

Product Specifications: MultiService Access Point model 625 (MAP-625), Indoor

Physical Specifications	
Interfaces	<p><u>Radios</u></p> <ul style="list-style-type: none"> - 1 x 802.11n Draft 2.0 (Radio 1) - 1 x 802.11a/b/g (Radio 2) <p><u>Network</u></p> <ul style="list-style-type: none"> - 1 x RJ-45, 10/100/1000 BASE-T Ethernet, Auto-MDX <p><u>Console</u></p> <ul style="list-style-type: none"> - 1 x Female DB-9 connector (DCE)
Antennas	<p><u>Integrated, dual band 2.4/5 GHz omni-directional antennas</u></p> <ul style="list-style-type: none"> - 3 x 802.11n Draft 2.0 (fixed 3x3 MIMO configuration) - 2 x 802.11a/b/g (diversity supported) - Gain <ul style="list-style-type: none"> • 3.8 dBi @ 2.4 GHz • 5.1 dBi @ 5.25 GHz • 4.5 dBi @ 5.875 Ghz <p>Note: See Figure 2 for MAP-625 radiation plots for the integrated antenna.</p> <p><u>External, reverse polarity male SMA connectors</u></p> <ul style="list-style-type: none"> - 3 x 802.11n Draft 2.0 - 1 x 802.11a/b/g (no diversity support)
Power	<p><u>Power Over Ethernet</u></p> <ul style="list-style-type: none"> - IEEE 802.3af PoE for Gigabit Ethernet¹ <p><u>External power supply</u></p> <ul style="list-style-type: none"> - 48V (IEC, 90-264V, 50/60 Hz)² <p><u>Consumption</u></p> <ul style="list-style-type: none"> - 12W max. <p>¹ FCC Class B ² FCC Class A</p>
Dimensions (W x L x H)	17.018 x 22.352 x 6.604 cm (6.7 x 8.8 x 2.6 in.)
Weight	1.814 kg (4 lbs)
Environmental	<p>Operating Temperature Range: 0° C to 50° C</p> <p>Storage Temperature Range: -40° C to 80° C</p> <p>Operating Humidity Range: 5% to 95% typical (non-condensing)</p>
Compliance and Certification	
Radio Approvals	<p>US: FCC Part 15.247, 90.210, FCC Bulletin OET-65C</p> <p>Canada: RSS-210, RSS-102, RSS-139-1</p> <p>EU: EN 300-328, ETS 301-398</p>
Safety Approvals and Other Compliance	UL 60950-1, UL 2043, CAN/CSA-C22.2 No. 60950-1-03, IEC 60950-1, EN 60950-1, FCC part 15, ICES-003, EN 55022, EN 301-489-1, EN 301-489-17, RoHS, WEEE
Wi-Fi Certification	<p>IEEE 802.11n DRAFT 2.0, IEEE 802.11a, IEEE 802.11g, IEEE 802.11b</p> <p>WPA-Enterprise, WPA2-Enterprise</p> <p>WMM, WMM Powersave</p> <p>EAP-TLS, EAP-TTLS/MSCHAPv2, PEAPv0/EAP-MSCHAPv2, PEAPv1/EAP-GTC, EAP-SIM*</p> <p>IEEE 802.11d, IEEE 802.11h</p>
Additional Encryption Support	EAP-FAST, EAP-AKA
802.11n Draft 2.0 Capabilities	
<ul style="list-style-type: none"> - 3x3 MIMO with two spatial streams - Cyclic Shift Diversity (CSD) - 20 MHz and Auto 20/40 MHz channels - Data rates up to 300 Mbps - Maximal Ratio Combining (MRC) - Transmit beamforming - Packet aggregation: A-MPDU, A-MSDU 	

Radio Specifications	5GHz (802.11n, 802.11a)	2.4GHz (802.11n, 802.11g, 802.11b)
Frequency Bands	<p>Available in accordance with country-specific regulatory approvals:</p> <p>5.150–5.250 GHz 5.250-5.350 GHz, 5.470–5.725 GHz 5.725–5.825 GHz</p>	<p>Availability in accordance with country-specific regulatory approvals:</p> <p>2.412 – 2.462 GHz</p>
	<p>The 802.11n radio can be configured for operation in the 2.4 GHz and 5 GHz bands. The configuration options are as follows: 802.11n, 802.11na, 802.11ng, 802.11a, 802.11g, 802.11b/g, 802.11b.</p>	
Operating Channels	Configurable based on country regulations	Configurable based on country regulations
Maximum Number of Non-Overlapping Channels	<p><u>Radio 1 (802.11n)</u></p> <ul style="list-style-type: none"> - US/Canada <ul style="list-style-type: none"> • 20MHz: 8 • 40MHz: 4 - Europe <ul style="list-style-type: none"> • 20MHz: 4 • 40MHz: 2 <p><u>Radio 2 (802.11a)</u></p> <ul style="list-style-type: none"> - US/Canada: 23 - Europe: 19 <p>DFS channels are not currently supported on Radio 1. The MAP-625 software will be updated to support these when certification is complete.</p>	<p><u>Radio 1 (802.11n)</u></p> <ul style="list-style-type: none"> - 20 MHz: 3 - 40 MHz: 1 <p><u>Radio 2 (802.11b/g)</u></p> <ul style="list-style-type: none"> - 20 MHz: 3
Data Rates	<p>802.11n: MCS Index 0 through MCS Index 15 802.11a: 6, 9, 12,18,24,36, 48, 54 Mbps</p>	<p>802.11n: MCS Index 0 through MCS Index 15 802.11g: 6, 9, 12,18,24,36, 48, 54 Mbps 802.11b: 1,2, 5.5, 11 Mbps</p>
	<p>The Modulation and Coding Scheme (MCS) Index determines the number of spatial streams, the modulation, the coding rate, and data rate values. See below for further information.</p>	
Receive Sensitivity	<p><u>802.11n, 20 MHz channels (Radio 1)</u></p> <ul style="list-style-type: none"> - -82 dBm @ MCS 0/MCS 8 - -64 dBm @ MCS 7/MCS 15 <p><u>802.11n, 40 MHz channels (Radio 1)</u></p> <ul style="list-style-type: none"> - -79 dBm @ MCS 0/MCS 8 - -61 dBm @ MCS 7/MCS 15 <p><u>802.11a (Radio 2)</u></p> <ul style="list-style-type: none"> - -87 dBm @ 6 Mbps - -67 dBm @ 54 Mbps 	<p><u>802.11n, 20 MHz channels (Radio 1)</u></p> <ul style="list-style-type: none"> - -82 dBm @ MCS 0/MCS 8 - -64 dBm @ MCS 7/MCS 15 <p><u>802.11n, 40 MHz channels (Radio 1)</u></p> <ul style="list-style-type: none"> - -79 dBm @ MCS 0/MCS 8 - -61 dBm @ MCS 7/MCS 15 <p><u>802.11g (Radio 2)</u></p> <ul style="list-style-type: none"> - -87 dBm @ 6 Mbps - -70 dBm @ 54 Mbps <p><u>802.11b (Radio 2)</u></p> <ul style="list-style-type: none"> - -87 dBm @ 11Mbps - -94 dBm @ 1Mbps
Transmit Power	<p><u>802.11n, 20 MHz channels (Radio 1)</u></p> <ul style="list-style-type: none"> - 18 dBm @ MCS 0/MCS 8 - 10 dBm @ MCS 7/MCS 15 <p><u>802.11n, 40 MHz channels (Radio 1)</u></p> <ul style="list-style-type: none"> - 17 dBm @ MCS 0/MCS 8 - 10 dBm @ MCS 7/MCS 15 <p><u>802.11a (Radio 2)</u></p> <ul style="list-style-type: none"> - 18 dBm +/- 2 @ 6-24 Mbps - 12 dBm +/- 2 @ 54 Mbps 	<p><u>802.11n, 20 MHz channels (Radio 1)</u></p> <ul style="list-style-type: none"> - 19 dBm @ MCS 0/MCS 8 - 10 dBm @ MCS 7/MCS 15 <p><u>802.11n, 40 MHz channels (Radio 1)</u></p> <ul style="list-style-type: none"> - 17 dBm @ MCS 0/MCS 8 - 10 dBm @ MCS 7/MCS 15 <p><u>802.11g (Radio 2)</u></p> <ul style="list-style-type: none"> - 18 dBm +/- 2 @ 6-24 Mbps - 13 dBm +/- 2 @ 54 Mbps <p><u>802.11b (Radio 2)</u></p> <ul style="list-style-type: none"> - 18.5 dBm +/- 2 @ 1-11 Mbps

FIGURE 1: MCS Data Rates

MCS Index	800ns Guard Interval		400ns Guard Interval	
	20MHz Rate (Mbps)	40MHz Rate (Mbps)	20MHz Rate (Mbps)	40MHz Rate (Mbps)
0	6.5	13.5	7.2	15
1	13	27	14.4	30
2	19.5	40.5	21.7	45
3	26	54	28.9	60
4	39	81	43.3	90
5	52	108	57.8	120
6	58.5	121.5	65	135
7	65	135	72.2	157.5
8	13	27	14.4	30
9	26	54	28.9	60
10	39	81	43.3	90
11	52	108	57.8	120
12	78	162	86.7	180
13	104	216	115.6	240
14	117	243	130	270
15	130	270	144.4	300

FIGURE 2: Colubris MAP-625 Radiation Plots for Integrated Antenna

