

# Product Document

# Material Declaration Form

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ams AG  
Tobelbader Strasse 30  
A-8141 Premstaetten, Austria  
Tel +43 (0) 3136 500-0



| Ordering Code | Package Family | Assembly Material Number | Lead Count | Weight (mg) | Manufacturing Country | Halogen Free | EU RoHS | China RoHS | Release Status | Version |
|---------------|----------------|--------------------------|------------|-------------|-----------------------|--------------|---------|------------|----------------|---------|
| AS5510-DWLM   | WLCSP          | 184550022                | 6          | 1.81        | Philippines           | YES          | YES     | YES        | FULL           | 1       |

| Homogenous Material | Weight (mg) | Symbol     | Chemical Substance  | Input Ratio (%) | CAS Number | Unit Weight (mg) | Unit Weight (%) | Amount (ppm)  |
|---------------------|-------------|------------|---------------------|-----------------|------------|------------------|-----------------|---------------|
| IC                  | 1.34        | Si         | Silicon             | 100.00          | 7440-21-3  | 1.33663          | 73.73062        | 737306        |
| <b>Subtotal:</b>    |             |            |                     | <b>100.00</b>   |            | <b>1.33663</b>   | <b>73.73062</b> | <b>737306</b> |
| PBO 1               | 0.01        | BLO (1-10) | Gamma Butyrolactone | 50.00           | 96-48-0    | 0.00528          | 0.29098         | 2910          |
|                     |             |            | Polyamide           | 50.00           | 63428-83-1 | 0.00528          | 0.29098         | 2910          |
| <b>Subtotal:</b>    |             |            |                     | <b>100.00</b>   |            | <b>0.01055</b>   | <b>0.58195</b>  | <b>5820</b>   |
| PBO 2               | 0.01        | BLO (1-10) | Gamma Butyrolactone | 50.00           | 96-48-0    | 0.00456          | 0.25173         | 2517          |
|                     |             |            | Polyamide           | 50.00           | 63428-83-1 | 0.00456          | 0.25173         | 2517          |
| <b>Subtotal:</b>    |             |            |                     | <b>100.00</b>   |            | <b>0.00913</b>   | <b>0.50346</b>  | <b>5035</b>   |
| UBM Seed Layer TiW  | 0           | Ti         | Titanium            | 10.00           | 7440-32-6  | 0.00003          | 0.00165         | 17            |
|                     |             | W          | Tungsten            | 90.00           | 7440-33-7  | 0.00027          | 0.01489         | 149           |
| <b>Subtotal:</b>    |             |            |                     | <b>100.00</b>   |            | <b>0.00030</b>   | <b>0.01655</b>  | <b>165</b>    |
| UBM Seed Layer Cu   | 0           | Cu         | Copper              | 100.00          | 7440-50-8  | 0.00046          | 0.02554         | 255           |
| <b>Subtotal:</b>    |             |            |                     | <b>100.00</b>   |            | <b>0.00046</b>   | <b>0.02554</b>  | <b>255</b>    |
| UBM Cu              | 0.02        | Cu         | Copper              | 100.00          | 7440-50-8  | 0.02083          | 1.14901         | 11490         |
| <b>Subtotal:</b>    |             |            |                     | <b>100.00</b>   |            | <b>0.02083</b>   | <b>1.14901</b>  | <b>11490</b>  |
| RDL Seed Layer TiW  | 0           | Ti         | Titanium            | 10.00           | 7440-32-6  | 0.00004          | 0.00224         | 22            |
|                     |             | W          | Tungsten            | 90.00           | 7440-33-7  | 0.00037          | 0.02016         | 202           |
| <b>Subtotal:</b>    |             |            |                     | <b>100.00</b>   |            | <b>0.00041</b>   | <b>0.02240</b>  | <b>224</b>    |
| RDL Seed Layer Cu   | 0           | Cu         | Copper              | 100.00          | 7440-50-8  | 0.00063          | 0.03448         | 345           |
| <b>Subtotal:</b>    |             |            |                     | <b>100.00</b>   |            | <b>0.00063</b>   | <b>0.03448</b>  | <b>345</b>    |

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| Homogenous Material | Weight (mg) | Symbol | Chemical Substance  | Input Ratio (%) | CAS Number | Unit Weight (mg) | Unit Weight (%)  | Amount (ppm)   |
|---------------------|-------------|--------|---|-----------------|------------|------------------|------------------|----------------|
| RDL Cu              | 0.01        | Cu     | Copper  | 100.00          | 7440-50-8  | 0.01250          | 0.68963          | 6896           |
| <b>Subtotal:</b>    |             |        |   | <b>100.00</b>   |            | <b>0.01250</b>   | <b>0.68963</b>   | <b>6896</b>    |
| Solder Balls        | 0.37        | Ag     | Silver  | 4.00            | 7440-22-4  | 0.01464          | 0.80756          | 8076           |
|                     |             | Cu     | Copper  | 0.50            | 7440-50-8  | 0.00183          | 0.10095          | 1009           |
|                     |             | Sn     | Tin   | 95.50           | 7440-31-5  | 0.34953          | 19.28058         | 192806         |
| <b>Subtotal:</b>    |             |        |   | <b>100.00</b>   |            | <b>0.36600</b>   | <b>20.18909</b>  | <b>201891</b>  |
| Laminate            | 0.06        | SiO2   | Silica  | 20.00           | 7631-86-9  | 0.01108          | 0.61145          | 6115           |
|                     |             |        | Carbon Black  | 0.30            | 1333-86-4  | 0.00017          | 0.00917          | 92             |
|                     |             |        | Phenol/<br>formaldehyde/<br>epichloronhydrin<br>copolymer | 5.70            | 9003-36-5  | 0.00316          | 0.17426          | 1743           |
|                     |             |        | Polyethylene<br>terephthalate                             | 74.00           | 25038-59-9 | 0.04101          | 2.26238          | 22624          |
| <b>Subtotal:</b>    |             |        |   | <b>100.00</b>   |            | <b>0.05542</b>   | <b>3.05727</b>   | <b>30573</b>   |
| <b>Total:</b>       | <b>1.81</b> |        |   |                 |            | <b>1.81</b>      | <b>100.00000</b> | <b>1000000</b> |

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