Eastern VAST Technical Specifications

The Eastern VAST Technical Specifications are as follows:

- use of an Optus C1 series or a satellite at 156°E that provides equivalent or better performance in the Eastern VAST Service Area;
- MPEG4 or MPEG2 encoding;
- transmission compliant with DVB-S2 standard (ETSI EN 302 307);
- 16:9 aspect ratio;
- the minimum resolution and format for an HD channel is 720p;
- a Downlink Faded C/N0 Threshold in accordance with the DVB-S2 standard, with a 1 dB implementation margin;
- a modulation type of 8PSK at FEC rate of 3/5, in accordance with the DVB-S2 standard;
- a symbol rate of 30 MS/s;
- a clear sky link margin of at least 4.0 dB;
- an EIRP of at least 49.2 dBW at Belrose, Sydney;
- for EIRP levels at other locations, refer to the Contour Map of this Annexure; and
- nominal bit rate specifications of 2.5Mbps for SD and 7Mbps for HD.

The VAST Set Top Box Specifications

Please Note: Compliance with Set Top Box Specification

This specification provides the minimum requirements for interoperability with the Eastern VAST Service. Compliance with this specification does not imply full compliance with or certification on the VAST Platform.

Set Top Box Minimum Specification

A Set Top Box must:

- support an electronic program guide similar in appearance and functionality to that used by Regional Commercial Television Licensees;

- for the Conditional Access System:
    - support an embedded IRDETO KMS Conditional Access System consisting of softcell version 3 within the Set Top Box; and
    - support IRDETO Smart Card version 5 or higher conforming to ISO7816;
- support letterbox and 4:3 centre-cut for the display of 16:9 content on 4:3 displays;
- support MHEG 5 middleware in accordance with the Australian Freeview standard;
- provide DVB compliant closed captioning where included in the content;
- support MPEG1 layer 1&2 (Musicam), sampling frequencies 32, 44.1 and 48kHz audio;
- support Dolby Digital audio;
- support AAC v1 and AAC v2 audio;
- support DVB-S, with symbol rates of 2 to 45 MS/s;
- support DVB-S2 QPSK and 8PSK, with symbol rates of 2 to 30 MS/s;
- be capable of operating with transponders which are in the Ku band when fitted with the appropriate LNB;
- include a composite video and dual channel audio outputs on RCA sockets;
- provide parental lock capability consistent with the relevant Australian terrestrial television standard;
- be based on a "secure silicon" chip set;
- be based on a "secure silicon" approach to address control word redistribution and device software tampering;
- include a secure boot to prevent the loader and hence the application being replaced;
- pairing of smartcard and set top box so that a set top box will only work with a unique smartcard and vice versa;
- include control word encryption to protect the control word delivery between the smartcard and the paired MPEG chip;
- support a unique identity so that only authorised set top boxes can work in the operator’s network;
- support HD and SD channels;
- 'look and feel' similar to digital terrestrial set top boxes including channel numbering that replicates terrestrial logical channel numbering, through the use of bouquets;
- allow secure software over the air downloads into set top box to upgrade security and / or functionality requirements, including middleware; and
- have the capacity to allow software upgrades to occur to upgrade functionality requirements, including middleware via an industry standard port on the set top box.

Annexure

Contour Map

The contours on this map show the minimum EIRP requirements, measured in dBW.