

# Why the **PPAR Generator Tool** exists?

To generate PPAR .mot and .a2l files for one project a manual fill in of data needs to be made from 2 Excels files provided by architect and system responsible. This manual process is obviously prone to human errors that will impact production parameters generation.

The purpose of this tool is that automatically analysis the types, size, values of each parameters from both Excels. The not matching information is signaled. The tool is correctly merging the 2 system and architecture files into another Excel that is used to generate the .mot and .a2l files.

The screenshot displays the PPAR TOOL interface, version 1.1. The interface is organized into several sections, each with a numbered icon (1-7) indicating a specific area of focus. Section 1 (Architecture Path) includes fields for Path, Sheet Architect, and Sheet System. Section 2 (Architecture Settings) includes fields for Name column number, Type column number, Count column number, Value column number, Row start number, Row end, Row address number, Column address number, Reserved column number, Row A2L number, Column A2L number, and Column default number. Section 3 (Oem Settings) includes a checkbox for Oem Project, Project OEM name, Row start number, Row end, Name column number, Count column number, Value column number, Row A2L, and Column A2L. Section 4 (System Settings) includes fields for Name column number, Type column number, Count column number, Value column number, Limit value column number, Row start number, Row end, Project specific name, Project name type, and Elements to be ignored. Section 5 (Output Settings) includes fields for Name column number, Type column number, Count column number, Value column number, Row start number, Column Address number, Row Address number, Column L2Architect number, Column TreeLevel number, Low column number, Max column number, Column reserved number, Row reserved number, Row A2L number, Column A2L number, Column write second sheet column, and Row write second sheet column. Section 6 (Load Settings) and Section 7 (Save Settings) are represented by buttons at the bottom of the interface. The interface also features a large 'Continental' logo at the top.

As we can see, the interface is a large interface with loads of inputs needed for that Tool to work properly, fortunate, the **Load Settings** and the **Save Settings** buttons are there to solve this problem. Most inputs will be the same from one project to another, but there needs to be all the inputs on the GUI to accomplish importance of the Future Proof.

Pressing the Load Settings button will send the user to select a .txt file with all the data needed for section (2) to (5). Pressing the Save Settings button will send the user to enter the name of the .txt file with all the data from the currently interface from section (2) to (5).

You will need to set **R1C1 reference style** in the excels to help you easily see the number of columns instead of letters.

|   | A               | D          | L | Q    | R     | S |
|---|-----------------|------------|---|------|-------|---|
| 1 | Name            |            |   | Type | Count |   |
| 4 | Infoblock       | 0x20020000 |   |      |       |   |
| 5 | CommonInfoBlock |            |   |      |       |   |

|   | 1               | 4          | 12 | 17   | 18    | 19 |
|---|-----------------|------------|----|------|-------|----|
| 1 | Name            |            |    | Type | Count |    |
| 4 | Infoblock       | 0x20020000 |    |      |       |    |
| 5 | CommonInfoBlock |            |    |      |       |    |

**File -> Options -> Formulas -> R1C1 reference style**

Excel Options dialog box, Formulas tab, R1C1 reference style checked.

Excel Options -> Formulas -> R1C1 reference style

Change options related to formula calculation, performance, and error handling.

**Calculation options**

- Workbook Calculation
  - ☒ Automatic
  - ☐ Automatic except for data tables
  - ☐ Manual
- ☐ Enable iterative calculation
  - Maximum Iterations: 100
  - Maximum Change: 0.001
- ☒ Recalculate workbook before saving

**Working with formulas**

- ☒ R1C1 reference style
  - Change the way Excel formulas refer to cells.
  - Instead of using letters for columns and numbers for rows, this option enables using numbers for both rows and columns. Cells are then referred to in this format: R1C1.
- ☒ Formula AutoFill
- ☒ Use table names
- ☒ Use GetPivotData
- ☒ Suggest formulas

**Error Checking**

- ☒ Enable background error checking
- Indicate errors using this color:
- ☐ Ignore errors

**Error checking rules**

- ☒ Cells containing formulas that result in an error
- ☒ Inconsistent calculated column formula in tables
- ☒ Cells containing years represented as 2 digits
- ☒ Numbers formatted as text or preceded by an apostrophe
- ☒ Formulas inconsistent with other formulas in the region
- ☒ Formulas which omit cells in a region
- ☒ Unlocked cells containing formulas
- ☐ Formulas referring to empty cells
- ☒ Data entered in a table is invalid
- ☒ Misleading number formats

OK Cancel



Every single static text from the GUI has more information about the selected parameter. If the user hovers the text, information will appear and its very helpful, the user doesn't need to search the documentation for only one parameter.

**Architect Settings:** Name column number: 4 Type column number: 17 Count column number: 18 Value column number: 27

Row start number: 4 Row end: PPAR\_SECTION\_END Row address number: 4 Column address number: 10 Reserved column number: 20

Row A2L number: 6 Column A2L number: 9 Column default number: 23

**Oem Settings:** ☐ Oem Project Project OEM name: PPAR\_OemSwBlock\_ARSS12VW13 Row start number: 3 Row end: a\_Reserved

**Architect Settings:** Name column number: 4 Type column number: 17 Count column number: 18 Value column number: 27

Row start number: 4 Row end: PPAR\_SECTION\_END Row address number: 4 Column address number: 10 Reserved column number: 20

Row A2L number: 6 Column A2L number: 9 Column default number: 23

**Oem Settings:** ☐ Oem Project Project OEM name: PPAR\_OemSwBlock\_ARSS12VW13

Name column number: 2 Count column number: 10 Value column number: 15 Row A2L: 3 Column A2L: 4

**Help Texts:**

- Reserved column number: 20: This is a special column used only for the reserved values because sometimes the reserved value doesn't have name, type, count or value. When a number is in this column the program is creating automatically the reserved parameter. In generally this column is the right side of the total size from Architect excel.
- Column default number: 23: Set the column number where the program will read the default numbers. If the value from the selected project is None, the program will take this value instead.



Some text is underlined in the interface, these values need to be updated from one project to another. These values are very important to be verified before the start of the program and double checked!

# How to use the PPAR Generator Tool?

The user interface is fragmented in separately sections:

1. Path section.
2. Architect Settings.
3. OEM Settings.
4. System Settings.
5. Output Settings.
6. Load and Save Settings Buttons.
7. Run and Cancel Buttons.

Let's take every section individually and explain what these means for the user.

1

Architect Path: Path Browse Sheet Architect:

2

System Path: Path Browse Sheet System:

3

Output Path: Path Browse Sheet 1:  Sheet 2:

4

Architect Settings: Name column number: 0 Type column number: 0 Count column number: 0 Value column number: 0  
Row start number: 0 Row end: Row address number: 0 Column address number: 0 Reserved column number: 0  
Row A2L number: 0 Column A2L number: 0 Column default number: 0

5

Oem Settings: ☐ Oem Project Project OEM name: Row start number: 0 Row end:   
Name column number: 0 Count column number: 0 Value column number: 0 Row A2L: 0 Column A2L: 0

6

System Settings: Name column number: 0 Type column number: 0 Count column number: 0 Value column number: 0 Limit value column number: 0  
Row start number: 0 Row end: Project specific name: Project name type:   
Elements to be ignored:

7

Output Settings: Name column number: 0 Type column number: 0 Count column number: 0 Value column number: 0 Row start number: 0  
Column Address number: 0 Row Address number: 0 Column L2Architect number: 0 Column TreeLevel number: 0 Low column number: 0 Max column number: 0  
Column reserved number: 0 Row reserved number: 0 Row A2L number: 0 Column A2L number: 0 Column write second sheet column: 0 Row write second sheet column: 0

8

Load Settings Save Settings

9

Run Cancel

## 1. Path section.

1

Architect Path: Path Browse Sheet Architect:

2

System Path: Path Browse Sheet System:

3

Output Path: Path Browse Sheet 1:  Sheet 2:

Firstly, we need to select the Architect excel by pressing the *Browse* button (1). This excel can be anywhere in your personal computer, the Tool will work with the path given. The sheet that the program needs to read data is selected automatically, but the user can choose different sheet if needed from the *drop box* (2). The content of the drop box loads after the Architect excel is loaded.

Browse button (1)

Drop box (2)

**Architect Path:** D:\pythonXlsClaseFinal\Test\_ARS5xxSRR5xx\_RRU2\_PParDefinition.xlsx **Browse** **Sheet Architect:** PPAR Definition

**System Path:** Path **Browse** **Sheet System:** PPAR Definition

**Output Path:** Path **Browse** **Sheet 1:** **Sheet 2:** PPAR\_OemSwBlock\_ARS512V

Repeat the first step with the System excel and for the Output excel. For the Output select the Excel with the template named: xPAR-Definition1.xlsx

Browse button (1)

**Architect Path:** D:\pythonXlsClaseFinal\Test\_ARS5xxSRR5xx\_RRU2\_PParDefinition.xlsx **Browse** **Sheet Architect:** PPAR Definition

**System Path:** D:\pythonXlsClaseFinal\PPAR-Definition\_1.155.xlsx **Browse** **Sheet System:** PPAR Definition

**Output Path:** Path **Browse** **Sheet 1:** **Sheet 2:**

Browse button (1)

**Architect Path:** D:\pythonXlsClaseFinal\Test\_ARS5xxSRR5xx\_RRU2\_PParDefinition.xlsx **Browse** **Sheet Architect:** PPAR Definition

**System Path:** D:\pythonXlsClaseFinal\PPAR-Definition\_1.155.xlsx **Browse** **Sheet System:** PPAR Definition

**Output Path:** D:\pythonXlsClaseFinal\PPAR-Definition1.xlsx **Browse** **Sheet 1:** PPAR\_definition **Sheet 2:** add\_PPAR\_default\_data

## 6. Load Settings and Save Settings Section

To save time and to understand the sections (2) - (5) let's load one .txt file RRUR\_ars512VW13.txt by pressing the Load Settings Button. This .txt file has all the interface inputs for the project ARS512VW1.

**Architect Settings:** Name column number: 4 Type column number: 17 Count column number: 18 Value column number: 27

Row start number: 4 Row end: PPAR\_SECTION\_END Row address number: 4 Column address number: 10 Reserved column number: 20

Row A2L number: 6 Column A2L number: 9 Column default number: 23

**Oem Settings:** ☐ Oem Project **Project OEM name:** PPAR\_OemSwBlock\_ARS512VW13 Row start number: 3 Row end: a\_Reserved

Name column number: 2 Count column number: 10 Value column number: 15 Row A2L: 3 Column A2L: 4

**System Settings:** Name column number: 2 Type column number: 10 Count column number: 11 Value column number: 20 Limit value column number: 19

Row start number: 10 Row end: si16\_LoopbackPowerMax\_dB Project specific name: ARS512VW13 Project name type: default ARS

Elements to be ignored: u\_SubCompatID, u\_ProjectCompatID, si16\_LfSporadicNoiseMax

**Output Settings:** Name column number: 5 Type column number: 9 Count column number: 10 Value column number: 21 Row start number: 6

Column Address number: 148 Row Address number: 5 Column L2Architect number: 3 Column TreeLevel number: 4 Low column number: 20 Max column number: 22

Column reserved number: 100 Row reserved number: 2 Row A2L number: 6 Column A2L number: 152 Column write second sheet column: 2 Row write second sheet column: 2

**Load Settings** **Save Settings**

## 2. Architect Settings Section

1. Name column

2. Type column

3. Count column

4. Project column

**Architect Settings:** Name column number:  Type column number:  Count column number:  Value column number:

Row start number:  Row end:  Row address number:  Column address number:  Reserved column number:

Row A2L number:  Column A2L number:  Column default number:

|             | 4                    | 12         | 17          | 18           | 19 | 20                | 22                    | 23           | 26           | 27                |
|-------------|----------------------|------------|-------------|--------------|----|-------------------|-----------------------|--------------|--------------|-------------------|
| <b>Name</b> |                      |            | <b>Type</b> | <b>Count</b> |    | <b>Total Size</b> | <b>Word Alignment</b> | <            | <b>A R S</b> | <b>ARS512VW13</b> |
| 1           |                      |            |             |              |    |                   |                       |              |              |                   |
| 4           | Infoblock            | 0x20020000 |             |              |    |                   |                       |              |              |                   |
| 5           | CommonInfoBlock      |            |             |              |    |                   |                       |              |              |                   |
| 6           | ui8_InfoblockString  | 0x20020000 | UI8         | 8            | 1  | 8                 |                       | 0 GRMSTRM\0' | GRMSTRM\0'   |                   |
| 7           | ui16_LengthInfoblock | 0x20020008 | UI16        | 1            | 2  | 2                 |                       | 0 0x80       | 0x80         |                   |
| 8           | e_BlockId            | 0x2002000A | UI8         | 1            | 1  | 1                 |                       | 0 0x15       | 0x15         |                   |
| 9           | ui8_InfoblockVersion | 0x2002000B | UI8         | 1            | 1  | 1                 |                       | 0 0x10       | 0x10         |                   |
| 10          | ui32_MagicNumber     | 0x2002000C | UI32        | 1            | 4  | 4                 |                       | 0 0xAA5AA555 | 0xAA5AA555   |                   |
| 11          | CrcBuffer            |            |             |              |    |                   |                       |              |              |                   |

PPAR Definition | HM\_LimitSets | PPAR\_OemSwBlock\_ARS512VW13 | PPAR\_OemSwBlock\_AR...

1. Set the column number from where the program will read names of the parameters.
2. Set the column number from where the program will read type of the parameters.
3. Set the column number from where the program will read count of the parameters.
4. \*Set the column number from where the program will read values of the parameters of the wanted project. Depending on the wanted project, this column number will need to be set manually. The column number 27 is corresponding to the project ARS512VW13!

5. Row start
6. Row end
7. Row address
8. Column address
9. Total size

Architect Settings: Name column number: 4 Type column number: 17 Count column number: 18 Value column number: 27

Row start number: 4 Row end: PPAR\_SECTION\_END Row address number: 4 Column address number: 10 Reserved column number: 20

Row A2L number: 6 Column A2L number: 9 Column default number: 23

| Name                 | Variable in a2l-file                                      | Address in SDF | Type       | Count | Total Size | Word Alignment | < | ARS | ARS512VW13 | ARS512VW22 |
|----------------------|---|----------------|------------|-------|------------|----------------|---|-----|------------|------------|
| InfoBlock            |   | 537,001,384    | 0x20020000 |       |            |                |   |     |            |            |
| CommonInfoBlock      |   |                |            |       |            |                |   |     |            |            |
| ui8_InfoblockString  | InfoBlockStructure_t_CommonInfoBlock.ui8_InfoblockString  | 537001984      | 0x20020008 | UI8   | 8          | 1              | 8 | 0   | GRMSTRM\0' | GRMSTRM\0' |
| ui16_LengthInfoblock | InfoBlockStructure_t_CommonInfoBlock.ui16_LengthInfoblock | 537001992      | 0x20020008 | UI16  | 1          | 2              | 2 | 0   | 0x80       | 0x80       |
| e_BlockId            | InfoBlockStructure_t_CommonInfoBlock.e_BlockId            | 537001994      | 0x2002000A | UI8   | 1          | 1              | 1 | 0   | 0x15       | 0x15       |
| ui8_InfoblockVersion | InfoBlockStructure_t_CommonInfoBlock.ui8_InfoblockVersion | 537001995      | 0x2002000B | UI8   | 1          | 1              | 1 | 0   | 0x10       | 0x10       |
| ui32_MagicNumber     | InfoBlockStructure_t_CommonInfoBlock.ui32_MagicNumber     | 537001996      | 0x2002000C | UI32  | 1          | 4              | 4 | 0   | 0xAASAA555 | 0xAASAA555 |
| ExchBuffer           |   |                |            |       |            |                |   |     |            |            |
| ...                  |   |                |            |       |            |                |   |     |            |            |
| PPAR Serial Nb       | 0x20023FB0  | UI8            | 26         | 1     | 26         |                |   |     |            |            |
| Trace Nb             | 0x20023FCA  | UI8            | 38         | 1     | 38         |                |   |     |            |            |
| PPAR_SECTION_END     |   |                | 0          | 0     |            |                |   |     |            |            |

5. Set the row number from where the program will start reading data.

6. Set the last name of the excel to stop reading data. This parameter won't be in the output, this is just a red line to stop reading.

7. Set the row number where the starting address is.

8. Set the column number where the starting address is, in decimal.

9. Set the column number from where the program will read how much of the memory occupy by the parameter. This number is calculated by the formula  $Count * bytes$ .

10. Row A2L

11. Column A2L

12. Column default value

Architect Settings: Name column number: 4 Type column number: 17 Count column number: 18 Value column number: 27

Row start number: 4 Row end: PPAR\_SECTION\_END Row address number: 4 Column address number: 10 Reserved column number: 20

Row A2L number: 6 Column A2L number: 9 Column default number: 23

| Name                 | Variable in a2l-file                                      | Address in SDF | Type            | Count | Total Size | Word Alignment | < | A R S        | ARS512VW13 | ARS512VW22 |
|----------------------|---|----------------|-----------------|-------|------------|----------------|---|--------------|------------|------------|
| Infoblock            |   | 537,001,984    | 0x20020000      |       |            |                |   |              |            |            |
| CommandInfoBlock     |   |                |                 |       |            |                |   |              |            |            |
| ui8_InfoblockString  | InfoBlockStructure_t_CommonInfoBlock.ui8_InfoblockString  | 537001984      | #### 0x20020000 | UI8   | 8          | 1              | 8 | 0 GRMSTRM\0' | GRMSTRM\0' | GRMSTRM\0' |
| ui16_LengthInfoblock | InfoBlockStructure_t_CommonInfoBlock.ui16_LengthInfoblock | 537001992      | #### 0x20020008 | UI16  | 1          | 2              | 2 | 0 0x80       | 0x80       | 0x80       |
| e_BlockId            | InfoBlockStructure_t_CommonInfoBlock.e_BlockId            | 537001994      | #### 0x2002000A | UI8   | 1          | 1              | 1 | 0 0x15       | 0x15       | 0x15       |
| ui8_InfoblockVersion | InfoBlockStructure_t_CommonInfoBlock.ui8_InfoblockVersion | 537001995      | #### 0x2002000B | UI8   | 1          | 1              | 1 | 0 0x10       | 0x10       | 0x10       |
| ui32_MagicNumber     | InfoBlockStructure_t_CommonInfoBlock.ui32_MagicNumber     | 537001996      | #### 0x2002000C | UI32  | 1          | 4              | 4 | 0 0xA5A5A555 | 0xA5A5A555 | 0xA5A5A555 |
| CrcBuffer            |   |                |                 |       |            |                |   |              |            |            |

10. Set the row number where the first a2l value is.

11. Set the column number where a2l values are.

12. Set the column number where are the default values. If a parameter doesn't have written a value in the selected project, the value will be set from this column. Example:

| Name                | Variable in a2l-file                 | Address in SDF | Type            | Count | Total Size | Word Alignment | < | A R S    | ARS512VW13   |
|---------------------|--------------------------------------|----------------|-----------------|-------|------------|----------------|---|----------|--------------|
| HM_Country_Selector | PPAR_Homologation.HM_CountrySelector | 537004016      | #### 0x200207F0 | UI8   | 1          | 1              | 1 | 1 0xFFFF |              |
| align1              | PPAR_Homologation.align1             | 537004017      | #### 0x200207F1 | UI8   | 3          | 1              | 3 | 0 0xFFFF | 0xFFFFFFFF00 |
| HM_allowCOM         | PPAR_Homologation.HM_AllowCOM        | 537004020      | #### 0x200207F4 | UI32  | 1          | 4              | 4 | 0 0xFFFF |              |



### 3. OEM Settings Section

1. OEM On/Off

2. Project OEM

3. Row start

4. Row end

</

1. Check the box if the project has OEM sheet.
2. \*Select the OEM project from drop box. This field is important and will be different from one project to another.

|   |   |  |                     |                     |
|---|---|--|---------------------|---------------------|
| Oem Settings:   | <input checked="" type="checkbox"/> Oem Project | Project OEM name: PPAR_OemSwBlock_AR5512VW13 | Row start number: 3 | Row end: a_Reserved |
| Name column number  |   | Value column number: 15                      | Row A2L: 3          | Column A2L: 4       |
| <div> <div>Workflow</div> <div>Legend</div> <div>PPAR Definition</div> <div>HM_LimitSets</div> <div>PPAR_OemSwBlock_AR5512VW13</div> <div>PPAR_OemSwBlock_AR5512VW22</div> </div> |   |  |                     |                     |

3. Set the row number from where the program will start reading data

4. Set the last name of the excel to stop reading data. This parameter won't be in the output, this is just a red line to stop reading.

5. Name column

6. Count column

7. Value column

8. Row A2L

9. Column A2L

Oem Settings: ☐ Oem Project **Project OEM name:** PPAR\_OemSwBlock\_AR5512VW13 **Row start number:** 3 **Row end:** a\_Reserved

**Name column number:** 2 **Count column number:** 10 **Value column number:** 15 **Row A2L:** 3 **Column A2L:** 4

| 1                               | 2  | 3  | 4         | 5          | 6    | 7     | 8          | 9          | 10      | 11 | 12                   | 13 | 14 | 15 |
|---------------------------------|--|--|-----------|------------|------|-------|------------|------------|---------|----|----------------------|----|----|----|
| Name                            | Description  | Variable in a2l-file   | Address   | Scaling    | Type | Count | Total Size | Total Size | Default |    |                      |    |    |    |
| PPAR_OemSwBlock                 |  |  | 20023D8C  |            |      |       |            |            |         |    |                      |    |    |    |
| u_ManufactureProductionLineCode | „Herstellerwerkskennzeichnung“<br>for Ingolstadt: TFH<br>for Karben: KMM   | PPAR_OemSwBlock.FazitIdentString.u_ManufactureProductionLineCode | 537017740 | 0x20023D8C | NA   | UI8   | 3          | 1          | 3       | 0  | "TFH" [ASCII]        |    |    |    |
| u_Hyphen                        | This hyphen "-" is needed in order<br>to fulfill the requested format from<br>VW   | PPAR_OemSwBlock.FazitIdentString.u_Hyphen                        | 537017743 | 0x20023D8F | NA   | UI8   | 1          | 1          | 1       | 0  | "-" [ASCII]          |    |    |    |
| u_ManufactureCode               | „Herstellerwerkskennzahl“<br>for Ingolstadt: 002<br>for Karben: 00E  | PPAR_OemSwBlock.FazitIdentString.u_ManufactureCode               | 537017744 | 0x20023D90 | NA   | UI8   | 3          | 1          | 3       | 0  | "002" [ASCII]        |    |    |    |
| u_ManufacturingDate             | „Tages-Fertigungsdatum“<br>The production date derived from<br>ARS4_FIN_SN (Conti DMC Barcode<br>on laser printing)<br>Format "dd.mm.yy" [ASCII]                             | PPAR_OemSwBlock.FazitIdentString.u_ManufacturingDate             | 537017747 | 0x20023D93 | NA   | UI8   | 8          | 1          | 8       | 0  | 13.12.17 [ASCII]     |    |    |    |
| u_ManufactureTestBedNo          | „Hersteller-Prüfstandsnummer“<br>unique identification number of EOL<br>machine<br>for sample production: 0001<br>for serial EOL machine: TBD<br>"laufende Herstellernummer" | PPAR_OemSwBlock.FazitIdentString.u_ManufactureTestBedNo          | 537017755 | 0x20023D9B | NA   | UI8   | 4          | 1          | 4       | 0  | "0001" [ASCII]       |    |    |    |
| u_ConsecutiveManufactureNo      | The day counter is derived from<br>ARS4_FIN_SN (Conti DMC Barcode<br>on laser printing).<br>The max counter value is 9999  | PPAR_OemSwBlock.FazitIdentString.u_ConsecutiveManufactureNo      | 537017759 | 0x20023D9F | NA   | UI8   | 4          | 1          | 4       | 0  | "9999" [ASCII]       |    |    |    |
| a_VWECUHardwareNumber           | HW Number<br>Must be filled with Spaces, left<br>aligned   | PPAR_OemSwBlock.a_VWECUHardwareNumber                            | 537017763 | 0x20023DA3 | NA   | UI8   | 11         | 1          | 11      | 0  | "1EA907567A" [ASCII] |    |    |    |
| a_VWECUHardwareVersionNumber    | HW Version number<br>This data should be randomly<br>generated unique for each ECU. Uses   | PPAR_OemSwBlock.a_VWECUHardwareVersionNumber                     | 537017774 | 0x20023DAE | NA   | UI8   | 3          | 1          | 3       | 0  | "A00" [ASCII]        |    |    |    |

PPAR Definition HM\_LimitSets PPAR\_OemSwBlock\_AR5512VW13 PPAR\_OemSwBlock\_AR5512VW22

5. Set the column number from where the program will read names of the parameters.

6. Set the column number from where the program will read count of the parameters.

7. Set the column number from where the program will read values of the parameters.

8. Set the row number where the first a2l value is.

9. Set the column number where a2l values are.

## 4. System Settings Section

1. Name column

2. Type column

3. Count column

4. Value column

5. Limit column

System Settings: Name column number:  Type column number:  Count column number:  Value column number:  Limit value column number:

Row start number:  Row end:  Project specific name:  Project name type:

Elements to be ignored:

| 1                                | 2  | 3          | 4    | 5           | 6                                     | 9    | 10    | 11   | 18    | 19        | 20     |
|----------------------------------|--|------------|------|-------------|---------------------------------------|------|-------|--|-------|-----------|--------|
| Name                             | Description  | To be used | used | Data source | Scaling                               | Type | Count | Algo/SW Spec   | Limit |           |        |
| Flash Module Info Block          |  |            |      |             |                                       |      |       |  |       |           |        |
| Info Block                       | Contains:<br>Version of info block   | 1          | 0    | 1           | no scaling                            | UI8  | 256   | --   |       | Col Title | Val    |
|                                  |  |            |      |             |                                       |      |       |  |       | lower     | 0      |
|                                  |  |            |      |             |                                       |      |       |  |       | default   | 0x0000 |
|                                  |  |            |      |             |                                       |      |       |  |       | upper     | 65535  |
| Production Measurement Parameter |  |            |      |             |                                       |      |       |  |       |           |        |
| Attenuation STC at Corner        | Attenuation of the STC-Filter at the IF frequency corresponding to the target distance in the ACP-test. The value that was used in production to calculate the TnS shall be stored here. | 2          | 0    | 1           | 0.01dB/LSB (actual value in Metadata) | UI16 | 1     | doors:77f85854a:40000/?version=2&prodID=0&view=00000001&urn=urn:tele |       | Col Title | Val    |
|                                  |  |            |      |             |                                       |      |       |  |       | lower     | 0      |
|                                  |  |            |      |             |                                       |      |       |  |       | default   | 0x0001 |
|                                  |  |            |      |             |                                       |      |       |  |       | upper     | 3000   |
| Frequency at Corner              | IF frequency corresponding to the target distance in the ACP-test. The RG-value (converted to frequency) that was used in production to calculate the TnS shall be stored here.          | 2          | 0    | 1           | 10E3Hz/LSB (actual value in Metadata) | UI16 | 1     | doors:77f85854a:40000/?version=2&prodID=0&view=00000001&urn=urn:tele |       | Col Title | Val    |
|                                  |  |            |      |             |                                       |      |       |  |       | lower     | 0      |
|                                  |  |            |      |             |                                       |      |       |  |       | default   | 0x001E |
|                                  |  |            |      |             |                                       |      |       |  |       | upper     | 1000   |
| VOX Settings at Production       |  |            |      |             |                                       |      |       |  |       |           |        |
|                                  |  |            |      |             | 250kHz/LSB (actual value in Metadata) | SI16 | 1     |  |       | Col Title | Val    |
|                                  |  |            |      |             |                                       |      |       |  |       | lower     |        |
|                                  |  |            |      |             |                                       |      |       |  |       | default   |        |
|                                  |  |            |      |             |                                       |      |       |  |       | upper     |        |
| no scaling                       |  |            |      |             |                                       |      |       |  |       |           |        |
|                                  |  |            |      |             |                                       | UI8  | 0     |  |       | Col Title | Val    |
|                                  |  |            |      |             |                                       |      |       |  |       | lower     |        |
|                                  |  |            |      |             |                                       |      |       |  |       | default   |        |
|                                  |  |            |      |             |                                       |      |       |  |       | upper     |        |

1. Set the column number from where the program will read names of the parameters.
2. Set the column number from where the program will read type of the parameters.
3. Set the column number from where the program will read count of the parameters.
4. Set the column number from where the program will read values of the parameters.
5. Set the column number from where the program will read limits of the parameters.

6. Row start

System Settings: Name column number:  Type column number:  Count column number:  Value column number:  Limit value column number:

Row start number:  Row end:  Project specific name:  Project name type:

|      |                          |  |   |   |   |             |      |   |   |           |       |
|------|--------------------------|--|---|---|---|-------------|------|---|---|-----------|-------|
| 2327 | si16_LoPowerMin_dB       |  | 1 | 0 | 0 | 0.01 dB/LSB | SI16 | 1 | doors:77f85854a:40000/?version=2&prodID=0&view=0000000a0&urn=urn:tele | Col Title | Val   |
| 2328 |                          |  |   |   |   |             |      |   |   | lower     |       |
| 2329 |                          |  |   |   |   |             |      |   |   | default   | -600  |
| 2330 |                          |  |   |   |   |             |      |   |   | upper     |       |
| 2331 | si16_LoopbackPowerMax_dB |  | 0 | 0 | 0 | 0.01 dB/LSB | SI16 | 1 | not in PPAR spec  | Col Title | Val   |
| 2332 |                          |  |   |   |   |             |      |   |   | lower     |       |
| 2333 |                          |  |   |   |   |             |      |   |   | default   | -1000 |
| 2334 |                          |  |   |   |   |             |      |   |   | upper     |       |
| 2335 |                          |  |   |   |   |             |      |   |   | Col Title | Val   |
| 2336 |                          |  |   |   |   |             |      |   |   | lower     |       |
| 2337 |                          |  |   |   |   |             |      |   |   | default   |       |

7. Row end





6. Set the column number where the program will write the first address.
7. Set the row number where the program will write the first address.
8. Set the column number where the program will write the section name. One section contains more subsections, this helps when the user is searching for parameters from one section/subsection.
9. Set the column number where the program will write the subblocks name.

[illegible]

10. Set the column number where the program will write the lower limit of the parameter. The program is reading this parameter from the System Excel. The values are written in decimal.
11. Set the column number where the program will write the upper limit of the parameter. The program is reading this parameter from the System Excel. The values are written in decimal.

| 3   | 1                           | 2      | 3                  | 4               | 5                              | 9        | 10   | 11    | 19         | 20     | 21     | 22          |       |
|-----|-----------------------------|--------|--------------------|-----------------|--------------------------------|----------|------|-------|------------|--------|--------|-------------|-------|
| 1   | L2+L3 shared responsibility |        |                    |                 |                                |          |      |       |            |        |        |             |       |
| 2   | PPAR                        |        | generic            |                 |                                |          |      |       |            |        |        | Value set 1 |       |
| 3   |                             |        |                    |                 |                                |          |      |       |            |        |        |             |       |
|     | Resp.                       | Status | L2 architect respo |                 | TreeLevel2                     | a2l name | Type | Count | Total Size | Title  | Lower  | Default     | Upper |
| 4   |                             |        |                    |                 |                                |          |      |       |            |        |        |             |       |
| 122 | L3_SW                       | Agreed | Calibartion        | Calibration Val | CalSet1 RX1...4 setting        | uint8    | 4    | 4     |            | 53     | 0xFF   | 53          |       |
| 123 | L3_SW                       | Agreed | Calibartion        | Calibration Val | align2                         | uint8    | 4    | 4     |            |        | 0x00   |             |       |
| 124 | L3_SW                       | Agreed | Calibartion        | Calibration Val | CalSet2_AntCompValue           | sint16   | 24   | 48    |            | -32768 | 0x7FFF | 32767       |       |
| 125 | L3_SW                       | Agreed | Calibartion        | Calibration Val | CalSet2 RX-Channel_Calibration | uint16   | 4    | 8     |            | 10361  | 0x7FFF | 32767       |       |
| 126 | L3_SW                       | Agreed | Calibartion        | Calibration Val | CalSet2 TX1...3                | uint8    | 3    | 3     |            | 0      | 0xFF   | 63          |       |

CalSet1 RX1...4 setting

VGA gain of RX channels.  
Standard definition: all RX have the same gain

1

HoMon  
, RHC

1

no scaling

UI8

4

doors/7705854a:4  
0000/?version=2&pr  
odID=0&view=0000  
0001&urn=urn:tele

Col Title  
lower  
default  
upper

RX1  
0x35  
0xFF  
0x35



## 7. Run and Cancel buttons Section

After filling up all the interface, press the Run button and wait for the program to finish execution. If an error occurs during this time, the full description of the error will be written in the log file and the user will have a friendly message description.

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HELP

Row start number: 4 Row end: PPAR\_SECTION\_END Row address number: 4 Column address number: 10 Reserved column number: 20

Row A2L number: 6 Column A2L number: 9 Column default number: 23

Oem Settings: ☐ Oem Project Project OEM name: PPAR\_OemSwBlock\_ARS512VW13 Row start number: 3 Row end: a\_Reserved

Name column number: 2 Count column number: 10 Value column number: 15 Row A2L: 5 Column A2L: 4

System Settings: Name column number: 2 Type column number: 10 Count column number: 10 Limit value column number: 19

Row start number: 10 Row end: si16\_LoopbackPowerMax\_dB Project default ARS

Elements to be ignored: u\_SubCompatID, u\_ProjectCompatID, si16\_LfSporadicNoise

Output Settings: Name column number: 5 Type column number: 9 Count column number: 10 Value column number: 21 Row start number: 6

Column Address number: 148 Row Address number: 5 Column L2Architect number: 3 Column TreeLevel number: 4 Low column number: 20 Max column number: 22

Column reserved number: 100 Row reserved number: 2 Row A2L number: 6 Column A2L number: 152 Column write second sheet column: 2 Row write second sheet column: 2

Load Settings Save Settings

Run Cancel

Progress PPAR Tool

Writing data from Architect excel

Hide details Cancel

Elapsed time: 0:00:13  
Estimated time: 0:02:00