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City1 TV Test Kit

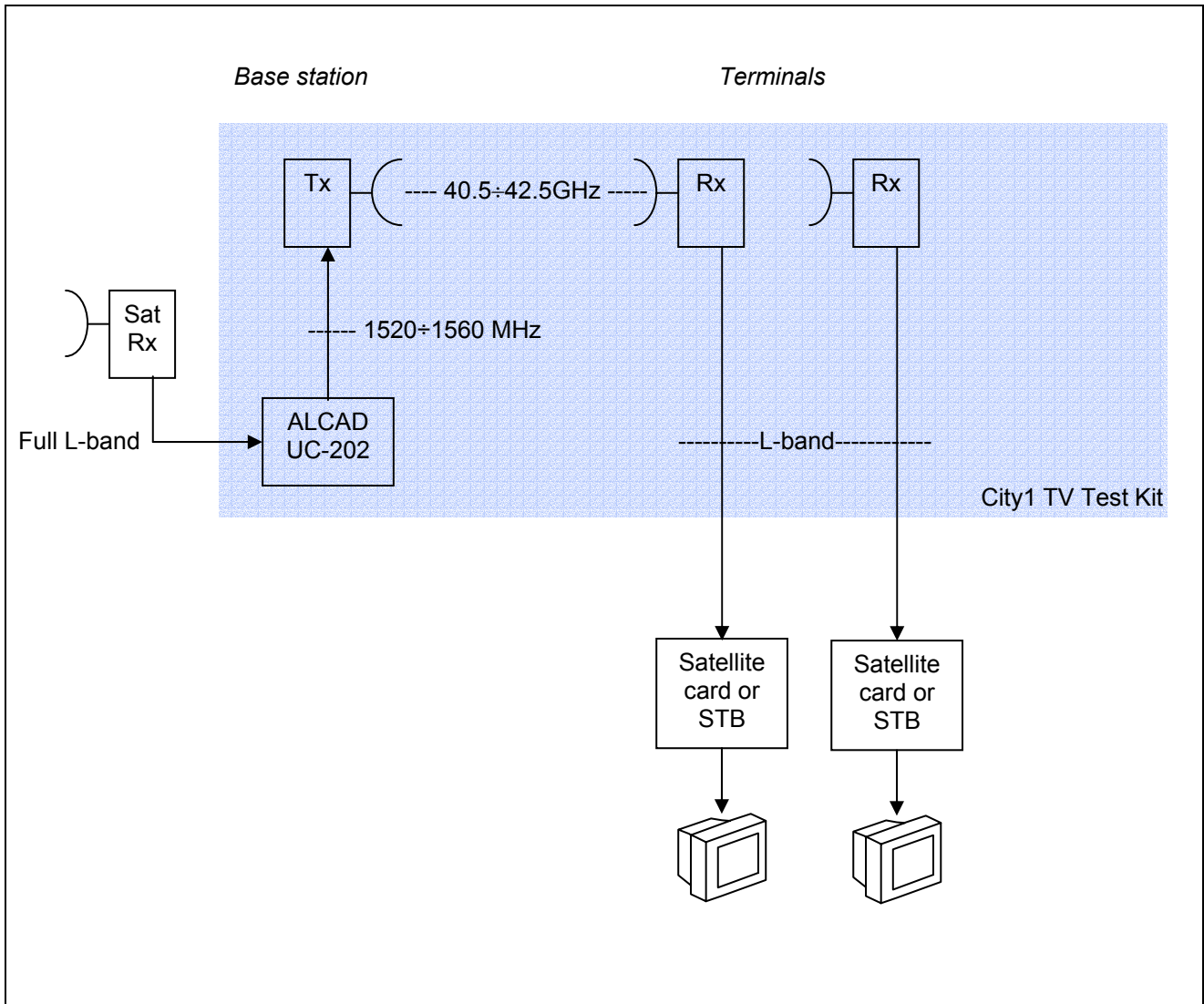
The City1 TV Test Kit is designed for evaluation of the field environment for a City1 digital TV system. It consists of one base station, two terminals and a "Satellite receiver/Base station" interface unit. This equipment, together with a standard satellite receiver and digital TV receiver is sufficient to test the transmission quality of a City1 system in digital TV.

The transmitter and receivers used in a City1 TV Test Kit are identical to standard system components, and can be used in the subsequent City1 system.

Specifications

City1 TV Test Kit

General	
Sector radius	
at 5mm/h rain rate	9 km
at 12mm/h rain rate	5 km
Sectors angle	90°
Number of sector transmitters	1
Number of terminals	2
Radio interface	
Frequency band	40.5-42.5 GHz
Polarization	Vertical (Horizontal upon request)
Data protocol	DVB-S
Modulation	QPSK
Transmitter Power	150 mW
Base station antenna	90°x10°, 16 dB
Terminal antenna	30 cm, 38 dB
Transmitter input	
Frequency band	950-2150 MHz
Channel bandwidth	39 MHz
TV programs per 39 MHz channel	8 (422P@ML)
TV format	DVB-S
Receiver output	
Frequency band	950-2150 MHz
ENVIRONMENTAL	
Temperature range	-10 °C to +50 °C (operating) -40 °C to +70 °C (storage)
Humidity	100%



Specifications

40.5-42.5 GHz Transmitter

Part Number	TM-4xxx-xx/xx-x
GENERAL Operating Channels Type approval Operational Temperature range Power supply Size	Any channel in 40.5-42.5 GHz band MPT 1560 -10 to +50°C -60VDC, 1.5A Cylinder Ø270mm, length 340mm
ELECTRICAL IF INPUT Input frequency Input level Modulation Input Connector Input Spurious RF OUTPUT Central output frequency Polarization Channel Spacing Output Power Spurious Emissions in band 30 MHz to 21.2 GHz 21.2GHz to 40.5GHz 42.5GHz to 43.5GHz 43.5GHz to 80 GHz Antenna	L-band -5 dBm nominal QPSK F- type -55 dBc maximum in 4kHz Bandwidth relative to unmodulated carrier Any in 40.5-42.5 GHz band Vertical (Horizontal upon request) 39MHz > +22 dBm Psat min In line with MPT1560 I.E.: < - 45 dBc (MPT1560 MASK) < - 90 dBW < - 60 dBW < - 80 dBW < - 60 dBW 90°x10°, 16dBi (other polar patterns available)
TX CHANNEL Channel bandwidth Amplitude Ripple (33 MHz) Group Delay Variation (33 MHz) Phase Noise Performance	33 MHz ≤2dB < 10 ns in line with DAVIC Specs I.E: At 1 KHz OFFSET <-51 dBc/Hz At 10 KHz OFFSET <-81 dBc/Hz
ENVIRONMENTAL Temperature range Humidity	-10 °C to +50 °C (operating) -40 °C to +70 °C (storage) 100%
MOUNTING Adjustment: Elevation Horizontal	Transmitter should be mounted on vertical pipe with diameter 40mm...70mm. +/-25° 360°

Model number structure :

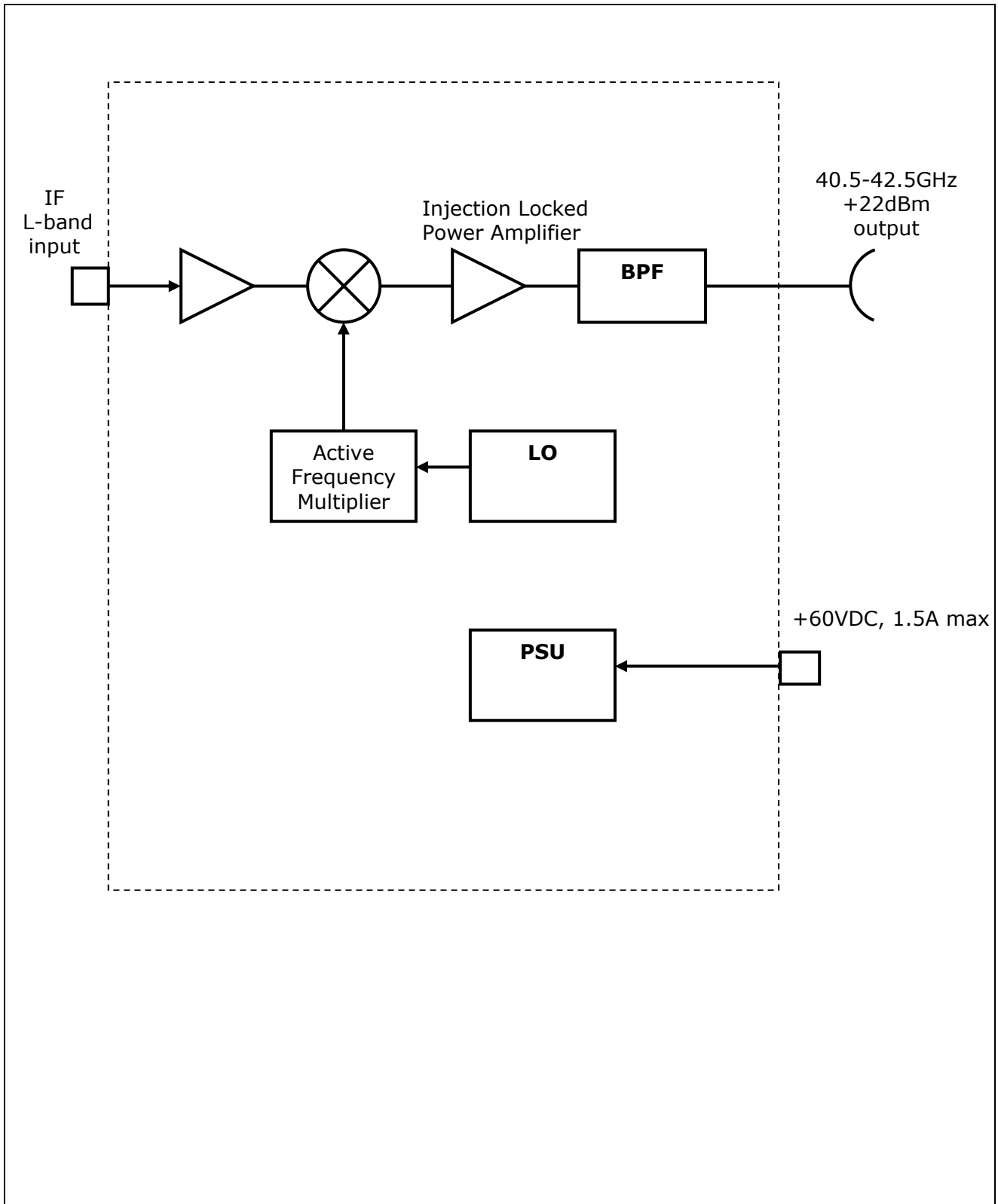
TM-**BBBB-AA/AE-C**

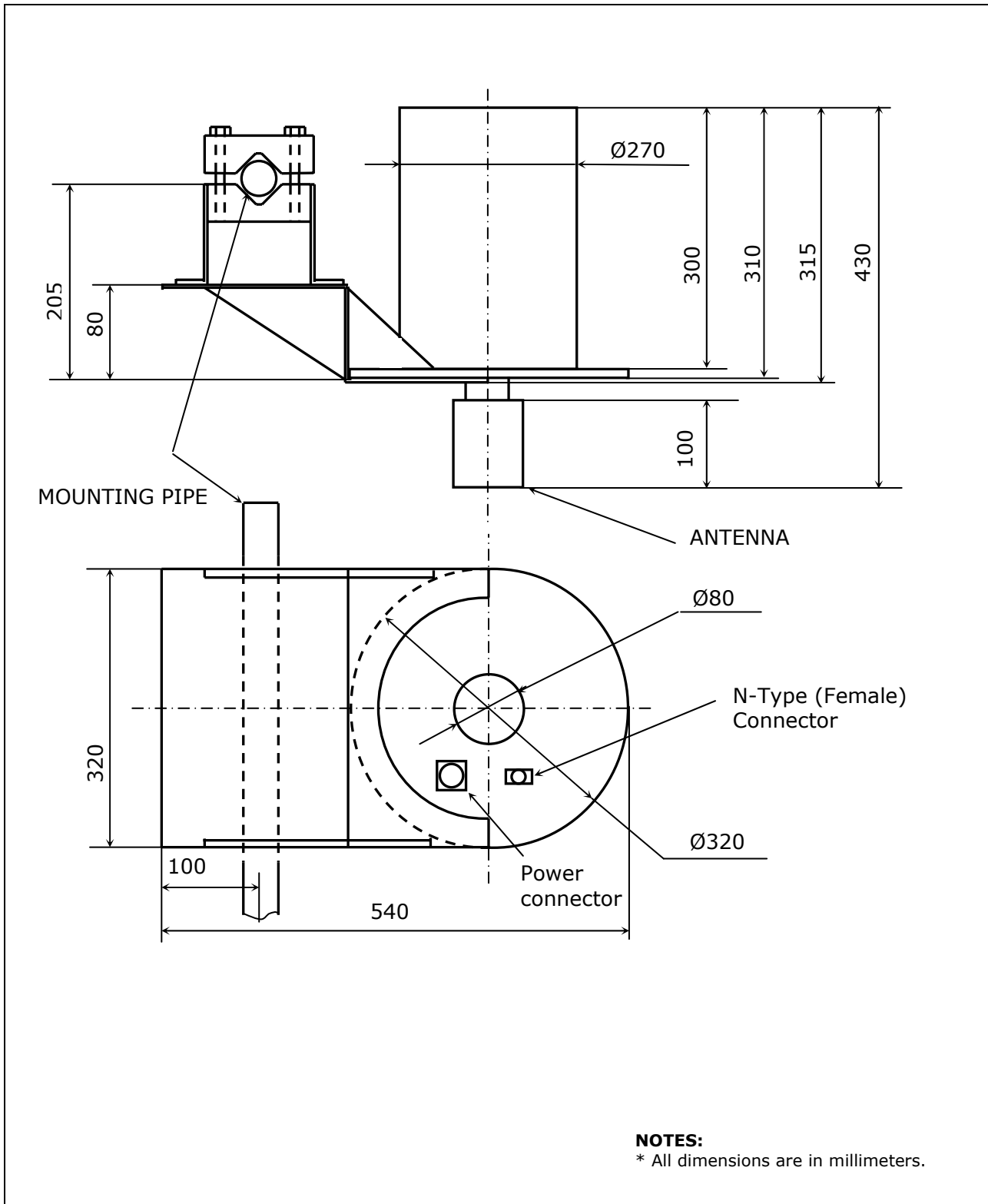
BBBB- low end of transmitted RF band (in 10*MHz)

AA/AE – Antenna azimuth/elevation angle at 3 dB level (in degrees)

C – environmental conditions (**1** = Normal, **2** = Polar, **3** = Tropical)

For example: TM-4183-90/10-1 means 41.83GHz is the low end of the transmitted RF band, 90° azimuth/10° elevation angle antenna, normal environmental conditions





Specifications

40.5-42.5 GHz MVDS Receiver

Part Number	RM-xxx-4xxx-x	
GENERAL		
Frequency range	40.5-42.5 GHz	
LO Frequency	40.5400 or 42.4605 GHz	
Output IF	950-1910 MHz	
Noise figure	≤8 dB	
RF-IF Gain	22 dB	
Cross-polar discrimination	20 dB	
Stability of local oscillator	±2.5 MHz	
Size	Cylinder Ø75mm, length 180mm	
ANTENNA	<i>Size</i>	<i>Gain</i>
RM-100-xxxx-x	10 cm	28 dB
RM-200-xxxx-x	20 cm	34 dB
RM-300-xxxx-x	30 cm	38 dB
RM-450-xxxx-x	45 cm	42 dB
RM-600-xxxx-x	60 cm	44 dB
Electrical		
Biasing current	250 mA (max)	
Biasing voltage	+18~24 VDC	
Output Connector	F- type	
ENVIRONMENTAL		
Temperature range	-10 °C to +50 °C (operating) -40 °C to +70 °C (storage)	
Humidity	100%	
MOUNTING		
Adjustment:	Receiver should be mounted on vertical pipe with diameter 40mm~70mm.	
Elevation	+/-20°	
Horizontal	360°	

Model number structure :

RM-AAA-BBBB-C

AAA- Antenna diameter (in mm)

BBBB – low end of received RF band (in 10*MHz)

C – environmental conditions (**1** = Normal, **2** = Polar, **3** = Tropical)

For example: RM-300-4183-1 means 300 mm diam. antenna, 41.83GHz is the low end of the receiving RF band, normal environment conditions

