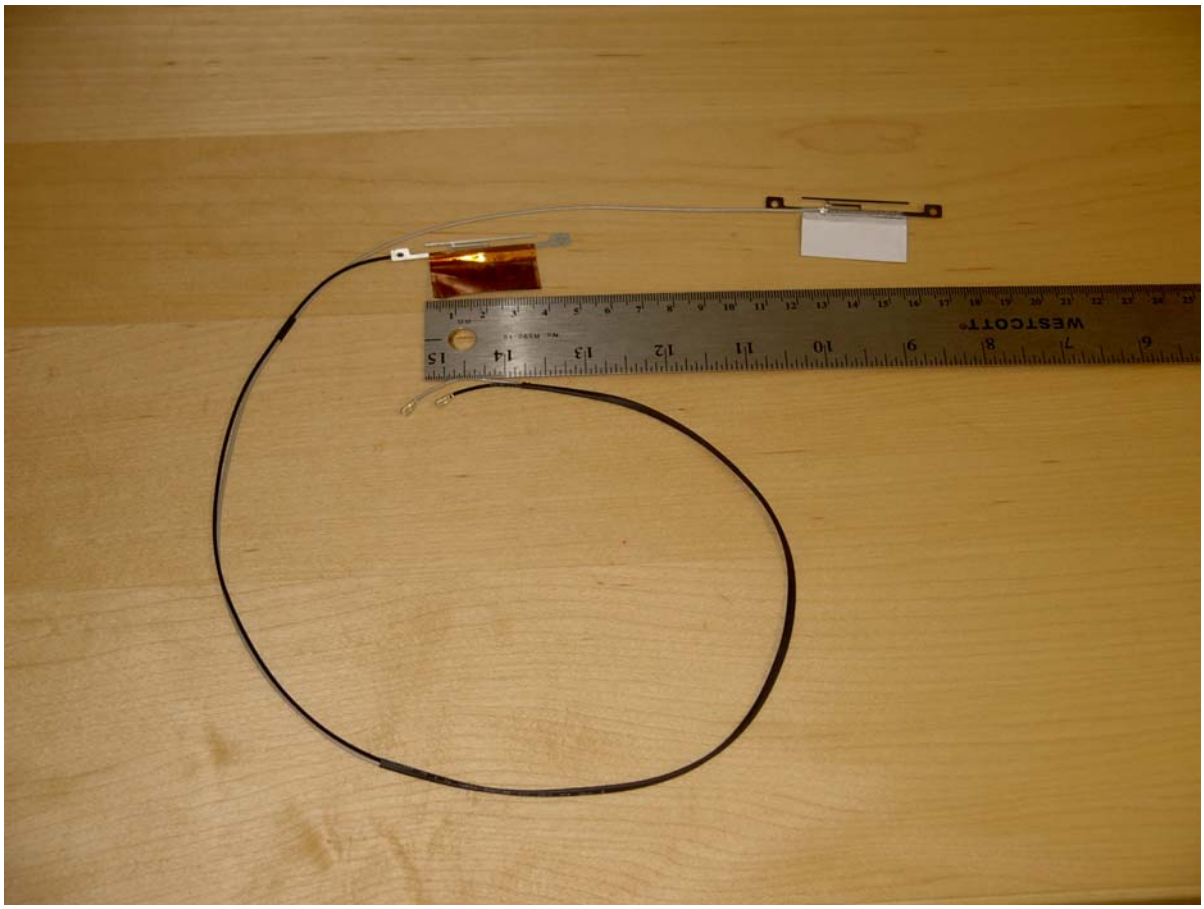


Foxconn (Jakarta) Antenna Assembly

Pumpkin/Pumpkin2 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/N:YCE-5008) Main antenna Right	Yokowo Co.Ltd	Monopole	(P/N: U.FL-2LP -5016-A-340) 50 ohm Coaxial. length: 34cm diameter: 1.1mm Connector: U.FL	2400-2500MHz 2.29 dBi (peak)	2400-2500MHz 3.69dBi (peak)	2400-2500MHz 1.16 max	2400-2500MHz 1.4dBi (peak)
				5150-5350MHz 2.65 dBi (peak)	5150-5350MHz 4.65 dBi (peak)	5150-5350MHz 2.15 max	5150-5350MHz 2.00 dBi (peak)
				5470-5725MHz 0.54 dBi (peak)	5470-5725MHz 2.54 dBi (peak)	5470-5725MHz 2.50 max	5470-5725MHz 2.00 dBi (peak)
				5725-5850MHz 2.95 dBi (peak)	5725-5850MHz 4.95 dBi (peak)	5725-5850MHz 2.40 max	5725-5850MHz 2.00 dBi (peak)
(P/N:YCE-5008) Auxiliary antenna Left	Yokowo Co.Ltd	Monopole	**Example:** (P/N: U.FL-2LP -5016-A-480) 50 ohm Coaxial. length: 48cm diameter: 1.1mm Connector: U.FL	2400-2500MHz 2.31dBi (peak)	2400-2500MHz 3.51dBi (peak)	2400-2500MHz 2.00 max	2400-2500MHz 1.2 dBi (peak)
				5150-5350MHz 1.98 dBi (peak)	5150-5350MHz 3.98 dBi (peak)	5150-5350MHz 2.00 max	5150-5350MHz 2.00 dBi (peak)
				5470-5725MHz 1.80 dBi (peak)	5470-5725MHz 3.80 dBi (peak)	5470-5725MHz 2.60 max	5470-5725MHz 2.00 dBi (peak)
				5725-5850MHz 2.17 dBi (peak)	5725-5850MHz 4.17 dBi (peak)	5725-5850MHz 2.30 max	5725-5850MHz 2.00 dBi (peak)

Ceramic antenna test data

yokowo

To : FUJITSU LIMITED

Application : For W-LAN (IEEE-802.11a,b,g)
Antenna model : YCE-5008 (008L00197)
Measurement condition : Pumpkin(Pumpkin2) Disp.-left side
Antenna matching : Shunt L (2.2nH)
Correction of cable loss : Non (include loss 1.4dB)

Measurement institution : Yokowo No.3 radio measuring site
Date : 2004/02/11
Measured by : S.Yoshida

f=2400MHz

Plane	Tx	Peak. gain [dBi]	Average gain [dBi]	Tx H & V average [dBi]	Each frequency average [dBi]
X-Y	Horizontal	-0.36	-6.35	-6.7	-7.3
	Vertical	-1.58	-7.09		
Y-Z	Horizontal	1.33	-4.98	-6.2	
	Vertical	-2.69	-7.80		
Z-X	Horizontal	-1.77	-10.94	-9.8	
	Vertical	-3.23	-8.83		

X-Y plane all average (all frequency)	-6.6 dBi
Y-Z plane all average (all frequency)	-6.0 dBi
Z-X plane all average (all frequency)	-9.0 dBi
All plane & all frequency average	-7.0 dBi

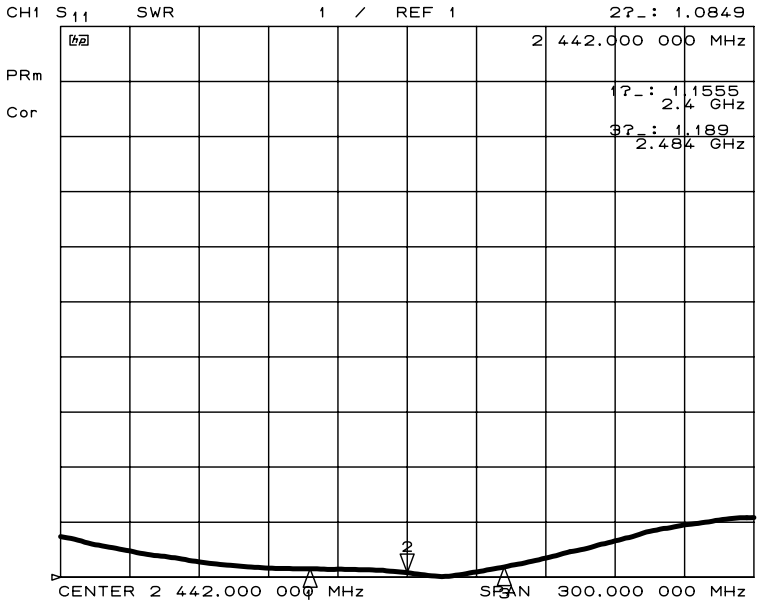
f=2442MHz

Plane	Tx	Peak. gain [dBi]	Average gain [dBi]	Tx H & V average [dBi]	Each frequency average [dBi]
X-Y	Horizontal	0.68	-6.28	-6.6	-6.8
	Vertical	-1.10	-6.88		
Y-Z	Horizontal	2.29	-4.62	-5.8	
	Vertical	-1.23	-7.32		
Z-X	Horizontal	-2.44	-11.08	-8.5	
	Vertical	-1.91	-6.93		

f=2484MHz

Plane	Tx	Peak. gain [dBi]	Average gain [dBi]	Tx H & V average [dBi]	Each frequency average [dBi]
X-Y	Horizontal	0.69	-6.31	-6.6	-7.1
	Vertical	-1.14	-6.92		
Y-Z	Horizontal	2.00	-5.08	-6.2	
	Vertical	-1.13	-7.66		
Z-X	Horizontal	-2.59	-10.14	-8.9	
	Vertical	-3.20	-7.91		

VSWR



yokowo co.,ltd.
1112, Kanohara, Tomioka-shi Gunma, 370-2495, JAPAN Antenna Engineering Dept. TEL +81 274-62-2127 FAX +81 274-62-2031

Ceramic antenna test data

yokowo

Application : For W-LAN (IEEE-802.11a,b,g)
Antenna model : YCE-5008 (008L00197)
Measurement condition : Pumpkin(Pumpkin2) Disp.-left side
Antenna matching : Shunt L (2.2nH)
Correction of cable loss : Non (include loss 2dB)

Measurement institution : Yokowo No.3 radio measuring site
Date : 2004/02/11
Measured by : S.Yoshida

f=4900MHz

Plane	Tx	Peak. gain [dBi]	Average gain [dBi]	Tx H & V average [dBi]	Each frequency average [dBi]
X-Y	Horizontal	0.96	-5.06	-4.9	-5.3
	Vertical	0.61	-4.69		
Y-Z	Horizontal	2.65	-3.56	-5.2	
	Vertical	-0.77	-7.78		
Z-X	Horizontal	-0.80	-7.49	-6.0	
	Vertical	-1.55	-4.82		

X-Y plane all average (all frequency)	-5.3 dBi
Y-Z plane all average (all frequency)	-5.2 dBi
Z-X plane all average (all frequency)	-6.0 dBi
All plane & all frequency average	-5.5 dBi

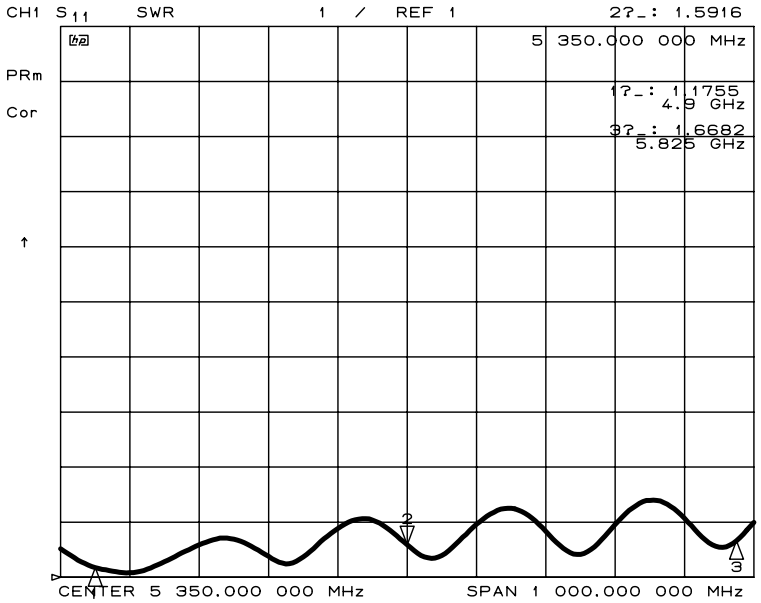
f=5350MHz

Plane	Tx	Peak. gain [dBi]	Average gain [dBi]	Tx H & V average [dBi]	Each frequency average [dBi]
X-Y	Horizontal	-0.49	-5.79	-6.2	-6.7
	Vertical	-0.87	-6.75		
Y-Z	Horizontal	0.54	-4.20	-5.9	
	Vertical	-2.51	-8.83		
Z-X	Horizontal	-2.62	-8.24	-8.4	
	Vertical	-3.69	-8.56		

f=5825MHz

Plane	Tx	Peak. gain [dBi]	Average gain [dBi]	Tx H & V average [dBi]	Each frequency average [dBi]
X-Y	Horizontal	1.04	-4.53	-5.0	-4.7
	Vertical	1.48	-5.42		
Y-Z	Horizontal	2.95	-2.69	-4.7	
	Vertical	-1.54	-8.50		
Z-X	Horizontal	-0.37	-5.94	-4.5	
	Vertical	1.03	-3.37		

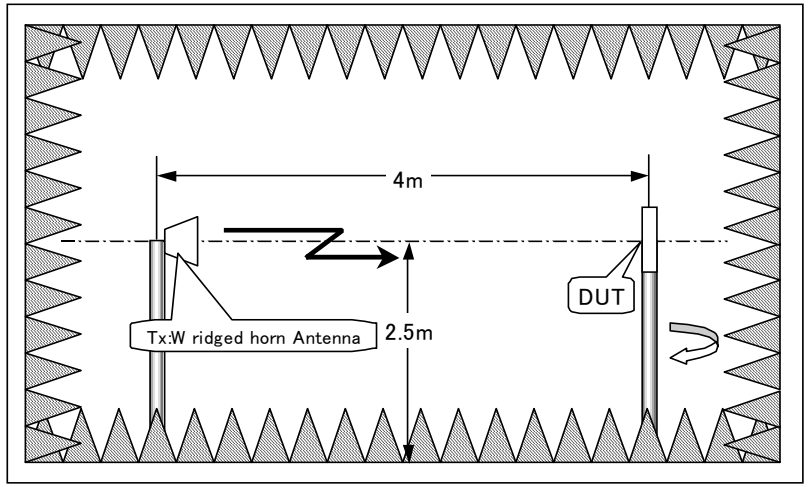
VSWR



yokowo co.,ltd.
1112, Kanohara, Tomioka-shi Gunma, 370-2495, JAPAN Antenna Engineering Dept. TEL +81 274-62-2127 FAX +81 274-62-2031

Ceramic antenna test data

Measurement condition

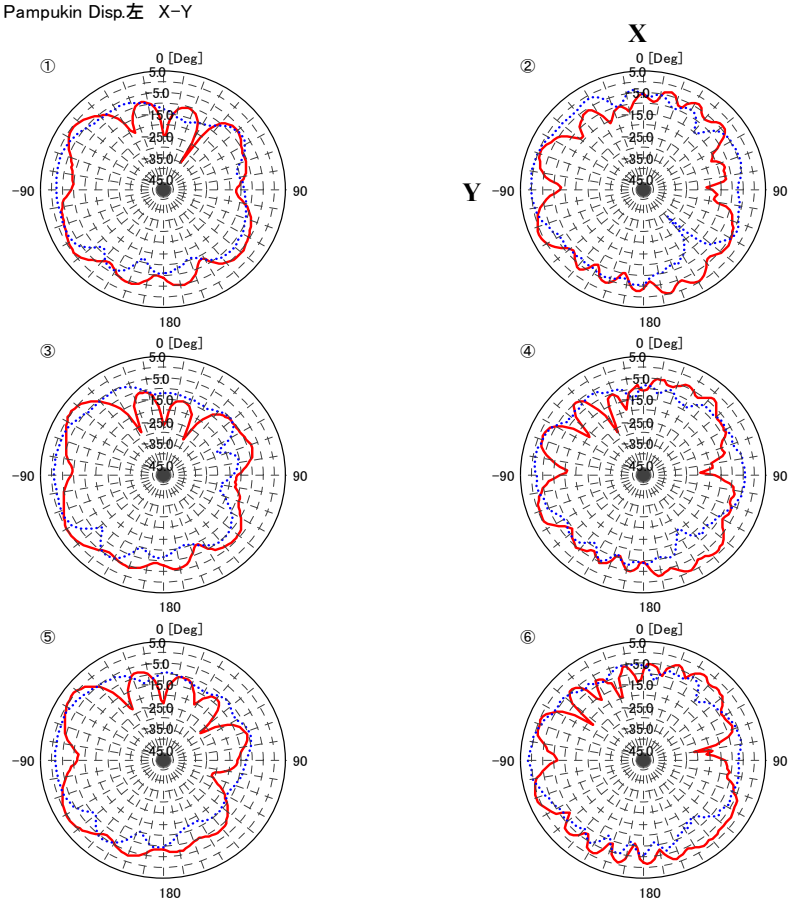


Antenna coordinated

Field pattern X-Y plane

Fj-040211-009.ant
S.Yoshida
04年02月11日
Pampukin Disp.左 X-Y

All AVG. -5.92[dBi]
All MAX. AVG. 0.10[dBi]



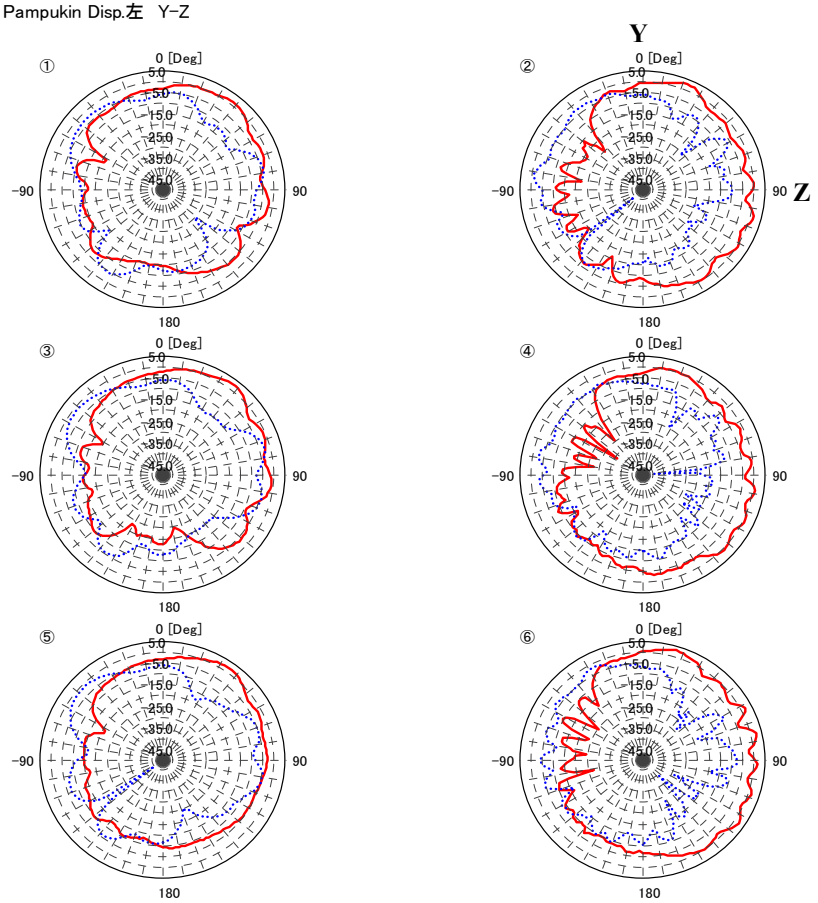
	Line	No.	Frequency[MHz]	MEMO		MAX. Gain[dBi]	AVG. Gain[dBi]
1		①	2400.00	Tx-H		-0.36	-6.35
2		①	2400.00	Tx-V		-1.58	-7.09
3		③	2442.00	Tx-H		0.68	-6.28
4		③	2442.00	Tx-V		-1.10	-6.88
5		⑤	2484.00	Tx-H		0.69	-6.31
6		⑤	2484.00	Tx-V		-1.14	-6.92
7		②	4900.00	Tx-H		0.96	-5.06
8		②	4900.00	Tx-V		0.61	-4.69
9		④	5350.00	Tx-H		-0.49	-5.79
10		④	5350.00	Tx-V		-0.87	-6.75
11		⑥	5825.00	Tx-H		1.04	-4.53
12		⑥	5825.00	Tx-V		1.48	-5.42

yokowo co.,ltd.
1112, Kanohara, Tomioka-shi Gunma, 370-2495, JAPAN Antenna Engineering Dept. TEL +81 274-62-2127 FAX +81 274-62-2031

Field pattern Y-Z plane

Fj-040211-013.ant
S.Yoshida
04年02月11日
Pampukin Disp.左 Y-Z

All AVG. −5.61[dBi]
All MAX. AVG. 0.59[dBi]

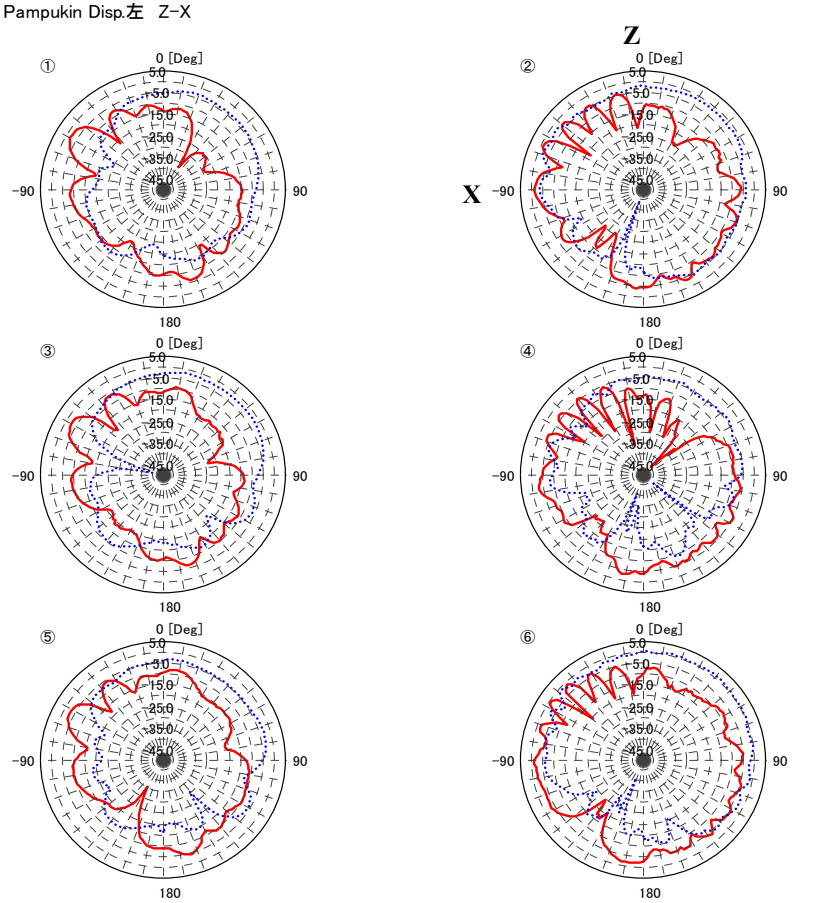


	Line	No.	Frequency[MHz]	MEMO		MAX. Gain[dBi]	AVG. Gain[dBi]
1		①	2400.00	Tx−H		1.33	−4.98
2		①	2400.00	Tx−V		−2.69	−7.80
3		③	2442.00	Tx−H		2.29	−4.62
4		③	2442.00	Tx−V		−1.23	−7.32
5		⑤	2484.00	Tx−H		2.00	−5.08
6		⑤	2484.00	Tx−V		−1.13	−7.66
7		②	4900.00	Tx−H		2.65	−3.56
8		②	4900.00	Tx−V		−0.77	−7.78
9		④	5350.00	Tx−H		0.54	−4.20
10		④	5350.00	Tx−V		−2.51	−8.83
11		⑥	5825.00	Tx−H		2.95	−2.69
12		⑥	5825.00	Tx−V		−1.54	−8.50

Field pattern Z-X plane

Fj-040211-025.ant
S.Yoshida
04年02月11日
Pampukin Disp.左 Z-X

All AVG. −7.25[dBi]
All MAX. AVG. −1.72[dBi]



	Line	No.	Frequency[MHz]	MEMO		MAX. Gain[dBi]	AVG. Gain[dBi]
1		①	2400.00	Tx−H		−1.77	−10.94
2		①	2400.00	Tx−V		−3.23	−8.83
3		③	2442.00	Tx−H		−2.44	−11.08
4		③	2442.00	Tx−V		−1.91	−6.93
5		⑤	2484.00	Tx−H		−2.59	−10.14
6		⑤	2484.00	Tx−V		−3.20	−7.91
7		②	4900.00	Tx−H		−0.80	−7.49
8		②	4900.00	Tx−V		−1.55	−4.82
9		④	5350.00	Tx−H		−2.62	−8.24
10		④	5350.00	Tx−V		−3.69	−8.56
11		⑥	5825.00	Tx−H		−0.37	−5.94
12		⑥	5825.00	Tx−V		1.03	−3.37

yokowo co.,ltd.
1112, Kanohara, Tomioka-shi Gunma, 370-2495, JAPAN Antenna Engineering Dept. TEL +81 274-62-2127 FAX +81 274-62-2031

Ceramic antenna test data

yokowo

To : FUJITSU LIMITED

Application : For W-LAN (IEEE-802.11a,b,g)
Antenna model : YCE-5008 (008L00197)
Measurement condition : Pumpkin(Pumpkin2) Disp.-right side
Antenna matching : Shunt L (2.2nH)
Correction of cable loss : Non (include loss 1.2dB)

Measurement institution : Yokowo No.3 radio measuring site
Date : 2004/02/11
Measured by : S.Yoshida

f=2400MHz

Plane	Tx	Peak. gain [dBi]	Average gain [dBi]	Tx H & V average [dBi]	Each frequency average [dBi]
X-Y	Horizontal	0.80	-5.81	-6.1	-7.8
	Vertical	-0.53	-6.40		
Y-Z	Horizontal	0.67	-5.91	-7.4	
	Vertical	-2.49	-9.64		
Z-X	Horizontal	-7.36	-12.40	-11.3	
	Vertical	-5.38	-10.38		

X-Y plane all average (all frequency)	-5.3 dBi
Y-Z plane all average (all frequency)	-6.8 dBi
Z-X plane all average (all frequency)	-9.6 dBi
All plane & all frequency average	-6.9 dBi

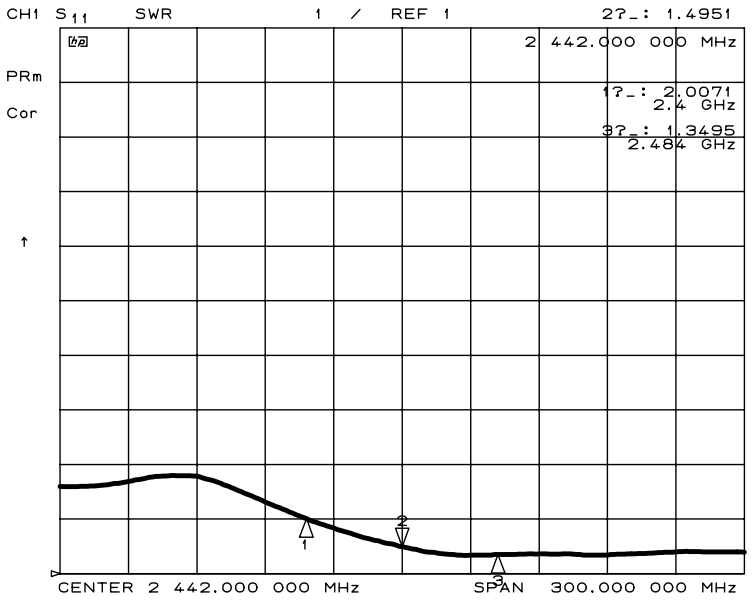
f=2442MHz

Plane	Tx	Peak. gain [dBi]	Average gain [dBi]	Tx H & V average [dBi]	Each frequency average [dBi]
X-Y	Horizontal	1.94	-4.40	-4.8	-6.4
	Vertical	1.14	-5.21		
Y-Z	Horizontal	2.31	-4.63	-6.2	
	Vertical	-2.88	-8.64		
Z-X	Horizontal	-5.68	-11.30	-9.3	
	Vertical	-2.46	-7.92		

f=2484MHz

Plane	Tx	Peak. gain [dBi]	Average gain [dBi]	Tx H & V average [dBi]	Each frequency average [dBi]
X-Y	Horizontal	1.67	-4.63	-5.1	-6.6
	Vertical	0.61	-5.67		
Y-Z	Horizontal	1.41	-5.40	-6.9	
	Vertical	-4.04	-9.21		
Z-X	Horizontal	-5.58	-12.44	-8.5	
	Vertical	-1.47	-6.53		

VSWR



yokowo co.,ltd.
1112, Kanohara, Tomioka-shi Gunma, 370-2495, JAPAN Antenna Engineering Dept. TEL +81 274-62-2127 FAX +81 274-62-2031

Ceramic antenna test data

yokowo

Application : For W-LAN (IEEE-802.11a,b,g)
Antenna model : YCE-5008 (008L00197)
Measurement condition : Pumpkin(Pumpkin2) Disp.-right side
Antenna matching : Shunt L (2.2nH)
Correction of cable loss : Non (include loss 2dB)

Measurement institution : Yokowo No.3 radio measuring site
Date : 2004/02/11
Measured by : S.Yoshida

f=4900MHz

Plane	Tx	Peak. gain [dBi]	Average gain [dBi]	Tx H & V average [dBi]	Each frequency average [dBi]
X-Y	Horizontal	1.39	-4.74	-4.6	-5.1
	Vertical	0.12	-4.55		
Y-Z	Horizontal	1.98	-3.35	-4.8	
	Vertical	0.14	-7.08		
Z-X	Horizontal	-1.66	-7.57	-5.9	
	Vertical	-0.88	-4.75		

X-Y plane all average (all frequency)	-5.2 dBi
Y-Z plane all average (all frequency)	-5.3 dBi
Z-X plane all average (all frequency)	-6.2 dBi
All plane & all frequency average	-5.6 dBi

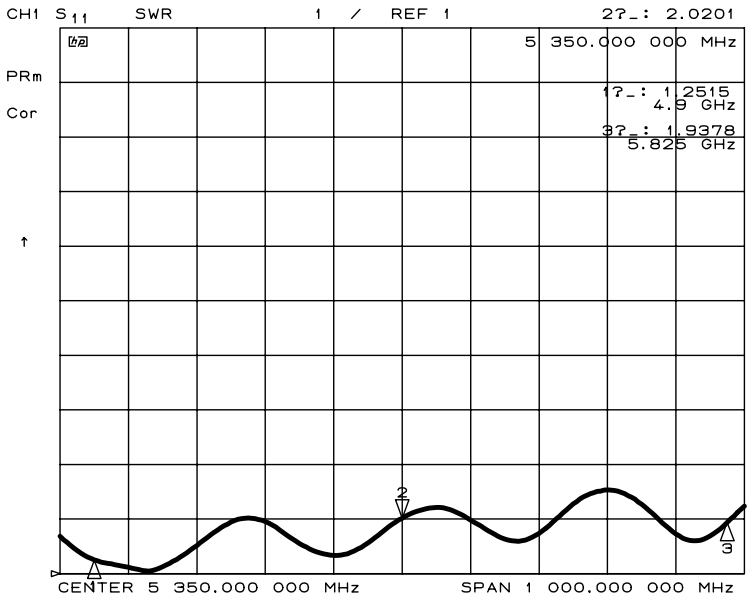
f=5350MHz

Plane	Tx	Peak. gain [dBi]	Average gain [dBi]	Tx H & V average [dBi]	Each frequency average [dBi]
X-Y	Horizontal	1.01	-5.21	-5.8	-6.4
	Vertical	0.39	-6.39		
Y-Z	Horizontal	1.80	-4.01	-5.9	
	Vertical	-2.30	-9.51		
Z-X	Horizontal	-0.17	-7.54	-7.8	
	Vertical	-2.79	-8.04		

f=5825MHz

Plane	Tx	Peak. gain [dBi]	Average gain [dBi]	Tx H & V average [dBi]	Each frequency average [dBi]
X-Y	Horizontal	0.66	-4.96	-5.3	-5.3
	Vertical	1.50	-5.64		
Y-Z	Horizontal	2.17	-3.26	-5.3	
	Vertical	-2.62	-9.09		
Z-X	Horizontal	-1.32	-6.54	-5.3	
	Vertical	-0.13	-4.26		

VSWR

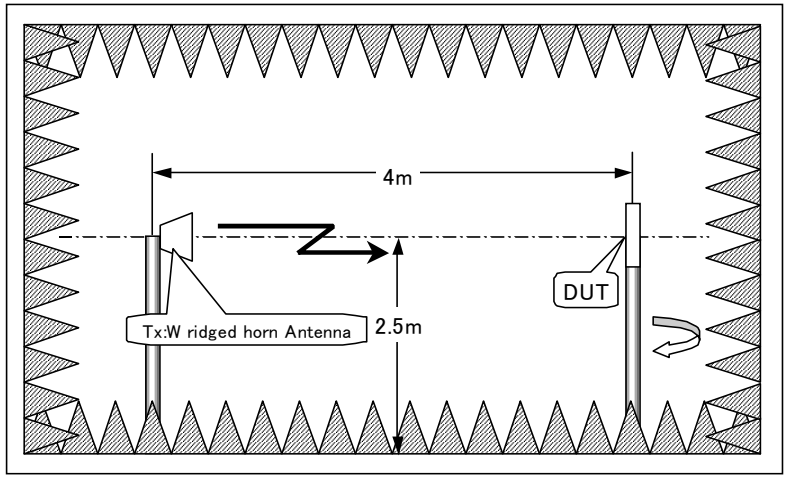


yokowo co.,ltd.
1112, Kanohara, Tomioka-shi Gunma, 370-2495, JAPAN Antenna Engineering Dept. TEL +81 274-62-2127 FAX +81 274-62-2031

Ceramic antenna test data

yokowo

Measurement condition

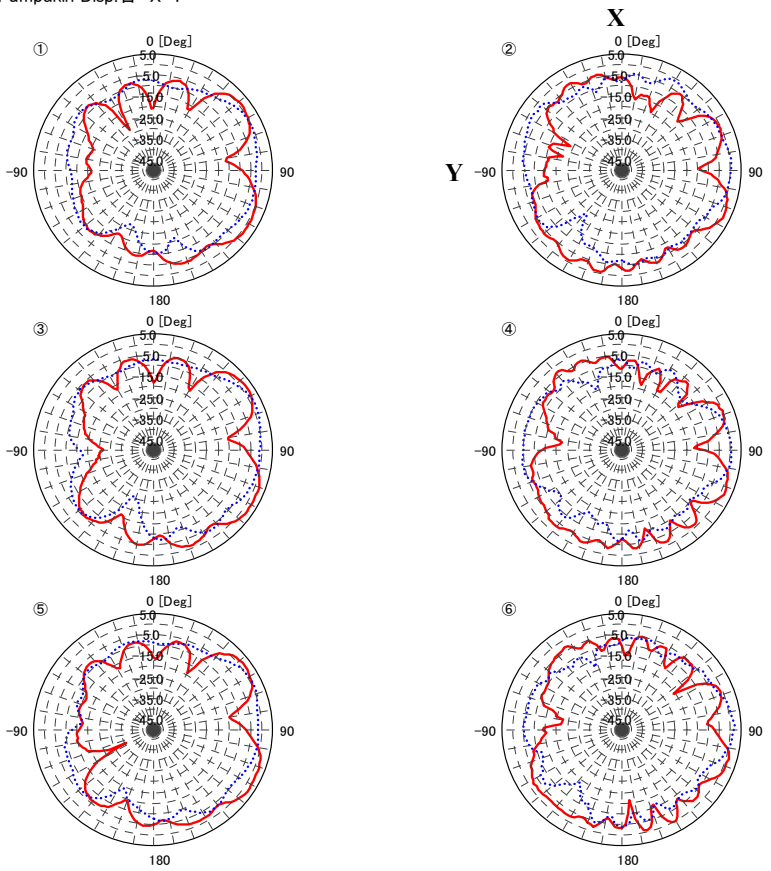


Antenna coordinated

Field pattern X-Y plane

Fj-040211-005.ant
S.Yoshida
04年02月11日
Pampukin Disp.右 X-Y

All AVG. -5.25[dBi]
All MAX. AVG. 0.94[dBi]



	Line	No.	Frequency[MHz]	MEMO		MAX. Gain[dBi]	AVG. Gain[dBi]
1		①	2400.00	Tx-H		0.80	-5.81
2		①	2400.00	Tx-V		-0.53	-6.40
3		③	2442.00	Tx-H		1.94	-4.40
4		③	2442.00	Tx-V		1.14	-5.21
5		⑤	2484.00	Tx-H		1.67	-4.63
6		⑤	2484.00	Tx-V		0.61	-5.67
7		②	4900.00	Tx-H		1.39	-4.74
8		②	4900.00	Tx-V		0.12	-4.55
9		④	5350.00	Tx-H		1.01	-5.21
10		④	5350.00	Tx-V		0.39	-6.39
11		⑥	5825.00	Tx-H		0.66	-4.96
12		⑥	5825.00	Tx-V		1.50	-5.64

yokowo co.,ltd.
1112, Kanohara, Tomioka-shi Gunma, 370-2495, JAPAN Antenna Engineering Dept. TEL +81 274-62-2127 FAX +81 274-62-2031

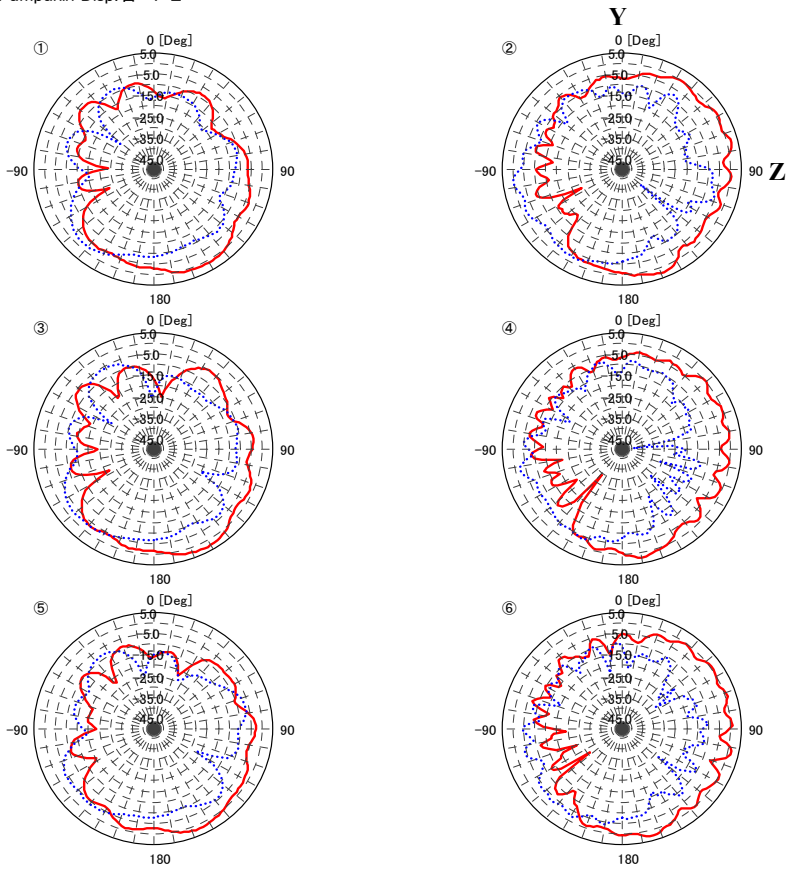
Ceramic antenna test data

yokowo

Field pattern Y-Z plane

Fj-040211-017.ant
S.Yoshida
04年02月11日
Pampukin Disp.右 Y-Z

All AVG. -5.99[dBi]
All MAX. AVG. 0.22[dBi]

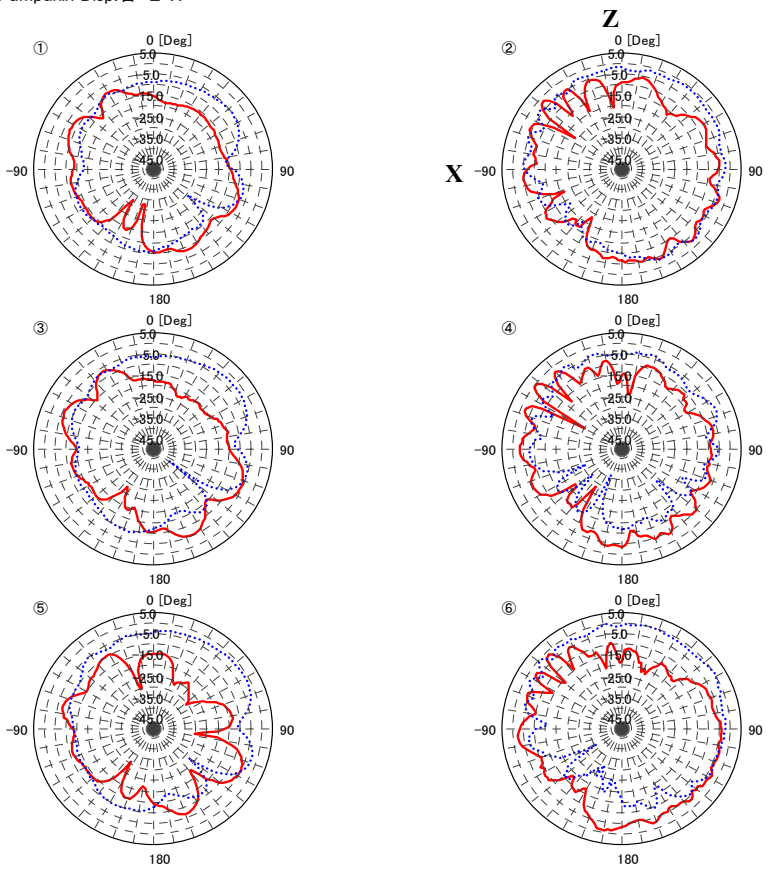


	Line	No.	Frequency[MHz]	MEMO		MAX. Gain[dBi]	AVG. Gain[dBi]
1		①	2400.00	Tx-H		0.67	-5.91
2		①	2400.00	Tx-V		-2.49	-9.64
3		③	2442.00	Tx-H		2.31	-4.63
4		③	2442.00	Tx-V		-2.88	-8.64
5		⑤	2484.00	Tx-H		1.41	-5.40
6		⑤	2484.00	Tx-V		-4.04	-9.21
7		②	4900.00	Tx-H		1.98	-3.35
8		②	4900.00	Tx-V		0.14	-7.08
9		④	5350.00	Tx-H		1.80	-4.01
10		④	5350.00	Tx-V		-2.30	-9.51
11		⑥	5825.00	Tx-H		2.17	-3.26
12		⑥	5825.00	Tx-V		-2.62	-9.09

Field pattern Z-X plane

Fj-040211-021.ant
S.Yoshida
04年02月11日
Pampukin Disp.右 Z-X

All AVG. -7.56[dBi]
All MAX. AVG. -2.34[dBi]



	Line	No.	Frequency[MHz]	MEMO		MAX. Gain[dBi]	AVG. Gain[dBi]
1		①	2400.00	Tx-H		-7.36	-12.40
2		①	2400.00	Tx-V		-5.38	-10.38
3		③	2442.00	Tx-H		-5.68	-11.33
4		③	2442.00	Tx-V		-2.46	-7.92
5		⑤	2484.00	Tx-H		-5.58	-12.44
6		⑤	2484.00	Tx-V		-1.47	-6.53
7		②	4900.00	Tx-H		-1.66	-7.57
8		②	4900.00	Tx-V		-0.88	-4.75
9		④	5350.00	Tx-H		-0.17	-7.54
10		④	5350.00	Tx-V		-2.79	-8.04
11		⑥	5825.00	Tx-H		-1.32	-6.54
12		⑥	5825.00	Tx-V		-0.13	-4.26

Pumpkin/Pumpkin2 Antenna Summary

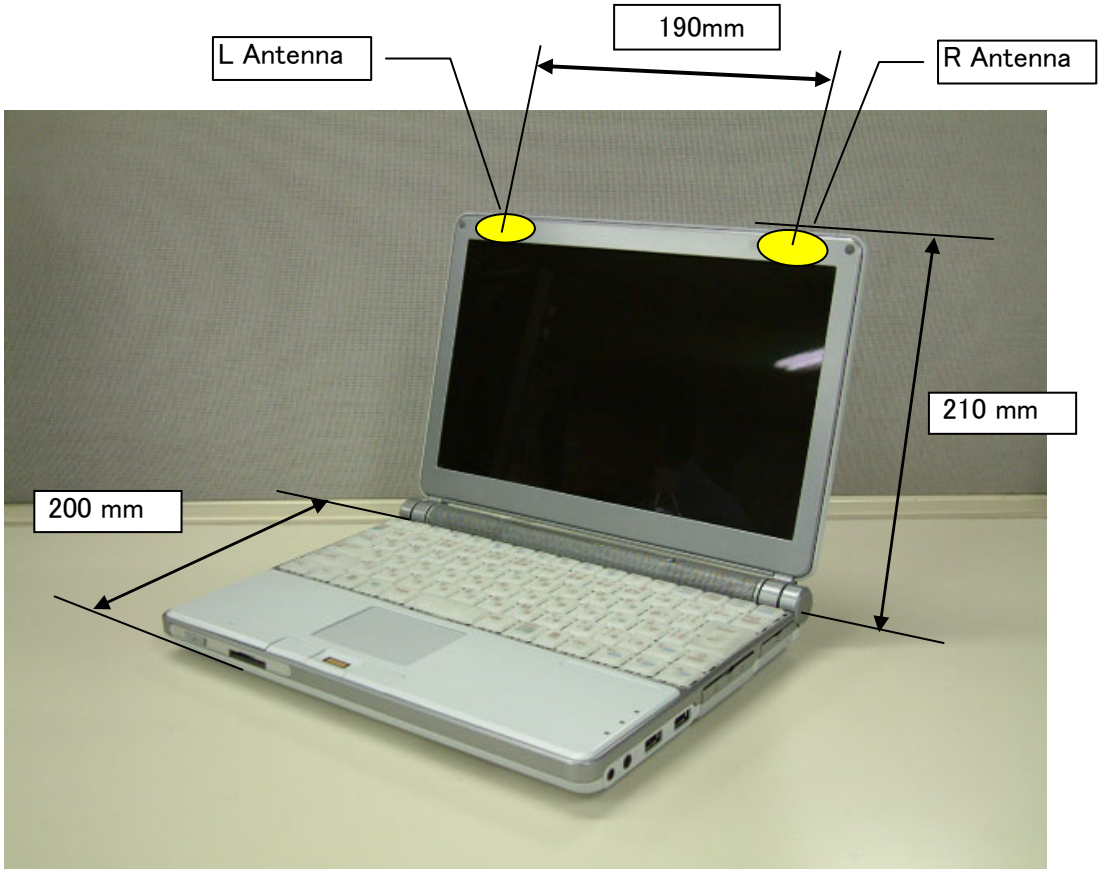
Designator Manufacture	Fujitsu
Antenna Type	Monopole
Cable type (length)	Coax(450mm)
P/N	YCE-5008
Gain	MAX : 2.95(dBi) *see Note

Note:

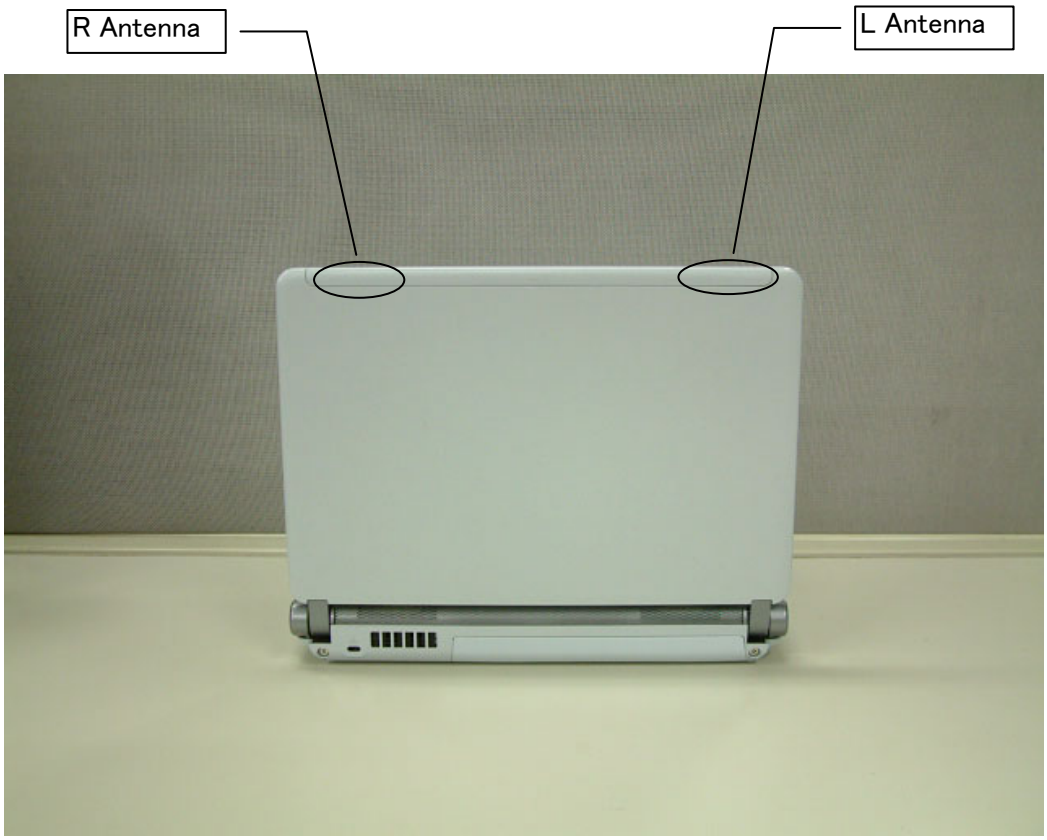
1. Includes all cable losses.

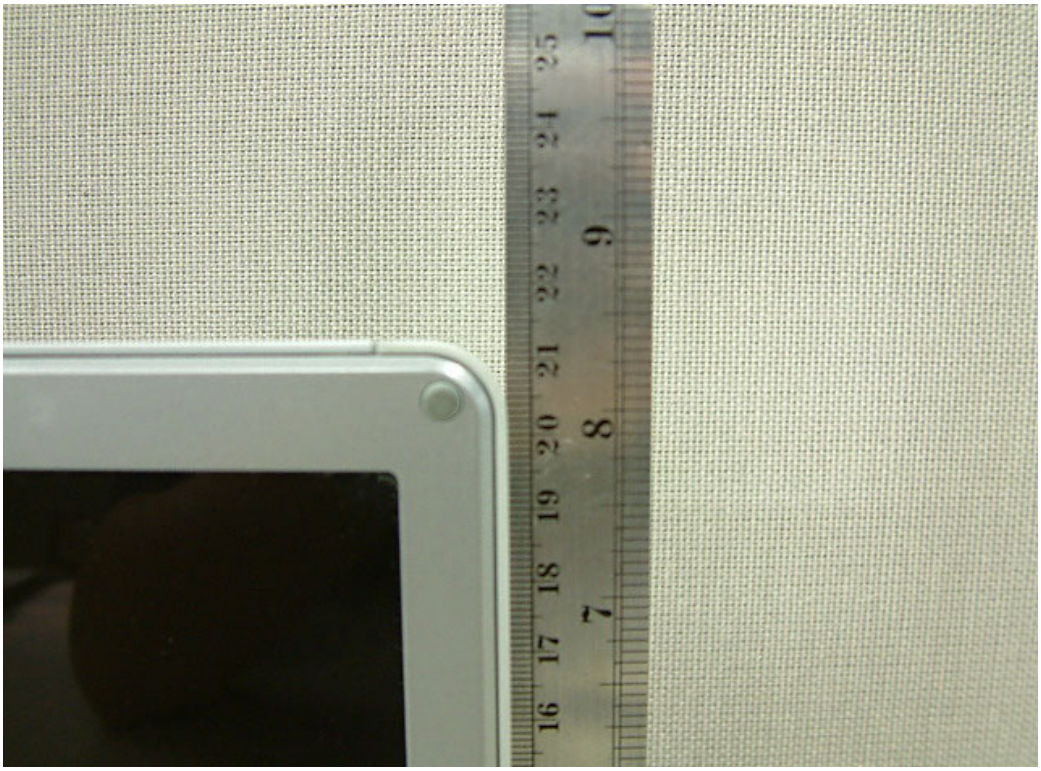
Picture:

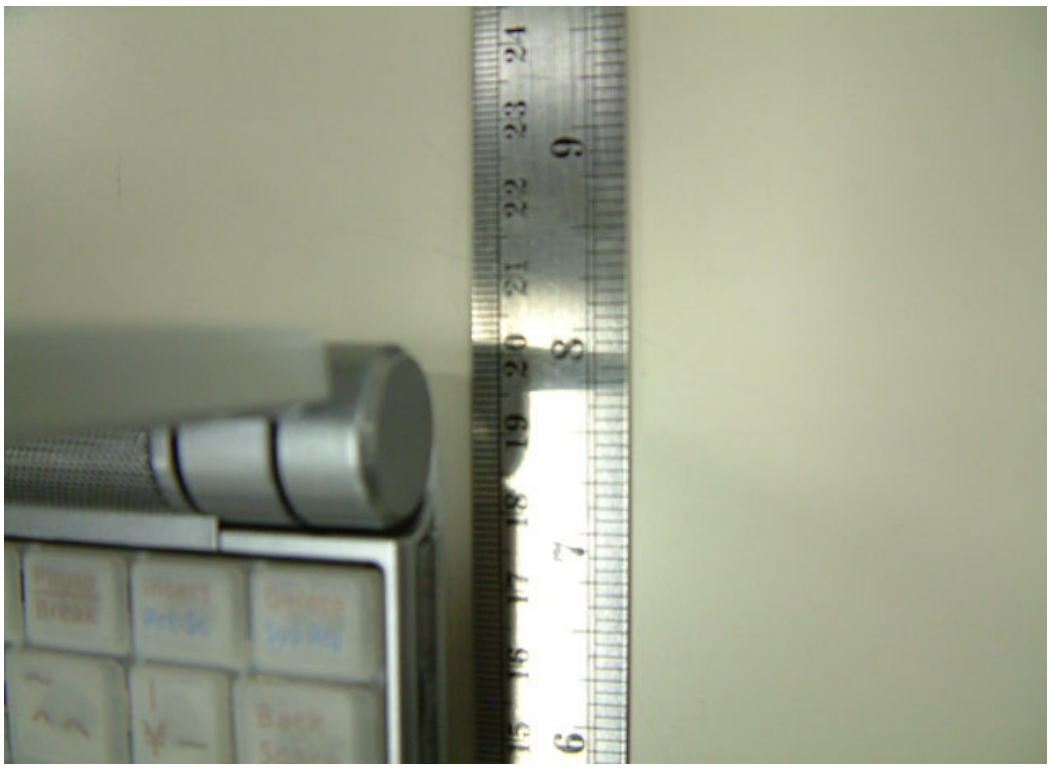
Front View



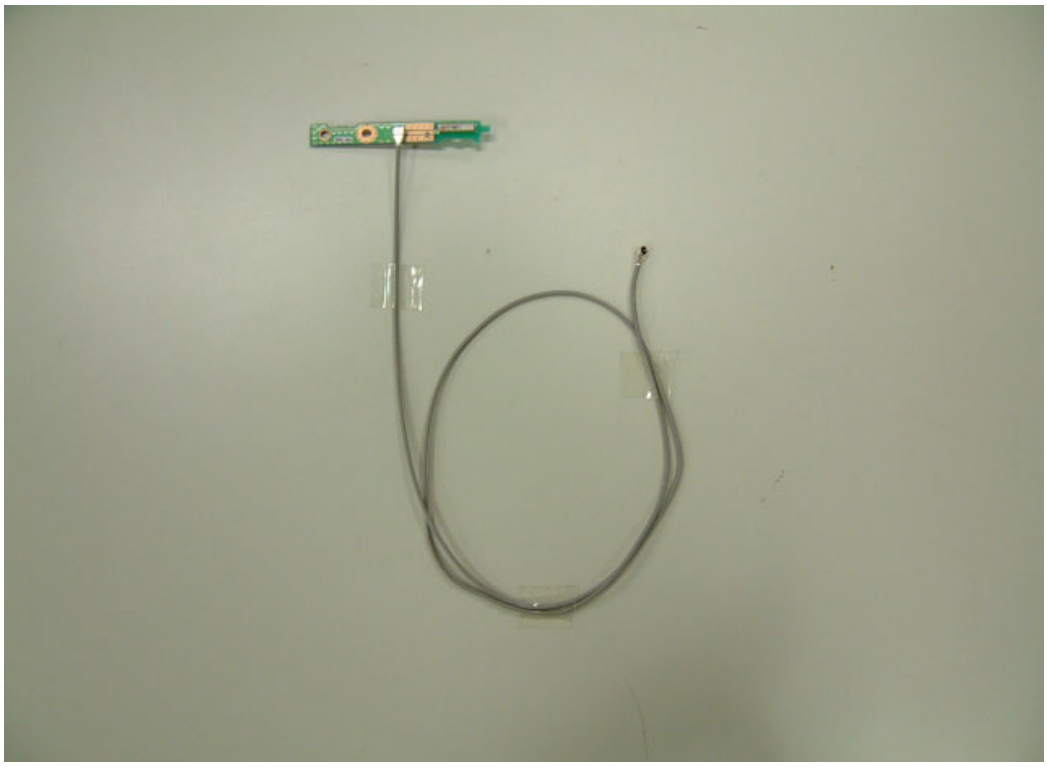
Rear View



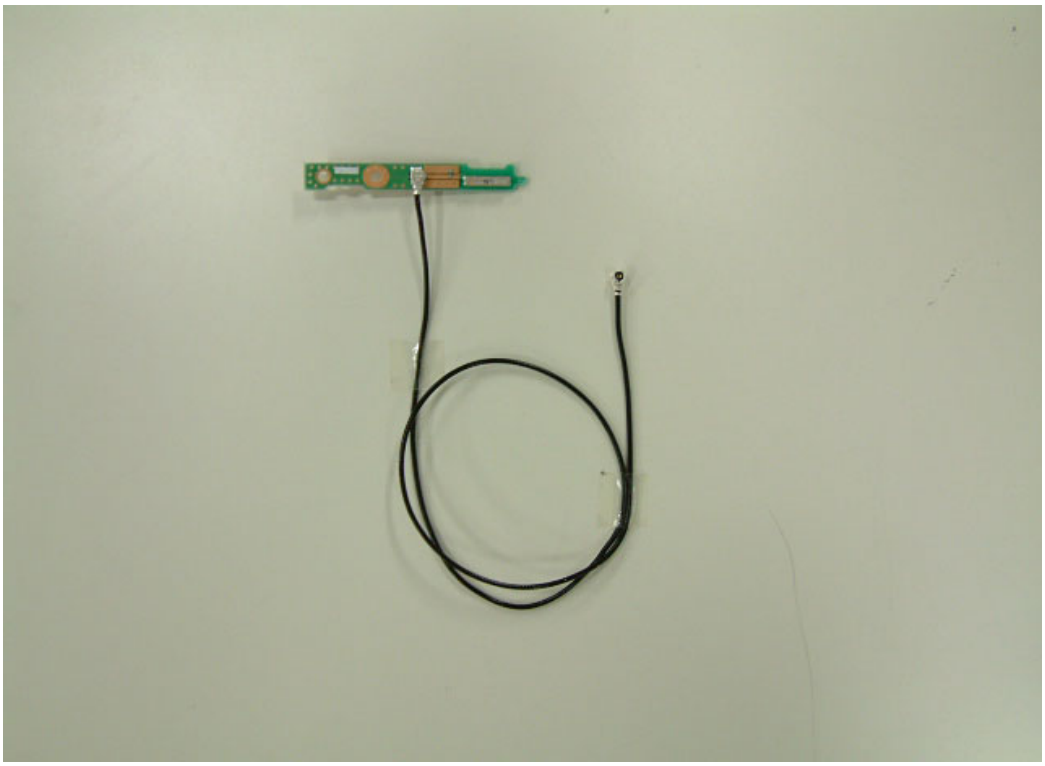




Left-Side Antenna



Right-Side Antenna



Mint(Mint2,Mint3,Mint4) 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/N:YCE-5008) Main antenna Right	Yokowo Co.Ltd	Monopole	(P/N: U.FL-2LP -5016-A-480) 50 ohm Coaxial. length: 48cm diameter: 1.1mm Connector: U.FL	2400-2500MHz 0.81 dBi (peak)	2400-2500MHz 2.11 dBi (peak)	2400-2500MHz 1.20 max	2400-2500MHz 1.30 dBi (peak)
				5150-5350MHz -0.26 dBi (peak)	5150-5350MHz 1.74 dBi (peak)	5150-5350MHz 2.10 max	5150-5350MHz 2.00 dBi (peak)
				5470-5725MHz -1.62 dBi (peak)	5470-5725MHz 0.38 dBi (peak)	5470-5725MHz 2.40 max	5470-5725MHz 2.00 dBi (peak)
				5725-5850MHz 1.45 dBi (peak)	5725-5850MHz 3.45 dBi (peak)	5725-5850MHz 2.50 max	5725-5850MHz 2.00 dBi (peak)
(P/N:YCE-5008) Auxiliary antenna Left	Yokowo Co.Ltd	Monopole	Example: (P/N: U.FL-2LP -5016-A-410) 50 ohm Coaxial. length: 41cm diameter: 1.1mm Connector: U.FL	2400-2500MHz 2.85 dBi (peak)	2400-2500MHz 4.15 dBi (peak)	2400-2500MHz 1.20 max	2400-2500MHz 1.30 dBi (peak)
				5150-5350MHz 0.63 dBi (peak)	5150-5350MHz 2.63 dBi (peak)	5150-5350MHz 2.50 max	5150-5350MHz 2.00 dBi (peak)
				5470-5725MHz -1.69 dBi (peak)	5470-5725MHz 0.31 dBi (peak)	5470-5725MHz 2.80 max	5470-5725MHz 2.00 dBi (peak)
				5725-5850MHz -0.16 dBi (peak)	5725-5850MHz 1.84 dBi (peak)	5725-5850MHz 2.90 max	5725-5850MHz 2.00 dBi (peak)

Ceramic antenna test data

yokowo

To : FUJITSU LIMITED

Application : For W-LAN (IEEE-802.11a,b,g)
Antenna model : YCE-5008
Measurement condition : Mint,Mint2,Mint3,Mint4 (Disp. Upper Left)
Antenna matching : Shunt L (2.2nH)
Correction of cable loss : Non (include loss 1.3dB)

Measurement institution : Yokowo No.3 radio measuring site
Date : 2003/3/20
Measured by : S.Yoshida

f=2400MHz

Plane	Tx	Peak. gain [dBi]	Average gain [dBi]	Tx H & V average [dBi]	Each frequency average [dBi]
X-Y	Horizontal	0.74	-5.67	-7.0	-8.3
	Vertical	-3.28	-8.87		
Y-Z	Horizontal	0.26	-6.51	-7.6	
	Vertical	-1.55	-9.08		
Z-X	Horizontal	-9.83	-14.47	-11.3	
	Vertical	-4.59	-9.55		

X-Y plane all average (all frequency)	-6.9 dBi
Y-Z plane all average (all frequency)	-6.9 dBi
Z-X plane all average (all frequency)	-10.8 dBi
All plane & all frequency average	-7.8 dBi

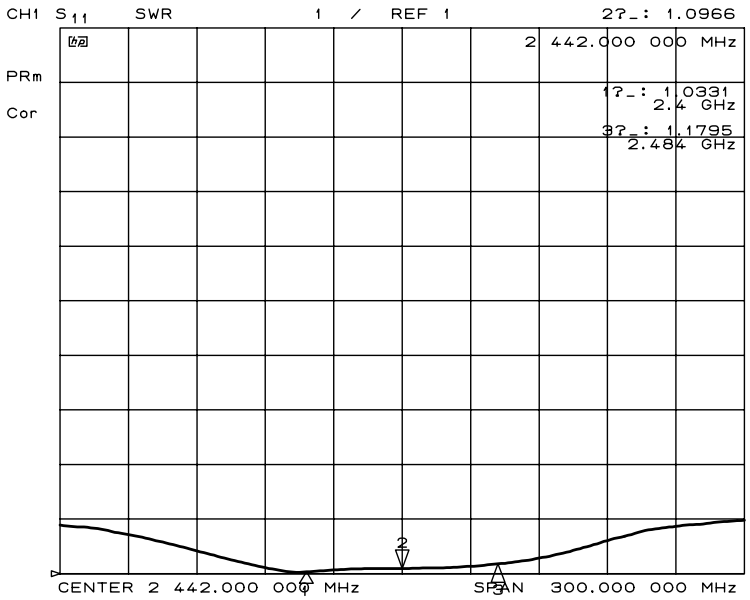
f=2442MHz

Plane	Tx	Peak. gain [dBi]	Average gain [dBi]	Tx H & V average [dBi]	Each frequency average [dBi]
X-Y	Horizontal	0.39	-5.69	-6.9	-7.9
	Vertical	-2.70	-8.59		
Y-Z	Horizontal	0.81	-5.64	-6.8	
	Vertical	-1.41	-8.38		
Z-X	Horizontal	-6.71	-11.63	-11.2	
	Vertical	-5.63	-10.73		

f=2484MHz

Plane	Tx	Peak. gain [dBi]	Average gain [dBi]	Tx H & V average [dBi]	Each frequency average [dBi]
X-Y	Horizontal	0.17	-5.73	-6.8	-7.4
	Vertical	-2.57	-8.35		
Y-Z	Horizontal	0.80	-5.17	-6.4	
	Vertical	-1.44	-8.00		
Z-X	Horizontal	-6.27	-11.04	-9.9	
	Vertical	-3.97	-9.03		

VSWR



yokowo co.,ltd.
1112, Kanohara, Tomioka-shi Gunma, 370-2495, JAPAN Personal Communication Antenna TEL +81 274-62-2127 FAX +81 274-62-2031

Ceramic antenna test data

yokowo

Application : For W-LAN (IEEE-802.11a,b,g)
Antenna model : YCE-5008
Measurement condition : Mint,Mint2,Mint3,Mint4 (Disp. Upper Left)
Antenna matching : Shunt L (2.2nH)
Correction of cable loss : Non (include loss 2.0dB)

Measurement institution : Yokowo No.3 radio measuring site
Date : 2003/3/20
Measured by : S.Yoshida

f=4900MHz

Plane	Tx	Peak. gain [dBi]	Average gain [dBi]	Tx H & V average [dBi]	Each frequency average [dBi]
X-Y	Horizontal	-0.33	-4.79	-5.8	-6.6
	Vertical	-2.03	-7.13		
Y-Z	Horizontal	-0.26	-5.18	-6.3	
	Vertical	-1.89	-7.71		
Z-X	Horizontal	-3.50	-10.05	-8.1	
	Vertical	-1.55	-6.75		

X-Y plane all average (all frequency)	-6.5 dBi
Y-Z plane all average (all frequency)	-6.9 dBi
Z-X plane all average (all frequency)	-7.0 dBi
All plane & all frequency average	-6.8 dBi

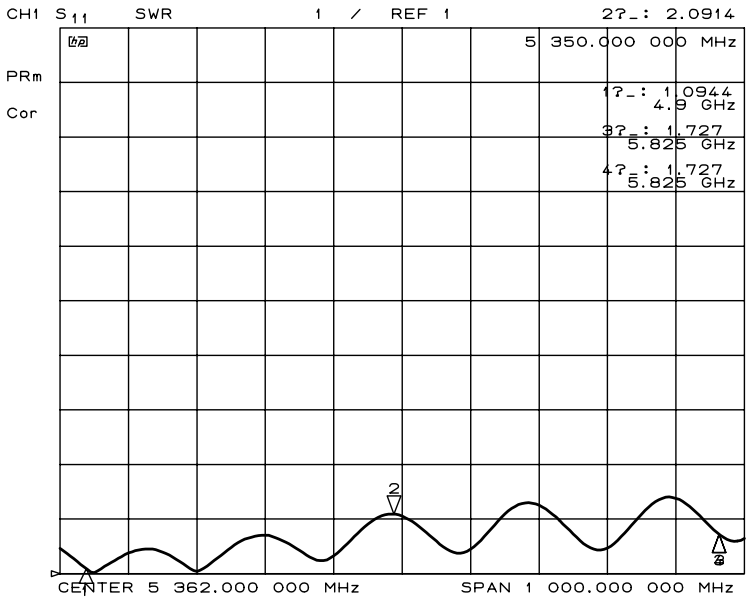
f=5350MHz

Plane	Tx	Peak. gain [dBi]	Average gain [dBi]	Tx H & V average [dBi]	Each frequency average [dBi]
X-Y	Horizontal	-1.62	-6.39	-8.0	-8.4
	Vertical	-5.03	-10.59		
Y-Z	Horizontal	-2.04	-6.74	-8.1	
	Vertical	-3.76	-9.97		
Z-X	Horizontal	-3.76	-10.09	-9.3	
	Vertical	-3.09	-8.57		

f=5825MHz

Plane	Tx	Peak. gain [dBi]	Average gain [dBi]	Tx H & V average [dBi]	Each frequency average [dBi]
X-Y	Horizontal	0.96	-4.43	-6.1	-5.8
	Vertical	-3.31	-8.94		
Y-Z	Horizontal	0.61	-4.63	-6.6	
	Vertical	-5.25	-10.12		
Z-X	Horizontal	-4.22	-9.47	-4.8	
	Vertical	1.45	-2.59		

VSWR



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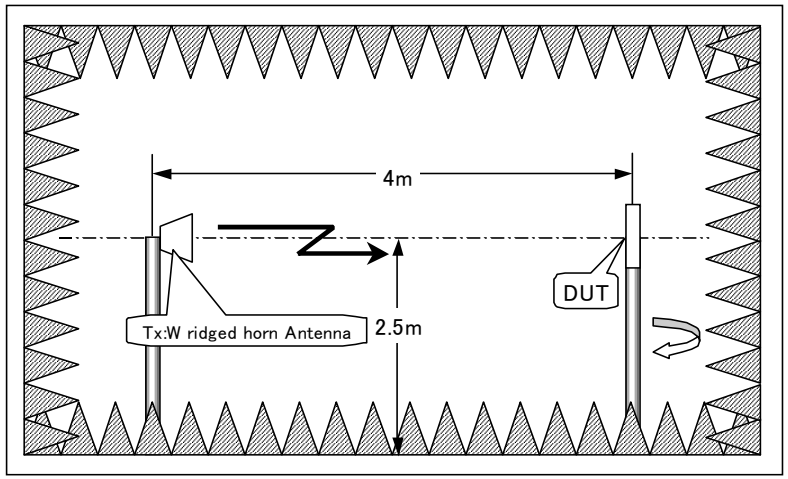
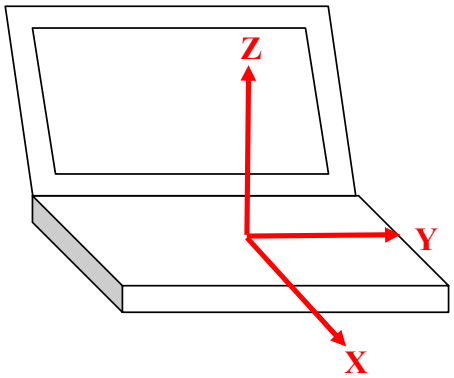
Ceramic antenna test data

yokowo

Measurement condition



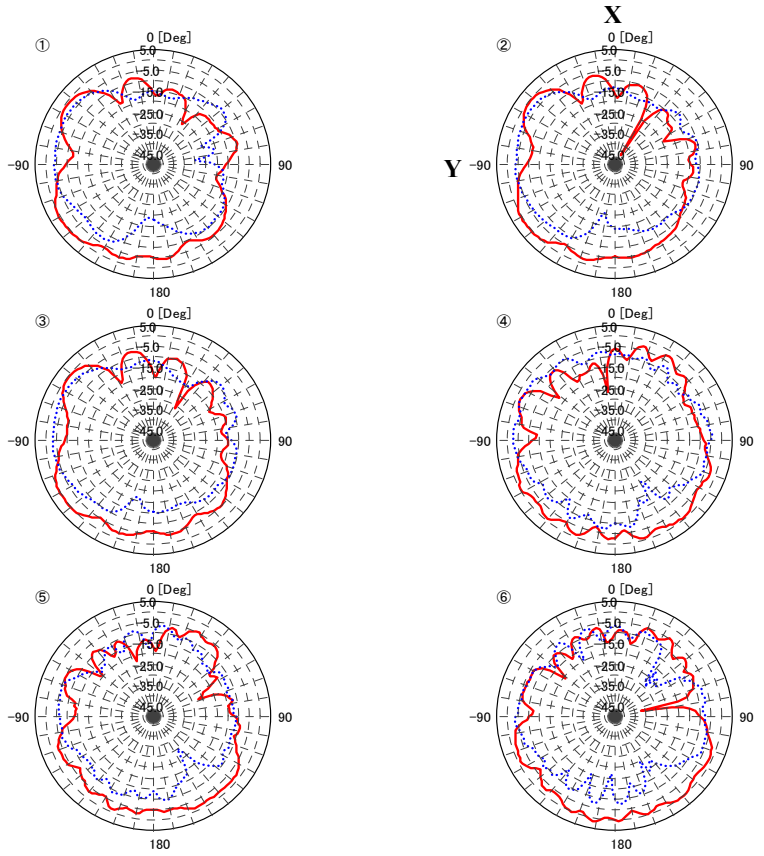
Antenna coordinated



Field pattern X-Y plane

Fj-030320-005.ant
S.Yoshida
03/03/20
Mint with YCE-5008 L-ANT X-Y

All AVG. -6.72[dBi]
All MAX. AVG. -1.18[dBi]



	Line	No.	Frequency[MHz]	MEMO		MAX. Gain[dBi]	AVG. Gain[dBi]
1		①	2400.00	Tx-H		0.74	-5.67
2		①	2400.00	Tx-V		-3.28	-8.87
3		②	2442.00	Tx-H		0.39	-5.69
4		②	2442.00	Tx-V		-2.70	-8.59
5		③	2484.00	Tx-H		0.17	-5.73
6		③	2484.00	Tx-V		-2.57	-8.35
7		④	4900.00	Tx-H		-0.33	-4.79
8		④	4900.00	Tx-V		-2.03	-7.13
9		⑤	5350.00	Tx-H		-1.62	-6.39
10		⑤	5350.00	Tx-V		-5.03	-10.59
11		⑥	5825.00	Tx-H		0.96	-4.43
12		⑥	5825.00	Tx-V		-3.31	-8.94

yokowo co.,ltd.
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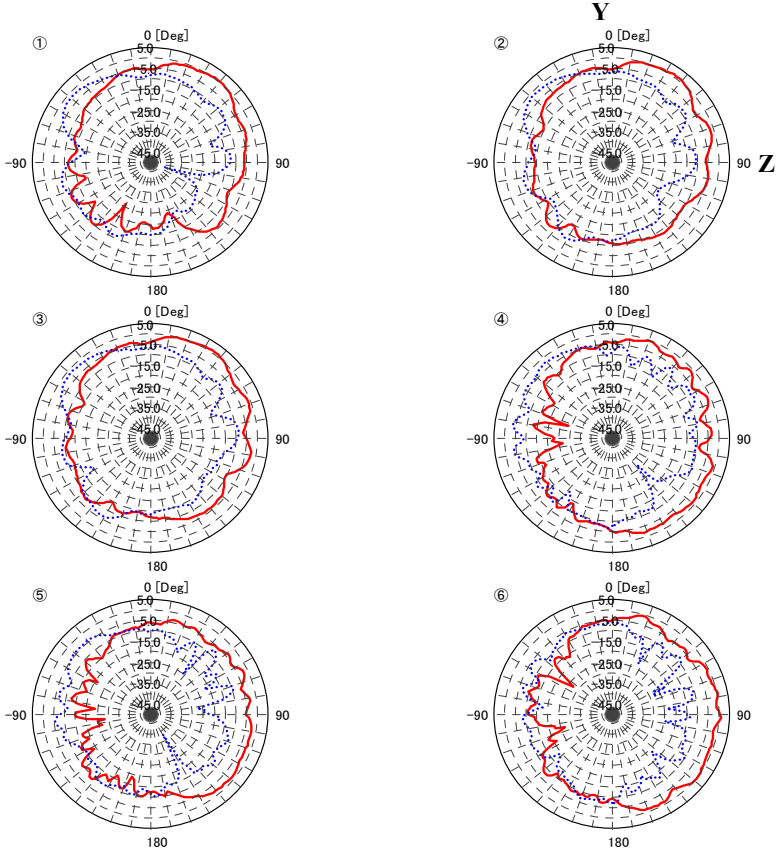
Ceramic antenna test data

yokowo

Field pattern Y-Z plane

Fj-030320-007.ant
S.Yoshida
03/03/20
Mint with YCE-5008 L-ANT Y-Z

All AVG. -6.89[dBi]
All MAX. AVG. -0.93[dBi]

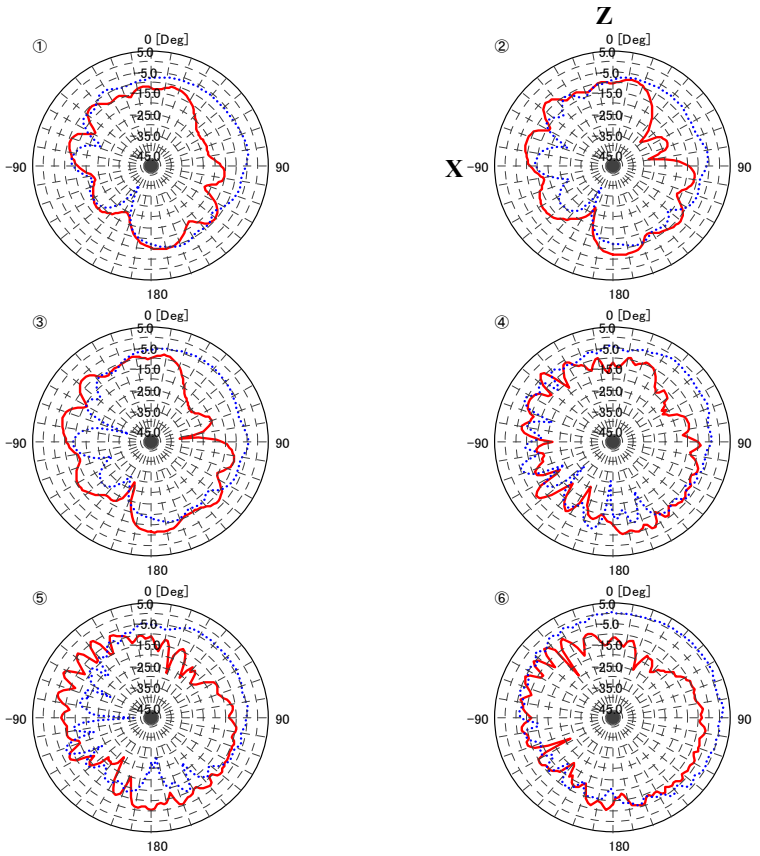


	Line	No.	Frequency[MHz]	MEMO		MAX. Gain[dBi]	AVG. Gain[dBi]
1		①	2400.00	Tx-H		0.26	-6.51
2		①	2400.00	Tx-V		-1.55	-9.08
3		②	2442.00	Tx-H		0.81	-5.64
4		②	2442.00	Tx-V		-1.41	-8.38
5		③	2484.00	Tx-H		0.80	-5.17
6		③	2484.00	Tx-V		-1.44	-8.00
7		④	4900.00	Tx-H		-0.26	-5.18
8		④	4900.00	Tx-V		-1.89	-7.71
9		⑤	5350.00	Tx-H		-2.04	-6.74
10		⑤	5350.00	Tx-V		-3.76	-9.97
11		⑥	5825.00	Tx-H		0.61	-4.63
12		⑥	5825.00	Tx-V		-5.25	-10.12

Field pattern Z-X plane

Fj-030320-013
S.Yoshida
03/03/20
Mint with YCE-5008 L-ANT Z-X

All AVG. -8.45[dBi]
All MAX. AVG. -3.46[dBi]



	Line	No.	Frequency[MHz]	MEMO		MAX. Gain[dBi]	AVG. Gain[dBi]
1		①	2400.00	Tx-H		-9.83	-14.47
2		①	2400.00	Tx-V		-4.59	-9.55
3		②	2442.00	Tx-H		-6.71	-11.63
4		②	2442.00	Tx-V		-5.63	-10.73
5		③	2484.00	Tx-H		-6.27	-11.04
6		③	2484.00	Tx-V		-3.97	-9.03
7		④	4900.00	Tx-H		-3.50	-10.05
8		④	4900.00	Tx-V		-1.55	-6.75
9		⑤	5350.00	Tx-H		-3.76	-10.09
10		⑤	5350.00	Tx-V		-3.09	-8.57
11		⑥	5825.00	Tx-H		-4.22	-9.47
12		⑥	5825.00	Tx-V		1.45	-2.59

yokowo co.,ltd.
1112, Kanohara, Tomioka-shi Gunma, 370-2495, JAPAN Personal Communication Antenna TEL +81 274-62-2127 FAX +81 274-62-2031

Ceramic antenna test data

yokowo

To : FUJITSU LIMITED

Application : For W-LAN (IEEE-802.11a,b,g)
Antenna model : YCE-5008
Measurement condition : Mint,Mint2,Mint3,Mint4 (Disp. Upper Right)
Antenna matching : Shunt L (2.2nH)
Correction of cable loss : Non (include loss 1.3dB)

Measurement institution : Yokowo No.3 radio measuring site
Date : 2003/3/20
Measured by : S.Yoshida

f=2400MHz

Plane	Tx	Peak. gain [dBi]	Average gain [dBi]	Tx H & V average [dBi]	Each frequency average [dBi]
X-Y	Horizontal	2.44	-4.45	-5.3	-6.6
	Vertical	-0.44	-6.47		
Y-Z	Horizontal	2.36	-4.19	-6.0	
	Vertical	-0.98	-9.21		
Z-X	Horizontal	-3.30	-10.19	-9.4	
	Vertical	-4.75	-8.71		

X-Y plane all average (all frequency)	-5.1 dBi
Y-Z plane all average (all frequency)	-5.7 dBi
Z-X plane all average (all frequency)	-8.5 dBi
All plane & all frequency average	-6.2 dBi

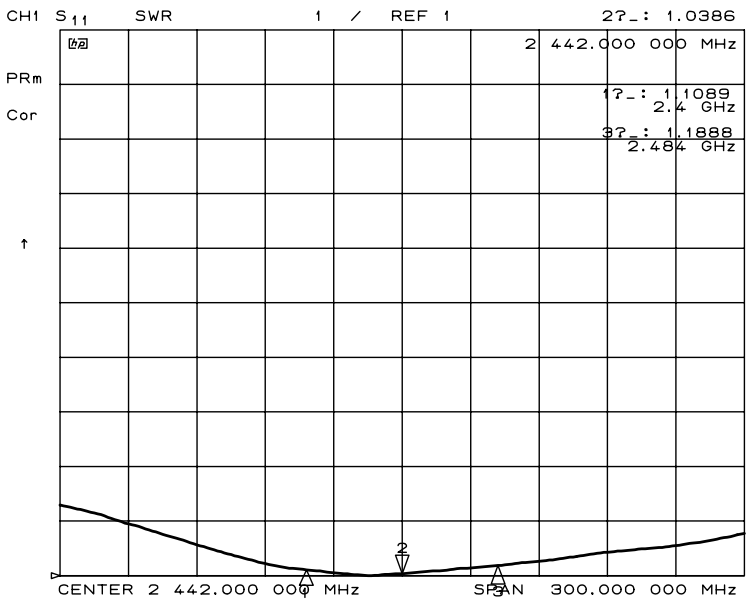
f=2442MHz

Plane	Tx	Peak. gain [dBi]	Average gain [dBi]	Tx H & V average [dBi]	Each frequency average [dBi]
X-Y	Horizontal	2.63	-4.10	-5.0	-6.1
	Vertical	-0.09	-6.17		
Y-Z	Horizontal	2.26	-3.87	-5.6	
	Vertical	-1.03	-8.48		
Z-X	Horizontal	-3.40	-9.36	-8.6	
	Vertical	-3.65	-8.02		

f=2484MHz

Plane	Tx	Peak. gain [dBi]	Average gain [dBi]	Tx H & V average [dBi]	Each frequency average [dBi]
X-Y	Horizontal	2.85	-3.92	-4.9	-5.9
	Vertical	-0.03	-6.27		
Y-Z	Horizontal	2.05	-3.99	-5.6	
	Vertical	-0.32	-8.30		
Z-X	Horizontal	-3.68	-9.76	-7.6	
	Vertical	-1.86	-6.19		

VSWR



yokowo co.,ltd.
1112, Kanohara, Tomioka-shi Gunma, 370-2495, JAPAN Personal Communication Antenna TEL +81 274-62-2127 FAX +81 274-62-2031

Ceramic antenna test data

yokowo

Application : For W-LAN (IEEE-802.11a,b,g)
Antenna model : YCE-5008
Measurement condition : Mint,Mint2,Mint3,Mint4 (Disp. Upper Right)
Antenna matching : Shunt L (2.2nH)
Correction of cable loss : Non (include loss 2.0dB)

Measurement institution : Yokowo No.3 radio measuring site
Date : 2003/3/20
Measured by : S.Yoshida

f=4900MHz

Plane	Tx	Peak. gain [dBi]	Average gain [dBi]	Tx H & V average [dBi]	Each frequency average [dBi]
X-Y	Horizontal	-0.75	-4.56	-5.2	-5.8
	Vertical	-2.03	-5.97		
Y-Z	Horizontal	0.63	-4.50	-5.6	
	Vertical	-0.04	-6.96		
Z-X	Horizontal	-0.28	-6.23	-7.0	
	Vertical	-3.81	-7.85		
		0.63			

X-Y plane all average (all frequency)	-6.5 dBi
Y-Z plane all average (all frequency)	-6.7 dBi
Z-X plane all average (all frequency)	-6.9 dBi
All plane & all frequency average	-6.7 dBi

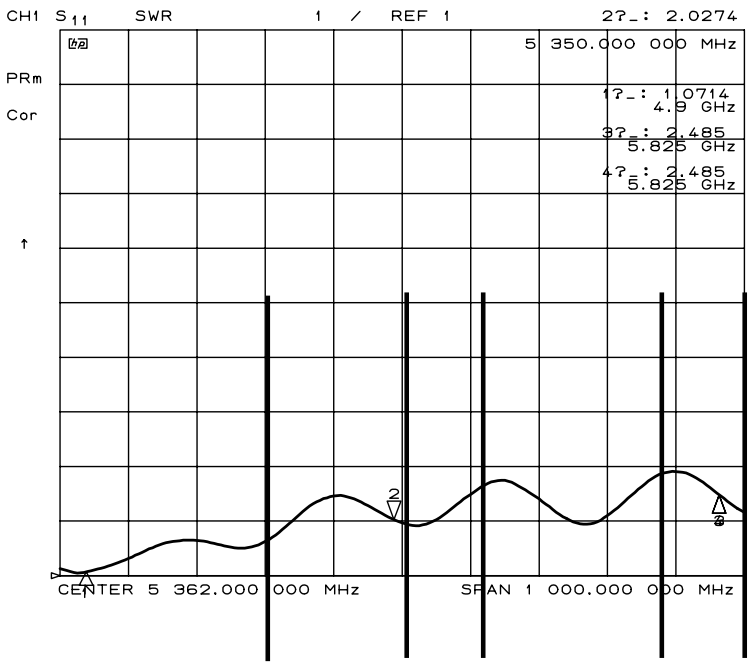
f=5350MHz

Plane	Tx	Peak. gain [dBi]	Average gain [dBi]	Tx H & V average [dBi]	Each frequency average [dBi]
X-Y	Horizontal	-2.78	-7.06	-8.2	-8.4
	Vertical	-4.44	-9.67		
Y-Z	Horizontal	-1.69	-6.64	-8.2	
	Vertical	-4.26	-10.67		
Z-X	Horizontal	-2.94	-8.08	-8.8	
	Vertical	-5.00	-9.68		
		-1.69			

f=5825MHz

Plane	Tx	Peak. gain [dBi]	Average gain [dBi]	Tx H & V average [dBi]	Each frequency average [dBi]
X-Y	Horizontal	-0.97	-5.17	-6.5	-6.2
	Vertical	-2.23	-8.47		
Y-Z	Horizontal	-0.27	-4.71	-6.8	
	Vertical	-3.79	-10.77		
Z-X	Horizontal	-1.31	-8.78	-5.5	
	Vertical	-0.16	-3.65		

VSWR

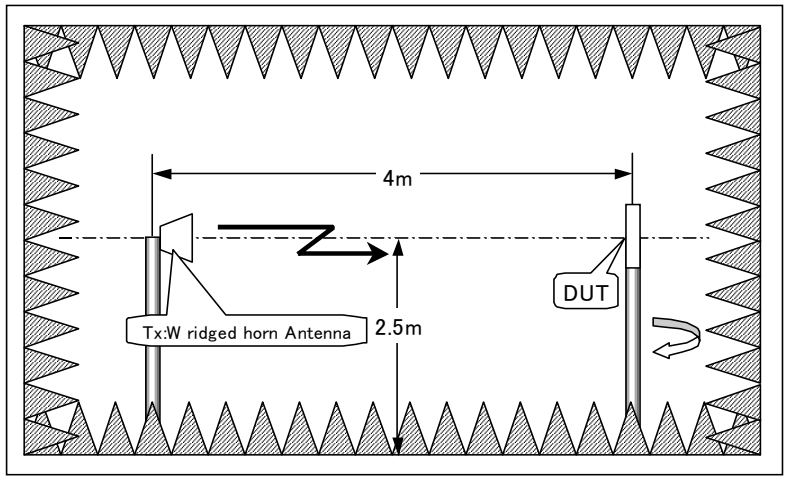


yokowo co.,ltd.
1112, Kanohara, Tomioka-shi Gunma, 370-2495, JAPAN Personal Communication Antenna TEL +81 274-62-2127 FAX +81 274-62-2031

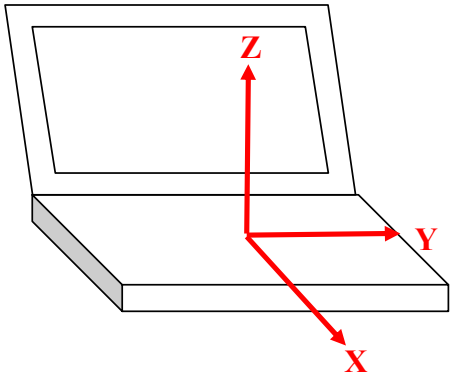
Ceramic antenna test data

yokowo

Measurement condition



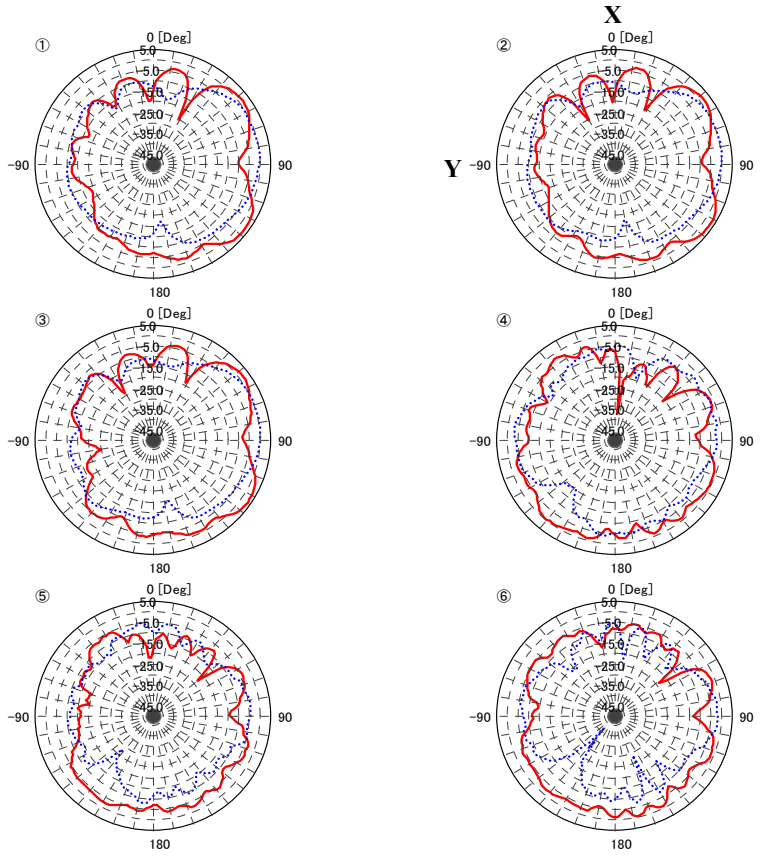
Antenna coordinated



Field pattern X-Y plane

Fj-030320-003.ant
S.Yoshida
03/03/20
Mint with YCE-5008 R-ANT X-Y

All AVG. -5.73[dBi]
All MAX. AVG. 0.05[dBi]



	Line	No.	Frequency[MHz]	MEMO		MAX. Gain[dBi]	AVG. Gain[dBi]
1		①	2400.00	Tx-H		2.44	-4.45
2		①	2400.00	Tx-V		-0.44	-6.47
3		②	2442.00	Tx-H		2.63	-4.10
4		②	2442.00	Tx-V		-0.09	-6.17
5		③	2484.00	Tx-H		2.85	-3.92
6		③	2484.00	Tx-V		-0.03	-6.27
7		④	4900.00	Tx-H		-0.75	-4.56
8		④	4900.00	Tx-V		-2.03	-5.97
9		⑤	5350.00	Tx-H		-2.78	-7.06
10		⑤	5350.00	Tx-V		-4.44	-9.67
11		⑥	5825.00	Tx-H		-0.97	-5.17
12		⑥	5825.00	Tx-V		-2.23	-8.47

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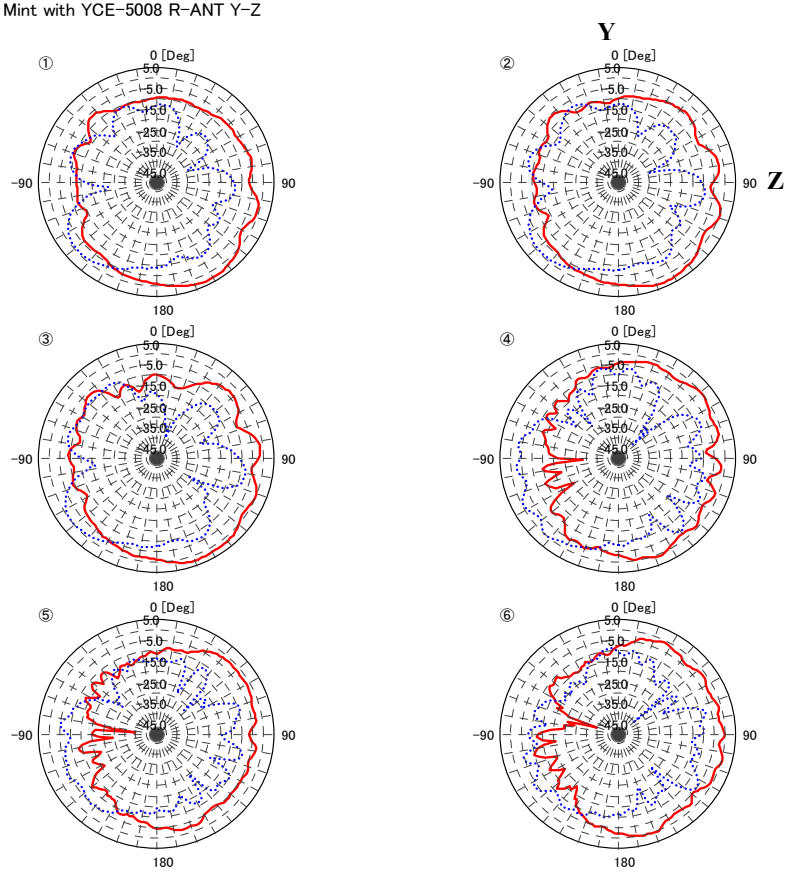
Ceramic antenna test data

yokowo

Field pattern Y-Z plane

Fj-030320-009.ant
S.Yoshida
03/03/20
Mint with YCE-5008 R-ANT Y-Z

All AVG. -6.20[dBi]
All MAX. AVG. 0.03[dBi]

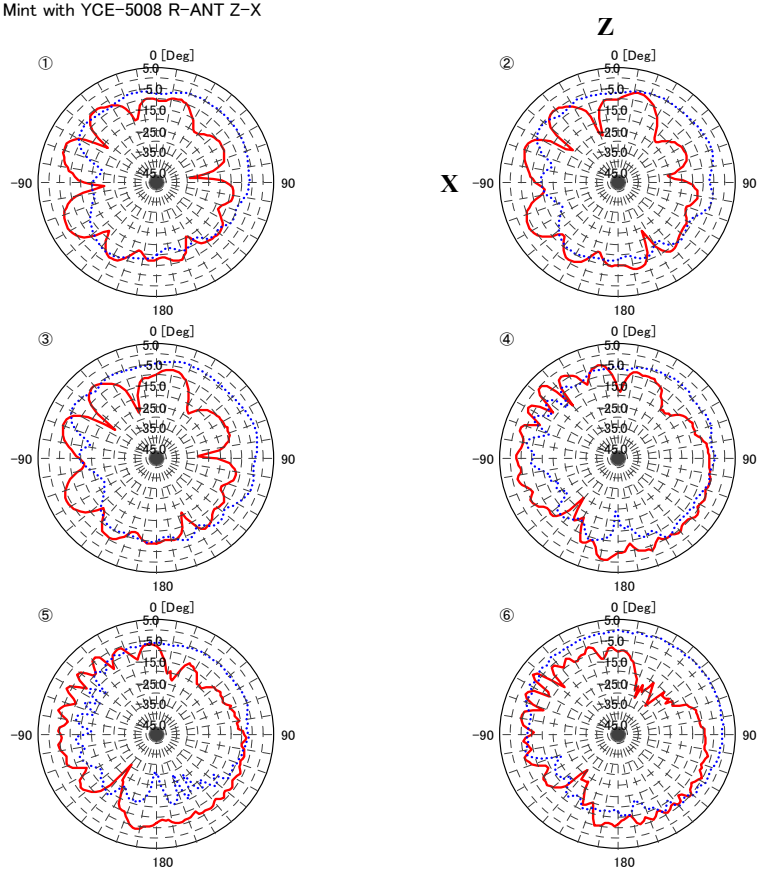


	Line	No.	Frequency[MHz]	MEMO		MAX. Gain[dBi]	AVG. Gain[dBi]
1		①	2400.00	Tx-H		2.36	-4.19
2		①	2400.00	Tx-V		-0.98	-9.21
3		②	2442.00	Tx-H		2.26	-3.87
4		②	2442.00	Tx-V		-1.03	-8.48
5		③	2484.00	Tx-H		2.05	-3.99
6		③	2484.00	Tx-V		-0.32	-8.30
7		④	4900.00	Tx-H		0.63	-4.50
8		④	4900.00	Tx-V		-0.04	-6.96
9		⑤	5350.00	Tx-H		-1.69	-6.64
10		⑤	5350.00	Tx-V		-4.26	-10.67
11		⑥	5825.00	Tx-H		-0.27	-4.71
12		⑥	5825.00	Tx-V		-3.79	-10.77

Field pattern Z-X plane

Fj-030320-011.ant
S.Yoshida
03/03/20
Mint with YCE-5008 R-ANT Z-X

All AVG. -7.61[dBi]
All MAX. AVG. -2.56[dBi]



	Line	No.	Frequency[MHz]	MEMO		MAX. Gain[dBi]	AVG. Gain[dBi]
1		①	2400.00	Tx-H		-3.30	-10.19
2		①	2400.00	Tx-V		-4.75	-8.71
3		②	2442.00	Tx-H		-3.40	-9.36
4		②	2442.00	Tx-V		-3.65	-8.02
5		③	2484.00	Tx-H		-3.68	-9.76
6		③	2484.00	Tx-V		-1.86	-6.19
7		④	4900.00	Tx-H		-0.28	-6.23
8		④	4900.00	Tx-V		-3.81	-7.85
9		⑤	5350.00	Tx-H		-2.94	-8.08
10		⑤	5350.00	Tx-V		-5.00	-9.68
11		⑥	5825.00	Tx-H		-1.31	-8.78
12		⑥	5825.00	Tx-V		-0.16	-3.65

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Mint,Mint2,Mint3,Mint4 Antenna Summary

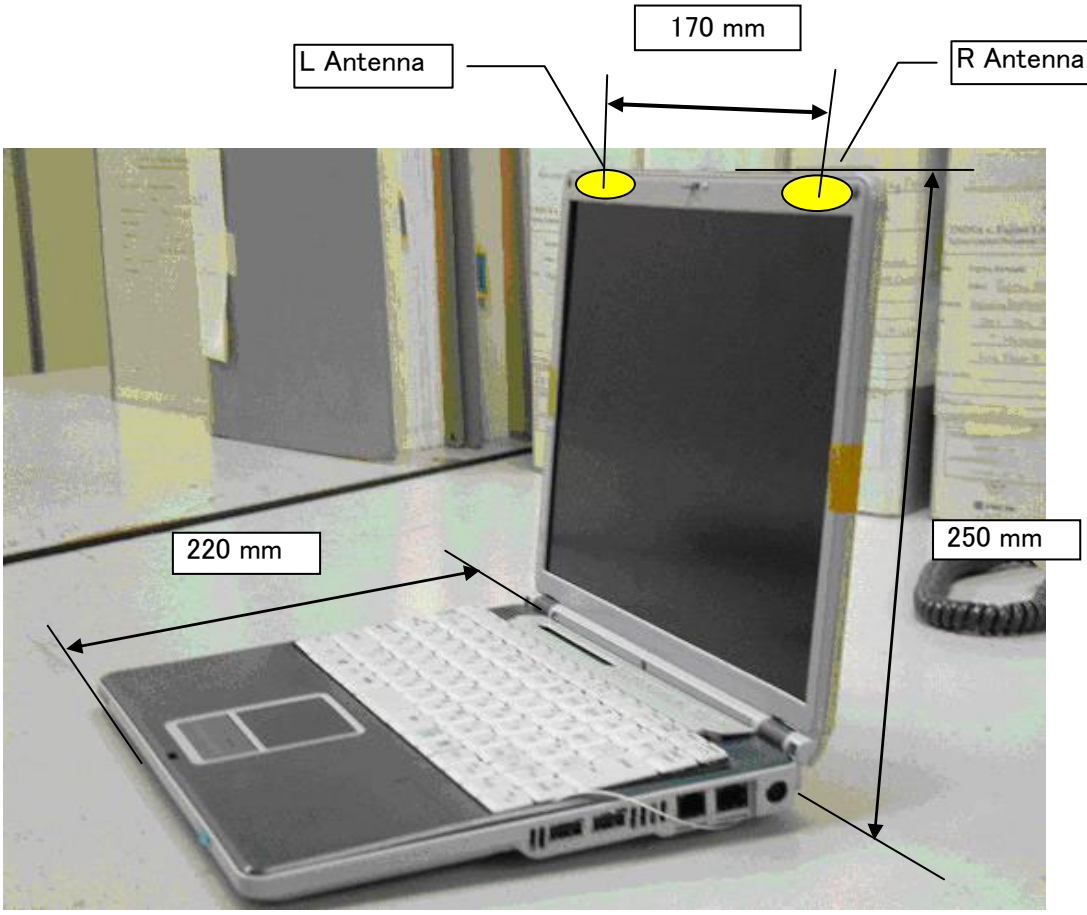
Designator Manufacture	Fujitsu
Antenna Type	Monopole
Cable type (length)	Coax(480mm)
P/N	YCE-5008
Gain	MAX : 2.85(dBi) *see Note

Note:

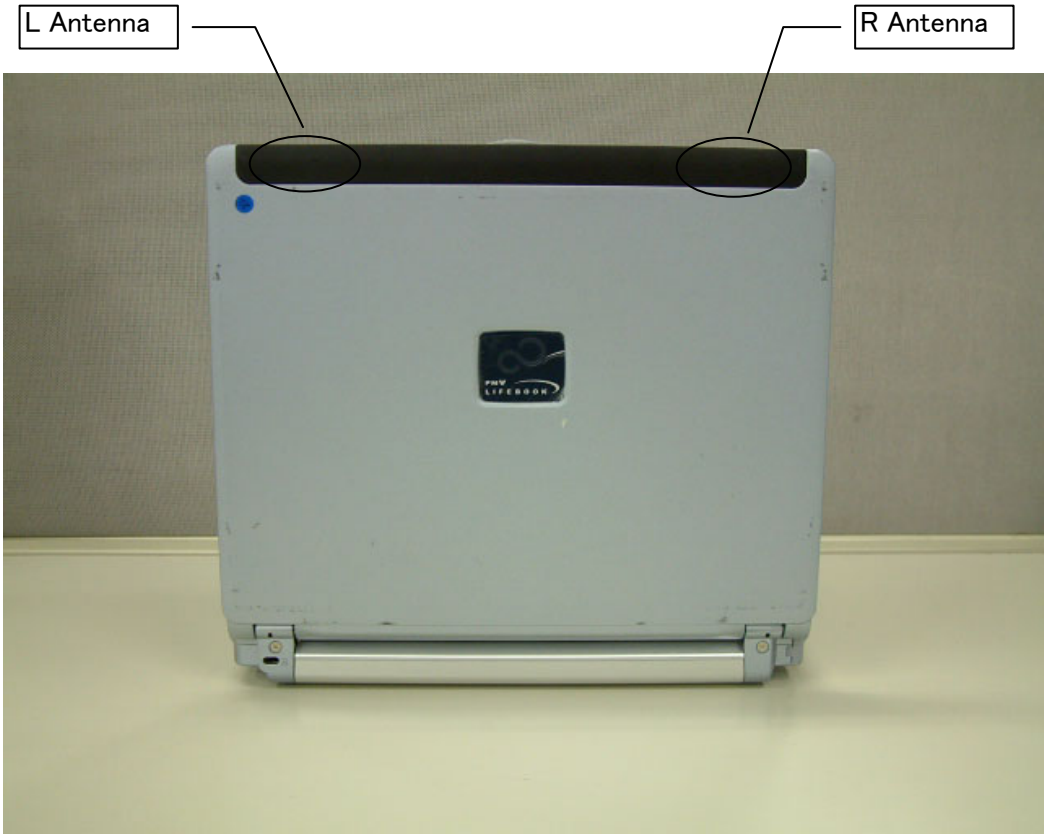
1. Includes all cable losses.

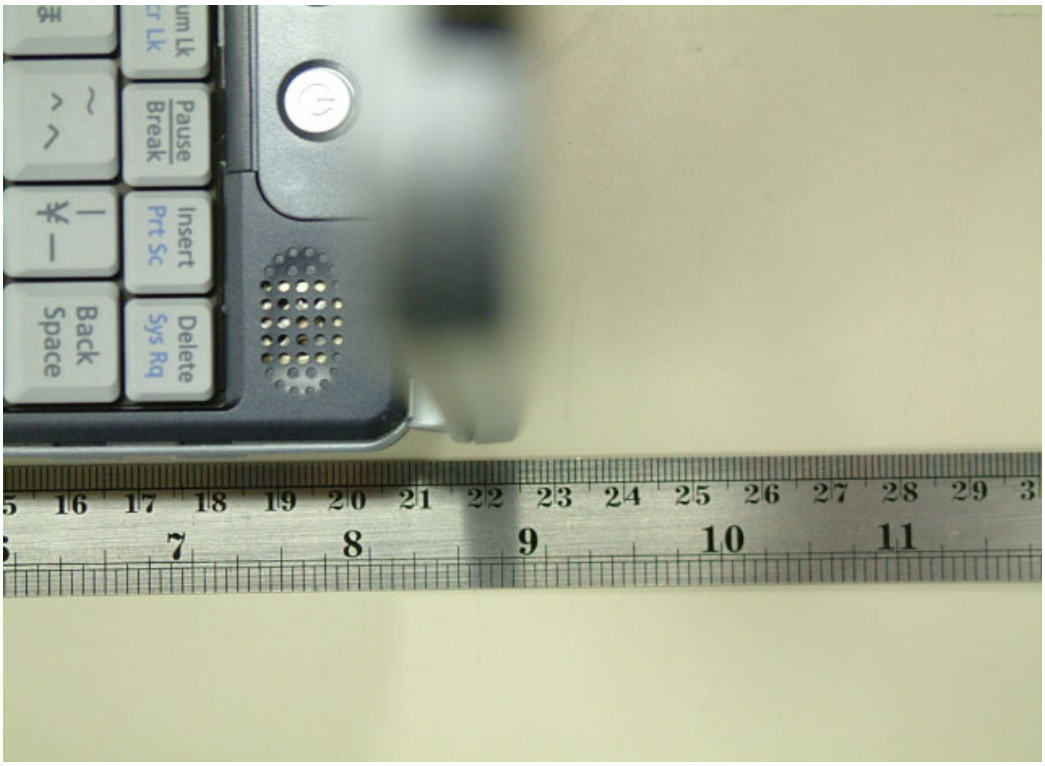
Picture:

Front View

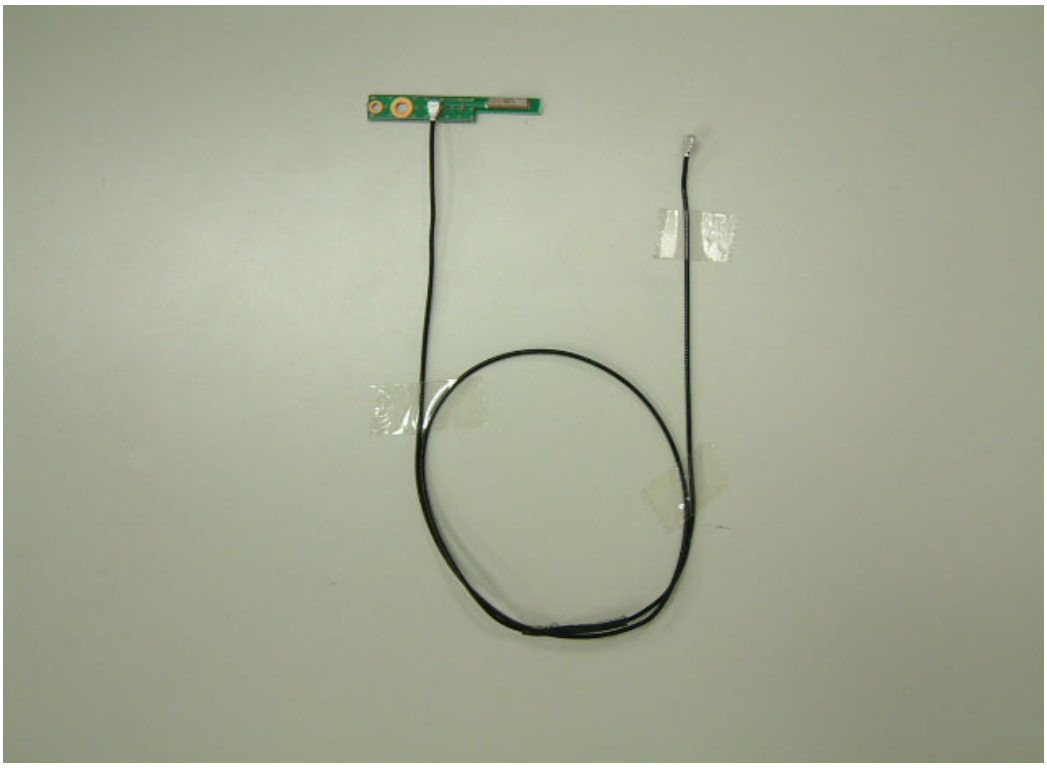


Rear View

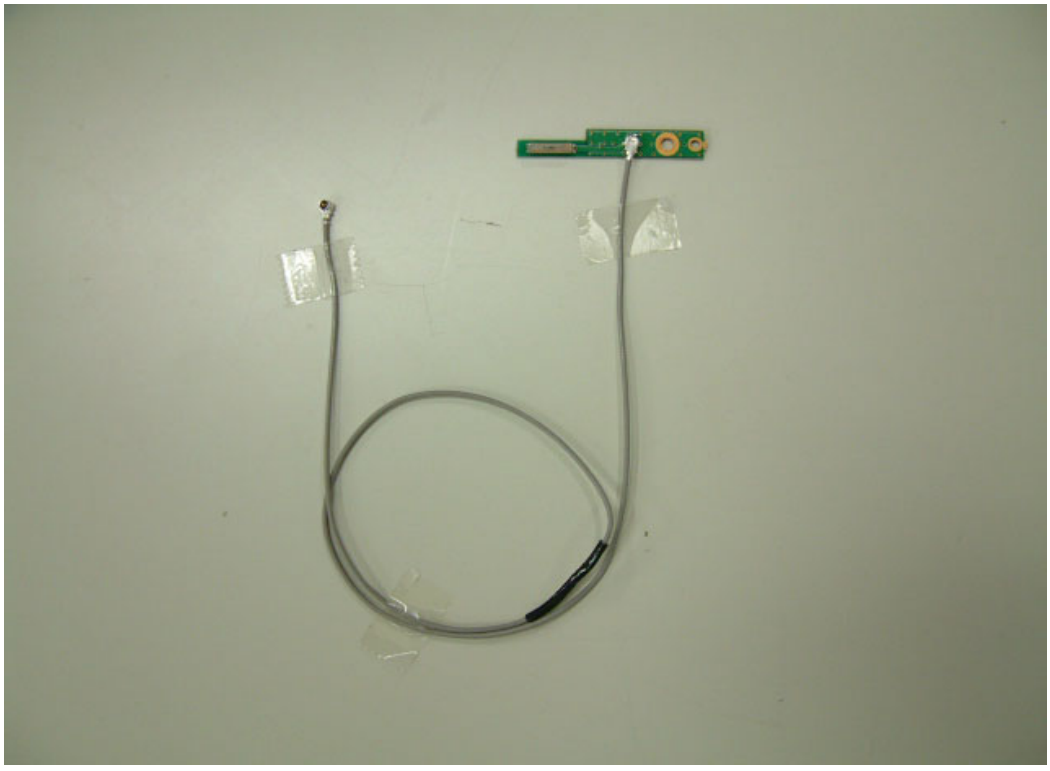




Left-Side Antenna



Right-Side Antenna



Regulatory Antenna Information Example

(English Required)

Antenna Information

I. Antenna Assembly Specifications

Antenna assembly overview: Peak Gain including cable loss.

Designator	Manufacture	Antenna type	Cable Assembly Info.	Peak Gain W/ Cable loss, dBi
Main antenna (P/N: WDAN-Q1CT1001)	FOXCONN	PIFA	50 ohm Coaxial with 1.13 mm OD Length: 550 mm Connector: SGX	2400-2500MHz 2.510
				5150-5350MHz -1.050
				5470-5725MHz -1.090
				5725-5850MHz
Auxiliary antenna (P/N: WDAN-Q1CT1001)	FOXCONN	PIFA	50 ohm Coaxial with 1.13 mm OD Length: 695 mm Connector: SGX	2400-2500MHz 2.110
				5150-5350MHz -2.940
				5470-5725MHz -1.840
				5725-5850MHz

Antenna overview: Peak Gain not including cable loss.

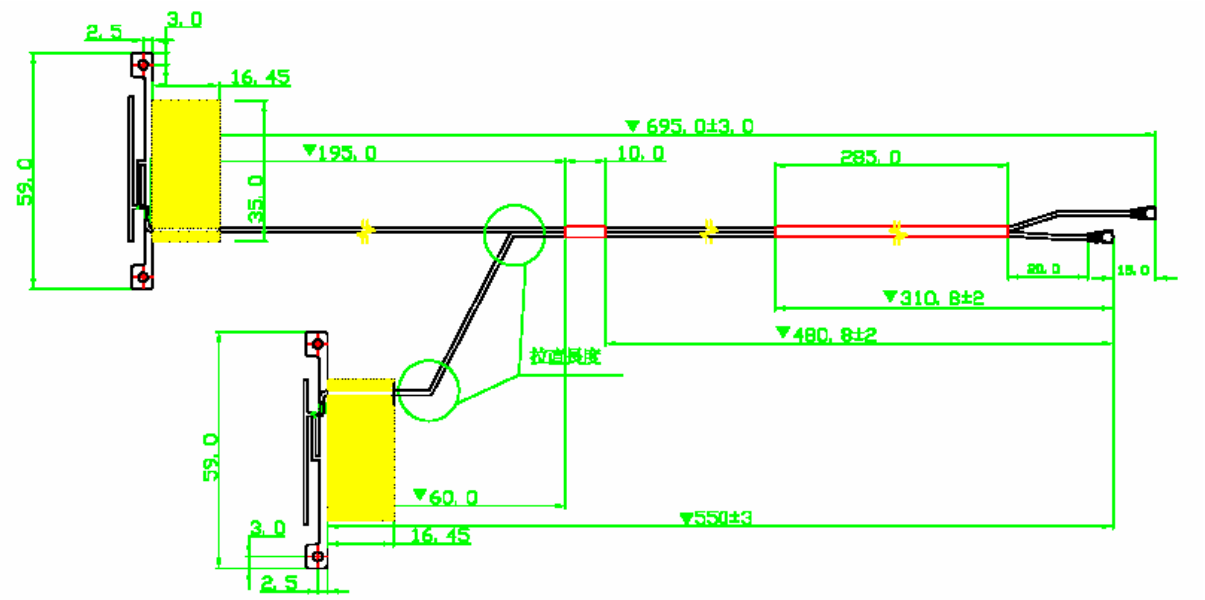
Antenna Designator	Manufacture	Antenna type	Peak Gain w/o Cable Loss, dBi
Main antenna (P/N: WDAN-Q1CT1001)	FOXCONN	PIFA with sheet metal material	2400-2500MHz 4.003
			5150-5350MHz 1.200
			5470-5725MHz 1.237
			5725-5850MHz
Auxiliary antenna (P/N: WDAN-Q1CT1001)	FOXCONN	PIFA with sheet metal material	2400-2500MHz 3.997
			5150-5350MHz -0.056
			5470-5725MHz 1.101
			5725-5850MHz

Cable assembly overview: Cable loss (including connector).

Designator	Manufacture	Cable type and Length	VSWR, max	Cable Loss, dBi (peak)
Main antenna (P/N: WDAN-Q1CT1001)	FOXCONN	(p/n: 703-3200-211) 50 ohm Coaxial 550 mm Length	2400-2500MHz 1.556 5150-5350MHz 1.564 5470-5725MHz 1.552 5725-5850MHz	2400-2500MHz -1.493 5150-5350MHz -2.250 5470-5725MHz -2.327 5725-5850MHz
Auxiliary antenna (P/N: WDAN-Q1CT1001)	FOXCONN	(p/n: 703-3208-211) 50 ohm Coaxial 695 mm Length	2400-2500MHz 1.324 5150-5350MHz 1.483 5470-5725MHz 1.536 5725-5850MHz	2400-2500MHz -1.887 5150-5350MHz -2.844 5470-5725MHz -2.941 5725-5850MHz

Please insert mechanical drawings of antenna here.

Main & Aux Antenna Assembly

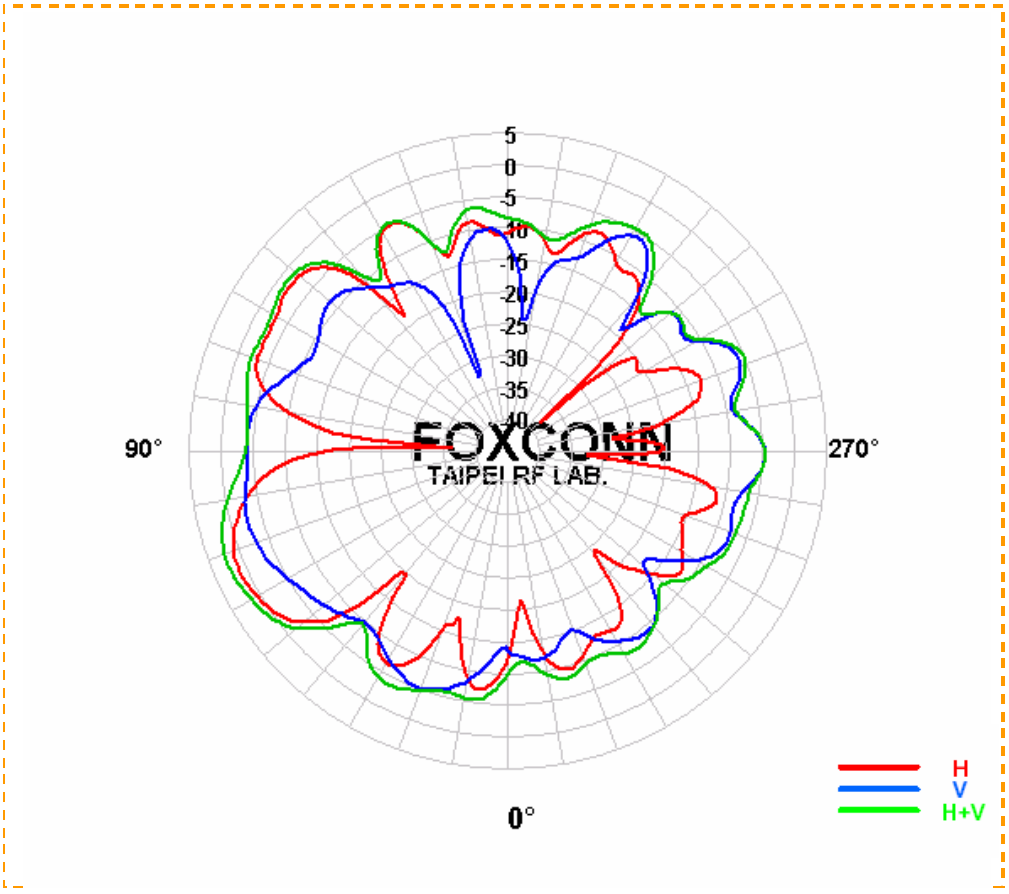


Radiation characteristic of antennae
{Free Space / Loaded (In Host System) }

Total Gain, dBi = 10*log(10^(Horizontal Partial Gain, dBi/10)+10^(Vertical Polarization Partial Gain, dBi/10))
* Horiz+Vert (dBi) peak = 10*log(10^(Horizontal (dBi) peak/10) + 10^(Vertical (dBi) peak/10)

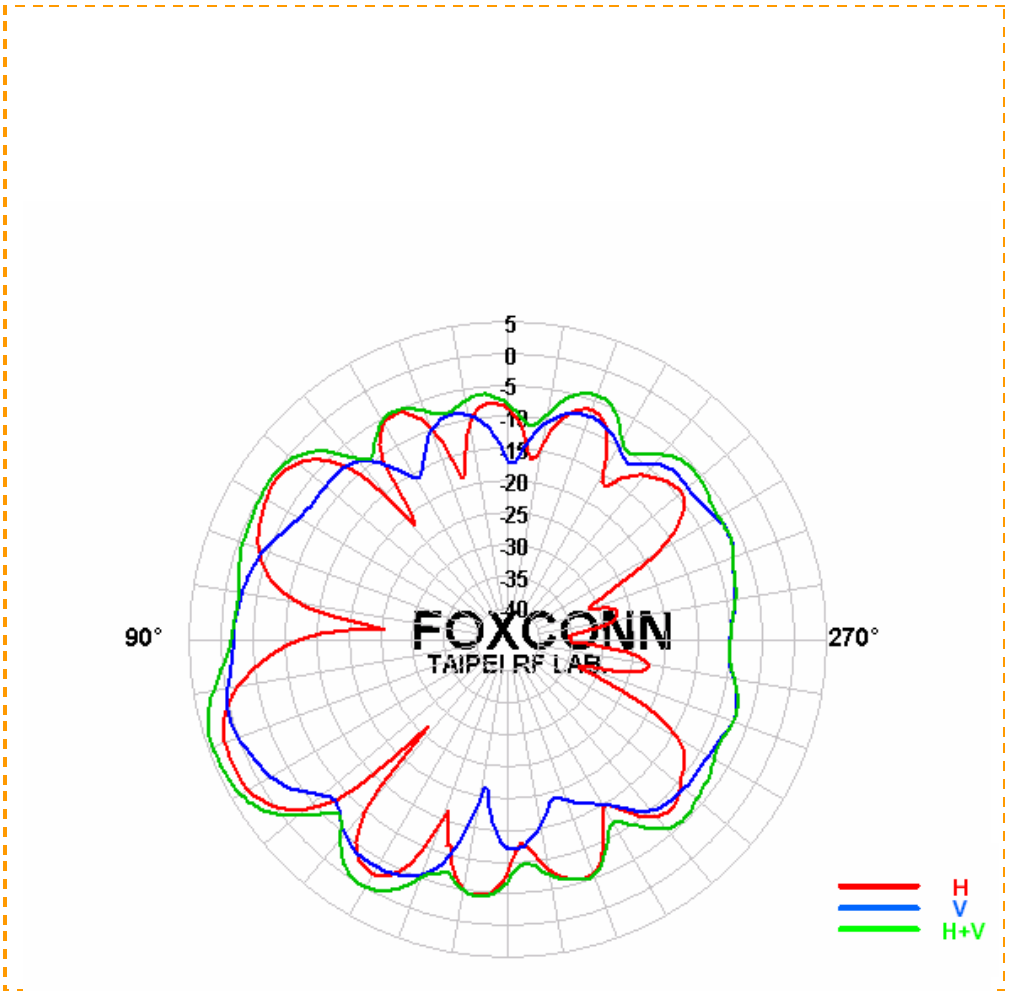
2400-2500MHz radiation characteristic

Main antenna: 2400 MHz



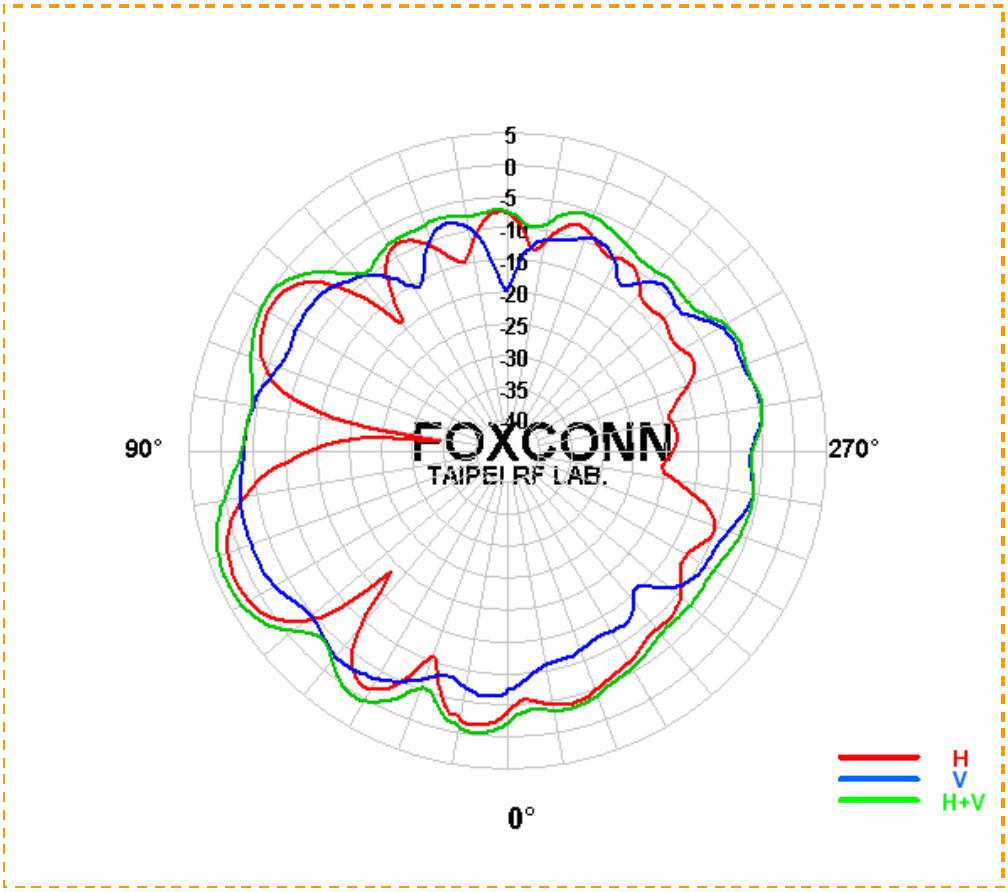
Center Frequency	**2400 MHz**
Horizontal (dBi) peak	**1.16**
Vertical (dBi) peak	-2.70
Horz+Vert (dBi) peak	2.45

Main antenna: 2450 MHz



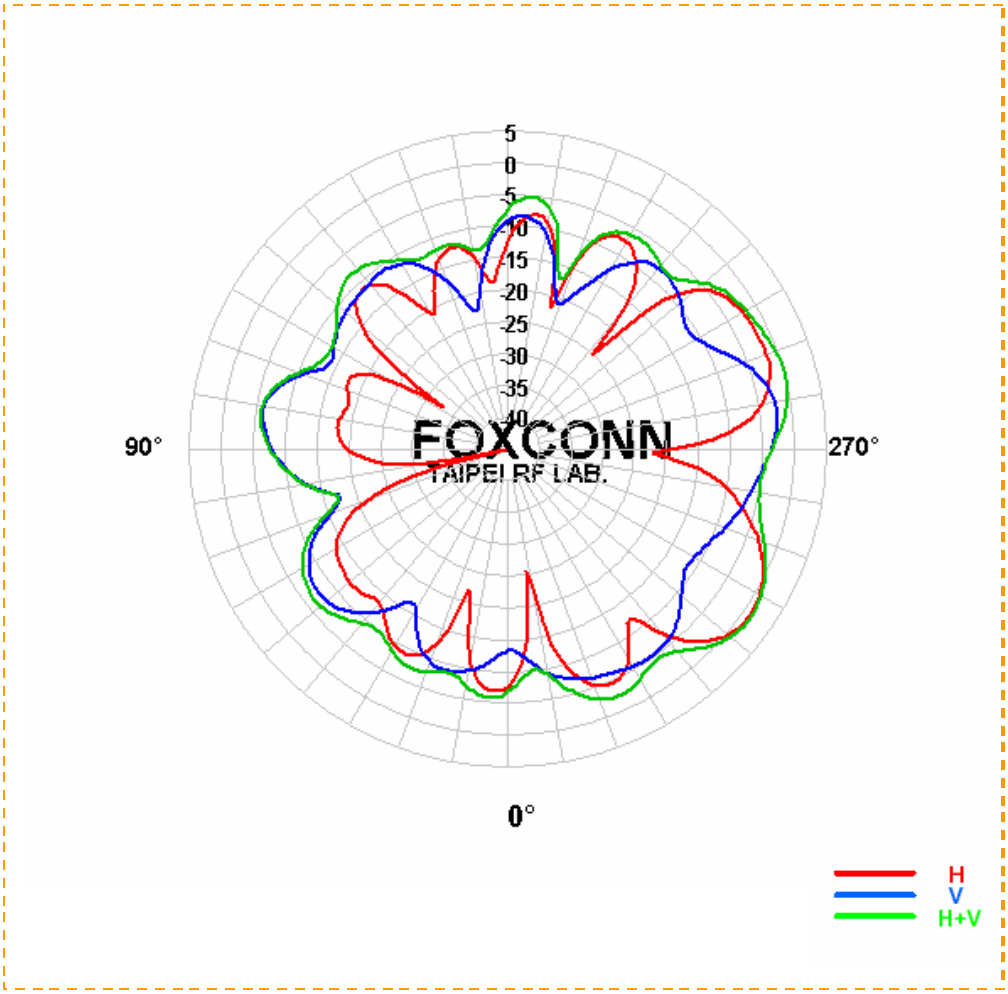
Center Frequency	**2450 MHz**
Horizontal (dBi) peak	**2.51**
Vertical (dBi) peak	0.41
Horz+Vert (dBi) peak	**4.31**

Main antenna: 2500 MHz



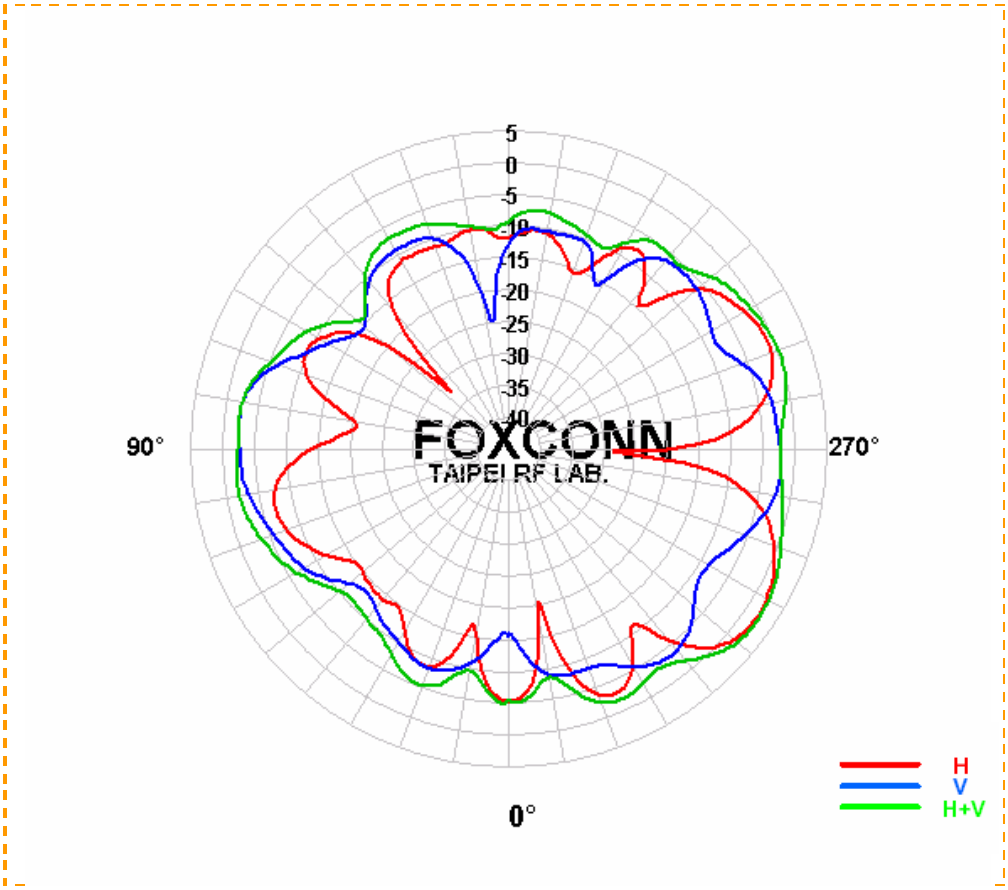
Center Frequency	**2500 MHz**
Horizontal (dBi) peak	**2.34**
Vertical (dBi) peak	-2.08
Horz+Vert (dBi) peak	**3.63**

Auxiliary antenna: 2400 MHz



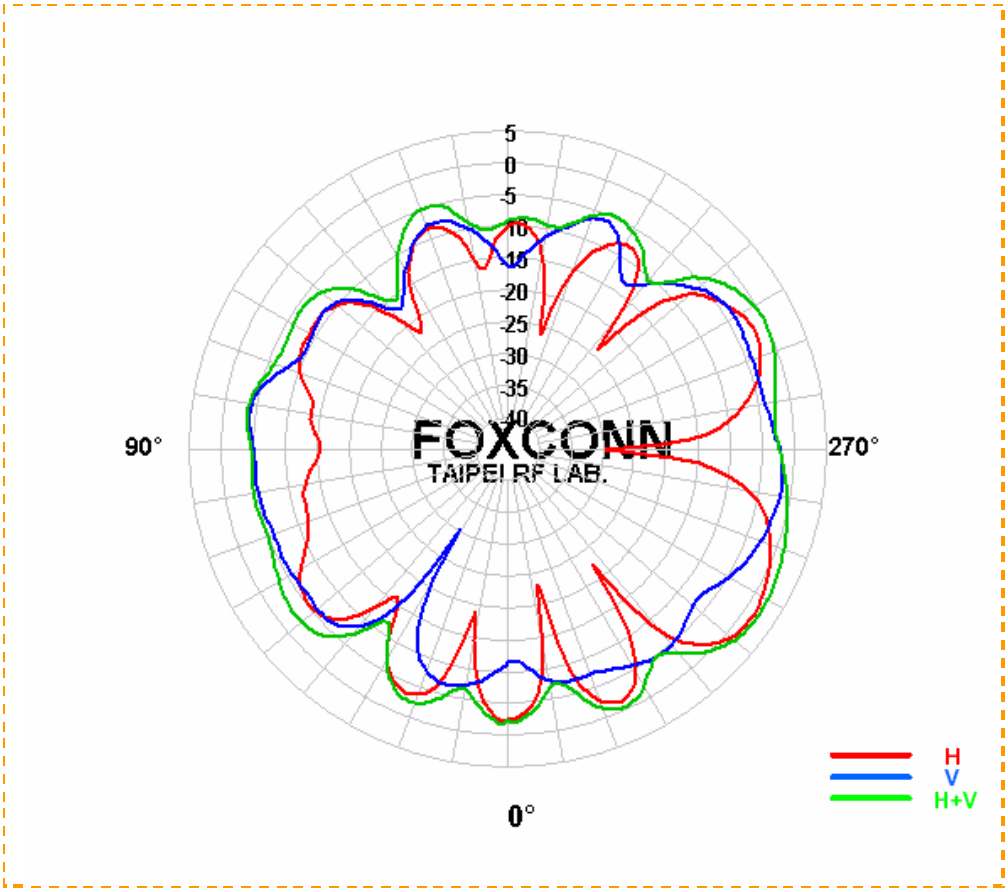
Center Frequency	**2400 MHz**
Horizontal (dBi) peak	**1.22**
Vertical (dBi) peak	**-2.31**
Horz+Vert (dBi) peak	**1.46**

Auxiliary antenna: 2450 MHz



Center Frequency	**2450 MHz**
Horizontal (dBi) peak	**2.21**
Vertical (dBi) peak	**-1.97**
Horz+Vert (dBi) peak	**2.54**

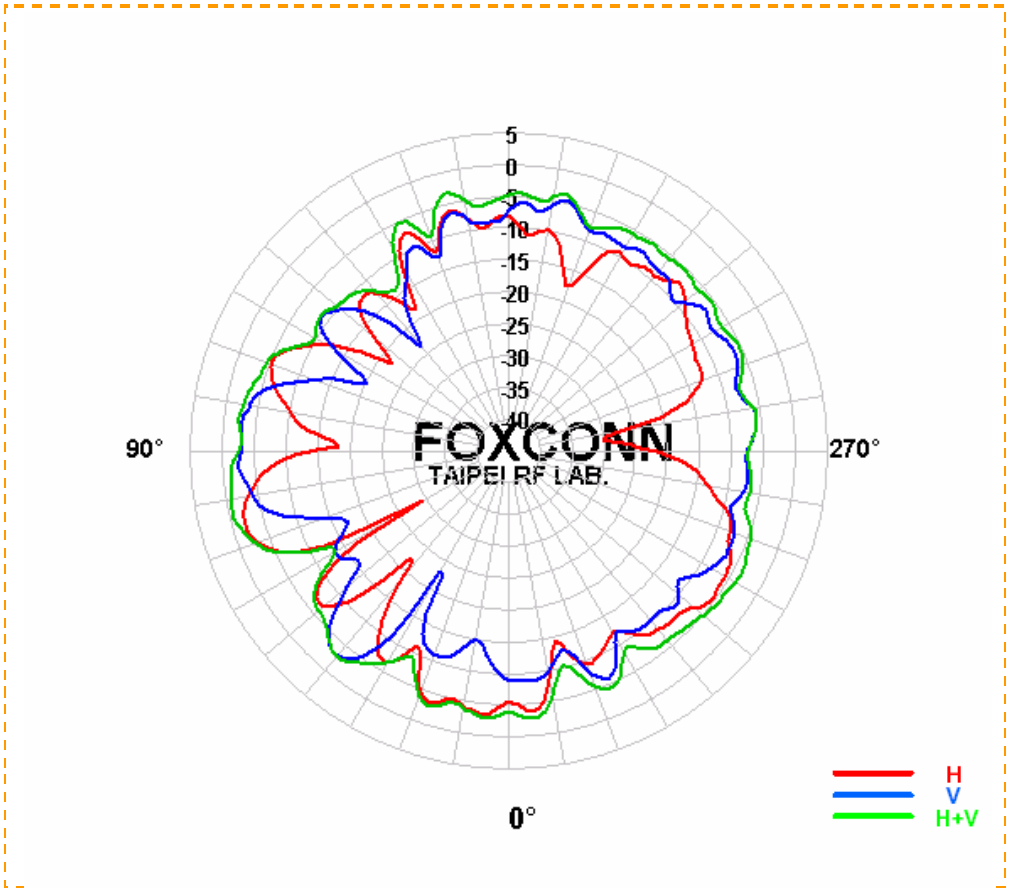
Auxiliary antenna: 2500 MHz



Center Frequency	**2500 MHz**
Horizontal (dBi) peak	**1.65**
Vertical (dBi) peak	**-1.44**
Horz+Vert (dBi) peak	**2.35**

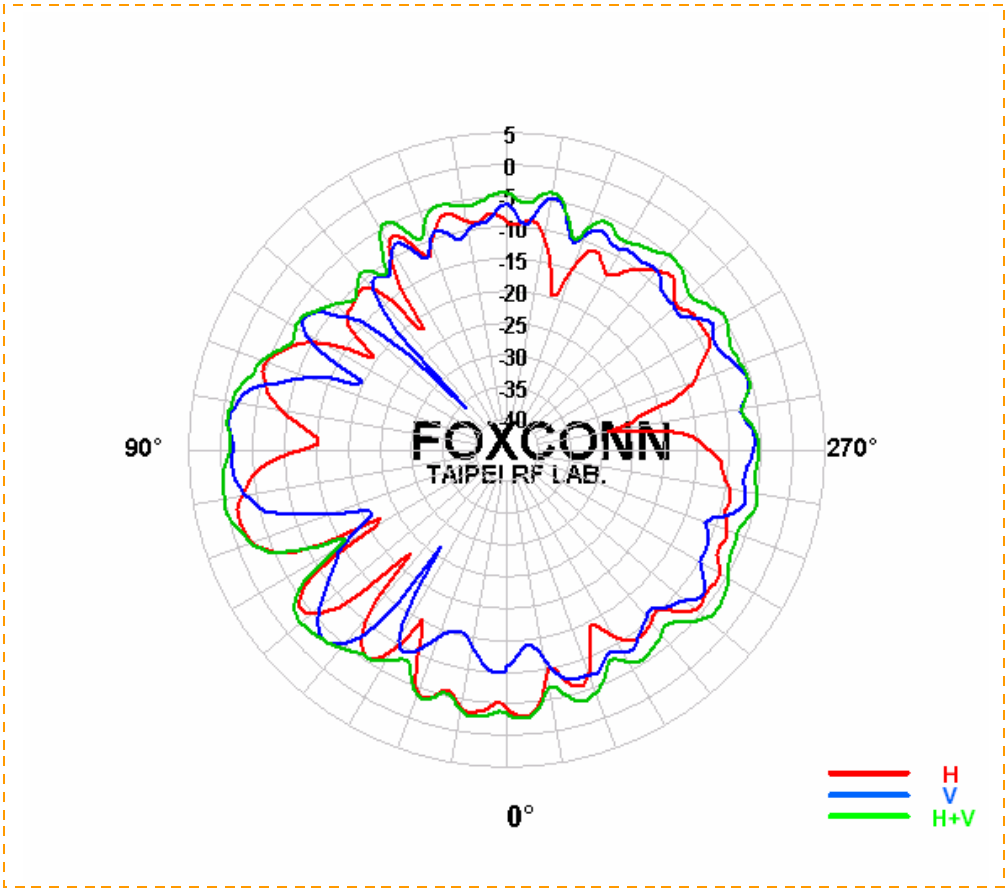
5150-5135 MHz radiation characteristic

Main antenna: 5150 MHz



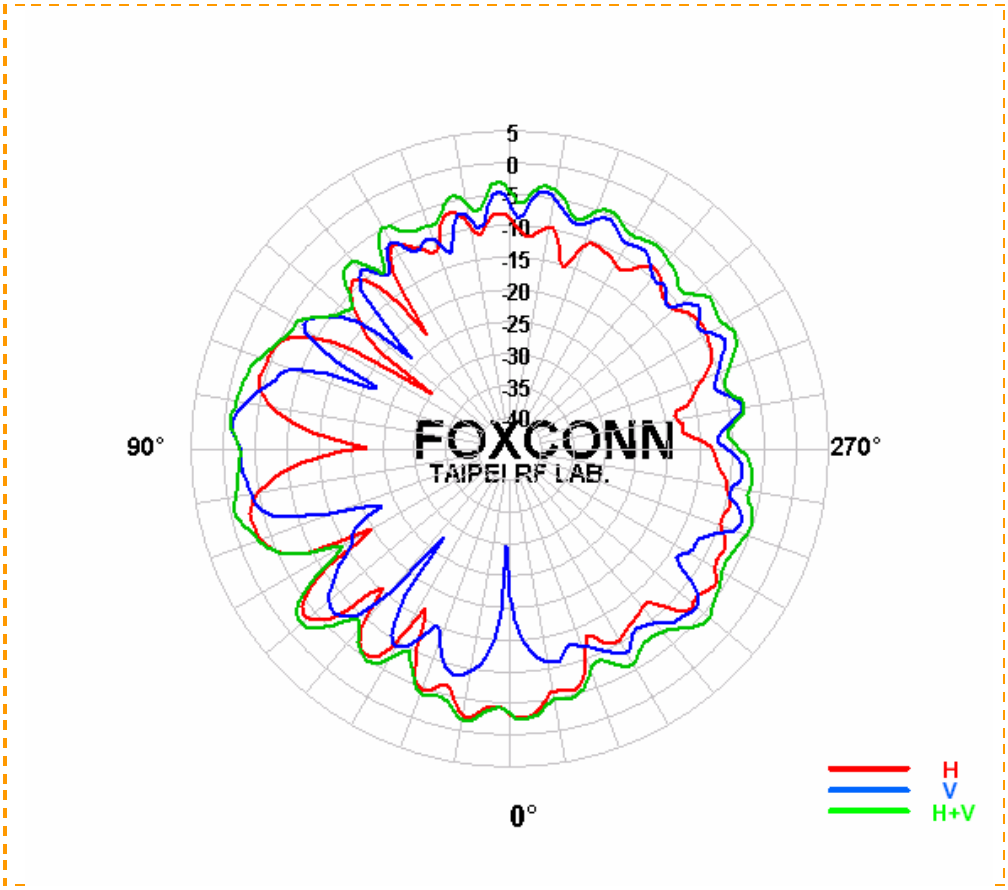
Center Frequency	**5150 MHz**
Horizontal (dBi) peak	**-2.05**
Vertical (dBi) peak	**-2.55**
Horz+Vert (dBi) peak	**-0.53**

Main antenna: 5250 MHz



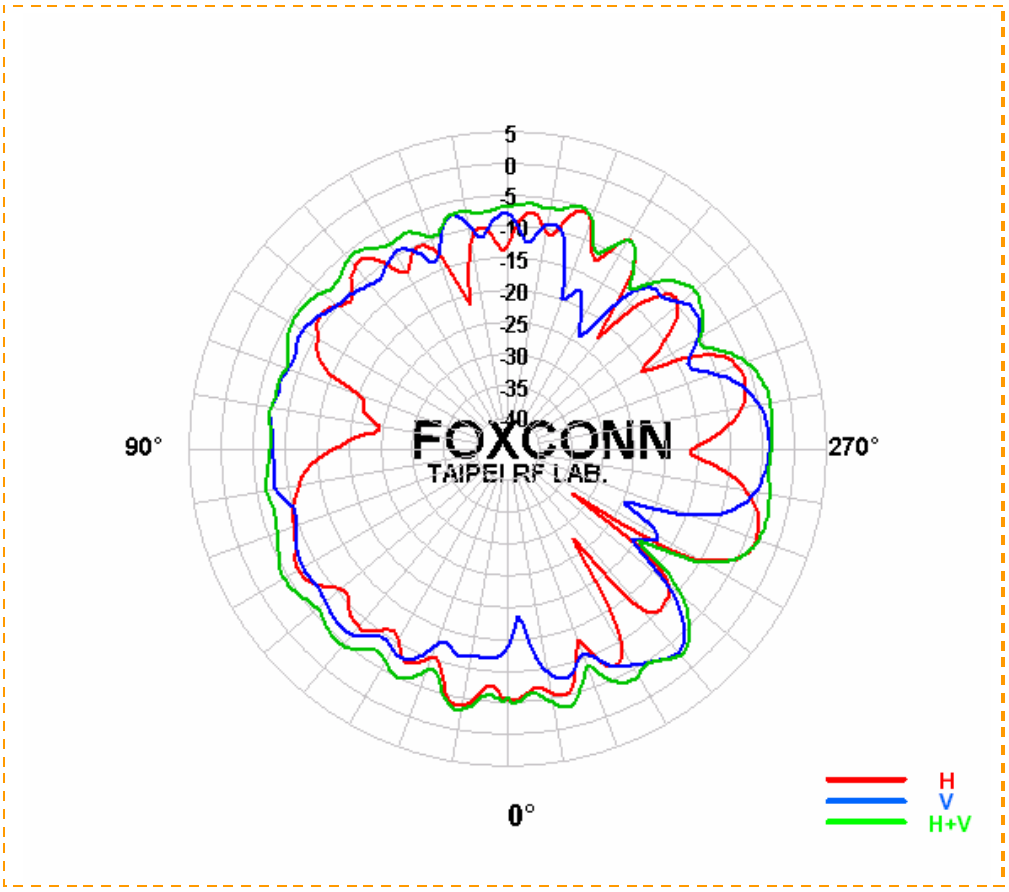
Center Frequency	**5250 MHz**
Horizontal (dBi) peak	**-1.45**
Vertical (dBi) peak	**-1.05**
Horz+Vert (dBi) peak	**0.13**

Main antenna: 5350 MHz



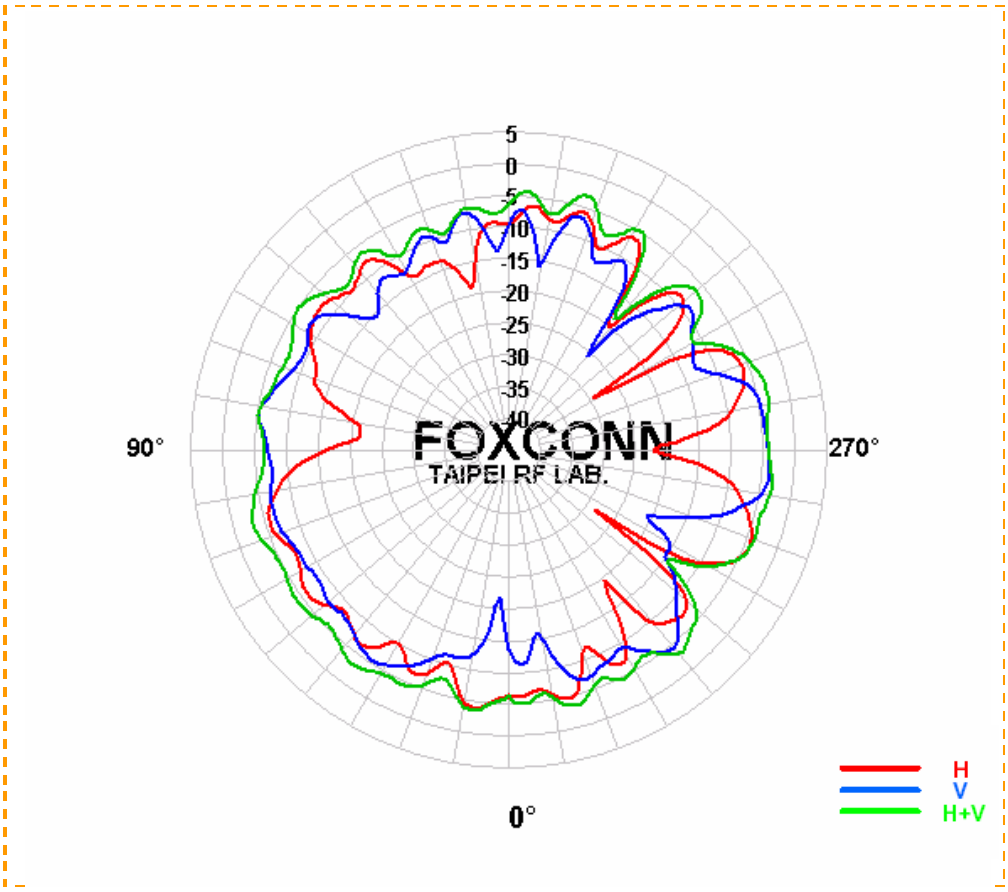
Center Frequency	**5350 MHz**
Horizontal (dBi) peak	**-2.33**
Vertical (dBi) peak	**-1.26**
Horz+Vert (dBi) peak	**-0.79**

Auxiliary antenna: 5150 MHz



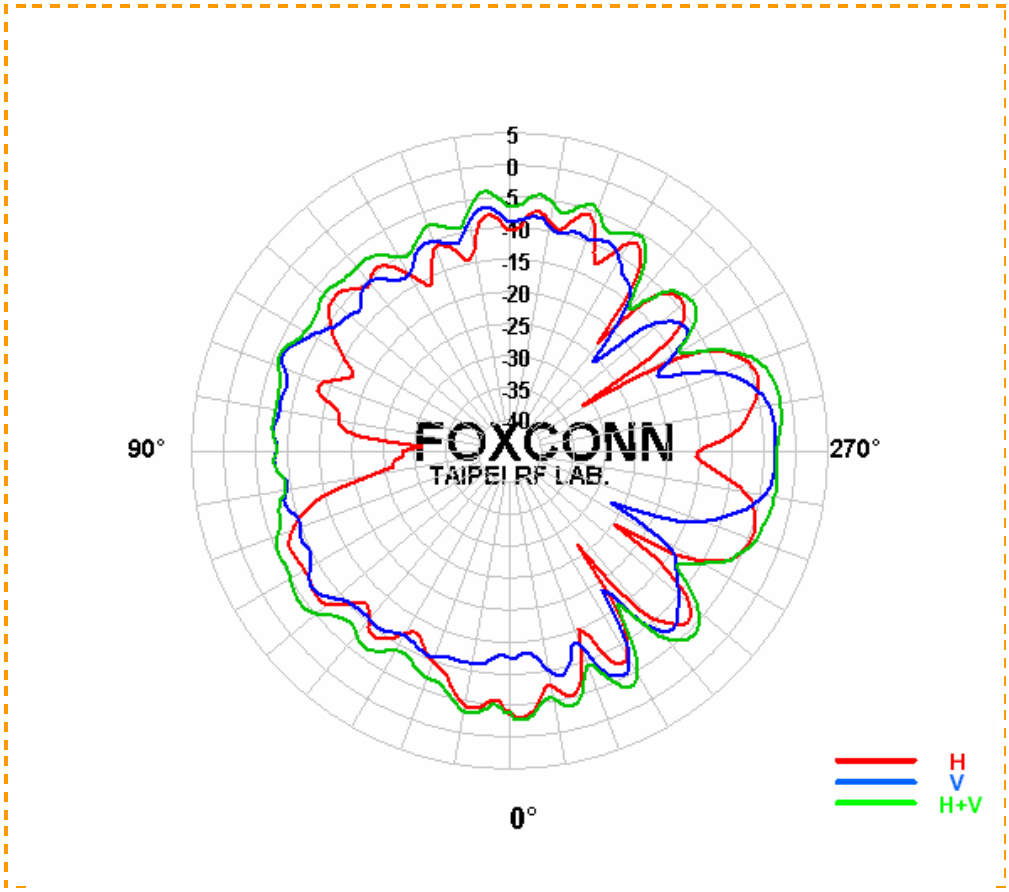
Center Frequency	**5150 MHz**
Horizontal (dBi) peak	**-3.38**
Vertical (dBi) peak	**-3.15**
Horz+Vert (dBi) peak	**-2.66**

Auxiliary antenna: 5250 MHz



Center Frequency	**5250 MHz**
Horizontal (dBi) peak	**-4.02**
Vertical (dBi) peak	**-3.74**
Horz+Vert (dBi) peak	**-3.05**

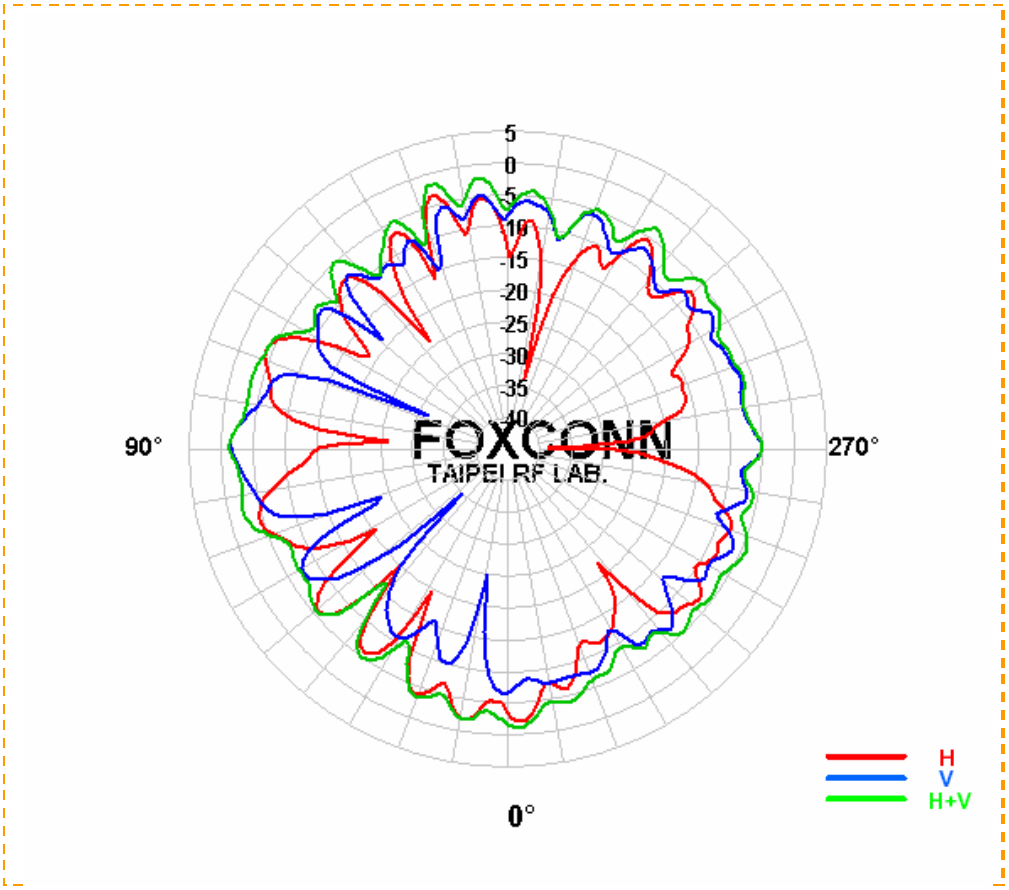
Auxiliary antenna: 5350 MHz



Center Frequency	**5350 MHz**
Horizontal (dBi) peak	**-2.94**
Vertical (dBi) peak	**-2.99**
Horz+Vert (dBi) peak	**-1.62**

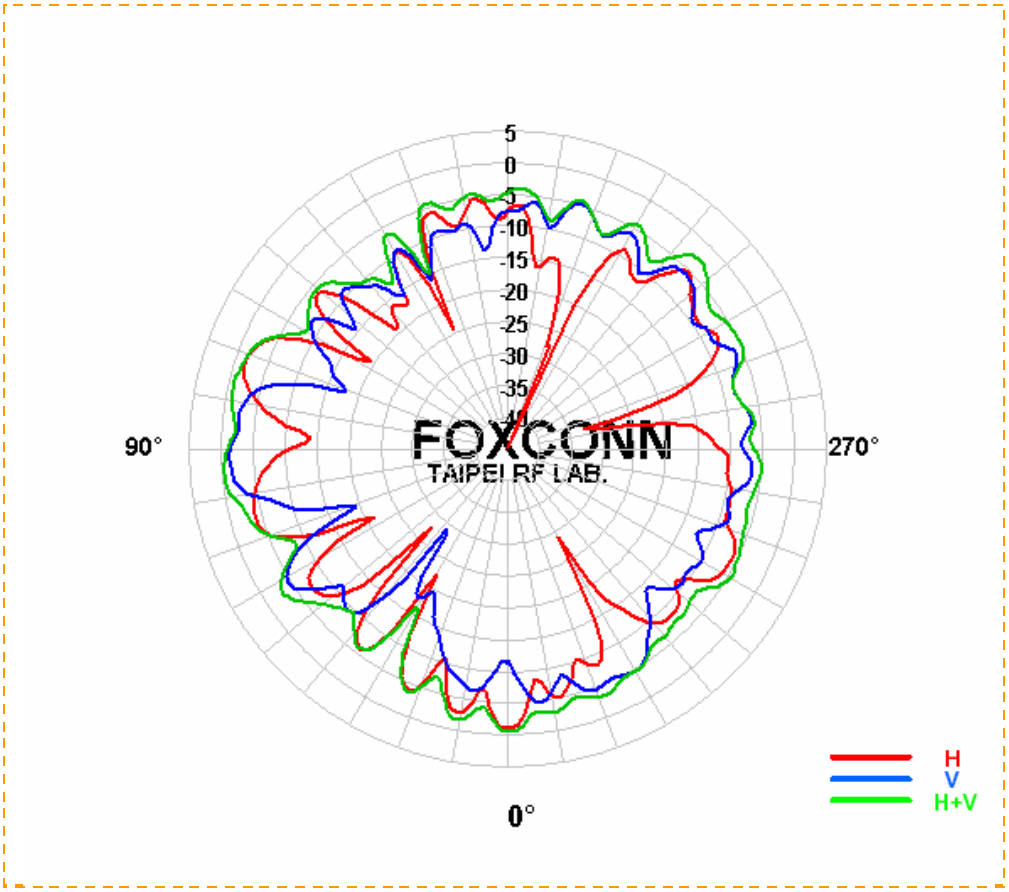
5470-5725MHz radiation characteristic

Main antenna: 5470 MHz



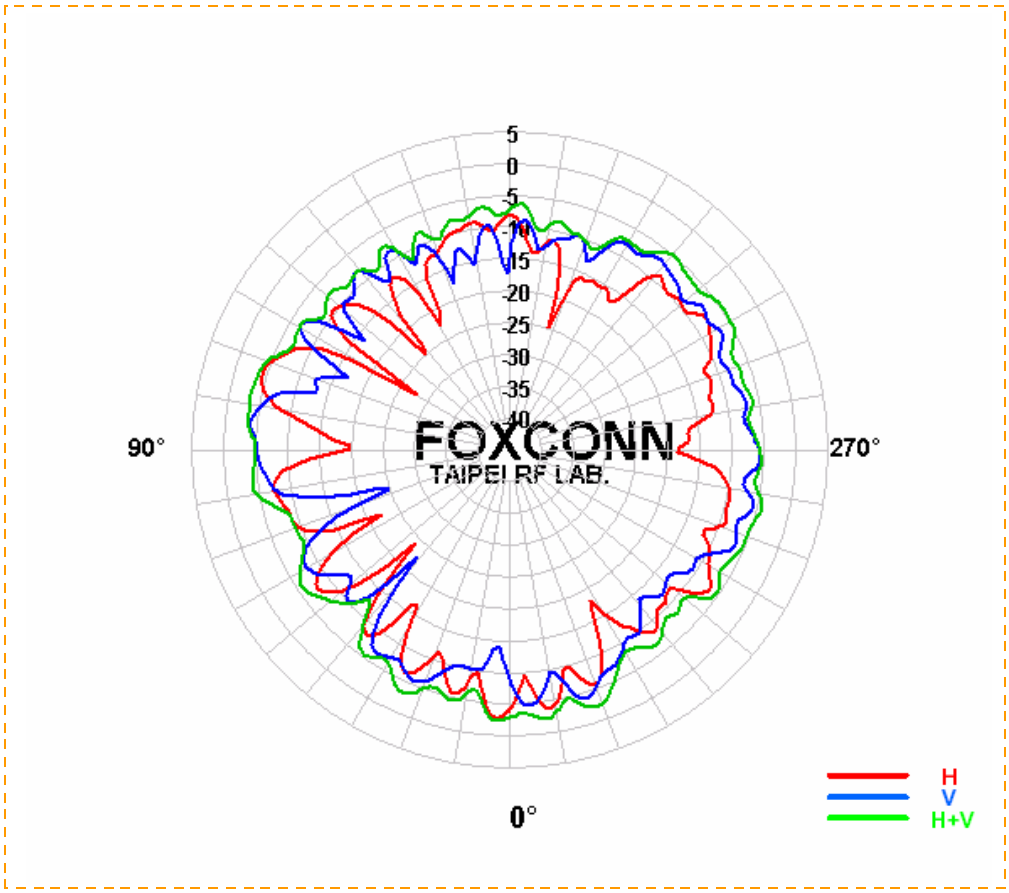
Center Frequency	**5470 MHz**
Horizontal (dBi) peak	**-1.94**
Vertical (dBi) peak	**-1.46**
Horz+Vert (dBi) peak	**-1.14**

Main antenna: 5597.5 MHz



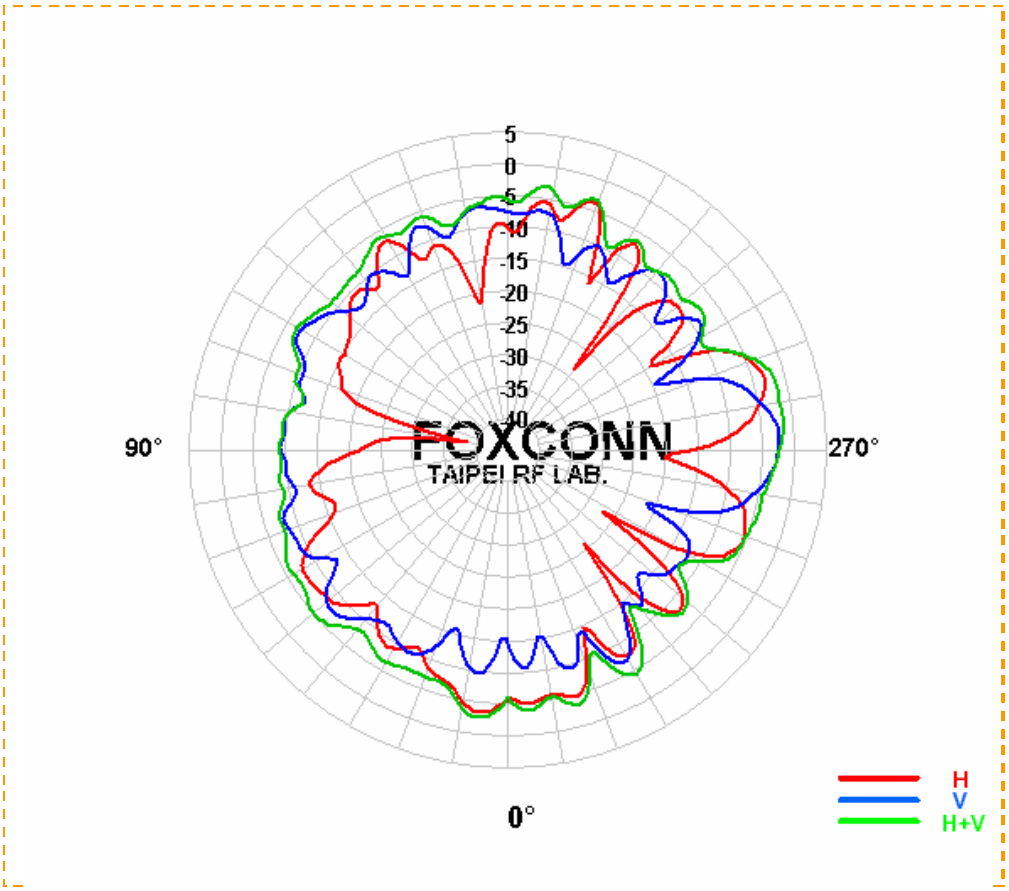
Center Frequency	**5597.5 MHz**
Horizontal (dBi) peak	**-1.09**
Vertical (dBi) peak	**-1.30**
Horz+Vert (dBi) peak	**-0.38**

Main antenna: 5725 MHz



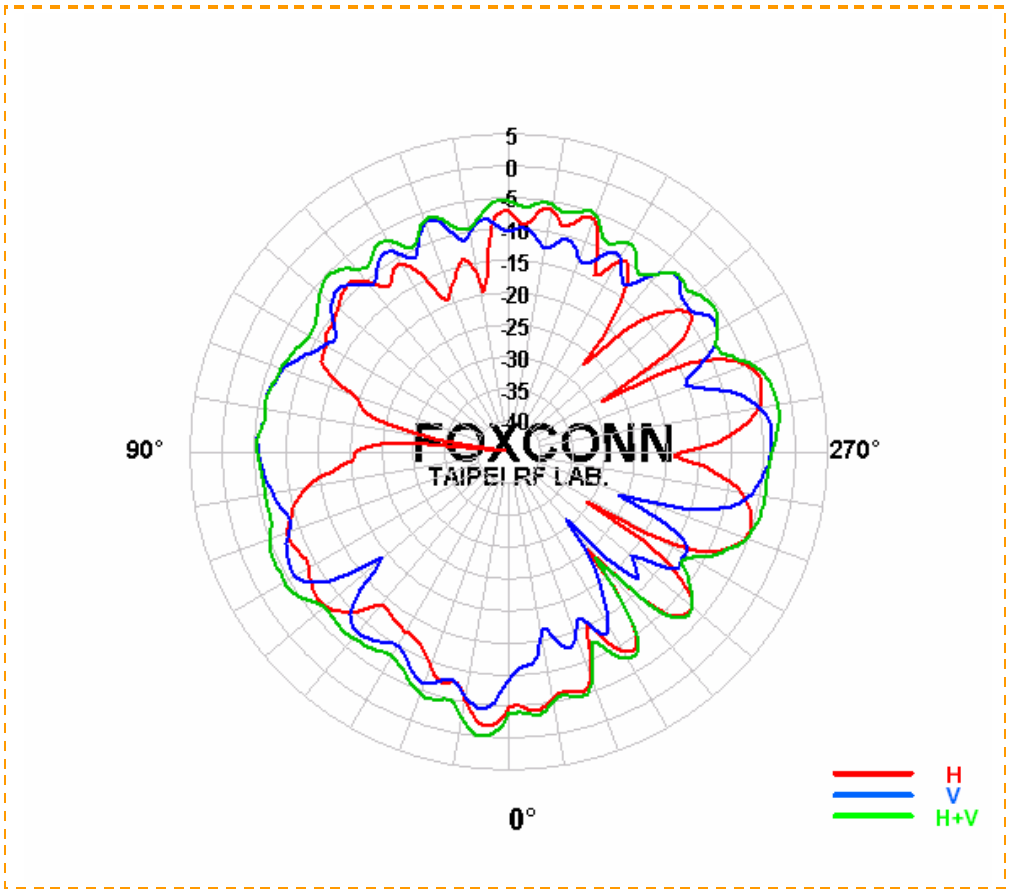
Center Frequency	**5725 MHz**
Horizontal (dBi) peak	**-2.68**
Vertical (dBi) peak	**-4.04**
Horz+Vert (dBi) peak	**-2.23**

Auxiliary antenna: 5470 MHz



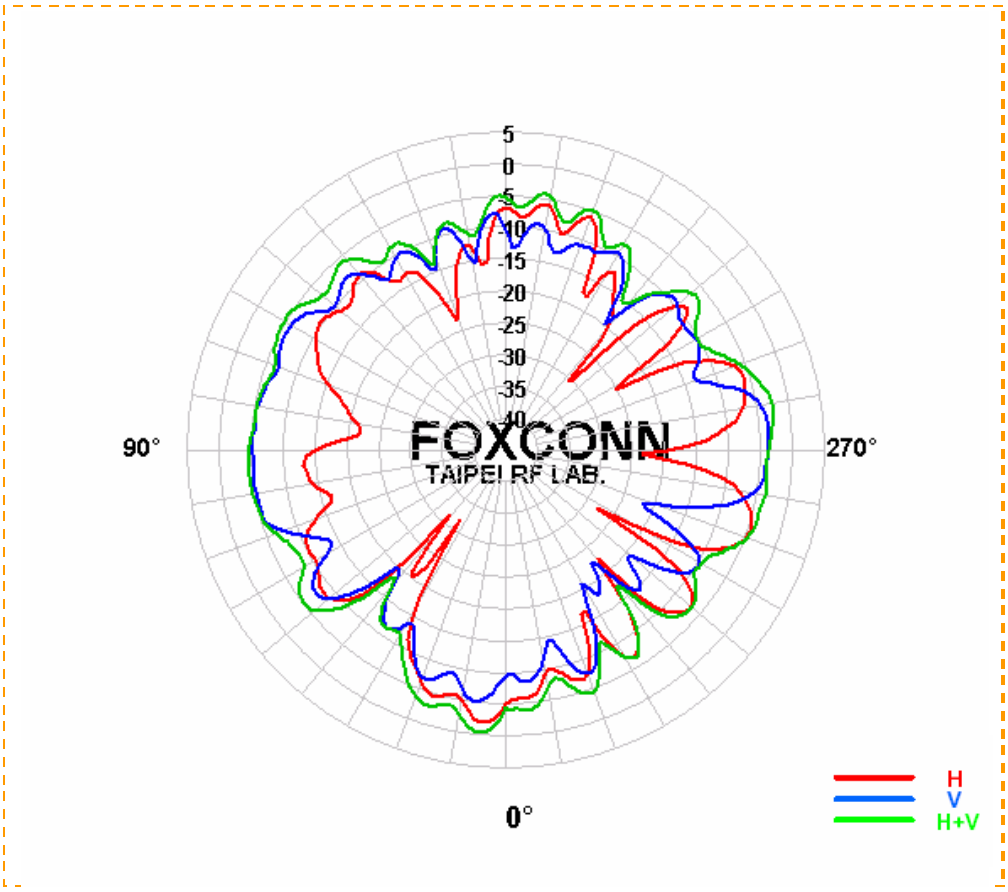
Center Frequency	**5470 MHz**
Horizontal (dBi) peak	**-3.09**
Vertical (dBi) peak	**-2.23**
Horz+Vert (dBi) peak	**-1.37**

Auxiliary antenna: 5597.5 MHz



Center Frequency	**5597.5 MHz**
Horizontal (dBi) peak	**-1.34**
Vertical (dBi) peak	**-3.45**
Horz+Vert (dBi) peak	**-0.04**

Auxiliary antenna: 5725 MHz



Center Frequency	**5725 MHz**
Horizontal (dBi) peak	**-1.89**
Vertical (dBi) peak	**-3.54**
Horz+Vert (dBi) peak	**-0.37**

Host PC Information

Host model: XXXXXXX

Please insert mechanical drawings of antenna placement.

Please insert mechanical drawing or photograph showing the distance (mm) between the transmit (main) antenna and the user (excluding hands, wrist, feet, and ankle)

Please insert mechanical drawing or photograph showing the distance (mm) between the antennas and any other antenna (e.g. Bluetooth radio antenna) in the host platform.

Please insert photographs of the antenna location

Main Antenna

Auxiliary Antenna

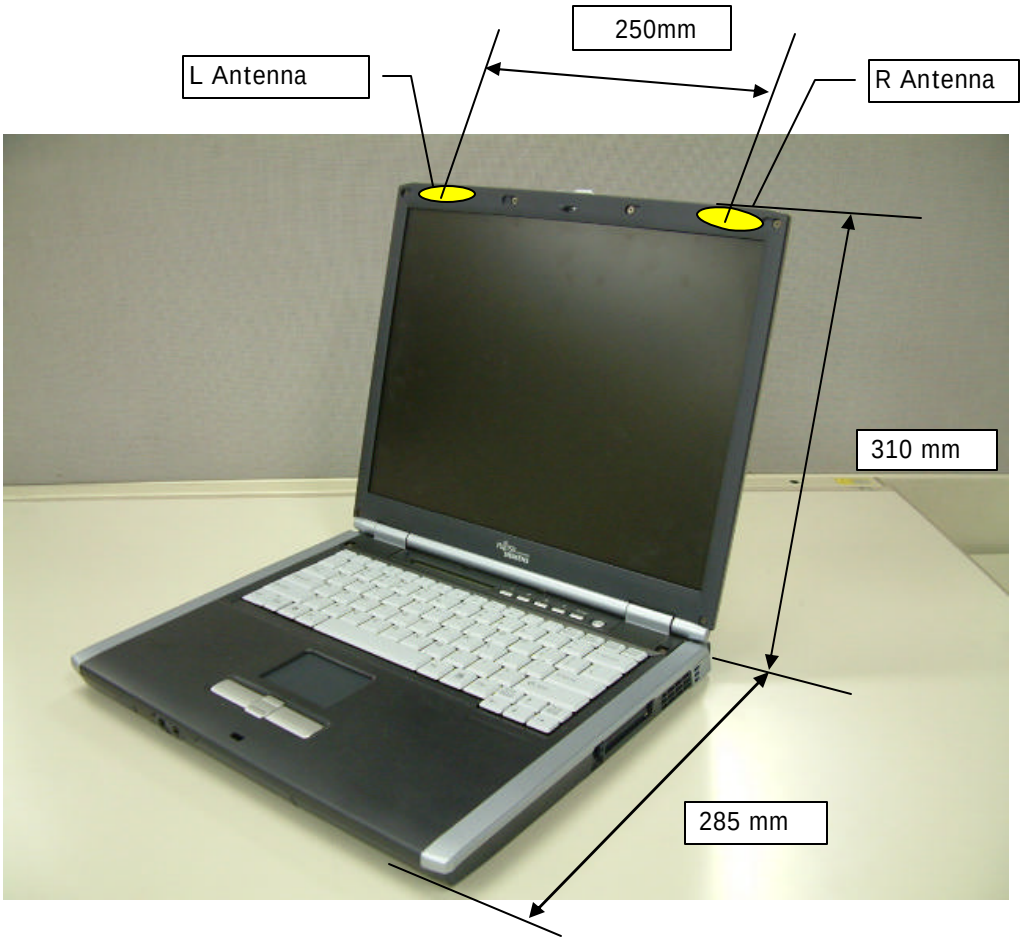
Antenna Summary Emilia,Emilia2

Designator Manufacture	Fujitsu
Antenna Type	Inverted-F Antenna
Cable type (length)	Coax(about 600mm)
P/N	CP115412-01 L side CP115412-01 R side
Gain	4.9-5.8GHz MAX : 1.18(dBi) *see Note 2.4-2.48GHz MAX : 1.06(dBi) *see Note

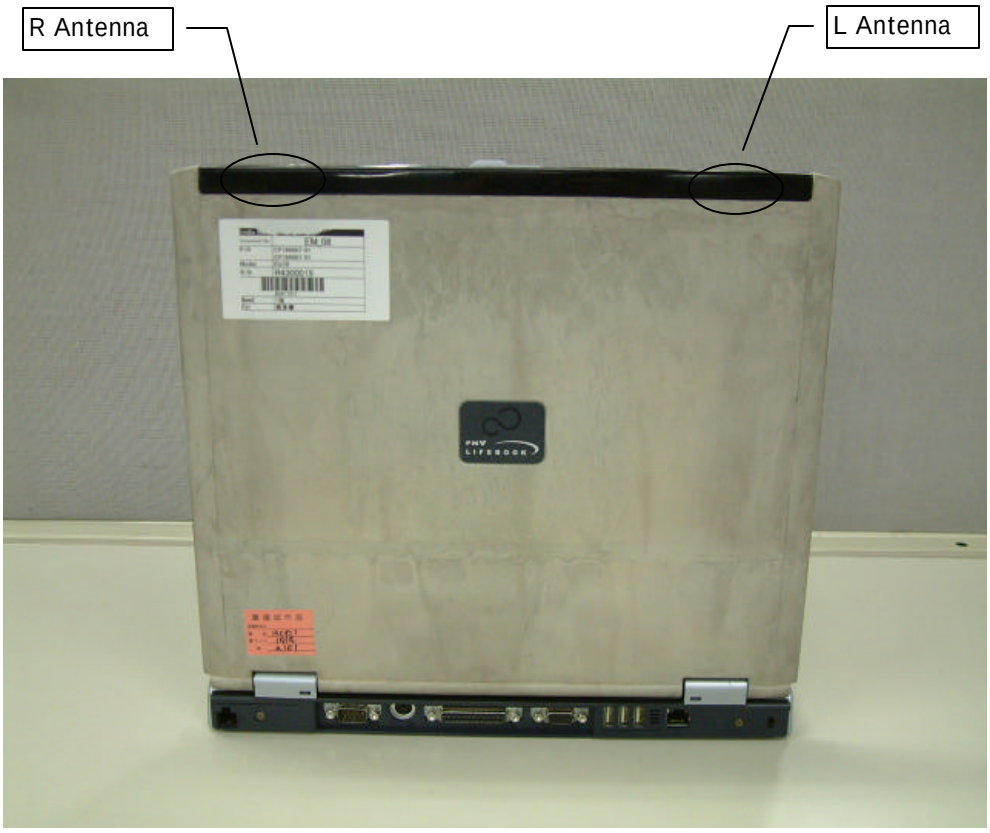
Note:Note that the maximum(peak) antenna gain includes all cable losses.

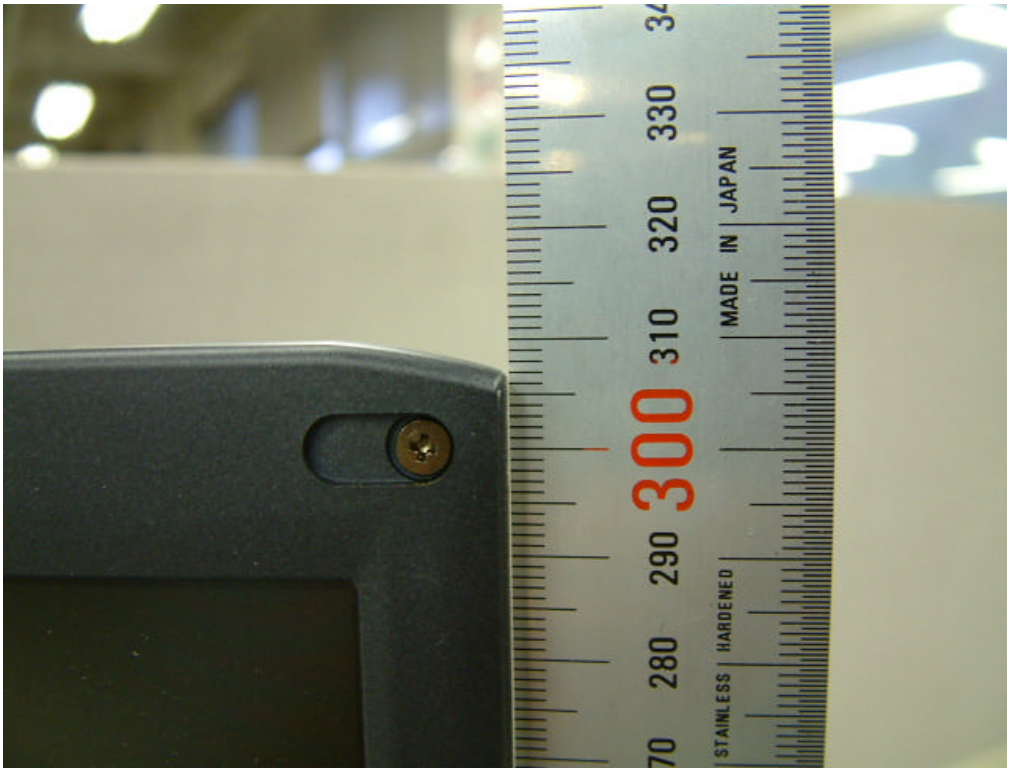
Picture:

Front View



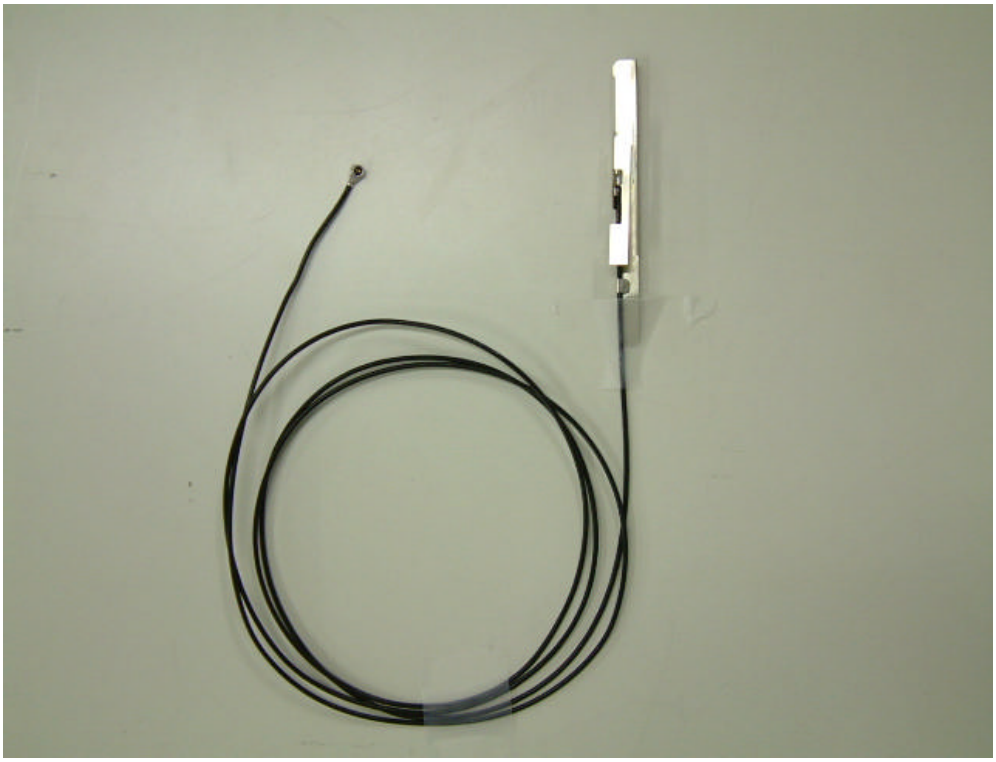
Rear View




300
310
320
330
MADE IN JAPAN
STAINLESS HARDENED


MADE IN
320
310
300
290
280
270
260
250
STAINLESS HARDENED

Left-Side Antenna



Right-Side Antenna