

Figure 1a: 1st & 2nd Normal Form (Suggestion 1)

Legend	Description
Signal-Result	Derivable attribute will be removed once the derivation is verified
User Name	Original attribute in the logfile
JobId	Introduced attribute or grouped original attribute
<u>JobId</u>	Underline represents primary key
(5 similar items)	Represents a group of attributes with the same nature

This composite primary key is suppose to be unique in every logfile. They become to have a transitive dependency on the JobId

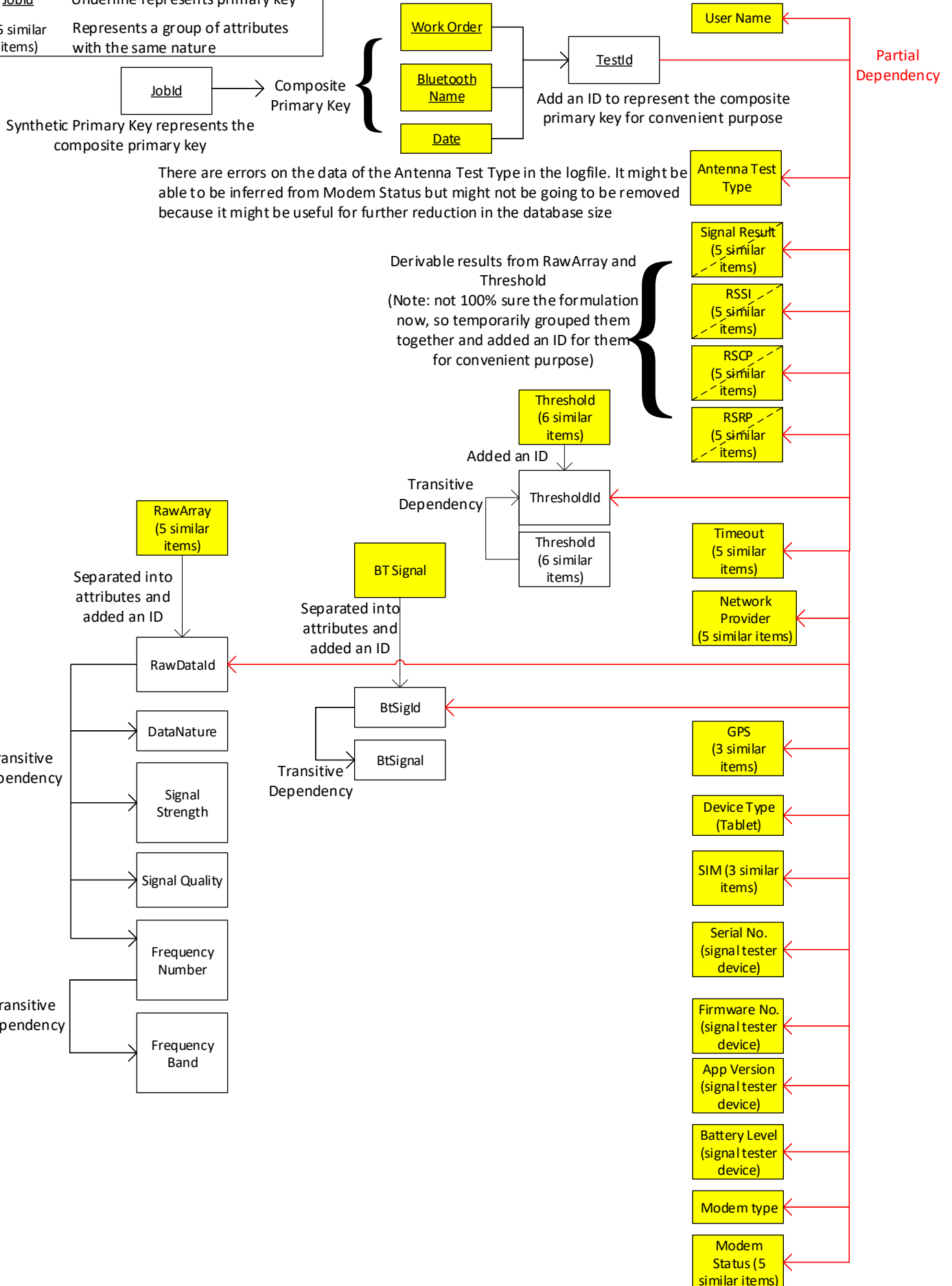
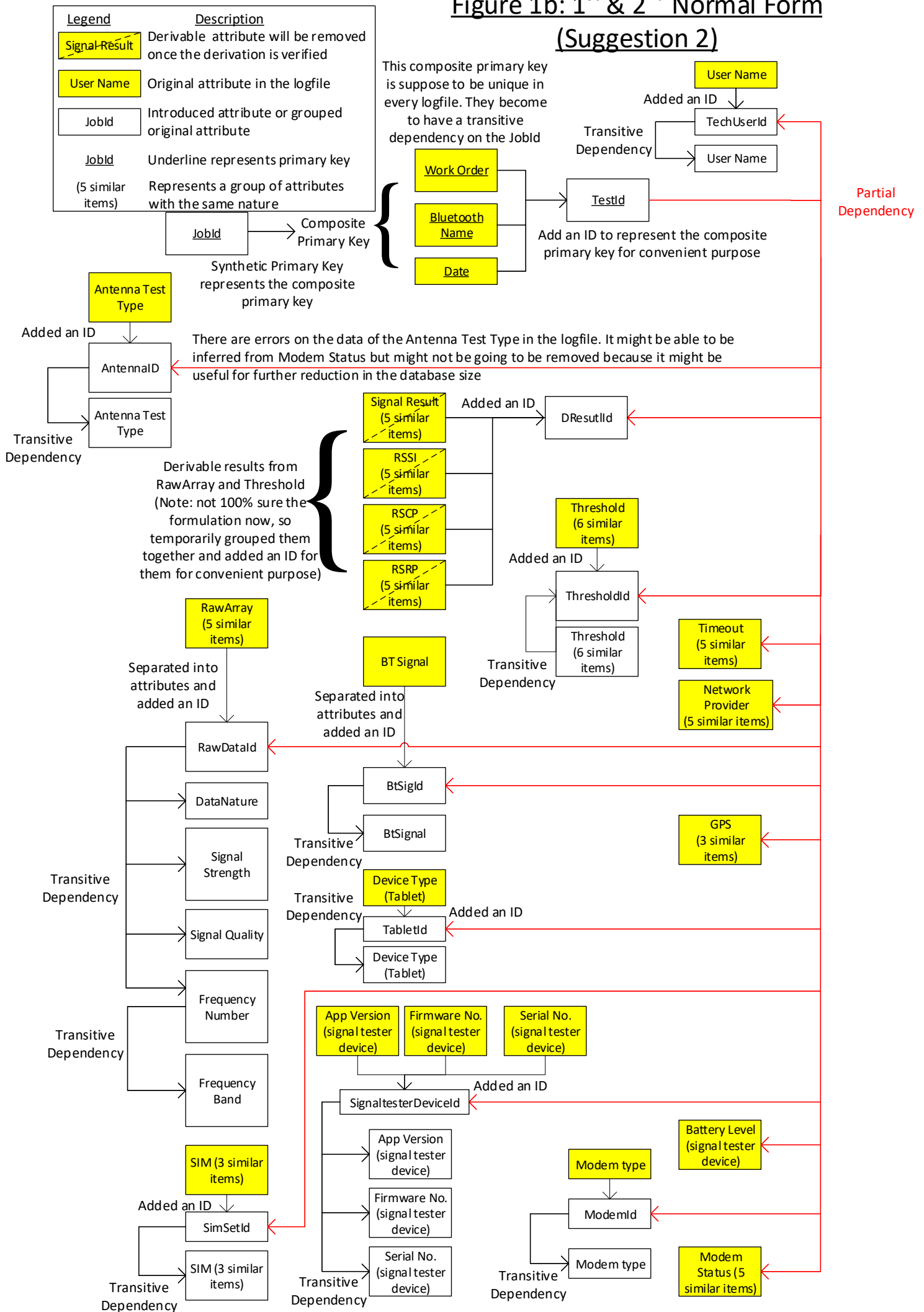


Figure 1b: 1st & 2nd Normal Form

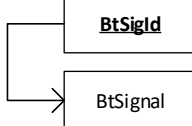
(Suggestion 2)



**Figure 2a: 3rd Normal Form
(Suggestion 1)**

Legend	Description
Signal Result	Derivable attribute will be removed once the derivation is verified
User Name	Original attribute in the logfile
JobId	Introduced attribute
<u>JobId</u>	Underline & bold represent primary key
<i>JobId</i>	Italic & bold represent foreign key
(5 similar items)	Represents a group of attributes with the same nature
Test	Entity name

Bluetooth Signal
(Data of the attribute were separated from the array of BT Signal attribute)



Raw Data
(attributes were separated from RawArray attribute)

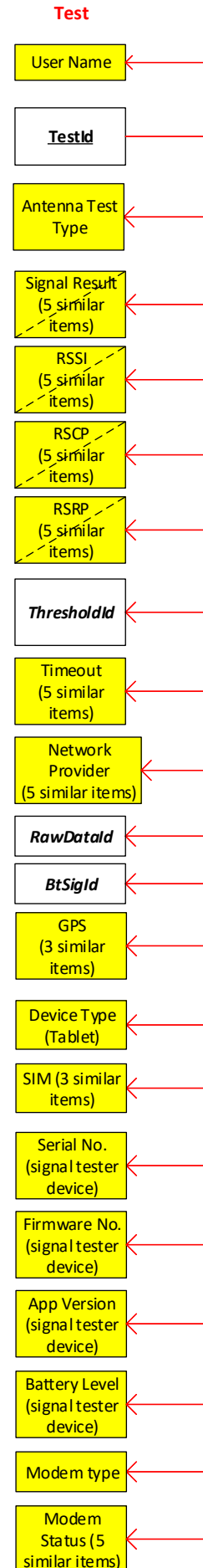
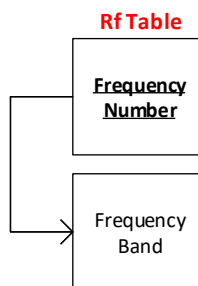
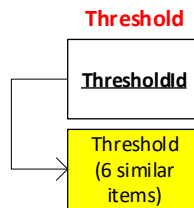
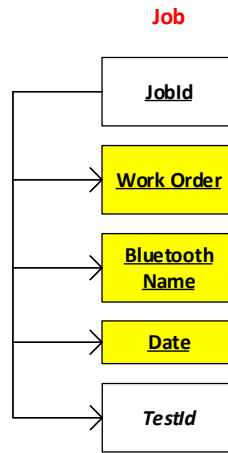
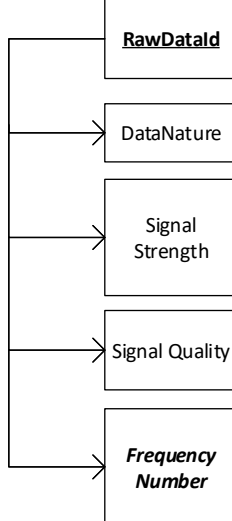
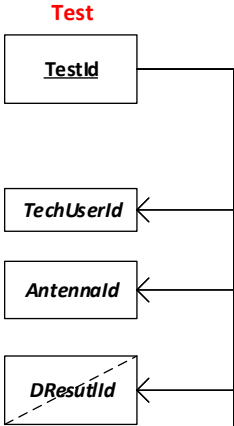
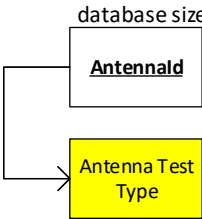


Figure 2b: 3rd Normal Form
(Suggestion 2)

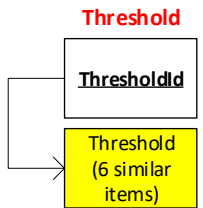
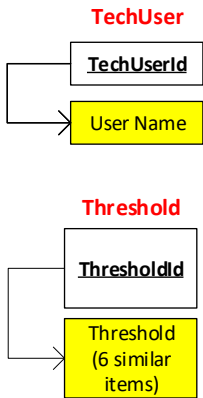
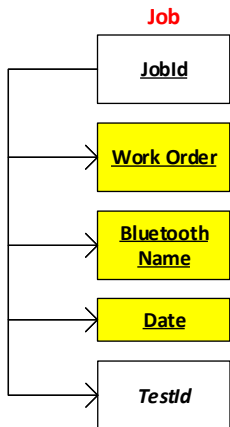
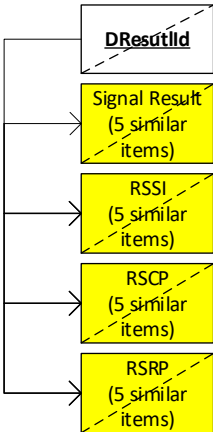
Legend	Description
Signal-Result	Derivable attribute will be removed once the derivation is verified
User Name	Original attribute in the logfile
JobId	Introduced attribute
<u>JobId</u>	Underline & bold represent primary key
<i>JobId</i>	Italic & bold represent foreign key
(5 similar items)	Represents a group of attributes with the same nature
Test	Entity name

Antenna
(There are errors on Antenna Test Type in the logfile. The Antenna Test Type might be able to be inferred from Modem Status but might not be going to be removed because it might be useful for further reduction in the database size)

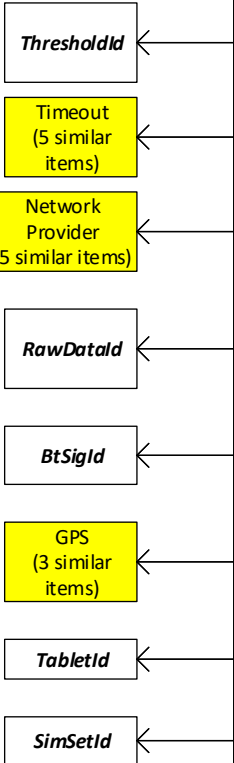
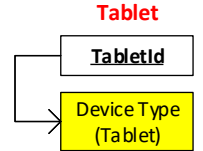
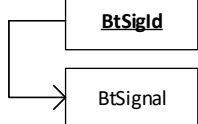


Note: Table of DResultId should be able derived from Threshold Table and Raw Data Table

Temporary Derivable Result
(Attributes can be derived from Threshold Table and Raw Data Table once the derivation is verified)



Bluetooth Signal
(Data of the attribute were separated from the array of BT Signal attribute)



Raw Data
(attributes were separated from RawArray attribute)

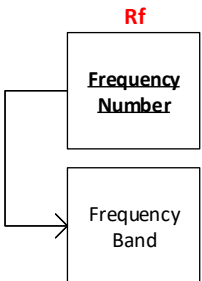
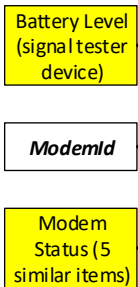
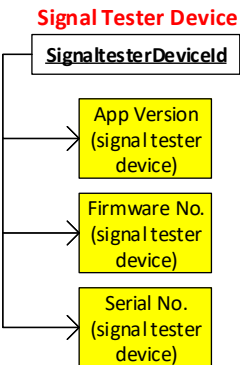
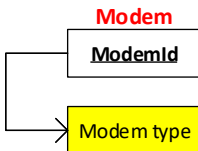
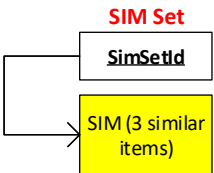
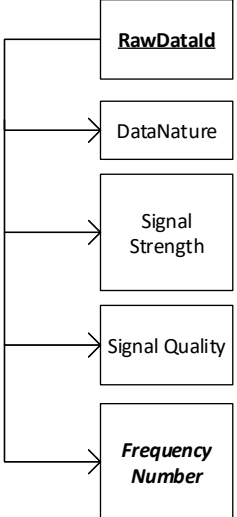
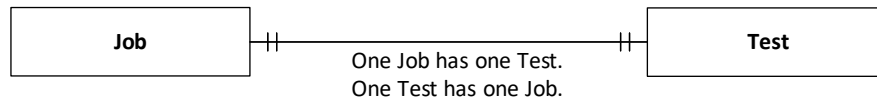
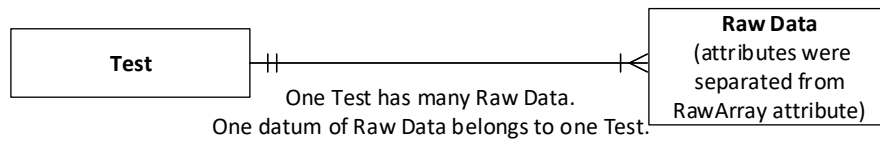
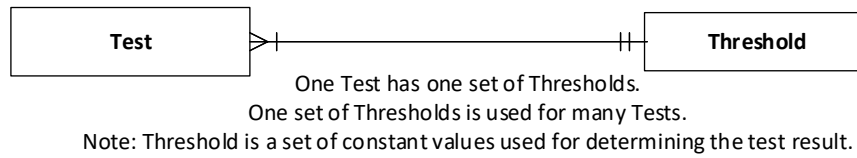


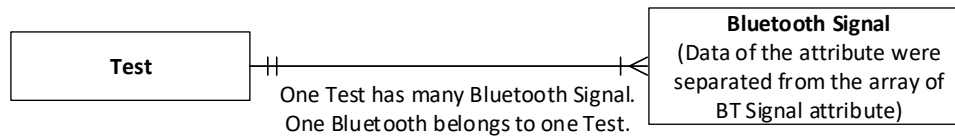
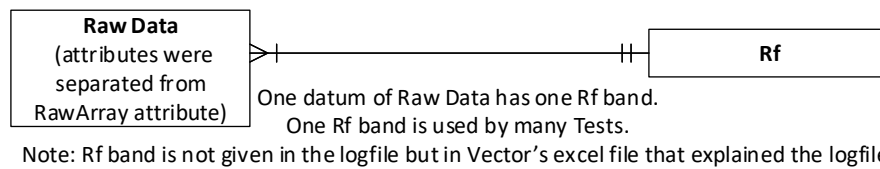
Figure 3a: Entity Relationship (Suggestion 1)



(Note: Job Table is used for simplify the composite primary key in the logfile showing in 1st normal form in Figure 1).

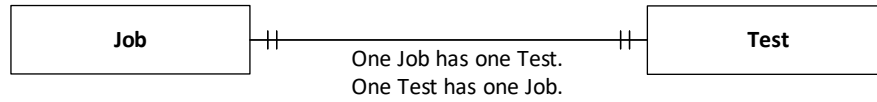


Note: Raw Data was a composite attribute in the datafiles and is separated into various attributes in the Raw Data Table used for determining the test result.

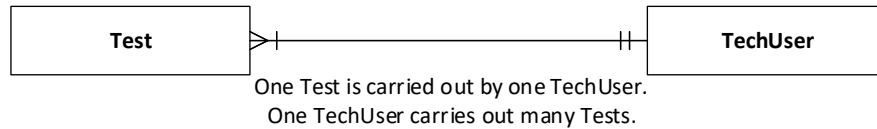


Note: Bluetooth Signal was a composite attribute in the datafiles and is separated into multiple data in the Bluetooth Signal Table.

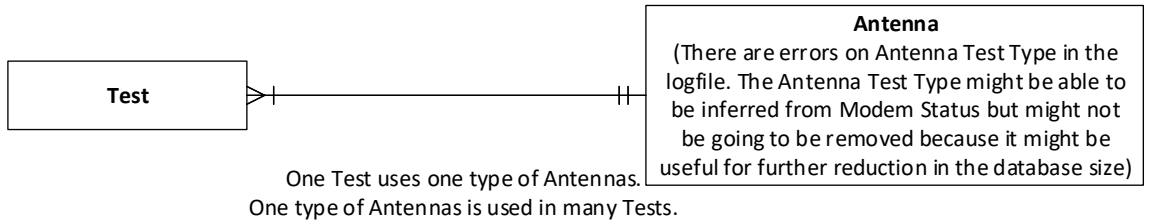
Figure 3b: Entity Relationship (Suggestion 2)



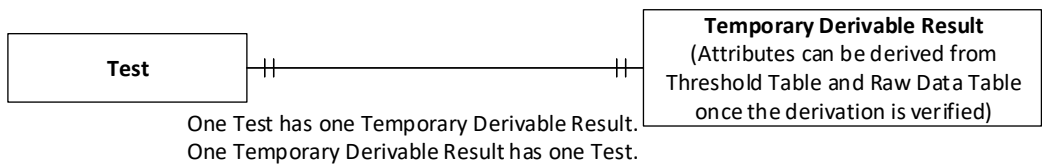
(Note: Job Table is used for simplify the composite primary key in the logfile showing in 1st normal form in Figure 1).



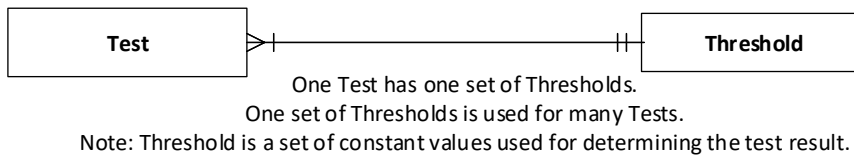
Note: TachUser Table is used for merging with existing human resource system and avoiding anomalies in the further system development.



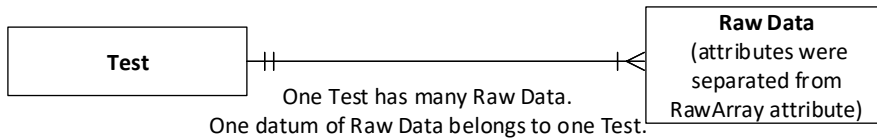
Note: Antenna Table is used for merging with existing inventory system and avoiding anomalies in the further system development.



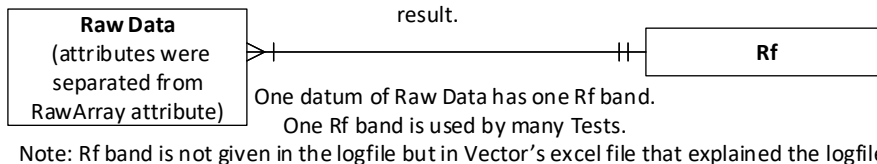
Note: Temporary Derivable Result will be removed once the derivation is verified, so it is temporarily separated from the test.



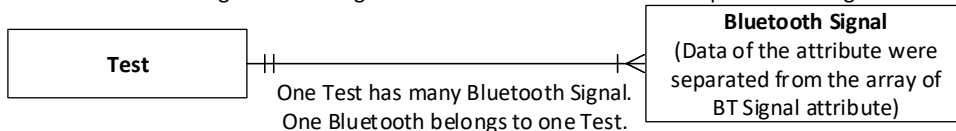
Note: Threshold is a set of constant values used for determining the test result.



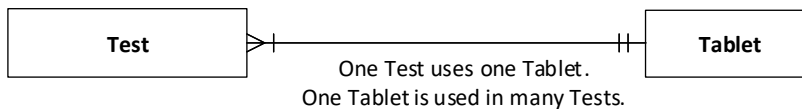
Note: Raw Data was a composite attribute in the datafiles and is separated into various attributes in the Raw Data Table used for determining the test result.



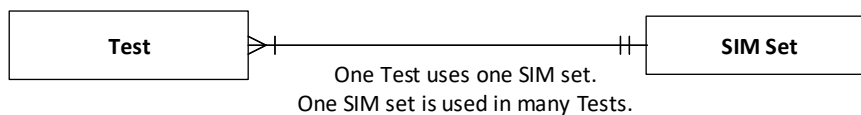
Note: Rf band is not given in the logfile but in Vector's excel file that explained the logfile.



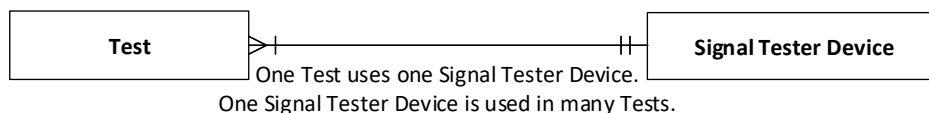
Note: Bluetooth Signal was a composite attribute in the datafiles and is separated into multiple data in the Bluetooth Signal Table.



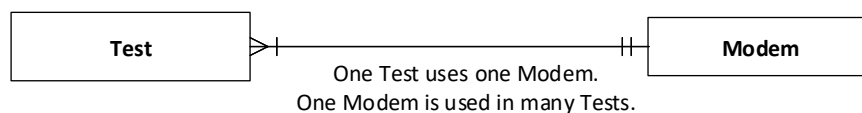
Note: Tablet Table is used for merging with existing inventory system and avoiding anomalies in the further system development.



Note: SIMSet Table is used for merging with existing inventory system and avoiding anomalies in the further system development.



Note: Signal Tester Device Table is used for merging with existing inventory system and avoiding anomalies in the further system development.



Note: Modem Table is used for merging with existing inventory system and avoiding anomalies in the further system development.

Figure 4a: Entity Relationship Diagram (Suggestion 1)

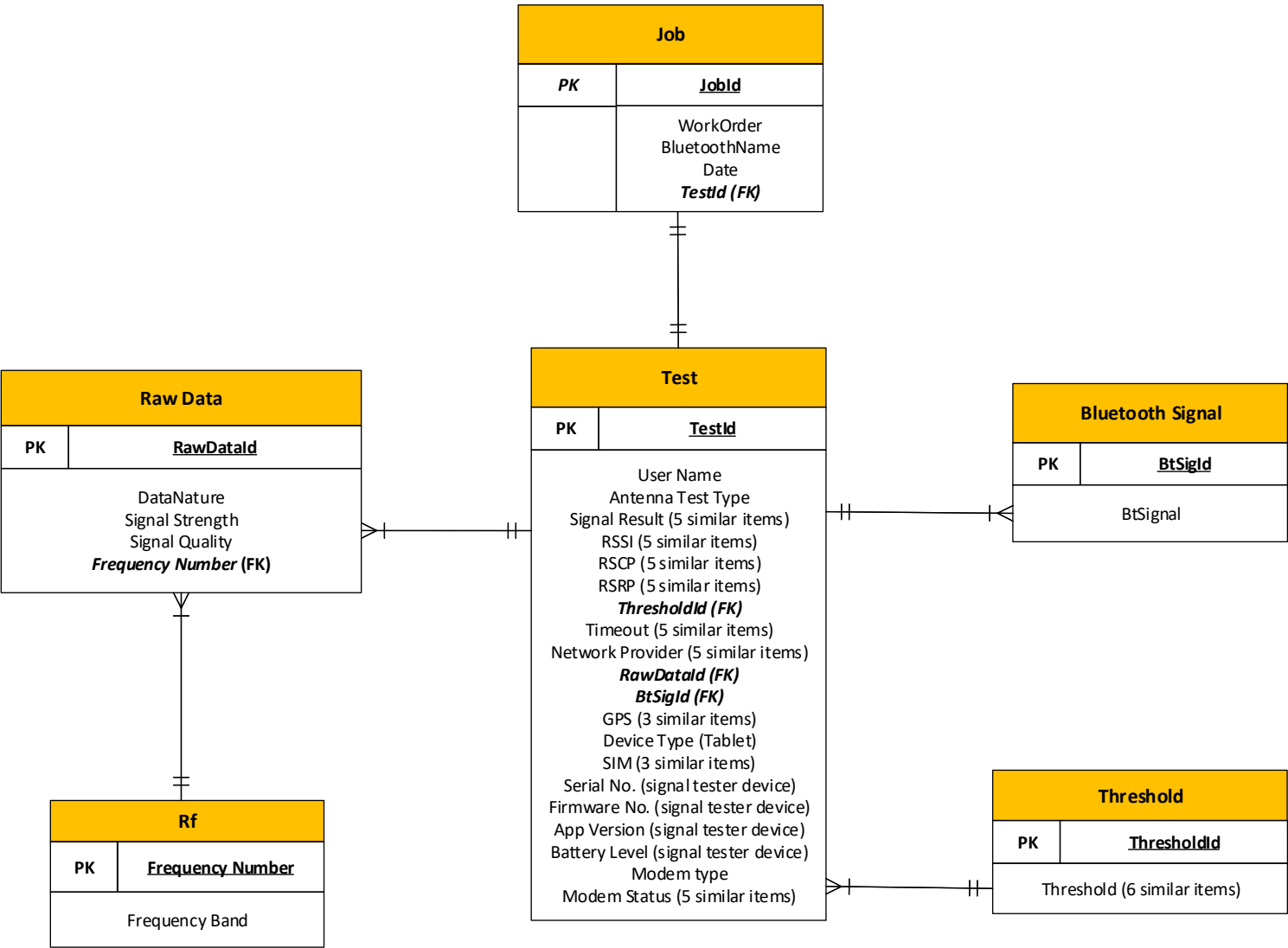


Figure 4b: Entity Relationship Diagram (Suggestion 2)

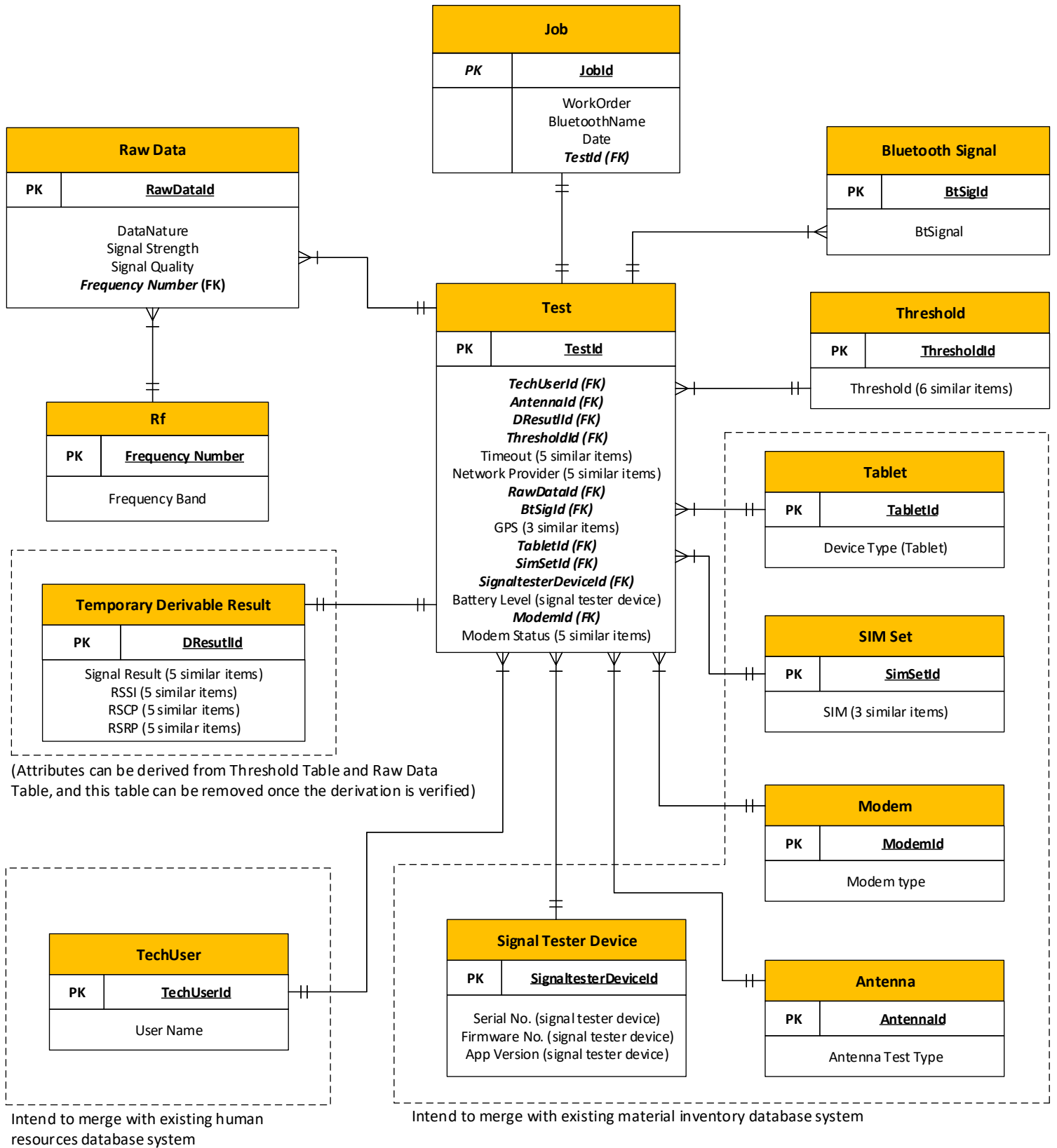


Figure 4b: Entity Relationship Diagram (Suggestion 2)

