



Q&A

CISCO MWR 1941-DC-A MOBILE WIRELESS EDGE ROUTER

Q. What is the Cisco MWR 1941-DC-A Mobile Wireless Edge Router?

A. The Cisco MWR 1941-DC-A cell-site access platform specifically designed to optimize, aggregate, and transport GSM and UMTS backhaul. It allows mobile wireless operators to lower existing backhaul expenses, more cost-efficiently deploy new radio technologies such as Universal Mobile Telecommunications Service High-Speed Downlink Packet Access (UMTS/HSDPA) voice and data networks, generate revenue from new cell-site IP-based services, and enable rapid deployment of next-generation mobile services.

Q. Is the Cisco MWR 1941-DC-A available?

A. The Cisco MWR 1941-DC-A is currently available. Please be sure to order the “-A” version for GSM and UMTS backhaul and optimization.

Q. Which Cisco IOS Software release is required?

A. The minimum version required is Cisco IOS® Software Release 12.4(2)MR.

Q. Which Cisco IOS Software feature set(s) are required?

A. The only current Cisco IOS Software feature set that is supported is RAN OPTIMIZATION.

Q. How many voice/WAN interface cards (VWICs) are supported? Which VWICs are supported?

A. The Cisco MWR 1941-DC-A supports three VWICs with the onboard controller and another two VWICs with the NM-2W in the network module slot. A total of five VWICs are supported in the fully configured Cisco MWR 1941-DC-A Mobile Wireless Edge Router. The only current VWIC supported is the Cisco 2-Port T1/E1 Protection Switching RAN VWIC (Cisco T1/E1 RAN VWIC).

Q. How many network modules are supported? Which network modules are supported?

A. Only one network module is supported in the Cisco MWR 1941-DC-A. Currently, the only network module supported is the NW-2W.

Q. What are the operating environment thresholds for the Cisco MWR 1941-DC-A?

A. Table 1 shows the thresholds.

Table 1. Environmental Thresholds

Description	Specification
Dimensions (H x D x W)	1.72 x 12.5 x 17.5 in (4.37 x 31.75 x 44.45 cm)
Weight (without NMs or WICs)	10.5 lbs (4.77 kg)
Operating Temperature	–10 to 55°C (14 to 131°F)
Nonoperating Temperature	–40 to 85°C (–40 to 185°F)
Heat Dissipation	70W maximum, 238 BTUs/hour
Relative Humidity	5 to 90 percent noncondensing, ±5 percent
Operation Altitude	1600 m/5248 ft, 3000 m/9840 ft (max 45°C ambient)
Noise Level	59 dB
Airflow	32 cfm
DC-Input Power	70W (maximum)

Description	Specification
DC-Input Voltage Rating	20 to 60 VDC, 27 VDC or –48 VDC nominal, 60 VDC maximum
DC-Input Current Rating	4A (maximum)
Power Connector	Phoenix 1754452 (P1=+Power, P2=Ground, P3=-Power), mates with Phoenix 1754465 cable connector
Power Dissipation	70W (maximum)
Rack Mounting	19 in. (48.26 cm)

Q. What type of redundancy is supported by the Cisco MWR 1941-DC-A?

A. The Cisco MWR 1941-DC-A supports 1:1 redundancy when deployed with a second Cisco MWR 1941-DC-A.

Deployed as a pair, the Cisco MWR 1941-DC-A mobile wireless routers provide a 1:1 redundancy solution for a cell-site router. The redundancy is a platform-specific feature for the Cisco MWR 1941-DC-A, taking advantage of Hot Standby Router Protocol (HSRP) and custom health check software that interfaces with HSRP. The T1/E1 RAN VWIC has solid state relays and supports a custom E1/T1 Y cable to enable each router pair to redundantly connect to local cell-site gear (BTS and/or NodeB) as well to T1/E1 leased lines.

Q. What is the difference between the MWR 1941-DC and the MWR 1941-DC-A?

A. The Cisco MWR-1941-DC- provides Abis Optimization as part of Motorola’s CDMA 1xRTT IP RAN whereas the MWR-1941-DC-A provides aggregation and optimization of both GSM and UMTS traffic and is RAN Vendor agnostic. In addition, there are platform differences which are summarized below:

Table 2 lists additional differences.

Table 2. Cisco MWR 1941-DC vs. MWR 1941-DC-A

MWR-1941-DC	MWR-1941-DC-A
MIPS RISC Processor, Cisco PXF Network Processing Engine	MIPS RISC processor
Compact Flash: 32 MB and 64 MB Options	Compact flash: 128 MB
System RAM: 128 MB (SDRAM Default)	System RAM: 256 MB (SDRAM default)
No Advanced Integration Module (AIM) Connector	AIM connector

Q. What advanced integration modules (AIMs) are supported on the Cisco MWR 1941-DC-A?

A. The Cisco MWR 1941-DC-A only supports the ATM AIM.

Q. What is an AIM?

A. AIMs are daughter cards that plug internally into the Cisco MWR 1941-DC-A motherboard via an existing connector on the motherboard.

The AIM slot provides a way of integrating additional capabilities and offloading the main CPU from processor-intensive functions without reducing the LAN or WAN density of the Cisco MWR 1941-DC-A (by occupying an external WIC slot or network module slot). The ATM AIM is currently available for use in the Cisco MWR 1941-DC-A.

Q. What is the ATM AIM used for in the RAN Backhaul and Optimization solution?

A. The ATM AIM must be used to support connections to a UMTS NodeB or radio network controller (RNC). The interface to the NodeB or RNC is called the Iub interface and is ATM-based. The ATM AIM filters empty ATM cells and converts non-empty cells to packets. The RAN application then efficiently transports the UMTS packets over T1/E1 leased lines or metro Ethernet.

Q. How many AIMs are supported on the Cisco MWR 1941-DC-A?

A. The Cisco MWR 1941-DC-A platform supports one AIM slot on the motherboard.

Q. Is the AIM-ATM field-replaceable?

A. No. The AIM-ATM must be ordered from manufacturing. It is not a field-replaceable unit.

Q. Is the compact flash removable?

A. No.

Q. What type of DC power connector/cable does the Cisco MWR 1941-DC-A require?

A. The Cisco MWR 1941-DC-A requires a Phoenix 1754452 (P1=+Power, P2=Ground, P3=

A. Power) and mates with Phoenix 1754465 cable connector on the router.

Q. When a single Cisco MWR 1941-DC-A is deployed at the cell site, can the router support dual DC power?

A. No. The Cisco MWR 1941-DC-A only has one connector on the rear of the router for DC power connector.

Q. Is AC power an option for the Cisco MWR 1941-DC-A?

A. Yes. An external AC power brick must be ordered from a third-party vendor.

XP ForeSight

990 Benecia Avenue

Sunnyvale, CA 94085-2912

408 732-7777

Model: AED100US48

Input: 100–240V; 1.5A; 47–63 Hz

Output: 48V 2.08A

Maximum power output: 100W

Q. Where can I order the customer Y cable required for Cisco MWR 1941-DC-A redundancy?

A. A custom T1/E1 Y cable is required for Cisco MWR-1941-DC-A redundancy. It is orderable from Anixter, a third-party vendor. Please see <http://www.anixter.com> for local sales offices worldwide.

Table 3. The Anixter Part Number/Description:

COMPULINK B04-0726-1-10F
RJ48C X 3 SHIELDED CONNECTORS
(T1) Y-ASSEMBLY, PVC, Y-CABLE
WITH RJ-48 TO (2) RJ-48
CONNECTORS
Q#00066036

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