the Pick & Place File

The pick and place (PnP) file is crucial for successful printed circuit board (PCB) assembly. Procurers wishing to provide correct data for production should consider the following recommendations.

File format:

For fitting boards, it is ideal to work with one of two variants:
- **Gerber** and, at the same time, a separate **text file / excel document**
- **ODB++**

Gerber is a standard format without PnP data. **ODB++** is a more advanced format that includes layers, component information, assembly patterns, and component locations.

More information can be found in the separate **vector data document**, also available for download.

Completeness of data:

Bidders must submit complete and up-to-date data with staffing patterns. Files must always contain:
- **component reference**
- **x-coordinate**
- **y-coordinate**
- **component rotation**
- **the side of the PCB that will be installed**

Reference	Partnumber	Layer	Footprint	Rotation	Ref-X(mm)	Ref-Y(mm)
C1010	00244840	TopLayer	C0805	360	62.0762	41.3682
R805	00092820	TopLayer	R0402	180	78.6600	27.1013
R804	00072067	TopLayer	R0402	270	79.2319	25.5180
R803	00092820	TopLayer	R0402	180	79.0553	32.9254
R802	00072067	TopLayer	R0402	270	79.4014	31.5103
Q803	00196200	TopLayer	SOT323	0	75.6339	28.0657
Q802	00218673	TopLayer	SOT23-6L_PANJIT	270	85.0390	26.1629
Q801	00196200	TopLayer	SOT323	0	75.6484	30.7343
Q800	00218673	TopLayer	SOT23-6L_PANJIT	270	85.0000	31.6167
D802	00247829	TopLayer	SOD123	90	80.8360	26.4841
D801	00247829	TopLayer	SOD123	90	80.9604	31.7043
C814	00086911	TopLayer	C0603	90	82.5396	26.2188
C813	00086911	TopLayer	C0603	270	85.1832	22.8976
C812	00086911	TopLayer	C0603	90	82.7001	31.6730
C811	00086911	TopLayer	C0603	90	85.3042	34.8425
R555	00197555	BottomLayer	R0402	270	70.1939	78.9593
J100_60	00247899	TopLayer	1-1452568-2	180	24.2555	53.2902
J100_59	00247532	TopLayer	2-963964-4	180	28.0655	53.2902
J100_13	00247532	TopLayer	2-963964-4	180	53.4655	35.4102
J100_57	00247532	TopLayer	2-963964-4	180	33.1455	53.2902
J100_56	00247532	TopLayer	2-963964-4	180	35.6855	53.2902
J100_55	00247532	TopLayer	2-963964-4	180	38.2255	53.2902
J100_54	00247532	TopLayer	2-963964-4	180	40.7655	53.2902
J100_53	00247532	TopLayer	2-963964-4	180	43.3055	53.2902
J100_52	00247532	TopLayer	2-963964-4	180	45.8455	53.2902
J100_51	00247532	TopLayer	2-963964-4	180	48.3855	53.2902
J100_50	00247532	TopLayer	2-963964-4	180	50.9255	53.2902
J100_49	00247532	TopLayer	2-963964-4	180	53.4655	53.2902
J100_48	00247532	TopLayer	2-963964-4	180	28.0655	50.7502

Sample PnP TXT file

Usually, the data still contains the component case and the value/part number, but this is not necessary; these parameters are loaded from the BOM during the creation of the

assembly program. A complete data set helps fabricators interpret and prepare the board for assembly more accurately.

Correct marking of components:
Each component should have a unique label that matches the assembly data set.

Checking the PnP file:
Submitters should review the PnP file to ensure the data is correctly interpreted and ready for fitting. It is recommended to use specialized PnP file review software that allows the display and verification of relevant data before sending it to the manufacturing partner.

The correct pick and place set is the cornerstone of successful PCB assembly. Adherence to these recommendations ensures the accuracy and quality of the resulting assembly of components.