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TCCA Technical Forum Paper

List of TIP Features

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Please note that this document is a snapshot of the feature status at the time of its creation. The TCCA Technical Forum and its Working Groups are constantly working on the maintenance of existing features and the development of new features, which may already exist at the time of reading this document and before the next update.

Available TIP Features

The list below show the features for which a TETRA Interoperability Profile (TIP) is available.

It is the decision of the individual manufacturer whether to implement a certain feature in its product or not. Please contact the individual manufacturers directly for information of the manufacturer's product feature implementation roadmap.

Please note that circulation of the individual TIP documents is restricted to TCCA Members.

1 V+D Air Interface Specifications (001)

Part	Name
01	<p>Core</p> <ul style="list-style-type: none"> - Registration <ul style="list-style-type: none"> - Initial registration - SwMI initiated location updating - LA timer based Periodic location updating - De-registration - Group Management <ul style="list-style-type: none"> - Single group attachment - Multiple group attachment - MS initiated group detachment - SwMI initiated group detachment - SwMI initiated group attachment - Group call <ul style="list-style-type: none"> - Normal group call - Late entry - Priority Group scanning - Call setup modifications - Resource Queuing based on Call Priority - Broadcast Call - Limited coverage notification - Individual call <ul style="list-style-type: none"> - Simplex individual call - Duplex individual call - Call setup modifications - Resource Queuing based on Call Priority - Indication of imminent call disconnection - Status messages <ul style="list-style-type: none"> - Individual addressed Status transfer - Group addressed Status transfer - Pre-emptive Priority Call <ul style="list-style-type: none"> - Pre-emption of Resources - Pre-emption of Busy Users - Emergency Call <ul style="list-style-type: none"> - Pre-emption of Resources - Pre-emption of Busy Users - Call setup modifications - Call disconnection by non-call owner - Cell Re-selection <ul style="list-style-type: none"> - Undeclared - Unannounced - Announced - with Call Restoration - Announced - without Call Restoration - Expedited - Graceful Service Degradation Mode (GSDM) - PSTN interconnect <ul style="list-style-type: none"> - TETRA Originated Call

Part	Name
	<ul style="list-style-type: none"> - PSTN Originated Call - DTMF over-dial - Emergency Telephone Calls - MS-ISDN Numbering <ul style="list-style-type: none"> - MS ISDN - Voice Call - MS-ISDN Status - In Call Signalling <ul style="list-style-type: none"> - Slow Signalling on Traffic Channel (SACCH) - Fast Signalling on Traffic Channel (FACCH) - Subscriber Class Procedures <ul style="list-style-type: none"> - Cell Selection based on Subscriber Class - Subscriber Class Delivery during Location Update - Use of Subscriber Class Preference Levels - Common Secondary Control Channels <ul style="list-style-type: none"> - One C-SCCH per cell - Two C-SCCH per cell - Three C-SCCH per cell - BS Fallback Operation <ul style="list-style-type: none"> - Switch to/from BS Fallback Operation - Roaming to avoid a cell in BS Fallback Operation - Services with BS Fallback Operation - Ignore a cell in Fallback Operation - User selectable Fallback behaviour - Energy Economy Mode <ul style="list-style-type: none"> - Energy Economy Mode Operation - Transmit Inhibit <ul style="list-style-type: none"> - TXI Activation & De-Activation - TXI Activation & De-Activation with TxI Status available to the Dispatcher - Receipt of group addressed service during TXI - Mixed band operation <ul style="list-style-type: none"> - Mixed band operation, inter-cell - Mixed band operation, intra-cell - Mixed band operation, Full
02	<p>Short Data Service</p> <ul style="list-style-type: none"> - SDS Type 1, 2 or 3 <ul style="list-style-type: none"> - SDS Type 1 - SDS Type 2 - SDS Type 3 - SDS-TL <ul style="list-style-type: none"> - Individually Addressed - Group Addressed - Using MS-ISDN dialling - SDS Reception - Using UCS2 coding scheme - Using 7-bit coding scheme - Using 8-bit Latin 1 coding scheme - Using 8-bit Latin/Cyrillic coding scheme - Using 8-bit Latin 9 coding scheme - Store and Forward <ul style="list-style-type: none"> - Individually Addressed - Group Addressed - Multipart SDS <ul style="list-style-type: none"> - Multipart SDS
03	<p>Dynamic Group Number Assignment</p> <ul style="list-style-type: none"> - Support for individually addressed DGNA <ul style="list-style-type: none"> - Support for individually addressed DGNA assignment without attachment - Support for individually addressed DGNA assignment with attachment as selected group - Support for individually addressed DGNA assignment with attachment as

Part	Name
	<ul style="list-style-type: none"> scanned group - Support for individually addressed DGNA assignment with rejected attachment - Support for individually addressed assignment for pre-programmed group - Support for group addressed DGNA <ul style="list-style-type: none"> - Support for group addressed DGNA assignment - Management of 'group assignment lifetime' - Support for group addressed DGNA deassignment - Tolerance of unsupported DGNA functions <ul style="list-style-type: none"> - MS tolerance of unsupported individual addressed DGNA signalling - MS tolerance of unsupported group addressed DGNA signalling
04	<p>Authentication</p> <ul style="list-style-type: none"> - SwMI Initiated (non-mutual) Authentication <ul style="list-style-type: none"> - Attach with authentication - Roaming with authentication - SwMI rejects MS during authentication - MS rejects SwMI during authentication - SwMI Initiated Authentication made Mutual by MS <ul style="list-style-type: none"> - Attach with authentication - Roaming with authentication - TEI Query <ul style="list-style-type: none"> - TEI Query Operation
05	<p>Packet Data - TETRA Enhanced Data Service</p> <ul style="list-style-type: none"> - Context Management <ul style="list-style-type: none"> - Context Activation - User authentication - Single Slot Packet Data <ul style="list-style-type: none"> - Data Transfer - Cell re-selection - Packet Data Channel sharing - Multi Slot Packet Data <ul style="list-style-type: none"> - Data Transfer - TEDS <ul style="list-style-type: none"> - TEDS with Context Activation - TEDS Data Transmission, using LLC Optimisation - TEDS Cell Reselection, using LLC Optimisation - Mixed band operation <ul style="list-style-type: none"> - Mixed band operation, inter-cell - Mixed band operation, intra-cell - Mixed band operation, Full
06	<p>Air Interface Migration</p> <ul style="list-style-type: none"> - Registration <ul style="list-style-type: none"> - Migrating - Group management <ul style="list-style-type: none"> - Local group attachment on Foreign SwMI - Foreign group attachment - Group call <ul style="list-style-type: none"> - Group call to local group on foreign SwMI - Group call to foreign group - Individual call <ul style="list-style-type: none"> - SSI/TSI addressed - FSSN addressed - MS-ISDN addressed - Status/SDS message <ul style="list-style-type: none"> - Individually addressed SDS - Group addressed SDS - Individually addressed Status - Group addressed Status - SDS Store & Forward

Part	Name
	<ul style="list-style-type: none"> - TxI Status - Security - Air Interface Encryption, Class 3
07	Fleet Specific Short Number <ul style="list-style-type: none"> - Fleet Specific Short Numbering <ul style="list-style-type: none"> - FSSN Addressed Individual Call - FSSN as CPI/TPI in Group Call - FSSN Addressed Status Messages - FSSN Addressed SDS Text Messages
08	Testing Requirements <ul style="list-style-type: none"> - TETRA Test mode <ul style="list-style-type: none"> - Confirmation - Rejection - Ending TT mode - Test Broadcast Channel <ul style="list-style-type: none"> - Registration - Rejection - TT Loopback <ul style="list-style-type: none"> - With Bad Frame Indication - Without Bad Frame Indication
09	Ambience Listening <ul style="list-style-type: none"> - Ambience Listening <ul style="list-style-type: none"> - SS-AL Call Setup - MS initiated SS-AL disconnection - No Indication to affected user - Interaction with Transmit Inhibit <ul style="list-style-type: none"> - AL can override TxI - AL cannot override TxI
10	End to End Encryption <ul style="list-style-type: none"> - E2EE Voice Call <ul style="list-style-type: none"> - Individual (P2P) call - Group (P2MP) call - Clear Voice Override (CVO): Acceptance - Clear Voice Override (CVO): User Initiated - Clear Voice Override (CVO): Automatic - E2EE Short Data <ul style="list-style-type: none"> - Short Data - Multipart Short Data - Short Data Reception - Multipart Short Data Reception
11	Air Interface Encryption <ul style="list-style-type: none"> - Security Class 2 Air Interface Encryption <ul style="list-style-type: none"> - Location Updating and AI Signalling Protection - TM-SCK provisioning during location updating - Communications between parties using encryption - Communications between clear and encrypted parties - Communications between encrypted parties on a channel designated to operate in clear - OTAR of TM-SCK - Change of TM-SCK - Packet Data with Class 2 Air Interface Encryption - Tolerance of SwMI not supporting SCK-OTAR - Security Class 3 Air Interface Encryption <ul style="list-style-type: none"> - Clear Location Updating and AI Signalling Protection - Encrypted Location Updating and AI Signalling Protection - DCK Forwarding at MS request - DCK Forwarding by SwMI (without MS request) - DCK Retrieval

Part	Name
	<ul style="list-style-type: none"> - CCK provisioning during location updating - Communications between parties using encryption - Communications between clear and encrypted parties - Communications between encrypted parties on a channel designated to operate in clear - OTAR of CCK - Change of CCK - Packet Data with Class 3 Air Interface Encryption - Security Class 3G Air Interface Encryption <ul style="list-style-type: none"> - GCK Key Association setting - Communications between parties using encryption - Communications between clear and encrypted parties - OTAR of GCK - Change of GCK - Management of CMG and GSKO <ul style="list-style-type: none"> - OTAR and change of CMG and GSKO - Key Status demand <ul style="list-style-type: none"> - SCK Key Status demand - GCK Key Status demand - GSKO Key Status demand - Change of Security Class for Fallback operation <ul style="list-style-type: none"> - Seamless change to Security Class 2 for BS Fallback operation - Non-seamless change to Security Class 2 for BS Fallback operation - Provisioning of TM-SCK for fallback to Security Class 2 operation - Change to Security Class 1 for BS Fallback operation - Change of Security Class (other than for Fallback operation) <ul style="list-style-type: none"> - Change between Security Class 3 and Security Class 3G - Change between Security Class 2 and Security Class 3 - Change from Security Class 3G to Security Class 2 - Key Management for Secure Direct Mode Operation <ul style="list-style-type: none"> - OTAR of DM-SCK - Change of DM-SCK
12	<p>Service Interaction</p> <ul style="list-style-type: none"> - MS initiated Service Interaction <ul style="list-style-type: none"> - MS initiated Circuit Mode Call during another Circuit Mode Call - MS initiated Circuit Mode Call during Packet Mode Transfer - MS initiated Packet Mode Transfer during Circuit Mode Call - SwMI initiated Service Interaction <ul style="list-style-type: none"> - SwMI initiated Circuit Mode Call during another Circuit Mode Call - SwMI initiated Circuit Mode Call during Packet Mode Transfer - SwMI initiated Packet Mode Transfer during Circuit Mode Call - Call Waiting <ul style="list-style-type: none"> - Call Waiting in Individual Call - Call Waiting in Group Call
13	<p>Enable / Disable</p> <ul style="list-style-type: none"> - Enable and temporary disable of an MS <ul style="list-style-type: none"> - Enable and temporary disable of an MS without authentication - Enable and temporary disable of an MS with authentication - Registration of a temporary disabled MS - Rejection of applicable invalid enable/disable requests - Removable SIMs do not affect the subscriber or equipment that has been enabled/disabled - Disabling of an MS during a call or while on the PDCH - Permanent disable of an MS <ul style="list-style-type: none"> - Permanent disable of an MS with authentication - Permanently Disabled MS cannot send air interface signalling
14	<p>TKD</p> <ul style="list-style-type: none"> - Delivery of Authentication Data <ul style="list-style-type: none"> - Authentication Key Delivery

Part	Name
	<ul style="list-style-type: none"> - ITSI Delivery - Delivery of SCK <ul style="list-style-type: none"> - SCK Delivery to SCK delivery - SCK Delivery to SwMI - SCK Delivery to SCK loading - Delivery method <ul style="list-style-type: none"> - Plain text on physical media - Encrypted text on physical media - Electronic transfer
15	<p>Call Authorized by Dispatcher</p> <ul style="list-style-type: none"> - Call Authorised by Dispatcher - Compliant <ul style="list-style-type: none"> - No voice call with dispatcher - Voice call with dispatcher - Call Authorised by Dispatcher - Tolerant <ul style="list-style-type: none"> - No voice call with dispatcher - Individual voice call with dispatcher - Group voice call with dispatcher
16	<p>Air to Ground</p> <ul style="list-style-type: none"> - Air to Ground <ul style="list-style-type: none"> - Distance reporting - Cell re-selection
17	<p>Radio User Assignment</p> <ul style="list-style-type: none"> - Radio User Assignment <ul style="list-style-type: none"> - Radio User Assignment at Location Updating - Dispatcher initiated Radio User Assignment - Radio User Dis-assignment
18	<p>Circuit Mode Data</p> <ul style="list-style-type: none"> - Individual Data Call <ul style="list-style-type: none"> - Individual Circuit Mode Data Call - Group Data Call <ul style="list-style-type: none"> - Broadcast Circuit Mode Data Call - Point to Multipoint Circuit Mode Data Call
19	<p>LIP</p> <ul style="list-style-type: none"> - Location Information Protocol <ul style="list-style-type: none"> - LIP over SDS - LIP over Packet Data - Time based reporting - Distance based reporting - NOT TESTABLE - Reporting using Short reports - Reporting using Long reports - Reporting Enable & Disable - User control of Reporting - Temporary reporting control - Trigger modification - Control of Basic Location Parameters - Immediate Location Reporting - Reporting Lifetimes - Error Reporting using Long Reports - Error Reporting using Short Reports - Positioning on Individual Call Setup

Part	Name
20	<p>Call Forwarding</p> <ul style="list-style-type: none"> - Call Forwarding Unconditional <ul style="list-style-type: none"> - Call Forwarding Unconditional Individual Call - Call Forwarding Unconditional SDS - Call Forwarding Unconditional Status - Call Forwarding Conditional <ul style="list-style-type: none"> - Call Forwarding Conditional Individual Call - Call Forwarding Information Displayed <ul style="list-style-type: none"> - Call Forwarding Information Displayed - Management of Call Forwarding <ul style="list-style-type: none"> - Change of Call Forwarding Activation Status by Served User - Setting of Call Forwarding Parameters by Served User
21	<p>Callout</p> <ul style="list-style-type: none"> - Full Callout <ul style="list-style-type: none"> - Individually Addressed Full Callout with request for Terminal Receipt message and with request for User Receipt message - Group Addressed Full Callout without request for Terminal Receipt message and without request for User Receipt message - Using current selected group during Full Callout - Full Callout with immediate change to Callout Group - Full Callout with change to Callout Group on non-rejecting user response - Full Callout with rejecting User Receipt message - Full Callout with timeout for User Receipt message - Callout Incident Information messages - Group Call to Callout Group - End of Full Callout - Simple Callout <ul style="list-style-type: none"> - Individually Addressed Callout with request for Terminal Receipt message and with request for User Receipt message - Individually Addressed Callout with request for Terminal Receipt message and without request for User Receipt message - Group Addressed Callout without request for Terminal Receipt message and without request for User Receipt message - Group Addressed Callout without request for Terminal Receipt message and with request for User Receipt message - Simple Callout with rejecting User Receipt message - Simple Callout with timeout for User Receipt message - Interaction with other services and events <ul style="list-style-type: none"> - Interaction with previous Callout - Interaction with emergency call - Interaction with non-emergency call - Interaction with data and status - Interaction with local services - Manual exit - Callout Test and Callout Availability <ul style="list-style-type: none"> - Callout Test - Callout Availability - Callout Availability request - Callout Text and Callout Pre-Coded Status <ul style="list-style-type: none"> - Callout Text - Concatenated Callout Text using Callout Specific Concatenation - Concatenated Callout Text using mSDS - Callout Pre-Coded Status - Storage of Callout Information <ul style="list-style-type: none"> - Viewing Callout information from previous Callout(s) - Deletion of Callout information from previous Callout(s) - Graceful Service Degradation Mode (GSDM) <ul style="list-style-type: none"> - Graceful Service Degradation Mode (GSDM)

Part	Name
22	Direct Mode Over The Air Management <ul style="list-style-type: none"> - Direct Mode Over The Air Management <ul style="list-style-type: none"> - Group assignment - Group deassignment - Group change - Group interrogate

2 V+D Air Interface Guide for Implementation (101)

Part	Name
01	Multipart Short Data Service

3 DMO Direct Mode Interface Specifications (002)

Part	Name
01	DMO Core <ul style="list-style-type: none"> - Registration <ul style="list-style-type: none"> - Activation/Deactivation - RF Carrier Selection - Group Call <ul style="list-style-type: none"> - Intra-MNI Group Calls - Inter-MNI Group Calls - Emergency Group Calls - Pre-emptive priority Calls - Group Call Maintenance - Late Entry Group Calls - Open Group Calls - Individual Call <ul style="list-style-type: none"> - Intra-MNI Individual Calls - Inter-MNI Individual Calls - Pre-emptive priority Calls - Individual Call maintenance - Individual Call with Presence Check - Individual call without Presence Check - Individual Late Entry - Status Call <ul style="list-style-type: none"> - Individual Status Calls - Group Status call - Status sent in a Voice Call - Status sent out of a Call - SDS TL <ul style="list-style-type: none"> - Individual intra-MNI SDS-TL, unacknowledged, 8 bit - Individual inter-MNI SDS-TL, unacknowledged, 8 bit - Group SDS-TL intra-MNI, unacknowledged, no reports, 8 bit - Open TSI addressed SDS-TL, unacknowledged, no reports, 8 bit - Multipart SDS-TL
02	DMO Gateway <ul style="list-style-type: none"> - Registration <ul style="list-style-type: none"> - Registration - Presence Signal <ul style="list-style-type: none"> - Presence Signal - Usage Restriction Types <ul style="list-style-type: none"> - Single Address - Two Addresses - Three addresses - single MNI

Part	Name
	<ul style="list-style-type: none"> - Complying with URT Validity Time - Individual Call <ul style="list-style-type: none"> - DMO to TMO individual call - TMO to DMO individual call - Individual Call Release <ul style="list-style-type: none"> - Individual call release with DM-GATE as DMO slave - Individual call release with DM-GATE as DMO master - Group Call <ul style="list-style-type: none"> - DMO to TMO group call - TMO to DMO group call - Call Maintenance (including Changeover) - Status <ul style="list-style-type: none"> - Group addressed Status - Individually addressed Status - SDS-TL <ul style="list-style-type: none"> - Group Addressed intra-MNI SDS-TL, unacknowledged, no reports - Open TSI Addressed SDS-TL, unacknowledged, no reports - Individually Addressed intra-MNI SDS-TL, unacknowledged - Individually Addressed inter-MNI SDS-TL, unacknowledged - Multipart SDS-TL - Pre-emption <ul style="list-style-type: none"> - Pre-emption of DMO terminal - Pre-emption of Gateway
03	<p>DMO Repeater Type 1</p> <p>Type 1A Repeater</p> <ul style="list-style-type: none"> - Presence Signal <ul style="list-style-type: none"> - Presence Signal on free channel - Presence Signal on occupied channel - DM-MS authorization <ul style="list-style-type: none"> - Usage Restriction Type - Validity Time - Group call <ul style="list-style-type: none"> - Intra-MNI Group Calls - Inter-MNI Group Calls - Individual Call <ul style="list-style-type: none"> - Individual Call with Presence Check - Individual call without Presence Check - Call Maintenance <ul style="list-style-type: none"> - Changeover - Pre-emption - Procedures in Occupation - Procedures in Reservation - Status Messages <ul style="list-style-type: none"> - Intra-MNI Status Calls - Individual Status Calls - Group Status call - Status sent in a Voice Call - Status sent out of a Call - SDS TL <ul style="list-style-type: none"> - Group Addressed Intra-MNI SDS-TL - Open TSI Addressed SDS-TL - Individually Addressed intra-MNI SDS-TL - Individually Addressed inter-MNI SDS-TL <p>Type 1B Repeater</p> <ul style="list-style-type: none"> - Presence Signal <ul style="list-style-type: none"> - Presence Signal on free channel - Presence Signal on occupied channel - DM-MS authorization <ul style="list-style-type: none"> - Usage Restriction Type

Part	Name
	<ul style="list-style-type: none"> - Validity Time - Group call <ul style="list-style-type: none"> - Intra-MNI Group Calls - Inter-MNI Group Calls - Individual Call <ul style="list-style-type: none"> - Individual Call with Presence Check and Call Release - Individual call without Presence Check - Call Maintenance <ul style="list-style-type: none"> - Changeover - Pre-emption - Procedures in Occupation - Procedures in Reservation - Status Messages <ul style="list-style-type: none"> - Intra-MNI Status Calls - Individual Status Calls - Group Status call - Status sent in a Voice Call - Status sent out of a Call - SDS-TL <ul style="list-style-type: none"> - Group Addressed Intra-MNI SDS-TL - Open TSI Addressed SDS-TL - Individually Addressed intra-MNI SDS-TL - Individually Addressed inter-MNI SDS-TL
04	<p>DMO End to End Encryption</p> <ul style="list-style-type: none"> - Basic DMO E2E encrypted call <ul style="list-style-type: none"> - DMO E2E encrypted individual call - DMO E2E encrypted group call - DMO E2E encrypted group accepting clear call - DMO E2E encrypted group call late entry - DMO E2E encrypted call rejected - DMO E2E encrypted call via Type 1A Repeater <ul style="list-style-type: none"> - DMO E2E encrypted individual call - DMO E2E encrypted group call - DMO E2E encrypted group call accepting clear call - DMO E2E encrypted group call late entry - DMO E2E encrypted call rejected - DMO E2E encrypted call via Type 1B Repeater <ul style="list-style-type: none"> - DMO E2E encrypted individual call - DMO E2E encrypted group call - DMO E2E encrypted group call accepting clear call - DMO E2E encrypted group call late entry - DMO E2E encrypted call rejected
05	<p>DMO Air Interface Encryption</p> <ul style="list-style-type: none"> - DMO AIE Encryption <ul style="list-style-type: none"> - Encrypted Group Calls - Encrypted Individual Calls - Encrypted Status messages - Pre-emption of encrypted activity - Handling mismatched keys - Encrypted SDS-TL messages <p>Gateway</p> <ul style="list-style-type: none"> - DMO AIE Encryption <ul style="list-style-type: none"> - Encrypted Group Calls - Encrypted Individual Calls - Encrypted Status messages - Pre-emption of encrypted activity - Handling mismatched keys - Encrypted SDS-TL messages <p>Repeater</p>

Part	Name
	<ul style="list-style-type: none"> - DMO AIE Encryption - via Repeater Type 1A <ul style="list-style-type: none"> - Encrypted Group Calls - Encrypted Individual Calls - Encrypted Status messages - Pre-emption of encrypted activity - Handling mismatched keys - SDS-TL messages - DMO AIE Encryption - via Repeater Type 1B <ul style="list-style-type: none"> - Encrypted Group Calls - Encrypted Individual Calls - Encrypted Status messages - Pre-emption of encrypted activity - Handling mismatched keys - SDS-TL messages
06	DMO Air Interface Protocol Interaction

4 DMO Direct Mode Interface Guide for Implementation (102)

Part	Name
01	DMO Edge of Range Indication <ul style="list-style-type: none"> - DMO Edge of Range Indication <ul style="list-style-type: none"> - DERI Level Activation - DERI MMI

5 ISI Inter-System Interface Specifications (003)

Part	Name
01	ISI Mobility Management <ul style="list-style-type: none"> - ISI Migration Service <ul style="list-style-type: none"> - ISI Migration Service without Authentication - ISI Migration Service with Authentication - ISI Re-Authentication of Migrated MS - ISI Migration Service between two Foreign SwMIs - ISI Deregistration and return to Home SwMI - Linked Group Attachment/Detachment Service <ul style="list-style-type: none"> - Linked Group Attachment/Detachment
02	ISI Individual Call <ul style="list-style-type: none"> - ISI Individual Call <ul style="list-style-type: none"> - ISI Individual Simplex Call - ISI Individual Duplex Hook Call - Handling of Call Establishment Failures - Resource Allocation Policy <ul style="list-style-type: none"> - Permanent Resource Allocation - Temporary Resource Allocation - Mixed Resource Allocation - Routing Methods (for 3 SwMI configurations) <ul style="list-style-type: none"> - ISI Individual Call using forward switching based on Called SwMI decision - ISI Individual Call using forward switching based on Calling SwMI decision - ISI Individual Call using re-routing - MS-ISDN <ul style="list-style-type: none"> - MSISDN as CPI in PSTN originated calls over ISI
03	ISI Short Data Service <ul style="list-style-type: none"> - Individually addressed ISI Short Data Service <ul style="list-style-type: none"> - Individual Status message over ISI - Individual SDS-TL message over ISI

Part	Name
	<ul style="list-style-type: none"> - Individual Status message over ISI, forwarding to a third SwMI - Individual SDS-TL message over ISI, forwarding to a third SwMI - Individual SDS-TL message over ISI using MS-ISDN as CPI - Group addressed ISI Short Data Service <ul style="list-style-type: none"> - Group addressed Status message over ISI - Group addressed SDS message over ISI - Group addressed SDS message over ISI, CSwMI using forward address and PSwMI accepting forward address - Transmit Inhibit Status' status messages <ul style="list-style-type: none"> - Transmit Inhibit Status' status messages
04	ISI Lower Layers <ul style="list-style-type: none"> - Lower Layers – PSS1 - Lower Layers – IP/SIP
05	Speech Format
06	ISI Group Call <ul style="list-style-type: none"> - Normal ISI Group Call <ul style="list-style-type: none"> - Normal ISI Group Call - Delayed ISI Group Call Setup - Late Entry triggered by a timer - Late Entry triggered by PTT - Transmission control <ul style="list-style-type: none"> - Transmission queuing management - Transmission pre-emption management - Emergency Group Call <ul style="list-style-type: none"> - Emergency Group Call - Abnormal Cases <ul style="list-style-type: none"> - Abnormal Cases - Use of Linked Group Attachment <ul style="list-style-type: none"> - Use of Linked Group Attachment

6 ISI Inter-System Interface Guide for Implementation (103)

Part	Name
01	Address ranges <ul style="list-style-type: none"> - Pre-Provisioning of Address Ranges <ul style="list-style-type: none"> - Pre-provisioning of address ranges for allowed visitors

7 PEI Peripheral Equipment Interface Specifications (004)

Part	Name
01	PEI Core (AT Commands) <ul style="list-style-type: none"> - PEI Link Management <ul style="list-style-type: none"> - PEI Link Management, Abortable Commands - PEI Link Management, Mandatory Commands - PEI Link Management, Optional Commands - Individual Call Voice <ul style="list-style-type: none"> - Individual Call Voice, Direct Call Setup - Individual Call Voice, Hook Call Setup - Individual Call Voice, Call Setup Failures - Individual Call Voice, Call Setup Modification by SwMI - Individual Call Voice, Call Setup Modification by Called Party - Group Management <ul style="list-style-type: none"> - Group Management, Group Attachment, Success - Group Management, Single Group Attachment, Failure - Group Management, Multiple Group Rejection, Failure - Group Management, Dynamic Tests

Part	Name
	<ul style="list-style-type: none"> - Group Call <ul style="list-style-type: none"> - Group Call, Call Setup - Group Call, Call Maintenance - Group Call, Call Setup Modification by SwMI - Telephony Calls <ul style="list-style-type: none"> - Telephony Calls, Incoming Call Setup, Success - Telephony Calls, Incoming Call Setup, Queued - Telephony Calls, Outgoing Call Setup, Success - Telephony Calls, Outgoing Call Setup, Queued - Telephony Calls, Call Setup Failures - Emergency Calls <ul style="list-style-type: none"> - Emergency Calls, Individual Calls - Emergency Calls, Group Calls - Emergency Calls, Telephony Calls - Short Data <ul style="list-style-type: none"> - Short Data, SDS Types 1,2,3 - Short Data, SDS-TL - Status <ul style="list-style-type: none"> - Status - Packet Data <ul style="list-style-type: none"> - Packet Data, Successful - Packet Data, Failure - Terminal Management <ul style="list-style-type: none"> - Terminal Management, System Related Functions - Terminal Management, Terminal Related Functions - Terminal Management, Service Profile
02	Supporting Direct Mode Air Interface Operation

8 IOP Test Automation (005)

Part	Name
01	TMW File Format

Planned TIP Features

The list below shows the work plan in the TCCA working groups for features which have been requested to be included in a TIP. It is not guaranteed that the interoperability work for the features will be finalized in the order of the list/feature priority.

It is the decision of the individual manufacturer whether to implement a certain feature in its product or not. Please contact the individual manufacturers directly for information of the manufacturer's product feature implementation roadmap.

Reference: *Feature Priority List_v180702.xlsx*

Item#	Priority	Item Name	Description
250	1	ISI Terminal Requirements	
151	2	ISI Phase 3: Behavior of 3 SwMIs - IC Aspects	Test plans need to be updated to include tests for three SwMIs.
237	3	IP Based ISI - MM Aspects	Update the ISI TIPs and Test Plans to accommodate the IP based solution for the ISI (in parallel to the QSIG based solution). Include Requirements for the IP connection
245	3	IP Based ISI - IC Aspects	Update the ISI TIPs and Test Plans to accommodate the IP based solution for the ISI (in parallel to the QSIG based solution). Include Requirements for the IP connection
246	3	IP Based ISI - SD Aspects	Update the ISI TIPs and Test Plans to accommodate the IP based solution for the ISI (in parallel to the QSIG based solution). Include Requirements for the IP connection
247	3	IP Based ISI - GC Aspects	Update the ISI TIPs and Test Plans to accommodate the IP based solution for the ISI (in parallel to the QSIG based solution). Include Requirements for the IP connection
248	3	IP Based ISI - LL Aspects	Update the ISI TIPs and Test Plans to accommodate the IP based solution for the ISI (in parallel to the QSIG based solution). Include Requirements for the IP connection
249	3	IP Based ISI - speech Format Aspects	Update the ISI TIPs and Test Plans to accommodate the IP based solution for the ISI (in parallel to the QSIG based solution). Include Requirements for the IP connection
99	4	End-to-End-Encryption Short Data Service (E2EE SDS) - V+D Aspects	SFPG Recommendation 7 is published End-to-end encryption of individually and group addressed SDS messages including concatenation
200	4	End-to-End-Encryption Short Data Service (E2EE SDS) - DMO Aspects - Core	SFPG Recommendation 7 is published End-to-end encryption of individually and group addressed SDS messages including concatenation
207	4	End-to-End-Encryption Short Data Service (E2EE SDS) - DMO Aspects - Gateway	SFPG Recommendation 7 is published End-to-end encryption of individually and group addressed SDS messages including concatenation
208	4	End-to-End-Encryption Short Data Service (E2EE SDS) - DMO Aspects - Repeater	SFPG Recommendation 7 is published End-to-end encryption of individually and group addressed SDS messages including concatenation

Item#	Priority	Item Name	Description
146	4	End-to-End-Encryption of multipart SDS messages (E2EE mSDS) - V+D Aspects	
201	4	End-to-End-Encryption of multipart SDS messages (E2EE mSDS) - DMO Aspects - Core	
209	4	End-to-End-Encryption of multipart SDS messages (E2EE mSDS) - DMO Aspects - Gateway	
210	4	End-to-End-Encryption of multipart SDS messages (E2EE mSDS) - DMO Aspects - Repeater	
66	5	PEI Phase 1	scenarios: 1- simple data application 2- Basic Remote Control head (no concurrent circuit data and voice) 3- Simple IP data application 4- Simple IP application alternating with voice, with concurrent status/SDS
229	7	Preferred Location Area	Use Case: Air Cell Selection
178	8	PEI DMO	DMO and Mode Changes
205	9	Cell Reselection Based on System Wide Services	Impact of essential service requirements fallback mode) on cell reselection
193	10	DMO End-to-End-Encryption (DMO E2EE) - DGW	
190	11	Location Reporting from a temporary Disabled Mobile Station	
162	13	E2EE: Interoperability within Services	Test of E2EE with different supplier's terminals
174	14	Transfer of HW and SW version	
173	15	DMO Repeater and Gateway usability improvements	
121	16	Enhanced DGNA Management	Query and delete groups from radio. Involve SFPG!
213	16	E2EE Clear Voice Override (CVO) - DMO aspects	
252	16	E2EE Clear Voice Override (CVO) - V+D aspects	
226	17	Parallel Use of DM-GATE and DM-REP as DM-MS - GW Aspects	
232	17	Parallel Use of DM-GATE and DM-REP as DM-MS - DRep Aspects	
254	19	Enhanced Position-Based Services	
225	20	Call Disconnect Causes	Indication of Individual and Group Call Disconnect Causes
198	21	Reliable Transfer of Short Messages	Send and receive SDS and status messages when (a) sender is on MCCH and receiver on TCH or (b) sender and receiver are on different TCHs

Item#	Priority	Item Name	Description
124	22	Group Call Area - Type 1	Restrict group calls to certain areas Includes now "No Group Selected" FPL#126: Usage of point-to-point services when no group is selected or usage of point-to-multipoint services is switched off. Temporary 1 Detachment
230	22	Group Call Area - Type 2	Restrict group calls to certain areas Includes now "No Group Selected" FPL#126: Usage of point-to-point services when no group is selected or usage of point-to-multipoint services is switched off. Temporary 2 Detachment
129	23	Packet Data - IPv6	Usage of IPv6 addresses
91	24	Pre-Emption across DM Protocols (Emergency pre-emption between gateway or repeater and normal direct mode)	Pre-Emption with ETSI changes.
136	24	Pre-Emption across DM Protocols (Emergency pre-emption between gateway or repeater and normal direct mode)	Pre-Emption with ETSI changes. This item includes the details that were to be covered by FPL#138
137	24	Pre-Emption across DM Protocols (Emergency pre-emption between gateway or repeater and normal direct mode)	Pre-Emption with ETSI changes.
228	25	Assistance Call	formerly called "Help Call"
243	26	Location Reporting of Migrated Mobile Station	
242	28	Registration and Addressing of DM-MS Operating over a Gateway - DMO Aspects	
244	28	Registration and Addressing of DM-MS Operating over a Gateway - V+D Aspects	
127	30	Concurrent voice and ambience listening	Ambience listening of a user who is already engaged in an individual or group call
197	31	Cell Reselection Based on Subscriber Class	Impact of essential service requirements (subscriber class) on cell reselection
206	32	Cell Reselection Based on Security Class	Impact of essential service requirements (security class) on cell reselection

Item#	Priority	Item Name	Description
114	33	ISI Phase 4 - ISI Aspects	<ul style="list-style-type: none"> • Full multiple SwMI support; • Full dynamic subscriber migration; • Attach / Detach by default over ISI • Full dynamic group migration; • Individually addressed DGNA; • Recovery of the ISI group database; • Transfer of additional information during emergency; • Universal addressing of the SDS Store and Forward Service Centre; • Temporary enabling and disabling of terminals (TEI) and subscribers (ITSI); • Forwarding of location information of migrated subscribers to the home control room • Handling of E2EE indication bit • Handling of E2EE and synchronisation issues
251	33	ISI Phase 4 - V+D Aspects	<ul style="list-style-type: none"> • disabling a visiting terminal • disabled terminal migrating
253	33	Affiliation Information over ISI	Provide information over the ISI to which organisation the visitor belongs
203	34	PEI - Update to new PEI Standard Version v2.3.1	PEI TIP & Test Plan to be updated to TS 100 392-5 v2.3.1
239	34	PEI - Update to new PEI Standard Version v2.5.1	PEI TIP & Test Plan to be updated to EN 100 392-5 v2.5.1
211	35	Dynamic Group Management	Dynamic Group Management
233	36	Callout Phase 3 - V+D Aspects	
236	36	Callout Phase 3 - DMO Aspects	