

**Government of India
Ministry of Communications
Department of Telecommunications
(Access Services Wing)**

12th Floor, Sanchar Bhawan, Ashoka Road, New Delhi

FileNo:800/12/2017-AS.II

Dated: 28.11.2022

To

**All UL/UL(VNO) (having Access Service) Licensees
MNP Service Providers**

**Subject: Generic testing procedure for implementation of Mobile Number Portability
(Seventh Amendment) Regulations, 2018 (9 of 2018) for the new entrants.**

In reference to the Test procedure issued vide letter no. 800-12/2017/AS.II dated 12.09.2019, TEC has informed that testing procedure dated 12.09.2019, formulated by TEC, was with regards to the implementation of the Telecommunication Mobile Number Portability (7th Amendment) Regulations, 2018 (9 of 2018) for the existing TSPs and not applicable for new entrants.

2. In this regard, a new test guide for implementation of MNP regulation up to the Telecommunication Mobile Number Portability (7th Amendment) Regulations, 2018 (9 of 2018) for new entrants is enclosed with this letter. This new test guide is generic in nature and it will allow pairing of the operators as per the choice of LSA.

3. In case of any clarification regarding the test guide, Mobile Technologies (MT) wing of TEC may be contacted.

Enclosure: A/a

Nisha
28.11.2022

(Nisha)

ADG (AS-II)

Copy to:

- i. DG(T) for taking necessary action.
- ii. Sr. DDG, TEC
- iii. Secretary, TRAI, New Delhi
- iv. M/s Ring Central India Pvt Ltd
- v. M/s Plintron India Pvt Ltd
- vi. COAI



टेस्ट गाइड

सं: 23016:2022

TEST GUIDE

No.:23016:2022

Test Guide
for
मोबाइल नंबर पोर्टेबिलिटी
Mobile Number Portability



दूरसंचार अभियांत्रिकी केंद्र
खुरशीदलाल भवन, जनपथ, नई दिल्ली-110001, भारत
TELECOMMUNICATION ENGINEERING CENTRE
KHURSHID LAL BHAWAN, JANPATH, NEW DELHI-110001, INDIA
www.tec.gov.in

© टीईसी, 2022

© TEC, 2022

इस सर्वाधिकार सुरक्षित प्रकाशन का कोई भी हिस्सा, दूरसंचार अभियांत्रिकी केंद्र, नई दिल्ली की लिखित स्वीकृति के बिना, किसी भी रूप में या किसी भी प्रकार से जैसे -इलेक्ट्रॉनिक, मैकेनिकल,फोटोकॉपी, रिकॉर्डिंग, स्कैनिंग आदि रूप में प्रेषित, संग्रहीत या पुनरुत्पादित न किया जाए।

All rights reserved and no part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form and by any means - electronic, mechanical, photocopying, recording, scanning or otherwise, without written permission from the Telecommunication Engineering Centre, New Delhi.

Release 01: August, 2022

FOREWORD

Telecommunication Engineering Centre(TEC) is the technical arm of Department of Telecommunications (DOT), Government of India. Its activities include:

- Framing of TEC Standards for Generic Requirements for a Product/Equipment, Standards for Interface Requirements for a Product/Equipment, Standards for Service Requirements & Standard document of TEC for Telecom Products and Services
- Formulation of Essential Requirements (ERs) under Mandatory Testing and Certification of Telecom Equipment (MTCTE)
- Field evaluation of Telecom Products and Systems
- Designation of Conformity Assessment Bodies (CABs)/Testing facilities
- Testing & Certification of Telecom products
- Adoption of Standards
- Support to DoT on technical/technology issues

For the purpose of testing, four Regional Telecom Engineering Centers (RTECs) have been established which are located at New Delhi, Bangalore, Mumbai, and Kolkata.

ABSTRACT

This Test Guide aims at uniform assessment of implementation of MNP regulation upto the Telecommunication Mobile Number Portability (7th Amendment) Regulations, 2018 (9 of 2018) for new licensed network operators.

Contents

History Sheet.....	4
1. Scope.....	5
2. Test Cases for Mobile Network Operators (MNO)	5
3. TestCases – NLD/ILD	14
Glossary.....	20

History Sheet

Sl. No.	Test Guide No.	Title	Remarks
1.	TEC 23016:2022	Test Guide For Mobile Number Portability	Aug, 2022
2.			

1. Scope

This Test Guide aims at uniform assessment of implementation of MNP regulation upto the Telecommunication Mobile Number Portability (7th Amendment) Regulations, 2018 (9 of 2018) for new licensed network operators.

2. Test Cases for Mobile Network Operators (MNO)

The pre-requisites are mentioned in Annexure-I, followed by Annexure-II containing test SIM details and Annexure-III containing Timer values for testing.

S. No.	Test Case	Role	Day	Description	SIM requirement	Category	Test Result	Comment
1	SMS to 1929 for UPC	DNO	1	UPC Request (SMS) to be routed to correct Zone MNPSP (serving NRH of the customer) by DNO SMSC.	SIM2 - SIM14	Individual		
1 (a)	SMS to 1929 for UPC	DNO	1	UPC Request (SMS) to be routed to incorrect Zone MNPSP (not serving NRH of the customer) by DNO SMSC.	SIM1	Individual		
2 (a)	Validation of requesting number at MNPSP	MNP SP	1	MNPSP to match MSISDN in 'UPC request' (SMS) with requesting (A-party) number, if numbers are same, UPC request will be accepted	SIM2 - SIM14	Individual		
2(b)		MNP SP	1	If A-party number and MSISDN mentioned in UPC Request SMS are not identical, UPC request will be rejected and notified to the customer with rejection reason	SIM2	Individual		
2 (c)	Message from MNPSP to Customer for request within 5mins	MNP SP	1	Acknowledgement for UPC Request message submission to MNPSP	SIM3 - SIM14	Individual		
3	MNPSP to perform	MNP	1		SIM3			

	following checks	SP			and SIM4			
	(i) a UPC has already been issued and has not expired yet.				i- SIM3			
	(ii) the mobile number has been ported earlier and, if so, a period of ninety (90) calendar days has not elapsed from the date of its last porting; OR UPC code already exist OR Porting in Progress OR Number_range OR Number Fomat validation				ii- SIM4			
	MNPSP to send relevant message's to all the above cases							
3 (a)	MNPSP to send 'UPC Rejected' (SMS) to the customer in case validations (ii) is true	MNP SP	1		SIM4	Individual		
3 (b)	MNPSP to send 'UPC Resend' (SMS) to the customer in case validations (i) listed above is true	MNP SP	1		SIM3	Individual		
4	MNPSP to send 'Subscriber info query' to DNO for following items if all above validations are 'false':	MNP SP	1		SIM5 - SIM14	Individual		
	(i) the number is a Corporate mobile number;				ii - SIM5			
	(ii) there are outstanding payments due from				iii - SIM6			

	the postpaid Subscriber by way of pending bill, issued per the normal billing cycle but before the date of request for Unique Porting Code (UPC);							
	(iii) the Port Request has been made before the expiry of a period of ninety (90) calendar days from the date of activation of a new connection; MNPSP to assign corporate UPC if validation (i) is 'true' and remaining validations are 'false'							
4 (a)	No response from Donor within 'UPC info Time'	MNP SP	1	UPC delayed (SMS) to be sent to subscriber	SIM7	Individual		
4 (b)	No response from Donor within 'UPC info delayed time'	MNP SP	1	UPC rejected (SMS) to be sent to subscriber with rejection reason 'No response from Donor'	SIM8	Individual		
4 (c)	Negative acknowledgement from Donor within 'UPC info delayed Time' (if any of the above validations is true)	MNP SP	1	UPC rejected (SMS) to be sent to subscriber with all rejection reasons	Already Covered	Individual		
4 (d)	Subscriber info Response' (positive ACK) from Donor within 'UPC info delayed Time'	MNP SP	1	UPC Accepted (SMS) to be sent to the subscriber with valid UPC code.	SIM9 - SIM14	Individual		
5	CAF submission at RNO	RNO	1	CAF to be submitted with UPC information, date and time. RNO to send a message to subscriber upon CAF submission	SIM9 - SIM14	Individual		
6	RNO will send port request to MNPSP with UPC, MSISDN, date and time of subscriber's porting request.	RNO	1		SIM9 - SIM14	Individual		
7	MNPSP shall verify	MNP			SIM9-	Individual		

	whether: The Port Request is not in process for the same mobile number;	SP			SIM14			
7 (a)	In case above validation is 'false', MNPSP will send 'Port Response' (Rejected) to DNO and RNO and Port Rejected (SMS) to the customer with rejection reason.	MNP SP	1		SIM9	Individual		
7 (b)	In case of all MCH validations are 'true', MNPSP will send 'Port Response' (accepted) to DNO and RNO and Port Accepted (SMS) to the customer with date & time. MNPSP will send acknowledgement 'Port Request submitted' (SMS) to the subscriber with 24-hour port cancellation window information	MNP SP	1		SIM10 - SIM14	Individual		
8	'Port Cancel' request by customer within 24-hour, MNPSP to match MSISDN in 'Port Cancellation' (SMS) with requesting (A-party) number, if numbers are same, Port Cancel request to be accepted	Custo mer	1	Customer sends 'Port Cancel' request to MNPSP within 24-hour window. MNPSP to send 'Port Cancel Notification' to RNO and DNO and 'Port Cancel Accepted' (SMS) to the customer	SIM10	Individual		
9	Port Cancel' request after 24-hour window	Custo mer	1	Customer sends 'Port Cancel' request to MNPSP after 24-hour window. MNPSP will send Error Notification indicating rejection reason to RNO; and 'Port Cancel Rejected' (SMS) to the customer	SIM11	Individual		

10	Disconnection of service by DNO.	DNO	2-4		SIM11 - SIM14	Individual		
11	Provision of service by RNO.	RNO	2-4		SIM11 - SIM14	Individual		
12	Port broadcast by MNPSP.	MNP SP	2-4	The MNO should be able to accept the port broadcast message from the MNPSP and should send back the port broadcast answer message to the MNPSP as acknowledgement. Based on this message, the MNO should be able to update the routing tables at their end.	SIM11 - SIM14	Individual		
13	MT & MO calls (Voice / SMS) to and from the ported number	RNO	2-4		SIM11 - SIM14	Individual		
14	Non Payment Disconnect				SIM11 - SIM14	NPD		
14 (a)	Non Payment Disconnect (NPD) request by Donor before / after permissible period.	DNO	3	NPD within 7 days. MNPSP to send negative acknowledgement specifying rejection reason.	SIM11	NPD		
14 (b)	Negative acknowledgement (error notification) by MNPSP to DNO	MNP SP	3	If any of the above validations is true, MNPSP to send negative acknowledgement specifying rejection reason.	Alread y Cover ed	NPD		
14 (c)	Non Payment Disconnect (NPD) request by Donor within allowed period	DNO	3	NPD after 7 days (and before 60 days) of bill due date and within 90 days from the broadcast date	SIM12 - SIM14	NPD		
14 (d)	NPD request from MNPSP to RNO	MNP SP	3		SIM12 - SIM14	NPD		

14 (e)	Donor to cancel NPD request	DNO	3	Donor will cancel NPD request before NPD ACK message to MNPSP	SIM12	NPD		
14 (f)	NPD Response by RNO to MNPSP	RNO	3	NPD response to be sent by RNO within 30 days of receiving NPD Request (Multiple NPOSA by RNO within 30 days is not allowed. Second NPOSA will be accepted only on 30th Day.)	SIM13 - SIM14	NPD		
14 (g)	MNPSP to make a query from DNO & wait for 96 hours	MNP SP	3		SIM13 - SIM14	NPD		
14 (h)	NPD Response from MNPSP to DNO	MNP SP	3		SIM13 - SIM14	NPD		
14 (i)	NPD Acknowledgement from DNO to MNPSP	DNO	3	DNO to acknowledge Non-payment disconnect request within 96 calendar hours.	SIM13 - SIM14	NPD		
14 (j)	NPD Acknowledgement from MNPSP to RNO	MNP SP	3		SIM13 - SIM14	NPD		
15	Number return process initiation by MNPSP	MNP SP	3		SIM13	NPD		
16	Donor acknowledges number return	DNO	3		SIM13	NPD		
17	Reconnection request within 60 days of NPD Acknowledgement (Disconnect) received from RNO to MNPSP	RNO	4		SIM14	NPD		
18	Reconnection notification by MNPSP to DNO; number reconnected to RNO.	MNP SP	4		SIM13	NPD		
19	Broadcast of LRN with NRH	MNP SP	4		SIM13	NPD		
20	SMS to 1929 for UPC	DNO	1	UPC Request (SMS) to be routed to correct Zone MNPSP (serving NRH of the customer) by DNO SMSC.	SIM15 - SIM20	Corporate		
21	CorporatePort Order Submission	RNO	1	RNO submit Corporateport request to MNPSP for 10 (upto 100) MSISDN's	SIM15 - SIM20	Corporate		
22	CorporatePort Order Acknowledgement.	MNP SP	1	MNPSP will send 'Port acknowledgement	SIM15 -	Corporate		

	No port withdrawal window message to be sent.			Request submitted' (SMS) to the subscriber	SIM20			
23	Port Cancel' request by customer within 24-hour, MNPSP to match MSISDN in 'Port Cancellation' (SMS) with requesting (A-party) number, if numbers are same, and submitted with correct format within 24 hours time of raising the Port Request, Port Cancel request to be accepted.	RNO	1	Corporate Subscriber will cancel port request within 24 hrs from port request submit time & date.	SIM15	Corporate		
				MCH should accept the port cancel request				
24	CorporatePort Order Rejection - authorization letter	RNO/ DNO	1	Donor will reject partial Corporateport request with following rejection reason	SIM16	Corporate		
				1. Authorization Letter not in Desired Format		Corporate		
				2. Incorrect Donor name or Recipient name or circle name	SIM17	Corporate		
				3. Authorized Signatory Name & Signature missing /mismatch	SIM18	Corporate		
				4. Authorized Signatory E-mail id missing		Corporate		
				5. Authorized signatory seal / signature not available in all pages		Corporate		
				6. Authorized Signatory Signature missing / mismatch		Corporate		
				7. Company letter head not valid		Corporate		
				8. Company name mismatch		Corporate		
				9. Company Stamp Missing		Corporate		
				10. Mobile number mentioned is incorrect		Corporate		
25	Corporate Port	DNO	3-4	DNO will send corporate	SIM19	Corporate		

	Order Confirmation			porting order response to MNPSP with acceptance	- SIM20			
26	CorporatePort Order Partial Acceptance & Full Acceptance	MNP SP	3-4	MNPSP will send 'Port Response' (accepted) to DNO and RNO and Port Accepted (SMS) to the customer with date & time.	SIM19 - SIM20	Corporate		
27	CorporatePort Order Service Disconnection	MNP SP	3-4	MNPSP will send SD message to Donor	SIM19 - SIM20	Corporate		
28	CorporatePort Order Service Disconnect Answer	DNO	3-4	DNO will send Service Disconnect Answer	SIM19 - SIM20	Corporate		
29	CorporatePort Order Service Connect	MNP SP	3-4	MNPSP will send SC message to RNO	SIM19 - SIM20	Corporate		
30	CorporatePort Order Service Connect Answer	RNO	3-4	RNO will send Service Connect Answer	SIM19 - SIM20	Corporate		
31	CorporatePort Order broadcast	MNP SP	3-4	MNPSP will send broadcast message with correct LRN to all operators	SIM19 - SIM20	Corporate		
32	Number Porting Order Termination (NPOT)				SIM19-SIM20	NPOT		
32 (a)	NPOT request by Current NO of MSISDN to Number range Holder.	DNO	7	The Current Subscription Network sends an NPOT request for number return to the Number Range Holder.	SIM19	NPOT		
32 (b)	Negative Ack by MNPSP to the Current NO	MNP SP	7	MNPSP to send negative acknowledgement specifying rejection reason. wrong_NRH/ invalid_referenceID/ order_already_exists/ active_order_exists / number_not_routed/ number_not_routed_to_send er				
32 (c)	Positive Ack by MNPSP to the Current NO	MNP SP	7	NPOT message is accepted by the CNPMS and NPOT is forwarded to Number Range Holder.	SIM19	NPOT		
		RNO	7	NPOTA (+) by Number Range Holder	SIM19	NPOT		
32 (d)	Broadcast of LRN with NRH	MNP SP	7	SD-Notice to all the MNO	SIM19	NPOT		
33	RDB-Sync							
33 (a)	Customer to initiate Partial RDB Download	RNO/DNO	7	MNPSP will release the RDBPD based on Operator request. The MNO should be able to download partial bulk sync data, and populate	NA	RDB		

				it in its routing tables.				
33 (b)	Customer to initiate Full RDB Download	RNO/ DNO	7	MNPSP will release the RDBF based on Operator request. The MNO should be able to download full bulk sync data, and populate it in its routing tables.	NA	RDB		

3. TestCases – NLD/ILD

The pre-requisites are mentioned in Annexure-IV.

S.No	Test Case ID	Role	Day	Description	Test Results	Comments
1	Port broadcast by MNPSP.	MNPSP	1	The MNO should be able to accept the port broadcast message from the MNPSP and should send back the port broadcast answer message to the MNPSP as acknowledgement. Based on this message, the MNO should be able to update the routing tables at their end.		
RDB-Sync						
2	MNO to initiate Partial RDB Download	RNO/DNO	1	MNPSP will release the RDBPD based on MNO request (based on date range, LRN range, LSA or a combination thereof). The MNO should be able to download partial bulk sync data and populate it in its routing tables.		
3	MNO to initiate Full RDB Download	RNO/DNO	1	MNPSP will release the RDBFD based on MNO request. The MNO should be able to download full bulk sync data, and populate it in its routing tables.		

Annexure I –Pre-Requisites

- (1) All test scenarios will be performed on the TEST platform.
- (2) The Test Cases are designed considering a pair of Mobile Network Operators (MNOs).
- (3) The Testing will be performed under reduced timer parameters (from days to hours) to enable faster completion of the testing scenarios.
- (4) Availability of 1929 short code for network operator TEST SMSC to place the UPC request.
- (5) Centralized SMSC for each MNO.
- (6) Numbering plan should be in SYNC for both MNPSPs and MNO.
- (7) The MNO will do testing both as RNO and DNO.
- (8) Testing SIM numbers and Testing SPOCs details should be share with MCH in advance.
- (9) Spare SIM will be needed for Testing and MNO should share new SIM as and when they change testing numbers.
- (10) Proposed PAIR - MNO A and MNO B taking a set of 3 LSAs (one of them has to be AS, NE or JK).

Annexure II–SIM Requirements

S. No.	SIM No.	SIM Type	Test Scenarios
1.	SIM 1 to SIM 10	Prepaid SIM	Intra LSA
2.	SIM 11 to SIM 13	Postpaid SIM	Intra LSA
3.	SIM11	Postpaid SIM	SIM will be Ported SIM
4.	SIM 14	Postpaid SIM	Intra Zone & Inter LSA
5.	SIM14	Roaming SIM	Inter Zone & Inter LSA
6.	SIM 15 to SIM 20	Corporate SIM	
7.	SIM 21	Special LSA	Will be used for AS,NE, J&K For Successful scenario

Annexure III - Timer Values for Testing

S.NO.	Timer Details	Description	Time Defined In Regulation	Proposed Timing For Testing	Proposed Timing For Testing (As,Ne,J&K)
1.	UPC Info Time	The time within DNO must response for the subscriber info query	2 Min	2 Min	2 Min
2.	UPC delay time	Maximum time to wait for DNO response for subscriber info query	5 Min	5 Min	5 Min
3.	UPC Validity	UPC will be valid for	4 Days	4 Days	5 Days
4.	Port schedule time (Individual Intra)	MCH to schedule porting window of individual port request for intra LSA	48 Hrs	48 Hrs	72 Hrs
5.	Port schedule time (Individual Inter)	MCH to schedule porting window of individual port request for Inter LSA	96 Hrs	96 Hrs	72 Hrs
6.	Port response time for corporate port	Time given to DNO to respond for corporate port request	96 Hrs	96 Hrs	96 Hrs
7.	Cancel deadline	Cancellation request can be raised with in	24 hrs	24 hrs	24 hrs
8.	NPD timers	NPD can be raised after bill due date	7 days	3 Days	3 Days
		NPD cannot be raised after bill due date	60 days	7 Days	7 Days
		NPD should be raised within 90 days from last porting	90 Days	7 Days	7 Days

9.	NPD Reconnection	Reconnection can be raised within	60 Days	3 Days	3 Days
10.	Grace Period to raise Number Return	Number return due to NPD can be raised within	7 Days	1 Days	1 Days

Annexure IV–Pre-Requisites

- (1) All test scenarios will be performed on the TEST platform.
- (2) Numbering plan should be in SYNC for both MNPSPs and Operators
- (3) Testing SPOCs details should be share with MCH in advance

Glossary

CAF	Customer Application Form
DNO	Donor Network Operator
LRN	Location Routing Number
MCH	MNP Clearing House
MNO	Mobile Network Operator
MNP	Mobile Number Portability
MNPSP	MNP Service Provider
MSISDN	Mobile Station Integrated Services Digital Network
NPD	Non Payment Disconnection
NPOSA	Number Portability Order Suspension Acknowledgment
NPOT	Number Porting Order Termination
NPOTA	Number Porting Order Termination Acknowledgment
NRH	Number Range Holder
RDB	Relational Database
RDBFD	Relational Database Full Download
RDBPD	Relational Database Partial Download
RNO	Recipient Network Operator
SMS	Short Message Service
UPC	Unique Porting Code
