



# MikroTik Wireless Modulation and Coding Index for 802.11n & 802.11ac

HT MCS Index	VHT MCS Index	Spatial Streams	Modulation	Coding	20MHz Channel		40MHz Channel		80MHz Channel	
					LGI	SGI	LGI	SGI	LGI	SGI
0	0	1	BPSK	1/2	6.5	7.2	13.5	15	29.3	32.5
1	1	1	QPSK	1/2	13	14.4	27	30	58.5	65
2	2	1	QPSK	3/4	19.5	21.7	40.5	45	87.8	97.5
3	3	1	16-QAM	1/2	26	28.9	54	60	117	130
4	4	1	16-QAM	3/4	39	43.3	81	90	175.5	195
5	5	1	64-QAM	2/3	52	57.8	108	120	234	260
6	6	1	64-QAM	3/4	58.5	65	121.5	135	263.3	292.5
7	7	1	64-QAM	5/6	65	<b>72.2</b>	135	<b>150</b>	292.5	325
	8	1	256-QAM	3/4	78	<b>86.7</b>	162	180	351	390
	9	1	256-QAM	5/6	N/A	N/A	180	<b>200</b>	390	<b>433.3</b>
8	0	2	BPSK	1/2	13	14.4	27	30	58.5	65
9	1	2	QPSK	1/2	26	28.9	54	60	117	130
10	2	2	QPSK	3/4	39	43.3	81	90	175.5	195
11	3	2	16-QAM	1/2	52	57.8	108	120	234	260
12	4	2	16-QAM	3/4	78	86.7	162	180	351	390
13	5	2	64-QAM	2/3	104	115.6	216	240	468	520
14	6	2	64-QAM	3/4	117	130.3	243	270	526.5	585
15	7	2	64-QAM	5/6	130	<b>144.4</b>	270	<b>300</b>	585	650
	8	2	256-QAM	3/4	156	<b>173.3</b>	324	360	702	780
	9	2	256-QAM	5/6	N/A	N/A	360	<b>400</b>	780	<b>866.7</b>
16	0	3	BPSK	1/2	19.5	21.7	40.5	45	87.8	97.5
17	1	3	QPSK	1/2	39	43.3	81	90	175.5	195
18	2	3	QPSK	3/4	58.5	65	121.5	135	263.3	292.5
19	3	3	16-QAM	1/2	78	86.7	162	180	351	390
20	4	3	16-QAM	3/4	117	130	243	270	526.5	585
21	5	3	64-QAM	2/3	156	173.3	324	360	702	780
22	6	3	64-QAM	3/4	175.5	195	364.5	405	N/A	N/A
23	7	3	64-QAM	5/6	195	<b>216.7</b>	405	<b>450</b>	877.5	975
	8	3	256-QAM	3/4	234	260	486	540	1053	1170
	9	3	256-QAM	5/6	260	<b>288.9</b>	540	<b>600</b>	1170	<b>1300</b>

HT = High Throughput or 802.11n  
VHT = Very High Throughput or 802.11ac  
LGI = Long Guard Interval  
SGI = Short Guard Interval



#### AP Modes

Mode Name	Bridged or Routed	PTP or PTMP	Compatible with other Vendors	Notes
AP Bridge	Both	Both	Yes	Level 4 or higher
Bridge	Both	PTP Only	Yes	Only allows 1 station
WDS Slave	Bridged	Both	No	Follows Frequency of Master AP

#### Station Modes

ModeName	Bridged or Routed	PTP or PTMP	Compatible with other Vendors	Notes
Station	Routed	N/A	Yes	
Station Bridge	Bridged	N/A	No	Best Bridge mode to use when both sides are MikroTik
Sta Pseudobridge	Bridged	N/A	Yes	MAC NAT'ing (Use when bridging to a non-MikroTik AP)
Sta Psuedo Clone	Bridged	N/A	Yes	MAC NAT'ing
Station WDS	Bridged	N/A	No	

#### Speacial Modes

Mode Name	Bridged or Routed	PTP or PTMP	Compatible with other Vendors	Notes
Alignment Only	N/A	N/A	No	Used for tuning in radios
nstreme Dual Slave	Both	PTP Only	No	Full Duplex wireless links