

**LINEAR TECHNOLOGY MATERIALS DECLARATION**

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(Engineering Calculation)

QFN 4mm X 5mm Exp. Pad

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**TOTAL MASS (g) : 0.051851**

| COMPONENT MATERIAL             | VENDOR/ INDUSTRY NAMES           | CONSTITUENT NAME               | CAS NUMBER | CONSTITUENT MASS (g) | CONSTITUENT (PPM) OF MATERIAL | CONSTITUENT (PPM) OF TOTAL PKG. |                |                      |
|--------------------------------|----------------------------------|--------------------------------|------------|----------------------|-------------------------------|---------------------------------|----------------|----------------------|
| Active Device                  | Linear Technology                | Silicon (Si)                   | 7440-21-3  | 0.003416             | 1000000                       | 65880.8203125                   |                |                      |
| Die Coat                       | Dow Corning                      | Silicone                       | 69430-27-9 | 0.000000             | 0                             | 0                               |                |                      |
| Lead Frame                     | Cu                               | Copper (Cu)                    | 7440-50-8  | 0.019997             | 975000                        | 385661.25                       |                |                      |
|                                |                                  | Iron (Fe)                      | 7439-89-6  | 0.000492             | 24000                         | 9488.68945312                   |                |                      |
|                                |                                  | Phosphorus (P)                 | 7723-14-0  | 0.000006             | 300                           | 115.71572876                    |                |                      |
|                                |                                  | Zinc (Zn)                      | 7440-66-6  | 0.000014             | 700                           | 270.003356934                   |                |                      |
|                                |                                  | Nickel (Ni)                    | 7440-02-0  | 0.000000             | 0                             | 0                               |                |                      |
|                                |                                  | Silicon (Si)                   | 7440-21-3  | 0.000000             | 0                             | 0                               |                |                      |
|                                |                                  | Magnesium (Mg)                 | 7439-95-4  | 0.000000             | 0                             | 0                               |                |                      |
|                                |                                  | Tin (Sn)                       | 7440-31-5  | 0.000000             | 0                             | 0                               |                |                      |
| <b>Lead Frame Total:</b>       |                                  |                                |            | <b>0.020509</b>      | <b>1000000</b>                | <b>395535.65625</b>             |                |                      |
| Plating                        | PMI                              | Exter. Plating Pb              | 7439-92-1  | 0.000000             | 0                             | 0                               |                |                      |
|                                |                                  | Exter. Plating Sn              | 7440-31-5  | 0.000227             | 1000000                       | 4381.92285156                   |                |                      |
|                                |                                  | <b>External Plating Total:</b> |            |                      |                               | <b>0.000227</b>                 | <b>1000000</b> | <b>4381.92285156</b> |
|                                |                                  | Inter. Plating Ni              | 7440-02-0  | 0.000000             | 0                             | 0                               |                |                      |
|                                |                                  | Inter. Plating Ag              | 7440-22-4  | 0.000735             | 1000000                       | 14175.1767578                   |                |                      |
| <b>Internal Plating Total:</b> |                                  |                                |            | <b>0.000735</b>      | <b>1000000</b>                | <b>14175.1767578</b>            |                |                      |
| Die Attach                     | ELECTRICALLY CONDUCTIVE ADHESIVE | Silver (Ag)                    | 7440-22-4  | 0.001330             | 750000                        | 25650.3203125                   |                |                      |
|                                |                                  | Tin (Sn)                       | 7440-31-5  | 0.000000             | 0                             | 0                               |                |                      |
|                                |                                  | Lead (Pb)                      | 7439-92-1  | 0.000000             | 0                             | 0                               |                |                      |
|                                |                                  | Silica (SiO2)                  | 60676-86-0 | 0.000000             | 0                             | 0                               |                |                      |
|                                |                                  | Indium (In)                    | 7440-74-6  | 0.000000             | 0                             | 0                               |                |                      |
|                                |                                  | Metal Oxide                    |            | 0.000000             | 0                             | 0                               |                |                      |
|                                |                                  | Antimony (Sb)                  | 7440-36-0  | 0.000000             | 0                             | 0                               |                |                      |
|                                |                                  | Resin (EP)                     |            | 0.000443             | 250000                        | 8543.67773438                   |                |                      |
| <b>Die Attach Total:</b>       |                                  |                                |            | <b>0.001773</b>      | <b>1000000</b>                | <b>34193.9960938</b>            |                |                      |
| Encapsulation                  | FILLED EPOXY RESIN               | Resin (EP)                     |            | 0.002745             | 110000                        | 52939.9453125                   |                |                      |
|                                |                                  | Bromine (Br)                   | 40039-93-8 | 0.000250             | 10000                         | 4821.48925781                   |                |                      |
|                                |                                  | Silica (SiO2)                  | 60676-86-0 | 0.021208             | 850000                        | 409016.53125                    |                |                      |
|                                |                                  | Antimony Trioxide (Sb2O3)      | 1309-64-4  | 0.000749             | 30000                         | 14445.1796875                   |                |                      |
|                                |                                  | Metal Hydroxide                |            | 0.000000             | 0                             | 0                               |                |                      |
|                                |                                  | Carbon Black (C)               | 1333-86-4  | 0.000000             | 0                             | 0                               |                |                      |
|                                |                                  | <b>Encapsulation Total:</b>    |            |                      |                               | <b>0.024952</b>                 | <b>1000000</b> | <b>481223.125</b>    |
| Bond Wire Estimated            | AFW/TANAKA/ Kn                   | Gold (Au)                      | 7440-57-5  | 0.000239             | 1000000                       | 4609.34326172                   |                |                      |
|                                |                                  |                                |            |                      | <b>TOTAL MASS (g) :</b>       | <b>0.051851</b>                 |                |                      |