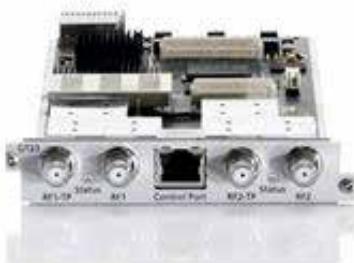# WISI GT 23 W

Tangram module IP to 8x QAM

Description

The GT 23 W module is part of the Tangram product portfolio and provides the conversion from IP signals to QAM channels (digital TV programms). GT 23 W supports a numerous of IP inputs with SPTS VBR/CBR and MPTS CBR, multiplexing and demultiplexing, PSI/SI regneration, content encryption and can modulate up to 8 QAM channels with different standards (DVB-C/J.83 Annex A, B, C). Tangram is a very high density and highly flexible solution for all kinds of networks. The WISI Tangram chassis uses a fully redundant concept (n+1, 1+1).

Scope of delivery

- 1x GT 23 module
- 1x Quick Guide

At a glance:

- High quality IP to QAM modulation
- Up to 8 QAM channels on 2 RF outputs
- High density 48 QAM channels in 1 RU
- For measurement / monitoring test ports of the output signal
- DVB CSA Simulcrypt scrambling
- RTP/ IP input streaming with FEC error correction
- DVB transport stream processing
- QAM channels individually switchable on/off

Technical data

Streaming-Input

IP-Inputs	64 pcs.
IP-Standard	ISO/IEC 13818
IP-Input bitrate	Max. 100 Mbps per IPTS, Max. 850 Mbps total
IP-Input protocol	UDP/RTP/RTP+FEC Unicast and Multicast, IGMP v2 and v3
IP-TS-Input format	SPTS CBR/VBR, MPTS CBR
IP-FEC Inputs	Yes, with GTFEC License
IP-FEC Compliance	SMPTE 2022-1, SMPTE 2022-2
IP-Packet format	MPEG over UDP/IP and RTP/IP
IP-Packet size	188 Byte
IP-PCR restamping	Yes
IP-Dejittering	Yes, per default 100ms, individual adjustable

QAM Modulation

Compliance	DVB-C (EN 300 429), ITU-T J.83 Annex A, B and C
Modulation type	16-, 32-, 64-, 128-, 256-QAM
Symbol rate	4,45...7,00 MS/s
Roll-Off	12%, 13%, 15%, 18%
MER	> 45 dB (typ. 46 dB)
BER	$\leq 1*10\text{-}10$
Spectrum flatness	± 0,3 dB
Shoulder attenuation	$\geq$ 55 dB

RF parameters

Output ports	2 pcs.
Channels per port	up to 4 (DVB-C, J.83 Annex A and C), up to 2 (J.83 Annex B)
Output impedance	75 Ω
Output frequency range	45...1002 MHz
Output frequency window	34,2 MHz/port
Output frequency steps	1 kHz
Output frequency stability	± 10 kHz
Output channel bandwidth	6/7/8 MHz
Output level (each RF port)	119 dBµV (1 ch), 115 dBµV (2 ch), 113 dBµV (3 ch), 111 dBµV (4 ch)
Output level stability	± 1 dB
Output return loss	$\geq$ 14 dB (45 MHz) -1,5 dB/Octave
Output level steps	0...30 dB (0,5 dB steps)
Spurious (Inside TV-Channels)	> 60 dB
Spurious (outside TV-Channels)	45...450 MHz, typ. 66 dB, 450..1002 MHz, typ. 64 dB

Processing

Service remultiplexing	Yes, with GTMUX License
PID filtering and remapping	Yes
PCR correction and de-jitter	Yes
Advanced PSI/SI regeneration	Yes
NIT generation	Yes, with GTPSISI or GTSYMUX
Encryption	Yes, DVB-CSA
Encryption throughput	Max. 300 Mbps total

Technical data

Compliance	ETSI EN 300 468
Processing Bitrate	Max. 750 Mbps total
Number of PIDs	Max. 1040 PIDs total

Connectors

RJ45	1 pcs.
F-socket HF- output	4 pcs. (2x RF-Output, 2x Test-Output -20dB ± 1dB)

General data

Power consumption	Max. $\leq$ 19 W
Operating temperature range	-5°C...+45°C, 23°F...113°F, (ETSI EN 300 019-1-3 Class 3.1)
Max. humidty (non condensing)	95 %
Electro Magnetic Compatibility (EMC)	EN 50083-2
Safety compliance	UL/CSA/CAN 60950-1
Signalling	Multicolor LEDs (Power on - green, Error - red)
Operation Mode	DVB-C (J.83 Annex A), J.83 Annex B, J.83 Annex C
Hardware revision	1000
Software version	2.4

Packaging data

Sales unit	1 pcs.
Dimensions (WxHxD) sales unit	100 x 20 x 250 mm
Packaging volume sales unit	0,5 dm³
Gross weight sales unit	0,180 kg
Shipping unit	1 pcs.
Dimensions (WxHxD) shipping unit	170 x 75 x 340 mm
Packaging volume shipping package	4,3 dm³
Gross weight shipping unit	0,340 kg
EAN	4010056711771
Article number	71177
Customs tariff number	85437090