Enabler Test Requirements for Mobile Broadcast Services

Candidate Version 1.0 – 09 Dec 2008

Open Mobile Alliance

OMA-ETR-BCAST-V1_0-20081209-C

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1. Scope

The Enabler Test Requirements (ETR) document for the Enabler under consideration is created and maintained by the Technical Working Group (TWG) responsible for the technical specifications for the corresponding Enabler.

The ETR document is intended to cover at least those requirements collected in the Requirements Document (RD) and the Architecture Document (AD) in addition to any other items the TWG has identified as important enough to warrant attention from interoperability perspective and identify any technical functionalities that should be covered by testing.

2. References

2.1 Normative References

[BCAST10–BCMCS Adaptation] "Broadcast Distribution System Adaptation – 3GPP2/BCMCS", Open Mobile Alliance™, OMA-TS-BCAST_BCMCS_Adaptation-V1_0, URL: http://www.openmobilealliance.org/

[BCAST10–Distribution] "File and Stream Distribution for Mobile Broadcast Services ", Open Mobile Alliance™, OMA-TS-BCAST_Distribution-V1_0, URL: http://www.openmobilealliance.org/

[BCAST10–DVB-H-IPDC–Adaptation] "Broadcast Distribution System Adaptation – IPDC over DVB-H", Open Mobile Alliance™, OMA-TS-BCAST_DVB_Adaptation-V1_0, URL: http://www.openmobilealliance.org/

[BCAST10-ERELD] "Enabler Release Definition for Mobile Broadcast Services", Open Mobile Alliance™, OMA-ERELD-BCAST-V1_0, URL: http://www.openmobilealliance.org/

[BCAST10–MBMS Adaptation] "Broadcast Distribution System Adaptation – 3GPP/MBMS", Open Mobile Alliance™, OMA-TS-BCAST_MBMS_Adaptation-V1_0, URL: http://www.openmobilealliance.org/

[BCAST10–ServContProt] "Service and Content Protection for Mobile Broadcast Services", Open Mobile Alliance™, OMA-TS-BCAST_SvcCntProtection-V1_0, URL: http://www.openmobilealliance.org/

[BCAST10-Services] "Mobile Broadcast Services", Open Mobile Alliance™, OMA-TS-BCAST_Services-V1_0, URL: http://www.openmobilealliance.org/

[BCAST10–SG] "Service and Content Protection for Mobile Broadcast Services", Open Mobile Alliance™, OMA-TS-BCAST_SvcCntProtection-V1_0, URL: http://www.openmobilealliance.org

[DRM20-Broadcast-Extensions] "OMA DRM v2.0 Extensions for Broadcast Support", Open Mobile Alliance™, OMA-TS-DRM-XBS-V1_0, URL: http://www.openmobilealliance.org/

[DRM-v2.0] "DRM Specification V2.0", Open Mobile Alliance™, OMA-DRM-DRM-V2_0, URL: http://www.openmobilealliance.org/

[IOPPROC] "OMA Interoperability Policy and Process", Version 1.3, Open Mobile Alliance™, OMA-ORG-IOP_Process-V1_3, URL: http://www.openmobilealliance.org/

[OMA DM] "Enabler Release Definition for OMA Device Management v1.2", OMA-ERELD-DM-V1_2_0

[RFC2119] "Key words for use in RFCs to Indicate Requirement Levels", S. Bradner, March 1997, URL: http://www.ietf.org/rfc/rfc2119.txt

2.2 Informative References

[BCAST10-Architecture] "Mobile Broadcast Services Architecture", Open Mobile Alliance™, OMA-AD-BCAST-V1_0, URL: http://www.openmobilealliance.org/

[BCAST10-Requirements] "Mobile Broadcast Services Architecture", Open Mobile Alliance™, OMA-RD-BCAST-V1_0, URL: http://www.openmobilealliance.org/

[OMADICT] "Dictionary for OMA Specifications", Open Mobile Alliance™,. OMA-Dictionary, URL: http://www.openmobilealliance.org/

3. Terminology and Conventions

3.1 Conventions

The key words “MUST”, “MUST NOT”, “REQUIRED”, “SHALL”, “SHALL NOT”, “SHOULD”, “SHOULD NOT”, “RECOMMENDED”, “MAY”, and “OPTIONAL” in this document are to be interpreted as described in [RFC2119].

All sections and appendixes, except “Scope” and “Introduction”, are normative, unless they are explicitly indicated to be informative.

3.2 Definitions

Broadcast Channel	The logical channel (usually uni-directional) that provides Broadcast Transport which the Broadcast Enabler uses for broadcast distribution of data to Mobile Terminals. Typically, the Broadcast Channel supports high bitrates. It is inherently used for downlink purposes and is particularly useful for conveying information that is targeted to all or many Mobile Terminals. The Broadcast Channel is implemented by a Broadcast Distribution System that can efficiently distribute IP-based services to Mobile Terminals. Typically, this means that a broadcast-capable bearer is used as the underlying network technology. Broadcast transport mechanisms allow simultaneous distribution of content to many recipients. This requires that all receivers can “receive” the same physical resource (link or radio frequency) and can simultaneously connect to the same transport protocol. Broadcast transport can be accomplished using both broadcast and multicast mechanisms in the underlying broadcast distribution system.
Broadcast Distribution System	A system containing the ability to transmit the same IP flow to multiple Terminal devices simultaneously. A Broadcast Distribution System (BDS) typically uses techniques that achieve efficient use of radio resources. A BDS consists of Broadcast/Multicast Network functionality up to the IP layer and optional Service Distribution/Adaptation functionality above the IP layer.
Broadcast Roaming	Broadcast Roaming is the ability of a user to receive broadcast services from a Mobile Broadcast Service Provider different from the Home Mobile Broadcast Service Provider with which the user has a contractual relationship.
Broadcast Service	A Broadcast Service is a “content package” suitable for simultaneous distribution to many recipients (potentially) without knowing the recipient. Either each receiver has similar receiving devices or the content package includes information, which allows the client to process the content according to his current conditions. Examples of Broadcast Services are: pure Broadcast Services: - mobile TV - mobile newspaper - mobile file downloading (clips, games, SW upgrades, other applications, applications) combined broadcast/interactive Broadcast Services: - mobile TV for file downloading with voting - betting Broadcast Services - auction Broadcast Services - trading Broadcast Services
Broadcast Service Area	The geographical or logical area in which a Broadcast Service is distributed.
BSA	Represents the service application of the BCAST Service, such as streaming audio/video or movie download.
BSD/A	Responsible for the aggregation and delivery of BCAST Services, and performs the adaptation of the BCAST Enabler to underlying Broadcast Distribution Systems.
BSM	Responsible for service provisioning such as subscription and payment related functions, the provision of information used for BCAST Service reception, and BCAST device management.

Entry Point	Connectivity related information required by the BCAST Terminal to access service/content, Service Guide, or Service Guide Delivery Descriptor.
LTKM	Collection of keys and possibly, depending on the profile, other information like permissions and/or other attributes that are linked to items of content or services.
RO	A collection of Permissions, Constraints, and other attributes which define under what circumstances access is granted to, and what usages are defined for, DRM Content. All OMA DRM Conformant Devices must adhere to the Rights Object associated with DRM Content. [DRMDRM-v2.0]
Service Guide Fragment	An atomic information component of the Service Guide, which can be compressed, encapsulated and transported in the absence of other parts of the Service Guide.
Smartcard	A non-UICC secure function platform which may contain the SIM or R-UIM module, or a UICC-based secure function platform which may contain one or more of the following applications: a 3GPP USIM, 3GPP2 CSIM or 3GPP/3GPP2 ISIM. Note that the set of applications/modules residing on the Smartcard are typically governed by the affiliation of the Smartcard to 3GPP or 3GPP2 specifications, as indicated by the definition for "Smartcard Profile".
STKM	Message delivered alongside a protected service, carrying key material to decrypt and optionally authenticate the service, and access rights to delivered content.
TestFest	Multi-lateral interoperability testing event

3.3 Abbreviations

3GPP	3rd Generation Partnership Project
3GPP2	3rd Generation Partnership Project 2
AACv2	Advanced Audio Coding version 2
AMR-WB	Adaptive Multi Rate - Wide Band
BCMCS	Broadcast/Multicast Services
BCRO	Broadcast Rights Object
BDS	Broadcast Distribution System
BSA	BCAST Service Application
BSD/A	BCAST Service Distribution and Adaptation
BSM	BCAST Subscription Management
CODEC	Compressor/Decompressor
DRM	Digital Rights Management
DVB-H	Digital Video Broadcasting – Handhelds
ESG	Electronic Service Guide
ETR	Enabler Test Requirement
FDT	File Description Table
FEC	Forward Error Correction
FLUTE	File Delivery over Unidirectional Transport
GBA-U	Generic Bootstrapping Architecture with UICC based enhancements
GIF	Graphics Interchange Format
GZIP	GNU ZIP
HTML	Hyper Text Mark-up Language
HTTP	Hyper Text Transfer Protocol

IP	Internet Protocol
IPDC	IP Data Cast
IPSec	IP Security
ISMACryp	ISMA Encryption and Authentication specification
JPEG	Joint Photographic Experts Group
LTKM	Long Term Key Message
MBMS	Multimedia Broadcast/Multicast Service
MKI	Master Key Index
MO	Management Object
OMA	Open Mobile Alliance
PNG	Portable Network Graphics
RK	Registration Key
RO	Rights Object
ROAP	Rights Object Acquisition Protocol
RTCP	RTP Control Protocol
RTP	Real-time Transport Protocol
R-UIM	Removable User Identity Module
SDP	Session Description Protocol
SG	Service Guide
SGDD	Service Guide Delivery Descriptor
SGDU	Service Guide Delivery Unit
SI	Service Interaction
SIM	Subscriber Identity Module
SMS	Short Message Service
SPCP	Service Protection Content Protection
SRTP	Secure Real-time Transport Protocol
STKM	Short Term Key Message
UDP	User Datagram Protocol
URI	Universal Resource Identified
USIM	Universal Subscriber Identity Module
XBS	Broadcast Extensions
XML	Extensible Markup Language

4. Introduction

The purpose of this Enabler Test Requirements document is to help guide the testing effort for the Enabler Mobile Broadcast Services 1.0 (BCAST-1.0), documenting those areas where testing is most important to ensure interoperability of implementations.

The Enabler under consideration comprises the following specifications:

- OMA-TS-BCAST_Services-V1_0 [BCAST10-Services]: Main specification for Mobile Broadcast Services (BCAST). Serves as an umbrella document for all the Mobile Broadcast Services function-level specifications and links the specifications with Mobile Broadcast Services Architecture [BCAST AD]. Further, the document specifies the following functions: Service Provisioning, Terminal Provisioning, Service Interaction, Mobility, Roaming, Notification, and Charging.

- OMA-TS-BCAST_ServiceGuide-V1_0 [BCAST10–SG]: Specification for Service Guide for Mobile Broadcast Services. Service Guide is functionality that allows providers to describe and announce the availability of Mobile Broadcast Services and consequently allows users to discover and access those.

- OMA-TS-BCAST-Distribution-V1_0 [BCAST10 –Distribution]: Specification for access independent delivery of files and real-time streams.

- OMA-TS-BCAST_SvcCntProtection-V1_0 [BCAST10–ServContProt]: Specification for Service and Content Protection of Mobile Broadcast Services. The document specifies two profiles for Service Protection: DRM 2.0 based(DRM Profile); and 3GPP-(U)SIM / 3GPP2-(R-)UIM/CSIM–based(Smartcard Profile).

- OMA-TS-DRM-XBS-V1_0 [DRM20-Broadcast-Extensions]: Specification for DRM 2.0 extensions for DRM 2.0-based Service and Content Protection.

- OMA-TS-BCAST_MBMS_Adaptation-V1_0 [BCAST10–MBMS Adaptation]: Specification on delivering interoperable Mobile Broadcast Services – as enabled by OMA Mobile Broadcast Service Enabler – over 3GPP/MBMS bearer.

- OMA-TS-BCAST_BCMCS_Adpatation-V1_0 [BCAST10–BCMCS Adaptation]: Specification on delivering interoperable Mobile Broadcast Services – as enabled by OMA Mobile Broadcast Service Enabler – over 3GPP2/BCMCS bearer.

- OMA-TS-BCAST_DVB_Adaptation-V1_0 [BCAST10–DVB-H-IPDC–Adaptation]: Specification on delivering interoperable Mobile Broadcast Services – as enabled by OMA Mobile Broadcast Service Enabler – IPDC over DVB-H bearer.

Generally, the testing activity should aim at validating the normal working behaviour of the terminal/server interactions, as well as testing the error conditions whenever it is possible to set up the appropriate scenarios. The following sections provide a more detailed description of the testing requirements for BCAST-1.0.

This document also intends to provide some guidance on the prioritization of the specifications and features to be tested within BCAST-1.0 Enabler.

5. Test Requirements

5.1 Enabler Test Requirements

The test requirements collected in this section are related to the BCAST-1.0 Enabler.

This section defines which specific functionalities of BCAST-1.0 shall or should be tested to ensure adequate operation of the implementations, including any security requirements and constraints on usage if specified. That means that devices (terminals/servers) shall do what they have to do and they shall not do what they are not allowed to do. Both types of test requirements (positive and negative testing) are included here asappropriate.

The anticipated reconciliation or discrepancies or problems no matter when found SHALL be through the problem and change processes established for the drafting and evolution, validation and post approval phases for specifications.

In the following sections present the test requirements. The top level grouping of requirements is per specification of OMA BCAST 1.0 suite. Consequently, within each specification the grouping is per functional entity. Further, the test requirements are categorized to "Mandatory" and "Optional" classes:

- Mandatory test requirements cover mandatory tests for features/functions of BCAST 1.0 Enabler.
- Optional test requirements cover optional tests for features/functions of BCAST 1.0 Enabler.

The tables for the mandatory and optional test requirements include the following columns:

FEATURE KEY: A set of characters uniquely identifying the enabler test requirement to be tested. It is suggested that the Feature Key is no longer than 4 to 5 characters. The purpose of the Feature Key is that when used, it distinctly refers to only one feature to be tested.

FEATURE DESCRIPTION: A description of a technical specification feature to be tested.

FEATURE TEST REQUIREMENTS: A description of what shall be tested for the feature,

Following are the Feature Keys of BCAST 1.0 that should be tested.

Feature Key	Description
SG	Service Guide
FD	File Distribution
SD	Stream Distribution
SCPD	Service and Content Protection - DRM Profile
SCPS	Service and Content Protection - Smartcard Profile
NT	Notification
SPR	Service Provisioning
TP	Terminal Provisioning
SI	Service Interaction
MR	Mobility and Roaming

Feature Key	Description
CODEC	Multimedia CODEC
FP	Flow Provisioning

5.1.1 Main Specifications

5.1.1.1 Mandatory Test Requirements

5.1.1.1.1 Mandatory terminal test requirement

	Feature Key	Feature Description	Feature Test Requirements
Normal Flow	SG-001	Service Guide fragment processing support.	Required to test whether Service Guide fragments are properly processed and correctly interpreted for the mandatory elements and attributes.
	SG-002	Service Guide fragment encapsulation	Required to test whether encapsulation of Service Guide fragments is supported. That is whether the terminal can properly decapsulate Service Guide fragments from Service Guide Delivery Units.
	SG-003	Service Guide Delivery Descriptor processing support.	Required to test whether Service Guide Delivery Descriptor is properly processed and correctly interpreted for the mandatory elements and attributes.
	SG-004	Grouping of Service Guide	Required to test whether Service Guide Delivery Descriptor –based grouping is supported for groupings based on “TimeGroupingCriteria” and “BSMSelector”.
	SG-005	Delivery over Broadcast Channel	Required to test whether Service Guide delivery over Broadcast Channel using FLUTE for the delivery of SGDDs and for the delivery of SGDUs is supported.
	SG-006	Service Guide updates over Broadcast Channel	Required to test whether Service Guide updates are properly supported over Broadcast Channel.
	SG-007	Delivery over Interaction Channel	Required to test whether Service Guide delivery over Interaction Channel is supported.
	SG-008	Service Guide updates over Interaction Channel	Required to test whether Service Guide updates are properly supported over Interaction Channel.
	SG-009	Associating accesses with services and content	Required to test whether the accesses are associated properly with services and content.
	SG-010	Service Guide discovery over Broadcast Channel	Required to test whether mandatory Service Guide discovery methods are supported and terminal is able to find Service Guide entry point using those methods over Broadcast Channel.
	SG-011	Service Guide discovery over Interaction Channel	Required to test whether mandatory Service Guide discovery methods are supported and terminal is able to find Service Guide entry point using those methods over Interaction Channel.
	SG-012	Multi-language support	Required to test whether methods of providing multi-language support are supported.
	FD-001	File distribution over Broadcast Channel	Required to test whether file distribution method for the mandatory parts is supported over Broadcast Channel, including the following aspects: support for FLUTE, support for FEC and support for related SDP descriptions.

	Feature Key	Feature Description	Feature Test Requirements
	FD-002	File distribution over Interaction Channel	Required to test whether file distribution method using HTTP is supported for mandatory parts over Interaction Channel.
	SD-001	Stream distribution over Broadcast Channel	Required to test whether stream distribution method for the mandatory parts is supported over Broadcast Channel, including the following aspects: support for RTP, support for RTP payload formats and support for buffer control.
	SD-002	Stream distribution over Interaction Channel	Required to test whether stream distribution method is supported for mandatory parts over Interaction Channel.
	SCPD-001	Layer 1: Registration	Interactive Device: Required to test that the terminal can execute the ROAP Registration over the interactive channel. Broadcast Device: Required to test that the terminal can execute the Broadcast Device Registration (i.e. terminal supports messages from sections 7.2, 7.4 and 7.5 of [DRM20-Broadcast-Extensions]).
	SCPD-002	Layer 2: Basic LTKM procedures and processing	Interactive Device: Required to test whether terminal supports requesting and processing the LTKM (in form of an RO) to retrieve the Service Key over the interactive channel. Broadcast Device: Required to test whether terminal supports processing the LTKM (in form of a BCRO) to retrieve the Service Key over the broadcast channel.
	SCPD-003	Layer 3: Basic STKM procedures and processing	Required to test that the terminal can receive and process STKM over the broadcast channel (mandatory STKM fields).
	SCPD-004	Layer 4: SRTP	Required to test that the terminal can process SRTP content delivery over the broadcast channel.
	SCPD-005	Support for Service and Content Protection signaling in SDP for the DRM Profile.	Required to test whether the terminal supports signaling of Service and Content Protection in SDP for the DRM Profile.
	SCPD-006	Support for SDP signaling of SRTP.	Required to test whether the terminal supports signaling of SRTP streams in SDP.
	SCPS-001	Layer 1: Subscriber Key request	Required to test that a U (SIM) can execute GBA-U bootstrapping. For R-UIM, derivation of "Auth-Key", derived from the RK should be tested.
	SCPS-002	Layer 2: Basic LTKM procedures and processing	Required to test whether the SIM/terminal can execute MBMS user registration/deregistration and LTKM deliveries (mandatory LTKM fields) over the interactive channel.
	SCPS-003	Layer 3: Basic STKM procedures and processing	Required to test that the terminal can receive and process STKM over the broadcast channel (mandatory STKM fields).
	SCPS-004	Layer 4: SRTP	Required to test that the terminal can process SRTP content delivery over the broadcast channel.
	SCPS-005	Support for Service and Content Protection signaling in SDP for the Smartcard Profile.	Required to test whether the terminal supports signaling of Service and Content Protection in SDP for the Smartcard Profile.
	SCPS-006	Support for SDP signaling of SRTP.	Required to test whether the terminal supports signaling of SRTP streams in SDP.

	Feature Key	Feature Description	Feature Test Requirements
	SPR-001	Service Provisioning messages for DRM Profile	Required to test whether the Service Provisioning messages for DRM Profile are supported. This includes testing the following aspects of the Service Provisioning messages: HTTP as transport protocol, HTTP binding, message authentication, global status codes and message compression.
	SPR-002	Web-based Service Provisioning	Required to test that terminal is able to support the web-based Service Provisioning methods.
	SPR-003	Service Provisioning messages for Smartcard Profile	Required to test whether the Service Provisioning messages for Smartcard Profile are supported. This includes testing the following aspects of the Service Provisioning messages: HTTP as transport protocol, HTTP binding, message authentication, global status codes and message compression.
	TP-001	Declaration of Terminal Provisioning in Service Guide	Required to test whether the terminal supports declaration of Terminal Provisioning in the Service Guide both, as a service and as an access to a service.
	SI-001	Support for Interactivity Media Document	Required to test whether Interactivity Media Document is properly processed and correctly interpreted for the mandatory elements and attributes.
	SI-002	Content types and URIs supported	Required to test whether the following content types and URIs are supported within the Service Interaction: SMS template, Phone number, HTML, SMS-URI, Tel-URI, JPEG, GIF and PNG.
Error Flow			

Table 1: Applicability Table for Enabler Specific Mandatory Test Requirements

5.1.1.1.2 Mandatory BSD/A test requirement

	Feature Key	Feature Description	Feature Test Requirements
	SG-013	Generation of Service Guide fragment.	Required to test whether Service Guide fragments are properly generated for the mandatory elements and attributes.
	SG-014	Service Guide fragment encapsulation	Required to test whether Service Guide Delivery Unit is encapsulated properly for delivery of Service Guide fragments.
	SG-015	Service Guide Delivery Descriptor processing	Required to test whether Service Guide Delivery Descriptor is properly processed and correctly delivered for the mandatory elements and attributes.
	SG-016	Grouping of Service Guide	Required to test whether Service Guide Delivery Descriptor –based grouping is supported for groupings based on “TimeGroupingCriteria” and “BSMSelector”.
	SG-017	Delivery over Broadcast Channel	Required to test whether Service Guide delivery over Broadcast Channel using FLUTE for the delivery of SGDDs and for the delivery of SGDUs is supported.
	SG-018	Service Guide updates over Broadcast Channel	Required to test whether Service Guide updates are properly used over Broadcast Channel to manage the Service Guide fragments.
	SG-019	Delivery over Interaction Channel	Required to test whether Service Guide delivery over Interaction Channel is supported.

	Feature Key	Feature Description	Feature Test Requirements
	SG-020	Service Guide updates over Interaction Channel	Required to test whether Service Guide updates are properly used over Interaction Channel to manage the Service Guide fragments.
	SG-021	Associating accesses with services and content	Required to test whether the accesses are associated properly with services and content.
	SG-022	Service Guide discovery over Broadcast Channel	Required to test whether BSD/A provides Service Guide Entry point using mandatory Service Guide discovery methods over Broadcast Channel.
	SG-023	Service Guide discovery over Interaction Channel	Required to test whether BSD/A provides Service Guide Entry point using mandatory Service Guide discovery methods over Interaction Channel.
	FD-003	File distribution over Broadcast Channel	Required to test whether file distribution method for the mandatory parts is supported over Broadcast Channel, including the following aspects: support for FLUTE, support for FEC and support for related SDP descriptions.
	FD-004	File distribution over Interaction Channel	Required to test whether file distribution method using HTTP is supported for mandatory parts over Interaction Channel.
	SD-003	Stream distribution over Broadcast Channel	Required to test whether stream distribution method for the mandatory parts is supported over Broadcast Channel, including the following aspects: support for RTP, support for RTP payload formats and support for buffer control.
Error Flow			

Table 2: Applicability Table for Enabler Specific Mandatory Test Requirements

5.1.1.1.3 Mandatory BSM test requirement

[Note] In case either DRM profile or Smartcard profile are implemented, the relevant SCPD or SCPS features are MANDATORY to be tested.

	Feature Key	Feature Description	Feature Test Requirements
	SCPD-007	Layer 1: Registration	Required to test that a BSM serving terminal can execute ROAP registration process over interactive channel for an Interactive Device, or Broadcast Device Registration process for a Broadcast Device.
	SCPD-008	Layer 2: Basic LTKM provisioning	Required to test whether the BSM can provision valid LTKMs (mandatory LTKM fields) upon successful service purchase, over the interactive channel for a registered Interactive Device (LTKM in form of an RO), or over the broadcast channel for a registered Broadcast Device (LTKM in form of an BCRO).
	SCPD-009	Layer 3: Basic STKM provisioning .	Required to test whether the BSDA can deliver valid STKMs (mandatory fields) over the broadcast channel.
	SCPD-010	Layer 4: SRTP	Required to test whether the BSDA can deliver a correct SRTP stream over the broadcast channel.
	SCPD-011	Support for Service and Content Protection signaling in SDP for the DRM Profile.	Required to test whether the server correctly signals Service and Content Protection in SDP for the DRM Profile.
	SCPD-012	Support for SDP signaling of SRTP.	Required to test whether the server correctly signals SRTP streams in SDP.

	Feature Key	Feature Description	Feature Test Requirements
	SCPS-007	Layer 1: Subscriber Key provisioning	Required to test that a BSM serving U(SIM)s can execute GBA-U bootstrapping. For a BSM serving R-UIM, no specific testing of this later may be required as keys are pre-provisioned.
	SCPS-008	Layer 2: Basic LTKM provisioning.	Required to test whether the BSM can execute MBMS user registration/deregistration and deliver valid LTKMs (mandatory LTKM fields) over the interactive channel.
	SCPS-009	Layer 3: Basic STKM provisioning .	Required to test whether the BSDA can deliver valid STKMs (mandatory fields) over the broadcast channel.
	SCPS-010	Layer 4: SRTP	Required to test whether the BSDA can deliver a correct SRTP stream over the broadcast channel.
	SCPS-011	Support for Service and Content Protection signaling in SDP for the Smartcard Profile.	Required to test whether the server correctly signals Service and Content Protection in SDP for the Smartcard Profile.
	SCPS-012	Support for SDP signaling of SRTP.	Required to test whether the server correctly signals SRTP streams in SDP.
	SPR-004	Service Provisioning messages for DRM Profile	Required to test whether the Service Provisioning messages for DRM Profile are supported. This includes testing the following aspects of the Service Provisioning messages: HTTP as transport protocol, HTTP binding, message authentication, global status codes and message compression.
	SPR-005	Service Provisioning messages for Smartcard Profile	Required to test whether the Service Provisioning messages for Smartcard Profile are supported. This includes testing the following aspects of the Service Provisioning messages: HTTP as transport protocol, HTTP binding, message authentication, global status codes and message compression.
	SPR-006	Web-based Service Provisioning	Required to test that BSD/A provide the entry point of Web-shop based on the web-based Service Provisioning methods.
Error Flow			

Table 3: Applicability Table for Enabler Specific Mandatory Test Requirements

5.1.1.1.4 Mandatory BSA test requirement

	Feature Key	Feature Description	Feature Test Requirements
Normal Flow	SI-003	Generation for Interactivity Media Document	Required to test whether Interactivity Media Document is properly generated with support of the following content types and URIs; SMS template, Phone number, HTML, SMS-URI, Tel-URI, JPEG, GIF, and PNG.
Error Flow			

Table 4: Applicability Table for Enabler Specific Mandatory Test Requirements

5.1.1.2 Optional Test Requirements

5.1.1.2.1 Optional terminal test requirement

	Feature Key	Feature Description	Feature Test Requirements
Normal Flow	FD-005	File distribution over Interaction Channel	Required to test whether file distribution method using FLUTE is supported over Interaction Channel.
	MR-001	Support for Service Guide signalling to mitigate mobility effects	Required to test whether the terminal is able to use the signalling provided by Service Guide to mitigate the effects of mobility, including failure to access selected Access.
	MR-002	Find the roaming service area	Required to test whether the terminal correctly interprets the availability of roaming information from the BSM code in Service Guide Delivery Descriptor.
	MR-003	Support for roaming request	Required to test whether the terminal is able to correctly execute the message exchange that is required to complete roaming request/response to BSM.
	NT-001	Support for Notification Message	Required to test whether the Notification Message is properly processed and interpreted for Mandatory elements and attributes
	NT-002	Minimal support for Notification Message	Required to test whether the terminal supports the minimum definition of Notification Message as specified for emergency notifications.
	NT-003	Discovery of entry point through Service Guide Delivery Description or Access fragments	Required to test whether the entry point for generic or service-specific notification messages - as signalled through SGDD and Access fragments - is supported.
	NT-004	Support for receiving Notification Message over Broadcast Channel	Required to test whether the Notification Message reception over Broadcast Channel is supported
Error Flow			

Table 5: Applicability Table for Enabler Specific Optional Test Requirements

5.1.1.2.2 Optional BSD/A test requirement

	Feature Key	Feature Description	Feature Test Requirements
	SG-024	Processing Service Guide Backend Message	Required to test whether Service Guide Backend Messages are properly generated, processed and correctly interpreted
	SG-025	Delivery of Service Guide Backend Message	Required to test whether Service Guide Backend Messages are correctly requested, responded, and delivered.
	FD-006	File distribution over Interaction Channel	Required to test whether file distribution method using FLUTE is supported over Interaction Channel.
	FD-007	Processing File Delivery Backend Message	Required to test whether File Delivery Backend Messages are properly generated, processed and correctly interpreted
	FD-008	Delivery of File Delivery Backend Message	Required to test whether File Delivery Backend Messages are correctly requested, responded, and delivered.
	SD-004	Stream distribution over Interaction Channel	Required to test whether stream distribution method is supported for mandatory parts over Interaction Channel.
	SD-005	Processing Stream Delivery Backend Message	Required to test whether Stream Delivery Backend Messages are properly generated, processed and correctly interpreted
	SD-006	Delivery of Stream Delivery Backend Message	Required to test whether Stream Delivery Backend Messages are correctly requested, responded, and delivered.
	SCPD-013	Processing SPCP Backend Message for DRM Profile	Required to test whether SPCP Backend Messages for DRM Profile are properly generated, processed and correctly interpreted
	SCPD-014	Delivery of SPCP Backend Message for DRM Profile	Required to test whether SPCP Backend Messages for DRM Profile are correctly requested, responded, and delivered.
	SCPS-013	Processing SPCP Backend Message for Smartcard Profile	Required to test whether SPCP Backend Messages for Smartcard Profile are properly generated, processed and correctly interpreted
	SCPS-014	Delivery of SPCP Backend Message for Smartcard Profile	Required to test whether SPCP Backend Messages for Smartcard Profile are correctly requested, responded, and delivered.
	NT-005	Support for Notification Message delivery over Broadcast Channel	Required to test whether the Notification Message delivery over Broadcast Channel is supported
	NT-008	Processing Notification Backend Message	Required to test whether Notification Backend Messages are properly generated, processed and correctly interpreted
	NT-009	Delivery of Notification Backend Message	Required to test whether Notification Backend Messages are correctly requested, responded, and delivered.
	TP-002	Declaration of Terminal Provisioning in Service Guide	Required to test whether the server supports declaration of Terminal Provisioning in the Service Guide both, as a service and as an access to a service.
Error Flow			

Table 6: Applicability Table for Enabler Specific Optional Test Requirements

5.1.1.2.3 Optional BSM test requirement

	Feature Key	Feature Description	Feature Test Requirements
Normal Flow	SG-026	Processing Service Guide Backend Message	Required to test whether Service Guide Backend Messages are properly generated, processed and correctly interpreted
	SG-027	Delivery of Service Guide Backend Message	Required to test whether Service Guide Backend Messages are correctly requested, responded, and delivered.
	FD-009	Processing File Delivery Backend Message	Required to test whether File Delivery Backend Messages are properly generated, processed and correctly interpreted
	FD-010	Delivery of File Delivery Backend Message	Required to test whether File Delivery Backend Messages are correctly requested, responded, and delivered.
	SD-007	Processing Stream Delivery Backend Message	Required to test whether Stream Delivery Backend Messages are properly generated, processed and correctly interpreted
	SD-008	Delivery of Stream Delivery Backend Message	Required to test whether Stream Delivery Backend Messages are correctly requested, responded, and delivered.
	SCPD-015	Processing SPCP Backend Message for DRM Profile	Required to test whether SPCP Backend Messages for DRM Profile are properly generated, processed and correctly interpreted
	SCPD-016	Delivery of SPCP Backend Message for DRM Profile	Required to test whether SPCP Backend Messages for DRM Profile are correctly requested, responded, and delivered.
	SCPS-015	Processing SPCP Backend Message for Smartcard Profile	Required to test whether SPCP Backend Messages for Smartcard Profile are properly generated, processed and correctly interpreted
	SCPS-016	Delivery of SPCP Backend Message for Smartcard Profile	Required to test whether SPCP Backend Messages for Smartcard Profile are correctly requested, responded, and delivered.
	NT-006	Generation of Notification Message	Required to test whether Notification messages are properly generated for the mandatory elements and attributes.
	NT-007	Generation of Emergency Notification Message	Required to test whether Notification Messages specified for emergency notification is properly generated.
	NT-010	Processing Notification Backend Message	Required to test whether Notification Backend Messages are properly generated, processed and correctly interpreted
	NT-011	Delivery of Notification Backend Message	Required to test whether Notification Backend Messages are correctly requested, responded, and delivered.
	MR-004	Support for roaming request and response	Required to test that the BSM is able to correctly execute the message exchange that is required to complete roaming request / response.
	MR-005	Processing Roaming Message between BSMs	Required to test whether Roaming Messages for Smartcard Profile are properly generated, processed and correctly interpreted between different BSMs
	MR-006	Delivery of Roaming Message between BSMs	Required to test whether Roaming Messages for Smartcard Profile are correctly requested, responded, and delivered between different BSMs

	Feature Key	Feature Description	Feature Test Requirements
Error Flow			

Table 7: Applicability Table for Enabler Specific Optional Test Requirements

5.1.1.2.4 Optional BSA test requirement

	Feature Key	Feature Description	Feature Test Requirements
Normal Flow	SG-028	Processing Service Guide Backend Message	Required to test whether Service Guide Backend Messages are properly generated, processed and correctly interpreted
	SG-029	Delivery of Service Guide Backend Message	Required to test whether Service Guide Backend Messages are correctly requested, responded, and delivered.
	FD-011	Processing File Delivery Backend Message	Required to test whether File Delivery Backend Messages are properly generated, processed and correctly interpreted
	FD-012	Delivery of File Delivery Backend Message	Required to test whether File Delivery Backend Messages are correctly requested, responded, and delivered.
	SD-009	Processing Stream Delivery Backend Message	Required to test whether Stream Delivery Backend Messages are properly generated, processed and correctly interpreted
	SD-010	Delivery of Stream Delivery Backend Message	Required to test whether Stream Delivery Backend Messages are correctly requested, responded, and delivered.
	SCPD-017	Processing SPCP Backend Message for DRM Profile	Required to test whether SPCP Backend Messages for DRM Profile are properly generated, processed and correctly interpreted
	SCPD-018	Delivery of SPCP Backend Message for DRM Profile	Required to test whether SPCP Backend Messages for DRM Profile are correctly requested, responded, and delivered.
	SCPS-017	Processing SPCP Backend Message for Smartcard Profile	Required to test whether SPCP Backend Messages for Smartcard Profile are properly generated, processed and correctly interpreted
	SCPS-018	Delivery of SPCP Backend Message for Smartcard Profile	Required to test whether SPCP Backend Messages for Smartcard Profile are correctly requested, responded, and delivered.
	NT-012	Processing Notification Backend Message	Required to test whether Notification Backend Messages are properly generated, processed and correctly interpreted
	NT-013	Delivery of Notification Backend Message	Required to test whether Notification Backend Messages are correctly requested, responded, and delivered.
Error Flow			

Table 8: Applicability Table for Enabler Specific Optional Test Requirements

5.1.2 DVB IPDC Adaptation Specification

In BCAST 1.0, the Broadcast Distribution System (BDS) Adaptation specifications further narrow down or elaborate the functionality specified in the main technical specifications. That is, the role of adaptation specification is to be more specific

or restrictive with regards of the use of normative statements compared to the main specifications. This section lists the resulting test requirements for such BDS-specific elaborations when the BDS in use is "IPDC over DVB-H". Note that only those requirements that are different than those in the sections 5.1.1 are listed. For the rest of the requirements, the ETR defined in sections 5.1.1 apply also to the case of "IPDC over DVB-H" adaptation. If there are competing requirements in this section and the section 5.1.1, the requirements defined in this section are considered to take priority.

5.1.2.1 Generic Adaptation

5.1.2.1.1 Mandatory Test Requirements

5.1.2.1.1.1. Mandatory terminal test requirement

	Feature Key	Feature Description	Feature Test Requirements
Normal Flow	SG-030	Service Guide discovery over DVB-IPDC bootstrap session	Required to test whether the terminal can correctly discover, and bootstrap from, a Service Guide Announcement Carrousel declared by an IPDC bootstrap session
	FD-013	Proper handling of SessionDescription parameters that can be ignored	Required to test whether the terminal properly handle the SDP parameter it may ignore (MBMS bearer per media)
	FD-014	Source packet construction and reception component of Raptor FEC	Required to test whether terminals correctly support interpretation of source packets constructed according to the source packet construction and reception component of the Raptor FEC Scheme for the case where there is a single sub-block
	SD-011	Support of SessionDescription parameters	Required to test whether the terminal correctly supports the additional SDP parameters "sender IP address", "List of media components in the session", and "Initial buffering delay"
	SD-012	Proper handling of SessionDescription parameters that can be ignored	Required to test whether the terminal properly handle SDP parameters it may ignore, i.e. "FEC configuration and related parameters" and "mode of MBMS bearer per media".
	SD-013	Buffer control	Required to test whether terminal correctly support the Hypothetical Receiver Buffering Model and its associated SDP parameters.
	TP-003	Support for the <IPDC> node	Required to test whether the terminal properly supports the <X>/BDSEntryPoint/<X>/IPDC node and sub nodes (except for the /Tuning sub node).
	CODEC-001	Mandatory media codecs	Required to test whether H.264 and AACv2 are properly supported by the terminal.
Error Flow			

Table 9: Applicability Table for Enabler Specific Mandatory Test Requirements

5.1.2.1.1.2. Mandatory BSD/A test requirement

	Feature Key	Feature Description	Feature Test Requirements
Normal Flow	SG-031	SG Announcement using IPDC bootstrap session	Required to test whether the server correctly signals a Service Guide Announcement Channel in an IPDC bootstrap session using the ESGProviderDiscovery Descriptor and the ESGAccessDescriptor
	SD-014	Hypothetical Receiver Buffering Model signaling	Required to test whether the server support the Hypothetical Receiver Buffering Model and correctly signal its associated SDP parameters.

	Feature Key	Feature Description	Feature Test Requirements
	SD-015	Support of SessionDescription parameters	Required to test whether the server correctly signals the additional SDP parameters “sender IP address”, “List of media components in the session”, and “Initial buffering delay”
Error Flow			

Table 10: Applicability Table for Enabler Specific Mandatory Test Requirements

5.1.2.1.2 Optional Test Requirements

5.1.2.1.2.1. Optional terminal test requirement

	Feature Key	Feature Description	Feature Test Requirements
Normal Flow	SG-032	Support for Genre definition	Required to test whether the terminal supports the TV-Anytime classification scheme and classify content accordingly
	FD-015	Repair packet construction of Raptor FEC	Required to test whether terminals correctly support the Repair packet construction and Raptor FEC decoding component of the Raptor FEC Scheme
	TP-004	Support for the <IPDC/Tuning> node	Required to test whether the terminal properly supports the <X>/BDSEntryPoint/<X>/IPDC/Tunign node.
Error Flow			

Table 11: Applicability Table for Enabler Specific Optional Test Requirements

5.1.2.1.2.2. Optional BSM test requirement

	Feature Key	Feature Description	Feature Test Requirements
Normal Flow	TP-005	Signaling of the <IPDC> node	Required to test whether the server properly delivers the <X>/BDSEntryPoint/<X>/IPDC node and sub nodes
Error Flow			

Table 12: Applicability Table for Enabler Specific Optional Test Requirements

5.1.2.2 BDS specific Adaptation

5.1.2.2.1 Mandatory Test Requirements

5.1.2.2.1.1. Mandatory terminal test requirement

	Feature Key	Feature Description	Feature Test Requirements
Normal Flow	SCPD-019	Encryption protocols	Required to test whether the terminal effectively supports IPSec, SRTP and ISMACryp encryption protocols for the DRM Profile.
	SCPS-019	Encryption protocols	Required to test whether the terminal effectively supports IPSec, SRTP and ISMACryp encryption protocols for the Smartcard Profile.
Error Flow			

Table 13: Applicability Table for Enabler Specific Mandatory Test Requirements

5.1.2.2.1.2. Mandatory BSD/A test requirement

	Feature Key	Feature Description	Feature Test Requirements
	FD-016	FLUTE FDT	Required to test whether the server provides FLUTE FDT for which: • Content-Type is included either in the <FDT-Instance>, the <File> element or both • Content-Length is included in each <File> element • Type of <FDT Instance> element is 'FDT-InstanceType-BdsDvb' or 'FDT-InstanceType-BdsMbmsDvb' from BCAST FDT namespace Type of <File> element type is 'FileType-BdsMbmsDvb' from BCAST FDT namespace.
	SD-016	RTCP sender reports	Required to test whether the server sends RTCP sender reports along with stream distribution
	SCPD-020	Master Salt with SRTP	Required to test whether the server effectively uses a NULL Master Salt with SRTP
	SCPD-021	Key Management with DRM Profile	Required to test whether the server provides STKM and LTKM formatted according to the constraints of section 7.4.2.1 in [BCAST10–DVB-H- IPDC–Adaptation].
	SCPS-020	MKI field length with Smartcard Profile for Content Encryption	Required to test that the server effectively uses a MKI of length 2 bytes when SRTP is used in conjunction with the Smartcard Profile. More generally required to test whether the values in table of section 7.4.1.1 in [BCAST10–DVB-H- IPDC–Adaptation] are effectively used.
Error Flow			

Table 14: Applicability Table for Enabler Specific Mandatory Test Requirements

5.1.2.2.2 Optional Test Requirements

5.1.2.2.2.1. Optional terminal test requirement

	Feature Key	Feature Description	Feature Test Requirements
Normal Flow	SCPD-022	DRM Profile in unconnected mode	Required to test whether terminals supporting the DRM Profile without interaction channel are compliant to the provisions of the mode of operation without an interaction channel.
Error Flow			

Table 15: Applicability Table for Enabler Specific Optional Test Requirements

5.1.2.2.2.2. Optional BSD/A test requirement

	Feature Key	Feature Description	Feature Test Requirements
Normal Flow	FD-017	Associated Delivery Procedure XML schemas for file distribution	Required to test whether the server correctly instantiates an Associated Delivery Procedure description holding a 'serverURI' element.
Error Flow			

Table 16: Applicability Table for Enabler Specific Optional Test Requirements

5.1.3 3GPP MBMS Adaptation Specification

In BCAST 1.0, the Broadcast Distribution System (BDS) Adaptation specifications further narrow down or elaborate the functionality specified in the main technical specifications. That is, the role of adaptation specification is to be more specific or restrictive with regards of the use of normative statements compared to the main specifications. This section lists the resulting test requirements for such BDS-specific elaborations when the BDS in use is "3GPP MBMS". Note that only those requirements that are different than those in the sections 5.1.1 are listed. For the rest of the requirements, the ETR defined in sections 5.1.1 apply also to the case of "3GPP MBMS" adaptation. If there are competing requirements in this section and the section 5.1.1, the requirements defined in this section are considered to take priority.

5.1.3.1 Generic Adaptation

5.1.3.1.1 Mandatory Test Requirements

5.1.3.1.1.1. Mandatory terminal test requirement

	Feature Key	Feature Description	Feature Test Requirements
Normal Flow	SG-033	Service Guide Bootstrap for SG Delivery over Broadcast Channel	Required to test whether the terminal can correctly discover, and bootstrap from MO information specifying the SG entry point information for broadcasted SG
	SG-034	Service Guide Bootstrap for SG Delivery over Unicast Channel	Required to test whether the terminal can correctly discover, and bootstrap from MO information specifying the SG entry point information for SG over interaction channel
	SG-035	Switching between accesses	Required to test whether the terminal is able to switch between MBMS broadcast/multicast and MBMS unicast accesses for a service
	FD-018	Source packet construction and reception component of Raptor FEC	Required to test whether terminals correctly support interpretation of source packets constructed according to the source packet construction and reception component of the Raptor FEC Scheme
	SD-017	Support of SessionDescription parameters	Required to test whether the terminal correctly supports the additional SDP parameters "sender IP address", "mode of MBMS bearer per media", "FEC configuration and related parameters"
	SD-018	Support for Streaming Services	Required to test whether 3GPP PSS streaming service is properly supported by the terminal.
	SPR-007	Service protection using Smartcard Profile	Required to test whether Smartcard Profile based Service Protection is properly supported by the terminal.
	TP-006	Support for the <MBMS> node of MO	Required to test whether the terminal properly supports the <X>/BDSEntryPoint/<X>/MBMSnode and sub nodes
	CODEC-002	Mandatory/recommended media codecs	Required to test whether mandatory audio/video codecs (or, for media types where no mandatory codecs are specified, recommended audio/video codecs) of MBMS (i.e., H.264, and at least one of [Enhanced aacPlus, Extended AMR-WB]) are properly supported by the terminal.
Error Flow			

Table 17: Applicability Table for Enabler Specific Mandatory Test Requirements

5.1.3.1.1.2. Mandatory BSD/A test requirement

	Feature Key	Feature Description	Feature Test Requirements
Normal Flow	SD-019	Support of SessionDescription parameters	Required to test whether the server correctly signals the additional SDP parameters "sender IP address", "mode of MBMS bearer per media", "FEC configuration and related parameters"
Error Flow			

Table 18: Applicability Table for Enabler Specific Mandatory Test Requirements

5.1.3.1.2 Optional Test Requirements

5.1.3.1.2.1. Optional terminal test requirement

	Feature Key	Feature Description	Feature Test Requirements
Normal Flow	SI-004	SMS for service interaction	Required to test whether the terminal supports the use of SMS based service interaction
Error Flow			

Table 19: Applicability Table for Enabler Specific Optional Test Requirements

5.1.3.1.2.2. Optional BSM test requirement

	Feature Key	Feature Description	Feature Test Requirements
Normal Flow	SG-036	Service Guide Bootstrap for SG Delivery over Broadcast Channel	Required to test whether the BSM can correctly provision MO information specifying the SG entry point information for broadcasted SG
	SG-037	Service Guide Bootstrap for SG Delivery over Unicast Channel	Required to test whether the BSM can correctly provision MO information specifying the SG entry point information for SG over interaction channel
	TP-007	Signaling of the <MBMS> node	Required to test whether the server properly delivers the <X>/BDSEntryPoint/<X>/MBMS node and sub nodes
Error Flow			

Table 20: Applicability Table for Enabler Specific Optional Test Requirements

5.1.3.2 BDS specific Adaptation

5.1.3.2.1 Mandatory Test Requirements

5.1.3.2.1.1. Mandatory terminal test requirement

	Feature Key	Feature Description	Feature Test Requirements

	Feature Key	Feature Description	Feature Test Requirements
Normal Flow	FD-019	Associated Delivery Procedure XML schemas for file distribution	Required to test whether the terminal correctly handles the XML schema definitions for the associated delivery procedures for file distribution (i.e. the Associated Delivery Procedure description is holding a 'serviceURI' element.)
	FD-020	File repair and reception operation	Required to test whether the terminal correctly handles file repair and reception reporting
	SD-020	Associated Delivery Procedure XML schemas for stream distribution	Required to test whether the terminal correctly handles the XML schema definitions for the associated delivery procedures for stream distribution (i.e. the Associated Delivery Procedure description is holding a 'serviceURI' element.)
Error Flow			

Table 21: Applicability Table for Enabler Specific Mandatory Test Requirements

5.1.3.2.1.2. Mandatory BSD/A test requirement

	Feature Key	Feature Description	Feature Test Requirements
Normal Flow	FD-021	Parameter signalling with FLUTE	Required to test whether the BSD/A uses FLUTE with restrictions specified in MBMS Adaptation specification
	FD-022	File repair and reception reporting operation	Required to test whether the BSD/A correctly handles file repair and reception reporting
	SD-021	RTCP sender reports	Required to test whether the server sends RTCP sender reports along with stream distribution
	SD-022	Stream reception reporting operation	Required to test whether the BSD/A correctly handles stream reception reporting
Error Flow			

Table 22: Applicability Table for Enabler Specific Mandatory Test Requirements

5.1.4 3GPP2 BCMCS Adaptation Specification

In BCAST 1.0, the Broadcast Distribution System (BDS) Adaptation specifications further narrow down or elaborate the functionality specified in the main technical specifications. That is, the role of adaptation specification is to be more specific or restrictive with regards of the use of normative statements compared to the main specifications. This section lists the resulting test requirements for such BDS-specific elaborations when the BDS in use is "3GPP2 BCMCS". Note that only those requirements that are different than those in the sections 5.1.1 are listed. For the rest of the requirements, the ETR defined in sections 5.1.1 apply also to the case of "3GPP2 BCMCS" adaptation. If there are competing requirements in this section and the section 5.1.1, the requirements defined in this section are considered to take priority.

5.1.4.1 Generic Adaptation

5.1.4.1.1 Mandatory Test Requirements

5.1.4.1.1.1. Mandatory terminal test requirement

	Feature Key	Feature Description	Feature Test Requirements
Normal Flow	SG-038	Switching between accesses	Required to test whether the terminal is able to switch between 3GPP2 broadcast/multicast and 3GPP2 unicast accesses for a service

	Feature Key	Feature Description	Feature Test Requirements
	SG-039	Service Guide discovery over 3GPP2 BCMCS information acquisition	Required to test whether the terminal can correctly discover, and bootstrap from, a Service Guide Announcement Carrousel declared by a 3GPP2 Information Acquisition session
	FD-023	Proper handling of SessionDescription parameters that can be ignored	Required to test whether the terminal properly handle the SDP parameter it may ignore (MBMS bearer per media)
	SD-023	Support for Streaming Services	Required to test whether 3GPP2 MSS streaming service is properly supported by the terminal.
	SD-024	Support of SessionDescription parameters	Required to test whether the terminal correctly supports the session information being provided using an SDP-formatted file contained in the Access fragment or in a Session Description referenced by the Access fragment
	SD-025	Proper handling of SessionDescription parameters that can be ignored	Required to test whether the terminal properly handle SDP parameters it may ignore, i.e. “mode of MBMS bearer per media” and “The MBMS User Service Bundle Description/User Service Description”.
	SPR-008	Service protection using Smartcard Profile	Required to test whether Smartcard Profile based Service Protection is properly supported by the terminal.
	SI-005	Interactive retrieval of additional information related to Service Guide fragments	Required to test for the support of the “ExtensionURL” element in the SG which represents a pointer to a web resource providing further information related to the fragment, and accessing such additional information by using HTTP
Error Flow			

Table 23: Applicability Table for Enabler Specific Mandatory Test Requirements

5.1.4.1.1.2. Mandatory BSD/A test requirement

	Feature Key	Feature Description	Feature Test Requirements
Normal Flow	FD-024	Support for file distribution network interface configurations between BCAST and BCMCS network entities	Required to test that BSD/A is configurable to support any one of the three protocol interface configurations for FD-B1 as specified in [BCAST10-BCMCS-Adaptation], Sections 6.5.3.2.1 through 6.5.3.2.3
	SD-026	Support of SessionDescription parameters	Required to test whether the server correctly sends the session information using an SDP-formatted file contained in the Access fragment or in a Session Description referenced by the Access fragment.
	SD-027	Support for SessionDescription parameters	Required to test whether the server correct does not use the MBMS User Service Bundle Description/User Service Description.
	SD-028	Support for stream distribution network interface configurations between BCAST and BCMCS network entities	Required to test that BSD/A is configurable to support any one of the four protocol interface configurations for FD-B1 as specified in [BCAST10-BCMCS-Adaptation], Sections 6.5.4.1.1 through 6.5.4.1.4.
Error Flow			

Table 24: Applicability Table for Enabler Specific Mandatory Test Requirements

5.1.4.1.2 Optional Test Requirements

5.1.4.1.2.1. Optional terminal test requirement

	Feature Key	Feature Description	Feature Test Requirements
Normal Flow	CODEC-003	Mandatory/recommended media codecs	Required to test whether mandatory audio/video codecs (or, for media types where no mandatory codecs are specified, recommended audio/video codecs) of **BCMCS, specified in C.S0070-0 (expected publication in Nov 2007)** are properly supported by the terminal.
Error Flow			

Table 25: Applicability Table for Enabler Specific Optional Test Requirements

5.1.4.1.2.2. Optional BSD/A test requirement

	Feature Key	Feature Description	Feature Test Requirements
Normal Flow	FD-025	Support for file distribution network interface configurations between BCAST and BCMCS network entities	Required to test that BSD/A is configurable to support any one of the three protocol interface configurations for FD-B1 as specified in [BCAST10-BCMCS-Adaptation], Sections 6.5.3.2.1 through 6.5.3.2.3
	FP-001	BCMCS Flow Provisioning across BDS-1	Support for provisioning of BCMCS Flows across BDS-1 interface, by adhering to BSD/A-to-BCMCS Control Protocol messages, and procedures triggered by those messages.
	SD-029	Support for stream distribution network interface configurations between BCAST and BCMCS network entities	Required to test that BSD/A is configurable to support any one of the four protocol interface configurations for FD-B1 as specified in [BCAST10-BCMCS-Adaptation], Sections 6.5.4.1.1 through 6.5.4.1.4.
Error Flow			

Table 26: Applicability Table for Enabler Specific Optional Test Requirements

5.1.4.2 BDS specific Adaptation

5.1.4.2.1 Mandatory Test Requirements

5.1.4.2.1.1. Mandatory terminal test requirement

	Feature Key	Feature Description	Feature Test Requirements

	Feature Key	Feature Description	Feature Test Requirements
Normal Flow	SCPS-021	Encryption protocols	Required to test whether the terminal effectively supports SRTP configuration defined in 3GPP2 X.S0022-A specifically: • The BAK shall be used as the SRTP Master Key. • The SK_RAND is 32 bits and shall be extended to 112 bits by left-padding with zeros to form the SRTP Master Salt. • The Packet Index is determined according to [RFC 3711] (SRTP), Section 3.3.1. The Key Derivation Rate shall be set to zero. The Key Derivation Function shall be the AES in Counter Mode as specified in [RFC 3711], Section 4.1.1. (no change)
Error Flow			

Table 27: Applicability Table for Enabler Specific Mandatory Test Requirements

5.1.4.2.2 Optional Test Requirements

5.1.4.2.2.1. Optional terminal test requirement

	Feature Key	Feature Description	Feature Test Requirements
Normal Flow	FD-026	Associated Delivery Procedure XML schemas for file distribution	Required to test whether the terminal correctly handles the XML schema definitions for the associated delivery procedures for file distribution (i.e. the Associated Delivery Procedure description is holding a 'serviceURI' element.)
	FD-027	File repair and reception operation	Required to test whether the terminal correctly handles file repair and reception reporting
	FD-028	FLUTE reception of files and Service Guide	Test the use of FLUTE protocol for reception of file and SG fragments
	SD-030	Associated Delivery Procedure XML schemas for stream distribution PEK acquisition using BCMCS Information Acquisition	Required to test whether the terminal correctly handles the XML schema definitions for the associated delivery procedures for stream distribution (i.e. the Associated Delivery Procedure description is holding a 'serviceURI' element.)
	SCPS-022	SEK/PEK acquisition using BCMCS Information Acquisition	Test if BCMCS Control is a separate entity from the BSM for the acquisition of the SEK/PEK using BCMCS Information Acquisition procedure defined in [3GPP2 X.S0022-A]
Error Flow			

Table 28: Applicability Table for Enabler Specific Optional Test Requirements

5.1.4.2.2.2. Optional BSD/A test requirement

	Feature Key	Feature Description	Feature Test Requirements
Normal Flow	FD-029	FLUTE delivery of files and Service Guide	Test the use of FLUTE protocol for delivery of file and SG fragments
	FD-030	File repair and reception reporting operation	Required to test whether the BSD/A correctly handles file repair and reception reporting

	Feature Key	Feature Description	Feature Test Requirements
	FD-031	Support for file distribution network interface configurations between BCAST and BCMCS network entities	Required to test that BSD/A is configurable to support any one of the three protocol interface configurations for FD-B1 as specified in [BCAST10-BCMCS-Adaptation], Sections 6.5.3.2.1 through 6.5.3.2.3
	SD-031	RTCP sender reports	Required to test whether the server sends RTCP sender reports along with stream distribution
	SD-032	Stream reception reporting operation	Required to test whether the BSD/A correctly handles stream reception reporting
	SD-033	Support for stream distribution network interface configurations between BCAST and BCMCS network entities	Required to test that BSD/A is configurable to support any one of the four protocol interface configurations for FD-B1 as specified in [BCAST10-BCMCS-Adaptation], Sections 6.5.4.1.1 through 6.5.4.1.4.
	FP-002	BCMCS Flow Provisioning across BDS-1	Support for provisioning of BCMCS Flows across BDS-1 interface, by adhering to BSD/A-to-BCMCS Control Protocol messages, and procedures triggered by those messages.
Error Flow			

Table 29: Applicability Table for Enabler Specific Optional Test Requirements

5.2 Enabler Dependencies

BCAST 1.0 has dependencies on the following:

DRM 2.0

DM 1.2

Charging 1.0

Push 2.1

Appendix A. Change History (Informative)

A.1 Approved Version History

Reference	Date	Description
n/a	n/a	No prior version

A.2 Draft/Candidate Version 1.0 History

Document Identifier	Date	Sections	Description
Draft Versions OMA-ETR-BCAST-V1_0	13 Dec 2005	All	Draft ETR created
	07 Apr 2006	All	Resolutions as per OMA-IOP-2006-0078R04-INP-BCAST_1_0-ETRRR incorporated.
	26 Apr 2007	All	Resolutions as per OMA-CONRR-ETR_BCAST-V1_0_0-20070426-D which is based on the agreed documents, OMA-BCAST-2007-0514R01-CR_ETR_additional_update_for_refs_terms and OMA-BCAST-2007-0513R03-CR_ETR_update_for_finalization
	04 May 2007	All	Cleanup in preparation for Approval as Candidate
Candidate Versions OMA-ETR-BCAST-V1_0	29 May 2007	n/a	Status changed to Candidate by TP TP ref# OMA-TP-2007-0291-INP_BCAST_V1_0_ERP_for_Candidate_approval
Draft Version: OMA-ETR-BCAST-V1_0	13 Nov 2008	All	Updated with agreed CR: OMA-BCAST-2008-0359R02
Candidate Versions OMA-ETR-BCAST-V1_0	09 Dec 2008	n/a	Status changed to Candidate by TP TP ref# OMA-TP-2008-0452-INP_BCAST_V1_0_ERP_for_Candidate_Re_approval