

**Amendments in Tender No. EI-D/Tech/10-50/2016 for Supply, Installation, Commissioning & Integration of network equipment (active / passive) for establishing Wi-Fi enabled Campus Area Network at Clients site. – reg.**

<b>S.No.</b>	<b>Clause No.</b>	<b>Description of the Clause</b>	<b>ERNET's Clarifications / Amendments</b>
1.	Annexure – I, Bill of Material, Active Equipment & Components, S.No. 21	Point to Point (PTP) Radio Set along with accessories (2.4/ 5.8 GHz but either should be available on demand) of 200 Mbps Aggregate throughput coverage up to 10 Km with Integrated or External Antenna	<b>The line item may be read as:</b> “Point to Point (PTP) Radio Set along with accessories (2.4/ 5.8 GHz but either should be available on demand) of 200 Mbps Aggregate throughput coverage up to 15 Km with Integrated or External Antenna”.
2.	Annexure – I, Bill of Material, Active Equipment & Components, S.No. 22	Point to Point (PTP) Radio Set along with accessories (2.4/ 5.8 GHz but either should be available on demand) of 50 Mbps Aggregate throughput coverage up to 5 Km with Integrated or External Antenna).	<b>The line item may be read as:</b> “Point to Point (PTP) Radio Set along with accessories (2.4/ 5.8 GHz but either should be available on demand) of 120 Mbps Aggregate throughput coverage up to 10 Km with Integrated or External Antenna”.
3.	Annexure – I, Bill of Material, Active Equipment & Components, S.No. 14	Customer Premises Radio for 25 Mbps Aggregate Throughput	The specification for the line item stands deleted.
4.	New line item added at Annexure – I, Bill of Material, Active Equipment & Components, as S.No. 27	N/A	<b>New Line item added</b> at Annexure – I, Bill of Material, Active Equipment & Components, as S.No. 27. “Network Management System, Quantity = 1”.
5.	Annexure-II, Technical Specifications, A .Active Equipment & Components, S. No. 12, Point to Point Ethernet Radio for 120 Mbps Aggregate throughput, Pt. 06.	System should Channel Bandwidth 5/10/15/20/30 MHz user configurable to provide required throughput.	<b>The clause may be read as:</b> “System should Channel Bandwidth 5/10/20/30 or 40 MHz user configurable to provide required throughput”.
6.	Annexure-II, Technical Specifications, A .Active Equipment & Components, S. No. 12, Point to Point Ethernet Radio for 120 Mbps Aggregate throughput, Pt. 12.	System should support Automatic channel selection or Dynamic frequency selection.	The Clause stands deleted.

7.	Annexure-II, Technical Specifications, A .Active Equipment & Components, S. No. 12, Point to Point Ethernet Radio for 120 Mbps Aggregate throughput, Pt. 13.	System should support Transmit Power Control - within allowable EIRP, Max 27 dBm.	<b>The clause may be read as:</b> “System should support Transmit Power Control - within allowable EIRP, Max 36 dBm”.
8.	Annexure-II, Technical Specifications, A .Active Equipment & Components, S. No. 12, Point to Point Ethernet Radio for 120 Mbps Aggregate throughput, Pt. 14.	System should have Built-in Spectrum Scanner/Spectrum Analyzer Link-oriented Spectrum Analyzer to show the results of both sites.	<b>The clause may be read as:</b> “System should support Spectrum Scanner/Spectrum Monitor”.
9.	Annexure-II, Technical Specifications, A .Active Equipment & Components, S. No. 13, Point to Multipoint Ethernet Radio for 200 Mbps Aggregate throughput	Point to Multipoint Ethernet Radio for 200 Mbps Aggregate throughput.	<b>The clause may be read as:</b> “Point to Point Ethernet Radio for 200 Mbps Aggregate throughput”. The detailed revised technical specifications are placed at Annexure – II.
10.	Annexure-II Technical Specifications, A .Active Equipment & Components, 6. Outdoor Wireless Access Points (WAP) Technical Specification S. No.-2	Access point must have minimum one Ethernet port along with SFP / SFP+ port for fibre connection.	<b>The clause may be read as:</b> “Access point must have minimum one Ethernet port along with SFP / SFP+ port for fibre connection OR Two Ethernet port”.
11.	Annexure-II Technical Specifications, A .Active Equipment & Components, 9.Unified threat management (UTM), General Feature, S. No.-2	Equipment should support 2,00,000 or more number of new connection per second.	<b>The clause may be read as:</b> “Equipment should support 1,00,000 or more number of new connection per second”.
12.	Annexure-II Technical Specifications, A .Active Equipment & Components, 7. Firewall, S. No. 16	Firewall appliance should support 200,000 new sessions/second	<b>The clause may be read as:</b> “Firewall appliance should support 100,000 new sessions/second”.

13.	Annexure-II Technical Specifications, A .Active Equipment & Components, 8. Intrusion Prevention System (IPS), S. No. 1	IPS should be dedicated appliance based with inspected Throughput should be minimum of 10 Gbps. IPS should provide scalability of atleast 50% of the throughput asked for.	<b>The clause may be read as:</b> “IPS should be dedicated appliance based with inspected Throughput should be minimum of 8 Gbps. IPS should provide scalability of atleast 50% of the throughput asked for”.
14.	Annexure-II Technical Specifications, A .Active Equipment & Components, 8. Intrusion Prevention System (IPS), S. No. 11	The IPS hardware architecture should be based on FPGA/ASIC switch architecture with parallel processing or based on equivalent technology/architecture.	<b>The clause may be read as:</b> “The IPS hardware architecture should be based on FPGA/ASIC/Multicore CPU switch architecture with parallel processing or based on equivalent technology/architecture”.
15.	Annexure-II Technical Specifications, A .Active Equipment & Components, 11. Uninterrupted Power Supply (UPS) ){i,ii & iii}, S. No. 4 & 3	Voltage Range: 180-280V	<b>The clause may be read as:</b> “Voltage Range: 180-270”.
16.	Annexure-II Technical Specifications, A .Active Equipment & Components, 11. Uninterrupted Power Supply (UPS){i,ii & iii}, S. No. 5 & 6	Overload Capacity: 105% for 10 minutes 125% for 1 minute.	<b>The clause may be read as:</b> “Overload Capacity: 105% - 125% for 2 minutes”.
17.	Annexure-II Technical Specifications, B. Passive Components, S. No. 4	125% for 1 minute.	<b>The clause may be read as:</b> “Should be ETL/UL /3P/GHMT certified”.
18.	Annexure-II Technical Specifications, B. Passive Components, S. No. 9	The Information Outlet Should have Shutter or hinged dust cover mechanism and also should have feature as IDC V-Shaped Contacts	<b>The clause may be read as:</b> “The Information Outlet Should have provision to protect Information Outlet from dust”.
19.	Annexure-II Technical Specifications, B. Passive Components, S. No.-17	12 Core fibre Outdoor Armored Fibre should be Gelly Filled , Cush Resistance : Should have Steel wires. Should have LSZH outer sheath with Fire Retardant properties.	<b>The clause may be read as:</b> “12 Core fibre Outdoor Armored Fibre should be Gelly Filled , Cush Resistance: Should have Steel wires.”.

**13 Point to Point Ethernet Radio for 200 Mbps Aggregate throughput**

<b>S. No.</b>	<b>Description</b>
1	Frequency Must operate in Unlicensed band 2.4 / 5.8Ghz as per WPC norms
2	Must support nLOS deployment
3	The supplied hardware should support IPv4 & IPv6
4	Modulation 2x2 MIMO-OFDM, BPSK, QPSK, 16QAM, 64QAM
5	System Should support adaptive modulation
6	System should Channel Bandwidth 5/10/20/30 or 40 MHz user configurable to provide required throughput
7	Tx Power Upto 27dBm
8	System should Channel Accuracy $\pm 20$ PPM
9	System should be based on Time Division Duplex Technology TDD
10	System should support Asymmetrical Bandwidth (Uplink/DownLink)
11	System should support Spectral Efficiency to support throughput as per tender requirements
13	System should support Transmit Power Control - within allowable EIRP, Max 36 dBm
14	System should support Spectrum Scanner/Spectrum Monitor
15	System Should have Error Correction Method FEC 1/2,2/3,3/4and 5/6
16	System should support 200 Mbps Aggregate throughput
17	PTP solution support Integrated antenna or External Antenna for link distance up to 15Km
18	System should have LAN Interface 10/100/1000 BaseT interface with Auto negotiation (IEEE802.3)
19	Framing/Coding IEEE802.3/U
20	System should support Ring Protection and support for redundancy
21	Link Latency Upto 8ms

All other terms & conditions of the tender will remain unchanged otherwise specified in earlier response or above clarifications / amendments.