| Types covered by similarity:  All variants previously specified in (retired) specifications: 3501/001, 3501/008, 3501/011, 3501/012   |                                                               | Remarks: Upon receipt of a request for any retired Variant, the Manufacturer will allocate a new Specific Crystal Identification Number in accordance with 3501/018. It will have identical crystal characteristics to those of the retired variant. |                          |                                  |
|---------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|----------------------------------|
| Procurement Specifications                                                                                                            | Manufacturer                                                  | Nature of Approval                                                                                                                                                                                                                                   | Supervising<br>Authority | Initial<br>Qualification<br>Date |
| Generic ESCC 3501  Detail ESCC 3501/018  Characteristics: All variants are qualified.  TO-5 Can (T 807)  Frequency Range: 8 - 140 MHz | KVG Quartz Crystal Technology GmbH Neckarbischofsheim Germany | Qualification                                                                                                                                                                                                                                        | DLR                      | Apr 2011                         |
| European Space Components Coordination                                                                                                | CRYSTALS,<br>TO-5 CAN                                         |                                                                                                                                                                                                                                                      | Certificate<br>308 B     |                                  |

| Types covered by similarity:  All variants previously specified in (retired) specifications: 3501/002 and 3501/009                      |                                                                        | Remarks: Upon receipt of a request for any retired Variant, the Manufacturer will allocate a new Specific Crystal Identification Number in accordance with 3501/019. It will have identical crystal characteristics to those of the retired variant. |                          |                                  |
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| Procurement Specifications                                                                                                              | Manufacturer                                                           | Nature of Approval                                                                                                                                                                                                                                   | Supervising<br>Authority | Initial<br>Qualification<br>Date |
| Generic ESCC 3501  Detail ESCC 3501/019  Characteristics: All variants are qualified.  TO-8 Can (T 1507)  Frequency Range: 2.5 - 26 MHz | KVG Quartz Crystal<br>Technology GmbH<br>Neckarbischofsheim<br>Germany | Qualification                                                                                                                                                                                                                                        | DLR                      | Apr 2011                         |
| European Space Components Coordination  OPL                                                                                             | CRYSTALS,<br>TO-8 CAN                                                  |                                                                                                                                                                                                                                                      | Certificate<br>309 B     |                                  |