

(30MHz-1000MHz)

	erature:	24.7°C		Relative I	Humidity:	61%				
ēst V	oltage:	DC 3.7V		Phase:		Horizontal				
est N	lode:	802.11b(wo	1b(worst)							
0.0	dBuV									
	14 14		* 4	14	3					
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10	Martin and and		Water and Will Will Will Will Will Will Will Wil	well for many						
10		M	War William		300.00					
	0	60.00								
10	0 Frequency	M I I 60.00 I I	Correct	Result	Limit	Margin	1000.00			
10 20 30.000 No.	0 Frequency (MHz)	M I I 60.00 I I Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	(dB)	Remark			
10 20 30.000	Frequency (MHz) 80.9274	M I I 60.00 I <td>Correct Factor(dB/m) -32.26</td> <td>Result (dBuV/m) 35.35</td> <td>Limit (dBuV/m) 40.00</td> <td>(dB) -4.65</td> <td></td>	Correct Factor(dB/m) -32.26	Result (dBuV/m) 35.35	Limit (dBuV/m) 40.00	(dB) -4.65				
30.000	0 Frequency (MHz)	M I I 60.00 I I Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	(dB)	Remark			
0 30.000 No.	Frequency (MHz) 80.9274	M I I 60.00 I <td>Correct Factor(dB/m) -32.26</td> <td>Result (dBuV/m) 35.35</td> <td>Limit (dBuV/m) 40.00</td> <td>(dB) -4.65</td> <td>Remark QP</td>	Correct Factor(dB/m) -32.26	Result (dBuV/m) 35.35	Limit (dBuV/m) 40.00	(dB) -4.65	Remark QP			
10 20 30.000 No.	Frequency (MHz) 80.9274 113.3161	M I I I I I 60.00 I I Reading I I (dBuV) 67.61 67.00	Correct Factor(dB/m) -32.26 -32.29	Result (dBuV/m) 35.35 34.71	Limit (dBuV/m) 40.00 43.50	(dB) -4.65 -8.79	Remark QP QP			

Note: 1. Margin = Result (Result = Reading + Factor)-Limit

67.46

70.35

2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.

-31.95

-31.66

35.51

38.69

46.00

46.00

- 10.49

-7.31

QP

QP

3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

Flux Compliance Service Laboratory

454.3100

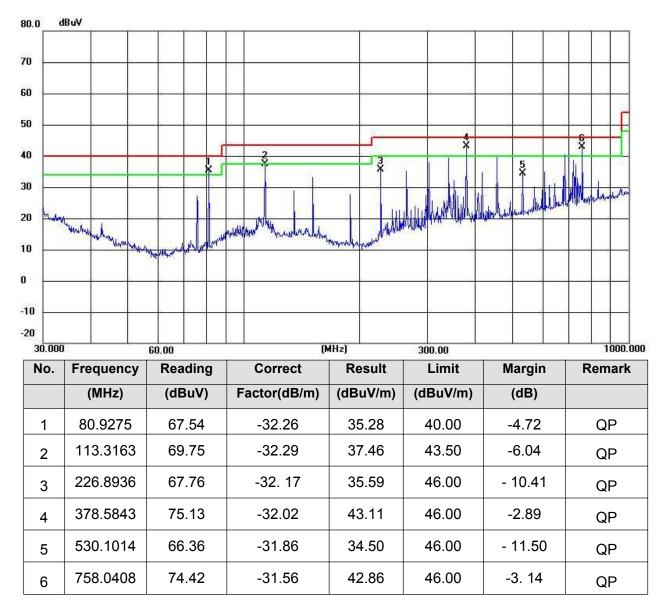
682.3482

5

6



Temperature:	22.7°C	Relative Humidity:	61%
Test Voltage:	DC 3.7V	Phase:	Vertical
Test Mode:	802.11b(worst)		



Note: 1. Margin = Result (Result = Reading + Factor)-Limit

2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.

3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.



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(1GHz~25GHz) Restricted band and Spurious emission Requirements

Peak value:			002		-LOW			
Frequency (MHz)	Read Leve l (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Leve l (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	po l arization
4824.00	36.26	31.79	8.62	32.10	44.57	74.00	-29.43	Vertical
7236.00	31.67	36.19	11.68	31.97	47.57	74.00	-26.43	Vertica
9648.00	30.89	38.07	14.16	31.56	51.56	74.00	-22.44	Vertica
12060.00	*					74.00		Vertica
14472.00	*					74.00		Vertical
16884.00	*					74.00		Vertical
4824.00	35.56	31.79	8.62	32.10	43.87	74.00	-30.13	Horizontal
7236.00	31.74	36.19	11.68	31.97	47.64	74.00	-26.36	Horizontal
9648.00	30.61	38.07	14.16	31.56	51.28	74.00	-22.72	Horizontal
12060.00	*			5 <u>7</u>		74.00	3	Horizonta
14472.00	*			5		74.00		Horizontal
16884.00	*					74.00		Horizontal

802.11b(Worst)-Low

Average value:

Frequency (MHz)	Read Leve l (dBuV)	Antenna Factor (dB/m)	Cab l e Loss (dB)	Preamp Factor (dB)	Leve l (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4824.00	25.66	31.79	8.62	32.10	33.97	54.00	-20.03	Vertical
7236.00	20.63	36.19	11.68	31.97	36.53	54.00	-17.47	Vertica
9648.00	21.31	38.07	14.16	31.56	41.98	54.00	- 12.02	Vertical
12060.00	*					54.00		Vertical
14472.00	*					54.00		Vertical
16884.00	*					54.00		Vertical
4824.00	25.31	31.79	8.62	32.10	33.62	54.00	-20.38	Horizontal
7236.00	20.39	36.19	11.68	31.97	36.29	54.00	-17.71	Horizontal
9648.00	20.42	38.07	14.16	31.56	41.09	54.00	-12.91	Horizonta
12060.00	*					54.00		Horizonta
14472.00	*					54.00		Horizonta
16884.00	*					54.00		Horizontal

Remark:

1. Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor

2. "*", means this data is the too weak instrument of signal is unable to test.



Peak value:								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	po l arizatior
4874.00	40.49	31.85	8.67	32.12	48.89	74.00	-25.11	Vertica
7311.00	35.17	36.37	11.72	31.89	51.37	74.00	-22.63	Vertical
9748.00	34.80	38.35	14.25	31.62	55.78	74.00	-18.22	Vertica
12185.00	*					74.00		Vertica
14622.00	*					74.00		Vertical
17059.00	*					74.00		Vertical
4874.00	40.84	31.85	8.67	32.12	49.24	74.00	-24.76	Horizonta
7311.00	34.07	36.37	11.72	31.89	50.27	74.00	-23.73	Horizonta
9748.00	34.10	38.35	14.25	31.62	55.08	74.00	-18.92	Horizonta
12185.00	*		2		8	74.00		Horizonta
14622.00	*					74.00		Horizonta
17059.00	*					74.00		Horizonta

802.11b(Worst)-Middle

Average value:

Frequency (MHz)	Read Leve l (dBuV)	Antenna Factor (dB/m)	Cab l e Loss (dB)	Preamp Factor (dB)	Leve l (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4874.00	31.31	31.85	8.67	32.12	39.71	54.00	-14.29	Vertica
7311.00	23.47	36.37	11.72	31.89	39.67	54.00	-14.33	Vertical
9748.00	24.05	38.35	14.25	31.62	45.03	54.00	-8.97	Vertical
12185.00	*					54.00		Vertical
14622.00	*					54.00		Vertica
17059.00	*					54.00		Vertical
4874.00	30.94	31.85	8.67	32.12	39.34	54.00	-14.66	Horizontal
7311.00	23.15	36.37	11.72	31.89	39.35	54.00	-14.65	Horizonta
9748.00	23.81	38.35	14.25	31.62	44.79	54.00	-9.21	Horizonta
12185.00	*					54.00	8	Horizonta
14622.00	*					54.00	in in	Horizonta
17059.00	*					54.00		Horizonta

Remark:

1. Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor

2. "*", means this data is the too weak instrument of signal is unable to test.



Frequency (MHz)	Read Leve l (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Leve l (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4924.00	39.14	31.90	8.70	32.15	47.59	74.00	-26.41	Vertica
7386.00	31.33	36.49	11.76	31.83	47.75	74.00	-26.25	Vertica
9848.00	34.43	38.62	14.31	31.77	55.59	74.00	-18.41	Vertical
12310.00	*					74.00		Vertical
14772.00	*					74.00		Vertica
17234.00	*					74.00		Vertica
4924.00	39.34	31.90	8.70	32.15	47.79	74.00	-26.21	Horizontal
7386.00	30.69	36.49	11.76	31.83	47.11	74.00	-26.89	Horizontal
9848.00	30.80	38.62	14.31	31.77	51.96	74.00	-22.04	Horizontal
12310.00	*					74.00		Horizonta
14772.00	*					74.00	ee	Horizonta
17234.00	*					74.00		Horizonta

802.11b(Worst)-High

Average value:

Frequency (MHz)	Read Leve l (dBuV)	Antenna Factor (dB/m)	Cab l e Loss (dB)	Preamp Factor (dB)	Leve l (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4924.00	30.50	31.90	8.70	32.15	38.95	54.00	-15.05	Vertica
7386.00	21.38	36.49	11.76	31.83	37.80	54.00	-16.20	Vertica
9848.00	23.04	38.62	14.31	31.77	44.20	54.00	-9.80	Vertica
12310.00	*			97		54.00	8	Vertica
14772.00	*					54.00		Vertica
17234.00	*					54.00		Vertica
4924.00	30.00	31.90	8.70	32.15	38.45	54.00	-15.55	Horizonta
7386.00	20.18	36.49	11.76	31.83	36.60	54.00	-17.40	Horizontal
9848.00	20.15	38.62	14.31	31.77	41.31	54.00	-12.69	Horizonta
12310.00	*					54.00		Horizonta
14772.00	*	1		8		54.00	8	Horizonta
17234.00	*		40	Si Si		54.00	8	Horizonta

Remark:

1. Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor

2. "*", means this data is the too weak instrument of signal is unable to test.

1. Notes: emissions are attenuated 20dB below the limits, so it does not record. Remark:

1.Factor = Antenna Factor + Cable Loss – Pre-amplifier.

2.Scan with 802.11b, 802.11g, 802.11n (HT-20), the worst case

is 802.11b.Emission Level = Reading + FactorMargin = Limit - Emission Leve

3. The frequency emission of peak points that did not show above the forms are at least 20dB below the limit, the frequency emission is mainly from the environment noise



802.11 b low CH

Peak value:

Frequency (MHz)	Read Leve l (dBuV)	Antenna Factor (dB/m)	Cab l e Loss (dB)	Preamp Factor (dB)	Leve l (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	48.89	27.59	5.38	34.01	47.85	74.00	-26.15	Horizontal
2400.00	54.73	27.58	5.39	34.01	53.69	74.00	-20.31	Horizontal
2390.00	47.76	27.59	5.38	34.01	46.72	74.00	-27.28	Vertical
2400.00	51.59	27.58	5.39	34.01	50.55	74.00	-23.45	Vertical

Average value:

Frequency (MHz)	Read Leve l (dBuV)	Antenna Factor (dB/m)	Cab l e Loss (dB)	Preamp Factor (dB)	Leve l (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	37.90	27.59	5.38	34.01	36.86	54.00	-17.14	Horizontal
2400.00	43.82	27.58	5.39	34.01	42.78	54.00	-11.22	Horizontal
2390.00	36.12	27.59	5.38	34.01	35.08	54.00	-18.92	Vertical
2400.00	40.68	27.58	5.39	34.01	39.64	54.00	-14.36	Vertical

802.11 b High CH

Peak value:

Frequency (MHz)	Read Leve l (dBuV)	Antenna Factor (dB/m)	Cab l e Loss (dB)	Preamp Factor (dB)	Leve l (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	48.23	27.53	5.47	33.92	47.31	74.00	-26.69	Horizontal
2500.00	45.87	27.55	5.49	29.93	48.98	74.00	-25.02	Horizontal
2483.50	47.68	27.53	5.47	33.92	46.76	74.00	- 27.24	Vertical
2500.00	44.05	27.55	5.49	29.93	47.16	74.00	-26.84	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Leve l (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	37.14	27.53	5.47	33.92	36.22	54.00	- 17.78	Horizontal
2500.00	34.14	27.55	5.49	29.93	37.25	54.00	-16.75	Horizontal
2483.50	35.29	27.53	5.47	33.92	34.37	54.00	-19.63	Vertical
2500.00	32.40	27.55	5.49	29.93	35.51	54.00	-18.49	Vertical



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802.11 g Low CH

Peak value:								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Leve l (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	61.94	27.59	5.38	34.01	60.90	74.00	-13.10	Horizontal
2400.00	70.56	27.58	5.39	34.01	69.52	74.00	-4.48	Horizontal
2390.00	58.19	27.59	5.38	34.01	57.15	74.00	-16.85	Vertical
2400.00	67.21	27.58	5.39	34.01	66.17	74.00	-7.83	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cab l e Loss (dB)	Preamp Factor (dB)	Leve l (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	44.24	27.59	5.38	34.01	43.20	54.00	-10.80	Horizontal
2400.00	50.90	27.58	5.39	34.01	49.86	54.00	-4.14	Horizontal
2390.00	41.78	27.59	5.38	34.01	40.74	54.00	-13.26	Vertical
2400.00	47.82	27.58	5.39	34.01	46.78	54.00	-7.22	Vertical

802.11 g High CH

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cab l e Loss (dB)	Preamp Factor (dB)	Leve l (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	53.82	27.53	5.47	33.92	52.90	74.00	-21.10	Horizontal
2500.00	47.07	27.55	5.49	29.93	50.18	74.00	-23.82	Horizontal
2483.50	48.91	27.53	5.47	33.92	47.99	74.00	-26.01	Vertical
2500.00	45.36	27.55	5.49	29.93	48.47	74.00	-25.53	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cab l e Loss (dB)	Preamp Factor (dB)	Leve l (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	36.70	27.53	5.47	33.92	35.78	54.00	-18.22	Horizontal
2500.00	34.80	27.55	5.49	29.93	37.91	54.00	-16.09	Horizontal
2483.50	35.25	27.53	5.47	33.92	34.33	54.00	-19.67	Vertical
2500.00	33.11	27.55	5.49	29.93	36.22	54.00	-17.78	Vertical



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802.11 N 20 Low CH

Peak value:

Frequency (MHz)	Read Leve l (dBuV)	Antenna Factor (dB/m)	Cab l e Loss (dB)	Preamp Factor (dB)	Leve l (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	61.98	27.59	5.38	34.01	60.94	74.00	-13.06	Horizontal
2400.00	72.50	27.58	5.39	34.01	71.46	74.00	-2.54	Horizontal
2390.00	57.89	27.59	5.38	34.01	56.85	74.00	-17.15	Vertical
2400.00	68.39	27.58	5.39	34.01	67.35	74.00	-6.65	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cab l e Loss (dB)	Preamp Factor (dB)	Leve l (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	46.17	27.59	5.38	34.01	45.13	54.00	-8.87	Horizontal
2400.00	51.36	27.58	5.39	34.01	50.32	54.00	-3.68	Horizontal
2390.00	42.53	27.59	5.38	34.01	41.49	54.00	- 12.51	Vertical
2400.00	47.69	27.58	5.39	34.01	46.65	54.00	-7.35	Vertical

802.11 N 20 High CH Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cab l e Loss (dB)	Preamp Factor (dB)	Leve l (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	52.73	27.53	5.47	33.92	51.81	74.00	-22.19	Horizontal
2500.00	47.15	27.55	5.49	29.93	50.26	74.00	-23.74	Horizontal
2483.50	48.88	27.53	5.47	33.92	47.96	74.00	-26.04	Vertical
2500.00	45.26	27.55	5.49	29.93	48.37	74.00	-25.63	Vertical

Average value:

Frequency (MHz)	Read Leve l (dBuV)	Antenna Factor (dB/m)	Cab l e Loss (dB)	Preamp Factor (dB)	Leve l (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	36.68	27.53	5.47	33.92	35.76	54.00	-18.24	Horizontal
2500.00	34.84	27.55	5.49	29.93	37.95	54.00	-16.05	Horizontal
2483.50	35.51	27.53	5.47	33.92	34.59	54.00	-19.41	Vertical
2500.00	33.13	27.55	5.49	29.93	36.24	54.00	-17.76	Vertical





8 CONDUCTED EMISSION TEST

8.1.1 POWER LINE CONDUCTED EMISSION LIMITS

Operating frequency band. In case the emission fall within the restricted band specified on Part 207(a) limit in the table below has to be followed.

	Conducted Emissionlimit (dBuV)			
FREQUENCY (MHz)	Quasi-peak	Average		
0.15 -0.5	66 - 56 *	56 - 46 *		
0.50 -5.0	56.00	46.00		
5.0 -30.0	60.00	50.00		

Note:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

The following table is the setting of the receiver

Receiver Parameters	Setting			
Attenuation	10 dB			
Start Frequency	0.15 MHz			
Stop Frequency	30 MHz			
IF Bandwidth	9 kHz			



8.1.2 TEST PROCEDURE

- a. The EUT was 0.8 meters from the horizontal ground plane and 0.4 meters from the vertical ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

Vertical Reference Ground Plane EUT 40cm EUT 80cm N Horizontal Reference Ground Plane

8.1.3 TEST SETUP

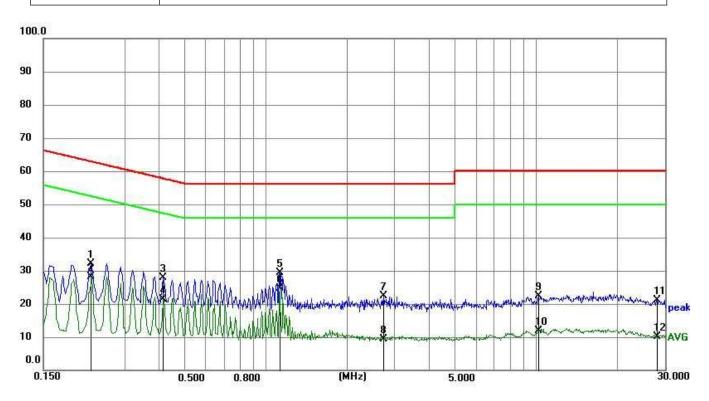
Note: 1.Support units were connected to second LISN.

2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes



8.1.4 TEST RESULT

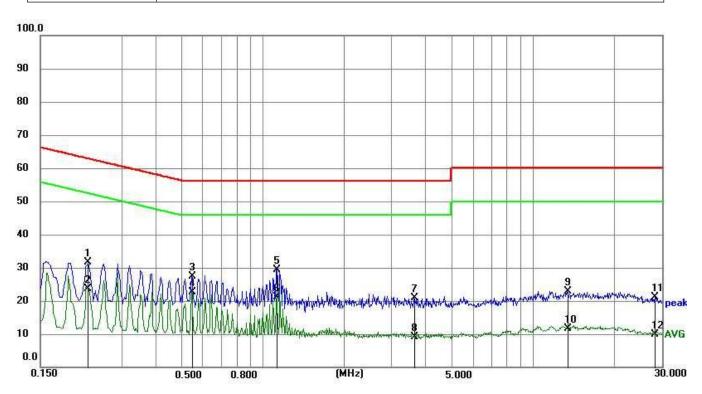
Temperature:	22.1 °C	Relative Humidity:	56%
Test Voltage:	DC 5V by adapter	Phase:	L
Test Mode:	802.11b(worst)		



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	0.2265	21.98	10.06	32.04	62.58	30.54	QP
2	0.2265	18. 15	10.06	28.21	52.58	24.37	AVG
3	0.4155	17.88	10.02	27.90	57.54	29.64	QP
4	0.4155	11.38	10.02	21.40	47.54	26. 14	AVG
5	1. 1220	19.43	10.00	29.43	56.00	26.57	QP
6	1. 1220	14.54	10.00	24.54	46.00	21.46	AVG
7	2.7239	12.48	9.95	22.43	56.00	33.57	QP
8	2.7239	-0.67	9.95	9.28	46.00	36.72	AVG
9	10.2075	12.63	9.80	22.43	60.00	37.57	QP
10	10.2075	2. 18	9.80	11.98	50.00	38.02	AVG
11	27.9060	11.32	9.90	21.22	60.00	38.78	QP
12	27.9060	0. 14	9.90	10.04	50.00	39.96	AVG



Temperature:	22.1 °C	Relative Humidity:	56%
Test Voltage:	DC 5V by adapter	Phase:	Ν
Test Mode:	802.11b(worst)		



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	0.2265	21.47	10.05	31.52	62.58	31.06	QP
2	0.2265	13.46	10.05	23.51	52.58	29.07	AVG
3	0.5460	17.34	10.00	27.34	56.00	28.66	QP
4	0.5460	12.65	10.00	22.65	46.00	23.35	AVG
5	1. 1220	19.39	9.99	29.38	56.00	26.62	QP
6	1. 1220	11.08	9.99	21.07	46.00	24.93	AVG
7	3.6285	10.93	9.92	20.85	56.00	35. 15	QP
8	3.6285	-0.68	9.92	9.24	46.00	36.76	AVG
9	13.3935	12.94	9.82	22.76	60.00	37.24	QP
10	13.3935	1.69	9.82	11.51	50.00	38.49	AVG
11	28. 1985	11. 16	9.98	21. 14	60.00	38.86	QP
12	28. 1985	0.02	9.98	10.00	50.00	40.00	AVG



9. ANTENNA REQUIREMENT

9.1 STANDARD REQUIREMENT

For intentional device, according to FCC 47 CFR Section 15.203, 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. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

9.2 RESULT

The antennas used for this product are Internal antenna and other than that furnished by the responsible party shall be used with the device, the maximum peak gain of the transmit antenna is 1.50dBi.

******END OF THE REPORT*****