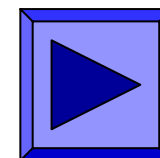




Help you find your way to the Wireless World!



Set up Antennas for Long Distance



EE200904HC002
Date: 2009 / 04 / 25

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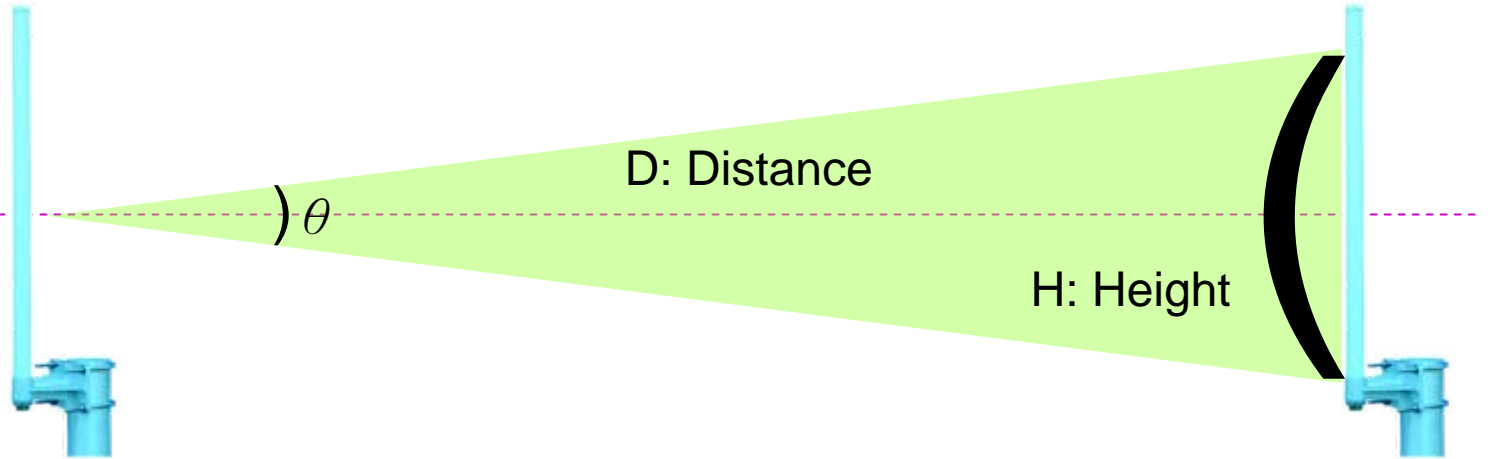




Relationship between Distance and Margin of Height

Omni Antenna

5GHz 8 dBi V. 12°
5GHz 10 dBi V. 7°



$$H = 2 \times D \times \tan(\theta / 2)$$

H, Meter

D (Meter)	8 dBi	10 dBi
10	1.05	0.60
30	3.15	1.80
50	5.25	3.00
100	10.50	6.00
300	31.50	18.00
500	52.50	30.00
1,000	105.00	60.00
2,000	210.00	120.00

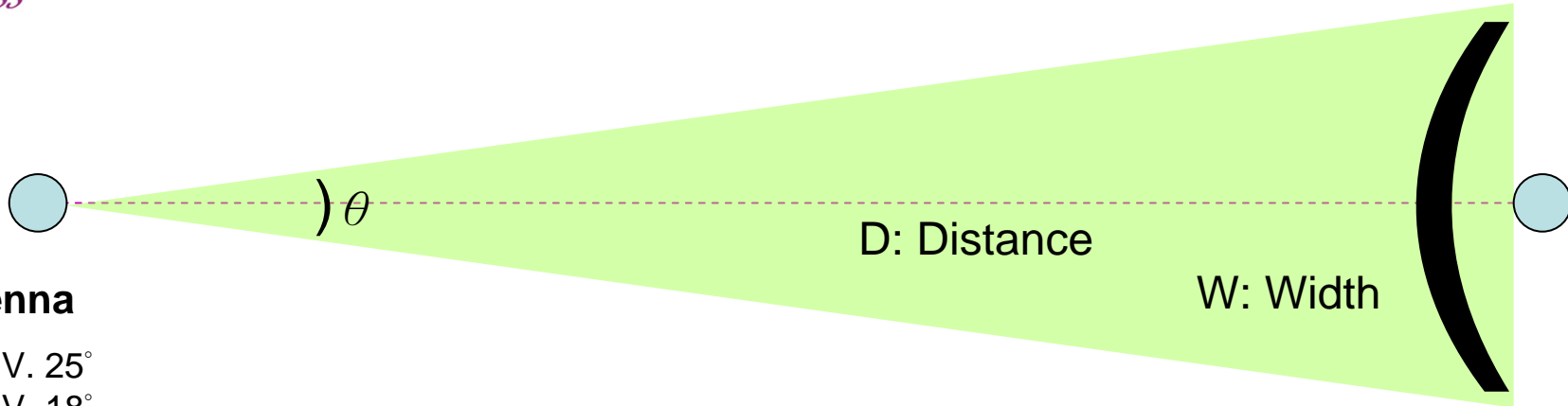
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Relationship between Distance and Margin of Width



Patch Antenna

- 5GHz 14 dBi V. 25°
- 5GHz 18 dBi V. 18°
- 5GHz 18 dBi V. 9°

$$W = 2 \times D \times \tan(\theta / 2)$$

W, Km

D (Km)	14 dBi	18 dBi	23 dBi
1	0.44	0.32	0.16
3	1.32	0.95	0.47
5	2.20	1.58	0.78
10	4.40	3.16	1.56
20	8.80	6.32	3.12
30	13.20	9.48	4.68
40	17.60	12.64	6.24
50	22.00	15.80	7.80

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