Dynamic IoT Ku Terminal

The ST Engineering iDirect's Dynamic IoT terminal is part of a unique line of satellite terminals that features innovative technology to enable low data rate IoT with highly competitive services for existing and new markets. The Dynamic IoT terminal is a low cost, compact satellite device based on a state-of-the-art design that enables portable itinerant operations, or fully mobile uses cases with integrated modem and flat panel active phased array antenna communication services over Ku-GEO satellites.

The Dynamic Iot Ku Terminal is an integrated satellite modem with an active electronically steerable phased array antenna. With no moving mechanical parts, fast synchronization and low power consumption the Dynamic IoT Terminal is optimized for mobile LDR and MDR use cases.

The Dynamic IoT Ku Terminal features a Wi-Fi interface along with a single 19-Pin industrialized connector offering PoE Ethernet for connecting to remote IoT aggregation Edge Computing or an IoT Sensor. The same 19-Pin connector offers a DC power option with an input range of 12-24V DC enabling the Terminal to be powered from an external power source, including Solar*, making the Terminal fully versatile for remote operations.
(*battery bank, not included, is recommended for Solar powered operations during hours of darkness)

The Dynamic IoT Ku Terminal is ideal for Comms-on-the-Move (COTM) use cases such as Road Vehicle and Fleet Tracking Management, Agriculture/Construction IoT Sensor aggregation applications and Maritime Fleet applications such as vessel tracking and catch reporting. The Dynamic IoT Terminal is also well suited for Comms-on-the-Pause (COTP) portable or itinerant First-Responders and NGO use-cases that require rapid deployment for IoT sensor and IoT device connectivity.

Markets and Applications

First Responder
COTM/COTP
Agriculture/ Construction
Vehicle/Fleet Tracking
Maritime/ Fishing
Cargo Tracking

Main Features

• Ku-Band terminal with integrated modem and phased array antenna design for mobile applications with no moving mechanical parts
• Ideal for low data rates: 7.33Kbps - 200Kbps
• Compact and lightweight design
• Versatile WiFi and Ethernet interfaces
• Low power consumption with DC or PoE++ supply options
• Easy installation via smartphone app
• Can be installed by non-professionals
• Fast blockage recovery

![ST Engineering logo]

Dynamic IoT Ku Terminal V2

Dynamic Modem Specifications

Modulation	BPSK
Data Burst Rates	7.33Kbps - 200Kbps
FEC Type, Rates	Turbo, 1/3
Ku Transmit Range	13.75~14.5 GHz
Ku Receive Range	10.7~12.75 GHz
Receiver Lock Time	≤ 50 msec
Frequency Switching Time	1 msec
Chip rate	110Kcps - 3125Kcps
Spreading Factor	5 - 64 (7dB - 18dB)
Eb/N0 Threshold	1.5dB

Antenna Specifications

Type	Active Phased Array
EIRP	21.1 dBW @ 0° (bore-sight) 18.2 dBW @ 60° (off bore-sight / 30° above horizon)
G/T	-3.0 dB/K @ 0° (bore-sight) -5.7 dB/K @ 60° (off bore-sight / 30° above horizon)
Gain	21.0 dBi @ 0° (bore-sight) 18.3 dBi @ 60° (off bore-sight / 30° above horizon)
Noise	3.2 dB
Polarization	H, V, Switchable on the fly
Beam width	13° @ 0° scan
Receiver Eb/No	1.5dB with FEC 1/3
Angles of Operation	Azimuth: 360° Elevation: 30° above horizon

Interfaces

WiFi	802.11 b/g/n 2.4Ghz
Ethernet	Ethernet with PoE 802.11bt / PoE++

Mechanical and Environmental

Dimensions	D 28.6 x W 18.7 x H 4.2 cm (D 11.45 in x W 7.36 in x H 1.65 in)
Weight	2.208kg (4.867 lbs)
Mounting	VESA compliant
Operating Temp.:	-20 to +55°C (-4° to + 131°F)
Vibration and Salt Spray:	SAE J1455
Water Resistance	IP67
Compliance	CE/FCC/RAMATEL

Power Supply

Power	12-24 Volts DC or PoE++ / 802.3bt
	18 Watts Nominal (RX only) 40 Watts (Full TX/RX Mode)
	>50 Watts Power Supply Mandatory (to allow for TX spikes)

Specifications subject to change without notice

![iDirect logo]

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