

4G Femto S1 link Interrupt Every 1 Hour

Equipment: 4G Femto

Version: 1.6.6

1. Issue Description

Client Feedback that the eNB is not stable, S1 link is interrupted almost every 1 hour.

2. Troubleshooting

Collect the Devicelog and see that S1 delete and setup every 1 hour as below, before the S1 delete succeed, it reports “SonPerEutranRemTimeout”

```
2023-12-17 04:00:00.000 [SON] SonPerEutranRemTimeout
2023-12-17 04:00:00.074 [SON] SonRecvActionReq, SonState = SON_STATE_NORMAL, ucConRemOngoing = 0, QueuedActionType = SON_ACTION_NULL, ucForceHandling = 0, ActionType
ON_START_REM
2023-12-17 04:00:00.916 [SON] Enb delete succeed
2023-12-17 04:00:00.930 [SON] S1 delete succeed
2023-12-17 04:00:02.249 [SON] SonConfigPerEutranRem
2023-12-17 04:00:03.116 [SON] S1 setup succeed
2023-12-17 04:00:06.147 [SON] SonSelectSelfConfigParams, ucServCellIndex = 0, CandidateARFCNList = 1925, CandidatePCIList = 111,112
2023-12-17 04:00:06.153 [SON] SonSelectSelfConfigParams, ucServCellIndex = 0, EARFCNULInUse = 1925, EARFCNULInUse = 19925, FreqBandIndicator = 3, DLBandwidthInUse =
widthInUse = 25
2023-12-17 04:00:06.158 [SON] SonSelectSelfConfigParams, PCIConfigEnable = 1, ucServCellIndex = 0, PhyCellIDInUse = 111
2023-12-17 04:00:06.993 [SON] Enb setup succeed

0000002962 2023-12-16 23:00:03.078 [SON] S1 setup succeed
0000003175 2023-12-17 00:00:00.882 [SON] S1 delete succeed
0000003177 2023-12-17 00:00:03.060 [SON] S1 setup succeed
0000003488 2023-12-17 01:00:00.870 [SON] S1 delete succeed
0000003490 2023-12-17 01:00:03.057 [SON] S1 setup succeed
0000003802 2023-12-17 02:00:00.944 [SON] S1 delete succeed
0000003804 2023-12-17 02:00:03.083 [SON] S1 setup succeed
0000004117 2023-12-17 03:00:00.941 [SON] S1 delete succeed
0000004119 2023-12-17 03:00:03.130 [SON] S1 setup succeed
0000004432 2023-12-17 04:00:00.930 [SON] S1 delete succeed
0000004434 2023-12-17 04:00:03.116 [SON] S1 setup succeed
0000004747 2023-12-17 05:00:00.950 [SON] S1 delete succeed
0000004749 2023-12-17 05:00:03.132 [SON] S1 setup succeed
0000005068 2023-12-17 06:00:00.883 [SON] S1 delete succeed
0000005070 2023-12-17 06:00:03.065 [SON] S1 setup succeed
```

Check the xml config file and see the switch of “ScanPeriodically” is enabled.

And the operating mechanism of ScanPeriodically will delete and setup S1 link.

```
<LTE>
<InServiceHandling Notification="0" AccessList="">Immediate</InServiceHandling>
<ScanOnBoot Notification="0" AccessList="">1</ScanOnBoot>
<ScanPeriodically Notification="0" AccessList="">1</ScanPeriodically>
<PeriodicInterval Notification="0" AccessList="">3600</PeriodicInterval>
<PeriodicTime Notification="0" AccessList="">0001-01-01T00:00:00Z</PeriodicTime>
<REPLMNList Notification="0" AccessList="">/>
<REMBandList Notification="0" AccessList="">/>
<EUTRACarrierARFCNDDLList Notification="0" AccessList="">1925</EUTRACarrierARFCNDDLList>
<ScanTimeout Notification="0" AccessList="">0</ScanTimeout>
<ScanStatus Notification="0" AccessList="">Success</ScanStatus>
<ErrorDetails Notification="0" AccessList="">NULL</ErrorDetails>
<LastScanTime Notification="0" AccessList="">2023-12-17T06:24:09.307Z</LastScanTime>
<MaxCellEntries Notification="0" AccessList="">/>
<CellNumberOfEntries Notification="0" AccessList="">/>
<MaxCarrierMeasEntries Notification="0" AccessList="">/>
<CarrierMeasNumberOfEntries Notification="0" AccessList="">/>
</LTE>
</REM>
```

3. Solution

Disable the “ScanPeriodically” Switch for LTE REM, and restart eNB to valid the config change.

```
<LTE>
<InServiceHandling Notification="0" AccessList="">Immediate</InServiceHandling>
<ScanOnBoot Notification="0" AccessList="">1</ScanOnBoot>
<ScanPeriodically Notification="0" AccessList="">0</ScanPeriodically>
```