

Ubiquiti AirOS Product Gain Matrix 26 Apr 10 nominal; not guaranteed; subject to revision

Gain in dB: rf output + TA + RA; subtract path loss and cable loss for receive level input (under ideal conditions)
 [TA: transmit antenna gain; RA: receive antenna gain]

T \ R	AirGrid M5-23	AirGrid M5-27	Bullet M5	Nano Bridge M5	Nano Station M5	Power Bridge M5	Rocket M5	Bullet 5	Nano Station 5	Pico Station 5
AirGrid M5-23	66	70	43+RA	65	58	68	43+RA	43+RA	57	50
AirGrid M5-27	70	74	47+RA	69	62	72	47+RA	47+RA	61	54
Bullet M5	48+TA	52+TA	25+TA+RA	47+TA	40+TA	50+TA	25+TA+RA	25+TA+RA	39+TA	32+TA
NanoBridge M5	68	72	45+RA	67	60	70	45+RA	45+RA	59	52
NanoStation M5	65	69	42+RA	64	57	67	42+RA	42+RA	56	49
PowerBridge M5	75	79	52+RA	74	67	77	52+RA	52+RA	66	59
Rocket M5	50+TA	54+TA	27+TA+RA	49+TA	42+TA	52+TA	27+TA+RA	27+TA+RA	41+TA	34+TA
Bullet 5	45+TA	49+TA	22+TA+RA	44+TA	37+TA	47+TA	22+TA+RA	22+TA+RA	36+TA	29+TA
NanoStation 5	61	65	38+RA	60	53	63	38+RA	38+RA	52	45
PicoStation 5	52	56	29+RA	51	44	54	29+RA	29+RA	43	36

T \ R	Bullet 2	Bullet 2 HP	Bullet M2 HP	Nano Station 2	Nano Station M2	Pico Station 2	Pico Station 2 HP	Power Station 2	Rocket M2
Bullet 2	20+ TA+RA	20+TA+RA	20+TA+RA	30+TA	30+TA	26+TA	26+TA	20+TA+RA	20+TA+RA
Bullet 2 HP	29+TA+RA	29+TA+RA	29+TA+RA	39+TA	39+TA	35+TA	35+TA	29+TA+RA	29+TA+RA
Bullet M2 HP	28+TA+RA	28+TA+RA	28+TA+RA	38+TA	38+TA	34+TA	34+TA	28+TA+RA	28+TA+RA
NanoStation 2	36+RA	36+RA	36+RA	46	46	42	42	36+RA	36+RA
NanoStation 2 Loco	28+RA	28+RA	28+RA	38	38	34	34	28+RA	28+RA
NanoStation M2	38+RA	38+RA	38+RA	48	48	44	44	38+RA	38+RA
PicoStation 2	26+RA	26+RA	26+RA	36	36	32	32	26+RA	26+RA
PicoStation 2HP	35+RA	35+RA	35+RA	45	45	41	41	35+RA	35+RA
PowerStation 2	26+TA+RA	26+TA+RA	26+TA+RA	36+TA	36+TA	32+TA	32+TA	26+TA+RA	26+TA+RA
Rocket M2	27+TA+RA	27+TA+RA	27+TA+RA	37+TA	37+TA	33+TA	33+TA	27+TA+RA	27+TA+RA

Path Loss [dB]

Dist. [Km]	2.4 GHz	5.8 GHz
0.5	94	102
1	100	108
1.5	104	111
2	106	114
2.5	108	116
5	114	121
7.5	118	125
10	120	128
15	124	131
20	126	134
25	128	136
30	130	137
40	132	140
60	136	143
80	138	146

To select an acceptable radio pair: find path loss, add minimum receive level to path loss, use radio with lower rf output as 'T'

Example: assume NanoStation M2 client at 5Km; path loss is 114dB. Assume minimum acceptable receive signal (with fade) = -60dB; 114 -65 = 54

Choose client in 'R' row, find AP radio in 'T' column with min. 54 gain [ex. NanoStation M2 client to Rocket M2 AP w/min. 17dBi antenna]