



# WHY MNOs BENEFIT FROM GSMA'S NETWORK SETTINGS EXCHANGE (NSX)

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# BACKGROUND / RECAP

## 2016

- **TS.32: Technical Adaptation of Devices through Late Customization V1.0**
  - PRD defining a set of Network related Settings in Devices, (IMS, APN, 2G/3G/4G/5G, Others)
  - Work on TS.32 is still ongoing, currently in V12.0. (2023)
- **TS.36: Devices Setting Database**
  - PRD defining requirements & functions of a “Device Settings Database”
  - a platform to share TS.32 settings among MNOs & OEMs - Designed by MNOs & OEMs
  - TS.36 was used for reference, and archived after NSX launched

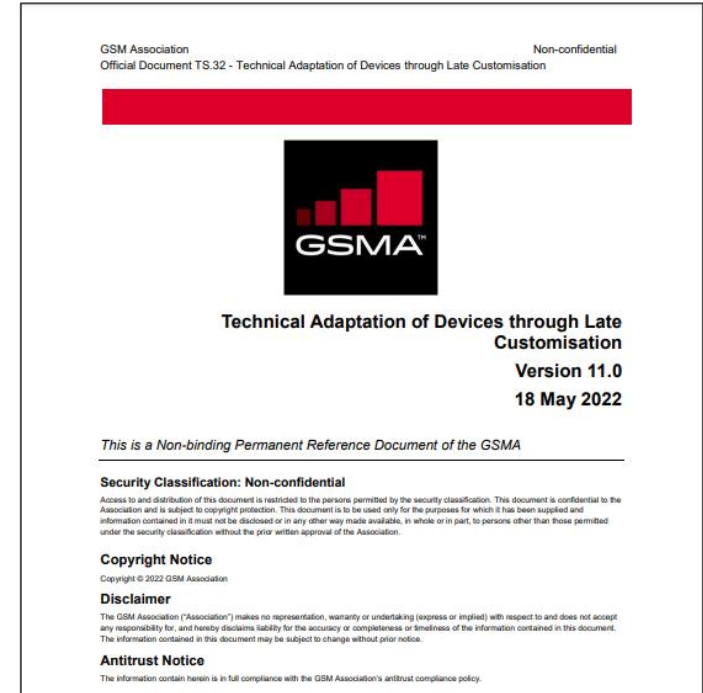
Index	Setting Name	Permissible Settings	GSMA Default vs Additional Comments	MNO Recommended Value
1	LTE 1.01	Support LTE DL Carrier Aggregation band combinations	Activate/Deactivate	Activate
2	LTE 1.02	VOID		Index Number no longer used
3	LTE 1.03	VOID		Index Number no longer used
4	LTE 1.04	Min-DAT PSHO LTE to GERAN	Activate/Deactivate	Deactivate
5	LTE 1.05	RS Redirection to GERAN	Activate/Deactivate	Activate
6	LTE 1.06	RS Redirection w/ 'info non-mandatory SRS'	Activate/Deactivate	Activate
7	LTE 1.07	SR - info Signaling Mode Redirection	Activate/Deactivate	Activate
8	LTE 1.08	ESM_info_flag (EPS Session Management)	True/False	False
9	LTE 1.09	VOID		Index Number no longer used
10	LTE 1.10	Fast Return from 3G to LTE after CSFB	Activate/Deactivate	Activate
11	LTE 1.11	VOID		Index Number no longer used
12	LTE 1.12	Fast Return from 2G to LTE after CSFB	Activate/Deactivate	Activate
13	LTE 1.13	Voice_Dom_pref setting in attach message	Values: 1, Default=2, 3, 2, 3	MNO must specify a value
14	LTE 1.14	Voice Domain Preference in attach message		
15	LTE 1.15	VOID		Index Number no longer used
16	LTE 1.16	3G -> LTE PS HO	Activate/Deactivate	Activate
17	LTE 1.17	Force 3G/2G LU before CSFB emergency call	Activate/Deactivate	
18	LTE 1.18	PS SCH Invt. reporting	Activate/Deactivate	
19	LTE 1.19	Prohibit TA list expiry time	Value	24hours See 24.301, Section 5.3.2 Permitted range of 12 to 24 hours
20	LTE 1.20	VOID		Index Number no longer used
21	LTE 1.21	CellID (Cell Reference Signal interference handling)	Activate/Deactivate	Deactivate Cell Reference Signal interference handling
22	LTE 1.22	TM9 (Transmission Mode) (with 8 CSI reference signal ports for FDD)	Activate/Deactivate	Activate
23	LTE 1.23	TM10 (Transmission Mode)	Activate/Deactivate	Deactivate
24	LTE 1.24	TM10 (Transmission Mode)	Activate/Deactivate	Deactivate
25	LTE 1.25	Minimisation of drive test	Activate/Deactivate	Deactivate
26	LTE 1.26	UE Tx Antenna Selection Supported	Activate/Deactivate	Activate
27	LTE 1.27	TM10 (Transmission Mode)	Activate/Deactivate	Deactivate
28	LTE 1.28	Transmission Mode 7 for FDD	Activate/Deactivate	
29	LTE 1.29	Transmission Mode 8 for FDD	Activate/Deactivate	
30	LTE 1.30	Cross carrier scheduling operation for CA for FDD	Activate/Deactivate	
31	LTE 1.31	VOID		Index Number no longer used
32	LTE 1.32	3G FQ1: 3G -> LTE (PCH Call Reselection)	Activate/Deactivate	Activate
33	LTE 1.33	3G FQ2: 3G -> LTE (measurement/reporting)	Activate/Deactivate	Activate
34	LTE 1.34	3G FQ3: 3G -> LTE (CELL_FACH absolute priority cell reselection for high priority levels)	Activate/Deactivate	Deactivate
35	LTE 1.35	3G FQ4: 3G -> LTE (CELL_FACH absolute priority cell reselection for low priority levels)	Activate/Deactivate	Deactivate
36	LTE 1.36	3G -> LTE support reselection in packet transfer mode	0, 1, 2, 3	11 See 3GPP TS 24.008 section

## 2019

- GSMA develops and launches Network Settings Exchange (NSX)
  - Actively maintained and developed by GSMA. Growing in usage ever since (~630 OEMs / 140 MNOs)

# DT PARTICIPATION

- **DT uses service to share all 15 separate network settings documents**
  - 12 MNOs & 3 MVNOs
  - Since launch 2019, more than 1.500 downloads accumulated
  - Incoming queries from OEMs & Chipset manufacturers
- **Target: OEMs & devices outside of DT portfolio**
  - Most of the ~600 OEMs have no bilateral relation with DT at all
  - Used to be blind-spot for our Terminals-Team
- **DT active in TSG driving NSX & TS.32 forward ever since**



# DT SETTINGS IN NSX

S.No	File Name	Total Number of times OEMs Downloaded
1	TS.32 v9.1 Magenta Telekom Austria_232_03_01_220519.xlsx	<a href="#">62</a>
2	TS.32 v9.1 T-Mobile Netherlands_204_16_1_220518.xlsx	<a href="#">50</a>
3	TS.32 v9.1 Tele2 NL (MVNO T-Mobile Netherlands)_220519.xlsx	<a href="#">52</a>
4	TS.32 v9.1 T-Mobile Polska_260_02_1_220519.xlsx	<a href="#">54</a>
5	TS.32 v9.1 Slovak Telekom_231_02_1_220519.xlsx	<a href="#">50</a>
6	TS.32 v9.1 Telekom Romania_226_03_06_1_220519.xlsx	<a href="#">50</a>
7	TS.32 v9.1 Telekom Deutschland_262_1_1_220519.xlsx	<a href="#">57</a>
8	TS.32 v9.1 Congstar (MVNO Telekom Deutschland)_262_1_1_220519.xlsx	<a href="#">59</a>
9	TS.32 v9.1 T-Mobile Czech Republic_230_01_1_220518.xlsx	<a href="#">56</a>
10	TS.32 v9.1 COSMOTE Greece_202_01_1_220519.xlsx	<a href="#">57</a>
11	TS.32 v9.1 Hrvatski Telekom_219_01_1_220519.xlsx	<a href="#">56</a>
12	TS.32 v9.1 Magyar Telekom_216_30_1_220519.xlsx	<a href="#">56</a>
13	TS.32 v9.1 Makedonski Telekom_294_01_1_220519.xlsx	<a href="#">57</a>
14	TS.32 v9.1 Crnogorski Telekom Podgorica_297_02_1_220519.xlsx	<a href="#">60</a>
15	TS.32 v9.1 Bonbon (MVNO Hrvatski Telekom)_219_01_1_220519.xlsx	<a href="#">63</a>



# OUTLOOK & CALL TO ACTION

- **New work-mode to jointly work on NSX features in future, with OEMs, MNOs & GSMA**
- **Starting July 13th**
- **DT expects increasing maturity, more features and wider relevance of NSX**
- **Hoping for more OEMs and MNOs to join the service and the discussion in TSG**



# Thank You ! Questions ?

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