Product Specifications Approval Sheet

Product Description: SAW DPX 897.5 / 942.5 MHz Band 8 SMD 1.8X1.4 mm (BW=35 MHz)
TST Part No.: TF0125DB
Customer Part No.: ________________________________

<table>
<thead>
<tr>
<th>Customer signature required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company: __________________</td>
</tr>
<tr>
<td>Division: __________________</td>
</tr>
<tr>
<td>Approved by: ________________</td>
</tr>
<tr>
<td>Date: ______________________</td>
</tr>
</tbody>
</table>

Checked by: ___________ Anne Chen  
Approved by: ___________ Andy Yu  
Date: ________________ 01, 02, 2020

1. Customer signed back is required before TST can proceed with sample build and receive orders.
2. Orders received without customer signed back will be regarded as agreement on the specifications.
3. Any specifications changes must be approved upon by both parties and a new revision of specifications shall be released to reflect the change.
SAW DPX 897.5 / 942.5 MHz Band 8 SMD 1.8X1.4 mm (BW=35 MHz)
MODEL NO.: TF0125DB REV.1.0

A. MAXIMUM RATING:
1. Operating temperature range: -40 °C to +85 °C
2. Storage temperature range: -40 °C to +85 °C
3. Tx Input power: 29dBm (Ta=+50°C, 50000h, CW)
3.1 Rx Input power: 15dBm (Ta=+50°C, 50000h, CW)
4. Maximum DC Voltage: 0 V
5. Moisture Sensitivity Level: Level 1 (MSL 1)
6. ESD 100V(MM) 200V(HBM)

B. ELECTRICAL CHARACTERISTICS:
Terminating impedance (Tx Port): 50 Ω (Single-ended)
Terminating impedance (Rx Port): 50 Ω (Single-ended)
Terminating impedance (Ant Port): 50 Ω (Single-ended)

<table>
<thead>
<tr>
<th>Parameters Description</th>
<th>Unit</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insertion Loss</td>
<td>dB</td>
<td>2.7</td>
<td>4.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>880.48 ~ 914.52 MHz</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>882.4 ~ 912.6 MHz</td>
<td></td>
<td>2.0</td>
<td>3.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amplitude ripple</td>
<td>dB_P-p</td>
<td>2.0</td>
<td>3.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>880 ~ 915 MHz</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VSWR</td>
<td>ANT</td>
<td>1.5</td>
<td>2.1</td>
<td></td>
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</tr>
<tr>
<td>Tx</td>
<td>880 ~ 915 MHz</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attenuation:</td>
<td>dB</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 ~ 716 MHz</td>
<td>30</td>
<td>37</td>
<td></td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>716 ~ 728 MHz</td>
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<td>38</td>
<td></td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>728 ~ 793 MHz</td>
<td>33</td>
<td>38</td>
<td></td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>832 ~ 862 MHz</td>
<td>26</td>
<td>33</td>
<td></td>
<td></td>
<td>-</td>
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<tr>
<td>927 ~ 957.6 MHz</td>
<td>39</td>
<td>44</td>
<td></td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>1559 ~ 1563 MHz</td>
<td>35</td>
<td>45</td>
<td></td>
<td></td>
<td>-</td>
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<tr>
<td>1565.42 ~ 1573.37 MHz</td>
<td>35</td>
<td>45</td>
<td></td>
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<td>-</td>
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<tr>
<td>1573.37 ~ 1577.47 MHz</td>
<td>35</td>
<td>45</td>
<td></td>
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<td>1577.47 ~ 1585.42 MHz</td>
<td>35</td>
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<td>1597.55 ~ 1605.89 MHz</td>
<td>35</td>
<td>44</td>
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<td>-</td>
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<tr>
<td>1710 ~ 1785 MHz</td>
<td>30</td>
<td>40</td>
<td></td>
<td></td>
<td>-</td>
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<tr>
<td>1760 ~ 1840 MHz</td>
<td>30</td>
<td>40</td>
<td></td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>1840 ~ 1880 MHz</td>
<td>30</td>
<td>39</td>
<td></td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>1920 ~ 1980 MHz</td>
<td>30</td>
<td>38</td>
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</table>
## Antenna Parameters

### Parameters Description

<table>
<thead>
<tr>
<th>Parameters Description</th>
<th>Unit</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insertion Loss</td>
<td>dB</td>
<td>-</td>
<td>2.6</td>
<td>4.2</td>
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</tr>
<tr>
<td></td>
<td>927.4 ~ 957.6 MHz</td>
<td>-</td>
<td>2.0</td>
<td>3.0</td>
<td></td>
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<tr>
<td>Amplitude ripple</td>
<td>dB</td>
<td>-</td>
<td>1.8</td>
<td>3.2</td>
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<tr>
<td></td>
<td>925 ~ 960 MHz</td>
<td>dBp-p</td>
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<tr>
<td>VSWR</td>
<td>dB</td>
<td>-</td>
<td>1.5</td>
<td>2.3</td>
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<tr>
<td></td>
<td>Rx</td>
<td>-</td>
<td>1.5</td>
<td>2.3</td>
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### Attenuation:

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<th>Frequency Range</th>
<th>dB</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
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<tr>
<td>0.3 ~ 880 MHz</td>
<td>32</td>
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<tr>
<td>45 MHz</td>
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<td>835 ~ 870 MHz</td>
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<td>882.4 ~ 912.6 MHz</td>
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<td>52</td>
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<td>902.5 ~ 910 MHz</td>
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<tr>
<td>980 ~ 1045 MHz</td>
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<tr>
<td>1045 ~ 6000 MHz</td>
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<td>1427 ~ 1448 MHz</td>
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<td>1710 ~ 1785 MHz</td>
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<tr>
<td>1805 ~ 1980 MHz</td>
<td>30</td>
<td>39</td>
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<tr>
<td>2400 ~ 2500 MHz</td>
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<tr>
<td>2500 ~ 2570 MHz</td>
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<td>41</td>
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<td>2685 ~ 2790 MHz</td>
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<td>41</td>
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<td>2775 ~ 2880 MHz</td>
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<td>3700 ~ 3840 MHz</td>
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<td>4625 ~ 4800 MHz</td>
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<td>4900 ~ 5950 MHz</td>
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<td>6475 ~ 6720 MHz</td>
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<td>7400 ~ 7680 MHz</td>
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### Tx to Rx

<table>
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<tr>
<th>Parameters Description</th>
<th>Unit</th>
<th>Min</th>
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<th>Max</th>
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<tbody>
<tr>
<td>Isolation</td>
<td>dB</td>
<td>49</td>
<td>54</td>
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<td></td>
<td>927.4 ~ 957.6 MHz</td>
<td>43</td>
<td>47</td>
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</table>

### Notes:

1. With Matching Network
C. FREQUENCY CHARACTERISTICS:

Tx to Ant

Ant to Rx
Ripple Deviation

Isolation
VSWR (Tx Port)

Smith Chart (Tx Port)
VSWR (Rx Port)

Smith Chart (Rx Port)
Wide Span

**Tx**

**Rx**

**ISO**
Marking Descriptions

<table>
<thead>
<tr>
<th>Marking name</th>
<th>Class</th>
<th>Series Number</th>
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<tr>
<td>S</td>
<td>8</td>
<td>8</td>
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<tr>
<td>Date Code(Year+Month)</td>
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Pin Description

<table>
<thead>
<tr>
<th>Ground</th>
<th>Ant</th>
</tr>
</thead>
<tbody>
<tr>
<td>B,D,E,G,H</td>
<td>F</td>
</tr>
<tr>
<td>C</td>
<td>A</td>
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</table>

<table>
<thead>
<tr>
<th>Tx (897.5MHz)</th>
<th>Rx (942.5MHz)</th>
</tr>
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</table>

△ : Date Code(Year+Month) Follow the table. (8-year cycle)

YEAR/Month 1 2 3 4 5 6 7 8 9 10 11 12
2013 / 2021 A B C D E F G H J K L M
2014 / 2022 N P Q R S T U V W X Y Z
2015 / 2023 a b c d e f g h j k l m
2016 / 2024 n p q r s t u v w x y z
2017 / 2025 A B C D E F G H J K L M
2018 / 2026 N P Q R S T U V W X Y Z
2019 / 2027 a b c d e f g h j k l m
2020 / 2028 n p q r s t u v w x y z
E. Evaluation Circuit

Ant

Rx Part

1.5 nH

Tx Part

8.2 nH

3.6 nH

F. FOOTPRINT:

Pad pattern

Resist pattern
G. PACKING:
1. REEL DIMENSION
(Please refer to FR-75D10 for packing quantity)

2. TAPE DIMENSION

Unit: mm
H. RECOMMENDED REFLOW PROFILE:

1. Preheating shall be fixed at 150~180°C for 60~90 seconds.
2. Ascending time to preheating temperature 150°C shall be 30 seconds min.
3. Heating shall be fixed at 220°C for 50~80 seconds and at 245~260°C peak (min. 10sec).
4. Time : 2 times.