

**TECHNICAL SPECIFICATION  
SUPPLY OF WIRELESS ACCESS POINT**

(TYPE A: LESS 20 PEOPLE)

*Type A Wireless Access point is suitable for small density deployment for up to 20 people such as class room, small meeting room.*

No.	SPECIFICATION	COMPLIANCE	PROPOSAL DESCRIPTION
<b>Type A</b>	WIRELESS ACCESS POINT		
1.	Supply Wireless Access Point 802.11ac wave 2 <ul style="list-style-type: none"> <li>▪ AP type: Indoor, minimum dual radio, 5GHz 802.11ac <b>4x4 MIMO</b> and 2.4GHz 802.11n <b>2x2 MIMO</b>.</li> <li>▪ Minimum One 10/100/1000BASE-T Ethernet network interface (RJ-45)               <ul style="list-style-type: none"> <li>✓ Auto-sensing link speed and MDI/MDX</li> <li>✓ 802.3az Energy Efficient Ethernet (EEE)</li> </ul> </li> <li>▪ 5GHz <b>4x4 MIMO</b> (4.8 Gbps max rate) and 2.4GHz <b>4x4 MIMO</b> (575 Mbps max rate) radios, with a total of three integrated omni-directional down-tilt dual-band antennas.</li> <li>▪ Compatible with IIUM existing Wireless Controller               <ul style="list-style-type: none"> <li>✓ Aruba Mobility Controller 7240XM</li> <li>✓ Aruba OS 8.6.0.15</li> </ul> </li> </ul>		
2.	Supply Cabling together with each access point installed. Cable type is UTP Cat6 (AMP or Equivalent quality)		
3.	Supply accessories per access point as stated below: <ul style="list-style-type: none"> <li>▪ Access Point ceiling mounting</li> <li>▪ Access Point license that support Policy Enforcement</li> <li>▪ Proprietary console cable</li> <li>▪ Power Injector for POE+ power requirement.</li> <li>▪ Label and Tagging at both end</li> <li>▪ Security bracket (if required)</li> </ul>		
4.	Provide Support and Warranty for hardware and software. <ul style="list-style-type: none"> <li>▪ Must come with minimum <b>1 YEAR support</b> and limited lifetime product warranty by Principle.</li> </ul>		

\*This specification has been endorsed at the **Technical Specification Endorsement meeting** dated **17<sup>th</sup> November 2022** – “Wireless hotspot at Mahallah IIUM Pagoh and Access Points”

(TYPE B: UP TO 40 PEOPLE)

*Type B Wireless Access Point is suitable for unobstructed Medium Density deployment for up to 40 people such as medium Offices and open spaces.*

No.	SPECIFICATION	COMPLIANCE	PROPOSAL DESCRIPTION
<b>Type B</b>	<b>WIRELESS ACCESS POINT</b>		
1.	Supply Wireless Access Point 802.11ac wave 2 <ul style="list-style-type: none"> <li>▪ AP type: Indoor, minimum dual radio, 5GHz 802.11ac 4x4 MIMO and 2.4GHz 802.11n 4x4 MIMO.</li> <li>▪ Minimum One 10/100/1000BASE-T Ethernet network interface (RJ-45)               <ul style="list-style-type: none"> <li>✓ Auto-sensing link speed and MDI/MDX</li> <li>✓ PoE-PD: 48 Vdc (nominal) 802.3at PoE</li> </ul> </li> <li>▪ 5 GHz (2.4 Gbps max rate) and 2.4 GHz (1,150 Mbps max rate) radios, each with <b>4x4 MIMO</b> support and a total of eight integrated omni-directional down tilt antennas.</li> <li>▪ Compatible with IIUM existing Wireless Controller (minimum)               <ul style="list-style-type: none"> <li>✓ Aruba Mobility Controller 7240XM</li> <li>✓ Aruba OS 8.6.0.15</li> </ul> </li> </ul>		
2.	Supply Cabling together with each access point installed. Cable type is UTP Cat6 (AMP or Equivalent quality)		
3.	Supply accessories per access point as stated below: <ul style="list-style-type: none"> <li>▪ Access Point ceiling mounting</li> <li>▪ Access Point license that support Policy Enforcement</li> <li>▪ Proprietary console cable</li> <li>▪ Power Injector for POE+ power requirement.</li> <li>▪ Label and Tagging at both end</li> <li>▪ Security bracket (if required)</li> </ul>		
4.	Provide Support and Warranty for hardware and software. <ul style="list-style-type: none"> <li>▪ Must come with minimum 1 YEAR support and limited lifetime product warranty by Principle.</li> </ul>		

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(TYPE C: UP TO 100 PEOPLE)

Type C Wireless Access Point is suitable for High Density deployment for up to 100 people such as Conference Hall or Lecture Hall.

No.	SPECIFICATION	COMPLIANCE	PROPOSAL DESCRIPTION
<b>Type C</b>	<b>WIRELESS ACCESS POINT</b>		
1.	Supply Wireless Access Point 802.11ac wave 2 <ul style="list-style-type: none"> <li>▪ AP type: Indoor, minimum dual radio, 5GHz 802.11ac <b>8x8 MIMO</b> and 2.4GHz 802.11n <b>4x4 MIMO</b>.</li> <li>▪ Minimum One 10/100/1000BASE-T Ethernet network interface (RJ-45)               <ul style="list-style-type: none"> <li>✓ Auto-sensing link speed and MDI/MDX</li> <li>✓ PoE-PD: 48 Vdc (nominal) 802.3at PoE</li> </ul> </li> <li>▪ With <b>8x8 MIMO</b> support 5 GHz (4.8 Gbps max rate) and with <b>4x4 MIMO</b> support 2.4 GHz (1,150 Mbps max rate) radios, each and a total of eight integrated omni-directional down tilt antennas.</li> <li>▪ Compatible with IIUM existing Wireless Controller (minimum)               <ul style="list-style-type: none"> <li>✓ Aruba Mobility Controller 7240XM</li> <li>✓ Aruba OS 8.6.0.15</li> </ul> </li> </ul>		
2.	<ul style="list-style-type: none"> <li>▪ Supply Cabling together with each access point installed. Cable type is UTP Cat6A (AMP or Equivalent quality)</li> <li>▪ Requires uplink MultiGIG switch</li> </ul>		
3.	Supply accessories per access point as stated below: <ul style="list-style-type: none"> <li>▪ Access Point ceiling mounting</li> <li>▪ Access Point license that supports Policy Enforcement</li> <li>▪ Proprietary console cable</li> <li>▪ Power Injector for POE+ power requirement.</li> <li>▪ Label and Tagging at both end</li> <li>▪ Security bracket (if required)</li> </ul>		
4.	Provide Support and Warranty for hardware and software. <ul style="list-style-type: none"> <li>▪ Must come with minimum 1 YEAR support and limited lifetime product warranty by Principle.</li> </ul>		

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