

المواصفات الفنية الخاصة بالمناقصة العامة

رقم المناقصة : (٢٠١٠/٩٢)

الخاصة بشراء وتوريد (٥١) وصلة ميكرووفيف مع التدريب

المؤسسة العامة للاتصالات السلكية واللاسلكية

الإدارة العامة للمشتريات والمخازن

إدارة المشتريات - قسم العقود والمناقصات

General Technical Specifications for 51-Links Digital Microwave Systems

General Technical Specifications for 51 Links Digital Microwave Systems

A- Basic Technical Specifications

- 1- **Loop Facilities:** Software Base Band, IF and RF Loopback.
- 2- **High Tx. Power:** >26dBm for 7GHz and > 22dBm for 13GHz (depend on capacity and modulation type).
- 3- **ODUs Type:** All Links (small or big capacities) must have the same ODUs type
- 4- **User Interface:** E1 G.703, 120Ω with Ethernet ports10/100 Base T.
- 5-**Modulation:** QPSK & QAMs.
- 6-**Protection:** MHSB,SD &FD.

B: Links Details:

1- Technical Specifications for 37 Links 7GHz

- **Frequency Band:** 7425-7725 MHz - ITU-R F.385-6 & Fo = 7575 MHz.
- **T/R Spacing:** 161MHz.
- **Required System Capacity & Configuration:** See Table (1).
 - 1 Link 64E1 (1+1 F.D)
 - 4 Links 48E1s (1+1 F.D)
 - 3 Links 32E1s (1+1 F.D)
 - 14 Links 16E1s (1+1 F.D)
 - 15 Links 4E1s (1+0)
- **ODUs Type:** All Links (small or big capacities) must have the same ODUs type.
- **User Interface:** - E1 G.703, 120Ω with Ethernet ports10/100 Bas T.

2- Technical Specifications for 14 Links 13GHz

- **Frequency Band:** 12.75 – 13.25 GHz (ITU-R F.497-5 CEPT)
- **T/R Spacing:** 266 MHz.
- **Required System Capacity & Configuration:** See Table (1).
 - 14 Links 4E1s (1+0)
- **ODUs Type:** All Links (small or big capacities) must have the same ODUs type.
- **User Interface:** E1 G.703, 120 Ω with Ethernet ports10/100 Base T.

C – General Technical Specifications



- 1- Antenna Type: Andrew HP with Radom
- 2- Power Control: ATPC & MTPC
- 3- Operation Temperature Range:
 - IDU: -10 to +50 °c
 - ODU: -30 to +55 °c
- 4- Split Type: Equal Split
- 5- Aux. Data Channel: LAN, 64Kbit/s G.703, V11/V.35, Asy.RS232C
- 6- Power Source: ± 23 to ± 60 Volts D.C (Auto detection)
- 7- Low Power Consumption
- 8- Operation Humidity: for IDU 95% at +35°C and 100% for ODU
- 9- Weather proofing Outdoor Unit, high Wind resistance and low Weights
- 10- Frequency Stability: ± 5 or ± 6 ppm
- 11- Regulatory: CEPT
- 12- History Alarm Facilities
- 13- High Gain and High System Performance
- 14- IF Cable Type 8D-FB, 150m / Site (300m/Link 1+1) & 75m / Site (150m/Link 1+0)

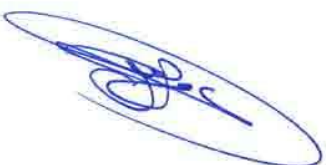
D: The Offer Should be Include the flowing Points:

- 1- Network Management System with protocol has a possibility to control any MW systems.
- 2- All equipments must be Capable to work with IP technology simply.
- 3- Training O&M for 6 Trainers (outside) 15 working days with full accommodation.
- 4- Factory Acceptances Test (2 Engineers) 5 days.
- 5- Tributaries Cables for each site with Connectors (4meter).
- 6- Installation Materials for each site (DDF Frames, VS Tool, IF Connectors, Ground Kits, Racks 19 inch and IF Surge Protected Arresters, etc.).
- 7- Warranty for spare parts and repair faulty units at list 5 years.
- 8- System Configuration Software (CD- ROM).
- 9- System Link should be labeling by site name.
- 10- The offer must include Spare Parts of 20% from the total quantity.
- 11- Local Craft Terminal (LCT) two set (I7 processor ,4G RAM, 500G HD,1 G VGA DVD/CD-ROM -RW, LAN, FAX Mod. & English/Arabic Keyboards).
- 12- Documents (Hardcopy & Softcopy).
- 13- Radio Equipments should be made by One Country Only except the Antennas and Cables.

General Technical Specifications for 51 Links Digital Microwave Systems Table (1)

No.	Sites Name	Direction	Dist.(Km)	Configuration & Capacity	Frequency Band (GHz)	Antenna Diameter (m)
1	MUNIF Mount.	AL-TURBAH	7.5	1+0 (4E1)	13	0.9
2	AWN Mount.	TAIZ	16	1+0 (4E1)	7	1.2
3	ALAF Mount.	AL-HASHA'A	29	1+0 (4E1)	7	1.2
4	AL-RUJA'A	SABER	40	1+1 (48E1)	7	1.8
5	AL NABI SHAI'B 2	JALIS	6	1+0 (4E1)	13	0.9
6	AL-QAFR	REHAB	13	1+0 (4E1)	13	1.2
7	REBAH	SUMARAH	10	1+0 (4E1)	13	1.2
8	AL-MANAR Mount (BADAN)	AWD Mount.	24	1+0 (4E1)	7	1.2
9	SRAR	QARAH	7.5	1+0 (4E1)	13	1.2
10	AL WAEEL Mount.	AL-AREEF	42	1+0 (4E1)	7	1.8
11	AL-CAMP	AL-AREEF	11	1+0 (4E1)	13	1.2
12	NATA'A	AL-BADEAA	13	1+0 (4E1)	13	1.2
13	HORAN	AL-HABLAH	7	1+0 (4E1)	13	1.2
14	AL-MALAJM	AL-HABLAH	18	1+0 (4E1)	7	1.2
15	AL-DORIA'A	AL-ARR	20	1+0 (4E1)	7	1.2
16	AL-WAJR	TASLAH	14.5	1+0 (4E1)	7	1.2
17	AL-MALAH Mount.	AL-SALEEF	43	1+0 (4E1)	7	1.8
18	AL-BARADON	ASBEEL	18	1+0 (4E1)	7	1.2
19	BANI ASAD	SUMARAH	51	1+0 (4E1)	7	2.4
20	GHAIL HAMDAN	DAYN	7.5	1+0 (4E1)	13	0.9
21	MASWAR HADOR	BIRIAH	11.5	1+0 (4E1)	13	1.2
22	BANI DABIAN	AL-TARAF	45	1+0 (4E1)	7	1.8
23	DABRAN	KOALIDNAH	25	1+0 (4E1)	7	1.2
24	SHAMSAN KAIDAN	AL-MAHABISHAB	3.5	1+0 (4E1)	13	0.6





No.	Sites Name	Direction	Dist.(Km)	Configuration & Capacity	Frequency Band (GHz)	Antenna Diameter (m)
25	SORWAH	HAILAN Mount.	5	1+0 (4E1)	13	0.6
26	AL-TLILI Mount.	AL-ZAFN	14.5	1+0 (4E1)	7	1.2
27	AL-LOB Mount.	BANI GHITH	17.5	1+0 (4E1)	7	1.2
28	GALAS	AL DALA'A L.E	5.5	1+0 (4E1)	13	0.6
29	AL-SHOAIB	AL-AWBAL	10	1+0 (4E1)	13	1.2
30	DAYN	RIAM ARHAB	20	1+1 (16E1)	7	1.2
31	RIAM ARHAB	AL-ALAMEEN	30	1+1 (16E1)	7	1.2
32	AL-MUBBAH	ZABEED	35	1+1 (32E1)	7	1.2
33	AL-DAN	ATOMAH	30	1+1 (32E1)	7	1.2
34	ATOMAH	SUMARAH	40	1+1 (48E1)	7	1.8
35	SANA'A	AYBAN	15	1+1 (64E1)	7	1.2
36	AL-QABREEN	QURAD	35	1+1 (32E1)	7	1.2
37	DAYN	QARN ALAJAM	35	1+1 (32E1)	7	1.2
38	AL-AHMAR Mount.	AL-ABLAH	25	1+1 (48E1)	7	1.2
39	AL-AHMAR Mount.	AL-TALAH	25	1+1 (16E1)	7	1.2
40	AL-AHMAR Mount.	AL-ROKAB	40	1+1 (16E1)	7	1.8
41	AL-AHMAR Mount.	AUMARAH	40	1+1 (16E1)	7	1.8
42	AL-AHMAR Mount.	AL-NAWAH	40	1+1 (48E1)	7	2.4
43	AL-ARW Mount.	AL-DAMAG	30	1+1 (16E1)	7	1.2
44	HARAD	AL-DAMAG	45	1+1 (16E1)	7	2.4
45	JAMARK HARAD	AL-MAFTAH	45	1+1 (16E1)	7	1.8
46	MARA'A	AL-TALH	35	1+1 (16E1)	7	1.8
47	AL-THANIAH	AL-TALH	30	1+1 (16E1)	7	1.2
48	MAFTAH	AL-NAWAH	28	1+1 (16E1)	7	1.2
49	AL-DAMAG	AL-NAWAH	29	1+1 (16E1)	7	1.2
50	Spare 1	Spare2		1+1 (16E1)	7	1.2
51	Spare 3	Spare4		1+1 (16E1)	7	1.2

