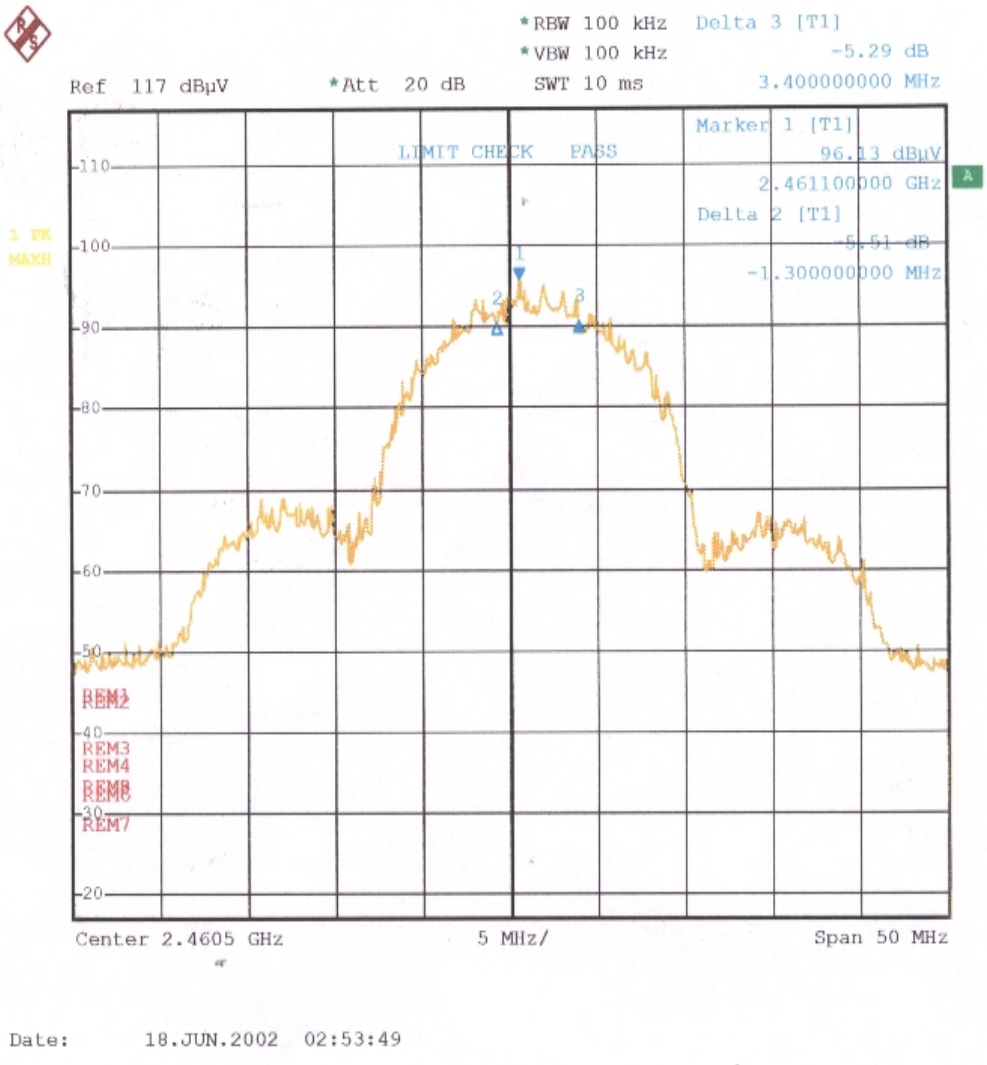
6dB Bandwidth Plot

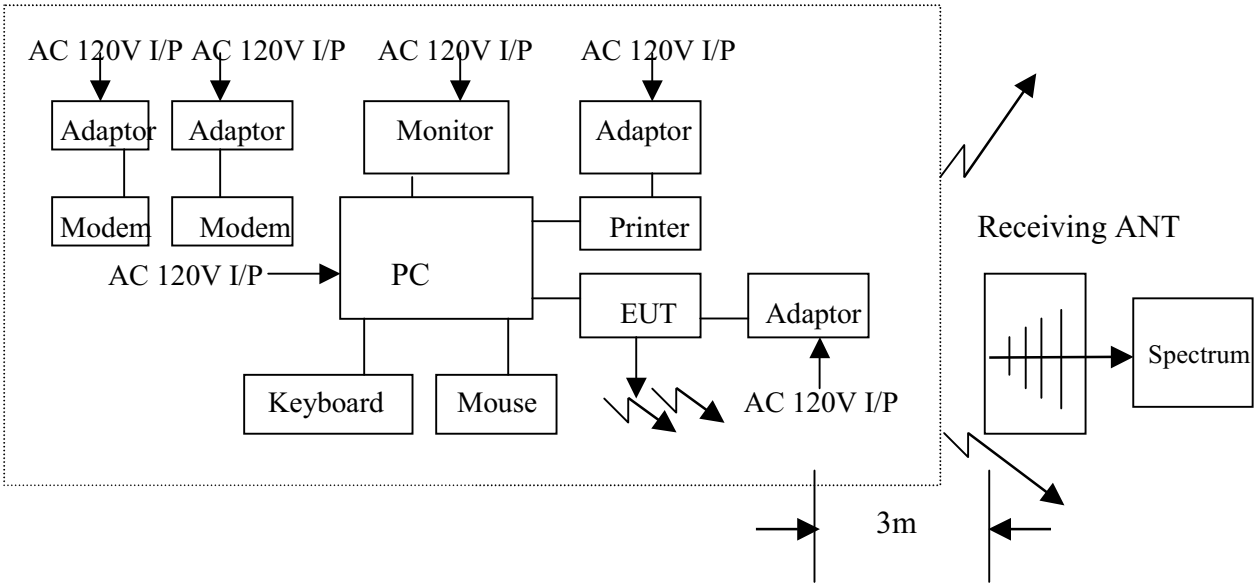


IV. §15.247(b) : The maximum peak output power (≦ 1watt)

4.1 Testing Description

FCC ID ： JVPAWL500

Charging Mode



Three channels were tested : CH01, CH06 AND CH11 Measurements were taken by using both horizontal and vertical antenna polarization, and the antenna was raised and lowered from one to four meters to find the worst emission levels.

4.2 Software Using

The driver of " RFTEST.exe" is used to select the support channel as mentioned on section 1.3 (b) listed above

4.3 Test Result of Fundamental Emissions

FCC ID : JVPAWL500

EUT Model No. AWL500

channel	Frequency (MHz)	A.P. (H/V)	S.P. Read (dBuV/m)	C.F. (dB)	Level (dBuV/m)	E.I.R.P. (W)
Top	2412.0	H	110.26	2.81	113.07	0.0608
		V	97.52	2.81	100.33	0.00323
Middle	2438.2	H	109.26	2.81	112.07	0.0483
		V	96.30	2.81	99.11	0.00244
Bottom	2463.4	H	109.21	2.80	109.21	0.04765
		V	95.34	2.80	98.14	0.00195

Note :

1. "A.P." means antenna polarity .
2. "S.P." Read means amplitude read by spectrum analyzer .
3. "C.F." means corrected factor = antenna factor + cable loss
   Preamplifier Gain .
4. Level means emission amplitude = S.P. + C.F. + duty cycle factor
5. Conducted output power : $P = (E\ d)^2 / 30G$
   where E (V) = Level (V)
   d (m) = measurement distance = 3m
   G = 1 (the gain of the transmitting antenna over isotropic antenna)
   P = E.I.R.P.
6. Example :
   If Level = 120 dBuV/m
   $10^{(120/20)} \times 10^{-6} = 1$ V
   E.I.R.P. = $(1 \times 3)^2 / 30 = 300$ mW

FCC ID : JVPAWL500

EUT Model No. : AWL500

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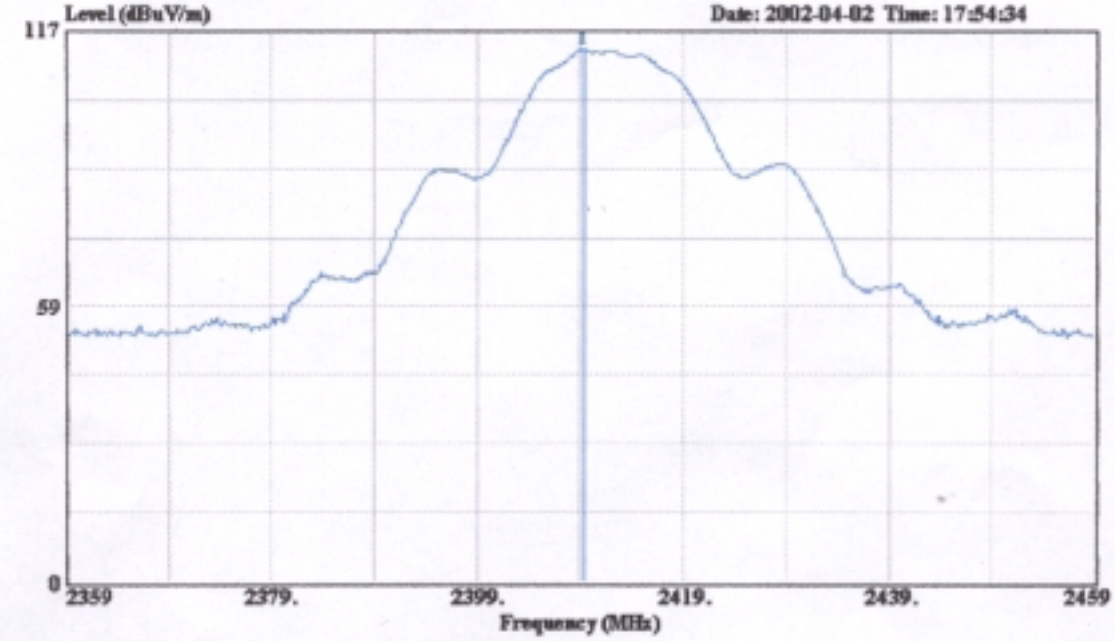
Data#: 174 File#: C:\e3\300 328 R&TTE\明基.emi



Site : site
Condition : 3m HORN ANTENNA H.3 HORIZONTAL
EUT : AWL500
Power : AC 120V/60Hz (FCC)
Memo : CHANNEL 1
: TX ON
: 11M bps
: The Maximum Peak Power
: RBW:3MHz ; VBW:3MHz

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB
1	2409.400	113.07	------	------	110.26	27.98	3.83	29.00

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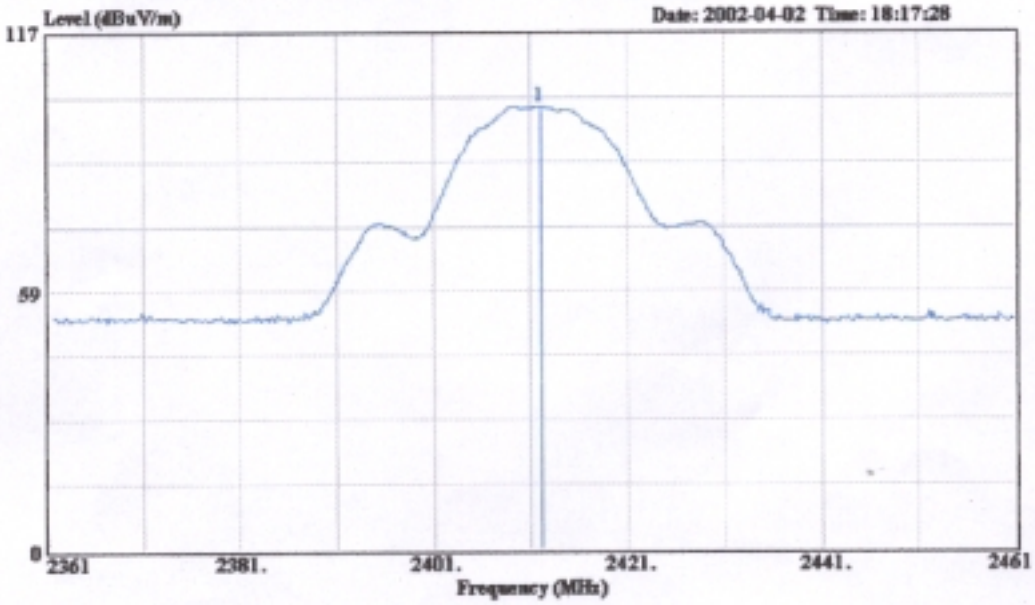
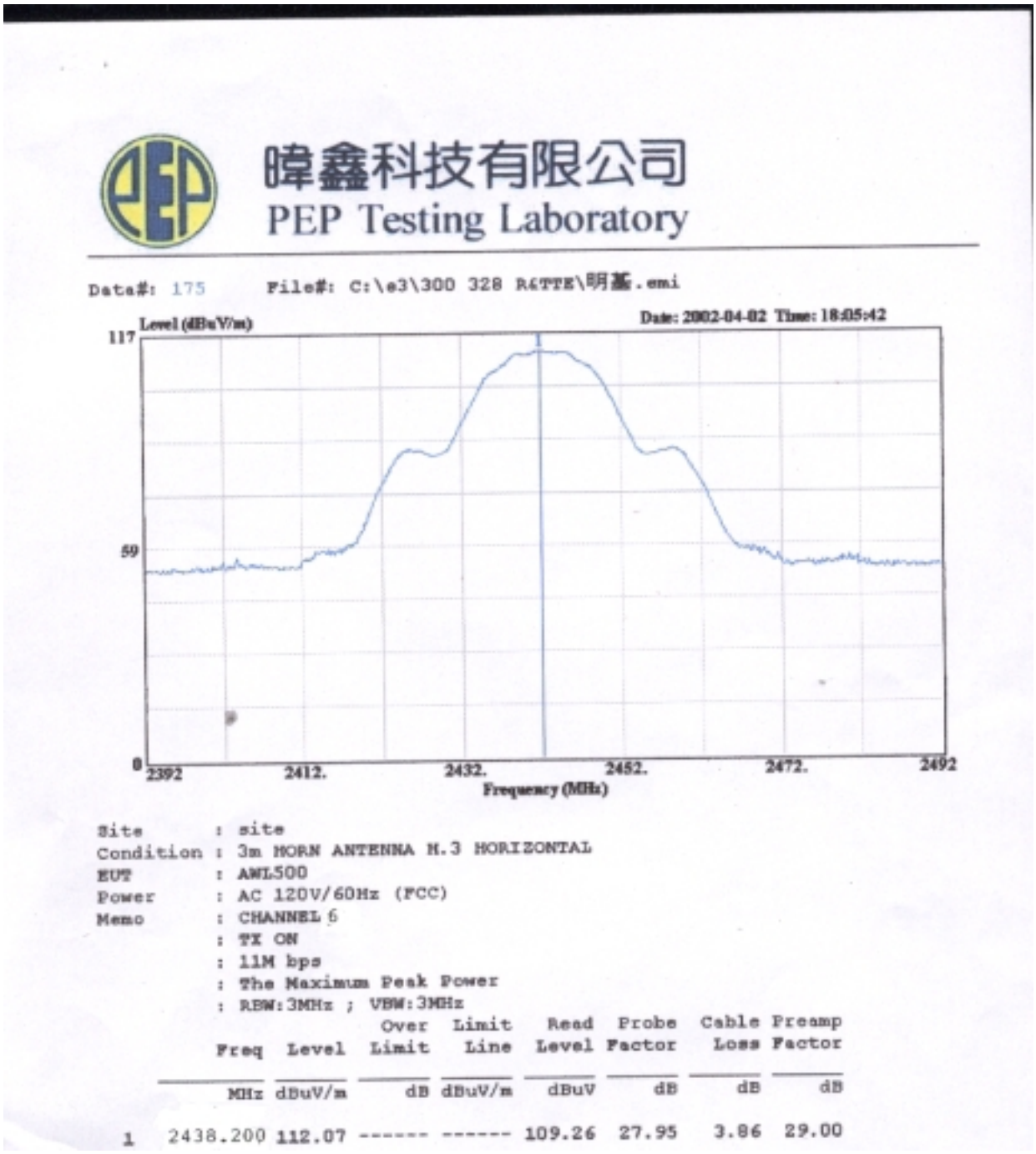
Data#: 179 File#: C:\e3\300 328 R&TTE\明基.emi



Site : site
Condition : 3m HORN ANTENNA V.3 VERTICAL
EUT : AWL500
Power : AC 120V/60Hz (FCC)
Memo : CHANNEL 1
: TX ON
: 11M bps
: The Maximum Peak Power
: RBW:3MHz ; VBW:3MHz

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB
1	2412.000	100.33	------	------	97.52	27.98	3.83	29.00



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PEP Testing Laboratory

Data#: 175 File#: C:\e3\300 328 R&TTE\明基.emi

Site : site
Condition : 3m HORN ANTENNA H.3 HORIZONTAL
EUT : AWL500
Power : AC 120V/60Hz (FCC)
Memo : CHANNEL 6
: TX ON
: 11M bps
: The Maximum Peak Power
: RBW:3MHz ; VBW:3MHz

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB
1	2438.200	112.07	------	------	109.26	27.95	3.86	29.00

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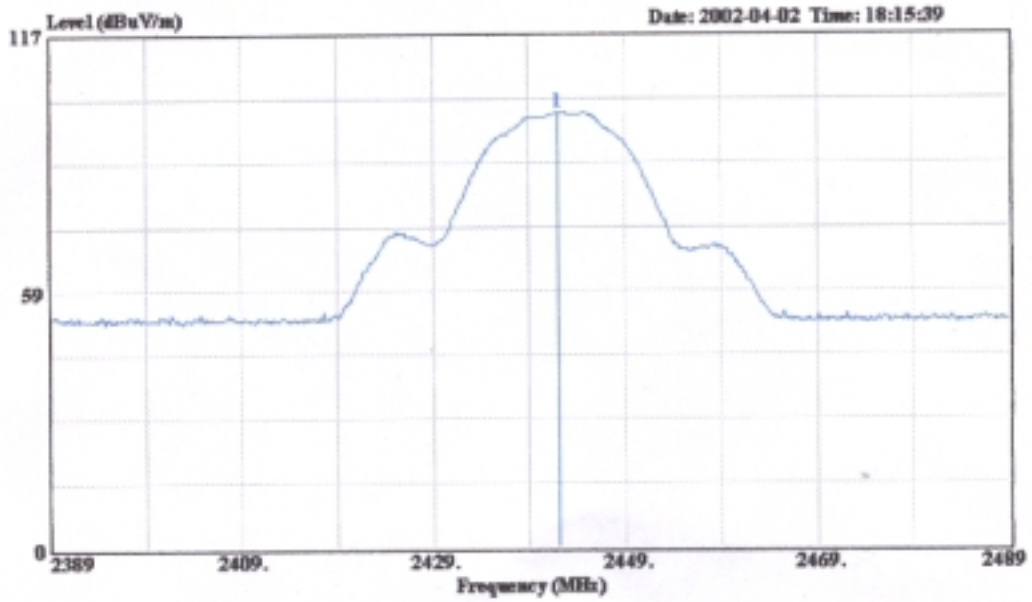
Data#: 178 File#: C:\e3\300 328 R6TTE\明基.emi



Site : site
Condition : 3m HORN ANTENNA V.3 VERTICAL
EUT : AWL500
Power : AC 120V/60Hz (FCC)
Memo : CHANNEL 6
: TX ON
: 11M bps
: The Maximum Peak Power
: RBW:3MHz ; VBW:3MHz

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB
1	2438.200	99.11	------	------	96.30	27.95	3.86	29.00

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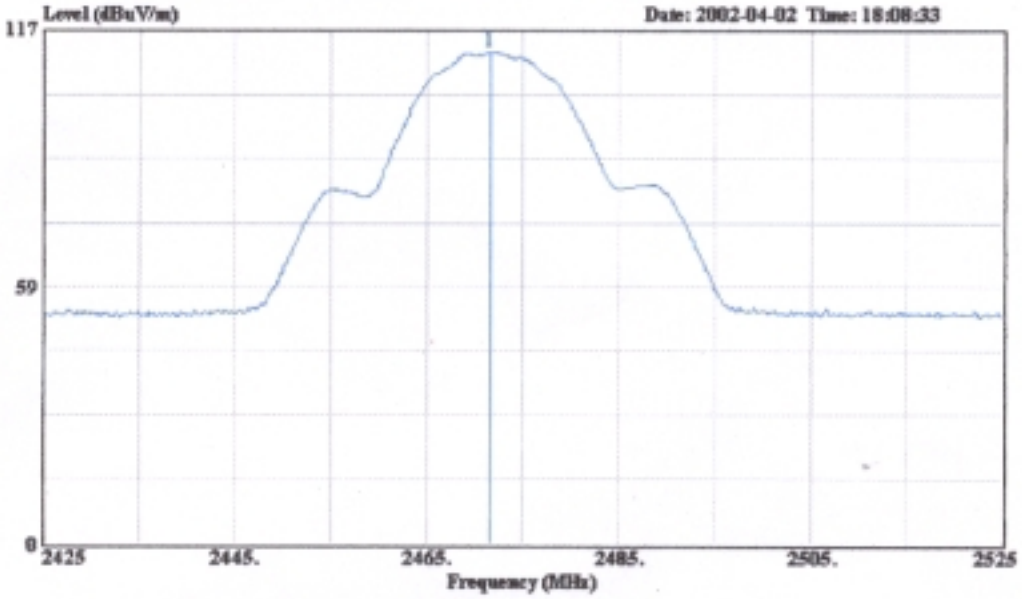
PEP Testing Laboratory

Data#: 176 File#: C:\e3\300 328 R&TTE\明基.emi



Site : site
Condition : 3m HORN ANTENNA H.3 HORIZONTAL
EUT : AWL500
Power : AC 120V/60Hz (FCC)
Memo : CHANNEL 11
: TX ON
: 11M bps
: The Maximum Peak Power
: RBW:3MHz ; VBW:3MHz

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB
1	2463.400	112.01	------	------	109.21	27.92	3.88	29.00

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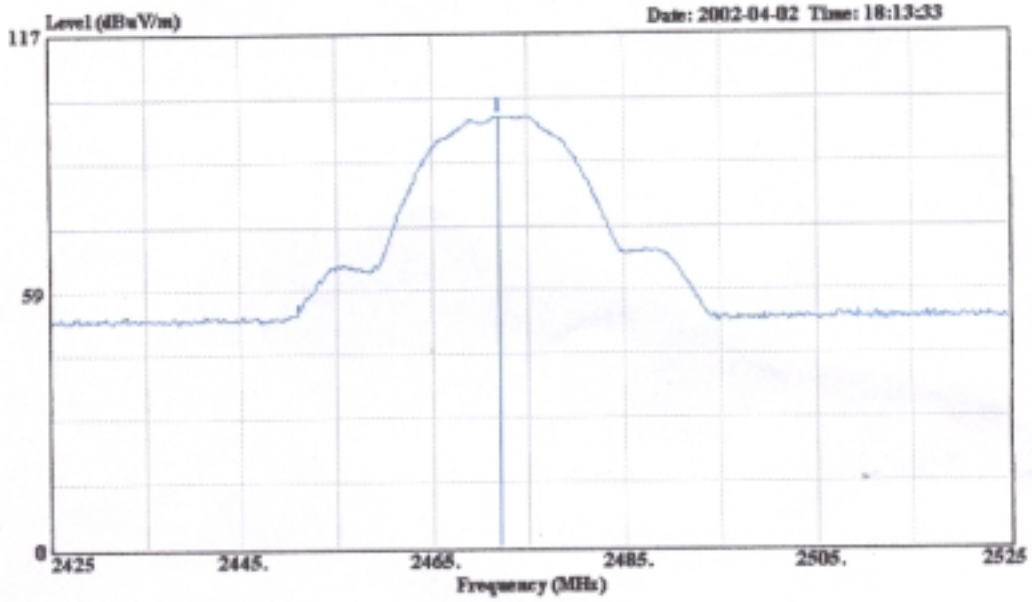
PEP Testing Laboratory

Data#: 177 File#: C:\e3\300 328 R&TTE\明基.emi



Site : site
Condition : 3m HORN ANTENNA V.3 VERTICAL
EUT : AWL500
Power : AC 120V/60Hz (FCC)
Memo : CHANNEL 11
: TX ON
: 11M bps
: The Maximum Peak Power
: RBW:3MHz ; VBW:3MHz

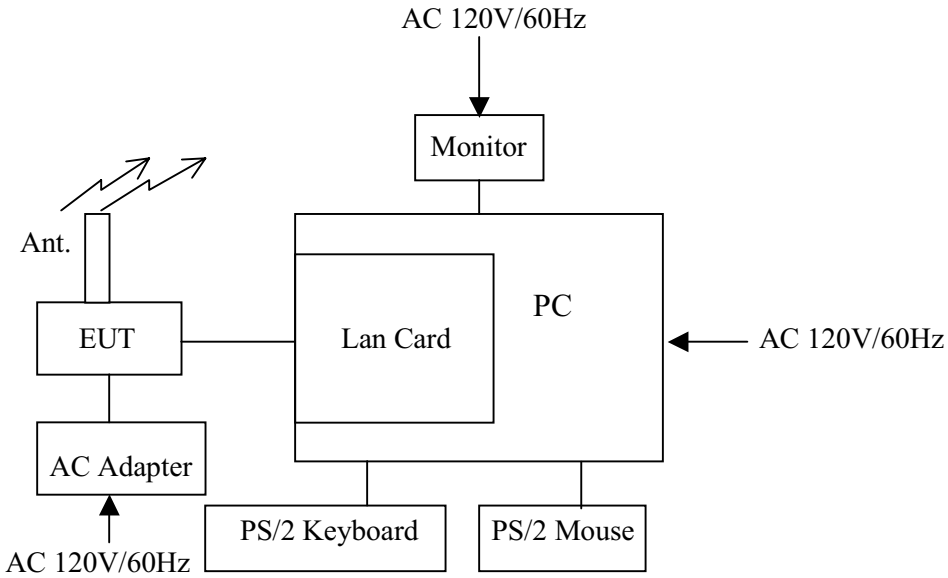
	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB
1	2463.400	98.14	------	------	95.34	27.92	3.88	29.00

Ⅴ. §15.247(b)(4) Maximum Permissible Exposure (MPE)

5.1 MPE distance calculation

$$d = \sqrt{\frac{30G\ EIRP}{E}}$$

5.2 Device operating configurations exposure conditions



5.3 Calculate the minimum separation distance : (20cm)

FCC ID : JVPAWL500

EUT Model No. AWL500

channel	Frequency (MHz)	A.P. (H/V)	S.P. Read (dBuV/m)	C.F. (dB)	Level (dBuV/m)	Power density at 20cm (m W / cm^2)
Top	2409.4	H	110.26	2.81	113.07	0.2703
		V	97.52	2.81	100.33	0.0144
Middle	2438.2	H	109.26	2.81	112.07	0.2147
		V	96.30	2.81	99.11	0.0109
Bottom	2463.4	H	109.21	2.80	109.21	0.1111
		V	95.34	2.80	98.14	0.0087

Note :

7. "A.P." means antenna polarity .
8. "S.P." Read means amplitude read by spectrum analyzer .
9. "C.F." means corrected factor = antenna factor + cable loss
   Preamplifier Gain .
10. Level means emission amplitude = S.P. + C.F. + duty cycle factor
11. Conducted output power : $P = (E\ d)^2 / 30G$
    where E (V) = Level (V)
    d (m) = distance = 20 cm
    G = 1 (the gain of the transmitting antenna over isotropic antenna)
    P = E.I.R.P.
12. Example :
    If Level = 120 dBuV/m
    $10^{(120/20)} \times 10^{-6} = 1$ V
    E.I.R.P. $= (1 \times 3)^2 / 30 = 300$ mW

Ⅵ §15.247(c) : Out side band below 1GHz

Test result of spurious radiated emissions

FCC ID : JVPAWL500

RADIATED EMISSIONS TEST DATA

Antenna polarization : HORIZONTAL ; Test distance : 3 m ;

Freq. (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Probe Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)
125.000	29.68	-13.82	43.50	36.45	11.53	1.30	19.60
150.000	35.32	- 8.18	43.50	43.92	9.70	1.60	19.90
225.000	31.22	-14.78	46.00	39.42	9.20	2.30	19.70
250.000	40.60	- 5.40	46.00	44.60	12.70	2.90	19.60
400.000	38.83	- 7.17	46.00	38.83	16.10	3.80	19.90
600.000	40.68	- 5.32	46.00	37.03	18.10	5.63	20.08
650.001	39.17	- 6.83	46.00	33.46	19.20	6.61	20.10
800.001	40.64	- 5.36	46.00	33.78	20.30	6.35	19.79

Note :

1. Level = Read Level + Probe Factor + Cable Loss – Preamp Factor
2. Over Limit = Level – Limit Line
3. All the other frequencies are under the limits more than 20dB

RADIATED EMISSIONS TEST DATA

Antenna polarization : VERTICAL ; Test distance : 3 m ;

Freq. (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Probe Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)
71.669	35.97	- 4.03	40.00	49.83	5.44	0.83	20.13
125.000	38.16	- 5.34	43.50	44.93	11.53	1.30	19.60
200.000	36.97	- 6.53	43.50	45.67	9.20	2.10	20.00
250.000	37.15	- 8.85	46.00	41.15	12.70	2.90	19.60
500.001	36.46	- 9.54	46.00	34.14	17.60	5.11	20.39
625.001	36.84	- 9.16	46.00	31.32	19.10	6.13	19.71
700.000	39.33	- 6.67	46.00	32.67	19.20	7.45	19.99
800.001	38.68	- 7.32	46.00	31.82	20.30	6.35	19.79

Note :

1. Level = Read Level + Probe Factor + Cable Loss – Preamp Factor
2. Over Limit = Level – Limit Line
3. All the other frequencies are under the limits more than 20dB

§ 15.247(c)

Channel 1 : 2412MHz

	Frequency (MHz)	PEAK LEVEL in 100KHz BW (dBuV/m)	Antenna Polarity (H / V)
	2412.0	108.26	H
		97.31	V
	2037.73	52.16	H
		53.24	V
*	4075.44	40.16	H
		45.33	V
*	4823.4	51.46	H
		52.33	V
	6113.19	35.22	H
		34.23	V
	7227.7	52.33	H
		50.17	V
*	8150.93	47.56	H
		46.98	V

* Use FCC Limit @ 15.209 for frequency in restricted bands.

Channel 6 : 2438.2MHz

	Frequency (MHz)	PEAK LEVEL in 100KHz BW (dBuV/m)	Antenna Polarity (H/V)
	2438.2	108.35	H
		97.63	V
	2062.73	51.33	H
		52.45	V
*	4149.54	37.55	H
		41.89	V
*	4876.4	51.58	H
		51.98	V
	6188.19	36.47	H
		35.77	V
*	7314.6	51.45	H
		50.33	V
*	8250.92	44.58	H
		45.87	V

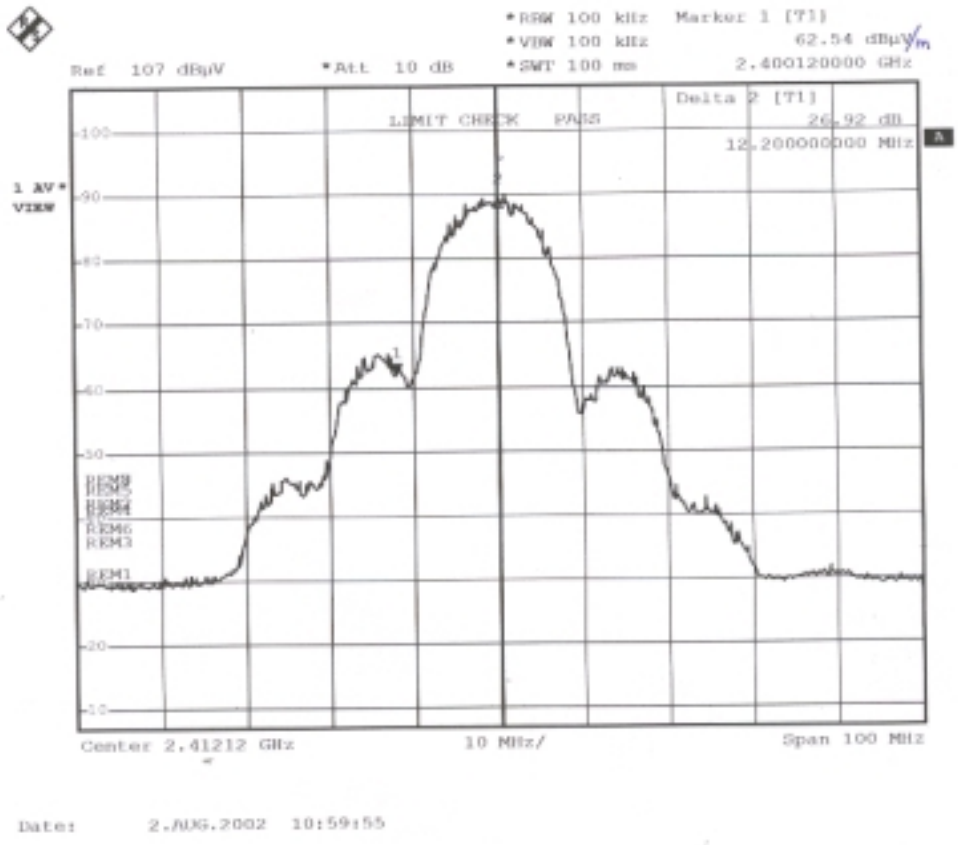
* Use FCC Limit @ 15.209 for frequency in restricted bands.

Channel 11 : 2463.4MHz

Frequency (MHz)		PEAK LEVEL in 100KHz BW (dBuV/m)	Antenna Polarity (H/V)
	2463.4	107.33	H
		95.16	V
	2087.73	52.11	H
		48.47	V
*	4175.46	36.55	H
		42.44	V
*	4926.8	51.36	H
		50.87	V
	6263.19	36.89	H
		38.51	V
*	7390.2	51.65	H
		48.97	V
*	8350.92	45.80	H
		44.21	V

* Use FCC Limit @ 15.209 for frequency in restricted bands.

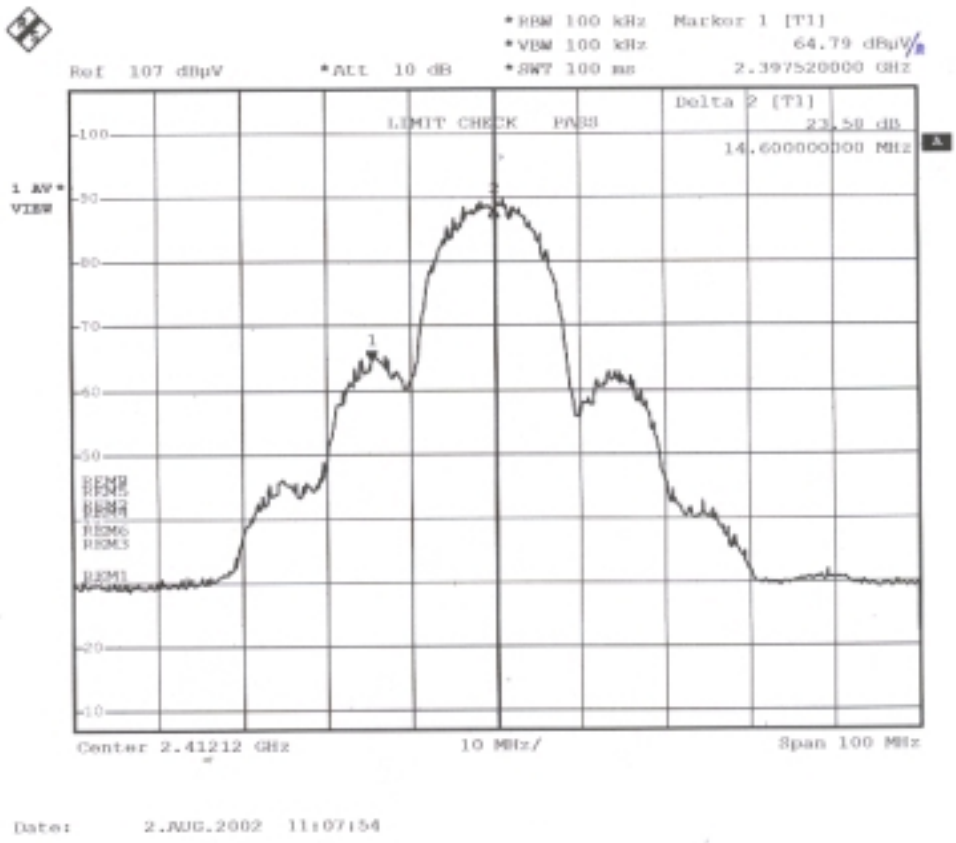
Ⅶ. §Band-edge compliance/Restricted band



ANT. Polarity : Horizontal

Marker	Freq. (GHz)	Read (dBuV/m)	Factor (dB)	Emission (dBuV/m)	Remark
1.	2.400	62.54	/	/	Band-edge.
2.	2.412	84.46	/	/	Channel 1

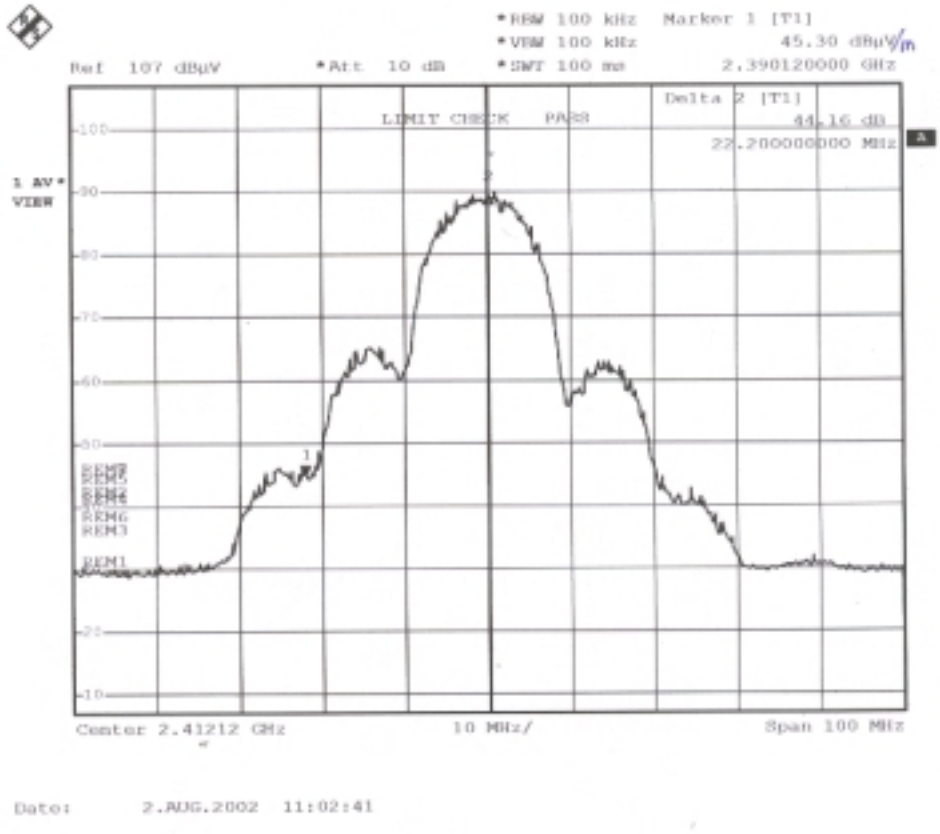
* Frequency 2.4GHz below channel 1 at least 20dB



ANT. Polarity : Horizontal

Marker	Freq. (GHz)	Read (dBuV/m)	Factor (dB)	Emission (dBuV/m)	Remark
1.	2.3975	64.79	/	/	Outside Band
2.	2.412	88.37	/	/	Channel 1

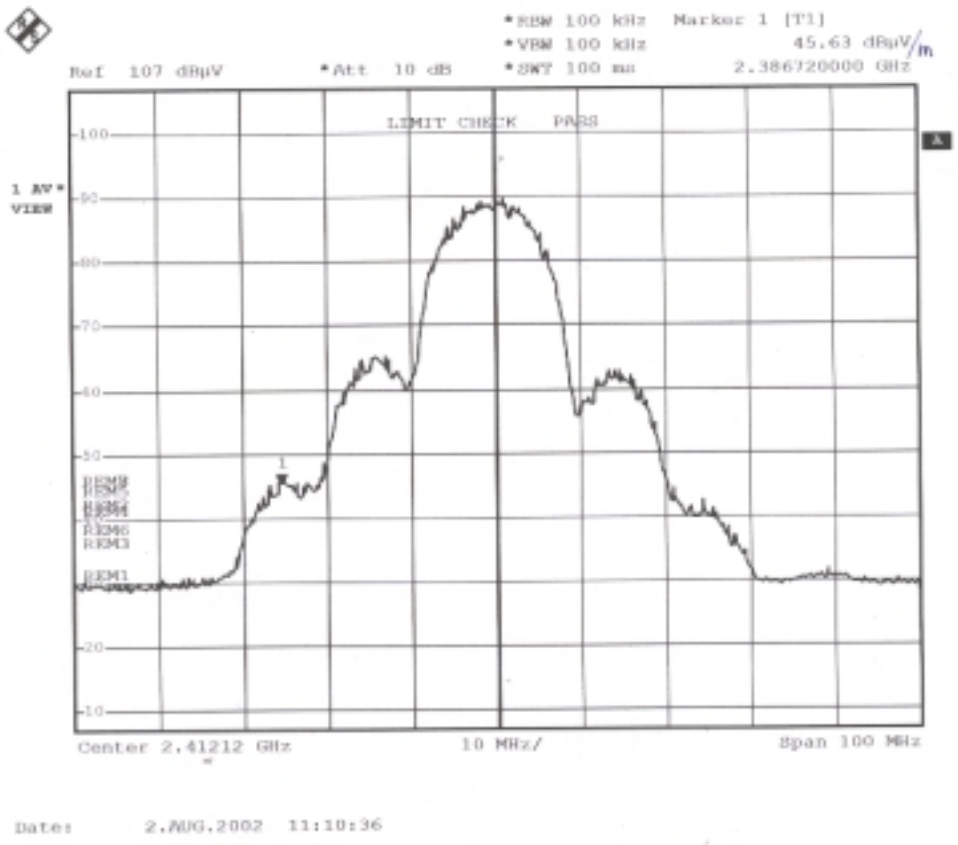
* Outside band frequency below channel 1 at least 20dB



ANT. Polarity : Horizontal

Marker	Freq. (GHz)	Read (dBuV/m)	Factor (dB)	Emission (dBuV/m)	Remark
1.	2.390	45.30	2.82	48.12	Restricted band
2.	2.412	89.46	/	/	Channel 1

* Frequency in restrict band should be under 54dBuV/m



ANT. Polarity : Horizontal

Marker	Freq. (GHz)	Read (dBuV/m)	Factor (dB)	Emission (dBuV/m)	Remark
1.	2.3867	45.63	2.81	48.44	Restricted band

* Frequency in restrict band should be under 54dBuV/m