

KA Band
Earth
Station
Sale

January 26

2011

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Eutelsat Approved 6.1m Vertex Ka band Antenna for sale

1 Description:

Eutelsat approved 6.1m Vertex Ka band tracking antenna system with 2 port feed system along with 1:1 downlink and uplink chain with 100W HPA. The earth station is currently in production and working. The complete system is disposable for sale starting February 2011 as it is with operational manuals and test results (all manuals included). The earth station is currently positioned to Eutelsat W3a satellite using H03 transponder. The station has all redundant features with complete tracking and accessories included.

2 Reason for sale:

Emperion has relocated its operation to new teleport location where it has built new Ka band earth station to take over the service (To avoid service disruption). Hence the 6.1m earth station is completely free from operation from FEB2011.

3 Sale process procedure:

- Expression of Interest in buying the antenna
- Visiting/checking the Earth station
- Delivery terms agreement
- Buyer dismantles the antenna and move to their location

4 Point of contact:

For discussion, demonstration and pricing:

Mr. Jesper Pedersen
Chief Technical Officer
Emperion A/S
Symfonivej 34
2730 Herlev
Denmark

Contact tel: +45 50593937
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5 Earth station available location:

Emperion A/S
Middelfartgade 7
2100, Copenhagen
Denmark

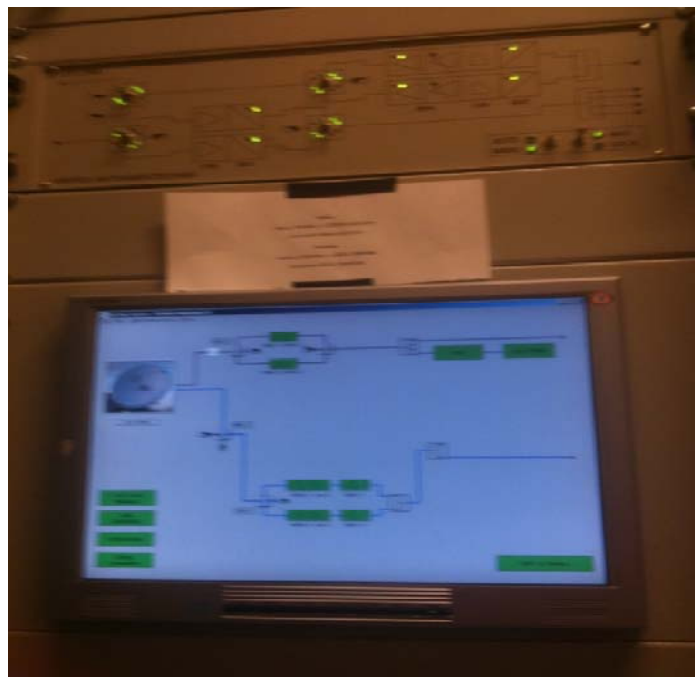
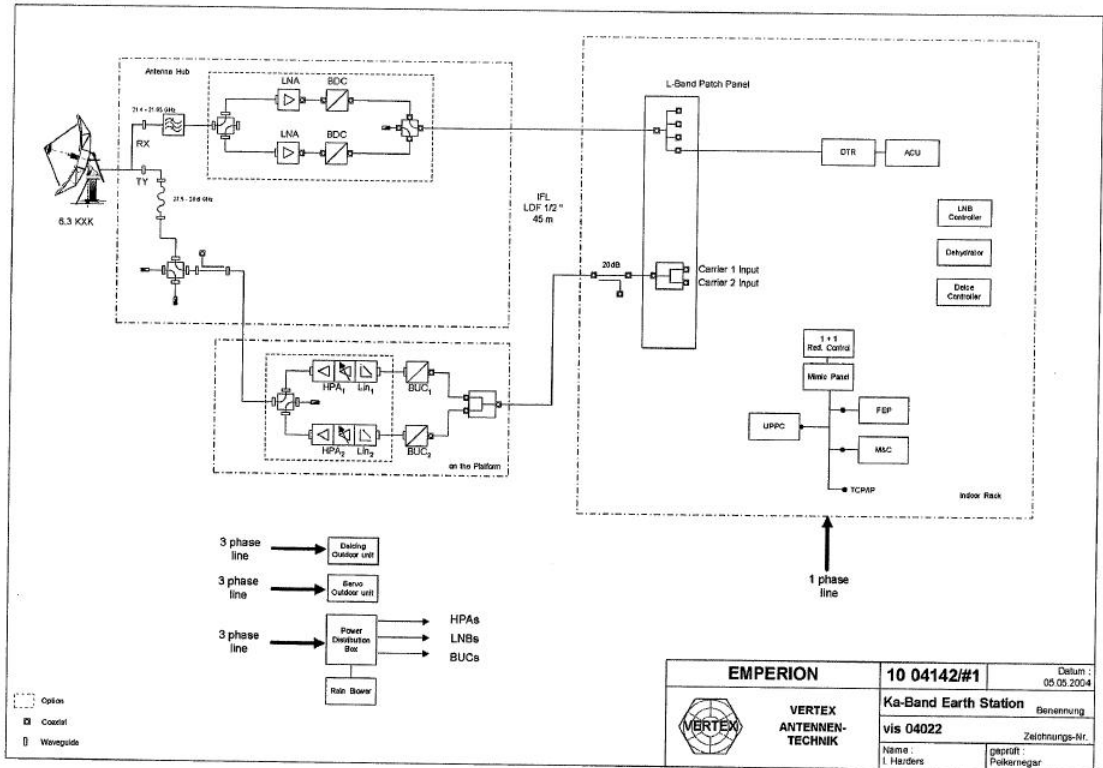
6 About Earth station:

The earth station was deployed end of 2005 and it is currently registered with Eutelsat. It is Eutelsat approved earth station with very good test results. (Results can be shared upon request only to interested parties)

7 Equipment List:

- 6.1m vertex KXX model - 2 port Linear feed system- MOD#K61KCTRL
 - Rx – 21.4 Ghz to 22.00 Ghz
 - Tx – 27.5 Ghz to 28.6 Ghz
- Antenna control system – Vertex RSI ACU 7200
- Antenna tracking receiver – Vertex RSI CG 1220
- LNA System –ITS (redundant)
- Up and Down converter – ITS (redundant)
- MCL HPA redundant (redundant) – MT3311 1+1 redundant system
- LCU control unit
- De-icing/rain blower system
- Waveguide system (as it is installed)
- Operational manuals
- Test results booklet

Block diagram:



9 Antenna Specification and brief description:

The parabolic antenna has a cassegrain reflector system with a 6.1m main reflector and convex sub reflector and a limited motion king post pedestal. The antenna is equipped with two port feed system, a servo drive system, an automatic antenna control system included with a digital tracking receiver. Furthermore, a RF receive system and a RF transmit system, the signal interfacility link co-axial cables and the indoor rack with the monitoring and control system and LCU are delivered.

It is a king post design with 200 deg travel (2 segments of 120 deg). The antenna has in Azimuth a rotation range from 153 deg to 204 deg, in elevation from 16 deg to 70 deg and in Polarization from -90 deg to +20 deg. (this can be different from case to case)

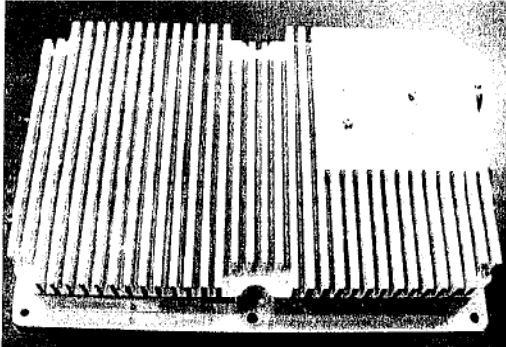
10 LNA Specification:

Brand: ITS ctronics Inc

Input Frequency	21.4 – 21.65 GHz
Noise Figure (dB)	2.5 max.
Gain	40 dB typ.
Gain Flatness	+/- 0.5 dB per 50MHz
1dB Compression point	+3dBm
Input Voltage	+8VDC
Input Current	TBD
Input Waveguide	WR42
Input VSWR	1.5:1
Output VSWR	1.3:1
Output Connector	3.5mm
Dimensions	TBD
Operating Temperature [°C]	-40 to +60

11 BDC Specification:

MODEL: DC-21A4021A65-1010



INTERFACE

RF INPUT:

Frequency	21.40 to 21.65 GHz
Connector	3.5mm Female
Return Loss	≥ 20 dB into 50 Ohm
Power Level	Up to -6 dBm total power in-band

IF OUTPUT:

Frequency	950 to 1200 MHz
Connector	50 Ohm N Female
Return Loss	≥ 20 dB into 50 Ohm
Power @ 1dB GCP	$\geq +13$ dBm
3rd Order Intercept	$\geq +22$ dBm
Spurious, Signal Related	-50 dBc max.
Spurious, Other	-80 dBm max. (including LO leakage)

EXTERNAL REFERENCE INPUT:

Frequency	10 MHz
Connector	50 Ohm BNC Female
Power Level	-3 ± 3 dBm

REMOTE MONITOR AND CONTROL:

Interface	Serial RS-422
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POWER SUPPLY:

Voltage	90 – 250 VAC
Frequency	47 – 63 Hz
Power Consumption	50 VA max.

Specifications are Subject to Change without Notice
E & O E

PERFORMANCE

The downconverter provides a frequency translation of a K-band input to an L-band output. It features high linearity and low phase noise performance.

TRANSFER CHARACTERISTICS:

Noise Figure	15 dB max. @ 23 °C Ambient
Gain Range	$+10 \pm 2$ dB
Gain Stability	± 0.25 dB/24 hours
Gain Variation	1.0 dB ptp over temperature
Gain Flatness	2.0 dB ptp max. over the frequency bands specified
	0.2 dB ptp over any 14 MHz
	0.5 dB ptp over any 60 MHz
Image Rejection	60 dB min.
Group Delay Variation	1 ns ptp max. over bandwidth
Output SSB Phase Noise	-50 dBc/Hz @ 10 Hz
	-72 dBc/Hz @ 100 Hz
	-87 dBc/Hz @ 1 kHz
	-90 dBc/Hz @ 10 kHz
	-100 dBc/Hz @ 100 kHz
	-110 dBc/Hz @ 1 MHz
Additive Phase Jitter:	0.75° RMS typ, 100Hz – 10MHz

INTERNAL REFERENCE CHARACTERISTICS:

The downconverter automatically operates from its internal reference when the external reference is not present.

Frequency Stability	$\pm 2 \times 10^{-10}$ /day
Frequency Variation	$\pm 5 \times 10^{-6}$ over -30 to 60 °C

EXTERNAL REFERENCE REQUIREMENT:

Input SSB Phase Noise	-120 dBc/Hz @ 10 Hz
	-140 dBc/Hz @ 100 Hz
	-145 dBc/Hz @ 1 kHz
	-150 dBc/Hz @ ≥ 10 kHz

MECHANICAL

The downconverter is suitable for outdoor use in severe environments. The unit is CE certified.

Dimensions	12.15" × 8.15" × 2.54"
Weight	10 lbs.

ENVIRONMENTAL

Operating Temperature:	-40 to +60 °C
Non-Operating Temp.	-50 to +70 °C
Humidity	Up to 100% Condensing
Altitude	10,000 Feet AMSL Maximum



Part Number	UC-27A528A3-0520
Input Frequency	950MHz to 1750MHz
Input Connector	N(F) 50 ohm
Input Power	Up to -25dBm / carrier
Output Frequency	27.5~28.3GHz
Output Connector	WR28 Groove
Output P1dB	>5dBm
3rd Order Intercept	>15dBm
Spurious	-60dBc max
Remote M&C	RS-422
Power Supply	90~250VAC
Power Consumption	100VA max
Gain	Variable from 0 to 20dB
Gain Adjustment Range	0.2dB max
SSB Phase Noise	1kHz = -78dBc/Hz
	10KHz = -83dBc/Hz
	100KHz = -95dBc/Hz
	1MHz = -105dBc/Hz
Internal 10MHz Stability	+/- 2x 10 ⁻¹⁰
Dimensions	30.86cm (L) x 20.7cm (W) x 6.45cm (H)
Weight	4.53kg or 10lbs

13 HPA Specification:



Part Number	MT3300
Input Frequency	27.5~30GHz
Input Connector	WR28 Cover
Output Frequency	27.5~30GHz
Output Connector	WR28 Groove
HPA rated Power	100W at flange
IM3 product at composite -3dB back off from rated	22dBc
Spurious	60dBc with harmonic filter
Remote M&C	RS485
Power Supply	100~260VAC
Power Consumption	650VA, in rush current 13A
Large Signal Gain	38dB
Small Signal Gain with SSA	70dB (min)
Variable gain on the SSA	20dB
Dimensions	52.07cm (L) x 26.03cm (W) x 24.38cm (H)
Weight	29.5kg

14 Additional Pictures:

















