Key Benefits

- All-in-one Digital TV Spectrum Analyzer, 4 ~ 2150 MHz
- DVB-C/C2, DVB-T/H/T2, ATSC, ISDB-T/T$_S$, DTMB, DVB-S/S2, DAB/DAB+ demodulation
- Decodes multiple video standards: MPEG-2/4, H.264/H.265, VC-1, AVS/AVS+
- Compatible with 4K, 1080p, 720p, and 576i
- Supports DVB-CI and BISS 1/E
- Transport Stream Analysis: RF, ASI, and IP input
- IPTV Analysis (by option)
- Optical power meter and optical receiver (by option)
- WiFi Analysis and Communication Module (by option)
- Double 1000M LAN, USB 3.0 ports
- Capacitive touchscreen

Carrying Strap — Bright 7" TFT Colour LCD and Touch Screen — Output Signal Indicator — View Video, Spectrum Analysis, Input / Output Shortcut Keys — Arrow key — Enter button ESC button — Alpha-Numeric Keypad — Main Function Keys: Channel Information, File, Save, Auto Test, Setup, Home — Charging Indicator — Power On/Off

CAM — ASI Output — ASI Input — Lock Port — Speaker — Battery compartment

75Ω RF Input Connector for CATV — Optical Power Meter and Optical Receiver Connector — 50 Ω — 75 Ω — APC — 50Ω RF Input Connector for Terrestrial Broadcasting — Video/Audio Input — Video/Audio Output

Fan — CAM — LAN — USB — Power Input — ASI Output — ASI Input

TV Monitoring

The S7200 (4K) provides analog and digital TV monitoring. DSP Technology enables you to decode multiple video formats and standards in both SD & HD: MPEG-2, MPEG-4, H.264 and H.265 for 4K, 1080p, 720p and 576i; as well as PAL/NTSC/SECAM color systems, with a CAM (Conditional Access Module) for encrypted channels.
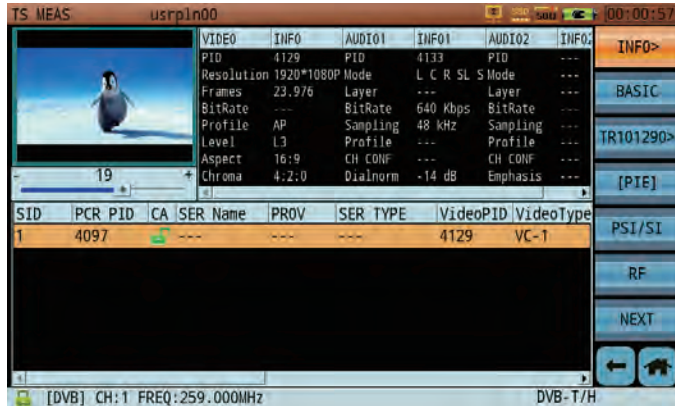

Figure 1: VC-1 Format 1080p Decoding

Spectrum Analysis

Featuring an integrated high-speed spectrum analyzer, the S7200 (4K) covers TV & broadcasting signals (5 ~ 1220 MHz) as well as satellite IF signals (950 ~ 2150 MHz), with dynamic range up to 80dB and sweep time as low as 20ms.
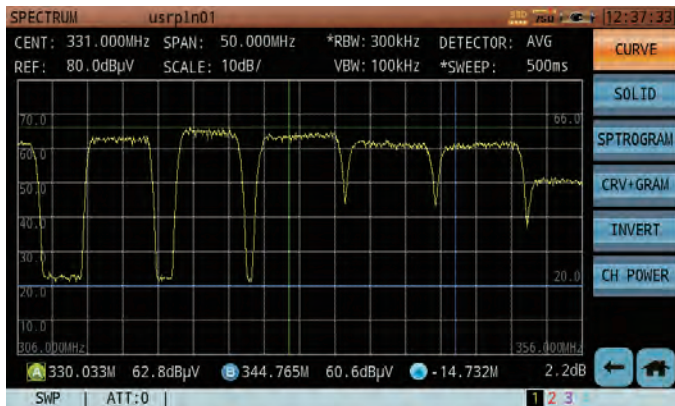

Figure 2: Digital Cable TV Spectrum Analysis

DVB-S/S2 Signal Analysis

The S7200 (4K) supports the DVB-S/S2 digital broadcast standard, providing power level, MER, BER, & constellation measurements.
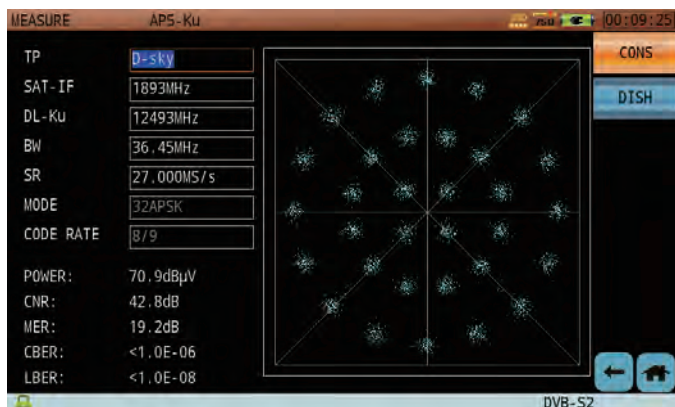

Figure 3: DVB-S2, 32 APSK Constellation

DVB-C Signal Analysis

Full support for the J.83 standard enables power level, MER, BER, and constellation measurements. Use the Error Vector Spectrum (EVS) tool to quickly find interference signals under the QAM mask. (Support for J.83 Annex A, B, and C varies by model.)
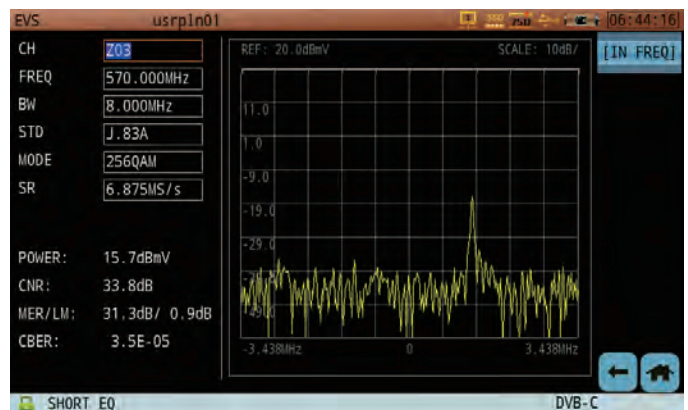

Figure 4: DVB-C Constellation

Figure 5: Frequency-Domain EVS Measurement
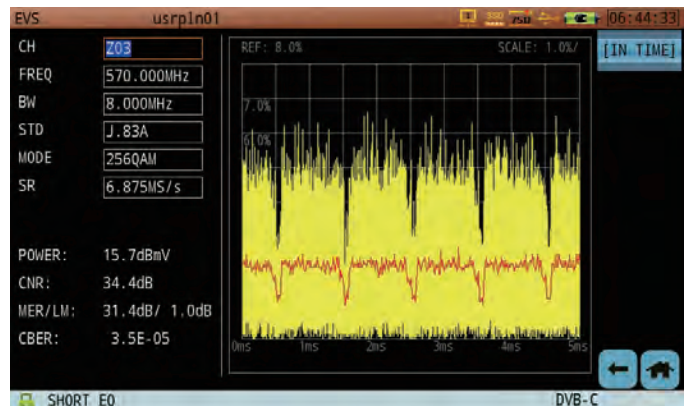

Figure 6: Time-Domain EVS Measurement

DVB-C2 Signal Analysis

The S7200 (4K) supports the DVB-C2 standard, providing power level, MER, BER, and constellation measurements (including 64, 256, 1024, and 4096QAM).

Figure 7: DVB-C2 4096QAM Constellation

DVB-T/T2 Signal Analysis

The S7200 (4K) supports the DVB-T/T2 standard, providing power level, MER, BER, constellation, and echo analysis measurements.

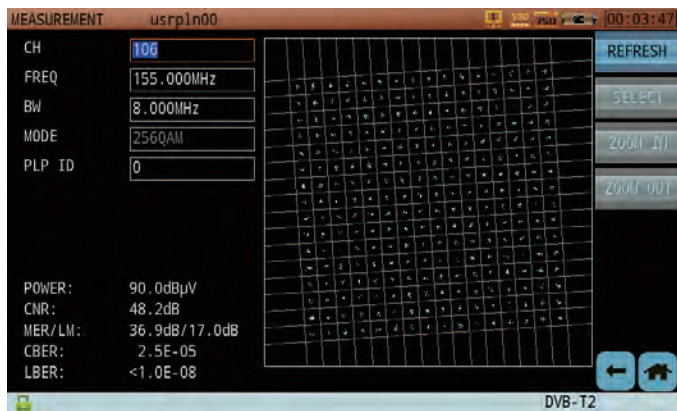
Figure 8: DVB-T Constellation
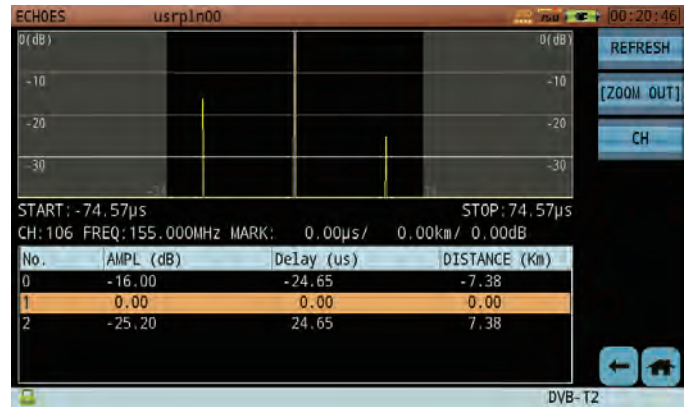

Figure 9: DVB-T2 Constellation

Figure 10: Echo Pattern Location

DAB/DAB+ Signal Analysis

The S7200 (4K) supports the DAB/DAB+ standard, providing power level, MER, and BER measurements.

Figure 11: DAB Signal Measurement

ATSC Signal Analysis

The S7200 (4K) ATSC model supports the ATSC standard, providing power level, MER, BER, constellation eye diagram, and spectrum emission mask measurements.
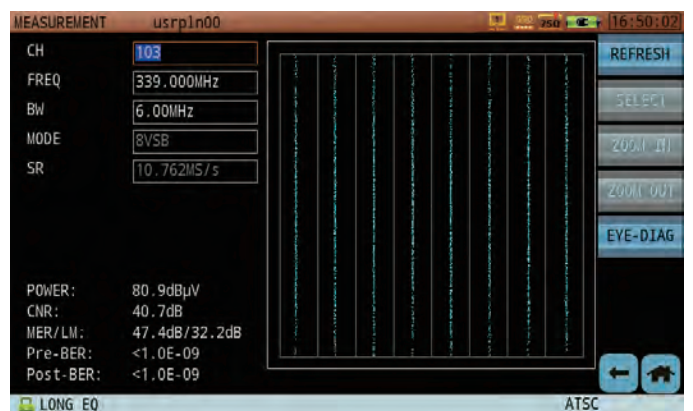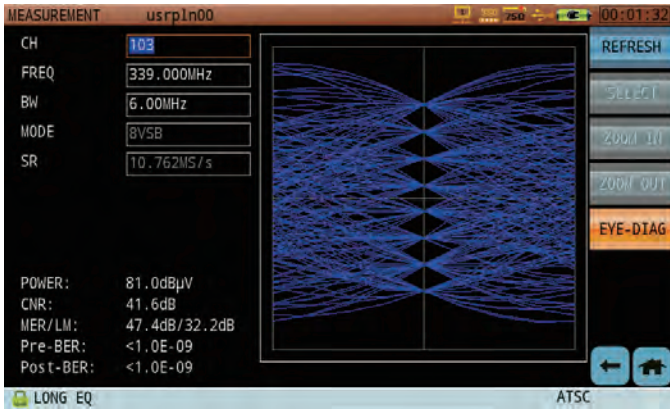

Figure 12: 8VSB Constellation

Figure 13: 8VSB Eye Diagram
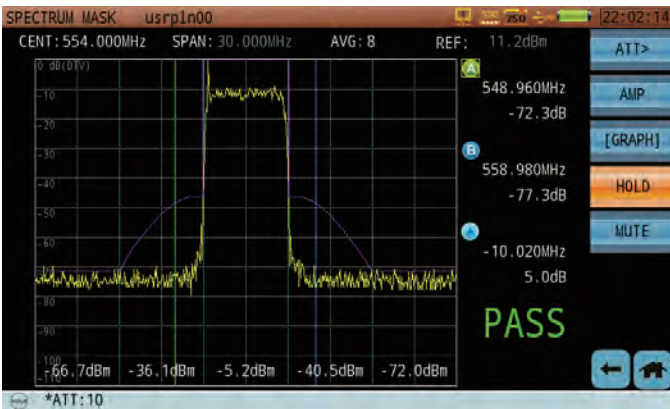
Figure 14: 8VSB Spectrum Mask

ISDB-T/T$_B$ Signal Analysis

The S7200 (4K) ISDB model supports the ISDB-T/ISDB-TB standards, providing power level, MER, BER, and constellation measurements.
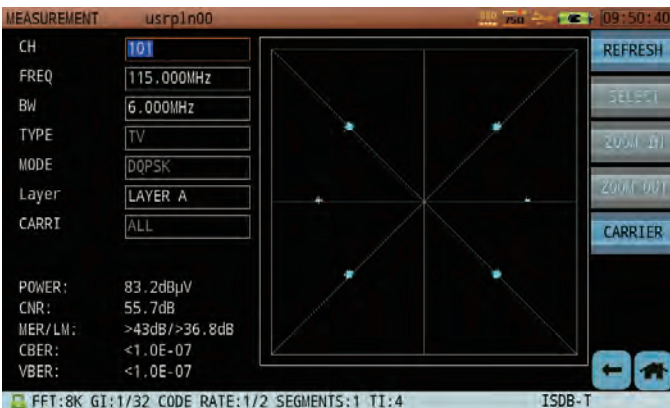
Figure 15: ISDB-Tb Constellation

Transport Stream Analysis & Monitoring

The S7200 (4K) allows real-time analysis and monitoring of MPEG Transport Streams via TS-ASI input & RF output. Featuring TR101 290 3-level monitoring, it lists PSI/SI and transport stream program information, and details of all programs running in a TV network or a transponder. 128GB of storage – with optional SSD add-on – saves hours of TS footage for instant replay and analysis.

Figure 16: Program Decoding & Monitoring

Figure 17: TR 101 290 three-level monitoring

Figure 18: PCR Interval & Accuracy Monitoring

Figure 19: IPTV Analysis

Figure 20: Optical Power Measurement

WiFi Analysis

The WiFi Analysis function supports 2.4G and 5G frequency bands, as well as the 802.11/a/b/g/n standards.

Figure 21: 2.4GWiFi Channel - Graphical Display

Specifications

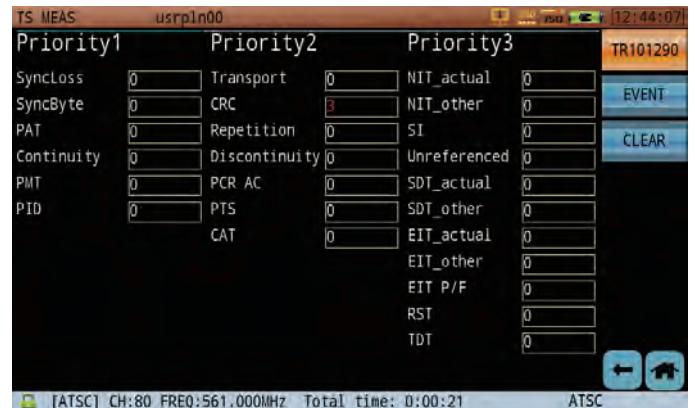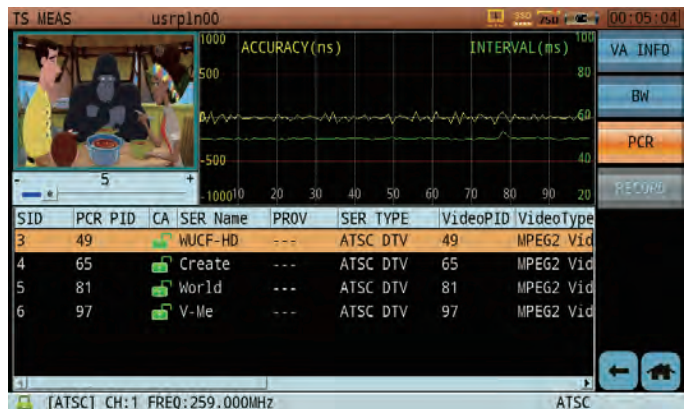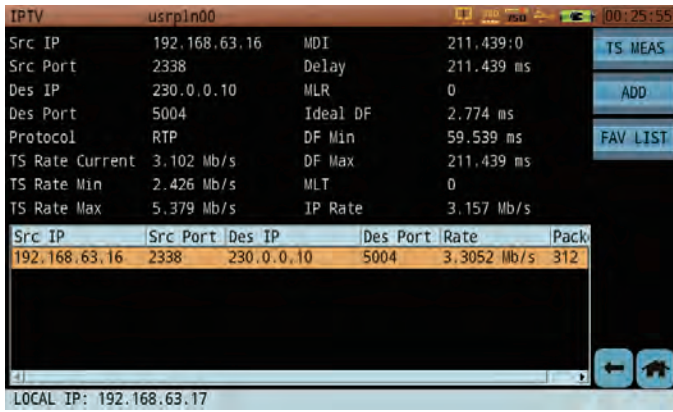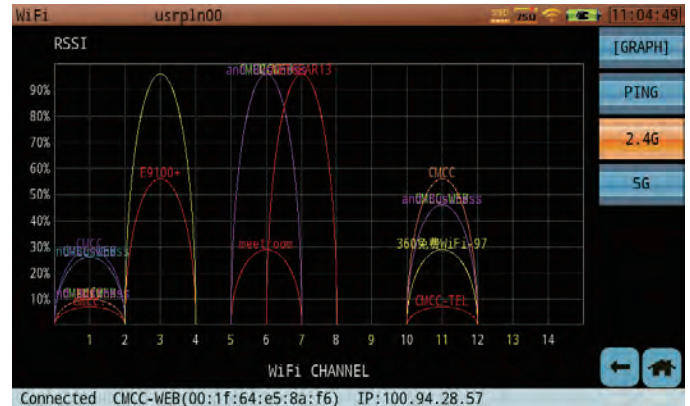| Spectrum Analysis	
Frequency Range	4MHz ~ 1220MHz (TV), 950 MHz ~ 2150 MHz (Satellite)
Frequency Span	0 MHz ~ 1216 MHz (TV), 0MHz ~ 1200 (Satellite)
Frequency Step	1 kHz (TV & Satellite)
Resolution Bandwidth (-3dB)	30kHz, 100kHz, 300kHz, 1MHz, 3MHz
Level Measurement Range	-50dBmV ~ +60dBmV (TV), -30dBmV ~ +60dBmV (Satellite)
Accuracy of Measurements	<1.5 dB
Measurement Detector	Positive Peak, Negative Peak, Sample, Average
Reference Level	-30dBmV ~ +60dBmV
Markers	2 Vertical and 2 Horizontal markers

Analog TV Measurement	
Standards	B/G, I, D/K, L/L´, M/N
Color Standards	PAL, SECAM, NTSC
Frequency Step	10 kHz
Hum Measurement	1% ~ 15%
C/N	> 50dB
Level Measurement Range/Accuracy	-30dBmV ~ +60dBmV / < 1.5 dB
Level Resolution	0.1 dB

DVB-C Measurement	
Frequency Range	42~1002MHz
Modulation Type	16/32/64/128/256 QAM ITU-T J.83 ANNEX A/B/C
Symbol Rate	1.8 MS/s ~ 7.0 MS/s
Power Level Range/Accuracy	-30dBmV ~ +50dBmV / ±1.5 dB(C/N > 20 dB)
Level Resolution	0.1 dB
MER Measurement/Accuracy	~42dB/±2.0 dB
BER	1E-3 ~ 1E-9
Constellation	√

DVB-C2 Measurement	
Power Level Range/Accuracy	-30dBmV ~ +50dBmV / ±1.5 dB(C/N > 20 dB)
Guard Interval	1/64, 1/128
Bandwidth	6MHz and 8MHz
Spectrum Inversion	Auto
PLP Code Rates	2/3, 3/4, 4/5, 5/6, 8/9, 9/10
PLP Constellation	16, 64,256, 1024, 4096QAM
Data Slices	Type 1 & 2 supported, width up to 7.61MHz
Cell ID	Detected from Transmitter Station
Network ID	Detected from Transmitter Station
C2 System ID	Detected from Transmitter Station

DAB/DAB+	
Frequency Range	167.392MHz ~ 239.968MHz
Power Level Range/Accuracy	-30dBmV ~ +50dBmV / ±1.5 dB (C/N >20 dB)
MER Measurement/Accuracy	3 ~ 31dB / ±2.0 dB
CBER	1E-5 ~ 1E-1

DVB-T/H Measurement	
Frequency Range	42~1002MHz
Modulation Type	QPSK, 16 QAM, 64 QAM
Power Level Range Accuracy	-35dBmV ~ +50dBmV/±1.5 dB (C/N >20 dB)
Level Resolution	0.1 dB
MER Measurement/Accuracy	> 35 dB/±2.0 dB
CBER/VBER	√
Constellation	√
Echo Pattern	√

DVB-T2 Measurement	
Frequency Range	42~1002MHz
Modulation Type	QPSK, 16 QAM, 64 QAM, 256QAM
Power Level Range/Accuracy	-35dBmV ~ +50dBmV/±1.5 dB (C/N >20 dB)
Level Resolution	0.1dB
MER Measurement/Accuracy	>40 dB/±2.0 dB
CBER/LBER	√
Constellation	√
Echo Pattern	√
T2-MI	√

ATSC Measurement	
Modulation Type	8 VSB
Power Level Range/Accuracy	-35dBmV ~ 50dBmV/±1.5 dB (C/N >20 dB)
Level Resolution	0.1 dB
MER Measurement/Accuracy	>40 dB/±2.0 dB
BER	√
Constellation	√

ISDB-T/T_B Measurement	
Modulation Type	QPSK, 16 QAM, 64 QAM
Modulation Bandwidth	6MHz
Power Level Range/Accuracy	-35dBmV ~ 50dBmV/±2.0dB(C/N>20dB)
Power Resolution	0.1dB
MER Measurement/Accuracy	> 40dB/±2.0dB
CBER	1E-1~1E-5
VBER	1E-1~1E-7
Constellation	√

Specifications (continued)

DVB-S/S2 Measurement	
Modulation Type	QPSK, 8PSK, 16APSK, 32APSK
Symbol Rate	2 - 45 MS/s (DVB-S), 1 - 45 MS/s (QPSK DVB-S2) 1 - 45 MS/s (8PSK DVB-S2), 1 - 45 MS/s (16APSK DVB-S2) 1 - 38 MS/s (32APSK DVB-S2)
Power Level Range/ Accuracy	-20 - 50dBmV/±1.5 dB (C/N>20dB)
Level Resolution	0.1 dB
MER Measurement/ Accuracy	> 25 dB/±2.0 dB
BER	DVB-S (CBER/VBER), DVB-S2 (CBER/LBER)
Constellation	√

Video/Audio Decoder	
Video	MPEG2/4, H.264, H.265, VC-1, AVS/AVS+
Video Resolution	4K, 1080p, 720p and 576i
Audio	MPEG1/2, AAC, AAC+, DRA
CAM Module	EN50221 (DVB-CI) PCMCIA interface
BISS Decryption	Support Mode 1 and Mode E
TS-ASI Input and Output	√
TS Record	√

TS Analyzer	
Standard Interface	En 50083-9(DVB SPI, ASI)
DVB-ASI Interface	75 Ω BNC
DVB-ASI Clock	270 MHz
DVB-ASI Max Data Rate	0 to 72 Mbps
DVB-ASI Output Signal Level	1.0 Vp-p nominal
DVB-ASI Return Loss	> 15dB
DVB-ASI Input Level	800 mV +/- 10%
Real time Decoder	Displays real-time TV feed (through CA system), including program names & numbers, provider information, and video & audio PIDs
TR101290 Priority 1, 2 & 3 Monitoring	TR 101 290 Priority 1 / 2 / 3 real-time monitoring, not including buffer test related parameters
Base Information	Counts PID % according to stream type. Video, audio, PSI/SI, and null packages.
PID List	Displays all PIDs in the current stream
Program Information	Displays detailed information on unencrypted programs, including video resolution and audio compression rate
PCR Monitoring	Calculates PCR interval and PCR accuracy
PSI/SI List	Displays PSI/SI information in tree format. Includes PAT, PMT, and CAT. (NIT, SDT, RST, TDT, EIT by option only)
Program Info	EPG
PID Capture	Captures a specific PID by type: video, audio, PSI (PAT, PMT, NIT, TDT, RST, SDT, EIT, etc). Displays in HEX format
Transport Record and Replay	SSD for transport stream recording

IPTV Analysis	
Support Protocol	UDP, RTP
Support Transport Type	MPEG-2 TS over IP
Broadcast Type	Unicast, Multicast
Unicast max stream rate	<20Mbps
Multicast max stream rate	<50Mbps

WiFi Analysis	
Frequency	2.4G, 5G
Support Standard	802.11 a/b/g/n
Security Mode	WPA/WPA2/WPA-PSK/WPA2-PSK
Test Parameters	SSID, Level, Channel

Optical Power Measurement	
Measurement Wavelength	1310nm, 1490nm, 1550nm
Measurement Range	-50dBm ~ 27dBm
Accuracy	±0.17dB (±3%)
Linearity	0.07dB/10dB
Resolution	0.01dBm
Interface	(FC\SC\ST) / APC General Optical Adaptor

Optical Receiver	
Dynamic Range of Conversion	<+10dBm
Cable and DTTB Band	From 65MHz ~ 1000MHz
Satellite IF-Band	From 950MHz ~ 2150MHz

Interface	
RF Input	75Ω F (Cable TV); 50Ω SMA (DVB-T/T2/ATSC/ ISDB-T/DTMB)
Video/Audio input/ output	3.5mm Multi-pole jack
USB	1 USB 3.0
LAN	2 100/1000 Mbps: RJ45
CAM	1 PCMCIA
TS-ASI Input / Output	2 75Ω BNC
DC Supply Input	12V / 5A
GPS Input	USB Dongle

General	
Display	7 inches TFT LCD 800 × 480 pixels, Capacitive Touch Screen
External AC Power Adapter	Input: AC 100 - 240 V/50-60 Hz, Output: DC 12 V/5 A
Battery	Li-ion, 7.4 V/13 Ah
Charge Time	around 5 Hours
Battery Operating Time	>5 Hours
Remote Feeding	5/13/15/18/24 V, Max. 5 W
22 kHz Control Signals	DiSEqC 1.2 and SaTCR
Dimension (W×H×L)	253 mm × 194 mm × 84mm
Weight	About 2.4 kg
Operating Temperature	-10°C~ +50°C

Ordering Information

Model	Configuration	Order Number
Basic Model		
S7200	DVB-C(J.83 Annex A/C)/S/S2/T/T2, ASI,H.265, 4K	**0110.7200.07**
S7200-ISDB	DVB-C(J.83 Annex A/B/C)/S/S2/T/T2, ASI, H.265, 4K, ISDB-Tb	**0110.7200.08**
S7200-ATSC	DVB-C(J.83 Annex B)/S/S2/T/T2 , ASI, H.265, 4K, ATSC, Spectrum Emission Mask	**0110.7200.09**
Option List		
1	DVB-C(J.83 Annex A/C)	**2110.7200.13 (Only for Model S7200-ATSC)**
2	16/32APSK demodulation	**2110.7200.11**
3	DVB-C2	**2110.7200.01**
4	TS Analysis	**2110.7200.02**
5	IPTV	**2110.7200.03**
6	CAM/BISS	**2110.7200.04**
7	Optical Receiver and Power Measurement	**2110.7200.05: Optical Receiver and Power Measurement** **6110.0400.04: FC Power Meter Optical Adapter** **6110.0400.05: ST Power Meter Optical Adapter** **Default install SC Power Meter Optical Adapter**
8	Solid State Drive (128G)	**6110.0400.02**
9	WiFi Analysis	**2110.7200.06**
10	DAB/DAB+	**2110.7200.10**
11	English Instruction Manual (Hard Copy)	**6110.0600.44**
12	Power Adaptor Plug Cord (Unite States)	**6290.0500.04**
13	Power Adaptor Plug Cord (United Kingdom)	**6290.0500.05**
14	Power Adaptor Plug Cord (Australia)	**6290.0500.06**
15	1-Year Product Warranty Extension	**4110.7200.00**