



MUHAMMAD SIKANDAR STAMP VENDOR

Licence # 159, Shop # 60, SITE Market
Habib Bank Chowrangi, S.I.T.E., Karachi

S.No. DATE

ISSUED WITH ADDRESS

THROUGH WITH ADDRESS

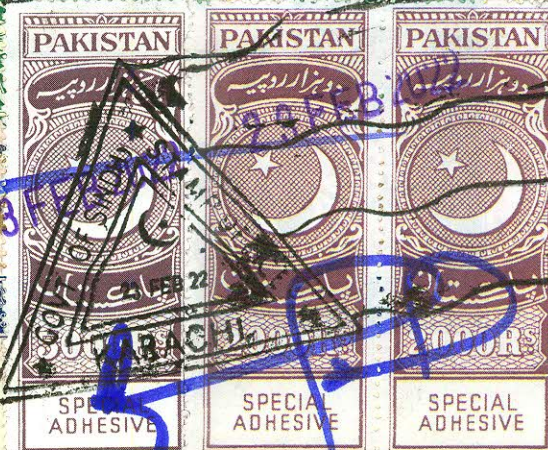
PURPOSE 62711

VALUE RS. (ATTACHED)

STAMP VENDOR'S SIGNATURE M.

This Stamp paper is not valid for Divorce and Free Will purpose

13 DEC 2021



OFFICE SUPERINTENDENT
Stamp Office City Court,
Karachi

23 FEB 2022

AGREEMENT

Supply & Installation of Wireless Access Points on C&F Basis

THIS AGREEMENT is executed at KARACHI, on this day February 28, 2022.

BETWEEN

M/s Institute of Business Administration, Karachi through its Registrar, located at Main Campus, University Enclave, Karachi, hereinafter called and referred to as "IBA" (which expression shall wherever the context so permits, be deemed to include its legal representatives, executors, successors and assigns).

AND

M/s Supernet Limited, having its Regionl Office at 9th Floor, World Trader Center, 10 Khayaban-e-Roomi, Block 5, Clifton, Karachi, hereinafter referred to as "THE SUPPLIER" (which expression shall wherever the context so permits be deemed to include its legal representatives, executors, successor and assigns), through its CEO Jamal Nasir Khan, holding CNIC No. 42101-1836572-3.

WHEREAS "IBA" intends to obtain service vide tender # IT/14/21-22 for the Supply & Installation of Wireless Access Points on C&F Basis (IBA requirement) discussions in respect of the same before the determination of the scope of work will be held with "IBA" and "THE SUPPLIER" have offered to render all kind of Supply & Installation of Wireless Access Points on C&F Basis including but not limited to the "Supply & Installation of Wireless Access Points on C&F Basis" of the proposed work up to the satisfaction & handing over the material(s) to the "IBA" having accepted the offer in a finished form complete in all respect.

NOW IT IS HEREBY AGREED & DECLARED BY AND BETWEEN THE PARTIES AS FOLLOWS:
WITNESSETH

“IBA” hereby offer to appoint “THE SUPPLIER” for the specific purpose of “Supply & Installation of Wireless Access Points on C&F Basis” discussions in respect of the same with “IBA” before the determination of Supply & Installation of Wireless Access Points on C&F Basis to provide with any/all other relevant details for presentation to “IBA” for Supply & Installation of Wireless Access Points on C&F Basis. “THE SUPPLIER” hereby agree to the offer of the “IBA” in acceptance of the terms & conditions herein below forth.

Article I
DUTIES & SCOPE OF SERVICES AND AGREEMENT

- 1.1 THE SUPPLIER agrees to Supply & Installation of Wireless Access Points on C&F Basis to IBA whenever and wherever form is required as per the terms & conditions of this Agreement.
- 1.2 THE SUPPLIER will coordinate their work with the Manager IT, of the “IBA” who will assist “THE SUPPLIER” in the supervision of the proposed Supply & Installation of Wireless Access Points on C&F Basis.
- 1.3 “THE SUPPLIER” hereby agrees to accept the variation, if occurred, in the scope of supply with mutual consent on approved cost/price/charges/amount inclusive of all taxes and levies.
- 1.4 All equipment mentioned in Purchase Order will be delivered new, in packed condition directly to the location, as per the discretion of IBA. If the equipment delivered is not conforming to the specifications and Bill of Quantity, the equipment will not be accepted.
- 1.5 “THE SUPPLIER” will provide Assurance on Rs. 100/- valued stamp paper that the item Supply of Wireless Access Points of H3C brand in required quantity is not smuggled from any country(ies) / source(s) and not refurbished/reconditioned/remoulded etc.
- 1.6 This Agreement shall be in effect from March 1, 2022 for 3-year subscription and subject to THE SUPPLIER inspection of the service to ensure that they are in working order.
- 1.7 THE SUPPLIER will visit the Procurement Department located at Main Campus, University Enclave, Karachi as & when required with prior appointment.
- 1.8 All logistic charges will be borne by THE SUPPLIER.

Article II
SCOPE OF PROFESSIONAL SERVICES

- 2.1 THE SUPPLIER hereby agrees and acknowledge the periodic supervision of the supplies and to check the Supply & Installation of Wireless Access Points on C&F Basis under the Description & Specification.
 - 2.1.1 Deployment & Installation
 - 2.1.2 Onsite Comprehensive warranty for three years
 - 2.1.3 Technical support and upgrade.
 - 2.1.4 Included mentioned and necessary software with licenses and support.



- 2.2 THE SUPPLIER will be responsible for the smooth and full-fledged functioning of hardware included in the SLA as per the BoQ, during its effective period.
- 2.3 THE SUPPLIER shall be responsible for providing three years of services.
- 2.4 The scope of this agreement, and its subsequent order, is to provide Supply, installation, Support/warranties (three years) of equipment and components with transport and labour charges included in the BoQ.
- 2.5 THE SUPPLIER will be responsible to respond as specified below to calls, whether normal or urgent, for maintenance/support/replacement etc. of items that are part of this BoQ.
- 2.6 24x7 on-site support with 2 hrs initial response time.
- 2.7 24x7 on-site support with 4 hrs turnaround time.
- 2.8 THE SUPPLIER should be responsible for handling level 2 and 3 technical support issues.
- 2.9 THE SUPPLIER must provide backup in case of delay in delivery of the relevant model, as specified in BoQ.
- 2.10 The onsite comprehensive replacement warranty period of 3 year is mandatory which includes replacement of the Equipment included in BoQ (if necessary) without any additional cost.
- 2.11 THE SUPPLIER should provide training to at least two staff members of IBA for the proposed solution on Principal aggradation centre.
- 2.12 THE SUPPLIER will provide backup or replacement of any hardware with the same or higher Specification. Equipment of lower specification will NOT be accepted.
- 2.13 THE SUPPLIER will provide backup in case of delay in delivery of the relevant model, as specified above.
- 2.14 The onsite comprehensive replacement warranty period of 3 year is mandatory which includes replacement of the WI-FI Equipment (if necessary) without any additional cost.
- 2.15 THE SUPPLIER accepts full responsibility and strict liability for making any false declaration/statement, not making full disclosure, misrepresenting facts or taking any action likely to degrade the purpose of declaration, representation and warranty.
- 2.16 No pirated/forged/tampered material would be accepted. In a later stage/period, if found, THE SUPPLIER would be penalized according to the prevailing rules of the country.
- 2.17 The necessary service support should be provided by THE SUPPLIER during the agreement period.
- 2.18 If the problem is not solved within the agreed timeframe according to the severity level, thereafter, the Company shall provide a backup unit. SUPPLIER is also bound to arrange at least 15 % of the hardware inventory as a backup in Company Office.
- 2.19 THE SUPPLIER shall indemnify & hold the IBA harmless against all the third party(ies) claim(s) of infringement of patents, trademark or industrial decision rights arising from the use of the service(s) or any part thereof.
- 2.20 THE SUPPLIER shall provide patches/upgrades of the appliance during the contract period without any extra cost to IBA.
- 2.21 THE SUPPLIER shall provide onsite support.
- 2.22 All faulty parts are covered under this agreement to be replaced with OEM/Compatible parts.
 - 2.22.1 Physical inspection of complete equipment.
 - 2.22.2 Performance tests and adjustments.
 - 2.22.3 Performance engineering modification and changes, if recommended by IBA.
 - 2.22.4 Responsible for the smooth functioning of already installed Hardware as per BOQ.
 - 2.22.5 Equipment is fully operational and performed properly and meet SBD's Requirements.
 - 2.22.6 The scope of the project is to provide warranties of all IT equipment and components requested in BOQ.



- 2.22.7 Responsible to respond to events on an urgent basis.
- 2.22.8 Responsible to provide backup or replacement of any hardware with the same or higher Specification. IBA will not accept any low specification hardware.
- 2.22.9 Provide Backup in case of delay in part replacement.
- 2.22.10 Maximum response time should be less than 04 (four) hours of the time the complaint is logged.
- 2.22.11 The SUPPLIER will sign a Service level agreement (SLA) with parts initially for three years, an extension of which shall be dependent on satisfactory performance for the previous year(s).
- 2.22.12 THE SUPPLIER must have a team of technically qualified staff on payroll for providing repair & maintenance services.
- 2.22.13 THE SUPPLIER bound to all defective items shall be replaced with the new and same brand.
- 2.22.14 The country for this procurement is Pakistan. THE SUPPLIER can not supply any commodities or services that are manufactured or assembled in, shipped from, transported through, or otherwise involving any of the country i.e., INDIA & ISRAEL.
- 2.22.15 Shipping will be made by the supplier preferably through the National Vessel/Airline. Shipment by INDIA nor ISRAELI Vessel/Airline is not allowed. The partial shipment of stores shall not be allowed; the complete stores will be shipped as one consignment.
- 2.22.16 Head of Procurement in the coordination of technical department will inspect the items as per specifications after arrival at Stores and will carry out necessary testing of equipment and render a ***Certificate of Correctness***. Material of this order is subject to final inspection from the Competent Authority Technical Team at the time of delivery.
- 2.22.17 All Equipment shall be individually packed in standard packing provided by the manufacturer for onwards transportation and delivery. Any item damaged during transportation will be replaced by THE SUPPLIER at their own cost.
- 2.23 "THE SUPPLIER" will be responsible to maintain secrecy/ confidentiality of information /Data shared during all stages of the Contract.
- 2.24 The ownership of all products and services rendered under this contract will be the sole property of IBA, Karachi.

Article III

REMUNERATION

- 3.1 The cost offered by THE SUPPLIER is USD 46,879.29 (on C&F basis) for the Supply & Installation of Wireless Access Points and three years advanced replacement 8x5xNBD warranty for hardware with 24 Hours Technical Assistance Support vide tender # IT/14/21-22 variation may occur. The total cost includes Cost & Freight of Goods, Insurance charges, Charges for Custom Clearance at Karachi Port & Sellers LC charges. The details of items are appended below:

A. WLAN Controller				
Model: WX3840H, Brand: H3C				
Description	Technical Specification	Qty	Rates	Amount
General	Wireless LAN Controller should be capable to support 1024 Access Points and 20,000 Users or higher	1	\$ 13,096	\$ 13,096
Ethernet Interfaces	2 x 10G SFP+ ports, 8 x 1G RJ-45 ports (Fixed / SFP) or Higher 1 x RJ45 OBM Port, 1 x console Ports or Higher			
High Availability	Support for Stateful switchover capability with 1:1 active-standby or N+1 redundancy Intelligent / Zero-IT failover between Wireless LAN Controllers			
Automation	installing configuration files on access points when they are being deployed in the network for the first time. API-driven configuration			



	with support for NetConf using Yang data Models for available tools in automation. Or equivalent			
Forwarding Modes	Wireless LAN Controller must support both centralized and distributed forwarding modes with the flexibility to set each mode on per SSID basis.			
Management & Data Plane	Wireless LAN Controller must support different Network Plans for Data & Management traffic.			
Access Point Discovery & NAT	Support L2-L3 auto-discovery of Access Points Support NAT traversal between Access Point & Wireless LAN Controller			
Radio Management	* Wireless LAN controller should automatically adjust transmit power levels and RF channel assignments as needed to avoid interference. * Wireless LAN controller should prevent adjacent APs from interfering and enable redundant coverage in the event of an AP failure * Must support L2-L3 Roaming between Access Points			
QoS	Priority mapping L2-L4 packet filtering and traffic classification 802.11e/WMM			
Recognition & Visibility	Must have advanced application classification techniques with predefined and well-known application signatures.			
Wireless Standards	Must support 802.11a/b/g/n/ac (wave 1 & wave 2)/ax, 802.11K, 802.11w, 802.11u			
Security standards	*Must support Wi-Fi Protected Access (WPA), WPA2, MD5, 802.1X, RADIUS, EAP- TLS, EAP, Web-Based authentication, LDAP, AAA, TACACS or equivalent. *Must support rogue AP detection and countermeasure. WIPS (7-layer mobile security) must be supported *Must support VLAN & SSID based wireless user 2-layer isolation *Must support IPsec, SSL & GRE VPN			
Encryption standards	Must support Static Wired Equivalent Privacy (WEP), AES, SSL and TLS (RC4 128-bit and RSA 1024- and 2048-bit)			
Licenses	Access point licenses required for 160 access points			
Warranty and Services	3 Years Advanced Replacement 24x7 warranty for software and hardware with 24 Hours Technical Assistance Support			
B. Software Model: IMC, Brand: H3C				
Description & Technical Specification		Qty	Rates	Amount



<p>Network Management Software</p> <p>The solution must include a centralized network management software for access points with the following features:</p> <ul style="list-style-type: none"> * Include license for 500 Wireless Access Points * Single pane of glass management * Deep Device visibility * Wireless clients' visibility * Centralized visibility of distributed networks * Must come in virtual machine form-factor with no extra requirement of OS, etc. * Have the capability to manage Wireless LAN etc. * Support Role-Based administration * Support customer user homepage & widget extension * Support automatic discovery topology, automatic discovery all network devices, custom modification, including device, link * Support device fault alarm real-time monitoring, unified browsing and multiple reminder. * Support task-based performance monitoring, send different level alarm according to different thresholds. * Provides intuitive device panel view to check the device, board and port working status, and provide device, board, and port configuration function based on the device panel. * Support device configuration centralized management, batch device configuration backup and restore. * Support device software intelligent upgrade and non-stop service software upgrade ISSU. * Support Syslog receiving, parsing and storage, provide Syslog feature analysis and policy registration capability, aggregate based on statistical rules to generate alarm (Trap) * Support illegal access device and mac address monitoring * Support VLAN network management and topology, batch deploy access port, trunk port, hybrid port and VLAN, and manages VLAN resource visually. * Provide multiple report styles, including row and column reports, main / sub reports, graphic summary reports, cross tables, TopN and BottomN reports. * Support daily / weekly / monthly / quarterly / semi-annual / yearly periodic report, support report logo customization and send to designated mailbox regularly * Support report export, including RTF, Excel, HTML, PDF, XML, CSV, TXT format Support manage third-party device registration, Mib compilation, configuration management and CLI delivery, configuration backup, software upgrade and system integration. * Provide REST and SOAP-based interface & northbound SNMP interface open capability * Support wireless device topology, check the actual physical link connection between Wireless LAN Controller and Access Point, and Access Point currently online and details. * Support wireless terminal, Access Point and traffic, radio status and utilization, Rogue AP status and other wireless transition statistics reports. * For PoE-capable AP access port, can be enabled or disabled the PoE function to remotely perform a cold startup or shutdown of the AP must be supported * Support Wireless intrusion prevention system (WIPS) and functions like WIPS configuration, Information detection, Viewing security events, Intrusion prevention policy management) * Support a troubleshooting function, which allows performing RF ping or NQA operations to troubleshoot client access failures or unstable link status. 	500	\$ 12.08	\$ 6,040
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<ul style="list-style-type: none"> * Support determining AP operating status and user experience in an area and optimize the network based on the evaluation result and records. * Support RF heatmaps for verifying the WLAN design before network setup. * Support records of client roaming to view client information, such as MAC address, signal strength, online duration, transmit power set, negotiated power set, RSSI, SSID, channel, associated AC, associated AP, and roaming records. * Must provide dashboard functionality to present Wireless LAN statistics such as online client quantity, AP quantity, data traffic, client-vendor distribution and so on. 			
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C. Cloud Services Model: IMC, Brand: H3C				
Description & Technical Specification		Qty	Rates	Amount
Centralized Management & Control Provide centralized management & control of Wireless LAN Controllers & Access Points on Cloud/On-premise from a single pane of glass with the following features: <ul style="list-style-type: none"> * Centralized graphical user interface dashboard, including devices operating status (list of Wireless LAN Controllers, Access Points and associated STAs), system utilization (Top 5 CPU and RAM utilization), multi-dimensional alarms and report * Overall health of the wireless system * Provide multiple administrative roles with different privileges, i.e. superuser to manage the whole wireless network for the tenant, subaccounts for operation and management by multiple administrators. * Support O&M features like Network health monitoring, Client connection snapshot, Problem location and analysis, Wireless network optimization, One-click diagnosis and optimization, VIP policy for AP and Client, WIPS, Client access analysis. * Provide network management features like Full network monitoring, Sites management, Devices management (including Wireless LAN Controllers & Access Points), Clients management, Alarm management, Operation logs, System messages, Fault reports, Sub-accounts management. 		1	Free of Cost	Free of Cost
D. Outdoor Access Points Model: WA6630X, Brand: H3C				
Description	Technical Specification	Qty	Rates	Amount
Throughput	5.3 Gbps or higher	6	\$ 937.71	\$ 5,626.26
General	802.11ax compliant outdoor access point with internal antennas			
Ethernet Interfaces	1 x 100/1000M/2.5G/5G/10G, RJ-45, 1 x 100M/1G Ethernet port & 1x Management console port (RJ-45) or higher			

Radios	2.4 GHz & 5 GHz (Dual band concurrent)			
Clients	Number of Clients per Radio: 512			
Transmit Power	2.4GHz: 24dBm 5GHz: 24dBm or higher			
Standards	IEEE 802.11a/b/g/n/ac/ax, 802.11k and 802.11v smart and 802.11r fast transition roaming, IEEE 802.3ae, IEEE 802.af			
Security	802.11i, 802.11w, Wi-Fi Protected Access 2 (WPA2), WPA, WPA3, 802.1X/AES/TKIP, EAP-Transport Layer Security (TLS), Protected EAP (PEAP) v0 or EAP-MSCHAP v2, WIDS/WIPS, DAI, IP Source guard			
Integrated Antennas	Built-in Omnidirectional Radio 3: 5dBi or more antenna gain @2.4GHz Radio 2: 4dBi or more antenna gain @5GHz Radio 1: 4dBi or more antenna gain @5GHz			
MIMO & Data Rates	5GHz Radio 1, 4x4:4 MU-MIMO 2.4Gbps 5GHz Radio 2, 4x4:4 MU-MIMO 2.4Gbps 2.4GHz Radio 3, 2x2:2 MU-MIMO 575Mbps			
AP working Modes	The proposed AP must be able to work in Standalone mode, managed & control via Wireless LAN Controller, managed & control via cloud controller.			
Architecture	Supporting RF spectrum analysis, wireless intrusion prevention system, dynamic frequency selection to prevent interference. Airtime fairness, Airtime optimization & Call Admission Control (CAC), Load Balancing			
Environmental	Operating Temp: -40 °C~65°C Storage Temp: -40°C~85°C Humidity: 0% to 100% (non-condensing) Protection Class: IP68 Power Saving: Green AP mode, Dynamic MIMO power saving, E-APSD, WMM Power Save			
Wi-Fi Certified	The proposed AP must be WIFI Alliance certified			
Warranty and Services	3 Years Advanced Replacement 8x5xNBD warranty for hardware with 24 Hours Technical Assistance Support			
E. Indoor Access Points Model: WA6320, Brand: H3C				
Description	Technical Specification	Qty	Rates	Amount
Throughput	1.7 Gbps or more	40	\$ 173.15	\$ 6,926.00
General	802.11ax compliant Indoor Access point with internal antennas			
Ethernet Interfaces	At least 1 x 100/1000M RJ-45 & 1 x Console Port			
PoE Support	802.3af			
Radios	2.4 GHz & 5 GHz (Dual band concurrent) with Built-In Bluetooth 5.0			
Clients	Number of Clients per Radio: 512			
Transmit Power	2.4GHz: 20dBm 5GHz: 20dBm or higher			
Standards	IEEE 802.11a/b/g/n/ac/ax, 802.11k and 802.11v smart and 802.11r fast transition roaming, IEEE 802.af			
Security	802.11i, 802.11w, Wi-Fi Protected Access 2 (WPA2), WPA, WPA3, 802.1X/AES/TKIP, EAP-Transport Layer Security (TLS), Protected EAP (PEAP) v0 or EAP-MSCHAP v2, WIDS/WIPS, DAI, IP Source guard			



Integrated Antennas	Must have Built-in antenna At least 3dBi antenna gain @2.4GHz At least 5dBi antenna gain @5GHz			
802.1ax MU-MIMO & Data Rates	2.4GHz: 2 x 2 MIMO supporting speed of at least 575 Mbps 5GHz: 2 x 2 MIMO supporting speed of at least 1.2 Gbps			
AP working Modes	The proposed AP must be able to work in Standalone mode, managed & control via Wireless LAN Controller, managed & control via cloud controller.			
Forwarding Modes	Must support both distributed and centralized forwarding.			
Architecture	RF spectrum analysis, wireless intrusion prevention system, dynamic frequency selection to prevent interference. Airtime fairness, Airtime optimization & Call Admission Control (CAC), Load Balancing			
Wi-Fi Certified	The proposed AP must be WIFI Alliance certified			
Warranty and Services	3 Years Advanced Replacement 8x5xNBD warranty for hardware with 24 Hours Technical Assistance Support			
F. Indoor Access Points Model: WA6638, Brand: H3C				
Description	Technical Specification	Qty	Rates	Amount
Throughput	5.9 Gbps or more	22	\$ 428.32	\$ 9,423.04
General	802.11ax compliant Indoor Access point with internal antennas			
Ethernet Interfaces	At least 1 x 100/1G/2.5G/5G/10G RJ-45, 1 x 100M/1G RJ-45 & 1 x Console Port			
PoE Support	802.3bt/at			
Radios	2.4 GHz & 5 GHz (Dual band concurrent) with Built-In Bluetooth, RFID & ZigBee			
Clients	Number of Clients per Radio: 512			
Transmit Power	2.4G: 25dBm or more 5G: 30 dBm or more			
Standards	IEEE 802.11a/b/g/n/ac/ax, 802.11k and 802.11v smart and 802.11r fast transition roaming, IEEE 802.3ae,			
Security	802.11i, 802.11w, Wi-Fi Protected Access 2 (WPA2), WPA, WPA3, 802.1X/AES/TKIP, EAP-Transport Layer Security (TLS), Protected EAP (PEAP) v0 or EAP-MSCHAP v2, WIDS/WIPS, DAI, IP Source guard			
Integrated Antennas	Must have Built-in antenna At least 3dBi antenna gain @2.4GHz At least 4dBi antenna gain @5GHz At least 4dBi antenna gain @5GHz			
802.1ax MU-MIMO & Data Rates	5GHz Radio 1, 4x4:4 MU-MIMO 2.4Gbps 5GHz Radio 2, 4x4:4 MU-MIMO 2.4Gbps 2.4GHz Radio 3, 4x4:4 MU-MIMO 1.1Gbps			
AP working Modes	The proposed AP must be able to work in Standalone mode, managed & control via Wireless LAN Controller, managed & control via cloud controller.			
Forwarding Modes	RF spectrum analysis, wireless intrusion prevention system, dynamic frequency selection to prevent interference. Airtime fairness, Airtime optimization & Call Admission Control (CAC), Load Balancing			



Architecture	Must support both distributed and centralized forwarding.			
Wi-Fi Certified	The proposed AP must be WIFI Alliance certified			
Warranty and Services	3 Years Advanced Replacement 8x5xNBD warranty for hardware with 24 Hours Technical Assistance Support			
G. Indoor Access Points Model: WA6330, Brand: H3C				
Description	Technical Specification	Qty	Rates	Amount
Throughput	3.2 Gbps or more	12	\$ 227.51	\$ 2,730.12
General	802.11ax compliant Indoor Access point with internal antennas			
Ethernet Interfaces	At least 1 x 100M/1G/2.5G RJ-45, 1 x 100M/1G RJ-45 & 1 x Console Port			
PoE Support	802.3at/802.3af			
Radios	2.4 GHz & 5 GHz (Dual band concurrent) with Built-In Bluetooth, RFID & ZigBee			
Clients	Number of Clients per Radio: 512			
Transmit Power	2.4G: 20dBm or more 5G: 20 dBm or more			
Standards	IEEE 802.11a/b/g/n/ac/ax, 802.11k and 802.11v smart and 802.11r fast transition roaming, IEEE 802.af			
Security	802.11i, 802.11w, Wi-Fi Protected Access 2 (WPA2), WPA, WPA3, 802.1X/AES/TKIP, EAP-Transport Layer Security (TLS), Protected EAP (PEAP) v0 or EAP-MSCHAP v2, WIDS/WIPS, DAI, IP Source guard			
Integrated Antennas	Must have Built-in antenna At least 5dBi antenna gain @2.4GHz At least 5dBi antenna gain @5GHz At least 5dBi antenna gain @5GHz			
802.1ax MU-MIMO & Data Rates	5GHz Radio 1, 2x2:2 MU-MIMO 1.2 Gbps 5GHz Radio 2, 2x2:2 MU-MIMO 1.2 Gbps 2.4GHz Radio 3, 2x2:2 MU-MIMO 867 Mbps			
AP working Modes	The proposed AP must be able to work in Standalone mode, managed & control via Wireless LAN Controller, managed & control via cloud controller.			
Forwarding Modes	Must support both distributed and centralized forwarding.			
Architecture	RF spectrum analysis, wireless intrusion prevention system, dynamic frequency selection to prevent interference. Airtime fairness, Airtime optimization & Call Admission Control (CAC), Load Balancing			
Wi-Fi Certified	The proposed AP must be WIFI Alliance certified			
Warranty and Services	3 Years Advanced Replacement 8x5xNBD warranty for hardware with 24 Hours Technical Assistance Support			

H. Indoor Access Points Model: WA6622, Brand: H3C				
Description	Technical Specification	Qty	Rates	Amount
Throughput	2.9 Gbps or more	12	\$ 240.64	\$ 2,887.68



General	802.11ax compliant Indoor Access point with internal antennas			
Ethernet Interfaces	At least 1 x 100M/1G/2.5G/5G RJ-45, 1 x 100M/1G RJ-45 & 1 x Console Port			
PoE Support	802.3at/802.3af			
Radios	2.4 GHz & 5 GHz (Dual-band concurrent) with Built-In Bluetooth, RFID & ZigBee			
Clients	Number of Clients per Radio: 512			
Transmit Power	2.4G: 25 dBm or more 5G: 30 dBm or more			
Standards	IEEE 802.11a/b/g/n/ac/ax, 802.11k and 802.11v smart and 802.11r fast transition roaming, IEEE 802.af			
Security	802.11i, 802.11w, Wi-Fi Protected Access 2 (WPA2), WPA, WPA3, 802.1X/AES/TKIP, EAP-Transport Layer Security (TLS), Protected EAP (PEAP) v0 or EAP-MSCHAP v2, WIDS/WIPS, DAI, IP Source guard			
Integrated Antennas	Must have a Built-in antenna At least 5dBi antenna gain @2.4GHz At least 5dBi antenna gain @5GHz			
802.1ax MU-MIMO & Data Rates	5GHz Radio 1, 4x4:4 MU-MIMO 2.4 Gbps, 2.4GHz Radio 2, 2x2:2 MU-MIMO 575 Mbps			
AP working Modes	The proposed AP must be able to work in Standalone mode, managed & control via Wireless LAN Controller, managed & control via cloud controller.			
Forwarding Modes	Must support both distributed and centralized forwarding.			
Architecture	RF spectrum analysis, wireless intrusion prevention system, and dynamic frequency selection to prevent interference. Airtime fairness, Airtime optimization & Call Admission Control (CAC), Load Balancing			
Wi-Fi Certified	The proposed AP must be WIFI Alliance certified			
Warranty and Services	3 Years Advanced Replacement 8x5xNBD warranty for hardware with 24 Hours Technical Assistance Support			

I. Indoor Access Points

Model: WA6320H, Brand: H3C

Description	Technical Specification	Qty	Rates	Amount
Throughput	1.7 Gbps or more	1	\$ 150.19	\$ 150.19
General	802.11ax compliant Indoor Access point with internal antennas			
Ethernet Interfaces	At least 4 x 100/1000Mbps Ethernet ports 1x RJ45, 1x USB port, 1x Console port 1x uplink 100M/1GE port, 1 x RJ45			
PoE Support	802.3af			
Radios	2.4 GHz & 5 GHz (Dual band concurrent) with Built-In Bluetooth 5.0			
Clients	Number of Clients per Radio: 512			
Transmit Power	2.4GHz: 20dBm, 5GHz: 20dBm or higher			

Standards	IEEE 802.11a/b/g/n/ac/ax, 802.11k and 802.11v smart and 802.11r fast transition roaming, IEEE 802.af			
Security	802.11i, 802.11w, Wi-Fi Protected Access 2 (WPA2), WPA, WPA3, 802.1X/AES/TKIP, EAP-Transport Layer Security (TLS), Protected EAP (PEAP) v0 or EAP-MSCHAP v2, WIDS/WIPS, DAI, IP Source guard			
Integrated Antennas	Must have Built-in antenna At least 3dBi antenna gain @2.4GHz At least 3dBi antenna gain @5GHz			
802.11ax MU-MIMO & Data Rates	2.4GHz: 2 x 2 MIMO supporting speed of at least 575 Mbps 5GHz: 2 x 2 MIMO supporting speed of at least 1.2 Gbps			
AP working Modes	The proposed AP must be able to work in Standalone mode, managed & control via Wireless LAN Controller, managed & control via cloud controller.			
Forwarding Modes	Must support both distributed and centralized forwarding.			
Architecture	RF spectrum analysis, wireless intrusion prevention system, and dynamic frequency selection to prevent interference. Airtime fairness, Airtime optimization & Call Admission Control (CAC), Load Balancing			
Wi-Fi Certified	The proposed AP must be WIFI Alliance certified			
Warranty and Services	3 Years Advanced Replacement 8x5xNBD warranty for hardware with 24 Hours Technical Assistance Support			
Total Amount (A + B + C + D + E + F + G + H + I)				\$ 46,879.29

3.2 Optional Charges for proceeding years (inclusive of all applicable taxes):

For only 4th year of SLA	\$ 2,691
For only 5th year of SLA	\$ 3,042

3.3 Liquidity damage @ 2% per month of the total agreed payment as per Purchase Order, of the total cost, will be imposed in case of delayed completion. “THE SUPPLIER” have to complete the required tasks as per the schedule.

3.3.1 In case of breach of SLA calculation will be done as per the table below and IBA reserves the right to impose a penalty not exceeding 10% of the total amount of the contract at the rates prescribed in (Service Level Agreement) on the invoiced amount to each violation of SLA.

3.3.2 In case of delay in service, provisioning Liquidated Damages will be Calculated and imposed as per the following table

Level	Event	% of Invoiced amount per violation
L1	Severe	1%
L2	Critical	0.5%
L3	High	0.3%
L4	Moderate	0.1%

3.4 Performance Security 5% of the total amount of Purchase Order will be provided by “THE SUPPLIER”.

3.5 Standard sets of General toolkit/accessories supplied with equipment shall be provided by “THE SUPPLIER” with no additional cost.

3.6 Stamp Duty @ 0.35% of the cost of transaction/work order will be deposited in the Government treasury by THE SUPPLIER.



- 3.7 If any tax exemptions, reduction, allowances, or privileges may be available to "THE SUPPLIER" in Pakistan, the IBA shall use its best efforts to enable the Supplier to benefit from any such tax savings to the maximum allowable extent.
- 3.8 No increase in the value of the above-mentioned items will be accepted on account of either unit price, total price, any or all other charges, duties, taxes, the scope of supply and or any other head of account shall be allowed.
- 3.9 Tax(es)/Challan(s)/Levy(ies), if any or additional will be paid/borne by THE SUPPLIER as per SRO/Notification.
- 3.10 LC charges (client-side) and Import Duties & Taxes (where applicable) will be borne by IBA, Karachi. However, THE SUPPLIER will pay import duties & taxes and bill separately to IBA as reimbursable expenses upon presentation of proof of payment.
- 3.11 IBA shall open 180 days Usance LC. LC charges (client-side) will be borne and paid by IBA, Karachi.
- 3.12 IBA being is exempt from the whole of customs duties (specified in the First Schedule to the Customs Act, 1969 (IV of 1969)), and the whole of sales tax on the goods imported in the name of IBA Karachi. IBA shall provide the necessary documentation to claim the exemption.
- 3.13 "THE SUPPLIER" should clearly indicate the name and full address of their principals/authorized distributor in whose favor LC shall be opened. In case of distributor, the authorization certificate from Principal for specific bid shall be obtained.
- 3.14 THE SUPPLIER is responsible for transportation of complete consignment to IBA, Karachi premises. This would include the cost of labour for unloading consignment to the designated warehouse. Labour will be provided by THE SUPPLIER.
- 3.15 The ownership of all products and services rendered under any contract arising because of this tender will be the sole property of IBA, Karachi.

Article IV

ANNUAL SUPPORT & MAINTENANCE TERMS

- 4.1 The Annual Agreement of Supply and Installation of Wireless Access Points shall include the following activities:
- 4.1.1 3 years maintenance support with parts, for all the equipment listed in BoQ.
- 4.1.2 THE SUPPLIER will be required to undertake SLA of Supply and Installation of Wireless Access Points with support and maintenance and related components as follows:
- 4.1.3 Quarterly onsite preventive maintenance service to keep the equipment in good working condition. The onsite preventive maintenance will include the following:
- 4.1.3.1 Break down calls shall be attended to immediately as per SLA.
- 4.1.3.2 Corrective maintenance of equipment whenever called upon by the IBA.
- 4.1.4 THE SUPPLIER will be required to ensure that maintenance personnel are readily available as and when required by the IBA.
- 4.1.5 Back to back support for items mentioned in the BOQ from the principal.

Article VI

FUTURE DEVELOPMENTS AND UPGRADES

- 5.1 THE SUPPLIER shall keep IBA promptly informed of any technological or regulatory changes affecting the Services.
- 5.2 Any additional requirements requested by IBA will be subject to mutually agreed additional charges based on the complexity of the requirements and/or changes.

Article VII

DATA PROTECTION



- 6.1 In addition to and notwithstanding any other right or obligation arising under this Agreement THE SUPPLIER shall (and shall ensure that its sub-contractors shall) take all appropriate technical and organizational security measures to ensure that any or all data is protected against loss, destruction and damage, and against unauthorized access, use, modification, disclosure or other misuses, and that only THE SUPPLIER personnel designated for the purpose of Services have access to the Data.
- 6.2 THE SUPPLIER shall (and shall ensure that its employees, agents and subcontractors shall) in respect of the Data:
- 6.2.1 Comply with any request made or direction given by IBA in connection with the requirements of any Data Protection Laws; and not do or permit anything to be done which might jeopardize or contravene the terms of any registration, notification or authorization under the Data Protection Laws; and not process any Data (including personal or private information of personnel, of IBA) as part of the Services unless it is acting on the express written instructions of IBA, and such Data shall be treated as Confidential Information of IBA for the purpose of this Agreement; and
- 6.2.2 use the Data only for the purposes of fulfilling its obligations under this Agreement and to comply with instructions of IBA from time to time in connection with use of such Data, and not retain the Data for any longer than is necessary for these purposes; and
- 6.2.3 not disclose the Data without the written authority of IBA (except for the purposes of fulfilling its obligations under this Agreement), and immediately notify such member where it becomes aware that a disclosure of Data may be required by law; and not transfer Data which has been obtained by or made available to THE SUPPLIER within one country outside that country, or allow persons outside that country to have access to it, without the prior written approval of IBA; and
- 6.2.4 observe the provisions of, and comply with any request made or direction given by IBA in connection with, any Data Protection Laws; and
- 6.2.5 take all reasonable steps to ensure the reliability of the personnel which will have access to any Data and ensure that any employee of THE SUPPLIER (or of any of THE SUPPLIER's sub-contractors) requiring access to any data gives a written undertaking not to access, use, disclose or retain the Data except in performing their duties of employment and is informed that failure to comply with this undertaking may be a criminal offence and may also lead THE SUPPLIER (or, as the case may be, sub-contractor) to take disciplinary action against the employee; and
- 6.2.6 consider all suggestions by IBA's personnel to ensure that the level of protection provided for the Data is in accordance with this Agreement and to make the changes suggested (at THE SUPPLIER's cost) unless THE SUPPLIER can prove to IBA's reasonable satisfaction that they are not necessary or desirable to ensure ongoing compliance with this Clause.
- 6.2.7 Immediately notify IBA when it becomes aware of a breach of this Clause.
- 6.2.8 THE SUPPLIER acknowledges that any unauthorized access, destruction, alteration, addition or impediment to access or use of that Data when stored in any computer, or the publication or communication of any part or document by a person which has come to his knowledge or into his possession or custody by virtue of the performance of this Agreement



(other than to a person to whom THE SUPPLIER is authorized to publish or disclose the fact or document) may be a criminal offence.

Article VII
ADD-ON EQUIPMENT

- 7.1 Any equipment or complete devices may be added to this Agreement at IBA's request at any time; however proportional charges for the specific equipment shall be added in the Agreement.

Article VIII
THE SUPPLIER'S RESPONSIBILITIES

- 8.1 THE SUPPLIER will make all reasonable endeavours to provide the "Response Time" stated in the schedule and to perform the aforesaid Repair and Maintenance Services at IBA, Karachi. In case of unavoidable delays, all legitimate efforts will be made to reduce equipment downtime.
- 8.2 Parts will be replaced as per the agreed terms of the contract.
- 8.3 Response time will be 4 hours via telephone, email or engineer visit.
- 8.4 The engineer's visit time will be 9:00 AM to 4:00 PM during business hours.
- 8.5 The equipment pickup time will be 9:00 AM to 4:00 PM.

Article IX
THE SUPPLIER'S OUT OF SCOPE RESPONSIBILITIES

- 9.1 Burnt/damaged parts replacement.
- 9.2 In terms of damage THE SUPPLIER's Engineer will inform IBA Staff at his premises and in terms of the burnt report will share IBA within 02 working days.)
- 9.3 Burnt and damaged parts would be replaced after IBA's approval and charged separately.

Article X
SERVICES / OBLIGATIONS OF THE SUPPLIER

- 10.1 The following section provides a detailed list of the Standard Services that are to be delivered to the Client under the terms of this Agreement.
- 10.2 It is hereby specifically agreed between the Parties that during the currency of this Agreement, and any renewal thereof, THE SUPPLIER shall be responsible for parts replacement and installation, of all or any parts (under warranty) of the Equipment which are or become defective, malfunction, or breaks down. The equipment will not be covered if there is any burning or physical damage which voids the manufacturer warranty.
- 10.3 Under this agreement hardware under manufacturer warranty will be covered as mentioned in this agreement. Application software/ signature and OS update/upgrade or data backup as mentioned in BoQ are also covered.
- 10.4 Under this agreement, any hardware that becomes faulty will be replaced by THE SUPPLIER provided backup to operate the environment within the next business day whereas replacement of the faulty part will be provided in a later phase accordingly.
- 10.5 If THE SUPPLIER is required to replace any equipment which is not repairable or damaged or not covered under warranty, then THE SUPPLIER will submit an estimated cost for approval from Client. The client will be required to provide an approval or purchase order within 15 days.



- 10.6 THE SUPPLIER will be providing a centralized 24/7 Service Desk facility to log calls for servicing with a dedicated resource for Client Calls. Kindly refer to the attached Call Logging procedure document which provides a detailed description of how to log a call and its works.

Article XI

Operations & Maintenance (O&M) Support

- 11.1 The following shall be provided to IBA:

Number of Months	Service description
12 months	<p><u>24x7x4</u></p> <p>THE SUPPLIER will provide O&M support to IBA with its shared pool of resources On-Call basis.</p> <p>THE SUPPLIER will provide the mobile phone numbers of the concerned technical persons and escalation.</p> <p>THE SUPPLIER concerned technical personnel will reach the site / remote login / VPN / Telnet for troubleshooting the problem registered through the support call logging procedure.</p> <p>During the O&M, THE SUPPLIER concerned personnel/ Help Desk Support System will update the logged call by IBA staff. In case the concerned engineer cannot resolve the reported incident, the support system will automatically engage the next level of support.</p> <p>Support Levels Description:</p> <p>Level 1: THE SUPPLIER engineer will provide telephonic support for minor issues and general queries of IBA.</p> <p>Level 2: THE SUPPLIER engineer will try to resolve the problem remotely and if required will visit the site for onsite intervention. If the problem is not resolved at this level, then it would be escalated to Level 3.</p> <p>Level 3: THE SUPPLIER engineer will engage a Subject Matter Expert (SME) at Level 3 to remotely rectify the problem. SME will remote login / VPN / Telnet the equipment for troubleshooting the problem. If required, THE SUPPLIER Technologies engineer will open a TAC case and engage support till the rectification of the problem.</p> <p>Business-critical issues will be analyzed by the concerned technical personnel and will be communicated to IBA through the Help Desk / THE SUPPLIER personnel.</p>

Article XII

Call Logging System

- 12.1 To lodge a complaint CUSTOMER can contact THE SUPPLIER's Support desk by phone or by email, once a complaint is lodged.

Email: Corps@super.net.pk

Call at: 021-38711011 Ext. _____

Non-Working Hours / Holidays:

Name: Farhan Ali Qureshi

Number: +92 336-3111565

Email: Farhan.ali@corporate.super.net.pk

- 12.2 Reporting Service Call While reporting a service call a user/manager must provide the following information to THE SUPPLIER's helpdesk in order to log a service call:

- Username, Contact Numbers.
- Model and the serial number of machines/devices.
- Brief description of the problem and symptoms.
- Ask for Call Log "Ticket Number"



- 12.2.1 Based on its expertise and knowledge THE SUPPLIER has categorized all problems into 3 levels of problems i.e. Severity Level 1, Severity Level2 and Severity Level3 (level 3 being the least severe). Each Severity Level corresponds to a specific response time by a specific predefined resource/team. This response time varies as per the Escalation Level of that problem at that given time.
- 12.2.2 In case IBA informs THE SUPPLIER of any problem regarding the network via helpline or by informing related contact person (mobile number provided in escalation matrix) it is registered on THE SUPPLIER ticketing tool. This tool then keeps track of the problem and escalates it as per predefined structure till it gets resolved. The tool also keeps a record of historical tickets.
- 12.2.3 THE SUPPLIER support structure defines the problem escalation process based on global best practices as presented in the Problem Escalation Matrix (refer to the 'Problem Escalation' section). As per the severity level, each problem is escalated to the next level in case the support team at the previous level failed to resolve the problem within predefined timelines.

12.3 Hours of Coverage:

THE SUPPLIER will provide maintenance and support on a 24x7 basis.

12.4 Response Time:

Response time to incidents reported would be as follows:

Severity Level	Response Time
Severity Level 1 (S1)	1 Hour
Severity Level 2 (S2)	2 Hours
Severity Level 3 (S3)	4 Hours

Severity Levels: THE SUPPLIER and concerned IBA personnel will determine and assign the severity of reported issue / case in accordance with the following definitions:

12.4.1 SEVERITY LEVEL 1 (S1)

A Problem that criticality impacts IBA’s ability to do business. A significant number of users of the system and/or network are currently unable to perform their tasks as necessary. The system down or severely degraded. A system or major application is totally down. Examples: Network out of service, hardware or software breaks down etc.

12.4.2 SEVERITY LEVEL 2 (S2)

A Problem that impacts IBA’s ability to do business, the severity of which is significant and may be repetitive in nature. A function of the system, network or product is impacted which impedes the IBA from meeting daily production deliverables. Examples: a peripheral (tape drive), Server Hard disk is down but business can be conducted etc.

12.4.3 SEVERITY LEVEL 3 (S3)

A minor problem is one that negligibly impacts IBA’s ability to do business. These calls also include questions and/or general consultation. Examples: Queries etc.

Article XIII
ARBITRATION

- 13.1 In case of any dispute, difference or and question which may at any time arise between the parties hereto or any person under them, arising out in respect of this letter of intent or this subject matter hereof shall be referred to the Registrar of the



IBA for arbitration/settling of the dispute, failing which the decision of the court law in the jurisdiction of Karachi binding to the parties. The Arbitration proceedings will be governed by the Arbitration Act, 1940 and the Substantive and procedural law of Pakistan. The venue shall be Karachi.

Article XIV
TERMINATION

- 14.1 "IBA" may terminate this agreement if the job is not executed according to the requirement at any time after issuing a 15 day's notice.

Article XV
INDEMNITY

- 15.1 "THE SUPPLIER" in its capacity shall indemnify and keep IBA and any person claiming through IBA fully indemnified and harmless from and against all damages, cost and expenses caused to or incurred by "THE SUPPLIER", as a result of any defect in the title of IBA or any fault, neglect or omission by the "THE SUPPLIER" which disturbs or damage the reputation, quality or the standard of services provided by "IBA" and any person claiming through the IBA.

Article XVI
NOTICE

- 16.1 Any notice given under this AGREEMENT shall be sufficient if it is in writing and if sent by courier or registered mail.
- 16.2 If the Agreement or encounters conditions impeding the timely performance of any of the obligations, under the contract, at any time, the Supplier shall, by the written notice served on the IBA promptly indicate the facts of the delay, its likely duration and its cause(s). As soon as practicable after receipt of such notice, the IBA shall evaluate the situation and may, at its exclusive discretion, without prejudice to any other remedy it may have, by written order served on the "Supplier", extend the Agreement's time for performance of its obligations under the Agreement

Article XVII
PAYMENT TERM

- 17.1 All payments will be made through LC in the name of the Principal / Authorized Distributor.
- 17.2 LC value will be released on 180 days usance terms and issuance of Acceptance Certificate after delivery of goods at IBA, Karachi premises. In case there is any delay in shipment beyond the LC period, the vendor would provide the necessary guarantee.

Article XVIII
DELIVERY TIME

- 18.1 8 to 12 weeks from the LC establishment

Article XIX
RENEWAL

- 19.1 This Agreement shall be renewed with mutual consent & satisfactory performance upon completion of one year if the IBA, Karachi and THE SUPPLIER agree so.



Article XX
SEVERABILITY

- 20.1 If any terms covenant or condition of this agreement shall be deemed invalid or unenforceable in a court of law or equity, the remainder of this agreement shall be valid & enforced to the fullest extent permitted by prevailing law.

Article XXI
INTEGRITY PACT

- 21.1 Its intention is not to obtain the Provide & Supply work of any Contract, right, interest, privilege, or other obligation or benefit from the IBA or any administrative or financial offices thereof or any other department under the control of the IBA through any corrupt practice(s).
- 21.2 Without limiting the generality of the forgoing the M/s Supernet Limited represents and warrants that it has fully declared the charges, fees, commission, taxes, levies etc, paid or payable to anyone and not given or agreed to give and shall not give or agree to give to anyone within the IBA directly or indirectly through any means any commission, gratification, bribe, gifts, kickback whether described as consultation fee or otherwise, with the object of obtaining or including the Provide & Supply or service contract or order or other obligations whatsoever from the IBA, except that which has been expressly declared pursuant hereto.
- 21.3 M/s Supernet Limited accepts full responsibility and strict liability for making any false declaration/statement, not making full disclosure, misrepresenting facts or taking any action likely to degrade the purpose of declaration, representation and warranty. It agrees that any contract/order obtained aforesaid shall without prejudice to any other right & remedies available to the IBA under any law, contract, or other instruments, be stand void at the discretion of the IBA.
- 21.4 Notwithstanding any right and remedies exercised by the IBA in this regard, THE SUPPLIER agrees to indemnify the IBA for any loss or damage incurred by it on account of its corrupt business practice & further pay compensation to the IBA in any amount equivalent to the loss of any commission, gratification, bribe, gifts, kickback given by THE SUPPLIER as aforesaid for the purpose of obtaining or inducing Provide & Supply/work/service or other obligation or benefit in whatsoever from the IBA.

Article XXII
MISCELLANEOUS

- 22.1 The terms and conditions of the AGREEMENT have been read over to the parties which they admit to be correct and abide by the same.
- 22.2 The validity of the contract will be effective from the date of issue of the Letter of Award (LoA).
- 22.3 All terms and conditions of Tender vide # IT/14/21-22 will be an integral part of this agreement and can't be revoked.

IN WITNESS WHEREOF both the parties hereto have set & subscribed their respective hands to this agreement at Karachi on the date as mentioned above.



Dr. Mohammad Asad Ilyas
Registrar
Former Chairperson Accounting & Law Department
Institute of Business Administration (IBA),
Karachi, Pakistan

IBA, Karachi

Fol Name: Dr. Muhammad Asad Ilyas
CNIC # _____

Address:
Registrar
Institute of Business Administration
Main Campus, University Road, Karachi

M/s. Supernet Limited

Name: Jamal Nasir Khan
CNIC # 42101-1836572-3

Address:
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Khayaban-e-Roomi, Block 5, Clifton,
Karachi

WITNESS:

1.

IBA, Karachi

Name: Syed Fahad Jawed

CNIC # 42201-9128136-3

Address:
Head of Procurement
Institute of Business Administration
Main Campus, University Road, Karachi

2.

M/s. Supernet Limited

Name: HASSAN SAFER

CNIC # 42101-3121202-2

Address:
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Khayaban-e-Roomi, Block 5, Clifton,
Karachi

Focal Person IBA S. M. Wajeeh Zaidi

