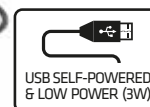
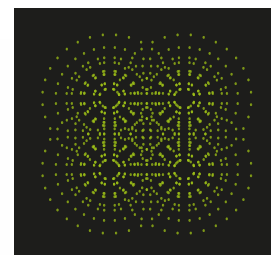


NEW ATSC 3.0 LABMOD

The 1st ATSC 3.0 Modulator for Lab!

ATSC 3.0 LAB MODULATOR IS THE PERFECT MODULATOR FOR DISCOVERING ATSC 3.0 STANDARD: GENERATE LIVE ATSC 3.0 RF SIGNALS OR IQ PATTERN FILES, RECORD LIVE ATSC 3.0 TRANSMISSION IN DIFFERENT PLACES OVER THE WORLD AND PLAYBACK THEM TO TEST YOUR RECEIVER.



Easy to use & Responsive GUI

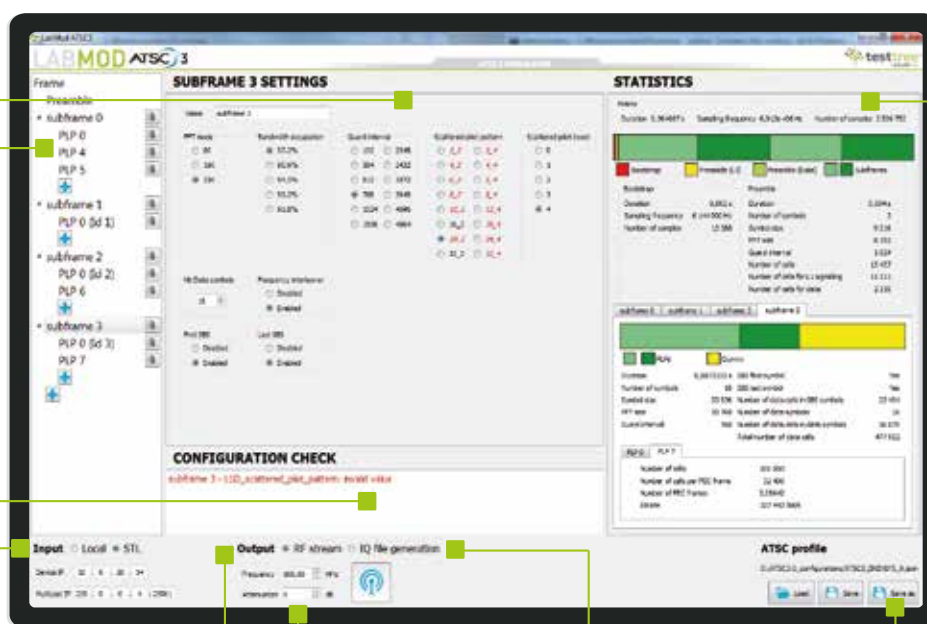
High degree of parameterization for measures

Settings section
Configure all Frame elements

Frame structure section
Create Frame structure:
subframe, PLP

**Real-time configuration
validation engine**
Detailed message indicating non
valid parameters

Input: Local PRBS or IP STL



Controls:
play RF signal on TX output,
generate IQ pattern file

Frequency setting for TX
Range 70 MHz up to 6 GHz
1 kHz resolution
Configurable attenuation

IQ pattern file stored on PC:
1 min of ATSC 3.0 (6MHz)
record = 1.6 GB
Configurable duration
RF-Catcher file format

**Save/Load
configuration file**
JSON editable format

Monitoring section
Real-time overview of
the Frame structure
Detailed characteristics
depending on the
current configuration

APPLICATIONS

- ATSC 3.0 RF record & playback
- ATSC 3.0 reception validation
- R&D or factory tests and measurements
- Chipset development
- TV / Set Top Box development
- Demonstrations and roadshows

KEY BENEFITS

- 1st ATSC 3.0 modulator
- Compact (600g), USB self-powered
- 3-in-1 product: RF Record + Playback + Generate
- **ATSC 3.0 PlugFest proven**
- Intuitive & easy to use GUI
- Easy to configure: real-time Frame configuration validation engine



RX MODE

Frequency	
Frequency band	70 MHz to 6.0 GHz
Frequency resolution	1 kHz
Real-time bandwidth	1 MHz to 55 MHz
RBW (Resolution bandwidth)	30 kHz (for 2 MHz) to 210 kHz (for 55 MHz)
Noise Figure	
Phase Noise at 10 kHz	
1200 MHz	-91.3 dBc/Hz
3200 MHz	-85.2 dBc/Hz
5000 MHz	-82 dBc/Hz
Noise Floor / Sensitivity	
-110 dBm	
IF Band	
ADC resolution	12-bit
Sampling rate	61.44 Msps max
RF Input Characteristics	
Input Dynamic Range	-110 to 0 dBm
Input Level Resolution	1 dB
Max Peak power*	0 dBm
Max DC input*	± 15 V
*Absolute maximum ratings	
Gain Range (1dB step)	
800 MHz	0 to 74 dB
2300 MHz	0 to 73 dB
5500 MHz	0 to 65 dB
IIP3	
1200 MHz	7.2 dBm
3200 MHz	8.4 dBm
5000 MHz	15.2 dBm
Storage	
512 GB @ 12 Msps	170 min
512 GB @ 24 Msps	85 min
512 GB @ 40 Msps	50 min

TECHNICAL CHARACTERISTICS

Input interface	
PRBS, IP STL, TS file*	
2x RF inputs (SMA-type female 50 Ω, F-type female 75 Ω)	
ATSC 3.0 live RF recording	
Clock and synchronisation	
Input	10 MHz, 1 PPS, Built-in GNSS receiver
Output	10 MHz
Internal clock	10 MHz
GUI	
MS Windows 7/8/8.1/10 (x64) application	
Easy to use, configuration validation engine	
Capability to save/load settings profiles	
Output interface	
2x RF outputs (SMA-type female 50 Ω, F-type female 75 Ω)	
ATSC 3.0 live RF playback and generate	
Modulation	
ATSC 3.0 constellation (NUC)	
QPSK, 16QAM, 64QAM, 256QAM, 1024QAM, 4096QAM	
L1	
Compatible with all L1 modes	
LDM (Layered Division Multiplex)	
Yes	
Channel bandwidth	
6, 7 or 8 MHz	
Guard Interval	
192, 384, 512, 768, 1024, 1536, 2048, 2432, 3072, 3648, 4096, 4864	
FFT mode	
8k, 16k, 32k (all Cred_coeff modes)	
Code rate	
2/15 up to 13/15	
FEC	
Inner: LDPC 16k and 64k, mode A or B	
Outer: BCH, CRC or no outer	
Pilot pattern	
SP3_2, SP3_4, SP4_2, SP4_4, SP6_2, SP6_4, SP8_2, SP8_4, SP12_2, SP12_4, SP16_2, SP16_4, SP24_2, SP24_4, SP32_2, SP32_4	
TI (Time Interleaving) mode	
CTI up to 1448 depth, HTI	
SubFrames	
Multiple subframes: single/multiple PLP	
TxID*	
Transmitter identification	

*Contact us for availability

TX MODE

Frequency	
Frequency band	70 MHz to 6.0 GHz
Frequency resolution	1 kHz
Real-time bandwidth	1 MHz to 55 MHz
Phase Noise at 10 kHz	
1200 MHz	-91.3 dBc/Hz
3200 MHz	-85.2 dBc/Hz
5000 MHz	-82 dBc/Hz
RF Output Characteristics	
Attenuation range	0 to 89 dB
Amplitude resolution	0.01 dB
Power output	5 dBm max
Max DC output	± 15 V

PHYSICAL

Dimensions	163 x 115 x 27 mm 6.4 x 4.5 x 1.2 in
Weight	600 g
Power supply	USB self-powered
Auxiliary power	USB connector (additional power supply for satellite captures using LNB controller)
Power consumption	3W

ENVIRONMENT

Operating temperature	-20°C to +55°C
Storage temperature	-20°C to +70°C

INTERFACES

RF input	1x SMA-type female - 50 Ω 1x F-type female - 75 Ω (up to 2 GHz)
RF output	1x SMA-type female - 50 Ω 1x F-type female - 75 Ω (up to 2 GHz)
1PPS/Trigger input	1x SMA-type female - 50 Ω
Trigger output	1x SMA-type female - 50 Ω
10MHz	1x SMA-type female - 50 Ω
GPS	1x SMA-type female - 50 Ω
Power & Data	1x USB3 B-Type
Auxiliary power	1x USB3 B-Type

PC MINIMUM REQUIREMENTS

Core i5/i7 processor	USB 3.0 connectors
4 GB of RAM	SSD for storage (Solid State Drive)

ORDERING CODES

ATSC 3.0 LabMod	ATSC 3.0 Modulator for Lab Shipped bundled with RF-Catcher Platform and ATSC 3.0 LabMod Application for MS Windows 7/8/8.1/10 (x64)
ATSC 3.0 LabMod Application	ATSC 3.0 Modulator Application for Lab MS Windows 7/8/8.1/10 (x64) software application for RF-Catcher Platform

