



|  | |  | | SX1276RF1IAS - BOM | | BOM # V1a |
|--|---------------------|---|-------------|--|--|-----------------------|
| 22.08.2013 | | Emr | | Version e266V02a - 868MHz on RF_HF and 169MHz on RF_LF | | SCH # e266V02a |
| | | | | | | PCB # e266V02a |
| RefDes | MPN | Geom | Value | Qty | Description | Manufacturer |
| IC | | | | | | |
| U1 | SX1276IMLTRT | TQFN-28 6x6mm | SX1276 | 1 | 137MHz to 1020MHz Low Power Long Range Transceiver | Semtech |
| U2 | PE4259 | SC-70 | - | 1 | PE4259 - 10MHz to 3GHz SPDT RF Switch | Peregrine Semi |
| U3 | 24AA128-UMF | VDFN-8 | - | 1 | 128k I2C CMOS Serial EEPROM (not mandatory for RF design) | Microchip |
| U4 | CRCW0603000Z0EA | 0603 | 0R | 1 | Thick Film Resistor ±5%, 1/10W | Vishay/Dale |
| U5 | PE4259 | SC-70 | - | 1 | PE4259 - 10MHz to 3GHz SPDT RF Switch | Peregrine Semi |
| Resistors | | | | | | |
| R2 | CRCW04021K00JNED | 0402 | 1k | 1 | Thick Film Resistor ±5%, 1/16W | Vishay/Dale |
| R4 | EXB-N8V101JX | EXB28V | 100R | 1 | SMD Resistor Array Resistors (4x), ±5%, 31mW | Panasonic - ECG |
| R5 | EXB-N8V101JX | EXB28V | 100R | 1 | SMD Resistor Array Resistors (4x), ±5%, 31mW | Panasonic - ECG |
| R6 | CRCW0402000Z0ED | 0402 | 0R | 1 | Thick Film Resistor ±5%, 1/16W | Vishay/Dale |
| R9 | CRCW0402000Z0ED | 0402 | 0R | 1 | Thick Film Resistor ±5%, 1/16W | Vishay/Dale |
| R10 | CRCW04024K70JNED | 0402 | 4.7k | 1 | Thick Film Resistor ±5%, 1/16W | Vishay/Dale |
| R13 | EXB-N8V101JX | EXB28V | 100R | 1 | SMD Resistor Array Resistors (4x), ±5%, 31mW | Panasonic - ECG |
| R14 | CRCW0402100RJNED | 0402 | 100R | 1 | Thick Film Resistor ±5%, 1/16W | Vishay/Dale |
| R15 | CRCW04021K00JNED | 0402 | 1k | 1 | Thick Film Resistor ±5%, 1/16W | Vishay/Dale |
| R16 | CRCW0402000Z0ED | 0402 | 0R | 1 | Thick Film Resistor ±5%, 1/16W | Vishay/Dale |
| R19 | CRCW0402000Z0ED | 0402 | 0R | 1 | Thick Film Resistor ±5%, 1/16W | Vishay/Dale |
| R21 | CRCW0402000Z0ED | 0402 | 0R | 1 | Thick Film Resistor ±5%, 1/16W | Vishay/Dale |
| R22 | CRCW0402000Z0ED | 0402 | 0R | 1 | Thick Film Resistor ±5%, 1/16W | Vishay/Dale |
| R24 | CRCW0402000Z0ED | 0402 | 0R | 1 | Thick Film Resistor ±5%, 1/16W | Vishay/Dale |
| F1 | MMZ1005Y400C | 0402 | 40R @100MHz | 1 | Ferrite beads MMZ Series - 40R @100MHz | TDK |
| Capacitors | | | | | | |
| C1 | GRM155R71C104KA88D | 0402 | 100nF | 1 | Multilayer ceramic capacitors X7R ±10%, 16V | Murata |
| C2 | GRM155R71H102JA01D | 0402 | 1nF | 1 | Multilayer ceramic capacitors X7R ±5%, 50V | Murata |
| C3 | GRM155R71C104KA88D | 0402 | 100nF | 1 | Multilayer ceramic capacitors X7R ±10%, 16V | Murata |
| C4 | GRM155R71C104KA88D | 0402 | 100nF | 1 | Multilayer ceramic capacitors X7R ±10%, 16V | Murata |
| C5 | GRM155R71C104KA88D | 0402 | 100nF | 1 | Multilayer ceramic capacitors X7R ±10%, 16V | Murata |
| C6 | GRM155R71C104KA88D | 0402 | 100nF | 1 | Multilayer ceramic capacitors X7R ±10%, 16V | Murata |
| C7 | GRM1555C1H221JA01D | 0402 | 220pF | 1 | Multilayer ceramic capacitors C0G ±5%, 50V | Murata |
| C8 | GRM1555C1H470JZ01D | 0402 | 47pF | 1 | Multilayer ceramic capacitors C0G ±5%, 50V | Murata |
| C9 | GRM1555C1H330JZ01D | 0402 | 33pF | 1 | Multilayer ceramic capacitors C0G ±0.25pF, 50V | Murata |
| C10 | GRM1555C1H1R5CZ01D | 0402 | 1.5pF | 1 | Multilayer ceramic capacitors C0G ±0.25pF, 50V | Murata |
| C11 | GRM1555C1H4R7CZ01D | 0402 | 4.7pF | 1 | Multilayer ceramic capacitors C0G ±0.25pF, 50V | Murata |
| C12 | GRM1555C1H1R2CZ01D | 0402 | 1.2pF | 1 | Multilayer ceramic capacitors C0G ±0.25pF, 50V | Murata |
| C13 | GRM1555C1H1R8CZ01D | 0402 | 1.8pF | 1 | Multilayer ceramic capacitors C0G ±0.25pF, 50V | Murata |
| C15 | GRM1555C1H3R3CZ01D | 0402 | 3.3pF | 1 | Multilayer ceramic capacitors C0G ±0.25pF, 50V | Murata |
| C16 | GRM1555C1H470JZ01D | 0402 | 47pF | 1 | Multilayer ceramic capacitors C0G ±5%, 50V | Murata |
| C17 | GRM1555C1H470JZ01D | 0402 | 47pF | 1 | Multilayer ceramic capacitors C0G ±5%, 50V | Murata |
| C18 | GRM1555C1H470JZ01D | 0402 | 47pF | 1 | Multilayer ceramic capacitors C0G ±5%, 50V | Murata |
| C21 | GRM155R71C104KA88D | 0402 | 100nF | 1 | Multilayer ceramic capacitors X7R ±10%, 16V | Murata |
| C22 | GRM155R71H102JA01D | 0402 | 1nF | 1 | Multilayer ceramic capacitors X7R ±5%, 50V | Murata |
| C23 | GRM21BR61A106KE19L | 0805 | 10uF | 1 | Multilayer ceramic capacitors X5R ±10%, 10V | Murata |
| C24 | GRM21BR61A106KE19L | 0805 | 10uF | 1 | Multilayer ceramic capacitors X5R ±10%, 10V | Murata |
| C26 | GRM1555C1H470JZ01D | 0402 | 47pF | 1 | Multilayer ceramic capacitors C0G ±5%, 50V | Murata |
| C27 | GRM155R71C104KA88D | 0402 | 100nF | 1 | Multilayer ceramic capacitors X7R ±10%, 16V | Murata |
| C28 | GRM1555C1H101JA01D | 0402 | 100pF | 1 | Multilayer ceramic capacitors C0G ±5%, 50V | Murata |
| C29 | GRM1555C1H270JA01D | 0402 | 27pF | 1 | Multilayer ceramic capacitors C0G ±5%, 50V | Murata |
| C30 | GRM1555C1H470JZ01D | 0402 | 47pF | 1 | Multilayer ceramic capacitors C0G ±5%, 50V | Murata |
| C31 | GRM1555C1H4R7CZ01D | 0402 | 4.7pF | 1 | Multilayer ceramic capacitors C0G ±0.25pF, 50V | Murata |
| C32 | GRM1555C1H470JZ01D | 0402 | 47pF | 1 | Multilayer ceramic capacitors C0G ±5%, 50V | Murata |
| C34 | GRM1555C1H270JA01D | 0402 | 27pF | 1 | Multilayer ceramic capacitors C0G ±5%, 50V | Murata |
| C35 | GRM155R71E103KA01D | 0402 | 10nF | 1 | Multilayer ceramic capacitors X7R ±10%, 25V | Murata |
| C36 | GRM1555C1H120JZ01D | 0402 | 12pF | 1 | Multilayer ceramic capacitors C0G ±5%, 50V | Murata |
| C37 | LQW15ANR10J00D | 0402 | 100nH | 1 | Wirewound Inductor ±5% | Murata |
| C38 | GRM155R71H102JA01D | 0402 | 1nF | 1 | Multilayer ceramic capacitors X7R ±5%, 50V | Murata |
| C39 | GRM155R71H102JA01D | 0402 | 1nF | 1 | Multilayer ceramic capacitors X7R ±5%, 50V | Murata |
| C42 | GRM155R71H102JA01D | 0402 | 1nF | 1 | Multilayer ceramic capacitors X7R ±5%, 50V | Murata |
| C43 | GRM155R71H102JA01D | 0402 | 1nF | 1 | Multilayer ceramic capacitors X7R ±5%, 50V | Murata |
| C44 | GRM188R61A105KA61D | 0603 | 1uF | 1 | Multilayer ceramic capacitors X5R ±10%, 10V | Murata |
| C45 | GRM155R71H102JA01D | 0402 | 1nF | 1 | Multilayer ceramic capacitors X7R ±5%, 50V | Murata |
| Inductors & Ferrites | | | | | | |
| L1 | LQW15ANR10J00D | 0402 | 100nH | 1 | Wirewound Inductor ±5% | Murata |
| L2 | LQW15AN33NJ00D | 0402 | 33nH | 1 | Wirewound Inductor ±5% | Murata |
| L3 | LQG15HS10NJ02D | 0402 | 10nH | 1 | Multilayer Inductor ±5% | Murata |
| L4 | LQG15HS6N2S02D | 0402 | 6.2nH | 1 | Multilayer Inductor ±0.3nH | Murata |
| L5 | LQG15HS10NJ02D | 0402 | 10nH | 1 | Multilayer Inductor ±5% | Murata |
| L6 | CRCW0402000Z0ED | 0402 | 0R | 1 | Thick Film Resistor ±5%, 1/16W | Vishay/Dale |
| L7 | CRCW0402000Z0ED | 0402 | 0R | 1 | Thick Film Resistor ±5%, 1/16W | Vishay/Dale |
| L8 | LQW15AN39NJ00D | 0402 | 39nH | 1 | Wirewound Inductor ±5% | Murata |
| L9 | LQW15AN39NJ00D | 0402 | 39nH | 1 | Wirewound Inductor ±5% | Murata |
| L10 | LQW15AN39NJ00D | 0402 | 39nH | 1 | Wirewound Inductor ±5% | Murata |
| L11 | LQW15AN82NJ00D | 0402 | 82nH | 1 | Wirewound Inductor ±5% | Murata |
| L12 | GRM1555C1H5R6CA01D | 0402 | 5.6pF | 1 | Multilayer ceramic capacitors C0G ±0.25pF, 50V | Murata |
| L13 | CRCW0402000Z0ED | 0402 | 0R | 1 | Thick Film Resistor ±5%, 1/16W | Vishay/Dale |
| Crystal or TCXO | | | | | | |
| Q1 | IT3205CE | 3.2x2.5mm | IT3205CE | 1 | 32.000MHz TCXO - Rakon Reference: ITC3200C11; Tol. ±2.0ppm (populated) | Rakon |
| or | END4263A | 2.0x1.6mm | NT2016SA | 0 | 32.000MHz TCXO - NDK Reference: END4263A; Tol. ±2.5ppm | NDK |
| Connectors and others (or P/N equivalent) | | | | | | |
| ANT_HF | 142-0711-821 | SMA End Launch | 50 Ohms | 1 | SMA End launch jack receptacle for PCB mount | Emerson Network Power |
| ANT_LF | 142-0711-821 | SMA End Launch | 50 Ohms | 1 | SMA End launch jack receptacle for PCB mount | Emerson Network Power |
| K_SM12xx (20p) | 68602-120HLF | Header 2x10 | 20 pins | 1 | 20 Pins - Through hole dual row male connector, Bottom side | FCI |
| K_SM12xx (14p) | 67997-114HLF | Header 2x7 | 14 pins | 1 | 14 Pins - Through hole dual row male connector, Bottom side | FCI |
| VDD_RFS | 826629-2 | bridge 2p 2.54mm | 2.54mm | 1 | Through hole vertical header single row - 2 positions | Tyco Electronics |
| Additional or optional components | | | | | | |
| - | M7566-05 | Jumper 2.54mm | - | 1 | Red Jumper Socket 2.54mm on VDD_RFS | Harwin |
| - | BMIS-205-F | Shield | - | 0 | Standard Surface Mount Shield in two parts with BMIS-205-C cover | Laird Technologies |

Remark: components not listed in the BOM are not populated on the module.