書面報價附表 （須填具一式兩份）

學校檔案：基督教香港信義會深信學校

「2025-2028學年校園無線網絡租賃及安裝服務」（IT242522/XX）

書面報價條件及細則

基督教香港信義會深信學校（下稱校方）誠邀　貴公司承投提供「**2025-2028學年校園無線網絡租賃及安裝服務**」書面報價，請參閱下列之規則及條件：

第一部份：規格及服務要求

校方現邀請承辦商以租賃模式為本校的第一校舍[1]提供無線網絡服務，以加強校園的無線網絡基礎建設。**服務年期為3年，即2025年9月1日至2028年8月31日。**

項目編號	物品或服務說明/規格	符合要求 (Y/N)	備註（如適用） 如未能符合要求，請註明
1.	**Wi-Fi Standard and Coverage (1) [Total 26 Access Points]** ● Support Wi-Fi 7 standard (IEEE 802.11be) in the following rooms ▪ G/F - English Discovery(40) - Meeting room(40) ▪ 1/F - 101(40) - 103(40) - 105(40) - 106(40) - 107 General Office (40) - 109(40) - 110(40) ▪ 2/F - 201(40) - 202(40) [2 Access Points] - 203(40) - 204(40) - 205(40) - 206(40) - 207(40) - 208(40) - 209(40) - 210(40) ▪ 3/F - 303(40) ▪ 4/F - 401(40) - 402 Library(40) [2 Access Points] ▪ 5/F - Music Room(40) [2 Access Points]		

[1] 第一校舍地址：石硤尾培德街8號

<table>
<tr><th>項目
編號</th><th>物品或服務說明/規格</th><th>符合要求
(Y/N)</th><th>備註（如適用）
如未能符合要求，
請註明</th></tr>
<tr><td>1.
(續)</td><td>
● Access Point
Specifications
<table>
<tr><td>Support Multi-Link Operation (MLO)</td></tr>
<tr><td>Support total 5 spatial streams, 2×2 in 2.4GHz , 2×2 in 5GHz</td></tr>
<tr><td>Maximum Wi-Fi Speed up to 3570Mbps</td></tr>
<tr><td>Support at least below transmit power
2.4GHz: 25 dBm
5GHz: 25.7 dBm</td></tr>
<tr><td>Include internal OmniDirectional Antenna with below antenna gain
2.4GHz: at least 3.23dBi
5GHz: at least 4.44dBi</td></tr>
<tr><td>Provide at least 1 x 100/1000/2.5GBase-T Ethernet port</td></tr>
<tr><td>Support using PoE (802.3af) as power source to power up the proposed Access Point without performance limitation</td></tr>
<tr><td>Proposed Dimensions (Ø x H) should not larger than φ195 mm x 41 mm</td></tr>
</table>
Product Features
<table>
<tr><td>Support Roaming Auto-Optimization, Layer2 Roaming, Layer3 Roaming, OFDMA Subcarrier, OFDMA, Multiple Access, Target wake time (TWT), WMM, Radar Signal Detection and Frequency Hopping (DFS)</td></tr>
<tr><td>Support MACC Mode, Fit Mode and Fat Mode</td></tr>
<tr><td>Support 802.11K/V/R</td></tr>
<tr><td>Support Mesh function</td></tr>
<tr><td>WPA-PSK, WPA2-PSK, WPA/WPA2-PSK, WPA-Enterprise, WPA2-Enterprise, WPA/WPA2-Enterprise, OWE, WPA3-SAE, WPA2-PSK/WPA3-SAE</td></tr>
<tr><td>Support Static Whitelist, Static Blacklist</td></tr>
<tr><td>Support Web mangement protocol</td></tr>
<tr><td>Support Wi-Fi Optimization, SSID-based STA limit, radio-based STA limit, Removing Low-RSSI STAs, Adjusting Sending Rate of Beacon and Probe Response, Auto Channel and Power Adjustment on On-premise Controller* or Cloud controller</td></tr>
<tr><td>Support Network Access Mode by PPPoE Client, DHCP Client, Static IP, and avoidance of WAN IP Address Conflicts</td></tr>
<tr><td>Support Port-based VLAN, 802.1Q VLAN</td></tr>
<tr><td>Support Cloud Management without licnese if cloud controller is used, APP Management, APP Upgrade, APP Restart</td></tr>
<tr><td>Support Local Upgrade, Online Upgrade</td></tr>
</table>
*License should be included if on-premise controller is used
</td><td></td><td></td></tr>
<tr><td>2.</td><td>
<u>Wi-Fi Standard and Coverage (2) [Total 4 Access Points]</u>
● Support Wi-Fi 7 standard (IEEE 802.11be) in the following rooms
▪ G/F
- Hall(100) [2 Access Points]
- The Fencing Hall(100)
▪ 1/F
- Staff Room(50)
● Access Point
Specifications
<table>
<tr><td>Support Multi-Link Operation (MLO)</td></tr>
<tr><td>Support total 5 spatial streams, 2×2 in 2.4GHz , 3×3 in 5GHz</td></tr>
<tr><td>Maximum Wi-Fi Speed up to 5011Mbps</td></tr>
</table>
</td><td></td><td></td></tr>
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2. (續)	Support at least below transmit power (based on UK Standard) 2.4GHz: 20 dBm 5GHz: 30 dBm Include internal OmniDirectional Antenna with below antenna gain 2.4GHz: at least 2dBi 5GHz: at least 3dBi Provide 1 x 100/1000/2.5GBase-T Ethernet port and 1 x 10/100/1000Base-T Ethernet port Support using PoE+ (802.3at) as power source to power up the proposed Access Point with full functions (Limited functions by using 802.3at as power source is not allowed. Support using PoE (802.3af) as power source to power up the proposed Access Point with 2x2 spatial streams in 5GHz Proposed Dimensions (W x D x H) should not larger than 208mm×208mm×40mm **Product Features** Support Roaming Auto-Optimization, Layer2 Roaming, Layer3 Roaming, OFDMA Subcarrier, OFDMA, Multiple Access, Target wake time (TWT), WMM, Radar Signal Detection and Frequency Hopping (DFS) Support 802.11K/V/R Support Mesh function WPA-PSK, WPA2-PSK, WPA/WPA2-PSK, WPA-Enterprise, WPA2-Enterprise, WPA/WPA2-Enterprise, OWE, WPA3-SAE, WPA2-PSK/WPA3-SAE Support Static Whitelist, Static Blacklist Support Web mangement protocol Support Wi-Fi Optimization, SSID-based STA limit, radio-based STA limit, Removing Low-RSSI STAs, Adjusting Sending Rate of Beacon and Probe Response, Auto Channel and Power Adjustment on On-premise Controller* or Cloud controller Support Network Access Mode by PPPoE Client, DHCP Client, Static IP, and avoidance of WAN IP Address Conflicts Support Port-based VLAN, 802.1Q VLAN Support Cloud Management without licnese if cloud controller is used, APP Management, APP Upgrade, APP Restart Support Local Upgrade, Online Upgrade *License should be included if on-premise controller is used		
3.	**<u>1-port PoE adapter (1000 Base-T, 52V, 31.2 W) for AP in teacher room</u>**		
4.	**<u>1-port PoE adapter (1000 Base-T, 52V, 31.2 W), 8 port switch for the School Hall & the Fencing Hall</u>** ● General features 8 10/100/1000Base-T port and 2 SFP 1GBase-X ports support unified management via app and RuijieCloud platform All Base-T ports support PoE/PoE+ and support at least 125W PoE Budget Shall provide at least 20Gbps switching capacity Shall provide at least 14.88Mpps packets forwarding rate The physcial size of proposed hardware should not higher than 440 mmx 293 mm x 44 mm (W x D x H) The weight of proposed hardware (with package) should not higher than 2kg The proposed hardware support at least 200,000 MTBF Support Flow Control Support IEEE 802.1d and 802.1w Support Port Fast Support BPDU Guard Support Port Aggregation with at least 8 Aggregation Group and at least 8 member ports per Aggregation Group for each of the proposed hardware Support Unknow Unicast Storm Suppression Support Multicast / Broadcast Storm Suppression Support Many-to-One Mirroring Support Port-based VLAN, MAC-based VLAN, IP-based VLAN and Voice VLAN Suport Rapid Link Detection Protocol (RLDP) Support Link Layer Discovery Protocol (LLDP) Support IGMP Snooping v1/v2/v3 Support IP Standard ACL, MAC-based Extended ACL and IP-based Extended ACL Support Port-based Rate Limit (Ingress/Egress) Support DHCP Snooping Support 0°C to 50°C (32°F to 122°F) Operating Temperature Support 10% to 90% RH Operating Humidity		

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4. (續)	Support 6 kV Port Surge Comply with RoHS Shall be no additional license for all hardware supported features ● Performance Shall have capacity for at least 8K MAC addresses on the switching table. Shall support to implement at least 4000 (four thousand) Vlans Support Packet Buffer with at least 4.1 Mbit Support Jumbo Fram with at least 9K bytes Support at least 1200 ACL Entries		
5.	**Number of Concurrent Connection per classroom** ● For those rooms under item 1 above [Wi-Fi Standard and Coverage (1)], commensurate with maximum 40 devices in a room with at least 2.5 Mbps upload / download bandwidth per connection. The contractor shall provide a PoC to prove that the required bandwidth can be supported for 40 devices at the same time before tender award ● For those rooms under item 2 above [Wi-Fi Standard and Coverage (2)], commensurate with number or above of said device as specified in the bracket after the room number/name in that room with at least 2.5 Mbps upload / download bandwidth per connection. The contractor shall provide a PoC to prove that the required bandwidth can be supported for said number of devices at the same time before tender award		
6.	**Number of classrooms using Wi-Fi concurrently** ● 4		
7.	**SSID & Authentication Method** ● Support Multiple SSID co-exist through an AP ● Different SSID can have different authentication method ● Authentication method : Support MAC address filter ▪ School can have the ability to add / edit / remove MAC address permit / deny to Wi-Fi connection)		
8.	**Session Control** ● Support one device or multiple devices to connect based on user group (students, teachers, guests)		
9.	**Internet Content Filtering Service** ● School **MUST** have **FULLY** administrative right to manager internet content filtering service		
10.	**Hardware configuration** ● School **MUST** have the **FULLY** rights to configure Access Point controller and firewall setting		
11.	**Relationship with Existing Network Infrastructure and Facilities** ● Not rely on any existing ITED network facilities and ITED cabling of the School, nor interfere with the existing Wi-Fi network of the School. ● If existing trunks / conduits for School do not have enough space, new trunks / conduits are required to install for the connection ● If existing cables for School are not enough, new cables are required to install ● All new trunks, conduits, cabinets and cables are required to compromise with school installation / mounting before actual installation / mounting		

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12.	**Broadband Network** ● use separate broadband for the Wi-Fi service ● provide at least 1Gbps Internet connection at school for the Wi-Fi service *if counter-propose other Internet connection method instead of providing independent Broadband, please specify clearly*		
13.	**Service Level Agreement** ● ensure at least 99.7% availability of the Wi-Fi services ● support four-hour response time and four-hour service recovery with active monitoring, helpdesk support ● support hours from Mon to Sat 08:00 to 18:00 ● provide monthly monitoring reports for the School ▪ Network Health Report ▪ Network Usage Report ▪ Reporting of security incidents ▪ Reporting on trend and statistics of incident and their analysis ▪ Reporting of the failure rate for all equipment with detailed fault analysis ▪ Problem log and incident log for critical failure of the network ▪ Statistical report on the type and no. of calls ▪ Summary of the outstanding enquiry for the month-to-date		
14.	**Contract End Arrangement** ● All newly added / provided trunks, conduits, cables, LAN ports and power points, access switch, if has/have, shall be considered as fixture of the School and shall become the property of the School, the Contractor shall remove or keep those provisions according to the instruction of the School ● Contractor can remove all the hardware equipment in the network		
15.	**Technical Detail** ● Please refer to the information below		
Optional item ● Please provide the price of each item. The School has the rights to decide purchase the following items or not according to the needs of school.			
項目編號	物品或服務說明/規格	單價 (港元)	備註（如適用） 如未能符合要求，請註明
16.	**4-ports PoE Access Switch** ● New PoE Access Switch, which provide high performance interconnectivity between the Core Switches and the WLAN APs on typical floor, should be replaced if the existing one cannot be utilized		
17.	**Managed IT Service** ● Managed Device Count ▪ Monitoring at least 5 work stations ● Management Report & Review ▪ Monthly report on work stations will be generated atomatically and sent to admin user email		

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17. (續)	● Patch & Vulnerability Management ▪ Patch Update and Deployment to ensure the infrastructure is well protected ● Phone, Email and Remote Support ▪ Unlimited support will be provided to end users of the whole school ● On Site Support ▪ Provided at least 10 on site support per year on, include but not limited to, wifi maintenance issue. For example, server trouble shooting ● Contractual Service Level Agreement ▪ Response in 30 minute for 90% of time within contract period		

Technical Specification

1. **WiFi Network**

1.1 The Wireless LAN (WLAN) System of the WiFi network shall support simultaneous dual-operation-mode that is FAT Access Point (AP) and Thin Access Point are both supported together with WLAN Controller. WLAN Controller shall be capable of fully centralized provisioning, configuration and monitoring all APs functionalities; a backup of the WLAN Controller shall be available.

1.2 The thin client WLAN Access Point (AP) shall be a high-performance wireless network access device, which shall be connected with the Power over Ethernet (PoE) Access Switches via Structured Cabling System. Appropriate type of connection cables between WLAN APs and the antenna shall be provided. Support FAT/FIT/MACC modes switching. When operating in FIT mode, the AP can communicate with the AC via CAPWAP. **The AP shall be able to managed by on-premise hardware controller or cloud controller;** Should Support PPSK or equivalent feature, WLAN Controller provide a one-time wireless password every user by batch, the device hardware MAC Address will be binded automatically, and the user cannot share their own password to other devices

1.3 The WLAN APs shall be compatible with IEEE 802.11a/b/g/n/ac/ac2/ax standard or above (according to the rooms specified at item 1 and 2 in the specification table above), support dual band of 2x2:2 in 2.4GHz and 5GHz. For WiFi ax, support dual band of 2x2:2 in 2.4GHz and 4x4: 4 in 5GHz as well as OFDMA, MU-MIMO and Internal antennas.

1.4 The Contractor shall design the WLAN System to provide the coverage for the required wireless coverage place. The received signal strength measurement from the WiFi Service at the WiFi client device (such as tablet PC or notebook computer) is no worse than -68dBm. The Contractor shall provide certificate or test report to illustrate that the WiFi client device for testing satisfies the power emission requirement.

1.5 The WLAN AP shall support DHCP, PoE, VLANs, WPA2, IEEE 802.1x and certificate authentication.

1.6 The WLAN System shall support automatic channel selection, protocol filtering, multicast/broadcast storm filtering and load balancing.

1.7 The WLAN system shall allow single or multiple devices per user account to be authenticated using 802.1x and single sign-on service.

1.8 Each WLAN AP in classrooms, staff room and the School Hall as well as the Fencing Hall, shall be able to support at least concurrent 40, 50 and 100 respectively, or otherwise specified amount of users connecting to the network simultaneously. In no circumstance shall the speed of data transmission symmetrically fall below the data rate requirement at any place or any corner or any highly congested area within the areas being covered. In case the transmission speed is below the said data rates, the Contractor shall be responsible for all remedial measures to

rectify or configure fine-tuning of antenna or even increase the quantity of the WLAN AP at Contractor's own costs in order to meet the data rate requirement as mentioned in the Specification. A complete set of catalogues with brand and model shall be submitted and highlighted for reference. The catalogues shall show all the features and technical specifications of the products and systems.

1.9 The system shall provide bandwidth control per connection.

1.10 The WLAN shall allow different authentications by using Service Set Identifiers (SSIDs).

1.11 The SSIDs shall be able to be set hidden from searching by Wi-Fi devices. The devices have to manually set SSID to make connection.

1.12 Individual APs shall be allowed to be assigned by more than one SSIDs.

1.13 The SSIDs shall be isolated by VLANs, so different users under different SSIDs could be bind to corresponding firewall secure policy control and integration purpose.

1.14 Antennas of APs shall support 802.11ac Beamforming standard by capable of detecting user locations in real time for direction switching while devices in motion.

1.15 The DHCP server shall support at least 30 queries/sec.

1.16 The WLAN system shall suspend the session of the user once the session control is expired and the suspension time shall be configured by the school.

1.17 The Contractor shall in provision of the service comply with non-interference requirements of and shall not cause interference prohibited under the Telecommunication Ordinance (Cap 106) or any other laws or regulation of Hong Kong.

1.18 The WLAN System shall provide termination of idle sessions and control of the duration features.

1.19 The WLAN System shall support client roaming across Access Points.

1.20 The WLAN system shall cover all areas specified under this tender.

1.21 The quotation shall include the cost to provide sufficient quantity and its cabling work required, including but not limited to supply and install the Fibre optics, Cat 6 cable, Conduit, cable patch panel, cable faceplate, Cable patch cord. For the backbone, fibre optic is suggested.

1.22 The Contractor shall provide complete set of WLAN Systems which consist of Wireless Access Point, Connection Cable, Authentication System, Wireless LAN Controller, PoE Switch, horizontal UTP Cat 6 cable/OM3 Fiber, patch cable UTP Cat 6 / OM3 Fiber Optics, any required license and all associated accessories.

1.23 All access points (AP) shall be certified by OFCA and copy of certificates issued by OFCA shall be attached to the proposals.

1.24 The Contractor shall ensure that there is no interference between WLAN Access Points due to limited non-overlapping channels assignment when the WLAN AP is installed. The Contractor shall be responsible at his own costs for providing solution to eliminate the interferences including but not limited to reassignment of the non-overlapping channels, adding extra APs with lower transmission power and/or replacement of the WLAN AP.

1.25 The WLAN System shall support Web GUI management.

1.26 FTP service shall not be allowed in the Wi-Fi network (to avoid exchanging credential and files in plain text without any encryption).

1.27 The WLAN System shall support IPV6 addressing method.

1.28 The WLAN System should support auto recognition of mainstream operating systems such as iOS, Android and Windows, etc. Support a self-adaptive authentication page that fits any screen size for easy access. Provide technology white paper as proof. Should be no additional license.

1.29 The WLAN System should support radio country code, channel and power setting.

1.30 The WLAN System should support MAX clients number limitation for each radio.

1.31 The WLAN System should support SSID and mapping VLAN management.

1.32 The WLAN System should support built-in and external portal management, including social login, One-click, Voucher, Account login methods, Portal page customization and language configuration.

1.33 The WLAN System should support WEB and telnet security configuration.

1.34 The WLAN System should support AP load balancing and roaming setting.

1.35 The WLAN System should support RRM auto RF planning.

1.36 The WLAN System should support auto-propose of device firmware version.

1.37 The WLAN System, Switch deployed shall be same brand to ensure the service quality on deployment and after-sales services can be maintained.

2. **PoE Access Switch**

2.1 The Access Switches shall be deployed to provide high performance interconnectivity between the Core Switches and the WLAN APs on typical floor. The Access Switch should support at least 264 Gbps switching capacity and 96Mpps Packet Forwarding Rate. The Access Switch should have 2 power modules, and support 1+1 power redundancy and Hot-swappable power module. Should support AC power supply and DC(-36V to -72V DC) power supply. The Switch should have at least 2 extension slots, the extension slots should support 10GBase-T and 10GBASE-X expansion modules.

2.2 The Access Switch shall consist of 24/48 x 10/100/1000Base-T Ethernet ports, with minimum 2 of 10GE Ports Ethernet uplink ports connected with the Core Switch. The switches are managed switches offer advanced Layer 2 and basic Layer 3 features as well as High-power PoE Technology (IEEE 802.3bt). The switches adopt new web interface and can be managed at the Cloud platform, provides easy device onboarding, configuration, monitoring, and troubleshooting.

2.3 The Access Switch shall be used for connecting the WLAN APs. The Contractor shall determine the Maximum power loading of the devices to be connected with the PoE Access Switches. The Contractor shall provide additional PoE Access Switch(es) if the total power loading summed up from the PoE devices exceeds the maximum power loading capacity of the existing PoE Access Switch.

2.4 The Access Switches shall support VLAN configuration, spanning tree protocols of 802.1d, 802.1w, and 802.1s to ensure rapid convergence, improves fault tolerance capabilities, ensures stable running of networks and load balancing of links, and provides redundant links.

2.5 The Access Switches shall be provided sufficient port density to meet all the required links.

2.6 The Access Switches shall support PoE and shall conform to IEEE 802.11be standard, which delivers power over single copper UTP cable for WLAN AP.

2.7 3.8. The Access Switches shall support Internet Group Management Protocol (IGMP) snooping and multicast and

unicast storm control, IEEE 802.1D Spanning-Tree Protocol.

2.8 The Access Switches shall support WebGUI Management, Access Control Lists (ACLs), DHCP Relay and SNMP.

3. **Firewall (if existing firewall does not support the new APs)**

3.1 The performance of the Firewall shall not be degraded with 100% Internet bandwidth utilization.

3.2 Network Address Translation (NAT) is required.

3.3 Access Control Policy is required.

3.4 The configuration settings of the appliance shall be allowed to export to files for backup and restore for rapid recovery and shall control all incoming and outgoing Internet traffic, serving as the sole entry and exit point between the Internet and the WLANs in all locations.

3.5 The configuration settings of the appliance shall support blocking specific network ports, including ports of Transmission Control Protocol (TCP) and User Datagram Protocol (UDP). Blocking denial of service (DoS) attacks and malformed packet attacks shall also be configured.

3.6 The firewall policy should be applied to control network traffic such that public users should be prohibited to access the internal network segments of the School.

3.7 The router policy should be applied to shape the guest user VLAN traffic to designated bandwidth requested by School to preserve the e-learning in class which is the primary purpose of School Wi-Fi.

3.8 The firewall must provide the performance or better;

- Should support at least 8 fixed 1000BASE-T ports, 1 fixed 1000BASE-X port and 1 fixed 10GBASE-X port.
- Should provide standard 1U chassis and multi-core non-x86 architecture.
- Should support 1 hard disk of at least 1TB storage size.
- Should support 1 power supply with power consumption less than 25W.
- Should support at least 2GB memory.
- Should support 2000 concurrent users and at least 6000Mbps (1518 Bytes) or 3725Mbps (512Bytes) throughput.
- Should support max concurrent session upto 600K

3.9 The firewall (for Wi-Fi network) must support below software requirement

<u>Routing optimization</u>

- Should provide at least 6 ports as WAN ports for multi-link access.
- Should support multiple Internet access modes such as static IP, DHCP and PPPoE dial-up connection.
- Should support multiple routing protocols such as static routing, RIP (V1/V2/V3) and OSPF.
- Should support multi-link load balancing of multiple modes such as bandwidth-based and load-based to ensure the reasonable bandwidth allocation for multiple external network links.
- Should support application-based routing based on applications such as communication and video app.
- Should support graphical display for the results of application-based routing.
- Should support link bypass and regular link inspection. When the link is abnormal, it should be shut down in time so that the applications can pass through other normal links.

<u>User management</u>

- Should support DHCP and provide DHCP service for the intranet.
- Should support DHCP address pool allocation status and generation of IP and MAC correspondence list.
- Should support user account creation with IP, MAC and IP-MAC binding.
- Should support batch creation of user accounts through texts and forms, as well as batch creation of accounts, passwords, and full paths.
- Should support local web authentication and integrated authentication with external authentication server.
- Should support local user authentication, LDAP authentication and Microsoft AD single sign-on.

- Should support local guest voucher authentication processing by integration with cloud-based voucher management system; the voucher can limit the guest data usage and network access duration.

Application recognition (DPI) and flow control management

- Should support at least 120 application protocol identification and provide at least 43 application categories

Network security

- Should support interface access control (ACL), which can filter and block specific ports and IP, as well as reflexive ACL.
- Should support ping blocking and blacklisted website blocking to ensure the device security.
- Should support protection against ARP spoofing, static ARP binding, disabling of ARP learning, and effective ARP mapping and binding. Screenshots of the device configuration interface should be provided with the manufacturer's official seal.
- Should support IPsec VPN and provide access authorization for at least 1000 IPsec VPNs.
- Should support automatic topology generation after the establishment of the IPsec VPN, so as to facilitate the online status monitoring of all devices.

Device management and monitoring

- Should support the display of CPU and memory usage on the web interface.
- Should support web management through HTTPS and HTTP.
- Should support SNMPv2/ v3 and multiple traps reception configuration. Screenshots of the device configuration interface should be provided with the manufacturer's official seal

4. Service Requirements

4.1 The Contractor shall be responsible for the total project management and shall assign a person to act as the single contact point to the School regarding all related activities of the contract. This single contact point cannot be transferred to a sub-contractor unless explicitly agreed by the School. Contractor should formally inform the School in writing if there is a change of contact point.

4.2 All switches/firewall shall be properly installed into wall mounted cabinet or rack.

4.3 Cables shall be labelled with connected port and its device id.

4.4 All the equipment shall be labelled with an identifiable id.

4.5 The placement of cables, cabinets, racks and appliances shall be shown on the network diagram.

4.6 Switches and/or other appliances shall be properly installed into cabinet/rack with appropriate ventilation.

4.7 13A power cord(s) shall be bundled with appliance(s).

4.8 Cable shall be properly set up onto appropriate cable management guide.

4.9 Contractor should make sure that the actual environment is suitable for the installation and operation of equipment with School agreement in advance, and make necessary suggestions, if any.

5. Service Level Requirements

5.1 The Contractor shall provide incident/problem report to the School within 5 working days after each incident and the resolution taken.

5.2 The Contractor shall derive mechanism, including forms and reference tables for measuring and recording the Service Level Measures, to ease the administration and monitoring by the School.

5.3 Advance notice by at least 2 weeks shall be given to the School prior to all scheduled maintenance. At most 4 scheduled maintenances per year are excluded from the calculation of Service Levels. No more than 1 hour service

interruption or an agreed time slot is accepted for each scheduled maintenance.

5.4 Service Level, expressed in percentage, is the ratio of actual available time to the scheduled available time for the WiFi network of the School and is calculated according to the following formula:

Service Availability Level = (Schedule Uptime within the month– Unscheduled Downtime within the month) / Scheduled Uptime within the month, where

Scheduled Uptime: The duration, in unit of minutes, for the WiFi network of the School is scheduled to be available for the month. The duration will exclude the scheduled downtime, which is defined as duration agreed between the School and the Contractor during which the service may be deliberately made unavailable to users.

Unscheduled Downtime: The amount of time, in unit of minutes, that the service are unavailable due to equipment failure or other reasons under the responsibility of the Contractor.

6. Service Level Rebates

6.1 The Service Rebates to the School operate as liquidated damages for the performance fallen short of the target service levels over a period of one month. The service measures stipulated in 5 will be used to determine the Service Rebates in Service Availability (S1) and Service Resumption Time (S2).

6.2 The application of the Service Level Rebates adjustment to the monthly charge will commence with effective from the acceptance of the reliability test.

6.3 For each month, the Service Rebates for different service measures (S1, S2) will be calculated as below if the Contractor cannot meet the target Service Levels for the WiFi network of the School under the availability agreed:

Failure Hour x [(Yearly Subscription Fee) / (365 x 24)] x 2, where

Failure Hour: The unscheduled downtime or the time to resume the network due to the failure of hardware or software which is provided by the Contractor. Failure Hour is calculated in the increment of 0.5 Hour.

6.4 The Service Rebates of the WiFi network of the School, if any, will be paid by crediting the invoice of the following month.

7. Helpdesk Service

7.1 The Helpdesk Service shall maintain dedicated hotline, including phone, email and fax, for enquiries and complaints.

7.2 The Helpdesk Service shall answer enquiries and complaints originated from the School concerning the Service.

7.3 The Helpdesk Service shall operate from Mon to Sat 8:00 am to 6:00 pm.

7.4 The Helpdesk Service shall maintain call logs on enquiries and complaints. The information shall be included but not be limited to date, time, description of issues, contact information, and follow-up actions. The Contractor shall observe and comply with Personal Data (Privacy) Ordinance in handling all information relating to these enquiries and complaints.

7.5 The Contractor shall provide the following information concerning the Helpdesk service related to the implementation of the Service:

- Detailed information of the helpdesk office, such as address, phone number, fax number; and
- Facilities, computer systems and equipment provided in the helpdesk office, such as private branch exchange (PBX), keyline telephone system (KTS), interactive voice response system (IVRS) and voice recording system.

7.6 The Contractor shall provide helpdesk staff with the necessary tools, including but not limited to hardware and software, related training for supporting the Service.

7.7 The Contractor shall not make use of the Helpdesk Service to transmit any message or conduct any activity to the School, which is not connected with the provision of the Service. The School shall have the full discretion to determine whether any such message or activity is in breach of this provision. The Contractor shall forthwith stop transmitting such message or conducting such activity and refrain from doing it further once the School has notified the Contractor in writing or verbally of its determination.

8. User Acceptance Test

8.1 The Contractor shall conduct tests with the School before the service is officially accepted and subscription started. Tests shall include User Acceptance Test for reliability and performance of the hardware and software, and also the monitoring, operation support and all other aspects related to the Service Level Agreement of the Service. At least 14 school working days of trial period is expected for service monitoring after testing.

8.2 The contractor will be required to perform test making reference to the User Acceptance Test and System Test documents at www.edb.gov.hk/ited/wifi900. They include the types of testing to be performed, the requirements to be tested, the testing environment, testing tools and pass/fail criteria as reference to the Contractor.

8.3 The Contractor shall upon request by the School arrange briefings to the School and/or Responsible Parties of the School, with briefing materials, prior to the User Acceptance Test when required.

8.4 The Contractor shall provide detailed acceptance test plan and a step by step testing procedure with expected results against the requirements set out in this specification.

8.5 The Contractor shall provide, configure and set up the proper software and hardware for the School to carry out the User Acceptance Test.

8.6 The Contractor shall be required to carry out tests to demonstrate that the equipment and system meet the specification and other contractual requirements. The Contractor shall also be responsible for the timely preparation and compilation of all test schedules, test procedures and test reports.

8.7 The Contractor shall follow the agreed standards as laid down in this specification for the testing methods and procedures.

8.8 The Contractor shall submit a schedule of site performance and commissioning tests at least 3 working days prior to the commencement of the scheduled commissioning date.

8.9 Special tools, test equipment, test objects and simulators required for the demonstration of either bench or commissioning tests shall be made available by the Contractor at no extra charge to the School.

8.10 All test equipment used by the Contractor shall be properly and periodically calibrated. Measuring standards used in calibration shall be traceable to international or national measurement standards, or to an industry recognized manufacturer's reference, subject to approval of the School.

8.11 Calibration procedures and results shall be documented and signed by certifying body where applicable. The Contractor may be requested to show evidence of calibration of test equipment by submission of copies of these calibration records prior to conduction of any tests.

8.12 The Contractor shall submit the User Acceptance Test report within 3 working days. The acceptance of the installation will only be granted after receiving a satisfactorily UAT report from the Contractor.

8.13 All equipment to be installed may be subject to inspection and bench testing. The Contractor shall meet the cost of deliveries for bench test. Notwithstanding, the Contractor shall have carried out the tests in accordance with the requirements and procedures stipulated in this specification and submitted the associated test reports for inspection.

9. Termination of Service

9.1 The School reserves the right to terminate all or part of the Service at any time with written notice of 10 working days in advance if:

- The Contractor fails to meet the target service levels under Service Level Requirements for two consecutive months, or three months in total within the committed subscription period;
- The School suspects that unauthorized activity has occurred or is occurring in relation to the Service;
- The provision of the Service will cause the School to be in breach of any applicable law;

9.2 The Contractor shall provide to the School and implement the Exit Plan in accordance with:

- The Contractor shall provide to the School an Exit Plan with feasible arrangements before the committed subscription contract date;
- If the School considers the Exit Plan as not satisfactory, it will notify the Contractor with comments. The Contractor shall revise the Exit Plan by taking into consideration of the School's comments and provide to the School with five (5) working days after the date of receiving the School's comments. If the Exit Plan has been considered as not satisfactory for three or more times, the School shall have the right to terminate this Contract by giving 10 days' notice in writing;
- Detailed exit procedures, disengagement timetable and actions to be taken by both the Contractor and the School for smooth termination of all or any part of the Service;
- The Exit Plan shall aim at enabling the School or its authorized parties to perform in substitution for the Contractor and to eliminate or minimize any disruption or deterioration of the Service. The Exit Plan shall contain, but not limited to the following information:
  - Detailed exit procedures, disengagement timetable and actions to be taken by both the Contractor and the School for smooth termination of all or any part of the Service;
  - Any information that is necessary for the School or a new service provider to continue the provision of the Service;
  - Details of the Contractor's personnel and other resources that will assist the School or the School's authorized parties during the handover;
  - All provisions of facilities such as trunks, conduits, cables, LAN ports and power points, shall be considered as fixture of the School venues and shall become the property of the School. The Contractor shall remove or keep those provisions according to the instruction of the School. Contractor can remove the network equipment such as switch, routers, and access points.
- The Contractor shall be responsible for the implementation and execution of the Exit Plan and shall ensure that the exit plan is carried out in a timely and orderly manner.

10. Schedule of Work

10.1 The Contractor shall provide the service according to the following schedule.

Phase	Items	Starting Date	Ending Date	Service fee
I	Build up of WiFi network	On or before 18 Aug 2025	31 Aug 2025	0
II	Subscription of service	01 Sep 2025	31 Aug 2028	Quoted price

第二部份： 其他服務要求

1. 根據香港現行法例、勞工條例、工業安全、 職安健、環保、<<建築物條例>>及相關法例，包括小型工程、消防及電力裝置法律規例、供應人力、器材工具、運輸及物料完成工程項目。
2. 如相關工程需呈報或獲得政府部門（包括屋宇署、消防處、教育局等）的認可批文，承辦商須協助呈上所需的文件並跟進相關的手續，確保所有工程均符合政府條例。
3. 所有圖則及呎寸只作為參考，應以現場量度為準。
4. 供應商需清楚註明運輸及搬運費（如有）。
5. 學校有權在工程期間加減工程配件、材料及其他物資等。
6. 承辦商須為委派到校的員工提供勞工保險及第三者責任保險。
7. 報價將以總價形式，報價金額須包括所有項目及會牽涉的費用，例如製作費、材料費、運輸費、安裝費、測試費、廢料處理費及保險費等。各項工作所需之材料及配件費用應包括相應項目單價內，包括配件、收口封邊、油漆等所有完善該項工作之材料及工序。
8. 學校不一定採納索價最低者之投標書，且會以「整項」形式考慮接受供應商的投標書。
9. 承辦商須準備一份列有到校工作人員之個人資料，以便校方有需要時查閱。
10. 承辦商須為工作人員準備有效的工作證或制服，於到校工作時戴上或穿上。
11. 所有配件及物料在保養期內若非人為而損壞，承辦商需免費維修及提供物料。
12. 在工程、運送及安裝期間，如有損壞本校任何設施或物品，承辦商必須照價賠償。
13. 如對項目明細表有疑問或發現有矛盾，承建商應盡快知會本校，並於報價文件上列明建議方案。
14. 施工時，承辦商須做妥工程範圍及運輸通道之一切安全措施及保護工作，包括圍封工程範圍，並須於每日完工後做妥清潔工作。
15. 承建商負責材料運送和清理場地以及其相關費用。
16. 所有派駐員工需完成性罪行定罪記錄查核，並提交查詢密碼供校方審查。曾有性罪行犯罪記錄者不可到本校提供有關服務。
17. 所有派駐員工在校園內或為學校提供服務期間，必須遵守港區國家安全法相關措施的條文，其工作表現及操守須嚴格遵守相關要求，不會涉及危害國安的行為及活動。若員工涉及不當行為並查明屬實，承辦商須作出跟進安排，例如撤換有關員工。
    若出現下列任何一種情況，學校有權立即終止合約：
    (i) 承辦商曾經或正在作出可能構成或導致發生危害國家安全罪行或不利於國家安全的行為或活動；
    (ii) 繼續僱用承辦商或繼續履行合約不利於國家安全；或
    (iii) 學校合理地認為上述任何一種情況即將出現。

備註：

1. 送貨及安裝工程竣工日期必須於**2025年8月31日(星期日)或之前**，而無線網絡租賃服務則於**2025年9月1日起**生效。
2. 如需延遲工程，公司需向學校作出合理的賠償（以日作單位計算），有關情況必須與學校商討。
3. 如有需要，有意報價的承辦商可到校視察及了解工程內容，請提早致電2779 2744與李慧嫻主任預約。
4. 請附上產品目錄（如有），以便校方了解各項目之規格。

重要聲明

競投人、其僱員及代理人不得向學校僱員、校長或負責甄選營辦商的有關委員、校董、老師或任何家長提供利益（香港法例第201章【防止賄賂條例】所界定的「利益」）。競投人、其僱員及代理人向有關人士提供任何利益，可導致合約無效。學校亦可取消批出的合約，而競投人須為學校所蒙受的任何損失或損害負上法律責任。

本公司/本人明白，如收到學校訂單後未能供應書面報價單上所列項目，本公司/本人須負責賠償學校從另處採購上述服務的差價。

公司印鑑

公司名稱：_____

由獲授權簽署書面報價單的代表的姓名及署名

姓名（請以正楷填寫）：_____ 簽署：_____

日期：_____