

## Republika ng Pilipinas Lungsod Ouezon



BIDS AND AWARDS COMMITTEE – GOODS AND SERVICES Second Floor, Civic Center Building F, Quezon City Hall Complex, Elliptical Road, Quezon City

Tel. No. 8988-42-42 local 8709/8712

### BID BULLETIN NO. 22-2022 Series of 2022

Notice is hereby given to all concerned bidders for the following Project scheduled for Public Bidding on **25 July 2022**, viz:

# Project Title: SUPPLY, DELIVERY, INSTALLATION, TESTING, AND COMMISSIONING OF RADIO COMMUNICATION FOR QUEZON CITY LOCAL GOVERNMENT UNIT Project No.: OCM(QCDRRMO)-22-CE1-943 FROM TO • Section VI. Schedule of Requirements • Section VI. Schedule of Requirements • Section VII. Technical Specifications • Section VII. Technical Specifications SUPPLY\_DELIVERY\_INSTALLATION\_TESTING\_AND SUPPLY, DELIVERY, INSTALLATION, TESTING AND

SUPPLY, DELIVERY, INSTALLATION, TESTING AND COMMISSIONING OF RADIO COMMUNICATION FOR QUEZON CITY LOCAL GOVERNMENT UNIT (with the following minimum specifications)

3 LOTS OF DIGITAL RADIO REPEATERS WITH CORRESPONDING ACCESSORIES

A. Digital Radio Repeaters

**SPECIFICATIONS** Frequency Range: 350-400 MHz Channel Capacity: 64 RF Output Power: 1-50 W Weight: 19 lbs (8.6 kg) Input Voltage: (AC) 100-240 VAC, 47-63 Hz Current (standby): 110 / 240 V 0.18 / 0.25 A Current (transmitting): 110 / 240 V 1.5 / 0.9 A Input Voltage: (DC) 11.0-14.4 Vdc Current (standby): 0.7 A Current (transmitting): 9.5 A Operating Temperature Range: -22 to +140 °F (-30 to +60 °C) Humidity RH of 95%: non-condensing at 50 °C (122 °F) Max Duty Cycle: 100% FCC Description: ABZ99FT3094 ABZ99FT4096 -IC Description: 109AB-99FT3094 109AB-99FT4096 -Digital Vocoder Type: AMBE+2™ Battery Charger Capacity 12 V: 3 A Connectivity Tx (N female), Rx (BNC female), USB A receptacle, 2x Ethernet Analog Conventional: MPT 1327 RECEIVER

Frequency Range: 350-400 MHz Channel Spacing: 12.5 / 20 / 25\* kHz Frequency Stability: (-30°C, +60°C, +25°C Ref) +/- 0.5 ppm Sensitivity: 12dB SINAD 0.22 uV Sensitivity: 5% BER 0.22 uV Selectivity: (TIA603D), 12.5/20/25\* kHz 55 / 83 / 83 dB 55 / 80 / 80 dB 55 / 80 / 80 dB 3 Lots Digital Radio Repeaters with Corresponding Accessories

COMMISSIONING OF RADIO COMMUNICATION

FOR OUEZON CITY LOCAL GOVERNMENT UNIT

(with the following minimum specifications)

A. Digital Radio Repeaters

GENERAL SPECIFICATIONS Within the Frequency Range: 400-470 MHz Channel Capacity: 64 RF Output Power: 1-50 W Input Voltage: (AC) 100-240 V AC,47-63 Hz Current (standby): 110 / 240 V 0.18 / 0.25 A Current (transmitting): 110/ 240 V 1.5 / 0.9 A Input Voltage: (DC) 11.0-14.4 Vdc Current (standby): 0.7 A Current(transmitting): 9.5 A Operating Temperature Range: -22 to +140 °F (-30 to +60 °C) Humidity RH of 95%: non-condensing at 50 °C (122 °F) Max Duty Cycle: 100% FCC Description: ABZ99FT4096 IC Description: 109AB-99FT4096 Digital Vocoder Type: AMBE+2™ Battery Charger Capacity 12 V: 3 A Connectivity Tx (N female), Rx (BNC female), USB A receptacle, 2x Ethernet RECEIVER

Within the Frequency Range: 400 - 470 MHz Channel Spacing:  $12.5 / 20 / 25^*$  kHz Frequency Stability:  $(-30^{\circ}C, +60^{\circ}C, +25^{\circ}C \text{ Ref}) +/- 0.5$ ppm Sensitivity: 12dB SINAD 0.22 uVSensitivity, 5% BER 0.22 uVSelectivity: (TIA603D),  $12.5/20/25^*$  kHz 55 / 80 / 80 dBSelectivity: (TIA603),  $12.5/20/25^*$  kHz 68 / 80 / 80 dBSelectivity (ETSI),  $12.5/20/25^*$  kHz 63 / 70 / 70 dBIntermodulation Rejection: (TIA603D/ETSI) 82 / 73 dB



### **Republika ng Pilipinas** Lungsod Quezon BIDS AND AWARDS COMMITTEE -



| Selectivity: (TIA603), 12.5/20/25* kHz 68 / 83 / 83 dB 68      | Spurious Rejection (TIA603D/ETSI): 95 / 90 dB              |
|--|--|
| / 80 / 80 dB 68 / 80 / 80 dB                                   | Audio Distortion: < 1%                                     |
| Selectivity: (ETSI), 12.5/20/25* kHz 63 / 70 / 70 dB           | Hum and Noise: 12.5/20/25* kHz -45 / -45 / -50 dB          |
| Intermodulation Rejection (TIA603D/ETSI): 82 / 73 dB           |  |
| Spurious Rejection (TIA603D/ETSI): 95 / 90 dB                  | TRANSMITTER  |
| Audio Distortion: < 1%   |  |
| Hum and Noise: 12.5/20/25* kHz -45 / -45 / -50 dB              | Within the Frequency Range: 400-470                        |
|  | RF Output Power: 1-50 W                                    |
| TRANSMITTER  | Max Duty Cycle: 100%                                       |
|  | Channel Spacing: 12.5 / 20 / 25* kHz                       |
| Frequency Range: 350-400 MHz                                   | Frequency Stability (-30°C, +60°C, +25°C Ref): +/- 0.5     |
| RF Output Power: 1-50 W  | ppm  |
| Max Duty Cycle: 100%   | Intermodulation Attenuation: 40 dB                         |
| Channel Spacing: 12.5 / 20 / 25* kHz                           | Adjacent Channel Power (TIA603D): 25*/ 12.5 kHz 62 /       |
| Frequency Stability (-30°C, +60°C, +25°C Ref): +/- 0.5         | 78 / 78 dB   |
| ppm  | Adjacent Channel Power (ETSI): 25* / 12.5 kHz 62 / 78      |
| Intermodulation Attenuation: 40 dB                             | / 78 dB  |
| Adjacent Channel Power (TIA603D): 25*/ 12.5 kHz 62 /           | Conducted Spurious Emissions: -36 dBm < 1 GHz, -30         |
| 78 / 78 dB   | dBm > 1 GHz  |
| Adjacent Channel Power (ETSI): 25* / 12.5 kHz 62 / 78 /        | Modulation Fidelity (4FSK) FSK Error 5%: FSK               |
| 78 dB  | Magnitude 1%   |
| Conducted Spurious Emissions: -36 dBm < 1 GHz, -30             | Audio Response: TIA603D                                    |
| dBm > 1 GHz  | Audio Distortion: < 1%                                     |
| Modulation Fidelity (4FSK) FSK Error 5%: FSK                   | Hum and Noise: 12.5/20/25* kHz -45 / -45 / -50 dB          |
| Magnitude 1%   | Rated System Deviation: 12.5/20/25* kHz ±2.5 / ±4.0 /      |
| Audio Response: TIA603D  | ±5.0 kHz   |
| Audio Distortion: < 1%   |  |
| Hum and Noise: 12.5/20/25* kHz -45 / -50 dB                    | ANTENNA  |
| Rated System Deviation: 12.5/20/25* kHz ±2.5 / ±4.0 / ±5.0 kHz | Within the Frequency Pange: 400, 470 MHz                   |
| Antenna  | Within the Frequency Range: 400 – 470 MHz<br>Gain: 5.5 dBi |
| Frequency: 320-380 MHz   | Power: 200 watts   |
| Gain: 5.5 dBi  | Impedance: 50 ohms   |
| Power: 200 Watts   | VSWR: 1.5:1 (nominal)                                      |
| Impedance: 50 Ohms   | Rated wind velocity: 60m/sec                               |
| VSWR : 1.5:1 (nominal)   | Mast Diameter accepted: 30-62 mm                           |
| Rated wind velocity: 60 m/sec                                  | Length: 1.7 m  |
| Mast diameter accepted: 30-62 mm                               | Weight: 0.9 kg   |
| Length: 1.7 m  | Connector: MJ  |
| Weight: 0.9 kg   |  |
| Connector: MJ  | B. Two (2) units of Access Point                           |
|  | GENERAL SPECIFICATIONS                                     |
| B. Two (2) units of Access Point                               | RF Connectors: (2) RP-SMA Weatherproof (CHO, CH1)          |
|  | (1) SMA Weatherproof (GPS)                                 |
| SPECIFICATIONS   | GPS Antenna: External Magnetic Base                        |
| RF Connectors: (2) RP-SMA Weatherproof (CH0, CH1)              | Power Supply: 24V, 1A Gigabit PoE Adapter (included)       |
| (1) SMA Weatherproof (GPS)                                     | Power Method: Passive Power over Ethernet Pins             |
| GPS Antenna: External, Magnetic Base                           | 1, 2, 4, 5 (+) and Pins 7, 8, 3, 6 (-)                     |
| Power Supply: 24V, 1A Gigabit PoE Adapter (included)           | Max Power Consumption: 6-12W1                              |
| Power Method: Passive Power over Ethernet Pins 1, 2, 4,        | Supported Voltage Range: +18 to +54 VDC2                   |
| 5 (+) and Pins 7, 8, 3, 6 (-)                                  | Mounting: Rocket Mount Compatible GPS Pole                 |
| Max Power Consumption: 6-12W1                                  | Mount (Included)   |
| Supported Voltage Range: +18 to +54VDC2                        | Operating Temperature: -40 to 50° C (-40 to 131° F)        |
| Mounting: Rocket Mount Compatible GPS Pole Mount               | Weatherproofing: IP673                                     |
| (included)   | Certifications: CE, FCC, IC                                |
| Operating Temperature: -40 to 50° C (-40 to 131° F)            |  |
| Weatherproofing: IP673   | SYSTEM   |
| Certifications: CE, FCC, IC                                    | Maximum Throughput: 1.34Gbpss4.5                           |
|  |  |



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## Lungsod Quezon



BIDS AND AWARDS COMMITTEE – GOODS AND SERVICES

Second Floor, Civic Center Building F, Quezon City Hall Complex, Elliptical Road, Quezon City Tel. No. 8988-42-42 local 8709/8712

### SYSTEM

Maximum Throughput: 1.34Gbps4,5 Maximum Range: 100 km4 Packets per second: 2+ Million6 Latency: 1.5 ms- 3.5 ms7 Encryption: AES-256 Wireless Modes: PtP Master/Slave

NETWORKING INTERFACE Data Port: (1) 10/100/1000 Ethernet Port Management Port: (1) 10/100/1000 Ethernet Port Bluetooth

#### RADIO

Max. Conducted TX Power: 29 dBm Frequency Accuracy: <2 ppm Channel Bandwidth: 10/20/30/40/50/60/80/100 MHz Selectable Programmable Uplink and Downlink Duty Cycles

OPERATING FREQUENCY (MHz) Worldwide: 4800-6200\*

BLUETOOTH LE MANAGEMENT RADIO (MHz) Worldwide: 2400-2483.5

SUGGESTED MAX. TX POWER 12x: 12-15 dBm 10x: 19-20 dBm 8x: 21-22 dBm 6x: 23-24 dBm 4x: 29 dBm 2x: 29 dBm 1x: 29 dBm

C. Two (2) units Antenna

SPECIFICATIONS Antenna Frequency: 320-380 MHz Gain: 5.5 dBi Power: 200 Watts Impedance: 50 Ohms VSWR : 1.5:1 (nominal) Rated wind velocity: 60 m/sec Mast diameter accepted: 30-62 mm Length: 1.7 m Weight: 0.9 kg Connector: MJ

D. One (1) 60 FT. Mast

SPECIFICATIONS GI Pipe: (2") Ø60.20x2.90 (ASTM A53) Height: 18,000mm Paint: red and white Steps: 12mmØ round bar steps Maximum Range: 100 km4 Packets per second: 2+ Million6 Latency: 1.5 ms- 3.5 ms' Encryption: AES-256 Wireless Modes: PP Master/Slave

NETWORKING INTERFACE Data Port: (1) 10/100/1000 Ethernet Port Management Port: (1) 10/100/1000 Ethernet Port Bluetooth

#### RADIO

Max. Conducted TX Power: 29 dBm Frequency Accuracy: <2 ppm Channel Bandwidth: 10/20/30/40/50/60/80/100 MHz Selectable Programmable Uplink and Downlink Duty Cycles

OPERATING FREQUENCY (MHz) Worldwide: 4800-6200\*

BLUET0OTH LE MANAGEMENT RADIO (MHz) Worldwide: 2400-2483.5

SUGGESTED MAX. TX POWER 12x: 12-15 dBm 10x: 19-20 dBm 8x: 21-22 dBm 6x: 23-24 dBm 4x: 29 dBm 2x: 29 dBm 1x: 29 dBm

C. Two (2) units Antenna

#### GENERAL SPECIFICATIONS Antenna

Within the Frequency Range: 400-470 / 450-527 MHz Gain: 5.5 dBi Power: 200 Watts Impedance: 50 Ohms VSWR: 1.5:1 (nominal) Rated wind velocity: 60 m/sec Mast diameter accepted: 30-62 mm Length: 1.7 m Weight: 0.9 kg Connector: MJ

D. One (1) 60 FT. Mast

GENERAL SPECIFICATIONS GI Pipe: (2") Ø60.20x2.90 (ASTM A53)

Height: 18,000mm Paint: red and white Steps: 12mmØ round bar steps Guy wire: AWG 0.0508



## Republika ng Pilipinas



Lungsod Quezon BIDS AND AWARDS COMMITTEE – GOODS AND SERVICES

| Guy wire: AWG 0.0508Turnbuckle: 5/8x12Base plate: 12mm THK. PlateBase plate: 12mm THK. PlateBase plate: 12mm THK. PlateBase plate: 12mm THK. PlateE.One (1) lot Coaxial CableF. One (1) lot Coaxial CableF. One (1) lot Coaxial CableSPECEFICATIONSRG Type: 8GONDUCTORSize: 10 AWGStranding: SolidStranding: SolidNom. Diameter: 0.108 inMaterial: BC- Bare CooperINSULATIONMaterial: BC- Bare CooperINSULATIONMaterial: FF: Polyethylene (Semi-Solid)Nom. Insulation Diameter: 0.285 in (7.24mm)OUTER SHIELDLayer 1: Tape outer shield type tri-laminate<br>(alum+poly+alum)Layer 1: Tape outer shield type tri-laminate<br>(alum+poly+alum)Layer 2: Braid outer shield type Tinne Copper (TC)OUTER JACKETMaterial: PC- Polyethylene (Semi-Solid)Nom. Insulation Diameter: 0.405 in (10.3 mm)Voltage: 300 VMECHANICAL CHARACTERISTICSOperating Temperature: -30°C to +75° CBend Radius: 4.0 in<br>Max pull tension: 184 1bs (83.5 kg)STANDARD COMPLIANCEFnvironment Suitability: Indoor (not Riser or Plenum),<br>IndoorIndoorSustainability: CA Prop 65F.F.F. Ten (10) ConnectorsSPFCIFICATIONSCable RG-/U: 8, 9, 11, 13, 58, 63, 87A, 149, 213, 214, 216, 225Conn Type: PlugOuter Cable Attachment: Solder/Crimp/ PEP<br>Inner Cable A  |
|--|
| Base plate: 12mm THK. PlateIEOne (1) lot Coaxial CableFConc (1) lot Coaxial CableSPECIFICATIONSGType: 8G Type: 8CONDUCTORCONDUCTORSize: 10 AWGSize: 10 AWGStranding: SolidNom. Diameter: 0.108 inMaterial: BC- Bare CooperINSULATIONMaterial: PC- Polyethylene (Semi-Solid)Nom. Insulation Diameter: 0.285 in (7.24mm)OUTER SHIELDLayer 1: Tape outer shield type tri-laminate<br>(alum+poly+alum)Layer 2: Braid outer shield type tri-laminate<br>(alum+poly+alum)Layer 2: Braid outer shield type trine Copper<br>(TC)OUTER JACKETMaterial: PC- Polyvinyl chlorideNom. Diameter: 0.405 in (10.3 mm)<br>Voltage: 300 VVMECHANICAL CHARACTERISTICS<br>Operating Temperature: -30°C to +75° C<br>Bend Radius: 4.0 in<br>Max pull tension: 184 lbs (83.5 kg)<br>STANDARD COMPLIANCEF.Ten (10) ConnectorsSPECIFICATIONS<br>Cable RG-/U: 8, 9, 11, 13, 58, 63, 87A, 149, 213, 214, 216,<br>225G.One (1) lot NTC Permits and LicensesH.One (1) lot Lightning surge and arrester   |
| Base plate: 12mm THK. PlateE.One (1) lot Coaxial CableF.One (1) lot Coaxial CableSPECEFICATIONSGENERAL SPECIFICATIONSRG Type: 8CONDUCTORCONDUCTORSize: 10 AWGStranding: SolidNom. Diameter: 0.108 inNom. Diameter: 0.108 inMaterial: PC- Bare CooperINSULATIONMaterial: PC- Coper (C2)INSULATIONMaterial: PC- Polyethylene (Semi-Solid)Nom. Insulation Diameter: 0.285 in (7.24mm)OUTER SHIELDLayer 1: Tape outer shield type tri-laminate<br>(alum+poly+alum)Layer 2: Braid outer shield type tri-laminate<br>(alum+poly+alum)Layer 2: Braid outer shield type trinaccoper (TC)OUTER JACKETMaterial: PVC- Polywinyl chlorideNom. Diameter: 0.405 in (10.3 mm)Voltage: 300 VVoltage: 300 VMECHANICAL CHARACTERISTICSOperating Temperature: -30°C to +75° COperating Temperature: -30°C to +75° CBend Radius: 4.0 inMax pull tension: 184 Ibs (83.5 kg)STANDARD COMPLIANCEF.Ten (10) ConnectorsSPECIFICATIONSGENERAL SPECIFICATIONSCable RG-/U: 8, 9, 11, 13, 58, 63, 87A, 149, 213, 214, 216, 225Conn Type: PlugOuter Cable Attachment: Solder/ Crimp/ FCPInner Cable Attachment: Solder/ Crimp/ PliersG. One (1) lot NTC Permits and LicensesH.One (1) lot NTC Permits and LicensesG. One (1) lot NTC Permits and Licenses  |
| E.One (1) lot Coaxial CableE.One (1) lot Coaxial CableSPECIFICATIONSGENERAL SPECIFICATIONSSRG Type: 8CONDUCTORCONDUCTORSize: 10 AWGSizeation, SolidNom. Diameter: 0.108 inNeterial: BC- Bare CooperINSULATIONMaterial: BC- Bare CooperINSULATIONMaterial: BC- Bare CooperINSULATIONMaterial: BC- Bare CooperINSULATIONMaterial: PE- Polyethylene (Semi-Solid)Nom. Insulation Diameter: 0.285 in (7.24mm)OUTER SHIELDLayer 1: Tape outer shield type tri-laminate<br>(alum+poly+alum)Layer 2: Braid outer shield type tri-laminate<br>(alum+poly+alum)Layer 2: Braid outer shield type tri-laminate<br>(alum+poly+alum)Layer 2: Braid outer shield type trinne Copper (TC)OUTER JACKETMaterial: PVC- Polyvinyl chloride<br>Nom. Diameter: 0.405 in (10.3 mm)Nohlage: 300 VOUTER JACKETMaterial: PVC- Polyvinyl chloride<br>Nom. Diameter: 0.405 in (10.3 mm)Nohlage: 300 VWECHANICAL CHARACTERISTICS<br>Operating Temperature: -30°C to +75° CDend Radius: 4.0 in<br>Max pull tension: 184 lbs (83.5 kg)STANDARD COMPLIANCE<br>Environment Suitability: Indoor (not Riser or Plenum),<br>IndoorSystainability: CA Prop 65F.F.F. Ten (10) ConnectorsSPECIFICATIONS<br>Cable RG-/U: 8, 9, 11, 13, 58, 63, 87A, 149, 213, 214, 216, 225Conn Type: Plug<br>Outer Cable Attachment: Solder/Crimp/ FCP<br>Inner Cable Attachment: Solder/Crimp/ PliersG.One (1) lot NTC Permits and LicensesH.One (1) lot NTC Permits and License   |
| E.One (1) lot Coaxial CableSPECIFICATIONSGENERAL SPECIFICATIONSSPECIFICATIONSRG Type: 8CONDUCTORSize: 10 AWGSize: 10 AWGStranding: SolidNom. Diameter: 0.108 inMaterial: PC- Bare CooperMaterial: BC- Bare CooperINSULATIONMaterial: BC- Bare CooperINSULATIONMaterial: BC- Bare cooperINSULATIONMaterial: BC- Bare cooperINSULATIONMaterial: PE- Polyethylene (Semi-Solid)Nom. Insulation Diameter: 0.285 in (7.24mm)OUTER SHIELDLayer 1: Tape outer shield type tri-laminate(alum*poly+alum)Layer 2: Braid outer shield type tri-laminate(alum*poly+alum)Layer 2: Braid outer shield type Tinne Copper (TC)OUTER JACKETOUTER JACKETMaterial: PC- Polyvinyl chlorideNom. Diameter: 0.405 in (10.3 mm)Voltage: 300 VVoltage: 300 VMECHANICAL CHARACTERISTICSOperating Temperature: -30°C to +75 °CDend Radius: 4.0 inMax pull tension: 184 Ibs (83.5 kg)STANDARD COMPLIANCESTANDARD COMPLIANCEEnvironment Suitability: Indoor (not Riser or Plenum),IndoorSustainability: CA Prop 65F. Ten (10) ConnectorsSPECIFICATIONSCable RG-/U: 8, 9, 11, 13, 58, 63, 87A, 149, 213, 214, 216, 225Conn Type: PlugOuter Cable Attachment: Solder/Crimp/ FCPInner Cable Attachment: Solder/Crimp/ FCPInner Cable Attachment: Solder/Crimp/ PliersG.One (1) lot NTC Permits and LicensesG. One (1) lot NTC Permits and LicensesH.One (1) lot Lightning surge and arrester  |
| SPECIFICATIONSGENERAL SPECIFICATIONSSPECIFICATIONSRG Type: 8KG Type: 8CONDUCTORSize: 10 AWGSiranding: SolidSize: 10 AWGSiranding: SolidSize: 10 AWGSiranding: SolidNom. Diameter: 0.108 inMaterial: BC- Bare CooperINSULATIONMaterial: PE- Polyethylene (Semi-Solid)Nom. Insulation Diameter: 0.285 in (7.24mm)OUTER SHIELDCUTER SHIELDLayer 1: Tape outer shield type tri-laminate(alum+poly+alum)Layer 1: Tape outer shield type Tinne Copper (TC)OUTER ACKETMaterial: PVC- Polyvinyl chlorideMaterial: PVC- Polyvinyl chlorideNom. Diameter: 0.405 in (10.3 mm)Voltage: 300 VVoltage: 300 VWECHANICAL CHARACTERISTICSOperating Temperature: -30°C to +75° COperating Temperature: -30°C to +75° CBend Radius: 4.0 inMax pull tension: 184 lbs (83.5 kg)STANDARD COMPLIANCEEnvironment Suitability: Indoor (not Riser or Plenum),IndoorSystainability: CA Prop 65F. Ten (10) ConnectorsSPECIFICATIONSGENERAL SPECIFICATIONSCable RG-/U: 8, 9, 11, 13, 58, 63, 87A, 149, 213, 214, 216, 225Comn Type: PlugOuter Cable Attachment: Solder/Crimp/ FCPInner Cable Attachment: Solder/Crimp/ PliersG. One (1) lot NTC Permits and LicensesG. One (1) lot NTC Permits and LicensesH. One (1) lot Lightning surge and arresterH. One (1) lot Lightning surge and arrester   |
| SPECIFICATIONS<br>RG Type: 8<br>CONDUCTORRG Type: 8<br>CONDUCTORG. ODDUCTORSize: 10 AWGSize: 10 AWGStranding: SolidNom. Diameter: 0.108 in<br>Material: PC- Bolyethylene (Semi-Solid)Nom. Diameter: 0.108 in<br>Material: PE- Polyethylene (Semi-Solid)Nom. Insulation Diameter: 0.285 in (7.24mm)Nom. Insulation Diameter: 0.285 in (7.24mm)OUTER SHIELDLayer 1: Tape outer shield type tri-laminate<br>(alum+poly+alum)Layer 2: Braid outer shield type Tine Copper<br>(C)Layer 2: Braid outer shield type Tine Copper<br>(TC)OUTER SHIELDLayer 2: Braid outer shield type tri-laminate<br>(alum+poly+alum)Layer 2: Braid outer shield type Tine Copper (TC)<br>OUTER JACKETOUTER SHIELDOutTER JACKETNom. Diameter: 0.405 in (10.3 mm)<br>Voltage: 300 VNoderge: 300 VNGECHANICAL CHARACTERISTICS<br>Operating Temperature: -30°C to +75 °COperating Temperature: -30°C to +75 °CBend Radius: 4.0 in<br>Max pull tension: 184 lbs (83.5 kg)<br>STANDARD COMPLIANCEEnvironment Suitability: Indoor (not Riser or Plenum),<br>IndoorStranding: CA Prop 65F.Ten (10) ConnectorsSPECIFICATIONS<br>Cable RG-/U: 8, 9, 11, 13, 58, 63, 87A, 149, 213, 214, 216,<br>225Con Type: Plug<br>Outer Cable Attachment: Solder/Crimp/ FCP<br>Inner Cable Attachment: Solder/Crimp/ FCP<br>Inner Cable Attachment: Solder/Crimp/ PliersG.One (1) lot NTC Permits and LicensesH.One (1) lot Lightning surge and arrester   |
| RG Type: 8<br>CONDUCTOR<br>Size: 10 AWGCONDUCTOR<br>Size: 10 AWGStranding: SolidNom. Diameter: 0.108 in<br>Material: BC- Bare CooperNom. Diameter: 0.108 in<br>Material: BC- Bare CooperMaterial: BC- Bare CooperINSULATIONMaterial: BC- Bare CooperINSULATIONMaterial: PE- Polyethylene (Semi-Solid)<br>Nom. Insulation Diameter: 0.285 in (7.24mm)OUTER SHIELDLayer 1: Tape outer shield type tri-laminate<br>(alum+poly+alum)<br>Layer 2: Braid outer shield type Tinne Copper (TC)OUTER JACKETMaterial: PVC- Polyvinyl chloride<br>Material: PVC- Polyvinyl chloride<br>Nom. Diameter: 0.405 in (10.3 mm)<br>Voltage: 300 VVoltage: 300 VWECHANICAL CHARACTERISTICS<br>Operating Temperature: -30°C to +75° C<br>Bend Radius: 4.0 in<br>Max pull tension: 184 lbs (83.5 kg)STANDARD COMPLIANCE<br>Environment Suitability: Indoor (not Riser or Plenum),<br>IndoorIndoor<br>Sustainability: CA Prop 65F.Ten (10) ConnectorsSPECIFICATIONS<br>Cable RG-/U: 8, 9, 11, 13, 58, 63, 87A, 149, 213, 214, 216,<br>225Con Type: Plug<br>Outer Cable Attachment: Solder/Crimp/ FCP<br>Inner Cable Attachment: Solder/Crimp/ PIersG.One (1) lot NTC Permits and LicensesH.One (1) lot Lightning surge and arrester  |
| CONDUCTORSize: 10 AWGSize: 10 AWGStranding: SolidStranding: SolidNom. Diameter: 0.108 inMaterial: BC- Bare CooperINSULATIONMaterial: BC- Bare CooperINSULATIONMaterial: PE- Polyethylene (Semi-Solid)Nom. Insulation Diameter: 0.285 in (7.24mm)OUTER SHIELDLayer 1: Tape outer shield type tri-laminate(alum*poly*alum)Layer 1: Tape outer shield type tri-laminate(alum*poly*alum)Layer 2: Braid outer shield type tri-laminate(alum*poly*alum)Layer 2: Braid outer shield type Tinne Copper(TC)OUTER JACKETMaterial: PVC- Polyvinyl chlorideNom. Diameter: 0.405 in (10.3 mm)Nom. Diameter: 0.405 in (10.3 mm)Voltage: 300 VMECHANICAL CHARACTERISTICSOperating Temperature: -30°C to +75° COperating Temperature: -30°C to +75° COperating Temperature: -30°C to +75° CBend Radius: 4.0 inMax pull tension: 184 bbs (83.5 kg)STANDARD COMPLIANCEFavironment Suitability: Indoor (not Riser or Plenum),IndoorSustainability: CA Prop 65F.Ten (10) ConnectorsSPECIFICATIONSGENERAL SPECIFICATIONSCable RG-/U: 8, 9, 11, 13, 58, 63, 87A, 149, 213, 214, 216, 225Conn Type: PlugOuter Cable Attachment: Solder/Crimp/ FCPInner Cable Attachment: Solder/Crimp/ PIeresG. One (1) lot NTC Permits and LicensesH.One (1) lot NTC Permits and LicensesH. One (1) lot Lightning surge and arrester   |
| Size: 10 AWGStranding: SolidStranding: SolidNom. Diameter: 0.108 inMaterial: BC- Bare CooperMaterial: EC- Bare CooperINSULATIONMaterial: EF- Polyethylene (Semi-Solid)Nom. Insulation Diameter: 0.285 in (7.24mm)OUTER SHIELDUTER SHIELDLayer 1: Tape outer shield type tri-laminate(alum+poly+alum)Layer 2: Braid outer shield type tri-laminate(alum+poly+alum)Layer 2: Braid outer shield type tri-laminate(alum+poly+alum)Layer 2: Braid outer shield type Tinne Copper(TC)OUTER JACKETMaterial: PVC- Polyvinyl chlorideNom. Diameter: 0.405 in (10.3 mm)Voltage: 300 VWECHANICAL CHARACTERISTICSOperating Temperature: -30°C to +75° CBend Radius: 4.0 inMax pull tension: 184 lbs (83.5 kg)STANDARD COMPLIANCEEnvironment Suitability: Indoor (not Riser or Plenum),<br>IndoorIndoorSustainability: CA Prop 65F.Ten (10) ConnectorsSPECIFICATIONS<br>Cable RG-/U: 8, 9, 11, 13, 58, 63, 87A, 149, 213, 214, 216,<br>225Corn Type: Plug<br>Outer Cable Attachment: Solder/Crimp/ FCP<br>Inner Cable Attachment: Solder/Crimp/ PiersG.One (1) lot NTC Permits and LicensesH.One (1) lot NTC Permits and LicensesH.One (1) lot Lightning surge and arrester   |
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| Material: BC - Bare Cooper<br>INSULATIONINSULATIONMaterial: BC - Polyethylene (Semi-Solid)<br>Nom. Insulation Diameter: 0.285 in (7.24mm)Material: PE - Polyethylene (Semi-Solid)<br>Material: PE - Polyethylene (Semi-Solid)<br>Nom. Insulation Diameter: 0.285 in (7.24mm)OUTER SHIELD<br>Layer 1: Tape outer shield type tri-laminate<br>(alum+poly+alum)<br>Layer 2: Braid outer shield type tri-laminate<br>(alum+poly+alum)<br>Layer 2: Braid outer shield type Tinne Copper (TC)<br>OUTER JACKET<br>Material: PVC - Polyvinyl chloride<br>Nom. Diameter: 0.405 in (10.3 mm)<br>Voltage: 300 V<br>MECHANICAL CHARACTERISTICS<br>Operating Temperature: -30°C to +75°C<br>Bend Radius: 4.0 in<br>Max pull tension: 184 lbs (83.5 kg)<br>STANDARD COMPLIANCE<br>Environment Suitability: Indoor (not Riser or Plenum),<br>Indoor<br>Sustainability: CA Prop 65Material: PVC - Polyvinyl chloride<br>Nom. Diameter: 0.405 in (10.3 mm)<br>Voltage: 300 V<br>Woltage: 300 V<br>STANDARD COMPLIANCE<br>Environment Suitability: Indoor (not Riser or Plenum),<br>IndoorMax pull tension: 184 lbs (83.5 kg)<br>STANDARD COMPLIANCE<br>Environment Suitability: Indoor (not Riser or Plenum),<br>IndoorMax pull tension: 184 lbs (83.5 kg)<br>STANDARD COMPLIANCE<br>Environment Suitability: Indoor (not Riser or Plenum),<br>IndoorSPECIFICATIONS<br>Cable RG-/U: 8, 9, 11, 13, 58, 63, 87A, 149, 213, 214, 216, 225<br>Conn Type: Plug<br>Outer Cable Attachment: Solder/Crimp/ FCP<br>Inner Cable Attachment: Solder/Crimp/ FCP<br>Inner Cable Attachment: Solder/Crimp/ PliersG. One (1) lot NTC Permits and LicensesH.One (1) lot Lightning surge and arresterH. One (1) lot Lightning surge and arrester   |
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| OUTER SHIELD<br>Layer 1: Tape outer shield type tri-laminate<br>(alum+poly+alum)<br>Layer 2: Braid outer shield type Tinne Copper (TC)<br>OUTER JACKET<br>Material: PVC- Polyvinyl chloride<br>Nom. Diameter: 0.405 in (10.3 mm)<br>Voltage: 300 V<br>MECHANICAL CHARACTERISTICS<br>Operating Temperature: -30°C to +75 °C<br>Bend Radius: 4.0 in<br>Max pull tension: 184 lbs (83.5 kg)<br>STANDARD COMPLIANCE<br>Environment Suitability: Indoor (not Riser or Plenum),<br>Indoor<br>Sustainability: CA Prop 65Layer 1: Tape outer shield type tri-laminate<br>(alum+poly+alum)<br>Layer 2: Braid outer shield type Tinne Copper<br>(TC)<br>OUTER JACKET<br>Material: PVC- Polyvinyl chloride<br>Nom. Diameter: 0.405 in (10.3 mm)<br>Voltage: 300 V<br>MECHANICAL CHARACTERISTICS<br>Operating Temperature: -30°C to +75 °C<br>Bend Radius: 4.0 in<br>Max pull tension: 184 lbs (83.5 kg)<br>STANDARD COMPLIANCE<br>Environment Suitability: Indoor (not Riser or Plenum),<br>Indoor<br>Sustainability: CA Prop 65Max pull tension: 184 lbs (83.5 kg)<br>STANDARD COMPLIANCE<br>Environment Suitability: Indoor (not Riser or Plenum),<br>Indoor<br>Sustainability: CA Prop 65F. Ten (10) ConnectorsSPECIFICATIONS<br>Cable RG-/U: 8, 9, 11, 13, 58, 63, 87A, 149, 213, 214, 216, 225<br>Conn Type: Plug<br>Outer Cable Attachment: Solder/Crimp/ FCP<br>Inner Cable Attachment: Solder/Crimp/ PIersG. One (1) lot NTC Permits and LicensesG. One (1) lot NTC Permits and LicensesH. One (1) lot Lightning surge and arresterH. One (1) lot Lightning surge and arrester  |
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| Nom. Diameter: 0.405 in (10.3 mm)Voltage: 300 VMECHANICAL CHARACTERISTICSOperating Temperature: -30°C to +75 °CBend Radius: 4.0 inMax pull tension: 184 lbs (83.5 kg)STANDARD COMPLIANCEEnvironment Suitability: Indoor (not Riser or Plenum),IndoorSustainability: CA Prop 65F.Ten (10) ConnectorsSPECIFICATIONSCable RG-/U: 8, 9, 11, 13, 58, 63, 87A, 149, 213, 214, 216,Cable RG-/U: 8, 9, 11, 13, 58, 63, 87A, 149, 213, 214, 216,Quter Cable Attachment: Solder/Crimp/ FCPInner Cable Attachment: Solder/Crimp/ FCPInner Cable Attachment: Solder/Crimp/ PliersG.One (1) lot NTC Permits and LicensesH.One (1) lot Lightning surge and arresterNom. Diameter: 0.405 in (10.3 mm)Voltage: 300 VMECHANICAL CHARACTERISTICSOperating Temperature: -30°C to +75° CBend Radius: 4.0 inMax pull tension: 184 lbs (83.5 kg)STANDARD COMPLIANCEEnvironment Suitability: Indoor (not Riser or Plenum),IndoorSustainability: CA Prop 65F.Ten (10) ConnectorsG.G.One (1) lot NTC Permits and LicensesH.One (1) lot Lightning surge and arresterH. One (1) lot Lightning surge and arrester  |
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| <ul> <li>MECHANICAL CHARACTERISTICS</li> <li>Operating Temperature: -30°C to +75 °C</li> <li>Bend Radius: 4.0 in</li> <li>Max pull tension: 184 lbs (83.5 kg)</li> <li>STANDARD COMPLIANCE</li> <li>Environment Suitability: Indoor (not Riser or Plenum),</li> <li>Indoor</li> <li>Sustainability: CA Prop 65</li> <li>F. Ten (10) Connectors</li> <li>SPECIFICATIONS</li> <li>Cable RG-/U: 8, 9, 11, 13, 58, 63, 87A, 149, 213, 214, 216, 225</li> <li>Conn Type: Plug</li> <li>Outer Cable Attachment: Solder/Crimp/ FCP</li> <li>Inner Cable Attachment: Solder/Crimp/ FCP</li> <li>Inner Cable Attachment: Solder/Crimp/ Pliers</li> <li>G. One (1) lot NTC Permits and Licenses</li> <li>H. One (1) lot Lightning surge and arrester</li> <li>MECHANICAL CHARACTERISTICS</li> <li>MECHANICAL CHARACTERISTICS</li> <li>Operating Temperature: -30°C to +75° C</li> <li>Bend Radius: 4.0 in</li> <li>Max pull tension: 184 lbs (83.5 kg)</li> <li>STANDARD COMPLIANCE</li> <li>Environment Suitability: Indoor (not Riser or Plenum),</li> <li>Indoor</li> <li>Sustainability: CA Prop 65</li> <li>F. Ten (10) Connectors</li> <li>G. One (1) lot NTC Permits and Licenses</li> <li>H. One (1) lot Lightning surge and arrester</li> </ul>   |
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| I. One (1) lot Mobilization Cost I. One (1) lot Mobilization Cost  |
| I. One (1) lot Mobilization Cost I. One (1) lot Mobilization Cost  |
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| J. One (1) lot Installation Cost for the whole J. One (1) lot Installation Cost for the whole system   |
| system Includes: Installation, configuration, Includes: Installation, configuration,   |
| testing, training, and commissioning training, and commissioning   |
| training, and commissioning training, and commissioning  |
| Eicht (0) late of Disitel Beer Belline with Commence dine. OLete Disitel Beer Belline with Commence dine.  |
| Eight (8) lots of Digital Base Radios with Corresponding       8 Lots Digital Base Radios with Corresponding   |
| Accessories Accessories  |
|  |
| A.One (1) unit of Digital Base RadiosA.One (1) unit of Digital Base Radios   |
|  |
| SPECIFICATIONS GENERAL SPECIFICATIONS  |



## Republika ng Pilipinas Lungsod Quezon



BIDS AND AWARDS COMMITTEE – GOODS AND SERVICES

| Frequency:350-400 MHz                               | Within the Frequency Range: 403-470 MHz                |
|---|--|
| Low Power Output: 1-25 W - 1-25 W 1-25 W - 1-25 W   | High Power Output: 25-40W                              |
| High Power Output: 1-40W                            | Channel Spacing: 12.53, 25 kHz                         |
| Channel Spacing: 12.5, 25 kHz                       | Channel Capacity: 1000                                 |
| Channel Capacity: 1000                              | Power Supply (Nominal): 12 V                           |
| 1 1   |  |
| Weight: 1.8 kg                                      | Max Current Drain: Standby 0.8A                        |
| Power Supply (Nominal): 12 V                        | Max Current Drain: Receive 2A                          |
| Max Current Drain: Standby 0.8A                     | Max Current Drain Transmit (High Power): 14.5A         |
| Max Current Drain: Receive 2A                       |  |
| Max Current Drain Transmit(Low Power): 11A          | BLUETOOTH STANDARD SPECIFICATION                       |
| Max Current Drain Transmit (High Power): 14.5A      |  |
|   | Range: Class 2, 10m                                    |
| BLUETOOTH 4.0 STANDARD                              | Supported Profiles: Bluetooth Headset Profile (HSP),   |
|   |  |
| Frequency Range: 2400 - 2483.5 MHz                  | Serial Port Profile (SPP), Motorola fast push-to-talk  |
| Channel   |  |
| BT ver < 4: 0 ~ 78                                  | TRANSMITTER SPECIFICATIONS                             |
| BT ver 4: 0 ~ 39                                    | 4FSK Digital Modulation 12.5 kHz Data:                 |
|   | 7K60F1D and 7K60FXD,                                   |
| Max power Class: 1 - 100 mW (20 dBm) ~ 1m W (0 dBm) | 12.5 kHz Voice: 7K6OF1E and 7K6OFXE,                   |
| Max Bandwidth                                       | Combination of 12.5 kHz Voice and Data:                |
| BT ver < 4: 1 MHz                                   | 7K60F1W  |
| BT ver 4: 2 MHz                                     | Digital Protocol: ETSI TS 102 361-1, -2, -3, -4        |
|   | •  |
| Technology: FHSS                                    | Conducted/Radiated Emissions(TIA603 D): -36            |
| WIFI STANDARD                                       | dBm < 1GHZ, -30 dBm > 1GHZ                             |
| Frequency Range: 2400 - 2483.5 MHz                  | Adjacent Channel Power 60 dB (12.5 kHz                 |
| Channel: 1 ~ 13                                     | channel): 70 dB (25 kHz channel)                       |
| Max Bandwidth: 20 MHz                               | Frequency Stability: ± 0.5 ppm                         |
| Max Power Rated: 14 dBm, max 16 dBm                 |  |
| Technology: b/g/n                                   | RECEIVER SPECIFICATIONS                                |
|   | Analogue Sensitivity (12dB SINAD): 0.22 uV             |
| TRANSMITTER SPECIFICATIONS                          | typical  |
|   | 51   |
| 4FSK Digital Modulation 12.5 kHz Data: 7K60F1D and  | Digital Sensitivity (5% BER): 0.19 uV typical          |
| 7K60FXD,  | Intermodulation (TIA603D) VHF:78dB                     |
| 12.5 kHz Voice: 7K60F1E and 7K60FXE,                | UHF1,UHF2,350,800,75bB                                 |
| Combination of 12.5 kHz Voice and Data: 7K60F1W     | Adjacent Channel Selectivity. (TIA603D)-2T &           |
| Digital Protocol: ETSI TS 102 361-1, -2, -3, -4     | (TIA603C)-2T VHF : 50 dB (12.5 kHz channel), 80 dB (25 |
| Conducted/Radiated Emissions(TIA603D): -36 dBm <    | kHz channel) UHF1, UHF2, 350, 800 : 50 dB (12.5 kHz    |
| 1GHz, -30 dBm > 1GHz                                | channel), 75 dB (25 kHz channel)                       |
| Adjacent Channel Power 60 dB (12.5 kHz channel): 70 | Spurious Rejection (TIA603D) VHF:80dB UHF1,UHF2,       |
| dB (25 kHz channel)                                 | 350,800:75dB   |
| Frequency Stability: ± 0.5 ppm                      | AUDIO SPECIFICATIONS                                   |
| RECEIVER SPECIFICATIONS                             | Digital Vocoder Type AMBE+2TM                          |
|   | 0 11   |
| Analogue Sensitivity (12dB SINAD): 0.22 uV typical  | Audio Response: TIA603D                                |
| Digital Sensitivity (5% BER): 0.19 uV typical       | Rated Audio: 3 W (internal speaker)                    |
| Intermodulation (TIA603D) VHF : 78dB                | Audio Distortion at Rated Audio: 3%                    |
| UHF1, 350 : 75dB                                    | Hum and Noise: -40 dB (12.5 kHz channel),-45 dB (25    |
| Adjacent Channel Selectivity: (TIA603A)-1T          | kHz channel)   |
| UHF1, 350: 65 dB (12.5 kHz channel), 75 dB (25 kHz  | Conducted Spurious Emissions(TIA603D): -57             |
| channel)  | dBm  |
| Spurious Rejection (TIA603D) UHF1, 350: 75 dB       |  |
| AUDIO SPECIFICATIONS                                | BLUETOOTH SPECIFICATIONS                               |
|   |  |
| Digital Vocoder Type AMBE+2™                        | Version 4.0  |
| Audio Response: TIA603D                             | Range Class 2,10 m                                     |
| Rated Audio: 3 W (internal speaker)                 | Supported Profiles Bluetooth Headset Profile (HSP),    |
| Audio Distortion at Rated Audio: 3%                 | Serial Port (SPP) Motorola Fast Push-To-Talk           |
| Hum and Noise: -40 dB (12.5 kHz channel),-45 dB (25 | Simultaneous Connections 1 x audio accessory and 1x    |
| kHz channel)  | data device  |
| Conducted Spurious Emissions(TIA603D): -57 dBm      | Permanent Discoverable Mode Optional                   |
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## Republika ng Pilipinas Lungsod Quezon



BIDS AND AWARDS COMMITTEE – GOODS AND SERVICES

Second Floor, Civic Center Building F, Quezon City Hall Complex, Elliptical Road, Quezon City Tel. No. 8988-42-42 local 8709/8712

### \*BLUETOOTH SPECIFICATIONS

Version 4.0 Range Class 2, 10 m Supported Profiles Bluetooth Headset Profile (HSP), Serial Port Simultaneous Connections 1 x audio accessory and 1 x data device Permanent Discoverable Mode Optional \*GNSS SPECIFICATIONS Constellation Support: GPS, BEIDOU Time To First Fix: Cold Start < 60 s Time To First Fix: Hot Start < 10 s Horizontal Accuracy: < 5 m \*Wi-Fi SPECIFICATIONS Standards Supported IEEE 802.11b, 802.11g, 802.11n Security Protocol Supported WPA, WPA-2, WEP Maximum Number of SSIDs 128 (64 for Numeric Models) ENVIRONMENTAL SPECIFICATIONS Operating Temperature: -30 °C to +60 °C Storage Temperature: -40 °C to +85 °C Electrostatic Discharge: IEC 61000-4-2 Level 4 Dust and Water Intrusion: IEC 60529 - IP54 Packaging Test: MIL-STD 810C, D, E, F, and G Antenna Frequency: 320-380 MHz Gain: 5.5 dBi Power: 200 Watts Impedance: 50 Ohms VSWR: 1.5:1 (nominal) Rated wind velocity: 60 m/sec Mast diameter accepted: 30-62 mm Length: 1.7 m Weight: 0.9 kg Connector: MJ B. One (1) unit Antenna

SPECIFICATIONS Antenna Frequency: 320-380 MHz Gain: 5.5 dBi Power: 200 Watts Impedance: 50 Ohms VSWR : 1.5:1 (nominal) Rated wind velocity: 60 m/sec Mast diameter accepted: 30-62 mm Length: 1.7 m Weight: 0.9 kg Connector: MJ

C. One (1) 20 FT. Mast

SPECIFICATIONS GI Pipe: (2") Ø60.20x2.90 (ASTM A53) Height: 6000mm Paint: red and white

\*GNSS SPECIFICATIONS Constellation Support: GPS, BEIDOU Time To First Fix: Cold Start < 60 s Time To First Fix: Hot Start < 10s Horizontal Accuracy:<5m \*Wi-Fi SPECIFICATIONS Standards Supported IEEE 802.11b, 802.11g, 802.11n Security Protocol Supported WPA, WPA-2, WEP Maximum Number of SSIDS 128 (64 for Numeric Models) ENVIRONMENTAL SPECIFICATIONS Operating Temperature: -30 °C to +60°C Storage Temperature: -40 °C to +85 °C Electrostatic Discharge: IEC 61000-4-2 Level 4 Dust and Water Intrusion: IEC 60529 - IP54 Packaging Test: MIL-STD 810C, D, E, F, and G Antenna Within the Frequency Range: 400-470 MHz Gain: 5.5 dBi Power: 200 Watts Impedance: 50 Ohms VSWR: 1.5:1 (nominal) Rated wind velocity: 60 m/sec Mast diameter accepted: 30-62 mm Length: 1.7m Weight: 0.9 kg Connector: MJ B. One (1) unit Antenna GENERAL SPECIFICATIONS Antenna Within the Frequency Range: 400-470 / 450-527 MHz Gain: 5.5 dBi

Power: 200 Watts Impedance: 50 Ohms VSWR: 1.5:1 (nominal) Rated wind velocity: 60 m/sec Mast diameter accepted: 30-62 mm Length: 1.7 m Weight: 0.9 kg Connector: MJ

#### C. One (1) 20 FT. Mast

GENERAL SPECIFICATIONS GI Pipe: (2") Ø60,20x2,90 (ASTM A53) Height: 6000mm Paint: red and white Steps: 12mmØ round bar steps Guy wire: A WG 0.0508 Turnbuckle: 5/8x12 Base plate: 12mm THK. Plate

D. One (1) lot Coaxial Cable

GENERAL SPECIFICATIONS



## Republika ng Pilipinas



Lungsod Quezon bids and awards committee – goods and services

| Steps: 12mmØ round bar steps                                | RG Type: 8   |
|---|--|
| Guy wire: AWG 0.0508  | CONDUCTOR  |
| Turnbuckle: 5/8x12  | Size: 10 AWG   |
| Base plate: 12mm THK. Plate                                 | Stranding: Solid   |
|   | Nom. Diameter: 0.108 in  |
| D. One (1) lot Coaxial Cable                                | Material: BC- Bare Cooper  |
|   | INSULATION   |
| SPECIFICATIONS  | Material: PE- Polyethylene (Semi-Solid)  |
| RG Type: 8  | Nom. Insulation Diameter: 0.285 in (7.24mm)  |
| CONDUCTOR   | OUTER SHIELD   |
|   |  |
| Size: 10 AWG  | Layer 1: Tape outer shield type tri-laminate   |
| Stranding: Solid  | (alum+poly+alum)   |
| Nom. Diameter: 0.108 in                                     | Layer 2: Braid outer shield type Tinne Copper  |
| Material: BC- Bare Cooper                                   | (TC)   |
| INSULATION  | OUTER JACKET   |
| Material: PE- Polyethylene (Semi-Solid)                     | Material: PVC- Polyvinyl chloride  |
| Nom. Insulation Diameter: 0.285 in (7.24mm)                 | Nom. Diameter: 0.405 in (10.3 mm)  |
| OUTER SHIELD  | Voltage: 300 V   |
| Layer 1: Tape outer shield type tri-laminate                | MECHANICAL CHARACTERISTICS   |
| (alum+poly+alum)  | Operating Temperature: -30°C to +75° C   |
| Layer 2: Braid outer shield type Tinne Copper (TC)          | Bend Radius: 4.0 in  |
| OUTER JACKET  | Max pull tension: 184 Ibs (83.5 kg)  |
| Material: PVC- Polyvinyl chloride                           | STANDARD COMPLIANCE  |
| Nom. Diameter: 0.405 in (10.3 mm)                           | Environment Suitability: Indoor (not Riser or  |
| Voltage: 300 V  | Plenum), Indoor  |
| MECHANICAL CHARACTERISTICS                                  | Sustainability: CA Prop 65   |
| Operating Temperature: -30°C to +75 °C                      | First the system of the system |
| Bend Radius: 4.0 in   | E. Five (5) Connectors   |
| Max pull tension: 184 lbs (83.5 kg)                         |  |
| STANDARD COMPLIANCE   | GENERAL SPECIFICATIONS   |
| Environment Suitability: Indoor (not Riser or Plenum),      | Cable RG-/U: 8,9, 11, 13, 58, 63, 87A, 149, 213,   |
| Indoor  | 214, 216, 225  |
| Sustainability: CA Prop 65                                  | Conn Type: Plug  |
| Sustainability. CA 110p 05                                  | Outer Cable Attachment: Solder/Crimp/ FCP  |
| E. Five (5) Connectors                                      | Inner Cable Attachment: Solder/ Crimp/ Pliers  |
| E. Five (5) Connectors                                      | niner Cable Attachment. Solder/ Chimp/ Thers   |
| SPECIFICATIONS  | E. One (1) Beruser Superly   |
|   | F. One (1) Power Supply  |
| Cable RG-/U: 8, 9, 11, 13, 58, 63, 87A, 149, 213, 214, 216, | OFNED AL OPECIFICATIONS  |
| 225   | GENERAL SPECIFICATIONS   |
| Conn Type: Plug   | Input Power: 220V  |
| Outer Cable Attachment: Solder/Crimp/ FCP                   | Output Power: 13.8V  |
| Inner Cable Attachment: Solder/ Crimp/ Pliers               | DC Switch Mode Power Supply with Battery   |
|   | Charger,   |
| F. One (1) Power Supply                                     | Wide input voltage range ( $220V \pm 20\% VAC$ ),  |
|   | Display: Output voltage and output current meter   |
| SPECIFICATIONS  | Protection: output over voltage and over current   |
| Input Power: 220V   | protection,  |
| Output Power: 13.8V   | Battery backup function: 12V 1A Battery  |
| DC Switch Mode Power Supply with Battery Charger,           | charging during normal operation automatically   |
| Wide input voltage range ( $220V \pm 20\% VAC$ ),           | switches to battery on AC power loss, compact  |
| Display: Output voltage and output current meter            |  |
| Protection: output over voltage and over current            | G. One (1) lot NTC Permits and Licenses  |
| protection,   |  |
| Battery backup function: 12V 1A Battery charging            | H. One (1) lot Lightning Surge and arrester  |
| during normal operation automatically switches to           |  |
| battery on AC power loss, compact                           | I. One (1) lot Mobilization Cost   |
| ,   |  |
|   | J. One (1) lot Installation Cost for the whole system  |
| L   |  |



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| G. One (1) lot NTC Permits and Licenses   | Includes: Installation, configuration, testing.  |
|---|--|
|   | training, and commissioning  |
| H. One (1) lot Lightning Surge and arrester   |  |
|   | Base - OVER THE AIR SOFTWARE updates   |
| I. One (1) lot Mobilization Cost  | Indoor Location Tracking   |
| I One (1) lat Installation Cost for the sub sla   | MULTI CONSTELLATION GNSS for increased location  |
| J. One (1) lot Installation Cost for the whole<br>system Includes: Installation, configuration,       | accuracy<br>UL- approved to TIA 4950 for use in hazardous  |
| system Includes: Installation, configuration, testing, training, and commissioning                    | location   |
| county, training, and continuosioning   |  |
|   | One (1) Unit Computer Workstation with Dispatch  |
| A. One (1) Unit of Computer Workstation with  | Communication  |
| Dispatch Communication  |  |
| Features  | Features<br>VOICE DISPATCH   |
| VOICE DISPATCH  | Provide communications between the dispatcher  |
| Provide communications between the dispatcher and   | and remote radios. Make broadcast, group, private,   |
| remote radios. Make broadcast, group, private, remote   | remote monitor, or emergency calls quickly using   |
| monitor, or emergency calls quickly using   | programmable shortcuts.  |
| programmable shortcuts.   |  |
|   | EVENT LOGGING  |
| EVENT LOGGING   | Log all system events including voice calls, text messages, and status changes. Customize rules,         |
| Log all system events including voice calls, text<br>messages, and status changes. Customize rules,   | filter and group events or generate reports detailing  |
| filter and group events or generate reports detailing   | location and radio status.   |
| location and radio status.  |  |
| TELEMETRY*  | ALARM AND LONE WORKER  |
| Monitor and manage remote equipment from the  | Improve the safety of personnel with automatic   |
| control room.   | alarms and lone worker protection. The alarm can also  |
| ALARM AND LONE WORKER   | be<br>sent as an automated message, email or SMS.  |
| Improve the safety of personnel with automatic alarms   | sent as an automateu message, eman or 5105.  |
| and lone worker protection. The alarm can also be sent  | FLEET ADMINISTRATION   |
| as an automated message, e-mail or SMS.   | Efficiently manage fleet operations and remotely control   |
|   | radios. Get live status updates and configure the radio to   |
| FLEET ADMINISTRATION  | send online/offline reports to the server  |
| Efficiently manage fleet operations and remotely control  |  |
| radios. Get live status updates and configure the radio to send online/offline reports to the server. | JOB TICKETING".<br>Create, assign and monitor job tickets through the radio                              |
| send online/ online reports to the server.  | network to deliver routine tasks more efficiently. Radio   |
|   | users can accept or decline the job ticket by simply   |
|   | pushing a button.  |
| JOB TICKETING*,   |  |
| ** Create, assign and monitor job tickets through the radio network to deliver routine tasks more     | TEXT MESSAGES AND EMAIL  |
| efficiently. Radio users can accept or decline the job  | When you need silent communications or referenceable instructions, send broadcast, group or private text |
| ticket by simply pushing a button.  | messages. Radio users can text back to the dispatcher.   |
| · · · · · · · · · · · · · · · · · · ·   | 0  |
| TEXT MESSAGES AND EMAIL   | DATA WEB CLIENT  |
| When you need silent communications or referenceable  | Empower remote dispatchers to access the system using  |
| instructions, send broadcast, group or  | a web interface.   |
| private text messages. Radio users can text back to the   | VOICE RECORDING  |
| dispatcher.   | VOICE RECORDING<br>Continuous voice recording of all calls with playback for                             |
|   | analysis, reporting or training purposes. Audio files are  |
| DATA WEB CLIENT   | stored in MP3 format on the Radio Server and   |
| Empower remote dispatchers to access the system using   | Dispatcher.  |
| a web interface.  | GPS TRACKING   |



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| VOICE RECORDING   | Follow workers, vehicles and business assets in real-<br>time to ensure maximum safety and productivity. View |
|---|---|
| Continuous voice recording of all calls with playback for   | routes, set up geo-fencing and log radio movements  |
| analysis, reporting or training purposes. Audio files are   | using a configurable set of rules.  |
| stored in MP3 format on the Radio Server and  |   |
| Dispatcher.   | Two Hundred Three (203) Units Digital Portable Radios with Dispatch License of                                |
| GPS TRACKING  | Digital Portable Radios   |
| Follow workers, vehicles and business assets in real-   |   |
| time to ensure maximum safety and productivity. View  | GENERAL SPECIFICATIONS  |
| routes, set up geo-fencing and log radio movements  | Frequency: 403-527 MHz  |
| using a configurable set of rules.  | High Power Output: 4W   |
| Digital Portable Radios   | Low Power Output: 1   |
| A 202 surits of Disital Dartable Dadies   | Channel Spacing: 12.5, 25 kHz   |
| A. 203 units of Digital Portable Radios   | Channel Capacity: 1000<br>Weight Padia + Standard 1600 mAb Battomy 215g                                       |
| SPECIFICATIONS  | Weight Radio + Standard 1600 mAh Battery: 315g  |
| Frequency: 350-400 MHz  | Digital / Analogue Battery Life2, Stạndard 1600<br>mAh Battery: 15.5/11.5 hrs                                 |
| High Power Output: 4W   | Power Supply (Nominal): 7.5 V   |
| Low Power Output: 1   |   |
| Channel Spacing: 12.5, 25 kHz   | TRANSMITTER SPECIFICATIONS  |
| Channel Capacity: 1000  | Channel Spacing: 12.5, 25 kHz   |
| Weight Radio + Standard 1600 mAh Battery: 315g  | 4FSK Digital Modulation: 12.5 kHz Data:   |
| Digital / Analogue Battery Life2, Standard 1600 mAh   | 7K60F1D and 7K60FXD,  |
| Battery: 15.6 / 12 hrs  | 12.5 kHz Voice: 7K60F1E and 7K60FXE,  |
| Power Supply (Nominal): 7.5 V   | Combination of 12.5 kHz Voice   |
|   | Data:7K6OF1W  |
| TRANSMITTER SPECIFICATIONS  | Digital Protocol: ETSI TS 102 361 -1, -2, -3, -4  |
| Channel Spacing: 12.5, 25 kHz   | Conducted/Radiated Emissions:   |
| 4FSK Digital Modulation: 12.5 kHz Data: 7K60F1D and   | (TIA603D) -36 dBm <ighz, -30="" dbm=""> IGHz</ighz,>  |
| 7K60FXD,  | Adjacent Channel Power: 60dB (12.5 kHz  |
| 12.5 kHz Voice: 7K60F1E and 7K60FXE,  | channel), 70dB (25 kHz channel)   |
| Combination of 12.5 kHz Voice and Data:7K60F1W  | and   |
| Digital Protocol: ETSI TS 102 361-1, -2, -3, -4   | Frequency Stability: ± 0.5 ppm  |
| Conducted/Radiated Emissions:<br>(TLA602D) 26 dBm $\leq$ 1CHz = 20 dBm $>$ 1CHz                   | RECEIVER SPECIFICATIONS   |
| (TIA603D) -36 dBm < 1GHz, -30 dBm > 1GHz<br>Adjacent Channel Power: 60dB (12.5 kHz channel), 70dB | Analogue Sensitivity (12dB SINAD): 0.16 uV<br>Digital Sensitivity (5% BER): 0.14 uV                           |
| (25 kHz channel)  | Intermodulation (TIA603D) :70 dB  |
| Frequency Stability: ± 0.5 ppm  | Adjacent Channel Selectivity (TIA603A)-1T: 60   |
| RECEIVER SPECIFICATIONS   | dB (12.5 kHz channel), 70 dB (25 kHz channel)   |
| Analogue Sensitivity (12dB SINAD): 0.16 uV  | Adjacent Channel Selectivity (TIA603D)-2T &   |
| Digital Sensitivity (5% BER): 0.14 uV   | (TIA603C)-2T: 45 dB (12.5 kHz channel),   |
| Intermodulation (TIA603D) :70 dB  | 70 dB (25 kHz channel)  |
| Adjacent Channel Selectivity (TIA603A)-1T: 60 dB (12.5  | Spurious Rejection (TIA603D): 70 dB   |
| kHz channel), 70 dB (25 kHz channel)  | AUDIO SPECIFICATIONS  |
| Adjacent Channel Selectivity (TIA603D)-2T &   | Digital Vocoder Type: AMBE+2TM  |
| (TIA603C)-2T: 45 dB (12.5 kHz channel),   | Audio Response: TIA603D   |
| 70 dB (25 kHz channel)  |   |
| Spurious Rejection (TIA603D): 70 dB   | Rated Audio: 0.5 W  |
| AUDIO SPECIFICATIONS  | Audio Distortion at Rated Audio: 3%   |
| Digital Vocoder Type: AMBE+2™   | Hum and Noise: -40 dB (12.5 kHz channel), 45  |
| Audio Response: TIA603D   | dB (25* kHz channel)  |
| Rated Audio: 0.5 W  | Conducted Spurious Emissions (TIA603D): -57   |
| Audio Distortion at Rated Audio: 3%<br>Hum and Noise: -40 dB (12.5 kHz channel), -45 dB (25*      | dBm   |
| kHz channel)  | *BLUETO0TH SPECIFICATIONS   |
| Conducted Spurious Emissions (TIA603D): -57 dBm   | Version 4.0   |
| conducted oparious Enhostonis (111000D). Or ubili   | Range Class 2, 10 m   |
|   |   |



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Second Floor, Civic Center Building F, Quezon City Hall Complex, Elliptical Road, Quezon City Tel. No. 8988-42-42 local 8709/8712

| *BLUI   | ETOOTH SPECIFICATIONS                              | Supported Profiles Bluetooth Headset Profile          |
|---|--|---|
| Versic  | on 4.0   | (HSP), Serial Port                                    |
| Range   | e Class 2, 10 m                                    | Simultaneous Connections 1 x audio accessory and      |
| Suppo   | orted Profiles Bluetooth Headset Profile (HSP),    | lx data device  |
| Serial  | Port   | Permanent Discoverable Mode Optional                  |
| Simul   | taneous Connections 1 x audio accessory and 1 x    | *GNSS SPECIFICATIONS                                  |
| data d  | levice   | Constellation Support GPS                             |
| Perma   | anent Discoverable Mode Optional                   | Time To First Fix, Cold Start < 60 s                  |
| *GNS  | S SPECIFICATIONS                                   | Time To First Fix, Hot Start < 10 s                   |
| Const   | ellation Support GPS                               | Horizontal Accuracy <5 m                              |
| Time  | To First Fix, Cold Start < 60 s                    | *Wi-Fi SPECIFICATIONS                                 |
| Time  | To First Fix, Hot Start < 10 s                     | Standards Supported IEEE 802.11b, 802.11g.            |
| Horiz   | ontal Accuracy < 5 m                               | 802.1In   |
| *Wi-F   | i SPECIFICATIONS                                   | Security Protocol Supported WPA, WPA-2, WEP           |
| Stand   | ards Supported IEEE 802.11b, 802.11g, 802.11n      | Maximum Number of SSIDS 128 (64 for LKP and           |
| Securi  | ity Protocol Supported WPA, WPA-2, WEP             | NKP models)   |
| Maxir   | num Number of SSIDs 128 (64 for LKP and NKP        | ENVIRONMENTAL SPECIFICATIONS                          |
| mode  | ls)  | Operating Temperature: -30 °C to +60 °C               |
| ENVI  | RONMENTAL SPECIFICATIONS                           |   |
| Opera   | ting Temperature: -30 °C to +60 °C                 | Storage Temperature: -40 °C to +85 °C                 |
| Storag  | ge Temperature: -40 °C to +85 °C                   | Electrostatic Discharge IEC 61000-4-2: Level 4        |
| Electr  | ostatic Discharge IEC 61000-4-2: Level 4           | Dust and Water Intrusion IEC 60529 - IP68             |
| Dust a  | and Water Intrusion IEC 60529 - IP68 Capable       | Capable   |
| Packa   | ging Test MIL-STD 810D and E                       | Packaging Test MIL-STD 810D and E                     |
|   |  |   |
| В.  | 203 lot Dispatch License of Digital Portable       | A. One (1) lot NTC Permits and Licenses               |
| Radio   | S  |   |
|   |  | B. One (1) lot Mobilization Cost                      |
|   |  |   |
| C.  | One (1) lot NTC Permits and Licenses               | C. One (1) lot configuration Cost, testing, training, |
|   |  | and commissioning                                     |
| D.  | One (1) lot Mobilization Cost                      |   |
|   |  |   |
| E.  | One (1) lot configuration Cost, testing, training, |   |
| and co  | ommissioning                                       |   |
|   |  | • Section III. Bid Data Sheet                         |
| •   | Section III. Bid Data Sheet                        | Organization:   |
| 0   | nization:  | - Track Record for at least three (3) years in the    |
|   | fication for Trading and Distribution of TELCO     | Radio and/or Communication Device Business            |
| Equipment or its equivalent                               |  | and has supplied and delivered communication          |
| -Certified True Copy of List of Track Record for at least |  | equipment.  |
| (5) years in the Radio Communication Business and has     |  |   |
| suppl   | ied and delivered communication equipment.         |   |
| -   | Terms of Reference                                 | Derived Terms of Defenses                             |
| •   | refins of kelefence                                | Revised Terms of Reference                            |
|   |  |   |
| 1   |  |   |

Please be guided accordingly.

### By: BIDS AND AWARDS COMMITTEE - GOODS AND SERVICES

(Sgd.) MS. MA MARGARITA T. SANTOS Chairperson