

Run#4-4,21



You are a requirements engineer working on the project named 'standard firmware.' Your task is to predict links between the system requirements (SYSRS) and software requirements (SWRS).

For each SYSRS, perform the following steps:

Deduce the Triggers: Identify the conditions or events that initiate the requirement.

Deduce the Actions: Specify what needs to be done when the triggers occur.

Deduce the Outputs: Identify the results or deliverables of the actions.

Search for SWRS with matching or related triggers, actions, and outputs. Create links only if there is a match, and ensure that the scenarios (e.g., unicast vs. broadcast or other context-specific conditions) are consistent between the SYSRS and SWRS. No link of any type should be created if they mismatch.

Important:

Verify that the operational context (e.g., unicast vs. broadcast) aligns fully before classifying as "Fully Linked."

If there is any inversion or mismatch in context, triggers, actions, or outputs, classify the SYSRS as "Partially Linked" or "Unlinked," as appropriate.

Clearly describe any mismatches or inversions in the justification.

For each SYSRS, classify the match into one of the following categories:

Fully Linked: The SWRS completely aligns with the SYSRS in context, triggers, actions, and outputs.

Partially Linked: The SWRS addresses some aspects of the SYSRS (e.g., actions) but misses significant elements (e.g., context or specific outputs). Specify what is missing.

Unlinked: No SWRS sufficiently aligns with the SYSRS due to missing key elements, incompatible context, or scenarios.

If a match exists (fully or partially), provide a justification explaining how the SWRS satisfies the SYSRS and note any missing elements for partial links. If no match exists, explicitly state that the SYSRS is Unlinked, along with a justification. Wait for me to give sysrs and swrs list. Please recheck if you have address ALL the sysrs from the list. donot miss any.



Understood! I am ready to help you predict links between the SYSRS and SWRS when you provide the lists. I will ensure that each SYSRS is thoroughly analyzed for triggers, actions, and outputs, and I will classify the links with detailed justifications. Please share the lists when you're ready.



System Requirement

SYSRS 001: The Sensor IC shall digitize the Transducer Input Signal at the IC Pins with sampling frequency of (CALIB_samplingFreq plus YPX_samplingFreqOffset).

```

"SYSRS 003: BEFORE Sending CRM_RCC After Reception of the CRM_FCC,
THEN
the Sensor IC shall
set CRM_RSP Parameter CrmStatus = Status Value.
"

SYSRS 021: Diagnostic - Retry configuration: The firmware shall allow configurability to select the
retry for open and short faults independently
"SYSRS 012: BEFORE Leaving the Discovery Mode
AND IF the effective value of the parameter DSI3_physicalAddress is NOT equal to the default value
of the Parameter DSI3_physicalAddress
THEN
the Sensor IC shall
set Error: err_discPhysAddrMismatch = 0x1 ("error detected").
"

"SYSRS 014: IF the Event_MAX is generated,
THEN
the Sensor IC shall
measure the time of the occurrence of the event condition relative to the start of the measurement
and provide PDCM_RSP P12, P13 Parameter EventTimeStamp<i> for the <i>th Event transmitted in a
DSI3 packet."
"SYSRS 009: If Performing Memory Access in Broadcast
AND IF the state if the Memory Area identified by CRM_CMD 0x8 Parameter MemoryArea for the
operation as determined by CRM_CMD 0x8 Operation Flag is in the state Locked,
THEN
the Sensor IC shall
respond with PDCM_RSP P0: Report CRM_RSP Information containing CRM_RSP 0x8: Report Lock
Status and CRM_RSP 0x8 Flag KeyRequest = 0b1 ("key requested").
"

"SYSRS 018: - Unlocked, If No Key Is Set
If Performing Memory Access
AND If the Key is NOT set
THEN
the Sensor IC shall
set the state of the Memory Area identified by CRM_CMD 0x8 Parameter MemoryArea to the state
Memory Area State: Unlocked."
"SYSRS 006: If Performing Memory Access in Unicast
AND IF the state of the Memory Area identified by CRM_CMD 0x8 Parameter MemoryArea for the
operation as determined by CRM_CMD 0x8 Operation Flag is in the state Locked,
THEN
the Sensor IC shall
respond with CRM_RSP 0x8: Report Lock Status and CRM_RSP 0x8 Flag KeyRequest = 0b1 ("key
requested").
"

"SYSRS 019: If Performing Memory Access in Unicast
AND AFTER reception of the CRM_FCC_CMD,
AND If Addressed with the Broadcast Command
THEN
the Sensor IC shall
set the parameter Status Value = 0x2 ("invalid")."
"SYSRS 020: If Performing Memory Access in Broadcast

```

AND AFTER reception of the CRM_FCC_CMD,
 AND If Addressed with the Unicast Command
 THEN
 the Sensor IC shall
 set the parameter Status Value = 0x2 (""invalid"").
 "SYSRS 007: If Performing Memory Access
 AND If the Key is Set
 AND If Read Operation is Requested
 AND If Memory Area Is Set Read Accessible
 THEN
 the Sensor IC shall
 set the state of the Memory Area identified by CRM_CMD 0x8 Parameter MemoryArea to the state
 Locked.
 "
 "SYSRS 015: Increment KAC
 AFTER Sending PDCM Packet After Reception of the BRC
 THEN
 the Sensor IC shall
 increment the PDCM_RSP Parameter KAC by 1; the counter is reset to 0 at overflow"
 "SYSRS 010: If Performing Memory Area Modification
 AND AFTER reception of CRM_CMD 0x9: Take Data or Send Data
 THEN
 the Sensor IC shall
 cache the CRM_CMD 0x9 Parameter Data to the Data Cache.
 "
 "SYSRS 013: The Sensor IC shall amplify the Transducer Input Signal at the IC Pins with the three
 amplification factors (Parameter CALIB_analogGain plus Parameter SPX_dynGainStartValue plus
 CRM_CMD 0x4 Parameter CalibrationGain plus Parameter YPX_calibrationGainOffset).
 "SYSRS 016: After Reception of the Valid CRM_FCC_CMD,
 THEN
 the Sensor IC shall
 set the PDCM_RSP Parameter KAC = 0x0."
 "SYSRS 017: If Performing the Standard Path Measurement
 AND IF performing Stop Ongoing Measurement (Blocked)
 AND IF the functionality in US-Transducer Control (Non-Modulated Sine Burst) has NOT been fully
 performed,
 THEN
 the Sensor IC shall
 set Error: err_burstGenerationStopped = 0x1 (""error"")."
 "SYSRS 004: If performing Erase Backup
 AND If Addressed with the Unicast Command
 THEN
 the Sensor IC shall
 respond with CRM_RSP 0x0: Report Acknowledgement."
 SYSRS 002: The Sensor IC FW shall have a watchdog to detect FW or HW malfunction by resetting
 the WDG time in appropriate time within the FTTI.
 "SYSRS 005: IF the Sensor IC generates more information than possible to store in Event Buffer or
 Time Series Data Buffer

THEN
the Sensor IC shall forget the according information."
"SYSRS 008: If Performing Memory Access With Set Key
AND If Write Operation is Requested
AND If Memory Area Is Set Write Accessible
THEN
the Sensor IC shall
set the state of the Memory Area identified by CRM_CMD 0x8 Parameter MemoryArea to the state Locked."
"
SYSRS 011: If Performing Memory Area Modification
AND AFTER reception of CRM_CMD 0x9: Take Data or Send Data
THEN
the Sensor IC shall
increment the CRM_CMD 0x8 Parameter StartAddress by 1 word address."



Please provide the corresponding **Software Requirements (SWRS)** list. Once I have both lists, I will analyze each SYSRS by identifying triggers, actions, and outputs and link them appropriately to SWRS based on alignment in context, triggers, actions, and outputs.



Software Requirement
"SWRS 017: Increment KAC
AFTER Sending PDCM Packet After Reception of the BRC
THEN
the Software shall
increment the PDCM_RSP Parameter KAC by 1; "
"SWRS 010: If Performing Memory Access in Broadcast
AND IF the state if the Memory Area identified by CRM_CMD 0x8 Parameter MemoryArea for the operation as determined by CRM_CMD 0x8 Operation Flag is in the state Locked,
THEN
the Software shall prepare to
respond with PDCM_RSP P0: Report CRM_RSP Information containing CRM_RSP 0x8: Report Lock Status and CRM_RSP 0x8 Flag KeyRequest = 0b1 ("key requested").
"
SWRS 016: The software shall send the MAX events with the measured time of the occurrence of the event, condition relative to the start of the measurement, and provide the PDCM_RSP P12,P13 Parameter EventTimeStamp<i> for the <i>th Event transmitted in a PDCM frame.
"SWRS 018: After Reception of the Valid CRM_FCC_CMD,
THEN
the Software shall
set the PDCM_RSP Parameter KAC = 0x0."
SWRS 002: The software shall enable a watchdog to detect software or hardware malfunction AND IF a malfunction is present, perform a reset in an appropriate time within the Fault Tolerant Time Interval of 20ms
"SWRS 012 : BEFORE Leaving the Discovery Mode
AND IF the effective value of the Parameter DSI3_physicalAddress (RAM) is NOT equal to the default

```

value of the Parameter DSI3_physicalAddress (NVM)
THEN
the Software shall
set Error: err_discPhysAddrMismatch = 0x1 ("error detected").
OTHERWISE
the Software shall
set Error: err_discPhysAddrMismatch = 0x0 ("no error").
"
"SWRS 005: - The software shall store information for up to 5 Echo Events.

```

```

SWRS 006: - The software shall hold at least the information for up to 100 time series data samples
(time stamp and value)
IF NOT possible regarding memory constraints could be reduced up to 50 time series data samples.
"

```

```

SWRS 008: If Performing Memory Access AND If the Key is Set AND If Read Operation is Requested
AND If Memory Area Is Set Read Accessible THEN the Software shall set the state of the Memory
Area identified by CRM_CMD 0x8 Parameter MemoryArea to the state Locked.

```

```

"SWRS 013: Analog Amplification: AFTER reception of the command CRM_CMD 0x4: Start Calibration
Measurement the software shall set the register the register ASP_CFG.g_ana to Parameter
CALIB_analogGain .
"

```

```

"SWRS 009: If Performing Memory Access
AND If the Key is Set
AND If Write Operation is Requested
AND If Memory Area Is Set Write Accessible
THEN
the Software shall
set the state of the Memory Area identified by CRM_CMD 0x8 Parameter MemoryArea to the state
Locked.
"

```

```

"SWRS 020: - Unlocked, If No Key Is Set
ELA0938-15904 - If Performing Memory Access
AND ELA0938-17453 - If the Key is NOT set
THEN
the Software shall
set the state of the Memory Area identified by ELA0938-9158 - CRM_CMD 0x8 Parameter
MemoryArea to the state ELA0938-16683 - Memory Area State: Unlocked."

```

```

"SWRS 021: If Performing Memory Access in Unicast
AND AFTER reception of the CRM_FCC_CMD,
AND If Addressed with the Broadcast Command
THEN
the Software shall
set the parameter Status Value = 0x2 ("invalid")."

```

```

"SWRS 022: If Performing Memory Access in Broadcast
AND AFTER reception of the CRM_FCC_CMD,
AND If Addressed with the Unicast Command
THEN
the Software shall
set the parameter Status Value = 0x2 ("invalid")."

```

```

"SWRS 011: If Performing Memory Area Modification
AND AFTER reception of CRM_CMD 0x9: Take Data or Send Data
THEN
the Software shall store the CRM_CMD 0x9 Parameter Data to RAM until the command CRM_CMD
0xA: Perform Memory Operation with CRM_CMD 0xA Parameter MemoryOperation == 0x2 ""Write
to NVM"" is received."
"SWRS 007: If Performing Memory Access in Unicast
AND IF the state of the Memory Area identified by CRM_CMD 0x8 Parameter MemoryArea for the
operation as determined by CRM_CMD 0x8 Operation Flag is in the state Locked,
THEN
the Software shall prepare to
respond with CRM_RSP 0x8: Report Lock Status and CRM_RSP 0x8 Flag KeyRequest = 0b1 (""key
requested"").
"
"SWRS 003: BEFORE responding with the CRM_RSP,
the Software shall include the CRM_RSP Parameter CrmStatus into the CRM_RSP.

"
"SWRS 019: IF in Main-Measurement
AND IF Break Burst Generation occurs
THEN
the software shall set
Error: err_burstGenerationStopped = 0x1 (""error"").
"SWRS 001: AFTER reception of the command CRM_CMD 0x1: Start Standard Measurement
AND
BEFORE the start of the Measurement the software shall set the register BRG.FS.f_s to
(CALIB_samplingFreq plus YPX_samplingFreqOffset). "
"
SWRS 014: Digital Amplification: AFTER reception of the command CRM_CMD 0x4: Start Calibration
Measurement the software shall set the register ENVP_AMPD_CFG.g_dig to Parameter
SPX_dynGainStartValue .
"
"
SWRS 015: Calibration Gain: AFTER reception of the command CRM_CMD 0x4: Start Calibration
Measurement
the software shall set the register ENVP_GCAL.g_cal to ( CRM_CMD 0x4 Parameter CalibrationGain +
Parameter YPX_calibrationGainOffset)."

```



I will now analyze the given SYSRS and SWRS to predict links. For each SYSRS, I will:

1. **Deduce Triggers, Actions, and Outputs.**
2. **Search for matching SWRS based on triggers, actions, and outputs.**
3. **Classify the relationship (Fully Linked, Partially Linked, or Unlinked).**
4. **Provide a justification for the classification.**

This will ensure all SYSRS are addressed. Let's begin.

SYSRS 001:

Trigger: Digitize Transducer Input Signal with specified sampling frequency.

Action: Digitize signal using `(CALIB_samplingFreq + YPX_samplingFreqOffset)`.

Output: Digitized input signal.

Matching SWRS:

- **SWRS 001:** Matches the trigger, action, and output. It specifies setting the sampling frequency to `(CALIB_samplingFreq + YPX_samplingFreqOffset)` before starting the measurement.

Classification: Fully Linked.

Justification: SWRS 001 fully aligns with SYSRS 001 in terms of trigger, action, and output.

SYSRS 003:

Trigger: After CRM_FCC reception and before sending CRM_RCC.

Action: Set CRM_RSP Parameter `CrmStatus = Status Value`.

Output: CRM_RSP Parameter `CrmStatus`.

Matching SWRS:

- **SWRS 003:** Includes the CRM_RSP Parameter `CrmStatus` in the CRM_RSP.

Classification: Partially Linked.

Justification: SWRS 003 addresses the action but does not specify the exact timing context ("AFTER CRM_FCC" and "BEFORE CRM_RCC"), which is critical for full alignment.

SYSRS 021:

Trigger: Diagnostic configuration for retries on open/short faults.

Action: Allow configuration of retry selection independently.

Output: Configurable retry mechanism.

Matching SWRS: None explicitly addresses diagnostic retry configurability.

Classification: Unlinked.

Justification: No SWRS specifies independent retry configuration for open and short faults.

SYSRS 012:

Trigger: Before leaving Discovery Mode, check `DSI3_physicalAddress`.

Action: Set `err_discPhysAddrMismatch` based on the check.

Output: `err_discPhysAddrMismatch = 0x1` (error detected).

Matching SWRS:

- **SWRS 012:** Matches the trigger, action, and output. It specifies setting `err_discPhysAddrMismatch` based on the value of `DSI3_physicalAddress`.

Classification: Fully Linked.

Justification: SWRS 012 fully satisfies the SYSRS 012 conditions.

SYSRS 014:

Trigger: Event_MAX generated.

Action: Measure event time relative to start and provide `EventTimeStamp<i>` in DSI3 packet.

Output: `EventTimeStamp<i>` in DSI3 packet.

Matching SWRS:

- **SWRS 016:** Specifies sending MAX events with measured timestamps as part of a PDCM frame.

Classification: Partially Linked.

Justification: SWRS 016 aligns with the action and output but does not explicitly mention DSI3 packets, which may indicate a mismatch in operational context.

SYSRS 009:

Trigger: Memory access in broadcast, locked memory state.

Action: Respond with lock status and `KeyRequest = 0b1`.

Output: PDCM_RSP with lock status and `KeyRequest = 0b1`.

Matching SWRS:

- **SWRS 010:** Matches the trigger, action, and output for responding with lock status and `KeyRequest`.

Classification: Fully Linked.

Justification: SWRS 010 fully aligns with SYSRS 009.

SYSRS 018:

Trigger: Memory access, key not set.

Action: Set memory area state to "Unlocked."

Output: Memory area state "Unlocked."

Matching SWRS:

- **SWRS 020:** Matches the trigger, action, and output for unlocking memory when the key is not set.

Classification: Fully Linked.

Justification: SWRS 020 fully satisfies SYSRS 018.

SYSRS 006:

Trigger: Memory access in unicast, locked memory state.

Action: Respond with lock status and `KeyRequest = 0b1`.

Output: CRM_RSP with lock status and `KeyRequest = 0b1`.

Matching SWRS:

- **SWRS 007:** Matches the trigger, action, and output for responding with lock status and `KeyRequest`.

Classification: Fully Linked.

Justification: SWRS 007 fully satisfies SYSRS 006.

SYSRS 019:

Trigger: Memory access in unicast, after CRM_FCC_CMD, addressed with broadcast command.

Action: Set `Status Value = 0x2`.

Output: Status parameter set to `0x2`.

Matching SWRS:

- **SWRS 021:** Matches the trigger, action, and output.

Classification: Fully Linked.

Justification: SWRS 021 fully aligns with SYSRS 019.

SYSRS 020:

Trigger: Memory access in broadcast, after CRM_FCC_CMD, addressed with unicast command.

Action: Set `Status Value = 0x2`.

Output: Status parameter set to `0x2`.

Matching SWRS:

- **SWRS 022:** Matches the trigger, action, and output.

Classification: Fully Linked.

Justification: SWRS 022 fully aligns with SYSRS 020.

Remaining SYSRS:

I will continue this process for the rest of the SYSRS. Let me know if you want me to proceed with all at once or one by one.



proceed



SYSRS 007:

Trigger: Memory access, key set, read operation, memory area read-accessible.

Action: Set memory area state to "Locked."

Output: Memory area state "Locked."

Matching SWRS:

- **SWRS 008:** Matches the trigger, action, and output for locking the memory area in this context.

Classification: Fully Linked.

Justification: SWRS 008 fully satisfies SYSRS 007 requirements.

SYSRS 015:

Trigger: After sending PDCM Packet, after reception of BRC.

Action: Increment `KAC` by 1.

Output: Updated `KAC` parameter.

Matching SWRS:

- **SWRS 017:** Matches the trigger, action, and output for incrementing `KAC` after specified conditions.

Classification: Fully Linked.

Justification: SWRS 017 fully aligns with SYSRS 015.

SYSRS 010:

Trigger: Memory area modification, after CRM_CMD 0x9 reception.

Action: Cache `CRM_CMD 0x9` Parameter Data to Data Cache.

Output: Data cached.

Matching SWRS:

- **SWRS 011:** Matches the trigger and action but specifies storing data in RAM until another command is received.

Classification: Partially Linked.

Justification: SWRS 011 addresses caching data but adds an additional condition (waiting for CRM_CMD 0xA), which slightly differs from the SYSRS 010 requirement.

SYSRS 013:

Trigger: Amplify transducer input signal with multiple amplification factors.

Action: Apply amplification using specified parameters.

Output: Amplified transducer input signal.

Matching SWRS:

- **SWRS 013:** Matches the analog amplification using `CALIB_analogGain`.
- **SWRS 014:** Matches digital amplification using `SPX_dynGainStartValue`.
- **SWRS 015:** Matches calibration gain using `CalibrationGain + YPX_calibrationGainOffset`.

Classification: Fully Linked.

Justification: Combined SWRS 013, SWRS 014, and SWRS 015 fully satisfy SYSRS 013 by addressing all amplification factors.

SYSRS 016:

Trigger: After reception of valid CRM_FCC_CMD.

Action: Set `KAC = 0x0`.

Output: Reset `KAC` parameter.

Matching SWRS:

- **SWRS 018:** Matches the trigger, action, and output.

Classification: Fully Linked.

Justification: SWRS 018 fully satisfies SYSRS 016.

SYSRS 017:

Trigger: Performing standard path measurement, stopped prematurely, burst not fully performed.

Action: Set ``err_burstGenerationStopped = 0x1``.

Output: Error flag ``err_burstGenerationStopped`` set.

Matching SWRS:

- **SWRS 019:** Matches the trigger, action, and output for setting ``err_burstGenerationStopped``.

Classification: Fully Linked.

Justification: SWRS 019 fully aligns with SYSRS 017.

SYSRS 004:

Trigger: Performing erase backup, addressed with unicast command.

Action: Respond with ``CRM_RSP 0x0: Report Acknowledgement.``

Output: Acknowledgement response.

Matching SWRS: None explicitly addresses erase backup with unicast commands.

Classification: Unlinked.

Justification: No SWRS specifies responding with a CRM_RSP for erase backup operations.

SYSRS 002:

Trigger: Firmware needs to detect FW or HW malfunction within a Fault Tolerant Time Interval (FTTI).

Action: Reset watchdog timer.

Output: Watchdog reset.

Matching SWRS:

- **SWRS 002:** Matches the trigger, action, and output for enabling a watchdog and resetting it during malfunctions.

Classification: Fully Linked.

Justification: SWRS 002 fully satisfies SYSRS 002.

SYSRS 005:

Trigger: More information generated than can be stored in event/time-series buffers.

Action: Forget excess information.

Output: Buffer overflow mitigation.

Matching SWRS:

- **SWRS 005:** Matches storing up to 5 Echo Events.
- **SWRS 006:** Matches storing up to 100 time-series data samples with constraints.

Classification: Partially Linked.

Justification: SWRS 005 and SWRS 006 address buffer constraints but do not explicitly state mechanisms to forget excess information when limits are exceeded.

SYSRS 008:

Trigger: Memory access, key set, write operation, memory area write-accessible.

Action: Set memory area state to "Locked."

Output: Memory area state "Locked."

Matching SWRS:

- **SWRS 009:** Matches the trigger, action, and output for locking memory in this context.

Classification: Fully Linked.

Justification: SWRS 009 fully satisfies SYSRS 008.

SYSRS 011:

Trigger: Memory area modification, after CRM_CMD 0x9 reception.

Action: Increment `StartAddress` by 1 word address.

Output: Updated `StartAddress`.

Matching SWRS: None explicitly matches incrementing `StartAddress`.

Classification: Unlinked.

Justification: No SWRS specifies incrementing `StartAddress` directly.

Summary:

SYSRS	Classification	Matching SWRS	Justification
SYSRS 001	Fully Linked	SWRS 001	Fully matches.
SYSRS 003	Partially Linked	SWRS 003	Context missing.
SYSRS 021	Unlinked	None	No match.
SYSRS 012	Fully Linked	SWRS 012	Fully matches.
SYSRS 014	Partially Linked	SWRS 016	Context mismatch.
SYSRS 009	Fully Linked	SWRS 010	Fully matches.
SYSRS 018	Fully Linked	SWRS 020	Fully matches.
SYSRS 006	Fully Linked	SWRS 007	Fully matches.
SYSRS 019	Fully Linked	SWRS 021	Fully matches.
SYSRS 020	Fully Linked	SWRS 022	Fully matches.
SYSRS 007	Fully Linked	SWRS 008	Fully matches.
SYSRS 015	Fully Linked	SWRS 017	Fully matches.
SYSRS 010	Partially Linked	SWRS 011	Additional condition in SWRS.
SYSRS 013	Fully Linked	SWRS 013, 014, 015	Fully matches.
SYSRS 016	Fully Linked	SWRS 018	Fully matches.

SYSRS	Classification	Matching SWRS	Justification
SYSRS 017	Fully Linked	SWRS 019	Fully matches.
SYSRS 004	Unlinked	None	No match.
SYSRS 002	Fully Linked	SWRS 002	Fully matches.
SYSRS 005	Partially Linked	SWRS 005, 006	Missing action.
SYSRS 008	Fully Linked	SWRS 009	Fully matches.
SYSRS 011	Unlinked	None	No match.

Let me know if further refinement or clarification is needed!



please give this list in ascending order



Here is the sorted list of SYSRS in ascending order:

SYSRS	Classification	Matching SWRS	Justification
SYSRS 001	Fully Linked	SWRS 001	Fully matches.
SYSRS 002	Fully Linked	SWRS 002	Fully matches.
SYSRS 003	Partially Linked	SWRS 003	Context missing.
SYSRS 004	Unlinked	None	No match.
SYSRS 005	Partially Linked	SWRS 005, 006	Missing action.
SYSRS 006	Fully Linked	SWRS 007	Fully matches.
SYSRS 007	Fully Linked	SWRS 008	Fully matches.
SYSRS 008	Fully Linked	SWRS 009	Fully matches.
SYSRS 009	Fully Linked	SWRS 010	Fully matches.
SYSRS 010	Partially Linked	SWRS 011	Additional condition in SWRS.
SYSRS 011	Unlinked	None	No match.
SYSRS 012	Fully Linked	SWRS 012	Fully matches.
SYSRS 013	Fully Linked	SWRS 013, 014, 015	Fully matches.
SYSRS 014	Partially Linked	SWRS 016	Context mismatch.
SYSRS 015	Fully Linked	SWRS 017	Fully matches.
SYSRS 016	Fully Linked	SWRS 018	Fully matches.
SYSRS 017	Fully Linked	SWRS 019	Fully matches.
SYSRS 018	Fully Linked	SWRS 020	Fully matches.
SYSRS 019	Fully Linked	SWRS 021	Fully matches.
SYSRS 020	Fully Linked	SWRS 022	Fully matches.
SYSRS 021	Unlinked	None	No match.

Let me know if you need further adjustments!



cool!



Glad you liked it! Let me know if there's anything else you'd like to explore or refine. 😊🚀