ANNEXURE "B 3": TECHNICAL SPECIFICATION AND COMPLIANCE FOR ACCESS POINTS

Item No.	**Minimum Specification**		**Compliance to the specification** (Yes / No) If "No" bidder's response	**Remarks**
1.1	Brand	(Specify) Proposed product should be in the Gartner leader's quadrant for Wired and Wireless LAN Access Infrastructure for last 5 years		
1.2	Model	(Specify)		
1.3	Country of Origin	(Specify)		
1.4	Country of Manufacture	(Specify)		
2.5	Year of manufacture	(Specify)		
2.6	Type	Indoor		
2.7	Supporting standards	Should support 802.11ac Wave 2		
2.8	Wireless Capabilities	At least 3x3 MIMO with two spatial streams, single-user and multiuser MIMO		
		MRC		
		802.11ac beam forming (transmit beam forming)		
		20-, 40-, and 80-MHz channels		

Item No.	Minimum Specification		Compliance to the specification (Yes / No) If "No" bidder's response	Remarks
		PHY data rates up to 867 Mbps (80 MHz in 5 GHz)		
		Packet aggregation: A-MPDU (Tx/Rx),A-MSDU (Tx/Rx)		
		802.11 DFS		
		CSD support		
2.9	Integrated Antenna	at least have 3 inbuilt integrated Antennas		
		2.4 GHz gain 3 dBi, internal omni, horizontal beam width 360°		
		5 GHz gain 5 dBi, internal omni, horizontal beam width 360°		
2.10	Deployment modes	Must support Centralized deployment controlled through a Wireless controller		
		Must support standalone deployment without a controller and wireless access point should be able to act as a controller for at least 20 devices.		
		Should support a hybrid mode where signaling traffic is directed to the controller and data traffic is routed locally		
2.11	Ports	1 x 10/100/1000BASE-T autosensing (RJ-45), Power over Ethernet (PoE) Management console port (RJ-45)		
2.12	Frequency band	2.4 GHz		

Item No.	Minimum Specification		Compliance to the specification (Yes / No) If "No" bidder's response	Remarks
		5 GHz		
2.13	Transmission power	22 dBm or higher		
2.14	Power over Ethernet (PoE)	802.3af / 802.3at		
2.15	Data rate	At least total aggregate dual-radio data rate of up to 1 Gbps		
2.16	Multiple broadcast SSID	At least 16		
2.17	Accessories	Ethernet cable		
		Wall / Ceiling mount kit		
2.18	Security Standards	802.11i, Wi-Fi Protected Access 2 (WPA2), WPA		
		802.1X		
		Advanced Encryption Standard (AES)		
		EAP-Transport Layer Security (TLS)		
		EAP-Tunneled TLS (TTLS) or Microsoft Challenge Handshake Authentication Protocol Version 2 (MSCHAPv2)		
		Protected EAP (PEAP) v0 or EAP-MSCHAPv2		
		EAP-Flexible Authentication via Secure Tunneling (FAST)		
		PEAP v1 or EAP-Generic Token Card		

Item No.	Minimum Specification		Compliance to the specification (Yes / No) If "No" bidder's response	Remarks
		(GTC)		
		EAP-Subscriber Identity Module (SIM)		
2.19	Management	Standalone secure web based, SSH Centrally management.		
2.20	Mounting option	Wall / Ceiling mounting required with the mounting bracket		
2.21	Operating system	(Specify)		
2.22	Hardware reset button	Required		
2.23	Dimension (W x D x H)	(Specify)		
2.24	Weight	(Specify)		
2.25	Power supply	POE Adapter should be provided Bidder should provide standard power adapter of same product or brand.		
2.26	Standard compliance & certifications	UL 60950-1		
		UL 2043		
		IEC 60950-1		
2.27	SNMP	Wi-Fi AP device should support SNMP v1, v2c, v3		
2.28	VLANs	Should have the ability to set Trunk Ports on access points and VLANs		

ANNEXURE "B 4": TECHNICAL SPECIFICATION AND COMPLIANCE FOR INTEGRATED VIRTUAL CONTROLLER.

No	Specification / Requirement	Compliance to the specification (Yes / No)	Remarks
1.0	The management controller should be an inbuild one can manage at least 20 access points without a centralized management controller.		
2.0	Automatic Failover between APs (If any case the active controller is not working another node (AP) should take over the management and this failover should be performed automatically.)		
3.0	The controller should support wireless client association analytics logs which should record client MAC address, Ap connected to, data transfer, data rate, session etc.		
4.0	Solution should have role-based admin rights.		
5.0	Solution should support Captive portal		
6.0	Solution should support RADIUS, Active Directory and LDAP based authentication for both Corporate as well as Guest Clients		
7.0	The system must provide a device summary (for APs, and clients) report per location		
8.0	The solution should have built-inperformancemonitoring and Wi-Fi Analytics		
9.0	The controller and Wi-Fi AP devices management should support command line (ssh / telnet) and as well as web based (https) administration 4.10		

ANNEXURE "B6": SPECIFICATION OF THE UTP CABLES

Description		**Bidder Response**
1. UTP PATCH CORD		
1.1	CAT 6 UTP (Unshielded twisted pair cabling system)	
1.2	Factory Fitted Patch Cord	
1.3	TIA/EIA 568B Standard	
1.4	24 AWG gauge	
1.5	Length – 1 M	
1.6	Gigabit Ethernet	
2. **UTP CABLES**		
2.1	CAT 6 UTP (Unshielded twisted pair cabling system)	
2.2	TIA/EIA 568B Standard	
2.3	24 AWG gauge	
2.4	Gigabit Ethernet	
2.5	Standard designed UTP jack	