

vMRF High Level Statement of Compliance

Virtual Multimedia Resource Function

Statement of Compliance

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1 General

This document provides general information about compliances with standards for the Virtual Media Resource Function (vMRF). This document includes a listing of standard specifications, RFCs, technical reports, and other specifications applicable to the vMRF.

The Ericsson virtual media resource functionality consists of two main functional structures: Multimedia Resource Function Processor (MRFP) functionality and Multimedia Resource Function Controller (MRFC) + MRFP functionality, as shown illustrated in [unresolved external reference].

The MRFP functionality supports only announcement service and audio conferences. That must be in mind when reading the compliance statements.

This document indicates also the difference to legacy MRF running on Ericsson native hardware:

Standards which are supported by the native MRF, but not yet supported by vMRF are marked with *italic* text.

Standards which are supported only by vMRF and not in native MRF are marked with **bold** text.

Note: The MRFC functionality has not been implemented yet.

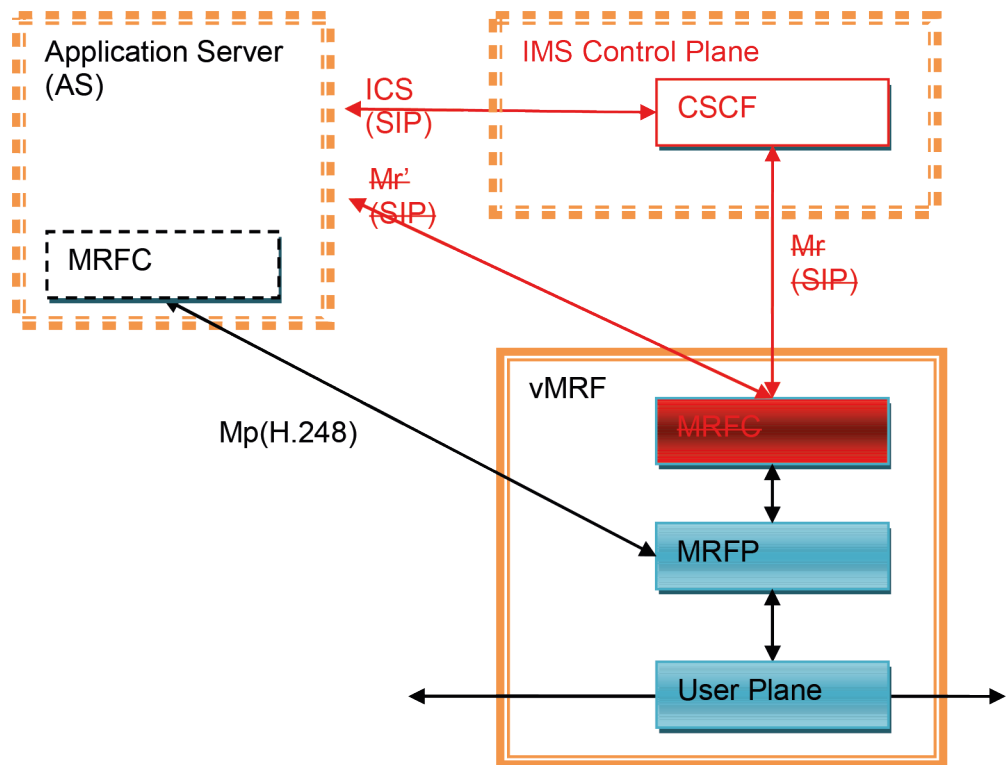


Figure 1 vMRF Functional Structure Overview



2 Statement of Compliance

Each specification is categorized by one of the following statements:

Compliant (C) States that the functionality provided has been implemented according to the standard definition. The High-level SoC summarizes the important exceptions.

Partly Compliant (PC) States that some part of the functionality that is provided has been implemented in a way that differs from the standard definition. The High-level SoC summarizes the important exceptions.

Not Compliant (NC) States that the functionality that is provided has been implemented in a way that differs from the standard definition.

Not Implemented (NI) States that the functionality specified in the standard is not provided at all. Note, that if, for example, a supplementary service standard is listed as "Not Implemented", it also means that sections in other standards covering, for example, interactions with this supplementary service are "Not Implemented". This will however not be visible in the list of limitations for those other standards.

Not Applicable (NA) This category is used for the following cases:

- Descriptive specifications containing no normative requirements for vMRF.
- Specifications that only put requirements on the terminals.

2.1 ETSI NFV Standards

Generally, the vMRF VNF follows the principles set out in the ETSI NFV standards: <http://www.etsi.org/technologies-clusters/technologies/nfv>

The compliance with NFV standards is shown in [Table 1](#).

Table 1 ETSI NFV Standards

Standard Number	Standard Title
GS NFV 002	NFV; Architectural Framework
GS NFV-SWA 001	NFV; Virtual Network Functions Architecture
GS NFV-INF 001	NFV; Infrastructure Overview
GS NFV-INF 004	NFV; Infrastructure; Hypervisor Domain
GS NFV-REL 001	NFV; Resiliency Requirements
GS NFV-REL 002	Network Functions Virtualisation (NFV); Reliability; Report on Scalable Architectures for Reliability Management
GS NFV-MAN 001	NFV; Management and Orchestration

2.2 ITU-T Standards

The compliance with ITU-T standards is shown in [Table 2](#).

Table 2 ITU-T Standards

Standard	Name	Compliance		Comment
		M R F P	M R F C + M R F P	
E.180/Q.35 (03/1998)	Technical characteristics of tones for the telephone service.	C	NI	
E.181 (11/1988)	Customer recognition of foreign tones.	C	NI	
E.182 (03/1998)	Application of tones and recorded announcements in telephony services.	C	P C	MRFP: Some tones of minor importance are not implemented. MRFC+MRFP:



Standard	Name	Compliance		Comment
				<i>Announcements can be used instead of tones.</i>
<i>G.100.1</i>	<i>The use of the decibel and of relative levels in speechband telecommunications</i>	<i>P</i> <i>C</i>	<i>P</i> <i>C</i>	<i>Compliant for G.722 codec.</i>
<i>G.664 (03/2003)</i>	<i>Optical safety procedures and requirements for optical transport systems</i>	<i>C</i>	<i>C</i>	<i>For additional information, refer to PICS for PDH and SDH Standards (155 19-CN X 102 08 Uen Rev G).</i>
G.711 (11/1988)	Pulse Code Modulation (PCM) of Voice Frequencies	C	C	
<i>G.719 (06/2008)</i>	<i>Low-complexity, full-band audio coding for high-quality, conversational applications.</i>	<i>C</i>	<i>C</i>	<i>Incompatibilities are listed under RFC 5404.</i>
G.722 (09/2012)	7 kHz audio-coding within 64 kbit/s.	C	C	<ul style="list-style-type: none"> • Annex B not implemented • Appendix 3 and 5 not implemented • Amendment 1 not implemented
G.729 (01/2007)	Coding of speech at 8 kbit/s using conjugate-structure algebraic-code-excited linear prediction (CS-ACELP)	C	C	<p>The following functions are not included:</p> <ul style="list-style-type: none"> • Annexes C, C+ (Floating-point implementation) • Annex D (CS-ACELP speech coding algorithm at 6.4 kbit/s) • Annex E (CS-ACELP speech coding algorithm at 11.8 kbit/s) • Annex F (DTX functionality for the 6.4 kbit/s)

Standard	Name	Compliance		Comment
				<ul style="list-style-type: none"> • Annex G (DTX functionality for the 11.8 kbit/s) • Annex H (switching operation between 6.4 kbit/s and 11.8 kbit/s) • Annex I (integration of G.729 main body with Annexes B, D and E). • Annex J (An interoperable 8-32 kbit/s scalable wideband extension to G.729) • Appendix I (external synchronous reset capability) • Appendix II (G.729 Annex B enhancements in voice-over-IP applications – Option 1)
H.248.1 (09/2005)	Gateway Control Protocol: Version 2	P C	N A	
H.264 (01/2012)	Advanced video coding for generic audiovisual services	P C	P C	MRFP: Only the constrained baseline profile supported up to 720p and up to 2 Mbps. Maximum 30 frames per seconds supported.
Q.23 (11/1988)	Technical features of Push button Telephone sets	C	C	MRFP: Compliant regarding tones
Q.24 (11/1988)	Multifrequency Push button Signal reception	C	C	MRFP: Compliant regarding tones

2.3 ETSI Standards

The compliance with ETSI standards is shown in [Table 3](#).



Table 3 ETSI Standards

Standard	Name	Compliance		Comment
		M R F P	M R F C + M R F P	
ES 283 031 V1.1.2 (Historical)	TISPAN; IP Multimedia: H.248 Profile for controlling Multimedia Resource Function Processors (MRFP) in the IP Multimedia System (IMS); Protocol specification	P C	N A	MRFP: <ul style="list-style-type: none"> The profile <code>ETSIprof_MediaServer</code> is used. See compliance comments for 3GPP TS 23.333 and 3GPP TS 29.333.
TS 123 333 V10.4.0	Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); LTE; Multimedia Resource Function Controller (MRFC) - Multimedia Resource Function Processor (MRFP) Mp interface: Procedures descriptions (3GPP TS	P C	N A	MRFP: <p>See compliance comments for 3GPP TS 23.333.</p>



Standard	Name	Compliance		Comment
	23.333 version 10.4.0)			
TS 129 333 V10.4.0	Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); Multimedia Resource Function Controller (MRFC) - Multimedia Resource Function Processor (MRFP) Mp interface; Stage 3 (3GPP TS 29.333 version 10.4.0 Release 10)	P C	N A	MRFP: See compliance comments for 3GPP TS 29.333.

2.4 3GPP Standards

The compliance with 3GPP standards is shown in [Table 4](#).

Table 4 3GPP Standards

Standard	Name	Compliance		Comment
		M R F P	M R F C + M R F P	



Standard	Name	Compliance		Comment
22.153(V 10.1.0)	Multimedia priority service	P C	P C	All MPS traffic is treated in the same way, independent of priority level. Priority has not been implemented for all services.
23.218 (V10.0.0)	IP Multimedia (IM) session handling; IM call model; Stage 2	N A	P C	MRFC+MRFP: <ul style="list-style-type: none"> Announcements, audio conferences, and video conferences supported. Cr interface not supported <p>For the supported procedures, refer to the MF NetAnn support for MTAS IWD (/155 19-CRA 119 1440/10 Uen Rev B)</p>
23.228 (V10.7.0)	IP Multimedia Subsystem (IMS); Stage 2 (Release 10)	P C	P C	Not included functions in MRFP: <ul style="list-style-type: none"> Explicit Congestion Notification (ECN) Transcoding Session Based Messaging MRFC+MRFP: <ul style="list-style-type: none"> Announcements, audio conferences, and video conferences are supported. Cr interface not supported <p>For the supported procedures, refer to the MRF NetAnn support for MTAS IWD (1/155 19-CRA 119 1440/10 Uen Rev B).</p>
23.333 (10.4.0)	Multimedia Resource Function Controller (MRFC) - Multimedia Resource Function Processor (MRFP) Mp interface: Procedures Descriptions	P C	N A	MRFP: <ul style="list-style-type: none"> Interworking is guaranteed only when the MRFP function is controlled through an Ericsson product. All procedures are not supported. The profile ETSIprof_MediaServer is used, refer to ES 283 031.



Standard	Name	Compliance		Comment
24.147 (V10.2.0)	Conferencing using the IP Multimedia (IM) Core Network (CN) subsystem; Stage 3	P C	P C	MRFP: Only audio conferences supported <i>MRFC+MRFP:</i> <ul style="list-style-type: none"> Only audio conferences and video conferences supported. Participants are never invited.
24.229 (V10.9.0)	IP multimedia call control protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP); Stage 3	N A	P C	MRFC+MRFP: <ul style="list-style-type: none"> Announcements, audio conferences, and video conferences supported Incompatibilities are listed under RFC 3261. For the supported procedures, refer to the MRF NetAnn support for MTAS IWD (1/155 19-CRA 119 1440/10 Uen Rev B).
26.071 (V10.0.0)	AMR speech Codec; General description	C	C	AMR interface format 2 not implemented
26.073 (V10.0.0)	AMR speech Codec; C-source code	C	C	
26.074 (V10.0.0)	AMR speech Codec; Test sequences	C	C	
26.090 (V10.0.0)	AMR speech Codec; Transcoding Functions	C	C	
26.091 (V10.0.0)	AMR speech Codec; Error concealment of lost frames	C	C	
26.092 (V10.0.0)	AMR speech Codec; comfort noise for AMR Speech Traffic Channels	C	C	



Standard	Name	Compliance		Comment
26.093 (V10.0.0)	AMR speech Codec; Source Controlled Rate operation	C	C	
26.094 (V10.0.0)	AMR Speech Codec; Voice Activity Detector for AMR Speech Traffic Channels	C	C	
26.101 (V10.0.0)	AMR speech Codec; Frame Structure	C	C	AMR interface format 2 not supported
26.103 (V10.1.0)	<i>Speech Codec list for GSM and UMTS</i>	C	C	<i>PDC_EFR and are not TDMA_EFR applicable</i>
26.114 (V10.3.0)	IP Multimedia Subsystem (IMS); Multimedia Telephony; Media handling and interaction	P C	P C	<p>vMRF only supports audio conferences, <i>video conferences</i>, and announcements.</p> <p>Compliance to Adaptation mechanisms (chapter 10): Reception of RTCP-APP-CMR (Codec Mode Request) is supported, but RTCP_APP_CM_R is never sent by vMRF. The CM_R is sent only in RTP packets. All other RTCP-APP messages are ignored if received.</p> <p>Not included functions in MRF and MRFP:</p> <ul style="list-style-type: none"> • SDPCapNeg (RFC5939) • Redundant payload • RTCP bandwidth modifiers are not supported (RS/RR). RTCP always on by default • RTP packets are not accepted, if they are not received from same remote port where they are sent. • RTCP packets are not accepted, if they are not received from same remote port where they are sent



Standard	Name	Compliance		Comment
				<ul style="list-style-type: none">• Up to 12 speech frames per RTP packet not accepted. Max. 40 ms of speech per RTP packet is supported (20 ms for G.719)• ICM operation for outgoing AMR/AMR-WB traffic not supported• Linear 16 bit PCM not supported• Freely chosen UDP port combinations for RTP and RTCP not supported. RTCP must be always RTP+1. <p><i>MRFP:</i></p> <p><i>Video frame size attribute is used, even though forbidden</i></p>
26.171 (V10.0.0)	Adaptive Multi-Rate - Wideband (AMR-WB) speech codec; General description	C	C	AMR-WB interface format 2 is not supported
26.173 (V10.0.0)	ANSI-C code for the Adaptive Multi Rate - Wideband (AMR-WB) speech codec	C	C	
26.174 (V10.0.0)	Speech codec speech processing functions; Adaptive Multi-Rate - Wideband (AMR-WB) speech codec test sequences	C	C	
26.190 (V10.0.0)	Adaptive Multi-Rate - Wideband (AMR-WB)	C	C	



Standard	Name	Compliance		Comment
	speech codec; Transcoding functions			
26.191 (V10.0.0)	Adaptive Multi-Rate - Wideband (AMR-WB) speech codec; Error concealment of erroneous or lost frames	C	C	
26.192 (V10.0.0)	Adaptive Multi-Rate - Wideband (AMR-WB) speech codec; Comfort noise aspects	C	C	
26.193 (V10.0.0)	Adaptive Multi-Rate - Wideband (AMR-WB) speech codec; Source controlled rate operation	C	C	
26.194 (V10.0.0)	Adaptive Multi-Rate - Wideband (AMR-WB) speech codec; Voice Activity Detector (VAD)	C	C	
26.201 (V10.0.0)	Adaptive Multi-Rate - Wideband (AMR-WB) speech codec; Frame structure	C	C	AMR interface format 2 not implemented
26.235 (V11.0.0)	Packet switched conversational multimedia applications;	P C	P C	The video codecs are not supported. Text conversation not supported.



Standard	Name	Compliance		Comment
	Default codecs			
26.441 (V13.0.0)	Codec for Enhanced Voice Services (EVS); General Overview	C	C	
26.442	Codec for Enhanced Voice Services (EVS); ANSI C code (fixed-point)	C	C	
26.444	Codec for Enhanced Voice Services (EVS); Test Sequences	C	C	
26.445	Codec for Enhanced Voice Services (EVS); Detailed Algorithmic Description	C	C	
26.446	Codec for Enhanced Voice Services (EVS); AMR-WB Backward Compatible Functions	C	C	
26.447	Codec for Enhanced Voice Services (EVS); Error Concealment of Lost Packets	C	C	
26.448	Codec for Enhanced Voice Services (EVS); Jitter Buffer Management	P C	P C	Generic jitter buffer management is used instead of EVS JBM.



Standard	Name	Compliance		Comment
26.449	Codec for Enhanced Voice Services (EVS); Comfort Noise Generation (CNG) Aspects	C	C	
26.450	Codec for Enhanced Voice Services (EVS); Discontinuous Transmission (DTX)	C	C	
26.451	Codec for Enhanced Voice Services (EVS); Voice Activity Detection (VAD)	C	C	
29.333 (V10.4.0)	Multimedia Resource Function Controller (MRFC) - Multimedia Resource Function Processor (MRFP) Mp Interface; Stage 3	P C	N A	MRFP: <ul style="list-style-type: none"> • Interworking guaranteed only when the MRFP function is controlled through an Ericsson product. • All procedures are not supported • The profile <code>ETSIprof_MediaServer</code> is used, refer to ES 283 031
32.401 (V10.2.0)	Telecommunication management; Performance Management (PM); Concept and requirements	C	P C	MRFC+MRFP: SIP signalling traffic measurements not supported
32.409 (V10.4.0)	Telecommunication management; Performance Management	P C	P C	MRFP: Octet counters not supported MRFC+MRFP:

Standard	Name	Compliance		Comment
	(PM); Performance measurements - IP Multimedia Subsystem (IMS).			<ul style="list-style-type: none"> Only announcement service, conference service, and RTP related measurements supported SIP signalling traffic measurement not supported Octet counters not supported
46.051 (V10.0.0)	Enhanced Full Rate (EFR) speech processing functions; General description	C	C	The alternative Enhanced Full Rate speech service based on the 12.2 kbps mode of the Adaptive Multi Rate is used, as specified in TS46.051 section 11.
46.054 (V10.0.0)	Test sequences for the GSM Enhanced Full Rate (EFR) speech codec	C	C	Only the test sequences for the alternative Enhanced Full Rate implementation using Adaptive Multi Rate 12.2 kbps are used.
46.060 (V10.0.0)	Enhanced Full Rate (EFR) speech transcoding	C	C	
46.061 (V10.0.0)	Substitution and muting of lost frames for Enhanced Full Rate (EFR) speech traffic channels	C	C	
46.062 (V10.0.0)	Comfort noise aspects for Enhanced Full Rate (EFR) speech traffic channels	C	C	
46.081 (V10.0.0)	Discontinuous Transmission (DTX) for Enhanced Full Rate (EFR) speech traffic channels	C	C	



Standard	Name	Compliance		Comment
46.082 (V10.0.0)	Voice Activity Detector (VAD) for Enhanced Full Rate (EFR) speech traffic channels	C	C	
3GPP2 C.S0014-D (V3.0)	Enhanced Variable Rate Codec, Speech Service Options 3, 68, 70, and 73 for Wideband Spread Spectrum Digital Systems	C	C	Only Service Option 3 (EVRC-A), 68 (EVRC-B) and 73 (EVRC-NW) are supported. Dim and burst not supported. Generic audio coding mode not supported.

2.5 IETF Standards

The compliance with IETF standards is shown in [Table 5](#).

Table 5 IETF Standards

Standard	Name	Compliance		Comment
		M R F P	M R F C + M R F P	
RFC 768	User Datagram Protocol	C	C	
RFC 791	Internet Protocol	P C	P C	IP options are not supported. Fragmented packets are not supported for media.
RFC 792	Internet Control	C	C	



Standard	Name	Compliance		Comment
	Message Protocol			
RFC 793	Transmission Control Protocol	C	C	Used for O&M interface.
RFC 826	Ethernet Address Resolution Protocol	C	C	
RFC 894	A Standard for the Transmission of IP Datagrams over Ethernet Networks	C	C	
RFC 1042	A Standard for the Transmission of IP Datagrams over IEEE 802 Networks	C	C	
RFC 1122	Requirements for Internet Hosts – Communication Layers.	C	C	Fragmented packets are not accepted. ICMP redirect is silently discarded.
RFC 1305	Network Time Protocol (Version 3)	C	C	
RFC 1868	ARP Extension - UNARP	C	C	
RFC 2131	Dynamic Host Configuration Protocol	C	C	Compliant as a client.
RFC 2046	Multipurpose Internet Mail Extensions (MIME) Part Two: Media Types	N A	P C	Only content types application/sdp, application/mediaservercontrol+xml, and multipart/mixed are supported. For multipart/mixed, exactly two body parts must be contained, with content



Standard	Name	Compliance		Comment
				<i>types application/sdp, and application/mediaservercontrol+xml.</i>
RFC 2460	Internet Protocol, Version 6 (IPv6) Specification	P C	P C	User Plane: Partly Compliant. Packets containing the following types will be discarded: <ul style="list-style-type: none"> • Fragment • Authentication • Encapsulating Security Payload O&M and SCTP signalling: Not implemented.
RFC 2464	Transmission of IPv6 Packets over Ethernet Networks	C	C	
RFC 2474	Definition of the Differentiated Services Field (DS Field) in the IPv4 and IPv6 Headers	C	C	
<i>RFC 2616</i>	<i>Hypertext Transfer Protocol-HTTP/1.1</i>	C	C	
<i>RFC 2976</i>	<i>The SIP INFO Method</i>	N A	C	
<i>RFC 3261</i>	<i>SIP: Session Initiation Protocol</i>	N A	P C	<i>MRFC+MRFP supports SIP:</i> <ul style="list-style-type: none"> • <i>Transport of SIP over UDP/IPv4 or TCP/IPv4</i> • <i>SIP methods INVITE, re-INVITE, ACK, PRACK, CANCEL, OPTIONS, and BYE</i> • <i>SIP headers Allow, Call-ID, Contact, Content-Length, Content-Type, CSeq, From, Max-Forwards, Record-Route, Require, To, and Via. However, as MRF does not support resolving of</i>



Standard	Name	Compliance		Comment
				<p>domain names, message routing cannot be performed as defined in the standard, if URIs in related headers use domain names.</p> <ul style="list-style-type: none"> Content-Type application/sdp <p>MRFC+MRFP does not support:</p> <ul style="list-style-type: none"> Secure SIP (SIPS) Resolving of domain names in SIP headers <p>For the supported procedures, refer to the MRF NetAnn support for MTAS IWD (1/155 19-CRA 119 1440/10 Uen Rev B).</p>
RFC 3311	The Session Initiation Protocol (SIP) UPDATE Method	C	C	
RFC 3389	Real-time Transport Protocol (RTP) Payload for Comfort Noise (CN)	P C	P C	Supported only for EVRC codec.
RFC 3410	Introduction and Applicability Statements for Internet Standard Management Framework	N A	N A	Descriptive Specification
RFC 3411	An Architecture for Describing Simple Network Management Protocol (SNMP) Management Frameworks	N A	N A	Descriptive Specification



Standard	Name	Compliance		Comment
RFC 3412	Message Processing and Dispatching for the Simple Network Management Protocol (SNMP)	P C	P C	Used only for alarms.
RFC 3413	Simple Network Management Protocol (SNMP) Applications	P C	P C	Used only for alarms.
RFC 3414	User-based Security Model (USM) for version 3 of the Simple Network Management Protocol (SNMPv3)	P C	P C	Used only for alarms.
RFC 3415	View-based Access Control Model (VACM) for the Simple Network Management Protocol (SNMP)	NI	N I	
RFC 3416	Version 2 of the Protocol Operations for the Simple Network Management Protocol (SNMP)	P C	P C	Used only for alarms.
RFC 3417	Transport Mappings for the Simple Network Management	P C	P C	Used only for alarms.

Standard	Name	Compliance		Comment
	Protocol (SNMP)			
RFC 3418	Management Information Base (MIB) for the Simple Network Management Protocol (SNMP)	NI	N /	
RFC 3550	RTP: A Transport Protocol for Real-Time Applications.	P C	P C	Exceptions: <ul style="list-style-type: none"> • RTCP uses 5 s sending interval • SR, RR, SDES (CNAME) and BYE packets supported
RFC 3551	RTP Profile for Audio and Video Conferences with Minimal Control	P C	P C	Exceptions: <ul style="list-style-type: none"> • Only PCM A-law, PCM μ-law, G.722, and G.729 codecs are supported • Silence suppression is not supported
RFC 3558	RTP Payload Format for Enhanced Variable Rate Codecs (EVRC) and Selectable Mode Vocoders (SMV)	C	C	<ul style="list-style-type: none"> • SMV and SMV0 MIME types are not supported. • EVRC Interleaved/Bundled packet format is supported only with Interleave length 0.
RFC 3584	Coexistence between Version 1, Version 2, and Version 3 of the Internet-standard Network Management Framework	P C	P C	
RFC 3826	The Advanced Encryption Standard (AES) Cipher Algorithm in	P C	P C	Not implemented: <ul style="list-style-type: none"> • Key Localization • Password Storage



Standard	Name	Compliance		Comment
	the SNMP User-based Security Model			
<i>RFC 3986</i>	<i>Uniform Resource Identifier (URI): Generic Syntax</i>	<i>C</i>	<i>C</i>	<i>Only the HTTP scheme is supported in the URI for locating announcements.</i>
<i>RFC 4028</i>	<i>Session Timers in the Session Initiation Protocol (SIP)</i>	<i>C</i>	<i>C</i>	
<i>RFC 4240</i>	<i>Basic Network Media Services with SIP</i>	<i>N A</i>	<i>P C</i>	<i>Functions not supported in MRF:</i> <ul style="list-style-type: none"> <i>Prompt and Collect using vXML</i> <i>Secure SIP</i> <i>For additional information about the Mr interface, refer to the MRF NetAnn support for MTAS IWD (1/155 19-CRA 119 1440/10 Uen Rev B).</i>
<i>RFC 4291</i>	<i>IP Version 6 Addressing Architecture</i>	<i>C</i>	<i>C</i>	
<i>RFC 4443</i>	<i>Internet Control Message Protocol (ICMPv6) for the Internet Protocol Version 6 (IPv6) Specification</i>	<i>C</i>	<i>N A</i>	
<i>RFC 4566</i>	<i>SDP: Session Description Protocol</i>	<i>C</i>	<i>C</i>	<i>MRFP:</i> Refer to the SoC for 3GPP TS 29.333.
<i>RFC 4582</i>	<i>The Binary Floor Control Protocol (BFCP)</i>	<i>P C</i>	<i>N I</i>	<i>MRFP:</i> <i>The following BFCP primitives supported:</i> <ul style="list-style-type: none"> <i>FloorRequest</i>



Standard	Name	Compliance		Comment
				<ul style="list-style-type: none">• <i>FloorRequestStatus</i>• <i>FloorStatus</i>• <i>FloorRelease</i>• <i>Hello</i>• <i>HelloAck</i>• <i>Error</i> <p><i>If MRFP receives unsupported primitive, it is responded with Error code Unsupported Primitive.</i></p>
<i>RFC 4583</i>	<i>Session Description Protocol (SDP) Format for Binary Floor Control Protocol (BFCP) Streams</i>	<i>P</i> <i>C</i>	<i>N</i> <i>I</i>	<i>MRFP:</i> <ul style="list-style-type: none">• <i>MRFP accepts the TCP connection only from the port which was specified in the SDP</i>• <i>MRFP supports only TCP/BFCP transport</i>• <i>MRFP acts only as a floor control server role</i>• <i>MRFP supports only passive role on TCP connection establishment</i>
<i>RFC 4585</i>	<i>Extended RTP Profile for Real-time Transport Control Protocol (RTCP)-Based Feedback (RTP/AVPF)</i>	<i>P</i> <i>C</i>	<i>N</i> <i>I</i>	<i>Only the following functions are supported in MRFP:</i> <ul style="list-style-type: none">• <i>Immediate feedback mode</i>• <i>Nack mode (PLI)</i>• <i>Transport layer FB messages (PLI,FIR)</i>• <i>Payload-specific FB messages (packet resend request via Generic Nack)</i>
<i>RFC 4588</i>	<i>RTP Retransmission Payload Format</i>	<i>P</i> <i>C</i>	<i>N</i> <i>I</i>	<i>MRFP:</i> <p><i>Only the Multiplexing Scheme SSRC-multiplexing is supported.</i></p>



Standard	Name	Compliance		Comment
RFC 4733	RTP Payload for DTMF Digits, Telephony Tones and Telephony Signals	P C	P C	<ul style="list-style-type: none"> Only DTMF telephone events are supported in DTMF interworking cases. Only DTMF telephone events 0–15 are supported
RFC 4788	Enhancements to RTP Payload Formats for EVRC Family Codecs	C	C	
RFC 4855	MIME Type Registration of RTP Payload Formats	P C	P C	Only PCM A-law, PCM μ -law, G.722, and G.729 codecs are supported
RFC 4867	RTP Payload Format and File Storage Format for the Adaptive Multi-Rate (AMR) and Adaptive Multi-Rate Wideband (AMR-WB) Audio Codecs	C	C	
RFC 4960	Stream Control Transmission Protocol	C	N I	MRFP; IPv6 addresses and path MTU discovery mechanism not supported
RFC 5022	Media Server Control Markup Language (MSCML) and Protocol	N A	P C	Only IVR Playing Announcements <play>, Prompt and Collect <playcollect>, Configure Conference <configure_conference>, and Configure Leg <configure_leg> are supported.
RFC 5104	Codec Control Messages in the RTP Audio-Visual Profile with Feedback (AVPF)	P C	N I	MRFP: Only CCM FIR supported



Standard	Name	Compliance		Comment
RFC 5404	RTP Payload Format for G.719	C	C	<i>Exceptions:</i> <ul style="list-style-type: none">• Only bit rates 128 kbps mono and 2×64 kbps stereo supported• Only Basic mode is supported• 20 ms of speech per RTP packet (ptime 20 ms) is used• No interleaving parameters are supported (required in SDP answer if offer has them)
RFC 5952	A Recommendation for IPv6 Address Text Representation	C	C	
RFC 6184	RTP Payload Format for H.264 Video	C	N I	<i>MRFP:</i> <ul style="list-style-type: none">• Only the Baseline profile supported• Only the packetization modes 0 and 1 supported• Supported optional parameters: max-mbps, max-smbps, max-fs, max-cpb, max-dpb, and max-br.• Only in-band parameter sets supported
RFC 6241	Network Configuration Protocol (NETCONF)	P C	P C	<ul style="list-style-type: none">• Only <running> data store is supported. Therefore <copy-config> and <delete-config> operations are not supported as they are not applicable for <running> data store.• XML namespaces in NETCONF request are ignored.• The <lock> and <unlock> operations are not supported. The MOs are implicitly locked when they are edited in an ongoing operation.



Standard	Name	Compliance		Comment
				<ul style="list-style-type: none"> • The remove operation is not supported for <code><edit-config></code> operation. • Filtering on XML attributes, namespace, structure name, and unset MO attribute for NETCONF subtree filter is not supported. <p>The following capabilities are not supported:</p> <ul style="list-style-type: none"> • XPath Capability • Validate Capability • Candidate Configuration Capability • Distinct Startup Capability • URL Capability
<i>RFC 6386</i>	<i>VP8 Data Format and Decoding Guide</i>	C	C	<i>The RTP for VP8 is handled according to IETF draft-ietf-payload-vp8-09 RTP Payload Format for VP8 Video.</i>
<i>RFC 6716</i>	<i>Definition of the Opus Audio Codec</i>	C	C	<i>Also compliant to the IETF draft-ietf-payload-rtp-opus-01. The encoder supports up to 40 ms packet size. The decoder supports 40 ms and smaller packet sizes.</i>
<i>RFC 6884</i>	<i>RTP Payload Format for the Enhanced Variable Rate Narrowband-Wideband Codec (EVRC-NW)</i>	C	C	
https://tools.ietf.org/html/draft-ietf-secsh-filexfer-02	SSH File Transfer Protocol, version 3	C	C	<i>The Performance management data can be transported to external server according to IETF draft SSH File Transfer Protocol, version 3.</i>



2.6 IEEE Standards

The compliance with IEEE standards is shown in [Table 6](#).

Table 6 IEEE Standards

Standard	Name	Compliance		Comment
		M R F P	M R F C + M R F P	
IEEE 802.2 (1998 Edition)	Local and metropolitan area networks. Specific requirements Part 2: Logical Link Control	P C	P C	Partly Compliant. <ul style="list-style-type: none">• DIX (Ethernet II) formatted frames are supported• LLC/SNAP not supported

2.7 GSMA Standards

The compliance with GSMA standards is shown in [Table 7](#).

Table 7 GSMA Standards

Standard	Name	Compliance		Comment
		M R F P	M R F C + M R F P	
PRD IR. 92, v7.1	IMS Profile for Voice and SMS	P C	P C	For applicable parts, refer to <i>GSMA PRD IR.92 Statement of Compliance</i> (2/174 02-HSC 113 06 Uen).



Standard	Name	Compliance		Comment
<i>PRD IR.94, v6.0</i>	<i>IMS Profile for Conversational Video Service</i>	<i>P</i> <i>C</i>	<i>P</i> <i>C</i>	<i>For applicable parts, refer to GSMA PRD IR.94 Statement of Compliance (3/174 02-HSC 113 06 Uen).</i>