62.478	N/A	N/A	42.065	PK
2			5350.000	51.405	9.171	-22.595	74.000	42.233	PK

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 17:31
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: 120V/60Hz
Note: Mode3: Transmit at CH5230 by 802.11n(40MHz) ant1	



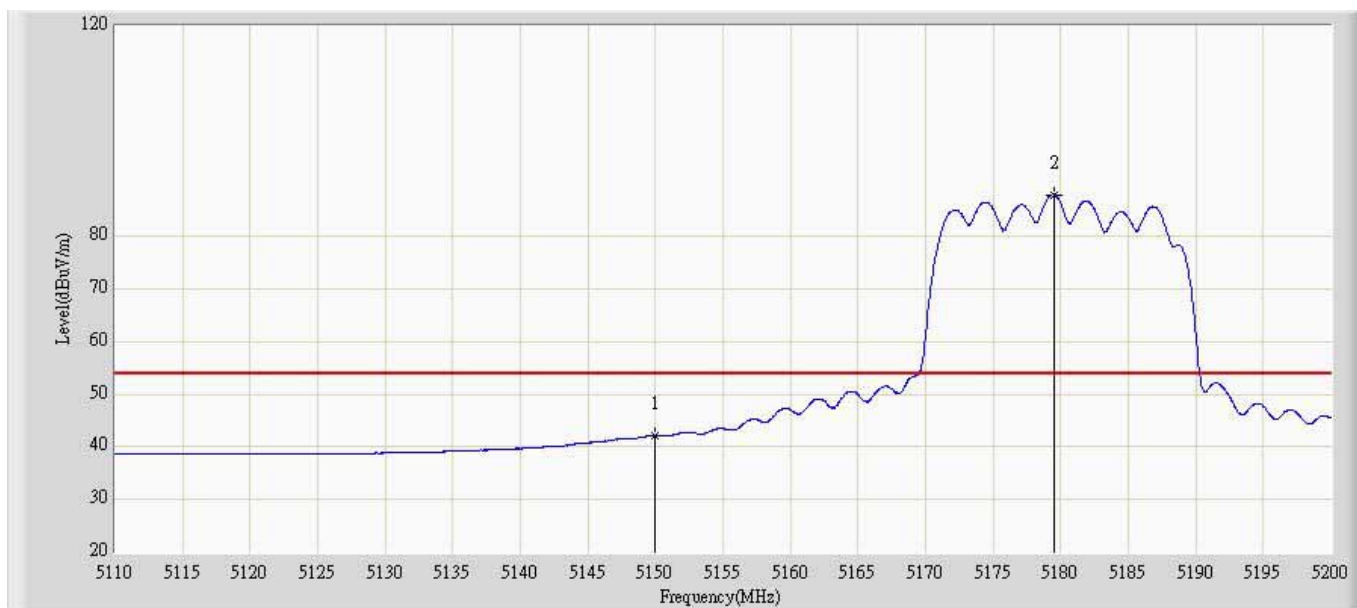
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5228.240	88.433	46.367	N/A	N/A	42.066	AV
2			5350.000	37.783	-4.451	-16.217	54.000	42.233	AV

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 17:34
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: 120V/60Hz
Note: Mode2: Transmit at CH5180 by 802.11n(20MHz) ant0+1	



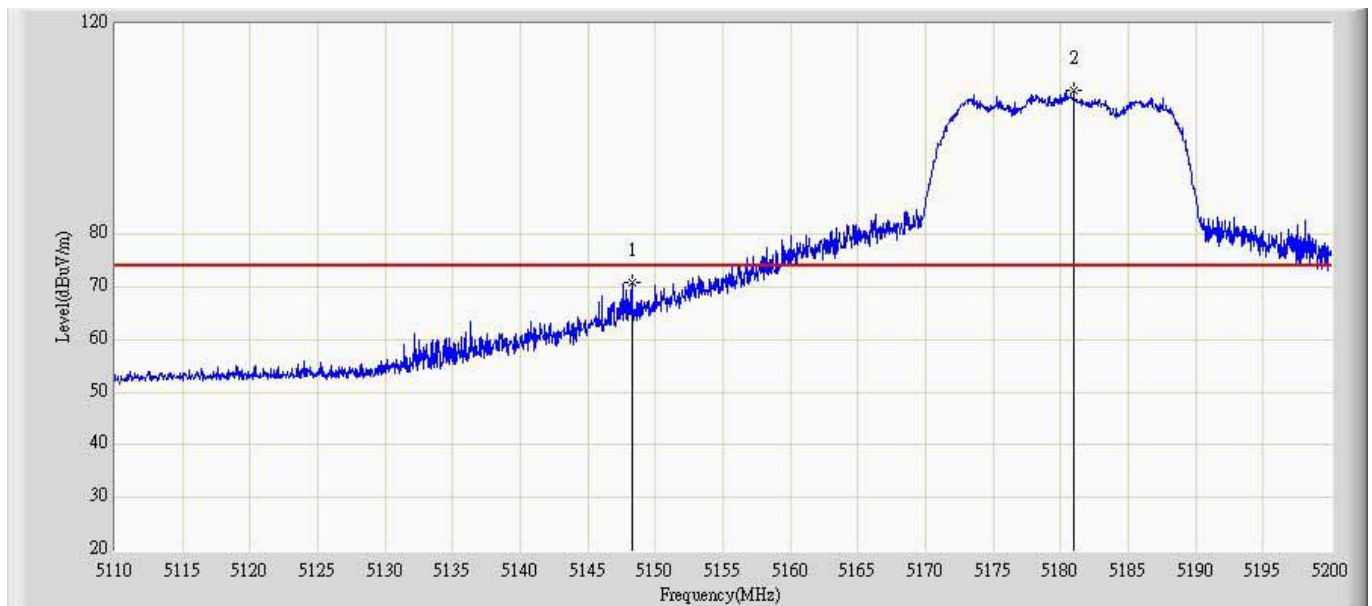
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5147.440	63.603	21.568	-10.397	74.000	42.035	PK
2		*	5178.940	102.602	60.486	N/A	N/A	42.115	PK

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 17:37
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: 120V/60Hz
Note: Mode2: Transmit at CH5180 by 802.11n(20MHz) ant0+1	



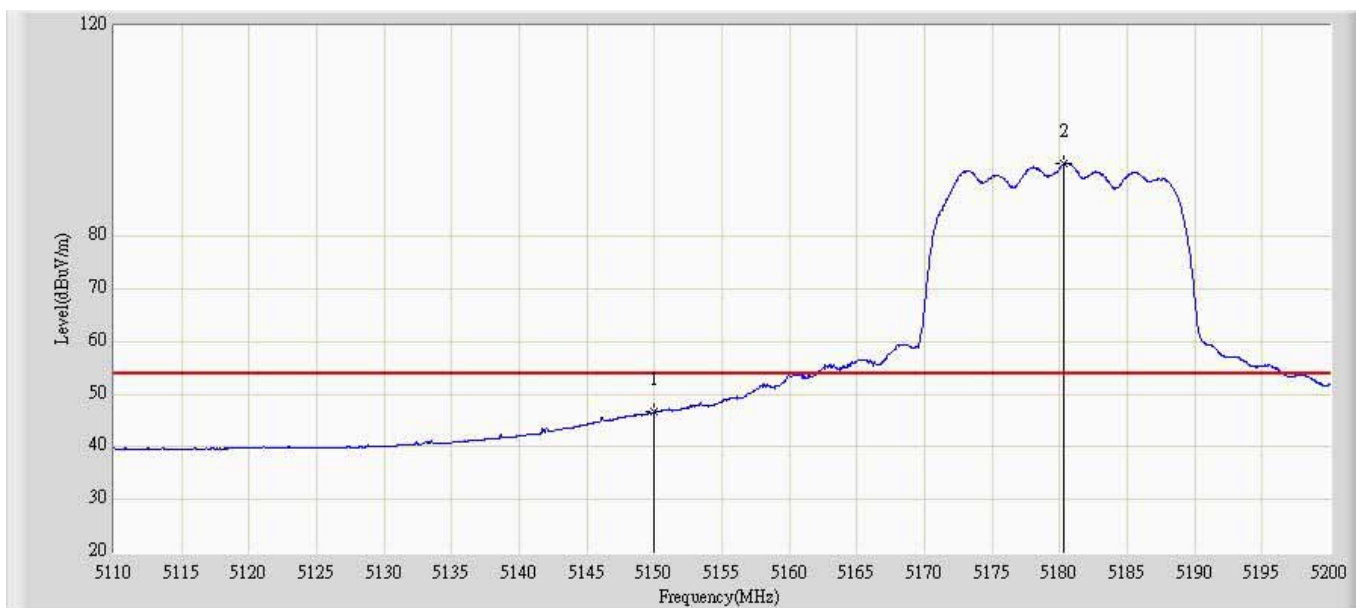
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5150.000	42.197	0.156	-11.803	54.000	42.041	AV
2		*	5179.525	87.955	45.838	N/A	N/A	42.117	AV

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 17:38
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: 120V/60Hz
Note: Mode2: Transmit at CH5180 by 802.11n(20MHz) ant0+1	



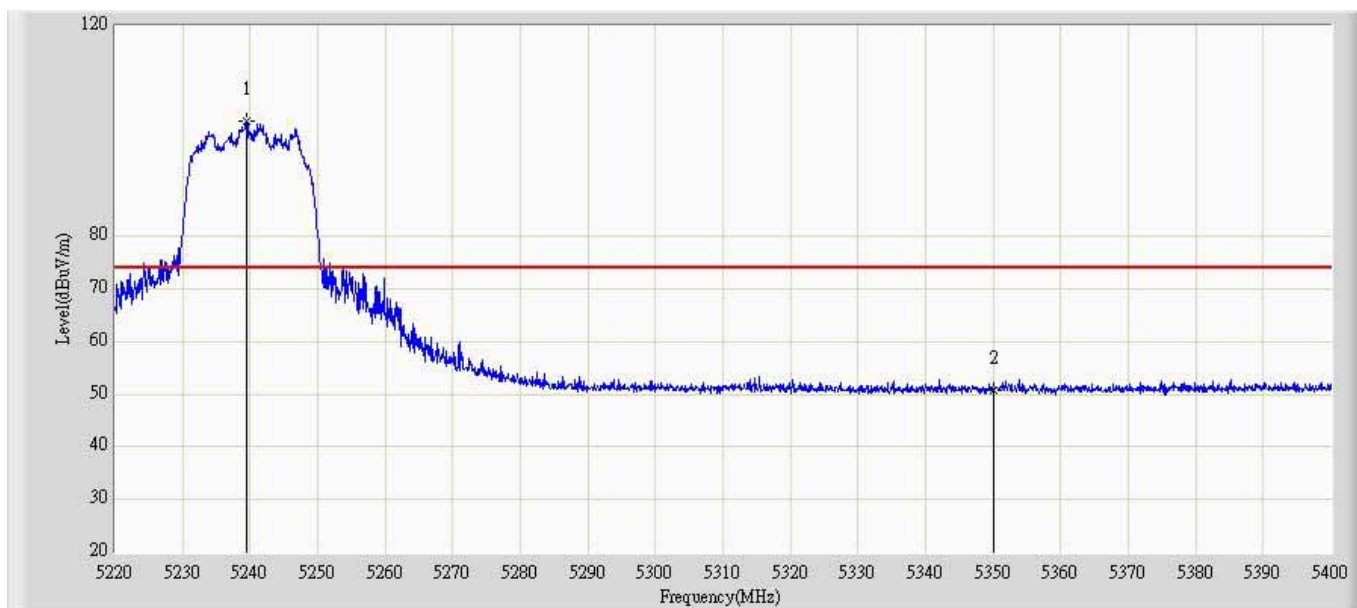
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5148.250	70.976	28.977	-3.024	74.000	41.999	PK
2		*	5180.965	107.493	65.462	N/A	N/A	42.031	PK

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 17:42
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: 120V/60Hz
Note: Mode2: Transmit at CH5180 by 802.11n(20MHz) ant0+1	



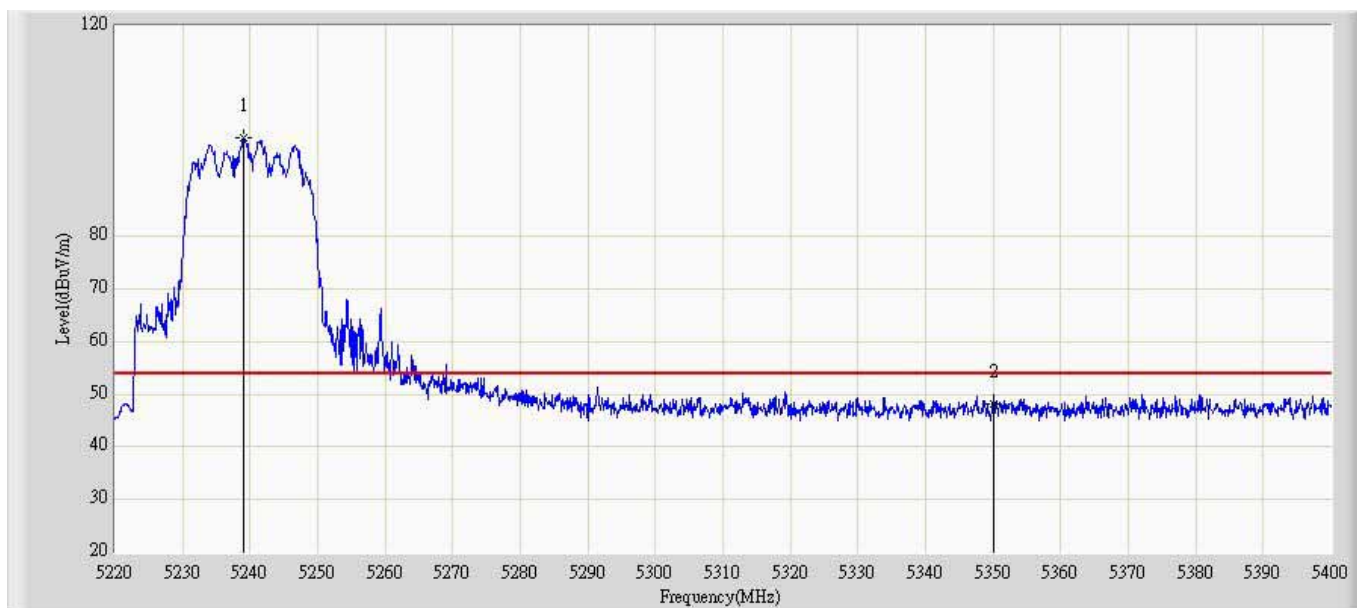
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5150.000	46.630	4.629	-7.370	54.000	42.001	AV
2		*	5180.335	93.986	51.955	N/A	N/A	42.031	AV

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 17:43
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: 120V/60Hz
Note: Mode2: Transmit at CH5240 by 802.11n(20MHz) ant0+1	



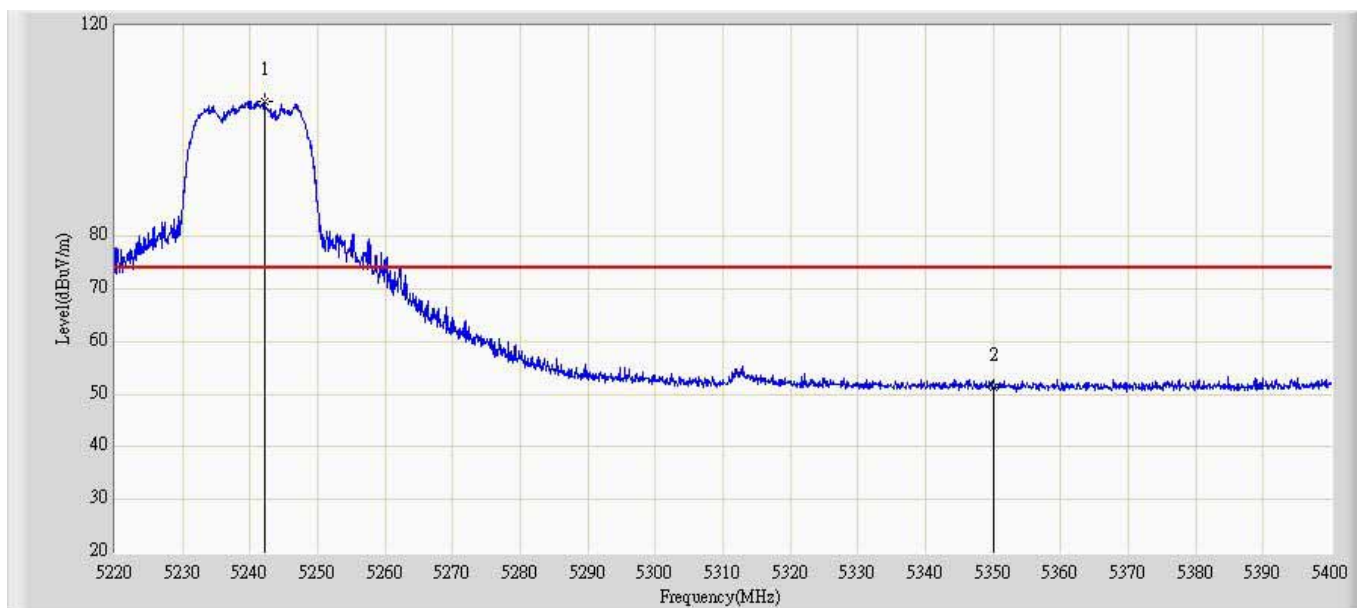
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5239.530	101.832	59.572	N/A	N/A	42.260	PK
2			5350.000	50.611	8.217	-23.389	74.000	42.393	PK

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 17:46
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: 120V/60Hz
Note: Mode2: Transmit at CH5240 by 802.11n(20MHz) ant0+1	



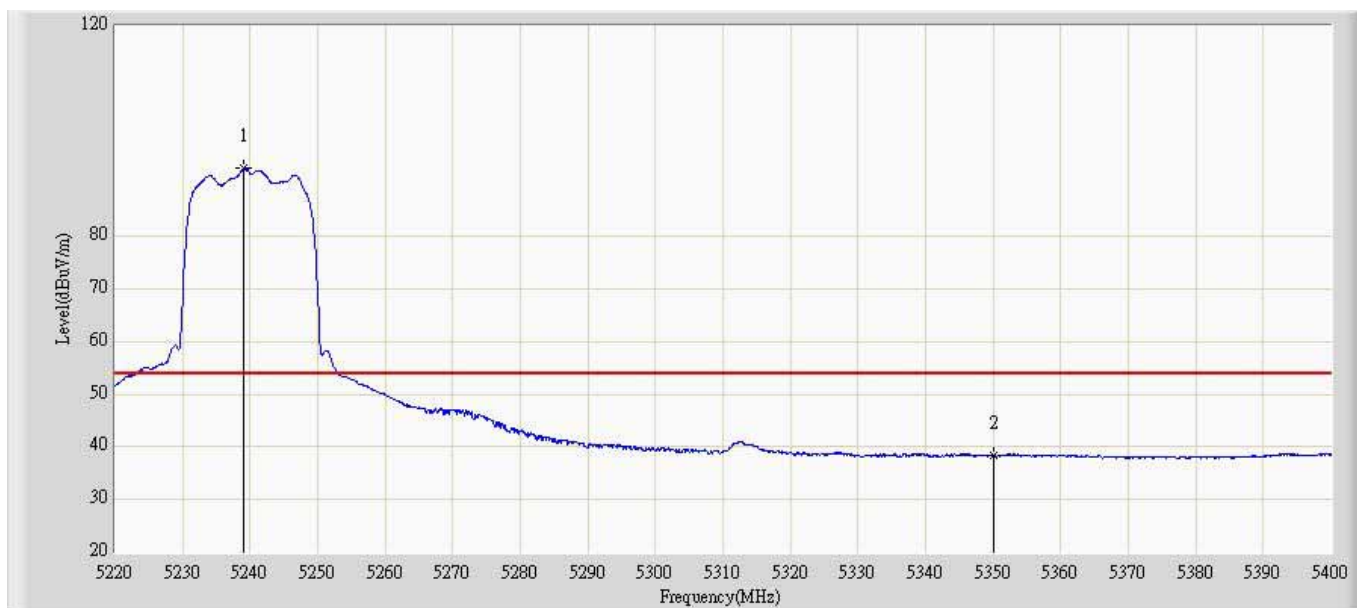
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5239.080	98.746	56.487	N/A	N/A	42.259	AV
2			5350.000	48.086	5.692	-5.914	54.000	42.393	AV

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 17:46
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: 120V/60Hz
Note: Mode2: Transmit at CH5240 by 802.11n(20MHz) ant0+1	



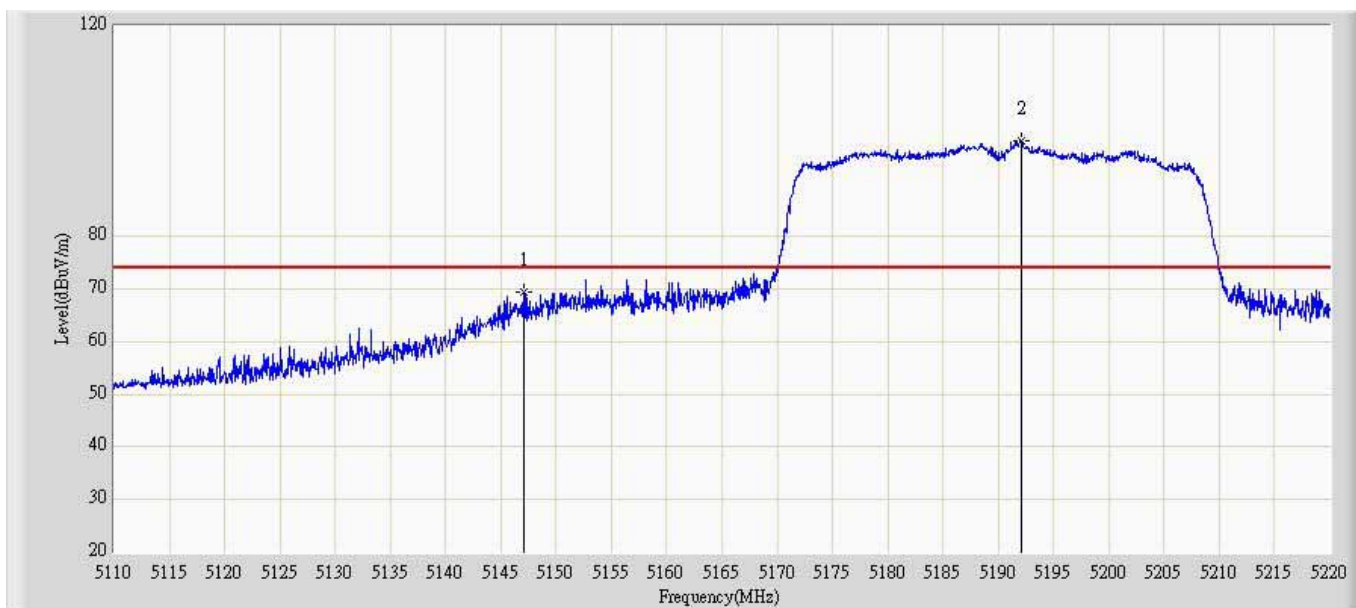
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5242.140	105.653	63.574	N/A	N/A	42.079	PK
2			5350.000	51.222	8.988	-22.778	74.000	42.233	PK

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 17:50
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: 120V/60Hz
Note: Mode2: Transmit at CH5240 by 802.11n(20MHz) ant0+1	



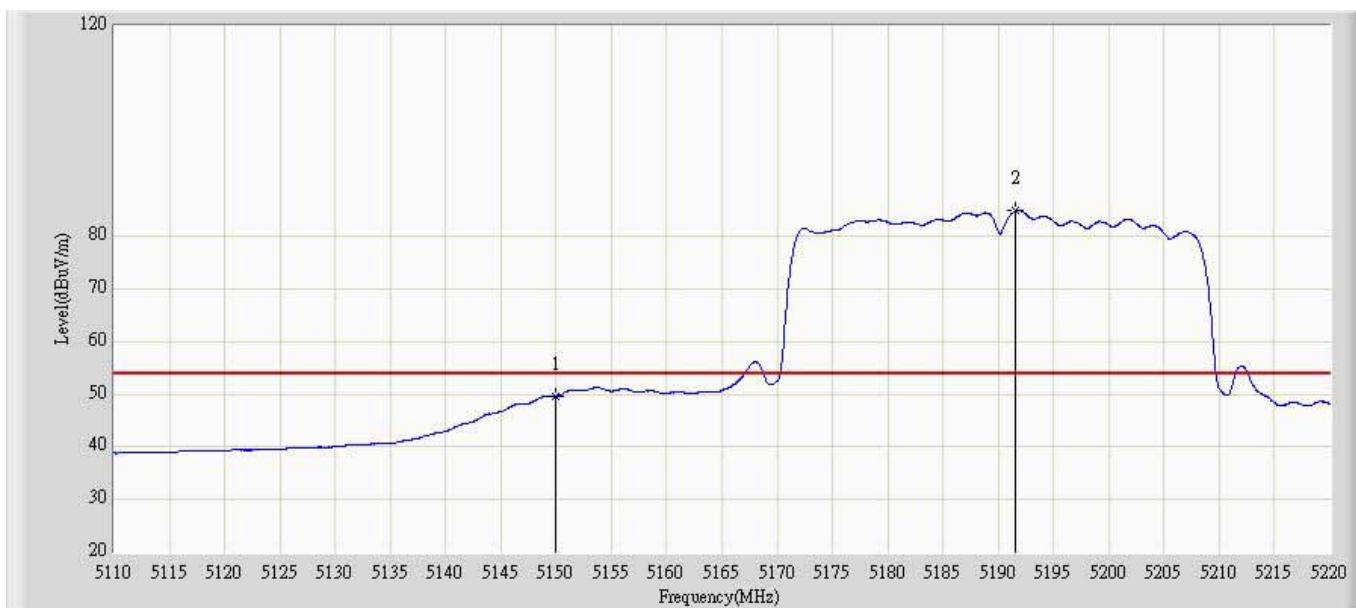
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5239.080	92.852	50.776	N/A	N/A	42.076	AV
2			5350.000	38.371	-3.863	-15.629	54.000	42.233	AV

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 17:51
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: 120V/60Hz
Note: Mode3: Transmit at CH5190 by 802.11n(40MHz) ant0+1	



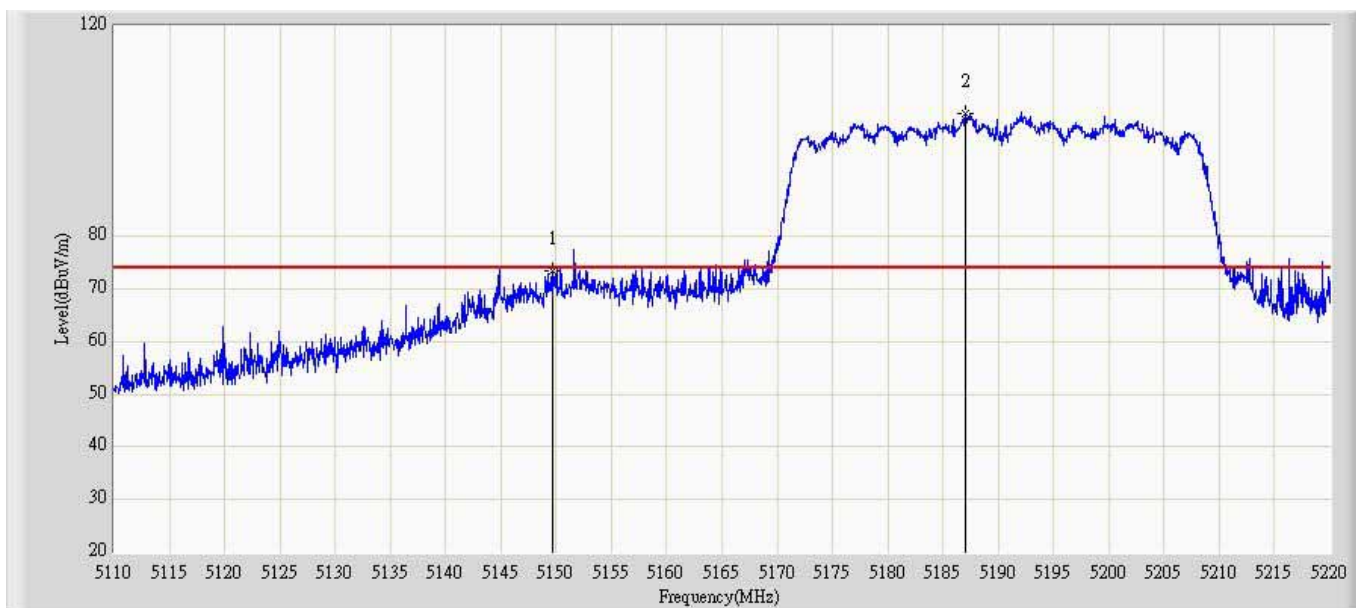
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5147.015	69.282	27.248	-4.718	74.000	42.034	PK
2		*	5192.060	98.263	56.118	N/A	N/A	42.145	PK

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 17:54
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: 120V/60Hz
Note: Mode3: Transmit at CH5190 by 802.11n(40MHz) ant0+1	



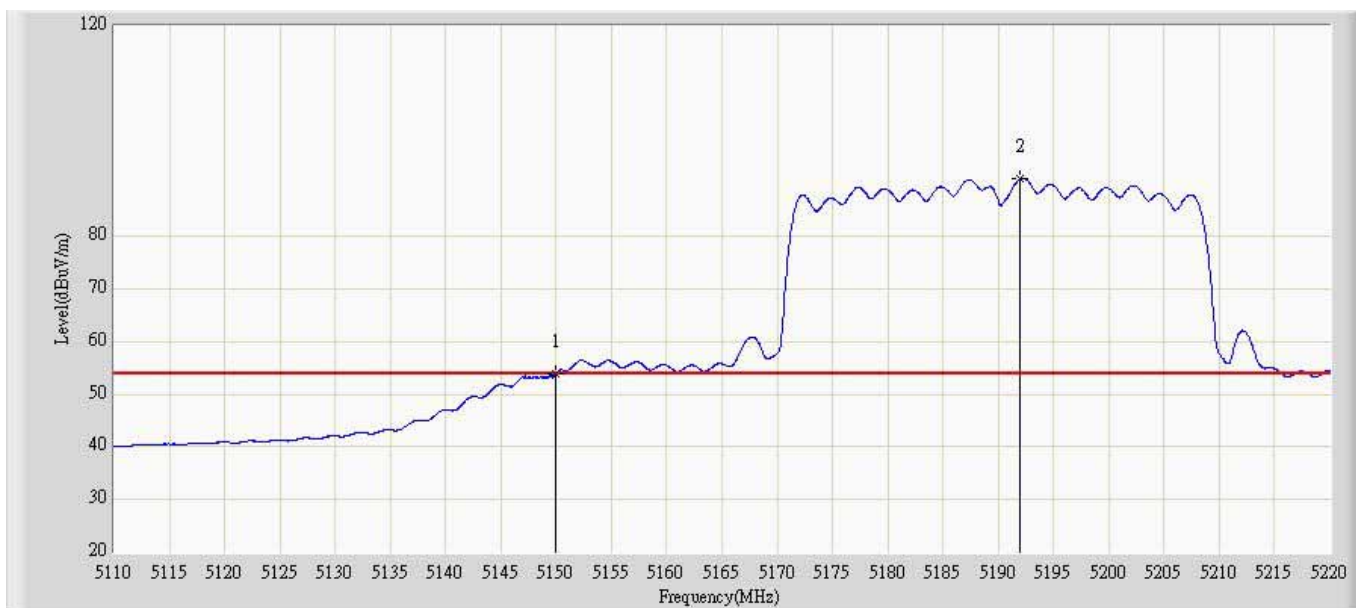
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5150.000	49.565	7.524	-4.435	54.000	42.041	AV
2		*	5191.565	84.806	42.662	N/A	N/A	42.144	AV

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 17:55
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: 120V/60Hz
Note: Mode3: Transmit at CH5190 by 802.11n(40MHz) ant0+1	



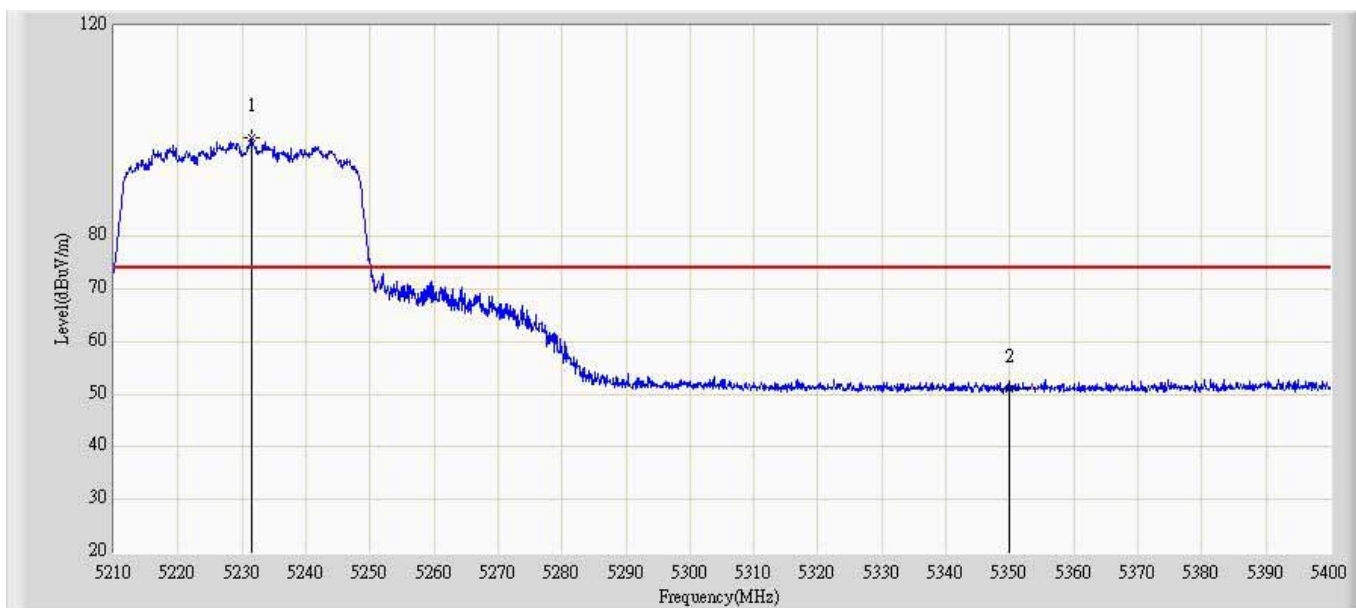
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5149.655	73.582	31.581	-0.418	74.000	42.001	PK
2		*	5187.000	103.459	61.424	N/A	N/A	42.035	PK

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 17:56
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: 120V/60Hz
Note: Mode3: Transmit at CH5190 by 802.11n(40MHz) ant0+1	



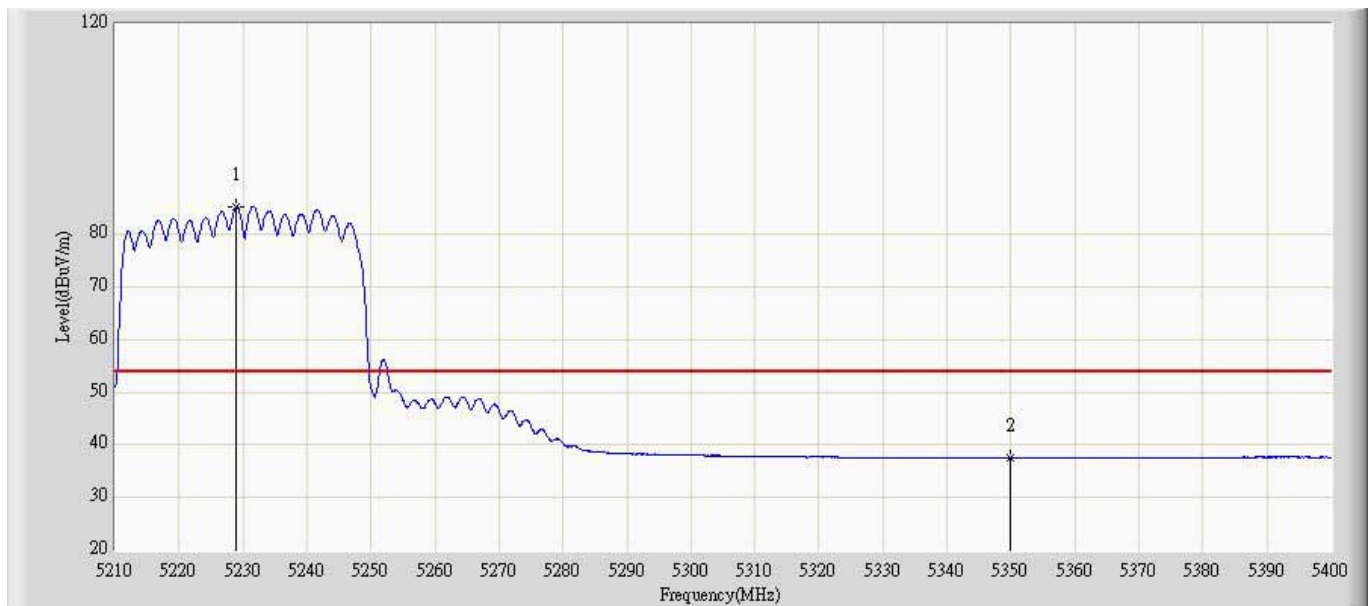
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			5150.000	53.876	11.875	-0.124	54.000	42.001	AV
2		*	5192.005	90.963	48.925	N/A	N/A	42.038	AV

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 18:01
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: 120V/60Hz
Note: Mode3: Transmit at CH5230 by 802.11n(40MHz) ant0+1	



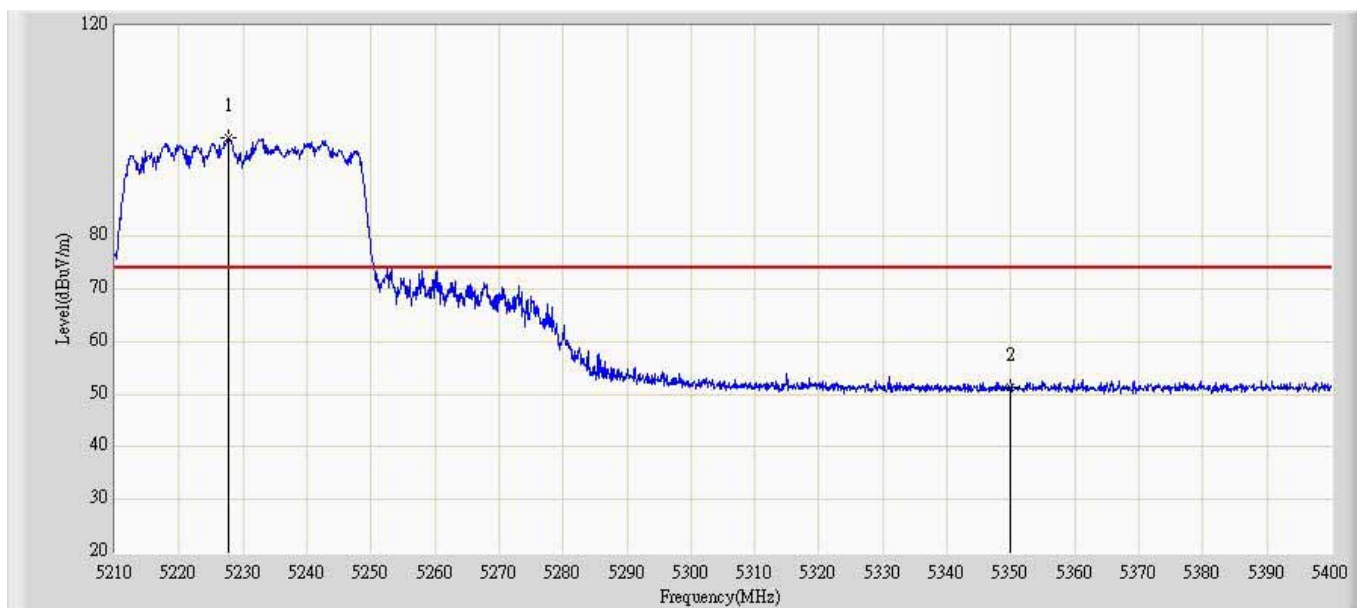
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5231.470	98.607	56.368	N/A	N/A	42.240	PK
2			5350.000	51.093	8.699	-22.907	74.000	42.393	PK

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 18:03
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Horizontal
EUT: IP-STB	Power: 120V/60Hz
Note: Mode3: Transmit at CH5230 by 802.11n(40MHz) ant0+1	



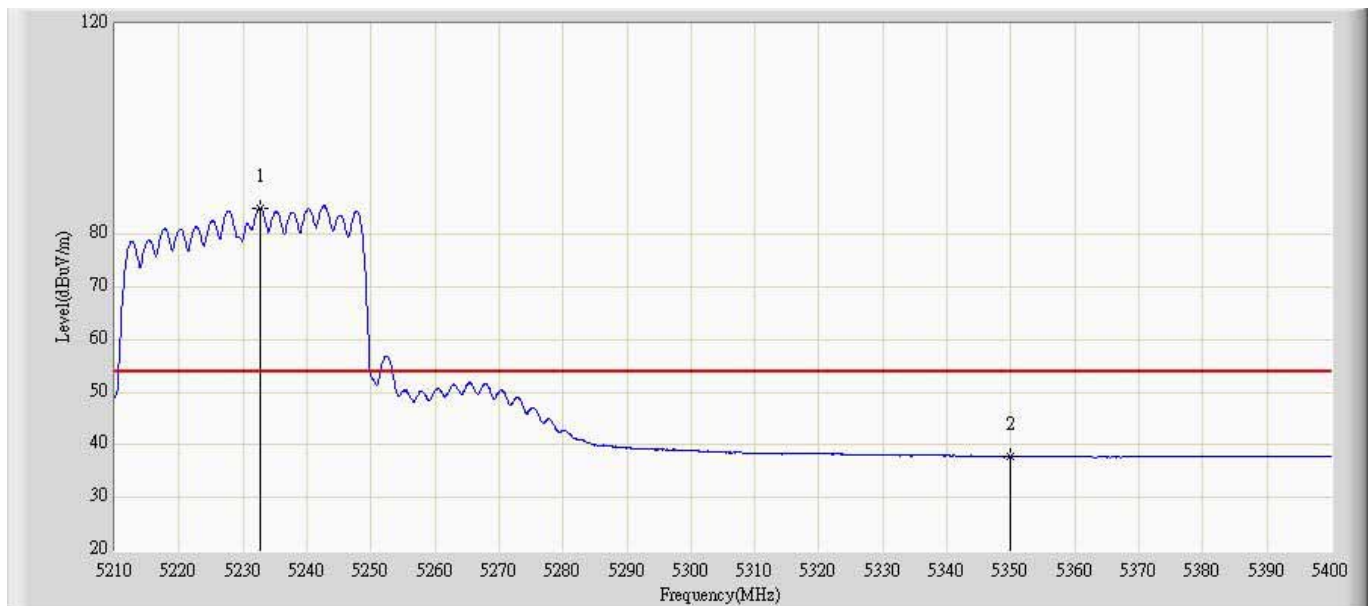
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5229.000	85.170	42.937	N/A	N/A	42.233	AV
2			5350.000	37.416	-4.978	-16.584	54.000	42.393	AV

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 18:05
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: 120V/60Hz
Note: Mode3: Transmit at CH5230 by 802.11n(40MHz) ant0+1	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5227.670	98.745	56.680	N/A	N/A	42.065	PK
2			5350.000	51.457	9.223	-22.543	74.000	42.233	PK

Engineer: Cloud	
Site: AC5	Time: 2014/01/26 - 18:15
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_988(1-18GHz)	Polarity: Vertical
EUT: IP-STB	Power: 120V/60Hz
Note: Mode3: Transmit at CH5230 by 802.11n(40MHz) ant0+1	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	5232.610	85.085	43.015	N/A	N/A	42.070	AV
2			5350.000	37.728	-4.506	-16.272	54.000	42.233	AV

11. Frequency Stability

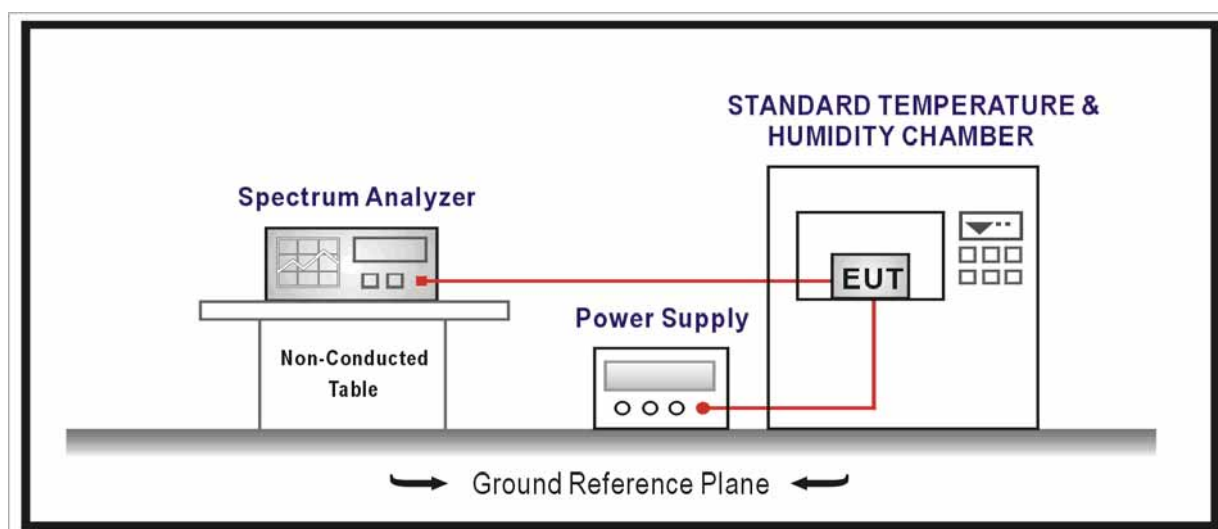
11.1. Test Equipment

Frequency Stability / TR-8

Instrument	Manufacturer	Type No.	Serial No.	Cali. Due Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2015.01.07
AC Power Supply	IDRC	CF-500TP	979422	2014.09.16
DC Power Supply	IDRC	CD-035-020PR	977272	2014.09.16
Programmable Temperature & Humidity Chamber	Gaoyu	TH-1P-B	WIT-05121302	2015.01.07
Temperature/Humidity Meter	zhicheng	ZC1-2	TR8-TH	2014.05.07

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

11.2. Test Setup



11.3. Limit

Manufactures of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

11.4. Test Procedure

Frequency Stability Under Temperature Variations:

The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to highest. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C decreased per stage until the lowest temperature reached.

Frequency Stability Under Voltage Variations:

Set chamber temperature to 20°C. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.

Reduce the input voltage to specify extreme voltage variation ($\pm 15\%$) and endpoint, record the maximum frequency change.

11.5. Uncertainty

The measurement uncertainty is defined as ± 100 Hz

11.6. Test Result

Product	:	IP-STB
Test Item	:	Frequency Stability
Test Site	:	TR-8
Test Mode	:	Carrier Transmit

Operating Frequency	Temp (°C)	Voltage (AC)	Frequency Tolerance (ppm)			
			0 minutes	2 minutes	5 minutes	10 minutes
36	0	102	2.42	2.44	2.48	2.42
		120	2.07	2.07	2.01	2.07
		138	2.24	2.27	2.33	2.19
	25	102	2.56	2.53	2.51	2.55
		120	2.51	2.53	2.51	2.52
		138	2.17	2.20	2.17	2.15
	45	102	2.64	2.61	2.67	2.64
		120	2.31	2.35	2.37	2.38
		138	2.14	2.14	2.24	2.22
44	0	102	2.54	2.52	2.57	2.48
		120	2.07	2.02	2.05	2.01
		138	2.19	2.21	2.25	2.14
	25	102	2.54	2.53	2.57	2.51
		120	2.61	2.54	2.62	2.54
		138	2.62	2.60	2.52	2.61
	45	102	2.54	2.53	2.58	2.61
		120	2.04	2.01	2.07	2.04
		138	2.17	2.24	2.31	2.24
48	0	102	2.39	2.44	2.44	2.48
		120	2.48	2.51	2.54	2.47
		138	2.17	2.21	2.36	2.24
	25	102	2.32	2.34	2.35	2.32
		120	2.24	2.27	2.23	2.27
		138	2.01	2.03	2.07	2.04
	45	102	2.44	2.38	2.39	2.4
		120	2.17	2.11	2.05	2.09
		138	2.27	2.37	2.28	2.33

12. Receiver Spurious Emission for Industry Canada RSS-Gen Requirement

12.1. Test Equipment

Radiated Emission / AC-2

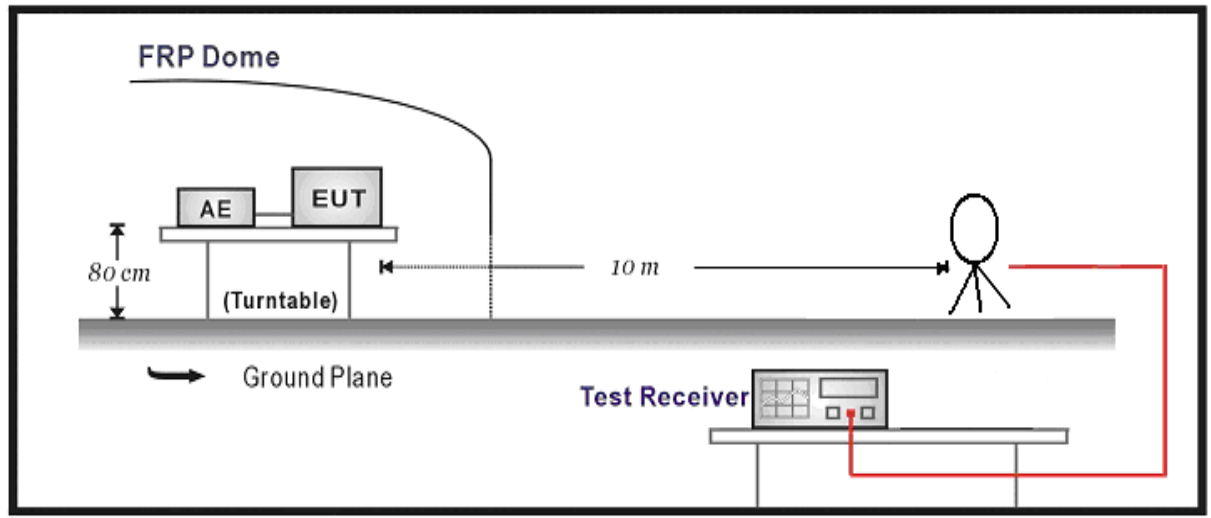
Instrument	Manufacturer	Type No.	Serial No.	Cali. Due Date
EMI Test Receiver	R&S	ESCI	100573	2014.03.30
Loop Antenna	R&S	HFH2-Z2	833799/003	2014.11.22
Bilog Antenna	Teseq GmbH	CBL6112D	27611	2014.10.15
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC2-C	2014.03.01
Temperature/Humidity Meter	Zhicheng	ZC1-2	AC2-TH	2015.01.08

Radiated Emission / AC-5

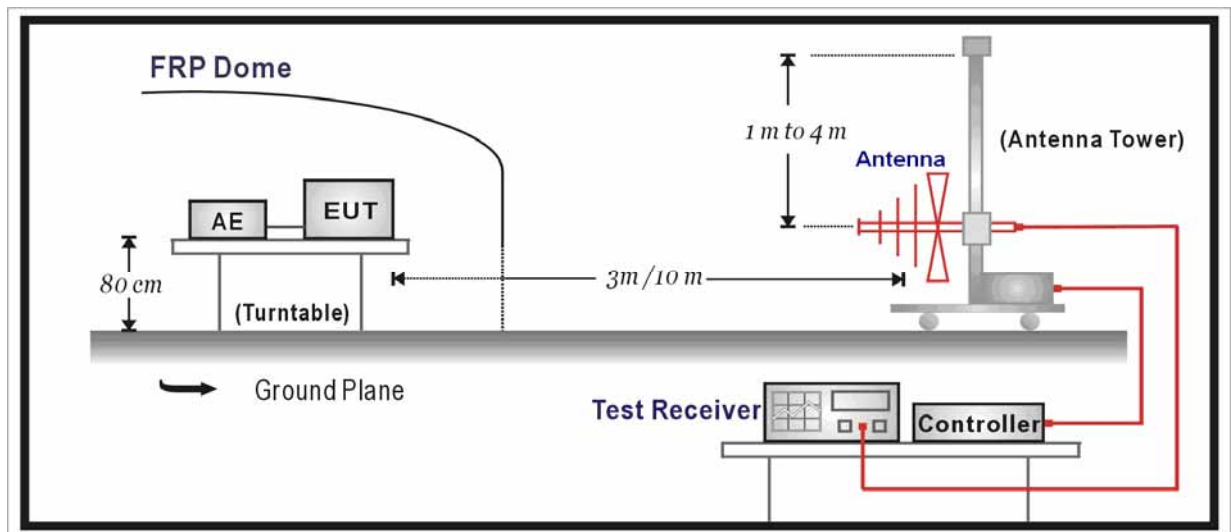
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	N9020A	MY49100159	2014.03.30
Spectrum Analyzer	Agilent	E4446A	MY45300103	2014.01.21
Preamplifier	Miteq	NSP1800-25	1364185	2014.05.04
Preamplifier	QuieTek	AP-040G	CHM-0906001	2014.05.04
DRG Horn	ETS-Lindgren	3117	00123988	2014.01.21
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2014.11.24
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	2014.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2014.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 102	AC5-C3	2014.03.01
EMI Receiver	Agilent	N9038A	MY51210196	2014.06.09
Temperature/Humidity Meter	Zhichen	ZC1-2	AC5-TH	2015.01.08

12.2. Test Setup

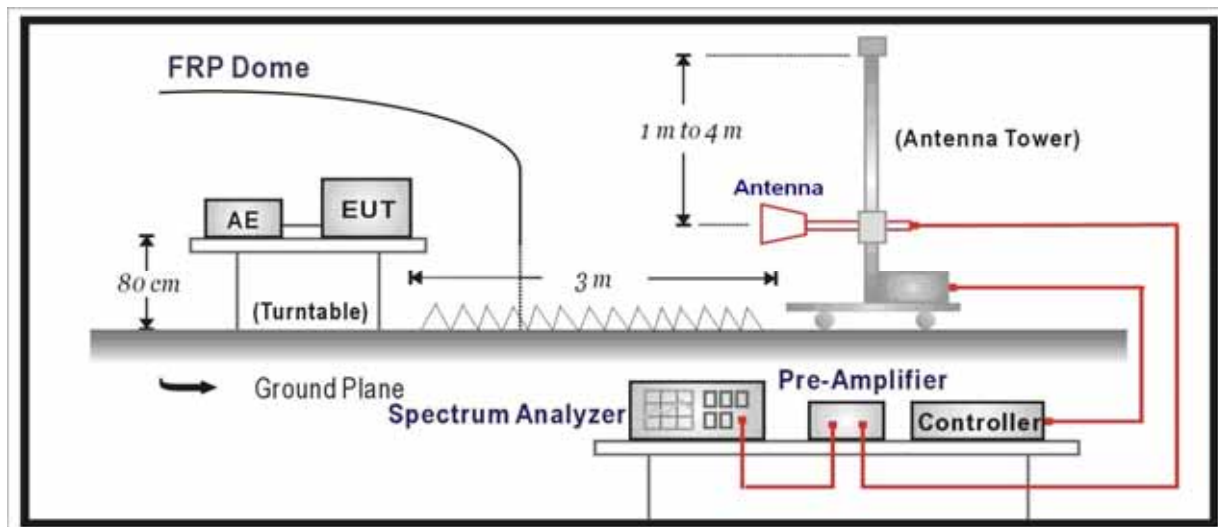
Below 30MHz Test Setup:



Below 1GHz Test Setup:



Above 1GHz Test Setup:



12.3. Limit

FCC Part 15 Subpart B Paragraph 15.109		
Frequency (MHz)	Distance (m)	Level (dBuV/m)
30 - 88	3	40
88 - 216	3	43.5
216 - 960	3	46
Above 960	3	54

Note 1: The lower limit shall apply at the transition frequency.

Note 2: Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

Note 3: E field strength (dBuV/m) = 20 log E field strength (uV/m)

12.4. Test Procedure

According to ANSI C63.10: 2009.

The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the

maximum emission, all of the interface cables were manipulated according to ANSI C63.4: 2009 on radiated measurement.

The resolution bandwidth below 1GHz setting on the field strength meter is 120 kHz and above 1GHz is 1MHz.

The frequency range from 9kHz to 10th harmonic is checked.

Note: When doing emission measurement above 1GHz, the horn antenna will be bended down a little (as horn antenna has the narrow beamwidth) in order to keeping the antenna in the “cone of radiation” of EUT. The 3dB beamwidth is 60~10 degrees for H-plane and 90~10 degrees for E-plane.

12.5. Uncertainty

The measurement uncertainty above 1G is defined as ± 3.9 dB
below 1G is defined as ± 3.8 dB

12.6. Test Result

All of the test result shown indicates the worst case, and spectrum analyzer parameters setting as shown below:

Peak detector: RBW = 1MHz, VBW = 3MHz, sweep time = 200ms;

Average detector: RBW = 1MHz, VBW = 10Hz, sweep time = auto.

Measure Level = Reading Level + Cable Loss + Antenna Factor - Preamplifier Gain

Mode 1: Receive by 802.11n (20MHz)

Chain	CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
Ant 0+1	36	H	368.9	4.8	25.6	30.4	46	-15.6	QP
		V	412.3	3.9	25.6	29.4	46	-16.6	QP
		H	2241.0	37.0	-0.6	36.4	54(Note1)	-17.6	PK
		V	2317.5	38.2	-0.3	37.9	54(Note1)	-16.1	PK
	40	H	605.7	5.8	29.1	34.8	46	-11.2	QP
		V	650.3	4.3	28.8	33.0	46	-13.0	QP
		H	2130.5	41.3	-1.3	40.0	54(Note1)	-14.0	PK
		V	2283.5	39.3	-0.3	39.0	54(Note1)	-15.0	PK
	48	H	804.2	6.0	32.3	38.3	46	-7.7	QP
		V	846.5	5.5	33.0	38.6	46	-7.4	QP
		H	1603.5	40.0	-4.5	35.5	54(Note1)	-18.5	PK
		V	1722.5	40.1	-3.2	36.9	54(Note1)	-17.1	PK

Note1: This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.

Mode 2: Receive by 802.11n (40MHz)

Chain	CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
Ant 0+1	38	H	351.3	6.9	23.8	30.7	46	-15.4	QP
		V	399.9	8.5	26.2	34.7	46	-11.3	QP
		H	2394.0	38.4	0.0	38.4	54(Note1)	-15.6	PK
		V	2589.5	38.3	0.9	39.2	54(Note1)	-14.8	PK
	46	H	754.1	6.1	32.7	38.8	46	-7.2	QP
		V	867.7	6.3	33.3	39.5	46	-6.5	QP
		H	2054.0	40.0	-0.8	39.2	54(Note1)	-14.8	PK
		V	2181.5	39.3	-0.7	38.6	54(Note1)	-15.4	PK

Note1: This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.

The End