

Mallow Antenna Data

1A Antenna Part Number	1B Manufacture	1C Antenna Type	1D Cable Assembly Part Number and Information	1E Peak Gain W/i Cable loss (dBi)	1F Peak Gain w/o Cable Loss (dBi)	1G VSWR	1H Cable Loss (dBi)
<p>(P/N:YCE-5008)</p> <p>Main antenna</p> <p>Left</p>	<p>Yokowo Co.Ltd</p>	<p>Monopole</p>	<p>(P/N: U.FL-2LP-5016-A-615) 50 ohm Coaxial. length: 62cm diameter: 1.1mm Connector: U.FL</p>	2400-2500MHz 0.35 dBi (peak)	2400-2500MHz 1.45 dBi (peak)	2400-2500MHz 1.45 max	2400-2500MHz 1.10 dBi (peak)
				5150-5350MHz -3.55 dBi (peak)	5150-5350MHz -1.95 dBi (peak)	5150-5350MHz 2.45 max	5150-5350MHz 1.60 dBi (peak)
				5470-5725MHz -1.56 dBi (peak)	5470-5725MHz 0.04 dBi (peak)	5470-5725MHz 2.40 max	5470-5725MHz 1.60 dBi (peak)
				5725-5850MHz 0.20 dBi (peak)	5725-5850MHz 1.80 dBi (peak)	5725-5850MHz 2.50 max	5725-5850MHz 1.60 dBi (peak)
<p>(P/N:YCE-5008)</p> <p>Auxiliary antenna</p> <p>Right</p>	<p>Yokowo Co.Ltd</p>	<p>Monopole</p>	<p>Example: (P/N: U.FL-2LP-5016-A-600) 50 ohm Coaxial. length: 60cm diameter: 1.1mm Connector: U.FL</p>	2400-2500MHz 2.48 dBi (peak)	2400-2500MHz 3.58 dBi (peak)	2400-2500MHz 1.50 max	2400-2500MHz 1.10 dBi (peak)
				5150-5350MHz -1.68 dBi (peak)	5150-5350MHz -0.08 dBi (peak)	5150-5350MHz 2.80 max	5150-5350MHz 1.60 dBi (peak)
				5470-5725MHz -2.03 dBi (peak)	5470-5725MHz -0.43 dBi (peak)	5470-5725MHz 2.60 max	5470-5725MHz 1.60 dBi (peak)
				5725-5850MHz -0.46 dBi (peak)	5725-5850MHz 1.14 dBi (peak)	5725-5850MHz 2.60 max	5725-5850MHz 1.60 dBi (peak)

Ceramic Antenna Test Data



To : FUJITSU LIMITED

Application : For W-LAN (IEEE-802.11b,g)

Measurement Institution : Yokowo No.3 Radio Measuring Site

Antenna Model : YCE-5008 (008L00197)

Date : 2004/04/28

Measurement Condition : Mallow B1-unit Disp.-Left Side

Measured by : K.Okubo

Antenna Matching : Shunt L (2.2nH)

Correction of Cable Loss : Non (include Loss 1.1dB)

f=2400MHz

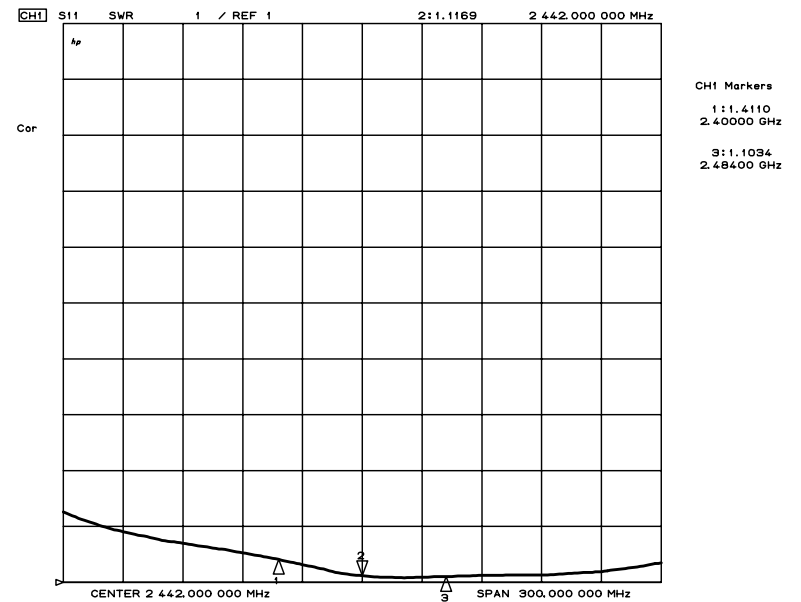
Plane	Tx	Peak. Gain [dBi]	Avg. Gain [dBi]	Tx H & V Avg. [dBi]	Each Freq. Avg. [dBi]
X-Y	Horizontal	-0.70	-7.10	-7.4	-7.2
	Vertical	-3.24	-7.74		
Y-Z	Horizontal	-0.03	-4.44	-6.7	
	Vertical	-6.41	-11.75		
Z-X	Horizontal	-2.32	-8.52	-7.4	
	Vertical	-3.36	-6.59		

X-Y Plane All Avg. (All Freq.)	-7.3 dBi
Y-Z Plane All Avg. (All Freq.)	-6.6 dBi
Z-X Plane All Avg. (All Freq.)	-7.2 dBi
All Plane & All Freq. Avg.	-7.0 dBi

f=2442MHz

Plane	Tx	Peak. Gain [dBi]	Avg. Gain [dBi]	Tx H & V Avg. [dBi]	Each Freq. Avg. [dBi]
X-Y	Horizontal	-1.24	-7.40	-7.3	-7.0
	Vertical	-2.59	-7.24		
Y-Z	Horizontal	0.35	-4.35	-6.6	
	Vertical	-5.53	-11.48		
Z-X	Horizontal	-1.69	-7.85	-7.2	
	Vertical	-3.04	-6.68		

VSWR



f=2484MHz

Plane	Tx	Peak. Gain [dBi]	Avg. Gain [dBi]	Tx H & V Avg. [dBi]	Each Freq. Avg. [dBi]
X-Y	Horizontal	-1.96	-7.60	-7.2	-6.9
	Vertical	-2.79	-6.80		
Y-Z	Horizontal	0.35	-4.34	-6.5	
	Vertical	-5.85	-11.24		
Z-X	Horizontal	-2.06	-8.00	-7.1	
	Vertical	-2.68	-6.30		

Ceramic antenna test data



Application : For W-LAN (IEEE-802.11b,g)
Antenna Model : YCE-5008 (008L00197)
Measurement Condition : Mallow B1-unit Disp.-Left Side
Antenna Matching : Shunt L (2.2nH)
Correction of Cable Loss : Non (include Loss 1.6dB)

Measurement Institution : Yokowo No.3 Radio Measuring Site
 Date : 2004/04/28
 Measured by : K.Okubo

f=4900MHz

Plane	Tx	Peak. Gain [dBi]	Avg. Gain [dBi]	Tx H & V Avg. [dBi]	Each Freq. Avg. [dBi]
X-Y	Horizontal	-8.21	-14.46	-10.5	-10.7
	Vertical	-3.55	-8.41		
Y-Z	Horizontal	-3.94	-9.93	-11.5	
	Vertical	-7.08	-14.00		
Z-X	Horizontal	-4.16	-10.03	-10.3	
	Vertical	-4.18	-10.63		

-3.55

X-Y Plane All Avg. (All Freq.)	-9.3 dBi
Y-Z Plane All Avg. (All Freq.)	-9.0 dBi
Z-X Plane All Avg. (All Freq.)	-8.3 dBi
All Plane & All Freq. Avg.	-8.8 dBi

f=5350MHz

Plane	Tx	Peak. Gain [dBi]	Avg. Gain [dBi]	Tx H & V Avg. [dBi]	Each Freq. Avg. [dBi]
X-Y	Horizontal	-9.70	-14.95	-9.9	-9.5
	Vertical	-2.64	-7.60		
Y-Z	Horizontal	-2.28	-7.84	-9.6	
	Vertical	-7.65	-12.68		
Z-X	Horizontal	-2.62	-8.45	-9.0	
	Vertical	-1.56	-9.60		

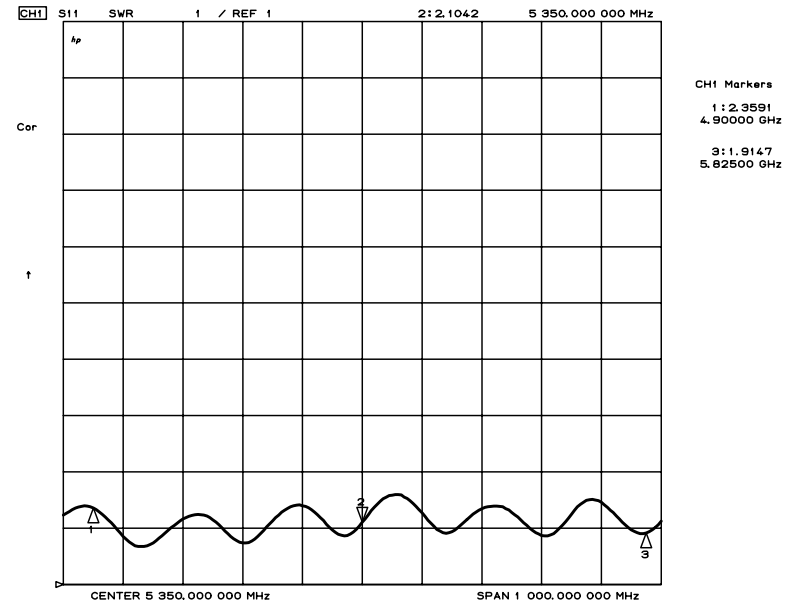
-1.56

f=5825MHz

Plane	Tx	Peak. Gain [dBi]	Avg. Gain [dBi]	Tx H & V Avg. [dBi]	Each Freq. Avg. [dBi]
X-Y	Horizontal	-6.13	-11.91	-7.9	-7.1
	Vertical	-0.53	-5.81		
Y-Z	Horizontal	0.20	-5.35	-7.0	
	Vertical	-3.49	-9.63		
Z-X	Horizontal	-0.90	-6.08	-6.5	
	Vertical	-0.32	-7.07		

0.20

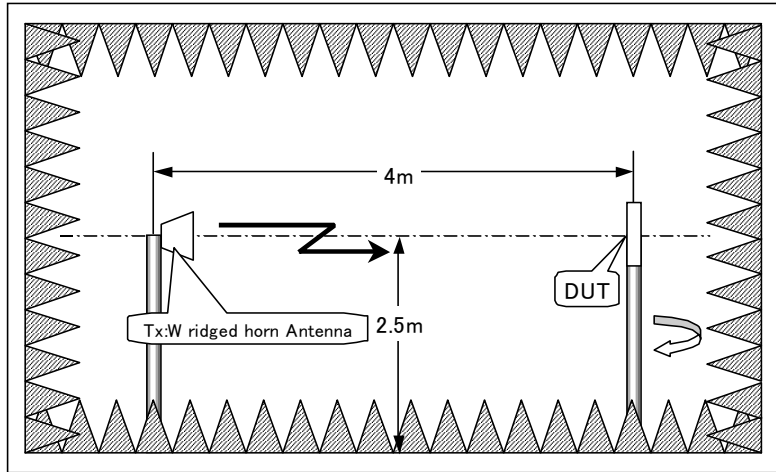
VSWR



Ceramic Antenna Test Data



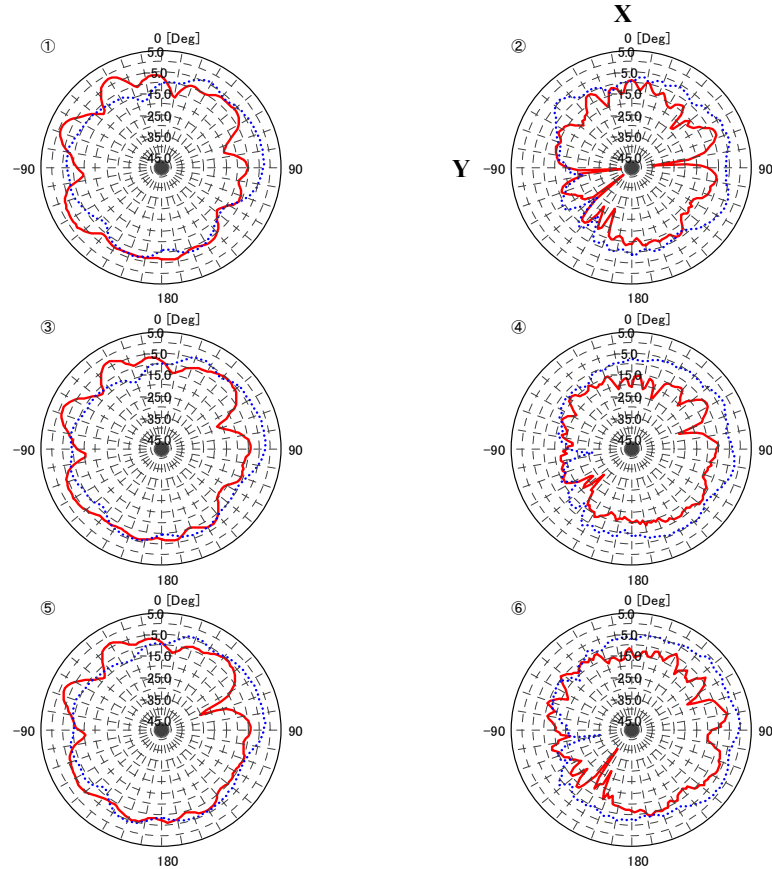
Measurement Condition



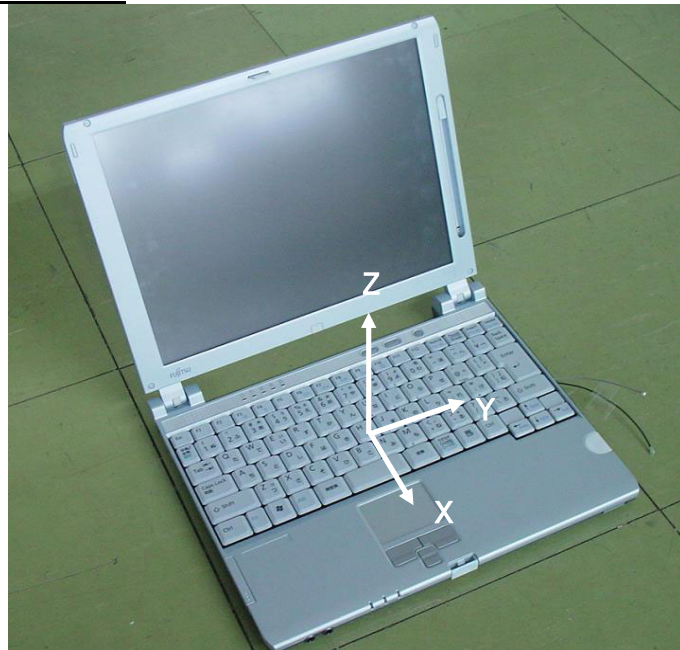
Field Pattern X-Y Plane

Fj_040428_008
 K.Okubo
 04年04月28日
 Mallow Left X-Y

All AVG. -8.17[dBi]
 All MAX. AVG. -2.89[dBi]



Antenna Coordinated



Line	No.	Frequency [MHz]	MEMO	MAX Gain [dBi]	AVG Gain [dBi]
1	①	2400.00	Tx-H	-0.70	-7.10
2	①	2400.00	Tx-V	-3.24	-7.74
3	③	2442.00	Tx-H	-1.24	-7.40
4	③	2442.00	Tx-V	-2.59	-7.24
5	⑤	2484.00	Tx-H	-1.96	-7.60
6	⑤	2484.00	Tx-V	-2.79	-6.80
7	②	4900.00	Tx-H	-8.21	-14.46
8	②	4900.00	Tx-V	-3.55	-8.41
9	④	5350.00	Tx-H	-9.70	-14.95
10	④	5350.00	Tx-V	-2.64	-7.60
11	⑥	5825.00	Tx-H	-6.13	-11.91
12	⑥	5825.00	Tx-V	-0.53	-5.81

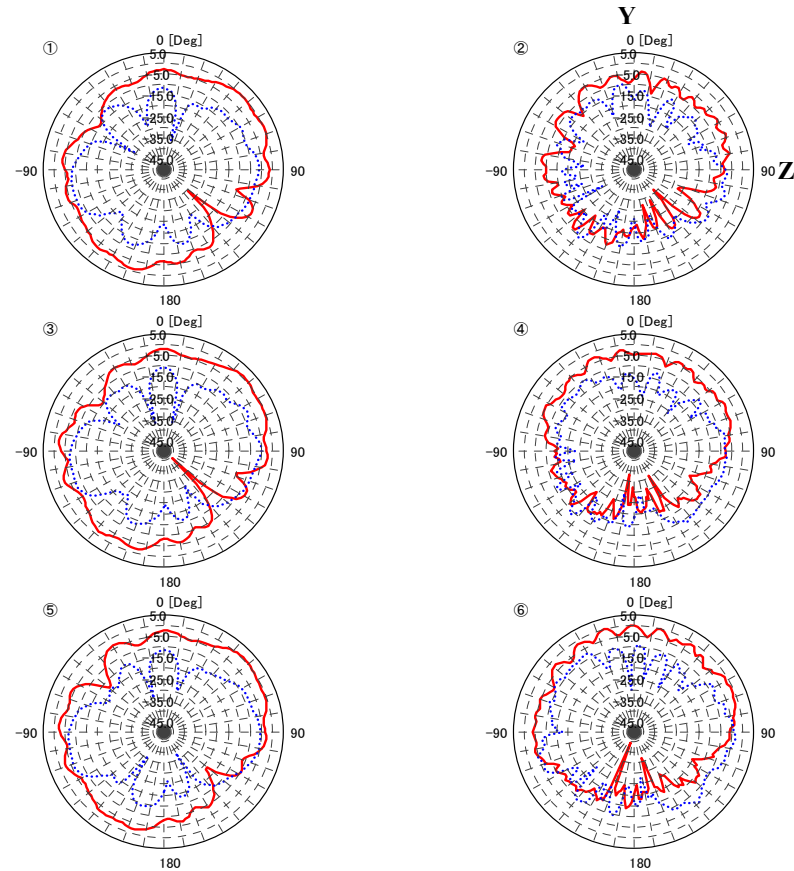
Ceramic Antenna Test Data



Field Pattern Y-Z Plane

Fj_040428_014
K.Okubo
04年04月28日
Mallow Left Y-Z

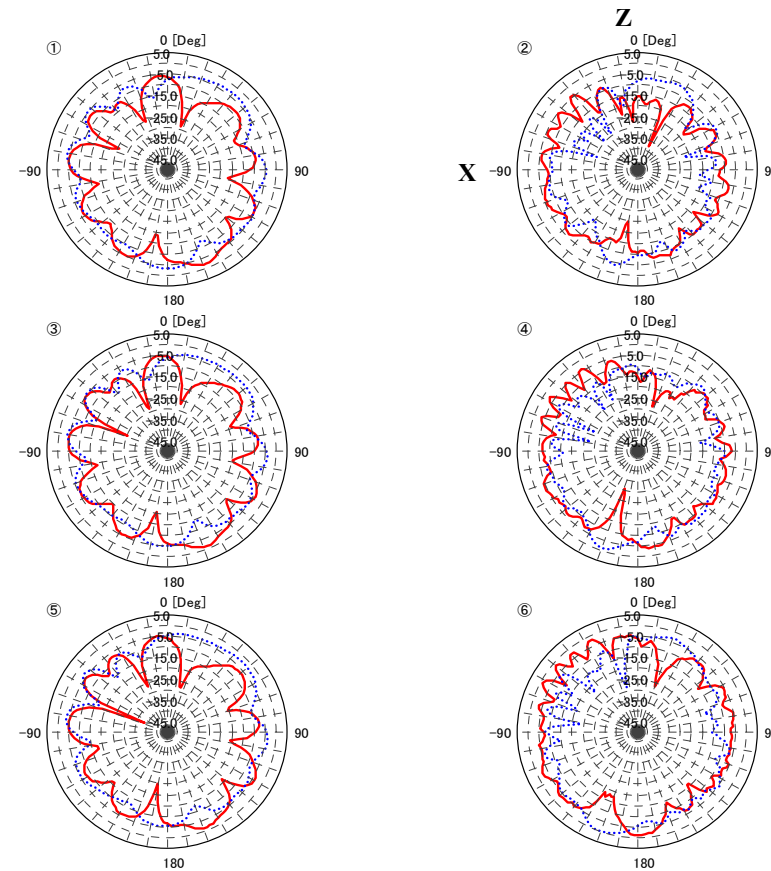
All AVG. -7.63[dBi]
All MAX. AVG. -2.47[dBi]



Field Pattern Z-X Plane

Fj_040428_026
K.Okubo
04年04月28日
Mallow Left Z-X

All AVG. -7.75[dBi]
All MAX. AVG. -2.26[dBi]



Line	No.	Frequency[MHz]	MEMO	MAX. Gain[dBi]	AVG. Gain[dBi]
1	①	2400.00	Tx-H	-0.03	-4.44
2	①	2400.00	Tx-V	-6.41	-11.75
3	③	2442.00	Tx-H	0.35	-4.35
4	③	2442.00	Tx-V	-5.53	-11.48
5	⑤	2484.00	Tx-H	0.35	-4.34
6	⑤	2484.00	Tx-V	-5.85	-11.24
7	②	4900.00	Tx-H	-3.94	-9.93
8	②	4900.00	Tx-V	-7.08	-14.00
9	④	5350.00	Tx-H	-2.28	-7.84
10	④	5350.00	Tx-V	-7.65	-12.68
11	⑥	5825.00	Tx-H	0.20	-5.35
12	⑥	5825.00	Tx-V	-3.49	-9.63

Line	No.	Frequency[MHz]	MEMO	MAX. Gain[dBi]	AVG. Gain[dBi]
1	①	2400.00	Tx-H	-2.32	-8.52
2	①	2400.00	Tx-V	-3.36	-6.59
3	③	2442.00	Tx-H	-1.69	-7.85
4	③	2442.00	Tx-V	-3.04	-6.68
5	⑤	2484.00	Tx-H	-2.06	-8.00
6	⑤	2484.00	Tx-V	-2.68	-6.30
7	②	4900.00	Tx-H	-4.16	-10.03
8	②	4900.00	Tx-V	-4.18	-10.63
9	④	5350.00	Tx-H	-2.62	-8.45
10	④	5350.00	Tx-V	-1.56	-9.60
11	⑥	5825.00	Tx-H	-0.90	-6.08
12	⑥	5825.00	Tx-V	-0.32	-7.07

Ceramic Antenna Test Data



To : FUJITSU LIMITED

Application : For W-LAN (IEEE-802.11b,g)

Measurement Institution : Yokowo No.3 Radio Measuring Site

Antenna Model : YCE-5008 (008L00197)

Date : 2004/04/28

Measurement Condition : Mallow B1-unit Disp.-Right Side

Measured by : K.Okubo

Antenna Matching : Shunt L (2.2nH)

Correction of Cable Loss : Non (include Loss 1.1dB)

f=2400MHz

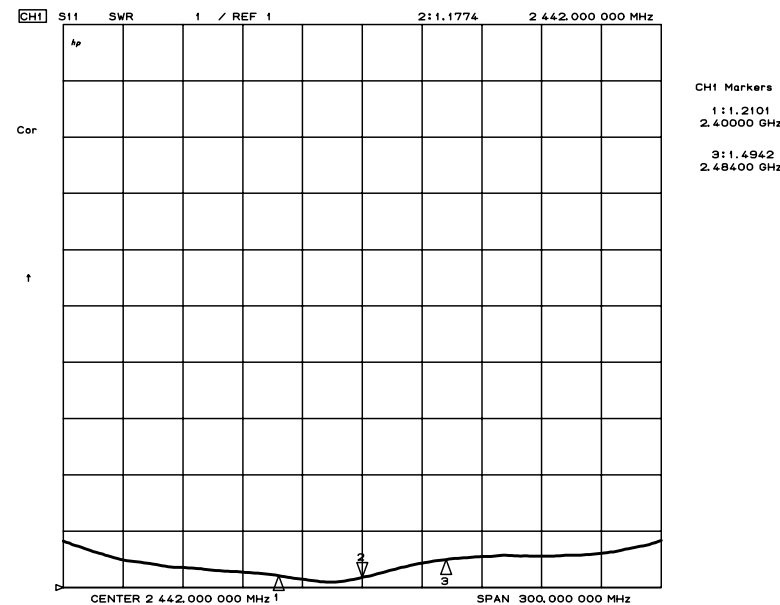
Plane	Tx	Peak. Gain [dBi]	Avg. Gain [dBi]	Tx H & V Avg. [dBi]	Each Freq. Avg. [dBi]
X-Y	Horizontal	-1.32	-6.28	-6.0	-5.5
	Vertical	-1.23	-5.80		
Y-Z	Horizontal	2.48	-3.19	-5.3	
	Vertical	-2.40	-9.83		
Z-X	Horizontal	0.11	-5.48	-5.1	
	Vertical	-1.06	-4.71		

X-Y Plane All Avg. (All Freq.)	-6.3 dBi
Y-Z Plane All Avg. (All Freq.)	-5.6 dBi
Z-X Plane All Avg. (All Freq.)	-5.4 dBi
All Plane & All Freq. Avg.	-5.8 dBi

f=2442MHz

Plane	Tx	Peak. Gain [dBi]	Avg. Gain [dBi]	Tx H & V Avg. [dBi]	Each Freq. Avg. [dBi]
X-Y	Horizontal	-1.75	-6.64	-6.3	-5.8
	Vertical	-0.98	-5.93		
Y-Z	Horizontal	2.30	-3.54	-5.6	
	Vertical	-2.35	-9.84		
Z-X	Horizontal	0.29	-5.53	-5.5	
	Vertical	-1.51	-5.44		

VSWR



f=2484MHz

Plane	Tx	Peak. Gain [dBi]	Avg. Gain [dBi]	Tx H & V Avg. [dBi]	Each Freq. Avg. [dBi]
X-Y	Horizontal	-2.51	-6.81	-6.5	-6.0
	Vertical	-1.50	-6.19		
Y-Z	Horizontal	2.02	-3.82	-5.9	
	Vertical	-2.78	-10.13		
Z-X	Horizontal	0.11	-5.96	-5.7	
	Vertical	-1.93	-5.51		

2.48

yokowo co.,ltd.

Ceramic Antenna Test Data



Application : For W-LAN (IEEE-802.11a)
Antenna Model : YCE-5008 (008L00197)
Measurement Condition : Mallow B1-unit Disp.-Right Side
Antenna Matching : Shunt L (2.2nH)
Correction of Cable Loss : Non (include Loss 1.6dB)

Measurement Institution : Yokowo No.3 Radio Measuring Site
 Date : 2004/04/28
 Measured by : K.Okubo

f=4900MHz

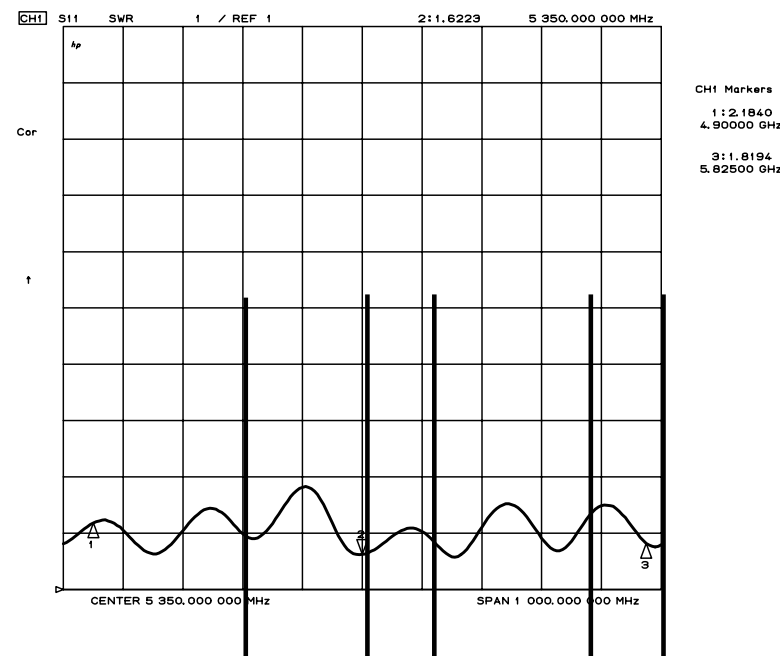
Plane	Tx	Peak. Gain [dBi]	Avg. Gain [dBi]	Tx H & V Avg. [dBi]	Each Freq. Avg. [dBi]
X-Y	Horizontal	-8.48	-13.02	-9.9	-9.1
	Vertical	-3.59	-8.13		
Y-Z	Horizontal	-1.68	-6.97	-8.6	
	Vertical	-4.53	-11.12		
Z-X	Horizontal	-3.06	-8.58	-9.0	
	Vertical	-5.66	-9.46		

X-Y Plane All Avg. (All Freq.)	-9.1 dBi
Y-Z Plane All Avg. (All Freq.)	-8.3 dBi
Z-X Plane All Avg. (All Freq.)	-8.6 dBi
All Plane & All Freq. Avg.	-8.6 dBi

f=5350MHz

Plane	Tx	Peak. Gain [dBi]	Avg. Gain [dBi]	Tx H & V Avg. [dBi]	Each Freq. Avg. [dBi]
X-Y	Horizontal	-8.46	-13.84	-9.0	-9.4
	Vertical	-2.35	-6.80		
Y-Z	Horizontal	-2.03	-8.21	-9.6	
	Vertical	-5.89	-11.58		
Z-X	Horizontal	-2.10	-8.96	-9.5	
	Vertical	-4.75	-10.10		

VSWR



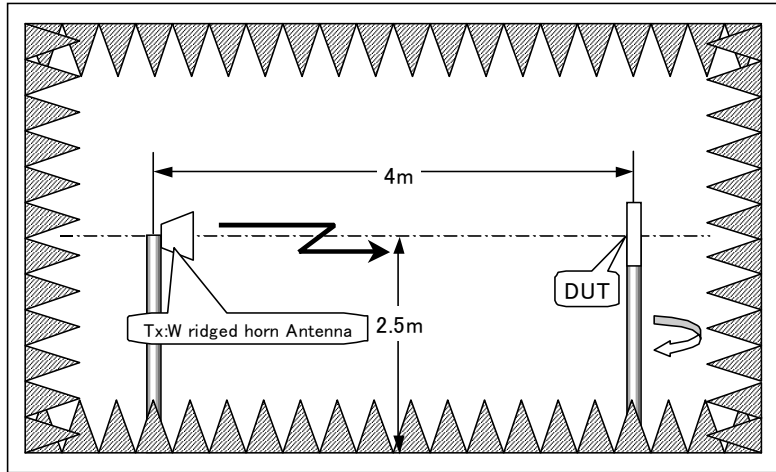
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Plane	Tx	Peak. Gain [dBi]	Avg. Gain [dBi]	Tx H & V Avg. [dBi]	Each Freq. Avg. [dBi]
X-Y	Horizontal	-6.09	-11.46	-8.4	-7.7
	Vertical	-1.68	-6.67		
Y-Z	Horizontal	-0.67	-5.78	-7.2	
	Vertical	-2.66	-9.30		
Z-X	Horizontal	-0.46	-7.20	-7.5	
	Vertical	-3.47	-7.74		

Ceramic Antenna Test Data



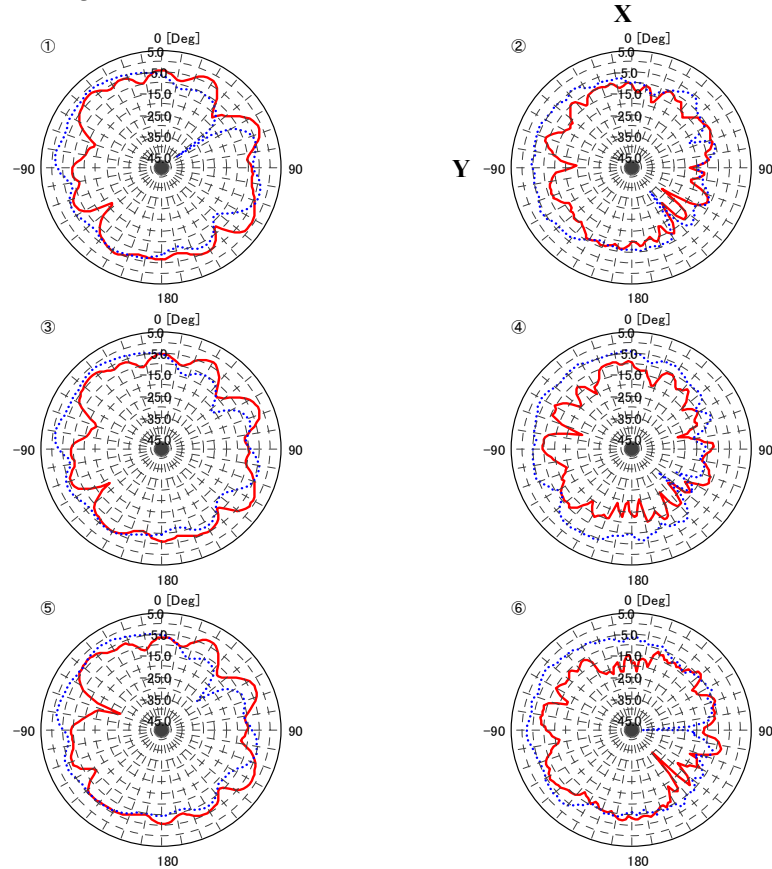
Measurement Condition



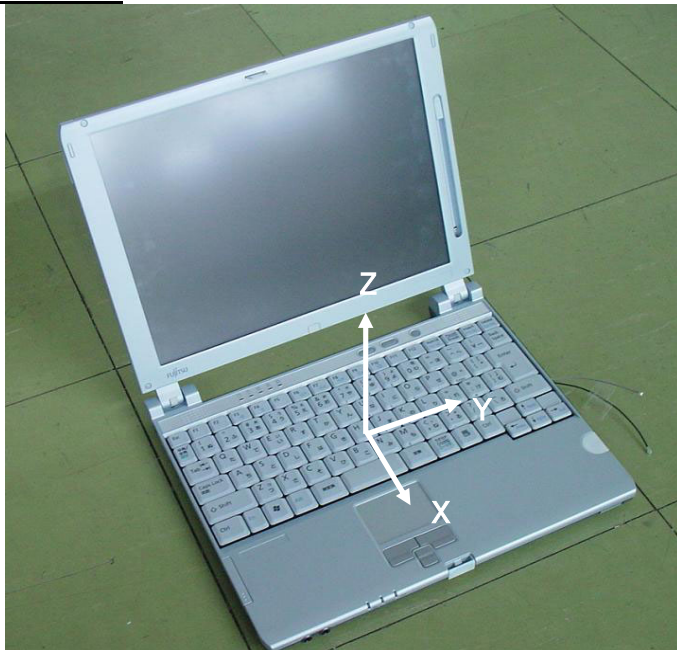
Field Pattern X-Y Plane

Fj_040428_010
 K.Okubo
 04年04月28日
 Mallow Right X-Y

All AVG. -7.45[dBi]
 All MAX. AVG. -2.69[dBi]



Antenna Coordinated



Line	No.	Frequency[MHz]	MEMO	MAX Gain[dBi]	AVG Gain[dBi]
1	①	2400.00	Tx-H	-1.32	-6.28
2	①	2400.00	Tx-V	-1.23	-5.80
3	③	2442.00	Tx-H	-1.75	-6.64
4	③	2442.00	Tx-V	-0.98	-5.93
5	⑤	2484.00	Tx-H	-2.51	-6.81
6	⑤	2484.00	Tx-V	-1.50	-6.19
7	②	4900.00	Tx-H	-8.48	-13.02
8	②	4900.00	Tx-V	-3.59	-8.13
9	④	5350.00	Tx-H	-8.46	-13.84
10	④	5350.00	Tx-V	-2.35	-6.80
11	⑥	5825.00	Tx-H	-6.09	-11.46
12	⑥	5825.00	Tx-V	-1.68	-6.67

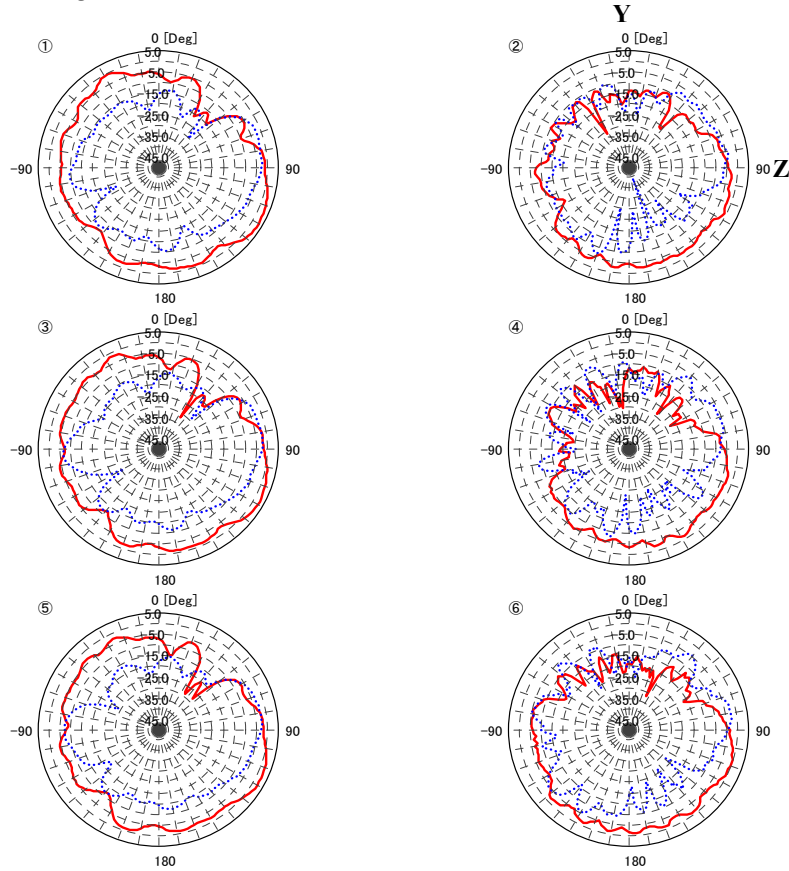
Ceramic Antenna Test Data



Field Pattern Y-Z Plane

Fj_040428_012
K.Okubo
04年04月28日
Mallow Right Y-Z

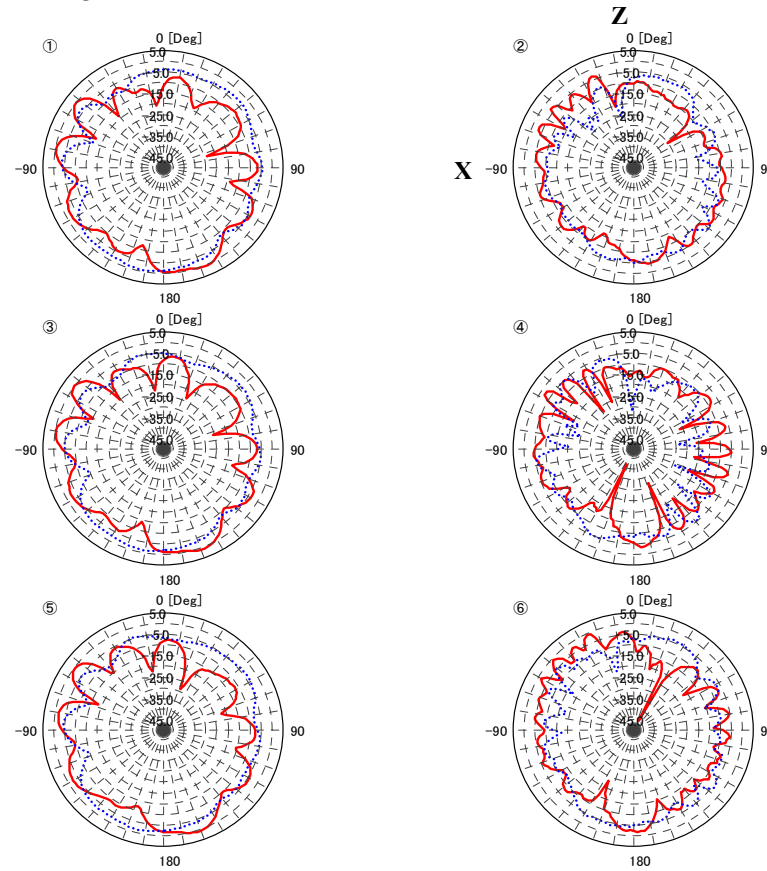
All AVG. -6.78[dBi]
All MAX. AVG. -0.77[dBi]



Field Pattern Z-X Plane

Fj_040428_024
K.Okubo
04年04月28日
Mallow Right Z-X

All AVG. -6.71[dBi]
All MAX. AVG. -1.59[dBi]



Line	No.	Frequency[MHz]	MEMO	MAX. Gain[dBi]	AVG. Gain[dBi]
1	①	2400.00	Tx-H	2.48	-3.19
2	①	2400.00	Tx-V	-2.40	-9.83
3	③	2442.00	Tx-H	2.30	-3.54
4	③	2442.00	Tx-V	-2.35	-9.84
5	⑤	2484.00	Tx-H	2.02	-3.82
6	⑤	2484.00	Tx-V	-2.78	-10.13
7	②	4900.00	Tx-H	-1.68	-6.97
8	②	4900.00	Tx-V	-4.53	-11.12
9	④	5350.00	Tx-H	-2.03	-8.21
10	④	5350.00	Tx-V	-5.89	-11.58
11	⑥	5825.00	Tx-H	-0.67	-5.78
12	⑥	5825.00	Tx-V	-2.66	-9.30

Line	No.	Frequency[MHz]	MEMO	MAX. Gain[dBi]	AVG. Gain[dBi]
1	①	2400.00	Tx-H	0.11	-5.48
2	①	2400.00	Tx-V	-1.06	-4.71
3	③	2442.00	Tx-H	0.29	-5.53
4	③	2442.00	Tx-V	-1.51	-5.44
5	⑤	2484.00	Tx-H	0.11	-5.96
6	⑤	2484.00	Tx-V	-1.93	-5.51
7	②	4900.00	Tx-H	-3.06	-8.58
8	②	4900.00	Tx-V	-5.66	-9.46
9	④	5350.00	Tx-H	-2.10	-8.96
10	④	5350.00	Tx-V	-4.75	-10.10
11	⑥	5825.00	Tx-H	-0.46	-7.20
12	⑥	5825.00	Tx-V	-3.47	-7.74

Antenna Summary

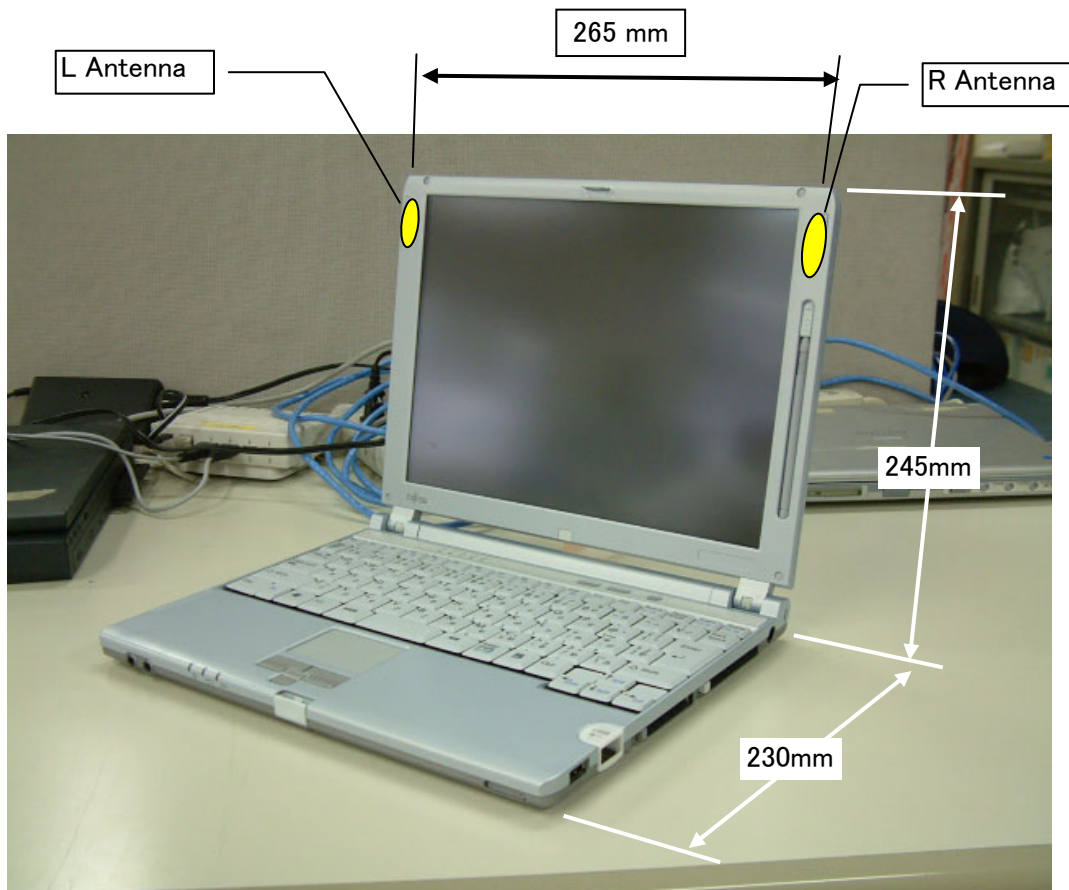
Designator Manufacture	Fujitsu
Antenna Type	Monopole
Cable type (length)	Coax(615mm)
P/N	YCE-5008
Gain	MAX : 0.7(dBi) *see Note

Note:

- 1. Includes all cable losses.

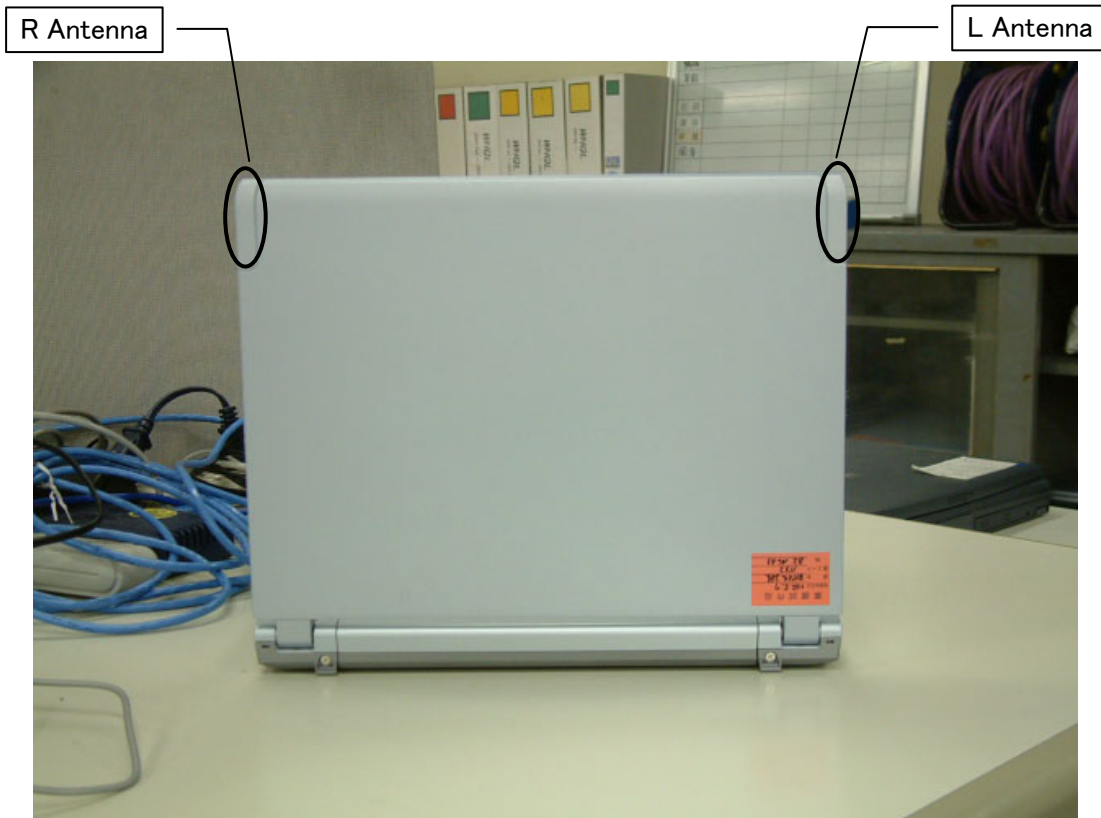
Picture:

Front View



Fujitsu Confidential

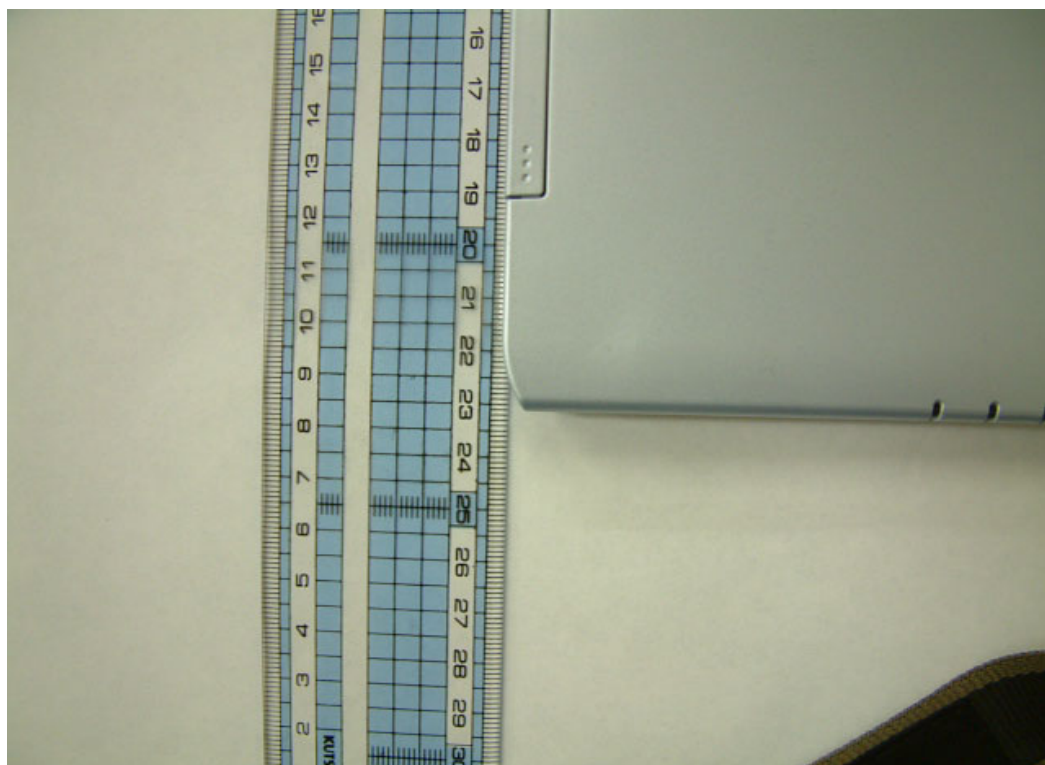
Rear View



Fujitsu Confidential



Fujitsu Confidential

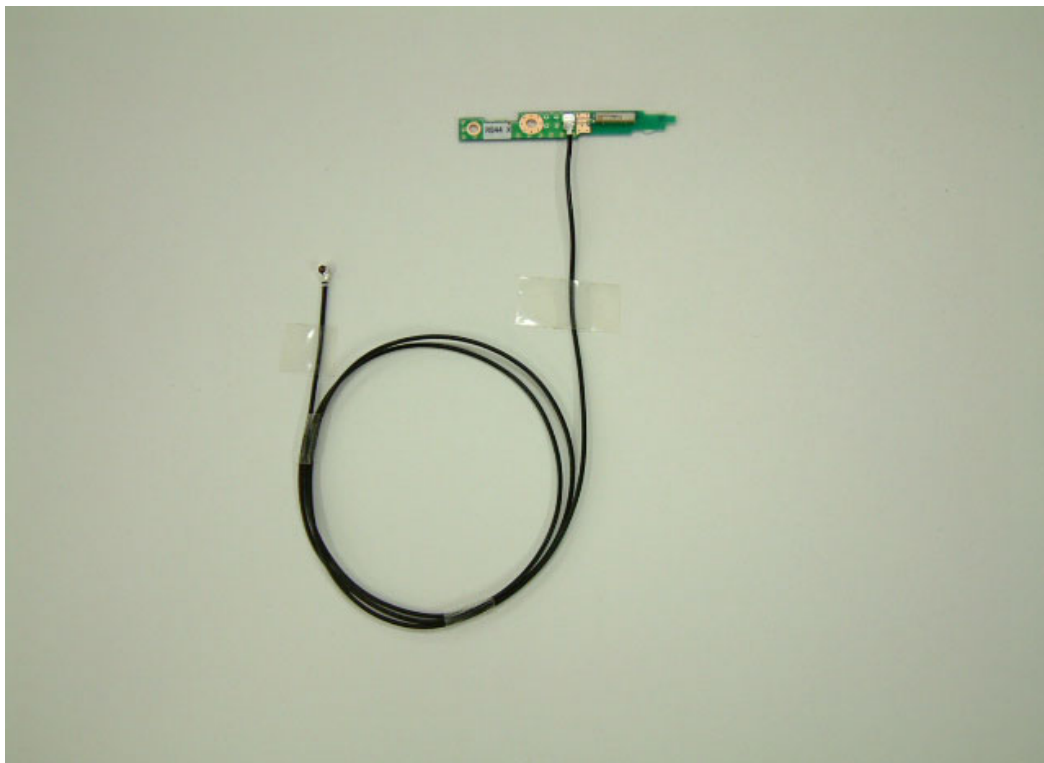


Fujitsu Confidential

Left-Side Antenna



Right-Side Antenna



Fujitsu Confidential