Technical Conformity Test and Interoperability Test for Intercarrier Roaming in Emergency

[Version 1.8]

Intercarrier Roaming study working group
Device study sub working group

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Technical Conformity Test and Interoperability Test

The verification tests for functions and operations required for Intercarrier roaming are broadly divided into "Technical Standards Conformity Verification Tests" and "Interoperability Verification Tests."

	Technical Conformity Test	Interoperability Test	
Role	Test items for verifying compliance with technical standards based on the Telecommunications Business Act regarding the functions required for inter-operator roaming.(=Mandatory)	Test items for verifying interoperability with the network regarding operations related to inter-operator roaming. (=Recommended)	
Environment	Simulator Test	**Commercial NW** (MNOs provide test environment)	**Simulator Test** (MNOs provide Test Scenario)
Test Implementer / Implementing Organization	Registered Certification Body	Device providers	

Glossary

#	Term	Explanation
1	CellReserved	Cell can be detected in radio but is restricted to normal users.
2	ACBperPLMN	Function to restrict communication per PLMN ID when multiple PLMN IDs are operating on same Radio.
3	Limited State	Multiple Cell are detectable on Radio but none of them can accept UE to attach.
4	UE Capability	Information of Radio Capability(Supported Band and so forth) which UE reports to NW while attaching.
5	SSAC	Communication restriction function to dedicated service like Voice.
6	TDD Reselection	Function leading UE to FDD NW when UE attempts Voice Call and so forth while attached to TDD NW.
7	TAU Reject	Condition that Tracking Area Update which UE attempts on receipt of Tracking Area information NW defined per certain area has been rejected by NW.
8	Service Reject	Condition that Service Request which UE requests communication management session setup to NW has been rejected by NW

InterCarrier Roaming Test Items

	Technical Conformity Test	Test items for verifying compliance with technical standards based on the Telecommunications Business Act regarding the functions required for Intercarrier roaming

	Primary	Tertiary	Test Env	Type	Requirement ID
#1	Attach to relief operator NW when Roaming starts	Auto	Simulator	Common	#5
#2	Attach to relief operator NW when Roaming starts	Detectable Emergency Call	Simulator	Emergency Call only Rm	#1, #2, #4
#3	Attach to relief operator NW when Roaming starts	Home NW re-attach after detectable Emergency Call ends	Simulator	Emergency Call only Rm	#3
#4	Attach to relief operator NW when Roaming starts	Relief NW name display	Simulator	Common	#8
#5	Emergency Call while Roaming	Detectable Emergency Call	Simulator	Full Rm	#4
#6	Emergency Call while Roaming	Detectable Emergency Call(under restrictions)	Simulator	Full Rm	#6, #7
#7	Emergency Call while Roaming	Non-detectable Emergency Call	Simulator	Full Rm	#4
#8	Voice Call/Data while Roaming	Test Device -> Simulator (under restriction -> restriction lifted)	Simulator	Full Rm	#6, #7
#9	After Relief ends when Roaming ends	Prevention of Excessive re-transmission on receipt of NW Reject	Simulator	Full Rm	#9

InterCarrier Roaming Test Items

Test items for verifying interoperability with the network regarding operations related to inter-operator roaming.

	Primary	Secondary	Tertiary	Test Env (Type)
#1	Roaming Start	Attach to relief operator NW (visited)	Manual selection	Commercial NW Test Env (Full Rm)
#2	While Roaming	Emergency Call	Detectable Emergency Call	Commercial NW Test Env (Full Rm)
#3	While Roaming	Emergency Call	Detectable Emergency Call(Non-VoLTE TDD Relief NW) *Operator A	Commercial NW Test Env (Full Rm)
#4	While Roaming	Emergency Call	Detectable Emergency Call(Non-VoLTE TDD Relief NW) *Operator B	Commercial NW Test Env (Full Rm)
#5	While Roaming	Emergency Call	non-detectable Emergency Call	Commercial NW Test Env (Full Rm)
#6	While Roaming	MO/MT Voice Call	Mobile<->Mobile	Commercial NW Test Env (Full Rm)
#7	While Roaming	MO/MT Voice Call	Mobile<->Mobile(Non-VoLTE TDD Relief NW)*Operator A	Commercial NW Test Env (Full Rm)
#8	While Roaming	MO/MT Voice Call	Mobile<->Mobile(Non-VoLTE TDD Relief NW)*Operator B	Commercial NW Test Env (Full Rm)
#9	While Roaming	SMS Send/Receive	Test Device<->Ref Device	Commercial NW Test Env (Full Rm)
#10	While Roaming	Data Communication	Various Data Communications	Commercial NW Test Env (Full Rm)
#11	Roaming Ends	Return to Home NW	Auto	Simulator
#12	Roaming Ends	Return to Home NW	Manual selection	Commercial NW Test Env (Full Rm)
#13	Roaming Start	Emergency Call(with Authentication)	Detectable Emergency Call	Commercial NW Test Env (Emergency Call only Rm)
#14	Roaming Start	Emergency Call(without Authentication)	Detectable Emergency Call	Commercial NW Test Env (Emergency Call only Rm)

*The operators providing a non-VoLTE TDD Relief NW are referred to as Operator A and Operator B

Revision history

Ver.	Revision date	Details of changes
1.7⇒1.8	2025/8	Minor text modifications

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