

الهيئة السعودية للمواصفات والمقاييس والجودة
Saudi Standards, Metrology and Quality Org (SASO)

SASO/FDS/33533:2024

Technical Requirements of TV Broadcast Receivers

المتطلبات الفنية لأجهزة استقبال البث التلفزيوني

ICS: 33.060.30

THIS DOCUMENT IS A DRAFT SAUDI REGULATION CIRCULATED FOR COMMENT. IT IS, THEREFORE SUBJECT TO CHANGE AND MAY NOT BE REFERRED TO AS A SAUDI REGULATION UNTIL APPROVED BY THE BOARD OF DIRECTORS.

CONTENTS

FOREWORD 3

1 Scope 4

2 Normative references 4

3 Terms and definitions 4

4 General Requirements 4

5 STB Minimum technical requirements for DVB-S/S2 5

6 STB Minimum technical requirements for OTT Box 7

7 STB Minimum technical requirements Hybrid Box 8

DRAFT

FOREWORD

The Saudi Standards, Metrology and Quality Organization (SASO) have prepared this draft Standard “Technical Requirements of TV Broadcast Receivers” based on relevant regional, International and National foreign Standards and references.

DRAFT

Technical Requirements of TV Broadcast Receivers

1- Scope

This standard identifies the performance requirements and features of the System to meet the service quality targets. This document specifies a standard for equipment that receives TV broadcast through satellite, internet or Hybrid. This requirement shall apply to all producers, manufacturers, importers, and retailers who wish to sell (Set-Top boxes (STB) or Smart TV) in Saudi Arabia. It shall be used to assess the eligibility of a product for use in Saudi Arabia. This standard details the requirements for those devices receive TV broadcast.

This standard does not address the requirements of the installation system (antenna, feeder cable, amplifiers, etc.) or any other radio apparatus.

2- Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

- **EN 300 421** Digital Video Broadcasting (DVB)
- **ETSI EN 302 307-1** Second generation Digital Video Broadcasting (DVB-S2).
- **ETSI TS 102 034:** Digital Video Broadcasting (DVB); Transport of MPEG-2 TS Based DVB Services over IP Based Networks".
- **ETSI TS 102 539:** Digital Video Broadcasting (DVB); Carriage of Broadband Content Guide (BCG) information over Internet Protocol (IP).
- **ETSI 102 796** Hybrid Broadcast Broadband TV.
- **ETSI TS 101 154** Digital Video Broadcasting (DVB); Specification for the use of Video and Audio Coding in Broadcasting Applications based on the MPEG-2 Transport Stream.
- **ISO/IEC13818-1** Information technology — Generic coding of moving pictures and associated audio information — Part 1.
- **SASO-CITC-RI121** Specification for Radio Broadcasting Equipment
- **IEC 62698** Multimedia home server systems - Rights information interoperability for IPTV.
- **IEC 62766** Consumer terminal function for access to IPTV and open internet multimedia services
- **ITU FG IPTV-C-0217** End-to-End IPTV security
- **ITU-T H.721** IPTV terminal Devices: Basic devices

3- Terms and definitions:

OTT: Over-The-Top Media Services.

IPTV: Internet Protocol Television.

SMART TV: Smart Television using Internet.

GAMR: General Authority of Media Regulation.

STB: A set-top box is a hardware device that allows a digital signal to be received, decoded and displayed on a television.

Side Loading Protection: measurements taken to prevent the user from installing applications from any source other than the official applications store for the platform the device is running on.

Hybrid: any device that receives TV broadcast through Satellite **and** internet.

LNB: a low-noise block downconverter (LNB) is the receiving device mounted on satellite antennas used for satellite TV reception.

LNB control: Satellite Receiver provisions to provide proper power supply and switching signal for oscillator selection and polarization selection for LNB.

4- GENERAL REQUIREMENTS

4.1 The Satellite receiver shall be open architecture (non-proprietary) and shall ensure technical compatibility and effective interoperability among different Satellite receiver providers in the country.

4.2 The Satellite receiver shall support reception and processing of DVB-S (EN 300421) and DVB-S2 (EN 302 307-1) compliant digitally modulated signal.

4.3 Each TV receiver shall be legibly and indelibly marked with at least the following information on both the device and its packaging:

- a) Manufacturer's name or trademark (if any);
- b) Model designation and serial number.
- c) Country of manufacture.
- d) Input supply voltage and frequency.
- e) Power consumption.
- F) Supported sockets port for audio and video output.

5- Minimum Technical Requirements for Satellite STB

S/N	FEATURES	Reference/ Details
1	Auto and manual search modes	Basic features for broadcasting channel searching
2	Input impedance	75Ω
3	Modulation	DVB-S and DVB-S2 compliant.
4	Modulation schemes	DVB-S and DVB-S2 compliant.
5	Intermediate Frequency range Note: frequency included in the table is Intermediate Frequency (IF) received at the STB, not at the antenna.	950-2150 MHz
6	Input signal level	-25 dBm to -65 dBm
7	FEC coding	DVB-S and DVB-S2 compliant.
8	Symbol rate	2~45Msps
9	Signal Bandwidth	Depends on the transponder
10	Stream Transport	MPEG-2 and MPEG-4 ISO/IEC13818-1
11	Signal Quality Level indicator	Basic feature for signal level indication (green or yellow) for acceptable signal quality
12	Parental Control/Lock	Basic feature for controlling viewers
13	Electronic Program Guide (EPG)	The STB shall support electronic program guide (EPG) for content listing that allows display of programming information supplied by the channels in both Arabic and English.
14	Remote Control	Full function standard IR/Bluetooth remote control.
15	Languages	Availability language selection feature: English and Arabic

16	MPEG Transport stream video and Audio Decoding	Video decoding	MPEG-2/MPEG4 AVC (H.264)
		Aspect Ratio (image rate)	4:3,16:9
		Video Resolution	720X576 (PAL) - standard definition, 1920X1080 (High definition)
		Audio Decoding	MPEG-2, MPEG-4
17	Power	LNB control	
18	Power supply	AC 230, 60 HZ	
19	Owner's Manual	User manual should be at least (Arabic and English languages)	
20	Scanning Function	It should be able to display the number of channels currently being scanned	
		The Satellite receivers should include a frequency scanning function to detect the availability of the signal	

Table (1): MINIMUM TECHNICAL SPECIFICATIONS**6- Minimum Technical Requirements OTT Box**

S/N	FEATURES	Reference/ Details
Specifications		
1	Output Resolution:	SD/HD
2	IR detection:	The IR detection shall be 8m at an angle of 60° from the left and to the right of the center of the IRR on the decoder.
3	Temperature Rise Requires:	At the 40 C° Ambient temperature, the temperature inside the box shall be 25 C° ± 5 C°.

4	Static Electricity Requirements:	The STB shall adhere to IEC 61000-4-2 and comply with 4kV contact ESD discharge and an 8kV air ESD discharge.
5	Drop Test Requirement:	Drop Test (STB unit): 0.5 m, Drop Test (packaged STB with accessories): 1m
6	Surge Requirement:	a. The STB RF-in interface shall adhere to IEC 61000-4-5 definition where protection should be provided for up to 2kV surge. The PSU should be provided for up to 4kV surge.
Wireless connectivity		
7	Wi-Fi:	Required if not support Ethernet
8	Ethernet:	Required if not support Wi-Fi
Decoder		
9	Support Language:	Arabic/ English
Parts		
10	HDMI:	Mandatory requirement.
Packing list		
11	User Manual:	User manual should be at least (Arabic and English languages)
12	HDMI Cable:	Should be compatible with the highest resolution supported by the device
Anti-Piracy Requirements		
13	Side Loading Protection:	Should not be allowed to download from external sources, and only the official application stores are allowed.
14	Disable developer mode:	Should be protected, and Security measures should be placed.

Table (2): MINIMUM TECHNICAL REQUIREMENTS FOR OTT BOX

7- Minimum Technical Requirements for Hybrid Box

In addition to the requirements mentioned in the previous tables, you must adhere to the following requirements.

S/N	FEATURES	Reference/ Details
1	HDMI part:	Mandatory requirement.
2	Support Language:	Arabic/ English
3	Building distribution/Motorized Dish/Consumer level:	DiSEqC 1.0/1.1/2.0/1.2
4	Output Resolution:	SD/HD
5	Side Loading Protection:	Should not be allowed to download from external sources, and only the official application stores are allowed.
6	Disable developer mode:	Should be protected, and Security measures should be placed.
7	Connectivity:	Required either Wi-Fi or Ethernet.
8	Basic STB:	Compact design with DVB-T, DVB-S Tuner
9	User Manual in the Packaging box:	User manual should be at least (Arabic and English languages)
10	HDMI Cable in the Packaging box:	Should be compatible with the highest resolution supported by the device
Anti-Piracy Requirements		
11	Side Loading Protection:	Should not be allowed to download from external sources, and only the official application stores are allowed.
12	Disable developer mode:	Should be protected, and Security measures should be placed.

Table (3): MINIMUM TECHNICAL REQUIREMENTS FOR HYBRID BOX