Table 6.1-2 RFI Voltage Measurement Results (Q-Peak Measurement)

Operating mode: Analog mode
· Scroll All "H" Display
· Resolution 1280 × 1024
· Vertical frequency 75Hz

Test procedure: ANSI C63.4-1992

Date of measurement: February 28, 2001
Temperature: 10 degree C
Humidity: 47 %

Frequency (MHz)	Level (dBμV)	Total Factor(dB)	Result (dBμV)	Result (μV)	Limit (μV)	Margin (dB)
2.876	37.0	0.2	37.2	72.44	250	10.8
2.939	35.0	0.2	35.2	57.54	250	12.8
3.000	35.5	0.2	35.7	60.95	250	12.3
3.058	38.0	0.2	38.2	81.28	250	9.8
3.777	37.0	0.3	37.3	73.28	250	10.7
4.736	33.5	0.3	33.8	48.98	250	14.2
2.880	36.5	0.1	36.6	67.61	250	11.4
2.939	36.0	0.1	36.1	63.83	250	11.9
3.000	37.5	0.1	37.6	75.86	250	10.4
3.058	38.0	0.1	38.1	80.35	250	9.9
3.777	37.0	0.3	37.3	73.28	250	10.7
4.736	36.0	0.3	36.3	65.31	250	11.7

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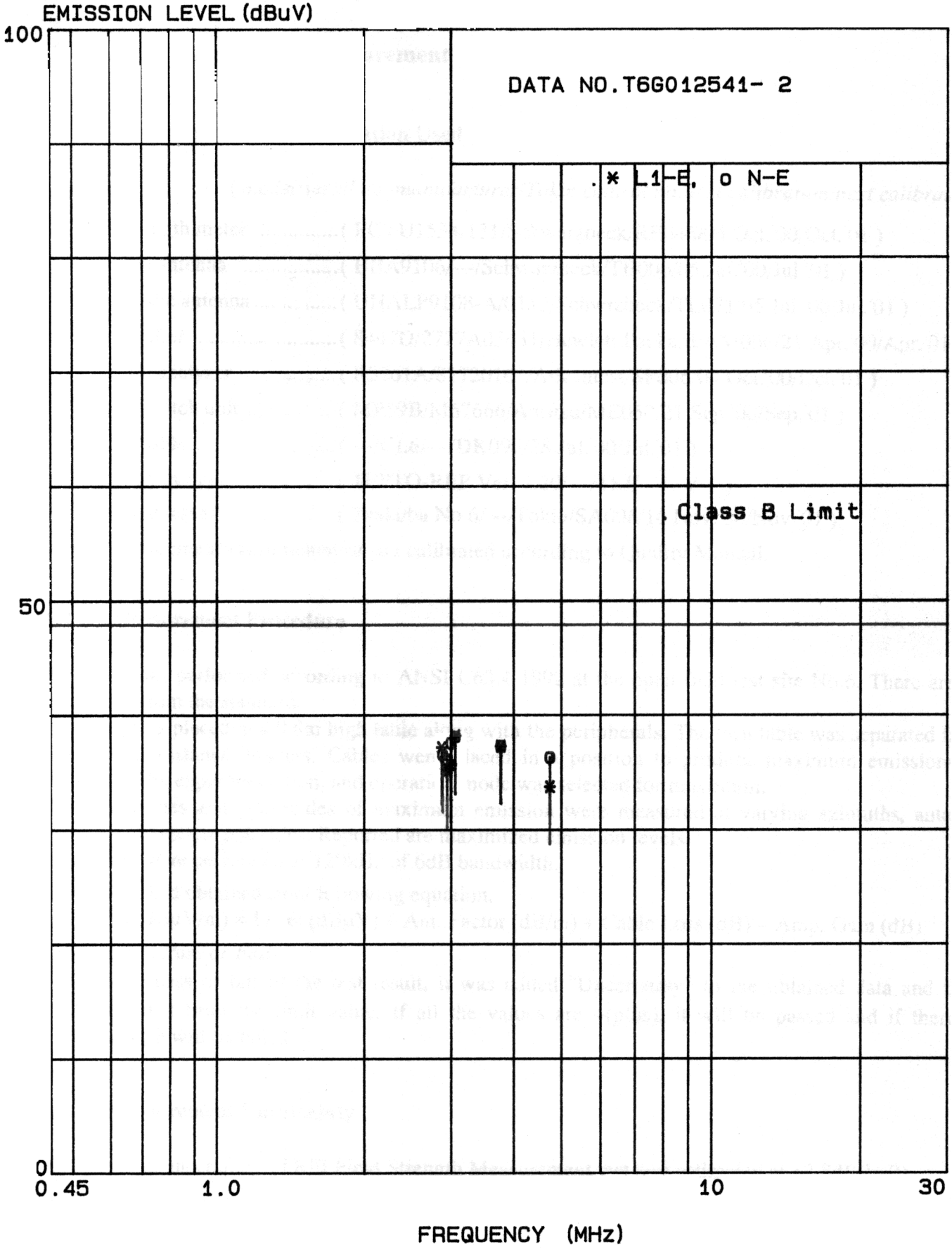

Figure 6.1-2 RFI Voltage Measurement Results

6.2 RFI Field Strength Measurement

6.2.1 Measurement Instrumentation Used

(*model/serial no./manufacturer/Tokin control no./last calibration/next calibration*)

Field strength meter .....(FCVU1534/131/Schwarzbeck/RE046/04 Oct.'00/Oct.'01)
Biconical antenna .....(BBA9106/---/Schwarzbeck/TB006/05 Jul.'00/Jul.'01)
Logperiodic antenna .....(UHALP9108-A/0115/Schwrzbeck/TL021/05 Jul.'00/Jul.'01)
Pre-amplifier .....(8447D/2727A05431/Hewlett Packard/AM006/21 Apr.'00/Apr.'01)
Spectrum analyzer .....(R3261A/81720103/Advantest/SP006/04 Oct.'00/Oct.'01)
Coaxial switch unit.....(MP59B/M67666/Anritsu/ME050/21 Sep.'00/Sep.'01)
Coaxial cable .....(---/CL6/---/DK090/28 Jul.'00/Jul.'01)
Data entry system .....(TEPTO-REP Ver. 2.20/---/TSJ/---/---/---)
Open field test site .....(Tsukuba No.6/---/Tokin/SA006/16 Nov.'00/Nov.'01)

These measurement instrumentation are calibrated according to Quality Manual.

Measurement Procedure

inal test was performed according to ANSI C63.4-1992 at the open field test site No.6. There are no deviations from the standard.
The EUT was placed in a 0.8m high table along with the peripherals. The turn table was separated from the antenna distance 3meters. Cables were placed in a position to produce maximum emissions as determined by experimentation, and operation mode was selected for maximum.
The frequencies and amplitudes of maximum emission were measured at varying azimuths, antenna heights and antenna polarities. Reported are maximized emission levels.
These tests were performed at 120kHz of 6dB bandwidth.

Test results had obtained from following equation.

Result (dBμV/m) = Level (dBμV) + Ant. Factor (dB/m) + Cable Loss (dB) – Amp. Gain (dB)

<Decision to Pass or Fail>

To judge pass or fail of the test result, it was added "Uncertainty" to the obtained data and then subtracted it from the limit value. If all the values are +(plus), it will be passed and if there is –(minus), it will be failed.

Measurement Uncertainty

Measurement uncertainty of RFI Field Strength Measurement test was estimated at ±2.8dB(k=2).

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6.2.4 Test Data

Table 6.2-1 RFI Field Strength Measurement Results (Q-Peak Measurement)

Operating mode: Digital mode
· Scroll All "H" Display
· Resolution 1280 × 1024
· Vertical frequency 60Hz

Test procedure: ANSI C63.4-1992

Date of measurement: February 28, 2001
Temperature: 10 degree C
Humidity: 48 %

Frequency	Level		Ant.	Cable	Amp.	Result		Result		3 Meter	Margin	
	Ver.	Hor.	Factor	Loss	Gain	Ver.	Hor.	Ver.	Hor.	Limit	Ver.	Hor.
(MHz)	(dBμV)		(dB/m)	(dB)	(dB)	(dBμV/m)		(μV/m)		(μV/m)	(dB)	
63.03	-	43.0	5.9	1.8	27.5	-	23.2	-	14.45	100	-	16.8
126.08	40.0	40.0	12.3	2.8	27.3	27.8	27.8	24.55	24.55	150	15.7	15.7
147.09	-	36.0	14.2	3.0	27.3	-	25.9	-	19.72	150	-	17.6
168.10	37.5	38.0	15.6	3.2	27.3	29.0	29.5	28.18	29.85	150	14.5	14.0
180.72	33.0	-	16.1	3.3	27.0	25.4	-	18.62	-	150	18.1	-
189.12	36.0	33.0	16.3	3.5	27.2	28.6	25.6	26.92	19.05	150	14.9	17.9
210.13	33.0	-	16.6	3.7	26.9	26.4	-	20.89	-	150	17.1	-
328.48	35.0	40.0	16.6	4.6	26.6	29.6	34.6	30.20	53.70	200	16.4	11.4
420.14	32.0	-	17.4	5.3	27.4	27.3	-	23.17	-	200	18.7	-
540.76	41.0	43.5	18.4	6.3	28.3	37.4	39.9	74.13	98.86	200	8.6	6.1
575.95	41.0	35.0	18.8	6.5	28.5	37.8	31.8	77.62	38.90	200	8.2	14.2
588.79	40.0	33.5	19.0	6.7	28.3	37.4	30.9	74.13	35.08	200	8.6	15.1
600.82	40.0	-	19.1	6.8	28.3	37.6	-	75.86	-	200	8.4	-
648.89	-	38.5	19.8	7.0	28.5	-	36.8	-	69.18	200	-	9.2
719.94	42.0	41.5	20.9	7.2	28.3	41.8	41.3	123.03	116.14	200	4.2	4.7
746.36	36.5	-	21.2	7.5	28.2	37.0	-	70.79	-	200	9.0	-
847.94	-	29.0	22.5	8.3	27.9	-	31.9	-	39.36	200	-	14.1
985.47	28.5	-	23.3	8.8	27.6	33.0	-	44.67	-	500	21.0	-

Class B limit

Radiated Emission – 3 meter distance

Frequency (MHz)	μV/m

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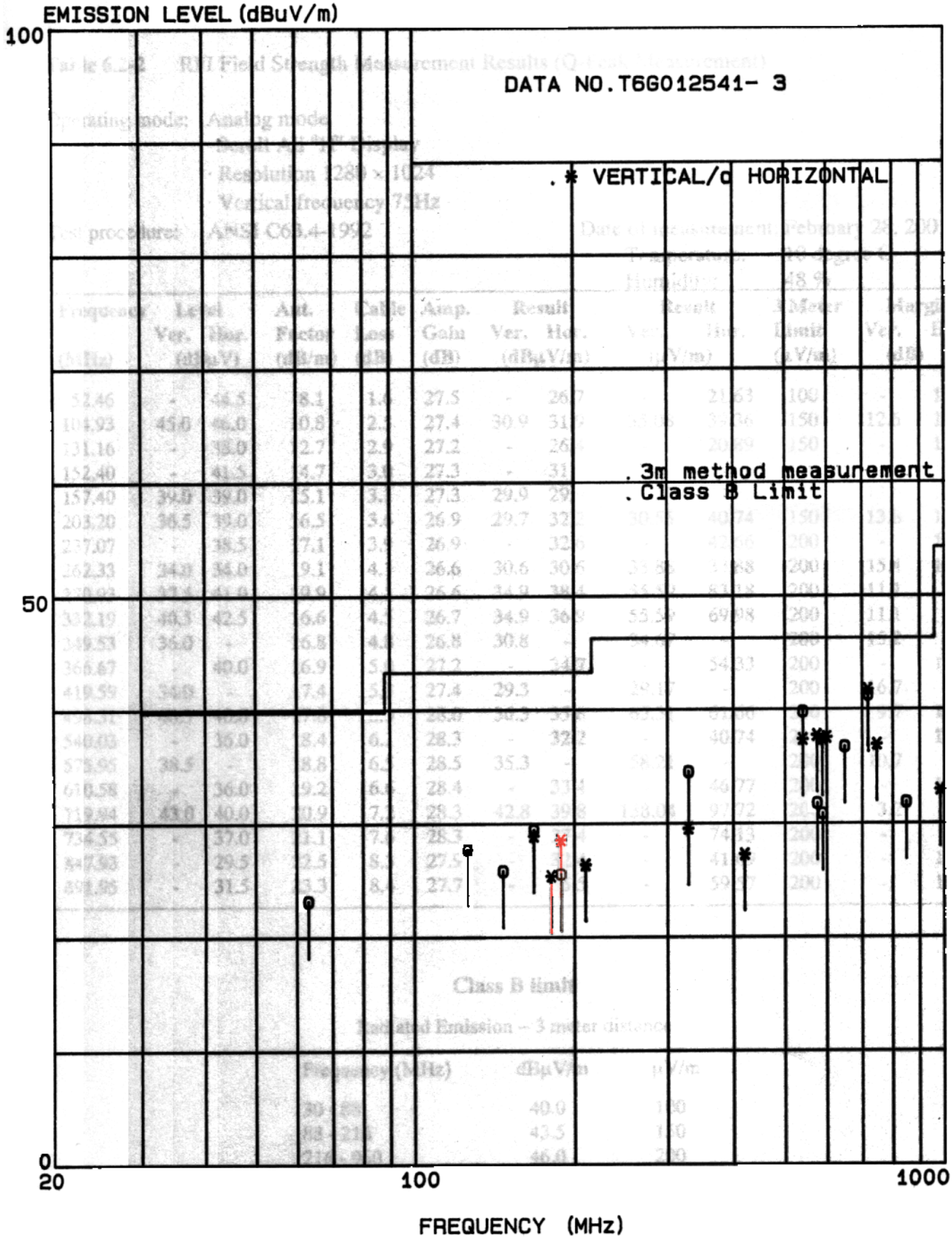

Figure 6.2-1 RFI Field Strength Measurement Results

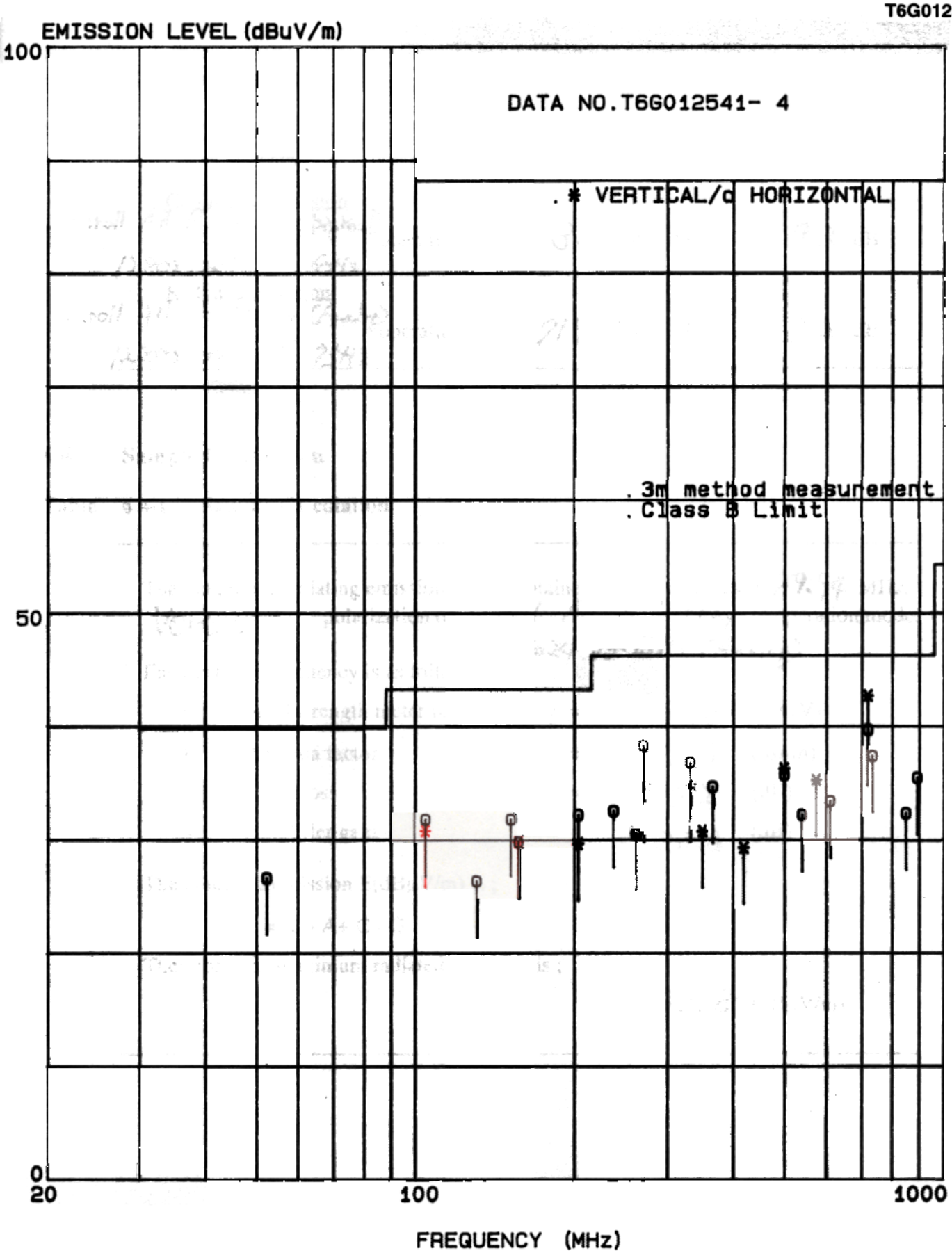

Figure 6.2-2 RFI Field Strength Measurement Results

Table 6.2-2 RFI Field Strength Measurement Results (Q-Peak Measurement)

Operating mode: Analog mode
· Scroll All "H" Display
· Resolution 1280 x 1024
· Vertical frequency 75Hz

Test procedure: ANSI C63.4-1992

Date of measurement: February 28, 2001
Temperature: 10 degree C
Humidity: 48 %

Frequency	Level		Ant.	Cable	Amp.	Result		Result		3 Meter	Margin	
	Ver.	Hor.	Factor	Loss	Gain	Ver.	Hor.	Ver.	Hor.	Limit	Ver.	Hor.
(MHz)	(dBμV)		(dB/m)	(dB)	(dB)	(dBμV/m)		(μV/m)		(μV/m)	(dB)	
52.46	-	44.5	8.1	1.6	27.5	-	26.7	-	21.63	100	-	13.3
104.93	45.0	46.0	10.8	2.5	27.4	30.9	31.9	35.08	39.36	150	12.6	11.6
131.16	-	38.0	12.7	2.9	27.2	-	26.4	-	20.89	150	-	17.1
152.40	-	41.5	14.7	3.0	27.3	-	31.9	-	39.36	150	-	11.6
157.40	39.0	39.0	15.1	3.1	27.3	29.9	29.9	31.26	31.26	150	13.6	13.6
203.20	36.5	39.0	16.5	3.6	26.9	29.7	32.2	30.55	40.74	150	13.8	11.3
237.07	-	38.5	17.1	3.9	26.9	-	32.6	-	42.66	200	-	13.4
262.33	34.0	34.0	19.1	4.1	26.6	30.6	30.6	33.88	33.88	200	15.4	15.4
270.93	37.5	41.0	19.9	4.1	26.6	34.9	38.4	55.59	83.18	200	11.1	7.6
332.19	40.5	42.5	16.6	4.5	26.7	34.9	36.9	55.59	69.98	200	11.1	9.1
349.53	36.0	-	16.8	4.8	26.8	30.8	-	34.67	-	200	15.2	-
366.67	-	40.0	16.9	5.0	27.2	-	34.7	-	54.33	200	-	11.3
419.59	34.0	-	17.4	5.3	27.4	29.3	-	29.17	-	200	16.7	-
498.31	40.5	40.0	17.8	6.0	28.0	36.3	35.8	65.31	61.66	200	9.7	10.2
540.03	-	36.0	18.4	6.1	28.3	-	32.2	-	40.74	200	-	13.8
575.95	38.5	-	18.8	6.5	28.5	35.3	-	58.21	-	200	10.7	-
610.58	-	36.0	19.2	6.6	28.4	-	33.4	-	46.77	200	-	12.6
719.94	43.0	40.0	20.9	7.2	28.3	42.8	39.8	138.04	97.72	200	3.2	6.2
734.55	-	37.0	21.1	7.6	28.3	-	37.4	-	74.13	200	-	8.6
847.93	-	29.5	22.5	8.3	27.9	-	32.4	-	41.69	200	-	13.6
891.95	-	31.5	23.3	8.4	27.7	-	35.5	-	59.57	200	-	10.5

Class B limit

Radiated Emission – 3 meter distance

Frequency (MHz)	dBμV/m	μV/m
30 - 88	40.0	100
88 - 216	43.5	150
216 - 960	46.0	200
> 960	54.0	500

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6.3 Minimum Margin

6.3-1 Minimum Margin

Conducted emission
Scroll All H Display (Digital) operation mode 3.070 MHz, 9.3 dB
1280x1024 Vf 60Hz

Radiated emission
Scroll All H Display (Analog) operation mode 719.94 MHz, 3.2 dB
1280x1024 Vf 75Hz

Sample Calculation

Table 6.4-1 Sample Calculation

The maximum radiating emission can be obtained at the frequency of 719.94 MHz, Vertical polarization on Scroll All H Display 1280x1024 Vf 75Hz (Analog) operation mode.

Each value at frequency is as follows;

R :	Field strength meter reading	=	43.0	(dBμV)
A :	Antenna factor	=	20.9	(dB/m)
C :	Cable loss	=	7.2	(dB)
G :	Amplifier gain	=	28.3	(dB)

Then radiated emission E(dBμV/m) is ;

$$E = R + A + C - G$$

Therefore, the maximum radiated emission is ;

42.8 (dBμV/m)

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