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| Document reference:                              | PCB reference: |
| <b>STEVAL-IKR002V2D - SPIRIT1 RF PCB 315 MHz</b> |                |
| Company:<br><b>STMicroelectronics</b>            |                |

| Item | Quantity | Reference  | Part / Value    | Note                              | Package   | Manufacturer | Manufacturer's ordering code / Orderable Part Number | 315 MHz |
|------|----------|------------|-----------------|-----------------------------------|-----------|--------------|--|---------|
| 1    | 2        | C0, C16    | C_100n_0402_X7R | Decoupling cap on VREG (pin # 17) | SM/C_0402 | Murata       | GRM155R71C104KA88D                                   | 100nF   |
| 2    | 1        | C1         | C_TBD_0402_C0G  | TX LPF first cap shunt            | SM/C_0402 | Murata       | GRM1555C1H120JZ01                                    | 12pF    |
| 3    | 1        | C2         | C_TBD_0402_C0G  | TX LPF second cap shunt           | SM/C_0402 | Murata       | GRM1555C1H270JZ01                                    | 27pF    |
| 4    | 1        | C3         | C_TBD_0402_C0G  | TX LPF third cap shunt            | SM/C_0402 | Murata       | GRM1555C1H150DZ01                                    | 15pF    |
| 5    | 1        | C4         | C_TBD_0402_C0G  | RXP Balun shunt cap               | SM/C_0402 | Murata       | GRM1555C1H3R9JZ01                                    | 3.9pF   |
| 6    | 1        | C14        | C_TBD_0402_C0G  | Additional notch filter cap       | SM/C_0402 | Murata       | GRM1555C1H1R8DZ01                                    | 1.8pF   |
| 7    | 1        | C15        | C_TBD_0402_C0G  | PA load capacitor                 | SM/C_0402 | Murata       | GRM1555C1H1R2DZ01                                    | 1.2pF   |
| 8    | 1        | C5         | C_TBD_0402_C0G  | RXN Balun series                  | SM/C_0402 | Murata       | GRM1555C1H4R7JZ01                                    | 4.7pF   |
| 9    | 3        | C6, C7, C8 | C_TBD_0402_C0G  | DC block for RX                   | SM/C_0402 | Murata       | GRM1555C1H221JA01                                    | 220pF   |
| 10   | 1        | C9         | C_12P_0402_C0G  | XTAL load cap (Xout)              | SM/C_0402 | Murata       | GRM1555C1H120JZ01                                    | 12pF    |
| 11   | 1        | C10        | C_10P_0402_C0G  | XTAL load cap (Xin)               | SM/C_0402 | Murata       | GRM1555C1H100JZ01                                    | 10pF    |
| 12   | 2        | C11, C20   | C_1U_0603_X7R   | VBAT & SMPS OUT filter cap        | SM/C_0603 | Murata       | GRM188R60J105KA01D                                   | 1uF     |
| 13   | 1        | C12        | C_100n_0402_X7R | SMPS OUT filter cap               | SM/C_0402 | Murata       | GRM155R71C104KA88D                                   | 100nF   |
| 14   | 1        | C13        | C_TBD_0402_X7R  | SMPS OUT filter cap               | SM/C_0402 | Murata       | GRM1555C1H331JA01D                                   | 330pF   |
| 15   | 1        | C19        | C_TBD_0402_C0G  | VBAT filtering                    | SM/C_0402 | Murata       | GRM155R71C103KA01                                    | 10nF    |
| 16   | 1        | C21        | C_100p_0402_C0G | VBAT bypass capacitors            | SM/C_0402 | Murata       | GRM1555C1H101JZ01D                                   | 100pF   |
| 17   | 1        | C22        | C_330p_0402_C0G | Decoupling cap on VREG (pin # 17) | SM/C_0402 | Murata       | GRM1555C1H331JA01D                                   | 330pF   |

|    |   |               |            |  |  |                    |                                   |        |
|----|---|---------------|------------|--|--|--------------------|-----------------------------------|--------|
| 18 | 1 | J1            | RF_IN/OUT  | SMA Jack Assembly, End Launch  | SMA-LAT                                  | Emerson            | 142-0701-881                      |        |
| 19 | 2 | J6, J7        | HEADER 5X2 | Male Strip 2X5, 100 mils, BOTTOM MOUNT   | WALCON.100/VH/T<br>M2OE/W.325/10/<br>MOD |                    |                                   |        |
| 20 | 1 | D0            | L_TBD_0402 | TX PA choke  | SM/L_0402                                | Murata             | LQG15HSR22J02                     | 220nH  |
| 21 | 2 | L1, L2        | L_TBD_0402 | TX LPF first & second series ind   | SM/L_0402                                | Murata             | LQG15HN12NJ02                     | 12nH   |
| 22 | 1 | L3            | L_TBD_0402 | TX LPF third series ind  | SM/L_0402                                | Murata             | LQG15HN15NJ0                      | 15nH   |
| 23 | 1 | L4            | L_TBD_0402 | RXP Balun series ind   | SM/L_0402                                | Murata             | LQG15HN47NJ02                     | 47nH   |
| 24 | 1 | L5            | L_TBD_0402 | RXN Balun shunt ind  | SM/L_0402                                | Murata             | LQG15HN39NJ02                     | 39nH   |
| 25 | 1 | L6            | L_TBD_0402 | RX Balun compensation ind  | SM/L_0402                                |                    |                                   | NE     |
| 26 | 1 | L8            | L_TBD_0402 | SMPS out inductor  | SM/L_0402                                | Murata             | LQG15HSR27J02                     | 270nH  |
| 27 | 1 | L9            | L_TBD_0402 | Additional notch filter ind  | SM/L_0402                                | Murata             | LQG15HN15NJ02                     | 15nH   |
| 28 | 1 | L7            | L_10U_0805 | SMPS out inductor  | SM/L_0805                                | Murata             | LQM21FN100M70L                    | 10uH   |
| 29 | 1 | R6            | R_ORO_0402 | USED TO IDENTIFY BAND: mount only 1 ORO resistor according to assembly options | SM/R_0402                                | Tyco Electronics   |                                   | NE     |
| 30 | 1 | R7            | R_ORO_0402 |  | SM/R_0402                                | Tyco Electronics   | CRG0402ZR                         | ORO    |
| 31 | 1 | R8            | R_ORO_0402 |  | SM/R_0402                                | Tyco Electronics   |                                   | NE     |
| 32 | 1 | R9            | R_ORO_0402 |  | SM/R_0402                                | Tyco Electronics   |                                   | NE     |
| 33 | 1 | R10           | R_ORO_0402 |  | SM/R_0402                                | Tyco Electronics   |                                   | NE     |
| 34 | 1 | R12, R13, R14 | R_ORO_0402 |  | SM/R_0402                                | Tyco Electronics   |                                   | NE     |
| 35 | 1 | U1            | SPIRIT1    | RF IC  | QFN20_REV3                               | STMicroelectronics | CRG0402F100K                      | 100k   |
| 36 | 1 | U2            | HEADER 1X2 | Male Strip 1X2, 100 mils   | WALCON.100/VH/T<br>M2OE/W.325/10/<br>MOD |                    |                                   |        |
| 37 | 1 | U3            | EEPROM     | Memory   | SO8N                                     | STMicroelectronics | M95640-RMN6P                      |        |
| 38 | 1 | Y1            | XTAL       | XTAL   | XTAL_32_25_REV2                          | NDK                | NX3225GA 50MHz EXS00A-<br>CG03244 | 50 MHz |