

UC-250 ISDB-T

ISDB - T/TB Modulator

Upcom Technologies' UC-250 ISDB-T is a broadcast level digital modulator compatible with ISDB-T and ISDB-TB standards. It is designed to meet digital terrestrial TV broadcasting applications, from ASI Transport Stream inputs to UHF or VHF modulated signal outputs.



- **FULLY COMPLIANT WITH ISDB-T AND ISDB-TB STANDARD**
- **HIGH MER, RF STABILITY, SHOULDER LEVEL AND LOW PHASE NOISE**
- **SUPPORT 1K, 2K, 4K FFT MODES**
- **GUARD INTERVAL: 1/4, 1/8, 1/16, 1/32**
- **FEC: 1/2, 2/3, 3/4, 5/6, 7/8**
- **CONSTELLATION: DQPSK, QPSK, 16QAM, 64QAM**
- **MFN AND SFN NETWORK OPERATION (IIP PACKETS)**
- **RF AGILE FROM 50MHz TO 860MHz WITH STEP 1Hz**
- **OPTION IF AGILE FROM 34MHz TO 70MHz WITH STEP 1Hz**
- **POWERFUL LINEAR AND NON-LINEAR PRECORRECTION**
- **SUPPORT CREST FACTOR ADJUSTMENT**
- **EXTERNAL 1PPS AND 10MHz CLOCK INPUTS**
- **OPTIONAL PRE- AMPLIFIER**
- **OPTIONAL ONBOARD GPS**
- **RS232 CONTROL AND SUPERVISION OR IP WEB BROWSER IN OPTION**
- **RF AGILE FROM 50MHz TO 860MHz WITH STEP 1Hz**

TS Input:

Fully compliant with ARIB STB-B31 and TR-B14 standard
2 x ASI inputs:
Support 188/204 packet, Packet mode and Burst mode
Input Transport Stream Packet de-multiplexer
IIP packet management for SFN operating
TS Redundancy: Manuel/Auto, Seamless in SFN mode
Connector type: BNC female, Impedance 75Ohm

Modulation and channel coding:

FFT: 1k, 2k, 4k
FEC: 1/2, 2/3, 3/4, 5/6, 7/8
Guard Interval: 1/4, 1/8, 1/16 or 1/32
Constellation: DQPSK, QPSK, 16QAM, 64QAM
Time interleave: 0 to 16
Channel Bandwidth: 6MHz

RF Output:

Central frequency: 50MHz to 860MHz
Signal level(Main): 0dBm +/- 2dB with 0dB to -10dB attenuation adjustable by 0.1dB step
Signal stability: +/- 0.5dB, +/-10kHz
Modulation error ratio(MER): >40dB
Shoulder: >50dB
Spurious: 50dB relative to total power
Connector type: N female, Impedance 50 Ohm

RF Pre-Amplifier Option:

Ultra linear amplifier for VHF, UHF Bands
Gain 15 Gain Flatness <1dB
Gain Stability <0.1dB

UPCOM Technologies Inc.

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IF Output Option:

Central frequency: 34MHz to 70MHz, Step 1Hz
Signal level(Main): 0dBm +/- 2dB with 0dB to -10dB attenuation adjustable by 0.1dB step
Signal stability: +/- 0.5dB, +/-1kHz
Modulation error ratio(MER): >42dB
Shoulder: >55dB
Spurious: 50dB relative to total power
MFN and SFN network operation (IIP packets)
Connector type: N female, Impedance 50 Ohm

Linear Pre-correction:

Number of Pre correction points: 32
Amplitude pre correction: +/-3dB
Phase pre correction: +/-1us

Adjustable Crest Factor:

The range of Crest Factor: 8-20dB
The crest factor optimization: 1-255

Non linear Pre-correction:

Correction	NB point	Abscissa range	Ordinate range	step
AM/AM	16	-12 dB to +12dB	-6dB to +6dB	0.05dB
AM/PM	16	-12 dB to +12dB	-25° to +25°	0.05dB/0.2°

Test Signal Modes:

PRBS TS Sequence
Sinus tone insertion
Null Symbol Insertion
Central Carrier Cancelled

ISDB-T/TB Network:

SFN: Time offset setting
MFN: BR adaptation, Static delay setting

Clock Reference:

Internal 10MHz

Stability: <+/-5x10⁻⁹(typ), Output level: 0dBm +/- 3dB

External 10MHz

Input level: -7dBm to +2dBm
Input connector type: BNC female, 50 Ohm

External 1pps reference

Input level: TTL level 5 KOhms; Pulse width: 1us
Input connector type: BNC female

Optional onboard GPS

Control and Alarm:

Local control: 6 buttons, LCD screen, LED
Remote control: RS232 or WEB browser through IP Ethernet RJ-45 in option

Power Supply:

AC 110V+/-15% or 220V+/-10%, 80W

Operating temperature:

0 to 50 degrees

Dimensions:

L=540mm,
W=483mm, H=44mm (1RU)

Weight: Net 7 kg, Gross 10kg

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