


| Product | | | | |
|-----------------|---------------|---|-----------|------------------|
| Mfr Item Number | Mfr Item Name | Version | Mfr Site | Date |
| STM32F437ZGT6 | P31A*419XXX5 | A | 9998 | 16-02-2018 |
| | Amount | UoM | Unit type | ST ECOPACK Grade |
| | 1315.00 | mg | Each | ECOPACK® 2 |
| | Comment | ECOPACK® 2 is STMicroelectronics trade name for ROHS compliant device without Brominated and Chlorinated compound (900ppm) and without Antimony oxide flame retardant (in each organic material) | | |

| Manufacturing information | | | | |
|--|----------------------------------|----------------------|---------|---|
| J-STD-020 MSL Rating | Classification Temp | Nbr of Reflow Cycles | |  life.augmented |
| 3 | 260 | 3 | | |
| bulk Solder Termination | Terminal Plating | Terminal Base Alloy | Comment | |
| Not Applicable; if coating is used or other bulk termination | Nickel/Palladium/Gold (Ni/Pd/Au) | Copper Alloy | | |

| Package Designator | Size | Nbr of instances | Shape | |
|--------------------|---|------------------|--------|--|
| QFP | 20x20x1.4 | 144 | L Bend | |
| Comment | Package : 1A LQFP 144 20X20X1.4 2 0099183 | | | |

| QueryList : RoHS Directive 2011/65/EU-July 2011 – Annex II amended by Directive 2015/863-April 2015 | |
|--|-------------|
| Query | Response |
| 1 - Product(s) meets EU RoHS requirement without any exemptions | TRUE |
| 2 - Product(s) meets EU RoHS requirements except lead in solder and this usage may qualify under the lead in solder '7b' exemption (other selected exemptions may apply) | FALSE |
| 3 - Product(s) meets EU RoHS requirements by application of the selected exemption(s) | FALSE |
| 4 - Product(s) does not meet EU RoHS requirements and is not under exemptions | FALSE |
| Exemption Id. | Description |
| | |

| QueryList : REACH-12th January 2017 | | | | |
|--|-------------------------|------------------------|-------------|----------------|
| Query | | | | Response |
| 1 - Product(s) does not contain REACH Substances Of Very High Concern above the limits per the definition within REACH | | | | TRUE |
| CategoryLevel_Name | CategoryLevel_Threshold | amount in product (mg) | Application | ppm in product |
| | | | | |

| Material Composition Declaration : note : Substance present with less 0.001mg will not be declared in this document | | | | | | Mfr Item Name | P31A*419XX5 | | | | 6999999.0 | 992249.0 |
|--|---------------------------------|----------|-----|----------|--------------------|-------------------------|-------------|--------|---------|-----|---|--------------------------------|
| Homogeneous Material | Material Group | Mass | UoM | Level | Substance Category | Substance | CAS | Exempt | Mass | UoM | Concentration in homogeneous material (ppm) | Concentration in product (ppm) |
| Die or dies | M-011 Other inorganic materials | 13.206 | mg | supplier | die | Silicon (Si) | 7440-21-3 | | 12.541 | mg | 949644 | 9537 |
| | | | | supplier | metallization | Aluminium (Al) | 7429-90-5 | | 0.047 | mg | 3559 | 36 |
| | | | | supplier | metallization | Copper (Cu) | 7440-50-8 | | 0.302 | mg | 22868 | 230 |
| | | | | supplier | metallization | Cobalt (Co) | 7440-48-4 | | 0.001 | mg | 76 | 1 |
| | | | | supplier | metallization | Tantalum (Ta) | 7440-25-7 | | 0.042 | mg | 3180 | 32 |
| | | | | supplier | metallization | Tungsten (W) | 7440-33-7 | | 0.136 | mg | 10298 | 103 |
| | | | | supplier | Passivation | Silicon Nitride | 12033-89-5 | | 0.035 | mg | 2650 | 27 |
| | | | | supplier | Passivation | Silicon Oxide | 7631-86-9 | | 0.102 | mg | 7724 | 78 |
| LEADFRAME (MHT- C194) | M-011 Other inorganic materials | 240.008 | mg | supplier | ALLOY | Copper (Cu) | 7440-50-8 | | 234.008 | mg | 1000000 | 177953 |
| | | | | supplier | ALLOY | Iron (Fe) | 7439-89-6 | | 5.640 | mg | 940000 | 4289 |
| | | | | supplier | ALLOY | Zinc (Zn) | 7440-66-6 | | 0.288 | mg | 48000 | 219 |
| | | | | supplier | ALLOY | Metallic Phosphorus (P) | 7723-14-0 | | 0.072 | mg | 12000 | 55 |
| LEADFRAME (MHT - PPF Plating) | M-011 Other inorganic materials | 10.503 | mg | supplier | COATING | Nickel (Ni) | 7440-02-0 | | 10.188 | mg | 970000 | 7748 |
| | | | | supplier | COATING | Palladium (Pd) | 7440-05-3 | | 0.158 | mg | 15000 | 120 |
| | | | | supplier | COATING | Gold (Au) | 7440-57-5 | | 0.158 | mg | 15000 | 120 |
| DIE ATTACH (Sumitomo - CRM-1076Y) | M-011 Other inorganic materials | 2.900 | mg | supplier | GLUE | Silver(Ag) | 7440-22-4 | | 2.030 | mg | 700000 | 1544 |
| | | | | supplier | GLUE | Epoxy Resin A | 9003-36-5 | | 0.145 | mg | 50000 | 110 |
| | | | | supplier | GLUE | Silica fused (SiO2) | 7631-86-9 | | 0.290 | mg | 100000 | 221 |
| | | | | supplier | GLUE | Dicyandiamide | 461-58-5 | | 0.015 | mg | 5000 | 11 |
| | | | | supplier | GLUE | Diluent | 3101-60-8 | | 0.145 | mg | 50000 | 110 |
| | | | | supplier | GLUE | Allyl Compound | Proprietary | | 0.145 | mg | 50000 | 110 |
| | | | | supplier | GLUE | Hardener | Proprietary | | 0.131 | mg | 45000 | 99 |
| BONDING WIRE (Heesung - Au HTS) | M-011 Other inorganic materials | 2.529 | mg | supplier | BONDING WIRE | Gold (Au) | 7440-57-5 | | 2.504 | mg | 990050 | 1904 |
| | | | | supplier | BONDING WIRE | Palladium (Pd) | 7440-05-3 | | 0.025 | mg | 9900 | 19 |
| | | | | supplier | BONDING WIRE | Calcium (Ca) | 7440-70-2 | | 0.000 | mg | 50 | 0 |
| ENCAPSULATION (Sumitomo - G631H) | M-011 Other inorganic materials | 1045.853 | mg | supplier | MOLDING COMPOUND | Epoxy Resin A | Proprietary | | 20.737 | mg | 20000 | 15769 |
| | | | | supplier | MOLDING COMPOUND | Epoxy Resin B | 85954-11-6 | | 41.474 | mg | 40000 | 31539 |
| | | | | supplier | MOLDING COMPOUND | Silica Amorphous A | 60676-86-0 | | 822.933 | mg | 785000 | 618052 |
| | | | | supplier | MOLDING COMPOUND | Silica Amorphous B | 7631-86-9 | | 88.131 | mg | 85000 | 67020 |
| | | | | supplier | MOLDING COMPOUND | Carbon Black | 1333-86-4 | | 5.184 | mg | 5000 | 3942 |