



**TY-1705B**  
**50W Outdoor UHF Digital Transmitter**

Technical Specification  
V3.01

***Chengdu Tengyue Electronics Co., LTD.***

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## Overview



TY-1705B works on UHF band (470-860MHz), output power is 50W. It is a kind of product (meet euro-standard) that specially designed to supply common or pilot frequency coverage and subsidiary station by consuming small and medium power for terrestrial digital TV transmission. It applies to modulation modes like DVB-S, DVB-S2, nQAM, DVB-T, DVB-T2 and DTMB-T and so on. It is applicable to built-up areas, basement, tunnel and remote mountainous areas. Its main advantages include installation convenience and simple process in debugging and maintenance, etc. And in any combination of multiple antenna-feeder system it can supply local coverage and subsidiary station of wireless digital signal in the blind area.

## Features

- ⊕ Wide-band frequency response and low noise design.
- ⊕ Design of low power consumption and linearization advances emitting power of the transmitter and reduces nonlinear distortion.
- ⊕ Very low group delay feature, suitable for digital signal transmission.
- ⊕ ALC keeps output of constant power, output VSWR detecting protection.
- ⊕ Apply to single-channel or multi-channel UHF digital television transmission system.
- ⊕ Be used in the Wide-band frequency repeating of HFC, or MMDS digital TV signal.
- ⊕ Realize wireless network coverage of digital TV at a low cost.
- ⊕ Modular design simplifies installation, field services and upgrade.

- ⊕ Automatic and manual switching backup systems available.
- ⊕ Build-in lightning protector with current-dividing series power prevents lighting surge and instant overvoltage.
- ⊕ Outdoor type adopts outdoor waterproof design and inside SMS module to realize real-time wireless remote monitoring
- ⊕ Indoor type with large LCD panel system real time working condition, maintenance and management of system can be achieved easily(Optional).

## Technical Specification

|                             |  |
|-----------------------------|--|
| RF Output Frequency         | 470~860MHz(frequency band carrier signal takes could be set arbitrarily) |
| Output Power                | 50W  |
| Bandwidth                   | 6MHz/7MHz/8MHz or multi-channel system<br>Maximum Bandwidth≤80MHz        |
| Modulation Mode             | COFDM/16QAM/32QAM/64QAM/QPSK,etc.  |
| Shoulder Ratio              | ≥40dBc(COFDM/64QAM)  |
| RF Output Interface         | 50Ω-7/16connector<br>Return Loss: 20dB                                   |
| RF Frequency Response       | BW: 80MHz<br>Passband Fluctuation: ≤2.0dB<br>Any Within 10MHz: ≤1.0dB    |
| Group Delay Characteristics | ≤40nsec  |
| IF Input Level              | -55~-10dBm   |
| Input Frequency             | 470~860MHz   |
| IF Input Interface          | 75Ω/F connector<br>Return Loss: 15dB                                     |
| In-band Spur Restraint      | -60dBc(relative digital signal level)                                    |
| Automatic Level Control     | ≥20dB  |
| Gain Modulation Error       | Gain Control: 0~20dB,error≤±0.5dB  |
|                             | Gain Control: 20~31dB,error≤±0.75dB                                      |
| Gain Control Range          | 0~31dB, 1.0dB stepping   |
| Environmental Conditions    | Working Temperature Range: -20°C~+45°C<br>Humidity: no condensation      |

|                      |   |
|----------------------|---|
|                      | Relative Humidity: 0~95% nonsaturation                              |
| Working Voltage      | AC 220V±10%,50/60Hz<br>Power Consumption: depending on power levels |
| Package Size (L*W*H) | 88*54*42cm  |
| Package Weight(Kg)   | 45kg  |

## TYE Series Transmitters

| Item | Product name                         | Frequency Range | Output Power | System   |
|------|--------------------------------------|-----------------|--------------|--|
| 1    | VHF Analog TV Transmitter            | 170MHz-230MHz   | 20W-2KW      | PAL/NTSC/SECAM   |
| 2    | VHF Digital TV Transmitter           | 170MHz-230MHz   | 5W-300W      | DVB-T/T2/S/S2/C,QAM<br>Omnidirectional transmission  |
| 3    | VHF Live/Mobile Transmitter          | 300MHz-350MHz   | 5W-30W       | Point to point transmission  |
| 4    | UHF Analog TV Transmitter            | 470Mhz-860MHz   | 20W-2KW      | PAL/NTSC/SECAM   |
| 5    | UHF Digital TV Transmitter           | 470Mhz-860MHz   | 10W-1KW      | DVB-T/T2/S/S2/C,QAM<br>Omnidirectional transmission  |
| 6    | L Band TV Transmitter                | 1.3GHz-1.5GHz   | 20W-50W      | DVB-T/T2/S/S2/C,QAM<br>Omnidirectional transmission;<br>Point to point transmission                                    |
| 7    | S Band (MMDS) Digital TV Transmitter | 2.0GHz-2.9GHz   | 10W-500W     | DVB-T/T2/S/S2/C,QAM<br>Omnidirectional transmission;<br>Point to point transmission ,<br>PAL/NTSC/SECAM(Analog signal) |
| 8    | 8GHz TV Transmission Module Set      | 7.8GHz-8.3GHz   | 500mW-2W     | DVB-S/S2(8PSK/QPSK)<br>Omnidirectional transmission;<br>Point to point transmission                                    |
| 9    | Ku Band (MVDS) TV Transmitter        | 10.7GHz-12.0GHz | 200mW-24 W   | DVB-S/S2(8PSK/QPSK)<br>Omnidirectional transmission;<br>Point to point transmission                                    |