SOLECTEK

SkyWay-KM Series

5.5 Gbps, Flexible Platform 6-38GHz Microwave Links

SkyWay-KM radio terminal — shown with dual carrier option

Technical Summary

- Frequency Bands: 6 — 38 GHz
- Channel BW
  30 to 160 MHz (FCC)
  14 to 112 MHz (ETSI)
- Tx Power: 16 to 30 dBm
- Interface Options:
  2.5Gbe SFP or 10Gbe SFP+
  1Gbe SFP and RJ-45 (POE)
  HDMI for radio interconnection
- Modulation: up to 4096 QAM
- Temp Range: -40 to 55 C
- Power Consumption: 80W, typical.

Applications

- Carrier data backhaul
- Backhaul for video surveillance monitoring
- Government inter-building networks
- Connection of industrial sites for voice and data

Feature Summary

- Up to 5.5 Gbps full duplex capacity per radio terminal
- Single or dual radio carrier per terminal — same or different freq band
- 4096QAM, up to 160MHz (ANSI) and 112MHz (ETSI) BW support
- Flex Platform — Customer exchangeable diplexers
- Configurations — 1+0, 1+1/2+2 HSB, 2+0/4+0 up to 6Gbps
- ACM, ATPC, XPIC, and 256AES encryption support
- 2x2 and 4x4 MIMO for enhanced link budgets
- Packet header and payload compression
- A dual sub-channel capability for 2x capacity per transceiver
- Digital pre-distortion for keeping high Tx power at Hign order QAM
- 4 modem cores per radio terminal for expandability
- 2.5G SFP or 10G SFP+ interfaces, plus RJ-45 POE
- Load balancing in 2+0 and 4+0 configurations
- A single radio SKU per frequency band — no low/high band radios
- Simplifies local stocking and sparing at customer sites.

Product Description

Solectek's SkyWay-KM Series represents best-in-class microwave radios available in the market today. The radio operates up to 4096QAM modulation and extended channel bandwidth up to 160MHz (ANSI) / 112MHz (ETSI) in a sing or dual transceivers per radio terminal. A dual sub-channel operation allows two data streams per transceiver. The resulting capacity is 2.75Gbps for single-transceiver radio link or 5.5Gbps for a dual-transceiver radio link. Header and payload compression can be used to increase the capacity even higher than these data rates.

The KM radio's unique architecture allows field replacement of diplexers. There is only one radio type for each frequency band and no distinction between the low and high band radios. This allows great simplification of part numbers for easy inventory stocking and sparing at customer sites.

10Gbe SFP+ or 2.5Gbe SFP slots are available to connect to your Ethernet networks. RJ-45 1Gbe interface comes standard for POE connection as well as a separate DC power input for power redundancy.

Built-in load balancing algorithm allows the radio combinations to carry traffic loads in a controlled manner. The user can use this feature to go longer distances or reduce antenna sizes for a given capacity requirement.

Dual carrier radio platform can be deployed with two radio signals in different frequency band (e.g. 6 and 11GHz) for diversity or repeater applications.

KM series accessories include adapter plates in case the user needs to keep the existing antenna with a different antenna-radio interface.

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	6 GHz	7 GHz	8 GHz	11 GHz	13 GHz	15 GHz	18 GHz	23 GHz	32 GHz	38 GHz
Freq.	5.9 — 7.12	7.1—7.9	7.7—8.5	10.7-11.7	12.7-13.3	14.4–15.4	17.7-19.7	21.2-23.6	31.8-33.4	37.0-40.0
TR Spacing (MHz)	150, 160, 170, 240, 252, 340	154, 160, 161, 168, 190, 254	119, 126, 151, 208, 266, 311	490, 500, 530	266	315, 322, 420, 475, 490, 640	1008, 1010, 1560	1008, 1200, 1232	812	700, 1260

System	
Frequency Bands	FDD / Full-Duplex
Modulation Mode	Up to 4096 QAM
Channel Bandwidth	
CEPT/ETSI	7, 14, 28, 56, and 112 MHz
ANSI/FCC	30, 40, 50, 60, 80, and 160 MHz
Data Rate	2.75Gbps max per single radio link w/ dual sub-channel per TXVR 4 modem cores for 6Gbps expansion
Tx Power	Up to 30 dBm, Digital Pre-Distortion for high Tx power
Radio modes	Single or dual transceivers per radio ter (same or different frequency band) 1+0. 1+1/2+2 HSB, 2+0/4+0 2x2 or 4x4 MIMO
Compression	Header and payload compression
Protocol Support	Adaptive coding and modulation (ACM) Automatic Tx Power Control (ATPC) Radio link aggregation (RLA) - load balancing, SyncE or IEEE1588v2 PTP
Management	Web interface, SNMP, Solectek EMS
Latency	200 µsec, typical Ethernet config/traffic dependent
Pwr consumption	80W Typical, config dependent
Power Supply	-38.4 V to –60V DC (ODU powered by RF cable from IDU)
MTBF	30 years
Compliance	FCC part 101, ETSI EN302 217-2-2
Physical interfaces	10Gbe SFP+ or 2.5G SFP, 1Gbe SFP, RJ-45 Gbe (POE), HDMI for radio interconnec, BNC (RSSI port), DC power input

Mechanical	
Antenna interface	Direct Mount to Antenna, OMT for dual carrier or dual radio config
Radio Size	11 in (28 cm) diameter 5.5 in (14 cm) height
Weight	9.5 lbs (4.3 kg))
Temperature	-40 to 55C
Material	Corro-Coat PE 71-190Z (powder coat) Gloss White
POE unit	Options for outdoor DC injector, Indoor DC injector, indoor POE/AC adapter

SkyWay-KM physical interfaces — 10Gbe SFP+ or 2.5Gbe SFP, 1Gbe SFP, RJ-45, HDMI for radio connect, DC input (redundant)

SkyWay-KM Backhaul Link