

How To – Dual-SIM switching

Dual-SIM switching for TAINY EMOD and TAINY HMOD with advanced connection check

With TAINY xMOD with Dual SIM technology (product version DS) it is possible to enable a second SIM card slot, which provides the opportunity to use a completely different network operator in order to establish a wireless data service connection, if the network of the first provider fails.

Different configurations can be stored in any TAINY xMOD as individual configuration profiles, and activated according to requirements. In addition to manual profile activations, the device can be configured in such a way, that certain switching events lead to an automatic activation of a previously specified configuration profile. This can result in a switching to the second SIM card slot but may also affect only the slot with the SIM card (and hence provider) that could not establish a connection with the previous settings.

E.g. if the connection to the network of the wireless data service (HSPA+, UMTS, EGPRS or GPRS) provider is unavailable or fails, it may be helpful already to activate another profile, containing an alternative APN (Access Point Name) setting or different access data for the same SIM card slot, to solve the problem, before switching to another provider.

Switching events

The changing of profile can be triggered by different events:

- Loss or unavailability of the wireless data service
- Connection check fails
- Reboot of the device
- According to time-controlled schedule

Loss or unavailability of the wireless data service

Set the fallback profile for the switching event "loss or unavailability of the wireless data service" with the parameter "At connection error fallback to profile" under "External Network - UMTS/EDGE" (TAINY HMOD) or "External Network - EDGE/GPRS" (TAINY EMOD).

External Network - UMTS/EDGE	
SIM card slot	SIM-1
Last activated profile	profile_6352697f229325764
At connection error fallback to profile	Default-Configuration-SIM-2
PS	****
Change PS	Change
Network selection	UMTS or GSM
Use antenna diversity	No
Call number of the SMS service center (SMSC)	
Allow roaming	No
Method of provider authentication (PAP/CHAP)	Automatic
Mode of the provider selection	Automatic

Connection check fails

Profile changes due to connection check failures require the following settings (under "External Network - Advanced Settings - Connection Check"):

- The connection check is enabled (Set "Enable connection check" to "List" or "Statistics")
- At least one remote ping host (host name or IP address) is specified
- The activity on a faulty connection is set to "Activate another profile"

Use the parameter "To activate profile" to set the configuration profile that shall be activated in case of a connection check failure.

With the function "Connection Check" the TAINY xMOD checks its connection to UMTS/GPRS and to the connected external networks, such as the internet or an intranet. To do this, the TAINY xMOD sends ping packets (ICMP) in the following modes:

- List The TAINY xMOD sends ping packets to up to four remote locations (target hosts). If the TAINY xMOD receives an answer from at least one of the addressed remote locations, the TAINY xMOD is still connected to the mobile data service (HSPA+, UMTS, EGPRS or GPRS) and ready for operation.

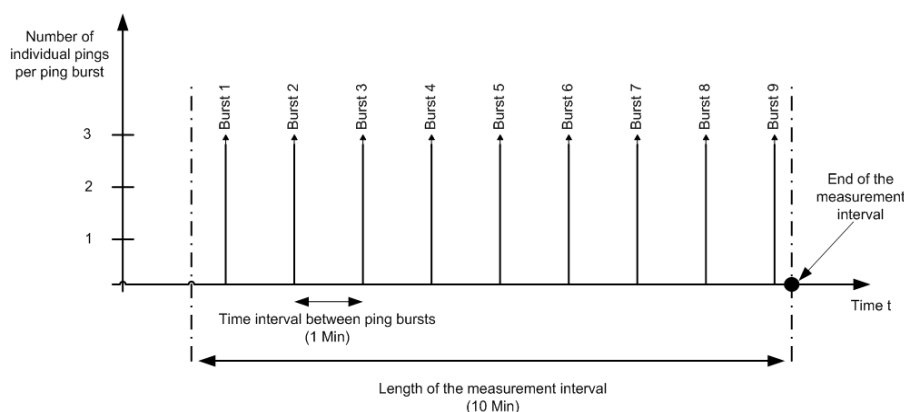
External Network - Advanced settings - Connection Check	
Enable connection check	List
List of the ping targets	
host name	
www.neuhaus.de	
www.google.de	
Interval for connection check (1-6000)	0 Minutes
Number of permitted unsuccessful attempts (1-100)	3
Activity on faulty connection	Activate another profile
Last activated profile	profile_6352697f229325764
To activate profile	NONE
[Back] [Reset]	

Statistics The TAINY xMOD cyclically sends a variable number of ping packets (burst) to exactly one target host and observes the answer behavior over a specific period of time. If a specified quota of answers (success threshold) is received over this observation period, the test has been passed and the device is still connected to the mobile data service.

External Network - Advanced settings - Connection Check	
Enable connection check	Statistics
Destination host name or IP address of the remote ping host	www.neuhaus.de
Minimum Ping success threshold (5-100%)	50
Number of data bytes in a ping packet (5-1000)	10
Maximum waiting time for a ping response (1-60 seconds)	30
Length of the measuring interval (5-30 minutes)	10
Number of individual pings per ping burst (1-20)	10
Time interval between two ping bursts (1-5 minutes)	1
Action if the ping success threshold has not been reached at the end of the measuring interval	Activate profile
Last activated profile	profile_8262997f293128794
To activate profile	Default-Configuration-SIM-2

The transmission of ping packets takes place independently of the user data connections. Some network operators interrupt connections when they are inactive. This is likewise prevented by the Connection Check function.

The following graph provides an overview of the time response of the TAINY xMOD in Statistics mode. In this example the measurement interval is 10 min; bursts of three ping commands each are sent one minute apart.



Warning

By sending the ping packets (ICMP), the amount of data sent and received over the mobile data service connection (HSPA+, UMTS, EGPRS or GPRS) increases. Depending on the selected settings (addressing by hostname or IP address, interval, time response, number of ping commands per burst, length of the ping packets, etc.), the additional data traffic can amount to several MByte per month.

This can lead to additional costs.

Reboot of the device

Set the profile that will be activated at the next reboot of the TAINY xMOD with the parameter "Initial profile after reboot" under "Maintenance - Configuration Profiles".

Maintenance - Configuration Profiles			
Last activated profile	Default		
Save changes to activated profile	Save		
Initial profile after reboot	Default-Configuration-SIM-1	Accept	
Change profile after (1-1440) minutes	to profile	NONE	Accept
Load a stored profile	Browse	No file selected	Load
Create profile			Create
List of saved configuration profiles			
Name			
Default-Configuration-SIM-1.gpr	Activate	Download	
Default-Configuration-SIM-2.gpr	Activate	Download	

Time-controlled schedule

This function allows the user to specify a configuration profile which will be activated after a user-defined time interval (in minutes) has expired.

Set the time interval and the profile to be activated after the interval has expired with the parameters "Change profile after (1-1440) (minutes)" and "to profile" under "Maintenance - Configuration Profiles".

Maintenance - Configuration Profiles			
Last activated profile			Default
Save changes to activated profile			Save
Initial profile after reboot		NONE	Accept
Change profile after (1-1440) (minutes)	60	to profile	Default-Configuration-SIM-1 Accept
Load a stored profile		Browse	No file selected Load
Create profile			Create
List of saved configuration profiles			
Name			
Default-Configuration-SIM-1.gpz	Activate	Download	
Default-Configuration-SIM-2.gpz	Activate	Download	